ROUND TABLE RESOLUTION

Quality of water and bottom sediments in the Baltic Sea and methods of its estimation

Within the framework of the VII International Environmental Forum "Baltic Sea Day"

Moderator: Lev Karlin *(Russian State Hydrometheoorological University)*

Participants: 68

---

68 persons, including five foreign experts, have participated in the activities of the Round Table. 34 reports and short talks were presented covering a broad range of problems related to problems of assessment of quality of natural waters and bottom sediments in the Baltic Sea, Gulf of Finland, as well as river systems integrated into the Baltic drainage basin. 12 participants took part in discussions and preparation of the Round Table decisions. Among the participants of the Round Table were representatives of the federal and municipal organizations engaged in ecological monitoring in the Gulf of Finland and Baltic Sea or controlling the environmental situation in marine basins, as well as representatives of research institutes and higher educational institutions of St. Petersburg, organizations of various forms of ownership conducting ecological research, and also associates of research institutes of Finland.

All the reports and papers were subdivided into four sections:

- **methodology and measurement methods in conducting marine ecological monitoring;**
- **methods of estimation of ecosystem changes (assessment of water quality, bioindicators of environmental state, simulation, databases, etc.) and threats to the environment of the Baltic Sea**
- **estimation of the environmental conditions of open and coastal areas of the Baltic Sea based on results of observations;**
- **ecology of coastal zones and fluvial systems in the drainage area of the Gulf of Finland.**

Within the framework of each section, 3-4 major papers were presented; the remaining reports and discussions of ecological problems were conducted as short speeches.

The Round Table participants, having listened to and discussed all the presentations and speeches note that:

1. All the presentations and talks have aroused lively interest and dealt with urgent problems in research into the environment of the Baltic Sea including Gulf of Finland and water bodies in the drainage basin. Of special interest were the reports containing data on long-time changes and tendencies in development of the environment of the basins involved, results of mathematical modelling of hydrological processes and eutrophication, ecological condition

assessment of the bottom in the Gulf of Finland in the construction zone of the new hydraulic engineering facilities and underwater deposits of manganese nodules, restructuring of atomic engineering enterprises, including the nuclear plant in the town of Sosnovy Bor.

2. In 2004-2005 the environmental activities became more intense and began to encompass such directions as monitoring of zones of new hydraulic engineering facilities, including the zone of the St. Petersburg's flood protection facilities complex and underwater mining. The activation of ecological investigations is also connected with the North-European gas pipeline which is being designed. However, the quantity of information on this project, so far, is not sufficient. This is the cause for a significantly increased volume of new data on the environmental status in the Gulf of Finland and the Baltic Sea. But, as before, departmental divisions between organizations conducting environmental investigations both inside this country and at the international level result in obtaining different interpretations of the data. This does not allow one to make a completely correct assessment of ecological safety of the new projects nor obtain an unequivocal estimation of the ecological condition of water areas.

3. One of main problems in monitoring is coordination of measurement methods and analytical research. A number of organizations use different techniques, which results in poor comparability of the data obtained and impossibility of their usage for updating federal information systems assessing marine environmental conditions. The same also refers to consistency in using the term 'monitoring', as this term is often used in reference to different specialized environmental investigations.

4. The relevant constituent of ecological monitoring of the environment of the Baltic Sea is monitoring of its coastal zones. Increased coastal erosion, development of eutrophication manifest themselves here in a much more active way than in the open sea. At the same time, monitoring of these processes by federal agencies is clearly insufficient.

5. In connection with increased engagement of water areas in the basins of the Baltic Sea and Gulf of Finland into economic activities, the important and urgent task of preservation of the environment is to analyse and map the sites of dumping potentially hazardous objects aiming at their subsequent retrieval or sterilization. This problem has become a topical one, necessary for ensuring ecological safety of the Baltic Sea and Baltic republics. It should be solved at the federal level; it also requires coordinated efforts on the part of all Baltic States in whose economic area these objects are located.

6. International cooperation in monitoring the environment of the Gulf of Finland is still carried out predominantly at the level of holding conferences and exchanging information. But the essential component of this cooperation – organization of joint monitoring of the water depth and bottom deposits of the Baltic Sea, including its borderline areas – is practically absent. As a consequence, there exists neither unified approach to assessment of the state of the Gulf of Finland at the international level nor analysis of the Baltic Sea as a unified ecosystem.

7. In recent years, federal agencies have practically stopped monitoring of the water depth of Lake Ladoga.

8. One of the ways of validation of the satellite monitoring data on the content of chlorophyll *a* in the Gulf of Finland waters is organization of a satellite experiment with its measurements verified against ground-based ones, including measurements of major hydrological parameters during sea expeditions of various agencies, encompassing Finnish (FIMR, SYKE) and Estonian institutions. For this purpose, it is necessary to prepare proposals for HELCOM and submit them to SPbPO "Ecology and Business".

9. The topics of the reports announced and presented at the Round Table have proved to be considerably broader than the framework implied in its title; the same refers to the announced sections. The rising concern about problems of ecological safety in the Baltic Sea resulted in the fact that the meeting had such a crowded agenda, which essentially reduced the time for discussion of these important issues. These shortcomings should be taken into account in

preparing the forthcoming Forums «Baltic Sea Day» through organization of poster sessions and their subsequent discussions, or extension of the list of Round Tables. Also, some participants pointed out the necessity to organize a special Round Table to discuss predominantly theoretical reports devoted to problems in mathematical modeling, problems of ecological risks, placing particular emphasis on inviting people who adhere to different views.

10. The great interest exhibited by the scientific community to the Forum testifies to the necessity for organization of a permanent workshop in St. Petersburg where specific environmental protection problems would be considered on a routine basis. It is expedient to conduct such workshops using the potential of SPbPO "Ecology and Business", as well as that of the organizations and institutes interested in holding these seminars.

The Section recommends:

1. We consider the following tasks to be of primary importance:

a) To organize a meeting of the initiative group of specialists from various agencies in order to develop joint proposals on creation of a permanent workshop on monitoring, control, management and protection of natural resources of the Gulf of Finland, using the potential of SPbPO "Ecology and Business", as well as that of the organizations and institutes interested in holding these seminars.

b) To prepare proposals for HELCOM on creation, within its framework, of a special Commission on monitoring contamination in the bottom deposits of the Baltic Sea, and on creation of a separate group for estimating the impact of potentially dangerous sea-dumped objects on the Baltic Sea environment, with one of the group's objectives being organization of international expeditions to solve this problem.

2. To prepare guidelines and to address the Ministry of Natural Resources calling for the necessity for substantial improvement of the environmental protection legislative basis, including development of classifications of impurities in bottom depositions and seawaters based on chlorophyll *a* content.

3. To address the RF Rosgydromet Meteorological Service on the necessity for renewal of regular monitoring of hydrochemical parameters in the water depth of Lake Ladoga, to be performed by the Northwest Board of the Hydrometeorological Service.

4. To attract attention of the RF Rosgydromet Meteorological Service and Ministry of Natural Resources to the necessity to perfect the information support system for ecological monitoring and to grant freer access to the measurements data.

5. To attract attention of the RF Ministry of Natural Resources to the necessity for the federal control of the marine environmental conditions, including the Baltic Sea, especially its problematic regions, without shifting the burden on natural resource users only. It is expedient to create the "Baltic" target departmental programme, aimed at coordination and improvement of efficiency of natural resource users' activities and environmental protection measures in the Baltic region. To solve the problem of reduction of biogenic load entering the eastern part of the Finnish Gulf, it is recommended that the Neva-Ladoga Water Basin Administration should organize activities aimed at development of scientifically proven long-time programme of a decrease in the phosphorus and nitrogen loads for improvement of water quality, using the available scientific developments of St. Petersburg's specialists. To ask the RF Ministry of Natural Resources to include financing of this programme in the 2007-2010 plans.

6. To attract attention of the St. Petersburg Administration to the necessity to strengthen the control of the Neva Bight environmental conditions, in connection with a sharp increase in bottom dredging activities and renewal of washing-up of new urban territories for building the new passenger terminal on Vasilyevsky Island. To attract scientific and manufacturing organizations of the city for this control, coordinating their activity with the purpose of ensuring ecological safety of this project.

7. To send the resolution of the Round Table sessions to the relevant departmental agencies, St. Petersburg and Leningrad Region Administrations, as well as HELCOM executive bodies.

The participants of the Round Table sessions are unanimous in highlighting the great role of SPbPO “Ecology and Business” in organization and realization of the scientific forum, which over the past years has become an outstanding event in scientific life of St. Petersburg and Baltic region, and express their thanks to its employees for the high level of organization of the meeting and invariable goodwill.