

# NDA NAUI

"Safety Through  
Continuing Education"

# NAUI NEWS

MAY 1975

NEWSLETTER OF THE NATIONAL ASSOCIATION OF UNDERWATER INSTRUCTORS  
AND THE NAUI DIVING ASSOCIATION

All views expressed in articles which carry a by-line are those  
of the author and do not necessarily reflect the policies of NAUI

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EDITOR/PUBLISHER  
DENNIS GRAVER, NAUI 1103

EXCEPTIONAL CONTRIBUTORS  
Charles Brown, M.D.  
Roy Darnon  
C. L. Smith  
Richard R. Spencer  
Bob Widmann  
John Wozny

photo by John Cramer

## HOUSECLEANING—SELF REGULATION

by Arthur Ullrich, NAUI 601

One of the marks of a profession is "It is self policing." I don't like the term policing but the meaning remains—maintaining or keeping order, law enforcement, maintaining cleanliness. The NAUI Ethics and Grievance Committee in each branch has as one of its duties, policing or maintaining order. It investigates charges or violations of training standards or the Code of Ethics or both. Some feel the committee which receives its authority from the Board of Directors doesn't do its job when it is necessary. I have to come to their defense as I know these committees are often very busy and have in the past, had to make some really tough decisions. I guess the hardest is to expell a fellow NAUI member for serious violations of safety, training, or ethical standards.

I'd like to cite some of these tough cases and what the outcome was. Unfortunately, I must change the names and some of the facts in order to protect the guilty. However, the basic facts will essentially be accurate. These cases come in no particular form of order and don't waste your time trying to figure out what the initials mean. They're simply letters to represent the identity of the past member which must remain anonymous.



### Case I

This past member, I'll call CBA. Old CBA was a member for some years, taught a good course and helped out at local events whenever asked to do so. Everyone said CBA was "a good guy." Then one day, an ex-student called

asking why he and the other class members had not received their certification cards. A look in CBA's file revealed that he had not registered the students. CBA was promptly advised that if he had sent in the registration they had not arrived and, therefore, it was suggested he send them in again. No response. Then, more students called and wrote. It appeared that two or three classes had not received cards. Some had waited for months. Correspondence to CBA received no answer, but when the Branch Manager or someone from Headquarters phoned CBA we always got promises that the matter would be taken care of right away—still there was no action.

Every effort to get CBA to issue the cards was to no avail. The Ethics Committee then got into the act, investigated and found all the charges to be true. However, CBA would not communicate with the Ethics Committee. As a result, the committee threatened to take action if CBA didn't act to certify the students. CBA didn't—and they did. Results: CBA was expelled totally and forever from NAUI.

Harsh? The past students didn't think so. Neither did another organization who also kicked him out for the same reason.

### Case II

Involving a member I'll call FED.

Complaints from students and parents were fast to rush in when FED took a class of teenage students out on a boat for their first open water dive and sent them into 40 feet plus of rough, poor visibility water while FED stayed on the boat. The Ethics Committee was in on this one right off and an investigation revealed some other facts. FED's course was a little short. There were five one-hour lecture sessions and seven one-hour pool sessions before the group went off the boat without their instructor—all 20 of them.

Further, members of the committee actually went to the open water dive and observed FED send students into rough seas when local lifeguards were strongly advising against diving at all. Students got tossed around and roughed up while the instructor was on the shore and the assistant was too far out to help. There were many other facts but they don't make it any better.

The committee asked the instructor to come in for a hearing, but FED refused. The hearing

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## HOUSECLEANING . . . Cont.

was rescheduled three times and each time FED refused to come in. You guessed it—OUT forever.

One comment here—this case was an obvious clear and flagrant violation. FED's refusal to come before the committee was clearly because there was no defense for his actions.

### Case III

Member IHG—this one took a long time to come to a head. However, when it did, it popped. Reports had been coming in for years that IHG had been signing cards for one or more non-NAUI instructors, but investigations by ethics committees never yielded sufficient proof to really do anything about it. Then the clincher. We received a report that a student had been very seriously injured in an open water dive. First reports didn't even connect the accident with IHG. However, when more complete reports came in IHG was linked to the case. The organization who had employed the student injured in the accident did its own investigation and as it turned out the student was taking a class from IHG or at least from someone employed by IHG. A non-certified individual had taken the student on this first open water dive. When they were over 100 feet problems developed and thus, the serious injury. Ultimately, it was discovered that IHG had sent the uncertified individual out for the open water experience with the victim and another diver. The committee asked IHG to attend a hearing or show cause why they should not make recommendations to the Board of Directors to have him expelled. IHG responded that he was here before NAUI and had been doing this same thing all along in the past and intended to continue in the future. He further stated he was certified by other organizations and didn't need NAUI. IHG is no longer with NAUI or the other organizations—who also dropped him.

### Case IV

Member ONM. ONM must have been out to set a record for the number of violations. No score is kept, but he has to stand high on the list of counting the most violations by any one member. As always, it started with letters and phone calls from students as well as instructors the students had talked to living in the same community. All these people were not

just upset, they were in a rage. The Ethics Committee went into the community and held hearings. Complaining students and others were asked to come in and make statements and a large number did. ONM was accused of: Taking money from potential students and not providing the services for which the funds had been received. Attempting to force his attentions on the girls in the class. If they would respond, they got their certification card, otherwise, no certification. At least that was the threat. A student complained that ONM forced him to help teach his class threatening to withhold certification if he did not. ONM was also accused of drinking beer while sitting by the pool instructing the class. It was also brought out that ONM hired others (non-instructors) to take his classes on their open water dives. This is to name only a few of the more serious complaints lodged against ONM. I could go on and on, but it all amounted to the same thing. After taking all that testimony the Ethics Committee asked ONM to come to a hearing to defend his position. ONM's rebuttals of the charges were as full of holes as a net game bag.

You guessed it—the committee recommended and the Board of Directors concurred, expulsion totally and forever.

The Ethics Committee often draws fire for not taking action or for being slow, but there is often a very good reason.

It's the "I-don't-want-to-get-involved" syndrome. All too often a student or instructor will call and complain bitterly about some instructor, but when he is asked to sign a letter or asked to come before a committee hearing we get the "Oh, I don't want to get involved" and that's the last we hear of it. We know there is a problem, but we can't prove it, so no action.

This is not the total picture, not by any means. It is only a cross section of cases which have finally come to total disposition. Others are now before Ethics and Grievance Committees. Some are valid, others are petty and still others have no validity at all.

The next time you feel nothing is being done about a problem you are aware of—get it on paper. Document the facts and get it to your local ethics committee, but by all means, don't call and then decline to provide the facts because you don't want to get involved. You're already involved. It's your organization.

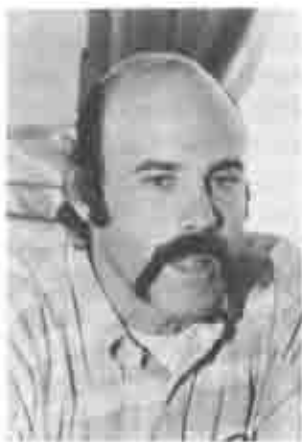
-NN-



## WHAT ARE WE TRYING TO ACCOMPLISH IN BASIC SCUBA INSTRUCTION?

by Bob Widmann, NAUI 2055  
Mid-Pacific Branch Manager

As Mid — Pacific Branch Manager I have had the opportunity to review many of the courses which are being taught in the Northern California area. Through dialogues with many of the instructors I have come to the conclusion that there is a wide range of opinions as to what constitutes a good basic course. Some of the students who feel they have had good training know nothing of rescue techniques or the proper responses to emergencies. Others boast of the qualities of courses which do not require the students to be able to swim!



I believe that part of the reason behind incomplete basic training is many instructors feel "there just isn't enough time in a basic class to teach these things." It is believed by this instructor it is time to sit down and decide exactly just what skills and knowledge constitutes a good basic course. Also, it is time to weed out the incompetent instructors who teach incompetent courses. The accident statistics are beginning to take shape and we must listen to the conclusion they reveal. The exact reasons why people get into trouble must be our guide in constructing our courses and training our students. It is no longer an admissible argument that "I never saw that happen," or "I have never lost a diver I have instructed so I must be doing an OK job."

The following are presented as minimum objectives for a basic scuba course. You may take issue with them and say that there is no way for them to be accomplished in a 24 hour course. If the realization of these objectives are important to basic scuba student *survival* and they cannot be realized in 24 or 30 hours then maybe it is time we looked at our minimum time schedules. The following are presented as minimum objectives of basic scuba instruction:

1. The diver must be at ease in a liquid medium (both in the pool and in open water).
2. The diver must fully understand his/her limitations.
3. The diver must fully understand his/her equipment.
4. The diver must fully understand aquatic environment, tides, currents, waves, thermoclines, aquatic plants and animals as well as the effects of other natural (and human initiated) phenomena on oceans, lakes and rivers.
5. The diver must fully understand the laws of physics and selected principles of physiology and how they relate to him/her both prior to, during, and after diving.
6. The diver must know his/her fellow divers to the extent that he/she is willing to place his/her life in their hands and vice versa.
7. The diver must fully understand rescue techniques (artificial respiration and CPR) and **BE ABLE** to successfully execute a surface rescue of a fellow diver.
8. The diver must be in condition to physically participate in the sport and to be ready to cope successfully with the unforeseen.
9. The diver must be committed to the task of keeping current with the state of the art of sport scuba diving and new equipment as it relates to safe diving techniques.
10. The diver must be able to recognize and respond properly to the "early warning" signs of unsafe diving conditions (environmental, physical, and psychological in himself/herself and/or in his/her diving partner).

The basic scuba student must display to the instructor that he/she has reasonably met these objectives prior to and after open water training. It is realized that some objectives will be easier to accomplish than

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## WHAT ARE WE TRYING TO ACCOMPLISH IN INSTRUCTION? . . . Cont.

others and some easier to evaluate than others, but a basic course should be geared toward their realization and it is felt they should exist as our guiding light.

*Author's Note: Educational objectives have been traditionally stated in terms that were objectively measurable. The term "fully understand" does not lend itself well to objective measurement, but then the competent diver doesn't lend his/her self well to objective measurement either.* **-NN-**

## DIVING INSTRUCTORS DIALOGUE DEEDS

by Lou Fead, NAUI 1413

The Diving Instructors' Dialogue met in January to discuss the effect of the Los Angeles County Scuba Ordinance on sport diving, and to review the status of a diver's etiquette sign for San Diego's more popular scuba beaches. Mark Flahan, San Diego State University Diving Safety Officer, chaired the meeting which was attended by over sixty men and women involved in sport diving instruction in San Diego. Guests included Norm Flowers and Harry Millard of the San Diego Council of Diving Clubs, and Jon Hardy and Dennis Graver of the National Association of Underwater Instructors (NAUI) general management. Members reporting significant developments in legislation were Jim Stewart, Scripps Diving Officer and Gordon Heck, Regional Manager of The Diving Locker.

The thrust of the discussion regarding legislation was that there are law-making efforts in progress, usually by uninformed well-meaning legislators, in Sacramento and Washington DC at this very moment. Several governmental advisory boards, influential individuals, and the staffs of the major instructional organizations (AAHPER, NAUI, NASDS, PADI, YMCA) are trying to avert unnecessary legislation, but find that their efforts are not



being totally effective. The final Yea-Nay on whether or not sport diving becomes discriminatorily covered by laws is in the hands and pens of the citizen sport diver. The agreed best weapon to combat the ill-conceived legislation is for each diver, who wants to retain the freedom of his sport, to write a letter or letters to his elected representatives urging defeat of any legislation based on the hastily conceived ordinance enacted in Los Angeles County.

*Editor's Note: The Instructor Dialogue—an informal meeting of local instructors—is so valuable to keep instructors informed, and to establish the local standard of practice. Get a dialogue going in your area. Don't limit it to NAUI; get everyone involved. Write Headquarters for guidelines.* **-NN-**

## ICE DIVING SEMINAR

Forty-five information-hungry divers and instructors braved the coldest two days of the year and attended the NAUI sponsored Ice Diving Seminar held in Minneapolis, Minnesota, February 8 & 9. The two day program boasted an attendance from four states and Canada, and chilling mercury recordings of 15 to 25 degrees below the zero mark. These readings and a twenty-five mile-an-hour wind cooled the skin to a minus 66°!

The program which was put together by NAUI instructors Fred Thornburgh, Dave Obershmied and Bob Adams, consisted of two days of information sharing about problems both in the water and out. Lectures on Saturday ranged from size and shape of the hole to diver's diet. Newly appointed Branch Manager Jeanne Bear Sleeper cooked up a *come and get it* spaghetti dinner for the entire entourage.

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## ICE DIVING SEMINAR . . . Cont.

Sunday's program was highlighted by an ice dive at a local lake, complete with heated changing and warming rooms right next to the holes (six of them and no two the same shape). Local and visiting instructors pooled their efforts in cutting the holes through a twenty inch ice cover. The thirty-nine degree water was welcomed by divers after leaving a minus fifteen degree topside, where regulators ice if you look at them the wrong way. Once beneath the ice, visibility was in excess of 100 feet, and when looking up the faces of the tender and safety diver could be easily distinguished from a depth of forty-five feet. The only casualty was



*photo by Ron Bangasser*

a diver whose wet suit froze solid after leaving the water. He got a free ride back to the warming house where hot coffee, hot soup, and other warming liquids were waiting. The first cup of coffee went into his suit, the second cup softened his boots, and the third went to the ever present surface personnel, who sledged him back to warmth. When asked about his experience he said, "This won't happen next year!" . . . Next year????? Yes, the program went so well that it will be a yearly offering from the "land of ten thousand lakes."

### A CHILLING SUCCESS

Dear Dennis:

I would like to pass on congratulations through NAUI News to the coordinators of the NAUI Ice Diving Seminar and Workshop which took place on February 7, 8, 9.

For those divers faced with ice diving or doing no diving for 4 to 6 months, I strongly recommend such a seminar. You can learn lots and have an enjoyable time doing it. You also meet many fellow divers whom you would never meet otherwise.

Once again, congratulations for a job well done on the Ice Diving Seminar.

—Richard Seniuk, NAUI 3048  
-NN-

## WANT TO GET HIGH AND SEE SOME UNUSUAL THINGS UNDERWATER?



WANT TO HEAR SOME OUT-  
STANDING PRESENTATIONS ON THE  
LATEST IN DIVING BY SUCH  
NOTABLES AS DR. AL BEHNKE?



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CONFERENCE AT LAKE MEAD, NEVADA  
JUNE 21-22

For more information  
see March/April NAUI News, page 5  
or write:

Bob Tolar, Conference Chairman  
1308 La Loma Drive  
Carson City, NV 89701



## WIVES MAKE GOOD DIVING PARTNERS

by Ronald W. Dana, NAUI 904

During the year 1974 I took on the task of teaching the wives of several of my diving buddies how to skin and scuba dive. Each of us had been trying to teach our wives how to dive on a hit and miss schedule in open water in less than favorable conditions. My wife in previous years was having difficulty in learning to relax and learn the basic skills of scuba diving. I tried to help her in every way I could to make it easier and more exciting, so I thought. I soon learned that this was only making it more difficult for her. A person learning to dive must learn to depend on themselves if they are to be able to relax in the water and must have all the basic training in a logical order if they are to learn to dive well. After realizing this fact I put her through a complete skin and scuba course in an indoor swimming pool under controlled conditions and tried not to help her in any way that I would not help any other student. It worked and she got through the course on her own and then went on to a university working divers' course and completed thirty-five dives in nine days of diving. During these dives she used two types of surface supplied diving gear, hand held sonar, underwater stud gun, lifting bags, compass boards, pipe assembly project, underwater lights, underwater cameras and underwater habitats. She is now a NAUI Advanced diver and can do all basic scuba skills underwater in the darkness of night.

Seeing her success we started training the wives of our buddy divers. To our joy, they also picked up the diving skill very easily when left to do everything for themselves and treated as a basic student like everyone else. Our biggest problem was to teach the husbands that their wives can take care of themselves and not to try to treat them as helpless young ladies. Also let them take the lead in some of the dives and be willing to follow them around instead of them following you around all the time. Treat them as an equal diving partner and they might even let you hold their hand while you are diving together. When she enjoys diving she



Ronald Dana

will want to dive more and so you will get to dive more. Club meetings, diving seminars, and other diving related activities are now enjoyable to both of you and you can both enjoy them more knowing that your partner is happy.

Husbands and wives that dive together stay together.

-NN-

## THE SWIMMING POOL — AID OR AIM?

by Bob Halstead, NAUI 2000

Can we assume when instructors teach in swimming pools — as the vast majority do — they are using the pool as a teaching aid? That is, the conditions inside the pool area (comfortable heat, light, visibility, controlled boundaries etc.) are used for better teaching, but that the ultimate aim is still getting divers into open water.



Bob Halstead

Thinking about this, particularly with regard to those instructors with less fortunate climates than my tropical one, and also remembering some experiences watching some diving instruction while in England a couple of years ago, I realized that maybe some divers spend more time diving in swimming pools than diving in open water. It could be that we are really developing *pool* divers rather than teaching people how to safely enjoy the underwater scene in the oceans and lakes. Some of the pool exercises I have heard reported seem to be evolving into something rather like the BSAC game "Octopush" to be played in a swimming pool by snorkelers. Now don't get me wrong — this is a splendid game, both in its own right and in keeping divers in shape for the "real thing". But I am willing to bet that there are some excellent "octopush" players that have never snorkeled in open water and in the same way I am willing to bet that we have scuba divers also who can do marvelous feats with gear in swimming pools — "N" people buddy breathing off one tank, ditch & don in 20 seconds, breathing from a tank

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## SWIMMING POOL—AID OR AIM? . . . Cont.

without a regulator etc. etc., but who hardly ever dive anywhere else (they may have a change of pool sometimes!). Also it seems to me that if your course is taking place in a part of the world where the diving is tough, rough, murky, cold water etc., that the pool work should really be *less*, not more than anyplace else because your divers are going to need *more* open water training than divers with more ideal conditions.

If you are a great believer in pool exercises and games — and most keen divers, including myself, love testing themselves with new feats with their equipment — then fine — BUT to my mind it is quite clear that the NAUI Basic Scuba course is about teaching people to dive in *open* water and making fun out of it!

So use the pool as a teaching aid and not as an end in itself. For recreation, great! — start a scuba gymnastics club! — but as a major part of a basic scuba course I think NO. Maybe we should all think more about exactly what we should teach in the pool and what in open water.

How did I get into this? Well for the last two years I have been living in Alotau, a small town in Milne Bay, Papua New Guinea. The point is, we have no swimming pool, the nearest one is several hundred miles away and you could only get there by plane or boat! I have no option but to do all my training in open water and I have learned something from this.

I started by finding a sheltered spot with a good beach entry — the water is always calm and warm, but mostly about 30 feet. The bottom, a mixture of stones (and stonefish!) and fine sand and silt. There are patches of coral reef nearby with plenty of fish life around. The bottom slopes away fairly rapidly so that at 50 yards out we have a 100 foot dive. My classes do their watermanship testing/skills, and skin-diving skills here. They work with buddies from the start, wear full foot fins and watch where they sit! Basic rescue skills are taught as soon as they can snorkel. First scuba experience is usually in a freshwater creek — this is because any silt stirred up is carried away by the slight current so visibility stays good; it's shallow, 3-4 feet maximum, and being freshwater they sink easier. It gives me a good chance to sort out problems like the one girl who couldn't get any air from her regulator until I explained that in order to breathe in you



photo by John Larsen

first have to breathe out! After mastering mask and regulator clearing and buddy breathing, it is back to the ocean and this is where, in my first course, I went wrong. Having taught classes in pools before, I straight away got into the pool exercises leading to ditch and don, tank swapping, blacked out mask etc., thinking of doing these skills before going on to do some actual diving. This was a mistake, first because the exercises are harder to do in the ocean — more buoyancy, poorer visibility with kicked up silt, and concern about the sea life, and, second because the students themselves wanted to dive — why destroy that motivation!

So now I'm handling these things rather differently. When the basic skills have been taught in the creek and we have sorted out buoyancy in the ocean, we go diving. We have a sunken landing barge from the war in 25 ft. of water just off shore surrounded by reef and this really knocks them out. The dive is closely supervised in small groups of 2 or 4. Remember that they have not been skin diving in open water before and that resort training uses even less pre-dive experience.

After they have done this and become "divers", the boost in confidence and motivation is enormous and the other skills tackled far more successfully and seem fun things to do, not tests to be passed before being rewarded with a dive. This way round the actual time needed on the exercises is small and we can spend more time on the course gaining varied diving experience. How about it? Are you using the pool as a teaching aid or are you teaching people to dive in pools?

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# IN-HOUSE NEWS

## REPORT ON THE ADP INSTRUCTOR SEMINAR

### ... Or—Having Fun in Chicago

by Dennis Graver, NAUI 1103

The objective was to provide attendees with enough printed information and knowledge to be able to conduct their own Advanced Diving Programs, and that objective was certainly met at the recent ADP Instructor Seminar held at the Oak Park YMCA in Chicago, Illinois.

The 37 participants shared methods and techniques of instruction for advanced classes. Everyone present left with page after page of notes and a head full of new ideas to try.

I was fortunate to be able to direct the Seminar and was ably assisted by George Buetow, Jeanne Sleeper, Ken Frisco and Jim Foley. George acted as local host, procuring the YMCA and lining up some great lunches. Jeanne Sleeper, area Branch Manager, drove from Minnesota to inspire the local instructors and did that very well. Ken was very helpful and made an excellent presentation on deep diving. Jim Foley, Course Director last year and this coming year for the Chicago Instructor courses, was a welcome addition to the staff. I'm always impressed by the enthusiasm for diving in the Mid-west. As we discussed open water exercises during the Seminar, rain and snow fell nearly the whole weekend. I was going to return to the coast for a dive the following weekend and was hopeful conditions would not be too bad. The local instructors were planning ice dives and hoping the same thing!



The participants were hungry for the information provided. This was evident even before the Seminar, for instructors registered from Kansas, Minnesota, Indiana, Wisconsin, Iowa—even Louisiana and Canada. Everyone commented that it was worth the drive.

An informal rap session with the participants and local instructors was held on

Saturday evening. We discussed the current legislation in California, NAUI policies, and a lot of philosophy. It was a valuable part of the weekend and helped to clarify many things for those attending.

Interested in having a program to share how to teach an advanced class? I'll be conducting similar Seminars in various parts of the country on a regular basis. Currently arrangements are



being made to hold another Seminar in New Jersey in July. If you feel we can draw 30 instructors from your area and can obtain a facility to use, please contact me at Headquarters to see if we can arrange to conduct an ADP Seminar in your area. People tend to repeat experiences that give them pleasure, and I had so much fun with the great people in Chicago that I'm fired up to organize other seminars. Let's get it on!

## COMMENDATION TO FRANCIS KIDWELL, NAUI 1342

A group of ten officers from the Barnstable Police Department decided that, because we live and work in a resort area surrounded by water on Cape Cod, we should be scuba qualified. This was a type of training that had never been approached by any other police department or fire department on Cape Cod. I approached the selectmen of our town, and they agreed to finance our course of instruction. I contacted the Cape Cod Community College in our town, and Dean Peter Birkel of the Department of Continuing Education arranged for a special class limited to just police officers. Dean Birkel arranged for Mr. Francis E. Kidwell, Jr. to instruct our class. I had not met Mr. Kidwell previous to this, but in the next few months to come I was to learn what a truly remarkable man he is.

Mr. Kidwell spared no expense in providing us with necessary equipment for the courses.

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IT'S ON! JULY 19-20, RUTGER'S UNIV. - WRITE HQ!

We were furnished scuba gear, including air for our tanks and CO<sub>2</sub> cartridges for our inflatable vests. We were encouraged to activate our vests at any sign of trouble in the water, and many of us did so at first. He chartered a 36 ft. boat for four days of ocean diving. Between classes, he took us diving several times and furnished the equipment on these occasions also. He was understanding of our apprehensions and was patient with us until we had the fundamentals down pat.

Several months after completing the advanced scuba course, I was called upon by the police department, on two separate occasions, to dive in the ocean for the recovery of stolen cars. On both occasions, Mr. Kidwell heard the calls on his police radio at home, arrived at the scene with full gear, and without being asked, went into the icy water with me at night to assist me in doing my job. I can't tell you how important that was to me. Although I had had a lot of training, these were my first experiences at diving under adverse conditions, and because of unusual circumstances, I would have been alone if Mr. Kidwell hadn't volunteered his help.

You are fortunate to have a man of this caliber represent your organization. He is a credit to the National Association of Underwater Instructors and to the Cape Cod Community College where he instructs.

—Robert A Wallace  
Patrolman—Badge 17  
Barnstable Police Department

## THANKS TO GEORGE HECKER

Dear Art,

This letter is to commend and publicly thank a fellow instructor. I had a student who completed his entire basic scuba course, except for the final ocean check out. Before we could get together, to finish the final dive, he went into the Navy and was sent East. Naturally, he wanted to finish the course and get certified.

Through correspondence, he was able to link up with George Hecker, #2576. George has checked out this student and his certification has been issued. It is this type of mutual help which will keep NAUI strong.

Thank you,  
Bruce Brown, NAUI 2939

## WORDS TO THE WISE

A great deal of interest has been expressed by members concerning certification of Assistant Instructors by individual instructors. The majority feel the program will be very beneficial while a few believe the standards of the organization will be degraded. This is a caution issued to the membership not to do the "magic wand" routine and certify your assistants as NAUI Assistant Instructors just because they are good assistants for you.

The purpose of the Assistant Instructor program is to prepare and qualify candidates for the NAUI Instructor Training Course. When you sign your name on your assistant's card, you are actually recommending that person for membership in NAUI. If the person should then fall far short of the qualifications required at the ITC a review of the local Ethics Committee may be needed.

Not every instructor can teach the Assistant Instructor course. You must be an Active (Teaching) member of NAUI for at least one year. Your Assistant Instructor candidate needs to be at least 18 years of age, with at least one year of diving experience, including 20 dives and 10 hours of bottom time. Additional details are in the standards for Assistant Instructors included in the certification package for Assistants available from Headquarters for \$1.00 per package.

Do not be tempted to cut corners on the requirements for certification. Have your assistant perform the skills exactly as specified in the standards even though you are sure there will be no problems. The standards specify exact procedures for skills such as a Ditch and Recovery wearing a wet suit jacket, and your assistant could experience difficulties if the skill has never been attempted in that manner. The skills required are the *minimum* levels for certification and should be performed with ease. The knowledge tested in the written exam is the *minimum* knowledge and scores should be fairly high if your assistant is prepared. Marginal performance by the assistant should require additional training from you prior to issuing the credentials.

Why should you certify your own assistants? There is certainly an advantage for your assistant to have an official rating, but most importantly your assistant can be protected with liability insurance. Also, if you are encouraging your assistant to become an

CONT. NEXT PAGE

instructor, that person will be much better prepared and qualified to attend an ITC. Although the assistant may not teach without an instructor present, and may not issue any certifications, certified assistants are valuable to add variety in teaching to the class and to act as qualified safety divers. It is much better for the assistant if the NAUI Assistant Instructor certification is issued by an individual instructor than if the credential was obtained at an Instructor Qualification Course (IQC). Apprenticeship is strongly recommended in the case of certification by an individual but is not required at an IQC. This apprenticeship and experience is one of the most valuable factors affecting the ability of the candidate at an ITC.

How will NAUI know if the assistant really did meet the standards? The first water experience at the ITC is an open water qualification dive conducted by the staff. The candidates essentially perform every basic skill during this dive in addition to learning how such a dive is conducted by the best of instructors. If there are problems with skills, stamina, etc., the staff is required to further evaluate the ability of any candidate. If it then becomes obvious the Assistant Instructor is not qualified to attend the ITC, that person will not be permitted to continue and the instructor issuing the certification will be notified. As for knowledge, the candidate will need to draw upon the knowledge tested in the Assistant Instructor exam to present lessons during the ITC. Again, if there is a doubt as to the ability of the candidate, the staff will orally examine the candidate to determine qualifications.

The Assistant Instructor program is designed to answer the need for assistants with a rating and to prepare qualified candidates for the ITC. By testing fundamental instructional skills and knowledge before the ITC, more effective use of time to develop better instructors is possible at the ITC. You can help in reaching this objective by requiring your assistants to jump through all the hoops in good form prior to certifying them as NAUI Assistant Instructors.

If your personal standards are already very high, this article will just reinforce them, but if you have been thinking about getting a "Mail Order Certification" for your assistants, it is hoped this will cause you to think again.

#### END OF IN-HOUSE NEWS

## EMPLOYMENT

*Please send listings to the Editor, NAUI News. Each listing will be run once, and you may request to have it repeated if necessary.*

### NAUI INSTRUCTORS SOUGHT:

Dive Store Manager/Instructor—Contact:

Bob Davis  
9034 Huntington Dr.  
San Gabriel, CA 91775  
(213) 287-0736

Graduate Teaching Assistantship. B.S. in Health, Physical Education and recreation. Contact:

Dr. Charles B. Corbin,  
Head, Department of Health  
Phy. Ed. & Rec.  
Kansas State University  
Manhattan, KS 66506

Instructor/Salesperson—Contact:

Bob Pontius  
Diving Unlimited  
1148 Delevan Dr.  
San Diego, CA 92102  
(714) 236-1203

### INSTRUCTORS SEEKING POSITIONS:

Experienced in all facets of diving and instruction. U/W photo specialist. Willing to relocate. Full or part time. Prefer warm climate. Contact:

Lauro Bocchioletti, NAUI 317  
631 Sheppard Ave. W  
Toronto, Ontario  
CANADA M3H 2S3

Available for position in Southern California in the summer—Contact:

Patrick Evans, NAUI 3500  
208 Grace Blvd.  
Altamonte Springs, FL 32701  
(305) 862-4105

Seeking full-time employment. Willing to relocate—Contact:

Charles Taft, NAUI 3754  
424 N. Franklin St.  
Ness City, KS 67560  
(913) 798-2793



# THE MEDICAL EDITOR'S COLUMN

by Dr. Charles Brown



## DIVING LORE

(Reference this column,  
Feb. NAUI News, page 11)

This column begins our campaign to dispel common misconceptions. Many excellent investigators have contributed the ammunition. Today's focus is on bubbles.

1. Bubbles usually hurt. Nonsense. Subcutaneous emphysema is not painful. In one experiment a man's hand was inserted into a small chamber which sealed about the forearm, and the chamber was rapidly evacuated. The hand immediately swelled with bubbles, but no pain was felt. Doppler detectors often show bubbles in the blood in the absence of any symptoms. Furthermore, pain is much less a symptom of serious decompression sickness than of the mild variety. It seems that for bubbles to cause pain, they must be in a tissue that has pain nerves, and will not easily accommodate to stretching. Periosteum fulfills these criteria, and while no one knows for sure, it may be one site of common bends pain.

2. In bends, most of the damage is done by bubbles blocking vessels and distorting tissue. That is the old concept of decompression sickness: physics in action. Newer knowledge reveals that body reactions to the bubble are even more important—physiology in action. The body recognizes the bubble as an alien invader, and counter-attacks. The blood-bubble interface becomes the site of dramatic dynamic activity involving platelet aggregation and biochemical reactions, and resulting in clot formation, platelet and lipid emboli, vessel spasm, tissue hypoxia, and fluid shift from blood to tissue, all leading to shock and death.

3. Bubbles in bends and in air embolism (from lung overpressure) have different composition. Nope. The nitrogen bubble of bends and the air bubble from torn lung tissue very rapidly equilibrate with the nitrogen, oxygen, carbon dioxide, and water tensions of the body, becoming identical.

4. Nitrogen does not bubble out of blood unless a 2:1 supersaturation ratio has been exceeded. This long sacrosanct Haldanian postulate, on which the Navy tables were based (later changed to 1.7:2) has lately been severely challenged. A glass of 7-Up allowed to sit ten minutes has not equilibrated with the air, yet shows no bubbles. It's supersaturated. But a decompressed diver, breathing, heart beating, moving, is not like that. He's like the glass after it's tapped or stirred. The properly decompressed diver then does not tolerate a certain supersaturation ratio, he tolerates a certain load of bubbles.

== -NN- ==

## Calendar of Events

### Certification Courses (IQC, ITC, Crossover)

May 3-4	IQC, Brownsville, TX Don Lyles, Director 1407 Cedar Edinburg, TX 78539
May 6-8-13	IQC, Minneapolis, MN Jeff Furst, Director c/o Scuba Center 5015 Penn Ave. S Minneapolis, MN 55419
May 10-11	IQC, Wolfville, NS Canada NAUI Canada 10 Monet Ave. Etobicoke, Ont., Can.
May 16-18	IQC, Peterborough, Ont. Canada NAUI Canada 10 Monet Ave. Etobicoke, Ont., Can.
May 17-18	IQC, Philadelphia, PA Bob Leahy, Director 11 Meadows No. Q Philadelphia, PA 19002
June 6-8	IQC, Seattle, WA Gary Sundstrom, Director 9632 - 42nd St. NE Seattle, WA 98115

CONT. NEXT PAGE

# CALENDAR OF EVENTS — Certification Courses (Cont.)

June 7-8 IQC, San Jose, CA  
Ken Loyst, Director  
1010 Broadway  
San Jose, CA 95125

June 12-13 IQC, Long Island, NY  
Barry Allen, Director  
Box 109  
Cambridge, MA 02138

June 14-21 IQC-ITC, San Diego, CA  
Mark Flahan, Director  
4971 Mt. Gaywas Dr.  
San Diego, CA 92117

June 14-21 ITC, Long Island, NY  
Barry Allen, Director  
Box 109  
Cambridge, MA 02138

June 19-22 NAUI-YMCA Crossover  
Winnipeg, Manitoba  
Canada  
NAUI Canada  
10 Monet Ave.  
Etobicoke, Ont., Can.

June 21-22 IQC, Fargo, ND  
Mike Wallace, Director  
902 - 15th St. N  
Fargo, ND 58102

June 21-29 IQC-ITC, Houston, TX  
Jabe Willis, Director  
3840 Ruth No. 1  
Houston, TX 77004

June 27-29 IQC, Minneapolis, MN  
Jeanne Sleeper, Director  
4409 Arden View Ct.  
Minneapolis, MN 55112

June 28-29 IQC, Ames, IA  
Jerry Symons, Director  
904 Kellogg Ave.  
Ames, IA 50010

July 11-13 NAUI-YMCA Crossover  
Chicago, IL  
George Buetow, Director  
2100 S. 9th Ave.  
Maywood, IL 60153

July 12-13 IQC, Buffalo, NY  
Bob Foote, Director  
54 Forbes Ct.  
Greenfield, MA 01301

July 13-19 IQC-ITC, Minn., MN  
Jeanne Sleeper, Director  
4409 Arden View Ct.  
Minneapolis, MN 55112

July 14-21 ITC, Buffalo, NY  
Bob Foote, Director  
54 Forbes Ct.  
Greenfield, MA 01301

July 19-21 NAUI-YMCA Crossover  
Buffalo, NY  
Dave Michael, Director  
27 Concord Rd.  
Acton, MA 01720

July 25-  
Aug. 2 IQC-ITC, Peterborough  
Ontario, Canada  
NAUI Canada  
10 Monet Ave.  
Etobicoke, Ont., Canada

Aug. 9-17 IQC-ITC, Norfolk, VA  
Ron Johnson, Director  
Old Dominion University  
Norfolk, VA 23508

Aug. 14-16 IQC, Chicago, IL  
Jim Foley, Director  
7944 W. 163rd Ct.  
Tinley Park, IL 60477

Aug. 17-24 ITC, Chicago, IL  
Jim Foley, Director  
7944 W. 163rd Ct.  
Tinley Park, IL 60477

Aug. 23-31 IQC-ITC, Seattle, WA  
Spence Campbell, Dir.  
11522 NE 21st St.  
Bellevue, WA 98004

Aug. 30-  
Sept. 7 IQC-ITC, Palm Beach  
Shores, FL  
Glenn Taylor, Director  
Box 15933  
West Palm Beach, FL 33406

Sept. 6-13 IQC-ITC, Monterey, CA  
Homer Fletcher, Director  
2273 Cove Ave.  
Los Angeles, CA 90029

Oct. 3-5 IQC, Moncton, NB, Can.  
NAUI Canada  
10 Monet Ave.  
Etobicoke, Ont., Can.

## Development Programs (Seminars, Symposiums, Workshops)

May 10-11 CPR Instructor Workshop  
Edina, MN  
Tom Gessner, Director  
5313 Whiting Ave.  
Edina, MN 55435

June 7-8 Dive Store Instructor  
Orientation Seminar  
Boston, MA  
NAUI N. Atlantic Branch  
Box 291  
Back Bay Annex  
Boston, MA 02117

June 20-22 Divemaster Seminar  
Tobermory, Ont., Can.  
NAUI Canada  
10 Monet Ave.  
Etobicoke, Ont., Can.

June 21-22 High Altitude Diving  
Workshop, Lake Mead, NV  
Bob Tolar, Director  
1308 La Loma Dr.  
Carson City, NV 89701

July 4-6 Instructor Dive Weekend  
Manitoulin Is., Ontario  
Canada  
NAUI Canada  
10 Monet Ave.  
Etobicoke, Ont., Can.

July 19-20 ADP Instructor Seminar  
New Brunswick, NJ  
Dennis Graver, Director  
NAUI Headquarters  
22809 Barton Road  
Colton, CA 92324

Sept. 20 U/W Film Review  
Boston, MA  
Fred Calhoun  
Box 291  
Back Bay Annex  
Boston, MA 02117

Sept. 25 NAUI/NDA General  
Membership Meeting  
Miami, FL  
NAUI Headquarters  
22809 Barton Road  
Colton, CA 92324

Sept. 26-28 IQC, Miami, FL  
NAUI Headquarters  
22809 Barton Road  
Colton, CA 92324

Oct. 4-5 North Atlantic U/W  
Convention, Rockport, MA  
Fred Calhoun  
Box 291  
Back Bay Annex  
Boston, MA 02117

November Equipment Technology  
Seminar, Chicago, IL  
Don Pittan, Director  
Box 142  
Berwyn, IL 60402

—NN—

## Don't Forget . .



Sept. 26-28  
Miami Beach, Florida

## LETTERS

Letters of interest received by NAUI Instructors, Branch Managers, Board of Directors, Headquarters and the NAUI News Editor are presented in these columns.

### LAMENTINGS OF A LOG LOSER

by John Wozny, NAUI 1442

I have just had a very upsetting experience, and I'm writing this in an effort to prevent the same experience happening to somebody else. Have you ever placed something on a table in plain sight of the entire world and had it vanish into thin air never to be seen again? Well, in the not too distant past that is exactly what happened to my Diving Log. Can you appreciate my complete frustration? I cannot remember what happened to that Log. I have taken my house apart piece by piece. I have looked in every book in the place. I have bugged all my friends. I have taken my school apart, but to no avail. It has just vanished.

Today, a Diving Log means different things to different people, depending upon how far you live from Los Angeles County and the threat of Legislation. If you are an involved Instructor you had better face the fact that Statewide Legislation is very possible, and that Diving Log becomes very important for recertification. I am sure that most instructors in the Los Angeles area are aware that the L.A. County Instructors had to produce their up-to-date logs to get recertified.

I am not arguing the merits of the Diving Log. This is a plug for a *duplicate* log. The log I lost had been signed off by diving buddies from Puerto Vallarta, Mexico to Vancouver, Canada in the past eight months. I don't know whether to just skip the whole thing and start over from the present, or try to piece together as much as I can remember. But whatever I do is not going to change the frustration I feel today.

From now on I'm going to keep one log at home where I know it will be safe, and take another one with me in my dive gear. It doesn't take that long to transfer the information from one book to another. You can always get the signature of your dive buddy of the day at a later time. The point is, you will have all the information about each dive and the rest is just detail.

So help me gang, even if that elusive Dive Log turns up I'm still going to keep a duplicate log and suggest you do the same.

—NN—

### NACD ANNUAL SEMINAR

The National Association for Cave Diving (NACD) has announced that its annual seminar will be held June 14th and 15th in Jacksonville, Florida. The eighth in NACD's series of yearly seminars on Diving Science and Technology is to be held at Jacksonville Beach, directly on the ocean. The faculty will be made up of experts from all areas of both diving and cave diving.

This year's seminar will differ from past years in several respects. First, the basis of the seminar has been broadened to include all diving related sciences and technology in addition to cave diving. Second, while formal presentations of faculty topics will still be a part of the activities, the majority of the time will be spent in discussion workshops where the seminar attendee can hold conversation directly with each speaker on his field of specialized knowledge.



Some of the subjects to be presented are Cave Diving Techniques and Equipment, Hypothermia in Diving, Underwater Archeology, Habitat Projects, Stress Psychology in Diving, Psychological Profiles of the Safe Diver, Decompression Theory, Speleogenesis and Speleology, Medical Aspects of Diving, Diving Legislation, Statistics of Diving Fatalities, and Emergency Rescue Procedures.

Expected speakers and workshop leaders include Tom Mount, Dave Desautels, Larry Murphy, Dr. Edward Vale, Dr. Bob Mallot, Dr. Bob Smith, David Fisk, and Captain Jack Wright among others.

Other than the beauty of Jacksonville Beach itself, sightseeing tours are planned for non-diving family members of seminar attendees.

For further information and seminar registration, contact The Seminar Committee, Bob Woolf, Director, 5018 Kerle Street, Jacksonville, Florida 32205. Attendance for both days will be less than \$20.00.





# 1975

SEVENTH INTERNATIONAL CONFERENCE  
ON UNDERWATER EDUCATION  
SEPTEMBER 26-27-28, 1975  
CARILLON HOTEL  
Miami Beach, Florida  
Sponsored by NAUI

CALL FOR CONTRIBUTIONS TO IQ7

SOLICITATION:

*2ND*  
This is a solicitation for papers from all interested authors for presentation at the conference. Papers accepted and presented will be published in the form of a printed Proceedings. The presentations will also be recorded and tape cassettes will be available after the conference as will the Proceedings.

PROGRAM ARRANGEMENTS:

A majority of the presentations will be within 30 minute time blocks. Presentations will be in the form of:

- \* Lecture presentations
- \* Lecture supported by films or other forms of graphics
- \* Workshops or panels involving more than one contributor and utilizing classroom or pool or both
- \* Specialized visual presentations

## DEVELOPMENT IN DEPTH

SUBJECTS:

The theme of IQ7 is DEVELOPMENT IN DEPTH. Authors are encouraged to utilize the theme in amplifying the meaning, approach or presentation of their papers. The conference appeals to underwater educators, business and industrial interests as well as having a strong appeal to recreational divers at large. Subject matter must remain within the scope of recreational diving and its related fields of interest. Subjects may cover but are not limited to:

New developments on how to teach --- What to teach --- Human physiology --- Diving medicine --- Diving equipment --- Unique programs or adapted applications --- Report on current events --- Problems facing diving in general

Subjects which are currently of particular concern in the sport diving field are:

Aid to the distressed diver --- Emergency ascents --- Cave diving --- Weight belt use --- Buoyancy control --- Deep diving and decompression diving --- Legislation --- Underwater communications --- Use of drugs --- Women as divers ---

Effects of cold --- Physical condition --- Diving standards and regulation --- Crisis in the diving environment --- Accident analysis and prevention --- Skill maintenance after training --- Recertification of divers --- Maintaining involvement --- Innovative or creative projects in stores, schools or clubs with positive affects on diving --- Diving travel ideas --- Scientific research findings which may lead to advances in diving

The program committee at its discretion may organize several presentations together and request the authors to serve as a panel after their short presentations.

#### PROCEDURE:

Authors interested in submitting papers at IQ7 should complete the attached form and submit it to be received not later than June 18, 1975. If selected, you will be notified on or by July 15, 1975. The author's complete presentation is to be submitted for publication, if selected, by September 1, 1975.

#### HONORARIUM:

Authors who meet the criteria for selection and submit complete papers by the deadline will receive an honorarium in the form of complimentary conference registration for the entire event.

SHARE YOUR KNOWLEDGE AND EXPERTISE TO

MAKE DIVING SAFER



IQ7 CONTRIBUTION APPLICATION

Contributor's Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City \_\_\_\_\_ State/Prov. \_\_\_\_\_ Zip \_\_\_\_\_

Phone: Res. (     ) \_\_\_\_\_ Bus. (     ) \_\_\_\_\_

Presentation Subject: \_\_\_\_\_

1. Attach an abstract of your planned presentation: \*

- A. Title in CAPITAL LETTERS
- B. Author's name (Underlined) and name of organization
- C. Typed double spaced (in English) Limit 100 words
- D. Abstract must include a sentence statement of the presentation's specific objective, a brief statement of the research, study, or method, (if applicable) a summary of results and conclusions. It is not satisfactory to state, "the results will be discussed".

**\*Note:**

It is the Conference Committee's intent to provide a copy of all abstracts to the attendees along with the program booklet.

- 2. Attach a brief biographical sketch of the author of not more than 150 words. Include background, education, degree, occupation, position, diving experience, certification, etc.
- 3. Sign and date the following statement:

I hereby consent to and authorize the use and reproduction by the National Association of Underwater Instructors (NAUI), or anyone authorized by NAUI, of my presentation(s) given at the Seventh International Conference on Underwater Education September 26-27-28, 1975, for any purpose without compensation to me. All recordings or reproductions shall constitute the property of the National Association of Underwater Instructors.

This consent does not deprive me of any other rights I may have in my lecture material.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Author's Signature

-Cont'd.



WHAT AUDIO VISUAL AIDS WILL YOU REQUIRE? None ☐

OR ☐ 35MM transparency projector  
If you check here please bring  
your slides mounted in your own  
Kodak carousel (80 or 140 slide)  
tray.

☐ 16MM movie projector  
If you check here please  
provide a take-up reel well  
marked and the same size as  
your film can to avoid rewind  
delays or loss.

If you have any other audio visual needs other than those listed  
above, please plan to bring your own equipment, cords and spare  
parts.

Note: Projected aids are required for audiences of 50 or more.  
Charts, blackboards, etc. are not adequate for conference  
presentations because of the number of attendees.

Send your application, abstracts and papers to:

→ Glen H. Egstrom, Ph.D.  
IQ7 Program Chairman  
3440 Centinela Avenue  
Los Angeles, CA 90066 U.S.A.

DEADLINE FOR ABSTRACTS IS - June 18, 1975 ←

NOTIFICATION OF ACCEPTANCE OR REJECTION BY - July 15, 1975 ←

COMPLETE PAPERS TO BE SUBMITTED BY - September 1, 1975 ←

In 1974 the conference drew over 1800 attendees. IQ7 is expected  
to meet or exceed that attendance. IQ is the largest event of its  
kind in the world.

DO IT - WRITE NOW!

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# CURRENT TRENDS

## DEPTH LIMITS

by Jon Hardy, NAUI General Manager

Reprinted with additions from

Sept/Oct 1972 NAUI NEWS.

Recent accidents during deep sport dives have emphasized the need for an agreement among sport divers concerning depth limits for sport diving using compressed air scuba. What is considered deep will vary with water conditions and geographic location, but the physiology of the human body is still affected by pressure in the same manner, even though the psychology of the diver may vary from situation to situation. The table of depth limits presented here is the author's opinion on such limits and is recommended to divers, instructors, diving certification agencies, and the diving community as a possible policy on depth limits.

In addition to guidance on rational depth limits, two other important and related knowledge factors are (1) How to use the U.S. Navy Diving Tables to avoid decompression stops while making repetitive dives and (2) Why it is not practical or safe to make deep dives.

Some of the reasons for not diving deep include:

1. It is colder.
2. It is darker.
3. There is less color.
4. There is less plant and animal life.
5. Air is used faster, therefore there is less diving time.
6. Additional equipment, personnel and air supplies are needed.
7. The need for decompression is increased.
8. Some hazards are aggravated, such as: carbon dioxide excess, carbon monoxide poisoning, and the effects of drugs.
9. New hazards are present, such as: nitrogen narcosis and decompression sickness.
10. Any emergency is greatly compounded; particularly those requiring emergency ascent.

Due to the complexity and danger of deep dives, Navy and commercial divers use surface supplied equipment with communications and mixed gases on deep dives.

But in spite of all these reasons for not diving deep, sport divers still do make deep dives. Among the reasons for deep dives you

CONT. NEXT PAGE

Depth (Feet)	Pressure (Atmospheres) (Absolute)	Reduction of Air Supply	No Decompression Limits(Minutes)	Decompression Stops Needed On Single Tank	Safe Emergency Ascent Possibilities	U.S. Navy Recommended Air Demand Open Circuit Scuba Use	Sport Diving Recommendations Author
30 (33)	2	1/2	None	Not Needed	Very Easy	--	Basic Diver Training Limit
60 (66)	3	1/3	60	Unlikely	Easy	Normal Working Limit	New Diver Limit Limit for training Limit of "Shallow" diving
100 (99)	4	1/4	25	Possible	Difficult	--	Experienced Diver Limit
130 (132)	5	1/5	10	Very Possible	Very Difficult	Maximum Working Limit	Maximum Limit for Experienced Drivers Under Controlled Conditions

## DEPTH LIMITS . . . Cont.

will hear comments about the challenge, adventure, exploration, interest, escape, sensation, feeling and additional reasons about the location or objective of the dive including wrecks, caves, photography, salvage, and others.

As with any rule in human activities there will be reasonable exception, but in these cases certain actions need to be taken and a clear understanding of the situation is needed. You will need to:

- Have a clearly defined objective.
- Know the reasons for not diving deep and therefore the hazards involved.
- Thoroughly know decompression procedures.
- Have a plan and prepare completely.
- Change or add equipment as needed.
- Provide for alternate air supplies.
- Provide for support personnel.
- Modify diving techniques to suit the situation.

The table of depth limits provided here, I believe, is a reasonable guide for most sport diving. When exceptions are made it should be with a full understanding of these limits and the special requirements of safe deep diving.

—NN—

## SUBMERGED CULTURAL REMAINS— A THREATENED RESOURCE

by Daniel Lenihan, NAUI 3057

Having worked for some time as both a Federal archeologist and a diving instructor has brought some problems to my attention I would like to air with my fellow instructors. In reading popular diving magazines it has come home to me again and again that the diving public has in general some serious misconceptions about what comprises legitimate underwater archeology.

Many articles have appeared in print which confuse treasure hunting and marine salvage enterprises with underwater archeology. These publications have reinforced the notion that any diver collecting antiquities from the bottom who is keeping notes on his finds and researching them is doing archeology. This is a ridiculous and a very destructive misconception. A true underwater archeological effort is a highly complex and rigorous process which demands development of research designs and the utilization of often highly sophisticated equipment and field techniques.

Marine and fresh water archeological sites comprise a rapidly eroding resource base. These sites are cultural resources rather than natural ones, i.e., they provide a data source for drawing conclusions about prior human behavior and for better understanding our own national heritage. In one respect archeological sites are even more fragile than natural resources because they can never replenish themselves. You cannot take the last surviving shipwrecks sites and mate them in an effort to restore the population.



My purpose for making these points is not to make self-righteous pronouncements but, hopefully, to increase awareness of some facts which we should as diving instructors be aware of. These are:

1. Our submerged cultural resource base is being destroyed at an alarming rate, partly owing to impact from Federal, state, and private construction projects and partly through vandalism by divers and unscrupulous salvage companies.

2. Legitimate underwater archeology can only be conducted under the supervision of professionals who are doing it in the overall context of a general resource management plan being coordinated by a state or Federal agency or academic institution.

3. The removal of "just a few" artifacts from underwater archeological sites for the mantle-piece is harmful, especially when so many members of the diving community are doing it! Besides destroying much in the way of research potential, collecting "goodies" also will eventually ruin the possibility of other sport divers being able to enjoy the experience of seeing submerged antiquities in their true context.

CONT. NEXT PAGE



## CULTURAL REMAINS . . . Cont.

4. In most cases molesting submerged archeological sites is illegal. This, however, should not be the major consideration. These laws can seldom be adequately enforced. I am not appealing to the diver's fear of apprehension, but to his sense of responsibility for protecting all aspects of the aquatic environment that he is so intimately a part of.

Given the situation as I have outlined it above I would like to conclude with some concrete suggestions.

1. I suggest that NAUI Instructors begin a dialogue in NAUI News on the question of our role in helping preserve natural and cultural submerged resources.

2. I suggest that the NAUI Board of Directors consider setting a policy regarding the subject matter for underwater archeology specialty courses. I feel they should be directed towards developing an awareness of underwater archeological methods and theory in the classroom, but that open water practical sessions be limited to mock survey and mapping and never to the actual removal or disturbance of archeological sites.

3. I suggest that the NAUI Board of Directors also consider making a general position statement which explicitly outlines the association's philosophy in regards to its memberships' interaction with submerged resources of a fragile nature, be they natural or cultural.

NAUI is the largest and I feel the best diver certifying agency in the United States. I say "best" because it has been the most interested in increasing quality control of divers rather than quantity and because it is the most introspective and self-critical of the organizations I am familiar with. Taking a strong conservation-oriented stand on the matter I have outlined here may be difficult and may involve occasionally telling a diver what he doesn't want to hear. I hope, however, that if the membership at large and the Board of Directors of NAUI agree that this is the proper course of action to take, the popularity of the undertaking will be of no consequence.

Thank you for hearing me out. I would like very much to hear the views of other members on what I feel is fast becoming a critical situation.

-NN-

## WHAT IS THE MOST IMPORTANT ASPECT OF DIVING?

by Jon Hardy, NAUI General Manager

1. *The divers?* A pair of human beings having a safe enjoyable diving experience. Each will need to maintain good physical and mental condition for diving; have an understanding and attitude of safety through training, so each diver can use the best possible judgement and common sense in setting the limitations for the dive and allowing a margin of safety in order to be prepared for emergencies.

2. *The skills?* The What and How of diving, including the recreational activities such as underwater photography, search and recovery, collecting and the specific skills of diving based on original and continued formal training with emphasis on safety and fun.

3. *The experience?* Continued safe and enjoyable diving makes the diver safer and more capable, so diving becomes the best conditioner for more fun.

4. *The environment?* All the aspects of the places the diver will explore. A real understanding of the environment's effect on the diver and appreciation for the environment are needed to help preserve the environment and keep the diver safe while increasing the enjoyment of the dive.

5. *The equipment?* Correctly using the complete and proper diving equipment needed to have a safe and enjoyable dive.

*What is the most important aspect of diving?* . . . Having a safe enjoyable experience.

## For Safe Enjoyable Diving . . .

1. Be trained and certified as a scuba diver by a nationally recognized agency.

2. Maintain good physical and mental condition for diving.

3. Keep actively diving and logging the dives.

4. Continue diving education with additional diving courses.

5. Correctly use complete and proper diving equipment.

6. Use best possible judgement and common sense in setting the limitations of the dive. Allow a margin of safety in order to be prepared for emergencies.

-NN-

## OUR THERMAL HANDICAP AS DIVERS

by C. L. Smith, NAUI 2299

All of us know the rigors of diving present stresses beyond those of normal activity on land. Basic students are taught to recognize this fact and to prepare themselves physically for diving in order to be safe and effective. The most obvious additional stresses are due to the hard swimming which is frequently required to move against current, to make it through surf and to snorkel to an offshore reef. Sufficient stamina and muscle tone is necessary to do these things while leaving enough margin to handle emergency situations, not to mention the effort of the dive itself. Beyond the firing effect of exercise, however, is the more subtle influence of cold which saps body energy with a steady surety even while the diver is at



rest. The two together are the reason why physical conditioning is emphasized so much in basic training; they represent the physiological handicaps which must be overcome before anyone can dive effectively. They are the reason for the standard advice to avoid diving when tired, cold or hungry. But how to drive home this point to the beginning diver?

I believe a good way to illustrate the physiological impact of the water environment is to explain the added effort required on the part of the diver just to stay alive, i.e., without exercising at all. A great deal of energy must be expended in just existing because of the cold, dry air delivered by the scuba equipment and because of the continual loss of body heat through the wetsuit. On a typical dive to 40 feet, for example, more than 30% of the oxygen consumed is required solely to make up for thermal losses; at 100 feet the amount of oxygen necessary to overcome heat loss is more than double that of a resting person on dry land. In fact, body energy is lost at a rate several times greater than it would be if the diver walked briskly and continuously up a flight of stairs.

Two specific mechanisms of thermal energy loss are described here: the process of extracting heat from the diver's body to warm

and humidify his breathing mix, and the loss through his wetsuit to the cold water around him. The additional stress on the diver may be expressed in several ways. The most obvious is to state the total number of calories (kilocalories) lost during the dive, as most people are familiar with that measure from its relationship to food intake. In order to reach people of different backgrounds and to apply to different situations the numerical examples given here express energy loss also in terms of watts, equivalent number of hamburgers consumed (at 475 calories per hamburger), and percent increase in oxygen consumption.



### Breathing

The scuba equipment used by most sport divers delivers cold, dry air to the mouthpiece. It is cold because it expands rapidly in the first stage of the regulator as it reduces from the pressure of the tank to that of the second stage hose; it is dry because it must be free of any moisture which might otherwise freeze during the rapid temperature drop in the first stage. As the air flows into the diver's lungs, remains awhile, and is expired it is warmed nearly to body temperature and moistened nearly to saturation with water vapor. Needless to say, both the warmth and the moisture are taken from the diver's body. Moreover, water requires a great deal of energy to convert it into vapor and this too must be supplied by the diver.

Consider, by way of example, that the air from the second stage of the regulator arrives at a temperature of 10°C and that the diver's breath upon exhalation is at 35°C and a relative humidity of 90%. At a depth of 33 feet and a

CONT. NEXT PAGE

## OUR THERMAL HANDICAP . . . Cont.

breathing rate of 25 liters per minute, some .34 calories of heat per minute are required to warm the air and another 1.0 cal/min is needed to vaporize water from the lungs in order to moisten it. If the dive lasts for an hour, this breathing process alone will consume an amount of food equivalent to about one-sixth of a hamburger and increase oxygen consumption about 23% above normal. Under these conditions, the diver would consume the food content of an entire hamburger in three hours merely because he is breathing from scuba.

### Heat Loss to the Environment

Although modern wetsuits are very good, none prevents heat loss completely. The slow sapping of body energy as heat passes through the suit and exposed skin into the surrounding water can be very debilitating even when no sense of cold is present. Bare skin is a very effective conductor and all consideration should be given to covering hands, head and feet with the wetsuit if possible. In fact a Caribbean diver in 80°F water may be comfortable but still lose heat more rapidly than the fellow in a 1/4" hooded wetsuit in 50° water.

Good wetsuit materials conduct heat at least sixty times poorer than bare skin. A diver wearing a 1/4" neoprene suit with hood, gloves and booties in 60°F water can expect to lose about 2 calories per minute by conduction; without the hood, gloves or booties he may lose 10 cal/min. The conduction is, of course, increased during deep diving as the wetsuit compresses and the ambient temperature is generally lower. A 100 foot dive for 20 minutes in 50°F water with a full suit can easily produce a loss of 100 calories and double the normal oxygen consumption. The rate of loss is several times greater than that of climbing stairs briskly for the whole time! The diver incurs this handicap merely by being in the water; any energy required for exercise is extra.

### The Added Stresses

The additional thermal stresses to be expected in the sport diving environment due to

breathing from scuba and to heat conduction to the water can be calculated (albeit approximately) and presented in understandable terms. Some illustrative examples are given in the following tables. The obvious further stresses due to exercise, anxiety, breathing effort caused by denser air and regulator restrictions, and encumbrance to motion caused by the wetsuit have been neglected.

TABLE I  
THERMAL STRESS BUDGET OF A  
30 FOOT, 40 MINUTE DIVE IN 60°F WATER

SOURCE	RATE OF HEAT LOSS		CALORIES LOST DURING DIVE	EQUIVALENT NUMBER OF HAMBURGERS	OXYGEN CONSUMPTION	
	KAL/HR	WATTS			ADDITIONAL O <sub>2</sub> USED, GRAMS	% INCREASE OVER NORMAL
Warm and wet breathing air	3.4	94	14	1.1	16	23%
Conducted heat loss to water						
Full suit	2	140	80	17	23	36
Head, hands & feet exposed	8	630	300	76	103	166
Total:						
Full suit	3.4	234	134	28	39	59
Head, hands & feet exposed	11.4	734	414	87	119	179

Based on: 177 Cal/hamburger  
metabolic oxygen consumption rate = 28 gram O<sub>2</sub>/Cal  
water vapor in exhaled air = 04 gram/liter  
heat of vaporization of water at body temperature = 571 cal/gram  
breathing rate = 25 liters/min  
ambient conductivity = .0004 Cal/cm-sec, temp/°C

TABLE II  
THERMAL STRESS BUDGET OF A  
100 FOOT, 20 MINUTE DIVE IN 50°F WATER

SOURCE	RATE OF HEAT LOSS		CALORIES LOST DURING DIVE	EQUIVALENT NUMBER OF HAMBURGERS	OXYGEN CONSUMPTION	
	KAL/HR	WATTS			ADDITIONAL O <sub>2</sub> USED, GRAMS	% INCREASE OVER NORMAL
Warm and wet breathing air	3.3	100	66	1.1	16	23%
Conducted heat loss, full wetsuit (assuming 50% air space)	6	420	130	28	34	54
Total, full suit	9.3	520	196	39	50	77

### Conclusion

The diving environment, while perhaps not hostile, is demanding. Each of us is handicapped physiologically by drains on our energy resources merely because we are under the water and breathing from scuba, even discounting the amount we expend in exercise. Appreciation of these facts by those newly acquainted with diving should promote safer practices, more intelligent selection of equipment, and more careful planning. The message should be clear: know your handicapped capabilities, be rested, be warm, and do not dive when hungry.

-NN-

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**. . . . . (for divers) Be there!**

**Miami Beach, Florida — Sept. 26-28**



## SOME TRUE FACTS ON SCUBA DIVING

by Jon Hardy, NAUI General Manager

Scuba diving is a safe sport and has become safer each year. The figures provided here were developed using the records of the four national certifying agencies (NASDS, NAUI, PADI, YMCA), and the University of Rhode Island Reports.

YEAR	TOTAL DIVERS PER YEAR BY NATIONAL AGENCIES	PERCENTAGE INCREASE	TOTAL POSSIBLE SCUBA DIVERS	TOTAL SCUBA FATALITIES PER YEAR NATIONALLY	PERCENTAGE INCREASE	FATALITY RATE/DIVER
1970	118,126		1,116,126	112		0.00010
1971	152,939	30%	1,369,784	111	2%	0.00008
1972	186,312	50%	1,495,077	118	5%	0.00008
1973	230,457	99%	1,585,928	119	8%	0.00007
1974	335,806	123%	1,927,528	N/A	N/A	N/A
Total	821,528			462		

- Total number of fatalities for any activity nationwide are always delayed as reporting agencies compile and compare data. Indications are that the number of deaths will be greater for 1974 and therefore, the percentage of increase will be greater but nowhere near the increase in training.

- It is also estimated that an approximately equal number of persons (near 1,000,000) became divers from 1950 to 1970. All of these divers are part of the population base exposed to possible diving accidents.

- If we compare the total possible diver population to the actual deaths per year we see a decrease in the fatality rate. Of the total possible divers, less than 1 per 10,000 is fatally injured per year. We do not know the drop-out rate, but the relative change of less accidents per diver will remain the same regardless.

- The number of divers certified per year has doubled in four years while the accident rate has increased only 5 percent, causing a decrease in the fatality rate. This is a remarkable safety record, but even more impressive is that the number of open water exposures per diver during training has also doubled during this period. In addition, there is a 20 percent drop-out rate during diving classes, so the number of persons exposed to some scuba training is 20 percent higher than the number certified.

- From 1970 through 1973 a total of 685,928 divers were certified. Not even allowing for class drop-outs and using an average of three open water exposures, this is 2,057,784 training dives. During this period 462 scuba divers died, but on searching all possible reports and records, only 46 of these deaths were during instruction. This is a fatality rate of 0.00002 per dive.

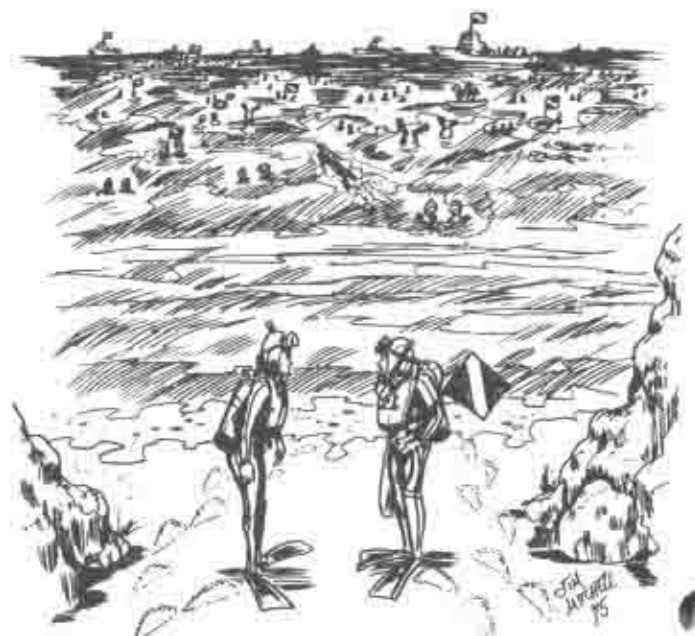
The number of diving fatalities has changed little in the last five years for either Los Angeles County or California. From 1970 through 1974 the average number of scuba deaths per year has been 10 for LACO and 30 for California.

Of 15 charter dive boats operating out of Los Angeles County from 1970 through 1974, there were 20 scuba deaths in this five year period with approximately 450,000 diving exposures. This is a fatality rate of 0.00004 per exposure. (Information provided by the Charter Boat Owners Association.)

You will observe differences in accident figures because some researchers define scuba fatalities differently. The sport of scuba diving is sometimes charged with a death for such things as commercial diving, submarines, deep diving records, diving with surface supplied air, compressed air explosions, skin diving, working dives by police and scientists, among others. Also, deaths to non-U.S. citizens or U.S. citizens in foreign countries are included or not included depending on the particular report.

In the accident reports you will find many cases of divers doing things that no prudent diver should ever do. Legislation is not going to prevent these gross human errors in judgement such as diving with known heart conditions, diving under the influence of alcohol or drugs, sport divers using commercial or military diving equipment, not eating for long periods before diving, extremely deep diving, diving in rough and dangerous waters.

Also in the accident reports you will find even more cases of errors in judgement that only education, not legislation will decrease. There is risk involved in diving, as with all active sports, and people do die. Most deaths are self caused by human errors in judgement. Education, not legislation is the only way that we can prevent or control these human errors. **-NN-**



Can you believe it? The number of diving accidents is increasing . . . or is it?

# DIVING TRAVEL



## NAUI AND LISLIND ANNOUNCE POST-IQ7 TRIP TO BONAIRE, NETH. ANTILLES

The 7 night—8 day program will be leaving from Miami on Monday, September 29th, for Bonaire, the scuba diver's paradise in the southern Caribbean.

Transportation provided by KLM Airlines.

The program includes transfer from the Flamingo Airport to the Hotel Bonaire, the IQ7 Headquarters for this exciting vacation.

The program includes 2 meals per day for the duration of your stay.

Also included for the diving members are either 6 one-half days or 6 full days of diving with Captain Don Stewart of the Aquaventure Dive Complex located at Hotel Bonaire.

40 to 60 NAUI delegates are expected to attend this exciting Post Conference trip.

Special features of this program will include cocktail parties and receptions with local dignitaries, evenings of dancing, plus barbecues in remote parts of the island.

For your convenience and sightseeing pleasures a free rental car for one day will be provided per couple.

Price for this program including round trip airfare from Miami, 7 nights—8 days at the Hotel Bonaire, including breakfast and dinner daily, r/trip transfer to your hotel on Bonaire including portage, 6 half days of guided scuba diving plus many extras and surprises will be less than \$500 per person, based on double occupancy.

We trust this offer will be warmly received by all NAUI Instructors attending IQ7. It will be a great opportunity for stimulating discussions in an informal atmosphere.

Let it be known that Bonaire has been featured in many, many articles in the various magazines of the skin diving industry, especially "Skin Diver" Magazine.

Read next month's NAUI News for further details on this once-in-a-lifetime opportunity, including surprise personalities!

For more information contact: LisLind International, Caribbean Division, 5 World Trade Center, New York, N.Y. 10048, phone (212) 466-1370.

## ROATAN TRIP OFFERED

NAUI Members:

Explorer's Unlimited\* is presenting a two week excursion to Roatan, Honduras, this August 15 through August 28, 1975. The trip will cost approximately \$670 per person. This will include all transportation from L.A., lodging, 3 meals per day (except for breakfast and dinner in Mexico City), 2 dives per day, tanks, air, boats, and horseback riding.

We are looking for divers to join us in this adventure. For those interested in paying their way and/or earning money, we are looking for instructional programs such as underwater photography, navigation, or wreck diving.

Some of our resources are: for instruction, the hotel on Roatan has a swimming pool; in case of accident there will be a doctor aboard; and members carry a no-deductible accident insurance with benefits up to \$5,000.

Those interested in setting up a program write: subject, your background in the subject, your teaching experience, size of desired class, cost of materials, what you would like to earn, and any other pertinent information.

Inquire as soon as possible.

Arthur D. Sams, 3153  
680 Stone Canyon Road  
Los Angeles, CA 90024

\*Explorer's Unlimited is a non-profit group affiliated with the explorer division of B.S.A. Membership cost is \$10. Membership is required to satisfy FAA regulations.

CONT. NEXT PAGE

## SOUTH CAICOS IQ7 TRIP OFFERED

Dear Fellow NAUI Instructors:

Recently I had the pleasure of visiting a small isolated island in the British West Indies. I was tremendously impressed with the virgin condition of the reefs and the abundance of marine life in this area. The island also boasts some of the most spectacular wall diving in the Caribbean with a near vertical drop-off from 60 feet to 3,000 feet!

The name of the island is South Caicos and it's located 600 miles southeast of Miami, Fla. It's one of those out of the way areas where every other diver hasn't visited. In other words, an "underwater Garden of Eden." Wouldn't it be great if a small group of instructors could get together in a paradise like this?

I'm working with West Indies Divers, a Caribbean dive tour company, to organize a five day tour to South Caicos for instructors and assistants, to run in conjunction with IQ7 in Miami this September. The tour package will cost \$329 and will include; round trip air fare from Miami, immigration-departure taxes, hotel and all meals at the Admirals Arms Hotel, gratuities, rental of tanks and weight belts, exclusive use of dive boats and unlimited free air fills! A special rate of \$279 has been arranged for non-diving companions.

If you are interested in spending a few days getting some tremendous dive time among excellent company—please contact me immediately. Space is limited to twenty instructors. Attend and enjoy IQ7 in Miami, September 26 to 28; then experience South Caicos diving, September 29 to October 3.

*James Nolte, NAUI 3439  
13 Bayview Blvd.  
Ft. Myers Beach, Fla. 33931*

## COZUMEL TRIP OFFERED

Gentlemen:

I am the vice-president of an aircraft leasing firm and belong to the board of directors of International Air Association, an air travel club based in Washington DC.

I became a fervent enthusiast of scuba diving and expect to practice it as soon as I qualify. In the meantime, I am going to organize a series of diving trips, the first of which will be Cozumel on June 14-21.

We have our own aircraft, a DC-7 with a carrying capacity of 99. It will be operating from the N.E. coast and will be probably stationed in the New York area, since it is here where most of the trips are expected to be generated.

This operation will offer the opportunity of saving a substantial amount of money at these times of soaring air fares. On the trip to Cozumel the cost will be reduced about \$100. Another added advantage is the direct flight, with no waiting period in Miami or transfer of planes.

If this project is of any interest to your organization, please let me know at your earliest convenience.

All the prospective travellers have to become members of IAA and I will offer to your people a free one year membership (\$15).

I am open to suggestions for any trips that you might have in mind, as long as they are technically feasible.

Direct your answer to the below name and address, since I will be in charge of coordinating all the diving trips.

*Jose L. Suescun  
1700 Bedford Av. Ap. 23G  
Brooklyn, N.Y. 11225  
Tel: [212] 735-7410*

—NN—

## BOOK REVIEW

*by Arthur Ullrich, NAUI 601*

### **The Collector's Encyclopedia of Shells by S. Peter Dance**

I'm not the world's greatest shell buff, but I have a few I picked up here and there. When I first saw this book I suspected it was just another shell book. Wow! Was I surprised.

The first thing I noticed was its 1500 plus color photos of shells of the world. I liked the way it didn't get bogged down in scientific (Latin) gobbledygook. Of course, all the scientific names are there, but most important to me are the common names.

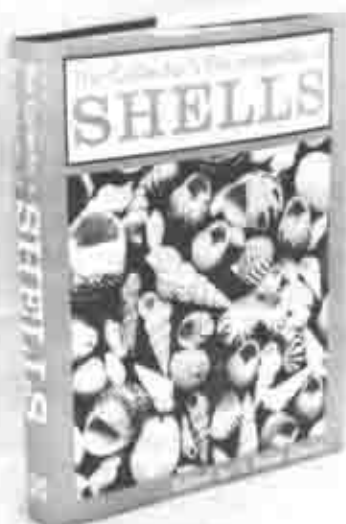
It's easy to reference the kind of shell you have so you can learn its scientific name, distribution and other facts. Other shell books I've seen and tried to use before always hid my shells in some back corner. You know the books that only picture the rarest shells in the world and pay no attention to the common beauties that you and I find.

CONT. NEXT PAGE



## BOOK REVIEW . . . SHELLS . . . Cont.

The COLLECTOR'S ENCYCLOPEDIA OF SHELLS is really different. My shells were easy to find. The front has two kinds of references. One is scientific and the other is in photographic format. I could look through the dozen pages of classification photos and find out where to look for my shells. As an experiment I took three shells from my collection, each different, and timed my research. The first shell took one minute, 45 seconds to positively identify. The second took two minutes, 50 seconds and the third took 1½ minutes—and it was fun.



The text about each shell tells scientific name, common name, a description including color and marking, where to find it, and whether it's common, uncommon, rare, etc., plus, its approximate size. The photo also has a size reference so you know how to compare it to the real thing. (Example: X .6 or X 2.0).

If you dive, I'll bet you pick up shells and if you do, you'll want this book as a reference. The only thing I disliked about it is that it called most of my shells "common" . . .

This book is a real value and I would highly recommend it to anyone who is interested at all in shells.

Hard cover, over 1500 color photos, 288 pages, 8x10 $\frac{1}{4}$ , 1974, available from NAUI Headquarters. \$19.95.

Combine this book with other purchases and take advantage of the highest possible member discount.

**-NN-**

# National Association of Underwater Instructors



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**SEPTEMBER '75**[illegible]

## CPR INSTRUCTOR TRAINING

"Instructor-Trainer" is a new position for selected instructors of the American Heart Association. The Greater Boston Chapter held the first Instructor-Trainer course in the Northeast this past December and I was offered the opportunity to be part of this course. There were 50 in the class consisting of Doctors, Nurses, Technicians and lay persons such as myself. We were all selected on the basis of the letters of recommendation to the Boston Chapter from the medical profession in our own area and the number of CPR courses which we had conducted during the past several years. Also my working as a part-time corpsman in the Cape Cod Hospital emergency department also helped.

Upon successful completion of the course, which was conducted completely by doctors, and consisting of oral, written, and practical testing, we were certified as Instructor-Trainers. This means that I can take an interested group of persons in my area, who have completed the basic CPR course, put them through the required testing and instruct them in the American Heart Association procedure of conducting a Basic Life Support CPR course.



With several assistants (one of them being Wayne Anderson, NAUI Instructor 3794) we have just completed such a course for 30 NAUI Instructors in this region. This means they can now include the basic CPR course in their scuba classes and issue American Heart Association certification cards to their students who successfully complete this part of the course.

I firmly believe that CPR instruction should be in every class whether basic, advanced, or any other type of diving course. I also feel CPR

should become a mandatory part and not just a lightly touched on part of every scuba class. I realize this will add more hours to the basic scuba course, but we are dealing with a positive method of saving another diver's life. Even if we as scuba instructors teach only the basic rescue breathing part of CPR, which requires approximately two hours, this might be the saving part of our life or our buddy's life someday.

Any scuba instructors who are interested in becoming certified as CPR instructors for the Heart Association should contact their local chapters. They are in the phone book.

If any instructors have any problems, questions, or would like course suggestions which we have developed here in the Cape and Islands Chapter, just drop me a line.

*Francis E. [Pat] Kidwell, Jr., NAUI 1342  
165 Main St.  
Yarmouth Port, Mass. 02675*

P.S. Congratulations on your new position as Editor—both of the News Letters have been a big help in my classes at the Community College—all of my students read every issue cover to cover.

—Pat

## AHA CPR INSTRUCTOR COURSES

CPR (cardiopulmonary resuscitation) is an important part of any lecture or discussion on diving safety, whether it occurs during a basic, advanced, or instructor course in diving. And to improve CPR training at all course levels, a series of CPR Instructor Training courses are being organized in the Mid-America Branch.

The first of these series of CPR Instructor courses was held simultaneously with the NAUI ADP Seminar held in Chicago on February 22 and 23. The eight-hour course was organized and run by AHA Instructor Trainer Ron Bangasser (NAUI 3909) with support of the Heart Association of West Cook County and Armstrong Industries, who both furnished recording Resusians used in the course.

It was a successful course which generated lots of interest in teaching methods for a basic course as well as learning the availability of teaching materials.

Candidates were tested on knowledge, practical skills, and ability to teach and answer questions related to CPR.

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## AHA CPR INSTRUCTOR COURSES . . . Cont.

Seven candidates were certified as AHA CPR Instructors: Susan Bangasser, Richard Fishback, Tony Perry, Dave Oberschmid, Frank Quinn, Orion Schultz, and Dave Wilson.

Staff members were: Ronald Bangasser, Jack Harrington, Mary Jane McCarthy, and Bill Schultze.



*photo by Ron Bangasser*

This series of CPR Instructor courses continues on March 23 in Chicago. Other courses are planned in Milwaukee, Minneapolis, and Canada on future dates.

Anyone interested in becoming a CPR Instructor through the American Heart Association should contact Ron Bangasser, NAUI 3909, at 133 Rockford, Forest Park, Ill. 60130 or call at (312) 771-4412.

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## SCUBA LIFESAVING WORKSHOP REPORT

*by John Kessler, NAUI 3590*

Kentucky's first scuba lifesaving and rescue workshop was conducted at the Lakeside Swim Club in Louisville. Since workshops and seminars are scarce to inland fresh water and mid-west divers in general, there was a tremendous response. There was newspaper and radio advertisements one week prior to the workshop and the TV press attended the Sunday session.

Saturday's session was for the general diving public and the Sunday session for the professionals—police recovery teams, rescue workers, emergency medical technicians (EMT), lifeguards, instructors (WSI and diving), plus ADP students.



*John Kessler*

The classroom session consisted of: problems and hazards related to diving accidents, environmental problems, limitations of equipment and weight belt studies, factors leading to drowning, the panic syndrome—symptoms of drowning, the physiology of drowning in fresh and salt water, and what happens to a diver without air while on the bottom and during ascent. The participants agreed it was important to know and understand the above "... and get the diver on the surface as quick as possible and begin mouth-to-mouth immediately." The lecture gave a better total insight to the problems of scuba lifesaving rescues.

First covered in the practical field work was the most important—Self Rescue. Ditching weight belts, survival techniques, the concept of ahead dive planning, proper training and knowing one's own limitations was covered. Also the use of whistles, flares, and a discussion on buddy breathing vs. free ascents while diving.

Next came assisting a tired diver, rescuing a conscious diver at the surface, rescuing a semi-conscious or unconscious diver at the surface, and rescuing a submerged diver. Two underwater movies, prepared by the course director, on submerged diver rescues were shown. Applying mouth-to-mouth resuscitation in the water, CPR on land, and treatment of shock and pressure related injuries was shown in detail.

Many of the professional groups made the workshop a mandatory part of their training. Present were the City of Louisville Police U/W Recovery Unit, Kentucky Rescue Association, Ohio Valley Rescue, and many fire departments' rescue and recovery teams.

Actually the course was geared for anyone dealing with aquatic safety. As an example mouth-to-mouth was shown swimmer to swimmer, swimmer to diver, diver to swimmer, diver to diver with and without floatation gear. Also the use of innertubes, inflatable vests, life cushions, and ring buoys for mouth-to-mouth resuscitation.

*Thanks is extended to John Kessler, Course Director; to the Lakeside Swim Club for the use of their beautiful facilities; Bill Schmidt of the Midwestern Company, and Ron Lipman of Kentucky Diving Headquarters for their help in publicity.*

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## COMMENT AND DISCUSSION

Articles and letters received on the subject matter of the articles and editorials appearing in NAUI News will be presented here with editorial comment. All views expressed by authors in this section are those of the author and do not necessarily reflect the policies of NAUI.

### ANCHOR LIFTING . . . CONTINUED

The article in NDA News Feb. '75 by John Kessler points out a very real problem in boat diving, namely—retrieval of the anchor from the bottom after the last dive.

On many boat diving excursions I have witnessed divers risking "getting bent" in order to retrieve a costly anchor hopelessly entangled on the bottom. Many boat captains try running the boat up and over the anchor to dislodge it, but if this is unsuccessful a diver must return down the anchor line to retrieve it. This may not be a problem sometimes, but what if the anchor is in deep water? Perhaps having just completed a deep dive one must wait 1-3 hours before descending safely. Air is also a problem after the dives are over, tempting one to use an almost empty tank to get the anchor up. No dive should be planned on less than a full tank of air, regardless of how long the anticipated bottom time might be.

Cutting the anchor loose is too expensive and keeping the dive boat tied up any longer is equally expensive. These frustrating conditions lead divers into taking unnecessary chances which could result in disaster.

As detailed by John in his article, a lift bag attached to the chain about 10 ft. up from the anchor is the best solution. Another useful tool in lifting anchors is the plain white bleach bottle—2 qts. capacity or larger. Attach 2 bottles to the anchor line as described, after the divers are safely on the boat the guides can then use the bottles to lift the anchor up. Exhale some air into the bottles until the anchor just begins to ascend, then swim it up towards the boat. Be careful to maintain a safe rate of ascent. If the bottles begin to take off too fast then some air can be let out by tipping the bottle until a proper rate of ascent is maintained. It is also useful to instruct someone on the boat to begin slowly hauling in the slack line as this will assure you surfacing close to the boat.

The bleach bottles also make good underwater markers. Instruct your divers to stay within sight of the white bottles. This will keep them in safe proximity to the boat.

—Jerry Schnabel, NAUI 2464



A similar technique for lifting anchors as proposed by John Kessler, NAUI 3590, follows, only using different equipment. I have found that using empty, plastic bleach bottles strung together does the job quite nicely. Three or four of these white bottles with half of the narrow end cut off to allow for easy filling (but leaving the handles on) can be carried down at the start of the dive and attached to the anchor chain. Partially inflated with air from your mouthpiece, they are highly visible and provide a center of operation during the dive.

At the end of the dive the last person can fully inflate the bottles and ride them to the surface. Expanding air automatically dumps out the side you cut away. This technique is used at a Bahamas resort, and to view the Wall of Andros while drift diving in this manner is quite a sight.

—Gene De Marco, NAUI 3796

### CAN A DIVE BE DEFINED?

by Chet Langworthy, NAUI 2806

Attempting to define a dive is almost as futile as attempting to bottle a rainbow.

In answer to "What is a Dive" by Dennis Graver, NAUI 1103, in the Oct. 74 NAUI News I was extremely disappointed to find that the only two ingredients mentioned in defining a dive were time and depth. I am not going to try and put forth a concrete definition of a dive because I believe there are too many variables involved. True, time and depth should be given great weight in a factor system when all of the environmental conditions are ideal. But let's



## COMMENT AND DISCUSSION . . . Cont.

examine some of the problems presented when the environmental conditions are less than ideal. During the summer months on the northeast coast 30 minutes at 30 feet is within reason. However, in Dec., Jan. and Feb., 30 minutes at 30 feet in 38°F water is somewhat unreasonable. In some areas where we are confronted with not only extremely cold water but near zero visibility, Depth and Time should not carry as much weight. Certainly 10 minutes spent at 30 feet in 40°F water with 2 feet of visibility is equivalent to spending 30 minutes at 30 feet in 80°F water with unlimited visibility.

Another ingredient of a dive that should be considered is the type of work being performed. Certainly productive type work such as conducting a well organized underwater search or checking out the bottom of a ship should be weighted heavier than a leisure, sightseeing underwater exposure.

The above represents only a few of the reasons why a strict depth and time method of defining a dive would not be acceptable. Hopefully the Branch Managers will consider these variables and arrive at a definition that will encompass enough flexibility to enable all geographical areas to conform.

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A "dive" is an activity under water using scuba following at least a 10-minute surface interval. To define it in any other manner would confuse the issue of repetitive diving and decompression time computations. If a person wishes to log the hours and depth in some fashion or another, this should be an individual privilege and not classified as a definition of a "dive." I firmly believe that we must stick to a definition of a "dive" as it is defined by the United States Navy repetitive dive tables.

Bob Widmann  
NAUI 2055

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I like Bill High's definition! Couple that with the premise that we recognize experience based upon actual *time* in the water, and you've got it! (We've got it!). So . . . one logs dives . . . but simultaneously one logs accumulated

hours also. For example, I've logged 68 dives in 1974 which have amounted to 53½ hours of actual water time.

Fred Calhoun  
NAUI 380

*Editor's Note: Any other thoughts? We still do not have the definition to clarify the activity we call a "dive" in all NAUI standards . . .*

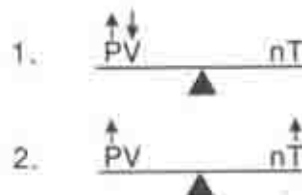
## COMMENT ON THE "SEE-SAW LAW"

by Paul Meng, NAUI 3882

On seeing David Grill's "The See-Saw Law" in the February NAUI News, I decided to write to you about a similar device I have been using to teach the Natural Gas Law,  $PV = nRT$ .

The combined natural gas law is useful because it not only includes Boyle's, Charles' and Gay-Lussac's Laws, but also the term "n," which scuba divers measure in "rated volume," i.e., a tank has a rated volume of 80 cu. ft. at 3000 PSI. Therefore, any student who can use the natural gas law is way ahead of those who must remember three or more separate laws.

First, I explain that there are four terms which can vary (R is a constant). The equals sign is a mathematical balance point just like the pivot of a see-saw. Thus, if the value of P is increased, there are two things that can be done to keep the balance: decrease V, or increase n or T.



In this way students can reason out Boyle's, Charles', and Gay-Lussac's Laws without having to memorize them. It also helps them remember how to do air consumption problems (P and n).

I think it is a good thing that the 4th edition of *The New Science of Skin and Scuba Diving* has decided to use the natural gas law approach. Chemistry teachers have used it for many years. This is the easiest way I can see to understanding it.

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—END OF COMMENT AND DISCUSSION—

—NN—

## AAHPER INSTITUTE SCHEDULED

An institute to certify underwater educators is being sponsored by the American Alliance for Health, Physical Education and Recreation (AAHPER), NAUI, and the University of Michigan Department of Physical Education. This course, designed specifically for Professional Educators and Recreational Directors, may be taken for credit or non-credit purposes. The course is also useful to educators with an interest in scuba who are not seeking certification as an underwater instructor. Certification will be available at several levels for those participating. The secondary purpose of the program is to educate those interested to advanced aspects of scuba.

AAHPER will issue no certification for the program. The course has been approved by the Board of Directors of NAUI, so NAUI certification will be available to those successfully completing the course. The course exceeds NAUI standards for instructor certification, and will be staffed by NAUI personnel.

This unique program, the first of its kind and co-directed by Lee Somers, Ph.D. and John Cramer, Ph.D., will provide several outstanding options to those

attending. These options include Lifeguard certification, CPR Instructor certification and a separate course in Hyperbaric Chamber operation.

The Institute, which costs \$125 plus certification fees, has enrollment limited to 40. For further information, contact: Lee Somers, Ph.D., 1216 Space Research Bldg., Dept. of Atmospheric and Oceanic Science, University of Michigan, Ann Arbor, MI 48105.



*John Cramer Photo.*

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NAUI HEADQUARTERS  
22809 BARTON ROAD  
GRAND TERRACE (COLTON), CA 92324  
(714) 783-1862

Jon Hardy  
General Manager  
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