How Could You Improve the Maritime Safety ?

Maritime Traffic is Increasing

The number of vessels transiting the Gulf of Finland has increased significantly during the last years and will further increase in the future. With the heavy passenger traffic between Helsinki and Tallinn, and the rapid development of Russian oil harbours, the traffic image has also diversified. Based on traffic development scenarios for the Gulf of Finland, the total transportation rate of 2001 will be two-fold by 2010. The oil transportation, however, is growing even more rapidly: the volume of oil transported in the gulf was 50 million tonnes in 2001, 77 million tonnes in 2003, and is expected to increase to 150 million tonnes by 2010.

Figure 1. The novel Oil recovery device in the VTT's full-scale trial. This new system has currently mounted onboard oil combating vessel Seili.

The main safety concern related to the increasing ship traffic in the Gulf of Finland is the increase of the risk of collisions between different types of vessels, and environmental damage due to subsequent oil spills. In particular, the passenger vessel and recreational boat traffic, intersecting the tanker routes in the area between Helsinki and Tallinn, is seen to cause a potential threat to the safety of navigation and to the marine environment. Experiences on the winter traffic have also pointed out a lot of questions to be answered, such as oil combating during the winter time, ship strength, ice rules, ice breaker assistance etc.

A Risk Control Measure: Gulf of Finland Mandatory Ship Reporting System (GOFREP)

The significant increase of vessel traffic in the Gulf of Finland has raised concern among the Maritime Administrations of Finland, Russia and Estonia with respect to traffic safety. As a risk control option, these three countries are introducing a Mandatory Ship Reporting System in the Gulf of Finland (GOFREP) on 1.7.2004. Already in 2003 these countries implemented the amended Traffic Separation Scheme (TSS) for the gulf. The results of a Formal Safety Assessment (FSA) study carried out by VTT and the Helsinki University of Technology indicate that the new systems significantly enhance the maritime safety.

What is needed to define the best approaches to minimize risks?

The GOFREP system is only one maritime risk control option. Other options, already requested by the leading scientists and marine experts are:

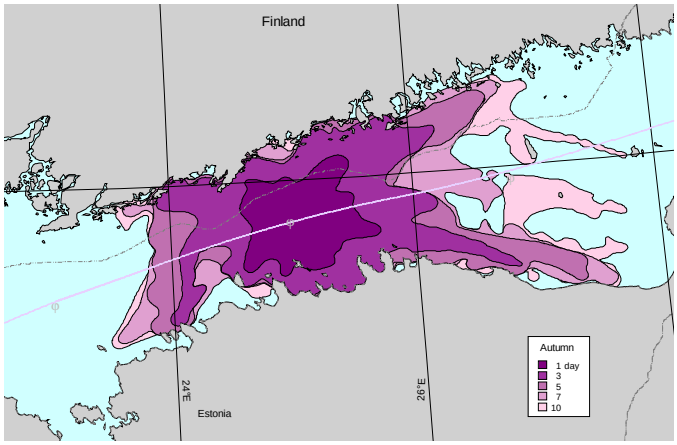

Figure 2. Example of oil spill drift calculations, risk zones for autumn season between Tallinn and Helsinki . Note The oil will reach the shoreline in 1- 2 days(Prepared by Prof. Ovsienko).

- the need of Escort towing in the Baltic Sea area, recommended by HELCOM,
- new routeing measures for the Baltic Sea, preliminary work underway, also recommended by HELCOM,
- new operational procedures for the winter traffic and the use of icebreakers,
- the use of modern telematics to improve the safety. IMO's requests for the adaptation of AIS technology, introduction of local VTS-services etc. belong to this category of services required.

Finally

When considering the available risk handling options to be used in the Baltic Sea environment, a general conclusion can be made: There are a lot of possibilities to improve the safety. Risk based approaches can be utilised to find the optimum measures. Here the joint efforts supported by the European Commission, Baltic countries and the maritime stakeholders would give a reliable and scientifically proven answers to us.

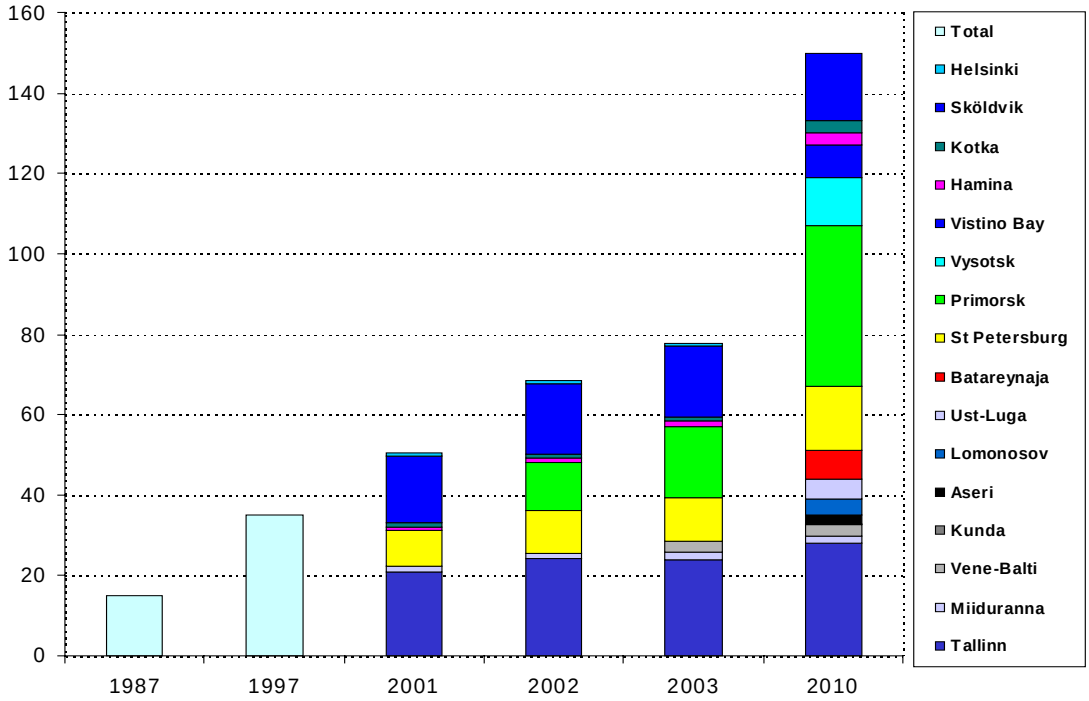

Figure 3. Oil transportation in the Gulf of Finland in 1987-2003 and estimated development by 2010 in mil tonnes (VTT).

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