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Background

The strategic plan for the update of the BSAP includes the step to review and adjust the overall structure the BSAP (activity 2.2) to reflect current work in HELCOM. A review of the existing HELCOM ecological objectives and management objectives is to be carried out by HELCOM Working Groups and Expert Groups as part of this activity. The aim of the review of existing objectives is to ensure that they are up to date and reflect the current topics and approach of addressing environmental status and pressures in HELCOM. It was also agreed by HOD 55-2018 to develop new objectives for marine litter, underwater noise, and loss and disturbance of the seabed. The aim is to prepare initial proposals of new and revised objectives for consideration by HOD in June 2019 and finalize and agree on an updated set of objectives by end of 2019.

The review of ecological objectives under the existing BSAP segments on Eutrophication and Hazardous substances will in a first step be considered by Pressure Working Group. The Pressure group is also invited to make first proposals for ecological objectives for marine litter, underwater noise and loss and disturbance to the seabed. The proposals will be followed-up by the State and Conservation Working Group as they are related to the state of the environment.

Under the Maritime segment the HELCOM objectives are called 'management objectives' and are related to management measures or aspired target levels of pressure from shipping and offshore installations. To support the development of the updated BSAP, management objectives will also be identified for other pressures (outcome of GEAR 19-2018, para 3.13). Proposals on management objectives for eutrophication, hazardous substances and new topics (marine litter, underwater noise, loss and disturbance of the seabed) will in a first step be proposed by the Pressure Working Group followed by further consideration by the Fish Group (loss and disturbance to the seabed from fisheries) and Maritime group (impact from shipping activities).

Relevant HELCOM expert groups are expected to be involved upon request by the Working Groups.

GEAR 19-2018 provided initial guidance to the review process that has been further elaborated by the Secretariat and Chairs of State and Conservation and Pressure Working Groups as contained in this document. The document also provides discussion points to support the task and the operational indicators that were used or tested in HOLAS II are listed in relation to the existing objectives. At upcoming meetings of the Working Groups it is proposed that interlinkages between HELCOM objectives will be considered as well as to identify which objectives that will be primarily influenced by climate change.

Action requested

The Meeting is invited to:

- review existing ecological objectives for hazardous substances and eutrophication and propose revisions as relevant, noting that these objectives will also be further considered by the State and Conservation Working Group,
- propose new ecological and management objectives for marine litter, underwater noise, and loss and disturbance of the seabed, noting that these objectives will also be further considered by the Fish and Maritime Groups, respectively.

Review, revision and development of new HELCOM objectives

Background

Development of the first set of ecological objectives was based on work initiated in HELCOM in 2003, further developed through the HELCOM EcoQo project, financed by the EU, and culminating in 2006 with the adoption of a HELCOM Vision, Strategic Goals and Ecological Objectives ([HELCOM 27-2006, para 2.1](#), Figure 1). The Vision describes the overall ambition, whereas Strategic Goals describe the major threats¹ to the Baltic Sea as defined at that time, and Ecological Objectives describe central characteristics of a healthy sea in a generalised way. Through the development and implementation of HELCOM actions and agreements, the goals and objectives are to be met. This also requires the establishment of links to the activities, sources, and societal drivers that are contributing to the current state of the environment.

The ecological objectives were developed with the explicit aim to provide a link to environmental monitoring, assessments, research and management. When they were adopted, development of indicators with associated threshold values and targets was already outlined as a next major step for HELCOM. The HELCOM ecological objectives were thus developed as a “seed” for the next step in the process. In hindsight it can be concluded that the achievement of many of HELCOM ecological objectives can to date be assessed by HELCOM core indicators and associated threshold values. For the Maritime segment, representing shipping and offshore installations, management objectives were formulated.

With regard to the formulation of these objectives, the aim was to communicate HELCOM’s ambition with a wider stakeholder community ranging from scientists and politicians to the general public. The HELCOM ecological objectives thus reflect the aspired state of the environment in broad terms, while it is the HELCOM core indicators and pressure targets that describes good environmental status.

In the current BSAP structure the ecological objectives are described separately under the four strategic goals. The interlinkages between the goals were outlined when the first system was adopted, clarifying that there are many horizontal links between different ecological objectives.

Adjustment to the BSAP structure

The ‘BSAP structure’ refers to the strategic goals and objectives of the Baltic Sea Action Plan. As part of the BSAP update process, HOD 55-2018 considered an adjustment to the BSAP structure with the aim to better reflect the topics that are currently addressed in HELCOM. HOD 55-2018 also requested HELCOM Working Groups to initiate the development of ecological or management objectives for the topics marine litter, underwater noise, and loss and disturbance of the seabed and also endorsed the guidance from GEAR 19-2018 with regard to the planned review of existing HELCOM objectives. The meeting provisionally agreed to maintain the original segments for the updated BSAP with the following preliminary adjustments:

- to address marine litter under the segment on Hazardous substances and to consider changing the name to ‘Hazardous substances and marine litter’;
- to include under the Maritime segment a broader set of sea-based activities, e.g. construction work, dredging, extraction of mineral resources, fishing, and consider changing the name of the segment to ‘Sea-based activities’. The topics underwater noise and loss and disturbance of the seabed are tentatively assigned to this segment.

The detailed content to be covered by the segments is however still to be further defined and linkages between the segments will need to be clarified. An agreement on the updated BSAP structure is aimed at for HOD in December 2019. To support the further work on adjusting the structure the Secretariat is currently mapping HELCOM agreements, targets for pressures and core indicators to the main activities and pressures in the Baltic Sea region (HELCOM 40-2019, [document 2-4](#)). The proposal by working Groups on new and

¹ For biodiversity described as loss of biodiversity caused by eutrophication, hazardous substances and maritime activities.

revised ecological objectives will additionally support the adjustment of the BSAP structure and the update of the Baltic Sea Action Plan.

VISION:

A healthy Baltic Sea environment, with diverse biological components functioning in balance, resulting in good environmental/ecological status and supporting a wide range of sustainable human economic and social activities

GOALS:

Baltic Sea unaffected
by eutrophication

Baltic Sea undisturbed
by hazardous substances

Environmentally friendly
maritime activities

Favourable status of
Baltic Sea biodiversity

OBJECTIVES:

- Concentrations of nutrients close to natural levels
- Clear water
- Natural level of algal blooms
- Natural distribution and occurrence of plants and animals
- Natural oxygen levels

- Concentrations of hazardous substances close to natural levels
- All fish are safe to eat
- Healthy wildlife
- Radioactivity at the pre-Chernobyl level

- Enforcement of international regulations – no illegal discharges
- Safe maritime traffic without accidental pollution
- Efficient emergency and response capabilities
- Minimum sewage pollution from ships
- No introductions of alien species from ships
- Minimum air pollution from ships
- Zero discharges from offshore platforms
- Minimum threats from offshore installations

- Natural marine and coastal landscapes
- Thriving and balanced communities of plants and animals
- Viable populations of species

Figure 1. Current HELCOM system with a vision, strategic goals, ecological objectives and management objectives (under Maritime goal). The further delineation of this system, including indicators and associated threshold values and pressure targets, which have been developed post-2007 are listed in Tables 1-3.

Guidance for the review of existing objectives

GEAR 19-2018 provided initial guidance to the review process that has been further elaborated by the Secretariat and Chairs of State and Conservation and Pressure Working Groups.

Ecological objectives

The ecological objectives of the current BSAP reflect the aspired state of the environment and have been formulated as a tool to communicate the aim of the action plan to a broad audience in general terms.

The ecological objectives are furthermore closely linked to how HELCOM assessments are carried out, for example, the ecological objectives under eutrophication and hazardous substances reflect to a large extent the aspects that are covered by core indicators in HELCOM assessments.

GEAR 19-2018 proposed to closely follow this approach also for the updated BSAP and gave the following general guidance with regard to ecological objectives:

- maintain the formulation of ecological objectives to reflect the desired state,
- maintain the aim that the objectives should be easy to communicate,
- the objectives should not be too many, (but no maximum number was given).

With regard to climate change GEAR was of the view that the topic should be a key component of the updated Baltic Sea Action Plan but that it is not a directly relevant topic for ecological objectives since it cannot be formulated in terms of desired state nor managed in the same way as other pressures on the Baltic Sea.

Discussion points for review of existing ecological objectives

The Pressure Meeting is invited to consider the following discussion points when **reviewing the existing ecological objectives** for **eutrophication and hazardous substances**.

With regard to the HELCOM assessment system:

- Are the ecological objectives suitably reflecting the existing core indicators and planned indicators under the respective topic? Are there any ecological objectives missing with respect to new developments since the current BSAP was adopted?
- Are there any existing objectives that are lacking associated indicators? If yes, should such indicators be developed or is it rather the ecological objective that should be revised? Lists of core and pre-core indicators used in the HOLAS II report are included as support for the meeting, however, continued development of indicators will be discussed separately in HELCOM (Table 1 and 2).

With regard to the formulation of objectives:

- Are the objectives up to date (e.g. are the terms used up to date)?
- Do the objectives meet the aim of being easy to communicate to a wide range of stakeholders, including the general public?

Expected output of discussion:

- Clarify which of the existing objectives that are proposed to a) remain as currently worded, b) be revised, c) be deleted
- Clarify if development new objectives should be considered for eutrophication and hazardous substances.
- Make an initial proposal on revised or new objectives.

Table 1. Existing ecological objectives Eutrophication

| Ecological objective | Associated core indicators |
|---|---|
| Concentrations of nutrients close to natural levels | <ul style="list-style-type: none"> - Nitrogen (DIN) - Phosphorous (DIP) - Total nitrogen (TN) - Total phosphorous (TP) |
| Clear water | <ul style="list-style-type: none"> - Water clarity - Chlorophyll-a |
| Natural level of algal blooms | - <i>Cyanobacterial bloom index (pre-core)*</i> |
| Natural distribution and occurrence of plants and animals | - State of the soft-bottom macrofauna community* In HOLAS II, national WFD indicators for macrophytes and macrofauna were applied for the assessment of coastal waters |
| Natural oxygen levels | Oxygen debt |

*tested in the HOLAS II project.

Table 2. Existing ecological objectives Hazardous substances

| Ecological objective | Associated core indicators |
|--|---|
| Concentrations of hazardous substances close to natural levels | <ul style="list-style-type: none"> - Hexabromocyclododecane (HBCDD) - Metals (Cd, Pb, Hg) - Polybrominated biphenylethers (PBDE) - Perfluorooctane sulphonate (PFOS) - Polyaromatic hydrocarbons (PAH) and their metabolites - Polychlorinated biphenyls (PCB) and dioxins and furan - TBT and imposex* - <i>Diclofenac (pre-core)</i> - Operational oil-spills from ships (also relevant as indicator to follow up management objectives under the Maritime segment). |
| All fish are safe to eat | Many threshold values set for HELCOM indicators as listed above are derived from European Commission Directive 2013/39/EU which are based on human health aspects (HBCDD, PBDEs, PCBs, PAHs, PFOS). |
| Healthy wildlife | <ul style="list-style-type: none"> - White-tailed eagle productivity - Reproductive status of seals** |
| Radioactivity at the pre-Chernobyl level | Radioactive substances |

* tested in HOLAS II

** the indicator is in HELCOM used to assess the status of seals as part of the biological diversity, but the indicator was originally developed as indicator to assess impacts of hazardous substances and reflects the health of wildlife.

Discussion points for development of ecological objectives for new topics

When **proposing new ecological objectives for marine litter, underwater noise, loss and disturbance to the seabed**, noting that ecological objectives will also be subsequently considered by the State and Conservation Working Group, the Pressure Meeting is invited to consider the following:

- that the ecological objectives should be focused on the state elements of these topics or on their impacts on the environment e.g. on the concentration, amounts or extent of litter/noise/disturbance to seabeds, or properties of the ecosystem that should be maintained or not harmed. Examples of ecological objectives for these topics could be:
 - o 'No harm to the Baltic Sea environment from marine litter'
 - o 'Continuous anthropogenic noise at levels that does not cause injury to individual animals, effect their reproduction, or cause displacements', 'Impulsive anthropogenic noise at levels that does not cause injury to individual animals or effect their reproduction'
 - o 'Seabeds functioning in their characteristic way'.

Core, pre-core and candidate indicators development are listed to support the discussion (Table 3).

Expected output of discussion:

- Make an initial proposal on new ecological objectives
- Consider how to engage HELCOM expert networks.

Table 3. Existing pre-core and candidate indicators associated to the development of new objectives

| Topics for new ecological objectives | Indicators under development |
|--------------------------------------|---|
| Marine litter | <ul style="list-style-type: none"> - Beach litter (pre-core) - Litter on the seafloor (pre-core) - Microlitter in the water column (candidate) |
| Underwater noise | <ul style="list-style-type: none"> - Continuous low frequency anthropogenic sound (pre-core) - Distribution in time and space of loud low- and mid-frequency impulsive sound (pre-core) |
| Loss and disturbance to the seabed* | <ul style="list-style-type: none"> Cumulative impacts on benthic biotopes (pre-core) Condition of benthic habitats (pre-core) State of the soft-bottom macrofauna community (core) |

* NB there are a number of additional indicators related to benthic communities under consideration in HELCOM, e.g. 'Population structure of long-lived macrozoobenthic species' (core) and 'State of hard-bottom communities' (candidate), but they have however not been worked on for several years.

Management objectives

Management objectives have so far only been formulated for the Maritime segment (shipping, offshore installations) of the Baltic Sea Action Plan. They are to be developed also for other activities and/or pressures addressed by HELCOM.

Discussion points for development of management objectives

The Pressure Meeting is invited to consider the following discussion points **when proposing management objectives for eutrophication, hazardous substances, marine litter, underwater noise and loss and disturbance to the seabed.**

- The follow-up of management objectives should in principle be done using indicators and associated targets for pressures. At this time there are relatively few agreed pressure targets in HELCOM but there are existing HELCOM commitments to develop new pressures targets as listed in Table 4.
- Use existing management objectives of the Maritime segment as examples keeping in mind that management objectives should **reflect the desired effect of management measures** (Table 5).
- Examples of management objectives for the relevant topics could be:
 - o 'Minimum input of nutrients from all sources',
 - o 'Minimum input of pollutants'
 - o 'Reduced input of marine litter from all sources', 'Amounts of plastic litter close to zero on Baltic Sea beaches',
 - o 'Reduced input of anthropogenic noise to the Baltic Sea'
 - o 'Minimum disturbance of seabed habitats from sea-based activities'.
 - o Management objectives could however also be formulated for specific activities such as the existing example from the BSAP maritime segment
- Make initial proposal on revised and tentative new objectives.
- Consider how to engage HELCOM expert networks.

Table 4. Existing pressure targets or commitments for further development of targets that could be associated to management objectives.

| Topics for new management objectives | Indicators and pressure targets |
|--------------------------------------|--|
| Eutrophication | - Inputs of nutrients to the subbasins |
| Hazardous substances | - Operational oil spills from ships |
| Marine litter | No existing indicators related to input of marine litter or associated pressure targets. Further development of such targets is founded in <ul style="list-style-type: none"> - HELCOM 2018 Ministerial Declaration: <i>“To that end WE COMMIT to regional work on developing baselines and threshold values for maximum levels of marine litter in the Baltic Sea, in close coordination with work undertaken by Contracting Parties in other relevant fora. If additional efforts are needed to achieve those levels, WE COMMIT to developing ambitious, regionally coordinated, quantitative targets to reduce input of litter;”</i> - HELCOM RAP ML: <i>The achievement of a significant quantitative reduction of marine litter by 2025, compared to 2015,</i> |
| Underwater noise | No existing indicators related to the level of noise or pressure targets for reduction. Further development of threshold values is founded in HELCOM 2018 Ministerial Declaration: <i>“WE COMMIT to continuing fruitful cooperation between European Regional Seas Conventions, and in particular OSPAR, in order to exchange good practices and to fill knowledge gaps, and to continuing regional work in developing scientifically sound threshold values for underwater noise that are consistent with GES for species identified as sensitive to noise in the Baltic Sea, in close coordination with work undertaken by Contracting Parties in other relevant fora including UNEP Regional Seas Programme”.</i> |
| Loss and disturbance to the seabed | No existing indicators related to reducing loss and disturbance to the seabed. Further development of such targets is founded in HELCOM 2018 Ministerial Declaration: <i>“WE AGREE to do regional work on developing threshold values for the adverse effects of anthropogenic physical disturbance and, based on the best available scientific information in close coordination with other relevant fora, if needed to achieve GES, to develop the necessary regionally coordinated quantitative targets for the reduction of physical disturbance caused by human activities and habitat loss;”</i> |

Table 5. Current management objectives for the Maritime segments

| |
|--|
| <ul style="list-style-type: none"> - Enforcement of international regulations – no illegal discharges - Safe maritime traffic without accidental pollution - Efficient emergency and response capabilities - Minimum sewage pollution from ships - No introductions of alien species from ships - Minimum air pollution from ships - Zero discharges from offshore platforms - Minimum threats from offshore installations |
|--|