Document title	Background to the BalticBOOST WP 2.1 tests
Code	Doc 1
Category	INF
Submission date	8.7.2016
Submitted by	Secretariat

Background

The first HELCOM BalticBOOST workshop on HOLAS II hazardous substance assessment (BalticBOOST HZ WS 1-2016) was arranged to provide input to the planning of work for the hazardous substance assessment tool to be developed in the HELCOM coordinated EU co-financed project BalticBOOST, WP 2.1. The workshop proposed five test outputs to be developed in the testing phase to allow for comparison of different integrartion approaches, recognizing the need to both carry out an integrated assessment for BSAP follow up needs and provide the information required for MSFD reporting using HELCOM core indicators and national WFD assessment results. The proposal was supported by State and Conservation 4-2016 (para 4J.57) and HOLAS II 5-2016 (para 4.6).

BalticBOOST WP 2.1 will test integration using the tool in selected test case areas that provide a good geographical representation of the Baltic Sea. The final suitability of the offshore test case areas will be determined when the COMBINE data extraction is done in August. The EN-HZ 2-2016 (point 35) supported the proposed selection of offshore test areas, and making one test case in a coastal area to compare with the outcome of the WFD assessments was also considered relevant.

The final selection of the analyses and results to be used in the hazardous substance assessment in HOLAS II will be made by the relevant HELCOM subsidiary bodies. The tests to be carried out through the work of BalticBOOST WP 2.1 will provide the basis for comparisons of the suitability of each method to support the selection of the method to be used in the HOLAS II assessments.

This document presents the background to the test outputs and case studies to be carried out by BalticBOOST WP 2.1.

Action required

The workshop is invited to take note of the information and use it as appropriate.

Background to the BalticBOOST WP 2.1 tests

The HOLAS II report is based on the HELCOM Monitoring and Assessment Strategy and aims to follow-up of the objectives of the Baltic Sea Action Plan. It will also be used as a roof-report for the MSFD reporting for Contracting Parties also being EU Member States. Due to the dual purpose, the hazardous substance assessment should meet the objectives of both policy frameworks.

The work of BalticBOOST WP 2.1 is to develop the integration methods that will used to carry out the assessments in HOLAS II. To ensure that the methods can provide the needed assessment outputs, the first HELCOM BalticBOOST workshop on hazardous substance assessment (BalticBOOST HZ WS 1-2016) defined five test 'outputs' or 'approaches' to be carried out by BalticBOOST WP 2.1. The aim is to support the development of the tool methodology and provide a decision making basis for the final selection of the outputs to be included in HOLAS II.

Structure and content of the five test outputs

1. Coastal WFD assessment

The first test output is a compilation of WFD second cycle assessment results for coastal waters. The aim is to ensure that an assessment result can be produced in HOLAS II for MSFD reporting purposes by aligning coastal hazardous substance assessments with the WFD assessment.

The BalticBOOST HZ WS 1-2016 recommended to compile the assessment results on the WFD assessments from the contracting parties into a regional assessment to ensure consistency, since reassessing using other rules would not provide the same result. This output requires compilation of results, not an integration tool. However the compilation can also enable comparison of WFD results to results in the coastal area if the CHASE integration tool is applied, given that data used in the WFD on hazardous substance is made available by contracting parties.

To support the output, contracting parties have been requested to deliver assessment shapefiles and assessment details including the list of substances assessed in each area, rules for grouping and/or extrapolation if they have been used and, if readily available, concentration values. The Secretariat issued a data call in two steps for 1) the list of assessed substances and 2) for the WFD assessment details and assessment shapefiles. The final submission dead line was on 30 June 2016.

2. Open sea MSFD D8 compliance-check (GES/sub-GES) using core indicators

The second test output is a compliance check with descriptor 8 MSFD reporting requirements for the offshore assessment units where only a GES/sub-GES OOAO approach will be applied using core indicators. The aim is to ensure that an assessment result can be produced for HOLAS II that does not overlap spatially with the WFD assessment results and that meets the MSFD reporting purposes.

This output requires conditional rules, and not an integration tool. The structure of the rules was outlined by BalticBOOST HZ WS 1-2016 as list of substances with thresholds > evaluate with monitoring data if GES/sub-GES > OOAO between substances per assessment unit.

The BalticBOOST HZ WS 1-2016 outlined that the approach will include the core indicator on radioactive substances. The HOLAS II 5-2016 meeting requested that all approaches that are to be MSFD compliant should be tested both including and excluding the radioactivity core indicator.

3. CHASE integrated status assessment - coastal and open sea

The third test output is an integration of all core indicators evaluated against their GES boundaries and additional substances evaluated against relevant thresholds using the CHASE nested averaging method. The aim is to ensure that an assessment result can be produced that integrates all available data from all areas in a comparable manner as was done in HOLAS I.

The BalticBOOST HZ WS 1-2016 considered it important to develop this integration as a test output in addition to the CHASE integration of only core indicators (output 4). This is because data-availability for core indicators in the offshore areas is anticipated to be limited, which may negatively impact the confidence of the integrated assessment, and this output allows for a consideration on the assessment result when more information is included.

HOLAS II 5-2016 specified that countries should propose the additional substances to be included in the test and the relevant threshold as part of the first step in the data call issues by the Secretariat for the purposes of output 1. The proposals received from the countries was summarized and presented for considered by the EN-HZ 2-2016 meeting. The EN-HZ 2-2016 (point 40) concluded on the additional substances of relevance based on the proposals (Table 1).

Table 1. Proposed thresholds for additional substances relevant to the CHASE integration

Additional substance	Threshold value	Clarifying comment	Source
HCB	10 µg/kg ww in fish liver and muscle	normalized to 5% lipid	EQS biota human health
p,p-DDE	50 µg/kg ww fish muscle, *potential use of conversion factor of 10 between liver and muscle*		EAC
Copper (Cu)	*To be specified* (Primarily sediment. Secondarily biota samples if sediment is not available for sampling in relevant marinas.)		

The bio-effect compartment was outlined to be included in this integration by the BalticBOOST HZ WS 1-2016. It was noted that most bio-effect indicators are still at pre-core indicator stage and that data harvesting might be needed as not all bio-effect data is regularly reported in the COMBINE dataflow. HOLAS II 5-2016 noted that Sweden proposes to reconsider the formula used for calculating the bio-effects ratio and its willingness to contribute to the development of an appropriate methodology in communication with the hazardous substance expert network and provide further guidance to BalticBOOST WP 2.1 in this regard.

4. CHASE core indicator coastal/open sea

The fourth output is an integration of all core indicators evaluated against their GES boundaries using the CHASE nested averaging method. The aim of this output is to ensure that an assessment result based on nested integration can be provided for HOLAS II and to allow for a comparison of the assessment result compared to an OOAO approach (output 2).

The BalticBOOST HZ WS 1-2016 considered it relevant to compare the assessment result of output 2 and output 4 that use the same core indicators but bring them together using different methods, OOAO and nested averaging respectively. The workshop also considered it relevant to compare the confidence in the assessments between output 3 and output 4 respectively to establish if the difference in data included has a significant impact.

In practice the aim is to develop this output by 'switching off' selections made for output 3 that are not core indicators.

5. CHASE integrated D9

The fifth output is a CHASE integration of only the biota compartment and substances selected to be evaluated against food safety thresholds. The aim is to test if the nested integration approach can be applied to provide a food safety input to HOLAS II separately from the environmental assessment.

In practice the aim is to develop this output by 'swithing off' the water-, sediment- and bio-effect compartments of output 3 and also exclude the additional substances.

The BalticBOOST HZ WS 1-2016 proposed developing this output as it would not require significant extra effort to develop an output by 'switching off' the water- and sediment compartment based on the environmental monitoring data. It was noted that a rigorous D9 assessments would require the biota compartment data to be converted to represent only measurement from edible tissues. Furthermore this output will only become a full D9 assessment if data from food safety authorities is additionally harvested. Currently no specific activities have been initiated to collate the additional food safety data. At the workshop Finland informed that monitoring of environment and food safety is developing to become more aligned by for example using the same monitoring stations, and compiling the needed data should not be too difficult. Lithuania informed that there is only very little scattered D9 relevant food safety data available.

Data to be used in the BalticBOOST WP 2.1 tests

As input to the BalticBOOST HZ WS 1-2016 ICES provided an extract of the hazardous substance data available in COMBINE in February 2016 (http://gis.ices.dk/sf/index.html?widget=boost). The workshop noted that this data extraction does not cover data from all countries, and furthermore that the extraction and labelling of data as being of relevance for the primary and secondary GES boundary is only indicative. The workshop emphasized the importance of countries reporting the relevant data to COMBINE in a timely manner to enable the development of the assessment methods. It is important to consider the availability of stations for each substance per assessment unit when developing the methods.

Countries have been invited to report backlogged COMBINE data for the HOLAS II assessment period (2011-2016) to the data host ICES (accessions@ices.dk) as soon as possible. The data for 2015 is to be reported by countries during the regular COMBINE reporting in September 2016.

The aim of the BalticBOOST WP 2.1 is to carry out the tests to produce the outputs based on a data extraction to be done in August 2016. The data in this extraction may contain more information than the extraction made in February. However, it should be clearly noted that the data extracted for the BalticBOOST Wp 2.1 tests is not the final dataset to be used in HOLAS II, and that the BalticBOOST WP 2.1 tests will not be contributions to HOLAS II but only used to test different integration approaches.

BalticBOOST WP 2.1 offshore test case areas

The BalticBOOST WP 2.1 aims to test the integration tool (output 3, 4, 5) in test case areas. Based on final data availability in the data extraction from COMBINE to be made in August 2016, the areas selected are the offshore Gulf of Finland, the offshore Bothnian Bay and the offshore parts of the Baltic Proper possibly in the Arkona basin. Core indicators have been developed based on the guidance received from Gear WG and State

and Conservation WG to apply the HELCOM assessment unit scale 4. The test case areas as assessment units are marked in Figure 1.

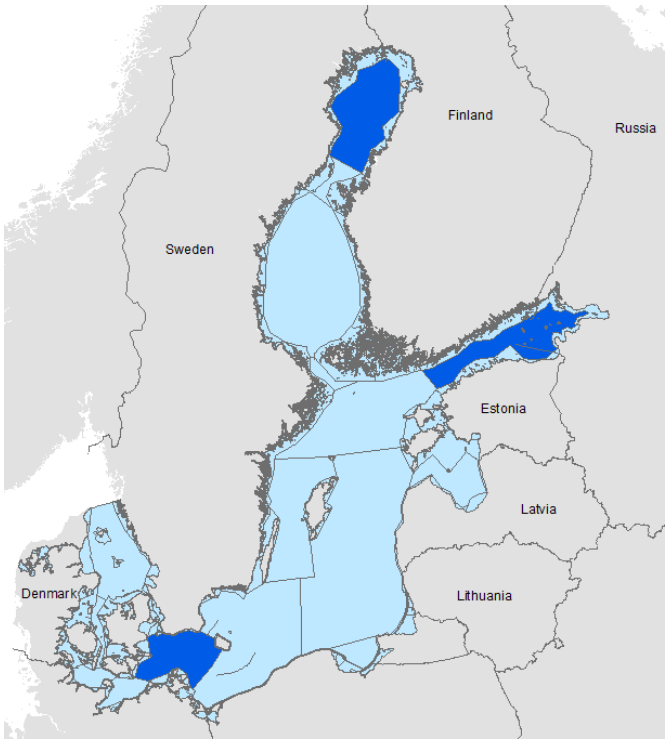

Figure 1. BalticBOOST WP 2.1 test case areas indicated in dark blue. The assessment units are delineated based on the HELCOM assessment unit scale 4 offshore areas.