

# Rules of Protection of Gulf Sea Waters in Poland in the Light of International Co-operation within Helcom

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In Helsinki, on 22 March 1974, the governments of the countries in the Baltic region signed an agreement on cooperation in the protection of the marine environment – "Convention on the Protection of the Marine Environment of the Baltic Sea Area", the so-called Helsinki Convention. This gives rise to international cooperation comprising scientific research, changes in national legal and organizational structures, and implementing detailed commitments.

In Poland, inhabited by almost half of the population in the Baltic Sea drainage area and which uses almost 40% of the arable land of the region, the effects of the activities undertaken are of considerable importance for the ecological situation of that sea.

The paper presents, on the example of one of coastal provinces – the Gdańsk province and the Gulf of Gdańsk – the problems of the land – sea interaction, the activities undertaken in monitoring the coastal marine waters, the pollution loads discharged from land sources, implementation of international commitments as well as the results of these activities in the form of changes in the environment.

The signing of the Convention's document was followed by a process of consolidating structure of international cooperation, a process which, practically, is still being developed. The aims of the Convention are implemented by an executive body – the Commission together with advisory bodies and expert groups. Two important facts should be underlined:

- The Commission has adopted for its current activity a procedure that helps to make use of scientific knowledge and which, in turn, comes under the administrative decision-making procedure.
- The procedure is based on principles that are binding for all the countries; it undergoes practical verification and improvement, it is also assessed for its effectiveness.

As far as organization of this cooperation is concerned it can be said that a model of making decisions – commitments by the Contracting Parties (Helcom recommendations) has been adopted on the basis of monitoring and selected studies, which makes it possible to precisely define the existing marine environment hazards, sources of discharges and a decision-making procedure that utilizes the knowledge and experience of the Baltic Countries experts.

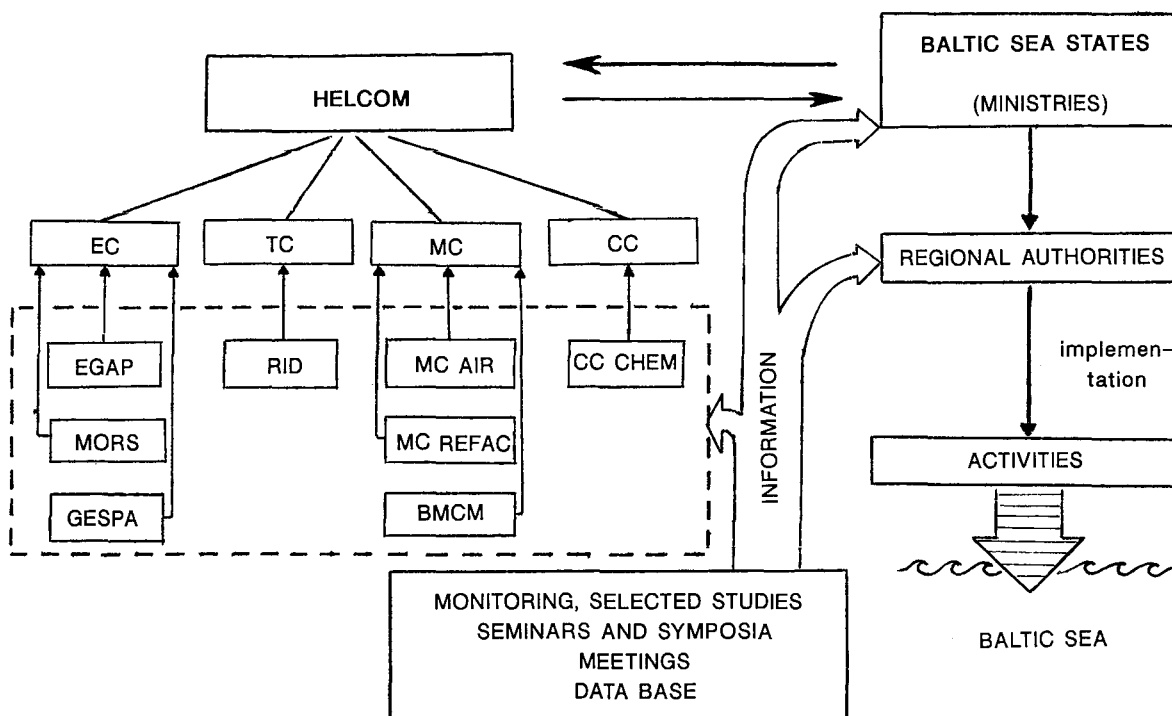
Graphically the procedure is shown in figure 1 which represents the transfer of information obtained from monitoring and research to decision-making body that decides on the range and the character of the commitment.

The procedure would comprise working groups focusing on the questions of the pollution, its sources, nature, etc. and above them there are four committees whose task, *inter alia*, is to prepare proposals for diminishing the discharges by the sources, to draft recommendations of the Commission for which dates and ways of implementation are determined. And at the top is the Helsinki Commission which consists of representatives of the governments and which adopts the recommendations.

Fig.1. Model of decision - making procedure within the Helsinki Commission;

EC=Environment Committee, TC=Technological Committee, MC=Maritime Committee, CC=Combatting Committee  
 EGAP=Group of Experts on Airborne Pollution, MORS=Group of Experts on Monitoring of Radioactive Substance,

RID=Working Group on Reduction of Industrial Discharges, GESPA=ad hoc Group of Experts for Preparation of the Second Periodic Assessment, MC AIR=ad hoc Working Group on Air Pollution from Ships, MC REFAC=Informal Group on Reception Facilities, CC CHEM=ad hoc Working Group on Combatting Spillages of Harmful Substances other than oil, BMCM=Baltic Maritime Co-ordinating Meeting



### Rules of Marine Waters Protection in Poland

Starting cooperation within the framework of the Helcom initiated a process of adapting the already existing structures to the demands this cooperation imposes. The recommendations implementation procedure in Poland means that these recommendations are carried out by responsible ministers. The Minister for Environmental Protection, Natural Resources and Forestry is, by the nature of things, competent to coordinate the activities of the other ministers. On behalf of the Ministry for Environmental Protection the supervision and control are in the hands of the Secretariat for the Helsinki Convention. This body cooperates with a number of research institutes and expert teams and is responsible for cooperation with the Baltic Countries.

Researchers and experts who participate in this process are engaged, to a large extent, in the work of the Helsinki Commission's advisory bodies. The concept of environmental protection in the Polish drainage area takes into consideration, first of all, two essential aspects, i. e. the geographical distribution of polluting sources and their impact on the Baltic Sea. It was logical to adopt the principle that all the commitments to the Commission be implemented on the whole Polish drainage area of the sea.

The following directions have been suggested to protect the marine environment:

- the responsibility of the ministers and regional authorities within their competence (programs of reduction of pollution from industry, agriculture etc);
- improvement in the implementation of Helcom standards and criteria in the sea belt region (regional projects).

Thus we have a decision-making procedure the governments representative in the Commission, responsible ministry, the local authority. Mentioned above directions comply with Helcom recommendations as well as other obligations such as the Ministerial Declaration on reduction of harmful discharges by 50% till 1995. The results of these endeavours are assessed during the systematic monitoring of rivers and coastal waters.

#### Gulf Waters Protection – Gdańsk Province Case

What has been said above shows that the coastal regions implement their proecological activity within the framework of the national policy. The next paragraphs discuss the conditions that have to be taken into account while implementing projects.

The Gdańsk Province, inhabited by 1.5 mln people has access to the sea mainly through the Gulf of Gdańsk. This province can be described as agricultural with industry distributed mainly in the coastal zone. The basic morphometric characteristics of the Gulf are: volume 291 km<sup>3</sup>, area 4940 km<sup>2</sup>, max depth 118 m, yield of tributaries 34,4 km<sup>3</sup>/y. The ratio of the drainage area to the area of the Gulf is 44,6 that means it is by one order higher than the ratio of the total drainage area of the Baltic to the area of the whole sea. (Cyberska et al., 1988).

One of the major factors that affect the ecosystem of the Gdańsk Bay is eutrophication. This results the many effects eutrophication has on the environment and the biocenosis. The most important phenomena that result from eutrophication are its impact on the oxygen conditions, pH, algae blooming and the limitation of the bathymetric reach of the flora. The degradation effect on the local sources on the environment of the Gulf is much lesser than that of the Vistula river, which discharge polluted waters from the drainage area of 194,4 thou. km<sup>2</sup> (Rybiński, 1986). However, local sources had the most important devastating effect on the sea belt as a tourist and recreation area.

Referring to the sea belt direction of applying the Helcom policy, Gdańsk authority called the Expert Group for preparation the Program of the Protection of the Coastal waters.

The first stage of these works was finished in 1982, it comprises the inventory of 112, the most important regarding the Gdańsk Gulf and the Baltic Sea protection, point sources such as villages, agricultural centres, urban areas, industrial objects etc. Within these works the experts among other activities accomplished the estimation of the possibility of achieving considerable reduction of pollution assuming the realization of the installations for the waste treatment, planned by the authority administrations in the range of construction and realization.

The activity program answers the question of what, in which sequence, and how, as well as in what time should be done in the existing legal and economical condition together with suggestions referring to the expected alterations in the procedure. Data balances concerning the amount of waste discharged to the receiver with the given purification degree and discharged loads of BOD<sub>5</sub>, nitrates, phosphates and heavy metals as well as technological conditions have been done for all pollution sources.

Following activities was introduced:

- initiating current, continuous control on the environmental protection programmes, realized by the local authorities within the range of:
  - evaluation of the effectiveness of applied project and realization solutions (seminars on selected problems, engineering and project consultancy, control of the environmental protection services),
  - constant contact with municipal investors for control of financial and executive situation (data base),
- preparation, by the selected bodies, of the programmes aimed at the limitations of pollution from the following sources:
  - dumping areas, outfalls, storage yards,

- discharges from the small plants, transported mainly by the municipal sewage system,
- dispersed and linear (ways) sources.

The list of task-subject was prepared and conveyed to the producers of equipment, to the industry and also to businessmen to make them interested in starting production, utilization of waste materials etc. This kind of activity is covered by references given by the Ministry of Environment. The necessity of the permanent information delivered to mass-media and social-political organizations, on the work progress in the program realization has been assumed.

The precise description of the end for the activities aimed at setting in order the problem of water protection connected with the improvement of the quality of water discharge into the Gulf of Gdańsk seem to be difficult. It will depend on many factors, among others, on technical and financial engaged in the investment realization but also on the social and organizational results influencing environmentally sound activity.

The implementation of the projects resulted in a considerable improvement into condition of N - W part of the Gulf of Gdańsk - the Puck Bay, some positive changes are monitored also in other areas. However not all the aims have been achieved, mainly due to the mentioned above factors. Nevertheless the efforts brought about a number of positive results such as: the systematization of problems, harmonization of activities etc. Moreover it increased the knowledge about the sources of pollution its transportation and soon. The work showed how important, in the total balance of pollution load are dispersed sources and airborne pollution (Rybiński, 1990) this will help to focus, in the nearest future on these tasks.

### Resume

Due to the realization of a comprehensive program of reshaping the economies of the coastal regions to meet the Conventions demands in the years 1981-1988 a visible improvement in the environment has been observed in a number of coastal areas due to the construction of some sewage treatment plants, modernization of industrial technologies and closing down several particularly harmful point sources.

It was possible to obtain such results because the condition of the coastal waters and gulf waters are also affected by local sources. However, the general outlook for the future in achieving a considerable reduction of total pollution loads discharged into marine waters in the nearest future is not optimistic. This results from the fact that the two main rivers, the Vistula and the Odra, discharge about 70% of all the pollutants in the country, which automatically connects the balance of the loads discharged with the success of the implementation of the environmental protection program for the whole country. All the experts agree that a major improvement of the environment in the drainage area of the main rivers depends mainly on the proecological restructuring of the industry and the agriculture. This, nevertheless, calls for introduction of modern technologies, vast capitals and time.

To sum up one must stress a highly positive impact of the cooperation in the Baltic Sea Area in the fields defined by the Helsinki Convention. Particularly important is the experience gathered while introducing an integrating decision - making procedure which, exemplarily, engaged the countries of the region in the cooperation. The transfer of knowledge, experience and organizational solution between the Contracting Parties of Helcom led to harmonization in the cooperation and helped to achieve definite ecological results.

Assessing the situation it seems that the Baltic Countries are facing another decision whether to develop the cooperation from scientific and organizational forms to also an economic cooperation oriented on the proecological development of the economies in the region.

If this decision is made, it will be a consequence of the efforts that have been made so far and the results obtained up to now prove that the countries of the region have been since 1974 on a right way in the cooperation for the good of the Baltic Sea environment.

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