Fighting eutrophication with the Baltic Sea Action Plan

Mikhail Durkin, Helsinki Commission

Common Agricultural Policy for 2014-2020: challenges and perspectives in implementing environmental commitments
11th November 2013
Vilnius, Lithuania

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Baltic Marine Environment Protection Commission

Helsinki Commission

- 1974 → 1992
- intergovernmental
- 9 countries + EU
- legal commitment
- watershed-based
- policy-maker

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Main priority areas in HELCOM work

- **Combating eutrophication caused by excessive nutrient loads**
- Preventing pollution by hazardous substances
- Improving navigational safety and accident response capacity
- **Protecting and conserving marine and coastal biodiversity**

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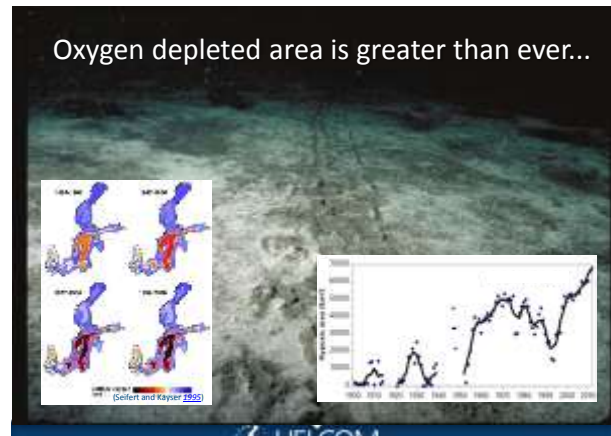

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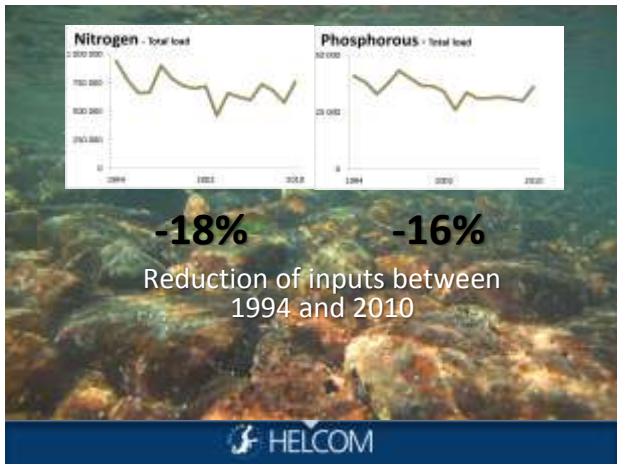
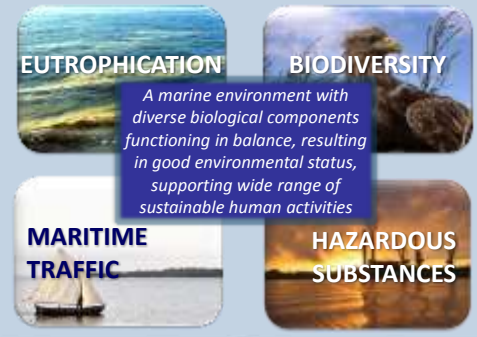


HELCOM Baltic Sea Action Plan → 2021



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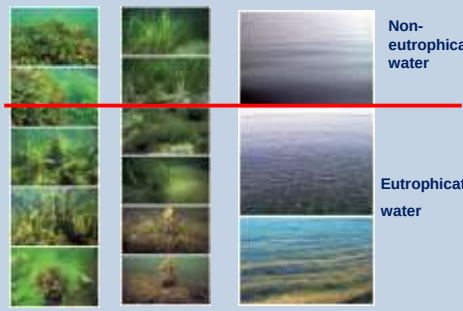
Baltic unaffected by eutrophication



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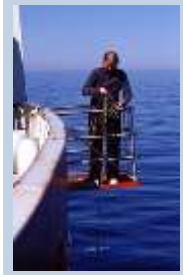
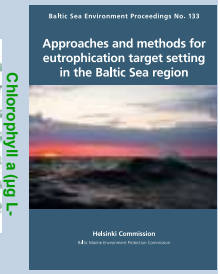
Setting ecological objectives and targets for eutrophication





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New set-up, what is different?

2007

- 1997-2003 reference
- Secchi depth
- SanBALT Model
- Non-normalised inputs
- Airborne as a constant
- *Ex ante* (UWWTD, NEC)

2013

- 1997-2003 reference
- Secchi depth, oxygen debt, summer & winter nutrients
- BaltSEM Model
- Flow-normalised waterborne and climate-normalised airborne inputs
- Airborne deposition per country per sub-basin
- Set aside transboundary water- and airborne inputs

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BSAP nutrient reduction targets

Baltic Sea Sub-basin	Maximum Allowable Inputs (2013)		Reference inputs 1997-2003		Needed reductions	
	TN tons	TP tons	TN tons	TP tons	TN tons	TP tons
Kattegat	74 000	1 687	78 761	1 687	4 761	0
Danish Straits	65 998	1 601	65 998	1 601	0	0
Baltic Proper	325 000	7 360	423 921	18 320	98 921	10 960
Bothnian Sea	79 372	2 773	79 372	2 773	0	0
Bothnian Bay	57 622	2 675	57 622	2 675	0	0
Gulf of Riga	88 417	2 020	88 417	2 328	0	308
Gulf of Finland	101 800	3 600	116 252	7 509	14 452	3 909
Baltic Sea – revised figures (2013)	792 209	21 716	910 344	36 894	118 134	15 178

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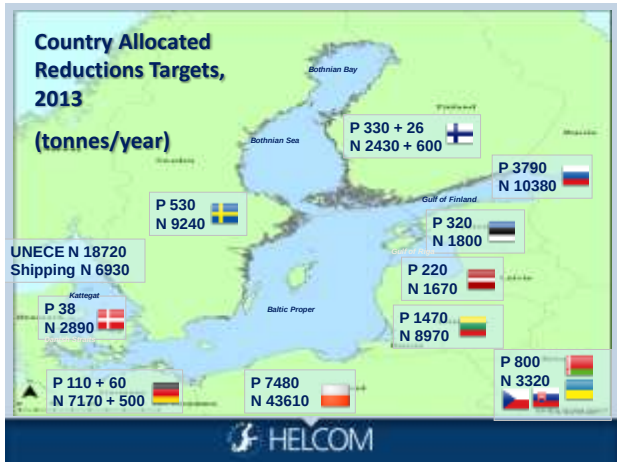
Country Allocated Reductions Targets, 2013
(tonnes/year)
Bothnian Bay
Bothnian Sea
Gulf of Finland
Kattegat
Baltic Proper
P 330 + 26
N 2430 + 600
P 3790
N 10380
P 530
N 9240
P 320
N 1800
UNECE N 18720
Shipping N 6930
P 220
N 1670
P 38
N 2890
P 1470
N 8970
P 800
N 3320
P 110 + 60
N 7170 + 500
P 7480
N 43610
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Baltic Sea Action Plan implementation is
a long process
HELCOM 2007 Ministerial Meeting: Baltic Sea Action Plan
HELCOM Moscow Ministerial Meeting: First holistic assessment
HELCOM Copenhagen Ministerial Meeting
Second holistic assessment
BSAP Implementation completed and Good Environmental Status reached
2007
2010
2013
2016
2021
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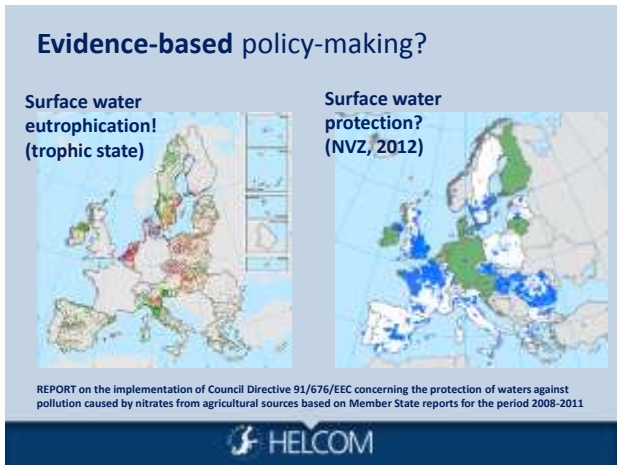
Evidence-based policy-making?
Surface water eutrophication! (trophic state)
Surface water protection? (NVZ, 2012)
REPORT on the implementation of Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources based on Member State reports for the period 2008-2011
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Baltic Sea Action Plan: Eutrophication
1. Point sources / Sewage
– Municipal and household
– Shipping
– P-free detergents
2. Airborne deposition
– Reduction of N emissions from shipping and other sources
3. Diffuse sources / Agriculture
– renewed Annex to the Convention
– a palette of agri-environmental measures
– large agri-industrial cluster
– sound manure management
– areas critical to nutrient pollution
– policy dialogue between authorities
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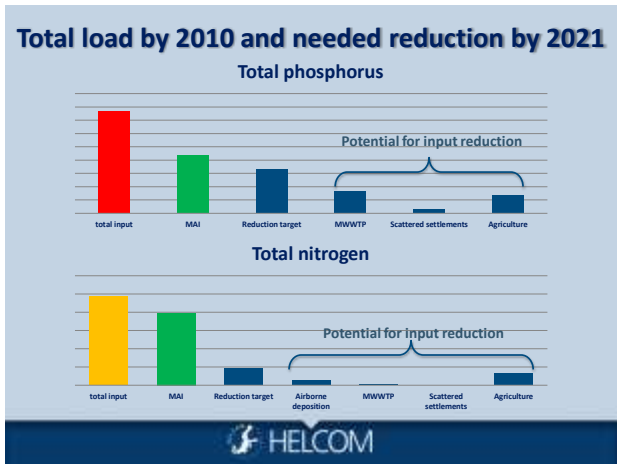
Total load by 2010 and needed reduction by 2021
Total phosphorus
Potential for input reduction
total input
MAI
Reduction target
MWWTP
Scattered settlements
Agriculture
Total nitrogen
Potential for input reduction
total input
MAI
Reduction target
Airborne deposition
MWWTP
Scattered settlements
Agriculture
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Harvesting ideas and solutions
BALTIC COMPASS
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Topical from 2013 HELCOM Ministerial Meeting

1. **Coherent implementation** of HELCOM BSAP and EU MSFD to reach Good Environmental Status
2. **Eutrophication remains the main** problem
3. **Agriculture** not only as main source of nutrien losses, but **crucial for economy and brings opportunities** for green growth
4. **Need for coordinated actions** in relevant sectors (including agriculture) to reduce inputs

Photo: Linda Johansson, 2012

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Topical from 2013 HELCOM Ministerial Meeting

1. Called for integration of environment into other policies
2. Stressed the need to keep to agreed deadlines
3. Highlighted key role of agriculture among other sectors for cost-efficient implementation
4. Decided to better prepare and adapt to impacts of climate change
5. Acknowledged sustainability of agricultural production as a key to the succes in reaching Good Environmental Status
6. Endorsed revised Palette of agri-environment measures

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Agri-environment measures by 2013 HELCOM Ministerial

- ✓ ***Smart nutrient management to address nutrient losses***
  - ➔ *National measures to reduce nutrient surplus in fertilization practices to reach nutrient balanced fertilization (2018)*
  - ➔ *Advance towards annual nutrient accounting at farm level (2018)*
  - ➔ *Full utilization of nutrient content of manure in fertilization practices (application of manure nutrient standards nationally by 2016-2018)*
- ✓ ***Targeted measures to bring greatest effect***
  - ➔ *Identify/verify areas critical to nutrient pollution/losses*
  - ➔ *Promote phosphorus recycling*
  - ➔ *Innovative water management – upgrading of drainage*
- ✓ ***Strengthening of regional and national regulations***
  - ➔ *Accomplish revision of Annex III, Helsinki Convention (2016)*
  - ➔ *Apply new BAT for intensive rearing of poultry and pigs (IED)*
- ✓ ***Continued policy and stakeholder dialogue***
  - ➔ *Broaden the Agriculture and Environment Forum*
  - ➔ *Annual stakeholder forum, thematic workshops, policy inputs*
  - ➔ *Knowledge and technology exchange and transfer*

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Revised list of examples (palette) of measures for reducing phosphorus and nitrogen losses from agriculture

- **Basis**
  - Original palette tested through projects & cases
  - European and regional experiences
- **Content**
  - A. Soil management
  - B. Fertiliser and manure management
  - C. Animal feeding
  - D. Farm infrastructure
  - E. Other
- **Structure**
  - Description
  - Effectiveness and applicability/suitability
  - Reference

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