Baltic Marine Environment Protection Commission

Fifth Meeting of the Working Group on Reduction of Pressures from the Baltic Sea Catchment Area

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Background

The attached document summarized the progress of the Sixth Baltic Sea Pollution Load Compilation (PLC-6) project and presents a roadmap for future work to implement the project (Annex 1). Deadlines for the PL-6 assessment have been revised as the data for the assessment is not yet ready. It is of critical importance to finalize the data reporting and preparation of data for not further delaying the assessment.

The next meeting of the PLC-6 project group will be held from 30 November to 2 December 2016 at the HELCOM Secretariat.

Action request

The Meeting is invited to take note of the progress of the Sixth Baltic Sea Pollution Load Compilation (PLC-6) project and upcoming deadlines for the data reporting and PLC-6 product releases.

Progress with Sixth Baltic Sea Pollution Load Compilation (PLC-6) project (2013-17)

The PLC-6 project implements HELCOM Recommendation 37-38-1 (former HELCOM Recommendation 26/2) to periodically carry out a pollution load assessment (PLC) including a quantification of waterborne point, diffuse and natural sources. HELCOM GEAR 2/2012 and HELCOM HOD 39/2012 requested the PLC-6 project to deliver the main project results by the end of 2016 to allow for making use of the data for HELCOM thematic and holistic assessments as well as the second round of initial assessments under the EU MSFD in 2018. HELCOM LOAD 5/2013 acknowledged that the availability of the initial results is pending the timely implementation of the HELCOM PLUS project on modernization of the PLC water database, timely delivery of quality assured waterborne data by the Contracting Parties and timely delivery of atmospheric deposition data by EMEP.

The overall task of the project is to prepare a comprehensive assessment of the water- and airborne inputs and their sources to the Baltic Sea during the period 1994-2014 with more detailed assessment for 2014 data.

Furthermore, the PLC-6 project will provide data for the next update of MAI and CART assessing progress in reaching the HELCOM Baltic Sea Action Plan nutrient reduction targets. PRESSURE 4/2016 and HOD 50/2016 decided on a MAI-CART workshop, where the draft MAI-CART assessment result should be presented and discussed, and it is proposed held on March 2017 (ref. document 8-2). According to the "Strategy for future HELCOM assessments of nutrient and selected hazardous substances" presented for HOD 49/2015 and according to decisions by PRESSURE 3/2015, the PLC6 assessment should avoid duplication of MAI and CART assessment, and will therefore focus on source apportionment, quantifying inputs of heavy metal, and evaluate effects and effectiveness of measures taken within the Baltic Sea catchment area on nutrient reductions as a result of implementation of e.g. the EU Water Framework Directive (WFD) river basin management plans by the HELCOM EU countries.

Elaboration and finalization of the assessments it irresolvable depending on when Contracting Parties finalize their reporting and quality assurance of the mandatory data and information, and a complete assessment data set can be established an approved by the Contracting Parties. Further, the PLC-6 project has been depending on the PLUS project to implementing new reporting templates, required upload functionalities and quality assurance procedures to the PLUS data base system. The PLC-6 project is also pending on that the MAI CART OPER project will have operationalized some of the time consuming data handling and assessments steps in the PLC6 assessment.

So far the project has finalized:

- Developed standardized methodology to calculate uncertainties on national datasets including methodology for filling in data gaps and missing data and developed standardized methodology for evaluating trends in inputs and for evaluation countries progress in fulfilling BSAP nutrient reduction targets and on fulfilling maximum allowable inputs. The methods have been documented in a published report.
- Carried out a laboratory intercalibration/intercomparison activity with the participation of all nine HELCOM countries and published the results in a report.
- Finalized the updated and extended PLC-water guidelines including revised annexes describing the revised annual and periodical reporting templates developed by the HELCM PLUS project

Reporting of annual data and of PLC-6 data (2014[1] inputs) have taken place from late 2015 until now using the web user interface of the new modernized PLC-Water database (HELCOM PLUS project), and is delayed

[1] Poland and one Federal state in Germany have carried out periodic monitoring in 2012.

several months as compared with the original deadlines (by the end of 2016). There are still open issues to solve regarding entering some data in the database, making the quality assurance, and finalizing the reporting, which should be solved between the Contracting Parties and the Data Manager a.s.a.p. Further some Contracting Parties are updating older PLC data, but there are some challenges to update the data base, and it is very time-consuming for the Contracting Parties and for the PLC Data Manager.

Data in the PLC database are not yet ready for making the check for outliers/inconsistent data, filling in data gaps to allow for a data assessment data set to be accepted for the PL-C6 assessment by the Contracting Parties. To follow the revised deadlines in the roadmap (Annex 1) it is extremely important to finalize data reporting of quality assurance by the Contracting Parties and the PLC Data Managers very shortly.

Data on atmospheric inputs 1995-2014 and sources in 2014 have been provided by EMEP mid-October 2016 and should be ready for the further assessment.

The PLC-6 project also collects background information on effects of measures, population within the Baltic Sea catchment area, data and land use, agricultural practices, etc. These data are under collection and it is important that the reporting is finalized before mid-November 2016.

A detailed outline of the report has been agreed upon and was presented for PRESSUR 4/2016, and task has been divided upon. A preliminary draft of a Chapter 3 will be discussed at the PLC-6 13-2016 meeting in late November/early December 2016.

Data assessment, data products, as well as preparation and publication of the PLC-6 assessment report take place in 2016-2017, the main data products are expected to be ready in spring 2017 and the reports in late 2017.

The assessment will be implemented using a new, more user-friendly format.

The full project description can be accessed via the PLC-6 project webpage.

A roadmap of tasks and activities of the project is contained in the attached Annex 1.

Annex 1. Roadmap for implementation of HELCOM PLC-6 project (last updated 16.09.2016)

Task	2012	2013	2014	2015	2016	2017
1. Development of standardized methodology to calculate uncertainties in national datasets, including methodology for filling in data gaps and missing data	3rd-4th quarter: Statistician to elaborate proposals for common methodology to calculate uncertainties and for filling data gaps and methods for testing fulfilment of reduction targets including discussing principles on 1. workshop	1th Quarter: Draft report on statistical methodologies discussed at PLC-6 2/2013 LOAD 5: Consider and discuss a further developed report on statistical methodology PLC-6 3/2013: discuss the final draft of the report and agree on how to include it in the PLC-6 guidelines LOAD 6: endorse statistical methodology report for publication on the HELCOM website as a technical (project) document. Also a summary chapter on statistical methods for inclusion in the PLC-6 guidelines will be presented to the meeting for approval. PLC-6 4/2013: approved the publication of the final statistical report on the HELCOM website. MONAS: take note and make use of the statistical methodology report Final report published and available online.	HOD (September): adopted the methodology to calculate uncertainties in national datasets, including methodology for filling in data gaps and missing data when approving the PLC-guidelines			
2. Quality assurance (QA) issues, including Intercalibration/ intercomparison activity and	May-June: Contracting Parties to reply (by 12.6.) to questionnaire on QA issues that was submitted on 10.5.12. .	February/April 2013: Intercalibration/ intercomparison activity (led by Denmark) carried out LOAD 5: informed of progress of the activity	Revised final report published, including an addendum with the results of one lab which were not included in the			

Task	2012	2013	2014	2015	2016	2017
		MONAS 18: Draft report with results of intercalibration activity submitted as information PLC-6 3/2013: evaluate the draft results of the intercalibration/ intercomparison activity and discuss other quality assurance issues. Results and methodologies to be included in the revised PLC guidelines LOAD 6: endorsed the publication of the final report of the intercalibration/ intercomparison activity. PLC-6 4/2013: finalize the chapter on QA issues in the PLC-6 guidelines. The final report was published and available online.	main report due to late data submission			
3. Revision of PLC guidelines	LOAD3 and MONAS 16: Identify topics to revise/ include in guidelines. Accept roadmap, including clarifying need of a project. HOD37: Accept roadmap and if decided a revision project August: Start revision of guidelines, reporting status to LOAD4, MONAS17, GEAR2 and HOD. October, PLC-6 1: Start revision of guidelines, including starting	1. Quarter: Revision continued. PLC-6 2/2013: revise guidelines (taking into account also input from PLC-5.5 and PLUS) LOAD5: informed of progress with revising the guidelines. PLC-6 3/2013: Further revision of guidelines, statistical methods report, QA issues and reporting formats 2. and 3. Quarter: Final draft with revised guidelines	PLC-6 5/2014: further elaborated the guidelines. PLC-6 6-2014: to finalize the draft guidelines HOD (September): Endorsed revised PLC guidelines, with the understanding that the reporting formats contained in the Annex may still be modified PLC-6 7-2014: to provide final comments to the annual reporting	First, second and third quarters: PLUS 8-2015: finalized the annual reporting templates and provided final feedback for the periodic reporting template PLC6 8-2015 and REDCORE DG: finalized the PLC6 guidelines, publication of guidelines early 2016		

Task	2012	2013	2014	2015	2016	2017
	development of methodology for estimation of uncertainty of national dataset, filling in gaps and missing data	Workshop on how methodology in and how to use guidelines and coordinate monitoring and modelling efforts LOAD 6/2013: provided final comments on chapters 1-3 and chapters on QA and statistical methods. PLC-6 4/2013: finalize chapters 1-2, Chapter 3 of the guidelines on source-oriented apportionment, new chapter 4 on periodic PLC data reporting requirements; annexes with reporting formats, questions raised by PLUS project MONAS19: Informed of status of updating the PLC guidelines	template and further elaborate the periodic reporting templates and solve the questions/proposals raised during the hearing of the draft PLC6 guidelines			
4. National data collection and quality assurance	Poland and Germany monitor data in rivers, point sources	1. and 2. Quarter: Poland and Germany make data collection of 2012 data and data compilation, quality assurance. Follow up on data quality, missing data	01.01-31.12: Countries* monitor data in rivers, point sources etc. according to the revised Guidelines. Collection of other necessary data for fulfilling PLC requirements.	1. Quarter: uploading of 2013 data via the new PLUS uploading interface as a test case. 1. and 2. Quarter: National data collection of 2014 data and data compilation, quality assurance. Follow up on data quality, missing data		
5. National data reporting				2. and 3. Quarter: National modelling, aggregation data, making source apportionment in all Contracting Parties.	01.06.2016: Remaining 2014 data reported (with exception of some source apportionment data.	

Task	2012	2013	2014	2015	2016	2017
				10.12: Reporting on applied methodologies, background information on population, point sources, land use etc. and preparing data submission 10.11: Reporting of monitored 2014 data 31.12: Reporting of calculated 2014 loads (e.g. source apportionment)	The few remaining data uploaded, inserted and all data QA to level three by 01.10.2016 29.02.2016: Remaining 2013 data reported (uploaded and inserted in the database)- the very latest data uploaded, inserted and all data QA to level 3 by 01.10.2016 01.10.2016: Re-reporting of older PLC data finalized incl. QA to level 3 01/1-30/06: All countries following up on questions and missing information raised by data manager/PLC6 project 01.11.2016: Reporting on applied methodologies 15.11.2016 background information on population, point	

Task	2012	2013	2014	2015	2016	2017
					sources, land use etc. and preparing data submission 28.10.2016 Remaining source apportionment data reported (periodical data) and all data QA to level 3 01.06-01.10.2016: All countries following up on questions and missing information raised by data manager/PLC6 project 01/03-14/10.2016: Providing information on effects of measures	
6. PLC Data Manager tasks	LOAD3 and MONAS 16: Recommended a modernization project for the PLC database (PLUS) HOD 37: Adopted WP0 of PLC database modernization project (PLUS) 1.7-31.12: Requirements for a new PLC database and web application/start of modernization project.	HELCOM 34: adopted HELCOM PLUS project. Work with database expert to develop a new PLC data model and functional specifications	Quality check migrated PLC 1994-2012 data Develop reporting formats in collaboration with PLUS database expert Support web application developer with development of an interface for a new data entry system under PLUS Implementation of the database web	01/03-30/06: Updating and quality check on PLC 1994-2013 data Testing and fine tuning data entry system and reporting formats By 30/09.2015: Data manger forwarding prefilled reporting formats (annual and periodical) for CP's to check, correct and	16/01-30.09: Quality check and verify reported annual data. 15.05-15.10.2016: Draft data and selected products for the PLC-6 report. 01.09-31.10.2016:	

Task	2012	2013	2014	2015	2016	2017
			application. Updating and quality check on PLC 1994-2012 data	update, and data manager to return the updated prefilled reporting formats 01/11.2015-15/01-2016: Quality check of reported annual data, make request to countries for missing data, make quality assurance on received data and overviews to REDCORE DG and PLC-6 project on status of received data Inform of data reporting status to PRESSURE/[RedCore]	Quality check and verify reported periodical data. 15/06-15/11.2016: Figures, tables maps and other final data products data assessments to the PLC-6 project 15/11-15/12.2016: Correcting and/or providing additional tables or figures for the PLC-6 report as necessary Assist PLC-6 project and REDCORE DG as requested	
7. EMEP tasks					Latest by 30 September: emissions and depositions of nitrogen for 1995 - 2014 and source receptor matrixes for 2014 Latest by 15. November: country pr. basins inputs and normalized deposition data	

Task	2012	2013	2014	2015	2016	2017
8. PLC-6 report: elaboration and publication			4. PLC-6 7-2014: 1. Initial discussion of the main contents of the PLC-6 report including specification user needs and possible format (i.e. ebook)	1. to 3. Quarter: PLC project to follow up on intercalibration results, new data entry system/reporting formats (PLUS project), prepare an extended outline of PLC report, define data products to be developed by data manager. Start collecting background data/metadata PLC-6 8-2015: draft of the main outline of the PLC-6 report including specification of expected key graphs and tables and necessary background information/metadata to collect from CP's PLC6 9-2015 (October 2015) meeting further to elaborate the outline of the assessment and divided topic between project members 4. Quarter: Checking old PLC data (1994-2013) follow up status reporting 2014 PLC data. Drafting on	1 and 2 quarter: PLC 6 10/2016 (February 2016) final discussion of structure and form of the report and divide working tasks. Further discussions and details during PLC 11-2016 in May 2016. Further discussion at PLC 12 2016 in September 01/03-15/11.2016: Collecting background information (climate, landuse, agricultural practices etc.). 01/09-15/11.2016 Finalize chapters on methodology, quality assurance, back-ground information on catchments, ferti-lizer consumption, livestock, land use, population density, climate, point sour-ces (number, size, degree of purifica-tion, connectivity) etc.	February-April 2017: Finalizing updating MAI and CART assessment (scientific part). March- may 2017: Drafting chapter on effect of measures Mid April: Submission of draft of MAI and CART and preliminary results of PLC6. April–June: Finalizing chapters on heavy metal inputs, source apportionment and evaluation of measures including tables and figures. 3. Quarter: Completion of the report including corrections to figures and table and text in all chapters including source apportion-ment, evaluations on effectiveness of mea-sures and evaluation off fulfilment of reduction targets. Completed report submitted for final commenting and

Task	2012	2013	2014	2015	2016	2017
				chapters on methodology, quality assurance, background information on catchments, fertilizer consumption, livestock, land use, population density, climate, point sources (number, size, degree of purification, connectivity) etc.	01.10-/15.11.2016: REDCORE DG to assess data, filled in data gaps, follow-up on suspicious data and make short report to CP's 15.11.2016-07.12.2016: CP's to approve a filled in and complete assessment dataset, but if data from a CP are ready before 15.11.2016, it will be send out before for approval (3 weeks) by 08.12.2016 20.12.2016: Assessment dataset for HOLASII 08/12-10.02.2017: 1st Normalization and statistical analysis including trend analysis draft of the report including draft of all figures including airborne inputs, maps and graphs Status to REDCORE DG, PRESSURE and GEAR,	approval of REDCORE DG, PRESSURE and submission for acceptance by HOD. 3.-4. Quarter: Language check, editing, layout, printing and publishing 2- mid 4. Quarter: Development of executive summary of PLC 6 report for adoption for publication by HOD. Published 1. quarter 2018

Task	2012	2013	2014	2015	2016	2017
					Including draft figures and tables for updating MAI and scientific part of CART. Late or February 2017 (pending on progress): Workshop discussing MAI/CART assessment methodologies based on the new assessment results February 2017-April 2017: Finalized statistical analysis in relation to follow-up nutrient reduction scheme based on data 1995-2014 (as part of the MAI-CART follow-up assessment) and based on discussion at the MAI-CART workshop Further, elaboration of the report with updated and corrected figures, tables and graphs as well as draft text on total inputs and overall trends.	

Task	2012	2013	2014	2015	2016	2017
					December 2016 - April 2017: Drafting chapters on heavy metals inputs, further, assessing source apportionment data and drafting chapter, and assessing evaluation of measures taken	