



Document title	Internal load of plant nutrients in the Baltic Sea
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Background

HELCOM has worked intensively to develop recommendations to reduce the plant nutrient input from land-based sources such as industries, wastewater treatment plants, individual housing, agriculture as well as emissions to water and air from shipping. HELCOM standards are often stricter than present EU standards, e.g. for wastewater treatment plants which have lower emission limits and lack any regulations for wastewater treatment plants under 10,000 pe. It is therefore necessary to continue and intensify the efforts so all countries are in compliance with HELCOM Recommendations and agreed Country Allocation Reduction Targets -CART (see doc 4-17).

However, despite that the anthropogenic load of plant nutrients (phosphorous and nitrogen) from land based sources are decreasing, the severe eutrophication of the offshore Baltic Sea continues and the sea is not showing improved status. Recent research shows that the frequency and intensity of algal blooms increase, and that they occur earlier during the summer. The anoxic conditions of the deepwater is worsening and are now covering the largest areas in the world which probably also contribute to the very serious status of the Baltic Sea cod.

While it is imperative to continue to reduce the load of plant nutrients from land-based sources and shipping, the maximal potential of various measures are approached such as the phosphorous removal in waste water treatment plants. Increased efficiency beyond existing HELCOM Recommendations would be very costly and further reduction potential low. Also, going beyond the requirements of other HELCOM Recommendations for industries, individual housing and shipping have low reduction potential. In reality, there is only potential for substantial plant nutrient reduction measures in the agricultural sector but the implementation is problematic, slow, inefficient and costly.

The internal load of phosphorous from oxygen free sediments in the offshore and coastal areas of the Baltic Sea is huge. Sweden has carried out extensive research and field tests on a number of potential measures to reduce this internal load including oxygenation, permanent inactivation of mobile phosphorous in sediments, low-flow dredging, and cultivation of organisms to absorb the plant nutrients. This research has shown potential to develop innovative and cost-efficient measures to reduce the internal load in the Baltic Sea and restore low oxygen areas.

Action required

The Head of Delegation meeting is invited to recommend the LOAD or another relevant HELCOM Group to review the available research and field test projects with a view of recommending how HELCOM should address the internal load in the Baltic Sea as complementary measures to the reduction of plant nutrients from land-based sources and contribute to CART.