Oil Spill Response in Finland

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Baltic Sea
Baltic Sea and the Gulf of Finland

**Baltic Sea**
- brackish water area 400 000 km²
- significant fresh water input
- nearly non-tidal
- heavily polluted
- takes 25 to 30 years to change the water

**Gulf of Finland**
- 400 km long, 48-135 km wide
- mean depth 37 m, max. 123 m
Oil transport in the Gulf of Finland

OIL TRANSPORTATION IN THE GULF OF FINLAND THROUGH MAIN OIL TERMINALS

Oil transportation in 1995, 2000 and 2005 and two different scenarios for the year 2015 (min and max)

Estimation to the year 2015: Total amount of oil transportation between 200 Mtn - 250 Mtn. The amount is depending on the investment rate.

- Vyborg District (Primorsk and Vyotsk)
- St. Petersburgs District (The Big Port of St. Petersburg, Lomonosov, Bronka and Kronstadt)
- Ust-Luga District (Ust-Luga, Viesbno, Gorki and Batareynaja)
- Estonia (Tallinn (Old City Harbour, Paljassaare, Paldiski and Muuga), Miiduranna, Vene-Balti and Sillamäe)
- Finland (Porvoo, Inkoo, Helsinki, Kotka and Hamina)

SYKE/YVY/0MH 2016/2008
Oil recovery in ice (winter 2002)
Prestige-accident of the Spanish coast December 2002
Ship accidents in the Baltic Sea (HELCOM)

Number of ship accidents in the Baltic Sea during the period 2000-2005

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of accidents</th>
<th>Pollution</th>
<th>No pollution</th>
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<tr>
<td>2000</td>
<td>57</td>
<td>5</td>
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<tr>
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<td>4</td>
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<tr>
<td>2005</td>
<td>138</td>
<td>13</td>
<td>125</td>
</tr>
</tbody>
</table>

Total number of accidents 2000-2005: 523
Accidents in the Baltic Sea (HELCOM)
Example of oil spreading in the Gulf of Finland on a typical autumn day
Operational principles

- Finnish Environment Institute is the competent oil pollution response authority in Finland.
- All 14 ship-size oil recovery vessels have in-build recovery systems with sweeping arms.
- SYKE has made agreements with assisting governmental authorities.
- In normal situation the vessels are under command – and in tasks – of the administration that owns them.
- In pollution incident situations the SYKE duty officer orders the vessels to operate under the Response Commander.
Key elements in the Finnish oil spill response

- Multipurpose combatting vessels
- Prefer mechanical recovery
- Avoid chemical treatment and other non mechanical means
- Response on the source
- International cooperation
- Airborne surveillance
- Focus on high viscosity oils and cold conditions
- Reliable oil drift models
- 13 oil spill equipment depots along Finnish coastline
Navy vessels Halli and Hylje

- The largest oil recovery vessels in Finland
- Either Halli or Hylje is always on 4 hour pollution response preparedness
- Navy use; diver’s base vessel and fuel / water delivery vessels
- Based in Helsinki / Upinniemi (Hylje) and Turku (Halli)
Finnish Frontier Guard open sea Patrol Vessels

- Open sea, ice going patrol vessels Merikarhu, Tursas and Uisko.
- Smaller patrol vessels, only possible to be used in light ice conditions, Tavi, Telkkä and Tiira.
- All 6 vessels are multipurpose vessels equipped with different oil spill response equipments financed by the environmental administration.
Shipping Enterprise of the State “Finstaship”

- Finstaship is governmental company that earlier was part of Finnish Maritime Administration.
- Operates e.g. icebreakers and fairway service vessels.
- All nine Finstaship fairway service vessels are equipped with oil recovery equipment.
Oil recovery boats of the local municipalities

- Municipalities have over 70 oil spill response boats.
  - length of 11-20 metres.
  - 17 have oil recovery system fitted permanently inside the vessel.

- Used for shore protection

- Municipalities have right to get financing for purchasing equipment and for oil spill response costs from National Oil Pollution Compensation Fund.
International cooperation

- Baltic Marine Environment Protection Commission, Helsinki Commission, HELCOM (www.helcom.fi)
  - Nordic cooperation
  - Bilateral agreements

Pictures from BALEX DELTA exercise Gdynia, Poland September 6, 2006
Response capacity in the Baltic Sea States, MARIS data (www.helcom.fi/gis)
HELCOM recommendations

- Application of no special fee system to ship-generated wastes in the Baltic Sea area, 26/1.
- Safety of winter navigation, 25/7.
- Assessment of the need for escort towing in tanker transport routes to prevent accidents in the Baltic Sea area, 25/5.
- Ensuring adequate emergency capacity, 24/9.
- Further development and use of Drift Forecasting for Oils and other Harmful Substances in the Baltic, 24/7.
HELCOM recommendations, cont.

- Restricted use of Chemical agents and other Non-chemical means in Oil Combatting Operations on the Baltic Sea Area 22/2.
- Development of national ability to respond to spillages of oil and other harmful substances 20/5.
- Co-operation and assistance to Estonia, Latvia, Lithuania and Russia in the field of Combatting Marine Pollution Incidents 23/2.
- Recommendation Concerning Establishing of a Pollution Reporting System for Pollution Incidents 6/14.
Illegal oil discharges 2005, HELCOM
Reasons for illegal discharges

- Inadequate or expensive reception facilities.
- Saving time and/or money.
- Human errors and technical problems.
Aerial surveillance equipment used in Finland

- Surveillance radar 360°
- SLAR
- FLIR/LLTV
- IR/UV scanner

Equipment can be used also in darkness and in poor visibility
Problems in the oil combatting capacity in the Baltic Sea area and especially in Finnish waters

- Inadequate techniques and capacity for operations in ice conditions.
- Lack of vessels which can operate in high sea conditions.
- Lack of "ordinary" response vessels especially in Russia and Estonia.
- Pumping of high viscous oils.
- Regular aerial surveillance is not in operational use in all Baltic Sea countries.
- Lack of efficient shoreline cleaning equipments and technique.
List of decisions and plans of the Finnish government

Maritime safety affairs:
- VTMIS (Vessel Traffic Management and Information Services) for the Gulf of Finland.
- AIS (Automatic Identification System).
- To speed up the abandonment of single hull tankers.
- The denial to use single hull tankers for heavy oils.
- Uniform ice rules for the Gulf of Finland.
List of decisions and plans of the Finnish government, cont.

Oil spill response affairs:
- Multipurpose icebreaker/oilspill response vessel.
- Feasibility study of an oilspill response coordination centre in the Gulf of Finland.
- Enhance the oilspill response capacity in neighbouring countries.
Escort tugs owned by Neste Oil Company (first ice going escort tugs in the world)
The traffic separation lanes in the Gulf of Finland
So there is still much to do to avoid this! (Prestige accident)