

# MARINE INCIDENTS DURING 2008

## *Preliminary Data Analysis<sup>12</sup>*

This section is part of the NMSC's yearly updating of incidents. It covers the circumstances surrounding all incidents that occurred during the calendar year 2008. The NMSC will continue to provide half-yearly or yearly updates as appropriate.

### *Snapshot*

#### *Incidents by Type*

#### *Contributing Factors to the occurrence of Incidents*

#### *Fatalities and Serious Injuries*

#### *Vessel Types and Lengths*

### **Snapshot**

During 2008, there were 1312 marine incidents resulting in 34 fatalities and 465 injuries including 139 serious injuries.

Of the 1312 reported marine incidents:

Commercial vessels were involved in 35%, recreational vessels 61% and unknown and foreign vessels 4% of all marine incidents in 2008.

Of the 1312 reported marine incidents:

- 31% occurred in the Summer months, 29% in Autumn, 20% occurred in Winter and Spring months each.
- 42% of incidents took place between 12 noon to 6pm and 31% occurred between 6pm -12 midnight.
- A collision of vessels made up 22% of all incidents, followed by unintentional groundings, which made up 15% of all incidents.

Of the 34 fatalities:

- Majority occurred in clear weather conditions (68%).
- Approximately 47% were a result of collision of a vessel in one way or the other or a boat capsizing.
- 76% were male.
- 71% involved either human or environmental factors.

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<sup>1</sup> Any incident data provided here is subject to change due to lag effects in reporting, collection and data entry. Later period data is most likely to vary.

<sup>2</sup> Data in this report does not include incidents from the Northern Territory from August 2007. This will have a minor impact on the national figures. The Secretariat will update the report when the data becomes available.

- 78% involved recreational vessels only.

## ***Incidents by Type***

The following table provides a breakdown of all incident types in incidents in 2008:

<b>Incident Type</b>	<b>Records</b>	<b>% of Total</b>
Collision of Vessels	292	22.3
Grounding unintentional	194	14.8
Collision with fixed object	102	7.8
Capsizing	99	7.5
Sinking	61	4.6
Fire	58	4.4
Swamping	56	4.3
Unknown	56	4.3
Person overboard	55	4.1
Falls within vessel	42	3.2
Collision with submerged object	39	3.0
Other incident caused by an Operating Vessel	39	3.0
Other onboard incident	35	2.7
Other	34	2.6
Collision with wharf	24	1.8
Collision with floating object	22	1.6
Flooding	21	1.6
Structural failure	19	1.4
Loss or presumed loss of a vessel	16	1.2
Hit by propeller or vessel	14	1.1
Onboard crushing or pinching	8	0.6
Grounding intentional	6	0.5
Collision with overhead obstruction	5	0.4
Collision with an animal	5	0.4
Skiing incident	4	0.3
Loss of stability	3	0.2
Explosion	2	0.2
Diving incident	1	0.1
<b>Total</b>	<b>1312</b>	<b>100</b>

The order of incident types follows closely to that shown over the three years 2005-2007. Collisions continue to be prevalent, with 37% of all incidents being collisions of some form. Unintentional groundings form the second largest category, making up 15% of all incident types. Incidents where people are likely to end up in the water are also significant, constituting 20% of all incidents reported.

## Contributing Factors in Incidents

In 2008 25 factors and an unknown factor were responsible for the occurrence of all reported incidents. This suggests that each factor contributed on average to the occurrence of 74 incidents. An error of judgment made up the largest category, which contributed to the occurrences of 15% of all reported incidents. This was followed by the wind/sea state and other human factor, being responsible for the occurrence of 14% and 7% respectively of all incidents. A full list of contributing factors in 2008 is provided in the table below:

Contributing Factor	Records	% of Group Total	% of all Incidents
<b>Environmental Factors</b>			
Wind/sea state	244	47.5	12.7
Other environmental factor	75	14.6	3.9
Restricted visibility	42	8.2	2.2
Floating or submerged object	41	8	2.1
Wash	41	8	2.1
Tidal conditions	39	7.6	2
Bar conditions	32	6.1	1.7
<b>Total Environmental</b>	<b>514</b>	<b>100</b>	
<b>Human Factors</b>			
Error of Judgment	280	33.8	14.6
Other human factor	128	15.4	6.7
Failure to keep a proper lookout	100	12	5.2
Inexperience	91	11	4.7
Navigational error	79	9.5	4.1
Insecure mooring	48	5.8	2.5
Excessive speed	46	5.5	2.4
Lack of maintenance	24	2.9	1.3
Alcohol or Drugs	18	2.2	0.9
Fatigue	8	1	0.4
	4	0.5	0.2
Overloading	3	0.4	0.2
<b>Total Human</b>	<b>829</b>	<b>100</b>	
<b>Material Factors</b>			
Other material factor	109	38.8	5.7
Equipment – Machinery	93	33.1	4.9
Equipment - Hull failure	34	12.1	1.8
Equipment – Navigation	18	6.4	0.9
Equipment – electrical	15	5.3	0.8
Inadequate stability	12	4.3	0.6
<b>Total Material</b>	<b>281</b>	<b>100</b>	
<b>Unknown Factors</b>	<b>295</b>		<b>15.4</b>
<b>Total - All Contributing Factors</b>	<b>1919</b>		<b>100</b>

Human factors continue to dominate in incidents when compared to the three years 2005, 2006 and 2007, responsible for the occurrences of 43% of all marine incidents in 2008. This is followed by environmental factors which were responsible for the occurrences of 27% of all incidents, and then material and unknown factors responsible for .15% each of all the reported marine incidents which occurred in 2008 (See Table below for trend)

### Contributing Factors to Marine Incidents Grouped 2005-2008

Contributing Factors	2005		2006		2007		2008	
	Records	% of Total	Records	% of Total	Records	% of Total	Records	% of Total
Human	1302	51	1424	48	1596	51	1070	47
Environmental	691	27	776	26	788	25	586	26
Material	364	14	456	15	424	13	316	14
Unknown	191	7	259	8	285	9	281	12
<b>Total</b>	<b>2548</b>	<b>100</b>	<b>2915</b>	<b>100</b>	<b>3093</b>	<b>100</b>	<b>2253</b>	<b>100</b>

### Fatalities and Serious Injuries

In 2008, there were 34 fatalities and 127 serious injuries reported. The number of fatalities fell from the 53 reported in 2007 to 34 while the number of serious injuries increased from the 123 reported in 2007 to 127. A more detailed breakdown is shown below:

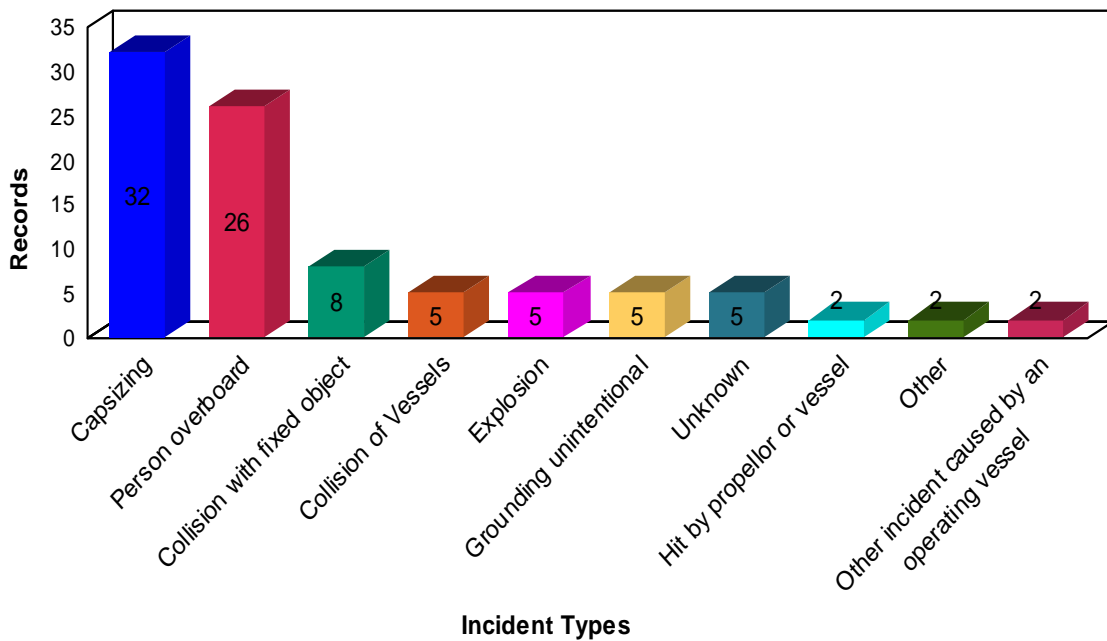
Injury Status	2007	% of all incidents	2008	% of all incidents
Fatalities	53	3	34	3
Serious Injuries	123	8	139	11
Fatal Incidents	41	3	31	2
Serious Injury Incidents	110	7	115	9
Marine Incidents	1593		1312	

Most fatal incidents involved only one fatality. This is also the case for serious injuries. Out of all incidents reported in 2008, 14% involved fatalities or serious injuries.

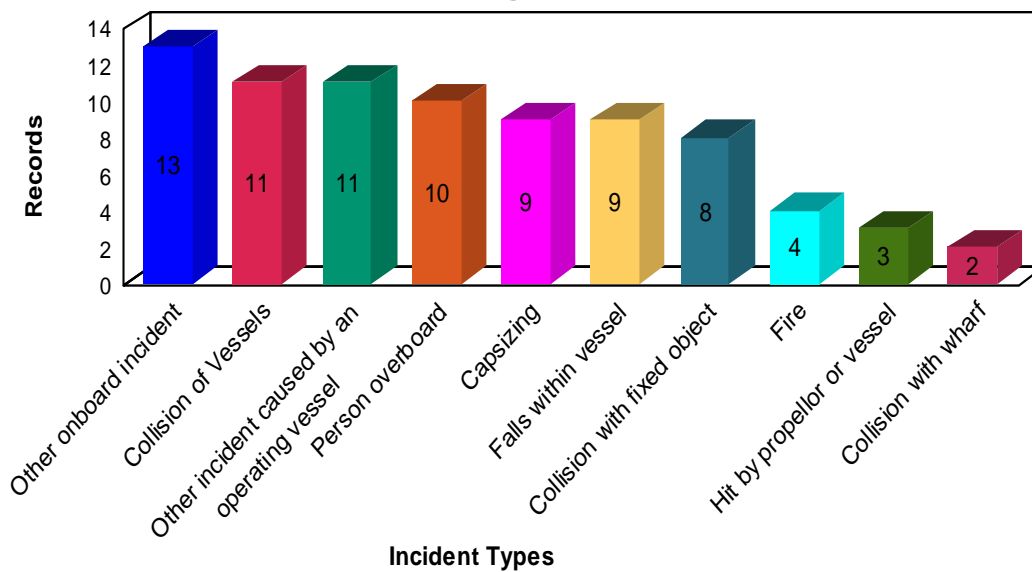
### Incident Types in Fatal and Serious Injury Incidents

Of the incidents involving fatalities and serious injuries, the following graphs provide the top 10 incident types for each:

## Top 10 Incident Types in Fatalities in Percentages 2008



## Top 10 Incident Types in Serious Injuries in Percentages 2008

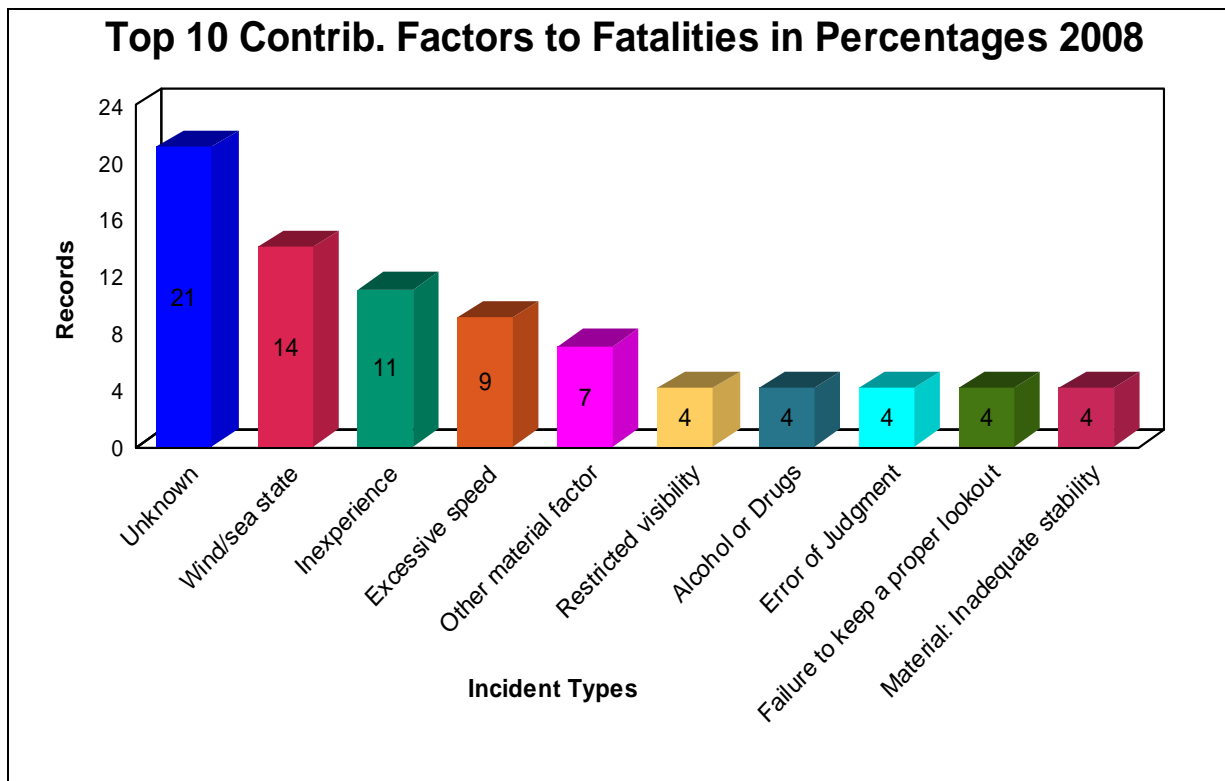


Capsizing and person overboard were the largest reported incident types in fatal incidents and accounted for 58% of all such incidents. This shows that a significant proportion of fatalities occurred from people ending up in the water. Refer to the NMSC National Assessment of Boating Fatalities in Australia 1999-2004 for detail). Other onboard incidents and collisions were the predominant incident types in serious injury incidents.

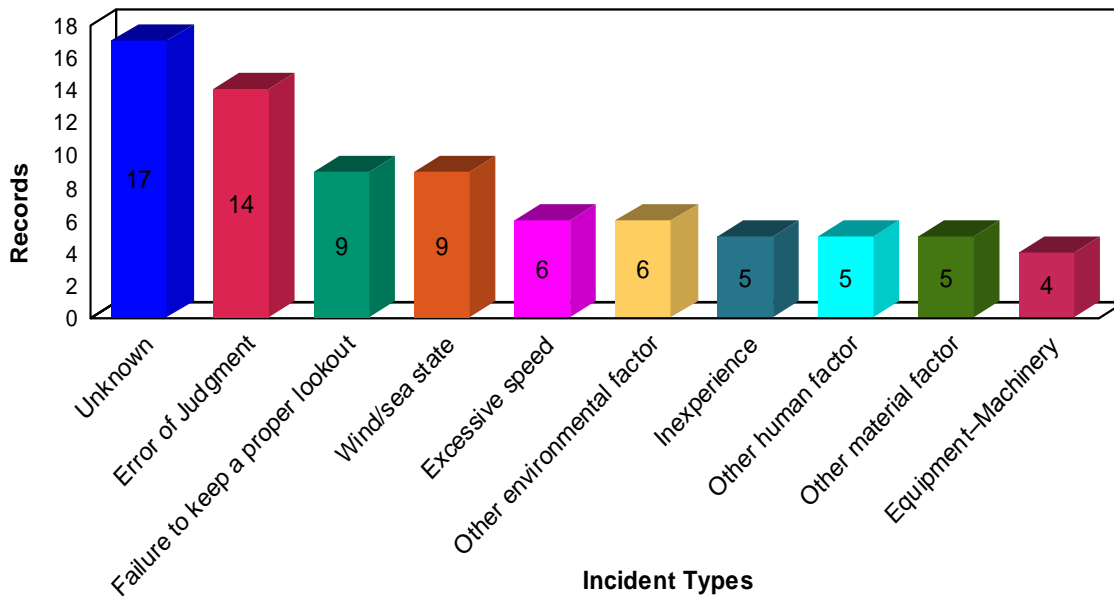
*Contributing Factors in Fatal and Serious Injury Incidents*

The report shows that there were 15 factors which contributed to the occurrence of the 34 fatal incidents. These factors on average contributed to the occurrence of 3 fatalities each. The results of the analysis indicate that there were 21 factors responsible for the occurrence of all reported serious injury incidents, Each factor contributed on average to the occurrence of 9 serious injuries in 2008.

The following graphs provide a breakdown of the top 10 contributing factors in fatal and serious injury incidents:



## Top 10 Contrib. Factors to Serious Injuries in Percentages 2008



Human and environmental factors made up a significant proportion of contributing factors in both fatal and serious injury incidents. In both fatal and serious injury incidents, human factors constituted the largest group and were responsible for the occurrence of 43% and 49% respectively for all reported fatalities and serious injuries. This was followed by environmental factors which were responsible for the occurrences of 28% and 23% respectively of all reported fatalities and serious injuries. Material factors were largely under-represented in fatal and serious injury incidents and were responsible for 13% of all reported incidents in each category.

### ***Commercial and Recreational Vessel Incidents***

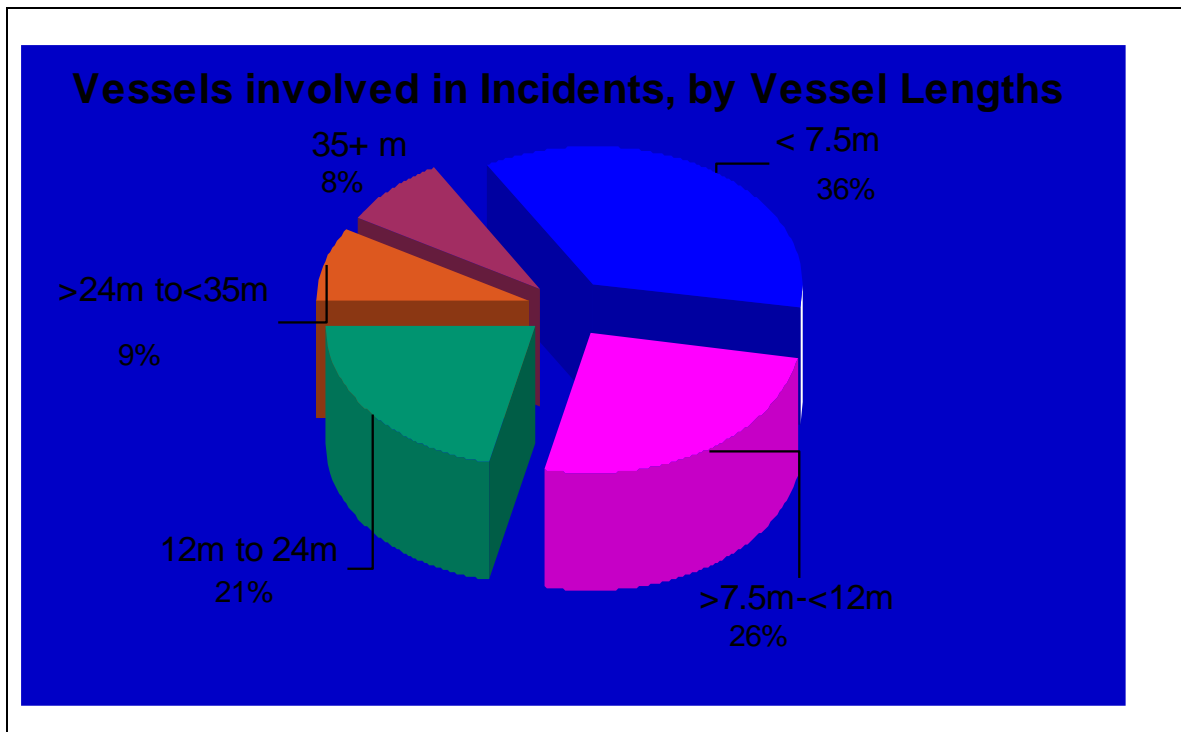
In 2008, there were 502 incidents involving at least one commercial vessel and 879 incidents involving at least one recreational vessel. This represents 35% and 61% respectively of all incidents. Unknown vessels were involved in 4% of all reported marine incidents.

Of the 34 reported marine fatalities for 2008, 25 involved recreational vessels only, 7 involved commercial vessels only and 2 involved both recreational and commercial vessels. Recreational motorboats were more often involved in fatalities than any other type of vessel and were responsible for 56% of all reported fatalities. Recreational-other boats were the next largest category, being involved in 18% of all fatalities. Commercial-fishing vessels and Commercial-hire and drive vessels were responsible for 12% and 9% respectively for all reported fatalities in 2008.

Out of the 139 serious injuries, 94 involved recreational vessels only, 33 involved commercial vessels only, 10 involved both recreational and commercial vessels and 2 were from unknown. Recreational motorboats were the most common vessel type involved in serious injuries, being involved in 49% of all serious injuries. The next largest categories were commercial passenger and commercial non-passenger vessels, being involved respectively in 16% and 10% of all reported serious injuries.

### ***Vessel Lengths and Incident Types***

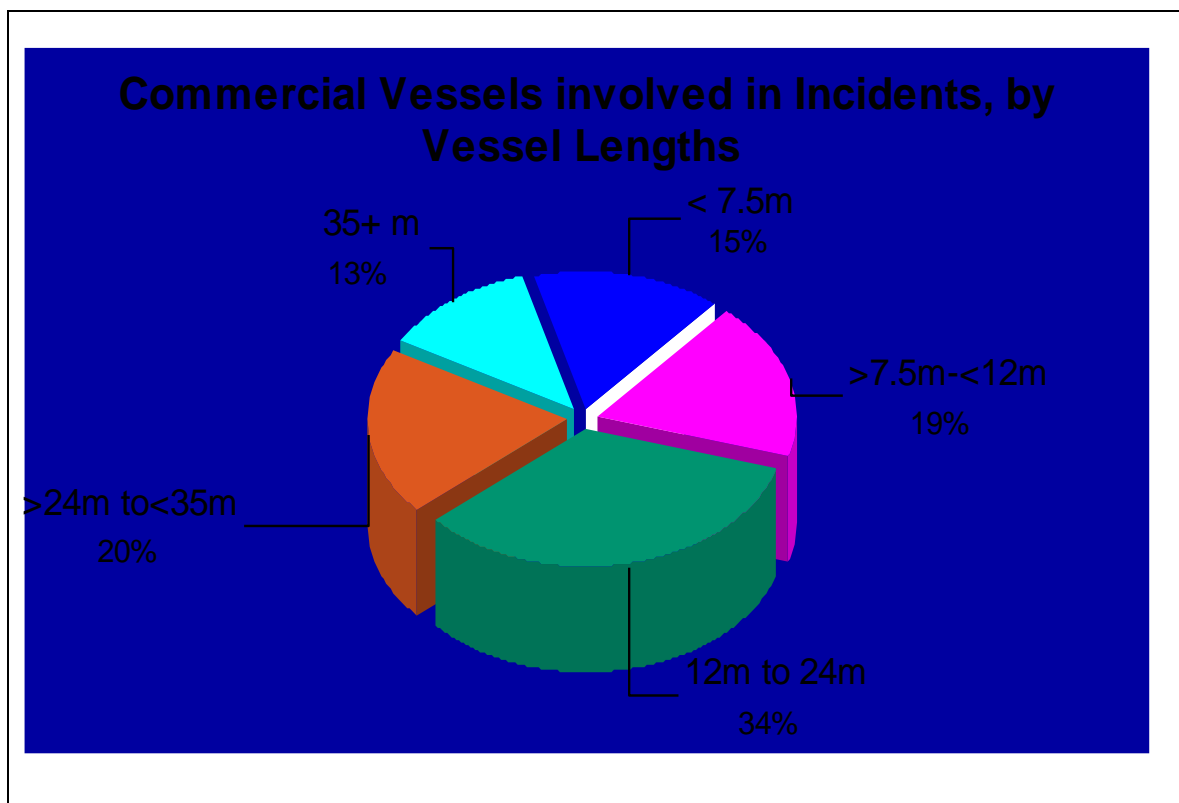
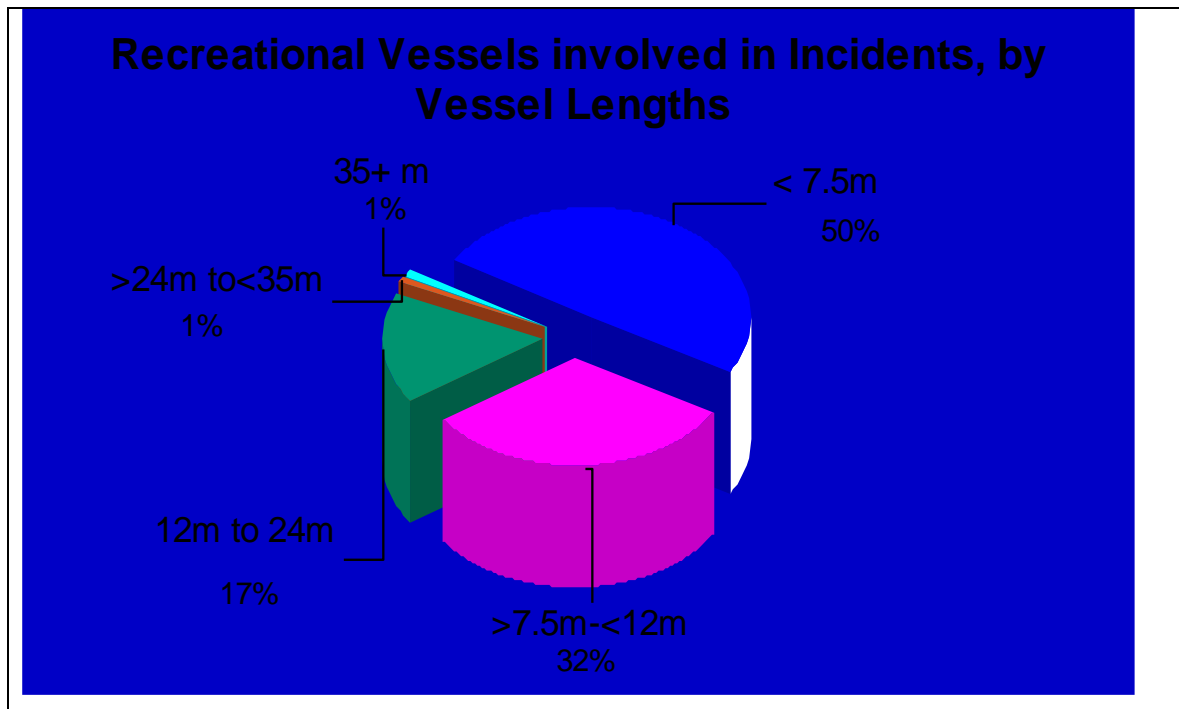
Of the vessels involved in incidents for which a vessel length was recorded<sup>1</sup>, the largest group involved vessels with less than 7.5 m in length. These accounted for 36% of all vessels involved in incidents for which vessel length was recorded. This was followed by vessels with lengths between 7.5m and 12m, accounting for 26% of all vessels involved in incidents for which vessel length was provided.



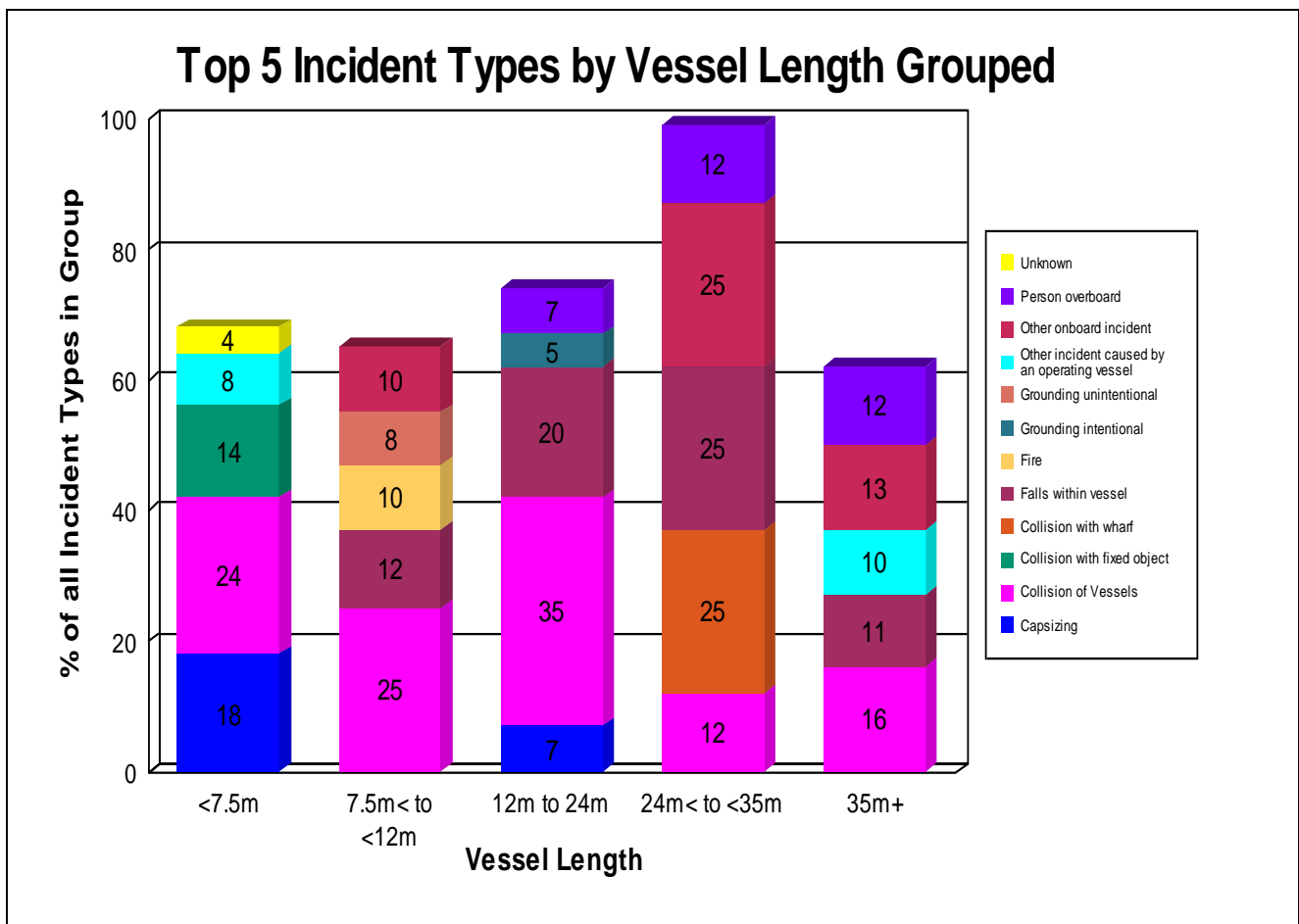
The breakdown of vessel lengths differs between recreational and commercial vessels. In incidents involving recreational vessels, 82% of vessels were less than 12m in length. In incidents involving commercial vessels, 34% of vessels were less than 12m in length. This suggests that in general, recreational vessel incidents are likely to involve smaller vessels and commercial vessel incidents are likely to involve larger vessels.

<sup>1</sup> Many incidents lack information on the vessel lengths of the vessels involved due to forms not being fully completed. In addition, WA does not provide vessel lengths to the NMSC.

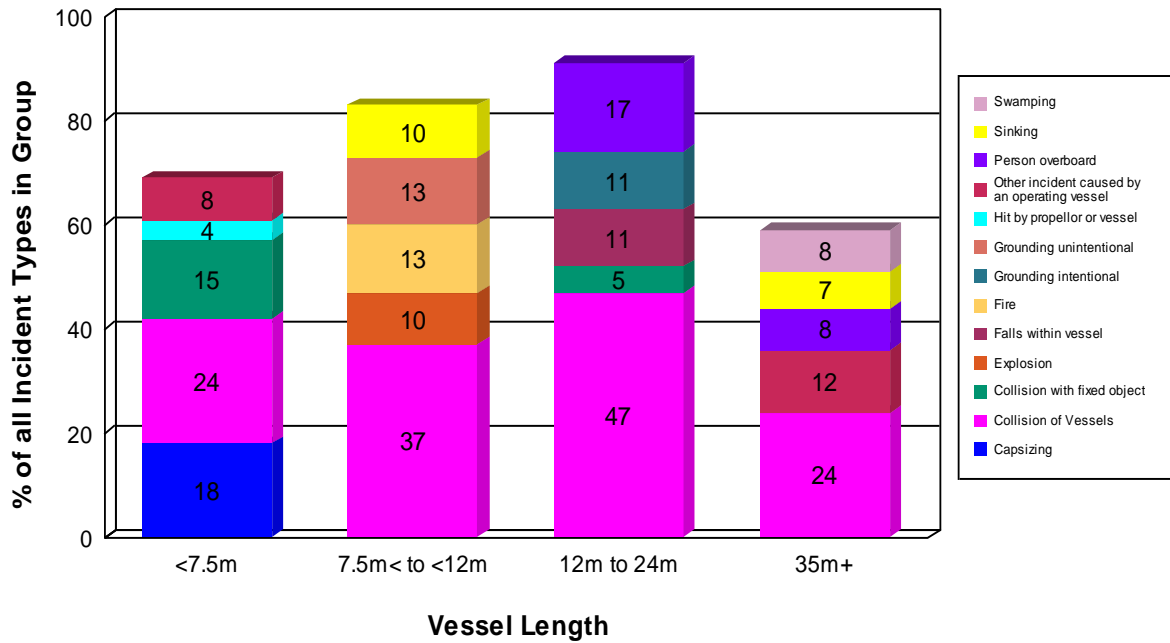
A breakdown of recreational and commercial vessels by vessel length grouping is shown below:



Across all vessel length groups except for those of lengths between 24m to 35m, collision of vessels was the largest incident type. Capsizing was more prevalent in vessels with lengths less than 7.5 metres while falls within vessel became more prevalent in larger vessels. With recreational vessels, collision of vessels accounted for the largest incident type in each vessel length group. Regarding commercial vessels, swamping accounted for 50% of all reported incident types for vessels with length less than 7.5 metres, collision of vessels constituted the largest incident types for vessels with lengths between 7.5m to 12m and from 12m to 24m. Collision with wharf and other onboard incidents accounted for the largest incident types for commercial vessels with lengths between 24m to 35m and above 35m respectively. Details on incident types in vessel length groups and by vessel types can be seen in the following graphs:



## Top 5 Recreational Vessel Incident Types by Vessel Length Grouped



## Top 5 Commercial Vessel Incident Types by Vessel Length Grouped

