Developing responsible aquaculture in the Baltic Sea Region

CODE OF CONDUCT

AQUABEST
Dear reader,

Sustainable and balanced development of the Baltic Sea region is important not only to the region itself, but to the entire European Union. In order to ensure positive development in the region, the EU prepared and in 2009 launched its first macro-regional strategy, the EU Strategy for the Baltic Sea Region.

Aquaculture is an important source of livelihood throughout the Baltic Sea region. On a global scale, aquaculture production is growing rapidly, since diminishing fish catches will not suffice to meet increasing demand for seafood. Although demand for fish is also growing in the Baltic Sea region, growth of aquaculture in the region has halted and even turned to a decline.

The opportunities and development needs of aquaculture in the Baltic Sea region were identified in the EU’s strategy for the Baltic Sea region, which included the flagship project BESTAQ, aimed at promoting methods of sustainable aquaculture. Finland was appointed as the lead country for the project. Start-up funding for the work was obtained from various countries’ national EFF funds and from the Nordic Council of Ministers. With the help of a multinational project team, Finland’s Ministry of Agriculture and Forestry was responsible for the coordination of the BESTAQ project, and the Finnish Game and Fisheries Research Institute for the project’s implementation. BALTFISH, a regional forum for fisheries authorities in the Baltic Sea region, acted as the project’s steering group.

A key task for the BESTAQ project was to identify bottlenecks in the development of aquaculture, and to define political-strategic development outlines in order to help the sector resume growth. BALTFISH decided that the definition work’s outcome would be a Code of Conduct document.

By conducting an extensive survey, BESTAQ charted attitudes to aquaculture, alongside bottlenecks and development opportunities in the industry. The results showed that various countries were experiencing very similar problems. In all countries, most respondents viewed a common code of conduct as necessary.
The survey results were in favour of preparing a code of conduct and provided a firm foundation for defining its content. The results of the survey will be published later, as part of this report series.

The BESTAQ project prepared proposals for the codes, which were discussed at a seminar with interest groups in late 2011. On the basis of the feedback received, the proposals were finalised and submitted for consideration by the BALTFISH forum in the beginning of 2012. After this work was completed, the BESTAQ project was concluded at the end of 2011. On 26 January 2012, the BALTFISH forum discussed the proposal for the code of conduct, approving it with minor changes.

Based on its light resources and short duration, the intention was that the BESTAQ project would serve as a catalyst, defining the sector’s development outlines and proposing measures for implementing the associated changes. For the purpose of this follow-up work, the BESTAQ team prepared the AQUABEST project, which was granted funding by the Baltic Sea Programme 2007–2013.

AQUABEST is an extensive joint project involving eight countries and 14 partners. Its four work packages analyse and aim to find solutions to problems associated with legal, ecological and production technical issues, as well as those related to the use of water areas and hindering the sustainable growth of aquaculture in the Baltic Sea region. AQUABEST will continue the development of aquaculture, under a flagship project of the Strategy for the Baltic Sea Region. In accordance with the project plan, AQUABEST undertakes to publish the prepared code of conduct.

The aim of the publication is to promote use of the code of conduct, for instance in the preparation and implementation of national aquaculture development strategies. The undersigned hope to see the code of conduct’s widespread adoption in the Baltic Sea region, alongside the further distribution of information on the code.

EU Strategy for the Baltic Sea Region
Priority area 9

BESTAQ project

AQUABEST project

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INTRODUCTORY CHAPTERS

Part I

Background
Contrary to global trends, aquaculture production in the EU territory of the Baltic Sea catchment area has stagnated or even slightly declined during the last decade, with an annual yield sitting at approximately 100,000 tons.

A constantly increasing shortfall of global seafood supply has created great demand for aquaculture to fill the gap between declining fisheries output and an increasing demand for seafood. However, this opportunity has not materialized in the Baltic Sea Region (hereafter BSR).

Slow development of BSR aquaculture is not due to a poor market situation or unfavourable natural conditions. The main reason for slow development has been the difficulty of reconciling environmental policy with a viable aquaculture economy. As a result, industry economic performance has weakened. Furthermore, because of the eutrophication of the Baltic Sea, any aquaculture activity requires novel, cost-effective and environmentally efficient technologies to remain viable.

There is a clear need for better and more coherent governance and management to facilitate the development of responsible and sustainable aquaculture in the BSR.
Global or multinational Codes of Conduct, Guidelines or Principles have been formulated for aquaculture in general and for specific species groups and areas in particular. Rather promising experiments regarding code implementation have served as a baseline for national policymaking and for eco-certificates or other self-controlling schemes.

There are specific environmental and political challenges surrounding the development of BSR aquaculture because many countries are involved, and also because the marine environment is experiencing eutrophication problems. Identifying ecological and environmental problems and risks serves to enhance environmental responsibility.

A Code of Conduct should contribute to a balanced consideration of environmental, economic and social dimensions of sustainability, thus serving to achieve EU objectives of a sustainable growing aquaculture sector in the BSR.

**Purpose**

The purpose of this Code of Conduct (later referred as Code) is to provide principles and guidelines for governance, development and management of sustainable aquaculture at all stakeholder levels in the BSR.

The Code considers environmental, technical, economic and social issues associated with aquaculture in the region. It provides a basis for governments and industries to improve the overall sustainability of aquaculture both at national and regional levels.

At the government level the Code provides guidelines for policy formulation, creating a legal framework, and administrative regulation. Political prioritization of aquaculture regulation is a key factor in enabling new approaches to formulating industry guidelines.

For the aquaculture industry and its suppliers, the Code provides a baseline for the development of more sustainable feeds, farming concepts and technologies, as well as managing practices.

For non-governmental environmental protection organizations (NGOs), the Code provides information on the environmental objectives of BSR aquaculture.

All stakeholders would benefit from Code implementation, as it calls for transparency of means and objectives, and a harmonization of applied aquaculture policy in the BSR.

For consumers, the Code can provide several benefits. It would facilitate access to safe, nutritious and affordable seafood products produced in the BSR, thus reducing the environmental footprint associated with imported seafood. Production would be transparent and traceable, with a goal of also being sustainable. Local production would also provide an adequate supply of raw materials to allow the processing industry to benefit from regionally produced seafood.
Part I

**Process**

Preparation of the Code was based on the EU Strategy for the Baltic Sea Region, adopted in 2009. The Strategy states the need for macro, region-wide collaboration: “The Baltic Sea Region is a highly heterogeneous area in economic, environmental and cultural terms, yet the countries concerned share many common resources and demonstrates considerable interdependence. Under these circumstances, the area could be a model of regional cooperation where new ideas and approaches can be tested and developed over time as best practice examples.”

The above-mentioned concerns and development needs matched well with those of the aquaculture industry in the Baltic Sea Region. For this reason, aquaculture was proposed and adopted as one of the sectors for development by means of a flagship project, BESTAQ, begun in autumn 2010 once most of the BSR countries had appointed project representatives.

The steering function of BESTAQ was devoted to BALTFISH, a forum for fisheries administrations of BSR countries. The primary goal of BALTFISH is to improve and strengthen coordination and cooperation of fisheries administration among Baltic Sea member states, but also among the administrations and other key stakeholders relevant to the Baltic Sea fisheries sector. BALTFISH is a forum for exchanging ideas, views and information, and for facilitating cooperation in various concrete projects aiming at achieving sustainable fisheries in the Baltic.

The BESTAQ project set two goals for its work:

1. To identify the most serious bottlenecks of the aquaculture industry’s viable future; and
2. To define strategic goals for the sustainable development of the aquaculture industry.

Those responsible for BALTFISH concluded that project outcomes would be written in the form of Code of Conduct.
Part I

**Definitions**

Geographically, the target area of the Code covers the Baltic Sea and its catchment areas in all EU countries forming part of the drainage basin of the Baltic Sea. These countries are Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden. These territories comprise approximately:

- 95% of the Baltic Sea coastline
- 70% of the Baltic Sea catchment area
- 90% of the aquaculture production of the Baltic Sea Region

Thematically, the Code covers environmental, economic and social dimensions of sustainability. The main emphasis is on fish farming for human consumption, which comprises the major part of production volume and nutrient load of the aquaculture industry. Aquaculture as a mean of enhancing specific fish stocks is also being considered.

Factors directly affecting consumers (product safety, trade etc.) are not within the scope of this Code; improved sustainability, however, is in line with the objectives of responsible consumers.

**Intergovernmental policy in the protection of the Baltic Sea**

The leading intergovernmental program for the protection of the Baltic Sea is the Baltic Sea Action Plan (BSAP), adopted at a ministerial meeting of the Baltic Marine Environment Protection Commission HELCOM in 2007.

The BSAP defines a vision, strategic goals and ecological objectives for the Baltic Sea. Eutrophication is one of the four strategic issues of the plan.

The specific strategic goal is to have a “Baltic Sea unaffected by eutrophication”. The ecological objectives related to this goal are: achieving nutrient concentrations close to natural levels; clean water; natural levels of algal blooms; a natural distribution and occurrence of plants and animals; and natural oxygen levels.

To achieve these ecological objectives, the Action Plan duly proposes provisional country-specific annual nutrient input reduction targets. Furthermore, the plan includes proposals for development of assessment tools and methodologies.

All other plans or operations that have effects on nutrient emissions should be congruent with the Baltic Sea Action Plan.

Also many EU regulations and directives such as Water Framework Directive and Marine Strategy Framework Directive have influence on development of aquaculture.
Reform of the Common Fisheries Policy of the EU

The European Union has an ongoing process aimed at reforming the Common Fisheries Policy (CFP). In its reform proposal the European Commission highlights the growing importance of developing a sustainable and top-notch European aquaculture industry, and encourages Member States to eliminate barriers to the development of this sector. Member States are called upon to elaborate national strategic plans for the development of aquaculture activities by 2014. One measure announced in the CFP reform is the creation of an Advisory Council on aquaculture.

Baltic Sea Region aquaculture policy definitions

The Nordic Council of Ministers organizes annual conferences for the development of the fisheries sector in the Nordic-Baltic area. The 2011 conference, Aquaculture Forum, held in Helsinki in October 2011, was devoted to exploring ways of developing “Competitive and Sustainable Aquaculture in Northern Europe”. Conclusions drawn at the conference are as follows:

1. Aquaculture in BSR has the potential to play a key role in increasing the supply of high quality, healthy seafood to consumers.

2. A substantial increase of sustainable aquaculture in the waters of the Baltic Sea Region, both at sea and inland, is needed to meet consumer demand.

The forum pointed out necessary improvements and measures for achieving these goals: planning tools for better use of favourable areas; production permits encouraging long-term investments; use of new raw materials and recycling of nutrients to contribute to the bio-economy; and more solid partnerships between environmental and aquaculture administrations, among others.
Stakeholder organizations and their perspectives

Many BSR aquaculture stakeholders are interested in the environmental aspects of aquaculture production. The most important groups include producers and their organizations, integrated industries, relevant governmental administrations, research and education, and non-governmental organizations devoted to the protection of the Baltic Sea.

To validate the Code formulation process and to survey the focal and urgent themes of the Code, in 2011 a questionnaire was circulated among above-mentioned BSR aquaculture stakeholders.

The questions covered aquaculture in global food production, the needs and constraints of BSR aquaculture development, as well as traditional and novel methods of managing the environmental impacts of BSR aquaculture. The results—the opinions of 142 experts—endorse the development of BSR aquaculture. The main findings were:

- Strong consensus prevailed on the need to grow aquaculture to secure the global seafood supply. Regional production close to point of consumption was seen as the most ecologically sensible option, and was strongly supported.

- Environmental stakeholders were slightly more doubtful regarding aquaculture development possibilities in the BSR than other stakeholder groups. In their view, the main obstacles were local impacts and a shortage of non-sensitive sites.

- The great majority of all stakeholder groups agreed that with new planning tools and technologies, the Baltic Sea and its catchment area could provide opportunities to increase aquaculture production, as long as the tools and technologies meet requirements for environmental sustainability.
CODES

Historically, aquaculture has much in common with both fisheries and agriculture. However, in order to realise its potential in the Baltic Sea Region, aquaculture must be adopted as part of the food production system based on its own merits.

Code on general sustainability

Vision
BSR aquaculture can increase production of locally grown, regional seafood using environmental efficient technologies and for which fish feed must be sourced on a sustainable basis. The industry is a net producer of human grade aquatic proteins.

Measures
- Establish strategic plans for the green growth of aquaculture in accordance with the objectives of the reformed Common Fisheries Policy of the EU.
- Actively promote the search for alternative protein and fat sources for aquatic feed in order to decrease the use of wild fish as a raw material for feed.
**Code on protection of environment**

**Vision**
BSR aquaculture can use regional feed ingredients to move from a nutrient loader to a neutral input level in the BSR. The industry produces food while creating low CO2 emissions. Aquaculture is a recognized player in the region’s goal to be a global forerunner in the recycling of sparse nutrients. Adverse effects of the industry on aquatic ecosystems are minimal and reversible.

**Measures**
- Promote the application of an ecosystem approach and net load-based regulation in BSR aquaculture.
- Promote recycling of nutrients in the Baltic Sea Region with concrete measures that effectively encourage feed industry and aquaculture enterprises to develop, produce and use feed with high contents of BSR-sourced nutrients.
- Make use of appropriate regulation and farm management requirements to ensure that aquaculture-based impact on fresh water and marine aquatic ecosystems can be minimized.

**Code on spatial planning**

**Vision**
BSR aquaculture is weighted equally with other activities that draw upon coastal zone or inland area resources. The industry is included in freshwater and maritime spatial planning and land management programs in all areas where aquaculture can constitute a potential use of land or water.

**Measures**
- Prepare national spatial plans for aquaculture in order to steer farms to favourable areas and to make licensing processes more predictable.
- Make use of spatial planning and other proven methods to ensure the allocation of land and water resources to aquaculture activities.
- Facilitate the translocation of farms to ecologically favourable sites, thus ensuring the efficient use of land and water resources in a way that conserves sensitive habitats and their wildlife and respects other users and activities.
- Facilitate the integration of aquaculture with other industries for the effective use of space, infrastructure and other resources.
Code on industrial development

**Vision**
BSR aquaculture can be maintained as an up-to-date discipline, both technically and in terms of eco-efficiency. Research and development within the industry leads the way globally in selected fields. Upgraded aquaculture is the foundation for prosperous aquatic-based food processing and non-food product sectors. It also provides the impetus for thriving feed and aquaculture-specific technology industries.

**Measures**
- Promote efforts to shift to more robust technologies, and to more profitable rearing units with low environmental impacts.
- Promote the development and implementation of novel water- and nutrient-saving recirculation systems, and water treatment technologies for land-based aquaculture.
- Ensure the availability of competent R&D support, technical skills, experience and knowhow as well as infrastructure for energy, communication and logistics requirements.
- Create a platform for the development of BSR aquaculture in order to ensure sound coordination of R&D activities and facilitate the dissemination of innovation and know-how.

Code on rural development

**Vision**
Aquaculture provides an opportunity to improve the viability of rural communities. These favourable impacts on regional economies are taken into account in the assessment of aquaculture potential. Other local industries also benefit from the positive effects of sustainable aquaculture development.

**Measures**
- Undertake all necessary actions to enable the use of aquaculture as a tool for reducing territorial disparities and improving utilization of the region’s assets and potential.
- Recognise that aquaculture to its nature compares to agriculture as it essentially concerns the farming of animals in captivity. Undertake actions to put aquaculture on par with agriculture in terms of the cost of monitoring and managing environmental impacts.


**Code on regulation**

**Vision**
BSR aquaculture is recognized as an industry that needs secure property rights and an economic environment that is favourable towards long-term investments. Appropriate incentives and controls act to reduce or even prevent negative ecological and societal impacts. Nutrient recirculation and other measures to safeguard the ecosystem are achieved through regulation and self-control schemes. The regulatory system is flexible and cost-efficient.

**Measures**
- Build flexibility and incentives into licensing systems in order to foster new innovation and best practices in aquaculture. This will create the right conditions for sustainable and viable increases of production volumes.
- Promote the development and implementation of voluntary schemes to benefit sustainability, add product value, and satisfy or replace regulations.
- Reduce the administrative burden, lead times and costs of environmental licensing by simplifying procedures and, when appropriate, increasing the periods of permit validity.

**Code on animal welfare**

**Vision**
The states of the BSR have adequate legal measures to safeguard the health and welfare of fish and other farmed organisms, and to ensure the health and safety of seafood for human consumption. The terms of environmental licenses guarantee healthy conditions for aquaculture animals. The industry is proactive in continuously improving both the health, welfare and ethical husbandry of aquaculture practices.

**Measures**
- Promote ethical and responsible methods of stocking, feeding, medication, handling, stunning and other aquaculture methods.
- Remove regulatory and other obstacles hindering the changeover to organic production or other certification schemes.
- Ensure that the genetic management of brood stocks results in healthy fish and/or animals.
- Develop harmonized disease control systems.

**Code on partnership**

**Vision**
BSR aquaculture stakeholders recognize the necessity of tight cooperation and partnership as a precondition for industry development. Institutional arrangements and networks are efficient, and governing authorities collaborate in setting up policies and regulations. They also facilitate equitable cost and benefit sharing, as well as conflict resolution.

**Measures**
- Strengthen intergovernmental collaboration and cross-boundary administrative co-operation to ensure a prosperous aquaculture industry.
- Endorse tight institutional partnerships.
Global and official frames for aquaculture development were first proposed in 1995 when the Food and Agriculture Organization of the UN (FAO) first published the Code for Responsible Fisheries. Since then many outstanding international organizations have focused their attention on aspects of aquaculture. Outcomes have been published in many forms: global, regional or thematic codes or guidelines; proposals for innovative approaches as solutions to problems; standards and criteria; environmental protection plans; etc.
The list of relevant Codes, Guidelines and Policy papers used in formulation of this Code of Conduct are listed here:

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<thead>
<tr>
<th>Author</th>
<th>(first, if many)</th>
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<th>Document (editorial clarifications in brackets)</th>
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<tbody>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the UN</td>
<td>1995</td>
<td>Code for Responsible Fisheries (Article 9: Aquaculture)</td>
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<td>FAO</td>
<td></td>
<td>2006</td>
<td>International Principles for Responsible Shrimp Farming</td>
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<td>FAO</td>
<td></td>
<td>2008</td>
<td>Building an ecosystem approach to aquaculture</td>
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<td>FAO</td>
<td></td>
<td>2010</td>
<td>Aquaculture planning; Policy formulation and implementation for sustainable development</td>
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<td>FAO</td>
<td></td>
<td>2010</td>
<td>Aquaculture Development, Ecosystem approach to aquaculture</td>
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<td>FEAP</td>
<td>Federation of European Aquaculture Producers</td>
<td>2000</td>
<td>A Code of Conduct for European Aquaculture</td>
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<td>HELCOM</td>
<td>Baltic Marine Environment Protection Commission</td>
<td>2007</td>
<td>The Baltic Sea Action Plan, a new environmental strategy for the Baltic Sea region</td>
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<tr>
<td>IFFO</td>
<td>International Fishmeal and Fish Oil Organization</td>
<td>2009</td>
<td>Global Standard for Responsible Supply (of fishery raw materials)</td>
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<tr>
<td>NOAA</td>
<td>National Oceanic and Atmospheric Administration</td>
<td>2007</td>
<td>A 10-year Plan for Marine Aquaculture (for the USA)</td>
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<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
<td>2010</td>
<td>Advancing the Aquaculture Agenda</td>
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<tr>
<td>SEAFDEC</td>
<td>Southeast Asian Fisheries Development Center</td>
<td>2005</td>
<td>Regional Guidelines for Responsible Fisheries in Southeast Asia: Responsible Aquaculture</td>
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<tr>
<td>ASC</td>
<td>Aquaculture Stewardship Council</td>
<td>2011</td>
<td>Fresh water trout aquaculture standards (draft to be finalized)</td>
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