The popularity of motorised personal watercraft (PWC), colloquially referred to as jet skis, in both tourism and general outdoor recreation has increased substantially in recent years, and so too has the number of accidents related to jet skis.

In 2009, the United States Coast Guard counted 4730 accidents that involved 736 deaths, 3358 injuries and approximately $36 million dollars of damage to property as a result of recreational boating accidents.\(^3\) Personal watercraft (22\%) were the second most common type of vessel involved in reported accidents, after open motorboats (46\%), and ahead of cabin motorboats (14\%).

Police investigation continues into fatal jet ski crash\(^2\)

Queensland police say they are interviewing the friends of two men who were involved in a fatal jet ski accident on Moreton Bay on Saturday.

Keith Whalley, 26, died after the jet ski he was driving collided with a fishing boat off Scarborough, North Brisbane, just after 3am AEST.

His passenger, Scott Stretton, 22, is in intensive care at the Royal Brisbane Hospital with severe head, chest and pelvic injuries.

The fishermen, who tried to resuscitate Mr Whalley, were heading out for a day on the bay and police say they are traumatised by the incident.

Inspector Mark Jones says the men had been drinking and were not using lights on the jet ski.

“‘We’re interviewing some mates that were with them prior to them going on the water,” he said.

“Early indications are that there was some alcohol involved but the extent of that we’re still yet to establish.

“There’s a number of issues we’re looking at there – there’s the licensing issue, the worthiness of the vessel, being out at that time of the day is the other issue we’ll look at – obviously who was at fault and what caused the incident.”

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Specifically, during 2009 there were 1332 personal watercraft accidents, involving 42 deaths (14 drowning, 28 other deaths) and a further 878 injuries. According to the Coast Guard, the primary contributing factors in personal watercraft accidents, in order, were: operator inattention; operator inexperience; excessive speed; rules of the road infraction; and improper lookout.

Interestingly, alcohol ranked a much lower 6th place in total US personal watercraft accidents, though it was the main contributing factor for accidents across all vessel types.

Among the PWC injuries most reported in the medical literature are fractures/dislocations, frequently associated with jet skis colliding with other vessels, mooring lines and structures such as jetties;\textsuperscript{4,5} lacerations and soft tissue injuries,\textsuperscript{6,7} especially vaginal lacerations caused by the high-pressure jets of water from the PWC.\textsuperscript{8,9}

As noted by Whitfield and Roche\textsuperscript{10} currently in the UK there are no restrictions on age and no legal requirements for insurance or training for PWC operators. Overall responsibility for managing coastal and estuarine areas often lies with the Local or Harbour Authority, which means there are variations in approach, resource availability and success in relation to PWC management.

In contrast to the UK, in Australia a licence is required for use of a PWC. To obtain a licence a person must be 16 years of age or over, understand basic navigation laws and have basic practical experience on a PWC.

In Queensland, however, there is an exception with the \textit{Transport Operations (Marine Safety – Hire and Drive Ships) Standard 2007} allowing for unlicensed operation of PWC if there is full compliance with the Standard and other marine legislation.\textsuperscript{11} The purpose of the Standard is to provide for the safe operation of PWC by unlicensed users, as they generally do not have the knowledge and experience of licensed PWC users. The Standard imposes restrictions and obligations on the hire and drive operator and user of the craft. Because of this exception, inexperienced tourists from overseas and interstate can and do take the opportunity to hire a PWC in Queensland.

The Hire and Drive Standard 2007 was critically examined in the recent coronial inquest into the death of Sridhar Shekar.\textsuperscript{12} Dr Shekar and his wife, Dr Divya Patel, were on two weeks
holiday in Queensland from England. They booked a PWC ride on the Broadwater at Labrador on the Gold Coast from a hire and drive business that hires PWC to unlicensed persons. The PWC is driven around a circuit marked by buoys.

Dr Shekar was on the front of the craft with Dr Patel as a pillion passenger. During one circuit Dr Shekar lost control of the PWC and collided with the anchor chain of a moored boat. Dr Shekar died as a result of the collision and Dr Patel was treated for minor injuries and shock.

The police investigation concluded that Dr Shekar's unlicensed PWC inexperience was the reason for the incident and therefore his death.

As a result of this death, Maritime Safety Queensland (MSQ) audited all hire and drive PWC operators in Queensland, assessing their compliance with the Hire and Drive Standard 2007 and safety obligations imposed by maritime legislation. They found a significant number of operators were non-compliant – ranging from relatively minor record keeping problems through to far more serious issues like staff training and safety plan breaches. It was noted that the requirement under Section 10 of the Act for operators to provide a safety briefing and practical demonstration for all PWC hirers was too subjective, especially for an industry that is focussed on fun and excitement and therefore safety briefings were often approached casually. It is worth noting on this point that the Federation of Tour Operators in their Guidelines for operating various recreational craft and vehicles always stress the importance of detailed safety briefings. A poor or inadequate safety briefing is often a significant feature in a successful claim against a tourism operator.13,14

Having found that the legislation being relied on to provide the safety for unlicensed users of PWC from hire and drive operators was not being complied with or enforced, Queensland authorities have moved decisively to remedy the problems. It seems the main recommendation from Coroner Hutton arising from the Sridhar Shekar inquest is being acted on, and is a useful prompt for other jurisdictions.

**Recommendation**

The recommendation is that all PWC hire and drive operations be inspected and audited on a regular basis, including at least one yearly covert audit. That full records and documentation be maintained of all interaction between Maritime Safety Queensland officers and PWC hire and drive operations. That a quality assurance programme for all hire and drive operations be developed.

In their UK review Whitfield and Roche15 concluded that PWC are no more inherently dangerous that many other motorised sports; however, there are particular concerns relating to the speed that PWC can attain on the water. The issue of speed and the need for education/training is also recognised by PWC manufacturers and industry groups. Unfortunately, many safety problems can be directly linked to irresponsible behaviour, as well as lack of operator skills, knowledge and experience in the water. As the Queensland situation demon-

strates, having some legislative framework in place should enhance PWC user safety, but only if it is being complied with and enforced.

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