

Sea-Borne traffic in 2000 up to 2015 in the Gulf of Finland

A brief statistical analyses in connection of the VTMIS development for the Gulf of Finland, free for publication 21.03.2002, 2.00pm.

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Introduction

There have been a lot of different harbour and terminal proposals for the Gulf of Finland area. Simultaneously, the Baltic countries have rapidly rehabilitated their old harbours and built up new capacity mainly for transit traffic. At this point in time, there are a lot of development activities under way in the Russian and Baltic ports.

The most well known rehabilitation projects have been in St. Petersburg Harbour, and Muuga Harbour in Tallinn. The oil transit traffic for the Port of Muuga was approximately 19 million tons in 2000, and after the railway connections from Russia to the port are rehabilitated, that may increase. Totally new harbour construction sites have been at Primorsk, Lomonosov, Batareynaja and Ust-Luga on the Russian side of the Gulf of Finland. It has been estimated that maritime traffic will increase two-fold in 2010–2015. Transportation of hydrocarbon products may even be three-fold compared to the existing figures.

The first phase of the Primorsk oil terminal was completed by the end of 2001. The first oil tanker departed from Primorsk on December 28th, 2001. The government of the Russian Federation, however, has already given a new order to start up the second phase of the Primorsk oil terminal, which will raise the proposed first stage annual oil flow by 6 million tons up to an annual level of 18 million tons. The final target in the annual transport flow is 36 million tons.

The Baltic States (Estonia, Latvia and Lithuania) have strong, growing structures for shipping and port activities. During Soviet rule, their ports were handling a significant amount of Soviet exports. After gaining their independence, the Baltic Countries have retained, and even strengthened their role as transit regions for Russia exports and imports. The development of the Port of Tallinn, and especially of the Muuga oil terminal has been rapid and intense.

The new capacity of the Gulf of Finland may cause the transit traffic of the Baltic States to decrease in the long term. The crude and raw materials market price, however, will, together with the need of western currency and political decisions inside and outside the EU, influence development. Here, the assumption is made that the new Russian capacity will not totally cut the traffic numbers for the Baltic States, decreasing development instead. The positive economic development of Russia and the Baltic States will influence maritime transport and speed up growth, which will then compensate for part of the existing transit. Russia will take care of a larger

part of the shipping of its raw materials, but simultaneously new materials will be imported to Russia, which will keep the transit figure in balance, and even let it grow.

The disintegration of the Soviet Union changed the picture of the maritime traffic in the Baltic Sea area essentially. Russia lost some important ports after the independence of Latvia, Lithuania and Estonia. The growth of the maritime and port operations has been rapid in Estonia. Especially the Muuga terminal is now a major oil transit sit for Russian oil export in the Gulf of Finland.

Russia lost a great deal of its Baltic ports and there has been several proposals to improve existing ports and terminals and to build totally new ports. New port and terminal proposals have been familiar for the maritime world already several years but due to the lack of finance and legislative problems the development has been slow so far. However, Russia is losing a significant part of possible revenues as harbour fees especially for the Baltic countries, thus it is now investing to ports in its own territory. There are also several proposals to enhance existing ports and terminals.

The best known new development sites are:

- Lomonosov with the plans of the annual throughput of 2.1 - 4.5 Mton,
- Batareynaja Bay with plans up to 15 Mton,
- Ust-Luga with planned 35 Mton and
- Primorsk for 20...36 Mton of oil products.

The latest news concerning the Russian port development in the eastern part of the Gulf of Finland indicate, that

- the Primorsk oil terminal's first phase is completed, and the first oil tanker departed in the end of December in 2001. The planned volume of the first phase will be approximately 12 million tons. In the first phase, especially during the winter time, the smaller tankers may be used, but the master plan of the terminal uses 100 000 - 150 000 dwt tankers as design ships.
- The St. Petersburg Sea port is also developing rapidly. The total cargo throughput of the St. Petersburg Sea port alone was 15.6 Mton in 1998, over 20.5 Mton in 1999 and 36,9 Mton in 2001. The amount of oil products handled last year amounted 9 Mton.
- The Batareynaja port construction works seems to have been postponed.
- The Ust-Luga coal and fertiliser port, however, has received more funds for continuation of the works.

Total traffic

The Lloyds database (Lloyds, 2000) was analysed in order to update the former statistics of the maritime transport. The traffic season May 2000 was selected to represent the basic database of ship movements in the Gulf of Finland. The database consisted of all port calls, and was modified in order to get understanding on the intra regional ship movements and especially on the oil tanker movements of the area. The ferry traffic was not included in the Lloyds data and was therefore calculated separately from the ferry schedules.

Figures below represent the maritime transportation in numbers in the Gulf of Finland area.

First the total transport rate in 2000 in selected ports is presented in Figure 1.

Figures include the movements inside the port area. These movements may include loading of the ship in a certain berth and the movement of the ship into another berth of the port. Ship calls have been modified to uses of fairways in such a way that calls are multiplied by two. The ship calls were gathered directly from the statistics of selected ports (Finland and Estonia) or by estimating the annual figure from the Lloyds data for May 2000 (Russia). The latter figure shows an estimation for the total traffic in 2015 in the same ports. Development scenario in the Gulf of Finland is estimating that the total transportation will be two-fold, and the oil transportation amount will be three times higher in 2010. The ship call figures or the uses of fairways will not directly be two- or three-fold, seeing that the average size of the cargo vessel will grow as well. The Russian transit traffic in Finnish and Estonian ports will increase considerably no longer after the new Russian ports Primorsk, Batareynaja and Ust-Luga have been taken in use.

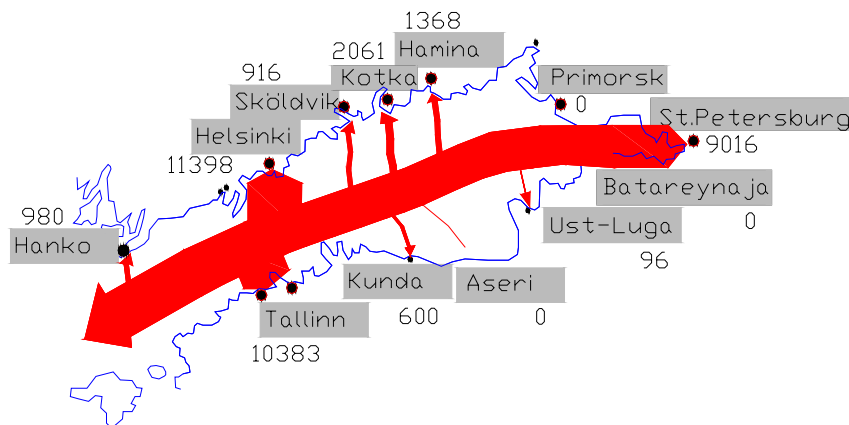


Figure 1. Total traffic (port calls) in the Gulf of Finland in 2000 in selected ports.

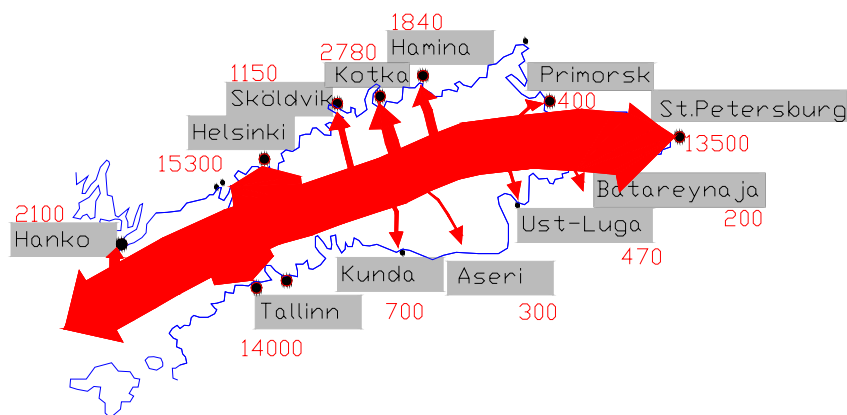


Figure 2. Total traffic estimate (port calls) in the Gulf of Finland for 2010–15 in selected ports.

The Port of Tallinn consists of four harbours. The largest harbours are the Old City harbour dedicated for the passenger liners, and the Port of Muuga, a large oil and fertiliser harbour. Muuga harbour includes six oil terminals, dry bulk and general cargo terminals, a Ro/Ro and a container terminal, a reefer terminal and storage areas for vehicles and timber. Smaller harbours are Paljassaare Harbour and Paldiski South Harbour. The Paldiski South harbour lies westwards of the Old City area, as shown in Figure 3.



Figure 3. The location of the Tallinn main harbours. (Port of Tallinn, 2001).

Oil tanker traffic

In year 2000, Muuga was the largest oil harbour in the Gulf of Finland with the liquid bulk cargo of 17,8 million tons. The average oil tanker size of the Port of Muuga was about 19 000 tons in 1998, and 23 300 tons in 1999. In 2000, the average size was already 26 200 tons. The increase of the size of tankers will continue in Muuga. The port authorities are considering a new jetty for 130 000 dwt tankers. As a comparison, throughput in Sköldvik was 15,8 million tons and 8 million tons in St. Petersburg. In St. Petersburg, the large oil tankers are loaded from river tankers on sea beside the Kronstadt island. Similarly, as the total traffic figures were presented in Figure 1 and Figure 2 above, the following figures show the uses of fairways by oil tankers in selected ports in 2000 (Figure 4) and the forecast of oil tanker movements for 2015 (Figure 5). The estimation was based on the assumption that the oil transport will be three-fold compared to the present by the year 2015. The annual growth rates vary between 2 and 7 % depending on the country or port under survey. The most rapid growth of the oil tanker traffic is assumed to take place in Russia and in Baltic Countries. The number in Helsinki in 2015 is zero because the Helsinki (Laajasalo) oil harbour will be closed in 2010.

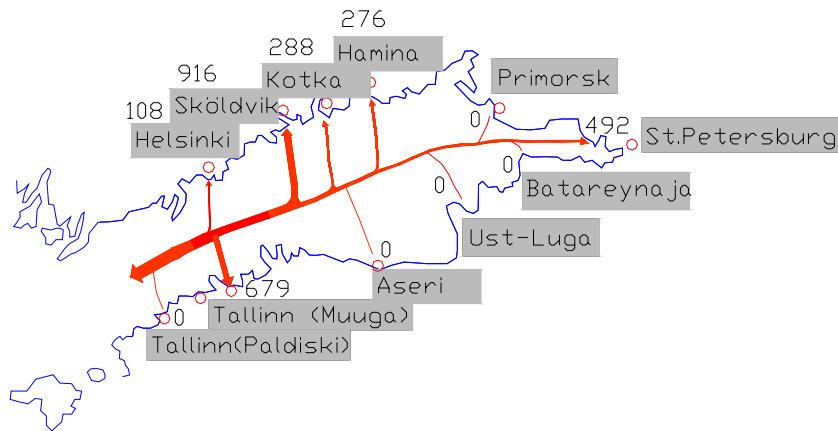


Figure 4. Oil traffic (port calls) in the Gulf of Finland in 2000 in selected ports.

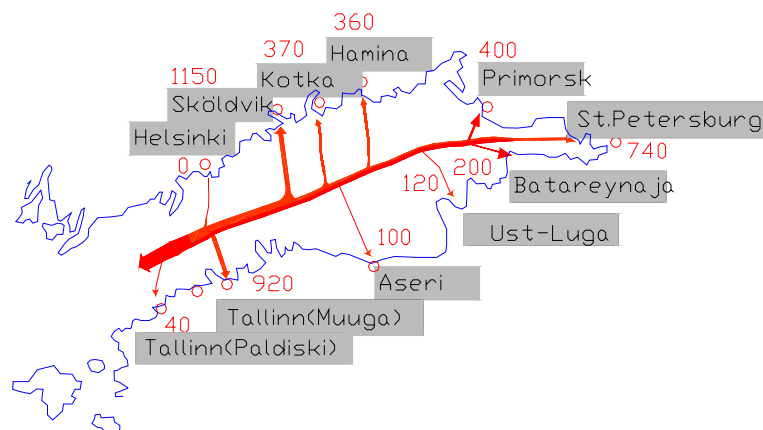


Figure 5. Oil traffic estimate (port calls) in the Gulf of Finland for 2010–15 in selected ports.

Not only the increased traffic along the Gulf of Finland, but the dense crossing traffic between Helsinki and Tallinn is pointing out the necessity of an improved VTMIS system. Last summer there were about 30 calls of passenger vessels each day from Helsinki to Tallinn. Six of these daily departures are ferries, and the remainder high-speed crafts.

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