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Agenda Item	7 – Prior issues with data reporting and inclusion
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Background

The outcomes of EN-HZ 6-2017 contained an annex listing a number of data issues and proposed that they should be addressed during the update process. The issues relate to the reporting of data, the appropriate flagging of data in COMBINE, and the appropriate supporting parameters. The document below contains a copy of Annex 2 from the EN-HZ 6-2017 meeting.

Action required

The Meeting is invited to:

- consider the issues documented in Annex 2 of the EN-HZ 6-2017 meeting and determine if such issues persist.
- evaluate and propose any viable solutions that can be important to consider at this stage of the update process.
- discuss and confirm the appropriate handling of data marked with or without 'COMB' in the HELCOM COMBINE database.



Annex 2. Documentation of known gaps in the current status assessment to be filled in the update of 'State of the Baltic Sea report' by mid-2018

Background

The work to develop the HELCOM hazardous substances status assessment for the purposes of the mid-2017 version of the 'State of the sea' report developed in the HOLAS II project has focussed on ensuring that appropriate data is used to assess status against the agreed threshold values. The threshold values that to be used for the indicators in HELCOM require specific measurements from specific matrices. Agreement on the threshold values are needed before the parameters to be extracted from the COMBINE database can be specified in an extraction table.

The HELCOM BalticBOOST project resourced work to develop data-arrangements for the hazardous substances data. The project deliverables provide the basis for a semi-automated assessment system by developing a data model, defining required parameters, mapping stations against assessment units and developing data views. The project also implemented a view to the accessions at ICES to a HELCOM workspace which forms the first part of the semi-automated assessment system.

The next step needed to develop the assessment system is implementing the indicator assessment script. The indicator assessment script was endorsed for use in HELCOM by State & Conservation 5-2016 and adopted by HOD 51 in December 2016 when all Contracting Parties were able to agree to the use of the script. The script has been run manually by an OSPAR expert based on an extraction made on 18 January 2017 from the COMBINE database. The extraction was made using the data extracting table agreed on by the December meeting of EN-HZ 5-2016 and annexed to the outcome of that meeting. The extraction table could only be completed once the threshold values to be used in the indicators had been adopted by HOD 51-2016.

The aim is to operationalize the system during 2017, meaning an automation similar as for the HELCOM eutrophication assessment system. Currently, the manual steps mean that it is not possible to quickly re-run the assessment and include more data. Currently several issues regarding the data and the processing of the assessment are still causing problems, that are to be adjusted. However due to the tight schedule of the mid-2017 version of the assessment to be completed, many of the problems are only anticipated to be solved in time for the mid-2018 update.

Monitoring data of insufficient resolution missing in the current assessment (cf. 'initial assessment')

The State&Conservation 5-2016 meeting agreed to apply the OSPAR assessment method ('MIME R-script') to the indicator calculations, based on the recommendations from the HELCOM Expert Network on Hazardous Substances. The assessment method builds on an approach where a modelled value is assessed against a confidence limit based on several years of data. The approach requires a minimum of three years of data for the model to be fitted.

There are a large number of monitoring stations in the Baltic Sea for which data are only available from 1 or 2 years. The monitoring programme of several Contracting Parties of HELCOM are designed so that stations are only sampled every second or third year which means only 2 or 3 years of data in a six year assessment

period. Another cause of only having one or two years of data available for some of the substances is due to the substances being new in the monitoring programmes.

Currently there is no method agreed on how to analyse these data for which the script cannot fit the model, and they are referred to as 'initial status assessment'. It is possible to develop the rules for the assessment scripts further so that assessments are also considered if there is only one or two years of data available. The data are considered to be important when developing a status assessment of the Baltic Sea and will give a much better spatial coverage compared to the current assessment.

The issue only became apparent once the indicator evaluations had been processed using the current script which omits the areas with only 1 or 2 years of data. The first results were considered by the EN-HZ 6-2017 meeting 14-16 February, and since the integrated results needed to be presented based on these results by 21 February to the HELCOM SPICE HZ WS 1-2017 this does not leave sufficient time to develop a full proposal on how to consider the areas with only one or two years of data for the mid-2017 of the 'State of the Baltic Sea' report. Proposals on how to include 'initial status assessments' outside of the indicator script might still be developed after the deadline of the 21 February, and could possibly be discussed by the workshop if late proposals are accepted for discussion.

Developing the indicator result tables has given an overview of the substances and assessment units concerned by the issue (Annex 2 Table 1).

Annex 2 Table 1. DRAFT overview of assessment units identified for which 'initial status assessment' exists at the EN-HZ 6-2017 meeting. The EN-HZ 6-2017 meeting focussed on compiling the core indicator aggregated result tables and not the 'initial status assessment' tables, and therefore the table currently gives only a rough overview and is not to be considered exhaustive.

Core indicator	DRAFT - This table is a draft compilation and is not to be considered exhaustive Assessment units identified during EN-HZ 6-2017
HBCDD	DEN-008; DEN-003; DEN-010; DEN-015; DEN-012; DEN-009; DEN-003 POL-002; POL-003 SWE-016; SWE-012; SWE-020
Metals	No draft overview prepared at the meeting
PAH and metabolite	DEN-001; DEN-002; DEN-003; DEN-004; DEN-007; DEN-008; DEN-009; DEN-010; DEN-012; DEN-013; DEN-014; DEN-015 GER-004; GER-005; GER-009; GER-013 LIT-002 POL-006; POL-015 SEA-003; SEA-005; SEA-006; SEA-006; SEA-009
PBDE	DEN-002; DEN-003; DEN-008; DEN-009; DEN-010; DEN-012; DEN-014; DEN-015 FIN-001; FIN-003; FIN-005; FIN-007; FIN-008; FIN-010; FIN-011 POL-002; POL-003 SEA-006; SEA-007; SEA-009 SWE-012; SWE-016; SWE-018; SWE-020
PCBs dioxin and furan	No draft overview prepared at the meeting
PFOS	DEN-008; DEN-009; DEN-002; DEN-010 FIN-008; FIN-003; FIN-010; FIN-008; FIN-005; FIN-003; FIN-003; FIN-006
TBT and imposex	Sediment DEN-001; DEN-002; DEN-003; DEN-004; DEN-006; DEN-007; DEN-008; DEN-009; DEN-010; DEN-012; DEN-014; DEN-015; DEN-016; SEA-001; SEA-002; SEA-003; SEA-004; SEA-006

It could further be noted that the Contracting Parties have not accepted data older than from 2011, and that whatever data was available in COMBINE at the time of the extraction (18 January 2017) has been used at

this time to develop the indicator assessments. This is of relevance in relation to the issue of the 'initial status assessment' as the script can also use older data points than during the assessment period to reach the 3-year requirement to fit the model.

List of specific monitoring data that are missing in the current assessment

For water-matrix data the extracting rules regarding filtered/unfiltered samples are agreed to be adjusted, to be taken into consideration when the next data extraction is made in time for the mid-2018 update:

- unfiltered samples should be used for TBT and PFOS in water as this is how the EQS is defined, noting that these data are now not included in the indicator calculations.
- unfiltered water samples should be included for Cd and Pb, especially offshore stations, the current extraction included only filtered samples.

Contracting Party representatives to the EN-HZ 6-2017 meeting prepared the following list of issues to be included in this Annex 2 list. The list is intended to give as complete an overview of the current data situation in relation to the aggregated indicator assessments and the integrated assessment, and can be referred to by the Contracting Parties in their continued work to develop the assessments.

Estonia

- Five stations have coordinates that place them on land and are clearly not correct. The stations concern metal, PAH and PCB measurements. Estonia has submitted the correct information to ICES with the aim to solve the problem in time for the update, noting that in the current calculations the stations should be deleted.

Finland

- Problems detected with the indicator result maps (displayed in ICES DOME)
 - PBDE
 - the map is missing perch data from 5 places and all herring data
 - stations where perch data is also available are called Seurasaarenselkä, Simonniemen edusta, Tornion edusta, Skomakarvfjärden, Kemi Ajoksen edusta
 - There should be herring data from 6 stations (northern baltic proper, Kotka, Bothniana Sea, Pori 1, Kalajoki 1, southwest Vekara) (This herring data has the problems with FATWT)
 - HBCDD
 - all Finnish data is missing in the map
 - perch data 2014 from 4 stations has been delivered, but the matrix is MU&EP
 - there should be herring data from 5 stations (Hanko 2, Kalajoki 1, Pori 1, southwest Vekara, Kotka)
 - PFOS
 - 5 stations with perch muscle data and all herring muscle data missing from the map
 - Stations where the perch data is missing are Virolahti Suuri Lakasaari, Seurasaarenselkä, Airisto Seili, Kalajokisuun edusta, Pihalavanlahti, years 2011-2012
 - There should be herring data from 6 stations (Kalajoki 1, Hanko 2, southwest Vekara, west Norrskär, Pori 1, Kotka)
 - Lead
 - Data (herring liver) from "northern baltic proper" is missing from the map (coord. . 59.54753000, 22.60535000)
 - Dioxin and furans
 - Perch data from year 2011 station Svartbäckinselkä is missing from the map

- Data missing from tables in workspace (COMBINE extraction 18 January)
 - dioxin+furans: perch year 2013 in 2 stations (Ahvenkoskenlahti and Kymijoki suisto) Measurement matrix is MU&FA, total 34 results
 - HBCDD: tot.12 perch results year 2014, 4 stations (Kellonlahti, Vaskiluoto, Sarvilahti, Lautvesi SW) matrix MU&EP
 - Lead: 20 results missing from year 2012 (matrix: perch muscle)

Finland does not report congener CB-126 which results in the exclusion of data when the minimum requirement criteria are applied, and that the reason for the congener not being reported needs to be clarified.

Germany

- TBTion TBSN+ : 2011, 2012, 2013, 2014 were included in test extraction (January 2017) and now only 2012 and 2014 are included (18 January 2017 extraction), and 2011 and 2013 are missing in the extraction made available in the workspace.
- PAH data in sediment are missing due to missing supporting parameter 'Corg', which was not possible to conclude on in the extraction table in the workspace.
- Eelpout data is missing (this concerns for the station OM6103 for eelpout muscle 2015: Hg; 2014: Hg, CB101, CB118, CB138, CB153, CB180; 2013: Hg, CB101, CB118, CB138, CB153, CB180; 2012: Hg, CB101, CB118, CB138, CB153, CB180; 2011: Hg, CB101, CB118, CB138, CB153, CB180 and eelpout liver 2013, 2012, 2011: Pb), Also for Flu and BaP in shellfish (blue mussel) stations are missing: stations OMMVMT1, OMMVMT2, OMMVMT3, OMMVMT5, OMMVMT6. Coastal Station Western Pomerrania is onshore and should not be included.

Lithuania

- PFOS in biota – PFOS data was reported in muscle, only PFOS in liver have been assessed. Both matrices liver and muscle have to be assessed in next round.
- HBCDD data in biota - All LT samples were in muscle (two in flounder, two in cod and one in herring). PBDEs has been assessed in the liver of flounder and cod and only in herring muscle. LT suggests to use both matrixes in fish for the assessment.
- Supporting parameters were missed in LT data in some cases and this resulted in omission of some of the datasets. In the next round LT will resubmit some of the datasets together with supporting parameters (like Al, Corg, dry or wet weight).
- Data on TBT and PFOS in water in unfiltered samples have to be included into assessment.
- Data below the limit of quantification (for example, like metals in water) have to be included into assessment and used in the final integrated assessment by CHASE
- LT will look for the reason why dioxins congener TCDD has not been submitted to ICES and will resubmit data on dioxins if the reason found.

Poland

1. Metals:
 - a. all sediment data is missing as supporting parameter was not included, new data containing also the supporting parameter Al concentrations for normalisation purposes will be uploaded to COMBINE
 - b. Pb and Hg in fish – stations ZGDA (Gdansk Basin) and ZPOM (Arkona Basin) – 4 years data has informal status – excluded from the assessment
 - c. Pb and Hg in fish – stations LZSZ (Bornholm Basin) and LZWI (Gdansk Basin) – 2 years data has informal status – excluded from the assessment (however agreed OSPAR method takes into account also calculations for 1-2 years data)

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- d. Cd, Pb and HG in mussel – station ROWY (Bornholm Basin) - 4 - years data has informal status – excluded from the assessment
 - e. Cd and Pb in seawater – all data has informal status - excluded from the assessment
 2. Chlorobihenylys – sum of 6PCB
 - a. Sum of 6PCB in fish – stations ZGDA (Gdansk Basin) and ZPOM (Arkona Basin) – lack of data presented on the maps
 - b. Sum of 6PCB in fish – stations LZSZ (Bornholm Basin) and LZWI (Gdansk Basin) – 2 years data has informal status – excluded from the assessment (however agreed OSPAR method takes into account also calculations for 1-2 years data)
 3. Organobromines:
 - a. PBDE and HBCDE in fish – stations ZGDA (Gdansk Basin) and ZPOM (Arkona Basin) – lack of data presented on the maps
 - b. PBDE and HBCDE in fish – stations LKOL (Bornholm Basin) and LWLA (Eastern Gotland Basin) - 4 years data has informal status – excluded from the assessment
 - c. PBDE and HBCDE in fish – stations LZSZ (Bornholm Basin) and LZWI (Gdansk Basin) – 2 years data has informal status – excluded from the assessment (however agreed OSPAR method takes into account also calculations for 1-2 years data)
 4. PAH:
 - a. benzo(a)pyren and fluoranthen in mussel – stations LSOP (Gdansk Basin) and ROWY (Bornholm Basin) - 4 years data has informal status – excluded from the assessment
 5. PFOS
 - a. PFOS in fish – all stations – lack of data presented on the maps - 2 years data

Sweden

- CDFP2, CDFX1 dioxin congener are measured in the monitoring programme, the congeners have not been reported causing all the data to fall out due to the congeners being on the minimum requirement list to assess against a summed threshold. This is problematic for the 'PCBs, dioxin and furan' indicator assessment as the Swedish stations form the majority of the stations. A similar problem was found for congener BD-28 or was it BD-154. Sweden will look into the reason for the problem, aiming to correct the data in time for the update (September 2017).