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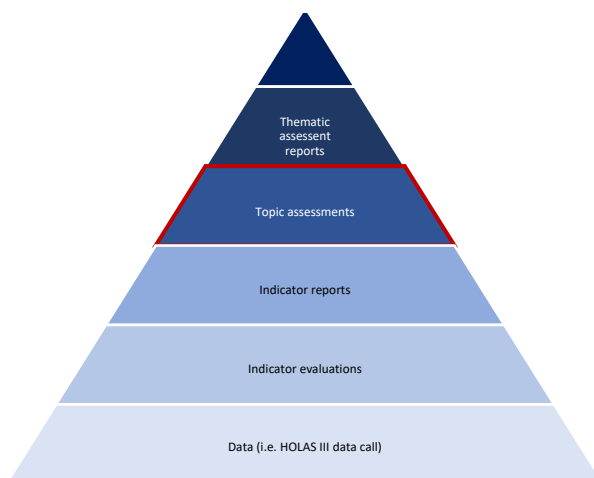
<b>Document title</b>	The integrated assessment of hazardous substances
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## Background

The HOLAS III assessment follows a structure which aims to ensure robust results and traceability across the several steps which are integral to a usable holistic approach. Each of the steps of the process represents a progressively more integrated assessment result, eventually culminating in the holistic assessment report State of the Baltic Sea (see Figure 1 for a conceptual overview). This document presents the plan for integrated assessment of hazardous substances, which builds on the relevant indicator reports and in turn constitutes a chapter in the Thematic assessment report on Pollution (red highlight in Figure 1 indicates which step in the process is addressed by the content of this document).

**Holistic summary report: State of the Baltic Sea**



**Figure 1. Conceptual overview of the HOLAS III assessment structure and the progressive integration of results.**

This document contains an overview of development being carried out for the integrated assessment of hazardous substances tool (CHASE) towards HOLAS III. The actual implementation work is being carried out under the Baltic Data Flows project (activity 5). This has allowed a suitable expert to be identified to carry out the specific changes within the tool code to put in place the requirements identified by EN-HZ during HOLAS II.

The changes being implemented have been reviewed by EN-HZ (e.g. [EN-HZ document 4-2](#)) and State and Conservation previously ([State and Conservation 14-2021 document 4J-83](#)). The practical implementation of these is ongoing within the tool code and is anticipated to be available during 2021, and thus in advance of any application during HOLAS III.

A few further issues have arisen since CHASE work was last reviewed by State and Conservation. These issues do not impact on the tool per se or the running of the CHASE assessment for HOLAS III, though they do have

obvious impacts on the output of the CHASE tool (and minor details will need completing in the CHASE adjustment once decision making processes have concluded).

Firstly, as with the possible addition of new substances such as copper (the subject of document 3J-62 to this meeting and under review for threshold values in HOD), there were threshold value discussions for a number of other substances at EN-HZ 16-2021 (the subject of documents 3J-59 to 3J-69 at this meeting). Once threshold values are approved and the indicator constellation for HOLAS II is known final details will need to be implemented in the CHASE tool to be specific to the HOLAS III 'run'.

It should be noted that these issues do not impact in any way on the ability to run CHASE for HOLAS III, but there will be obvious implications for the status/outcome of the CHSAE assessment. The same is somewhat true of the confidence assessment proposal for the indicators (document 3J-97 to this meeting), though this will not alter the CHASE status assessment but, if applied, is expected to increase the spatial variation in confidence in both the indicators themselves and CHASE assessment.

The final issue that has been raised is related to the appropriate scale at which to apply/present the CHASE integrated assessment. This related to [document 3-5 at GEAR 24-2021](#), from which it is understood that the question is raised as to if integrated assessments and the underlying indicators should be reported under the MSFD at the same assessment scale. In HOLAS II the majority of HELOCM indicators integrated under CHASE were applied at HELOCM Scale 4 assessment units (with the exception of Radioactive substances, Scale2) and CHASE was applied and present at Scales. For the CHASE tool to be applied at Scale 3 and/or 4 is technically possible, however the appropriate assessment scale to apply/present CASE in HOLAS III would benefit from guidance.

The work ongoing under the Baltic Data Flows project aims to prepare the CHASE tool so that it is possible to accommodate all/any of the required changes by HOLAS III, pending final decisions on the specific components (such as threshold values, or core indicator status).

### 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.

## Integrated assessment of hazardous substances (CHASE)

The CHASE integrated assessment tool integrates the hazardous substances concentration indicator evaluations to provide an overview assessment of hazardous substances. It only integrates full 'core' indicators that address concentration of substances, as outlined in the 2018 State of the Baltic Sea report [Thematic Assessment of Hazardous Substances](#).

Work to apply the identified improvements is being carried out under the Baltic Data Flows project, Activity 5, where a subcontractor with suitable experience has been appointed to support the developments identified.

The developments identified have been considered under the Expert Network on Hazardous Substances (EN-HZ) and previous State and Conservation meetings. These include the following:

1. Potential to include additional substances, should further indicators achieve 'core' status (e.g. TBT or Copper concentrations).
2. It is also noted that changes to threshold values, if and once approved, will also be incorporated. This included the proposal to apply the new threshold values developed for the Radioactive Substances HELCOM indicator (if new threshold values are approved), as addressed in document 3J-59 to this meeting).
3. Stronger automation and incorporation into the ICES DOME system so that indicator evaluations can be linked more directly to the integrated assessment.
4. Suitable incorporation of data from the Radioactive Substances HELCOM indicator to this data flow to enable more automated evaluation (the data from the Radioactive Substances indicator is currently housed outside of the COMBINE/DOME system).
5. Improved confidence setting for the CHASE tool – where currently the tool can identify a single metal in more than one sampling matrix type (e.g. Pb in biota and Pb in sediment) and score it with a higher confidence, this will be adjusted to only increase confidence if it reflects the inclusion of more than one independent metal (e.g. Hg and Pb).
6. Development to explore if additional confidence penalties can be included if key parameters driving the overall assessment are missing in an assessment unit. For example, where Hg and PBDE were major drivers of the integrated assessment in the 2018 report an additional penalty would be applied if they were absent.
7. Development to provide the CHASE integrated assessment at both Scale 3 and Scale 4 HELCOM Assessment Units.

None of the ongoing work influences the actual running or application of the CHASE integrated assessment for HOLAS III, these will only provide the possibility to have an improved assessment of confidence within the tool and ensure that if other/new substance concentration indicators are endorsed as core (e.g. TBT and Copper) then the tool will have the capacity to include these by HOLAS III. Other developments aim to improve the efficiency of the data flows (i.e. connecting them to the COMBINE/DOME system under ICES) to work towards greater automation.