



Document title	Draft updated Baltic Sea Action Plan
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Background

According to the Work Plan for the update of the Baltic Sea Action plan (BSAP), the updated BSAP is to be approved by HOD 60-2021 and adopted by the HELCOM Ministerial Meeting 2021. This document contains the draft updated Baltic Sea Action Plan.

The overarching preamble and introduction have been developed by the Ad-hoc Drafting Group for the Updated Baltic Sea Action Plan (DG BSAP) and the introductions to the segments have been developed by DG BSAP and the Segment Teams. DG BSAP 6-2021 and DG BSAP 6A-2021 reviewed the preamble and introductions. The Secretariat has revised the texts based on the guidance by DG BSAP and conducted an editorial review. As requested by DG BSAP 6A-2021, Denmark has provided an additional sentence for the introduction to the Eutrophication segment to clarify the sentence “Following the precautionary principle, increased inputs of nitrogen or phosphorus to a basin should be avoided until both MAI and good status with respect to eutrophication have been reached, even in basins where inputs are already below the NIC.”

The actions have been further drafted by DG BSAP and the Segment Teams. Some of the actions were already provisionally agreed by HELCOM 42-2021. The actions are also included in a separate Excel attachment where it is indicated in the column “Status” if the action has already been agreed by HELCOM 42-2021. The actions that have been either agreed by HELCOM 42-2021 or agreed by the Segment Teams and DG BSAP are coloured green. The formulations for the actions that are coloured yellow (codes EE07/ EN10a/ EN10b, SN37, SN41, SN39, SE38/SE40, EN20/ EE26) were not yet agreed. There is also a proposal for a new action which is coloured white (code SN46). More information on the status of these actions is included in the “Status” column in the attached Excel. The Secretariat has conducted a light editorial review, e.g. changed “To develop” to “Develop” and “Strengthening” to “Strengthen”, as well as spelled out some of the abbreviations. The Secretariat has also proposed target years for some actions that were previously lacking target years.

The actions that are closely linked have been cross-referenced across segments. Additional information on the actions is included in a separate supporting document which is presented for the Meeting for review (document 4-2). A simplified coding for all actions will be introduced once all the actions and their order have been agreed.

A proposal for a segment layout will be submitted separately.

Action requested

The Meeting is invited to approve the draft updated Baltic Sea Action Plan for adoption at the HELCOM Ministerial Meeting 2021.

Updated Baltic Sea Action Plan

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Preamble

1. The Commission, represented by ... :
2. **RECALL** the provisions of the 1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention);
3. **REITERATE** the commitment of the Contracting Parties to the Helsinki Convention to restoring a thriving and resilient Baltic Sea ecosystem, as expressed in the HELCOM vision of “a healthy Baltic Sea environment, with diverse biological components functioning in balance, resulting in good environmental status and supporting a wide range of sustainable human economic and social activities”;
4. **ACKNOWLEDGE** that the work of HELCOM has led to significant environmental improvements in many areas and, specifically, that progress in implementing the 2007 Baltic Sea Action Plan (BSAP) has contributed to preventing further deterioration of the environment of the Baltic Sea;
5. **APPRECIATE** that HELCOM policy and work are guided by the ecosystem approach and that the BSAP is a practical reflection of that approach;
6. **NOTE** with great concern, however, that the goals of the 2007 BSAP were not achieved by 2021 as envisioned, and that the Baltic Sea is still heavily affected by multiple pressures caused by human activities;
7. **NOTE**, in particular, that: (a) eutrophication continues to heavily impact the Baltic Sea; (b) levels of hazardous substances are still elevated or unknown and a cause for concern; (c) invasive alien species are still being introduced into the Baltic Sea; (d) marine litter is a pressure of special concern; (e) around half of the seabed is potentially disturbed by human activity; (f) other pressures such as underwater noise disturb marine life; (g) overall the unfavourable conservation status of Baltic marine biodiversity is widespread as a result of human activities, with several species still in danger of becoming extinct, a poor status of most of the assessed habitats and various biotopes and habitats at risk of disappearing, as well as food webs showing signs of deterioration;
8. **REITERATE**, moreover, that the effects of climate change on the Baltic Sea are already evident and that climate change will continue to have an increasingly significant impact on the Baltic Sea ecosystem, necessitating even more stringent action, *inter alia* in the global framework established by the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement;
9. **EMPHASIZE** the need for continued research and adaptive management to mitigate the effects and strengthen the resilience of the Baltic Sea to climate change by reducing other human pressures on the ecosystem and also **UNDERScore** the need to further adapt HELCOM’s policies and Recommendations to take into account the effects of climate change;
10. **[AGREE** to compile all climate mitigation and adaptation measures resulting from the BSAP [that contribute to the Paris agreement] for publication on the UNFCCC-NAZCA portal and the HELCOM homepage in 2024 and thereafter updated every 5 years as part of the climate ambition mechanism.]
11. **UNDERScore** the need to continue to strive for good environmental status since the current state of the Baltic Sea marine environment remains unsatisfactory as a result of pressures from land- and sea-based human activities and that recovery is not yet sufficient to achieve the goals of the BSAP;
12. **STRESS** the continued need to safeguard the safety of navigation with a view to preventing accidents and thereby also minimize the risk of accidental pollution from ships;

13. **RECALL** the decision by the 2018 Brussels Ministerial Meeting to update the BSAP by 2021 at the latest, with the aim of elaborating a robust action plan that will retain at least the level of ambition of the 2007 plan and will address new issues in addition to the existing commitments to be fulfilled by 2021 and will be aimed at achieving the agreed HELCOM vision of a healthy Baltic Sea marine environment;
14. **RECALL** also the Declaration adopted by the Ministers of the Environment, Maritime Economy, Agriculture and Fisheries of the Baltic Sea Member States of the EU and of the Commissioner for Environment, Oceans and Fisheries on September 28, 2020, committing to jointly boosting efforts to achieve a good environmental status of the Baltic Sea;
15. **AFFIRM** that, in order to address all relevant aspects of the ecosystem and the emerging challenges of marine management, the goals underpinning the updated BSAP are a “Baltic Sea unaffected by eutrophication”, a “Baltic Sea unaffected by hazardous substances and litter”, supporting “environmentally-sustainable sea-based activities”, all of which will lead to a “healthy and resilient Baltic Sea ecosystem”;
16. **ACKNOWLEDGE** the significant cost implications of not taking action against the varied threats to the Baltic Sea ecosystem and **NOTE**, for example, that according to the most recent “State of the Baltic Sea” report losses in recreational values alone due to the deterioration of the marine environment are estimated at 1-2 billion euros annually and that a significant amelioration of the undesirable status regarding eutrophication is estimated to result in annual economic benefits in the order of 4 billion Euros across all relevant sectors of the economy;
17. **UNDERScore**, the socio-economic benefits of good environmental status of the Baltic Sea and therefore the need to implement the measures and actions contained in the BSAP with a view to achieving good environmental status;
18. **STRESS** that the achievement of good environmental status for the Baltic Sea will require major efforts and transformational change in all sectors of the economy affecting the sea, including agriculture, aquaculture, fisheries, wind energy production, tourism, logistics, maritime transportation and manufacturing, and that it necessitates, inter alia, an increase in efficiency in the use of resources and a transition to a clean and sustainable circular economy and carbon neutrality;
19. **UNDERScore** the need to integrate environmental objectives with socio-economic goals in order to advance sustainable development and **STRESS** the need for coherent spatial planning of human activities at sea across the region, applying the ecosystem-based approach;
20. **STRESS** the continued need for strong regional and cross-sectoral cooperation in working towards achieving good environmental status, involving relevant international, European and national organizations, [public] financing institutions, scientific and research institutions, civil society and the private sector, [including banks and insurance companies];
21. **ACKNOWLEDGE** the positive contributions made by intergovernmental organisations and non-governmental organisations towards preserving and protecting the Baltic Sea and working towards a prudent utilisation of its marine goods and services;
22. **NOTE** with gratification that the updated BSAP was developed in a participatory and transparent way, involving all appropriate stakeholders;
23. **WELCOME** that the updated BSAP is based on the precautionary principle, and relevant scientific research, enables knowledge sharing between science and policy across all levels, and gives due consideration to economic and social impacts of the measures that need to be taken to meet its objectives;

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24. **REITERATE** the determination of HELCOM Contracting Parties to implement the 2030 Agenda for Sustainable Development as well as the post-2020 Global Biodiversity Framework adopted under the Convention on Biodiversity and to engage with other relevant regional and global processes and **STRESS** the role of HELCOM in leading the regional efforts to this effect and as an important and recognized contributor in the context of international ocean governance;
 25. **REITERATE** the need to coordinate and harmonize the work in the context of the HELCOM BSAP with various political instruments and ongoing initiatives at the international, European, regional and national levels, including in particular the EU Marine Strategy Framework Directive and the European Green Deal and all other pertinent EU legislation and programmes, as well as all pertinent legislation and policies of the Russian Federation, such as the Maritime Doctrine and the Strategy for Development of Maritime Activities until 2030 of the Russian Federation;
 26. **REAFFIRM** that the implementation of the actions in the updated Baltic Sea Action Plan will be kept track of regularly and the effectiveness of measures will be evaluated by using appropriate indicators to demonstrate progress towards the targets and to adjust measures if needed to achieve the objectives;
 27. **ACKNOWLEDGE** that the environmental targets in the various segments of the present plan are based on best available knowledge at the time of elaboration of the Plan and that, in line with the principles of adaptive management, the targets should be periodically reviewed and revised using a harmonised approach and the most up-to-date information;
 28. **[AGREE** on the amendment of Annex III part II Prevention of pollution from Agriculture of the Convention and to this end adopt HELCOM Recommendation 41E/x;]
 29. **[AGREE** on the update of the Regional Action Plan on Marine Litter and to this end adopt HELCOM Recommendation xx-x;]
 30. **[AGREE** to adopt the following documents:
 - the Baltic Sea Regional Nutrient Recycling Strategy;
 - the Regional MSP Roadmap 2021-2030;
 - the HELCOM Science Agenda
 - the HELCOM Guideline for sea-based measures to manage internal nutrient reserves];
 31. **STRESS** the continued validity of existing HELCOM Recommendations also after adoption of the present BSAP;
 32. **AGREE** to [implement] all actions and commitments in the updated BSAP by the dates specified in the plan, with a view to finalizing implementation of the BSAP as a whole by 2030 at the latest;
 33. **WITHOUT PREJUDICE TO**, and seeking synergies with, national legislation, international agreements and the legislation of the European Union, as well as the legislation of the Russian Federation;
 34. **ADOPT THE FOLLOWING UPDATED BALTIC SEA ACTION PLAN, AIMED AT ACHIEVING GOOD ENVIRONMENTAL STATUS IN THE BALTIC SEA**

About

The Baltic Sea Action Plan, or BSAP, is HELCOM's strategic programme of measures and actions for achieving good environmental status of our sea, ultimately leading to a Baltic Sea in a healthy state.

Initially adopted by the HELCOM Contracting Parties – the nine Baltic Sea countries plus the European Union – during the HELCOM Ministerial Meeting held in Krakow, Poland on 15 November 2007, the original BSAP had set 2021 as the target year for achieving good ecological status of the sea. However, the results of the State of the Baltic Sea report, covering the years from 2011 to 2016, indicated already in 2018 that this target would not be met.

The updated BSAP is based on the initial plan and maintains the same level of ambition. It also retains all actions previously agreed on that are still to be implemented, while, in addition, includes new actions to strengthen the existing efforts and tackle emerging concerns.

Guided by the HELCOM vision of *“a healthy Baltic Sea environment with diverse biological components functioning in balance, resulting in a good ecological status and supporting a wide range of sustainable economic and social activities”*, the updated BSAP is divided into five segments, four of which with specific goals (Figure 1):

- Biodiversity, with its goal of a ***“Baltic Sea ecosystem is healthy and resilient”***,
- Eutrophication, with its goal of a ***“Baltic Sea unaffected by eutrophication”***
- Hazardous substances and litter, with its goal of a ***“Baltic Sea unaffected by hazardous substances and litter”***, and
- Sea-based activities, with its goal of ***“Environmentally sustainable sea-based activities”***.

Each of the four segments is structured around the updated HELCOM ecological and management objectives and contains concrete measures and actions to be implemented by 2030 at the latest.

The division of the main segments seeks to reflect the pressures stemming from land (“Eutrophication”, and “Hazardous substances and litter”) and from our activities at sea (“Sea-based activities”), as well as the state of the environment (“Biodiversity”).

These segments are interconnected; attaining the goal under the biodiversity segment also relies on the successful implementation of the actions included under the three pressures segments.

In addition, the fifth segment on horizontal actions addresses cross-cutting issues including climate change, monitoring, maritime spatial planning, economic and social analysis, knowledge exchange and awareness raising, hot spots, and financing.

Furthermore, measures within all segments are designed to strengthen the overall resilience of the Baltic Sea, consequently improving its ability to respond to the effects of climate change.

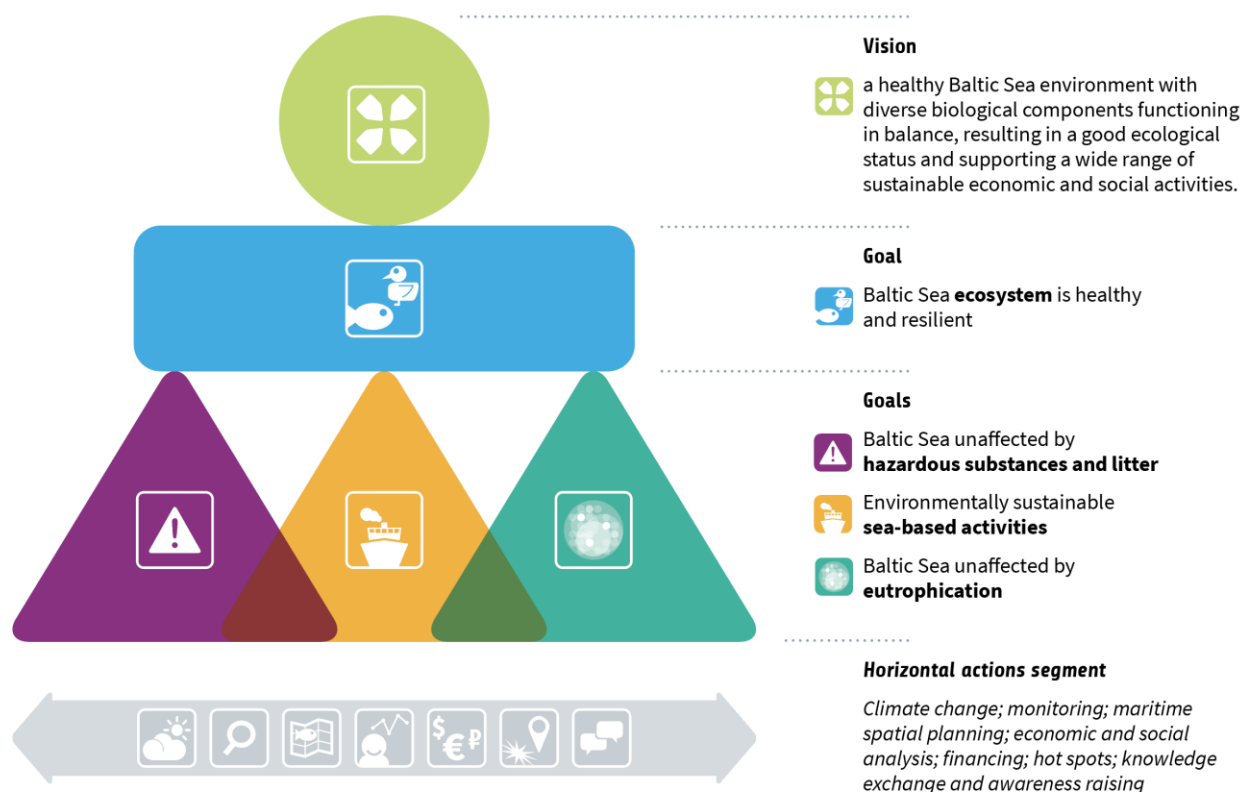


Figure 1: The structure of the updated BSAP including its vision and goals

The implementation of the actions in the updated Baltic Sea Action Plan will be tracked through the HELCOM Explorer online tool. The first reporting on the implementation of actions will take place in [2025] and the second reporting in [2029]. The HELCOM Explorer also includes information as to which actions contribute to achieving which management objective.

To monitor the change in the state of the marine environment and to measure progress towards the goals, objectives and targets under the BSAP, HELCOM will continue to conduct regular monitoring and assessments.

How to read the BSAP? (Text box/visualization explaining the symbols and concepts. Other symbols and concepts to be added as necessary)

Code - All actions in the BSAP are coded to ease referencing to the actions.

Cross-reference to actions in other segments - Actions that are linked have been cross-referenced across the segments, with each action displaying the codes of the ones it is relevant to, if applicable.

Additional information on actions can be found in a separate supporting document.

Biodiversity segment - The Baltic Sea ecosystem is healthy and resilient

Visualization/text box to be added to include the following information:

Goal: Baltic Sea ecosystem is healthy and resilient.

Effects of climate change impacting biodiversity: *(to be visualized)*

Air temperature
 Water temperature
 Sea ice
 Solar radiation and cloudiness
 Salinity and saltwater inflow
 Stratification and ocean circulation
 River runoff
 Oxygen
 Carbonate chemistry
 Riverine nutrient loads and atmospheric deposition
 Sea level
 Waves

SDG targets addressed

- 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans
- 14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information

Further information on connection to other treaties related to biodiversity can be found on page xx.

Pressures addressed *(to be visualized)*

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Activities addressed *(to be visualized)*

Cross reference with other segments:

- A healthy and resilient Baltic Sea ecosystem is the ultimate objective of the Baltic Sea Action Plan against which its entire performance is measured;
- Achieving the goal of a “Baltic Sea ecosystem is healthy and resilient” requires that the goals of all other segments are met.

Description of current state

Biodiversity in the Baltic Sea is deteriorating as a result of pressures from various human activities, the effects of which are further exacerbated by climate change. Most species of fish, birds and marine mammals as well as benthic and pelagic habitats in the Baltic Sea are currently not in a healthy state. Almost 100 macro-species, i.e. species visible to the naked eye, in the Baltic Sea – approximately 3.5 percent of all macro-species – are regarded as being in danger of becoming regionally extinct, and signs of deterioration at the food web and ecosystem levels are becoming more widespread and frequent. An incremental degradation of various

near-shore habitats, which are important to most Baltic Sea species during at least some part of the life cycle, and the wide distribution of areas with low oxygen conditions close to the seabed, are of particular concern. The impacts on biodiversity also limit the potential socioeconomic benefits we can derive from the Baltic Sea ecosystem.

Many widely distributed or long-lasting pressures have far-reaching impacts on both individual species and ecosystems. Although recently implemented measures may lead to an improvement in the coming years, continued and intensified efforts to improve the status of biodiversity are of key importance. All actions targeting sea-based activities (including fishing), eutrophication, and hazardous substances and litter are critical for improving the state of biodiversity in the Baltic Sea. Given the increasing overall pressures and legacy effects of many human activities affecting the Sea, many species and habitats are in urgent need of protection, and enhanced conservation actions are necessary alongside the reduction of pressures. In this regard, a central overarching aspect is applying the ecosystem approach to the management of these multiple pressures and their cumulative impact.

Description of desired state

The ultimate goal of the Baltic Sea Action Plan with respect to biodiversity and ecosystems is that the **Baltic Sea ecosystem is healthy and resilient**. This is supported by ecosystem-based management of human activities.

This is described through the mutually supportive and interlinked ecological objectives of attaining:

- Viable populations of all native species;
- Natural distribution, occurrence and quality of habitats and associated communities;
- Functional, healthy and resilient food webs.

A healthy and resilient ecosystem is one which can maintain its species and communities over time, despite external stress. This includes populations with age and spatial distributions corresponding to their natural limits, and key ecosystem functions and processes that are naturally upheld, in an interacting network of species and habitats. A prerequisite to securing the vitality and long-term survival of species and populations is ensuring an adequate quality, distribution and occurrence of natural habitats that are able to support the communities they host. Each of these key elements strengthen the functionality, health and resilience of the food webs, ultimately safeguarding the integrity and long-term sustainability of the ecosystem as a whole.

Reaching desired state: management objectives

In order to reach the desired state, the following management objectives have been identified for biodiversity:

- Effectively managed and ecologically coherent network of marine protected areas;
- Minimize disturbance of species, their habitats and migration routes from human activities;
- Human induced mortality, including hunting, fishing, and incidental by-catch, does not threaten the viability of marine life;
- Effective and coordinated conservation plans and measures for threatened species, habitats, biotopes, and biotope complexes;
- Reduce or prevent human pressures that lead to imbalance in the food web.

The management objectives of the Biodiversity segment target both conservation and restoration. Restored and properly protected marine ecosystems bring substantial health, social and economic benefits to coastal communities and the region as a whole. However, achieving the goal and objectives under the Biodiversity segment requires management of human activities and the resulting pressures. Thus, an achievement of the

goals and objectives of the Biodiversity segment is strongly linked to the successful implementation of actions under all other segments. Ecosystem-based and adaptive management, with their integrated perspective to the management of human activities, are therefore important approaches to ensure successful outcomes of the commitments under the Biodiversity segment. [Towards this end, HELCOM will, throughout the implementation of the BSAP, strive to specify how it can contribute to the operationalization of ecosystem-based management, with the aim to build a common understanding of the concept on a regional level.] In addition, adaptive management will be incorporated through the review and amendment of existing HELCOM commitments closely linked to the management objectives of the Biodiversity segment, to ensure their content is aligned with new regional actions and global initiatives, and to further strengthen the objectives and level of ambition. This includes, but is not limited to, the review and possible amendment of Recommendation 35/1 by [2023], and the HELCOM guidance on planning and designating HELCOM MPAs by [2025].

Actions

Reaching the goals and objectives for biodiversity is enabled by implementing the following actions:

Code	Action	Cross-reference to actions in other segments
<i>Theme: Spatial conservation measures</i>		
BE02/ BE03/ BE04/ BN02/ BN01/ BN03	By (2030) at the latest, establish a resilient, regionally coherent, effectively and equitably managed, ecologically representative and well-connected system of HELCOM marine protected areas, supported by those other spatial conservation measures, under alternative regimes for marine protection, which can contribute to the coherence of the network. Where scientifically justified, special attention should be given to offshore areas beyond territorial waters. The network of marine protected areas shall: - cover at least 30% of the marine area of the Baltic sea, of which at least 1/3 shall be strictly protected. OECMs could be counted towards the 30% targets only if they, as a minimum, comply with the OECM criteria agreed by the CBD. - where scientifically justified, consider to include no-use zones within marine protected areas, which can also serve as scientific reference areas. - expand conservation efforts to actively include areas of particular importance for biodiversity and ecosystem resilience, including important ecosystem elements such as species or areas recognized to be ecologically significant based on function for the ecosystem/provisioning of ecosystem services and broad habitat types, but which may not necessarily be rare or threatened.	HAN05, HAN06
BE06/ BE07	[By 2022] come to a common understanding of the Other Effective Area-based Conservation Measures (OECMs) criteria and their use in HELCOM, based on definitions agreed in Convention on Biological Diversity (CBD) and the EU, and define how OECMs can support the coherence of the MPA network. By [2025] identification of OECMs in the Baltic Sea region.	
<i>Topic: Spatial conservation management</i>		
BN04/ BE12	By [2030] strengthen the management of the Baltic Sea MPA network by introducing key elements into management efforts, including but not limited to those highlighted here, to increase effectiveness of protection, including by providing support to Baltic Sea MPA managers through capacity building e.g., through annual workshops. By [2023] update, and by [2025], apply HELCOM MPA management guidelines with focus on: - Assessments and evaluation methodology and structures for management effectiveness; - Setting quantitative conservation objectives; - Effective conservation measures that reduce pressures; - Establishment of indicators to monitor management performance and status of conservation features;	SE26, SE37, SE30/SN33, SN39, SN28

Code	Action	Cross-reference to actions in other segments
	e) Establishment of a common monitoring strategy and evaluation of conservation features and pressures; f) Adaptive management.	
BE13	By [2026] nationally ensure that MPA management plans and/or measures are legally binding and ensure appropriate structures are in place to enforce compliance.	
BE14	Develop, implement and share information of effective management measures to reduce the impact of fisheries inside marine protected areas.	SE26, SE37, SE30/SN33
<i>Topic: Coherence of the MPA network</i>		
BE08/ BE09/ BE10	The coherence of the MPA network shall be periodically assessed at least every 10 years, the next such assessment to be carried out by [2025]. By [2027] the results from the coherence assessment are to be used to take appropriate actions to ensure conservation and resilience of biodiversity, and to identify possible spatial conservation expansion needs to improve coherence.	
BE11	Ensure that by [2030] the HELCOM MPA network inter alia provides specific protection to species and biotopes listed as regionally threatened or near threatened in the HELCOM Red Lists.	

Code	Action	Cross-reference to actions in other segments
<i>Theme: Conservation of species</i>		
BE19	By [2022] at the latest, specify knowledge gaps on all threats to the Baltic Proper harbour porpoise population, and by [2023] for the western Baltic population, including by-catch and areas of high by-catch risk, underwater noise, contaminants and prey depletion. Knowledge gaps related to areas of high by-catch risk are to be addressed and by [2028] at the latest additional areas of high by-catch risk for both Baltic Sea populations are to be determined. To strengthen Baltic harbour porpoise population, by [2025] identify possible mitigation measures for threats other than by-catch and implement such measures as they become available.	SE29, SE32, SE33, SN34, SE31/SN32, SE30
BN09	By [2024] assess the status of the Haploids species and the biotope, as well as key threats and, if relevant based on the assessment, by [2026] develop a joint conservation plan for Haploids species including jointly agreed measures to improve the status of the species and biotopes, to be implemented by [2028].	
BE30	Include information on functional and lifehistory traits for the species in the HELCOM Biodiversity Database, by [2024].	
<i>Topic: Conservation of seabirds</i>		
BE15/ BN05	Maintain an updated map of the sensitivity of seabirds to threats such as wind energy facilities, wave energy installations, shipping and fisheries. Complete, as a first step, the mapping of migration routes, staging, moulting and breeding areas based on existing data by [2022]. By [2025] further develop these maps by incorporating new data, post-production investigation information and addressing the subject of cumulative effects from these activities in space and time.	
BE16	By [2023] and onwards with new findings use the produced maps in EIA procedures with the aim to protect migratory birds against potential threats arising from new offshore wind farms and other installations with barrier effect	
BE17	To by the next update cycle of the maritime spatial plans seek to incorporate the produced maps in the work concerning maritime spatial planning to avoid that maritime activities impair seabirds and their habitats.	HAN05, HAN06
BE18	By [2027] assess the effectiveness of conservation efforts to protect seabirds against threats and pressures.	
<i>Topic: Conservation of fish</i>		
BE20/ BE21/ BE22	Develop and coordinate monitoring and assessment methods, where ecologically relevant, for specified representative coastal fish species, populations and communities, by [2023]. Based on these assessment methods, to regularly assess the state of the coastal fish community through selected coastal fish species and groups, including threatened species, by at latest [2023]. Based on the results of the assessment, develop and implement management measures with the	SN35

Code	Action	Cross-reference to actions in other segments
	ambition to maintain or improve the status of coastal fish species, including migratory species by [2027].	
BE23, BN06, BN07, BE41	To strengthen native strains and to reinstate migratory fish species: -By [2023] identify rivers where management measures for migratory fish species, including eel, would have the greatest positive impact. -Starting from [2023], in line with relevant international commitments, iteratively review and prioritize effective mitigation measures in the identified rivers and/or dams, including removal of dams and migration barriers where relevant and possible, especially in small waterways. -Develop and implement habitat restoration plans of spawning sites for anadromous species in relevant rivers by [2025].	
BE24	With the aim to protect and restore eel population, determine which measures set out in CMS, EU Eel Regulation and other relevant instruments would benefit from regional cooperation on a Baltic-wide level. Finalize by [2024] and implement by [2025] a Baltic coordinated programme of such measures.	
BN08	Restore functional populations of Baltic sturgeon by [2029] implementing HELCOM Baltic Sea Sturgeon Action Plan	
<i>Topic: Conservation of seals</i>		
BE25/ BE26	By [2023] finalise and implement national or local conservation and/or management plans for grey seals.	
BE27/ BE28	By [2023] finalise and implement of national conservation and/or management plans for ringed seals	
BE29	By [2025] protect the ringed seal in the Gulf of Finland, including to significantly reduce by-catch and to improve the understanding of the other direct threats on the seals, and urge transboundary co-operation between Estonia, Finland and Russia to support achieving a viable population of ringed seals in the Gulf	
<i>Topic: Red listed species</i>		
BE36a	To update the HELCOM Red List Assessments by [2024], including identifying the main individual and cumulative pressures and underlying human activities affecting the red listed species.	
BE37a / BE38a / BE39a	By [2025] develop, and by [2027] implement, and enforce compliance with, ecologically relevant conservation plans or other relevant programmes or measures, limiting direct and indirect pressures stemming from human activities for threatened and declining species. These shall include joint or regionally agreed conservation measures for migrating species.	
BE40a	Develop tools for, and regularly assess, the effectiveness of other conservation measures for species, besides MPAs, the first assessment to be done by [2025] as well as assess effect on species through risk- and status assessments by [2029].	

Code	Action	Cross-reference to actions in other segments
<i>Theme: Conservation of habitats and biotopes</i>		
BE31	Map ecosystem services and the present and potential spatial distribution of key ecosystem components, including habitat forming species such as bladder wrack, eelgrass, blue mussel and stoneworts Baltic-wide, by [2025].	
BE32/ BE33, BE34/ BE35/ BN10	Protect key ecosystem components including habitat forming species by [2030], by: - assessing the state of, and threats to these key ecosystem components by [2023] - implement effective and relevant threat mitigation measures based on the threat and state assessments, including restricting human activities associated with causing physical loss or disturbance, by [2030] - identifying suitable measures and types of habitats, biotopes and key ecosystem components for passive or active restoration by [2025] and implementing programmes for restoration as outlined in the HELCOM Restoration Action plan by [2030].	
BN11a -BN11I	By [2025] develop and by [2026] start implementing a HELCOM Action Plan for habitat and biotope restoration, including qualitative and quantitative regional targets, a prioritized list of	SE36

Code	Action	Cross-reference to actions in other segments
	actions, and an associated implementation toolbox outlining best practices and methods for restoration in the Baltic Sea region.	
<i>Topic: Red listed habitats and biotopes</i>		
BE36b	Update the HELCOM Red List Assessments by [2024], including identifying the main individual and cumulative pressures and underlying human activities affecting the red listed biotopes and habitats.	
BE37b / BE38b / BE39b	By [2025] develop, and by [2027] implement, and ensure compliance with, ecologically relevant conservation plans or other relevant programmes or measures, limiting direct and indirect pressures stemming from human activities for threatened and declining biotopes and habitats.	
BE40b	Develop tools for, and regularly assess, the effectiveness of other conservation measures for habitats and biotopes, besides MPAs, the first assessment to be done by [2025] as well as assess effect on biotopes and habitats through risk- and status assessments by [2029].	

Code	Action	Cross-reference to actions in other segments
<i>Theme: Enabling ecosystem-based management</i>		
BE44	Identify by [2022] data needs for spatial pressure and impact assessment of human activities, including cumulative impacts, and implement by [2024] at latest methods for mapping and assessment of adverse effects on the ecosystem of human activities in the Baltic Sea region.	
BE45/ BE47	Update the HELCOM Underwater biotope and habitat (HUB) classification where gaps have been identified by [2024], and [by 2025] develop a fully functioning translation matrix between HUB, MSFD broad habitat types, Habitats Directive habitats and EUNIS, in co-operation with the European Marine Observation and Data network (EMODnet).	
<i>Topic: Indicators</i>		
BE42	By [2024] develop a roadmap to fill gaps to enable a holistic assessment for all relevant ecosystem components and pressures and, by [2030] at the latest, develop and fully operationalise a set of indicators fulfilling HELCOM's needs, including the need to provide a regional platform for the MSFD.	
BE43	Develop core indicators, and threshold values to evaluate the status of food webs by [2026], where applicable, and implement a holistic assessment of food webs no later than [2030].	
BN14	By [2024] operationalize a set of indicators for the assessment of fish population health, including size and age distribution, where applicable, and, by [2029], for any remaining relevant species.	SE28, SE31

Connection to other treaties

The HELCOM biodiversity commitments are well aligned with the Sustainable Development Goals (SDGs) of the United Nations Agenda 2030, with the long-term 2050 vision of the Convention on Biological Diversity (CBD), and with the EU Biodiversity Strategy, which in turn is an integral part of the EU Green Deal. This holds true even in those cases where HELCOM commitments predate these processes. Also, the implementation of the EU Marine Strategy Framework Directive (MSFD) is important achieving the goal of the segment.

Eutrophication segment - A Baltic Sea unaffected by Eutrophication

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

Goal: Baltic Sea unaffected by eutrophication

Effects of climate change impacting eutrophication: *(to be visualized)*

Water temperature
Stratification and ocean circulation
Carbonate chemistry
Riverine nutrient loads and atmospheric deposition
Oxygen

SDG targets addressed:

- 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.
- 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
- 6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
- 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

Further information on connection to other treaties related to eutrophication can be found on page xx.

Pressures addressed *(to be visualized)*

Activities addressed by HELCOM actions *(to be visualized)*

Cross reference with other segments:

- Reaching the objectives for eutrophication is a necessity to meet the goal of a 'Baltic Sea ecosystem is healthy and resilient';
- Reaching the goal and objectives for sea-based activities is a requirement for reaching the goal for eutrophication.

Description of current state

Eutrophication remains the major environmental threat to the Baltic Sea. It results in intense algal growth and depletion of oxygen on the bottom of the sea, further leading to vast areas with anoxic or hypoxic conditions in the Baltic Sea and affects the entire ecosystem. Despite a slight long-term improvement, over 96% of the region is still below good status with regard to eutrophication, including all of the open sea area and 86% of the coastal waters, as shown by a HELCOM assessment for the years 2011-2016. Recently, the eutrophication status has deteriorated in four of the 17 Baltic Sea sub-basins, which might be attributed to temporal variability in climate and hydrography.

Eutrophication is caused by an excessive input of nutrients - phosphorous and nitrogen - to the aquatic environment. The input of nutrients to the Baltic Sea originates from natural sources and from various human activities on land and at sea, with nutrients reaching the sea via water and air. Waterborne input includes transport by rivers and direct discharges from point sources such as wastewater treatment plants or industries. The riverine input is the main source of both nitrogen and phosphorus, with diffuse sources such as runoff from agricultural land to rivers making up a large share while point sources contribute only a few percent of the total input. Airborne transport also plays a significant role for the input of nitrogen, contributing 27 percent of the total load.

Excessive anthropogenic nutrient inputs to the Baltic Sea in the past have led to the accumulation of a considerable amount of phosphorus in the bottom sediments. Under hypoxic conditions, or low oxygen levels, phosphate is released from the sediments, thus increasing the total nutrient load on the marine ecosystem and further fuelling the vicious circle of eutrophication in the Baltic Sea.

Inputs of nutrients to almost all sub-basins of the Baltic Sea have significantly decreased, with substantial reductions of 14 percent for nitrogen and 24 percent for phosphorus having been achieved by all HELCOM Contracting Parties over the past two decades. Nevertheless, the original targets for nutrient inputs as set by the initial Baltic Sea Action Plan adopted in 2007 were not achieved by 2021.

Most of the reductions so far have been achieved through measures addressing point sources, such as wastewater treatment facilities and industries, and the airborne input of nitrogen, primarily due to reduced emissions in the energy and transport sectors. However, no significant reduction of input from diffuse sources has been observed in the last two decades, and diffuse nutrient run off contributes to almost 35 percent of the riverine input. Agriculture, which has the highest reduction potential, is currently the main contributor to the diffuse load of nutrients to the Baltic Sea. There also is a further reduction potential for point sources, especially in the upper parts of river basins, as well as for smaller settlements and individual houses that do not have adequate wastewater treatment in place yet. Despite the overall progress achieved in reducing nitrogen depositions, further reductions are still required, in particular in the shipping sector. Emissions of ammonia remain at a similar level and have even increased recently, indicating a need for more effective reduction measures in the agricultural sector.

Description of desired state

The desired state of the Baltic Sea regarding eutrophication is described by the ecological objectives:

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

The achievement of regional nutrient input targets – Maximum Allowable Inputs (MAI) and Nutrient Input Ceilings (NIC) – for all sub-basins, as identified in this Baltic Sea Action Plan, is the key prerequisite for achieving the ecological objectives.

Maximum allowable inputs and nutrient input ceilings have to be based on the best available scientific knowledge and should take into account the effects of climate change. Furthermore, attaining the MAI targets in all sub-basins does not imply the immediate achievement of the objectives for eutrophication. The Baltic Sea ecosystem, which has been exposed to anthropogenic pressure for more than a century, may require up to several decades to fully recover even after a significant reduction of nutrient inputs. Measures

to manage these internal nutrient reserves should utilize the best available scientific knowledge and minimize potential risks through the application of the HELCOM Guideline for sea-based measures to manage internal nutrient reserves.

It should also be ensured that the input of nutrients will not increase after the achievement of the MAI targets. This requires efficient nutrient management, for instance through the implementation of the HELCOM Regional Nutrient Recycling Strategy. Continuous cooperation with river basin management authorities will ensure that river basin management plans, including for transboundary rivers, consider the environmental targets as set by the Baltic Sea Action Plan.

Reaching desired state: management objective and strategic decisions

The management objective of the Baltic Sea Action Plan with respect to eutrophication is to minimize inputs of nutrients from human activities.

The regional input targets to reach good environmental status of the Baltic Sea are the maximum allowable inputs of nutrients (MAI) – indicating the maximum level of inputs of water and airborne nitrogen and phosphorus to the Baltic Sea sub-basins. To reach good environmental status regarding eutrophication, the maximum input to the Baltic Sea that can be allowed is 792,209 tonnes of nitrogen and 21,716 tonnes of phosphorus. The maximum allowable inputs of nitrogen and phosphorus to the Baltic Sea sub-basins, based on the most recent available data on fluxes in the marine ecosystem, are given in Table XX.

Table XX. Maximum allowable inputs (MAI) of nitrogen and phosphorous to the Baltic Sea sub-basins (in tonnes/year)

Baltic Sea Sub-basin	Maximum Allowable Inputs (MAI)	
	TN, tonnes	TP, tonnes
Kattegat	74,000	1,687
Danish Straits	65,998	1,601
Baltic Proper	325,000	7,360
Bothnian Sea	79,372	2,773
Bothnian Bay	57,622	2,675
Gulf of Riga	88,417	2,020
Gulf of Finland	101,800	3,600
Baltic Sea	792,209	21,716

Net nutrient input ceilings (NIC) define maximum inputs via water and air to achieve good status with respect to eutrophication for Baltic Sea sub-basins for each country. They are calculated as shares of the maximum allowable inputs to each sub-basin using the proportions of nitrogen and phosphorus inputs in the reference period 1997- 2003. [The agreed] NIC values are given in Table XX. Nitrogen and phosphorus input ceilings are also calculated for non-HELCOM countries in the Baltic Sea catchment area, other countries with airborne input (OC), Baltic Sea shipping (BSS) and North Sea shipping (NOS).

*Table XX a. Net nutrient input ceilings (NIC) of **nitrogen** for the HELCOM countries, non-HELCOM countries in the Baltic Sea catchment area (BY, CZ, UA), other countries with airborne input (OC), Baltic Sea shipping (BSS) and North Sea shipping (NOS)(in tonnes/year).*

	BOB	BOS	BAP	GUF	GUR	DS	KAT
DE	947	3920	34077	1645	1747	23647	4661

DK	280	1148	9025	421	462	28067	28538
EE	113	404	1478	11334	13099	22	24
FI	35087	28700	1827	20457	295	76	89
LT	108	495	25878	305	8820	66	80
LV	73	330	6457	246	43074	31	34
PL	668	3125	151997	1407	1596	1480	1443
RU	839	1993	10317	61503	3296	238	245
SE	17718	32633	30690	626	525	6056	32799
BY	1375	5008	26947	2986	2188	4933	4502
CZ			13456		12820		
UA			3551				
OC			1693				
BSS	284	1141	5180	675	345	651	701
NOS	131	475	2427	196	150	729	884

Table XX b. Net nutrient input ceilings (NIC) of **phosphorous** for the HELCOM countries, non-HELCOM countries in the Baltic Sea catchment area (BY, CZ, UA)(in tonnes/year).

	BOB	BOS	BAP	GUF	GUR	DS	KAT
DE			109			401	
DK			21			979	815
EE			9	225	185		
FI	1683	1246		315			
LT			703		175		
LV			167		1061		
PL			4291				
RU			242	2909	99		
SE	811	1133	318			116	753
BY			349		407		
CZ			57				
UA			47				

Net nutrient input ceilings for each country and sub-basin incorporate the national shares of the nutrient inputs via transboundary rivers. Thus, nutrient input ceilings were specifically computed for these rivers, further indicating the respective national shares of their total inputs. [Nutrient input ceilings for transboundary rivers are given in the HELCOM BSEP XXX].

All nutrient input reduction measures necessary to achieve the NICs should be fully implemented [by 2027 at the latest], to take into account the delay the reduction of nutrient inputs to the sea.

The input ceilings for nitrogen and phosphorus are based on current scientific knowledge and are subject to uncertainties. [Following the precautionary principle, increased inputs of nitrogen or phosphorus to a basin should be avoided until both MAI and good status with respect to eutrophication have been reached, even in basins where inputs are already below the NIC]. [However, this does not preclude activities necessary due to socio-economic needs.]

Reductions of nutrient inputs in a particular sub-basin may have effects on other sub-basins too. Therefore, a reduction of nitrogen and phosphorous below the NIC for one specific sub-basin – can be proportionally

taken into account by a country in reaching its input ceiling for another sub-basin. The application of the mechanism for the reallocation of extra reduction based on the agreed principles will be described in the HELCOM Guideline.

MAI and NIC are based on the best available scientific information. As such, they are subject to review when new scientific knowledge is available, including on climate change. Targeted regional studies should be continued in a joint effort to improve the quality of the assessment data particularly on natural background losses, atmospheric deposition, retention, transboundary loads and other aspects.

Actions

To achieve the set objectives, the following actions will be taken:

Code	Action	Cross-reference to actions in other segments
<i>Theme: Follow-up of the implementation of nutrient input targets</i>		
EE12	An account listing, as detailed as possible, planned and implemented measures in different sectors and catchments alongside an estimation of their effectiveness will be submitted to HELCOM by 2023 in order to demonstrate whether National Net Nutrient Input Ceilings can be achieved with these measures.	
EE13	Assess progress towards Maximum Allowable Inputs annually and National Input Ceilings every second year, to follow up implementation of regional and national targets for inputs of nutrients.	
EE14	Provide timely sufficient and consistent data on nutrient loads to the Baltic Sea, ensuring reliability of the follow-up system, by maintaining and enhancing monitoring programmes and networks striving for harmonized methods to estimate nutrient inputs, including from unmonitored areas.	
EE09	Strengthen cooperation with river basin management authorities of non-HELCOM countries through official agreements addressing transboundary waterborne nutrient inputs from non-Contracting Parties	EE24

Code	Action	Cross-reference to actions in other segments
<i>Theme: Agriculture</i>		
EN01	Establish site specific buffer zones to reduce nutrient losses from agricultural land, for example on parts of fields where surface runoff and erosion occurs, along ditches or at surface water inlets	
EN02	Balance fertilization rates site specifically and promote precision fertilization practices to improve nutrient use efficiency and reduce nutrient losses	
EN03	Develop [by 2025] and apply [by 2027] the best practices to improve soil structure and aggregate stability on clay soils to reduce phosphorus losses from agricultural lands, for example by using soil structure lime or gypsum	
EN04	Promote organic farming to increase its proportion to at least 25% of agricultural land by [2030].	
EN05	Discourage application of manure and other organic fertilizers in the autumn at fields without green plant cover in winter	
EN06	Improve knowledge exchange by establishing dialog between farmers, authorities and decision makers	
EN07	Enhance mutual learning among farmers on best practices and innovative technologies	
EN08	Develop [by 2025] recommendations for BAT/BEP to reduce ammonia and GHG emissions from livestock housing, manure storage and spreading.	

EN09	Develop [by 2025] recommendations for manure management specifically for horses, sheep, goats, and fur farming	
EE01	Apply as a minimum the updated EU's BREF document and Conclusions on BAT for intensive rearing of poultry and pigs, especially for the facilities located within areas critical to nutrient losses	
EE02	Review national regulation and voluntary measures and – if relevant – implement further or revised measures, as compiled in the revised palette of measures for reducing phosphorus and nitrogen losses from agriculture.	
EE03	Implement and enforce the provisions of part 2 of Annex III "Prevention of pollution from agriculture" of the 1992 Helsinki Convention	
EE04	Agreement on national level by 2023 on measures to reduce nutrient surplus in fertilization practices to reduce nutrient losses	
EE05	Investigate opportunities for taxation of mineral fertiliser and/or taxation of nitrogen surplus and/or payments for agri-environment measures [by 2024], and implement them building on the experiences available in various countries.	
EE06	Apply innovative water management measures where appropriate, for example, lime filter ditches, sediment traps and controlled drainage, and nature-based solutions, such as two-level ditches and constructed wetlands, when upgrading and renovating agricultural drainage systems	

Code	Action	Cross-reference to actions in other segments
<i>Theme: Atmospheric nitrogen emissions</i>		
EE16	Revise [by 2023] the HELCOM Recommendation 24/3 on "Measures aimed at the reduction of emissions and discharges from agriculture" ensuring reduction of agricultural ammonia emissions and considering relevant BAT and BEP	
EE15	HELCOM Contracting Parties will continue to reduce the deposition of atmospheric nitrogen on the Baltic Sea through the implementation of the national nitrogen reduction commitments of the Gothenburg Protocol and the EU NEC-Directive 2016/2284 for those HELCOM CPs that are also EU Member States. HELCOM CPs will ensure that measures taken in transportation, combustion and agriculture are tailored to contribute to the reduction of the nitrogen deposition on the Baltic Sea.	
EE17	Enhance HELCOM cooperation with the UNECE Convention for Long-Range Transboundary Air Pollution in order to promote the inclusion of the protection of the Baltic Sea ecosystem as an additional criterion in the process of the revision of the emission targets for nitrogen in the Gothenburg Protocol.	

Code	Action	Cross-reference to actions in other segments
<i>Theme: Waste water sector</i>		
EN18	Strengthen the HELCOM Recommendation 28E/5 on MUNICIPAL WASTEWATER TREATMENT [by 2027]	
EE18	Facilitate exchange of information on best available treatment techniques (WWTP) through cooperation with existing regional digital platform(s) acting as a hub for the best knowledge in the wastewater management sector	
EE19	Encourage educational cooperation with involvement of relevant non-governmental organizations utilizing such regional digital platform(s) to solve problems of municipal sewage in smaller municipalities and scattered settlements	
EE20	Cooperate with relevant PAs of the EU SBSR regarding e.g. wastewater treatment plants (under "save the sea" objective of the EUSBSR) as well as other regional policies to engage a wider network of stakeholders into cooperation to achieve the BSAP targets.	
EE21	Target the elimination of phosphorus in laundry detergents for consumer use as soon as possible, but not later than by [2024]	

Code	Action	Cross-reference to actions in other segments
EE22	Build knowledge base to target the reduction of phosphorus in detergents for industrial & institutional use. By 2025, develop and publish a HELCOM progress report about best available techniques, alternative builder, especially on their use, environmental effects and effectiveness.	
EE23	Undertake efforts to reduce and where possible eliminate phosphorus in detergents for industrial & institutional use, in particular for institutional use of laundry and dishwater detergents [no later than by 2030] based on the knowledge on best available techniques compiled at the first step	

Code	Action	Cross-reference to actions in other segments
<i>Theme: Nutrient recycling</i>		
EE07/ EN10 a/ EN10 b	Develop [by 2025] legal and institutional tools to advance towards making annual field-level fertilization planning and farm-gate nutrient balancing for nitrogen (N) and phosphorus (P) a requirement for all farms in the Baltic Sea Region to reduce nutrient surplus on farmlands to the highest possible degree.	
EN11 / EE08	Implement adequate measures, especially in agriculture and wastewater management, to achieve the objectives of the Baltic Sea Regional Nutrient Recycling Strategy [by 2027]	
EN12	Enhance the use of recycled nutrients in agriculture making use of best available technologies and fertilize according to crop needs	
EN13	Develop [by 2027] safety requirements for recycled fertilizer products and minimise the occurrence of harmful compounds in these products to comply with the requirements.	
EN14	Increase the knowledge and promote education and advisory services on nutrient recycling	
EN15 / EN17	Improve the conditions for the development of a market for recycled fertilizer products by setting incentives with the aim of making the use of such products equally attractive to farmers as the use of mineral fertilizers	
EN16	Enhance cooperation and share experiences between sectors and actors to create a holistic view on sustainable food systems including nutrient recycling across sectors	

Connection to other treaties

The achievement of good environmental status in relation to eutrophication in the Baltic Sea also relies on additional reduction of inputs from third parties by 2030 as follows:

- 52758 tonnes of airborne nitrogen since the reference period (1997- 2003) assuming full implementation of the Gothenburg Protocol of the UNECE Convention on Long-range Transboundary Air Pollution and National Emissions Ceilings (NEC) Directive,
- 5561 tonnes of waterborne nitrogen and 930 tons of waterborne phosphorus since the reference period (1997-2003) assuming that non-Contracting Parties take the same responsibility to reduce nutrients input as the Contracting Parties,
- 16803 tonnes of airborne nitrogen from shipping due to the implementation of the IMO decision to establish a NECA in the Baltic Sea and North Sea.

In addition to the above-mentioned policies, implementation of the EU Marine Strategy Framework Directive (MSFD), Water Framework Directive (WFD), Nitrates Directive (ND), Urban Wastewater Treatment Directive

(UWTD) and the Industrial Emissions Directive (IED), as well as the Water Code and Law on Environment protection of the Russian Federation are prerequisites to the achievement of the goal for this segment of the Baltic Sea Action Plan.

Hazardous substances and litter segment - 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

Effects of climate change impacting hazardous substances and litter: *(to be visualized)*

Precipitation

River runoff

SDG targets addressed:

- 12.2 By 2030, achieve the sustainable management and efficient use of natural resources
- 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
- 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
- 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

Further information on connection to other treaties related to hazardous substances and litter can be found on page xx.

Pressures addressed *(to be visualized):*

Activities addressed *(to be visualized):*

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

As shown by the latest assessments of pollution by heavy metals, organic contaminants and radioactive substances, the Baltic Sea remains heavily impacted by hazardous substances. In particular, levels of PBDEs, mercury and cesium-137 are still high in all parts of the sea, and contaminants of emerging concern such as some pharmaceuticals were also found in almost all components of the marine environment. Nonetheless, due to scarcity of data on contaminants of emerging concern as well as on some other monitored substances used as indicators and their input into the marine environment, we cannot currently obtain a comprehensive picture of the extent of the contamination of the Baltic Sea.

Hazardous substances originate from a wide range of human activities on land and at sea. Thousands of chemicals and synthetic materials are widely used in households, and sewage treatment systems are their primary pathways to the aquatic environment. Urban storm water and agricultural runoff also contribute to the overall contamination of the Baltic Sea. Industries use chemical compounds in technological processes or as a raw material, and their emission through air or water pose a certain environmental risk. A significant

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. Many compounds are highly volatile and can travel through the air for long distances, thereby contributing to the contamination of the Baltic Sea marine environment – even if their use is prohibited in the HELCOM countries. Finally, offshore sources of pollution include, for example, the leaching of chemicals from antifouling paints, discharge of polluted water from ships, aquaculture and offshore installations, as well as accidental or intentional spills of oil or other harmful 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 sediments and can be resuspended, for instance as a result of dredging processes or the depositing of contaminated sediments at sea. Consequently, they can enter the food webs in the marine ecosystem. Furthermore, dumped chemical and conventional munition remain buried on the seafloor, and new chemicals with currently unknown effects and unquantified inputs are being used and released into the aquatic environment.

Marine litter

Marine litter, including microlitter, originates from various land- and sea-based sources. Among land-based sources, the major contributors to the littering of the sea are recreational or tourism activities, especially on the seashore, as well as construction and households. Microlitter including microplastics is primarily released to the aquatic environment via sewage waters, untreated or insufficiently treated storm waters, and snowmelt runoff. It might also originate from the disintegration of larger plastic litter items in the environment.

Ship traffic, fisheries, aquaculture and offshore installations are sources of litter at sea, for example through accidental or intentional discharges of waste from commercial or pleasure vessels. Abandoned, lost or otherwise discarded fishing gear (ALDFG) is a type of litter that poses a particular threat to marine life, causing either physical harm or breaking down into smaller particles that then enter the food web.

So far, marine litter is only assessed descriptively at the Baltic Sea scale, and monitoring of marine litter is currently under development. However, data series regarding beach litter already allow for the establishment of a baseline. Most of the litter items found on beaches consist of plastics, with most of them being single-use items and linked to eating, drinking, smoking, or industrial packaging. It is further worthy of notice that balloons or balloon-related items are found among the top ten items in several sub-basins. At sea, abandoned, lost and discarded fishing gear constitutes a severe threat to marine life. The problem affects the entire region, though its magnitude depends mainly on the bottom morphology and the intensity of fisheries.

Description of desired state

The goal of the Baltic Sea Action Plan with regard to hazardous substances and litter is a “Baltic Sea unaffected by hazardous substances and litter”.

Hazardous substances

The desired state of the Baltic Sea regarding hazardous substances is described by the ecological objectives:

- Concentrations of hazardous substances are close to natural levels;
- All sea food is safe to eat;
- Marine life is healthy;
- Minimal risk to humans and the environment from radioactivity.

The BSAP's goals and objectives for hazardous substances will be achieved when chemicals occurring in the marine environment due to human activities do not cause any dysfunction of the marine ecosystem, such as mutations or disruption of biochemical processes or food chains. The desired state of the Baltic Sea, or good environmental status, also requires that the occurrence of hazardous substances does not jeopardize the

functioning of ecosystem services and does not pose any risk to human health. Because of the wide array of chemical substances and human activities involved, efforts towards achieving the goals on hazardous substances require the application of a holistic approach for their management on land and at sea, comprising measures addressing legacy pollutants such as heavy metals, dioxins or organotins, and contaminants of emerging concern such as per- and polyfluoroalkyl substances (PFAS) and pharmaceuticals. Such a holistic approach also needs to include establishing a mechanism for the identification of regional priorities utilizing best available scientific knowledge, as well as the review of those priorities to enable a timely response to emerging challenges. Cooperation with global treaties is also key to addressing sources of contaminants beyond the region.

Marine Litter

The desired state of the Baltic Sea with regard to marine litter is described by the ecological objective of “no harm to marine life from litter”.

As for hazardous substances, achieving the goals and objective for marine litter implies that litter items, including microlitter, occur in the marine environment only in amounts that do not cause dysfunction of the ecosystem, enter food chains or physically damage marine organisms. It also means that marine litter does not adversely affect functionality of marine ecosystem services and does not pose a risk to human activities. This desired state can only be reached through the implementation of a complex system of measures addressing the entire lifecycle of products and goods, ensuring that they do not turn into litter, either on land or at sea. Active cooperation with global treaties and other regional sea conventions should be pursued in order to engage third parties beyond the region in tackling this global challenge.

Reaching desired state: management objectives

Hazardous substances

In order to reach this desired state, the management objective – “to minimize input and impact of hazardous substances from human activities” – was identified.

HELCOM acts as a coordinator of the joint efforts of the Contracting Parties to identify priority contaminants, quantify their inputs and regional sources, and develop effective national or regional measures based on such information. Recurrent screening of contaminants in the marine environment as well as of their potential sources and pathways is 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 information enables mechanisms for a regular update of the contaminants of regional priority, monitoring and assessment targets, and a holistic approach that considers time trends in inputs to the sea and ecotoxicological effects with a clear link to the total load of contaminants. Such a holistic approach strengthens the management cycle, making it possible to keep track of measures, assess their effects and tailor these measures to target specific contaminants and their groups. HELCOM commits to developing an action plan for hazardous substances as a part of the regional strategic approach to strengthening the management cycle for hazardous substances and linking HELCOM activities with other relevant regional and global policies.

Marine litter

In order to reach the desired state, the following management objectives have been identified for marine litter:

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

The HELCOM Regional Action Plan on Marine Litter is the main regional tool for achieving the marine litter ecological and management objectives. It ensures that there are measures in place to address the most common and harmful litter items found in the Baltic Sea region by:

- reducing the impact of abandoned, lost or otherwise discarded fishing gear (ALDFG) on the marine ecosystem in a systematic way by developing HELCOM guidelines and recommendations,
- significantly reducing the consumption of single-use plastics including through the phase-out of unnecessary single-use plastics which are prone to becoming litter,
- preventing litter from all sources,
- minimizing inputs of microplastics through measures both at source and through end-of-pipe solutions,
- being aware of new and emerging issues related to marine litter generation and act if needed and
- promoting and actively working for a global agreement to reduce input of marine litter and microplastics.

Regional thresholds for beach litter, litter on the seafloor and microlitter should be set to assess progress towards achieving good environmental status for marine litter and applying them as the basis for setting environmental targets. The assessment of progress towards these environmental targets should be based on monitoring programmes utilizing regionally harmonized methodologies. Available knowledge has improved since the first Action Plan on Marine Litter was adopted, but further scientific and technological development is crucial for achieving the BSAP objectives, especially with regard to microlitter.

Actions

To achieve the set objectives, the following actions will be taken:

Code	Action	Cross-reference to actions in other segments
<i>Theme: Hazardous substances</i>		
HLN06	Develop a [regional strategic approach] [regional action plan] to HELCOM work on hazardous substances by [2024]	
HLE04	Develop national programmes with a particular focus on hazardous substances which are not adequately regulated by other policies	
HLE05	Submit to HELCOM by [2023] an account listing, as detailed as possible, the planned and implemented measures to reduce releases of hazardous substances in the environment, including available knowledge on their effects.	
HLN04	Strengthen and update HELCOM recommendations for industrial releases of hazardous substances by applying information produced under the EU Industrial Emissions Directive and other sources in order to sufficiently protect the Baltic Sea environment	
HLN05	Decrease the emissions of hazardous substances from small scale emitters in urban areas (municipal entities, businesses and private households) by chemical-smart purchasing strategies, substitution and awareness raising campaigns	
HLE12	Establish a chemical product registers to be built upon e.g. the EU REACH (EC1907/2006) framework [by 2025]	
HLE14/ HLE13	Launch educational and information campaigns [by 2025] to raise public awareness regarding responsible handling of hazardous substances in household chemicals and articles to prevent their release into the environment.	
HLE15	Introduce requirements regarding content of chemicals of high regional environmental concern in public procurement procedures [by 2025] and provide support for follow up.	
HLE16	Establish procedures [by 2025] to utilize information obtained under various policies addressing the use of chemicals (e.g. REACH, WFD, IED, Stockholm Convention etc) to prioritize measures targeting regional contaminants and to identify emerging pollutants of high concern.	
HLE18	Establish a mechanism for HELCOM to manage the list of priority substances [starting from 2025] and respond to screening and assessment results pointing out regional challenges for the Baltic Sea environment and contaminants of emerging concern	

Code	Action	Cross-reference to actions in other segments
HLE19	Organize continuous follow up of the work on hazardous substances under various global and EU policies as well as in RSCs [starting from 2024], and actively influence these processes by promoting international actions identified as necessary to improve the environmental status with respect to hazardous substances in the Baltic Sea.	
HLE20	HELCOM participation [starting from 2023] as member in Strategic Approach on [International Chemicals Management High Ambition Alliance (SAICM HAA)] to support international cooperation on global chemical challenges that influence the state of the Baltic Sea. Identification of global challenges that are of importance for the Baltic Sea that HELCOM will put on the [SAICM HAA] agenda.	
HLE21	By [2028] develop further relevant monitoring for the biological effects of hazardous substances in order to facilitate a reliable ecosystem health assessment.	
<i>Topic: Legacy pollutants</i>		
HLN01	Encourage the use of alternative less toxic metals and other materials to replace lead in fishing gear and shooting bullets with the aim to minimize harmful use of metallic lead.	
HLE02	In order to decrease dioxin emissions, perform information campaigns and other instruments that focus on the quality and species of the firewood, and what is burned in the small-scale combustion appliances [by 2025]	
HLE07/ HLE06	Enhance implementation of the UNEP 2013 Minamata Convention on Mercury by those Contracting Parties that are parties to this Convention and encourage its ratification by HELCOM countries that are not yet parties to the Convention	
HLE08	Undertake all possible measures to reduce mercury emissions from energy sector [by 2025]	
HLE09	Control concentration of mercury in dredged material and undertake possible measures to prevent its release during dredging operations and handling of dredged material	
HLE10	Introduce the ban of the use of mercury-based amalgam in dentistry by [2030], except when deemed strictly necessary	
HLE11	Establish [2023] and maintain procedures (rules) to handle mercury containing wastes to prevent entering of the contaminant to the environment, including public information on the procedures (rules)	
HLE17	Introduce [by 2027] measures based on the best available scientific knowledge and technologies to restrict the use and prevent releases of perfluorinated alkyl substances, phenolic compounds with endocrine disrupting effects and chlorinated paraffins	
<i>Topic: Contaminants of emerging concern</i>		
HLN09	Improve knowledge base on occurrence of pharmaceutical substances in the environment, their persistence and harmful effects and assure availability of this information for broad expert community [2025]	
HLE01/ HLN03	Identify priority pharmaceuticals [by 2024] utilising the best available knowledge on their releases into the aquatic environment, environmental effects and available data on the use in the region for efficient risk reduction and for subsequent integration of these substances to HELCOM assessments as indicators of the state of the Baltic sea and environmental pressure.	
HLN10	Develop guidance for the environmental monitoring and analysis of pharmaceuticals identified as indicators of the state of the Baltic Sea [by 2025]	
HLN12	Information campaign on what not to flush [by 2025] (addressing chemicals, pharmaceuticals and litter).	
HLN13	Strengthen the collection of unused pharmaceuticals from public in the Baltic Sea region [by 2026]	
HLN02	In cooperation with health care institutions, increase awareness and knowledge of consumers about pharmaceuticals containing substances that are persistent and harmful for the environment, when scientifically justified information is available.	
HLE03	Address substances of emerging concern by commencing recurrent screening campaigns [starting from 2021] including broad analytical techniques such as suspect screening and non-target screening methods.	
HLN08	Limit the use of firefighting foam containing PFAS at sea and in the catchment area and promote sustainable alternatives [by 2027]	
HLN07/ HLN11	Minimize the release of biocides from antifouling products to the marine environment, and [by 2026] replace use of biocidal antifouling products with biocide free alternatives when available and environmentally and technically feasible.	

Code	Action	Cross-reference to actions in other segments
Theme: Marine litter		
HLE22	Improve the evidence base on the impact of marine litter on the Baltic Sea region in order to develop and agree on new measures [by 2025]	
HLE24 /HLE23	Agree on core indicators and harmonised monitoring methods to evaluate quantities, composition, distribution and sources (including riverine input), of marine litter, including microlitter, by [2022], where applicable and for the rest no later than [2026]. Work should be done in close coordination with work undertaken by Contracting Parties in other relevant fora.	

Sea-based activities segment - Environmentally sustainable sea-based activities

Visualization/text box to be added to include the following information:

Goal: Environmentally sustainable sea-based activities

Effects of climate change impacting sea-based activities: *(to be visualized)*

Air temperature
Water temperature
Sea ice
Solar radiation and cloudiness
Salinity
Precipitation
Oxygen
Sea level
Wind
Waves
Sediment transportation and erosion

SDG targets addressed

- 12.2 By 2030, achieve the sustainable management and efficient use of natural resources
- 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
- 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
- 13.2 Integrate climate change measures into national policies, strategies and planning
- 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
- 14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics
- 14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want
- 15.8 by 2020 introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems, and control or eradicate the priority species

Further information on connection to other treaties related to biodiversity can be found on page xx.

Pressures addressed *(to be visualized):*

Activities addressed by HELCOM actions *(to be visualized):*

Cross reference with other segments:

- Reaching objectives for sea-based activities 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 eutrophication and hazardous substances and litter.

Description of current state

Sustainable management of sea-based activities is essential for achieving good environmental status of the Baltic Sea. Sea-based activities comprise all human operations and constructions at sea, from commercial shipping and recreational boating to fisheries, and from construction work and dredging to energy production and the extraction of minerals, oil and gas. Achieving the overall strategic goal of the segment therefore requires cooperation on a wide range of topics, and involves the coordination of numerous and diverse actors and the inclusion of various objectives.

Emissions and discharges from shipping continue to have harmful impacts on the Baltic Sea environment, despite the reinforced international regulations concerning maritime traffic. Energy efficiency of ships is improving, and a downward trend is also evident for other types of emissions and discharges. Nevertheless, shipping still contributes to significant emissions and discharges to the Baltic Sea, including nitrogen oxides (NO_x), sulphur oxides (SO_x), particulate matter, sewage and discharges from exhaust gas cleaning systems, leading to pollution and eutrophication of the marine environment. In addition, shipping is the cause of some adverse environmental effects that are not yet covered by mandatory international regulations, such as those resulting from underwater noise, biofouling, and grey water discharges.

Oil spills observed by aerial surveillance have been decreasing in both numbers and size, and while preparedness and response to spills of oil and hazardous noxious substances at sea and on shore are rather advanced in the Baltic Sea, there is still a need for improvement. Annual reports show an increasing number of spills of unidentified chemical substances and novel fuel types, for which response options need to be developed, especially in light of the increasing likelihood of accidents as a result of increased traffic and extreme weather conditions due to climate change.

Fishing takes place in large areas of the Baltic Sea, with direct effects on target species as well as on protected species and habitats. Currently, the majority of Baltic Sea fish stocks are not in good status with respect to biomass and fishing mortality. Physical disturbance to the seabed from bottom trawling and by-catches of birds, marine mammals and non-target fish species in fishing gear constitute other pressures on the ecosystem, which need to be reduced. Furthermore, intensive fishing leads to shifts in the food web, alterations in size-age distribution, as well as reductions in reproductive capacity and resilience of both fish and other marine organisms.

In addition to shipping and fishing, direct activities such as mineral extraction, dredging, installation of offshore wind farms, other forms of marine energy production, and laying of underwater cables and pipelines have negative effects on the marine environment, including physical disturbance and loss of the seabed. As a result of these multiple activities, about 40 percent of the Baltic Sea seabed is estimated to be potentially disturbed, with many underwater biotopes and species in unfavourable conservation status. Along with submerged hazardous objects such as sea-dumped munitions, warfare materials and wrecks containing oil, activities causing disturbance to the seabed contribute to the potential release of harmful substances that may affect the marine environment and activities in the Baltic Sea. Besides being sources of pollution, submerged hazardous objects are also physical obstacles on the seafloor and pose a risk to maritime workers. The above-mentioned activities, including the operation of offshore windfarms and aquaculture facilities, also affect marine organisms through the effects of noise and may cause hazards and disturbance to sea birds and other marine life.

Despite significant progress in many areas of sea-based activities, it is clear that further actions are needed. The expansion of sea-based activities through emerging maritime sectors has further resulted in several pressures for which regulatory frameworks are not or not yet in place. The cumulative effects of existing and new sea-based activities need to be evaluated, and an ecosystem-based approach implemented, where the carrying capacity of the ecosystem, and the need to set limits for human activities, is acknowledged.

Description of desired state

The desired state of the Baltic Sea regarding sustainable and safe sea-based activities is described by the ecological objectives:

- No or minimal disturbance to biodiversity and the ecosystem
- Activities affecting seabed habitats do not threaten the viability of species' populations and communities
- No or minimal harm to marine life from man-made noise

Reaching desired state: management objectives

In order to reach this desired state, the following management objectives are to be met:

- Minimize loss and disturbance to seabed habitats
- Minimize noise to levels that do not adversely affect marine life
- No introductions of non-indigenous species
- Minimize the input of nutrients, hazardous substances and litter from sea-based activities
- Enforce international regulations – no illegal discharges
- Safe maritime traffic without accidental pollution
- Effective emergency and response capabilities
- Minimize harmful air emissions
- Zero discharges from offshore platforms
- Ensure sustainable use of the marine resources

Implementing the actions of the sea-based activities segment is one of the key factors for enabling the vision of the Baltic Sea Action Plan of reaching a healthy Baltic Sea environment, and for supporting a wide range of activities in the Baltic Sea region that do not compromise ecological, societal, and long-term economic sustainability. HELCOM has the ambition to work continuously towards making the Baltic Sea a front-runner in the field of environmentally sustainable sea-based activities, including shipping, fisheries, offshore wind farms and infrastructure. HELCOM recognises the need for significant expansion of offshore wind energy in order to reach the climate targets for 2030 and 2050 and will take action to ensure that the expansion of the offshore sector is achieved sustainably and with respect to our commitments on biodiversity and a healthy marine environment. Apart from implementing the actions set out in the Baltic Sea Action Plan, this will also require the implementation of other instruments such as the Regional Action Plan on Underwater Noise and the enforcement of applicable national, regional and international regulations in the field of sea-based activities, as well as active voluntary commitments by industry.

Actions

To achieve the set objectives, the following actions will be taken:

Code	Action	Cross-reference to actions in other segments
<i>Theme: Maritime activities</i>		
<i>Topic: Discharges from offshore platforms</i>		
SE01	Update the Action Plan for the protection of the environment from offshore platforms to put into practice the “zero-discharge” principle in respect of all chemicals and substances used and produced during the operation of offshore platforms by [2026].	
<i>Topic: Maritime safety</i>		
SE02	Take actions to ensure the completion of the re-surveys for CAT. I and II areas used by navigation by 2030 at the latest.	
SN01/ SE03	Ensure the completion of the re-surveys for near shore areas and other areas used typically for safe boating, environmental protection, GIS data purposes and oil recovery contingency (also called CAT III areas), by the time specified in the revised BSHC HELCOM Re-Survey Scheme.	
SE06	Further work with regard to the regional HELCOM Automatic Information System (AIS) and also new systems such as VHF Data Exchange System (VDES) and other e-navigation services [by 2027] in order to increase safety of navigation and gain environmental benefits	
<i>Topic: Non-indigenous species</i>		
SE07	Establish [by 2024] and subsequently implement the early warning system in case of the introduction of invasive species in ports.	
SN02	Work for the harmonized implementation of the International Maritime Organization (IMO) Biofouling Guidelines and Guidance [by 2025], taking into account e.g. the proposed Biofouling Management Roadmap, and further contribute to the work carried out in the IMO.	
SE09	Promote the development and use of effective, environmentally sustainable biofouling management techniques and antifouling systems on ships and recreational craft, including biocide-free alternatives to prevent biofouling by supporting related R&D activities in the Baltic Sea region.	
SE11	Strengthen cooperation with stakeholders in the development and implementation of sustainable biofouling management options [by 2026] to minimize the introduction of invasive aquatic species, the release of hazardous substances and microplastics from anti-fouling systems, as well as enhancing energy efficiency	
<i>Topic: Recreational boating</i>		
SE16	Promote environmentally sustainable recreational boating, including the use of best environmental practices through education and raising awareness of boat users and the personnel of marinas and guest harbours. Promote also “green” marinas and guest harbours by e.g. introducing eco-labelling of marinas and developing guidance and best practice documents [by 2025] as a help for the marinas to reach criteria	
<i>Topic: Pollution from ships</i>		
SN03/ SN04	Carry out a study and impact assessment [by 2023], assessing the possible ways for cargo ships to deliver sewage to port reception facilities (PRF) or take treatment measures, using onboard treatment plants, before discharging it into the sea. Based on the results, take relevant action in making a decision [by 2025] on whether to widen the scope of the Baltic Sea Special Area regulations under the MARPOL Convention Annex IV to cover also sewage discharges from cargo ships.	
SN05/ SN06	Carry out study and impact assessment [by 2023], assessing the volume and potential harmful effects of grey water and the possibilities for ships to deliver it to port reception facilities or take treatment measures using onboard treatment plants, before discharging it into the sea. Based on the results, take relevant action in making a decision [by 2025] on whether and how to manage grey water discharges from ships.	

Code	Action	Cross-reference to actions in other segments
SN11/ SN12	Carry out a study and impact assessment [by 2024] to estimate and evaluate the volumes and impact of discharges of residues of noxious liquid substances contained in cargo tank washing waters under the MARPOL Convention Annex II into the Baltic Sea. Based on the results, take relevant action [by 2026] on whether and how to further limit discharges of residues of noxious liquid substances contained in cargo tank washing waters under MARPOL Annex II into the Baltic Sea.	
SN13	Study the adequacy and use of port reception facilities (PRF) for the MARPOL Convention Annex V cargo residues [by 2023] and, based on this information, ensure adequate PRFs in Baltic Sea ports for cargo residues classified as non-HME substances under MARPOL Annex V and further ensure incentives for ships to use them [by 2026].	
SN14/ SN15	Develop and adopt [by 2023] a HELCOM Recommendation to encourage voluntary agreements on delivering all food waste from ships to port reception facilities. Develop a Roadmap to minimize the discharges of food waste into the Baltic Sea	
SE14	Enforce the requirements of the Baltic Sea Special Area under the MARPOL Convention Annex IV and continuously ensure the availability of adequate port reception facilities in passenger ports in the Baltic Sea Area taking into account the "Technical Guidance for the handling of wastewater in Ports of the Baltic Sea Special Area under MARPOL Annex IV".	
SN10	Ensure the no-special-fee system for marine litter applies to all passively fished waste [by 2024]	
SN16	Develop and Introduce best technologies, techniques and practices (BAT/BEP) to minimize nutrient losses from dry bulk fertilizer storage and handling in ports in the Baltic Sea region [by 2024].	
SN07	Develop a Roadmap [by 2025] to reduce the input of pollutants from Exhaust Gas Cleaning System discharge waters, as a minimum in line with existing legislation, taking into consideration the precautionary principle and the outcome of the work of the International Maritime Organization (IMO).	
SE13	Develop a Roadmap to strengthen the implementation and enforcement of the Baltic Sea NO _x Emission Control area by [2023] based on experience and lessons learned.	
SN08	Enhance the use of alternative fuels and sources of energy in shipping as well as recreational boating, as well as enhance the use of digitalization and other innovations in technology [by 2027] to optimize energy efficiency in the Baltic Sea area with the view to reduce emissions of both GHG and air pollutants	
SN09	Actively follow and contribute to the discussions at the International Maritime Organization (IMO) on GHG emission reduction and ensure that ice navigation and its special requirements are taken duly into account. Ensure, through the work of HELCOM Green Team, that shipping in the Baltic Sea area meets targets of the IMO GHG strategy [by 2030] while at the same not impairing efforts on reducing air pollution or other environmental effects	
SN17	Work towards securing ship financing and innovation funding to support more sustainable shipping and to ensure maritime transport components in applicable funding mechanisms	
SN18	Enable onshore power in the Baltic Sea region by promoting onshore power supply availability and ensuring initial economic incentives for the use and supply of onshore power [by 2027]	
SE12	Develop and facilitate implementation of feasible and effective economic incentives to reduce pollution from ships, taking into account HELCOM Recommendation 28E/13 as amended 19 June 2019.	

Code	Action	Cross-reference to actions in other segments
<i>Theme: Response</i>		
SN19/ SN20/ SE17/ SE18	Further develop regional preparedness and response related services by e.g. investigating options for upgrading SeaTrack Web to include live data feed in order to improve oil spill trajectory prognoses no later than by [2027]. Investigate options to prepare SeaTrack Web for integration with the Clean Sea Net satellite detection service.	
SN22	Conduct a feasibility study [by 2022] for, and as appropriate, undertake a risk analysis for oil and HNS pollution of the marine environment in the Baltic Sea area [by 2025].	
SN23	Develop a framework for holistic/integrated management of marine pollution incidents to enable coordinated response operation at sea and on shore [by 2025].	
SN25	Strengthen mutual assistance for oiled wildlife response in the Baltic Region [by 2025].	
SN21	Develop Best Environmental Practice (BEP) for comprehensive risk assessment of munitions, wrecks and hazardous submerged objects [by 2025] and implement the Best Available Techniques (BAT) for environmentally sound and safe management [by 2028].	
SE19/ SE20	Maintain the HELCOM thematic assessment on hazardous submerged objects as a living document, including munitions and wrecks and regularly update the information in the HELCOM Map and Data Service [by 2024].	
SE21	Implement the Marine HNS Response Manual in operational response to spills involving hazardous or noxious substances as well as exercises by [2025]	
SE22	Commit to testing the procedures of the Marine HNS Response Manual at [BALEX 2022].	
SN24	Undertake monitoring and pollution risk assessment regarding species and habitats in the Baltic Region [by 2026].	

Code	Action	Cross-reference to actions in other segments
<i>Theme: Fisheries management</i>		
SE27	Develop guidance [by 2026] in cooperation with the Regional Coordination Groups within the EU Data Collection Framework and ICES on how to improve data collected on recreational fisheries in a cost-effective way, with a view to evaluate the impacts of recreational fisheries on the marine environment, where there is a need.	
SE28	Identify [by 2024] fish species for which there is a need for better data for identified purposes, such as setting threshold levels. Utilise dedicated programmes and projects to facilitate recording and reporting of data for these species [by 2025] to support the identification and implementation of measures to achieve GES.	BN14
SN31	Further elaborate cooperation between BALTFISH and relevant HELCOM working groups [by 2023] to facilitate a wide range of actions to achieve good environmental status	
SE26	Update and harmonize [by 2024] the 2016 BALTFIMPA decision-support tool approach with ongoing initiatives e.g. in ICES on a seafloor assessment framework for the Baltic Sea. This tool should also provide options on how to reduce the possible negative impact of fisheries on conservation values in the most cost-effective way, including in marine protected areas	BE14, BN04/BE12
<i>Topic: By-catch</i>		
SE33	Reduce the negative impacts of fishing activities on the marine ecosystem and to this end, support the development of fisheries management including technical measures to minimize unwanted by-catch of fish, birds and marine mammals and achieve the close to zero target for by-catch rates of relevant species [by 2024], especially the Baltic proper population of harbour porpoise [by 2022].	BE19
SE29	Invite the competent authorities, such as BALTFISH, to immediately, but no later than 2022, implement mitigation measures in the Baltic proper, in order for by-catch of harbour porpoise to be significantly reduced with the aim to reach by-catch rates close to zero.	BE19
SE32	Invite the competent authorities to implement operational conservation measures for the Belt Sea population of harbour porpoise by [2024] such as permanent and/or spatial-temporal closures for relevant fishing métiers in risk areas where technical mitigation measures are insufficient to reach conservation goals.	BE19
SN34	Cooperate with BALTFISH in order to promote effective mitigation measures to minimize by-catch of the Baltic Sea harbour porpoise (<i>Phocoena phocoena</i>), and to evaluate and adjust measures as needed [by 2025].	BE19

Code	Action	Cross-reference to actions in other segments
SE30/ SN33	Continually test, promote and introduce new technical and operational by-catch mitigation measures such as alternative and seal safe gears in cooperation with competent authorities with the aim to, as appropriate, replace fishing gear proven to be problematic with respect to by-catch, with evaluation of measures every 5 years starting in [2022], and regularly update the HELCOM questionnaire on trials of alternative fishing gears and fishing techniques.	BE14, BE19, BN04/BE12
SE31/ SN32	Develop at the latest by [2023] and implement an effective data collection for more reliable data on incidental by-caught birds and mammals and fishing effort consistent and fully in line with the data needs identified by ICES. Relevant sources of data are e.g. EU basic control Regulation and additional national or regional coordinated data collection programmes or projects for filling data-gaps outlined in the HELCOM Roadmap on fisheries data, in order to assess incidental by-catches by [2025] as one criterion which may affect the state of a species.	BE19, BN14
SN45	Maintain, develop and extend regulatory or voluntary schemes to protect key seabird areas and seasons by establishing appropriate fisheries measures in line with conservation objectives and to monitor incidental catches of seabirds. Extend and develop outreach programmes for the fisheries sector concerning their possible impacts on seabird populations.	
<i>Topic: Fish stock management</i>		
SN36/ SE34	Competent authorities to jointly further develop protective measures for Baltic Sea salmon to support the development of a new regional salmon management plan, and nationally establish salmon management plans by [2023], where appropriate. These management plans should be implemented by [2025] to achieve the set targets, including but not limited to smolt production, genetic diversity and distribution throughout the river habitat. In addition, nationally ensure that granting permits for activities in and near rivers does not compromise the ability to reach set river specific fish population targets.	BE23/ BN06/ BN07/ BE41
SE35	Competent authorities to improve data related to sea trout stocks and to improve populations of sea trout stocks by implementing national measures at the latest [by 2025] with the view to achieve good ecological condition in sea trout streams.	BE23/ BN06/ BN07/ BE41
SE36	Define necessary complementary measures [by 2024] in relevant policy (fisheries, environment etc.) areas to improve the size/age structure for fish stocks, including cod	BN11a-BN11i
SN35	Implement measures to restore coastal fish communities, including establishment of no-take areas, seasonal closures and catch regulations, as appropriate [by 2026] for the specific coastal area.	BE20/ BE21/ BE22
SE37	Share information among Contracting Parties, BALTFISH and BSAC on non-lethal mitigation measures or other ways to manage seals-fisheries interactions and implement those measures [by 2025], as appropriate	BE14, BN04/BE12

Code	Action	Cross-reference to actions in other segments
<i>Theme: Underwater noise</i>		
SE24b / SN26b	Identify at the latest by [2025], as well as regularly update [every 2 years], mitigation measures according to Best Environmental Practice and Best Available Technique for continuous underwater noise in the Baltic Sea and implement thereafter in line with recommendations and regulations of the international Maritime Organization (IMO).	
SN27	Actively support and contribute to the ongoing discussions on underwater noise at the International Maritime Organization (IMO) by inter alia working towards regionally coordinated implementation of actions [by 2028].	
SN28	Work towards regionally coordinated actions [by 2025] on underwater noise, aiming in the long term towards addressing adverse effects of underwater noise on marine species identified as sensitive to noise, whilst safeguarding the potential of the Baltic Sea for sustainable human activities by:	BN04/BE12

Code	Action	Cross-reference to actions in other segments
	a) Supporting a swift implementation of the Regional Action Plan on Underwater Noise b) Initiating and supporting pilot projects to study efficacy of vessel slow down, re-routeing and other operational measures, on noise emissions and responses of target species by the end of [2025]. Results are to be communicated to IMO for follow-up and further action. c) Mapping the contribution of recreational craft to the noise in the marine environment; supporting studies on efficiency of mitigation measures, such as speed limitations and time-area restrictions; and studies on impact from echo sounders and fish-finders. Based on available evidence and new results, developing guidelines for implementing regulation to reduce impact on sensitive species. Simultaneously developing common standards for underwater noise emissions of engines, echo-sounders and fish finders, which can be utilized in national regulation of activities in MPAs and other noise sensitive areas in the Baltic Sea.	
SN46	Study the impacts of continuous underwater noise from the installation, operation and decommissioning of offshore windfarms on marine biota, including cumulative effects of multiple windfarms. Based on the results, take relevant action, if necessary, in developing appropriate mitigation measures for the continuous underwater noise generated by offshore wind farms	
SN29	Reduce the impact of impulsive underwater noise on marine biodiversity	
SE24a / SN26a	Identify at the latest by [2023], as well as regularly update [every 2 years], mitigation measures according to Best Environmental Practice and Best Available Technique for impulsive underwater noise in the Baltic Sea and implement thereafter without delay.	
SN30	Develop and implement guidelines for the design and use of acoustic deterrent devices to avoid detrimental impacts on the environment from underwater noise [by 2024].	
SE23	Develop and implement threshold values and assessment methods for adverse effect of impulsive and ambient noise for marine life, in cooperation with OSPAR, EU and other relevant expert groups, by [2023] at latest for marine mammals and by [2026] for other relevant species groups.	
SE25	Implement regular and regional harmonized monitoring of ambient and impulsive noise [by 2023] to follow up effects of mitigation measures.	

Code	Action	Cross-reference to actions in other segments
<i>Theme: Seabed loss and disturbance</i>		
SN39	Enforce and implement [by 2025], in line with the update of the MPA management guidelines, effective management plans, conservation rules or other equivalent systems to not allow for destructive and exploitative activities compromising the conservation objectives of MPAs [and the habitat connectivity between MPAs.]	BN04/ BE12
SN41	Marine minerals cannot be exploited before the effects of seabed mining on the marine environment, biodiversity and human activities have been sufficiently researched, the risk are understood and technologies and operational practices are able to demonstrate that the environment is not seriously harmed, in line with the precautionary principle.	
SN37	By [2026] implement a common approach to minimize the loss of and disturbance to the seabed caused by human activities	
SN38/ SN40/ SN42	Regularly update and improve the HELCOM Recommendation and Guideline for handling dredged material at sea using the best available knowledge to minimize environmental impact of these activities further developing BAT and BEP for dredging and depositing operations.	

Code	Action	Cross-reference to actions in other segments
SE38 /SE40	Define the characteristics of habitats and develop core indicators to assess the status of benthic habitats, including their structure, function, distribution and extent of loss, no later than [2023], to allow measures to reduce adverse effects to be agreed. Work should be done in close coordination with work undertaken by Contracting Parties in other relevant fora, such as TG Seabed, and considering the ICES advice on a sea-floor assessment process.	
SE39	Develop a map service for lost and disturbed habitats under HELCOM Map and Data Service by [2024]	

The following actions focus on the cooperation with other organizations and stakeholders. While they contribute to achieving the objectives of the BSAP, they are ongoing in nature and as such do not have target years for accomplishment:

Code	Action	Cross-reference to actions in other segments
SE04	Further strengthen co-operation with the International Maritime Organization (IMO) and regional co-operation in the field of safety of navigation in the framework of the HELCOM Maritime Group, as appropriate, in particular recognizing the need for the exchange of technical expertise regarding risk assessment to avoid shipping accidents in the Baltic Sea.	
SE05	Continue close technical cooperation with the European Maritime Safety Agency (EMSA) in collection and analysis of maritime data relevant for the development of safer shipping in the Baltic Sea, such as EMCIP and explore possibilities for future cooperation on the provision of data to EMSA, including on drug/alcohol abuse as a cause of accidents as well as data on linked spills and cargo losses to the environment.	
SE08	Implement the Joint Harmonised Procedure for the Contracting Parties of OSPAR and HELCOM on the granting of exemptions under the Ballast Water Management (BWM) Convention, Regulation A-4, and keep the Ballast Water Risk Assessment Tool up to date with data from conducted port surveys.	
SE10	Continue close cooperation with OSPAR on the implementation of the Ballast Water Management (BWM) Convention and the issue of biofouling management at the regional and inter-regional level.	
SE15	Continue the dialogue established by the Baltic Sea Platform for Green Technology and Alternative fuels in shipping (HELCOM GREEN TEAM) and work jointly in co-operation with other regional governmental and non-governmental organizations, the industry and research community, to further promote development and use of green technologies and alternative fuels, in order to reduce harmful exhaust gas emissions and to strive for clean and low-carbon shipping.	

Connection to other treaties

The achievement of good environmental status in relation to sea-based activities in the Baltic Sea also relies on the implementation and enforcement of a number of other treaties, including but not limited to:

- Conventions under the International Maritime Organization (IMO);
- Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS);
- Convention on Migratory Species (CMS);
- World Trade Organization (WTO) agreements;
- Convention on Biological Diversity (CBD)
- The EU Marine Strategy Framework Directive and Biodiversity Strategy (MSFD);
- Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR); and
- Bonn Agreement.

National and regional recommendations and regulations developed within HELCOM are important in complementing the international regulatory frameworks.

Horizontal actions segment

Introduction

The topics included in this segment are by their nature cross-cutting, or “horizontal”, thus potentially affecting the implementation of all elements of the Baltic Sea Action Plan (BSAP) as a whole. The topics under the updated BSAP which have been identified as cross-cutting are:

- Climate change
- Monitoring
- Maritime spatial planning (MSP)
- Economic and social analysis (ESA)
- Hot spots
- Knowledge exchange and awareness raising
- Financing

Each of these seven topics is relevant to the achievement of the goals of the updated BSAP. Monitoring and economic and social analyses (ESA), for their part, serve to examine and quantify the direct and indirect effects of the implementation of, or failure to implement, the measures included in the BSAP. Maritime spatial planning (MSP) is a key and increasingly important instrument in ecosystem-based management and in working towards good environmental status (GES). Finally, the successful implementation of the BSAP is depends on the availability of sufficient funding.

Climate change

The impacts of climate change on the marine environment are by nature very varied. They affect the various ecological components of, as well as the sectors of activity related to, the Baltic Sea touching on aspects ranging from science to high-level policy. Climate change is thus a horizontal issue affecting the entire Baltic Sea region.

With the entire marine environment affected by climate change its effects are already evident in the Baltic Sea: water temperature is rising, the sea ice cover has decreased, and annual mean precipitation is increasing over the northern part of the region. These effects extend to impact the species in the Baltic Sea, the ecosystem services it provides and the human activities depending on the sea. For example, many wintering birds have shifted their wintering range northwards, and the number of warm water fish species are increasing. Surface water warming has increased the risk of infection by pathogens and has already led to heightened sea-based activities such as trawl fishing that now begins earlier in the year, especially in the northern parts of the Baltic.

However, the various effects of climate change are often not easy to understand and can be difficult to distinguish from other anthropogenic pressures. Both climate change and other human-induced pressures vary significantly between different regions in the Baltic Sea, ruling out simple management solutions and a one-size-fits-all approach that could be applied across the entire region. Policies on climate change and its effects on the marine environment need to consider the dissimilarities in the Baltic Sea region and follow an adaptive management approach based on the best available science, tailored to the challenges faced by a specific area or subbasin.

With regard to climate change, the ultimate aim of HELCOM is to increase the resilience of the ecosystem of the Baltic Sea to its impacts. All measures that lead to a stronger Baltic marine ecosystem resilience should therefore also be regarded as climate adaptation measures. In order to support adaptive management, climate change work within HELCOM will focus on long-term, multi-disciplinary approaches. HELCOM serves as a platform for disseminating knowledge on the effects of climate change and ensuring that quality assured science becomes available to policy makers, other professionals and stakeholders in the Baltic Sea region as quickly as possible. This includes cooperation and communication with other relevant actors within and beyond the HELCOM region. For instance, HELCOM cooperates closely with the maritime sector on minimizing the negative impacts from shipping on the Baltic Sea, such as through incentivizing the transition to greener shipping practices and by supporting initiatives targeted at reducing greenhouse gas emissions from shipping.

Globally, naturally occurring emissions of greenhouse gases such as methane from lakes and reservoirs amount to approximately 20 percent of the emissions generated by fossil fuel combustion. In order to make progress on climate change mitigation measures related to the Baltic Sea, such as increasing the “blue carbon” storage we need to better understand the carbon cycle in the Baltic Sea land-sea system, including the links between the carbon dynamics (e.g. land-based input of organic carbon and outgassing of methane), the eutrophication legacy (e.g. carbon in sediments, anoxia) and biodiversity (e.g. carbon sequestration).

Although acidification is currently not a major trend in the Baltic Sea ecosystem, it is an advancing and significant trend in the world’s oceans, directly connected to carbon dioxide emissions. The long-term forecast for the Baltic Sea also projects an increased acidification, but neither the carbon chemistry of the Baltic Sea nor possible impacts of acidification on biota are fully understood yet, and mitigation measures have not been considered so far.

Actions

Code	Action	Cross-reference to actions in other segments
HAE01	Using the HELCOM/Baltic Earth Joint Expert Network on Climate Change as a platform and through committed implementation of the HELCOM Science Agenda, improve access of the policy-makers to scientific information on the impacts of climate change together with multiple other pressures on the Baltic Sea marine environment through periodic updates of the HELCOM Climate Change Factsheet, and incorporate the possible effect of climate change into the holistic assessment of status as well as effectiveness of measures by [2030] at latest.	
HAE02	Identify the needs and possibilities to further adapt HELCOM's policies and recommendations to account for effects and impacts on the environment under the changing climate and to develop and carry out a climate change policy review process as part of the work of HELCOM, starting e.g. with indicators and open recommendations.	
HAN09	HELCOM and its parties will continue to strive to develop the work at the HELCOM Secretariat and the organisation of HELCOM meetings so as to further minimize emissions of greenhouse gases	
HAN10	HELCOM will promote research that increases understanding of the role of the Baltic Sea land-sea system in the carbon cycle and identifies how mitigation by natural blue carbon processes can be maximised and implement suitable measures. Increased understanding should be utilised to enable consideration of additional management measures.	
HAN11	HELCOM will develop a strategic approach to ocean acidification for the Baltic Sea with first steps addressing the knowledge gaps [by 2025]	

Connection to other treaties

HELCOM's work on climate change supports the implementation of the Paris Climate Agreement. The extent of the effects of climate change on the Baltic Sea will depend on whether the goal of the Agreement – to limit global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels – is reached and to what extent this will be the case.

Monitoring

Monitoring is a well-established activity under the Helsinki Convention. Coordinated monitoring of physical, chemical and biological variables of the open sea of the Baltic Sea carried out since 1979. The data stemming from these coordinated monitoring programmes provide the basis for understanding the state of the marine ecosystem and the impacts on the sea of human activities, as well as the effects of measures addressing those impacts.

The HELCOM Monitoring and Assessment Strategy sets out the basis for how the HELCOM Contracting Parties (CPs) commit themselves to designing and carrying out their national monitoring programmes, and to working together to produce and update joint assessments. HELCOM monitoring provides the necessary data needed for the regular assessments of the state of the Baltic Sea, as well as of the human pressures and their impacts on that state. It also enables evaluations of the extent to which measures are effective and contribute to the implementation of the Baltic Sea Action Plan and progress towards the visions, goals and objectives of the BSAP. For those CPs who are also EU member states the joint monitoring also helps to fulfill the requirements of the EU's Marine Strategy Framework Directive (MSFD), the Water Framework Directive (WFD), the Habitats Directive (HD) and the Birds Directive (BD).

HELCOM monitoring can also be utilized to detect climate change and its impacts on the Baltic Sea marine ecosystem over time. Sites with relevant long-term data records are maintained, whilst continuously making use of improved data collection techniques where appropriate, thus sustaining long-term data series needed to identify change over time. This can enable the assessment of the ability of the marine environment to cope with, adapt to or recover from the effects of climate change.

Actions

Code	Action	Cross-reference to actions in other segments
<i>Theme: Monitoring</i>		
HAE03	Regularly review, and as necessary revise HELCOM monitoring programmes (once per 6 years), including the level of regional coordination, in line with the MSFD reporting cycle, to adjust them to the latest technical and scientific developments for a cost-effective joint monitoring, which fully supports the indicator-based assessment approach and monitoring of the implementation of the HELCOM Baltic Sea Action Plan, and is in line with other international monitoring and reporting requirements	
HAE04	The validity of HELCOM Monitoring and Assessment Strategy and Data and Information Strategy should be reviewed within 2 years after updating the BSAP and revised as needed.	
HAE05	Ensure all HELCOM monitoring programs are regionally coordinated by [2026]	
<i>Topic: Monitoring of habitats and biotopes</i>		
HAE06	Map biotopes and habitats nationally based on regionally comparable classification systems, including key habitats and habitat forming species, and identify gaps in spatial coverage of mapping efforts, with the aim to produce Baltic-wide models, including production of maps, of distribution of habitats and biotopes by [2028].	
HAE07	As a first step target the gaps identified in the HELCOM monitoring programmes of biotopes, habitats, including key habitats and key habitats forming species by [2024] and operationalize continual Baltic-wide monitoring of those biotopes and habitats by [2030].	
HAN02	Develop standards for quality of seafloor habitat mapping and products	

Maritime spatial planning

Maritime spatial planning (MSP) is a process to support the integrated management of sea-based human activities. By reducing their negative impacts on the various components of the marine environment, it effectively contributes to the achievement of the goals and objectives of the various BSAP segments. MSP helps to safeguard biodiversity and to promote the sustainable use of marine resources, while, at the same time, balancing the interests of all stakeholders, also in the light of other international environmental commitments. As an integrated tool, MSP also contributes to climate change adaptation and mitigation by increasing the climate resilience.

Maritime spatial planning provides important added value for the BSAP as it is a process that considers multiple human activities from a spatial perspective. MSP is based on a comprehensive, coherent cross-border and forward-looking analysis of the use of marine space, with the purpose of identifying preferred and optimal locations for sea-based activities.

Maritime spatial planning supports sustainable development and sustainable marine economy, or blue economy, by applying an ecosystem-based approach. MSP considers social, economic, cultural and other relevant aspects while also enhancing marine nature values, facilitating nature conservation and improving marine ecosystem services.

Actions

Code	Action	Cross-reference to actions in other segments
HAN04	Utilize maritime spatial planning (MSP) applying an ecosystem-based approach to support BSAP objectives and targets and contributing to sustainable sea-based activities	
HAN05	Use maritime spatial planning (MSP) as a tool to signal areas of high nature value as identified by responsible environmental authorities	BE02/ BE03/ BE04/ BN02/ BN01/ BN03, BE17
HAN06	Implement maritime spatial plans with the aim to steer sea-based activities away from areas where they can cause serious damage or disturbance	BE02/ BE03/ BE04/ BN02/ BN01/ BN03, BE17

Economic and social analysis

Economic and social analyses of the environment can demonstrate the interaction between the ecosystem and the social-economic system. Furthermore, economic and social analyses can support decision-making in relation to environmental policies and objectives by illustrating the importance of the marine environment in the Baltic Sea to citizens and society, the well-being of current and future generations, and national and regional economies.

In recent years, economic and social aspects of protecting the Baltic Sea have been brought to the fore within HELCOM. For instance, regional economic and social analyses were carried out. These analyses concerned topics such as the use of marine waters and the costs of degradation from not achieving a good status of the marine environment, as well as the sufficiency, effectiveness and costs of measures. However, several methodological and practical challenges and knowledge gaps remain.

In order to use and further advance the regional economic and social analyses as a means of policy support the BSAP actions cover specific priority areas for developing and implementing these analyses in the Baltic Sea region. The actions provide regionally coherent data and results to support ecosystem-based management, sustainable use of marine resources, and development of efficient regional and national policies, including the BSAP and maritime spatial planning.

Actions

Code	Action	Cross-reference to actions in other segments
<i>Theme: Economic and social analysis</i>		
<i>Topic: Enabling ecosystem-based management</i>		
HAE08/ HAE09	By [2023], integrate economic and social analyses in HELCOM work strands to support the implementation of the ecosystem-based approach and allow for assessment of the linkages between the marine environment and human wellbeing, including carrying out regionally coordinated economic and social analysis of the marine environment.	
HAE10/ HAE11	By [2028], improve the use of results from economic and social analyses in decision-making, including through establishing a set of indicators that describe the economic and social aspects of the marine environment.	
HAE12	By [2030], integrate quantitative and qualitative economic values of the environment into the management of human activities and maritime spatial planning	
<i>Topic: Ecosystem services</i>		
HAE13/ HAE14	By [2023], identify potential uses of ecosystem services assessment and valuation, further develop and apply regionally coordinated methods in support of analyses of ecosystem services and provide an initial demonstration of how they can be used in policy development.	
<i>Topic: Ecosystem accounting</i>		
HAE15	By [2028], apply the framework of ecosystem accounting to assess the contributions of marine ecosystems to economic activity (e.g. GDP) using values that are compatible with the system of national accounts and comparable with other economic sectors	
<i>Topic: Sufficiency and efficiency of measures</i>		
HAE16/ HAE17/ HAE18	By [2024] analyse existing tools for analysing sufficiency of measures, with the aim to plan monitoring and assessment of the effect and cost of measures, in order to further make use of the experiences when the need of new measures occurs. By [2028], further develop and apply regionally coordinated methods for analyses of sufficiency of measures as well as for cost-effectiveness of measures and costs and benefits to achieve good environmental status of the Baltic Sea marine environment.	
<i>Topic: Incentives and subsidies</i>		
HAE19	By [2025] identify incentives to reduce pressures on the marine environment, including public and private economic and regulatory incentives, and by [2030] increase the use of incentives and fill possible gaps.	
HAE20	By [2025] HELCOM should identify subsidies or incentives which are harmful for the marine environment and, by [2030] work, in cooperation with relevant international organizations, on phasing out such subsidies or incentives, the work should be done.	

Hot Spots

In 1992, the Baltic Sea Joint Comprehensive Environmental Action Programme (JCP), an international environmental management framework for the long-term restoration of the ecological balance of the Baltic Sea, was adopted to help identify and clean up pollution hot spots. The HELCOM Hot Spot list established by the JCP includes point sources of pollution such as municipal facilities and industrial plants, agricultural areas and rural settlements, as well as sensitive areas such as coastal lagoons and wetlands where special environmental measures are needed.

Good progress has been made in the last three decades by cleaning up more than three quarters of the total 162 HELCOM Hot Spots, but further efforts are needed to resolve the remaining 40 pollution sites. In general, despite the delay in its full implementation, the JCP has demonstrated its effectiveness for prioritizing and tackling local environmental issues, effectively contributing to the overall progress towards good environmental status of the Baltic Sea.

While the criteria for removal of the Hot Spots as outlined in the 1992 JCP should remain unchanged to avoid creating a moving target, HELCOM will explore widening the scope of the programme to include emerging challenges and develop additional criteria for the removal of newly designated Hot Spots.

Actions

Code	Action	Cross-reference to action in other segments
EE25a	Renew the effort to eliminate remaining hot spots identified by the Baltic Sea Joint Comprehensive Environmental Action Programme (JCP, 1992) by [2025/2027/2030]	
EN20	[Consider to] Designate "New Hot Spots" as sources of major negative impact on the Baltic Sea marine ecosystem and, for this purpose, specify HELCOM criteria for designation and deletion of "New hot spots", and undertake targeted measures to eliminate them.	
EE25b/ EE27/ EE26	Prioritize inclusion of HELCOM hot spots into investment programmes (national or international) or establish alternative financial mechanisms by [2025/2027] to eliminate hot spots from HELCOM list	
EE24	Enhance cooperation with non-HELCOM countries in removing existing hot spots and designate new hot spots applying HELCOM criteria and facilitate undertaking all possible measures to eliminate them.	EE09

Knowledge exchange and awareness raising

Knowledge exchange and awareness raising are increasingly recognised as key factors in promoting the social, environmental and economic impacts of the measures for achieving good environmental status of the Baltic Sea. They improve the sustainable management of natural resources and the goods and services provided by those resources, and thereby ensure the well-being of the people that depend on them. When carried out successfully, knowledge exchange and awareness raising increase the likelihood that knowledge and evidence will be used in policy decisions, consequently increasing the success of those decisions in meeting their objectives. The delivery of messages to stakeholders and the general public should be based on science and cover all important topics relevant to the protection of the marine environment.

Actions

Code	Action	Cross-reference to actions in other segments
HAN07	Increase knowledge exchange and awareness raising to promote public and stakeholder support and interest on understanding the state of the Baltic Sea and threats to its environment as well as promote opportunities for the general public to participate in citizen science	
HAN08	Share experiences and best practices on measures that have been implemented	

Financing

The economic benefits of achieving a good status with regard to eutrophication, biodiversity and other aspects of the Baltic Sea ecosystem are evident and documented by impressive figures. The costs of protecting the Baltic Sea can be reduced by a cost-effective allocation of measures and, in many cases, benefits have been evaluated to exceed the costs. On the other hand, it should also be borne in mind that the cost of insufficient protection can be substantial as the polluter-pays principle is one of the fundamental principles and obligations enshrined in Article 3.4 of the Helsinki Convention.

In this respect, all Contracting Parties and HELCOM Observers shall investigate how to make funding [i.e. financial and non-financial contributions] available for the implementation of the HELCOM Baltic Sea Action Plan, taking into account in particular the need to connect priorities within the different sectors in which projects are being chosen for financing, in order to establish synergies and make best use of limited [financial] resources.

It should be underlined that increased public and private investment is necessary for implementing the actions and achieving the objectives of the updated Baltic Sea Action Plan, and thereby reaching the goal of a healthy Baltic Sea. [Providing appropriate economic incentives would be a central measure to incentivize such investments.]

The private sector, financial institutions as well as non-profit foundations and non-Baltic Sea states are therefore invited to join in the efforts to restore the good environmental status of the Baltic Sea, which also supports a growing sustainable blue economy in the region.

The Contracting Parties will [support][promote]mobilising available private and public funding sources to implement the BSAP [as appropriate] and where possible also promote [mobilising] external funding in the context of *inter alia* the World Bank, the German *Kreditanstalt für Wiederaufbau* KfW development banking group, the Nordic Investment Bank and others.

The EU and those of its member states that are also Parties to the Helsinki Convention [will] [intend to] dedicate funding to the implementation of the updated HELCOM Baltic Sea Action Plan, notably where funding is available through programmes under the European Structural and Investment Funds in the 2021-2027 programming period, and by funding adequate measures under the Common Agricultural Policy and the Common Fisheries Policy. They commit to taking into account priorities of the revised Action Plan of the EU Strategy for the Baltic Sea Region (EUSBSR) and its Policy Areas aiming to save the Baltic Sea in the development and implementation of post-2020 relevant programmes, as well as the Strategy for Social Economic Development of the North-West Federal District of the Russian Federation. Projects financed by the Interreg Baltic Sea Programme 2021-2027 can also support the implementation of the BSAP.

In that context, the Baltic Sea Action Plan Fund hosted by NIB/NEFCO can be a tool for supporting the implementation of the updated BSAP and Contracting Parties and other possible contributors can voluntarily contribute to the Fund, with a view to replenishing the Fund so that it can provide funding to all actors interested in contributing to the aims and objectives of the Baltic Sea Action Plan.