

# State of the Baltic Sea 2023

Third HELCOM  
holistic assessment 2016–2021

## In brief



The Baltic Sea has unique biodiversity, and people around the region depend on its ecosystem in ways that are not always directly apparent or appreciated. But in spite of its ecological, economic and cultural importance, biodiversity is continuously being degraded and lost. Key pressures on the Baltic Sea ecosystem include eutrophication, pollution from hazardous substances, land use and overfishing, but several other pressures also add to the total impact.

### The state of the Baltic Sea ecosystem has not improved

The results of the third HELCOM holistic assessment (HOLAS 3) show only little or no improvement in the state of the Baltic Sea environment in 2016–2021. Indicator-based assessments show cases of poor status in environmental pressures across the full spatial extent of the Baltic Sea. Across pelagic habitats, benthic habitats, fish, waterbirds and marine mammals, only a few indicators reached their threshold values in parts of the Baltic Sea, and none in all assessed areas. For some species groups, such as marine mammals and fish, the integrated status has worsened compared to the previous assessment. Many commercial fish stocks in the Baltic Sea are in an especially poor state.

### High costs of inaction

This deterioration jeopardizes the sustainable use of species in the Baltic Sea,

and it also impacts ecosystem functions that are of central importance for humans. The poor environmental status of the Baltic Sea clearly affects, for example, the profitability of fisheries and tourism, and it also impacts a wide range of ecosystem services on which we depend. Considering the high costs of inaction, achieving a healthy Baltic Sea is also an investment in the sustainable economic and societal development of our region. Achieving good environmental status in national marine waters by 2040 has been estimated to be worth 5.6 billion euros per year to the people around the Baltic Sea.

### Regional measures work

However, the assessment shows that measures to reduce pressures on the Baltic marine environment are working, when they are implemented. As a result of regional agreements, inputs of nutrients have reached sustainable levels in some parts of the Baltic Sea, and so have levels of some hazardous substances that were previously problematic. Actions for biodiversity conservation have also increased, and the Baltic Sea region is on track to reach the global target of 30% protected area by the year 2030. Such coordinated measures are essential to enable the recovery of the Baltic ecosystem over time. These are fundamental steps and necessary actions, and it is imperative that we build on them further.

Among current key priorities, lowering the input of nutrients to regionally agreed maximum levels in all sea basins remains a central objective. In addition, strengthening the coordination of management measures to limit the distribution of a wide range of hazardous substances is needed. Transitioning to ecosystem-based management is called for to ensure that fishing does not have negative effects on food web functions or ecosystem resilience.

### Climate change heightens urgency

Climate change increases the risk of biodiversity loss in the Baltic Sea and aggravates the impact of existing pressures. The impacts of climate change have increased in the Baltic Sea region lately and are predicted to continue doing so in the near future. Assessments show that the



### HELCOM holistic assessment (HOLAS)

The 2021 HELCOM Baltic Sea Action Plan (BSAP) includes measures that HELCOM countries have agreed on as highly important to halt the deterioration of the Baltic Sea environment.

HELCOM carries out holistic assessments every six years to follow up on how well the agreement is functioning, focusing on how the Baltic Sea ecosystem is doing. These holistic assessments involve several hundred experts on a wide range of topics, from monitoring to system-level evaluations.

The third HELCOM holistic assessment (HOLAS 3) focuses on the years 2016–2021 and includes results at various levels of detail, including monitoring data, indicator reports and thematic assessments.

The measures of the Baltic Sea Action Plan also support several other environmental commitments of the Baltic Sea countries, including the United Nations Sustainable Development Goals. The holistic assessment also helps EU countries within HELCOM meet the requirements for coordinated reporting under the EU Marine Strategy Framework Directive.

State of Baltic Sea pressures and biodiversity 2016–2021

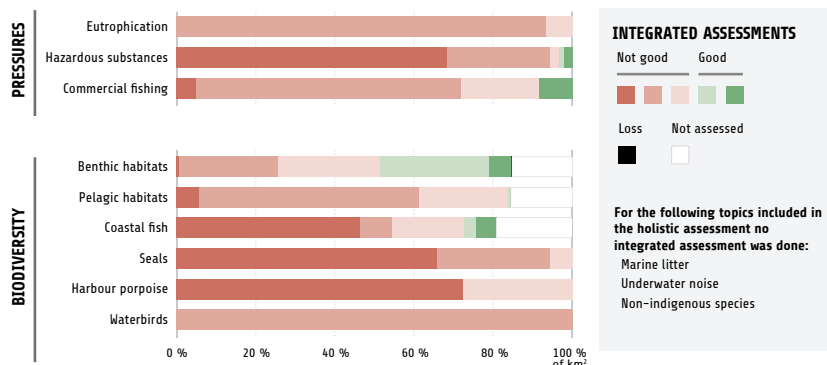


Figure 1. Summary of the integrated assessment results of pressures and status for the Baltic Sea showing the proportion of the Baltic Sea in the different assessment status categories (based on km²). Integrated assessment results are shown in five categories with three representing degrees of poor status and two representing degrees of good status, as shown in more detail in the different chapters of the report.

water temperature is rising, the ice extent in winter is decreasing and the annual mean precipitation is increasing over the northern part of the region. The increased likelihood of marine heatwaves, climate variability and extreme weather events is of growing concern. These changes affect the abundance and distribution of species in the Baltic Sea, and hence also ecosystem functions and the delivery of ecosystem services. Measures are needed to limit global warming, strengthen the resilience of the natural ecosystem and enhance its

potential to mitigate climate change effects. Many commercial fish stocks in the Baltic Sea are in an especially poor state.

### Ecosystem-based approaches

The poor status of many species and habitats reflects their response to multiple pressures acting in concert rather than to individual pressures. Several environmental objectives for the Baltic Sea will likely require a combination of measures targeting various pressures and climate

change effects in order to be achieved. Transformative changes are called for in all socioeconomic sectors interacting with or affecting the Baltic Sea environment in order to protect and rebuild ecosystems and halt existing negative trends.

Ensuring continued, coordinated monitoring, assessment and analysis among Baltic Sea countries, and developing these further, are key to ensuring the coherence and communication needed to support environmental policy towards the ecosystem approach.

## Key messages



**Increasing impacts:** The Baltic Sea is under increasing impacts from climate change and biodiversity degradation catalysed by eutrophication, pollution, land use and resource extraction. Little to no improvement of the Baltic Sea environment occurred during the assessment period.



**Measures work:** Measures to reduce pressures on the Baltic Sea are working, when they are implemented, and the agreements in the updated Baltic Sea Action Plan remain highly relevant.



**Climate change impacts:** The effects of climate change are expected to increase in the future, increasing the need for measures to enhance ecosystem resilience and mitigate their negative impacts.



**Time for action:** Transformative changes are needed in all socioeconomic sectors interacting with or affecting the Baltic Sea environment. Actions are needed both to stop current negative trends and to protect and restore ecosystems.



**Policy advances:** Ecosystem knowledge and policies for the Baltic Sea environment have developed substantially within the past six years.



**HELCOM's focus:** Implementing the updated BSAP, facilitating ecosystem-based management and minimizing impacts from climate change are focal areas for HELCOM in the coming years.



### Policy recommendations

- National work in HELCOM countries is at the core of implementing the Baltic Sea Action Plan and improving the health of the Baltic Sea.
- The third HELCOM holistic assessment highlights the importance of measures to strengthen Baltic Sea biodiversity.
- Achieving a healthy Baltic Sea ecosystem requires measures both to limit the extent and intensity of current human-induced pressures and to protect and restore species and habitats.
- An urgent need is to equip our shared Baltic Sea ecosystem with the capacity to withstand the future effects of climate change.
- A central task for HELCOM is to incorporate current knowledge developments in an ecosystem-based management framework that supports, and is supported by, national, regional and global actions that enable a sustainable future for the Baltic Sea region.



State of the Baltic Sea 2023 is a synthesis report that builds on, and integrates, results from a wide range of assessment products produced within HOLAS 3.

<https://stateofthebalticsea.helcom.fi>

The Baltic Marine Environment Protection Commission – also known as the Helsinki Commission (HELCOM) – is an intergovernmental organisation and a regional sea convention in the Baltic Sea area.

<https://helcom.fi>