

Volume 17, Issue 1
January 2004

The Newsletter of the Maverick Grotto

THE MAVERICK BULL



Copyright 2004 Maverick Grotto.

The Maverick Bull is the monthly newsletter of the Maverick Grotto, an internal organization of the National Speleological Society (NSS G-322). The editor invites all individuals and other grottos to submit articles, news, maps, cartoons, art, photographs, and other two- and three-dimensional goodies. If the material is to be returned, a self-addressed stamped envelope should accompany it.

Reprinting Articles: Internal organizations of the National Speleological Society may reprint any item (unless copyrights belong to the author as stated in the byline) first appearing in the Maverick Bull if proper credit is given and a complete copy of the publication is delivered to the editor at the time of publication. Other organizations should contact the editor of the Maverick Bull at the address herein.

Exchanges: The Maverick Grotto will exchange newsletters with other grottos. Contact the editor.

Complimentary Newsletters:
The Maverick Grotto will provide complimentary newsletters to persons or organizations that provide cave access (i.e. landowners) or otherwise provide assistance to cavers. The Maverick Grotto will provide one free issue to persons interested in becoming members.

Subscription Rates: Subscription rates are \$15 per year for nonmembers and free for members.

Membership Policy: Any individual with interests, beliefs, and actions consistent with the purposes of the Maverick Grotto and the National Speleological Society is eligible for membership. Acceptance of new members is based on payment of dues and a mandatory three-trip requirement with at least three different grotto members. These three members shall act as sponsors. At least one sponsor must attend the meeting at which the membership vote is taken. A two-thirds majority vote of the members present will be required for acceptance.

Meetings: Meetings are held the second Tuesday of each month at Blue Mesa Grill,

1600 South University Drive, Fort Worth. It is located less than one mile west of Loop 820. The time is 7 p.m., and the food is good.

Carbide: Currently carbide is unavailable.

Library: Support your grotto library. Russell Hill is accepting books, magazines, and videos related to caves and caving for our library. Thanks to Russell for his efforts in transporting the library collection to meetings.

Chair

Ed Goff
737 Bizerte Ave.
Dallas, TX 75224
(214)942-6024
egoff@rice.edu

Vice-Chair

Mark Gee
12515 Meadowcrest Lane
Balch Springs, TX 75180
(972) 557-1503
andre.swinson@andrew.com

Secretary

Karen Perry
6112 Eagle Court
Joshua, TX 76058
(817)309-2283

Treasurer

Sharon Mastbrook
3412 Walton Ave.
Fort Worth, TX 76133
(817) 346-2039
sharbu@flash.net

Newsletter Editor

Diana R. Tomchick
10106 Technology Blvd. #826
Dallas, TX 75220
(214)418-5827
Diana.Tomchick@utsouthwestern.edu

Cave Rescue

Call collect (512) 686-0234

Photo Credits

Cover photo: Formations in Caverns of Sonora, by Jan Zelinka
Pages 4 & 5: Bill Steele

New Grotto Members Wed!

Hey everyone,

Stephanie and I had a wonderful wedding on the 29th, we'll try to include some photos of the wedding when we submit our new member profile for the newsletter. I got a Magellan GPS Sportrac for Christmas from my new father-in-law, if any of you have any pointers for me that would be much appreciated. I also was fortunate enough to come across a copy of *On Rope* at the REI up here in St. Louis.

Take care,
Don and Stephanie Selby

November Meeting Minutes submitted by Karen Perry

The Maverick Grotto met November 13 at the Blue Mesa Grill on University Dr. in Ft. Worth as our old meeting place, Smokey's Bar-B-Que had closed. There were 22 members, 2 past members (renewing) and 7 visitors present.

Treasurer's report shows \$904.07 in the bank, \$82.52 in cash equalling grotto funds at \$986.59.

Next came a lengthy, heated debate over Diana's proposal to raise dues based on whether a member chooses to receive the Maverick Bull Newsletter via electronic means or as a paper copy or get both. After much discussion, a motion was made to leave it up to the officers to come up with a proposal for membership to vote on in January, 2004.

Where to meet was next on the agenda. All liked Blue Mesa, but some found faults with the location so the search is still on for a permanent site. Motion passed to return to Blue Mesa for Jan. '04, but that we would meet at Bodacious Bar-B-Que at 157 Division Arlington, Texas for the February, '04 meeting. Members were encouraged to join the search.

The 2004 Officer election went as normal. All nominees were elected by acclamation with the exception of Treasurer. R. D. Milhollin had to decline reelection for personal reasons. Sharon Mastbrook was nominated and elected to the post. The grotto thanked R.D. for many

Visit Our Web Site!

Check out the web site, where you'll find additional photos, and the PDF version of this newsletter (with color photos!):

maverickgrotto.org

years of service and welcomed Sharon back as an officer.

Your 2004 Officers are:

Chair: Ed Goff
Vice Chair: Mark Gee
Secretary: Karen Perry
Treasurer: Sharon Mastbrook
Editor: Diana Tomchick

December 13th was set as the grotto Christmas Party and an Auction set as program for the January meeting. Bring your old, tired, poor and most important: your wallet!

New members are: Barry Williams, Stephanie & Don Selby.

Diana Tomchick announced that she and Jay Jorden and volunteered to host the TSA Spring Convention with hopes of having it at Innerspace Caverns, Georgetown.

Trip Reports included San Saba, Ellis Ranch, Papua New Guinea and Sonora Restoration Project.

Dues Restructuring Proposal, version 2.0

by Ed Goff

At the November 2003 meeting, after much discussion, the grotto voted to authorize the Executive Board to set dues for 2004. Because the grotto constitution specifies that dues should be put to a grotto-wide vote, the Executive Board has come up with two alternative proposals for what to do about dues in 2004. These two proposals will be put to a vote at the January 2004 meeting, and one of them will become the dues structure for 2004.

The first issue that led us to consider changing our dues is the cost of producing the newsletter. Our grotto has enjoyed an outstanding newsletter for a long time, and many of us may take it somewhat for granted. We pay our \$15 a year, and the newsletter arrives in our mailboxes each month. What could be simpler? Well, take a minute to consider what has to happen before your friendly postal carrier brings it to your home. Each and every month the editor has to convince enough people to write articles, submit photos and artwork, etc., to fill an issue. When this fails, she has to find material elsewhere or contribute her own. She has to coordinate meeting minutes, newsletter exchange reviews, calendars, and other info. She has to edit all this stuff into publishable form. She has to scan photos, create a cover, lay out the issue on a computer, make everything fit perfectly and look good. It has to be proofread and corrected. All of this takes hours and hours of hard work. If that doesn't sound like a big enough job for a volunteer, consider the second half of the process. For many years, the editor has also printed and mailed the newsletters. This means she has to own or have access to a laser printer and has to keep track of expenses for toner cartridges, paper, and postage. She has to print dozens of copies each month (as much as 300 pages or more), collate each copy by hand, staple each one, fold each one, staple each one again, put a stamp on each one; create address labels for every grotto member, subscriber, newsletter exchange, etc., print the address labels, and affix one to each newsletter; and then drive to the post office. Not to mention finding a way to print a color cover once in a while. Inevitably, the editor ends up absorbing some of the costs, too, out of her own pocket. Ask yourself: Would you be willing to do this job? I did it for two years, and I wouldn't do it again. It's just too much. That's why we believe the editor should not be asked to do all the manual production labor herself. The first half of the job I described is plenty of work--and it's the actual work of being an editor and creating an award-winning newsletter.

So we're going to try having the second half (the printing, collating, stapling, etc.) done at Kinko's. (And we need to eliminate the little-known tradition of relying on the editor and a small group of members to in effect subsidize the newsletter by absorbing some of the cost of paper and toner, not always submitting expenses for reimbursement, etc.) This is a good first step toward ensuring that we continue to enjoy a great newsletter and that our editors don't fall victim to premature burnout. But it also means our costs as a grotto will be a little higher, and the current \$15 dues will no longer be enough to cover them.

The second issue that relates to dues is the availability of the newsletter in electronic format. Distributing the newsletter as a PDF file not only enables us to have full-color issues every month and to do neat things like embedding links in the text and making the newsletter searchable--it also eliminates the costs and labor associated with printing and mailing hard copies.

OK, let's get down to the nitty-gritty. The two proposals are:

A. Don't change anything in 2004. Leave member and subscriber dues at \$15/year. The grotto has around \$1,000 in the treasury, much more than enough to cover the increased cost of printing the newsletter at Kinko's for a year. Let 2004 be a test year: See how it goes at Kinko's and see how many people are willing to opt for PDF instead of paper newsletters. Then use this information at the end of 2004 to set dues at a level that covers our costs going forward. The downside: We'll almost certainly end up with less money in the treasury at the end of 2004, which will limit our options for doing other things with our grotto funds.

B. Set PDF-only dues at \$15, and paper-newsletter dues at \$20. This dues structure may or may not cover all of our costs (paper newsletter production, postage, and website expenses), but it begins to address the issues of encouraging electronic distribution of the newsletter and requiring paper subscribers to pay some of the additional cost of producing paper newsletters. Dues may still need to be revised at the end of 2004 if we end up in the red for the year.

Think about it carefully, and please come to the January meeting and vote.

Hey, They Let Me Be the Caboose!

by Milo Marks

I answered an e-mail message from Bill Steele to the Maverick and DFW Grottos for volunteers to help a group of Venture Scouts go through Jester Cave in Southwestern Oklahoma. I answered quickly, saying, "I want to go! Please!" After receiving the okay signal I was a happy camper. The date was set at December 7, 2003, and arrangements made to stay at Quartz Mountain Lodge in the Wichita Mountains just north of Blair, OK. Bill did well in choosing Quartz Mountain Lodge, it is very nice and very reasonable, and they even have facilities for meetings and conventions. I highly recommend it if you're staying in the area.

I was the first to arrive Friday evening. It was about sundown so I didn't get a good look at the hills, but they looked very interesting. Next morning I realized they were a granite up-thrust and seemed to be very old. Quite a bit of gossan (rotten rock) was evident along with quartz seams. This is what you look for when prospecting for gold. I am a nugget shooter, and just love it. After returning home I did a little research and realized the hills do contain free gold. There even was a short-lived gold rush in

the 1890s, but died quickly as the placers gave out quickly. But don't despair, if we wait another one or two million years Mother Nature will have washed out more.

I was sound asleep on the floor when the others arrived. I think they said Hi and possibly one shook my hand. You know they look a little different when you're three-quarters asleep and they are upside down. There was the usual grumbling about who got the floor and who had to sleep on a bed!

When the sun rose I found Will Harris, Ed Goff, Mike Pearson, Bill Steele, and Pete Lindsley. We had breakfast and met the Venture Scouts. Apparently none of the scouts had previous caving experience, so Bill (as trip leader), Ed and Pete told them what to expect, and some caving etiquette information. I expected the group to be all boys but about half were girls. Great! I like girls a lot more. Everyone was excited and ready to go.

Six cavers, four adult leaders, and 27 Venture Scouts took off for the cave. Later I discovered a Venture Scout is too old to be a Girl or Boy Scout, but not old enough to have to go to work every day.

After about a 20-minute drive we parked in a pasture on top of a mesa. Everyone said, "Where's the cave?" Mike and Bill said "Over yonder!" Everyone said, "Where are we coming out?" Mike and Bill said, "About a mile south of here." Then Bill said, "Oh yeah, we are going to get wet, but don't worry, it's only chest deep—we won't have to get our heads under water." Ooh, it was about 25 degrees with a 30-mph wind out of the north. I was already cold.

Off we went to the entrance, where a few coats were left outside and Bill gave a lecture on bats. This cave has a large colony of bats—don't disturb the bats. I was designated the caboose. Normally I like to get up front so I don't miss anything, but by being the caboose you get to watch everyone else slip, slide and step into deep water. I stayed relatively dry and clean until about 30 minutes before exiting.

We entered at about 10:00 a.m. with Bill, Ed and Will leading. Bill stayed close to the group, telling them how to move, what to look for, watching for bats so no one would accidentally hit one. There were many bats, some single, some five to fifty, and some 100 to 250 clusters. They were very interesting to see and we didn't disturb many. I only saw a few flying.

Mike and Pete moved from front to rear many times, with video cameras. If I walked three miles then Mike and Pete walked ten miles: tough guys.

Jester is a gypsum cave, so formations are few. The cave has about 6 miles of surveyed passage and something like 68 entrances, plus lots of water and mud.

We took many breaks and Bill would holler, "Milo!" My return was "Yo!" I guess he wanted to make sure I didn't go off caving. There were many inviting side passages but I stuck with my job. During one of the breaks everyone except Pete and I were standing on a gravel bar. We were standing in knee-deep water and Pete knew better than to stand still. I stood still too long and needed two or three minutes to get out of the mud. I almost lost my boots.

There were only a few climb ups and downs, most of it walking passage and plenty of mighty slimy and stinking mud—perfect for first timers. Only a few wore down, and everyone was having a great time.

Near the end Pete and I stopped to get rocks out of our boots and Pete took photos of a neat group of bats, so the others got ahead of us. We came to where the passages split, one dry and one with flowing water. We could hear voices and laughter coming from the wet side but none from the dry. Pete said "This way" so we took the river route. Until then I was only wet from the knees down and not too muddy. Pete, being smaller than I, was able to crouch down and bend over to keep his chest dry. That sucker just kept on trucking. I had to get on my hands and knees to keep going. That water was cold! I think Pete knew more than he was letting on. As it turned out, the others took a higher, dryer

horseshoe-shaped passage. We finally got close to voices and giggling and I heard Bill say, "Everyone keep quiet," then a loud holler, "Milo!" I returned a low, "Yo." We came out about 10 feet from Bill and ahead of the group. Everyone had a good laugh. Since I didn't caboose for a short distance I had the scout's count off. The number was correct so away we went. The balance of passage was easy upright walking and we exited about 4:00 p.m. Thank goodness we had a much warmer southerly wind to walk the mile or so back to the vehicles. After saying "Adios" to the scouts and changing into dry clothes, we the cavers ate a good meal and departed for home.

I was the caboose; I loved it, and am ready to go again.

Mexico Cave Exploration by David Cole (Lookout Mountain, TN) dcole2@hotmail.com

[Editor's Note: this trip report was originally posted on TagNet, and is reprinted here with the permission of the author. A more detailed trip report will appear in the February issue of the *Bull*.]

Over the holidays a small group of cavers went to the state of Nuevo León to find, explore, and map new caves. Our group consisted of Mark Minton (NM), Bill Steele (TX), Diana Tomchick (TX), James Overfelt (NM), Adam Zuber (WA), and myself. The trip started on a bad note for me. As we were starting a rough, six hour 4 wheel drive up into the mountain range, most of my things fell out of Diana's new truck with a "locked" new topper. By the time we realized what had happened, everything was



David Cole descends into Pozo de Pancitas, a "TAG"-like 170 foot pit.

gone when we went back to retrieve the gear. So, I took a big hit, losing \$1,700 worth of gear. I had some clothes, money, and my passport left. I ended up sleeping on the ground, eating lots of beans and rice, wearing a tied 1 inch webbing seat sling with a Texas system, and using any gear pieced together from the group for the next ten days in the mountains.

We were caving in a true wilderness area. Most nights were a b s o l u t e l y beautiful, with a clear view of shooting stars and the moon. For several days we camped at 9,250 feet, where we pushed Sotano del Camino de los Pinos. After ten pits, we pushed two small passages that ended. This was perhaps the muddiest vertical cave any of us had done. The amount of mud made this 157 meter deep cave twice as challenging. After pulling

the slimed ropes out, we took pictures of them—quite a sight to see!

After we were finished with Pinos, we went on a series of ridge walks looking for and being guided to new caves. One interesting thing we found was not even a cave. It was a 900 foot elongated tectonic crack in the limestone, in places as much as 100 feet deep. On these walks, we had Mark's white German sheperd dog, "Luz," as a mascot and companion. Large quantities of agave and lechuguilla plants did not even faze this dog. She even found her way through the dark zone in a big horizontal cave we were taken to, and she would give long "wolf howls" when we prompted her.

All in all, we did 26 caves, which included 45 pits. Six of the pits were over 100 feet deep. Two of the more significant caves were surveyed. There were two caves that stood out among the rest. One was a cave we named Cornholio. We were short-rope'd twice here before reaching the bottom. This is a multi-drop cave that had four pits, ending in a beautiful formation chamber. Adam and I had to break a number of formations just to rappel into this terminal room. At the bottom of this 4th pit, we found large quantities of stalactites several feet long, with what appeared to be white dogtooth spar (as much as one foot long) extending from the sides of the stalactites.



Another cave of note was the first one we were guided to the morning of January 1st. I rappelled into a pit which immediately opened into a vast formation chamber, so big I was quite pucker'd as I went in. I tied on another rope to get to the bottom of this fantastic 170 foot pit. If this pit were in TAG, it would already be owned by the SCCI

The first female TSA chair (Cathy Winfrey, 1992 & 1993, left) and the 2004 TSA chair (Diana Tomchick, right) enjoy the post caving trip party.

(Southeast Cave Conservancy) and cavers would be bopping it every weekend.

We ended our trip with a great party Saturday night in Austin, TX. Even though things were grim at the beginning of the trip, everything worked out ok. And now, back to the "real world."

Texas Speleological Association 2004 Officer Election & Information Survey by Tom Brown

The count was completed as planned on the evening of Saturday, December 13th with seven people in attendance. The final tally was verified by Allan Cobb. A special thanks to those who took time out from the festivities to get involved. I am not going to list all of the write-in candidates but maybe Don Arburn will include that info in the Texas Caver. There were a total of 87 ballots counted. One ballot was returned due to address unknown. The ballots were presented to present and future TSA Secretary Jerry Atkinson later in the evening for archiving.

Chair
Diana Tomchick 55
Jonathan Wilson 28

Vice Chair
Joe Ranzau 64

Secretary
Jerry Atkinson 61

Treasurer
Terry Holsinger 75

- 1.) Given the choice, would you prefer to:
 - a) Receive the Texas Caver in its present, hardcover format 29
 - b) Receive the Texas Caver in a digital format via the Internet 9
 - c) Both a and b 24
- 2.) If you prefer a digital format, would you rather:
 - a) Download the Texas Caver from a password protected site on the web 19
 - b) Have the Texas Caver e-mailed to you 32

Thanks to all who participated.

Speleonews & Views from the TSA Chair by Diana Tomchick

As you may have noticed, I don't normally write editorials for this newsletter. Partly this is due to lack of time and space in the newsletter. I'm usually scrambling at the last minute to squeeze in everyone else's contributions, and I suspect people are more interested in reading trip reports than my opinions as the editor of a simple grotto newsletter. Since I have recently been elected to chair the TSA, which is a regional Internal Organization of the NSS, it's now time for me to speak out in behalf of Texas caving.

The TSA has seen some rough years recently. The public face of the TSA is CaveTex and the *Texas Caver* magazine. CaveTex is an email listserv, the sign-up costs the user nothing, and currently there are about 530+ subscribers. The *Texas Caver* requires a \$20 membership to the TSA, and membership has declined to less than 200. Aside from the cost differential, one of the biggest reasons for this difference is the irregular publication schedule for the *Texas Caver*. Originally this was caused by the sudden and unexpected deaths of the two people (Joe Ivy and Michael Moore) who were editors of the *Texas Caver* prior to the current editor Don Arburn. Currently the main cause is a lack of submitted material. It's tough to inspire cavers to write about their trips, especially when it's so much more fun to just go on another one next weekend. I'm hoping this will change over the next year, and I'm planning to be part of the solution. Occasionally I'll ask some of you if it's okay for me to forward your contributions to the *Caver*; I'm hoping to meet with positive responses. I also hope that many of you will join the TSA.

At the November DFW grotto meeting, the grotto voted to sponsor the spring 2004 TSA Convention, and to extend an offer to the Maverick and the NTSS (North Texas Speleological Society, Wichita Falls) grottos to be co-sponsors. I'll discuss this in more detail at the January meeting. In addition, I'll have a preliminary agenda for the Winter TSA meeting. I hope to see some Metroplex cavers come to Government Canyon for the meeting.

GPS Revisited

by Butch Fralia

Listen carefully young grasshoppers, for now this lesson begins! A long time ago in a century far, far away, a bunch of politicians made a decision. They decided to pander to the special interest group known as the general population. They agreed to fund the Global Positioning project that has become one of the best expenditures of our tax dollars. While it was primarily a military project, some small thought was given to civilian use. Today, the GPS is as widely used as Tang (once was). Boaters, Bikers, Cavers, Drivers, Hikers and Pilots all make use of the GPS System.

More and more people, especially cavers, are buying GPS receivers so it seems like a good time to look back at what GPS was then what it is today. There are a few things that everyone needs to know about their GPS to get the best use out of it.

In the planning stages of GPS development, the expected civilian accuracy was about +/- 100 meters from the precise location. When it became functional, the designers decided that if they had known how well they wrought, they would not have wrought so well. The practical accuracy of civilian GPS with the primitive receivers of the time actually achieved accuracies better than +/- 10 meters. The Department of Defense panicked that civilians might actually realize where they were. To counteract this problem, they introduced programming into the satellites that dithered the phasing of the transmitted signal and decreased the worst-case accuracy to +/- 100 meters. This dithering process was called Selective Availability, or SA.

From the very beginning, civilians started working on ways to get around the inaccuracies. Surveyors were the first to see the potential of GPS and petitioned GPS manufacturers to come up with ways to get around the system. They did get pretty good at it with post processing. They actually got down to centimeter accuracies and were expecting to achieve sub-centimeter accuracy. The DOD didn't worry about post processing accuracy because if you couldn't do it in real time, you couldn't fire a missile with it.

My first exposure to GPS came back in the early days of the Colorado Bend State Park project when Rune Burnett (then a Parks and Wildlife employee) attended a GPS seminar at Texas A & M. He came away with the opportunity to borrow the units for a few weekends. These were Trimble Tech units costing about \$13,000 each. One unit would be left in a stationary position to measure the satellite drift while a rover unit would be taken around to caves and their locations recorded. A third unit in Austin was positioned at a surveyed-in location accurate to a few centimeters. A & M would then process the data for us. They dumped our readings out of GPS memory and processed the data from the three receivers through some super duper computer system they had down there.

Travis Kinchen, an A & M student at the time and avid CBSP volunteer, took a short course in using the units, then took responsibility for them. He delivered them to the park project and assembled a team of fellow Aggies to haul them around. These things were huge! They sat on a heavy-duty tripod connected by coaxial cables to a large antenna on extension poles. They would sit at a cave location, watching the satellite position and wait until at least three satellites were in view of the antenna. Some times this took a half hour to accomplish.

This blessed experience occurred for two trips. The units returned to A & M, the data dumped and then we had to wait until near the end of the semester when they covered post processing. We got data back from one trip but the other was lost in the bit bucket somewhere that couldn't be found (I hope that little student got a bad grade for that). We sort of knew a few of the answers

so we finally got the data back; it was 250 meters off from where we expected to find caves on the topographic map. Remember this grasshopper, because we will cover this material again.

When GPS receiver prices became reasonable (under \$200), I forked out \$199.95 and bought a Magellan 2000, which was a four channel serial GPS receiver. This was living pretty high. After having once spent a day ridge walking in the wrong pasture on the wrong ranch, just to be on the right ranch was sometimes a treat. One of the first things I learned to do was mark the location of my truck. I've spent more time looking for my truck in cedar breaks than I have looking for caves. While it didn't take me precisely back to the truck, it gave me the confidence that I was at least in the right area!

I saw a lot of inadequacies in that old GPS but I also saw a lot of good. I could locate caves, if not precisely then at least in the right area. I could actually get back to most of them. It was interesting to program a route into the GPS, then find a road in an obscure location at 2:00 am in the morning. One of the drawbacks was this old receiver was limited to 100 waypoints and could not be connected to a computer to upload and download data.

When the first 12 channel parallel GPS receivers came out (1997), I had to have one of them and forked out a handsome sum for a Garmin 12XL. It was (is) a cool GPS. It had 500 waypoints and you could average a location for a waypoint before locking it into memory. I took location data on a lot of caves with that GPS. In May 2000, when SA was permanently turned off I found it was more accurate than I realized. After taking a location I could return within a few feet. It was typically accurate to within five meters.

GPS prices have come down under \$100 for a 12-channel receiver. Those receivers are just as accurate as the high dollar receivers. The only difference between them is features. One is about as accurate as another – almost. Since accuracy isn't part of the equation, features vs. price are the decisions you have to worry about. One of my first priorities is that the GPS must interface with my computer. I need to be able to download waypoints and tracks for various mapping projects I'm involved in. Not all GPS receivers can interface to your computer. Many of the \$89.95 units available now do not have a computer interface. This is one feature that's only a few dollars more.

One of my complaints with GPS used to be the lack of a built in compass. Electronic compasses have been around for a while; I had one in a wristwatch but couldn't get one in a GPS until recently. When stationary, a GPS receiver will show the bearing and distance to a location but not the direction the GPS receiver is pointing. All references default back to north. When moving, a GPS receiver shows your direction of travel. If you're walking in a cactus infested area like I usually am, you can either say heck with your feet and watch the GPS or you can watch where you're going and have healthy feet. You always had to have a separate compass to figure the direction you needed to go from a stationary location. Now many GPS receivers are available with built in electronic compasses accurate to one degree. A built in compass is a very useful option.

A recent innovation called the Wide Area Augmentation System (WAAS) seems like a nice feature. Even without SA, there are minor accuracy problems caused by satellite geometry. The FAA and CAB sponsor this system with the intention of replacing the old Loran navigational system used by aircraft and ships. Shutting down the Loran system will save taxpayers a lot of money. GPS receivers are placed at precisely surveyed locations at major airports across the country. Knowing where it's at, it calculates errors in the satellite signals. This data is sent to a super computer somewhere that plays mathematical magic to calculate correction vectors for each satellite. These are then transmitted to two geo-stationary satellites, one over the Atlantic and another over the Pacific. These satellites transmit a signal to GPS receivers equipped to receive and process that data

along with the regular satellite data. Accuracy is within +/- three meters.

Earlier this year, I bought a Garmin Vista that has a built in electronic compass, WAAS, lots of memory for downloaded maps and even a built in barometric altimeter. It came with a computer interface cable but not the software to upload and download. I wasn't that hung up on the altimeter and maps but this was the only model I liked with both the compass and WAAS. As it turns out, I love the maps. GPS receivers that display maps are really cool! You can buy all manner of maps, including roadways, topographic, and waterways that can be downloaded to a hand held GPS unit.

The altimeter actually works much better than I expected. I've worked with altimeters before and haven't been very pleased. Calibrated at a benchmark or location of known altitude, the altimeter (rated at +/- 10' accuracy) would be off by 300' within an hour if the weather changed the slightest. This one is supposed to self-calibrating and I guess it is because it usually stays within about 10'.

The jury is still out on the WAAS feature. When it works, the GPS says it's accurate within about 8' (about 2.4 meters). What's the problem? Well first off, for it to work, I have to be facing east with a clear view (GPS view, not my eyeballs) of the Atlantic satellite. This isn't always possible so I can't take advantage of the 8' accuracy on all my readings. Maybe it will get better – another satellite or something.

If you recall, back at the first of this article I said there were several things a person needs to know to get the best return from their GPS. You'll also recall the paragraph where I said we would cover this material again. It's time to cover the material again.

Before covering said material, I want to point out the comment about waiting a half hour before having three satellites in view. That was before the full complement of satellites was launched. It's been years since I've looked at the satellite positioning screen and saw fewer than seven satellites. Twelve satellites aren't out of the question, but not frequent. You don't have to wait a half hour any more, or even a few seconds because unless you're in a cave there are always enough satellites for an accurate location.

Now grasshopper, lets cover that other part of the material and the most important! When I said the location data we got back from A & M was 250 meters off, it was because we didn't understand a map datum. If you read your GPS literature, you'll see that even the cheapest GPS works with literally hundreds of datums. Why is this important? Read on, grasshopper.

Contrary to what we thought Columbus proved, the earth isn't round. You can be assured it isn't flat either. It's sort of oblong, not perfectly round. To compensate for this, geographers came up with mathematical formulas (yep, now called datum – can't emphasize this word enough) to keep navigational coordinates as accurate as possible. There's good news however, because here in Texas there are only two that you'll need to worry about. NAD27 and WGS84 are the two datums in question. The first thing you need to know is that your GPS stores it's datum internally in WGS84 so any datum you select is a calculated offset from WGS84.

If someone gives you a location to plug into your GPS, you need to know the datum and have the display set accordingly because the GPS thinks the location you put in is in the displayed datum. If someone gives you a NAD27 location, and you put it in with the GPS set on WGS84, well guess what. Remember the magic 250 meters? That's about the difference between NAD27 and WGS84, about 60 meters on the easting and 250 meters on the northing. You'll miss your waypoint by over two football fields!

The final little spiel about GPS concerns coordinate systems. GPS displays several coordinate systems, where Degrees Latitude and Longitude, and UTM are the most widely used. In our part of the world our coordinates are in degrees north and west. At this moment I'm writing this article from N32° 39' 46.1" W97° 21'

50.2", NAD27. If you don't like all those nasty minutes and seconds, in decimal degrees it's N32.66281° W97.36394°, NAD27. UTM stands for Universal Transverse Mercator, which is why most people prefer to say UTM. In UTM coordinates the world is broken down into 60 zones east to west. Every six degrees longitude a new zone starts. Locally we are in zone 14. I normally have my GPS set for UTM because it's easier for me to think in. A meter is 39.37 inches, approximately a yard. Over short distances you can think in yards and be pretty safe. My current location in UTM is Zone 14 653424 easting 3614899 northing, NAD27.

OK Grasshopper, now you have that GPS and a computer but you need software to make them work together. This is an area of endless selection (almost). I purchased a CD package with all the 1:100,000k topographic maps with my Garmin Vista. It's Garmin proprietary software and only works with Garmin units. You can download the maps to your GPS. It's not as cool as 1:24,000k maps but still cool. If you only want to download your data, you can visit David McKenzie's website and download his free Walls program. It will download your data but he hasn't added an edit and upload feature yet. An aside on Walls is that it has the neatest geographical calculator built in. You can change from UTM to Lat/Lon and from one datum to another. Walls can now be located on the TSS website, the URL is <http://www.txspeleologicalsurvey.org/> (look for Walls on the selection). Chad Fenner is a proponent of OziExplorer, available from <http://www.ozieplorer.com/>. It talks to the most common brands of GPS receivers. This might be your best choice if you're going to a far away place because they have maps of many areas you can't find at your local Mapsco.

OK Grasshopper, that's about it but let's mention datum one more time. Know how to find out what datum your GPS is set to. You don't have to know what the formula is, just how your GPS is set and what datum your map is calibrated in. With a good map and a good GPS location, you can go wherever you want to go.

Texas Speleological Survey Winter Board Meeting & Work Party

by George Veni

The TSS is having a board meeting at the TSS office in Austin a week from Saturday on January 17th, at 10:30 a.m. Anyone interested in Texas cave information, its organization, and publication is encouraged to attend. If you want to attend, please contact me by Sunday the 11th so we can get you on the gate guards' "approved" list for access. Security has been relaxing so there is a chance you might get in without being on the list. If you find yourself wanting or able to go at the last minute, we can usually find someone you can tag along with to gain access. In the unlikely event you have trouble reaching us or getting past the guards on Saturday, call the TSS office at 512-475-8802.

The meetings typically last until about 3 p.m. and include a break for lunch, when we collect \$5/person and order a bunch of pizza and drinks. After the meeting, we spend some time working on the files. If you can't make the meeting, you're still welcome to come by and see what the TSS has to offer, and we'll even put you to work to make you feel like one of the gang!

The TSS office is in Building 18-A at the Pickle Research Campus (PRC) in Austin. PRC is between Highway 183 (Research Blvd.) and Braker, and between Mopac and Burnet. If coming north on Mopac, take the Braker exit. If coming west on Research (183), take the Burnet Road exit. A detailed map to PRC can be

found at the TSS website at <http://www.txspeleologicalsurvey.org/>. On the PRC map 2 ("NW Area") 18-A is the little building just above the "ra" in "Granberry". Park in the PETEX lot across the street (Read Granberry Trail) from building 18-A. Once inside 18-A, follow the stairs up to the 3rd floor. If you get lost call the office at 512-475-8802.

Government Canyon Karst Survey Project & Texas Speleological Association Winter Meeting January 24-25, 2003 by Marvin Miller, (830) 885-5631

The January Government Canyon Karst Survey Project will be held on January 24th and 25th in conjunction with the Texas Speleological Association Winter Meeting. The meeting will be held on Saturday evening after dinner. Otherwise the weekend will be just like any other karst project weekend except that there will be a few more people. Some of us will be camping out on Friday and Saturday. If you are not camping, then be at the gate by 9:00 a.m. as usual.

Karst project activities will take place Saturday and Sunday. Surveying, digging, and ridge walking will all be on the agenda. More details concerning specific things to know about the weekend will be forthcoming on CaveTex.

Directions to the gate of GCSNA: find the intersection of U.S. 16 and Loop 1604 in northwest Bexar County (clearly shown on any state highway map). Drive 2 miles north on U.S. 16 to the second traffic light and turn left onto FM 1560 (there is a Texaco station on the corner). Follow 1560 for 3 miles to Galm Road. Turn right on Galm Road and drive 2 miles to the sharp left turn in the road. The gate to GCSNA is straight ahead. Park on the wide gravel shoulder and wait; we will all go in together.

Newsletter Exchange Review by R.D. Milhollin, NSS 29962

NSS News December 2003 (Vol.61, No.12)

Coldwater Cave in Iowa is the featured cave in this issue, featured on both outside and inside covers, and in the first article, written by Pat Kambesis. Exploration began back in 1967 and continues today. There are several outstanding photos by Scott Dankoff of different areas of the cave, including an artificial entrance dug to facilitate scientific exploration in the 1970's. The name is very descriptive, since the original exploration was done via an underwater entrance, and one of the original explorers was Dave Jagnow, who many readers know from New Mexico.

The article describes the many crawls, climbs, and dives that were necessary to push Coldwater to the current surveyed length of sixteen miles. One of the leaders of the sump exploration from the 1980's on was Mike Nelson, recently married in an underwater cave to Missouri caver (and friend of several grotto members) Micki Feakes. In 1976 an official project of the NSS was formed by the Rock River Grotto to explore Coldwater Cave. The project conducts chemistry and hydrologic research, restoration, photographic documentation, survey, and rescue training.

Next is an unsigned article, the second that has appeared in recent editions of the *News*. It is listed as a "press release", and concerns a recent workshop held in Shepherdstown, West Virginia in support of the recently formed National Cave and Karst Research Institute, a government funded consortium situated in Carlsbad, New Mexico. Several leaders from interested organizations had an opportunity to provide input into the development and operational plans for the center. It appears that plans for the physical plant are coming together, and that a partnership with New Mexico Tech will be part of the eventual shape of the organization.

In this month's "Technology" column Luc Le Blanc demonstrates "Cave Survey with the Palm PDA". The software is a Palm OS freeware product, and is named Auriga after a stellar constellation. The current configuration features a dialog screen for input, with data backup or exchange via the Palm's built-in infrared link. The eventual plan would be to allow cave wall sketching directly onto the Palm screen. A web site is provided for interested surveying cavers. (For the uninitiated, the Palm is a family of hand-held computers with the ability to receive input via a pen-touch screen rather than a mechanical keyboard or mouse. Several other computer companies also offer similar products, but this program is set to use the Palm unit only.)

Several photographs of usual outstanding quality from the NSS Photo Salons follow, including one from former North Texas resident Kevin Glover. Tony Merino contributes text and photos for a nice article on "The Cova des Pas de Vallgornera", a long cave system on the island of Mallorca off the Mediterranean coast of Spain. The cave is highly decorated and partially flooded, and is now protected by the local government through restricted access. The Spelean Spotlight shines on Jim Goodbar, a native of Texas and a long-time member of the DFW Grotto. This is a very interesting interview, a must-read.

Greg Springer writes on "Tectonic Cave Development" in the "Science of Speleology" column". The accompanying diagrams are especially helpful tools to help the reader understand the distinctions he draws between different formation mechanisms. In the "Obituaries" section the passing of TAG caver George Cowden is noted, and an in-depth article chronicles the life of Bill Austin of Kentucky. In "News and Notes" there is a summary of the recent Quintana Roo Speleological Survey meeting held in Playa del Carmen, and the announcement of the awarding of the Butler Cave Conservation Society's Limestone Award to Nevin Davis. An appropriate piece of spelean poetry accompanied the award presentation and is reproduced in the *News*. Finally, a German-Swiss-Iranian team announced the new longest cave in Iran, which has recently begun attracting the attention of international cave explorers.

Moving on to "Techniques and Safety", new NSS Safety and Techniques Chair Anmar Mirza delves into the subject of cave rescue, plugging the NCRC training program. Several items made it into the "Society News" section, including the announcement of the Ralph Stone Award, which is a research stipend for cave science thesis work. More information on research grants for cave-related research follows quickly, followed by the usual announcements of vacant positions within the NSS, this month featuring the Special Publications Committee Chair and candidates for the BOG. NSS President finishes up with the announcement of a challenge grant for donations toward paying off Great Expectations Cave, but the challenge expired December 31... too late!

There are a few "Letters", one correcting an article attribution, one giving corrected times for the NSS convention vertical contests, and one correcting reported facts from previous article concerning treated sewage plant effluent and Rumbling Falls Cave.

December is usually the month off for many grotto newsletter editors, and no issues from our usual grotto exchanges were received.

The Texas Caver August 2003 (Vol. 49, No. 4)

This issue was a little late but it actually was produced and mailed. Kudos to the editor!

There are great photos on both front and back covers of this issue, one vintage and one current. The lead article was a trip report of the UT Grotto to Beck Ranch Cave written by Lawrence Nasjar. It is an amazing feat of quantum physics that the trip was in October of 2003 and it is reported in the August 2003 edition. The narrative is concise and the photos are fine, although the name of the photographer was omitted. It wasn't Lawrence, since he is seen having fun in nearly all of the shots. Kurt Menking wrote of a trip the Bexar Grotto took to the High Guads in New Mexico (very close to Texas). Kurt caught some nice photos in addition to penning a great report. Jim Kennedy and Jerry Atkinson describe a trip to Rucker Bat Cave in Edwards County, once reported to be host to a huge bat colony. The colony has declined significantly, and the cause remains a mystery at this time, since disturbance by cavers can be ruled out. Kurt Menking chimes in

again with a report on a trip to Circle Ranch way out near El Paso. Several small caves were encountered, and the team checked on a few leads that did not pan out this trip. A return trip is planned to look some more on the approximately 52 square miles the ranch encompasses. Mike Walsh contributed a "Texas Cave Conservancy Activities Update" that names individuals who have been active in TCC projects and even lists cameras the TCC will loan to cavers! The TSA members meeting decided to reinstate the Preston McMichael Award "for meritorious contribution to Texas caving". Jim Kennedy kicks in again with a report of a reconnaissance trip to West Kerr Bat Cave, a previously unreported site in Kerr County. The biota is reported as interesting, but the several entrances are not bat-friendly due to overhanging vegetation. George Veni compiled a list of what Texas cavers did at the NSS Convention, and the minutes of the October 2003 TSA BOG meeting is included. Near the end of this issue is a short but to-the-point article by Jonathan Wilson on Cave Digging. Bill Mixon wraps things up with a review of the recent Martyn Farr book *Diving into Darkness*.

Caving Events Calendar, January 2004

- Jan 09-11** **Colorado Bend State Park Project:** long-time favorite of Mavericks, pretty close to home, semi-regular schedule, second weekend of the month. **Contacts:** Terry Holsinger (512) 443-4241 trhli@sprynet.com or Dale Barnard Barnarddale@yahoo.com
- Jan 17** **Texas Speleological Society Board Meeting & Work Session:** will be held at the TSS offices in Austin at 10:30 a.m. Anyone interested in Texas cave information, its organization, and publication is encouraged to attend. More information and directions can be found on page 7 of this newsletter. **Contact:** George Veni (210) 558-4403 gveni@satx.rr.com
- Jan 17-19** **NCRC Cave Rescue Seminar:** The South Central Region of the NCRC will be hosting Level 1& 2 Cave Rescue Seminar at Colorado Bend State Park, taught in a seminar/field camp format. Participants will need to attend two consecutive weekends (Saturday through Monday). For more information and registration go to: http://www.texasropescue.com/ncrc_scr.htm **Contacts:** DJ Walker (512) 751-6010, Becky Jones (325) 247-5165
- Jan 24-26** **NCRC Cave Rescue Seminar:** Second weekend of the seminar held at CBSP.
- Jan 24** **Texas Speleological Association Winter Meeting:** will be held in conjunction with the Government Canyon State Natural Area Project. The meeting will take place after dinner on Saturday. See page 8 of this newsletter for directions and page 5 for meeting agenda topics.
- Jan 24-25** **Government Canyon State Natural Area Project:** 20 miles west of San Antonio. Activities include survey, exploration, ridge walking, and digging. Participants must enter property with group, contact in advance for times. See page 8 of this newsletter for directions. **Contacts:** Marvin and Lisa Miller (830) 885-5631 mlmiller@gvtc.com
- Jan 24-25** **High Guads Restoration Project: (New Mexico):** On-going work amid spectacular scenery in beautiful caves of the Lincoln National Forest. Last weekend of the month, permits often include Three Fingers, Virgin, Pink Dragon, Pink Panther, Hidden, Wonderland, and Black Cave. Activities vary from month to month. **Contacts:** Susan Herpin or Jennifer Foote highguads@yahoo.com
- Jan 31-Feb 01** **Kickapoo Caverns State Park Project:** Surveying, drafting, ridge-walking for new caves, relocating known caves, photographing caves, and working on the campsites as well as on a new project. The TPWD has asked for help in removing a portion of the bat viewing platform at Stuart Bat Cave. This project will need to be finished by March before the bats return to the cave. TPWD is providing most of the equipment needed including a backhoe, dump truck, bobcat, and jackhammer. Campsites, fire rings, bathrooms with cold showers, bunk house, caves to explore, volunteers will be rewarded with trips to Kickapoo Caverns (photo and regular), any of the other caves on the property, and Devil's Sinkhole tours on Sunday. There has been mention of perks for returning volunteers as well. **Contacts:** Travis Scott (979) 693-4088 tscott@collision-research.com Kurt Menking (210) 325-5598 kmenking@bcad.org
- Feb 13-15** **Colorado Bend State Park Project**
- When Scheduled** **Carlsbad Caverns and Fort Stanton Cave Restoration:** New Mexico restoration trips in large, sensitive caves. CRF trips have unique requirements, and are held on long holiday weekends. **Contact:** Barbe Barker (505) 687-4270 cloudcaver@pvtnetworks.net

Next Meeting:

Jan. 13th, 7:00 p.m.

Agenda items:

Proposed dues restructuring (see page 3 for details).

Meeting location.

TSA 2004 Spring Convention.

New T-shirt designs.

Program:

The end of the Devil's Sinkhole video, & Grotto Auction, bring items to sell (see the December newsletter).

Be sure to join us at the Blue Mesa Grill!

New Location: Blue Mesa Grill

University Park Village

1600 South University Drive

Fort Worth, TX 75024

(817) 332-6372



Maverick Grotto
c/o Diana Tomchick
10106 Technology Blvd. W. #826
Dallas, TX 75220