



National ICZM strategies in Estonia

Evald Ojaveer

Estonian Marine Institute of the University of Tartu

Abstract

Problems connected with the protection and management of aquatic systems are of high priority in Estonia. Concerning aquatic environments, in the Estonian National Environmental Strategy (adopted in 1995) protection of surface water bodies and the coastal sea from pollution are the main goals. The legislation background has been created, several international projects completed or in progress. In general, the condition of the environment is good in Estonia. Compared to the 1980s, the discharge of nutrients has decreased more than twofold. The Environmental Strategy 2010 is based on the principles of sustainable development and corresponds to the EU recommendations. The strategic priorities are limitation of pollution of marine waters, conservation of biological diversity of aquatic organisms, implementation of means for protection of coastal sea, sustainable use of exploitable resources and development of their advanced investigations with integration of ecological factors in the final results.

1 Introduction

The length of Estonian coastline is 3794 km (Figure 1). In addition, there are 1200 lakes in Estonia, including Lake Peipsi, the most productive lake in fish in Europe. Therefore, problems concerning protection and management of aquatic systems are of high priority in Estonia. The Estonian zone in the Baltic Sea involves areas in the open part of the Baltic, in the Gulf of Finland and the Gulf of Riga. The species richness is the highest in the Väinameri area which involves a multitude of islands of various size and marine habitats of different depths and bottom types. Biological production in the Gulf of Riga, Väinameri and in some areas in the Gulf of Finland is high, partly due to anthropogenic eutrophication.

The Baltic Sea is a unique young brackish-water body in the stage of rapid development. Its biota has developed after the last glaciation, since 15 000 – 9000 years BP. Due to the shortness of the development no indigenous species have formed in the Baltic Sea. Therefore, the population level should be preferred in protection of biological diversity in this sea. In addition, exploitable resources should be assessed and managed by natural systems (local populations) to allow their sustainable management.

Estonian annual fish catches from the Baltic Sea have increased from below 20 000 tonnes before 1940 to over 50 000 tonnes in the middle of the 1950s and to the top catches exceeding 95 000 tonnes in 1976 and 1997 (Figure 2). They have consisted mainly of herring and sprat. Cod had a substantial part in landings during 1980-85. Other important species in Estonian fishery are flounder, smelt, pikeperch, perch and, in Lake Peipsi, lake smelt. The success of fishery in the Baltic Sea is important for Estonian economy. Fishery is the main engagement in many coastal regions. The importance of tourism and recreation is growing. In 1996 the Estonian Ecotourism Association was founded with the aim of propagation sustainable small-scale nature-friendly tourism and dissemination of corresponding knowledge. This form of tourism is thought to be the most acceptable in Estonia.



Figure 1: Estonian waters in the Baltic Sea.

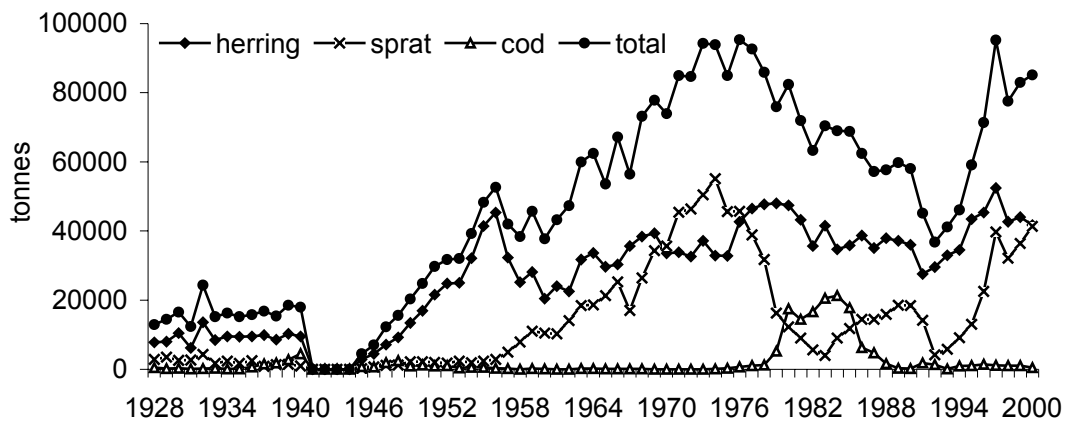


Figure 2: Estonian fish catches in the Baltic Sea.

2 ICZM in Estonia

2.1 General strategy

The Ministry of the Environment is responsible for the environmental and nature protection policy. The Estonian National Environmental Strategy has been adopted (1995). Concerning waters, the main goal has been protection of surface water bodies and the coastal sea from pollution, including combating oil spills.

For legislation background the following acts have been adopted: Act on Sustainable Development (1995), Water Act (1994), Pollution Charge Act (1999), Act on Protection of Marine and Freshwater Coasts, Shores and Banks and Act on Environmental Impact Assessment (2000).

As early as in 1989 the West Estonian Archipelago Biosphere Reserve was created. This has facilitated regional planning and the composition of nature protection programmes. Today more than 20% of Estonian coasts are protected as national parks, nature protection areas etc. Most of small islands have some protection status (HELCOM 2003).

2.2 Projects

- The following projects concerning ICZM have been completed (HELCOM, 2003):
- Establishment of the Tallinn Waste Water Treatment Plant (1998). The project was started in 1992 as the Finnish-Estonian joint project. It has resulted in a clear recovery in the algae belt (incl. bladder wrack) in Tallinn Bay. The situation in bathing beaches has considerably improved.
- The Environment Project of Haapsalu and Matsalu Bays that involved, *inter alia*, rehabilitation and expansion of the water and wastewater system of Haapsalu town.
- The project *Väinameri* was started in 1998. Its main objective was implementation of an integrated coastal zone management plan developed by a HELCOM working group for management of concrete areas.
- The Estonian Pilot Project: *the Hiiumaa Island*, with the main goal to test functioning of the ICZM model at county and municipal planning. As a result of this project the ICZM information centre was established at Kärdla town, Hiiumaa. This was estimated to be an important institutional achievement of the pilot project.
- The Water Constructed Infiltration Wetland System at Häädemeeste. The system created for about 1000 inhabitants village represents a sustainable way of reducing nutrients and pathogen load to the area of the Baltic Sea (the east coast of the Gulf of Riga) important for recreation and tourism.
- The ICZM Programme for the Baltic States and Poland (1997-2000) based on satellite image and GIS, for better management of coastal resources.

However, implementation of the six international projects listed below is continuing:

1. The *BEST Project* (Sustainable Tourism Development for B7 islands: Bornholm, Gotland, Hiiumaa, Saaremaa, Rügen, Åland and Öland) enhancing the exchange of experience for cooperation and sustainable development of tourism.
2. The *SUSWAT* (the project on the water supply in relation to environmental protection and sustainability, with a linkage to the *BEST* programme) facilitates the exchange of knowledge between the B7 islands in planning and management of water supply.
3. The *3 + 3 Local Agenda*, a part of a wider project between three counties both in Finland and Estonia. Concerning coastal areas, experience in planning and management of sustainable development of coastal regions and islands, are considered.
4. *The Narva Watershed Research Programme*, also participated by Sweden, Norway and Russia. The project is aimed at the development of the Narva River Watershed Management Plan.
5. The *Käina Bay Project* is supported by HELCOM. The main aim was to contribute to an ecologically sustainable development of the coastal region. It was agreed to consider this project under the framework of the Gulf of Riga Task Area (1994).
6. *The Joint Comprehensive Environmental Action Programme for the Baltic Sea* (JCP). The programme was adopted in 1992 to constitute a Strategic Action Plan for the Baltic Sea region. The Global Environment Facility and World Bank as well as the countries of the region (including Estonia, Latvia, Lithuania, Poland and Russia as the recipients) and some other governments participating for restoration of the ecological balance of the Baltic Sea ecosystem (HELCOM 2003).

3 Estonian Environmental Strategy 2010

In this document the following strategic priorities have been listed, aiming at amelioration of the ecological status of the coastal sea and improvement of possibilities for reproduction of fish resources and aquatic organisms (Anon. 2003):

1. Limitation of marine water pollution,
2. Biological and chemical treatment of waste waters,
3. Collection of wastes from ships,
4. Conservation of biological diversity of aquatic animals,
5. Prevention of pollution of the coastal sea with dangerous compounds,
6. Limitation of nutrients input into the coastal sea.

It has been foreseen that up to the year 2010 the following should be achieved:

- establishment of water quality categories for the coastal sea,
- establishment of means for sustainable utilisation and protection of the coastal sea,
- application of environment-friendly technology,
- improvement and the increase of the efficiency of monitoring programmes,
- application of means for sustainable exploitation and protection of the coastal sea, achievement of good condition of the coastal sea,
- capability of fighting big disasters and environmental accidents.

Also,

- ecosystem-based management of fish resources should be introduced,
- habitats and spawning areas of fish and crayfish should be restored, access to spawning places established and the reproduction protected,
- abundance of protected fish species should be increased to create possibilities of their exploitation,

The strategic priorities in the protection and management of aquatic resources planned to implement up to 2010 are as follows (Anon., 2003):

- conservation of the diversity of aquatic organisms,
- optimum exploitation of fish resources,
- up to 30% decrease in fishing effort,
- integration of ecological factors into the results of investigations of fish resources,
- restoration of habitats and spawning areas of fish and crayfish,
- plantation of water bodies with endangered and valuable fishes,
- prevention of introduction and distribution of non-indigenous species in Estonia.

4 Discussion

It has been estimated that in general, the condition of environment is good in Estonia. Compared to the 1980s, the discharge of nutrients from Estonia into the Baltic Sea has decreased more than twofold. As a result in the wastewater purification and restriction of pollution of marine waters from ships and other sources, ecological situation in Tallinn Bay and other areas of Estonian coasts has notably improved. A substantial part of macrovegetation has recovered and the biodiversity increased. The deviations in the Pärnu River and Pärnu Bay ecosystems induced by a long-term pollution of Pärnu River from a Soviet air base have gradually decreased. The smelt stock reproducing in Pärnu Bay and the Pärnu and Reiu Rivers, has steadily increased during the last decade. Presently Estonian beaches are much cleaner than in the past. These developments have had very favourable effect on tourism and recreation. But side by side with clean nature heavily polluted areas may occur. In general, such areas have the roots reaching back to the occupation time.

In Estonia a number of NGOs and private stakeholders have evolved who contribute to the ICZM activities (The Estonian Society for Nature Conservation, Estonian Fund for Nature, Coalition Clean Baltic, Estonian Green Movement, etc.). However, public awareness and participation in implementation of environmental projects aiming at sustainable development, are still insufficient and need dissemination of corresponding knowledge and know-how (cf. Pickaver, 2003).

The main environmental problems of coastal areas in Estonia are water pollution, deviations from the rational exploitation of water bodies, decrease in reproduction potential of fish resources and decline in their quality. Despite of improvement in ecological situation in some areas, the danger to the biological diversity and habitats of aquatic organisms has not yet been removed.

The goal of the Estonian Environmental Strategy is gradual solving of the problems. It is based on the principles of sustainable development and corresponds to the EU recommendations. Long-term plans have been composed for implementation of the strategic plan.

References

- Anonymous (2003): Eesti keskkonnastrateegia 2010 – projekt (19.03.2004). www.envir.ee.
- HELCOM (2003): Integrated Coastal Zone Management in the Baltic States. State of the Art Report. A. Pickaver (ed), EUCC-The Coastal Union.
- Pickaver, A. (2003): A Common Approach to the Implementation of ICZM in the Baltic Region: The Principles underlying such an approach. A document of the fifth HELCOM-HABITAT meeting. May 2003, Finland. EUCC-The Coastal Union. March, 2003.

Address

Dr. Evald Ojaveer
Estonian Marine Institute of the University of Tartu
Mäealuse 10a,
12618 Tallinn
Estonia

E-mail: e.ojaveer@ness.sea.ee