



Baltic Marine Environment Protection Commission

Sixth Baltic Sea Pollution Load Compilation (HELCOM PLC-6)
Helsinki, Finland, 2-4 June 2014

PLC-6 6-2014, 2-1

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Background

The document summarizes the progress with the implementation of the main tasks of the Sixth Baltic Sea Pollution Load Compilation Project (HELCOM PLC-6) as well as the Roadmap for further implementation of the project (attachment 1).

Action required

The Meeting is invited to take note of this information and provide advice on how to further proceed with the implementation of the project and revise the road map as appropriate.

Progress with the implementation of the Sixth Baltic Sea Pollution Load Compilation Project (HELCOM PLC-6)

Background

HELCOM Heads of Delegation (HELCOM HOD 37/2012) adopted the Sixth Baltic Sea Pollution Load Compilation (PLC-6) as outlined in document 2/1 of HELCOM PLC-6 1/2012.

Some of the activities under the PLC-6 project might be supported and connected with corresponding activities under other projects related to improvement of collection, quality control, consistency and reporting of data on nutrient inputs; e.g. the HELCOM project “Improvement of the quality of data on nutrient inputs with focus on transboundary loads”, BASE project for implementation of the Baltic Sea Action Plan in Russia, the HELCOM PLC-5.5 project as well as the HELCOM PLUS project for modernization of the PLC water database.

Progress and success of the PLC-6 project is very dependent on the deliverables of the above mentioned projects, active participation in meetings, as well as timely and active forwarding of required information, comments, data etc. by the Contracting Parties. Furthermore, the successful implementation of the HELCOM PLUS project is dependent on several of the deliverable of the PLC-6 project (e.g. the development of clear and detailed PLC-6 Guidelines).

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 EU MSFD reporting requirements. 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 main tasks and work phases of the PLC-6 project

1. Development of standardized methodology to calculate uncertainties on national datasets including methodology for filling in data gaps and missing data and development of standardized methodology for evaluating countries progress in fulfilling BSAP nutrient reduction targets

The Danish Centre for Environment and Energy (DCE) has prepared a report on the statistical aspect of Baltic Sea Pollution Load Compilations, which was reviewed and commented on by several meetings of HELCOM PLC-6 project and the HELCOM LOAD expert group. This activity has been finalized and the final report is available via the [HELCOM PLC-6 project website](#). Also a software for estimating statistical uncertainty can be downloaded via the website.

2. Quality Assurance standardisation activities and carrying out intercalibration/ intercomparison activities

Quality assurance and proficiency testing was carried out during the intercalibration/ intercomparison activities under the PLC-6 during the first half of 2013. The draft report of the activity was reviewed and commented on by several PLC-6 meetings and the HELCOM LOAD expert group. The final report is available via the [HELCOM PLC-6 project website](#). In March 2014, an updated version of the report was published, including a new Addendum (Annex 3) which contains the results of one of the participating laboratories which were missing from the report due to late data submission.

A HELCOM project “Improvement of the quality of data on nutrient inputs with focus on transboundary loads” was carried out under the lead of Finland. The project initiated transboundary assessment of pollution from Belarus to Estonia, Latvia and Lithuania, including sampling at the border and methodology used for subtracting transboundary load from national riverine inputs to the sea, and a workshop for

exchanging information on applied methodologies. The [final project workshop](#) was held in Riga, Latvia on 11 March 2014.

3. Updating and extending of the PLC-water Guidelines

During 2013 and early 2014, the PLC-6 project has significantly revised, restructured and updated the PLC-water guidelines. A new chapter on statistical analysis has been included in the guidelines. The main sections still to be updated relate to source oriented approach and periodic reporting. The intention is to finalize the guidelines during the meeting of PLC-6 6-2014, focusing on chapters 3, 4 and 5, as well as the Annexes. The draft annexes on reporting formats need to be discussed in order to clarify any open issues that need to be resolved before finalizing the PLUS database.

The results of a questionnaire on the monitored parameters, monitoring frequency, sampling and monitoring methodology by Contracting Parties in rivers and at point sources can be downloaded as an Excel file via the [PLC-6 project webpage](#). The information has been referred to in the HELCOM monitoring templates on inputs of nutrients and contaminants to the Baltic Sea, which are being compiled by the HELCOM MORE project for revision of HELCOM monitoring programmes, and hence also supports those Contracting Parties that are also EU members in their MSFD reporting requirements.

Contracting Parties have been invited to provide geographic information (GIS) dataset on monitored and unmonitored areas, monitoring stations, rivers and point sources to the Secretariat. The compilation of the received datasets will be presented to the meeting of HELCOM PLC-6 6-2014 for consideration (document to be submitted later).

Efforts have been made to harmonize, as far as possible, the HELCOM PLC Guidelines with the on-going revision process on OSPAR RID and OSPAR HARNUT guidelines.

4. National periodic PLC monitoring

Poland and one federal state in Germany already carried out their periodic PLC monitoring in 2012 (in accordance to the six year cycle specified in HELCOM Recommendation 26/2). All other Contracting Parties are carrying out their periodic monitoring in 2014.

5. Data collection, submission, national quality assurance and compilation and corresponding activities by data manager, taking into account the modernization of PLC database

PLC-6 data reporting will take place in 2015.

The HELCOM PLUS project will develop the reporting formats and an interface for a new data entry system for submitting PLC-6 data. However, the development of revised description of the reporting formats for the quantification and reporting obligations is included as a part of the PLC-6 project.

The new reporting procedures, and hence reporting formats, are being updated in accordance with the new PLC data model. The new reporting formats will be tested, together with the quality checking/assurance procedure set up in the new PLC water database well before the deadline for the Contracting Parties to report 2014 PLC-6 data in mid-2015.

6. Data assessment, data products including air blame matrixes, preparation and publication of PLC-6 Report and an executive summary

With the PLC-6 data reported to the new PLC database using the PLUS system, the assessment will be carried out making use of the new web-based PLUS application.

EMEP will provide blame-matrices of atmospheric inputs in the second half of 2016.

As requested by HELCOM GEAR 2/2012 and HELCOM HOD 39/2012 the main project results should be ready by the end of 2016 to allow for making use of the data for EU MSFD reporting requirements.

PLC-6 meetings and workshops and their contents

1. The first PLC-6 workshop was held on 11-12 October 2012 in Helsinki, Finland and addressed primarily waterborne load issues, including how to fill in data gaps and missing data; statistical method for evaluation of progress in fulfilling nutrient reduction targets; common methods in order to have a minimum quality assurance done by all Contracting Parties; and the present PLC guidelines, with focus on chapters 1 and 2 and which chemical variables to monitor, definitions, and load-oriented approach, and what to report. Further some practical questions related to the planned laboratory intercalibration were discussed.
2. The second PLC-6 workshop was held on 26-27 February 2013, considered and discussed chapters 2 (load oriented approach), status on intercalibration between laboratories; revision of chapter 3 (source-oriented approach); and the draft report on statistical methodology on how to include the main results and advises in the PLC guidelines.
3. A third PLC-6 workshop was held on for 13-15 May 2013, and addressed mainly the results of the intercalibration activity, PLC-6 guidelines (mainly chapter 3, 4 and a new chapter with statistical methodologies), the statistical methods report and requests of the HELCOM PLUS project.
4. A fourth PLC-6 workshop (HELCOM PLC-6 4/2013) was held on 23-25 October 2013 at the Secretariat in Helsinki, Finland and focused on: Chapter 3 of the guidelines on source-oriented apportionment; new chapter 4 on periodic PLC data reporting requirements; possible separate chapter on retention; annexes with reporting formats; and questions raised by PLUS project.
5. A fifth PLC-6 workshop was held on 24-26 February 2014 at the Secretariat in Helsinki, Finland focused on finalizing chapters 1, 2, 3, 6, 7 and some annexes of the PLC-6 guidelines.
6. A sixth PLC-6 workshop will be held on 2-4 June 2014 at the Secretariat in Helsinki, Finland and aims to finalize the guidelines, focusing mainly on chapters 3, 4 and 5, as well as the Annexes.

Attachment 1 Roadmap for implementation of HELCOM PLC-6 project (last updated 6.8.2013)

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	<u>3rd-4th quarter:</u> 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	<u>1th Quarter:</u> Draft report on statistical methodologies discussed at PLC-6 2/2013 <u>LOAD 5:</u> Consider and discuss a further developed report on statistical methodology <u>PLC-6 3/2013:</u> discuss the final draft of the report and agree on how to include it in the PLC-6 guidelines <u>LOAD 6:</u> 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. <u>PLC-6 4/2013:</u> approved the publication of the final statistical report on the HELCOM website. <u>MONAS:</u> take note and make use of the statistical methodology report Final report published and available online.	<u>HOD (September):</u> to adopt 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	<u>May-June:</u> Contracting Parties to reply (by 12.6.) to questionnaire on QA issues that was submitted on 10.5.12.	<u>February/April 2013:</u> Intercalibration/ intercomparison activity (led by Denmark) carried out <u>LOAD 5:</u> informed of progress	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
		<p>of the activity</p> <p><u>MONAS 18</u>: Draft report with results of intercalibration activity submitted as information</p> <p><u>PLC-6 3/2013</u>: 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</p> <p><u>LOAD 6</u>: endorsed the publication of the final report of the intercalibration /intercomparison activity.</p> <p><u>PLC-6 4/2013</u>: finalize the chapter on QA issues in the PLC-6 guidelines.</p> <p>The final report was published and available online.</p>	<p>main report due to late data submission</p>			
3. Revision of PLC guidelines	<p><u>LOAD3 and MONAS 16</u>: Identify topics to revise/ include in guidelines. Accept roadmap, including clarifying need of a project.</p> <p><u>HOD37</u>: Accept roadmap and if decided a revision project</p> <p><u>August</u>: Start revision of guidelines, reporting status to LOAD4, MONAS17, GEAR2 and HOD.</p>	<p><u>1. Quarter</u>: Revision continued.</p> <p><u>PLC-6 2/2013</u>: revise guidelines (taking into account also input from PLC-5.5 and PLUS)</p> <p><u>LOAD5</u>: informed of progress with revising the guidelines.</p> <p><u>PLC-6 3/2013</u>: Further revision of guidelines, statistical methods report, QA issues and reporting formats</p>	<p><u>PLC-6 5/2014</u>: further elaborated the guidelines.</p> <p><u>PLC-6 6-2014</u>: to finalize the guidelines</p> <p><u>HOD (September)</u>: Endorse revised PLC guidelines, with the understanding that the reporting formats contained in the</p>			

Task	2012	2013	2014	2015	2016	2017
	<p><u>October, PLC-6 1:</u> Start revision of guidelines, including starting development of methodology for estimation of uncertainty of national dataset, filling in gaps and missing data</p>	<p><u>2. and 3. Quarter:</u> Final draft with revised guidelines Workshop on how methodology in and how to use guidelines and coordinate monitoring and modelling efforts <u>LOAD 6/2013:</u> provided final comments on chapters 1-3 and chapters on QA and statistical methods. <u>PLC-6 4/2013:</u> 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 <u>MONAS19:</u> Informed of status of updating the PLC guidelines</p>	<p>Annex may still be modified pending outcome of PLUS workshop in September.</p>			
4. National data collection and quality assurance	<p>Poland and Germany monitor data in rivers, point sources</p>	<p><u>1. and 2. Quarter:</u> Poland and Germany make data collection of 2012 data and data compilation, quality assurance. Follow up on data quality, missing data</p>	<p><u>01.01-31.12:</u> Countries* monitor data in rivers, point sources etc. according to the revised Guidelines. Collection of other necessary data for fulfilling PLC requirements. Reporting updates, correction etc. on PLC data from 1994-2013.</p>	<p><u>1. and 2. Quarter:</u> National data collection of 2014 data and data compilation, quality assurance. Follow up on data quality, missing data</p>		
5. National data reporting				<p><u>2. and 3. Quarter:</u> National modelling, aggregation data,</p>	<p><u>01/1-31/3:</u> All countries following up on questions and</p>	

Task	2012	2013	2014	2015	2016	2017
				<p>making source apportionment in all Contracting Parties.</p> <p><u>01.07</u>: Reporting on applied methodologies, background information on population, point sources, land use etc. and preparing data submission</p> <p><u>31.10</u>: Reporting of monitored 2014 data</p> <p><u>31.12</u>: Reporting of calculated 2014 loads (e.g. source apportionment)</p>	<p>missing information raised by data manager/PLC6 project</p>	
6. PLC data manager tasks	<p><u>LOAD3 and MONAS 16</u>: Recommended a modernization project for the PLC database (PLUS)</p> <p>HOD 37: Adopted WPO of PLC database modernization project (PLUS)</p> <p><u>1.7-31.12</u>: Requirements for a new PLC database and web application/start of modernization project.</p>	<p>HELCOM 34: adopted HELCOM PLUS project.</p> <p>Work with database expert to develop a new PLC data model and functional specifications</p>	<p>Quality check migrated PLC 1994-2012 data</p> <p>Develop reporting formats in collaboration with PLUS database expert</p> <p>Support web application developer with development of an interface for a new data entry system under PLUS</p> <p>Implementation of the database web application. Updating and quality check on PLC 1994-2012 data</p>	<p><u>01/01-30/06</u>: Updating and quality check on PLC 1994-2013 data</p> <p>Testing and fine tuning data entry system and reporting formats if necessary and final approval in spring 2015 by</p> <p>LOAD/MONAS/GEAR</p> <p><u>01/10-31/12</u>: Quality check of all reported data, make request to countries for missing data, make quality assurance on received data and overviews to</p>	<p><u>01/01-29/02</u>: Draft data and selected products for the PLC-6 report</p> <p><u>1/3-30/06</u>: Figures, tables maps and other final data products data assessments to the PLC-6 project</p> <p><u>01/07-31/12</u>: Correcting and/or providing additional tables or figures for the PLC-6 report as necessary.</p>	

Task	2012	2013	2014	2015	2016	2017
				LOAD Core Group and PLC-6 project on status of received data Inform of data reporting status to LOAD/MONAS/GEAR		
7. EMEP tasks					<u>Latest in Sept:</u> emissions and depositions of nitrogen for 1995 - 2014	<u>Late 2016/early 2017:</u> "Blame" matrix for 2014 defining emissions and deposition sources and countries and sectors and with updated depositions for 1994-2013
8. PLC-6 report: elaboration and publication			<u>4. Quarter:</u> 1. 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	<u>1. to 3. Quarter:</u> 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 <u>4. Quarter:</u> Checking old PLC data (1994-2013) follow up status reporting 2014 PLC data. Writing chapters on methodology, quality assurance,	<u>1. Quarter:</u> Quality assurance, filling data gaps, trend analysis, first draft of data products including airborne inputs <u>2-3. Quarters:</u> 1 st draft of the report including draft of all figures, maps and graphs. Status to LOAD, MONAS and GEAR <u>4. Quarter:</u> Further elaboration of the report with updated and corrected figures, tables and graphs as well as draft text on total	<u>Early 2017:</u> Draft chapters regarding total nutrient inputs and overall trends finalized <u>1-2. Quarter:</u> Completion of the report including corrections to figures and table and text in all chapters including source apportionment, evaluations on effectiveness of measures and evaluation off fulfilment of reduction targets. Completed report submitted for

Task	2012	2013	2014	2015	2016	2017
				background information on catchments, fertilizer consumption, livestock, land use, population density, climate, point sources (number, size, degree of purification, connectivity) etc.	inputs and overall trends.	final commenting and approval of LOAD, MONAS, GEAR and submission for acceptance by HOD. <u>3. Quarter:</u> Language check, editing, layout, printing and publishing <u>3.-4. Quarter:</u> Development of executive summary of PLC 6 report for adoption for publication by HOD. Published 1. quarter 2018

* Poland and Germany are monitoring data already in 2012

** no indication of numbering for respective HELCOM meetings is done for implementation of the project after 2013