Baltic Marine Environment Protection Commission

Science Agenda Task Group — Science Agenda TG 5-2020

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Background

This document includes an updated version of text on marine litter for the HELCOM Science Agenda to be discussed together with document 2-1 under agenda item 2.

Action requested

The Meeting is invited to discuss and agree on the text on marine litter, with the aim to come to agreement within the Science Agenda Task Group.

2.4 Marine litter

Pollution of the marine environment by litter and in particular plastics is a global problem that was recognized already in the early 1970s. Research in the Baltic started in early 2000s. Studies on the amount, type and distribution of macro- and microlitter are ongoing, including sampling of water, bottom sediments and beach surveys, and common guidelines for beach litter surveys have been compiled. However, due to varying methodologies in water and sediment sampling and sample laboratory analyses applied in different research institutes, the collected data is not fully comparable yet.

HELCOM has adopted a Regional Action Plan on marine litter, which includes the commitment to significantly reduce marine litter by 2025 compared with 2015. However, there is still very few studies on the marine litter in the Baltic region due to the relatively short period of monitoring, and therefore, there is not enough reliable data on the scale of the problem and understanding of the most efficient ways of its mitigation. To reach this goal, fundamental knowledge on the sources of litter as well as on how to sample and assess the presence and impact of litter is still needed.

Highlighted science needs

Indicators and impacts of litter:

- Need for a harmonized methodology (EU and RUS) for monitoring of beach litter, and microplastics in water and in bottom sediments, including field sampling, sample pre-treatment and plastics identification in laboratory. This methodology must be cost-effective and applicable in all countries, including RUS.

Input and fate of litter:

- Identification and quantification of sources and pathways of macro-, mesolitter and microplastics, including identification of the sources at sea and on land;
- Understanding of interactions of environmental conditions and natural factors like currents, winds, bottom topography, river runoff, etc. and their influence of marine litter distribution;
- Measures to reduce the input of litter from land and other sources, like marine traffic: country-wise waste management practices and regulations and their harmonization;
- Evaluation of effectiveness and adaptation to regional needs of management actions, e.g. bans of plastics, wastewater treatment to remove microplastics, awareness programmes, etc.
- Developing a monitoring system for microplastics in biological organisms: identification of microplastics in the Baltic Sea food chain - from zooplankton to marine mammals and birds and humans.
- Understanding the social attitude to the problem and raising awareness: activities of NGOs and public campaigns like “beach cleans” and other events, environmental education at schools and universities (development of specialized study courses, etc.).