

BALTIC SEA ENVIRONMENT PROCEEDINGS

No. 56

INTERGOVERNMENTAL ACTIVITIES IN THE
FRAMEWORK OF THE HELSINKI CONVENTION
1974 - 1994

HELSINKI COMMISSION
Baltic Marine Environment Protection Commission
1994

For bibliographic purposes this document should be cited as:

HELCOM, 1994
Intergovernmental Activities in the Framework
of the Helsinki Convention 1974 - 1994
Balt. Sea Environ. Proc. No. 56

Information included in this publication or extracts thereof
is free for citing on the condition that the complete
reference of the publication is given as stated above

Copyright 1994 by the Baltic Marine Environment
Protection Commission - Helsinki Commission -

ISSN 0357-2994

Helsinki - Government Printing Centre

**INTERGOVERNMENTAL ACTIVITIES IN THE
FRAMEWORK OF THE HELSINKI CONVENTION
1974 - 1994**

<u>List of Contents</u>	<u>Page</u>
List of Tables	
List of Figures	
Annexes	
Preface	1
Executive summary	2
1. Introduction	8
2. Time of the Interim Commission in 1974-1980	10
3. Activities of the Helsinki Commission in 1980-1994 in general	14
4. Activities and development of the work in the environmental and technological fields in general	18
5. Activities in the field of the Environment Committee	21
6. Activities in the field of the Technological Committee	41
7. Activities in the field of the Maritime Committee	55
8. Activities in the field of the Combatting Committee	72
9. Activities related to HELCOM TF and HELCOM PITF	93
10. Dumped chemical munition	102
11. Cooperation of the Commission with other international organizations	103

<u>List of Tables</u>	<u>Page</u>
Table 1. Budget development of the Helsinki Commission since 1981	16
Table 2. Major oil incidents in the Convention Area 1969-1990	72
Table 3. Overview of surveillance activities in the Baltic Sea 1988-1992	73
Table 4. The Baltic Sea Joint Comprehensive Environmental Action Programme, programme elements	94
Table 5. The Baltic Sea Joint Comprehensive Environmental Action Programme, status of implementation of investments and estimated reduction of pollution on completion of investments (December 1993)	99
Table 6. Lead parties of the programme elements of the Baltic Sea Joint Comprehensive Environmental Action Programme (December 1993)	100

<u>List of Figures</u>	<u>Page</u>
Figure 1. The drainage area of the Baltic Sea	7
Figure 2. Working structure of the Helsinki Commission	15
Figure 3. Main problem areas indicated in the coastal assessment 1993 (BSEP 54)	31
Figure 4. Nitrogen concentrations in precipitation, North and South Baltic 1986-1990	33
Figure 5. Distribution of Cs-137 deposition of the Chernobyl fallout (1986) in the drainage area of the Baltic Sea	35
Figure 6. Distribution of references in major subject classes (Baltic Marine Environment Bibliography Statistics, June 1993)	39
Figure 7. Distribution of references by document type (Baltic Marine Environment Bibliography Statistics, June 1993)	39
Figure 8. Organic matter (BOD ₇) load entering the Baltic Sea in 1990	50
Figure 9. Total Phosphorus load entering the Baltic Sea in 1990	51
Figure 10. Total Nitrogen load entering the Baltic Sea in 1990	52
Figure 11. The Baltic Sea Joint Comprehensive Environmental Action Programme, status of investment activities reported by contact persons of HELCOM PITF by 18 December 1993	98

<u>Annexes</u>	<u>Page</u>
1 1974 Helsinki Convention (December 1993)	107
2 1992 Helsinki Convention	141
3 Declaration on the Protection of the Marine Environment of the Baltic Sea Area, 1988	187
4 Baltic Sea Declaration, 1990	195
5 Final Act of the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki, Finland, 9 April 1992) including the Baltic Sea Environmental Declaration, 1992	205
6 Gdansk Declaration, 1993	225
7 The environmental status of the Baltic Sea, information of the fourth meeting of the Environment Committee (Hamburg, Germany, 11-15 October 1993)	229
8 Key persons	233
BALTIC SEA ENVIRONMENT PROCEEDINGS	237

PREFACE

The purpose of this publication is to give an account of the cooperation within the framework of the Helsinki Convention during its twenty years of existence, from 1974 to 1994, and primarily of the joint achievements in the different fields of activities of the Helsinki Commission. This publication was also to provide background information for the decisions concerning future activities taken during the fifteenth meeting of the Helsinki Commission held at ministerial level on 8-11 March 1994.

EXECUTIVE SUMMARY

The Convention on the Protection of the Marine Environment of the Baltic Sea Area, the Helsinki Convention, was signed in 1974 by the, then, seven Baltic Sea States and it entered into force in 1980. In 1992, the new convention was signed by the present nine Baltic Sea States and by the European Economic Community. Stimulated by and through the joint cooperation in the framework of the Helsinki Commission the Contracting Parties have achieved many important results in their efforts to reduce the pollution of the Baltic Sea and to ensure the ecological restoration of the sea in the future. To speed up national measures and to increase the political will in the countries the meetings of the Helsinki Commission, and closely related conferences, have been arranged at ministerial level from time to time. There are still, however, a number of problems, which from the Baltic Sea point of view need to be solved as an urgent matter within the framework of the Helsinki Commission.

Even if the effectiveness of the HELCOM endeavours might be debated the fact is that the nucleus of the environmental protection regime within the Baltic Sea, which the Commission has created during the past twenty years, seems to be indisputable.

The main achievements and some aspects related to future prospects are described in this report and summarized shortly as follows.

1. ENVIRONMENTAL MONITORING, ASSESSMENTS AND NATURE PROTECTION

To follow up the effects of the pollution in the marine environment of the Baltic Sea, a joint monitoring programme for the open Baltic Sea has been coordinated by the Commission since 1979. The open sea monitoring has been later extended to cover also monitoring of airborne pollution and radioactive substances. For the coastal waters there has been no harmonized monitoring programme. The countries, however, have agreed that national monitoring programmes in territorial waters should be established to supplement the joint monitoring programme in the open sea.

Based on the monitoring data supplemented with additional data from different research programmes overall evaluations of the state of the marine environment have been carried out several times. Some positive changes have been observed, e.g., decrease in the DDT and PCB concentrations in biota, decrease of α -HCH concentrations in water and the decrease in lead values in the marine environment in the southern Baltic. In some areas seal populations are recovering although they are still threatened by pollutants, especially the organochlorines, and the by-catch of young seals in fishing nets.

During the past years a lot of efforts have been made to improve the reliability of the collected monitoring data by arranging several intercalibration and intercomparison exercises. Even special training courses on phytoplankton identification have been arranged for personnel involved in the practical work.

The new Convention 1992 contains a new issue for the activities of the Commission. A work programme on nature conservation has been developed and at present experts are working on specific proposals concerning, e.g., protection of coastal regions and establishment of protected coastal and marine areas.

Future plans

In the coming years the activities in the Environment Committee will be focused on the following topics:

- preparation on the third periodic assessment of the state of the Baltic marine environment;
- finalization of the Baltic Sea Sediment Baseline Study;
- elaboration of an integrated monitoring programme for coastal areas of the Baltic Sea and revision of the existing Baltic Monitoring Programme including the joining of all monitoring activities under one organizational umbrella as Cooperative Monitoring in the Baltic Marine Environment (COMBINE);
- introduction of common and more stringent quality assurance procedures;
- evaluation of the status of endangerment of different coastal and marine biotopes and nature types in the Baltic Sea Area (Red Data Book);
- development of a system of Coastal and Marine Baltic Sea Protected Areas (BSPA);
- development of regulations to protect the coastal strip and sea bottom of the Baltic Sea Area by appropriate means against environmental degradation.

2. REDUCTION OF POLLUTION FROM LAND-BASED SOURCES

The Helsinki Convention 1974 laid down fundamental principles and goals for abatement of land-based pollution and left it to the Commission to develop the standards and common control instruments. Proposals for the Commission in this field have been prepared within the technological field, starting from creating a necessary basis for cooperative action, primary consideration of definitions of terms and phrases and establishing of appropriate system for data collecting.

A wide range of regulations aimed at elimination or reduction of individual harmful substances or pollution from specific land-based sources has been developed. Annex 1 (banned hazardous substances) of the 1974 Convention, originally comprising only DDT and PCBs, was amended in 1983 to include PCTs, too. The criteria for allocation of priority noxious substances was developed and the pollutants have been specified substance-wise with priority ranking.

Land-based sources of major environmental concern have been identified for urgent preventive action. Consideration of them in detail is starting from limiting values for noxious substances and continuing to regulations and technological means in combination with effluent standards. The concepts of Best Available Technology (BAT) and Best Environmental Practice (BEP) as well as the Precautionary Principle are at present applied as the basic principles for technological preventive action. The procedure of collection of discharge data and evaluation of the pollution load entering the Baltic Sea was established and the first steps have been taken to prepare the third pollution load compilation in the mid 1990s. The regulations adopted by the Commission since 1980 for elimination or restriction of land-based pollution laid a basis for detailed technical provisions of the 1992 Helsinki Convention related to harmful substances, definitions of BAT and BEP, discharge permitting procedure and criteria and measures to reduce pollution from land.

Future plans

Cooperative efforts to reduce the pollution load entering the Baltic Sea from land, whether waterborne or airborne, will be focused by the Technological Committee in the years to come and comprise the following areas:

- further efforts to minimize the use and emissions of toxic, persistent and bioaccumulating halogenated organic compounds, e.g., by substitution of this kind of compounds by less harmful substances and technical installations;
- step-wise limitation of nitrogen inputs from municipalities;
- specific measures for industrial waste waters discharged to the combined municipal sewerage systems in order to reduce the discharges of harmful substances of non-domestic origin that cannot be eliminated at municipal sewage water treatment plants;
- establishment of specific reduction targets for main agricultural loss categories (ammonia volatilization, leaching of nitrogen and phosphorus, farm waste discharges);
- reduction of nutrient losses from agriculture, e.g., by improvement of storage facilities and environmentally balanced fertilization based on Best Environmental Practice;
- reduction of pollution from traffic, especially with regard to lead, NOx and PAH emissions, in close cooperation with the Baltic Sea Conference of Ministers of Transport;
- development of a Code of Conduct for measures for environmentally sound management of hazardous wastes as an interim arrangement within HELCOM pending the entering into force of the Basel Convention throughout the whole Baltic Sea Region;
- preparation of the Third Baltic Sea Pollution Load Compilation;
- effective follow-up of the national compliance with HELCOM decisions and recommendations.

3. PREVENTION OF POLLUTION FROM SHIPS

The activities of the Commission in the field of prevention of pollution from ships concern operational discharges from ships including prevention of air pollution as well as safety measures to prevent accidental pollution. The work is characterized by the fact that shipping is international by nature and anti-pollution regulations should be observed by all ships not only by those flying the flags of the states bordering the area in question. Thus, not a regional organization, but the International Maritime Organization (IMO) is the most appropriate international forum for dealing with these matters. This principle implicates that the Baltic Sea States have to cooperate closely with IMO on the promotion of international rules beneficial for the protection of the marine environment of the Baltic Sea Area as well as to implement these rules in a harmonized way.

A great number of decisions have been made in the maritime field. They concern discharge restrictions and the establishment of adequate reception facilities for ship-generated wastes and the use of these facilities in the Baltic ports. Effective enforcement of anti-pollution regulations is an extremely important task of the Commission; relevant decisions refer to the cooperation in investigation of pollution incidents as well as to the harmonization and improvement of national systems of investigating violations and bringing evidence to court. As to safety of navigation, position reporting systems, deep draught routes, fairway safety, pilotage matters and traffic under winter conditions have been dealt with.

Several actions have been initiated at IMO with regard to further global anti-pollution measures including those which are applicable only in specific sea areas, such as the Baltic Sea Area, which is a "Special Area" under global international Convention on Prevention of Pollution from Ships (MARPOL 73/78).

Future plans

In the coming years the activities in the maritime field will concentrate on:

- joint actions of the Baltic Sea States at IMO particularly regarding tanker safety measures, safe operations of ships and air pollution from ships;
- improvement of reception facilities;
- cooperation in investigations of violations of anti-pollution measures.

4. RESPONSE TO MARINE POLLUTION INCIDENTS

After the signing of the Convention in 1974, 26 pollution incidents with outflows of altogether c. 30 000 tonnes of oil have occurred in the Convention Area. Since none of the Contracting Parties can cope alone with responding to pollution incidents, activities of the Commission in combatting marine pollution is of utmost importance for establishing a common system of cooperation of the Baltic Sea States in this field.

As a first step of this cooperation the Commission took, i.a., decisions concerning criteria for national abilities to combat spillages of oil and other harmful substances. At a later stage, the Commission decided on criteria for aerial surveillance and special cooperation in case of chemical accidents. Some decisions refer to the operational cooperation when taking common responding action at sea.

All HELCOM arrangements in combatting matters are reflected in the Manual on Cooperation on Combatting Marine Pollution within the framework of the Helsinki Commission which is used as guidelines by national combatting organizations and units. The implementation of the combatting arrangements within the HELCOM context is solely financed by the Governments of the Contracting Parties.

It should be concluded that during the twenty years of its activities the Commission has established an effective system of cooperation - which has already been tested in practice - in responding to marine pollution.

Future plans

The most important topics for future work on these issues are:

- cooperation with Estonia, Latvia and Lithuania in establishment of their national capabilities in combatting pollution incidents and the implementation of the HELCOM combatting arrangements by these three states;
- development of aerial surveillance;
- further development of national capabilities of the Contracting Parties in responding to pollution caused by harmful substances other than oil.

5. THE FIELD OF THE HELCOM PROGRAMME IMPLEMENTATION TASK FORCE (HELCOM PITF)

At its first meeting, held in November 1992 in Helsinki, Finland, HELCOM PITF finalized the Baltic Sea Joint Comprehensive Environmental Action Programme (JCP). The Programme has a projected lifetime of twenty years, 1993-2012, with estimated investment costs of some 18 billion ECU. The Programme's objective is to reduce emissions in order to restore the Baltic Sea to a sound ecological balance. The Programme is split in six elements.

Measures to achieve the Programme's objective are mainly those described in Programme element "Investment Activities". The other Programme elements should be conceived chiefly as complementary and supportive, although some of them may well in themselves have considerable effect in terms of reducing emissions.

As it was clear that one of the major constraints would be the mobilization of financial resources needed to implement the Programme a High Level Conference on Resource Mobilization was held in Gdansk, Poland, in March 1993. With a view to properly organizing the implementation of the Programme HELCOM PITF invited members and observers to take a lead party role for the coordination of individual Programme elements which principally includes any means appropriate to help the implementation of a Programme element such as the organization of working group meetings, seminars, etc. Meanwhile, lead party roles are established for each Programme element. The use of economic instruments was considered in an ad hoc HELCOM PITF working group which submitted recommendations to HELCOM 15.

In the first year of the Programme already quite a number of preventive and curative actions in the Baltic Sea catchment area are under way to reduce the pollution load reaching the Baltic Sea. Of the total sum of estimated investment costs for the 132 so-called "hot spots" of almost 10 billion ECU, slightly more than 25 % has been allocated or reserved, locally more than 2 billion ECU, from foreign sources almost 600 million ECU. It should be noted that 8 "hot spots" are not "hot spots" any longer. A study is planned to be carried out in 1994 to investigate the status of actions related to the "priority hot spots" of which 47 have been identified.

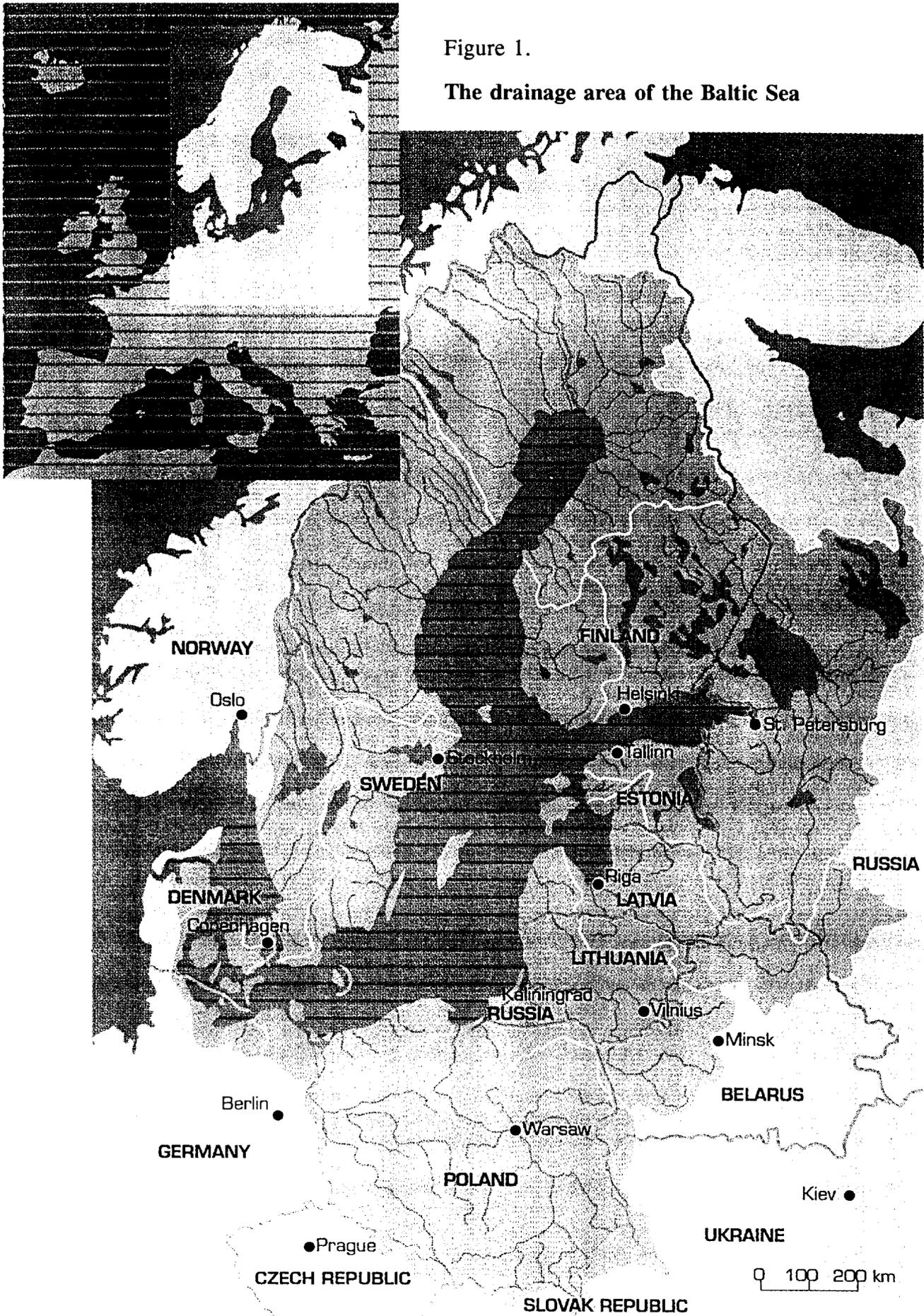
The successful implementation of the Programme will require long-term political commitment. Information about the environmental status of the Baltic Sea is, therefore, vital as well as a solid basis of public support. This is particularly important since the major part of the burden for funding the activities of the Programme will automatically rest on domestic financial resources and borne by the public either directly through user charges or possibly indirectly through increased costs for goods and services.

Future plans

- to further the implementation of the Programme, in particular through organizing and strengthening of lead party roles and mobilizing additional funds.

Figure 1.

The drainage area of the Baltic Sea



1. INTRODUCTION

1.1 BACKGROUND OF THE HELSINKI CONVENTION 1974

At the end of the 1960s, a deep concern was expressed especially by scientists in many Baltic Sea countries of increasing pollution of the Baltic Sea. The pollution was observed originating from many sources such as discharges through rivers, estuaries, outfalls and pipelines, dumping and normal operations of vessels as well as through airborne pollution. It was recognized by responsible authorities in the Baltic Sea countries that the protection and enhancement of the marine environment of the Baltic Sea cannot be effectively accomplished by national efforts only. It was obvious that also close regional co-operation and other appropriate international measures were urgently needed, to agree upon protection measures to be taken by all Baltic Sea countries and concerning all sources of pollution.

Having this in mind, the Government of Finland in July 1971 expressed its willingness to convene an intergovernmental meeting, which should consider the whole range of pollution of the Baltic Sea. The Delegation of Finland at the First UN Conference on the Protection of the Human Environment, held in Stockholm, Sweden, in 1972, repeated the willingness of the Government of Finland to convene a conference concerning protection of the Baltic Sea. After the UN conference the request was circulated by Finland and positive answers were received from all riparian states of the Baltic Sea. Thus, the first intergovernmental expert meeting was held in May/June 1973 in Helsinki, and the second one in November 1973, to consider the structure and subjects of a possible convention and measures needed in the implementation and administration of such a convention. All countries expressed their willingness to take joint action to protect the Baltic Sea and for that purpose to take part in the preparations of an appropriate convention. Coordination of the drafting was the responsibility of Finland.

The Convention on the Protection of the Marine Environment of the Baltic Sea Area was signed at the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area, held in Helsinki, Finland, 18-22 March 1974, by Denmark, Finland, German Democratic Republic, Federal Republic of Germany, Poland, Sweden, and the Union of Soviet Socialist Republics. Russia took in 1992 the Contracting Party responsibility of the former USSR. Estonia and Lithuania acceded to the Convention in 1992, Latvia, as an observer to the Helsinki Commission, participates actively in the cooperation within the Commission, and is preparing for the accession to the Convention.

At the joint initiative of Denmark and Germany, the Convention was in February 1993 amended to enable accession of the European Economic Community to the Convention. The accession is under preparation within the Commission of the European Communities, who also is an observer to the Helsinki Commission.

1.2 REVISION OF THE 1974 CONVENTION AND ADOPTION OF THE 1992 CONVENTION

At its eleventh meeting in 1990, the Helsinki Commission established the ad hoc Working Group for Revision of the Convention with the task to embody in the text of the revised instrument the developments in international environmental policy and environmental law in order to extend, strengthen and modernize the legal regime for the protection of the marine environment of the Baltic Sea Area.

A new Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992, was adopted at the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area, held in Helsinki, Finland, on 9 April 1992. The Convention was on that occasion signed by Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden, and on 24 September 1992 by the European Economic Community.

The 1992 Helsinki Convention strengthens the obligations of the Contracting Parties. In comparison with the 1974 Helsinki Convention it contains new provisions concerning, inter alia,:

- definitions of "Best Available Technology", "Best Environmental Practices", "precautionary principle", "hazardous substance", "incineration", "pollution incident" and "regional economic integration organization";
- inclusion of the internal waters of the Contracting Parties in the Convention Area;
- environmental impact assessment;
- prohibition of incineration;
- notification and consultation on pollution incidents;
- nature conservation and biodiversity;
- reporting and exchange of information;
- information to the public;
- new Annex VI on prevention of pollution from offshore activities.

The 1992 Helsinki Convention also includes, inter alia, revised definitions of "pollution", "pollution from land-based sources" as well as revised provisions on fundamental principles and obligations, harmful substances, principles and obligations concerning pollution from land-based sources, prevention of pollution from ships, pleasure craft, exploration and exploitation of the seabed and its subsoils, scientific and technological cooperation and revised Annexes I (Harmful substances), II (Criteria for the use of Best Environmental Practice and Best Available Technology), III (Criteria and measures concerning prevention of pollution from land-based sources), IV (Prevention of pollution from ships), V (Exceptions from the general prohibition of dumping waste and other matter in the Baltic Sea), and VII (response to pollution incidents).

According to the final clauses of the 1992 Helsinki Convention it will enter into force after the deposit of the last instrument of ratification or approval by all the Baltic Sea States and the European Economic Community and it will be open for accession by any other State or regional economic integration organization interested in fulfilling its aims and purposes, provided that such State or organization is invited by all the Contracting Parties.

At its 14th meeting in February 1993, the Commission approved the Guidelines on the Designation of Landward Limits of Internal Waters in accordance with the 1992 Helsinki Convention and recommended to the Signatory States to follow them in designating the landward limits of internal waters for the purpose of the Convention.

It should be mentioned that the HELCOM Committees have preliminarily examined the applicability of HELCOM Recommendations in their fields upon the entry into force of the new Convention.

2. TIME OF THE INTERIM COMMISSION IN 1974-1980

The Diplomatic Conference 1974 established a Working Group referred to as the Interim Commission (IC) to expedite the work on hand and to prepare for the later activities of the Commission. The IC was composed of representatives of States Signatories to the Convention on the Protection of the Marine Environment of the Baltic Sea Area and was given the following tasks:

- to prepare drafts for the Rules of Procedure and the Financial Rules of the Commission;
- to examine the scientific problems which will have to be dealt with by the Commission, review the available scientific evidence; and
- to consider any other issues presented to it by Member Governments.

The IC was also requested to report on the results of its work at the first meeting of the Commission. From 1974 to 1980 the IC met once a year in Helsinki. The accomplishment of the tasks of the IC was greatly facilitated by preparatory work carried out by the Signatory States, subsidiary bodies of the IC, and consultants. Cooperation with international organizations with competence in the field of environmental protection had also a great significance for facilitating the work of the IC.

2.1 WORKING STRUCTURE AND SUBSIDIARY BODIES OF THE IC

At its first meeting, in 1974, the Interim Commission established a Scientific Technological Working Group (STWG) for the consideration of matters in the field of science and technology. The terms of reference for the STWG pertained mainly to Articles 5, 6, 9, 10 and 16 of the 1974 Convention and its Annexes I, II and III. In 1975-1979 the STWG held six meetings in Finland. When establishing the STWG, the First Meeting of the Interim Commission decided, e.g., to collect appropriate information on scientific investigations on marine pollution in progress in different Baltic Sea States using a questionnaire. The IC also stressed that it is necessary to take immediate action to develop cooperation in the field of technology on prevention of pollution mentioning, e.g., methods of eliminating wastes, purification of waste waters, and elaboration of norms and criteria for permissible amounts and concentrations of pollutants entering the Baltic Sea. It was felt that answers to the questionnaire could be used as the basis for uniform international research programmes aimed at the protection of the marine environment of the Baltic Sea.

At its second meeting, in 1975, the Interim Commission established a Maritime Working Group (MWG) for the consideration of matters relating to the prevention of marine pollution from ships and combatting marine pollution, i.e. matters pertaining to Articles 7, 8 and 11 of the 1974 Convention and its Annexes IV and VI. The IC gave the task to the new Working Group "to assist the IC in its work on measures relating to the prevention of marine pollution from ships and combatting marine pollution, taking into account the work being performed by the Marine Environment Protection Committee of the Inter-Governmental Maritime Consultative Organization". The IC accepted the offer by Sweden to host the meetings of the MWG. In 1976-1979, the MWG held five meetings in Sweden.

Both the STWG and the MWG established several ad hoc groups for special purposes and with specific terms of reference. Some of these groups worked for only a limited period while others were of a more permanent nature. Some

meetings were organized by individual Signatory States, while others were arranged jointly by the STWG and the International Council for the Exploration of the Sea (ICES) or the Baltic Marine Biologists (BMB).

The Government of Finland was responsible for the secretariat services of the Diplomatic Conference in 1974 and of its preparatory meetings, of the Interim Commission 1974-1980, of the first three meetings of the Scientific-Technological Working Group, STWG, as well as of the first Meeting of the Helsinki Commission in 1980 and of its preparatory meeting. A full-time Secretary was employed by the Government of Finland in 1973-1980 to assist in this. The responsibility for organizing the three other meetings of the STWG was mainly vested on the Scientific Expert, employed by the Interim Commission in 1977-1980 to assist in the field of science and technology. The Government of Sweden prepared and organized the five meetings of the Maritime Working Group.

2.2 SUMMARY OF ACTIVITIES IN THE INTERIM PERIOD

2.2.1 Summary of activities in the administrative and legal fields

The IC prepared for the Commission a Draft Agreement between the Commission and the Government of Finland on the Office and the Privileges and Immunities of the Commission (Headquarters Agreement), Draft Rules of Procedure, Draft Financial Rules and Draft Staff Regulations. In the legal field the question of the legal status of recommendations of the Commission, and the development of rules concerning responsibility for damage resulting from acts or omissions in contravention of the Convention were preliminarily discussed.

The IC also preliminarily considered the need for Working Groups under the Commission and the composition of its Secretariat.

In 1979, the IC accepted an offer by the Government of Finland to arrange a meeting to prepare the first meeting of the Commission.

2.2.2 Summary of activities in the scientific and technological fields

The STWG drafted technical and scientific definitions which were regarded as necessary for the application of certain provisions of the Convention. It was realized that such definitions are difficult to establish, and that they might be subject to later changes. The IC adopted the definitions in 1975 at its second meeting and recommended the Commission to take a corresponding decision. From the very beginning of its work the STWG provided a forum for the presentation of information in the field of science and technology, and a channel for the exchange of information. In connection with these activities, a Baltic Marine Environment Bibliography was compiled covering data since 1970, and distributed to the Signatory States. On the basis of information collected, the STWG also examined the subject, scope and organization of relevant scientific and technological research carried out in the Baltic Sea States.

After the initial phase, covering the first year of activity, it became evident that the tasks of the STWG related to three main areas, viz.:

- criteria and standards for discharges of harmful substances,
- monitoring and assessment of the state of the marine environment, and
- water protection technology.

A brief account of the activities in these main areas were, inter alia, discussions on an environmental specimen bank as a supplement to the monitoring programme, consideration of problems caused by mustard gas dumped in the Baltic Sea Area, and preliminary discussions on the effects of oil in the marine environment.

Joint guidelines for the Baltic monitoring programme were prepared by experts and the Baltic Monitoring Programme started on tentative basis in 1978 and according to the decision in 1979. A preliminary evaluation of the degree of pollution of the Baltic Sea was presented by ICES to the STWG in 1977. A joint STWG/ICES steering group was established by the IC in 1979 to prepare an assessment of the effects of pollution on the natural resources of the Baltic Sea. The report was presented to the Helsinki Commission and published by the Commission in 1981. The fourth meeting of the IC in 1977 requested the STWG to study the possible need for an expert group to consider airborne pollution.

Information on national water legislation with special reference to the procedures of issuing permits for discharges was exchanged at an early stage of the work of the STWG. Information was also exchanged on national policies in the Baltic Sea States regarding criteria and requirements for issuing permits. The following list of substances of high priority in the work of the Interim Commission was adopted in 1975:

- halogenated hydrocarbons, including DDT and PCBs
- mercury and cadmium and their compounds
- oil and oil products, including aromates
- arsenic, lead, copper, zinc, and chromium and their compounds
- phosphorus compounds.

For detailed consideration of criteria and standards for discharges of harmful substances to the Baltic Sea an ad hoc Working Group (WGS) was established under the STWG. The first meetings of the WGS were held in Sweden in 1977, in Tallinn in 1978, and in Bornholm in 1979.

2.2.3 Summary of activities relating to the prevention of pollution from ships and to pollution combatting

The MWG had the task to assist the IC in its work related to the prevention of pollution from ships (Articles 7 and 8 of the Convention and Annex IV) and combatting marine pollution (Article 11 and Annex VI), with due regard to the work carried out by the Marine Environment Protection Committee (MEPC) of the International Maritime Organization (former IMCO). Thus, the activities of the MWG were, to a large extent, directed towards facilitating the implementation of the requirements of Annexes IV and VI to the Convention. The concrete items dealt with by the MWG at its five meetings covered a great variety of questions in accordance with its work programme.

Three ad hoc groups performed special tasks pertaining to prevention of marine pollution from ships and combatting marine pollution. Within the MWG a booklet was published in 1978, supported by Sweden, containing information on the reception facilities for oily residues in the Baltic Sea Area.

Progress made in the fields of activity covered by the MWG is to a large extent reflected in the sixteen first Recommendations and one Resolution agreed upon by the IC pertaining to matters related to Annexes IV and VI to the Convention 1974. Recommendations deal, e.g., with a position reporting system for ships in the Baltic Sea Area, measures to ensure the use of reception facilities for wastes from ships, the acceptance by the Baltic Sea States of international instruments on maritime safety, pollution prevention

and related matters and the minimization of the use of dispersants, sinking agents and absorbents in oil combatting operations.

3. ACTIVITIES OF THE HELSINKI COMMISSION IN 1980-1994 IN GENERAL

In May 1980, the Convention entered into force after being ratified by all the Baltic Sea States. The First Meeting of the Helsinki Commission, in May 1980, in Helsinki, formalized the agreements made within the Interim Commission and established the institutional and organizational framework of the Commission. The activities of the Helsinki Commission cover all the obligations laid down in the provisions of the Convention.

3.1 ORGANIZATION AND ADMINISTRATION

In 1980, when the Commission commenced its duties, it had two subsidiary bodies, namely the Scientific-Technological Working Group (STWG) and the Maritime Working Group (MWG). In conjunction with the re-organization of the work of the Commission in March 1982 two committees, the Scientific-Technological Committee (STC) and the Maritime Committee (MC) as well as an Expert Group on Cooperation in Combatting Marine Pollution (MWG EG) were established. In 1987, the Commission decided to give a committee status also to the MWG EG and name it the Combatting Committee (CC). As the scope and the work load of the STC had grown substantially during the years the Commission decided to divide the tasks of the STC between two new committees in 1990, namely the Environment Committee (EC) and the Technological Committee (TC).

In addition to the above mentioned Committees, a Programme Implementation Task Force (HELCOM PITF) was established on committee level in 1992 with the task to coordinate the implementation of the Baltic Sea Joint Comprehensive Environmental Action Programme (JCP).

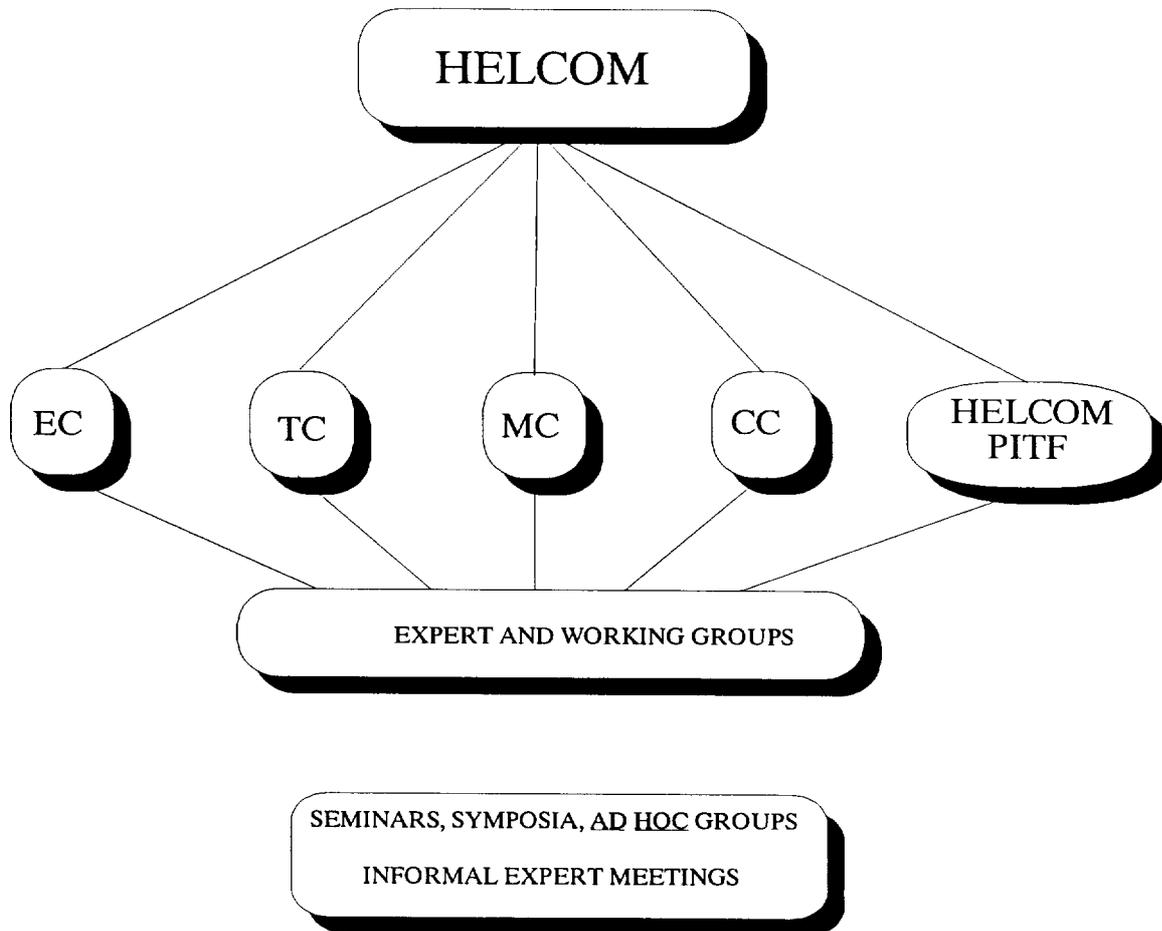
In order to support the Committees and to facilitate their work with specific questions the Commission has set up expert and working groups, primarily working on ad hoc basis. For specific questions working groups have also been established directly under the Commission. The work of the Commission is also supported by informal meetings, workshops, seminars and symposia for specific topics. The present working structure of the Commission is illustrated in Figure 2.

The Commission meets annually in February/March and the Committees hold their main meetings in the autumn. The chairmanship of the Commission rotates every second year in alphabetical order of the English names of the Contracting Parties. Denmark holds the chair until 30 June 1994. The Chairmen and Vice-Chairmen of the Committees are elected within the Committees themselves for a two-year period at a time and they can be re-elected. The names of the present and the past chairmen are given in Annex 8.

The work of the Commission is coordinated and administered through the international Secretariat in Helsinki. At present the staff of the Secretariat consists of an Executive Secretary, three Professional Secretaries, a Programme Coordinator, an Administrative Officer and six Assistants. In addition, temporary personnel has been utilized. The development of the number of staff members can be seen in Table 1.

The costs of the Commission work, primarily for administration, meeting arrangements and publications, are divided in equal shares by the Contracting Parties in accordance with the Convention. For the time being, however, the Commission has taken a deviating decision for a period of three years giving

Figure 2. Working structure of the Helsinki Commission



- | | |
|--|---|
| <p>HELCOM</p> <p>EC</p> <p>TC</p> <p>MC</p> <p>CC</p> <p>HELCOM PITF</p> | <p>Baltic Marine Environment Protection Commission - Helsinki Commission
(Contracting Parties in March 1994: Denmark, Estonia, Finland, Germany, Lithuania, Poland, Russia, Sweden)</p> <p>Environment Committee</p> <p>Technological Committee</p> <p>Maritime Committee</p> <p>Combatting Committee</p> <p>Helcom Programme Implementation Task Force</p> |
|--|---|

the new member states Estonia and Lithuania, in transition, the possibility to give a smaller contribution to the HELCOM budget.

During the first year of operation the financial period of the Commission was equal to the calendar year. After a transition period of 18 months in 1981-82 the financial year was set to run from 1 July to 30 of June. The development of the budget since 1981 can be seen in Table 1 below. Contributions to the budget shall be payable in Finnish Marks. For ease of comparison in the table below the amounts are also given in German Marks using the exchange rate of the first bank day of January of the year when the financial period starts.

Table 1. Budget development of the Helsinki Commission since 1981

Year	Budget FIM	Budget DEM	Professional Secretaries	Assistants & Admin. Off.
1981	1 247 500	631 200	3	3
84-85	2 305 000	1 063 900	3	4
89-90	4 240 000	1 768 900	4	5
90-91 ¹⁾	4 406 000	1 803 400	5	7
91-92	8 400 000	3 402 500	5	7
92-93 ²⁾	7 246 000	2 604 500	5	7
93-94	9 104 000	2 725 700	5	7

¹⁾ High Level Task Force for the elaboration of the JCP started

²⁾ HELCOM PITF started its work

The Baltic Sea Environment Proceedings (BSEP) is the series of publications of the Helsinki Commission. In this series, *inter alia*, the activity reports of the Commission, the outcome of workshops, seminars, etc., are published. At the moment there are 56 volumes (including this publication) the names of which are given in the list attached to this document.

The Commission is also distributing a newsletter, HELCOM NEWS, with information mainly on past and coming activities within the Commission.

3.2 MINISTERIAL MEETINGS IN THE FRAMEWORK OF HELCOM

Conjointly with the new environmental challenges to the Baltic Sea Area increasing political efforts have been made to facilitate the implementation of the Convention and achieving definite improvements in the state of the marine environment of the Baltic Sea. This has been done predominantly through the introduction of Ministerial Meetings, which produced a notable change in the effectiveness of a regional marine pollution control regime.

The first Ministerial Meeting was held in March 1984 on the occasion of the tenth anniversary of the Helsinki Convention. A Resolution (The Medium-Term Plan) was adopted in which the Ministers set up the priority measures in reduction of land-based pollution, prevention of pollution from ships and strengthening of joint potential in combatting accidental spillages of harmful substances. At the 1988 Ministerial Meeting the Ministers of the Environment declared their firm determination to reduce substantially the inputs of heavy

metals, toxic or persistent organic compounds and nutrients, e.g., in the order of 50 per cent by the year 1995.

A Baltic Sea Conference was held in Ronneby, Sweden, at Prime Minister level in September 1990. In addition to the Baltic Sea States, Norway, the Czech and Slovak Federal Republic, the European Economic Community and four multilateral development banks participated. The Conference determined the long-term objective of ensuring the ecological restoration of the Baltic Sea and established the ad hoc high level Task Force within the Helsinki Commission to prepare a Joint Comprehensive Environmental Action Programme (JCP) to be adopted at ministerial level after the end of 1991. The Programme had to focus the urgent environmental curative measures and to outline them in realistic technical and financial terms in order to support the implementation of the Helsinki Convention and HELCOM Recommendations.

In April 1992, the Government of Finland, as the Depository of the Helsinki Convention, convened in Helsinki the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area, at which the new Helsinki Convention was signed and the strategic approach and principles for the Baltic Sea Joint Comprehensive Environmental Action Programme were endorsed. The Diplomatic Conference 1992 established a new body to the Helsinki Commission, HELCOM Programme Implementation Task Force, HELCOM PITF, to initiate and facilitate coordination necessary to support the implementation of the Programme.

In March 1993, the High Level Conference on Resource Mobilization was arranged in Gdansk, Poland, in order to mobilize local, national, bilateral and international financial resources for implementation of the Programme.

In March 1994, a Ministerial meeting was convened on the occasion of twenty years after signing of the 1974 Helsinki Convention, and to assess the progress in the implementation of the Helsinki Commission's Recommendations and the previous ministerial declarations.

Activities in the framework of different Committees and the HELCOM PITF are described in separate chapters of this publication.

4. ACTIVITIES AND DEVELOPMENT OF THE WORK IN THE ENVIRONMENTAL AND TECHNOLOGICAL FIELDS IN GENERAL

In continuation of the activities started during the interim period of the Commission, the activities of the Scientific-Technological Working Group (from 1982, the Scientific-Technological Committee), included different programmes concerning, e.g., data collection and evaluation of inputs of pollutants to the Sea, collection of monitoring data and evaluation of the effects of pollutants on the marine environment, follow-up of the changes in the state of the Baltic Sea and advice to the Commission on appropriate action to be taken to reduce the pollution and its harmful effects.

The responsibilities of the STWG (STC) were to advise the Commission in discharging its duties under Article 13 of the Helsinki Convention, especially in respect of matters related to Articles 5, 6, 9, 10 and 16.

Harmful substances for the purposes of the Convention are divided into hazardous and noxious substances listed in Annexes I and II.

With regard to hazardous substances, i.e. DDT and its derivatives, polychlorinated biphenyls (PCBs) and polychlorinated terphenyls (PCTs), the Contracting Parties have particularly undertaken to counteract their introduction into the Baltic Sea Area, whether airborne, waterborne or otherwise. As far as noxious substances are concerned, the Contracting Parties have undertaken to take all appropriate action to minimize pollution by these substances, i.a., by applying criteria and measures enumerated in Annex III to the Convention.

To follow up the effects of pollution in the marine environment of the Baltic Sea, a joint monitoring programme - the Baltic Monitoring Programme (BMP) - has been carried out by the Commission since 1979. For this programme the Commission has published special guidelines, including, e.g., station networks, parameters, sampling and analytical methods, frequency of sampling and reporting of the results. The programme has been up-dated every five years. The data are collected in a common operative data base established by the Commission on a consultant basis and processed annually for distribution to all Contracting Parties.

In 1985, a monitoring and evaluation programme for airborne deposition, as an important part of land-based pollution load, was established. The programme was coordinated by the Expert Group on Airborne Pollution (EGAP). The programme, i.a., list of parameters, network of stations and reporting formats, has been up-dated from time to time.

In 1985, the Commission also decided to start monitoring of radioactive substances, which are included in Annex II of the Convention, as a continuation of a special project carried out by the International Atomic Energy Agency (IAEA) for three years in the beginning of the 1980s. For this work the Group of Experts on Monitoring of Radioactive Substances (MORS) was established.

An overall evaluation of the state of the marine environment of the Baltic Sea has been carried out three times by the Commission. The first evaluation, "Assessment of the effects of pollution on the natural resources of the Baltic Sea, 1980", was published by the Commission in 1981 as a comprehensive document and a summary and conclusions based on the scientific results since the beginning of the century (BSEP No. 5 A&B). New evaluations have been

carried out every five years and been published in the publication series of the Commission (BSEP No. 17 A&B, BSEP No. 35 A&B). An evaluation of three years observations since the Chernobyl accident was published in 1989 (BSEP No. 31) as well as the first published evaluation of deposition of airborne pollutants (BSEP No. 32).

The work on control and limitation of discharges was going on within the Working Group on Criteria and Standards for Discharges of Harmful Substances to the Baltic Sea Area (WGS) established in 1977. The tasks of the group were to develop common criteria and guidelines for issuing permits for discharges and to consider possibilities of applying different methodological approaches in setting the discharge standards, and during its initial years the group concentrated the efforts mainly on development of general principles related to regulation of waste water discharges.

Technical reduction steps in early years (1977-1984) were focused on individual harmful substances but in 1984 in the Medium-Term Plan of the Commission the branch-wise approach was adopted as a basic principle in the work of STC. The work on specific harmful substances and branches was coordinated by the lead countries while for the sectors of major importance (pulp and paper industry, municipalities, agriculture) special projects were established.

In 1982, the Commission adopted HELCOM Recommendations 3/1 and 3/2 aimed at elimination of hazardous substances (PCBs and DDT) elaborated by the STC. Those Recommendations stipulated abandonment of production, marketing and use of DDT and PCBs in the Baltic Sea countries and established the requirements for cautious handling and disposal of remaining products and articles containing these hazardous substances in order to avoid their accidental introduction into the environment. After the inclusion of PCTs in Annex I (Hazardous Substances) in 1983 the Recommendation on elimination of PCBs was complemented with PCTs.

Since early years of the STC the programmes for collecting information on noxious substances, their main sources and pathways to the marine environment has been exercised as a background for elaboration of technical reduction measures. On the basis of such programmes the Commission adopted in 1984 a strategy for intensification of practical measures to reduce the land-based pollution (HELCOM Resolution 5/A).

During 1984-1988, several substance-wise Recommendations elaborated by the STC were adopted concerning, i.a., restriction of discharges of oil (municipal stormwater systems, oil refineries and off-shore installations), cadmium (industry, fertilizers and used batteries), mercury (chloralkali industry, dentistry and used batteries), lead (leaded petrol) and organotin (antifouling paints) as well as a number of branch-wise Recommendations concerning municipalities (nutrients and oxygen consuming substances), pulp and paper industry (organohalogens, nutrients and oxygen consuming substances) and agriculture (nutrients and pesticides).

In 1982-1984, the Committee put a strong emphasis on matters related to evaluation of the pollution load entering the Baltic Sea and initiated the preparation on the First Baltic Sea Pollution Load Compilation (PLC-1) which was published in BSEP No. 20 in 1987. That document was a first attempt to put together very heterogeneous data that had been submitted to the Commission on various occasions. The collected data originated from different years and were often preliminary or based on rough background information, and, therefore, the results of PLC-1 was recommended to be used with great caution.

The project revealed an urgent need to harmonize the national pollution monitoring and evaluation methodologies, and in 1987-1988 the STC developed and adopted the Guidelines for the Second Pollution Load Compilation (PLC-2). The Guidelines were aiming at the basic coverage of the major land-based pollution sources and defined the measuring period (the year of 1990), pollution sources, parameters to be controlled, principles for flow measurements and sampling, methods of chemical analysis as well as calculation and estimation methods and reporting formats.

A strong impulse to the work of the STC in further reduction of land-based pollution was given by the Ministerial Declaration of 1988 calling for the 50 per cent reduction by 1995 of inputs of substances most harmful to the ecosystem of the Baltic Sea (i.a., heavy metals, nutrients and toxic, persistent and bioaccumulating organic compounds).

In 1989, the WGS initiated a revision of the whole system of handling of harmful substances in the context of the Ministerial Declaration, 1988. On the basis of the conclusions of the Second Periodic Assessment and available environmental knowledge, the WGS in 1990 submitted a proposal for "The Baltic Sea List of Priority Harmful Substances, other than nutrients, for immediate action in order to reach the 50 % reduction goal by 1995" and developed "The Principles for National Programmes to achieve the 50 % reduction goal for Heavy Metals and Toxic or Persistent Organic Substances, as set up in the Ministerial Declaration, 1988".

The WGS held altogether 12 meetings before it was dissolved and the work was included among the tasks of the Technological Committee (TC) in 1989-1990. During its twelve years of existence the WGS elaborated 26 draft Recommendations passed by the Commission to the Governments of the Contracting Parties.

5. ACTIVITIES IN THE FIELD OF THE ENVIRONMENT COMMITTEE

5.1 INTRODUCTION

Before describing the details of the recent activities of the Environment Committee it can be underlined that after the division of the STC and the establishment of the Technological Committee (TC) and the Environment Committee (EC) the duties of the EC are to advise the Commission in discharging its duties under Article 13 of the 1974 Convention, especially in respect of matters related to Articles 5, 6, 9, 10 and 16, and in particular this means:

- to collect and review scientific and environment data and knowledge pertinent to the goals of the Convention and to promote the exchange of information;
- to elaborate and periodically review cooperative monitoring programmes concerning the marine environment, airborne pollution and radioactive substances of the Baltic Sea, and to elaborate methods, models and techniques, taking into account the need for intercalibration and standardization;
- to assess the state of the marine environment of the Baltic Sea, to elaborate evaluations, deposition estimates and relevant emission inventories for the abatement of airborne pollution to the Baltic Sea, and to elaborate proposals for the Commission as appropriate, taking into account the state of the marine environment; and
- to elaborate estimations of the level of relevant radionuclides in the Baltic Sea and relevant release inventories, and to elaborate proposals for the Commission taking into account the state of the marine environment and the risks for human health.

Based on the duties given to the EC the joint monitoring and assessment activities have formed the major part of the cooperation among the Baltic Sea States.

After the division of the STC the following topics were identified as being of special importance for the future work of the EC:

- preparation of the coastal assessment;
- revision of the Baltic Monitoring programme;
- matters related to dredged spoils;
- arrangement of the first Baltic Sea sediment baseline study;
- improvement of the reliability of the monitoring data, i.e. quality assurance aspects; and
- preparation of specific assessments and research projects.

In order to be able to cover all multi-disciplinary activities several ad hoc working groups or expert groups have been established under the EC. Those will be shortly described later on.

5.2 MONITORING ACTIVITIES

5.2.1 Baltic Monitoring programme

The aim of the monitoring and evaluations of the Baltic Sea environment is to provide a basis for ministers and administrators, who are considering priorities of necessary action to be taken to clean the Baltic Sea. The results have shown that time is ripe to admit the mistakes in the decision

making of the past. The results have also shown that a unique network of scientists and administrators has been developed between the Baltic Sea States, capable of informing and advising the governments and local authorities as well as the public, within the limits of the resources provided for this purpose both at international level through the Helsinki Commission and at national level. The objective should be to clear the common property, the Baltic Sea. The information is available; the ways and means exist.

The Baltic Monitoring Programme (BMP) is the basis for the joint monitoring activities in the Baltic Sea. The implementation of the programme is based on HELCOM Recommendation 9/7 concerning the Guidelines for the Baltic Monitoring Programme. The Programme has been implemented in several stages. The first stage (1979-1983) was experimental in character and served as a pilot programme comprising a limited number of stations and measurements but, nevertheless, provided a basic coverage of the major aspects concerned. The second stage (1984-1988) provided for a more frequent coverage of representative stations in the main sub-areas of the Baltic, in addition to the requirements of the first stage. The experience gained during the two previous stages was further used to improve the programme for the third stage, which started in 1989. All details of the programme are described in the Guidelines for the Baltic Monitoring Programme for the Third Stage, which are published in the Baltic Sea Environment Proceedings No. 27 A-D.

In 1992, the meeting of the Environment Committee agreed to abandon the five-year periodicity of the Guidelines and replaced it with a more flexible one. Also a detailed discussion on the revision and possible restructuring of the monitoring activities was started at the same meeting of EC.

The aims of the Baltic Monitoring Programme, when established in 1979, were defined as "to follow the long-term (annual and longer periods) change (trends) of selected determinants in the Baltic ecosystem". However, the general sense of the programme expressed a broader goal as to "provide data for the preparation of a more comprehensive assessment of the state of the Baltic Marine environment". According to this broad concept of monitoring the programme included from its very beginning both repeated measurements of known pollutants and measurements of natural components and properties of the sea indicative of the ecological condition of the sea area. Now that the BMP is under revision the general philosophy has been to have a mandatory part for the "traditional" parameters and a more problem-oriented or project-oriented type of work, a so-called baseline part, where only a few laboratories would be involved on behalf of the others depending on their expertise. The baseline part should be understood to cover also various types of monitoring of contaminants for which already some information exists but which needs special expertise or equipment. Also various types of studies of biological effects could be included in the baseline studies.

Furthermore, the EC has decided on another important issue; the existing monitoring programmes for the open sea, for the radioactive substances and for atmospheric input, as well as the forthcoming programme for coastal monitoring have been joined under one organizational umbrella - Cooperative Monitoring in the Baltic Marine Environment - COMBINE. This was done for management purposes in order to secure improved coordination, e.g., the introduction of common and more stringent quality assurance procedures.

For the monitoring strategy itself there is both scientific and technological reasons for further re-consideration. During the last two decades a considerable change in the scientific understanding of the functioning of the marine ecosystem has taken place. The main paradigms are the recognition of the importance of the microbial food web in energy and nutrient transfer and

the replacement of the concept of direct food chains with the concept of a food web. Another important topic which crumbles the scientific value of the present monitoring strategy is the physical forcing for pelagial biology. Thus, the theoretical basis for the pelagial monitoring has changed dramatically since the programme was established. Harmful algal blooms can be mentioned as a good example of the inability of the BMP to monitor what it should be able to do. The world-wide occurrence of toxic algal blooms has become one of the most important concerns for the marine environment but, e.g., the current BMP is unable to give any or gives only limited information about the occurrence or trends of harmful species.

The poor sampling frequency of several (pelagial) parameters has, indeed, been critical from the beginning of the programme. The programme itself became a compromise between resources and needs of a scientifically acceptable amount of data. Furthermore, the compromise was based on marine research technology of the 1970s. However, the development in marine research technology, including the use of remote sensing satellites, has given new technical solutions to the problem of sampling frequency.

Since the aims of the BMP have previously been agreed upon, there is now a need to formulate the strategy and tactics to reach the aims. The fourth meeting of the EC endorsed the proposal to arrange a workshop in spring 1994 to outline a revised BMP and Guidelines. It was also considered of vital importance for the workshop to raise the issue of demands from the decision-makers regarding time frames of assessment of different parameters and the size of the trends that the Monitoring Programme should be able to detect.

In connection with the sampling for the BMP and other research activities some problems were noted during the past years in relation to getting permissions to economical zones of other Contracting Parties. In order to simplify the permission procedure the Commission adopted in 1991 HELCOM Recommendation 12/1 by which the countries were urged to facilitate and without unnecessary delay to grant the permits in connection with the BMP for research vessels for all Baltic Sea States to carry out joint scientific studies of common interest.

Quality Assurance

The concern for the quality of data collected within the BMP was expressed already in the very beginning of the joint monitoring activities in the Baltic Sea. It was realized that periodic intercalibration is a prerequisite for any successful coordinated monitoring programme. Several laboratories around the Baltic Sea responsible for the BMP have participated in different intercalibration/comparison exercises coordinated by the International Council for the Exploration of the Sea (ICES) for over two decades now. Most of the exercises have been devoted to analyses of trace metals but exercises have been carried out also on organochlorines in biological tissue, hydrocarbons in marine samples as well as nutrient in sea water. ICES has given considerable attention in its work to data quality questions and especially methodological issues have been addressed by several working groups. This work has revealed numerous analytical problems and has led to important progress in the field of marine analytical chemistry. Continuous cooperation between "HELCOM laboratories" and "ICES laboratories" has guaranteed a good communication among laboratories involved in marine monitoring and research and it has been considered to be essential for quality improvement.

Another organization, having been actively involved in quality assurance of biological determinants and with which HELCOM has fruitful cooperation, is Baltic Marine Biologists (BMB).

In spite of the fact that several laboratories have participated in intercomparison exercises coordinated by ICES, the following exercises have been coordinated by HELCOM or arranged as joint efforts with ICES:

- Baltic Intercalibration Workshop, Kiel, Germany, 1977;
- Intercalibration Workshop on Biological Methods related to the Protection of the Marine Environment of the Baltic Sea Area (First Biological Workshop), Stralsund, Germany, 1979;
- Workshop on the Analysis of Hydrocarbons in Seawater, Kiel, Germany, 1981;
- Second Biological Intercalibration Workshop, Rønne, Denmark, 1982;
- Intercalibration Exercise on Organochlorine Compounds in Baltic Waters, on German research vessel, 1987;
- Third Biological Intercalibration Workshop, Visby, Sweden, 1990;
- ICES/HELCOM Workshop on Quality Assurance of Chemical Analytical Procedures for the Baltic Monitoring Programme, Hamburg, Germany, 1993;
- ICES Baltic Sediment Intercalibration Exercises: Intercomparison of Analyses of Reference Samples ABSS and MBSS, extended with additional work on mercury and cadmium, and Intercomparison of Analyses of Sliced Wet Cores, 1984-1985;
- ICES Intercalibration Workshop on Measurement of Primary Production, Hirtshals, Denmark, 1987.

Based on the results of the recent intercomparison exercises, in which several European laboratories have participated, it has been concluded that although there has been considerable improvement in trace metal measurements in marine samples during the past two decades, there is a large number of laboratories which still have difficulties in providing reliable data in routine work. Furthermore it has been stated that measurements of organohalogen compounds and petroleum hydrocarbons in marine samples were extremely poor by comparison with trace metal measurements. For nutrients the situation is slightly better since a recent ICES intercomparison exercise has shown that 70 % of the participants were able to produce consistent results for both nitrate and phosphate.

In spite of all efforts made to improve the reliability of the collected monitoring data, a concern for the unsatisfactory degree of interlaboratory comparability of data was expressed by the experts who were involved in the preparations of the Second Periodic Assessment of the State of the Baltic Sea.

Taking into account the expertise needed for the work the Commission established two ad hoc Working Groups, one for chemical and one for biological quality assurance. Among the duties for both groups are, e.g.:

- to coordinate the development and implementation of a QA-programme for laboratories participating in the BMP;
- to give guidance in practical questions relating to QA;
- to participate in the revision of the Guidelines for the BMP;
- and to prepare QA-guidelines for the relevant measurements.

Both working groups are coordinated by ICES and the biological group is in close cooperation with BMB.

In order to improve the reliability of BMP data the Commission has in 1993 provided for some laboratories specific certified reference materials for the mandatory measurements of the BMP (nutrients and trace metals). In 1992, the Commission endorsed the proposal to arrange every year for the first period of 5 years a training course on phytoplankton identification for personnel involved in the practical work.

The 14th meeting of the Commission in 1993 requested the Contracting Parties to participate in the Quality Assurance exercises whenever possible, as several times before, but this time the Commission, realizing the importance of comparable data, decided that the participation in QA-exercises is mandatory for laboratories providing BMP data on parameters included in the mandatory part of the BMP.

The work related to improvement of the reliability of monitoring data as well as assessment activities will not result in long range of HELCOM Recommendations but the results of the work will in the future be judged from the quality of the assessments and advice to the Commission.

Other activities related to the BMP

Microbiology:

The possible inclusion of microbiological determinands in the regular BMP was discussed already from the very beginning of the joint activities. In 1982, a Microbiological Working Group was established and a pilot study for microbiological monitoring was arranged in 1985/86. In this study, however, only some laboratories participated. Microbiological monitoring, production and biomass of bacteria, was added to the third stage of the BMP as tentative determinants. Since that it has been under discussion whether microbiological determinants should be included in the list of obligatory determinants of the BMP.

At EC 2 the Working Group was changed to ad hoc Working Group on Microbiology and its main duties are:

- to organize joint multinational cruises in order to study the microbial food web;
- to take care of the preparation of QA-guidelines for microbiology;
- to revise the data reporting formats for microbiology;
- to develop assessment methods for the microbiological data;
- to assess the microbiological data; and
- to consider the need for an intercomparison exercise and, if appropriate, to prepare plans for such an exercise.

In order to further develop the microbiological monitoring, two joint multinational cruises have been arranged so far. The first cruise was organized by Germany in 1988 and the second one by Finland in 1991. The third one will be held in 1994. In connection with all microbiological cruises one intercalibration exercise has been arranged.

Phytoplankton:

The third biological intercalibration clearly showed the need to improve the comparability of the phytoplankton data of BMP. Therefore, in 1991, the Commission established a Phytoplankton Expert Group with the main aim:

- to assure a scientifically acceptable level of phytoplankton data presentations by coordinating the analysing procedures of all laboratories involved in the monitoring of the Baltic Sea;
- to follow up and participate in the preparation of the phytoplankton identification sheets;
- to arrange courses/workshops on phytoplankton taxonomy and floristics on a yearly basis for monitoring personnel;
- to be responsible for questions related to algal blooms and use of remote sensing applications;
- to take care of the preparation of QA-guidelines for phytoplankton;
- to assess the BMP-phytoplankton data; and

- to revise the HELCOM data reporting formats for phytoplankton.

So far two courses have been arranged, by Sweden and Finland. The third one will be held in 1994 in Poland.

Sediments:

Within the BMP sediments have not been included in the ordinary monitoring on an annual basis. The presently available data are very fragmentary, especially for the chlorinated hydrocarbons and petroleum hydrocarbons, but also for many trace elements. In order to submit detailed proposals for monitoring contaminants in sediments ICES prepared, upon request by HELCOM, a report "Review of Contaminants in Baltic Sediments". As suggested by this report a Baltic Sea Sediment Baseline Study, also coordinated by ICES, has been conducted with the aim of obtaining reliable data on contaminant levels in the various sub-areas of the Baltic Sea. The field work, the sampling of the sediments, were carried out in 1993 and the analyses of different determinants are at the moment under way. The final report is expected to be available in 1996.

5.2.2 Monitoring of airborne pollution

This work has been coordinated by the Group of Experts on Airborne Pollution of the Baltic Sea Area (EC EGAP) which was originally established already in 1980. According to the terms of reference the main duties of EC EGAP are:

- to advise the EC on monitoring and assessment of the state of airborne pollution in the Baltic Sea and to cooperate with other international organizations that are concerned with long range transport and deposition of air pollution;
- to advise the EC on the need for measures to reduce emissions of air pollution that influence the Baltic Sea; and
- to prepare emission inventories for harmful substances that are deposited from the atmosphere to the Baltic Sea in significant quantities.

To fulfil these duties the Contracting Parties have set up a network of monitoring stations in the Baltic Sea area. The aims of this programme are:

- i) To collect and provide data that enable to estimate the dry and wet deposition of airborne pollutants and their variation in time and space over the Baltic Sea. The anthropogenic pollutants of concern are those that may cause eutrophication or toxic bioaccumulation.
- ii) To measure on a monthly basis - from at least one station in each country - concentrations in air and precipitation of such eutrophication or bioaccumulating components.
- iii) To use and encourage development of atmospheric transport models to obtain estimates of atmospheric pollutant deposition also over the open sea for which no measurements exist.
- iv) To participate in and encourage collection of information on emissions from sources both inside and outside the Convention Area in cooperation with other international organizations.

These duties are, as requested, in many respects carried out in cooperation with other similar international organizations, in particular EMEP, the European Monitoring and Evaluation Programme for transboundary air pollution in Europe carried out by UN Economic Commission for Europe (ECE) and the Paris Commission (PARCOM).

The first EC EGAP programme based on HELCOM Recommendation 7/1 was adopted by the Commission in 1986. Since that the programme has been revised twice and the current programme is based on HELCOM Recommendation 14/1 adopted in 1993. In the latest programme also persistent organic pollutants have been included as experimental parameters. The programme is in many respects similar to those run by EMEP and PARCOM.

Results from the network are reported by the Contracting Parties to a central database (Norwegian Institute for Air Research, NILU), which permits data to be pooled to give overviews of the pollution.

The comparability of data within the EC EGAP programme is as important as for any other monitoring programme. The quality assurance consists of international field intercomparisons generally carried out in conjunction with ECE EMEP and/or PARCOM. In order to ensure the quality and comparability of the data collected, the EC EGAP has initiated and participated in a number of intercalibration and intercomparison exercises which have all been organized by Sweden. The first exercise was held during the first stage, concerning the analytical methods used for the determination of trace metals, nitrate and ammonium in atmospheric precipitation. The EC EGAP decided to emphasize the trace metal portions of this intercalibration because not all laboratories carry out such analyses routinely. The control of atmospheric trace metals has become essential because toxic metals such as Cd, As, Pb and Hg are known to contribute strongly to the pollution of the Baltic Sea via atmospheric input. The first stage was carried out in 1986.

The outcome of the first stage justified the start of the second stage, an intercomparison of procedures for precipitation sampling, but for ammonium and nitrate only. It took place during 1987-1988. Also many HELCOM laboratories participated in a comprehensive programme containing both intercalibration of analytical methods for trace metals for precipitation sampling. This exercise was initiated by PARCOM and it was carried out in 1990. Since the previous exercises indicated serious problems in trace metal analyses the EC EGAP at its meeting in 1993 asked again the cooperating organizations to participate in yet another exercise concerning the trace metals in precipitation.

The Baltic Sea, as also the North Sea, is significantly affected by atmospheric long-range transport of man-made emissions of pollutants. Therefore the results from the monitoring programme of the EC EGAP which is limited to the Baltic Sea cannot alone give a complete picture of the state of air pollution and its origin in remote sources. This knowledge is necessary if control strategies for the reduction of the atmospheric deposition fluxes of pollutants to the Baltic Sea are to be developed. The only way of delineating the atmospheric transport pathways and hence the emitter-receptor relationship is through numerical modelling. With modern computer technology it is now possible to carry out calculations that not only cover a whole continent such as Europe but also include the complex physical and chemical processes that control the transport, transformation and deposition of air pollutants.

In order to get as complete a picture as possible from the airborne pollution coordination, an exchange of information between the various Committees of the Commission and their sub-groups is needed. For example, the Maritime Committee has set up an air pollution group MC AIR that has been given the task to collect emission data from ships travelling the Baltic Sea. Emissions from ships have in fact been found to be an important air pollution source for the oceans and coastal areas. That information is therefore very important for obtaining good model results over the open sea. As another example could be mentioned the information on industrial processes and the technological

possibilities to reduce their emissions, which is collected by the TC and its sub-groups. This information is important when setting up good emission inventories.

5.2.3 Monitoring of radioactive substances

Since 1985, this work has been coordinated by the Group of Experts on Monitoring of Radioactive Substances in the Baltic Sea (EC MORS). According to the present terms of reference the main duties of this group are:

- to compile available data on radioactive discharges to the Baltic Sea;
- to collect data from all compartments of the open sea and from coastal areas for the preparation of inventories and for showing trends, taking into account all aspects of quality assurance;
- to evaluate the collected data regularly;
- to assess the risks caused by direct discharges as well as long-range transboundary transports of radioactive substances to man and marine life and the radiation burden to the population living around the Baltic Sea; and
- to develop models to predict radiation doses in the event of an accident.

To fulfil these duties the Contracting Parties have set up a network of monitoring stations, some of them being the same stations as are used within the BMP. The programme is based on HELCOM Recommendation 10/3 adopted by the Commission in 1989 and it covers the compartments water, sediment, fish, aquatic plants, and benthic animals of all sub-areas of the Baltic Sea. Measurements of several obligatory and voluntary radionuclides are included in the programme (e.g. radiocesium, Sr-90, K-40 and other gamma-emitters identified in the gammaspectrum).

The monitoring of the various compartments of the Baltic Sea is carried out in each country according to its technical capability and equipment. Finland, Germany, Poland and Russia carry out monitoring also at locations remote from land, whereas Denmark and Sweden are putting more emphasis on coastal stations.

In addition to the environmental monitoring also annual monitoring of releases from nuclear facilities discharging radionuclides into the Baltic Sea are included in this programme.

The results of this monitoring programme are submitted to the HELCOM data bases run on consultant bases.

The quality of the monitoring data is also an essential question of this monitoring programme. The International Atomic Energy Agency (IAEA) and especially its Marine Environment Laboratory (MEL) in Monaco have been involved intensively in the work of quality assurance. The MEL has carried out some intercomparison exercises on seawater and sediment analyses. One of the latest exercises showed that the quality of the results reported to IAEA was partly in excellent agreement among the laboratories submitting data for the MORS programme.

In addition to the exercises arranged by IAEA an experiment on sediment sampling techniques and the analytical methods on different types of sediments was carried out in 1992. This experiment, coordinated by the EC MORS, aimed to show whether different sediment sampling techniques have significant effects on the final results. The MEL homogenized and distributed the sediment samples collected within the exercise and the samples will be used also within a world-wide intercalibration arranged by IAEA.

5.2.4 Monitoring of coastal waters

Since the establishment of the BMP the monitoring and assessment activities on the open sea areas as well as on the coastal waters have been the responsibility of the Baltic Sea States. The principle agreed in the Guideline for the BMP was that national monitoring programmes in territorial waters should be established to supplement the joint monitoring programme in the open sea. Therefore, up to now there has been no harmonized monitoring programme for the coastal waters.

In 1991, the Commission established an ad hoc Working Group on Coastal Monitoring of the Baltic Sea with the main aims

- to develop guidelines for monitoring programmes relevant for the coastal waters;
- to examine the detailed plans of the national monitoring programmes for coastal areas, to identify and harmonize those measurements which are common to all national programmes;
- to develop a strategy to forecast the response of coastal waters to changes in discharges and emissions.

The development of the coastal monitoring programme will be closely connected to the ongoing revision of the monitoring activities of the Commission and also the results from the first joint assessment of the state of the coastal waters will be taken into account.

5.3 ASSESSMENTS

5.3.1 Periodic assessments

The overall evaluation of the state of the marine environment of the Baltic Sea has been carried out three times. The first evaluation was published by the Commission in 1981 as a comprehensive document with a summary and conclusions based on the scientific results since the beginning of the century.

In 1981, the ad hoc Group of Experts on Assessment of the State of the Marine Environment of the Baltic Sea (GEA) was established. More than 40 experts from all countries bordering the Baltic Sea joined in a cooperative effort and produced the "First Periodic Assessment of the State of the Marine Environment of the Baltic Sea Area, 1980-1985". As a general conclusion it can be mentioned that:

- the main finding was ongoing eutrophication in the Baltic Sea calling for further action to reduce the inputs of nutrients from the Baltic Sea States;
- there was reason to believe that phytoplankton biomass and primary production in the Baltic Sea were doubled between 1970 and 1980; this had some implications for the zoobenthos living in areas not disturbed by oxygen deficiency;
- concentrations of DDT and its metabolites in eggs of sea birds and in herring from the Baltic Sea were in 1979-1983 still higher compared with data from the North Sea; however, there had been a ten-fold reduction of concentrations between 1970 and 1980; environmental protection measures taken in 1979 seemed to have been effective;
- by that time very little was known about organic contaminants.

In 1987, the ad hoc Group of Experts for the Preparation of the Second Periodic Assessment (GESPA) was established. About 70 experts were involved in the work. This assessment dealt mainly with observations made in the open sea but also in some coastal areas, such as the Gulf of Riga.

The main conclusions drawn from the Second Periodic Assessment are:

- the strong increase of phosphorus and nitrogen, which was observed in the 1970s, was ceased in many areas of the Baltic Sea; there was some expectation that this was not a proof that anthropogenic input did not further increase but may only have been an indication that hydrographic conditions play an important role;
- there was evidence that phytoplankton primary production was doubled within the last 25 years in the area from the Kattegat to the Baltic Proper, with a similar doubling of phytoplankton biomass and its subsequent sedimentation;
- environmental influence on the stocks of demersal fish and shellfish, primarily due to low oxygen conditions, was clearly seen in certain areas;
- concentrations of organochlorine residues in fish from the Baltic Proper were still 3-10 times higher than in fish from the Shetland Islands. DDT and PCB concentrations in biota had decreased since the 1970s and were on a low and steady level. The decrease of alfa-HCH concentrations in water was still continuing. The number of potentially harmful organic substances identified in the marine environment was increased;
- trace element concentrations in fish and shellfish had not changed remarkably since the early 1980s. Mercury concentrations did not differ significantly from those in the North Sea and the North-East Atlantic. Elevated mercury concentrations were only found in the Öresund and in the southern Bothnian Sea, where a considerable decrease was observed. For lead biota collected from sampling locations in the Kattegat, the Sound and the Great Belt showed tendencies for decreasing concentrations.

For the Baltic Sea, it is very difficult to state whether the observed changes are due to the environmental protection measures taken or as a result of natural variation. The third periodic assessment for the period 1989-1993 is under preparation within the various expert groups and is expected to be available in 1996. This assessment will be based on more reliable data gained by the quality assurance actions taken as well as on more reliable data on the pollution load into the Baltic Sea. It can also be expected that further improvements in the environmental condition of the Baltic Sea region can be observed. Information on the present environmental status of the Baltic Sea as compiled by the fourth meeting of the Environment Committee is given in Annex 7 of this publication.

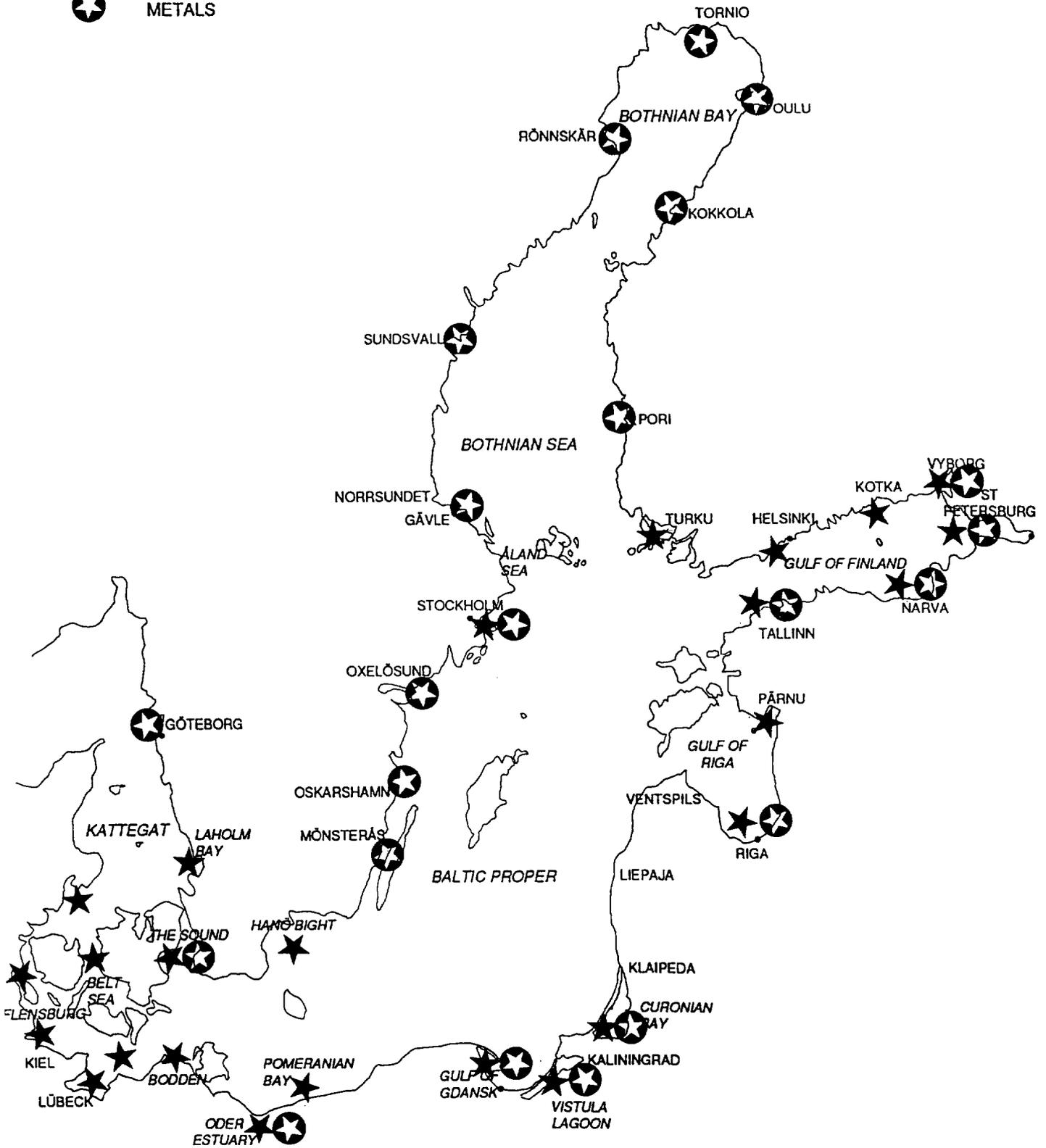
5.3.2 Coastal assessment

As decided by the Commission, national coastal assessments should have been provided by each Baltic Sea State every fifth year starting in 1984 according to the outlines given in the BMP Guidelines. Due to a low activity in this matter the tenth meeting of the Commission in 1989 adopted HELCOM Recommendation 10/2 concerning assessment of the effects of pollution on the coastal areas of the Baltic Sea and an ad hoc working group was established to carry out this work. The assessment was agreed to be based on the national reports by the Contracting Parties.

The contributions delivered were, however, very disparate, e.g., regarding subjects dealt with and discussed and the data delivered were emerging from different national and heterogeneous programmes.

Figure 3. Main problem areas indicated in the coastal assessment 1993 (BSEP 54)

- ★ EUTROPHICATION
- ⊛ METALS



Firstly, an interim report containing some general views on the state of the coastal waters of the Baltic Sea was published by the Commission in 1991, and a more complete description could be attained by an extension of efforts by one year to reach a more comprehensive final report, which has now been published in the Baltic Sea Environment Proceedings No. 54 (Figure 3).

In spite of the fact that information given by various countries concerning their coastal waters is heterogeneous, it is evident that there are several problems within the Baltic Sea region. There are eutrophication problems in the outlet regions of the Baltic Proper and the Kattegat. Several problem areas are also reported along the southern and eastern parts of the coastline. In all Baltic Sea countries eutrophication is a real problem in the vicinity of large point sources of pollution, such as big cities and large population centres.

The information on concentrations of metals in local coastal waters is limited, mainly due to lack of national data or incomparability of data. Available information suggests, however, that there is still some concern about mercury in the coastal zone and cadmium in more open waters. Increased concentrations for most metals are reported from the eastern part of the Gulf of Finland and especially from the Neva Bay. Other locally affected areas with moderate concentrations are: some parts of the Gulf of Bothnia, the south coast of the Gulf of Finland, the south and south-east coasts of the Baltic Sea.

The information related to the organic substances is rather limited. The damage by chronic release of petroleum hydrocarbons is under steady observation in the Baltic Sea region. Until now no special effects have been noticed apart from in local areas close to, e.g., harbours. The chlorinated hydrocarbons are a growing problem. Although the concentrations of HCHs or DDTs and PCBs are decreasing in the Convention area, problems still exist for the survival of important, high ranked trophic groups of animals.

The coastal assessment suggests several measures to protect the environmental quality of coastal areas of the Baltic Sea.

5.3.3 Evaluation of airborne pollution

Based on the collected data within the monitoring programme for airborne pollution, two evaluation reports have been prepared covering 1983-1986 and 1986-1990. In general, estimating the atmospheric pollution load on the sea surface is difficult because, for the open sea, data on airborne pollution concentrations and meteorological data such as precipitation are scarce or lacking. To compensate this it is necessary to resort to methods for approximation.

The most recent assessment was mainly focused on the atmospheric deposition of nitrogen. One of the major results were the estimates of wet deposition fluxes of nitrogen to various sub-basins of the Baltic Sea which clearly indicated that there is a clear and consistent tendency for larger fluxes of nitrogen in the more southern parts of the Baltic Sea, i.e. areas which are closer to the European air pollution sources. Furthermore, results show that nitrogen deposition to the Baltic Sea is divided almost equally between oxidized and reduced compounds and no discernible temporal trend was observed during the latter half of the 1980s (Figure 4).

A reasonable estimate of the total deposition of nitrogen to the Baltic Sea in the latter half of the 1980s seems to be 300 000 ± 30 000 tonnes nitrogen

**Nitrogen concentrations in precipitation
North and South Baltic 1986 - 1990**

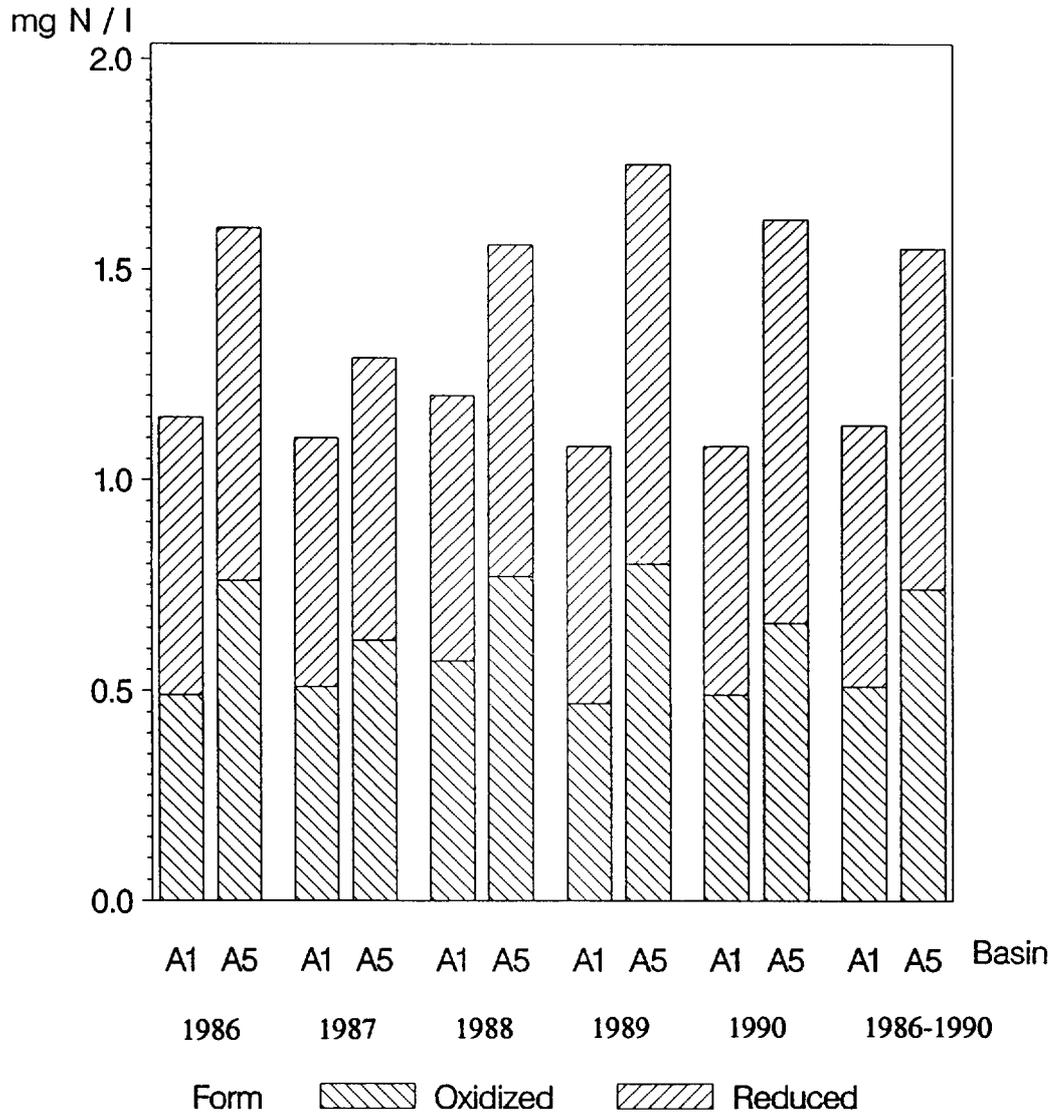


Figure 4. Annual average nitrogen concentrations in precipitation in the Gulf of Bothnia, A1, and in the Kattegat and the Belt Sea, A5 (BSEP 39)

per year. It is observed that the main contribution of 65 % comes from the Baltic Sea countries. Other prominent contributors are Great Britain, France and the Netherlands, which are countries upwind of the predominantly western winds in the Baltic and are among the major European emitters. The Czech Republic and the Slovak Republic are also major contributors.

The reliability of the data for trace elements is still very low and therefore only total deposition of lead to the Baltic Sea was estimated in the recent evaluation. Some decrease in lead deposition was observed during the two evaluation periods, but this may be due to differences in the calculation methods applied.

According to the most recent assessment the total deposition of lead to the Baltic Sea is estimated to be close to 1 400 tonnes per year. Calculations show that 70 % of the input comes from the riparian countries around the Baltic Sea, the rest from other areas in Europe by long-range atmospheric transport.

5.3.4 Evaluation of the state of radionuclides

In 1980, the IAEA initiated a Co-ordinated Research Programme about the evaluation of the long-term behaviour of radionuclides entering the Baltic Sea, including their transport back to man. This programme entitled "Study of Radioactive Materials in the Baltic Sea" was carried out by scientists from all the Contracting Parties and from IAEA during the years 1981 to 1984. The results of this programme, published in a technical document of the IAEA, provided an excellent knowledge about the levels and the behaviour of artificial radioactivity in the Baltic Sea prior to the reactor accident at Chernobyl.

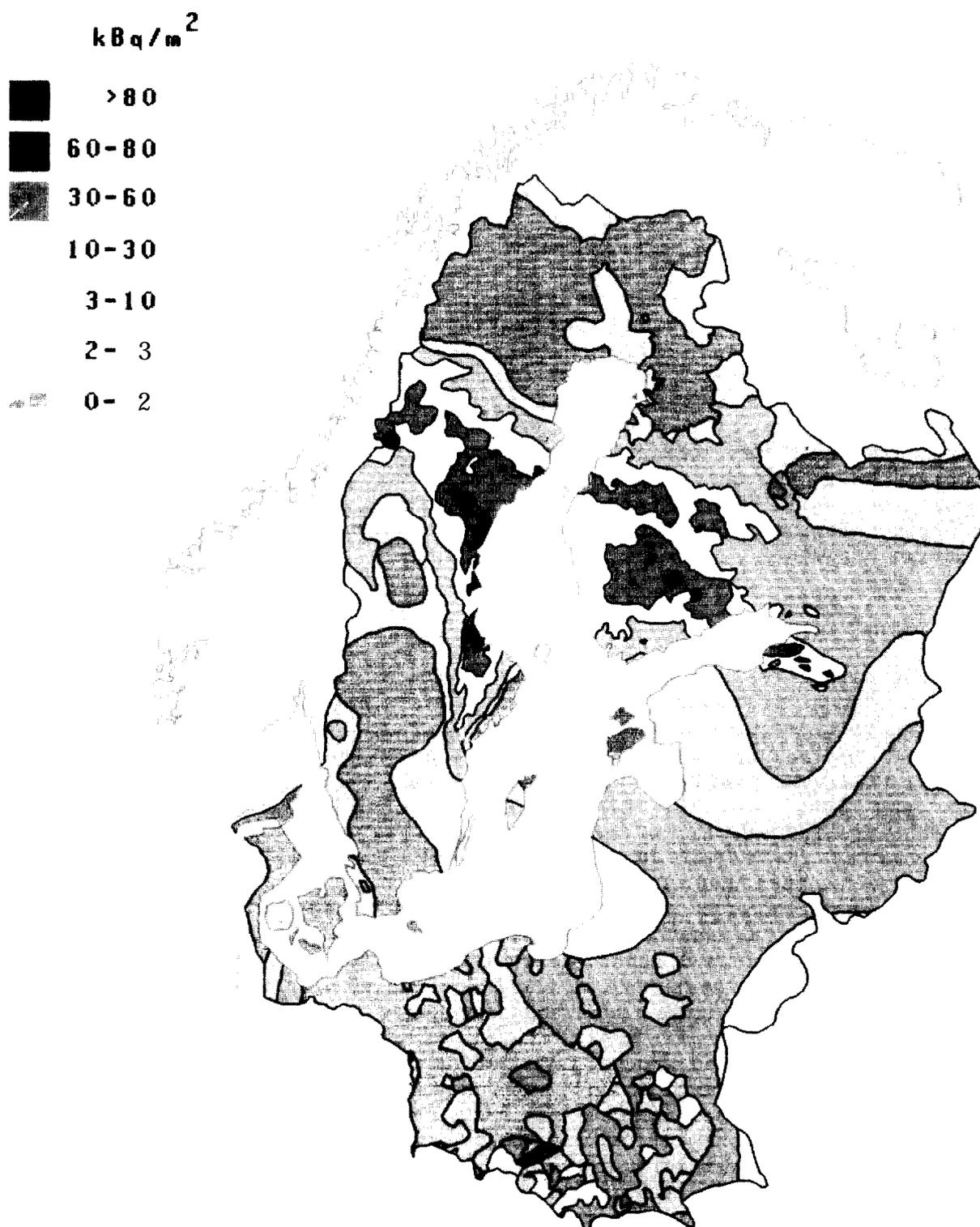
The first comprehensive evaluation work covering the results of the three years' intensive investigations of the participating laboratories about the impact of the fallout from the Chernobyl accident on the Baltic Sea was published in 1989 in the Baltic Sea Environment Proceedings No. 31. The experts pointed out that the Baltic Sea was significantly contaminated by the accident and the main contamination occurred in the southern part of the Bothnian Sea and in the eastern Gulf of Finland. Due to mixing of water and dilution within the water column the initial concentrations in these areas decreased and the lower homogenized levels are now measured. A map on the distribution of the deposition of Cs-137 of the Chernobyl fallout in the drainage area of the Baltic Sea was provided by the EC MORS based on measurements from all the Contracting Parties (Figure 5).

Liquid discharges from the nuclear power stations in the Baltic Sea are only detectable in the vicinity of these plants. Compared to the levels already present in water, sediment and biota the releases are extremely low.

Dose calculations of individual and collective doses resulting from discharges from nuclear power plants within the drainage area of the Baltic Sea, from the environmental contamination caused by the global fallout, from the Chernobyl accident and from the discharges from the west European nuclear reprocessing plants Sellafield (UK) and La Hague (France) showed that the doses are low compared to the doses caused by natural radionuclides. The lowest contribution to these doses is induced by the discharges from the nuclear power plants.

The first joint evaluation report of the state of the radionuclides in the Baltic Sea which is based on the data collected within the monitoring programme is under preparation and will be published in 1994.

Figure 5. Distribution of Cs-137 deposition of the Chernobyl fallout (1986) in the drainage area of the Baltic Sea



This environmental monitoring programme has not given any indication of elevated levels of radionuclides caused by any possible dumped material in the Baltic Sea.

5.3.5 Assessment of seal population

In 1988, the Helsinki Commission, by adopting HELCOM Recommendation 9/1 concerning protection of seals (superseding the old Recommendation 3/3 given in 1982), recommended the Governments of the Baltic Sea States to ban all hunting of the three seal species living in the Baltic Sea region: the grey seal, the ringed seal and the harbour seal. For safeguarding the survival of these species, it was agreed that the ban will be maintained until a natural reproductive rate can be shown scientifically. It was also decided that for saving the genetic individuality of the declining Baltic seal stocks the countries shall make effort⁵ to establish seal sanctuaries and, when appropriate, organize seal breeding.

Based on the recent report on the implementation of this Recommendation it has been concluded that **the** main recommendation to cease all seal hunting had been fully realised. The only deliberate killings were those of a few ringed seals for monitoring the health status of the population and of a few harbour seals for preventing damage to fisheries.

On request by HELCOM, ICES provided in 1992 information on the status of seal populations in the Baltic Sea. According to that report, the status of seal population⁵ still give reason for concern. There are continuing high levels of organochlorines, hunting in the past and salmon netting are still causing negative effects.

5.4 NATURE CONSERVATION

The 1992 Helsinki Convention brings a whole new aspect to the activities of the Commission. All countries around the Baltic Sea have agreed individually and jointly to "take all appropriate measures with respect to the Baltic Sea Area and its coastal ecosystems influenced by the Baltic Sea to conserve natural habitats, biological diversity and to protect ecological processes". With the 1992 Helsinki Convention it is now possible to address, comprehensively, questions concerning the sustainable use of the natural resources of the Baltic Sea basin. A work programme was adopted by the Commission in 1993 and given several responsibilities, e.g., to review the national and general environmental situation, exploitation of the sea and coasts, existing trends and damage within the area; to review existing national legislation and other instruments to achieve the environmental and nature conservation goals; to prepare a strategy and legal guideline⁵ for protecting valuable nature types and biotopes.

Within the EC a Working Group on Nature Conservation was established by the Commission in 1993. The group will work in order to fulfil the work programme endorsed by the Commission. So far the group has made a proposal for two HELCOM Recommendations concerning protection of the coastal strip and the establishment of a system for a start of 63 protected coastal and marine areas in the Baltic Sea area. Also a list of types of coastal and marine biotopes and nature types with particular ecological value have been agreed by the EC. Furthermore, an elaboration of a "Red Data Book" of threatened biotopes is proposed for the Baltic Sea region. This Working Group is working in close cooperation with the working group under PITF concerning management plans for coastal lagoons and wetlands.

5.5 SPECIAL TOPICS

5.5.1 Dumping of Dredged Spoils

In accordance with Article 5 of the Helsinki Convention, the Contracting Parties shall prohibit the dumping of dredged spoils containing substances listed in Annex I. Furthermore, in accordance with Article 9 (2) the Contracting Parties shall issue special permits for the dumping of dredged spoils. The provisions of Annex V to the Convention shall be applied when permits for the dumping of dredged spoils are issued. In order to assist the Contracting Parties in management of dredged spoils in a way that will prevent pollution of the marine environment, Guidelines for the Disposal of Dredged Spoils and related HELCOM Recommendation 13/1 were adopted by the Commission in 1992. The preparatory work was carried out by an ad hoc Working Group on Dredged Spoils established in 1992 to continue the work started during the time of the STC. In accordance with the mandate of the Helsinki Commission, the Guidelines specifically address the disposal of dredged spoil by deposition or dumping in marine and estuarine waters.

It should be recognised that both removal and disposal of dredged sediments may cause harm to the marine environment. Consequently, the Contracting Parties are encouraged to exercise control over dredging operations.

The adopted Guidelines include advice on dredging spoil sampling and analysis. They provide guidance on the fulfilment of the obligations of the Contracting Parties to issue permits for the dumping of dredged spoils in accordance with the provisions of the Convention, on the provision of reliable data on the input of contaminants to the Convention waters by the dumping operation, and on the interpretation of key terms contained in the annexes, such as trace contaminants and significant quantities.

The technical annex to the Guidelines is still under development within the Working Group.

In addition to the preparation of the Guidelines, information on national regulations for dumping of dredged spoils and the amounts dumped into the Baltic Sea has been collected. Close cooperation on this topic has been carried out with OSCOM.

5.5.2 Algal Blooms and Early Warninas

In 1989, the Commission adopted Recommendation 10/1 concerning abnormal situations in the marine environment advising states to utilise the early warning system established according to HELCOM Recommendation 6/14 also for early warning of abnormal environmental situations, and to use appropriate methods for detecting and monitoring algal blooms, to consider a special study programme concerning risks to human bathers and to intensify research to improve knowledge on algal blooms. After the intensive blooms in the southern Baltic Sea there has been a common understanding that there is an urgent need to improve the exchange of information.

According to the recent reporting of the implementation of the Recommendations it can be concluded that most of the Contracting Parties have implemented this Recommendation. Monitoring systems for toxic algae is established in special areas, sampling of the regular monitoring programmes has been increased depending on the season, weekly telecommunication meetings between different authorities have been arranged, etc.

5.5.3 HELCOM Bibliograohv

From the very beginning of the Scientific and Technological cooperation in the framework of the Commission the bibliography on the Baltic Sea Area has been considered as an essential tool for studies on the Baltic Sea pollution problems. Since 1975, bibliographic material has been collected and distributed to the Contracting Parties. All the Baltic Sea States have annually compiled their own national bibliographies according to the agreed instructions. The Baltic Marine Environment Bibliography covers material since 1970, currently c. 9 000 references.

In 1979, the Interim Commission decided to collect and publish the information of years 1970-1977 in one volume. The Information Service of the Technical Research Centre of Finland was asked to carry out this task as a consultant service. Later on, the Commission decided that bibliographies should be published in microfiche form for the whole decade 1970-1979 and the compiled bibliography was published in the Baltic Sea Environment Proceedings No. 4. Now the bibliography is available in microfiche form for the years 1970-1989 in three sets: 1970-1979, 1980-1985 and 1986-1989.

In 1990, the Commission decided to cease producing of the microfiches. Instead, the printed version was chosen. This cumulative bibliography for the years 1986-1990 is the first Baltic Marine Environment Bibliography in printed form (BSEP No. 43). The bibliography is also available as an online database. The online service covers material from the year 1970. The database is available online at the Swedish host DAFA by appointment of the Swedish Environmental Protection Agency, at the German host DIMDI, Deutsches Institut fur Medizinische Dokumentation und Information, and at the Technical Research Centre of Finland. The bibliography contains references to reports, including also "grey literature", journal articles, books, conference proceedings, dissertations, etc. The subject coverage includes all aspects on the marine environment of the Baltic Sea. Since 1986, the classification and thesaurus of the Aquatic Sciences and Fisheries System, ASFA, of the Food and Agriculture Organization of the United Nations has been used. A retrospective reclassification for the older material of 1980-1985 has taken place to improve the uniformity of the material.

There are only a few databases in the world dedicated to marine sciences. These include for example such large international databases as ASFA, BIOSIS and AGRIS. The Baltic Marine Environment Bibliography obtains much of the material directly from authors, institutes and libraries and to a lesser extent from the monitoring journals and serials, which is the main method in case of large international databases. Thus the content of the Baltic Marine Environment Bibliography is unique and as such it is an important source of information for marine researchers and complements the information received from other information sources. Noticeable part of references deal with pollution problems. They cover nearly 40 per cent of the references (Figure 6).

The main language of the documents is English (46 %). Other languages include, for example, Swedish (13 %), Russian (10 %) and German (10 %). 44 % of the original documents are journal articles, 31 % are monographs and 25 % are monograph chapters (Figure 7). All references have the title and keywords in English. From the year 1990 abstracts have been added to the bibliographic references. References are also augmented by classification codes. The original documents are deposited in officially nominated contact libraries in every Baltic Sea State. The documents can be ordered as loans or photocopies through local scientific libraries from the contact libraries.

Figure 6. **Distribution of references in major subject classes (Baltic Marine Environment Bibliography Statistics, June 1993)**

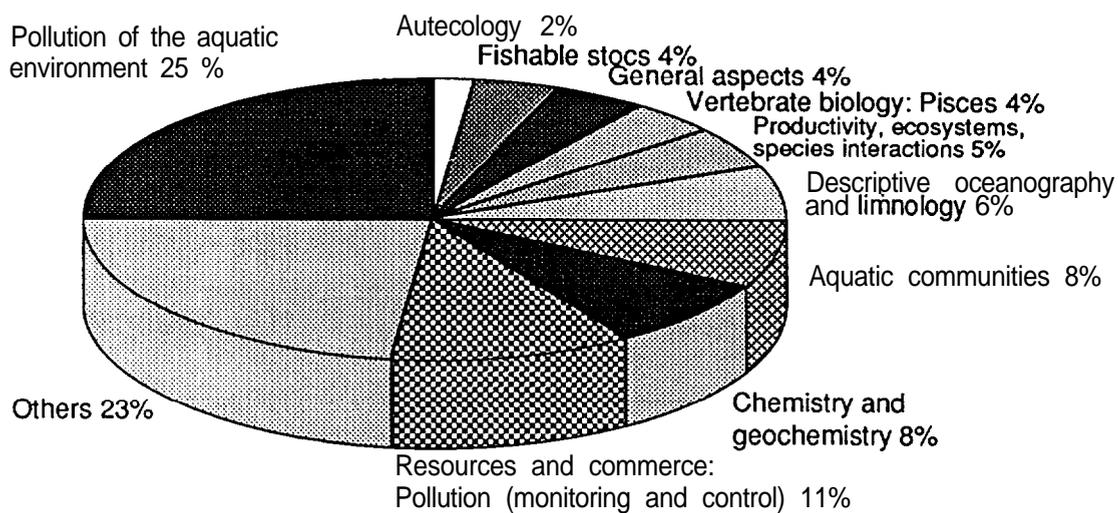
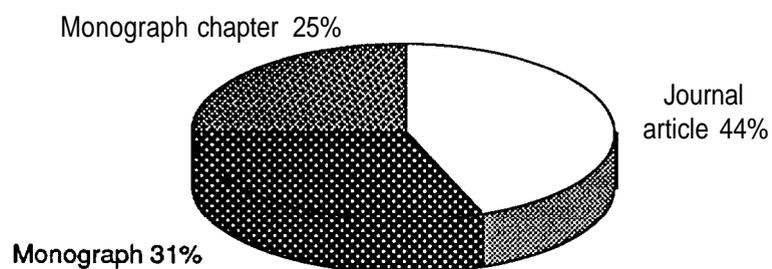


Figure 7. **Distribution of references by document type (Baltic Marine Environment Bibliography Statistics, June 1993)**



5.6 CONCLUSIONS AND SOME REMARKS FOR FUTURE

To **follow up the** effects of the pollution in the marine environment of the Baltic Sea, a joint monitoring programme for the open Baltic Sea has been coordinated by the Commission since 1979. The open sea monitoring has been later extended to cover also monitoring of airborne pollution and radioactive substances. For the coastal waters, there has been no harmonized monitoring programme. The countries, however, have agreed that national monitoring programmes in **territorial waters** should be established to supplement the joint monitoring programme in the open sea.

Based on the monitoring data supplemented with additional data from different research programmes overall evaluations of the state of the marine environment have been carried out several times. Some positive changes have been observed, e.g., decrease in the DDT and PCB concentrations in biota, decrease of **α-HCH** concentrations in water and the decrease in lead values in the marine environment in the southern Baltic. In some areas, seal populations are recovering although they are still threatened by pollutants, especially the organochlorines, and the by-catch of young seals in fishing nets.

During the past years, a lot of efforts have been made to improve the reliability of the collected monitoring data by arranging several intercalibration and intercomparison exercises. Even special training courses on phytoplankton identification have been arranged for personnel involved in the practical work.

The revised Convention 1992 contains a new issue for the activities of the Commission. A work programme on nature conservation has been developed and at present experts are working on specific proposals concerning, e.g., protection of coastal regions and establishment of protected coastal and marine areas.

Future plans

In the coming years the activities in the Environment Committee will be focused on the following topics:

- preparation on the third periodic assessment of the state of the Baltic marine environment;
- finalization of the Baltic Sea Sediment Baseline Study;
- elaboration of an integrated monitoring programme for coastal areas of the Baltic Sea and revision of the existing Baltic Monitoring Programme including the joining of all monitoring activities under one **organizational umbrella** as Cooperative Monitoring in the Baltic Marine Environment (COMBINE);
- introduction of common and **more stringent quality assurance procedures;**
- evaluation of the status of endangerment of different coastal and marine biotopes and nature types in the Baltic Sea Area (Red Data Book);**
- development of a system of Coastal and Marine Baltic Sea Protected Areas (BSPA);**
- development of regulations to protect the coastal strip and sea bottom of the Baltic Sea Area by appropriate means against environmental degradation.**

6. ACTIVITIES IN THE FIELD OF THE TECHNOLOGICAL COMMITTEE

After the division of the STC and establishment of a separate Technological Committee (TC), the responsibilities of the TC are to advise the Commission in discharging its duties under Article 13 of the Helsinki Convention, especially in respect of matters related to Articles 5, 6, 9, 10 and 16, and in particular:

- to collect and review technological data and knowledge pertinent to the goals of the Convention, and to promote the exchange of information;
- to elaborate and periodically review cooperative control programmes concerning collection of data on discharges to the Baltic Sea, and to elaborate methods, models **and techniques** taking into **account the** need for intercalibration and standardisation;
- to assess the pollution load to the Baltic Sea from direct and indirect sources;
- to elaborate criteria and standards for the abatement of land-based pollution to the Baltic Sea, and to elaborate appropriate proposals for the Commission taking into account the state of the marine environment;
- propose, when appropriate, new annexes or amendments to existing annexes to the Convention.

WORKING STRATEGY OF THE TECHNOLOGICAL COMMITTEE

working strategy of the TC was formulated in the context of the Ministerial Declarations (1988 and 1990) and the provisions of the 1992 Helsinki Convention, and comprises the following principles, objectives and approaches:

6.1.1 Fundamental principles

- the Precautionary Principle
- the concepts of Best Environmental Practice (BEP) and Best Available Technology (BAT)
- the Polluter-Pays-Principle.

6.1.2 Ranking of priorities

In elaborating the adequate preventive and curative measures against **land-based** pollution a step-wise approach is applied and the priority is given to point sources and diffuse sources which might generate significant amounts of harmful substances specified in Annex I of the 1992 Convention and the "Baltic Sea List of Priority Harmful Substances, other than nutrients, for immediate action in order to reach the 50 % reduction goal by **1995**".

Ranking of priorities is based on the environmental assessments, evaluation of input data and recent knowledge about harmful substances of serious environmental concern.

The list of priority sectors, sources and products is subjected to reviewing and updating in the course of time. An open-ended "waiting **list**" has been established for this purpose.

6.1.3 Handling of the priority sectors/sources/products

The work is exercised on a Lead Country basis. For particular priority **sectors/sources/products technical recommendations** based of BEP and/or BAT are elaborated. Recommendations contain specific technical regulations, preferential technical solutions and the implementation timetable. Over time the existing Recommendations are revised and adapted to new technical development or to new environmental challenges as they become more prominent.

6.1.4 Compliance monitoring

Qualitative and quantitative information about the sources of pollution is collected and assessed on a regular basis by means of the Pollution Load Compilation projects and obligatory national reporting on implementation of the provisions of the Convention and HELCOM decisions.

6.2 ORGANIZATION OF THE WORK

The **organizational** structure of the TC has evolved as the topics of special importance were identified in the work of the TC.

At present it comprises three working groups, i.e.:

- the Working Group on reduction of discharges and emissions from point sources (TC POINT);
- the Working Group on reduction of inputs from diffuse sources (TC DIFF) with subordinate ad hoc Expert Group on harmful substances (TC CHEM);
- the ad hoc Expert Group on pollution load of the Baltic Sea (TC POLO).

On the basis of the Second Periodic Assessment of the state of the Baltic Sea and recent knowledge about the main sources of harmful substances included in the "Baltic Sea List of Priority Harmful Substances for immediate action in order to reach the 50 % reduction goal by 1995", the Technological Committee identified the land-based sources of the highest priority to be handled by TC POINT and TC DIFF.

At present the priority point sources comprise:

- pulp and paper industry (Lead Country - Sweden)
- iron and steel industry (Lead Country - Finland)
- chemical industry (Lead Country - Germany)
- metal surface treatment (Lead Country - Russia)
- leather industry (Lead Country - Poland)
- waste incineration (Lead Country - Sweden)
- municipalities (Lead Country - Sweden)
- textile industry (Lead Country - Germany)
- food industry (Lead Country - Lithuania)
- offshore installations (Lead Country - Germany)
- fish-farming (Lead Country - Finland)

The priority diffuse sources at present comprise:

- agriculture (Lead Country - Poland)
- forestry (Lead Country - Finland)
- traffic (Lead Country - Germany)
- stove/fireplaces (Lead Country - Germany)

mercury- and cadmium-containing products:
thermometers (Lead Country - Estonia)
electric equipment including light sources (Lead Country - Poland).

6.3 ABATEMENT MEASURES IN THE TECHNOLOGICAL FIELD AGREED UPON BY THE COMMISSION

6.3.1 Hazardous substances

As the introduction into the **Baltic Sea Area** of hazardous substances, such as DDT and its derivatives, polychlorinated biphenyls (**PCBs**) and polychlorinated terphenyls (**PCTs**), is banned by the Convention, the Technological Committee restricts its activities in this field to a regular follow-up of national compliance with HELCOM Recommendations **3/2** (elimination of discharges of DDT) and **6/1** (elimination of the use of **PCBs** and **PCTs**).

These Recommendations stipulate abandonment of production, marketing and use of DDT, **PCBs** and **PCTs** in the Baltic Sea countries and establish the requirements for cautious handling and disposal of remaining products and articles containing these hazardous substances in order to avoid their accidental introduction into the environment.

6.3.2 Noxious substances

With respect to noxious substances (16 groups of substances), according to Article 6 of the Convention, the Contracting Parties have undertaken to take all appropriate action to minimize pollution by these substances, i.a., by issuing prior special permits for their introduction into the marine environment in significant quantities and by applying specific criteria and measures.

The implementation of Article 6 is the basic area of the Technological Committee. The activities of the TC embody step-wise elaboration of adequate preventive and curative measures against polluting inputs of noxious substances to the Baltic Sea Area from land.

a) Substance-wise measures to reduce land-based pollution

HELCOM Recommendation 5/1 - limitation of oil in stormwater systems

The Recommendation stipulates urgent measures to prevent the introduction of oily waters from production plants, service stations, mechanical workshops, etc. to municipal stormwater systems without prior separate treatment.

HELCOM Recommendation 6/2 - restriction of discharges from oil refineries

The Recommendation calls for separation of oil contaminated waters before treatment, collection and treatment of storm waters from polluted plant areas. Biological or equally effective treatment for waste waters from oil refineries have to achieve by 1987 a limit value of **5 mg/l** for oil content of the effluent and 3 g/tonne feedstock processed for the total discharge.

HELCOM Recommendation 6/3 - reduction of discharges of mercury from chloralkali industry

The Recommendation restricts the total quantity of mercury in all water discharges (1 g/tonne chlorine production, as from 1986), mercury losses in

ventilation air (2 g/tonne chlorine production as from 1990), mercury concentration in alkali (0.3 mg/l as from 1990) and mercury content in hydrogen gas (0.2 g/tonne chlorine production as from 1990).

HELCOM Recommendation 6/4 - reduction of mercury resulting from dentistry

The Recommendation calls for collection of amalgam waste from dental clinics, laboratories and surgeries by 1989 and encourages the use of mercury-free materials for tooth fillings and abandoning, whenever possible, the use of amalgam in dentistry.

HELCOM Recommendation 6/6 - limitation of discharges of cadmium from land-based sources

The Recommendation stipulates the establishment of national regulations for strict limitation of the use of cadmium in electroplating, pigments and stabilisers and reduction of cadmium content in phosphatic fertilisers and discharges from their production.

Measures for strict separation of cadmium containing industrial waste waters for recycling or subsequent effective treatment are recommended as well as step-wise improvement⁵ of treatment efficiency to achieve cadmium concentration of 0.2 mg Cd/l by 1989.

HELCOM Recommendations 6/5 and 14/5 - safe handling of used batteries containing mercury, cadmium and lead

The Recommendations lay down the requirements for labelling and collecting of spent batteries containing heavy metals, recovery or safe disposal of their metal content. Research into less harmful substitutes is encouraged aiming at a complete ceasing of the use of heavy metals in batteries in the long run.

HELCOM Recommendation 9/4 - reduction of emissions of lead from combustion of leaded gasoline

The Recommendation stipulates a considerable reduction of lead content in automobile fuel and gradual switch-over to lead-free petrol.

HELCOM Recommendation 9/10 - antifouling paints containing organotin compounds

The Recommendation bans the retail sale or use of organotin paints for pleasure boats and fish net cages, and calls for further restrictions on other uses of organotin compounds in antifouling paints, e.g., on sea-going vessels and underwater structures.

b) Branch-wise measures to reduce land-based pollution

Municipalities:

HELCOM Recommendation 7/3 - reduction of discharges from urban areas by the development of sewerage systems

The Recommendation stipulates that the sewers should be maintained and renewed so that infiltration and exfiltration be minimized and calls for separated or semi-separated sewerage systems for new developments.

HELCOM Recommendation 11/2 - reduction of discharges from urban areas by proper management of stormwater

In order to prevent the deterioration of stormwater quality, the Recommendation calls for measures to be taken already at source (e.g. by efficient dry street cleaning and reduction of lead content in petrol). The first flush of stormwater from areas with high traffic and contaminated stormwater from heavily polluted industrial areas should be conveyed to a sewage treatment plant. The Recommendation also restricts overflows in combined sewer systems.

HELCOM Recommendation **9/2** - reduction of discharges from urban areas by the use of effective methods in waste water treatment

The Recommendation stipulates that municipal waste water deriving from households or industrial enterprises should be collected and treated prior to discharging into water bodies. Discharges from municipal sewage treatment plants with more than 10 000 person equivalents should be treated by appropriate methods so that by 1998 biochemical oxygen demand (BOD) be reduced at least by 90 % and BOD₅ concentration in the effluent does not exceed 15 mg/l. By the same date, the yearly average values of total phosphorus below 1.5 mg/l should be achieved. The Recommendation also calls for research and evaluation projects with the purpose to set requirements for nitrogen removal at municipal sewage water treatment plants. This work is still going on within HELCOM.

Industry in general:

BELCOM Recommendation **9/8** - reduction of discharges from industry

The Recommendation calls for branch-wise measures based on Best Available Technology to reduce discharges of nutrients, oxygen consuming organic matter, persistent organic compounds and toxic metals for industry in general.

HELCOM Recommendation **13/2** - industrial connections and point sources other than household connected to municipal sewerage systems

The Recommendation lays down the restrictions for discharging of polluted non-domestic waste water to the combined municipal sewage treatment plants in order to prevent disturbances in treatment process and deterioration of the quality of sewage sludge making it inappropriate for, e.g., agricultural use. The Recommendation also stipulates that waste waters from industrial and other point sources should be subjected to appropriate pre-treatment and their connections to municipal sewerage systems should be authorised and supervised.

HELCOM Recommendation **13/5** - principles for permitting waste water discharges and emissions from industrial plants

The Recommendation lays down the principles and conditions under which the permits for discharges and emissions from industrial plants should be issued by national authorities and supervised thereafter.

Pulp and paper industry:

BELCOM Recommendation **11/3** - restriction of discharges from the sulphite pulp industry

The Recommendation sets up the discharge limit values for chlorinated organic substances (AOX) per tonne of air dry sulphite pulp to be achieved step-wise, i.e. 2-3 kg by 1995 and 1 kg by 2000. The same approach is used in limitation of discharges of phosphorus and oxygen consuming organic matter from sulphite pulp production.

HELCOM Recommendation **11/4** - restriction of discharges from the kraft pulp industry

The Recommendation sets up the limit values for discharges of chlorinated organic substances (**AOX**) to be achieved by 1995, i.a., 2 kg **AOX** per tonne of air dry softwood pulp and 1 kg **AOX** per tonne of air dry hardwood pulp or 1.4 kg **AOX** per tonne of the total national production of bleached kraft pulp. The Recommendation also restricts the discharges of phosphorus and organic matter from kraft pulp production.

Iron and steel industry:

HELCOM Recommendation **11/5** - restriction of discharges from the iron and steel industry

The Recommendation lays down the restrictions for discharges of oil, lead, zinc, cyanide and suspended solids from the iron and steel industry and related process units to be achieved by 1995, and calls for development of closed systems for circulation of process water to at least 90 %.

HELCOM Recommendation **11/7** - measures aiming at the reduction of emissions to the atmosphere from the iron and steel industry

The Recommendation lays down the restrictions for dust emissions from various processes in the iron and steel industry to be achieved by 1995, and enumerates specific technical measures to be applied.

HELCOM Recommendation **13/4** - atmospheric pollution related to the use of scrap materials in the iron and steel industry

The Recommendation calls, as a first ^{step}, for measures to avoid cadmium and mercury in all products that can end up as scrap. Further development is encouraged to minimise the amount of chlorinated compounds in used scrap. Technological developments in reducing the emissions of heavy metals and dioxins from the use of scrap in the iron and steel industry have to be presented by the Contracting Parties in 1996.

Chemical industry:

BELCOM Recommendation **13/3** - basic principles in waste water management in chemical industry

The Recommendation lays down the principles to be applied to chemical industries discharging waste water to municipal sewerage systems or water bodies, i.a., substitution of specific harmful chemicals, introduction of low-waste technology and closed water systems, internal segregating of process water containing hazardous substances from low-polluted cooling water and stormwater.

HELCOM Recommendation **14/2** - limitation of pollution from production of pesticides

Specific limit values for concentration of organohalogens and heavy metals as well as toxicity of the effluents are laid down to be achieved by 1997. Liquid concentrates out of production processes should be recycled or incinerated. Re-use of waste waters is encouraged.

Glass production:

HELCOM Recommendation 14/3 - limitation of pollution from glass industry

The Recommendation lays down general technical principles to be applied to glass production as well as specific limit values for emissions of dust and nitrogen oxides and for discharges of lead, arsenic, antimony and fluoride to be achieved by 1998.

Off-shore activities:

HELCOM Recommendation 9/5 - exploration and exploitation of the sea-bed and its subsoil

The Recommendation is aimed at elimination of discharges associated with drillings or reducing them by means of modern treatment technology. The Recommendation sets up restrictions on disposal of oil-based drilling muds and cuttings, and prohibits the use of diesel oil-based muds. The Recommendation further defines specifically sensitive parts of the Baltic Sea where the discharges arising from the use of water-based drilling muds are not allowed and specifies the criteria for permitting of such discharges in other parts of the Baltic Sea. The oil-content in operational discharges is restricted to 15 ppm. Requirements to minimize discharges of all other chemicals are also laid down.

In the near future Recommendation 9/5 will be revised to comply with the provisions of the 1992 Helsinki Convention.

Fish farming:

A draft Recommendation concerning reduction of pollution from marine fish farming has been agreed upon in 1993 and submitted to HELCOM 15 for adoption.

The proposed draft stipulates limitation of nitrogen and phosphorus discharges per kg fish produced as well as effective control of the use of bioactive chemicals in fish farms.

Agriculture:

HELCOM Recommendations 7/2 and 9/3 - concerning reduction of nutrient discharges from agriculture

The Recommendations lay down the basic principles and measures to reduce leaching and volatilization of nutrients from farming and livestock production, e.g., by regulation of field application of manure and storage capacities, and call for measures to control and monitor pollution from agriculture.

Due to increasing environmental concern related to agricultural pollution, a special international workshop on these topics was arranged in April 1991 in Schleswig, Germany, on the basis of which seven detailed draft Recommendations for each of the main agricultural loss categories were proposed to the Commission (cf. HELCOM Recommendations 13/7-13/12 and 14/4).

HELCOM Recommendations 13/7-13/12 and 14/4 - reduction of nutrient discharges and emissions from agriculture

The Recommendations give practical guidance for measures to reduce airborne and waterborne inputs of nutrients from animal housing, storages and field

application of manure, farm waste discharges and nutrient leaching, as well as for managing freshwater ecosystems (e.g., wetlands and smaller lakes) for increased nutrient retention.

HELCOM Recommendations 8/2 and 13/13 - reduction on pollution by pesticides from agriculture

Recommendation **8/2** gives guidance for application of pesticides, their handling and storage in order to prevent unintentional losses or run-off of pesticides to the water bodies, calls for the improvement of knowledge about the environmental problems caused by pesticides, educating the users and advisors as well as for development of alternative methods of pest control. Recommendation **13/13** lays down the requirements for approval of pesticides for use in the drainage area of the Baltic Sea and enumerates chemicals banned for use as pesticides.

6.4 EVALUATION OF NEW HARMFUL SUBSTANCES OF POTENTIAL CONCERN

As a basis for practical implementation of the 50 % reduction goal of the Ministerial Declaration 1988, the Commission adopted in 1991 the "Baltic Sea List of Priority Harmful Substances, other than nutrients, for immediate action" (HELCOM **12/18**, Annex 6).

With a view to timely identification of other harmful substances of potential concern, an open-ended "HELCOM Waiting List of Chemicals" has been established by the Technological Committee. This "waiting list", comprising more than 200 chemicals, is handled by a special ad hoc Expert Group on harmful substances (TC CHEM) under the Working Group on Diffuse Sources (TC DIFF). The tasks of TC CHEM include, *i.a.*, evaluation of selected chemicals on the "waiting list" and identification of potential candidates for "priority list" as well as elaboration of proposals for banning of certain chemicals for all uses or in specific applications.

6.5 EVALUATION OF POLLUTION LOAD

In implementing the goals of the Convention, the Helsinki Commission needs reliable data on inputs to the Baltic Sea from land-based sources in order to develop its environmental policy and to assess the effectiveness of measures taken to abate the pollution. Such data are also required for evaluation of environmental data collected from the open sea and coastal waters.

The Project dealing with the periodic evaluation of pollution load entering the Baltic Sea from land-based sources (municipalities, industries and via rivers) was initiated by the Commission in 1985 when the preparation of the First Baltic Sea Pollution Load Compilation (PLC-1) started. The results of PLC-1 were published in BSEP No. 20 in 1987.

As the first stage of the project revealed an urgent need to harmonise the national pollution monitoring and evaluation methodologies, the harmonised methodological Guidelines were elaborated for the second stage of the project (PLC-2) aiming at the basic coverage of the major land-based pollution sources and defined the measuring period (the year of **1990**), pollution sources, parameters to be controlled, principles for flow measurements and sampling, methods of chemical analysis as well as calculation and estimation methods and reporting formats.

The results of the Second Baltic Sea Pollution Load Compilation were published by the Commission in 1993 (BSEP No. 45). The Report contains the generalized data **characterizing** the major pollution sources and loads with respect to nine sub-regions of the Baltic Sea and the Baltic Sea as a whole. Tables illustrating the loads of **BOD₇**, tot-P and tot-N in 1990 are presented in Figures 8, 9 and 10.

Though the results of PLC-2 were still far from desirable, the second stage of the Project was a definite step forward as it provided more reliable data on total loads on the Baltic Sea than the first compilation. Moreover, in the course of the project it became possible to improve the reporting and to collect more detailed data than originally intended.

PLC-2 also provided a valuable experience to be taken into account in preparation of the next stage of the Project, PLC-3.

One of the main lessons from PLC-2 was an urgent need to establish a quality assurance system before the next stage of the Project could start. The programme of Interlaboratory Comparison Tests was, therefore, prepared and approved by the TC.

The Guidelines for PLC-3, which will be performed during 1995-1997, were adopted by the Technological Committee in November 1993 and are aimed at preparation of the next Pollution Load Compilation that might serve to a wider extent the purposes of HELCOM Programme Implementation Task Force, Technological Committee and Environment Committee.

The Project is coordinated by the ad hoc Expert Group on Pollution Load Compilation of the Baltic Sea (TC POLO).

6.6 IMPLEMENTATION CONTROL

The Commission established a unified follow-up procedure according to which the Contracting Parties periodically perform obligatory reporting on pollution load entering the Baltic Sea for their territories and on national implementation of agreed preventive and reduction measures of specific Recommendations.

Obligatory reporting is exercised within the Commission every third year. For this purpose the Technological Committee has elaborated unified reporting formats for the 50 % reduction part of the Ministerial Declaration 1988 and for each HELCOM Recommendation related to reduction of land-based pollution.

The results of the first comprehensive reporting round were presented to the 12th meeting of the Commission in February 1991. The compiled information on the status of 50 % reduction in 1990 was published in 1991 as attachment to the annual activity report of the Commission (BSEP No. 37).

The second status report of the implementation of the Declaration 1988 and related HELCOM Recommendations was submitted to the Ministers as a separate document to be considered at HELCOM 15, 8-11 March 1994, in Helsinki.

Figure 8. Organic matter (BOD₇) load entering the Baltic Sea in 1990 (t/a)

Sub-region*	Rivers	Urban Areas	Industries	Total
BOB	79792.9750	2 730.5000	18 457.0000	100 980.4750
BOS	88536.1300	1 055.3000	58 298.0000	147 889.4300
ARC	7 780.0000	741.7000	202.0000	8 723.7000
GUF	201 934.9000	70027.2400	14323.8800	286 286.0200
GUR	101 806.9000	38923.4000	862.6070	141 592.9070
BAP	> 529 861.6200	> 60 002.9794	19336.2216	> 609 200.82 10
WEB	> 4 528.2600	20 804.4326	24 141.9754	> 49 474.6679
sou	> 488.9400	8 147.7683	> 8 021.6627	> 16 658.3710
KAT	> 23 425.7650	4843.1191	11 055.3865	> 39 324.2706
Total	> 1038 155.4900	> 207 276.4393	> 154712.9332	> 1 400 144.8626

* BOB = Bothnian Bay BOS = Bothnian Sea ARC = Archipelago Sea GUF = Gulf of Finland
 GUR = Gulf of **Riga** BAP = Baltic Proper WEB = Belt Sea and Western Bays
 SOU = The Sound KAT = Kattegat

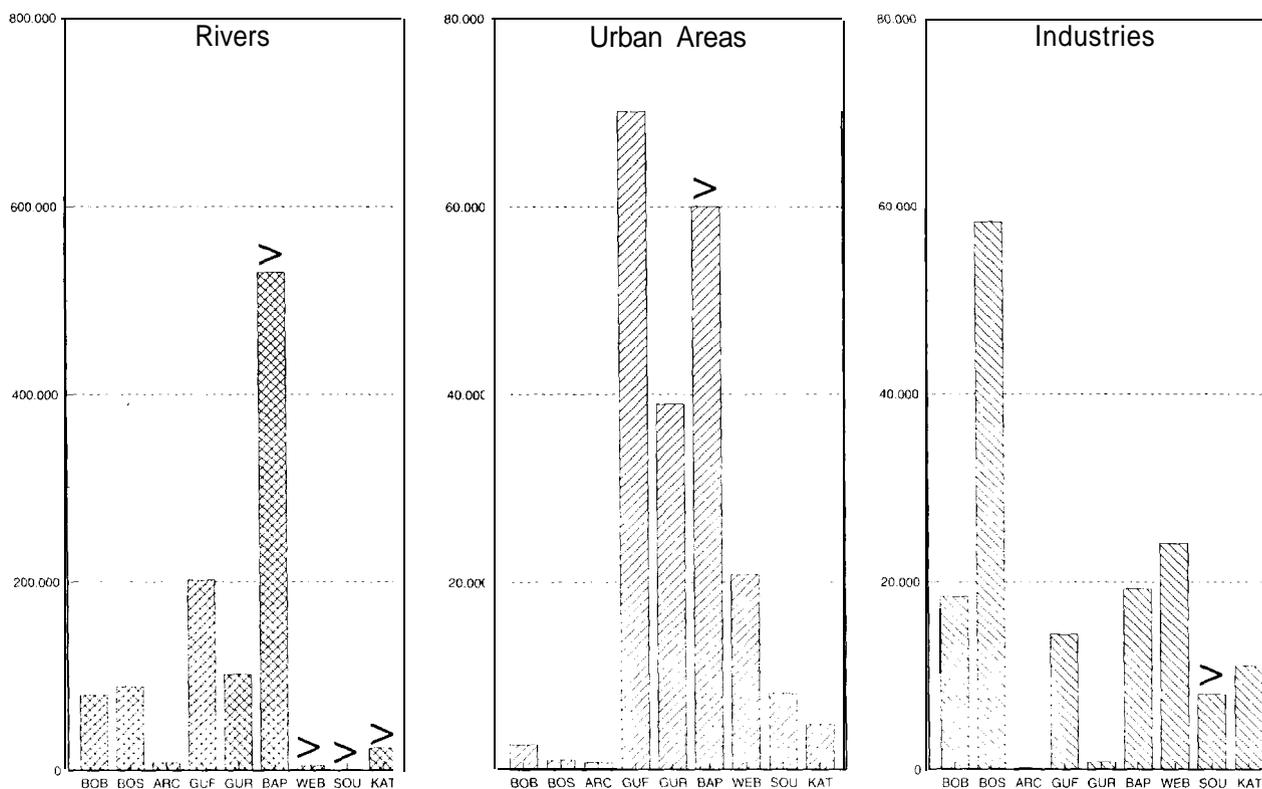


Figure 9. Total Phosphorus load entering the Baltic Sea in 1990 (t/a)

Sub-region*	Rivers	Urban Areas	Industries	Total
BOB	2 134.1500	49.2000	162.1190	2 345.4690
BOS	1 850.6400	56.0000	355.8570	2 262.4970
ARC	664.0000	30.9000	139.5300	834.4300
GUF	7 64 1.7000	4 078.1060	70.2950	11 790.1010
GUR	2 704.9000	649.4600	34.2800	3 388.6400
BAP	> 14 158.1300	2 902.2010	746.9300	> 17 807.2610
WEB	1 699.2300	964.1658	123.9090	2 787.3048
s o u	223.9800	1 558.1920	100.1010	1 882.2730
KAT	2 283.3000	327.68 10	117.8700	2 728.85 10
Total	> 33 360.0300	10 615.9058	1 850.8910	> 45 826.8268

* BOB = Bothnian Bay BOS = Bothnian Sea ARC = Archipelago Sea GUF = Gulf of Finland
 GUR = Gulf of Riga BAP = Baltic Proper WEB = Belt Sea and Western Bays
 SOU = The Sound KAT = Kattegat

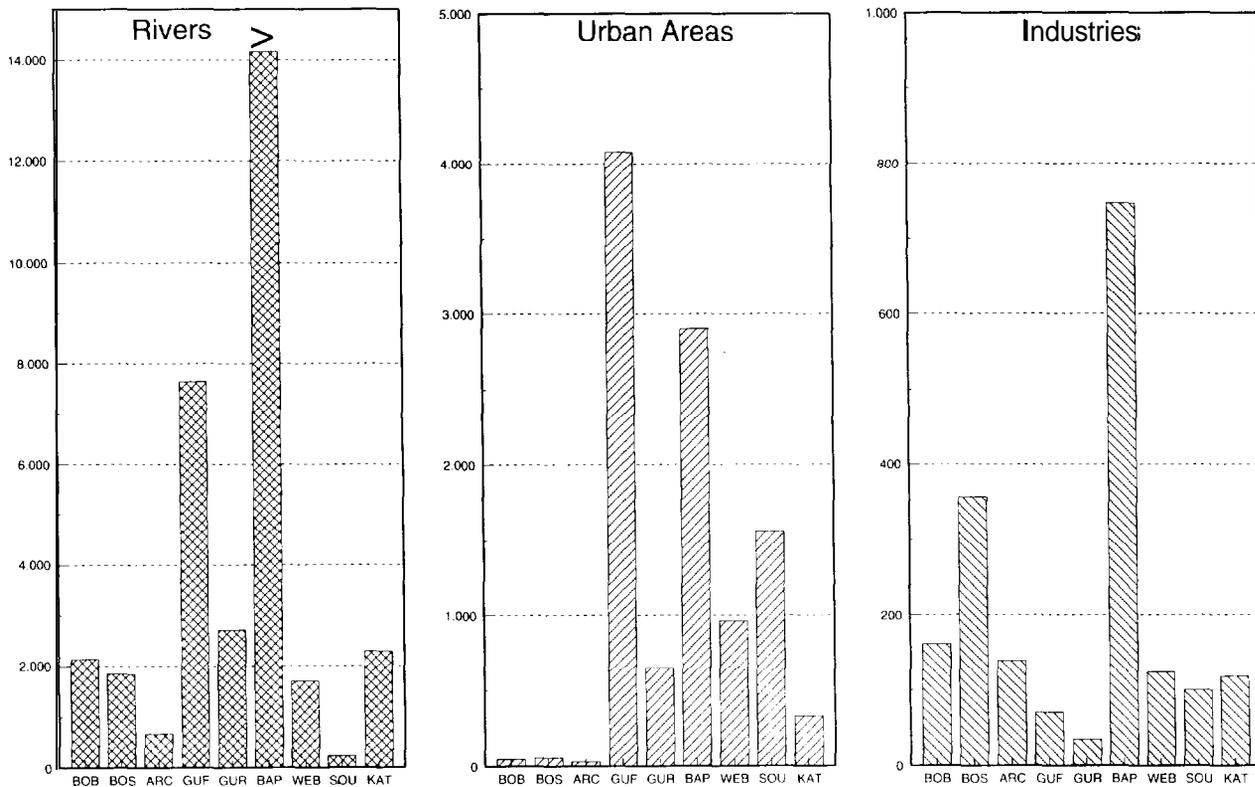
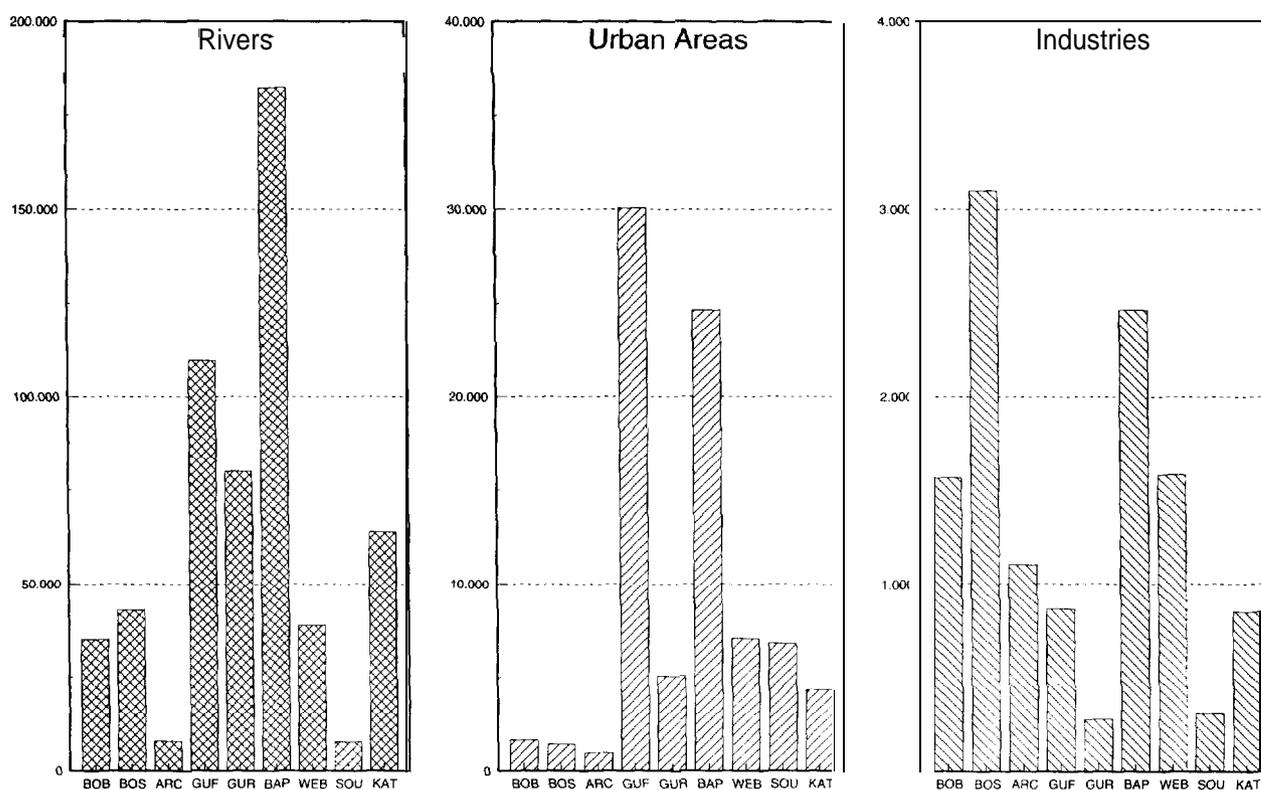


Figure 10. Total Nitrogen load entering the Baltic Sea in 1990 (t/a)

Sub-region *	Rivers	Urban Areas	Industries	Total
BOB	35 033.7000	1 629.5000	1 567.4260	38 230.6260
BOS	42 985.0000	1 398.6000	3 096.9840	47 480.5840
ARC	7 870.0000	939.5000	1 101.0960	9 910.5960
GUF	109 529.5000	30 045 .0000	867.9050	140 442.4050
GUR	79 965.8000	5 060.5000	28 1.0900	85 307.3900
BAP	182 136.1800	24 660.1750	2 462.8 100	209 259.1560
WEB	38 821.0000	7 071.9739	1 582.9420	47 475.9159
s o u	7 591 .0000	6 815.1100	311.1370	14 717.2470
KAT	63 806.0000	4 373.7970	85 1.4680	69 03 1.2650
Total	567 738.1800	81994.1559	12 122.8580	661855.1939

* BOB = **Bothnian** Bay BOS = **Bothnian** Sea ARC = Archipelago Sea GUF = Gulf of Finland
 GUR = Gulf of **Riga** BAP = Baltic Proper WEB = Belt Sea and Western Bays
 SOU = The Sound KAT = Kattegat



HELCOM
 Second Pollution Load Compilation (PLC-Z)

6.7 CONCLUSIONS AND SOME REMARKS ON FUTURE

The Helsinki Convention 1974 laid down fundamental principles and goals for abatement of land-based pollution and left it to the Commission to develop the standards and common control instruments. Proposals for the Commission in this field have been prepared within the technological field, starting from creating a necessary basis for cooperative action, primary consideration of definitions of terms and phrases and establishing of appropriate system for data collecting.

A wide range of regulations aimed at elimination or reduction of individual harmful substances or pollution from specific land-based sources has been developed.

Land-based sources of major environmental concern have been identified for urgent preventive action. Consideration of them in detail is starting from limiting values for noxious substances and continuing to regulations and technological means in combination with effluent standards. The concepts of Best Available Technology (BAT) and Best Environmental Practice (BEP) as well as the Precautionary Principle are at present applied as the basic principles for technological preventive action. The procedure of collection of discharge data and evaluation of the pollution load to the Baltic Sea was established and the first steps have been taken to prepare the third pollution load compilation in the mid 1990s.

As a general remark to the whole work in the technological field, it should be noted that in the course of time the regulations elaborated by the Technological Committee become more detailed and strict and encompass a wide scope of technical details agreed upon unanimously. As the stricter emission standards always entail certain financial implications, the considerations within the TC require patient negotiations between the countries and **sometimes** proceed not so fast as desirable.

However, if one would recall that after signing of the Helsinki Convention in 1974 the cooperative activities in the technological field had to be developed without previous experience, the progress achieved during the past years should be regarded as remarkable.

The regulations adopted by the Commission since 1980 for elimination or restriction of land-based pollution laid a basis for detailed technical provisions of the 1992 Helsinki Convention related to harmful substances, definitions of BAT and BEP, discharge permitting procedure and criteria and measures to reduce pollution from land.

Cooperative efforts to reduce the pollution load entering the Baltic Sea from identified priority land-based sources, whether waterborne or airborne, will be focused by the Technological Committee in the years to come and comprise, in particular, the following areas:

- further efforts to minimize the use and emissions of toxic, persistent and bioaccumulating halogenated organic compounds, e.g., by substitution of this kind of compounds by less harmful substances and technical installations;

- step-wise limitation of nitrogen input from municipalities;

- specific measures for industrial waste water discharged to the combined municipal sewerage systems in order to reduce the discharges of harmful substances of non-domestic origin that cannot be eliminated at municipal sewage water treatment plants;

- establishment of specific reduction targets for main agricultural loss categories (ammonia **volatilization**, leaching of nitrogen and phosphorus, farm waste discharges);
- reduction of nutrient losses from agriculture, e.g., by improvement of storage facilities and environmentally balanced fertilization based on Best Environmental Practice;
- reduction of pollution from traffic, especially with regard to lead, **NOx** and PAH emissions, in close cooperation with the Baltic Sea Conference of Ministers⁸ of Transport;
- development of a Code of Conduct for measures for environmentally sound management of hazardous **wastes** as an interim arrangement within HELCOM pending the entering into force of the **Basel** Convention throughout the whole Baltic Sea Region;
- preparation of the Third Baltic Sea Pollution Load Compilation;
- effective follow-up of the national compliance with HELCOM decisions and recommendations.

7. ACTIVITIES IN THE FIELD OF THE MARITIME COMMITTEE

Before starting describing the activities of the Maritime Committee it should be underlined that shipping is international by nature. In order to eliminate collisions between national regulations, the shipping community sought internationally accepted rules concerning shipping activities. Therefore, regulations related to the protection of the marine environment from pollution by ships must also be dealt with on a worldwide international level. It should also be stated that protective measures for regional sea areas, such as the Baltic Sea Area, should be applied by all ships including those not flying the flags of the states bordering the area in question. Thus, the International Maritime Organisation (IMO) is the most appropriate international forum for dealing with these matters. Therefore, the Baltic Sea States have to cooperate closely with IMO to promote the elaboration of international rules, beneficial for the protection of the Baltic Sea Area as well as to implement in a harmonised way the global regulations adopted by IMO. On the other hand, it is also essential to develop regional measures, particularly regarding harmonized implementation of global regulations, their enforcement and control of compliance with these regulations.

These principles are reflected in the text of the Helsinki Convention.

Matters related to prevention of pollution from ships are regulated in Articles 7, 8 and Annex IV of the Helsinki Convention.

Article 7 stipulates that in order to protect the Baltic Sea Area from pollution by oil, other harmful substances, discharges of sewage and garbage from ships, the Contracting Parties shall take measures as set out in Annex IV of the Convention.

Annex IV of the Convention contains a set of detailed obligations concerning cooperation of the Baltic Sea States within IMO, effective and harmonised implementation of rules adopted by IMO, cooperation in investigating violations of the existing legislation on anti-pollution measures, application of Annexes I (oil), II (noxious liquid substances), III (harmful substances in packaged forms) and V (garbage) of the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto (MARPOL 73/78). Since Annex IV (sewage) of MARPOL 73/78 has not yet entered into force, the Helsinki Convention provides detailed provisions concerning discharge of sewage, facilities for reception of sewage, surveys and Sewage Pollution Prevention Certificate.

In accordance with Article 7 the Contracting Parties shall also develop and apply uniform requirements for the capacity and location of facilities for the reception of residues of oil and other harmful substances including sewage and garbage.

In Article 8 the Contracting Parties are obliged to take special measures in order to abate harmful effects on the marine environment from pleasure craft activities. The measures shall, *i.a.*, deal with adequate reception facilities for wastes from pleasure craft.

Annex IV of the Helsinki Convention has been amended by the Helsinki Commission several times in the light of developments at IMO.

After the signing of the Helsinki Convention in 1974 the Interim Commission for the Protection of the Marine Environment of the Baltic Sea Area

established a Maritime Working Group to deal with early implementation of the maritime and combatting provisions of the Helsinki Convention. Before the entry into force of the Convention the Group had held five meetings and had elaborated proposals in the maritime and combatting fields for decisions to be taken at the first meeting of the Helsinki Commission. At its third meeting, in February 1982, the Helsinki Commission established the Maritime Committee, successor of the Maritime Working Group, with the main tasks to implement **the** maritime provisions of the Helsinki Convention and to coordinate actions of the Baltic Sea States at IMO (former IMCO) aimed at enhancing the protection of the marine environment of the Baltic Sea Area as well as at exchanging information and evaluation of information presented by the Contracting Parties on the implementation and enforcement of anti-pollution measures.

The Maritime Committee has been - and still is - assisting the Commission in taking decisions in the maritime field, **i.a.**, in matters related to operational discharges from ships, airborne pollution, the use of reception facilities, maritime safety, pleasure craft, control measures and investigations of violations and cooperation with international organizations, in particular with IMO.

On the basis of the Committee's proposals the Commission, at its ninth meeting, approved the Long-Term Programme for the work of the Maritime Committee. The Programme transferred into practical language of activities of the Maritime Committee and target dates for completion of different **topics** are updated every year at the Committee meetings.

In performing its duties the Committee has established working/expert groups, inter-alia on reception facilities, traffic information system, air pollution from ships, to consider specific items and to provide the Committee with proposals for decisions.

At its meetings, the Committee either provides the Commission with proposals for decisions mainly in a form of draft HELCOM Recommendations or agrees upon joint initiatives of the Baltic Sea States at IMO. The Committee takes also decisions on issues which do not require actions by the Commission.

The work of MC differs from that of the other HELCOM Committees, particularly in two aspects:

the prevention of pollution from ships requires binding regulations covering waters under national jurisdiction as well as the high seas; as shipping is international by nature, relevant regulations must be applied by all ships, i.e. also by those ships not flying the flag of a state bordering the Baltic Sea.

As a consequence the main tasks of MC must be to promote the adoption of appropriate international regulations of IMO and to look for their effective and harmonised implementation by the Baltic Sea States.

7.1 OPERATIONAL DISCHARGES FROM SHIPS

In the beginning it should be stated that remarks under this sub-item are restricted to measures related to a ship herself. Therefore, the actions described under the sub-item concerning reception facilities and referring to operational discharges in the "special areas" have also relevance to the activities of the Commission regarding operational discharges from ships.

7.1.1 The Baltic Sea Area - a "special area" under MARPOL 73/78

Due to its sensitivity, the Baltic Sea Area is **recognized** as a "special area" under Annexes I, II and V of MARPOL 73/78. In "special areas" anti-pollution requirements are much stricter than elsewhere.

One of the main purposes of Annex I of MARPOL 73/78 is to prevent operational discharges of oily water both from machinery spaces of all ships and from cargo spaces of **oil tankers**. When a ship operates within a "special area" the oil content of discharged wastes is limited to less than 15 ppm. Tankers operating in a "special area" may discharge only segregated or clean ballast. The good experiences gained from the application of the 15 ppm principle in "special areas" resulted in the extension of this principle to other sea areas.

In Annex II of MARPOL 73/78 noxious liquid substances are **categorized** into four groups, i.e. categories A, B, C and D by the order of severity of the hazards they may present if introduced into the marine environment. The discharge of tank washings containing category A substances into the sea is prohibited. The discharge of substances containing category B and C is prohibited in "special areas", except when special conditions laid down in Annex II are fulfilled. These conditions for "special areas" are more stringent than for other sea areas. The discharge of category D substances is prohibited in all sea areas, except when special conditions stipulated in Annex II are fulfilled.

In Annex V of MARPOL 73/78 the discharge of all garbage, except for food wastes, into the sea within 12 nautical miles from the nearest land is prohibited in a "special area".

These principles are reflected in Annex IV of the Helsinki Convention, and the Contracting Parties have undertaken to implement the obligations on "special area" issues arising from relevant Annexes of MARPOL 73/78.

7.1.2 Oil

The Maritime Committee has elaborated a number of Recommendations concerning prevention of discharge of oil from ships which have been adopted by the Commission. The following HELCOM Recommendations are still valid:

HELCOM Recommendation 1/2 - the application by the Baltic Sea States of IMCO Resolution **A.393(x)**; recommendation on international performance and test specifications for oily-water separating equipment and oil content meters

HELCOM Recommendation 2/3 - the application by the Baltic Sea States of specifications for process units intended for attachment to existing oily-water separating equipment

HELCOM Recommendation **4/2** - the use and recognition of the revised forms of International Oil Pollution Prevention (IOPP) Certificate and Oil Record Book agreed by IMO

HELCOM Recommendation **7/8** - the application by the Baltic Sea States of IMO Resolution **A.586(14)**; revised guidelines and specifications for oil discharge monitoring and control systems for oil tankers as amended by IMO Resolution **MEPC.24(22)** and amendments to IMO Resolution **A.393(x)** on international performance and test specifications for oily-water separating equipment and oil content meters as contained in IMO Resolution **MEPC.24(22)** (this Recommendation supplements Recommendation 1/2)

HELCOM Recommendation 14/6 - guidelines for the minimum throughput of oily-water separating equipment on board ships.

HELCOM Recommendations **1/2, 2/3, 4/2** and **7/8** are aimed at harmonised application by the Contracting Parties of the instruments implementing Annex I of MARPOL **73/78** adopted by IMO which concern:

International Performance and Test Specifications for Oily-water Separating Equipment and Oil Content Meters;
Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers;
the use of the form of "Certificate of Type Approval for Oil Content Meters Intended for Monitoring the Discharge of Oil Contaminated Water from the Cargo Tank Areas of Oil Tankers";
the use of forms of International Oil Pollution Prevention (IOPP) Certificate and Oil Record Book.

In Recommendation **14/6** concerning the guidelines for the minimum throughput of oily-water separating equipment on board ships the Contracting Parties are recommended, while awaiting for the guidelines to be approved by IMO, to apply the HELCOM Guidelines for ships the keel of which is laid on or after 1 October 1993.

In the coming years the activities of the Maritime Committee will be focused on harmonized implementation of the IMO decisions affiliated to Annex I of MARPOL **73/78**, exchange of experiences of the Baltic Sea States concerning the designation of the Convention Area as a "special area" under the aforementioned Annex, consideration of the magnitude of legal and illegal discharges and standards for fuel oil quality as well as standards for cleaning agents used for cleaning purposes in engine rooms.

7.1.3 Noxious liquid substances

The HELCOM regulations concerning noxious liquid substances entered into force earlier than Annex II of MARPOL **73/78**. Therefore, the provisions of the said Annex have been applied in the Convention Area before their application at worldwide level. The Commission has adopted the following HELCOM Recommendations referring to this subject:

HELCOM Recommendation 6/8 - the implementation of Regulation 5 of Annex IV of the Helsinki Convention

HELCOM Recommendation 6/10 - the application by the Baltic Sea States of IMO Resolution **A.544(13)** on standards for procedures and arrangements called for by Annex II of MARPOL **73/78**

HELCOM Recommendation 6/12 - the application of IMO's International Bulk Chemical Code (IBC Code) and IMO's Bulk Chemical Code (IMO Assembly Resolution **A.212(VII)** including ten sets of amendments) (BCH Code)

HELCOM Recommendation 7/6 - the implementation of Regulation 5 of Annex IV to the Helsinki Convention, supplementing Recommendations **6/8, 6/9** and **6/10**.

The main purposes of these Recommendations were to apply in a harmonized way the relevant IMO's instruments called for in Annex II of MARPOL **73/78**, i.e. BCH Code, form of Cargo Record Book and the Standards for Procedures and Arrangements for the Discharge of Noxious Liquid Substances.

The future work of the Maritime Committee in relation to noxious liquid substances will be concentrated on harmonized implementation of IMO decisions affiliated to Annex II of MARPOL 73/78, exchange of experiences from the designation of the Baltic Sea Area a MARPOL 73/78 "special area" as well as on matters related to discharges, pumping, piping and unloading requirements, Cargo Record Book and control measures.

7.1.4 Packaged goods

Annex III of MARPOL 73/78 concerning Regulations for the Prevention of Pollution from Harmful Substances Carried by Sea in Packaged Forms, or in Freight Containers, Portable Tanks or Road and Rail Wagons contains a set of obligations which should be applied by all ships carrying harmful substances in packaged forms. Such carriage of harmful substances is prohibited, except in accordance with the provisions of this Annex. Regulations refer to packaging of harmful substances, marking and labelling, documentation, storage and quantity limitations.

The following HELCOM Recommendations have relevance to this sub-item:

HELCOM Recommendation 1/3 - the adoption by the Baltic Sea States of the International Maritime Dangerous Goods Code

HELCOM Recommendation 1/13 - requirements in respect of loading and unloading of harmful substances in packaged forms.

It is worth mentioning that in the latter Recommendation the Contracting Parties are requested to implement the requirements laid down in the IMCO circular **MEPC/Circ.78** concerning inclusion of pollutants in the International Maritime Dangerous Goods Code (IMDG). In addition to this, the circular contains principles concerning the storage, packing, marking and labelling, documentation as well as a list of dangerous substances.

The Maritime Committee will continue its work on these issues, particularly in relation to evaluation of experience gained from the application of the relevant provision of Annex IV to the Helsinki Convention and harmonized implementation of the decisions taken by IMO.

7.1.5 Sewage

Discharge of sewage into the Baltic Sea Area is prohibited, except when:

the ship is discharging comminuted and disinfected sewage at a distance of more than four nautical miles from the nearest land or sewage which is not comminuted or disinfected at a distance of twelve nautical miles from the nearest land, provided that in any case the sewage that has been stored in holding tanks shall not be discharged instantaneously but at a moderate rate when the ship is en route and proceeding at not less than four knots; or

the ship has in operation a sewage treatment plant which has been approved by the Administration; or

the ship is situated in waters under the jurisdiction of a state and is discharging sewage in accordance with such less stringent requirements as may be imposed by such state. The Contracting Parties are obliged to provide ships with adequate facilities for reception of sewage and to enable pipes of these facilities to be connected with the ship's discharge pipeline and both lines are fitted with a standard discharge connection as required by Annex IV of the Helsinki Convention.

The following HELCOM Recommendations relate to discharges of sewage:

HELCOM Recommendation 1/4 - the application by the Baltic Sea States of Resolution **MEPC.2(VI)**; recommendation on International Effluent Standards and Guidelines for Performance Tests for Sewage Treatment Plants

HELCOM Recommendation 1/5 - the application by the Baltic Sea States of guidelines for type testing and approval of sewage treatment systems

HELCOM Recommendation 1/15 - the application of certain provisions on sewage

HELCOM Recommendation 11/9 - national regulations on the discharge of sewage in national waters

HELCOM Recommendation 11/10 - guidelines for capacity calculation of sewage systems on board passenger ships.

Recommendations 1/4 and 1/5 refer to the relevant IMO instruments. In Recommendation 11/9 the Contracting Parties are recommended to implement the provision on discharge of sewage of Annex IV of the Helsinki Convention with respect to all ships, irrespectively of their nationality, sailing in their national waters (internal waters, territorial seas).

Recommendation 11/10 contains guidelines for capacity calculation of sewage systems which should apply to passenger ships engaged in voyages with a length of more than 24 hours. The Guidelines deal with black and grey water.

Regarding the application of a provision on discharge of sewage from small vessels, the Maritime Committee decided on a unified interpretation of the said provision.

The following items related to discharges of sewage are under consideration by the Maritime Committee:

application of provisions on discharge of sewage from passenger vessels, including grey water. At its 19th meeting the Maritime Committee decided to conduct a study concerning discharges of sewage and grey water from passenger vessels in view of a possible amendment to Annex IV of the Helsinki Convention;
evaluation of experience gained from the application of the provisions on discharges of sewage.

7.1.6 Garbase

HELCOM Recommendation 14/7 concerning guidelines for provisions of facilities for the handling, storage and processing of shipboard garbage recommends the Contracting Parties to apply, while awaiting the Guidelines approved by IMO, the HELCOM Guidelines for ships the keel of which is laid on or after 1 October 1993 and for existing ships as far as possible.

The work of the Maritime Committee will be focused on exchanging of experience in application of the provision on discharge of garbage of the Helsinki Convention as well as the IMO Guidelines for implementation of Annex V (garbage) of MARPOL 73/78.

The Committee will also consider matters related to discharges of remnants from fish processing units.

7.1.7 Air pollution from ships

Even though air pollution from ships is not explicitly mentioned in the Convention text it should be noted that this type of pollution is a part of operational discharges from ships. Therefore, the Helsinki Commission established under the authority of the UC an **ad hoc** Working Group on Air Pollution from Ships (MC AIR) to deal with these matters.

The main aims for the Group are to:

- asses the need and the possibility for reduction of air pollution from ships;
- elaborate standards and criteria for the abatement of air pollution from ships;
- elaborate, collect and review methods, measures and techniques to reduce air pollution from ships;
- consider possible joint actions by the Baltic Sea States with regard to submissions to IMO.

The work of the Group is divided into two levels:

measures to be proposed at IMO for application at global level; and preliminary regional measures for the Baltic Sea Area.

It should be underlined that the Group has provided IMO with substantial contributions concerning global measures against air pollution from ships.

The Group elaborated proposals for two HELCOM Recommendations, which have been later adopted by the Commission and refer to global measures, i.e.

HELCOM Recommendation 11/11 - measures to reduce emissions of harmful chlorofluorocarbons from ships

HELCOM Recommendation 11/12 - reduction of air pollution from ships.

They recommend to the Governments of the Contracting Parties to cooperate within IMO to promote early and effective global measures for minimizing air pollution from ships, concerning, **i.a.**, development of suitable quality standards for heavy fuel oil, reduction of emissions of nitrogen and sulphur oxides as well as prohibition of the use of R-11, R-12 and other harmful chlorofluorocarbons on new ships.

The Group has also elaborated joint comments on the text of a new annex on prevention of air pollution from ships to MARPOL **73/78** concerning regional control options for SO, and NO, and technical requirements for new engines to deal with NO,.

Comments by the Baltic Sea States, particularly regarding the recognition of the Baltic Sea as a "special area" in the new annex to MARPOL **73/78** on prevention of air pollution from ships, are still under consideration at IMO. Therefore, the main aim of the Group is to provide the relevant bodies of IMO dealing with this issue with strong argumentation concerning the sensitivity of the Baltic Sea and its drainage area as well as on the necessity of the introduction of strict regulations to reduce air-borne pollution from ships in the region.

HELCOM Recommendation **13/15** concerning early measures to reduce sulphur in marine fuel oils in the Baltic Sea Area deals with regional measures and is also aimed at facilitating the introduction of global measures. It recommends

the Contracting Parties, *i.a.*, to encourage both the industries to supply and the shipowners to use marine fuel oils with a sulphur content as low as possible, but not exceeding 1.5 % by weight, as well as to conclude, not later than 1 January 1995, bilateral agreements for ships trading in the Baltic Sea in regular traffic between the two countries involved to use only marine fuel oils with a sulphur content not exceeding 1.5 % by weight.

At its 14th meeting, the Helsinki Commission adopted HELCOM Recommendation 14/8 concerning an additional new regulation to Annex IV of the Helsinki Convention on the prohibition of incineration of ship-generated wastes on board ships in the territorial seas of the Contracting Parties. This prohibition will be applied to any incineration of ship-generated wastes on board ships irrespective of their nationality.

Further actions with respect to prevention of air pollution from ships will cover the initiation of joint actions at IMO, particularly regarding the improvement of fuel oil quality, reduction of other harmful components in exhaust gases, use of chemical compounds as medias known to effect ozone layer, ventilation of vapours from hydrocarbons and other environmentally harmful fluids, emissions of exhaust gases from incinerators for ship-generated wastes as well as the harmonised implementation of global decisions at regional level.

The Maritime Committee is also expected to elaborate an evaluation report on air pollution from ships in the Baltic Sea Area.

7.2 RECEPTION FACILITIES

It should be mentioned first that in the Baltic Sea Area there is a sufficient number of facilities for reception of residues of oil and harmful substances other than oil, including sewage and garbage. Thus the Convention Area is **recognized** as a "special area" under Annexes I, II and V of MARPOL 73/78.

More than 210 such facilities are provided within the Convention Area. The majority of ports have a mobile reception system, and on a mobile system the port authority is normally in charge of necessary equipment. Some 63 ports have fixed and stationary reception facilities for oily residues. The fixed reception facilities are equipped with standard connections and necessary hoses for operation of the facilities.

In port8 where noxious liquid substances of categories A, B or C are unloaded facilities are provided for the reception of such residues of cargo unloaded.

Garbage from ships is usually collected into containers.

As it is mentioned before, Annex IV of the Helsinki Convention provides a set of detailed obligations concerning discharge of sewage, since Annex IV (sewage) of MARPOL 73/78 has not yet entered into force.

Ports in the Baltic Sea Area are equipped with fixed facilities for reception of sewage or they can provide a mobile reception system. In some ports reception facilities can be provided upon request by a ship.

Information on reception facilities for wastes from ships in the Baltic Sea Area is published in Baltic Sea Environment Proceedings No. 28, which is a unique publication in the world.

To achieve the goal of having adequate reception facilities the Helsinki Commission has adopted a set of HELCOM Recommendations obliging the Contracting Parties to take measures aimed at the implementation of the relevant provisions of the Helsinki Convention.

The following Recommendations are still valid:

HELCOM Recommendation 1/1 - measures to ensure the use of reception facilities for wastes

HELCOM Recommendation **1/12** - standard discharge connections

HELCOM Recommendation **7/7** - recording of fuel oil bunkering operations in the Oil Record Book and documents for the use of reception facilities

HELCOM Recommendation 10/5 - guidelines for the establishment of adequate reception facilities in ports

HELCOM Recommendation 10/6 - application by the Baltic Sea States of a Helsinki Convention form for reporting alleged inadequacy of reception facilities for sewage

HELCOM Recommendation 10/7 - general requirements for reception of wastes.

These Recommendations contain the basic background for the Contracting Parties in fulfilling the requirements for reception facilities laid down in the Helsinki Convention. Recommendations 1/1 and 1/2 are of the basic nature, and in **fact** they stipulate general obligations arising from the Convention itself.

Recommendation 7/7 recommends, **i.a.**, to the Governments of the Contracting Parties to advise all the persons in charge of the use of reception facilities (that refers to ships and operators of the reception facilities) to obtain from the operator of a reception facility a receipt or certificate detailing the quantity of tank washing, dirty ballast, residues of oily mixtures transferred together with the time and date of the transfer.

This information may assist the master of a ship in clarifying that a ship was not involved in an alleged pollution in the Convention Area.

In Recommendation 10/5 the Governments are recommended, **i.a.**, to

require from those responsible for reception facilities where noxious liquid substances are unloaded to receive the tank washing resulting from the application of pre-wash procedures;

ensure that no tankers are loaded at places where no adequate arrangements have been made for the reception of ballasts or tank washings containing **cargo** residues of noxious liquid substances which might have been removed from the ship in order to enable loading to be carried out;

- ensure that no tankers are repaired at places where no adequate arrangements have been made for the reception of ballast water or tank washings containing cargo residues of noxious liquid substances which has to be removed from the ship in order to enable repair work to be carried out;
- promote the use of shore reception facilities for residues and wastes from ships by making such facilities and services available at reasonable cost or without charging special fees to the individual ships.

In addition to IMO formats for reporting of alleged inadequacy of facilities for reception of oily wastes and garbage, as well for reporting of difficulties encountered in the disposing of residues/water mixtures containing noxious liquid substances, in Recommendation 10/6 the Governments of the Contracting Parties are recommended to apply a format on inadequacy of reception facilities for sewage. Furthermore, in addition to the IMO procedures for reporting, the Governments of the Contracting Parties to the Helsinki Convention should

evaluate each report received and, where the allegation is considered justified, inform the Contracting Parties in question and submit a summary report to the Secretariat of the Helsinki Commission; submit, when receiving such information from a Contracting Party, comments or other information on the alleged inadequacy to the Contracting Party which has submitted the report and to the Secretariat of the Helsinki Commission.

The Secretariat is requested to distribute this information to all the Contracting Parties.

General requirements for reception facilities are set up in Recommendation 10/7. It provides the Governments with basic guidelines for reception of oily wastes (ballast water and tank washings, oily bilge water and sludge), noxious liquid substances carried in bulk, sewage, garbage and residues containing other harmful substances as well as with obligations which should be followed by a port authority and by a ship requesting the use of a reception facility.

The firm basis to consider further measures for developing uniform requirements for reception facilities was laid down by the Seminar on Reception Facilities in Ports, which was held in Turku Finland, 16-19 November 1992. On the basis of the conclusions by the Seminar the Maritime Committee highlighted the following problems which should be considered and solved in the HELCOM context:

Technical problems on board ships

As the treatment costs of waste mixtures may be very high, ships should be encouraged not to mix different types of chemicals, garbage or oily wastes with detergents. Therefore, there is a need for a common categorisation and separation of garbage on board ships to **economize** and to facilitate the reception and treatment ashore.

Infrastructure in ports

Due to some inadequacy of reception and treatment facilities a new detailed inventory of available reception, storage and pretreatment facilities should be carried out in the HELCOM context.

Exchange of surveillance information between ports

An interport information system should be developed in order to enable the competent authorities to cooperate in monitoring that the shipping activities are in compliance with the relevant regulations of MARPOL 73/78 and the Helsinki Convention.

The fee system

The fee system is the basic element for encouraging ships to use reception facilities and not to discharge their wastes directly to the sea.

Actually there are at least three fee systems in the Baltic Sea Area (special fee, no special fee, free of charge reception). The high fees charged for the reception of wastes together with insufficient surveillance and different

practices in bringing evidence to court may cause that some ships discharge their wastes illegally into the Baltic Sea or into the North Sea. Therefore, an attempt should be made to develop a system in which the costs for the use of reception facilities would not differ too much between ports, and the system should be neutral to commercial competition.

Reception facilities for wastes from pleasure craft

Establishment of adequate reception facilities for pleasure craft is explicitly stipulated in Article 9 of the 1992 Helsinki Convention, and measures related to the implementation of this provision should be one of the topics to be considered in the future.

Consequently, the Maritime Committee decided that there is a need to develop a general Baltic Strategy for ship-generated wastes which should cover all stages relating to the handling of wastes, such as possible storage, pretreatment, transportation, final treatment and disposal. Being authorized by the Commission, the Maritime Committee reconvened the Working Group on Reception Facilities with the aim to elaborate a Baltic Sea States Strategy for the use of port reception facilities.

7.3 PLEASURE CRAFT

At its ninth meeting, the Helsinki Commission adopted HELCOM Recommendation **9/11** concerning guidelines for the establishment of national counter-pollution measures regarding pleasure craft. The guidelines contain a list of items arising from Annex IV of the Helsinki Convention, in particular the use of reception facilities which should be taken as a basis in national counter-pollution measures for pleasure craft. The guidelines identify also those provisions of **MARPOL 73/78** which are or could be applicable to pleasure craft.

Since the 1992 Helsinki Convention puts new obligations on the Contracting Parties in relation to introduction of measures against pollution from pleasure craft as well as to establishment of adequate reception facilities, the Maritime Committee will consider these issues in depth at its forthcoming meetings before the entry into force of the new Convention.

7.4 MARITIME SAFETY

In order to minimize accidental discharges from ships the Maritime Committee deals also with maritime safety. Upon the initiative of the Baltic Sea States IMO has adopted Resolution **A.339(IX)** on Navigation through the Entrances to the Baltic Sea and Resolution **A.427(IX)** on the use of **Pilotage** Services in the Sound, the first one being superseded by Resolution **A.620(15)**.

In accordance with Resolution **A.620(15)** ships over 40 000 tonnes dead weight when navigating through entrances to the Baltic Sea should, inter alia, not pass the area unless they have a draught with which it is safe to navigate and to participate in the radio position reporting system operated by the Government of Denmark as well as to use for passage the **pilotage** services established by the coastal states.

Resolution **A.579(14)** stipulates that loaded oil tankers, chemical tankers and gas carriers as well as ships carrying **certain types** of radioactive materials, when navigating in the Sound, should use the **pilotage** services established by the Governments of Denmark and Sweden.

In conformity with the aforementioned Resolution **A.620(15)** the Government of Denmark operates a radio position-reporting system, so-called SHIPPOS system.

The main purposes of the system are

- to **inform the** shipping about large ships' movements in order to avoid the risk of large ships meeting one another in the areas difficult to pass;
- to inform the shipping about navigational hazards en route;
- to notify the ferry traffic South of Sprog about the passage of large ships;
- to facilitate early and effective pollution combatting action in case of an accident;
- to **notify** the authorities immediately about deficiency which could affect the safe navigation and the marine and coastal environment.

Apart from the position reporting, the system also comprises incident reporting (deficiencies, accidents, spillages and observation of spillages).

The following HELCOM Recommendations refer to the maritime safety:

HELCOM Recommendation **1/6, 2/2** - the acceptance by the Baltic Sea States of **international instruments** on maritime safety, pollution prevention and related matters

HELCOM Recommendation 1/10 - a position reporting system for ships in the Baltic Sea Area

BELCOM Recommendation 12/5 - promotion of the use of safer tankers while carrying oil.

In accordance with HELCOM Recommendation 1/10 a Position Reporting System for Ships in the Baltic Sea Area (BAREP) was established on a trial basis for a period of three years. The system was recommended by IMO for the use also by ships not flying the flags of the Contracting Parties to the Helsinki Convention. The system was in operation from 1 July 1981 until 30 June 1985. Experiences gained **from the** system were submitted to the **IMO's** Maritime Safety Committee and are taken into account by the Contracting Parties in their national reporting systems.

In HELCOM Recommendation 12/5 the Contracting Parties are recommended to promote the use of environmentally safer **oil tankers** by reducing navigational or other similar fees for tankers equipped with double bottoms or otherwise arranged for efficient reduction of the accidental outflow of oil and also to cooperate with **IMO** in promoting development of international requirements on arrangements for retaining oil cargo on board tankers in the event of accidents resulting in outflow of oil.

The Baltic Sea States have also actively supported the work at **IMO's** Marine Environment Protection Committee (MEPC) on new constructional arrangements for tankers and the Maritime Committee coordinated the joint actions of the Contracting Parties with this respect. As a result of this work MEPC adopted at its 32nd session amendments to Annex I of MARPOL 73/78 concerning, inter alia, equipment requirements and introduction of new regulations 13F and **13G** dealing with the design of new tankers to be built on or after 6 July 1993, and measures to be taken with regard to existing tankers. The amendments entered into force on 6 July 1993.

The Committee will continue with actions concerning further measures related to maritime safety. Special emphasis will be put on reporting systems, deep

draught routes and traffic separation schemes, **pilotage** and hydrographic services, fairway safety and additional constructional arrangements for tankers.

7.5 OFFSHORE PLATFORMS

Presently, the offshore activities are not intensive in the Convention Area. There is one exploitation platform operating in the German territorial sea and one exploration platform operating in the Polish territorial sea. Nevertheless, the Maritime Committee in cooperation with the Combatting Committee undertook to introduce measures against pollution from these activities. As regards the maritime field the Commission adopted HELCOM Recommendation **14/9** on removal of abandoned and disused offshore units. According to this Recommendation the Contracting Parties should ensure that abandoned, disused and accidentally wrecked offshore units are entirely removed and brought ashore under the responsibility of the owner and that disused drilling wells are plugged. It should be mentioned that to great extent Annexes I and V of MARPOL **73/78** are also applicable to the offshore units.

An important task of the Committee in this field in the coming years will be the implementation of those provisions of Annex VI, Prevention of Pollution from Offshore Activities, of the 1992 Helsinki Convention which refer to the Committee's work.

7.6 CONTROL MEASURES AND INVESTIGATION OF VIOLATIONS

Cooperation in investigation of violations is one of the basic obligations set forth in the Helsinki Convention and it is under permanent consideration of the Maritime Committee. Two HELCOM Recommendations, i.e. **6/13** and **10/8**, refer to cooperation in investigating violations or suspected violations of discharge and related regulations for ships and dumping regulations. The Recommendations contain guidelines for cooperation and also reflect relevant IMO decisions (Resolution **A.542(13)** on procedures for the control of ships and discharges under Annex I of MARPOL **73/78**, Resolution MEPC **26/23** on procedures for the control of ships and discharges under Annex II of MARPOL **73/78**).

In the territorial seas of the Contracting Parties to the Helsinki Convention, the Guidelines are applicable to all ships, even those not flying the flags of the Baltic Sea States. Outside the territorial seas of the Baltic Sea States the Guidelines are applied to the Baltic shipping and under certain conditions to other ships violating dumping provisions of the Helsinki Convention.

When a Contracting Party receives a report that a discharge or dumping other than permitted under the Helsinki Convention or a discharge other than permitted under Annexes I, II and V to MARPOL **73/78** has occurred or is suspected to have occurred within the Baltic Sea Area, that Contracting Party should take the necessary steps to investigate the matter. However, situations when necessary information/evidence cannot be obtained by that Contracting Party itself may arise during a Contracting Party's investigation of an incident. In such cases the investigating Contracting Party can request other Contracting Parties to assist in obtaining the necessary information. When a Contracting Party receives a request for assistance that Contracting Party shall render legal or administrative assistance in order to produce the requested information and evidence to the extent possible and submit it to the requesting Contracting Party.

The Contracting Parties submit their national reports on statistical data concerning control measures and investigation of violations for consideration of the Maritime Committee every year. It should also be underlined that the activities of the Combating Committee regarding surveillance activities, modelling and drift forecasting play an important role in increasing the effectiveness of control measures. Therefore, the two Committees cooperate closely on these issues.

Studies on transportation patterns and risk estimation of bulk chemicals and packaged goods, published in the Baltic Sea Environment Proceedings No. 34 and 51, provide an essential background for relevant decisions concerning the improvement of effective cooperation of the Baltic Sea States in investigating violations of the anti-pollution measures laid down in Annexes II and III of MARPOL 73/78 (Regulations 2, 5 and 6 of Annex IV of the Helsinki Convention).

The Committee will focus on the strengthening of the cooperation of the Baltic Sea States in investigation of violations of anti-pollution regulations, bringing evidence to court and prosecution of offenders of anti-pollution regulations.

A common attitude of the Baltic Sea States could be reflected in a form of guidelines, *i.a.*, describing legal systems in the Convention Area and containing recommendations concerning recognition of the evidence collected by the Contracting Parties.

It is worth mentioning that this cooperation, irrespectively from the Baltic shipping, would also cover ships of other nationalities violating the provisions of MARPOL 73/78.

With respect to control measures against violations of anti-pollution regulations the Commission has established a cooperation scheme with the Memorandum of Understanding on Port State Control (MOU). This scheme will be briefly described below.

7.7 COOPERATION WITH OTHER INTERNATIONAL ORGANIZATIONS

According to Regulation 1 of Annex IV to the Helsinki Convention, the Helsinki Commission cooperates with the International Maritime Organisation (IMO) in promoting the development of international anti-pollution regulations and is also responsible for effective and harmonised implementation of the global rules in the Baltic Sea Area.

It could be noticed that many of the HELCOM Recommendations in the maritime field refer to the IMO decisions and are aimed at harmonized implementation of these instruments in the Convention Area.

Apart from these activities the Baltic Sea States coordinate at IMO joint actions on prevention of marine pollution. The major topics for coordinated actions in the maritime and combatting fields which have been taken by the Baltic Sea States within IMO are as follows:

- uniform interpretation of MARPOL 73/78 and amendments to MARPOL 73/78 with regard to, inter alia,
 - Oil Record Book
 - shipboard oil spill response plan including the Form thereof
 - IOPP Certificate;
- development of guidelines for shipboard oil pollution emergency plans;

prevention of oil pollution from machinery spaces: oily-water separators and monitors and fuel oil sludge;
implementation of Annexes III, IV and V of MARPOL 73/78 and amendments to the IMDG Code to cover pollution aspects;
provision of reception facilities (reception facilities for high density oils);
prevention of oil pollution from ships (new constructional arrangements for tankers);
prevention of air pollution from ships including fuel oil quality;
economic incentives for reduction of air pollution from ships;
adoption of the amendments to the list of substances annexed to the 1973 Intervention Protocol;
establishment of the Baltic Sea as a "special area" under Annex V of MARPOL 73/78;
development of the Manual on Chemical Pollution; Section 2 -Search and Recovery of Packaged Goods Lost at Sea;
development of the draft IMO Guidelines on Designation of Special Areas and Identification of Particularly Sensitive Areas;
follow-up of the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC) and the Resolutions by the OPRC Conference;
revision of the IMO Assembly Resolution on the Guidelines and Standards for the Removal of Offshore Installations and Structures in the Continental Shelf and Exclusive Economic Zone;
development of Guidelines for International Test Specifications for Quick-separating Detergents.

The Helsinki Commission decided to establish under the authority of the Maritime Committee the Baltic Maritime Co-ordinating Meetings (BMCM) which are held in conjunction with the sessions of **IMO's** Marine Environment Protection Committee (MEPC). The main task of BMCM is to discuss the topics of special interest for the Contracting Parties which will be considered at the coming session of MEPC and to decide on the common Baltic position on these topics.

The **essential tool** for effective and harmonized implementation of the maritime provisions is a unified system of port state control. For this reason 15 European States signed an operational agreement called Memorandum of Understanding on Port State Control (MOU). It concerns the application of standards laid down in international instruments (**i.a.**, MARPOL 73/78) to ensure that ships visiting the ports of the States participating in MOU comply with these instruments. For the time being Denmark, Finland, Germany, Poland and Sweden participate in MOU and Russia is an **observer** to MOU. The Maritime Committee has established a scheme of cooperation between the Contracting Parties to the Helsinki Convention and the countries participating in the Memorandum. The scheme is aimed at exchanging information between the countries on identified sources of observed pollution and on ships which are suspected of a contravention of MARPOL 73/78 discharge provisions.

The Maritime Committee contacts the Baltic **Pilotage** Authorities Commission (BPAC) on matters related to **pilotage** services, deep draught routes and traffic separation systems as well as reporting and information systems.

The Maritime Committee contacts the Baltic Sea Hydrographic Commission (BSHC) on the use of hydrographic services to prevent threats to the marine environment from ship accidents.

7.8 CONCLUSIONS AND REMARKS FOR FUTURE

This brief description on the achievements of the Maritime Committee clearly indicates that the activities of the Committee cover all the obligations laid down in the maritime provisions of the Helsinki Convention. It should be underlined that these provisions and the HELCOM Recommendations in the maritime field to a great extent are effectively implemented in the Baltic Sea Area.

Therefore, the Maritime Committee is to be considered as a very effective and efficient body which has succeeded in implementing international regulations in the Convention Area in the field it is responsible for.

The early implementation of the discharge provisions of MARPOL 73/78, years before they entered into force at global level, resulted in a substantial decrease of ship-generated pollution in the Convention Area. The Baltic Sea States succeeded in their requests to IMO to adopt resolutions urging ships not flying the flag of a Baltic Sea State to apply the MARPOL 73/78 discharge provisions for Annex I, II and V substances when navigating in the Baltic Sea Area before these Annexes entered into force at global level.

Experiences from the application of the Convention show that shipping contributes to the pollution of the sea in a small part, and ships in principle have no problems in applying the discharge provisions, while the establishment of a common policy on reception facilities in ports should be further considered within the HELCOM context.

Additional inputs for the work of the Maritime Committee were given in political decisions taken by Ministers responsible for the protection of the marine environment of the Baltic Sea Area. The Ministerial Declaration, 1988, and the 1990 Baltic Sea Declaration also deal with the activities of the Maritime Committee' and refer to:

- cooperation with IMO on the safe operation of tankers;
- promoting the use of reception facilities and making such facilities available at reasonable costs;
- promoting the development of environmentally sound standards for marine fuels.

However, it was not explicitly mentioned under the relevant sections of this part of the document, that the aforementioned decisions are to a great extent implemented by the Maritime Committee and constitute an essential part of the Committee's work programme.

The Maritime Committee will continue to cooperate with IMO on further development of legal, technical and operational measures against discharges from ships, safe operation of ships as well as on new requirements for constructional arrangements for tankers. The Committee will also focus on the increase of the effectiveness of cooperation of the Baltic Sea States on coordination of common actions within IMO regarding the measures on preventing marine pollution and safety regulations which should be followed by all ships irrespectively of their nationality.

Another important task to be agreed upon by the Maritime Committee will be the introduction of additional preventive measures with regard to Particularly Sensitive Sea Areas in the Baltic Sea. If the Contracting Parties identify such areas in the Baltic, the practical measures concerning global shipping, such as "vessel traffic services", "mandatory pilotage" or "areas to be

avoided" could be taken only at IMO. It would be the duty of the Maritime Committee to provide IMO with relevant proposals.

Future activities of the Maritime Committee at regional level have been pointed out under relevant sub-items of this part of the document, but it should be underlined that the most important tasks in the Committee's work in the future will be:

- harmonised implementation of **IMO's** decisions;
- elaboration of the Baltic Strategy for the use of reception facilities and the implementation of this strategy;
- measures against pollution by pleasure craft and offshore units;
- strengthening the cooperation in investigation⁵ on violation⁵ of anti-pollution regulation⁵ and in prosecution of offenders of these regulations as well as the elaboration of relevant HELCOM Recommendations;
- close cooperation and exchange of information on inspection of ships with the Memorandum of Understanding on Port State Control (MOU).

Since Annex IV of the present Helsinki Convention covers all matters related to the protection of the Baltic Sea Area from pollution by ships, there was no need to substantially amend it in the 1992 Helsinki Convention. Only small editorial changes have been made to the regulations for the prevention of pollution from ships in the 1992 Helsinki Convention. Thus, there are no completely new items to be dealt with by the Maritime Committee in order to ensure the implementation of those provisions. Therefore, it might be concluded that from the maritime point of view the ratification of the 1992 Helsinki Convention should not create any major problems for the Signatories.

8. ACTIVITIES IN THE FIELD OF THE COMBATTING COMMITTEE

8.1 MAJOR SPILLAGES IN THE CONVENTION AREA

Before describing the achievements of the Combating Committee it could be mentioned that the following major incidents, resulted with an outflow of more than 100 tonnes of oil, have occurred in the Convention Area in the previous years:

Table 2. Major oil incidents in the Convention Area 1969-1990

Name of Ship	Quantity of Oil Spilled (tonnes)	Place of Incident
- 1969 Palva	200	Utö, Finland
- 1969 London Harmony	150 - 200	The Sound, Sweden
- 1969 Benedicte	2 700	Trelleborg, Sweden
- 1969 Raphael	250	Emäsalo , Finland
- 1970 Esso Nordica	600	Pellinki, Finland
- 1970 Pensa	500	Hailuoto, Finland
- 1970 Otello	200 - 300	Vaxholm, Sweden
- 1970 Irini	800 - 1 000	Nynäshamn , Sweden
- 1972 Aegis Star	200	Gotland , Sweden
- 1973 Tärnsjö	200	The Sound, Sweden
- 1973 Jawachta	1 500 - 2 000	Trelleborg, Sweden
- 1973 Tärnsjö Grudziads	300	The Sound, Denmark
- 1977 Århus Port	200	Århus , Denmark
- 1977 Tsesis	1 000	Nynäshamn, Sweden
- 1977 Tärnsjö	120	Södertälje , Sweden
- 1979 Århus Port	150	Århus , Denmark
- 1979 Thuntank III	200	Hatterrev (Great Belt), Denmark
- 1979 Antonio Gramsci	5 500	Ventspils, Latvia
- 1979 Therese	170	Great Belt, Denmark
- 1979 Yanxilas	200	Great Belt, Denmark
- 1979 Tine	200	Great Belt, Denmark
- 1980 Furenas	200	The Sound, Sweden
- 1980 Eva Oden	250	Gothenburg, Sweden
- 1980 Furenäs/Karnen	200	The Sound, Denmark
- 1980 Lloyd Bage	130	Helsinki, Finland
- 1981 Jose Marti	1 000	Dalarö , Sweden
- 1981 Sefir	375	Öland , Sweden
- 1981 Globe Asimi	16 000	Klaipeda, Lithuania
- 1982 Sivona	800	The Sound, Sweden
- 1984 Eira	200	Vaasa, Finland
- 1984 Ibn Roch	300	Great Belt North, Denmark
- 1985 Sotka	350	Åland Sea, Sweden
- 1986 Thuntank 5	150 - 200	Gävle , Sweden
- 1986 Jan	320	Aalborg Bight, Denmark
- 1987 Antonio Gramsci	580	Porvoo, Finland
- 1987 Okba Bnou Nafia	120	Malmb, Sweden
- 1987 Tolmiros	250	West Coast, Sweden
- 1990 Volgoneft	1 000	Karlskrona, Sweden

Table 3. Overview of surveillance activities in the Baltic Sea 1988-1992

Country		Denmark	Germany	Finland	Poland	Sweden	Russian F.	Latvia	Lithuania	Total
Flight hours	1988		137	2289	159	2000	2747			7332
	1989		142	2022	131	1600	1618			5513
	1990	292	168	2191	164	1600		400		4815
	1991	199	129	1820	140	1600	629	408	348	5273
	1992	172	267	2733	62	1700	32	127	78	5171
Total number of pollutions	1988	129	90	111	40	168	82			620
	1989	159	139	22	69	212	184			785
	1990	188	45	28	88	184		73		606
	1991	222	85	23	14	197	3	20	8	572
	1992	156	76	22	92	278	13	15	34	686
Confirmed pollutions	1988	8	56	44	29	140	82			359
	1989	87	43	6	20	166	94			416
	1990	37	13	11	68	146		21		296
	1991	69	20	15	13	165	3	20	8	313
	1992	22	42	15	46	247	13	14	34	433
Est. quantities	1988	304.8	9.8		32	174	41.9			562.5
	1989	5.9	58.0	1.7	473	151	6.0			695.6
	1990		45.0	23.0	27.3	1294		1.8		1391.1
	1991	120	20.0	8	4.3	215	1.5	0.8	2.0	371.6
	1992	7.6	94.3	20	48.8	212	111.9	0.3	13.6	630.9

Remarks to the table:

1. DK The Increase of observed pollutions until 1991 - despite a reduction of flight hours - has not continued; the result of 1992 compared with the previous years shows decreasing number of pollutions and quantities
2. O A strong intensification of flight hours - due to extended surveillance area including the territory of the former GDR - has led to a doubled number of pollutions observed during these flights; in general there is no significant change in the average trend
3. SF A remarkable intensification of flight hours, but the number of pollutions is comparable to the observations made in 1990 and 1991; the proportion of pollutions with respect to the flight hours is extremely low; the traffic density in the surveillance area could be the main reason for this promising result
4. PL For 1992 only 62 flight hours were reported; however the number of pollutions shows a strong increase in 1992, due to an unproportional large number of pollutions in and close to harbour areas
5. s A significant increase of pollutions (40 % !) compared, with the average number of previous years, despite constant flight hours
6. RU Figures for 1992 contain 12 harbour pollutions, 1 pollution close to the coastline
7. lat. There is a strong decreasing tendency obviously based on flight reductions
8. Lit. The number of pollutions are reciprocal to the number of reduced flight hours, see the comment to the Polish figures
9. Estonia has reported in 1992 18 pollutions in the Tallin harbour area, 4 of them were confirmed with 59,8 m³ outflow.

The Contracting Parties provide the Combatting Committee with their reports on oil spillages observed during surveillance activities. The number of observed oil spills in the years 1988-1992 is contained in Table 3.

As examples of accidents involving chemicals and dangerous goods since 1970 the following incidents could be mentioned:

Rend 16 in Port of Landskrona in 1976: hose rupture during unloading of ammonia followed by a spill of 160 tonnes and a vapour cloud that killed two crew members;
Trawler Hildarstindur Southeast of **Gotland** in 1984: mustard gas in a trawl injured seven fishermen.

Therefore, the activities of the Helsinki Commission in the field of combatting **spillages** at sea are of utmost importance for the protection of the environment of the Baltic Sea, since none of the Contracting Parties can alone cope with responding to incidents.

8.2 LEGAL BACKGROUND FOR COOPERATION

The starting point of the cooperation of the Baltic Sea States in combatting spillages is Article 11 of the Helsinki Convention. Article 11 stipulates that the Contracting Parties shall take measures and cooperate, as set out in Annex VI to the Convention, in order to eliminate or minimise pollution of the Baltic Sea Area by oil or other harmful substances. Annex VI contains a set of obligations and broad guidelines which should be observed by the Contracting Parties when cooperating in responding to marine pollution. The main principles of this Annex refer to:

maintaining by the Contracting Parties adequate ability to combat spillages of oil and other substances on the sea;
development of surveillance activities in order to spot and monitor the substances released into the sea;
cooperation on salvage and recovery of the lost harmful substances in packages, freight containers, portable tanks or road and rail tank wagons;
reporting on significant spillages observed at sea in accordance **with the relevant provisions of MARPOL 73/78**;
delimitation of those regions in which the Contracting Parties will take action for combatting, salvage and surveillance activities (so-called response regions);
exchange of information on the spillages which are drifting or likely to drift to the response region of another Contracting Party;
bringing assistance upon request for combatting spillages;
providing information on national regulations, organizations and authorities responsible for dealing with spillages at sea.

8.3 ORGANIZATION OF THE WORK

The Commission established its working bodies in order to transfer these provisions into practical language of cooperation. During the period of the Interim Commission the Maritime Working Group was also dealing with combatting matters. After the entry into force of the Helsinki Convention the Commission established the Expert Group on Cooperation in Combatting Matters, and at its eight meeting the Commission granted the Expert Group committee status and it became the Combatting Committee. The main tasks of the Combatting Committee are to:

advise the Commission in discharging its duties in the implementation of the combatting provisions of the Helsinki Convention;
facilitate direct contacts and cooperation between the competent authorities of the Contracting Parties in order to implement Annex VI of the Convention;
develop cooperation in **operational** matters with **the** competent authorities acting under other international agreements of relevance to the combatting of marine pollution in the Convention Area.

In performing its duties the Combatting Committee establishes working/expert groups and uses consultant services. A subsidiary body of the Committee is the ad hoc Working Group on Combatting Spillages of Harmful Substances Other than Oil (CC CHEM), which was responsible for the elaboration of Volume III of the HELCOM Combatting Manual dealing with responding to chemical accidents.

At its ninth meeting, the Commission approved the Long-Term Programme for the Work of the Combatting Committee. The topics included in the Programme are reflected in the List of Activities and Target Dates for the Committee's work. The List is updated at the meetings of the Committee every year.

8.4 GENERAL ARRANGEMENTS

The activities of the Combatting Committee and its predecessors were divided into two levels.

The work at the first level was concentrated on topics on policy matters, while the work at the second level was related to operational matters, closely connected with the cooperation in joint combatting operations.

As a result of the work at the first level has been the adoption of quite a range of HELCOM Recommendations.

The following HELCOM Recommendations refer to general policy:

HELCOM Recommendation **1/7** - the development of national ability to combat spillages of oil, and Recommendation **4/3** - the development of national ability to deal with spillages of harmful substances other than oil, superseded by HELCOM Recommendation **11/13** on development of national ability to respond to spillages of oil and other harmful substances

HELCOM Recommendation **2/7** - the delimitation of response regions for combatting marine pollution

HELCOM Recommendation **7/11** - airborne surveillance/remote sensing activities in the Baltic Sea Area, superseded by Recommendation **12/8** on airborne surveillance with remote sensing equipment in the Baltic Sea Area

HELCOM Recommendation **12/7** - special cooperation in case of a chemical **tanker** accident in the Baltic Sea

HELCOM Recommendation **14/10** - on cooperation and assistance to Estonia, Latvia and Lithuania in the field of combatting marine pollution.

The following HELCOM Recommendations refer to practical combatting arrangements:

HELCOH Recommendation 4/4 - the use by the Baltic Sea States of the Manual on Co-operation in Combatting Marine Pollution within the Framework of the Helsinki Convention

HELCOM Recommendation 1/8 - the minimization of the use of dispersants, sinking agents and absorbents in oil combatting operations in the Baltic Sea

HELCOM Recommendation 1/9 - on facilitation of border passage in case of call for assistance according to Regulation 8 of Annex VI to the Helsinki Convention

HELCOM Recommendation 3/5 - financial impact of assistance rendered

HELCOM Recommendation 5/3 - guidelines for the calculation of the total costs which should be paid by the requesting country to the assisting country or countries

HELCOM Recommendation 12/9 - follow-up studies in connection with major oil spills

HELCOM Recommendation 2/4 - the establishing of an early warning reporting system for pollution incidents

HELCOM Recommendation 2/5 - the command structure for joint combatting operations

HELCOM Recommendation 2/6 - radio communications in joint combatting operations

HELCOM Recommendation 6/14 - the establishing of a pollution reporting system for pollution incidents

HELCOM Recommendation 10/1 - abnormal situations in the marine environment.

The following Recommendations refer to other issues of importance for the combatting scheme within the HELCOM context:

HELCOM Recommendation 10/10 - on measures in order to minimize pollution from offshore installations

HELCOM Recommendation 12/6 - on development and use of oil drift forecasting.

These Recommendations were the basis for the work at the second level concerning more detailed operational matters. The work on these matters has been, and is, dealt with by the Combatting Committee. Its main efforts have been focused on the issue of guidelines which could be directly applied to by the national combatting authorities without further supplementary explanations. The Guidelines are collected in the HELCOM Combatting Manual, which should be used all the way through the national combatting **organizations**, conveyed from the national authority responsible for combatting spillages to individual units participating in a joint combatting operation. Also the texts of HELCOM Recommendations are included in the HELCOM Combatting Manual.

8.5 NATIONAL CAPABILITY TO RESPOND TO SPILLAGES OF OIL AND OTHER HARMFUL SUBSTANCES

The establishment of national capabilities of the Contracting Parties to respond to spillages at sea was a crucial issue for the effective cooperation of the Baltic Sea States in combatting marine pollution. Therefore, at the beginning of its activities the Commission adopted HELCOM Recommendation 1/7 and HELCOM Recommendation 4/3, which were later superseded by HELCOM Recommendation 11/13 in the light of developments within the Combatting Committee and the experience gained by the Contracting Parties.

In establishing their national contingency plans the Contracting Parties should aim, *i.a.*, at developing the ability of their combatting services so as to enable them to keep a readiness permitting the first response unit to start from its base within two hours after having been alerted and to reach any place of a spillage that may occur in the response region of the respective country within six hours from the start, as well as to ensure well-organized action within a time period not exceeding twelve hours.

With regard to the spillages of harmful substances other than oil, the Contracting Parties should take into consideration the relevant provisions of the HELCOM Combatting Manual and make necessary efforts to recover floating chemicals with a reasonable retention time, not exceeding two days of combatting at sea, by using adequate mechanical pick-up devices. The Contracting Parties should also use their best endeavours in the research and development projects to develop techniques or methods to recover sunken chemicals from the sea bottom, if they have a long retention time without dissolving tendencies.

The Combatting Committee approved technical guidelines for the application of this Recommendation.

Oil combatting operations should in principle be carried out by the use of mechanical means. The use of dispersants should be limited as far as possible, and any such use is subject to authorization by the authority responsible for the action. Sinking agents should not be used at all and absorbents only when appropriate (cf. HELCOM Recommendation 1/8).

Measures to minimize pollution from offshore installations are contained in **HELCOM Recommendation 10/10**. The Recommendation provides guidelines concerning contingency plans for combatting pollution from offshore installations, as well as concerning requirements for equipment to be used in case of a pollution incident caused by oil or other harmful substances. In addition, the Contracting Parties are requested, in accordance with the decision by the Commission, to inform the Combatting Committee and the Commission on the offshore activities carried out in their response regions and on the fulfilment of the relevant HELCOM requirements.

8.6 RESPONSE REGIONS

Although it is not explicitly mentioned in the text of the Convention, in practice the response regions are identical with the exclusive economic zones or fishery zones of the Contracting Parties. Response regions are now delimited, except for the neighbouring states of Estonia, Latvia, Lithuania and Russia, as well as between Denmark and Poland south of Bornholm.

8.7 MANUAL ON CO-OPERATION ON COMBATTING MARINE POLLUTION WITHIN THE FRAMEWORK OF THE CONVENTION ON THE PROTECTION OF THE MARINE ENVIRONMENT OF THE BALTIC SEA, 1974 (HELSINKI CONVENTION)

The HELCOM Combatting Manual is the basic document for the use of authorities and units involved in a joint combatting action. At its fourth meeting, the Commission adopted HELCOM Recommendation 4/4 which approves the content of the HELCOM Combatting Manual, recommends the Contracting Parties to ensure the use of the Manual by their national organisations responsible for dealing with spillages as well as authorizes the Combatting Committee to complete, update and amend the Manual as far as such measures do not concern matters of principle.

The HELCOM Combatting Manual is divided into three Volumes, and it contains guidelines for cooperation when two or more Baltic Sea States are involved in a joint action to combat spillages of oil or other harmful substances at sea.

The Manual (Volumes I and II) was adopted by the Helsinki Commission at its fourth meeting, in February 1983, and Volume III by the Combatting Committee at its 13th meeting, in November 1989, in accordance with HELCOM Recommendation 4/4.

Volume I contains guidelines for cooperation and refers, *i.a.*, to response regions, reporting procedures, information and communication schemes, guidelines for requesting and providing assistance, as well as to operational cooperation.

Volume II contains national information on organisation, special regulations, combatting resources and procedures relating to requests for salvage, docking and tugboat assistance.

Volume III contains information on transportation of chemicals and related risks in the Baltic Sea Area as well as on suitable combatting methods. It should be used mainly when developing national strategies for dealing with chemical incidents and by decision-makers responsible for combatting such incidents.

The Manual (Volumes I and II) has primarily been worked out in relation to guidelines for combatting spillages of oil. The guidelines have now been completed by Volume III so that they would also serve as a basis for the cooperation in combatting harmful substances other than oil.

The Manual appears in loose-leaf folders and it is updated by the Secretariat by issuing corrected pages according to information received from the Contracting Parties and instructions given by the Combatting Committee.

Some basic elements of the Manual are briefly described in the following sections of this part of the publication.

8.8 POLLUTION REPORTING SYSTEM (POLREP BALTIC)

The pollution reporting system is established in accordance with HELCOM Recommendation 6/14. It is used between the combatting authorities to exchange information when pollution of the sea has occurred or when a threat of such is present.

The POLREP BALTIC is divided into three parts, i.e.:

Pollution Warning (POLWARN) which gives information or warning of pollution or threat of pollution;
Pollution Information (POLINF) which gives detailed supplementary information;
Pollution Facilities (POLFAC) which deals with matters related to assistance.

The POLREP BALTIC is regularly tested during joint combatting exercises.

In accordance with HELCOM Recommendation 10/1 a modified POLREP BALTIC (ALGPOLREP) is also utilized for early warning of abnormal environmental situations, e.g., the presence of algal blooms.

8.9 OPERATIONAL COOPERATION

In cases where a Contracting Party is not able to cope with a spillage inside its response region by the sole use of its own personnel and equipment, the Contracting Party in question can, according to Regulation 8 of Annex VI to the Helsinki Convention, request combatting assistance from other Contracting Parties, starting with those who also likely seem to be affected by the spillage.

The assisting party shall use its best endeavour to render the requested assistance and be prepared to give information on economic consequences connected with the requested assistance.

A Contracting Party responsible for a multinational combatting force operating within its response region shall, unless otherwise agreed, be in charge of the joint operation (lead country).

The lead country shall, inter alia:

- give administrative, operational and logistic support to assisting foreign units;
- give clearly defined tasks to all units;
- organize the practical cooperation between units from different countries;
- keep all units well informed of the overall situation;
- keep firm contact with the command organizations of the assisting countries in order to secure that the foreign units can be transferred to national command if necessitated.

The general principles for the command structure for joint combatting operations are given in HELCOM Recommendation 2/5 and for radio communications in HELCOM Recommendation 2/6.

The "Vologoneft incident" could be mentioned as an example of an effective joint combatting operation. As a result of a collision between the oil tanker Vologoneft and the cargo vessel Betty, off Karlskrona, Sweden, about 1 000 tonnes of oil was released into the sea, and it constituted a major threat to the environment and to some very sensitive coastal areas. The combatting operation was carried out in accordance with the relevant arrangements within the HELCOM context. Assistance was provided by combatting vessels from Denmark, Finland, Germany and the former USSR. After less than 96 hours from the beginning of the combatting operation most of the oil was recovered from the sea.

8.10 AERIAL SURVEILLANCE

Cooperation on aerial surveillance is carried out in accordance with HELCOM Recommendation 12/8 and the HELCOM Plan for Aerial Surveillance Cooperation. The purpose of airborne surveillance is to detect spills of oil or other harmful substances.

Airborne surveillance is also aimed at monitoring accidental outflows and at assisting combatting vessels in performing response operations. Spills made in contradiction of international regulations or caused by accidents are sampled by patrol vessels and administrations from both the sea and on board a suspected offender and are then registered for further investigations.

The Combatting Committee decided that an effective cooperation on airborne surveillance will be achieved by:

- regular national flights;
- setting up special flights, JOINT FLIGHTS;
- standardisation of reporting formats and exchange of information between the Contracting Parties;
- improvement of existing systems and development of new techniques to enhance the information obtained.

All the Contracting Parties carry out regular national flights over their response regions. However, it should be mentioned that for the time being only Denmark, Germany and Sweden use aircraft with remote sensing equipment. Poland has equipped its aircraft with remote sensing device in 1993 and Finland will start the operation of such aircraft at the end of 1994.

The Combatting Committee considers every year a summary of national oil pollution reports, which is elaborated by Germany on the basis of national information on observed outflows of oil during the surveillance flights. After the five years of reporting it can be assessed that there are no significant deviations in the number of observed oil spills from 1988 to 1992. As an example it could be mentioned that during more than 4 600 flight hours over the Baltic Sea Area in 1991, 181 pollution incidents were observed. The total number of reported pollution incidents in 1991 was 569. All the observed outflows of oil must be **recognized** as illegal discharges and violations of both MARPOL 73/78 and the Helsinki Convention. These figures and conclusions clearly show that the Baltic Sea States should considerably strengthen cooperation on investigation of violations of anti-pollution regulations (cf. relevant part of this publication concerning activities of the Maritime Committee).

Joint aerial surveillance flights have been carried out since 1990. The **lead-countryship** for joint surveillance activities is rotating between the Contracting Parties every second year. The flights in 1990, 1991 and 1992 were coordinated by Sweden and in 1993 by Germany. The results of these flights clearly show that there is a number of illegal discharges every day in the Convention Area. It is also worth mentioning that some of the Contracting Parties have initiated CEPCO flights (Coordinated Extended Pollution Control Operations). These operations are carried out by aircraft and patrol vessels for a limited period of time in order to improve the effectiveness of surveillance and to increase the number of identified polluters.

The Combatting Committee approved the terms of reference of an informal working group on joint HELCOM strategy for surveillance activities. The group is convened by a lead country according to the needs and developments on these issues.

It should also be stated that the Combatting Committee at its 15th meeting approved a new chapter to the HELCOM Combatting Manual on cooperation on aerial surveillance over the Baltic Sea Area.

8.11 MODELLING AND DRIFT FORECASTING OF OIL AND OTHER HARMFUL SUBSTANCES

Reference is made to HELCOM Recommendation 12/6. This Recommendation recommends, *i.a.*, the Contracting Parties to develop and to implement oil drift forecast systems and to use these systems as the means to facilitate prosecution of offenders of anti-pollution regulations.

The informal expert group on these issues will provide the next meeting of the Combatting Committee with proposals for a new section to be included in the HELCOM Combatting Manual. The national institutes cooperate in modelling of drift forecasting and the results of this cooperation could be utilized within the HELCOM context.

8.12 FOLLOW-UP STUDIES IN CONNECTION WITH MAJOR OIL SPILLS

In HELCOM Recommendation 12/9 the Contracting Parties are recommended to study the ecological and economic effects of accidental oil pollution in connection with major oil spillages and to use the HELCOM Guidelines, adopted on the basis of this Recommendation, when conducting such studies.

The Environment and Combatting Committees approved the Guidelines in 1990.

The Guidelines consist of the studies and research tasks which are of importance in cases of major oil spills. They are divided into five functional parts, namely: organization of research work, physical and chemical studies, ecological studies, fishery studies and documentation. The Guidelines are intended to introduce the research work as an essential part of a complete response operation and are aimed at assisting the authorities in combatting operations, as well as at providing the authorities with necessary evidence concerning the linkage between an oil spill and damage caused by pollution and also concerning impacts of oil on the marine environment, living resources and human activities.

8.13 RESPONSE TO CHEMICAL INCIDENTS

The marine transport and storage of hazardous chemicals have considerably increased in recent years. Therefore, the Combatting Committee takes steps towards the prevention and control of incidents involving such chemicals. Adequate preparedness to combat chemical pollution requires development of contingency plans in order to respond to every chemical spill. such contingency plans should be based on relevant information concerning:

- types and quantities of chemicals carried in bulk and in packaged forms in the Convention Area;
- analysis of the risks caused by the transportation of chemicals;
- response options.

Volume III of the HELCOM Combatting Manual contains information concerning the transportation of chemicals and related risks as well as suitable combatting methods. In addition, studies concerning the risks for accidents and related environmental hazards from the transportation of chemicals carried in bulk and

in packaged forms are published in the Baltic Sea Environment Proceedings, No. 34 and 51, respectively.

HELCOM Recommendation 11/13 also provides basic requirements for national abilities to deal with chemical incidents.

In this connection it should be mentioned that according to HELCOM Recommendation 12/7 the Contracting Parties are recommended to:

nominate a contact point through which competent authorities of other Contracting Parties can in emergency situations without delay get information on the chemicals carried by a tanker from or to a harbour of a Party concerned;

create as soon as possible by national measures an information system which would, in case of a chemical spillage, facilitate access by the competent authorities to data concerning the chemicals carried by the tankers;

provide, in accordance with Regulation 8 of Annex VI to the Convention and within their ability, other Parties with special assistance like experts to respond to chemical spillages, **special** protective clothing and equipment for combatting personnel, and special instruments for chemical analyses.

On the basis of national information the Combatting Committee will develop an appropriate section to the HELCOM Combatting Manual concerning the implementation of this Recommendation.

8.14 HELCOM COMBATTING EXERCISES

After the establishment of the Commission it was **recognized** that the communication and reporting systems between the Contracting Parties should be tested from time to time. That was the reason for the Contracting Parties to initiate alarm exercises. Furthermore, the reporting and alarm systems have now been coordinated with the systems used in the North Sea by the Bonn Agreement countries and between the Nordic countries within the Copenhagen Agreement. On the basis of the alarm-exercise praxis a system for testing the cooperation between combatting units, e.g., operational exercises, was introduced in 1988.

The following types of joint exercises concerning cooperation in combatting spillages at the sea have been agreed upon:

Synthetic Exercise (BALEX ALPHA);
Alarm Exercise (BALEX BRAVO);
Equipment Exercise (BALEX CHARLIE);
Operational Exercise (BALEX DELTA).

The types of the exercises, their purposes, relevant guidelines on conducting the exercises, **as** well as the exercise timetable are attached as a separate chapter in the HELCOM Combatting Manual.

The exercises are arranged by each Contracting Party according to a schedule approved by the Combatting Committee. The operational BALEX DELTA exercises have been arranged as follows: Sweden in 1989, Poland in 1990, Denmark in 1991, Latvia in 1993, and Finland in 1994.

8.15 EXCHANGE OF INFORMATION

At the meetings of the Combatting Committee, the Contracting Parties regularly exchange information on contingency planning, contingency **organizations**, major incidents, research and development projects, as well as on new combatting vessels and equipment which could be used in joint combatting operations. This information is of utmost value for all the Baltic Sea States in getting knowledge on possible assistance in combatting operations and on the development of new techniques concerning response to spillages at **sea**.

8.16 ASSISTANCE TO ESTONIA, LATVIA AND LITHUANIA IN THE ESTABLISHING OF THEIR NATIONAL CAPABILITIES TO COMBAT MARINE POLLUTION

Three newly emerged states Estonia, Latvia and Lithuania **have** participated in the HELCOM combatting scheme since 1991.

The Commission **recognized** that the inclusion of these states into the HELCOM combatting system of responding to marine incidents is an extremely important topic for an efficient cooperation within the HELCOM context. At its 13th meeting, the Commission convened an expert meeting to consider interim arrangements on combatting marine pollution with the three states. The Expert Meeting decided that the cooperation with these states should be divided into two levels, i.e.

a short-term cooperation programme on the interimmeasures on operational and technical assistance in case of a pollution incident; and
a long-term cooperation programme aimed at the establishment of their national capabilities to respond to spillages, including education and training of the respective personnel.

On the basis of the proposals of that Meeting the Combatting Committee has approved a checklist for decision-makers in case of spillages at sea and a summary concerning oil recovery techniques. These documents are intended for the use of respective authorities in the three states as an introduction to the state of the art of the combatting matters within the HELCOM context. At its 14th meeting, the Helsinki Commission adopted HELCOM Recommendation **14/10** concerning cooperation and assistance to Estonia, Latvia and Lithuania in the field of combatting marine pollution. In the Recommendation the Governments of the "**old**" Contracting Parties are recommended, interi a, to provide assistance to the three states in the building-up of their national capabilities to combat pollution and, in particular, in the establishment of national authorities responsible for responding to spillages at sea, development of contingency planning, education and training of personnel, as well as in research and development. The Commission also stressed that this cooperation would be highly facilitated if a special funding for this purpose could be made available by the "**old**" Contracting Parties.

8.17 COOPERATION WITH INTERNATIONAL ORGANIZATIONS

The Combatting Committee exchanges information with the other relevant subregional organizations dealing with combatting spillages at sea, namely the executive bodies of the Bonn Agreement and the Copenhagen Agreement. Harmonization of the combatting arrangements with them is of decisive importance, since some of the Contracting Parties to the Helsinki Convention are also parties to these agreements.

Furthermore, the Committee cooperates with the European Union and IMO.

Some of the effective actions of the Baltic Sea States at IMO are listed under Activities in the Field of the Maritime Committee. Presently the Baltic Sea States provide IMO with information on the "Baltic" experiences in the field of combatting pollution in view of an early implementation of the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC Convention).

The Helsinki Commission has been granted an observer status with the International Oil Pollution Compensation Fund (IOPC) dealing with compensation for damages caused by oil pollution. Information on the IOPC Fund policy is essential for the combatting authorities, since some HELCOM Recommendations (3/5, 5/3) concern financial aspects of the assistance rendered.

8.18 IMPLEMENTATION OF THE HELCOM ARRANGEMENTS BY THE BALTIC SEA STATES

It should be stressed here that a prerequisite of the effectiveness of cooperation in responding to marine pollution is the implementation of the HELCOM arrangements by the Contracting Parties.

The implementation of these arrangements by the Contracting Parties can be summarized as follows:

8.18.1 Denmark

The combatting of pollution caused by oil and chemicals at sea and near shore waters is conducted by the Danish Environmental Protection Agency (Danish EPA). The restoration of coastal stretches and combatting of pollution in ports is conducted by the local councils.

In case of particularly serious and comprehensive pollution incidents the Minister for the Environment may decide that the restoration of coastal stretches and combatting in ports shall be conducted by the Danish EPA.

The Danish Contingency Organization is operational all round the clock.

All reports concerning observations of oil slicks or oil pollution from casualties, ship **groundings** or collisions are reported to the Danish Rescue Centre. The Centre will transmit the reports to the Danish EPA's officer on duty, who will decide upon a combatting operation. For these purposes the officer on duty can request special oil/chemical combatting ships owned by the Danish EPA, the Navy, the Royal Danish Administration of Navigation and Hydrography, private tugs as well as aircraft belonging to the Danish EPA, the Navy, the Air Force or private companies to participate in the operation.

In case of pollution near the coast and at the coast the Danish EPA can request for assistance from the Emergency Management Agency.

The Danish Contingency Organization has based the combatting of pollution at sea on mechanical and chemical means. However, chemical means (dispersants) are used only to a very limited extent and only if there is a special reason for doing so.

8.18.2 Estonia

The Ministry of Environment has the overall responsibility in case of major oil spills. Three organizations are responsible for combatting operations at sea in case of spillages of oil or other harmful substances.

The main task of the Coast Guard Department of the Estonian National Maritime Board (operating in the domain of the Ministry of Transport and Communications) comprises of the **localization** of spillages and combatting of pollution. The Coast Guard Department shall organize and **coordinate the** actual pollution combatting operations at sea (internal and territorial waters, exclusive economic zone) and also at the lakes Peipsi, **Lämmi** and Pihkva.

The Estonian State Sea Inspection Office, acting under the supervision of the Ministry of Environment, has the following tasks during oil combatting operations: environmental supervision, identification of a polluter, public relations, registration of claims, providing and registering compensations as well as international relations (reporting to HELCOM and other relevant bodies).

The Rescue Board, which is supervised by the Ministry of Internal Affairs, is responsible for responding operations against spillages on shorelines, land, rivers and lakes.

At the moment the National Oil Spill Contingency Plan for Estonia is under elaboration with the assistance of Danish experts (Envision A/S, Water Quality Institute and the Danish Environmental Protection Agency). The inventory of all the equipment at the disposal of ports, different institutions and companies is under elaboration. The results of this inventory shall be available in January 1994.

Estonia is elaborating the legislation which shall form the basis for the future cooperation between the different authorities and companies on combatting pollution.

A bilateral agreement between Estonia and Finland relating to combatting spillages of oil and other harmful substances was signed in Helsinki, on 8 December 1993. The Protocol to this agreement concerns, **i.a.**, the Finnish assistance to Estonia in the combatting field, which includes matters related to the reimbursement of costs of the assistance rendered in response operations, education and training of personnel, as well as relevant instruments concerning the establishment of the Estonian abilities to combat pollution at sea.

The patrol vessel "**Triin**" belonging to the Estonian State Sea Inspection Office is equipped with an oil combatting system. The Estonian National Maritime Board has concluded a contract with a Finnish company for the construction of two small multi-functional vessels. These two vessels will also be equipped with oil combatting systems.

8.18.3 Finland

Based on the provisions of the Act on Prevention of Pollution from Ships and the Decree on Combatting Oil Pollution Incidents, the oil pollution preparedness and response is a shared responsibility between the government authorities and the municipal authorities. The Ministry of the Environment has the supreme responsibility for the management and supervision of the oil pollution response. The National Board of Waters and the Environment, operating under the Ministry, is the competent government oil pollution combatting authority. Each municipality shall in its own area see to the preparedness for response and normally fire brigades/rescue services are nominated for this purpose. Oil refineries, harbours and terminals also have to establish a limited oil combatting ability of their own.

The government authorities are in charge of responding to incidents at open sea and to major accidents. At present, they have nine **specialized** oil combatting vessels which are multi-purpose vessels, used as supply vessels by the Navy or as sea route maintenance vessels by the Maritime authorities at normal times. The state-owned oil combatting equipment and material are stored in twenty depots along the coastline. The Provincial Government of Åland has its own oil recovery vessel. The main coastal cities have altogether **twenty-five** oil combatting and fire fighting vessels and depots for their combatting equipment and material.

At present, two new major projects are under way. The Frontier Guard has ordered two sea patrol airplanes and one of them will carry remote sensing equipment on board. The Frontier Guard has also ordered a new offshore patrol vessel which will be equipped for combatting oil and chemical spills.

In this connection, one special Finnish solution is worth mentioning. Finland has a National Oil Pollution Compensation Fund, established and regulated by the Act and Decree on the Oil Pollution Compensation Fund. The capital of the Fund is collected by levying Oil Pollution Protection Charge of **FIM 2.20** (c. USD 0.4) per tonne for oil imported to or transported through Finland. A double charge (FIM 4.40 = USD 0.8) shall be paid if the oil is transported in a tanker not fitted with a double bottom over the entire cargo hold (cf. section 2.1 of the Fund Act). The total amount collected into the Fund has been c. FIM 40 million (c. USD 7 M) per year after the latest amendment in 1989.

Compensations are granted from the Fund to those suffering from damages from oil pollution as well as to the combatting authorities for the costs of response actions. If the Fund compensates the damages and the costs of response operations, the right to compensations from **the** party responsible for the pollution passes to the State. In addition, the municipalities are entitled to a full compensation from the Fund to purchase combatting equipment as well as for the maintenance costs of the local preparedness in accordance with the ratified municipal contingency plans.

8.18.4 Germany

By virtue of the act of the unification of the two German states, on 3 October 1990, the Federal Republic of Germany has become the legal successor to the German Democratic Republic in respect of the Helsinki Convention. The coastal areas along, and the sea areas off, the new Federal Lands of Mecklenburg - Western Pomerania were speedily incorporated into the existing precautionary arrangements to prevent, control, and combat marine pollution. This was achieved, in particular, by

extending the national alerting and reporting system by the inclusion of the above-mentioned areas;
expanding the range of aerial surveillance (done by aircraft fitted with remote sensing equipment) by including the maritime areas as far as to east of **Rügen** Island;
concluding a new Danish-German alert and combat operation plan (known as the DANGER Plan). It is noteworthy **that the** joint anti-pollution measures agreed in that plan apply now also to noxious substances other than oil, and that **the** joint operation zone comprises the whole area of the western Baltic between latitude **54°57'N** and a straight line connecting the Men and Dornbusch Lights.

Along the Baltic Sea coastline of the Federal Republic of Germany the arrangements and equipment currently available for combatting pollution at

coasts and waters include three ships for offshore missions (they are stationed at Olpenitz, Kiel and **Warnemünde**), four vessels for near-coastal missions (they are stationed at **Kiel**, Warnemiinde, and Stralsund) as well as appropriate equipment such as booms, floating skimmers, and other cleaning and purifying equipment.

In the 1992-1993 biennium several high-profile exercises were staged in potential risk areas; some of them were held as joint Danish-German exercises. These exercises have demonstrated the efficiency of the German contingency organizations.

In the years to come, the German precautionary measures will focus on the replacement of out-of-date vessels, relocation of resources taking more into account the actual risk areas, and on the complementation of equipment with elements for near-coastal and shore-side operations.

8.18.5 Latvia

National oil contingency planning and oil combatting organization are at the foundation stage. The main task for Latvian specialists is to elaborate a national oil contingency plan. The responsible authority for the organization of the oil spill combatting is the Maritime Department of the Ministry of Traffic.

The Latvian Sea Search and Rescue Service (LSSRS) is responsible for combatting marine pollution. Combatting operations are carried out by using the technical means and personnel of port authorities, shipping companies, Avio Search and Rescue Service, Maritime Inspection, Hydrometeorological Agency and the Latvian Navy. Reports of pollution incidents may be announced by radio, fax or phone to LSSRS or to the harbour masters.

In accordance with the Latvian legislation persons who cause water pollution shall inform the port authority and take immediate measures to prevent or combat the pollution.

The Latvian Sea Search and Rescue Service was established on 1 September 1992. The staff consists of 169 persons, but it is not fully completed yet. One of the aims of this service is combatting oil spillages at sea.

LSSRS has an agreement with Avio Search and Rescue Service on cooperation in emergency situations. Agreements on cooperation between LSSRS, private and state bunkering and tugboat companies are under consideration.

A joint project with the Danish company Envision A/S on National Oil Contingency Plan is also under consideration.

Up to date LSSRS has at its disposal the following equipment:

1. - High sea booms 418 m;
 - Sea booms "**Benex** KL -80" 800 m.

2. Skimmers and other pick-up devices:
 - "**Walosep 2W**" 1 set;
 - "Desmi-250" 1 set;
 - "ASV-400" 1 set (oil recovery system);
 - "**Framo TK-5/TK-6**" 1 set (oil removal system).

3. Additional equipment in harbours which could be used in coastal oil combatting operations close to port areas, i.e.:
 - coastal booms 900 m;
 - small recovery vessels NMS 3/4 12 units.

In February 1994, two "LAMOR OPC 4" oil skimming systems will be received from Larsen Marine AB and they will be installed on ships "Rotans" and "Loja".

Possession of multi-purpose vessels for oil combatting purposes is crucial for the establishment of Latvian national capability to respond to pollution incidents.

8.18.6 Lithuania

The Lithuanian Rescue Center is authorized to organize, coordinate and supervise the search and rescue operations and it is responsible for combatting oil spills at sea. The Rescue Center is supervised by the authority of the Port of Klaipeda.

Lithuania needs assistance from other Contracting Parties in the elaboration and implementation of the national contingency plan in order to comply with the HELCOM arrangements on combatting marine pollution. Such a plan should include an assessment of transportation patterns of oil and other harmful substances, risk assessment, evaluation of existing facilities for responding to marine pollution as well as organization of relevant authorities and national legislation for these purposes. Financial support will also be necessary for the implementation of the plan and for the training of combatting personnel. Lithuania negotiates with the old Contracting Parties on possibilities to provide Lithuania with assistance in the elaboration of the national contingency plan.

In order to harmonise the national requirements on the protection of the Lithuanian sea area with international agreements and to establish responsible organizations for this purpose the Environmental Protection Department has drafted a Law on Marine Environment Protection which will be submitted to the Seymas (Parliament) for adoption in the beginning of 1994.

8.18.7 Poland

The Minister of Transport and Maritime Economy is responsible for matters related to combatting of oil and other harmful substances at sea and for the implementation of the HELCOM combatting arrangements. In case of a major disaster other ministers, i.e. Minister of the Environmental Protection, National Resources and Forestry and Minister of Internal Affairs, are also responsible for conducting response operations ashore and in the coastal areas.

The Minister of Transport and Maritime Economy has designated the following organisations to perform practical duties in relation to combatting marine pollution:

1. The Polish Ship Salvage Company is responsible for conducting the combatting operations. The Polish Ship Salvage Co. provides necessary equipment and coordinates the operations at sea;
2. The Directors of Maritime Offices in Gdynia, Slupsk and Szczecin are responsible for the safety of navigation, inspection at sea, detection of spillages and pollution and also for warning and reporting systems;

3. The Governors of the provinces of Elblag, Gdansk, Koszalin, Slupsk and Szczecin (governmental administration) are responsible for the environmental protection of shallow waters, shore lines and coastal areas.

The Polish Ship Salvage Co. acts on the basis of the Provisional Contingency Plan for the Sea Area, which was approved in 1983. A new "Contingency Plan for Polish Sea Area and Coastal Area" is under elaboration. This document will reflect the HELCOM combatting arrangements and provisions of the OPRC Convention.

The mobilization plan of the Polish Ship Salvage Co. includes its own manpower and technical devices, as well as equipment available in harbours and ship-yards.

The oil combatting organization in Poland has actually at its disposal:

- two sea-going tugboats arranged to oil combatting operations at open sea (M/V Posejdon and M/V Neptunia);
- two special units transformed into autonomic skimmers (M/V Czeslaw and M/V Jerzy II).

A modern multi-purpose vessel for combatting spills and salvaging (M/V Kapitan **Poinc**) is under construction. It is planned that she will be taken into service in 1994.

The supervision, surveillance and search activities are performed by the aircraft of the Maritime Offices. One aircraft equipped with remote sensing devices started operation at the end of 1993.

The requirements and recommendations of the Helsinki Commission are systematically implemented in Poland. The draft Law on the Prevention of Pollution of the Sea by Ships is expected to be adopted by the Parliament in the near future.

8.18.8 Russia

Marine Pollution Control and Salvage Administration with its headquarters in Moscow is responsible for oil spill combatting operations in overall Russian marine zones. The authority responsible for combatting pollution in the Baltic Sea is situated in St. Petersburg. The following equipment is available:

- skimmers, 13 units;
- specialized** vessels, 2 units;
- booms: high sea, 1 500 meters;
- coastal, 960 meters.

The basic problem is that all Russian capabilities to respond to marine pollution are located in St. Petersburg. At the same time the Kaliningrad region has no possibilities to immediate combatting operations and it takes some time to approach the Kaliningrad area from St. Petersburg. The time for the combatting units to approach the Kaliningrad area is too long for starting immediate response operations in this area.

The national contingency plan, as approved by the former USSR, is not valid now. A new plan is expected to be elaborated in the near future.

The establishment of a new response base in Kaliningrad and the elaboration of a new contingency plan require substantial financial investments.

Russia is interested in assistance for developing the Russian national capabilities to respond to marine pollution and in the training of respective personnel.

8.18.9 Sweden

The Rescue Services Act constitutes the legal basis for all kinds of rescue service in Sweden. It appoints the Swedish Coast Guard as the competent Swedish authority to respond to pollution incidents at sea. The Swedish parliament has adopted a strategy for the protection of the sea against pollution by oil and other harmful substances. The strategy is now revised in a view to forming the aim and direction in this field for the beginning of the next century.

A special contingency plan has been established by the Coast Guard. It includes a capacity to respond to oil spills up to 5 000 m³ by means of national resources. Measures to prevent further outflow and spreading of the oil can be taken within four hours from alert. The recovery operation can be in action within eight hours from alert. In practice all combatting of oil is made by mechanical means and the right to use dispersants is strictly limited by national regulations. A computerised oil drift forecasting system has been in operation since the beginning of seventies. It is now being developed with a view to cover the whole Baltic Sea Area.

The Swedish response region is surveyed by three aircrafts with modern remote sensing equipment. Approximately 3 000 flight hours are carried out in the Swedish response region annually.

In the **1980s**, a special research and development program was adopted. Now ongoing projects concern, **i.a.**, methods to respond to oil in cold and ice conditions, **computerized** command support systems, advancing recovery systems, remote sensing systems, methods for oil recovery from sunken vessels and methods to respond to spills of harmful substances other than oil.

Sweden has initiated cooperation with Estonia, Latvia and Lithuania by means of training courses and consultation.

8.19 CONCLUSIONS AND SOME REMARKS ON FUTURE

In the beginning, the work on the implementation of the combatting provisions of the Helsinki Convention within the HELCOM context was concentrated on the establishment of basic principles and guidelines for cooperation of the Baltic Sea States in responding to marine pollution. As a result of this work the Commission took a number of decisions, essential for the development of this cooperation. On the basis of these decisions the Contracting Parties established national capabilities to combat oil pollution and then started to build up their capabilities to respond to chemical incidents.

As examples of practical cooperation, which could be considered as a next step of the development of the Baltic combatting scheme, could be mentioned joint combatting operations ("Volgoneft" and "Kihnu" incidents), joint combatting exercises, joint surveillance flights as well as the elaboration of common guidelines for modelling and drift forecasting of oil and other harmful substances.

It should be emphasized that during the "Kihnu" incident, which occurred in 1993 off the coast of Tallinn and resulted in an outflow of 70-90 tonnes of oil, Finland provided Estonia with assistance in the combatting operation

without a prior discussion on the reimbursement of the costs of assistance rendered.

It could be concluded that during the twenty years of its activities the Helsinki Commission has established an effective system of cooperation in responding to marine pollution, which has then been followed by other regional organizations. It should also be underlined that the implementation of the combatting arrangements within the HELCOM context is financed solely by the Governments of the Contracting Parties.

One of the most important items which will be dealt with by the Combatting Committee in the coming years is the cooperation with and assistance to Estonia, Latvia and Lithuania in the establishment of their national capabilities to combat marine pollution and in the implementation of the relevant HELCOM arrangements by these states.

The Committee will also deal with specific topics aimed at further improvement of the Baltic combatting system in the light of present experience from cooperation, joint combatting operations, research projects as well as developments within other international **fora**. As major topics to be considered in the future could be mentioned:

- establishment of specification for **computerized** command support system and evaluation if any existing system fulfils these specification;
- consideration of the need for establishing regional strategies for pollution response;
- elaboration of regional computerised spreading and drift modelling systems;
- elaboration of guidelines for the national management of wastes collected during response operations;
- elaboration of trade patterns and risk analysis of oil and other harmful substances carried at sea;
- consideration of a common policy for the use of dispersants and other combatting agents;
- evaluation of information on experiences gained from combatting operations under cold weather and ice conditions;
- development of and cooperation in airborne surveillance activities;
- evaluation of spillage reporting;
- continuation with joint combatting exercises and training of combatting personnel.

The Ministerial Declaration 1988 and the 1990 Baltic Sea Declaration also refer to the activities of the Combatting Committee and concern the establishment of effective means and methods for combatting spillages under winter conditions, development of airborne surveillance with adequate sensor systems and establishment of guidelines for combatting spillages originating from offshore installations.

These topics are under permanent consideration of the Committee and to a great extent implemented in practice. The Committee's decisions on these issues are reflected under the relevant sub-sections of this part of the publication.

It should be underlined that the implementation of the combatting provisions of the 1992 Helsinki Convention should not create major problems for the Signatories, since they reflect the ongoing cooperation of the Baltic Sea States in the field of responding to marine pollution.

Nevertheless, in view of an early implementation of the combatting provisions of the 1992 Helsinki Convention the Combatting Committee decided to include into the working programme of its forthcoming meetings the following items:

elaboration of a system for notification and consultation on pollution incidents set out in Article 13 and Regulation 1 of Annex VII to the 1992 Helsinki Convention; and
exchange of information on national regulations and practice regarding the calculation of costs of assistance rendered.

9. ACTIVITIES RELATED TO HELCOM TF AND HELCOM PITF

9.1 RONNEBY CONFERENCE

The Prime Ministers of Poland and Sweden invited the Heads of Governments and High Political Representatives of the Baltic Sea States as well as of all other States in the Baltic Sea drainage area, the representative of the Commission of the European Communities (CEC), and the representatives of four multilateral development banks, the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Nordic Investment Bank (NIB) and the World Bank to a Conference assembled in Ronneby, Sweden, on 2-3 September 1990. A number of observer organisations were also invited to participate. The Ministers responsible for Environment in the Baltic Sea States also participated in the Conference.

The Conference adopted the Baltic Sea Declaration (Annex 4 of this publication).

This Declaration expressed the objective to assure the ecological restoration of the Baltic Sea, and to that end called for a Joint Comprehensive Programme to be urgently prepared for a decisive reduction of emissions in order to restore the Baltic Sea to a sound ecological balance.

9.2 HELCOM AD HOC HIGH LEVEL TASK FORCE 1990-1992

For the preparation of the Programme an ad hoc High Level Task Force was established. It consisted of representatives from the Contracting Parties to the Helsinki Convention, the Czech and Slovak Federal Republic, Norway, the Commission of the European Communities as well as of the four multilateral international financial institutions, which participated in the Conference. Experts from Estonia, Latvia and Lithuania also participated in the work of the Task Force.

Within the HELCOM ad hoc high level Task Force the four multilateral financial institutions acted as Executing Agencies coordinating pre-feasibility studies, carried out by professional consultants, in eight areas in Russia, Estonia, Latvia, Lithuania, Poland, Germany and the Czech and Slovak Federal Republic. The areas were:

- St. Petersburg and Leningrad Region, Karelia and Estonia
- the western coast of Estonia
- the Gulf of **Riga** and the Daugava river basin
- the Lithuanian coast and the Nemunas river basin
- the Raliningrad Region and the Pregel river basin
- the Vistula river basin and the Baltic coast of Poland
- the Oder/Odra river basin, and
- the North German Baltic coast.

In addition, topical studies were coordinated dealing with airborne pollution, agriculture and wetlands. National plans, submitted to the Task Force as background material, were used in the preparation of the Action Programme as well.

On the basis of the pre-feasibility studies, of which summaries are published as No. 46 of the Baltic Sea Environment Proceedings, and on the national plans, the Task Force elaborated a draft Baltic Sea Joint Comprehensive

Conference, held at Ministerial Level, in April 1992, in Helsinki (BSEP No. 48).

9.3 THE DIPLOMATIC CONFERENCE OF 1992

The Diplomatic Conference approved the strategic approach and principles reflected in the Preliminary Version of the Programme, called for the establishment of a HELCOM Programme Implementation Task Force (HELCOM PITF) within the framework of the Helsinki Commission and adopted the Baltic Sea Environmental Declaration of 1992, the latter underlining the broad variety of efforts to be made for the implementation of the Programme.

9.3.1 The Programme

Table 4 gives account of the various elements of the Joint Comprehensive Programme, its time horizon as well as of the estimated costs of implementing it:

Table 4. The Baltic Sea Joint Comprehensive Environmental Action Programme, programme elements

PROGRAMME ELEMENTS		
		Total Million ECU (1993-2012)
1	Policies, Laws and Regulations	10
2	Institutional Strengthening and Human Resource Development	210
3	Investment Activities	
A	Point Source Pollution	
I	Immediate Support and Warning Systems	50
II	Municipal Waste Water Treatment	3 000
III	Combined Municipal and Industrial Waste Water Control	5 600
IV	Pulp and Paper Industry Environmental Control	1 400
V	Environmental Control at Other Industries	1 300
VI	Solid and Hazardous Waste Management	1 000
VII	Air Quality Management	1 660
B	Non-Point Source Pollution (Agricultural Run-off, Livestock Operation, Rural Settlements)	3 500
4	Management Programmes for Coastal Lagoons and Wetlands	220
5	Applied Research	30
6	Public Awareness and Environmental Education	20
	TOTAL	18 000

The Programme should be understood as a response to the requirements expressed in the Baltic Sea Declaration, adopted at the Ronneby Conference on 3 September 1990.

The Programme is planned to be implemented in two phases: the first phase (1993-1997) is estimated to cost 5.0 billion ECU; the second (1998-2012) is estimated at an additional 13.0 billion ECU. It is evident that measures to achieve the Ronneby Declaration's objective to "decisively reduce emissions"* in order to restore the Baltic Sea to a sound ecological balance are mainly those described in Programme element 3 (Investment Activities). They focus on point and non-point source pollution which encompass 132 so-called "hot spots" identified in the preparatory process of the Programme. The other Programme elements should be conceived chiefly as complementary and supportive, although some of them, e.g., economic incentives, introduced under Programme element 1 (Policies, Laws and Regulations), may well in themselves have a considerable effect in terms of reducing emissions.

9.3.2 The Baltic Sea Environmental Declaration 1992

In addition to the approval of the Programme and establishment of the follow-up procedure, the Environment Ministers, and High Representatives of the Governments and of the CEC, agreed in the Baltic Sea Environmental Declaration, 1992, included in Annex 5, **i.a.:**

to take action to promote implementation of the Programme in the entire drainage area of the Baltic Sea;

to assure that measures to implement the Programme will cause decisive reduction of the pollution load to the Baltic Sea also from its drainage area;

to apply the Precautionary Principle and to take necessary steps to ensure the use of Best Environmental Practice and Best Available Technology when designing measures to eliminate pollution and improve environmental management;

to cooperate bilaterally, multilaterally, and in all relevant international **fora** in order to achieve the objectives of the Programme;

to request the continued partnership of the European Bank for Reconstruction and Development, European Investment Bank, Nordic Investment Bank and the World Bank to facilitate the implementation of the Programme;

to strengthen and further develop the **legal** and administrative arrangements necessary to ensure the urgent implementation and updating of the Programme;

to intensify relevant research and exchange of information within the framework of the Helsinki Commission and among all interested parties, improve the monitoring of reductions of pollutants, increase understanding of their impact on the environment and its living resources, and develop and disseminate cost-effective environmental management technologies;

to make all efforts to promptly ensure effective funding of feasibility studies for priority actions identified in the Programme, provided the investments are carried out in the near future;

to mobilize local, national, bilateral and international financial resources for implementation of the Programme, and to this end, request the four cooperating international financial institutions to assist in organizing a special conference in late 1992 or early 1993;

to make all efforts, when necessary, to strengthen the environmental management **institutions**, establish sound and cost-effective environmental control policies and regulations, including implementation of the Polluter Pays Principle and the environmental impact assessment, as well

as to increase local capacity to finance environmental measures, including the mobilization of private capital resources; to recommend that the 1994 meeting of the Helsinki Commission to be held at ministerial level reviews the progress of implementation of the Programme.

9.4 HELCOM PROGRAMME IMPLEMENTATION TASK FORCE (HELCOM PITF)

HELCOM PITF consists of representatives of the Contracting Parties to the Helsinki Convention and of Belarus, Czech Republic, the Commission of the European Communities, Latvia, Norway, Slovak Republic and the Ukraine. The EBRD, the EIB, the NIB, the NEFCO, the World Bank and the International Baltic Sea Fishery Commission also take part in the work of HELCOM PITF. Of the HELCOM observers the Coalition Clean Baltic and the World Wide Fund for Nature have participated actively in PITF meetings as observers. During 1993, also the International Council for Local Environmental Governments (ICLEI) and the Union of the Baltic Cities (UBC) were granted status as observers to HELCOM PITF. The Standing Conference of Rectors, Presidents and Vice-Chancellors of the European Universities (CRE) which has applied for observership of HELCOM, also participated in HELCOM PITF.

The First Meeting of HELCOM PITF was held in November 1992, in Helsinki. HELCOM PITF 1 adopted draft Terms of Reference and a draft Work Plan, which were subsequently approved by the 14th Meeting of the Helsinki Commission in February 1993. HELCOM PITF 1 also agreed on the finalization of the Baltic Sea Joint Comprehensive Environmental Action Programme. The Programme is published as BSEP No. 48. The Second Meeting of HELCOM PITF was held in May 1993, in Hamburg, hosted by Germany and the Third Meeting in November 1993, in Brussels, hosted by the CEC.

An Annual Report describing the PITF activities during 1993 has been submitted to HELCOM 15.

9.5 THE HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION, GDANSK, POLAND, MARCH 1993

It became clear already in the drafting process that one of the major constraints to implement the Programme would be the mobilization of the financial resources needed. The Diplomatic Conference, in April 1992, requested the continued partnership of the four multilateral financial institutions to facilitate funding of the Programme. At the same time they were asked to assist in organizing a special conference for mobilizing local, national, bilateral, international and any other financial resources to implement the Programme. To this end an international High Level Conference on Resource Mobilisation was arranged on the invitation by Poland in Gdansk, in March 1993.

The Conference highlighted that a multiplicity of funding sources would be needed, particularly in order to assist the Eastern European Countries in implementing the Programme as part of their process of social and economic transition. This process of dramatic economic restructuring has limited, at least in the short run, the credit-worthiness of these countries and reduced the capacity to produce goods and services. An additional impediment is that the potential donor countries are suffering a protracted recession. Financing from foreign sources will, for several years, be necessary for Programme implementation. A significant share will take the form of loans from the multilateral financial institutions. It is hoped that the emerging market

economies will be able over time to assume an increasing share of Programme financing.

The Gdansk Declaration, 1993, (attached as Annex 6 to this publication), therefore, called for all efforts to be made to mobilize local, national, bilateral or multilateral financial and other resources for the implementation of the Programme, including grant financing.

A compilation of all the statements given in the Conference was published as BSEP No. 47. The Background Paper for the Conference focusing on opportunities and constraints of Programme implementation was published as BSEP No. 49.

9.6 STATUS OF IMPLEMENTATION OF THE PROGRAMME

9.6.1 Investments regarding "hot spots"

There are already quite a number of preventive and curative actions in the Baltic Sea drainage area under way to reduce the pollution load reaching the Baltic Sea. Some old enterprises with polluting production activities, e.g., pulp and paper industries, have been shut down, waste water treatment plants are planned or partly constructed and more stringent environmental controls introduced. Also new nature protection areas are being created.

The Programme Implementation focuses largely on the 132 "hot spots". These "hot spots" are described in detail in the Action Programme and comprise point and non-point sources of pollution in the Baltic Sea drainage area. The expenditures for these "hot spots" are estimated to be some 10 billion ECU. Of the 132 "hot spots" 98 in countries in transition were identified as key "hot spots" with an estimated cost of about 8.5 billion ECU. The remaining 34 sites in Denmark, Finland, Germany and Sweden were selected by the countries concerned and their estimated investment costs are approximately 1.5 billion ECU. 47 "hot spots" were identified as priority "hot spots" with estimated costs of about 6.5 billion ECU.

An Activity Inventory of which a second version was issued in December 1993 gives information about the status of activities regarding the "hot spots". It is worth noting that of the total sum of estimated investment costs for the "hot spots" of 9 841 million ECU a total of 2 757 million ECU has been allocated or reserved, locally 2 188 million ECU, from foreign sources 569 million ECU. Figure 11 contains a Column Diagram on the Status of Investment Activities as well as Tables on the Status of Activities grouped by country and by sector. According to rough estimates presented in pre-feasibility studies the investments, when completed, would lead to a reduction in emissions of **BOD**, of 545 000 tonnes/year, nitrogen of 73 000 tonnes/year and phosphorus of 15 500 tonnes/year.

The status of implementation of investments according to the Activity Inventory and the estimated load reduction⁸ are shown for the major sectors in Table 5:

Figure 11. The Baltic Sea Joint Comprehensive Environmental Action Programme, status of investment activities reported by contact persons of HELCOM PITF by 18 December 1993

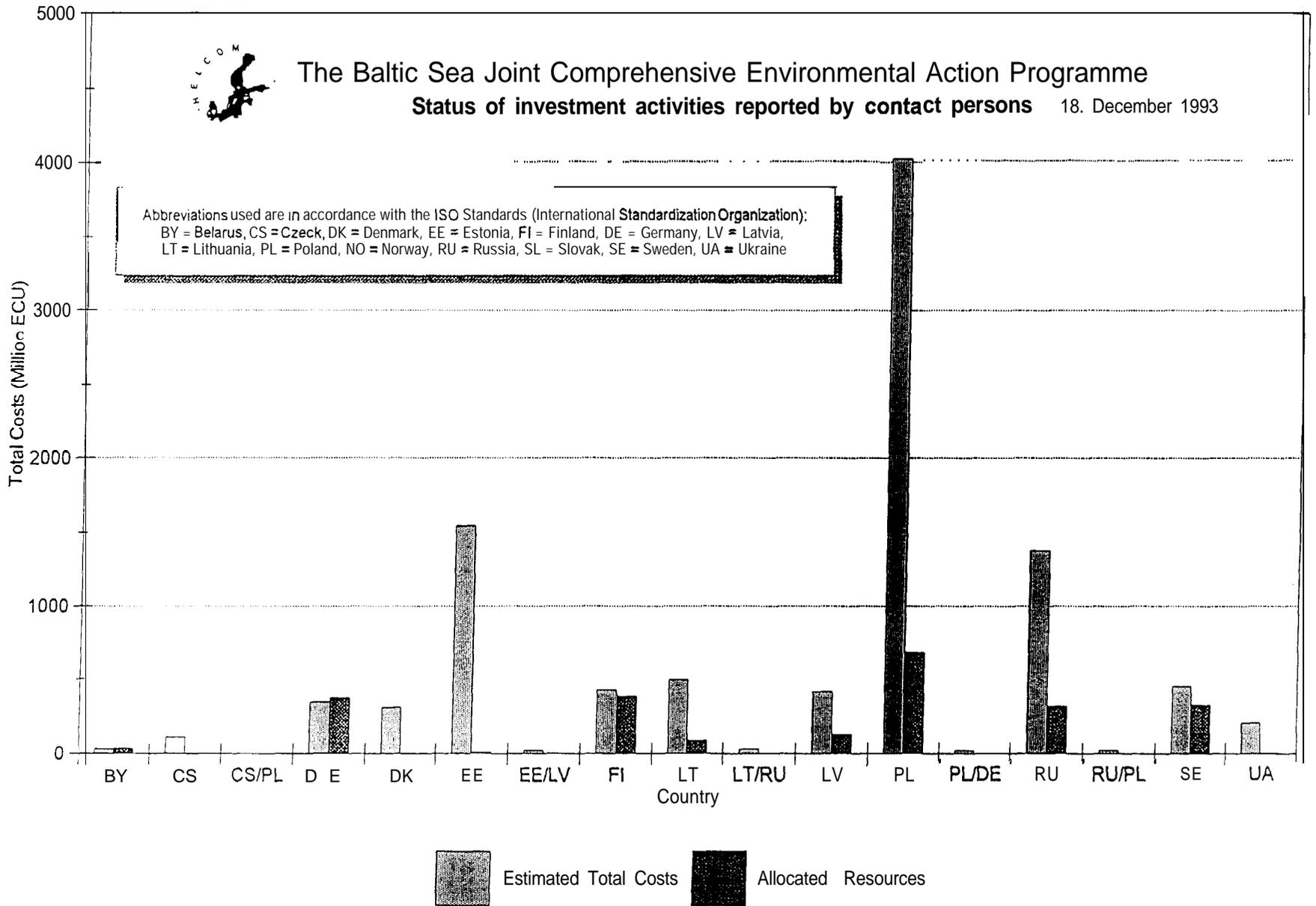


Table 5. The Baltic Sea Joint Comprehensive Environmental Action Programme, status of implementation of investments and estimated reduction of pollution on completion of investments (December 1993)

	Municipal	Industry	Agriculture
Hot spots			17
Studies/investment	5		7
Total cost estimated (million ECU)	4 518	2 215	478
Resources allocated/reserved	1 660	543	160
Estimated reduction of pollution on completion of investments (tonnes/year)			
- BOD,	383 000	125 000	33 000
- Nitrogen	48 000	12 000	14 000
- Phosphorus	14 000	1 100	700

It should also be noted that 8 "hot spots" are no longer "hot spots". A study is planned to be carried out in 1994 to investigate the status of actions related to the "priority hot spots".

9.6.2 Lead Parties

The last two meetings of HELCOM PITF were instrumental to establish lead party roles to coordinate all individual elements of the Programme. The Lead Party role can be understood as one which encompasses the responsibility to co-ordinate activities within individual Programme elements, including any means appropriate to help the implementation of a Programme element such as the organisation of working group meetings, seminars etc. It is worthwhile to note that also "non-governmental organisations", which are observers, are taking an active approach in order to assist the implementation of the Programme. Table 6 shows the division of lead party roles between members and observers of HELCOM PITF.

Table 6. **Lead parties of the programme elements of the Baltic Sea Joint Comprehensive Environmental Action Programme (December 1993)**

	PROGRAMME ELEMENTS	Lead Party
1	Policies, Laws and Regulations	Germany/ ICLEI
2	Institutional Strengthening and Human Resource Development	Germany/ ICLEI/UBC
3	Investment Activities	
A	Point Source Pollution	
	- Combined Municipal and Industrial Waste Water Treatment	Sweden
	- Industrial Pollution Control	Finland
B	Non-Point Source Pollution	Germany/ Poland
4	Management Programmes for Coastal Lagoons and Wetlands	WWF
5	Applied Research	EC and TC *\
6	Public Awareness and Environmental Education	CCB

- *) EC = Environment Committee of the Helsinki Commission
 TC = Technological Committee of the Helsinki Commission

The use of economic instruments was considered in an **ad hoc** HELCOM PITF Working Group with Sweden as Lead Party. WWF organised a first working group meeting for Programme element 4 with a second meeting to be held in April 1994. Its work is closely coordinated with the EC Working Group on Nature Conservation. Under the auspices of CCB a first informal working group meeting was held in October 1993 to collect ideas and to draft Terms of Reference and a Work Plan for Programme element 6. HELCOM PITF 3 decided to establish a working group for Programme element 6 under the lead of CCB and the first working group meeting will take place in April 1994.

9.6.3 Bilateral and multilateral assistance

There are quite a number of bilateral and multilateral efforts under way to assist the implementation of the Programme. Not only HELCOM PITF members like Denmark, Germany, Finland, Sweden and Norway provide bilateral assistance to Eastern HELCOM PITF member countries on different levels regarding various Programme elements. There is also financial help, among others, from Canada, France, Switzerland and the United States of America. This holds equally true for the multilateral financial institutions and the CEC. The latter is particularly active through its regional programmes LIFE, PHARE, TACIS and CORINE. Detailed reports were submitted to HELCOM PITF 3.

With financial assistance of the CEC Environmental Centres for Administration and Technology (ECAT) were established in St. Petersburg and **Riga** on the basis of twinning arrangements with the German cities Bremen and Hamburg respectively. Both centres have started to work in 1993 and submitted progress reports to HELCOM PITF which suggest that these centres can provide valuable assistance for implementing the Programme.

9.6.4 Follow-up on status of Programme implementation

In order to have a succinct account of the status of Programme implementation HELCOM PITF 3 decided that HELCOM PITF member countries shall regularly update the status of implementation on the programme element-by-programme element basis and that PITF members and observers shall regularly update their financial or other assistance on the same basis as well as on a **country-by-country** basis while detailed reporting on Programme element 3 "Investment Activities" would be delivered on the basis of the questionnaires regarding "hot spots".

10. **DUMPED CHEMICAL MUNITION**

Matters relating to dumped chemical munitions have been considered by the Commission for several years. In 1993, the Commission decided to elaborate a Report on chemical munitions dumped in the Baltic Sea and established a special group for this purpose. The Report, elaborated on the basis of national information submitted by the Baltic Sea States, is available.

The Report concludes that there exists a good picture of the types and amounts of chemical munitions dumped in the Baltic Sea Area until and including 1947. About **40 000** tonnes of chemical munitions have been dumped in the Baltic Sea Area, of which no more than 13 000 tonnes are chemical warfare agents.

The following dumping sites were identified in the Convention Area: south-east of **Gotland** (south-west of Liepaja), east of Bornholm and south of Little Belt. These are known dumping sites. No information has been obtained on hitherto unknown dumping sites. There are indications that some munitions were thrown overboard during transport to the sites east of Bornholm and south-east of **Gotland**. Also, since some munitions were dumped in wooden cases they may have remained floating for some time and drifted away from where they were dumped.

Threats to the Baltic's coastal areas from residues of warfare agents or from chemical munitions washed ashore are unlikely.

Some Baltic Sea States have developed guidelines for fishermen with information on the dumping sites and on how to deal with chemical munitions caught in their fishing equipment. It is recommended that general Baltic Guidelines on these issues be elaborated.

Only poorly soluble and poorly degradable warfare agents can persist locally in the sediment, at elevated concentrations over a long period of time. According to existing knowledge, mustard gas or chemical warfare agents have not been found in any edible fish or other type of seafood at any concentration.

The risks attached to recovery of chemical munitions are high. Consequently, action taken to recover chemical munitions covered by the Report from the seabed is not recommended.

The conclusions and recommendations provided in the Report will be used as a basis for any further actions to be taken by the Commission.

11. COOPERATION OF THE COMMISSION WITH OTHER INTERNATIONAL ORGANIZATIONS

11.1 OBSERVER ORGANIZATIONS OF THE COMMISSION

11.1.1 The following organizations were observers of the Commission during 1993 (the first year of the observership given at the end)

Commission of the European Communities (CEC), 1990
Intergovernmental Oceanographic Commission (IOC), 1989
International Atomic Energy Agency (IAEA), 1986
International Baltic Sea Fishery Commission (IBSFC), 1980
International Council for the Exploration of the Sea (ICES), 1980
International Maritime Organization (IMO), 1980
Oslo and Paris Commissions (OSCOM/PARCOM), 1982
United Nations Economic Commission for Europe (ECE), 1980
United Nations Environment Programme (UNEP), 1980
World Health Organization, Regional Office for Europe (WHO/EURO), 1980
World Meteorological Organization (WMO), 1986

11.1.2 Non-governmental international organizations (the first year of the observership given at the end)

Coalition Clean Baltic (CCB), 1991
Stichting Greenpeace Council, Greenpeace International, 1989
World Wide Fund for Nature, International (WWF), 1991

11.1.3 The Helsinki Commission acts as observer to the following organizations

Intergovernmental Oceanographic Commission (IOC)
International Baltic Sea Fishery Commission (IBSFC)
International Council for the Exploration of the Sea (ICES)
International Maritime Organization (IMO)
International Oil Pollution Compensation Fund (IOPC Fund)
Oslo and Paris Commissions (OSCOM/PARCOM)
World Meteorological Organization (WMO)

11.2 OTHER INTERNATIONAL COOPERATION

Already since the interim period of the Commission in the **1970s**, experts of the Baltic Marine Biologists (BMB) and of the Conferences of the Baltic Oceanographers (CBO) actively participated in the work within the scientific-technological field. They contributed especially in preparations of appropriate monitoring guidelines and assessment of the effects of pollution to the Baltic Sea. In the **1980s**, the Commission, noting the valuable advice of these organizations in the environmental field, decided to continue the cooperation as earlier without formal observer status.

For the purpose of elaborating the Baltic Sea Joint Comprehensive Environmental Action Programme, the Conference held in Ronneby, Sweden, in September 1990 at Prime Minister level decided that an ad hoc high level Task Force should be established within HELCOM consisting of representatives of the Contracting Parties of the Helsinki Commission (Denmark, Finland, Germany, Poland, Sweden and the USSR), and Czechoslovakia, Norway, the Commission of the European Communities as well as the four multilateral development banks, the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Nordic Investment Bank (NIB) and the World Bank.

In April 1992, in Helsinki, the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area established a follow-up group within HELCOM for the implementation of the Joint Comprehensive Programme. The Members of the group (HELCOM PITF) are Belarus, Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Norway, Poland, Russia, Sweden, the Ukraine and the banks, EBRD, EIB, NIB, NEFCO, and the World Bank, as well as the International Baltic Sea Fishery Commission. HELCOM PITF has also observer organizations, which are not yet observers of the Helsinki Commission, such as Union of the Baltic Cities, International Council for Local Environmental Governments (ICLEI) and Standing Conference of Rectors, Presidents and Vice-Chancellors of the European Universities (CRE).

11.3 OTHER ORGANIZATIONS AND ACTIVITIES WORKING FOR THE BENEFIT OF THE BALTIC SEA

11.3.1 Bilateral cooperation

Bilateral cooperation between the Baltic Sea States started already in 1968 with an agreement concerning protection of the Gulf of Finland. Similar bilateral intergovernmental cooperation was established in 1972 concerning research on the pollution of the Gulf of Bothnia. In 1973, research cooperation between Sweden and the USSR was signed in Riga concerning studies in the Baltic Sea. Bilateral scientific working groups between Denmark and Sweden have considered the changes in the Sound and Kattegat since the late 1970s. Later on, in the 1980s and 1990s, new bilateral activities have been agreed upon between several other countries, such as Germany, Poland, Estonia, Latvia, Lithuania and Russia.

11.3.2 Multilateral cooperation

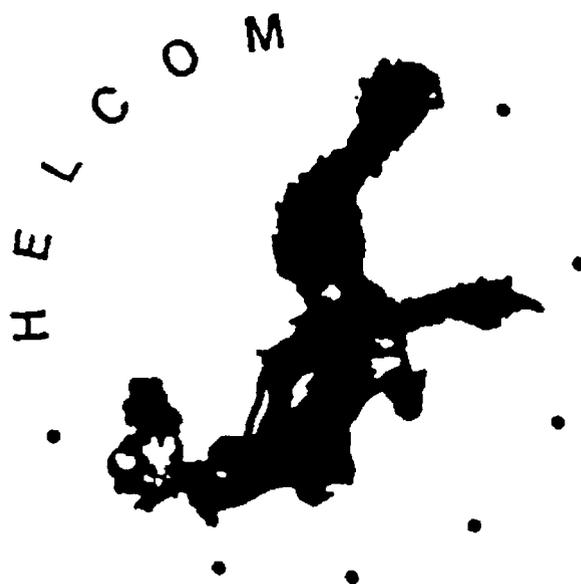
Ministries of Transport have established a Working Group on Transport and Environment in the Baltic Sea area. The outcome of the work of this group can be beneficial for the marine environment of the Baltic Sea through possible regulations on motor vehicle exhaust.

Twin-city arrangements between Hamburg and St. Petersburg and Bremen and Riga respectively have led to the establishment of environmental centres in 1993 in St. Petersburg and Riga for promoting the dissemination and application of administrative and technological methods for protecting the environment and the Baltic Sea. United Nations Economic Commission of Europe (ECE) in cooperation with some other intergovernmental organizations in 1993 established a project for an Environmental Action Plan for Europe including parts of the Baltic Sea Joint Comprehensive Environmental Action Plan adopted in 1992, which calls for close follow-up of these activities.

There are various bodies with long tradition working for the benefit of the environment in the auspices of the Nordic Council of Ministers with a link also to the HELCOM work in abatement of pollution. Such bodies are the Committee of Senior Officials for Environmental Protection and its expert groups. Important are also the Nordic Council and especially its standing Committee for Social and Environmental Policy. Ministers of the Baltic Sea States responsible for physical planning are working for a long-term plan "Vision 2010", linked consequently to the HELCOM activities in the protection of the environment of the Baltic Sea. The Baltic Sea States have signed and are in the progress to implement a number of other environmental conventions and protocols agreed, e.g., within UN on global or European level, which will, if implemented, affect also the marine environment of the Baltic Sea.

ANNEXES

CONVENTION
ON THE PROTECTION OF THE MARINE ENVIRONMENT
OF THE BALTIC SEA AREA, 1974
(HELSINKI CONVENTION)



The present issue of the Convention includes the amendments to its Annexes adopted by the Helsinki Commission in 1983, 1987, 1989, 1990, 1992 and 1993 and correction of a printing error appearing in the original text of the Convention. These amendments and the correction are listed on page 33.

December 1993

**CONVENTION ON THE PROTECTION OF THE MARINE ENVIRONMENT
OF THE BALTIC SEA AREA**

THE STATES PARTIES TO THIS CONVENTION

CONSCIOUS of the indispensable economic, social and cultural values of the marine environment of the Baltic Sea Area and its living resources for the peoples of the Contracting Parties;

BEARING in mind the exceptional hydrographic and ecological characteristics of the Baltic Sea Area and the sensitivity of its living resources to changes in the environment;

NOTING the rapid development of human activities at the Baltic Sea Area, the considerable population living within its catchment area and the highly urbanized and industrialized state of the Contracting Parties as well as their intensive agriculture and forestry;

NOTING with deep concern the increasing pollution of the Baltic Sea Area, originating from many sources such as discharges through rivers, estuaries, **outfalls** and pipelines, dumping and normal operations of vessels as well as through airborne pollutants;

CONSCIOUS of the responsibility of the Contracting Parties to protect and enhance the values of the marine environment of the Baltic Sea Area for the benefit of their peoples;

RECOGNIZING that the protection and enhancement of the marine environment of the Baltic Sea Area are tasks that cannot effectively be accomplished by national efforts only but that also close regional co-operation and other appropriate international measures aiming at fulfilling these tasks are urgently needed;

NOTING that the relevant recent international conventions even after having entered into force for the respective Contracting Parties do not cover all special requirements to protect and enhance the marine environment of the Baltic Sea Area;

NOTING the importance of scientific and technological co-operation in the protection and enhancement of the marine environment of the Baltic Sea Area, particularly between the Contracting Parties;

DESIRING to develop further regional co-operation in the Baltic Sea Area, the possibilities and requirements of which were confirmed by the signing of the Convention on Fishing and Conservation of the Living Resources in the Baltic Sea and the Belts, Gdansk 1973;

CONSCIOUS of the importance of regional intergovernmental co-operation in the protection of the marine environment of the Baltic Sea Area as an integral part of the peaceful co-operation and mutual understanding between all European States;

HAVE AGREED as follows:

Article 1
Convention Area

For the purposes of the present Convention "the Baltic Sea Area" shall be the Baltic Sea proper with the Gulf of Bothnia, the Gulf of Finland and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerrak at 57° 44.8'N. It does not include internal waters of the Contracting Parties.

Article 2
Definitions

For the purposes of the present Convention:

1. "Pollution" means introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, resulting in such deleterious effects as hazard to human health, harm to living resources and marine life, hindrance to legitimate uses of the sea including fishing, impairment of the quality for use of sea water, and reduction of amenities;
2. "Land-based pollution" means pollution of the sea caused by discharges from land reaching the sea waterborne, airborne or directly from the coast, including **outfalls** from pipelines;
3. a) "Dumping" means:
 - (i) any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures at **sea**;
 - (ii) any deliberate disposal at sea of vessels, aircraft, platforms or other man-made structures at sea;b) "Dumping" does not include:
 - (i) the disposal at sea of wastes or other matter incidental to, or derived from the normal operations of vessels, aircraft, platforms or other man-made structures at sea and their equipment, other than wastes or other matter transported by or to vessels, aircraft, platforms or other man-made structures at sea, operating for the purpose of disposal of such matter or derived from the treatment of such wastes or other matter on such vessels, aircraft, platforms or structures;
 - (ii) placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of the present Convention;
4. "Vessels and aircraft" means waterborne or airborne craft of any type whatsoever. This expression includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft whether self-propelled or not, and fixed or floating platforms;
5. "Oil" means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products;
6. "Harmful substance" means any hazardous, noxious or other substance, which, if introduced into the sea, is liable to cause pollution;
7. "Incident" means an event involving the actual or probable discharge into the sea of a harmful substance, or effluents containing such a substance.

Article 3
Fundamental principles and obligations

1. The Contracting Parties shall individually or jointly take all appropriate legislative, administrative or other relevant measures in order to prevent and abate pollution and to protect and enhance the marine environment of the Baltic Sea Area.

2. The Contracting Parties shall use their best endeavours to ensure that the implementation of the present Convention shall not cause an increase in the pollution of sea areas outside the Baltic Sea Area.

Article 4
Application

1. The present Convention shall apply to the protection of the marine environment of the Baltic Sea Area which comprises the water-body and the seabed including their living resources and other forms of marine life.

2. Without prejudice to the sovereign rights in regard to their territorial sea, each Contracting Party shall implement the provisions of the present Convention within its territorial sea through its national authorities.

3. While the provisions of the present Convention do not apply to internal waters, which are under the sovereignty of each Contracting Party, the Contracting Parties undertake, without prejudice to the sovereign rights, to ensure that the purposes of the present Convention will be obtained in these waters.

4. The present Convention shall not apply to any warship, naval auxiliary, military aircraft or other ship and aircraft owned or operated by a State and used, for the time being, only on government non-commercial service.

However, each Contracting Party shall ensure, by the adoption of appropriate measures not impairing the operations or operational capabilities of such ships and aircraft owned or operated by it, that such ships and aircraft act in a manner consistent, so far as is reasonable and practicable, with the present Convention.

Article 5
Hazardous substances

The Contracting Parties undertake to counteract the introduction, whether airborne, waterborne or otherwise, into the Baltic Sea Area of hazardous substances as specified in Annex I of the present Convention.

Article 6
Principles and obligations concerning
land-based pollution

1. The Contracting Parties shall take all appropriate measures to control and minimize land-based pollution of the marine environment of the Baltic Sea Area.

2. In particular, the Contracting Parties shall take all appropriate measures to control and strictly limit pollution by noxious substances and materials in accordance with Annex II of the present Convention. To this end they shall, inter alia, as appropriate co-operate in the development and adoption of specific programmes, guidelines, standards or regulations concerning discharges, environmental quality, and products containing such substances and materials and their use.

3. The substances and materials listed in Annex II of the present Convention shall not be introduced into the marine environment of the Baltic Sea Area in significant quantities without a prior special permit, which may be periodically reviewed, by the appropriate national authority.

4. The appropriate national authority will inform the Commission referred to in Article 12 of the present Convention of the quantity, quality and way of discharge if it considers that significant quantities of substances and materials listed in Annex II of the present Convention were discharged.

5. The Contracting Parties shall endeavour to establish and adopt common criteria for issuing permits for discharges.

6. To control and minimize pollution of the Baltic Sea Area by harmful substances the Contracting Parties shall, in addition to the provisions of Article 5 of the present Convention, aim at attaining the goals and applying the criteria enumerated in Annex III of the present Convention.

7. If the discharge from a watercourse, flowing through the territories of two or more Contracting Parties **or** forming a boundary between them, is liable to cause pollution of the marine environment of the Baltic Sea Area, the Contracting Parties concerned shall in common take appropriate measures in order to prevent and abate such pollution.

8. The Contracting Parties shall endeavour to use best practicable means in order to minimise the airborne pollution of the Baltic Sea Area by noxious substances.

Article 7 Prevention of pollution from ships

1. In order to protect the Baltic Sea Area from pollution by deliberate, negligent or accidental release of oil, harmful substances other than oil, and by the discharge of sewage and garbage from ships, The Contracting Parties shall take measures as set out in Annex IV of the present Convention.

2. The Contracting Parties shall develop and apply uniform requirements for the capacity and location of facilities for the reception of residues of oil, harmful substances other than oil, including sewage and garbage, taking into account inter alia the special needs of passenger ships and combination carriers.

Article 8 Pleasure Craft

The Contracting Parties shall, in addition to implementing those provisions of the present Convention which can appropriately be applied to pleasure craft, take special measures in order to abate harmful effects on the marine environment of the Baltic Sea Area of pleasure craft activities. The measures shall inter alia deal with adequate reception facilities for wastes from pleasure craft.

Article 9 Prevention of dumping

1. The Contracting Parties shall, subject to Paragraphs 2 and 4 of this Article, prohibit dumping in the Baltic Sea Area.

2. Dumping of dredged spoils shall be subject to a prior special permit by the appropriate national authority in accordance with the provisions of Annex V of the present Convention.

3. Each Contracting Party undertakes to ensure compliance with the provisions of this Article by vessels and aircraft:

- a) registered in its territory or flying its flag;
- b) loading, within its territory or territorial sea, matter which is to be dumped; or
- c) believed to be engaged in dumping within its territorial sea.

4. The provisions of this Article shall not apply when the safety of human life or of a vessel or aircraft at sea is threatened by the complete destruction or total loss of the vessel or aircraft, or in any case which constitutes a danger to human life, if dumping appears to be the only way of averting the threat and if there is every probability that the damage consequent upon such dumping will be less than would otherwise occur. Such dumping shall be so conducted as to minimize the likelihood of damage to human or marine life.

5. Dumping made under the provisions of Paragraph 4 of this Article shall be reported and dealt with in accordance with Annex VI of the present Convention and shall be reported forthwith to the Commission referred to in Article 12 of the present Convention in accordance with the provisions of Regulation 4 of Annex V of the present Convention.

6. In case of dumping suspected to be in contravention of the provisions of this Article the Contracting Parties shall co-operate in investigating the matter in accordance with Regulation 2 of Annex IV of the present Convention.

Article 10

Exploration and exploitation of the sea-bed and its subsoil

Each Contracting Party shall take all appropriate measures in order to prevent pollution of the marine environment of the Baltic Sea Area resulting from exploration or exploitation of its part of the sea-bed and its subsoil or from any associated activities thereon. It shall also ensure that adequate equipment is at hand to start an immediate abatement of pollution in that area.

Article 11

Co-operation in combatting marine pollution

The Contracting Parties shall take measures and co-operate as set out in Annex VI of the present Convention in order to eliminate or minimize pollution of the Baltic Sea Area by oil or other harmful substances.

Article 12

Institutional and organizational framework

1. The Baltic Marine Environment Protection Commission, hereinafter referred to as "the Commission", is hereby established for the purposes of the present Convention.

2. The chairmanship of the Commission shall be given to each Contracting Party in turn in alphabetical order of the names of the States in the English language.

The Chairman shall serve for a period of two years, and cannot during the period of his chairmanship serve as representative of his country.

Should the chairmanship fall vacant, the Contracting Party chairing the Commission shall nominate a successor to remain in office until the term of chairmanship of that Contracting Party expires.

3. Meetings of the Commission shall be held at least once a year upon convocation by the Chairman. Upon the request of a Contracting Party, provided it is endorsed by another Contracting Party, the Chairman shall, as soon as possible, summon an extraordinary meeting at such time and place as the Chairman determines, however, not later than ninety days from the date of the submission of the request.

4. The first meeting of the Commission shall be called by the Depositary Government and shall take place within a period of ninety days from the date following the entry into force of the present Convention.

5. Each Contracting Party shall have one vote in the Commission. Unless otherwise provided under the present Convention, the Commission shall take its decisions unanimously.

Article 13 The duties of the Commission

The duties of the Commission shall be:

- a) To keep the implementation of the present Convention under continuous observation;
- b) To make recommendations on measures relating to the purposes of the present Convention;
- c) To keep under review the contents of the present Convention including its Annexes and to recommend to the Contracting Parties such amendments to the present Convention including its Annexes as may be required including changes in the lists of substances and materials as well as the adoption of new Annexes;
- d) To define pollution control criteria, objectives for the reduction of pollution, and objectives concerning measures, particularly according to Annex III of the present Convention;
- e) To promote in close co-operation with appropriate governmental bodies, taking into consideration Sub-Paragraph f) of this Article, additional measures to protect the marine environment of the Baltic Sea Area and for this purpose:
 - (i) to receive, process, summarize and disseminate from available sources relevant scientific, technological and statistical information; and
 - (ii) to promote scientific and technological research;
- f) To seek, when appropriate, the services of competent regional and other international **organizations** to collaborate in scientific and technological research as well as other relevant activities pertinent to the objectives of the present Convention;
- g) To assume such other functions as may be appropriate under the terms of the present Convention.

Article 14 Administrative provisions for the Commission

- 1. The working language of the Commission shall be English.
- 2. The Commission shall adopt its Rules of Procedure.

3. The office of the Commission, hereafter referred to as the "Secretariat", shall be in Helsinki.

4. The Commission shall appoint an Executive Secretary and make provisions for the appointment of such other personnel as may be necessary, and determine the duties, terms and conditions of the Executive Secretary.

5. The Executive Secretary shall be the chief administrative official of the Commission and shall perform the functions that are necessary for the administration of the present Convention, the work of the Commission and other tasks entrusted to the Executive Secretary by the Commission and its Rules of Procedure.

Article 15

Financial provisions for the Commission

1. The Commission shall adopt its Financial Rules.

2. The Commission shall adopt an annual or biennial budget of proposed expenditures and budget estimates for the fiscal period following thereafter.

3. The total amount of the budget, including any supplementary budget adopted by the Commission, shall be contributed by the Contracting Parties in equal parts, unless the Commission unanimously decides otherwise. In addition to the contributions made by its Member States the European Economic Community will contribute at most 2.5% of the administrative costs of the budget.

4. Each Contracting Party shall pay the expenses related to the participation in the Commission of its representatives, experts and advisers.

Article 16

Scientific and technological co-operation

1. The Contracting Parties undertake directly, or when appropriate through competent regional or other international organizations, to co-operate in the fields of science, technology and other research, and to exchange data as well as other scientific information for the purposes of the present Convention.

2. Without prejudice to Paragraphs 1, 2 and 3 of Article 4 of the present Convention the Contracting Parties undertake directly, or when appropriate through competent regional or other international organizations, to promote studies, undertake, support or contribute to programmes aimed at developing ways and means for the assessment of the nature and extent of pollution, pathways, exposures, risks and remedies in the Baltic Sea Area, and particularly to develop alternative methods of treatment, disposal and elimination of such matter and substances that are likely to cause pollution of the marine environment of the Baltic Sea Area.

3. The Contracting Parties undertake directly, or when appropriate through competent regional or other international organizations, and, on the basis of the information and data acquired pursuant to Paragraphs 1 and 2 of this Article, to co-operate in developing inter-comparable observation methods, in performing baseline studies and in establishing complementary or joint programmes for monitoring.

4. The organization and scope of work connected with the implementation of tasks referred to in the preceding Paragraphs should primarily be outlined by the Commission.

Article 17

Responsibility for damage

The Contracting Parties undertake, as soon as possible, jointly to develop and accept rules concerning responsibility for damage resulting from acts or omissions in contravention of the present Convention, including, inter alia, limits of responsibility, criteria and procedures for the determination of liability and available remedies.

Article 18

Settlement of disputes

1. In **case** of a dispute between Contracting Parties as to the interpretation or application of the present Convention, they should seek a solution by negotiation. If the Parties concerned cannot reach agreement they should seek the good offices of or jointly request the mediation by a third Contracting Party, a qualified international organization or a qualified person.

2. If the Parties concerned have not been able to resolve their dispute through negotiation or have been unable to agree on measures as described above, such disputes shall be, upon common agreement, submitted to an ad-hoc arbitration tribunal, to a permanent arbitration tribunal, or to the International Court of Justice.

Article 19

Safeguard of certain freedoms

Nothing in the present Convention shall be construed as infringing upon the freedom of navigation, fishing, marine scientific research and other legitimate uses of the high seas, as well as upon the right of innocent passage through the territorial sea.

Article 20

Status of Annexes

The Annexes attached to the present Convention form an integral part of the Convention.

Article 21

Relation to other Conventions

The provisions of the present Convention shall be without prejudice to the rights and obligations of the Contracting Parties under treaties concluded previously as well as under treaties which may be concluded in the future, furthering and developing the general principles of the Law of the Sea that the present Convention is based upon and in particular provisions concerning the prevention of pollution of the marine environment.

Article 22

Revision of the Convention

A conference for the purpose of a general revision of the present Convention may be convened with the consent of the Contracting Parties or at the request of the Commission.

Article 23

Amendments to the Articles of the Convention

1. Each Contracting Party may propose amendments to the Articles of the present Convention. Any such proposed amendment shall be submitted to the Depositary Government and communicated by it to all Contracting Parties, which shall inform the Depositary Government of either their acceptance or rejection of the amendment as soon as possible after the receipt of the communication.

The amendment shall enter into force ninety days after the Depositary Government has received notifications of acceptance of that amendment from all Contracting Parties.

2. With the consent of the Contracting Parties or at the request of the Commission a conference may be convened for the purpose of amending the present Convention.

Article 24

Amendments to the Annexes and the adoption of Annexes

1. Any amendment to the Annexes proposed by a Contracting Party shall be communicated to the other Contracting Parties by the Depositary Government and considered in the Commission. If adopted by the Commission, the amendment shall be communicated to the Contracting Parties and recommended for acceptance.

2. Such amendment shall be deemed to have been accepted at the end of a period determined by the Commission unless within that period any one of the Contracting Parties has objected to the amendment. The accepted amendment shall enter into force on a date determined by the Commission.

The period determined by the Commission shall be prolonged for an additional period of six months and the date of entry into force of the amendment postponed accordingly, if, in exceptional cases, any Contracting Party before the expiring of the period determined by the Commission informs the Depositary Government, that, although it intends to accept the proposal, the constitutional requirements for such an acceptance are not yet fulfilled in its State.

3. An Annex to the present Convention may be adopted in accordance with the provisions of this Article.

4. The Depositary Government shall inform all Contracting Parties of any amendments or the adoption of a new Annex which enter into force under this Article and of the date on which such amendment or new Annex enters into force.

5. Any objection under this Article shall be made by notification in writing to the Depositary Government which shall notify all Contracting Parties and the Executive Secretary of any such notification and the date of its receipt.

Article 25

Reservations

1. The provisions of the present Convention shall not be subject to reservations.

2. The provision of Paragraph 1 of this Article does not prevent a Contracting Party from suspending for a period not exceeding one year the application of an Annex of the present Convention or part thereof or an amendment thereto after the Annex in question or the amendment thereto has entered into force.

3. If after the entry into force of the present Convention a Contracting Party invokes the provisions of Paragraph 2 of this Article it shall inform the other Contracting Parties, at the time of the adoption by the Commission of an amendment to an Annex, or a new Annex, of those provisions which will be suspended in accordance with Paragraph 2 of this Article.

Article 26

Signature, ratification, approval, and accession

1. The present Convention shall be open for signature in Helsinki on 22 March 1974 by the Baltic Sea States participating in the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area, held in Helsinki from 18 to 22 March 1974. The present Convention shall be open for accession to any other State interested in fulfilling the aims and purposes of the present Convention, provided that this State is invited by all the Contracting Parties.

2. The present Convention shall be open for accession by the European Economic Community. Within the area of its competence, the European Economic Community is entitled to a number of votes equal to the number of its Member States which are Contracting Parties to the present Convention. The European Economic Community shall not exercise its right to vote in cases where its Member States exercise theirs and conversely.

3. The present Convention shall be subject to ratification or approval by the States which have signed it.

4. The instruments of ratification, approval, or accession shall be deposited with the Government of Finland, which will perform the duties of the Depositary Government.

Article 27

Entry into force

1. The present Convention shall enter into force two months after the deposit of the seventh instrument of ratification or approval.

2. For the European Economic Community acceding to the Convention according to Article 26 the Convention shall enter into force two months after the deposit of the instrument of accession.

Article 28

Withdrawal

1. At any time after the expiry of five years from the date of entry into force of the present Convention any Contracting Party may, by giving written notification to the Depositary Government, withdraw from the present Convention. The withdrawal shall take effect for such Contracting Party on the thirty-first day of December of the year which follows the year in which the Depositary Government was notified of the withdrawal.

2. In case of notification of withdrawal by a Contracting Party the Depositary Government shall convene a meeting of the Contracting Parties for the purpose of considering the effect of the withdrawal.

Article 29

Language

The present Convention has been drawn up in a single copy in the English language. Official translations into the Danish, Finnish, German, Polish, Russian, and Swedish languages shall be prepared and deposited with the signed original.

IN WITNESS WHEREOF the undersigned Plenipotentiaries, being duly authorised thereto, have signed the present Convention.

DONE AT HELSINKI, this twenty-second day of March one thousand nine hundred and seventy-four.

For Denmark
Holger Hansen

For Finland:
Jermu Laine

For the German Democratic Republic:
Hans Reichelt

For the Federal Republic of Germany:
Hans-Georg Sachs

For the Polish People's Republic:
Jerzy Kusiak

For Sweden:
Svante Lundkvist

For the Union of Soviet Socialist Republics:
E.E. Alexeevsky

HAZARDOUS SUBSTANCES

The protection of the Baltic Sea Area from pollution by the substances listed below can involve the use of appropriate technical means, prohibitions and regulations of the transport, trade, handling, application, and final **deposition** of products containing such substances.

1. DDT (**1,1,1-trichloro-2,2-bis-(chlorophenyl)-ethane**) and its derivatives DDE and DDD
2. **PCB's** (polychlorinated biphenyls)
3. **PCT's** (polychlorinated terphenyls)

NOXIOUS SUBSTANCES AND MATERIALS

The following substances and materials are listed for the purposes of Article 6 of the present Convention.

The list is valid for substances and materials introduced as waterborne into the marine environment. The Contracting Parties shall also endeavour to use best practicable means to prevent harmful substances and materials from being introduced as airborne to the Baltic Sea Area.

A. For urgent consideration

1. Mercury, cadmium, and their compounds

B.

2. Antimony, arsenic, beryllium, chromium, copper, lead, molybdenum, nickel, selenium, tin, vanadium, zinc, and their compounds, as well as elemental phosphorus.
3. Phenols and their derivatives.
4. Phthalic acid and its derivatives.
5. Cyanides
6. Persistent halogenated hydrocarbons.
7. Polycyclic aromatic hydrocarbons and their derivatives.
8. Persistent toxic organosilicic compounds.
9. Persistent pesticides, including organophosphoric and organostannic pesticides, herbicides, slimicides and chemicals used for the preservation of wood, timber, wood pulp, cellulose, paper, hides and textiles, not covered by the provisions of Annex I of the present Convention.
10. Radioactive materials.
11. Acids, alkalis and surface active agents in high concentrations or big quantities.
12. Oil and wastes of petrochemical and other industries containing lipid-soluble substances.
13. Substances having adverse effects on the taste and/or smell of products for human consumption from the sea, or effects on taste, smell, colour, transparency or other characteristics of the water seriously reducing its amenity values.
14. Materials and substances which may float, remain in suspension or sink, and which may seriously interfere with any legitimate use of the sea.
15. Lignin substances contained in industrial waste waters.
16. The chelators EDTA (ethylenedinitrilotetraacetic acid or ethylenediaminetetraacetic acid) and DTPA (diethylenetriaminopentaacetic acid).

**GOALS, CRITERIA AND MEASURES CONCERNING THE PREVENTION OF
LAND-BASED POLLUTION**

In accordance with the provisions of Article 6 of the present Convention the Contracting Parties shall endeavour to attain the goals and apply the criteria and measures enumerated in this Annex in order to control and minimize **land-based** pollution of the marine environment of the Baltic Sea Area.

1. Municipal sewage shall be treated in an appropriate way so that the amount of organic matter does not cause harmful changes in the oxygen content of the Baltic Sea Area and the amount of nutrients does not cause harmful eutrophication of the Baltic Sea Area.
2. Municipal sewage shall also be treated in an appropriate way to ensure that the hygienic quality, and in particular epidemiological and toxicological safety, of the receiving sea area is maintained at a level which does not cause harm to human health, and in a way that under the given composition of the sewage no significant amount of such harmful substances as are listed in Annexes I and II of the present Convention is formed.
3. The polluting load of industrial wastes shall be minimized in an appropriate way in order to reduce the amount of harmful substances, organic matter and nutrients.
4. The means referred to in Paragraph 3 of this Annex shall in particular include minimization of production of wastes by processing techniques, re-circulation and re-use of processing water, developing of water economy and improvement of qualifications for water treatment. In the treatment of waste water mechanical, chemical, biological and other measures, according to the quality of the waste water, and as required to maintain to improve the quality of the recipient water, shall be applied.
5. The discharge of cooling water from nuclear power plants or other kinds of industries using large amounts of water shall be effected in a way which minimizes the pollution of the marine environment of the Baltic Sea Area.
6. The Commission will define pollution control criteria, objectives for reduction of pollution and objectives concerning measures, including processing techniques and waste treatment, to reduce pollution of the Baltic Sea Area.

PREVENTION OF POLLUTION FROM SHIPS

REGULATION 1

The Contracting Parties shall, in matters concerning the protection of the Baltic Sea Area from pollution by ships, co-operate

- a) within the International Maritime Organisation, in particular in promoting the development of international rules,
- b) in the effective and harmonized implementation of rules adopted by the International Maritime Organization

REGULATION 2

The Contracting Parties shall, without prejudice to Paragraph 4 of Article 4 of the present Convention, as appropriate, assist each other in investigating violations of the existing legislation on anti-pollution measures, which have occurred or are suspected to have occurred within the Baltic Sea Area. This assistance may include but is not limited to inspection by the competent authorities of oil record books, cargo record books, log books and engine log books and taking oil samples for analytical identification purposes.

REGULATION 3

DEFINITIONS

For the purposes of this Annex:

1. "Ship" means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms.
2. "Administration" means the Government of the State under whose authority the ship is operating. With respect to a ship entitled to fly a flag of any State, the Administration is the Government of that State. With respect to fixed or floating platforms engaged in exploration and exploitation of the sea-bed and subsoil thereof adjacent to the coast over which the coastal State exercises sovereign rights for the purposes of exploration and exploitation of their natural resources, the Administration is the Government of the coastal State concerned.
3. a) "Discharge", in relation to harmful substances or effluents containing such substances, means any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying;
b) "Discharge" does not include:
 - i) dumping within the meaning of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter done at London on 29 December 1972; or
 - ii) release of harmful substances directly arising from the exploration, exploitation and associated off-shore processing of **sea-bed mineral resources; or**

- iii) release of harmful substances for purposes of legitimate scientific research into pollution abatement or control.
4. "Nearest land". The term "from the nearest land" means from the baseline from which the territorial sea of the territory in question is established in accordance with international law.
5. The term "jurisdiction" shall be interpreted in accordance with international law in force at the time of application or interpretation of this Annex.
6. The term "MARPOL 73/78" means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto.

REGULATION 4

OIL

The Contracting Parties, also being parties to MARPOL 73/78, apply in conformity with that agreement the provisions of Annex I of MARPOL 73/78 for the prevention of pollution by oil.

REGULATION 5

NOXIOUS LIQUID SUBSTANCES

The Contracting Parties, also being parties to MARPOL 73/78, apply in conformity with that agreement the provisions of Annex II of MARPOL 73/78 for the prevention of pollution by noxious liquid substances carried in bulk.

REGULATION 6

HARMFUL SUBSTANCES IN PACKAGED FORMS

The Contracting Parties, also being parties to MARPOL 73/78, apply in conformity with that agreement the provisions of Annex III of MARPOL 73/78 for the prevention of pollution by harmful substances in packaged forms.

REGULATION 7

SEWAGE

The Contracting Parties shall apply the provisions of Paragraphs A to D and F and G of this Regulation on discharge of sewage from ships while operating in the Baltic Sea Area.

A. Definitions

For the purposes of this Regulation:

1. "Sewage" means:
 - a) drainage and other wastes from any form of toilets, urinals, and WC scuppers;

- b) drainage from medical premises (dispensary, sick bay, etc) via wash basins, wash tubs and **scuppers** located in such premises;
- c) drainage from spaces containing living animals; or
- d) other waste waters when mixed with the drainages defined above.

2. "Holding tank" means a tank used for the collection and storage of sewage.

B. Application

The provisions of this Regulation shall apply to:

- a) ships of 200 tons gross tonnage and above;
- b) ships of less than 200 tons gross tonnage which are certified to carry more than 10 persons;
- c) ships which do not have a measured gross tonnage and are certified to carry more than 10 persons.

C. Discharge of sewage

1. Subject to the provisions of Paragraph D of this Regulation, the discharge of sewage into the sea is prohibited, except when:

- a) the ship is discharging comminuted and disinfected sewage using a system approved by the Administration at a distance of more than 4 nautical miles from the nearest land, or sewage which is not comminuted or disinfected at a distance of more than 12 nautical miles from the nearest land, provided that in any case the sewage that has been stored in holding tanks shall not be discharged instantaneously but at a moderate rate when the ship is en route and proceeding at not less than 4 knots; or
- b) the ship has in operation a sewage treatment plant which has been approved by the Administration, and
 - i) the test results of the plant are laid down in a document carried by the ship;
 - ii) additionally, the effluent shall not produce visible floating solids in, nor cause discolouration of the surrounding water; or
- c) the ship is situated in the waters under the jurisdiction of a State and is discharging sewage in accordance with such less stringent requirements as may be imposed by such State.

2. When the sewage is mixed with wastes or waste water having different discharge requirements, the more stringent requirements shall apply.

D. Exceptions

Paragraph C of this Regulation shall not apply to:

- a) the discharge of sewage from a ship necessary for the purpose of securing the safety of a ship and those on board or saving life at sea; or
- b) the discharge of sewage resulting from damage to a ship or its equipment if all reasonable precautions have been taken before and after the occurrence of the damage for the purpose of preventing or minimizing the discharge.

E. Reception facilities

- 1. Each Contracting Party undertakes to ensure the provision of facilities at its ports and terminals of the Baltic Sea Area for the reception of sewage, without causing undue delay to ships, adequate to meet the needs of the ship using them.

2. To enable pipes of reception facilities to be connected with the ship's discharge pipeline, both lines shall be fitted with a standard discharge connection in accordance with the following table:

STANDARD DIMENSIONS OF FLANGES FOR DISCHARGE CONNECTIONS

Description	Dimension
Outside diameter	210 mm
Inner diameter	According to pipe outside diameter
Bolt circle diameter	170 mm
Slots in flange..	4 holes 18 mm in diameter equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery. The slot width to be 18 mm
Flange thickness	16 mm
Bolts -and nuts: quantity and diameter.	4, each -of 16 mm in diameter and of suitable length

The flange is designed to accept pipes up to a maximum internal diameter of 100 mm and shall be of steel or other equivalent material having a flat face. This flange, together with a suitable gasket, shall be suitable for a service pressure of 6 kg/ cm².

For ships having a moulded depth of 5 meters and less, the inner diameter of the discharge connection may be 38 millimetres.

F. Surveys

1. Ships which are engaged in international voyages in the Baltic Sea Area shall be subject to surveys specified below:
 - a) An initial survey before the ship is put in service or before the Certificate required under Paragraph G of this Regulation is issued for the first time, which shall include a survey of the ship which shall be such as to ensure:
 - i) when the ship is equipped with a sewage treatment plant the plant shall meet operational requirements based on standards and the test methods recommended by the Commission* and shall be approved by the Administration;
 - ii) when the ship is fitted with a system to comminute and disinfect the sewage, such a system shall meet operational requirements based on standards and the test methods recommended by the Commission* and shall be approved by the Administration;

- iii) when the ship is equipped with a holding tank the capacity of such tank shall be to the satisfaction of the Administration for the retention of all sewage having regard to the operation of the ship, the number of persons on board and other relevant factors. The holding tank shall meet operational requirements based on standards and the test methods recommended by the Commission* and shall be approved by the Administration; and
- iv) that the ship is equipped with a pipeline to discharge sewage to a reception facility. The pipeline should be fitted with a standard shore connection in accordance with Paragraph E or for ships in dedicated trades alternatively with other standards which can be accepted by the Administration such as quick connection couplings.

This survey shall be such as to ensure that equipment, fittings, arrangements and material fully comply with the applicable requirements of this Regulation.

The Administration shall **recognize** the "Certificate of Type Test" for sewage treatment plants issued under the authority of other Contracting Parties.

- b) Periodical surveys at intervals specified by the Administration but not exceeding five years which shall be such as to ensure that the equipment, fittings, arrangements and material fully comply with the applicable requirements of this Regulation.

2. Surveys of the ship as regards enforcement of the provisions of this Regulation shall be carried out by officers of the Administration. The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations **recognized** by it. In every case the Administration concerned fully guarantees the completeness and efficiency of the surveys.
3. After any survey of the ship has been completed, no significant change shall be made in the equipment, fittings, arrangements, or material covered by the survey without the approval of the Administration, except the direct replacement of such equipment or fittings.

G. Certificate

1. A Sewage Pollution Prevention Certificate shall be issued to ships certified to carry more than 50 persons which are engaged in international voyages in the Baltic Sea Area, after survey in accordance with the provisions of Paragraph F of this Regulation.
2. Such Certificate shall be issued either by the Administration or by any person or organization duly authorized by it. In every case the Administration assumes full responsibility for the Certificate.
3. The Sewage Prevention Certificate shall be drawn up in the form corresponding to the model given in the appendix to Annex IV of MARPOL 73/78, as the Contracting Parties also being parties to MARPOL 73/78. If the language is not English, the text shall include a translation into English.
4. A Sewage Pollution Prevention Certificate shall be issued for a period certified by the Administration, which shall not exceed five years.

* Reference is made to HELCOM Recommendation 1/5

5. A Certificate shall cease to be valid if significant alternations have taken place in the equipment, fittings, arrangement or material required without the approval of the Administration except the direct replacement of such equipment or fittings.

REGULATION 8

GARBAGE

The Contracting Parties, also being parties to **MARPOL 73/78**, apply in conformity with that agreement the provisions of Annex V of **MARPOL 73/78** for the prevention of pollution by garbage from ships.

REGULATION 9 *)

INCINERATION OF SHIP-GENERATED WASTES ON BOARD SHIPS

A. Definition

For the purpose of this Regulation "incineration of ship-generated wastes on board ships" means the deliberate combustion of ship-generated wastes, incidental to the normal operation of ships, for the purpose of thermal destruction of such wastes.

B. Prohibition

The Contracting Parties shall prohibit any incineration of ship-generated wastes on board ships, irrespective of their nationality, operating in their territorial seas.

*) The Regulation enters into force on 1 January 1995

EXCEPTIONS FROM THE GENERAL PROHIBITION OF DUMPING OF
WASTE AND OTHER MATTER IN THE BALTIC SEA AREA

REGULATION 1

In accordance with Paragraph 2 of Article 9 of the present Convention the prohibition of dumping shall not apply to the disposal at sea of dredged spoils provided that:

1. They do not contain significant quantities and concentrations of substances to be defined by the Commission and listed in Annexes I and II of the present Convention; and
2. The dumping is carried out under a prior special permit given by the appropriate national authority, either
 - a) within the area of the territorial sea of the Contracting Party; or
 - b) outside the area of the territorial sea, whenever necessary, after prior consultations in the Commission.

When issuing such permits the Contracting Party shall comply with the provisions in Regulation 3 of this Annex.

REGULATION 2

1. The appropriate national authority referred to in Paragraph 2 of Article 9 of the present Convention shall:
 - a) issue special permits provided for in Regulation 1 of this Annex;
 - b) keep records of the nature and quantities of matter permitted to be dumped and the location, time and method of dumping;
 - c) collect available information concerning the nature and quantities of matter that has been dumped in the Baltic Sea Area recently and up to the coming into force of the present Convention, provided that the dumped matter in question could be liable to contaminate water or organisms in the Baltic Sea Area, to be caught by fishing equipment, or otherwise to give rise to harm, and the location, time and method of such dumping.
2. The appropriate national authority shall issue special permits in accordance with Regulation 1 of this Annex in respect of matter intended for dumping in the Baltic Sea Area:
 - a) loaded in its territory;
 - b) loaded by a vessel or aircraft registered in its territory or flying its flag, when the loading occurs in the territory of a State not Party to the present Convention.
3. When issuing permits under Sub-Paragraph 1. a) above, the appropriate national authority shall comply with Regulation 3 of this Annex, together with such additional criteria, measures and requirements as they may consider relevant.

4. Each Contracting Party shall report to the Commission, and where appropriate to other contracting Parties, the information specified in Sub-Paragraph 1 c) of Regulation 2 of this Annex. The procedure to be followed and the nature of such reports shall be determined by the Commission.

REGULATION 3

When issuing special permits according to Regulation 1 of this Annex the appropriate national authority shall take into account:

1. Quantity of dredged spoils to be dumped.
2. The content of the matter referred to in Annexes I and II of the present Convention.
3. Location (e.g. co-ordinates of the dumping area, depth and distance from coast) and its relation to areas of special interest (e.g. amenity areas, spawning, nursery and fishing areas, etc.)
4. Water characteristics, if dumping is carried out outside the territorial sea, consisting of:
 - a) hydrographic properties (e.g. temperature, salinity, density, profile);
 - b) chemical properties (e.g. pH, dissolved oxygen, nutrients);
 - c) biological properties (e.g. primary production and benthic animals).

The data should include sufficient information on the annual mean levels and the seasonal variation of the properties mentioned in this Paragraph.

5. The existence and effects of other dumping which may have been carried out in the dumping area.

REGULATION 4

Reports made in accordance with Paragraph 5 of Article 9 of the present Convention shall include the following information:

1. Location of dumping, characteristics of dumped material, and counter measures taken:
 - a) location (e.g. co-ordinates of the accidental dumping site, depth and distance from the coast);
 - b) method of deposit;
 - c) quantity and composition of dumped matter as well as its physical (e.g. solubility and density), chemical and biochemical (e.g. oxygen demand, nutrients), and biological properties (e.g. presence of viruses, bacteria, yeasts, parasites);
 - d) toxicity;
 - e) content of the substances referred to in Annexes I and II of the present Convention;
 - f) dispersal characteristics (e.g. effects of currents and wind, and horizontal transport and vertical mixing);
 - g) water characteristics (e.g. temperature, pH, redox conditions, salinity and stratification);
 - h) bottom characteristics (e.g. topography, geological characteristics and redox conditions);
 - i) counter measures taken and follow-up operations carried out or planned.
2. General considerations and conditions:
 - a) possible effects on amenities (e.g. floating or stranded material, turbidity, objectionable odour, discolouration and foaming);
 - b) possible effects on marine life, fish and shellfish culture, fish stocks and fisheries, seaweed harvesting and cultures; and

- c) possible effects on other uses of the sea (e.g. impairment of water quality for industrial use, underwater corrosion of structures, interference with ship operations from floating materials, interference with fishing or navigation and protection of areas of special importance for scientific or conservation purposes).

CO-OPERATION IN COMBATting MARINE POLLUTION

REGULATION 1

For the purpose of this Annex:

1. "Ship" means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms.
2. "Administration" means the Government of the State under whose authority the ship is operating. With respect to a ship entitled to fly a flag of any State, the Administration is the Government of that State. With respect to fixed or floating platforms engaged in exploration and exploitation of the sea-bed and subsoil thereof adjacent to the coast over which the coastal State exercises sovereign rights for the purposes of exploration and exploitation of their natural resources, the Administration is the Government of the coastal State concerned.
3. a) "Discharge", in relation to harmful substances or effluents containing such substances, means any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying.

b) "Discharge" does not include:
 - i) dumping within the meaning of the Convention of the Prevention of Marine Pollution by Dumping of Wastes and Other Matter done at London on 29 December 1972; or
 - ii) release of harmful substances directly arising from the exploration, exploitation and associated off-shore processing of sea-bed mineral resources; or
 - iii) release of harmful substances for purposes of legitimate scientific research into pollution abatement or control.

REGULATION 2

The Contracting Parties undertake to maintain ability to combat spillages of oil and other harmful substances on the sea. This ability shall include adequate equipment, ships and manpower prepared for operations in coastal waters as well as on the high sea.

REGULATION 3

The Contracting Parties shall, without prejudice to Paragraph 4 of Article 4 of the present Convention, develop and apply individually or in co-operation, surveillance activities covering the Baltic Sea Area, in order to spot and monitor oil and other substances released into the sea.

REGULATION 4

In the case of loss overboard of harmful substances in packages, freight containers, portable tanks, or road and rail tank wagons, the Contracting Parties shall co-operate in the salvage and recovery of such packages, containers or tanks so as to minimise the danger to the environment.

REGULATION 5

1. The Contracting Parties, also being parties to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), apply in conformity with that agreement the provisions of Article 8 and Protocol I to MARPOL 73/78 on reports on incidents involving harmful substances. These provisions shall also be applied with regard to significant spillages of oil or other harmful substances in cases not covered by Article 8 of MARPOL 73/78.
2. The Contracting Parties shall request masters of ships and pilots of aircraft to report without delay in accordance with this system on significant spillages of oil or other harmful substances observed at sea. Such reports should as far as possible contain the following data: time, position, wind and sea conditions, and kind, extent and probable source of the spill observed.

REGULATION 6

Each Contracting Party shall request masters of ships flying its flag to provide, in case of an incident, on request by the proper authorities, such detailed information about the ship and its cargo which is relevant to actions for preventing or combatting pollution of the sea, and to co-operate with these authorities.

REGULATION 7

1. a) The Contracting Parties shall as soon as possible agree bilaterally or multilaterally on those regions of the Baltic Sea Area in which they will take action for combatting or salvage activities whenever a significant spillage of oil or other harmful substances or any incidents causing or likely to cause pollution within the Baltic Sea Area have occurred or are likely to occur. Such agreements shall not prejudice any other agreements concluded between, Contracting Parties concerning the same subject. The neighbouring States shall ensure the harmonization of the different agreements. The Contracting Parties shall inform each other about such agreements.

The Contracting Parties may ask the Commission for assistance to reach agreement, if needed.

- b) The Contracting Party within whose region a situation as described in Regulation 1 of this Annex occurs shall make the necessary assessments of the situation and take adequate action in order to avoid or minimize subsequent pollution effects and shall keep drifting parts of the spillage under observation until no further action is called for.
2. In the case that such a spillage is drifting or is likely to drift into a region, where another Contracting Party should take action for purposes as defined in Sub-Paragraph 1. a) of this Regulation, that Party shall without delay be informed of the situation and the actions that have been taken.

REGULATION 8

A Contracting Party requiring assistance for combatting spillages of oil or other harmful substance at sea is entitled to call for assistance by other Contracting Parties, starting with those who seem likely also to be affected by the spillage. Contracting Parties called upon for assistance in accordance with this Regulation shall use their best endeavours to bring such assistance.

REGULATION 9

1. The Contracting Parties shall provide information to the other Contracting Parties and the Commission about
 - a) their national organization for dealing with spillages at sea of oil and other harmful substances;
 - b) national regulations and other matters which have a direct bearing on combatting pollution at sea by oil and other harmful substances;
 - c) the competent authority responsible for receiving and dispatching reports of pollution at sea by oil and other harmful substances;
 - d) the competent authorities for dealing with questions concerning measures of mutual assistance, information and co-operation between the Contracting Parties according to this Annex;
 - e) actions taken in accordance with Regulation 8 of this Annex.
2. The Contracting Parties shall exchange information of research and development programs and results concerning ways in which pollution by oil and other harmful substances at sea may be dealt with and experiences in combatting such pollution.

REGULATION 10

The authorities referred to in Sub-Paragraph 1. d) of Regulation 9 of this Annex shall establish direct contact and co-operate in operational matters.

LIST OF AMENDMENTS AND CORRECTION OF PRINTING ERROR

Article 1, 3rd line

A printing error in the geographical indication of the parallel of the Skaw in the Skagerrak has been corrected (formerly 57°44'8"). *)

Annex I

One additional substance has been added to the list of hazardous substances as point 3 in accordance with HELCOM Recommendation 4/1 adopted 1 February 1983.

Annex IV; Regulations 1-5 and Appendices I-IV

Regulations 1-5 amended and Appendices I-IV deleted according to HELCOM Recommendation 8/4 adopted 25 February 1987. These amendments entered into force 6 April 1987 and supersede earlier amendments to Regulations 4 and 5 and the Appendices to Annex IV (1980, 1984 and 1985).

Annex IV; Regulation 8

Regulation 8 amended in accordance with HELCOM Recommendation 10/9 adopted 15 February 1989. The amendment entered into force 1 October 1989.

Annex VI; Regulation 5 and the Appendix

Regulation 5 amended and the Appendix deleted in accordance with HELCOM Recommendation 8/5 adopted 25 February 1987. These amendments entered into force 6 April 1987.

Annex IV; Regulation 7

Regulation 7 of Annex IV amended in accordance with HELCOM Recommendation 11/8 adopted 14 February 1990. This Recommendation supersedes HELCOM Recommendation 1/15 adopted 7 May 1980. These amendments entered into force 3 November 1990.

Articles 15, 26 and 27

Amendments to Articles 15, 26 and 27 concerning the accession to the Convention by the European Economic Community entered into force on 3 February 1993 (note No. NC-44 dated 9 November 1992 from the Ministry of Foreign Affairs of Finland).

Annex IV, Regulation 6

Regulation 6 amended in accordance with HELCOM Recommendation 13/14, adopted 4 February 1992. The amendment entered into force 1 July 1992.

Annex IV, Regulation 9

Regulation 9 added in accordance with HELCOM Recommendation 14/8, adopted 4 February 1993. The Regulation enters into force 1 January 1995.

*) The correction communicated to the Embassies in Helsinki of the Contracting Parties to the Helsinki Convention by note No. 30620 dated 28 January 1983 from the Ministry of Foreign Affairs of Finland.

Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992

THE CONTRACTING PARTIES,

CONSCIOUS of the indispensable values of the marine environment of the Baltic Sea Area, its exceptional hydrographic and ecological characteristics and the sensitivity of its living resources to changes in the environment;

BEARING in mind the historical and present economic, social and cultural values of the Baltic Sea Area for the well-being and development of the peoples of that region;

NOTING with deep concern the still ongoing pollution of the Baltic Sea Area;

DECLARING their firm determination to assure the ecological restoration of the Baltic Sea, ensuring the possibility of self-regeneration of the marine environment and preservation of its ecological balance;

RECOGNIZING that the protection and enhancement of the marine environment of the Baltic Sea Area are tasks that cannot effectively be accomplished by national efforts alone but by close regional co-operation and other appropriate international measures;

APPRECIATING the achievements in environmental protection within the framework of the 1974 Convention on the Protection of the Marine Environment of the Baltic Sea Area, and the role of the Baltic Marine Environment Protection Commission therein;

RECALLING the pertinent provisions and principles of the 1972 Declaration of the Stockholm Conference on the Human Environment and the 1975 Final Act of the Conference on Security and Co-operation in Europe (CSCE);

DESIRING to enhance co-operation with competent regional organizations such as the International Baltic Sea Fishery Commission established by the 1973 Gdansk Convention on Fishing and Conservation of the Living Resources in the Baltic Sea and the Belts;

WELCOMING the Baltic Sea Declaration by the Baltic and other interested States, the European Economic Community and co-operating international financial institutions assembled at Ronneby in 1990, and the Joint Comprehensive Programme aimed at a joint action plan in order to restore the Baltic Sea Area to a sound ecological balance;

CONSCIOUS of the importance of transparency and public awareness as well as the work by non-governmental organizations for successful protection of the Baltic Sea Area;

WELCOMING the improved opportunities for closer co-operation which have been opened by the recent political developments in Europe on the basis of peaceful co-operation and mutual understanding;

DETERMINED to embody developments in international environmental policy and environmental law into a new Convention to extend, strengthen and modernize the legal regime for the protection of the Marine Environment of the Baltic Sea Area;

HAVE AGREED as follows:

Article 1

Convention Area

This Convention shall apply to the Baltic Sea Area. For the purposes of this Convention the “Baltic Sea Area” shall be the Baltic Sea and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerrak at 57° 44.43’N. It includes the internal waters, i.e., for the purpose of this Convention waters on the landward side of the base lines from which the breadth of the territorial sea is measured up to the landward limit according to the designation by the Contracting Parties.

A Contracting Party shall, at the time of the deposit of the instrument of ratification, approval or accession inform the Depository of the designation of its internal waters for the purposes of this Convention.

Article 2

Definitions

For the purposes of this Convention:

1. “Pollution” means introduction by man, directly or indirectly, of substances or energy into the sea, including estuaries, which are liable to create hazards to human health, to harm living resources and marine ecosystems, to cause hindrance to legitimate uses of the sea including fishing, to impair the quality for use of sea water, and to lead to a reduction of amenities:

2. “Pollution from land-based sources” means pollution of the sea by point or diffuse inputs from all sources on land reaching the sea waterborne, airborne or directly from the coast. It includes pollution from any deliberate disposal under the seabed with access from land by tunnel, pipeline or other means;

3. “Ship” means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms;

4. a) “Dumping” means:

- i) any deliberate disposal at sea or into the seabed of wastes or other matter from ships, other man-made structures at sea or aircraft;
- ii) any deliberate disposal at sea of ships, other man-made structures at sea or aircraft;

b) “Dumping” does not include:

- i) the disposal at sea of wastes or other matter incidental to, or derived from the normal operations of ships, other man-made structures at sea or aircraft and their equipment, other than wastes or other matter transported by or to ships, other man-made structures at sea or aircraft, operating for the purpose of disposal of such matter or derived from the treatment of such wastes or other matter on such ships, structures or aircraft;

- ii) placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of the present Convention;

5. “Incineration” means the deliberate combustion of wastes or other matter at sea for the purpose of their thermal destruction. Activities incidental to the normal operation of ships or other man-made structures are excluded from the scope of this definition;

6. “Oil” means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products;

7. “Harmful substance” means any substance, which, if introduced into the sea, is liable to cause pollution;

8. “Hazardous substance” means any harmful substance which due to its intrinsic properties is persistent, toxic or liable to bio-accumulate;

9. “Pollution incident” means an occurrence or series of occurrences having the same origin, which results or may result in a discharge of oil or other harmful substances and which poses or may pose a threat to the marine environment of the Baltic Sea or to the coastline or related interests of one or more Contracting Parties, and which requires emergency actions or other immediate response;

10. “Regional economic integration organization” means any organization constituted by sovereign states, to which their member states have transferred competence in respect of matters governed by this Convention, including the competence to enter into international agreements in respect of these matters;

11. The “Commission” means the Baltic Marine Environment Protection Commission referred to in Article 19.

Article 3

Fundamental principles and obligations

1. The Contracting Parties shall individually or jointly take all appropriate legislative, administrative or other relevant measures to prevent and eliminate pollution in order to promote the ecological restoration of the Baltic Sea Area and the preservation of its ecological balance.

2. The Contracting Parties shall apply the precautionary principle, i.e., to take preventive measures when there is reason to assume that substances or energy introduced, directly or indirectly, into the marine environment may create hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea even when there is no conclusive evidence of a causal relationship between inputs and their alleged effects.

3. In order to prevent and eliminate pollution of the Baltic Sea Area the Contracting Parties shall promote the use of Best Environmental Practice and Best Available Technology. If the reduction of inputs, resulting from the use of Best Environmental Practice and Best Available Technology, as described in Annex II, does not lead to environmentally acceptable results, additional measures shall be applied.

4. The Contracting Parties shall apply the polluter-pays principle.
5. The Contracting Parties shall ensure that measurements and calculations of emissions from point sources to water and air and of inputs from diffuse sources to water and air are carried out in a scientifically appropriate manner in order to assess the state of the marine environment of the Baltic Sea Area and ascertain the implementation of this Convention.
6. The Contracting Parties shall use their best endeavours to ensure that the implementation of this Convention does not cause transboundary pollution in areas outside the Baltic Sea Area. Furthermore, the relevant measures shall not lead either to unacceptable environmental strains on air quality and the atmosphere or on waters, soil and ground water, to unacceptably harmful or increasing waste disposal, or to increased risks to human health.

Article 4

Application

1. This Convention shall apply to the protection of the marine environment of the Baltic Sea Area which comprises the water-body and the seabed including their living resources and other forms of marine life.
2. Without prejudice to its sovereignty each Contracting Party shall implement the provisions of this Convention within its territorial sea and its internal waters through its national authorities.
3. This Convention shall not apply to any warship, naval auxiliary, military aircraft or other ship and aircraft owned or operated by a state and used, for the time being, only on government non-commercial service.

However, each Contracting Party shall ensure, by the adoption of appropriate measures not impairing the operations or operational capabilities of such ships and aircraft owned or operated by it, that such ships and aircraft act in a manner consistent, so far as is reasonable and practicable, with this Convention.

Article 5

Harmful substances

The Contracting Parties undertake to prevent and eliminate pollution of the marine environment of the Baltic Sea Area caused by harmful substances from all sources, according to the provisions of this Convention and, to this end, to implement the procedures and measures of Annex I.

Article 6

Principles and obligations concerning pollution from land-based sources

1. The Contracting Parties undertake to prevent and eliminate pollution of the Baltic Sea Area from land-based sources by using, *inter alia*, Best Environmental Practice for all sources and Best Available Technology for point sources. The relevant measures to this end shall be taken by each Contracting Party in the catchment area of the Baltic Sea without prejudice to its sovereignty.

2. The Contracting Parties shall implement the procedures and measures set out in Annex III. To this end they shall, inter alia, as appropriate co-operate in the development and adoption of specific programmes, guidelines, standards or regulations concerning emissions and inputs to water and air, environmental quality, and products containing harmful substances and materials and the use thereof.

3. Harmful substances from point sources shall not, except in negligible quantities, be introduced directly or indirectly into the marine environment of the Baltic Sea Area, without a prior special permit, which may be periodically reviewed, issued by the appropriate national authority in accordance with the principles contained in Annex III, Regulation 3. The Contracting Parties shall ensure that authorized emissions to water and air are monitored and controlled.

4. If the input from a watercourse, flowing through the territories of two or more Contracting Parties or forming a boundary between them, is liable to cause pollution of the marine environment of the Baltic Sea Area, the Contracting Parties concerned shall jointly and, if possible, in co-operation with a third state interested or concerned, take appropriate measures in order to prevent and eliminate such pollution.

Article 7

Environmental impact assessment

1. Whenever an environmental impact assessment of a proposed activity that is likely to cause a significant adverse impact on the marine environment of the Baltic Sea Area is required by international law or supra-national regulations applicable to the Contracting Party of origin, that Contracting Party shall notify the Commission and any Contracting Party which may be affected by a transboundary impact on the Baltic Sea Area.

2. The Contracting Party of origin shall enter into consultations with any Contracting Party which is likely to be affected by such transboundary impact, whenever consultations are required by international law or supra-national regulations applicable to the Contracting Party of origin.

3. Where two or more Contracting Parties share transboundary waters within the catchment area of the Baltic Sea, these Parties shall cooperate to ensure that potential impacts on the marine environment of the Baltic Sea Area are fully investigated within the environmental impact assessment referred to in paragraph 1 of this Article. The Contracting Parties concerned shall jointly take appropriate measures in order to prevent and eliminate pollution including cumulative deleterious effects.

Article 8

Prevention of pollution from ships

1. In order to protect the Baltic Sea Area from pollution from ships, the Contracting Parties shall take measures as set out in Annex IV.

2. The Contracting Parties shall develop and apply uniform requirements for the provision of reception facilities for ship-generated wastes, taking into account, inter alia, the special needs of passenger ships operating in the Baltic Sea Area.

Article 9

Pleasure craft

The Contracting Parties shall, in addition to implementing those provisions of this Convention which can appropriately be applied to pleasure craft, take special measures in order to abate harmful effects on the marine environment of the Baltic Sea Area caused by pleasure craft activities. The measures shall, *inter alia*, deal with air pollution, noise and hydrodynamic effects as well as with adequate reception facilities for wastes from pleasure craft.

Article 10

Prohibition of incineration

1. The Contracting Parties shall prohibit incineration in the Baltic Sea Area.
2. Each Contracting Party undertakes to ensure compliance with the provisions of this Article by ships:
 - a) registered in its territory or flying its flag;
 - b) loading, within its territory or territorial sea, matter which is to be incinerated; or
 - c) believed to be engaged in incineration within its internal waters and territorial sea.
3. In case of suspected incineration the Contracting Parties shall co-operate in investigating the matter in accordance with Regulation 2 of Annex IV.

Article 11

Prevention of dumping

1. The Contracting Parties shall, subject to exemptions set forth in paragraphs 2 and 4 of this Article, prohibit dumping in the Baltic Sea Area.
2. Dumping of dredged material shall be subject to a prior special permit issued by the appropriate national authority in accordance with the provisions of Annex V.
3. Each Contracting Party undertakes to ensure compliance with the provisions of this Article by ships and aircraft:
 - a) registered in its territory or flying its flag;
 - b) loading, within its territory or territorial sea, matter which is to be dumped; or
 - c) believed to be engaged in dumping within its internal waters and territorial sea.
4. The provisions of this Article shall not apply when the safety of human life or of a ship or aircraft at sea is threatened by the complete destruction or total loss of the ship or aircraft, or in any case which constitutes a danger to human life, if dumping appears to be the only way of averting the threat and if there is every probability that the damage consequent upon such dumping will be less than would otherwise occur. Such dumping shall be so conducted as to minimize the likelihood of damage to human or marine life.

5. Dumping made under the provisions of paragraph 4 of this Article shall be reported and dealt with in accordance with Annex VII and shall be reported forthwith to the Commission in accordance with the provisions of Regulation 4 of Annex V.

6. In case of dumping suspected to be in contravention of the provisions of this Article the Contracting Parties shall co-operate in investigating the matter in accordance with Regulation 2 of Annex IV.

Article 12

Exploration and exploitation of the seabed and its subsoil

1. Each Contracting Party shall take all measures in order to prevent pollution of the marine environment of the Baltic Sea Area resulting from exploration or exploitation of its part of the seabed and the subsoil thereof or from any associated activities thereon as well as to ensure that adequate preparedness is maintained for immediate response actions against pollution incidents caused by such activities.

2. In order to prevent and eliminate pollution from such activities the Contracting Parties undertake to implement the procedures and measures set out in Annex VI, as far as they are applicable.

Article 13

Notification and consultation on pollution incidents

1. Whenever a pollution incident in the territory of a Contracting Party is likely to cause pollution to the marine environment of the Baltic Sea Area outside its territory and adjacent maritime area in which it exercises sovereign rights and jurisdiction according to international law, this Contracting Party shall notify without delay such Contracting Parties whose interests are affected or likely to be affected.

2. Whenever deemed necessary by the Contracting Parties referred to in paragraph 1, consultations should take place with a view to preventing, reducing and controlling such pollution.

3. Paragraphs 1 and 2 shall also apply in cases where a Contracting Party has sustained such pollution from the territory of a third state.

Article 14

Co-operation in combatting marine pollution

The Contracting Parties shall individually and jointly take, as set out in Annex VII, all appropriate measures to maintain adequate ability and to respond to pollution incidents in order to eliminate or minimize the consequences of these incidents to the marine environment of the Baltic Sea Area.

Article 15

Nature conservation and biodiversity

The Contracting Parties shall individually and jointly take all appropriate measures with respect to the Baltic Sea Area and its coastal ecosystems influenced by the Baltic Sea to conserve

natural habitats and biological diversity and to protect ecological processes. Such measures shall also be taken in order to ensure the sustainable use of natural resources within the Baltic Sea Area. To this end, the Contracting Parties shall aim at adopting subsequent instruments containing appropriate guidelines and criteria.

Article 16

Reporting and exchange of information

1. The Contracting Parties shall report to the Commission at regular intervals on:
 - a) the legal, regulatory, or other measures taken for the implementation of the provisions of this Convention, of its Annexes and of recommendations adopted thereunder;
 - b) the effectiveness of the measures taken to implement the provisions referred to in sub-paragraph a) of this paragraph; and
 - c) problems encountered in the implementation of the provisions referred to in sub-paragraph a) of this paragraph.
2. On the request of a Contracting Party or of the Commission, the Contracting Parties shall provide information on discharge permits, emission data or data on environmental quality, as far as available.

Article 17

Information to the public

1. The Contracting Parties shall ensure that information is made available to the public on the condition of the Baltic Sea and the waters in its catchment area, measures taken or planned to be taken to prevent and eliminate pollution and the effectiveness of those measures. For this purpose, the Contracting Parties shall ensure that the following information is made available to the public:
 - a) permits issued and the conditions required to be met;
 - b) results of water and effluent sampling carried out for the purposes of monitoring and assessment, as well as results of checking compliance with water-quality objectives or permit conditions; and
 - c) water-quality objectives.
2. Each Contracting Party shall ensure that this information shall be available to the public at all reasonable times and shall provide members of the public with reasonable facilities for obtaining, on payment of reasonable charges, copies of entries in its registers.

Article 18

Protection of information

1. The provisions of this Convention shall not affect the right or obligation of any Contracting Party under its national law and applicable supra-national regulation to protect

information related to intellectual property including industrial and commercial secrecy or national security and the confidentiality of personal data.

2. If a Contracting Party nevertheless decides to supply such protected information to another Contracting Party, the Party receiving such protected information shall respect the confidentiality of the information received and the conditions under which it is supplied, and shall use that information only for the purposes for which it was supplied.

Article 19

Commission

1. The Baltic Marine Environment Protection Commission, referred to as “the Commission”, is established for the purposes of this Convention.

2. The Baltic Marine Environment Protection Commission, established pursuant to the Convention on the Protection of the Marine Environment of the Baltic Sea Area of 1974, shall be the Commission.

3. The chairmanship of the Commission shall be given to each Contracting Party in turn in alphabetical order of the names of the Contracting Parties in the English language. The Chairman shall serve for a period of two years, and cannot during the period of chairmanship serve as a representative of the Contracting Party holding the chairmanship.

Should the chairman fail to complete his term, the Contracting Party holding the chairmanship shall nominate a successor to remain in office until the term of that Contracting Party expires.

4. Meetings of the Commission shall be held at least once a year upon convocation by the Chairman. Extraordinary meetings shall, upon the request of any Contracting Party endorsed by another Contracting Party, be convened by the Chairman to be held as soon as possible, however, not later than ninety days after the date of submission of the request.

5. Unless otherwise provided under this Convention, the Commission shall take its decisions unanimously.

Article 20

The duties of the Commission

1. The duties of the Commission shall be:

- a) to keep the implementation of this Convention under continuous observation;
- b) to make recommendations on measures relating to the purposes of this Convention;
- c) to keep under review the contents of this Convention including its Annexes and to recommend to the Contracting Parties such amendments to this Convention including its Annexes as may be required including changes in the lists of substances and materials as well as the adoption of new Annexes;
- d) to define pollution control criteria, objectives for the reduction of pollution, and objectives concerning measures, particularly those described in Annex III;

- e) to promote in close co-operation with appropriate governmental bodies, taking into consideration sub-paragraph f) of this Article, additional measures to protect the marine environment of the Baltic Sea Area and for this purpose:
- i) to receive, process, summarize and disseminate relevant scientific, technological and statistical information from available sources; and
 - ii) to promote scientific and technological research; and
- f) to seek, when appropriate, the services of competent regional and other international organizations to collaborate in scientific and technological research as well as other relevant activities pertinent to the objectives of this Convention.
2. The Commission may assume such other functions as it deems appropriate to further the purposes of this Convention.

Article 21

Administrative provisions for the Commission

1. The working language of the Commission shall be English.
2. The Commission shall adopt its Rules of Procedure.
3. The office of the Commission, known as “the Secretariat”, shall be in Helsinki.
4. The Commission shall appoint an Executive Secretary and make provisions for the appointment of such other personnel as may be necessary, and determine the duties, terms and conditions of service of the Executive Secretary.
5. The Executive Secretary shall be the chief administrative official of the Commission and shall perform the functions that are necessary for the administration of this Convention, the work of the Commission and other tasks entrusted to the Executive Secretary by the Commission and its Rules of Procedure.

Article 22

Financial provisions for the Commission

1. The Commission shall adopt its Financial Rules.
2. The Commission shall adopt an annual or biennial budget of proposed expenditures and consider budget estimates for the fiscal period following thereafter.
3. The total amount of the budget, including any supplementary budget adopted by the Commission shall be contributed by the Contracting Parties other than the European Economic Community, in equal parts, unless unanimously decided otherwise by the Commission.
4. The European Economic Community shall contribute no more than 2.5% of the administrative costs to the budget.
5. Each Contracting Party shall pay the expenses related to the participation in the Commission of its representatives, experts and advisers.

Article 23
Right to vote

1. Except as provided for in Paragraph 2 of this Article, each Contracting Party shall have one vote in the Commission.
2. The European Economic Community and any other regional economic integration organization, in matters within their competence, shall exercise their right to vote with a number of votes equal to the number of their member states which are Contracting Parties to this Convention. Such organizations shall not exercise their right to vote if their member states exercise theirs, and vice versa.

Article 24
Scientific and technological co-operation

1. The Contracting Parties undertake directly, or when appropriate through competent regional or other international organizations, to co-operate in the fields of science, technology and other research, and to exchange data and other scientific information for the purposes of this Convention. In order to facilitate research and monitoring activities in the Baltic Sea Area the Contracting Parties undertake to harmonize their policies with respect to permission procedures for conducting such activities.
2. Without prejudice to Article 4, paragraph 2 of this Convention the Contracting Parties undertake directly, or when appropriate, through competent regional or other international organizations, to promote studies and to undertake, support or contribute to programmes aimed at developing methods assessing the nature and extent of pollution, pathways, exposures, risks and remedies in the Baltic Sea Area. In particular, the Contracting Parties undertake to develop alternative methods of treatment, disposal and elimination of such matter and substances that are likely to cause pollution of the marine environment of the Baltic Sea Area.
3. Without prejudice to Article 4, Paragraph 2 of this Convention the Contracting Parties undertake directly, or when appropriate through competent regional or other international organizations, and, on the basis of the information and data acquired pursuant to paragraphs 1 and 2 of this Article, to co-operate in developing inter-comparable observation methods, in performing baseline studies and in establishing complementary or joint programmes for monitoring.
4. The organization and scope of work connected with the implementation of tasks referred to in the preceding paragraphs should primarily be outlined by the Commission.

Article 25
Responsibility for damage

The Contracting Parties undertake jointly to develop and accept rules concerning responsibility for damage resulting from acts or omissions in contravention of this Convention, including, inter alia, limits of responsibility, criteria and procedures for the determination of liability and available remedies.

Article 26

Settlement of disputes

1. In case of a dispute between Contracting Parties as to the interpretation or application of this Convention, they should seek a solution by negotiation. If the Parties concerned cannot reach agreement they should seek the good offices of or jointly request mediation by a third Contracting Party, a qualified international organization or a qualified person.
2. If the Parties concerned have not been able to resolve their dispute through negotiation or have been unable to agree on measures as described above, such disputes shall be, upon common agreement, submitted to an ad hoc arbitration tribunal, to a permanent arbitration tribunal, or to the International Court of Justice.

Article 27

Safeguard of certain freedoms

Nothing in this Convention shall be construed as infringing upon the freedom of navigation, fishing, marine scientific research and other legitimate uses of the high seas, as well as upon the right of innocent passage through the territorial sea.

Article 28

Status of Annexes

The Annexes attached to this Convention form an integral part of this Convention.

Article 29

Relation to other Conventions

The provisions of this Convention shall be without prejudice to the rights and obligations of the Contracting Parties under existing and future treaties which further and develop the general principles of the Law of the Sea underlying this Convention and, in particular, provisions concerning the prevention of pollution of the marine environment.

Article 30

Conference for the revision or amendment of the Convention

A conference for the purpose of a general revision of or an amendment to this Convention may be convened with the consent of the Contracting Parties or at the request of the Commission.

Article 31

Amendments to the Articles of the Convention

1. Each Contracting Party may propose amendments to the Articles of this Convention. Any such proposed amendment shall be submitted to the Depositary and communicated by it to all Contracting Parties, which shall inform the Depositary of either their acceptance or rejection of the amendment as soon as possible after receipt of the communication.

A proposed amendment shall, at the request of a Contracting Party, be considered in the Commission. In such a case Article 19 paragraph 4 shall apply. If an amendment is adopted by the Commission, the procedure in paragraph 2 of this Article shall apply.

2. The Commission may recommend amendments to the Articles of this Convention. Any such recommended amendment shall be submitted to the Depositary and communicated by it to all Contracting Parties, which shall notify the Depositary of either their acceptance or rejection of the amendment as soon as possible after receipt of the communication.

3. The amendment shall enter into force ninety days after the Depositary has received notifications of acceptance of that amendment from all Contracting Parties.

Article 32

Amendments to the Annexes and the adoption of Annexes

1. Any amendment to the Annexes proposed by a Contracting Party shall be communicated to the other Contracting Parties by the Depositary and considered in the Commission. If adopted by the Commission, the amendment shall be communicated to the Contracting Parties and recommended for acceptance.

2. Any amendment to the Annexes recommended by the Commission shall be communicated to the Contracting Parties by the Depositary and recommended for acceptance.

3. Such amendment shall be deemed to have been accepted at the end of a period determined by the Commission unless within that period any one of the Contracting Parties has, by written notification to the Depositary, objected to the amendment. The accepted amendment shall enter into force on a date determined by the Commission.

The period determined by the Commission shall be prolonged for an additional period of six months and the date of entry into force of the amendment postponed accordingly, if, in exceptional cases, any Contracting Party informs the Depositary before the expiration of the period determined by the Commission that, although it intends to accept the amendment, the constitutional requirements for such an acceptance are not yet fulfilled.

4. An Annex to this Convention may be adopted in accordance with the provisions of this Article.

Article 33

Reservations

1. The provisions of this Convention shall not be subject to reservations.

2. The provision of paragraph 1 of this Article does not prevent a Contracting Party from suspending for a period not exceeding one year the application of an Annex of this Convention or part thereof or an amendment thereto after the Annex in question or the amendment thereto has entered into force. Any Contracting Party to the 1974 Convention on the Protection of the Marine Environment of the Baltic Sea Area, which upon the entry into force of this Convention, suspends the application of an Annex or part thereof, shall apply the corresponding Annex or part thereof to the 1974 Convention for the period of suspension.

3. If after the entry into force of this Convention a Contracting Party invokes the provisions of paragraph 2 of this Article it shall inform the other Contracting Parties, at the time of the adoption by the Commission of an amendment to an Annex, or a new Annex, of those provisions which will be suspended in accordance with paragraph 2 of this Article.

Article 34

Signature

This Convention shall be open for signature in Helsinki from 9 April 1992 until 9 October 1992 by States and by the European Economic Community participating in the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area held in Helsinki on 9 April 1992.

Article 35

Ratification, approval and accession

1. This Convention shall be subject to ratification or approval.
2. This Convention shall, after its entry into force, be open for accession by any other State or regional economic integration organization interested in fulfilling the aims and purposes of this Convention, provided that this State or organization is invited by all the Contracting Parties. In the case of limited competence of a regional economic integration organization, the terms and conditions of its participation may be agreed upon between the Commission and the interested organization.
3. The instruments of ratification, approval or accession shall be deposited with the Depositary.
4. The European Economic Community and any other regional economic integration organization which becomes a Contracting Party to this Convention shall in matters within their competence, on their own behalf, exercise the rights and fulfill the responsibilities which this Convention attributes to their member states. In such cases, the member states of these organizations shall not be entitled to exercise such rights individually.

Article 36

Entry into force

1. This Convention shall enter into force two months after the deposit of the instruments of ratification or approval by all signatory States bordering the Baltic Sea and by the European Economic Community.
2. For each State which ratifies or approves this Convention before or after the deposit of the last instrument of ratification or approval referred to in paragraph 1 of this Article, this Convention shall enter into force two months after the date of deposit by such State of its instrument of ratification or approval or on the date of the entry into force of this Convention, whichever is the latest date.
3. For each acceding State or regional economic integration organization this Convention shall enter into force two months after the date of deposit by such State or regional economic integration organization of its instrument of accession.
4. Upon entry into force of this Convention the Convention on the Protection of the Marine Environment of the Baltic Sea Area, signed in Helsinki on 22 March 1974 as amended, shall cease to apply.

5. Notwithstanding paragraph 4 of this Article, amendments to the annexes of the said Convention adopted by the Contracting Parties to the said Convention between the signing of this Convention and its entry into force, shall continue to apply until the corresponding annexes of this Convention have been amended accordingly.

6. Notwithstanding paragraph 4 of this Article, recommendations and decisions adopted under the said Convention shall continue to be applicable to the extent that they are compatible with, or not explicitly terminated by this Convention or any decision adopted thereunder.

Article 37

Withdrawal

1. At any time after the expiry of five years from the date of entry into force of this Convention any Contracting Party may, by giving written notification to the Depositary, withdraw from this Convention. The withdrawal shall take effect for such Contracting Party on the thirtieth day of June of the year which follows the year in which the Depositary was notified of the withdrawal.

2. In case of notification of withdrawal by a Contracting Party the Depositary shall convene a meeting of the Contracting Parties for the purpose of considering the effect of the withdrawal.

Article 38

Depositary

The Government of Finland, acting as Depositary, shall:

- a) notify all Contracting Parties and the Executive Secretary of:
 - i) the signatures;
 - ii) the deposit of any instrument of ratification, approval or accession;
 - iii) any date of entry into force of this Convention;
 - iv) any proposed or recommended amendment to any Article or Annex or the adoption of a new Annex as well as the date on which such amendment or new Annex enters into force;
 - v) any notification, and the date of its receipt, under Articles 31 and 32;
 - vi) any notification of withdrawal and the date on which such withdrawal takes effect;
 - vii) any other act or notification relating to this Convention;
- b) transmit certified copies of this Convention to acceding States and regional economic integration organizations.

IN WITNESS WHEREOF the undersigned, **being** duly **authorized** thereto, have signed this Convention.

DONE at Helsinki, this ninth day of April one thousand nine hundred and ninety two in a single authentic copy in the English language which shall be deposited with the Government of Finland. The Government of Finland shall transmit certified copies to all Signatories.

For the Czech and Slovak Federal Republic

For the Kingdom of Denmark
(signed 9 April 1992)

For the Republic of Estonia
(signed 9 April 1992)

For the Republic of Finland
(signed 9 April 1992)

For the Federal Republic of Germany
(signed 9 April 1992)

For the Republic of Latvia
(signed 9 April 1992)

For the Republic of Lithuania
(signed 9 April 1992)

For the Kingdom of Norway

For the Republic of Poland
(signed 9 April 1992)

For the Russian Federation
(signed 9 April 1992)

For the Kingdom of Sweden
(signed 9 April 1992)

For the European Economic Community
(signed 24 September 1992)

ANNEX I

Harmful substances

PART 1 GENERAL PRINCIPLES

1.0 Introduction

In order to fulfil the requirements of relevant parts of this Convention the following procedure shall be used by the Contracting Parties in identifying and evaluating harmful substances, as defined in Article 2, paragraph 7.

1.1 Criteria on the allocation of substances

The identification and evaluation of substances shall be based on the intrinsic properties of substances, namely:

- persistency;
- toxicity or other noxious properties;
- tendency to bio-accumulation,

as well as on characteristics liable to cause pollution, such as

- the ratio between observed concentrations and concentrations having no observed effect;
- anthropogenically caused risk of eutrophication;
- transboundary or long-range significance;
- risk of undesirable changes in the marine ecosystem and irreversibility or durability of effects;
- radioactivity;
- serious interference with harvesting of sea-foods or with other legitimate uses of the sea;
- distribution pattern (i.e. quantities involved, use pattern and liability to reach the marine environment);
- proven carcinogenic, teratogenic or mutagenic properties in or through the marine environment.

These characteristics are not necessarily of equal importance for the identification and evaluation of a particular substance or group of substances.

1.2 Priority groups of harmful substances

The Contracting Parties shall, in their preventive measures, give priority to the following groups of substances which are generally recognized as harmful substances:

- a) heavy metals and their compounds;
- b) organohalogen compounds;
- c) organic compounds of phosphorus and tin;
- d) pesticides, such as fungicides, herbicides, insecticides, slimicides and chemicals used for the preservation of wood, timber, wood pulp, cellulose, paper, hides and textiles;
- e) oils and hydrocarbons of petroleum origin;
- f) other organic compounds especially harmful to the marine environment;
- g) nitrogen and phosphorus compounds;
- h) radioactive substances, including wastes;
- i) persistent materials which may float, remain in suspension or sink;
- j) substances which cause serious effects on taste and/or smell of products for human consumption from the sea, or effects on taste, smell, colour, transparency or other characteristics of the water.

PART 2 BANNED SUBSTANCES

In order to protect the Baltic Sea Area from hazardous substances, the Contracting Parties shall prohibit, totally or partially, the use of the following substances or groups of substances in the Baltic Sea Area and its catchment area:

2.1 Substances banned for all final uses, except for drugs

DDT (1,1,1-trichloro-2,2-bis-(chlorophenyl)-ethane) and its derivatives DDE and DDD;

2.2 Substances banned for all uses, except in existing closed system equipment until the end of service life or for research, development and analytical purposes

- a) PCB's (polychlorinated biphenyls);
- b) PCT's (polychlorinated terphenyls).

2.3 Substances banned for certain applications

Organotin compounds for antifouling paints for pleasure craft under 25 m and fish net cages.

PART 3 PESTICIDES

In order to protect the Baltic Sea Area from hazardous substances, the Contracting Parties shall endeavour to minimize and, whenever possible, to ban the use of the following substances as pesticides in the Baltic Sea Area and its catchment area:

	<u>CAS-number</u>
Acrylonitrile	107131
Aldrin	309002
Aramite	140578
Cadmium-compounds	
Chlordane	57749
Chlordecone	143500
Chlordimeform	6164983
Chloroform	67663
1,2-Dibromoethane	106934
Dieldrin	6057 1
Endrin	72208
Fluoroacetic acid and derivatives	7664393, 144490
Heptachlor	76448
Isobenzane	297789
Isodrin	465736
Kelevan	4234791
Lead-compounds	
Mercury-compounds	
Morfamquat	4636833
Nitrophen	1836755
Pentachlorophenol	87865
Polychlorinated terpenes	8001501
Quintozene	82688
Selenium-compounds	
2,4,5-T	93765
Toxaphene	8001352

ANNEX II

Criteria for the use of Best Environmental Practice and Best Available Technology

Regulation 1; General provisions

1. In accordance with the relevant parts of this Convention the Contracting Parties shall apply the criteria for Best Environmental Practice and Best Available Technology described below.
2. In order to prevent and eliminate pollution the Contracting Parties shall use Best Environmental Practice for all sources and Best Available Technology for point sources, minimizing or eliminating inputs to water and air from all sources by providing control strategies.

Regulation 2; Best Environmental Practice

1. The term “Best Environmental Practice” is taken to mean the application of the most appropriate combination of measures. In selecting for individual cases, at least the following graduated range of measures should be considered:

- provision of information and education to the public and to users about the environmental consequences of choosing particular activities and products, their use and final disposal;
- the development and application of Codes of Good Environmental Practice covering all aspects of activity in the product’s life;
- mandatory labels informing the public and users of environmental risks related to a product, its use and final disposal;
- availability of collection and disposal systems;
- saving of resources, including energy;
- recycling, recovery and re-use;
- avoiding the use of hazardous substances and products and the generation of hazardous waste;
- application of economic instruments to activities, products or groups of products and emissions;
- a system of licencing involving a range of restrictions or a ban.

2. In determining in general or individual cases what combination of measures constitute Best Environmental Practice, particular consideration should be given to:

- the precautionary principle;
- the ecological risk associated with the product, its production, use and final disposal;
- avoidance or substitution by less polluting activities or substances;
- scale of use;
- potential environmental benefit or penalty of substitute materials or activities;
- advances and changes in scientific knowledge and understanding;
- time limits for implementation;
- social and economic implications.

Regulation 3; Best Available Technology

1. The term “Best Available Technology” is taken to mean the latest stage of development (state of the art) of processes, of facilities or of methods of operation which indicate the practical suitability of a particular measure for limiting discharges.

2. In determining whether a set of processes, facilities and methods of operation constitute the Best Available Technology in general or individual cases, special consideration should be given to:

- comparable processes, facilities or methods of operation which have recently been successfully tried out;
- technological advances and changes in scientific knowledge and understanding;
- the economic feasibility of such technology;
- time limits for application;
- the nature and volume of the emissions concerned;
- non-waste/low-waste technology;
- the precautionary principle.

Regulation 4; Future developments

It therefore follows that “Best Environmental Practice” and “Best Available Technology” will change with time in the light of technological advances and economic and social factors, as well as changes in scientific knowledge and understanding.

Annex III

Criteria and measures concerning the prevention of pollution from land-based sources

Regulation 1; General provisions

In accordance with the relevant parts of this Convention the Contracting Parties shall apply the criteria and measures in this Annex in the whole catchment area and take into account Best Environmental Practice (BEP) and Best Available Technology (BAT) as described in Annex II.

Regulation 2; Specific requirements

1. Municipal sewage water shall be treated at least by biological or other methods equally effective with regard to reduction of significant parameters. Substantial reduction shall be introduced for nutrients.
2. Water management in industrial plants should aim at closed water systems or at a high rate of circulation in order to avoid waste water wherever possible.
3. Industrial waste waters should be separately treated before mixing with diluting waters.
4. Waste waters containing hazardous substances or other relevant substances shall not be jointly treated with other waste waters unless an equal reduction of the pollutant load is achieved compared to the separate purification of each waste water stream. The improvement of waste water quality shall not lead to a significant increase in the amount of harmful sludge.
5. Limit values for emissions containing harmful substances to water and air shall be stated in special permits.
6. Industrial plants and other point sources connected to municipal treatment plants shall use Best Available Technology in order to avoid hazardous substances which cannot be made harmless in the municipal sewage treatment plant or which may disturb the processes in the plant. In addition, measures according to Best Environmental Practice shall be taken.

7. Pollution from fish-farming shall be prevented and eliminated by promoting and implementing Best Environmental Practice and Best Available Technology.
8. Pollution from diffuse sources, including agriculture, shall be eliminated by promoting and implementing Best Environmental Practice.
9. Pesticides used shall comply with the criteria established by the Commission.

Regulation 3; Principles for issuing permits for industrial plants

The Contracting Parties undertake to apply the following principles and procedures when issuing the permits referred to in Article 6, paragraph 3 of this Convention:

1. The operator of the industrial plant shall submit data and information to the appropriate national authority using a form of application. It is recommended that the operator negotiates with the appropriate national authority concerning the data required for the application before submitting the application to the authority (agreement on the scope of required information and surveys).

At least the following data and information shall be included in the application:

General information

name, branch, location and number of employees.

Actual situation and/or planned activities

site of discharge and/or emission;
type of production, amount of production and/or processing;
production processes;
type and amount of raw materials, agents and/or intermediate products;
amount and quality of untreated wastewater and raw gas from all relevant sources (e.g. process water, cooling water);
treatment of wastewater and raw gas with respect to type, process and efficiency of pretreatment and/or final treatment;
treated wastewater and raw gas with respect to amount and quality at the outlet of the pretreatment and/or final treatment facilities;
amount and quality of solid and liquid wastes generated during the process and the treatment of wastewater and raw gas;
treatment of solid and liquid wastes;
information about measures to prevent process failures and accidental spills;
present status and possible impact on the environment.

Alternatives and their various impacts concerning. e.g.. ecological. economic and safety aspects, if necessary

other possible production processes;
other possible raw materials, agents and/or intermediate products;
other possible treatment technologies.

2. The appropriate national authority shall evaluate the present status and potential impact of the planned activities on the environment.

3. The appropriate national authority issues the permit after comprehensive assessment with special consideration of the above mentioned aspects. At least the following shall be laid down in the permit:

characterizations of all components (e.g. production capacity) which influence the amount and quality of discharge and/or emissions;

limit values for amount and quality (load and/or concentration) of direct and indirect discharges and emissions;

- instructions concerning:

construction and safety;

production processes and/or agents;

operation and maintenance of treatment facilities;

recovery of materials and substances and waste disposal;

type and extent of control to be performed by the operator (self-control);

measures to be taken in case of process failures and accidental spills;

analytical methods to be used;

schedule for modernization, retrofitting and investigations done by the operator;

schedule for reports of the operator on monitoring and/or selfcontrol, retrofitting and investigation measures.

4. The appropriate national authority or an independent institution authorized by the appropriate national authority shall:

inspect the amount and quality of discharges and/or emissions by sampling and analysing;

control the attainment of the permit requirements;

arrange monitoring of the various impacts of wastewater discharges and emissions into the atmosphere;

review the permit when necessary.

Annex IV

Prevention of pollution from ships

Regulation 1; Co-operation

The Contracting Parties shall, in matters concerning the protection of the Baltic Sea Area from pollution by ships, co-operate:

- a) within the International Maritime Organization, in particular in promoting the development of international rules, based, *inter alia*, on the fundamental principles and obligations of this Convention which also includes the promotion of the use of Best Available Technology and Best Environmental Practice as defined in Annex II;
- b) in the effective and harmonized implementation of rules adopted by the International Maritime Organization.

Regulation 2; Assistance in investigations

The Contracting Parties shall, without prejudice to Article 4, paragraph 3 of this Convention, assist each other as appropriate in investigating violations of the existing legislation on anti-pollution measures, which have occurred or are suspected to have occurred within the Baltic Sea Area. This assistance may include but is not limited to inspection by the competent authorities of oil record books, cargo record books, log books and engine log books and taking oil samples for analytical identification purposes.

Regulation 3; Definitions

For the purposes of this Annex:

1. "Administration" means the Government of the Contracting Party under whose authority the ship is operating. With respect to a ship entitled to fly a flag of any State, the Administration is the Government of that State. With respect to fixed or floating platforms engaged in exploration and exploitation of the sea-bed and subsoil thereof adjacent to the coast over which the coastal State exercises sovereign rights for the purposes of exploration and exploitation of their natural resources, the Administration is the Government of the coastal State concerned.

2. a) “Discharge”, in relation to harmful substances or effluents containing such substances, means any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying;
- b) “Discharge” does not include:
 - i) dumping within the meaning of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter done at London on 29 December 1972; or
 - ii) release of harmful substances directly arising from the exploration, exploitation and associated off-shore processing of sea-bed mineral resources; or
 - iii) release of harmful substances for purposes of legitimate scientific research into pollution abatement or control.
3. The term “from the nearest land” means from the baseline from which the territorial sea of the territory in question is established in accordance with international law.
4. The term “jurisdiction” shall be interpreted in accordance with international law in force at the time of application or interpretation of this Annex.
5. The term “MARPOL 73/78” means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto.

Regulation 4; Application of the Annexes of MARPOL 73/78

Subject to Regulation 5 the Contracting Parties shall apply the provisions of the Annexes of MARPOL 73/78.

Regulation 5; Sewage

The Contracting Parties shall apply the provisions of paragraphs A to D and F and G of this Regulation on discharge of sewage from ships while operating in the Baltic Sea Area.

A. Definitions

For the purposes of this Regulation:

1. “Sewage” means:
 - a) drainage and other wastes from any form of toilets, urinals, and WC scuppers;
 - b) drainage from medical premises (dispensary, sick bay, etc.) via wash basins, wash tubs and scuppers located in such premises;
 - c) drainage from spaces containing living animals; or

d) other waste waters when mixed with the drainages defined above.

2. "Holding tank" means a tank used for the collection and storage of sewage.

B. Application

The provisions of this Regulation shall apply to:

- a) ships of 200 tons gross tonnage and above;
- b) ships of less than 200 tons gross tonnage which are certified to carry more than 10 persons;
- c) ships which do not have a measured gross tonnage and are certified to carry more than 10 persons.

C. Discharge of sewage

- 1. Subject to the provisions of paragraph D of this Regulation, the discharge of sewage into the sea is prohibited, except when:
 - a) the ship is discharging comminuted and disinfected sewage using a system approved by the Administration at a distance of more than 4 nautical miles from the nearest land, or sewage which is not comminuted or disinfected at a distance of more than 12 nautical miles from the nearest land, provided that in any case the sewage that has been stored in holding tanks shall not be discharged instantaneously but at a moderate rate when the ship is en route and proceeding at not less than 4 knots; or
 - b) the ship has in operation a sewage treatment plant which has been approved by the Administration, and
 - i) the test results of the plant are laid down in a document carried by the ship;
 - ii) additionally, the effluent shall not produce visible floating solids in, nor cause discolouration of the surrounding water.
- 2. When the sewage is mixed with wastes or waste water having different discharge requirements, the more stringent requirements shall apply.

D. Exceptions

Paragraph C of this Regulation shall not apply to:

- a) the discharge of sewage from a ship necessary for the purpose of securing the safety of a ship and those on board or saving life at sea; or

- b) the discharge of sewage resulting from damage to a ship or its equipment if all reasonable precautions have been taken before and after the occurrence of the damage for the purpose of preventing or minimizing the discharge.

E. Reception facilities

1. Each Contracting Party undertakes to ensure the provision of facilities at its ports and terminals of the Baltic Sea Area for the reception of sewage, without causing undue delay to ships, adequate to meet the needs of the ships using them.
2. To enable pipes of reception facilities to be connected with the ship's discharge pipeline, both lines shall be fitted with a standard discharge connection in accordance with the following table:

STANDARD DIMENSIONS OF FLANGES FOR DISCHARGE CONNECTIONS

Description	Dimension
Outside diameter	210 mm
Inner diameter	According to pipe outside diameter
Bolt circle diameter	170 mm
Slots in flange	4 holes 18 mm in diameter equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery. The slot width to be 18 mm
Flange thickness	16 mm
Bolts and nuts: quantity and diameter	4, each of 16 mm in diameter and of suitable length

The flange is designed to accept pipes up to a maximum internal diameter of 100 mm and shall be of steel or other equivalent material having a flat face. This flange, together with a suitable gasket, shall be suitable for a service pressure of 6 kg/ cm².

For ships having a moulded depth of 5 meters and less, the inner diameter of the discharge connection may be 38 millimetres.

F. Surveys

1. Ships which are engaged in international voyages in the Baltic Sea Area shall be subject to surveys as specified below:
 - a) An initial survey before the ship is put into service or before the Certificate required under paragraph G of this Regulation is issued for the first time including a survey of the ship which shall be such as to ensure that:
 - i) when the ship is equipped with a sewage treatment plant the plant shall meet operational requirements based on the standards and test methods recommended by the Commission and shall be approved by the Administration;
 - ii) when the ship is fitted with a system to comminute and disinfect the sewage, such system shall meet operational requirements based on the standards and test methods recommended by the Commission and shall be approved by the Administration;
 - iii) when the ship is equipped with a holding tank the capacity of such tank shall be to the satisfaction of the Administration for the retention of all sewage, having regard to the operation of the ship, the number of persons on board and other relevant factors. The holding tank shall meet operational requirements based on the standards and test methods recommended by the Commission and shall be approved by the Administration; and
 - iv) the ship is equipped with a pipeline to discharge sewage to a reception facility. The pipeline should be fitted with a standard shore connection in accordance with paragraph E, or for ships in dedicated trades, alternatively with other standards which can be accepted by the Administration such as quick connection couplings.

This survey shall be such as to ensure that equipment, fittings, arrangements and materials fully comply with the applicable requirements of this Regulation.

The Administration shall recognize the “Certificate of Type Test” for sewage treatment plants issued under the authority of other Contracting Parties.

- b) Periodical surveys at intervals specified by the Administration but not exceeding five years which shall be such as to ensure that the equipment, fittings, arrangements and materials fully comply with the applicable requirements of this Regulation.
2. Surveys of the ship as regards enforcement of the provisions of this Regulation shall be carried out by officers of the Administration. The Administration may,

however, entrust the surveys either to surveyors nominated for the purpose or to organizations **recognized** by it. In every case the Administration concerned fully guarantees the completeness and efficiency of the surveys.

3. After any survey of the ship has been completed, no significant change shall be made in the equipment, fittings, arrangements, or material covered by the survey without the approval of the Administration, except the direct replacement of such equipment or fittings.

G. Certificate

1. A Sewage Pollution Prevention Certificate shall be issued to ships certified to carry more than 50 persons which are engaged in international voyages in the Baltic Sea Area, after survey in accordance with the provisions of paragraph F of this Regulation.
2. Such Certificate shall be issued either by the Administration or by any person or organization duly authorized by it. In every case the Administration assumes full responsibility for the Certificate.
3. The Sewage Prevention Certificate shall be drawn up in a form corresponding to the model given in the appendix to Annex IV of MARPOL 73/78. If the language is not English, the text shall include a translation into English.
4. A Sewage Pollution Prevention Certificate shall be issued for a period certified by the Administration, which shall not exceed five years.
5. A Certificate shall cease to be valid if significant alterations have taken place in the equipment, fittings, arrangements or materials required without the approval of the Administration except the direct replacement of such equipment or fittings.

Annex V

Exemptions from the general prohibition of dumping of waste and other matter in the Baltic Sea Area

Regulation 1

In accordance with Article 11, paragraph 2 of this Convention the prohibition of dumping shall not apply to the disposal at sea of dredged materials provided that:

- a) the dumping of dredged material containing harmful substances indicated in Annex I is only permitted according to the guidelines adopted by the Commission; and
- b) the dumping is carried out under a prior special permit issued by the appropriate national authority, either
 - i) within the area of internal waters and the territorial sea of the Contracting Party; or
 - ii) outside the area of internal waters and the territorial sea, whenever necessary, after prior consultations in the Commission.

When issuing such permits the Contracting Party shall comply with the provisions in Regulation 3 of this Annex.

Regulation 2

1. The appropriate national authority referred to in Article 11, paragraph 2 of of this Convention shall:
 - a) issue the special permits provided for in Regulation 1 of this Annex;
 - b) keep records of the nature and quantities of matter permitted to be dumped and the location, time and method of dumping;
 - c) collect available information concerning the nature and quantities of matter that has been dumped in the Baltic Sea Area recently and up to the coming into force of this Convention, provided that the dumped matter in question could be liable to contaminate water or organisms in the Baltic Sea Area, to be caught by fishing equipment, or otherwise to give rise to harm, and information concerning the location, time and method of such dumping.

2. The appropriate national authority shall issue special permits in accordance with Regulation 1 of this Annex in respect of matter intended for dumping in the Baltic Sea Area:
 - a) loaded in its territory;
 - b) loaded by a ship or aircraft registered in its territory or flying its flag, when the loading occurs in the territory of a State which is not a Contracting Party to this Convention.
3. Each Contracting Party shall report to the Commission, and where appropriate to other Contracting Parties, the information specified in sub-paragraph 1 c) of Regulation 2 of this Annex. The procedure to be followed and the nature of such reports shall be determined by the Commission.

Regulation 3

When issuing special permits according to Regulation 1 of this Annex the appropriate national authority shall take into account:

- a) the quantity of dredged material to be dumped;
- b) the content of harmful substances as referred to in Annex I;
- c) the location (e.g. co-ordinates of the dumping area, depth and distance from the coast) and its relation to areas of special interest (e.g. amenity areas, spawning, nursery and fishing areas, etc.);
- d) the water characteristics, if dumping is carried out outside the territorial sea, consisting of:
 - i) hydrographic properties (e.g. temperature, salinity, density, profile);
 - ii) chemical properties (e.g. pH, dissolved oxygen, nutrients);
 - iii) biological properties (e.g. primary production and benthic animals);the data should include sufficient information on the annual mean levels and seasonal variation of the properties mentioned in this paragraph; and
- e) the existence and effects of other dumping which may have been carried out in the dumping area.

Regulation 4

Reports made in accordance with Article 11, paragraph 5 of this Convention shall include the information to be provided in the Reporting Form to be determined by the Commission.

ANNEX VI

Prevention of pollution from offshore activities

Regulation 1; Definitions

For the purposes of this Annex:

1. “Offshore activity” means any exploration and exploitation of oil and gas by a fixed or floating offshore installation or structure including all associated activities thereon;
2. “Offshore unit” means any fixed or floating offshore installation or structure engaged in gas or oil exploration, exploitation or production activities, or loading or unloading of oil;
3. “Exploration” includes any drilling activity but not seismic investigations;
4. “Exploitation” includes any production, well testing or stimulation activity.

Regulation 2; Use of Best Available Technology and Best Environmental Practice

The Contracting Parties undertake to prevent and eliminate pollution from offshore activities by using the principles of Best Available Technology and Best Environmental Practice as defined in Annex II.

Regulation 3; Environmental impact assessment and monitoring

1. An environmental impact assessment shall be made before an offshore activity is permitted to start. In case of exploitation referred to in Regulation 5 the outcome of this assessment shall be notified to the Commission before the offshore activity is permitted to start.
2. In connection with the environmental impact assessment the environmental sensitivity of the sea area around a proposed offshore unit should be assessed with respect to the following:
 - a) the importance of the area for birds and marine mammals;
 - b) the importance of the area as fishing or spawning grounds for fish and shellfish, and for aquaculture;
 - c) the recreational importance of the area;

- d) the composition of the sediment measured as: grain size distribution, dry matter, ignition loss, total hydrocarbon content, and Ba, Cr, Pb, Cu, Hg and Cd content;
 - e) the abundance and diversity of benthic fauna and the content of selected aliphatic and aromatic hydrocarbons.
3. In order to monitor the consequent effects of the exploration phase of the offshore activity studies, at least those referred to in sub-paragraph d) above, shall be carried out before and after the operation.
4. In order to monitor the consequent effects of the exploitation phase of the offshore activity studies, at least those referred to in sub-paragraphs d) and e) above, shall be carried out before the operation, at annual intervals during the operation, and after the operation has been concluded.

Regulation 4; Discharges on the exploration phase

1. The use of oil-based drilling mud or muds containing other harmful substances shall be restricted to cases where it is necessary for geological, technical or safety reasons and only after prior authorization by the appropriate national authority. In such cases appropriate measures shall be taken and appropriate installations provided in order to prevent the discharge of such muds into the marine environment.
2. Oil-based drilling muds and cuttings arising from the use of oil-based drilling muds should not be discharged in the Baltic Sea Area but taken ashore for final treatment or disposal in an environmentally acceptable manner.
3. The discharge of water-based mud and cuttings shall be subject to authorization by the appropriate national authority. Before authorization the content of the water-based mud must be proven to be of low toxicity.
4. The discharge of cuttings arising from the use of water based drilling mud shall not be permitted in specifically sensitive parts of the Baltic Sea Area such as confined or shallow areas with limited water exchange and areas characterized by rare, valuable or particularly fragile ecosystems.

Regulation 5; Discharges on the exploitation phase

In addition to the provisions of Annex IV the following provisions shall apply to discharges:

- a) all chemicals and materials shall be taken ashore and may be discharged only exceptionally after obtaining permission from the appropriate national authority in each individual operation;
- b) the discharge of production water and displacement water is prohibited unless its oil content is proven to be less than 15 mg/l measured by the methods of analysis and sampling to be adopted by the Commission;

- c) if compliance with this limit value cannot be achieved by the use of Best Environmental Practice and Best Available Technology the appropriate national authority may require adequate additional measures to prevent possible pollution of the marine environment of the Baltic Sea Area and allow, if necessary, a higher limit value which shall, however, be as low as possible and in no case exceed 40 mg/l; the oil content shall be measured as provided in sub-paragraph b) above.
- d) the permitted discharge shall not, in any case, create any unacceptable effects on the marine environment;
- e) in order to benefit from the future development in cleaning and production technology, discharge permits shall be regularly reviewed by the appropriate national authority and the discharge limits shall be revised accordingly.

Regulation 6; Reporting procedure

Each Contracting Party shall require that the operator or any other person having charge of the offshore unit shall report in accordance with the provisions of Regulation 5.1 of Annex VII of this Convention.

Regulation 7; Contingency planning

Each offshore unit shall have a pollution emergency plan approved in accordance with the procedure established by the appropriate national authority. The plan shall contain information on alarm and communication systems, organization of response measures, a list of prepositioned equipment and a description of the measures to be taken in different types of pollution incidents.

Regulation 8; Disused offshore units

The Contracting Parties shall ensure that abandoned, disused offshore units and accidentally wrecked offshore units are entirely removed and brought ashore under the responsibility of the owner and that disused drilling wells are plugged.

Regulation 9; Exchange of information

The Contracting Parties shall continuously exchange information through the Commission on the location and nature of all planned or accomplished offshore activities and on the nature and amounts of discharges as well as on contingency measures that are undertaken,

ANNEX VII

Response to pollution incidents

Regulation 1; General Provisions

1. The Contracting Parties undertake to maintain the ability to respond to pollution incidents threatening the marine environment of the Baltic Sea Area. This ability shall include adequate equipment, ships and manpower prepared for operations in coastal waters as well as on the high sea.
2.
 - a) In addition to the incidents referred to in Article 13 the Contracting Party shall also notify without delay those pollution incidents occurring within its response region, which affect or are likely to affect the interests of other Contracting Parties.
 - b) In the event of a significant pollution incident other Contracting Parties and the Commission shall also be informed as soon as possible.
3. The Contracting Parties agree that subject to their capabilities and the availability of relevant resources, they shall co-operate in responding to pollution incidents when the severity of such incidents so justify.
4. In addition the Contracting Parties shall take other measures to:
 - a) conduct regular surveillance outside their coastlines; and
 - b) otherwise co-operate and exchange information with other Contracting Parties in order to improve the ability to respond to pollution incidents.

Regulation 2; Contingency Planning

Each Contracting Party shall draw up a national contingency plan and in co-operation with other Contracting Parties, as appropriate, bilateral or multilateral plans for a joint response to pollution incidents.

Regulation 3; Surveillance

1. In order to prevent violations of the existing regulations on prevention of pollution from ships the Contracting Parties shall develop and apply individually or in co-operation,

surveillance activities covering the Baltic Sea Area in order to spot and monitor oil and other substances released into the sea.

2. The Contracting Parties shall undertake appropriate measures to conduct the surveillance referred to in Paragraph 1. by using, inter alia, airborne surveillance equipped with remote sensing systems.

Regulation 4; Response Regions

The Contracting Parties shall as soon as possible agree bilaterally or multilaterally on those regions of the Baltic Sea Area in which they shall conduct surveillance activities and take action to respond whenever a significant pollution incident has occurred or is likely to occur. Such agreements shall not prejudice any other agreements concluded between Contracting Parties concerning the same subject. Neighboring States shall ensure the harmonization of different agreements. Contracting Parties shall inform other Contracting Parties and the Commission about such agreements.

Regulation 5; Reporting Procedure

1. a) Each Contracting Party shall require masters or other persons having charge of ships flying its flag to report without delay any event on their ship involving a discharge or probable discharge of oil or other harmful substances.
 - b) The report shall be made to the nearest coastal state and in accordance with the provisions of Article 8 and Protocol I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 related thereto (MARPOL 73/78).
 - c) The Contracting Parties shall request masters or other persons having charge of ships and pilots of aircraft to report without delay and in accordance with this system on significant spillages of oil or other harmful substances observed at sea. Such reports should as far as possible contain the following data: time, position, wind and sea conditions, and kind, extent and probable source of the spill observed.
2. The provisions of paragraph 1. b) shall also be applied with regard to dumping made under the provisions of Article 11, paragraph 4 of this Convention.

Regulation 6; Emergency Measures on Board Ships

1. Each Contracting Party shall require that ships entitled to fly its flag have on board a shipboard oil pollution emergency plan as required by and in accordance with the provisions of MARPOL 73/78.
2. Each Contracting Party shall request masters of ships flying its flag or, in case of fixed or floating platforms operating under its jurisdiction, the persons having charge of platforms to provide, in case of a pollution incident and on request by the proper authorities, such detailed information about the ship and its cargo or in case of platform its production which

is relevant to actions for preventing or responding to pollution of the sea, and to co-operate with these authorities.

Regulation 7; Response Measures

1. The Contracting Party shall, when a pollution incident occurs in its response region, make the necessary assessments of the situation and take adequate response action in order to avoid or minimize subsequent pollution effects.
2.
 - a) The Contracting Parties shall, subject to sub-paragraph b), use mechanical means to respond to pollution incidents.
 - b) Chemical agents may be used only in exceptional cases and after authorization, in each individual case, by the appropriate national authority.
3. When such a spillage is drifting or is likely to drift into a response region of another Contracting Party, that Party shall without delay be informed of the situation and the actions that have been taken.

Regulation 8; Assistance

1. According to the provisions of paragraph 3 of Regulation 1:
 - a) a Contracting Party is entitled to call for assistance by other Contracting Parties when responding to a pollution incident at sea; and
 - b) Contracting Parties shall use their best endeavours to bring such assistance.
2. Contracting Parties shall take necessary legal or administrative measures to facilitate:
 - a) the arrival and utilization in and departure from its territory of ships, aircraft and other modes of transport engaged in responding to a pollution incident or transporting personnel, cargoes, materials and equipment required to deal with such an incident; and
 - b) the expeditious movement into, through, and out of its territory of personnel, cargoes, materials and equipment referred to in sub-paragraph a).

Regulation 9; Reimbursement of Cost of Assistance

1. The Contracting Parties shall bear the costs of assistance referred to in Regulation 8 in accordance with this Regulation.
2.
 - a) If the action was taken by one Contracting Party at the express request of another Contracting Party, the requesting Party shall reimburse to the assisting Party the costs of the action of the assisting Party. If the request is cancelled the requesting Party shall bear the costs already incurred or committed by the assisting Party.

- b) If the action was taken by a Contracting Party on its own initiative, this Party shall bear the costs of its action.
 - c) The principles laid down above in sub-paragraphs a) and b) shall apply unless the Parties concerned otherwise agree in any individual case.
3. Unless otherwise agreed, the costs of the action taken by a Contracting Party at the request of another Party shall be fairly calculated according to the law and current practice of the assisting Party concerning the reimbursement of such costs.
4. The provisions of this regulation shall not be interpreted as in any way prejudicing the rights of Contracting Parties to recover from third parties the costs of actions taken to deal with pollution incidents under other applicable provisions and rules of international law and national or supra-national regulations.

Regulation 10; Regular Co-operation

1. Each Contracting Party shall provide information to the other Contracting Parties and the Commission about:
- a) its organization for dealing with spillages at sea of oil and other harmful substances;
 - b) its regulations and other matters which have a direct bearing on preparedness and response to pollution at sea by oil and other harmful substances;
 - c) the competent authority responsible for receiving and dispatching reports of pollution at sea by oil and other harmful substances;
 - d) the competent authorities for dealing with questions concerning measures for mutual assistance, information and co-operation between the Contracting Parties according to this Annex; and
 - e) actions taken in accordance with Regulations 7 and 8 of this Annex.
2. The Contracting Parties shall exchange information on research and development programs, results concerning ways in which pollution by oil and other harmful substances at sea may be dealt with and experiences in surveillance activities and in responding to such pollution.
3. The Contracting Parties shall on a regular basis arrange joint operational combatting exercises as well as alarm exercises.
4. The Contracting Parties shall co-operate within the International Maritime Organization in matters concerning the implementation and further development of the International Convention on Oil Pollution Preparedness, Response and Co-operation.

Regulation 11; HELCOM Combatting Manual

The Contracting Parties agree to apply, as far as practicable, the principles and rules included in the Manual on Co-operation in Combatting Marine Pollution, detailing this Annex and adopted by the Commission or by the Committee designated by the Commission for this purpose.

CONVENTION ON THE PROTECTION OF THE MARINE
ENVIRONMENT OF THE BALTIC SEA AREA

BALTIC MARINE ENVIRONMENT PROTECTION
COMMISSION - HELSINKI COMMISSION -

15 February 1988

Ninth Meeting
Helsinki 15-20 February 1988

DECLARATION ON THE PROTECTION
OF THE MARINE ENVIRONMENT OF THE BALTIC SEA AREA

adopted on 15 February 1988 in Helsinki
by the Ministers
responsible for the environmental protection in the
Baltic Sea States

The Ministers, responsible for the environmental protection of the Baltic Sea Area, of the Governments of

The Kingdom of Denmark
The Republic of Finland
The German Democratic Republic
The Federal Republic of Germany
The Polish People's Republic
The Kingdom of Sweden
The Union of Soviet Socialist Republics,

ASSEMBLED in Helsinki on the occasion of the ninth meeting of the Baltic Marine Environment Protection Commission in February 1988,

RECALLING the provisions of the Convention on the Protection of the Marine Environment of the Baltic Sea Area,

CONSCIOUS of the particular sensitivity of the marine environment of the Baltic Sea Area, and of the economic, social and cultural values the Baltic Sea Area and its living resources represent for the peoples of the Baltic Sea States,

AWARE of the need to protect and preserve for present and future generations this most important marine ecosystem as a source of wholesome food as well as for recreational purposes,

NOTING the valuable work done hitherto within the Helsinki Commission in adopting unanimous recommendations to the Governments of the Contracting Parties to the Convention as well as taking decisions on cooperative actions,

RECOGNIZING that certain discharged harmful substances are of a durable and persistent character alien to the marine environment,

EXPRESSING concern for the present state of the marine environment of the Baltic Sea Area,

BEING CONVINCED that damage to the marine environment can be irreversible or remediable only in a long term perspective and at considerable expense and that, therefore, Contracting Parties to the Convention must adopt a precautionary approach and not wait for full and undisputed scientific proof of harmful effects before taking action to prevent and abate pollution,

BEING ALSO CONVINCED of the urgency to expedite the work of the Contracting Parties to the Convention and the Commission in implementing the Convention,

DO HEREBY DECLARE THEIR FIRM DETERMINATION TO

MAKE further provisions for reducing discharges from point sources, such as industrial installations and urban wastewater treatment plants, of toxic or persistent substances, nutrients, heavy metals, and hydrocarbons by construction and operation of installations and equipment in conformity with the best available technology. In this context it is noted that actions concerning non-point sources will also be needed. In order to fulfill these objectives current and new efforts on reduction of the load of pollutants should aim at a substantive reduction of the substances most harmful to the ecosystem of the Baltic Sea, especially of

- heavy metals and toxic or persistent organic substances, and
- nutrients

for example in the order of 50 per cent of the total discharges of each of them, as soon as possible but not later than 1995,

Parties to the Convention will report on national plans and activities and results achieved to the tenth meeting of the Commission in 1989,

INTENSIFY research and development as well as exchange of information in order to improve knowledge relating to degree and character of the marine environment pollution, of methods for monitoring the state of the marine environment and the ecological system of the sea and methods for water quality improvement with the aim of applying low- and non-waste technologies,

TAKE APPROPRIATE ACTIONS, including further research, related to the assessments of the environmental status of the Baltic Sea Area,

DEVELOP methodologies and exchange data in order to further, as a matter of urgency, the reliable assessment of the pollution load of the Baltic Sea Area on a regular basis,

RESPECT the relevant recommendations of the competent international organizations, and to this end apply the best available technology to minimize or eliminate as soon as possible any pollution caused by radioactive discharge from all nuclear industries, including reprocessing plants, into the marine environment,

MINIMIZE deposition in the Baltic Sea Area of airborne pollutants emitted from land-based sources and in that respect closely cooperate with the World Meteorological Organization (WMO) and within the Convention on Long-Range Transboundary Air Pollution,

PROMOTE the exchange of environmental technologies, including preferential treatment,

INTENSIFY coordinated research and monitoring in coastal waters, including the estimate of the total charge of pollutants entering the Baltic Sea Area from the different sources,

DEVELOP, in cooperation with competent international organizations, further rules for the safe operation of tankers in the Baltic Sea Area, particularly in winter conditions,

WORK together to promote the use of shore reception facilities for residues and wastes from ships by making such facilities and services available at reasonable costs or without charging special fees to the individual ships,

COOPERATE within appropriate international bodies to promote the development of environmentally sound standards of marine fuels,

INTENSIFY research, development and cooperation in order to establish suitable and effective means and methods to combat spillages of oil and other harmful substances also under cold weather and ice conditions,

DEVELOP and establish airborne surveillance with adequate sensor systems for detection of violations of the discharge provisions, independent of visibility and for the improvement of response to marine spills,

ESTABLISH guidelines concerning measures to minimize and combat accidental spillages from offshore installations,

COOPERATE in developing models of the ecological system of the Baltic Sea in order to facilitate the choice of appropriate action to protect the marine environment.

The Ministers agree to hold the meeting of the Baltic Marine Environment Protection Commission in 1994 at ministerial level to review the implementation of decisions taken in the framework of the Convention and to consider the need for further concerted action in view of developments affecting the marine environment of the Baltic Sea Area.

Done in Helsinki
on February 15, 1988

For the
Kingdom of Denmark



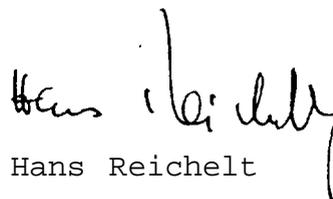
Christian Christensen

For the
Republic of Finland



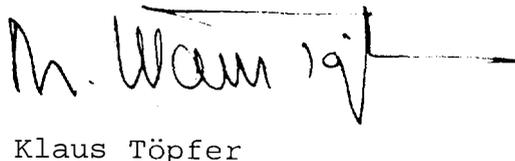
Kaj Bärlund

For the
German Democratic Republic



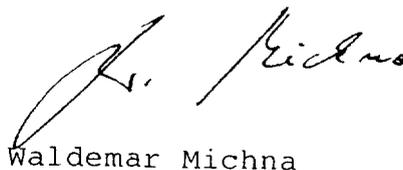
Hans Reichelt

For the
Federal Republic of Germany



Klaus Töpfer

For the
Polish People's Republic



Waldemar Michna

For the
Kingdom of Sweden



Birgitta Dahl

For the Union of
Soviet Socialist Republics



Boris G. Shtepa

The following HELCOM Recommendations have been adopted at the Ninth Meeting of the Helsinki Commission on 15 February 1988 by the Ministers responsible for environment protection in the Baltic Sea States:

HELCOM Recommendation 9/1:

Recommendation concerning protection of seals in the Baltic Sea Area

HELCOM Recommendation 9/2:

Recommendation concerning measures aimed at the reduction of discharges from urban areas by the use of effective methods in wastewater treatment

HELCOM Recommendation 9/3:

Recommendation concerning measures aimed at the reduction of nutrient discharges from agriculture

HELCOM Recommendation 9/4:

Recommendation concerning reduction of emissions of lead from combustion of leaded gasoline

HELCOM Recommendation 9/5:

Recommendation concerning exploration and exploitation of the sea-bed and its subsoil

HELCOM Recommendation 9/6:

Recommendation concerning restriction of discharges from the pulp and paper industry



Baltic Sea Declaration

by

Heads of Governments and High Political
Representatives of the Baltic Sea States, Norway,
the Czech and Slovak Federal Republic

and the Representative of the Commission of the
European Communities

Assembled at Ronneby, Sweden, September 2-3, 1990.

Having exchanged views on increased environmental
cooperation in the Baltic Sea area:

Concerned about the continuing threat to the environment of the Baltic Sea; threatening to irreversibly disrupt the ecological balance in the region and seriously curtail the possibilities for sound development in the area;

Welcoming the new climate of understanding and cooperation between the States in the Baltic Sea area, which will make resources available for the protection of the Baltic Sea environment, inter alia, through the reduced need for armaments expenditures;

Convinced that strengthening of such cooperation among them will contribute to the implementation of the relevant provisions of the Final Act of the Conference on Security and Cooperation in Europe and the outcome of its follow-up meetings;

Sharing the view of the World Commission on Environment and Development that sustainable development is dependent on future policies in all countries and in all sectors;

Resolved that exploitation of natural resources in the area should be consistent with sustainable development;

Stressing the need for the use and transfer of the best available technology to protect the area and for low-waste and non-waste technologies to be further developed in order to obtain sustainable development;

Aware of the need to take urgent action to protect and preserve for present and future generations the environment of the Baltic Sea area and surrounding land areas, taking into account the particular sensitivity of the marine environment of the area and its importance to adjacent sea areas;

Welcoming the substantial financial support for the protection of the environment of the Baltic Sea area which is already under way or which may be expected from bilateral agreements, the programmes of the EC and the activities of all relevant international financial institutions, in particular

- the World Bank
- the European Investment Bank
- the Nordic Investment Bank

and the new European Bank of Reconstruction and Development, and further welcoming the priority attached to environmental protection in the framework of the programmes of assistance to the process of economic and social reform under way in several countries in the Baltic Sea Area;

Welcoming the conclusions adopted by the Conference of Environment Ministers from the European Community and Eastern and Central European countries held in Dublin on 16 June 1990;

Recalling the valuable work of the UN Economic Commission for Europe in the field of environmental protection;

Recalling the 1973 Convention on Fishing and Conservation of the Living Resources in the Baltic Sea and the Belts, the 1974 Convention on the Protection of the Marine Environment of the Baltic Sea area and the 1979 Convention on Long-Range Transboundary Air Pollution;

Recalling the valuable work on environmental protection that has been achieved under the framework provided by the 1974 Convention on the Protection of the Marine Environment of the Baltic Sea Area;

Welcoming the decision of the European Communities to establish an Environment Agency and a European Environment Information and Observation Network, which will be open also to the countries of the Baltic area and other plans to start cooperation centres of importance to the Baltic Sea area states in the field of environmental sciences, such as the Baltic Sea Centre in Finland;

Recalling the 9th Meeting of the Helsinki Commission held at ministerial level in February 1988, and the Declaration on the Protection of the Marine Environment of the Baltic Sea Area that was agreed and signed on that occasion;

Reaffirming the principles adopted on May 16th 1990 in the Bergen Ministerial Declaration on Sustainable Development in the ECE Region.

DO HEREBY DECLARE THEIR FIRM DETERMINATION TO:

1. Assure the ecological restoration of the Baltic Sea, ensuring the possibility of self-restoration of the marine environment and preservation of its ecological balance;
2. Urgently prepare a joint comprehensive programme for decisive reduction of emissions in order to restore the Baltic Sea to a sound ecological balance. The programme shall be based on concrete national plans provided by the countries concerned;

An ad hoc high level Task Force shall be set up immediately within the Helsinki Commission to coordinate and supplement the analysis for the different parts of the Baltic Sea and to prepare the joint comprehensive programme. The Task Force shall consist of representatives from the Contracting Parties of the Helsinki Convention. The Czech and Slovak Federal Republic, the Kingdom of Norway, the Commission of the European Communities as well as international financial institutions will take part in the work of the Task Force.

The financial institutions participating in the Baltic Sea Conference (European Bank for Reconstruction and Development, European Investment Bank, Nordic Investment Bank, World Bank) are jointly invited as members of the Task Force, to analyze financial and other requirements and to identify and prepare investment projects and, accompanying measures for the different parts of the Baltic Sea.

The national plans shall contain relevant decisions, programmes and regulations for the reduction of polluting substances (especially inputs from agriculture, industry, sewage treatment plants and waste) taking into consideration the quantities of major direct and indirect inputs. The national plans shall be submitted to the Task Force by 31 January 1991.

The comprehensive programme should be finalized by the Task Force by the end of 1991 and be subsequently decided upon at ministerial level in the framework of the Helsinki Commission. In the countries concerned, the key elements of the comprehensive programme shall be under implementation by 1993;

3. Undertake and support intensified efforts to reduce as soon as possible the emissions of harmful substances (toxic, persistent and bioaccumulating substances, heavy metals and nutrients) to levels that are in accordance with a restored ecological balance, implementing as a first step the existing commitments by the contracting parties to the Helsinki Convention to reduce such emissions in the order of 50% in the period 1987-1995;
4. Accept the principle of safeguarding the marine ecosystems in the Baltic Sea by substantially reducing the above-mentioned emissions, by the use of the best available technology and other appropriate measures and furthermore to assure sustainable utilization of natural resources and development and use of cleaner technologies, including low-waste and non-waste processes and environmentally non-hazardous products;
5. Promote the reduction of nutrients and other harmful substances entering the Baltic Sea from diffuse sources by the use of the best environmental practice;
6. Require the best available technology for all important industries (e.g. chemical, fertilizer and pulp and paper industries) and promote the installation and improvement of municipal sewage treatment plants, which should include biological treatment and nutrient removal to the level set up within the Helsinki Commission as far as possible and not later than the year 2000;

7. (a) Strengthen the legal and institutional regime, inter alia the Helsinki Convention and its Commission, in the field of prevention and control of pollution entering the Baltic Sea, with a view to accelerating the implementation of existing commitments and bringing the Convention with Annexes in line with the development since its adoption in 1974;
(b) Promote closer cooperation between the Helsinki and the Gdansk Commissions;
8. Promote further co-operation within the Convention on Long-Range Transboundary Air Pollution with a view to achieving broader implementation of the Helsinki and Sofia protocols and to reaching agreements in appropriate international **fora** on further reductions of the emissions of air pollutants from motor vehicles, ships, industries etc.;
9. Intensify cooperation in the field of environmental sciences, inter alia, in order to strengthen the foundation for designing adequate measures to reduce the most harmful pollution;
10. Promote additionally, through supportive measures, increased transfer of knowledge regarding the environment;
11. Promote further co-operation in the field of transfer of environmentally sound technology, inter alia, through multilateral, bilateral and commercial mechanisms, with the aim to protect the Baltic Sea.

12. Apply the precautionary principle, i. e. to take effective action to avoid potentially damaging impacts of substances that are persistent, toxic and liable to bioaccumulate even where there is lack of full scientific certainty to prove a causal link between emissions and effects. This applies especially when there is reason to assume that certain damage or harmful effects on the marine ecosystems are likely to be caused by such substances;
13. Extend and strengthen the programme of monitoring in order to improve the assessment of the present and future state of the marine environment of the Baltic Sea area and encourage the cooperation between statistical agencies to improve demographic and other statistics relevant to the protection of the Baltic Sea;
14. Develop a comprehensive programme in nature conservation, inter alia, through the establishment of protected areas representing the various Baltic ecosystems and their flora and fauna.
15. Encourage a strengthening of cooperation and facilitation of human contacts in the region to improve the environment of the Baltic Sea, including inter alia participation of local and regional governments, governmental and private institutions, industries and non-governmental organizations in the fields of economy, trade, science, culture, information, etc.;

- 16 (a) Cooperate within appropriate international **fora** in improving legal instruments and technical regulations for transport systems aiming at the prevention of adverse environmental impacts on the Baltic Sea area, inter alia, pollution arising from maritime casualties, and to this end:
- prepare within the Helsinki Commission a joint initiative for strong support of the work within the IMO on a world-wide agreement on new requirements on constructional arrangements for tankers (e.g. double-hull, double-side, double bottom-ships, tank size limitation) to prevent or reduce oil spills resulting from collisions or groundings, and
 - support their best efforts to encourage, by economic incentives, e.g. lower fees, the use of tankers with improved construction to minimize the effects of accidents;
- (b) Encourage considerably intensified cooperation regarding airborne surveillance between the respective competent authorities;
17. Undertake to integrate environmental considerations into the procedures for planning future development in all economic and social processes;
18. Encourage further commercial and financial cooperation, multilaterally and bilaterally, in order to implement the necessary reduction of emissions, including supportive financial arrangements when appropriate;

19. Recommend that meetings of the Helsinki Commission will continue to be held at the ministerial level at appropriate intervals, in order to examine the implementation of the decisions and recommendations for the protection of the Baltic Sea by the Commission, to follow closely the development of the environmental quality in the Area and agree on further concerted action of effective improvements concerning the Baltic Sea.

FINAL ACT OF THE DIPLOMATIC CONFERENCE ON THE PROTECTION OF THE MARINE ENVIRONMENT OF THE BALTIC SEA AREA

1. The Helsinki Commission at its thirteenth meeting requested the Government of Finland to convene a Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area.
2. The Conference was held at the invitation of the Government of Finland in Helsinki at the Finlandia Hall on 9 April 1992.
3. Representatives of
 - Czech and Slovak Federal Republic
 - Denmark
 - Estonia
 - Finland
 - Germany
 - Latvia
 - Lithuania
 - Norway
 - Poland
 - Russia
 - Sweden
 - the European Economic Community
 participated in the Conference.
4. Ukraine sent an observer to the Conference.
5. The Helsinki Commission was represented by its Chairman.
6. The following international financial institutions sent observers to the Conference:
 - European Bank for Reconstruction and Development
 - European Investment Bank
 - Nordic Investment Bank
 - World Bank.
7. The following intergovernmental **organizations** sent observers to the Conference:
 - International Baltic Sea Fishery Commission (**IBSFC**)
 - International Council for the Exploration of the Sea (**ICES**)
 - International Maritime Organization (**IMO**)
 - Intergovernmental Oceanographic Commission (**IOC**)
 - Oslo and Paris Commission (**OSCOM / PARCOM**)
 - United Nations Environment Programme (**UNEP**)
 - World Health Organization, Regional Office for Europe (**WHO/EURO**).

8. The following non-governmental international **organizations** sent observers to the Conference:

Stichting Greenpeace Council, Greenpeace International
World Wide Fund for Nature, WWF International
Coalition Clean Baltic (CCB).
9. At the opening of the conference Mr. **Ilkka** Suominen, Speaker of the Parliament of Finland, on behalf of the host country, made a statement supporting the objectives of the conference.
10. Mr. Harald Velner, Chairman of the Helsinki Commission, addressed the Conference on behalf of the Helsinki Commission.
11. Ms. **Sirpa Pietikäinen**, Minister of the Environment of Finland, was elected President of the Conference.
12. Mr. Stefan Kozłowski, Minister of Environmental Protection, Natural Resources and Forestry of Poland and Mr. Olof Johansson, Minister of the Environment and Natural Resources of Sweden, were elected Vice-Presidents of the Conference.
13. The Executive Secretary of the Helsinki Commission, Mr. Fleming **Otzen**, acted as Secretary General of the Conference.
14. The Helsinki Commission Secretariat acted as Secretariat of the Conference and the Conference Secretariat Officers were as follows:

Executive Secretary, Mr. Adam Kowalewski, Maritime Secretary of the Helsinki Commission;

Executive Secretary, Ms. Terttu **Melvasalo**, Task Force Secretary of the Helsinki Commission;

Deputy Executive Secretary, Mr. Vassili Rodionov, Technological Secretary of the Helsinki Commission;

Deputy Executive Secretary, Ms. Eeva-Liisa Poutanen, Environment Secretary, a.i., of the Helsinki Commission.
15. The Conference used as the basis of its work:
 - draft text of a convention on the protection of the marine environment of the Baltic Sea area, 1992, prepared by the HELCOM ad hoc Group for Revision of the Convention and a preparatory meeting;
 - draft text of a Baltic Sea environmental declaration, 1992, and the background document for the draft declaration prepared by the HELCOM ad hoc high level Task Force and a preparatory meeting;

- Baltic Sea Joint Comprehensive Environmental Action Programme (Preliminary Version), prepared by the HELCOM ad hoc high level Task Force; and
- draft resolutions prepared by the preparatory meeting of the Conference.

16. As a result of its deliberations the Conference adopted the:

- Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 and associated resolutions, i.e.;

Resolution No. 1	Guidelines for designation of internal waters;
Resolution No. 2	Commission;
Resolution No. 3	Applicability of decisions and recommendations adopted by the Helsinki Commission;
Resolution No. 4	Application of technology-principles; and
- Baltic Sea Environmental Declaration, 1992, and the associated resolution, i.e.;

Resolution No. 5	Establishment of a Programme Implementation Task Force within the framework of the Helsinki Commission.
------------------	---

17. The Declaration and the Resolutions are contained in the Attachment to this Final Act.

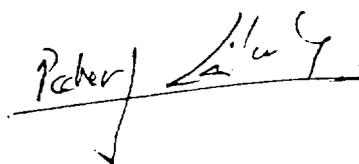
18. This Final Act is established in a single original text in the English language which is to be deposited with the Government of Finland.

19. The Government of Finland shall send certified copies of this Final Act with its Attachment to **all** the Participants of the Conference.

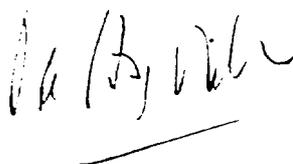
In witness whereof the undersigned have affixed their signature to this Final Act.

Done at Helsinki this ninth day of April, one thousand nine hundred and ninety two.

For the Czech and Slovak Federal Republic



For the Kingdom of Denmark



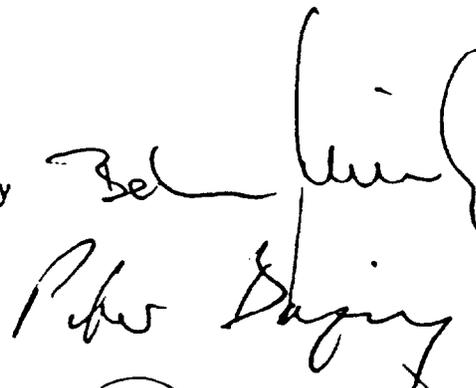
For the Republic of Estonia



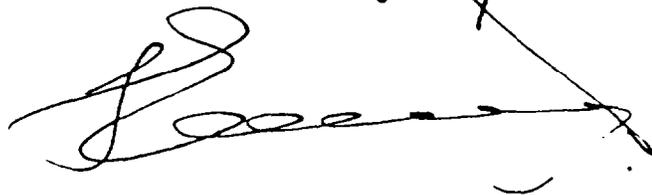
For the Republic of Finland



For the Federal Republic of Germany



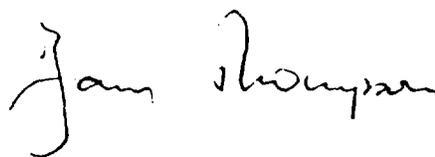
For the Republic of Latvia



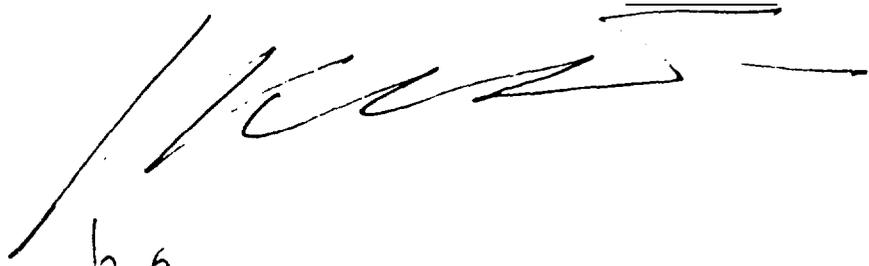
For the Republic of Lithuania



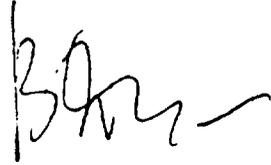
For the Kingdom of Norway



For the Republic of Poland

A handwritten signature in black ink, consisting of several large, sweeping strokes that form a stylized, somewhat abstract shape.

For the Russian Federation

A handwritten signature in black ink, appearing to be the letters 'BA' followed by a horizontal line and a small flourish.

For the Kingdom of Sweden

A handwritten signature in black ink, featuring a cursive style with a prominent, elongated horizontal stroke.

For the European Economic Community

A handwritten signature in black ink, consisting of a few simple, bold strokes.

BALTIC SEA ENVIRONMENTAL DECLARATION, 1992

Environment Ministers, and High Representatives of the **Governments** of

The Contracting Parties to the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1974;

The Czech and Slovak Federal Republic,
The Republic of Latvia,
The Kingdom of Norway;

and the Representative of
The Commission of the European Communities

ASSEMBLED at the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area in Helsinki on 9 April 1992,

CONSCIOUS of the economic, **social** and cultural values **of** the Baltic Sea Area for peoples living in its catchment **area**,

CONSCIOUS ALSO that the ecology of the sea and of the coastal and estuarine areas is linked to environmental conditions in the catchment **area** of the **Baltic** Sea, and that airborne pollution emanates 'from even more distant areas,

AWARE of the political, social and economic changes taking place in countries surrounding the Baltic Sea,

REAFFIRMING their view that sustainable and environmentally sound development is dependent on profound reorientation in all sectors of society,

CONCERNED about the deterioration of the marine environment of the Baltic Sea Area in spite of measures taken in the Baltic Sea States to decrease the pollution load to the Baltic Sea,

CONVINCED that the Baltic Sea and its living resources can be restored to a sound ecological balance only if measures to decisively reduce harmful inputs to the atmosphere, to the catchment area and to the Baltic Sea are taken jointly and urgently,

RECALLING the provisions of the Helsinki Convention of 1974 and the Declaration on the Protection of the Marine Environment of the Baltic Sea, adopted on 15 February 1988 by Ministers responsible for the environmental protection in the Baltic Sea States,

RECALLING ALSO the Baltic Sea Declaration of 3 September 1990, in which Heads of Governments and High Political Representatives of the Baltic Sea States, Norway and the Czech and Slovak Federal Republic and the Representative of the Commission of the European Communities expressed their **firm** determination to assure the ecological restoration of the Baltic Sea and for that purpose to prepare urgently a Joint Comprehensive Programme in the framework of the Helsinki Commission,

AWARE that the provisions of the new Convention on the Protection of the Marine Environment of the Baltic Sea Area adopted by the Diplomatic Conference on this day will **require** that further measures are taken in the internal waters of the States and in the whole catchment area in order to protect and enhance the **marine environment** of the Baltic Sea Area,

NOTING the work done by the ad hoc high level Task Force, established within the framework of the Helsinki Commission to elaborate the Joint Comprehensive Programme in accordance with the **Baltic** Sea Declaration,

ENDORISING the key elements of the preliminary version of the Programme, elaborated by the Task Force,

WELCOMING the decision by the Helsinki Commission to provide funding to establish a special mechanism within the framework of the Commission to co-ordinate and monitor Programme implementation and to provide a focal point for periodic updating of the Programme,

WELCOMING ALSO the expressed intention of the co-operating international financial institutions to support the implementation of this Programme,

REAFFIRMING their determination to assure the ecological restoration of the Baltic Sea as an urgent matter and in this regard to make all efforts to ensure that the key elements of the Programme are initiated by 1993 as called for in the **Baltic** Sea Declaration,

HAVE AGREED TO

1. APPROVE the strategic approach and principles reflected in the Baltic Sea Joint Comprehensive Environmental Action Programme (Preliminary version),
2. TAKE ACTION to promote implementation of the Programme in the entire catchment area of the **Baltic Sea**,
3. ASSURE that measures to implement the Programme will cause decisive reduction of the pollution load on the Baltic Sea Area also from its catchment area, ensuring the possibility of self-restoration of the marine environment and its ecological balance,
4. APPLY the Precautionary Principle and take all necessary steps to ensure the use of Best Environmental Practice and Best Available Technology when designing measures to eliminate pollution and improve environmental management,

5. CO-OPERATE bilaterally, multilaterally and in all relevant international **fora in** order to achieve the objectives of the Programme,
6. REQUEST the continued partnership of the European Bank for Reconstruction and Development, European Investment Bank, Nordic Investment Bank and **the** World Bank to facilitate the implementation of the Programme,
7. **STRENGTHEN AND FURTHER DEVELOP** the legal and administrative arrangements necessary to ensure the urgent implementation and updating of the Programme,
8. ESTABLISH within the framework of the Helsinki Commission a special mechanism to **finalize** the Programme, co-ordinate, facilitate and monitor Programme implementation, and initiate periodic updating of the Programme,
9. INTENSIFY relevant research and exchange of information within the framework of the Helsinki Commission and among all interested parties, improve the monitoring of reductions of pollutants, increase understanding of their impact on the environment and its living resources, and develop and disseminate cost-effective environmental management technologies,
10. MAKE ALL EFFORTS to promptly ensure effective funding of feasibility studies for priority actions identified in the Programme, provided the investments are carried out in the near future,
11. **MOBILIZE local**, national, bilateral and international financial resources for implementation of the Programme, and to this end, request the four co-operating international financial institutions to assist in **organizing** a special conference in late 1992 or early 1993,
12. MAKE ALL EFFORTS, when necessary, to strengthen the environmental management institutions, establish sound and cost-effective environmental control policies and regulations, including implementation of the polluter-pays principle and the environmental impact assessment, as well as to increase local capacity to finance environmental measures, including the mobilization of private capital resources,
13. RECOMMEND that the 1994 meeting of the Helsinki Commission to be held at ministerial level reviews the progress of implementation of the Programme.

RESOLUTION 1

Guidelines for designation of internal waters

THE CONFERENCE,

HAVING **ADOPTED** the text of the Convention on the Protection of the Marine Environment of the **Baltic** Sea Area, 1992,

NOTING that Article 1 of the Convention contains an obligation for a Contracting Party to designate its internal waters for the purposes of the Convention and to inform the Depositary of the designation at the time of the deposit of its instrument of ratification, approval or accession,

RECOGNIZING the importance of such designation being made in accordance with jointly acceptable principles,

WELCOMING the intention of the Government of Germany to convene a meeting of experts in 1992 to elaborate guidelines for the designation of internal waters,

REQUESTS the Helsinki Commission to consider the Guidelines at its fourteenth meeting in 1993.

RESOLUTION 2

Commission

THE CONFERENCE,

HAVING ADOPTED the text of the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992,

NOTING that according to Article 19 of the Convention the Baltic Marine Environment Protection Commission, known as the Helsinki Commission, established pursuant to the 1974 Convention, shall also be the Commission established for the purposes of the 1992 Convention,

EMPHASIZES the importance of upholding the existing relevant decisions and arrangements regarding the Helsinki Commission and the Secretariat for a smooth transition upon the entry into force of the 1992 Convention,

REQUESTS the Helsinki Commission to secure the continuity of the term of office of an Executive Secretary and other staff members of the Secretariat upon the entry into force of the 1992 Convention.

RESOLUTION 3

Applicability of decisions and recommendations adopted by the Helsinki Commission

THE CONFERENCE,

HAVING ADOPTED the text of the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992,

NOTING that according to Article 36 of the 1992 Convention decisions and recommendations adopted by the Helsinki Commission established pursuant to the 1974 Convention, shall continue to be applicable to the extent that they are compatible with, or not explicitly terminated by the 1992 Convention or any decision adopted thereunder,

REQUESTS the Helsinki Commission to determine which decisions and recommendations should continue to apply upon the entry into force of the 1992 Convention.

RESOLUTION 4

Application of technology-principles

THE CONFERENCE,

HAVING ADOPTED the text of the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992,

NOTING that according to Articles 3 and 6 of the Convention, the Contracting Parties shall, ***inter alia***, promote the use of Best Environmental Practice and Best Available Technology as fundamental means to control pollution,

RECALLING that the concept of cleaner technology is covered by the principles of Best Environmental Practice and Best Available Technology, as defined in Annex II of the Convention,

AGREEING to the need wherever possible to integrate environmental considerations in all stages of a product from design and production through consumption and use to the final disposal or re-use,

REQUESTS the Helsinki Commission to develop in general a comprehensive strategy on the priority and the sequence of application of the different means contained in the definitions of Best Environmental Practice and Best Available Technology,

ENCOURAGES the Helsinki Commission to continue its work on the different aspects of the application of the appropriate means contained in Best Environmental Practice and Best Available Technology,

REQUESTS the Helsinki Commission to start the consideration of this Resolution at its fourteenth meeting in 1993.

RESOLUTION 5

Establishment of a Programme Implementation Task Force within the framework of the Helsinki Commission

THE CONFERENCE,

HAVING ADOPTED the Baltic Sea Environmental Declaration, 1992,

CONVINCED that facilitation of coordination is necessary to support the implementation of the Joint Comprehensive Environmental Action Programme,

BELIEVING that such facilitation functions could best be performed through complementing the **organizational** structure in the Helsinki Commission framework,

WELCOMING the decision by the 13th meeting of the Helsinki Commission on the establishment of an implementation body within the Helsinki Commission and to allocate financial means for the staff,

AGREES to establish a HELCOM Programme Implementation Task Force immediately within the framework of the Helsinki Commission for periodic review and updating of the Joint Comprehensive Environmental Action Programme and for co-ordinating measures necessary to secure implementation of the Programme,

AGREES ALSO that the HELCOM Programme Implementation Task Force will consist of representatives from each of the states which are Contracting Parties to the Helsinki Convention and from Belarus, the Czech and Slovak Federal Republic, the Commission of the European Communities, Latvia, Norway, and Ukraine. The European Bank for Reconstruction and Development, the European Investment Bank, the Nordic Investment Bank, the World Bank and International Baltic Sea Fishery Commission will be invited to participate in the work of the HELCOM Programme Implementation Task Force,

AGREES ALSO that the HELCOM Programme Implementation Task Force will elect its Chairman and Vice-Chairmen, as appropriate, among its members and that secretariat services to the HELCOM Programme Implementation Task Force will be provided by the Helsinki Commission Secretariat, and that the HELCOM Programme Implementation Task Force will meet as appropriate,

AGREES FURTHER that with regard to **organizations** invited or wishing to attend the HELCOM Programme Implementation Task Force meetings as observers, including intergovernmental and non-governmental international **organizations**, the procedural rules of the Helsinki Commission shall apply, and that the HELCOM Programme Implementation Task Force should inter alia;

./. .

- initiate and facilitate co-ordination necessary to support the implementation of the Baltic Sea Joint Comprehensive Environmental Action Programme,
- prepare an annual report which reviews and assesses the development of environmental policies and actions pertinent to restoring the ecological balance of the Baltic Sea, including a review of ongoing investment activities and their status,
- periodically review, and propose updating of the Programme, taking into account economic and technological developments as well as changes in the environmental status of the Baltic Sea, and
- advise the Helsinki Commission *on* further action which may seem appropriate in order to meet the objectives set forth in the Baltic Sea Environmental Declaration, 1992,

ASSUMES that to the meetings of the Helsinki Commission, which will **occasionally** be held at ministerial level, invited participation of those Governments and institutions represented in the HELCOM Programme Implementation Task Force without being Contracting Parties to the Convention, will be included,

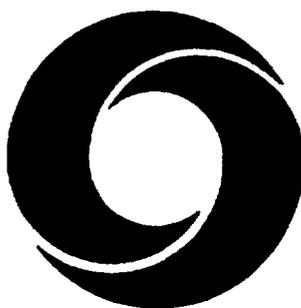
INVITES the HELCOM Programme Implementation Task Force to elaborate draft Terms of Reference and prepare an initial proposed work plan to be submitted to the_ 14th meeting of the Helsinki Commission (February 1993) for consideration and adoption.

**THE BALTIC SEA
JOINT COMPREHENSIVE ENVIRONMENTAL ACTION PROGRAMME**

HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION

Gdansk, Poland
24 - 25 March 1993

Gdansk Declaration, 1993



CONFERENCE SECRETARIAT

Helsinki Commission



in cooperation with

Ministry of Environmental Protection, Natural Resources and Forestry
of the Republic of Poland
and
European Bank for Reconstruction and Development, European Investment Bank,
Nordic Investment Bank and the World Bank

DECLARATION ON RESOURCE MOBILIZATION FOR THE BALTIC SEA JOINT COMPREHENSIVE ENVIRONMENTAL ACTION PROGRAMME, 1993 (GDANSK DECLARATION)

Environment Ministers, and High Representatives of the Governments of

Belarus,
The Czech Republic,
The Kingdom of Denmark,
The Republic of Estonia,
The Republic of Finland,
The Federal Republic of Germany,
The Republic of Latvia,
The Republic of Lithuania,
The Kingdom of Norway,
The Republic of Poland,
The Russian Federation,
The Slovak Republic,
The Kingdom of Sweden,
The Ukraine;

and the Representative of
The Commission of the European Communities

ASSEMBLED at the High Level Conference on Resource Mobilization for the Baltic Sea Joint Comprehensive Environmental Action Programme in Gdansk, Poland, on 24-25 March 1993,

RECALLING the Baltic Sea Declaration of 3 September 1990, in which Heads of Governments and High Political Representatives of the Baltic Sea States, Norway and the Czech and Slovak Federal Republic and the Representative of the Commission of the European Communities expressed their firm determination to assure the ecological restoration of the Baltic Sea and for that purpose to prepare urgently a Joint Comprehensive Environmental Action Programme in the framework of the Helsinki Commission,

RECOGNIZING the severeness of global and European environmental problems, and the seriously threatened ecological balance of the Baltic Sea,

RECALLING the Baltic Sea Environmental Declaration, 1992, and the need for action and implementation of the Programme,

NOTING with satisfaction the Baltic Sea Joint Comprehensive Environmental Action Programme, endorsed in principle by the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area, April 1992,

NOTING ALSO the role given to the Programme Implementation Task Force in coordinating, facilitating, advising and reporting on the implementation of the Baltic Sea Joint Comprehensive Environmental Action Programme,

NOTING FURTHER the existing bilateral and multilateral agreements to support the States in the Baltic Sea catchment area with economies in transition,

RECOGNIZING that the implementation of the Programme will extend over decades,

REAFFIRMING their determination to make all efforts to continue and accelerate implementation of the Programme,

UNDERLINING that these efforts will initially focus on Phase I of the Programme,

UNDERLINING ALSO that investment activities will have to be complemented by policy reforms and strengthening of the environmental management institutions, as well as increasing public awareness and environmental education,

RECALLING the common understanding that all States in the Baltic Sea catchment area on their own account take full responsibility to meet the investment and operational costs needed to fulfill the implementation of the Programme,

CONSCIOUS that each State in the Baltic Sea catchment area has to decide on the necessary steps according to its national, political and economic situation,

CONSCIOUS ALSO of the present difficult position of the countries with formerly centrally planned economies which requires active participation and support from the bilateral donors and international financial institutions,

RECOGNIZING that countries in economic transition must commit themselves to undertake necessary investments, when appropriate, with participation by international financial institutions and the private sector,

RECOGNIZING ALSO the need for grants from donor countries to establish the necessary basis for investments in environmental protection of the Baltic Sea catchment area,

RECOGNIZING FURTHER that all participants to the Programme are equally committed to help remedy the situation and WILLING, in the spirit of partnership, to provide support for the resource mobilization necessary for the implementation of the Programme,

HAVE AGREED TO

1. MAKE ALL EFFORTS TO **MOBILIZE** local, national, bilateral or multilateral financial and other resources for the implementation of the Programme, including grant financing,
2. EMPHASIZE that the scarcity of financial resources makes it necessary to adopt a phased approach to the implementation of many priority investment activities within the Programme,
3. STRESS the need to restrict the preparation of feasibility studies to those projects in the Programme where such studies are a prerequisite and where there are concrete possibilities to realize these projects,

4. RECOMMEND to create, wherever appropriate, mechanisms to support mobilization and efficient application of domestic resources such as the national environmental funds established in countries like the Czech Republic, Estonia, Poland and Russia,
5. RECOMMEND that appropriate economic, market-oriented instruments should be used more systematically in order to reduce discharges into the Baltic Sea,
6. RECOMMEND ALSO the introduction of equitable and efficient user charges, conditioned upon expanded metering of water and energy consumption, or charges/levies related to discharges, taking into account the ongoing work within the Organization for Economic Cooperation and Development (OECD) and the Nordic Council of Ministers,
7. EXAMINE the possibilities to use debt-for-environment-swaps as a way of financing projects in the environment and nature conservation sectors,
8. CALL UPON international financial institutions to engage themselves in setting up arrangements for project financing including all approaches, such as co-operation with commercial financial institutions, integration of public grants and private investments and to apply the best possible conditions to loans,
9. PROMOTE the combining of local, national, bilateral and multilateral financing to create more favorable conditions for implementing priority projects,
10. ACKNOWLEDGE that grants, or other financial support, should, in coordination with the relevant international financial institutions, be made available as a basis for investments, inter alia, for feasibility studies or other project preparation activities in the recipient countries, and that, within the framework of the HELCOM Programme Implementation Task Force, appropriate means for that purpose should be considered,
11. ENCOURAGE governments and other members of the HELCOM Programme Implementation Task Force to provide, within the Programme Implementation Task Force structures and on a voluntary basis, co-ordination responsibilities for particular parts of the Baltic Sea Joint Comprehensive Environmental Action Programme,
12. RECOGNIZE the importance of the role of the private sector and to facilitate its participation in the Programme,
13. EMPHASIZE the need to mobilize sufficient resources for equity investments to initiate to the extent possible self sustaining projects,
14. CONSIDER the further use of governmental credit guarantees and counter guarantees to facilitate the financing of environmental projects with credits.

THE ENVIRONMENTAL STATUS OF THE BALTIC SEA

Information of the fourth meeting of the Environment Committee (Hamburg, Germany, 11-15 October 1993)

The quality of the Baltic Sea environment is the result of human activities in combination with natural processes. Human activities include inputs of nutrients and pollutants and unfavourable changes of the water circulation. Natural processes include the weak water exchange between the North Sea and the Baltic Sea. The nutrient discharge⁵ lead to eutrophication, and together with the weak water exchange both lead to an oxygen deficiency problem in deep and bottom waters. The discrimination between natural and anthropogenic effects is difficult.

More than 80 million people live within the drainage area of the Baltic Sea, discharging large amounts of wastes. On the other hand, the only way to renew the deep water of the Baltic Sea is through the water exchange with the Atlantic Ocean through the Belts, three shallow channels of only 25 km total width. Nutrient and pollution discharges, water exchange and other factor⁵ vary throughout the Baltic Sea such that most environmental aspects differ between coastal areas and open Baltic Sea. Many effect⁵ also display geographical trends.

Stagnation and water exchange in the Baltic basins
(Effects of the 1993 inflow of Atlantic water)

On one hand, the inflow of Atlantic or North Sea water is the only way to renew the water in the deep Baltic basins, on the other hand, it import⁵ considerable amounts of nutrient⁵ and salt. The inflowing water does not simply mix with the low saline Baltic water but, due to its higher density, forms a bottom water layer below the Baltic water owing to the density difference between this bottom water layer and overlying water layers, oxygen transport between these layers is very small. Dead organisms, **e.g.**, phytoplankton are continuously sinking from the surface towards the bottom, where they are decomposed by bacteria (an oxygen-consuming process). During periods without inflow⁵ (commonly called "stagnation periods") all oxygen in the deeper water layers is consumed. Ultimately, hydrogen sulphide - a deadly **gas**, poisonous to all organisms including plants - is produced in bottom waters. For the period over which we can follow the history in the Baltic basins, there have been successions of stagnation and water renewal (anoxic and **oxic** conditions). Several years of stagnation and the occurrence of hydrogen sulphide have been followed by a series of inflow events removing the hydrogen sulphide in part or totally.

The period from 1976, when the last major inflow was registered, until the recent inflow in January/February 1993 has been an extraordinarily long period of stagnation, indeed the longest stagnation period with the highest hydrogen sulphide concentrations in the deep waters ever observed. As a consequence of the 1993 inflow, oxygen (though in low concentrations) has eliminated the hydrogen sulphide in the **Gotland** Basin and other deep waters of the Baltic Proper. The salinity, which decreased from 14 to 11 during the stagnation period, increased by only about 0.8. Based on the initial estimates of the amount of inflowing water, a somewhat larger increase was expected. On the

other hand, this small increase in salinity still permits even modest inflows with low salinities to penetrate and renew the deep waters.

As the inflows are driven by meteorological forces which we cannot predict, we cannot foresee when future inflows will occur. Previous inflows have mainly appeared in a series rather than as single events. This means that there is hope for a continued improvement of the present situation.

It should be noted that the lack of inflows has a negative effect on the deep Baltic basins in the form of stagnation but, under certain circumstances, may also have positive effects. Decreasing salinity weakens the difference between low-salinity surface waters and high-salinity bottomwaters. Consequently, the transport of oxygen from the atmosphere into such bottom areas is increased and the bottom oxygen situation is improved. This **process has been noted** in the **Gulf of Finland**.

In addition to the oxygen/hydrogen sulphide condition, the lack of inflows and decreasing salinity have affected the recruitment of some economically important fish species, e.g., cod. Cod eggs require a minimum salinity (water density) to float in a water layer where oxygen conditions are high enough to **support the** development of the eggs. The salinity during the recent stagnation period dropped below the minimum to maintain cod eggs in adequately oxygenated water and consequently recruitment decreased. In combination with excessive fishing, this has caused a dramatic reduction of cod stocks. The 1993 inflow has slightly improved the conditions essential for recruitment in some areas. However, the improvement will be temporary if the 1993 inflow is not followed by further inflows.

Excessive or toxic algal blooms

Though potentially toxic algae species have always been present in small quantities in most areas of the Baltic, no mass bloom of toxic species or cases of toxic effects has been reported since the 1988 mass occurrence of a toxic species of *Chrysochromulina polylepis* in the Skagerrak, Kattegat and Belt Sea. Intense blooms of blue-green algae (cyanobacteria) are regularly reported in nearly all areas of the Baltic Sea and are displayed in satellite images. Though they seldom cause direct damage, they are interpreted to be a result of nutrient levels that are still too high in the Baltic Sea. By fixation of atmospheric nitrogen, they contribute to the total nitrogen load. The large amount of organic material produced by bluegreen algae is suspected to increase the oxygen deficiency problem in some areas. The excessive growth of certain macro-algae (large bottom growing plants) observed in coastal areas, covering large areas of the sea bottom, is the most commonly observed effect of eutrophication.

Nutrients and eutrophication

After a long period of increasing nutrient concentrations in some areas, there are now signs of **stabilization** or even decreasing trends. This is in agreement with the reduced phosphorus loads and constant or reduced nitrogen loads reported from several rivers discharging to the western and central Baltic. There is, however, no indication of a reduction in the atmospheric nitrogen input, which represents more than 50 % of the total nitrogen load entering the western Baltic. Decreasing trends in silicate concentrations in most areas are interpreted as a sign of a continuing increase in phytoplankton production. Thus, it seems too early to state that there has been a breakthrough in the eutrophication problem as a consequence of the measures taken to reduce the nutrient load.

Data and trend calculations from the Kattegat and Belt Sea area suggest that the combined nutrient loads from land, atmosphere and inflowing North Sea/Atlantic water still maintain a high level of eutrophication.

Reported observations of bottom flora and fauna, though not at all uniform, confirm an improving tendency in the northern parts of the Baltic (e.g., Gulf of Bothnia) but not in the Belt sea area.

Pollutants

Nearly all heavy metals which are included in the Baltic Monitoring Programme display a roughly uniform distribution throughout the Baltic Sea, indicating the absence of major point sources and a roughly uniform atmospheric fallout. The overall levels are similar to those in other seas and do not increase significantly in inner bays. No acutely toxic levels have been observed in water or biota. Enrichment of the most toxic metals, cadmium, mercury and lead, is about the same in Baltic and North Sea fish, and well below hazardous levels for human consumption according to WHO standards. In the southern Baltic, a decrease in lead concentrations, probably due to the elimination of lead in car petrol, has been observed. There is still some concern about the locally critical concentrations of tri-butyltin (TBT), a component in antifouling coatings for ships. TBT causes, e.g., the deformation of oyster shells.

A decrease in the concentrations of certain individual organochlorine compounds, notably α -HCH, the **DDTs** and the **PCBs** in general, has been noted. The probable reason for this decrease is the ban on the use or discharge of these substances, agreed by the Helsinki Commission in the late 1970s. On the other hand, a closer inspection of the data on **PCBs** reveals that there still are a few peaks in the overall decreasing pattern.

In the environment there is a large number of synthetic chlorinated substances, of which the known compounds constitute only a fraction. Until recently, many of these originated from the paper industry; in the last few years, both Finland and Sweden have taken significant steps to reduce the formation and discharges of these substances.

Radioactive substances

The Baltic Sea received a large amount of radioactive deposition in 1986, due to the accident at the nuclear power station at Chernobyl. The radionuclides Cs-137 and Cs-134 were the dominant radionuclides deposited mainly in the southern part of the Bothnian Sea. Due to mixing of water and dilution within the water column, the initial concentrations in the surface waters of this area decreased and the levels in other parts of the Baltic increased slightly, resulting at present in a more homogeneous distribution.

Liquid discharges from the nuclear power stations in the Baltic Sea are detectable only in the vicinity of these plants at very low concentrations. Based on both models and on the results of the monitoring programme, calculations of the individual and collective doses, resulting from all sources of artificial radioactivity show that the doses are low compared to the doses caused by natural radionuclides. The lowest contribution to these doses stems from the discharges from the nuclear power plants.

The environmental monitoring programme of the group MORS gave no indication of elevated levels of radionuclides caused by any possible material dumped into the Baltic Sea.

Environmental effects on seals and fish

The seal populations in the Baltic Sea are still threatened by pollutants, especially the organochlorines, and the by-catch of young seals in fishing nets. The recent mild winters have also provided poor conditions for **pupping**, because of the reduced ice coverage.

The general decrease in salinity and stagnation of the Baltic Sea have strongly weakened the cod recruitment. Other environmental effects on pelagic fish stocks (herring and sprat) are difficult to establish. Significant increases in the prevalence of several fish diseases in the Kattegat are related to decreasing oxygen conditions. Shellfish and fish living near to the bottom (e.g. dab, sole, flounder, Norwegian lobster) are clearly affected by increasing frequencies of oxygen deficiency during late summer and autumn in the south-western Baltic (Kattegat - Arkona Sea). This has resulted in a complete cessation of commercial fishing for Norway lobsters in large areas of the southern Kattegat since 1988.

A strong decline in the survival of salmon larvae in hatcheries, first noted in Sweden and generally known as the M-74 phenomenon, has recently also been found in Finland. Despite intensive studies, the cause of M-74 is still unknown, but may be related to the combined effects of pollutants.

KEY PERSONS

1. KEY PERSONS IN THE INTERIM PERIOD 1974-1980

Chairman of the meetings of the Interim Commission 1974-1979 and also of the preparatory meetings held in 1973 and 1980: Mr. Paul Gustafsson, Finland

Secretary General of the meetings of the Interim Commission 1974-1979 and also of the Diplomatic Conference in 1974 and its preparatory meetings in 1973 as well as of the First Meeting of the Helsinki Commission in 1980 and of its preparatory meeting: Mr. Holger Rotkirch, Finland

Permanent staff members:

Ms. Mirja Siltanen, Secretary 1973-1980 (employed by the Government of Finland)

Mr. Ilppo Kangas, Scientific Expert 1977-1980 (employed by the Interim Commission)

Heads of Delegations of the First Meeting of the Interim Commission, held in Helsinki, Finlandia Hall, 18-22 November 1974:

- Denmark: Mr. Gunnar Seidenfaden
- Finland: Mr. Paul Gustafsson
- German Democratic Republic (GDR): Mr. **Hubertus** Lindner
- Federal Republic of Germany (FRG): Mr. Adolf von Wagner
- Poland: Mr. Stanislaw Nawara
- Sweden: Mr. Lennart Hannerz
- Union of the Soviet Socialist Republics (USSR): Mr. Viktor F. Kostin

Chairman of the STWG 1975-1979: Mr. Aarno Voipio, Finland

Chairmen of the sessional sub-groups of the STWG: Mr. Harald Velner, USSR, and Mr. Lennart Hannerz, Sweden

Chairman of the MWG: Mr. Per Eriksson, Sweden

2. KEY PERSONS IN 1980-1993

Chairmen and Vice-Chairmen of the Helsinki Commission (HELCOM) (Chairmanship is rotating in alphabetical order between the Contracting Parties)

1980-1982, Finland: Mr. Raimo Pekkanen and Mr. **Olli** Ojala

1982-1984, GDR: Mr. **Hubertus** Lindner and Mr. Klaus Winkel

1984-1986, FRG: Mr. Peter Ehlers and Mr. Hans **Möbs**

1986-1988, Poland: Mr. Jerzy Vonau and Mr. Mieczyslaw **Metler**

1988-1990, Sweden: Mr. **Göte** Svenson and Ms. Eva Smith

1990-1992, USSR: Mr. Harald Velner and Evgeny Borisov

1992-1994, Denmark: Mr. Fleming Otzen and Mr. Tonny Niilonen

Chairmen and Vice-Chairmen of the **Scientific-Technological** Committee (**STC**, former **STWG**)

1980, Mr. Harald Velner, USSR, and Mr. **Johan** Hougs Moeller (STWG), Denmark
1981, Mr. Harald Velner, USSR, and Mr. Lars Thorell (STWG), Sweden
1982-1983, Mr. Lars Thorell, Sweden, and Mr. Harald Velner (STC), USSR
1984-1986, Mr. Lars Thorell, Sweden, and Mr. **Zenon** Baginski, Poland
1987, Mr. Lars Thorell, Sweden, and Mr. Piotr Krzyzanowski, Poland
1988-1989, Mr. Piotr Krzyzanowski, Poland, Mr. **Ain Lääne**, USSR, and Mr. Tapani Kohonen, Finland

Chairmen and Vice-Chairmen of the Environment Committee (EC, half of the former **STC**)

1990-1991, Mr. Piotr Krzyzanowski, Poland, Mr. Niels-Peter **Rühl**, FRG, and Mr. Lutz Brugmann, GDR
1992-, Mr. Niels-Peter **Rühl**, Germany, Mr. Eugeniusz Andrulewics, Poland, and Mr. Yuri Panteleev, Russia

Chairman and Vice-Chairmen of the **Technological** Committee (TC, half of the former **STC**)

1990-, Mr. Tapani Kohonen, Finland, Ms. Ulla-Britta Fallenius, Sweden, and Mr. **Ain Lääne**, USSR

Chairmen and Vice-Chairmen of the Maritime Committee (MC, former **MWG**)

1980, Mr. Per Eriksson (MWG), Sweden
1981, Mr. Per Eriksson, Sweden, and Mr. Rudolf **Lammel** (MC), GDR
1982-1988, Mr. Seppo Hilden, Finland, and Mr. Rudolf **Lammel**, GDR
1989-1990, Mr. Peter Ehlers, FRG, and Mr. Rudolf **Lammel**, GDR
1991-1992, Mr. Peter Ehlers, Germany, and Mr. John Oestergaard, Denmark
1993-, Mr. Peter Ehlers, Germany, and Ms. Alicia Gwadera, Sweden

Chairmen and Vice-Chairmen of the **Combating** Committee (CC, former **EGC**)

1980-1984, Mr. Jerzy W. Doerffer (EGC), Poland
1985-1986, Mr. Jerzy W. Doerffer, Poland, and Mr. Ulf Bjurman (EGC), Sweden
1987, Mr. Jerzy W. Doerffer, Poland, and Mr. Preben Stamp (CC), Denmark
1988-1989, Mr. Sven Uhler, Sweden, and Mr. Preben Stamp, Denmark
1990, Mr. Oleg Khaliminov, USSR, and Mr. Preben Stamp, Denmark
1991, Mr. Oleg Khaliminov, USSR, and Mr. Olli Pakkala, Finland
1992-, Mr. Olli Pakkala, Finland, and Mr. Anders Bergwall, Sweden

Chairman and Vice-Chairmen of the HELCOM ad hoc **high** level Task Force (HELCOM **TF**)

1990-1992, Mr. **Göte** Svenson, Sweden, Mr. Janusz Kindler, Poland, and Mr. Dimitri Zimin, USSR

Chairman of the HELCOM Programme Implementation Task Force (HELCOM PITF)

1992-, Mr. **Göte** Svenson, Sweden

Chairman of the HELCOM ad hoc Group for Revision of the Convention (HELCOM **GRC**)

1990-1992, Mr. Pertti Harvola, Finland

3. STAFF MEMBERS OF THE HELCOM SECRETARIAT IN 1980-1993

3.1 Executive Secretaries

1980-1984, Mr. Aarno Voipio, Finland
1984-1988, Mr. Harald Velner, USSR
1988-1992, Mr. Fleming Otzen, Denmark
1992-, Mr. Ulf Ehlin, Sweden

3.2 Professionals

Mr. Evgeny Borisov (USSR), Scientific Secretary 1980-1984
Mr. Fleming Otzen (Denmark), Maritime Secretary 1980-1988
Ms. **Terttu** Melvasalo (Finland), Scientific Secretary 1984-1988, Environment Secretary 1989-1990, Task Force Secretary 1990-1992, Programme Implementation Co-ordinator **a.i.** 1992-1993, Senior Advisor 1993
Mr. Lars Thorell (Sweden), Maritime Secretary 1988-1990
Mr. Vassili Rodionov (Russia), Technological Secretary **1988-**
Mr. Adam Kowalewski (Poland), Maritime Secretary **1990-**
Ms. Eeva-Liisa Poutanen (Finland), Environment Secretary **1991-**
Mr. Niels-J. Seeberg-Elverfeldt (Germany), Programme Co-ordinator 1993-

3.3 Assistants

Ms. Ritva **Kostakow-Kämpe**, Administrative Officer **1980-**
Ms. Paula Lamio, Maritime Assistant 1980-1985
Ms. Virpi Nieminen, Scientific Assistant 1980-1982
Ms. Teija-Liisa Lehtinen, Environment Assistant **1982-**
Mr. Tuomas Kuokkanen, Assistant 1982-1986
Ms. Marja-Liisa **Inha**, Maritime Assistant 1985-1987
Mr. Jukka Kosonen, Assistant 1986-1987
Ms. Leena **Heikkilä**, Maritime Assistant **1987-**
Mr. **Håkan** Blomberg, Administrative Assistant **1987-**
Ms. Doris Aghazarian, Technological Assistant 1988-1989
Ms. Satu Tofferi, Technological Assistant **1989-**
Ms. Svea **Sjöholm**, Environment Assistant **a.i.** 1989
Ms. Riitta Harjunoski, PITF Assistant **1991-**
Mr. Stefan **Sacklén**, Administrative Assistant **1991-**
Ms. Erja Arovaara, Environment Assistant **a.i.** 1992-1993
Ms. **Salme** Mikkeli, Assistant 1993-