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Background

The ACTION project, co-financed by EU, will contribute to the update of the HELCOM Baltic Sea Action Plan by 2021.

The ACTION project's Work package 4 "Input of nutrients" contributes to the implementation of nutrient reduction targets of the Baltic Sea Action Plan by developing and evaluating approaches to determine the effectiveness of measures to reduce nutrient loads to the Baltic Sea from its catchment and from remote sources. The focus of WP4 is on measures applied to external nutrient sources i.e. in the catchment, thus complementing the work carried out under WP5, which for example will consider nutrient processes in the coastal zone. The work package will facilitate intended closer collaboration between authorities involved in HELCOM work and River Basin Management Authorities within the region.

WP4 is led by Swedish Agency for Marine and Water Management (SwAM). Other project partners in WP4 are Finnish Environment Institute (SYKE), Aarhus University (AU), Tallinn University of Technology (TTU), Swedish University of Agricultural Sciences (SLU) and HELCOM. Also, Baltic Nest Institute is taking part in WP4 as subcontractor.

Actions have already been taken to integrate the project plan to the ongoing work in HELCOM. ACTION project tasks on creating a questionnaire on measures and organizing a workshop for river basin management authorities are being coordinated with PLC-7 project. Further coordination will be ensured via the project partners that also take part in HELCOM work, and via the Secretariat. The work on WP4 will be supervised and guided by Pressure Working Group and Agri group.

WP4 mostly utilizes data compiled in the PLC database. However, there are some additional information needs for HELCOM countries. The attached document contains the tasks of WP4, highlights possible information needs and describes the extent of the analyses to be carried out in the work package.

Action requested

The Meeting is invited to take note of the information and provide guidance for the project.

WP4 tasks, information needs and extent of analyses

4.1 Following up existing measures

Task 4.1 a) Identify test cases

Task description:

For each HELCOM country, between two and four catchments will be selected based on flow-normalized data from the HELCOM PLC database. The catchments selected will exemplify those where measures have been particularly effective in reducing nutrient loads as well as those where significant efforts have been made to reduce nutrient inputs, but without apparent success. The underlying reasons for these results will be analysed, including consideration of the time for measures to reach maximum efficiency, possible climatic effects, changes in farming practices, etc. The analyses will make use of information describing implemented measures, Eurostat information and where available, existing numerical model analyses. The analysis will inform managers about successful management approaches, risks, and the relative effects of agri-environmental and point source management.

Information needs from HELCOM countries and the extent of the analyses:

Test cases can be identified for all HELCOM countries but, in addition to the existing PLC data, the analyses will require additional detailed national information on the efforts made on measures on individual catchments. More information on the required data will be provided to the countries that wish to have test cases identified.

Task 4.1 b) Sufficiency of current measures to meet the BSAP obligations

Task description from project plan:

Based on HELCOM PLC Annual nutrient input trend analyses, the project will assess if the present rate of nutrient load reduction is sufficient to meet the HELCOM BSAP targets by 2021 or, more likely, when targets would be met with the current rate. Based on this information the scale of additional necessary load reductions will be identified. Estimates will be made for each country and basin including also atmospheric nitrogen load reduction estimates based on the expected national emissions reductions reported by EMEP.

Information needs from HELCOM countries and the extent of the analyses:

Analyses can be done for the whole Baltic Sea based on PLC data and more detailed analyses for the countries that identify test cases.

Task 4.1 c) Contributions from point sources

Task description from project plan:

Differences in the flow-normalized annual mean concentrations of discharges from direct point sources will be analysed in order to estimate the relative efficiency of the treatment of water discharges across the region. Inland (indirect) point sources will be assessed in regions where previous HELCOM analyses (HELCOM 2018c) have shown that these are a significant contribution to the total load. This analysis has the potential to indicate differences in the potential for measures across the region and variations between similar water treatment facilities in different countries.

Information needs from HELCOM countries and the extent of the analyses:

The analysis based on PLC data can be done for all countries that have reported sufficient information to the PLC database.

Task 4.2 Compatibility of targets under different marine policies

Task description from project plan:

WFD targets to achieve the HELCOM BSAP: National nutrient concentration targets at the limnic/marine limit from the EU Water Framework Directive (WFD) implementations will be used to estimate the nutrient load that could be expected from achievement of WFD Good Ecological Status. This assumes the same water discharge as observed during the Reference Period of the HELCOM nutrient reduction scheme (1997 – 2003) (HELCOM 2015). The task will inform countries whether their WFD targets are sufficient to achieve the HELCOM BSAP load reduction targets and if not, what concentration targets are appropriate or what changes to direct point source loads that are necessary. This will contribute to the harmonisation of WFD, BSAP and MSFD targets and may highlight a need for additional actions in the catchment to achieve GES at sea, beyond those required to achieve Good Ecological Status sensu WFD.

Information needs from HELCOM countries and the extent of the analyses:

The analyses can be done for all EU countries utilizing the information that the countries have reported to the EU as part of their WFD reporting.

4.3 Potential nutrient load reductions through existing measures

Task 4.3 a) Development and implementation of a questionnaire on Measures

Task description from project plan:

Nutrient load reductions from both implemented and planned measures will be estimated as a result of BSAP National Implementation Plans, WFD and MSFD PoMs, and other EU Directives. A questionnaire will be developed to collate available information regarding types of measures, sector-wise efforts, costs, and their geographical spread in the Baltic Sea catchment and estimated or measured effects on nutrient losses both at source and at the sea. This work builds upon and further develops an initiative by the HELCOM Agri Group to compile information on the implementation of agri-environmental measures ([AGRI 6 – 2018 document 4-3](#)). The questionnaire will also address potential reduction of input from indirect point sources, storm and drainage water and air emissions (taking into account the evaluation by EMEP). The questionnaire will be prepared together with WP6 and the outcome will contribute to the BAU scenario on eutrophication developed under WP6. It will be distributed to national and regional contacts – particularly representatives of the region’s River Basin Management Authorities – and results will be discussed and developed at the workshop described in 4.3b.

Information needs from HELCOM countries and the extent of the analyses:

The questionnaire will be prepared jointly with PLC-7 project with guidance by the HELCOM Agri group and approval by PRESSURE 10-2019 (see [document 7-5](#)). The HELCOM countries will be invited to answer to the questionnaire and the analysis will be carried out for the whole region.

Task 4.3 b) HELCOM ACTION Workshop 4.1

Task description from project plan:

The workshop aims to build a bridge between WFD implementation and the BSAP. This requires involvement of both national authorities and regional bodies responsible for the implementation of the WFD. Representatives from the Baltic Sea countries involved in HELCOM work and WFD River Basin Management will be invited to the workshop, as will non-EU member countries in the catchment and the UNECE Water Convention Secretariat. The workshop will discuss the physical measures implemented under different policies, when they were implemented, whether they remain in place with maintained function together with estimates of both their local effects and their effect at the Baltic Sea. Where information on the effects of measures is missing, alternative sources (e.g. EUROSTAT) will be used. The outcome from the three-day workshop will include a validation of the results of the questionnaire analysis, an indication of the planned future nutrient load reductions, a reflection on feasibility and obstacles on implementation of further measures, and an improved understanding of the respective needs in the HELCOM and WFD communities.

Information needs from HELCOM countries and the extent of the analyses:

All Contracting Parties will be invited to the workshop. For the information needs and extent of analyses see task 4.3 a). Coordination with Pressure Working Group and Agri group is ongoing.

Task 4.3 c) Assessing the possibility to meet the BSAP targetsTask description from project plan:

Integrating the information on potential reductions (retrieved through the questionnaire, workshop, model scenarios and literature sources) together with the observed load changes with the current measures, the task will assess how far the countries have come in implementing their commitments. The task will estimate the scale of measures required to achieve the BSAP goals. The results will feed the cost-effectiveness analysis under WP6. Results will be reviewed by the HELCOM Pressure Working Group before taken up in WP6.

Information needs from HELCOM countries and the extent of the analyses:

The analysis will be made for the whole region. For information needs see tasks 4.3 a) and b).

Task 4.4 Sharing experiences of Cycle 1 MSFD Programmes of MeasuresTask description from project plan:

HELCOM ACTION Workshop 4.2: Information on Programmes of Measures from the 1st Cycle of the MSFD will be collated in WP6 resulting in a list and categorisation of measures. Through this workshop, Contracting Parties will share their experience of implementing their eutrophication measures. The focus is on the MSFD PoMs, rather than WFD, and is expected therefore to mostly concentrate on sea-based measures. The two-day workshop will identify and spread best practice from the 1st round and identify further potential measures to improve the eutrophication status of the Baltic Sea.

Information needs from HELCOM countries and the extent of the analyses:

All Contracting Parties will be invited to the workshop. No information needs from countries.