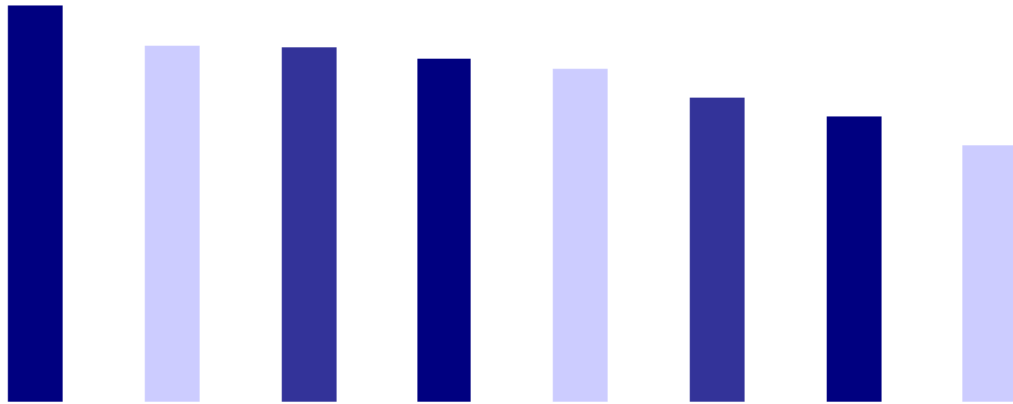




## Statistical Summary Marine Occurrences 2010



## Foreword

This document provides users of Canadian maritime safety data with an annual summary of selected statistics on marine occurrences. It covers commercial vessels, which include all vessels registered or licensed to operate commercially. Pleasure craft occurrences are not normally included unless they also involve a commercial vessel. Information in this summary is also posted on the Transportation Safety Board of Canada (TSB) website at [www.bst-tsb.gc.ca](http://www.bst-tsb.gc.ca).

Users of these statistics are advised that, in a live database, the occurrence data are constantly being updated. Consequently, the statistics can change slightly over time. Further, as many occurrences are not formally investigated, information recorded on some occurrences may not have been verified. Therefore, caution should be used when using these statistics. The 2010 statistics presented here reflect the TSB database updated as of 16 March 2011.

To enhance awareness and increase the safety value of the material presented in the *Statistical Summary, Marine Occurrences 2010*, readers are encouraged to copy or reprint the data presented, in whole or in part, for further distribution (with acknowledgements of the source).

The TSB is an independent agency operating under its own Act of Parliament. Its sole aim is the advancement of transportation safety.

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# MARINE OCCURRENCES IN 2010

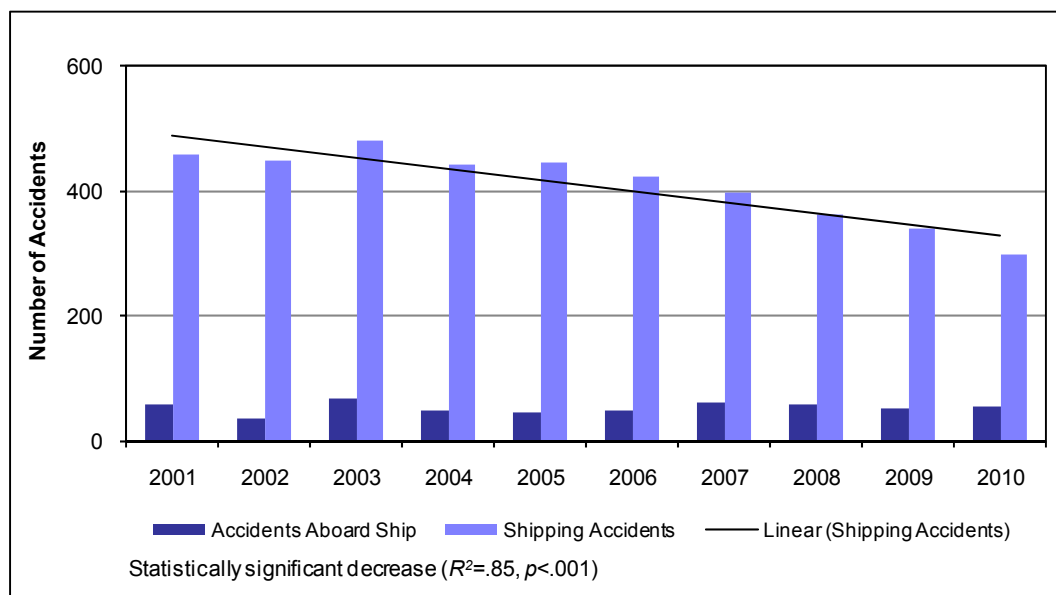
## ACCIDENTS

### *Overview of Accidents and Casualties (Tables 1 and 8)*

In 2010, 353 marine accidents were reported to the TSB, down from the 2009 total of 393 and the 2005–2009 average of 447. Over the past 10 years, nearly 90% of marine accidents have been shipping accidents, while the remainder were accidents aboard ship (see Appendix B – Definitions).

Shipping accidents reached a 36-year low of 299 in 2010, a 12% decrease from the 2009 total of 341 and a 24% decrease from the 2005–2009 average of 393. Statistical analysis using linear regression indicates that there has been a significant downward trend<sup>1</sup> in the number of shipping accidents since 2001 ( $p < 0.001$ ) (Figure 1). In 2010, there were 52 accidents aboard ship, up from 59 in 2009 but down slightly from the 2005–2009 average of 54. The majority of accidents aboard ship occurred on cargo/bulk carrier/OBO<sup>2</sup> vessels (31%) and fishing vessels (26%).

**Figure 1 – Accidents Aboard Ship and Shipping Accidents, 2001–2010**



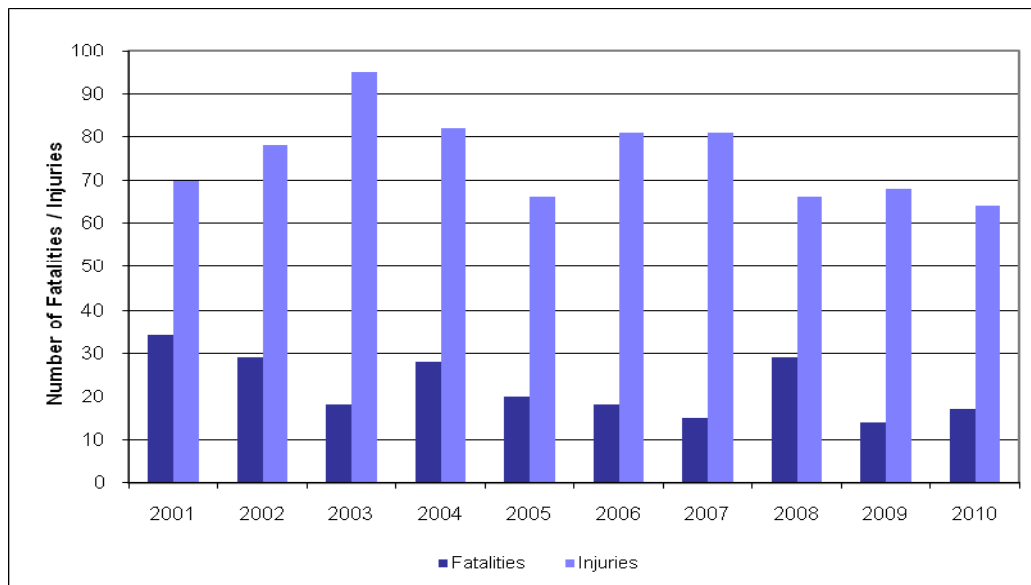
<sup>1</sup> It is agreed by convention that, for a result to be considered statistically significant, its probability must be lower than 1 in 20 (that is,  $p < 0.05$ ).

<sup>2</sup> Oil/bulk/ore carrier (OBO), see Appendix B.

Marine-related fatalities totalled 17 in 2010 (Figure 2), up from the 2009 total of 14 but down from the 2005–2009 average of 19. Fishing vessel accidents accounted for 7 of the 11 shipping vessel fatalities in 2010.

Injuries in 2010 totalled 64, down from 68 in 2009 and the 2005–2009 average of 72. Fifty of the 64 injuries (48 of the 51 serious injuries) resulted from accidents aboard ship, and 11 of those (all serious) occurred aboard fishing vessels.

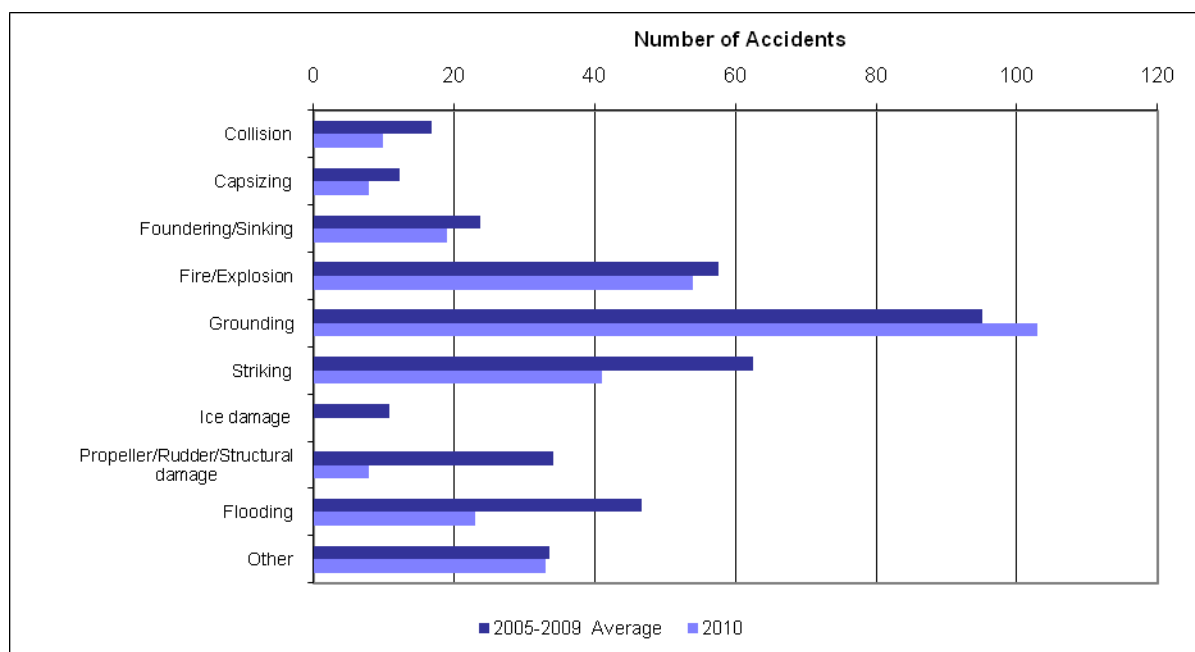
**Figure 2 – Marine Fatalities and Injuries, 2001–2010**



## Shipping Accidents

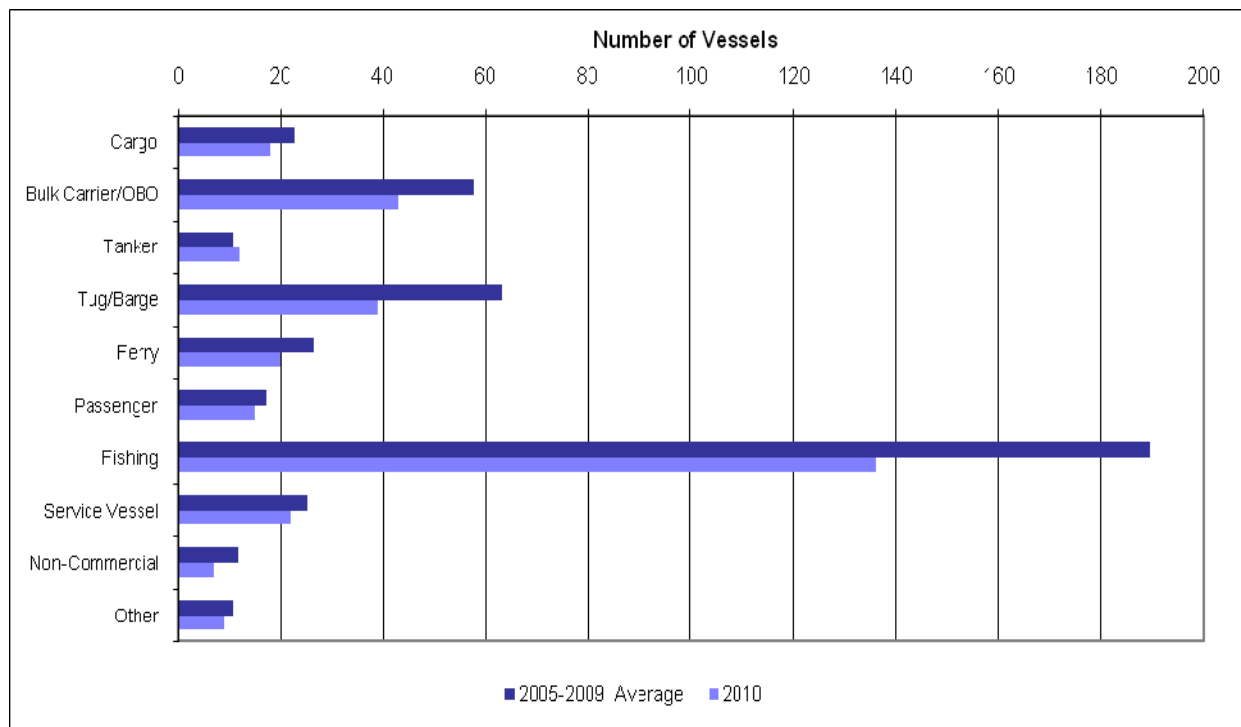
**Type of Accidents (Table 1):** As illustrated in Figure 3, the most frequent types of shipping accidents in 2010 were groundings (34%) and fire/explosions (18%). Groundings increased by 8% from the five-year average, while fire/explosions decreased by 7% and striking accidents decreased by 35%.

**Figure 3 – Shipping Accidents by Accident Type**



**Type of Vessels (Table 1):** In 2010, there were 23 547 registered fishing vessels in Canada, representing 57% of all registered vessels excluding pleasure craft (source: Transport Canada). Since 2001, 46% of the vessels involved in shipping accidents have been fishing vessels. In 2010, there were 136 fishing vessels involved in shipping accidents (Figure 4), compared to 140 in 2009 and the 2005–2009 average of 190. After fishing vessels, bulk carriers/OBO vessels (13%) and tugs/barges (13%) were involved most often in shipping accidents.

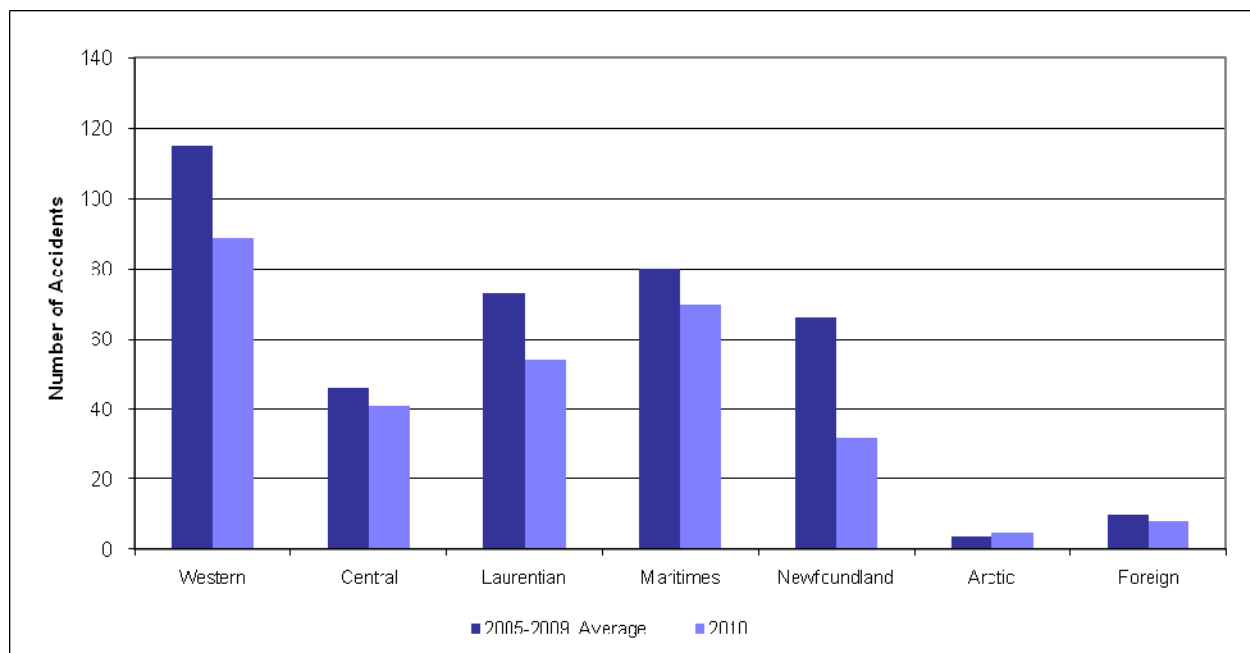
**Figure 4 – Shipping Accidents by Vessel Type**



**Geographical Region (Tables 2a and 2b):** In 2010, 71% of shipping accidents occurred in three of the seven geographical regions (Figure 5): the Western region (30%), the Maritimes region (23%) and the Laurentian region (18%). Shipping accidents decreased from the 2005–2009 average by 52% in the Newfoundland region and 26% in the Laurentian region. The Central region had 41 shipping accidents, down 14% from the 2005–2009 average of 46. The Central and Newfoundland regions accounted for 14% and 11% of shipping accidents respectively. Within the narrower waterways of the Central region, accidents most often involved larger commercial vessels such as cargo/bulk carrier/OBO vessels. The remaining 4% of shipping accidents took place in foreign waters (8) or in the Arctic region (5).

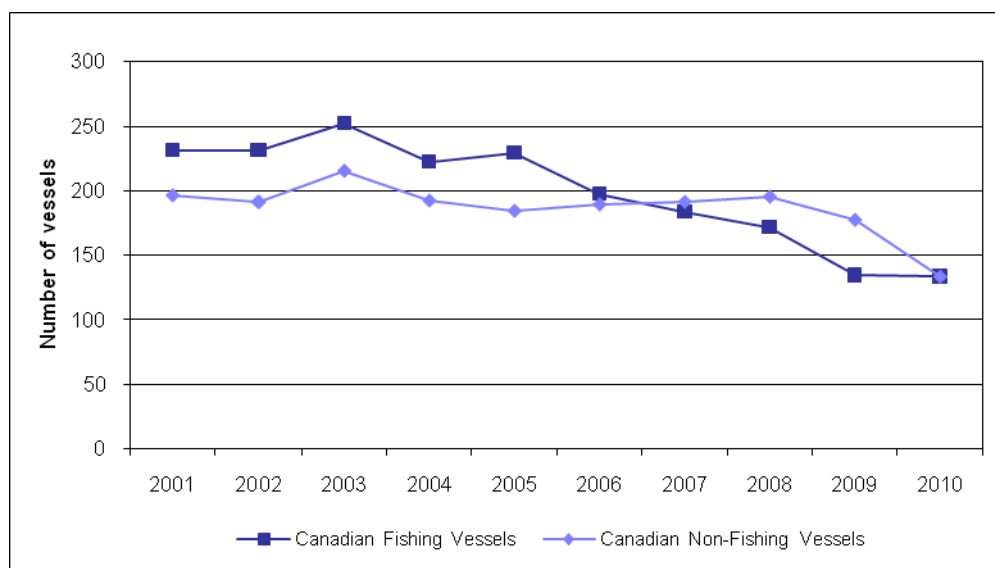
Although accidents involving fishing vessels accounted for approximately three-quarters of all shipping accidents in the Maritimes region, fishing vessels involved in shipping accidents decreased in the Western, Laurentian, Maritimes and Newfoundland regions compared to the 2005–2009 average. In the Newfoundland region, 19 fishing vessels were involved in shipping accidents, down 65% from the 2005–2009 average of 54.

**Figure 5 – Shipping Accidents by Region**



**Vessel Flag (Tables 1, 3 and 4):** In 2010, 83% of the 321 vessels involved in shipping accidents reported to the TSB were Canadian-flag vessels. In all, 50% of the Canadian-flag vessels were fishing vessels, 37% were commercial non-fishing vessels and the remaining 13% were non-commercial vessels, pleasure craft or service vessels (Figure 6).

**Figure 6 – Canadian-Flag Vessels Involved in Shipping Accidents, 2001-2010**



For Canadian-flag fishing vessels in 2010, groundings (38%) and fire/explosions (21%) were the most frequent shipping accident types. Canadian-flag commercial non-fishing vessels were mostly involved in groundings (33%) or strikings (24%). Marine activity for Canadian commercial non-fishing vessels over 15 gross tons (grt) (excluding passenger vessels and cruise ships) decreased by 18% from the 2005–2009 average. This yields an accident rate of 3.3 accidents per 1000 movements, down from the five-year average of 3.9.

In 2010, 53 foreign-flag vessels were involved in shipping accidents in Canadian waters, 91% of which were commercial non-fishing vessels involved mainly in strikings (29%) or groundings (29%). Marine activity for foreign commercial non-fishing vessels decreased by 9% from the 2005–2009 average while the accident rate decreased to 1.7 accidents per 1000 movements from the five-year average of 1.9.

**Vessels Lost (Tables 1 and 6):** In 2010, 26 vessels were reported lost, down from 27 in 2009 and the 2005–2009 average of 31. During the past 10 years, small fishing vessels (less than 15 grt)<sup>3</sup> have accounted for the largest proportion of vessels lost in Canada. Of the 26 vessels lost in 2010, 23 were fishing vessels. Nearly half (46%) of vessels lost were less than 15 grt, and 42% were 20 years or older.

<sup>3</sup> The majority of vessels classified under “unknown tonnage” were vessels known to be 15 gross tons or less.



# INCIDENTS

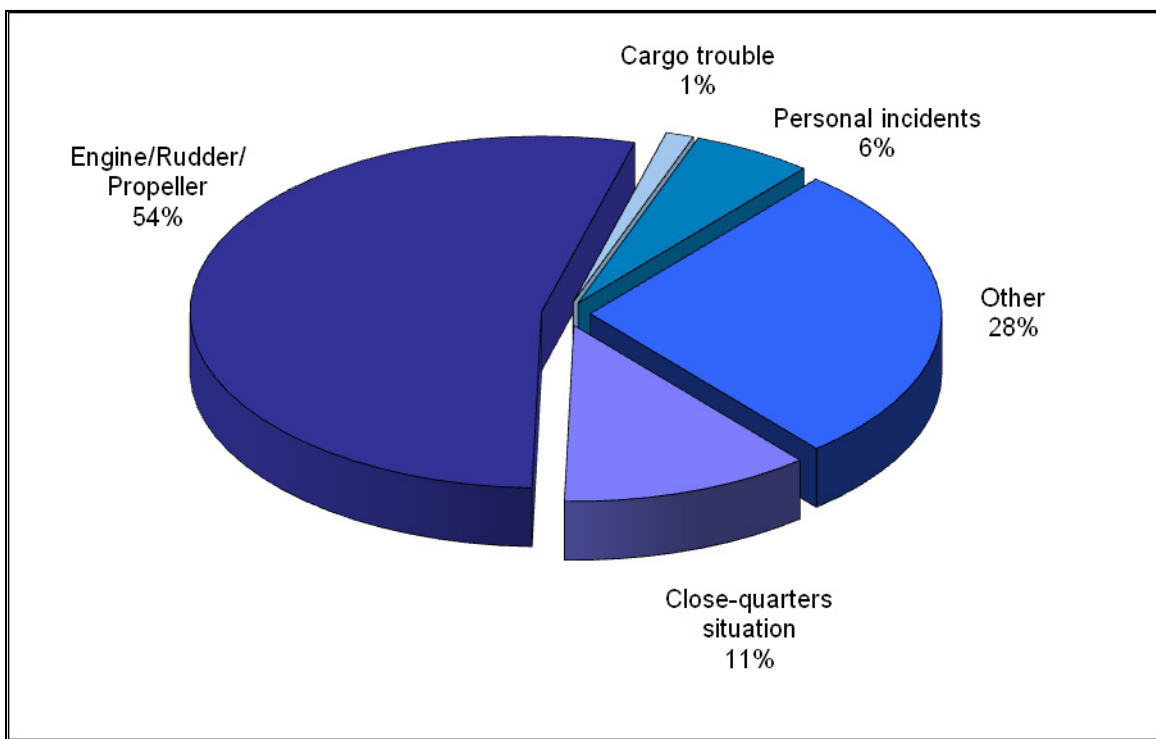
## *Overview of Incidents (Tables 1, 2a and 2b)*

Pursuant to mandatory reporting requirements, 234 marine incidents were reported to the TSB in 2010, down from the 2009 total of 247 and the 2005–2009 average of 255. The majority of reportable incidents consisted of engine/rudder/propeller failures. The Western region had the majority of close-quarters situations (74%) and engine/rudder/propeller incidents (55%).

In 2010, incidents in the Western region represented 50% of all marine incidents. The proportion of marine incidents in other regions was as follows: Laurentian 19%, Central 18%, Newfoundland 6% and Maritimes 3%. Seven reported incidents took place in foreign waters, and three occurred in the Arctic region.

In 2010, vessels most often involved in close-quarters situations were commercial vessels (70%) and fishing vessels (22%). In the majority of these incidents, the vessels involved were fishing, tugs, ferries and cargo/bulk carrier/OBO vessels.

**Figure 7 – Marine Incidents by Type, 2010**



# APPENDIX A – MARINE OCCURRENCE TABLES

Table 1  
**Total Marine Occurrences**  
**Types, Vessels and Losses Involved**  
**2001-2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Shipping Accidents by Type*</b>	<b>459</b>	<b>448</b>	<b>481</b>	<b>442</b>	<b>444</b>	<b>422</b>	<b>398</b>	<b>361</b>	<b>341</b>	<b>299</b>
Collision	16	15	24	12	20	19	13	17	15	10
Capsizing	6	14	11	19	10	18	12	13	8	8
Foundering/Sinking	37	26	30	17	21	24	20	32	22	19
Fire/Explosion	84	53	65	51	69	55	49	62	53	54
Grounding	114	129	118	108	87	112	95	71	110	103
Striking	89	72	76	82	81	63	61	57	51	41
Ice damage	4	2	28	17	11	2	26	15	0	0
Propeller/Rudder/Structural damage	19	42	39	36	43	56	41	15	16	8
Flooding	70	52	49	63	59	46	49	45	34	23
Other	20	43	41	37	43	27	32	34	32	33
<b>Accidents Aboard Ship</b>	<b>59</b>	<b>37</b>	<b>67</b>	<b>50</b>	<b>45</b>	<b>50</b>	<b>62</b>	<b>59</b>	<b>52</b>	<b>54</b>
<b>Vessels Involved in Shipping Accidents</b>										
<b>By Type of Vessel</b>	<b>507</b>	<b>482</b>	<b>526</b>	<b>471</b>	<b>491</b>	<b>461</b>	<b>436</b>	<b>410</b>	<b>376</b>	<b>321</b>
Cargo	31	20	18	21	19	30	25	18	22	18
Bulk carrier/OBO	58	58	48	52	70	60	56	49	53	43
Tanker	12	9	15	7	15	13	9	6	10	12
Tug	39	25	34	32	30	27	43	48	22	22
Barge	28	32	31	34	27	33	29	29	28	17
Ferry	24	21	25	20	26	26	25	30	25	20
Passenger	16	27	41	29	20	19	17	15	15	15
Fishing	246	238	260	227	237	208	190	173	140	136
Service vessel	27	18	27	25	20	22	25	25	34	22
Non-commercial	18	19	14	11	10	14	10	11	13	7
Other	8	15	13	13	17	9	7	6	14	9
<b>By Vessel Flag</b>	<b>507</b>	<b>482</b>	<b>526</b>	<b>471</b>	<b>491</b>	<b>461</b>	<b>436</b>	<b>410</b>	<b>376</b>	<b>321</b>
Canadian (Non-fishing)	197	192	216	193	185	190	192	196	178	134
Canadian (Fishing)	232	232	253	223	230	198	184	172	135	134
Foreign	78	58	57	55	76	73	60	42	63	53
<b>Vessels Lost by Gross Tonnage</b>	<b>51</b>	<b>32</b>	<b>38</b>	<b>22</b>	<b>26</b>	<b>35</b>	<b>31</b>	<b>35</b>	<b>27</b>	<b>26</b>
1600 grt and over	1	2	2	0	0	3	0	0	3	0
150 to 1599 grt	3	1	2	0	0	2	1	3	0	0
60 to 149 grt	8	4	8	5	6	7	8	4	5	4
15 to 59 grt	15	7	12	8	7	6	9	14	7	10
Less than 15 grt	18	12	12	3	9	13	10	11	6	7
Unknown tonnage	6	6	2	6	4	4	3	3	6	5
<b>Fatalities</b>	<b>34</b>	<b>29</b>	<b>18</b>	<b>28</b>	<b>20</b>	<b>18</b>	<b>15</b>	<b>29</b>	<b>14</b>	<b>17</b>
Shipping Accidents	17	19	9	22	13	12	3	18	7	11
Accidents Aboard Ship	17	10	9	6	7	6	12	11	7	6
<b>Injuries</b>	<b>70</b>	<b>78</b>	<b>95</b>	<b>82</b>	<b>66</b>	<b>81</b>	<b>81</b>	<b>66</b>	<b>68</b>	<b>64</b>
Shipping Accidents	18	42	35	37	25	26	29	15	21	14
Accidents Aboard Ship	52	36	60	45	41	55	52	51	47	50
<b>Reportable Incidents by Type**</b>	<b>259</b>	<b>195</b>	<b>251</b>	<b>269</b>	<b>260</b>	<b>235</b>	<b>260</b>	<b>275</b>	<b>247</b>	<b>234</b>
Close-quarters situation	60	29	60	67	56	30	21	20	12	27
Engine/Rudder/Propeller	99	57	83	106	85	112	90	129	124	126
Cargo trouble	4	5	3	1	4	4	1	6	5	3
Personal incidents	8	8	14	9	4	12	21	10	9	13
Other	88	96	91	86	111	77	127	110	97	65

\* Due to changes in the application of reporting criteria by the TSB in 2009, some accidents formerly categorized as Ice damage are now categorized as Propeller/Rudder/Structural damage.

\*\* Due to changes in the application of reporting criteria by the TSB for Reportable Incidents (Sea suction blocked by ice), the total number of reportable incidents over the 2001-2010 period has increased.

Table 2  
**Marine Occurrences by Region**  
**Occurrences, Vessels and Losses Involved**  
**2001-2010**

**Western Region**  
**Central Region**  
**Laurentian Region**  
**Maritimes Region**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Western Region</b>										
Shipping Accidents	158	139	141	125	125	124	102	109	114	89
Accidents Aboard Ship	29	16	20	15	13	15	20	15	21	12
Vessels Involved in Shipping Accidents										
By Type of Vessel	179	155	159	135	145	142	116	131	127	97
Cargo	8	2	5	3	2	9	3	3	9	5
Bulk carrier/OBO	2	1	4	7	3	3	2	4	5	0
Tanker	0	0	0	0	0	0	0	0	1	0
Ferry/Passenger	15	19	26	19	26	25	12	15	15	9
Tug/Barge	39	33	31	31	34	38	42	48	24	23
Fishing	98	78	76	65	69	51	43	54	49	48
Other	17	22	17	10	11	16	14	7	24	12
Vessels Lost	22	13	11	6	8	15	11	10	8	5
Fatalities	12	11	5	8	6	6	8	9	6	5
Incidents	122	86	95	98	87	84	68	146	111	117
<b>Central Region</b>										
Shipping Accidents	68	57	53	59	52	46	51	45	36	41
Accidents Aboard Ship	3	3	2	7	3	4	9	14	6	9
Vessels Involved in Shipping Accidents										
By Type of Vessel	79	63	59	62	55	50	55	51	39	44
Cargo	5	5	2	11	3	3	6	4	0	7
Bulk carrier/OBO	32	25	15	22	29	25	21	23	19	16
Tanker	6	2	4	1	4	2	1	2	3	2
Ferry/Passenger	13	13	14	7	3	7	11	2	0	9
Tug/Barge	11	12	15	10	9	6	9	12	7	3
Fishing	2	2	1	2	1	2	1	1	1	2
Other	10	4	8	9	6	5	6	7	9	5
Vessels Lost	0	2	0	0	0	1	0	2	1	1
Fatalities	9	10	2	4	1	0	1	0	0	1
Incidents	26	28	23	25	32	33	45	28	34	42
<b>Laurentian Region</b>										
Shipping Accidents	59	59	56	62	94	61	76	56	78	54
Accidents Aboard Ship	9	6	17	8	13	11	16	15	10	19
Vessels Involved in Shipping Accidents										
By Type of Vessel	63	61	60	66	107	66	87	60	89	57
Cargo	12	6	3	5	11	11	11	7	10	4
Bulk carrier/OBO	12	21	19	17	32	17	20	14	25	19
Tanker	4	4	5	4	11	7	7	4	4	4
Ferry/Passenger	5	7	10	11	7	3	10	12	8	8
Tug/Barge	9	5	5	7	7	8	17	7	12	8
Fishing	13	13	13	15	25	15	15	9	20	9
Other	8	5	5	7	14	5	7	7	10	5
Vessels Lost	2	3	6	1	2	0	2	0	3	1
Fatalities	2	2	2	4	2	2	0	3	2	2
Incidents	59	44	77	88	115	78	89	67	66	45
<b>Maritimes Region</b>										
Shipping Accidents	90	121	129	101	95	100	64	77	64	70
Accidents Aboard Ship	10	5	13	8	7	11	8	6	10	2
Vessels Involved in Shipping Accidents										
By Type of Vessel	97	128	138	108	104	107	66	88	71	75
Cargo	4	3	3	0	2	1	2	0	2	0
Bulk carrier/OBO	0	2	1	0	1	3	1	1	0	1
Tanker	0	2	3	0	0	2	0	0	1	0
Ferry/Passenger	3	5	11	7	7	5	5	9	7	1
Tug/Barge	4	3	6	4	4	4	0	2	2	4
Fishing	75	96	99	80	79	78	50	63	50	58
Other	11	17	15	17	11	14	8	13	9	11
Vessels Lost	12	12	14	9	9	12	7	15	5	12
Fatalities	6	1	7	8	2	3	3	9	3	7
Incidents	33	26	35	28	16	21	18	16	16	7

Table 2 (Continued)  
**Marine Occurrences by Region**  
**Occurrences, Vessels and Losses Involved**  
**2001-2010**

**Newfoundland Region**

**Arctic Region**

**Foreign Waters**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Newfoundland Region</b>										
Shipping Accidents	69	58	80	73	70	74	88	61	37	32
Accidents Aboard Ship	5	5	9	10	8	4	4	5	4	8
Vessels Involved in Shipping Accidents										
By Type of Vessel	72	60	86	73	71	76	92	64	38	34
Cargo	1	3	0	1	1	6	3	3	1	2
Bulk carrier/OBO	2	2	3	1	1	1	0	1	1	0
Tanker	1	1	0	0	0	2	0	0	0	3
Ferry/Passenger	4	4	5	5	2	3	4	7	10	7
Tug/Barge	0	0	2	2	0	0	1	2	2	0
Fishing	58	48	71	64	62	60	81	45	20	19
Other	6	2	5	0	5	4	3	6	4	3
Vessels Lost	15	1	7	6	6	6	11	8	8	6
Fatalities	4	5	0	3	9	6	2	6	3	1
Incidents	12	5	17	20	9	11	31	9	12	13
<b>Arctic Region</b>										
Shipping Accidents	4	2	7	6	0	4	3	5	6	5
Accidents Aboard Ship	0	0	5	1	0	3	1	1	0	0
Vessels Involved in Shipping Accidents										
By Type of Vessel	4	2	7	8	0	4	4	5	6	5
Cargo	1	0	3	0	0	0	0	1	0	0
Bulk carrier/OBO	2	0	0	0	0	0	0	0	0	0
Tanker	0	0	1	1	0	0	1	0	0	3
Ferry/Passenger	0	0	0	0	0	2	0	0	0	1
Tug/Barge	1	2	0	2	0	1	0	2	3	0
Fishing	0	0	0	0	0	0	0	1	0	0
Other	0	0	3	5	0	1	3	1	3	1
Vessels Lost	0	1	0	0	0	1	0	0	1	0
Fatalities	0	0	2	1	0	1	1	0	0	0
Incidents	1	1	1	5	0	2	0	1	2	3
<b>Foreign Waters</b>										
Shipping Accidents	11	12	15	16	8	13	14	8	6	8
Accidents Aboard Ship	3	2	1	1	1	2	4	3	1	4
Vessels Involved in Shipping Accidents										
By Type of Vessel	13	13	17	19	9	16	16	11	6	9
Cargo	0	1	2	1	0	0	0	0	0	0
Bulk carrier/OBO	8	7	6	5	4	11	12	6	3	7
Tanker	1	0	2	1	0	0	0	0	1	0
Ferry/Passenger	0	0	0	0	1	0	0	0	0	0
Tug/Barge	3	2	6	10	3	3	3	4	0	1
Fishing	0	1	0	1	1	2	0	0	0	0
Other	1	2	1	1	0	0	1	1	2	1
Vessels Lost	0	0	0	0	1	0	0	0	1	1
Fatalities	1	0	0	0	0	0	0	2	0	1
Incidents	6	5	3	5	1	6	9	8	6	7

Table 3  
**Canadian-Flag Vessels Involved in Shipping Accidents by  
Vessel Category and Type of Accident (including Commercial Accident Rate)  
2001-2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Commercial Vessels</b>	<b>146</b>	<b>143</b>	<b>165</b>	<b>147</b>	<b>140</b>	<b>146</b>	<b>151</b>	<b>159</b>	<b>120</b>	<b>99</b>
Collision	8	8	20	8	15	13	10	9	7	6
Capsizing	1	3	7	4	3	8	9	4	3	5
Foundering/Sinking	14	11	6	3	6	8	9	11	13	5
Fire/Explosion	15	14	20	17	24	18	15	21	12	14
Grounding	31	42	35	31	20	35	27	26	35	33
Striking	43	37	44	46	46	37	41	45	28	24
Ice damage	2	0	4	2	4	0	2	0	0	0
Propeller/Rudder/Structural damage	7	9	8	10	3	5	9	9	6	1
Flooding	7	5	4	9	7	11	6	22	6	0
Other	18	14	17	17	12	11	23	12	10	11
Movements *	34,843	37,619	39,802	36,208	39,264	41,076	34,436	29,717	24,214	27,500
Accident Rate **	3.9	3.3	3.3	3.8	3.4	3.1	3.9	4.7	4.7	3.3
<b>Fishing Vessels</b>	<b>232</b>	<b>232</b>	<b>253</b>	<b>223</b>	<b>230</b>	<b>198</b>	<b>184</b>	<b>172</b>	<b>135</b>	<b>134</b>
Collision	11	19	15	7	17	11	11	13	6	4
Capsizing	3	5	5	9	5	7	3	5	3	1
Foundering/Sinking	21	11	19	11	17	15	10	20	7	13
Fire/Explosion	57	28	38	28	31	22	22	35	26	28
Grounding	60	70	67	67	54	49	49	36	56	51
Striking	12	12	15	8	13	4	6	7	4	3
Ice damage	2	1	21	14	5	2	23	15	0	0
Propeller/Rudder/Structural damage	7	29	24	20	30	48	17	4	1	1
Flooding	56	41	39	50	46	31	39	24	20	19
Other	3	16	10	9	12	9	4	13	12	14
<b>Other Vessels</b>	<b>51</b>	<b>49</b>	<b>51</b>	<b>46</b>	<b>45</b>	<b>44</b>	<b>41</b>	<b>37</b>	<b>58</b>	<b>35</b>
Collision	7	3	7	6	4	7	3	8	10	6
Capsizing	0	6	0	4	2	3	0	3	2	2
Foundering/Sinking	3	3	5	2	0	1	2	2	2	1
Fire/Explosion	8	7	7	4	9	8	8	4	10	6
Grounding	9	4	8	3	7	9	11	5	13	4
Striking	18	14	13	7	10	9	9	5	7	5
Ice damage	0	0	2	0	1	0	0	0	0	0
Propeller/Rudder/Structural damage	1	1	1	2	2	1	2	2	1	1
Flooding	4	3	2	3	2	2	3	0	4	1
Other	1	8	6	15	8	4	3	8	9	9
<b>Total</b>	<b>429</b>	<b>424</b>	<b>469</b>	<b>416</b>	<b>415</b>	<b>388</b>	<b>376</b>	<b>368</b>	<b>313</b>	<b>268</b>

\* Based on data from Transport Canada. 2010 data are estimated.

\*\* The accident rate is the number of Canadian-flag commercial vessels of 15 grt or more (excluding passenger vessels and fishing vessels) involved in shipping accidents per 1000 vessel movements.

Table 4  
**Foreign-Flag Vessels Involved in Shipping Accidents by  
Vessel Category and Type of Accident (including Commercial Accident Rate)  
2001-2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Commercial Vessels</b>	<b>62</b>	<b>49</b>	<b>47</b>	<b>48</b>	<b>67</b>	<b>62</b>	<b>53</b>	<b>36</b>	<b>55</b>	<b>48</b>
Collision	5	0	5	3	4	6	0	2	6	2
Capsizing	0	0	0	2	0	0	0	1	0	0
Foundering/Sinking	0	0	0	0	0	0	0	0	0	0
Fire/Explosion	6	4	0	2	5	7	5	3	4	5
Grounding	14	12	8	6	3	18	8	7	7	14
Striking	29	19	18	26	31	20	15	12	16	14
Ice damage	0	1	1	1	1	0	1	0	0	0
Propeller/Rudder/Structural damage	4	3	5	4	7	2	13	0	8	5
Flooding	1	2	2	0	2	1	1	0	3	3
Other	3	8	8	4	14	8	10	11	11	5
Movements *	31,696	31,442	30,877	31,580	32,234	29,256	30,644	28,015	23,709	26,200
Accident Rate **	1.8	1.5	1.4	1.3	2.1	2.1	1.7	1.3	2.3	1.7
<b>Fishing Vessels</b>	<b>14</b>	<b>6</b>	<b>7</b>	<b>4</b>	<b>7</b>	<b>10</b>	<b>6</b>	<b>1</b>	<b>5</b>	<b>2</b>
Collision	1	0	1	0	1	4	2	0	1	0
Capsizing	1	0	0	0	0	1	0	0	0	0
Foundering/Sinking	1	0	0	1	0	0	0	0	0	0
Fire/Explosion	1	0	1	0	0	0	0	1	0	0
Grounding	3	4	1	1	3	4	4	0	3	2
Striking	4	1	0	1	0	0	0	0	0	0
Ice damage	0	0	0	0	0	0	0	0	0	0
Propeller/Rudder/Structural damage	0	0	1	0	1	0	0	0	0	0
Flooding	2	1	2	1	2	1	0	0	1	0
Other	1	0	1	0	0	0	0	0	0	0
<b>Other Vessels</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>3</b>
Collision	0	1	1	0	0	0	0	2	1	2
Capsizing	1	0	0	0	0	0	0	0	0	0
Foundering/Sinking	1	1	0	0	0	0	0	0	0	0
Fire/Explosion	0	0	0	0	0	0	0	0	1	1
Grounding	0	0	1	2	2	1	1	1	0	0
Striking	0	0	0	0	0	0	0	2	0	0
Ice damage	0	0	0	0	0	0	0	0	0	0
Propeller/Rudder/Structural damage	0	0	0	0	0	0	0	0	0	0
Flooding	0	0	0	0	0	0	0	0	0	0
Other	0	1	1	1	0	0	0	0	1	0
<b>Total</b>	<b>78</b>	<b>58</b>	<b>57</b>	<b>55</b>	<b>76</b>	<b>73</b>	<b>60</b>	<b>42</b>	<b>63</b>	<b>53</b>

\* Based on data from Transport Canada. 2010 data are estimated.

\*\* The accident rate is the number of foreign-flag commercial vessels of 15 grt or more excluding passenger vessels and fishing vessels) involved in shipping accidents per 1000 vessel movements.

**Table 5**  
**Masters, Skippers and Operators Involved in Shipping Accidents**  
**by Vessel Flag and Crew Qualification**  
**2001-2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Canadian-Flag Vessels</b>										
<b>Commercial Vessels</b>	<b>146</b>	<b>143</b>	<b>165</b>	<b>147</b>	<b>140</b>	<b>146</b>	<b>151</b>	<b>159</b>	<b>120</b>	<b>99</b>
Master Foreign-Going	13	12	12	14	11	11	9	12	4	8
ON1	8	12	9	8	15	9	8	4	7	1
ON2	0	0	0	1	1	1	0	0	1	0
CN1	6	11	14	8	6	5	5	4	3	2
CN2	6	1	2	9	5	3	4	6	6	6
Master - Ferry	1	3	4	1	2	1	2	2	2	3
Watchkeeping mate	6	8	11	10	8	8	6	3	3	2
Other	24	29	22	29	11	16	31	36	20	16
Unknown	80	67	89	64	79	92	86	92	74	61
No certificate	2	0	2	3	2	0	0	0	0	0
<b>Fishing Vessels</b>	<b>232</b>	<b>232</b>	<b>253</b>	<b>223</b>	<b>230</b>	<b>198</b>	<b>184</b>	<b>172</b>	<b>135</b>	<b>134</b>
Fishing Master - Class 1	4	2	3	1	2	0	1	0	1	1
Fishing Master - Class 2	3	8	3	4	9	3	1	1	3	4
Fishing Master - Class 3	9	17	16	9	14	10	5	4	5	6
Fishing Master - Class 4	22	19	19	19	23	17	10	7	17	14
Fishing - Other certificate	1	4	5	2	3	5	0	1	0	1
Watchkeeping mate	4	3	1	2	0	0	0	1	0	2
Other	1	1	0	1	3	0	2	5	4	7
Unknown	160	126	154	147	132	144	163	152	104	97
No certificate	28	52	52	38	44	19	2	1	1	2
<b>Other Vessels</b>	<b>51</b>	<b>49</b>	<b>51</b>	<b>46</b>	<b>45</b>	<b>44</b>	<b>41</b>	<b>37</b>	<b>58</b>	<b>35</b>
Master Foreign-Going	10	9	7	6	6	5	4	6	2	0
ON1	1	2	4	4	3	4	1	2	6	0
ON2	1	0	1	1	1	0	0	0	1	1
CN1	2	0	0	0	2	2	1	0	1	1
CN2	1	0	0	3	0	0	2	1	2	2
Watchkeeping mate	8	6	2	6	2	3	1	1	1	1
Other	4	5	10	10	9	4	8	2	7	7
Unknown	24	25	27	16	21	26	23	25	37	22
No certificate	0	2	0	0	1	0	1	0	1	1
<b>Foreign-Flag Vessels</b>										
<b>Commercial Vessels</b>	<b>62</b>	<b>49</b>	<b>47</b>	<b>48</b>	<b>67</b>	<b>62</b>	<b>53</b>	<b>36</b>	<b>55</b>	<b>48</b>
Master Foreign-Going	33	24	17	19	20	26	19	17	18	20
CN1	0	0	0	0	0	0	0	0	1	0
CN2	0	1	0	0	1	0	0	0	0	0
Other	2	0	0	0	0	2	0	1	1	2
Unknown	27	24	30	29	46	34	34	18	35	26
<b>Fishing Vessels</b>	<b>14</b>	<b>6</b>	<b>7</b>	<b>4</b>	<b>7</b>	<b>10</b>	<b>6</b>	<b>1</b>	<b>5</b>	<b>2</b>
Certificate	2	1	2	1	0	0	0	0	1	0
Unknown	12	5	5	3	7	10	6	1	4	2
No certificate	0	0	0	0	0	0	0	0	0	0
<b>Other Vessels</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>3</b>
Master Foreign-Going	0	1	0	0	1	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	1	1
Unknown	2	2	3	3	1	1	1	5	2	2
No certificate	0	0	0	0	0	0	0	0	0	0

**Table 6**  
**Vessels Lost by Vessel Category and Age**  
**2001-2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Commercial Vessels</b>	<b>7</b>	<b>8</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>9</b>	<b>7</b>	<b>7</b>	<b>8</b>	<b>1</b>
Unknown	0	4	2	0	1	2	2	1	4	1
0-4 years	1	1	0	0	0	0	0	0	0	0
5-9 years	1	0	0	0	0	0	0	0	0	0
10-14 years	0	0	0	0	0	0	0	0	1	0
15-19 years	0	0	0	0	0	0	0	0	0	0
20-24 years	1	0	0	0	0	0	0	1	0	0
25-29 years	0	0	0	0	0	0	0	2	0	0
30+ years	4	3	2	1	1	7	5	3	3	0
<b>Fishing Vessels</b>	<b>44</b>	<b>20</b>	<b>32</b>	<b>19</b>	<b>24</b>	<b>25</b>	<b>22</b>	<b>27</b>	<b>16</b>	<b>23</b>
Unknown	7	4	2	5	3	4	3	6	0	3
0-4 years	2	0	2	2	2	2	1	0	0	1
5-9 years	1	4	2	2	1	4	1	5	2	5
10-14 years	9	3	4	0	2	2	3	2	4	1
15-19 years	3	1	5	3	7	3	3	2	0	2
20-24 years	7	2	5	3	3	3	3	4	4	6
25-29 years	2	3	5	1	4	1	4	2	2	1
30+ years	13	3	7	3	2	6	4	6	4	4
<b>Other Vessels</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>2</b>
Unknown	0	1	1	2	0	1	1	0	3	2
0-4 years	0	0	0	0	0	0	0	0	0	0
5-9 years	0	0	0	0	0	0	0	0	0	0
10-14 years	0	0	0	0	0	0	0	0	0	0
15-19 years	0	0	0	0	0	0	0	0	0	0
20-24 years	0	0	0	0	0	0	0	1	0	0
25-29 years	0	0	0	0	0	0	0	0	0	0
30+ years	0	3	1	0	0	0	1	0	0	0
<b>All Vessels</b>	<b>51</b>	<b>32</b>	<b>38</b>	<b>22</b>	<b>26</b>	<b>35</b>	<b>31</b>	<b>35</b>	<b>27</b>	<b>26</b>
Unknown	7	9	5	7	4	7	6	7	7	6
0-4 years	3	1	2	2	2	2	1	0	0	1
5-9 years	2	4	2	2	1	4	1	5	2	5
10-14 years	9	3	4	0	2	2	3	2	5	1
15-19 years	3	1	5	3	7	3	3	2	0	2
20-24 years	8	2	5	3	3	3	3	6	4	6
25-29 years	2	3	5	1	4	1	4	4	2	1
30+ years	17	9	10	4	3	13	10	9	7	4



Table 7  
**Accidents, Fatalities and Injuries by Type of Accident**  
**2001-2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Shipping Accidents</b>										
<b>With Fatalities or Injuries</b>										
Collision	2	4	2	1	4	0	0	1	3	2
Capsizing	3	4	3	8	6	6	4	7	2	1
Sinking/Foundering	5	3	2	6	1	1	3	5	4	2
Fire/Explosion	2	5	4	2	1	4	1	4	3	3
Grounding	2	4	2	0	0	3	0	3	2	2
Striking	4	4	5	2	5	2	3	1	4	2
Other	1	1	1	2	0	0	1	0	2	2
<b>Total</b>	<b>19</b>	<b>25</b>	<b>19</b>	<b>21</b>	<b>17</b>	<b>16</b>	<b>12</b>	<b>21</b>	<b>20</b>	<b>14</b>
<b>Fatalities*</b>										
Collision	1	0	1	2	0	0	0	0	0	0
Capsizing	3	10	5	11	10	6	2	12	2	4
Sinking/Foundering	10	7	2	9	3	1	0	6	4	1
Fire/Explosion	0	1	1	0	0	2	0	0	0	0
Grounding	0	1	0	0	0	3	0	0	1	0
Striking	0	0	0	0	0	0	1	0	0	0
Other	3	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>17</b>	<b>19</b>	<b>9</b>	<b>22</b>	<b>13</b>	<b>12</b>	<b>3</b>	<b>18</b>	<b>7</b>	<b>11</b>
<b>Injuries</b>										
Collision	1	4	1	2	7	0	0	1	4	3
Capsizing	1	0	2	7	4	1	2	1	1	0
Sinking/Foundering	6	4	2	4	0	0	3	1	4	1
Fire/Explosion	2	7	4	6	1	6	9	5	3	5
Grounding	3	10	3	0	0	3	0	6	1	2
Striking	5	16	22	15	13	16	14	1	6	3
Other	0	1	1	3	0	0	1	0	2	0
<b>Total</b>	<b>18</b>	<b>42</b>	<b>35</b>	<b>37</b>	<b>25</b>	<b>26</b>	<b>29</b>	<b>15</b>	<b>21</b>	<b>14</b>
<b>Accidents Aboard Ship</b>										
<b>Fatalities*</b>	<b>59</b>	<b>37</b>	<b>67</b>	<b>50</b>	<b>45</b>	<b>50</b>	<b>62</b>	<b>59</b>	<b>52</b>	<b>54</b>
Carried overboard	2	0	3	0	0	1	2	1	1	0
Caught by cargo/machinery	3	1	2	1	1	0	2	4	1	0
Fell overboard	8	3	2	2	3	2	3	2	3	1
Fell into tank/hold	0	0	0	0	0	0	0	1	0	0
Fell on deck or off quay	2	0	1	0	2	0	0	0	0	2
Heavy weather	0	0	0	0	0	0	0	0	0	0
Suicide (suspected)	0	0	1	1	1	0	0	2	0	0
Other	2	6	0	2	0	3	5	1	2	3
<b>Total</b>	<b>17</b>	<b>10</b>	<b>9</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>12</b>	<b>11</b>	<b>7</b>	<b>6</b>
<b>Injuries</b>										
Carried overboard	3	2	2	2	3	0	2	0	1	0
Caught by cargo/machinery	16	11	25	16	17	23	13	16	17	11
Fell overboard	2	2	1	1	1	0	1	0	2	3
Fell into tank/hold	1	1	3	0	0	0	5	2	1	1
Fell on deck or off quay	8	7	9	4	8	5	6	8	4	10
Heavy weather	2	0	2	1	0	0	0	2	3	1
Suicide (suspected)	0	0	0	0	0	0	0	0	0	0
Other	20	13	18	21	12	27	25	23	19	24
<b>Total</b>	<b>52</b>	<b>36</b>	<b>60</b>	<b>45</b>	<b>41</b>	<b>55</b>	<b>52</b>	<b>51</b>	<b>47</b>	<b>50</b>

\* The total number of fatalities includes missing persons.

Table 8  
Accidents, Fatalities and Injuries by Type of Vessel  
2001-2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Shipping Accidents</b>										
<b>With Fatalities or Injuries</b>										
Cargo/Bulk carrier/OBO	1	0	0	0	0	0	1	1	0	0
Tanker	0	0	0	0	0	2	0	0	0	0
Tug/Barge	3	3	0	2	1	0	5	3	1	0
Fishing	10	13	11	10	9	9	3	8	9	9
Passenger	0	2	3	1	1	1	0	2	4	1
Ferry	0	2	4	2	3	2	3	1	1	2
Other	5	5	1	6	3	2	0	6	5	2
<b>Total</b>	<b>19</b>	<b>25</b>	<b>19</b>	<b>21</b>	<b>17</b>	<b>16</b>	<b>12</b>	<b>21</b>	<b>20</b>	<b>14</b>
<b>Fatalities*</b>										
Cargo/Bulk carrier/OBO	0	0	0	0	0	0	0	4	0	0
Tanker	0	0	0	0	0	1	0	0	0	0
Tug/Barge	4	1	0	3	0	0	2	0	0	0
Fishing	10	9	8	13	11	8	1	10	7	7
Passenger	0	4	0	0	0	0	0	0	0	4
Ferry	0	0	0	0	0	2	0	0	0	0
Other	3	5	1	6	2	1	0	4	0	0
<b>Total</b>	<b>17</b>	<b>19</b>	<b>9</b>	<b>22</b>	<b>13</b>	<b>12</b>	<b>3</b>	<b>18</b>	<b>7</b>	<b>11</b>
<b>Injuries</b>										
Cargo/Bulk carrier/OBO	2	0	0	0	0	0	1	0	0	0
Tanker	0	0	0	0	0	2	0	0	0	0
Tug/Barge	2	6	0	0	3	0	6	4	1	0
Fishing	10	18	10	8	8	5	2	2	7	9
Passenger	0	1	8	10	4	8	0	4	5	0
Ferry	0	14	17	7	9	8	20	1	1	3
Other	4	3	0	12	1	3	0	4	7	2
<b>Total</b>	<b>18</b>	<b>42</b>	<b>35</b>	<b>37</b>	<b>25</b>	<b>26</b>	<b>29</b>	<b>15</b>	<b>21</b>	<b>14</b>
<b>Accidents Aboard Ship</b>										
Cargo/Bulk carrier/OBO	16	9	16	15	6	13	17	17	15	17
Tanker	3	0	3	1	2	5	2	2	1	1
Tug/Barge	7	4	4	3	5	4	7	8	5	5
Fishing	23	14	28	26	15	21	22	15	19	14
Passenger	2	2	0	0	5	2	4	6	3	5
Ferry	0	4	4	3	3	1	0	2	1	2
Other	8	4	12	2	9	4	10	9	8	10
<b>Total</b>	<b>59</b>	<b>37</b>	<b>67</b>	<b>50</b>	<b>45</b>	<b>50</b>	<b>62</b>	<b>59</b>	<b>52</b>	<b>54</b>
<b>Fatalities*</b>										
Cargo/Bulk carrier/OBO	3	1	0	1	1	2	2	5	0	1
Tanker	1	0	0	0	0	1	0	0	0	0
Tug/Barge	4	0	2	0	0	1	1	1	1	0
Fishing	8	6	5	3	3	2	6	4	4	3
Passenger	0	0	0	0	1	0	0	0	0	1
Ferry	0	1	2	1	1	0	0	0	0	1
Other	1	2	0	1	1	0	3	1	2	0
<b>Total</b>	<b>17</b>	<b>10</b>	<b>9</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>12</b>	<b>11</b>	<b>7</b>	<b>6</b>
<b>Injuries</b>										
Cargo/Bulk carrier/OBO	14	9	18	14	5	18	16	14	15	16
Tanker	2	0	3	1	2	4	2	2	1	1
Tug/Barge	8	5	2	3	5	3	6	7	4	5
Fishing	16	14	23	23	13	21	16	12	15	11
Passenger	3	2	0	0	4	3	4	6	3	4
Ferry	0	4	2	2	3	1	0	2	1	3
Other	9	2	12	2	9	5	8	8	8	10
<b>Total</b>	<b>52</b>	<b>36</b>	<b>60</b>	<b>45</b>	<b>41</b>	<b>55</b>	<b>52</b>	<b>51</b>	<b>47</b>	<b>50</b>

\* The total number of fatalities includes missing persons.

## APPENDIX B – DEFINITIONS

The following definitions apply to marine occurrences that are required to be reported pursuant to the *Canadian Transportation Accident Investigation and Safety Board Act* and the associated regulations.

### ***Marine Occurrence***

- a) any accident or incident associated with the operation of a ship<sup>4</sup> and
- b) any situation or condition that the Board has reasonable grounds to believe could, if left unattended, induce an accident or incident described in paragraph a) above.

### ***The Act applies***

- a) in Canada; and
- b) in any other place, including waters described in paragraph c), if
  - i) Canada is requested to investigate the marine occurrence by an appropriate authority,
  - ii) the marine occurrence involves a ship registered or licensed in Canada, or
  - iii) a competent witness to, or person having information concerning a matter that may have contributed to, the marine occurrence arrives or is found at any place in Canada.
- c) This Act also applies in respect of marine occurrences related to an activity concerning the exploration or exploitation of the continental shelf.

### ***Reportable Marine Accident***

An accident resulting directly from the operation of a ship other than a pleasure craft,<sup>5</sup> where

- a) a person sustains a serious injury or is killed as a result of
  - i) being on board the ship or falling overboard from the ship, or
  - ii) coming into contact with any part of the ship or its contents, or
- b) the ship
  - i) sinks, founders or capsizes,
  - ii) is involved in a collision (which includes collisions, strikings and contacts),
  - iii) sustains a fire or an explosion,
  - iv) goes aground,
  - v) sustains damage that affects its seaworthiness or renders it unfit for its purpose, or
  - vi) is missing or abandoned.

For statistical purposes, accidents defined in paragraph a) are classified as “Accidents Aboard Ship” and accidents defined in paragraph b) are classified as “Shipping Accidents.”

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<sup>4</sup> Ship includes:

- a) every description of vessel, boat or craft designed, used or capable of being used solely or partly for marine navigation without regard to method or lack of propulsion, and
- b) a dynamically supported craft.

<sup>5</sup> Pleasure craft means a ship that is used for pleasure or recreation and does not carry goods or passengers for hire or reward.

## ***Reportable Marine Incident***

An incident resulting directly from the operation of a ship, other than a pleasure craft, where

- a) a person falls overboard from the ship;
- b) the ship, of 100 gross tons or more, unintentionally makes contact with the bottom without going aground;
- c) the ship fouls a utility cable or pipe, or underwater pipeline;
- d) the ship is involved in a risk of collision;
- e) the ship sustains a total failure of any machinery;
- f) the ship sustains a shifting of cargo or a loss of cargo overboard;
- g) the ship is intentionally grounded or beached to avoid an accident;
- h) any crew member whose duties are directly related to the safe operation of the ship is unable to perform the crew member's duties as a result of a physical incapacitation that poses a threat to the safety of any person, property or the environment; or
- i) any dangerous goods are released on board or from the ship.

## ***Vessels Covered***

This report covers commercial vessels that include all vessels either registered or licensed to operate commercially. Pleasure craft occurrences are not normally included unless they also involved a commercial vessel.

## ***Vessel Categories***

- **Commercial Vessels:** include cargo vessels, ferries, tankers, passenger vessels, tugs and barges.
- **Fishing Vessels:** include vessels involved in commercial fishing.
- **Other Vessels:** include research vessels, oil exploration, exploitation and support vessels, government vessels and pleasure craft.

## ***Type of Vessel***

**Cargo:** Ships designed for the carriage of various types and forms of cargo and the combined carriage of general cargo and passengers with 12 or less fare-paying passengers.

**Bulk Carrier:** Ships specifically designed for bulk carriage of ore or other dry cargo.

**OBO (Oil/Bulk/Ore Carrier):** Ships specifically designed for bulk carriage of ore with additional facilities for alternative, but not simultaneous, carriage of oil or loose dry cargo.

**Tanker:** Propelled ships designed and constructed for the bulk carriage of liquids.

**Tug:** Vessels designed for the towing and pushing of ships or other floating structures. Additional activity may include salvage, fire-fighting and work duties of a general nature.

**Barge:** Vessels designed as non-propelled units for the carriage of cargo in holds or in tanks or weather deck cargo space only for the carriage of non-perishable cargo, or specially outfitted for specific operations.

**Ferry:** Ships that follow a regular scheduled service of relatively short duration, designed for the carriage of passengers and vehicles. There is usually no cabin accommodation for passengers or not all passengers are accommodated in cabins where cabins are provided.

**Passenger:** Vessels designed for the carriage of passengers.

**Fishing:** Vessels designed for fishing operations and support.

**Service:** Vessels designed for supporting marine transportation such as icebreakers, buoy tenders, search and rescue vessels, pilot boats and fireboats.

**Non-Commercial:** Vessels designed to conduct non-commercial activities such as pleasure craft, seaplanes and naval vessels.

**Other:** Vessels designed for other functions such as laying and repair of sea-bed cables, dredging, training, patrolling as well as ships and platforms designed for the extraction, processing, and storage of oil/gas from offshore wells; ships designed for the carriage of stores and cargo to offshore installations; ships outfitted for support activities related to offshore oil and gas exploration; and vessels designed for research work such as seismic research, oceanic and hydrographic survey.

### *Type of Accident*

**Collision:** An impact between two or more vessels under way.

**Capsizing:** To turn over.

**Foundering:** To fill from above the waterline and sink.

**Sinking:** To become submerged from water intake below the waterline and settle to the bottom.

**Fire:** Where a fire is the first event reported.

**Explosion:** Where an explosion is the first event reported.

**Grounding:** To touch bottom and remain stranded.

**Striking:** A hard impact with a stationary object or a vessel not under way.

**Ice Damage:** Damage sustained as a consequence of contact with ice.

**Propeller Damage:** Damage to a vessel propeller, propeller portion or propeller adjoining parts affecting a vessel's seaworthiness or rendering the vessel unfit for its purpose.

**Rudder Damage:** Damage to a vessel rudder or rudder adjoining parts affecting a vessel's seaworthiness or rendering the vessel unfit for its purpose.

**Structural Damage:** Hull damage, such as cracks and fractures, sustained by a vessel affecting its seaworthiness or rendering the vessel unfit for its purpose.

**Flooding:** To fill a compartment below the waterline with water admitted from the sea.

**Other:** Vessels lost or damaged for other reasons, including contact defined as a lateral/light impact with another vessel or an object (that is, bottom contact affecting a vessel's seaworthiness or rendering the vessel unfit for its purpose).

### ***Miscellaneous***

**Gross tons (grt):** A measure of vessel capacity in cubic feet of the spaces within the hull, and of enclosed spaces above deck available for cargo, stores, fuel, passengers and crew, with certain exclusions. One hundred cubic feet is equivalent to one gross ton.

**Movement:** A vessel's travel segment between ports with at least one port being a domestic port.

**Under way:** Vessel not at anchor or made fast to shore or aground.

## APPENDIX C – REGIONAL LIMITS

