

# Comparing the Baltic Sea and Chesapeake Bay helps protect both marine areas

March 24 2015

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Shallow basin of brackish water. Large catchment area in relation to size. Poor water quality despite reduced external nutrient load. This description sounds familiar to people living in both the Chesapeake Bay area in the U.S. and the Baltic Sea area. The similarities provided a list of recommended protection measures to decision-makers.

The Baltic Sea in northern Europe and the Chesapeake Bay region on the East coast of the United States are plagued by remarkably similar problems. Both marine areas suffer from eutrophication caused by human-induced nutrient loading.

Both have also succeeded in reducing their nutrient loads, yet the status of the maritime ecosystem and water quality have not significantly improved.

Researchers of Natural Resources Institute Finland (Luke), USDA's Economic Research Service and the University of Helsinki analysed the similarities and differences between protection policies and institutional settings of Chesapeake Bay and the Baltic Sea. The aim was to identify avenues of improving the efficiency of water protection in both areas.

## **Six theses for decision-makers**

No comparison of the parallel protection efforts, which involve an expenditure of hundreds of millions of dollars annually, has been carried

out to date. Comparing and contrasting two ecologically similar areas with different protection histories showed how the protection of marine areas could still be improved.

In both areas, the nutrient load must still be diminished. The greatest point sources have already been able to curtail their pollution in both areas. Hence, the new abatement in loads must be directed to the most complex sources of pollutants, notably agricultural non-point source pollution.

The results of the comparison were distilled into six recommendations for future steps towards preserving valuable sea areas. The theses compiled by the researchers are targeted to decision-makers in particular.

"These theses pinpoint inadequacies in the planning, implementation and evaluation of water protection policies. They also point to pathways for the protection and management of maritime areas like the Baltic Sea. This is primarily an initiative for co-operation between people who have worked in water protection in these areas," says Antti Iho, Principal Research Scientist of Luke.

## **Transatlantic experience put into use**

Experiences gleaned on the other side of the Atlantic on the wider use of flexible protection mechanisms may also prove valuable in the Baltic Sea area.

"By combining experiences gleaned in different geographic areas, we can obtain valuable information for the practical needs of water protection. We can find ways to avoid the costly path of trial and error," says Mr Iho.

In the Baltic Sea area, we have already succeeded in channelling people's willingness to protect through voluntary funds.

He goes on to explain that this kind of activity had a decisive role in improving phosphorus removal from the waste-waters of St Petersburg.

However, it no longer suffices for persons who have worked in this field for decades to put their know-how on paper, but we must take decisions and go into action.

"To my understanding, the most effective way would be to bring a number of specialists together, shut them in a room and not let them out until the necessary conclusions have been pumped out." Mr Iho concludes.

## **Theses:**

1. Economic realities must be taken into account in planning water protection. Setting protection policy targets without considering the costs and benefits may prove costly.
2. Creating a flexible economic incentive system may simultaneously improve the efficiency of protection and cut down on the heavy administration.
3. Transferring efforts to reducing non-point pollution requires bolstering of research at the sources of pollution. It must be found out how farmers respond to regulatory instruments, what the effects of the measures undertaken to reduce loads will be, and how overlapping policies interact with each other.
4. Considering equity and fairness does not preclude efficiency.
5. The incentives should be based on performance in improving the state of the environment, not on compensating implementation costs.
6. The "polluter pays" principle is to be observed in practice as well.

**More information:** "Water protection in the Baltic Sea and the Chesapeake Bay: Institutions, policies and efficiency." *Mar Pollut Bull.* 2015 Mar 6. pii: S0025-326X(15)00090-9. [DOI: 10.1016/j.marpolbul.2015.02.011](https://doi.org/10.1016/j.marpolbul.2015.02.011)

Provided by Natural Resources Institute Finland

Citation: Comparing the Baltic Sea and Chesapeake Bay helps protect both marine areas (2015, March 24) retrieved 16 May 2024 from <https://phys.org/news/2015-03-baltic-sea-chesapeake-bay-marine.html>

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