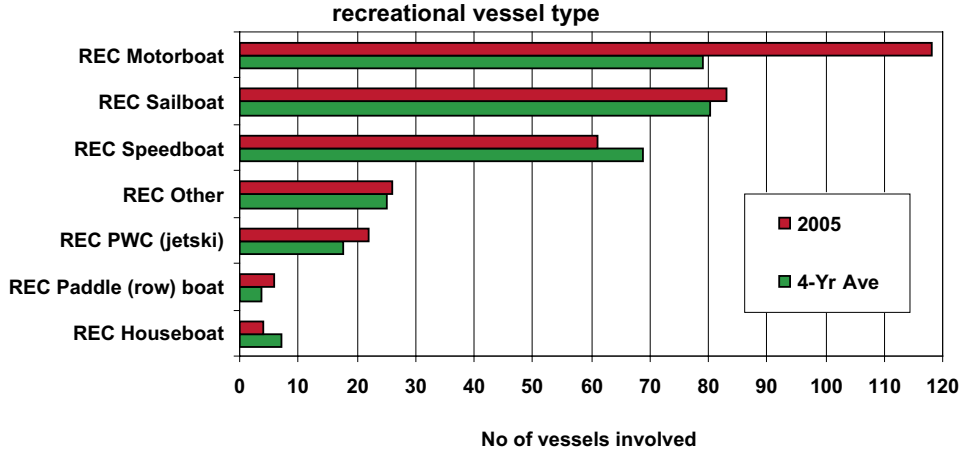
5.1 Incidents involving recreational vessels

To provide a context for considering the involvement of recreational vessels in marine incidents, there were 199,138 recreational vessels registered in Queensland as at 31 December 2005—an increase of 9,305 (4.90 per cent) in the year, down marginally in percentage terms on the comparative increase in 2004 of 5.28 per cent and down markedly on the previous four-year average annual increase of 5.36 per cent. Recreational vessels represent 97 per cent of Queensland's total registered vessel fleet.

Recreational speedboats, that is, boats capable of planing, make up 84.54 per cent of all registered recreational vessels. It is also noted that while recreational personal water craft (jet skis) represent only 4.46 per cent of all registered recreational vessels, their numbers grew in 2005 by nearly 12 per cent compared with an overall increase in registered recreational vessel numbers of 4.90 per cent. Recreational motorboats make up approximately 12.2 per cent of all registered recreational vessels in Queensland. Recreational sailing vessels make up approximately 3.25 per cent of all registered recreational vessels in Queensland.

In 2005, recreational vessels were involved in 225 (35.5 per cent) of reported marine incidents in Queensland (n=633)—up by eight per cent on their four-year average involvement in 208.25 incidents. Figure 20 shows the relative involvement of the different types of recreational vessels in marine incidents together with their previous four-year average involvement in marine incidents.

Figure 20: All incidents involving recreational vessels in 2005 by recreational vessel type



More than 60 per cent of the incidents involving recreational vessels occurred in the daytime, in clear weather and good visibility. 53.3 per cent of the incidents resulted in the vessels being damaged. Approximately 45 per cent of the incidents occurred in smooth waters, 12.90 per cent in inland waters and the remaining incidents in partially smooth and offshore waters. A little over 60 per cent of the reported recreational incidents occurred in the Brisbane and Gold Coast regions. This level of recreational vessel incident involvement in these two regions is in line with their 57+ per cent share of the state's registered recreational vessel fleet.

The number of recreational vessels lost in marine incidents fell from 23 in 2004 to 15 in 2005. Figure 21 shows the involvement of the top three recreational vessel types in the 'ship lost' incident outcomes for the period 1997 to 2005. Of the 31 vessels lost in all reported marine incidents in 2005, 48.4 per cent were recreational vessels—six recreational motorboats, five recreational speedboats, three recreational sailing vessels and one recreational jet ski. The number of recreational vessels lost is well below the previous four-year average of 24.5 recreational vessels lost.

Recreational vessels were involved in 24 FSI incidents in 2005—49 per cent of all the reported FSI incidents in Queensland compared with 56.8 per cent in 2004. However, the number of recreational

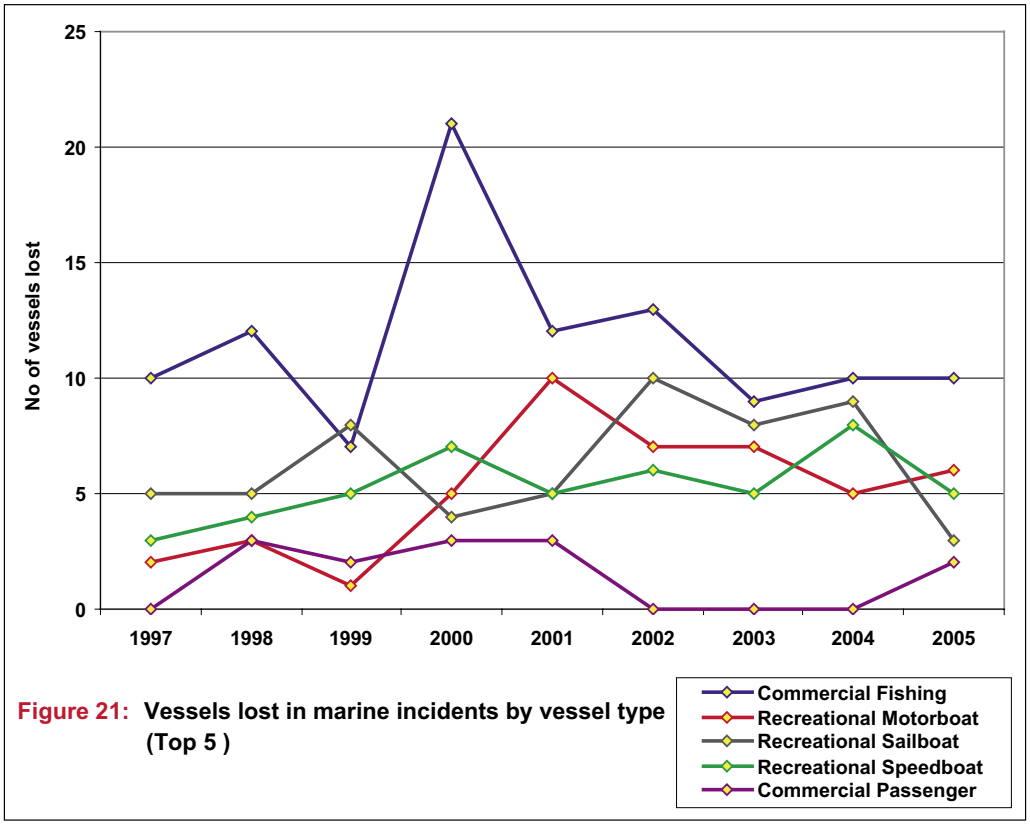


Figure 21: **Vessels lost in marine incidents by vessel type (Top 5)**

vessel FSI incidents was marginally over-represented when compared with the four-year average of 21.5 units of involvement.

Recreational vessel incidents resulted in ten (83.3 per cent) of the 12 marine incident fatalities recorded in 2005. Of the 45 serious injuries recorded in 2005, 22 (48.9 per cent) resulted from incidents involving recreational vessels.

Recreational speedboats, recreational jet skis and recreational motorboats were the three most involved classes of recreational vessel in FSI incidents in 2005. There were 12 FSI incidents involving recreational speedboats, over-represented when compared with their previous four-year average involvement of 8.75. Recreational speedboat incidents in 2005 resulted in four fatalities and 14 serious injuries.

There were only four reported FSI incidents involving recreational jet skis in 2005. These incidents resulted in two fatalities and two serious injuries. The number of FSI incidents involving recreational jet skis was down in 2005 compared with eight incidents reported in 2004 and a previous four-year average involvement in four FSI incidents per year.

Recreational motorboat involvement in FSI incidents (4) in 2005 was marginally below their previous four-year average involvement in 4.5 FSI incidents per year. There was one fatality and four serious injuries resulting from recreational motorboat incidents in 2005.

Analysis shows that the predominant characteristics of recreational vessel incidents involving fatality and/or serious injuries in 2005 were, as expected, incidents occurring in good visibility, daylight hours and clear conditions. These factors were involved in more than 66.6 per cent of recreational vessel FSI incidents. 50 per cent of recreational vessel incidents involving fatality and/or serious injuries in 2005 occurred in smooth water limits.

A significant proportion of the state's total boating activity is concentrated in South-East Queensland. Combined, the Brisbane and Gold Coast regions account for more than 57 per cent of the state's registered recreational vessel fleet. Consistent with this concentration and the extensive associated

Incident study 4

Faster than a speeding bullet – and deadly

The vessel: 5.75 metre fibreglass 'Bullet 1850' recreational powerboat

The incident

A high performance, purpose-built powerboat with a 250 horse power motor was travelling at very high speed in smooth waters inside South Stradbroke Island when the driver lost control. The boat, with three people on board, became airborne and flipped over.

Witnesses at the time suggested that the boat was actually travelling close to 160 kilometres per hour – the manufacturer's top rated speed for that particular boat.

According to the witnesses, the boat appeared to have been racing (and winning) against another high powered boat just before the accident happened.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When the boat hit the water, it broke up and sank almost immediately. Police and ambulance officers arrived quickly, however one of the men lost his leg when the boat hit the water and later died in hospital. The driver of the boat was also seriously injured, suffering head injuries and a fractured leg.

Police subsequently retrieved the sunken boat and found that its port side had been ripped out on impact and that the top deck had cracked and dislodged.

Safety insights

- As with life, with power comes responsibility.
- Masters are responsible for the safe operation of their vessel and for the safety of their passengers.
- Boat racing should only be done at approved racing events.
- Speed limits are in place for good safety reasons.
- To borrow from recent road safety campaign slogans, Speed Kills and Expect the Unexpected.

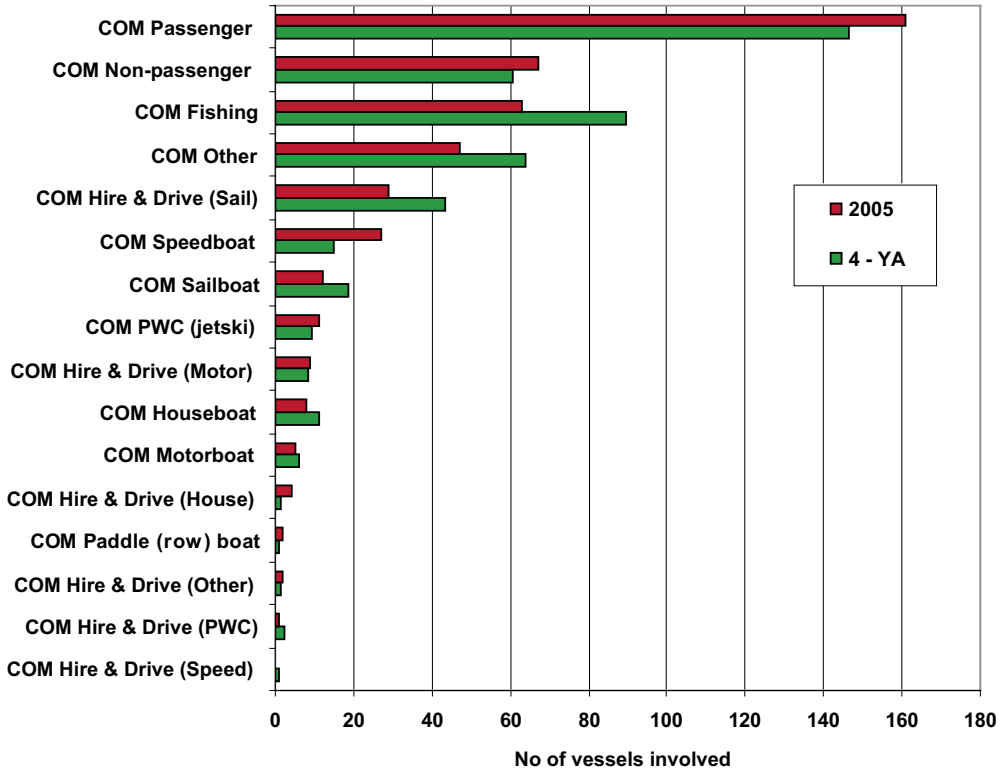
recreational boating activity in the south-east sector of the state, more than 62 per cent of total recreational vessel incidents involving fatality or serious injury in Queensland occurred in South-East Queensland. While in 2004 there were no recreational boating fatalities recorded in either region, five fatalities were recorded in 2005 in South-East Queensland. There were 12 people hospitalised as a result of reported recreational boating incidents in South-East Queensland in 2005—eight in the Gold Coast region and four in the Brisbane region. This compares with the 18 serious injuries recorded in 2004. With such concentrated boating activity, the involvement of recreational vessels in FSI incidents in South-East Queensland will continue to be monitored with a view to targeting compliance and educational initiatives in this area.

5.2 Incidents involving commercial vessels

While the number of registered commercial vessels has been steadily increasing over the period 2000 to 2004 (7.8 per cent over the five-year period), registered commercial vessel numbers fell in 2005 by 0.24 per cent, as shown earlier in Figure 11. In 2005, commercial vessels represented 2.79 per cent of Queensland's registered vessel fleet, but were involved in 404 (63.8 per cent) of the year's

633 reported marine incidents. Figure 22 shows the relative involvement of the different types of commercial vessels in marine incidents in 2005, together with their previous four-year average involvement in incidents.

Figure 22: All incidents by commercial vessel type - 2005



In 2005, Maritime Safety Queensland undertook a comprehensive assessment of strategic safety risks as part of its risk management framework. The capsize of commercial fishing vessels and fire onboard commercial passenger vessels were identified among the highest ranked potential marine safety hazards. While these types of incidents can have potentially catastrophic safety outcomes and present real safety management challenges, there were relatively few such incidents reported in 2005.

There were 65 (10.3 per cent) reported commercial fishing ship incidents in 2005 (n=633), resulting in two fatalities and five serious injuries. Only ten of the commercial fishing ship incidents involved the capsize of vessels, with one fatality resulting from one such incident. There were no reported serious injuries from commercial fishing ship capsize incidents. Of the 150 reported commercial passenger vessel incidents in 2005, only seven involved a fire onboard. None of these seven incidents resulted in loss of lives or serious injuries.

Looking at the more serious marine incidents, commercial vessels were involved in 25 (51 per cent) of the State's 49 FSI incidents in 2005—marginally above their four-year average involvement in 22.75 FSI incidents.

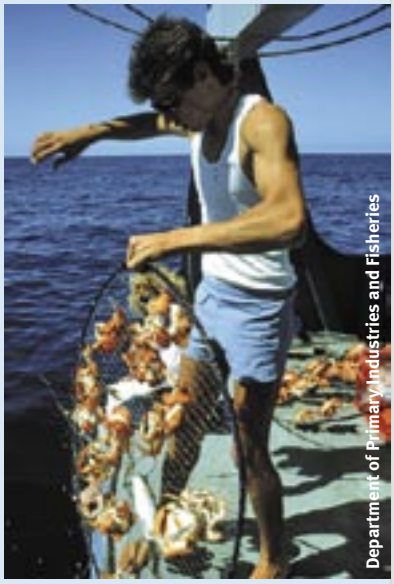
Only two fatalities resulted from marine incidents in 2005 involving commercial vessels, compared with seven fatalities in 2004 and a previous four-year average fatality rate of 4.25. Of the 25 FSI incidents in 2005, 17 involved onboard incidents, five involved other personal injuries, two involved vessels capsizing and one involved an unintentional grounding. Of the 17 onboard incidents, seven involved falls, three involving crushing or pinching and the remaining seven involved some other form of onboard injury. Of the other personal injury incidents, three were caused by the operation of the vessel and two involved a person being struck by the vessel or its propeller.

Incident study 5

Everything right goes wrong on the day

The vessel: 8.5 metre commercial spanner crabbing vessel.

The incident



A 53 year old self-employed commercial spanner crabber was travelling outbound on a treacherous section of a coastal bar when his engines stopped. He sent out a mayday call saying that his engines had failed and that he was floundering in very rough conditions. Return radio calls went unanswered, but an EPIRB activation was detected shortly after and the Energex helicopter was sent to the EPIRB co-ordinates.

The helicopter located an upturned boat in two to three metre seas on the ocean side of the bar. Meanwhile the local volunteer Coast Guard had been deployed and on arrival, the crew, despite very rough conditions, could see the fisherman trapped in lines below the upturned boat.

It was not until later the same day that the Police Dive Squad was able to find and retrieve the fisherman's body from under the boat. Police divers indicated that one of the man's arms and legs were entangled in the lines and they had to cut him free. Despite the fact that the man was wearing a lifejacket, had radioed for help and had activated his EPIRB, he drowned as a direct result of being trapped under the water.

Safety insights

- Crossing of coastal bars is always dangerous and can be extremely hazardous.
- Careful planning and consideration of prevailing bar conditions is essential before making a bar crossing.
- Engines, steering and other onboard controls should be checked before crossing a bar – never leave it to chance.
- Always expect the unexpected and be prepared to respond accordingly. For a commercial fisherman or crabber in a potentially cluttered work boat, this may mean carrying a cutting knife or tool.
- The most important lesson to be learned is that in spite of the fact that the man did everything right and apparently took every safety precaution, something still went wrong on the day.

The most frequently represented commercial vessels in FSI incidents in 2005 were commercial fishing vessels. There were nine commercial fishing vessels involved in seven separate incidents resulting in two fatalities and five serious injuries. This compares with eight commercial fishing vessels involved in FSI incidents in 2004 and a previous four-year average of 6.75 commercial fishing vessels involved in FSI incidents. One of the two fatalities resulted from a vessel capsizing while attempting a bar crossing and the other involved the master of a vessel being electrocuted. The five serious injuries were the result of onboard injuries while the vessels were operating.

The next most frequently involved commercial vessels were commercial passenger vessels. There were seven FSI incidents identified as commercial passenger vessel incidents in 2005. These incidents resulted in seven serious injuries. The seven commercial passenger vessel FSI incidents included six incidents involving onboard injuries and one personal injury incident caused by the operation of the vessel.

There were 16 commercial vessels lost as a result of marine incidents in 2005. Notably, ten were commercial fishing vessels. Despite the loss of 16 vessels, there were no fatalities or serious injuries resulting from these incidents.

From the perspective of regional involvement in commercial vessel FSI incidents, Brisbane and Mackay regions each recorded six FSI incidents in 2005, compared with four and one FSI incidents respectively in 2004. Cairns region recorded five commercial vessel FSI incidents in 2005 compared with eight in 2004. Cairns and Gladstone regions each recorded one commercial vessel fatality in 2005.

Almost 50 per cent (12) of the commercial vessel FSI incidents occurred in offshore waters in 2005. This is marginally over-represented when compared with the relative involvement of commercial vessels in FSI incidents in offshore waters in the previous four-year period (8.5).

5.3 Incidents involving jet skis

In December 2000 there were 3,348 registered recreational jet skis in Queensland. There were a further 166 jet skis registered for commercial use. At that time jet skis represented approximately 1.7 per cent of the total registered vessel fleet in Queensland.

At the end of December 2005 there were 8,909 recreationally registered jet skis and 230 commercially registered jet skis in Queensland, representing a 160 per cent increase in numbers over the six-year period. Growth in registered jet ski numbers in 2005 alone was marginally under 12 per cent, compared with 4.90 per cent for registered vessels generally. Jet skis currently make up approximately 4.46 per cent of all registered vessels in Queensland.

Historically, jet skis have not figured significantly in reported marine incidents. This is arguably attributable to significant level of under-reporting rather than an absence of incidents. Despite extensive media coverage about jet ski incidents and injuries, including the two fatal jet ski incidents late in 2005, there was a decrease in the number of reported jet ski incidents during 2005.

Following a comprehensive review of jet ski operations in Queensland, the government introduced a multi-faceted jet ski management plan. The mainstay of the management plan—mandatory jet ski licensing—took effect from 1 January 2006. To complement the new jet ski licensing requirements, Maritime Safety Queensland also ramped-up its jet ski safety education and on-water enforcement programs with the establishment during 2005 of a dedicated PWC compliance team.

In 2005, there were 30 reported marine incidents involving jet skis in Queensland. This compares with the 33 jet ski incidents reported in 2004 and a previous four-year average of 26.75 jet ski incidents. Human factors were identified as contributing to more than 73 per cent of the 30 reported jet ski incidents in 2005, with inattention, operator error and excessive speed the most frequently identified human contributing factors.

More than 83 per cent of the reported jet ski incidents involved collisions, either with another vessel, with the shore or with some other fixed structure. The majority (more than 63 per cent) of jet ski incidents occurred in smooth waters and approximately 70 per cent of the incidents occurred between the hours of 7:00am and 5:00pm, in clear weather conditions and in good visibility. 70 per cent of the incidents occurred in South-East Queensland. In terms of the types of jet skis involved, 16 were recreationally registered jet skis and 14 were commercially operated jet skis including nine commercial hire jet skis.

Turning to the more serious marine incidents, there were five jet ski incidents reported in 2005 that resulted in fatalities and serious injuries. These five reported incidents resulted in two fatalities and three serious injuries requiring hospitalisation. While jet skis currently comprise only 4.46 per cent of all registered vessels in Queensland, in 2005 jet ski incidents made up 10.2 per cent of reported incidents resulting in fatality or serious injury.

While there have only been a small number of recorded jet ski fatalities in Queensland, anecdotal evidence suggests that serious injury jet ski incidents are on the increase. Jet ski marine incident data

Incident study 6

Freestyling – fun but fatal

The vessel: Two recreational jet skis

The incident

Two jet skis were freestyling in smooth waters near a popular Moreton Bay island. Both jet skiers, a man and a woman, happened to be driving friends' jet skis at the time. While both were wearing life jackets, neither driver held a boat licence or jet ski licence.

It appears from all reports that the two jet skis were travelling at high speed and crashed into each other. The male jet skier cannoned off the port side of the female's jet ski and up into her chest, driving her in the water. Spectators watching from the beach at the time immediately called ooo for an ambulance after seeing the woman struck by the jet ski.

An ambulance and the Careflight helicopter crews tried to resuscitate the woman, but weren't able to revive her. The intensity of the crash had caused extensive internal injuries, and she was pronounced dead at the scene.

Safety insights

- Jet skis are powerful machines, capable of reaching high speeds. Much like a motorbike on a road, they offer very little protection for riders in the event of a crash. It is imperative that jet ski riders are competent operators and have the necessary skills to handle more extreme manoeuvres and difficult situations.
- An unlicensed rider should only be driving a jet ski if accompanied and supervised by a licensed person. Observing from the beach is not acceptable supervision.
- The throttles on many types of jet skis are similar to the brakes on a bicycle or motorbike. Inexperienced drivers need to be more alert to the operational capacities and peculiarities of jet skis.
- Freestyling can be fun, but carries with it inherent risk of collisions. Unlicensed and inexperienced drivers should not be freestyling.

reported to Maritime Safety Queensland does not currently support this anecdotal evidence. However, it is acknowledged that there is a considerably higher level of under-reporting of marine incidents involving jet skis than for other vessel types. This view is supported by recent national studies of fatal and non-fatal injury water transport incidents and a yet to be published two-year study of jet ski injuries treated at the Gold Coast Hospital.

Of the two recorded jet ski fatalities in 2005, one involved a collision between a recreational jet ski and a recreational speedboat after the jet ski operator lost control of his craft. The jet ski operator died the following day from injuries sustained in the collision. The other jet ski fatality involved two recreational jet skis. The operator of one of the jet skis suffered fatal injuries after being hit by the second jet ski.

There were three jet ski incidents that resulted in the hospitalisation of three persons in 2005. Two of these incidents involved collisions with other recreational jet skis. The third incident involved a passenger on a commercial hire and drive jet ski who sustained a spinal injury as a result of the operation of the jet ski in rough waters.

Three of the FSI jet ski incidents, including one of the fatalities, occurred in the Gold Coast region. The other fatal incident occurred in Brisbane region. Over 60 per cent of the FSI jet ski incidents occurred in what would be deemed ideal operational conditions.

Of the five persons killed or seriously injured in jet ski incidents in 2005, three were male and two were female, and three were operating the vessels and two were passengers. Records indicate that none of the persons killed or seriously injured held a current boat or PWC licence. In terms of an age breakdown, the two persons fatally injured were aged 44 years and 20 years respectively. Figure 23 shows a range of incident attributes and personal characteristics of fatal and serious injury incidents involving jet skis broken up by age group.

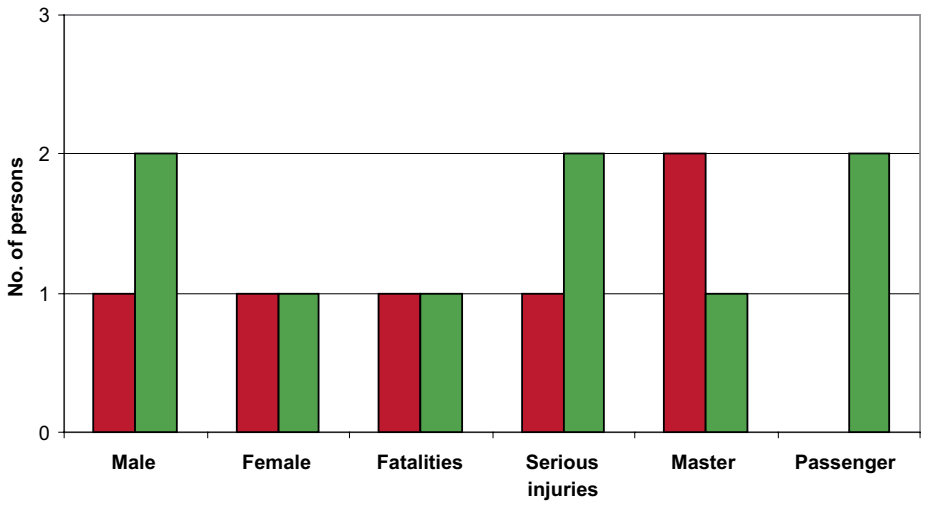


Figure 23: Characteristics of fatal and serious injury incidents involving jet skis - 2005

The involvement of jet skis in marine incidents will continue to be closely monitored and reported annually, particularly in light of recent studies and media coverage about the extent of serious injuries sustained in jet ski incidents.

5.4 Boating safety in the Torres Strait

This year's annual report includes a special feature on boating and related safety issues in the Torres Strait. The loss of seafarers in the Torres Strait is one of the highest ranked potential safety hazards identified by Maritime Safety Queensland as part of a recent strategic safety risk assessment.

The region and its people

The Torres Strait stretches 150 kilometres from the tip of Cape York Peninsula in North Queensland to the south-west coast of Papua New Guinea. Islands, reefs, and coral and sand cays are scattered throughout the region. The northern-most island in the strait reaches to within five kilometres of the Papua New Guinea coastline.

The region comprises 18 island communities and two mainland communities, with populations ranging from 55 to 1,631. The islands are scattered over a geographic area of 48,000 square kilometres.

The region's total population is approximately 8,500—a little over 6000 being Torres Strait Islander and Aboriginal people. Being island communities, much of the activity in the Torres Strait is water-

based including both commercial fishing and traditional hunting for dugong and turtle. While some inter-island ferry services are available, travel between islands for social, education, health and cultural activities is more often than not undertaken in open tinnies or dinghies.

Boating operations in a difficult environment

The Torres Strait presents a number of complex navigational challenges. In addition to the many reefs, islands and rocks to be negotiated, the waters are also subject to significant tidal flows, steady, strong winds and frequently choppy seas—resulting in steep, short waves. These conditions pose a very real hazard to smaller open dinghies. The region is also notorious for its shark and salt water crocodile population further compromising survivability in the event of an incident.

Localised boating activity

There are approximately 700 community recreational boats in the Torres Strait region. These vessels are used within communities for a range of activities including:

- Fishing
- Inter-island commuting (for family, cultural, church, social and sporting events), and
- Hunting

Community vessels are typically 3.5 to 5 metre dinghies powered by 30 – 50 horsepower outboards. Maintenance of both vessels and outboard motors is poor, with extremely limited local access to outboard mechanics. It is often a case of *'run them till they stop'*. The maintenance problem is exacerbated by the fact that newer outboards, because of the technology they employ, are less conducive to self-maintenance or on-water breakdown maintenance.

As an outcome of a number of boating safety campaigns in the region in recent years, the carriage of safety equipment on board these community recreational vessels has improved, particularly for EPIRBs, life jackets and flares.

It is also important to recognise that 'recreational boating' in the Torres Strait context is not so much about leisure boating activity but more about a *means of transport*.

There are also about 50 commercially registered vessels operating in the straits. These vessels are typically engaged in:

- Fishing for crayfish
- Passenger ferry operations
- Shipping pilot transfer
- Inter-island carriage of cargo

These vessels and their operations are not monitored by shipping inspectors as frequently as comparable mainland based commercial vessels, primarily because of the area's remoteness.

Operational risks to seafarers in the Torres Strait area

As mentioned earlier, seafarers in the Torres Strait face heightened operational risks arising from difficult sea conditions and very limited access to vessel and engine maintenance. They also have very limited alternatives to travel by sea. While the carriage of safety equipment has improved, community vessels frequently will have very limited navigational equipment. The lack of proper trip planning, including accurate estimates of fuel requirements also seem to heighten the overall risk they face.

Overloading is another real boating safety challenge in the region. Community vessels in particular may be overloaded with people, goods and even fishing/hunting catches such as dugong. This

significantly diminishes vessel stability, particularly in the earlier-mentioned rough seas. It also reduces potential access to stored safety equipment in the event of an emergency. Coupled with these pro-active considerations are the very real limitations in terms of land-based response capability when incidents do occur.

Incident trends, outcomes and intelligence

A snapshot of reported marine incident data from Maritime Safety Queensland's marine incident database reveals a contradictory picture of boating safety in the Torres Strait. Between 1997 and 2005, there were 13 reported marine incidents in the Torres Strait that resulted in the loss of nine lives and the hospitalisation of a further nine people. The fatal incidents included the July 2004 Badu Island tragedy where two adults and a child lost their lives in one incident.

The data mentioned above does not include the tragic loss of the Commonwealth Immigration vessel 'Malu Sara' in the Torres Strait in October 2005. This incident alone resulted in the loss of four adults and one child.

What the incident data also does not reveal is the real number of incidents occurring day-to-day in the region. The reporting of marine incidents in the region is generally poor, unless the incident involves death or hospitalisation. In these instances the incident generally comes to Maritime Safety Queensland's attention through the media or authorities such as the police who are actively involved in incident response. It is recognized that cultural, awareness and accessibility barriers pose real challenges to the statutory reporting of marine incidents by seafarers in the Torres Strait region.

In 2005 Maritime Safety Queensland received only 14 reports of marine incidents having occurred in the Torres Strait area. The majority of these occurred within the confines of harbours or near boat ramps and jetties. Only three of the reported incidents occurred in the open, offshore waters of the Torres Strait.

By way of comparison, in 2004/2005 the Australian Maritime Safety Authority recorded 76 EPIRB activations in Queensland—45 (60 per cent) of which were marine activations in the Torres Strait. Queensland Police sources indicate that there were a total of 117 search and rescue operations mounted in the Torres Strait in the same 12 month period, 36 for vessels reported as overdue. What is apparent is that in the Torres Strait EPIRBs are being used by seafarers as a first resort (breakdown service) rather than a last resort safety tool. The problem is magnified when one considers that typically search and rescue operations take two days and cost is in the order of $20,000 per search.

Improving boating safety in the Torres Strait

In late 2005, Maritime Safety Queensland embarked on a collaborative planning exercise with the Australian Maritime Safety Authority aimed at saving lives and reducing the number of seafarers lost by sustainably improving boating safety in the Torres Strait.

Together the two agencies are working to oversee the implementation of The Torres Strait Marine Safety Program. The program which is currently being developed is being tailored specifically to the Torres Strait region and aims to:

- Reduce the incidence of lost seafarers
- Increase the survivability of seafarers when lost
- Increase community and industry commitment to boating safety, and to
- Achieve these outcomes through partnerships with local communities, industry and government agencies.