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Background

The HELCOM Contracting Parties agreed as part of the 2013 HELCOM Ministerial Declaration to comprehensively assess the status, environmental risks and opportunities of maritime activities in the Baltic Sea region within HELCOM by 2016.

The HELCOM Maritime Assessment was released in March 2018 and covers a wide range of human activities at sea including operational and accidental pollution from maritime traffic, fisheries, aquaculture, offshore energy production, cables and pipelines, submerged hazardous objects, and leisure boating.

The report makes unprecedented use of the regional HELCOM Automatic Identification System (AIS) data, including high-resolution information on vessel movements in the entire sea basin since 2005. The extensive use of the dataset is especially visible in the chapters related to maritime traffic and fisheries. Besides presenting a large number of maps and illustrations based on AIS data analysis, the report includes a detailed description of the methodology used to extract and create the presented information from raw AIS data (Annexes I and II).

The GIS materials and code underlying the assessment can be assessed on:

- The AIS Explorer to view and compare shipping intensity maps by ship type and date: <http://maps.helcom.fi/website/AISexplorer/#>
- The HELCOM Map and Data Service where all the shipping intensity maps are available for viewing and downloading (i.e. all ship types in 2016): <http://maps.helcom.fi/website/mapservice/?datasetID=95c5098e-3a38-48ee-ab16-b80a99f50fef>
- The GitHub repository with the scripts developed by the HELCOM Secretariat to harmonize AIS data and to produce AIS data products: <http://github.com/helcomsecretariat/AIS-data-processing-for-statistics-and-maps>

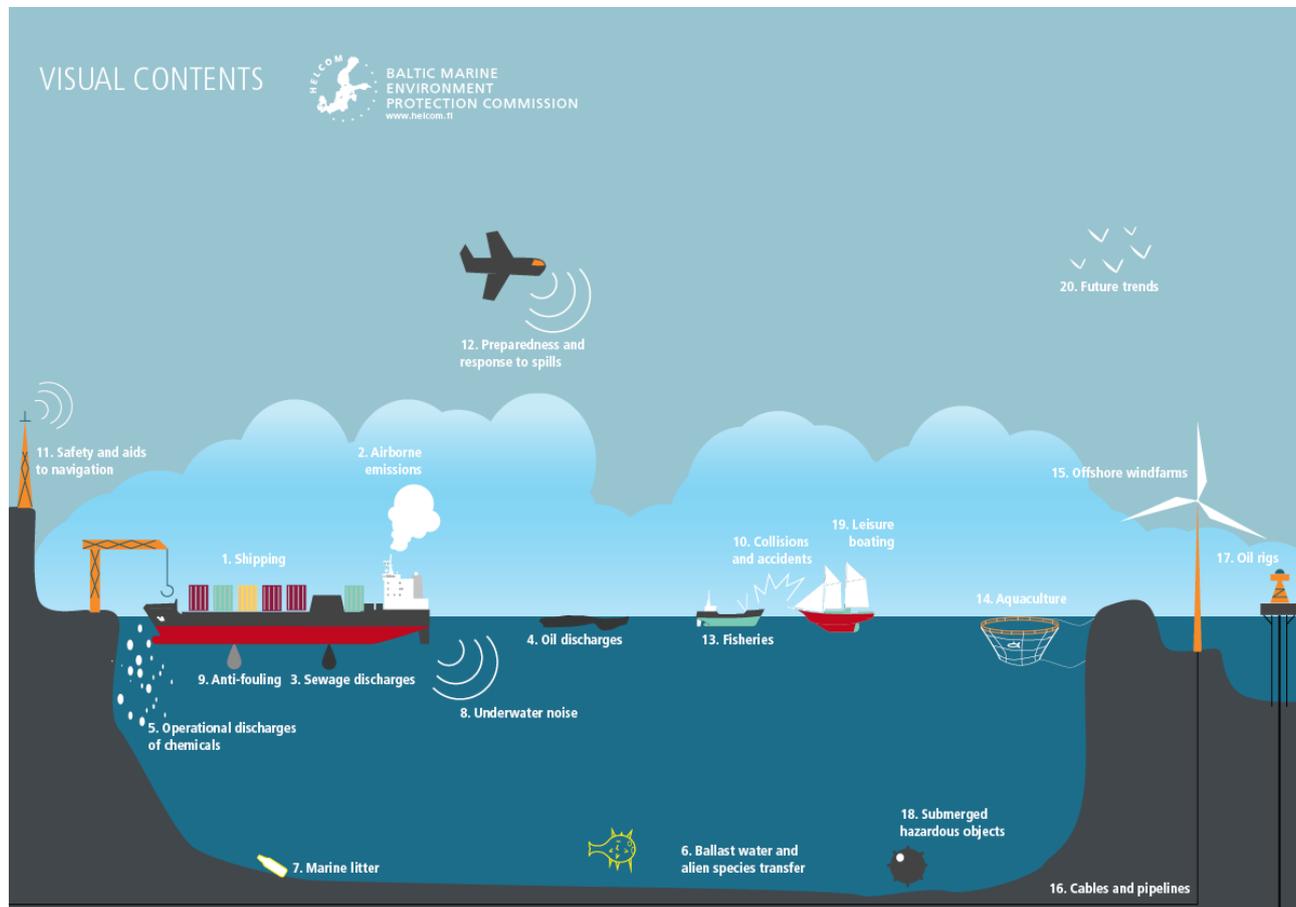
The HELCOM Maritime Assessment 2018 (Baltic Sea Environment Proceedings No. 152) can be accessed at: <http://www.helcom.fi/Lists/Publications/BSEP152.pdf> (12 MB)

Action requested

The Meeting is invited to take note of the information.

HELCOM Maritime Assessment 2018

The HELCOM Maritime Assessment (<http://www.helcom.fi/Lists/Publications/BSEP152.pdf>) released in March 2018 is the most comprehensive assessment of maritime activities in the Baltic Sea region currently available—covering distribution of activities at sea, developments over time, related environmental issues as well as future perspectives and scenarios.



Visual contents of the Maritime Assessment

SHIPPING AND POLLUTION

A large part of the report is dedicated to maritime traffic – still the most common maritime activity in the Baltic Sea – and to mapping it on a regional scale. In terms of environmental effects, the report highlights that some types of ship-based pollution have already been effectively dealt with in the Baltic Sea over the last decades, including 90% reductions in both operational oil spills and Sulphur oxide (SOx) emissions from ships exhaust gases.

For other types of ship-based pollution, recent decisions will result in more reductions in the near future. Those decisions include banning of untreated sewage discharges by 2021 and a requirement of 80% reduction of nitrogen oxide (NOx) emissions for new ships built 2021 or later.

However, some types of ship-based pollution remain unquantified, including litter, chemical residuals, and anti-fouling paints. Others, such as underwater sound, are yet to be addressed. The concluding chapter of the report explores future scenarios of maritime traffic and related environmental regulations.

STABLE ACCIDENT NUMBERS, INCREASE IN AQUACULTURE AND ENERGY PRODUCTION

Ship accidents in the Baltic Sea occurred at a fairly stable level of 300 accidents per year during the period 2011–2015, 4 % of which led to loss of life, serious injuries, or environmental damages. The coastal countries have relatively well-developed systems in place to prevent accidents by increasing safety of navigation.

As an example, nearly 200 000 km² of seabed, more than the combined surface area of Estonia, Latvia and Lithuania, have been resurveyed between 2001 and 2016 by national hydrographic agencies in the Baltic Sea, bringing the accuracy of nautical charts to a new level.

The coastal countries also have response resources in place. However, new developments, such as carriage of modern low-sulphur fuels, require updates and new solutions for response procedures.

In other chapters, the assessment informs on developments such as the recent and upcoming increases in sea based aquaculture, wind power, and offshore oil and gas production. The chapter on hazardous submerged objects draws attention to the environmental hazards in the legacy of dumped and lost military material, wrecks, and industrial waste.

GROUNDBREAKING DATA USE

The report makes unprecedented use of the regional HELCOM Automatic Identification System (AIS) data, including high-resolution information on vessel movements in the entire sea basin since 2005. The extensive data is especially visible in the chapters related to maritime traffic and fisheries.

Besides presenting a large number of maps and illustrations, the report includes a detailed description of the methodology used to extract and create the presented information from raw AIS data.

The assessment also synthesises a number of other regional datasets on maritime activities in the Baltic Sea area stemming from regular national reporting to HELCOM. These cover issues such as spills observed via aerial surveillance, maritime accidents, response operations, port reception facilities, progress in hydrographic re-surveys, and aquaculture activities.

AN EXAMPLE OF HELCOM COLLABORATION

The 250-page report is the result of a two-year collaborative effort between the editorial team in the HELCOM Secretariat as well as national experts, providing review and additional material, and regional projects.

The report is intended to support the update of the "State of the Baltic Sea – Holistic Assessment" as well as to benefit the work of the relevant HELCOM Working Groups. It also enables the HELCOM Contracting Parties to demonstrate achievements, and plan future regional work, on the regional objective "Environmentally friendly maritime activities", agreed as part of the Baltic Sea Action Plan in 2007.

In addition to this traditional publication, a large number of GIS datasets generated in the process, particularly AIS based maps on maritime activities, are released simultaneously for the general public via the [HELCOM Map and Data Service](#) (MADS). These maps are anticipated to be interesting and useful for various purposes beyond HELCOM cooperation, including national maritime spatial planning and research. The scripts used to produce these datasets are also made available for the same purpose via the GitHub platform, to help similar initiatives within and beyond the region.

The HELCOM Maritime Assessment 2018 can be accessed at:
<http://www.helcom.fi/Lists/Publications/BSEP152.pdf> (12 MB)

The GIS materials and scripts underlying the assessment can be accessed at:

- AIS Explorer: <http://maps.helcom.fi/website/AISexplorer/>
- HELCOM Map and Data service, traffic intensity maps e.g. [all ship types in 2016](#), [fisheries traffic density in 2016](#)
- GitHub: <https://github.com/helcomsecretariat/AIS-data-processing-for-statistics-and-maps>