

Marine safety incident statistics

Transport Safety Victoria

Annual Report

1 July 2015 to 30 June 2016

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Introduction

About this report

This report provides an overview of marine incidents that occurred in Victoria during the period 1 July 2015 to 30 June 2016.

This report is an update to, and replacement for, the quarterly Marine Incident statistics reports provided throughout the 2015-16 season. It contains additional information including geospatial analysis and trending. This season's incidents are compared with those of the three previous seasons.

Information about the data collection and codification methodologies is detailed in Appendix A of this report.

Key findings

- During the 2015-16 boating season nine marine fatalities resulted from eight recreational vessel incidents.
- Fatalities have increased 8 percent compared with the three year average.
- There were 20 incidents that resulted in serious injury this season, a decrease of 11.77 percent compared with the three year average.
- The number of marine incidents involving recreational vessels held steady, decreasing by only 0.28 percent compared with the average of the three preceding seasons.
- Of the 1311 reported recreational incidents in the 2015-16 season, 2.9 percent resulted in fatality, serious injury or lost vessel which are the three worst possible outcomes for a marine incident.
- There were 48 reported commercial marine incidents in the 2015-16 boating season, a 7.69 percent decrease compared with the average of the three preceding seasons.
- There was no fatal incident involving commercial vessels in 2015-16 season; this compares with one in 2014-15, two in 2013-14, none 2012-13 and none in 2011-12.
- The majority of commercial incidents occurred on Port Phillip Bay (37.5 percent), the Yarra River (14.58 percent) or Western Port (14.58 percent) .

Maritime fatalities and serious injuries

Fatalities

In 2015-16 there were nine fatalities from eight marine incidents in Victoria; this compares with ten fatalities from eight incidents in 2014-15, ten fatalities from ten incidents in 2013-14 and five fatalities from four incidents in 2012-13.

The table below contains data on fatalities that occurred as a result of marine incidents in Victoria. It shows the number of fatalities for each month of each year from 1 July 2012 through to 30 June 2016. The last column shows the total for each boating season.

Table 1: Marine incident fatalities by month from 1 July 2012 to 30 June 2016

| Year of incident | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Total |
|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 2012-13 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 5 |
| 2013-14 | 0 | 0 | 1 | 0 | 1 | 1 | 6 | 0 | 0 | 0 | 0 | 1 | 10 |
| 2014-15 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 1 | 0 | 4 | 10 |
| 2015-16 | 1 | 0 | 1 | 4 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 9 |

Further information

- On 11 July 2015, a deceased 61 year old male was located by fishermen near Larson's Point, Lake Dartmouth. The mans overturned petrol driven, motorised canoe was located by Fisheries Officers a short time later. No lifejacket was worn.
- On 27 September 2015, a 53 year old male died after falling overboard from a 6.3 m half cabin fishing boat in Boulton Channel, Western Port Bay.
- On 2 October 2015, a 48 year old male set out from Thompson dam wall kayaking with a companion. The man died when his kayak was caught in a strainer.
- On 9 October 2015, two 71 year old males died after their 5.6 m vessel capsized near Annabella Reef, Bass Strait.
- On 17 October 2015, the 8.9 m cabin cruiser belonging to a 50 year old male was located overturned on the beach with debris in the water off Wonthaggi. The vessel was discovered five days after the male had been reported overdue to authorities.
- On 19 December 2015, a 4.9 m vessel capsized with two people on board approximately 1 nautical mile off Codrington. One male swam to shore and raised the alarm. The body of a 61 year old male was later found washed up on the beach.
- 14 February 2016, a 69 year old male died after his 3.5 m tinny capsized within 200 m of the Warrnambool breakwater.
- 2 April 2016, a 43 year old male on board a 30 foot racing yacht suffered a medical incident and fell overboard. Despite being recovered and CPR being administered, the male was pronounced deceased at the Alfred Hospital.

Serious injuries

There were 20 incidents that resulted in serious injury in the 2015-16 season, six less than in 2014-15. Fifteen of the 20 serious injury incidents involved a recreational vessel and five incidents involved a commercial vessel.

Table 2 contains data on marine incidents that resulted in serious injury in Victoria. It shows the number of incidents that occurred in each month of each year since 1 July 2012. The last column shows the incident total for each boating season.

Table 2: Marine incident serious injuries by month from 1 July 2012 to 30 June 2016

| Year of incident | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Total |
|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 2012-13 | 1 | 1 | 0 | 1 | 0 | 6 | 11 | 2 | 1 | 0 | 1 | 1 | 25 |
| 2013-14 | 1 | 1 | 0 | 0 | 4 | 3 | 4 | 3 | 1 | 0 | 0 | 0 | 17 |
| 2014-15 | 1 | 2 | 3 | 0 | 1 | 4 | 7 | 1 | 6 | 1 | 0 | 0 | 26 |
| 2015-16 | 3 | 0 | 0 | 1 | 1 | 2 | 5 | 3 | 4 | 1 | 0 | 0 | 20 |

Further information

- 5 July 2015, a 24 year old crew member suffered a knee injury when the vessel rolled into the wharf at Stony Point.
- 7 July 2015, five people suffered from CO₂ poisoning while on board a cabin cruiser at Lakes Entrance.
- 12 July 2015, a male boating alone was discovered in the water by passers-by suffering from hypothermia after his vessel over turned on Lake Dartmouth.
- 4 October 2015, a vessel moving through a mooring area in Port Phillip Bay ran over a snorkeler causing lacerations to the swimmers arm.
- 10 November 2015, a passenger was injured on the ocean liner *Radiance of the Sea* and required medical evacuation back to Melbourne.
- 13 December 2015, a vessel collided with Port Navigation Marker 6. One passenger received extensive injuries and two others minor injuries.
- 31 December 2015, a skier suffered spinal injuries while skiing on Lake Eildon, the 37 year old male required airlift evacuation to the Alfred Hospital.
- 2 January 2016, a 9 year old boy was hit by a propeller while trying to climb back into a vessel. The boy was airlifted to Royal Children's Hospital from Lake Boga.
- 9 January 2016, a 5.2 m fibreglass vessel collided into rear of a 7 m rigid-hulled inflatable boat (RHIB) on Lake King, resulting in an injury to the operator of RHIB.
- 17 January 2016, a collision between two personal watercraft (PWC) on Port Phillip Bay resulted in the injury of one of the PWC operators.
- 20 January 2016, a passenger on a 4.4 m vessel on Port Phillip Bay has cut their leg trying to get back into the boat after being on a boogie board in the water.
- 24 January 2016, the operator of a stand up PWC was performing aerial manoeuvres on Lake Glenmaggie when an uncontrolled landing caused the operator to break his wrist and bruise his face and ribs.
- 1 February 2016, an inboard petrol engine ski boat exploded on Lake Bullen Merri. One passenger was blown overboard resulting in serious injuries while another passenger

jumped out of the vessel and received minor injuries. The vessel was completely destroyed in the ensuing fire.

- 6 February 2016, two PWCs collided with one another on Port Phillip Bay.
- 28 February 2016, a PWC with two people on board was travelling at excessive speed through a 5 knot zone on the Goulburn River. The PWC collided with another PWC with one person on board causing injuries to all persons involved.
- 1 March 2016, a passenger of a catamaran on Lake King received lacerations after hitting their head on a wind generator fan.
- 5 March 2016, the operator of a PWC on Corio Bay was injured after hitting a wave.
- 11 March 2016, a 17 year old female on board the vessel *Young Endeavour* required medical evacuation from Bass Strait after complaining of stomach pains.
- 26 March 2016, a commercial fishing charter collided with a recreational vessel that was at anchor and fishing off Stony Point, Western Port. Occupants of both vessels received serious injuries.
- 29 April 2016, a crew member on board the outbound ship *Stadacona* fell approximately 10 m down a hold. The 41 year old Ukrainian male required medical evacuation.

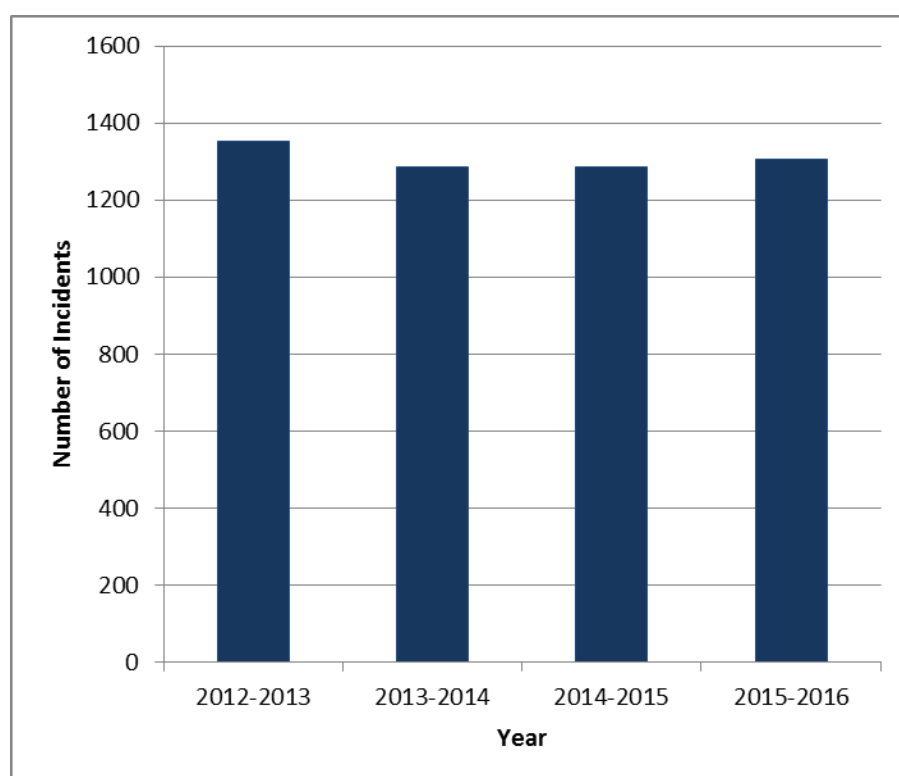
Marine incidents - recreational

In the 2015-16 boating season, there were 1311 reported recreational marine incidents. This is a 0.28 percent increase compared with the average of the three preceding seasons.

The proportion of incidents to result in fatality, serious injury or lost vessel (the three worst possible outcomes of a marine incident) is 2.9 percent. This compares with 3.1 percent in 2014-15 and 2.65 percent in 2013-14. The proportion of incidents to result in no damage is 91.5 percent; compared with 90.75 percent in 2014-15 and 89.95 percent in 2013-14.

Figure 1 shows the number of recreational marine incidents that occurred each boating season from 2012-13 to 2015-16. The data is also listed in the last row of Table 3 on the next page.

Figure 1: Marine incidents involving recreational vessels from 2012-13 to 2015-16



Recreational incidents by incident type

Of the 1311 recreational vessel incidents this season, 218 (16.6 percent) were classified as 'serious incidents' and 1,093 (83.37 percent) were disablements (refer to Appendix 1, Table 25 for the definition of a serious incident).

Serious incidents have decreased compared with the three year average however the number of fatalities remain a concern. This season most fatal incidents have resulted from capsizings (n=5) or person overboard incidents (n=2). The increase in fatalities cannot be attributed to any new trend or behaviour as no two incidents are the same. The similarities among the fatal incidents this season are limited to the gender of the deceased (all were male) and the failure of those on board to notify the authorities that they were in distress. There were only two instances where the alarm was raised by those on board the vessel in distress, and in one case a passenger had to swim to shore to raise the alarm. In all the other cases the authorities were alerted to the

incident by the discovery of the vessel and/or the deceased, the vessel was overdue or the incident was witnessed by others nearby.

Table 3 shows the number of marine incidents involving recreational vessels by year. The first column lists the incident type and the adjacent columns show the number of incidents that occurred in each year. The last row shows the total for each year.

Table 3: Marine incidents involving recreational vessels from 2012-13 to 2015-16

| Incident type | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|---------------------------------|----------------|----------------|----------------|----------------|
| Capsizing | 43 | 37 | 33 | 46 |
| Close quarters | 1 | 0 | 0 | 0 |
| Collision | 15 | 23 | 15 | 15 |
| Disablement of vessel | 1125 | 1012 | 1083 | 1093 |
| Explosion | 6 | 3 | 2 | 2 |
| Fire | 8 | 11 | 9 | 5 |
| Flooding | 11 | 22 | 11 | 17 |
| Grounding | 75 | 89 | 61 | 72 |
| Loss of stability | 0 | 0 | 1 | 0 |
| Loss or presumed loss of vessel | 2 | 0 | 3 | 0 |
| Onboard incident | 6 | 6 | 3 | 9 |
| Other personal injury | 5 | 4 | 5 | 4 |
| Person in trouble | 25 | 47 | 39 | 31 |
| Person overboard | 18 | 16 | 14 | 12 |
| Sinking | 0 | 1 | 0 | 0 |
| Structural failure | 0 | 3 | 2 | 2 |
| Swamping | 11 | 10 | 6 | 3 |
| Total | 1351 | 1284 | 1287 | 1311 |

Recreational incidents by waterway type

Most recreational marine incidents occurred on enclosed waters (86.8 percent) followed by coastal inshore waters (7.70 percent), inland waters (3.74 percent) and coastal offshore waters (1.68 percent).

Table 4 shows the proportion of recreational marine incidents by waterway type from 2012-13 to 2015-16. The first column lists the waterway type and the adjacent columns show the proportion of incidents to occur in each year.

Table 4: Recreational marine incidents by waterway type from 2012-13 to 2015-16

| Waterway type | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|-----------------------------------|---------|---------|---------|---------|
| Coastal inshore | 6.44% | 6.23% | 6.37% | 7.70% |
| Coastal offshore | 3.48% | 2.80% | 2.10% | 1.68% |
| Enclosed | 86.31% | 86.45% | 87.41% | 86.80% |
| Inland | 3.70% | 4.44% | 3.96% | 3.74% |
| Occurred outside Victorian waters | 0.07% | 0.08% | 0.16% | 0.08% |

Figure 2 shows the proportion of recreational marine incidents to occur in each waterway type. The two pie-graphs allow a comparison between the average of the three preceding seasons and the current season. The first pie-graph (Figure 2) shows recreational marine incidents by waterway type for the 2012-13 to 2014-15 seasons. The second pie-graph (Figure 3) shows recreational marine incidents by waterway type for the 2015-16 season.

Figure 2: Recreational marine incidents by waterway type for the 2012-13 to 2014-15 seasons

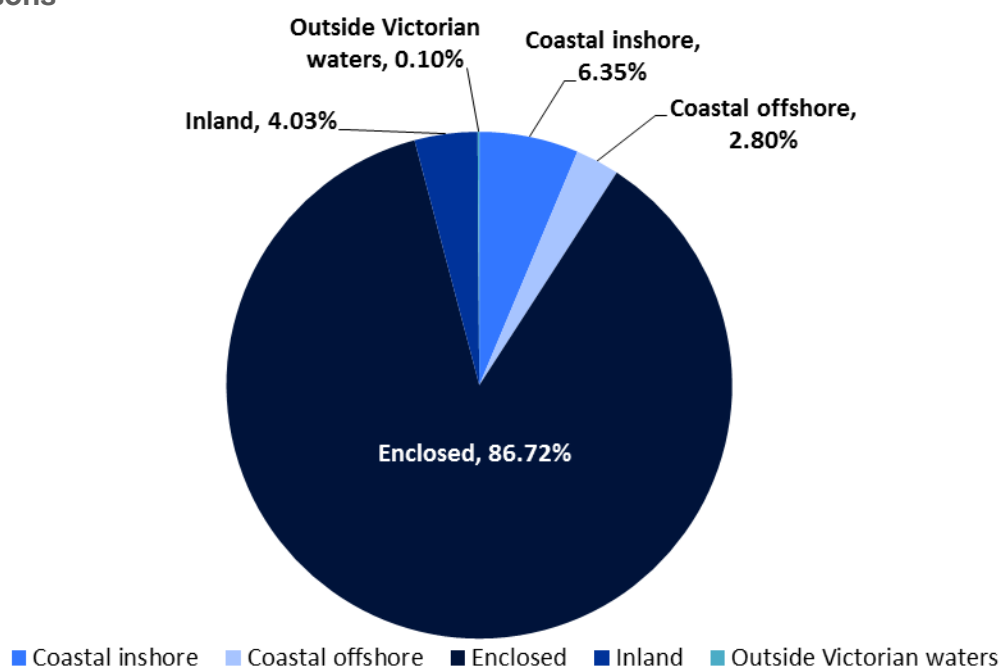
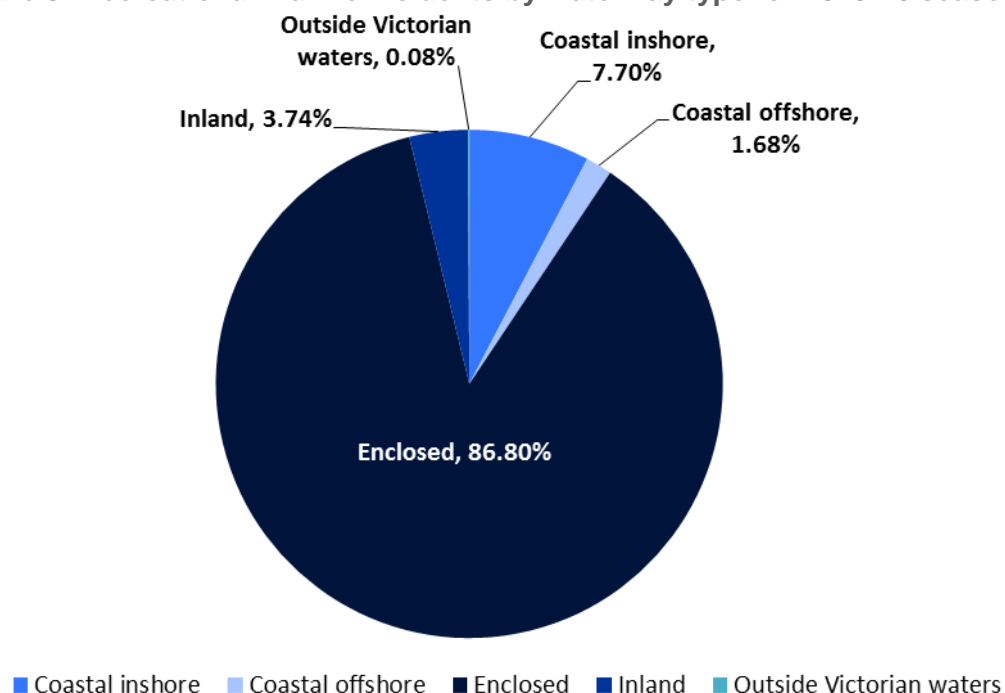


Figure 3: Recreational marine incidents by waterway type for 2015-16 season



Recreational incidents by waterway

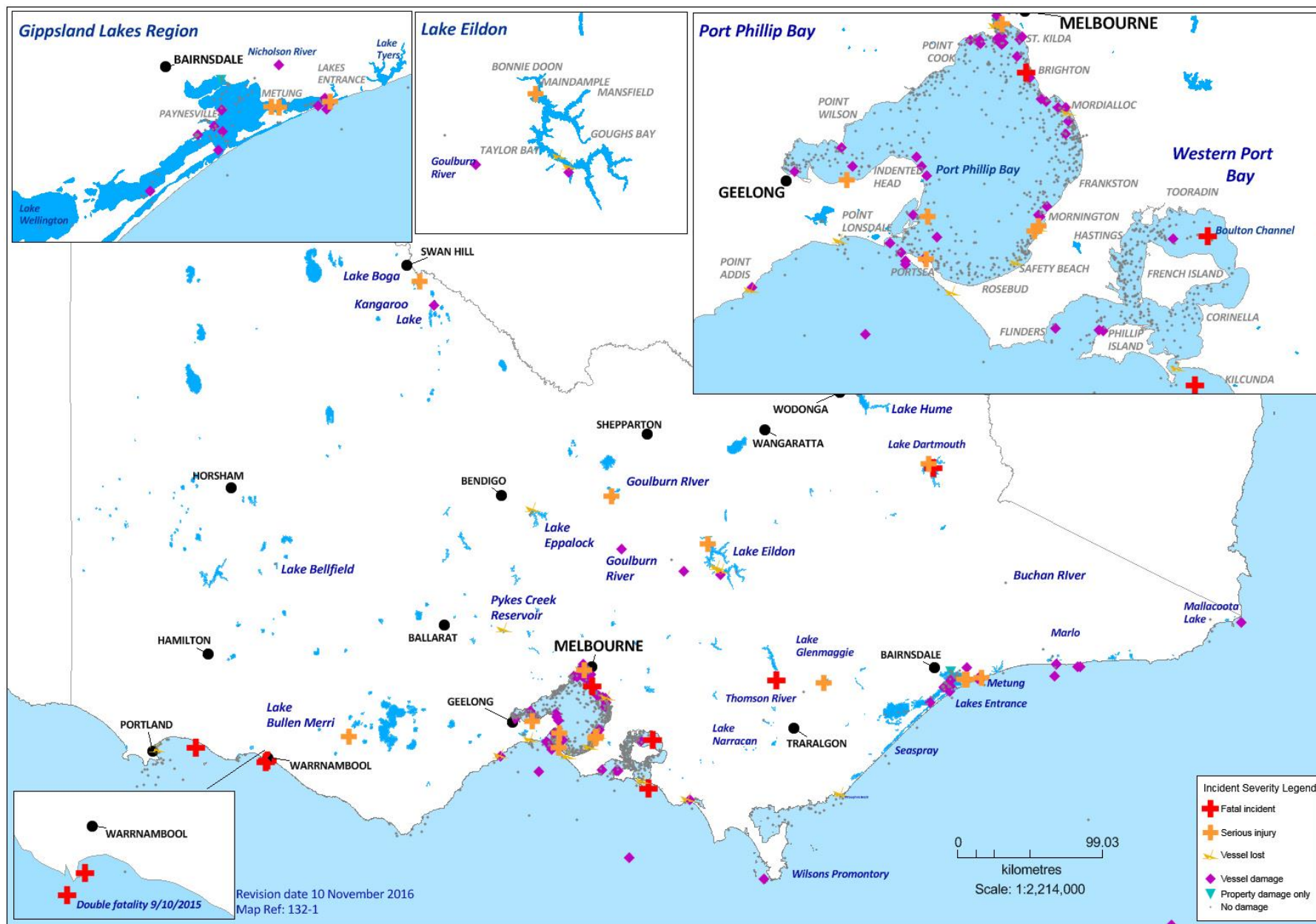
Recreational marine incidents occurred on 47 different waterways this season compared with 39 in 2014-15. In 2015-16, 52.02 percent (n=682) occurred on Port Phillip Bay and 18.69 percent (n=245) occurred on Western Port Bay. Table 5 below shows the top 10 waterways for recreational marine incidents in 2015-16.

Table 5: Top 10 waterways for recreational marine incidents in 2015-16

| Waterway name | Number of incidents |
|--------------------------------|---------------------|
| Port Phillip Bay | 682 |
| Western Port | 245 |
| Corio Bay | 82 |
| Lake Victoria | 43 |
| Bass Strait - Northern | 41 |
| Bass Strait - Western | 40 |
| Lake King | 34 |
| Bass Strait - Eastern | 24 |
| Reeve Channel and waters south | 15 |
| Yarra River | 13 |

Figure 4 on the next page shows the 2015-16 recreational marine incidents by incident severity plotted geospatially over a map of Victoria.

Figure 4: Recreational marine incidents for the 2015-16 season, shown by incident severity



Recreational disablement incidents

Recreational disablement incidents have increased by 1.83 percent compared with the average of the three preceding seasons. Consistent with previous seasons, the majority of disablements (98.44 percent) resulted in no damage, which is the lowest incident severity rating.

The graph in Figure 5 shows the number of recreational disablement incidents that occurred each month, each season commencing 2012-13. The data is also listed in Table 6 below. The peak month for disablements involving recreational vessels was December (16.29 percent) followed by January (14.91 percent).

Figure 5: Recreational disablements by year and month from 2012-13 to 2015-16

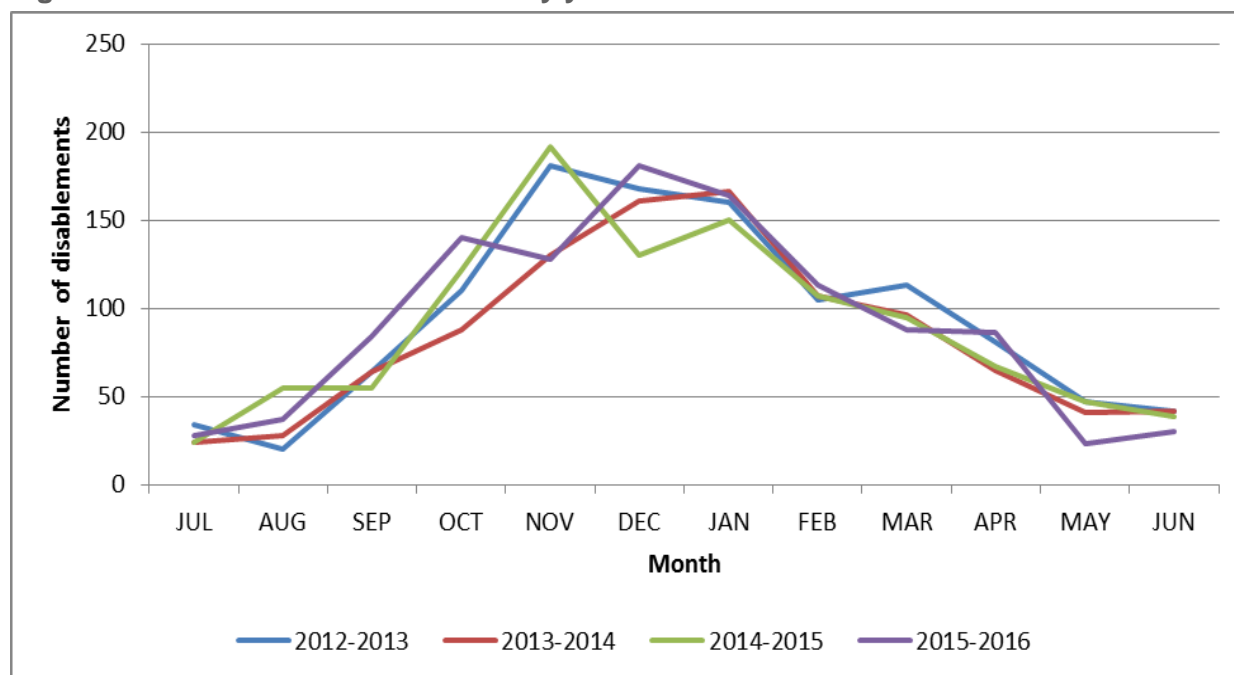


Table 6: Recreational disablements by year and month from 2012-13 to 2015-16

| Month | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|--------------|-------------|-------------|-------------|-------------|
| Jul | 34 | 24 | 24 | 27 |
| Aug | 20 | 28 | 55 | 37 |
| Sep | 64 | 64 | 55 | 82 |
| Oct | 110 | 88 | 122 | 138 |
| Nov | 181 | 131 | 192 | 128 |
| Dec | 168 | 161 | 130 | 178 |
| Jan | 160 | 166 | 150 | 163 |
| Feb | 105 | 107 | 107 | 114 |
| Mar | 113 | 96 | 95 | 88 |
| Apr | 81 | 65 | 67 | 85 |
| May | 47 | 40 | 47 | 23 |
| Jun | 42 | 42 | 39 | 30 |
| Total | 1125 | 1012 | 1083 | 1093 |

Recreational disablement incidents by vessel type

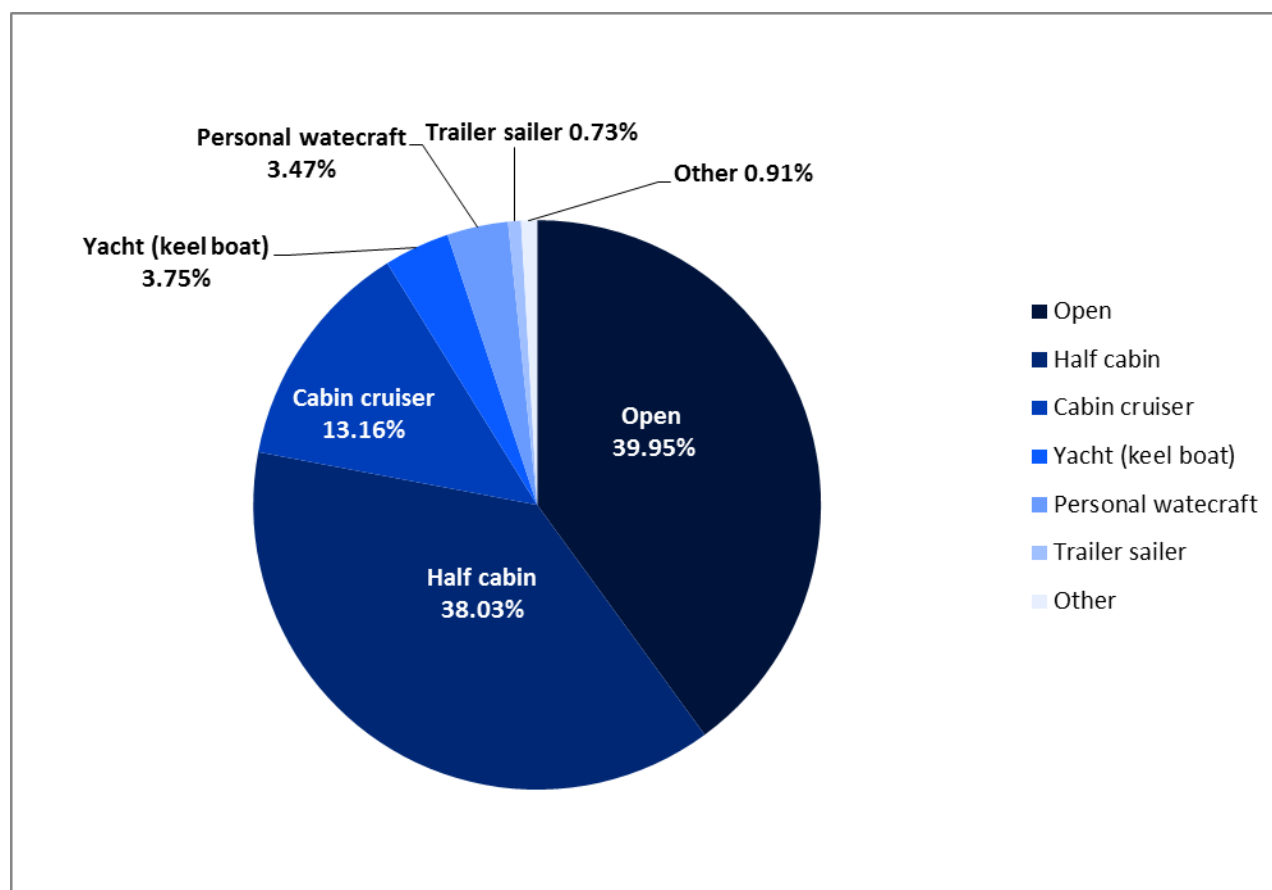
Table 7 lists the percentage of recreational disablements by vessel type for the 2015-16 season. The pie-graph in Figure 6 illustrates the proportion of vessel types for recreational disablements for the 2015-16 season.

Table 7: Recreational disablements by vessel type for 2015-16

| Vessel type | Total |
|---------------------------------|--------|
| Open | 39.95% |
| Half cabin | 38.03% |
| Cabin cruiser | 13.16% |
| Yacht (keel boat) | 3.75% |
| Personal watercraft | 3.47% |
| Trailer sailer | 0.73% |
| *Vessel not identified | 0.37% |
| Hovercraft | 0.27% |
| Yacht/catamaran (off the beach) | 0.18% |
| Ski boat | 0.09% |

*Vessel type or registration number not recorded by responding agency.

Figure 6: Proportion of vessel types for recreational disablements for the 2015-16 season



Marine incidents - commercial

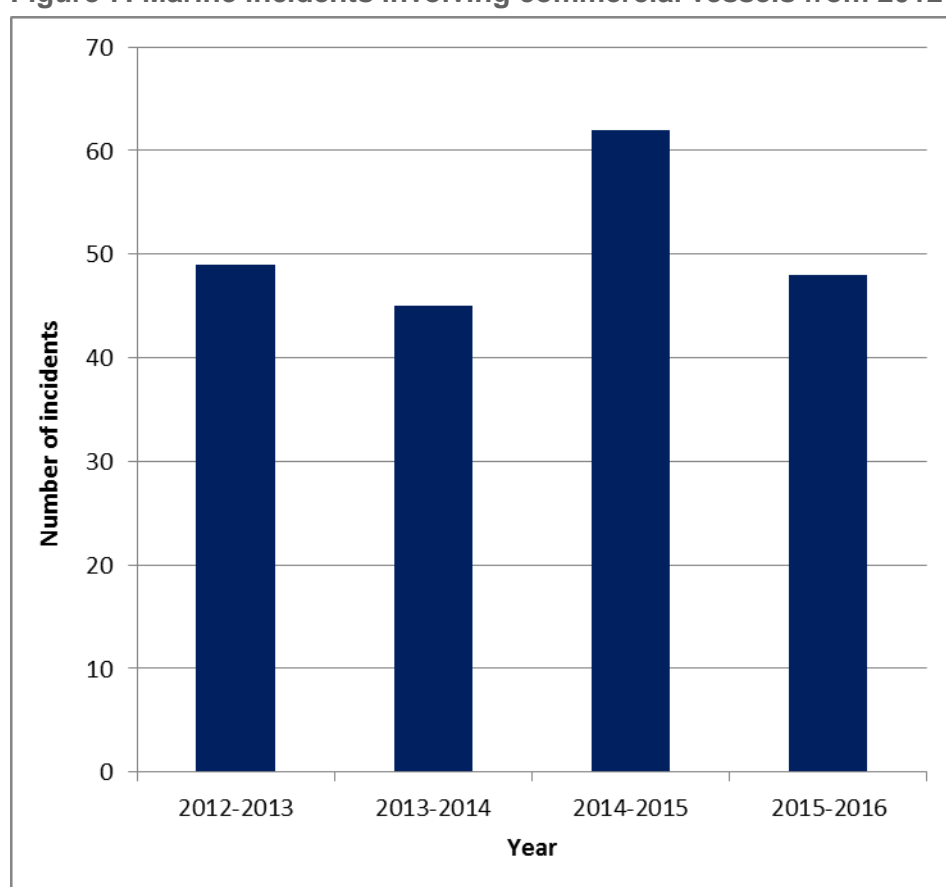
There were 48 reported commercial marine incidents in the 2015-16 boating season, a 7.69 percent decrease when compared with the average of the three preceding seasons.

In 2015-16, there were no fatal incidents involving commercial vessels. There were five incidents resulting in serious injury that involved a commercial vessel, two incidents involved a regulated Australian vessel, two incidents involved a domestic commercial vessel and one incident involved a foreign international vessel.

Of the 48 commercial incidents this season, 68.75 percent (n=33) resulted in no damage, 16.67 percent (n=8) resulted in vessel damage and 4.17 percent (n=2) resulted in property damage.

The graph in figure 7 shows the number of commercial marine incidents that occurred each year from 1 July 2012 to 30 June 2016.

Figure 7: Marine incidents involving commercial vessels from 2012-13 to 2015-16



Commercial incidents by incident type

Of the 48 commercial vessel incidents, 31 (64.58 percent) were classified as serious incidents and 17 (35.4 percent) were disablements. Collision (n=8) and close quarters (n=8) were the leading causes (types) of serious incidents in 2015-16 (Table 8).

Table 8 shows the number of marine incidents by incident type involving commercial vessels. The first column shows the incident type and the adjacent columns show the number of incidents that occurred each year. The last row shows the total for each year.

Table 8: Marine incidents involving commercial vessels from 2012-13 to 2015-16

| Incident type | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|-----------------------|-----------|-----------|-----------|-----------|
| Capsizing | 1 | 1 | 1 | 0 |
| Close quarters | 8 | 2 | 8 | 8 |
| Collision | 7 | 7 | 9 | 8 |
| Disablement of vessel | 22 | 18 | 20 | 17 |
| Explosion | 0 | 0 | 1 | 0 |
| Fire | 1 | 1 | 0 | 1 |
| Flooding | 4 | 0 | 1 | 1 |
| Grounding | 5 | 9 | 8 | 5 |
| Loss of stability | 0 | 1 | 0 | 0 |
| Onboard incident | 1 | 2 | 9 | 6 |
| Other personal injury | 0 | 1 | 0 | 0 |
| Person in trouble | 0 | 1 | 0 | 0 |
| Person overboard | 0 | 1 | 4 | 1 |
| Structural failure | 0 | 1 | 1 | 0 |
| Swamping | 0 | 0 | 0 | 1 |
| Total | 49 | 45 | 62 | 48 |

Commercial incidents by month

The peak month for marine incidents involving commercial vessels was November (22.92 percent), followed by January (14.58 percent). Table 9 below shows the number of commercial marine incidents that occurred each month and each year from 1 July 2012 to 30 June 2016. The last row shows the total for each year.

Table 9: Commercial marine incidents by month and year

| Month | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|--------------|-----------|-----------|-----------|-----------|
| Jul | 3 | 4 | 5 | 1 |
| Aug | 2 | 1 | 4 | 2 |
| Sept | 2 | 6 | 7 | 1 |
| Oct | 4 | 3 | 3 | 4 |
| Nov | 10 | 3 | 9 | 11 |
| Dec | 5 | 8 | 11 | 6 |
| Jan | 7 | 5 | 9 | 7 |
| Feb | 4 | 7 | 3 | 3 |
| Mar | 3 | 5 | 4 | 6 |
| Apr | 2 | 0 | 5 | 5 |
| May | 3 | 2 | 2 | 1 |
| Jun | 4 | 1 | 0 | 1 |
| Total | 49 | 45 | 62 | 48 |

Commercial marine incidents by waterway type

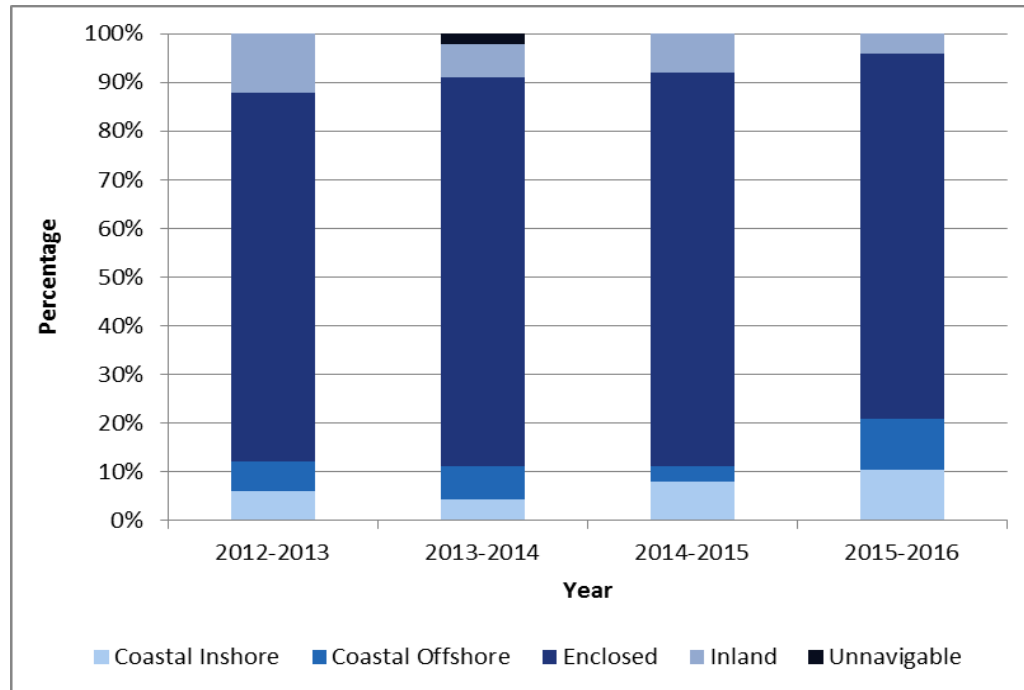
Commercial marine incidents occurring on enclosed waters are still the most common. Table 10 and the graph in Figure 8 show the proportion of commercial marine incidents by waterway type. The data is shown for each season from 2012-13 to 2015-16.

Table 10: Commercial marine incidents by year and waterway type

| Waterway type | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|---------------------------|---------|---------|---------|---------|
| Coastal inshore | 6.12% | 4.44% | 8.06% | 10.42% |
| Coastal offshore | 6.12% | 6.67% | 3.23% | 10.42% |
| Enclosed | 75.51% | 80.00% | 80.65% | 75.00% |
| Inland | 12.24% | 6.67% | 8.06% | 4.17% |
| Outside Victorian waters* | 0.00% | 2.22% | 0.00% | 0.00% |

* In Figure 8 incidents occurring outside Victorian waters are referred to as “unnavigable”.

Figure 8: Commercial marine incidents by waterway type from 2012-13 to 2015-16



Commercial marine incidents by waterway

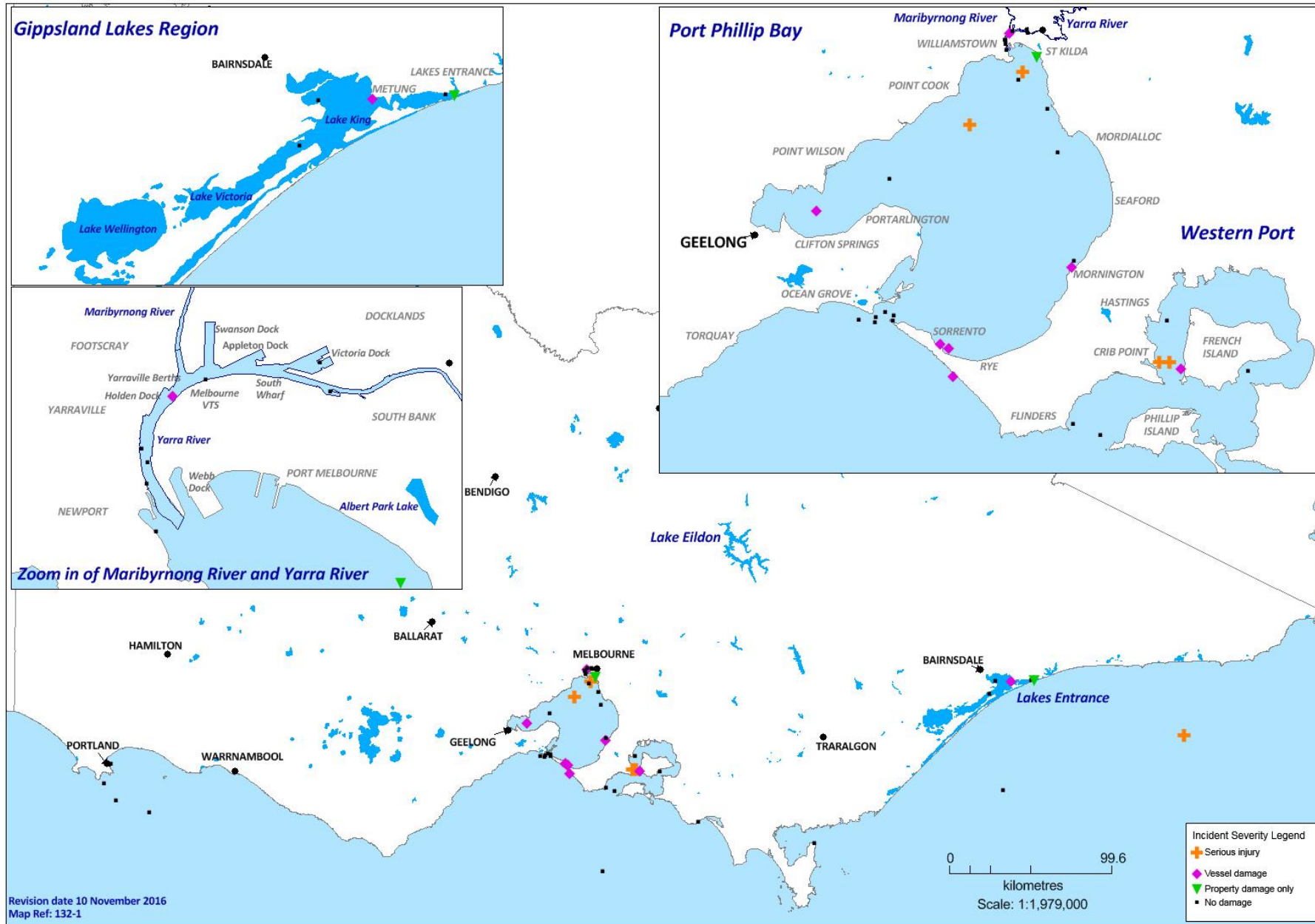
Of the commercial incidents reported in the 2015-16 season, 37.50 percent (n=18) occurred on Port Phillip Bay and 14.58 percent (n=7) occurred on both the Yarra River and Western Port. Table 11 shows the top 10 waterways for commercial marine incidents for the 2015-16 season.

Table 11: Top 10 waterways for commercial marine incidents

| Waterway Name | Total |
|------------------------|-------|
| Port Phillip Bay | 18 |
| Yarra River | 7 |
| Western Port | 7 |
| Bass Strait - Western | 5 |
| Bass Strait - Northern | 2 |
| Lake King | 2 |
| Bass Strait - Eastern | 2 |
| Cunninghame Arm | 2 |
| Corio Bay | 1 |
| Lake Victoria | 1 |

Figure 9 on the next page shows the 2015-16 commercial marine incidents by incident severity plotted geospatially over a map of Victoria.

Figure 9: Commercial marine incidents for the 2015-16 season, shown by incident severity



Waterways incident analysis

This section contains a consolidation of both recreational and commercial incidents. Incidents noted as being outside Victorian waters are included because Victorian rescue assets were used to respond to the incident.

Table 12 shows the number of marine incidents by waterway type for each year commencing 2012-13.

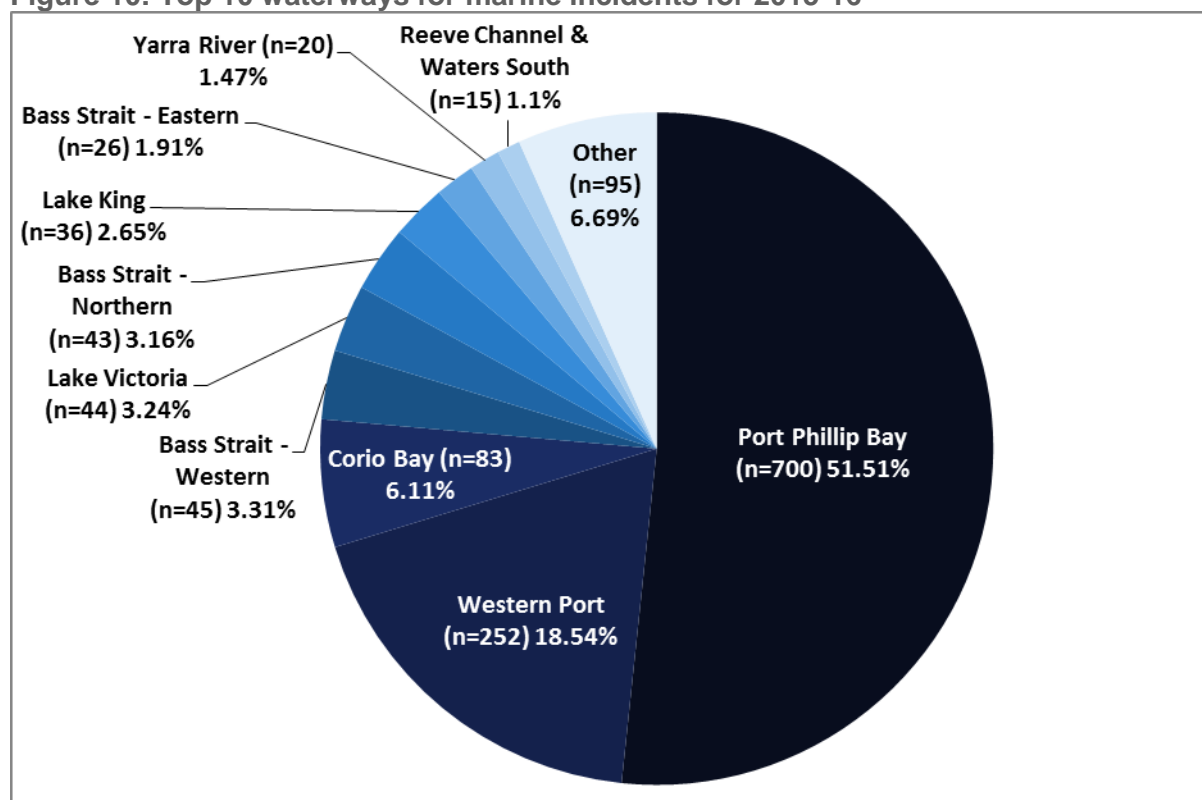
Table 12: Marine incidents by waterway type from 2012-13 to 2015-16

| Waterway type | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|--------------------------|-------------|-------------|-------------|-------------|
| Coastal inshore | 91 | 82 | 87 | 106 |
| Coastal offshore | 50 | 39 | 29 | 27 |
| Enclosed | 1204 | 1146 | 1175 | 1174 |
| Inland | 56 | 60 | 56 | 51 |
| Outside Victorian waters | 1 | 2 | 2 | 1 |
| Total | 1402 | 1329 | 1349 | 1359 |

The 1,359 marine incidents this 2015-16 season occurred on 47 different waterways, 17 of which had only one incident recorded.

The pie-graph in Figure 10 illustrates the top 10 waterways for all marine incidents for the 2015-16 season. Of the 1,359 incidents this season, 93 percent (n=1,264) occurred on the following 10 waterways (Figure 10).

Figure 10: Top 10 waterways for marine incidents for 2015-16



Victorian Marine Licence Snapshot

The marine licence data is taken of the last day of the reporting month. The number of people with a current marine licence as of 30 June 2016 was 395,431. The following tables show marine licences by licence status and type, licence holders by age group and gender.

Table 13: Number of marine licences by licence status as of 30 June 2016

| Licence status | Number of licences |
|-----------------|--------------------|
| Current licence | 395431 |
| Expired licence | 116392 |

Table 14 shows the proportion of marine licences with endorsements as at 30 June 2016. It was interesting to note that PWC endorsements were 10 times more likely for persons under 16 years of age. Further investigations are necessary to determine whether this is due to the attitude of new operators, i.e. they are obtaining licences specifically to drive personal watercraft or whether operators are of the view that it makes sense to obtain the highest level of licencing available as the additional testing to do so is not too onerous or prohibitive.

Table 14: Percentage of marine licences with endorsements as of 30 June 2016

| Licence type | Number of licences |
|-----------------|--------------------|
| PWC endorsement | 55.68% |
| None | 44.32% |

Males make up the majority of licence holders (79.97 percent) see table 15 below. It was found that males aged between 17 and 55 make up 85 percent of all PWC licences, whereas males aged between 36 and 80 make up 85 percent of general boating licences. Table 16 shows a breakdown of licences by age group.

Table 15: Percentage of marine licences held by gender as of 30 June 2016

| Gender | Number of licences |
|--------|--------------------|
| Female | 20.03% |
| Male | 79.97% |

Table 16: Percentage of marine licences held by age group as at 30 June 2016

| Age group | Number of licences |
|-------------|--------------------|
| 12 - 15 | 1.35% |
| 16 - 25 | 12.32% |
| 26 - 35 | 18.48% |
| 36 - 45 | 20.13% |
| 46 - 55 | 21.65% |
| 56 - 65 | 15.03% |
| 66 - 80 | 9.86% |
| 80 or older | 1.17% |
| Undefined | 0.001% |

Recreational registrations snapshot

The number of recreational vessels registered as at 30 June 2016 was 190,428. There is approximately 14,500 vessel transfers per annum. It should be noted that vessel registration data does not capture passive (human powered) vessels, including but not limited to: rafts, stand-up paddle boards, kayaks and canoes. It is unknown exactly how many passive vessels are in Victoria, however estimates have been gauged anywhere from 100 to 400 thousand.

Open boats make up the majority of registered fleet however, open boats include tinny's, ski/wakeboarding boats and centre console fishing boats. There is just over 91,000 open boats under 4.8 metres and around 37,000 open boats between 4.8 metres and 8 metres in length.

Table 17 and Figure 11: Registered recreational vessels by type as at 30 June 2016

| Vessel type | Number of vessels |
|---------------------|-------------------|
| Canoe | 185 |
| Cabin cruiser | 5846 |
| Half cabin | 28540 |
| Houseboat | 704 |
| Hovercraft | 885 |
| Open | 129277 |
| Personal watercraft | 20016 |
| Trailer sailer | 2222 |
| Yacht (keel boat) | 2753 |

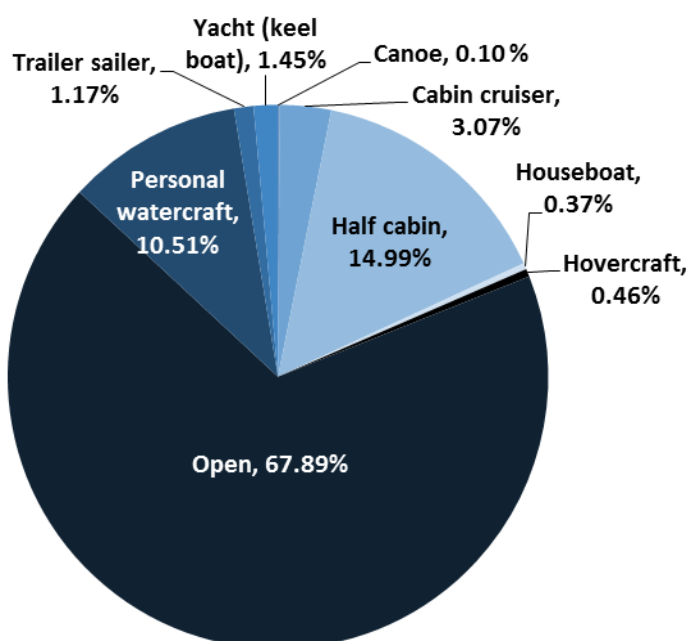


Table 18: Number of registered recreational vessels by length as at 30 June 2016

| Vessel length range | Number of vessels |
|---------------------|-------------------|
| 0 - 4.8m | 120100 |
| 4.8 - 8m | 64555 |
| 8 - 12m | 3953 |
| Greater than 12m | 1820 |

Appendix A: Data definitions and collection

Reporting requirements in Victoria

The following reporting requirements applied to both recreational and commercial vessels during the 2015-16 boating season:

- Victoria's marine operators are required to report certain types of marine incidents to the Victoria Water Police under the *Marine Safety Act 2010 (Vic)* (MSA).
- Under section 173(1)(i) of the *Transport Integration Act 2010 (Vic)* one of the functions of the Director, Transport Safety is to "collect information and data about, and commission and sponsor research into, transport safety matters". Transport Safety Victoria (TSV) uses the data it collects from marine operators to monitor trends and safety risks in the marine environment across Victoria and identify regulatory interventions accordingly.
- Although not a specific legislative requirement, recreational incidents involving a request to Victoria Water Police for search and rescue assistance are reported to TSV by Victoria Water Police through the Marine Safety System.
- Reporting requirements apply to commercial vessels under the *Marine Safety (Domestic Commercial Vessel) National Law Act 2012* (the National Law). Sections 88 and 89 in Schedule 1 of the National Law require that both the owner and master of a domestic commercial vessel involved in a marine incident report the incident to Australian Maritime Safety Authority (AMSA) the national regulator.

Explanatory notes

Changes to data collected

This report is an update of a similar report that is published quarterly. Data is adjusted to reflect new information that comes to light during the reporting period.

Demographic data

Demographic data has been included in this report to provide context to the incident data, particularly with regard to exposure to risk. The registration and licence data is taken from the VicRoads registration and licence system on the last day of the month.

Marine incident definition

The *National Marine Safety Data Collection Reference Manual: Data Standards and Definition for Marine Incidents 18 December 2007* (Reference Manual), defines a marine incident as an event causing or involving any of the following in connection with the operation of a vessel:

1. the death of, or injury to, any person on board a vessel, or caused by a vessel
2. the loss of a person from a vessel
3. the abandonment, loss or presumed loss of a vessel
4. the collision of a vessel with another vessel or with an object
5. the grounding, sinking, flooding or capsizing of a vessel
6. a fire or explosion aboard a vessel
7. loss of stability affecting the safety of a vessel
8. structural failure of a vessel.

Data definitions

Incident data has been codified in accordance with the Reference Manual. For convenience, an extract of the incident type descriptors is included in this document. For full explanatory notes please read this report in conjunction with the Reference Manual.

The table below provides a description of the different types of marine incidents that may be reported to TSV.

Table 19: Marine incident data definitions

| Type | Description |
|-------------|--|
| Collision | <p>A marine incident involving the collision of an operating vessel may include any of the following instances:</p> <ul style="list-style-type: none"> a) Collision of vessels Striking together of two or more vessels, at least one vessel must be in operation or operating; but does not include striking a permanently fixed man-made object. a) Collision with a fixed object A vessel striking a permanently fixed man-made object, e.g. aid to navigation, overhead bridge, sea walls, or groynes; and does not include striking another vessel. b) Collision with a floating object A vessel striking an object that is waterborne and is free to move with tide, current or wind and is visible from the surface of the water; does not include living animals but does include carcasses and does not include striking another vessel. c) Collision with an animal Vessel striking a living animal which may or may not be normally found in a marine environment. d) Collision with overhead obstruction Any part of a vessel making contact with power lines, or other overhead obstructions suspended above a waterway. e) Collision with submerged object A vessel making contact with an object that is waterborne and may be free to move with tide, or current and is not visible from the surface of the water e.g. submerged container, submarine cable. This category does not include groundings. f) Collision with wharf A vessel making contact with a wharf/jetty/pontoon/boat ramp and causing damage to the vessel and/or wharf etc. |
| Grounding | <p>A marine incident involving an operating vessel grounding may include any of the following instances:</p> <ul style="list-style-type: none"> a) Grounding unintentional When a vessel unintentionally comes into contact with the bottom of a waterway so that the vessel ceases to be completely waterborne. This includes a vessel, either under command or not under command, running aground, striking or pounding on rocks, reefs or shoals, but not making contact with a beach or grounding intentionally. b) Grounding intentional A vessel, under command, is put aground intentionally by the operator. An intentional grounding of a vessel is not a reportable marine incident unless the vessel is damaged in some way that makes the incident reportable. |
| Capsizing | Vessel overturns so that the keel becomes uppermost or the vessel may lie on its side. |
| Sinking | A vessel becomes submerged and settles below the surface of the water. |

| | |
|-----------------------------------|---|
| Swamping | A vessel fills with water particularly over the side (that is, water is filling from the upper part of the vessel) but retains sufficient buoyancy to remain waterborne. If the vessel does not retain sufficient buoyancy to remain waterborne, the incident type becomes a sinking. |
| Flooding | A breach of the vessel's watertight integrity (that is, water filling from the lowest part of the vessel) due to the ingress of water into the vessel. The vessel retains sufficient buoyancy to remain waterborne. If the vessel does not retain sufficient buoyancy to remain waterborne, the incident type becomes a sinking. |
| Loss or presumed loss of a vessel | A vessel has not returned as stated or intended prior to departure and may be considered to be missing at sea. |
| Structural failure | Damage to a vessel due to the structural failure of the vessel's hull, superstructure, engines, machinery, or equipment due to such things as metal fatigue, corrosion, broken welds, wood rot, electrical faults, insufficient materials in the construction of the vessel and excessive stress or wear on any component. Examples include dismasting of sailing vessels due to the mast being broken. Does not include flooding or sinking due to a breach of the hull. |
| Loss of stability | The inadvertent movement of cargo, equipment or other materials which affects the vessel's ability to return to an upright position when laterally displaced but does not include loss of stability due to swamping or flooding. |
| Fire | Accidental burning of a vessel's fuels or their vapours or of any material on board a vessel. |
| Explosion | Accidental explosion of any material on board a vessel including vessel fuel or its vapours. |
| Person overboard | A person falls from a vessel into the water/sea/waterway. |
| Onboard injury | A marine incident involving an operating vessel where the incident occurs onboard the vessel may include any of the following instances: <ul style="list-style-type: none"> a) Falls within vessel Person onboard a vessel falls within the confines of the vessel. b) Crushing or pinching An incident where a person is crushed or pinched by any part of the vessel or vessel's machinery because of the operation of the vessel. c) Other onboard injury Any other incident on board a vessel (passenger, crew) due to the operation of the vessel; does not include a fall overboard, falls within vessel, or crushing or pinching. |

| | |
|-----------------------|---|
| Other personal injury | <p>A marine incident involving an operating vessel may include any of the following instances:</p> <ul style="list-style-type: none"> a) Hit by vessel or propeller Person not on board a vessel is hit by a vessel or vessel's propeller, this does not include a fall overboard, skiing or diving incident. b) Skiing incident An incident when a person is engaged in waterskiing. Waterskiing includes aquaplaning, knee boarding, wake surfing and any similar towed activity carried out in association with a vessel. c) Parasailing incident An incident where a person is engaged in parasailing. Parasailing is an activity utilising a parachute towed by a vessel to enable a person to become airborne. d) Diving incident An incident involving an operating vessel and a person engaged in a diving related activity. For the purposes of this document, a diving activity includes diving using surface-supplied breathing apparatus, SCUBA diving, breath-hold diving (also known as free diving or skin diving) and snorkelling. e) Other incidents caused by an operating vessel Any other incident involving a person not on board a vessel (e.g. swimmer, surfboard rider) due to the operation of a vessel; does not include a fall overboard, falls within vessel, crushing or pinching, hit by a vessel or propeller, skiing or diving incident. |
|-----------------------|---|

Additional incident data definitions

TSV collects data regarding three additional "near miss" incident types that do not comply with the definition of a marine incident in the Reference Manual but are useful indicators of risk and decision making. The definition of a close quarters situation is the working definition used by TSV and is now included in the Marine Safety Act. The definitions of a disablement and person in trouble are working definitions only.

Table 20 below provides a description of the different types of marine incidents not included in Table 19.

Table 20: Additional incident data definitions

| Type | Description |
|--------------------------|--|
| Close quarters situation | <ul style="list-style-type: none"> a) at least 2 vessels pass within proximity of each other such that a reasonable person would in all the circumstances conclude there was a risk of collision by those vessels; b) one vessel passes within proximity of an object such that a reasonable person would in all the circumstances conclude there was a risk of collision by that vessel with that object. |
| Disablement | A powered vessel becoming disabled and requiring assistance. |
| Person in trouble | Person(s) that require assistance because they cannot continue in their vessel unassisted. |

Table 21: Other definitions

| Vessel type | Description |
|----------------------|---|
| Serious incident | Any incidents that conform to the definition of a marine incident in the Reference Manual including: capsizing, close quarters, collision, fire, flooding, grounding, loss of stability, onboard incident, other personal injury, person overboard, sinking, structural failure, swamping, and person in trouble. |
| Recreational vessel* | A vessel used solely for the purposes of recreational or sporting activities and not for hire or reward. |
| Commercial vessel * | Any vessel that is operated in connection with a commercial transaction of any kind; includes both domestic and foreign vessels. |

* For a complete definition please refer to the Reference Manual.