Document title	Progress on BalticBOOST activities to develop joint principles for environmental targets for pressures affecting seabed habitats
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Background

The general objective of the BalticBOOST project is to enhance regional coherence in the accomplishment of the 2018 reporting under the MSFD by developing joint tools, defining data needs and to set up data arrangements to support indicator-based assessments of the state of and pressures on the Baltic Sea. The WP 3.1 of the project has the objective of developing joint principles to define environmental targets for pressures affecting seabed habitats.

This document summarizes the developments so far and also outlines links with relevant ongoing process.

Action required

The Meeting is invited to:

- take note of the information
- consider the links to other processes and provide guidance as appropriate

Developing principles for HELCOM joint environmental targets: a progress report by the BalticBOOST project

General objectives and specific tasks

The WP 3.1 of the BalticBOOST project has the objective of developing joint principles to define environmental targets for pressures affecting seabed habitats. The work will be based on a literature study of reported impacts of human activities on benthic species and habitats as well as a series of case studies where more data-driven approaches are used to analyze the relationship between impacts and the state of environment (see figure 1). The WP 3.1 partners are SYKE (WP leader), IOW, ICES, SLU and DTU Aqua.

The WP has started to approach the environmental targets from the human activity perspective; how much pressure an activity can produce without causing significant impacts on the marine ecosystem? Figure 1 outlines this approach in its part B, where the decrease of pressures from the current state will lead towards good environmental status (GES). In this scheme, the environmental target (blue line) is placed near GES and the GES is presented as a 'fuzzy area' on the pressure scale. This is considered to reflect the reality where it is extremely difficult to define exact dependency between a pressure and state. The part A of Figure 1 presents the simpler expression of GES on a status scale.

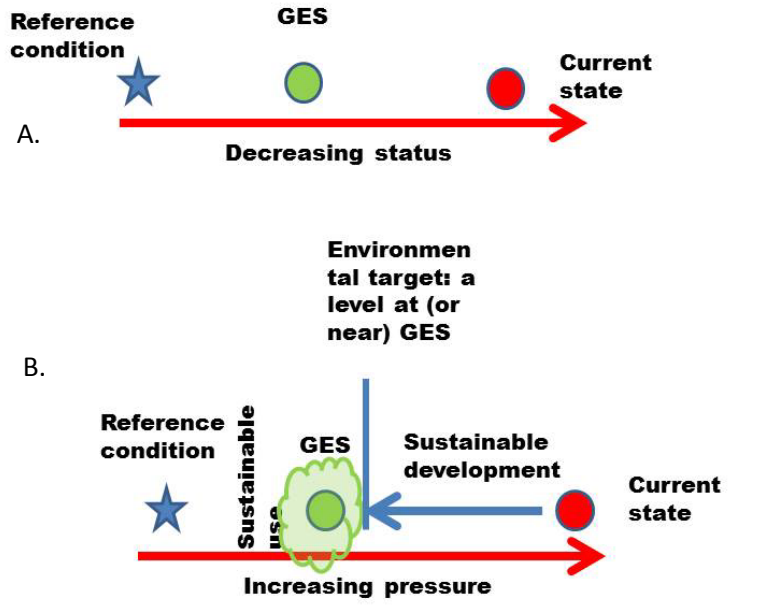


Figure 1. Schematic picture of the relationship between GES (part A) and the environmental target (part B). Note that the red arrow indicates status in the upper figure but pressure in the lower figure. See also text.

The main deliverable of the WP 3.1 is a report of principles which should be considered when setting up environmental targets for pressures affecting the sea floor. However, the WP 3.1 will also support the development of impact estimates which are needed in the Baltic Sea Impact Index, being developed in the HELCOM TAPAS project. Moreover, the benthic impact analysis can also support the development of the HELCOM core indicator for cumulative impacts on benthic habitats.

The WP 3.1 consists of six tasks:

Task 1) Identify the pressures for which development of environmental targets is relevant i.e. the pressures that are having a major impact on the seabed habitats in the Baltic Sea.

Task 2) Identify the sectorial activities that are linked to the pressures as identified above, and map the coverage and intensity of some major pressures on case specific basis.

Task 3) Explore ways to determine how much disturbance the seafloor can tolerate while remaining in GES.

Task 4) Test the relationship between GES and pressures in a number of desk case studies with available pressure and seabed habitat/community data. Knowledge on impacts on different seabed habitats from fishing (gathered under the Generic Tool WP 3.2) will be considered and incorporated in

these test cases. Using VMS data, provide a scenario and case based spatial management tool to assess the consequence of different fishing pressure levels.

Task 5) Prepare background documentation and carry out 2 workshops with experts invited from HELCOM Contracting Parties to discuss a) the sustainable levels of disturbance on the seafloor and b) how the sustainable levels of disturbance can be translated into environmental targets for specific pressures and specific habitat types using information on case specific basis.

Task 6) Prepare a final report where the findings of the WP are presented and the proposed HELCOM principles and good practices for defining environmental targets for the seabed habitats are presented.

Progress with the tasks

The WP 3.1 started in December 2015 with the tasks #1 and #2. The resulting activity-pressure matrices were presented for the HELCOM TAPAS workshop on pressures and impacts in 27-28 January 2016. The workshop further developed the matrices, which contributed to the development of Baltic-wide pressure data layers and the HELCOM data call for national pressure data. The other tasks of this WP will be built on the activity-pressure matrices.

The tasks #3 and #4 require most of the working time in the WP 3.1. A literature analysis is being carried out with an estimate of >100 peer-reviewed and non-peer-reviewed papers. The results (e.g. quantitative amount of an activity, impacts of that specific pressure on a species variable, spatial extent of that pressure, recovery after cessation of the activity) are being recorded on a template. An initial synthesis of the findings will be presented for the HELCOM BalticBOOST WP 3 workshop in 2-3 June 2016. The workshop will include both the fisheries and non-fisheries impacts. After the WS, 4-5 case studies will be analyzed where two approaches will be used: (1) compare pressure data with the environmental data and (2) re-analyze big EIAs in the marine environment (e.g. large construction projects, before-after-controlled-impacts (BACI) studies, etc). The case study areas or cases have not yet been finally decided. Results from the case studies will be presented in the second HELCOM BalticBOOST WP 3 workshop, tentatively planned to be held in September.

An important part of the literature analysis (task #3) and the case studies (task #4) is a synthesis of spatial extent of pressures and the form of dilution/decrease from the pressure source. Information on this will be incorporated into the production of pressure data layers by the Secretariat, because most of the source data will be in the form of point, lines or polygons of activities without any estimate of their extent or dilution from the source.

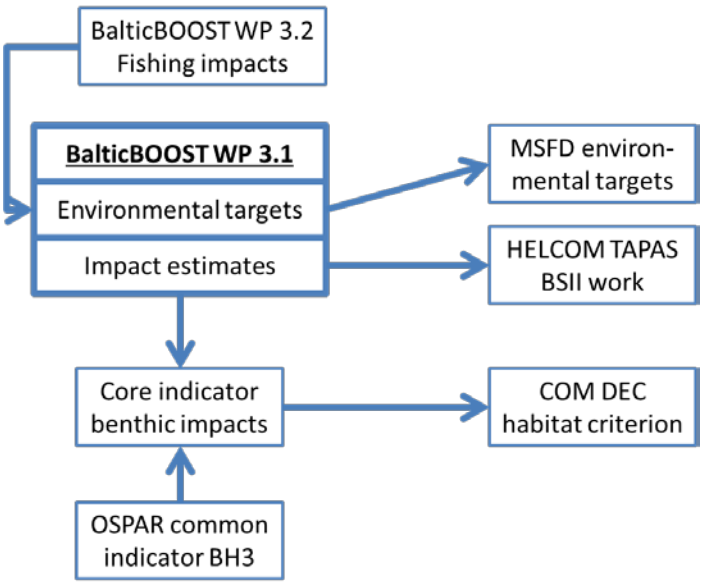
The tasks #3 and #4 also analyze recovery times of different species or habitat variables. This information is seen as an essential part of the overall impact estimate. Also the OSPAR BH3 (and the related ICES advice to EC on impacts of fishery on benthic habitats) defines impacts on the basis of recovery, while also the resistance of habitats is used to define the overall impact. The latter information is collected in the WP 3.1 but its use will be a matter processes outside WP 3.1 (especially the HELCOM TAPAS).

The report (task #6) will include the draft principles for environmental targets and also present the other conclusions of the WP 3.1. This task will only start after the June workshop. It has not yet been considered what types of principles will be needed for the environmental targets.

Links with the HELCOM and EU processes

The WP's main deliverable – principles for environmental targets in sea floor – can support Contracting Parties in their updating of the environmental targets under the EU Marine Strategy Framework Directive article 10. In the Initial Assessment 2012, the EU COM judged these targets to be only partly adequate and to have only moderate coherence with associated indicators in the Baltic. The MSFD environmental targets

are expected to be measurable and specific and related to lead towards GES by reducing anthropogenic pressures and human activities. The BSAP nutrient reduction targets are seen as a good example of environmental targets.



In the sister WP of the BalticBOOST (WP 3.2), fishing impacts on seabed are being developed and this work feeds directly into the WP 3.1 through the partnership and regular skype meetings.

HELCOM TAPAS project (WP 1) has the objective of further developing the Baltic Sea Impact Index (BSII). The index requires spatial data layers of pressures and ecosystem components as well as estimates of impacts. The BalticBOOST WP 3.1 feeds impact information to the TAPAS development work, including the spatial extent information. The two processes have relatively similar time tables.

The OSPAR common indicator '*The extent of physical damage to predominant and special habitats'* (so-called BH3) has been agreed to be used in the OSPAR region for the assessment of the state of the sea bed. The indicator resembles the HELCOM Baltic Sea Pressure Index (BSII). Within the BalticBOOST a comparison paper of BH3 and the BSII was made in order to understand the potential similarities of the two methods. According to the comparison, the methods are sufficiently similar to enable exchange of material and good practices and they are seen to produce comparable impact maps. Impacts leading to physical loss, that have been omitted in the OSPAR indicator set, will be added.

The HELCOM pre-core indicator for cumulative impacts on benthic habitats is being developed by a team of experts. The BalticBOOST WP 3.1 and the TAPAS WP 1 will support this development work and it is expected that the indicator will significantly progress during 2016.

The newly proposed revision of the EU Commission's Decision 477/2010 on GES criteria and methodological standards has a criterion for habitats, which is built on spatial impacts on benthic (and pelagic) habitats. The BalticBOOST WP 3.1 effort in connection with the other HELCOM work (see above) is expected to contribute to this proposal.