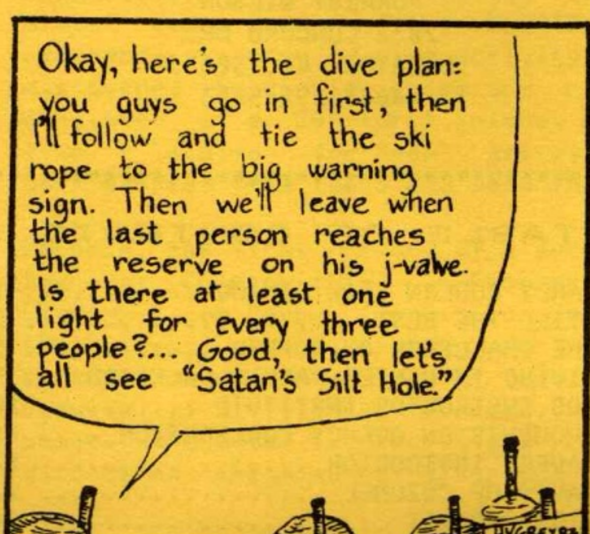
Underwater Speleology

NATIONAL SPELEOLOGICAL SOCIETY CAVE DIVING SECTION

VOL. 11, no 6(B)



THE NOT-SO-SUBTLE IRONY OF THE VALERIE GREY CARTOON AND THE JOE PROSSER PHOTOGRAPH TELLS THE ALL TOO FREQUENT STORY. SIMPLY PUT, NOT ENOUGH FOLKS TAKE THE FACTS SERIOUSLY. SAFE DIVING, PLEASE!

UNDERWATER SPELEOLOGY is the official publication of the CAVE DIVING SECTION of the NATIONAL SPELEOLOGICAL SOCIETY, Inc. It is published bi-monthly beginning in February.

Voting Membership in the Cave Diving Section is open to all members in good standing of the National Speleological Society at an annual cost of $5.00 (U.S.) Subscriptions for non-members are $7.00 (U.S.) per year. When making application for N.S.S. and/or C.D.S. membership please contact:

Sandy Fehring, Treasurer
3508 Hollow Oak Place
Brandon, Fl. 33511

Make checks payable to the NSS Cave Diving Section.

Opinions expressed in this publication are those of the author and do not necessarily reflect the position of the Section, its Board of Directors, or that of the National Speleological Society.

****
** NEWSLETTER SUBMISSIONS **
****

All submissions to the newsletter are gratefully accepted and encouraged. There can be no newsletter if there is no news. A notice of receipt and/or the estimated time of publication will be mailed only if specifically requested.

Deadline for publication is the first day of the month of publication. Please send all articles, editorial correspondence, news items, and exchange publications to the Editor:

Wayne Marshall
2623 P.O. Box 1414
Seffner, Fl. 33584

The editor reserves the right to edit as deemed necessary for space limitations, grammatical accuracy, or improved readability. This is in no way intended to alter the meaning or concept of any article.

****

TABLE OF CONTENTS

A BRIEF LOOK INTO SOME EARLY MODERN CAVE DIVING COURTESY OF THE F.S.S. FLORIDA SPELEOLOGIST

by Joe Prosser

This past July, during a vacation in which I had hoped to be indoctrinated into dry caving activities, I had the opportunity to visit the N.S.S. Headquarters in Huntsville, Alabama. What began as a two hour visit turned into a full day's marathon. The combination of intense rain storms and a wealth of information made the library a most entertaining experience.

First of all, the headquarters is located in a modern facility just off the main highway leading into Huntsville. The building is owned by the N.S.S.. It is being financed by membership dues, sales of publications, and special contributions. Most of us have seen (and hopefully participated in!) the "Buy a Brick" campaign in the N.S.S. NEWS. Staffing consists of two office clerks, a librarian and the full time office manager. All were most anxious to provide any assistance required.

As I began my reading, one of the first mentions of modern Florida cave diving was in a 1951 issue of FLORIDA SPELEOLOGIST. Here it was reported that an unnamed student, having obtained a new scuba cylinder, approached a Dr. Auffenburg of the University of Florida. The student was searching for a nearby location to use the "lung" and was referred to Jugg Springs near the head of the Itchnetucknee River. Unfortunately, I located no follow up report on what was discovered.

Publication of articles on cave diving activity by the Florida Speleological Society disappears for some time after this initial report. However, lack of publication did not suggest a lack of activity. In the May, 1958, issue of THE NITTANY GROTTO NEWSLETTER (p142) "Florida cave divers are providing introductory cave diving training in a pool during the TAG Fallout in Tennessee." The nature of the training is unknown. Articles on other activities at the TAG Convention suggest the divers were providing more of a demonstration than anything else.

Apparently, the TAG Convention really set the cave divers in high gear. Almost every issue of the FLORIDA SPELEOLOGIST printed in 1958 had some reference to cave diving activity. Barbie's Cave (Alachua County) was discovered by Barbie Lucas and reported in February, 1958. The cave consisted of a 20' (dry) chimney with water depths of 45'. Does this sound like a location for "new" activity today? New "Articles for Cave Diving" were adopted this issue and were the basis for further exploration.

Perhaps the first record of a successful underwater cave rescue occurred at Squirrel Chimney (Fla) in February, 1958. Reported in April, 1958, Bob Comming, Joe Dabbs (yes, our Joe Dabbs), and Fred Millot were skin diving the second sump searching for a rare breed of Palaemonetes cummings cavernicolous shrimp. After surfacing past the second sump, Dabbs asked Comming if Millot had returned. Realizing that Millot had not successfully passed the sump, the two divers began searching. Fortunately, Dabbs quickly discovered the missing diver and brought him to the surface. His quick actions saved Fred Millot's life. After resting, Millot was able to negotiate the first sump without incident but it was decided that he should not attempt the 40 foot vertical exit climb without assistance. Joe volunteered to exit first and upon reaching the entrance, slipped and fell back down to the floor. "Fortunately, Joe found Fred and Bob as he fell directly on the two below. No serious injuries resulted and all three exited without further incident." Thus began the cave diver's concept of self-rescue.

By the late 1950's, cave divers were beginning to turn to poetry to describe their experiences. One caver using the name Omar Khasm wrote the following in April, 1959.

A FORGETFUL DIVER NAMED POOBA

DOVE IN CAVE DOWN IN CUBA

HE SWAM LIKE A RAY

DOWN A LONG PASSAGEWAY

BUT ALAS, HE'D FORGOTTEN HIS SCUBA!

By early 1959, divers were exploring a "large underground lake uncovered near the Florida Caverns State Park." In April the results of the first major underwater exploration were reported for Hornsby Sink. Blake Downing wrote of the dives made by Joe Dabbs, Ron Morse, Joe Pylka, and himself. Penetrations into the system were limited by today's standards. However, we must remember that at that time many divers were still using makeshift scuba tanks and homemade regulators. (Personal communication with Joe Dabbs, 1984.) Submersible pressure gauges were still several years in the future and the cave divers best known gift to divers was still many months away (The modified Jerry Can!). Still, several interesting modifications were employed for the first time. Dual cylinders were manifolded together featuring independant valves on each tank. A 50% "plus a little" reserve was obtained by turning off one cylinder. When the first cylinder became hard to breathe, the second tank valve was opened and the two cylinders were allowed to equalize. This was the turn around point for all divers.

Joe Pylka designed and built special underwater lights using "new" military surplus. The device was a combination of a high powered 6 volt auto light and wet cell ni-cad batteries. Batteries were carried in a separate tube connected to the tank with a cord running up the tank harness and out to the bulb. Wires were disconnected to act as a switch. To aid in keeping track of each other, divers tied aircraft "radar" lights on their wrists. These mini strobes were effective, but threw out so much light that their use was discontinued.

By December, 1962, progress in cave diving procedures had improved so much that Jeff Colehour wrote a four page article describing the new techniques and more modified equipment. In "Cave Diving in Florida", Jeff recommended:

ON SILT "...staying at least 5 feet or more from the bottom ... approach the bottom in an inverted head-down position..."

LINES & REELS "...(continuous) safety line...made of nylon ...on an 8" spool with 800-1000 feet of line per spool...install ... semi-permanent lines in popular locations."

MANIFOLDS Designs on a homemade dual valve manifold.

SPG Designs on a homemade SPG and why it should be considered.

LIGHTS "25 watt beam lantern...with ni-cad batteries"
"Extra lights (carried by each diver)"
"(at) first failure all (divers) exit"

REGULATORS "... I feel the one hose unit may have an advantage (over the two hose)"

By the time I cleared the December, 1962 issue of FLORIDA SPELEOLOGIST my day was rapidly coming to a close. Unfortunately, few cave divers are seen at headquarters, so I was pressed into service to review other sections of the library specifically dealing with cave divers. There are two four foot shelves dedicated exclusively to cave diving. There are our own past issues of UNDERWATER SPELEOLOGY, NACD NEWS, a California cave diving newsletter, Texas "SUMP DUMPERS", numerous foreign cave diving publications, and boxes of miscellaneous cave diving information. We have also been asked to send to the library any newspaper articles, etc. relating to cave diving even if it is a photostatic copy just to help increase the available information.

If you are considering a trip anywhere near Huntsville take the time to visit the N.S.S. Headquarters. In fact, you may just want to take your gear. Articles written by the local Huntsville Grotto indicates that local diving can be a real treat for cave divers.

NSS CAVE & CAVERN TRAINING - STILL THE BEST

By SHECK EXLEY (NSS 13146 LF)

The verdict is clear. The NSS Cave Diving Section has always had, and continues to have, the best cave and cavern diving training offered by anyone, anywhere.

The reason that NSS training is so obviously superior to all other programs is very simple. Regardless of the extent of the course, the desired end product of all cave and cavern diver training is that the subsequent diving of its trainees will be as 1) safe, 2) productive, and 3) enjoyable as possible. The NSS/CDS completely dominates in all three categories.

First and most important is safety. NSS-trained cave and cavern divers are by far the safest in the world. The statistical evidence is very clear on that point. Since the NSS/CDS has trained more cave and cavern divers (over 2000) than all the other programs in the world - and more than twice as much as America's other programs combined (NACD, NAUI, PADI, and YMCA) one would naturally expect that more of its divers have been accident members. However, incredibly, the exact reverse is true!

Only one NSS diver has drowned, and that was almost certainly due primarily to physiological reasons (severe diabetes) not connected to cave diving. America's next safest program has lost at least five divers; the worst has a death toll of no fewer than 15, including instructors; and none of them have trained nearly as many cave and cavern divers as the NSS.

How about productivity? Since the NSS is after all the only national organization in America devoted primarily to the scientific exploration of caves, it should come as no surprise that virtually all of the research being generated through American cave diving is the product of NSS cave divers. NSS divers are responsible for all of the cave maps, almost all of the exploration, geology, archeology, and most of the biology regarding underwater caves in America.

Do NSS divers enjoy their cave diving? There is no way you can log 1000 cave dives without thoroughly enjoying what you are doing! Five divers in the world are known to have passed that milestone. While most of them have multiple certifications, its no accident that the one certification they all share is NSS. Or that at least 4 of the 5 primarily associate themselves with the NSS/CDS. Come to think of it, that's another endorsement of NSS safety as well.

So why is NSS training so dramatically superior to all others? That's a tough question. I have taught cave diving under every American program except NAUI. Observations of my own courses and those of other instructors suggest that while the training standards in most NSS courses are generally a little higher, the actual difficulty of the courses doesn't vary that much on a consistant basis from one organization to another. NSS instructors are clearly the most experienced cave divers and therefore probably the most knowledgeable, but the knowledge and experience of the instructor cannot by itself possibly insure that his students will be the safest divers. Still another example of NSS superiority is the fact that both of the only up-to-date American cave diving texts (NSS Cave Diving Manual and Basic Cave Diving) are NSS publications. However, those same books are used in most of the other cave diving courses as well.

After a lot of thought, about the only clear-cut reason that I can come up with for our unprecedented success is one of philosophy. Because of potential risk and required training and equipment that far exceeds other forms of diving and caving, cave diving has always been perceived as a very macho activity, and cave divers have been perceived as a very elite group. Those perceptions appeal to thrill-seekers and ego-maniacs; two groups of people who must, by the very nature of their motivation, be considered poor risks for long-term survival in cave diving.

The NSS course is not as attractive to the thrill seeker or ego-maniac as some of the others. Further, if a person so motivated does stray into an NSS course, chances are that by the end of their training they will be convinced that cave diving is not such a hairy, prestigious pursuit after all. The reason why is that the ultimate authority over the NSS cave diving course is not some group of "cave-diving experts" - self-proclaimed or otherwise - but the common man. That's right. The NSS Training Director (and his training committee - ED.) is directly responsible to the NSS Cave Diving Section, which is a democracy run by a large number of enthusiaistic people whose only membership requirement is that they be interested in cave diving. One benefit of this philosophy has been that it has opened the organization to good ideas regarding safe cave diving from all sources, even non-divers. Another benefit is that, even though all of the best cave divers are NSS members, there is absolutely no way that the NSS/CDS can ever become or be perceived as an elitist or macho organization. After all, anybody can be a voting member. Or even be chairman of the entire organization!

I am aware that there may be other reasons for the superiority of our program, and I may have even missed the most important one. But it is vital that the reason be found. Like it or not, all of us (NSS, NACD, NAUI, PADI, and YMCA) are in this together. In the best interests of safe cave diving it is vital that whatever has caused the NSS's unrivaled success in diver training be imitated by the other organizations.

THE CHALLENGE OF ROPPEL

By Wes Skiles

The Roppel cave system is a part of the largest cave system in the world, the Mammoth cave system. The Roppel challenge is the story of a sump dive and the passage beyond. For 21 hours eight people carried gear so that two could dive the upstream sump of the Logsdon river. The rest of the story follows.....

In August of 1984, I had the fortunate opportunity to instruct Ron Simmons in the final phase of his cave instruction. Ron, considered by many to be one of the premier cavers in the U.S., was taking cave diving to add one more skill to his already impressive accomplishments.

For me, I saw opportunity! About three years ago, I'd gotten bit by cave fever. Uncooperative cave fever that is! I define any cave not completely filled with water as "uncooperative." Anyhow, Ron, being so filled with technical knowledge of the sport of caving, and I, filled with... Well, nonetheless there was a good symbiosis between Ron and me. We proceeded to dive the Florida area for about a week. After Ron's training was completed he headed back north, threatening to invite me up to Roppel Cave to dive a sump.

Well, it happened that not long after Ron's return to Virginia he called inviting me to dive the sump. He also said that it had a good potential for resurfacing. When I asked him what kind of trip it was going to be getting to the sump, he indicated that about 8 hours of dry caving should get us to the sump. It was then that I said okay! I love a good challenge. Four hundred dollars later, the challenge had just begun. It seemed that I needed quite a few things that I didn't have.

When the gear was together, the practice sessions began. The local crew worked on several simulated Roppel trips by visiting our "cute little" caves around the north central Florida area. After a couple of "Pit" trips in Warren Cave, a good "Climax" cave trip in Georgia, and a sump dive in Bat Cave, Alachua County, Fl., Terri and I left for Kentucky.

We arrived at the Roppel Field house on Saturday, October 6th. We first met Dave Weller, a man who I later came to admire for his very distinct style. Dave is the person the Weller entrance to Roppel cave (which we used) was named after. He started his first conversation with Teri and me by explaining the history of the area, the cave, the Field House, and life in general. Being new to Kentucky caves, Terri and I listened intently, glad to be there and fascinated by what we had heard so far.

Later that evening, the crew had begun to assemble. Joining the group were Roberta Swicegood (trip leader), Cady Soukup, Ben Johnson, and Ron Simmons. Our evening consisted of visiting Crystal Cave, where we spoke to good ole Floyd Collins on the inside skinny of the passage we were headed for. Then on to the Field House to prepare for our little challenge. At 1200 pm Sunday we entered the Weller entrance short of 4 sherpas. (Ed note - Sherpas are little gnome-like creatures able to contort their bodies into countless twists, bends and folds in tight passages while still managing the hallowed loads entrusted to them by the more cerebral cave divers which they are being allowed to accompany! They are also known for their rapier dull wit on the way out of the cave. GWM) Our small team of 6 entered with gear and provisions for two divers and everything else needed for a safe passage. Spirits were high as we began a series of crawls and climbs working our way toward our first goal, known as Kangaroo Trail.

Now I must stop here and tell you that I was becoming quite impressed with the attitude and energy of this very special crew. Already, Roberta had displayed her skill as a caver, her knowledge of speleology, and her knack as a leader with safety first always in mind. Climb after climb, gear was belayed up, and then down, on and on, with the smoothness of my cat's winter fur.

As our trail of six goal oriented cavers made their way, a diversity of dialogues kicked in with a variety of topic matter. Ron Simmons and I were learning quickly about the weak points in our gear carrying systems as time after time we heard Ron's tank blast on, letting what might be precious air escape into the cave.

By the time we had reached Kangaroo Trail, different gear packs and cylinders began receiving nicknames. This nicknaming was done in a specific order; the pieces that were the biggest pain to maneuver got named first. Ron's Neutraboy 80 cubic foot tank was unanimously selected for first naming. The Blue Bomb, a bomb, @#$%$#?!! tank were all tried until it was decided to let Ben name it since he had to carry it! He named it "Sweetie". (Ed note- after our own Deep Dale, no doubt). "Butterball", "Piglette", and "The Spider" were quickly assigned to various packs that also qualified for name calling.

Five hours later, we were sitting in "Arley Way". This was what the Roppel cavers call "Boring Kentucky Tube" (BKT), a beautiful trunk passage that runs as far as you want to. Here we ate a fine meal consisting of pudding, pineapple, and chicken. After a short rest we were on our way again. Wandering through Arley Way was quite a change from the previuos passage we had passed through. Now walking upright for several thousands of feet, we turned our discussion onto the formation of passages, and to the specifics of the abundant gypsum flowers that decorated the BKT. Traversing giant plates of rocking breakdown with 40 pounds of gear added yet another twist to our already quite entertaining adventure. After nearly a mile of Arley Way, the floor trunk that we were passing through turned soft and sandy, and the entire passage dipped downward and split two different ways. It was here that we were to enter the second phase of our trip.

As groans of relief were heard while dumping our packs, I realized that it was time to enter the base (water) level passages that would carry us to the sump that Ron and I were to dive.

With a gleam in her eyes and a smile cracking, our trip leader ordered a group stripdown in which an excited sherpa yelled "I got the vaseline!" With this the group proceeded to once again prove that cavers are all social deviants, and a disgrace to the norm. After the ritual passing of vaseline had occurred, we climbed into our wet suits which had been stored in various packs and proceeded to immerse ourselves in the 50° waters of Kentucky. For over 1200' we swam, pulled, and crawled thru the low airspace known as Cumquat Causeway. Although it was a little cool, I enjoyed this passage. While everyone else was trying to treat the passage like a dry cave, I evolved back to my cave diving style. Letting my feet float to the surface I laid out in a 0° angle of attack and pulled and glided thru the entire passage. The Causeway ended suddenly as we left the low air passage and crawled up into the Bypass Tunnel, 600' of the slimiest, slipperiest passage I've ever encountered. Often I found my progress going the wrong way because of the nature of this slime. I called it slud. Coming out of the slimey slud we stooped thru another thousand feet or so through a sinuous Phreatic formed tube. After just a little over 8 hours, we were finally at our destination. One by one we slid down a mud bank into the upstream-downstream intersection of the Logsdon River.

Ron got out "The Beach", a 10'x 10' piece of plastic, and we began to set up. Now you would have to have been there to fully appreciate the washdown that was to occur. Like an assembly line, Roberta, Cady, and Ben washed every piece of gear that we were to use on the dive with a small brush; while Ron and I prepared our heap on the beach. One hour later we were on our way with a plan to return in one hour of diving time, or in four hours if we successfully found airspace.

Saying our farewells, Ron and I submerged into the upstream sump wearing sidemount rigs. Later we both recalled the strange, almost bizarre feeling of cave diving in this remote part of the cave with 4' visibility. I bounced off different walls trying to lay the line with bulky gloves wondering where this submerged cave was to take us. Three hundred feet later, we were at a point where we could remove our regulators and swim on our backs. At 730' beyond our entry point, we climbed out of the water, tied off the line, and dumped our cumbersome gear. As if we were on a motor drive, Ron and I performed a switch-over not often done by explorers in which dive gear was separated from the essentials for continued passage and surveying. Briefly we planned out our goals and objectives and then we were on our way. We surveyed on our way in, taking note of the various small leads while following the main trunk. The hours passed as we surveyed station after station. Many stations later, thru mostly river passage, we reached a terminal sump much larger and more well defined than in our earlier dive. This sump was set in the corner of a large breakdown room with a small stream pouring out of the corner of the sump.

At one point just prior to the sump, Ron and I were standing near each other and looked up at each other simultaneously with puzzled looks on our faces. We both heard voices! But it couldn't be! Ron said, "It's Roberta's voice!" We yelled but no reply. Two or three times we heard the voice of Roberta. We knew at this point that it was time to begin our long passage out. We took time to take 24 pictures of this unique "virgin" passage before returning to our gear.

On the way out we passed what had to be the contributing factor to hearing voices. There was a small ceiling lead dripping water. We laughed a little and then headed on. Four and 1/2 hours after leaving, we reached the Beach.

Upon surfacing I felt as if I had passed through a time window, now back in the present tense. An anxious crew bubbled with questions of our finds. I immediately blurted out survey data I could not record because I had lost my slate, then told them of our finds. Wasting little time, Ron and I once more transformed ourselves from cave divers to cavers before beginning our exit.

Then it was time to pack. Yes, once again it was time to recreate that abominable creature, the Spider, that Cady couldn't seem to escape. Out of empty custom cave gear pack grew the dreaded Butterball, and Ben, now near delirium, began to once again mumble "Oh dear Sweetie"! It took me a little while before I realized that Dave Weller was no longer with us, and then I was informed the bad news. Weller had to exit the cave, and it appeared that Dave Black was a "no show". He was to help sherpa on the exit trip.

We discussed back and forth whether to leave gear or not. It was decided to see how far we could forward the mass before partial abandonment. It was at this point that the strength and determination and spirit of the team became obvious. For thousands of feet all 5 team members carried 3 to 4 packs each. Roberta now had the cylinder that Weller had carried in plus all of her gear, and one of Ron's packs! Retracing our path, we were soon nearing Arley Way. Upon exiting the Cumquat Causeway we were greeted by a glorious sight. Dave Black and my wife Terri had just arrived from a second trip into the cave. It seems that they were on their way in when they met Weller on the way out. He informed them that we would want more food and water; so after gathering supplies they returned to meet us.

Our spirits picked up considerably after a meal, and we began our long exit for the entrance. The trip was fairly uneventful for a while until Ron decided to dance the I.B.S. twostep, then proceeded to quick ditch his wet suit to the girl's delight.

Later we decided to split up to see if we could get lost. We were successful within about 15 minutes. Now lost, the famous Roppel "Babble" started up, with everyone pointing a different way to go. Confident that I had been lost here before, I proceeded to push Butterball and myself thru a small crawl. At this point the surprised Butterball said to me, "Thump tump rump pomp thud". That is the best that I can do to recreate the sound I heard as Butterball proceeded to fall 60' down Pirate's Pot. That was a hole in the floor just beyond the crawl that I was in. From the crew behind came; "What was that?" To which I replied, "Gee, Ron, hope you didn't need anything in that pack!" Luckily for me Roberta just happened to be on a lower level and was able to recover the pack.

The rest of the trip consisted of three races that Cady and I battled for last place in, while Roberta and Ron raced for the entrance. Dave Black quickly regained his respect among the team by carrying more than his load of gear out of the cave.

On Monday, October 8th at 9:00 am, 21 hours after the start of our journey, we exited the Weller Entrance of the Roppel Cave System.

Our very memorable trip ended for a few of us at Jerry's Restaurant, while we took turns falling asleep in our breakfast. Ron Simmons had more class than that. He waited until he got his bill, then he crashed. I laughed, then asked the rest of the crew: "WHEN ARE WE GOING TO DO IT AGAIN ?!?!?!?

Diving in Winter Park's Backyard

By Jack Evans

Our watches sync'd, Cathy slid her car to a stop with the engine off. Bill Brownvold and I stepped quietly out and removed our gear from the trunk of the car. We eased over the barrier and very carefully made our way downhill. It is 2247 hours and we have until 0300 to complete our dive.

Once into the water, we immediately felt relief from the summer heat. We swam our gear to the entrance and briefed each other on our plan. Bill pushed his gear through first and turned his main on to illuminate the staging area, while I tied off our line to a rock at the entrance. Then I followed him into this staging area which is about 12 feet deep by 30 feet long, and 20 feet wide by 7 feet high. Visibility is good with a mild current flowing outward. Our tanks and gear fitted, we head thru a small opening and into a larger tunnel leading downward.

Fifty feet in we find a chimney leading upward for about 20 feet before it deadends in a dome about 7 feet in diameter. Dropping back down from the chimney, we continue down the main shaft where it comes to a three way junction. You may continue slightly to the left and follow the shaft downward at a 30o angle where depth begins to increase dramatically. Here at the junction the depth is 37 feet. To your right is another tunnel with a limestone figure centered on the floor about 25 feet into it. To your extreme left is a third tunnel which is somewhat restrictive, but looks promising for exploration.

Our bottom time has been 22 minutes from the surface, and we both have 1850 psi left in our tanks. It's time to head back out. In the staging room we remove our gear, push thru the entrance and swim to the surface. In good spirits and looking forward to our next dive here, we meet Cathy back at the road. She shares our excitement as we relate our experiences to her. Someday in the future she will dive with us, after she has received the proper training necessary.

There are a few things to know about this dive. It is suggested you gear up lightly as double 100's would only prove to be prohibitive. Any longer penetration can only be made by staging. Care must be used at the entrance and staging room with your regulators, as gravel will clog your second stages if you let them drag on the floor.

The entrance itself is a restriction (about 3 feet high by 5 feet wide) and you'll need to push your gear in ahead of you. Also, there are some rock overhangs, so be careful with your lights and cameras.

I welcome inquiries toward making this dive, but I will not publish directions as I feel this is a highly sophisticated dive.

Meanwhile, other breakthroughs have been made locally here in Winter Park. Namely a crevice on the bottom of Lake Maitland, leading directly into the aquifer. Visibility is about 3-5 feet until you reach the crevice at 28 feet, and then it is like looking through a glass window. Current is awesome to say the least, so this remains unexplored to date.

One sight we did find to have good possibilities is a feeder head spring pond about 700 feet in circumference with a railroad engine and pullman lying at a depth of 40 feet. This pond feeds the Winter Park chain of lakes and sits next to some railroad tracks from which the train derailed and slid into it sometime ago. Only one dive has been made here, but it looks promising.

Well that's it for now folks. Hope this motivates some of you to do some backyard exploring of your own. If interested in diving in the Winter Park area, let me know.

CDS INSTRUCTOR INSTITUTE

The weekend of November 17-18, 1984, the training committee of the Cave Diving Section held an instructor's institute. Candidates attending were Lamar Hires, Milledge Murphy, and Basic Cave Diving Instructor Peter Jubb. Observers from the NSS parent organization included Cady Soukup and Roberta Swicegood. Both ladies had been dispatched from Maryland and Virginia respectively to learn more about the Section's activities.

Lamar is well known throughout the cave diving community for his explorations throughout Florida and other southeastern states. He is a NAUI Scuba Instructor and currently works as a sales representative for Dive-Rite Manufacturing, Lake City.

Pete Jubb is upgrading his existing Basic Cave Diving Instructor rating to Cave Diving Instructor. Pete is a recipient of the Abe Davis Safe Cave Diving Award and owns the Sunshine Scuba facility in Largo, Fl.

Milledge Murphy is a professor at the University of Florida. He is to be one of the speakers at the winter workshop. Milledge is a NAUI and YMCA Cave Diving Instructor.

All three candidates successfully completed the institute and were certified as NSS/CDS Cave Diving Instructors. Congratulations are due them, and we are confident they will be excellent representatives for the NSS.

Evaluators at the Institute included Jeff Bozanic, M.E. Eckhoff, Mark Leonard, and Joe Prosser. Institute director was Wes Skiles. 1985 institute dates include Memorial Day weekend and December 30-31. For more information contact Wes Skiles.

THOUGHTS ON AGENCY COOPERATION

By Ron Menke, NACD Training Director
YMCA Cave & Cavern Chairman

Why doesn't the hair ruffle on our back when we meet or confront other NAUI and YMCA instructors? Why does it seem that when the NACD and NSS people (only a few) get together the hair raises on some backs. Well it is easy to see once you get most of the people together. In the first place, most of the NACD and NSS members get along just fine. My second observation is that it is only a very few old time folks that still hold some grudges and are going to do their best to squash what and whoever they can. Those people are very few, and after seeing the NACD and NSS together in a recent NACD/NAUI workshop it is just about as obvious as the nose on your face.

One other observation is that it seems to be the old-time divers who are the only ones who even try to stir this pot of smut. I was fortunate to be able to meet several of the NSS and also NAUI people at the workshop... I have seen many of these same people at Steamboats and Nells or the Branford Dive Center. Now comes the sad part--as many times as I have seen these same people, neither myself nor the other has bothered to approach one another and say, "Hi, my name is Ron and I wanted to know who you are and what is going on." It would be nice if we could just be a little more friendly and get to know one another better.

Well folks, I am going to try and start this ball rolling and see who are friends and who wants to be the "nerds." Why don't we see if the NSS and NACD folks can really get it together and compliment each other's organization?

It is not only past time this happened, but the way we are going, it will only be a short time until the two organizations fall flat on their faces. Can you imagine what will happen if the YMCA and NAUI wash their hands of cave and cavern training? No other agency will train cave or cavern divers. There will be only the two groups who train cave divers. These two groups would be at each other's throats all the time. No one can say anything nice about anyone else. Everyone would spend more time and effort running others down, and it would take time that should be spent on training.

Come on folks, bury the axe, get off that grumpy snarling wagon and join in to make the cave and cavern divers the most united and best trained group ever! Be friendly, trade ideas, share information. Let us benefit and not BS. We do not need that.

CAVERN INSTRUCTOR

By Ron Menke

Why does a cavern instructor need to have a cave class behind him before he attempts a cavern course? This question has often been asked. As Training Director for NACD and the YMCA Cave and Cavern Chairman, I have given this comment much thought. I have run a cavern instructor's course already for the YMCA and had good results. I have given this area a lot of thought and have decided that there really is a need for an advanced cavern diver certification. This would be someone who had a cavern course and then did some more short penetrations (4 to 6) on a single tank with a Y valve and proper backups to see what the beginning cave systems are like.

As Chairman of the Y program, I will be doing another cavern instrucotr course and this time with more lectures and dives. The first course had about 8 hours of lecture and 8 dives. This next one will include up to 10-12 dives with the same number of lecture hours.

If you are a YMCA Instructor and wish to become a cavern instructor or a cave diver or cavern diver who wishes to get the cavern instructor rating write to me for more information. Ron Menke, 2300 Dawnwood Dr. Orlando, Fl. 32809 (305) 851-5928.

CAVES OF COZUMEL

By Jeffrey Bozanic

RING!... RING!..."Damn, its 3:30 in the morning!...Hello?"

"Hi Jeff--its Deb!" What's my sister doing calling me at this hour, I wonder. "I'm flying out to Cozumel from Los Angeles in four days. Why don't you meet me there?"

Cozumel is a small island (31 km by 14 km) located off the eastern coast of Mexico, just south of the Yucatan Peninsula. It is a part of the stae of Quintana Roo, which also includes the island of Cancun. Needless to say, four days later I was winging my way from Miami on the 70 minute flight for some open water diving.

The open water diving there is nice, especially on the deeper (60' to 100') reefs. I felt the shallower reefs were bleak, and not especially worth the boat trip. There is also some shore diving at Chankanaab Park, located south of the major city of Cozumel. It was at Chankanaab that I found three caves, all located at the shoreline in about 5 feet of water.

The first cave is located about 150 feet north of 2 sunken spanish cannon, and at first glance looks like the ironshore which rings the island in this area has been undercut by waves. However , after poking your head under the ledge it opens up to a passage about four feet high and 10-20 feet wide. Just inside this opening about 25 feet is an old 1/8 inch diameter polypropelene line. Following this line leads to a large section of burlap material which stretches across the cave closing it off. As one area of the bag had pulled away from the ceiling, I wormed my way through and picked up the line again on the other side. (Feeling a little like James Bond on some spy mission the whole time!) The line then leads to an inland lagoon, also part of the park. The lagoon is posted no swimming or diving, so I deemed it inadvisable to remain in the vicinity very long. Following the line back out, I saw several large (10-15 pound) lobsters. Apparently the purpose of the burlap is to trap marine life within the lagoon. Total traverse distance is about 150 feet.

The second cave is located about 100 feet south of the two cannon mentioned previously. The entrance looks very similar, but once inside the passage is much wider (30-40 feet) and higher (5-8 feet). As I had only 100 feet of line, I did not get to see much of this cave. There was no old line in this cave at all, and to all appearances it looked as it would go much further.

The third cave I found by surfacing from an open water dive in 30 feet of water offshore from Chankanaab. In the last foot of water I passed through a halocline into brackish water. I followed this water back to the source, a cave located right at the southern boundary of Chankanaab Park.

The brackish water is about 3-8 degrees colder than the ocean water, and slightly tannic. The yellow tannic color made it quite easy to trace. There were several small springs also observed along the park shoreline, distinct because of the yellow outflow. At this southernmost cave, the outflow current was on the order of 5-10 feet per minute.

This third cave was also the most interesting of the three. About 50 feet inside one of the two large entrances was another old 1/8 inch line. This line was about 500 feet long, and ended in a tangled mess around a wooden dowel, which apparently had been used as a reel. This line was obviously not laid by a trained cave diver! Passages ranged from 3 to 18 feet high and 4 to 15 feet wide. Deepest depth seen was 20 feet. About 200 feet from the entrance was a junction. The right line led to a small air bell, about 1-1/2 feet in diameter and 3 feet high. It is interesting to speculate that since the land surface is only about four to six feet above sea level, that there would only be about one to three feet of rock and dirt above you at this point to make another surface opening to the cave system.

The left line followed the main passage. At the point where the old line ended, I laid about another 100 feet of line. Just as I ran out of line, I saw light. This was coming from a hole to the surface three feet in diameter. There were several planks over this hole, as if people were trying to close it off somewhat to prevent accidental falls into the water. Although it was large enough to crawl out of, the mosquito population above the hole was such that I decided discretion was the better part of valor, and stayed in the water. (Besides, I already gave blood once this month ...) The main passage continued beyond this hole, and showed no immediate signs of ending. I also passed several leads off to the sides of the main line which looked like interesting possibilities for further exploration.

All of the caves were solution caves in limestone, apparently formed by the mixing of fresh and salt waters. The bottoms were all a fine, rust-colored silt. Visibility varied depending on which water layer you were in, from 2 feet to 50 feet.

Marine life was fairly abundant in all of the caves. Observed were encrusting spoonges and hydroids, lobster, grunts, parrotfish, big eye, tarpon, shrimp, and many species of small (less than 1/4 inch long) animals. As in the marine caves of Grand Bahama Island, the sponges extended from the opening as far as I penetrated, the fish were seen primarily near the entrances, and the smaller shrimp and creatures in the naturally lightless zones of the caves.

There was one final cave I looked at, but did not have the time to dive. It was located in an inland cenote, or sinkhole, about 1/4-mile from the El Presidente Hotel. There is a dirt road that runs right alonside it, so access is quite convenient. Nobody I talked to knows where it goes for certain, but it is rumored to run to the ocean in one direction.

In summary, I think that Cozumel offers an opportunity for some interesting exploration, and would personally like to get back down there sometime soon in order to do so. If anyone would like more information on the caves, travel, or other aspects of diving in Cozumel, please feel free to call me at either (305) 576-4600 x251 days or 361-8059 evenings.

SIGN PROJECT

By Joe Prosser

During the spring workshop session of 1984, as the flood waters of the Suwanee River began to subside, safety coordinator Mark Leonard decided that it was time to replace missing warning sins in North Florida's more popular dive locations. As a frequent freeloader to the Leonard hospitality, I was "volunteered"to aid in this project.

One of our first barriers to overcome was replacement of the sign carrier lost also during recent floods. We really had only two choices: rebuild the carrier or find a new method of installation. As an avoider of hard work, I opted for the second choice and Mark agreed to give it a try. A research of all available literature and discussion with many other cave divers failed to yield a suitable alternative. By August we were resigned to the fate of contructing a new carrier. However, I did come across an article mentioning the use of a pin fastener in the underwater repair of a damaged pier. We use a similar device in the service departments of my company, so why not take advantage of available tools?

A pin fastener resembles (somewhat) a 17th century percussion pistol. This "gun" operates by firing a blank cartridge. Cartridges are available with multiple power capacities. When the cartridge is fired, the expanding gases will push a pin down the barrel, and then drive in into concrete. When properly installed, manufacturers of this type of tool claim that the pins will generate holding power up to 6000 pounds. With this tool, our signs may never come out again.

Our company uses a .22 caliber version, the Ramset model 2032. The local distributor advised that the gun was light duty for our job, but capable. In addition, Ramset had an operator's manual with a section on underwater use. Basically we learned that underwater use required very heavy charges with small anchor pins and that it would either bounce a pin off the wall or provide a new cave entrance. All of the recommended safety equipment for underwater use is on most base guns. This included a shield and alignment rod. If the gun were not in perfect firing position it would not fire.

On Saturday, September 22, 1984, believing we were equipped for any problem, Mark and I headed for the main cavern at Peacock Springs. Allowing over two hours to set up our expedition and loudly proclaiming our intention of possibly forming a new entrance cleared the cavern of all divers.

Mark carried the signs (one for the Waterhole passage and one for the "slit"). He assigned me the task of carrying the miscellaneous items. The "miscellaneous" consisted of the gun, cartridges, pins, wrenches, hammers, chisels, screwdrivers, chain, bolt cutters, line, etc. To compensate for this added weight, I filled both my dry suit and BC to the max. Upon entering the water I promptly went straight to the bottom so fast that I barely had time to clear my ears. Mark selected a suitable location while I struggled to catch up. Wishing to be thorough in our installation procedure, we decided that now was an excellent opportunity to test the theory. That is, would our gun work?

Selecting an out of the way spot, I loaded the gun with a short cartridge (purple load) and medium pin (2" length). The gun worked beautifully. However, the pin would only bounce off the rock, barely scratching the surface. Not to worry! We reloaded and tried various combinations of pins and loads. None were successful in holding, but we did learn several valuable lessons. One, the solution process which originally formed the cave is indeed an ongoing process. Depending upon the location selected, our pins either disappeared completely in the rock or bounced off. Two, the combination of my swim in and the silt created by firing the gun reduced visibility to inches during the 45 minute dive. We were glad that no other divers were in the cavern. Our exit was not helped at all by the complete loss of visibility. Other than the line and a slight current, we had almost no idea where the entrance might be.

After this time consuming experiment, we decided that in the future we would test the gun first, use a larger load to start with, and never again would I be talked into carrying the miscellaneous items. After the dive, cleanup of the gun was no easy task. It required complete disassembly to remove sand

and dry the parts before returning it to more traditional uses. Although Mother Nature had won this round, we were not defeated.

Returning the following weekend, we were equipped with three items not used in our earlier dive. Robert Whitmore was volunteered to assist. He carried the miscellaneous items (Yuk! Yuk!). The ramset gun had larger loads. To back all of this up, I obtained an air operated drill. The three of us entered Peacock with a 100 cu. ft. bottle to drive the drill. (I volunteered Mark to carry the bottle and the sign.) Robert carried tools and I followed with the gun and some small service supplies. (I do learn from my experiences!)

On dry land my largest load (a grey long cartridge) was sufficiently powerful to set a small eyelet type pin. This was a major success. Larger threaded pins would not anchor on dry land so were left out of the project. Unfortunately, the gun still could not set a pin underwater, but it came very close. Next time a .22 caliber pin gun is considered for use underwater, use only the maximum charge provided by a "brown long" cartridge and the small eyelet type pins.

The air operated drill was fantastic. Combined with a concrete style bit, it quickly and easily sets in the rock wall. At Peacock we used 5/16" lag bolts 3-1/2" in length. Long lead shields were inserted, and the lag bolts simply screw into the shield. As the shield expands, the placement is set. We added several lengths of #1/0 interlocking chain (to prevent separating of the chain) between the sign and the lags. Clamps hold the chain onto the sign and discourage vandalism. It is recommended that if lag shields are utilized, is is with a slightly smaller diameter drill bit. In our case, the normal bit size is 1/2" x 3" in length. The soft limestone does expand somewhat so a 7/16" x 3" bit will be necessary for better control of the lag. The air drill is easily adapted to the first stage of a regulator and uses surprisingly little air. The nature of an air drill makes cleanup very easy. We dried the gun and sprayed it with silicone. It was back at work Monday morning with no ill effects.

As this article was being prepared, I have learned of another anchoring device. It is referred to as a "red head" (No, not the sweet young thing spotted in Branford last week." This is an expandable bolt. We used 3/8" bolts at Little River and location was so easy that holes existing in the signs were used as templetes for drilling. Once a hole was drilled one only had to tap the bolt to cause one end to expand. This expansion sets the bolt very securely even in high flow springs. A regular nut and washer secures the sign to the bolt. Scoring the threads with a chisel after placement virtually eliminates vandalism as the sign cannot be removed with regular tools.

Currently, signs have been placed in Peacock (2), Orange Grove Sink, and Little River. There are nine signs left. Location of the signs was compromised by a desire to maintain high visibility. Placement of any signs detracts from natural beauty of the caverns. To some it may appear that no thought was given to this important aspect. I wish to assure all members of the NSS/CDS that much discussion was undertaken prior to installation of any sign. Please keep this in mind as you tour the locations mentioned. In certain instances, less desirable spots were chosen only because the rock would support signs.

This article was prepared with one goal in mind. That was to provide a source to aid future sign projects to their successful completion. Others have done at least as good a job as we did, however, lack of documentation forces each new team to reinvent the wheel. Hopefully, this can be minimized in the future. Lastly, some basic safety tips are included to prevent possible throuble developing. These are: (1) All divers should be cave diver certified even though work is done mostly in caverns. Potential silt-outs and heavy task loading is no place for an untrained individual; (2) Clean the area of all unnecessary divers (See item#1); (3) All divers should use dry suits as wet-suited individuals will quickly chill and hypothermia is very possible. (We average one hour per sign.); (4) Use all tools underwater with extreme caution, and be thoroughly familiar with their use on dry land; (5) Read and follow all safety quidelines for use of tools underwater; (6) Never attach items to the cave roof as rockfalls are possible.

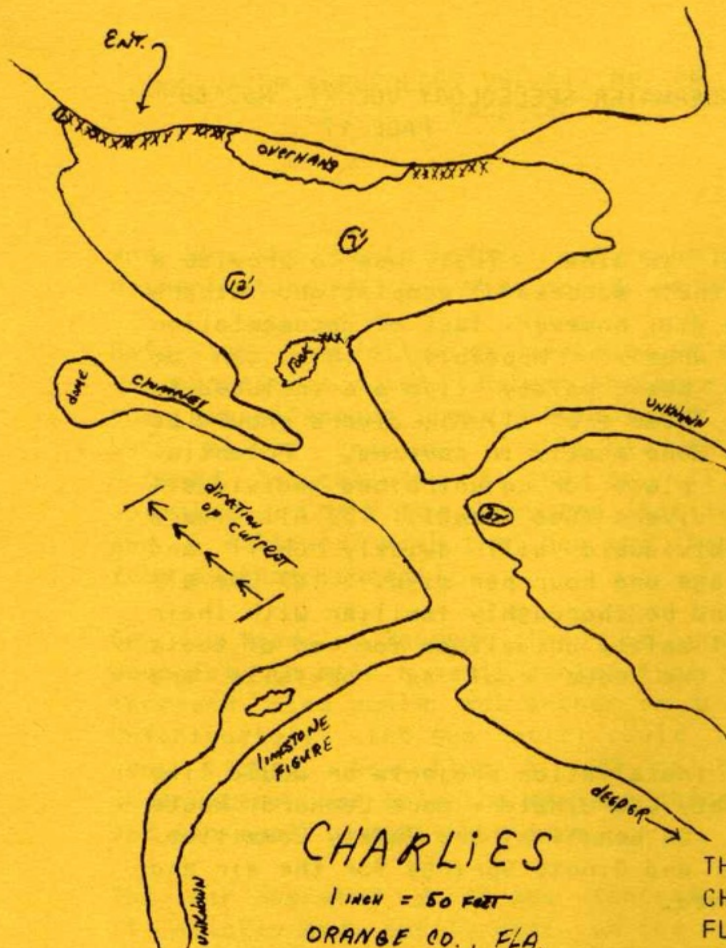
If you wish to learn more about the sign installation projects or would like to help, please contact the NSS/CDS Safety Coordinator, Mark Leonard, Route 14 Box 136, Lake City, Florida 32056. On behalf of the Safety Committee, many thanks go to Branford Dive Center and Ginnie Springs for the air and other aid provided in the projects mentioned.

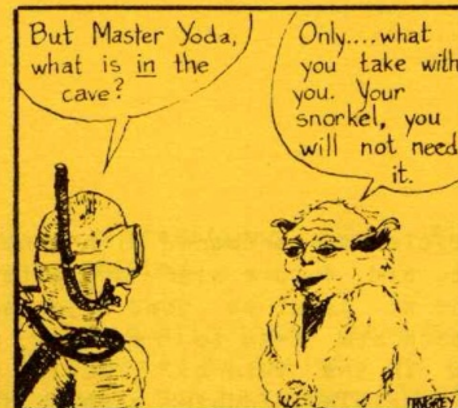
NACD CAVERN DIVING WORKSHOP

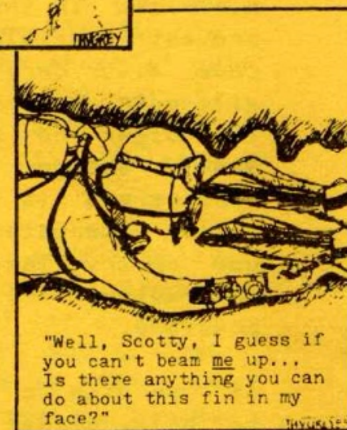
The National Association for Cave Diving (NACD) proudly presents for the sport diving community the third Cave & Cavern Diving orientation course for scuba instructors, assistant instructors and divemasters. The workshop, entitled "A NEED FOR BETTER UNDERSTANDING" will take place on Saturday, March 30th at Manatee Springs State Park, near Chiefland, Fl. Manatee Springs is one of the longest submerged cave systems in the United States and is very popular with non-cave divers. On Sunday, March 31st, the workshop will move to Ginnie Springs, located in the heart of Florida's spring country on the Santa Fe river. The workshop will end at 5 PM on Sunday, March 31st.

Participation is open to any certified scuba instructor, assistant instructor, or divemaster of a nationally recognized training agency. Pre-registration is required. The workshop fee is $45.00 for those registering by March 15th, and $60.00 thereafter. Registration includes NACD Cavern Diver certification for those participating in that portion of the program but does not include camping fees, airfills, or entrance to the State park. However, it will include diving fee at Ginnie Springs valued at $10.00

For registration or more information contact: NACD General Manager, P.O. Box 14492, Gainesville, Fl. 32604 or call Workshop Coordinator - Steve Gerrard at (904) 656-1223.







THIS SKETCH DRAWING REPRESENTS CHARLIE'S SPRING IN WINTER PARK, FLA. DISCUSSED IN AN ARTICLE BY JACK EVANS INSIDE THIS ISSUE.

NSS CAVE DIVING SECTION
C/O Sandy Fehring
3508 Hollow Oak Pl.
Brandon, FL 33511

BULK RATE
U.S. POSTAGE
PAID
PERMIT NO. 30
SEFFNER, FLORIDA

52 85/05/15
GUY E BRYANT
ROUTE 2,BOX 163
LAKE PARK GA 31636