



Baltic Marine Environment Protection Commission

Biological effects – under the Expert Network on Hazardous Substances

Linked to EN-HZ 12-2020

Online, 17 February 2020.

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The Meeting was held Online, **17 February 2020**. And Chaired by EN-HZ Co-Chairs Berit Brockmeyer, Germany, and Jaakko Mannio, Finland.

Meeting documents are available in the [Document Library](#) of the EN-HZ 12-2020 [Meeting Site](#).

Provisional Annotated Agenda

Agenda Item 1: Adoption of the Agenda - DEC

1.1 The Meeting adopted the agenda, as contained in document 1-1.

1.2 The meeting was shown a brief [presentation](#) containing slides from the 2018 State of the Baltic Sea report and the small selection of biological effects parameters that were utilized in the last assessment: white-tailed sea eagle productivity (generally quite high regional coverage), the TBT and Imposex indicator (dominated by Swedish and Danish data, especially for Imposex values), and the supplementary indicator (used by Finland and Sweden only in selected assessment units) on Reproductive disorder: malformed embryos of amphipods.

1.3 The Meeting discussed/commented the following aspects:

- i. The 2018 State of the Baltic Sea report used 12 hazardous substances indicators to make up the overall assessment, but is this representative of a full and appropriate assessment of hazardous substances and their impact in the Baltic Sea?
- ii. Biological Effects analysis and assessments were heavily worked on previously but have fallen by the wayside in recent years. To some extent the current assessments have weakened (or certainly not greatly advanced) since the early work such as HOLAS I (i.e. the first State of the Baltic Sea assessment).
- iii. That several other relevant processes/forums should be kept in mind and worked with where possible and appropriate, including: OSPAR (lots of work and development on Biological Effects, generally more advanced than in Baltic Region, and have utilized the ICES WG BEC group as a forum for the work), ICES WG BEC (meeting coming on 2-6 March, HELCOM region generally be minimally represented), and the EU Marine Strategy Framework Directive (MSFD) D8/D9 workshop (29-30 April, 2020).

Agenda Item 2: Introduction to responses received on the questionnaire on Biological Effects - CMNT

2.1 The experts were thanked for providing information in the process and joining the discussion.

2.2 The meeting discussed that the aim was to plan for a physical meeting of the experts, back-to-back with a meeting of the HELCOM EN-HZ group, and that with this in mind it should be kept in mind as to what

makes a good assessment of biological effects, how could it realistically work, what commonalities can be seen/developed, and what could be agreed on for the future. These aspects could help guide planning for the autumn workshop.

2.3 The summary of responses received to the Biological Effects questionnaire ([Document BE1](#)) was discussed and experts were asked to briefly introduce the information per country.

2.4 Updates, corrections or additional relevant information were collated during this process and have been compiled in a revised version of the summary – [Document BE1 Rev.1 HELCOM Questionnaire biological effect indicators Summary 180220](#).

See updated versions: [with track changes](#) and [cleaned version](#) at links provided.

2.5 Question raised as to if the summary table, once updated, could be provided as supporting information to the WG BEC meeting. Possibly persons from the HELCOM region attending the meeting (tentatively Finland, Denmark and Sweden) could inform of the current discussions and plans, and provide feedback at the later workshop.

2.6 The Meeting noted ICES MCWG and WGMS would be holding a joint day (4th of march) of discussions with the WG BEC meeting.

2.7 Other discussion included:

- i. Sweden has a diverse array of biological effects indicators that are applied to a range of different species and also on a range of differing scales.
- ii. The White-tailed sea eagle does not feed exclusively in coastal areas in some parts of the Baltic Sea (also using other inland waters – e.g. water treatment areas and lakes), plus populations may also be representative of biodiversity components and dynamics, thus not simply a biological effects indicator for the coastal area.
- iii. TBT and Imposex are known to be highly correlated thus Germany focusses monitoring on TBT.
- iv. Germany has new staff (Joern Scharsack) replacing retiring leads on the Fish Disease indicators and monitoring nationally. Currently hand over is underway but foreseen that monitoring and assessment will continue.
- v. Germany considers that Biological Effects indicators that clearly link a pressure or compound to an effect are most valuable for development.
- vi. Germany informed that they have new work related to impacts of the degradation of explosives (TNT) in the marine environment, with a monitoring programme being considered. The methodology quantifies the concentrations of degradation products in fish bile and links to previous research showing tumor formation in fish liver.
- vii. The meeting discussed how aspects such as degradation compounds (e.g. TNT and PAHs), potentially also concentrations of relevant substances in other target species (e.g. mammals) may not directly be biological effects but could be relevant to consider in other indicator development work.
- viii. Poland expressed an interest in gathering further information on work carried out on estrogenic-like chemicals and their effects and asked if Sweden could provide further details (e.g. the compounds targeted). This would support their future work and may enable Poland to increase development in the area.
- ix. Project links with Russia warmly welcomed (e.g. HAZLESS, as introduced by Estonia) and Finland considered that it would be valuable to also addresses this issue with Gulf of Finland work planning in the future.

- x. Estonia also informed that the HAZLESS project will also collate available chemical concentration data, as well as the work on Biological Effects, so this information will also be available in the future.
- xi. The use of caged mussels was raised by Finland as has been widely effective in their experience and could be discussed further as a possible common approach in relevant areas.
- xii. Finland keen to work further on reproductive disorders assessments though the issue of limited sampling period (circa 4 weeks in winter) for *Monoporeia affinis*. Discussion on how other amphipod and eelpout can also be valid species, including during summer, followed and how to harmonize an assessment and use a suitable spread of relevant species in relevant areas to provide a broad assessment was considered as a good topic to follow up on. Other species such as *Pontoporeia femorata* were noted as possibly viable by Denmark. It was noted that the Reproductive disorders indicator should be considered as a 'concept' for identifying Biological Effects rather than the defined by the species on which it is currently applied.
- xiii. The value of projects to further support this work was also raised, and participants were asked to keep this in mind should opportunities emerge.
- xiv. The meeting noted the suggestion that standardization and harmonization across the approaches could be a key discussion point as this would help in gaining a general understanding and acceptance of the assessment of biological effects.
- xv. **The meeting agreed that further comments to the summary tables (and detailed information) would be provided to the Secretariat (owen.rowe@helcom.fi) by 28 February at the latest.**

Agenda Item 3: The vision for a biological Effects assessment - CMNT

Agenda Item 4: Planning for the Biological Effects Workshop - CMNT

4.1 Agenda items 3 and 4 were discussed in parallel.

4.2 Participants were invited to provide comments and suggestions on the vision for an appropriate biological effects assessment and critical components of the physical meeting (workshop) in autumn 2020 **to the Secretariat (owen.rowe@helcom.fi) by 28 February at the latest.**

4.3 The meeting discussed how biological effects were clearly a highly relevant component of an overall assessment of hazardous substances but harmonization and a clear plan needed to be developed on how to appropriately apply this in the Baltic Sea (i.e. how an overall assessment can be compiled from these different approaches, rather than focusing on if one aspect better than another).

4.4 The meeting noted that aspects related to commonalities and threshold value development would be critical steps.

4.5 The meeting noted that Sweden has carried out some analysis in a project looking at multiple Biological effects processes in certain sites and that the different approaches/components generally provide a similar evaluation, linking more polluted sites with more biological effects. Sweden offered to provide the report to the group, noting that it is in Swedish but has an extended summary in English.

4.6 The meeting considered that a presentation on this aspect would be valuable at the physical meeting in autumn.

- 4.7 The meeting discussed what could also represent relevant presentations at the workshop and agreed that a presentation covering each of the methods should be carried out. As a starting point it was considered that existing indicator leads could be approached to present the approaches.
- 4.8 The meeting considered that it would be valuable to highlight the ongoing planning to State and Conservation so as to ensure that where appropriate other relevant experts to attend can be identified and that resource allocation can be considered.
- 4.9 The participants agreed that adding their contact details to the existing HELCOM EN-HZ contact list would enable good communication and facilitate the future work.
- 4.10 The meeting discussed the need for a common template for presenting the approaches at the workshop, addressing aspects such as: geographical relevance, costs and monitoring, what the approach shows and how it defines/determines the given biological effect, and the pros-cons of the approach.
- 4.11 The meeting discussed how earlier work in CORESET projects and also in projects such as BEAST would offer potentially important background information. Some background information now added to the meeting site.
- 4.12 An initial group to facilitate the further development of the workshop and its content was formed, including: Sweden (Elisabeth Nyberg), Denmark (Zhanna Tairova), Finland (Kari Lehtonen), the Co-Chairs (Berit Brockmeyer and Jaakko Mannio) and the Secretariat.
- 4.13 The meeting discussed a possible date and place for the workshop and identified the week of 21-25 September as a possible week. No offers for hosting were directly available though this issue could also be considered by State and Conservation and the Secretariat could also likely provide a venue if needed and suitable. The proposed date will be further discussed at the meeting of EN-HZ.

[Agenda Item 5: Notes from the Meeting. DEC](#)

Notes for the outcome of the meeting are provided in this document.

Annex 1. List of participants

Contracting Party (role)	Name	Contact details
Germany (Co-Chair)	Berit Brockmeyer	berit.brockmeyer@bsh.de
Finland (Co-Chair)	Jaakko Mannio	jaakko.mannio@ymparisto.fi
Denmark	Martin M. Larsen	mml@bios.au.dk
Denmark	Zhanna Tairova	zt@bios.au.dk
Estonia	Margus Korsjukov	margus.korsjukov@envir.ee
Estonia	Natalja Kolesova	natalja.kolesova@taltech.ee
Finland	Emmi Vähä	Emmi.Vaha@ymparisto.fi
Finland	Kari Lehtonen	kari.lehtonen@ymparisto.fi
Germany	Joern Scharsack	joern.scharsack@thuenen.de
Latvia	Ieva Barda	ieva.barda@lhei.lv
Poland	Tamara Zalewska	tamara.zalewska@imgw.pl
Sweden	Elena Gorokhova	elena.gorokhova@itm.su.se
Sweden	Brita Sundelin	brita.sundelin@aces.su.se
Sweden	Marina Magnusson	marina@marine-monitoring.se
Sweden	Elisabeth Nyberg	elisabeth.nyberg@naturvardsverket.se
Sweden	Henrik Appelgren	henrik.appelgren@naturvardsverket.se
Sweden	Anne Sørensen	Anne.Sorensen@nrm.se
HELCOM Secretariat	Owen Rowe	Owen.rowe@helcom.fi