



underwater speleology

UNDERWATER SPELEOLOGY

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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 1977). 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 Steve Magerlein, Box 60, Williams IN 47470

Deadline is the second Friday of the preceeding month. Send articles and correspondence to the Editor, Sheck Exley, 1591 S. Lane Ave., Apt. 118C, Jacksonville, FL 32210.

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

CALENDAR

Dec. 31-Jan. 1, 1978: 7th NSS Cave Diving Workshop, Branford, Florida. (Contact Sheck Exley, 1591 Lane Ave. So., 118C, Jacksonville, FL 32210.)

June 18-24, 1978: Cave Diving Session and Annual Section Meeting at NSS Convention, New Braunfels, Texas.

Dec. 30-31, 1978: 9th NSS Cave Diving Workshop, Branford, Florida. (Contact Sheck Exley, 1591 Lane Ave. So., 118C, Jacksonville, FL 32210)

1979: 4th International Cave Diving Camp, Mexico. (Contact Eduardo Castro Ruiz, Cerro de Tezonco 117, Mexico, D.F.)

Sept., 1981: 5th International Cave Diving Camp, Bowling Green, Kentucky.

Notice to YMCA, NAUI and NACD Cave Diving Instructors: We will print the dates of your classes at no charge.

COVER

Our cover this month is a map of Judy Springs, West Virginia, by Forrest Wilson, which may have just been connected to famous Schoolhouse and Hell-hole Caves. See the story on page 65.

1981 INTERNATIONAL CD CAMP IN U.S.

At this past UIS Congress in Sheffield, Great Britain the congress approved a bid by the U.S. delegates to host the next UIS Congress, to be held in Bowling Green, KY (near Mammoth Cave) at Western Kentucky University. It is customary for a week-long cave diving camp to be scheduled either immediately before or after the Congress. It is anticipated that members of the Cave Diving Commission will want the camp to include diving in Florida's springs and the Florida Keys. Anyone with ideas regarding the camp should contact the chairman of the Section.

ELECTION REMINDER

Don't forget that the last day to get your ballot for the 1978 NSS Cave Diving Section Officers in to Sheck Exley is Jan. 8, 1978! And remember to put a stamp on the ballot card!

T SHIRT DESIGN CONTEST

Sheck Exley is donating three copies of out-of-print books on cave diving to be awarded to the person(s) coming up with the three best designs for a Section T shirt (first place chooses first, etc.). See p. 67 for more info.

NEW MEMBER

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NEW SUBSCRIBER

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more on

JUDY SPRING, W. V.

by Forrest Wilson (NSS 16631)

McDonald Spring or more commonly called Judy Spring is in Germany Valley Limestone Quarry about 3 miles south of Mouth of Seneca, West Virginia. Germany Valley is a well-known and therefore well-explored karst area in the eastern part of West Virginia. There has been interest in Judy Spring for some time because it lies in a part of the valley that doesn't show any cave passage but is not far from the famous Schoolhouse and Hellhole Caves, and thought to be the resurgence of these caves.

At least two attempts to dive Judy Springs had been made prior to 1977. Both of these attempts were unsuccessful due to poor visibility at the time of the dive. It appears that visibility is poor within a few hours of a rain and during wet weather. A white milky suspension in the water after a rain reduces the visibility to less than three feet.

On July 9, 1977, one year after the previous unsuccessful attempt, Forrest Wilson (NSS 16631), Carl Cowart (NSS) and David Morrow (NSS 16997) made a dive into Judy. The weather had been very dry and visibility was excellent. They were able to penetrate 150 feet (the previous record was 90 feet), but had to turn back because their safety line was only 150 feet long. It is absolutely mandatory to use a line in cave diving since the possibility of getting lost and running out of air is so great. Sadly the three turned back in a large trunk passage, vowing to return with longer lines.

A second push was made two weeks later (July 24, 1977). In addition to the original group Barney Burdis was present. Forrest and David made the first dive and laid 800 feet of line and came up in an air-filled room about 100 feet long with up to six feet of air space above the water. When they exited, Carl and Barney made another dive with more line; they laid 250 feet more line and came up in a second air-filled room which was named "Carl's Room" (see map on cover). This room is very well-decorated with dripstone including soda straws. They found that at the end of this room, some 400 feet long, the passage continued underwater; however, they had used up all of their line (no one ever expected to be able to go so far) so another dive was planned.

On August 21 the third dive of the series was made. Forrest, David and Barney laid an additional 1000 feet of line through a series of small air-filled rooms into a very long passage about half full of water. About 400 feet into this passage they found a very promising side lead and left their diving gear and went to check the lead. Since they didn't have any "dry" caving gear and only dive lights they only explored 200 feet, enough to tell that it also "went". Because diving lights are only good for a couple of hours they postponed further exploration until they could come back with better equipment.

A major exploration and surveying expedition was planned for Sept. 17, 1977. In addition to the four previously-mentioned divers, Paul Smith (NSS 14385) from Florida and Sylvia Catinella went along. It rained Friday night and the team was afraid the visibility would be bad, but luck was with

them and the water was still fairly clear.

They decided to replace the first 800 feet of line with special knotted line for surveying purposes, on the way in and survey coming out. Special containers were carried to protect the "dry" caving gear from the water. The plan was to split into two teams of three people each at the dry side lead and one team survey the side and the other survey the main lead.

The team in the dry side lead mapped about 700 feet of passage which ended with little hope of going any further. The team in the main passage half full of water, swam about 1000 feet upstream intending to survey coming out. They found a near-siphon at about 850 feet but managed to snorkel beyond only to be stopped by yet another underwater section. Forrest was too near his air turnaround to go any further so he held the line for Barney and Carl. They made about a 100-foot traverse to more dry cave. In this section they found the end of the water passage and two very promising "dry" leads. This room is sort of a "well" with water at the bottom of a slope carved with breakdown. They were not able to climb this slope with tanks on and were afraid that their line "anchor" would get cold and leave, so they came out with the possibility that they may have connected to Schoolhouse or Hellhole Cave.

Since they had extra tanks outside and were getting cold they decided to wait until the next day to check out the "connection". Unfortunately they found out that the rain had finally caught up with them and the visibility was about two feet coming out. The visibility was no better the next day and they are planning another dive at a later date.

The estimated "total horizontal cave" is about 4000 feet, 700 feet of which is "dry," 2000 feet half full of water and the rest totally underwater.

* * * * *

BIG SPRING, CALIFORNIA

Vol. 27, no. 4 of the *California Caver* (Dec. 1976) contains a very interesting article about Big Spring, which drains nearby Lilburn Cave, California's longest. In "The Secret of Big Spring's Flushing Revealed?" Marty Sara advances his "sand plug theory" as the most plausible explanation of the tremendous increase in outflow from approx. 12 cusecs to 65 cusecs for ten minutes at a time. The theory was developed into a thesis for a master's degree program at USC, and is based upon data which includes the findings by cave divers of extensive sand deposits in the 2000 feet of passage between the "South Seas" area of Lilburn Cave and Big Spring.

Lilburn Cave is now a project of the Cave Research Foundation.

MINUTES OF THE ANNUAL MEETING OF THE NSS CAVE DIVING SECTION

August 4, 1977 - NSS CONVENTION, Alpena, Michigan

(abstracted from 5 page report by Stephen Maegerlein - those interested in the complete minutes may contact the editor for a copy)

The meeting was called to order by the chairman, Sheck Exley. Present were Doug Carter (NSS 14870), Tom Cook (vice chairman) (NSS 15548), Bud Dillon (NSS 11273), Karan Exley (NSS 16265), Sheck (NSS 13146), Stephen Maegerlein (sec.-treasurer) (NSS 8340), Terry More (NSS 15798) and Paul W. Smith (NSS 14385). Since the total voting membership of the Section at the time was 33, the 8 who were present did not constitute a quorum so the mail balloting provision of the Constitution was invoked (see following page). The executive committee nominated Tom Cook as chairman, Sheck Exley as vice-chairman and Stephen Maegerlein as secretary-treasurer. Additional nominations from the floor were: Bud Dillon as chairman, Karan Exley as vice-chairman and Terry More as secretary-treasurer. Sheck said he would mail out a request for nominees and later ballots to the membership. (Note: Karan and Sheck later withdrew their names and Gene Melton was nominated as vice-chairman).

At this point the meeting continued as an executive committee meeting with input from the membership. Stephen read the minutes from the 1976 meeting.

Paul Smith was appointed to take over the cave diving slide show to be donated to the N.S.S. by the Cave Diving Section. Paul intends to design the show as a training manual in visual form, and asked for input from other members as to what should be included in the script. It was agreed that the show should include all types of cave diving.

It was decided that the Cave Diving Section author a cave diving manual, and Sheck was selected as editor. A rough draft will be completed and mailed out to the membership by the last day in May, 1978. A notice regarding the manual will be submitted to *NSS News*. Several suggestions were made regarding content and financing of the manual.

Tom Cook was appointed to chair the emblem and stencil committee, to come up with a design for same to be placed on T shirts offered for sale by the Cave Diving Section. A notice will be placed in the newsletter.

Karan was appointed to come up with a column for the newsletter regarding accidents and near-accidents similar to what Don Davison does for *NSS News*. Names will be excluded from the column.

* * * * *

CAVE DIVING SECTION T SHIRTS

The executive committee has decided to come up with a design for NSS Cave Diving Section T shirts to be offered for sale to the membership. Please send any ideas including drawings to Tom Cook. Originals of *Advanced Cave Diving* by Jim Storey and *Cave Diving Manual* by Tom Mount and a photo copy of *Disie Cavern Kings Cave Diving Manual* by Sheck Exley (complete with revisions) will be awarded to the three best designs.

CONSTITUTION

I. The name of this organization shall be the Cave Diving Section of the National Speleological Society.

II. The purpose of this organization shall be the same as those of the National Speleological Society with the additional purpose of organizing NSS members who are interested in cave diving so that they may better promote the objectives of the NSS.

III. (1) The Cave Diving Section shall be governed by an Executive Committee made up of the following officers (all NSS members) elected by the members at the annual meeting during the NSS Convention: Chairman, Vice-Chairman, and Secretary-Treasurer. In the absence of a quorum at the annual meeting, the previous year's Executive Committee shall nominate a slate of officers. In addition, nominations will be solicited from Section members through the mail, allowing 30 days for response. After this the election shall be held through the mail allowing 30 days for response.

(2) The Executive Committee shall have complete power to manage the business, to formulate by-laws, to raise funds in any manner not inconsistent with the policies of the NSS, and to perform all other necessary functions.

(3) Decisions or actions of the Executive Committee may be overruled by a 2/3 majority vote of the members.

IV. (1) The life of the Cave Diving Section of the NSS shall be perpetual or until terminated by a majority vote of the membership upon recommendation of the Executive Committee.

(2) Executive Committee meetings and general meetings shall be held at such times and places as are determined by the Committee with the exception of the annual meeting, which will always be held during the NSS Convention for the purpose of electing the Executive Committee.

(3) A petition signed by a majority of the membership shall be mandatory upon the Executive Committee to call a special meeting for the purpose stated in the petition.

V. Full membership is limited to members of the NSS.

VII. (1) The Constitution and By-Laws of the NSS shall be binding on the Cave Diving Section. Any action inconsistent therewith shall be null and void.

(2) Any NSS property shall revert to the NSS in the event of dissolution.

VIII. Amendments to this constitution shall be made by a majority vote of those present at any previously-announced meeting where a quorum is present called by the Executive Committee expressly for the purpose, or by written consent, of one-half the total membership.

A Need For Training

BY FORREST WILSON (NSS 16631)

TRAINING CHAIRMAN DC GROTTO

There is a need for training in the siphon diving field. I am referring to training only and not certification, because of the lack of any means to enforce certification in a cave.

I myself began siphon diving with no training and had to re-invent the wheel as it were. I made three long difficult trips to the back of Organ Cave to dive Bowen Siphon trying outdated methods because I hadn't heard of the methods that work best. A ten man team made three trips doing what could have been done in one. I feel that I have been fortunate that nothing serious happened to me or my buddies on my first several siphon trips. It is sad to think that the proper techniques existed and that I couldn't get information about them.

There is little publicity of siphon diving, with good reason. It isn't a good idea to glorify something that can be so dangerous to the inexperienced. There are now and will always be people who will want to dive siphons regardless of the lack of publicity. It is these cavers to whom we need to offer training. At the present there is little printed material on siphon diving available (the exception being Rick Rigg's *Cave Diving*)* and that is not well advertised.

In Florida and surrounding states, it has become the policy of most instructors to at least mention the dangers of cave diving. This has become necessary due the large number of accidents in Florida caves. In the rest of the country, however, little if anything is said about caves because the instructors assume the chances of their students going to a cave is slim. The instructors themselves may not be aware of nearby siphons and are possibly ignorant of the dangers involved.

At least we (the NSS Cave Diving Section) should offer to all grottoes (NSS or otherwise) information about siphon diving, particularly the dangers involved. A well-meaning but ill-informed grotto can unwittingly pressure a diver (even newly- or un-certified) into pushing a siphon that is well beyond his experience and training. The glory to be gained by discovering a new section of a cave can cause the most level-headed person to go beyond what he knows to be his limits.

I believe the ultimate goal of the Cave Diving Section should be to provide instruction on cave diving in every area where there are siphons. The main difficulty at this time is in offering an instructors' training institute. I would urge any person seriously interested in siphon diving to attend a local scuba instructors' institute - NACD if possible - and I would urge the Cave Diving Section to make available to all Caver Instructors all possible information about siphon diving. It also would be a good idea to contact all diving instructors in areas where siphons exist and begin a program to inform all student divers of the dangers involved in cave diving. It only takes a few minutes of class time to point out the need for safety lines and the impossibility of making a direct ascent.

If anyone in the Cave Diving Section has any comments or is interested in

helping with training or providing information, please contact: Forrest Wilson, 6706 Hallwood Ave, Falls Church, VA 22046. Phone day (202) 381-4193; night (703) 536-2839.

* and the British C.D.G. publications - ed.

* * * * *

REPORT ON 1977 CAVE DIVING SESSION & WORKSHOP: Alpena, Michigan

In marked contrast to affairs at previous N.S.S. Conventions, the cave diving activities at this year's convention were literally scattered out over the entire week, beginning with Monday (8/1) when the first of three expeditions to the giant sinkhole of El Cajon Bay was mounted. These expeditions, which culminated in Tom Cook's rediscovery of the main spring conduit and map of the sink, were reported on in Tom's article in vol. 4, no. 4 of *Underwater Speleology* (Aug., 1977). The other sink trips took place on Thurs., 8/4 and Friday, 8/5.

The Cave Diving Session itself (the 6th NSS CD Workshop) took place on Wed. 8/3, at the campground beach on the Thunder Bay River. Sheck led off the beach discussion with a talk on equipment and procedures used in cave diving in Florida, then Tom Cook followed with a presentation on what is used in New England. Clarence "Bud" Dillon rounded things out with some words on the cave diving in the Indiana-Kentucky area, including some of the startling innovations that Stephen Maegerlein and he have come up with.

Next followed the actual water work itself, which included a supervised obstacle course for certified divers. The course consisted of a guideline laid around logs, oil drums and other obstacles and through weeds and the slats of a raft. Most felt that this course was much more realistic than that of the previous year, which was located in the West Virginia University pool. Certainly the goopy silt on the bottom of the Thunder Bay River was much like that of many caves! Although visibility in the river was only 3-5 feet and the silt quickly reduced that figure, session members were encouraged to follow the line with their eyes closed or with aluminum foil stuffed into their masks to simulate total loss of visibility. The "Rimbach method" was used to communicate between divers making the circuit. For cavers that were not certified divers, Sheck set up a tank and regulator and face mask in shallow water to allow them to experience the sensation of breathing with scuba with their heads in the water.

The second half of the Session took place late Thursday night, 8/4, when slides and films were presented by the Cave Diving Section in the campground "auditorium." Included in the fare for the evening were the following slide presentations: "Cave Diving in New England," (Tom Cook), "Cave Diving in the Midwest," (Stephen Maegerlein), "Cold Water Cave, Iowa," (a member of the Iowa Grotto whose name we unfortunately did not catch), "History of Cave Diving in Florida," (Sheck Exley), and "The World's Most Beautiful Underwater Cave," (slides by Eric Frehsee, presented by Sheck Exley). Terry More added two very interesting films: "Wreck Diving in the Great Lakes" and "Andros Blue Holes."

All who were present agreed that the Session was very interesting.

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FUROR OVER FENCING OF LITTLE RIVER SPRING

The Suwannee County Commission is considering whether or not to demand that Little River Springs Camping Resort, Inc., current owners of the spring, should remove their recently-erected fence. County attorney C. Dean Lewis has said that a public prescriptive easement exists and that the company cannot limit access to the springs. The county has been offered the property, but the 1.4 million dollar price tag of the 41 acre tract has precluded the purchase.

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