

Spring, 2015
Newsletter

Rockcastle Karst



Conservancy

Protecting Kentucky's Interior
Protecting Kentucky's Interior

RKC News

Spring, 2015

Officers, Committees and Directors

Volume VII, Issue I

Highlights of Interest

- Volunteers are the Heart of RKC.
- GSP is now on the National Register of Historic Places.
- RKC continues to Maintain and Protect its Charges.
- Youth are the Future of the World and RKC.
- Caving Is Fun.
- A Major RKC Project Was Completed by Brains, Sweat, and Perseverance.

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This Issue
edited by
Gary Bush



Board of Directors (with current terms)

Mary Gratsch	(2012 - 2015)	milgra2@fuse.net
Tammy Otten	(2012 - 2015)	tammyotten@yahoo.com
Pete Stow	(2013 - 2016)	stowpj680@yahoo.com
Sean Cain	(2014 - 2017)	abigail48@windstream.net
Steve Gentry	(2014 - 2017)	sgentry177@aol.com

Current Officers

Term Expires in March 2015

Chair	Mary Gratsch	milgra2@fuse.net
Vice Chair	Tammy Otten	tammyotten@yahoo.com
Treasurer	Pete Stow	stowpj680@yahoo.com
Secretary	Sean Cain	abigail48@windstream.net

Committees - Positions

Great Saltpetre Cave Preserve	Jerry Brandenburg	ropecaver@yahoo.com
Misty Cave Preserve	Pete Stow	stowpj680@yahoo.com
Cornhole Cave Preserve	Mary Gratsch	milgra2@fuse.net
Fund Raising	Mary Gratsch	milgra2@fuse.net
Message	Tammy Otten	tammyotten@yahoo.com
Education	Tammy Otten	tammyotten@yahoo.com
Membership	Pete Stow	stowpj680@yahoo.com

Rockcastle Karst Conservancy is a tax-exempt, non-profit organization dedicated to preserving the unique resources associated with caves and karst.

RKC's Mission:

Protecting Kentucky's Karst environments and supporting responsible access to caves in the Rockcastle County Region.

RKC's Core Values:

Manage cave resources to support continuing enjoyment by the community through wise stewardship and ownership.

From The Chair ...

Who is Rockcastle Karst Conservancy?

by Mary Gratsch, Chair of the Board

The Rockcastle Karst Conservancy recently celebrated its 10th year. We began as a small group of cavers rising to the challenge of the Felburn Foundation to form a non-profit cave conservancy that would take over responsibility of Great Saltpetre Preserve (GSP) and hopefully buy or lease other deserving cave properties.

After almost a year and a half of meetings to hammer out the Articles of Incorporation and Bylaws, RKC was officially chartered as a 501-C3, non-profit. The Felburn Foundation kept its promise and the deed for GSP was transferred to the fledgling RKC.

Early on it was decided that the primary function of the RKC Board was to deal with the financial issues and to try to acquire or lease other cave properties so that future cavers will still have underground passages to explore. The day to day running of the cave preserves would be handled by a separate committee for each preserve.

The eight member Great Saltpetre Committee continued in its function of maintaining GSP grounds and keeping it financially healthy. They are charged with managing the fine line between protecting the Cave and Preserve and making them accessible to cavers, youth groups and the public. The Committee holds monthly meetings. All interested parties are welcome and encouraged to attend these meetings!

Besides the cavers that serve on the GSP Committee, others dedicate their time and energy to help maintain GSP, supervise youth groups, guide cave tours, help out at functions and educate school groups. Because of them GSP is kept accessible for many functions; such as: Open House, Karst-o-Rama and school outings.

I would like to take the time to recognize some of the many talented individuals who have dedicated untold hours and personal funds to advance the goals of RKC. Howard Kalnitz was involved in the founding of RKC and Chaired the Board for 3 years. He led the fight to purchase Misty Cave Preserve. Through a lot of hard fund raising the loans were paid off in half the projected time!

Werner Jud, also a Founding Member, has kept the financial records for RKC since its inception. He has also been the Treasurer for GSP Committee for over 16 years and chaired the Committee from 2003-2005. Besides balancing the books, Werner collects money from camping, dues, merchandise sales and donations; helps with maintenance at GSP on a regular basis; pays the bills; deals with the banks and many, many other important functions.

Janeen Sharpshair, Tammy Otten, Traci Hacker, Patty Yuellig and Pam Duncan hold sewing sessions that they call Stitch-n-Bitch, where they repurpose ordinary fleece vests by sewing on pockets to hold survey equipment, photography gear or other gadgets. They also sew nice warm fleece hats and helmet liners. Pam develops the patterns, while Traci cuts out the designs for the group to sew. All

materials are purchased and donated by these very talented women! Proceeds from these sales are donated to the Land Acquisition fund. Special orders are possible by contacting Pam Duncan at: pjduncan@fuse.net

Pam Duncan, another RKC Founding Member, has led the land acquisition fundraising quest and organized many fundraising activities. Pam's artistic talent is evident in her handmade 'A Way with Clay' pottery, fused 'Batty Glass' jewelry and wine baskets. She donates a portion of the proceeds from her especially designed for cavers pottery and jewelry to the RKC Land Acquisition Fund. Her dedication has resulted in thousands of dollars for the Land Acquisition Fund, money that will be spent on our next cave purchase!

Gary Bush, active early in the organization, has stayed involved in the Board Meetings and has served on the Board for 5 years. He maintains and updates RKC's website, rkci.org, and has edited and published this Newsletter. Gary has been very instrumental in advising and guiding the RKC Board on policies and procedures.

Neena Jud has Chaired the GSP Committee for 3 years and participated in the committee for the past 8 years. Neena has provided valuable input into RKC since the first meeting to discuss its founding. She spent countless hours gathering documentation and photos then submitting forms that eventually added Great Saltpetre Cave to the National Register of Historic Places. Neena spearheaded the fund raising and building of the Green Latrine!

Bob Dobbs, also a Founding Member, has worked tirelessly to raise funds to support GSP. He organizes and leads educational school tours to Great Saltpetre Cave and twice organized 'Music in the Mountain' as fund raiser for RKC. He has recently taken an active role on the Land Acquisition Committee.

There are other individuals who support the organization by serving on the Board, helping with fund raising, manning the RKC display at functions, helping with design and displays, printing materials or providing expertise, comment and support to the Board. You know who you are and should know that your efforts are very appreciated!

In order for RKC to flourish in the coming years and expand its cave properties we need more cavers willing to volunteer. We desperately need to expand our membership, enhance fund raising, purchase more cave properties, apply for grant monies, gain more active support from our membership and have help with maintenance of existing properties. The first step is renewing your membership! An organization is only as strong as the support it receives from its members!

Respectfully submitted,
Mary Gratsch
RKC, Chair of the Board

Past Officials



RKC Directors

Year

2005*-06	Andy Niekamp *	Pat Hutson *	Werner Jud *	Lisa Pruitt-Thorner *	
2006*-07	Andy Niekamp	Pat Hutson	Werner Jud	Lisa Pruitt-Thorner	Mark Moore *
2007*-08	Andy Niekamp	Pat Hutson	Werner Jud	Lisa Pruitt-Thorner	Mike Rzesutock *
2008*-09	Werner Jud	Pat Hutson	Mike Rzesutock	Howard Kalnitz *	Jim Perkins *
2009*-10	Werner Jud	Pat Hutson	Howard Kalnitz *	Mary Gratsch *	Gary Bush *(2yr)
2010*-11	Howard Kalnitz	Mary Gratsch	Werner Jud	Gary Bush	Pete Stow *
2011*-12	Howard Kalnitz	Mary Gratsch	Werner Jud *	Gary Bush *	Pete Stow
2012*-13	Mary Gratsch *	Werner Jud	Gary Bush	Pete Stow	Tammy Otten *
2013*-14	Mary Gratsch	Werner Jud	Gary Bush	Pete Stow *	Tammy Otten
2014*-15	Mary Gratsch	Tammy Otten	Pete Stow	Sean Cain *	Steve Gentry *

* = Elected That Year (others carried over)



GSP Committees

Term	Chair	Greater Cincinnati Grotto			Blue Grass Grotto		Dayton Underground Grotto	
		Secretary	Treasurer	Member	Member	Member	Member	Member
2014-2015	Jerry Brandenburg	Neena Jud	Werner Jud	Scott Pavey	Pat Hutson	Tama Cassidy	Fred Ball	
2013-2014	Chris Hacker	Jerry Brandenburg (not sec)	Werner Jud	Scott Pavey	Dave Brooks	Pat Hutson	Tama Cassidy	
2012-2013	Richard Duncan	Neena Jud (DUG)	Werner Jud	Scott Pavey	Jerry Dixon	Pat Hutson	Tama Cassidy	
2011-2012	Neena Jud	Richard Duncan	Werner Jud	Mike McNabb	Jerry Dixon	Pat Hutson	Tim Hale	
2010-2011	Neena Jud	Richard Duncan	Werner Jud	Mike McNabb	Jerry Dixon	Pat Hutson	Tim Hale	
2009-2010	Neena Jud	Richard Duncan	Werner Jud	Mike McNabb	Shawn Pollock	Pat Hutson	Tim Hale	
2008-2009	Bob Dobbs	Richard Duncan	Werner Jud	Mike McNabb	Shawn Pollock	Pat Hutson	Tim Hale	
2007-2008	Bob Dobbs	Mike McNabb	Werner Jud	Richard Duncan	Jamie Dixon	Pat Hutson	Tim Hale	
2006-2007	Mary Gratsch	Pete Stow	Werner Jud	Jerry Brandenburg	Jamie Dixon	Pat Hutson	Tim Hale	
2005-2006	Mary Gratsch	Pete Stow	Werner Jud	Jerry Brandenburg	Jamie Dixon	Pat Hutson	Mike Lucas	
2004-2005	Werner Jud	Pete Stow	David Lee	Jerry Brandenburg	Jamie Dixon	Pat Hutson	Mike Lucas	
2003-2004	Werner Jud	Connie Flamm	David Lee	Jerry Brandenburg	Jamie Dixon	Pat Hutson	Mike Lucas	
2002-2003	Ron Crawford	Pat Yuellig	Werner Jud	Jerry Brandenburg	Ben Krebs	Pat Hutson	Andy Niekamp	
2001-2002	Ron Crawford	Pat Yuellig	Werner Jud	Jerry Brandenburg	Ben Krebs	Pat Hutson	Andy Niekamp	
2000-2001	Ron Crawford	Traci Fearday	Werner Jud	Bill Carr	Ben Krebs	Michael Harper	Andy Niekamp	
1999-2000	Bill Carr	Traci Fearday	Werner Jud	Ron Crawford	Pat Passmore	Michael Harper	Andy Niekamp	
1998-1999	Bill Carr	Traci Fearday	Werner Jud	Ron Crawford	Pat Passmore	Stuart Butler	Andy Niekamp	
1997-1998	Bill Carr	Janeen Sharpshair-Weaver	Werner Jud	Ron Crawford	Pat Passmore	Stuart Butler	Andy Niekamp	
1996-1997	John Wisher	Connie Flamm	Bill Carr	Greg Matulionis	Pat Johnson	Stuart Butler		
1995-1996	John Wisher	Connie Flamm	Bill Carr	Greg Matulionis	Pat Johnson	Stuart Butler		
1994-1995	John Wisher	Ed Weeks	Bill Carr	Greg Matulionis	Pat Johnson	Stuart Butler		
1993-1994	John Wisher							
1992-1993	John Wisher							
1991-1992	Wes Kelfer							
1990-1991	Wes Kelfer	Ron Crawford	Allen Watts	Darlene Heist	Gary O'Dell	Jon Hagee		
					Hans Lindblum	Chris Hacker		
1989-1990	Wes Kelfer	Ron Crawford	Allen Watts	Darlene Heist	Gary O'Dell	Jon Hagee		
					Hans Lindblum	Don Pollock		

Great Saltpetre Cave Is Now Listed on the National Register of Historic Places by Neena Jud

The National Register of Historic Places is a catalog of locations, sites, or buildings that are significant to the history of America. These are places where one can see and hopefully feel a connection to a particular person, event or culture of long ago. We get a glimpse of what life was like for someone else and have an opportunity to put ourselves in that person's place.

Great Saltpetre Cave is one of these significant locations. From its discovery by Robert Baker in 1798 through 1815, it served as a site for the extraction of nitrates and production of Saltpetre that was vital for life on the frontier as well as for supplying America's military during the War of 1812. What began as a small operation soon grew to have up to 70 people working around the clock to produce 1,000 pounds of Saltpetre each day. This was a major industrial facility. All the trees were cut down and thick smog hung over the valley as workmen boiled the nitrate solutions over open fires.

Rockcastle Karst Conservancy has accepted the responsibility to take care of the Cave and its historic resources, to preserve it for future generations, and to share it with people today.

I have great difficulty seeing that today as I look out over the verdant valley which so often is filled with colorful tents and cavers getting ready for a cave trip. But inside the Cave, when I am alone or with just a few people I can begin to imagine what it might have been like to crawl through a small passageway with a wooden shovel and large cloth to collect the nitrate rich dirt. In other rooms, I think about a couple of guys working together to stir the water saturated sediments so that the leachate can seep out of the bottom of the hopper. Sometimes they took breaks (I'm sure it was when the master was called away) and they drew pictures on the walls or scrambled up into Russian Dome to sit and warm up.

Rockcastle Karst Conservancy has accepted the responsibility to take care of the Cave and its historic resources, to preserve it for future generations, and to share it with people today. RKC does this through a special agreement with the Greater Cincinnati Grotto who many years ago formed the Great Saltpetre Cave Preserve Management Committee and joined forces with Blue Grass Grotto and Dayton Underground Grotto to do just that.

Great Saltpetre Cave was nominated for listing in the National Register of Historic Places in early 2013. Some members might be concerned about the government getting involved or restricting what we can and cannot do at the Preserve. Quite the contrary – inclusion in the Register

limits what the government can do. It cannot take this property nor do anything in the road right-of-way that would damage the Cave. We are still bound by the Archaeological and Cave laws of the Commonwealth of Kentucky and equally important, our own Management and Strategic Plans. These latter two are our written guidelines for the Preserve and the Cave, developed over many years with the input of numerous cavers. They remind us of our long term responsibilities and serve as a way to measure each project that is suggested.

The nomination includes a description of the current conditions, explanation of its historical significance, maps and photographs. The package is submitted to the State Historic Preservation office, which reviews it, critiques it, and when they say it is ready, sends it on to the Federal level. Thanks to the efforts of many people over the years like John Lair, Angelo George and Gary O'Dell, we have an extensive collection of historical information about the Cave and the property. This gave a lot of depth to the narrative, which was able to discuss the geology of cave formation as well as history.

On July 30, 2013 Great Saltpetre cave was officially "Listed", and a plaque was installed in 2014. Inclusion in the Register demonstrates to cavers, our neighbors, and anyone who visits the Preserve, that we value its historical resources as much as its recreational opportunities.

We are the stewards of these caves.

Help us preserve and protect more.



Visit the National Park Service website to see the official NRHP nomination for GSP at:

<http://www.nps.gov/nr/feature/places/13000565.htm>

From the Editor

RKC succeeds in its mission only by the service of its members. We are an all-volunteer organization. As such, we give whatever we can, depending on our particular circumstances. But, occasionally a member goes above and beyond the usual level of commitment. Such extraordinary efforts deserve special recognition.

Music In the Mountain was a very special event for RKC. It reprised a unique event in the history of the Great Saltpetre Cave and it also benefited us financially and expanded our visibility outside the caving world. Both in 2011 and in 2012, **Bob Dobbs** spearheaded both events. While many of us helped make both events happen, the person at the top takes the responsibility to ensure everything gets done, properly and on time.

Anyone who has led a team for any purpose knows there are many things going on behind the scene than in front of it. Being the chair of large events, such as MIM, takes



someone who can get the job done without making his team mad or himself nuts. Bob did get the job done well and remained calm through it all.

RKC and its members owe Bob a big Thank You for two jobs well done. We congratulate him for his great efforts. Please give him a nice pat on the back the next time you see him.



Help Save Our Vanishing Karstlands !!!

Donate to the RKC Cave Acquisition Fund !!!

Your Dollars Will Last for Years !!!

Preserve News

The Great Saltpetre Cave Management Committee Winter Report by Jerry Brandenburg, Chairman

The management committee consists of members from the Greater Cincinnati Grotto, Dayton Underground Grotto and Blue Grass Grotto.

Greetings from Great Saltpetre Cave Preserve !

Winter is upon us and with that comes the usual slow-down of activity at GSP. The preserve, the campground in particular, welcomes the opportunity to recover from the summer activity. This also offers the onsite caretaker, committee, and volunteers a break from certain tasks. Obviously, mowing of the campgrounds is not necessary. This task alone requires hundreds of volunteer hours every summer. Other maintenance issues are reduced due to lack of need. Some portions of the preserve see less traffic, therefore they need less attention.

That said, many other parts of the preserve require year round attention...

The security of the campground and surrounding preserve is an unending task. Our onsite caretaker is constantly dealing with the day to day issues that come up. The preserve is occasionally subject to less than desir-

able activity. Having someone there to manage that on a daily basis is an invaluable asset.

Managing the infrastructure of the campground changes with the season. Protecting the water supply takes a priority as the campground structures are not climate controlled. Maintaining access to running water is difficult. This requires a great deal of effort on the part of a handful of very knowledgeable volunteers. Most use their own tools and equipment to accomplish this. Again, an invaluable asset to the preserve.

Many tasks present themselves in the maintenance of a place as unknowingly complex, yet so wonderfully simple, as The Great Saltpetre Cave Preserve. None of which could be accomplished without the dedication of our volunteers. A diverse group of individuals that take great pride in a noble venture... The preservation of a natural resource offering opportunity to educate, while providing recreation, teach while entertaining. The opportunity to help preserve the past, preserve for the now, and preserve for the future.

Thank you for your time.

Cornhole Cave Preserve by Mary Gratsch

Cornhole Cave Preserve consists of 50+ acres of forested hillsides and overgrown fields at the headwaters of Crooked Creek. The cave entrance is reached by either a $\frac{3}{4}$ mile hike through the woods or by driving a washed-out dirt road. The entrance itself is well hidden at the edge of the woods. Care must be taken when descending into the sink as it has become somewhat unstable.

Cornhole is one of 3 known entrances into the Goochland System, the longest system in Rockcastle with over 9 miles mapped. Unlike the spacious halls of the main Left Cave, the passages in the Cornhole section are mostly tight crawls, fissures, and short climbs.

The current management plan for the Preserve allows for trips into the cave for survey and recreational trips as long as the leader is familiar with the cave. There are very few bats in this part of the system, however, WNS decontamination procedures MUST be followed. Anyone interested in information on this preserve can contact the preserve manager, Mary Gratsch, at milgra2@fuse.net



Around The Town

Local School Trips to the Great Saltpetre Preserve by Bob Dobbs



During the 2002 Open House at Great Saltpetre Cave a teacher from Mt. Vernon Elementary school asked if I would do a field trip for her second grade class of about 20 students. I gave her my contact information and we set a date in October to the field trip. My plan was to show the students a DVD about bats and then take them for a tour of the cave. I asked Michelle Martin Thompson to help and she volunteered to borrow her father's TV/ VCR combo to show the video. Needless to say, the field trip was a huge success. I don't know who enjoyed it more, the kids or us. Anyway, that teacher told her fellow teachers at Mt. Vernon, and then they told their teacher friends at other schools. We now do field trips for Mt. Vernon Elementary, Brodhead Elementary, Crab Orchard Elementary, and East Bernstadt Independent and Bush Elementary Schools in Laurel County.

We have also done field trips for Home School groups and Mennonite Schools . Since that first field trip we have fine-tuned our program. We now put tarps up around the shelter and use a projector to show our videos on the big 8'X10' screen, plus we have incorporated vocabulary words into our program and cave tours to make it both fun and educational. For the first few years Deb Bledsoe did the program at the shelter while I and many other volunteers would give the cave tours. After Deb moved back to Ohio, Nancy Seaberg took over doing the program for us. We do field trips in May and Oct, averaging around 600 students per year. Many times, parents, grandparents, and siblings will come along for the trips too.



Helping Them Grow

Youth Group Caving by Darryl Marsh

The 2014 youth group caving season has officially come to a close. Getting underground with a grotto member is often their first experience in a cave, as well as their favorite outing of the year (their words, not mine), for a scout/youth group member. Once beyond the twilight zone every trip receives an education covering biology and geology of caves, how they're formed, White-Nose Syndrome, a few tidbits on the environment and conservation, and what a responsible caver must do to ensure these underground treasures are left in better condition than they were found.

As a continued trend from 2013, this year we saw an increase in both the number of youth groups at GSP as well as the number of youth and adults who caved with us, from previous years (34 groups and a whopping 640 youth and adults underground!). Through the contributions of many faces an estimated 1555 hours were put toward youth groups through guiding/tailgunning trips, pre-cave presentations, and pre/post caving communication and administration. A personal *Thank You* goes out to James Robinson and Ralph Mann for their dedication of spending countless weekends guiding and sponsoring youth groups, to Beau Gergel for publishing story after picture after call for volunteers in the GCG Electric Caver, to the many cavers who volunteered as a guide or tailgunner, and to those who donated time, energy, supplies, and money erecting the Scout Camp shelter and maintaining the grounds, as the youth groups are truly appreciative and many have gone out of their way to comment on the loveliness of our preserve.

With youth group caving being one of the largest sources of income for GSP (through donations and camping fees), not to mention a program of good stewardship for our community, I ask that the next time you see an email or article from me, don't click delete, but rather reply and say you'll join us, or at the very least forward it to a new caver or an oldtimer, as there are opportunities for both those with little to no experience wanting to get underground as well as non-caving needs where telling stories and sharing experiences are exactly what youth love to hear!

We already have more than one group signed up for February, so grab your boots, don your helmet, and lets get cavin!

Trip Statistics:

Number of scouts and adults that went wild caving: 640
 Number of groups (total): 34
 Number of groups led by youth group guides: 27
 Number of groups self-sponsored and self-guided: 7
 Number of trips (total): 51
 Number of trips led by youth group guides: 43
 Number of trips self-sponsored and self-guided: 8
 Number of groups scheduled in prime caving season: 15
 Number of groups scheduled during hibernaculum: 19
 Trips cancelled by the group: 5
 Trips canceled by the Youth Group Committee: 0

Manhours:

Trips by youth group guides and tailgunners: **1400 hours**
 (70 trip guide/tailgunners x 20 hours for preparation, travel, GSP tour, wild caving, and decon/cleaning)

Pre-cave presentations: 45 hours (15 presentations x 3 hours for preparation, travel and presentation)
 Youth group committee administration: **110 hours**

Number of groups that camped 1 night at GSP: 8
 Number of groups that camped 2 nights at GSP: 23
 Number of groups that did not camp at GSP: 3

Number of GCG guide/tailgunners: 14
 Number of COG guide/tailgunners: 1
 Number of BGG guide/tailgunners: 2

List of Cavers:

Andrew Daugherty	Molly Jones
Bob Dobbs	Mark Skinner
Chanda Ziegler	Matt Fille
Danny Young	Patrick Gibson
Darryl Marsh	Paul Knasel
Gary Bush	Ralph Mann
James Robinson	Ron Hager
Kelly Hay	Shane Mullins
Mary Gratsch	

Cavers that went above and beyond:

Ralph Mann
 James Robinson

Number of trips in each cave:

Climax - 13
 John Griffin - 2
 Lloyd Mullins - 2
 Millipede - 2
 Mullin Springs - 1
 Pine Hill - 2
 Railroad - 3
 Rollercoaster - 2
 Sinks of the Roundstone - 14
 Smokehole - 4

* Note that some trip data was incomplete, so not all individual numbers add up to their respective totals.

(Continued on the Next Page)

Youth Group Caving *(Continued from Page 8 ...)*

Quotes from Adults:

'My name is Alex and I was one of the parents with [the trip guided by] Ralph and Debi. I am admittedly claustrophobic and while I wanted to go I did not feel I could go in at all. With Debi's help and Ralph's confidence I spent the entire time in the John Griffin cave. I did bypass a couple spots but was still able to have this great experience with my son. A huge thank you!!'

... Alex Hensley - Boy Scout Troop 155

'All the boys and adults will remember it for a long time.'

... Fred Matthews - Boy Scout Troop 850



Ron Crawford helps keep GSP clean at KOR.



Those who can, do.

Those who can do more, volunteer.



Caving Basics – How to Cave Safely by Gary Bush

Reviewing previous issues of *American Caving Accidents* shows two things: there aren't a lot of caving accidents and those that do occur are mainly due to carelessness. In non-cave-diving accidents, falls are the most common problem, followed by getting stuck or stranded in the dark.

Most experienced cavers know the basic rules:

- Carry 3 sources of light, with the primary light mounted on your helmet.
- Wear a good helmet with a chin strap.
- Never cave alone. A party of 4 or 5 is optimal. 3 is the minimum.
- Wear good boots with lugged soles.
- Wear clothing appropriate for the cave and pack enough supplies.
- Check your equipment before entering the cave & carry extra, fresh batteries.
- No alcohol or drugs before or in the cave.
- Always let someone outside know where you are and when you'll return.
- Be alert and be aware of changing weather conditions, especially rain.
- Maintain three points of contact with the rock when climbing.
- If the cave is unknown to you, make note of junctions by looking backwards.

- Know your and your party's limitations. Start back out before you're tired.

But, because accidents can happen anytime to any of us, there are a few other things to consider that might make your trip safer or help you when something does go wrong:

- The trip leader should carry a basic first aid kit and know how to use it. All serious cavers should be trained in First Aid and CPR.
- Don't try making exposed climbs on rock or cable ladders without a belay line.
- No one should be on a vertical trip (requiring ropework) unless properly trained.
- Less experienced trip members should be in place immediately behind the leader.
- Keeping the group together fosters cooperation and improves safety for everyone.
- Plan your trip with enough time to complete your mission without rushing.
- Take frequent breaks. You'll enjoy the cave more and everyone stays more alert.

If someone gets sick or injured, abort the trip. Do not press on. Get out of the cave, before they get worse or a rescue may be needed.

Caving should be an enjoyable endeavor. It shouldn't be a grueling exercise. Be sure everyone on your trip is ready and capable of the rigors of the planned trip. Make it fun!

Composting Toilets at Great Saltpetre Cave Preserve by Neena Jud

[Editor's Note: This article was originally published in the April, 2014 issue of the *NSS News*. It has been edited slightly to make it current.]

The Preserve

Great Saltpetre Cave Preserve is a 306 acre tract of karst land in the Appalachian foothills near Mt. Vernon, Kentucky. The region is riddled with caves, and its popularity as a caving destination can be partially attributed to the 1967 book, *The Caves of Rockcastle County* by Gary O'Dell and Jim Rebman. At that time, this property was owned by John Lair who also owned and operated the Renfro Valley Barn Dance complex on US 25. Great Saltpetre Cave was a Tourist Cave, albeit 9 miles off the main highway by way of a gravel road. Lair also ran a campground on the property along the banks of Crooked Creek.

Today the Preserve is owned by Rockcastle Karst Conservancy (RKC), and managed by a collaboration between Greater Cincinnati Grotto, Bluegrass Grotto, and Dayton Underground Grotto. Since 1989 this team had been managing the property for the Felburn Foundation. Members camp for a nominal donation which goes toward the upkeep of the Preserve. The tradition of an annual Open House began in 1991 to once again share this natural and historical resource with the community. When Ellie Schiller of the Felburn Foundation visited in 2003, she was very impressed with the care given to the property, so much so that she suggested the formation of a non-profit organization to hold ownership of the Preserve, on the condition that they grow and form more cave preserves and protect more caves. RKC was formed in 2004 and accepted ownership of the Great Saltpetre Cave Preserve (GSP) in 2006.

In the early days of managing the Preserve, facilities were rather primitive. A few pit toilets were constructed on the hillsides above the creek, and it took a while to get the shower house in working order. As visitation increased, like when Karst-O-Rama grew to 300 people or the NSS 2001 Convention during which more than 1000 people were at the Preserve, Port-O-Lets were brought in just for the events. After a few more years, the Port-O-Lets became permanent fixtures.

I have been caving off and on in Rockcastle County, Kentucky since I met my husband, Werner Jud (15377 FE), in 1980. We camped at Great Saltpetre during that first caving trip on which he took me, long before it became a preserve. He has been involved with the management of the property (mostly as treasurer) for 17 of the past 26 years since it became a Preserve. He was also very involved with the formation of Rockcastle Karst Conservancy and as a board member for the past ten years. When we were talk-

ing about the need for new toilet facilities (sometime in 2006), I decided to accompany him to the GSP Management Committee meetings. I was aware that new facilities had been discussed for many years, but nothing was done. With the increasing popularity of large events and the number of year round visitors it was clear that it was time to make this project real.

Investigation & Design

As an architect, I know the best way to start a project is to develop a program. This is a listing of the problems the project is supposed to solve, the values of the owner, the budget that the owner can afford, and a description of the end user. It can help check the work of the project as it goes through the design process to make sure it doesn't veer off course. The program is also useful during construction when someone wants to make a change – usually to make it easier to build or cost less. In a project being built partially with volunteer labor, last minute suggestions will inevitably arise as the pieces are going together. But when those volunteers are part of the managing grottos, in effect part of the “owner”, the suggestions should be measured against the program criteria and a decision made as a team.

I studied the GSP Management Plan to summarize the Values of the organization. The pertinent sections of the Mission Statement follow: *Our long term mission is to preserve and protect the natural resources of the Great Saltpetre Preserve, maintain and restore those buildings and structures that are important and/or historically significant to the campground area, and in so doing, continue to provide a pleasant and convenient haven for cavers while protecting a vital part of Kentucky history and landscape. Each idea, project, and plan shall be measured against this.*

Our stewardship of the land means not developing the property or creating high impact improvements... Visible and permanent changes on or to the property, or in the cave, must be thoroughly evaluated so as not to clash with our mission. Low impact and low visibility improvements such as running water, telephone, cave lighting, inconspicuous outhouses, are usually acceptable since they enhance comfort and security without compromising our mission. Any such improvement or restoration project shall be evaluated to keep long term (life-cycle) costs down and minimize ecological impact...

LEED (Leadership in Energy and Environmental Design) certification of buildings was rapidly expanding through the architectural community. Building projects that have LEED certification are designed to be energy & water efficient

Composting Toilets at Great Saltpetre Cave Preserve (Continued ...)

and located carefully on their sites. But the certification is not only about design, it must be built carefully, not wasteful of materials or the soil on the site. As I was learning about LEED, I was thinking about how those concepts could apply to this project.

While visiting the Preserve with Werner, we often talked about good locations for new facilities. One day we were walking around the campground, from the Shelter up the stairs to the Cave and out the maintenance road to the upper parking lot. People who cannot handle the stairs park up there and walk along this wide level path to the Cave. As we walked towards the parking lot, Werner pointed out the platform of the old "Wild Animal Cage" he remembered from when he visited the Cave with his parents some 45 years ago. The "wild animals" were simply raccoons, but all I saw was an old concrete slab supported by a timber foundation with English ivy climbing all over it. Hmm... the timbers were rotting, the slab served no purpose now. It was on the downhill side of a level path, well above any flood level of nearby Crooked Creek and convenient to the Cave. This "previously disturbed site" might be perfect for the new toilet facilities.

There was no water service nearby, and a hillside is no place for a septic system. But even if it was level enough, this is a karst region, and there is very little soil to filter and clean the septic effluent before it reaches the porous limestone. A dry toilet system made sense. Outhouses (pit toilets) are common in this region, but depth of dig-able soil is a big factor and there is the potential for groundwater contamination.

We had Port-O-Lets, and we pay a company to clean them once or twice a month (or more often if they get full). There seems to always be an odor, chemical or otherwise, and it would be good to reduce the service fees paid out. The Committee talked about a pump-out chamber – it is like a Port-O-Let built on site with a much larger reservoir underneath. There is less cost, since there are fewer servicings, but it doesn't get emptied as often which means more odor. I learned about incinerating toilets, but they require gas or electricity to operate. Composting systems seemed to be the best choice of all the dry systems. There are organisms and microorganisms in the leaf litter and the top layer of the soil which break down animal wastes into nutrients for the plants. This process has been at work long before humans recognized its benefits.

Composters require an initial inoculation of microorganisms and a layer of wood shavings to take the place of the leaf litter. After each use, another scoop of wood shavings is added. After some period of time, the decomposers happily turn what we consider waste matter into the same type

of compost that you can get from your Grandma's scrap food pile next to her vegetable garden.

There are a few types of composters that could be used. Our challenge was finding the best fit for our needs. Some, like the "Sun-Mar" system are too small for this facility. Other small scale systems are homemade, and therefore less expensive, but also prone to being finicky. The "Alternating Sides" design has two composting chambers below two toilet chutes. Only one side is in use at a time while the other sided composts. At one time "Carousel" units could be purchased from Scandinavia, but now people must construct their own based on that design. The "Big Batch" design relies on two (or more) wheelie bins or demolition carts that have a sinuous sculpture of perforated PVC pipes for ventilation, which must be connected to a vent pipe. One bin receives the contributions while the other is composting. Once it is ready, wheel it straight out to the garden. Pre-engineered manufactured systems are more appropriate for large scale use. In addition they are more likely to be accepted by regulatory authorities like Health Departments. They require vent pipes that aid in oxygenating the compost as well as exhausting odor. These are frequently fan assisted which requires electricity from the grid or a photovoltaic panel. There must also be a method to collect & remove excess liquid. This can be with an evaporation chamber or maybe into a graywater garden. Two leading manufacturers are Clivus Multrum and Advanced Composting. We have the Phoenix unit from Advanced Composting, partially because it has a smaller footprint and is a more vertical process which fits on our steep hillside site.

The final program stated: Install new toilet facilities with long term sustainable features such as durable construction (vandalism and fire resistant), rodent proof (as much as possible in the woods), long material life (at least fifty years), no utilities required (electric, water, sanitary or septic connections), minimal use of chemicals, and easy to maintain. Where practical, include ADA accessibility features (useful for elderly visitors, one caver's daughter who uses a wheelchair, and all of us at one time or another).

I added: Design facilities to be pleasing to look at and to be in (not too hot or stifling), compatible with the region and immediate surroundings. Incorporate sustainable construction aspects such as purchasing materials locally to minimize fuel costs, careful construction to minimize erosion and reduce site impact, and minimize waste. Furthermore, we want to educate visitors about environmental responsibility, by example and by informational material about the facility.

Composting Toilets at Great Saltpetre Cave Preserve (Continued ...)

Fund Raising

In November 2007, after attending a few Management Committee meetings, I presented a design concept. The Committee members thought it was a great idea, but didn't know how they were going to afford it. The first budget proposed was for \$15,000 using the "Big Batch" design. As I developed the drawings and thought about our volunteers maintaining this system, it seemed prudent to change to a pre-engineered system. So we raised the budget to \$18,000 to cover the additional cost of the Phoenix unit. While talking about this project with GCG members and others, the prevailing comment was that it was very expensive or too much money to spend at the Preserve. Only one person commented that he thought the cost was low for this project. His background was in appraisals for a title company, so he knows construction costs.

The Preserve operates completely on donations and receives only a little more each year than its expenses. The only way to get this project done was to raise the money for it. I had never submitted an application for a grant or asked for money before, but that wasn't going to stop me from trying. I figured it was similar to preparing a resume and applying for a job – research the grantor's mission and present your request to show that it meets their goals.

I submitted the first grant application in December of 2007. We did not get that grant, but it was a good start. I contacted caving organizations and large foundations, 38 grant applications or letters of request in all. Nine applications went to companies or foundations that were not associated with cavers or the Preserve. One responded with a grant. We asked two local businesses and they came through for us. One non-profit organization that we consulted with on the design gave us a small grant.

Finally we asked the Felburn Foundation for a grant. We were hesitant since they had already given us so much – the Preserve! But once again they were very supportive – giving us a grant and "wishing [us] all the best in [our] endeavors in providing, protecting and preserving a place where people can experience the value of caves and enjoy the discovery, exploration and history as well as their relationship to the environment."

We received donations from six of the twenty four grottos that we asked, as well as contributions from twenty six individual cavers and friends. We promised to recognize all the contributions by categories: Bowel Pals, Potty Animals, Fabulous Fertilizers, Great Guano Givers, Grand Poo-Bahs, and First on the (Toilet Paper) Roll of Honor. The informational sign lists all 42 financial donors.

The turning point for the project was in December 2009 when we were awarded a \$5,000 grant from Toyota Motor Manufacturing in Georgetown, Kentucky. Toyota supports programs with long-term sustainable results focusing on education, the environment and safety. That grant enabled us to receive a \$3,500 Challenge Grant from Greater Cincinnati Grotto. GCG had some funds set aside for use at the Preserve. The Grotto Executive Board thought the best way to leverage those funds was to put out a challenge grant, whereby GCG would match each contribution 1:1. At that point we had received just over \$10,000, 67% of our initial budget.

The Committee thought it was finally a viable project and felt confident we could raise the funds. Shortly afterwards we received a \$1,000 grant from the National Speleological Foundation and a \$500 grant from Dayton Underground Grotto. By the end of the project, the expenses came to \$20,300 and the grants & donations reached \$20,800.

Construction

On a cool, gray Saturday in March of 2010, about a dozen people gathered at the Preserve for a work weekend. Some general equipment maintenance was needed as well as attention to a few other tasks, but by far the biggest thing in my mind was getting the composting toilet project started. One of our GCG members who is a concrete contractor brought his backhoe to the Preserve. He made short work of the old wild animal cage, then finished grading an access path to the lower level. By the end of the day he had made a big gash in the side of the hill which was about ten feet wide, seven feet in at the base and almost seven feet deep at the back. The project was finally REAL!

Four of us worked Sunday and most of Monday to get the lower level floor slab and foundation poured. When we left that afternoon, there was caution tape around the upper edge of the excavation and rebar sticking up out of the slab with scraps of two-by-fours on top acting as safety protection for any deer that might come running by.

Work resumed in Mid-April with delivery of the concrete blocks. We were lucky to be able to purchase some split faced concrete block that was a nice warm tan clay color. It was left over from a very large project in Cincinnati so we were able to get a great bargain. On the other hand, we had to pay for it to be delivered to the Preserve. The total cost was still lower than purchasing new concrete blocks from a local supplier. The lower level blocks were set in two days.

Composting Toilets at Great Saltpetre Cave Preserve (Continued ...)

The following weekend, we poured the upper level slab. Visitors to Open House that May saw a partially completed block building with gravel filling most of the space between the dirt and the building. Once again we put caution tape around it and displayed some posters to explain the project.

By June 2010, the block work was complete and attention turned to other things at the Preserve. Karst-O-Rama came and went. Then in November a crew of ten people turned out to frame the roof, which received its metal roofing the following March. The doors and windows were installed, and in mid April 2011 the composter arrived from Montana. This year at Open House it looked like a finished building with a gravel walk leading up to the doors. But we kept them locked, since the toilets were not yet installed and the composter was not ready.

Through the summer we worked on setting up the composter, installing the vent and the electric, installing the decorative brackets and the light fixtures, and painting the doors and frames. Once again the Committee and Grottos were busy with other things, so the pace of the work slowed even further. But by the end of the 2011 the work was basically complete. We decided to wait until the end of winter to start up the Phoenix unit so that the spring warmth would help the composting. March 2012, four of us drove to a neighbor's house to get some buckets of aged horse manure from her barn. Microorganisms from the ground were already working to break it down, and we needed some of them to get our composter started. We added wood shavings and water, and declared it ready for use! This was just in time for an NCRC Rescue Training Class held at the Preserve.

How did it turn out?

The **Green Latrine** (as it is now called) is constructed of concrete block with concrete floor slabs. It has wood framing only for the roof, which is covered with standing seam metal. The windows are a polycarbonate material, much more durable than glass windows. The lower level door is hollow metal in a hollow metal frame with a full height continuous hinge. It has a door sweep to stop rodents from entering, but no threshold to make it easier to sweep out. The upper level doors are fiberglass doors in a wood frame. The frame has a composite material for the lower portion so it will not wick moisture.

The toilet rooms stay quite comfortable, having one low and one high louver with bi-metallic strips to open during the summer and close during cold weather. This allows air to flow through when ventilation is needed. The large windows are translucent, allowing light to pass through while providing complete privacy. The roof extends out over the

upper level doors, protecting people from the rain as they go in and out. The addition of a gutter which will drain into an adjacent rain barrel is still on the agenda as well as a small roof over the lower level door.

The composter does not need a water service. It does need some electricity which could be provided by a small photovoltaic panel. But since the building is surrounded by many tall trees, the solar panel would need to be as far away as the nearest electrical panel. So we opted to extend one branch circuit to the building. This let us install a typical fluorescent fixture in the lower level service area and two LED light fixtures in the toilet rooms. As a bonus, there is a photocell controlled rope light at the edge of the front roof overhang – a welcoming touch when it is dark.

The concrete, gravel and lumber was purchased locally in Mt. Vernon. Since I know people in construction in Cincinnati, I picked up most of the other materials around home. A few cavers helped transport the doors, windows, and roofing material that we could not fit in our vehicle. The concrete block and the dark tile bands were salvaged from other projects in Greater Cincinnati. So everything except the composter came from within 150 miles of the site.

Inside the toilet rooms, the user interface is similar to the pit toilets on the property. Toilet paper is kept in old coffee cans which are reasonably mouse proof. Spare toilet paper is stored in a PVC pipe in the corner. Whereas in the pit toilets we toss in a scoop of lime from a five gallon bucket, here we use a scoop of wood shavings, but the action is similar. For those who are first time visitors, there are some instructional signs on the wall. A sign outside explains the workings of the composting toilet system and why we chose to use one for this facility.

One of the toilet rooms is handicapped accessible, complete with grab bars and plenty of wheelchair turning space. The gravel walk comes up to the doors of both rooms with no step. The doors do have thresholds, but they are only one half inch high. In hindsight, I recommend no thresholds. Cut them off and use a door sweep.

Maintenance has been generally easy (with one notable exception I will explain below). It primarily consist of keeping the wood shavings, toilet paper, & hand sanitizer stocked and the trash cans emptied. It also helps to sweep up the blown-in leaves and dropped shavings. I hung a broom & dustpan on the coat hook and people seem to use it. There is a canister of disinfecting wipes to wipe down the toilet seat and keep it clean. It is hidden in a corner and clearly marked "BAD for microorganisms, do not discard down toilet chute". Also the mixing tines in the composter need to be turned every few weeks. I attach the handle and turn it a dozen times or so.

Composting Toilets at Great Saltpetre Cave Preserve (Continued ...)

Our big problem has been with the vent fan. In the two years it has been in operation Werner has installed three replacement fans. The first time was a week before Karst-O-Rama 2012. Unfortunately we were not told until we arrived for the weekend and could not get a warrantee replacement until the following week. The odor was definitely noticeable that weekend. The so-called "Best Seat on the Preserve" was not living up to the hype.

The second time was a week before Karst-O-Rama 2013. (It makes one wonder what was going on, especially since we have reported half of all the fan problems reported to Advanced Composting.) Werner heard about it right away and contacted the factory. They sent out a replacement immediately and all was fixed before the event.

The third time was October 2013, just as fall weather was cooling everything down and usage of the Preserve was tapering off for the year. Although the replacement fan was not installed for three months, this time there was no odor. I surmise the microorganisms are finally well established.

Throughout the construction process there were a number of pleasant (and some not-so-pleasant) surprises that enhanced the project. I called one company in Cincinnati to talk about below-grade waterproofing and see if I could purchase some through him. He offered to donate the material and one of his employees who grew up in Mt. Vernon offered to install it one weekend in exchange for taking a tour through the Cave with his Dad.

One caver offered to donate and apply concrete stain and sealer to the upper level floor. In one weekend the floor transformed from plain gray to a richly mottled cola color that can withstand the inevitable messes. Plus, we had time for a nearby cave trip.

Another caver offered to make some signs for the doors. We worked together on the artwork, and it is obvious that this building is for cavers. He brought the signs down before Karst-O-Rama 2011. Since there wasn't time to install them right away, they were stashed inside the building. At the end of the weekend they were missing! I couldn't believe a caver would steal something like that. But there was enough material to make them again.

One caver friend offered to donate the grab bars for the Accessible side. After they were in, a few cavers wished there was something to hold onto in the other side (for some of the times they are a bit unsteady on their feet). Yet another caver had some large timbers at his property nearby and offered them for use to retain the walk up to the doors. They worked very well, but now we had a possible falling hazard. It needed a guard rail. Taking inspiration

from a neighbor's fence, we re-purposed some trees on the Preserve. No, we didn't kill any trees, these were slippery elms that had been stripped of their bark a few years earlier by some trespassers who didn't respect our rules. They were already dead, and it was a matter of time before they would fall down. So we were able to put them to good use.

Lessons Learned:

- Don't count on volunteers to do everything. Be prepared to pay for some services – people need to make a living. The budget should reflect that.
- It is difficult to make steady progress when most of the volunteers live three hours away.
- Remember that the reason your group exists is to go caving, not work on construction projects.
- While many people may be in favor of your project, some will talk disparagingly about it (even some of those in favor of it). Most negative comments will not be shared with you.
- The person running a construction project would be wise to focus only on the project, not have other big responsibilities (like being Chair of the group).

Thanks to the efforts of over forty cavers from the three managing grottos; the financial contributions from many more cavers, grottos and donors; and the support of RKC, the *Green Latrine* has been in operation for three years as of the publication of this newsletter.

A few of our volunteers have even asked for a tour of the lower level so they can help with the maintenance, which so far has only taken a few minutes per side.

It is a clean, bright, comfortable place which has served over 2000 cavers, school children, and visitors to Open House each year because it is proximate to the entrance to Great Saltpetre Cave.

Frequently I see people reading the informational sign while waiting for a friend who is using the facility. Thus, it is successfully educating the public while managing our wastes in an environmentally responsible manner.



Photos From the RKC Preserves



Students and Teachers from Mt. Vernon Elementary School visit GSP annually for class field trips.



Youth Groups make good use of the GSP Facilities.



Chris Hacker visits the entrance to Misty Cave.



Looking back out of Misty Cave shows the surroundings.



The entrance to Cornhole Cave.



Tammy Otten at the entrance to Cornhole Cave.



Tammy Otten,
RKC Publicity
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Institutional memberships for groups that would like to support RKC
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