

The Finnish Waterways and Waterborne Traffic

Keijo Kostainen
Director
Waterways Department



**Finnish Maritime
Administration**

FACTS ABOUT FINLAND 2007

• Area	390 000	km²
• Land area	303 900	km²
• Population	5,3	Million
• Population density	17,4	per land km²
• GDP	179,7	Billion euro
• GDP per capita	33 985	euro
• Value of exports	65,7	Billion euro
• Infrastructure network:		
• Road	78 000	km
• Rail	5 900	km
• Waterway	19 600	km
• Traffic performancies(goods):		
• Road domestic	26,8	Billion tonne-km
• Rail domestic	7,5	Billion tonne-km
• Water domestic	3,1	Billion tonne-km
• Seaborne trade	198,4	Billion tonne-km

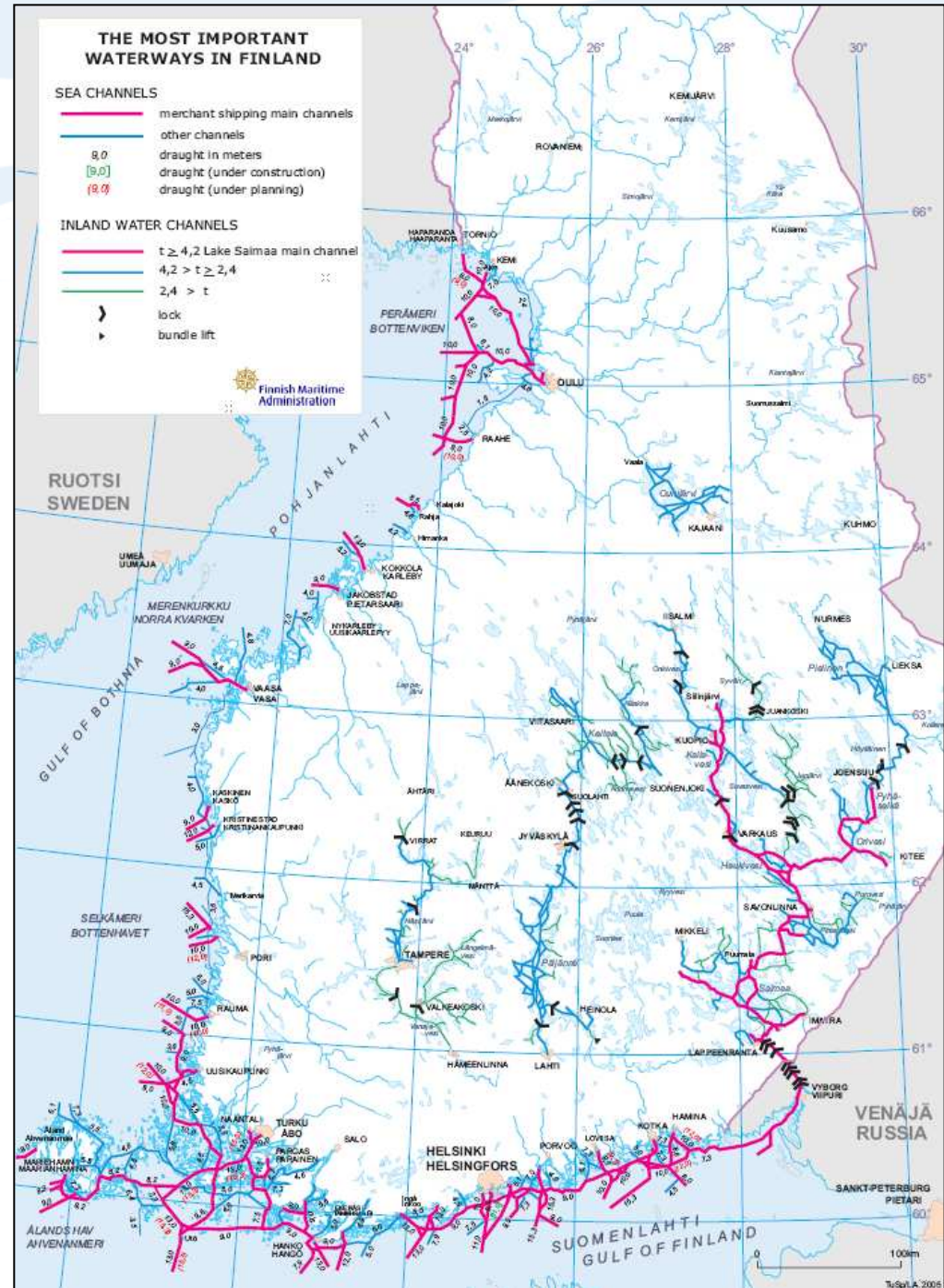
Finnish waterways:

FMA is in charge of:

- Coastal fairways 8200 km
- Inland waterways 8000 km
- About 25 000 AtoN
- 39 lock channels

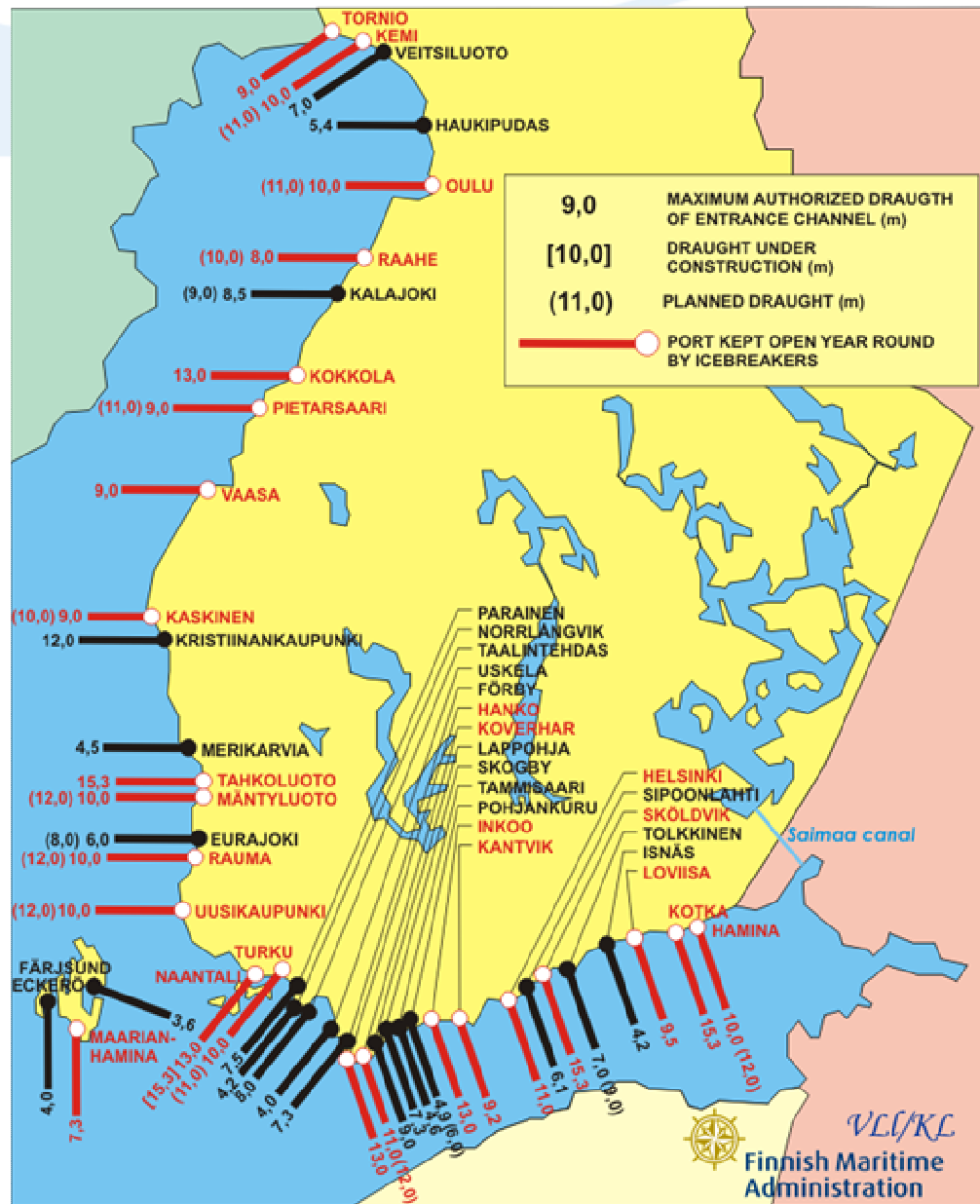
Additionally in Finland there are private owned:

- Coastal fairways 1800 km
- Inland waterways 1500 km
- About 7 500 AtoN



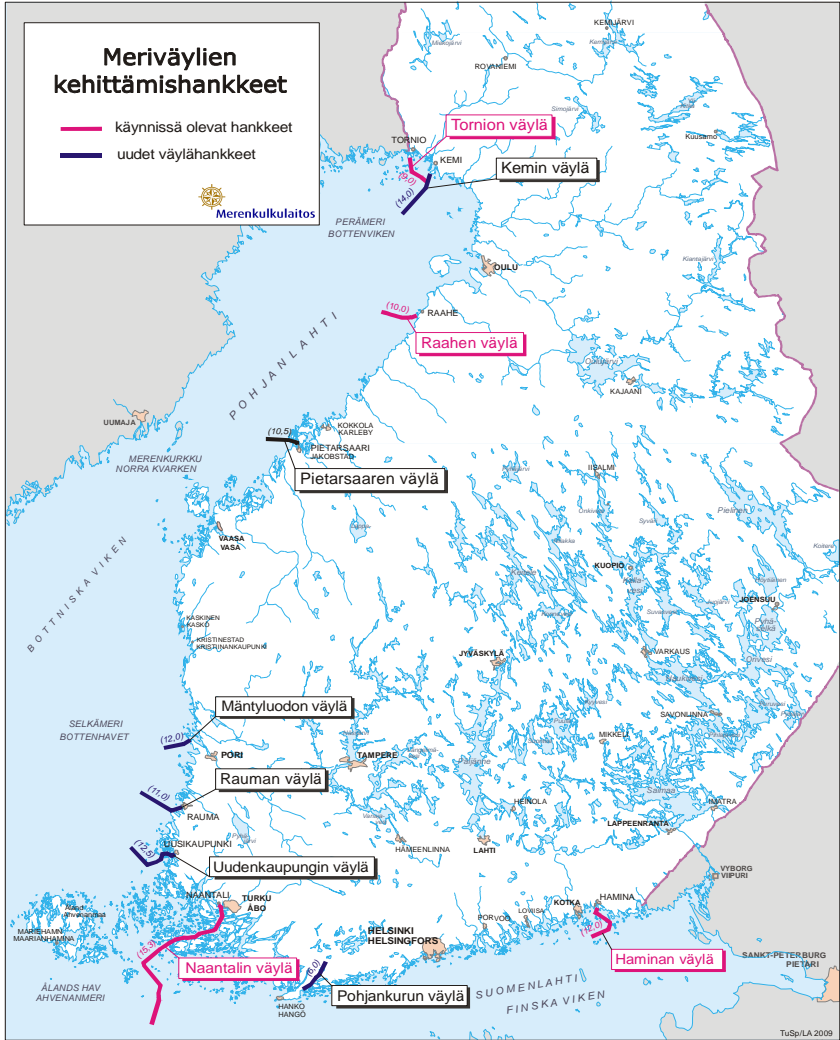
FINNISH SEAPORTS 2009

MAXIMUM AUTHORIZED DRAUGHT OF ENTRANCE CHANNEL

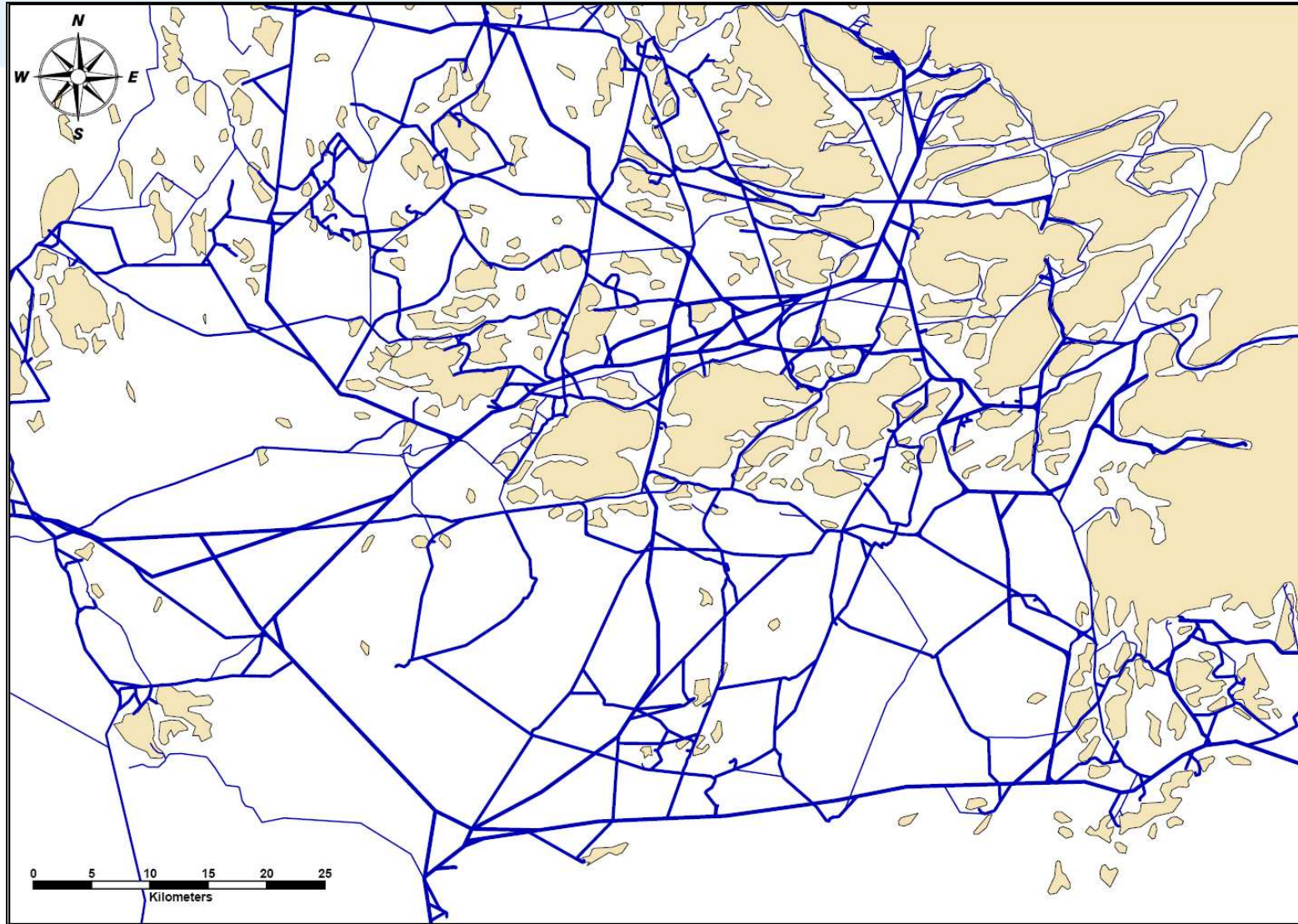


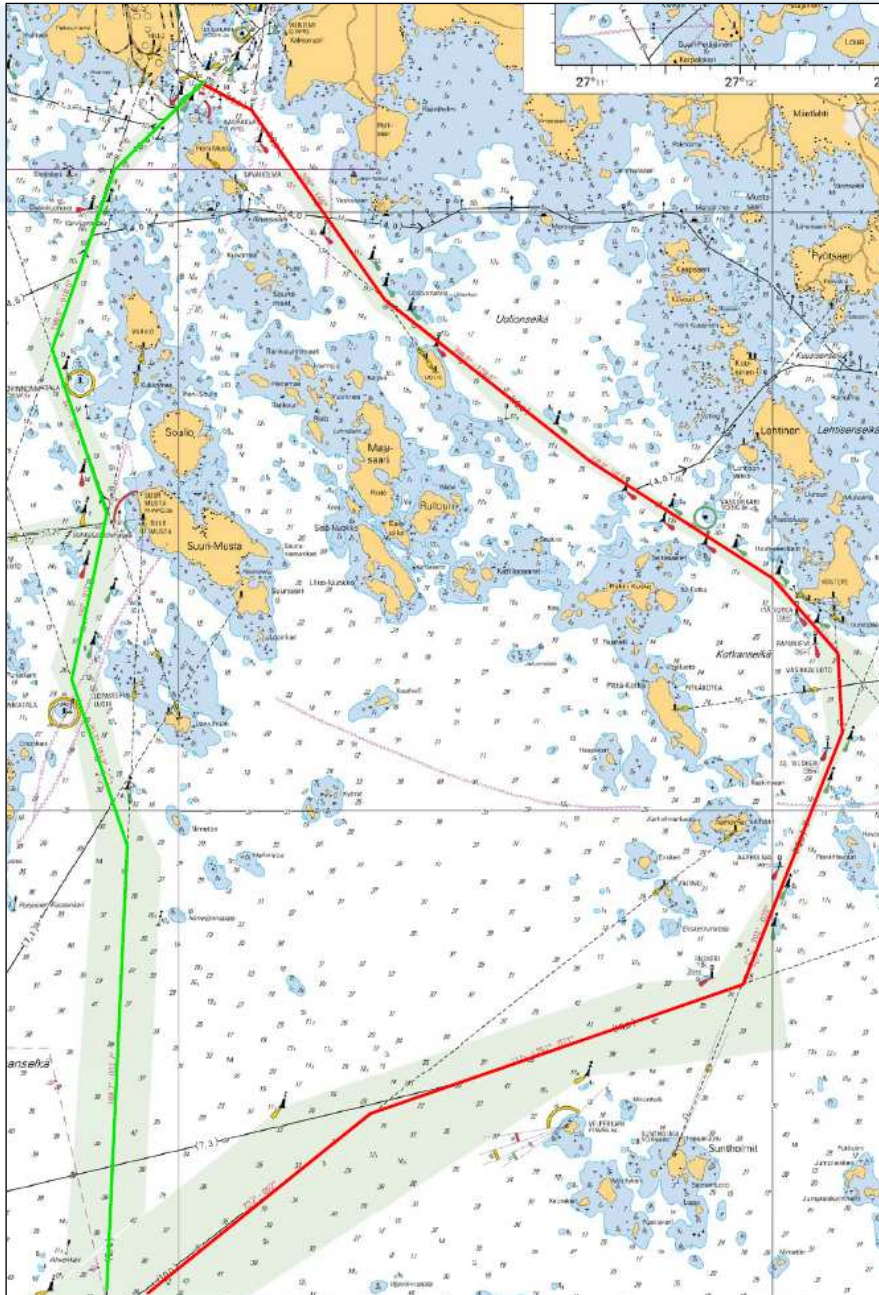
Development of average authorized draught of main channels and location of new projects

Väylien keskimääräiset kulkusyvyudet



Finnish archipelago is wide and waters are shallow





Hamina case

Two fairways to same port

- **Red 10,0 m fairway, length 54 km, design vessel:**

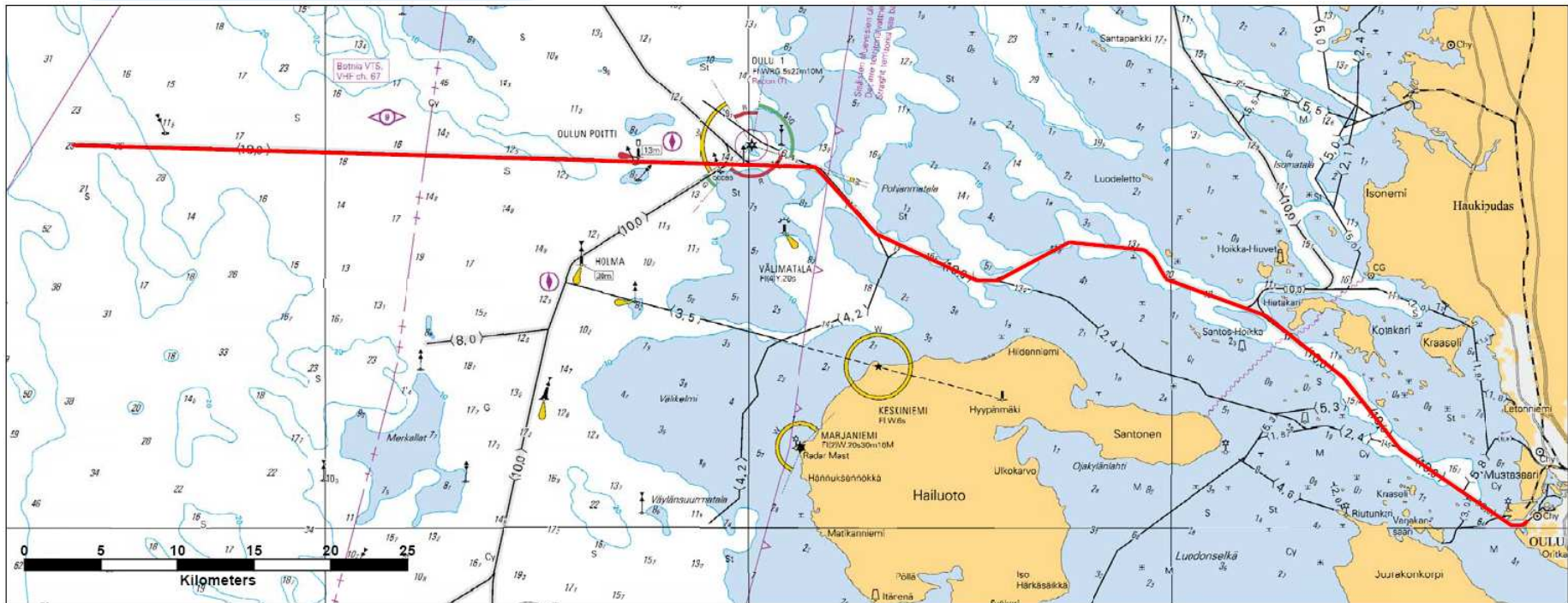
- L = 180 m
- B = 25,0 m
- T = 10,0 m
- Design width 180 m !

- **Green 8,6 m fairway, length 24 km, design vessel:**

- L = 150 m
- B = 25,0 m
- T = 8,6 m
- Design width 200 m

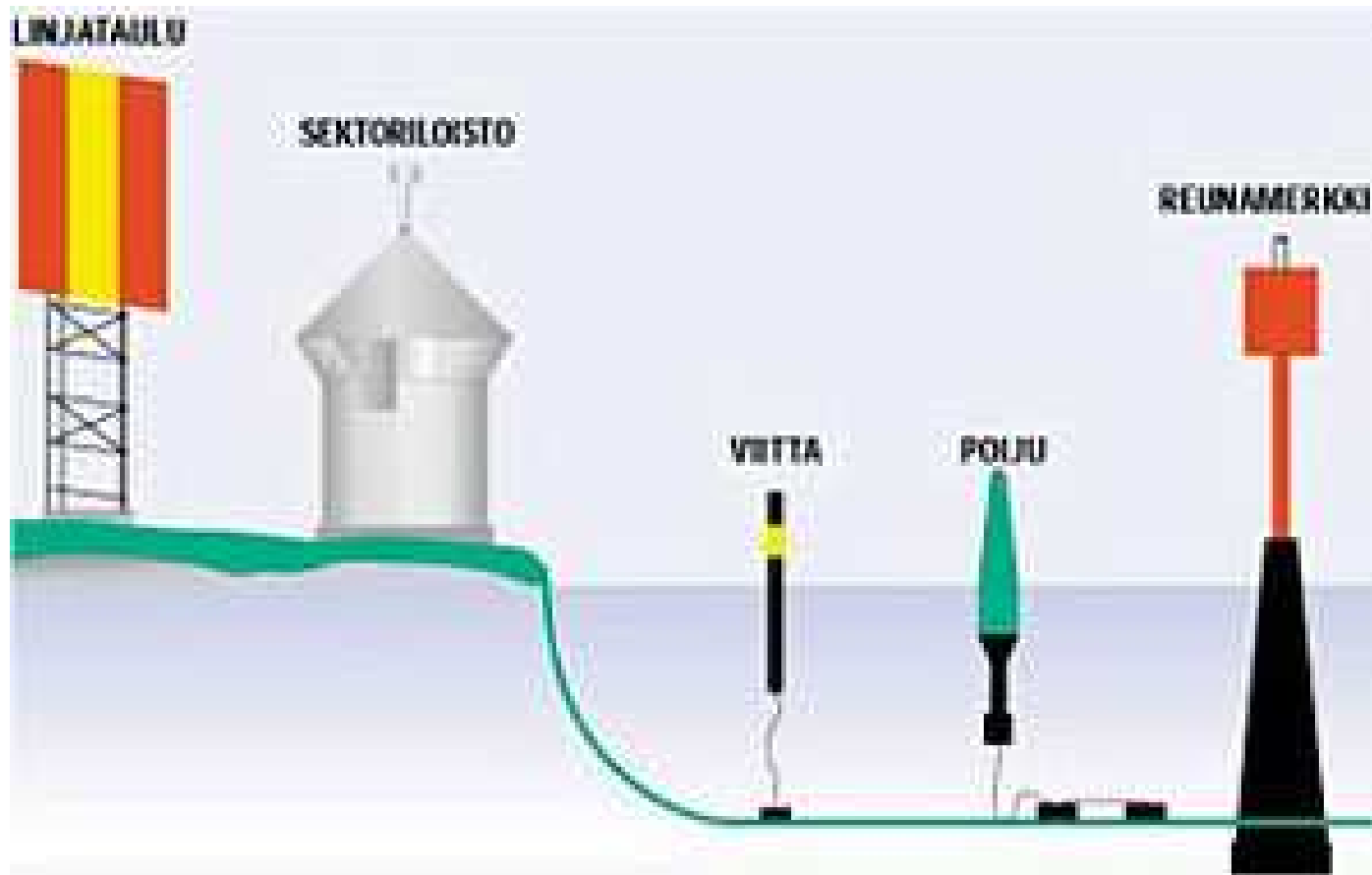
- **Shallow waters**
- **Rocky bottom**

Oulu 10,0 m fairway

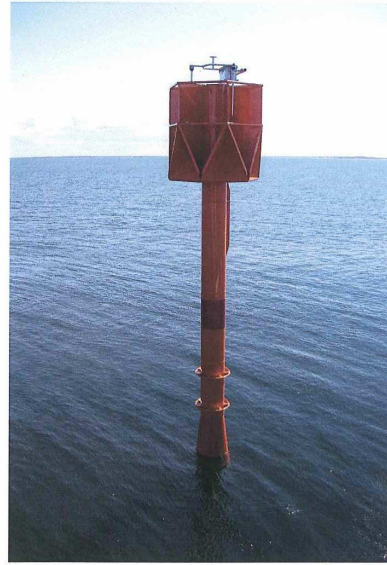


- Length of the fairway is 64,5 km
- Narrowest part of the fairway is only 150 m wide
- Design vessel length 210 m beam 30 m and draught 10,0 m
- Confirmed water depth 12,0 / 11,5 m
- Surrounding waters are very shallow, mean depth around 5 m

AIDS TO NAVIGATION

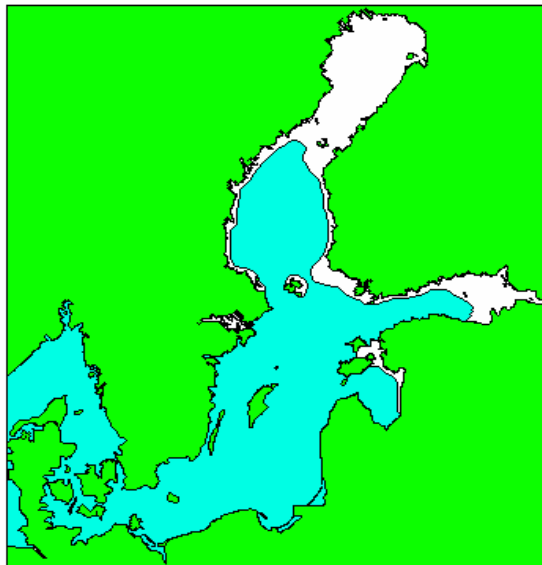


FINNISH SPECIALS

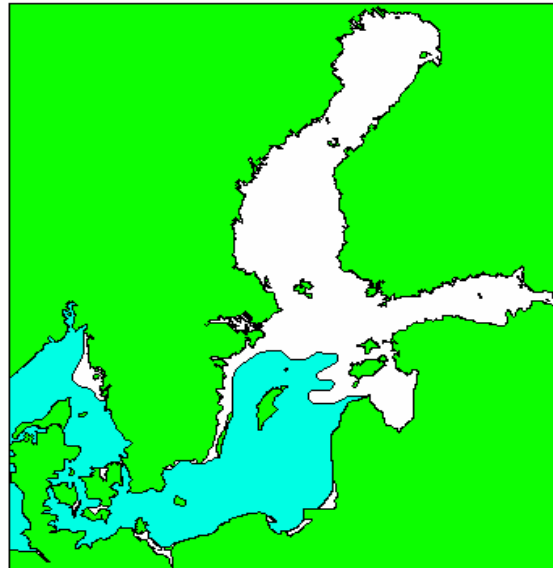


The Baltic ice season

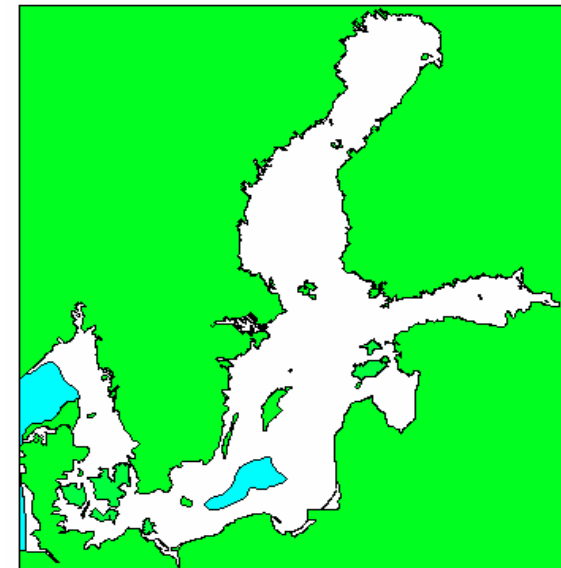
- Finnish icebreakers working periods vary from 3 months to 6.5 months
- Assistance to 23 winter ports



Extremely mild



Average



Extremely severe

Difficult ice conditions set challenges to fairway maintenance



Skarven and ice
60° 17,7' N 26° 20,9' E

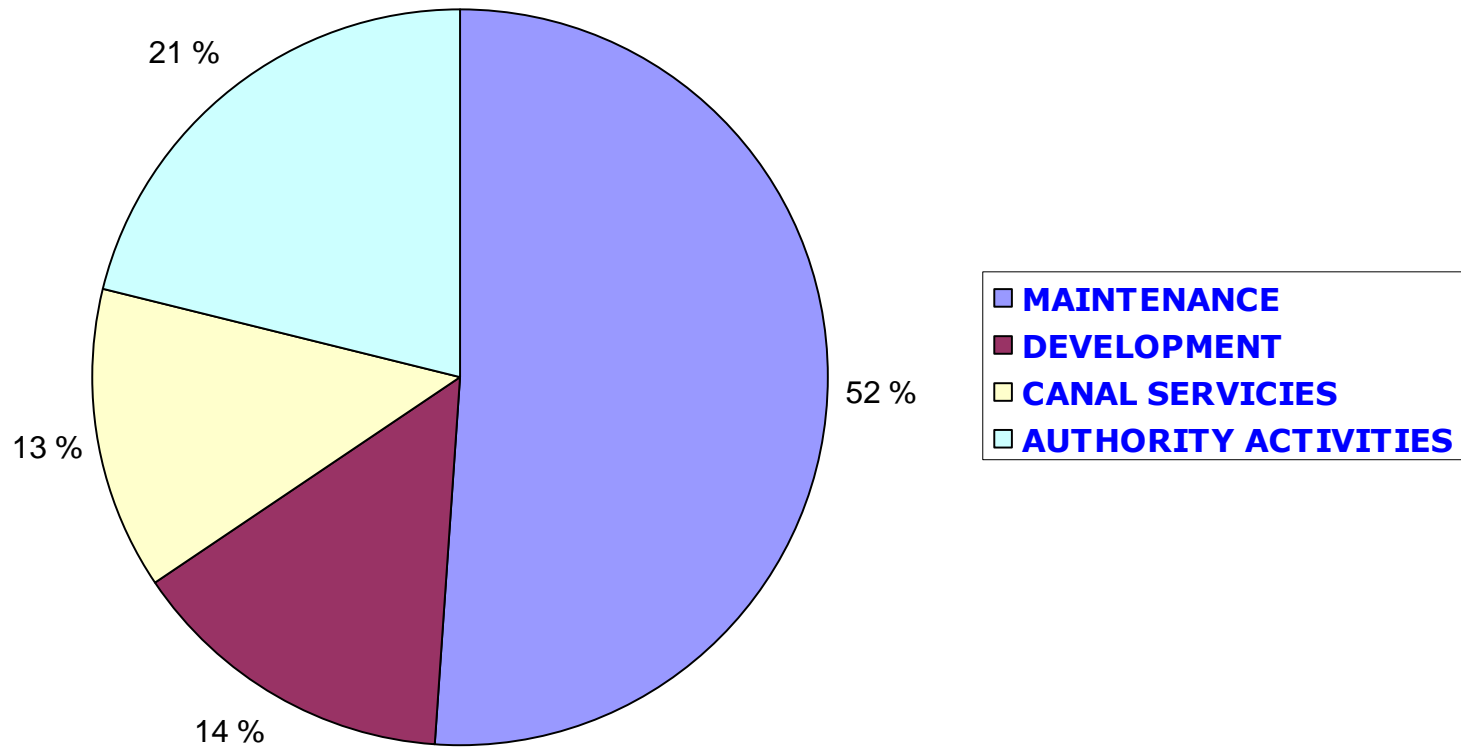


Buoy and ice
Gulf of Finland

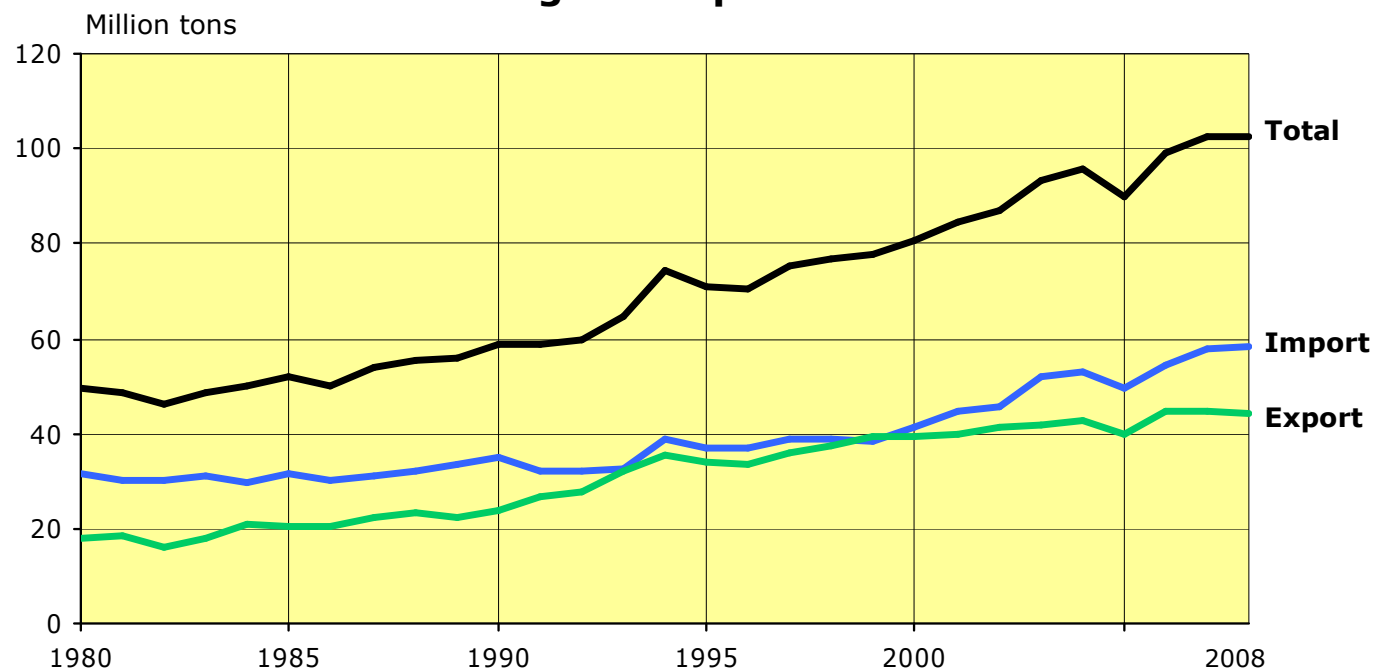




**EXPENDITURE OF FAIRWAY DEPARTMENT
YEAR 2007
Total 38,9 million euro**



FINLAND Seaborne foreign transports 1980-2008

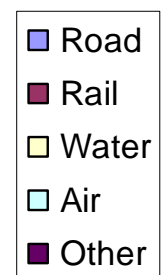
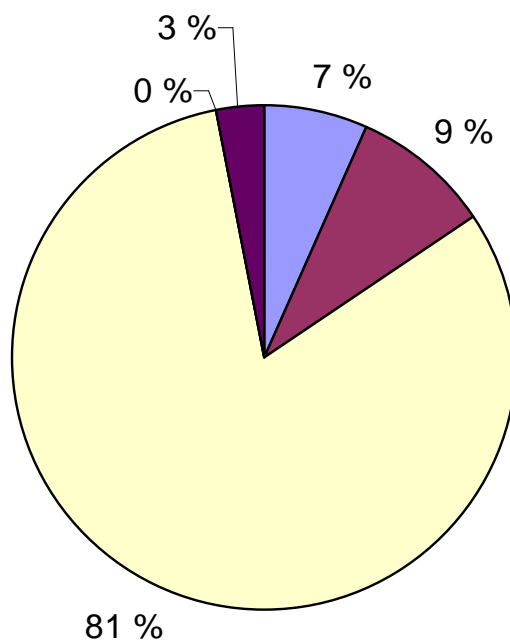


Finnish Maritime
Administration

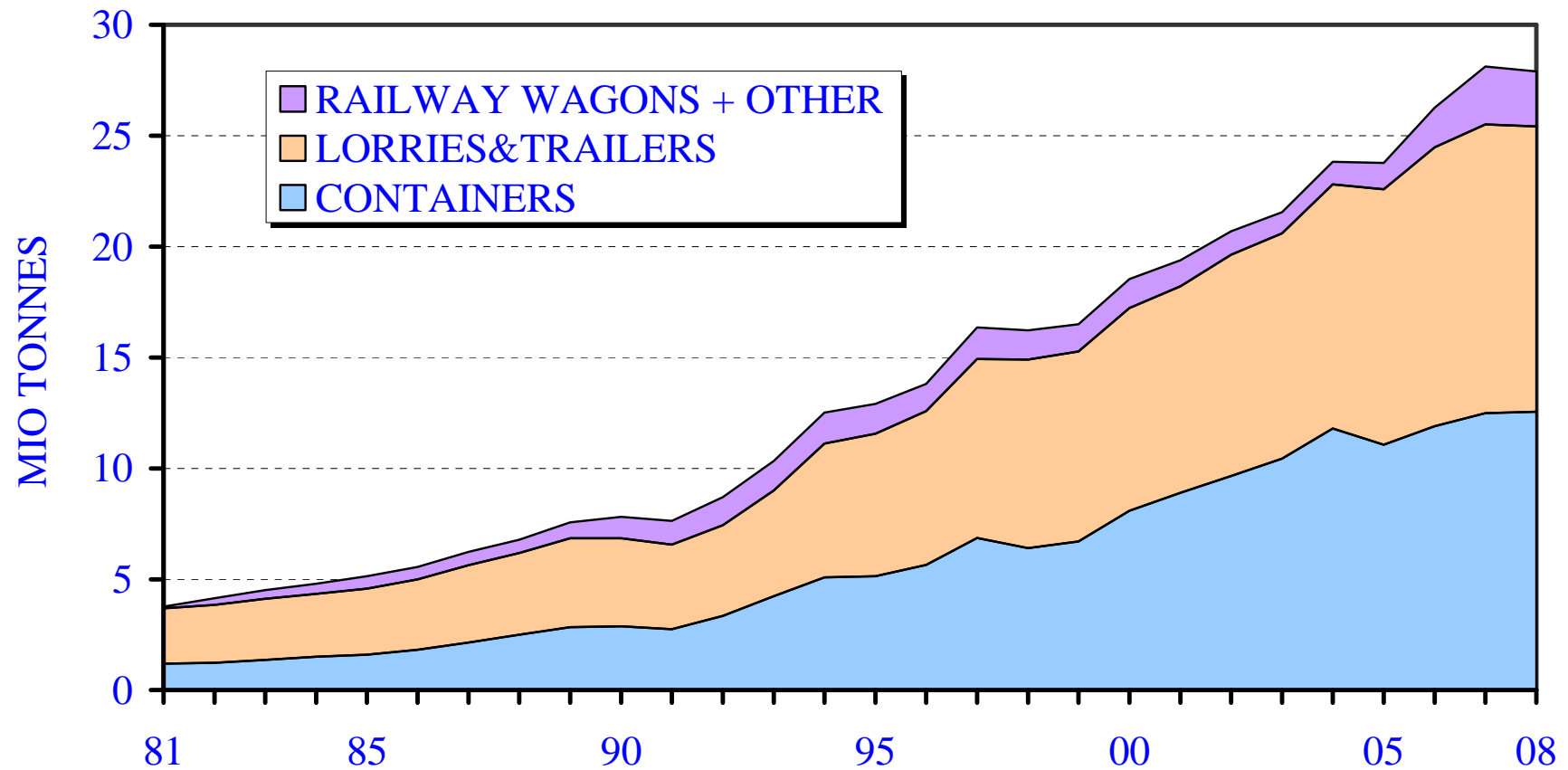
Finnish imports and exports by mode of transport in tonnes

2007

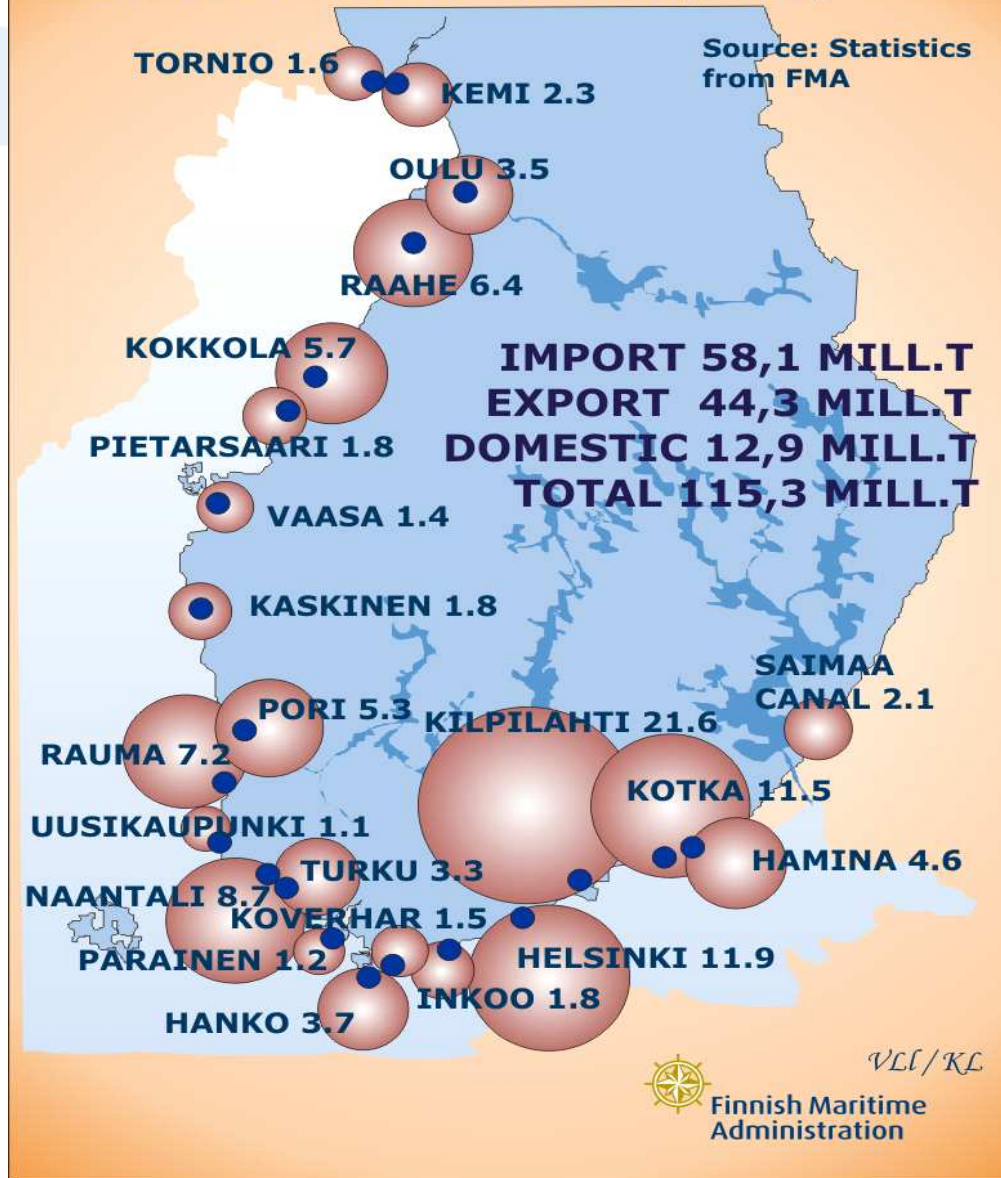
Total 112 Million tonnes



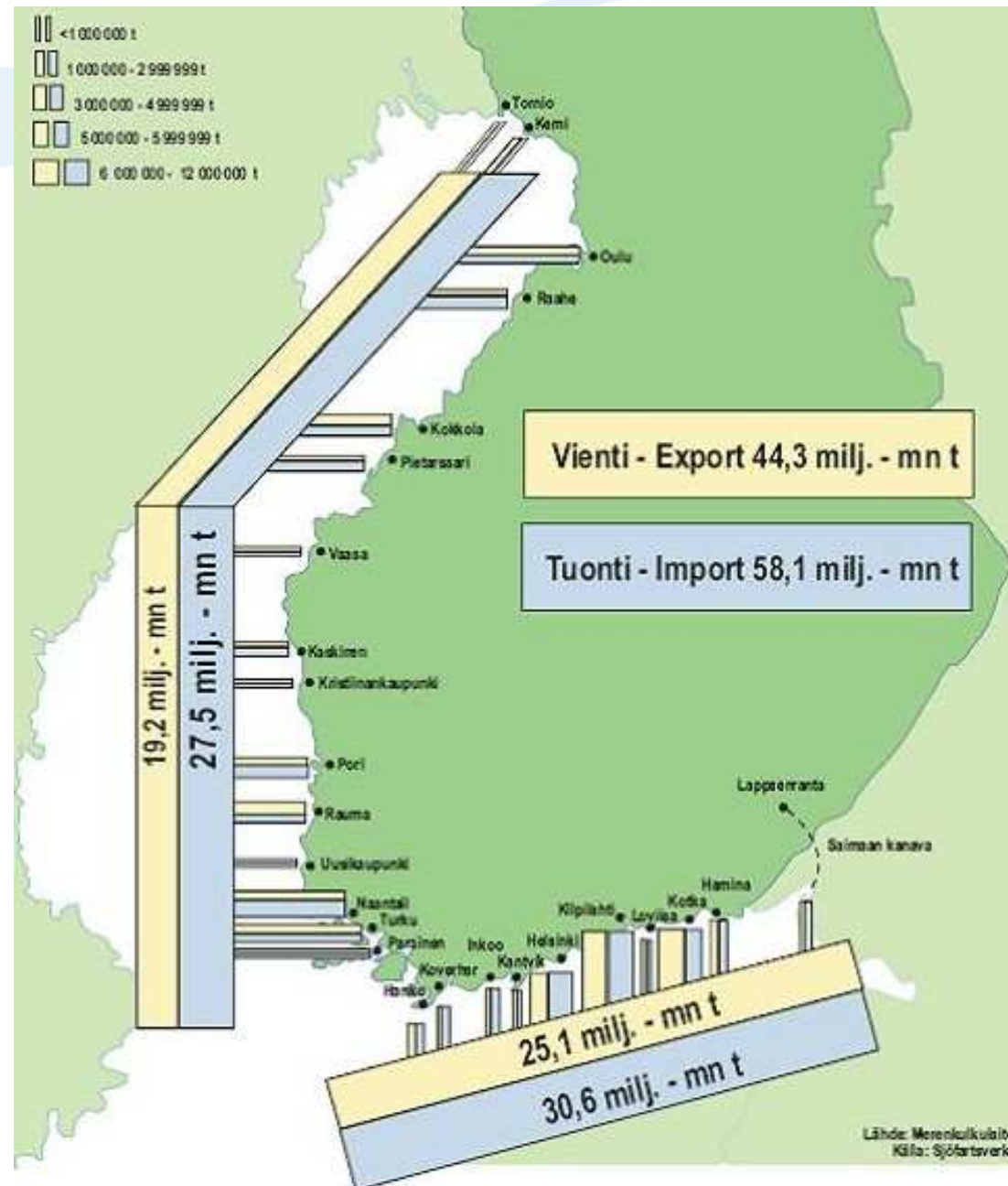
SEABORNE INTERMODAL TRAFFIC UNITS IN FINNISH PORTS 1981-2008



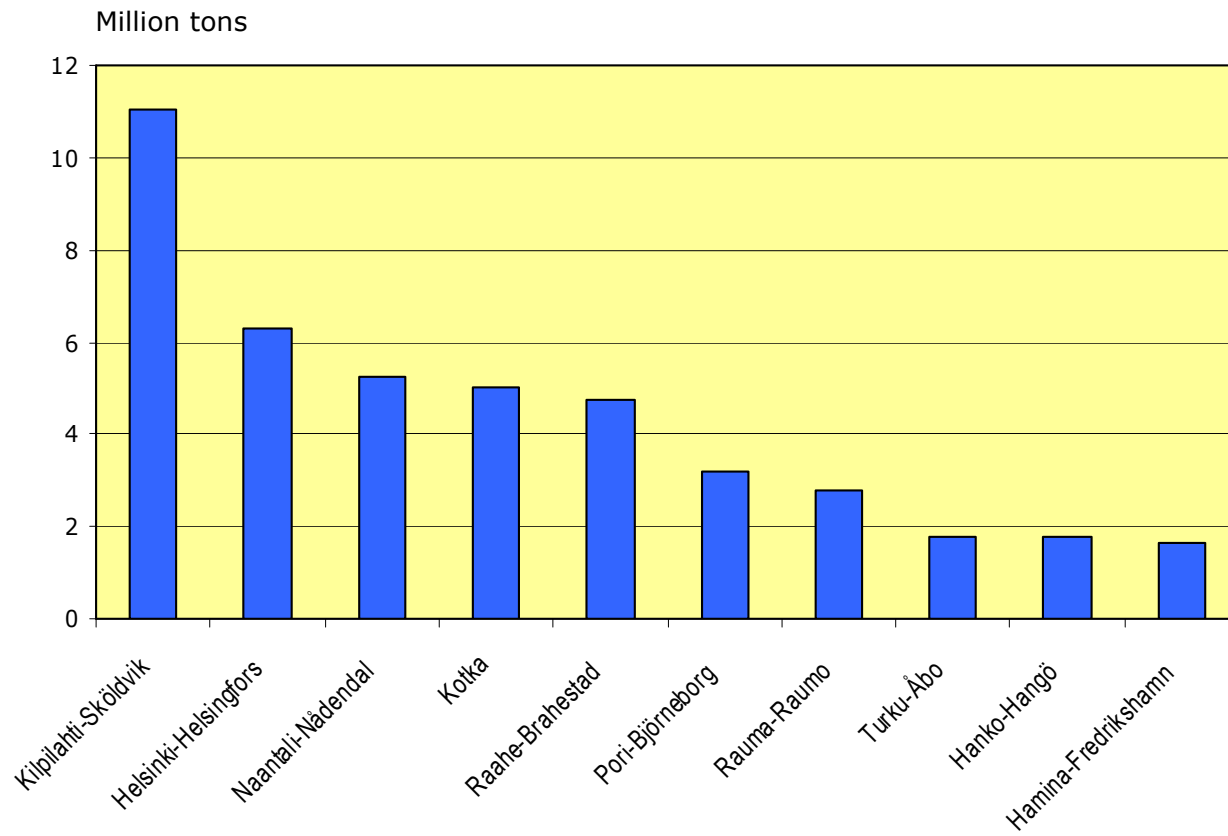
CARGO TURNOVER IN FINLANDS 20 BIGGEST PORTS IN 2008 (Mill.t)



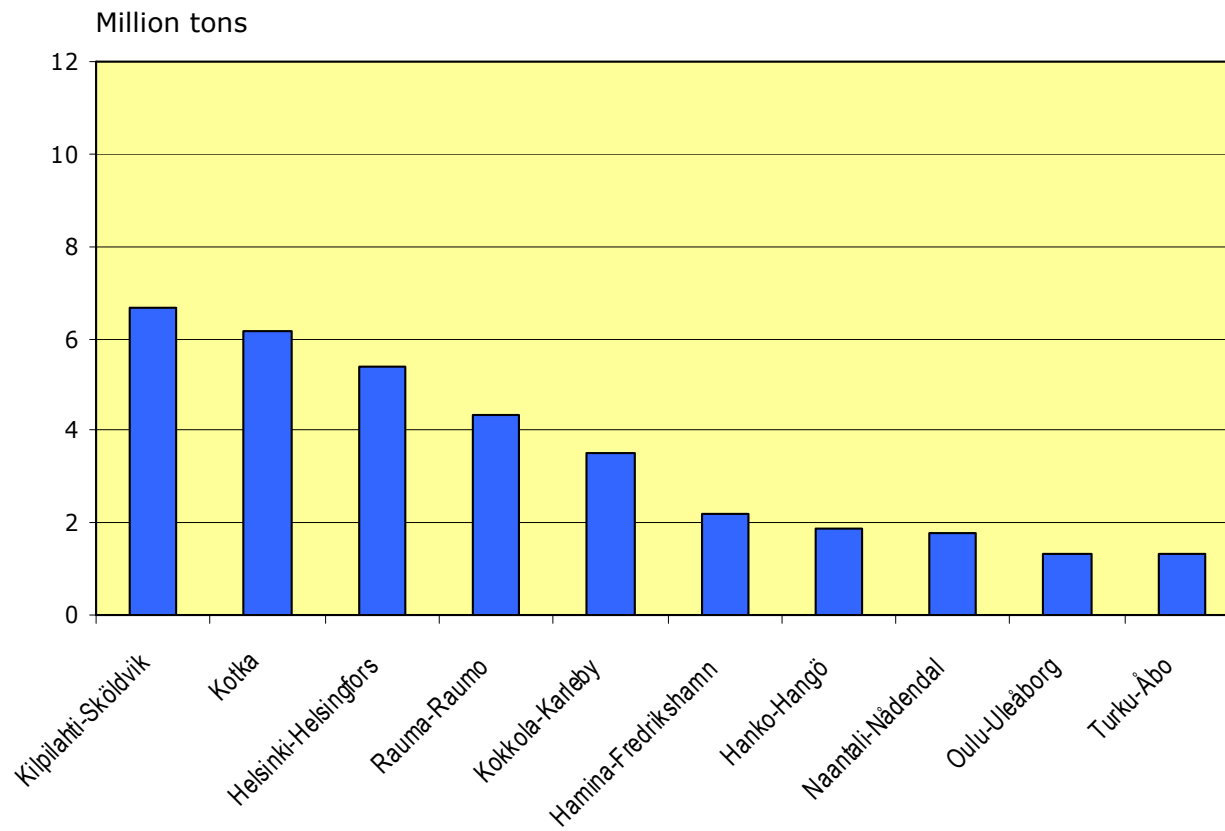
Seaborne foreign transports in 2008



Ten largest Finnish import ports in 2008

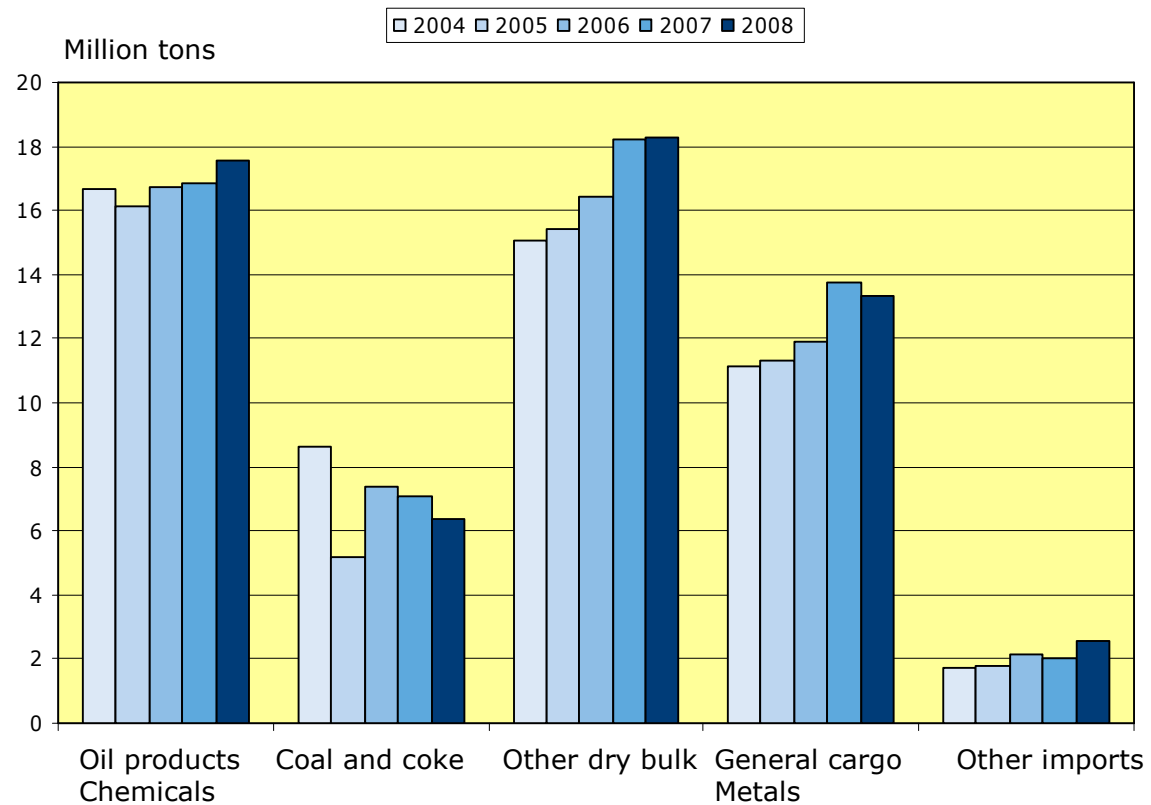


Ten largest Finnish export ports in 2008

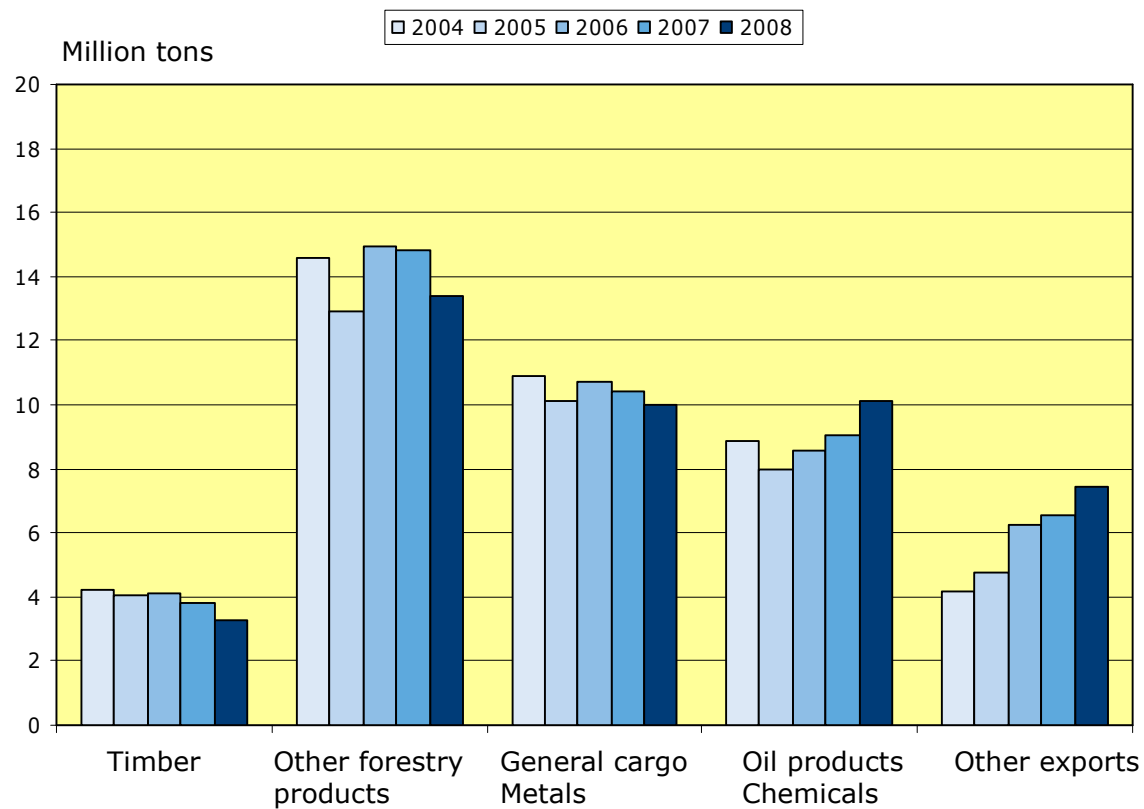


**Finnish Maritime
Administration**

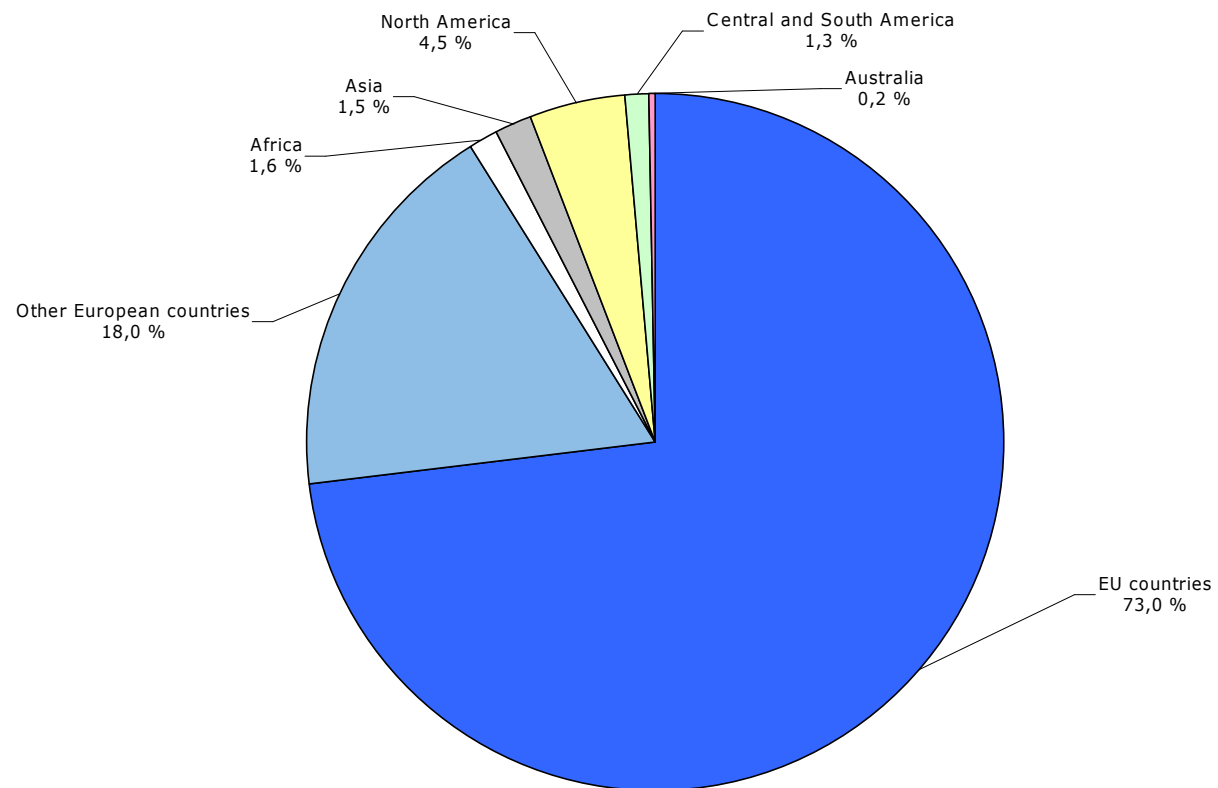
FINLAND Foreign import transports by commodity group 2004-2008



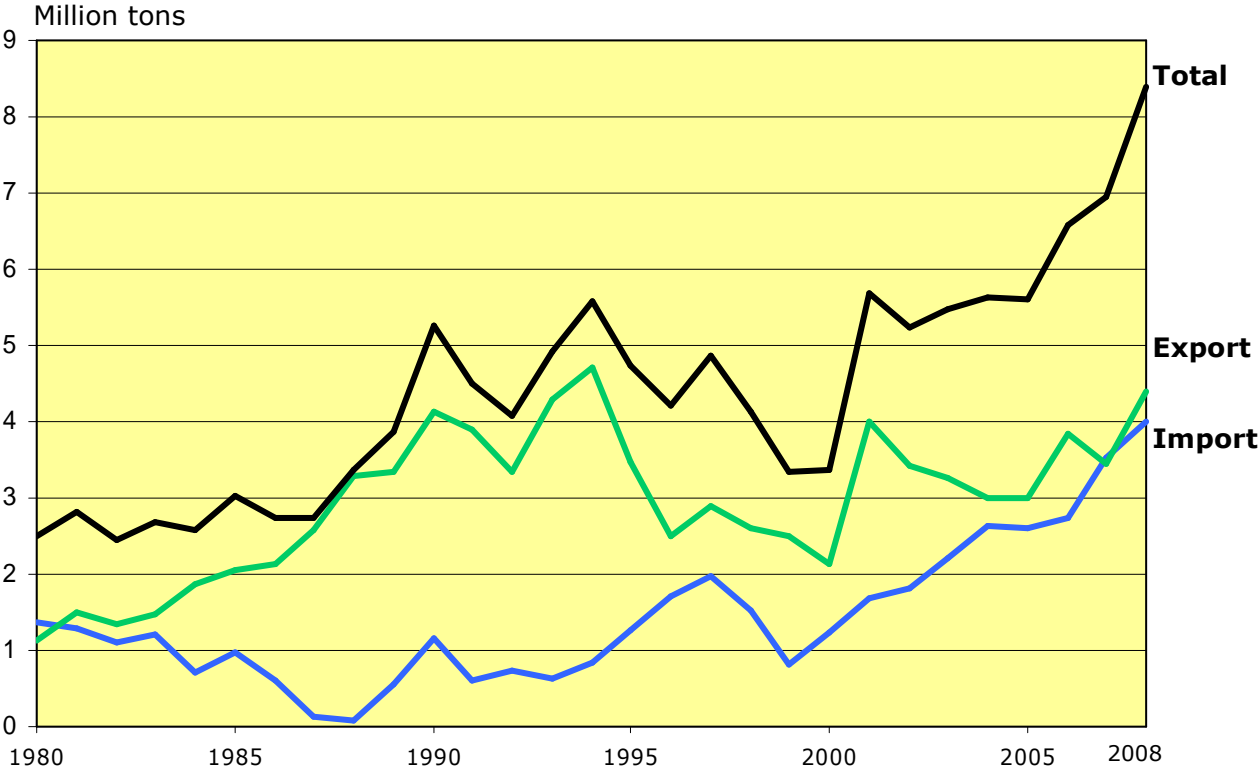
FINLAND Foreign export transports by commodity group 2004-2008



FINLAND Seaborne transports by area in 2008



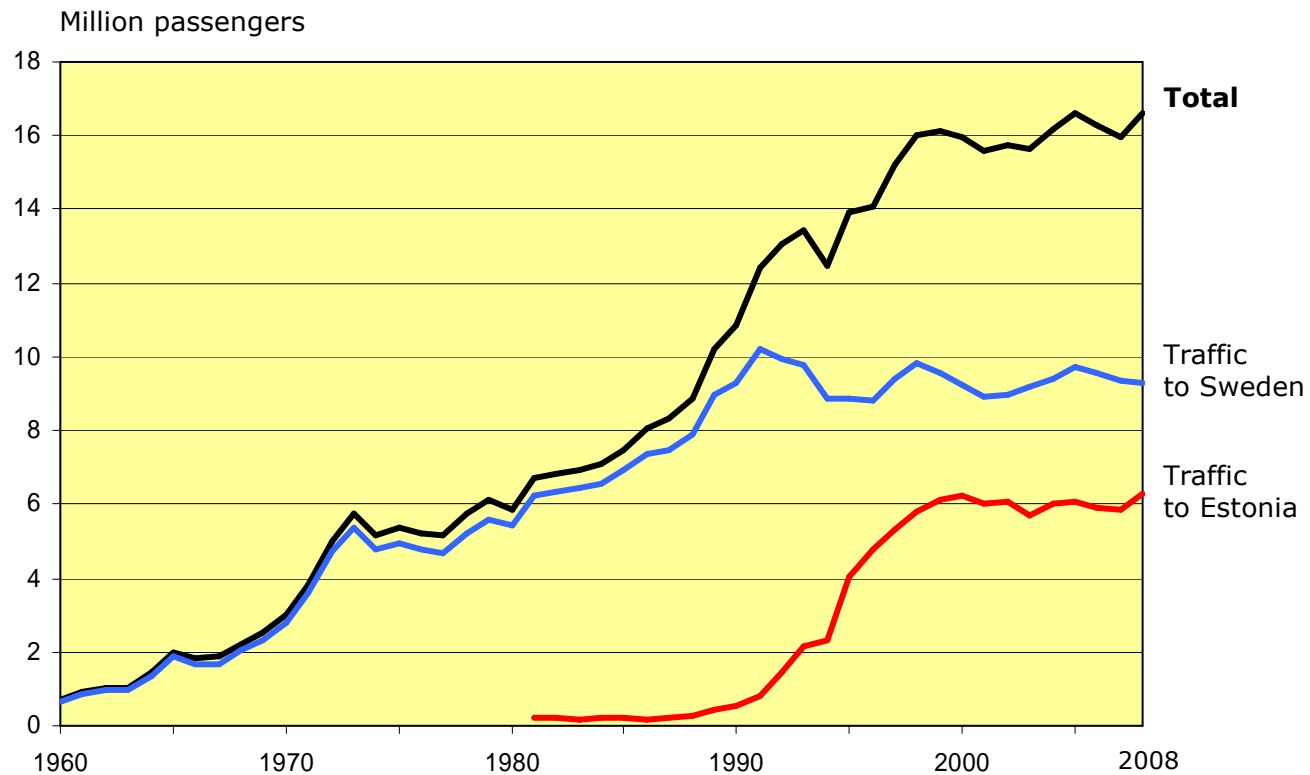
Transit traffic 1980-2008



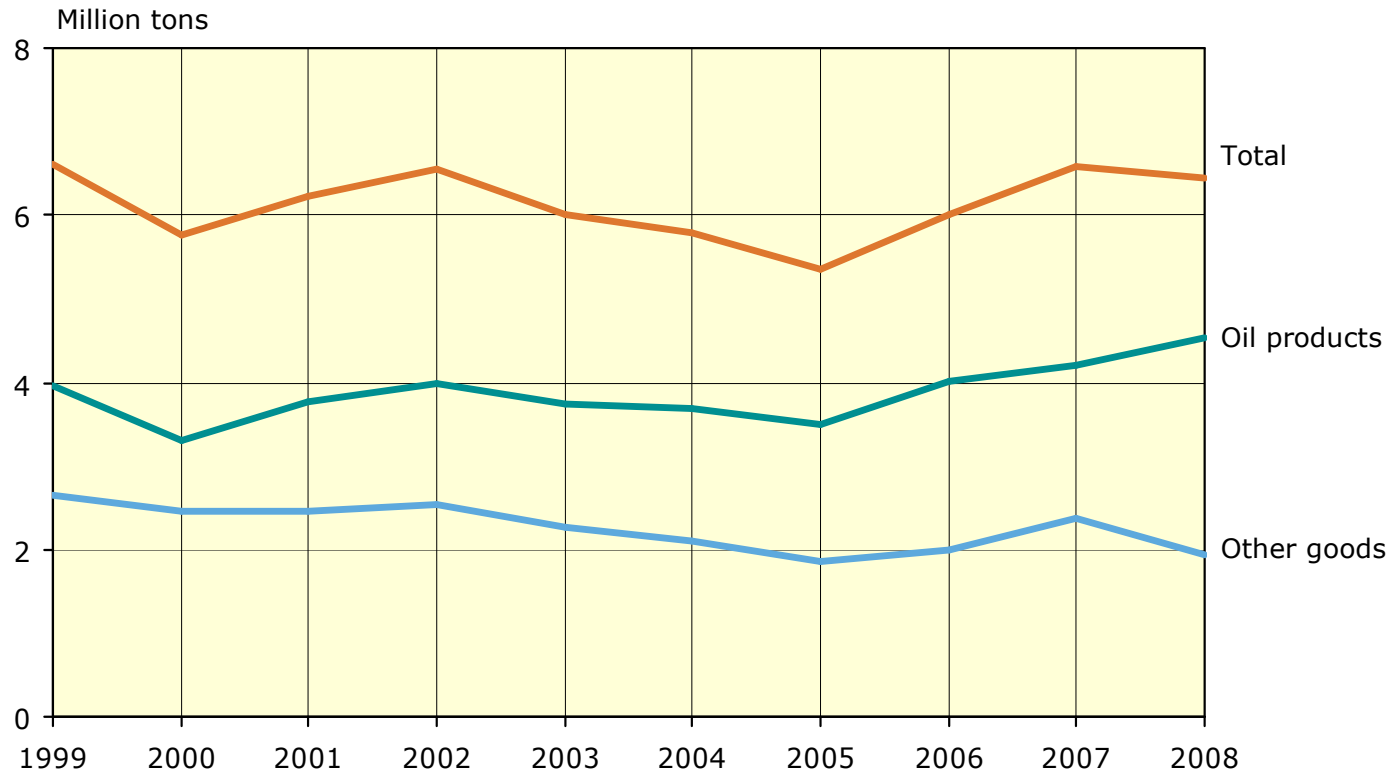
**Finnish Maritime
Administration**

FINLAND

Foreign passenger traffic 1960-2008 and traffic to Sweden and Estonia in particular



Finnish goods volumes in domestic shipborne traffic, 1999-2008



**Finnish Maritime
Administration**

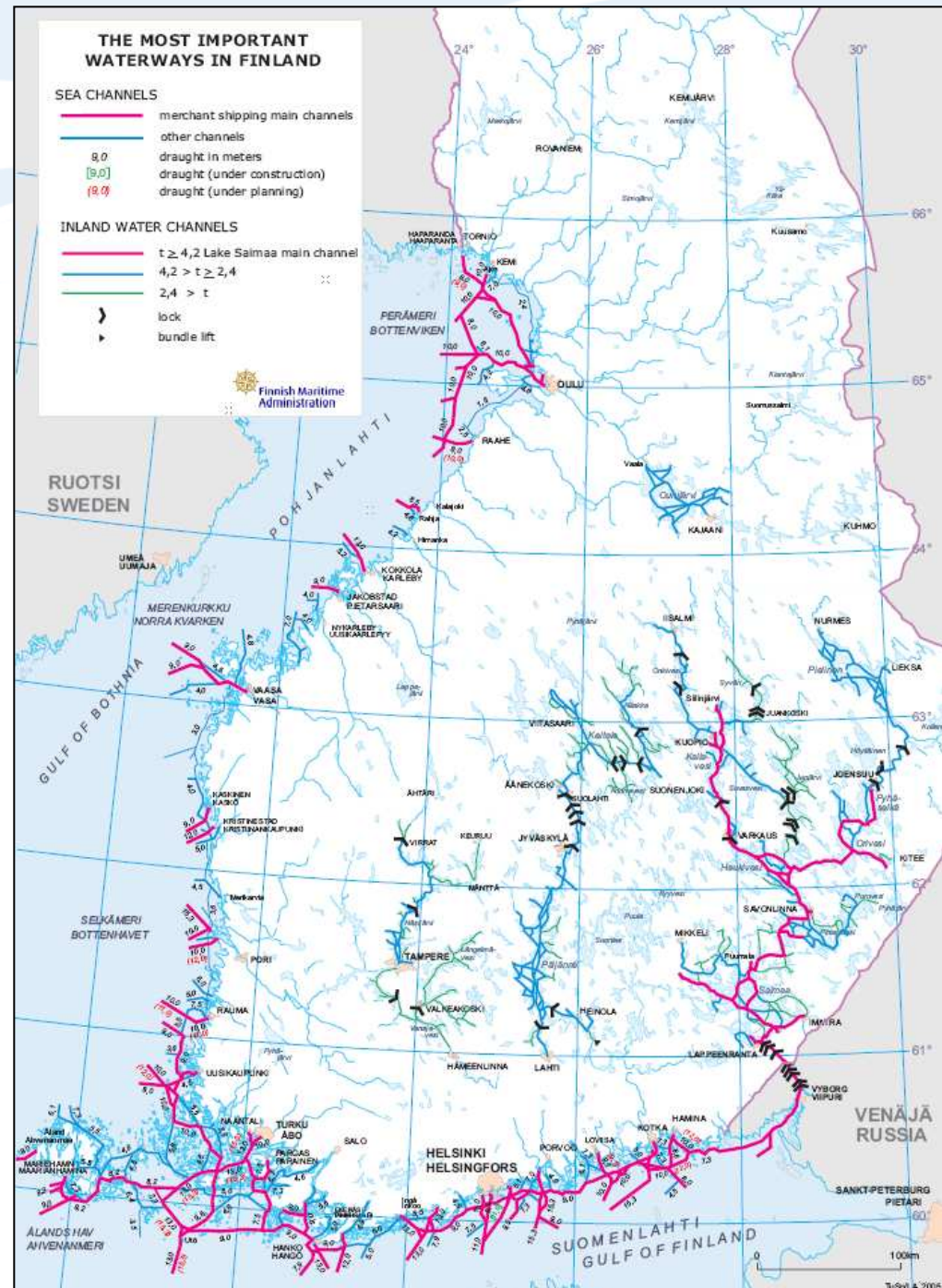
Finnish waterways:

FMA is in charge of:

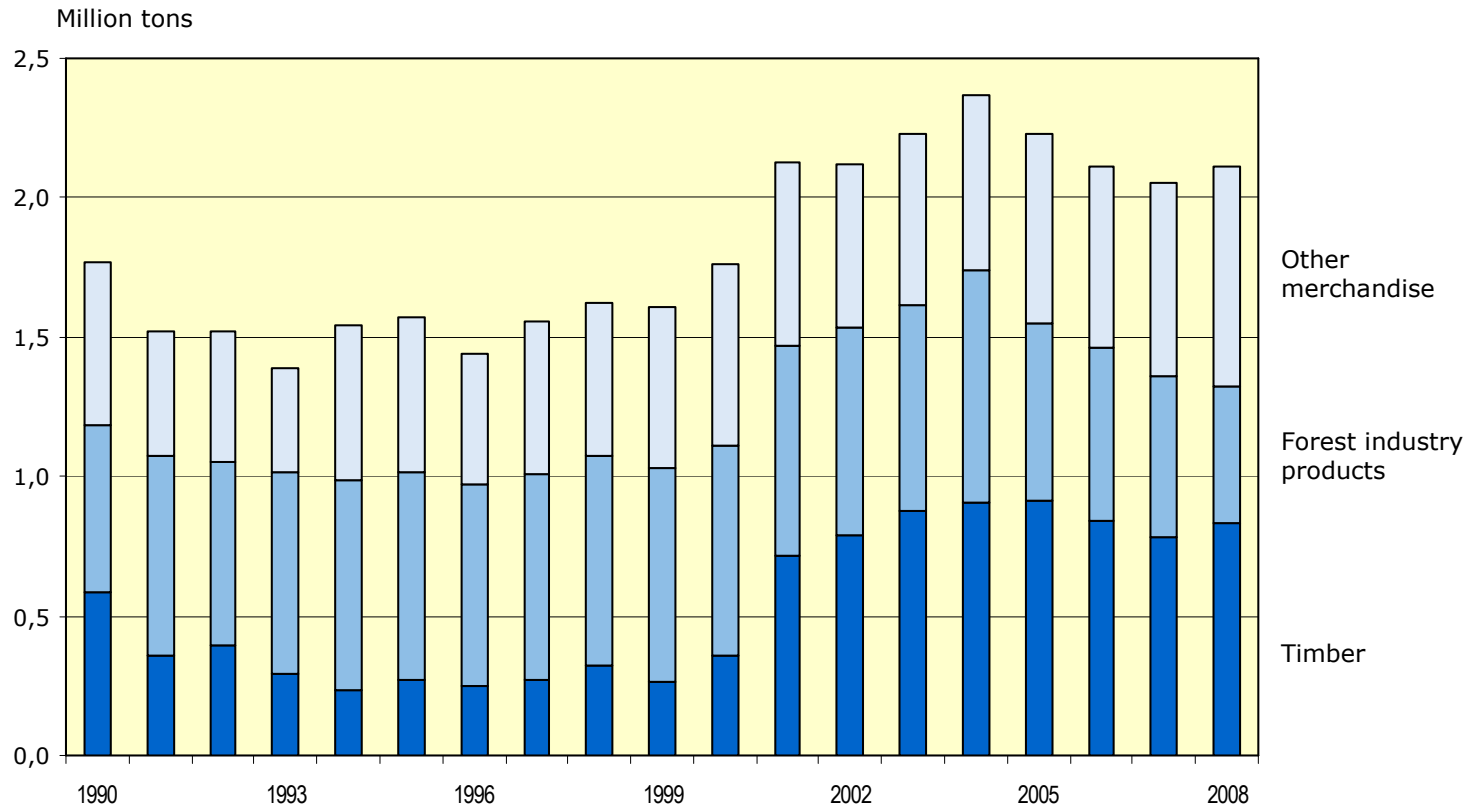
- Coastal fairways 8200 km
- Inland waterways 8000 km
- About 25 000 AtoN
- 39 lock channels

Additionally in Finland there are private owned:

- Coastal fairways 1800 km
- Inland waterways 1500 km
- About 7 500 AtoN

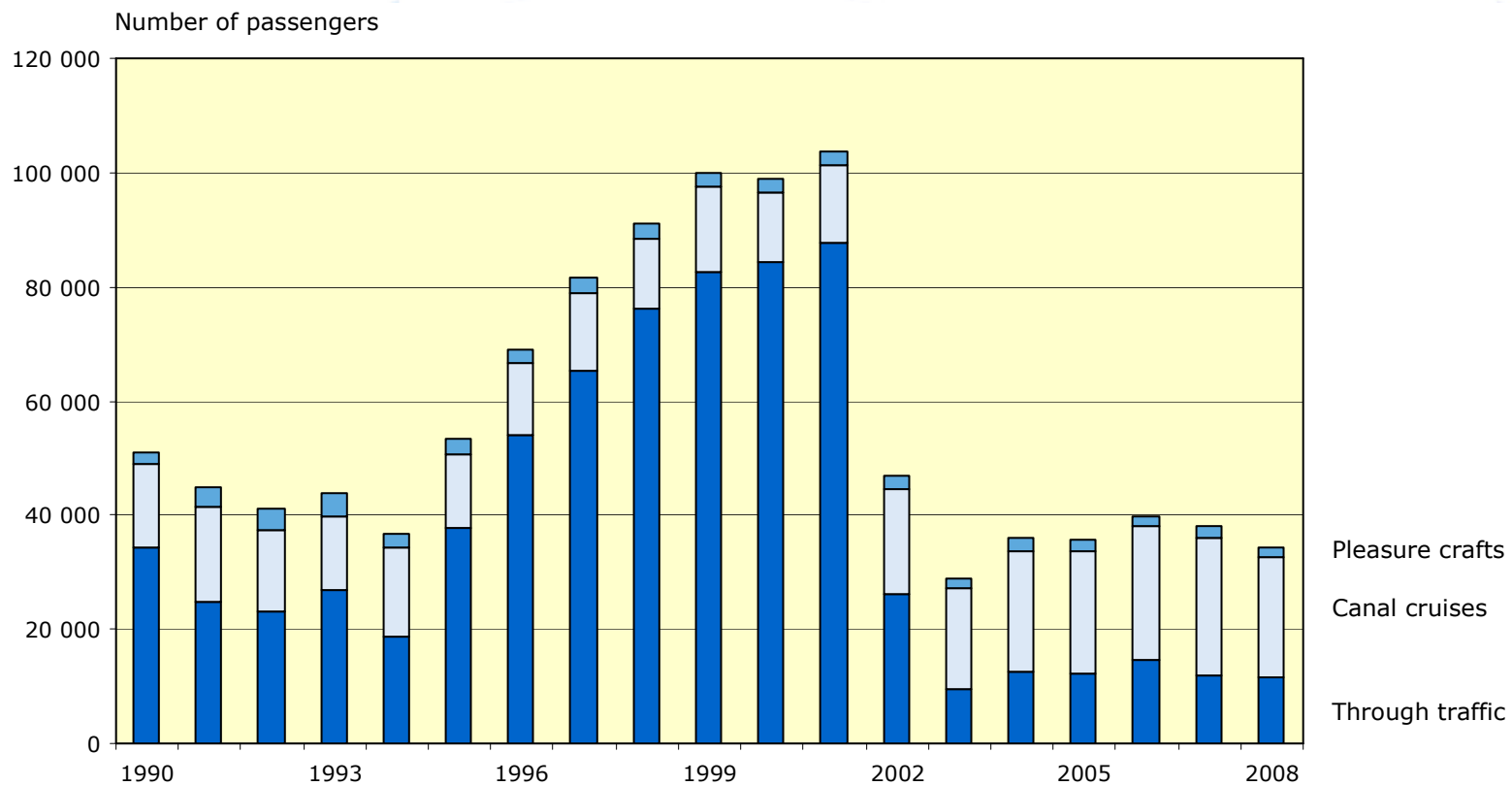


Goods traffic through the Saimaa Canal, 1990-2008



**Finnish Maritime
Administration**

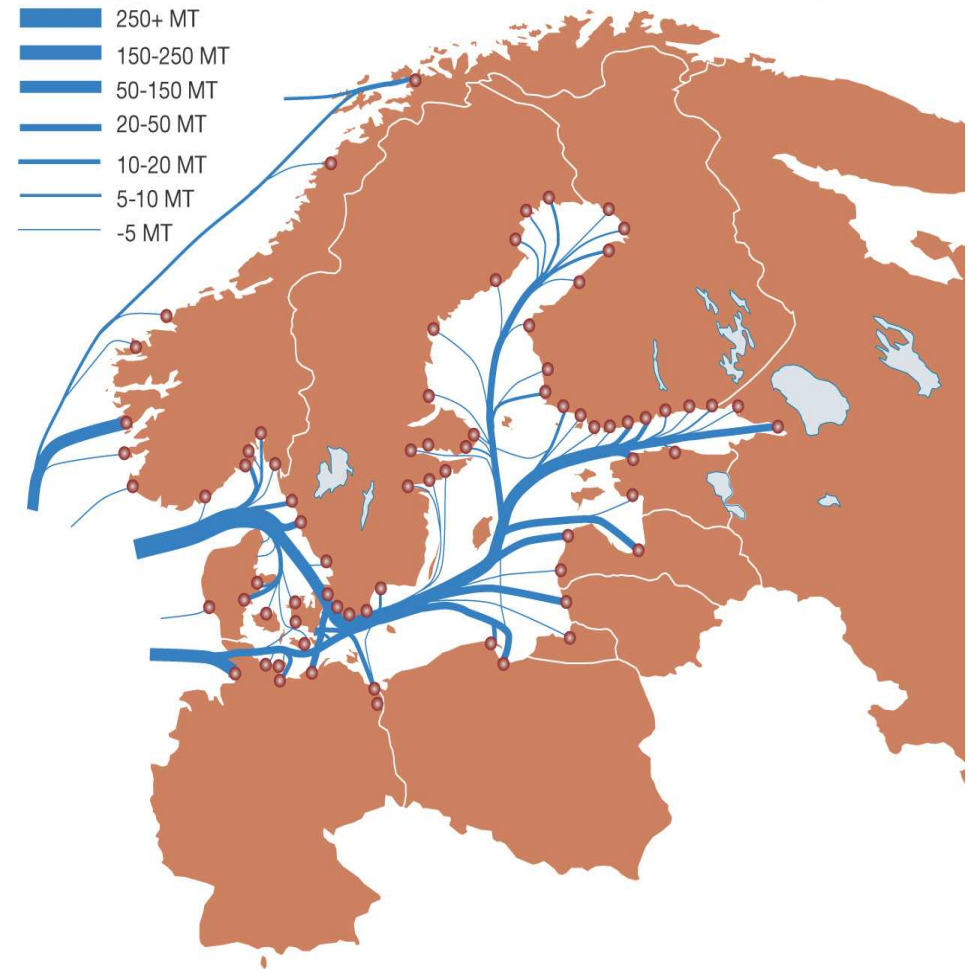
Passenger traffic through the Saimaa Canal, 1990-2008



**Finnish Maritime
Administration**

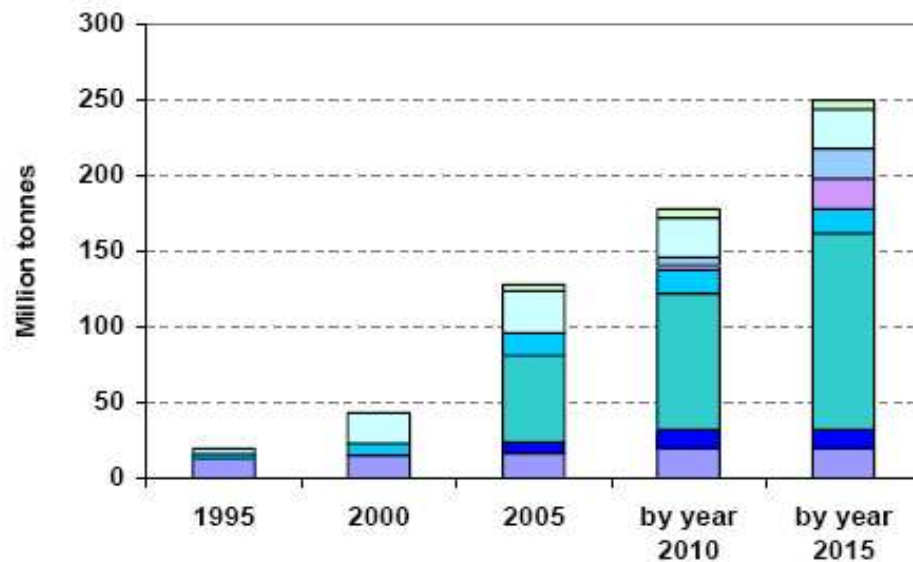
Maritime Goods Traffic in the Baltic Sea

- **Maritime traffic about 800 million tonnes**
- **Increases due to**
 - **Economic growth**
 - **Countries dependence on foreign trade**
 - **Russian oil transports**
- **Thin flows due to numerous ports in the region**
- **Rapid growth in container transports**



Example of local needs for improved information: Oil transportation in the Gulf of Finland through main oil ports

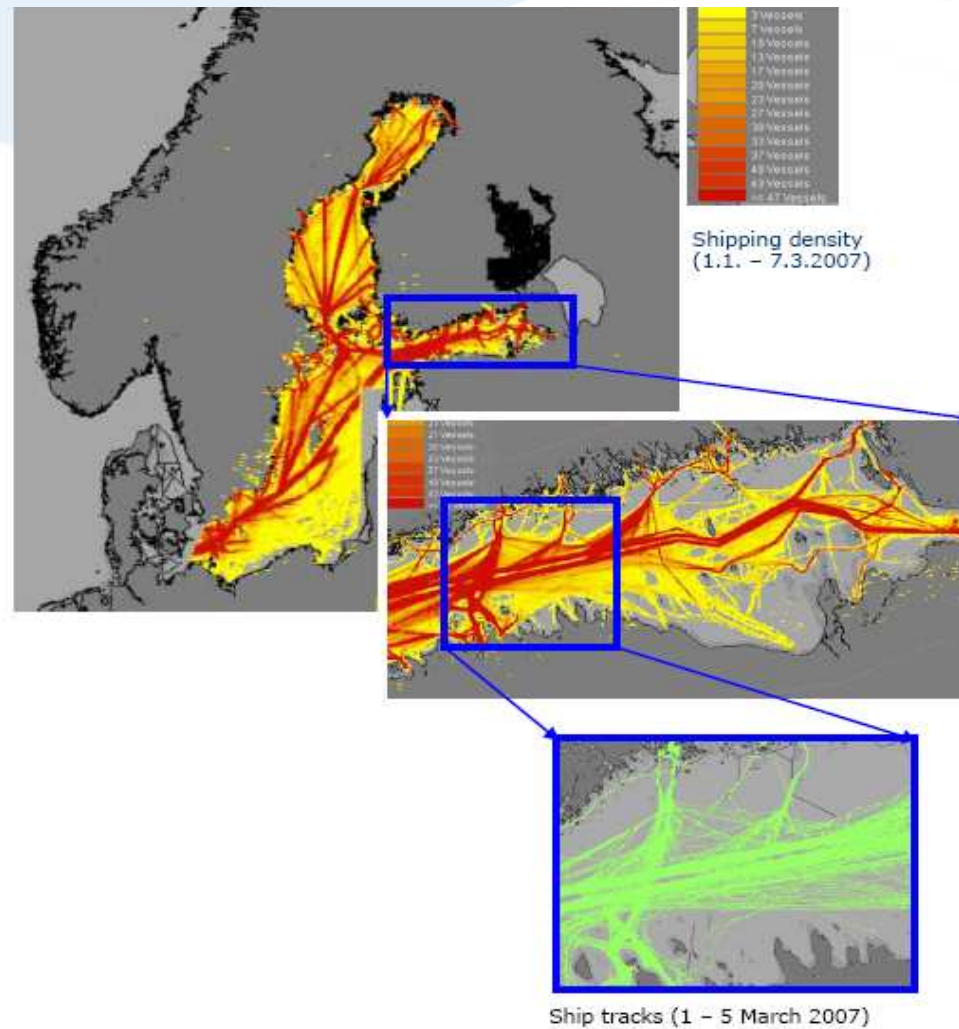
Oil transportation in years 1995-2005 and estimated development by year 2015



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



Shipping on the Baltic Sea



Access to real AIS data allows accurate estimation of routes and areas where shipping is actually going on and enables efficient planning of future hydrographic surveys and charting activities.