Baltic Marine Environment Protection Commission

HELCOM expert network on economic and social analyses (EN ESA) meeting

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Background

The HELCOM BLUES project[1], co-financed by the European Union, runs in 2021–2023. The project covers topics related to biodiversity, litter, underwater noise, and effective regional measures and aims at supporting HOLAS III and the implementation of the BSAP and the MSFD for those Contracting Parties that are member states of the EU.

BLUES Activity 1 focuses on analyses to support effective regional measures and policies. It further develops the approaches and data for socio-economic analyses previously conducted as part of HELCOM TAPAS, SPICE and ACTION projects that supported HOLAS II and the BSAP update.

One of the tasks in Activity 1 of BLUES is to continue the development of a regional sufficiency and effectiveness of measures analysis for achieving good environmental status of the marine environment and carry out an updated analysis. The work builds on the sufficiency and effectiveness of measures analyses first performed in ACTION. Both the approach and data are further developed in BLUES. The sufficiency and effectiveness of measures analysis in BLUES is conducted in mid to late 2022 when approach development has been finalized and relevant data have been gathered.

The BLUES project is in its early stages and significant internal scoping work and methodology development is planned for Q2-Q3 in 2021. The opinions and expertise of EN ESA are being sought to guide this ongoing development work.

Action requested

The Meeting is invited to

- provide comments to the proposed updates to the approach for the sufficiency and effectiveness of measures analysis.

[1] The "HELCOM Biodiversity, Litter, Underwater noise and Effective regional measures for the Baltic Sea" (HELCOM BLUES) project is led by HELCOM and co-funded by the European Union. More information at https://blues.helcom.fi

Sufficiency and effectiveness of measures

Numerous improvements to the framework for assessing the sufficiency and effectiveness of measures, developed by the ACTION project, are planned during BLUES. However, the impact of these improvements on the assessment outcome for many topics will be limited by data availability. This primarily relates to a general lack of details concerning future measures and an issue where some planned improvements can only be implemented following new rounds of expert surveys. However, please note that BLUES will only be conducting surveys in special cases related to new environmental topics developed within BLUES and resurveying the marine mammals topic from ACTION. As a result, some topics may not see substantial revision from the ACTION results.

Targeted areas of improvement

1. Improved consideration of spatial aspects

A minimum spatial resolution for the updated model has been agreed within the project. In the Baltic Sea, the model will track each national area of the HELCOM scale 2 sub-basins (42 total areas), on land each catchment area draining into the Baltic Sea plus national borders and German states, and outside the Baltic Sea region the North Sea and all other areas will be tacked separately. This plan greatly increases the spatial resolution on land while making modest improvements to the resolution of marine and outside the Baltic Sea region areas. Model development is ongoing and further improvements are still being considered, in particular, concerning spatially restricted measures, such as marine protected areas.

2. Improved consideration of joint and transboundary effects

One weakness from the original methodology is overly rigid links between pressures and states. This caused difficulty when considering the joint impacts of measures targeted toward pressures that persist in the environment for years, decades or longer following their introduction to the environment, e.g. hazardous substances, marine litter, nutrients. By including more flexible relationships between pressures and states, including allowing for state-to-state relationships, more joint effects can be tracked in the model. It is not yet clear how broadly this improvement can be implemented as this will depend on the final format of other improvements.

Transboundary effects are being improved in a number of ways. First, by tracking the North Sea separately from the rest of the world, improvements in the projections and reporting for non-indigenous species and reporting for input of nutrients can be achieved. Secondly, the greatly increased spatial resolution on land will enable much better tracking and reporting of transboundary effects. Finally, potential improvements in data resolution will improve projections of many transboundary pressures and state components.

3. Adding missing model links

Many important pressures in the SOM model are not currently quantitatively linked to measures. The primary missing link in the ACTION model is between the input of nutrients and effects of eutrophication, though other missing connections are being reviewed as well. Bo Gustafsson has generously agreed to conduct limited runs of the BALTSEM model to provide the missing quantification between the input of nutrients and effects of eutrophication. Further development is on hold awaiting the conclusion of PLC-8 work on scattered dwellings expected in September 2021.

4. Improved data on effectiveness of measures

Due to development timelines in the ACTION project, the use of literature-based effectiveness of measures estimates was limited. Through cooperation across Activities within the BLUES project and with relevant HELCOM expert groups and networks, a weighting methodology for the inclusion of literature-based estimates will be implemented. It is anticipated that with the use of various weighting strategies, the number of included effectiveness estimates from existing studies can be significantly increased. Additionally, the parallel development of some methodologies within ACTION resulted in the exclusion of many literature-based estimates due to a mismatch between the functional form of various measure types. BLUES will restructure the measure types as needed to correct these mismatches. The prevalence of this issue varies by topic but will result in large increases in the use of literature-based estimates for some topics.

5. Add new topics, indicators and GES threshold values

BLUES will be adding new topics, indicators, and GES thresholds to the SOM analysis, primarily through work conducted within other activities of the BLUES project. New topics may include offshore non-commercial fishes and pelagic habitats and will be determined during Q4 2021 in consultation with experts within BLUES.

New GES threshold values exist or are being developed for beach litter, offshore non-commercial fishes, harbour porpoise, zooplankton and phytoplankton. These values will be included in the analysis depending on their development timelines.

6. General improvements

The responses received by topic experts to the expert surveys and feedback received from the Contracting Parties and HELCOM bodies have highlighted several more general areas for improvement. These are to be addressed in two ways.

A strength and weakness of the SOM analysis is the very large amount of results that it produces. Through feedback from the Contracting Parties and HELCOM bodies, ACTION was able to better understand what outputs would be most relevant and useful to the HELCOM community. However, many of the requested outputs required were not readily extractable from the original model. As resources allow, more output flexibility will be included in the model which will allow for a dynamic reporting process that meets the needs of the HELCOM community. No time is specifically budgeted for this in BLUES, rather it is a principle that will be considered while implementing other aspects of the work. If resources become limiting to the project, only minor improvements may be possible.

Development of the topic structures and measure types under ACTION was highly dependent on the level of expert involvement and the developing expertise of the ACTION project itself. As a result, the quality of these structures varies considerably between topics. BLUES considers that a standard procedure of updating the SOM analysis is the review of these topic structures and measure types. It is anticipated that this process will result in a wide range in the magnitude of topic improvements, from a total redesign to limited or no change.

Table 1 Planned timetable for the BLUES work related to the CBA

Task	Estimated timing	Estimated availability of a detailed outline
Improved consideration of spatial aspects	January 2021 – December 2021	September 2021
Improved consideration of joint and transboundary effects	January 2021 – December 2021	December 2021

Adding missing model links	January 2021 – December 2021	October 2021
Improved data on effectiveness of measures	January 2021 – January 2022	January 2022
Add new topics, indicators and GES threshold values	July 2021 – January 2022	January 2022
General improvements	January 2021 – December 2021	December 2021
Carry out improved effectiveness of measures analysis	January 2022 – September 2022	January 2022