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Reference	

Background

The HELCOM IN-BENTHIC group convened for a physical meeting on September 26-27, 2018. The Meeting developed a document to represent the group's Terms of Reference (ToRs), including a detailed work plan. This document was developed as a way to create an overview of interests and priorities, and considered the need for support and resources as vital for achieving these aims.

STATE & CONSERVATION 9-2018 agreed to add specific references to the EU and EU TG Seabed in the relevant section of the ToRs where synergies are discussed, and agreed on the Terms of Reference for the Expert Network on Benthic Habitats (EN BENTHIC) and considered and agreed on the groups work plan, as contained in document 7J-2 rev. 1 to that meeting.

HOD 55-2018 took note of the Terms of Reference for HELCOM EN BENTHIC (document 4-12 to that meeting) as well as of the comments by the EU (document 4-37 to that meeting) and by Finland that the ToRs would benefit from limiting the amount of repetition and that there is a need to clarify the term of validity of, and approval process for, future iterations of the ToRs.

HOD 55-2018 agreed that the term of validity of the work plan should be 2019-2021, to be reviewed and revised by the network and approved by State and Conservation WG in 2021, and clarified that the ToRs should be reviewed and revised as needed, presented for endorsement at the working group level and approval by Heads of Delegation. A revised version of the document was prepared, taking the comments into account (document 4-12-Rev.1). The meeting considered and approved the draft updated Terms of Reference for HELCOM EN BENTHIC as contained in document 4-12-Rev.1 to that meeting.

This document contains the Terms of Reference for HELCOM EN BENTHIC for 2019-2021 as approved by HOD 55-2018.

Action requested

The Meeting is invited to:

- Take note of the Terms of Reference including a workplan for 2019-2021 for EN BENTHIC
- Consider if update of the workplan with issues raised in the workplan for future work on indicators on benthic habitats (document 4-3) is needed, and if so, provide further input to the work plan.
- Provide input to chapter 'Expected outputs'.

HELCOM Expert Network on Benthic Habitats and Biotopes

Terms of Reference (ToR)

Approved by Heads of Delegation 55-2018

Background:

In accordance with the Outcome of State and Conservation 1-2014 on the need to develop coordinated benthic habitat monitoring in the HELCOM area, and acknowledging that HELCOM work focuses on developing monitoring based on the requirements set out by assessment (i.e. indicators), the intersessional network on benthic habitat monitoring was founded. State and Conservation 1-2014 in addition emphasized that the development of coordinated monitoring of benthic habitats should be integrated with the activities on HELCOM indicator development.

State and Conservation 8-2018 discussed the importance of the work done by the group and further tasked the network to widen the scope of the work to include mapping, identification of natural¹ and conservation² values, integration methods and indicator development, as well as an annual physical meeting in their 2018 update of the network's ToRs. In accordance with widening the scope of the group the name of the network should be changes into HELCOM Expert Network on Benthic Habitats (EN BENTHIC).

Purpose:

The purpose of the group is to support and further develop the coordination of regional work on benthic habitats and biotopes, in support of the implementation of the Baltic Sea Action Plan (BSAP) and subsequent commitments. This relates in particular to the following BSAP Ecological Objectives:

- natural marine and coastal landscapes,
- thriving and balanced communities of plants and animals, as well as
- viable populations of species.
- restoring and maintaining sea floor integrity at a level that safeguards the functions of the ecosystems;
- that habitats, including associated species, show a distribution, abundance and quality in line with prevailing physiographic, geographic and climatic conditions;

As well as to provide expert input to HELCOM work related to benthic communities, habitats and biotopes in general, and specifically on the tasks identified in these ToR's.

Scope:

The overall scope of the group is to facilitate regional cooperation, including identifying and specifying data and knowledge needs, and if possible address these needs through projects developed with national funding or joint research applications. Further, the group is a platform for the exchange of experiences as well as harmonization of methods concerning the work on benthic habitats. This work includes, but is not limited to: mapping, monitoring, data availability, modelling and assessment, according to the needs of the BSAP and subsequent commitments.

¹ Natural values refer to values identified as important for ensuring the natural state, function and development of the ecosystem. These can include e.g. the genetic, species and ecosystem levels, and often also refers to geodiversity, landform and broader natural values. (based on IUCN)

² Conservation values refers to the general intention to prioritize conservation efforts. They support the effort by assisting to evaluate the intrinsic features of sites, so these can be compared in terms of their quality and quantity (i.e., size, degree on naturalness, rarity, aesthetic values, and the degree of habitat representativeness). Conservation values can also account for the value to society associated with conservation efforts. (Based on IUCN and BSEP 105)

The principal benefits of EN BENTIC are to have the opportunity:

- a) to work collaboratively with other leading partners on benthic habitats in the region, providing a valuable information exchange mechanism and a recognized authoritative voice on benthic habitats issues.
- b) to identify regional knowledge gaps and propose ways to solve them.
- c) providing a clear mechanism for demonstrating organizational commitment to addressing issues related to benthic habitats.
- d) to disseminate/showcase products and results between partners through EN BENTIC.
- e) ensure two way transfer of knowledge and experiences with wider forums with relevance for the Baltic Sea region and the HELCOM Contracting Parties, for example within relevant initiatives carried out by ICES, OSPAR or the EU
- f) to collaboratively consider the next important stage of work and development for the region and help frame requirements for the next stages of work.

Objectives:

- to foster exchange of information and experiences on benthic habitat and biotope mapping, monitoring, and their assessment.
- to support the production of high quality habitat maps for the Baltic Sea region;
- to support development of regional understanding and harmonization of methods and processes;
- to support national level work related to benthic habitats and biotopes;
- to support regional assessments of benthic habitats according to the BSAP and link to relevant European directives, especially the Marine Strategy Framework Directive, Water Framework Directive and Habitat directive
- to identify and link national work with HELCOM work.

Tasks:

The tasks of the group cover a wide range of different aspects related to work on benthic habitats. Sub groups might be defined in order to work more thematically, under the umbrella of the expert group, in order to facilitate intersessional work. The group's activities link to the following tasks:

Habitat mapping

- Identify and harmonize methods suitable for mapping different benthic biotope and habitat types, including to:
 - Share information on and summarize existing and planned national benthic habitat mapping methods and programmes.
 - Facilitate common approaches for identifying habitats in relevant classification systems (HUB; EUNIS and N2000) that exist in several/most HELCOM countries in order to prioritize future work for mapping and assessment.
 - Identify, and where feasible, further develop regionally relevant mapping methods suitable for different habitat types.
 - Develop proposals for harmonization of methods and data formats, and develop joint HELCOM guidelines for mapping strategies (e.g. INSPIRE), building on existing work.

Habitat maps

- Act as a platform for discussion and review of methods and possible solutions for improving and producing regional habitat maps suitable for a variety of assessment purposes. To take into account

other relevant initiatives, e.g. MESH guidelines for habitat mapping, EMODnet methods for modelling seabed habitats, ICES Working Group on Marine Habitat Mapping.

- Share information on uses of models and GIS work in map production.
- Identify different approaches to the production of habitat maps, including their strengths and weaknesses.
- Review existing data availability and formats.
- Identify the needed elements, and major gaps, for producing regional habitat maps.
- Supporting the updating of the existing HELCOM habitat maps and outline a procedure for updating the layer(s) in the HELCOM data and map service on a regular basis, if possible in cooperation with other data collection initiatives (e.g. EMODNET) and organizations (e.g. OSPAR).
- Share information on the process of identification of natural and conservation values.

Habitat monitoring

- Develop monitoring and survey methods suitable for different benthic biotope and habitat types, including to:
 - Share information on and summarize existing and planned national benthic habitat monitoring, monitoring methods and programmes.
 - Review existing methods and techniques for benthic habitat monitoring and surveys, to support the assessment of extent and quality of habitats.
 - Further develop monitoring and survey methods suitable for different habitat types and assessment needs (especially BSAP, MSFD and HD).
 - Develop joint HELCOM guidelines for monitoring and survey strategies, building on existing work.

Assessment

- Act as a platform for discussion and review of HELCOM benthic indicators, as developed by Lead Countries and appointed experts, and support the HELCOM indicator work, including:
 - Review methods and techniques for assessing extent and quality of habitats, including integration and aggregation methods.
 - Recommend a list of biotopes or habitats of regional interest, representing all relevant broad habitat types.
 - Support the development of thresholds in order to assess the quality and extent of benthic habitats, particularly with relevance for regional coordination.
 - Identify possible new indicators.
 - Support Lead countries to further develop and review benthic habitat indicators, in close cooperation with other relevant HELCOM initiatives, e.g. the process to review, prioritize and further develop core indicators, and initiatives outside HELCOM, e.g. OSPAR, ICES and the EU. This includes but is not limited to:
 - Supporting the update of the core indicator reports at regular intervals, as decided in HELCOM.
 - Reviewing and commenting indicator based assessments of benthic communities and habitats to enable a timely and quality assured delivery.

Reporting

- Report on the group's activities to the relevant HELCOM working groups. The Chair will report to State and Conservation regularly, i.e. for the information document deadline of each State and Conservation meeting. The activity report should consist of information on activities and developments which have taken place since the previous report, a list of links to the meeting sites of previous meetings or workspaces containing documents, and a list of aspects on which decisions or guidance from State and Conservation are required. A template for the reporting will be provided by the Secretariat.

These overall tasks provide the framework to guide the work of the network, the implementation of which depends on the availability of resources. If possible the network might be a platform to develop and apply for external funded projects in order to accomplish the listed objectives.

Validity of ToR's

These ToRs should be subjected to review and revision as needed and are to be presented for endorsement at the working group level and approval by Heads of Delegation.

Expected outputs

Will be filled in based on approved ToRs and Workplan tasks

Organisation of work

The network will consist of experts nominated by the Contracting Parties and will be open to Observers according to HELCOM procedures. The network will report to and receive guidance from the State and Conservation Working Group.

The mode of work for the expert network will be mainly via correspondence and online meetings facilitated by the Secretariat, with a physical meeting taking place annually. Sub groups might be defined in order to work more thematically, e.g. habitat mapping & modelling; monitoring; assessment. A Chair for the network will be elected. The products will be handled at HELCOM Meeting Portal workspaces dedicated for the aim. The HELCOM Secretariat will provide administrative support to the network.

Annex 1. Associated timeline of tasks and actions

This work plan is valid for a three year period (beginning January 2019) and is to be reviewed and revised by the network and approved by State and Conservation WG.

These overall tasks provide the framework to guide the work of the network, the implementation of which depends on the availability of resources. If possible the network might be a platform to develop and apply for external funded projects in order to accomplish the listed objectives.

Yellow highlight indicates annual meetings, **pale blue** indicates provisional plans or work that is continuous, and **dark blue** indicates more affirmative plans.

Timeline of work

Task	Action	2019	2019	2019	2019	2020	2020	2020	2020	2021	2021	2021	2021
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.1	Share information on and summarize existing and planned national benthic habitat mapping methods and programmes												
1.1.1	Workshop + report, also use the WS in Finland (see above) in 2019 to exchange information.												
1.2	Facilitate common approach for identifying habitats in relevant classification systems (HUB; EUNIS and N2000) that exist in several/most HELCOM countries in order to prioritize future work for mapping and assessment.												
1.2.1	Identify a collection of habitats (HUB and N2000) that exist in several/most HELCOM countries (linked to activity 4.2.1).												
1.2.2	Identify differences in interpretation of the same habitat class under the same classification system between countries.												
1.2.3	Data driven validation of translation between different habitat classification systems (resource intensive).												
1.3	Identify and where feasible, further develop regionally relevant mapping methods suitable for different habitat types												

Task	Action	2019	2019	2019	2019	2020	2020	2020	2020	2021	2021	2021	2021
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.3.1	Matrix of methods and habitats.												
1.3.2	Identify “best practices” and possible gaps.												
1.4	Develop proposal for harmonization of methods, data formats and develop joint HELCOM guidelines for mapping strategies, building on existing work.												
1.4.1	Develop a proposal for harmonization based on action 1.3.2.												
1.4.2	Guidelines, to be developed using a lead country approach, including review and agreement in annual meeting, and endorsement by State and Conservation.												
2.1	Share information on uses of models and GIS work in map production.												
2.1.1	Suggested to be a session under the mapping workshop.												
2.2.	Identify different approaches to the production of habitat maps, and their strengths and weaknesses.												
2.2.1	Suggested to be a session under the mapping workshop. Linked to previous activity 2.1.1.												
2.3	Review existing data availability and formats.												
2.3.1	Metadata overview (template to be filled in nationally before 2019 meeting and reviewed at meeting) public not public, parameters, where is the data stored, taxonomic resolution, spatial resolution, data type (aggregated, raw data...), geographical coverage. To be used for the production of harmonized habitat maps. to feed into workshop (activity 1.1.1). Lead: Germany.												
2.4	Identify the needed elements and major gaps in producing regional habitat maps.												

Task	Action	2019	2019	2019	2019	2020	2020	2020	2020	2021	2021	2021	2021
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.4.1	Linked to the metadata overview and as the output of the workshop (activity 1.1.1 and 2.3.1).												
2.5	Supporting the development and updating of the existing HELCOM habitat maps and outline a procedure for updating the layer(s) in the HELCOM data and map service on a regular basis, if possible in cooperation with other data collection initiatives (e.g. EMODNET) and organizations (e.g. OSPAR).												
2.5.1	Procedure: the Secretariat to present how current maps have been prepared and are maintained, after which further work can be planned.												
2.5.2	Project is needed to develop proper habitat maps. EN to look into available funding options for such a project, Secretariat to inform State and Conservation.												
2.3.3	Once procedure is in place the aim is that the update will be done in connection with the annual meeting.												
2.6	Share information on the process of identification of conservation values.												
2.6.1	Agenda point at the annual meeting.												
3.1	Share information on and summarize existing and planned national benthic habitat monitoring, monitoring methods and programmes.												
3.1.1	Agenda point on annual meeting.												
3.2	Review existing methods and techniques for benthic habitat monitoring and survey to support assessment of extent and quality of habitats.												
3.2.1	Collate information on existing methods and techniques. Build on existing work and where possible feed into TG work and align its work with work on descriptor 6 at the EU level, e.g. under TG Seabed. Progress on EU level to be shared at each meeting.												
3.2.2	Link to the BONUS SEAM project, progress and output of which will be presented in the annual meeting.												

Task	Action	2019	2019	2019	2019	2020	2020	2020	2020	2021	2021	2021	2021
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3.3	Facilitate further development of monitoring and survey methods suitable for different habitat types and assessment needs (especially BSAP, MSFD and HD).												
3.3.1	Expand on the review (activity 3.2.1) to include aspects outside of extent and quality, covering BSAP MSFD and HD.												
3.3.2	Project for further development.												
3.4	Develop joint HELCOM guidelines for monitoring and survey strategies, building on existing work.												
3.4.1	Scoping exercise at the annual meeting in 2019, including possibility to of links with OSPAR survey on soft bottom grab sampling (Mats Blomqvist, Sweden is contact person) – and possible extension (i.e. other habitat types or substrates) of such processes within the HELCOM area.												
3.4.2	Development of guidelines using lead country approach including review and agreement in annual meeting, prior to State and Conservation approval.												
4.1	Review existing methods and techniques for assessing extent and quality of habitats and biotopes, including integration and aggregation methods.												
4.1.1	Use outcome of review under activity 3.2.1. Build on existing work and where possible feed into TG work and align its work with work on descriptor 6 at the EU level, e.g. under TG on Benthic Habitats. Progress on EU level to be shared with each meeting. Review to support the state of the Baltic sea assessment process.												
4.2	Recommend a list of biotopes or habitats of regional interest representing all relevant broad habitat types.												
4.2.1	Collect list of national priority habitats, organized according to sub basins/assessment units, share												

Task	Action	2019	2019	2019	2019	2020	2020	2020	2020	2021	2021	2021	2021
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	with the group, discuss within the group and agree on a list of habitats of regional interest.												
4.3	Support the development of thresholds in order to assess quality and extent of benthic habitats, particularly with relevance for regional coordination.												
4.3.1	Build on existing work and where possible feed into TG work and align its work with work on descriptor 6 at the EU level, e.g. under TG on Benthic Habitats. Progress on EU level to be shared with meeting.												
4.3.2	Collect national information on thresholds and approach, share with meeting and discuss strong and weak points.												
4.3.3	Share experiences on assessing the extent of adversely affected area and identifying issues, challenges and possible solutions.												
4.4	Identifying possible new indicators.												
4.4.1	Support the indicator review and update process, agenda item to be added at every meeting.												
4.4.2	Share information on newly proposed indicators from scientific publications, projects both inside and outside of the Baltic Sea.												
4.5	Support Lead countries to further develop and review benthic habitat indicators, in close cooperation with other relevant HELCOM initiatives and initiatives outside HELCOM, e.g. OSPAR and ICES. This includes but is not limited to:												
4.5.1	Supporting the updating the core indicator reports at regular intervals, as decided in HELCOM. Information point by the Secretariat in the agenda at the annual meeting.												
4.5.2	Reviewing and commenting indicator-based assessments of benthic communities and habitats to enable a timely and quality assured delivery.												

Task	Action	2019	2019	2019	2019	2020	2020	2020	2020	2021	2021	2021	2021
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
5.1	Reporting												
5.1.1	Chair to report to each State and Conservation meeting.												