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**HELCOM activities related to the transfer of  
Alien Species in the Baltic Sea**

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**A paper contribution by HELCOM to the 11<sup>th</sup> Global Meeting of the Regional Seas Conventions and Action Plans, Bangkok, Thailand, 5-8 October 2009, on HELCOM activities related to transfer of alien species in the Baltic Sea**

The Helsinki Commission (HELCOM), the inter-governmental organization consisting of nine Baltic Sea countries (Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden) and the European Commission, is working to protect the marine environment of the Baltic Sea from all sources of pollution. The legal mandate for HELCOM to act is given in the Helsinki Convention.

Alien species are recognized as one of the greatest threats to biodiversity world wide, and much focus has recently been given within HELCOM to develop and implement measures to reduce the risk of alien species introductions into the Baltic Sea.

Numbers of established and new observations of alien species have increased steadily in the Baltic Sea during the 19<sup>th</sup>-21<sup>st</sup> century and the numbers are still growing, especially due to increasing maritime traffic. The main pathway for new introductions in the Baltic Sea is via sea shipping, alien species deploying ballast water and hull-fouling as vectors, as well as via inland waterways.

In 2007, the environment ministers of the Baltic Sea countries and the European Commission adopted the HELCOM Baltic Sea Action Plan (BSAP), which includes a set of concrete measures in the field of eutrophication, hazardous substances, biodiversity and maritime transportation, aiming at achieving and maintaining a good environmental status of the Baltic Sea environment. The BSAP is a first practical attempt in the region to implement an ecosystem approach to managing human activities impacting the marine environment.

The HELCOM BSAP contains, among others, a Road Map towards a harmonized implementation and ratification of the 2004 International Convention for Control and Management of Ships' Ballast Water and Sediments<sup>1</sup> (BWM Convention). The Road Map calls for ratification of the Convention by all Baltic Sea countries as soon as possible but in all cases, not later than 2013. This urging for ratification and implementation is in accordance with the Convention on Biological Diversity Decision VIII/27.

The Road Map includes 17 measures to be taken and a timetable for their implementation jointly agreed by the Baltic Sea countries, and its focus is on those provisions of the BWM Convention which are the most challenging from the Baltic Sea perspective, and for which a harmonized approach among the countries to implement them is needed. These include among others:

- an investigation and a common view if ballast water exchange in the Baltic is a suitable management option,
- a common approach to risk assessments needed for granting exemptions from applying ballast water management for intra-Baltic voyages,
- developing a regional monitoring programme for alien species that would serve various international regulations, including BWM Convention, Convention on Biological Diversity, EU legislation and HELCOM requirements.

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<sup>1</sup> [http://www.helcom.fi/BSAP/ActionPlan/otherDocs/en\\_GB/roadmap/](http://www.helcom.fi/BSAP/ActionPlan/otherDocs/en_GB/roadmap/)

## **List of alien species in the Baltic Sea and HELCOM Target species**

HELCOM compiled in 2008 a list of non-indigenous, cryptogenic and harmful native species in the Baltic Sea<sup>2</sup>. The aim of listing the species is to provide some basic background information for further consideration and selection of the species, which are of particular relevance in the context of the requirements of the BWM Convention and the related IMO Guidelines. The list has also been used to develop an indicator on the numbers of alien species and their distribution in the Baltic, and can serve the information needs of other marine regions.

Additionally, HELCOM Target species have been identified and agreed upon, which include species in other regions that may impair or damage the environment, human health, property or resources in the Baltic Sea. The Target species list covers, as a first step, the relevant species from the North Sea region, the Ponto-Caspian region, and the North American Great Lakes, and is based on information from the Black Sea Commission, the OSPAR Commission and the Great Lakes Commission.

The list is to indicate which species are to be taken into account in risk assessments which are required in order to make use of Regulation A-4 of the BWMC allowing certain ships or routes to be exempted from the requirements of ballast water management. Both lists will be regularly updated.

## **Indicator on alien species in the Baltic Sea**

HELCOM is currently elaborating a holistic assessment of the status of the Baltic Sea marine environment, which replies to the requirements of the HELCOM Baltic Sea Action Plan and various other international frameworks. This work takes into account recently published and updated HELCOM assessments on eutrophication, biodiversity and chemical pollution.

The assessment covers pressures on the environment, and introductions of alien species are considered as one of such pressures. In order to compile the needs of HELCOM actions and current legislation, information on spatial distribution of alien species currently found in the Baltic Sea is being developed into an indicator showing, at first stage, the numbers of alien species on national coastal and open sea water areas. The indicator "Number of Non-indigenous and Cryptogenic Species in the Baltic Sea" is the first HELCOM development of an indicator on alien species spatial distribution.

## **Voluntary ballast water exchange outside the Baltic Sea and the North Sea**

HELCOM countries and OSPAR countries (from the Baltic Sea and the North-East Atlantic, respectively) jointly adopted *the General Guidelines on the Voluntary Interim Application of the D1 Ballast Water Exchange Standard in the North-East Atlantic*<sup>3</sup>, which have been applicable from 1 April 2008.

According to these General Guidelines vessels transiting the Atlantic or entering the North-East Atlantic from routes passing the West African Coast are requested to conduct on a voluntary basis ballast water exchange before arriving at the OSPAR area or passing through the OSPAR area and heading to the Baltic Sea. IMO was notified of this action (BWM.2/Circ.14).

Additionally, the Joint Notice to Shipping and the Instructions to Surveyors have been developed for the use by the HELCOM and OSPAR countries.

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<sup>2</sup> [http://www.helcom.fi/environment2/biodiv/alien/en\\_GB/alienlist/](http://www.helcom.fi/environment2/biodiv/alien/en_GB/alienlist/)

<sup>3</sup> [http://www.helcom.fi/stc/files/shipping/BWM.2\\_Circ.14\\_BWE-OSPARandHELCOM.pdf](http://www.helcom.fi/stc/files/shipping/BWM.2_Circ.14_BWE-OSPARandHELCOM.pdf)

Similarly, HELCOM and OSPAR countries agreed that vessels leaving the Baltic and transiting through the OSPAR maritime area to other destinations will be requested, starting from January 2010, to discharge their ballast water until the vessel is 200 nm off the coast of North West Europe in waters greater than 200 m deep<sup>4</sup>. This is to avoid ballast water exchange within HELCOM and OSPAR areas. IMO has been notified accordingly.

### **Designation of ballast water exchange areas in the Baltic**

In short, the BWM Convention foresees two ballast water management options aiming at reducing the risk of alien species introductions to seas: ballast water exchange (BWE) and application of onboard ballast water treatment technologies.

The requirements on ballast water management do not apply to ships that discharge ballast water to a reception facility; however, this alternative doesn't seem viable option for the time being.

There are specific depth and distance from the shore related requirements for the ballast water exchange according to IMO Guidelines (G6). Ballast water can only be discharged at least 200 nautical miles from the nearest land and in water at least 200 meters in depth, and if it is not possible – as far as from the nearest land but at least 50 nautical miles from the nearest land and in water at least 200 meters in depth.

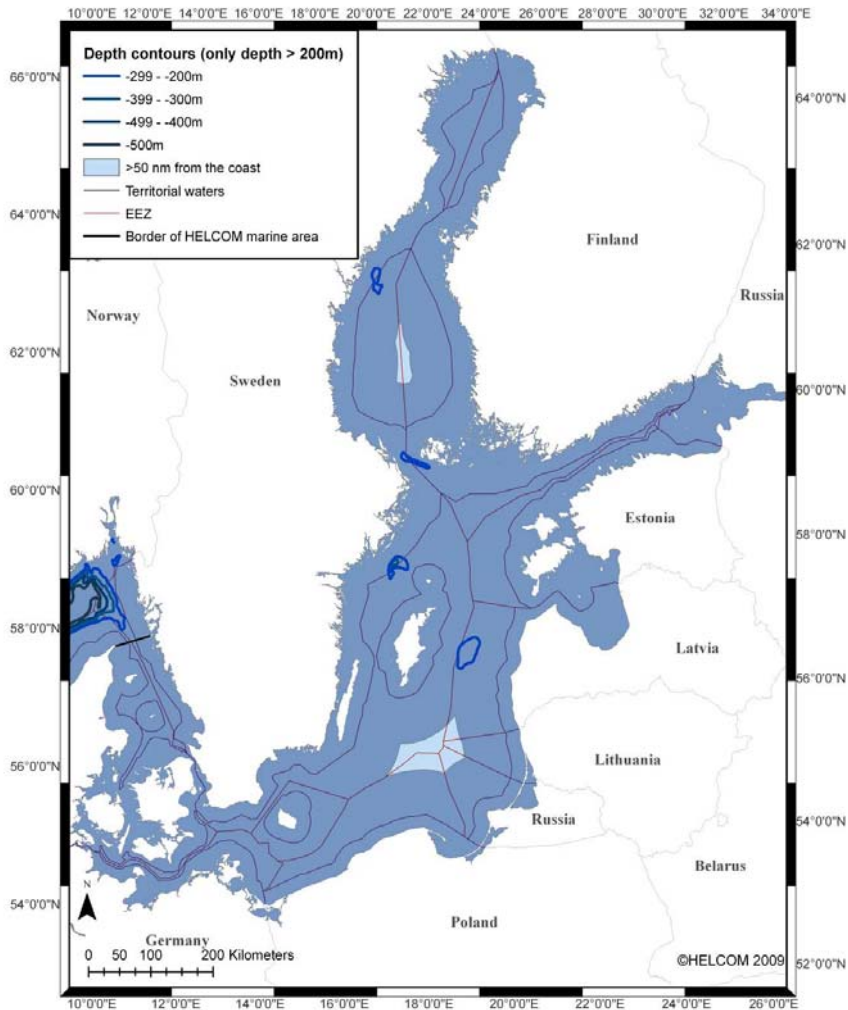
These requirements cannot be met in the Baltic (see the map on the following page). For such cases, according to the Convention, special areas for BWE could be designated and the respective IMO Guidelines should be followed in this respect<sup>5</sup>.

HELCOM Road Map requests investigating whether the ballast water exchange zones could be designated in the Baltic. It has been agreed, however, that if designated, BWE areas should only be of limited use, i.e. for voyages within the Baltic Sea assessed as posing a high risk that could be reduced to an acceptable level by conducting BWE (e.g. routes between fresh water ports separated by more saline waters and situated in different sub-basins). In any case, designating of such areas should not cause greater harm to the environment, human health, property or resources than no BWE zones at all.

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<sup>4</sup> More information at [http://www.helcom.fi/stc/files/shipping/Att\\_Voluntary%20guidance%20on%20ballast%20water\\_update%208%20june%2009.pdf](http://www.helcom.fi/stc/files/shipping/Att_Voluntary%20guidance%20on%20ballast%20water_update%208%20june%2009.pdf)

<sup>5</sup> IMO Guidelines on designation of areas for ballast water exchange (G14)



**Figure.** Map of the Baltic Sea showing marine areas 50 nm from the nearest land and of the depth of 200 m and more.

As part of the HELCOM HOLAS project co-financed by the European Commission, work has been started to investigate whether ballast water exchange by ships involved in the regional voyages can result in reduced risk of alien species dispersal between sub-regions of the Baltic. Some preliminary results are already available and a summary of them is presented below<sup>6</sup>.

Several factors influence the dispersal of alien species; biology *i.e.* the life cycle, human activities and maritime traffic, but especially the ecological conditions in the donor and the recipient environments. In the HELCOM assessment one ecological factor, salinity, was chosen to determine the potential of Ballast Water Exchange areas to reduce the risk of alien species introductions. Salinity was regarded as a key factor on regulating species distribution due to its direct impact on several aspects in species' physiology. For other major factors, such as temperature, as clear gradients in the Baltic Sea or as strong physiological constraints in the alien species, are harder to describe.

<sup>6</sup> More information can be found at [http://meeting.helcom.fi/c/document\\_library/get\\_file?p\\_l\\_id=16352&folderId=379950&name=DLFE-37547.pdf](http://meeting.helcom.fi/c/document_library/get_file?p_l_id=16352&folderId=379950&name=DLFE-37547.pdf)

As most of the alien species in the Baltic Sea have a wide tolerance in salinity, the ballast water management zones can not be regarded as an efficient environmental management tool for intra-Baltic shipping due to species' great natural dispersal ability. Bearing in mind the other environmental factors determining species' distribution, it was viewed by HELCOM experts that the Ballast Water Exchange areas established in the Baltic Sea would only have very limited applicability, if at all.

### **The future work**

The work will continue to provide support for harmonized implementation and ratification of the Ballast Water Management Convention in the HELCOM Contracting Parties, and will comprise of adjusting and extending the HELCOM monitoring programmes to obtain reliable data on non-indigenous species in the Baltic Sea, including port areas. As a first step, species that pose a risk of ecological harm and those that can be easily identified and monitored should be covered.

Additionally, work is to be done to link port surveys and monitoring of alien species to shore-ship communication systems, whereby ships can be alerted not to take up ballast water during outbreaks of harmful species and other risk conditions, for instance in the case of algal blooms.

Alien species listed on the HELCOM list will be further investigated and categorized according to their invasiveness, so only species that have negative impact on environment or economy will be taken into account in HELCOM environmental status assessments.