

Cooperation for good environmental status of the Baltic Sea in HELCOM

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Assessment of Climate Change in the Baltic Sea Region, BACC
II International Conference on
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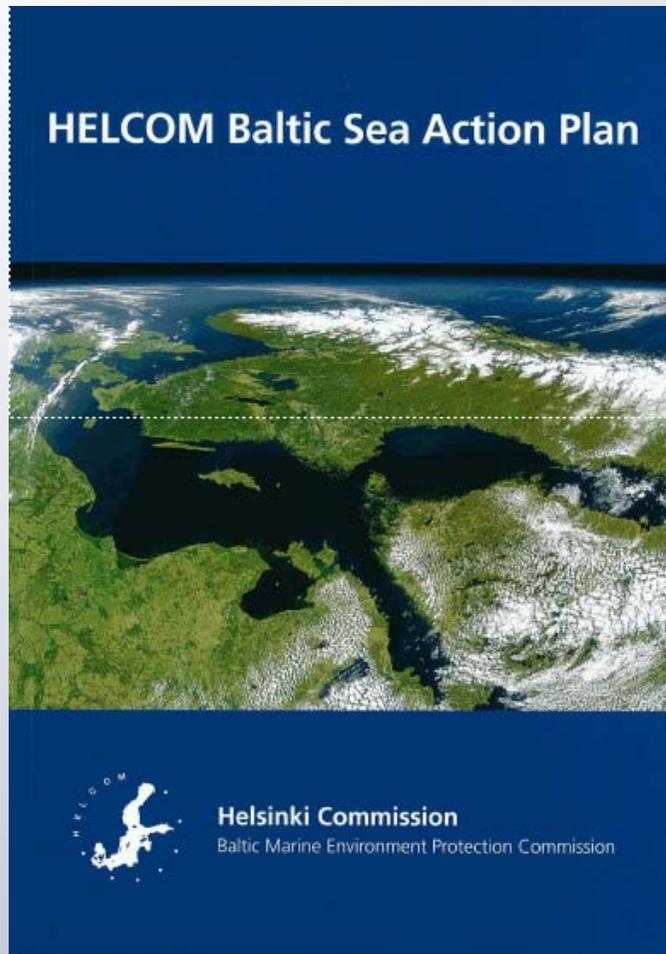


Helsinki Commission (HELCOM): bridging science and policy

- Governing body of Helsinki Convention (1974, 1992)
- 10 Contracting Parties:
 - Denmark
 - Estonia
 - European Community
 - Finland
 - Germany
 - Latvia
 - Lithuania
 - Poland
 - Russia
 - Sweden
- Observers:
 - Belarus
 - Ukraine
 - Various organisations
- HELCOM Secretariat assists and facilitates



Ecosystem approach for the Baltic Sea: HELCOM Baltic Sea Action Plan

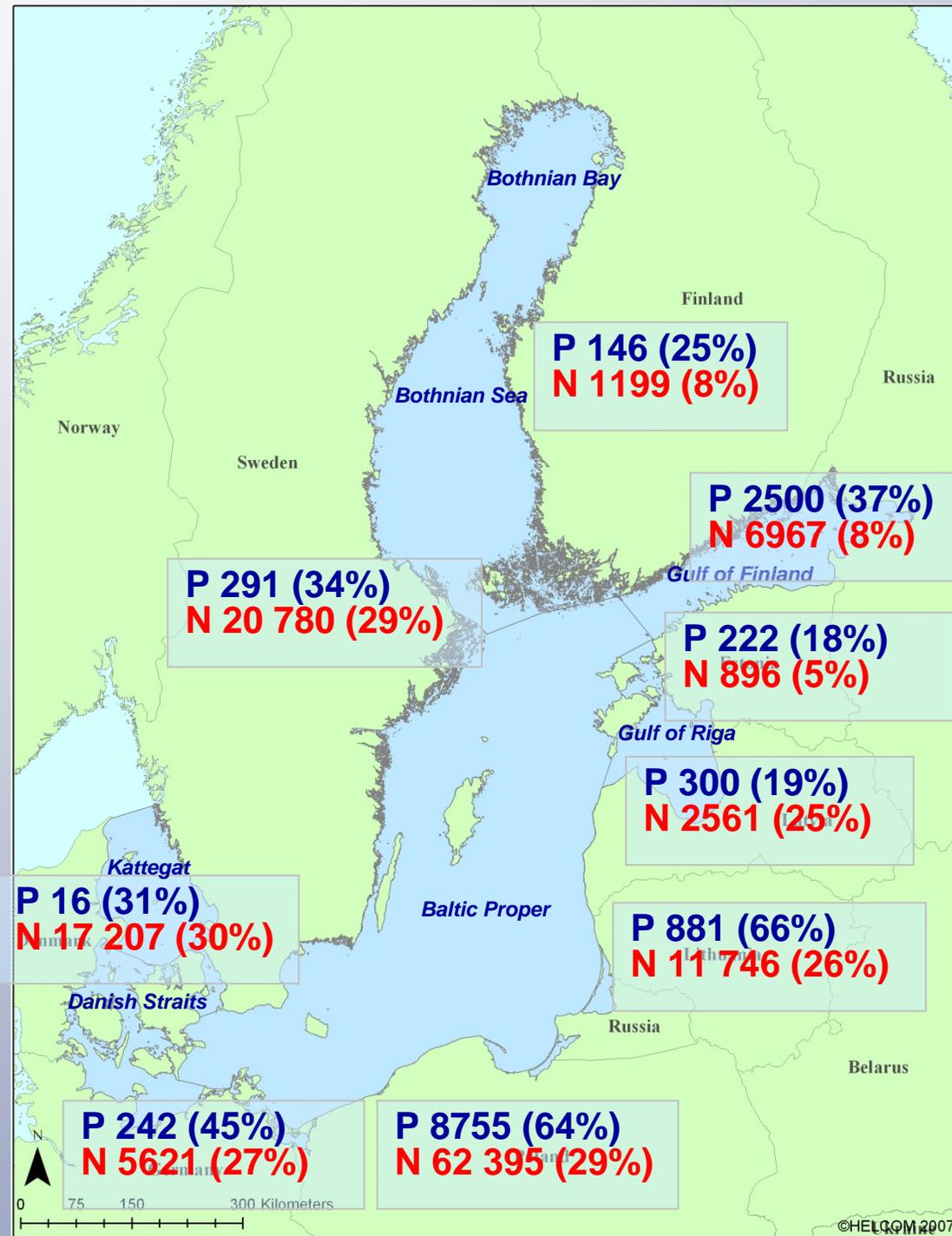


- Adopted in 2007 at the Ministerial level
- Ecosystem-based approach to management of human activities
- Ecological goals and objectives
- Measures and actions for:
 - Eutrophication
 - Hazardous substances
 - Maritime activities
 - Biodiversity and nature conservation
- Supports implementation of the Marine Strategy Framework Directive
- Served as the basis of the environmental section of the EU Strategy for the Baltic Sea Region

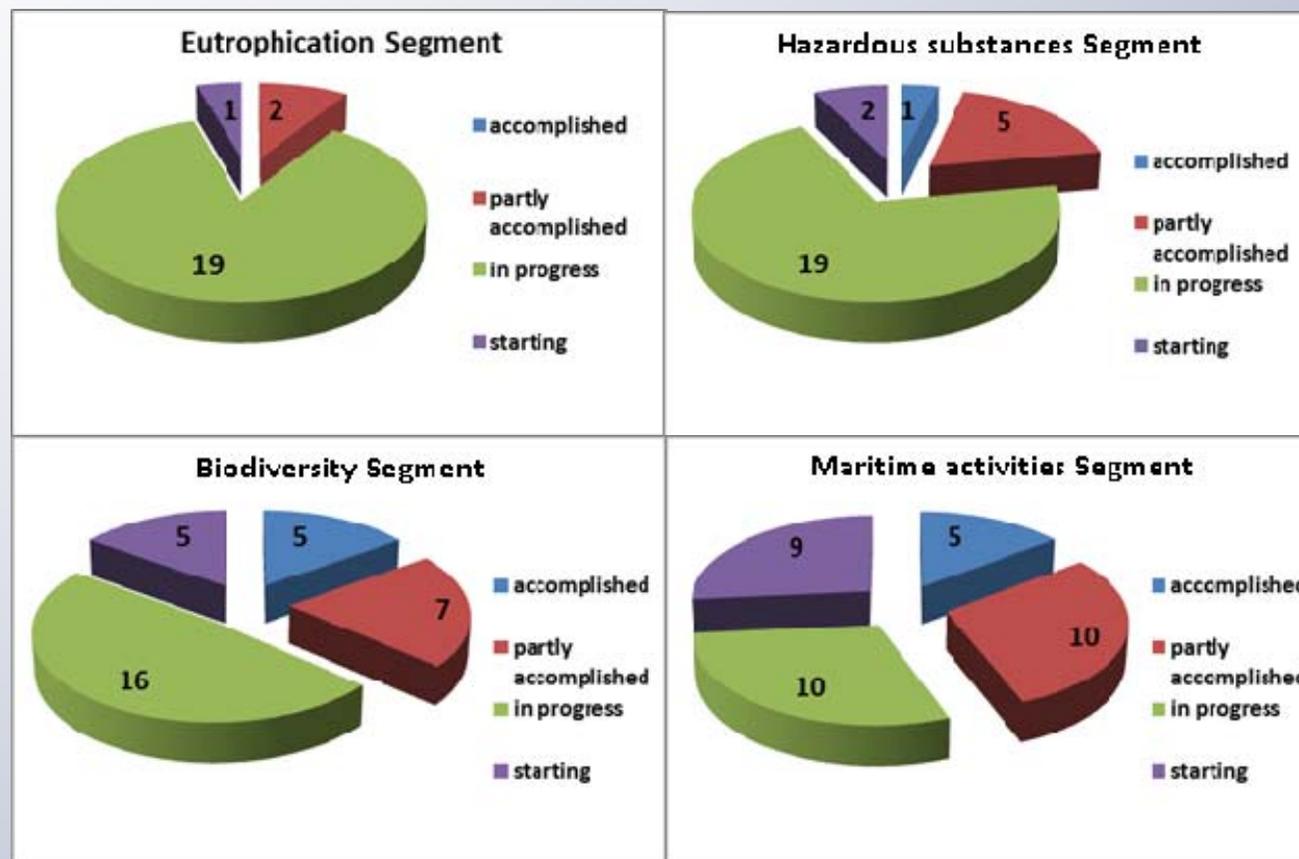
**Total
reductions
needed
(tonnes/year)**

**Reductions/
sub-basin
(tonnes/year)**

**Reductions/
country
(tonnes/year)**



Status of the BSAP implementation



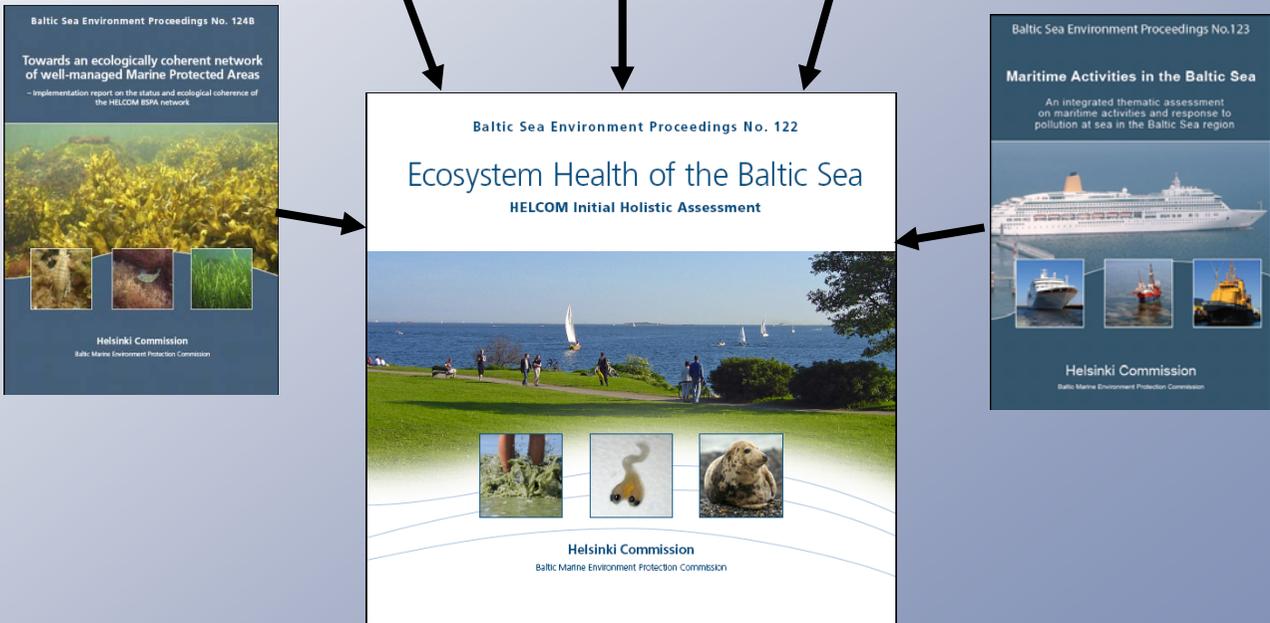
-Implementation through National Implementation Programmes and joint HELCOM and other projects

→ About a third of the actions are completely or nearly accomplished





- Based on data from HELCOM's coordinated monitoring programmes running since 1970s
- Use of indicator-based assessment tools

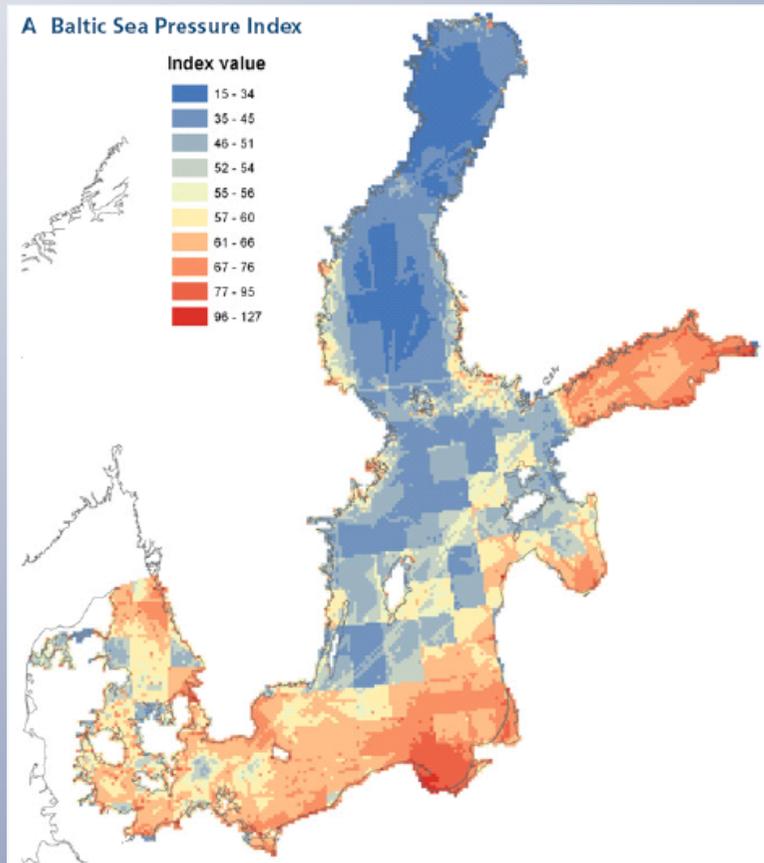
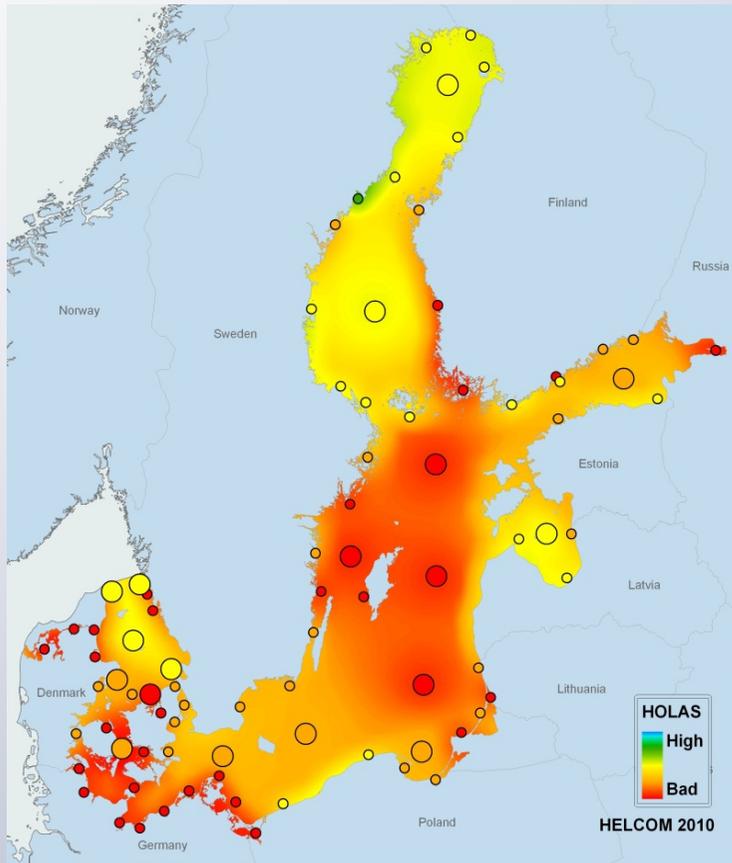


Baltic Sea Environment Proceedings No. 122
Ecosystem Health of the Baltic Sea
HELCOM Initial Holistic Assessment

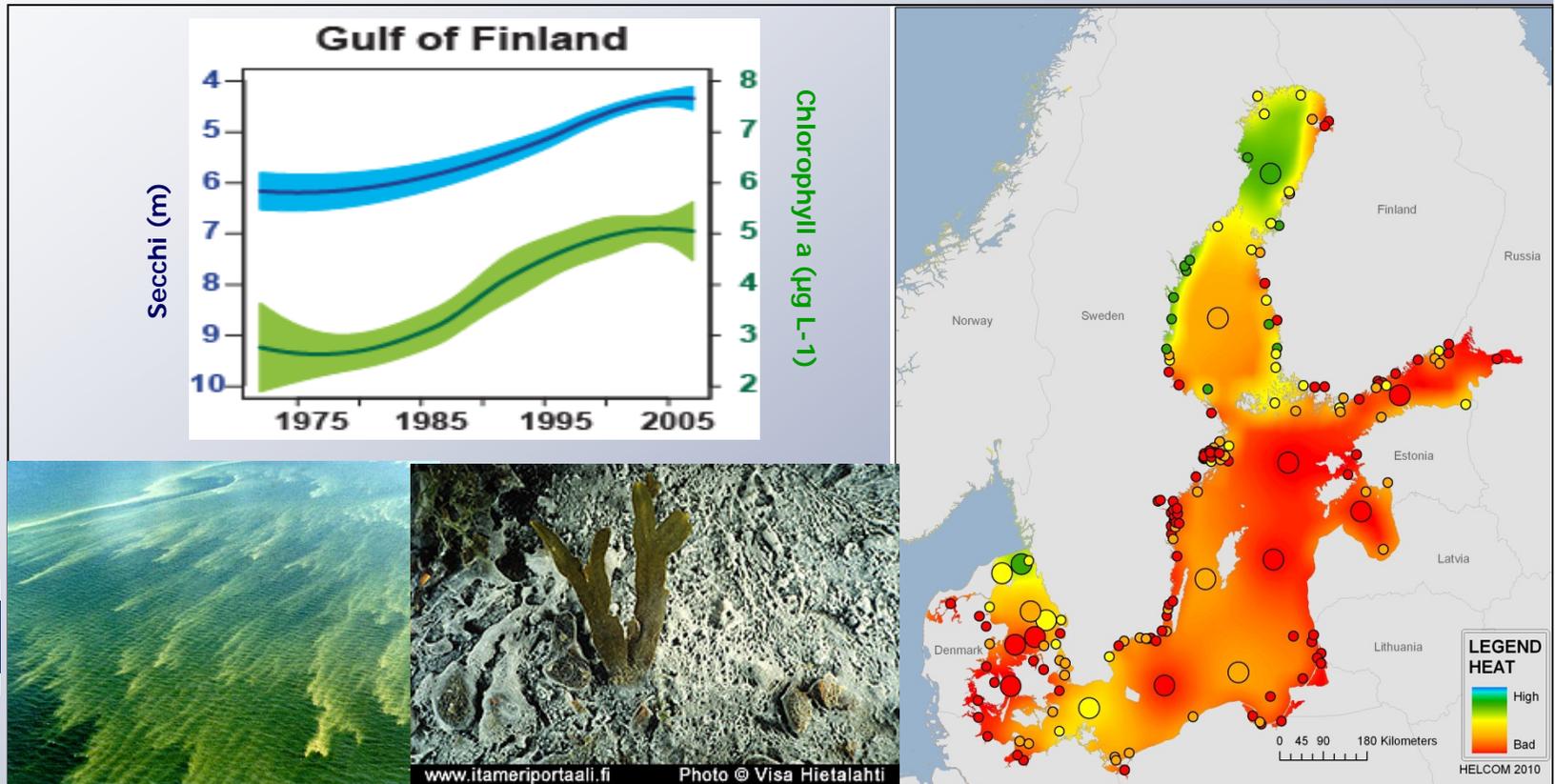
Helsinki Commission
Baltic Marine Environment Protection Commission

State of the Baltic Sea is still not good

Human activities put a pressure on the entire sea area and the ecosystem health status of the entire sea was impaired



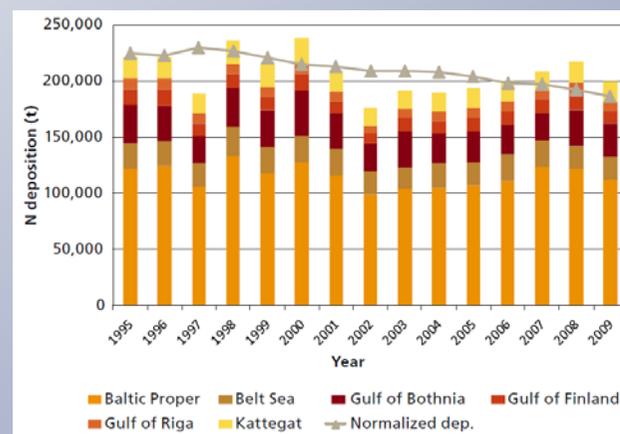
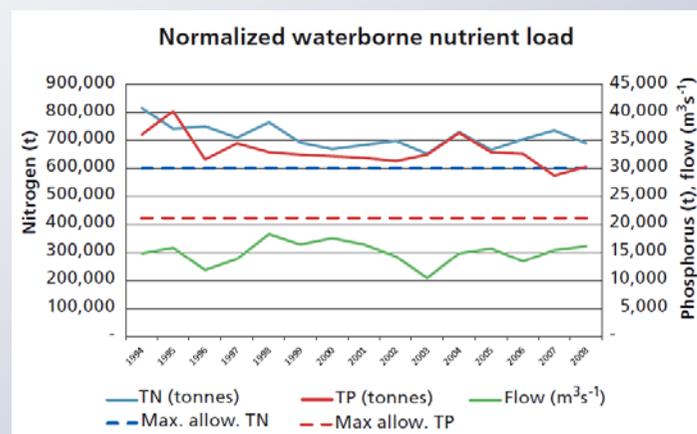
What is the status? – Eutrophication





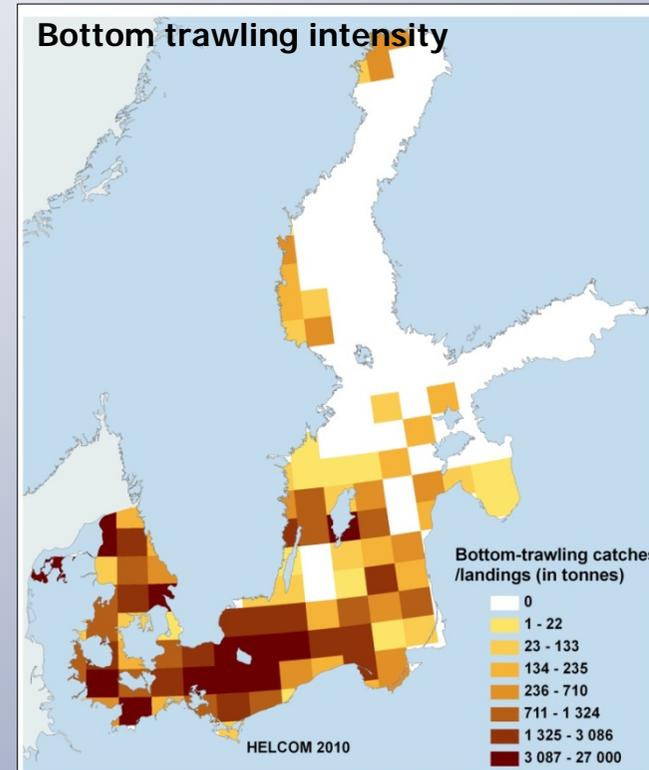
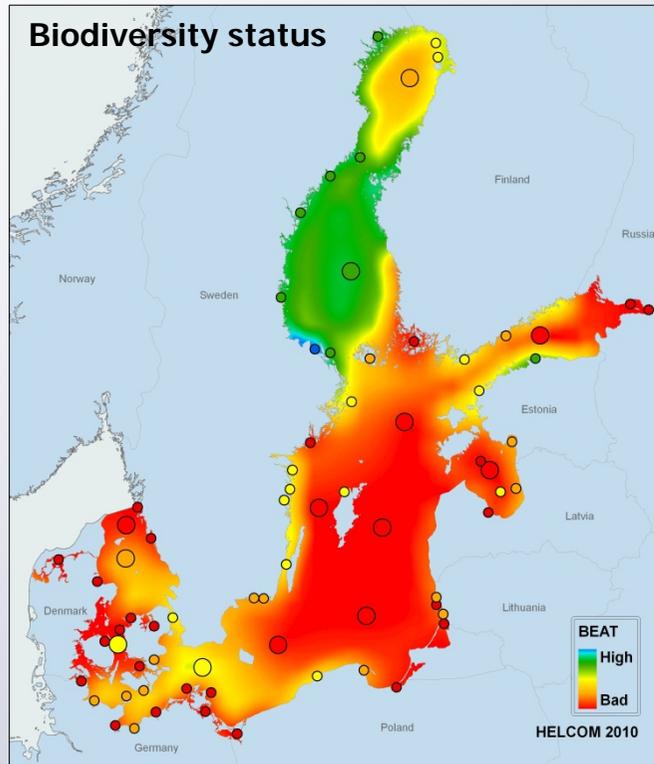
Major achievements: Declining N and P loads

- Downward trend of nutrient loading since the 1990s



What is the status?

– Biodiversity and nature conservation



Follow-up actions:

- Continue dialogue between the fisheries and environment sectors – HELCOM's Fisheries and Environment Forum since 2008
- Assess sustainability of fishing practices especially in protected areas and whether restrictions are necessary in MPAs, new project BALTFIMPA to start

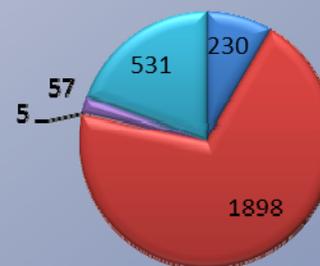


Enhanced knowledge basis: Checklist, Red lists and classification of Baltic habitats (HELCOM RED LIST)

- First products:
 - Comprehensive checklist of Baltic macro species
 - Red list of Baltic Breeding Birds
- Development of a EUNIS compatible habitat classification for the Baltic Sea as a basis for the work on habitats
- Assessment of the threat status of Baltic macro species and habitats by the early 2013, using IUCN criteria



Total number of species per group



- Fish and lamprey species
- Invertebrates
- Mammals
- Birds
- Macrophytes



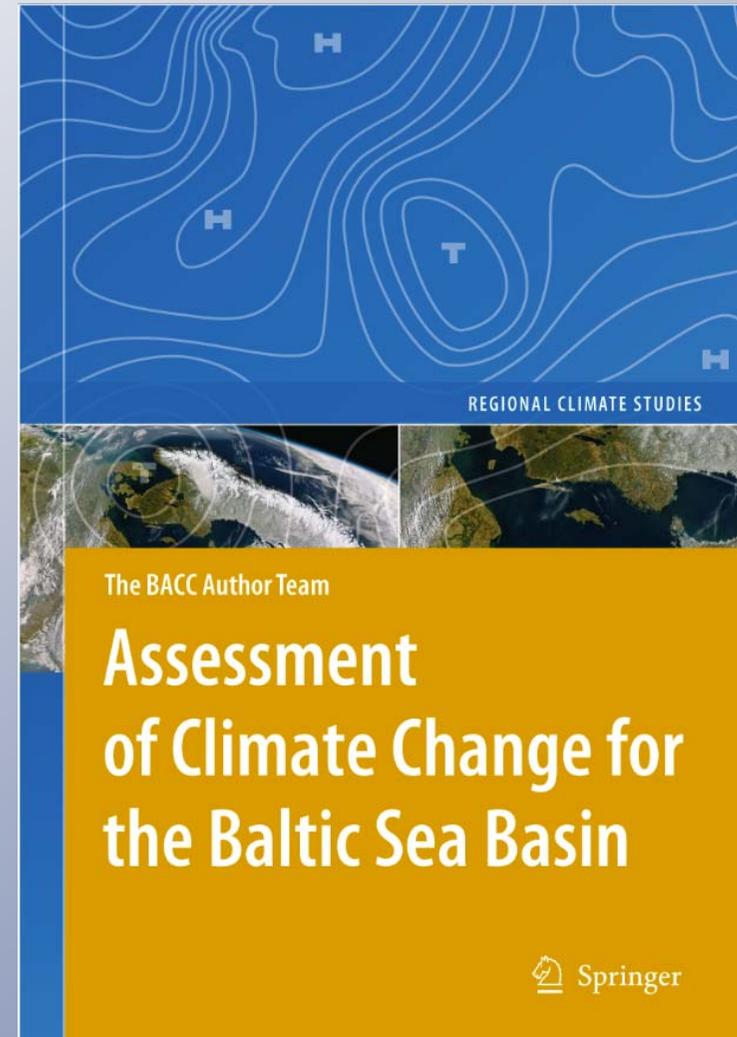
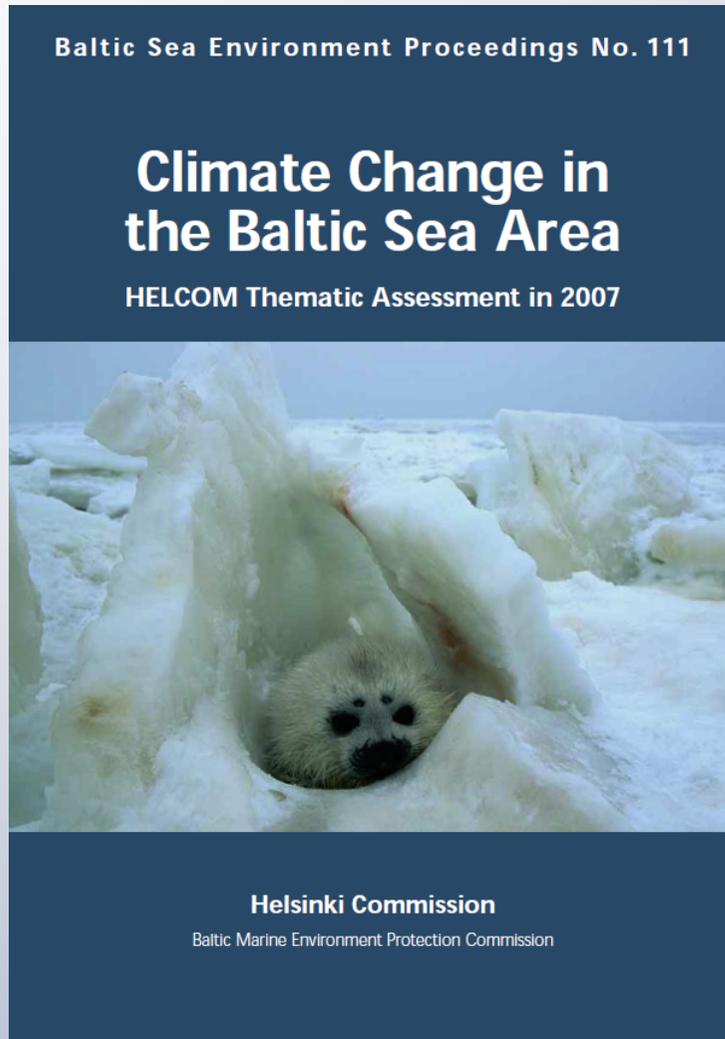
Enhanced sectoral integration

Two new HELCOM fora

- HELCOM Fisheries and Environmental Authorities Forum
 - Since 2008 to enhance dialogue and cooperation between the sectors and to facilitate the implementation of the fish measures of the BSAP
 - In 2009 joint HELCOM input to CFP review with the view to ensure that Baltic fisheries are managed in a sustainable manner which is compatible with the environmental objectives of the HELCOM BSAP
- HELCOM Agricultural and Environmental Authorities Forum
 - Started in 2010 and has objectives similar to the Fish Forum



Climate change and HELCOM: HELCOM thematic assessment 2007



Findings of importance to HELCOM

- The globe has been warming ($0.05^{\circ}\text{C}/\text{decade}$) in the past century and the Baltic Sea region has been warming even faster ($0.08^{\circ}\text{C}/\text{decade}$)
- Decrease in the duration of the ice cover and increase in the length of the growing season
- The projected warming of the mean annual temperature during the 21st century is from 3 to 5°C
- There is projected to be a general increase in the annual precipitation:
 - It will increase runoff and lead to potentially higher nutrient loads to the Baltic Sea from the drainage area
 - Average salinity of the Baltic Sea is projected to decrease
- Ecosystem changes are expected:
 - Changes in the distribution of species
 - Changes in functions of the ecosystem



Did the last assessment have any effect?

- Yes, it did, the HELCOM thematic assessment on climate change provided the background for the following notions of HELCOM ministers:
 - 2007 BSAP: “[We are...] fully aware that climate change will have a significant impact on the Baltic Sea ecosystem requiring even more stringent actions in the future” (HELCOM 2007, BSAP)
 - 2010 the HELCOM Moscow Ministerial Meeting Declaration: [Agree...] on the need for supplementary actions and admit that climate change may have profound consequences both for the environmental status of the Baltic Sea as well as for the scope of the measures adopted by the Contracting Parties until now.

→ These supplementary or more stringent actions are yet to be specified in HELCOM



Looking into the future: How will our current policies perform in a warmer climate

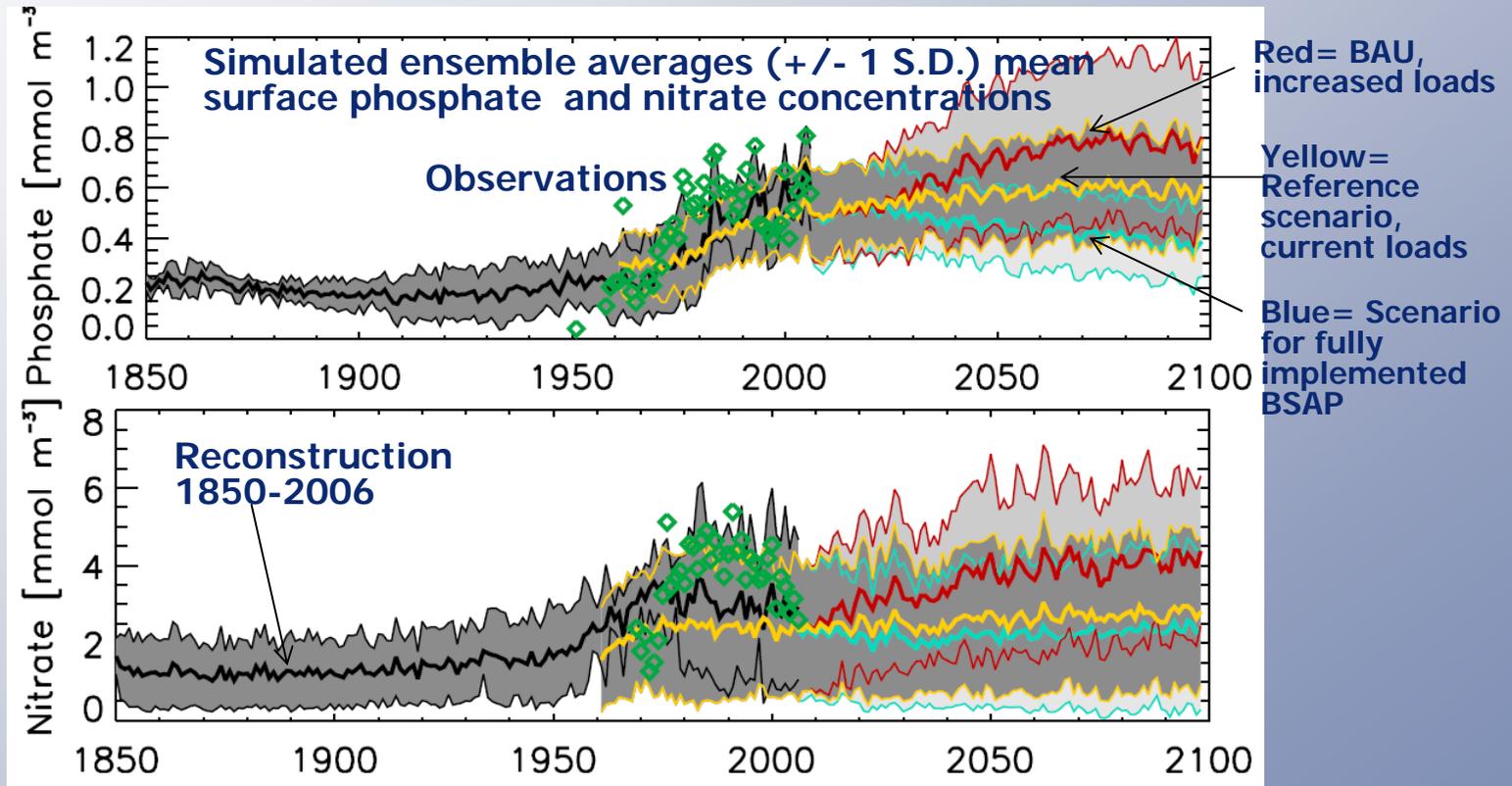


We are beginning to have predictions about the future that can support adjustment of policies.



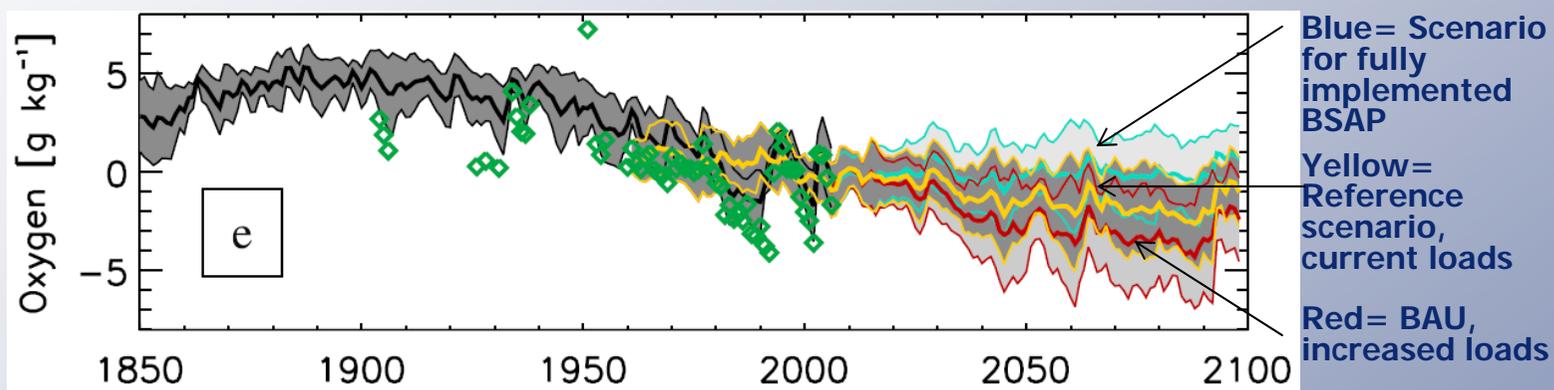
How effective will the BSAP be in the future climate?

Annual mean air temperature was projected to be 2.7-3.8 K higher by 2099 relative to the 1960s-1990s



Meier et al. (2012),
Environ. Res. Lett. 7





In the warmer climate of the end of the century, the Baltic Sea Action Plan nutrient load reductions will be enough to safeguard current oxygen conditions and current surface nitrate levels



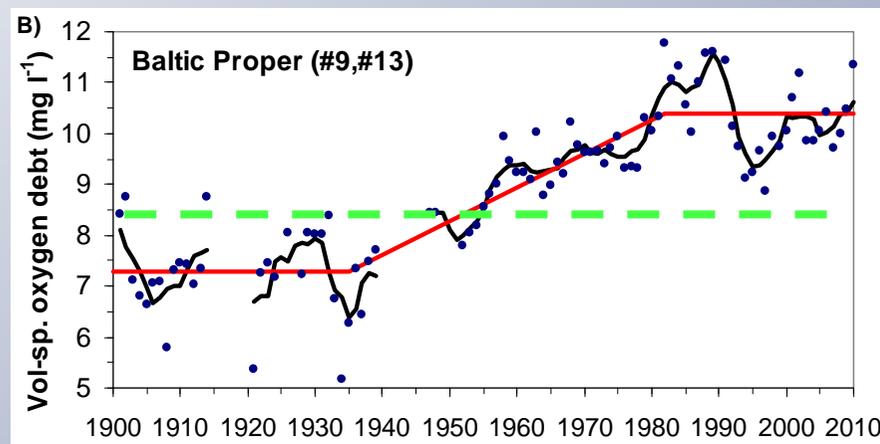
“Now here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!” – The Red Queen and Alice in the Wonderland



Adjusting of the BSAP nutrient load reduction scheme

- Strengthening of the scientific basis and re-evaluation of eutrophication status targets (TARGREV project)
- Recalculation of maximum allowable nutrient loads based on new targets
- New nutrient load allocation scheme to be designed based on the new figures and taking into account atmospheric N and P deposition
- Finish the process by the 2013 HELCOM Ministerial Meeting

→ How to incorporate future climate impacts? Or should they be incorporated at all?



HELCOM TARGREV project proposed the use of below halocline oxygen debt as an indicator and the early 1900s levels before the oxygen debt started to increase as **target** level (HELCOM in prep.)

Next HELCOM Ministerial Meeting in October 2013 is a possibility

- ... to highlight new findings on Climate Change and the Baltic Sea
- ... to start specifying more stringent and supplementary actions
- It will be held in October 2013 under the Danish Chairmanship
- Main themes:
 - Evaluation of the implementation status of the BSAP
 - Scrutiny of the effectiveness of the BSAP national implementation programs
 - Assessment of progress towards ecological objectives and good environmental status
 - Based on the above, adjustment of the BSAP and updating of targets





Thank you!

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