

“Urgent action for the Baltic – a discussion on the future”

Some selected facts and issues for discussion

It has been proposed that the discussions to be held at the informal ministerial meeting at Haga Palace in Stockholm on 23 November 2005 be divided into three blocks as presented in the attached programme and invitation. To facilitate the debate, some of the facts and issues that might be discussed at the meeting are presented below.

1. Present state of the Baltic Sea Area and planned national actions

1.1 A unique marine system

The Baltic Sea Area is a truly unique marine system characterised by low salinity, very low water renewal rate and large volumes of bottom water without any contact with the air and its oxygen. Bottom water life including cod reproduction, is totally based on low oxygen consumption rates combined with the irregular inflow of oxygen-rich, saline water through the Belts. As a result, the Baltic Sea Area is extremely sensitive to disturbances and is slow to recover. One special feature is the occurrence of blue green algae, due to the low salinity, and its potential to form very large biomasses and to extract nitrogen from the air.

In the 19th century the Baltic proper was characterised by a combination of low nutrient input and strong predation from marine mammals and cod. As a result, the herring and sprat populations were small and the water was clear. Limited blooms of phytoplankton could occur as well as lowered oxygen concentrations in the bottom water.

Starting about 150 years ago, the input of phosphorus and nitrogen began to increase due to an expansion of agricultural land and production as well as an increase in industrial activities and urban wastewater. In more recent years, the predators from seals to cod have been subjected to increased exploitation that has almost eliminated the populations or made them functionally unimportant. We have also seen a strong increase in the amounts of many different hazardous substances such as DDT, PCB, dioxins and flame-retardants.

As a result, the Baltic proper today is structurally totally different. It is now characterised by small populations of marine mammals and cod, very large populations of sprat making the herring less fit for human consumption, and by massive blooms of blue green algae in the summer. As a result, the oxygen content in the bottom water is rapidly reduced, which in turn increases phosphorus output from the sediments leading to an increase in the concentration in the surface water.

1.2 New findings

During the last year Swedish scientists¹ have indicated that the shift in the state of the ecosystem of the Baltic proper will perhaps demand much stronger efforts in nutrient control. The scientists also indicate that biological and technical methods should be considered when measures to restore the ecosystem are discussed.

This year an unbiased committee consisting of scientists from the US and Canada has been assigned by the Swedish Environmental Protection Agency to evaluate the eutrophication situation in the seas surrounding Sweden. A draft report² was presented in late September 2005. One of the draft recommendations from the committee is to put

¹ The Swedish Environmental Advisory Council memorandum 2005:1 A Strategy for Ending Eutrophication of Seas and Coasts.

² The Swedish Environmental Protection Agency, Report NV 5509, Draft Expert evaluation of the eutrophication of the seas surrounding Sweden; Donald Boesch, Robert Hecky, Charles O'Melia, David Schindler and Sybil Seitzinger.

even more emphasis on efforts to reduce phosphorus to the open Baltic proper.

1.3 The Helsinki Commission - the forum for protection of the Baltic marine environment

The Helsinki Commission (HELCOM) is the obvious forum for dealing with the marine environment in the Baltic Sea Area. At the Bremen Ministerial Meeting in 2003, ministers acknowledged that the state of the marine environment has improved in the recent years due to e.g. joint efforts within the framework of the Helsinki Convention and Ministers were convinced that there is still a need for further efforts and additional measures to restore and conserve our common sea.

In Bremen, ministers further agreed that the priority issues for HELCOM in the near future will be the ecosystem-based approach including nature conservation and biodiversity, joint monitoring and assessment, maritime safety and shipping including response activities as well as eutrophication and hazardous substances of relevance to the Baltic Sea. In these priority issues, particular focus should be given to activities not covered in other forums.

The ministers also agreed on the need to call upon HELCOM to stress regional viewpoints and the specific requirements of the Baltic Sea in HELCOM's fields of action, as well as to be an effective channel for introducing local and regional aspects of the Baltic Sea in the EU and other relevant international forums. It was also recognised that co-operation and co-ordination with the EU and other international bodies will become increasingly important and it was agreed that a new and adjusted HELCOM approach should be built on the following elements: the future European Marine Strategy, political commitment within HELCOM including the Joint Comprehensive Programme (JCP), provision of sound scientific basics, timely and proactive reactions, inclusion of social and economic aspects, effective resource management, harmonisation and synergies and avoidance of double work.

In 2004, the 25th meeting of HELCOM decided on HELCOM's future role and described that the more specific tasks of HELCOM could be:

- to act as a catalyst identifying actions of priority within the region,
- to act as partner in the development and implementation of the European Marine Strategy in order to ensure that this strategy will complement and work to achieve the HELCOM objectives,
- to coordinate its work and cooperate with other international organisations at global and regional (Baltic) level to ensure synergism and complementarities with working programmes of the different organisations, and through these organisations promote common HELCOM initiatives and proposals.

1.4 How do ministers perceive the present state of the Baltic Sea Area? What are the present problems and what national action is planned?

- *Is there a common understanding on the present state of the Baltic Sea?*
- *There is a need for further measures to restore the ecosystem in the Baltic Sea Area. At a national level, what actions are the countries planning? What measures do the countries foresee in the short and the long term?*

2. Problem areas that may need improved co-ordination

2.1 The Ecosystem Approach in the Baltic Sea Area

Within the Convention of Biological Diversity and at the World Summit on Sustainable Development 2002, parties have made commitments to apply and further develop ecosystem approaches to management of human activities impacting on the marine environment (“the ecosystem approach”). At the first Joint Ministerial Meeting of the Helsinki and OSPAR Commissions in Bremen 2003, ministers agreed to apply and further develop the measures necessary to implement an ecosystem approach by 2010, in the Baltic Sea Area and the North-East Atlantic.

The concept of the ecosystem approach and sustainable use are based on the goal to preserve or restore the normal basic structure and functioning of the systems. Both lake and sea ecosystems function on the basis of factors such as production, competition, predation and a few regulating physical factors. The system should be managed according to the precautionary principle, meaning that a lack of knowledge should not be used as an argument for not taking action to preserve the system.

Ongoing fishing is both a threat and an opportunity. Present overexploitation of cod contributes to increased sprat populations. These, in turn, both reduce zooplankton and their grazing, and increase the overall turnover rate of nutrients thereby increasing phytoplankton production and biomass. According to some scientists, a temporary moratorium on cod fishing and an increase in sprat fishing could therefore probably reduce plankton blooms and contribute to the restoration of the ecosystem.

One of the prerequisites of an ecosystem-based approach is that one cannot come to terms with the issue of e.g. eutrophication without taking measures within the fisheries sector. The fisheries sector, on the other hand, is affected by discharges of hazardous substances. This poses a serious threat to the fishing industry since, according to EU regulations, fat fish (such as herring and salmon) caught in certain areas now contain such high levels of dioxin that

they cannot be sold on the EU market because their dioxin levels exceed EU standards. Coordinated action is necessary within the different sectors to be able to restore the Baltic Sea Area.

2.2 Ongoing research programs

The structure and functioning of the Baltic Sea ecosystems and the mechanisms for the input of nutrients and hazardous substances from the surrounding drainage area is not fully understood. More inventory studies need to be conducted, monitoring schemes put in place and basic research performed. HELCOM is very active in these areas as are many governments and universities. Within the Swedish Marine Research on Eutrophication project³, the Baltic Sea countries have developed an ecosystem model as a tool for making cost-effective decisions on nutrient reductions and the BONUS project has mapped the relevant scientific infrastructure and identified gaps and needs for future research. The BONUS project is intended to be a joint programme proposal involving the eight EU Member States in collaboration with the Russian Federation. The aim is to create a cooperative, trans-national research programme for the Baltic Sea region. Finland is the lead country for this work. Both the MARE and the BONUS project are now in their final stages and there are suggestions for a major up-scaling of the BONUS project.

2.3 Problem areas

The following section contains examples of problem areas that could be priorities for improved coordination.

Environmental consequences of fishing

The fish community is an integral part of the ecosystem and cod as a top predator has lost its functional role in the ecosystem. The eastern and largest cod population has for several years been below the lowest threshold value resulting in serious disturbances to ecosystems. Recovery plans including reduced fishing mortality through fixed

³ Further information regarding MARE can be found at www.mare.su.se

quotas, effort regulations, closed areas and periods and more selective gears have or will be taken. ICES scientists have advised lower quotas, and it would be possible through a substantial decrease in fishing mortality to bring cod populations back to normal. Thereby sustainable fishing with higher quotas could be possible. However, the different countries have so far not accepted this and the overexploitation of cod has continued. There is an obvious risk that the eastern cod population in the Baltic Sea might collapse and fall below the point of no return.

Environmental impact of agriculture

The agricultural sector is a major source of waterborne nutrients and pesticides to water, as well as ammonia emissions to air. The nutrient input originating from the agricultural sector is the main source of eutrophication in the Baltic Sea Area. Eutrophication is by far the most urgent problem in the Baltic proper. This was also emphasised by the ministers at the HELCOM Ministerial Meeting in Bremen 2003. Ministers further considered that the EU enlargement process would bring large new areas of the Baltic Sea catchment under the EU Common Agricultural Policy and that this may lead to even higher nutrient inputs into the Baltic Sea Area. Developments in the agricultural sector will be crucial for the Baltic Sea environment.

During the last few decades, obligations such as the agricultural Annex to the HELCOM convention, EU regulations such as the Nitrates Directive but also other actions such as advisory programmes have been introduced throughout the Baltic Sea Area with the aim of reducing the negative impact of agriculture. However, further actions appear to be needed.

Environmental effects of municipal wastewater

The load of oxygen-depleting substances and nutrients from municipal wastewater treatment plants has been significantly reduced in most countries. This autumn, the President of the Russian Federation along with Finland's President and Sweden's Prime Minister inaugurated the South West Wastewater Treatment plant in St Petersburg. This also shows that Baltic Sea environmental concerns are high on the political agenda. Although many efforts have been made, more efforts are still needed. At the Council of the Baltic Sea States Environmental Ministers meeting in Luleå 2004, the ministers stressed the importance of continuing efforts to invest in wastewater treatment with the aim of covering all of the catchment area. EU legislation such as the Wastewater Treatment Directive (91/271/EEC) will contribute to the reduction of nutrients. However, further reduction of phosphorus beyond the requirements of the Directive may perhaps be necessary.

Environmental effects of maritime traffic

The Baltic Sea has some of the densest maritime traffic in the world. In recent decades, traffic in the Baltic Sea Area has not only increased, but the nature of the traffic has also changed rapidly. One tendency has been the increase in oil and other harmful substances being transported by ships, which also increases the potential for water pollution. Another impact from shipping is the spreading of non-indigenous species by ships' ballast water and airborne emissions of nitrogen and sulphur.

Actions to mitigate environmental problems caused by shipping have been part of the work of HELCOM from the outset, and numerous recommendations related to shipping have been incorporated in the countries' legislations. In 2001, the HELCOM Declaration on the Safety of Navigation and Emergency Capacity in the Baltic Sea Area (HELCOM Copenhagen Declaration) was adopted and is being continuously implemented and followed-up. The Baltic has also been designated by the International Maritime Organization IMO as a Special Area under several MARPOL Annexes. In July 2005, IMO designated the Baltic Sea Area, except for Russian water, as a Particularly Sensitive Sea Area. In November 2005, the IMO will make

a final decision on the adoption of a number of associated protective measures which complement the application to designate the Baltic Sea Area as a PSSA.

Environmental effects of hazardous substances

Efforts to reduce emissions and discharges of hazardous substances in the Baltic Sea Area have, on the whole, been successful with some exceptions of e.g. mercury and tributyltin (TBT). Due to the long water renewal time, however, many pollutants with inherent persistent, bioaccumulative and toxic properties continue to be a public health concern and make fish unsuitable for human consumption. The level of dioxins in fish in the Baltic Sea Area has not decreased and there are indications that emissions of PCB to the Baltic proper still occur. Effects of hazardous substances cannot be ruled out as a reason for the widespread occurrence of recruitment failure in many fish stocks and for sudden mortality in adult birds.

2.4 How to take things forward?

As previously mentioned earlier in this document, HELCOM is the obvious forum for dealing with the marine environment in the Baltic Sea Area and other international forums could also be used in the context of restoring the ecosystem of the Baltic Sea Area. For instance, there is EU legislation that has an impact on the marine environment, e.g. the Water Framework Directive (2000/60/EC). The Directive requires that all inland and coastal waters within defined river basin districts must reach at least *good status* by 2015, and will help prevent further deterioration in the quality of inland and coastal waters. This means that the input of e.g. nutrients to the Baltic Sea Area will be further reduced by this directive.

Measures to restore the ecosystem of the Baltic Sea Area need funding. Many options for funding traditional projects are available, such as International Financial Institutions, Nordic and European Investment Banks and other facilities such as the Northern Dimension Environmental Partnership. EU funding is also available and the EU is presently discussing the next financial perspective from 2007. Project financing requires good co-ordination between project owners and donors. It also requires that authorities and project owners have the pre-requisites for permanent use of the facility including technical capacity and requirements for long-term financing. Lack of capacity and coordination can be a problem for investments. The same applies to project identification and investment planning. For smaller projects these problems will increase.

2.5 In what problem areas do we need improved coordination and how can this be achieved?

- *Do countries mainly need new measures or increased implementation and enforcement of decisions already taken?*
- *Is it possible to prioritise even further among the already prioritised issues within HELCOM? Are there actions that we need to prioritise and push for in other international forums?*

- *To receive funding from the European Commission for the BONUS project, the Baltic countries need to commit themselves financially to this joint research programme. Is this something that countries can agree on? Could the countries work in a more coordinated way towards the EC in order to facilitate funding for other measures?*
- *How can we involve other ministers responsible for e.g. agriculture, fisheries or shipping in further discussions of actions to improve the environmental status in the Baltic Sea Area?*
- *The content of nutrients in The Baltic Sea Area should be reduced. This will however have large economic effects and it is therefore essential that such work be coordinated and conducted in the most cost-effective way. Could this be achieved through a particular type of economic instrument?*

3. Strengthening existing processes

3.1 The European Marine Strategy

The European Commission presented its Communication on a Thematic Strategy on the Protection and Conservation of the Marine Environment at the end of October this year, along with a proposal for a directive establishing a Framework for Community Action in the field of marine environmental policy (the Marine Strategy Directive). The objective is to achieve good environmental status for Europe's marine environment by 2021. The Directive will establish European Marine Regions as management units for implementation. For the marine waters under the sovereignty or jurisdiction of each Marine Region or sub-region, Member States will be required to develop joint marine strategies. On the basis of these strategies, Member States will be required to develop and implement programmes of measures in order to achieve good environmental status, in close collaboration with other Member States and third countries concerned. To do so, they will be encouraged to work within regional seas conventions. According to the proposal, the programme of measures should be developed by 2016 at the latest and should enter into operation by 2018 at the latest.

According to the Communication, the European marine strategy will also constitute the environmental pillar of the future European Maritime Policy. It will set out the course of action required to protect marine ecosystems upon which the sustainable wealth, productivity and employment opportunities, and broader human welfare derived from oceans and seas depend.

3.2 The HELCOM Baltic Sea Action Plan

HELCOM has already begun the process of defining how the organisation can play an active roll in the development and implementation of the European marine strategy. HELCOM has also recently started to prepare a Baltic Sea Action Plan, which will be a major tool in applying the ecosystem approach within the Baltic Sea Area. The Baltic

Sea Action Plan is to be based on ecological objectives defined to reflect the common vision of a healthy Baltic Sea, with balanced ecosystems able to support a wide range of sustainable economic activities. A tentative timeline of the development of the plan has been agreed, but is to be elaborated in more detail. According to the timeline, the plan should be adopted in 2007.

3.3 The Council of the Baltic Sea States

The Council of the Baltic Sea States (CBSS) is a cooperation forum for countries around the Baltic Sea and the Nordic countries. CBSS coordinates activities in and across many different sectors. When foreign ministers have meet in the CBSS context, and also when Prime Ministers from these countries have meet every second year, co-operation on marine issues has been pushed to the highest political level. The next Prime Minister's meeting is scheduled to take place in Reykjavik in June 2006.

3.4 How can we strengthen existing processes?

- *Is it possible for the countries to put even more emphasis on HELCOM's important work on a Baltic Sea Action Plan and guarantee its future implementation?*
- *Could the countries in the Baltic Sea Area through their work within HELCOM act as forerunners and the Baltic Sea Area become a pilot area for the implementation of the European marine strategy, possibly with financial support from the EU? Do we need to take joint steps to contribute specifically to the development of the future EU maritime policy?*
- *How could CBSS enhance its support to the HELCOM process for a Baltic Sea Action Plan? Could CBSS be active when it comes to financial issues?*