

HELCOM indicators – options for structure, presentation and causal framework

First draft of ideas

Aim – to initiate discussion



Initial ideas – would need to be adjusted once BSAP update finalized (i.e. to make indicators fit updated BSAP structure)

GOALS AND OBJECTIVES

Eutrophication

Baltic Sea unaffected by eutrophication

- Clear water
- Natural level of algal blooms
- Natural distribution and occurrence of plants and animals
- Natural oxygen levels

Biodiversity

Favourable status of Baltic Sea biodiversity

- Natural marine and coastal landscapes
- Thriving and balanced communities of plants and animals
- Viable populations of species

Hazardous Substances

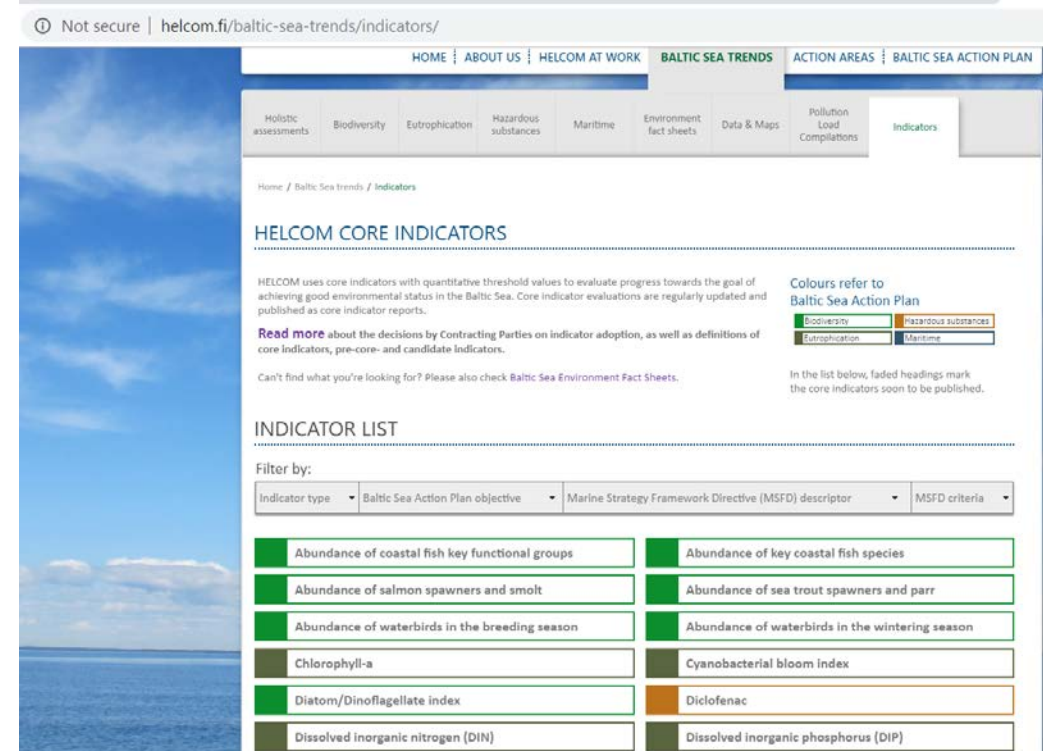
Baltic Sea undisturbed by hazardous substances

- Concentrations of hazardous substances close to natural levels
- All fish are safe to eat
- Healthy wildlife
- Radioactivity at the pre-Chernobyl level

Maritime activities

Environmentally friendly maritime activities

- Enforcement of international regulations – no illegal discharges
- Safe maritime traffic without accidental pollution
- Efficient emergency and response capabilities
- Minimum sewage pollution from ships
- No introductions of alien species from ships
- Minimum air pollution from ships
- Zero discharges from offshore platforms
- Minimum threats from offshore installations



Not secure | helcom.fi/baltic-sea-trends/indicators/

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Holistic assessments | Biodiversity | Eutrophication | Hazardous substances | Maritime | Environment fact sheets | Data & Maps | Pollution Load Compilers | Indicators

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HELCOM CORE INDICATORS

HELCOM uses core indicators with quantitative threshold values to evaluate progress towards the goal of achieving good environmental status in the Baltic Sea. Core indicator evaluations are regularly updated and published as core indicator reports.

Read more about the decisions by Contracting Parties on indicator adoption, as well as definitions of core indicators, pre-core- and candidate indicators.

Can't find what you're looking for? Please also check [Baltic Sea Environment Fact Sheets](#).

Colours refer to **Baltic Sea Action Plan**

- Biodiversity
- Hazardous substances
- Eutrophication
- Maritime

In the list below, faded headings mark the core indicators soon to be published.

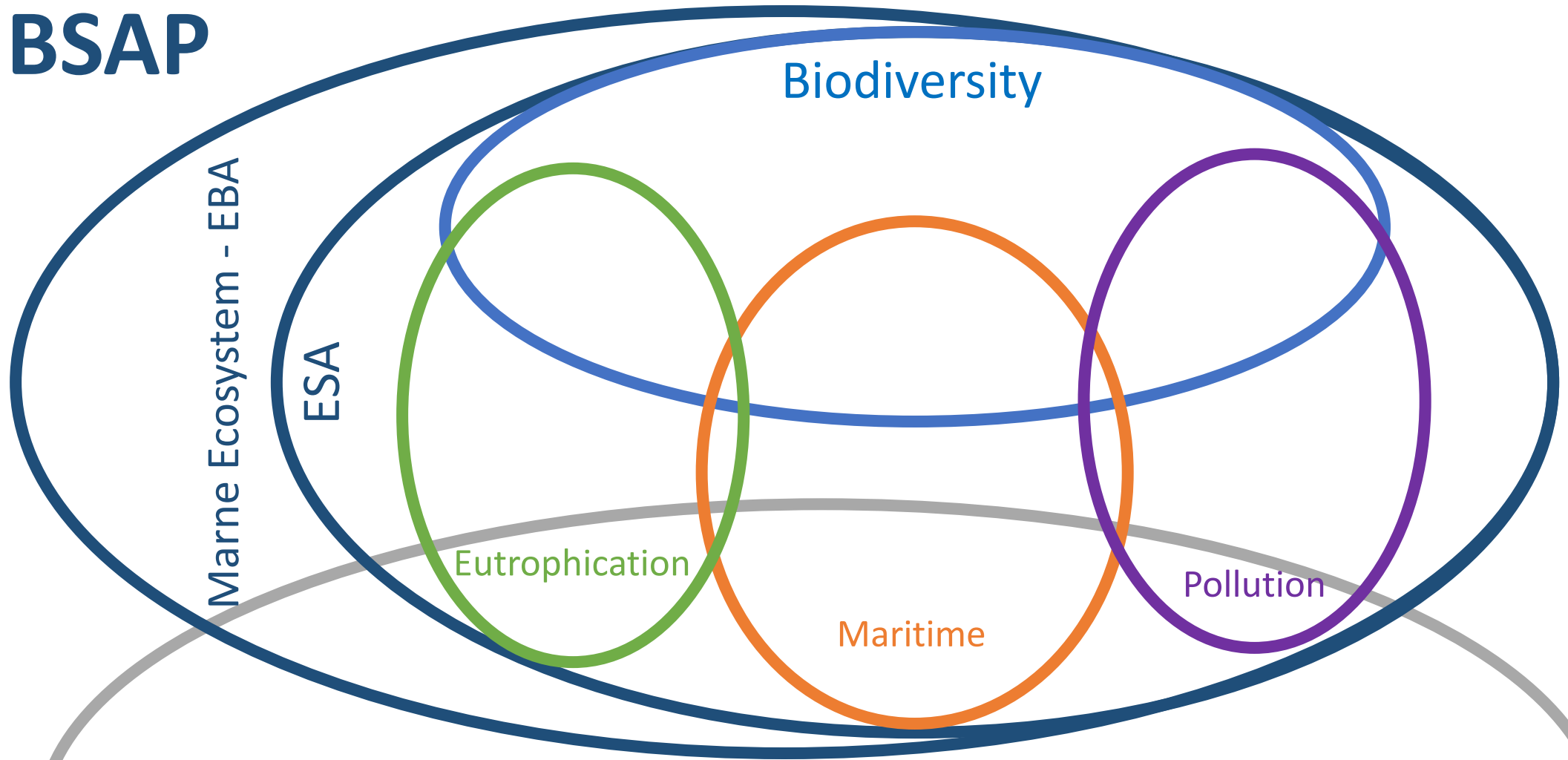
INDICATOR LIST

Filter by:

Indicator type | Baltic Sea Action Plan objective | Marine Strategy Framework Directive (MSFD) descriptor | MSFD criteria

Abundance of coastal fish key functional groups	Abundance of key coastal fish species
Abundance of salmon spawners and smolt	Abundance of sea trout spawners and parr
Abundance of waterbirds in the breeding season	Abundance of waterbirds in the wintering season
Chlorophyll-a	Cyanobacterial bloom index
Diatom/Dinoflagellate index	Diclofenac
Dissolved inorganic nitrogen (DIN)	Dissolved inorganic phosphorus (DIP)

BSAP

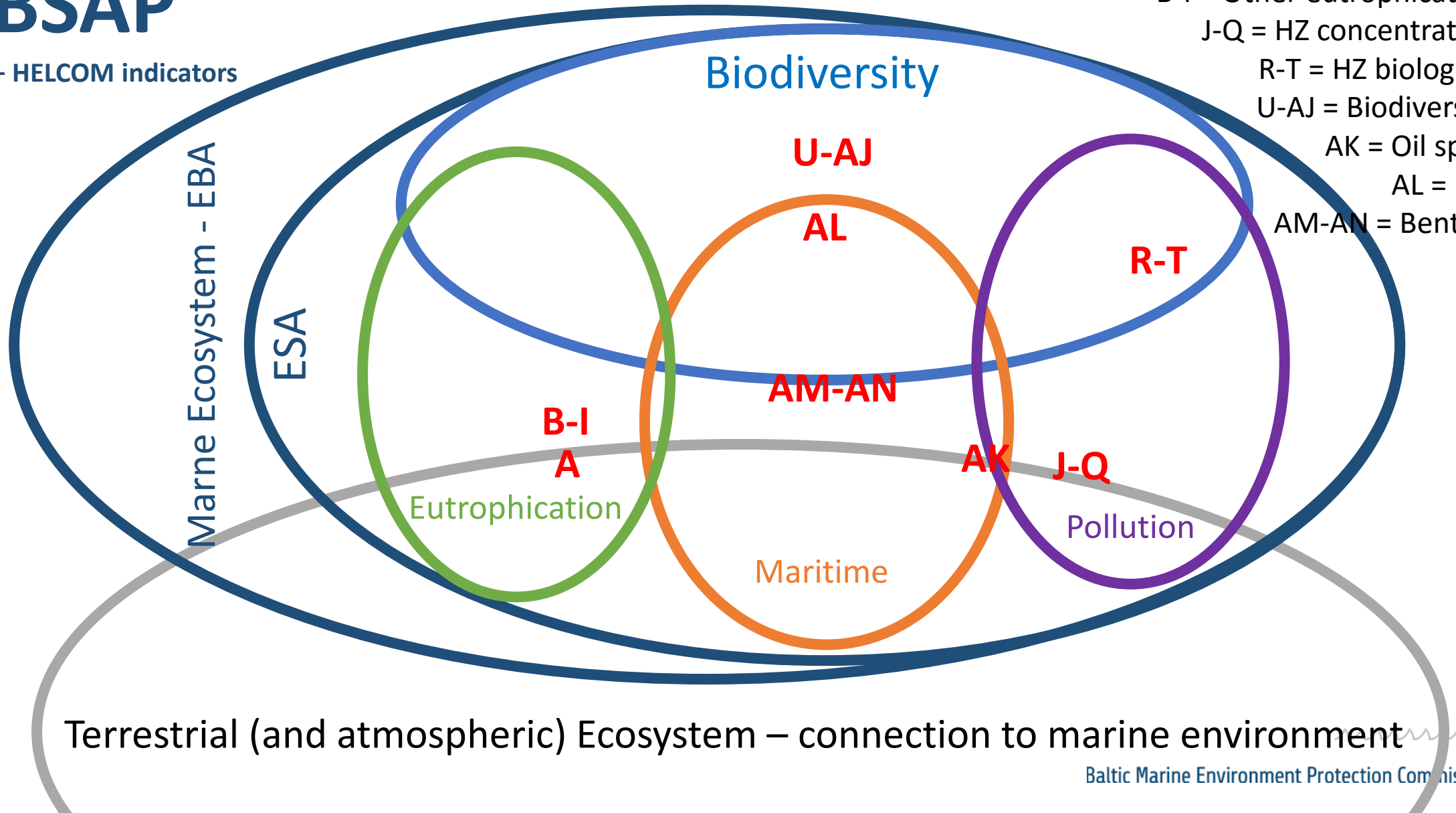


Terrestrial (and atmospheric) Ecosystem – connection to marine environment

BSAP

+ HELCOM indicators

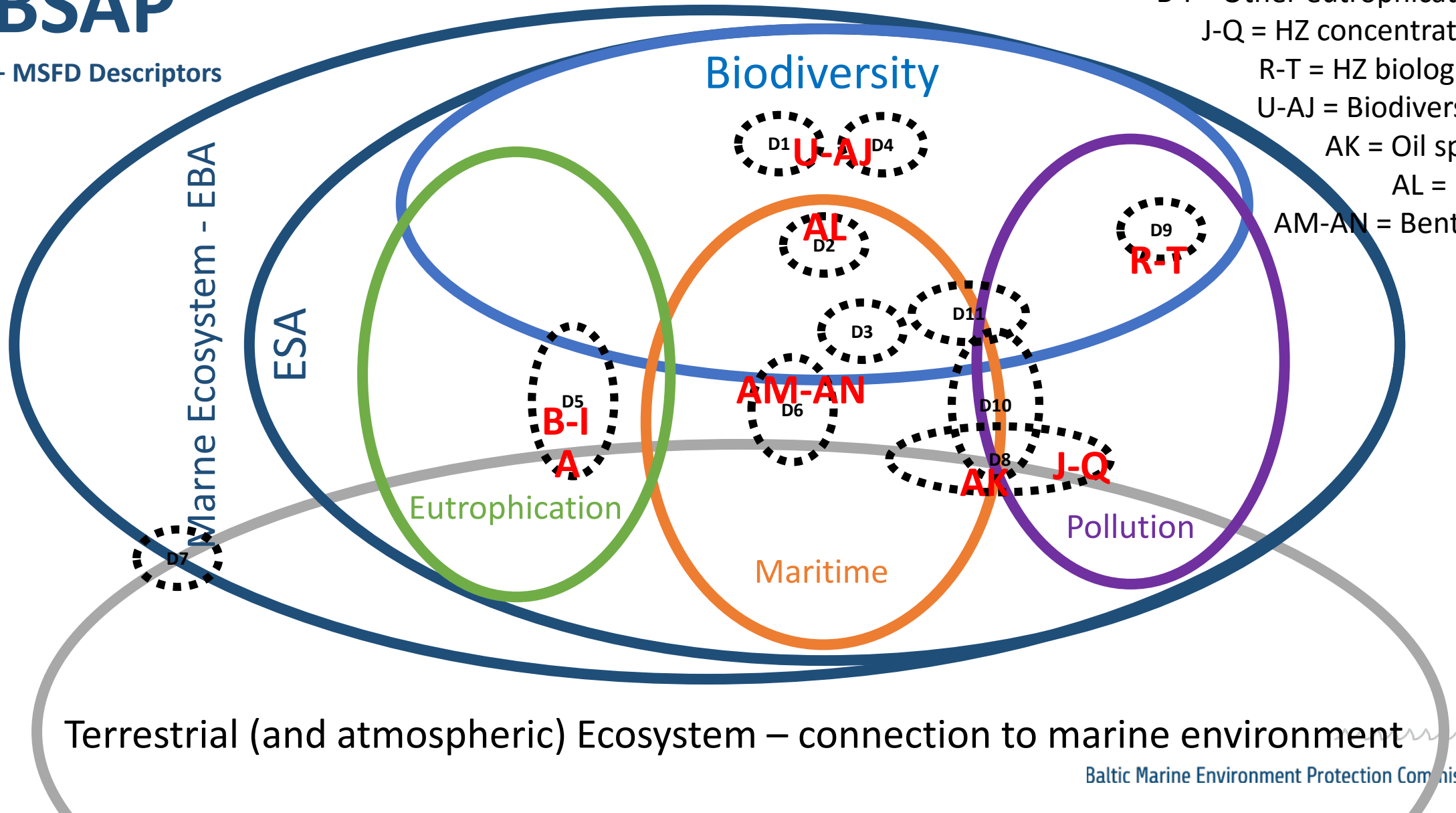
- A = Inputs of nutrients
- B-I = Other eutrophication
- J-Q = HZ concentration
- R-T = HZ biological
- U-AJ = Biodiversity
- AK = Oil spills
- AL = NIS
- AM-AN = Benthic



BSAP

+ MSFD Descriptors

- A = Inputs of nutrients
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Terrestrial (and atmospheric) Ecosystem – connection to marine environment

A = Inputs

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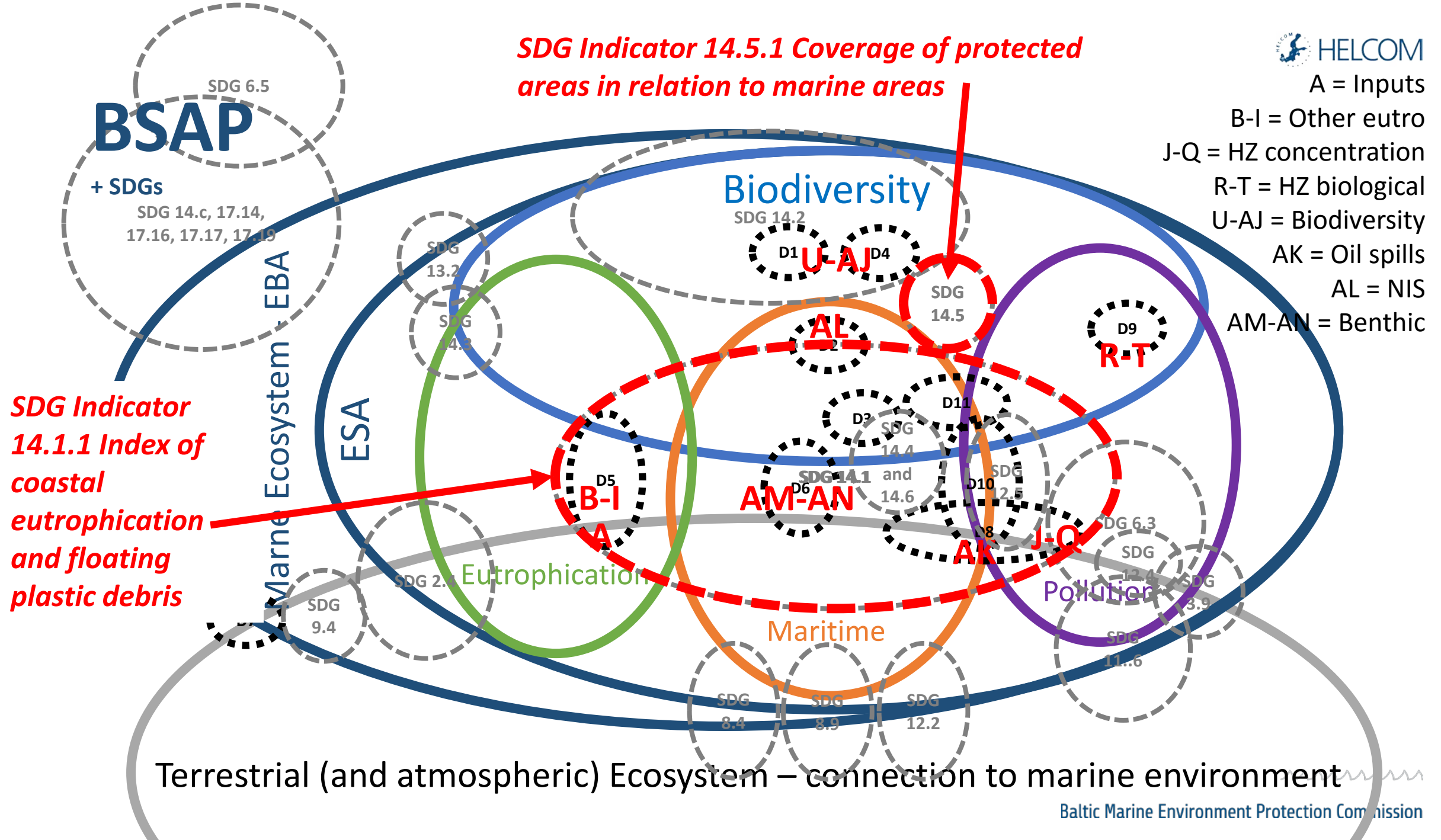
U-AJ = Biodiversity

AK = Oil spills

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SDG Indicator 14.5.1 Coverage of protected areas in relation to marine areas



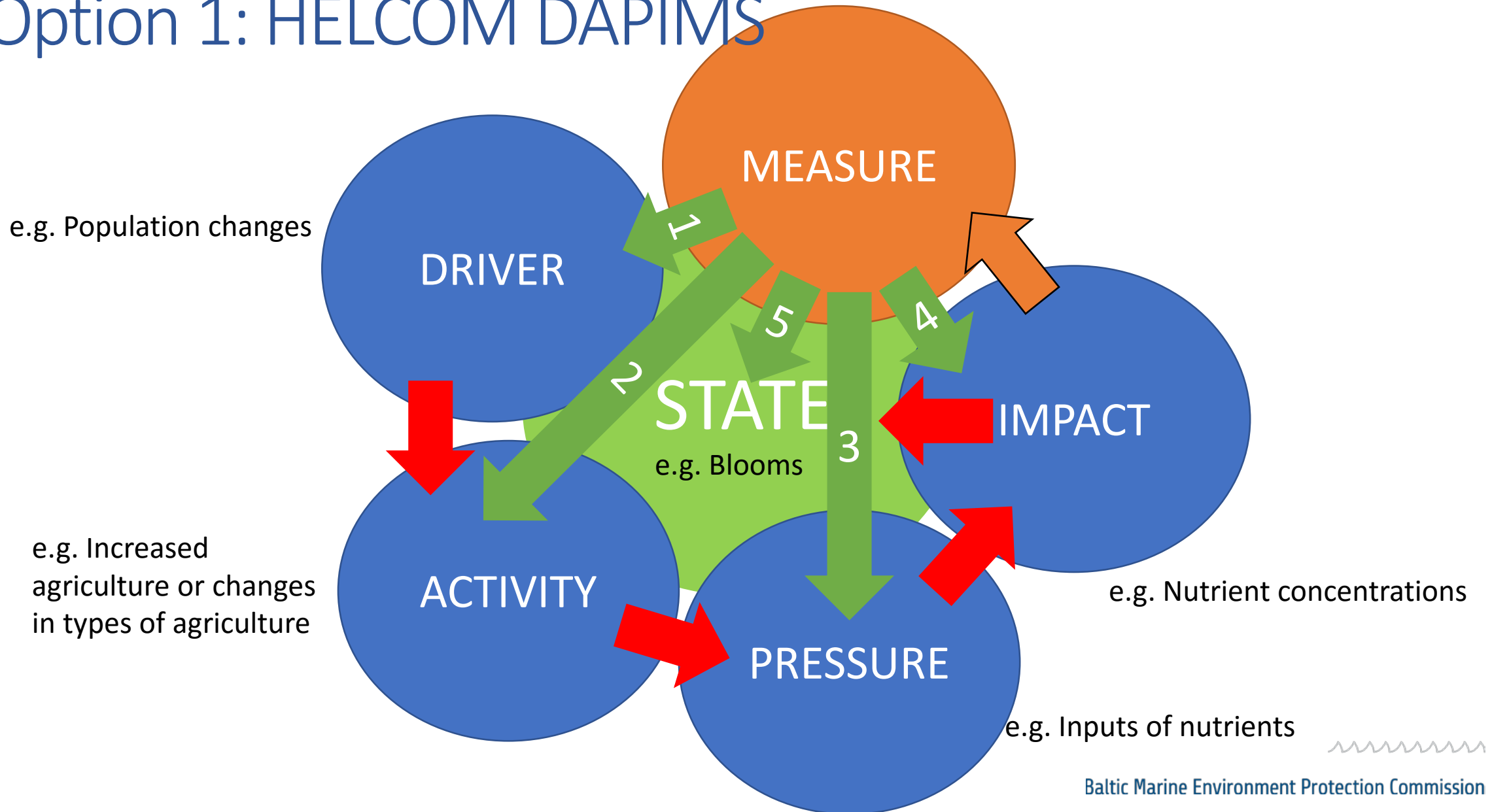
Options to apply a causal framework and adapt the structure

From ToRs of 2nd HELCOM Indicator Workshop

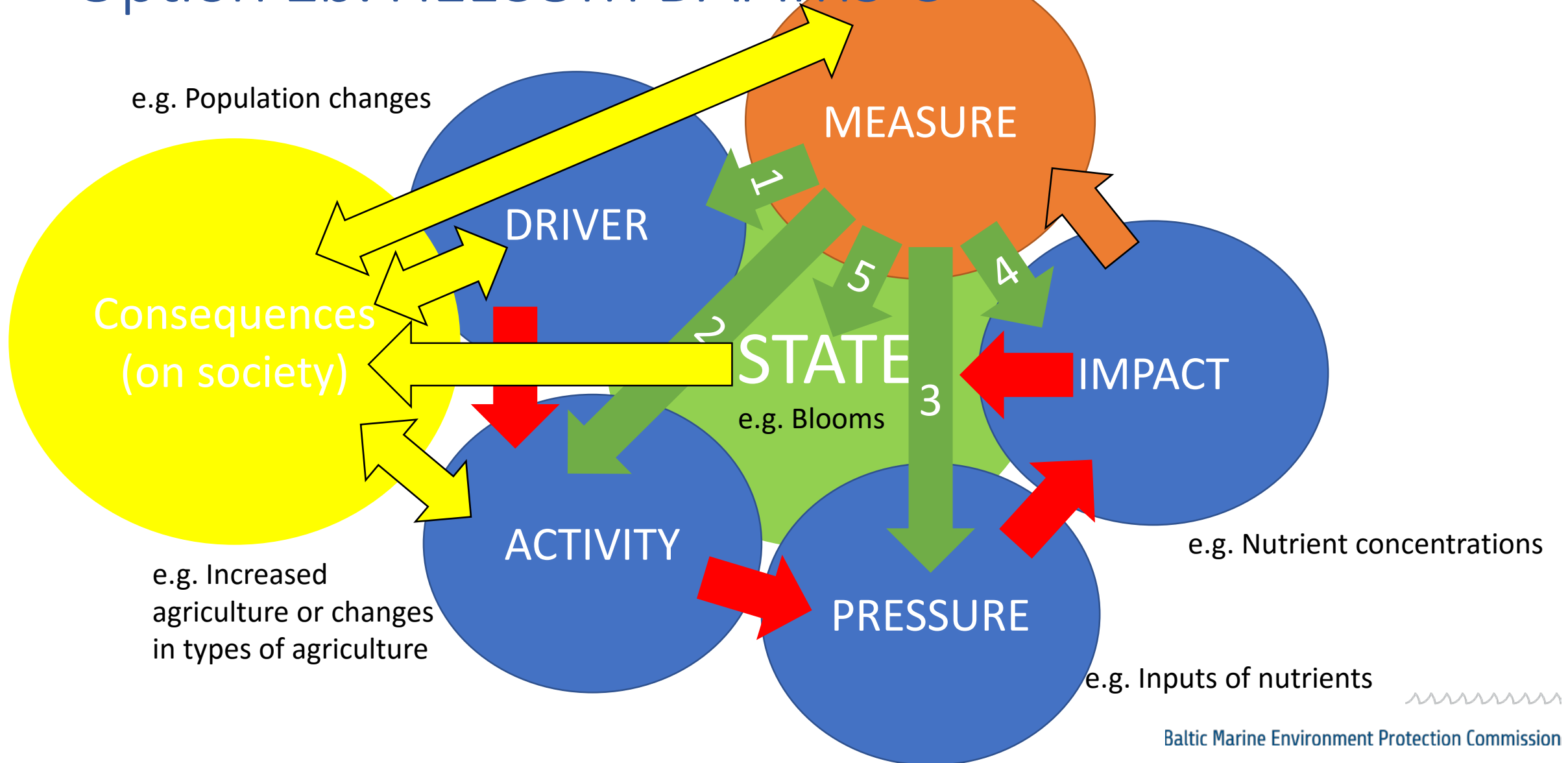
- Develop a better understanding of state-pressure aspects (e.g. loads and state) and the linkages of these components within relevant indicators.
- Ensure HELCOM indicators are well adapted to support reporting needs of HELCOM Contracting Parties that are also EU Member States.
- Ensure future development work takes into consideration the DPSIR (Drivers, Pressures, State, Impact, Response) framework and develops relevant linkages.



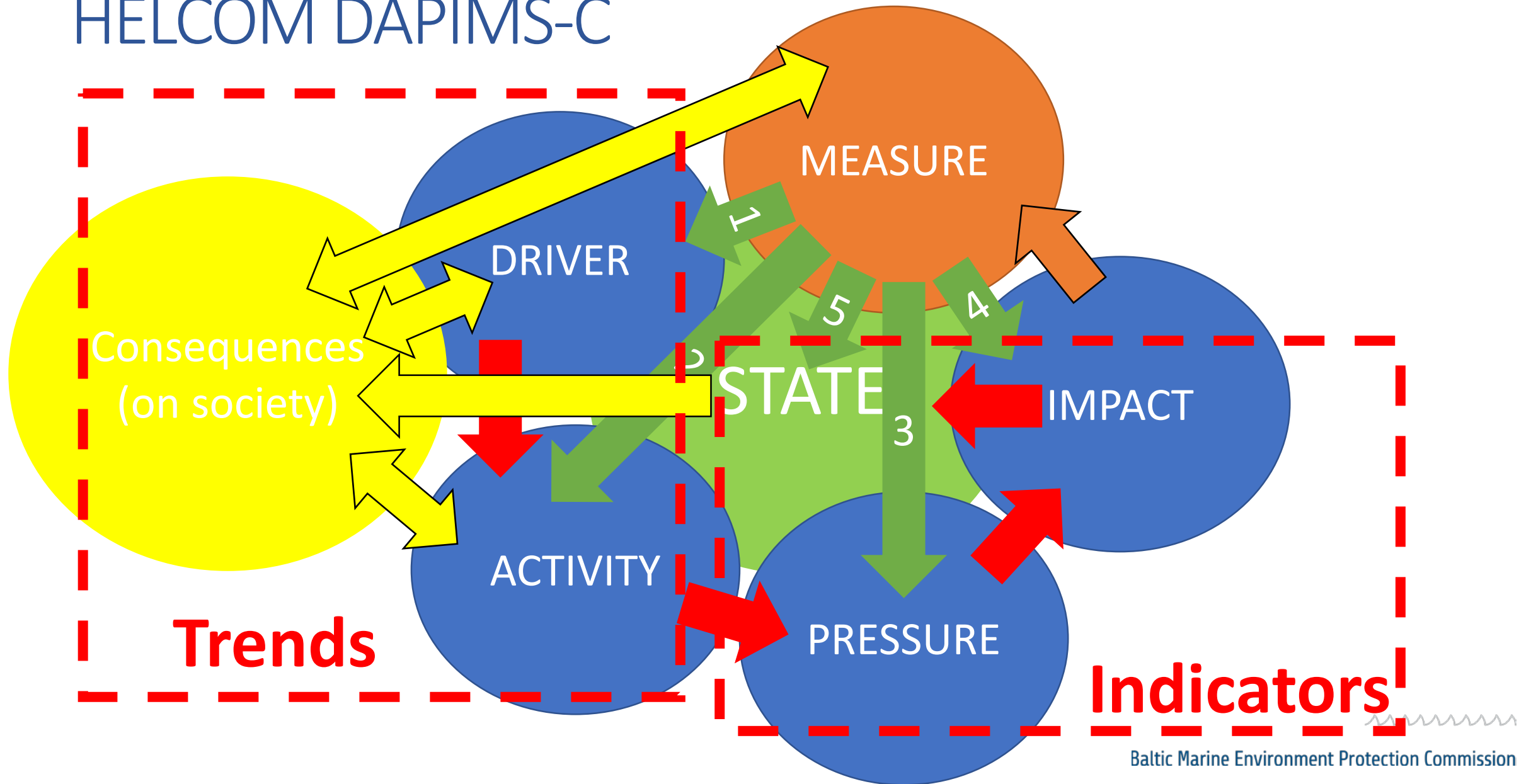
Option 1: HELCOM DAPIIMS



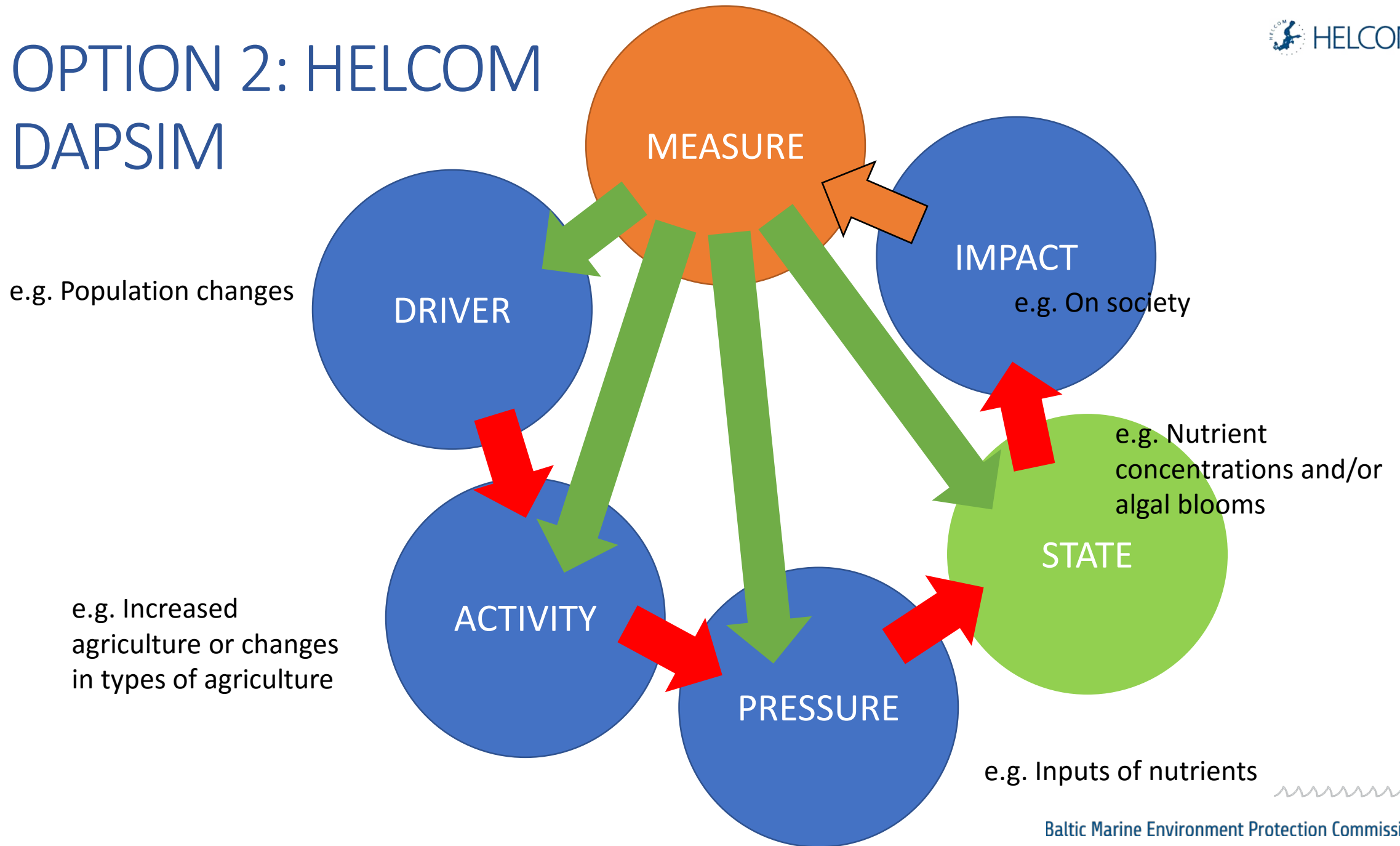
Option 1b: HELCOM DAPIIMS-C



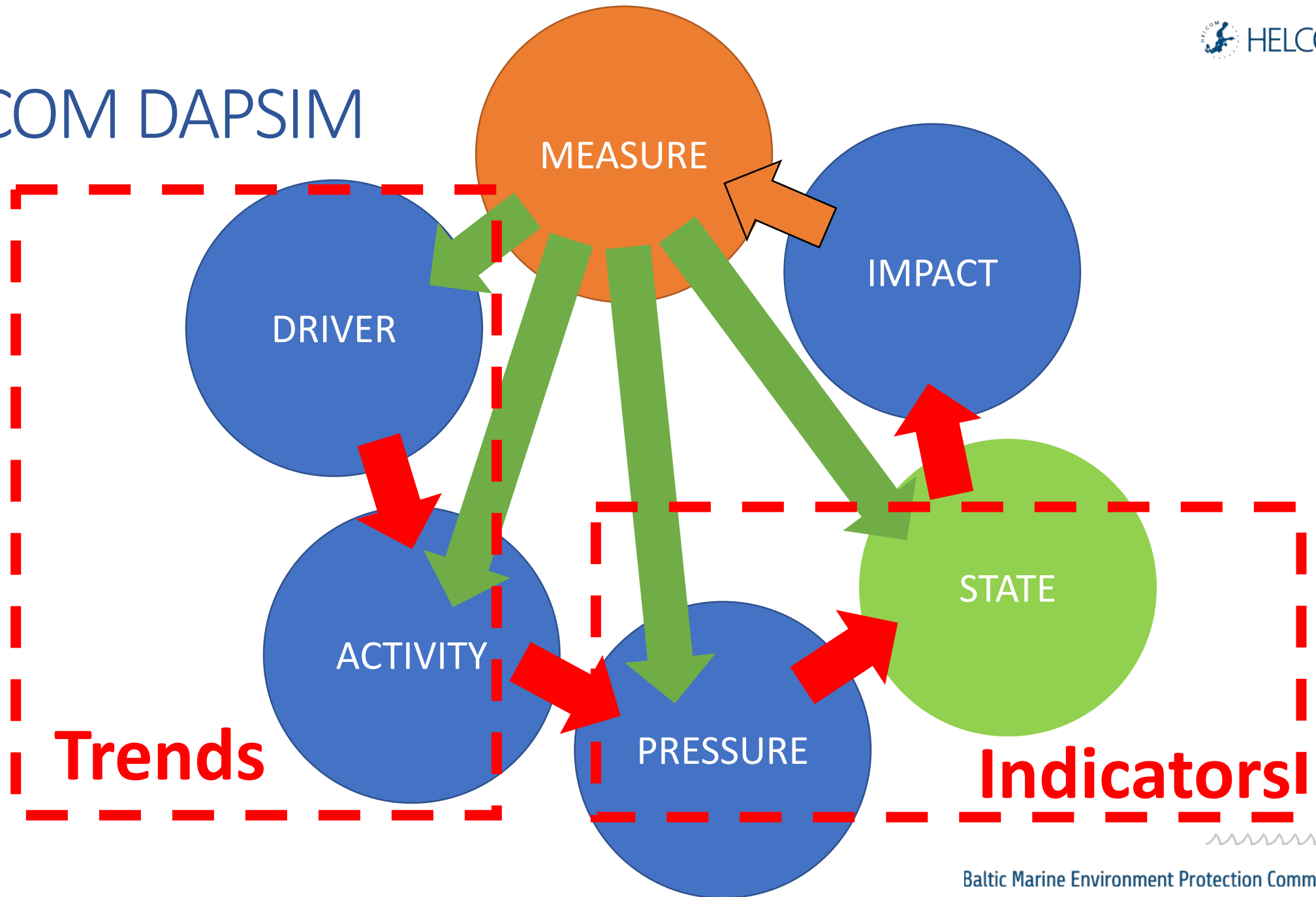
HELCOM DAPIMS-C



OPTION 2: HELCOM DAPSIM



HELCOM DAPSIM



Reflecting a causal structure in a new structure

Out with the old...

HELCOM CORE INDICATORS

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[Read more](#) about the core indicators, previous editions, and the criteria on indicator adoption, as well as definitions of the core indicators, previous editions, and the criteria on indicator adoption.

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Colour-coded to Baltic Action Plan

Hazardous substances
Maritime

INDICATORS

Filter by:

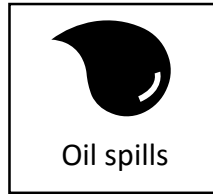
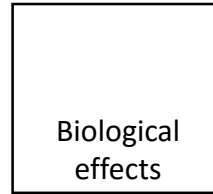
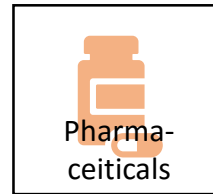
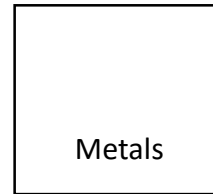
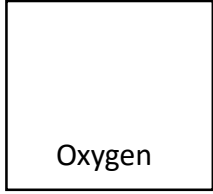
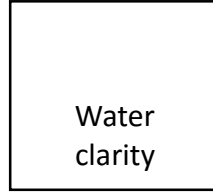
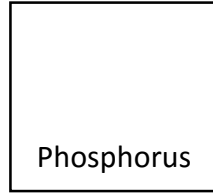
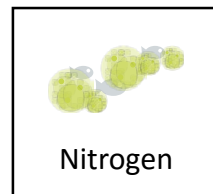
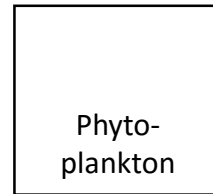
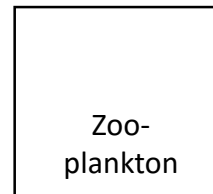
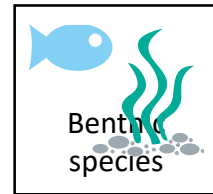
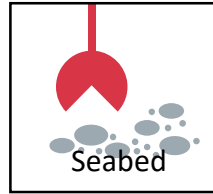
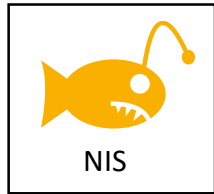
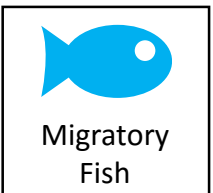
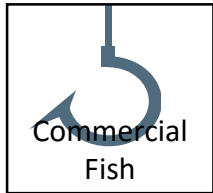
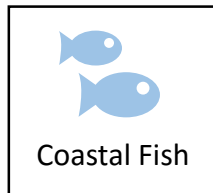
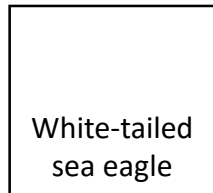
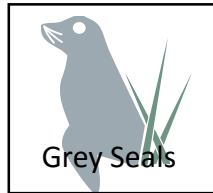
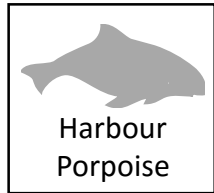
Indicator type | Baltic Sea | MSFD criteria

Abundance of coastal fish key fish species	Abundance of coastal fish species
Abundance of salmon parr	Abundance of salmon parr
Abundance of salmon parr during spawning season	Abundance of salmon parr during spawning season
Chlorophyll a	Chlorophyll a
Diatom biomass	Diatom biomass
Dissolved inorganic phosphorus	Dissolved inorganic phosphorus
Dissolved inorganic nitrogen	Dissolved inorganic nitrogen
Distribution of salmon parr	Hexabromocyclohexane
Inputs of nutrients to the subbasins	Metals (lead, cadmium and mercury)
Number of drowned mammals and waterbirds in fishing	Nutritional status of seals



In with the new - Indicator front page

CORE INDICATORS



Plus bring up to higher 'level' on website



An inclusive accordion approach

KEY MESSAGE

- Overview map
- Short key points

PRESSURES

- Information and targets (e.g. MAI)
- Information and text relevant per topic

COMPONENTS

- Details and assessment per component
- Multiple relevant components

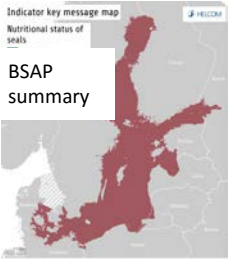
CONCLUSIONS

- Significance of the evaluation
- Confidence in the assessment
- Policy application and relevance

CLIMATE CHANGE

- Review of indicator based on EN CLIME fact sheet

Key message



BSAP summary

Key message
Grey seals are....

- Point 1
- Point 2
- Point 3

Pressures (incl. inputs) ▼

Distribution ▼

Abundance ▼

Bycatch ▼

Nutritional ▼

etc ▼

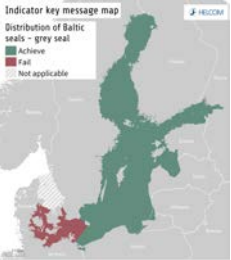
Conclusions (Significance) ▼

Climate change ▼

Click here

Key message ▼

Distribution ▼



Distribution
Grey seals are....

- This component is comparable to MSFD D1C4 and...
 - Point 2
 - Point 3

Threshold values ▼

Results ▼

Data ▼

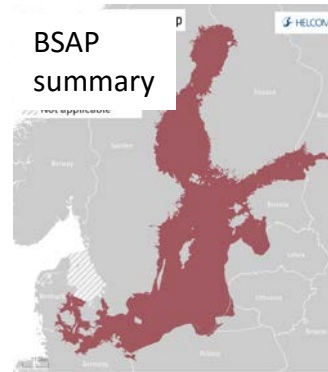
Methodology ▼

Abundance

etc ▼

Indicator assessments – example data

Key message – i.e. the BSAP summary map (e.g. a OAO summary of below components, or other agreed approach) and a brief text.



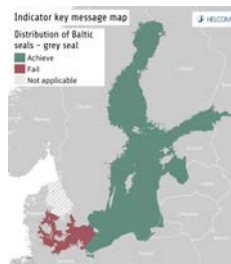
Seals by species – e.g. Grey seal

Abundance



aka D1C2

Distribution



aka D1C4

By-catch



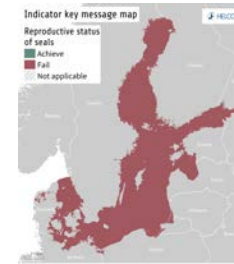
aka D1C1

Nutritional



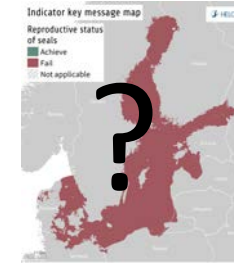
aka D1C3

Reproductive



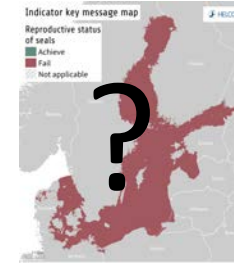
aka D1C3

Parasites



aka D1C3

Habitat



aka D1C5

Demographic

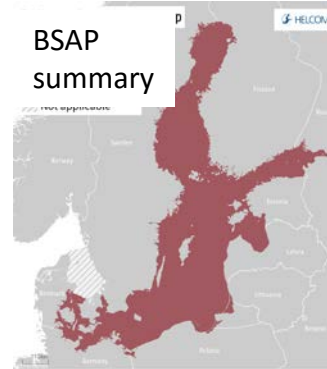


aka D1C3



Proposal on phytoplankton – example only

Key message – i.e. the BSAP summary map (e.g. a OAO summary of below components) and a brief text.



Diatom-Dino index



aka D1C6

Seasonal succession



aka D1C6

Cyanobacterial bloom index



aka D5C3

Spring bloom intensity



aka D5C4

Chlorophyll-a



aka D5C2

Phytoplankton –

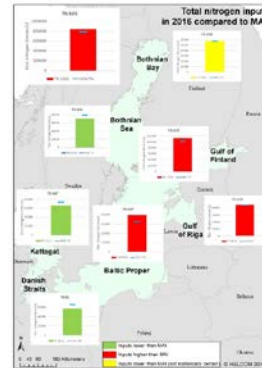
- all indicators on one subject should use same data source (i.e. HELCOM COMBINE)
- All should give similar answer on status? (or needs to be explained why not)
- Seasonal succession indicator often includes diatom, dinofl, cyanob, etc
- Should be easier to automate if data all comes from HELCOM COMBINE
- Could encourage cross over between themes (eutro-biodiv)



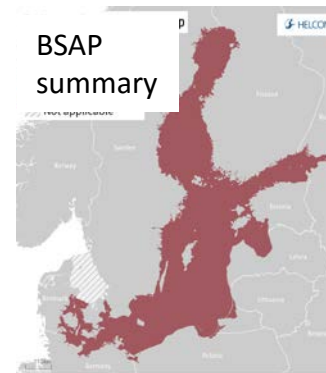
Proposal on nitrogen – example only

Key message – 2 maps, inputs (e.g. MAI targets) and concentrations.

PRESSURE



STATE (or IMPACT)*



This would provide a better link from inputs/load and concentrations in the sea



aka D5C1



aka D5C1

*DAPSIM or DAPIMSC

Taking the indicators further

DRIVERS & ELEMENTS

Info	Population trends	Agricultural trends	Shipping density and trends	Industrial trends	Transport trends	Acidification	Temperature	River flow
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TRENDS (overlaid on Shipping density and trends, Industrial trends, Transport trends, Acidification, Temperature, River flow)

CORE INDICATORS

Harbour Porpoise	Grey Seals	Ringed Seals	Harbour Seals	White-tailed sea eagle	Birds	Coastal Fish	Offshore Fish	Commercial Fish	Migratory Fish
NIS	Seabed	Benthic species	Zoo-plankton	Phyto-plankton	Nitrogen	Phosphorus	Water clarity	Oxygen	Litter
Noise and energy	Radioactive substances	Metals	POPs	Pharmaceuticals	Biological effects	Oil spills			

THRESHOLD VALUES APPLIED (overlaid across the middle row of indicators)

ASPIRATION & CONCEPTS

TRENDS of 'AGREEMENTS'	Sewage fr. shipping	Shipping emissions	Emerging pollutants	Ongoing work
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SURVEILLANCE (TRENDS) (overlaid across the bottom row)