

HELCOM fish indicators what will they be used for and how?



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HOLAS I (2010)



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Chapter 1: Introduction pages 6-13

The Baltic Sea presents a show case of environmental management of a sea. It is more sensitive than many other seas due to its very special natural characteristics. At the same time, the highly industrialized nations along its shores utilize its resources beyond safe biological limits, jeopardizing the future uses of the Baltic ecosystem goods and services. However, tools have been developed to assess the status and find cost-efficient solutions to restore the marine ecosystems.

Chapter 2: What is the status? pages 14-26

The ecosystem health of the Baltic is visualized using maps. Most populated areas show the lowest status. Key environmental signals and trends in regard to eutrophication, hazardous substances, maritime activities, and biodiversity are presented, discussed, and linked to their root causes.

Chapter 3: What are the causes? pages 27-41

The human pressures on the Baltic Sea ecosystems were assessed using the "Baltic Sea Pressure and Impact Indices" and visualized as a spatial presentation. High pressure areas cover open-sea areas and coasts. Individual pressures are discussed and the trends outlined.

Chapter 4: What are the solutions? pages 42-49

Solutions to reduce eutrophication, pollution by hazardous substances, pressures from maritime activities and decline of biodiversity are presented. Emphasis is given to the HELCOM Baltic Sea Action Plan, which is the basis for future actions regarding the protection of the Baltic Sea ecosystem and also a regional approach to implement the EU Marine Strategy Framework Directive.

Chapter 5: What are the costs and benefits? pages 50-53

Actions to support the Baltic Sea ecosystems are costly but non-action is likely to be even more expensive due to the risk of losing highly valued ecosystem services. The concepts of ecosystem services, valuation, and cost-benefit analysis are introduced and discussed with a special focus on the environmental challenges facing the Baltic Sea region. The costs and benefits in regard to a healthy and thriving environment in the Baltic Sea are assessed.

Chapter 6: Conclusions and perspectives pages 54-57

The findings are synthesized and conclusions and recommendations dealing with action-oriented issues are presented. Special focus is given to the perspectives of achieving "good environmental status" in the Baltic Sea and its sub-basins by 2021 at the latest.

HOLAS I conclusions and consecutive work

- HELCOM concluded based on the HOLAS I that a regionally coherent assessment requires regionally developed core indicators
- Agreement to develop core indicators
- CORESET I (2011-2013)
CORESET II (2013-2015)
- Core indicator proposals have been developed for with the aim to cover all assessment elements

Core indicator

- Commonly agreed indicator among Contracting Parties to HELCOM
- GES boundary allows follow-up of progress towards reaching Good Environmental Status as defined in HELCOM Baltic Sea Action Plan and EU Marine Strategy Framework Directive
- Evaluations to build on coordinated monitoring data when possible

Pre-core indicator

- *Agreed in principle to be used as a core indicator, however some critical component of the indicator is still under development*

Candidate indicator

- *Living list of new proposals for core indicators being developed further by experts*

Full list of indicators

Abundance of coastal fish key functional groups >

Results and confidence

Good Environmental Status

Assessment protocol

Relevance of the indicator

Monitoring requirements

Data and updating

Contributors and references

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KEY MESSAGE

This core indicator evaluates the abundance of selected functional groups of coastal fish in the Baltic Sea. As a rule, Good Environmental Status (GES) is achieved when the abundance of piscivores (i.e. fish that feed on other fish) is high and the abundance of cyprinids (i.e. fish that feed on e.g. benthic invertebrates) is within an acceptable range. The status of assessing the status of piscivores and cyprinids

ARCHIVE

This version of the HELCOM core indicator report was published in October 2015:

[Core indicator report – web-based version October 2015 \(pdf\)](#)

[Extended core indicator report – outcome of CORESET II project \(pdf\)](#)

Older versions of the indicator report are available:

[2013 Indicator report \(pdf\)](#)



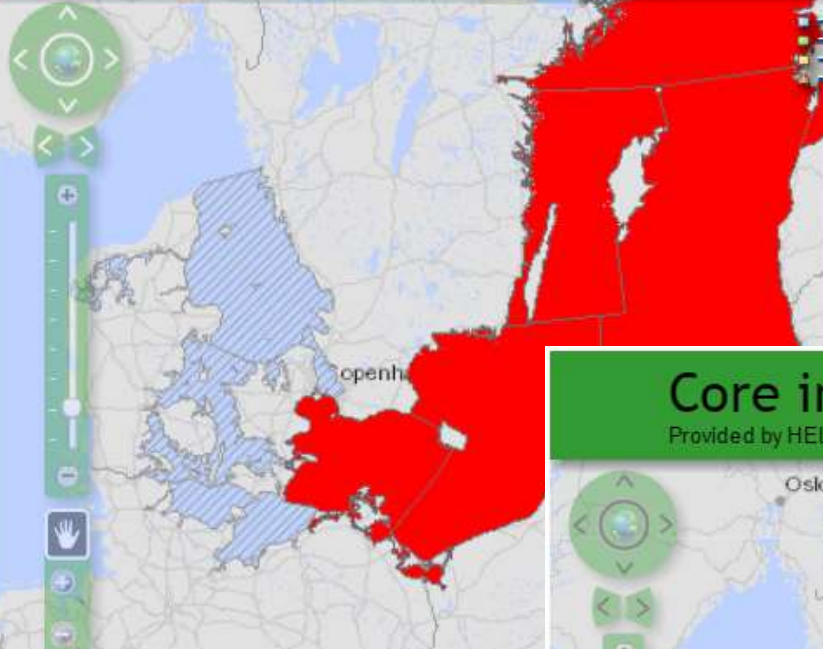
HELCOM Monitoring and Assessment Strategy (2013)

Annex 4 **Assessment units**;

1. Whole Baltic Sea
2. Sub-basins
3. Sub-basins with coastal area
4. Sub-basins with coastal area split into WFD waterbodies or –types

Core indicator

Provided by HELCOM



Legend [Close]

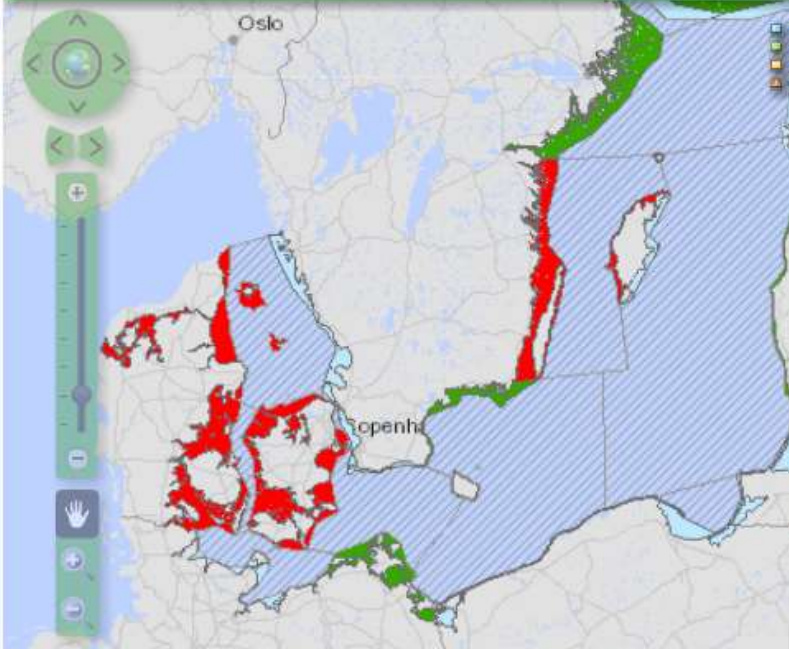
Core indicators

Abundance of salmon spawners and smolt

- Good Environmental Status
- sub-Good Environmental Status
- Indicator applicable

Core indicators

Provided by HELCOM



Legend [Close]

Core indicators

Abundance of coastal fish piscivores

- Good Environmental Status
- sub-Good Environmental Status
- Indicator applicable
- Indicator not applicable

'Fish-relevant' qualitative descriptors for determining good environmental status as defined in EU MSFD Annex I

Descriptor 1

- **Biological diversity** is maintained. The quality and occurrence of habitats and the **distribution and abundance of species** are in line with prevailing physiographic, geographic and climatic conditions.

Descriptor 3

- Populations of all **commercially exploited fish and shellfish** are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock.

Descriptor 4

- All elements of the **marine food webs**, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity.

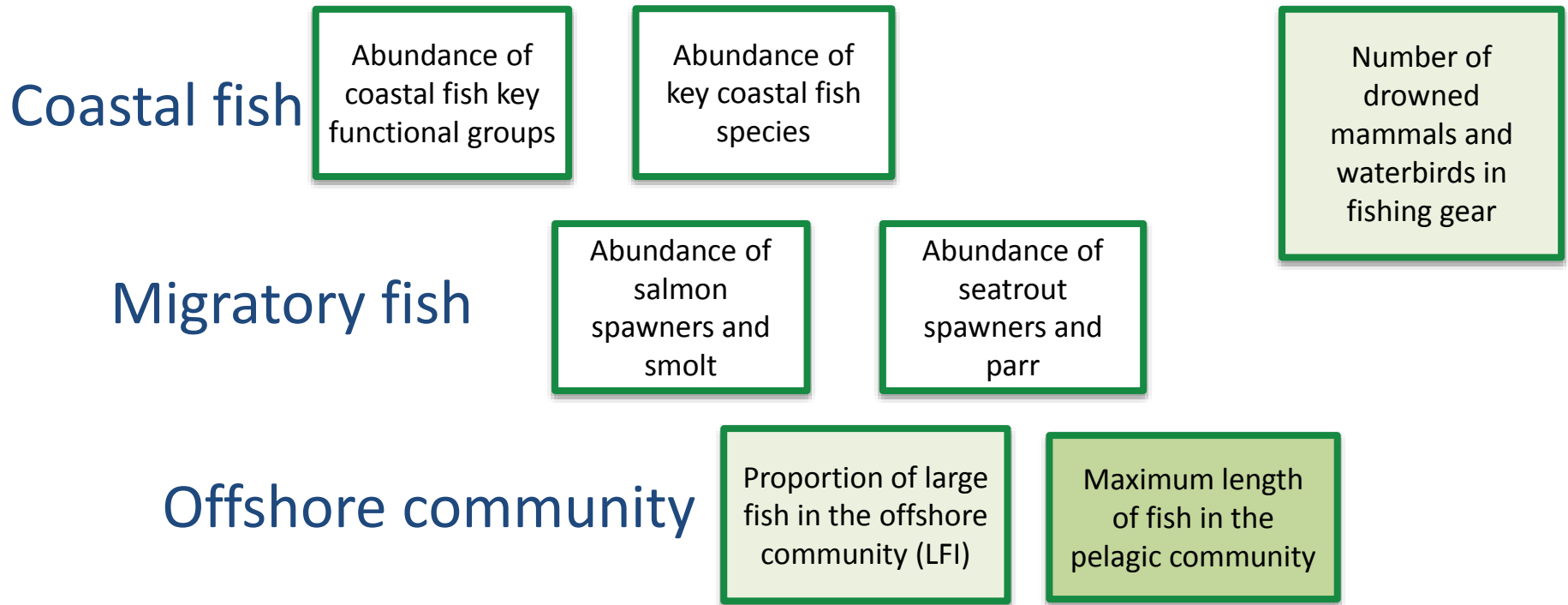
Core indicator development

- Short-term
 - Develop core indicator evaluations as input to HOLAS II
- Long-term
 - Indicator updates as relevant for the process evaluated by the indicator
 - Continuous development process for needed indicators

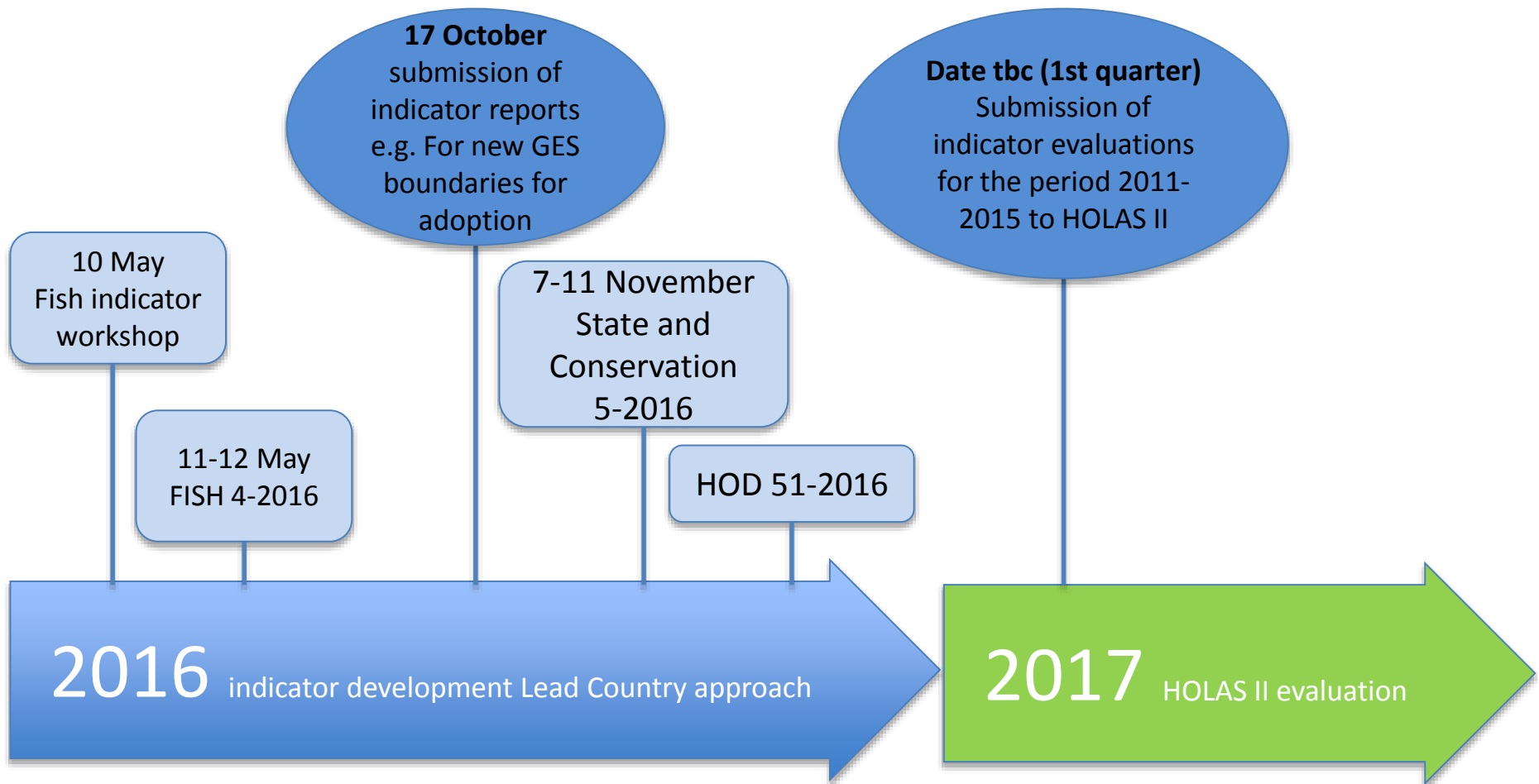
HELCOM HOD 48-2015 agreed Lead Country approach to development of core indicators

- HELCOM HOD 48-2015 (para 3.64) agreed that continued development of core indicators should be made using a Lead Country approach and invited Contracting Parties to inform the Secretariat on their willingness to take the Lead
- HELCOM HOD 48-2015 (para 3.54) requested all HELCOM expert groups/network/projects to prioritize their role as platform for development of indicators and as support for HELCOM assessments and to make arrangements for the future work as necessary
- HELCOM Secretariat is available to support work of Lead Countries as needed by e.g. setting up online meetings

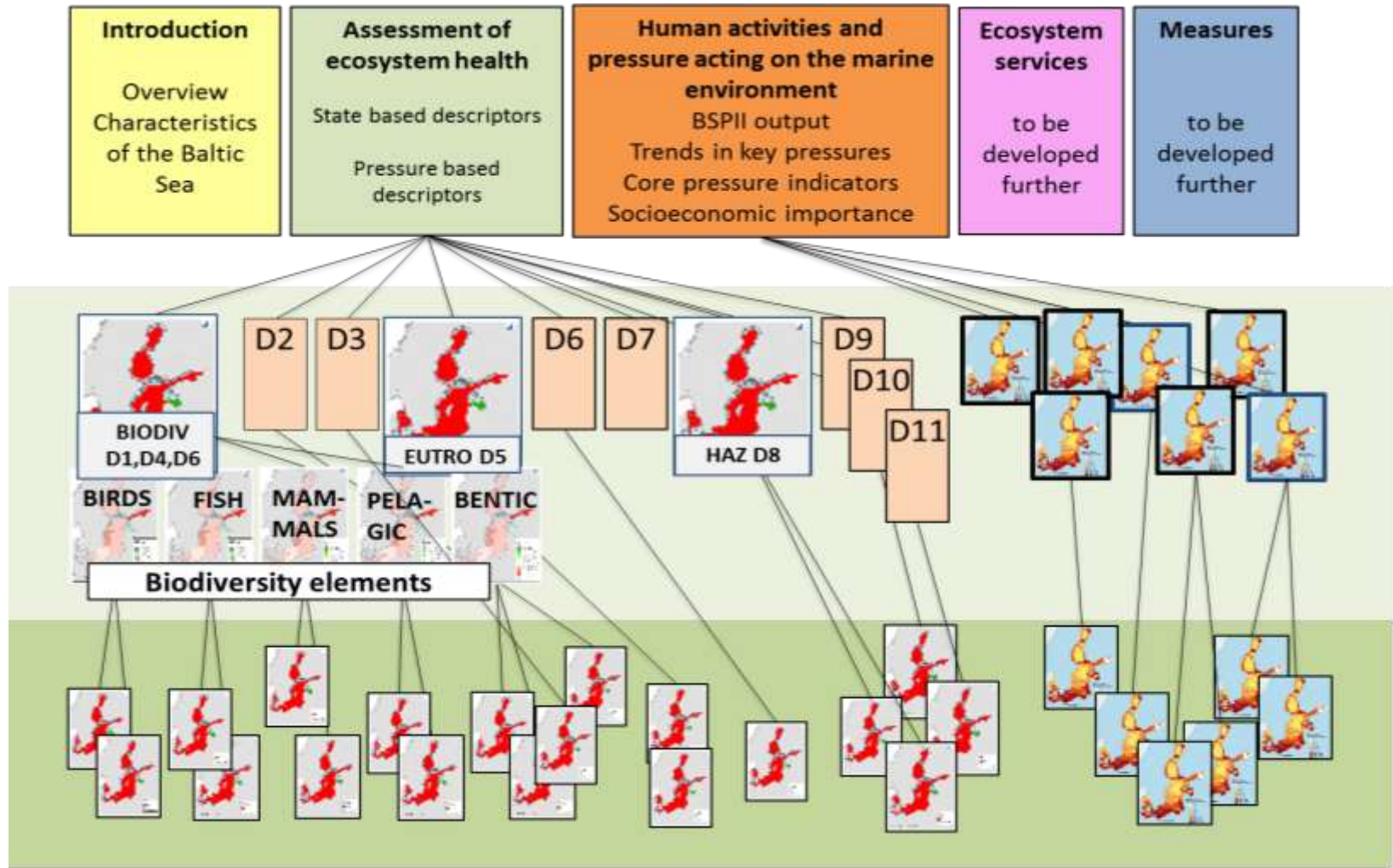
HELCOM fish-related core indicators on the table covering different elements of the fish communities



Core indicator short-term timeline



Overview of HOLAS II outputs at different level of detail

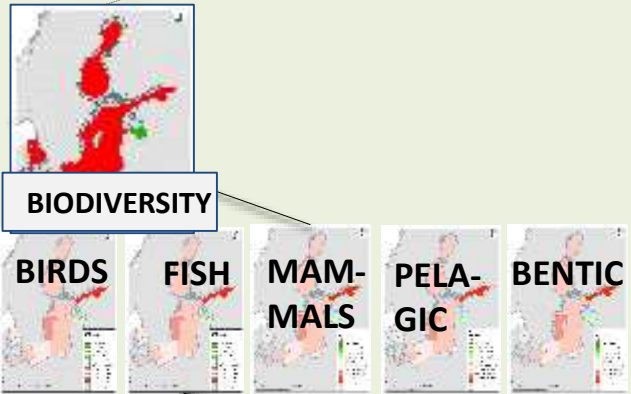


Assessment of ecosystem health

State based descriptors

Pressure based descriptors

Example
Status assessment
using fish-core
indicators



D3

HELCOM core indicators

ICES indicators

- Abundance of coastal fish key functional groups
- Abundance of key coastal fish species
- Maximum length of fish in the pelagic community
- Abundance of salmon spawners and smolt
- Abundance of seatrout spawners and parr
- Proportion of large fish in the offshore community (LFI)

Number of drowned mammals and waterbirds in fishing gear

SSB cod (x2)

SSB herring (x5)

SSB plaice (x2)

SSB salmon (x2)

SSB flounder (x4)

SSB brill

SSB dab

SSB eel

SSB sea trout

SSB sole

SSB sprat

SSB turbot

F_{MSY} cod (x2)

F_{MSY} herring (x5)

F_{MSY} plaice (x2)

F_{MSY} salmon (x2)

F_{MSY} flounder (x4)

F_{MSY} brill

F_{MSY} dab

F_{MSY} eel

F_{MSY} sea trout

F_{MSY} sole

F_{MSY} sprat

F_{MSY} turbot



Baltic Marine Environment Protection Commission