

buddy to bail them out. No matter how much you teach that a good buddy team is made up of two equal partners, the system still says "Depend on your buddy". The danger in this is that when they eventually become separated from their buddy underwater, and they will, no doubt about it, they may be unable to cope. Without labouring this point too much, just imagine how students might perform if they had to perform one solo dive during the course. Pilots have to solo, do they not?

What I would like to see is a certification solo diver to appear somewhere after open water diver, as a regular course. It will have these benefits:

1. It will define those skills necessary, and the conditions necessary, for solo diving.
2. It will legitimise solo diving for those skilled and experienced enough.
3. It will clearly declare to the novice that it is desirable to have the skills of a completely independent diver.
4. It will show the novice diver that there are skills to master and experience to be achieved before they solo dive.
5. It will help to remove the false sense of security that the buddy system provides.
6. It will emphasise that the best buddy teams are made of two divers who are completely capable of looking after both themselves and their buddies.
7. It will concentrate the students learning on self evaluation, monitoring and rescue. (If everybody looked after themselves rescues would decrease significantly).
8. It will attract more people to diving and keep them in the sport longer.
9. It will make buddy diving safer.

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## LETTERS TO THE EDITOR

### DIVING DEATH STATISTICS

PADI Australia Pty. Ltd.  
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North Ryde, N.S.W 2113  
22nd May, 1989.

Dear Sir,

In a recent issue of *SPUMS Journal*, Monaghan<sup>1</sup> made use of statistical data published by PADI Australia<sup>2</sup>. Unfortunately, he has interpreted that data incorrectly.

The data in question — extended and updated — is presented in Table 1. At the time of preparing the data, the staff of PADI Australia were unaware of any reliable estimates of "Active Divers" in Australia, and even now is confident that no such estimate exists. Further, no studies on diver dropout rates had been conducted to enable calculation of such an estimate from certification figures. The other certification agencies were unwilling to share their figures with us. Thus, the only figures available for analysis were PADI's own certification figures.

Entry-level certifications figures were chosen as being indicative of growth in the number of active divers, even though an exact relationship could not be established; use of entry-level figures also avoided inflating the number of divers by double counting as this excluded continuing education figures. Data for the number of sport scuba diving deaths were obtained from *Project Stickybeak*.<sup>3</sup>

Then for each year, the number of deaths was divided by the number of PADI entry-level certifications and the result multiplied by 10,000 to calculate the number of deaths per 10,000 PADI entry-level certifications. The multiplier was chosen as 10,000 to yield results that fell in the range from zero to 10.

We made no attempt at direct comparison between the Australian data and that from the USA and Japan. Trends in each country were of more interest, in particular the downward trend in death rate in each.

Focussing attention on 1987, we see that PADI Australia certified 24,611 entry-level divers and there were 6 recreational scuba deaths — reported not calculated. Thus, we calculated the death rate of 2.4. To take this last figure, as Monaghan<sup>1</sup> does, and factor it by 33,023/10,000 to come up with the result that there were 8 deaths is getting the cart before the horse. (When I studied Chemical Engineering in the early 1960's, one of the basic tenets of model theory was that, if the model did not fit the observed facts, then the model was discarded or altered. To the best of my knowledge, there has been no change in this facet of model theory.)

If we accept that PADI has about 65% of the Australian market for diver training, then we can calculate that the death rate (per 10,000 entry-level certifications) in 1987 is:  

$$6 \times 10,000 \div (24,611 \div 0.65) = 1.58.$$

**TABLE 1**  
**DIVING CERTIFICATIONS AND DEATHS, AUSTRALIA**

	1984	1985	1986	1987	1988	5-Year Total	Growth Rate
<b>Observed Data</b>							
PADI Entry-Level Certifications	10,992	13,087	19,184	24,611	30,979	98,853	23%
Total PADI Certifications	14,295	17,842	25,780	33,023	40,736	131,676	23%
Recreational Scuba Deaths	10	9	9	6	4	38	-17%
<b>Calculated Data</b>							
No. of Deaths per 10,000 PADI Entry-Level Certifications	9.10	6.88	4.69	2.44	1.29	3.84	-32%

How meaningful is this figure? As an isolated figure it has very little significance. As one year's rate in a series of five with a monotonic decreasing trend, it has somewhat more significance.

In addition to the above, I believe that Monaghan may have assumed that the figures for new certifications in each year were cumulative. If so, this can be excused by the fact that the growth rate, as a proportion or percentage, in new divers in Australia is so much higher than in the USA.

There is little point in trying to draw comparisons between sets of data which are not consistent with each other, especially when there is doubt as to the validity of some parts of some of those data sets. At PADI Australia, we believe that the best estimator of death rate is one which uses the annual number of dives as the denominator. We recognise that this statistic cannot be calculated at present and probably never can be. We do believe, however, that surveys such as the one currently being conducted for the Dive and Travel Industry Association of Australia (DITAA), will enable us to move closer to that ideal.

James A. Morgan,  
Internal Operations Manager.

## REFERENCES

- 1 Monaghan R. Australian Diving Death Rates Comparisons with USA and Japan. *SPUMS J.* 1989; 19 (1): 24-25.
- 2 Diving Accident Management in Australia. PADI Australia. 1988.
- 3 Walker D G. Project Stickybeak. *SPUMS J.* Ongoing

## DACOR REGULATORS' AIR MAY SHUT OFF

### RECALL ISSUED

Dacor Corporation has announced a recall of several of its regulator models. Because of a problem with the second stage regulator demand lever, the air supply could unexpectedly shut off. While not all regulators are affected, it appears that regulators purchased after October 1, 1987 are suspect.

Dacor learned of the problem in through a field report from Japan where a regulator failed in a swimming pool. Subsequent investigation revealed that some demand levers on their regulators do not have adequate corrosion resistance. Corrosion could weaken the level and cause it to snap, shutting off the air supply.

Dacor has sent shop posters to all of their retail customers, notified owners who have returned the warranty cards, and alerted the Consumer Products Safety Commission of the problem.

Owners of Dacor regulators should copy the serial number from their regulator, located just below the mouth-piece on the second stage, and call the toll-free number (USA 1-800/233-DIVE). Dacor operators can verify if your regulator is one of those affected by the recall.

If your regulator is affected, it should be taken to a Dacor dealer for retrofitting or sent to the Dacor Corporation: 161 Northfield Road, Northfield, IL 60093, Attention: R-89. If you include a note telling Dacor what the postage is, it will be refunded. There is no charge for this retrofit.