Baltic Marine Environment Protection Commission

Working Group on the State of the Environment and Nature Conservation

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STATE & CONSERVATION 15-2021

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Background

The document below provides a template filled by indicator leads to provide an overview of progress to STATE & CONSERVATION 15-2021. Key aspects such as methodologies, spatial extent changes, assessment scales and threshold values are presented, identifying ongoing work and other relevant issues towards HOLAS III. This process builds on the prior review of indicator development carried out under STATE & CONSERVATION 14-2021 (summarised in document 4J-16 Rev.1, and detailed within numerous documents under agenda item 4J). The focus of these development works is the completion of indicator development and adjustment work for HOLAS III by the end of 2021, as previously agreed under HOD 57-2019 (document 4-20, Outcomes paragraph 4.51).

The aspect of threshold values in particular is a key issue as threshold value approval will be carried out at HOD 61-2021, with these same templates being submitted to HOD at the same stage as submission to State and Conservation 15-2021 (to allow for the longer national processes required that culminate in approval at HOD).

The document below addresses a single indicator and as well as the generic 'action requests' relating to endorsement of the proposed application in HOLAS III (and the threshold values proposals, where relevant), specific additional requests or statements are also indicated within the separate sections of the document to help guide where further input/discussion/guidance may be needed.

This template aims to report the indicator development for HOLAS III, allowing for technical guidance and endorsement by STATE & CONSERVATION 15-2021 and also simultaneously to facilitate the threshold value approval process by HOD 61-2021.

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.

Polyaromatic hydrocarbons (PAH) and their metabolites

Indicator name
Polyaromatic hydrocarbons (PAH) and their metabolites **State and Conservation are invited, based on the developments described in this document, to endorse the slightly modified approach for this core indicator.**
Scale of assessment for HOLAS III and rational
The assessment scale will not change and will be at Scale 4, as applied in HOLAS II.
Spatial coverage of the indicator for HOLAS III
The spatial coverage is anticipated to increase due to greater data availability in the HELCOM COMBINE data (hosted by ICES), due to longer time series data, due to efforts within EN-HZ to review and update reported data, and due to ongoing work in the Baltic Data Flows project (e.g. national support for Latvia to develop national database solutions and enhanced reporting to COMBINE).
Methodology to be applied for HOLAS III and rational
EN-HZ concluded the review and discussions related to relevant supporting parameters and agreed to maintain Al and CORG, where relevant. The conclusion is therefore that the methodology applied will be identical to that used under HOLAS II. Where relevant the (i.e. where mussels are already used as a sampling matrix) then EN-HZ proposes that the zebra mussel should also be included, applying the same methodology and threshold values already established for other bivalve species. It was also concluded in EN-HZ that the PAH metabolites are considered to represent a biological effects parameter. On this basis the proposal was developed that the PAH metabolites would be evaluated as part of the existing indicator (as they are already a component part of the MIME assessment tool) and that these results would be presented within the indicator report (and thus easily available to Contracting Parties). However, the results on metabolites would be maintained as separate within the reports and not integrated under the CHASE integrated assessment of contaminants (concentrations), the metabolite data would however be taken into the integrated Biological Effects process that is under development. **The State and Conservation meeting is requested to endorse the inclusion of the zebra mussels, as proposed by EN-HZ, for the HOLAS III assessment, where it is relevant and monitored.** **The State and Conservation meeting is requested to endorse the proposed approach for including the PAH metabolites in the indicators and 'downstream' assessments.**
Threshold value setting logic and rational
There are however proposals from Denmark to adjust the secondary threshold values in sediments. The basis of these changes is that Denmark has carried out extensive national work to propose new threshold values based on updated scientific knowledge and included new relevant data from the Baltic Sea region. The background information and scientific justification for the proposed changes is

available in documentation within the EN-HZ 15 and 16 meeting sites and will be included as reference material in all indicator documentation.

Threshold value(s)

PAHs (fluoranthene): Secondary threshold - **proposal for 3500 µg/kg (5% CORG)** in sediment to replace current 2000 µg/kg (5% CORG). The current threshold value has an existing study reservation from Denmark and the newly proposed threshold value was supported by EN-HZ since it is correcting an error identified in the EQS dossier from which the current threshold value was derived.

PAHs (anthracene): Secondary threshold - QS 24 ug/kg dw sediment will be maintained for HOLAS III, but Denmark will retain their study reservation on application of this value in their national waters. Denmark will propose an option at State and Conservation to facilitate this data being used in assessment of other Contracting Party's waters.

For PAH metabolites the parameter 1- hydroxypyrene is proposed to be utilised in HOLAS III. The previous application of this parameter and threshold value was subject to a study reservation by Denmark, but discussions have been carried out under EN-HZ to clarify the application. On the basis of these expert discussions it is proposed that 1- hydroxypyrene would be assessed against the 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 the possibility to develop appropriate conversion factors and checks to assess the potential for including data derived using the SFS (fluorescence) method, in addition to GC/MS and HPLC analytical techniques.

The State and Conservation meeting is requested to endorse the newly proposed threshold values, as proposed by EN-HZ, for the HOLAS III assessment.

Other significant issues that need to be addressed or presented to State and Conservation

No specific issues are noted for the current process.

Latest indicator report or (for new indicators) initially completed indicator template

The latest version of the indicator is available on the HELCOM indicator web page, here.