

2.3 Types of marine incidents

Figure 9 details the five most frequently occurring types of marine incidents for recreational vessels. The figure shows reported incidents in 2007 together with the preceding four-year average. These five categories account for 65 percent of the 383 incidents that involved a recreational vessel in 2007.

Collision between ships and unintentional groundings are the main incident categories across recreational, commercial and hire and drive vessels. For recreational vessels both of these incident types were over-represented in 2007 compared with their respective four-year averages.

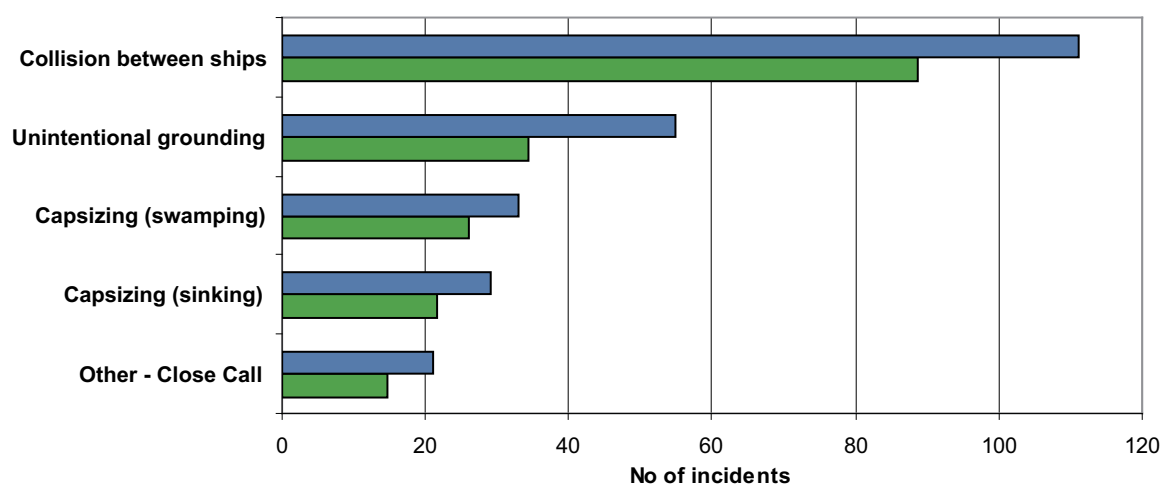
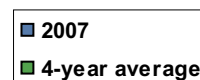


Figure 9: Marine incidents involving recreational vessels in 2007 by incident type (Top 5)



Of the 111 reported collisions between ships that involved a recreational vessel, 49 or 44.1 percent involved a moving vessel colliding with a stationary vessel. 17 of these incidents occurred when vessels dragged anchor and collided with other anchored vessels, 15 occurred while a vessel was attempting to enter or leave its berth, 14 involved an anchored vessel being hit by a vessel underway and three occurred as the vessel was setting or retrieving its anchor.

Capsizing swamping, capsizing sinking and close call incidents were also over-represented when compared to their four-year average. Collision with a fixed object, fire, structural failure and capsizing, while not in the top five incident types, were all above their respective four-year average.

Figure 10 provides the top five incident types for commercial vessels, excluding hire and drive, in 2007. There were 391 incidents in 2007 that involved commercial vessels. The top five incident types account for 53.5 percent these incidents.

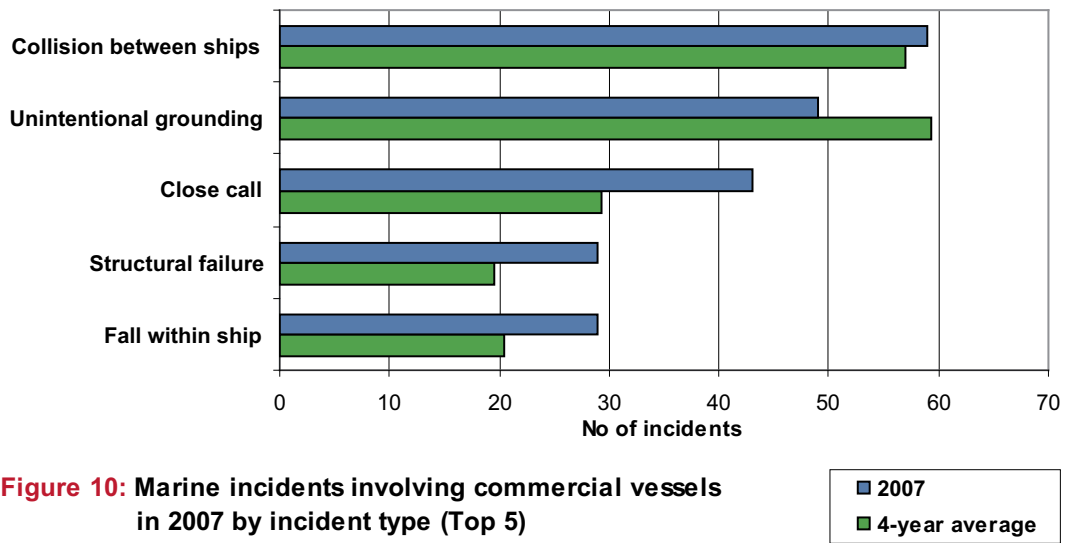


Figure 10: Marine incidents involving commercial vessels in 2007 by incident type (Top 5)

Collision between ships was the predominant incident type for commercial vessels in 2007. The number of collisions involving commercial vessels in 2007 is consistent with the preceding four-year average. The unintentional grounding of commercial vessels, while still a significant incident category in 2007, has shown improvement when compared to the four-year average. Close calls, structural failure and onboard incident falls within ship were over-represented when compared with their respective four-year average involvement.

Unintentional groundings have been the major incident type for hire and drive vessels over the past four years. In 2007 the incidence of unintentional grounding was well below the four-year average and equalled the number of reported collisions between ships. These two incident types account for 66.7 percent of the 48 reported incidents involving a hire and drive vessel.

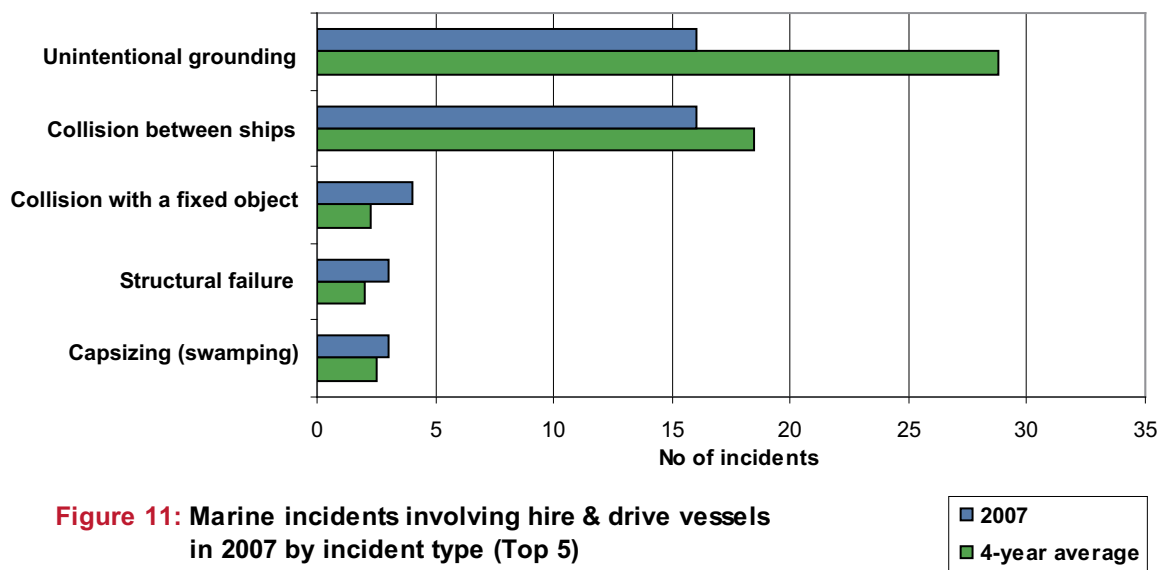


Figure 11: Marine incidents involving hire & drive vessels in 2007 by incident type (Top 5)

Table 19 in the appendix provides data for all incident types for the period 2002 to 2007, including regional counts for 2007.

2.4 Incident characteristics

In 2007 there were 1354 factors identified as having contributed to the 762 reported marine incidents. Contributing factors are recorded by Maritime Safety Officers when an incident is investigated. The factor classifications are grouped into environmental, human and material. Table 8 provides a list of all contributing factors recorded in 2007.

60 percent of the identified contributing factors in 2007 relate to human actions. The main human contributing factors were inattention, operational error – other, navigational error – failure to keep a proper lookout and navigation error – lack of knowledge/experience. Alcohol or drugs was identified as a contributing factor in 13 incidents.

Table 8: Contributing factors to incidents

Contributing factors	2007	% of group	% of all contributing factors
Human factors			
Inattention	153	18.8%	11.3%
Operational error-other	143	17.6%	10.6%
Navigation error-failure to keep proper lookout	81	10.0%	6.0%
Navigation error-lack of knowledge/experience	75	9.2%	5.5%
Navigation error-violation of Collision regs	54	6.7%	4.0%
Insufficient planning	53	6.5%	3.9%
Inadequate training of crew	35	4.3%	2.6%
Navigation error-other	33	4.1%	2.4%
Poor communications	28	3.4%	2.1%
Insecure mooring	27	3.3%	2.0%
Excessive speed	26	3.2%	1.9%
Insufficient maintenance	15	1.8%	1.1%
Violation of standard procedures	15	1.8%	1.1%
Alcohol or drugs	13	1.6%	1.0%
Violation of statutory rules or standards	12	1.5%	0.9%
Inappropriate instructions to crew - other	10	1.2%	0.7%
Poor communication of instructions to crew	10	1.2%	0.7%
Commercial pressure	7	0.9%	0.5%
Fatigue	6	0.7%	0.4%
Overloading	6	0.7%	0.4%
Insufficient crew numbers	5	0.6%	0.4%
Insufficient fuel	3	0.4%	0.2%
Inappropriate advice to ship - Pilot	2	0.2%	0.1%
Inappropriate Harbour/Port Authority advice	0	0.0%	0.0%
Inappropriate Vessel Traffic System advice	0	0.0%	0.0%
Poor ship to shore communications	0	0.0%	0.0%
Total human	812	100%	60.0%

Table 8 continued on next page



Contributing factors	2007	% of group	% of all contributing factors
Environmental factors			
Sea state	100	30.7%	7.4%
Wind	95	29.1%	7.0%
Poor visibility	26	8.0%	1.9%
Wash of passing vessel	21	6.4%	1.6%
Other environmental contributing factor	20	6.1%	1.5%
Abnormal tidal conditions	14	4.3%	1.0%
Floating or submerged object	14	4.3%	1.0%
Hazardous waters - coral reefs	10	3.1%	0.7%
Bar conditions	7	2.1%	0.5%
Hazardous waters - uncharted hazards	6	1.8%	0.4%
Hazardous waters - shifting channel	5	1.5%	0.4%
Heavy traffic area	5	1.5%	0.4%
Hazardous waters - lack navigation aids	2	0.6%	0.1%
Hazardous season (cyclones etc)	1	0.3%	0.1%
Total environmental	326	100%	24.1%
Material factors			
Machinery failure	69	31.9%	5.1%
Equipment failure - other	40	18.5%	3.0%
Other material contributing factor	34	15.7%	2.5%
Hull failure	21	9.7%	1.6%
Electrical failure	15	6.9%	1.1%
Inappropriate hull or equipment-design fault	11	5.1%	0.8%
Insufficient maintenance of hull or equipment	11	5.1%	0.8%
Inadequate stability - other	3	1.4%	0.2%
Inappropriate hull or equipment-construction fault	3	1.4%	0.2%
Bridge or navigation failure	2	0.9%	0.1%
Fuel or gas leak	2	0.9%	0.1%
Inadequate stability - overloading	2	0.9%	0.1%
Shore structure badly designed/maintained	2	0.9%	0.1%
Inadequate stability - shifting cargo	1	0.5%	0.1%
Insufficient safety equipment	0	0.0%	0.0%
Total material	216	100%	16.0%
Total all contributing factors	1354	100%	100%

In 2007, 53 incidents had insufficient planning identified as a contributing human factor. This is a pronounced increase from 2006 where this factor was identified in 22 incidents. The 2007 count is 2.9 times higher than the preceding six-year average.

Contributing environmental factors made up 24.1 percent of all identified contributing factors in 2007. The main contributing factors were sea state and wind. Bar conditions as a contributing factor is at its lowest level in six years. In 2006 28 incidents recorded bar conditions as a contributing factor compared to just 7 in 2007. Wash of a passing vessel contributed to 21 incidents.

Material contributing factors made up 16 percent of all identified contributing factors. Machinery failure, equipment failure – other and hull failure continue to be the main factors identified.

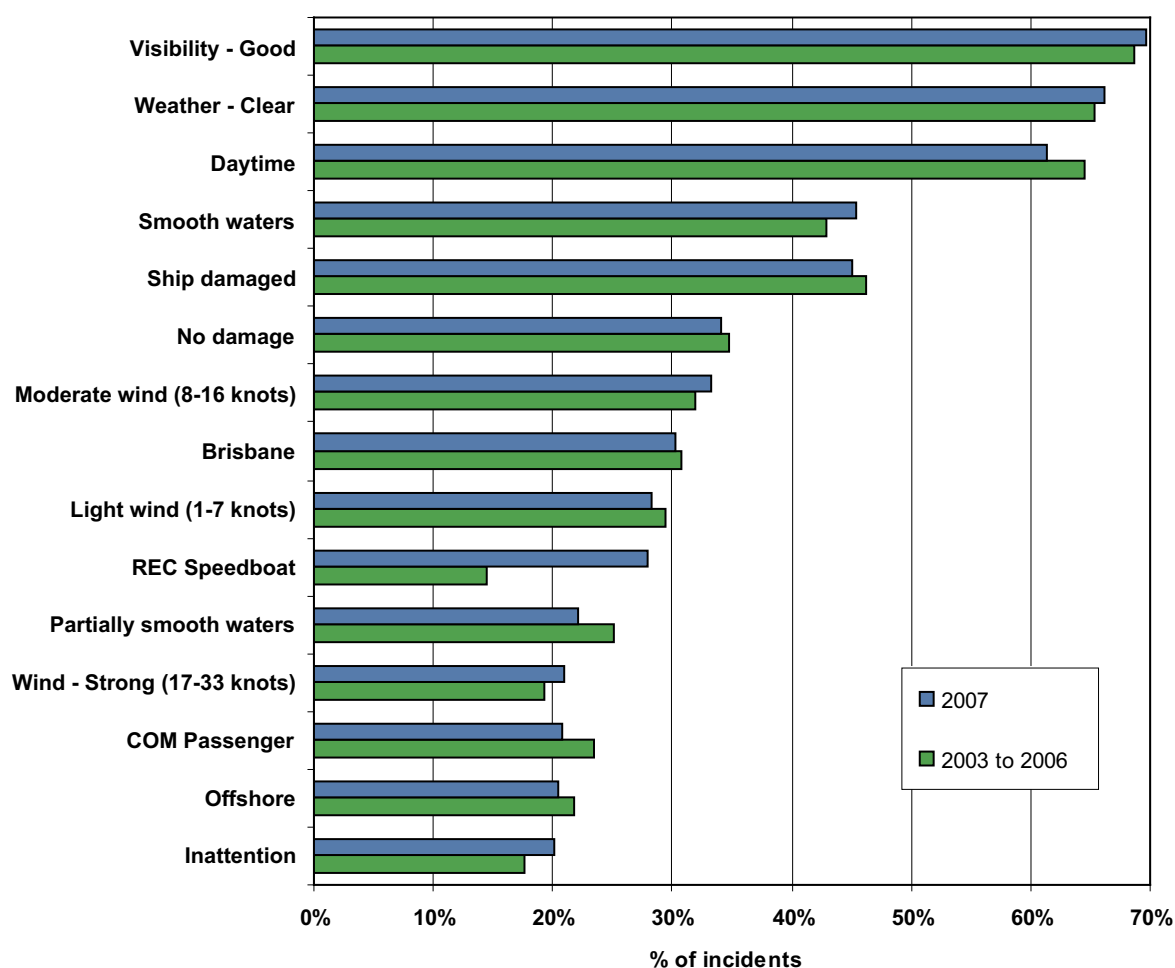
Overall the most frequent contributing factors identified were inattention (11.3 percent), operational error – other (10.6 percent), sea state (7.4 percent) and wind (7 percent).



Tables 16, 17 and 18 in the appendix provide counts for all three contributing factor categories for the period 2002 to 2007.

Figure 12 expands on the contributing factors discussed above, to include other incident characteristics such as wind strength, ship type, location and region. Combined these characteristics provide a more comprehensive view of the nature of reported marine incidents. The figure details the top 15 characteristics involved in marine incidents in 2007. The proportion for the preceding four-years is provided for comparative purposes.

Figure 12: Proportion of Queensland marine incidents with given characteristics, Queensland, 2007 (Top 15)



The data is based on the proportion of incidents for which the given characteristic was reported or identified during investigation as contributing or prevailing at the time.

A striking feature from Figure 12 is that the majority of incidents, over 60 percent, occur in optimum conditions, that is, there is good visibility, the weather is clear, it is daytime, the winds are light to moderate and the boat is in smooth or partially smooth waters. Strong winds and offshore waters were only involved in 21 percent and 20 percent of incidents respectively.

Vessels were damaged in 45 percent of incidents in 2007 and 20 percent of incidents involved inattention on the part of the skipper.

With the exception of recreational speedboats the top 15 characteristics have remained relatively consistent over time. Only minor differences are observed between the data for 2003 to 2006 and that recorded in 2007.