



Document title	Input from State and Conservation and GEAR on assessment of benthic habitats for HOLAS III
Code	4-2
Category	CMNT
Agenda Item	4– Progress on other indicator and assessment work
Submission date	1.6.2021
Submitted by	Secretariat
Reference	State and Conservation 14-2021 Outcomes paragraphs 4J.89-4J.94 and GEAR 24-2021 Outcomes paragraphs 5.25-5.28 and 5.50

Background

A concept for how benthic habitats could be assessed under HOLAS III was presented and discussed at STATE&CONSERVATION 14-2021. The concept aims to provide a brief overview of the current status of benthic habitat indicators and potential approaches to incorporate these different components into an overall assessment of benthic habitats for the purposes of HOLAS III. It is recognized that key aspects that are linked to assessment of benthic habitats are underway in EU TG Seabed, however the alignment of HOLAS III work with the needs of the HELCOM Contracting Parties who are also EU member states for national consultation has resulted in that the timeline of HOLAS III and the work plan under EU TG Seabed not being fully aligned for several relevant aspects. This is relevant to consider where development and harmonization work is needed, to strive to include benthic habitats assessment in HOLAS III.

State and Conservation took note of the proposal and invited EN BENTHIC to consider the proposed approach further to support the development of the proposed approach towards HOLAS III with a view to submitting a revised version to STATE&CONSERVATION 15-2021 (STATE&CONSERVATION 14-2021 [Outcomes paragraphs 4J.89-4J.94](#)). STATE&CONSERVATION 14-2021 further emphasized that a transparent way of expressing confidence in the assessment results is also considered important as this information is a key component to support management processes.

The issue of how indicator development in HELCOM should progress where there are potential differences in timelines between the established HELCOM indicator development/adjustment deadlines (i.e. 7 September) and relevant process under the EU (e.g. TG Seabed) was discussed at GEAR 24-2021. This issue is relevant for HELCOM Contracting parties that are also EU member States to ensure harmonization between processes. A series of possible options were presented (see [presentation 5](#) to GEAR 24-2021) to the meeting and while the general approach was supported it was considered important to further discuss what can realistically be achieved at this expert meeting (GEAR 24-2021 [Outcomes paragraphs 5.25-5.28](#)).

The annex to this document contains the concept for assessment of benthic habitats for HOLAS III as presented to STATE&CONSERVATION 14-2021, as well as the comments from Sweden received after the meeting. The outcome extracts from the two meetings are provided below.

Action requested

The Meeting is invited to take note of the proposal, take note of the comments and discussion from STATE&CONSERVATION 14-2021, and to consider further development of the proposed approach towards HOLAS III.

Assessment of benthic habitats

State and Conservation

The following details were provided as feedback to document 4J-70-Rev.1 at State and Conservation 14-2021 ([Outcomes paragraphs 4J.89-94](#)). The document itself (inclusive of comments by Sweden) is included as Annex 1.

4J.89 The Meeting took note of the assessment of benthic habitats (document 4J-70-Rev.1, Presentation 6), as presented by the Secretariat.

4J.90 The Meeting took note of the comments by Finland that it is beneficial to include biological data so that the assessment is not purely done based on pressure data. Finland also considered that it would be important to make visible the proportion of subbasins which are assessed using the risk-based/data driven approach, respectively. In addition, Finland expressed that there is a need to consider how to express confidence in the assessment linked to which approach is being used, i.e. how to address a situation where the confidence associated with each assessment approach for a given area differ.

4J.91 The Meeting noted the comment by Sweden that it is important to identify areas where implementation of measures needs to be prioritized and that the assessment should be focused so that it starts with status assessment as the key component. Sweden also expressed that the eutrophication indicators (except for oxygen) should only be used as part of the risk assessment, not as part of the state assessment section. Detailed comments by Sweden will be sent via e-mail.

4J.92 The Meeting emphasized that a transparent way of expressing confidence in the assessment results is also considered important as this information is a key component to support management processes.

4J.93 The Meeting invited EN BENTHIC to consider the proposed approach further at the upcoming EN BENTHIC 6-2021 meeting.

4J.94 Noting that the document was submitted late, the Meeting invited the Contracting Parties to provide possible further comments to the Secretariat (owen.rowe@helcom.fi) by Friday 21 May 2021.

GEAR

The following details were provided as feedback at GEAR 24-2021. A series of possible options were presented (see [presentation 5](#) to GEAR 24-2021) to the meeting and while the general approach was supported it was considered important to further discuss what can realistically be achieved at this expert meeting (GEAR 24-2021 [Outcomes paragraphs 5.25-5.28 and 5.50](#)).

5.26 The Meeting discussed this indicator and agreed that targeted contingencies need to be established for those indicators which EU process are not fully aligned with existing HOLAS III/HELCOM deadlines. The Meeting discussed and agreed on the contingencies as presents in presentation 5.

5.27 The Meeting acknowledged that any extension of approval processes for individual indicators will be at the discretion of the Heads of Delegation based on the information and rational provided to HOD 61-2021. However, such extensions need to be considered in the wider context of the integrity of the assessment process.

5.28 In relation to Benthic habitats the Meeting considered it valuable to present the agreed contingencies to EN BENTHIC at their next meeting (15 June 2021) to further elaborate the options. The Meeting noted that there were issues that may also need to be separately considered, such as the condition threshold values and the spatial extent components. The Meeting noted that the draft framework for the assessment

of benthic habitats being developed under TG Seabed is anticipated to be available at the end of June 2021 and could be utilized in the further process.

5.50 The Meeting took note of the comment by Germany that the wording used on page 17 of the document 5-12 related to benthic habitats assessment (i.e. “overridden”) would need to be reconsidered and a term such as integrate or aggregate would more appropriately reflect the process.

Assessment of benthic habitats for HOLAS III purposes

The overall assessment of benthic habitats can be explored from both a policy and an ecological perspective, where several of the components interlink. There are different habitat types that need to be considered, for example identified under the HELCOM HUB classification system or via EUNIS MSFD habitat types which are required to be addressed under the EU Marine Strategy Framework Directive (for HELCOM Contracting Parties that are also EU Member States), or specific species or fauna that need to be considered, for example soft-bottom macrofauna communities or hard substrate communities. It should ideally also consider and present information on the full range of status for benthic habitats in a spatial context, e.g. disturbed and lost area and the level of impact. How these aspects interlink and how other external pressures (e.g. eutrophication) influence status are also relevant.

In order to achieve an overarching, where possible integrated, assessment of benthic habitats which is both ecological and policy relevant (e.g. to address the Baltic Sea Action Plan (BSAP) and MSFD) the following components of existing HELCOM data flows and indicators (existing and under development) can be utilized:

Step 1: Utilize the data layer related to 'loss' as collated under the Spatial Pressure and Impact Assessment tool. Note, an additional component related to loss due to high levels of disturbance pressure could also be added as generated under the assessment of the Cumulative Impact on Benthic Biotores Indicator (see later step). This data layer conforms to the MSFD D6C1 requirements.

Step 2: Utilize the data related to 'physical disturbance' as collated under Spatial Pressure and Impact Assessment tool. As part of the preparation for the HOLAS III data call there has been significant effort to align the data call for this aspect as closely as possible with the data needs and data flows for the Cumulative Impact on Benthic Biotores Indicator. This data layer conforms to the MSFD D6C2 requirements.

The above two steps are somewhat dependent on the application of the definition(s) of physical loss and physical disturbance and this aspect may require further discussion and a clear agreement for the purposes of HOLAS III to ensure full compatibility.

Step 3: To assess risk of impact from physical pressures the Cumulative Impact on Benthic Biotores Indicator (CumI) would be applied. This indicator would utilize the above data layer(s) on physical pressures and by intersecting them with sensitivity scores (for the species and habitats) would derive an expected impact (i.e. a form of risk assessment based on known activities and pressures). In the HOLAS III data call there has been an effort made to harmonize the data needs for CumI with other relevant data strands so that all data applied in HELCOM assessments utilize a common data pool. The CumI indicator would also generate a loss portion as part of the assessment protocol that could be transferred to the other relevant steps (i.e. step 1 and the final overview step). This indicator would align with MSFD D6C3.

Step 4: Overarching assessment of benthic habitats. An overview of benthic habitat status is required that would then incorporate monitoring data and could furthermore act as a ground truthing of the risk assessment in step 3. This aspect could align with MSFD D6C4 and C5 consecutively, by incorporating the prior steps described above and also bringing in monitoring data (or relevant 'proxy' monitoring data) where available. It would also require that other pressures such as oxygen, eutrophication, non-indigenous species and hazardous substances are taken into account in the assessment. The next section outlines how, for HOLAS III purposes, such an overarching assessment could be done in practice.

Potential approach for preparing an overarching benthic habitats assessment for HOLAS III

To include an overarching assessment for HOLAS III the following could be considered: Firstly, to apply the outcome of the CumI indicator evaluation as the base layer within the overarching assessment for status of benthic habitat.

As a next step the CumI assessment would be overridden by any evaluation which applies sampling (i.e. non-modelled) data. For sampling data (or well aligned 'proxies') that address benthic habitat status this could take place via the Condition of benthic habitats indicator (once harmonized with the recent proposal, see below). This type of approach has the potential to incorporate data on multiple components, including the output of the existing State of the Soft bottom macrofauna community indicator evaluation, and other available data on habitats or species (e.g. hard substrate species). In addition, the approach could also incorporate other alternatives such as the data derived under the Water Framework Directive assessments in coastal areas on macrofauna, or data on eutrophication parameters where suitable.

The scale at which the data driven evaluations would override the CumI base layer would need to be defined. It could for example be applied at appropriate assessment unit scales, based on habitat types in the locality, or based on applied buffer areas from a given data point/sampling station (e.g. a defined area around the point at which monitoring/sampling took place).

To take into account other factors such as eutrophication, non-indigenous species, oxygen, or hazardous substances the approach under discussion could allow for status to be incorporated. Where scale of assessment are fairly well aligned, such as for eutrophication parameters and hazardous substances parameters which are addressed at HELCOM assessment units Scale 4, these could potentially be applied in a direct way. For example, it may be possible to specifically select hazardous substances assessments that are carried out on benthic species (e.g. mollusks, amphipod reproductive disorders) or where sediment data is assessed against a threshold value. Where scales of assessment are not well aligned (e.g. non-indigenous species is currently assessed at the HELCOM assessment units Scale 1) these topics may need to be address in a qualitative manner (e.g. within the text) for HOLAS III.

Lastly, information on loss of habitat, i.e. the data layer derived in Step 1 above, could also be included into the overall final condition of benthic habitats evaluation. From this the spatial extent of both loss and disturbance per assessment unit and per habitat type could be derived, though this final aspect is highly dependent on the quality of the underlying habitat maps. The implementation of threshold values to carry out this assessment is also a key issue and this is also a discussion underway at EU TG Seabed (as well as the methodology).

To complete an overarching assessment of benthic habitat a confidence scaling would be needed to be included, which reflects the amount of underlying data and the evaluation undertaken. For example, a categorical confidence scaling could be applied where any areas assessed for overall benthic habitats status that relied only on the CumI 'base' assessment would achieve low confidence, areas for which sampling data driven evaluation results are available which are considered as a 'proxy' for full benthic habitats assessment would receive moderate confidence, and areas replaces with high quality monitoring data of direct relevance to benthic habitat status would receive high confidence.

The above overview is loosely based on some preliminary discussion has taken place within EN BNETHIC on these concepts. For example, a concept for addressing benthic habitats under the MSFD was considered (EN BENTHIC 4-2020, [document 6-1 Rev.1](#)) and an overall assessment of benthic habitats (EN BENTHIC 4-2020, [document 6-2](#)), the latter document potentially having synergies with the existing Condition of Benthic Habitats (these are being explores by a sub-group of EN BENTHIC). There are also key aspects that are linked to work underway in EU TG Seabed and the HELCOM HOLAS III deadlines and the work plan under EU TG

Seabed are not fully aligned (e.g. autumn 2021 and end of 2021) for several relevant aspects. This is relevant to consider where development and harmonization work is needed.

Currently, for HOLAS III the following aspects have been discussed.

1. Development of a physical loss data layer* under the umbrella of the SPIA tool.
2. Development of a physical pressures data layer* under the umbrella of the SPIA tool, and harmonized with the data needs for the CumI indicator.
*A meeting between the CumI indicator leads and the Secretariat data teams (including MetDev) is planned to improve harmonization and prevent overlap.
3. The aim is to operationalize the CumI indicator for HOLAS III (planned proposal for move to core status at State and Conservation 15-2021).
4. A sub-group in EN BENTHIC will explore synergies between the Condition of Benthic habitats indicator and the recent proposal on the assessment of benthic habitats (EN BENTHIC 4-2020, [document 6-2](#)). The plan discussed so far is that the team would conclude on commonalities in the approaches and apply the method to spatially distributed test cases (these would reflect different sub-regions but also different data availabilities).
5. In addition there is further development of the State of the soft-bottom macrofauna community underway within an EN BENTHIC sub-group looking to conclude on options and threshold values in areas that are currently not assessed.

Thus, a full Baltic-wide overall assessment of benthic habitats for HOLAS III has not been discussed in detail within EN BENTHIC, however, some of these component parts described above may be relevant.