

# underwater speleology

OFFICIAL NEWSLETTER OF THE CAVE DIVING SECTION OF THE NATIONAL  
SPELEOLOGICAL SOCIETY © 1978 by the Cave Diving Section vol.5, no. 5

# 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 that is interested in cave diving and has paid the dues (\$3.00 for 1978). Immediate family of members not wishing to receive a newsletter may also join for \$1.50. 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 the treasurer, Stephen Maegerlein.

Deadline is the second Friday of the preceeding month. Send articles and correspondence to the editor, Sheck Exley.

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

**CHAIRMAN** - Tom Cook, 378 Webster St.,  
Manchester, NH 03104

**VICE CHAIRMAN** - Gene Melton, Rt. 1, Box  
175-M, Vero Beach, FL 32960

**SECRETARY-TREASURER** - Stephen Maegerlein,  
P.O. Box 60, Williams, IN 47470

**EDITOR** - Sheck Exley, 1591 Lane Ave. S.,  
Apt. 118C, Jacksonville, FL 32210

**PUBLISHER** - Stephen Maegerlein

**SLIDE PROGRAM COMMITTEE** - Paul W. Smith,  
2842 NE 14th Dr., Gainesville, FL  
32601

**TRAINING COMMITTEE** - Forrest M. Wilson,  
2832 Concord Dr., Decatur, GA 30031

**INTERNATIONAL COMMITTEE** - Joseph Lieberz,  
c/o Electronic Product Testing,  
1905 Victory Blvd., Unit 13,  
Glendale, CA 91201

**WORKSHOP COMMITTEE** - John Zumrick, 2114  
NW 55th Blvd., # 12-A, Gainesville,  
FL 32601

**SAFETY COMMITTEE** - Tom Cook

**PROSPECTIVE STUDENT LIST** - Karan Exley

**AWARDS COMMITTEE** - India Young, Rt. 3,  
Box 119K, Byron, GA 31008

\*\*\*\*\*

## COVER

This month's cover depicts preparations for a dive in Shofer's Cave, Pennsylvania, in 1956. The man with the rebreather is section member John Fisher, one of the pioneers in American cave diving, assisted by Ted Sobel and Oscar Huh. For more on the early days of cave diving in the northeast U.S., see p. 44.

## ADDRESS CHANGES

Bill Fehring, 5439 Ginger Cove Dr., Apt.  
A, Tampa, FL 33614

Sandra Tracy, 5439 Ginger Cove Dr., Apt.  
A, Tampa, FL 33614

## CALENDAR

Dec. 30-31, 1978: 10th NSS Cave Diving  
Workshop, Branford, Florida. (Contact  
John Zumrick - address above)

Dec. 30-31, 1978: 3rd NSS Cavern Diver  
Instructor Institute, Branford, Florida.  
(For instructors that are already  
certified cave divers. Contact  
Forrest Wilson - address above)

May 26-27, 1979: 11th NSS Cave Diving  
Workshop, Branford, Florida.

Aug. 5-12, 1979: Cave Diving Session and  
Annual Section Meeting at NSS Convention,  
Pittsfield, Massachusetts.

Sept., 1981: 5th International Cave Diving  
Camp, Bowling Green, Kentucky  
(Contact Joseph Lieberz - address above)

## SAUDI ARABIAN SINK HOLE DIVE

Peter Geyer writes that he will soon dive  
a 250-ft. diameter sink near Kirjhad that  
extends 570 ft. from the ground to water.

# EARLY CAVE DIVING

NORTHEASTERN UNITED STATES, 1954-1958

by John J. Fisher  
(NSS 1793L)

*(John J. Fisher is a member of the Cave Diving Section and truly one of America's pioneers in that aspect of cave exploration. He is a professor of geology at the University of Rhode Island, specializing in geohydrology and coastal geology. The following article documents many of the earliest cave dives in the United States. - ed.)*

My early diving started as a member of the Met (New York City) and Northern New Jersey Grottos. I was an NSS member from about 1952 and my interest in diving was primarily from a caver's point of view rather than that of an oceanic diver. In 1954 I met with a member of the British Cave Divers Research Group who gave me a copy of their newsletter which I copied for limited circulation among cavers in the northeast. This influenced me to go the route of a rebreather rather than a SCUBA unit which was becoming popular then as a result of Cousteau's activities. (For an interesting discussion of scuba vs. closed-circuit see Hans Hass's *Men Beneath the Sea* (1975, pp. 19-25), where he points out that closed-circuits have survived to be the most advanced type of scuba apparatus in the "electrolung." In typical Germanic one-upmanship he points out how he pre-dates Cousteau in dives into the sea and even into caves - Blue Grotto of Capri.) I was also influenced in closed-circuit recirculators by a dive book by H. Schenck and H. Kendall (1950) called *Shallow Water Diving and Spearfishing* (2nd ed. 1954, Cornell Maritime Press) which discussed their designing of closed-circuit units. By coincidence Hilbert Schenck is a professor in ocean engineering here at the University of Rhode Island (I am a professor of geology, specializing in geohydrology and coastal geology - the fine influence of karst and cave diving even now).

As mentioned, I designed a closed-circuit unit that Fred Berg built and he, Jack Fagan and I tested the unit (we were all NSS members). I made all the cave dives. Also diving with me later at times was Don Nelson (no, not Mike Nelson!), who is now a marine biologist in California and whose claim to fame is finally making National Geographic tagging a shark underwater, but with his face completely obscured by the shark! We used baralyme in our rebreather and had our own oxygen tank for refilling our 10 smaller 1 hour bottles. The entire unit for a one hour dive fitted into two ammo cases. Only a northern caver can appreciate the tight passages we have up here and why I wanted the compact rebreather type unit.

The Farber's Drowned Cave dive in New Jersey in 1954 was a sink dive and we even took an 8 mm movie of the dive in glorious black and white sepia tone. Still using the rebreather I then dived in Shofer's Cave, Pennsylvania (see cover photo), and then Pompey's Cave, New York. This latter site is an underground river, the bed of which surface stream became the "ceiling" of the cave that Russ Gurnee, past NSS president, had in his basement. (Believe me, that sentence does make sense.)

Our last dive, using "aqua-lungs", pony bottles, "Andria Doria" type underwater sealed beam lights and Don Nelson's Leica in a wooden case was

Stone Bridge Caverns in the Adirondacks of New York State. Here a fairly large river goes underground and the owner was interested in whether we could clear the underwater log jam (from an upstream sawmill) so they could run a boat ride during low water. This was in September 1958. We took pictures underwater in the cave of fish, the log jam, the three divers, etc.

After this dive I went on to graduate school in North Carolina (geology) and was soon diving Cape Hatteras and the "Graveyard of the Atlantic" - never to go back to cave diving and remaining a marine diver - the last being the raising of some 1776 cannons from French warships up here in Rhode Island in Narragansett Bay for the Bi-centennial.



*Cave diver John Fisher at the entrance to Farber's Drowned Cave, New Jersey, in 1955, wearing his rebreather unit and converted exposure suit.*

---

#### NSS CAVERN DIVER APPLICATION AND CROSSOVER PROVISIONS

For a limited time only, persons who are already certified cave divers or cavern divers through another organization may obtain NSS Cavern Diver Certification by filling out both sides of the form on the following page (instructor's signature not necessary) and mailing it, a copy of their card and \$4.00 check made payable to "NSS Cave Diving Section" to Forrest Wilson, 2832 Concord Dr., Decatur GA 30031. Instructors may do likewise if members.



## cave diving section

### CERTIFIED CAVERN DIVER REGISTRATION

This form is to be used to apply for certification as a Cavern Diver or Cavern Diver Instructor. Both sides of the form must be completed and submitted with the approved registration fee.

name \_\_\_\_\_

address \_\_\_\_\_

city \_\_\_\_\_ state \_\_\_\_\_ zip \_\_\_\_\_ phone \_\_\_\_\_

date of birth \_\_\_\_\_ NSS number \_\_\_\_\_

desired certification (circle one): cavern diver - cavern diver instructor

are you a certified scuba diver? \_\_\_\_\_  
(copy of credentials not necessary) program number

are you a certified cave diver or cavern diver? \_\_\_\_\_  
(include copy of credentials) program number

are you a certified scuba instructor? \_\_\_\_\_  
(include copy of credentials) program number

are you a certified cave diver instructor or cavern diver instructor?  
(include copy of credentials) \_\_\_\_\_  
program number

### NSS POLICY FOR CAVE CONSERVATION

The National Speleological Society believes: That caves have unique scientific, recreational, and scenic values; That these values are endangered by both carelessness and intentional vandalism; That these values, once gone, cannot be recovered; and that the responsibility for protecting caves must be assumed by those who study and enjoy them.

Accordingly, the intention of the Society is to work for the preservation of caves with a realistic policy supported by effective programs for: the encouragement of self-discipline among cavers; education and research concerning the causes and prevention of cave damage; and special projects, including cooperation with other groups similarly dedicated to the conservation of natural areas. Specifically:

All contents of a cave—formations, life, and loose deposits—are significant for its enjoyment and interpretation. Therefore, caving parties should leave a cave as they find it. They should provide means for the removal of waste; limit marking to a few, small and removable signs as are needed for surveys; and, especially, exercise extreme care not to accidentally break or soil formations, disturb life forms or unnecessarily increase the number of disfiguring paths through an area.

Scientific collection is professional, selective and minimal. The collecting of mineral or biological material for display purposes, including previously broken or dead specimens, is never justified, as it encourages others to collect and destroys the interest of the cave.

The Society encourages projects such as: establishing cave preserves; placing entrance gates where appropriate; opposing the sale of speleothems; supporting effective protective measures; cleaning and restoring over-used caves; cooperating with private cave owners by providing knowledge about their cave and assisting them in protecting their cave and property from damage during cave visits, and encouraging commercial cave owners to make use of their opportunity to aid the public in understanding caves and the importance of their conservation.

Where there is reason to believe that publication of cave locations will lead to vandalism before adequate protection can be established, the Society will oppose such publication.

It is the duty of every Society member to take personal responsibility for spreading a consciousness of the cave conservation problem to each potential user of caves. Without this, the beauty and value of our caves will not long remain with us.

I hereby certify that all of the above statements are true to the best of my knowledge and belief, and that I support the NSS Policy for Cave Conservation.

applicant's signature \_\_\_\_\_ date \_\_\_\_\_

I hereby certify that the above named applicant has completed all the requirements to become a Certified Cavern Diver.

instructor's signature \_\_\_\_\_ date \_\_\_\_\_

RELEASE

KNOW ALL MEN BY THESE PRESENTS:

I, or We, the undersigned, jointly and severally, hereby release and forever discharge the Cave Diving Section of the National Speleological Society, Inc., and the National Speleological Society, Inc., and all of the members of said organizations and all agents, representatives and employees of said organizations and their successors from all claims and demands whatsoever which I, my heirs, executors and administrators, have or may have against the said organizations or successors, or against said members, agents, representatives or employees, by reason of the training in cavern diving to which I have voluntarily submitted, or am about to submit, and any consequences resulting directly or indirectly therefrom.

This release is entered into with the knowledge that cavern diving can be a dangerous activity if safety procedures and instructions are not properly adhered to, and that the term "cavern" as used in this training applies only to areas in underwater caves that are illuminated at least in part by natural sunlight and from which a free ascent can be safely made to the surface. The consideration of this release is the training to which I have submitted, or am about to submit myself to, which does not guarantee certification.

IN WITNESS WHEREOF, I, or We, have hereunto set our hands and seals this

\_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_

Witnesses:

\_\_\_\_\_  
applicant (Seal)

The signatures below are required only if the applicant is less than twenty-one years of age.

Witness as to parents' signature:

\_\_\_\_\_  
parent or legal guardian (Seal)

\_\_\_\_\_  
parent or legal guardian (Seal)

# ACCIDENTS and INCIDENTS

or: *Learning cave diving the hard way.* . . .

by Sheck Exley  
NSS 13146

*Ever met a perfect cave diver? Of course not. We all make mistakes, and have lots of room for improvement. Unfortunately, very often our improvement comes through experience, at times a very cruel teacher. The purpose of this column is to unselfishly share these experiences in print with others so that all of us can cave dive more safely and hopefully avoid having the same problems ourselves. The writer would encourage any cave diver to send in reports of dives on which problems have occurred, whether an actual participant in the dive or not. Please include the date, location, depth, penetration and conditions of the dive, approximate training and experience of all participants and all other contributing factors to the accident or incident (if you have a copy of the NSS-UIS "Report Form for Cave Diving Accident," send it in). If you like, include your own analysis of what went wrong and how the problem might have been avoided. Do not mention any names! Again, the purpose of this column is not to fix blame or embarrass anyone, but to help us all to cave dive more safely.*

## GUIDELINE PROBLEMS

"...date unknown, probably about 1970. Two experienced cave divers were doing the 'Blackout Passage' upstream from Hornsby Sink. Desiring to investigate a possible side passage, they left the main line and spent a few minutes looking around. Finally returning to the main line, they found to their consternation that each thought a different direction led out! After some discussion, one diver started off in one direction and after some hesitation the other reluctantly followed. Fortunately, they were right..."

*Comments: Swimming any distance from a guideline is seldom a good idea. If a side passage merits investigation, it's best to start a new line at or very near the main line with a clip on the main line to indicate the direction out (see Underwater Speleology, 4:1, pp. 12-15). The NSS Cave Diving Section now places "Dorff Markers" - tape arrows pointing out (U.S. 4:1, pp. 10-12) - on permanent guidelines in popular caves, which should help considerably in settling discussions such as the two divers in the preceding incident had. Also, backup navigational aids such as compasses in conjunction with maps, and cave feature referencing, can help.*

December 23, 1972

"... two partners and myself entered Devils Eye (FL) to add line past "Hill 400" into what is now known as the "Beetle Tunnel." Using a slot in the floor of the "Seabiscuit Tunnel" to pull on, I swam under the permanent line on the way out and snagged my tank valve. While waiting for a partner to swim over to me, I flipped over in an effort to free myself. Unfortunately, the motion caused the metal knob on my manifold to sever the taut line. We had to spend a few extra moments to slice the line, us-

UNDERWATER SPELEOLOGY, October 1978 48

ing an extra length my partner fortunately had along with him..."

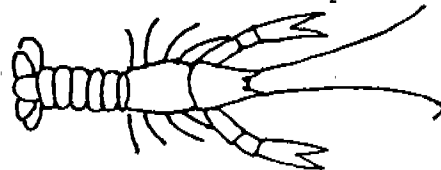
*Comments:* One disadvantage of installing too taut a line is that it can be easily cut. Vertical cavers in the NSS have long noted that a knife can slice through a ½ inch thick nylon rope with a tensile strength of 7000 lbs. under load about as easily as through butter... imagine what the same conditions applied to your 1/16 inch, 165-lb. test cave dive line will do! Permanent lines should be just tight enough that there isn't any significant sag or slack to cause line entanglements. Sharp edges on equipment such as the aforementioned manifold knob should be filed smooth so that loops and lines (and hands too, for that matter) cannot be accidentally cut. When crossing a line, always swim over it so that if you do become entangled, you can more easily see the problem and free yourself. If the line does not permit this because it is near the ceiling, reposition it closer to the floor. Finally, the practice of carrying along an extra length of line on a spool or small reel (see U.S. 4:1, pp. 9-10) as illustrated in the above example, is excellent. Not only did it make a splice possible in this instance where very probably the original line was not long enough to have been tied back together, it also has important uses in jumping gaps in lines, checking out side passages, searching for lost divers, etc.

April 7, 1969

"... my partner and I made a dive in the "Blackout Passage" upstream from Hornsby Sink (FL) to a depth of about 150 ft. The water was tinted brown, and visibility was less than 40 ft. We quickly reached the end of the line leading from the entrance, and I started my own reel and line at that point. After going another 150 ft. or so to a total penetration of 300 ft., we hit our turnaround on air and started out.

After reeling in about 80 ft., I suddenly felt like an increasingly strong current was dragging me backwards. For a second I thought I had wandered into a syphon tunnel or the current had reversed, and I kicked harder but made very little forward progress. Looking back, I saw a 1/16 in. nylon line stained brown and drawn tight, apparently around my manifold. Meanwhile, my partner, unaware of my predicament, had vanished. I was unable to free myself easily, so cut the line, intending to splice it back, but the elastic nylon line sprung away out of sight. Not having the air to chase around after it and a little concerned about my long-departed buddy, I reluctantly left the cave without tying the severed line back together..."

*Comments:* Again a line strung along the ceiling rather than the floor caused an entanglement. Further, lines that are badly stained should be replaced periodically with new white lines that can be more easily spotted by divers. The reporting diver's partner did a very poor job of keeping track of his partner (i.e., the reporting diver), but his performance might have been better if the reporting diver had signalled him with his light as soon as he started to have a problem, as is now recommended by the NSS. Finally, if forced to leave a severed line in a cave, the divers should notify the owner, nearby dive shops, the NSS Cave Diving Section, etc. of the situation so that no one comes upon it unaware.



Crawdaddy says: "Safety first."

you're invited!



# 10th CAVE DIVING WORKSHOP

---

where: **women's club, branford, fla.**

when: **dec. 30 - 31, 1978**

---

SCHEDULE OF EVENTS: Sat., Dec. 30, 1978: 8:00 AM coffee & registration  
8:30 AM - 12:00 PM: lectures, discussions, etc. on  
BASIC CAVE DIVING  
1:00 PM - 6:00 PM: CAVE DIVING RESCUE AND EVACUATION  
DEMONSTRATION AT NEARBY SPRING.  
7:00 PM - 8:30 PM: slides and films on cave diving  
8:30 PM - NSS Cave Diving Section Membership Meeting  
(open to the public)  
Dec. 31, 1978: 8:30 AM - 12:00 PM: lectures, discussions, etc. on  
ADVANCED CAVE DIVING  
1:00 PM - 6:00 PM: guided practice dives in nearby  
springs and sinks including warning sign  
installation project as a public service

*USHER IN THE NEW YEAR WITH A MIDNIGHT DIVE IN YOUR FAVORITE SPRING & HAVE A SAFE TRIP HOME*

---

name \_\_\_\_\_ address \_\_\_\_\_

NSS # \_\_\_\_\_ certifications held \_\_\_\_\_

enclosed is a money order/check made payable to NSS CAVE DIVING SECTION for \_\_\_\_\_  
(fee for both days and all events or any portion thereof: NSS CD Section members- \$2.00;  
all others- \$5.00. MAIL TO: Dr. John Zumrick, 2114 NW 55th Blvd., #12-A, Gainesville, FL 32601)

