

# Second HELCOM indicator Workshop (HELCOM Indicator WS 2-2019)

A draft INF overview post-Workshop

NOTE: outcome and documents still to be finalized so this offers an  
insight to discussion only



# Process to date...

- Plan for future work on HELCOM Indicators approved by HELCOM HOD 54-2018 ([Outcomes paragraph 4.25](#), and [document 4-5](#)), taking into account discussion at HELCOM GEAR (e.g. [GEAR 19-2018 document 5-4](#), see page 6).
- Stepwise process to
  - Review the situation post-HOALS II
  - Gather input from the indicator leads and experts
  - Provide a policy-focussed discussion
  - Bring together technical and policy experts to find a common understanding
  - Initiate the work with a view to improved assessment at HOLAS III (post-HOD 57-2019)



# Review step

- Review – Analyse current status by mapping to policy documents
  - This process has been ongoing and will be something of a ‘living process’.
  - HELCOM indicators [mapped](#) to BSAP and MSFD, and tentatively to SDGs.
  - Questionnaire sent out to all indicator leads and Expert Groups.
  - Development of [Topic Summaries](#) (see documents 1-11) and aims documents, for 11 separate topic areas related to indicator work (e.g. by-catch, hazardous substances, benthic habitats, etc).



# Define step

- Define - Policy based discussion of mapped indicators
  - HELCOM Indicator Workshop 1-2019 ([HELCOM Indicator WS1-2019](#)).
  - Preliminary priority established based on policy-focused discussion (see [columns AF-AH](#)).
  - Further detail and planning provided in the [Terms of Reference \(ToRs\) for the Second HELCOM Indicator Workshop](#) (approved at [HOD 56-2019 Outcomes paragraph 3.79](#)).
  - Request for input and preparatory work sent out to identified indicator leads, Expert and Working Groups, including a request for input on issues raised in the ToRs.



# Prepare step

- Prepare - Joint policy-technical-expert workshop for common focus
  - Second HELCOM indicator Workshop ([HELCOM Indicator Workshop 2-2019](#)).
  - Bring together technical and policy experts.
    - Establish common ground.
    - Consider what could be expected from the HELCOM indicators by the Third Holistic Assessment of the Baltic Sea Ecosystem (HOLAS III), and beyond.
    - Common understanding of what can be achieved (per topic area).

Hosted by Denmark 16-18 October, Copenhagen

- [Circa 50 documents](#), including one addressing each request from WS1-2019.
- Circa 55 participants, 7 consecutive online meetings.



# HOLAS III – what could it look like?

How should HOLAS III look? What are/were the problems with HOLAS II? What do we want to do better compared to HOLAS III?

1. Do not do an update.
2. Produce thematic assessments first, holistic assessment after.
3. Ensure Expert Groups are involved in any update of the BSPI/BSII.
4. Encourage effort to improve data flows, including as short as possible lag in data availability.
5. Carry out thematic Workshops/events at strategic points to get full potential from the available data: e.g. A) overview of each theme, B) understanding and interpretation of integration step, and C) cross-linkages (e.g. between themes). Thematic approach can bring together all relevant people (across groups) at appropriate time (e.g. avoid overlap and duplication of work).



# HOLAS III – what could it look like?

## What is the role of indicators in HOLAS III?

1. Operational core indicators (based on national monitoring data) should form the major basis of the assessment (e.g. Biodiv, Eutro, HZ).
2. Operational core indicators should form basis of the integrated assessments.
3. Other supporting information should be used to provide a context and broad thematic assessment (e.g. relevant data calls, other national monitoring data not in indicator assessments, and other available data or research).
4. The summary report should detail the indicator-based assessment, contextualized within an ecologically relevant scientific/ecological overview (plus other relevant data strands).
5. Address BSAP objectives and support the needs of HELCOM Contracting Parties that are also EU Member States.



# Structures to improve towards HOLAS III?

Are the required structures in place for the work to be carried out?

Are there missing components to improve by HOLAS III?

What structures would help enhance HOLAS III?

## 1. An expert group on pelagic habitats (EN PELAGIC).

### **Recommendation from the Pelagic discussion group:**

Establishment of a correspondence group for pelagic experts in combining phytoplankton and zooplankton expertise of the existing groups PEG and ZEN to enforce common method approach and work towards an integrated pelagic assessment. Ideally, it should be based on COMBINE data hosted by ICES if progress can be achieved to align current data reporting and improve the usability of the data (HELCOM COMBINE Workshop). Several countries have experienced difficulties extracting data from ICES.

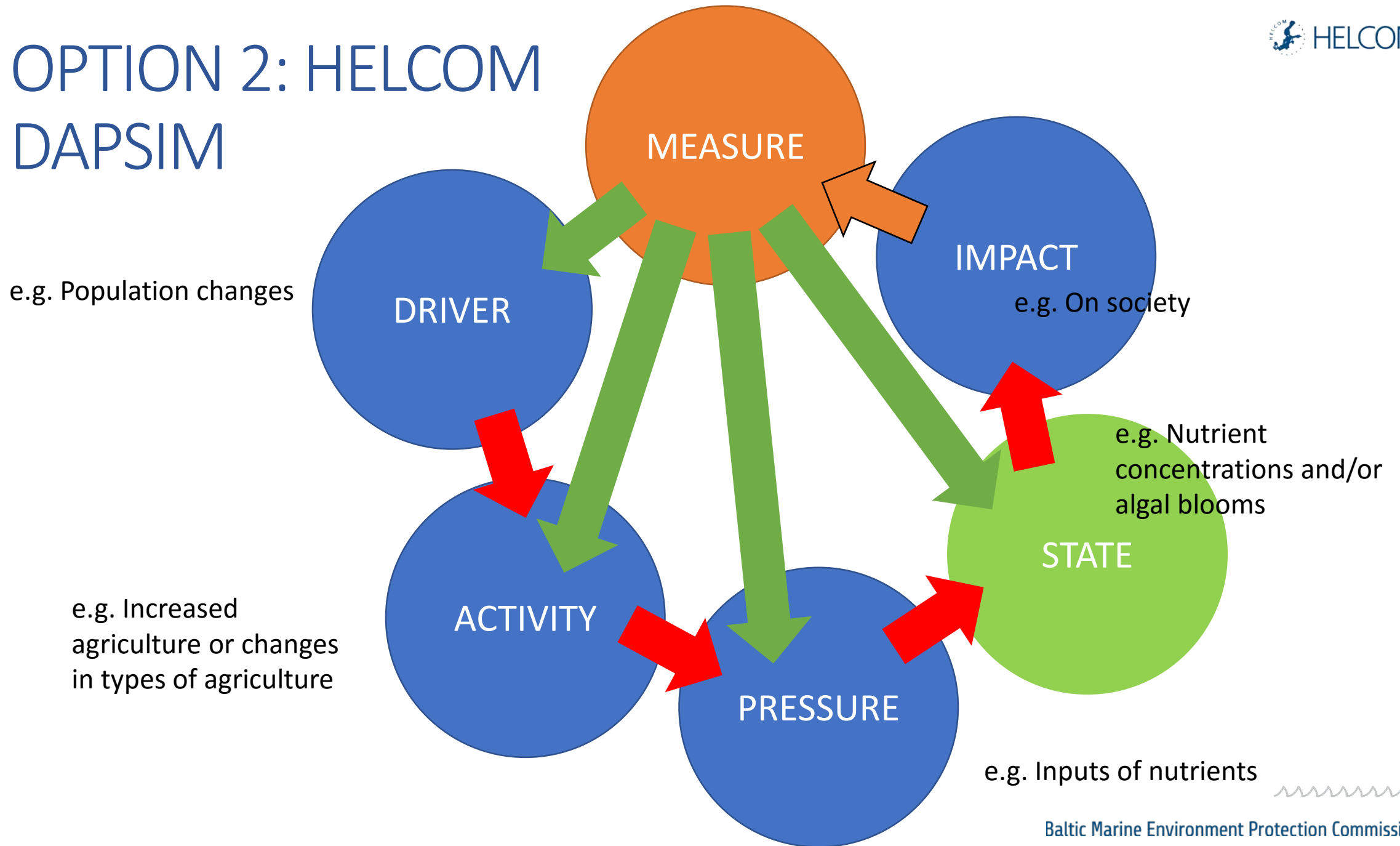
## 2. A correspondence group on Foodwebs (CG FOODWEB).

## 3. Better housing of NIS work – cooperation with OSPAR via joint OSPAR-HELCOM CG NIS (already active in OSPAR, thus possible forum for cooperation already exists).





# OPTION 2: HELCOM DAPSIM



# Application of a causal framework?

Does a causal framework support the indicator work?

Can this help linking pressures/loads-state HOLAS III, and beyond?

1. A causal framework should be applied.
2. Retaining comparable system to existing causal frameworks would be beneficial (e.g. DAPSIM proposal is closest).
3. Need for clear definition of each component before implementation.
4. Including the HELCOM ESA Network in further discussion would be valid (including discussion on how to build relevant information to establish a causal framework for existing indicators).
5. Causal framework could be applied to define categorisation of indicators in presentation system (e.g. as pressure, state, driver indicators).



# Taking the indicators further

DRIVERS & ELEMENTS

Info	Population trends	Agricultural trends	Shipping density and trends	Industrial trends	Transport trends	Acidification	Temperature	River flow
------	-------------------	---------------------	-----------------------------	-------------------	------------------	---------------	-------------	------------

**TREND DATA**

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**

ASPIRATION & CONCEPTS

Red-listed species	MPA coverage	Sewage fr. shipping	Shipping emissions	Emerging pollutants	Ongoing work
--------------------	--------------	---------------------	--------------------	---------------------	--------------

**'AGREEMENTS'**

**SURVEILLANCE**

# 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

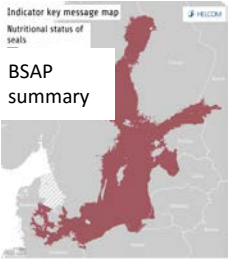
## CONCLUSIONS

- 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**

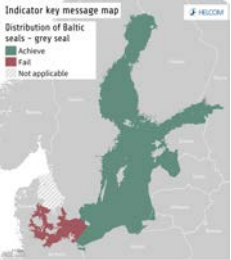
**Conclusions (Significance)**

**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**

# Altered structure and visuals of indicators?

Is the altered indicator structure beneficial?

Are updated visual aspects beneficial?

1. The altered structure would benefit the indicators and help the application of a causal framework.
2. Avoid extensive re-invention of the system (considered as more as a re-organisation or existing content exercise).
3. New visuals and website placement would improved the use and accessibility.
4. Consideration should be given to the specific grouping or sub-grouping of indicators for presentation purposes.
5. Use of terminology should be well defined in final version (e.g. trend, etc).
6. 'Chapters' on pressures, conclusions (relevance), and climate are relevant.
7. A 'filter' application should be maintained so user can select based on needs (e.g. BSAP objectives).

# Other issues raised?

Inclusion of natural conditions that influence the indicators, time-lags and recovery-lags should also be reflected in the indicator reports. Possibly this could be done as a 'chapter' within the indicator report such as 'Climate, variability, change'.

Common approach/understanding/definition for threshold value setting (good status, conservation perspective, sustainable use of ecosystem, ecosystem services angle?).

How to 'integrate' other supporting information into the overview of each thematic assessment in an appropriate way to give a full holistic overview?



# Work plan per Topic area

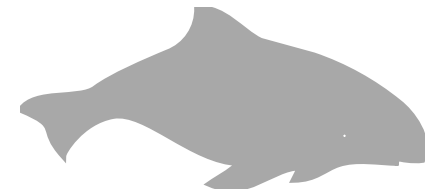
1. What is the optimal assessment?
2. What will be achieved by HOLAS III (e.g. operational indicators by autumn 2021), and how?
3. What aspects of the identified work represent the highest priority?
4. Is the proposed assessment policy relevant and ecologically relevant?
5. What are the resource needs (and period) to 1) carry out the work by HOLAS III (autumn 2021), and 2) for longer-term development issues (post-HOLAS III)?
6. What integration of the indicators (i.e. those defined in question 2) is foreseen in HOLAS III?
7. What across-theme issues exist (e.g. links between biodiversity and eutrophication) and how will these be considered in future assessments?

Also asked to consider the MSFD perspective in relevant sections when responding, e.g. based on the [GEAR 19-2018 document 5-4](#), see page 6.



# By-catch

- Pilot evaluations for some species, based on recommendation from the OSPAR/HELCOM bycatch workshop.
- Complement these pilot evaluations with risk maps.





# Mammals



- Seal distribution and abundance indicators will be similar to those applied in HOLAS II. Supporting information related to at-sea distribution will be gathered where possible.
- Nutritional status of seals expanded to other species where possible, geographical range of grey seal data may be expanded. This indicator only covers one aspect of *condition* (e.g. MSFD D1C3).
- Reproductive status of seals expanded to other species where possible, geographical range of grey seal data may be expanded. This indicator only covers one aspect of *condition* (e.g. MSFD D1C3).
- Porpoise abundance to be based on key site as well as management unit level surveys. Data from the latter should be available for HOLAS III. Threshold values may be developed for HOLAS III, depending on funding. Similar for porpoise distribution.
- Porpoise condition indicator may be available for reproductive rate (one aspect of condition).
- Indicators on marine mammal habitat will not be available for HOLAS III.
- Supporting scientific knowledge can be collated to develop a broad overview where indicators may not be fully operational.



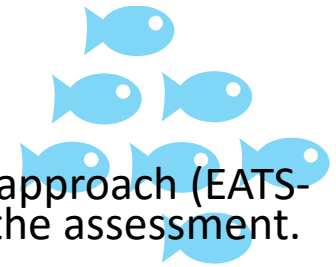
# Birds



- Increasing the off-shore data for the wintering waterbirds indicator will be explored for HOLAS III. Some additional data is available to support this.
- An assessment of the breeding productivity of waterbirds could be possible as a small-scale test that supports the overall thematic assessment.
- Other supporting material may be available to include in thematic assessments to support gaining a broad scientific overview, such as initial studies on habitat quality.



# Fish



## Coastal fish:

- Assessment of population abundance in areas included in HOLAS II. Applying a baseline approach (EATS-concept) in front of trend-based approach, including a better estimation of certainty of the assessment.
- First assessment of status (trend-based approach) in additional areas (Estonia?, Latvia?, Swedish coast of the Sound and Kattegat, Poland, Germany).
- Refined assessment in Denmark (additional areas and refinement of data).
- First assessment of size structure (L90) for a suite of key species (perch, pikeperch?) in some of the areas.

## Demersal fish:

- ICES advice including trends from surveys for species without analytical stock assessment. Potentially also indicators related to size and/or conditions if financing is there and after discussions with ICES.

## Pelagic fish:

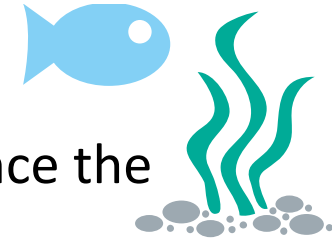
- ICES advice including trends from surveys for species without analytical stock assessment. Potentially also indicators related to size and/or conditions if financing is there and after discussions with ICES. Also assess trends in stickleback if financing is there.

## Migrating fish:

- Similar to HOLAS II, with improved data and coverage where possible.



# Benthic habitats



- The work of TG Seabed needs to be considered and timelines may influence the availability of an assessment by HOLAS III.
- The Workshop gathered a number of questions and issues they wish to raise at TG Seabed.
- Use of the BSPI/BSII to provide an overview at HOLAS III could be viable, though a review of data available needs to be carried out.
- The topic will be revisited at EN-BENTHIC to develop a clearer plan.
- The ‘Cumulative impact on benthic biotopes’ indicator can be operationalised by HOALAS III for all basins and broad habitat types. Offers best overview of the magnitude of pressures (impact in terms of state) – but data, mapping and sensitivity scores may influence the overall assessment.
- Other aspects related to soft- and hard-bottom communities could be considered in HOLAS III though these would likely be adjustments of existing work, supported by modelling approaches and test cases.

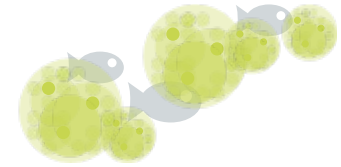


# Pelagic habitats

- More scientifically stringent testing of existing and planned indicators and linkages between the phyto- and zooplankton indicators.
- Consider a tiered approach to pelagic habitats similar to what is used in OSPAR, looking at nested levels of biological organisation (e.g. community, function and diversity).
- Improved spatial coverage and complete application of threshold values for the ‘Seasonal succession of dominating phytoplankton groups’ indicator.
- Evaluate the applicability of the diatom/dinoflagellate indicator for pelagic habitat assessment and relation to pressures. In the future, this indicator could be incorporated and used within a lifeform index, also including zooplankton (OSPAR and McQuatters-Gollop et al. 2019). However, the life forms suitable for the entire Baltic Sea are not currently available and should be established via discussions among the experts. Similarly to OSPAR, such an index could function as a surveillance indicator, representing disturbance events in the system.
- Improved spatial coverage and complete application of threshold values for the MSTs Zooplankton indicator. In HOLAS III, the indicator should have full regional coverage.



# Eutrophication



- Further developing the shallow water oxygen indicator
- Further developing the chlorophyll-a spring bloom indicator
- Agree on the use of the cyanobacterial bloom indicator
- Agree on target values for the total nutrient indicator in the Western Baltic Sea
- Improving confidence rating and scaling
- Improve the grouping of indicators and assessment rules
- Improve pressure – state linkages and linkages to benthic and pelagic habitats
- Revisit selected assessment units (Gulf of Finland, Bornholm Basin)
- Decide how to assess eutrophication in coastal waters



# Hazardous substances

- Division into separate metals indicators, addition of Copper.
- Improved Diclofenac indicator.
- Full agreement and core status of TBT and ImPOSEX indicator.
- Adjustment of MIME and CHASE tool in automated system for above.
- Increased coverage of Reproductive disorders; malformed embryos of amphipods, as a supplementary indicator.
- Review of supporting parameters and normalisation in sediments (TOC and Li/Al).
- Review of threshold values and follow up.
- Annual review of data by EN-HZ (each spring meeting) via HELCOM HAT tool.
- Review of inputs/pressure data per indicator.
- Contextual information to support a scientifically valid overall assessment: emerging substances, dated sediments, biological effects, food stuffs, evaluation of priority substances lists.



# Noise



## Impulsive noise:

- An assessment based on the registry can be included in the HOLAS III, which will benefit from experience gained by the assessment made in OSPAR. This will require an analysis of the sufficiency of available data in the registry.
- Important that the reporting of noise activities is effectively carried out to ensure high confidence in the assessment.
- There is a proposal to send a questionnaire out to get feedback from Contracting Parties on the present situation of the reporting completeness and the corresponding perspective for improvement.

## Continuous noise:

- New soundscape maps, based on modelling, for the new relevant assessment period are not yet available and need to be produced. This requires a solution on the financial matter.
- A further developed and improved assessment compared to the one of HOLAS II would then be achievable. The necessary experience and knowledge is available in EN Noise.





# Litter



- Beach litter indicator has preliminary assessment scales and data collection. Assessment viable by HOLAS III, some development/harmonisation work required to make it happen.
- Litter on the seafloor requires some development, including development of a monitoring guideline. An overview can be achieved by HOALS III, and possibly further operationalisation dependent on regional and threshold value factors.
- Microlitter requires development and harmonisation work. Indicator not likely to be available by HOLAS III, though data and scientific knowledge could provide supporting information in the thematic assessment.



# Foodwebs

Discussion considered to be at a very early stage – but needs to be maintained in an appropriate forum within HELCOM.

Workshop suggested the following approach:

- Step 1 Find out details of OSPAR test case from Kattegat (Ecological Network Analysis method)
- Step 2 Establish a HELCOM Correspondence Group (CG FOODWEB)
  - Review background information
  - Identify the resource needs
  - Consider what can be done in the Baltic Sea
- Step 3 Review of scientific information available (short-term project)
- Step 4 Workshop (in 2020) to consider scientific review, OSPAR experiences, and national experiences.
  - Consider possibility for test cases in the Baltic Sea to complement the OSPAR one in Kattegat
- Step 5 Output from workshop and possible test cases to contribute a contextual framework to thematic assessment as supporting information.



# Eutrophication-Biodiversity linkages

Discussion clearly at an early stage – but needs to be maintained (thematic workshops during HOLAS III?).

- Clear link between benthic habitats and eutrophication discussed, though multiple stressors on benthic habitats acknowledged.
- Need for cross-cutting by addressing for example the impacts of eutrophication on biodiversity and habitats.
- Discussed that coastal fish indicators do consider increases that could be attributed to eutrophication. Valuable to continue the discussion for fish and birds.
- Some possible indicator approaches related to pelagic habitats were discussed, for future development.
  - enough light in the pycnocline for phytoplankton growth (deep chl maximum)
  - Water clarity and impact on visual predators
- Considered as important to discuss and represent these interlinkages in HOLAS III in some way.



# Pollution-Biodiversity linkages

Discussion clearly at an early stage – but needs to be maintained (thematic workshops during HOLAS III?).

- Biological effects may offer some insights, but how to use these and apply them needs further discussion to give a deeper understanding.
- Litter-Biodiversity (pieces and microlitter) should be considered as supporting information in HOLAS III – but ongoing work required.
  - Possible data call to support this.
- Noise-Biodiversity also to be addressed as supporting review in HOLAS III. Use distribution of mammals data and relevant noise parameters.



# What next?

- Please send all Work Plans to the Secretariat ([owen.rowe@helcom.fi](mailto:owen.rowe@helcom.fi)) – **drafts now** – final versions by end of Monday 21 October.
- A summary of the Workshop will be presented at State and Conservation 11-2019. This same INF also provided to PRESSURE.
- A document to GEAR 21-2019 will be prepared (to submit on 23 October) – overview of way ahead/recommendations and Annexes (Work Plans).
  - Sent cc to Workshop Participants, relevant Expert Groups and State and Conservation
  - Comments from Experts Groups (via Chairs as a consolidated group view) and Workshop Participants to the Secretariat by end of business on 1 November.
  - Revised documents, as needed, sent to GEAR.
  - GEAR Meeting (6-8 November) will discuss output and priority aspects.
  - Post-GEAR - document to HOD.
- The outcome of the Workshop will be shared with registered participants for commenting.



# Execute step

- Execute – initiate work program on indicator development and adjustment
  - This was the final step in the approved plan.
  - Initiates after HOD 57-2019.
  - Adjustment or development of indicators for use in HOLAS III to be completed by autumn 2021.

