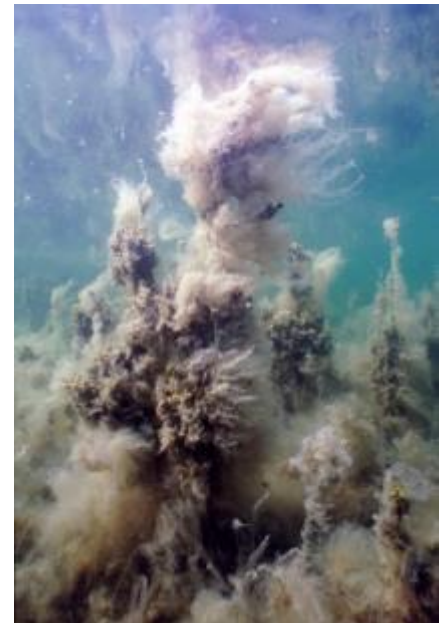


## Threatened habitat types in the Baltic Sea and a flood of new information

***Our knowledge of underwater marine ecosystems has increased significantly in recent years. The second assessment of threatened habitat types in Finland listed a total of 42 Baltic Sea habitats, of which 10 were estimated to be threatened and 4 to be Near Threatened. However, 14 habitat types were classified as Data Deficient, which shows that our knowledge of underwater marine habitats still needs improving.***

Eutrophication continues to be the most important threat to underwater marine habitats in the Baltic Sea. It was considered to be the most significant cause of deterioration for almost all threatened or Near Threatened marine habitats, such as seafloor biotopes of bladder wrack, red algae and common eelgrass.

In the marine ecosystems, symptoms of eutrophication include algal blooms, increased turbidity, oxygen depletion near the bottom, increased growth of filamentous algae on surfaces of other plants and overgrown shorelines. The Baltic Sea is burdened by agriculture, as well as urban and industrial effluent. Eutrophication in oxygen-depleted seafloors is exacerbated by the internal load, meaning the release of nutrients from the sediment back into the water.



Bladder wrack (*Fucus vesiculosus*) is affected by excessive growth of filamentous algae in the Archipelago Sea. Photo Visa Hietalahti.

Dredging and other marine construction has been especially detrimental to the unionid (mussel) communities in river mouths, as well as the charophyte communities in sheltered inlets and closed bays. Other major reasons for the marine habitats being threatened include invasive alien species and water traffic.

In the future, climate change is expected to exacerbate the eutrophication of the Baltic Sea and, in the long run, a decrease in the salinity of the seawater may significantly change the ecological communities. The warming of the climate is already evident, for example, in longer sea ice-free seasons. For this reason, the sea ice was also considered a threatened habitat, as it is indispensable for the ringed seal as well as to micro-organisms living on and within the ice.

### **160,000 observation points is many and yet too few**

Compared to the first threat assessment of habitats, there was much more underwater marine data available for the second assessment. This is thanks to VELMU, the Finnish inventory programme for the underwater marine environment that has so far collected data from more than 160,000 observation points from the Finnish sea and coastal areas. Using the data provided by VELMU, we were able to come up with a rough idea of the present distribution and state of most marine habitats.

In spite of the increased data, a third of the marine habitat types were still classified as data deficient. The most obvious gaps in the material are related to the open sea, shoreline and sand-bottom habitat types. Also, most of the conclusions based on the material are estimations made by experts as the material mostly consists of one-off observations. It is therefore obvious that we still need more research in the future to determine the status of marine habitats.

### **Nature in the Baltic Sea is under threat – Long-term protection is needed**

A lot has been done to improve the status of the Baltic Sea, and in some places the quality of water and underwater environment are taking a turn for the better. However, the processes restoring the marine

ecosystem are slow, and the climate change decelerates the healing process. To achieve good results and protect marine biodiversity we need more information and long-term political commitment.



Common eelgrass-dominated seafloor habitats were classified as threatened. Photo Linda Jokinen/Metsähallitus.

The programme of measures for the development and implementation of the marine strategy in Finland sets out ways to reduce the nutrient load and alleviate the impacts of construction. In order to reconcile coastal human activities and the protection of endangered marine habitats, various measures are needed, such as increased protection, controls on small-scale dredging, as well as zoning processes that take into account the endangered habitats.

**For further information, please contact**

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