

# State and Conservation 15-2021

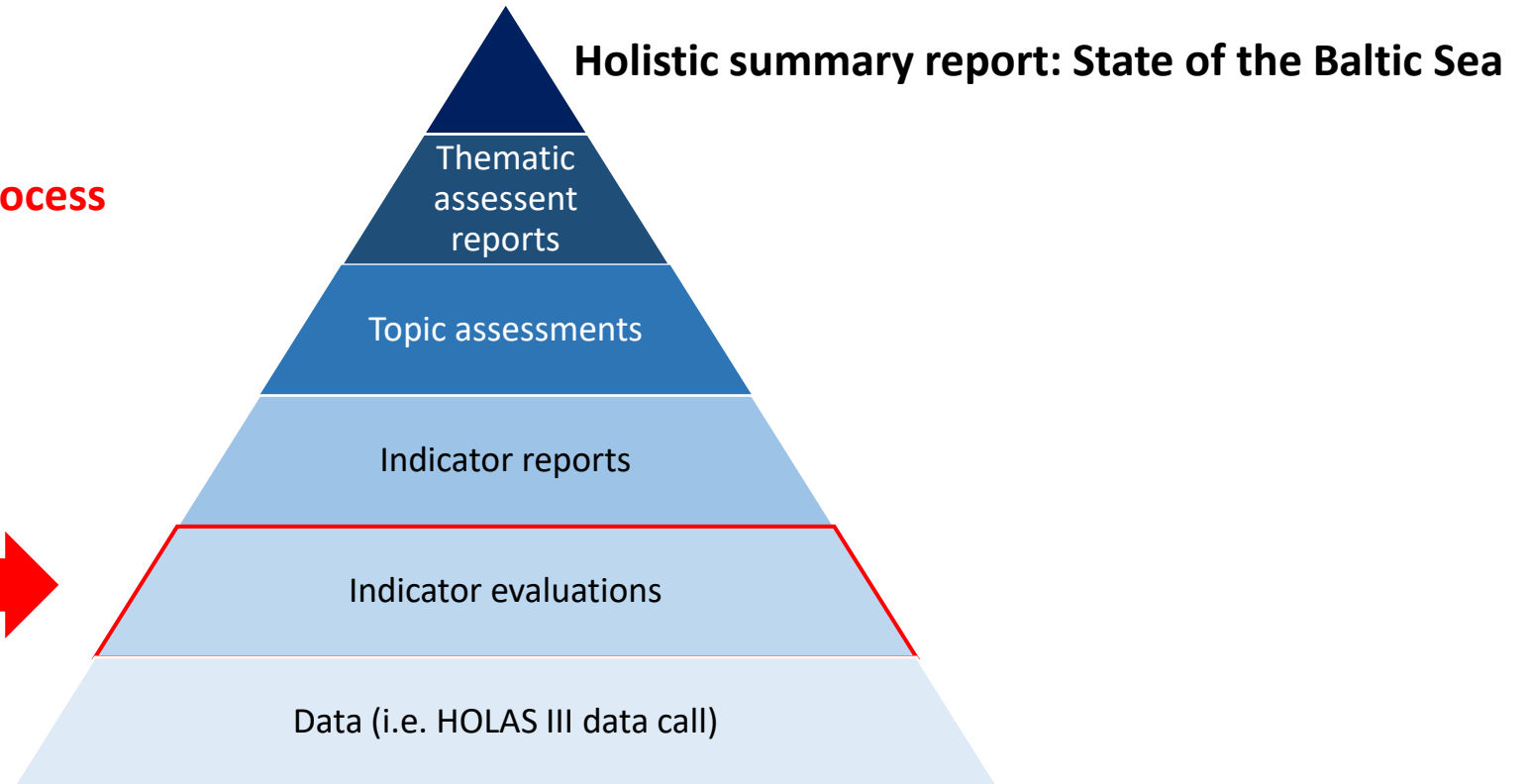
Indicators and assessments towards HOLAS III



# Conceptual overview of the HOLAS III assessment structure and the progressive integration of results.

**\*also sent to HOD for threshold value process**

Red outline will show where in the scheme the current slide is addressing – e.g. ‘indicator evaluations’.

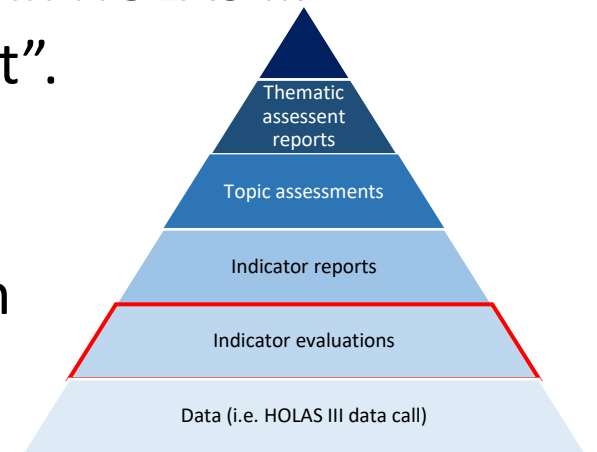


# Hazardous substances



# Radioactive substances: Cesium-137 in fish and surface seawater

- **\*Radioactive substances: Cesium-137 in fish and surface seawater - Document 3J.59**
- Scale 2 subbasins, as in HOLAS II.
- Spatial coverage as in HOLAS II (full), changes will not impact that aspect.
- Threshold values proposed to change to meet the objectives of the updated BSAP. Otherwise, methodology remains identical to that applied in HOLAS II.
- “Radioactivity at negligible risk level to humans and environment”.
- Proposed: 40 Bq m<sup>-3</sup> for seawater and 20 Bq kg<sup>-1</sup> w.w. for fish.
- Applicable for MSFD Descriptor 8 and 9.
- Proposed that evaluation against new threshold values are taken into CHASE.
- Full and detailed description of how threshold values were developed provided in annex.



# State and Conservation - Action requested

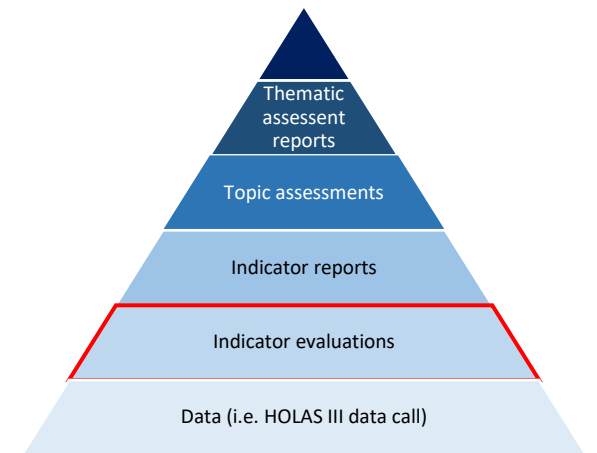
The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment.



# Diclofenac

- **\*Diclofenac - Document 3J.60**
- Currently no lead.
- Scale 2 may be possible, but most likely as applied in HOLAS II (pre-core, point).
- Spatial coverage may increase, dependent on data available via HOLAS III call.
- Same approach as HOLAS II.
- Threshold values are tied to EU EQS setting processes, specific timeline unclear.
- Three step process discussed at GEAR 24-2021:
  - ~~If EQS values available present in HELCOM process~~
  - If EQS values approved via EU processes pre-May 2022 (i.e. when HOLAS III data is in) then carry out intersessional approval in HELCOM and implement for HOLAS III.
  - Failing that, maintain as applied in HOLAS II for current assessment.



# State and Conservation - Action requested

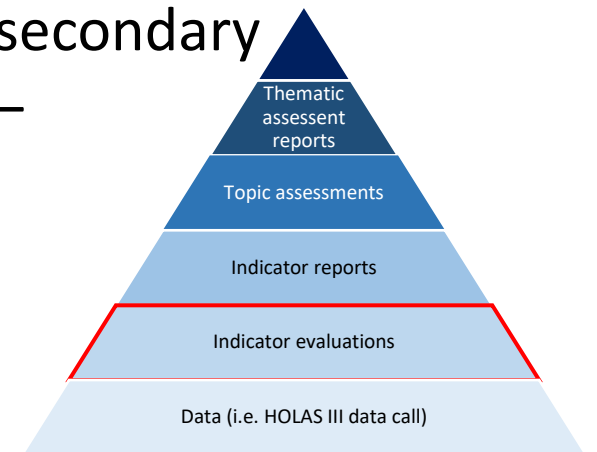
The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
  - support the approach considered at GEAR 24-2021.
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment



# Metals (Cd, Pb, Hg)

- **\*Metals - Document 3J.61**
- Will be divided into 3 separate indicator documents/templates for HOLAS III.
- Scale 4, as applied in HOLAS II.
- Spatial coverage expected to increase - more data and longer time series, improved data availability – e.g. data solutions under Baltic Data Flows, Latvia.
- AI and CORG maintained as supporting parameters, as in HOLAS II.
- Proposed inclusion of Zebra mussels, where mussels included.
- New threshold values proposed, based on improved data/analysis.
- Cadmium: Secondary threshold - QS derived from EQS (whole fish, secondary poisoning) of 160 µg/kg ww mussels and fish (replace OSPAR BACs – including ones with study reservations).
- Lead: Secondary threshold – to add the new proposal of 110 µg/kg ww for mussels but to maintain the existing OSPAR proxy BAC 26 µg/kg ww fish liver.
- Lead: Secondary threshold - QS from EQS dossier 120 mg/kg sediment maintained. DK study reservation retained.





# State and Conservation - Action requested

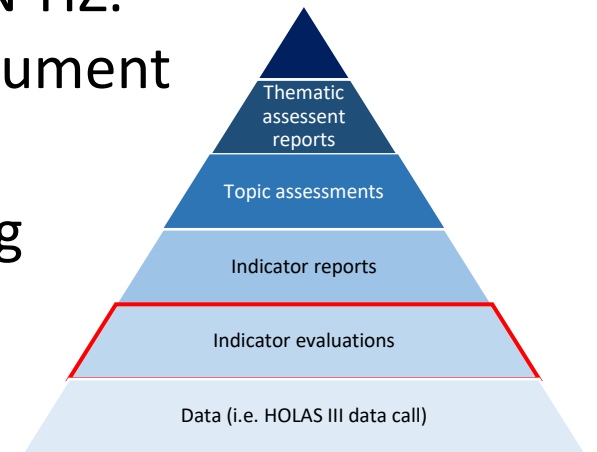
The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
  - endorse inclusion of zebra mussels.
  - endorse the newly proposed threshold values, as proposed by EN-HZ, for the HOLAS III.
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment.



# Copper (Cu)

- **\*Copper - Document 3J.62**
- Proposed as a core indicator for HOLAS III.
- Scale 4, but initial iteration may need to be at larger scale (data dependent).
- Proposed inclusion of indicator evaluation in CHASE.
- Data review and initial assessment suggests broad spatial coverage of data.
- Concentrations of copper compared to threshold value in sediment.
- Natural background concentrations and carbon supporting parameters included.
- Methodology and statistical assessment set out and reviewed by EN-HZ.
- Threshold value setting approach based on Technical Guidance Document No. 27 (European Commission, 2018).
- Copper: Primary threshold – newly proposed QS from EQS 30 mg/kg d.w. (5% CORG) in sediment.
- Proposal to explore data in biota and water for HOLAS III also, towards future development.
- No version on indicator web page – drafts at in EN-HZ 15.



# State and Conservation - Action requested

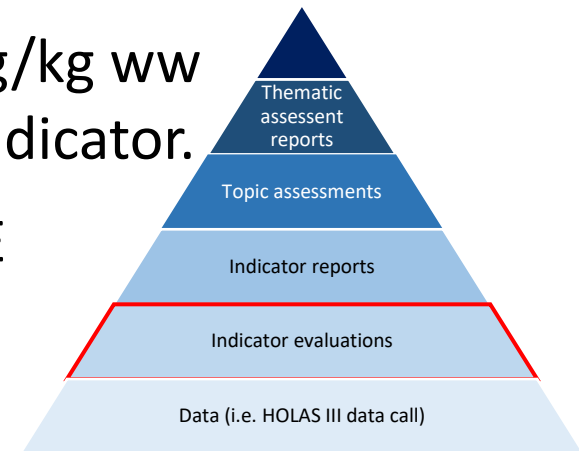
The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
  - proposal as a core indicator.
  - support inclusion in CHASE.
  - endorse the methodology.
  - endorse the proposed threshold value.
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment.



# Tributyltin (TBT) and ImPOSEX

- **\*TBT and ImPOSEX - Document 3J.63**
- Scale 4, as in HOLAS II.
- Spatial coverage expected to increase - more data and longer time series, improved data availability – e.g. data solutions under Baltic Data Flows, Latvia.
- AI and CORG maintained as supporting parameters, as in HOLAS II.
- Methodology will remain as in HOLAS II.
- New proposal - TBT: Primary threshold - proposal 1.3 µg /kg dw sediment (5% TOC) to replace current QS 1.6 µg /kg dw sediment (5% TOC).
- New threshold value proposal from Denmark for TBT in biota (3.0 µg/kg ww for shellfish and fish) for testing within the indicator, but in overall indicator.
- Proposed as a full core indicator for HOLAS III and inclusion in CHSAE (the assessment made for sediment).



# State and Conservation - Action requested

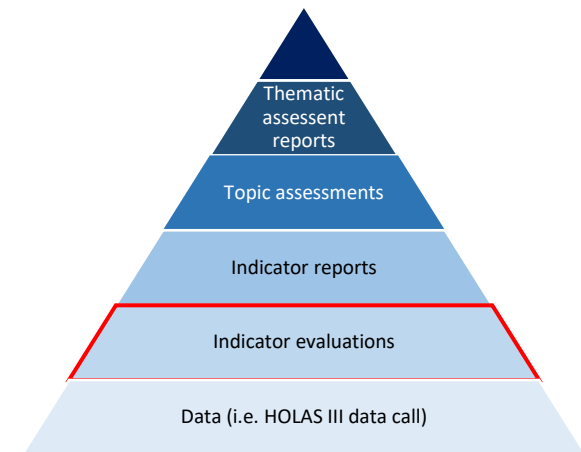
The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
  - endorse newly proposed threshold value (in sediment).
  - endorse inclusion of biota test evaluation to support future development.
  - endorse as a full core indicator and inclusion in CHASE.
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment.



# Polyaromatic hydrocarbons (PAH) and their metabolites

- **\*PAHs and their metabolites - Document 3J.64**
- Scale 4, as in HOLAS II.
- Spatial coverage expected to increase - more data and longer time series, improved data availability – e.g. data solutions under Baltic Data Flows, Latvia.
- AI and CORG maintained as supporting parameters, as in HOLAS II.
- Proposed inclusion of Zebra mussels, where mussels included.
- Methodology will remain as in HOLAS II.
- PAH concentrations applied and included in CHASE, as in HOLAS II.
- PAH metabolites also to be assessed and presented in the indicator report, but included under Biological Effects.



# Polyaromatic hydrocarbons (PAH) and their metabolites - continued

- New threshold value proposed - PAHs (fluoranthene): Secondary threshold - proposal for 3500 µg/kg (5% CORG) in sediment to replace current 2000 µg/kg (5% CORG) due to error in earlier EQS.
- PAHs (anthracene): Secondary threshold - QS 24 ug/kg dw sediment will be maintained for HOLAS III. DK study reservation retained.
- PAH metabolites the parameter 1- hydroxypyrene is proposed to be utilised in HOLAS III.
- Threshold value of EAC 483 ng/g fish bile (GC/MS) and would be applied to the following species: Herring & cod, dab, Flounder, sole, eelpout & Perch.
- Denmark will also explore using conversion factors for the SFS (fluorescence) method, in addition to GC/MS and HPLC analytical techniques.



# State and Conservation - Action requested

The Meeting is invited to:

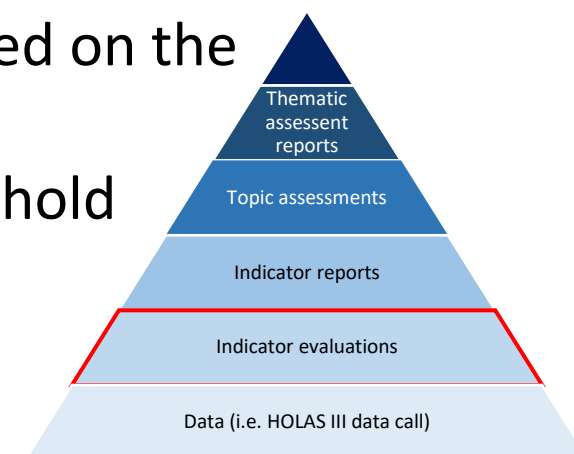
- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
  - endorse inclusion of zebra mussels.
  - endorse the approach to utilise PAH metabolites under Biological Effects and maintain PAH concentrations under CHASE.
  - endorse the threshold value proposals.
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment.





# Reproductive disorders: Malformed amphipod embryos

- **\*Reproductive disorders: Malformed amphipod embryos - Document 3J.65**
- Scale 2, as in HOLAS II.
- Spatial coverage could be increased - data synthesis is being carried out for Estonia, Latvia, Russia and Sweden. Possibly also data from Lithuania and Denmark.
- Methodology and threshold value setting algorithm in existing indicator report.
- Numeric ‘initial’ threshold values for Golf of Finland and Gulf of Riga anticipated in 2021.
- Threshold values are specific to each assessment (i.e. the data), based on the algorithm.
- Data from HOLAS III data will define spatial extent and specific threshold values.
- Ongoing work to evaluate ‘initial’ threshold values and data availability across the Baltic Sea region.



# State and Conservation - Action requested

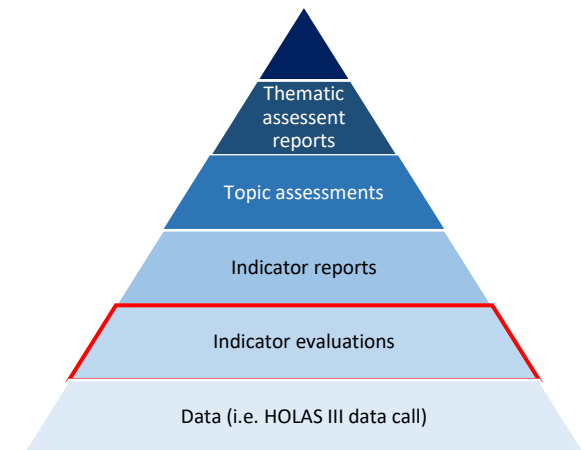
The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
  - support the proposed ongoing work.
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment.



# Hexabromocyclododecane (HBCDD)

- **HBCDD** - Document 3J.66
- Scale 4, as in HOLAS II.
- Spatial coverage expected to increase - more data and longer time series, improved data availability – e.g. data solutions under Baltic Data Flows, Latvia.
- EN-HZ concluded discussions and review and AI and CORG will be maintained as supporting parameters, as in HOLAS II.



# State and Conservation - Action requested

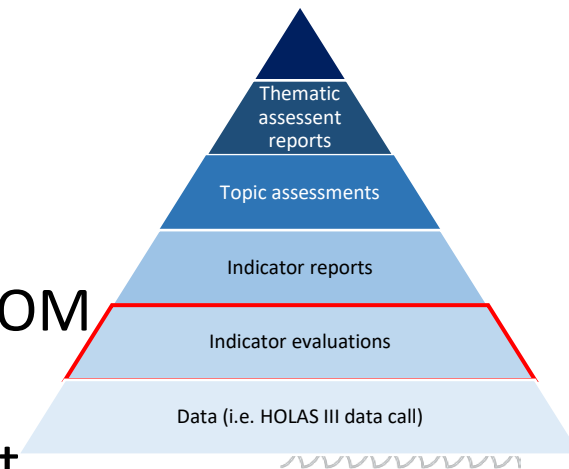
The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment.



# Polybrominated biphenyl ethers (PBDE)

- **\*PBDEs** - Document 3J.67
- Scale 4, as in HOLAS II.
- Spatial coverage expected to increase - more data and longer time series, improved data availability – e.g. data solutions under Baltic Data Flows, Latvia.
- EN-HZ concluded discussions and review and AI and CORG will be maintained as supporting parameters, as in HOLAS II.
- Threshold value for biota undergoing revision process under EU, though specific timeline unclear.
- Three step process discussed at GEAR 24-2021:
  - ~~If EQS values available present in HELCOM process~~
  - If EQS values approved via EU processes pre-May 2022 (i.e. when HOLAS III data is in) then carry out intersessional approval in HELCOM and implement for HOLAS III.
  - Failing that, maintain as applied in HOLAS II for current assessment.



# State and Conservation - Action requested

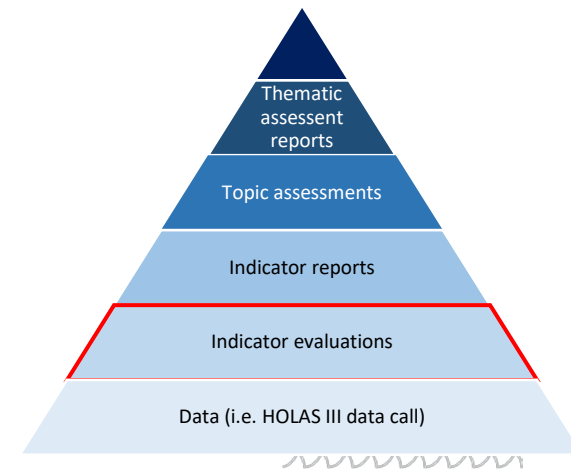
The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment.



# Perfluorooctane sulphonate (PFOS)

- **PFOS** - Document 3J.68
- Scale 4, as in HOLAS II.
- Spatial coverage expected to increase - more data and longer time series, improved data availability – e.g. data solutions under Baltic Data Flows, Latvia.
- Methodology and threshold values remain as in HOLAS II.



# State and Conservation - Action requested

The Meeting is invited to:

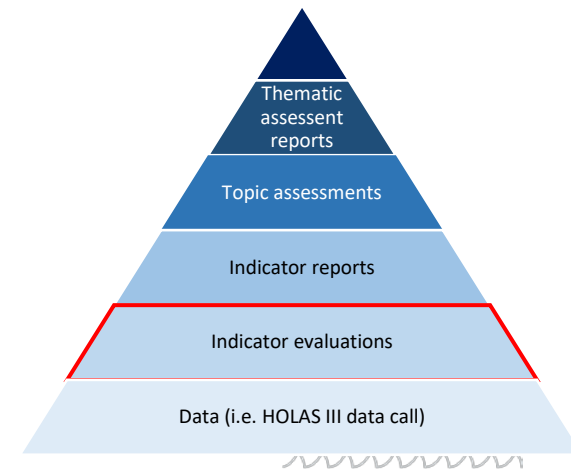
- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment.





# Polychlorinated biphenyls (PCB) and dioxins and furans

- **PCBs and dioxins and furans** - Document 3J.69
- Scale 4, as in HOLAS II.
- Spatial coverage expected to increase - more data and longer time series, improved data availability – e.g. data solutions under Baltic Data Flows, Latvia.
- Methodology and threshold values remain as in HOLAS II.



# State and Conservation - Action requested

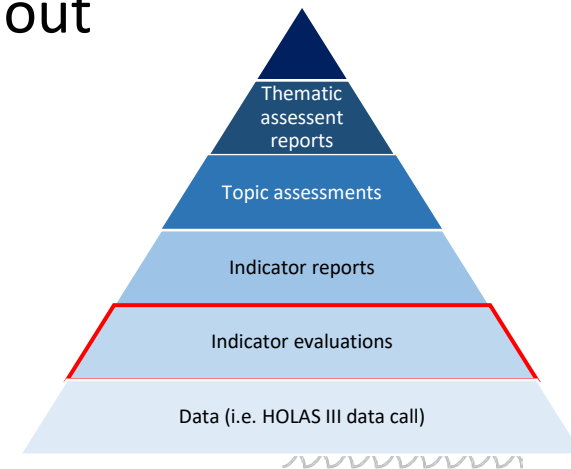
The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment.



# Integrated Biological Effects of Contaminants (I-BEC)

- **Integrated Biological Effects of Contaminants - Document 3J.70**
- S&C 14-2021 (Outcomes paragraph 4J.258) endorsed including biological effects (BEC) as supporting contextual information in the HOLAS III Thematic Assessment.
- Scale 2, possibly scale 3, dependent on data availability for test cases.
- Spatial coverage – focus on test cases currently including the Bothnian Sea, Gulf of Riga, Gulf of Finland and Kattegat areas.
- Follows the Integrated Biomarker Response (IBR) index approach where the “sum” of BEC will utilise the individual parameter evaluations carried out nationally using established methodologies.
- Approach aligned with OSPAR and ICES WGBEC.
- No threshold values applied, utilises establish method specific ones.
- EU welcomed progress son this topic under EN-HZ.
- Resource issue identified to support strong progress by HOLAS III.



# State and Conservation - Action requested

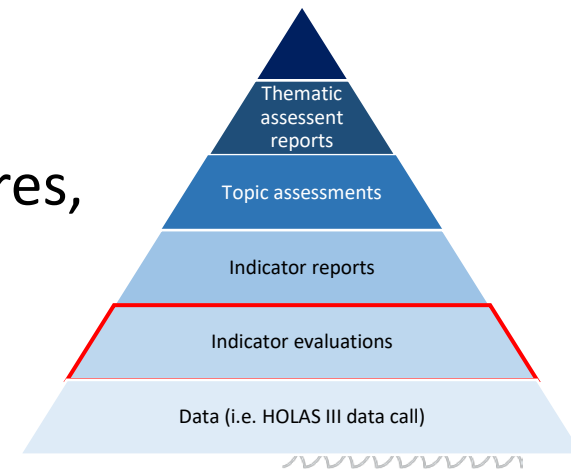
The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment.



# Sediment cores in HOLAS III.

- **Sediment cores in HOLAS III - Document 3J.70**
- **Late document – was ready at EN-HZ 16, but placed in wrong folder at Secretariat!**
- Approach would provide additional supporting contextual information for HOLAS III thematic assessment of hazardous substances.
- Sediment cores represent an archive of contaminants.
- This can be presented against dated layers within the cores.
- Retrospective time trend analysis of sediment cores is therefore useful to assess the efficiency and sufficiency of implemented measures, as well as providing signals for new and emerging compounds.
- Where possible links will be explored between trends seen in the sediment core data and the indicators, the implementation of measures, and to the emergence of new substances.
- Some example data provided in document.
- Examples available include decreasing trends and appearance of new substances in more recent periods.



# State and Conservation - Action requested

The Meeting is invited to:

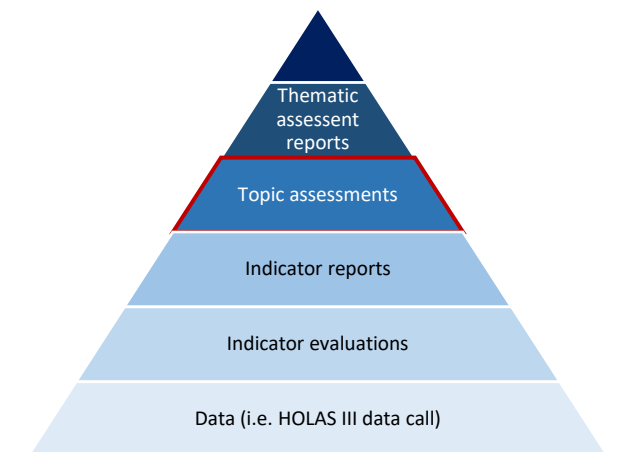
- endorse the inclusion of relevant information in the HOLAS III thematic assessment of hazardous substances.



# Integrated assessment of hazardous substances (CHASE)



- **CHASE** - Document 3J.71
- Further developments/functionalities being carried out under Baltic Data Flows.
- Aim is to build in relevant components so that all can be applied in HOLAS III (once decision processes complete).
- Changes to be implemented previously reviewed by EN-HZ and S&C.
- New substances (Cu/TBT), new TVs (e.g. radioactive substances etc), automation in H-HAT (ICES DOME system), and improved confidence setting.
- Application/presentation of CHASE at Scale 3 or Scale 4?
- Tool being developed to offer flexibility so that final decisions can be implemented as required and no impact on running at HOLAS III expected.



# State and Conservation - Action requested

The Meeting is invited to:

- endorse the planned preparatory work for use in HOLAS III;
- define the appropriate scale at which CHASE should be applied/presented in HOLAS III.

