Annual report on

Shipping accidents
in the Baltic Sea in 2012
# Table of contents

1 Introduction...................................................................................................................... 1

2 Ship traffic in the Baltic ................................................................................................. 2

3 Overview of accidents in the Baltic Sea ..................................................................... 9

4 Types of accidents ........................................................................................................ 11

   4.1 Collisions.................................................................................................................. 14

   4.2 Groundings .............................................................................................................. 21

5 Types of vessels involved in the accidents ............................................................... 27

6 Causes of accidents ...................................................................................................... 29

7 Accidents with pollution ............................................................................................... 32

ANNEX 1 .......................................................................................................................... 37
1 Introduction

Annual reports on shipping accidents in the Baltic Sea area have been compiled by HELCOM since 2000. According to the agreed procedure all accidents are reported irrespectively if there was pollution or not. This includes accidents which involved tankers over 150 gross tonnage and/or other ships over 400 GT, both in territorial seas or EEZ of the HELCOM Contracting Party. Accident types cover i.a. groundings, collisions (striking or being struck by another ship), contacts with fixed or floating objects, pollution accidents (e.g. during fuel transfer) and other types of accidents like fires and explosions, machinery damage and capsizing.

A new reporting format was taken into use in 2004. Data collected before 2004 is thus not fully comparable with the data collected in 2004 and subsequent years. In 2012 the HELCOM reporting format was modified in order to harmonize with reporting formats for incidents of the International Maritime Organization (IMO) and the European Maritime Safety Agency (EMSA). Attached to this report are the guidelines for the 2012 HELCOM reporting format containing additional information on the categorization used in this report (Annex 1).

This report focuses on the shipping accidents data collected for year 2012 as well as for the longer term data series for 2004-2012. All Baltic Sea coastal states (Denmark, Estonia, Finland, Latvia, Lithuania, Poland, Russian Federation and Sweden) have provided national reports on shipping accidents in 2012. This report was compiled by the HELCOM Secretariat and approved for publication by the HELCOM MARITIME Group.

Due to the submission of a new Danish dataset in December 2013 and the subsequent request for re-analysis by Denmark (see box below for more information) this report on data collected 2013 was published in July 2014.

---

Secretariat note on the accident data reported by Denmark for this report:

Please note that a major revision of the shipping accidents database of Denmark, maintained by DMA, took place in 2013. This has influenced the preparation of this report, which includes data on accidents in 2012, as reported by all the Baltic Sea countries in 2013.

Danish data on shipping accidents is currently stored in a new accident database which is compatible with the European Marine Casualty Information Platform (EMCIP) of EMSA. This new Danish database includes only accidents which took place in 2010 and later.

Denmark has informed that the accident data of the old database (used in previous HELCOM reports) and of the new database can both be considered valid. However, due to the differences in the content and structure of the two databases care should be taken when presenting regional information on accidents which include Danish data both from the old (-2009) and new (2010-) databases. This is the case e.g. in the southwestern Baltic Sea, where the relative influence of data from Denmark to overall trends is higher.

In this report this need for precaution is highlighted in a number of graphs with a vertical dotted red line, to indicate that columns right of the line include data from the new Danish accident database.

However, based on HELCOM Secretariat comparisons between regional datasets including either old or new Danish data for the years 2010-2012, the effect of the revision on regional trends can be considered minor Baltic wide, but also within all sub-regions.

---
2 Ship traffic in the Baltic

To get a full picture of the shipping safety in the Baltic, basic information on the intensity of shipping is of importance. IMO regulations (SOLAS) require Automatic Identification System (AIS) transponders to be fitted aboard all ships of 300 GT and upwards engaged on international voyages, cargo ships of 500 GT and upwards not engaged on international voyages, as well as all passenger ships irrespective of size. The AIS enables the identification of the name, position, course, speed, draught and main type of ships, and displays all available data over a common background map.

In the Baltic Sea area movements of ships are gathered in the regional HELCOM AIS network and database. The intensity of traffic can also be illustrated by the number of ships crossing the pre-defined statistical lines as presented in Figure 1 (according to the type of vessels) and Figure 2 (according to draught of vessels). A snapshot illustrating the spatial distribution of shipping activities in the whole Baltic at a specific moment can be seen in Figure 3 and in the southwestern Baltic Sea in Figure 4. Figure 5 shows the average traffic in the Baltic Sea based on AIS signals during one year (2011). The numeric data behind maps in Figure 1 and Figure 2 are presented in Table 1 and Table 2.

HELCOM AIS has been in operation since July 2005, providing additional information for the analysis of each individual accident case by respective Contracting States. The findings of such investigations are discussed during meetings of HELCOM groups with a view to identify the need and possibilities for further HELCOM actions.

The HELCOM AIS historical statistics on ship traffic allow for the assessment of annual changes in traffic intensity. Since 2006, HELCOM has been following the trends in vessel traffic crossing fixed AIS lines, which are shown in Figure 6 and Table 3. The overall ship traffic in 2012 stayed approximately at the same level as in 2011 with roughly 407 500 ship crossings in total. The decrease in 2009 and 2010 for passenger, cargo and other ship types was likely due to decreased shipping activity resulting from the economic recession.

Shipping in the Baltic Sea based on AIS data, data on shipping accidents and other relevant data collected under the HELCOM framework has been visualized in a movie to be found on the HELCOM web page.
Figure 1 Number of ships crossing AIS fixed lines in the Baltic Sea in 2012 according to the type of the vessels.¹

¹ Please note that the Drodgen passage line in the Danish Sound also takes into account smaller vessels that only move between Copenhagen and Malmö and thus doesn’t pass through the entire Sound. The number of ships passing the AIS passage line Sundet Syd, south of Drodgen, is around 35000.
Figure 2 Number of ships crossing AIS fixed lines in the Baltic Sea in 2012 according to the draught. ²

² Please note that the Drodgen passage line in the Danish Sound also takes into account smaller vessels that only move between Copenhagen and Malmö and thus doesn’t pass through the entire Sound. The number of ships passing the AIS passage line Sundet Syd, south of Drodgen, is around 35000.
Figure 3 Snapshot of ship traffic in the Baltic Sea on 29 October 2013. Note: the yellow dots illustrate AIS stations and the arrowheads depict different types of ships and direction of travel.

Figure 4 Snapshot of ship traffic in the southwestern Baltic Sea on 29 October 2013.
Figure 5 Monthly average density of shipping traffic during 2011, with the busiest routes highlighted in yellow.
Table 1 Number of ships crossing AIS fixed lines in the Baltic Sea in 2012 according to the type of the vessels.

<table>
<thead>
<tr>
<th>Location</th>
<th>Passenger</th>
<th>Cargo</th>
<th>Tanker</th>
<th>Other</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skaw</td>
<td>2188</td>
<td>26533</td>
<td>11683</td>
<td>16418</td>
<td>4552</td>
<td>61374</td>
</tr>
<tr>
<td>Great Belt East Bridge</td>
<td>1582</td>
<td>8926</td>
<td>5355</td>
<td>3013</td>
<td>1180</td>
<td>20056</td>
</tr>
<tr>
<td>Drogden(^3)</td>
<td>6731</td>
<td>20784</td>
<td>4445</td>
<td>15094</td>
<td>7339</td>
<td>54393</td>
</tr>
<tr>
<td>Langeland East</td>
<td>1584</td>
<td>8555</td>
<td>5126</td>
<td>3074</td>
<td>1249</td>
<td>19588</td>
</tr>
<tr>
<td>Kadet Fairway</td>
<td>10514</td>
<td>29179</td>
<td>8697</td>
<td>7213</td>
<td>3541</td>
<td>59144</td>
</tr>
<tr>
<td>North of Bornholm</td>
<td>2028</td>
<td>32594</td>
<td>9840</td>
<td>4987</td>
<td>2039</td>
<td>51488</td>
</tr>
<tr>
<td>South of Bornholm</td>
<td>1360</td>
<td>8435</td>
<td>1780</td>
<td>4666</td>
<td>2202</td>
<td>18443</td>
</tr>
<tr>
<td>West of Gotland</td>
<td>1959</td>
<td>12083</td>
<td>1869</td>
<td>2760</td>
<td>1055</td>
<td>19726</td>
</tr>
<tr>
<td>East of Gotland</td>
<td>1489</td>
<td>21587</td>
<td>7634</td>
<td>1995</td>
<td>1366</td>
<td>34071</td>
</tr>
<tr>
<td>Åland West</td>
<td>1116</td>
<td>11163</td>
<td>1860</td>
<td>1161</td>
<td>1184</td>
<td>16484</td>
</tr>
<tr>
<td>Åland East</td>
<td>15</td>
<td>762</td>
<td>92</td>
<td>558</td>
<td>132</td>
<td>1559</td>
</tr>
<tr>
<td>Gulf of Finland</td>
<td>5504</td>
<td>22548</td>
<td>7549</td>
<td>3456</td>
<td>1948</td>
<td>41005</td>
</tr>
<tr>
<td>Irbe Strait</td>
<td>857</td>
<td>7035</td>
<td>1260</td>
<td>456</td>
<td>486</td>
<td>10094</td>
</tr>
<tr>
<td>Total</td>
<td>36927</td>
<td>210184</td>
<td>67190</td>
<td>64851</td>
<td>28273</td>
<td>407425</td>
</tr>
<tr>
<td>Percentage of total</td>
<td>9</td>
<td>52</td>
<td>16</td>
<td>16</td>
<td>7</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2 Number of ships crossing AIS fixed lines in the Baltic Sea in 2012 according to the draught.

<table>
<thead>
<tr>
<th>Location</th>
<th>&lt;7 m</th>
<th>7-9 m</th>
<th>9-11 m</th>
<th>11-13 m</th>
<th>13-15 m</th>
<th>&gt; 15</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skaw</td>
<td>32595</td>
<td>9743</td>
<td>4351</td>
<td>1226</td>
<td>1429</td>
<td>204</td>
<td>11826</td>
<td>61374</td>
</tr>
<tr>
<td>Great Belt East Bridge</td>
<td>8310</td>
<td>4036</td>
<td>3567</td>
<td>938</td>
<td>1369</td>
<td>171</td>
<td>1665</td>
<td>20056</td>
</tr>
<tr>
<td>Drogden(^3)</td>
<td>39984</td>
<td>5256</td>
<td>84</td>
<td>7</td>
<td>0</td>
<td>2</td>
<td>9061</td>
<td>54394</td>
</tr>
<tr>
<td>Langeland East</td>
<td>7998</td>
<td>3988</td>
<td>3545</td>
<td>918</td>
<td>1365</td>
<td>174</td>
<td>1600</td>
<td>19588</td>
</tr>
<tr>
<td>Kadet Fairway</td>
<td>38520</td>
<td>10695</td>
<td>4449</td>
<td>898</td>
<td>1367</td>
<td>165</td>
<td>3050</td>
<td>59144</td>
</tr>
<tr>
<td>North of Bornholm</td>
<td>30537</td>
<td>11582</td>
<td>3840</td>
<td>815</td>
<td>1311</td>
<td>179</td>
<td>3224</td>
<td>51488</td>
</tr>
<tr>
<td>South of Bornholm</td>
<td>11227</td>
<td>1783</td>
<td>498</td>
<td>79</td>
<td>35</td>
<td>6</td>
<td>4815</td>
<td>18443</td>
</tr>
<tr>
<td>West of Gotland</td>
<td>14483</td>
<td>3090</td>
<td>424</td>
<td>32</td>
<td>49</td>
<td>1</td>
<td>1647</td>
<td>19726</td>
</tr>
<tr>
<td>East of Gotland</td>
<td>19150</td>
<td>8898</td>
<td>3180</td>
<td>657</td>
<td>1318</td>
<td>242</td>
<td>626</td>
<td>34071</td>
</tr>
<tr>
<td>Åland West</td>
<td>10736</td>
<td>2841</td>
<td>481</td>
<td>31</td>
<td>48</td>
<td>0</td>
<td>2347</td>
<td>16484</td>
</tr>
<tr>
<td>Åland East</td>
<td>1188</td>
<td>65</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>297</td>
<td>1559</td>
</tr>
<tr>
<td>Gulf of Finland</td>
<td>22901</td>
<td>10691</td>
<td>3057</td>
<td>504</td>
<td>982</td>
<td>239</td>
<td>2631</td>
<td>41005</td>
</tr>
<tr>
<td>Irbe Strait</td>
<td>7784</td>
<td>1476</td>
<td>461</td>
<td>78</td>
<td>126</td>
<td>3</td>
<td>166</td>
<td>10094</td>
</tr>
<tr>
<td>Total</td>
<td>245413</td>
<td>74144</td>
<td>27946</td>
<td>6183</td>
<td>9399</td>
<td>1386</td>
<td>42955</td>
<td>407426</td>
</tr>
<tr>
<td>Percentage of tot.</td>
<td>60.2</td>
<td>18.2</td>
<td>6.9</td>
<td>1.5</td>
<td>2.3</td>
<td>0.3</td>
<td>10.5</td>
<td>100</td>
</tr>
</tbody>
</table>

\(^3\) c.f previous footnote 1 or 2.
Figure 6 Number of ships crossing fixed AIS lines in the Baltic Sea during 2006-2012, shown here by ship type.

Table 3 Total number of ships crossing all fixed AIS lines in the Baltic Sea during 2006-2012.

<table>
<thead>
<tr>
<th>Year</th>
<th>Passenger</th>
<th>Cargo</th>
<th>Tanker</th>
<th>Other</th>
<th>No info</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>42731</td>
<td>226855</td>
<td>67458</td>
<td>39627</td>
<td>-</td>
<td>376671</td>
</tr>
<tr>
<td>%</td>
<td>11.3</td>
<td>60.2</td>
<td>17.9</td>
<td>10.5</td>
<td>0</td>
<td>100.0</td>
</tr>
<tr>
<td>2007</td>
<td>43215</td>
<td>237342</td>
<td>69335</td>
<td>56981</td>
<td>6901</td>
<td>413774</td>
</tr>
<tr>
<td>%</td>
<td>10.4</td>
<td>57.4</td>
<td>16.8</td>
<td>13.8</td>
<td>1.7</td>
<td>100.0</td>
</tr>
<tr>
<td>2008</td>
<td>49355</td>
<td>210021</td>
<td>61996</td>
<td>122029</td>
<td>10297</td>
<td>453698</td>
</tr>
<tr>
<td>%</td>
<td>10.9</td>
<td>46.3</td>
<td>13.7</td>
<td>26.9</td>
<td>2.3</td>
<td>100.0</td>
</tr>
<tr>
<td>2009</td>
<td>42408</td>
<td>200595</td>
<td>69021</td>
<td>73906</td>
<td>8096</td>
<td>394026</td>
</tr>
<tr>
<td>%</td>
<td>10.8</td>
<td>50.9</td>
<td>17.5</td>
<td>18.8</td>
<td>2.1</td>
<td>100.0</td>
</tr>
<tr>
<td>2010</td>
<td>32779</td>
<td>184166</td>
<td>60200</td>
<td>58684</td>
<td>26383</td>
<td>363293</td>
</tr>
<tr>
<td>%</td>
<td>9.0</td>
<td>50.7</td>
<td>16.6</td>
<td>16.2</td>
<td>7.3</td>
<td>100.0</td>
</tr>
<tr>
<td>2011</td>
<td>39943</td>
<td>210030</td>
<td>65605</td>
<td>69353</td>
<td>26509</td>
<td>411440</td>
</tr>
<tr>
<td>%</td>
<td>10</td>
<td>51</td>
<td>16</td>
<td>17</td>
<td>6</td>
<td>100.0</td>
</tr>
<tr>
<td>2012</td>
<td>36927</td>
<td>210184</td>
<td>67190</td>
<td>64851</td>
<td>28273</td>
<td>407425</td>
</tr>
<tr>
<td>%</td>
<td>9</td>
<td>52</td>
<td>16</td>
<td>16</td>
<td>7</td>
<td>100.0</td>
</tr>
</tbody>
</table>
3 Overview of accidents in the Baltic Sea

According to the reports from the Contracting States 149 ship accidents occurred in the Baltic Sea area in 2012 (Figure 7).\(^4\) The total number of accidents in the Baltic Sea has been increasing in last three years. The number of accidents increased only slightly (4%) compared to 2011.

![Number of reported accidents in the Baltic Sea](image)

**Figure 7**

The spatial distribution of the reported accidents in 2012 is presented in Figure 9. A more detailed categorization of the location of the accidents – open sea, port approach and port - was introduced for the reporting in 2012. Most accidents occurred close to shore (44% in port and 14% in port approach) as can be seen in Figure 8.

![Location of accidents in the Baltic Sea in 2012](image)

**Figure 8**

\(^4\) The columns right of the vertical dotted red line in this graph include data from the new Danish accident database (see box on page 1).
HELCOM
Shipping accidents in the Baltic Sea in 2012

Location
- Open sea (52)
- Port (65)
- Port approach (21)
- No information (11)

Total number of accidents: 149

Data by: DE, DK, EE, FI, LT, LV, PL, RU, SE

Figure 9
4 Types of accidents

Due to modification of the reporting format in 2012, the new category “contact”, as a type of accident, was included in the reporting, defined as striking any fixed or floating object other than ships or underwater objects (wrecks etc.). In previous reports “collisions” accounted for both collisions with ships and objects. In order to retain comparability both “collision” and “contact” accidents will be referred to as “collisions” in following text.

Collisions (contact 22% and collisions 10%) and groundings or strandings (hereafter referred to only as groundings) accounted for an equal share (31%) of the accidents in 2012 (Figure 10). Also other types of accidents, like fires and explosions, machinery damage and capsizing in total made up 31% of all accidents in 2012 while pollution accidents (accidental pollution events) accounted for 7%.

![Types of accidents in the Baltic Sea in 2012](image)

**Figure 10**

The share of collision and grounding accidents in 2012 was somewhat lower in 2012 than the average share of collisions and groundings in 2004-2012 (35% and 37% respectively) as shown in Figure 11. The share of other accidents was somewhat higher in 2012 compared to the average for 2004-2012 (24%). Spatial distribution of different types of reported accidents in the Baltic Sea in 2012 is presented in Figure 12.
Types of accidents in the Baltic Sea in 2004-2012

- Collision: 31%
- Grounding: 37%
- Other type: 24%
- Contact: 4%
- Pollution: 4%

Figure 11
Figure 12

HELCOM
Types of accidents in the Baltic Sea in 2012

Type of accident
- Collision (15)
- Contact (32)
- Other type (46)
- Pollution (10)
- Grounding (40)

Total number of accidents: 149

Data by: DE, DK, EE, FI, LT, LV, PL, RU, SE
4.1 Collisions

Collisions have been the most common type of shipping accidents in 2011 and 2010 while in 2006-2009 groundings were more common than collisions. In 2012 collisions accounted for 31% (47 cases) of all accidents which is the same percentage as for groundings and the collective category of other accidents. The number of collisions have stayed on the same level during the last three years (Figure 13).\(^5\)

![Collisions in the Baltic Sea](image)

**Figure 13**

Collisions with objects accounted for the major part (66%) of all collision accidents in 2012, which is significantly higher than in previous years. This number corresponds to the number of accidents categorized as contact accidents (Figure 10). Ship to ship collisions accounted for 26% of the collision accidents and collisions with vessel and object accounted for 6% of the accidents (Figure 14).

\(^5\) The columns right of the vertical dotted red line in this graph include data from the new Danish accident database (see box on page 1).
Figure 14

Types of collisions in the Baltic Sea

- No information
- With object
- With vessel
- With vessel and object

Years:
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
Spatially, collisions in 2012 occurred mostly in near shore areas and the Danish Straits (Figure 15).

Figure 15
Also the map of collisions in 2004-2012 (Figure 16) points toward approaches to ports and the Danish Straits in addition to the Gulf of Finland and the Bothnian Bay as the most risky areas for ships to collide.
The southwestern Baltic Sea, including the Danish Straits has been one of the hot spots for collisions in the Baltic. In 2012 the number of collisions in the southwestern Baltic Sea was record high with 31 collisions which accounted for 66% of all collisions in 2012 and indicating an almost doubling of the number of cases compared to previous years. In the two previous years the collisions in this area accounted for on average 36% of all collisions in the Baltic Sea. Figure 17 and Figure 18 show the number and spatial distribution of collisions in the southwestern Baltic Sea in 2004-2012.

\[\text{Collision accidents in the southwestern Baltic Sea}\]

\[\begin{array}{cccccccc}
\text{Collisions} & 10 & 11 & 21 & 11 & 16 & 15 & 16 & 19 & 31 \\
\end{array}\]

Figure 17

\[\text{The columns right of the vertical dotted red line in this graph include data from the new Danish accident database (see box on page 1).}\]
The number of collisions in the Gulf of Finland has reduced drastically since 2005 and in 2012 there were no reported collisions in the area. For the time period 2004-2012 14% of all reported collisions took place in the Gulf of Finland. Figure 19 and Figure 20 show the number and spatial distribution of collisions in the Gulf of Finland.
Figure 20

HELCOM
Collision and contact accidents in the Gulf of Finland in 2004-2012
- Collision
- Contact
Collision accidents in Gulf of Finland: 54
Total number of collision accidents: 407
Data by: DE, DK, EE, FI, LT, LV, PL, RU, SE
4.2 Groundings

In 2012, there were 46 reported groundings or strandings (hereafter referred to as groundings) in the Baltic Sea area accounting for 31% of the total number of reported accidents in 2012, which is the same share as for collisions and the collective category of other accidents. A slight increase in the number of groundings can be seen during recent years (Figure 21).\(^7\)

![Groundings in the Baltic Sea](image)

**Figure 21**

*Figure 22* illustrates the presence or absence of a pilot on board vessels in cases of grounding accidents in 2012. In most cases (58%) information on the presence of a pilot was missing and in 46% of the cases no pilot was on board at the time of a grounding. In 2012, most reported groundings (46%) occurred with vessels having a draught of less than 7 meters (*Figure 23*). Small vessels are not covered by IMO’s recommendations on the use of pilotage. Information on presence of pilot and draught size for vessels involved in groundings in 2012 was missing in many cases. Only 2% of the ships had a draught of 13-15 m and none had a draught of more than 15m.

---

\(^7\) The columns right of the vertical dotted red line in this graph include data from the new Danish accident database (see box on page 1).
The map of reported groundings in 2012 (Figure 24) especially points to the Danish Straits and approaches to ports.
The map of the reported groundings in 2004-2012 (Figure 25) indicates that the areas of primary concern are the Danish Straits, Gulf of Finland, Åland/Archipelago Sea area, ports and near shore areas.

Figure 25
The southwestern Baltic Sea, including the Danish Straits, is the main problem area for groundings in Baltic, with 59% of the groundings in 2012 occurring in the area. Figure 26 and Figure 27 show the number and spatial distribution of groundings in the southwestern Baltic Sea in 2004-2012.

Figure 26

Figure 27

The columns right of the vertical dotted red line in this graph include data from the new Danish accident database (see box on page 1).
The number of the groundings in the Gulf of Finland has during the previous years been low with only a few groundings per year. In 2012 six groundings were reported in the areas, accounting for 13% of all groundings in the Baltic Sea, which is the same percentage as the average for the years 2004-2012. Figure 28 and Figure 29 show the number and spatial distribution of groundings in the Gulf of Finland.
5 Types of vessels involved in the accidents

Cargo vessels were the most common type of ships involved in accidents in 2012 accounting for 48% of all vessels (Figure 30). Passenger vessels were involved in 24% of all reported accidents and tankers were involved in 13% of the accidents. Other unspecified types of vessels were involved in 15% of all accidents in 2012.

Figure 30
As tankers are the major issue of concern, a map on accidents involving tankers in 2004-2012 is presented in Figure 31. Of the 21 tankers involved in accidents in 2012, two were reported as single hulled and ten were double hulled. Data on hull type was not available for 43% of the accidents involving tankers.

Figure 31
6 Causes of accidents

The main cause of accidents, accounting for 43% of all accidents in 2012, was human element as in many previous years. In 2012 in as much as 36% of the accidents the cause of the accidents was reported as unknown. Technical failure accounted for 17% of the cases while 4% of the accidents were due to external causes (Figure 32).

Figure 32

As a new component of the reporting in 2012, more detailed information was collected on the dimensions of the human element. In most cases (73%) no additional information was reported. However, from the data received, mistakes in the planning process or unintentional actions (slip and lapse) accounted for 16% and 9%, respectively, while violations only accounted for 2% (Figure 33).

Figure 33
Spatial distribution of accidents with indication of the cause of the accidents in 2012 is presented in Figure 34.
Of the reported accidents in 2012, 7 took place in icy conditions (Figure 35). No information was provided on ice presence for 77% of the accidents.
7 Accidents with pollution

According to the 2004-2012 data, 7% of the reported accidents ended up with some kind of pollution, which is the same percentage as for the accidents in 2012, with 10 out of the total 149 reported accidents resulting in pollution. All incidents with pollution in 2012 were pollution incidents occurring e.g. during fuel transfer except for one which was caused due to contact with fixed or floating object (Figure 36).

![Figure 36](image)

The type of vessels involved in pollution accidents in 2012 included four tankers, three cargo vessels and three vessels of some other type (Figure 37).

![Figure 37](image)
Eight out of the ten accidents resulting in pollution in 2012 occurred due to human element. The cause of the remaining two accidents was unknown (Figure 38).

![Figure 38](image)

Special characteristics such as low salinity, small water volume, restricted connection to the ocean, seasonality and the ice cover during winter make the Baltic Sea highly vulnerable to the effects of oil spills which makes swift response very important. Intensive regional cooperation in the field of response and preparedness to spills in the Baltic Sea has been carried out within HELCOM since the 1970s (HELCOM RESPONSE Group). Due to such cooperation efforts the oil recovery rate in the Baltic Sea is generally much higher than the global average and, as proved by previous pollution accidents of regional importance, it can reach as much as 50%.

The spatial distribution of the accidents in 2012 resulting in pollution is presented in Figure 39 and some additional details of the pollution accidents are contained in Table 4.
Figure 39
(Note that three pollution accidents took place near St Petersburg, two took place near Ventspils and one in the Sound)
Table 4 Data on accidents resulting in pollution in 2012.

<table>
<thead>
<tr>
<th>Country waters</th>
<th>Date</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Ship type(s)</th>
<th>Ship size (gt)</th>
<th>Cargo</th>
<th>Type of accident</th>
<th>Cause of accident</th>
<th>Type of pollution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>1.1.2012</td>
<td>59,9000</td>
<td>30,2500</td>
<td>Cargo</td>
<td>n.i.</td>
<td>n.i.</td>
<td>Pollution</td>
<td>Human element</td>
<td>Fuel oil IFO-180 (mazut)</td>
</tr>
<tr>
<td>Latvia</td>
<td>8.1.2012</td>
<td>57,0310</td>
<td>24,1240</td>
<td>Tanker</td>
<td>3356</td>
<td>Ballast</td>
<td>Contact</td>
<td>Human element</td>
<td>Lubricant oil</td>
</tr>
<tr>
<td>Russia</td>
<td>30.3.2012</td>
<td>59,9000</td>
<td>30,2500</td>
<td>Tanker</td>
<td>6945</td>
<td>n.i.</td>
<td>Pollution</td>
<td>Human element</td>
<td>Mazut</td>
</tr>
<tr>
<td>Latvia</td>
<td>18.4.2012</td>
<td>57,4007</td>
<td>21,5456</td>
<td>Tanker</td>
<td>26218</td>
<td>Ballast</td>
<td>Pollution</td>
<td>Human element</td>
<td>Gasoil</td>
</tr>
<tr>
<td>Sweden</td>
<td>23.4.2012</td>
<td>56,0200</td>
<td>12,7000</td>
<td>Cargo</td>
<td>1525</td>
<td>Bulk (ore, coal, grain etc.)</td>
<td>Pollution</td>
<td>Human element</td>
<td>Diesel fuel</td>
</tr>
<tr>
<td>Russia</td>
<td>30.4.2012</td>
<td>59,9000</td>
<td>30,2500</td>
<td>Cargo</td>
<td>16623</td>
<td>n.i.</td>
<td>Pollution</td>
<td>Human element</td>
<td>Fuel oil IFO-180 (mazut)</td>
</tr>
<tr>
<td>Russia</td>
<td>19.7.2012</td>
<td>54,6833</td>
<td>20,5167</td>
<td>Other</td>
<td>n.i.</td>
<td>No cargo</td>
<td>Pollution</td>
<td>Human element</td>
<td>Mazut</td>
</tr>
<tr>
<td>Latvia</td>
<td>26.7.2012</td>
<td>57,4000</td>
<td>21,5448</td>
<td>Tanker</td>
<td>26634</td>
<td>Ballast</td>
<td>Pollution</td>
<td>Human element</td>
<td>Gasoil</td>
</tr>
<tr>
<td>Lithuania</td>
<td>3.11.2012</td>
<td>55,6950</td>
<td>20,9800</td>
<td>Other</td>
<td>869</td>
<td>n.i.</td>
<td>Pollution</td>
<td>Unknown</td>
<td>Dumping of 1249 mt</td>
</tr>
<tr>
<td>Lithuania</td>
<td>18.12.2012</td>
<td>56,0317</td>
<td>20,7617</td>
<td>Other</td>
<td>437</td>
<td>n.i.</td>
<td>Pollution</td>
<td>Unknown</td>
<td>Dock</td>
</tr>
</tbody>
</table>
For more information about maritime traffic and accidents, see the HELCOM website: http://www.helcom.fi/action-areas/shipping/

The complete HELCOM dataset on shipping accidents from 1989-2012 can be accessed via the HELCOM map and data service (http://www.helcom.fi/baltic-sea-trends/data-maps/helcom-map-and-data-service) for viewing, querying and/or downloading. Information on establishing a web map service connection to the dataset is also available via the HELCOM map and data service.

**HELCOM work in the maritime field**

HELCOM is a regional intergovernmental organization which was established with the *Convention on the Protection of the Marine Environment of the Baltic Sea Area* (Helsinki Convention), a regional treaty originally signed in 1974 by the coastal countries of the Baltic Sea. This cooperation, since 1992 covering all the Baltic Sea countries and the European Union, has from the start involved work on clean and safe shipping and response to pollution at sea as key elements.

The Declaration on the safety of navigation and emergency capacity in the Baltic Sea area (HELCOM Copenhagen Declaration), adopted on 10 September 2001 in Copenhagen by Ministers of Transport of the Baltic Sea region, agreed to a number of further measures on safety of navigation, later incorporated to the Helsinki Convention Annex IV “Prevention of pollution from ships”.

The HELCOM MARITIME Group works within the specific topic of cleaner and safer shipping in the Baltic Sea region since 1976 and consists of the representatives of competent maritime authorities or Ministries of the all coastal states and the European Union.

The HELCOM RESPONSE Group works on operational regional oil spill response and aerial surveillance in the Baltic Sea since 1977 and consists of governmental authorities responsible for response to pollution at sea and on the shore.

Numerous observers from the shipping industry, ports and environmental NGOs provide their valuable practical experience to the cooperation within these groups.
ANNEX 1

Guidelines for filling-in the HELCOM Reporting Format on Shipping Accidents

Selection of accidents
All accidents (including, but not limited to grounding, collision with other vessel or contact with fixed structures (offshore installations, wrecks, etc.), disabled vessel (e.g. machinery and/or structure failure), fire, explosions, etc.), which took place in territorial seas or EEZ of the Contracting Party and involved tankers over 150 GT and/or other ships over 400 GT should be reported to the HELCOM Secretariat using the agreed reporting format, irrespectively if there was pollution or not.

The reporting format is provided as an excel file and includes the following information entries:

<table>
<thead>
<tr>
<th>Country</th>
<th>Country in whose water the accident took place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Year of accident</td>
</tr>
<tr>
<td>Date (dd.mm.yyyy)</td>
<td></td>
</tr>
<tr>
<td>Time (hh:mm)</td>
<td></td>
</tr>
<tr>
<td>Latitude (DD)</td>
<td>Please provide latitude in decimal degrees, e.g. 57.123</td>
</tr>
<tr>
<td>Longitude (DD)</td>
<td>Please provide longitude in decimal degrees, e.g. 18.456</td>
</tr>
<tr>
<td>Location of accident</td>
<td>Fixed answers; please choose from: “Port”, “Port approach”, “Open sea” or “n.i.” (no information available). The category “Open sea” covers all accidents at sea i.e. not defined as “Port” or “Port approach”. Categories are used only for the purpose of statistics and are too be defined according to national practice of the reporting authority.</td>
</tr>
</tbody>
</table>

**Ship 1**

- **Ship 1 name, ID, flag**
- **Ship 1 AIS category** Fixed answers; please choose from: “Tanker”, “Cargo”, “Passenger” or “Other”.
- **Ship 1 type (detail)** Please, provide further details on type of ship, e.g. tanker (oil, chemical, gas tanker), cargo ship (general cargo, bulk carrier, etc) and other ships (icebreaker, tug boat, ro-ro, etc).
- **Hull construction (tankers only)** Fixed answers; please choose from: “Single hull”, “Double hull”, “Double bottom”, “Double sides”, “Mid deck” or “Other”.
- **Size (gt)_ship1** Fixed answers; please choose from: “< 7m”, “7-9m”, “9-11m”, “11-13m”, “13-15m”, “>15m” or “n.i.”.

**Ship 2 (if relevant)**

*Fill this in only if accident involved two ships, e.g. in case of a collision*

- **Ship 2 name, ID, flag**
- **Ship 2 AIS category** Fixed answers; please choose from: “Tanker”, “Cargo”, “Passenger” or “Other”.
- **Ship 2 type (detail)** Please, provide further details on type of e.g. tanker (oil, chemical, gas tanker), cargo ship (general cargo, bulk carrier) and other ships (icebreaker, tug boat, ro-ro etc).
- **Hull construction (tankers only)** Fixed answers; please choose from: “Single hull”, “Double hull”, “Double bottom”, “Double sides”, “Mid deck” or “Other”.
- **Size (gt)_ship2** Fixed answers; please choose from: “< 7m”, “7-9m”, “9-11m”, “11-13m”, “13-15m”, “>15m” or “n.i.”.
- **Draught (m)_ship2** Fixed answers; please choose from: “< 7m”, “7-9m”, “9-11m”, “11-13m”, “13-15m”, “>15m” or “n.i.”.
<table>
<thead>
<tr>
<th><strong>Type of cargo</strong></th>
<th>If relevant, please specify amount and type of cargo, e.g. people (passengers and crew), oil, dangerous goods, harmful substances, bunker, ballast and empty, other.</th>
</tr>
</thead>
</table>
| **Type of accident** | Fixed answers; please choose from:  
  - "Collision" (striking or being struck by another ship)  
  - "Stranding/grounding" (being aground, or hitting/touching shore or sea bottom or underwater objects (wrecks, etc.))  
  - "Contact" (striking any fixed or floating object other than those included previously)  
  - "Pollution" (e.g. during fuel transfer)  
  - "Other type" including:  
    - Fire or explosion  
    - Hull failure/ failure of watertight doors/ports etc.  
    - Machinery damage  
    - Damages to ships or equipment  
    - Capsizing/listing  
    - Missing (assumed lost)  
    - Accidents with life-saving appliances  
    - Other |
| **Type of collision (collision accidents only)** | Fixed answers; please choose from: “With vessel”, “With vessel and object” or “n.i.”. |
| **Further details about accident** | More detailed information, especially if “Other” was selected in the “Type of accident” column. |
| **Cause of accident** | Fixed answers; please choose from:  
  - "Human element" (violations or error)  
  - "Structural failure"  
  - "Technical failure" (machinery/equipment incl. design errors)  
  - "Cargo related"  
  - "External causes"(including environment, navigational infrastructure, criminal acts etc.)  
  - "Unknown" |
| **Human element subcategories** | Please provide further details if “Human element” was selected in the previous column. Fixed answers; please choose from:  
  - "Violation" (deliberate decision to act against a rule or plan)  
  - "Slip" (unintentional action where failure involves attention)  
  - "Lapse" (unintentional action where failure involves memory)  
  - "Mistake" (an intentional action where there is an error in the planning process; there is no deliberate decision to act against a rule or procedure): |
<p>| <strong>Accident in ice conditions</strong> | Fixed answers, please choose from: “Yes”, “No” or “n.i.”. |
| <strong>Crew trained in ice navigation</strong> | Fixed answers, please choose from: “Yes”, “No” or “n.i.”. |
| <strong>Further details on cause of accident</strong> | Please, provide further details on cause e.g. hard winds, heavy waves, reduced visibility, etc. |
| <strong>Pilot on board</strong> | Fixed answers, please choose from: “Yes”, “No”, “Exemption certificate” or “n.i.”. |
| <strong>Offence against rules or regulations</strong> | Please, specify e.g. use of pilot, routeing, weather restriction, deficiency of the ship, operation of the ship, COLREG, speed limits, max draft, others. |
| <strong>Damage</strong> | Please specify, e.g. lives (crew and passengers), total loss, leakage, others. |</p>
<table>
<thead>
<tr>
<th><strong>Need of assistance</strong></th>
<th>Please specify, e.g. SAR, towing, lightering, salvage, others.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pollution</strong></td>
<td>Fixed answers; please choose from: “Yes”, “No” or “n.i.”</td>
</tr>
<tr>
<td><strong>Amount of pollution (m³)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Amount of pollution (tonnes)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Type of pollution</strong></td>
<td>Please, specify e.g. crude oil, diesel fuel, other.</td>
</tr>
<tr>
<td><strong>Consequences/response action</strong></td>
<td>Please, specify e.g. consequences of pollution, response to contamination taken, amount of pollution recovered, etc.</td>
</tr>
<tr>
<td><strong>Additional info</strong></td>
<td>Any other relevant information, e.g. needed to evaluate the limitation of data, etc.</td>
</tr>
</tbody>
</table>