New marine uses as a contribution to the Baltic Sea Action Plan

Monika Stankiewicz,
HELCOM Executive Secretary

Innovative uses of Baltic marine resources in the light of the EU Blue Growth initiative

SUBMARINER CONFERENCE
Gdansk, Poland
5-6 September 2013
Is it the future we want for the Baltic?

Anoxic, “dead” bottoms

1897-1906
1947-1956
1977-1986
1997-2006

Bottom Oxygen (ml/l)

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Illustration: Eric Liebermann

(Seifert and Kayser 1995)

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Executive Secretary
What is ecosystem approach of the Baltic Sea?

• A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

(UN Convention on Biodiversity, 1992)

• “The comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity”

(HELCOM/OSPAR Joint Ministerial Statement, 2003)
A marine environment, with diverse biological components functioning in balance, resulting in a good environmental/ecological status and supporting a wide range of sustainable human economic and social activities.
Baltic Sea Action Plan (2007), *i.a.* aims

- To enhance the **balance between sustainable use and protection** of marine natural resources
- To secure **sustainable use of marine resources by reducing user conflicts** and preventing, reducing or offsetting adverse **impacts** of competing human activities,
- To **select** necessary management **measures - cost-benefits and cost-efficiency**
- To utilize **knowledge on cost implications of not taking actions** against eutrophication and other threats to the Baltic Sea

Monika Stankiewicz
Executive Secretary
## BSAP nutrient reduction targets

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td></td>
<td>TN tons</td>
<td>TP tons</td>
<td>TN tons</td>
</tr>
<tr>
<td>Kattegat</td>
<td>74 000</td>
<td>1 687</td>
<td>78 761</td>
</tr>
<tr>
<td>Danish Straits</td>
<td>65 998</td>
<td>1 601</td>
<td>65 998</td>
</tr>
<tr>
<td>Baltic Proper</td>
<td>325 000</td>
<td>7 360</td>
<td>423 921</td>
</tr>
<tr>
<td>Bothnian Sea</td>
<td>79 372</td>
<td>2 773</td>
<td>79 372</td>
</tr>
<tr>
<td>Bothnian Bay</td>
<td>57 622</td>
<td>2 675</td>
<td>57 622</td>
</tr>
<tr>
<td>Gulf of Riga</td>
<td>88 417</td>
<td>2 020</td>
<td>88 417</td>
</tr>
<tr>
<td>Gulf of Finland</td>
<td>101 800</td>
<td>3 600</td>
<td>116 252</td>
</tr>
<tr>
<td>Baltic Sea – revised figures (2013)</td>
<td>792 209</td>
<td>21 716</td>
<td>910 344</td>
</tr>
</tbody>
</table>
Total waterborne inputs, 1994-2010

Baltic Sea - Nitrogen
9% cut from BSAP baseline
18% cut since 1994

Baltic Sea – Phosphorous
10% cut since the BSAP baseline
16% cut since 1994
Total load by 2010 and needed reduction by 2021

Total phosphorus

Potential for input reduction

total input  MAI  Reduction target  MWWTP  Scattered settlements  Agriculture

Total nitrogen

Potential for input reduction

total input  MAI  Reduction target  Airborne deposition  MWWTP  Scattered settlements  Agriculture
Coherent BSAP implementation

2010 Moscow, Ministerial Meeting
National Implementation Programmes, overall progress

2011 High-level segment, HELCOM
Identifying good examples and less-progress areas

2013 Copenhagen, Ministerial Meeting
Efficiency of reaching the targets, additional needed actions

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Executive Secretary
Benefits and cost of non-action

- **BSAP, 2007**: Marine based activities account for 3-5 % of GDP in EU (110-190 billion €/year)

<table>
<thead>
<tr>
<th>Type of benefit</th>
<th>Value of (million €)</th>
<th>Number of employed</th>
<th>Value per capita, €</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fisheries</td>
<td></td>
<td></td>
<td>1.6-2</td>
</tr>
<tr>
<td>• Eastern Baltic</td>
<td>673-1 747</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Western Baltic</td>
<td>766-1 520</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquaculture</td>
<td>348</td>
<td></td>
<td>0.9</td>
</tr>
<tr>
<td>Fish-processing</td>
<td>4 497</td>
<td>49 380</td>
<td></td>
</tr>
<tr>
<td>Tourism</td>
<td>89 292</td>
<td>2 000 000</td>
<td>1160</td>
</tr>
<tr>
<td>Cruise tourism</td>
<td>343 - 443</td>
<td>11 500</td>
<td>34-541</td>
</tr>
<tr>
<td>Recreation</td>
<td>5 - 7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NEFCO and HELCOM: Economic Analysis of the BSAP, COWI, 2007

- **WWF, 2013**: Baltic “added” value by 2030 (in tourism, agriculture, fishing) – 550 000 jobs, 32 billion €/year
• **STRESSED**
  – *the economic and social value of marine ecosystem goods and services and*
  – *that the cost of no action in ensuring the provision of these goods and services is substantial;*

• **AGREED**
  – to further *assess the economic and social consequences of the use of the Baltic Sea, including the costs of degradation*

• **ENCOURAGED**
  – *promotion of green technologies support development of more environmentally friendly and competitive solutions in all sectors by research, development and innovation initiatives;*
BSAP: focus areas for greener potential

- **Cost-effective solutions for wastewater treatment**
  - bio-ponds, willow beds – nutrient trapping and energy
  - R&D in nutrient and hazardous substances removal
- **Recycling of nutrients** comprising of:
  - utilisation of sewage sludge and animal manure for biogas and fertiliser production,
  - reclaiming nutrients through e.g. wetlands, mussel culture and harvesting/usage of plants and fish,
- **Cleaner shipping** in view of increasing ship traffic
  - Promotion of LNG and biofuels
- **Habitat restoration and migratory fish protection**
  - wetlands restoration, fish-ladders – working with local communities

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Executive Secretary
WWF proposes a Business Plan for the Baltic!

**Vision**

1. The Baltic Sea is home for a healthy and robust ecosystem
2. Industries connected to the Baltic Sea are both competitive and sustainable
3. Regional solutions to the challenges in the BSR have global relevance and therefore significant commercial potential

**Elements for change**

1. Focus on key priorities
2. Increase accountability
3. Take an integrated approach
4. Create commercial incentives
5. Invest to develop the region into a “blue and green” technology hub
2013 HELCOM Ministerial, declarative

• BSR to become a model for sustainable growth

• Sustainable growth is supported by an ecosystem-based approach

• Sustainable use of marine goods and services for achievement or maintaining good environmental status

• Socio-economic analysis of the use of Baltic Sea and cost of degradation of environment

• Promote green investments and practices in cleaner technologies in all sectors to implement the BSAP, strengthen economy and improve environmental quality
2013 HELCOM Ministerial, examplified

- Cost-efficiency, applicability and targeted measures in agriculture
  - Nutrient recycling and Precision fertilisation
- Seeking reduction of inputs at source and end-of-pipe
  - Awareness raising and changing consumer behavior
  - From conventional wastewater treatment to a power generating facility
  - Resource-efficient sewage sludge utilization
- Greener shipping
  - Work towards a joint “Green Technology and Alternative Fuels Platform

There are more examples →
Is it feasible to save the Baltic Sea?

Benefits 3,8(5,0) B €/year – Costs 2,8 B €/year = Surplus 1(2,2) B €/year

BalticSTERN Final Report "The Baltic Sea - Our Common Treasure. Economics of Saving the Sea", 2013
Thank you for your attention!

www.helcom.fi/Ministerial2013