Baltic Marine Environment Protection Commission

Strategy for future HELCOM assessments

of inputs of nutrients and selected hazardous substances

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Strategy for future HELCOM assessments

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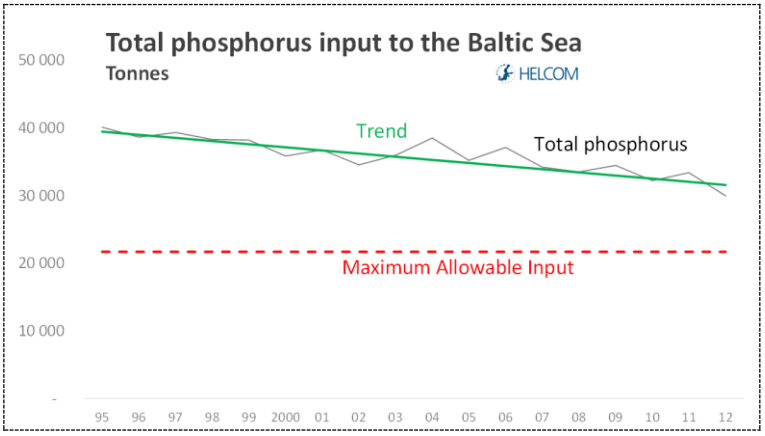
The HELCOM Monitoring and Assessment Strategy sets out the basis for how the Contracting Parties commit themselves to design and carry out their national monitoring programmes and work together to produce and update joint assessments on the Baltic Sea marine environment.

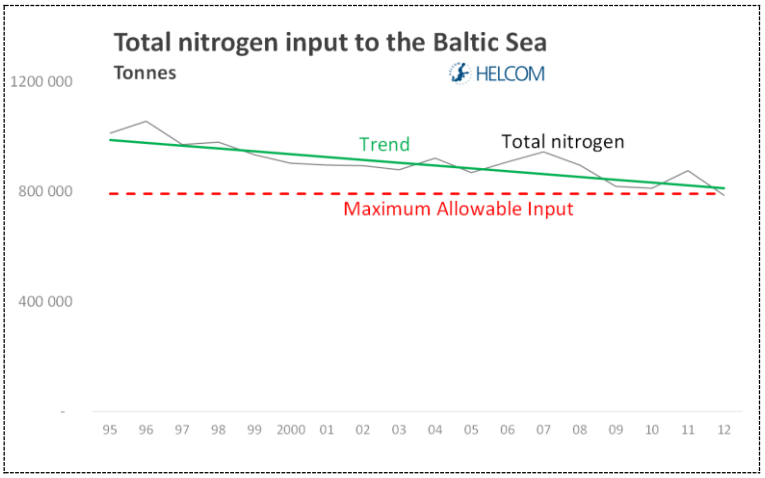
The assessment system of HELCOM is hierarchical, consisting of Baltic Sea Environment Fact Sheets and core indicator reports as well as thematic assessments and holistic assessments of the ecosystem health. The purpose of the joint assessments is to support policy formulation and decision making by evaluating the status of, and pressures to, the marine environment, and hence also allowing for assessing the effectiveness of measures.

The HELCOM assessment system operates in six-year cycles that are synchronized with other international requirements.

Pollution Load Compilations (PLC) have been an integral part of HELCOM's assessment system since 1987, focusing on annual and periodic assessments of inputs of nutrients and selected hazardous substances to the Baltic Sea, split into waterborne inputs (PLC-Water) and emissions and deposition (PLC-Air).

The data on inputs are of high public interest and are a hallmark of HELCOM data to assess pressures from human activities. While gaps in data do exist, these comparable data sets and assessments of pollution loads covering the nine HELCOM countries, as well as more distant transboundary sources, are unique from a worldwide perspective.





Five period assessments have been produced so far, the latest one being PLC-5.5 released in 2013.

At the same time, PLC based products have been in general perceived as representing old data, and there has been limited understanding of the unique content of each of the different assessment products and purposes they serve. This confusion arises partly from the different, and somewhat complex processes for reporting and compiling data which poses a challenge for presentation and communication of results in assessments.

Moreover, access to PLC data in a suitable format has been limited as no operational open access database has existed. Establishment of the new PLC-water database, scheduled to be fully operational in 2016, will be a major milestone in improving access and increasing usability of PLC data and data products.

The 2013 Monitoring and Assessment Strategy and adoption of the updated nutrient reduction scheme by the 2013 HELCOM Copenhagen Ministerial Meeting have created new demands for PLC products: a core pressure indicator report on progress in reducing nutrients to the level of Maximum Allowable Inputs of nutrients (MAI) and the assessment of progress towards fulfillment of Country Allocated Reduction Targets (CART).

In light of these new MAI and CART assessments, the "traditional" annual and periodic assessments need to be revisited so that the content and frequency of the PLC data products are complementary and designed to serve their specific purposes.

In general, HELCOM should strive at releasing PLC data and assessment products that are as fresh as possible. A key to achieving up to date assessments is the timely and complete reporting by the Contracting Parties, synchronizing the timetables of PLC-Air and PLC-Water as well as a functional quality assurance procedure. While some of the assessment products require more complex calculations (normalization, statistical analysis and calculations) and involve labour intensive assessment processes, some products or data (on actual inputs) could be released sooner for general public use.

At the same time, the timing of the future periodic assessments has to be optimized. The ongoing PLC-6 covers data collected in 2012/2014, and some essential data are to be made available in 2016 and the assessment product delivered in the first half of 2017. PLC-6 will feed into the Second HELCOM holistic assessment of the Baltic Sea (HOLAS II), first version of which will be released in mid-2017 and then updated in mid-2018. Originally, a six-year assessment cycle has been foreseen for periodic assessments. However, consideration needs to be given how to time PLC-7 assessment and which additional policy needs it could serve. HELCOM Contracting Parties being EU Member States will be preparing their next generation river basin management plans under Water Framework Directive in 2019/2020 for public hearing in 2020 and release in 2021, while an update on the implementation of the Programmes of Measures (PoM) under EU Marine Strategy Framework Directive and of the PoM itself need to be done by mid-2019 and end of 2021, respectively. Other national needs, also those in the Russian Federation, have to be taken into account as well.

Overall, timely assessments will require that procedures are established for releasing the reported data for further processing (even though some data might still be missing) by clearly indicating data quality, as well as for accepting the filled in and consolidated data sets. A stricter regime for following the deadlines would be necessary.

The future work in HELCOM will benefit from the already started more structured and longer term planning of the unique PLC products with underlying data, including timetables for their delivery. Processes to produce data and assessment deliverables will be more clearly structured and described and responsibilities assigned with matching allocation of resources. The new PLC-Water database, once fully implemented and operational, will facilitate the production of PLC deliverables. Further, it is necessary to operationalize the two assessments (MAI and CART), production of which currently involves lot of manual and laborious calculations. A new project for that purpose has been started in HELCOM. The main steps to be

operationalized are establishment of the PLC assessment data set, carrying out normalization and statistical tests, calculation procedures and the production of several standard tables and graphs.

Once the MAI and CART assessments are fully operationalized, it will be possible to make a final conclusion of the frequency of their updating.

The aim is timely production of unique PLC data and assessment products, in an attractive and user friendly way, which meet user needs. Access to underlying data needs to be ensured as well.

An overview of the HELCOM PLC assessment products, their unique features, their publication format and their updating frequency

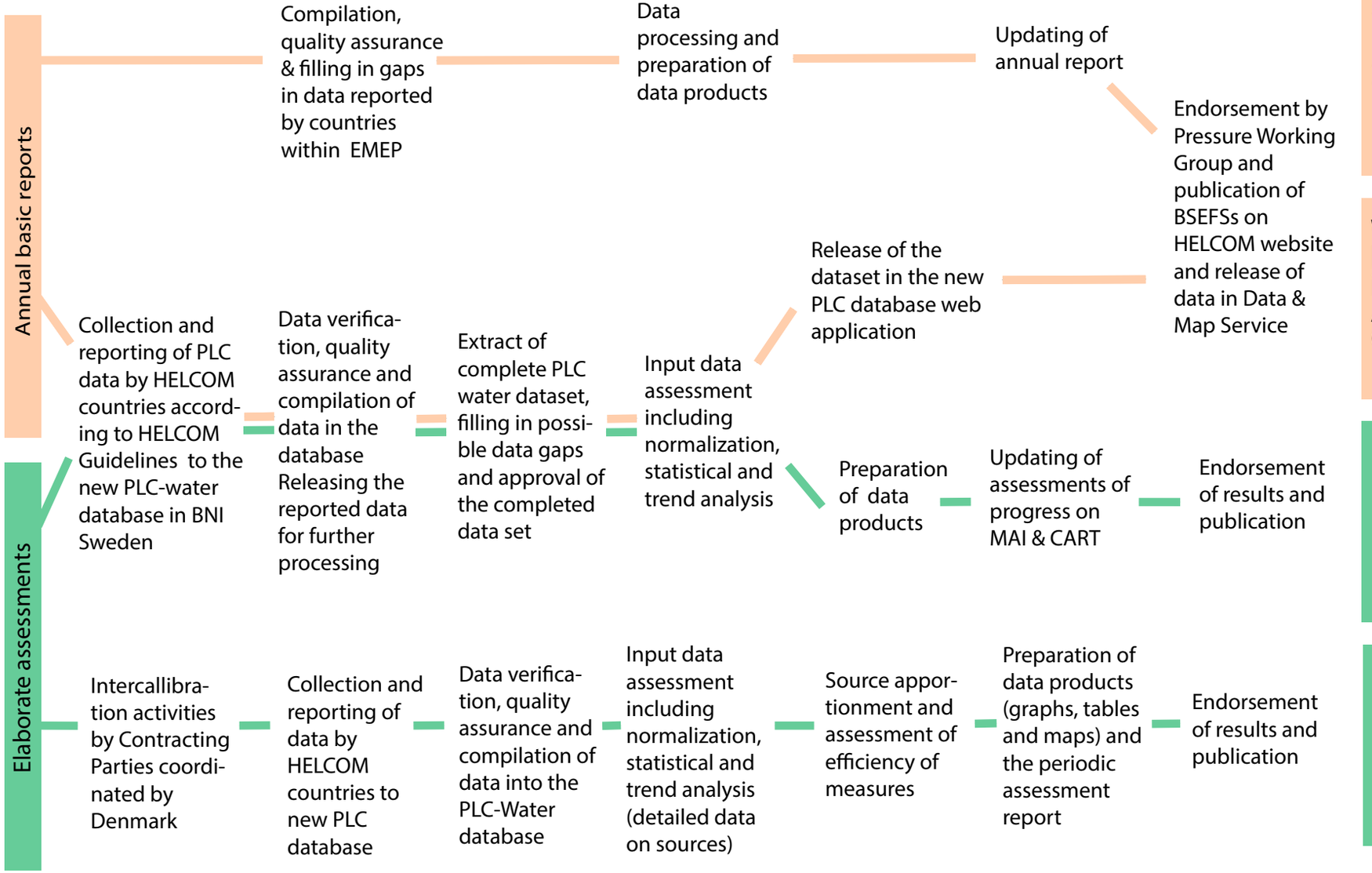
Assessment product	Main unique feature	Released as	Frequency
1. Annual reports on (actual) airborne and waterborne inputs to the Baltic Sea of: - nutrients - selected heavy metals (only airborne) - selected POPs (only airborne)	Fresh data, including presentation of long-term time series to be released every year	Baltic Sea Environment Fact Sheets and annual report by EMEP on atmospheric inputs to the Sea (website)	Annually
2. Progress in reducing the nutrients to the level of Maximum Allowable Inputs	Evaluation of average annual input to the sea during latest three year period against the agreed maximum allowable inputs to Baltic Sea sub-basins	Core pressure indicator report (website)	2015 First edition 2016 Next update (data up to 2014)
3. Progress towards fulfillment of Country Allocated Reduction Targets	Assessment if the nutrient reduction targets set for the HELCOM countries are met; evaluation of progress towards expected reduction from other sources	Assessment report (website)	[2015 First edition] 2016 Next update (data up to 2014)
4. Periodic PLC assessment	Evaluation of inputs of nutrients from different sources (municipal, agriculture, aquaculture, etc.) in the catchment area for a chosen single year and more comprehensive assessment related to effectiveness of measures. Assessment of water born input of selected hazardous substances.	Possibly an interactive, digital report (website)	Periodically PLC-6 in 2016/17

Steps of creating PLC products for inputs of nutrients and hazardous substances

BSEF Baltic Sea Environment Fact Sheet
CART Country-Allocated Reduction Targets
EMEP European Monitoring and Evaluation Programme
MAI Maximum Allowable Inputs
PLC Pollution Load Compilation

The work-flow for PLC water-borne input products reflects the future situation when the PLC-water database and its web application are up and running.

The assessments are done by HELCOM expert groups and projects with support of the Aarhus University in Denmark, Baltic Nest Institute (BNI) in Stockholm University, Sweden, the Finnish Environment Institute (SYKE) in Finland as well as EMEP.



Product

Airborne inputs
Annual report (BSEFs)

Water-borne inputs
Annual report (BSEFs)

Progress on MAI & CART

Periodic PLC assess-ments

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