Baltic Marine Environment Protection Commission

Meeting of the Hazardous substances and litter segment team

DG BSAP HZ 2-2021

Drafting Group for the Updated Baltic Sea Action Plan

Online, 19 January 2021

Document title	Introduction to the Hazardous substances and litter segment
Code	3-1
Category	CMNT
Agenda Item	3 – Segment introduction
Submission date	18.12.2020
Submitted by	Secretariat
Reference	

Background

Guidance by HOD 59-2020

HOD 59-2020 discussed the introductions and the descriptions of the current and desired state for the segments on eutrophication, hazardous substances and litter, sea-based activities, and biodiversity and provided the following general guidance for the Segment Teams for further drafting in spring 2021:

- A stronger link between the goals, objectives and actions and the content of the introduction of the respective segment is needed with the segment introduction providing clear links to the goals, management objectives and actions for the segment in question. The goal and ecological objectives should function as the basis for presenting the desired state.
- The introductions should, wherever possible, strive to outline the strategic framing of the segment and include aspirations and strategic agreements. Actions under each segment formulated in a general way could be used as a starting point for formulating such strategic statements. The final placement of aspirations and strategic agreements within the segments will be decided later on.
- Wherever possible harmonization across segments should be strived for, though the length of the introductions may vary. The same subheadings should be used for each section to guide the drafting, ensuring that an uninitiated reader can follow the content across segment. These sub-headings function as place holders but could be considered for removal at a later stage, once the texts are in place.
- The section on Current state (currently included as part of the Operative section of each segment) should be moved to the general introduction and included as general background for each segment
- Introductions should be kept as short as possible and be drafted under the assumption that the reader is informed regarding the topics. To this end, the following concretized guidance was provided:
    - Topics included in the visualization/text box should not be repeated in the text of the introduction (i.e. objectives, climate change, SDGs, addressed activities, addressed pressures and cross-referencing to other segments);
    - Wherever possible visualization should be preferred over text, e.g. *Action areas* currently presented as part of the introductory text could also be included as part of the visualization/information box.
    - The section on links to other treaties should be as short as possible.
- How to present the content of the current text box needs further development as part of the further process, e.g. SDG targets could be presented in relation to which specific objectives they relate to.

Process in spring 2021

HOD 59-2020 noted the study reservations by Estonia and Denmark regarding the content of the segment introductory texts. HOD 59-2020 acknowledged that the introductions will be presented for final approval at HOD 60-2021 and, taking this into consideration, agreed that further work on the texts can continue in spring 2021 under the auspice of DG BSAP and the respective DG BSAP Segment Teams, with support from the Secretariat.

HOD 59-2020 agreed on the following process for further work:

- The Secretariat is to implement editorial changes and harmonize content across segments, based on this guidance from HOD 59-2020, prior to submission of the introductions to respective Segment Team meetings in early 2021.
- The introductions will be further considered and developed in the respective Segment Teams in spring 2021, based on the guidance from HOD 59-2020 and comments received in the review processes in 2020. Special focus in the Segment Teams should be on identifying strategic decisions.
- Further developed drafts will be presented for review by DG BSAP and guidance by HELCOM 42-2021.
- The segment introductions will be drafted further by DG BSAP Segment Teams and DG BSAP based on guidance by HELCOM 42-2021.,
- Final approval of the introductions will take place at HOD 60-2021.

Consideration of the segment introduction in DG BSAP HZ 2-2021

The attached document includes the segment introduction that has been edited by the Secretariat based on the guidance by HOD 59-2020. Two versions, one with and one without comments are included. A version without comments is also attached in Word format.

The members of the Segment Team may provide comments to the introduction to the Secretariat (susanna.kaasinen@helcom.fi) **by 14 January 2021**. Comments received by the deadline will be presented to the Meeting.

DG BSAP HZ 1-2020 welcomed the offer by Germany and Sweden to make a proposal for redrafting the section on the desired state for hazardous substances and the offer by Sweden to propose a redrafted version for the desired state for litter and invited Germany and Sweden to send the new proposals to the Secretariat by 11 January 2021. The description of the desired state will be submitted to the Meeting separately.

Action requested

The Meeting is invited to consider and develop further the segment introduction for the hazardous substances and litter segment based on the guidance from HOD 59-2020 and comments received in the review processes in 2020.

Segment hazardous substances and litter - A Baltic Sea unaffected by hazardous substances and litter

Visualizations/text boxes to be added to include the following information:

Goal: Baltic Sea unaffected by hazardous substances and litter

Ecological objectives
Hazardous substances:
- Concentrations of hazardous substances close to natural levels
- All seafood safe to eat
- Healthy marine life
- Minimal risk to humans and the environment from radioactivity

Litter:
- No harm to marine life from litter

Management objectives
Hazardous substances:
- Minimize input and impact of hazardous substances from human activities

Litter:
- Prevent generation of waste and its input to the sea, including microplastics
- Significantly reduce amounts of litter on shorelines and in the sea

Links to climate change effects and impacts (to be added based on work by EN CLIME)

SDG targets addressed:
14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

Pressures addressed (*to be added)*:

Activities addressed by HELCOM actions with regard to (*to be added)*;

Cross reference with other segments:
- Reaching the objectives for hazardous substances and litter is a necessity to meet the goal of a 'Baltic Sea ecosystem is healthy and resilient';
- Reaching the goal for sea-based activities is a requirement for reaching the goal for hazardous substances and litter.

Description of current state

Hazardous substances

Based on indicators representing selected heavy metals, organic contaminants and radioactive substances, the Baltic Sea remains heavily impacted by hazardous substances.

Inputs to the Baltic Sea are decreasing for many substances, and some of the most toxic compounds are banned today. However, several persistent legacy contaminants remain in the ecosystem and new chemicals with unknown toxic effects are being used and released into the aquatic environment. However, several prevailing substances are not assessed.

A recent assessment of the contamination status shows that hazardous substances are a cause for concern in all parts of the Baltic Sea. In particular, levels remain too high in the assessed biota for PBDEs, mercury and cesium-137. Still, the assessment lacks data for several indicators in most locations and many emerging substances are not included in the current monitoring.

The current monitoring of hazardous substances tells only little about the thousands of potentially hazardous substances emitted to the environment, or their combined effects. The current risk assessment of chemicals is not adequate for conclusively identifying what hazardous substances should be regulated and monitored, which calls for a broader perspective in chemicals management.

Marine litter

Marine litter is so far only assessed descriptively at the Baltic Sea scale, as monitoring of marine litter is currently under development. However, available data on litter items found on beaches, proportion of marine litter material in bottom trawl hauls and microplastic particles found in sediments and marine organisms prove that marine litter is alarming problem for the Baltic Sea. Most of the litter found on beaches is plastic and most of the items are attributed to eating, drinking, smoking, or industrial packaging. It is noteworthy that balloons or balloon-related items are found among the top ten items in several sub-basins. At sea, abandoned fishing gear is a significant threat in the southern Baltic Sea.

Contamination and littering come from both land and at sea

Hazardous substances

Hazardous substances originating from a wide range of human activities on land and at sea pose a severe threat to the Baltic Sea environment. Thousands of chemicals and synthetic materials are used in households. Sewage systems can become their pathways to the aquatic environment, as can atmospheric transport from urban areas to the sea. Industries use chemical compounds in technological processes or as a raw material. A large group of hazardous substances are by-products of the combustion of fossil fuels, wood or wastes as well as fuels used in various types of transport.

Pharmaceuticals contain active ingredients, i.e. chemicals specifically designed to affect biochemical processes. This group of substances may enter the aquatic environment for example with wastewater, by inappropriate disposal of wastes, spreading manure, or leaching into water from sea-based fish farms. Pesticides and biocides are designed to exert a toxic effect on some endpoint and are applied on farmlands and forests from where they can leak into the aquatic environment and may sometimes bioaccumulate in food webs. Many hazardous substances are volatile and can be transported in air before they are deposited, sometimes for long distances, and thereby contributing to the contamination of the Baltic Sea marine environment, even if their use in the region itself is prohibited.

Offshore sources include for example the use of chemicals in antifouling paints, wastewater discharged from ships, and accidental or intentional oil spills. Some legacy contaminants can also be resuspended and enter the food webs in the marine ecosystem as a result of dredging processes and depositing of contaminated sediments at sea.

Marine litter

Marine litter, including microlitter originates from various human activities on land and at sea. Among land-based sources, household-related waste, including sanitary waste, are major sources of marine litter as well as micro litter including microplastics. Untreated storm waters and water from snow melting become also a source of litter input directly to the sea or to rivers inflowing to the sea. Recreational or tourism activities, especially on the seashore, contribute as well to litter the marine environment.

Ship traffic, fisheries as well as aquaculture are potential sources of litter at sea. Sea-based activities become sources of litter through intentional or unintentional losses of waste from ships. Abandoned or lost fishing gear is the type of litter posing one of the major threats to the marine habitats.

ACTION AREAS /STRATEGIC DECISIONS

Due to the diversity of sources of hazardous substances and litter, achieving the ambitious goals for hazardous substances and marine litter is dependent on the implementation of various complementary policies in the region, as well as globally. An important role of HELCOM is to contribute to these processes and enhance their coherent implementation.

The BSAP brings added value to the EU, Russian and global policies by meeting the need to quantify regional sources of hazardous substances and develop effective national or regional measures based on such information. Regular screening campaigns addressing contamination of the marine environment as well as potential sources and pathways of contaminants to the sea are one of the tools to identify emerging contaminants of concern. The data obtained through the screening in combination with the information on substances used in industrial processes and consumption products create a basis for transformation of indicator-based evaluation to a more flexible status evaluation. This implies implementing mechanisms to regularly update regional priority contaminants, monitoring and assessment targets, and taking a more holistic approach that considers time trends in inputs to the sea and ecotoxicological effects with a clear link to the total load of contaminants. The HELCOM framework for hazardous substances demands formulation of a modernized strategy that identifies a role for HELCOM that supports/complements but does not duplicate work to implement and further develop EU and global policies on chemicals and describes above mentioned mechanisms.

The HELCOM Regional Action Plan on Marine Litter is the main regional tool to ensure that marine life in the Baltic Sea is not harmed by litter. The Action Plan embraces various measures addressing sources of marine litter on land and at sea as well as educational measures and outreach campaigns. Crucial next steps for the success of the joint effort of HELCOM countries towards a healthy Baltic Sea are defining regional thresholds for good environmental status of marine litter and applying this as a baseline for setting environmental targets. Monitoring of beach litter, litter on the sea floor and microliter in the water column and in sediments based on regionally harmonized methodologies and regionally set thresholds is the tool to follow-up progress towards the BSAP goal for marine litter and evaluation of the state of the Sea. Available knowledge has improved since 2015, when the first Action Plan on Marine Litter was adopted but further scientific and technological development is vital for achieving the BSAP objectives, especially with regard to microlitter.

Connection to other treaties

Cooperation in the framework of HELCOM provides and enhances opportunities for synergies in national efforts in relation to various polices and treaties. Central directives and laws in relation to this segment are the EU Singles Use Plastic Directive, EU Marine Strategy Framework Directive, EU Water Framework Directive, EU Urban Wastewater Treatment Directive, EU Sewage Sludge Directive, EU Industrial Emissions Directive, among others, and the recently communicated European Green Deal, as well as the Water Code and Law on Environment protection of the Russian Federation. Key global treaties are those concluded under the IMO the Minamata, Basel, Rotterdam, Stockholm Conventions, the Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

Operative section - Many unknown gaps remain to be closed

Description of desired state

[to be developed by Germany and Sweden in accordance with the decision of DG BSAP HZ 1-2020]

Segment hazardous substances and litter - A Baltic Sea unaffected by hazardous substances and litter

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Links to climate change effects and impacts (to be added based on work by EN CLIME)

SDG targets addressed:
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Pressures addressed (*to be added)*:

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Cross reference with other segments:
- Reaching the objectives for hazardous substances and litter is a necessity to meet the goal of a 'Baltic Sea ecosystem is healthy and resilient';
- Reaching the goal for sea-based activities is a requirement for reaching the goal for hazardous substances and litter.

Description of current state

Hazardous substances

Based on indicators representing selected heavy metals, organic contaminants and radioactive substances, the Baltic Sea remains heavily impacted by hazardous substances.

Inputs to the Baltic Sea are decreasing for many substances, and some of the most toxic compounds are banned today. However, several persistent legacy contaminants remain in the ecosystem and new chemicals with unknown toxic effects are being used and released into the aquatic environment. However, several prevailing substances are not assessed.

A recent assessment of the contamination status shows that hazardous substances are a cause for concern in all parts of the Baltic Sea. In particular, levels remain too high in the assessed biota for PBDEs, mercury and cesium-137. Still, the assessment lacks data for several indicators in most locations and many emerging substances are not included in the current monitoring.

The current monitoring of hazardous substances tells only little about the thousands of potentially hazardous substances emitted to the environment, or their combined effects. The current risk assessment of chemicals is not adequate for conclusively identifying what hazardous substances should be regulated and monitored, which calls for a broader perspective in chemicals management.

Marine litter

Marine litter is so far only assessed descriptively at the Baltic Sea scale, as monitoring of marine litter is currently under development. However, available data on litter items found on beaches, proportion of marine litter material in bottom trawl hauls and microplastic particles found in sediments and marine organisms prove that marine litter is alarming problem for the Baltic Sea. Most of the litter found on beaches is plastic and most of the items are attributed to eating, drinking, smoking, or industrial packaging. It is noteworthy that balloons or balloon-related items are found among the top ten items in several sub-basins. At sea, abandoned fishing gear is a significant threat in the southern Baltic Sea.

Commented [SK1]: LT: *Most of the litter found on beaches is **single use** plastic and most of the items are attributed to eating, drinking, smoking, or industrial packaging."* Majority of those litter are single-use plastics products. We think it should be mentioned here.

Contamination and littering come from both land and at sea[1]

Hazardous substances

Hazardous substances originating from a wide range of human activities on land and at sea pose a severe threat to the Baltic Sea environment. Thousands of chemicals and synthetic materials are used in households. Sewage systems can become their pathways to the aquatic environment, as can atmospheric transport from urban areas to the sea. Industries use chemical compounds in technological processes or as a raw material. A large group of hazardous substances are by-products of the combustion of fossil fuels, wood or wastes as well as fuels used in various types of transport.

Pharmaceuticals contain active ingredients, i.e. chemicals specifically designed to affect biochemical processes. This group of substances may enter the aquatic environment for example with wastewater, by inappropriate disposal of wastes, spreading manure, or leaching into water from sea-based fish farms. Pesticides and biocides are designed to exert a toxic effect on some endpoint and are applied on farmlands and forests from where they can leak into the aquatic environment and may sometimes bioaccumulate in food webs. Many hazardous substances are volatile and can be transported in air before they are deposited, sometimes for long distances, and thereby contributing to the contamination of the Baltic Sea marine environment, even if their use in the region itself is prohibited.

Commented [LK2]: Could be merged with 'current state section'

Offshore sources include for example the use of chemicals in antifouling paints, wastewater discharged from ships, and accidental or intentional oil spills. Some legacy contaminants can also be resuspended and enter the food webs in the marine ecosystem as a result of dredging processes and depositing of contaminated sediments at sea.

[1] DG BSAP HZ 1-2020: The Meeting agreed that to make the preamble easier to read there should be subheadings separating the text on litter and hazardous substances for most parts of the preamble. The Meeting agreed that the text should have a clearer vision and focus more on the strategic approaches and goals. Also, there should be a clearer link to the actions. The Meeting pointed out that inspiration could be drawn from the latest EU policies on chemicals, plastics and circular economy that have the approach that chemicals and plastics should be safe and sustainable by design.
PRESSURE 13-2020: combining hazardous substances and marine litter in one section makes the text difficult to read, thus some additional structuring (e.g. sub-headings) should be integrated. More specific aspects of HELCOM work are to be reflected in the part dedicated to hazardous substances but not only pharmaceuticals (e.g. screening campaign). Submerged munitions and dangerous wrecks should be also mentioned in the preamble.

Marine litter

Marine litter, including microlitter originates from various human activities on land and at sea. Among land-based sources, household-related waste, including sanitary waste, are major sources of marine litter as well as micro litter including microplastics[2]. Untreated storm waters and water from snow melting become also a source of litter input directly to the sea or to rivers inflowing to the sea. Recreational or tourism activities, especially on the seashore, contribute as well to litter the marine environment.

Ship traffic, fisheries as well as aquaculture are potential sources of litter at sea. Sea-based activities become sources of litter through intentional or unintentional losses of waste from ships. Abandoned or lost fishing gear is the type of litter posing one of the major threats to the marine habitats.

Commented [SK3]: LT: *Abandoned or lost fishing gear is the type of litter posing one of the major threats to the marine habitats **and biodiversity**." Most of the litter found on beaches*

ACTION AREAS [3]/STRATEGIC DECISIONS

Due to the diversity of sources of hazardous substances and litter, achieving the ambitious goals for hazardous substances and marine litter is dependent on the implementation of various complementary policies in the region, as well as globally. An important role of HELCOM is to contribute to these processes and enhance their coherent implementation.

The BSAP brings added value to the EU, Russian and global policies by meeting the need to quantify regional sources of hazardous substances and develop effective national or regional measures based on such information. Regular screening campaigns addressing contamination of the marine environment as well as potential sources and pathways of contaminants to the sea are one of the tools to identify emerging contaminants of concern. The data obtained through the screening in combination with the information on substances used in industrial processes and consumption products create a basis for transformation of indicator-based evaluation to a more flexible status evaluation. This implies implementing mechanisms to regularly update regional priority contaminants, monitoring and assessment targets, and taking a more holistic approach that considers time trends in inputs to the sea and ecotoxicological effects with a clear link to the total load of contaminants. The HELCOM framework for hazardous substances demands formulation of a modernized strategy that identifies a role for HELCOM that supports/complements but does not duplicate work to implement and further develop EU and global policies on chemicals and describes above mentioned mechanisms.

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Connection to other treaties

[2] PRESSURE 13-2020: contains a statement related to the sources of marine litter which should be revised in terms of the role of the household waste.

[3] DG BSA HZ 1-2020: The Meeting discussed the section on action areas and agreed that the text should be reshuffled in a way that highlights the main messages inspiring the HELCOM Contracting Parties to prevent contamination of the environment, while giving less emphasis and placing at the end of the section the text on monitoring and contributing to global processes.

Cooperation in the framework of HELCOM provides and enhances opportunities for synergies in national efforts in relation to various polices and treaties. Central directives and laws in relation to this segment are the EU Singles Use Plastic Directive, EU Marine Strategy Framework Directive, EU Water Framework Directive, EU Urban Wastewater Treatment Directive, EU Sewage Sludge Directive, EU Industrial Emissions Directive, among others, and the recently communicated European Green Deal, as well as the Water Code and Law on Environment protection of the Russian Federation. Key global treaties are those concluded under the IMO the Minamata, Basel, Rotterdam, Stockholm Conventions, the Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

Operative section - Many unknown gaps remain to be closed

Description of desired state

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