

Memo

Title BRISK
Fraction of piloted ships

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To ALBL

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From MRIL

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1 Scope

The scope of this memo is to estimate the fraction of piloted ships when estimating oil spill risk in Baltic Sea.

The BRISK project covers all transitional maritime areas in the Baltic Sea, divided into six sub-regions. The overall scope of the BRISK project is to:

- Provide the overall risk assessment to cover pollution caused by shipping accidents throughout the Baltic Sea.
- Identify gaps in the resources needed to effectively tackle major spills of oil and hazardous substances.
- Plan joint investments to improve response capacities and
- Speed up development of transitional agreements for joint response operations.

There are different rules and regulations for pilotage in Baltic Sea. Some of them are compulsory and some of them are recommended from the respective countries. Apart from this IMO also recommends in complying certain regulations in Baltic Sea.

Depending upon different regulations and recommendations, the area of the Baltic Sea is divided into two parts in order to carry out this study. This includes deep sea area and coastal area and the pilotage services are named as:

- 1 Deep-sea pilotage
- 2 Coastal pilotage

BRISK considers two scenarios, 2008/2009 and 2020. In the case of Route T (Denmark) and the Sound (Denmark/Sweden), where much of the pilotage activities are based on recommendations, it has been possible to establish an actual prognosis for 2020. In most other areas, ships above a certain size are obliged to use a pilot. No future changes of the current pilotage rules have been known at the time of the study. Therefore, the 2020 scenario is modelled in the

same way as the 2008/2009 scenario for all areas except Route T and the Sound.

2 Data

The information in this memo is obtained from the following sources:

- The latest available issues of the Admiralty Sailing Directions (ASD), Baltic Pilot, containing Volume 1 (15th Edition, 2009) , Volume 2 (14th Edition, 2008) and Volume 3 (11th Edition, 2010).
- National pilotage statistics provided by the BRISK project partners

3 Deep-sea pilotage

Recommendations

The services of licensed deep-sea pilot are strongly recommended by the Baltic Pilotage authorities commission which recommends that:

- a) Masters of vessels which are constrained by their draught;
- b) Masters of vessels, other than those registered in one of the Baltic States, and who frequently navigate in the area;
- c) Masters of loaded oil and chemical tankers and gas tankers irrespective of their size;

should when bound to or from ports in Baltic Sea, avail themselves of the services of deep-sea pilots certified by the competent authority of a Baltic coastal state.

Earlier mandatory pilotage schemes

According to the earlier agreements between the Navigation Authority and a combination of the Swedish Petroleum Institute and Owners Association, loaded oil tankers which are owned or chartered by the Swedish oil companies, with a draught of more than 12 m, or carrying more than 50,000 tonnes of petroleum products, has to use the services of a Swedish pilot on voyages in Baltic Sea North of Latitude 55° 25' N. Although this regulation is still mentioned in the Admiralty Sailing Directions/Baltic Sea Pilot, the Swedish Transport Agency could confirm that it is no longer in force.

Areas covered:

This includes areas 19 and 20.

4 Coastal pilotage

The coastal pilotage areas in coastal waters can be further divided into different parts. In these areas national pilotage from respective country is provided. These are given below:

- a) The Sound
- b) Great Belt
- c) Kattegat and Little Belt
- d) Fehmarn Belt and Kadetrenden
- e) Møn
- f) Bornholm
- g) Kattegat East (Swedish Coast)
- h) South-East Coast of Sweden
- i) Öland
- j) Gulf of Bothnia-Western shore
- k) Gulf of Bothnia-Eastern shore
- l) Gulf of Finland-Northern shore
- m) Gulf of Finland-Southern shore
- n) Gulf of Riga-Latvia and Estonia Coasts
- o) Saaremaa and Hiiumaa
- p) Gulf of Gdansk

These areas and their respective rules and regulations can be discussed under the heading of each country. The division of all areas in Baltic Sea is shown in Figure 1 below:

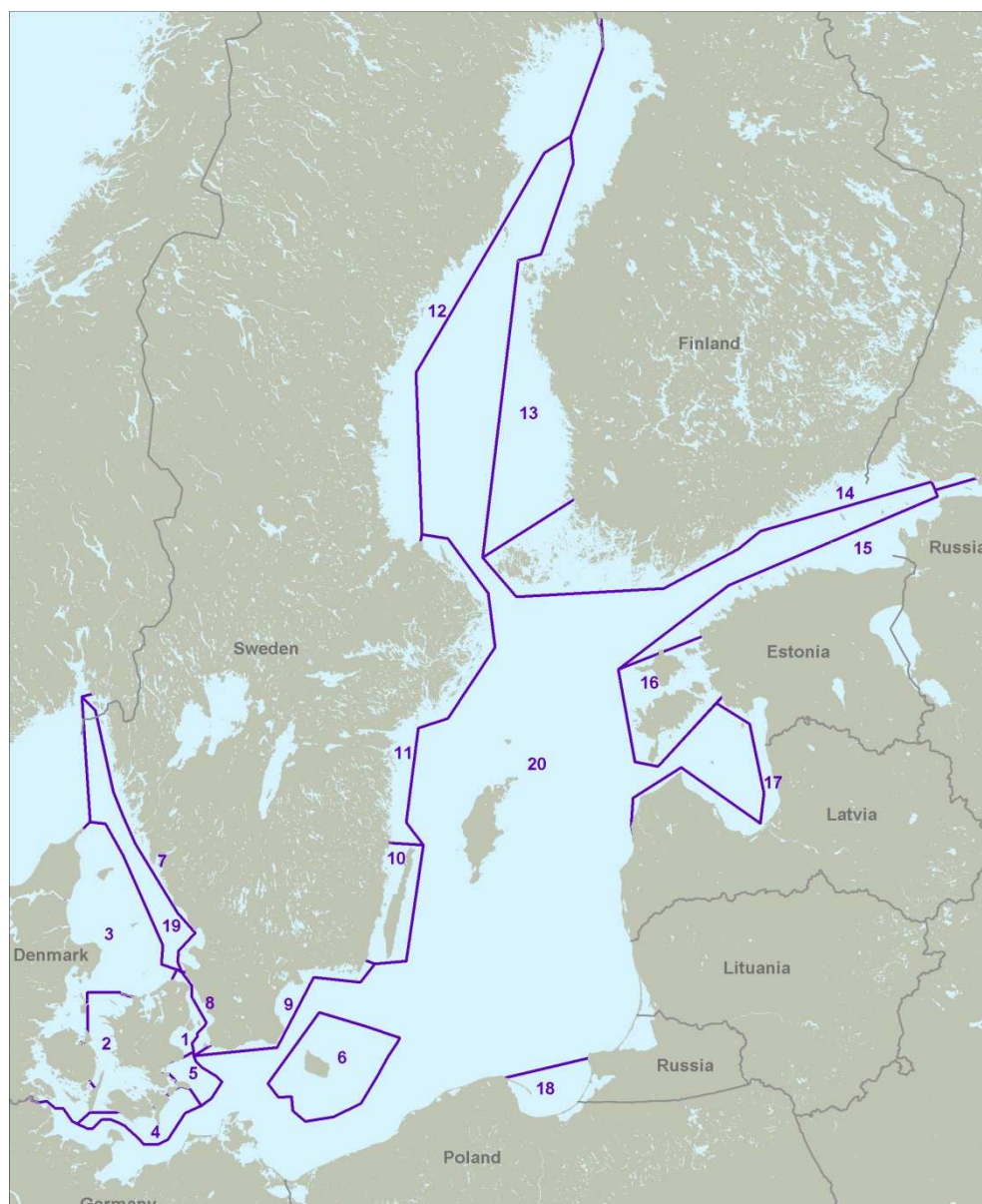


Figure 1 The pilot areas used in the model

4.1 Denmark

- 1 Pilotage is compulsory at all Danish harbours for the following vessels, unless exempted by law:
 - Loaded oil tankers of 1500 dwt or over.
 - Loaded chemical tankers carrying dangerous liquid chemicals covered by IMO chemical code.
 - Gas tankers.
 - Vessels carrying radioactive cargos.
 - Tankers with un-cleaned tanks not secured by inert gas.
- 2 Pilotage is compulsory for towed vessels for 150 gt and over, or 28 m LOA or more, navigating in dredged channels, marked navigation channels into

harbours or where the towed ship is not manned or cannot be propelled by propelled by its engines.

- 3 Pilotage is also compulsory for certain vessels within designated Danish harbours, fjords and bridges. Other Danish harbours strongly recommend the use of pilots.

Areas covered:

These pilotage regulations are applicable to The Sound, Great Belt, Kattegat and Little Belt, Fehmarn Belt and Kadetrenden, Møn and Bornholm areas.

The fraction of piloted ships in Danish waters is taken from an earlier Danish analysis /Oil spill DK, 2007/. It is concluded by looking into the ship traffic, pilotage statistics and maritime rules that the fraction of piloted ships in Danish waters in 2009 is practically the same as it was in 2006.

The model also makes a prediction of the fraction of piloted ships to be expected in 2020. This prediction, too, is based on /Oil spill DK, 2007/.

4.2 Sweden

Pilotage is compulsory in Swedish coastal waters and on certain routes connecting ports along the coast.

Vessels subject to compulsory pilotage vary in size and type according to location. For this purpose vessels are divided into following categories.

Category 1:

Vessels carrying or with un-cleaned tanks, which last carried liquefied gases or chemicals defined in MARPOL 73/78 as category A, B or (if the vessels is not fitted with double bottom beneath all cargo tanks) C and D.

Category 2:

All other chemical tankers fitted with double bottom beneath all cargo tanks, which are laden or have un-cleaned tanks and all laden oil tankers.

Category 3:

All other vessels (>70-90 m)

Areas covered:

The areas which are covered by these regulations include Kattegat East (Swedish Coast), South-East Coast of Sweden and Gulf of Bothnia-Western shore which includes area 7, 9, 11 and 12 pilotage areas.

4.3 IMO recommendations

IMO recommends that all tankers carrying oil cargos with draught of 7 meters or more, all chemical and gas tankers irrespective of size and ships carrying

radioactive materials, shall apply for pilotage services established by the Government of Denmark and Sweden, when passing the sound within the area of Svinbådan Lighthouse - Hornbæk Harbour in the north and Skanör-Aflandshage (south point of Amager) in the south.

Areas covered:

The area Sound (8) is covered by this regulation.

5 Germany

Pilotage is compulsory for all following vessels in the German harbours.

- a) Tankers carrying gas, chemicals petroleum or petroleum products.
- b) Unloaded tankers if not cleaned, gas-freed or completely inerted, after having petroleum or petroleum products with a flash point below 35 degree centigrade.
- c) Stralsund North approach- other vessels over 60 m LOA, 10 m beam or 3.3 m draught.
- d) Stralsund East approach- other vessels over 85 m LOA, 13 m beam or 5 m draught.

These regulations also apply to Sassnitz/Mukran and Wolgast, for which pilotage is provided by Stralsund.

Areas covered:

Oil spill in the harbour areas are out of the scope of BRISK project.

6 Poland

Pilotage is compulsory in all Polish ports for the following vessels, unless a specific exemption has been granted.

- a) All vessels with a length of 40 m or over.
- b) All vessels carrying dangerous cargos regardless of size.
- c) Any vessels which is damaged and any vessel, which through exceptional circumstances, may create a danger to navigation or threat to environment.

Area covered:

This includes some portion of Gulf of Gdansk (pilotage area 18).

7 Russia

7.1 General information

Pilotage is compulsory for all foreign vessels entering, leaving or shifting within ports in Russia which are open to foreign trade. Special regulations are in force with regard to naval vessels. Deep-Sea Pilots can be requested from Sankt Petersburg.

7.2 Regulations

- a) Pilotage will be carried out exclusively by Government Marine Pilots.
- b) The Port Captain has the right to prohibit the movement of ships when safe pilotage is hampered by weather conditions.
- c) Pilots are obliged to observe all laws and regulations and are not allow soundings to be taken in fairway unless required by the pilot.
- d) Pilots must indicate the Master of the ship all observed breaches of regulations and demand their observance.
- e) When embarking or disembarking a pilot, the ship owner is liable to pay compensation.
- f) In the event of bad weather the pilot boat, with the agreement of the Master of the ship, may lead the ship. During this operation constant communication must be maintained with the pilot boat.
- g) The pilot will provide a copy of the port regulations.
- h) The presence of a pilot on a ship does not remove the Master his responsibilities for the safe conduct of the ship. The pilot will act only in an advisory capacity.
- i) If the Master refuses the Master's advice, the pilot has the right to refuse pilotage, in which event the pilot will demand that this is recorded in the ship's log and the pilotage account.
- j) The pilot does not have the right to leave the ship without the agreement of the Master before it is in a safe anchorage, or mooring or turned over to another pilot.

Area covered:

These regulations cover some portion of Gulf of Gdansk (pilotage area 18) and small portion of Gulf of Finland in Baltic Sea.

8 Lithuania

Pilotage is compulsory for all vessels entering, leaving or shifting within ports in Latvia.

9 Latvia

Pilotage is compulsory for all vessels entering, leaving or shifting within ports in Latvia.

Area covered:

This includes shore area within Gulf of Riga (pilotage area 17).

10 Estonia

Pilotage is compulsory for all foreign vessels within inner territorial waters of Estonia. Such vessels may only proceed in established shipping routes or channel. However within Gulf of Riga, the use of established shipping routes or channel is permissible without the services of a pilot. Pleasure craft with a length under 24 m are exempt from these regulations.

Pilotage is compulsory for all vessels over 50 m in length entering or leaving Riga.

Area covered:

This includes shore areas within Gulf of Riga (some portion of pilotage area 17) and western approaches including Saaremaa and Hiiumaa (pilotage area 16).

11 Finland

Pilotage is generally compulsory within Finnish inner territorial waters for vessels with;

- length exceeding 60 m,
- breadth exceeding 10 m or
- with a greatest salt water summer draught of more than 4.5 m,
- for vessels carrying hazardous or polluting substances in bulk,
- for government vessels not used for commercial operations.

- All tankers over 15,000 dwt when loaded must carry two pilots.

The pilot boarding positions for Finland are shown in Figure 2.

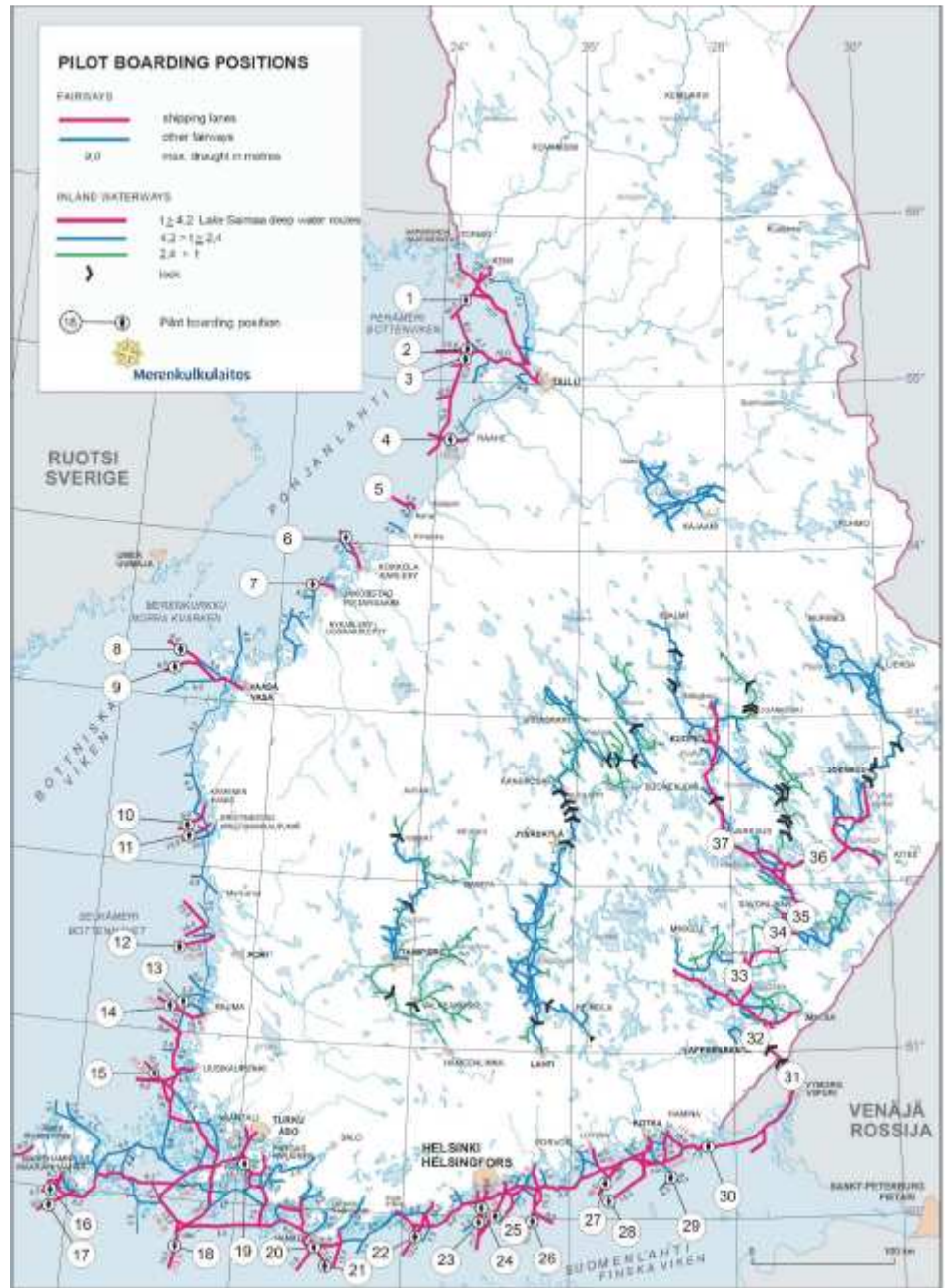


Figure 2 Pilot boarding positions in Finland

12 Gulf of Finland

Pilotage is compulsory for all merchant vessels in Northern and Southern shore of Gulf of Finland (pilotage area 14 and 15).

13 Gulf of Bothnia Eastern shore

Pilotage is compulsory for all merchant vessels in Eastern shore of Gulf of Bothnia. This includes pilotage area 12.

14 Öland

- Pilotage is compulsory for all merchant vessels with a draught of more than 4.5 m in this area.
- Pilotage is recommended for all merchant vessels with a draught of more than 2.5 m.

This includes pilotage area 10.

15 References

/Oil spill DK, 2007/ *Risikoanalyse: Olie- og kemikaliefurening i danske farvande (Risk analysis: Oil and chemicals pollution in Danish waters)*, prepared for Danish Ministry of Defence by COWI, COWI report 63743-1-01, October 2007