THE RUSSIAN FEDERATION

NATIONAL PROGRAMME FOR THE REHABILITATION AND RECOVERY OF THE BALTIC SEA ECOSYSTEM (STRATEGY)

MOSCOW - 2010
1. Justification of the goals and problems solved under the Programme to priority goals of the economic development of the Russian Federation

This Programme has been developed in accordance with:

1. **Federal Laws:**

2. **Russian Federation Government decrees:**

3. **Russian Federation Government ordinances:**
   3.1. Russian Federation Government ordinance No. 1662-r as of 17.11.2008 “Concept of the long-term social and economic development of the Russian Federation for the period until 2020”.


**Goals and objectives of the Programme are the rehabilitation and improvement of the Baltic Sea ecosystem.**

In the period of the 20th century industrialization and growth of population, the anthropogenic load on the sea ecosystem had significantly grown up due to the inputs of polluting substances, intensive fishery and minerals production.

The anthropogenic load by the end of the 20th century led to multiple adverse features, including fish having high content of toxic substances, beaches polluted by macrophytes, blooming toxic algae that pollute marine environment endangered wild nature.

The Baltic Sea has the world most intensive navigation routes; in the recent years, increased navigation led to greater amount of illegal discharges of oil and oil products, wastewater, garbage and hazardous liquids into the Baltic Sea. All these substances continue to affect the Baltic ecosystems long after they had been dumped into the sea. About 300,000 pleasure boats in the Baltic Sea discharge wastewater directly into the sea every summer; this is equal to discharges of untreated wastewater from a
major city. Besides this, the danger of introduction of alien invasive species into the Baltic waters with ballast waters of sea-going ships has significantly grown in the last years.

All above problems urge the development and adoption of a common comprehensive approach to the management of water quality in the entire Baltic Sea basin based on the principles of rehabilitation and conservation of its ecosystem, and the integration of scientific and economic potentials of all countries of the Baltic Sea catchment area.

The Contracting Parties of the Convention on the protection of the marine environment of the Baltic Sea, 1992 (Helsinki Convention) have made an assessment of the Baltic Sea environmental status and anthropogenic impacts within the programmes of monitoring by using the HELCOM assessment tools developed by the Helsinki Commission, the Helsinki Convention Executive Body (HELCOM). It helped to identify the major problems, set major goals, objectives and identify measures needed for the achievement of the identified goals and objectives.

All Contracting Parties, including Russia, endorsed the HELCOM Baltic Sea Action Plan (BSAP) in November 2007 in Krakow (Poland) aimed at the rehabilitation and improvement of the Baltic Sea ecosystem for the benefit of the present and future generations.

**HELCOM BSAP** is targeted at the accomplishment of the 4 major goals:

1. The eutrophication of the Baltic Sea is at natural level (clear and transparent water; natural level of algal blooms; natural range of plant and animal distribution; natural levels of oxygen content in the sea water).
2. The Baltic Sea organisms are not affected by hazardous substances (all fish caught in the sea is safe for consumption; concentrations of hazardous substances are close to the natural levels; healthy wildlife; radioactivity is at the pre-Chernobyl level).
3. Biodiversity of the Baltic Sea has favourable status (natural landscapes and water areas; flourishing and ecologically balanced communities of biological diversity; prosperous communities of plants and animals, viable populations of species);
4. Safe maritime activities in the Baltic (safe navigation without accidental polluting; efficient readiness for responding to emergency situations; minimal pollution coming with the ships’ waste waters; absence of input of unwanted invasive water organisms; zero discharge from oil platforms; minimal threats from offshore installations other than oil platforms).

In order to implement HELCOM BSAP, the Contracting Parties shall develop their national plans which shall include the implementation of existing environment protection programmes and HELCOM projects under the BSAP frames with consideration of national priorities, economic and ecological expediency, and financial capacities of each country.

The National plans shall be considered and adopted at the HELCOM Ministerial meeting which will take place in Moscow on May 18-20, 2010, under the chairmanship of the Russian Federation, which lays double responsibility on Russia.

This Programme developed in line with the Russian Federation Government resolution as of 18 August 2009 No. 1166-r “On the approval of measures for the protection of the environment as part of the environmental and radiation safety of the Russian Federation” p. 25: “The preparation of the strategy and implementation of the National Action Plan for the rehabilitation and improvement of the Baltic Sea ecosystem based on the Baltic Sea Action Plan of the Commission for the protection of the marine environment of the Baltic Sea area”.

This draft has been developed in order to fulfil the international commitments of Russia under the Helsinki Convention on the protection of the marine environment of the Baltic Sea area, 1992, ratified by the Russian Federation in November 1999 and enforced by all Contracting Parties since 17 January 2000.

The Programme will be implemented in the Russian part of the Baltic Sea catchment area, the total area of which amounts to 325.4 thousand m² and embraces the City of St. Petersburg, the Leningrad, Kaliningrad, Novgorod, and Pskov Regions, part of part of the Vologda Region and of the Republic of Karelia.

The rehabilitation and improvement of the Baltic Sea ecosystem will enable to ensure environmental safety as well as to solve other goals stemming out of the “Concept of long-term social and

The Russian Federation Government resolution No. 1225-r as of 31 August 2002 adopted the Environmental Doctrine of the Russian Federation establishing the goals, benchmarks, objectives and principles of the unified policy of the Russian Federation in the field of environment for a long-term period.

The strategic goal of the state environmental policy is, among others, the conservation of the natural systems, their integrity and sustainable functions, the environmental safety of the country. The strategic goals indentified in the “Russian Federation national safety strategy until 2020” (adopted by the Russian Federation President ordinance No. 537 dated 12 May 2009) are, inter alia, the protection of the natural environment and combating of negative environmental impacts of economic activities.

Natural sites safety as well as the safety of population and protection against negative impacts pertaining to economic activities, the improvement of the environmental status of water bodies, conservation of nature systems through the development of strictly protected nature areas, marine environment protection, fulfilment of the international commitments of the Russian federation are related to strategic goals of the Ministry of Natural Resources and Environment of the Russian Federation.

The strategic goals of the Ministry of Natural Resources and Environment of the Russian Federation involve nature resources use in economical activities, as well as integration of natural resources in the system of social and economic relations as the most valuable components of national welfare.

The implementation of the Federal Targeted Programme “National Action Plan for the rehabilitation and improvement of the Baltic Sea ecosystem” will enable reaching of the abovementioned goals and priority tasks for social and economic development of the Russian Federation.

The Federal Targeted Programme “The National Action Plan for the Rehabilitation and Improvement of the Baltic Sea Ecosystem” will include 6 sections:

1. Eutrophication
2. Hazardous Substances
3. Biodiversity and Nature Protection
4. Maritime Activities
5. Monitoring
6. Raising Public Awareness and Ecological Education

1.1. Background

1.1.1. Eutrophication

Eutrophication – is a process of secondary biological contamination of a water body when high concentrations of nutrients (organic and mineral forms of nitrogen, phosphorus and silicone) in aquatic environment boost excessive algae growth and spreading.

This process leads to higher oxygen consumption, depletion or complete hypoxia in bottom layers; annihilation of benthic organisms and fish, in finally complete degradation of the ecosystem.

The Baltic Sea is currently exposed to anthropogenic eutrophication that differs from natural one by accelerated process, and it has turned into the eutrophic marine environment (higher organic matter content).

The sources of excessive nutrient inputs in the Baltic Sea are untreated or insufficiently treated municipal and industrial wastewater (point sources); diffuse sources: agriculture (improper storage and use of animal waste, excessive field application of mineral fertilizers); scattered aggregations that have no sewer and wastewater treatment systems.

Synthetic detergents containing polyphosphates account for a significant share in phosphorus inputs from the municipal wastewater.
1.1.1.1. Municipal wastewater treatment plants

The total amount of wastewaters in the Russian part of the Baltic Sea water catchment basin amounted to 8899.9 million m³ in 2008. The discharge onto surface and into underground horizons amounted to 37.08 million m³; of water discharged into the surface water bodies to 8861.51 million m³.

The amount of polluted waters was 1927.87 million m³; of those were discharged:
- Polluted water (no treatment): 549.08 million m³,
- Insufficiently treated water: 1378.8 million m³,
- Standard purity (no treatment) wastewater: 6931.06 million m³.

It should be noted that the Russian legislature does not regulate the discharges of total nitrogen and total phosphorus in wastewater, but only the mineral forms thereof.

**St. Petersburg**

The 5-million city of St. Petersburg is located on the islands in the Neva mouth; it is the major polluter located in the Baltic Sea catchment basin, discharging great amount of insufficiently treated municipal wastewater into the Neva mouth and the eastern part of the Gulf of Finland, the latter belongs to the most polluted sub-basins of the Baltic Sea.

In the last years, much has been done in St. Petersburg to reduce untreated wastewater discharges through combined and household wastewater sewers. As of 2008, about 268,000 m³/day of wastewater was discharged into water bodies without treatment.

Upon the implementation of deep nitrogen and phosphorus removal technology by WWTPs, the capacity for treating surface water has been significantly reduced. In this respect, the management and treatment of surface water at local treatment plants will become vital in the nearest future.

Presently, 1300 km of sewer system is in poor state; each year the length of worn networks increases. It is due to insufficient renovation (factual implementation is 25-30 km/y, while the demand is 80-100 km/y) and unsatisfactory status of sewerage systems caused by long term operation. The sewer systems are used under very hard conditions and are subject to aggressive impact both externally and internally.

In 2008, the first phase of the master sewer collector extension in the northern part of the city was commissioned; that enabled to start the process of connecting the biggest city direct discharge to the WWTPs via the sewer system. The completion of the collector construction is a priority task, and that will enable to reduce discharges of untreated wastewater into the water bodies of the city significantly.

In 2009, the tunnel collector length reached 222 km enabling to treat up to 90.7% of the St. Petersburg wastewater.

There are 19 wastewater treatment plants treating residential and industrial wastewater in St. Petersburg; 15 of those already operate in accordance with the requirements of the new HELCOM Recommendations on nitrogen and phosphorus treatment.

There are no or insufficient sanitary sewer systems in the majority of smaller St. Petersburg settlements with private residential houses. Altogether, there are 71 smaller uptown settlements with total number of residents of about 123 thousand people. These territories will be considered comprehensively from the point of view of water supply and water discharge.

A new scheme of water discharge in 56 smaller settlements had been carried out at the account of SUE Vodokanal of St. Petersburg with total estimate of the cost of works in each settlement. It is necessary to lay 1200 km of sewerage systems and construct more than 100 sewage pump stations to provide water discharge in these settlements.

The major problems which are to be resolved in the waste water discharge and treatment system of St. Petersburg and its suburbs are:
- Low efficiency of wastewater treatment of particular WWTPs;
- Physical wear of the networks;
- Septic tanks in the central part of the city and old districts;
- Areas (small settlements) without of any centralized wastewater collection system;
- Capacity for waste water collection from the areas of housing development;
– Modernization of pumping equipment based on modern energy efficiency technologies;
– Wastewater sludge disposal;
– Insufficient capacity of wastewater treatment plants for newly developing city territories in the south-western suburbs.

Measures proposed for the construction and reconstruction of the sewer and wastewater treatment facilities will be aimed at the following tasks:
– Termination of untreated waste water discharge into water bodies: this will significantly improve the environmental situation both in St. Petersburg and the Gulf of Finland;
– Reduction of treated wastewater load upon receiving bodies through the implementation of modern methods of effluent deep treatment that will enable to meet the Russian legal regulations and HELCOM Recommendations.
– Reduction of discharges of total nitrogen and total phosphorus;
– Improvement of the environmental situation in the city through the implementation of modern technologies of wastewater sludge disposal and liquidation of sludge landfills;
– Connecting of the developed city territories without centralized wastewater systems to the water disposal networks and liquidation of septic tanks;
– Connecting of new city construction sites to wastewater networks.

Leningrad Region

The Leningrad Region having total area of 85908.8 km² is located in the water catchment basins of the Neva, Luga and Narva Rivers, the Ladoga Lake, and the eastern part of the Gulf of Finland, all belonging to the Baltic Sea catchment basin. There are many waterways in the region, total length being about 50,000 kilometres. That is why practically all household wastewater from the settlements reach the Baltic Sea contributing to nutrient loads significantly.

The population is 1,631,890 people. The sewerage systems coverage is 77%, whereas municipal infrastructure is 80% worn. No more than 6.5% of all wastewater meets existing standards.

According to the data of the Leningrad Region Directorate of Rospotrebnadzor, about 65 mln.m³/y of wastewater is treated at WWTP; more than 50% of that does not correspond to the sanitary requirements; 8% of wastewater is discharged into water bodies or on the surface practically without any treatment. In 2008, of the 361 WWTPs, 312 were in various degrees of workability (86.4%), while 34 (9.4 %) were totally nonoperational.

Other reasons of insufficiently treated or untreated wastewater discharged include unsatisfactory sanitary and technical status of WWTPs (high percent of weariness and incompliance of their capacity with the amounts of wastewater received), design and implementation of treatment plants of low-efficiency and not corresponding to the up to date level of sewerage systems.

The Region needs reconstruction or complete replacement of 184 wastewater treatment plants which presently are either in poor state, or have obsolete technologies of wastewater and sludge treatment.

Degraded sewerage systems of the Leningrad Region settlements is one of the major sources of pollution of the water environment.

According to the data of the Committee on the Energy Complex and Residential Infrastructure of the Leningrad Region, the total discharge of insufficiently treated waters from municipal treatment facilities amounts to 134900.35 thousand m³/y approximately; discharge of total nitrogen is 1698.4 t/y; of total phosphorus 279.5 t/y.

Kaliningrad Region

Total area (including bays) of the Kaliningrad Region is 15125 km²; onshore area is 13134 km², population is 423,650 people. The Kaliningrad Region has 339 waterways totalling 5180.8 km.

The Kaliningrad Region shores are washed by marine waters of the Baltic Sea. The aquatic area is 9.6 thousand km²; of which1.8 thousand km² is internal sea area (the Curonian Gulf 1.3 thousand km², the Kaliningrad/Vistula Bay 0.472 thousand km²).
Two shallow lagoons, the Curonian and the Vistula Bays, receive practically all riverine water from the territory of the Kaliningrad Region; the water exchange with the Baltic Sea is slow. Permanent nutrient riverine wash off from Lithuania, Poland, and the Kaliningrad Region causes eutrophication of the lagoons.

There are 18 wastewater treatment plants presently operating in the Kaliningrad Region; of those, 7 are biological and 13 are mechanical.

Biological WWTPs discharge 2099,700 m³/y of insufficiently treated wastewater, 50743,000 m³/y of mechanically treated water, and 14098100 m³/y of water without any treatment.

All treatment plants in the Kaliningrad Region are obsolete and have low efficiency of nitrogen and phosphorus removal.

Wastewater from the city of Kaliningrad undergo mechanical treatment only; after that, they are discharged directly into the Kaliningrad Bay through an open channel.

**Pskov Region**

The total area of Pskov Region is 5539.9 thousand ha; it is located in the local basin of the Peipsi (Pskov-Chudskoe) Lake and the Ilmen Lake (the Neva River’s basin); the size of population amounts to 696.4 thousand people.

The district treatment plants use simplified scheme of mechanical and biological treatment. In a number of settlements there are no treatment facilities whatsoever or the existing ones do not function properly.

Wastewater treatment at all treatment plants does meet HELCOM standards.

The major problems are: obsolete technologies, wear and tear of the equipment; poor operation of particular lines of the treatment technological process; violations of the system of the State Control. Lengthy work on restoration of the accounting and control system are required: many of the indicators provided are not reliable.

In the last decades, the discharges of insufficiently treated and untreated wastewater led to a shift in the trophic status of the Chudskoe Lake from mesotrophic to eutrophic, and of the Pskov Lake from eutrophic to hypertrophic. The Pskov Lake is the most eutrophic major water body in the European part of Russia.

**Novgorod Region**

The territory of Novgorod Region is 54501 km², population is 645990 people. There are 19 municipal biological WWTPs. There are no treatment plants in several big and small settlements.

All operating treatment facilities need reconstruction. The efficiency of nitrogen and phosphorus removal at the treatment plants does not meet HELCOM standards.

**Republic of Karelia**

The area of the Republic of Karelia is 180.5 thousand km², population is 687500 people. Water occupies one fourth of the territory of the Republic. The major water reservoirs of Europe are located in Karelia: the Ladoga Lake (area: 17.7 thousand km²) and the Onega Lake (area: 9.9 thousand km²).

The quantity of wastewater discharged into the water bodies of the Baltic Sea basin was 151.3 million m³. Of that, 123.7 million m³ was insufficiently treated wastewater, 3.9 million m³ untreated and 23.6 million m³ standard pure.

Municipal wastewater treatment remains the most pressing environmental issue in the Republic. Up to 240 million m³ of wastewater is discharged annually into the Karelian water bodies, of which 191 million m³ are not sufficiently treated, while nearly 35 million m³ is discharged untreated.

There are 92 wastewater treatment plants in 111 settlements of the Republic of Karelia; of those, only 32 WWTPs of the major water users met the design parameters in 2008.

Until now, there are no wastewater systems in six district centres, namely Kem, Belomorsk, Medvezhjegorsk, Pudozh, Loukhi, and Kalevala. In several cities parts of sewerage systems are not connected to WWTPs, and wastewater from these territories is discharged without any treatment (Sortavala and Lakhdenpokhya).
The coverage of the sewerage system is relatively low (about 50-60%) in most of the settlements. The sewerage systems are most often separated from the storm water systems, but due to no drainage of the storm waters and poor condition of the existing open pits, the storm waters often penetrate into the sewerage systems.

The sewerage systems were built mostly in the 1960s–1970s; the oldest segments, built in the 1930s and mostly made of asbestos cement, ceramics, cast iron and concrete, they are worn out to a great extent.

The major problems:
- infiltration and penetration of the storm waters into canalization collectors; overcharging of sewerage systems;
- dilapidated condition of the pipelines and collectors;
- dilapidated condition of the pump stations;
- deficiency of pump stations.

Most smaller wastewater treatment facilities in Karelia have standard assembled design and worn equipment, inefficient aeration systems and sludge treatment. Many treatment facilities have the problem of sludge management.

Petrozavodsk treatment facilities were constructed more than 30 years ago, and presently need reconstruction and expansion.

The industrial entities, municipal utilities and agricultural sector of the Republic in 2009 discharged 12930 tonnes of total nitrogen and 708 tonnes of total phosphorus into the Lakes Onega and Ladoga.

### 1.1.1.2. Agriculture

More than 600 major agricultural enterprises are located within borders of the Russian part of the Baltic Sea catchment basin; those are engaged in cattle, pig and poultry husbandry and altogether occupy about 1,160 thousand hectares of agricultural lands.

Totally they have more than 260 thousand heads of cattle, about 180 thousand pigs and more than 24 million heads of poultry.

About 38 thousand tonnes of nitrogen and 20 thousand tonnes of phosphorus are discharged into the environment with excrements of all the animals and birds; this creates significant threat to the water bodies of the region and the Baltic Sea.

Productivity and technological growth was registered in the recent years in many agricultural enterprises of the Northwest Federal District, first of all in the Leningrad Region. But, the results of the recent surveys of agricultural enterprises and numerous statements of ecological supervisory bodies representatives indicate that the majority of enterprises do not meet the Russian and international nature protection requirements. Violations in manure management were registered practically everywhere at all stages - from manure release from farms to introduction of compost and treated manure liquids to the fields.

The process of intensification of the agricultural production is characterized by higher concentration of livestock within enterprise; this leads to the concentration of livestock at a particular husbandry enterprise or farm. The practice of construction (reconstruction) of super big animal production units (1000 and more heads) in expanding. But, the territorial concentration of animals after transfer to yard/no-bedding housing leads to accumulation of major masses of liquid manure which requires utilization in expensive leak proof reservoirs (lagoons) and modern techniques for introduction of modern liquid fertilizers. The majority of farms either do not have such reservoirs, or the capacity of those is not sufficient as compared to the amount of the manure produced, and for that reason it is introduced into the fields around the whole year. The liquid manure is spread out right on the surface which significantly increases its losses as compared to in-soil introduction. The most ecologically safe means of introduction of liquid manure, i.e., injectors, are practically non-existent. At many agricultural enterprises engaged in milk production there is no collection and treatment of the production wastewaters and those are either mixed with manure, thus increasing its content of liquid, or are discharged into the surrounding territories.
Big amounts of manure accumulate at the poultry farms, where up to 60–120 tonnes of manure can get accumulated per day. Poultry farms have no sufficient fields for spreading. The application of big amounts of mineral fertilizers in crop raising without higher yields; autumn tilling and fallow fields, operation at poorly managed ameliorated lands result in accumulation of mineral nitrogen compounds in the soil at the period when they cannot be absorbed by plants. As a result, the washing out and wash off of the nitrogen and phosphorus compounds from the surface of the soil into the underground and surface water bodies. Introduction of fertilizers, including organic ones, on the snow or frozen soil is especially hazardous. The major part of these fertilizers will be washed off into the nearest water bodies during the period of melting.

The major nutrient load upon the lake Ladoga in the Republic of Karelia comes from the agricultural developed areas, the inputs from those being 144 tonnes of total phosphorus.

In Karelia along with eutrophication problems related to agricultural activities, noticeable is the impact of trout fisheries.

Current production of trout is 12000 tonnes that corresponds to the inputs of 83 tonnes of phosphorus and 600 tonnes of nitrogen per year.

1.1.1.3. Synthetic detergents

One of the major ways to reduce environmental phosphorus loading is neutralization of phosphorus in the organized wastewater discharges at treatment plants. But the optimal way would be to reduce the phosphorus input from the source of its origination, i.e., in the products the use of which causes the formation of phosphorus compounds in wastewater.

This problem can be solved like in many European countries through the introduction of limitations on polyphosphate use in synthetic detergents (for cloth and dish washing).

As of 01.07.2007, GOST P 52488-2005 was introduced in Russia; it allows utilization of SD powders containing no more than 17% of P₂O₅ equivalent and no more than 7% of P equivalent.

Presently, the total output of SDs in Russia is approximately to 1200 thousand tonnes; this means that in the territory of Russia, about 85 thousand tonnes of phosphorus is discharged in municipal wastewater with SDs annually; of those, 2 thousand tonnes is discharged in the Baltic Sea catchment basin.

There are 5 major producers on the Russian SD market. The share of Proctor & Gamble is 25% of all production capacity; the share of Henkel is 18%; Nefis Cosmetic, Soda and Aist companies have about 5-6% of the market each.

It should be remembered that international corporations, such as Proctor & Gamble, Henkel and others, operating in the EU countries and U.S., where limitations on utilization of phosphates in SDs have been established, follow legislation of these countries and produce goods of the same brands as in Russia but without phosphates.

Only two major producers in St. Petersburg and the Leningrad Region, i.e., and SD – AIST and HENKEL–ERA, are capable to produce up to 210 thousand tonnes of SDs at their maximal production capacity; containing 2.5 to 8% of phosphates. This means that about 14 thousand tonnes of phosphorus might annually be discharged into wastewaters. Besides this, there are other producers of SDs, their production is merchandised in the territory of St. Petersburg and the Leningrad Region; there is no way to estimate input of phosphates from such products into wastewater.

According to the EU Commission reports on eutrophication, which are presented in the paper as of May 10, 2007, the content of phosphates in the municipal wastewater stipulated by utilization of SDs amounts to 20-30% according to updated data.

At present there is no similar data in Russia.

The introduction of a ban on the use of polyphosphates in detergents in the Russian part of the Baltic Sea catchment basin would have allowed a 2000 tonne reduction of the annual input of phosphorus.
1.2. Hazardous Substances

Heavy metals and their compounds, polycyclic aromatic hydrocarbons, organohalogen, organosilicone and organostanic compounds, phenols, organochlorine pesticides, surface-active materials, extremely hazardous dioxins and furfurans coming out as side products in chemical processes or burning, radionuclides and many others belong to the group of hazardous substances.

Due to extremely slow decomposition, hazardous substances are accumulated in the external media and transferred far away with air and water flows or by movable organisms; they accumulate in key food products, especially fish and sea mammals, in considerable concentrations.

Sources of hazardous substances input into the Baltic Sea

Contamination of the Baltic Sea is caused by a big number of hazardous substances of anthropogenic origin never occurring in the nature and also by natural compounds concentrations of which are high above their natural levels.

Hazardous substances can get into the marine environment from the following sources:

- direct wastewater discharges from point sources into the Baltic Sea (industrial enterprises, municipal wastewater treatment plants);
- waterways flowing into the Baltic Sea including wastewater discharges from industrial enterprises, municipal wastewater treatment plants,
- diffuse sources (agricultural lands wash off, effluents from hazardous substance landfills, unauthorized dumps);
- from the atmosphere, i.e., long-distance cross-border pollution transfer.

In Russia, hazardous impact of a substance is understood mainly as its high toxic impact on human bodies, while its accumulation in biota, including human organisms, is not considered as a serious reason for emergency measures.

Substances causing long-term impact on the environment or through the environment on human beings, but having no strong toxic impact practically are not considered in Russia either in strategic or legal aspects.

The HELCOM Baltic Sea Action Plan implies the completion of all programmes initiated by HELCOM, in particular, the Joint Comprehensive Environmental Action Programme in the region of the Baltic Sea (JCP Programme). This programme, in its turn, includes a list of “hot spots” (industrial enterprises, municipal wastewater treatment plants, agricultural enterprises, etc.) which are major sources of emissions, discharges and leakages of polluting substances and are causing threats to the environment in the area of the Baltic Sea. Such “hot spots” exist in the Russian Federation as well.

The industrial wastes of the 1-3 classes of hazard, highly toxic for the environment, are dumped without any treatment at the only regional specialized landfill for toxic industrial wastes Krasny Bor. The existing technology of industrial waste disposal at the landfill does not correspond to modern requirements of the environment protection and does not provide efficient isolation of wastes preventing their negative impact on the environment.

In the over 40 years of operation of the landfill, about 600 thousand tonnes of inundated industrial wastes needing treatment have accumulated there. Placed in open chart-trenches, the indicated wastes produce permanent pollution of the nearby water bodies belonging to the basin of the Neva River, the Gulf of Finland, and the Baltic Sea. Accumulated untreated wastes are the source of such hazardous contaminants as mercury, cadmium, chrome, lead, polychlorobenzenes, phenols, polynuclear aromatic hydrocarbons, and others.

In this respect, Krasny Bor landfill for toxic industrial wastes was identified by HELCOM as “hot spot No.23”. It is necessary to carry out a complex plan of actions on establishing capacities for waste treatment, liquidation of accumulated pollution and close down of the indicated “hot spot”.

In order to achieve these purposes, it is necessary to accomplish:

- the construction of treatment facilities for processing of St. Petersburg industrial waste (organic and non-organic wastes and wastes of the 1st class of hazard);
- the construction of facilities for treatment of the pollution accumulated at the landfill;
the remediation of lands in the territories of old industrial toxic waste dumping sites causing additional pollution of the environment and water bodies in the region of the Baltic Sea.

In accordance with the list of indicated goals, the St. Petersburg Government proceeded with the implementation of those together with the Government of the Russian Federation represented by the Ministry of Natural Resources and Environment and the Federal Service for the Supervision of Land Use. Unfortunately, the funds presently allocated for the project implementation are not sufficient. This resulted in repeated extensions of the date of commissioning of the enterprise including delay of the treatment facilities commissioning.

The construction of the first stage of the experimental enterprise for treatment and underground disposal of industrial toxic wastes from St. Petersburg and the Leningrad Region (hereinafter, the Enterprise) is carried out in accordance with the RF Government order No.VCh-P14-24693 as of 07.08.1994. Since 1995, the development of the Enterprise is on the list of constructions with state funding from the Federal Budget of the Russian Federation.

In accordance with the order by the St. Petersburg Government No.939 as of 05.08.2008 “On the budget investments to the implementation of the design and construction of the 1st stage of the experimental enterprise of toxic waste treatment” the expenditure obligations of the St. Petersburg budget were committed on financing the implementation of the enterprise construction. With timely financing, completion of the 1st stage of the construction is scheduled for 2013.

The completion of the enterprise construction will allow to receive and environmentally safely dispose of all types of hazardous industrial wastes produced in St. Petersburg and the Leningrad Region, and to create infrastructure providing conditions for the elimination of pollution of the Baltic Sea marine environment caused by wastes of the Krasny Bor landfill and to close down HELCOM hot spot 23.

A similar situation is in the Kaliningrad Region. The hazardous substances landfill there has also the status of “hot spot” No.70 under HELCOM JCP.

The oil-loading terminal also has the status of a “hot spot” under JCP HELCOM; it is located at the Kaliningrad Sea Port. After many years of its operation, oil products in the soils in its territory exceed 1000 tonnes. Soils in the territory of the oil plant in the area of the fuel pier located within immediate proximity to the water boundary of the Pregole River flowing into the Vistula (Kaliningrad) Gulf belong to the category of heavily polluted with oil products. Factual concentrations of polluting substances in the oil plant’s wastewater discharged into the Pregole River exceed allowed standards by particular indicators by hundreds of times.

Measures are proposed to close this hot spot.

“Obsolete pesticides” pose a serious threat to the environment; it is a kind of a delayed-action ecological bomb. These pesticides with overdue date of consumption, not used for various reasons and stored as wastes, contain large amounts of banned organochlorine contaminants which are long-lasting in the environment. Poor-conditions storages of these obsolete pesticides are located in Pskov and Novgorod Regions, and leakages of these highly toxic substances pose serious threat to the environment and cause noticeable damage to human health contaminating ground and potable water.

Proposed measures involve the disposal of obsolete pesticides and closing down of unlicensed storage facilities.

Proposed measures involve the MSW landfills for different hazard class waste in the Novgorod and Vologda regions.

A significant number of nuclear and radioactive hazardous sites in the Northwest Region urge the creation of a concept, methodology and system for regional radio-ecological monitoring of the environment. The Northwest Region is one of the most packed with radiation hazardous sites territory in Russia. This challenge is multiplied because the Northwest Region is one of the major economic zones of Russia. It occupies the entire northern part of the European territory of the Russian Federation. Its area equals to 1270 thousand km² (about 10 % of the territory of Russia). The population size is 15.8 million people, while its density is about 12 persons per 1 km². There are 120 cities and 149 townships in the region. Two thirds of the population live in cities and townships.

The population and environment is exposed to the impacts of multiple radioactive, chemical, fire and explosion hazardous enterprises and technologies in the industry, energy and municipal utilities. Altogether, there are more than 3000 enterprises of the kind in the region.
The Northwest Region has many sites of potential radiation hazard. Several nuclear power plants (Kolsky and Leningrad) are located here; in addition to that, two other nuclear power plants (Ignalina in Lithuania and Kalininskaya in the Tver Region) are located close to the region. Twelve Swedish energy units, four Finnish and a set of German units operate in the Baltic Sea catchment area. Industrial and regional storage facilities for radioactive waste (RSWs) are located within the nuclear power plants locations; nuclear waste repositories are designed. More than 3000 enterprises have radioactive units and equipment. The region was affected by the Chernobyl radioactive trail which covered the western and south-western parts of the Northwest Region.

The suggested measures include the establishment of a system of radiation and radio-ecological safety provision in the Baltic region.

The strategy of development of the transport and logistical sector of St. Petersburg in the period until 2030 involves the construction of roads of approx. 1000 km. At the same time these measures come together with potential anthropogenic loads upon the environment due to the application of anti-frost agents.

In winters the city experiences 40-50 or even more snow falls, as well as up to 70 or more temperature crossings of 0°C, and thaws as a phenomena pertaining to the maritime climate.

Total demand of the city in chemical de-icing agents (primarily in sodium chlorite and sand) is presently 170,000 tonnes of salt on average and almost all of that eventually goes into the water bodies of the region.

A new technology is proposed for the development for winter management of roads and application and environmentally safe de-icing materials, complete documentation on environmental impact assessment and the results of the environmental monitoring.

1.3. Biodiversity and environment protection

The problem of preservation of marine and coastal ecosystems is one of the key issues of the biodiversity preservation. At the same time, biodiversity of the Russian sectors of the Baltic Sea, in particular, its water area and coastal zone, is one of the most complicated issues of the nature protecting activities in the Northwest Region. St. Petersburg, the Leningrad Region, and the Kaliningrad Region have the highest level of economic development of territories among subjects of the Russian Federation in Northwest Region. In the Kaliningrad Region, the share of still existing low-urbanized natural complexes does not exceed 10% of the entire territory. However, a significant number of natural complexes and sites of high importance for the nature of not only a number of subjects of the Russian Federation, but of the Baltic Region as a whole are located here.

The region of the Baltic Sea is a geologically relatively young territory, comparatively recently released of continental ice. However, a noticeable number of endemic and sub-endemic species and sub-species of plants and animals occur here; some of which have presently vanished or are under the threat of vanishing in a number of European countries on the Baltic Sea. A number of species and sub-species inhabiting the Russian sectors of the Baltic Sea and their coastal zones are endangered and are protected in accordance with a number of international conventions and directives. Many of these species are red-listed in the “Red Book of the Russian Federation,” and the Red Books of its subjects and international Red Lists with recommendation status.

The anthropogenic impact in the region considered is directly linked to larger scales and varied types of economic activities that, in turn, has negative effect upon the species and biotopes and, as a result, leads to worse environmental status in general. The large-scale construction of port facilities, hydraulic structures, pipelines, cables, other communication structures, excavation of iron and manganese minerals and sand, discharge of untreated municipal and industrial wastewater from cities and other aggregations, as well as other economic activities disturb normal production processes in the Baltic Sea, reduce productivity, deteriorate the habitats and conditions for water organisms, their breeding, feeding and wintering and, therefore, cause major damage to aquatic biological resources.

The Russian sectors of the Baltic Sea, in particular, the Russian part of the Gulf of Finland, are a strategically important segment of the Belomoro-Baltic migration route of birds. This route connects the nesting areas of tens of millions birds in the North and Northwest of Russia with wintering grounds in
Western Europe and Africa. The geographical location and ecological conditions of the Gulf of Finland (bioproductive shallow waters, in the first place) have traditionally contributed to the formation of colossal accumulations of waterfowls and semi-aquatic birds at migration stopovers for supplementing their energetic reserves, without which their passage would not be possible. Preservation of the specific natural land habitats suitable for migration stopovers in the Gulf of Finland is the key moment in maintaining the population size of many rare and traditional birds in the vast spaces of Northern Europe. Large-scale development works carried out in the seashore of St. Petersburg in the last decades have already lead to losses of a significant portion of such land habitats in the Neva Mouth of the Gulf of Finland. In this connection, the preservation of the remaining stopovers becomes even more imperative.

The increase of the transportation loading in the water area of the Baltic Sea, especially connected with the navigation of heavy-tonnage vessels leads to stronger wildlife disturbance of web-footed mammals and birds. The eutrophication process produces negative impact on biodiversity of the Baltic Sea as a whole, as do excavations of ferromanganese concretions and ever-growing biological pollution of the Baltic Sea due to the penetration of alien (invasive) species. Due to weaker border control regime in the coastal zones, recreational loads grew up, including that on specially protected natural areas.

The proposed measures for this section will rehabilitate the Baltic Sea ecosystem and contribute significantly to the enforcement of the national environmental legislature of the Russian Federation and to the fulfilment of the national commitments under several international covenants signed by the Russian Federation, in particular, under the Convention on the protection of world cultural and natural heritage, 1972; Convention on wetlands that are of international importance (Ramsar Convention), 1971; Biodiversity Convention, 1995.

1.4. Maritime activities

Ecological safety for any type of activities at sea means the implementation of the activity in such a way that its negative impact on the environment shall not be traceable. This is composed of several parts: reduction and, gradually, termination of operating discharges from marine objects and provision of measures for the minimization of the negative impact on the environment in case of possible emergency situations connected with the discharges of polluting substances, oil in the first place, as well as other maritime transport wastes.

Presently, in Russia we can observe particular increase of this kind of discharges caused by imperfectness of the national legislation in the first place, delays in ratification of international instruments, and wear and tear of assets (ageing of vessels, wear and tear and insufficient receiving facilities for vessels waste).

The sustainable development of the Russian Federation, high quality of life and population health, as well as national security can be provided only under the condition of ecological safety of maritime activities, preservation of natural systems and, in particular, quality of the marine environment.

The marine component of the transportation system of the Russian Federation is the most important component of the national production infrastructure; its development is one of the priority goals of the state activities. The national economy cannot grow without dynamical development, sustainable operation and well-balanced national transportation system. The development and modernization of the transport sector are the two factors stimulating the social and economic development of the country and increase in living standards.

The major priority of the transport strategy of Russia for the period until 2020, adopted by the Order of the Russian Federation Government No. 1734-p as of November 22, 2008, is the formation and development of a modern transport infrastructure capable to provide accelerated cargo and passenger transportation, reduction of transportation costs, the development of the industrial and mineral resource base, the prevention of environmental pollution by vessels and creation of conditions for the development of national economy and strengthening of Russia’s positions in the world markets.

The Baltic Sea is a region with the most intensive navigation. In the last years, both the number and cargo-carrying capacity of vessels grew up, this is especially so for oil tankers. The tendency of growing volumes of marine transportation will remain in the future, because the marine transport is the most economical and environmentally friendly type of transport. The Baltic Sea is a shallow sea with multiple navigational hazards and, besides that, most of its territory is covered with ice for several months. All this allows to consider the Baltic Sea as an unsafe and difficult region for navigation.

HELCOM forecasts about 200 million tons of oil will be transported in the Baltic Sea by 2015. Taking into consideration that oil transportation is carried out mostly by large tonnage oil tankers, this may lead to the risk of possible larger oil spills.

If no preventive measures taken, oil spills of more than 30 thousand tonnes are quite possible; in the conditions of the Baltic Sea, these will have catastrophic consequences and lead to irreversible damage for the environment and economy of the region. To prevent such spills, it is necessary to improve navigation safety permanently and enhance response capacity in case of oil spills, including those under the frames of cooperation with the neighbouring countries.

The lack of reception facilities for ship wastes in a number of the Russian Baltic Sea ports, in the first place, of oil wastes, wastewater, and garbage, meeting convention requirements, high fees for waste unloading at sea ports are the reasons behind illegal discharges of wastes from vessels and pollution of the sea. The establishment of port plans for ship waste management at ports and regular monitoring of the marine environment by using aerial and satellite means of control could help preventing such violations.

The Baltic Sea, unlike other seas, is a low salinity sea, which makes its biodiversity fragile, puts it under the threat of destruction due to invasion of alien species brought in with ballast waters of tankers and on ship hulls. The ballast waters could be decontaminated on board of the ship to a safe degree by various means, but sediments coming out of them allow the invaders stay unchanged for lengthy periods of time; the same is true about the ship hulls. This is why it is necessary to adopt an urgent solution for the issue of tanker sediment intake. Though the Russian ship repairing enterprises do not use antifouling paints containing substances banned for use since 2008, those could be on board of ships after painting at other plants; that is why it is necessary to resolve the problems of the use of such ship antifouling coating agents.

The studies carried out by HELCOM showed that amounts of polluting substances discharged from ships at the current intensity of navigation are comparable with discharges from coastal sources. This shows that it is necessary to adopt urgent measures to reduce sulphur and nitrogen oxide emissions as of major sources of acid showers and greenhouse gases responsible for climate change. This goal can be reached only through joint application of technological and market mechanisms. The problem of energy efficiency of marine transport will be resolved at the same time, because the issue of rate of reduction of fuel consumption is tightly connected with the abatement of greenhouse gases emissions.

In the recent years, the geological prospecting of raw materials and oil in the Baltic Sea has grown. The major companies, e.g., LUKOIL, voluntarily apply principles of “zero” discharge of hazardous and polluting substances into marine environment. It is necessary to elaborate corresponding legislation obliging all companies operating in the Baltic Sea to follow this principle.

The successful solution of the FTP tasks pertaining to maritime activities is possible only in case of actual legislation based on the best world practices. In the first place, this refers to the development of federal laws “On protection of the marine environment from oil and hazardous substance polluting” and “On the coastal zone,” which would be based on the experience of both HELCOM member countries and other countries. It is necessary to create an all-inclusive set of executive orders which would allow their efficient implementation on the basis of these laws’ statements. These laws shall include not only prohibiting and/or permissive measures, but also establish sources of financing of various nature protecting measures including those on provision of adequate response to possible spills of oil and other hazardous substances.

The problem of ecologically safe navigation, maintenance and repair works of ships not falling under the HELCOM Baltic Sea Action Plan, i.e., pleasure crafts and small boats, the number of which in the Russian sector of Baltic Sea area exceeds 50000 units, remains unsolved. There is neither legislative, nor material base at present, and this issue has to be resolved under the frames of this Programme.

Proposed measures will facilitate the achievement of the following goals of the HELCOM BSAP:
– zero discharges from oil platforms;
– minimal threats from marine units other than oil platforms.
– safe navigation without accidental pollution;
– efficient readiness for reacting in case of emergency situations;
– minimal pollution by vessels wastewaters;
– no invasions of unwanted water organisms;
– minimal pollution of the air from vessels;

1.5. Monitoring

The purpose of the state monitoring of the marine environment is the evaluation of long-term tendencies in changes of the status and levels of the marine environment pollution both in the water area as a whole and its specific segments. Information about the sea status in necessary for the state authorities of various levels for the elaboration of programmes of social and economic development of coastal zones, for planning and carrying out of nature protecting measures, for the information of organizations, business entities and population, and also for the fulfilment of the Russian Federation obligations under international conventions. In this connection, timely identification of unfavourable trends in the status of the marine environment and adequate response to them will allow to gain significant social and economic effect and facilitate strengthening Russia’s positions in the international arena.

The issues connected with the implementation of the state monitoring of water bodies in the Russian Federation are regulated by the Federal Law “On environmental protection,” the Water Code and the Order of the Russian Federation Government No. 219 as of April 10, 2007 “On approval of the regulations of the state monitoring of water bodies,” which outlines monitoring participants and concerned federal bodies of executive authorities.

Presently, the state Roshydromet monitoring network holds regular observations of the sea water’s pollution level only in the coastal zones, i.e., from several hundred meters to several kilometres from the coast (internal sea waters and the territorial sea). The continental shelf and special economic zones are not covered by routine monitoring at present time. Sampling of bottom sediments and their chemical analysis have not yet been included in the monitoring programme. All data on pollution of bottom sediments registered in the Roshydromet system were acquired either within the framework of research studies or specialized international projects. The results of Roshydromet labs’ self-financing jobs carried out under contracts with business entities have particular value; partially, this information is available for analytical processing.

Article 82 of the Federal Law of the Russian Federation “On environmental protection” (with amendments as of June 26, 2007) implies the enforcement of regulations of international agreements if the international agreement establishes other regulations than those stipulated by the present Federal Law, but there is no mechanism of execution of the state monitoring programmes under the Helsinki Convention.

A great number and diversity of participants of the state monitoring of water bodies (federal bodies of executive authorities, bodies of executive authorities of the subjects of the Russian Federation, water users), and some drawbacks of the regulatory base regulating interaction of these subjects in the course of monitoring of water bodies lead to:
– non-concurrence of monitoring programmes on the status of water bodies at the water catchment of the Baltic Sea (observation points, sampling frequency, controlled indexes, sampling and analysis methods for water, bottom sediments, and biota);
– dubbing of observation cross-sections;
– incompatibility of the information received;
– discrepancies between the methods of evaluation of the marine environment status;
– deficiency of inter-laboratory comparative tests on national and international levels;
– lack of efficient system of information exchange between all monitoring participants.

Insufficient financing and technological provision of the laboratories of the Centre of hydrometeorology and monitoring of environment (equipment, vessels, vehicles, etc.) subordinate to
Northwest Territorial Administration for Hydrometeorology and Environmental Monitoring (UGMS) caused termination of hydro-chemical observations or to limited programmes in a number of control points.

There are no automatic monitoring stations for operational control of the quality of water at the major and polluted river flows and marine water areas.

There are no monitoring stations in the riverheads; this does not allow to evaluate the quota of the natural components in pollution of the Baltic Sea.

The enhancement of control over the execution by water users of the “Programme of regular monitoring of a water body and its water protecting area” is necessary.

HELCOM requirements on transfer of the necessary amount of information for the evaluation of the polluting loads on the Baltic Sea in accordance with the HELCOM recommendation 26/2 and HELCOM leadership on the evaluation of the polluting loads on the Baltic Sea are not fulfilled.

The social and economic situation in the country has changed in the last years; that went in parallel with the adoption of new regulations and standards in nature protection regulatory acts and nature resource legislation. These changes, as well as the participation of our country in international conventions on marine protection against pollution, dictate the necessity to improve operation of the state monitoring of sea water pollution.

In Russia, hazardous substances with the exception of heavy metals and some chlorinated pesticides, defined by HELCOM as priority ones, are not included in the monitoring programmes for water bodies and the programmes of industrial ecological control at industrial enterprises.

Concerning the air pollution by dioxins, control over emissions is carried out in St. Petersburg from special units for the reduction of organic components (sludge at wastewater treatment plants, units for utilization of medicinal and biological). The Northwest Directorate of RostECH holds monitoring of dioxins, cadmium, and mercury emissions from wastes incinerators.

Monitoring and control over discharges and emissions of other hazardous substances indicated in HELCOM BSAP is not carried out in the Russian part of the catchment basin for the following reasons:

- no official instructions by federal bodies;
- no programme including observation points, scope of studies, repetition and time frames of observations;
- no methodical and metrological provision of studies;
- no agreed system of evaluation of the received research results.

The Programme suggests measures to lift the above listed barriers with the purpose to improve monitoring of the environmental status of the Baltic Sea and its basin in compliance with the international requirements and practices.

1.6. Public awareness raising and ecological education

In 2004 all Contracting Parties, with the exception of Russia, became members of the European Union; that created a new format of cooperation among the European countries for addressing the key nature protecting issues in the Baltic Sea region.

The Helsinki Convention is a mechanism for solving many ecological and economic, social and legal issues, which could provide sustainable development of the Northwest Region of the Russian Federation; that is why the active role of Russia in HELCOM work is now very important for supporting national economic interests in the Baltic Sea region.

Presently there are more than 100 valid HELCOM Recommendations covering varied economic activities both in the Baltic Sea catchment basin and at sea; they contain examples of the best available technologies and standards of discharges and emissions for polluting substances, various guidelines and manuals.

HELCOM employs specialists and scientists from the Baltic Sea countries to its jobs and also research institutions to participate in various projects and research works and studies of ecological status of various media of the Baltic Sea.
HELCOM carries out extensive educational work issuing various thematic reports, information materials, brochures, booklets in the HELCOM proceedings on environmental protection in the region of the Baltic Sea.

In Russia, the results of HELCOM activities, its goals and objectives are known only by a limited circle of ministerial officials and a number of specialists directly involved in HELCOM activities.

All Recommendations, manuals, as well as various HELCOM publications on the Baltic Sea environmental status, information about the results of the projects aimed at marine environment protection in the Baltic Sea region under the auspices of HELCOM in various Baltic countries are published in the English language and are available at the HELCOM webpage to persons with good command of English.

As a result, the degree of coverage of HELCOM activities in Russia is very low. Factual information for public and specialists on operations of the Helsinki Commission, problems of the Baltic Sea and the Russian Federation contribution in HELCOM decisions is provided only under the frames of the annual International Environmental Forum “Baltic Sea Day” (St. Petersburg) and at the information Internet site www.helcom.ru.

Insufficient information on HELCOM activities and deficiency of state executive documents targeted at the execution of the Helsinki Convention stipulates that state environmental authorities and land users are not oriented towards reaching HELCOM goals and objectives in their activities.

On the other hand, some information isolation specifies that successes and achievements of the Russian Federation on rehabilitation of the ecosystem of the Baltic Sea are pretty much unknown to both HELCOM and the Baltic Sea countries.

Information awareness and enhancement of ecological education of decision-makers and broad circles of population are the determinant factors of sustainable development.

It is necessary to translate into Russian and publish the most important documents and materials published by HELCOM, carry out ecological forums and training seminars enhancing information awareness and ecological education of all interested parties and broad circles of public.

The results of this work will facilitate the development of research, regulatory and methodical basis for complete and timely execution of the Federal Targeted Programme for the rehabilitation and improvement of the environmental status of the Baltic Sea catchment basin; this will help to work out and adopt competent managerial decisions at all levels of state authority for implementation of international obligations of Russia under the Helsinki Convention.

2. **Justification of targeted programme methodology for solving the problem**

All measures at present aimed at the rehabilitation and improvement of the Baltic Sea ecosystem implemented by 6 administrative entities of the Russian Federation are financed from different sources and have not been systemized, lack methodological approach, their goals and objectives have not been harmonized and there is no coordinating body.

The targeted method will facilitate the coordination, systematic work, reporting and progress monitoring, and will enable to assess the measures with regard to achieving indicators common for all regions.

The necessity to find comprehensive solution to the problems of the improvement of the ecological situation in the Baltic Sea basin before 2020 by the programme-targeted way is stipulated by the following objective reasons:

- the scale, complexity and diversity of the problems, presuming the development and implementation of comprehensive programme measures, solving managerial and engineering, legal, economic, social, scientific and other tasks, traded off with particular tasks, resources, time frames and executors;
- inter-industry and interdepartmental character of the issues;
- the necessity to execute major projects requiring extensive realization times, investments, and research and technology studies within the frames of an integrated programme;
- the necessity to attract federal bodies of state authorities, bodies of the state authorities of the subjects of the Russian Federation, local bodies of authorities and public institutions to problem solving;
• the requirement of coordination of efforts of the federal bodies of state authorities, bodies of state authorities of subjects of the Russian Federation, local bodies of authorities and public institutions.

3. **Characteristics and development forecast of the situation in the considered area without the application of targeted programme methodology including the data on existing financial liabilities of the Russian Federation and its administrative entities**

Without the application of special purpose programme the following is not possible:

• full and efficient utilization of the systematic and complex approach to the formation of the list of measures targeted at creating conditions for sustainable social and economic development of the Baltic Sea region and integration of the economic systems of the Russian Federation and of the Baltic Sea region EU countries in a long-term period;
• development of efficient coordination mechanisms for the events securing solving of the problem, and also activities of the federal and regional bodies of executive authorities in the Northwest Federal District of the Russian Federation;
• establishment of transparency of the major elements of the resource administering and managing system allocated for achieving of the declared goals;
• efficient execution of the scheduled events only at the account of regional budgets;
• efficient fulfilment of vital requirements of ecological security of the population living in the territory of the region;
• fulfilment of international obligations of Russia stemming from the Convention on the Marine Environment Protection in the Baltic Sea region.

The resolution of the problems related to the rehabilitation and improvement of the Baltic Sea ecosystem will not result in the improvement of the environmental status in the Baltic Sea basin without the use of targeted programme method.

The proposed targeted programme method enables to combine the federal, consolidated regional budgets and non-budgetary sources in order to solve the problem.

Without the funds from the federal budget, the foreseen programme measures on reduction of discharges of nutrients into water bodies and into the Baltic Sea are virtually unfeasible, because funds of the regional and municipal budgets cannot be sufficient for solving such large-scale ecological problems.

The high wear and insufficiency of wastewater collection and treatment systems in all regions of the Russian sector of the Baltic Sea basin; critical situation in the field of environmental safety of the agricultural sector without the application of the targeted programme method will lead to major inputs of nutrients into the water bodies and to intensive transfer thereof into the Baltic Sea causing eutrophication and degradation of the Baltic Sea ecosystem.

The regions submitted proposals to construct and refurbish the municipal WWTPs that are not available in all aggregations, require solving this problem, since they do not have funds for the development of the design and financial documentation, as well as for capital construction.

The Master Plan for wastewater collection (canalization) of St. Petersburg for the period until 2015 adopted in 2007 defines the major environmental protection problems and the ways how to solve them. St. Petersburg allocates considerable funding for the implementation of the measures defined by the Master Plan, however, to reach the treatment of 98% of city wastewater by the year 2015, the city has to fulfill a number of important projects related to the closure of direct discharges of untreated wastewater into the city water bodies, to the construction of new and refurbishment of existing WWTPs that require co-funding from the federal budget.

St. Petersburg requests 2528.04 million roubles from the federal budget to co-finance measures for the development of wastewater collection and treatment systems; the share of the regional budget will be 6186.68 million roubles; non-budgetary funding will be 7910.04 million roubles.
The Leningrad Region requests 31027.47 million roubles from the federal budget to co-finance measures for the development of wastewater collection and treatment systems, the share of the regional budget will be 31475.7 million roubles; non-budgetary funding will be 0.

The Kaliningrad Region requests 32143.47 million roubles from the federal budget to co-finance measures for the development of wastewater collection and treatment systems, the share of the regional budget will be 803.5 million roubles; non-budgetary funding will be 0.

The Pskov Region requests 388.69 million roubles from the federal budget to co-finance measures for the development of wastewater collection and treatment systems, the share of the regional budget will be 54.7 million roubles; non-budgetary funding will be 80.2 million roubles.

The Novgorod Region requests 2473.57 million roubles from the federal budget to co-finance measures for the development of wastewater collection and treatment systems, the share of the regional budget will be 54.7 million roubles; non-budgetary funding will be 80.2 million roubles.

The Republic of Karelia requests 671.6 million roubles from the federal budget to co-finance measures for the development of wastewater collection and treatment systems, the share of the regional budget will be 335.8 million roubles; non-budgetary funding will be 111.9 million roubles.

The Vologda Region requests 117.9 million roubles from the federal budget to co-finance measures for the development of wastewater collection and treatment systems, the share of the regional budget will be 6.2 million roubles; non-budgetary funding will be 5.9 million roubles.

Some regions require the construction of landfills for the collection of municipal solid waste, liquidation of hazardous waste landfills and the dumps for obsolete pesticides, and require funding for such measures.

The Northwest region of Russia has many sites, ecosystem elements (primarily large water systems and forest ecosystems) that are polluted with radionuclides.

The active processes of raising public awareness on the issue of nuclear-power engineering are taking place. The region was affected by sustainable radioactive contamination after the Chernobyl catastrophe, and hence these issues, besides scientific and practical implication, had acquired clear social and political meaning. Among environmental hazards creating threats for the human’s habitat and humans, radioactive contamination of the environment and stipulated by its radioactive impact causes special public awareness. The Chernobyl events aggravated these emotions causing radiation phobia.

Historically, it happened this way that most diversified enterprises had been deployed in the Northwest Region. These include:

- research and experimental nuclear reactors and nuclear energy units located in the research and technology centres and institutions;
- experimental and semi-production units manufacturing radio nuclide production, and also products on its basis;
- ship-building and ship-repairing enterprises providing construction, repair works, and utilization of the nuclear fleet units;
- ships and vessels with nuclear power plants and objects of their life-support endurance systems and deploying;
- economical radiation-hazardous objects employing radioactive substances and products on their basis in their activities.

It is not impossible to resolve issues of radiation and radio-ecological safety in the Baltic region without the mobilization of federal funds.

It is not impossible to conserve biological diversity of the region without the mobilization of federal funds.

A serious environmental threat to the safety of the Baltic Sea is still posed by the degradation of the virgin forests of unique landscapes and coastal erosion.

The planned measures cannot be efficiently implemented only through the regional budgets, since they are aimed primarily at the work and development of strictly protected nature areas, whereas the study of biodiversity is often financed according to leftover principle or even not stipulated at all.

The major advantage of the application of the targeted programme method is that the Russian Federation turns to be together with the other Baltic Sea states, hence there is an opportunity to conceive
the situation that takes place in the entire Baltic Sea region with regard to the status of biodiversity and environmental protection problems. The lack of full data on biodiversity one cannot make an objective assessment the impact upon the ecosystems, for instance, during design, construction and operation of various industrial sites. The application of the targeted programme approach allows forecasting such impacts.

The federal and regional environmental monitoring networks are gradually downgrading. The major executive authorities responsible for the investigations and monitoring, Roshydromet, Rosnedra, Ministry of Natural Resources and Environment, do not have their fleet in the Baltic Sea region.

Safe navigation, as well as the measures to minimize environmental impacts in case of possible accidents leading to the discharge of pollutants into the sea, primarily oil, cannot be guaranteed without the application of the targeted programme method.

Without the application of the targeted programme method one cannot provide dynamic development, sustainable and balanced national maritime transport system in the Baltic Sea region and the economic growth is impossible.

The lack of targeted funding will not allow to fully implement requisite measures for the rehabilitation and improvement of the Baltic Sea ecosystem and to fully fulfil the international commitments of the Russian Federation under the Convention on the protection of the marine environment of the Baltic Sea area, 1992.

The efficient rehabilitation and improvement of the Baltic Sea ecosystem is only possible if all sections of the targeted federal programme are realized, since all problems are linked and the healthy marine environment and biodiversity favourable status depend on many factors associated with the problems of wastewater treatment, agricultural sector management, hazardous substances inputs, navigation, off-shore activities, etc.

The funding commitments of the Russian Federation and the administrative entities of the Russian Federation on the above problems in the Russian sector of the Baltic Sea catchment basin were as follows and were fulfilled as:

**St. Petersburg**
- 2008 capital investments: total 5672995.0 thousand roubles, including federal budget 695909.0 thousand roubles; consolidated regional budget 4977086.0 thousand roubles
- 2009 capital investments: total 4550347.2 thousand roubles, including federal budget 819768.0 thousand roubles; consolidated regional budget 3730579.2 thousand roubles

**Leningrad Region**
- 2008 capital investments: total 388133.0 thousand roubles, including federal budget 116150.0 thousand roubles; consolidated regional budget 271983.0 thousand roubles
- 2009 capital investments: total 394713.0 thousand roubles, including federal budget 9000.0 thousand roubles; consolidated regional budget – 358713.0 thousand roubles

**Kaliningrad Region**
- 2008 capital investments: total 96210700.0 thousand roubles, including federal budget 620700.0 thousand roubles; consolidated regional budget 191180.0 thousand roubles
- 2009 capital investments: total 4550347.2 thousand roubles, including federal budget 819768.0 thousand roubles; consolidated regional budget 3730579.2 thousand roubles

**Republic of Karelia**
- 2008 capital investments: total 24522.1 thousand roubles, including federal budget 14102.3 thousand roubles; consolidated regional budget 10419.8 thousand roubles
- 2009 capital investments: total 16259.7 thousand roubles, including federal budget 12916.3 thousand roubles; consolidated regional budget 3343.4 thousand roubles

**Pskov Region**
- 2007-2009 capital investments: total 253260.1 thousand roubles, including federal budget 128662.5 thousand roubles; consolidated regional budget 124597.0 thousand roubles

**Novgorod Region**
- 2007-2009 capital investments: total 42481.46 thousand roubles, including federal budget 12000.0 thousand roubles; consolidated regional budget 30481.46 thousand roubles
4. **Possible options for problem solving, assessment of advantages and risks arising when following various problem solving options**

The proposed measures (Appendices 5-44) for solving the problems and reaching the goals defined by the draft, including the capital construction sites of the state property of the administrative entities of the Russian Federation and municipal property, form the National Action Plan for the implementation of the goals of the HELCOM Baltic Sea Action Plan.

The National Plans of the Contracting Parties will be considered by the HELCOM Ministerial meeting in Moscow on the 20th of May 2010 crowning the 2-year period of the Russian Federation Chairmanship in HELCOM.

The options for problem solving depend on the comprehensive character of implemented programme measures.

The first option involves the integration of all measures into the Programme ensuring full accomplishment by the Russian Federation of the international commitments stipulated by the HELCOM Baltic Sea Action Plan and the timeframe set by it.

The advantage of the first option is the elaboration of the National Action Plan for the rehabilitation and improvement of the Baltic Sea ecosystem based on the HELCOM BSAP; financial and scientific and methodological backing for reaching the goals and fulfilment of the tasks included in the developed Programme; guaranteed accomplishment by the Russian Federation of its international commitments under the Convention on the protection of the marine environment of the Baltic Sea area.

The first option risks can be the chances of incomplete funding of some measures and, as a result, the chance that the planned targeted indicators are not reached.

The second option involves inertia scenario and the unavailability of federal funds.

The advantage of the second option is the preservation of federal funds.

The second option risks are insufficient regional funding for the implementation of all measures in set timeframe and, as a result, non-fulfilment of practically all planned measures within the period of the Programme implementation and international commitments of the Russian Federation under the Convention on the protection of the marine environment of the Baltic Sea area.

The first option is suggested for the implementation.

5. **Estimated timeframes and phases for problem solving by targeted programme method**

The implementation of the Federal Targeted Programme is scheduled for the years of 2011 – 2020 in two phases.

The first phase, 2012-2015, will imply the implementation of measures requiring capital investments in the construction of large municipal WWTPs and in agricultural sector, as well as in research.

The second phase, 2016–2020, will imply the completion works.

6. **Proposals of the goals and objectives of the Programme, target indicators that enable to assess the implementation of the Programme in time**

6.1. **Eutrophication**

The goal: to reduce annual nutrients input from the Russian part of the catchment basin into the Baltic Sea as compared to the average annual inputs by national monitoring data for the period of 1997-2003:

- phosphorus by 2500 tonne/y;
- nitrogen by 6970 tonne/y.
Objectives:
- Construction and refurbishment of municipal WWTPs and wastewater networks in the Baltic Sea catchment area and compliance of treated wastewater parameters with the requirements of the environmental laws of the Russian Federation and HELCOM standards.
- Construction of wastewater networks in the Baltic Sea catchment area.
- Closure of direct discharges of untreated wastewater in the water bodies of St. Petersburg and integration thereof into the sewer networks and wastewater treatment at the city WWTPs.
- Construction and refurbishment of cattle/animal and poultry manure storage facilities.
- Construction of animal and poultry farms waste processing facilities.
- Establishment of the legal and institutional capacity for the implementation of the best environmental practices by the agricultural sector.
- Scientific and methodological support.

Target indicators:
- Number of commissioned (including reconstructed) municipal treatment facilities, units;
- Total capacity of the constructed and reconstructed treatment plants, thousand m3/day;
- Number of liquidated direct wastewater discharges, number;
- Length of commissioned street sewerage system, km;
- Number of constructed and reconstructed manure storage facilities at agricultural enterprises, units;
- Approved legal and regulatory/methodology documents, pieces.
- Research report – number.

6.2. Hazardous substances

Goal: reduction of anthropogenic loads on the Baltic Sea from the potential sources of hazardous substances in the Baltic Sea catchment basin.

Objectives:
- To identify the major discharge sources, emissions, and leakages of hazardous substances in the Baltic Sea catchment basin.
- To close down the “hot spots” of the JCP HELCOM Programme.
- To execute corresponding measures for the liquidation of hazardous waste landfills (St. Petersburg, Kaliningrad Region) that are non-operational with consequent remediation of the territory.
- To liquidate and neutralize “obsolete pesticides” landfills.
- To build MSW landfills for different hazard class wastes.
- To establish analytical base for the monitoring of hazardous substances that will facilitate decision making.
- To create a system of radio-ecological safety in the Northwest Region of the Russian Federation.
- To ensure environmental and technical safety for the application of de-icing agents in the Baltic Sea cities.
- To provide scientific-methodological approach and legal/regulatory basis for the execution.

Target indicators:
- Closed JCP HELCOM Programme “hot spots”, number;
- Liquidated storage sites of “obsolete” pesticides, units;
- MSW landfills, number;
- Reports and results of the radioactive contamination monitoring.
- Research reports, number;
- Approved legal and regulatory/methodical documents, pcs;

6.3. Biodiversity and nature protection

Goals:
- To preserve the high level of biological diversity in the Russian sector of the Baltic Sea and its coastal part as the basis of creation and maintenance of the favourable ecological situation.
- To establish favourable conditions for the existence of unique species.
- To improve the functioning and development of the network of specially protected natural territories (SPNTs) as an instrument for the improvement of the ecological situation.

Objectives:
- Identification and mapping of the major biotopes in the Russian sector waters;
- Assessment of the status of rare and endangered plant and animal species; restoration and keeping up of salmon and eel populations.
- Maintaining normal numbers of target species (salmon, bull trout, sprat, Baltic herring, flatfish) and rough fish;
- Monitoring of marine mammals health
- Restoration and conservation of the Baltic gray seal and Baltic ringed seal;
- Monitoring of mammals and birds by-catch into nets in the course of industrial and amateur fishing in the Russian sector of the Baltic Sea;
- Surveys for the presence/absence of common porpoise and common seal (the Baltic population) in the Russian sector of the Baltic Sea (monitoring of these species in case of identification of these species);
- Monitoring of the status of new alien species and control of alien (invasive) species;
- Research and monitoring of the biological diversity in protected areas;
- Management of the regional and federal protected areas;
- Nomination and following inclusion of regional and federal SPNTs into international nature protecting networks BSPAs and EMERALD;
- Scientific/methodical and regulatory/legal provision of the sub-programme implementation.

Target indicators:
- Prepared for publishing and updates of “red books”, pcs;
- Data base and its status;
- Number and total area of regional and federal protected areas nominated for the inclusion into international nature-protection networks, pcs.; km²;
- Number of developed and revised management plans for regional and federal protected areas¹;
- Publications, pcs.;
- Approved legal and regulatory/methodical documents, pcs.

6.4. Maritime activities

Goals:
- Provision of ecological safety of maritime activities in the Baltic Sea and its catchment basin.

¹ The development and implementation of the management plans for the protected nature areas that are part of the Baltic Sea Protected Areas (BSPA) are stipulated by the HELCOM Baltic Sea Action Plan, therefore it is logical to implement this item for the protected nature areas related to the Baltic Sea and having regional and federal importance status.
– Provision of ecological secure sustainable development of coastal natural/technical systems (natural/economical systems) with obligatory harmonization of business and public interests.

**Objectives:**

– Minimization of marine environment pollution by sea vessels
– Reception of ship generated waste and sewerage in the Russian ports of the Baltic Sea area.
– Efficient readiness for responding to emergency situations;
– No introduction of unwanted water organisms;
– Minimal air pollution by ships.

**Target indicators:**

– Treatment facilities at ports for ship wastes, units;
– Treatment facilities at ports for ship wastewater, units;
– Lifted up sunk vessels hazardous for navigation and environment, units;
– Eliminated hazardous underwater objects, units;
– Dredging operations carried out, km;
– Response facilities for oil spills and discharges of hazardous substances, units;
– Emergency towing and unloading of vessels in trouble and fire extinguishing, units;
– Satellite images, pcs.;
– Approved regulatory departmental acts, guidelines, pcs.;

6.5. Monitoring

**Goal:** improvement of the state system of water bodies monitoring in the Baltic Sea catchment basin and of various media of the Baltic Sea in accordance with HELCOM monitoring programmes.

**Objectives:**

– Optimization of the existing state surveillance network, including increased number of observation posts and surveyed parameters;
– International inter-calibration of the measurement methods;
– Technical re-equipping of the network of analytical surveys at DMSM and NLBWD in the part of provision of modern gear for the identification of hazardous substances concentrations indicated by HELCOM as priority ones for the Baltic Sea;
– Set up automated monitoring system.
– Establishment of information-forecast collection centre for the collection, processing and analysis of the information for working out and support of managerial and economical decisions in the area of the water quality control, water media and natural resources preservation in Northwest Region on GIS basis;
– Scientific/methodical and regulatory/legal provision of the FTP tasks implementation.

**Target indicators:**

– Number of new observation stations, units;
– Number of analytical equipment, pcs.;
– Number of automated observation stations, units;
– Approved legal regulatory/methodical documents, pcs.
6.6. Public awareness and ecological education

**Goal:** to raise public and stakeholders awareness regarding ecological problems of the Baltic Sea basin and promote ecological education at higher educational institutions of the region.

**Objectives:**
- Organization and implementation of the annual International Environmental “Baltic Sea Day” dedicated to the new HELCOM goals, ecological status of the Baltic Sea, experience exchange of the Baltic countries in the implementation of national programmes for all tasks of the HELCOM Baltic Sea Action Plan;
- Regular translation into Russian and publication of new HELCOM recommendations and guidelines, including posting in Internet portals;
- Regular translation into Russian and publication of corresponding HELCOM information materials on the environmental status of the Baltic Sea and on the implementation of national programmes;
- The establishment of the International Resource Centre at the Russian State Hydrometeorology University for the training of personnel and monitoring of the requirements for education and personnel training.
- Organization and holding of cycle or working thematic seminars for interested parties on the priority FTP goals (regional administrative and nature protecting bodies; producers, journalists, general public);
- Organization and holding of information campaigns on environmental problems of the Baltic Sea at regional television and radio network;
- Organization and holding of educational training courses in the area of environmental safety and nature protection for the students of profile specializations and St. Petersburg higher schools;
- Involvement of the boat owners in the international Blue Flag Programme and application in Russia of the voluntary international certification scheme for Blue Flag marinas and beaches that is an international award indicating clean, safe and well-managed beaches and marinas meeting high environmental standards and having quality safety equipment and service amenities.

**Target indicators:**
- Publications, pcs.;
- Public events and public actions (seminars, conferences, information campaigns, etc.), number.
- Number of marinas and beaches in the Baltic Sea region that are awarded the international Blue Flag certificate - number.

Target indicators and parameters are given in Appendix 45.

7. Proposals on the amounts and sources of funding for the Targeted Programme and its sections

Proposals on the amounts and sources of financing for the Targeted Programme as a whole and its sections with yearly breakdown are shown in Appendixes (Appendices 1, 2, 3, 4).

The total amount of financing for the proposed measures of the Programme is 1453953.91 million roubles in prices for the corresponding year, including:
- Requested funds from the federal budget: 78280.3 million roubles;
- Funds of consolidated budgets of the subjects of the Russian Federation: 54797.18 million roubles;
- Funds from non-budgetary sources: 12,316.42 million roubles.
- Co-financing from the federal budget (within the frames of LTP FTP development of the Kaliningrad Region for the period until 2014.): 13087.34 million roubles;
– Co-financing from the federal budget (St. Petersburg, within the frames of FTP “HOME”): 9.05 million roubles.

Distribution of the proposed Programme financing, %
– Requested federal budget: 53.8%;
– Consolidated budget of the RF subjects: 37.7%;
– Extra-budgetary sources: 8.5%.

Total financing of the “Eutrophication” section is 106599.71 million roubles, including:
– Requested funds from the federal budget: 45954.77 million roubles;
– Funds of consolidated budgets of the subjects of the Russian Federation: 52354.54 million roubles;
– Extra-budgetary resources: 8290.4 million roubles.

Total financing of the “Hazardous Substances” section is 3427.07 million roubles, including:
– Requested funds from the federal budget: 2870.78 million roubles;
– Funds of the consolidated budgets of the subjects of the Russian Federation: 1271.66 million roubles;
– Extra-budgetary resources: 362.88 million roubles.

Total financing of the “Biodiversity” section is 2386.07 million roubles, including:
– Requested funds from the federal budget: 1888.60 million roubles;
– Funds of the consolidated budgets of subjects of the Russian Federation: 461.98 million roubles;
– Extra-budgetary resources: 35.50 million roubles.

Total financing of the “Maritime Activities” section is 26952.74 million roubles including:
– Requested funds from the federal budget: 22817.74 million roubles;
– Funds of the consolidated budgets of the subjects of the Russian Federation: 569.00 million roubles;
– Extra-budgetary resources: 3565.00 million roubles.

Total financing of the “Monitoring” section is 4277.83 million roubles, including:
– Requested funds from the federal budget: 4164.83 million roubles;
– Funds of the consolidated budgets of the subjects of the Russian Federation: 113.00 million roubles;
– Extra-budgetary resources: 0.0

Total financing of the “Education” section is 672.24 million roubles, including:
– Funds from the federal budget: 582.60 million roubles;
– Funds of the consolidated budgets of the subjects of the Russian Federation: 27.00;
– Extra-budgetary resources: 62.64 million roubles.
8. Preliminary assessment of expected social, environmental and economic effects when the problem is solved

Social, ecological and economic efficiency of the Programme implementation is expected as follows:

- Reduction of the anthropogenic impact on the ecosystem of the Baltic Sea and improvement of the ecological situation;
- Growth of numbers of people having access to centralized wastewater systems;
- Increase of treated wastewater in 2020 by 2448.612 m$^3$/day as compared to 2009;
- Reduction of total nitrogen inputs into the Baltic Sea in treated municipal wastewater by 11401 tonnes;
- Reduction of phosphorus inputs into the Baltic Sea in treated municipal wastewater by 2334 tonnes;
- Decrease of losses of nutrients and their discharges into the Baltic Sea through the introduction of the best agricultural practices and technologies of animal and bird husbandry waste management in the area of the Baltic Sea catchment basin by 140 tonnes of nitrogen and by 400 tonnes of phosphorus;
- Enhanced competitiveness of agricultural products in the world market;
- Establishment of the state wild life reserve Ingermanlandsky in the islands of the Gulf of Finland and increasing of SPNT territories in the Gulf of Finland by 12%;
- Creation of well-managed landfills for communal and hazardous wastes, liquidation of the existing ones followed by remediation of the territories;
- Liquidation of disordered storages of obsolete pesticides;
- Provision of radioactive and radio-ecological safety in the Baltic basin;
- Establishment of an analytical base for monitoring of hazardous substances in order to provide for managerial decision-making;
- Enhancement of the quality status of water bodies in the Baltic Sea catchment basin;
- Preservation, restoration and maintenance of the natural level of biodiversity in the Russian part of the Baltic Sea catchment basin;
- Preservation of the unique and typical natural complexes and sites in the Russian part of the Baltic Sea catchment basin;
- Prevention of the direct and indirect damage to natural complexes and sites, restoration of economically significant resources of biological resources (fish resources, in the first place);
- Modernization of the state monitoring system of water bodies and various environments of the Baltic Sea providing objective evaluation of the water bodies status and estimates of the integral loads upon the Baltic Sea;
- Implementation of an automatic system of monitoring of water bodies;
- Provision of ecologically safe maritime navigation including small boats;
- Provision of collection and processing of ship wastewater and wastes in the Russian ports;
- Provision of conditions for ecologically safe exploitation of the RF ports on the Baltic Sea;
- Enhancement of response readiness to oil and hazardous waste spills in the Baltic Sea;
- Carrying out of complex of research studies providing scientific and methodical support of implementation of the tasks of the National Plan, development of scenarios of ecological and economy effects in case of different anthropogenic impacts on the environment of the Baltic Sea catchment basin;
- Development of regulatory base providing execution of obligations under the Helsinki Convention and HELCOM Baltic Sea Action Plan;
- Raised awareness of general public and decision-makers about HELCOM activities, implementation of national programmes and changes in the ecological situation in the Baltic Sea area;
- Training of highly qualified staff on ecological issues in the Northwest Region of Russia;
− Improvement of the quality of coastal waters and the shore zone;
− Improvement of the quality of life of the residents of the Northwest Region of the Russian Federation;
− Enhancement of the recreational situation and enhancement of the regional for touristic, cultural, sportive and other types of development.

Major results of the programme implementation will be:
− Rehabilitation and improvement of the Baltic Sea ecosystem;
− Full and integral execution of the obligations of the Russian Federation under the Helsinki Convention and HELCOM Baltic Sea Action Plan linked with ecological well-being of the Baltic Sea ecosystem

9. Proposals of the involvement of the federal executive authorities responsible for the drafting and implementation of the Targeted Programme

Proposed are the following authorities as the federal executive bodies responsible for the elaboration of the Programme:

1. Ministry of Natural Resources and Environment of the Russian Federation:
   − drafting of proposals and the implementation of measures for the conservation of biodiversity and natural landscapes in the Baltic Sea catchment basin;
   − drafting of proposals and the implementation of measures for the reduction of anthropogenic loads pertaining to the substances that are the most hazardous for the Baltic Sea ecosystem;
   − drafting of proposals and the implementation of measures for the development and improvement of the water bodies state monitoring system in the Baltic Sea catchment basin and various media of the Baltic Sea (water, bottom sediments and biota);
   − drafting of proposals for the scientific and methodological support of the implementation of the targeted programme within their authority;
   − drafting of proposals and the implementation of measures related to the raising of public awareness and environmental education.

2. Ministry of the Regional Development of the Russian Federation:
   − drafting of proposals and the implementation of measures for the construction of municipal WWTPs in the administrative entities of the Russian Federation located in the Baltic Sea catchment basin;

3. Ministry of Transport of the Russian Federation:
   − drafting of proposals and the implementation of measures aiming at safe and environmentally-friendly navigation in the Baltic Sea;
   − drafting of proposals and the implementation of measures aiming at the development of infrastructure in the Russian ports of the Baltic Sea area for the collection and processing of ship-generated waste and wastewater;
   − drafting of proposals for the scientific and methodological support of the implementation of targeted programme within its authority.

4. Ministry of Agriculture of the Russian Federation:
   − drafting of proposals and the implementation of measures ensuring the development of agricultural enterprises complying with the environmental requirements and full disposal of the animal husbandry waste in order to reduce nutrient inputs into the water bodies in the Baltic Sea catchment basin;
   − drafting of proposals for the scientific and methodological support of the implementation of targeted programme within its authority.

5. Federal Fishery Agency:
   − drafting of proposals and the implementation of measures ensuring sustainable management of fish stocks in the Baltic Sea.

6. Federal Corporation on Nuclear Energy (Rosatom)
- drafting of proposals and the implementation of measures ensuring the establishment of the radiation and radiological safety system in the Baltic Sea catchment basin.

7. Federal Water Resources Agency:
- drafting of proposals and the implementation of measures aiming at the conservation of water resources in the Baltic Sea catchment basin.

8. Federal Environmental, Industrial and Nuclear Supervision Service:
- drafting of proposals and the implementation of measures ensuring for safe hazardous substances and waste management in the Baltic Sea catchment basin.

9. Federal Supervision Service for Nature Management:
- drafting of proposals ensuring the protection of wild nature and animals, as well as marine environment of the Baltic Sea.

10. Federal Hydrometeorology and Environmental Monitoring Service:
- drafting of proposals ensuring the development of the state system of water bodies monitoring in the Baltic Sea catchment basin.

Within their authority other federal executive authorities take part in the elaboration of the Federal Targeted Programme, as well as the executive authorities of the administrative entities of the Russian Federation located in the Baltic Sea catchment basin. All state power authorities mentioned above participate in the Programme implementation.

10. Proposals of the state contactors and developers of the Targeted Programme

It is suggested to designate:
- Ministry of Natural Resources and Environment of the Russian Federation as the State Customer/Programme Coordinator;
- The Ministry of Natural Resources and Environment of the Russian Federation with participation of other federal bodies of executive authority in accordance with their competence and also bodies of the executive authority of the subjects of the Russian Federation located in the Baltic Sea catchment basin as Programme Developers.

11. Proposals of the mechanisms for the drafting of measures for the Targeted Programme

The formation of the system of programme measures is suggested through the mechanism of consequent execution of the following stages:
- revision of measures declared for inclusion by various bodies of state authority and also accounted of in the documents of territorial planning of the Russian Federation, of the subjects of the Russian Federation and municipal entities;
- verification if the measures have already been included in other funded federal Targeted Programmes, departmental and regional programmes are present in the suggested proposals and change of their status as of co-financed;
- selection of the measures according to the ecological efficiency criterion;
- selection of the measures according to the social and economic efficiency criterion;
- logistical analysis of the selected measures and their formation with consideration of other financed programmes.
The logistical analysis of the measures is carried out in order to evaluate the multiplicative effects for the formation of the National Plan for the implementation of the HELCOM Baltic Sea Action Plan tasks, e.g.:
- construction and reconstruction of the wastewater systems and municipal wastewater treatment facilities in the Baltic Sea catchment basin with the purpose to decrease anthropogenic nutrient loads upon the Baltic Sea;
- measures providing reduction of the nutrient inputs from agricultural enterprises into the surface waters;
- measures providing reduction of the hazardous substances anthropogenic loads upon the Baltic Sea;
- measures providing radiation and radio-ecological security in the Baltic Sea basin;
- measures providing preservation and sustainable biodiversity, development of the network of specially protected marine and terrestrial natural areas; protection of unique and vulnerable species of plants and animals in the catchment basin and the Baltic Sea; protection and restoration of commercial fishes; sustainable fishery;
- measures providing development of technologies for combating oil spills and chemical pollution in the Baltic Sea; prevention of incidents in night time and under poor visibility conditions, bad weather, and incidents with heavy oil fractions;
- modernization of the state monitoring system;
- development of research and regulatory/legal base;
- formation of an ecological system of views, raising public awareness and ecological literacy among the broad circles of public including administrative and nature protection bodies of the subjects of the Russian Federation of the Baltic Sea catchment basin, high and higher school students;

The proposed mechanism of measure formation will work out an optimal and efficient system of programme measures within the frames of particular financial funds already at the stage of Programme development.

The Programme measures are structured into the Programme and section tasks.

The State Customer/Coordinator of the Federal Targeted Programme coordinates the activities of the State Customers and Developers of the Federal Targeted Programme and preparation of the programme measures.

The Programme draft will be considered at the meeting of the Ecological Expert Group of the Coordination Council for cross-border cooperation and inter-regional cooperation under the supervision of the Presidential Plenipotentiary Envoy of the Russian Federation in the Northwest Federal District, approved by concerned executive power bodies and submitted in the established order to the Government of the Russian Federation for consideration and approval.

12. Proposals of possible forms and methods for the management and implementation of the Targeted Programme

The State Customer/Programme Coordinator, i.e. the Ministry of Natural Resources and Environment of the Russian Federation, is responsible for the day-to-day management of the Programme and coordination of interaction between the State Customers and Developers within the frames of its authority.

The State Customer/Programme Coordinator, the Ministry of Natural Resources and Environment of the Russian Federation shall within its responsibilities:

a) prepare draft resolutions of the Government of the Russian Federation on approval of the Targeted Programme and its State Customers; introduction of changes and early termination of the Targeted Programme, coordinates them and submits to the Ministry of Economic Development of the Russian Federation for submitting to the Government of the Russian Federation;

b) develop initial task for the formation of the Targeted Programme and coordinate developers activities;
c) develop regulatory (individual) legal acts (local acts) necessary for the execution of the Targeted Programme within the limits of its authority;

d) maintain quarterly reporting on the implementation of the Targeted Programme;

e) prepare reports on the implementation of the Targeted Programme;

f) if necessary, develop annual suggestions for the improvement of measures of the Targeted Programme for the next financial year, specify the costs of measures of the Targeted Programme and mechanisms of their implementation;

g) develop the list of target indicators and indexes for the monitoring of the implementation of the Targeted Programme measures;

h) sign agreements of intent with the major parties of the Targeted Programme prior to the approval of the Targeted Programme with indication of feasible time schedules and sources of funding. After the adoption of the Targeted Programme, and in case this is foreseen by the rules of provision and distribution of the Federal Budget subsidies to the budgets of the subjects of the Russian Federation established in the Targeted Programme, the State Customer of the Targeted Programme shall sign contracts with the top bodies of executive authority of the subjects of the Russian Federation on provision of subsidies from the Federal Budget for the implementation of similar Programmes implemented at the account of budget funds of the subjects of the Russian Federation (local budgets) by objects and measures financing of which is included in the Targeted Programme;

i) in specified cases, organize expert examination of the Targeted Programme draft and carry out its elaboration following the results of the expert examination;

j) hold responsibility for the timely and quality development and implementation of the Targeted Programme; provide efficient utilization of the appropriated funds;

k) organize the implementation of the of the information technologies for the Targeted Programme implementation and control over its implementation;

l) organize placement of information on implementation of the Targeted Programme, its funding, attraction of non-budgetary funds, tenders and the order of investors participation in them on the official website of the Programme Coordinator;

The State Customer/Coordinator of the Targeted Programme, the Ministry of Natural Resources and Environment of the Russian Federation, can delegate on contractual basis part of its functions to other organizations under the conditions set by the Government of the Russian Federation along with the Targeted Programme adoption.

The State Customer/Coordinator of the Targeted Programme, the Ministry of Natural Resources and Environment of the Russian Federation, shall carry out coordination of activities of all State Customers of the Targeted Programme on its preparation and efficient implementation of its measures by the Targeted Programme participants providing the execution of the established indicators of the Targeted Programme, and also analyze the use of the Federal Budget Funds and budget funds of the subjects of the Russian Federation and the extra-budget funds.

The State Customer/Coordinator of the Targeted Programme, the Ministry of Natural Resources and Environment of the Russian Federation shall coordinate works with the top bodies of executive authority of the subjects of the Russian Federation, carried out under the signed agreements on subsidizing of similar Targeted Programmes implemented at the account of the budget funds of the subjects of the Russian Federation (local budgets).

The State Customer/Coordinator of the Targeted Programme, the Ministry of Natural Resources and Environment of the Russian Federation holds responsibility for the preparation and implementation of the Targeted Programme as a whole including the preparation of the orders of the Government of the Russian Federation on adoption of the Targeted Programme, approval of its State Customer, introduction of amendments and early termination of the Targeted Programme; their coordination and submission to the Ministry of Economic Development of the Russian Federation for submission to the Government of the Russian Federation, and also for the development of the report on implementation of the Targeted Programme.

The State Customers of the Targeted Programme shall:

a) in case it is necessary, develop annual suggestions on the improvement of measures of the Targeted Programme for the next financial year, specify costs of measures of the Targeted Programme;
b) hold responsibility for the timely and quality development and implementation of the Targeted Programme; provide efficient use of the appropriated funds;
c) organize the implementation of the of information technologies for the Targeted Programme implementation management and control over its implementation.

The State Customers of the Targeted Programme shall submit to the State Customer of the Targeted Programme:

– reports about the implementation of the Targeted Programme;
– requested information and documentation in the time frames established by the State Customer of the Targeted Programme;
– requested copies of commissioning acts confirming commissioning and acceptance of the construction sites and other documents confirming the fulfilment of obligations under the state contracts signed.

Measures supporting the Programme are carried out at the account of funds allocated for the programme; the measures include methodical, organizational and technical and expert support of the Programme implementation (expert examination of projects and results of their implementation) and control over the programme implementation.

To provide efficient management and control of the Programme implementation, the Ministry of Natural Resources and Environment of the Russian Federation hires external contractor for particular jobs (independent expert examination, audit, statistical and marketing surveys, etc.).

The major issues of coordination and cooperation between the State Customers, annual reports and recommendations for the improvement of the programme measures are considered at the meetings of the Ecological Expert Group of the Coordination Council on cross-border cooperation of the Presidential Plenipotentiary Envoy of the Russian Federation in the Northwest Federal District.

The selection of suppliers of commodities (jobs and services) for the Programme is done in accordance with the Federal Law No. 94-FZ as of 21.07.2005, “On placement of order for commodity supplies, execution of works and rendering services for state and municipal needs”.