



Baltic Marine Environment Protection Commission

Working Group on the State of the Environment and Nature
Conservation

Online, 4-8 October 2021

Document title	Progress in updating the indicator aggregation in HEAT 3.0
Code	3J-56
Category	CMNT
Agenda Item	3J - Progress of relevant HELCOM expert groups and projects
Submission date	13.9.2021
Submitted by	IN Eutrophication
Reference	IN-EUTROPHICATION 21-2021, outcome paragraph 5.7

Background

Improving the aggregation rules of the HEAT 3.0 tool to be more ecologically coherent was discussed at IN-EUTROPHICATION 15-2019 and has also been listed in the workplan for future work on eutrophication indicators of the Second HELCOM INDICATOR Workshop as one of the topics that need improvement. Currently the indicator aggregation to criteria level in HEAT is carried out by using weighted averaging and one-out-all-out between aggregation groups (categories I, II and III).

IN-EUTROPHICATION 16-2020 suggested changes in the aggregation procedure (based on the proposal provided in [Doc 5-4](#) to that meeting), particularly moving the Secchi depth indicator to category III (Indirect effects of nutrient enrichment) from category II (direct effects). The meeting took note that Finland, Germany, and Sweden supported the approach suggested by Denmark to move Secchi depth to indirect effects (organic matter accumulation). Further proposals for additional groups such as ecosystem functioning are dependent on future indicator developments and should therefore be considered in the longer term.

IN-EUTROPHICATION 19-2021 further discussed this aggregation and noted that though scientifically justified, the consequence of this change is that the HOLAS II and III eutrophication assessments are not 1:1 comparable. The meeting supported the proposal on the aggregation rules in principle and agreed to submit the proposal to State & Conservation for approval.

STATE & CONSERVATION 14-2021 concluded that several CPs were of the opinion that the proposed integration rules for use in HOLAS III may need further consideration. To support further discussion, and with the aim of coming to a shared understanding prior to HOLAS III, the meeting invited IN EUTRO to test both alternatives to demonstrate the effect of the integration rules on the assessment results and to present these results at STATE & CONSERVATION 15-2021 for further deliberation and agreement.

IN-EUTROPHICATION 2021 held on 1-2 September discussed the aggregation rules in the HEAT tool (moving Secchi depth to indirect effects) and recalled a request by State & Conservation to present results from reruns of the modified assessment to illustrate moving the Secchi depth to indirect effects. The meeting noted that the reruns have not been implemented yet, the main hindrance being that oxygen debt and cyanobacterial bloom index indicators are not yet included in the HEAT procedure in R, and thus the results presented now would not be reflective of the real effect of the change in the aggregation rules.

The meeting agreed to come back to the issue after all HOLAS III indicators have been agreed and feasible test-runs including all available indicators in categories II and III have been made.

Action requested

The Meeting is invited to consider the progress in testing indicator aggregation and discuss a way forward for the changes that will be implemented by HOLAS III