HELCOM Baltic Sea Action Plan - a road map towards healthy ecosystem

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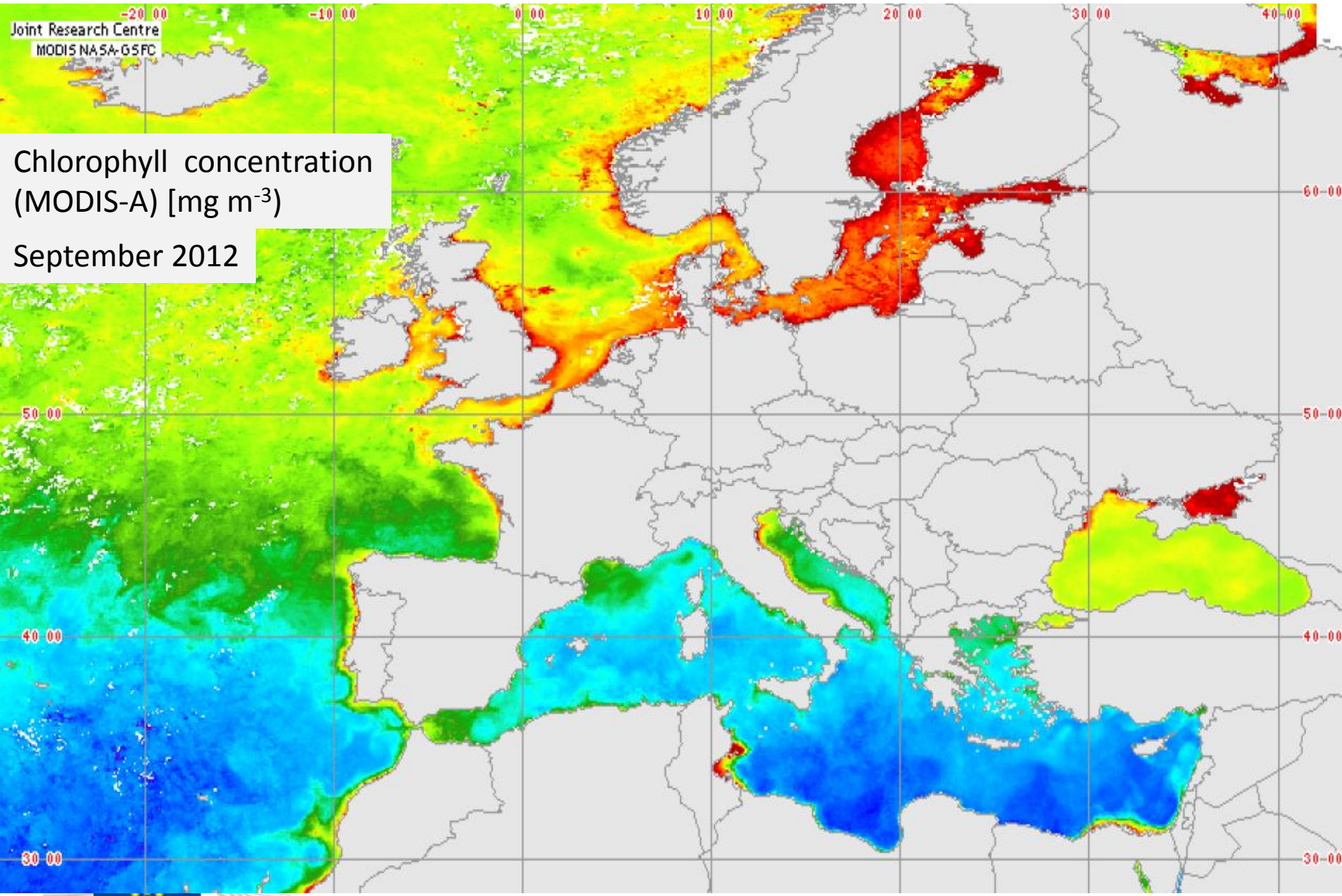


Chlorophyll concentration (MODIS-A) [mg m^{-3})

September 2012

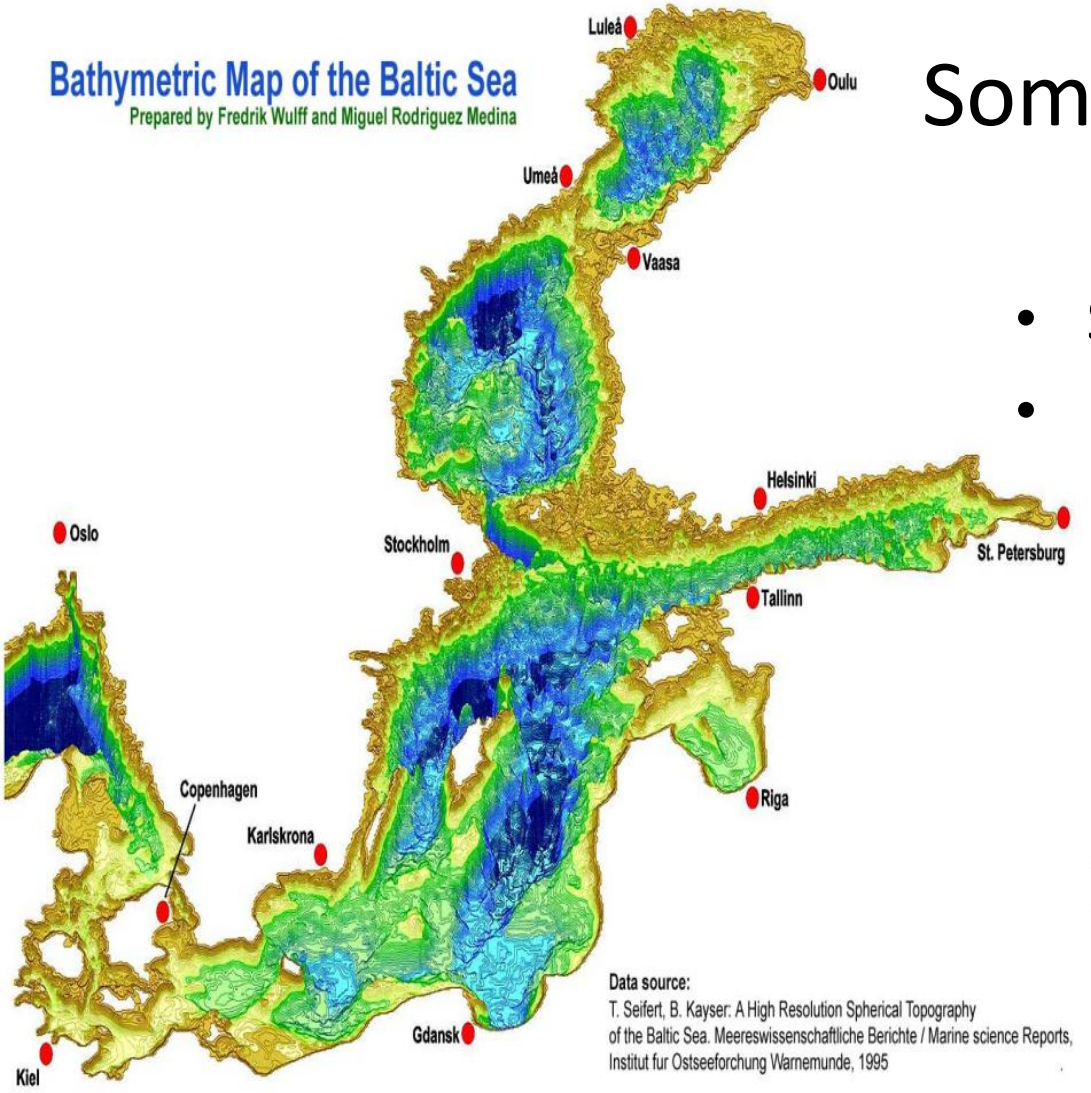
European Commission

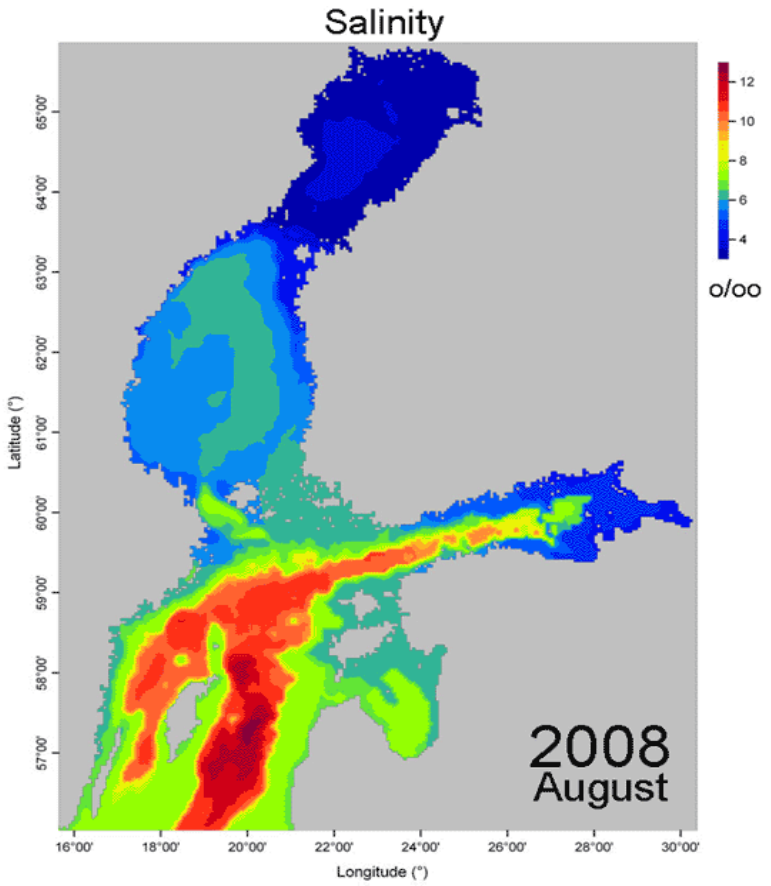
INSTITUTE FOR ENVIRONMENT AND SUSTAINABILITY

Environmental Marine Information System

Some characteristics of the Baltic Sea

- Shallow (max. Depth 459 m)
- Low Salinity (2-14 psu)

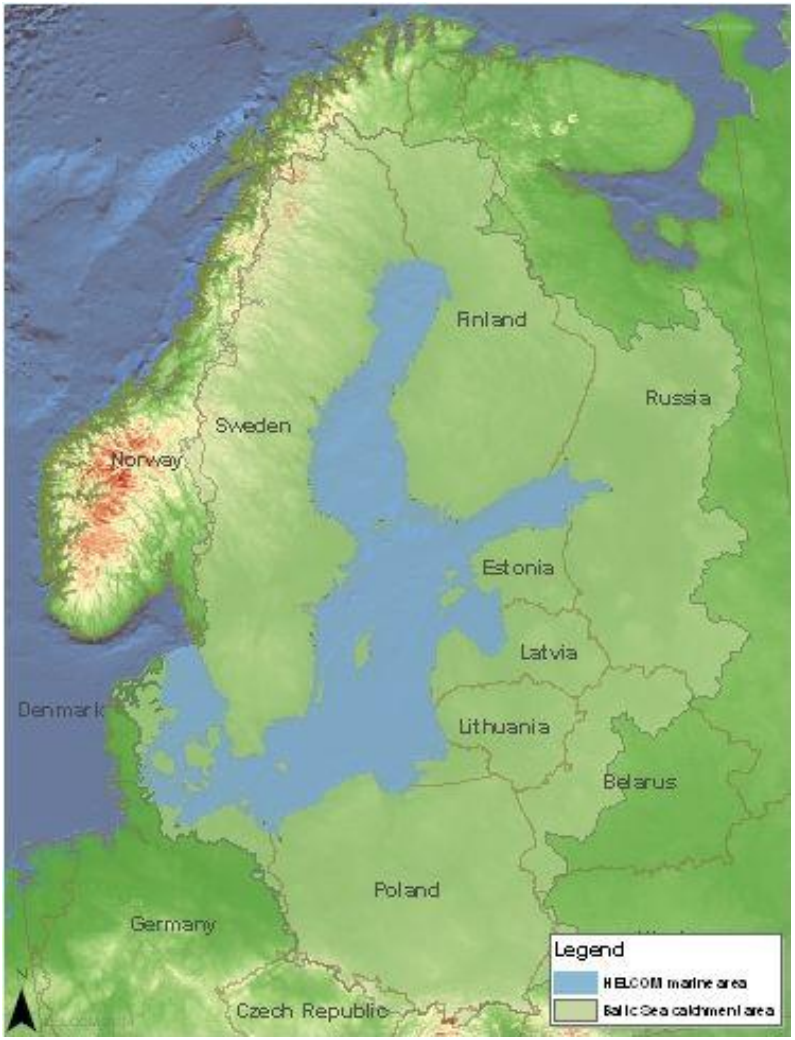




- Restricted water exchange
- Residence time ca. 25-30 years
- Population ca. 80 mill.

Baltic Sea Portal: http://www.itameriportaali.fi/

HELCOM
Baltic Marine Environment Protection Commission (Helsinki Commission)



- HELCOM established 1974
- Since 1980s some 200 HELCOM Recommendations to address pollution
- Implemented by the Contracting Parties through their national legislation.
- Some success stories:
  - Lower discharges of organic pollutants and nutrients from point-sources,
  - Gradual removal of pollution hot spots
  - recovery of seal and white-tailed eagle populations
- However, holistic assessment* 2010 shows that there is a long way before reaching good environmental status of the Baltic Sea.

*HELCOM, 2010, Ecosystem Health of the Baltic Sea 2003–2007: HELCOM Initial Holistic Assessment. Balt. Sea Environ. Proc. No. 122.

Vision

A healthy Baltic Sea environment, with diverse biological components functioning in balance, resulting in a good ecological status and supporting a wide range of sustainable human economic and sustainable activities

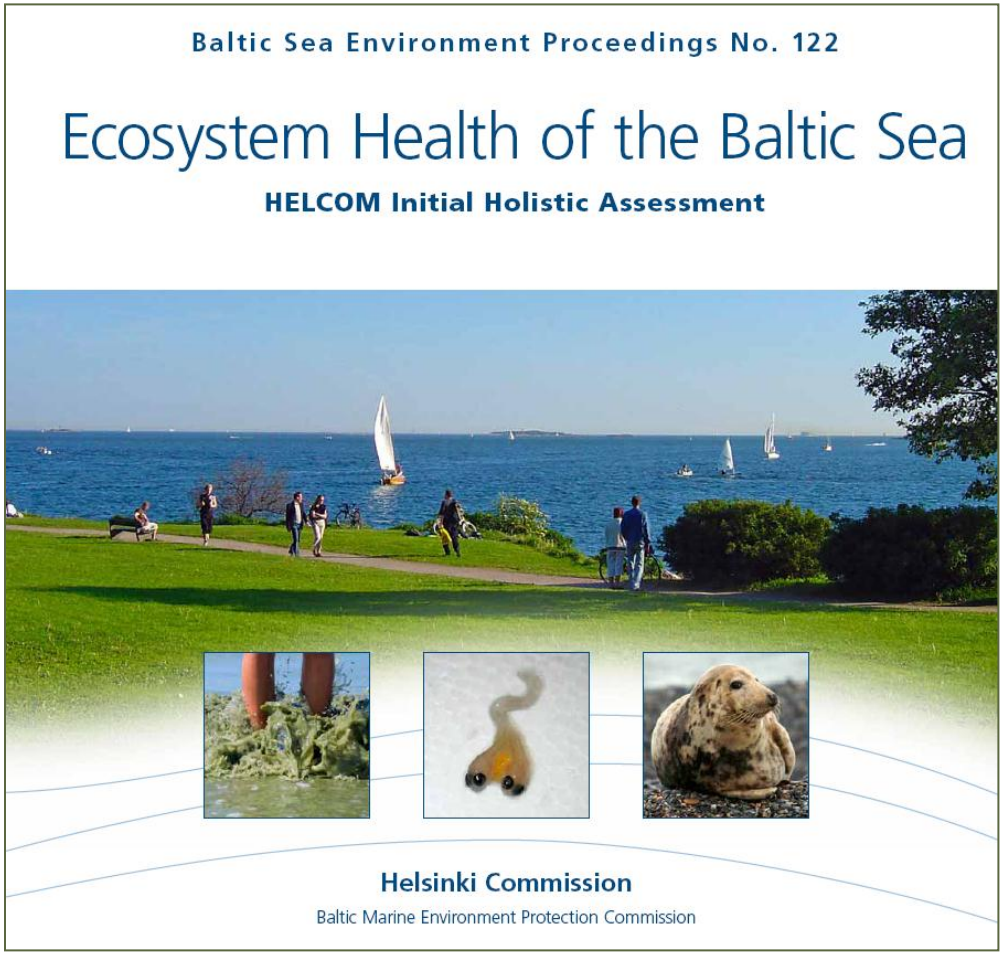
Goals

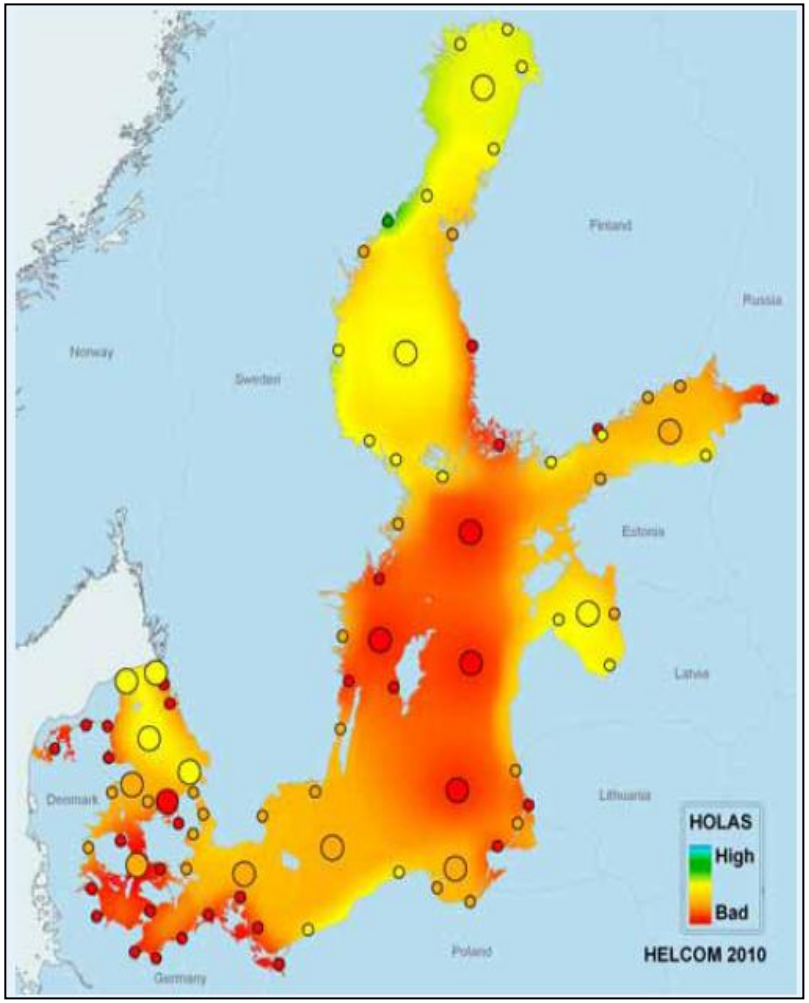
- Baltic Sea unaffected by eutrophication
- Baltic Sea life undisturbed by hazardous substances
- Favourable status of Baltic Sea biodiversity
- Maritime activities in the Baltic Sea carried out in an environmentally friendly way

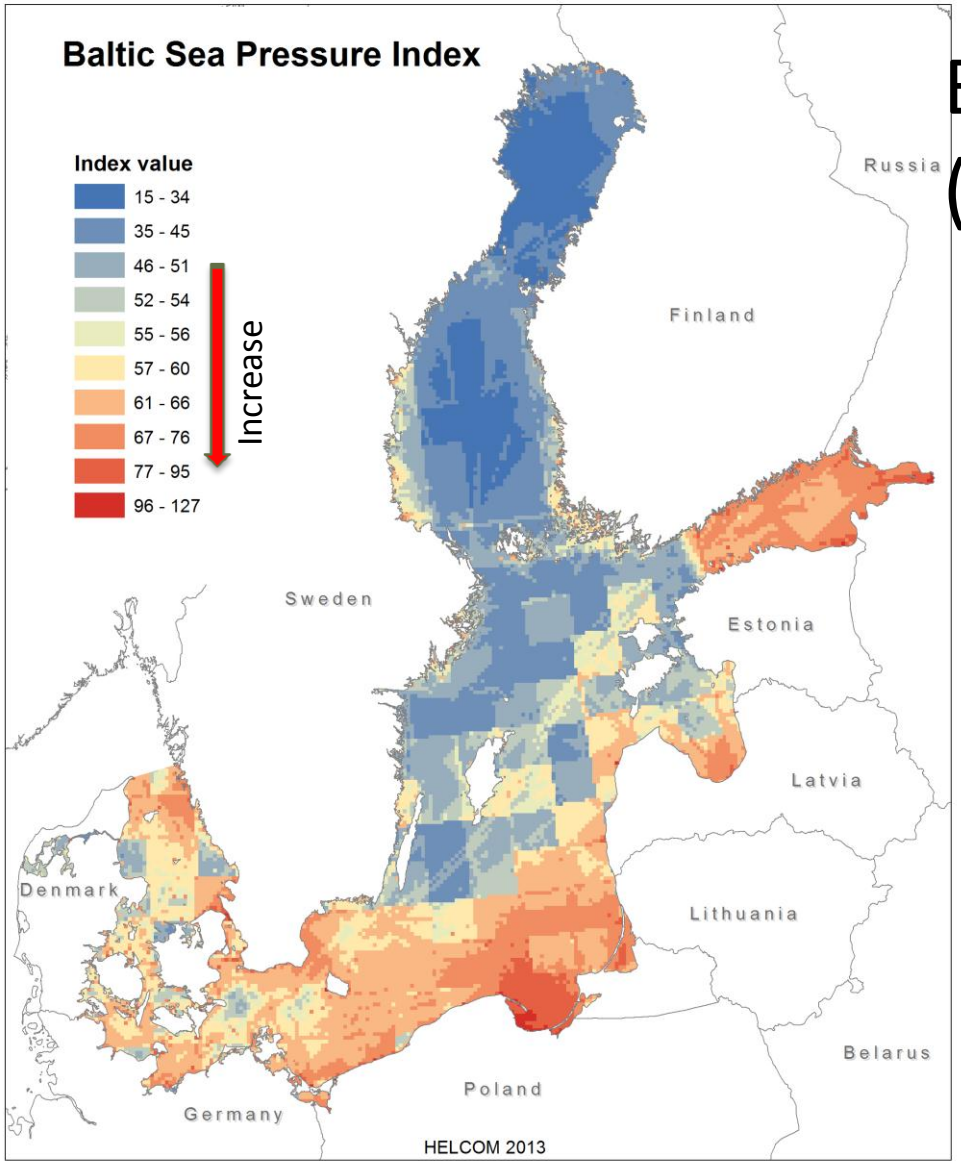
Objectives

- Concentrations of nutrients close to natural levels
- Clear water
- Natural level of algal blooms
- Natural distribution and occurrence of plants and animals
- Natural oxygen levels
- Concentrations of hazardous substances close to natural levels
- All fish safe to eat
- Healthy wildlife
- Radioactivity at pre Chernobyl levels
- Natural landscapes and seascapes
- Thriving and balanced communities of plants and animals
- Viable populations of species
- No illegal pollution
- Safe maritime traffic without accidental pollution
- Efficient response capability
- Minimum air pollution from ships
- No introductions of alien species from ships
- Zero discharges from offshore platforms

HELCOM Holistic assessment 2010



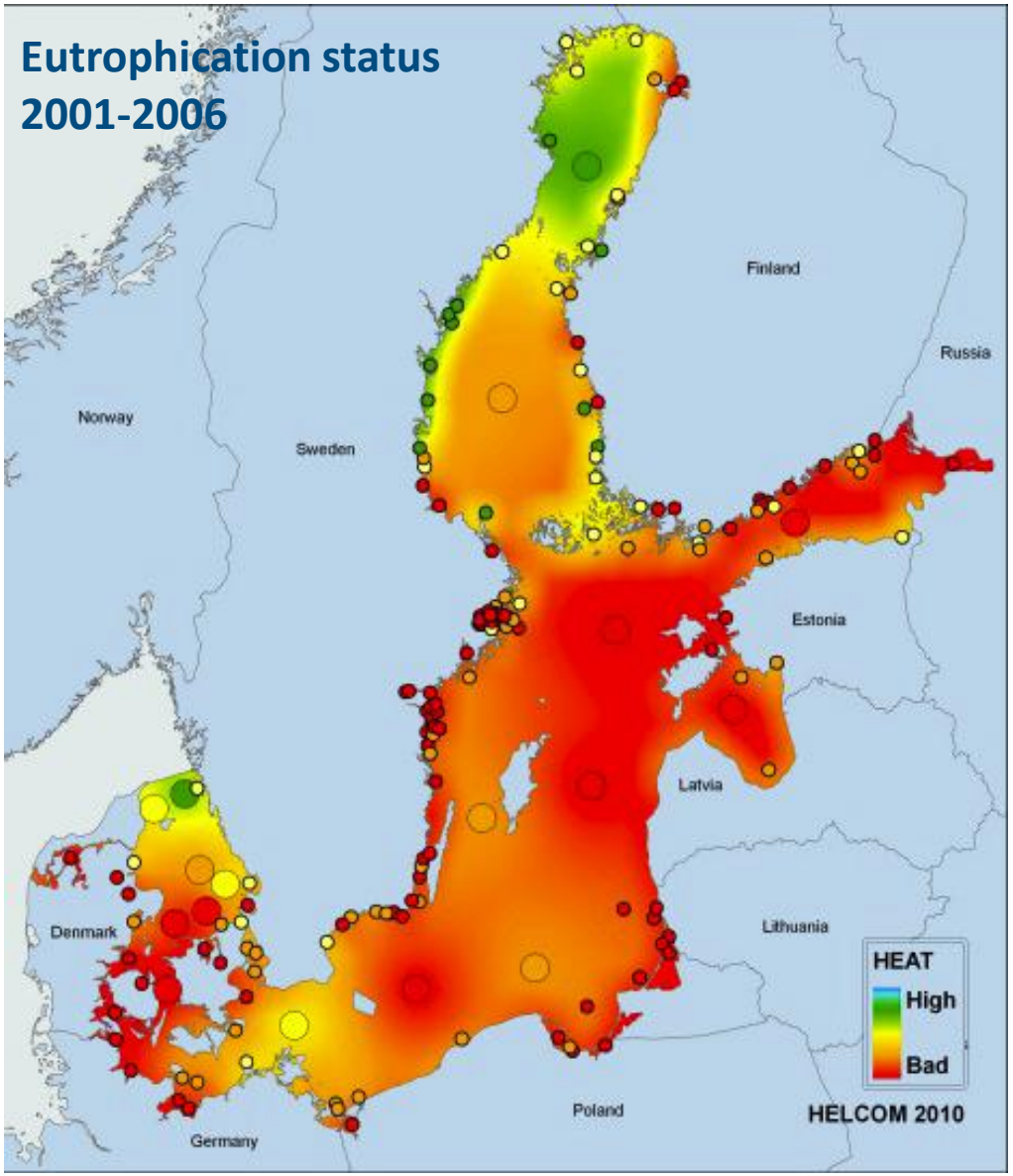


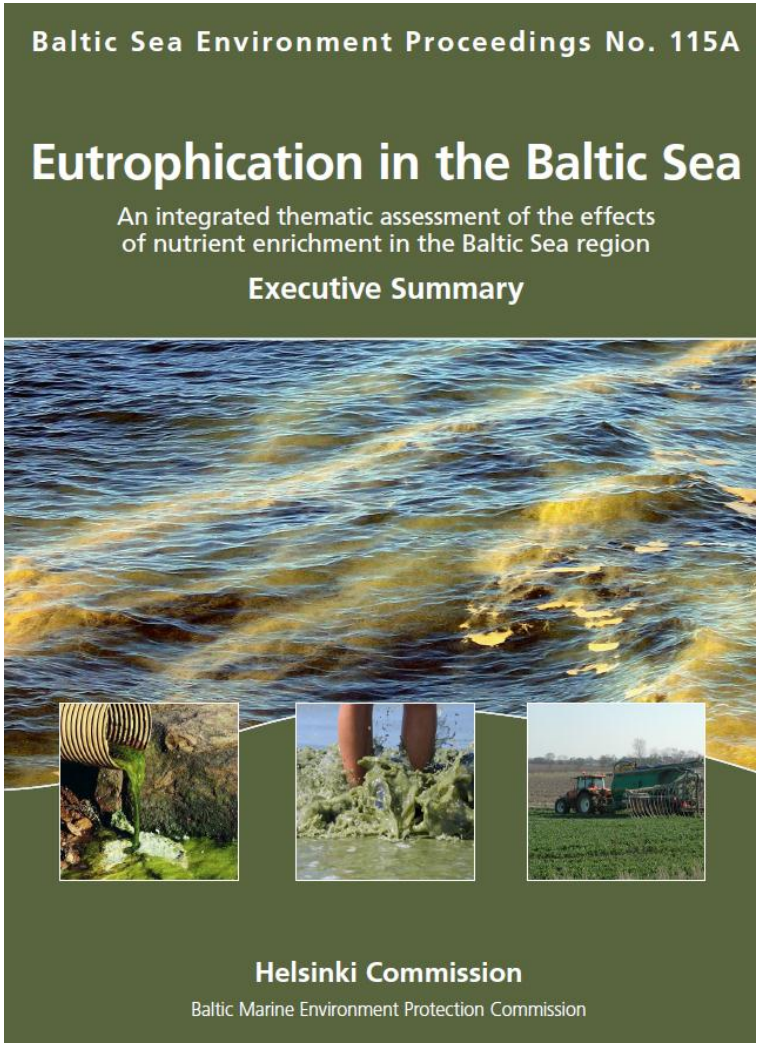


Baltic Sea Pressure Index (BSEP 122, 125)

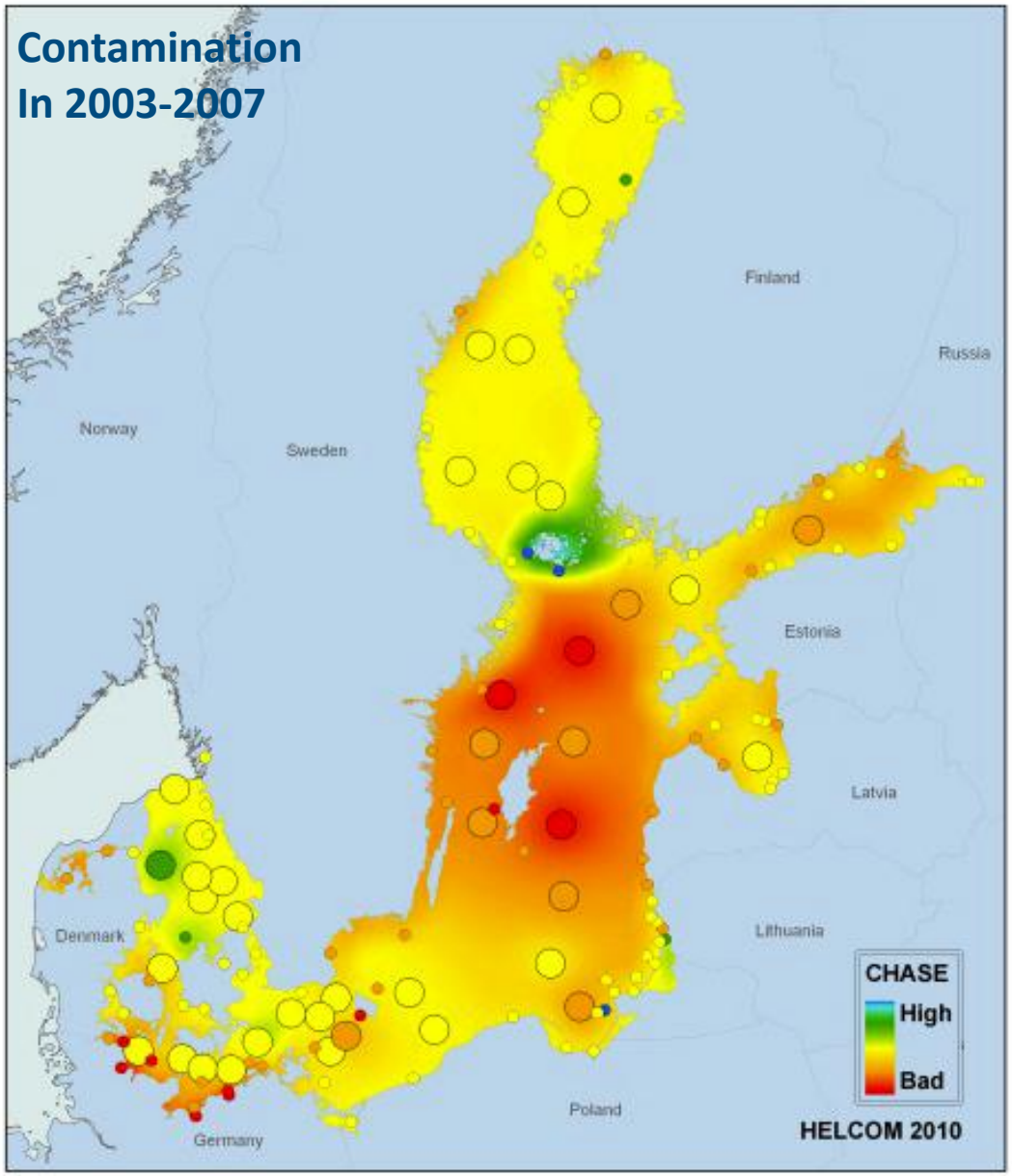
- Cumulative layers
- 52 anthropogenic pressures
- Nutrient loading
- Fisheries impacts
- Extraction of sand and gravel
- Emissions of harmful substances
- Hunting, etc.

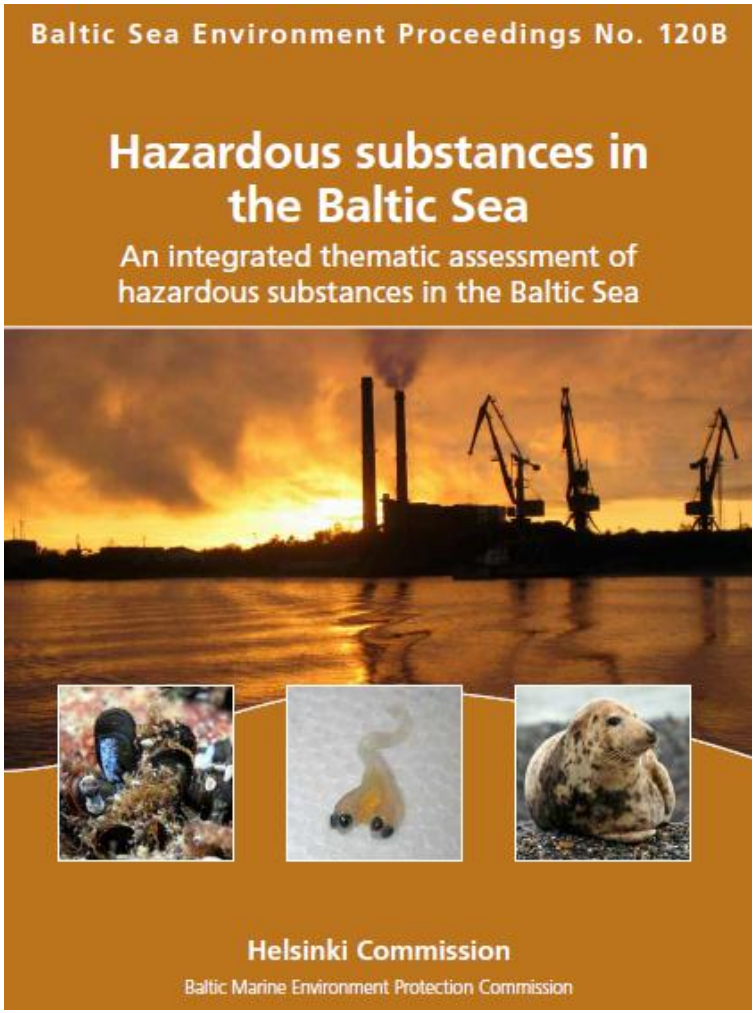
Eutrophication status 2001-2006



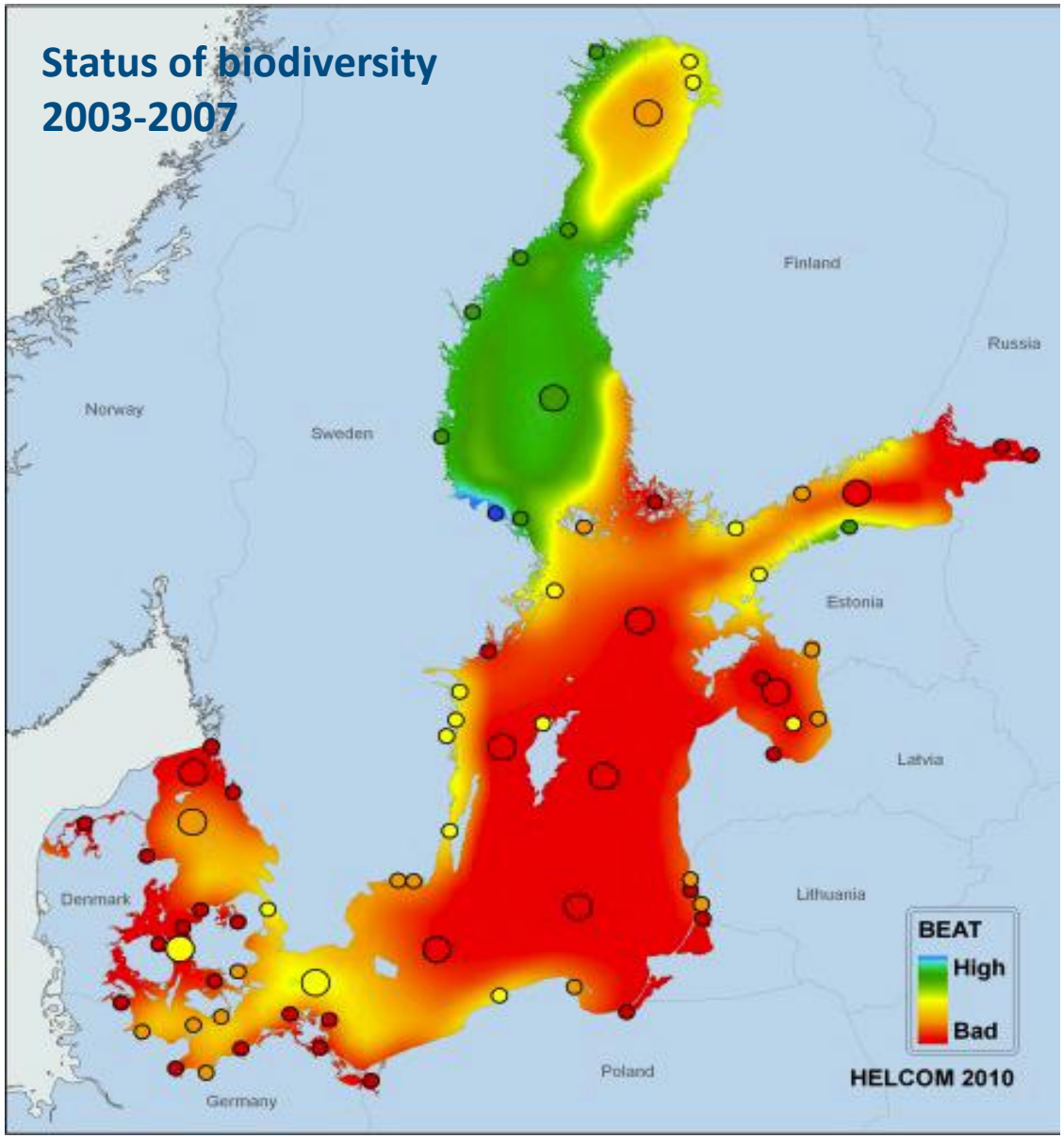


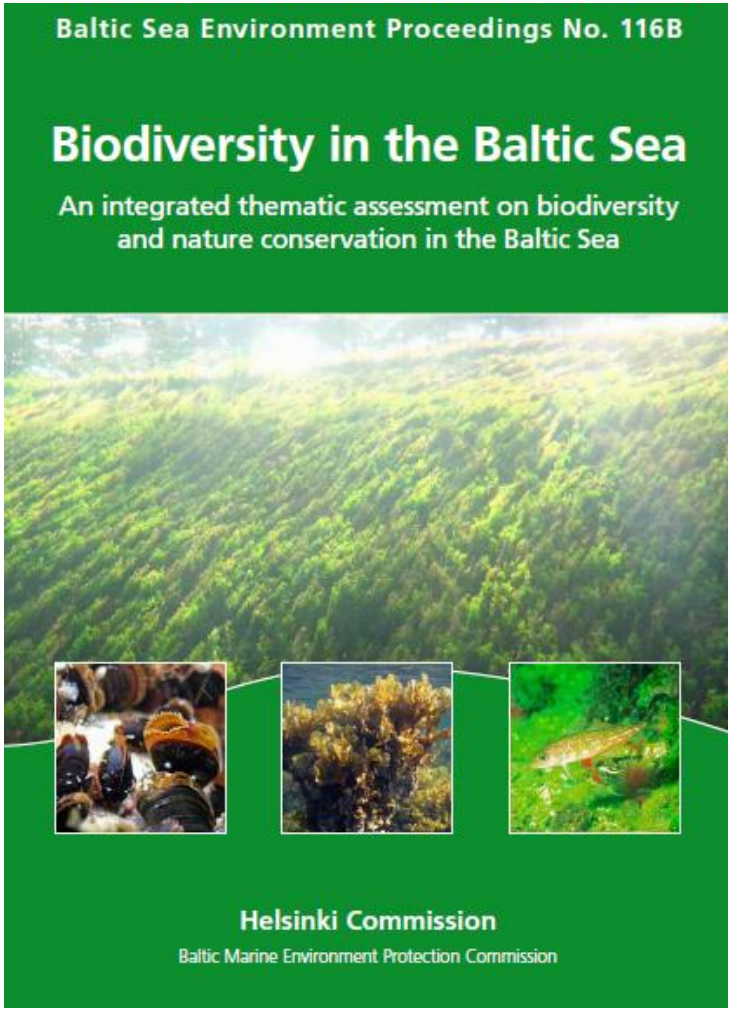
Contamination In 2003-2007



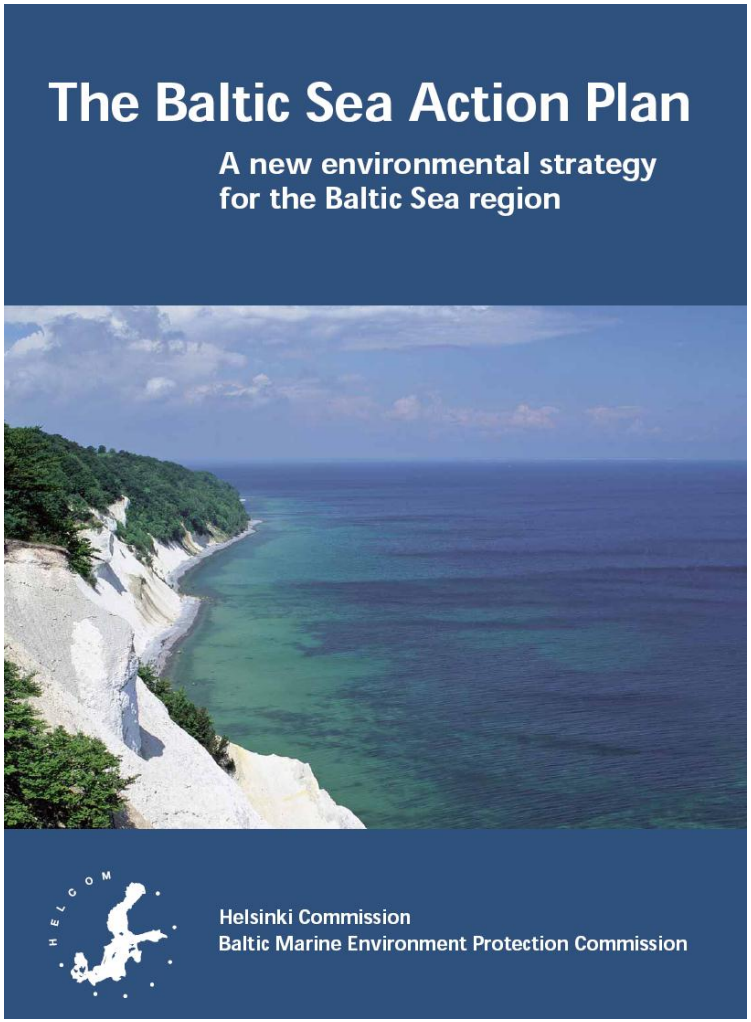


Status of biodiversity 2003-2007



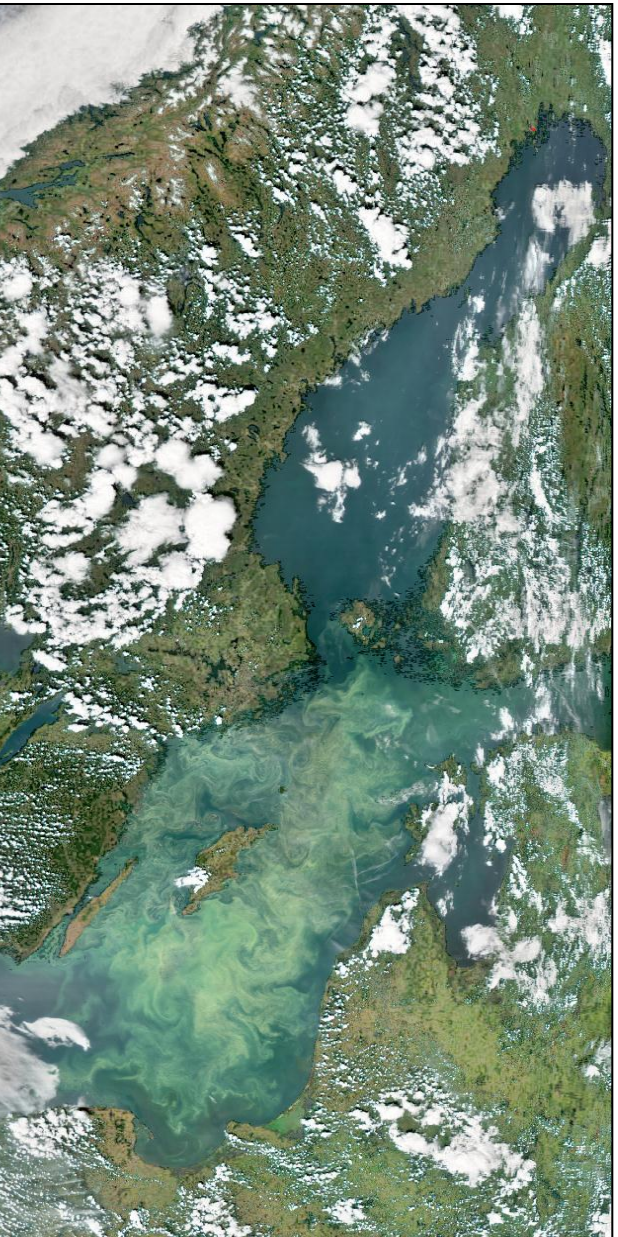


HELCOM Baltic Sea Action Plan



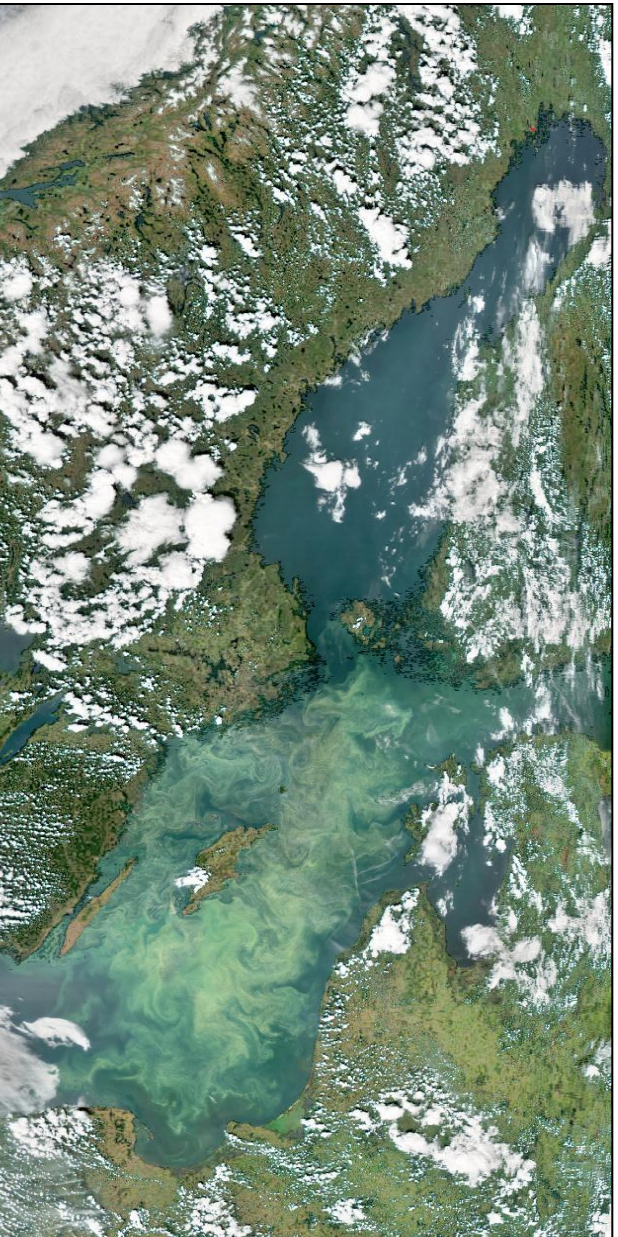
- Action plan agreed in November 2007
- Model example for the Action Plans under the of the UN Environmental and Regional Seas Programme;
- http://www.helcom.fi/

–HELCOM Baltic Sea Action Plan Objectives



1. Towards a Baltic Sea unaffected by eutrophication
2. Towards a Baltic Sea undisturbed by hazardous substances
3. Towards a Baltic Sea with environmentally friendly maritime activities
4. Towards favourable conservations status of Baltic Sea biodiversity

–HELCOM Baltic Sea Action Plan Recommendations



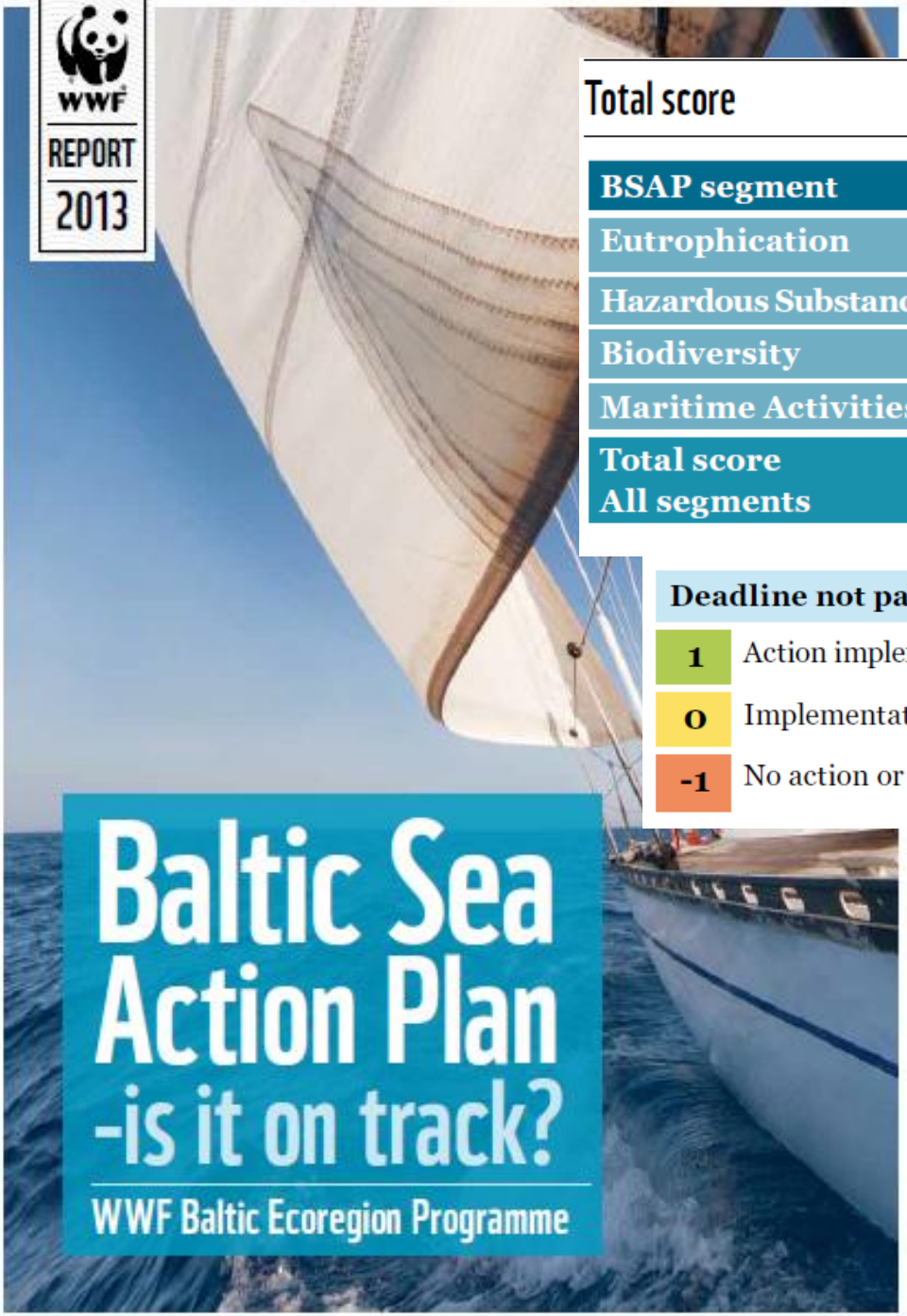
Programme of measures:

- Detailed criteria on prevention of pollution from agriculture (application of manure) and plant protection products
- Municipal wastewater treatment – more stringent P and N-removal requirements
- Substitution of polyphosphates in detergents
- Reduction of dioxin and other hazardous substances from small scale combustion
- Etc…

Sub-region	Maximum allowable nutrient input (tonnes)		Inputs in 1997-2003 (normalised by hydrological factors)		Needed reductions	
	Phosphorus	Nitrogen	Phosphorus	Nitrogen	Phosphorus	Nitrogen
Bothnian Bay	2,580	51,440	2,580	51,440	0	0
Bothnian Sea	2,460	56,790	2,460	56,790		0
Gulf of Finland	4,860	106,680	6,860	112,680		6,000
Baltic Proper	6,750	233,250	19,250		12,500	94,000
Gulf of Riga	1,430	78,400	2,180	400	750	0
Danish straits	1,410	30,890		45,890	0	15,000
Kattegat	1,570	44,260	570	64,260	0	20,000
Total	21,060	601	36,310	736,720	15,250	135,000

UNDER REVISION CURRENTLY

	Phosphorus (tonnes)	Nitrogen (tonnes)
Denmark	16	17,210
Estonia	220	900
Finland	150	1,200
Germany	240	5,620
Latvia	300	2,560
Lithuania	880	11,750
Poland	8,760	62,400
Russia	2,500	6,970
Sweden	290	20,780
Transboundary Common pool	1,660	3,780



Total score

BSAP segment	DE	DK	EE	FIN	LT	LV	PL	RU	SE
Eutrophication	0	-8	-3	0	-11	-5	-6	-8	-2
Hazardous Substances	-4	-9	-13	-2	-8	-11	-13	-11	-2
Biodiversity	-22	-15	-13	-15	-24	-18	-18	-28	-28
Maritime Activities	-7	-7	-8	-8	-8	-6	-7	-5	-5
Total score All segments	**-33**	**-39**	**-37**	**-25**	**-51**	**-40**	**-44**	**-52**	**-37**

Deadline not passed yet:	
1	Action implemented ahead of time
0	Implementation in progress
-1	No action or unreported

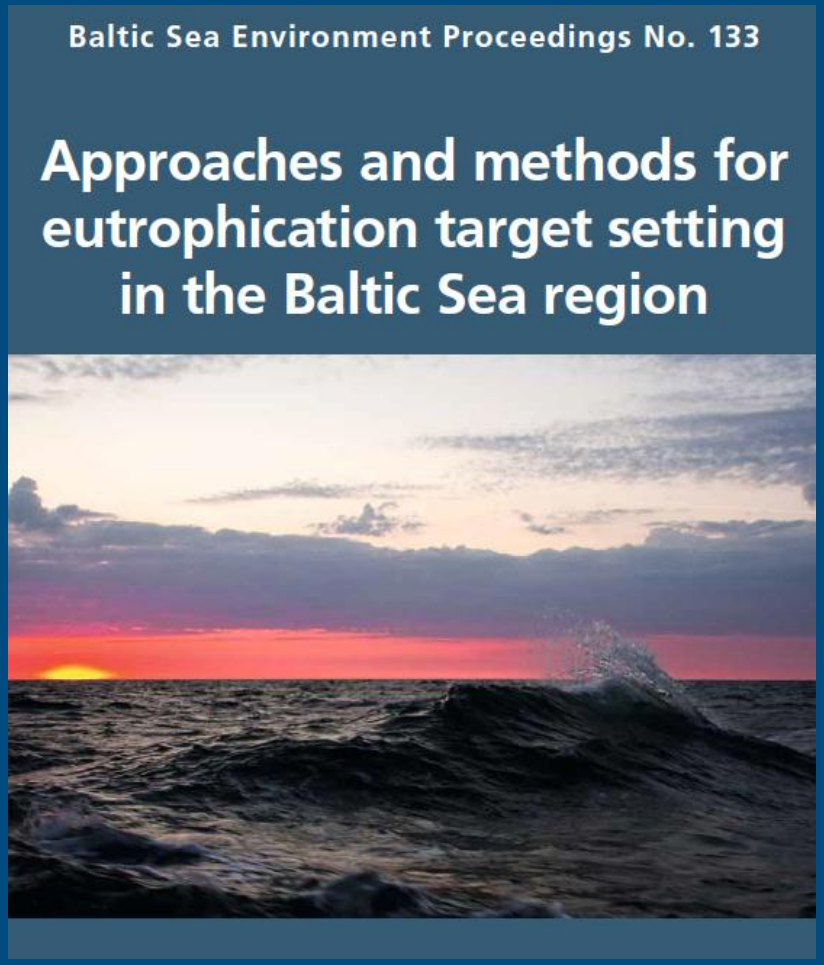
Deadline already passed:	
0	Action implemented
-2	Implementation in progress
-3	No action or unreported

CONCLUSIONS

- Delays in national implementation
- Reporting system is inadequate
- Variable levels of commitment

Good Environmental Status of the Baltic Sea by 2021?

Development of new eutrophication, biodiversity, and hazardous substances indicators and targets for BSAP follwo-up and the MSFD GES assessments: 2 fresh reports published in 2013



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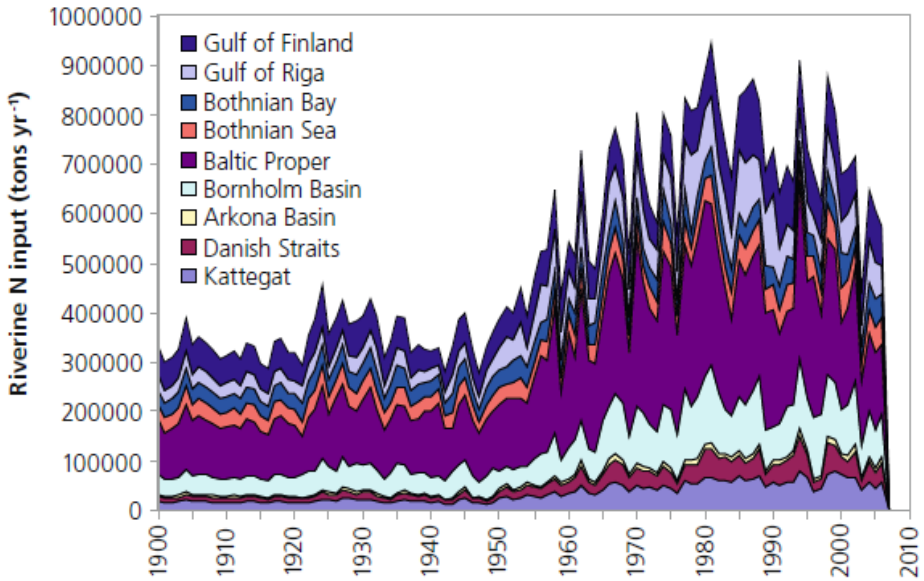
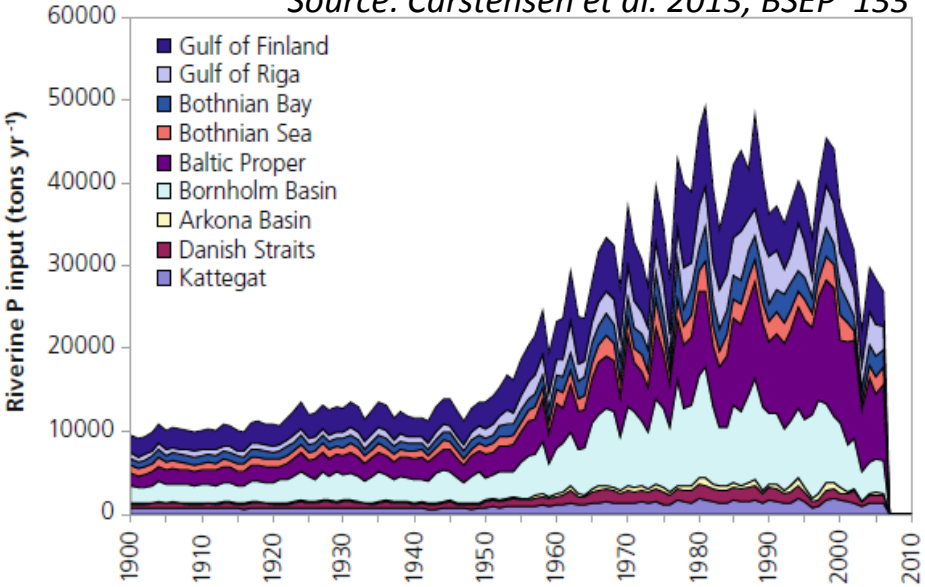
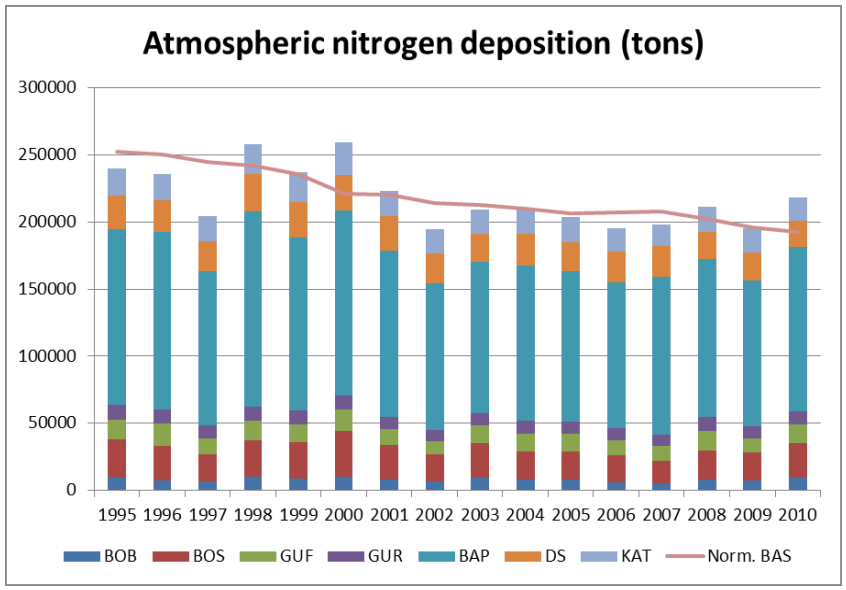
Source: Carstensen et al. 2013; BSEP 133





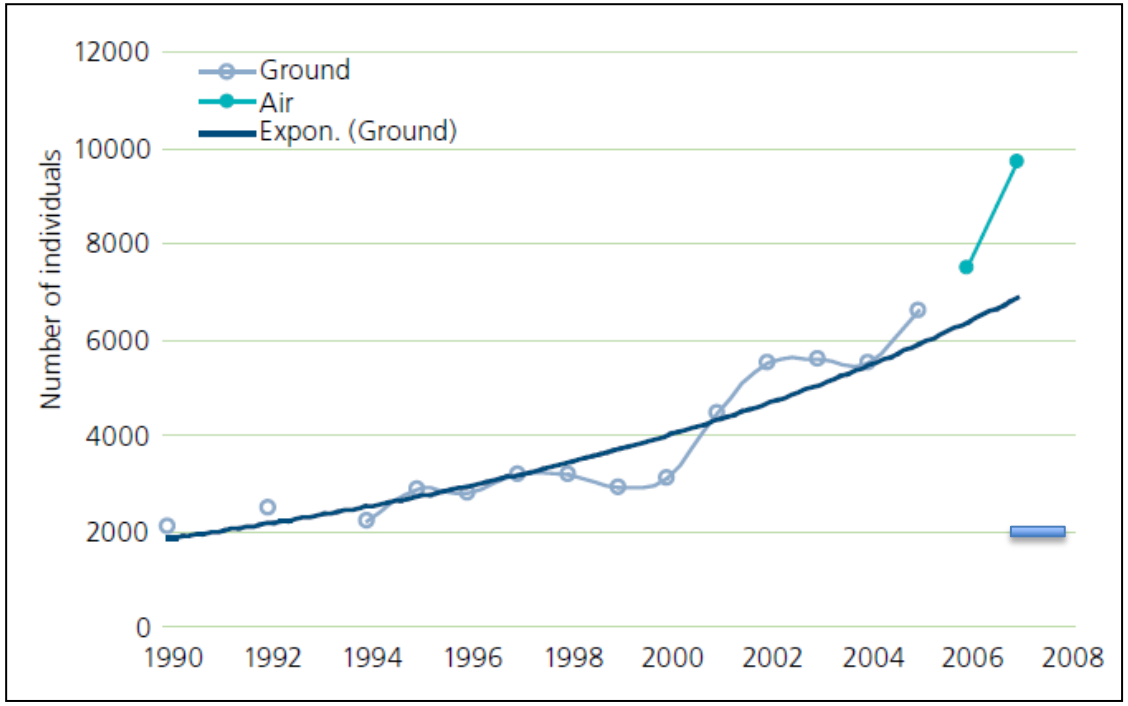


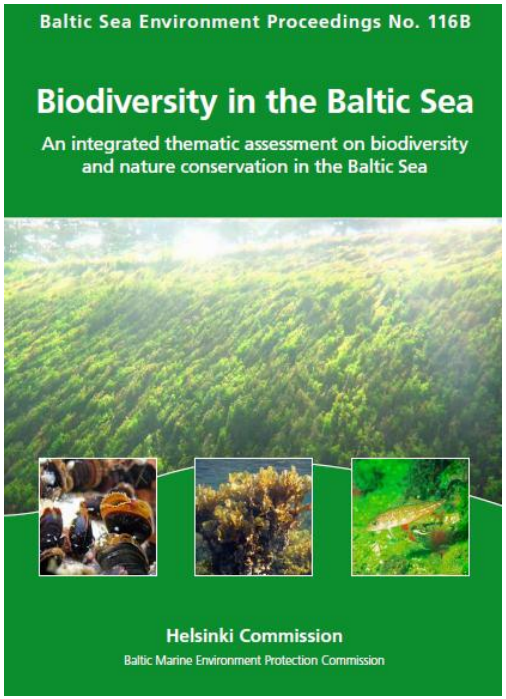
Total nutrient inputs (waterborne from rivers and point sources and atmospheric deposition) have decreased since 1994

Nitrogen inputs - 16%
Phosphorus inputs -18%

Significant decrease in point sources:
N 43% & P 63%

Source: Draft HELCOM PLC 5,5





Populations of some threatened species are increasing:
- grey seals are increasing In northern Baltic
- White – tailed eagle and great cormorants are increasing

However:
- Important habitats are in bad condition/ decrasing
- Several threatened species are still declining

Outlook: Baltic Sea is recovering – but slowly
Measures are still not sufficient.
Climate change may further delay recovery .

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