



Increasing Maritime Transport, Impacts on Maritime Safety

Int. Seminar on Baltic Maritime
Safety Co-operation

St. Petersburg, Russia, 5.-6.June. 2007

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Business from technology

Contents

- Maritime Safety
- Trends and Drivers
- Accidents
- Copenhagen Declaration
- RCO's
- Safety Situation
- Recommendations

Maritime Safety Issues

- External Safety (fairways, ports, other ships),
- Internal Safety (hull, stability, fire protection),
- Human Impact,
- Risks to the Environment

Development Trends

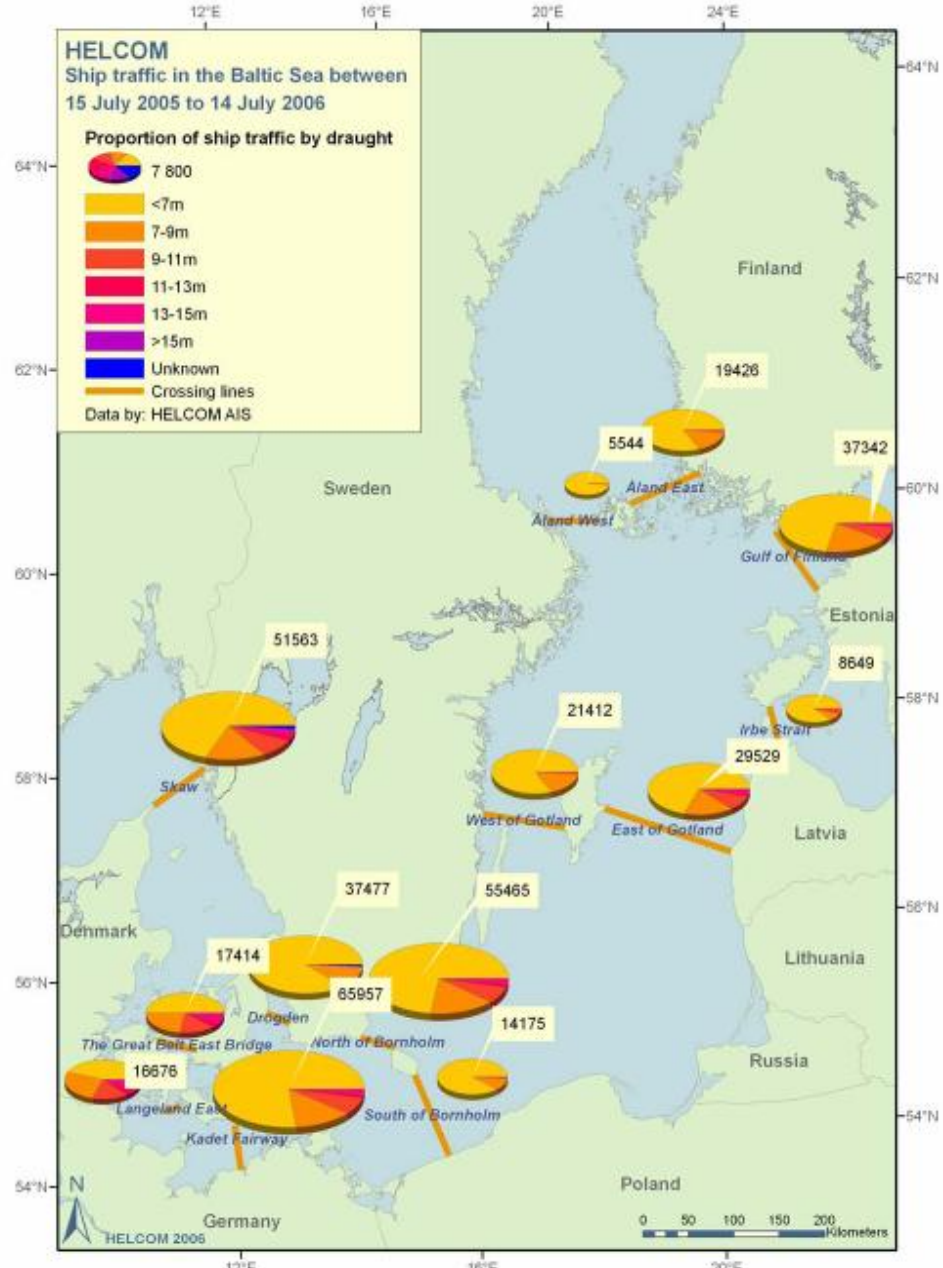
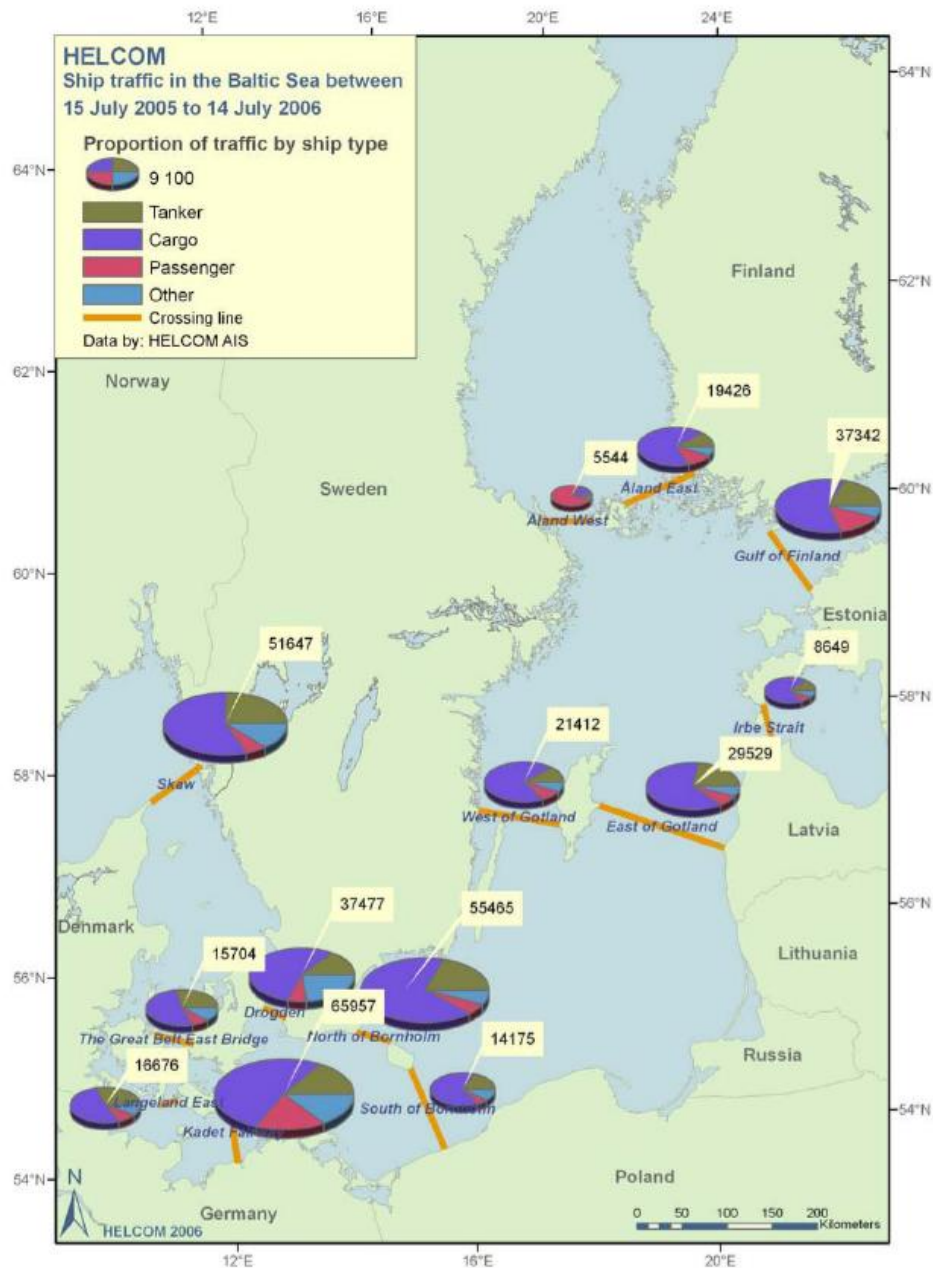
Maritime Traffic is increasing in the Baltic Sea,

Oil Transportations will grow significantly especially in the Gulf of Finland area,

New Risk Control Options are scheduled in the near future,

Recent statistics shows increased risks for collisions and groundings in the Baltic Sea (Helcom statistics)

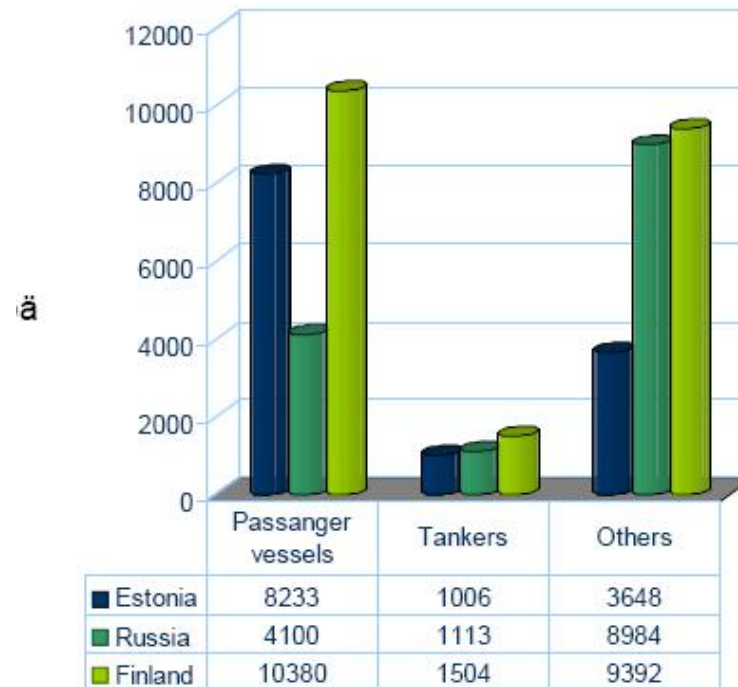
Winter Navigation may encounter problems in severe winters.



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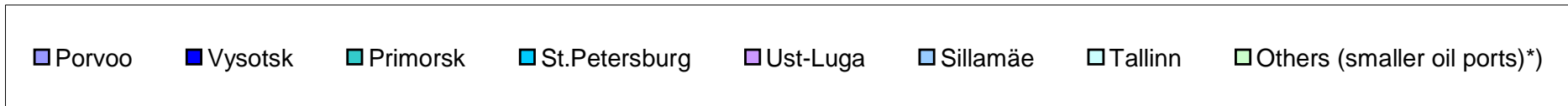
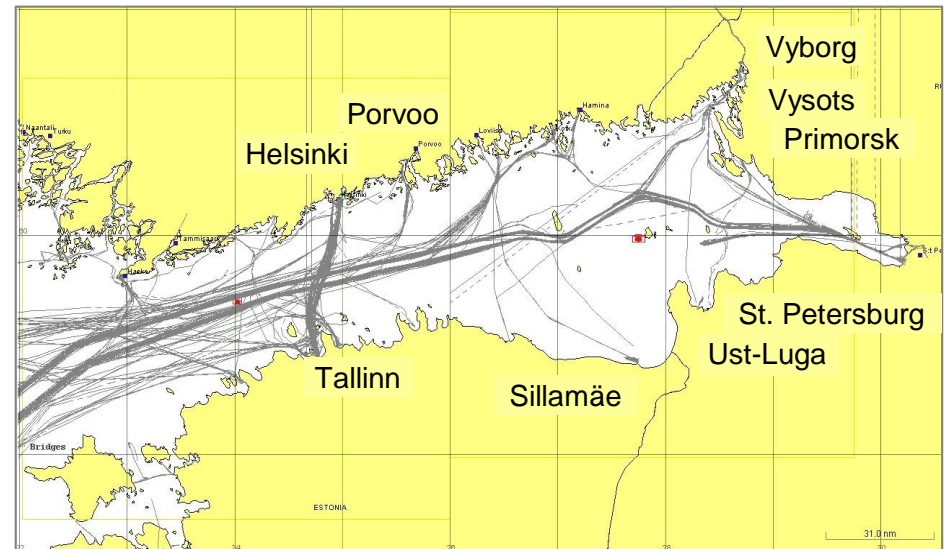
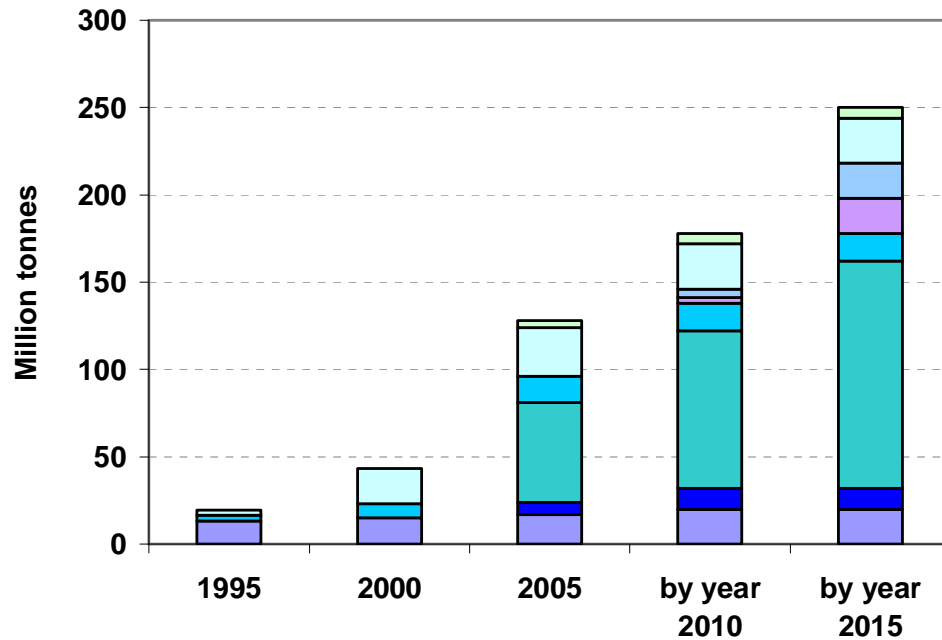
Gulf of Finland in 2004

- 98 416 ship passages (main ports)
- Passenger ships 45 426
- Tankers 7 246
- Others 44 048



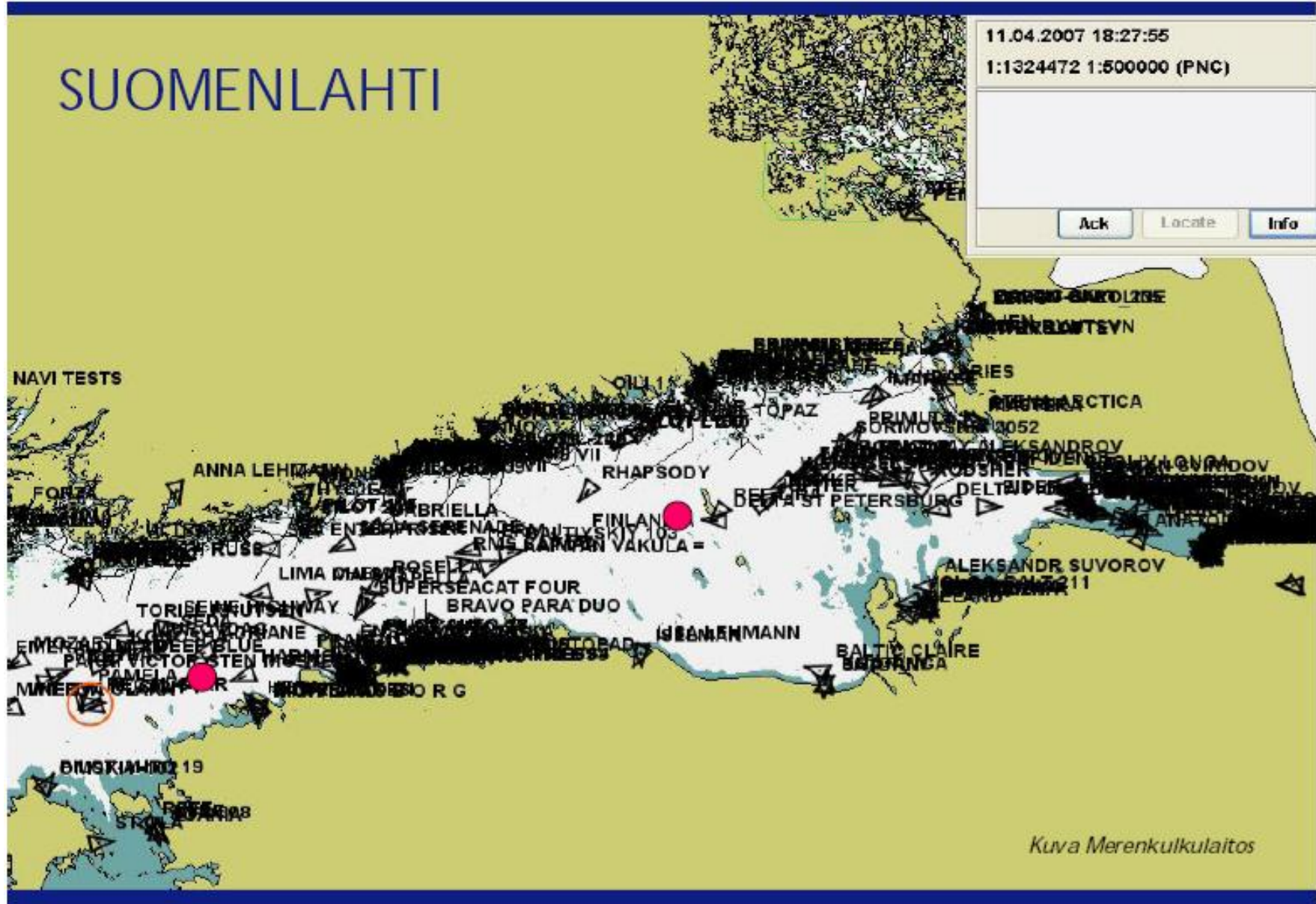
OIL TRANSPORTATION IN THE GULF OF FINLAND THROUGH MAIN OIL PORTS

Oil transportation in years 1995-2005 and estimated development by year 2015



Sources: www.transneft.ru, www.seanews.ru, www.rzd-partner.com
 Main oil ports of the Gulf of Finland, HELCOM AIS Database, www.smhi.se/Seatrack

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Chemical Transport in the Baltic



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Transportation Statistics - Chemical Bulk

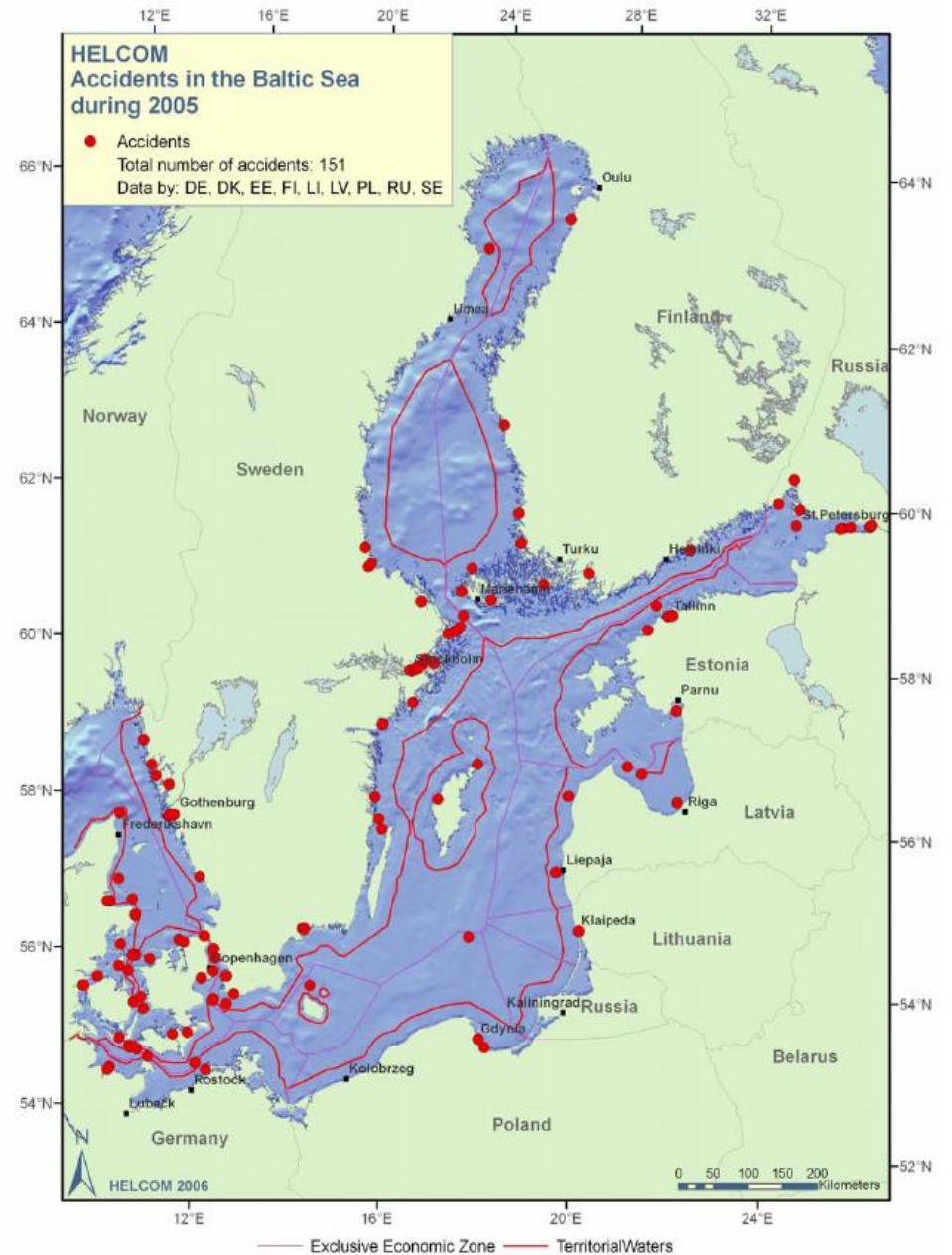
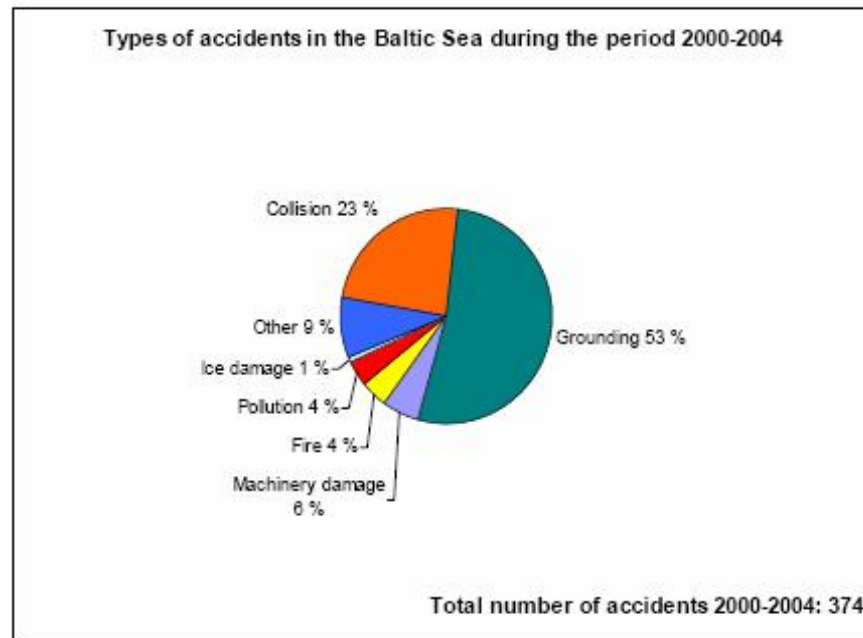
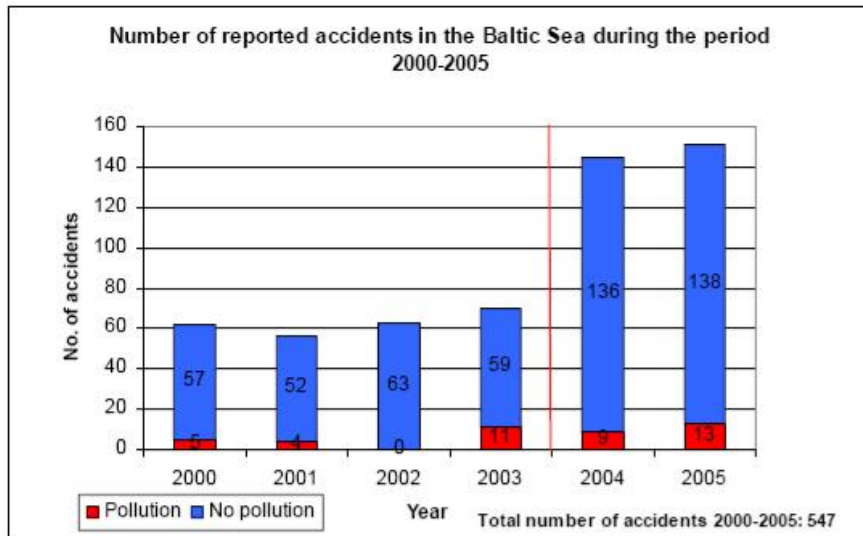


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- Inquiry to 55 ports
- Statistics
- Reports and webb pages
- Totally 46 ports data
- Liquid Bulk
- Based on the data received, liquid bulk chemical transport in the Baltic Sea was around 9.1 million tons in 2004 compared to the 5,8 million tons in 1987.
- Sources and data are published by VTT (VTT Publications 595).



Courtesy: ROSMORPORT -Kaliningrad



Source: www.helcom.fi

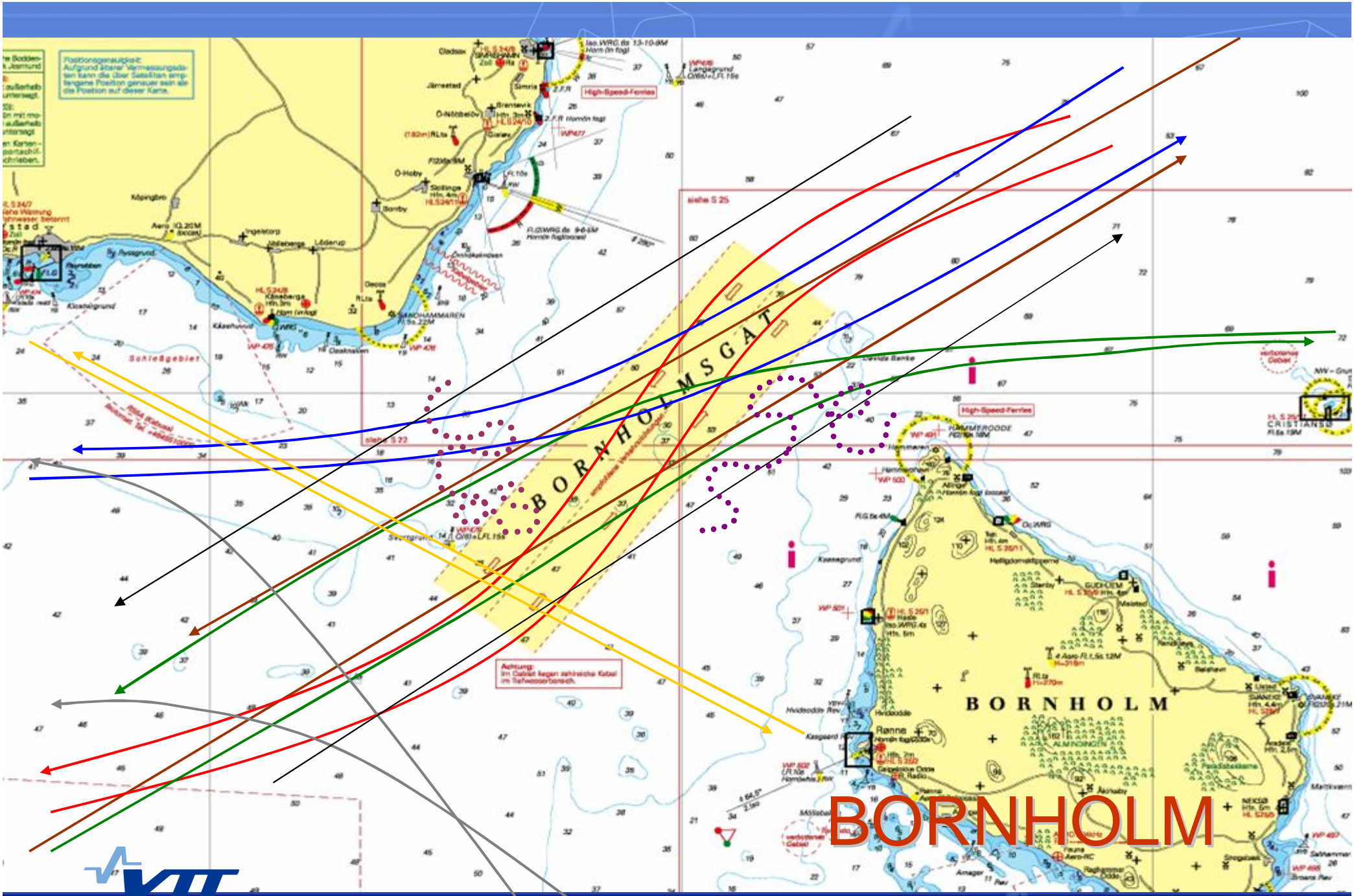
St. Petersburg, June 6-8

MT Baltic Carrier Accident in 2001 and HELCOM's Extraordinary Ministerial Meeting

- ICE EWG
- PILOT EWG
- AIS EWG
- ROUTEING EWG
- SURVEYING EWG

Pilot Expert Working Group / High Risk Areas

- 1 Gulf of Finland
- 2. The Northern Quark
- 3. The Southern Quark
- 4. The Strait of Irbe (Latvia's contribution)
- 5. The area between Bornholm and Sweden
- 6. The area between the Sound, the Katetrende
- 7. The Baltic Sea from a line N-S at 11o57,5' E to a line N-S at 12o 44'E
- 8. The Baltic Sea W of a line N-S at 11o 57,5'E
- 9. The Sound, the Belts and Kattegat S
- 10. Kattegat N of a line between Sjaellands Rev and Fornaes.



BORNHOLM

Fu Shan Hai, 2003

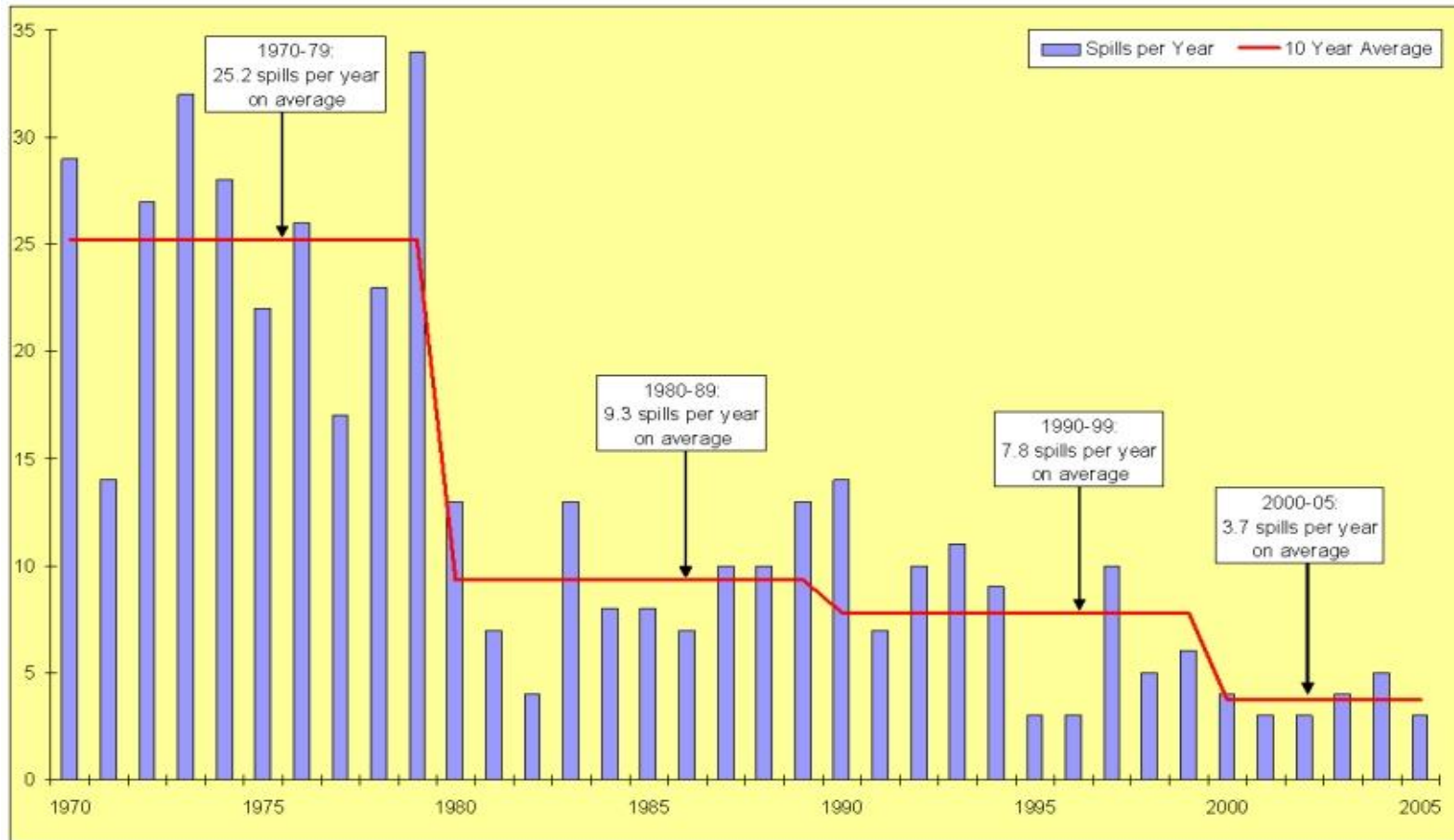


Prioritised list of hazards related to winter navigation in GOF

- 1 Heavily increasing tanker traffic
- 2 Increasing traffic volumes between Helsinki and Tallinn
- 3 Single bottom tankers
- 4 Rescue operations in heavy ice conditions
- 5 Vessels unable to give way according to regulations because of heavy ice conditions
- 6 Oil combating measures in ice conditions
- 7 Crews which are unfamiliar with ice conditions or inexperienced in winter navigation
- 8 Lack of escort towing
- 9 Getting stuck in compressive ice
- 10 Occasional disruptions in icebreaker activities
- 11 Problems in radio communication
- 12 Navigation errors, which happen when trying to avoid difficult ice conditions
- 13 Lack of routing system in ice conditions
- 14 Cold weather, rapidly changing ice conditions
- 15 Icing

Risk Control Options will Reduce the Risks of Accidents

Figure: Number of Oil Spills over 700 tonnes, ITOPF



Risk Control Options

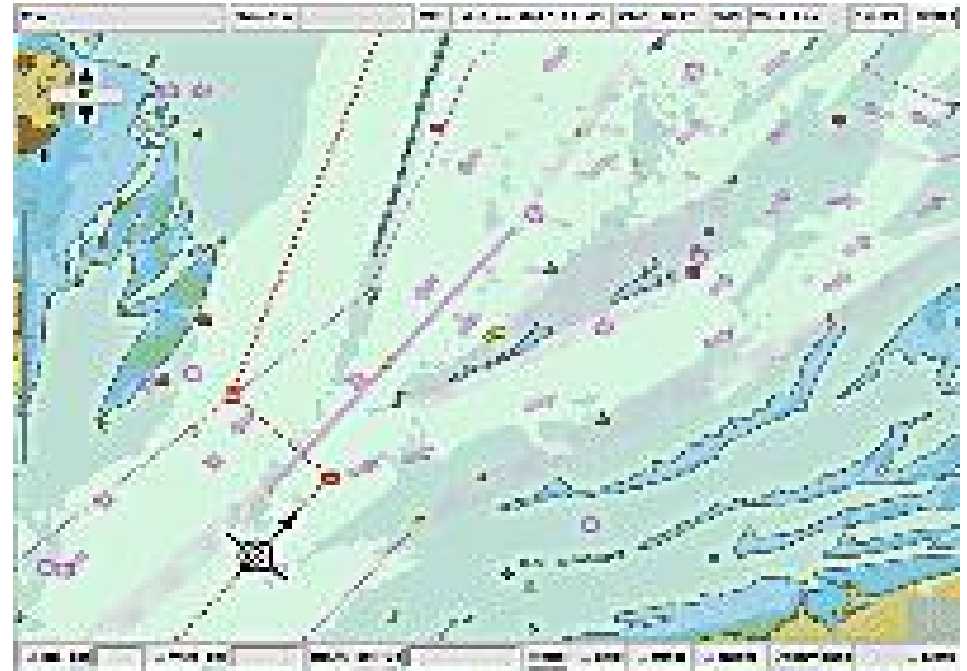
AIS

Automatic Identification System (AIS) is a system that makes it possible to monitor ships from other ships, and from shore based stations. AIS equipped ships continuously transmit a short message containing information of position, course over ground (COG), speed over ground (SOG), gyro course (heading), etc. Ships equipped with AIS meeting anywhere on earth will be able to identify and track each other without being dependent of shore stations.

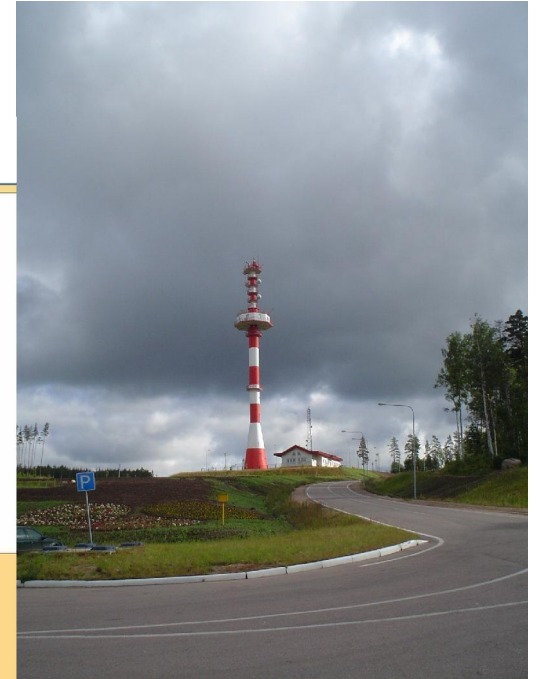
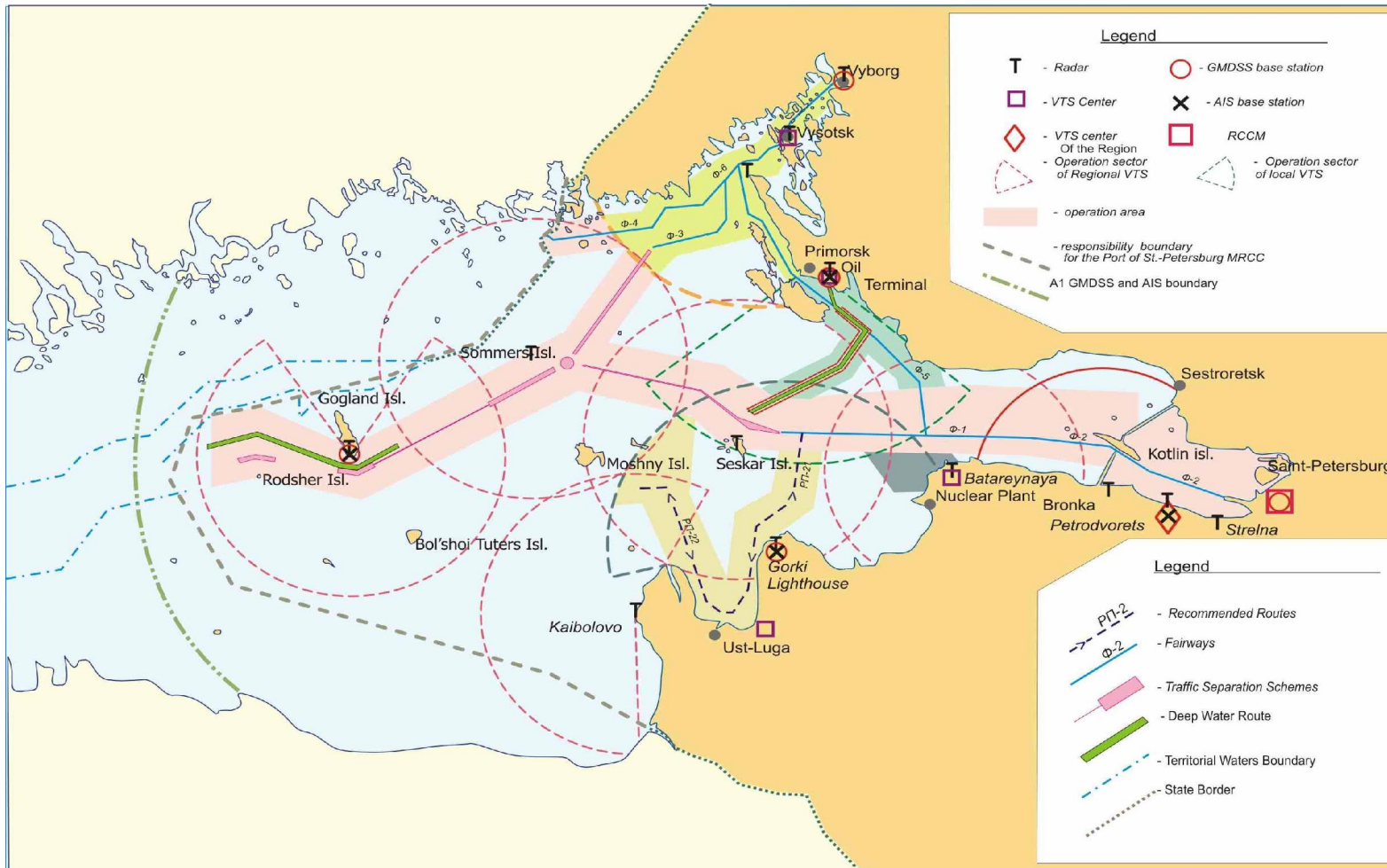
Risk Control Options - ECDIS

Electronic Chart Display and Information System

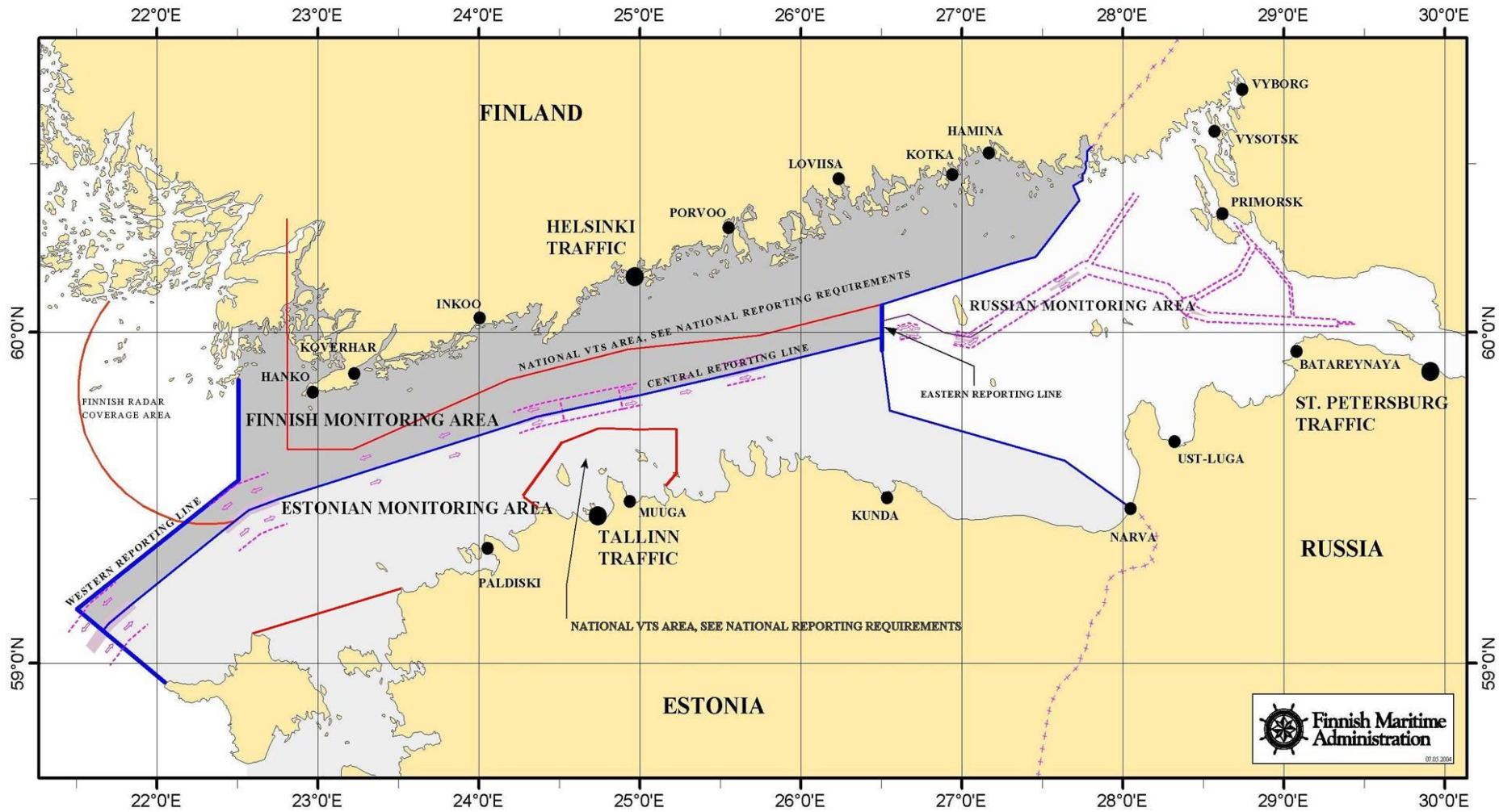
An ECDIS is not only an adequate replacement for the paper nautical chart but also a system containing all information important for navigation that can be called up at any time and without delay. Today, this information is still scattered about in various publications, and manual search procedures are laborious and time consuming. ECDIS also offers the possibility of automatic antigrounding alarm, which is not possible with any other navigation aid.



Risk Control Options - VTS



GOFREP system, since 1 July 2004



RCO's - Conclusions

Risk estimations based on statistical analyses may give false results, if the statistics is not reliable enough (too narrow, not harmonized), however Global FSA is required

Numerical simulations may include restrictions and simplifications

AIS gives real-time accurate information for the Risk Analyses

The use of RCO's in the future will reduce the risk levels significantly

Winter navigation - GOF

More attention should be paid to human-machine interaction.

Focus to the preventory measures, but do not forget to be prepared

Serious incident on the Sea of Åland / SSG-ÅBO.

This morning, a blackout during a crossing situation on the Sea of Åland led to an incident that could have resulted in a disaster. The ro-ro/passenger ferry Silja Serenade was heading west for Stockholm while the Swedish ro-ro vessel Baltic Bright was northbound for Hallstavik. First reports from the Finnish Maritime Administration says that Baltic Bright would have passed ahead of Silja Serenade with a good margin, but had a blackout and the vessel started to change course to starboard towards the ferry. The officer on watch on the Silja Serenade reacted fast enough to initiate the manoeuvres needed to avoid a collision. Reports on how close the vessels were, varies from 60 metres to a couple of hundred metres. Information indicates that that the first radio contact between the vessels was after the incident. (09.03.07)



Thank You

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