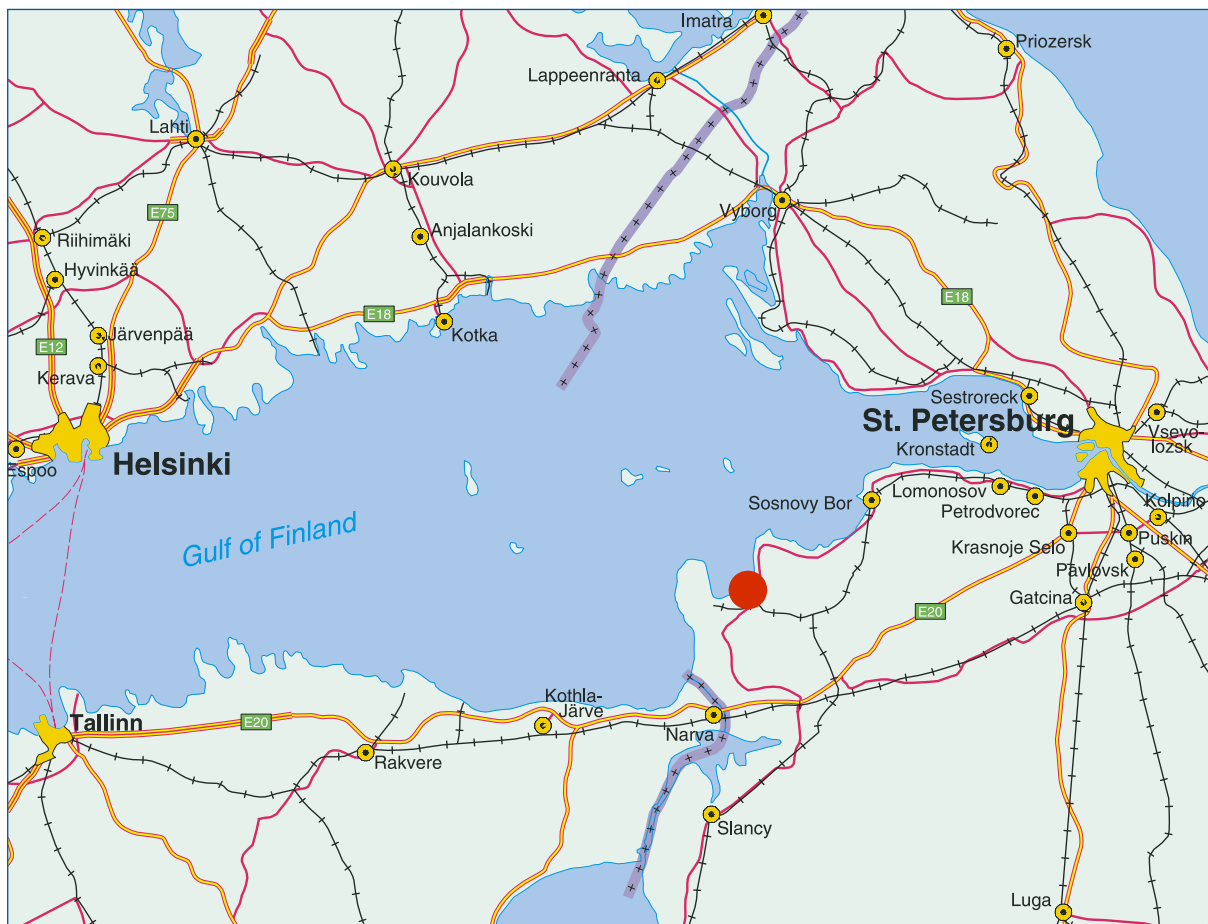




# Ust-Luga Port Development Project Multi-purpose Terminal

## Environmental Impact Assessment – Executive Summary –



**DRAFT**  
June 2003



## Preface

The European Bank of Reconstruction and Development (EBRD) has been requested by the Ministry of Transport of the Russian Federation (MoT) to participate in the funding of the construction of a Multi-purpose port terminal in Ust-Luga, Leningrad Oblast, the Russian Federation. The Federal State Unitary Enterprise “Rosmoport” will be acting as a Project implementation unit. The port will be composed of a RoRo/ferry facility and a container facility.

Prior to making a funding decision the EBRD has to be satisfied that

1. the elements of the investment program conform with national and European Community legislation and international conventions in the environmental field,
2. the project would not result in significant adverse environmental impacts,
3. the project would include all necessary mitigation measures to minimise any adverse change in the environmental conditions in the Gulf of Finland.

EBRD has classified the project as A/1, requiring an Environmental Impact Assessment (EIA) including a public consultation.

Scandiaconsult International AB has, on assignment by EBRD, made the EIA for the Multi-purpose Terminal. The assignment was commenced in April 2003 and a draft EIA is made available to the public on 30 June 2003.

An assessment of environmental impact for the planned terminals according to the Russian legislation was performed by GT Morstroj and ZAO “Ecotrans – Dorservis” during 2002. A translation of their document has been the basis for the description of the existing environment in the present EIA.

SCANDIACONSULT INTERNATIONAL AB  
Göteborg, Sweden, June 2003



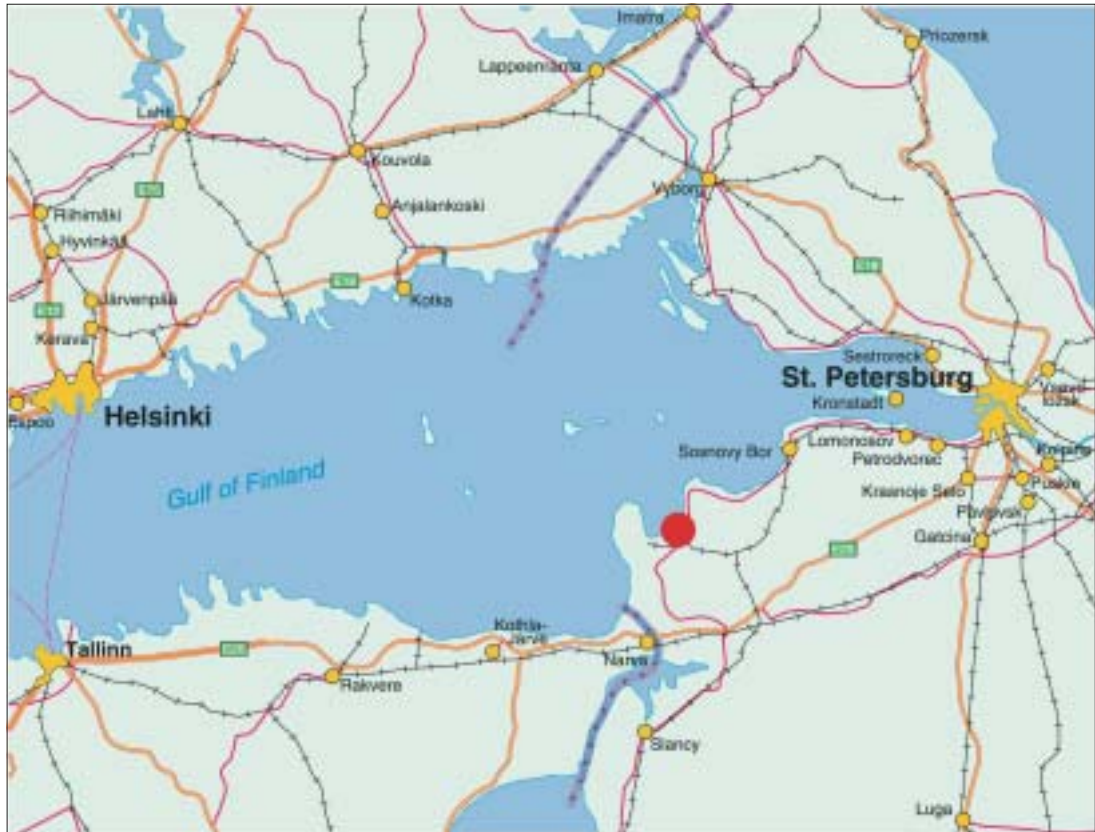
Catharina Pettersson, PhD, Head Environmental Department, Project Leader

# Table of Contents

<b>Preface .....</b>	<b>1</b>
<b>1 Introduction .....</b>	<b>3</b>
<b>2 Existing Environmental Conditions .....</b>	<b>4</b>
Location .....	5
Surface Water and Sedimentation .....	6
Flora and Fauna .....	6
Nature reserves .....	8
Air Quality, Noise and Ground Conditions .....	9
Socio-economic .....	10
<b>3 Project Description .....</b>	<b>11</b>
<b>4 Significant Environmental and Health &amp; Safety Impacts .....</b>	<b>12</b>
Proposed Localisation .....	13
Alternative North of Proposed Localisation .....	15
“Do-nothing” Alternative .....	16
Comparison of Impacts Associated with Alternatives .....	17
Impacts Associated with Closure and Decommissioning .....	17
.....	17
Identification of Key Uncertainties and Data Gaps .....	18
The Conformity of the Legal and Institutional Framework .....	18
<b>5 Mitigation Measures and Environmental Opportunities .....</b>	<b>19</b>
<b>6 Outline of an Environmental Monitoring Plan .....</b>	<b>20</b>
<b>7 Public Consultation and Interaction .....</b>	<b>20</b>
Scoping Meeting .....	20
Future Public Consultation .....	20
Notification .....	20
<b>8 Information Sources .....</b>	<b>21</b>

# 1 Introduction

Construction of a Multi-purpose Terminal at Ust-Luga is part of the development of a port complex STP Ust-Luga in the Gulf of Finland decided in a presidential decree in 1993. The Multi-purpose Terminal is localised to the southern part of the Luga Bay, see map below.



Map of the Area.

The Multi-purpose Terminal consists of a RoRo/ferry Terminal and a Container Terminal. A Coal Terminal is already constructed north of the planned Multi-purpose Terminal.

The Baltic Sea has some of the busiest shipping routes in the world. The traffic on the Baltic Sea is estimated to increase by 10-15% with the new capacity at STP Ust-Luga. The impact of increased traffic on the Baltic Sea will be higher risks due to vessel collisions, vessels running aground and other accidents leading to oil spillage.

The air emissions will increase due to increased transports on roads, railway and vessels. This leads to negative impact on the environment for example eutrophication, acidification, global warming and smog. These impacts are due to increased trade and commerce. In comparison with road transports vessels generates low emissions per transported tonne.

The European Bank of Reconstruction and Development (EBRD) has been requested from the Ministry of Transport of the Russian Federation (MoT) to participate in the funding of the construction of the Multi-purpose Terminal in Ust-Luga, Leningrad

Oblast, the Russian Federation. Prior to making a funding decision the EBRD has required an Environmental Impact Assessment (EIA) including public consultation to be performed for the project. A draft EIA has been prepared and will be disclosed to the public on 30 June 2003 to commence the 120 days EIA public consultation period. The Executive Summary presents the main findings of the EIA.

## 2 Existing Environmental Conditions

The Baltic Sea form an inland sea connected to the open ocean only by narrow straits. Due to the slow exchange of water with the open oceans, and low salinity levels, Baltic marine ecosystems are particularly vulnerable to pollution. The fragile ecological balance is threatened by pressure related to the activities of the 85 million people who live and work in the Baltic drainage basin. Over the past few decades, marine pollution has become increasingly serious.

The existing serious threats are eutrophication, discharges of hazardous substances. Other significant threats include habitat destruction, the use of certain harmful fishing equipment, the presence of alien species and oil spills. Oil is the biggest cause of environmental damage from shipping in the Baltic Sea. This may originate from accidental spillage or illegal discharge of sludge.



Ship accidents in the Baltic Sea.

## Location

The proposed Multi-purpose Terminal is located in the southern part of the Luga Bay in the Gulf of Finland, about 110 km west of St. Petersburg. The water is brackish and covers an area of about 200 km<sup>2</sup> with an average water depth of 11.4 m. The Kurgalsky peninsula in the west and the Soikinsky peninsula at the east coast limit the bay.



General view.

The coast on the site location is low and partly swampy. The coastal part is shallow.

The climate of the Ust-Luga region has the features of a marine climate of high latitudes, being transitional from marine to continental. Winds from south, southwest and west directions prevail during the year. Waves up to 1.6 meters has been observed during summer and waves of up to 2 m can be expected during storm. The currents in the Luga Bay are primarily caused by the water discharge by the River Luga, wind and currents of the Gulf of Finland.

Luga Bay ices over every year. The average number of days with ice is 146 days per year. The ice drifting in the Gulf of Finland is partly stopped by the Kurgalsky reef and local ice in Luga Bay is moved towards the east. These conditions keep the western part of the bay open to shipping until January/February and two years in five the channel remains open throughout the winter.

## Surface Water and Sedimentation

In the area of the port construction site the River Luga, and the smaller rivers River Khabolovka and River Luzhitsa discharge in the bay. The *River Luga* runs into the Luga Bay 5 km southwest of the construction site. The *River Khabolovka* originates in the northern part of the Khabolovo lake system and flows into the southeast part of the Luga bay just north of the Multi-purpose Terminal near Koskolovo village. The *River Luzhitsa* flows in a northern direction into the southern part of the Luga Bay.

River Luga has fairly high concentrations of inorganic nutrients as nitrogen and phosphorus, although concentrations vary during the year with e.g. the water flow and season.

The water in the Luga Bay is eutrophic due to a fairly high load of nutrients in the form of phosphorus and nitrogen from the rivers discharging into the bay. The oxygen content in the water is, however, relatively high giving good conditions for biological life.

Sedimentation occurs in the southern part of the bay. The River Luga annually transports approx. 41,000 tonnes of suspended solids. The movement of the suspended solids along the coast under influence of waves and currents occurs down to depths of 11–12 m.

## Flora and Fauna

Vegetation types on which the port expansion will have a direct impact are in the shallow water with bullrush, the marshland with reed and marshland flora and, further up from the shore, different kinds of pine forest.

In the Multi-purpose Terminal area, there are 8–10 different rare or protected species of plants, e.g. early marsh-orchid, heath spotted-orchid and water lilies. In the area for the whole port complex there are approximately 20 species of rare and protected plants.

The fauna of vertebrates around the Luga Bay is rich. The landscape is varied and contains many different kinds of habitats. Until now the area has not been involved in large human activities and the animal life has not been too much disturbed.

The area for the port expansion is close to the nature reserve of Kurgalsky peninsula. Many of the different species of birds that are harboured at the peninsula are also present at the shallow waters in the southeastern part of the bay. The area supports large numbers of migrating and breeding water birds. The following species of birds, included in the Russian Red Data Book (RRDB), are present in the area: Black stork, Bewick's Swan, Lesser White-fronted Goose, Barnacle Goose, White-tailed Eagle, Osprey and Peregrine Falcon.

Two species of seals are in the RRDB and vulnerable respectively near threatened according to IUCN Red List of Threatened Animals: Ringed seal and Baltic grey seal. Their primary habitat is in the archipelago north of the Kurgalsky peninsula.



Nesting sites of rare birds, habitats of rare mammals and locations of rare and protected plants. Numbered dots: 4 - Stork, 5 - Mute Swan, 6 - Velvet Scoter, 8 - Greylag Goose, 11 - Lesser Black-backed Gull, 14 - Razorbill, 15 - Black Guillemot, 16 - Ural Owl, 17 - Bat, 18 - Hedgehog, 24 - Grey Seal, and 25 - Ringed Seal.

The coastline in the area of planned port complex has different value as a habitat for animals and plants. The coastal zone in the shallow part of the bay have the highest value and the value diminish, as the water along the coast gets deeper. The shallow area is an important habitat for water birds and shore birds during nesting and migration periods and there are species of rare and protected plant.



Map of the value of habitats for flora and fauna.

The production of zooplankton in the Luga Bay is one of the highest in the Gulf of Finland. The zoobenthos of the Luga Bay has a smaller variety than in the western part of the Gulf of Finland and the Narva Bay. The most varying communities are found in the western, southern and central part of the bay. In the southeast part of the bay the communities are less varied.

The Luga Bay contains a wide variety of fish species and is a water area of the highest fishery category. The annual catch of fish is about 900 tonnes. The Luga Bay contains permanently more than 30 species of fish including sprat, salmon, gwyniad, vendace and trout. The spawning grounds in the River Luga explain the presence of salmon and gwyniad species in the bay. A reduction of the valuable species in the bay has occurred because of overfishing, infringement on spawning grounds and eutrophication. The proportion of the valuable species in the total annual catch has decreased. For that reason, the fish caught of less valuable species (stickleback, carp and bass) have increased.

The majority of the fish species in Luga Bay are spawning in the area. The spawning of sprats is concentrated to the central and northern parts of the Luga Bay, on banks in the coastal part on depths from 3 to 15 m. The Luga Bay is an important area for spawning and nursery ground for fish. The area is important for reproduction of basic food fish in the of Gulf of Finland.

### Nature reserves

There are three nature reserve areas in the vicinity of the port complex in Ust-Luga: The Ramsar wetland site and zakaznik Kurgalsky peninsula, zakaznik Kotelsky and the Baltic Sea Protected Area north of the bay – Eastern Gulf of Finland. The protected areas includes islands and sea area in the gulf.



Protected nature in the vicinity of the port complex in Ust-Luga.

Kurgalsky peninsula is a wetland of international importance according to the Ramsar Convention. The area is also a regional state nature reserve, a zakaznik. The site exhibits a high species diversity of flora and fauna, supporting numerous species of regionally or globally threatened plants, mammals, birds, amphibians and reptiles. The wetland supports large migrating and breeding populations of numerous species of waterbirds.

Kotelsky is a regional state nature reserve. The reserve has a high diversity of vegetation with some species from the Russian Red Data Book. There is also a rich wildlife with many rare birds. The lake system in Kotelsky is connected to the Luga Bay by the River Khabolovka, which ends up in the middle of the planned port complex.

The Baltic Sea Protection Area, BSPA, Eastern Gulf of Finland consists of islands with adjacent water areas in the Russian part of the gulf. The BSPA:s are sensitive areas with large numbers of nesting and migration birds.

### **Air Quality, Noise and Ground Conditions**

The background levels of air pollutants in the region of the port complex are formed by emissions from industrial centres. There are also industries contributing to the background levels and transboundary transport.

No measures of noise levels or vibrations have been carried out in the vicinity of the planned port complex. The noise and vibration levels estimates to be low in the nearby settlements due to a low traffic volume and absence of other sources.

The contamination level in the sediments in the Luga Bay that are described is generally low. The concentrations of heavy metals are close to the regional background, whereas hydrocarbons, PAH and chloroorganic compounds are detected, although not in very high concentrations.

The soil is probably not seriously polluted in the area of the port complex. Several ecological and geochemical investigations of soils in the territory of port complex in Ust-Luga have been performed. A comparison with guideline values indicate that the analysed samples do not contain high concentrations of mineral oil and PAH.

The natural component of radiating risk factors in the examined area is within the limits usual for Leningrad region. The results of field monitoring indicate a low probability of radiation danger. The area of raised cesium radiation is on the northern flank of the trace of the Chernobyl deposits. The average density of pollution Cs<sup>137</sup> is below threshold level. The amount of pollution of bottom sediments does not, on average, reach the threshold level. Contents of Cs<sup>137</sup> in fish in the Luga Bay are on an average level for the Gulf of Finland.

## Socio-economic

The region of the planned port complex belongs administratively to the Kingisepp district of the Leningrad Oblast. In Kingisepp district there are 74,000 people living. There are approximately 3,000 people living in the village of Ust-Luga. The houses in Ust-Luga and the nearby settlements are old and many of them in poor condition. The health of the population in the Sojkinskaja volost does not differ from the population of the Kingisepp district or the Leningrad oblast.

Close to the city of Kingisepp district the industrial site KPO “Fosforit” amalgamation is situated. Beside of the phosphorus industry, marine type of enterprises employs most of the population in the district. There is the Ust-Luga fish factory, the shipyard, “Lenkholodflot”-base, Ust-Luga quay and a fishery collective farm. A Timber Terminal and a fish port are located at the mouth of the River Luga. The agriculture sector is well developed in the area.

The port complex in Ust-Luga is connected to the St. Petersburg–Tallinn railway. There are two main roads leading to Ust-Luga. From Kingisepp in the south, there is a road along the River Luga. From the main road between St. Petersburg and Tallinn, E 20, there is a connection to Ust-Luga through the Kotelsy zakaznik.

There are two nearby settlements – Luzhitsy, approximately 3 km southwest and Koskolovo approximately 1 km east of the port complex.

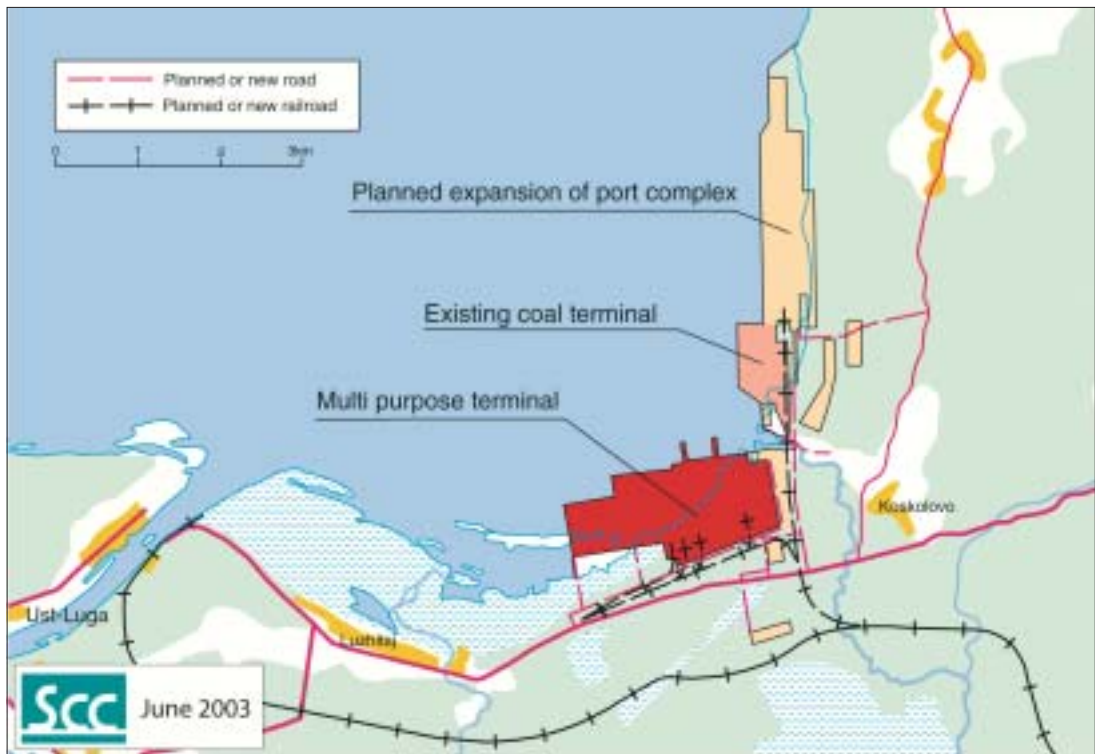
Settlement	Population
Dubki	18
Semenkovo	5
Krasnaya Gorka	12
Ugantovo	55
Slobodka	36
Koskolovo	22
Luzhitsj	70

Settlements around STP Ust-Luga.

Many of the houses in the settlements are used as summerhouses and the population will be 3 or 4 times as high during summer vacations. Land use in the vicinity of the port complex is forestry and agriculture. Northwest of the complex there are minor areas of grazing land and grassland for hay.

### 3 Project Description

The Multi-purpose Terminal consists of a Container and a Ferry Terminal. The terminals will be located next to each other with the Container Terminal further to the west. The Multi-purpose Terminal is planned for passengers, trucks and railway wagons. The capacity is planned for approximately 4 million tonnes per year, mainly on trucks and trailers.



Map of Terminals.

The terminal will be constructed in a rather shallow area. The territory will be filled by sand from borrow pits only a few kilometres from the site and by sand from the dredging operation. More than 2 million m<sup>3</sup> of fill will be required. The water depth at quay will be 9.5 m.

The Ferry Terminal will be more or less self-sufficient having an auxiliary power generating plant, water supply, heating plant, sewage treatment plant, filling station for vehicles, canteen for personnel, fire station etc. There will be several buildings for administration, operators, customs, watchmen etc. In total approximately 500 persons will work at the site when fully constructed. There will be a main terminal building to which all passengers will be admitted and then transported to the ship by bus.

## 4 Significant Environmental and Health & Safety Impacts

The Baltic Sea has some of the busiest shipping routes in the world. The traffic on the Baltic Sea is estimated to increase by 10–15% with the new capacity at STP Ust-Luga. The impact of increased traffic on the Baltic Sea will be higher risks due to vessel collisions, vessels running aground and other accidents leading to oil spillage.

The air emissions will increase due to increased transports on roads, railway and vessels. This leads to negative impact on the environment for example eutrophication, acidification, global warming and smog. These impacts are due to increased trade and commerce. In comparison with road transports vessels generates low emissions per transported tonne.

The environmental impact assessment is performed for three alternatives:

- The proposed localisation at Ust-Luga
- A localisation north of proposed localisation
- “Do-nothing”, i.e. no Multi-purpose Terminal is constructed.

The proposed localisation is described in chapter 3.

An alternative localisation along the coast north of the proposed localisation is suggested and broadly described. This site requires no dredging for channels and turning basins, which also would minimise maintenance dredging. It is more likely that material excavated on land is more suitable as fill than material to be dredged. The west edge of the landfill could be placed close to the –9.5 depth line thus avoiding dredging, minor dredging at the berth might, however, save long slopes with extensive erosion protection. By siting separately common services for all the terminals would reduce the area of land required for the RoRo Terminal. A minimum area of 10 ha is required, approx. 400 m along the shore and 250 m wide. The container terminal will require a wider and squarer area to be efficient and to minimise internal transports. It should thus be placed south of the Ferry Terminal.

If the Multi-purpose Terminal is not constructed the cargo will be shipped to and from existing Russian ports in the Gulf of Finland. In the do-nothing alternative the ports of St. Petersburg, Primorsk, Vysotsk/Vyborg and Lomonosov are studied.

Only the major impacts that have a decisive influence on the environment and health are described.

## Proposed Localisation

### Construction Phase

During dredging operation and dumping zones of high turbidity are formed in the water.



Dumping site location, and dredging areas in Port complex. The map also shows the maximum impact area of turbidity increase, due to the dredging operations for the complete Port complex.

This means that an impact area within approx. 200–1,500 m can be expected at the dredging areas, and 200–1,000 m at the dumping area depending on the wind speed and direction.

The dredged material is not considered to be contaminated in comparison to guidelines. Turbidity caused by the dredging and dumping is a temporary disturbance but can have effect on the under-water ecosystems depending on the intensity and duration of the disturbance.

The land and sea areas of the new terminal will destroy the habitats for the flora and fauna.

The land and shore required for the port complex contains a great number of rare plants. Approximately 30 sites of rare plants will be destroyed in a full-expanded port. Additional 10–15 sites for rare plants are threatened. Reeds along the shoreline is a habitat for birds.

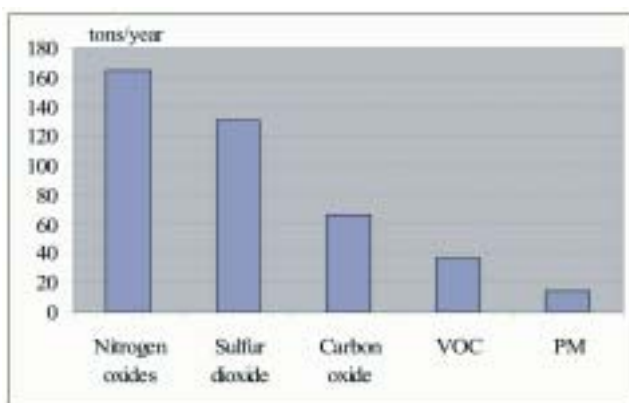
Activities like dredging, reclamation and soil dumping will destroy the habitats of benthic animals. Part of the bottom at the shallow part of the bay is withdrawn irrevocably. The shallow water area is a spawning and feeding ground for fish and is also important as a nursery ground for juveniles. The area for feeding, spawning and nursery for juveniles decreases in Luga Bay.

Today there are mainly less valuable species of fish in the areas for the terminal construction. But the area has a good potential for fish reproduction with ideal water depths and good nutrient conditions close to the River Luga mouth.

At the dumping site for dredged materials, spawning grounds for sprat will be affected. The total spawning grounds for sprat in the Luga Bay region are estimated to 9,900 hectares. The area for dredged material dump is estimated to 895 hectares. An essential part of the spawning ground for sprat will be destroyed, at least temporarily.

### **Operation Phase**

The annual emissions of air pollutants from the fully expanded port complex are shown below.



Total annual emissions from port complex.

Simulation of NO<sub>2</sub> dispersion in the air shows that the maximal levels of NO<sub>2</sub> in nearby settlements vary from 50 to 72 µg/m<sup>3</sup> with highest levels in Koskolovo and in the eastern part of Luzhitsj. Simulation for SO<sub>2</sub> shows that maximal concentrations vary from 35 to 50 µg/m<sup>3</sup>. The concentration of CO in the nearby settlement will according to simulations be maximum 2 µg/m<sup>3</sup>. The fuel station at the Multi-purpose Terminal will be the major source of benzene emissions but will give rise only to low concentrations in nearby settlements.

In comparison with the European EQS the maximal short-term levels of air pollutants NO<sub>2</sub>, SO<sub>2</sub> and CO in nearby settlements will be low even when the port is fully expanded. With predominantly southerly winds the estimated concentration, on day and year basis, will be lower than the European EQS.

Atmospheric reaction occurs remote from the emitting source; hence the port emissions of NO<sub>2</sub> will contribute to ozone concentrations in the region. Emissions of NO<sub>2</sub> and SO<sub>2</sub> from the port will contribute to acidification in the region. NO<sub>2</sub> and SO<sub>2</sub> will also contribute to the transboundary transported acidification substances. Emissions of NO<sub>2</sub> contribute to eutrophication, both regional and transboundary.

Noise is mainly generated from auxiliary engines of vessels at quay and from loading, unloading and storage of cargo. The noise sources also include railway and ferry traffic. The port is operated 24 hours a day, seven days a week. A calculation of the

equivalent noise levels for the Multi-purpose Terminal was carried out. The noise contours shows that no residential building are exposed to equivalent noise levels above 45 dB(A) which agrees with WHO guidelines.

The auxiliary ship engines generate low frequency, disturbing noise. This type of noise is hard to screen and will likely be heard both inside and outside the houses in the settlements in the vicinity of the port.

The most significant risks, by the degree of environmental impact, are accidents with petroleum products. The highest risks during port operation are connected with fuel bunkering, although the risks are not high.

### ***Operation Phase – Indirect Impacts***

Ships visiting the Port complex discharges ballast water that may effect the ecosystem in the port area as well as the Baltic Sea. Alien organisms from water areas outside the Baltic Sea can be transported with the ballast water. The introduction of invasive marine species into new environments by ships' ballast water has been identified as one of the four greatest threats to the world's oceans. Non-native species are a serious threat to the natural ecosystems and harm habitats in the Baltic Sea and Luga Bay.

Anti-fouling paints are used to coat the bottoms of ships to prevent marine species such as algae and molluscs attaching themselves to the hull. The paints are designed to deliberately leach pesticide like tributyltin, copper and Irgarol into the environment. The emissions of pesticides can be harmful in shallow bays, especially during periods of marine flora and fauna reproduction. The extent of vessel activity associated with the whole port and proximity to shallow areas indicates that a negative impact on marine life is probable.

Of the possible scenarios identified accidental discharge of oil waste is ranked as the highest risk. The next most dangerous impact on the environment is accidents causing rupture of vessel fuel tanks. These accidents can occur by ships running aground or collisions. The risk in Luga Bay is estimated to be low.

### **Alternative North of Proposed Localisation**

#### ***Construction Phase***

The impacts due to land formation and dredging operations will be smaller than for the proposed alternative. The need for dredging and landfill is lesser, and thus also the turbidity impact area.

The habitats on land along this steeper coastline are estimated to be less valuable. Habitats close to the shore are estimated to be most valuable but this area along the coastline is narrow.

Shallow water extents approximately 100–200 m from the shoreline and the area for construction are estimated to be less valuable as spawning and nursery ground for fish.

### **Operation Phase**

Sources of air pollutants will be similar to those described for the Proposed localisation, although the location of the sources and the nearby settlements will differ. The concentration of air pollutants will thus be about the same in inhabited areas.

Equivalent noise levels are estimated to be the same or lower than in the Proposed localisation alternative and settlements will be exposed to low frequency noise.

The probability and the consequences of accidents will be almost the same as described for the Proposed localisation. The greater water depths in this alternative allow safer navigation and there is a greater distance to the environmentally sensitive areas in the south part of the Luga Bay.

### **Operation Phase – Indirect Impacts**

The same problem with discharge of ballast water as described for the Proposed localisation will occur. The discharges will happen further north in the bay but the threat and potential effect will be almost the same.

The use of anti-fouling on vessels gives a negative impact on marine life closest to the port. The water depth and water masses are greater here thus the anti-fouling substances will be diluted. A negative impact on benthic animals and flora as well as for species living in the open water masses will anyhow occur.

### **“Do-nothing” Alternative**

The impacts of the do-nothing alternative are hard to predict. More cargo will be shipped out from existing Russian ports. This means a higher frequency of vessels and land transport by railway and road at these ports. It also could mean an expansion of these ports which impacts are hard to foresee.

All existing ports are a more or less unsuitably located from an environmental point of view. Some of them are located close to inhabited areas or have access roads or/and railway through inhabited areas, which will increase the health impacts.

## Comparison of Impacts Associated with Alternatives

The major impacts of the three alternatives – Proposed localisation, North of proposed localisation and the Do-nothing alternative – are compared in the table below.

Impact	Proposed localisation	North of proposed localisation	Do-nothing	Comments
Air pollution	–	–	--	Air pollution does not have a severe impact in the two first alternatives. Some of the existing ports are located in densely inhabited areas. The regional and transboundary transport of air pollutants will be approximately the same for the alternatives
Water pollution	–	–	0	Dredging and/or filling in sensitive water areas during construction will occur in the first two alternatives, although to a larger extent for the proposed localisation for which also maintenance dredging will be necessary. A more or less uninfluenced area will be exposed for potential harmful organisms in ballast water and vessels with anti-fouling systems on their hull.
Noise	–	–	--	Few people in the settlements close to the port in the first to alternatives will be exposed to rather low levels of equivalent noise. Some low frequency noise will occur. Many of the existing ports are located close to densely inhabited areas and the access roads and railways will pass through residential areas.
Infringement on natural environment	--	–	0	The largest infringements in valuable nature environment are made in the proposed alternative. The alternative north of the proposed will give less impact. In existing ports some expansion will be necessary but in most cases the infringement is estimated to be of low significance.
Risk conditions	–	–	--	Existing Russian ports are located in places where fairways are narrow and pass valuable and protected nature environments. An accident with discharge of oil could lead to large negative impacts. Accidental discharges of oil in the Luga Bay could also lead to large damage to marine life and sea birds. The navigation conditions here are better and the probabilities of accidents are lower.

Comparison of alternatives.

From the table the conclusion can be drawn that the two alternatives in the Luga Bay are preferred to an expansion of existing Russian ports in the Baltic Sea. Of the two alternatives in the Luga Bay the alternative North of proposed localisation might be preferred due to a lesser infringement on valuable natural environment and a lesser degree of dredging activities.

## Impacts Associated with Closure and Decommissioning

The closure of the port does not include decommissioning of the developed land area and quays. The impact on the environment in Ust-Luga region and Luga Bay will be positive due to diminished emissions and discharges to air and water.

## Identification of Key Uncertainties and Data Gaps

In order to reduce the discharges of ship-generated **waste** into the sea, the Multi-purpose Terminal is obligated to have reception facilities for ship-generated waste and cargo residue according to the international conventions and the EC law. There is however no information found that describes how waste from ships normally using the port will be taken care of.

Results from the **air emissions** investigation and calculation seem to be exceptionally low in comparison with other ports in operation. The emissions from vessels at quay, which often have a bigger impact than the one from working machines, seem not to have been included.

## The Conformity of the Legal and Institutional Framework

The Multi-purpose Terminal infringes on areas (large shallow inlets and bays) that could have been considered to be an object of protection according to the habitat and bird directives (Natura 2000) but do not apply, as the Russian Federation is not a Member State in the European Union.

A very large land and water area will be required for constructing the Multi-purpose Terminal. The shallow water area is a valuable spawning and feeding ground of fish and is also important as a nursery ground for juveniles. The Helsinki Convention stresses the sustainable use of natural resources in the Baltic Sea Area. The relation between this big terminal area and planned port activities may be questioned and a smaller area could be more appropriate.

Close to the Multi-purpose Terminal and the channels there are several sensitive and vulnerable habitats, which could be seriously effected by accidental pollution from ships, e.g. Baltic Sea Protection Area (Ostrov Seskar and Ostrov Malyy) and Ramsar area (Kurgalsky Peninsula).

## 5 Mitigation Measures and Environmental Opportunities

Key impact		Suggested mitigating measures
Construction phase	Water pollution – turbidity and accidental oil spillage during dredging operation and dumping	<p>Development of a dredging plan according to World Bank guidelines – no dredging during summer months, no dredging during storms, manual for prevention of pollution from dredgers, short and sufficient dredging with suction dredgers.</p> <p>Drained water from dredged material used as fill should pass some dams with low water speeds in which the suspended materials settle on the bottom.</p> <p>A waste management system must be available on site in order to collect oil spills, sludge, contaminated water etc.</p>
	Infringement on valuable land and shore habitats	Rare species of plants should be moved to other sites in the area of Luga Bay having similar habitat conditions. Habitats for birds is not possible to compensate. Develop a biodiversity management plan.
	Infringement on valuable sea habitats	Destruction of habitats valuable as spawning and nursery ground for fish (sprat, stickleback and others) is not possible to compensate. Develop a biodiversity management plan.
Operation phase	Air pollution	Provision of shore based electricity. Environmental differentiation of fairway and port dues.
	Water pollution – oil spillage, ballast water with alien species and anti-fouling etc.	<p>Oil contingency plan for the whole terminal.</p> <p>Waste handling plan. Waste disposal facilities in accordance to the international conventions. Even though the port planning does not foresee the port will be used to handle hazardous materials an area should be set aside for the storage of such goods.</p> <p>Special mitigation measurements according alien species and pesticides in anti fouling are hard to implement. International conventions and national law decide these issues.</p>
	Risks of oil spillage	To obtain safer fairways and reduce the risks for accidents due to collisions a Vessel Traffic Service (VTS) should be introduced when the capacity of the port is approximately 10 million tons.

## **6 Outline of an Environmental Monitoring Plan**

The Ministry of Transport will develop the environmental monitoring plan under consideration of suggested mitigation measures.

## **7 Public Consultation and Interaction**

### **Scoping Meeting**

An initial scoping meeting was held on 11 March 2003 at the Administration of Municipal Formation “Kingisepp region”, Leningrad oblast, Kingisepp. 123 persons attended the meeting and the main conclusions and recommendations from the meeting were:

1. To recognise the necessity to establish a ferry complex facility Ust-Luga–Baltiisk–Baltic ports of Germany at the Marine Trade Port of Ust-Luga for organisation of ferry connection between Kaliningrad oblast and Leningrad oblast. This measure will provide enhancing of foreign trade economic efficiency between Russia and the European community. It should also improve competitive capacity of the “North-South” and “East-West” international transport corridors, and ensure reliable and economically viable connection with the Kaliningrad oblast.
2. To comment the completeness of the EIA study being performed at the present designing stage as well as the structure and scope of the scheduled nature protection measures.
3. To completely take into account, in the framework of environmental protection measures of the design “Environmental Protection” Chapter, the comments and proposals, presented during the public consultation meeting,
4. To publish, after mutual approval, the minutes of the public consultation meeting of the “Combined multi-purpose cargo and passenger transport connection with a railway and motor vehicles ferry facility of the “Ust-Luga–Baltiisk–Baltic ports of Germany” route” project (concerning the ferry terminal facility at the MTP of Ust-Luga).

### **Future Public Consultation**

The final public consultation will be held during the period of 120 days following the public disclosure of the EIA document. The meeting is planned to late August – beginning of September 2003. At this meeting the draft EIA document will be presented and discussed. Minutes from the meeting will be included in the final EIA.

### **Notification**

There is no evidence of any documentation about notification procedure to the Finnish and Estonian authorities concerning the project according to Espoo Convention or the EIA.

Directive. During interviews with the Ministry of Transport there also seems to be some uncertainty about who is responsible for the notification procedures, Ministry of Foreign Affairs or Ministry of Natural Resources. HELCOM has not been notified according to the Helsinki Convention. During interviews with the Baltic Marine Sea Inspection (BMSI), Ministry of Natural Resources, it appears that BMSI does not consider the Multi-purpose Terminal to have a significant impact on the marine environment in the Baltic Sea. Although the direct impacts of the activities in the Multi-purpose Terminal are not of such significant transboundary impact that notification is needed, the indirect impacts could however be considered to cause a significant transboundary impact. Emissions from NO<sub>2</sub> and SO<sub>2</sub> are so-called long-range transboundary airborne pollutants, which will contribute to acidification. Emissions from NO<sub>2</sub> will also contribute to regional and global eutrophication. There are also the risks of accidental pollution of the marine environment from ships. The fairways to the terminal pass for instance areas designated as Baltic Sea Protection Areas governed by HELCOM although the areas are within Russian territory.

## 8 Information Sources

To commence the public consultation period of 120 days the following documents are disclosed on 30 June 2003:

- *Ust-Luga Multi-purpose Terminal: Environmental Impact Assessment, Draft June 2003* (in English)
- *Ust-Luga Multi-purpose Terminal: Executive Summary of Environmental Impact Assessment, Draft June 2003* (in Russian and English)

*Ust-Luga Multi-purpose Terminal: Environmental Impact Assessment, Draft June 2003* will be disclosed in Russian at latest on 9 July 2003.

The documents are available on the following sites:

- Russian Public Library, Ploshad Ostrovskogo, 1, St. Petersburg
- Public Library, Boljshaja Sovetskala, 30, Kingisepp
- Ust-Luga district administrative centre, Krakolje, Kingisepp region
- Sea administration centre for Vyborg and Vysotsk port, Juzny Val, 1, Vyborg
- The offices of Ministry of Transport of the Russian Federation in St. Petersburg and Moscow
- Business Information Centre, European Bank for Reconstruction and Development, London, UK in the Bank's St. Petersburg.