The Tech Troglodyte

By Sandy Ramsey

Fall'05

The Tech Troglodyte

A Journal of the Virginia Tech Grotto of the National Speleological Society

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Contents

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Getting To Know You!

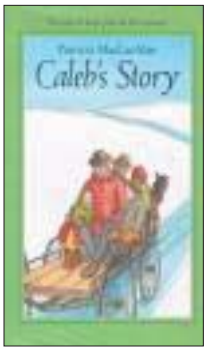
These are just some of the people you might see around the club this semester. Due to a camera malfunction photos taken for this article were lost and therefore replaced by photos found on the internet when their names were googled.

I am **Jenny Ferdetta**, a undecided freshman, from VA. I am looking for a guy who wears a mask and cape, has lots of gadgets, can fix things I break and likes hightime. My first caving experience was at Tawney's. If I could be any animal it would be a bat; I could fly, sleep through the whole day and eat bugs.

I am **Steven Davis**, a 3rd year majoring in ChE. My first caving experience was Tawney's. I am looking for a girl that is well rounded, The stripper from last night. If I could be any animal it would be a Kangaroo, why not?

I am **Thercesa Economos**, a Freshman Animal and Poultry Sciences major, from VA. If I could be any animal it would be a bird, they're my favorite!

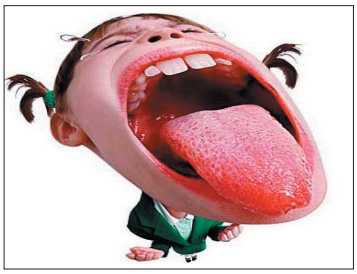
I am **Sara Kleinsteuber**, a freshman in Biology, My first caving experience was at Starnes. I am looking for someone who is honest, can carry on a conversation, and does whatever I tell them to.



I am **Caleb Magruder**, a Freshman majoring in EE, from VA. If I could be an animal I would be a cat because they are peacful, lazy animals

I am **Judi Wasilewski**, Jerry's Boss from VA. First caving experience was Tawneys, do I need to say more? Size matters when it comes to the opposite sex. If I could be any animal it would be a bird so I can fly.

Getting To Know You! Con't.



I am **Ed Fortney**, a Family Developement Red Shirt Senior, from my mother. I am looking for a person with a full set of teeth. My first caving experience was at Yogi's Cave, King Dominion. If I could be any animal it would be a slug, because I always leave a trail.

I am **Mark Eisenbies**, in Forestry for 13+ years. What is sex? If I could be an animal I would be invisible.

I am **Philip Balister**, a 10+ year majoring in EE from England. I am looking for a girl that that has large breasts, looks good in a bikini and is a good instrument reader. If I could be any animal it would be a squirrel, they can climb all over.

I am **Scott Rapier**, 7th year Horticulture. First caving experience was Tawneys. If I could be any animal it would be a adolescent elephant, waiting to be disciplined by older elephants.

I am **Evets (Steve Lepera)**, a 19th year ME. *I am looking for a girl that is easy.* If I could be any animal it would be a rabbit. (see italic)

The Cave

By Dustin Schleifer

This is my goodbye to all that I know,
Caving will be my end and swiftly will I go.
For when plummeting to ground in the pure pitch black,
Your end is uncertain and all hope is what you lack.
Death from fear will be the outcome of the event,
And in mere seconds will my life will be spent.
I can only hope for the ones I love,
That they understand that this is not death from above.
What they should feel at this moment
Is that death was not my opponent.
It will be my own mind that brings about my demise,
An internal suicide to cease the thoughts that arise.
Whether it is meant to be in the coming year,
Or in my old age when I forget the fear.
Death will come to visit and I will surely not fight,
Because all will happen when the time is right.

Longest Caves In VA

Submit your updates to caverbob@aol.com

Butler-Sinking Creek System	Bath County	17 miles of passages
Chestnut Ridge Cave System	Bath County	14 miles of passages
Perkins Cave	Washington County	10 miles of passages
Stompbottom Cave	Tazewell County	7.7 miles of passages
Unthanks Cave	Lee County	7.3 miles of passages
Paxtons Cave	Alleghany County	7.2 miles of passages
Paul Penley's Cave	Bland County	6.6 miles of passages
Newberry - Bane Cave	Bland County	6.6 miles of passages
Helictite Cave	Highland County	6.5 miles of passages
Clarks Cave	Bath County	6.4 miles of passages
Fallen Rock Cave	Tazewell County	6.4 miles of passages
Cudjo's - Cumberland Gap Saltpetre Cave	Lee County	6 miles of passages
New River Cave	Giles County	5.3 miles of passages
Spring Hollow Cave	Bland County	5 miles of passages

Longest Caves In VA

Submit your updates to caverbob@aol.com

Endless Caverns	Rockingham County	4.7 miles of passages
Gilley Cave	Lee County	4.5 miles of passages
Breathing Cave	Bath County	4.5 miles of passages
Crossroads Cave	Bath County	3.5 miles of passages
Williams Cave	Bath County	3.4 miles of passages
Barberry Cave	Bath County	3.3 miles of passages
Banes Spring Cave	Bland County	3 miles of passages
Yer Cave	Giles County	3 miles of passages
Lowmoor Cave	Alleghany County	2.6 miles of passages
Millers Cove Cave	Roanoke County	2.5 miles of passages
Salamander Cave	Giles County	2.4 miles of passages
Starnes Cave	Giles County	2.2 miles of passages
Clover Hollow Cave	Giles County	2.1 miles of passages
Cavin Cave	Lee County	2.1 miles of passages
Reasor Pump Cave	Lee County	2.1 miles of passages
Buchanan Saltpetre Cave	Smyth County	2.1 miles of passages
Doe Mountain Cave	Giles County	2 miles of passages
Witheros Cave	Bath County	2 miles of passages
Hancock Cave	Smyth County	1.9 miles of passages
Porters Cave	Bath County	1.9 miles of passages
Smokehole Cave	Giles County	1.8 miles of passages
Kimbalton Mine Cave	Giles County	1.7 miles of passages
Vickers Cave	Washington County	1.7 miles of passages
Jessie Cave	Russell County	1.7 miles of passages
Aqua (Lockridge) Cave	Highland County	1.6 miles of passages
Locomotive Breath Cave	Alleghany County	1.6 miles of passages
Blair - Collins Cave	Scott County	1.5 miles of passages
Surgener Cave	Lee County	1.5 miles of passages
Cave Spring Cave	Rockbridge County	1.5 miles of passages
James Cave	Pulaski County	1.4 miles of passages
Buddy Penleys Cave	Bland County	1.4 miles of passages
Kelly Cave	Wise County	1.4 miles of passages
Starr Chapel Saltpetre Cave	Bath County	1.4 miles of passages
Lowes (Fritz Breathing) Cave	Washington County	1.4 miles of passages
Hairy Hole	Wise County	1.3 miles of passages
New Castle Murder Hole	Craig County	1.3 miles of passages
Stay High Cave	Giles County	1.3 miles of passages
Pig Hole	Giles County	1.2 miles of passages
Wildcat Cavern	Wise County	1.2 miles of passages
Stonleys (Divides) Cave	Tazewell County	1.1 miles of passages
Cribb Cave	Scott County	1.1 miles of passages
Wilburn Valley Cave	Giles County	1.1 miles of passages
Rufe Caldwell Cave	Craig County	1.1 miles of passages
Flannery Cave	Scott County	1.1 miles of passages
Skyline Caverns	Page County	1 mile of passages
Slussers Chapel Cave	Montgomery County	1 mile of passages
Young - Fugate Cave	Lee County	1 mile of passages

Club Quotable Photos

Submitted by your friends

Photo By: David Klorig

Photo By: Mike Cole

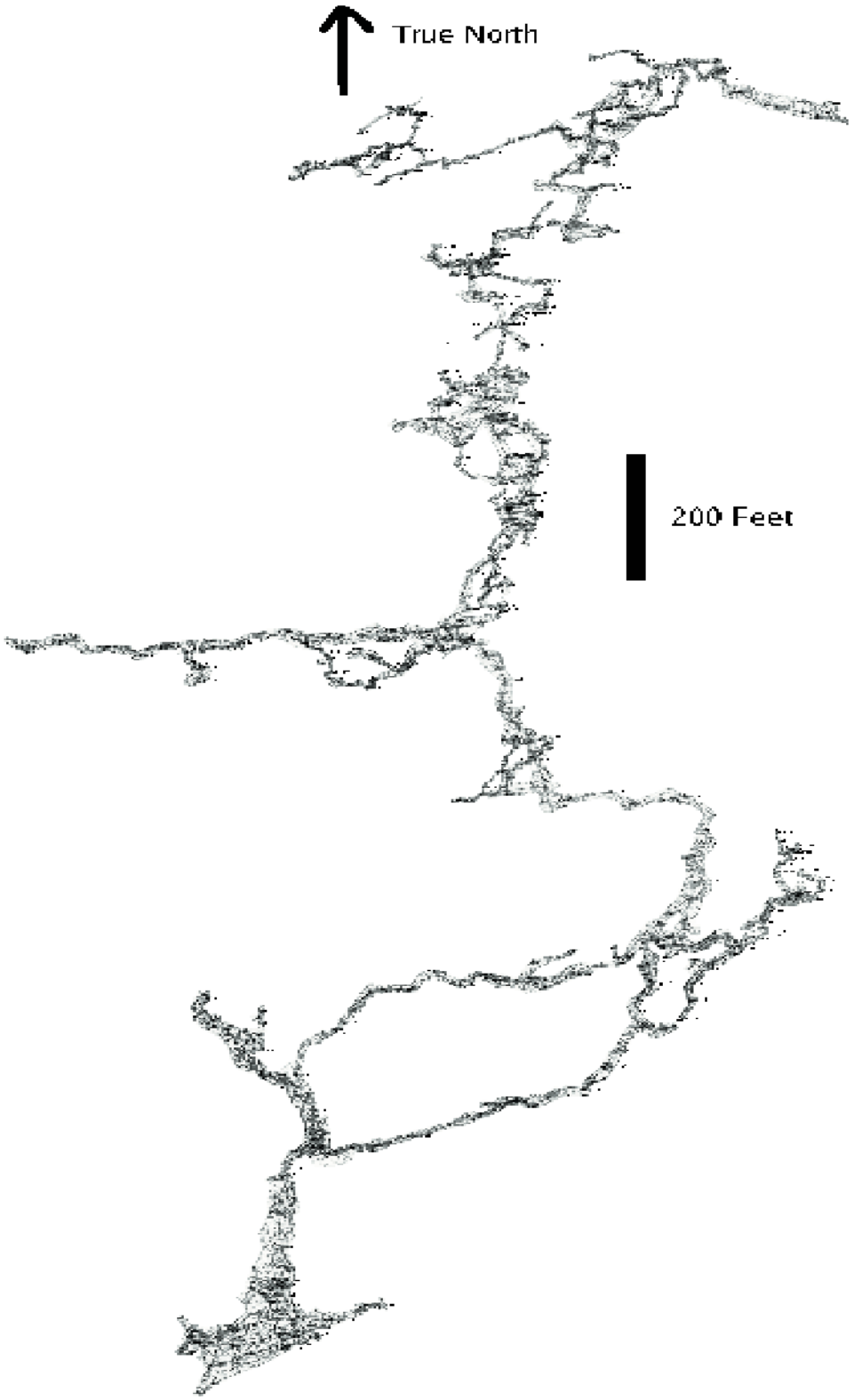
Photo By: Ed Fortney

Photo By: OTR Staff

Photo By: Mike Cole

ABC Map

By: Philip Balister



Quotable Quotes

Submitted by Your Friends

EO to PB: Philip you are responesable.

JB to Group: Can we put it on repeat until he wakes up?

JD to PS: Your skinnier than my 5 year old nephew.

KR to SG: If you keep rubbing it, it will get bigger.

SR to Group: I should go in a hole right now.

SL to GL: Can you not mount that?

CB to Group: It feels so good I don't want to get off.

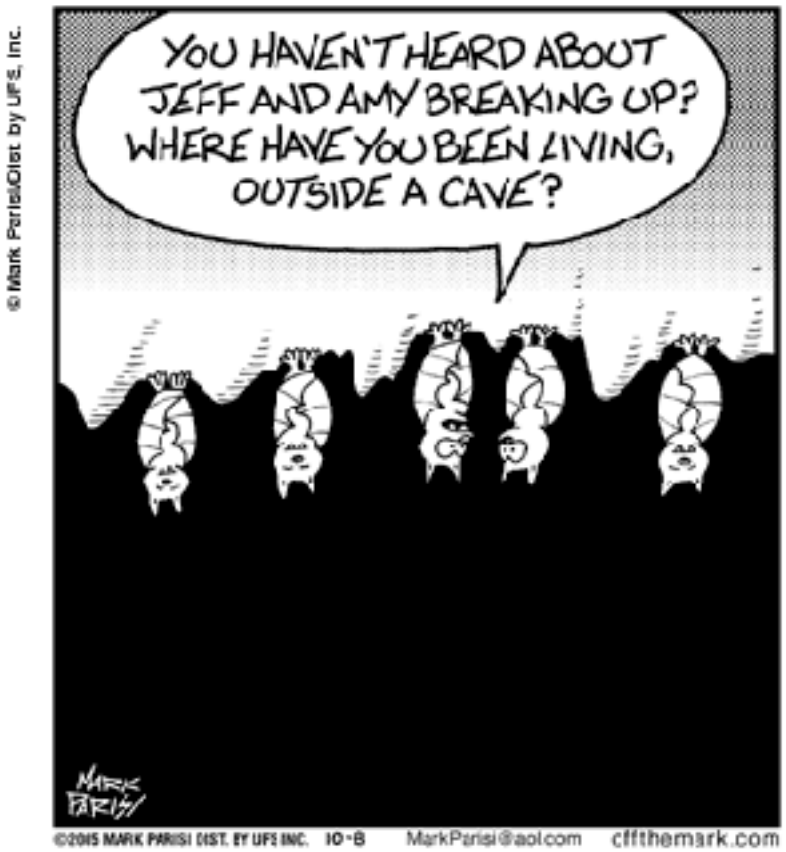
CM to SR: I was beating it on a rock.

PP to Group: I am all for oral sex just not at the table.

SG to NB: When it is hard like that I like to get on my knees.

Off the Mark

Submitted by Eileen O'Malley



Calculating the Closure Error of a Closed Traverse

By Mark Eisenbies

For many cavers, finding new caves and surveying them is the ultimate part of the sport. Like many other caving activities, we have found a way of making a game of it in the form of survey contests. The objective of these contests is to produce instrument readings that minimize *closure error* in a closed loop or traverse. When you use instruments, there is a certain amount of error inherent in your readings such that even though you take a reading on your starting point when you finish the loop, if you were to project an imaginary beam following your exact measurements they would not end at the precise location of your starting point. Put simply, closure error is simply the linear distance between your starting point and the point that your measurements lead to in 2D or 3D space. In reality, the errors that separate the top finishers in a survey contest are as much due to chance as skill. However, blunders (reading the wrong scale, or replacing a backsight for a foresight) can make the difference between being in the running, and being embarrassed by spot using a paper plate with some lines drawn on it and a plumb bob, or a hand saw and a bottle opener.

In all surveys, closed traverses are preferred because they allow closure to be calculated, and corrections made by distributing the error back through the raw data for the purpose of final reporting. Unless we have a cave with two entrances, passages that reconnect, or we use cave location radios, we are usually unable to close many traverses with precision. The purpose of this article is to provide some quick calculations you can use to check your work so you can avoid blunders and calculate your closure by hand. Ideally, field notes should be checked before leaving the survey location so that discrepancies can be corrected immediately upon discovery. The most common way to catch errors is simply by taking backsights (reverse sights) and comparing them to foresights for both horizontal and vertical angle measurements. Most cavers try to get foresights and backsights to agree within one degree. However, I will sometimes weight a foresight or backsight based on the ease of the shot because I am more confident in readings I make when I'm not contorted

Two-dimensional closure

Horizontal angular error in closed traverses can be checked by calculating interior or deflection angles. The sum of interior angles in a closed traverse is (n-2)*180, where n is the number of sides. Another method is to calculate the algebraic sum of deflection angles is 360 degrees, where angles turned to the right have an opposite sign of angles turned to the left. In general an acceptable level of error for a closed survey would be $n^{1/2}$ of the smallest unit of angle read.

Calculating closure error on a horizontal traverse is accomplished by calculating the latitudes and departures for each of the shots. In a closed traverse the sum of the latitudes (North(+)/South(-) horizontal components or vectors) should equal zero, as well as the sum of the departures (East(-)/West(+) horizontal components or vectors). Latitudes and departures are calculated using the sine and cosine by multiplying them by the horizontal distance between the stations (Table 1). The Pythagorean Theorem is then used to calculate the total horizontal error.

$$\text{Total Error} = ((\text{Sum of N/S})^2 + (\text{Sum of E/W})^2)^{1/2}$$

Calculating the Closure Error of a Closed Traverse Cont.

By Mark Eisenbies

The level of accuracy should match the equipment used. In general, the total traverse error expected for a compass and tape survey with azimuths measured within a degree, and distances within 0.1 ft, should be better than 1/100.

Three-dimensional closure

In cave surveys the slope distance between stations and inclination are included rather than the horizontal distance. As with the 2D example, the first step in dealing with three-dimensional data is to convert data into rectangular coordinates by calculating the latitudes, departures, and including elevation change. The horizontal distance is calculated by multiplying the slope distance by the cosine of the inclination (Table 2). Change in elevation is calculated by multiplying the slope distance by the sine of the inclination. Latitudes and departures are calculated in the same manner as the 2-D case. Vertical error is simply the sum of the elevation changes. Horizontal error is calculated in the same manner as the 2-D example. Total closure error is determined by including the square of the elevation change,

$$\text{Total Error} = ((\text{Sum N/S})^2 + (\text{Sum E/W})^2 + (\text{Sum of Up/Down}))^{1/2}$$

In both the 2D and 3D examples, the traverse error was within the desired 1/100 threshold (Table 3).

Conclusion

Congratulations, now you should be able close your own data. A smart monkey might even be able to use this information to improve their score in a survey contest, but that's another article.

Table 1: Two-dimensional survey closure example

Station	Data				Calculations		Coordinates	
	Azimuth	sin	cos	Horizontal Dist	Latitude (N/S)	Departure (E/W)	N/S	E/W
					HD*cos(AZ)	HD*sin(AZ)		
1							0	0
	120.5	0.8616	-0.5075	161.4000	-81.9167	139.0669		
2							-81.9167	139.0669
	56	0.8290	0.5592	121.0000	67.6623	100.3135		
3							-14.2544	239.3805
	347	-0.2250	0.9744	90.1000	87.7907	-20.2681		
4							73.5364	219.1124
	283	-0.9744	0.2250	134.0000	30.1434	-130.5656		
5							103.6798	88.5468
	221	-0.6561	-0.7547	134.8000	-101.7349	-88.4368		
1							1.9450	0.1101

Calculating the Closure Error of a Closed Traverse Cont.

By Mark Eisenbies

Table 2: Three dimensional survey closure example

Station	Tape	Azimuth	sin	cos	Inclination	sin	cos
1							
	30.5	26	0.4384	0.8988	8.5	0.1478	0.9890
2							
	35.7	117	0.8910	-0.4540	18.5	0.3173	0.9483
3							
	29.2	233	-0.7986	-0.6018	-34	-0.5592	0.8290
4							
	25.9	265	-0.9962	-0.0872	-45	-0.7071	0.7071
5							
	20.5	313	-0.7314	0.6820	68	0.9272	0.3746
1							
	Calculations				Coordinates		
Station	Horizontal Dist Tape * cos(incl)	Latitude (N/S) HD*cos(AZ)	Departure (E/W) HD*sin(AZ)	Elevation (U/D) Tape * sin(incl)	N/S	E/W	U/D
1					0	0	0
	30.1650	27.1121	13.2235	4.5082			
2					27.1121	13.2235	4.5082
	33.8552	-15.3699	30.1652	11.3278			
3					11.7422	43.3886	15.8360
	24.2079	-14.5687	-19.3333	-16.3284			
4					-2.8265	24.0553	-0.4925
	18.3141	-1.5962	-18.2444	-18.3141			
5					-4.4227	5.8110	-18.8065
	7.6794	5.2374	-5.6164	19.0073			
1					0.8147	0.1946	0.2007

Table 3: Closure errors for 2D and 3D examples.

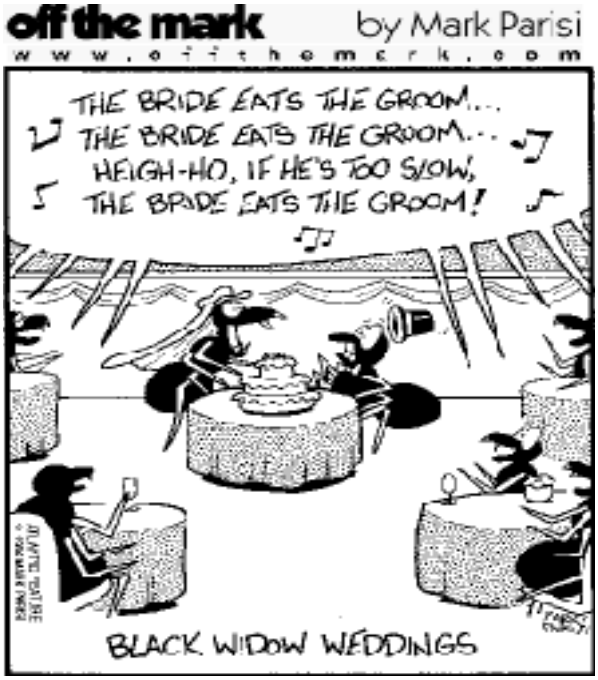
	2D Example	3D Example
N/S Error	1.9450	0.8147
E/W Error	0.1101	0.1946
U/D Error		0.2007
Total Error	1.9481	0.8613
Horizontal Error		0.8376
Vertical Error		0.2007
Traverse Error	0.0030	0.0061

Wedding Tips To the Upcoming Caver Bride

By Samantha Garguilo

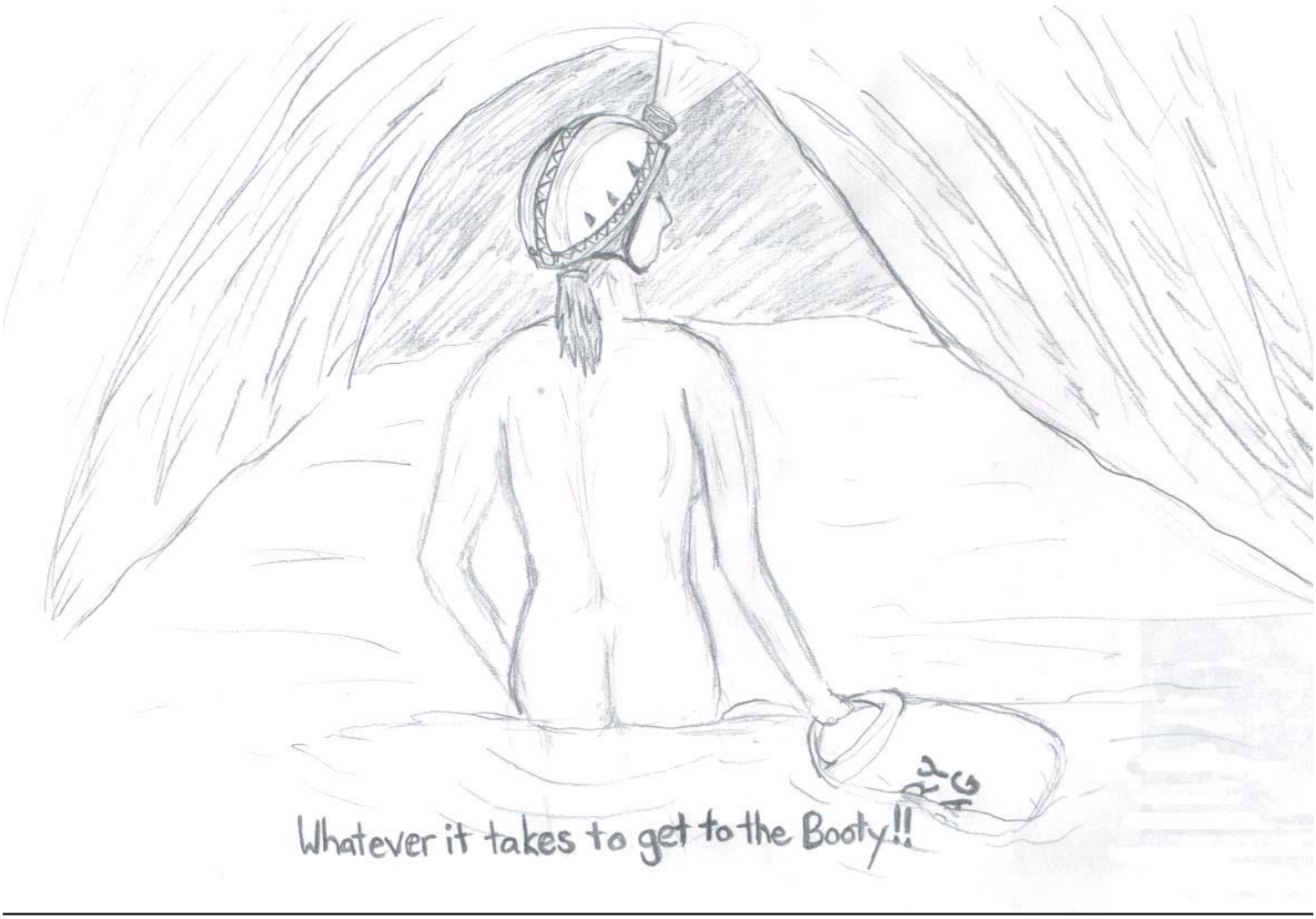
1. **No Rain Plan**- DO NOT have a rain plan, rain is good luck, plus if it rains it will make the ceremony go faster which will make all your guest happy.
2. **Cut Corners To Save Money**- The average wedding cost about $26,000, so save your family and yourself money by using your talented friends instead of professional cake makers, florist, photographers, complimenting guests, musicians, DJs, invitation/program manufactures and wedding coordinator. This will also get your smart talented friends out of having to buy you a wedding gift.
3. **The Groom Does Not Care**- As long as both of you show up and there is someone there that can marry you, then he does not care about the rest. He might have an opinion on one or two things; so let him have his say it will make him feel that he contributed.
4. **You Can Not Get Rid of Tradition Altogether**- No matter when you cut the cake or dance with your new husband, your guest will stop and watch or will not dance until you do. So do all the boring traditional stuff as soon as you can to get it out of the way for the fun stuff.
5. **Toys at the Reception**- Make sure you have something for your caver guest to play with at the tables. This will keep them entertained until you get through all the boring stuff.
6. **DO NOT Leave Your Reception Early**- Plan to leave for your honeymoon a day or two after you wedding. This will allow you to stay for your whole reception. If not you could miss out on a lot of fun. Your guests are there to celebrate your wedding. Once you leave it is just another party.
7. **Beverages**- Supply your guest with beverages they can drink throughout the night and not regret until the morning. This will allow for some great stories to come for weeks after the wedding.
8. **Phone Calls The Next Morning**- You know you had a decent wedding when you get phone calls the next morning from your guest apologizing for their behavior the night before.
9. **Do Not Listen To The Wedding Professionals**- The wedding professionals (photographer, dress makers, wedding coordinators, etc.) are out there for one thing to get you to spend more money. You will hear things like "you should wear this, you will look more like a bride", "we really don't do that for weddings", oh and my favorite "your guest will not last past a 4 hour reception"
10. **Most Important**- Things will go wrong, it always does. And you will have some guest that feel it is their duty to point these out to you. Just remember nothing is ever perfect. Don't stress about it and remember to have fun because your guest are.

These are just some tips that could help you when planning your wedding.



Whatever It Takes

By Sandy Ramsey



Off the Mark

Submitted by Mike Cole

A Cheap, Reliable Heat Source

By Kirk Digby

A recent movement in caving seems to be gear minimalization. Recently, I went on a vertical trip with a very experience caver who didn't even have webbing. Minimizing the weight of what you take with you is a fine idea, but it can be taken too far, to the point where the safety of the party may be compromised. For some, carbide lights and their required repair kit, dump, carbide, and water seem to be too heavy in comparison to electric, and many are opting for electric. However, they also lose one of the best heat sources a caver can carry. Other than those who carry a carbide lamp, I've noticed that very few cavers actually carry a heat source. Some have said that the synthetic clothes used in caving now end the need for heat sources. This maybe true as long as nothing goes wrong. However, if a member of your party becomes injured, having a reliable, high-output heat source may make the difference between them surviving or not. If a long wait is required for any reason, a heat source can make the difference between a fun day caving and a dismal experience for all involved. Further, trip participants who have become too cold often have an increased risk of becoming injured later in the trip.

There are many pocket sized hand warmers on the market, but most of them don't last very long, and in the long run, they don't put off as much heat as a carbide lamp. In addition, like a cyalume, some of them can't be tested for effectiveness without activation. I've been on a trip or 2 when a heat source was brought out of a pack for use, only for the user to find that it wasn't functional any longer. For a cheap, cave-proof, lightweight, low-maintenance heat source, all you need is:

- 1 16 oz. wide mouth Nalgene bottle with duct tape wrapped on the outside
- 2 lighters
- 25' parachute cord
- 1 extra large lawn garbage bag
- assorted candles-votives, candle lantern candles, etc.
- paper towels

How many candles you can fit in the bottle depends upon the size of the candles and garbage bag you find. Pack in as many candles as you can, and then pad them from breaking with the paper towels. The parachute cord & duct tape can be used to fashion a heat tent for a patient, if there are a few more garbage bags. Now you have a shock proof, waterproof, reliable heat source that should last you a few hours. This is much smaller & lighter than a carbide lamp & its supplies, and it can stay in your pack virtually forever without maintenance. It should be noted that a bottle of lighters, garbage bags and candles still doesn't come close to the heat output of a carbide lamp, which when in good repair will also be far easier to light and keep lit in windy conditions. Carbide lamps can also just be used for a few seconds or minutes to warm yourself or someone else without making the group stop while you prepare and use your heat tent. However, it is better than carrying a hand warmer or 2 that you aren't sure will still function when called upon. It's also better than carrying no heat source at all.

The Biodiversity of Virginia's Caves

By Wil Orndorff

Two centimeter scale cave isopod species in a Lee County Cave stream: *Caecidotea recurvata* (elongated) & *Lirceus usdagalun* (pill-shaped) known only from central Lee County and protected under the Endangered Species Act.

The Biodiversity of Virginia's Caves

Program In a small cave in Tazewell County, amber colored beetles a few millimeters long scurry back and forth across mudbanks along a small stream. Eyeless and diminished in pigment (see picture), their other heightened senses allow them to navigate the lightless cave environment in search of food, water, shelter, and mates. The Maiden Spring Cave Beetle (*Pseudanophthalmus virginicus*) is known from this single cave and nowhere else in the world. Even more amazingly, this species is not unique in its isolation. Of the more than 39 cave beetle species documented in Virginia, 23 are known from five or fewer locations globally, with an additional seven species known from 20 or fewer locations. Each species is confined to a single cave or small group of nearby caves that may be connected by beetle-sized passages through which human cavers won't fit.

This half-centimeter long cave beetle is one of dozens of cave beetle species found in the eastern United States. Photo by Chip Clark

Though the biodiversity represented by the eight bat species found in Virginia's caves is impressive, it pales in comparison to that found among invertebrates. *Biodiversity* can be defined in many ways, and generally can be thought of as the variability among living organisms. Scientists describe biodiversity at different scales based on geographic distribution, habitat, and types of organisms (taxonomy). Beetles are one of several terrestrial invertebrate groups that exhibit great diversity in Virginia's caves. Other diverse subterranean terrestrial (land-dwelling) invertebrate groups include millipedes, springtails (insects), pseudoscorpions, diplurans (bristletails), and spiders. Subterranean aquatic species exhibit similar biodiversity, particularly among the crustacean amphipod and isopod groups. The following table summarizes some of the more diverse groups dwelling in Virginia's caves.

Habitat	Group	# of Species
Terrestrial	Beetles	39
	Springtails	18
	Pseudoscorpions	17
	Millipedes	16
	Spiders	7
	Diplurans (bristletails)	5
Aquatic	Amphipods (scuds)	21
	Isopods	13

The table only includes cave obligate troglobites, and does not take into account many undescribed species in several of the groups. Two of the biggest challenges faced by biologists studying the biodiversity of cave life are 1) the lack of qualified taxonomists* to identify and describe species, and 2) the lack of funds to pay for identifications and descriptions. The second challenge may explain the first, at least in part.

The Biodiversity of Virginia's Caves Cont.

By Wil Orndorff

Long-time Virginia Cave Board member and American University biology professor David Culver has spent his career studying cave life, specializing in the biodiversity of life below the earth. Culver's research has shown that the karst of the Virginias stands out as having some of the highest cave biodiversity in the nation.

Why is there so much biodiversity in the subterranean realm? The best explanation is that many cave species share a broadly distributed surface ancestor but adapted uniquely to various isolated local cave environments, either as a result of environmental variables or differences in random mutations. Our knowledge of the biodiversity of Virginia's caves is very incomplete. The majority of caves have never been visited by biologists, and new caves and cave passages leading to previously inaccessible habitats are discovered every year! If you wonder what is living in the caves you visit, please contact the Virginia Karst Program at 540-831-4056 or email Wil.Orndorff@dcr.virginia.gov. We'd be happy to share information about the known biology of a cave, and can work with cavers and landowners to arrange biological study of caves that have not been thoroughly investigated.

*Taxonomist: a biologist specializing in the classification, identification, and anatomical description of organisms. Not to be confused with taxidermists, who would no doubt have a very difficult time working with these tiny organisms.

Vertical Session 2005

By Sara Kleinsteuber

As a brand spanking new caver I had been on one trip with VPI once the famous "Vertical Session" rolled around. I had been to the meetings and signed all the release forms, I thought horizontal caving in Starnes was pretty cool so I figured, why not try this vertical thing? All the new members or "trainees," as we're called needed to pay dues and fees for a sleeping bag, pad, and maybe a tent because we would be camping out at this place called the bat ranch.

Well, the week of the vertical session I was diagnosed with anemia. While hearing the news was a downer I told the necessary people I couldn't come Saturday because I needed to get blood tests done and that the doctors strongly discouraged me from doing anything "strenuous" for the next few days.

I was really surprised when VPI members suggested I come out anyways. If I couldn't go vertical caving- could I at least try rappelling in the rock quarry? That seemed fine to me. I got a ride out to this bat ranch around Saturday, mid afternoon and stopped at the quarry, no more than 100 yards away from the bat ranch. I was given a figure-eight device, a locking carabiner, and a length of bright orange webbing.

Using a lot of square knots, I was taught how to make a safety harness with my webbing. Apparently webbing is really useful stuff for cavers, I related it to baling twine with horseback riding (you can make it into most anything).

Photo By: John Booker

Vertical Session 2005 Cont.

By Sara Kleins

With my figure eight and biner snapped into place I made the climb up to the top of the quarry wall and got my first taste of how much easier it is to rappel something than to climb it…but at the top I learned the rules of rappelling. Rule number one: DON'T let go of the rope with your breaking hand, rule number two: after looping your rope through the figure eight, make sure your biner is locked and there is no pressure on the gate. And while there are probably many other rules that are equally as important here that I forgot I was given the ok to start rappelling. Looking out into the sunset as you're hanging over a rock quarry is actually quite beautiful.

Rappelling done, everyone packed up their stuff and we walked back to the bat ranch, which unknown to me, has no bats…There people were grilling hamburgers and hot dogs and there was a large fire pit in the back along with a hot tub. As the night went on and people were well stuffed with food and beverages some of the members began setting ropes up in a nearby tree to climb knots. Knots were the one thing I had been the most curious about out of the whole vertical caving idea. I knew what rappelling was and I had done it once before…but how were you supposed to climb out of a cave if the entrance belled out into open space?

I ended up having a trainee, Charles, show me how to tie a helical knot with a bowline on a bight for three loops. Two of these loops went around my feet and one secured around my waist. With all three tied to the rope I could sit down and my chest knot would hold me in place thanks to friction. This ended up being the coolest thing I learned throughout the whole vertical session- hanging in midair with nothing around you was *awesome*. However getting down was not so easy. I had yet to learn a changeover, where a caver switches from climbing to rappelling and I was now stuck seven feet above the ground in a tree. Not to mention it was dark…and people were flashing their headlamps all around me. Five trainees attempting to get someone out of a tree is not entirely successful but when they lowered me down to a safer height if I fell I finished the whole thing.

Knots and rappelling out of the way I learned why the bat ranch is such a cool place, caves and caver parties. I had only seen stars out there as clear as they were two other times in my life. With music, fire, the occasional beverage and a hot tub, everyone there seemed to be really laid back and having a good time. I camped out that night around two or three in the morning with a promise of breakfast and the idea of me taking a short vertical trip into an actual cave. Of course some people never actually made it to a tent…

Photo By: John Booker

But with the weekend done I was now hooked on this thing they call vertical caving. I was impressed with the amount of thought they put into the session and I got to witness firsthand a "rescue," making me realize that if I got hurt…some of the VPI people would probably come back for me eventually.

Vertical Session 2005 Cont.

By Sara Kleins

Compared to other caving trips I had heard about, these guys also had the greatest concern for safety. If you didn't have a helmet, three available sources of light, and a heat source (carbide is warm…) you weren't going into the cave. People double and triple checked your safety equipment before you rappelled or climbed and thanks to a frantic call to the Blacksburg Police…I learned all about how safe the Sign-out station is- but that's another story. All in all I was impressed, the bat ranch is gorgeous, I was hooked on caving, and the people in the club seem to look out for you-I can think of no better way to go about a sport like caving than that.

Protecting Cave Animals through the Endangered Species Acts

By Wil Orndorff

Legally Protected Species of Virginia's Caves

Species	Legal Status	Distribution
Vertebrates		
Gray Bat *(Myotis grisescens)*	Endangered	US and Virginia *Upper Tennessee River Basin*
Indiana Bat *(Myotis sodalis)*	Endangered	US and Virginia *Valley and Ridge of Western Virginia*
Virginia Big-eared Bat *(Corynorhinus townsendii Virginianus)*	Endangered	US and Virginia *Valley and Ridge of Western Virginia*
Troglobites – terrestrial, cave obligate invertebrates		
Ellett Valley Pseudotremia Millipede *(Pseudotremia cavernarum)*	Threatened	Virginia *Ellett Valley near Blacksburg*
Holsinger's Cave Beetle (*Pseudanophthalmus holsingeri)**	Endangered	Virginia *Western Lee County*
Stygobites - aquatic, cave obligate invertebrates		
Lee County Cave Isopod *(Lirceus usdagalun)*	Endangered	US and Virginia *Central Lee County*
Madison Cave Amphipod *(Stygobromus stegorum)*	Threatened	Virginia *Augusta County near Grottos*
Madison Cave Isopod (*Antrolana lira)*	Threatened	US and Virginia *Shenandoah Valley*
Unthanks Cave Snail *(Holsingeria unthanksensis)**	Endangered	Virginia *Central Lee County*

** It should be noted that two of the listed invertebrate species bear the name "Holsinger," a testimony to the career of Virginia Cave Board member and Old Dominion University Biology Professor John Holsinger who has been studying the life of Virginia's caves for over 40 years. To learn more, visit* www.dcr.virginia.gov/dnh/nhrinfo.htm

Protecting Cave Animals through the Endangered Species Acts Cont.

By Wil Orndorff

Although the caves of Virginia are home to eight bat species and dozens of globally rare invertebrate species, only a handful of them receive any direct protection under state or federal law. Conservation of habitat for the remainder of these species depends on the collaborative effort of citizens, localities, state and federal agencies, conservation organizations, and developers. The Virginia Department of Conservation and Recreation (DCR) Environmental Project Review office screens thousands of proposed development projects each year for proximity to locations of rare plants, animals, and natural communities, and is very successful in avoiding or reducing impacts through education and negotiation.

The title of this article states "endangered species acts," and that is not a typographical error. There are three endangered species acts that apply in Virginia: the U.S. Endangered Species Act of 1973, the Virginia Endangered Species Act of 1972, and the Virginia Endangered Plant and Insect Species Act of 1979. The U.S. Fish and Wildlife Service, the Virginia Department of Game and Inland Fisheries, and the Virginia Department of Agriculture and Consumer Services have respective jurisdictional authority, while the Virginia Natural Heritage Program in DCR maintains the most comprehensive database and provides technical expertise to the regulatory agencies. Because species listed under the federal law are automatically listed under state law, state and federal agencies work closely together on issues involving federally listed species. The common goal of the endangered species acts is the recovery and long-term protection of a species culminating in its removal from the list of protected species. To that end, experts have developed recovery plans for each species detailing what they believe is necessary for its survival.

Cave-dwelling species that receive legal protection are scattered throughout the karst of western Virginia (see previous table). Lee County has the highest number of protected species, with three invertebrates known only from Lee County, and two bats listed. Flooded caves of the Shenandoah Valley are home to the Madison Cave Isopod, which has the broadest geographic range among listed cave invertebrates in Virginia.

Various factors have led to the listing of these species. Severe declines in bat populations in the 1970's and 80's led to their listing, and it is hoped that protection of caves where they roost and hibernate will aid in their recovery. Aquatic cave animals such as the Lee County Cave Isopod are listed in response to current or potential contamination of the watersheds of the streams where they live. Terrestrial cave animals like Holsinger's Cave Beetle, the newest (2004) cave animal added to Virginia's list of protected species, are particularly vulnerable because of their limited geographic range and are sometimes listed because of proximity to development corridors or expanding urban areas.

Protections afforded under the endangered species acts frequently cause controversy, because people perceive that the rights of humans are infringed upon in the process. In truth, this is rarely the case. When a proposed development project or existing land use is found to place at risk an individual or population of a listed species, regulatory agencies confer with other stakeholders including landowners, developers, conservation groups, and local officials.

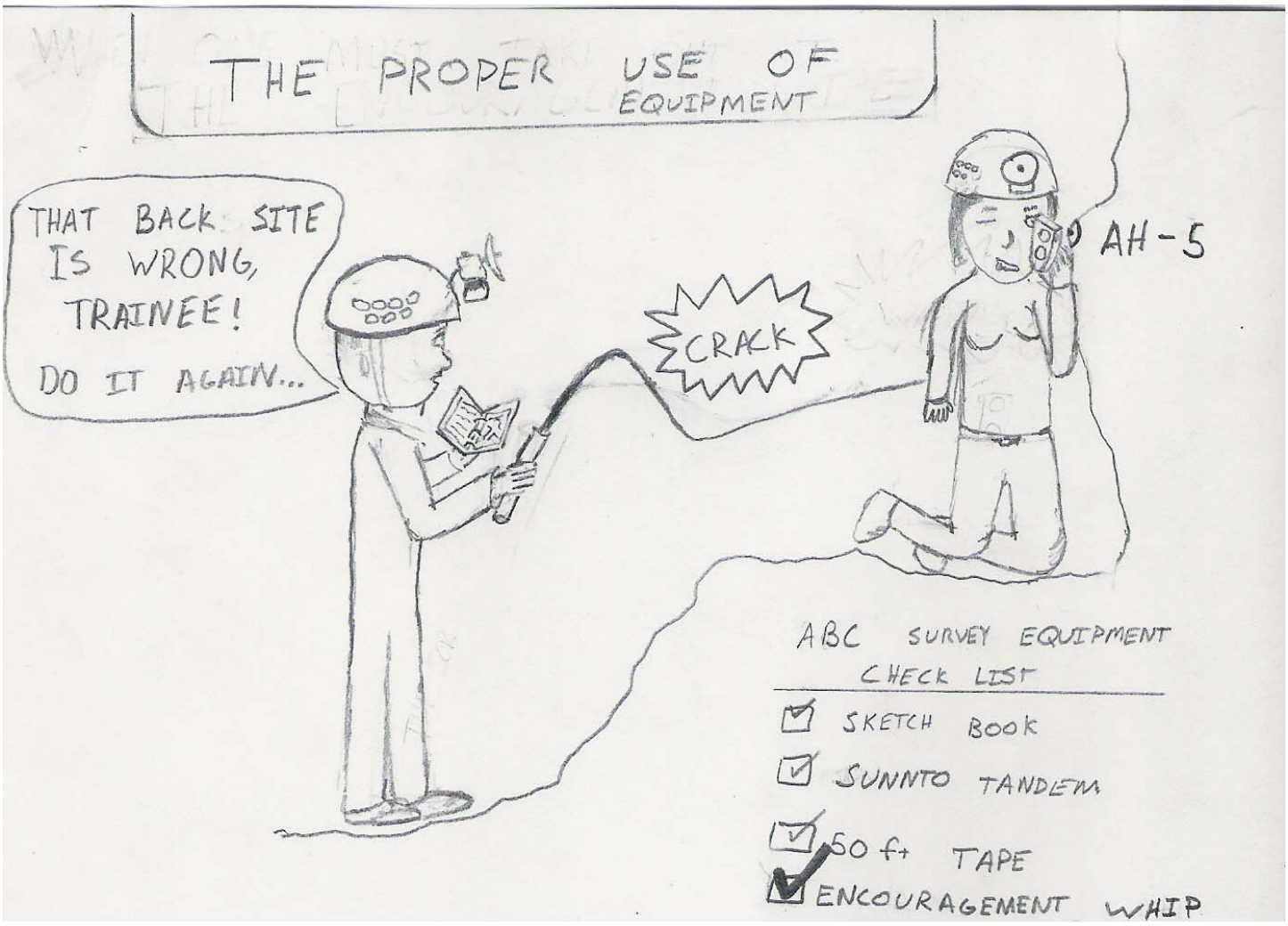
Protecting Cave Animals through the Endangered Species Acts Cont.

By Wil Orndorff

The goal is to come up with a solution that either avoids or mitigates (minimizes) the impact while respecting the rights of private property. In many cases, the result is a win-win situation. Protection of habitat for threatened and endangered species also protects the environment upon which humans depend. Ironically, the endangered species acts are sometimes the most powerful available tools for protection of the natural resources upon which human beings rely, even though *Homo sapiens* is not (yet) a listed species.

The Proper Use of Equipment

By Philip Schuchardt



Grotto Grapevine

By AI Cartwright

Frozen Picnic

To prove to new members and trainees alike that weather at Picnic is unpredictable, old-man winter made an appearance last spring bringing cold temperatures, rain and snow. Intense rainfall Friday afternoon resulted in most cars being left in the lower field or being towed up the hill by Steve Well's Bronco and Scott Rapier's Land Cruiser. The weather improved slightly Saturday afternoon, however quickly downgraded into Saturday night as temperatures dipped below freezing.

Photo By: Mike Cole

Everyone woke up to a dusting of snow across the field Sunday morning. However the weather did not stop the diehard 4-wheelers.

Photo By: Mike Cole

Float Trip

Making its second annual voyage, the new VPI raft doubled in size this year from 3 sheets of 4x8' plywood to 6 sheets. The weather was gloomy in the morning, but by launch time the sun was out and the sky was clear. A slow current and an upriver wind made for a long day on the river. Ammunition was carried on the raft this year to protect VPI from the NJ grotto and their mother ship. Geoff Lewis brought his water balloon launcher that almost took out the NJ grill. Our friendly Giles County Game Warden made an appearance on the river to check to make sure we were okay, since the sun was setting and we hadn't finished yet. The ride took around 6 hours, and the raft was taken out and disassembled minutes before sunset.

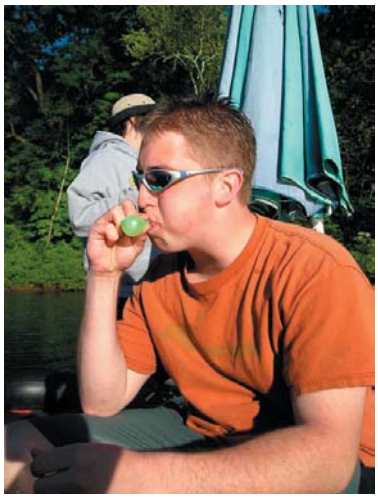


Photo By: David Klorig

Photo By: Mike Cole

Wedding Bells

Its official, Chris and Samantha Garguilo were married on June 4, 2005. Caver guests were well behaved at the ceremony; unfortunately the same can't be said for the reception. An endless supply of wine and a 11 hour reception contributed to the delinquency that annoyed the manager on duty and also lead to many fuzzy memories of the night. One such memory of Steve Lepera, who didn't remember was where he lost his cell phone. Kevin Rock didn't remember puking on

Photo By: Mike Cole

Grotto Grapevine Cont.

By Al Cartwright

someone in the bathroom at the bar after the reception, however the guy he met at a concert the following week remembered him. James Whisenhunt and Joni Payne tied the knot in October in Aruba, later to have a caver bash at his house in KY. Jen "Cold Feet" Albanes abandoned the AT in PA to return to Blacksburg to set a wedding date. Jen and Chris Michie took the plunge on November 19, 2005. Cavers came to the church dressed in their sunday best.

Photo By: Sam Garguilo

Photo By: Sam Garguilo

Another couple has joined the list to be married, Chip Mullins and girlfriend Sarah Powers will be tying the knot Aug 26, 2006.

Caver Shuffle

Mark Eisenbies has moved out of the bachelor pad at Wells' and into a new apartment with fiancée Penelope Pooler. John Booker has taken the plunge and moved in with girlfriend Jess Dorr. Carrie Blankenship bought her dad's house in Narrows and there begin the GREAT move. 10 cavers, 10 hours, one 24ft moving truck, one horse trailer, 2 pick-up trucks and 3 houses to shuffle items in and out of. Let's hope Blankenship doesn't move again anytime soon. Judy Wasilewski has moved back into town to be closer to her caver friends; oh and family. Mike Cole now lives in Colorado. For a few days Brad Atkinson lived with him after he quit his old job for a new one in Colorado. Spending so much time with Brad, Mike is now looking for a job in Nevada.

Wild Calendar

The Wild Caving in VA calendar got a blue ribbon at NSS convention and one of the slides got accepted for the salon.

Photo By: NSS Website

OTR

The crowd under the VPI tarp at OTR this year was smaller than usual. However the crowd still managed to have fun and get into trouble. Geoff Lewis managed to piss off the "West Virginia Grotto" who flooded his tent the next morning while still passed out. Signs were also seen at OTR this year that read "Buckwheat for President". It is unknown how the votes turned out. The original format of the Grotto Participation contest returned this year, however the lack of VPI attendees and a Via Ferrata trip taken on Saturday by a majority of the group lead to a close defeat.

Photo By: David Klorig

Photo By: Mike Cole

A few VPI did place in contest though. Philip Schuchardt took 1st in Survey, 3rd in sit stand and 3rd in knots; Dave Colatosti took 1st in cable ladder. John Deighan took 2nd in knots. Ray Sira took 2nd in survey and 3rd in ropewalker. Steve Wells took 1st in frog.

Grotto Grapevine Cont.

By Al Cartwright

Caving is Dangerous

Ray Sira, knowing caving was dangerous, decided to go digging one weekend. He proved to all cavers that digging is just as life threatening, when he fell and broke one of his ribs while walking back to the cars from the dig site. Erika Bechtold will now agree that caving is dangerous after taking a fall in Clover Hollow. She managed to cave out after dislocating her shoulder. She underwent surgery to repair muscle and tissue around the shoulder.

Club Gear

A discussion took place over the list serve in regards to how club gear should be handled. In the end it was agreed on that cavers are lazy and changing the system would take too much work since it works pretty well as it is. New carbide lamps were also added to the gearbox.

Photo By: Matt Burnette

Cave Projects

The club has been working hard at finding an end to ABC over the summer. Over 2.5 miles have been survey and it is still going. Another cave in the Wolf creek area is in the process of being explored by some of the smaller members in the club. Eileen O'Malley, Steve Lepera and Pam Malabad entered CRC (Chicks Roc Cave) back at the start of the summer. Several trips were taken there to expand the survey and the passage due to Kevin Rock getting stuck and Steve Wells deciding it was too muddy. Now over 200 ft the cave seems to keeps going. Hope is that this will lead to other caves in the Wolf Creek area.

Photo By: Ray Sira

Relationship

The great jam sessions of Septapus will no longer be heard due to their recent break up. Eileen O'Malley has found herself a new Dave to occupy many of her weekends. This makes three for her. It's unknown how she keeps track of the last names. David Klorig and Erika Bechtold have put an end to their long-term relationship after a disagreement on the subject of monogamy.

Kevin Rock has staked claim to Judy Wasilewski since her return to the burg, and have been seen spending a lot of time together. Now that Mike Cole has moved out of town several arguments and fights have broken out between VPI caver women as to who can have him. The theory is that if he moves back to town he won't have these problems since they didn't exist before he left.

Photo By: Sam Garguilo

Cave Conservation

Elery Hamilton-Smith gave a program on Australian Caves and Karst and about Cave Conservation and Karst Protection at VT.

Grotto Grapevine Cont.

By Al Cartwright

The discussion revolved around cave and karst management issues and cave and karst education. Many of the VPI grotto was seen there and at the recepition afterwards.

TAG

Great weather this year lead to a small group VPI group attending TAG. You could see Amy Bern, Cheryl Jones, Ray Sira and Kirk Digby partying it up like VPIers. As always at TAG, the fire was huge, and the band was great. They even let Digby sing during a song.

Photo By: Tag Staff

Road Clean Up

Most people can't drive 20 minutes to participate, but Mike Cole flew for 3hrs and drove about 4hrs to come to Blacksburg to help clean up Zells Mill road for road clean up. To his disappointment nothing exciting was found this year.

Halloween

The Halloween party entertained a smaller VPI crowd than normal allowing Maryland grotto with their 48 people to out number us. For the second year the jell-o wresting pit was a big hit with the help from Maryland and their 350 gallons of non chill jell-o. As usually the cavers come up with creative and explosive costume ideas.

Photo By: Elizabeth Spencer

Photo By: Ray Sira

A One Knocked Up Elvis Grotto

Who is knocked up and by whom?
Erika (by Matt) expected arrival 1/15/06
Ginger (by Jeff) expected arrival 12/31/05
Aubrey (by Paul) expected arrival 12/30/05
Kristen (by Dan) expected arrival 1/26/06
Wow what a great fourth of July party to look forward to. Be sure to bring your earplugs.

Off the Mark

Submitted by Mike Cole

Trip Reports
From Sign Out

VPI Cavers and their guest logged in 2,167.5 hours underground from 4/09/05 to 11/26/05

4/10/05	Blankenship Blowhole	Dave Colatosti, Steve Wells, Philip Schuchardt	Surveying
5/14/05	Blankenship Blowhole	Orndorff Family, Eileen O'Malley	Critter Trip!
5/30/05	Wheeler Dig	Steve Wells, Matt Burnett, Hope Gruszewski, Travis Coad	Colapsed and dug out, Pipe in sort of
6/15/05	Clover Hollow	Eric Stanley, Randy Leyault, Chris Rourke, Ryan Murphy	Murphy likes the man bucket
7/3/05	ABC	Mike Cole, Sam Lambert, Carrie Blankenship	Last VA cave for a while
7/30/05	Gaint	Geoff Lewis, Erika Bechtold, Matt Burnett	Matt cave in silk leopard print thongs
8/27/05	EG6/CRC	Kevin Rock, Eileen O'Malley, Sam Lambert	I have wet ones in the car. I am a wet one
8/27/05	Starnes	Dustin Schleifer, John Deighan John Booker, Sara Kleinsteuber, Theresa Economos, Joselyn Takeics, Caitlin Deighan	What is over there? Where's Deighan?
9/10/05	ABC	Steve Wells, Steve Lepera, Rob Story, Travis Coad	No one actually died Much Fun!
9/18/05	Pig Hole	Stephen Gillett, Nicole Benincasa, Chris Michie, John Deighan	Ah... I'm only using knots to get my membership
9/29/05	Newberry's	Zak Sawyer, John Deighan, Kirk Digby Eric Steinbere, Sarah Kleinstenber, Josh Puzey	El Rod or El Guad?
10/9/05	Tawnees	David Klorig, Mike Dobith, Paul Geiger, Dustin Schleiter, Brian Poe, Alex Jones	Ran into the cave monster and scared the shit out of the Radford outdoor club.
11/6/05	Tawneys	Mike Prentice, Chris Lee, John Marks	We saw Fran's Crack!
11/25/05	Gaint	Chris Rourke, Brad Privett, Erin O'Brien Brian Ekey	See, I did it too and I didn't have to mount his ass

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