

INSTRUCTOR OPINIONS: RESULTS OF A NAUI SURVEY

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ABSTRACT

NAUI is a member run organization which requires continual input of ideas and opinions in order to grow. A questionnaire was mailed to all meanders in April 1977, designed to sample opinions on a variety of issues including equipment, training techniques, cardiopulmonary resuscitation, and diver recertification. The responses were analyzed for the percentage of "YES", "NO", or "UNDECIDED" answers to each question. Responses to several questions allow a definitive statement to be made concerning the issues.

During the fall of 1976, an unsolicited survey was sent to NAUI headquarters by the authors of this report with the request that it be sent to all members of NAUI. The questionnaire, which was mailed in April 1977 to 3200 members of NAUI, was designed to obtain information concerning three specific areas pertaining to diving instruction, equipment, teaching methods, and diver recertification. More than 600 responses were received by 10 May (10 days after the published "deadline") and an additional 50 during the next two months. Those responses and our interpretation of the data is the subject of this report.

Completed questionnaires were returned from 44 states as well as the Bahamas, Puerto Rico, the Virgin Islands, Canada, Singapore, Guam, and Palau. The geographic distribution of the responses is presented in Figure 1. The numbers represent the percent responses received of the total members of NAUI listed for that region in the 1976 NAUI Directory. Southern California was taken to include Fresno and points south.

We have also examined the responses in terms of the distribution of the NAUI numbers of the respondents. Figure 2 presents those data along with information about the approximate length of time the respondents have been members of NAUI. We feel that these data are what one might reasonably expect, that is, those instructors who have been teaching for less than 5 years are the most likely to respond.

Approximately 10% of the responses contained letters, some of them quite extensive, commenting on various aspects of the questionnaire. We have taken the liberty to quote from several of these letters and have tried to answer many of them individually.

The questions and the results of the responses are presented in Tables 1 and 2. The questions have been grouped into the three areas previously mentioned. The percentage "YES", "NO", or "UNDECIDED" to any given question is based on the number of responses to that question. Many people indicated that they did not wish to answer a particular question.

EQUIPMENT

QUESTION 1: Should all NAUI SCUBA courses, at all levels, absolutely require the use of a submersible pressure gauge?

An overwhelming number of those responding favoured the use of submersible pressure gauges (SPG). The surprising point was the number who were opposed. While some persons indicated that their opposition was to the "requirement, not the concept",

others said that they did not wish to use SPG's in open water. These people all indicated that they preferred reserve systems.

QUESTION 2: Should a NAUI BASIC SCUBA course require the use of a submersible pressure gauge during all training sessions in which compressed air is used, ie. both during confined and open water work?

The responses for SPG's in all situations when compressed air is used was somewhat less enthusiastic. Two basic arguments were offered for opposing this idea. The first, and most prevalent, was equipment maintenance. This argument says that students in BASIC courses are unduly hard on SPG's and that repairs or replacement will drive the cost of the course up to intolerable levels. It is our personal opinion that this is a "straw horse". If students are carefully instructed in the care and handling of gear, few SPG's will be crushed by tanks or dropped on pool decks. Indeed, proper care of shop equipment is the first step in learning proper care of personal equipment. One argument for not requiring an SPG at all times suggests that the feeling of discomfort and uncertainty which the student experiences not knowing just how much air is left reinforces the desire to always dive with one. On the other hand, always having an SPG, even in the pool, reinforces the diver's habit of constantly monitoring the air supply. Thus, the majority of the respondents feel that SPG's should absolutely be used in open water and that they should also be used in pools except when a valid teaching reason prevails.

QUESTION 3: Should NAUI require a constant reserve system (either J-valve or an equivalent) to be used in conjunction with a submersible pressure gauge?

Constant reserve systems, on the other hand, received a large vote of "no confidence". The arguments against reserve systems ranged from "they have a high failure rate" to "they are too easily breathed through or inadvertently turned on". The sonic reserve system did receive some support and has the support of staple dive boat operators in Southern California who will allow divers in the water with either an SPG or a sonic reserve. The principle argument in favour of a reserve used in conjunction with an SPG was given by Paul Tzimoulis in the May 1977, Skin Diver magazine.¹ He referred to the reserve as an "alarm clock", which only works if you remember to set it.

QUESTION 4: Should all NAUI instructors be required to use an "octopus rig" for all training sessions involving scuba?

The responses to the question suggesting that all instructors use octopus rigs whenever using SCUBA elicited an almost even split. Comments ranged from "they just get in the way" to "I wouldn't take students in the water without one". Several people objected on financial grounds and several for "difficulty of maintenance" reasons.

It is quite clear that additional discussion of the pros and cons of the octopus rig is required. The entire problem of octopus training during a BASIC SCUBA course will be dealt with in another section of this report.

After reviewing the responses to the questions on EQUIPMENT, it is our opinion that members of NAUI want to keep equipment simple and safe. They are willing to entertain new ideas, but only want them incorporated into our programs after they have been thoroughly tested and discussed.

TABLE 1
QUESTIONS FROM 1977 NAUI SURVEY

1. Should all NAUI scuba courses, at all levels, absolutely require the use of a submersible pressure gauge?
2. Should a NAUI BASIC scuba course require the use of a submersible pressure gauge during all training sessions in which compressed air is used, ie. both during confined and open water work?
3. Should NAUI require a constant reserve system (either J-valve or an equivalent) to be used in conjunction with a submersible pressure gauge?
4. Should all NAUI instructors be required to use an "octopus rig" for all training sessions involving scuba?
5. Do you give "Octopus Training" in addition to standard "Buddy Breathing" training in a BASIC scuba course?
6. Should NAUI require "Octopus Training" as part of all scuba courses, at all levels?
7. Do you teach emergency ascent training in open water during ADVANCED scuba courses?
8. Do you teach emergency ascent training in confined water during ADVANCED scuba courses?
9. Do you teach emergency ascent training in open water during BASIC scuba courses?
10. Do you teach emergency ascent training in confined water during BASIC scuba courses?
11. Should NAUI require emergency ascent training and specify one prescribed training method for all scuba courses, at all levels?
12. Do you teach ditch and recovery during a BASIC scuba course in confined water?
13. Should ditch and recovery training in open water be prohibited by NAUI?
14. Should all active members of NAUI, instructors, assistant instructors, skin diving leaders and divemasters be required to maintain a current CPR certification (not necessarily "instructor level" training)?
15. Should NAUI introduce a "Diver Recertification" requirement (of a yet to be decided mechanism) by placing an expiration date on all certification cards?

COMMENT WITHHELD ...

Jamie is 4 years old and 1 metre tall. He has only recently learned to dogpaddle, but that doesn't stop him from scuba diving. Equiped with his own mask, custom-made wetsuit and small air tank he is off to the USA with his parents (who run a diving school in NSW) to negotiate for television commercials. His scuba lessons started about five months ago and his father is quoted as saying "I wouldn't try to hold him back in something like this. It is better for him to learn the correct way now than have him experiment". His deepest dive has been three metres in a training tank. Occassionally he dives in the shallows at the beach with his father close by.

Australian, 22 February 1978

TABLE 2
RESULTS OF 1977 NAUI SURVEY

QUESTION NUMBER	% YES	NUMBER	% NO	NUMBER	%	TOTAL
NUMBER	YES	NO		UNDECIDED	UNDECIDED	NUMBER
1	423	72	162	28	—	585
2	386	66	201	34	—	587
3	97	17	468	83	—	565
4	285	48	248	41	65	598
5	225	66	170	34	—	341
6	172	30	347	58	76	595
7	410	75	140	25	—	550
8	433	79	116	21	—	549
9	357	60	242	40	—	599
10	535	90	59	10	—	594
11	290	48	202	34	106	598
12	541	92	50	8	—	591
13	166	28	329	55	105	600
14	407	68	129	22	64	600
15	276	46	197	33	126	599

DIVING SAFETY MEMORANDUM NO 8, 1978

Commander S A Warner, Chief Inspector of Diving, Department of Energy,
Petroleum Engineering Division, Millbank, London SW1P 40J

Diagnosis of Decompression Sickness

During 1977 in the United Kingdom sector of the North Sea there were several occasions when the Diving Supervisor failed to correctly diagnose decompression sickness. On three occasions, what should have been a normal therapy, eventually required a saturation type therapy. Excuses such as cramp have been used in order to explain what are in fact serious symptoms.

The section on diagnosis of decompression sickness in the United States Navy Diving Manual is drawn to the attention of all Diving Supervisors and in particular, the "patient examination":

Does diver feel well?	Yes/No
Does diver look and act normal?	Yes/No
Does diver have normal strength?	Yes/No
Are diver's sensations normal?	Yes/No
Are diver's eyes normal?	Yes/No
Are diver's reflexes normal?	Yes/No
Is diver's pulse rate normal?	Yes/No
Is diver's gait normal?	Yes/No
Is diver's hearing normal?	Yes/No
Is diver's co-ordination normal?	Yes/No
Is diver's balance normal?	Yes/No
Does the diver feel nauseated?	Yes/No

The correct application of the above table can avoid extremely serious consequences.

TEACHING METHODS

- QUESTION 5: Do you give "Octopus Training" in addition to standard "Buddy Breathing" training in a BASIC SCUBA course?
- QUESTION 6: Should NAUI require "Octopus Training" as part of all SCUBA courses, at all levels?

OCTOPUS TRAINING

Ten years ago, when submersible pressure gauges were considered new equipment, the question of always using an SPG would have drawn an indecisive response from instructors. Today it does not. 66% of those responding do teach "Octopus Training" in addition to standard "buddy breathing" training, but 58% oppose NAUI requiring such training in a BASIC course. It is our experience that teaching students to use an Octopus after teaching them to buddy breathe is easy. We never have any difficulty with students learning this skill. It doesn't require a large expenditure of money either; having them breathe off one of our instructor's extra second stages, both in the pool and in open water, in conjunction with a few minutes of lecture, helps prepare our students for the use of an Octopus.

As we indicated previously, the entire concept of an Octopus rig still requires debate and discussion among divers and instructors. However, if "Safety through Education" is to remain more than just a trite phrase, can we ignore this simple step toward safety?

- QUESTION 7: Do you teach emergency ascent training in open water during ADVANCED SCUBA courses?
- QUESTION 8: Do you teach emergency ascent training in confined water during ADVANCED SCUBA courses?
- QUESTION 9: Do you teach emergency ascent training in open water during BASIC SCUBA courses?
- QUESTION 10: Do you teach emergency ascent training in confined water during BASIC SCUBA courses?
- QUESTION 11: Should NAUI require emergency ascent training and specify one prescribed training method for all SCUBA courses, at all levels?

EMERGENCY ASCENT TRAINING

Certainly the issue of "Ascent Training" is the most emotional issue facing instructors today. Students, it may be argued, need the confidence that doing a controlled swimming ascent develops. The National SCUBA Training committee has just agreed² upon a set of "Emergency Procedures" for use when a diver is out of air and has nowhere to go but up. These procedures include a swimming ascent.

- QUESTION 12: Do you teach ditch and recovery during a BASIC SCUBA course in confined water?
- QUESTION 13: Should ditch and recovery training in open water be prohibited by NAUI?

During open water classes, 75% of NAUI instructors teach Emergency Ascents in ADVANCED courses and 60% in BASIC courses. Jon Hardy has informed the authors that very few waivers are outstanding which relieve the instructor of the obligation to teach emergency ascents in open water. In confined waters, most instructors are teaching emergency ascent procedures.

It is interesting to note that even instructors who refuse to teach swimming ascents in confined water do teach ditch and recovery. Certainly this skill has all of the same danger of cerebral air embolism associated with it as has emergency swimming ascents.

Ditch and recovery is usually taken to mean removing a SCUBA tank, leaving it on the bottom, swimming to the surface, and then diving down and donning the tank. 55% of the respondents want this to be allowed in open water. This is surprising in the light of the feelings toward emergency swimming ascents. Based on the comments related to this question, it appears that "ditch and recovery" may have been interpreted to mean the removal and replacement of a tank while remaining on the bottom.

Question 11 deserves particular attention. As many people pointed out to us, it really asks two separate questions. To the first, "Should NAUI require emergency ascent training?", a small majority said "YES". To the second, "Should NAUI specify one training method for all SCUBA courses at all levels?", an overwhelming majority said "NO". The data reported in Tables 1 and 2 represent the average of these answers.

Several conclusions may be drawn from the questions involving Emergency Ascent Training. First, the problem of definition still has not been solved. Dennis Graver³ and Jon Hardy⁴ have each explained this term and several related terms on many occasions. We suggest that you review these definitions. NAUI members want the option of teaching this skill, but they also want the freedom to teach it as local conditions dictate, or not to present it as a practical skill at all. The current waiver systems certainly satisfies these needs, but it must be used by the instructors. Finally, members of NAUI appear to feel that teaching how to perform an Emergency Swimming Ascent is an integral and important part of SCUBA training. This information, including the numbers, should be used as an argument to present to our insurance carrier's and others, if they, who DO NOT teach SCUBA themselves, try to tell us what should be taught.

QUESTION 14: Should all active members of NAUI, instructors, assistant instructors, skin diving leaders and divemasters, be required to maintain a current CPR certification (not necessarily "instructor level" training)?

Cardiopulmonary Resuscitation: Last year at 10g, it was stated that CPR training need not be an integral part of the skills of an instructor nor part of a scuba course, since "it doesn't work anyway". Apparently, the members of NAUI disagree. Member opinions on CPR ranged from "it is too difficult to find an instructor to teach it" to "it is the most valuable skill we have ever learned." To the first we say "become a CPR instructor yourself" and to the latter, we say "hooray"!

CPR does work! It is not difficult to learn⁵ and takes only 3 hours for a CPR qualified instructor to teach. Bob Widmann has just pointed out in the July/August 1977 NAUI NEWS that this skill is so important that time must be made for it in SCUBA classes. It is quite apparent to us that the members of NAUI recognize this skill and want it to remain part of the NAUI program. Indeed, many feel it should be a requirement to remain on an ACTIVE status within NAUI.

DIVER RECERTIFICATION

QUESTION 15: Should NAUI introduce a "Diver Recertification" requirement (of a yet to be decided mechanism) by placing an expiration date on all certification cards?

The question of a "lifetime certification" elicited almost as much comment as that of "emergency swimming ascents". OD Wells' letter in NAUI NEWS⁶ and the several letters in response to it presented the broad spectrum of opinions. The survey indicates that the respondents to the questionnaire are split 46% to 33% (the remainder undecided), but these numbers hide some very strong opinions. It is certainly true that NAUI cannot unilaterally put an expiration date on their certification card and hope to remain a viable enterprise. It is also true, that of the three sports which require BASIC certification (SCUBA DIVING, SKY DIVING, and FLYING), only flying requires continued proof of competence and this is a Federal requirement. Finally, a recertification program runs the risk of generating diver animosity and chasing people away from the sport. On the other hand, SCUBA DIVING is a sport with a conscience - we recognize the inherent difficulties in the sport and each of us, from the equipment manufacturers through the weekend diver, accept certification as the method which prevents needless accidents and losses of life.

Will divers accept a recertification program? Will the retailer accept the onerous responsibility of trying to enforce it? How will it function? Many people responded to the last survey question with detailed answers. Some of their comments are: "recertification for someone who has been out of touch for a long time is fine, but it will be a great imposition to those who are active" (Scott Leonard); "Perhaps the log book holds the answer. BS-AC (British Sub-Aqua Club) has now for a long time used a log book instead of a certification card and their divers are proud to update or upgrade their log books" (Bob Friedman); "Diver recertification has many logistical problems. The best recertification is active diving experience Mandatory certification is not going to help the person who dives with his ego, rather than his brain." (John LeClair); "I've been in favour of this for years. A lot of co-ordination and good-will among organizations training divers and among instructors in NAUI will have to happen before we could pull it off." (Bob Landers); "I offer free tests to allow an individual to test his knowledge. I also have dives during the summer for certified but not so current divers who wish to get back into the sport." (Wayne Dykstra). Comments such as these could be continued for several pages, but the content should be apparent from these examples. Clearly, this is a subject which still requires more debate and certainly must have the co-operation of all of the training organizations.

In retrospect, we consider this survey to have been quite successful. The 20% response, which is remarkably high for this type of survey, is very encouraging. We feel we have gained considerable insight into your opinions. This information, and information gained from future surveys should help keep NAUI the quality organization which it currently is.

REFERENCES:

1. P Tzimoulis, *Skin Diver Magazine*, May 1977.
2. NAUI News, July/August 1977.
3. D Graver, *10g Proc.*, p 132.
4. J Hardy, NAUI News, March 1976.
5. B Widmann, NAUI News, July/August 1977.
6. OD Wells, NAUI News, October 1976.

PADI TRAINING BULLETIN 78-1

Dennis Graver, National Training Director

1978 Proposed Standards Changes

The following standards changes are presented for membership consideration and comment. The revisions will be finalized, approved, and published in April. They will be effective on June 1 as usual. The proposed revisions are:

1. To allow the skin dive and two scuba dives for BASIC certification to be conducted on one day. Having training take place on more than one day is recommended and desirable but not required.
2. To modify the Student-to-Instructor ratios as follows:

A. Skin diving (Pool)	16:1
B. Skin diving (Open Water)	10:1
C. Scuba diving (Pool)	10:1
D. Scuba diving (Open Water)	6:1
E. Introductory Course (Resort Course)	4:1
F. Divemaster Training	6:1
3. To limit the total number of students in an OPEN WATER training group with one Instructor and the required assistants to a maximum of 14.
4. To require use of buoyancy control devices in all pool scuba training sessions.
5. To remove the requirement to compute air consumption during training.
6. To require BASIC and OPEN WATER Diver students to experience running out of air in a controlled situation (pool) during training.

The membership has already indicated the need for most of these revisions. Reference the Training Revision Survey results in the JOURNAL, Vol. X, No. 5, page 13.

Suggestions regarding these revisions or other needed standards changes should be sent to the National Training Director by 1 April for consideration by the Board of Reviews.

PARROT FEVER FROM CLAMS

A research team from the Smithsonian Institution and Maryland Department of Natural Resources has been looking at marine animal diseases by studying the gut contents of Chesapeake clams and oysters under the high magnification of an electron microscope. They find shellfish infested with a variety of phages and microbes, including some that resemble the chlamydia of psittacosis, the disease of parrots that also infects humans. Thus, they suggest, clams may transmit this disease to humans who eat raw clams.

Sea Technology, June 1977

Are the days of deadliness of the shy blue-ringed octopus numbered? There is enough venom in the adult's two tiny sacs to kill 10 people. But now Macquarie University reports that a five-member research team has discovered the chemical make-up of the main lethal toxin in the venom. It is identical to the known compound, tetrodotoxin, present in toad fish, some newts and frogs. Now what is needed is the antidote.

Sydney Morning Herald, 19 Nov 1977

BOOK REVIEW:

THE BELLE OF SUNDA STRAIT

by David Burchell
(Rigby 1971)

This is the story of one man's successful attempt to recover portions of HMAS Perth, sunk in action in the Sunda Straits on 28 February 1942. Anyone who has ever tried to get permission to do something out of the ordinary, let alone get practical backing in cash and kind, will find David Burchell's belief that his project could succeed hard to credit. He managed to get considerable help from the Indonesian Naval Authorities, help few other countries would have offered. That they did try to tell him that solo diving with Scuba in strong currents at 230-250 feet in the open sea would be unsafe advice he somewhat patronisingly puts down to their ignorance of modern practice! The tale shows what a determined and singleminded person can accomplish, given the required personal skills and access to persons with some sympathy for his aims. Although the tale is a little short on exact dive depths and times there are a number of incidents described of the "didn't ought to have done it" type. But first find your wreck.

Yes! You get the best results by asking the local fishermen. After all it is they who lose nets on such underwater objects. He comments on the very great skill they have in fixing locations by visual bearings without, it seems, using instruments. Then one dives ... but only David Burchell (I hope), would attempt such dives. Imagine a solo descent through water opaque with algae that make the line slippery, in a current that is persistent and strong, wearing a single 72 cubic foot cylinder and the only help being a companion (non diving) with a spare set in a small dinghy. Down you go to 160 feet and hope no sharks appear. The thick wet suit made life very unpleasant before water entry but it at least protected from the coral and the sea wasps!

Pity John sitting there in the boat, probably thinking what he would tell the Coroner. Pity the helpful Indonesian Authorities fearful of a loud outcry at their allowing such a crazy diver to get in the water, let alone giving him help. As David admitted, John was never very happy when he was under the ship trying to enter the Quartermaster's lobby, a space already occupied by several large groper and one large octopus. Such a dive led to the exhaust bubbles becoming trapped so the boat "cover" had nothing to show that the diver still lived. At least in other situations the air bubbles gave comfort to those in the dinghy as they reached the surface. And on the 29th dive he was really tested. With about 5 minutes dive time air left he suddenly found himself grabbed by the back of the neck as if he was nailed to a wall. He discovered that a tangle of loose wire had fouled the regulator and his description of the problems of getting loose, without being so foolish as to loose his expensive camera, should persuade everyone of the folly of solo diving in a wreck. Like he says, it wasn't the best place to be caught.

And one footnote, for he forgets to mention it in the text, that illustrates the power of the human spirit to overcome difficulties. David lost one leg in an accident when he was 16, but he has been more active in his life than almost any dozen "intact" persons.

SUBSCRIPTIONS

Members pay \$15.00 yearly. Associate membership for those neither medically qualified nor engaged in hyperbaric nor underwater related research is available for \$10.00. The journal is sent up to four issues yearly to both full and associate members. Those resident outside the immediate Australasian area should write for the special terms available.

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