



UNDERWATER SPELEOLOGY

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CAVE DIVING SECTION OF THE
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Underwater Speleology is the official newsletter of the Cave Diving Section of the National Speleological Society, Inc. Section membership, which includes subscription to the newsletter, is open to all members in good standing of the NSS at \$5.00 per year. Subscriptions for non-members are \$7.50 per year. Membership/subscription information, applications, and status may be obtained by writing to the Secretary-Treasurer c/o the Section's permanent address:

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All current news items, reports, articles, photographs, negatives, slides, cartoons, or other submissions for the newsletter should be sent or phoned in directly to the editor:

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CALENDAR

Mar. 29-30 - NACD Cavern Workshop for Open-Water Instructors, at Manatee and Ginnee Springs. Contact Steve Gerrard, 5714 Ed White Ct., Tallahassee, FL 32301, (904) 656-1223.

Jun. 1-2 - NSS-CDS Spring Workshop, at Branford High School, Branford, FL.

26th CAVE DIVING WORKSHOP

The Cave Diving Section held its 26th semi-annual safety and information-exchange Workshop on Saturday, December 28, 1986 in Branford, Florida at the Branford High School. This was the largest workshop yet attendance-wise, with 96 people pre-registering and more than 200 people attending.

The theme of the Workshop was "The Science of Cave Diving." The organizing co-chairmen were CDS Training Chairman Wes Skiles and retiring Section Vice-Chairman Mark Long. The doors opened at 8:00am for registration, coffee and donuts, and the first presentation began at 9:00am with Don Landis giving an excellent lecture on "Video and Sonar use in Cave Diving."

This was followed by an outstanding slide presentation by Jeff Bozanic on the "Palau Expedition" (previously written up in UWS). Mark Long gave a very knowledgeable talk on "The Use of DPV's in Cave Diving" and John Crea gave a fine presentation on "Demystifying Decompression." The morning lectures were concluded with a beautiful slide show on "Australia's Amazing Karst Geology" by Peter Horne of Australia.

At 12:30pm the Workshop adjourned for lunch, with more than 150 people taking advantage of the delicious, \$3.00 chicken bar-b-que lunch catered by neighbors of Wes in Branford, Annamae and Rudolph Touchton and their family.

After lunch, project archaeologists Wilburn ("Sonny") Cockrell and Skip Wood spoke on "The Stunning Archaeological Past of Warm Mineral Springs."

Workshop participants were then given their choice (and a difficult one it was, to be sure!) of one of six different individual mini-workshops: 1) a Panel Discussion on "Science and Cave Diving" with panelists Jeff Bozanic (geology), Dr. Bill Fehring (biology), Sonny Cockrell and Skip Wood (archaeology); 2) Cave and Cavern-Diving Photography, conducted by Wes Skiles; 3) Locating and Checking New Dive Sites, conducted by Woody Jasper and Roberta Swicegood; 4) A Computerized Cave-Plotting Demonstration and Cave Videos, by Don Landis; 5) Emergency Procedures, by Mark Leonard; and 6) An Australian Underwater-Cave Slide Show, by Andrew Cox of Australia.

After supper there was an NSS-CDS General Membership Meeting. Chairman Steve Ormeroid announced the results of the election and made an appeal for members to become involved in some of the activities and functions of the Section. This was followed by prize drawings--a mag-lite backup light donated by Ginnee Springs; three air cards donated by Springs Systems Dive Center; and the GRAND PRIZE, the piece de resistance, a beautiful \$395.00 Dive Rite, Inc. Primary Light, donated by Mark Leonard of Dive Rite.

Mark Leonard then presented Abe Davis Awards (for 100 logged cave dives) to Phil Sirota, Linda Sirota, Gary Storrick, Douglas McDonald, John Crea, and Dustin Clesi.

The evening was concluded with a fantastic slide and video spectacular: "Speleoquatic Video," by Mike Ziemacki; a dry-caving slide presentation, "Underground Creations," by Ron Simmons; and a cave-diving slide show, "Passages Unlimited," by Wes Skiles. →

26th WORKSHOP (cont'd)

On Sunday there were follow-up water-work sessions at Ginnie Springs for the Photography and Emergency Procedures mini-workshops. These were conducted by Wes Skiles, and Mark Long and Lamar Hires, respectively. Henry Nicholson also held an NSS-CDS Rescue/Recovery Workshop.

Special guests for the weekend were a group of visiting cave divers (Peter Horne, Andrew Cox, and Anne Wilson) and their friends (John Wood, Lee Dixon, and Jean Turner) from Australia. The slides shown by Peter and Andrew were one of the highlights of the Workshop.

Workshop Co-Chairmen Wes and Mark have asked to express a special thanks to Terri Skiles for her help with the bar-b-que lunch, and to Joe Prosser and Judy Ormeroid for their work manning the registration table. And of course, to all the speakers, CDS members, and guests, who helped to make this workshop such a success.

The next workshop will be held, as usual, over the Memorial Day Weekend. Co-Chairmen are Section Vice-Chairman Wayne Marshall of Seffner, FL, and Cave-Diving Instructor Phil Sirota of Miami, FL. Details about the upcoming workshop will be published in forthcoming issues of UWS.

DOUBLE DROWNING AT PONCE DE LEON SPRINGS

The Workshop weekend came to an unfortunate conclusion on Sunday, December 29, with the drowning of two Basic Scuba-certified divers at Ponce de Leon Springs in Volusia County. The two victims managed to squeeze past the grate in the cave and were found some 150' past the grate; a third diver in the team did not go past the grate and survived the dive. None of the divers was equipped with even the bare minimum of gear for open-water diving, let alone cave diving.

The recovery was performed by NSS-CDS Recovery divers Wes Skiles, Fred Davis, Joe Prosser, and Ron Abner after repeated attempts by local rescue divers failed. A full report is being prepared by Joe Prosser for publication in the next issue of UWS.

CDS BOARD MEETING - December 27, 1986

A Cave Diving Section Board of Directors meeting was held on the evening of Friday, December 27, 1985 at the Suwannee River Cove Restaurant. All current board members were present (Chair: Steve Ormeroid, V-Ch. Mark Long, Sec/Treas. Joe Prosser, Train. Ch. Wes Skiles, Directors: Wayne Marshall, Dale Purchase, Jeff Bozanic).

Joe Prosser presented an agenda of items for consideration by the board:

- 1) Review of the By-laws as submitted previously to the board.
- 2) Review of Budget plans for 1986:

INCOME STATEMENT
FOR THE PERIOD ENDING DECEMBER 6, 1985

INCOME		
PUBLICATIONS	7,986.23	
TRAINING COMMITTEE	2,550.50	
NSS DUES (COLLECTED)	1,569.00	
CDS DUES	2,129.25	
SUBSCRIPTIONS	245.75	
SPRING WORKSHOP	710.00	
WINTER W/S PRE.	393.00	
CONTRIBUTIONS	85.00	
EXCESS PAYMENTS	42.50	
REFUNDS RECEIVED	47.00	
INTEREST	391.44	16,249.57

EXPENSES	
PUBLICATIONS	5,326.30
TRAINING COMMITTEE	1,189.59
NSS DUES (PAID)	1,669.00
NEWSLETTER	2,351.81
SPRING WORKSHOP	215.77
WINTER WORKSHOP	442.38
OFFICE EXPENSES	1,149.23
BANK FEES	23.00

EXCESS PAYMENTS PAID	42.50	
FL. SALES TAX	36.17	(12,447.75)
NET INCOME		3,771.92

DISTRIBUTION OF FUNDS

INCOME (YTD)	3,771.92
INITIAL FUNDS*	12,000.00
CDS PURCHASED	(11,000.00)
CDS CASHED	5,000.00
TRANSFER**	280.57

CURRENT CASH POSITION 10,052.59

* INITIAL FUNDS TRANSFERRED FROM BRANDON CHECKING ACCOUNT
** TO CLOSE BRANDON CHECKING ACCOUNT

PROPOSED INCOME STATEMENT
FOR THE PERIOD ENDING DECEMBER 6, 1986

INCOME		
PUBLICATIONS	8,500.00	
TRAINING COMMITTEE	2,000.00	
NSS DUES (COLLECTED)	1,700.00	
CDS DUES	2,500.00	
SUBSCRIPTIONS	300.00	
WORKSHOP	1,200.00	
ADVERTISING	500.00	
INTEREST	300.00	17,000.00
EXPENSES		
PUBLICATIONS	4,000.00	
TRAINING COMMITTEE	1,000.00	
NSS DUES (PAID)	1,700.00	
NEWSLETTER	3,500.00	
WORKSHOP	1,000.00	
OFFICE EXPENSES	500.00	
BANK FEES	50.00	
FL. SALES TAX	250.00	(12,000.00)
NET INCOME		5,000.00

3) Review of proposed pricing and credit policies related to Publications. (These changes will be printed in the Membership Manual, along with order forms, etc.)

4) Discuss changes in the operation of Publications. (Numerous changes in policy and personnel, to be published for the membership as they occur.)

5) Approval of reprinting of the NSS Cave Diving Manual. (The BOD gave the go ahead on reprinting 2000 copies of the book, with minimal changes, for \$4070.00)

6) Approval to reprint Basic Cave Diving when stock dwindles (probably within the next 4-5 months).

7) Proposed changes in the membership classification of the Section (to permit family memberships at a reduced rate (not receive additional copies of publications)).

8) Increase in the newsletter subscription cost (from \$7.50 to \$10.00 - approved).

9) Review of proposed Membership Manual (discussion of requirements to meet tax-exemption requirements, advertising policy, etc.).

10) Review of Coordinators and their positions. ("Currently all too much that occurs within the Section falls to the very few. The result is burn out among the few and no transfer of power to newer generations. Development of new leaders can be started by increasing the area covered by coordinators. This area requires some discussion so that we have a plan to present to the membership at the annual meeting.")

11) Counting the validated ballots. (All candidates were elected, with a few write-in votes. Wes Skiles continues as Training Chairman; Steve Ormeroid and Dale Purchase continue, and H.V. Grey replaces Mark Long, who declined to run again.)

12) Typewriter expense for Training (excellent bargain on a good typewriter for use in preparing C cards, etc. - approved).

LITTLE RIVER DROWNING: AN EYE-WITNESS ACCOUNT - by Don Landis

[This is an eye-witness report of the drowning at Little River reported in short form in UWS 12:6, Oct. 1985.]

September 22, 1985 was one day in my diving career that will be a vivid memory for the rest of my life.

The day began as a usual, routine training dive. John Fifield was to receive some instruction on a Viking drysuit during several short penetrations into the cave. Our plan was to lay our primary line starting at the sign and running toward the permanent line on the first dive, then return to the surface for discussion.

John's first cave-diving experience with a drysuit was not without memorable problems--i.e., tight neck restrictions, a constant moving air bubble within the suit, trying to determine which buoyancy to adjust (B.C. or drysuit), high-current flow, and suit squeeze--not to mention all the normal cave-diving procedures in the midst of this new task loading. Do you remember your first experience with a drysuit?

John's memory of this September 22 will be quite different, for it was this day that he found himself witness to a cave drowning.

After surfacing for our post-dive discussion about problems with the suit, we both observed four poorly equipped open-water divers preparing to dive. As I was reviewing some underwater relaxation techniques with John, I couldn't help but notice the equipment being geared up by the open-water divers. All of the divers had wetsuits, but some were only shorties. They were using single tanks with J-valves and three of them didn't have B.C.'s. One diver was observed to be having difficulty with his regulator, so he asked a lady friend to get another out of the car. I noticed that this new regulator didn't even have a pressure gauge.

Three of the divers had lights. John and I started vocalizing our observations loud enough for them to hear, but still keeping the discussion among ourselves. I recall the statement was made as to when we should call the NCRC [National Cave Rescue Commission]--now or later. Realizing that we were not in a position to police Little River this date and overhearing some comments from them about all the "junk" cave divers have, I thought it best to get on with our plan for the day.

During our second dive I noticed that one of the four open-water divers had a small camera and remained outside the cavern entrance while the other three were in the cavern. John and I went past them down to our line and continued to the permanent line. After hesitating for a few minutes for us to practice adjusting buoyancy, we continued toward Table Rock and turned the dive as planned. We saw no divers in the cavern, only the photographer at the entrance. Upon surfacing we saw that all the open-water divers were up as well.

After a brief surface interval, it was decided that I would solo in to retrieve my line. By this time, three of the open-water divers had entered the cavern and were kneeling about 10 feet in front of the sign. I went past them and picked up my reel and returned. I saw the divers again at the surface, but I remained at 10 feet for my 33-minute decompression.

During my stay at 10 feet I believe the divers must have decided to go back in. I did not see them enter this time as I had my eyes closed waiting out the decompression. I also do not know if they got fresh tanks for this fatal dive. When I was half way into my decompression I was aroused by one of the open-water divers giving me the out-of-air sign. Knowing that we were both in open water, only 10 feet below the surface, and seeing that his buddy was by his side and that he still appeared to be breathing, although hyperventilating, I motioned for him to go up rather than offer him air assistance. It did not occur to me at this time that I really only saw two divers exit.

Checking my bottom time, I saw that I still had another 16 minutes to go on decompression. Closing my eyes again I began to visualize in my mind the recent incident when it occurred to me that I only saw two divers exit. I opened my eyes to be greeted by clouds of silt billowing from the cavern entrance. I was immediately angered and horrified at the thoughts that were going through my mind. I tied off my reel and started to penetrate the silted cavern near the ceiling, shining my 100-watt light with full spot focus to see where the silt was emanating from. When about 30 feet inside I saw a dim light in the distance down near the place where the sign should be.

LITTLE RIVER - Landis (cont'd)

Then I saw the same diver who just previously gave me the out-of-air sign, towing, by the armpit, his very positively buoyant and obviously drowned buddy. The victim had no weight belt, his tank was loose, and there was no regulator in his mouth. After completing the few remaining minutes of my decompression at 10 feet, I returned to the surface to find the group's dive gear scattered all over the bottom. I checked two of the tanks that had pressure gauges and observed a zero reading.

Later that day John Fifield related to me the following from his viewpoint at the surface: When one of the divers surfaced yelling to give him a tank, John immediately thought it was I who was out of air and needed it for decompression. John started to get my spare tank to bring me air when one of the open-water divers grabbed a tank and went back down. A few moments later he surfaced with the victim. John, now realizing what had happened, immediately started mouth to mouth. He was relieved by another CPR-trained rescuer, and CPR was continued without success. The ambulance arrived about a half hour later.

I am a trained cave diver who dives following the established rules and practices of state-of-the-art cave divers. I am not in a position to officially analyze this accident, however, I do have my opinion. We can analyze this scene and say the usual cave-diving accident analysis: 1. Were not trained in cave diving. 2. Did not save 2/3 of their air for the exit. 3. Did not use a guideline. 4. Did not have three lights apiece, etc., etc.

As an open-water instructor I would like to add another opinion. There are many types of personalities that make up our sport of cave diving. Assuming that these open-water divers did indeed receive proper instruction in the required equipment necessary to scuba dive, then I can only judge them as dare-devils who only desired to prove their bravery to their peers while cruelly leaving their families and friends as suffering victims, and the rest of us with scars in our memories.

Given the opportunity to live this day over again, I can't say without careful analysis and counseling by an expert that I would do anything different without the backup and support as previously given me at places like Manatee and Ginnie Springs. I do feel that if these open-water divers had not taken lights into the cave, they would not have had the drowning. The NO-LIGHT RULE FOR OPEN-WATER DIVERS acts as a natural deterrent, preventing penetration into a cave beyond one's ability and training.

EUROPEAN CORRESPONDENT REPORTS NORWEGIAN DISCOVERY [reprinted with permission from the D.C. Speleologist, Sept. 1985; sent in to UWS by Paul W. Smith--thanks, Paul!]

Tom Reinbold sends an August 19 report by BBC TV that a previously unknown cave system has been discovered connecting three flooded potholes and two lakes above the Arctic Circle in Norway. The discovery was made as a result of a hydroelectric survey being made on Lake Glondal and the surrounding area. At least two of the potholes were known to have been hydrologically connected, and the survey was made to determine how much effect the underground conduits would have on the hydroelectric project.

Due to a lack of qualified cave divers in Norway, Norwegian officials called in two experienced British cave divers to probe the icy system. The British team had only a short period to investigate the glacier-controlled system, which has very dangerous current, because it is only accessible for six weeks a year. The team entered from various points and laid hand lines in hopes of connecting it all together.

The film footage shown during the newscast was impressive, but did not do justice to the vastness of the cave. The system was glacially formed in a beautiful white marble and, although some of the conduits are "as large as railway tunnels," it lies only 80-100 feet below the surface.

With hand line in hand, the two divers dove into the first entrance and, finding their other lines, they literally tied the entire complex together. Unfortunately, a system length was not announced. But the real bad news is that the hydroelectric project is expected to alter environs enough so that the three-pothole/two-lake system will probably never again be explorable.

SECURITY OF CAVE-DIVING EQUIPMENT - by Milledge Murphey

Recently there has been a geometric increase in the loss of cave-diving equipment due to theft and/or vandalism in the north Florida cave-diving area. Thefts have occurred in the past, but not with the frequency and magnitude that we are now experiencing--to the point that the problem has become epidemic. Equipment is being stolen from cars, open trucks, boats, dive sites, tents, motel rooms, dive shops and homes at an alarming rate.

The probable reason for these losses is that cave-diving equipment can be turned into immediate cash with virtually no chance of recognition or recovery of the equipment, or apprehension of the culprits. Examples of recent thefts include Jeff Bozanic's loss last year and that of Lamar Hires very recently at Peacock Slough. To add insult to injury, severe vandalism accompanied Lamar's recent loss. The thieves probably unload the stolen equipment at flea markets, garage sales, and/or through newspaper or bulletin-board advertisements.

An examination of crime statistics reveals that the primary contributing factor in thefts of property is the behavior of the victim. The most certain way to insure that you will be a victim is to advertise to criminals that you have what they want. This is especially true of popular items like guns and scuba equipment. What forms of advertisement do most dive-equipment theft victims unknowingly display?

1. Diver-down flag license plates, decals, or signs on any vehicle. Such advertisements encourage a thief to look into the closed trunk or van for a big equipment haul. Similarly, diver-down flags painted on boats or the flags themselves (when on or near unattended boats) can be an attraction to thieves. Finally, equipment-containing trailers should be plain, not decorated with scuba decals. Imagine returning to your vehicle after a dive and finding it there, but your trailer and its contents missing.

2. Diver patches, flag emblems, tags, and stickers on luggage will tip off thieves in airports and bus terminals, that the bag may contain regulators and other valuable dive gear. Further, camera and lighting systems should be hidden rather than advertised by fancy camera bags and containers, if one is making an attempt to mitigate against theft. A non-descript container, bag, suitcase, etc. will hinder the thief in identifying a potential theft item. Removal of all foreign travel decals and stickers will also help prevent recognition of four years' worth of travel decals to the Caribbean, which can indicate divers' bags.

3. Hotels and motels are another major loss area and police records indicate that these losses are a direct result of thieves seeing scuba insignia on the clothing of the occupants. These thieves follow the patches to your room, wait until you go out for a meal, and then permanently borrow your gear.

It is probably best to never advertise your cave-diving hobby for a variety of reasons, not the last of which is potential equipment theft. Further, photographing equipment, recording serial numbers, and marking all equipment with your driver's license number, may enhance its recovery if stolen. Do not use your Social Security number as this number has little value to the law-enforcement nationwide computer network and is thus difficult to trace. Insure your cave-diving equipment against theft and keep proof-of-purchase receipts and guarantees. Make sure that your policy covers your equipment when in your home, your car, your friend's car, and your motel/hotel room, or at the dive shop for repair or air fills.

Finally, if you ever see suspicious activity at a dive site, investigate it! You may interrupt a theft and save someone's gear; remember, you may be next. Last, if you recognize stolen gear being used or offered for sale, get law-enforcement persons involved immediately so that we can get the cave-diving equipment parasites off the scene, especially in our north Florida cave-diving areas.

AUTHOR'S NOTE: If you leave the numbers and descriptions of stolen equipment with Ginnie Springs Resort, Branford Dive Center, Springs Systems Dive Center, and other dive shops in the north Florida area, you may have it all returned by an alert employee. Should this happen, a substantial reward for the employee is in order.

GEAR FOR SALE - Call Tara, 904/562-5716

Primary light, one year old. Uses PowerSonic gel-cell batteries. Burns 1½ hours w/100w bulb. Sealed-beam head and automatic PwerSonic charger included. Asking \$375. Also extra lighthouse (Mark Leonard - Dive Rite design) with 55w quartz bulb, \$150.

THE DEATH OF 'MACHO' IN CAVE DIVING - by Sheck Exley

June 21, 1981 marked the end of an era.

On that day, Mary Ellen Exley (then Eckhoff) set the all-world record for cave diving with a 5847' dive at Big Dismal Sink, Florida. Please note that I did not say "women's world record." She had already set and reset all the women's records for cave depth, distance, number of dives, etc., and within the next two years would also exceed the official women's depth record for scuba diving in the sea. But the Big Dismal record was for all of mankind (as well as womankind)--period.

True, she was accompanied by two male divers (Clark Pitcairn and myself), but there was none of this "let me help you with your tanks, dearie" stuff, despite the fact that Big Dismal is well known to be Florida's toughest cave dive due to its extremely difficult and physically demanding access.

Mary Ellen carried her share of the tanks and scooters, and led her share of the dive. Further, when the only life-threatening situation developed on the dive (caused by one of her male counterparts--me), she solved the problem quickly and efficiently, without any assistance.

In short, men, it blew "macho" in cave diving all to smithereens...and marked the beginning of the era of "femacho."

At a panel discussion of "women in cave diving" during one of the workshops years ago, I had predicted that this day would come to pass. However, there was certainly nothing earthshaking about my predictions because by that time exceptional ladies like former CDS Chairperson India Fuller, Shannon Heinerth, Mary Fahning-Brooks, Zidi Mount, Sharee Pepper, India Hendley, Carol Vilece, and of course, Mary Ellen, had already proven beyond any shadow of a doubt that women could keep up with--and lead--any man on any dive.

How has the world's most dangerous sport arrived at such a "low" (or "high," depending on your gender)? Well, it really wasn't as difficult as we men would like to think it was. The fact is, women are simply physiologically superior to men when it comes to modern cave diving. For example, their breathing rates are far superior because of generally less body tissue than their male counterparts--especially the high-oxygen-burn muscle tissue. Of course, this isn't the only reason--as any man can attest whose eyes have been bugged out watching Mary Ellen (who is only 130 lbs. and 5½' tall) throw around double hundreds. Physiologists also tell us that, possibly because of a need to provide oxygen for two during gestation, women have more efficient lungs than men.

Still another factor that has contributed to the emergence of "femacho" in cave diving has been resistance to cold. Due to the thin layer of subcutaneous fat characteristic of their gender (or some other reason), women frequently do not become chilled as rapidly in water as men. Slender, petite Mary Ellen takes exception to this observation, but I once spent a week on the bottom of the Atlantic watching our Aquanaut Team Leader Zidi Mount perform her duties unimpaired while I and her other two male counterparts shivered in agony.

Finally...let's face it, men--nature has endowed the gentler sex with superior natural grace. If you don't believe that, you simply haven't seen any of the old Esther Williams films lately. Sure, the fastest man can swim faster than the fastest woman, but speed in swimming ceased to be a factor in cave diving in the late 1960's, and even stamina and endurance are no longer important with the advent of motorized scooters. What does remain important is the ability to wiggle through a tight, muddy passageway without jeopardizing safety by riling up the silt. Anyone that has had the pleasure of following India, Shannon, Mary, or any of the many other outstanding female NSS divers can tell you that it is a marvel how they can slip through a narrow slot without disturbing the silt that most men would blitz. Any of Mary Ellen's regular diving partners will tell you that she is in a class all by herself as far as this is concerned.

Mary Ellen's Big Dismal record was exceeded only a month later by Bill Main and myself at Manatee Springs. However, ironically, even on that dive the two of us would have gotten a very bad case of the bends or worse if Mary Ellen hadn't happened to check on us, discovering that two of our decompression tanks were inoperable due to valve damage. (If you think having a woman break your record is damaging to the male ego, just try having your life saved by a woman.) Nevertheless, her Big Dismal mark remains the longest penetration from air ever made below a depth of 100 feet, or at any depth using scooters. →

DEATH OF MACHO (cont'd)

... male pride tries to keep me from think about the implica- s of the emergence of femacho in the "world's most dangerous sport." Is nothing sacred? If they can whip us there, can any other activity be safe from the female juggernaut? All I can say is, "Watch out you mountain climbers, test pilots, astro- nauts, and other dens of traditional male chauvinism. The 'gentler' sex has thrown off the traditional fetters of society and is coming at you full speed ahead!"

Or, to paraphrase baseball's immortal Satchel Paige, "Don't look back... 'cause a woman is gainin' on you!"

MERMAID'S LAIR of the OLD FREETOWN CAVE SYSTEM - by Gina Chenoweth

Grand Bahama Island is known for its decorated labyrinths of solution caves. The largest of these systems is presently closed to any aquatic activities (except for scientific studies and only with special permission from the Bahama National Trust). However, in April of 1984 a new opening was dived by Howard Cosgrove and Gina Chenoweth that led to thousands of feet of unexplored passages. This is the Mermaid's Lair opening into the Old Free- town Cave System (which presently totals 14,060 feet of surveyed passage).

Howard Cosgrove was originally led to the site of Mermaid's Lair by a friend of his wife. She had grown up in old Freetown settlement and as a child had been warned to stay away from the "Mermaid's Lair" lest the mermaid reach out and pull her into the pool, never to be seen again. Howard, his wife Marylou, and their friend Joyce Hield tramped through the bush until the small surface pond was found. About six weeks later Howard and Gina took single tanks in through the bush to this pond, which is just large enough for two, and began to poke under the rock overhand around the pool.

Quite prepared to meet with more rock wall, we were exhilarated to emerge in a beautiful room with a typical Ashton collapse approximately 150' by 100' around and with a floor-to-ceiling height of 30' in the center. Our initial exploration was relatively short due to the amount of silt dislodged by percolation. The west side of the cavern seemed promising for cave passage, although there were many enticing recesses.

Subsequent dives bore out the validity of the western route. The passages follow an east-west orientation along a slumping fracture with few southern or northern leads. The first 400' of cave passage are some of the most highly decorated, being filled with numerous speleothems. These formations are extremely fragile in places to the degree of being broken from only fin wash or even exhaust bubbles.

During these first months we were attempting to push north- west in hopes of eventually connecting with another opening further inland known as Owl Hole. At the time of exploration in Mermaid's Lair there was 6,985 feet of surveyed passage in Owl Hole (primarily done by Howard Cosgrove and George Hume). By connecting the two, a system of very substantial size would result.

Although we estimated many months of work, the actual meeting was achieved on June 1, 1984 by Barry Taylor. The joining of the Owl Hole system with Mermaid's Lair system resulted in 9,660 feet of combined passage, and a transit length of 3,100 feet. The Owl Hole to Mermaid's Lair swim did not occur until October 21, 1984 and was performed by two teams of cave divers consisting of Barry Taylor, Mike Travis, Howard Cosgrove and Gina Chenoweth. During the months between connection and transit swim, exploration (primarily from the Mermaid's Lair opening)

MERMAID'S LAIR (cont'd)

continued. To date, an additional 4,400 feet of passage has been explored and surveyed to bring the total distance to 14,060 feet.

The system runs a steady 65-75' depth, with a floor-to- ceiling height varying from 3' to 20'. Although maintaining an east-west orientation, we have found some southern routes which encouraged us to continue to try for the ocean, as Mermaid's Lair is approximately 200' from the beach. The northern passages have connected into large breakdown rooms of the Owl Hole system. There are distinctive differences in silt composition, flowstone configuration, and tunnel formation between the two sides of the system.

The cave life of Mermaid's Lair is very minimal. Cave crus- taceans, isopods and remipedia have been sighted in the first several hundred feet of passage. Brotulids have been seen in these same regions, and once in the cavern portion! At the edge of the surface pond are American freshwater eels, freshwater crayfish, and spiny cheeked sleeper fish.

The surface pond of Mermaid's Lair is brackish water (.04 parts per thousand salt) with a halocline at the 10' level. Here the water becomes technically salt with 20 ppt, however, it is not until after a second halocline at 50-55' that the water reaches sea-water salinity of 36 ppt salt.

In June of 1984 the International Underwater Explorers Society, Ltd. (UNEXSO) became the leaseholder of the access rights to the property of both Owl Hole and Mermaid's Lair. At that time UNEXSO set up a permit structure and land-use reporting system in order to track the changes and progression of these systems.

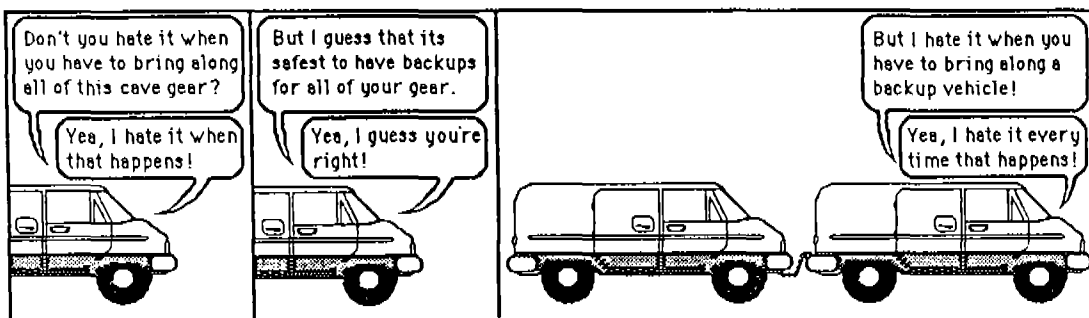
Permit applications are available from UNEXSO and spell out the rules governing usage of the system. Permits are granted to individuals only and stipulate the following: only the named individual may use the permit; collecting of specimens is pro- hibited; and a Land Use Report will be filed with UNEXSO after each dive. There is a \$10.00 application fee which is returned if the permit is denied. Permits are good for one year, after which a renewal application must be made.

Questions regarding the Old Freetown System can be directed to UNEXSO or to Gina or Howard:

UNEXSO P O Box F-2433 Freeport, Brand Bahama	Gina Chenoweth P O Box F-2433 Freeport, Grand Bahama	Howard Cosgrove P O Box F-707 Freeport, Grand Bahama
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GEAR FOR SALE - Call (912) 435-7906

- (1) Set of 100's, '81 hydro, good shape \$450.00
- (1) Set of 100's, '78 hydro, good shape \$350.00
- (1) 14.4, 8 amp hr. Nicad "D" Cell Dry Light w/sealed beam (Goodman head) \$300.00
- (1) 14.4, 8 amp hr. Nicad "D" Cell Dry Light w/quartz 55 W. head \$275.00
- (1) Jetsuit, slightly used, man's large blue/black \$200.00
- (1) Jetsuit, used with bad zipper, man's large, blue/black \$75.00
- (1) Jetsuit, slightly used, woman's custom, red/black \$200.00
- (1) Used Scubapro Mark V regulator \$100.00
- (1) Used Scubapro Mark III regulator \$100.00



Art by Tom Gilleland

FLORIDA'S DEEPEST UNDERWATER CAVES - by Sheck Exley (NSS# 13146LF)
2-20-84 (Chairman, NSS-CDS Cartography Committee)

Following list is advanced for speleological interest only. NSS-CDS discourages deep diving on compressed air. Speleologists are advised that the above depths refer to maximum vertical depth below the water surface, and that cave depth (vertical depth below the cave entrance) may vary considerably. Also, the water table may fluctuate in some cases by more than 10 feet. Depths given are high-water depths. All sites have been dived by the author, and all maximum depths, verified by him using two SOS Helium Depth Gauges, except #1, 2, 11, 19. Depths marked by an asterick (*) have been verified by U.S.G.S. soundings. All other depths have been verified by divers' depth gauges.

No.	Depths in feet	300+ Caves
1	600+	Red Snapper Sink, St. Johns Co.*
2	390+	Mystery Sink, Orange Co.*
3	360	Die Polder Sink #2, Hernando Co.
4	305	Eagles Nest, Hernando Co.
5	305	Numero Uno, Wakulla Co.
6	305	Indian Spring, Wakulla Co.
7	305	Deep Lake, De Soto Co.
8	300	Double Keyhole, Pasco Co.
<u>250+ Caves</u>		
9	299	Die Polder Sink #3, Hernando Co.
10	292	Wakulla Springs, Wakulla Co.
11	292	Holton Spring, Hamilton Co.
12	260	Garden World Sink, Pasco Co.
13	258	Little Spring, Hernando Co.
14	250	Zuber Sink, Marion Co.
15	250	Ecky Sink, Hamilton Co.
16	250	Little Sink, Hillsborough Co.
<u>200+ Caves</u>		
17	245	Little Salt Spring, Hernando Co.
18	242	Little Dismal, Leon Co.
19	240	Morrison Spring, Walton Co.
20	240	Little Salt Spring, Sarasota Co.
21	240	Weekiwachee Spring, Hernando Co.
22	235	Warm Mineral Springs, Sarasota Co.
23	225	Big Dismal, Leon Co.
24	225	Sullivan Sink, Wakulla Co.
25	225	Emerald Sink Cave System, Wakulla Co.
26	225	River Sink Cave System, Wakulla Co.
27	220	Shepherd Spring, Wakulla Co.
28	220	Lassiter Sink, Wakulla Co.
29	210	Chicken Farm Sink, Hillsborough Co.
30	210	Tarpon Springs, Pinellas Co.
31	210	Knights Sink, Pinellas Co.
32	210	Arch Sink, Pasco Co.
33	205	Peacock Springs Cave System, Suwannee Co.
34	200	Alachua Sink, Alachua Co.
35	200	Wards Sink, Pasco Co.

LETTERS TO THE SECTION - by Joe Prosser

During the past few weeks I have had the pleasure of reading several interesting notes that were included along with the renewal forms returned to the Section. I would like to share several of these notes and letters with the Section at large.

Dear Cave Diving Section,

I appreciate your sending me my ballot and renewal notice (it's the first one I've received). I love diving and cave diving especially, but I have reservations about paying \$22.50 for the (dry) NSS dues, just so I can belong to the CDS. Don't me wrong, the NSS is a fine organization with lots of fine le, but \$22.50 is too much for dues and I cannot belong to an organization that grates off the very caves that is the organization's substance!

I live here in East Tennessee where caves are plentiful, but I probably explore one only every other year. By the same token, I drive 560 miles (one way) to Branford about five times per year! Does this not express my feelings about the NSS versus the CDS? →

Can't we arrange it so that past NSS members (that are CDS certified) can belong to the CDS only? A couple of years ago I followed with great interest the possibility of splitting away from the NSS; I would really love to see that come about.

Anyway, thanks for the time, the renewal notice, the great work, and recently the post card notifying me of the cave-diving documentary on TV. Please find enclosed my check for \$7.50 for "renewal subscription only."

P.S. I hope I have offended no one in the Section. Keep up the good work.

Norman Cooter (NSS #22920)

Dear Norman,

First of all, thanks for your excellent letter. I regret that you have chosen not to renew your dues to the NSS. Surely, we need people within the Section and the NSS with your sensitivity and thoughtfulness. The Section is a part of the NSS; we are an internal organization of the society. Very simply, this means that one must be a member of the national group before joining an internal section. This may not be the answer you are looking for but it is the simple fact of the matter. I do not know what the situation is with the caves in Tennessee.

Cave closings within all areas of the country are becoming more and more common. One of the major concerns is the liability that the landowner may be exposed to when a caver or cave diver enters the property. We have seen the closings of several cave-diving locations within Florida within the past year alone. In some locations we are able to obtain limited access to the cave by utilizing extremely limited "guide" service. This is not the best situation, but at least it allows some enjoyment of the particular cave. We are attempting to convince the owners of Indian Springs near Tallahassee to allow "limited" access. This plan is already in place at locations such as Asher Cave, Eagle's Nest, Diepolder, and others. Many times, limited access is the only plan acceptable to the owner.

Recently, here in North Florida, we were very concerned that one of the most beloved cave-diving locations in the world (Peacock Springs) was about to be either sold and/or developed. In either case, we cave divers were faced with a most difficult situation. The Nature's Conservancy did buy the site to prevent its development. The NSS has worked with organizations like the Nature's Conservancy in the past. This has proven to be a very successful relationship. The NSS has the background and necessary experience to gain the attention of this type of conservation group. Although the NSS was not the only caving organization attempting to influence the Nature's Conservancy, it was instrumental in negotiating to prevent the closing. In Missouri, the NSS and others are among the most effective in deterring the federal government from closing that entire region to caves (Missouri is second only to Florida in the quantity and quality of its cave diving).

One of the prime motivations of the NSS is to promote safe caving for all individuals. The successful training of the CDS is very much a result of the influence, direction and aid of the NSS. Much of the national recognition of the training program of the CDS is in no small part a direct result of our association with the NSS. It is true that perhaps far too many members of the CDS are unaware of all the benefits available to them through the NSS. Among these benefits are the excellent survey techniques already developed and in place directly due to efforts of the NSS. The NSS has developed one of the largest libraries in the world dedicated to caves. Last year I had the opportunity to visit same and was amazed at the information available to Florida cave divers. All of this costs money and unfortunately all too many equate service only to the amount of space allocated to cave divers in the NSS News. If you have not been a member for some time, you may not be aware that the Section's own Milledge Murphey now writes and edits a one-page special feature in each issue.

Norman, the above is but a brief highlight of the many many benefits of belonging to the NSS. Perhaps the single major reason to reconsider your dues with the NSS is that the society is a nationally known organization with an excellent reputation and the political clout to be effective in the preservation of caves regardless of the limited success you have encountered in Tennessee.

Joe Prosser, Secretary/Treasurer

George Veni (NSS #17322F) writes:

I didn't vote again this year. How can I? Do I vote on how many times I see the names in Underwater Speleology or on a basis of personal acquaintance? Neither is a good basis on which to vote. How about sending candidate platform statements with the ballots.

Dear George,

You make an excellent point. I am confident that this very important matter will not be overlooked in the future. I would like to bring a couple of items to your attention. First, the ballots and platform statements were not handled by the same person. Platform statements were to be sent to H.V. Grey for publishing in the newsletter. Many changes have been occurring in the management of the Section in 1985. Most of this is making the Section more responsive to member needs and wants. However, communications are still not all that we would hope to see. The newsletter is issued six times per year. When you receive an issue (like this one), chances are that the actual printing of the issue occurred almost 30 days prior to your receiving same. This is different than from in the past when only two weeks might pass. The reason for the delay, in part, is the use of bulk mail service. What this all has to do with platform statements is simply that they were not received with enough time to include them in an issue. The ballots went out before platforms were shipped to me. We are learning and mistakes will happen. Lost platforms will not occur again by this management team.

Joe Prosser, Secretary/Treasurer

Bill Ingles (NSS #25152) writes:

I am writing to tell you of the problems I have been having trying to find someone to cave with in the Eastern Missouri area. My home is in Illinois, about 65 miles southeast of St. Louis. I am hoping to find someone to cave dive with who might have some experience in Missouri caves. I have contacted several grottos in the area as well as other members listed in this general area without success. If you come across someone you could refer me to, I would appreciate your aid.

Dear Bill,

We have had several telephone conversations regarding your situation and as yet it is unresolved. Yours is not the first request we have encountered. This is true not only for Missouri, but California as well. Watch for the 1986 CDS Members Manual due in March. We are attempting to locate several regional coordinators to aid cavers like yourself. I do not know if the regional coordinator will be able to aid you in your battle with the federally controlled lands you wish to dive, but we should begin to better serve your needs.

Joe Prosser, Secretary/Treasurer

Walter Anderson (Chicago, IL) writes:

My CDS membership number has changed in 1985. Why?

Dear Walter,

In an earlier issue of the newsletter we notified all members and subscribers that changes were underway in managing the mailing list. Over the years our lists were handled by many different persons. Add to this the vast technological advances made recently and the result can be a very confusing mess for everyone. In 1985, the Section hired a professional mailing-list company to manage our mailing files. Thus far we have been very pleased with the results. This used to be a major headache for the Section. Now that our lists are being updated we began to introduce the annual renewal form. Although some changes will be incorporated into next year's form, we have a better idea of the current status of the members and subscribers of the Section. Remember, to be a member of the CDS, you must also be a member of the NSS. If you are not a current member of the NSS then you will be listed as a subscriber. The NSS issues all membership numbers. The #320 you referenced was a simple computer file number. This means that your name and address were filed away in slot number 320. In the most recent "filing" your name was entered into slot #7. Many people will see changes in their status within the Section. The rules of membership are determined by the NSS, our parent organization, not by the Section. To join the NSS, you may write directly to them or file for

membership through the CDS treasurer. According to our files, you will be listed as a subscriber because you have not included an NSS member number with your renewal form.

Joe Prosser, Secretary/Treasurer

Dear NSS:

The National Association for Cave Diving is pleased to announce its new certification card. For many years the NACD has had the card that needed to be laminated. Now the NACD is proud to announce its new card as pictured below. As shown, this new card is plastic and no picture is on the card. A shop or resort owner/operator only needs to be shown a driver's license for better identification if they doubt the card holder's I.D.

Any NACD Diver can up-date his present card by submitting name, address, phone number and date of birth, height, etc., to the Training Director and a check to the NACD for \$6.00 for the new card.

Cards are available for: Cavern Diver, Cave Diver, Cavern Instructor, and Cave Instructor.

For further information or card, send request to Ron Menke at 2300 Dawnwood Lane, Orlando, FL 32809; (305/851-5928).

Sincerely,
Ronald G. Menke, NACD Training
Director

LETTER TO THE EDITOR

October 28, 1985

Dear Editor:

I have just finished reading the latest cave-diving newsletter for the second time, and just wanted to tell you how much I enjoy reading about the exploits of those cave divers on the cutting edge of technology and exploration. They are a type of explorer that possibly, in a different era, would be pushing back the frontiers of America.

I, on the other hand, look at my cave diving as the settler must have looked at Lewis and Clark. I go where all have gone before. I see very little that has not been seen a thousand times by other cave divers; but I think I get nearly the thrill with each of my dives as do the long time cave divers that push the cave frontiers. It is difficult to explain to the noncave-diving community (or spouse) the exhilaration of every cave dive. Being the living part of an underwater life-support system, totally self-contained, and responsible for my own exploration in an already explored and mapped system, just makes it easier to enjoy the cave and the dive. The more I dive a system, the more new things I see and the more enjoyment I get from seeing the same spots in caves.

You explorers keep pushing the frontier and we sightseers will keep enjoying the cave-diving safety you are perfecting for all.

Sincerely,

Stan Hankins (NSS #25806)
Tampa, FL

[Thank you, Stan, for your letter.]

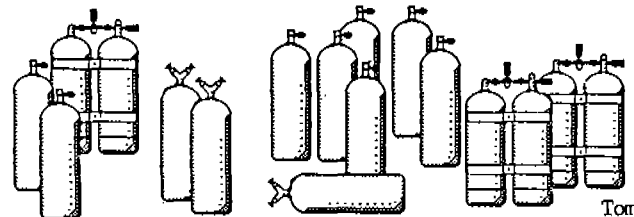
COURSES OFFERED

For those who have completed "Basic Cave Diver" certification, the following "Cave Diver" certification courses are offered

Course #1.....February 15-16, 22-23

Course #2.....March 22-23, April 5-6

Also: Four consecutive day courses are offered during the week. Please consult with instructor Steve Gerrard concerning dates. 5714 Ed White Court, Tallahassee, FL 32301; 904/877-8196.



Tom
Gilleland

THE THIRDS RULE REVISITED - by John Crea

"safe cave diving." We are all concerned with safety every time we put on our gear and "descend into darkness." One of the key safety rules that we all use in the "Thirds" rule, which states that we should plan our dives in such a way that one third of our air supply is planned for use on the penetration, and two thirds of our air supply is reserved for the exit phase of the dive. This rule is a minimum safety factor, and less air should be allotted for the penetration and more air reserved for the exit in unusual circumstances, such as diving with the current on the penetration, and thus needing a larger reserve for the exit due to the increased air consumption needed when swimming against a current on the exit phase.

The Thirds Rule also allows a safety factor concerning the fact that we dive using the buddy system. The additional air reserved for the exit phase also gives us extra air to allow for an emergency out-of-air exit with both divers using the same air supply. Theoretically, if it took 1/3 of the air for the penetration, and a total air failure occurred at maximum penetration, then the remaining 2/3 of the original air supply should be adequate for the two divers to exit on. This does not mean that 2/3 of the original air supply will be adequate in all situations--as in a case of an out-of-air buddy, with zero visibility, line entanglements, or other complicating factors. Remember, MURPHY LOVES CAVE DIVERS.

The Thirds Rule assumes that both divers start with an identical air supply in terms of volume. Since we do not have a volume meter for our tanks, we take advantage of the fact that volume is directly proportional to the pressure present in the tanks. That is saying that when the pressure decreases to half of the original pressure, then the volume is half of the original.

When both divers start out with tanks of the same size, the turn-around is figured on when the first diver to use 1/3 of his original air reaches that point. This means that even with two divers who consume air at greatly varying rates (since the dive is called based on the first one to reach turn-around), there should be adequate air to buddy breathe both of them out of the overhead environment.

This does not hold true if the divers are using tanks of different volumes. If the diver with the larger air consumption is using larger tanks, he may be able to make a penetration equal to that of his more economical buddy, but will have used a much greater volume of air in getting there. If the diver with the larger air consumption should suffer a total air failure at maximum penetration, his buddy with the smaller tanks will not have enough air to get both of them out of the cave. Therefore, most cave divers, when diving with partners with smaller or larger tanks will take that into consideration and work in a fudge factor in which the diver with the larger tanks calls the dive earlier than he would if diving with a partner with tanks the same size as his. The problem is that up to now, there has been no accurate way to calculate this turn-around point for the diver with the larger tanks.

The key point here is that when diving equal-volume tanks, the dive team should begin its exit when either one of the team members has consumed 1/3 of the volume of air in his tank(s). If diving tanks of different volumes, then they should figure the turn-around based on the volume of 1/3 of the smaller tanks. If both divers could know these values, then they could turn the dive at a point where adequate amounts of air would be available to allow either team member to buddy breathe out from the farthest penetration.

I have worked out the following formula that allows the dive team to simply figure what the psi of 1/3 of the smaller tanks is, and then apply a factor to that to calculate the allowable pressure (volume) consumption for the larger tanks. Not everyone has or can afford twin 100's, so I have calculated the factors for all combinations of twin 100's, so I have calculated the factors for all combinations of twin 100's and various other tanks.

Twin 100's and a single 100. Figure 1/3 of the psi in the single 100, then multiply that value by 1/2(0.5). For example, if the single 100 has 3600 psi, the 1/3 of that is 1200psi. The diver with the twin 100's will turn the dive when he has used $1200 \times 1/2 = 600$ psi. The factor is 0.5.

II. Twin 100's and twin 80's. The conversion factor here is

0.68. Figure 1/3 of the psi in the smaller tanks (80's), then multiply that value by 0.68. For example, 3600 psi in the twin 80's, $1/3 = 1200$. $0.68 \times 1200 = 816$. The diver with the twin 100's should turn the dive when he has used 800 psi. The factor is 0.68 when comparing twin 100's to twin 80's.

III. Twin 100's and twin 72's (this section also holds for steel 96 cu.ft. tanks). The conversion factor here is 0.73 (that's correct: steel 72's hold more air per psi than aluminum 80's). I think you can look back at the earlier examples to see how to work the problem. The factor is 0.73 when comparing twin 100's to twin 72's or 96's.

IV. Now we come to the tricky one. Twin 80's and twin 72's. At 3000 psi, the twin 80's hold 160 cu.ft. and the twin 72's hold 172 cu.ft. For all intents and purposes, twin 80's and twin 72's are equal, and no factors are needed. (For those of you who are nit-pickers, the conversion factor is 0.93, based on the pressures in the 80's which are the smaller of the two.)

I must make one statement in closing. THESE FACTORS SHOULD BE USED ONLY IF THE PRESSURES IN THE TANKS ARE NEAR EQUAL. IF THESE FACTORS GIVE YOU A VALUE GREATER THAN 1/3 OF YOUR PSI, THEN USE THE VALUE FOR 1/3. If the tanks used have greatly varying pressures, then the turn-around points must be figured on the values of the tanks with the smallest volumes at the pressures used. It is probably a good idea to equalize the pressures in the tanks prior to the dive and use the conversion factors calculated above.

The Challenge of Goat Sink - by Milledge Murphey

Following several discussions with Judy Bauer and with Cindy ("C.J.") Bielling, whose relatives own the site, I made plans to explore Goat Sink near Newberry, Florida, on June 18, 1985. Rumors about this closed, totally off-limits site abounded and I was looking forward to diving it. C.J. agreed to escort us to the little-known site and I talked with my frequent dive buddy Lloyed Bailey about the dive. He was unable to go on June 18, due to previous cave-diving training commitments, so I began planning the "check-out" dive without having decided on a buddy.

My cave-diving student Bert Towne agreed to accompany me to the site and we loaded slingshot-valve single 80's gassed to the limit in the hope of a good penetration. After driving through numerous fields, gates, etc., we finally arrived at the fenced sink site, parked, and walked to the dry-appearing sink. I noticed that a length of cave-reel-type nylon line was tied to a tree on the south end of the sink rim. The line disappeared into the gloom at the bottom of the open portion of the sink where a cave opening appeared 14 to 15 meters below us.

Bert, Mike Bielling (C.J.'s husband) and I transported the diving gear through the barbed-wire fence to the rim of the sink, then tied a rope to the tree on the south rim and lowered ourselves into the chasm. Clouds of mosquitoes boiled up around us as we neared the first shelf level. Many cubic yards of muck, limestone and sand appeared to cover the floor, and several logs completed the desolate bottom of the open-air portion of the sink. Turning to the east, I switched on my light and peered into the cave entrance. The 30-watt (Lamar English-built) light beam penetrated to the sump and the symmetrical limestone dome over the water extending to 10 meters beyond the cave entrance. A sloping, brown-liquid mud floor ramped toward the crystal pool 6 meters beyond the cave mouth, which extended 4 meters to the eastern wall containing the sump pool. The pool width was also 4 meters, and a limestone outcrop on the right at the water's edge gave an excellent vantage point for further examination of the site.

I carefully walked to the outcrop and submerged my light head. The sight was spectacular! Translucent blue water stretched into what I hoped was infinity, as the cave tapered down and back under a 4-meter-wide limestone ledge. There was a large-diameter pipe extending toward the cave roof from the submerged silt bottom 6 meters below the surface, and several limestone boulders and tree fragments were strewn across the subaquatic floor of the cave. At the outermost reaches of the

GOAT SINK (cont'd)

light beam, a small hole one meter in diameter loomed as an enticement to the cave divers viewing the sight.

We turned to exit the dry portion of the cave, collect our gear and dive, and my light picked up an unused 1,500-foot spool of cave-reel-type, twisted nylon line. Tracing the line route up, I found that it was tied to a brick on the bottom of the sump pool, and from there to the tree at the surface on the southrim of the sink. As the cardboard spool in the center of the line was solid and in good shape, and the line was white, I surmised that it had been recently (and accidentally) left at the site by nocturnal cave explorers.

We lowered the tanks, lights, and miscellaneous diving equipment down the almost vertical shaft of the sink from the field above, and, slogging in the liquid mud, geared up. We decided to solo dive during the initial penetration as the size and quantity of silt dictated this procedure. I tied off at the rock outcrop and slid into deeper water, donning my fins there to avoid the silt. Bleeding off my B.C. I submerged, welcoming the quiet, cool, crystal clear interior of the cave.

The pipe in the floor bisected the center of the sump, and as I swam in and descended, the apparent opening looked smaller and smaller. At a depth of approximately 9 meters and a penetration distance of 15 meters, the silt from Bert's gearing up above me rolled down around me. As there was no perceptible flow from or into what had appeared to be a very small and silty opening at the bottom rear portion of the sump, I carefully turned and reeled back through the silt-out, banging into the pipe as I reeled blindly toward the surface. The visibility remained zero until I surfaced, and I had a few words with Bert regarding his anti-silt techniques immediately after I emerged from the thick brown ooze which he had apparently created.

Undaunted, Bert immediately submerged and I waited motionless resting on my B.C. at the surface for his return. Eleven minutes later Bert's head appeared out of the brown soup, reminding me of a vivid scene from *Apocalypse Now*. He had topped his UK 1200 R in the zero conditions below and was intent upon retrieving it. As we talked, floating at the surface, we noticed that it was now near dark outside. (We could see the surface 15-20 meters above through an irrigation-vent bore hole, which had been drilled through the ceiling of the cave.)

We discussed the dive in detail and decided to call it until we could arrange to return with doubles, which would enable us to penetrate the restriction safely regardless of silting. I waited the water after a wait of some fifteen minutes, and Bert coated, waiting for the silt to settle enough for him to retrieve his light. After another forty-five minutes he saw the glow of the light beneath him, and deflated his B.C. to slowly descend and retrieve the light.

The exit in the near dark was an appalling adventure of mud, heavy gear and darkness, and the drive home was equally scintillating. →

This dive can be said to have been enigmatic in that we did not learn whether or not the sink could be pushed. We did, however, begin the exploration and our future plans include at least one more visit, with a push to the limit of potential penetration in Goat Sink.

CDS BOARD MEETING - December 27, 1986 (CONT)

13) Review of "International Safe Cave Diver Award" (to recognize the achievement of 1000+ cave dives). Approved in principle, with the request for its instigator, Milledge Murphey, to submit a concrete proposal for administration.

14) Journal to be a compilation of some of the outstanding articles from UWS in the past.

Dear Danny [Brass],

I've just been reading your "Additional Survey Questions" in UWS 12(6). Any one of your questions probably deserves a five-hundred word essay. Given the typical caver's lack of interest in writing, good luck in getting sensible and useful responses. You certainly have posed a collection of subtle questions, ones that require, for a start, careful definitions. For instance, when you talk about "accident rate," do you mean per dive or per year? The effect of, for instance, actively encouraging open-water divers to take cave-diving training can be expected to have opposite effects on these two rates. The rate per dive is the one of the most direct interest to the divers, of course. The rate per year is likely to hold an unfortunate fascination to land-owners and legislators. I don't have time to write long answers to your questions. You may console yourself that my remarks would hardly be representative of the cave-diving community anyway, as will become clear.

I would like to comment, though, on your questions about the availability of maps of underwater caves. I have been a member of the CDS since 1977, but I have never taken a single breath from a tank and probably never will. My membership in the section is a combination of support for your good work and a subscription to UWS. I have every issue since the beginning. I also have the *Cave Diving Group Newsletter* since 1975, and my library contains a couple of dozen cave-diving books and pamphlets. But the present policy on sale of maps prevents me from ordering them. I submit that copies in my hands in Texas would be less likely to find their way into the hands of untrained divers than would copies held by many certified Florida cave divers. I am obviously not a typical case, and I don't argue that my case alone shows that the present policy is completely wrong. But it does affect at least one person to whom the reasons for the policy obviously don't apply.

Good caving,
Bill Mixon (Austin, TX)



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