



Document title	New proposals on highlighted science needs
Code	3-1 rev1
Category	CMNT
Agenda Item	3 - New contributions to the science agenda
Submission date	9.10.2020
Submitted by	Secretariat

New proposals received through the commenting on document 2-1 are indicated in red. Note that lead countries have not had the possibility to consider these proposals yet. The secretariat has provided some comments related to how the new proposals are formulated.

Background

This document includes proposals on highlighted science needs, new and old, that do not originate from the HELCOM survey of knowledge and science needed but that has emerged through the commenting by national experts on the Science Agenda.

As agreed by TG 4-2020 (AI4): “The Meeting agreed that new proposals for the Science Agenda, received through Science Agenda TG or from national authorities and experts, should be brought forward to the attention of the Task Group and that the experts involved in drafting texts on specific topics should be asked to provide their views on the proposals. New proposals can be included in the HELCOM survey on knowledge and science needs and will be considered for inclusion as highlighted science needs if identified as of particular importance for HELCOM as agreed on a case by case basis by the Science Agenda Group.”

Thus, in a first step the lead countries and authors were asked to provide their views on the new proposals. Their reflections are included in this document in italics. When considering the new proposals it should be recalled that the Science Agenda report is to identify issues of particular importance for HELCOM work, that the highlighted science needs should not be too specific, and that the highlights for each topic should include 3-8 points.

Action requested

The Meeting is invited to discuss the proposed new highlighted science needs and agree on if and how to address them in the Science Agenda or in the associated comprehensive overview of science needs (the HELCOM survey).

New proposals to consider

From Germany on the version submitted to HOD 58:

1.2 Habitats:

- Develop methods for the restoration of seagrass beds and reefs (Lead country Germany)

Response: The proposal was made by the Lead country. Note that a rewrite has been proposed by the secretariat (see document 2-1).

2.1 Climate change (Lead country Sweden):

- Development of ecologically sustainable adaptations to sea level rise and increase of extreme weather patterns
- Develop sediment management concepts for coastal areas with the goal to minimize impacts of coastal protection measures against climate change on natural and dynamic systems

Response: The two proposals seems to be related to e.g. risks of flooding and protection of coastal habitats in light of measures that are expected to be required due to climate change. It is proposed to discuss to what extent such issues are worked on and prioritized in HELCOM.

- Investigate the impact of climate change on protected areas in the coastal zones and identify possible spatial shifts of habitats

Response: This issue overlaps with another highlight under the MPA section; the secretariat has proposed to merge the two highlights and place it under the MPA section (see document 2-1).

2.3 Hazardous substances (Lead country Sweden and Finland):

- Improved knowledge on submerged munition and its integrity (e.g. status of corrosion, leakage of the hazardous substances) per location including risk assessment for marine environment.
- Development of monitoring system for contaminants from munition in biota, if applicable sediment and water, Deriving of environmental quality standards for assessing need for remediation

Response. No objections: issues related to munitions should be taken onboard. For the second point the lead-country has proposed some edits (see document 2-1).

2.7 Shipping (Lead country Germany):

- Development of risk assessment and standards with respect to in-water cleaning (IWC) of commercial ships and leisure boats.

Response: Clarification by the Lead country that these are aspects in the context of biofouling that need more research and should be developed

- Quantification of the amount of oil released to the Baltic Sea from small but continuous emissions of mineral oils and assessment of the environmental effects.

[Note that the bullet is a proposal from Germany that combines the two aspects earlier proposed by Sweden as presented to TG 4-2020 and listed below. Comment from Germany: "To keep the more general approach of the science agenda (...), we tried to combine both; leakage through the stern tubes of ships should be covered by 'small but continuous emissions'". Original proposals from Sweden were formulated as:

- Accurate quantification of the amount of oil released to the Baltic Sea from leakage through the stern tubes of ships

- *A survey of the environmental effects from small but continuous emissions of mineral oils, also taking into account effects of different types of oils including of the types classified as Environmentally Acceptable Lubricants (EAL).]*

From Secretariat on the version circulated 31 August:

2.6 Non-indigenous species (no Lead country, new proposal by secretariat.)

- Better understanding of the effects of small NIS taxa such as protozoa, bacteria, and viruses. They remain unrecognized, undetected and they have no priority in surveying NIS, and knowledge on their impact is thus limited.
- Development of methodologies to quantify the impact of NIS on the ecosystem functioning, including for communities, biological process and habitats, and on its carrying capacity and resilience. Improved knowledge would support the development of an indicator on adverse effects by NIS.

Note: The first proposal for a new highlight aligns with the comment regarding parasites and the lack of knowledge we have on the effect on the food web from Sweden. Pathogens are including in D2 indicators but they are not surveyed or assess in any way and there is no harmonization of the methodology across the Baltic Sea. The second proposal for a new highlight is an amendment of a previous highlight.

From Sweden on the version submitted to HOD 58:

3.1 EA section (Lead Country Germany):

- How could Decision Support tools be used in management of activities in the Baltic Sea area and must existing tools be revised or are new developments necessary?

Response: No specific comment received from Germany.

Previous new proposal that have already been included in the version submitted to HOD 58

From Finland on document 2.1 and included in 2.1 Att1. rev1, Science Agenda TG 5-2020

2.2 Eutrophication

- How eutrophication will directly/indirectly affect the oxygen conditions of the Baltic Sea, i.e. by increasing the area of anoxic bottoms and thereafter causing enhanced internal loading.
- Studies on new technical practices to decrease nutrient loading (e.g., gypsum treatment of fields) should be developed
- Maritime nitrogen emissions to the Baltic Sea should be reduced, for example, by increasing the use of liquefied natural gas (LNG) as ship fuel

Note from secretariat: last point is formulated as an action, not a knowledge or science needs. Could be considered for BSAP.

2.4 Marine litter

- Studying fragmentation of macroplastics in the environment to better estimate their role and importance in the formation of secondary microplastics.

2.8 Shipping

- *Future needs of oil combatting capacity should be mapped and operational functionality of oil-combatting operations should be ensured regardless of season*

Note from secretariat: Last part of the highlight (operational functionality of oil-combatting operations should be ensured regardless of season) is formulated as an goal, not a knowledge or science needs.

From Germany on document 2.1 and included in 2.1 Att 1.rev1, Science Agenda TG 5-2020

2.5 Underwater noise

- Evaluation and feasibility assessment of Best available Technique (BAT) for underwater noise reduction (e.g. silent ships)
- Evaluation and feasibility assessment of Best Environmental Practice (BEP) for underwater noise reduction (re-routing, slow steaming, etc.)

Note from secretariat: Under section 2.8 Shipping the follow highlight is already included “Identification and feasibility assessment of Best available Technique (BAT) and Best Environmental Practice (BEP) for underwater noise reduction”. The SA TG has agreed earlier the issues related to underwater noise and shipping should be kept in section 2.8 Shipping.

Proposal to: either keep the current formulation in the Shipping section and not include the proposals above at all, or, to move and replace the highlight in the Shipping section with the proposals above.

Proposal by Finland, accepted by the lead country Germany

Shipping

- Further analysis and consideration of the human factor in the maritime traffic risk forecasting system to make it more reliable;
- Research on the importance of electronic failures, human-machine interaction, and the autonomous ship concept.

Eutrophication

Proposal by Finland (to the 1st consolidated draft of the Science Agenda, April 2020),

- Knowledge from social sciences: what kind of attitudes towards nutrient load reduction and other environmental actions exists in various riparian countries of the Baltic Sea?

Response: No one has been asked to consider this proposal in particular since it was added already some time ago. The Secretariat however proposes that the highlight is discussed. It could for example be addressed in association to the comment by Sweden on the ESA chapter (2.4) to include also societal analyses and social science in the HELCOM Science Agenda. This could however perhaps be done in a more general highlight.