

Short version

Vision for a healthy **Baltic Sea**

Despite ambitious targets, conventions and directives on sustainable fisheries, reduced eutrophication and a non-toxic environment, the Baltic Sea is anything but healthy. But there is hope! BalticWaters has developed a vision for a healthy Baltic Sea based on the current state of knowledge and interviews with researchers in different fields. By setting realistic goals, translating today's science into concrete actions, and working towards a more sustainable society, the Baltic Sea can recover.



More important than ever to protect the Baltic Sea

The Baltic Sea is, in many ways, a unique inland sea with relatively few species compared to other large seas. Species with fresh or saltwater origins have adapted to the brackish water of the Baltic Sea and the unique habitat that our inland sea offers. The fact that the Baltic Sea has few species means that the ecosystem is particularly vulnerable. If a species becomes extinct, it is not certain that another species can replace its function in the ecosystem. The resilience of the ecosystem to disturbances is therefore low. At the same time, the inland sea is subject to significant human pressure from over 90 million people living and working in the catchment area. Our footprint comes from many sectors that all affect the sea in different ways: agriculture, forestry, industries, shipping, fishing, etc. In addition to human activities, the Baltic Sea and its ecosystem are also affected by climate change.

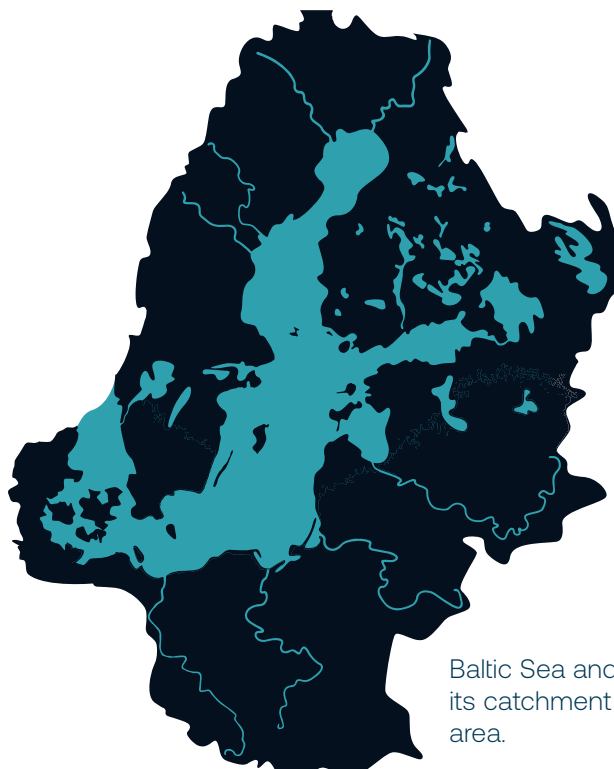
It is more important than ever to restore and safeguard ecological structures and functions to improve the resilience of the Baltic Sea to the ongoing pressures it faces - otherwise the risk of irreversible changes to the ecosystem increases. Marine management must consider the unique characteristics of the Baltic Sea, the strong human pressures, and the impact of climate change on species' distribution patterns and living conditions. There are good examples where measures have helped to rebuild fish stocks and habitats - examples from which we can learn. Although there are knowledge gaps of the Baltic Sea ecosystem, there is enough knowledge to take strong and decisive action.

It is not possible to bring back a Baltic Sea environment as it was in the last century. An ecosystem is constantly changing, and today's Baltic Sea is characterised by human impact on the sea through the introduction of environmental toxins, eutrophication, and overfishing. Through active and long-term work with measures based on the best available knowledge, it is possible to reverse the negative development and move towards a healthy Baltic Sea.

Vision for a healthy Baltic Sea and the way forward

What is a healthy Baltic Sea - what is reasonable and possible to strive for? Based on the state of knowledge and interviews with researchers in different fields, BalticWaters has developed a vision of what a healthy Baltic Sea could look like, focusing mainly on our commercial fish stocks, eutrophication, and environmental toxins. A realistic picture of a future Baltic Sea is important to formulate in order to motivate and describe all the measures that need to be carried out.

Based on three selected focus areas - fisheries, eutrophication and environmental toxins - we have formulated a vision that describes a healthy and prosperous Baltic Sea in each area, while highlighting the most important measures to achieve the vision.



Baltic Sea and its catchment area.

Fisheries

OUR VISION "In a healthy Baltic Sea, fish populations have a natural size structure, with many large fish and a maintained natural distribution, where different stocks are represented in their natural habitats, to an extent that makes them viable."

STATUS The way fishing quotas are currently set is not working - several commercial stocks in the Baltic Sea have either collapsed or show clear signs of stress.

ACTION Fisheries management must be fundamentally reformed if we are to regain viable stocks. We need to:

- Actively work within the EU to prevent overfishing and fundamentally change fisheries management.
- Reduce fishing quotas and stop maximising the catch of individual species.
- Consider the age and size structure of stocks when setting quotas.
- Take into account the genetic knowledge of fish stocks in decisions on fishing pressure.
- Apply an ecosystem approach to fisheries management, i.e. instead of managing individual stocks, interactions between species and the effects of fishing on the ecosystem need to be taken into account.
- Introduce fishing bans in marine protected areas.
- Move the limit for trawl fishing along the entire Swedish east coast to protect spawning fish.
- Create conditions so that a greater proportion of the catch is used for human consumption.
- Together with Finland, take a joint initiative to reduce fishing pressure in the Gulf of Bothnia.
- Ensure effective control of fishing in the Baltic Sea.
- End national fuel subsidies for fishing trawlers and work within the WTO to stop fuel subsidies for fishing.

Eutrophication

OUR VISION "In a healthy Baltic Sea, the sea is less affected by eutrophication than today, which means smaller blooms of microscopic algae in the spring and cyanobacteria in the summer, as well as less extensive oxygen-deficient bottoms. Coastal and bay ecosystems have clearer water and diverse vegetation, with algae and vascular plants with a moderate growth of filamentous algae. Coastal anoxic areas are small and limited and largely controlled by natural seasonal variations, bottom fauna is rich and predatory fish are abundant."

STATUS Extensive efforts have been made to limit nutrient discharges to the Baltic Sea. It has yielded results, but our inland sea is still clearly affected by eutrophication, which is reflected in the condition of many species and their habitats in several areas of the Baltic Sea. This is true both in the open water column, in coastal areas, and near the bottom.

ACTIONS To reduce the effects of eutrophication, we need to work in the long term to limit emissions from both point sources and diffuse emissions. We need to:

- Upgrade wastewater treatment plants and build new ones around the Baltic Sea.
- Reduce nutrient emissions from agriculture - and make it profitable to use organic fertilisers.
- Customise measures on the coast and in bays to ensure cost-effective measures.
- Find effective measures to address internal loading, i.e. to prevent the spread of anoxic bottoms where there is a high risk of phosphorus being released from bottom sediments into the water.
- Improve air quality - this is also good for the aquatic environment.
- Work to ensure that predatory fish stocks become viable again, which can counteract the effects of eutrophication.
- Pursue an agricultural policy that reduces nutrient emissions, both nationally and internationally.
- Develop appropriate environmental subsidies and set requirements - do not build the system on a voluntary basis.
- Stimulate local efforts to bring about effective measures, such as improving private sewage systems.
- Include horse manure in calculations of the nutrient load to the Baltic Sea and increase knowledge of how manure should be handled to reduce leakage to the Baltic Sea.

Environmental toxins

OUR VISION "Strong populations of top consumers (such as seals and eagles) in good condition are signs of a healthy Baltic Sea. Fish are safe to eat as the levels of environmental toxins are lower than today."

STATUS Concentrations of a number of known environmental toxins, such as DDT and PCBs, have declined in the Baltic Sea since the 1970s and 1980s - while other substances have been added. Many substances are persistent and remain in our environment for a long time, even after they have been banned. Due to high levels of environmental toxins in fatty fish from the Baltic Sea, the Swedish Food Agency has issued special dietary advice.

ACTIONS To reduce the concentrations of hazardous substances in the Baltic Sea, we need to:

- Limit the presence of environmentally hazardous substances through bans and stricter legislation. Sweden should act vigorously to tighten the EU regulation REACH.
- Upgrade wastewater treatment plants to reduce emissions of pharmaceutical residues and other environmental toxins.
- Deal with "old sins" i.e. clean up contaminated sediments, fibre banks and ports.
- Consider how environmental toxins in sediments can be released during oxygen depletion.
- Pursue international efforts to limit the spread of airborne environmental toxins.

In the long term, a transition to a more sustainable society is crucial in the work towards a healthier Baltic Sea. This includes phasing out fossil fuels in all sectors, closing loops in manufacturing and agriculture, and changing our consumption patterns. Society needs to be characterised by a circular mindset, where a circular economy is applied in practice. To reduce the presence of environmental toxins, we need to develop sustainable chemicals for future use.

To detect changes in the Baltic Sea ecosystem and monitor the presence of known and emerging environmental toxins, we need to strengthen environmental monitoring. Environmental monitoring is also essential to show which measures are working.

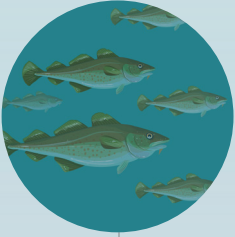
It is important to maintain the motivation to limit eutrophication - among individual farmers, authorities and our politicians - despite the fact that in some areas the effects are not seen in the near future. The measures for a healthy Baltic Sea must be long-term, sustainable, and funded if they are to be realised, whether they concern fishing or the limitation of emissions of environmental toxins and nutrients. In order to improve the situation in the long term, the will to invest in the short term must be found!



This is a summary of the report **Vision for a healthy Baltic Sea**. You can find the full report (only in Swedish) on our website WWW.BALTICWATERS.ORG

The vision for a healthy Baltic Sea

Fish populations have a natural size structure.



The fish is safe to eat as the levels of environmental toxins are much lower than today.



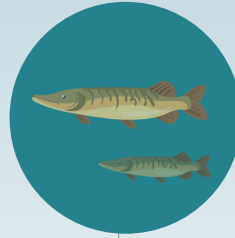
Moderate influx of nutrients.



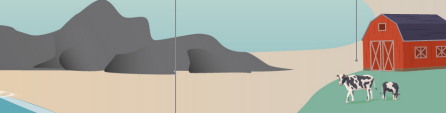
Strong populations of top consumers.



Plenty of predatory fish.



Inlets have few migration barriers.



The vegetation is varied, with algae and vascular plants that have a moderate growth of filamentous algae.
Illustration: Sofie Handberg

About BalticWaters

BalticWaters is an independent foundation engaged in efforts to improve the Baltic Sea environment. The foundation conducts large-scale environmental projects with focus on action-oriented measures, and applied research to show which measures can contribute to a healthier sea and viable fish stocks. The projects are carried out on land, along the coast, and in the sea. BalticWaters also develops and disseminates knowledge about the Baltic Sea to the general public, governmental authorities, and decision-makers. The aim is to increase knowledge about the challenges facing the sea and build public opinion so that decisions are taken, and measures are implemented.

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