

larity of the Expert Group to Standards Australia's Committee SF17 is probably unavoidable, but so too, it seems, is the associated controversy Worksafe thought they could avoid.

Epilogue

Australia's 1,000 scientific divers accept that we have stimulated much of the current controversy over occupational diving regulations. We do not, however, regret in any way the firm stand we have taken, at all levels of bureaucracy, against arbitrarily imposed, restrictive regulations. The largest single occupational diving community in Australia has been carrying out research essential to the national economy in a demonstrably safe and cost effective way for more than 30 years. We cannot allow that to be compromised by convenient but inappropriate over-regulation and the hidden agendas of other occupational diving groups.

We await with bated breath, and not a little apprehension, the new Worksafe document.

Dr E.A. (Ed) Drew is President of the Australian Scientific Divers Association. His address is the Australian Institute of Marine Science, PMB No 3, Townsville MC, Queensland 4810, Australia.

Documents cited

- 1 *Draft standard for scientific diving in Australia (1991)* can be obtained from the author (Fax 077-72 5852).
- 2 *AS 2299 - Occupational diving (1990)* and *AS 2815 parts 2, 3 & 4 - Training and certification of occupational divers* can be obtained from Standards Australia, 1 The Crescent, Homebush, New South Wales 2140 (Fax 02-746 8450).
- 3 *Queensland workplace health and safety legislation and regulations (1989)* and *Information paper on the review of regulation of the diving industry (1991)* can be obtained from Division of Workplace Health and Safety, GPO Box 69, Brisbane, Queensland 4001 (Fax 07-220 0143)..
- 4 *Scientific diving: a general code of practice*. Edited by Fleming NC and Max MD on behalf of the Scientific committee of CMAS. Published by UNESCO, Paris 1990 (Reformatted from the 1988 version)

AQUATIC WORLD AWARENESS, RESPONSIBILITY AND EDUCATION IN DIVER TRAINING AND TOURISM

Drew Richardson

Introduction

We know little about the ultimate impact of man's destructive activities on the world's oceans, such as pollution, dredging and dumping. However, there is another activity we are learning a great deal about through direct observation. Interaction between divers and the sea has never been greater. Unfortunately, some of it has been at the expense of the marine ecology. Damage to coral reefs is an example.

Unfortunately divers can endanger an ecosystem. The coral reef environment is a precious resource we, as divers, hold close to our hearts. However, we are fortunate that we, as individual divers, have the power to protect it.

In general, divers genuinely care about the well-being and welfare of the ocean and its inhabitants. Certainly, we are not a destructive or malicious group. Given that scuba divers actively interact with the sea, we are in an excellent position to shed laissez-faire attitudes to conservation and do our part to actively preserve the reef environment.

As divers and diving educators, the responsibility for protecting this resource falls on all of our shoulders. Our numbers have grown. We are not just a small band of adventurers, but a growing and vital community. Let us take a lesson from the deterioration of our terrestrial natural wonders. Multiply one foot-print, one broken twig, one aluminium by one thousand, and each is no longer insignificant.

Our non-destructive coexistence with the coral reef hangs on a thread of awareness. Although an individual presence may seem insignificant in a vast ocean, the numbers visiting the same area over time can leave a visible trail. Each careless swipe of a fin, hand or camera is another proverbial "nail in the coffin" of the coral reefs.

The first step toward responsible interaction with the coral reef system (or any marine ecosystem) is an accurate understanding of how your personal activity can affect the creatures who make it their home. Diving instructors have a key responsibility to help divers appreciate the coral reef environment. The entire ecological system will benefit from divers who have learned how to interact appropriately with the coral reef environment. This begins with education.

Aquatic world awareness

As an individual, it is imperative that you become a role model in your actions around, and discussions of, the coral reef environment. Consider the benefits of embracing a marine awareness philosophy in your diving behaviour. Would divers at large wantonly destroy a sea lion or starfish? Of course not. However, because many aquatic organisms do not look like the plants or animals we find on land, it is difficult for people to appreciate them as fragile life forms. Hence, brain coral may be associated with a terrestrial rock. Most organisms, including those found on the reef, are perceived from our narrow perspective as land dwellers. Or as Biologist Charles Seaborn writes in *The Encyclopedia of Recreational Diving*: "In general, people consider animals without fur, complex behavioural patterns or eyes as inanimate objects. Aquatic animals that fit into this category include sponges, corals, sea stars, tubeworms... and other slow-moving or attached organisms." If this is the mind-set of a passing diver, it may lead to the end of the diver-animal relationship and any further interaction.

In fairness to the uniformed, passing diver, he may be totally oblivious to the fact that he is kicking over a sponge or rubbing off the mucus covering from a coral structure. It becomes our job as responsible diving educators to sensitize and educate all divers whom we influence. All of us must respect corals, sponges and others as living animals with special needs, vulnerabilities and fragility. This educational process must occur throughout training and tourism and at all levels. There are many opportunities to presenting this information in a special format, such as a slide show, social, seminar or specialty course.

With this understanding and perspective, previously oblivious divers may now approach a reef with a sense of reverence and sensitivity. They take pains to exercise the buoyancy control skills they learned in diver training, and are aware of the placement of their hands, fins and equipment. It is nearly impossible to enter the coral environment and not have some physical contact with its inhabitants. The goal is to create the informed diver who is aware of the animals surrounding himself and who minimizes contact to that which is purely accidental.

Consider the benefits of making a pledge of personal commitment and contribution to conserving the realm that we bring others to explore. No single, greater force can speak with such authority as we who interact directly with the underwater realm. Do your part to educate those that you can influence to be informed, controlled and sensitive divers.

Teaching good diving habits and education

The best designed diver training course relies entirely on the field instructor to use it properly to produce a well-trained diver. Certification is a matter of performance-

based education. A student needs to master both knowledge and a series of motor skills before he is released from supervision.

Diving educators are encouraged to illustrate the impact that an adeptly performed skill has on the preservation of a fragile coral reef, which gives each skill added value. For example, buoyancy control, fin pivoting and hovering have direct application to staying up and over the coral. Other instructional opportunities abound in training to produce environmentally aware divers:

It is important to ensure that the student has mastered all the necessary skills in confined water to the point that he is relaxed and comfortable before taking him or her into open water. Buoyancy control starts with the kind of breath control that only relaxation brings.

Encourage divers to use less lead. A well-trained, relaxed diver will not need to overcompensate his buoyancy with too much weight or an overinflated BC. A pre-dive buoyancy check at the dive site will help ensure this. Proper weighting will also ensure that the diver's fins are not below his body and colliding with any delicate marine life. Proper weighting begins in confined water and continues into open water. Before an open-water dive, students should be weighted according to tank type, body weight, type of exposure protection and water density. A diver may then relax, enjoy the dive and avoid coral damage.

Underwater instructors can choose to position students to perform skill demonstrations out in the open sandy areas between coral formations (where the anchor should be, if the boat is not on a mooring). Students may often need to perch on the bottom during training, so careful selection of the instructional site will ensure it is truly an inanimate substrate, such as sand.

Dive guides can swim with their group beside the reef rather than over it. This will prevent damage from the downstroke of fins.

In warm water, consider not using gloves. In general, avoid touching the living reef. The possibilities for cuts, scrapes and stings will be minimized if the diver knows that nothing should be touched. Encourage the attitude that the reef does not need protection from me, so why should I need protection from it?

Allow manoeuvring room for the scuba tank. Encourage divers to turn sideways when looking under ledges to avoid banging the reef with their tank. Do this yourself. Additionally, be aware that the tank may strike coral when one moves backwards or sideways.

As a role model demonstrate exceptional buoyancy control yourself. Watch your body attitude and position at all times. Neutral buoyancy and proper positioning will

minimize the tendency to kneel, stand or sit on the coral.

Take time to identify examples of delicate living corals, which will develop knowledge and respect and ultimately foster a sense of conservation based on understanding.

Recognize that, no matter how well-trained a diver is upon certification, unused motor skills will deteriorate over time. As a result, it is important to encourage divers to undergo scuba review programs, spring "tune-ups" or similar refresher programs before going on dive vacations. Resort operations may need to provide refresher programs before open water diving for travelling divers.

Underwater photographers are often among the worst offenders when knees, fins, legs and bottoms are concerned. When a photographer finds it necessary to stop without hovering, a sandy or non-living, hard bottom area can always be found. Placing your feet or knees on the sand will save a lot of live coral.

Be certain to secure dangling alternate air sources in the triangular areas of the upper body. Instrument consoles, mesh bags and other equipment should be secured to avoid the likelihood of dragging them against coral or other delicate life forms. Divers sometimes do not allow for the extra clearance required.

Do not use a knife to poke, prod, or destroy creatures. Do not kill animals to feed fish.

As a diver, you are unique in that you are a window to the aquatic environment. You can use the Aquatic World Awareness, Responsibility and Education philosophy to help develop an ethic to share with others. To many of your friends and family, particularly if they are not oriented toward the outdoors, pollution and environmental destruction that is "out of sight" is truly "out of mind". As one who has chosen not to ignore nature, you can show others that these problems are not "out of sight."

Responsibility

I have attempted to identify the importance of quality training and education to produce responsible animal-diver interactions. The first step occurs in accepting a personal responsibility to minimize reef damage. The new conservation rationale outlined in this article will only have impact if individual divers actively participate in its implementation. The marine environments are degraded by pollution and stresses of many descriptions; do your part to foster ecological awareness both in yourself and in the divers you influence.

Unscathed, the coral community represents life in the balance, and the epitome of the beauty we seek as divers.

Dive all year round with Australia's prestige scuba diving magazine.

SUBSCRIBE NOW!

Tick boxes. Please send me

One full year (6 issues) of Sportdiving Magazine for \$34.50 (Within Australia)

Overseas Subscribers. 1 year (6 issues)

AUD\$67.00 Surface Mail

AUD\$81.00 Airmail

Please find enclosed my cheque money order

Charge my credit card

Bankcard Mastercard Visa

USE BLOCK LETTERS

Card Number.....

Cardholder's Name:..... Expiry:.....

Signature:.....

Address:.....

City, State:..... Postcode:.....

My phone:..... Fax:.....

Payable to **Mountain Ocean & Travel Publications** ACN 006 642 422
 P.O. Box 167, Narre Warren, Victoria, Australia 3807
 Phone: (059) 44 3774 Fax: (059) 44 4024

VOTED AUSTRALIA'S No. 1 DIVE MAGAZINE!

sportdiving
M A G A Z I N E

Battered, this ecosystem becomes a depressing monument to our carelessness and disregard. Let us be the leaders in the protection of the marine environment through our influence and actions.

As a diver, you are able to influence other divers and their families, who by virtue of their love and interest in nature will influence others. As you read this, there are over 500,000 divers certified each year. In the 1990s, it is anticipated the industry will certify more than 10 million divers. If we join together now to develop and practice an environmental ethic, we can make a difference.

In terms of protecting the magnificent corals reefs, the responsibility begins here, with us.

Drew Richardson is Vice-President, Training, Education and Memberships of PADI International. His address is PADI, 1251 East Dyer Road, #100, Santa Ana, California, 92705-5605, USA.

ROYAL ADELAIDE HOSPITAL HYPERBARIC MEDICINE UNIT

Basic Course in Diving Medicine

Content

Concentrates on the assessment of fitness of candidates for diving. HSE-approved course

Dates October or November 1993

Cost \$A 500.00

Advanced Course in Diving and Hyperbaric Medicine

Content

Discusses the diving-related, and other emergency indications for hyperbaric therapy.

Dates October or November 1993

Cost \$A 500.00

\$A 800.00 for both courses

For further information or to enrol contact

Royal Adelaide Hospital Courses,
Dr John Williamson, Director, HMU,
Royal Adelaide Hospital, North Terrace
South Australia, 5000.

Telephone Australia 08-224 5116

Overseas 61-8-224 5116



For all your domestic and international travel requirements contact

ALLWAYS TRAVEL

on

(03) 885 8818

or

TOLL FREE

008 338 239



IN MORE WAYS THAN ONE WE'RE SECOND TO NONE, ALWAYS TRAVEL WITH ALLWAYS