



Document title	Progress on the analysis of sufficiency of measures (SOM)
Code	3-4
Category	CMNT
Agenda Item	3 – Implementation and update of the Baltic Sea Action Plan
Submission date	18.2.2020
Submitted by	Secretariat

Background

Sufficiency of measures (SOM) analysis is one of the activities agreed through the [Strategic Plan for the BSAP update](#) (cf. activity 2.5). The analysis is guided by the HELCOM SOM Platform, established by HOD 55-2018, and carried out through the HELCOM ACTION project¹ and through the lead by Contracting Parties on specific topics covered by the analysis (see e.g. HOD 56-2019, [document 2-2](#)).

The analysis of sufficiency of measures (SOM) will identify gaps in existing measures to reach good environmental status and contribute to identifying needs for new actions for the updated BSAP.

Preliminary results of the SOM analysis will be prepared by March 2020 and an initial evaluation of the results is planned for at the 3rd HELCOM SOM Platform meeting, taking place 24-26 March 2020, Helsinki, Finland.

This document presents the general progress of the SOM analysis and the current situation of data collection on fish, as well as how the results will be used in further BSAP update process.

Action requested

The Meeting is invited to:

- take note of the progress on the SOM analysis and consider the input from expert surveys
- take note of the validation by the Fish Group that will take place in April/May 2020

¹ HELCOM ACTION project is co-financed by the EU and coordinated by HELCOM.

Analysis of sufficiency of measures

Background

The aim of the sufficiency of measures (SOM) analysis is to assess improvements in environmental state and pressures that can be achieved with existing measures by 2030-2035, and whether these are sufficient to achieve good environmental status (GES) in the Baltic Sea. The SOM analysis is carried out for the main environmental themes in the HELCOM [‘State of the Baltic Sea’ report](#), including birds, mammals, fish, benthic habitats, non-indigenous species, hazardous substances, marine litter, underwater noise and input of nutrients. The same overall approach is applied across all topics to ensure comparability and coherence of the results.

The SOM analysis entails estimating the status of the marine environment at a specific future point in time, given measures in existing policies, their implementation status and predicted development of human activities over time (Figure 1).

In addition to supporting the identification of gaps to good status, the analysis provides information, for example, on the relative contribution of activities to pressures, effectiveness of measures types in reducing pressures from activities, most significant pressures affecting state components, pressure reductions required to achieve GES/status improvements, status improvements/pressure reductions from existing measures, and time lags between measures and environmental state.

More information on the SOM analysis is available on a dedicated page at the [HELCOM website](#), as well as a [webinar](#) given in January 2020.

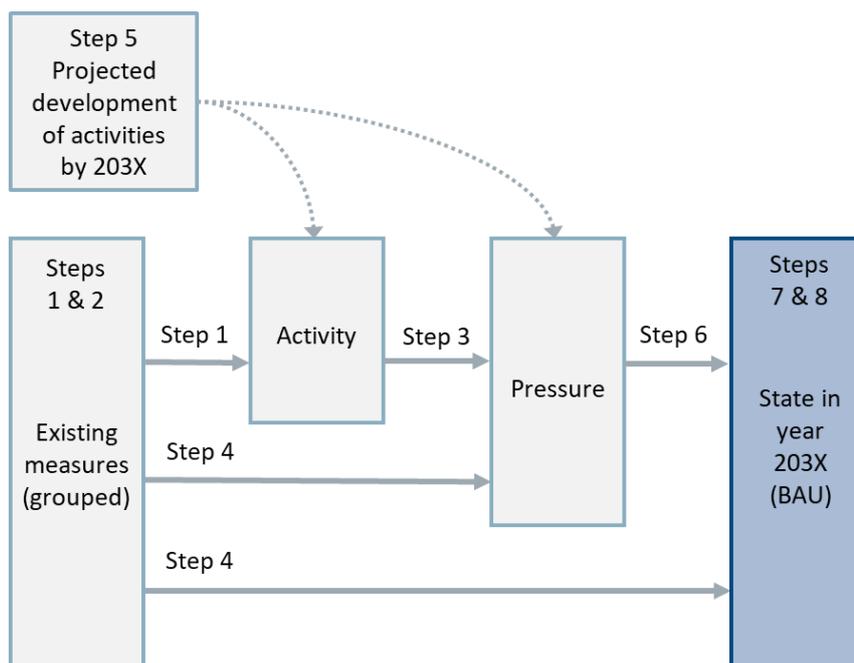


Figure 1. Recollection of the main components and steps of the SOM analysis

- Step 1. Existing measures, including activity-measure links
- Step 2. Estimating time-lags for measure effects on pressures
- Step 3. Identifying main pathways for pressures using activity-pressure linkages
- Step 4. Estimation of effects of measures
- Step 5. Projected development of human activities/pressures
- Step 6. Linking reduced pressures with state components
- Step 7. Comparison of BAU and GES and assessing sufficiency of measures
- Step 8. Assessment of the effect of time-lags to recovery on state components

Collection of input to the analysis - ongoing

The collation of data for the SOM analysis is ongoing and anticipated to be ready by end of February 2020. This includes data on activity-pressure contributions (step 3), effectiveness of measures (step 4), state-pressure linkages (step 6) and projections of human activities (step 5).

For activity-pressure contributions (Step 3), a data-driven approach has been used for loss and disturbance to the seabed (data collated during HOLAS II project), introduction of non-indigenous species (based on entries to the AquaNIS database) and input of nutrients (ACTION WP4, based on PLC-6). For the remaining relevant topics, an expert-based approach has been employed and activity-pressure surveys have been distributed to relevant HELCOM expert bodies and SOM topic teams. Additional responses have still been sought in early 2020 for some of the topics. An overview of responses received per topic and country will be collated for SOM Platform 3-2020.

Expert surveys on effectiveness of measures (Step 4) and pressure-state linkages (Step 6) have been implemented in December 2019 – February 2020. The expert pool was formed from the representatives of the relevant HELCOM expert networks and groups, as well as additional experts nominated by Contracting Parties (representatives of HELCOM Working Groups and SOM Platform) specifically for the task. Altogether, 469 experts (unique cases) were identified as potential respondents to the surveys, with 35-114 experts per topic. An overview of responses received per topic and country will be collated for SOM Platform 3-2020. An overview of responses for fish is provided in the section below. Expert data on the effectiveness of measures will be complemented with the results of a literature review carried out by the ACTION project and the Secretariat.

Projected development of human activities (Step 5) is also based on compiling relevant national and regional literature and the report will be reviewed by SOM Platform 3-2020.

The data from the expert surveys on activity-pressure contributions, effectiveness of measures and pressure-state linkages, as well as the literature review on the effectiveness of measures will be validated by HELCOM Working Groups in spring 2020. The validation will take place intersessionally (via correspondence or online meeting) or through the WG spring meetings ([follow link for details](#)), depending on the timing of the meeting. Topic-specific summary statistics and distributions of the responses will be presented for validation. The data will also include summary information of the background of the respondents, i.e. their country, organization type, field and years of experience.

Expert surveys on fish

Note: The information in this section on the number of responses and experts is current as of 16.2.2020. Survey data collection will continue through 29.2.2020.

The topic structure of fish in the SOM analysis was guided jointly by the standardized SOM approach, a topic team led by Sweden (coastal and commercial fish) and Finland (migratory fish), and a SOM workshop held on 4.11.2019 in Warsaw, Poland ([SOM-FISH WS 1-2019](#)). Fish is the largest single topic in the SOM analysis, with 35 different state components and an effectiveness of measures survey covering 7 species/species groups. Due to the size of the topic, the pressure-state survey was divided into three separate surveys: coastal fish, commercial fish, migratory fish. An Excel document covering the [structural format of the surveys](#) is available on the [SOM Platform workspace](#). The document includes all measure types, GES thresholds, and calculations for the current state of migratory and commercial fish stocks relative to their GES thresholds.

106 experts received an invitation to participate in the SOM fish surveys beginning 18.12.2019. Experts were identified from the HELCOM ACTION project, relevant HELCOM expert bodies, or were nationally nominated. An additional 10 experts participated that were not on the invitation list, primarily as part of a group response containing experts from the original invitation list. The responses from these additional experts are proposed to be treated the same as those of invited experts. Furthermore, group responses will

be weighted by the number of contributing experts whose personal expertise would have allowed an individual response to the submitted answers. Follow-up with this type of submission is ongoing (at this point, 5 of 15 Fish Group responses have been clarified).

In addition to the SOM surveys, a literature review is being conducted to provide additional data on effectiveness of measures. The review is considering both data for inclusion into the model (requires information on effectiveness in percent (%) pressure reduction) or as qualitative input into the interpretation of the model outcome. The literature review for fish is ongoing and expected to be completed in March.

Activity-pressure surveys

Activity-pressure surveys were required in the SOM analysis when multiple activities contribute to a single pressure and no data-based approach was available to distinguish relative contribution of the activities to the pressure. As all the fish specific pressures are only generated by one activity, i.e. extraction of fish is only caused by fishing, no activity-pressure surveys were targeted toward fish experts.

Effectiveness of measures survey

31 surveys returned; 37 contributing experts

Sub-topic	Surveys returned
Coastal fish	14
Cod	7
Flatfish	7
Pelagic fish	9
Salmon	7
Seatrout	8
Eel	11

Migratory fish Pressure-State survey

16 surveys returned; 23 contributing experts

Sub-topic	Surveys returned
Salmon in assessment units 1-2	3
Salmon in assessment unit 3	3
Salmon in assessment unit 4	5
Salmon in assessment unit 5	4
Salmon in assessment unit 6	4
Seatrout - Gulf of Bothnia	2
Seatrout - Gulf of Finland	3
Seatrout - Western Baltic	3
Seatrout - Eastern Baltic	3
Seatrout - Southern Baltic	6
Eel - Entire Baltic Sea	9

Commercial fish Pressure-State survey

13 surveys returned; 20 contributing experts

Sub-topic	Surveys returned
Herring SD 20-24, spring spawners	5
Herring SD 25-29, 32 (excl Gulf of Riga)	8
Herring SD 28.1 (Gulf of Riga)	1
Herring SD 30-31	4
Sprat SD 22-30, 32	9
Cod, western	7
Cod, eastern	10
Plaice	5

Coastal fish Pressure-State survey

14 surveys returned; 24 contributing experts

Surveys returned	Perch and other piscivores	Cyprinids and other mesopredators	Coastal Flounder
Gulf of Bothnia	3	3	NA
Gulf of Finland	3	3	NA
Gulf of Riga	2	1	NA
Central (Swedish coastal areas only)	2	2	2
Eastern Gotland Basin (Latvian and Lithuanian coastal areas only)	2	2	1
South (Polish coastal areas only)	2	2	5
Southwest (Danish coastal areas only)	NA	NA	2

National contributions to the SOM surveys

41 distinct contributing experts across all fish surveys. Counts in the table below are the number of contributing experts and includes the responses of observers based in the individual CPs.

	DE	DK	EE	FI	LT	LV	PL	RU	SE
Effectiveness of measures	5	5	5	6	2	-	2	-	12
Coastal fish Pressure-State	-	4	2	2	2	-	3	-	11
Migratory fish Pressure-State	6	-	3	2	1	-	2	-	9
Commercial Fish Pressure-State	3	5	-	1	2	-	3	-	6

Validation of SOM data by the FISH Group

The FISH Group will be requested to validate the expert survey data on the effectiveness of measures and pressure-state linkages for fish, as well as the literature review data on effectiveness of measures for fish. In addition, the FISH Group will participate in the validation of data for some other SOM topics, such as non-indigenous species and benthic habitats, as detailed in [this document](#). The validation will take place intersessionally, likely in April or May 2020.