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Background

HELCOM 40-2019 agreed to develop a HELCOM science agenda, concomitantly with the update of the BSAP. The agenda is to outline existing and foreseen HELCOM regional science needs. It will serve the development of activities in HELCOM as well as to inform external funding mechanisms on the research needs of HELCOM. The development of the agenda will also be an opportunity to provide regional input to the [BANOS CSA process](#) and can also contribute to support processes under the [UNESCO Decade of Ocean Science](#). In order to account for the broad range of topics covered by HELCOM work, the dynamic nature of policy and management needs, emerging issues, and the scientific progress, the agenda is envisioned to be regularly updated.

To initiate the development of a HELCOM science agenda, a survey on knowledge and research needs has or will be circulated to all HELCOM Working Groups and associated Expert Groups with the aim to identify knowledge and research needs to implement HELCOM goals and objectives, commitments from the HELCOM Ministerial Declarations and HELCOM strategic areas of work (monitoring and assessment strategy, PLC, MSP Roadmap etc.). The survey aims to capture shorter-term knowledge needs as well as longer-term research needs.

Once the survey has been completed the results will be summarized to provide an overview that can form the basis for the development of a HELCOM science agenda.

This document includes a proposal for the further process, including to establish a task group to contribute to the finalization of the HELCOM science agenda and a time-table for work.

Action requested

The Meeting is invited to consider and agree on a plan for the further development of a HELCOM science agenda. The Contracting Parties are invited to nominate participants to the Task Group.

Survey of knowledge and research needs

In 2016, [a survey of knowledge and science needs](#) to reach good environmental status was carried out by the State and Conservation Working Groups and associated Expert Groups and networks as an activity of the HELCOM Roadmap on activities on Ecosystem approach. The template for the survey is re-used for the preparation of the science plan and has been modified to reflect HELCOM work more broadly as included in Annex 1 and Attachment 1 (separate xls-file). The survey is currently being introduced to HELCOM Working Group and Expert Group meetings or circulated intersessionally as needed pending the timing of upcoming meetings.

The primary aim of the survey is to harvest knowledge and research needs to support the implementation of HELCOM objectives and strategies while broader research needs might also be identified.

What will be the final product?

The ongoing survey will provide a collation, or list, of identified knowledge and research needs that can be sorted according to different focal areas and aspects (see Annex 1). This information will provide the basis for creating the HELCOM Science Agenda which is envisioned to be a brief report that highlight issues of major relevance for HELCOM work and to which the collated survey can be made available. Such report could also provide links to the strategic objectives of the UN Ocean Decade of Science, thereby indicating multiple uses and benefits of the HELCOM Science Agenda. Inspiration for the Science Agenda could come from OSPAR and ICES.

Task Group for finalizing the HELCOM Science Agenda

The Secretariat will support the initial collation of knowledge and research needs from the ongoing survey and contribute to the drafting of the final product. Contracting Parties are proposed to nominate 1-2 national representatives that would take part in the finalization of the HELCOM Science Agenda. The tasks of the Group would include:

- 1) check the proposals received through the survey and complement as needed if any central topics are found to be missing
- 2) agree on the outline and content of the final report
- 3) identify issues of particular importance for HELCOM work e.g. in the short-term and longer- term
- 4) identify important external processes that could support the implementation of the Science Agenda
- 5) develop a text proposal on the role of the Contracting Parties in supporting the implementation of the HELCOM Science Plan and on major future policy milestones that could be supported by the plan, as a potential HELCOM voluntary commitment to the UN 2020 Conference (cf. point 2 of document 2-5).

Working mode

It is expected that the Task Group could work by correspondence or by convening online meetings in autumn 2019 to initiate the discussion, in particular on tasks 1 and 2 and 5 as outlined above. When the surveys have been collected and discussed by Working Groups a physical meeting, e.g. 1.5 – 2 day, is proposed to take place in late 2019 or January 2020. A draft report would be prepared by the Secretariat in advance of such a meeting. During the meeting the Science Agenda would be further worked on, followed-up as needed through correspondence or an online meeting. The aim would be to prepare a draft report to be considered at the High-level segment at HELCOM 40-2019.

It is expected that the work load for Task Group participants would amount to maximum 10 days, e.g. to go through background material and take part of meetings.

Time table

HELCOM Expert Groups, network etc. will be given time until 20 September 2019 to provide proposals. The input received will be discussed at autumn meetings 2019 of the HELCOM Working Groups with the aim of agreeing on a joint input to the survey in the respective area of work. A physical meeting of the Task Group is proposed to take place December 2019 or January 2020. The mature draft of the Science Plan is envisaged to be ready by June 2020, followed by its finalization concomitantly with the finalization of the full draft of the BSAP by the end of 2020.

Annex 1. Survey on knowledge and research needs

Focal areas for the HELCOM survey on knowledge and research needs

HELCOM Working Groups, Expert groups and projects are requested to consider, in their field of expertise, the knowledge and research gaps in related to:

- Activities contributing to pressures on the Baltic Sea
- Pressures on the Baltic Sea, including climate change
- Biodiversity; including both ecosystem components and function
- Ecosystem based management; addressing cross-cutting issues such as tool and models to support ecosystem-based management, maritime spatial planning, social and economic analyses.

An extract of the HELCOM Ministerial Meeting 2018 is provided in table 1 which reflects these focal areas as well as the ambition to implementing the updated BSAP based on a science-based decision making.

Activity and pressure types, biodiversity characteristics

A number of predefined activity and pressures types and biodiversity characteristics are provided as list menu options. "Other" can also be added if something is found missing from the list.

Aspects

For each focal area a number of pre-defined aspects are provided as list options. The aspects differ somewhat between focal areas but cover in general the following:

- monitoring/mapping; e.g. development of new programmes, implementation of new techniques
- state indicators and threshold values
- pressure indicators and pressure targets; i.e. quantitative reduction of pressures to achieve GES
- sources of pressures; e.g. activities, source apportionment
- effectiveness of measures to reduce the pressures, or spatial protection and nature conservation measures
- development of new measures
- social and economic aspects; depending on topic socio-economic aspects could reflect e.g. cost-effectiveness of measures, cost-benefit of reducing pressure on the Baltic Sea and improving its state, aspects of health and human wellbeing, valuation of ecosystem services.

For ecosystem management the following pre-defined aspects are provided:

- tools, e.g. for integrated status assessments, cumulative impact assessments
- models for use in ecosystem management
- activity-pressure-state response relationships, including for aspects of biodiversity
- Maritime Spatial Planning
- social-economic analyses
- impacts of climate change at an ecosystem level.

Title and description

For each proposal a title and description of knowledge/research needs should be provided using free text. Indicative length for the description is 100-150 words. Note that the proposals should address knowledge and research needs to implement HELCOM goals and objectives, HELCOM agreements to improve the Baltic Sea, and strategic areas of work. The proposals should not duplicate ongoing or planned research activities in HELCOM or regional projects, but can expand on them.

Use in HELCOM

Indicate using free text if the knowledge is needed for any specific planned or foreseen activity in HELCOM (e.g. 3rd HELCOM holistic assessment, PLC, implementation of HELCOM agreements, adapting HELCOM policies and recommendations to climate change, red list assessments).

Accessibility

Indicate for each proposal:

- if the required data/information is likely to already exist i.e. knowledge could be acquired through gathering of existing data/information or a review activity, or
- new research activities are likely to be required to meet the knowledge needs

Estimated time

Indicate for each proposal the estimated time to achieve new knowledge for management purposes

- <1 year,
- 1-5 years,
- >5 years,

Scale

Indicate if the proposal is perceived as needed on local, national or regional level (or a combination thereof)

- local
- national
- regional
- local/national
- national/regional
- local/national/regional

Submitted by

Indicate who is submitting the information (e.g. country, network, working group)

NB that if the submission is done by country or expert group, network etc, the input will be addressed and consolidated by the next Working Group meeting.

Table 1. The [HELCOM 2018 Ministerial Declaration](#) outlines a number of priority areas for strengthening the implementation of HELCOM agreements, for uptake of new action in the updated BSAP, and for research to support achievement of HELCOM goals and objectives. An extract of paragraphs related to ecosystem-based management and research needs is provided here, please see full Declaration for complete information.

para15) WE AGREE to **complete and fully operationalise a set of indicators** used for regularly assessing the status of the marine environment including in the next holistic assessment; to **advance mapping and assessment of the extent and intensity of human activities** in the Baltic Sea region and improve the understanding of their impacts, including the cumulative effects on the ecosystem; and to **use this information for strengthening the implementation of ecosystem-based management**;

para 18) WE DECIDE that the updated BSAP should include actions necessary for **managing human activities in such a way that the current HELCOM strategic goals** “Baltic Sea unaffected by eutrophication”, “Baltic Sea with life undisturbed by hazardous substances”, “Maritime activities carried out in an environmentally friendly way” and “Favourable conservation status of the Baltic Sea biodiversity” **can be achieved**, and that its overall objectives support relevant political processes and **strengthen science-based decision-making**.

para 19) WE AGREE that the **updated BSAP should be based on an ecosystem approach**, fully use the precautionary principle, be **supported by fit-for-purpose scientific research**, be strongly communicated with stakeholders, enable **knowledge sharing between science and policy across all levels**, be developed in a participatory and transparent way at regional and local levels, including all appropriate stakeholders, and give due consideration to economic and social impacts of the measures to be taken to meet its objectives;

para 43) WE COMMIT to **increasing the protection and restoration of biodiversity**, to intensifying regional, sub-regional and cross-sectoral cooperation, and to preserving and promoting the ecological balance of the Baltic Sea area with **strengthened resilience**, also as streamlined response to adaptation needs stemming from human-induced climate change;

para 47) WE STRESS the need for **research and adaptive management to strengthen the resilience of the Baltic Sea** in the face of climate change impacts.

para 48) WE EMPHASIZE the need to further **strengthen the scientific understanding of the impacts of climate change together with multiple other stressors** on the Baltic Sea marine environment, and AGREE that HELCOM should take action to bridge this knowledge to policy and practice.

para 49) WE RECOGNIZE that knowledge on the relationship between the state of the marine environment and human well-being is essential for applying the **ecosystem approach to management of human activities** and in **maritime spatial planning** in the region, as well as for implementation of the UN Sustainable Development Goals and the Convention on Biological Diversity;

para 51) WE ALSO AGREE to encourage further **coordinated research to support cost of degradation analyses, cost-effectiveness analyses of regional measures**, and assessment of cost and benefits related to achieving GES covering the entire Baltic Sea region;