

Dive another day

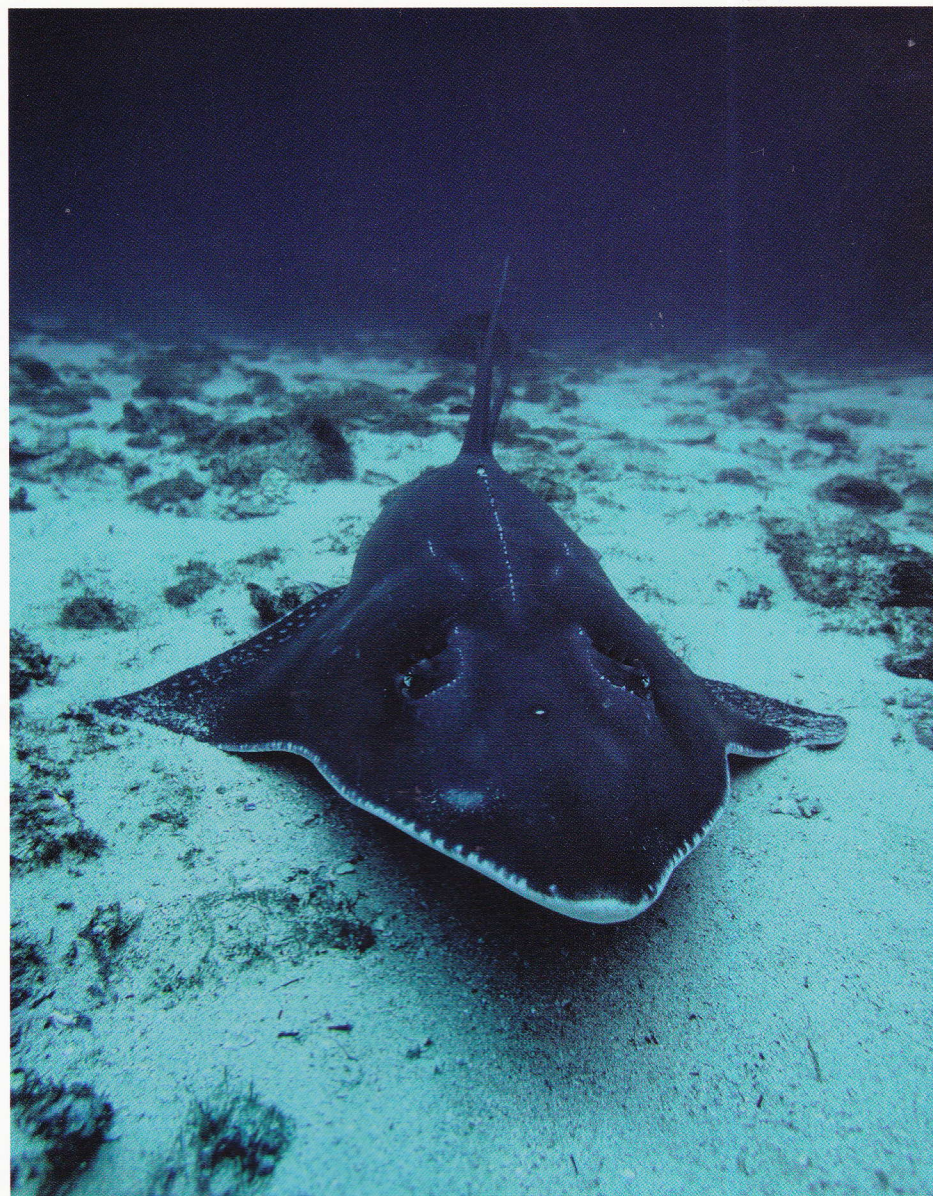
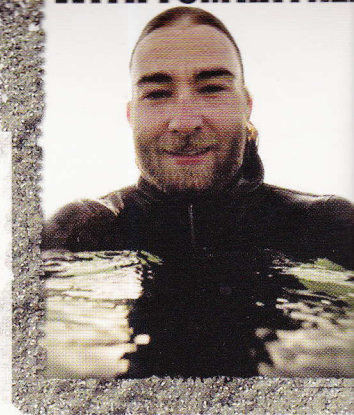
In the nanny-state of modern life, our professional lives are becoming increasingly regulated into non-productive mush by administrative minutiae. What's worse is that most of this has no bearing on our actual safety. Risk assessments. Safe work method statements. Travel approvals. Hazard controls. If the paper cuts don't kill you, the boredom will!

Fortunately, this hysteria hasn't extended too far into extracurricular activities, like spearfishing. Sure you need to register your boat (in some States), but you don't have to fill out a form to go rock-hopping, or get a signature from your supervisor to go away for the weekend (approval of loving life-partners aside). In fact, the lack of regulation is one of the great attractions of spearfishing. Once your ears hit the water, the world above becomes irrelevant. However, with great privilege comes great responsibility, particularly in regard to personal safety.

In the first few months of 2013, there were at least 3 deaths related to spearfishing and snorkelling. These tragedies were particularly heartbreaking because the victims were typical of many spearfishing deaths: fit, young, active and engaged people who were sharing something they loved with like-minded friends when misfortune struck. These tragedies also raise a few important questions: (1) how safe is spearfishing, really; (2) what do we do to mitigate these dangers; and (3) would an increase in regulation make any difference?

To answer the first question, we can look to data on the frequency and causes of snorkelling incidents, including spearfishing, collected by the Divers Alert Network. During the period 1972-2006, there were around 250 snorkelling-related deaths in Australia^{1,2,3} or 7-8 per year. The leading causes of fatalities were: cardiac conditions; drowning (including shallow water blackout); and, trauma – in that order. Cardiac conditions were often not pre-existing, rough seas contributed to drownings (currents, waves, cold water etc.) and 'trauma' included boat strikes and wildlife (sharks, stingers etc.)³. Interestingly, at least a quarter of drowning deaths occurred in highly-

experienced snorkellers. These deaths often followed hyperventilation before extended breath-holding, with subsequent hypoxic blackout before or immediately after surfacing [19 of 52 drowning deaths 1994-2006]³. Hyperventilation, which some spearfishers use in an effort to increase their breath-hold time, produces hypocapnea [low CO₂ in the



Sharks hardly rate a mention when talking about the statistical risks when spearfishing. Pic: Louis



Till Death Do Us Part

blood] with no proportional increase in oxygen-carrying capacity. Hypoxia [low O₂] and therefore unconsciousness may result, with little or no warning. The condition is aggravated during ascent by the expansion of gas in the diver's lungs, which reduces the partial pressure of oxygen^{2,4}.

You're about twice as likely to die snorkelling as SCUBA diving: 10 of 16 dive-related deaths in 2006 involved snorkellers⁵. However, snorkelling has a high rate of

experienced snorkellers and don't represent all snorkelling-related deaths (65-year-old males with cardiac conditions are the largest group⁴), so the probability of dying is actually lower for experienced spearfishers.

So, what do we do to minimise the dangers? To answer this, we can look to the common risk-aversion techniques already in place, including diving 'one-up, one-down', practicing 'never dive alone', using floatlines, flying dive flags, and carrying

wearing of self-rescue jackets or licencing of spearguns?

Personally, I feel regulation can be avoided AND death rates can be reduced by fostering the culture of personal responsibility, civic duty and care that is already present in the spearfishing community. At the end of the day, you're in control of your own safety. Look out for your mates and expect the same in return, sure, but self-preservation is king. If you feel tired, head in. If your ears hurt, don't dive so deep. Take it easy. Save yourself from injury and save the rest of us from regulation. Live to dive another day. 🐡

YOU'RE ABOUT TWICE AS LIKELY TO DIE SNORKELLING AS SCUBA DIVING: 10 OF 16 DIVE- RELATED DEATHS IN 2006 INVOLVED SNORKELLERS

participation – over 2.2 million snorkelling outings were completed on the Great Barrier Reef in 2007 alone⁴. If we assume 250 deaths over a 35-year period, with say 4 million outings per year across Australia, the probability of dying during a given outing is roughly 1 in 560,000. To put that in perspective, the chance of being struck by lightning is about 1 in 1.6 million⁶ (3 times less likely) and the chance of being poisoned can be as low as 1 in 30,000⁷ (i.e., 20 times more likely). Of course, if you snorkel 100 times a year (not unreasonable for an avid spearfisher), your personal risk climbs to 1 in 5600 (or a 0.00018% chance of dying on a given outing). This seems high, but obviously spearfishers are 'highly

emergency and first-aid gear. Most of the risks involved in spearfishing are already largely negated by this planning, education and informal training. What strikes me as peculiar is that the key cause of death in spearfishing, shallow-water blackout, is the one factor over which we, as divers, have total individual control. Compulsory medical examinations and accreditation through spearfishing courses, wherein divers are taught breathing, diving and rescue techniques to improve their safety, would probably reduce deaths from blackouts, but do we really need external regulation to make us dive within our limits? Do we really want to open ourselves to further regulation (beyond accreditation), like compulsory

References

1. Walker, D. G. The investigation of critical factors in diving related fatalities. Published annually in the South Pacific Underwater Med Soc J 1972-1989.
2. Edmonds, C. W. and Walker, D. G. (1999). Snorkelling deaths in Australia, 1987-1996. Medical Journal of Australia. 171:591-594.
3. Lippmann, J. M. and Pearn, J. H. (2012). Snorkelling-related deaths in Australia, 1994-2006. Medical Journal of Australia 197(4):230-232.
4. Craig, A. B. Jr (1976). Summary of 58 cases of loss of consciousness during underwater swimming and diving. Med Sci Sports. 1976 Fall;8(3):171-5.
5. Lippmann, J. M., Walker, D. G. and Lawrence, C. et al. (2011). Provisional report on diving-related fatalities in Australian Waters 2006. Diving Hyper Med 44:70-84.
6. Riley, K. (2012). Struck by lightning: tales from survivors. Australian Geographic. Dec 2007. <http://www.australiangeographic.com.au/journal/struck-by-lightning.htm>
7. Paling, J. (2002). The odds of serious risks that people can relate to. Published by The Risk Communication Institute. <http://www.riskcomm.com/visualaids/riskscale/datasources.php>

