



# underwater speleology

OFFICIAL NEWSLETTER OF THE CAVE DIVING SECTION OF THE NATIONAL  
SPELEOLOGICAL SOCIETY ©1977 by the Cave Diving Section vol 7, no 1

# UNDERWATER SPELEOLOGY

*Published Bi-monthly  
Beginning in February*

*By*

**The Cave Diving Section of  
The National Speleological Society**

Membership in the NSS Cave Diving Section is open to any NSS member in good standing who is interested in cave diving and has paid the dues (\$3.00 for 1980). Persons not wishing to join may subscribe for \$5.00 per year. Checks should be made payable to "NSS Cave Diving Section" and sent to Stephen Maegerlein, P.O. Box 60, Williams, IN 47470.

Deadline is the second Friday of the preceding month. Send articles and correspondence to the Editor, Gene Melton, P.O. Box 2353, Titusville, FL 32780.

*Opinions expressed herein are not necessarily those of the NSS Cave Diving Section.*

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## COVER

The photo of Section divers placing a safety warning sign is an appropriate way to start the '80's. Bill Fehring took the photo in Devil's Eye Cave, FL.

## EDITORIAL

This is the beginning of a new decade in the realm of Underwater Speleology. In the last ten years equipment, techniques, philosophy, and attitudes have gone through a tremendous evolution. This issue starts us forward by presenting the material from the two new pamphlets (the safety brochure is revised); equipment manufacturers and dealers, for the availability of the experienced, to help inform the inexperienced. Please order copies of the pamphlets to provide to your local shops and classes. Let us continue the development of Underwater Speleology.

## CALENDAR

Jul 19 "DRY THING" see page 17.

Jul 26 - Aug 2 1980 NSS Convention,  
Lakewood Community College, White Bear  
Lake, Minn.

Jul 31 Cave Diving Session at the  
Convention

Dec, 1980 CDS Workshop, Branford,  
Fla.

Jul 18 - 24, 1981 8th International  
Congress of Speleology, Bowling Green,  
Ky.

## Training for Save Cave Diving

Are You Planning a Cave Dive but you are ...

- 1) A non-certified diver ... newly certified ... experienced SCUBA diver, or an instructor;
- 2) Untrained in cavern diving but interested;
- 3) Making one of your initial cave dives;
- 4) Not using two underwater lights, a guideline, a submersible pressure gauge, or an additional second stage?

If your answer is yes to any of these, then you are typical of most cave diving accident victims. Since 1960, more than 180 divers fitting the above description have died in cave diving accidents in Florida. While this number is less than the number of drownings in bathtubs and wash basins in Florida alone, and only a small fraction of the estimated 150,000 divers who frequent the thousands of clear sinkholes and springs found in Florida, this number is far too high ... particularly since the means to cave dive safely are available.

### THE CAVE ENVIRONMENT

No amount of previous open water experience can adequately prepare you for cave diving. Regardless of their previous open water experience, most cave diving victims were untrained in cave diving procedures, inadequately equipped for the planned dive, and/or making one of their initial cave dives. Many were extremely experienced in other types of diving, and no less than 15 were certified SCUBA instructors but who had had no cave diving training.

Why did these divers drown? The answer lies in part with their ignorance of the unique hazards found in caves, and their failure to recognize and deal with these hazards adequately.

For example, when cave diving, the ceiling restricts direct access to the surface, making you more dependent upon your equipment and its proper function. Should an emergency such as air failure occur, you must exit the way you came in -- out and then up. Yet many divers, unaware of this possibility, fail to plan for such an emergency.

Many divers rely on their dive light and memory of the cave to navigate the cave's maze-like passageways. Should their dive light fail (probably the most common cause of cave drownings) or their swimming technique stir up silt, reducing visibility to near zero, there are only two things which will help them exit safely . . . having practiced emergency procedures (reducing the panic factor) and the safety guideline connected with the surface.

### CAVE DIVING SAFETY

Yet despite these hazards, thousands of cave dives are made each year in complete safety by those who have learned to cave dive properly. In its first year, more than 110 Abe Davis Safety Awards, named in honor of an

American cave diving pioneer, have been awarded by the NSS Cave Diving Section to divers completing and logging 100 safe cave dives.

For these trained cave divers, the day's conventionality is put behind as they move through gin-clear, 72 degree water, enjoying scenic vistas and the quiet beauty of the huge cathedral-like rooms safely. They are divers much like you, differing only in that they have learned about the quiet, strange and beautiful environment of the underwater cave. As a result, they have acquired the necessary training and safety equipment, and on every dive rigorously follow a set of proven safety procedures developed over many years by experienced cave divers.

#### Three Basic Guidelines

- 1.) Always reserve 2/3 of your air for the exit.
- 2.) Always run a single, continuous guideline from the cave entrance.
- 3.) Avoid deep diving in caves.

#### ALWAYS DIVE WITH A BUDDY

. . . and get the proper training. It will make your diving more enjoyable and measurably safer.

TO JOIN NSS:  
National Speleological Society  
Cave Avenue  
Huntsville, AL 35810

TO JOIN THE CAVE DIVING SECTION:  
(NSS membership required)  
Or Underwater Speleology subscription:  
Treasurer -- Cave Diving Section  
P.O. Box 60  
Williams, IN 47470

FOR INSTRUCTION:  
(Cavern/Basic Cave/Cave/Instructor)  
Training Chairman -- Cave Diving Section  
2832 Concord Dr., Decatur, GA 30033

#### CAVE DIVING TRAINING

The best way to become a safe cave diver is to first become a certified SCUBA diver and to accumulate a sufficient amount of open water diving experience to fully develop your diving skills. An excellent way to do this is to take an advanced diving training. The majority of cave diving victims have made fewer than five cave dives. Cave diving can be considered purely an equipment sport only under ideal conditions. Be trained for the not-so-ideal conditions.

The Cave Diving Section of the National Speleological Society has developed the following courses designed to provide you with the knowledge and skills necessary to begin to cave or cavern dive safely.



## CAVE DIVING SAFETY

Presented By  
The Cave Diving Section  
of the  
National Speleological Society

**CAVERN DIVING COURSE** -- Many of the most interesting features of the cave can be found within the cavern, that area of the cave which receives surface light. Objective of the course is to introduce the student to the cave environment under the supervision of an experienced cave diving instructor. Lasting a single weekend, the course includes lectures on diving philosophy, the cavern environment, practice of safety procedures, and three cavern diving sessions. Upon satisfactorily completing the course, the student is awarded a cavern diver card by the NSS Cave Diving Section.

The Cavern Diver course is the first step in the four week-end-long cave diving instruction programs offered by the Section. From the time of completion of the cavern course, the student has two years to complete the full cave diving course, if he so desires. This time allotment is to allow divers living some distance from the springs to more easily obtain training.

**CAVE DIVING COURSE** -- For those cavern divers who wish to more fully develop their diving skills, the Section offers a full cave diving course. It is divided into two modules -- Basic Cave Diving and Cave Diving. The basic course lasts one weekend and emphasizes those skills necessary to dive that portion of a cave accessible on a single-tank air supply, including line laying, swim technique, buddy-manship, emergency procedures and decompression. The Cave Diving course lasts two weekends and provides the student with a variety of cave diving experience under many different conditions upon which the student can build safe diving habits.

**OTHER COURSES** -- Additionally, other organizations such as PADI, NAUI, YMCA and NACD offer instruction in cave and/or cavern diving. Contact the above organizations for further information on their courses.

## EQUIPMENT FOR CAVE OR CAVERN DIVING

The following equipment is THE MINIMUM necessary for safe cave diving. Unless you have each of the following items in good working order and are thoroughly familiar with their use, you cannot begin to cavern/cave dive safely.

### Cavern Diving Equipment (Each Diver)

- 1.) Mask, fins, wet suit
- 2.) Single 72 cu. ft. cylinder or larger, filled at least to 1500 psig
- 3.) Single hose regulator equipped with an additional second stage and a submersible pressure gauge
- 4.) Two dependable underwater lights
- 5.) Front or back mounted buoyancy compensating device with an automatic inflator
- 6.) Dive knife, slate and pencil

### Cavern Diving Equipment (Each Team)

- 7.) Watch depth gauge, and diving tables
- 8.) Nylon guideline, 3/32 to 1/8 inch, on reel

For cave diving, beyond basic cave diving, each diver needs the following additional equipment.

- 9.) Dual tanks with dual valve manifold (crossover bar or dual single tanks are not acceptable)
- 10.) Dual single hose regulators (one for each tank valve), one with a submersible pressure gauge, the other with automatic inflator
- 11.) Watch, depth gauge(s), dive tables and slate and pencil
- 12.) Forearm knife and line clips
- 13.) A third underwater light (one of the three must be as bright as a 30 watt light or brighter and have a burn-time of at least 50 minutes)
- 14.) Compass and cave map.

## SAFETY PROCEDURES FOR CAVE DIVING

An analysis of Florida cave diving accidents has shown that at least one of the following three safety procedures was ignored in every incident:

1.) Always reserve 2/3 of your starting air supply for the trip out of the cave. This additional air will permit air-time for you to handle emergencies. This rule applies best to teams utilizing similar tank configurations and air pressure. Do not begin a dive with less than 1500 psig and monitor your submersible pressure gauge constantly.

2.) Always run a single, continuous guideline from the cave entrance throughout the dive. Secure the line first in open water and again within the cave entrance to prevent its removal by swimmers or open water divers.

3.) Avoid deep diving in caves. The average depth for fatal dives in which the first two procedures were followed was greater than 150 feet. Confine your cave dives to depths less than 130 feet, and cavern dives to 60 feet.

Most cave diving accidents are the cumulative result of several safety violations in addition to those listed above. Therefore, the following safety procedures should be rigorously observed on all cave dives.

4.) Become proficient in emergency procedures by practicing them in open water prior to the dive. Practice buddy breathing with each new team member, and before the first dive of the day with each buddy. Practice other emergency procedures regularly. This offers both physical and psychological advantages.

5) Avoid panic by knowing and observing your own limitations and by building up experience slowly. Never depend on another diver's ability to carry you through the dive. Practice self-rescue regularly. The dive must not exceed the limitations of the least experienced diver.

6) Avoid silt by using your buoyancy compensating device to stay near the cave's ceiling. Check behind yourself frequently to insure silt is not being stirred up.

7) Stay within arm's reach of the guideline and maintain visual contact with it at all times. If visibility is poor, maintain hand contact, but do not pull on it.

8) Avoid passageways you cannot turn around in easily.

9) Stay near your buddy at all times, and watch for his signals. Should difficulties develop, notify your buddy immediately and exit the cave together.

10) Remember, anyone can cancel the dive at any time, for any reason. All divers must head back out together.

Your safety depends in large on the good judgement you use in planning the dive and following the above safety procedures. If you observe your limitations, plan the dive within these boundaries, and follow these safety procedures, you can enjoy a safe and productive dive. To ignore these procedures is to risk your life unnecessarily and your buddy's.

#### CAVE CONSERVATION

You can choose between risking your life and cave diving safely, but the cave has no choice -- it's there, and vulnerable to vandalism. Caves have unique scientific, recreational and scenic values which should be preserved for future generations to study and enjoy. NSS members must pledge to do nothing that will deface, mar or otherwise spoil the natural beauty and life forms in caves. As divers are conspicuous features around the springs of Florida, much of the litter there is attributed to them. Even though much of this litter arises from casual visitors and swimmers, NSS recommends that each time you dive, pick up and properly dispose of a few pieces. In this way we can do our part to keep the area beautiful, to continue our welcome at these springs, and hopefully to stimulate others to better conservation habits.

#### CAVE DIVING AND THE NSS

Founded in 1941, the National Speleological Society joins together over 25,000 Americans dedicated to the safe study, exploration and conservation of caves. The first cave diving information ever published was in a 1947 NSS Bulletin. In 1951, NSS divers were responsible for the first cave dives in the U.S. using SCUBA. Prior to 1973, cave diving within NSS was on a purely local level. That year saw the initiation of the NSS Cave Diving Section to provide a vehicle for information exchange. Today, the Section promotes safe cave diving through workshops, cavern and cave diving training programs, warning sign installation, search, rescue and recovery through the National Cave Rescue Commission, cave exploration and mapping and a bimonthly newsletter, Underwater Speleology.

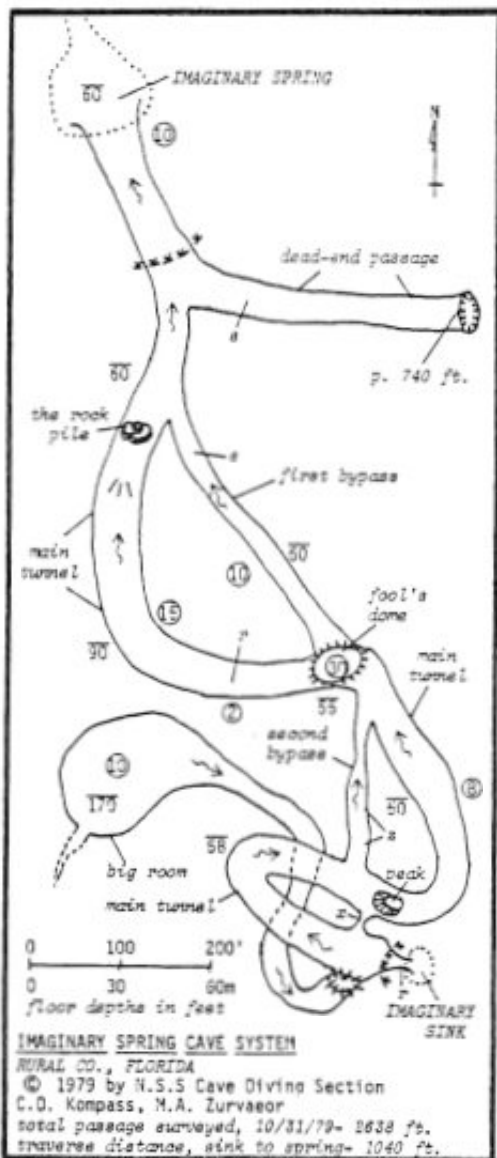
# USING CAVE MAPS FOR SAFETY

by Sheck Exley  
NSS 13146F

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**National Speleological  
Society  
Cave Diving Section**



## USING CAVE MAPS FOR SAFETY

BY SHECK EXLEY (NSS 13146F)

### Why Maps Are Important

It is universally recognized by scientists studying caves that maps are invaluable as the foundation necessary for their research. However, underwater cave maps are also one of the most valuable tools for planning and executing safe cave dives. Prior to 1974 there were virtually no accurate maps of underwater caves in this country, but now - thanks primarily to the efforts of the N.S.S. Cave Diving Section - many maps are now available to help all of our dives to be safer as well as more productive and enjoyable. These maps are generally published in the bi-monthly newsletter of the NSS Cave Diving Section, *Underwater Speleology*, and some are also available in large 18" by 24" blueprint format. *Underwater Speleology* is available by subscription for \$5.00 per year from Treasurer, N.S.S. Cave Diving Section, P.O. Box 60, Williams, IN 47470. Blueprint maps and other publications are available from Publications Committee, N.S.S. Cave Diving Section, 10259 Crystal Springs Rd., Jacksonville, FL 32221.

The purpose of this article is to explain some of the information found on underwater cave maps and to illustrate a few of the many uses of this information in planning and executing safe cave dives.













### Title Block Information

No location is given on the map of "Imaginary Spring Cave System" other than county and state. The N.S.S. is opposed to publishing the exact locations of caves for reasons of conservation and safety. Caves are unique, valuable and delicate resources which can easily be damaged by malicious, careless or misinformed divers or even by large numbers of well-meaning, careful divers. All visitors to caves would observe the famous N.S.S. conservation motto: "Take nothing but pictures... leave nothing but footprints (or bubbles)... kill nothing but time." Also, any underwater cave is potentially dangerous to anyone other than a properly equipped, knowledgeable and experienced cave diver observing proper safety procedures. Making cave locations known to anyone other than a qualified cave diver could result in an accident. By making the maps widely available without location data, we avoid luring ill-prepared persons to underwater caves. Should such persons obtain location data from another source, hopefully the hazards shown on N.S.S. maps will convince them not to dive. If they foolishly dive anyway, at least they can use the maps to plan and execute their dive more safely than if they did not have a map. NOTE: Qualified cave divers may contact the Florida Cave Files, c/o the N.S.S. Cave Diving Section Publications Committee for location data.

The title block of the map also lists the persons and organizations responsible for the map, an important clue to the accuracy of the map since the best data is generally collected by the most experienced surveyors. Since maps are continually being updated as more data is collected, the date of the map is important in making sure that you have the latest and most accurate version. The title block also states whether the floor depths, ceiling heights and penetration distances given are in feet or

meters. The "total distance surveyed" represents the surveyed linear distance of all of the different tunnels in the cave after conversion to the horizontal plane shown by the map. In cave systems with more than one entrance, the "traverse" distance - shortest swimming distance between the designated cave entrances without going through a major restriction - is generally listed. Finally, a bar scale is given to assist the user in ascertaining distances to various parts of the cave.

#### BASIC CAVE MAP SYMBOLS

-  Outline of surface pool
-  limit of daylight at optimum conditions
-  explored but unsurveyed passage  
? indicates unexplored area
-  one cave passage crossing over another  
dashed lines show lower passage
-  direction of normal water flow
-  dome in ceiling
-  pit in floor
-  dome/pit connecting two levels
-  boulders
-  slope; lines splayed downhill
-  ceiling height at that point or maximum ceiling height in adjacent passage
-  floor depth at that point or maximum depth in adjacent passage.

The above map symbols have been approved by the Cartography Working Group of the Union Internationale de Speleologie Cave Diving Commission (the world cave diving organization) as well as the N.S.S. Cave Diving Section. The following special symbols convey additional safety information. Many of the symbols convey information that may vary from time to time as the cave progresses through its hydrologic cycle, and there may be other hazardous areas in the cave that are not shown on the map.

#### SPECIAL CAVE MAP SYMBOLS

- p.740 penetration (one-way swimming distance) to that point from the nearest entrance.
- x "major" restriction (area of cave too narrow for one diver with double 72's to pass through without removing tanks).

- r "minor" restriction (area of cave too narrow for two average-sized divers with double 72's to buddy-breathe through side-by-side).
- s silty (area of cave where only careful, experienced cave divers may go without totally obscuring visibility by stirring up silt). NOTE: Almost any passage may be silted out by improper swim techniques.
- z zero visibility can be expected by even careful experienced cave divers.

#### SOME SPECIAL SAFETY USES OF CAVE MAPS

The following examples of a few of the many ways in which N.S.S. maps can be used in planning and executing safe cave dives refer to the map of "Imaginary Spring Cave System", page 8.

1. Q - Can we make a cavern dive to the limit of daylight in the spring entrance?

A - No. Due to the necessity to retain a theoretical single-breath free ascent capability, the N.S.S. has established a 130 foot limit for linear distance from the water surface. Since the map shows that daylight may extend almost 200 feet from the 50-foot ceiling depth at the entrance, the linear distance to that point is 250 feet+.

2. Q - Can we make a cavern dive in the sink?

A - No. N.S.S. does not recommend cavern diving through restrictions, and the map shows a minor restriction at the sink entrance.

3. Q - We are lost in the "Dead-End Tunnel". Which way do we go to get out?

A - West. The main passages in Fla. caves are fairly linear, so the use of a map and compass is an extremely important navigational aid.

4. Q - We are lost in the "Main Tunnel". When we fan up some silt from the floor, we notice that it moves from left to right. Which way do we do to get out of the spring?

A - Right. The map shows that flow in the "Main Tunnel" is toward the spring.

5. Q - We are lost in the "Main Tunnel", and cannot detect any flow. We start swimming in one direction and go up a slope to a boulder pile just beyond which we see a smaller tunnel angling back on our right. Are we headed out of the spring?

A - Yes. There is no better aid to cave feature referencing than a map, which in this case tells us that we are at the junction of the "First Bypass" and the "Main Tunnel" near the "Rock Pile" and heading to the spring.

6. Q - We are diving from the spring to the sink. Are there side tunnels that we should be aware of so that we do not accidentally stray to one and become lost?

A - Yes. The map shows 8 side openings leading to 5 separate passages (and there may be more that are not even shown on the map). Know their location before diving.

7. Q - A buddy has a total air loss at the "Fool's Dome". Should we use the "Main Tunnel" or the "First Bypass" to get to the spring?

A - The "First Bypass". Not only is it shorter and shallower (saving air), but also the map shows a minor restriction in the "Main Tunnel" where buddy-breathing would be very difficult.

8. Q - Can we traverse from the spring to the sink through the "Main Tunnel" without having to stop for decompression?

A - Only if an emergency return is not necessary. While other floor depths may be listed also, it is customary to list the maximum depth found along any tunnel. The maximum depth in the "Main Tunnel" is 90 feet, but by staying near the 15-foot-high ceiling at that point we may remain above 80 feet. By applying the scale to the tunnel it can be seen that the distance to be covered is about 1500 feet. Since cave divers usually swim from 40 ft./min. to 65 ft./min., the trip should be made in 23 to 37 min. if no delays occur. Using this data we can also calculate air requirements.

Among the many other safety uses of maps are avoidance of fatigue, silt, hazardous current, restrictions, narcosis and hypothermia.

\* \* \* \* \*

#### BUMPER STICKER

CDS members will find an adhesive-backed bumper sticker in their newsletter. "I SUPPORT SAFE CAVE DIVING" is the message. The sticker identifies the owner as a member of the CDS. Section members at the 14th CDS Workshop voted to send the stickers to all CDS members.

\* \* \* \* \*

#### EQUIPMENT SOURCES FOR CAVE DIVERS

Now cave divers, you do not have to make your own equipment. There are suppliers! The following list should be useful to those of us who do not have access to a complete machine shop.

| Supplier              | 1  | 2  | 3  | 4 | 5 | 6 | 7 | 8 | 9  | 10 | 11 |
|-----------------------|----|----|----|---|---|---|---|---|----|----|----|
| Primary Lights        | SC | SC | SC |   | C | C | C | C | SC | C  | C  |
| Backup Lights         | S  | S  | S  |   |   |   |   |   |    |    | C  |
| Line reels            | S  | S  | SC |   | C | C |   | C | SC | C  | W  |
| Bouyancy Compensators | S  | S  | SC |   |   | C |   |   |    |    | C  |
| Knives                | S  | S  | SC |   |   | C |   |   |    |    |    |
| Dual Valve Manifolds  | S  | S  | S  |   |   |   |   | C |    |    |    |
| DPV/scooters          | O  |    | O  |   |   |   |   |   |    |    |    |
| Directional Markers   | S  | S  |    |   |   |   |   |   |    |    | W  |
| Tank Harnesses        | S  | S  | S  |   |   | C |   |   |    |    | C  |
| Tanks                 | S  | S  | S  |   |   |   |   |   |    |    |    |
| Regulators            | S  | S  | S  |   |   |   |   |   |    |    |    |
| Long hoses            | S  | S  | ?  |   |   |   |   |   |    |    |    |
| Exposure suits        | SC | SC | SC |   |   |   |   |   |    |    |    |
| Gauges/watches        | S  | S  | S  |   |   |   |   |   |    |    |    |
| U/W slates            | S  | S  | S  |   |   |   |   |   |    |    | W  |
| U/W tables            | S  | S  | S  |   |   |   |   |   |    |    |    |
| Masks/fins            | S  | S  | S  |   |   |   |   |   |    |    |    |
| Camera Housings       | O  |    | O  |   |   |   |   |   |    |    | C  |

S=in stock  
C=custom  
O=order  
W=wholesale

Special tank carriers for sump diving (fiberglass)

Dealers

Manufacturers

- |  |  |  |
|--|--|--|
| <p>1) Branford Dive Center<br/>Box 822<br/>Branford, FL 32008<br/>(904) 935-1141</p> <p>2) Sinnie Springs<br/>Rt 1, Box 153<br/>High Springs, FL 32643<br/>(904) 454-2202</p> <p>3) Polk County Skin Diving School<br/>1870 10th St. SE<br/>Winter Haven, FL 33880<br/>(813) 299-7467</p> <p>4) Tom Cook<br/>378 Webster St.<br/>Manchester, NH 03104<br/>(603) 668-8573</p> | <p>5) Rory Dickens<br/>7212 Eudine Dr. NE<br/>Jacksonville, FL 32210<br/>(904) 781-3225</p> <p>6) Bob Goodman<br/>2211 Mulberry Blvd.<br/>Tallahassee, FL 32308<br/>(904) 386-4908</p> <p>7) Larry Holland<br/>2718 Cherry Wood<br/>Jacksonville, FL 32210<br/>(904) 389-5324</p> <p>8) Interplanetary Diving Enterprises<br/>1535 Cunningham Ave.<br/>Wenratt Island, FL 32952<br/>(305) 453-0000</p> | <p>9) Ken-Lite<br/>688 S. Willodge Ave.<br/>Athens, GA 30601<br/>(404) 549-2312</p> <p>10) Sea Research/Bosco Inc.<br/>P. O. Box 589<br/>Bartow, FL 33830<br/>(813) 533-6800</p> <p>11) USECO<br/>1367 Rupert Rd.<br/>Decatur, GA 30033<br/>(404) 284-1587</p> |
|--|--|--|

The following items may be purchased from: CDS Publications Chairman, Sheek Exley, 10259 Crystal Springs Rd., Jacksonville, FL 32601.

**BASIC CAVE DIVING - A BLUEPRINT FOR SURVIVAL** (second edition) by Sheek Exley. 46 pages of the fundamentals of Florida-style cave diving, including accident analysis, safety equipment and procedures, silt techniques, emergency procedures, accident management, how to obtain instruction, etc. Specially designed to convey the importance of observing cave diving safety procedures as well as revealing the latest in cave diving safety technology. A must for any prospective cave or cavern diver, useful for the experts as well. ONLY \$2.95 POSTPAID (\$2.50 to NSS members). \$1.75 PER COPY POSTPAID IN QUANTITIES OF TEN OR MORE.

**CAVE DIVING SAFETY Brochure** - The official NSS Cave Diving Section's recommendations "in a nutshell" for safe cave diving in Florida. Includes conservation, history and information on how to join the section. FREE AS A PUBLIC SERVICE OF THE NSS CAVE DIVING SECTION.

**USING CAVE MAPS FOR SAFETY Brochure** - An explanation of some of the information found on underwater cave maps. It illustrates a few of the many uses of this information in planning and executing safe cave dives. ONLY 25 CENTS POSTPAID OR FREE WHEN YOU PURCHASE A BLUEPRINT MAP LISTED BELOW.

**CAVE DIVING - NSS Caver's Information Series No. 27** by Rick Rigg. 5 pages of the fundamental considerations of advanced cave diving in non-Florida areas and cave sumps. ONLY 50 CENTS POSTPAID.

**NSS CAVE DIVING SAFETY MAPS 18" x 24"** blueprint detailed maps of well-known underwater caves in Florida showing safety information useful in planning and executing safe cave dives. ALL MAPS ARE MAILED FOLDED.

|  |                 |
|--|-----------------|
| ALACHUA SINK CAVE, Alachua Co., Fla.               | \$3.00 POSTPAID |
| LITTLE RIVER SPRING CAVE, Suwannee Co., Fla.       | \$3.00 POSTPAID |
| PEACOCK SPRINGS CAVE SYSTEM, Suwannee Co., Fla.    | \$3.00 POSTPAID |
| GREEN SINK CAVE SYSTEM, Lafayette Co., Fla.        | \$3.00 POSTPAID |
| BLUE SPRINGS CAVE SYSTEM, Madison Co., Fla.        | \$3.00 POSTPAID |
| ROCK BLUFF SPRING CAVE SYSTEM, Gilchrist Co., Fla. | \$3.00 POSTPAID |
| VORTEX SPRING CAVE, Holmes Co., Fla.               | \$3.00 POSTPAID |

#### OFFICIAL NSS CAVE DIVING SECTION T-SHIRTS

(1) Cave Diver - CDS-NSS insignia & pocket on front, silk-screen of cave diver on back. ONLY \$6.00 POSTPAID. Available in:

|                |       |        |       |
|----------------|-------|--------|-------|
| dark blue ---- | small | medium | large |
| light blue --- | small | medium | large |
| dark brown --- | small | medium | large |

MAKE CHECKS PAYABLE TO "NSS CAVE DIVING SECTION".  
ALLOW 1 MONTH FOR DELIVERY.

LET'S GET DRY!

THE CAVE DIVING SECTION is going "dry" caving  
the weekend of July 19  
under the capable guidance of  
FORREST WILSON & MIKE SANDERS.

Come enjoy Fern Cave in Paint Rock, Alabama.  
Both horizontal & vertical cave is offered  
(vertical training available).

Equipment needed:

Old, loose clothes (2 sets not bad idea)

Coveralls are OK

Hunting-Hiking Boots (tennis shoes not advisable)

2 flashlights with new batteries (Tekna-type good)

Hip bag or like to carry them

Helmet & Light\*

\* \* \* \* \*

MEETING PLACE :

LIBERTY RESTAURANT IN SCOTTSBORO, AL.  
at 8:30 am CDST (see map, page 16)

Camping Possibilities -

Jellystone Park in Guntersville

Sequoah Caverns (see map).

For more information call FORREST at  
(404)292-5613

The section assumes no liability, responsibility, etc. on trip.

\* To rent helmet, call Forrest.

RESTAURANT  
HERE

↑  
NORTH

SCOTTSBORO

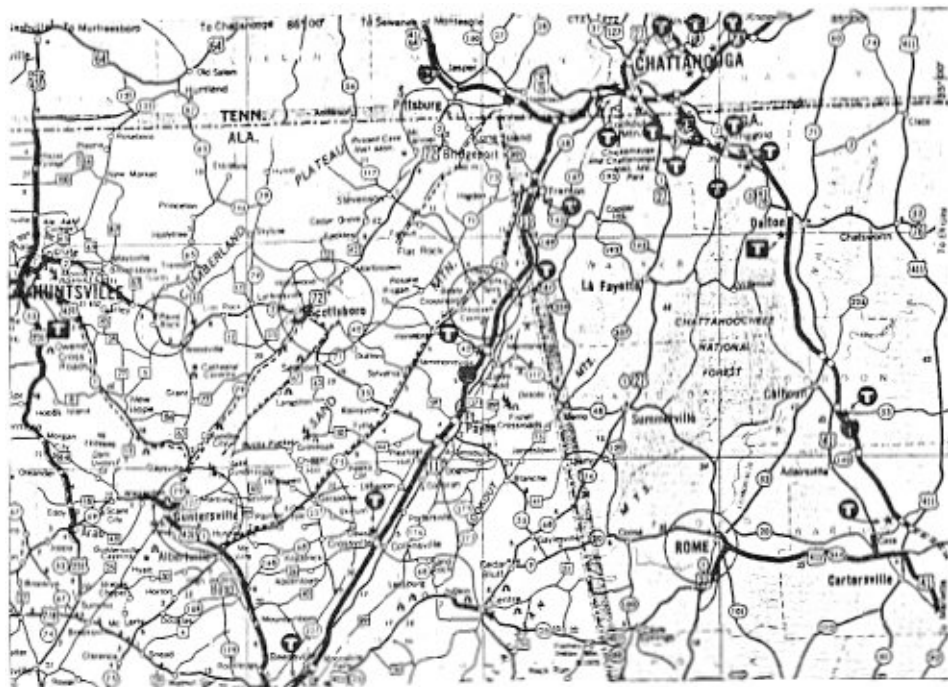
AL 35

TO  
FT. PAYNE

1st TRAFFIC  
LIGHT

HWY 279  
(OLD HWY 72)

OR ... COMING FROM FT. PAYNE/ROME ON AL. 35,  
TAKE RIGHT AT FIRST TRAFFIC LIGHT IN  
SCOTTSBORO, WHICH IS HWY. 279 (OLD 72)  
TRAVEL 2 - 3 BLOCKS, THEN LIBERTY RESTAURANT  
WILL BE ON LEFT, LIBERTY MOTEL ON RIGHT.  
OPENS AT 4:30 AM, CDST  
PHONE # AT LIBERTY: (205)574-3455





Members of the Florida NSS SR&R (Search, Rescue and Recovery) Team (part of Tom Cook's diving arm of the NCRC) recently received the coveted "Distinguished Service Award" of the Florida Sheriff's Association, personally endorsed by Madison County Sheriff Joe Peavy. The NSS divers have been responsible for all of the recoveries in that county since the early 1960's, as well as virtually all of the cave recoveries in the entire state in recent years. This voluntary public service of the Section has probably saved countless lives of unqualified would-be recovery divers as well as helping to keep the caves and springs open to all of us. Sheriff Robert Leonard of Suwannee County, where most of the fatalities occur, observed in the Independent Post "We'd be absolutely helpless without them."

While the appreciation shown by the Sheriff's Association is great, the real reward for the NSS SR&R Team is the 81% reduction in the annual number of cave diving fatalities in Florida since the all-time high in 1974, according to figures just released by the Accident Research Committee of the NSS CDS. Our efforts toward safety education of cave divers in Florida, which began in 1974, have probably been the major factor in this reduction, especially since the number of divers visiting Florida caves has probably increased.

Meanwhile the NSS SR&R Team awaits with some trepidation response to a recent article in *Skin Diver* on cave diving. The article itself mentions the grounds for the fear - that similar SD articles in 1969 and 1974 may have contributed to increased numbers of fatalities shortly thereafter. While the article does give the Huntsville NSS address and mentions the NSS Cavern and Cave Diving Training Programs, it is disappointing to note that the article failed to mention most of the primary life-saving sources of information, such as the free NSS Cave Diving Safety Brochure, the NSS Cave Diving Safety Workshops and excellent up-to-date safety publications like *Basic Cave Diving*. Bill Barada has helped the sport diving community. Let us hope that this article does likewise.

In case you missed it, *Sport Diver*, SD's main competitor, published a very good article that DID manage to give considerably more safety information, in 1978. Reader response to that article was hardly negative - 1979 had the least number of cave diving fatalities of any of the past 15 years! Perhaps the difference was that *Sport Diver* asked an actual cave diver (Sheck Exley) to write the article instead of someone not personally acquainted with the north Florida cave diving scene (the situation with all three of Bill Barada's SD articles).

Speaking of getting the word out on cave diving safety, *Underwater Reporter* (magazine of the Underwater Society of America) and *FSDA Bulletin*

(magazine of the Fla. Skin Diver's Assoc.) continue to do their part by advertising NSS publications, workshops and cave diving courses. As a matter-of-fact, FSDA Bulletin published our original NSS Cave Diving Safety Brochure in its entirety! And let's not forget Ned DELOACH, who has always permitted the NSS CDS to put a cave diving safety article in his Diving Guide to Underwater Florida.

If you missed the 12th NSS Cave Diving Safety Workshop in Branford, FL on Dec. 29-30, you may not be aware that the NSS CDS has new officers for 1980: Chairman, India YOUNG of Georgia; Vice Chairman, Greg MCCARTY of Iowa; Secretary, Bill FEHRING of Florida; Treasurer, Stephen MAEGERLEIN of Indiana; and Training Chairman, Forrest WILSON of Georgia. Bill and Forrest are repeaters, and Stephen is managing our funds for a record 6th year in a row!

After four years of service on our Executive Committee as chairman and vice-chairman, Tom COOK has finally stepped down. The cave diving community owes Tom a tremendous vote of thanks for his many contributions: El Cheapo Book of Home Brew Cave Diving Equipment and many articles in Underwater Speleology and NSS Cave Diving Manual, NCRC national diving officer, chairman and speaker at many cave diving safety workshops under the NSS and the NCRC, designer of "cave pacs" and many other items of cave diving safety equipment, explorer and surveyor of underwater caves in VT, NH, NY, WV, MI and FL, etc. It's hard to understand why the NSS has yet to make him a Fellow of the Society.

After the most vigorous year of growth yet for the NSS CDS, 1979 chairman John ZUMRICK has also stepped down. John says, however, that he will continue to contribute by working on various committees. As a matter-of-fact, John is currently working on an NSS Cavern Diving Manual for use as a text in the popular NSS Cavern Diving Course.

During the December CDS workshop, Stephen MAEGERLEIN, Clarence "Bud" DILLON, Paul SMITH and Shek Exley hit the Devils Eye Cave System (FL) so Stephen could get some pictures with his camera. Shek also experimented with a British-style side-mounted single tank on the 12/29 dive, but found it very cumbersome.

Bret ZEPP dived Peppersauce Canyon (AZ) on 4/14, reporting unlimited visibility and 24 Foot depth in route through the first 80-foot-long sump. Water temperature is 60 degrees F.

Bob GOODMAN, Bill MAIN, John ZUMRICK, Mary Ellen ECKHOFF, Paul DELOACH and Shek EXLEY have been working a new sink and cave near Tallahassee which, like nearby Little Dismal Sink Cave (FL), stays clear all the time. Sullivan Sink (FL) has upstream and downstream leads which are still "going" and apparently extend beyond the current abilities of cave diving exploration.

Carl COWART and Barney BURDISS have been working a promising sump in Clyde Cochrane Sinks (WV).

Paul MENG led a team that recovered the body of a diver that drowned in the Orange Grove Sink entrance to the Peacock Springs Cave System (FL) on 12/9. Seems the victim was not only NOT trained in cave diving, but actually in the process of doing his open water checkout dive for his basic

scuba diving course!

The City of Bowling Green, KY needed the assistance of cave divers this spring. Bud DILLON and Stephen MAEGERLEIN mapped several hundred feet of underwater passage in the Rise of Lost River. The city planners want to cut a trench, for a new 3 foot diameter sewer pipe, through the hill above the spring. The divers discovered that the cave passage separates into three or more passages that then rejoin upstream. Water visibility was poor during both diving trips 5/31 and 6/1. The main passage is 7 feet high and 20 to 30 feet wide with a maximum depth of 40 feet at the survey termination. There will be about 10 feet of limestone between the floor of the trench and the ceiling of the cave.

While "biggest" isn't necessarily "bestest", with 130 active, paid members in 1979, the NSS Cave Diving Section is the largest cave diving organization in the Western Hemisphere and rapidly gaining on the largest cave diving organization in the world, the British Cave Diving Group (143 members in April, 1979).

\* \* \* \* \*