STATISTICAL SUMMARY

MARINE OCCURRENCES 2014

30 June 2015

Canada

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Foreword

This document provides Canadians with an annual summary of selected marine safety data. 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. The Transportation Safety Board of Canada (TSB) gathers and uses this data during the course of our investigations to analyze safety deficiencies and identify risks in the Canadian transportation system.

In November 2013, the TSB deployed a new Marine Occurrence Database. The new database significantly improves the TSB's ability to collect, categorize and present statistics. In accordance with these changes the 2014 statistical summary onward will be presented in a slightly different format.

During the conversion to the new database, the TSB took the opportunity to refine the existing taxonomy used to classify occurrences and remapped historical data to this new taxonomy. These changes were made to improve the alignment of historical marine occurrence data with the new TSB regulations. These updates will allow the TSB to collect data more effectively and enable data to be compared across the adjusted years, thus giving a better picture of safety issues going forward. On March 12, 2014, the TSB implemented new regulations that changed the reporting requirements effective July 1, 2014. These changes are reflected in this statistical summary.

Users of these statistics are advised that, in a live database, the occurrence data are constantly being updated. Consequently, the statistics may change slightly over time. Further, as many occurrences are not formally investigated, information recorded for some occurrences will not have been verified. The 2014 statistics presented here reflect the TSB database updated as of February 27, 2014.

To enhance awareness and increase the safety value of the material presented in the *Statistical Summary – Marine Occurrences 2014*, 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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Statistical Summary – Marine Occurrences 2014

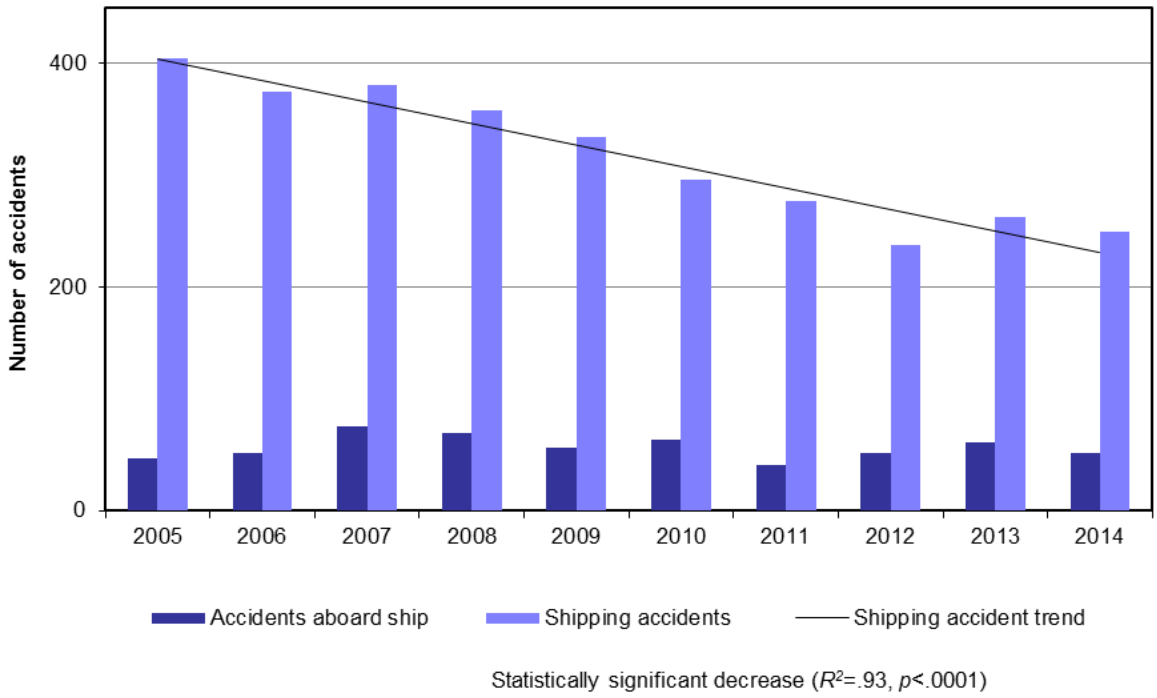
Accidents

Overview of accidents and casualties

In 2014, 301 marine accidents[1] were reported to the TSB, down from the 2013 total of 323 and down from the 2009–2013 average of 336. Over the past 10 years, 85% of marine accidents were shipping accidents, while the remainder were accidents aboard ship.

There were 249 shipping accidents in 2014, down 5% from the 2013 total of 262 and down 12% from the 2009–2013 average of 281.

Figure 1. Accidents aboard ship and shipping accidents, 2005–2014



In 2014, there were 52 accidents aboard ship, down from 61 in 2013 and down from the 2009–2013 average of 55. The majority of accidents aboard ship occurred on cargo vessels (40%) and fishing vessels (35%).

Marine fatalities totalled 12 in 2014 (Figure 2), down from a total of 19 in 2013 and down from the average of 16 in 2009–2013. Fishing vessels accounted for 2 of the 4 shipping accident fatalities in 2014. In addition, accidents aboard fishing vessels led to 6 of the 8 accident aboard ship fatalities. In total, there were 8 fishing vessel fatalities in 2014, down from the annual average of 12 in 2009–2013.

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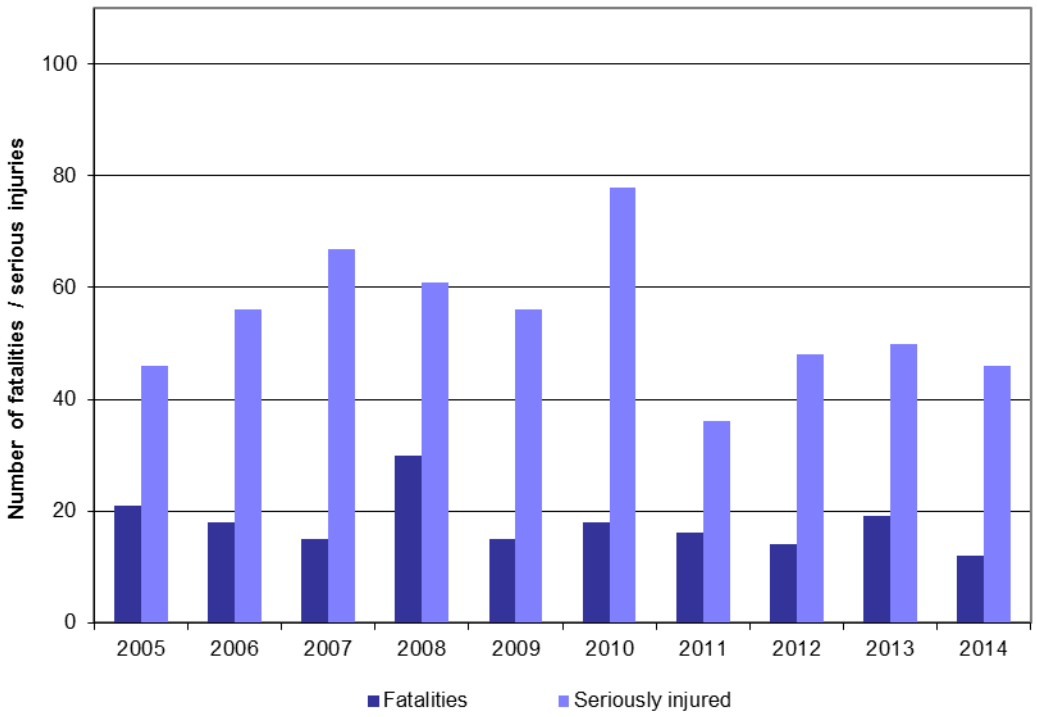
1 Refer to Appendix B for a definition of reportable marine accident.

Serious injuries in 2014 totalled 46, down from 50 in 2013 and down from the annual average of 54 in 2009–2013. Forty-five of the 46 serious injuries resulted from accidents aboard ship.

Figure 2. Marine fatalities and serious injuries, 2005–2014

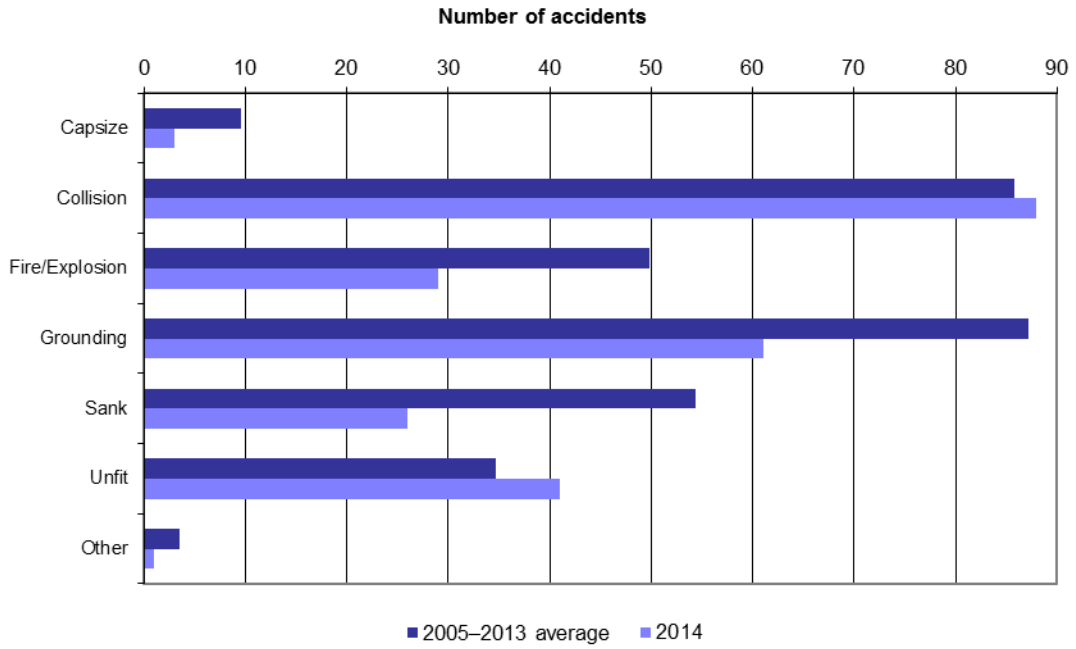


Shipping accidents

Type of accident (Table 1)

As illustrated in Figure 3, the most frequent types of shipping accidents in 2014 were collisions (35%), groundings (24%), damage affecting seaworthiness or fitness for purpose (16%), sank (15%), and fire/explosion accidents (12%). The total number of collisions increased by 13% from the five-year average (from 78 to 88), while groundings decreased by 27% (from 83 to 61). Damage affecting seaworthiness or fitness for purpose increased by 46% (from 28 to 41). This increase may be attributable to a longer ice season in 2014 causing more ice damage to vessels, and to some shorter ice seasons within the previous five-year period. Fire/explosion accidents decreased by 33% compared to the five year average (from 44 to 29).

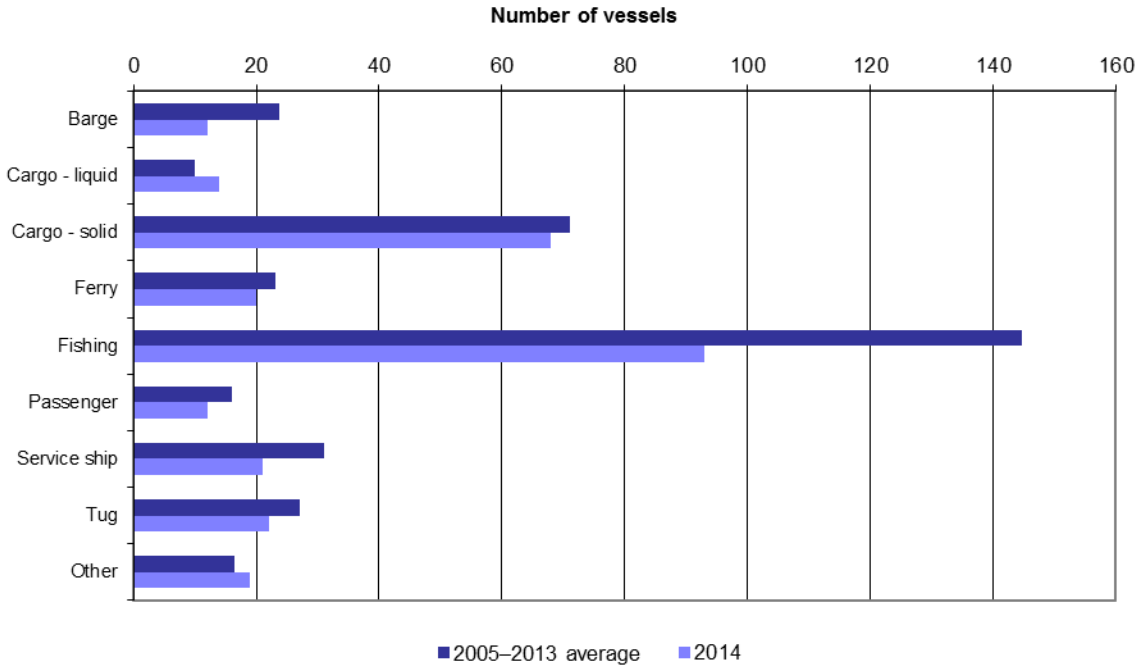
Figure 3. Shipping accidents by accident type



Type of vessel (Table 1)

In 2014, 93 fishing vessels (33% of the total) were involved in shipping accidents (Figure 4), down from the 109 (36%) in 2013 and down from the 2009–2013 average of 119 (38%). After fishing vessels, cargo-solid vessels (68, or 24%), tugs (22, or 8%), and service vessels (21, or 7%) were involved most often in shipping accidents in 2014.

Figure 4. Shipping accidents by vessel type

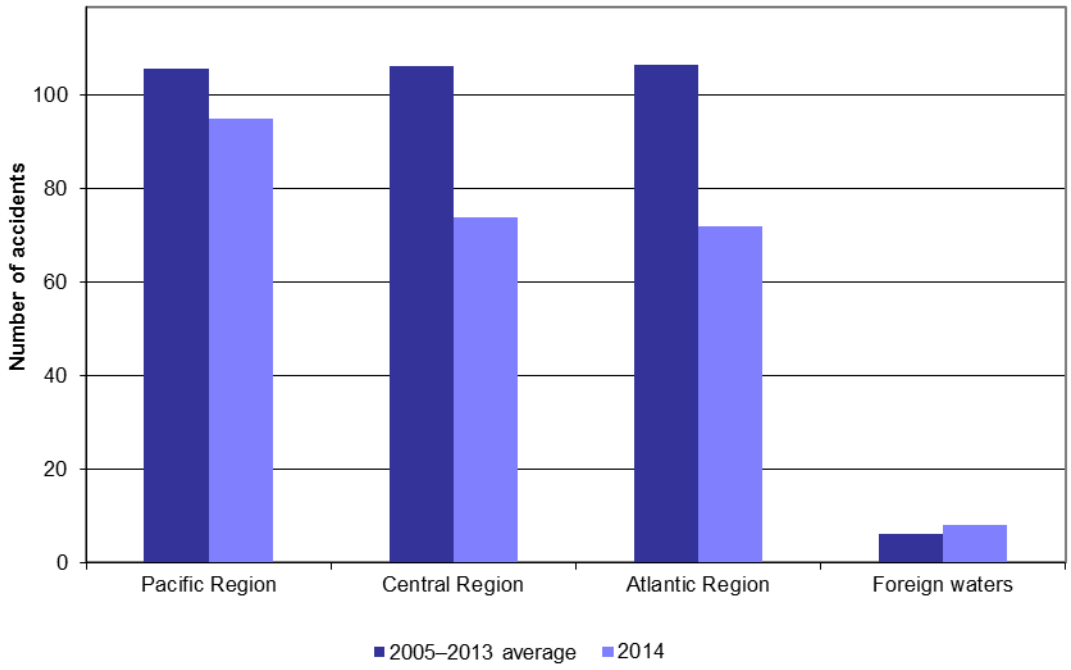


Geographical region (Tables 2)

In 2014, 38% of shipping accidents occurred in the Pacific Region, 30% in the Central Region, 29% in the Atlantic Region, and the remaining 3% of shipping accidents took place in foreign waters. In the Pacific Region shipping accidents were unchanged from the 2009–2013 average of 95, in the Central Region shipping accidents decreased by 21% (from 94 to 74), and in the Atlantic Region shipping accidents decreased by 17% (from 87 to 72).

Fishing vessels accounted for 66% of all vessels involved in shipping accidents in the Atlantic Region, down 18% from the 2009–2013 average (from 64 to 53); and 33% in the Pacific Region, down 11% from the 2009–2013 average (from 41 to 36).

Figure 5. Shipping accidents by region

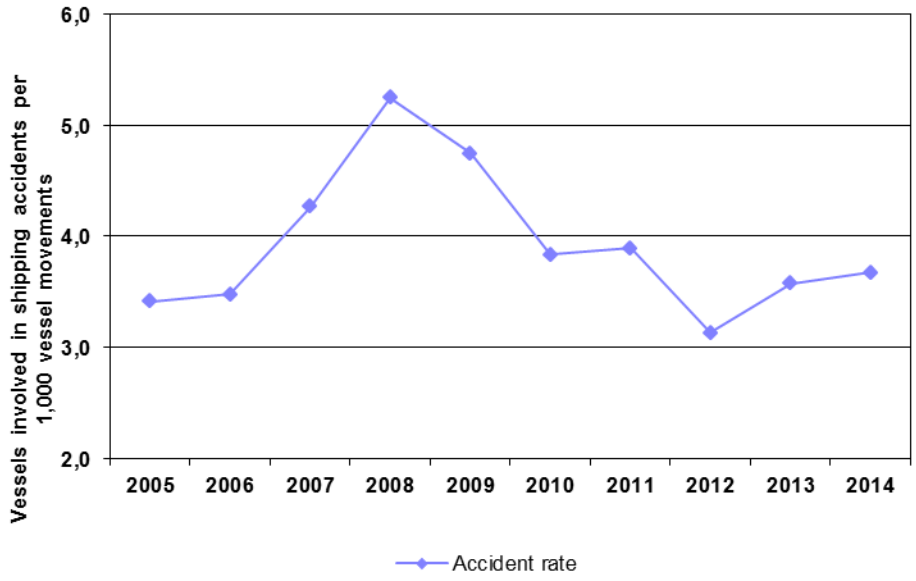


Vessel flag (Tables 1, 3 and 4)

In 2014, 85% of the 281 vessels involved in shipping accidents reported to the TSB were Canadian-flag vessels. In all, 45% of the Canadian-flag vessels were commercial non-fishing vessels, 39%were fishing vessels and the remaining 16% were non-commercial vessels, pleasure craft or service vessels.

According to information provided by Transport Canada, marine activity for Canadian commercial non-fishing vessels of over 15 in gross tonnage (excluding passenger vessels and cruise ships) was estimated to be 29,100 commercial movements in 2014, which is a 7% increase from the 2009–2013 average of 27,176 commercial movements. This yields a rate of 3.7 commercial vessels involved in an accident per 1,000 commercial movements, down from the five-year average of 3.8 (Figure 6).

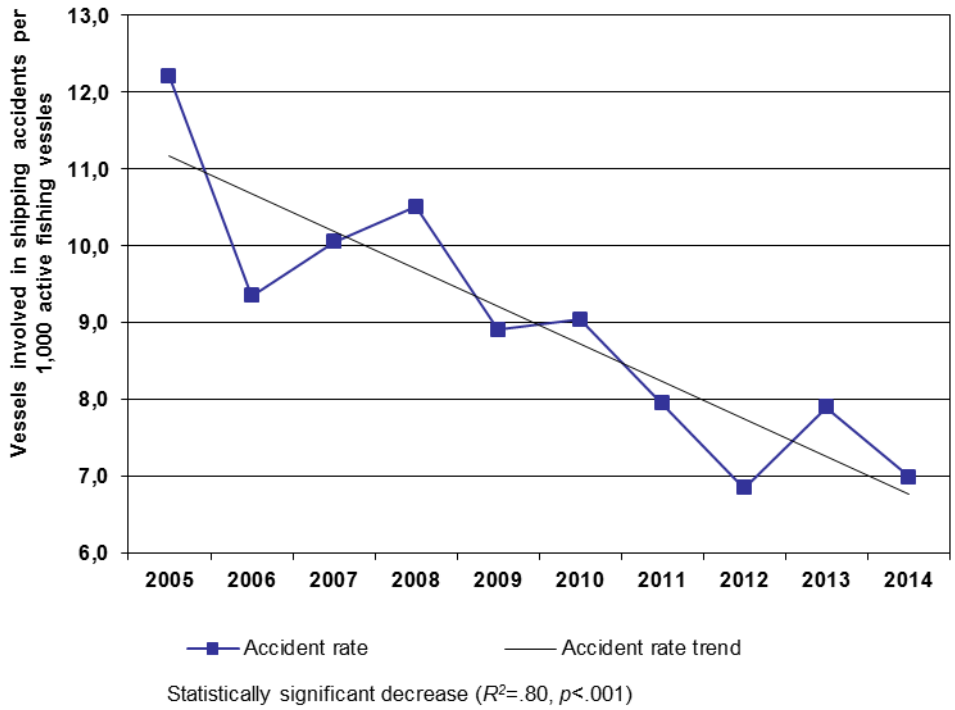
Figure 6. Shipping accident rates for Canadian-flag commercial non-fishing vessels, 2005–2014



In 2014, there were an estimated 13,307 active fishing vessels in Canada[2]. The shipping accident rate for Canadian fishing vessels decreased from 7.9 fishing vessels involved in shipping accidents per 1,000 active fishing vessels in 2013 to 7.0 in 2014 and decreased from the five-year average of 8.1. There has been a statistically significant downward trend in the Canadian fishing vessel shipping accident rate over the last 10 years ($p<.001$) (Figure 7).

[2] Commercial fishing vessels landing a catch (Source: Department of Fisheries and Oceans).

Figure 7. Shipping accident rates for Canadian-flag fishing vessels, 2005–2014



For Canadian-flag fishing vessels in 2014, groundings (34%) and sinkings (20%) were the most frequent shipping accident types. Canadian-flag commercial non-fishing vessels were mostly involved in collisions (50%), or damage affecting seaworthiness or fitness for purpose (19%).

In 2014, 42 foreign-flag vessels were involved in shipping accidents in Canadian waters, 41 of which were commercial non-fishing vessels, 71% of which were involved in collisions. According to information provided by Transport Canada, marine activity for foreign commercial non-fishing vessels was 26,900 commercial movements in 2014. This represents a 5% increase from the 2009–2013 average of 25,674 commercial movements. This yields an accident rate of 1.5 commercial vessels involved in shipping accidents per 1,000 commercial movements, down from the five-year average of 1.8.

Vessels lost (Tables 1 and 5)

In 2014, 20 vessels were reported lost, down from 22 in 2013, and down from the 2009–2013 average of 24. Seventeen of the 20 vessels lost in 2014 were fishing vessels. Eight of the 20 vessels lost were less than 15 grt, and 50% were at least 20 years old. During the past 10 years, fishing vessels less than 60 grt[3] have accounted for more than half of the vessels lost in Canada.

[3] The majority of vessels classified under "unknown tonnage" were vessels known to be 15 or less in gross tonnage.

Incidents

Overview of incidents

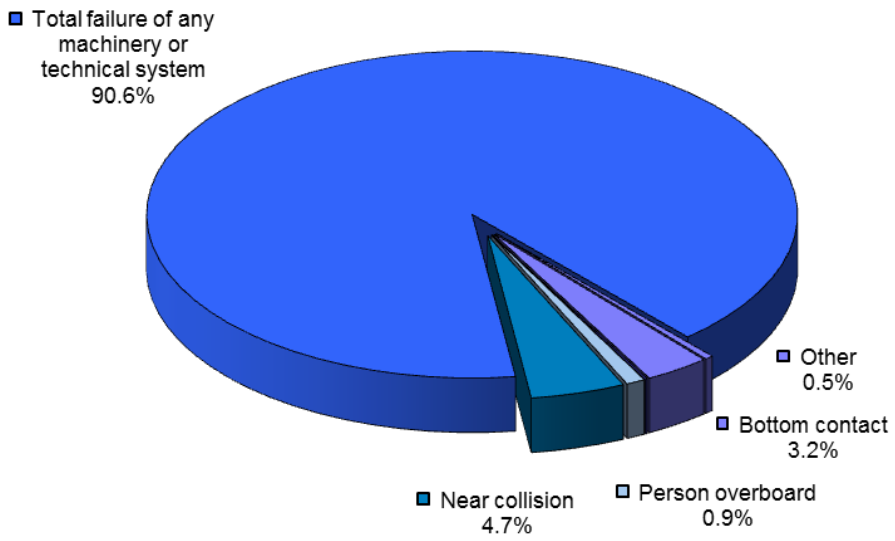
In 2014, 746 marine incidents[4] were reported to the TSB, up from a total of 709 in 2013 and an annual average of 313 in 2009–2013 . On March 12, 2014, the TSB issued new regulations that changed the reporting requirements effective July 1, 2014. The new regulations clarify the reporting requirements for a total failure of any machinery or technical system, leading to an increase in this category in 2014. The significant increase in 2013 was related to the clarification of the threshold used to classify engine / rudder/propeller incident category, which is now included in the total failure of any machinery or techinical system incident category.

In 2014, incidents in the Atlantic Region represented 60% of all marine incidents followed by 20% in the Pacific Region, and 18% in the Central Region. The remaining 2% of reported incidents took place in foreign waters.

The majority of reportable incidents consisted of total failure of any machinery or technical systems (91%). The Atlantic Region had the majority of total failure of any machinery or technical systems incidents (65%) and the Pacific Region had the majority of risk of collisions (77%).

In 2014, vessels most often involved in total failure of any machinery or technical systems incidents were fishing vessels (78%) and cargo-solid vessels (7%).

Figure 8. Marine incidents by type, 2014



4 Refer to Appendix B for the definition of reportable marine incident.

Appendices

Appendix A: Data tables

Table 1

Marine occurrences (types, vessels and losses involved)
2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Accidents	**451**	**426**	**456**	**427**	**391**	**359**	**318**	**290**	**323**	**301**
Shipping accidents by type	404	374	380	358	334	296	277	238	262	249
Capsize	10	18	11	15	8	8	2	6	8	3
Collision	110	94	84	95	81	65	87	77	79	88
Fire/Explosion	67	53	48	62	50	53	50	34	31	29
Grounding	87	114	95	73	110	102	73	69	62	61
Sank	78	69	69	74	54	41	33	33	38	26
Sustains damage render unseaworthy/ Unfit for purpose	47	25	65	35	29	24	28	16	43	41
Other shipping accident types	5	1	8	4	2	3	4	3	1	1
Accidents aboard ship	47	52	76	69	57	63	41	52	61	52
Vessels involved in shipping accidents by type of	**455**	**415**	**420**	**407**	**370**	**320**	**317**	**263**	**300**	**281**
Barge	29	34	30	29	30	16	20	6	19	12
Cargo - liquid	15	14	8	6	11	12	10	6	7	14
Cargo - solid	89	85	77	74	68	65	58	63	61	68
Ferry	26	26	25	32	26	19	23	18	13	20
Fishing	208	163	172	167	138	130	117	99	109	93
Passenger	14	19	21	13	17	14	16	15	15	12
Service ship	30	27	37	28	40	31	28	22	37	21
Tug	26	25	38	37	20	19	24	28	26	22
Other vessel types	18	22	12	21	20	14	21	6	13	19
Vessels involved in shipping accidents by vessel	**455**	**415**	**420**	**407**	**370**	**320**	**317**	**263**	**300**	**281**
Canadian non-fishing vessels	181	186	194	199	175	139	157	116	151	146
Canadian fishing vessels	202	154	166	166	134	128	113	95	107	93
Foreign vessels	72	75	60	42	61	53	47	52	42	42
Vessels lost by gross tonnage	**26**	**34**	**30**	**33**	**27**	**27**	**22**	**24**	**22**	**20**
1600 gross tons and over	0	3	0	0	3	0	0	0	0	0
150 to 1599 gross tons	0	2	1	3	0	0	0	1	1	1
60 to 149 gross tons	6	6	8	3	4	4	2	3	4	4
15 to 59 gross tons	7	6	8	14	8	10	9	9	7	4
Less than 15 gross tons	9	13	10	10	6	8	10	9	6	8
Unknown tonnage	4	4	3	3	6	5	1	2	4	3
Fatalities	**21**	**18**	**15**	**30**	**15**	**18**	**16**	**14**	**19**	**12**
Shipping accidents	13	12	3	21	7	11	3	5	11	4
Accidents aboard ship	8	6	12	9	8	7	13	9	8	8
Serious injuries	**46**	**56**	**67**	**61**	**56**	**78**	**36**	**48**	**50**	**46**
Shipping accidents	4	7	4	4	6	5	2	6	0	1
Accidents aboard ship	42	49	63	57	50	73	34	42	50	45
Occurrences with a dangerous good release*	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reportable incidents by type	**265**	**260**	**246**	**240**	**216**	**202**	**193**	**247**	**709**	**746**
Bottom contact	28	21	24	23	14	13	14	21	19	24
Cargo shift/Cargo loss	4	4	2	6	6	3	2	5	2	1
Person overboard	4	10	15	9	7	9	4	5	10	7
Risk of collision (near collision)	68	39	30	25	28	33	38	37	63	35
Total failure of any machinery or technical	149	178	146	161	150	136	118	156	603	676
Other incident types	12	8	29	16	11	8	17	23	12	3

Data extracted May 7, 2015

In November 2013, the Transportation Safety Board developed and deployed a new Marine Database. The new database significantly improves the TSB's ability to collect, categorize and present statistics. In accordance with these changes the 2014 statistical summary onward will be presented in a slightly different format.
New TSB regulations came into effect on July 1, 2014, changing some reporting requirements.
* Under new reporting requirements the release of dangerous goods has been harmonized with Part 8 of the Transportation of Dangerous Goods Regulations. Detailed data was not collected prior to July 1, 2014.
** New regulations clarify the reporting requirements for a total failure of any machinery or techinical system.

Table 2

Details of occurrences, losses and vessels involved by region (Western, Central, Laurentian and Maritimes regions) 2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Pacific region										
Shipping accidents	122	126	110	119	113	92	92	81	97	95
Accidents aboard ship	14	15	21	14	22	15	11	18	22	23
Vessels involved in shipping accidents	145	146	124	142	127	101	108	91	121	108
Barge/Tug	32	36	37	48	27	19	26	16	34	23
Cargo / Tanker	6	11	5	12	13	5	5	12	9	15
Ferry/Passenger	25	28	15	18	15	10	14	10	10	10
Fishing	70	52	43	54	49	47	39	34	34	36
Other vessel types	12	19	24	10	23	20	24	19	34	24
Vessels lost	8	15	11	11	8	6	3	6	4	9
Fatalities	7	6	8	10	6	6	6	4	2	5
Reportable incidents	91	84	62	133	108	110	101	113	145	149
Central region										
Shipping accidents	148	111	128	101	118	104	88	80	79	74
Accidents aboard ship	17	20	36	34	19	33	16	20	25	17
Vessels involved in shipping accidents	165	120	148	112	132	112	102	86	87	85
Barge/Tug	16	15	29	13	19	11	12	12	9	8
Cargo / Tanker	90	70	66	60	58	62	49	48	42	55
Ferry/Passenger	11	10	25	11	11	16	13	14	14	14
Fishing	24	12	14	10	20	11	14	7	12	3
Other vessel types	24	13	14	18	24	12	14	5	10	5
Vessels lost	2	2	2	1	5	2	2	1	4	2
Fatalities	3	3	2	4	3	3	1	3	6	2
Reportable incidents	108	100	117	77	74	66	70	106	145	137
Atlantic region										
Shipping accidents	129	130	134	133	100	95	94	70	74	72
Accidents aboard ship	15	16	15	17	16	13	14	14	12	12
Vessels involved in shipping accidents	139	139	140	147	108	101	104	78	79	80
Barge/Tug	4	5	1	2	4	4	6	6	2	3
Cargo / Tanker	6	13	7	5	6	6	11	3	6	6
Ferry/Passenger	4	7	6	16	17	7	12	9	4	8
Fishing	113	97	115	103	69	72	64	56	61	53
Other vessel types	12	17	11	21	12	12	11	4	6	10
Vessels lost	15	17	17	21	13	18	17	16	13	9
Fatalities	11	9	5	14	6	8	9	6	11	5
Reportable incidents	66	73	63	26	30	23	22	26	417	449
Foreign waters										
Shipping accidents	5	7	8	5	3	5	3	7	12	8
Accidents aboard ship	1	1	4	4	0	2	0	0	2	0
Vessels involved in shipping accidents	6	10	8	6	3	6	3	8	13	8
Barge/Tug	3	3	1	3	0	1	0	0	0	0
Cargo / Tanker	2	5	7	3	2	4	3	6	11	6
Ferry/Passenger	0	0	0	0	0	0	0	0	0	0
Fishing	1	2	0	0	0	0	0	2	2	1
Other vessel types	0	0	0	0	1	1	0	0	0	1
Vessels lost	1	0	0	0	1	1	0	1	1	0
Fatalities	0	0	0	2	0	1	0	1	0	0
Reportable incidents	0	3	4	4	4	3	0	2	2	11

Data extracted May 7, 2015

In November 2013, the Transportation Safety Board developed and deployed a new Marine Database. The new database significantly improves the TSB's ability to collect, categorize and present statistics. In accordance with these changes the 2014 statistical summary onward will be presented in a slightly different format.
New TSB regulations came into effect on July 1, 2014, changing some reporting requirements.

Table 3

Canadian-flag vessels involved in shipping accidents by vessel category and type of accident (including commercial accident rates)
2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Canadian-flag vessels involved	**383**	**340**	**360**	**365**	**309**	**267**	**270**	**211**	**258**	**239**
Commercial vessels	134	137	147	156	118	98	110	89	103	107
Capsize	2	8	7	6	3	5	1	2	0	0
Collision	64	55	59	61	41	35	56	43	46	53
Fire/Explosion	25	17	15	21	12	13	18	9	12	12
Grounding	20	37	28	25	34	30	17	22	28	16
Sank	13	16	15	29	18	5	3	4	4	6
Sustains damage render unseaworthy/ Unfit for purpose	9	4	22	14	10	10	15	9	13	20
Other shipping accident types	1	0	1	0	0	0	0	0	0	0
Commercial movements (a)	39,264	39,373	34,436	29,717	24,871	25,539	28,269	28,400	28,800	29,100
Commercial accident rate (b)	3.4	3.5	4.3	5.2	4.7	3.8	3.9	3.1	3.6	3.7
Fishing vessels	202	154	166	166	134	128	113	95	107	93
Capsize	5	7	3	5	3	1	1	3	6	1
Collision	31	17	18	29	14	10	16	12	12	16
Fire/Explosion	31	22	22	34	27	28	24	19	12	10
Grounding	55	49	48	37	56	51	43	33	30	32
Sank	61	45	48	40	26	31	24	26	30	19
Sustains damage render unseaworthy/ Unfit for purpose	16	13	20	17	7	4	1	0	16	14
Other shipping accident types	3	1	7	4	1	3	4	2	1	1
Active fishing vessels (c)	16,557	16,472	16,514	15,800	15,050	14,167	14,217	13,871	13,555	13,307
Fishing vessel accident rate (d)	12.2	9.3	10.1	10.5	8.9	9.0	7.9	6.8	7.9	7.0
Other vessels	47	49	47	43	57	41	47	27	48	39
Capsize	3	3	1	3	2	2	0	1	2	2
Collision	19	23	17	20	25	20	25	10	26	18
Fire/Explosion	8	8	7	5	7	6	6	4	3	7
Grounding	7	9	11	7	15	9	7	6	10	8
Sank	3	6	7	6	6	2	5	3	4	2
Sustains damage render unseaworthy/ Unfit for purpose	6	0	4	2	1	2	4	3	3	2
Other shipping accident types	1	0	0	0	1	0	0	0	0	0

Data extracted May 7, 2015

a. Based on data from Transport Canada. 2012 to 2014 data are estimated.

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

c. Commercial fishing vessels landing a catch (Source: DFO).

d. The fishing vessel accident rate is the number of Canadian-flag commercial fishing vessels of 15 gross tons or more involved in shipping accidents per 1000 active fishing vessels.

Table 4

Foreign-flag vessels involved in shipping accidents by vessel category and type of accident (including commercial accident rates)
2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Foreign-flag vessels involved	**72**	**75**	**60**	**42**	**61**	**53**	**47**	**52**	**42**	**42**
Commercial vessels	65	66	52	35	54	47	41	47	38	41
Capsize	0	0	0	1	0	0	0	0	0	0
Collision	38	30	19	22	26	18	23	28	19	29
Fire/Explosion	5	6	5	3	3	5	3	3	5	0
Grounding	4	21	8	7	8	13	6	10	2	7
Sank	2	1	1	0	3	3	1	1	1	0
Sustains damage render unseaworthy/ Unfit for purpose	16	8	19	2	14	8	8	5	11	5
Other shipping accident types	0	0	0	0	0	0	0	0	0	0
Commercial movements (a)	32,234	30,959	30,644	28,015	23,720	26,029	25,669	26,300	26,650	26,900
Commercial accident rate (b)	2.0	2.1	1.7	1.2	2.3	1.8	1.6	1.8	1.4	1.5
Fishing vessels	6	9	6	1	4	2	4	4	2	0
Capsize	0	1	0	0	0	0	0	0	0	0
Collision	1	3	2	0	0	0	1	2	2	0
Fire/Explosion	0	0	0	1	0	0	0	0	0	0
Grounding	3	4	4	0	3	2	3	1	0	0
Sank	2	1	0	0	1	0	0	0	0	0
Sustains damage render unseaworthy/ Unfit for purpose	0	0	0	0	0	0	0	0	0	0
Other shipping accident types	0	0	0	0	0	0	0	1	0	0
Other vessels	1	0	2	6	3	4	2	1	2	1
Capsize	0	0	0	0	0	0	0	0	0	0
Collision	0	0	1	5	2	3	2	1	2	1
Fire/Explosion	0	0	0	0	1	1	0	0	0	0
Grounding	1	0	1	1	0	0	0	0	0	0
Sank	0	0	0	0	0	0	0	0	0	0
Sustains damage render unseaworthy/ Unfit for purpose	0	0	0	0	0	0	0	0	0	0
Other shipping accident types	0	0	0	0	0	0	0	0	0	0

Data extracted May 7, 2015

a. Based on data from Transport Canada. 2012 to 2014 data are estimated.

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

Table 5

Vessels lost by vessel category and age
2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
All vessels	**26**	**34**	**30**	**33**	**27**	**27**	**22**	**24**	**22**	**20**
0-4 years	2	2	1	0	0	1	0	1	0	0
5-9 years	1	4	1	5	2	5	1	1	1	0
10-14 years	2	2	3	1	5	1	1	3	3	0
15-19 years	7	3	2	2	0	2	3	5	2	2
20-24 years	3	3	3	6	4	6	4	3	3	1
25-29 years	4	1	4	3	2	2	4	3	2	5
30+ years	3	13	10	9	7	4	7	5	5	4
Unknown	4	6	6	7	7	6	2	3	6	8
Commercial vessels	2	8	6	5	8	1	1	1	1	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	1	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	0	0	0
25-29 years	0	0	0	2	0	0	0	0	0	1
30+ years	1	6	5	3	3	0	1	1	1	1
Unknown	1	2	1	0	4	1	0	0	0	0
Fishing vessels	24	24	21	25	16	23	21	23	19	17
0-4 years	2	2	1	0	0	1	0	1	0	0
5-9 years	1	4	1	5	2	5	1	1	1	0
10-14 years	2	2	3	1	4	1	1	3	3	0
15-19 years	7	3	2	2	0	2	3	5	2	2
20-24 years	3	3	3	4	4	6	4	3	3	1
25-29 years	4	1	4	1	2	1	4	3	2	4
30+ years	2	6	4	6	4	4	6	4	2	3
Unknown	3	3	3	6	0	3	2	3	6	7
Other vessels	0	2	3	3	3	3	0	0	2	1
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	2	0	0	0	0	0	0
25-29 years	0	0	0	0	0	1	0	0	0	0
30+ years	0	1	1	0	0	0	0	0	2	0
Unknown	0	1	2	1	3	2	0	0	0	1

Data extracted May 7, 2015

Table 6

Accidents, fatalities and serious injuries by accidents type
2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Shipping accidents with fatalities or serious injuries	**9**	**14**	**4**	**14**	**10**	**7**	**4**	**7**	**5**	**4**
Capsize	6	6	2	8	1	1	0	3	2	0
Collision	1	1	1	0	4	3	1	1	0	1
Fire/Explosion	1	4	0	1	0	0	2	3	1	0
Grounding	0	2	0	1	1	0	1	0	1	0
Sank	1	1	1	4	4	1	0	0	1	3
Sustains damage render unseaworthy/ Unfit for purpose	0	0	0	0	0	0	0	0	0	0
Other shipping accident types	0	0	0	0	0	2	0	0	0	0
Shipping accidents fatalities (a)	**13**	**12**	**3**	**21**	**7**	**11**	**3**	**5**	**11**	**4**
Capsize	10	6	2	15	2	4	0	3	6	0
Collision	0	0	1	0	0	0	1	1	0	0
Fire/Explosion	0	2	0	0	0	0	1	1	1	0
Grounding	0	3	0	0	1	0	1	0	3	0
Sank	3	1	0	6	4	1	0	0	1	4
Sustains damage render unseaworthy/ Unfit for purpose	0	0	0	0	0	0	0	0	0	0
Other shipping accident types	0	0	0	0	0	6	0	0	0	0
Shipping accidents serious injuries	**4**	**7**	**4**	**4**	**6**	**5**	**2**	**6**	**0**	**1**
Capsize	1	1	0	0	0	0	0	3	0	0
Collision	2	1	2	0	5	5	1	0	0	1
Fire/Explosion	1	5	0	2	0	0	1	3	0	0
Grounding	0	0	0	2	0	0	0	0	0	0
Sank	0	0	2	0	1	0	0	0	0	0
Sustains damage render unseaworthy/ Unfit for purpose	0	0	0	0	0	0	0	0	0	0
Other shipping accident types	0	0	0	0	0	0	0	0	0	0
Accidents aboard ship	**47**	**52**	**76**	**69**	**57**	**63**	**41**	**52**	**61**	**52**
Accidents aboard ship fatalities (a)	**8**	**6**	**12**	**9**	**8**	**7**	**13**	**9**	**8**	**8**
Boarding, being on board, falling overboard from the ship	4	5	7	3	6	4	13	3	3	5
In contact with any part of the ship or its contents	4	1	5	6	2	3	0	6	5	3
Accidents aboard ship serious injuries	**42**	**49**	**63**	**57**	**50**	**73**	**34**	**42**	**50**	**45**
Boarding, being on board, falling overboard from the ship	5	2	6	5	3	2	3	2	7	10
In contact with any part of the ship or its contents	37	47	57	52	47	71	31	40	43	35

Data extracted May 7, 2015

a. Fatalities includes missing persons.

Table 7

Vessels, fatalities and serious injuries by vessel type
2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Vessels involved in shipping accidents with fatalities or serious injuries	**9**	**14**	**4**	**14**	**10**	**7**	**4**	**7**	**5**	**4**
Barge/Tug	0	0	1	1	0	0	0	2	0	0
Cargo	0	2	0	3	0	0	0	0	0	1
Ferry/Passenger	0	2	0	1	1	1	0	0	0	0
Fishing	6	9	1	6	6	4	3	4	5	3
Other	3	1	2	3	3	2	1	1	0	0
Shipping accident fatalities (a)	**13**	**12**	**3**	**21**	**7**	**11**	**3**	**5**	**11**	**4**
Barge/Tug	0	0	1	0	0	0	0	1	0	0
Cargo	0	1	0	7	0	0	0	0	0	2
Ferry/Passenger	0	2	0	0	0	4	0	0	0	0
Fishing	11	8	1	10	7	7	2	2	11	2
Other	2	1	1	4	0	0	1	2	0	0
Shipping accident serious injuries	**4**	**7**	**3**	**4**	**6**	**5**	**2**	**6**	**0**	**1**
Barge/Tug	0	0	0	2	0	0	0	1	0	0
Cargo	0	2	0	0	0	0	0	0	0	0
Ferry/Passenger	0	1	0	2	1	0	0	0	0	0
Fishing	2	4	0	0	1	1	1	3	0	1
Other	2	0	3	0	4	4	1	2	0	0
Vessels involved in accidents aboard ship	**48**	**53**	**77**	**71**	**58**	**64**	**41**	**53**	**61**	**52**
Barge/Tug	6	4	8	9	6	5	4	1	3	4
Cargo	9	19	25	22	16	22	13	23	17	21
Ferry/Passenger	7	3	8	8	7	8	6	3	7	5
Fishing	16	22	24	17	20	17	17	21	25	18
Other	10	5	12	15	9	12	1	5	9	4
Accident aboard ship fatalities (a)	**8**	**6**	**12**	**9**	**8**	**7**	**13**	**9**	**8**	**8**
Barge/Tug	0	1	1	1	1	0	1	0	1	0
Cargo	1	3	2	3	0	1	1	2	2	1
Ferry/Passenger	2	0	0	0	1	2	1	1	0	0
Fishing	4	2	6	4	4	4	10	6	5	6
Other	1	0	3	1	2	0	0	0	0	1
Accident aboard ship serious injuries	**40**	**48**	**60**	**56**	**49**	**70**	**30**	**42**	**49**	**42**
Barge/Tug	5	3	7	6	4	5	3	0	2	4
Cargo	8	16	18	18	16	36	12	21	12	18
Ferry/Passenger	6	4	7	8	5	5	6	2	7	5
Fishing	11	20	18	12	16	13	8	15	19	12
Other	10	5	10	12	8	11	1	4	9	3

Data extracted May 7, 2015

a. 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 *Transportation Safety Board Regulations*.

Marine occurrence

- Any accident or incident associated with the operation of a ship; and
- Any situation or condition that the Board has reasonable grounds to believe could, if left unattended, induce an accident or incident described above.

Marine accident

An accident resulting directly from the operation of a ship other than a pleasure craft.

Accident aboard ship

- An accident where a person is killed or sustains a serious injury as a result of
    - boarding, being on board or falling overboard from the ship, or
    - coming into direct contact with any part of the ship or its contents.

Shipping accident

- An accident where the ship
    - sinks, founders or capsizes,
    - is involved in a collision or a risk of a collision,
    - sustains a fire or an explosion,
    - goes aground,
    - sustains damage that affects its seaworthiness or renders it unfit for its purpose,
    - is missing or abandoned.

Marine incident

An incident where

- a person falls overboard from the ship;
- the ship makes unforeseen contact with the bottom without going aground,
- the ship fouls a utility cable or pipe, or an underwater pipeline,

- the ship is involved in a risk of a collision,
- the ship sustains a total failure of
    - the navigation equipment if the failure poses a threat to the safety of any person, property or the environment,
    - the main or auxiliary machinery, or
    - the propulsion, steering, or deck machinery if the failure poses a threat to the safety of any person, property or the environment;
- all or part of the ship's cargo shifts or falls overboard; or
- the ship is anchored, grounded or beached to avoid an occurrence,
- a crew member whose duties are directly related to the safe operation of the ship is unable to perform their duties as a result of a physical incapacitation which poses a threat to the safety of persons, property or the environment;
- there is an accidental release on board or from the ship consisting of a quantity of dangerous goods or an emission of radiation that is greater than the quantity or emission levels specified in Part 8 of the Transportation of Dangerous Goods Regulations.

Serious injury

(a) A fracture of any bone, except simple fractures of fingers, toes or the nose;

(b) Lacerations that cause severe hemorrhage or nerve, muscle or tendon damage;

(c) An injury to an internal organ;

(d) Second or third degree burns, or any burns affecting more than 5% of the body surface;

(e) A verified exposure to infectious substances or injurious radiation; or

(f) An injury that is likely to require hospitalization.

Vessels covered

This report covers commercial vessels that include all vessels either registered or licenced 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, passenger vessels, tugs and barges.

Fishing Vessels: include vessels involved in commercial fishing.

Other Vessels: include research vessels, oil exploration, exploitation and support vessels,

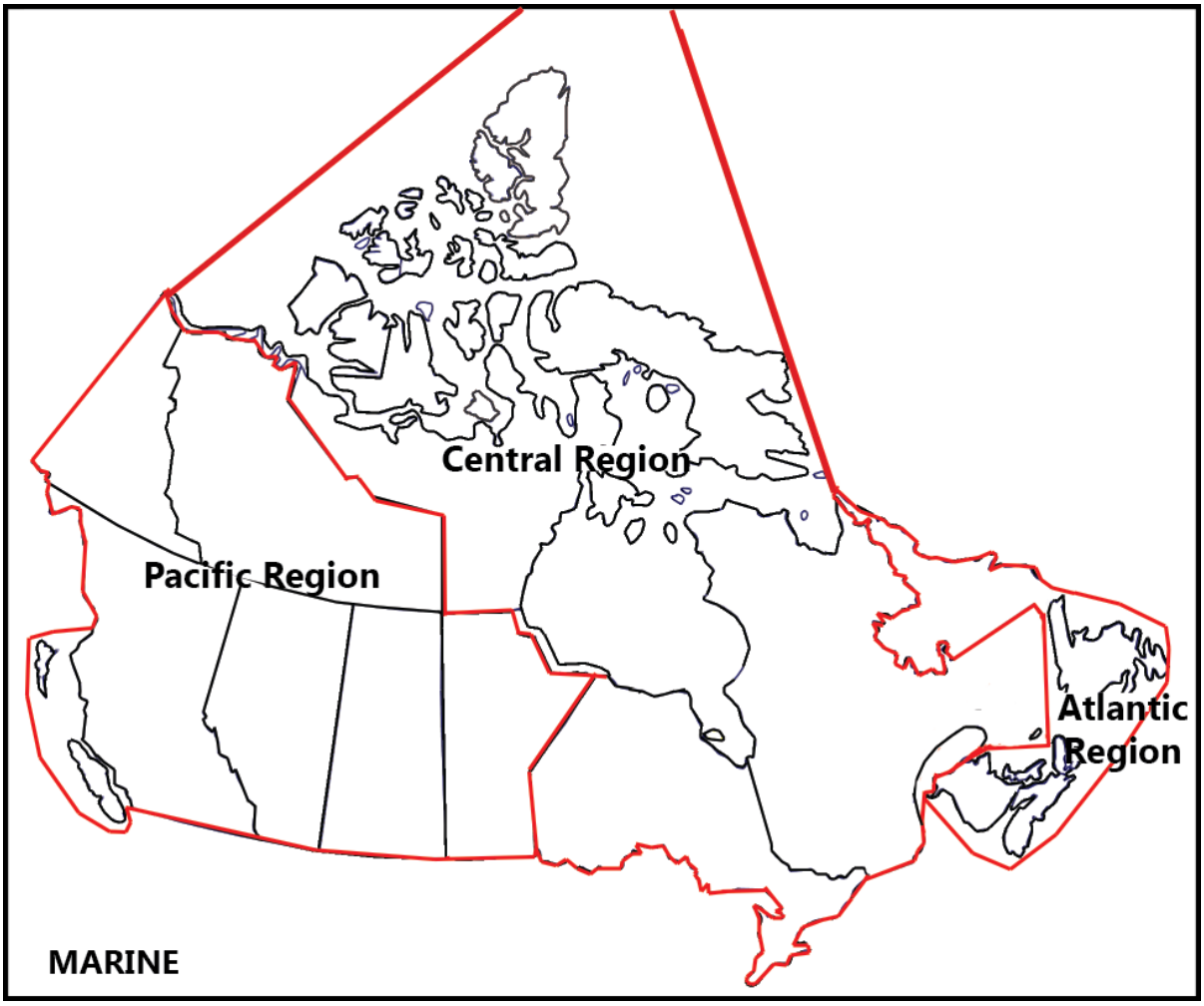
government vessels and pleasure craft.

Miscellaneous

Gross tonnage: 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. The gross tonnage is calculated based on units of one hundred cubic feet.

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

Appendix C: Regional limits



Pacific Region's area of responsibility consists of the provinces of British Columbia, Alberta, Saskatchewan, and Manitoba, the Yukon and the Northwest Territories south of the 70th parallel, as well as the waters adjacent to these provinces and territories.

Central Region's area of responsibility consists of the provinces of Ontario and Quebec (including the Magdalen Islands), the territory of Nunavut, and the Northwest Territories north of the 70th parallel, as well as James Bay, Hudson Bay, the St. Lawrence Seaway, and the Great Lakes waterways up to the Canada-US border.

Atlantic Region's area of responsibility consists of the provinces of New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador, as well as the waters adjacent to these provinces.