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Preliminary outline and contents of the PLC6 assessment

Setting the frame

HELCOM PRESSURE supported the strategic approach to PLC work as presented in doc. 3-2 to PRESSURE 2-2015 meeting. This includes four major flagships:

1. Annual basic reports on actual air- and waterborne inputs
2. Progress toward fulfilment of MAI = Core Pressure Indicator on nutrient inputs
3. Progress toward fulfilment of CART = CART assessment system
4. Periodic PLC assessments

PRESSURE 2-2015 agreed that the content of the PLC6 assessment should mostly focus on source apportionment and assessing effectiveness of measures to be complementary to other three flagship PLC products. Further the meeting supported that a new user friendly format e.g. as an e-book for the report should be explored. It is the understanding that the e-book format is on a trial basis.

HELCOM GEAR has requested that main results of the PLC6 assessment of air- and waterborne should be ready by the end of 2016 in time for the use in the Contracting Parties for MFSD process and in time for the use of HOLAS2.

HELCOM PLC6 7-2014 meeting considered the users and requirements to the PLC6 report (doc. 5.2 and 5.3).

There is a need to be clarified if an Executive Summary should be developed together with the main PLC6 assessment.

General questions to discuss and assumption to agree upon

- We want to avoid too much repetition from other PLC products, but if we want a comprehensive PLC6 report some repetition might be necessary – alternative a lot of links and references needed – will it make the PLC6 report readable and relevant
- What are the target group(s) – the e-book may facilitate several target groups – e.g. the overall/main/summarizing pages focused on managers/decision makers, while the more detail layers in the e-book would be directed to technical/scientific community, NGO's, consultants, and more interested managers and public

- Should we focus on inputs to Baltic Sea sub-catchments and assigning inputs to the countries with the outlet – or should we focus on net inputs per country (source) – at least net inputs are important when evaluation sources and effect of measures taken, and will force us to provide data on transboundary inputs and retention
- We should agree that for some part of the assessment we will not have complete coverage of the Baltic Sea catchment/not have information from all CP's, but will be based on good examples from few countries – this will also be the case for e.g. for HM's if CP's are not providing data
- We could choose to use the "big seven" as examples where want to use for the more detailed analyses/assessment (or if CP's had good examples for other rivers that is fine too)
- Developing the report should be a teamwork where all PLC-6 project members will get some responsibilities, e.g. as collecting information on measures taken in their country to reduced N and P inputs to the Baltic Sea, new measures decided or planned to implement and the expected effect of this measures, and also to help collecting some of the necessary background information
- Background information, supporting information/data and information on measures and their effects must be collected and provided by spring 2016, otherwise it is not included in the assessment (1. April 2016)s
- The assessment will include air- and waterborne inputs of flow, N, P and selected HM's

Proposal for overall structure

In the table below the left row is the title of the chapter. Second row from the left are the sub-chapter which in an e-book can be made short (few pages pr. chapter), with the main message and figures, written in a language directed to e.g. managers. The third row from the left indicated then deeper layers in the e-book made during the PLC 6 assessment or to link to other places (reports, indicators, environmental fact sheets, YouTube etc.).

By making the division in short over all sub-chapters and more detailed deeper layer we can focus on finalizing the sub-chapters in 2016, but only some of the deeper layer/pages, and then the rest in 2017.

Chapter name	Sub-chapter	Deeper layers/pages or links	Comments
0. Main message	Key results	Link conclusion to the different part of the assessment	Short text 1-2 concluding graphs and tables
1. Conclusion	Main finding, how can it be evaluated, our advice/way forward	Link conclusion to the different part of the assessment	Short text
2. Inputs to BAS and trends	N: time series Trend – changes Status 2014	Detailed graph/tables Losses kg/km ² Fractions of N Methods Data (Excel, Website)	The intention is not to create a lot of overlap with other assessments, but it is relevant to have at least a very general overview of the inputs and trends. Need to include the figures themselves (not just links to MAI and CART assessments) since with time the annual updated assessments will cover a different year than in this assessment
	P: time series Trend – changes Status 2014	As for N	Most important graphs from Core Pressure indicator/CART follow-up assessment
	HM: time series Trend – changes Status 2014	Detailed graph/tables Methods Data	The big 7 rivers Regarding methods as far as possible refer to PLC guidelines
3. Catchment characteristics	Key information on: Areas Population Land use Soil type	More detailed information on/link to the mentioned issues Making some relation between inputs to the sea	Good examples e.g. from the “big 7” and other selected rivers This chapter could be moved to the end (deeper layer) as it provides background (metadata) type of information

	<p>% lakes/km stream Climate Agricultural data Wastewater removal % of catchment monitored/unmonitored no. of monitoring stations and point sources</p>		<p>See also list of additional background information that could be included (list at the end of this table)</p>
4. Inputs sources	<p>N: Status 2014 Waterborne, direct, air Source receptor matrix (blame matrix air) Source apportionment Comparing with 2006 Relating source apportionment to catchment data</p> <p>P: Status 2014 Waterborne, direct, air Source apportionment Comparing with 2006 Relating source apportionment to catchment data</p> <p>HM: Main pathways of HMs</p>	<p>Detailed graph/tables Source apportionment at least background, diffuse, point (divided industries by sector if possible), transboundary Methods Data</p> <p>Detailed graph/tables Source apportionment at least background, diffuse, point, transboundary Methods Data</p> <p>Methods Data</p>	<p>This includes source apportionment On the sub-chapter level we might show the result per sub-basin, while in the deeper layer pr. country and even country-basin, big 7 and possibly also making some simple statistics based on all catchment pr. Country</p> <p>Need to consider how to deal with that PL and DE carried out source apportionment in 2012 and other in 2014</p> <p>For pathways of HM, the results of some case studies could be referred to. Some inventories are being made for the WFD reporting and could be made use of. In the long run, also source apportionment of priority substances will be carried out. Inputs in baseline (reference year) 2008-2010 are to be reported first and later a trend analysis should be made.</p> <p>Also some indications on sources of HM emissions can be obtained from the EMEP report – but this is challenged since significant contributions are from re-emission sources etc.</p>
5. Effect of measures	<p>Overview of applied measures</p> <p>Overview of expected effects of applied measures</p>	<p>Information on applied measures pr. CP</p> <p>Information on expected effects of applied measures pr. CP</p> <p>More detailed</p>	<p>We could focus on some CP's plus good examples as for (some of) the big 7</p> <p>We have to discuss how to group different measures as we have no possibility to evaluate effects and effectiveness of measures (we cannot make economic analysis need to use known information)</p> <p>Questionable if we can provide further data/information beside what will be presented</p>

	<p>Summary on how we evaluate effects and effectiveness of measures</p> <p><i>Summary and obtained effect and the effectiveness of (selected) measures taken by CP</i></p> <p>Results from selected catchments</p>	<p>information on how the evaluation is done</p> <p>More detailed results of the evaluation per country</p> <p>More detailed results of the evaluation e.g. for selected catchments</p>	<p>Need to compare inputs to a reference period</p> <p>What effectiveness can we measure? The level of ambition cannot be very high since we are dependent on what information CPs have and can report. Some measures result in quicker effects than others, i.e. wastewater treatment vs. agriculture.</p> <p>Assess effectiveness at country or sub-basin level?</p> <p>Estimates of expected reductions through implementation of measure have been calculated by some CPs for the MSFD programmes of measures. This information is being collected with GEAR and could be made use of. Also information on implementation of BSAP actions by CPs could provide some useable information. Some assessments have been made on implementation of WFD and Nitrate Directive, could provide relevant information</p>
6. Potential reduction due to additional measures	<p>Summary on potential due to improved wastewater treatment/connectivity</p> <p>Summary on potential due to selected measures directed to agriculture, transport sector etc. (both air and water) e.g. further on Gothenburg protocol, NECII etc.</p> <p>Can we advise on some measures in different parts of the Baltic Sea catchment area</p>	<p>How do we make the evaluation?</p> <p>More detailed results if any</p> <p>How do we make the evaluation?</p> <p>More detailed results if any</p>	<p>Can we make some relevant estimates an assessment – we could ask for example –again from the big 7 an other selected catchments</p>
7. How dataset were established	Summary on establishing data	Summary on monitored and unmonitored areas	Chapter both explaining how a complete dataset was established, normalization, statistical analysis and other analysis.

and summary on methodology	Overview applied methodology	Data gap filling Normalization (air, water) Trend analysis Methods on source receptor matrix air, source apportionment (water) Evaluation of effects and effectiveness of measures	Include description of country specific methods where relevant. CP's to provide short describe using a template agreed in the PLC6 project
8. References			
9. Abbreviation			
10. Data	Where can data be find	Excel spreadsheet Web-interface new PLC-DB	Discuss how much should be available

Supporting data / background information:

- Climate – time-series 1995-2014: monthly values for precipitation (or net precipitation) and temperature. Selection of some stations in each CP (each CP should evaluate how many stations they would need to provide representative information that covers N-S, W-E and inland-coast gradients). *DEADLINE: 1 October 2015.*
- Agricultural related data – it would be good to have figures from the beginning of the period (1995) to latest year (2014) as time series to identify changes (Dmitry to ask AGRI group – meeting 27-29 May 2015 - if they can provide the following information – if not, then what could the provide alternatively) *DEADLINE: 31 DECEMBER 2015:*
 - Livestock. How: Cows, pigs, poultry and other (i.e. fur production). What units: animal units (1000/ha?). Is it available as geographic information (point/coordinates) so that the PLC-6 project can calculate the Animal units per country/by Baltic Sea sub-basin? If not, then the total number of animals per country (preferably only for Baltic Sea catchment area).
 - Application of fertilizer and manure. How: kg/ha within the Baltic Sea drainage area (if possible even sub-catchment level).
- Land use & cover (*DEADLINE: 1 October 2015*):
 - Tables per country showing % arable land, pasture (grasslands), forest, open land, unknown, urban & built up area, inland waters (including wetlands) (in mid-1990s & 2014 – to see change) Can we get this per river catchment per country (could BNI help with this?)
 - Latest CORINE land cover map (could BNI help with this?)
- Soil types (map), per catchments if possible. Available via JRC (could BNI or Secretariat make such a map?)
- Population by sub-basin: update the table used in PLC-5.5 (in 1,000s). *DEADLINE: 1 October 2015.*

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- Municipal wastewater treatment plants: Per country, average removal % for different size categories: <300 PE, 301-2,000 PE; 2,001-10,000; 10,001-100,000 PE; >100,001. *DEADLINE 30 April 2016*
 - % of population connected to treatment plants – connectivity, treatment status – reported by country, preferably aggregated by sub-basin level (this has been calculated at least in Finland within the WFD river-basin management plans). *DEADLINE 30 April 2016*
 - Amount of rural population (scattered dwellings) and what water protection measures are used in these areas (use measures categories listed in the Recommendation 28E/6) – aggregated at sub-basin level. *DEADLINE 30 April 2016*
 - Information on measures to be able to assess the effectiveness of measures and potential reduction due to additional measures (expected as input from GEAR by 31 December 2015), e.g.:
 - Measures that have been implemented by Contracting Parties so far
 - during which period the measures have been implemented
 - expected reduction resulting from the implemented measures
 - expected reductions resulting from new measures to be implemented in the future.

Project manager to make a proposal of suitable format in which CPs should provide the requested supporting information. RedCore should review and further elaborate the list, and then it should be circulated to CPs for commenting/endorsement.