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| <b>Document title</b>  | Outcome of the seventh meeting of the HELCOM project Making the HELCOM eutrophication assessment operational (EUTRO-OPER) |
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| <b>Category</b>        | DEC   |
| <b>Agenda Item</b>     | 7 – Closing of the Meeting  |
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| <b>Submitted by</b>    | Secretariat   |

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**TABLE OF CONTENTS**

|               |   |   |
|---------------|---|---|
| Agenda Item 1 | Adoption of the Agenda .....  | 2 |
| Agenda Item 2 | Information by the Secretariat, Project Manager and Contracting Parties ... | 2 |
| Agenda Item 3 | The final deliverables of EUTRO-OPER .....                                  | 3 |
| Agenda Item 4 | Progress and finalization of the project .....                              | 4 |
| Agenda Item 5 | Future work .....   | 4 |
| Agenda Item 6 | Any other business .....  | 4 |
| Agenda Item 7 | Closing of the Meeting .....  | 4 |
| ANNEX 1       | List of Participants .....  | 5 |
| ANNEX 2       | Anticipated future needs for HELCOM eutrophication assessment work.....     | 6 |
| ANNEX 3       | Grouping of indicators used in the eutrophication assessment dataview.....  | 8 |

## Outcome of the seventh meeting of the project making the HELCOM eutrophication assessment operational (HELCOM EUTRO-OPER)

### Introduction

0.1 In accordance with the minutes of the sixth meeting of the project on Making the HELCOM eutrophication assessment operational (HELCOM EUTRO-OPER 6-2015) **EUTRO-OPER 7 meeting** was held on 24-25 November 2015 in Gothenburg, Sweden.

0.2 The Meeting was attended by participants from Estonia, EU, Finland, Germany, Poland, Sweden and ICES. The List of Participants is attached as **Annex 1**.

0.3 The Meeting was chaired by Mr. Hermanni Kaartokallio. Ms. Vivi Fleming-Lehtinen, Project Manager of EUTRO-OPER, acted as secretary of the Meeting.

### Agenda Item 1 Adoption of the Agenda

Documents: 1-1

1.1 The Meeting adopted the agenda as contained in document 1-1, with the following additions:

- agenda item 7, Closing of meeting, was added to the agenda
- correction was made on the location of the meeting

### Agenda Item 2 Information by the Secretariat, Project Manager and Contracting Parties

Documents: None

2.1 The Project Manager informed the Meeting on on-going processes relevant to EUTRO-OPER regarding indicator development and the HOLAS II -project. The Meeting took note of:

- the lead-country approach agreed for completing indicators under development
- the time-lines for the finalization, review and endorsement of new core indicators (by 2016)
- the time-lines for the next holistic assessment (with first assessment results mid-2017 and final assessment mid-2018)
- the period of the next holistic assessment, as tentatively agreed (2011-2016)

2.2 Germany expressed concern for the present time-lines set for the HOLAS II project, emphasizing that to meet national timelines the eutrophication assessment needs to be ready in spring 2017.

2.3 The Meeting took note of the outcomes of the GEAR-12 and State & Conservation 3-2015 meetings, as informed by the Project Manager.

2.4 The Meeting took note of information by the Contracting parties about relevant activities supporting the further development and updating of the HELCOM eutrophication indicators and assessment of eutrophication of the Baltic Sea:

- Estonia informed to be ready to begin submitting eutrophication data to ICES, and thanks ICES for the support.
- EU informed the Meeting on the on-going processed regarding the revision of the Commission Decision on good environmental status of marine waters for Descriptor 5. Results of a workshop of experts from Member States and regional sea conventions has been introduced to WG GES and the Marine Strategy Coordination Group. DG Environment plans to produce a draft of the revised commission decision by April 2016, with the aim of finalizing the revision by mid-2016.
- Finland informed on ongoing trilateral development work, together with Estonia and Sweden, showing the goodness of EO data (comparing national and ICES in-situ data) in coastal waters, utilizing the validation work of EUTRO-OPER. Finland also informed the Meeting on the trilateral (Finland, Estonia,

Russia) Gulf of Finland workshop and the coming Gulf of Finland status report to be published in March 2016, showing previously unpublished data.

- Germany informed the Meeting of her recent proposal for a prolongation of the EUTRO-OPER project, for e.g. to make sure that the pre-core and candidate indicators are finalized and upgraded to core status in the course of 2016. Germany also informed on a project testing HEAT 3.0 in the North Sea (open sea and coast) with the aim of Germany to align the eutrophication assessments in the two regional seas. Germany informed about the ECOSTAT workshop in Berlin during the previous week, where nutrient standards of transitional, coastal and marine waters (as well as fresh waters) were compared and discussed.
- Poland informed the Meeting on the stage of their reporting on MSFD, with the Programmes of Measures expected to be ready for March 2016.
- Sweden also mentioned on their involvement in the ECOSTAT workshop. Sweden informed the Meeting on the assessment work done in the Kattegat using OSPAR COMP, expressing a wish to include the OSPAR COMP assessment into the HELCOM eutrophication assessment work flow for Kattegat in the future.

### Agenda Item 3

### The final deliverables of EUTRO-OPER

Documents: 3-1, 3-2, 3-3, 3-4.

3.1 The Meeting worked on the second draft of the eutrophication manual (document 3-1) in smaller drafting groups. It was agreed, that the Project Manager will collate the drafted versions in order to submit the document to the State & Conservation group on 1 December, to be reviewed by 11 December.

3.2 The Meeting proposed publishing the manual as a web-manual, if this is found resource-wise possible. Publishing the manual in .pdf format was found to be another alternative, though not as user-friendly or easily updated.

3.3 The Meeting worked on the first draft of the project report (document 3-2) in smaller drafting groups. The participants were requested to provide their contributions to the Project Manager **by 1 December**.

3.4 The Meeting discussed the first version of the EUTRO-OPER test assessment (2007-2011, document 3-4), to be included as chapter 8 to the project report.

3.5 The Meeting scrutinized the items returned during the expert review of the test assessment, and agreed on the actions regarding each returned item. The Project manager was requested to import these decisions into the national, core indicator and HEAT review pages as a separate column.

3.6 Contracting parties have a possibility to continue to review their data and indicators through assessment workspace until December 11<sup>th</sup>, accompanied by notification per e-mail to the project manager.

3.7 The Meeting discussed the anticipated future needs of the eutrophication assessment work (ANNEX 2), to be included to the project report as chapter 9. The Project Manager was requested to write the first draft of the chapter, based on this discussion, and include it to the project report.

3.8 The Contracting Parties were requested to prepare for review of final draft of the project report **during the period 8-11 December**.

3.9 The Meeting proposed publishing the project report as a HELCOM report.

3.10 The Meeting endorsed the proposal for HEAT aggregation principles for the coastal indicators proposed by EUTRO-OPER 6-2015.

3.11 The Meeting agreed on grouping of indicators in the assessment workflow dataview (ANNEX 3).

3.12 The Meeting agreed the indicator specifications (eg. weights, methodological correction factors), to be listed in the manual, acknowledging that these might need revisiting before producing the next eutrophication assessment.

## **Agenda Item 4**

### **Progress and finalization of the project**

(Documents 4-1)

4.1 The Meeting discussed the progress of the project and viewed the project road-map (Document 4-1).

4.2 The Meeting supported the prolongation of the EUTRO-OPER project until finalization of the next assessment, as originally suggested by Germany. The Meeting was of the opinion, that the future work should include resourcing for

- modelling GES-boundaries for the pre-core indicators of total nitrogen, total phosphorus and spring bloom chlorophyll-a,
- finalizing the pre-core indicator cyanobacterial bloom index as combined with the PEG cyanobacteria biomass fact sheet,
- preparing algorithms for the core indicator oxygen debt as part of the eutrophication assessment work flow, in connection with the ICES database and
- a part-time coordinator or project manager.

4.3 The Meeting wishes to emphasize, that continuing the eutrophication assessment work in early 2016 is essential, and that if prolonging the project is not possible or is left pending, a eutrophication expert network would be urgently required.

## **Agenda Item 5**

### **Future work**

Documents: 6-1

5.1 The Meeting had no changes to the list of participants of EUTRO-OPER.

## **Agenda Item 6**

### **Any other business**

Documents: None

6.1 No other business was expressed.

## **Agenda Item 7**

### **Closing of the Meeting**

Documents: 7-1

7.1 The Meeting adopted the draft Outcome of the Meeting. The final Outcome of the Meeting will be made available in the HELCOM Meeting Portal, together with the documents and presentations considered by the Meeting.

## ANNEX 1 List of Participants

| <b>CHAIR</b>   |   |   |
|--|---|---|
| Mr. Hermanni Kaartokallio                                  | Finnish Environment Institute (SYKE)<br>P.O. Box 140<br>FI-00251 Helsinki   | Dir.Phone: +358 503 257 580<br>Email:<br>hermanni.kaartokallio@ymparisto.fi                 |
| <b>ESTONIA</b>   |   |   |
| Ms. Inga Lips  | Marine System Institute, Tallin University<br>of Technology, Academia Road 15A  | Dir.Phone: +372620 4306<br>Email: inga.lips@msi.ttu.ee                                      |
| <b>EUROPEAN COMMISSION</b>                                 |   |   |
| Mr. Nicolas Hoepffner                                      | Joint Research Centre<br>Institute for Environment and<br>Sustainability  | Dir.Phone: +390 332 789 873<br>Email:Nicolas.hoepffner@jrc.ec.europa.eu                     |
| <b>FINLAND</b>   |   |   |
| Ms. Jenni Attila   | Finnish Environment Institute (SYKE)<br>Mechelininkatu 34a<br>Helsinki  | Dir.Phone: +358 295 251 078<br>Fax:<br>Email: jenni.attila@ymparisto.fi                     |
| <b>GERMANY</b>   |   |   |
| Ms. Wera Leujak  | Federal Environment Agency<br>Section II 2.3<br>Protection of the Marine Environment<br>Wörlitzer Platz 1<br>D-06844 Dessau-Rosslau | Dir.Phone: +49 34021032419<br>Fax: +49 34021042419<br>Email: wera.leujak@uba.de             |
| <b>POLAND</b>  |   |   |
| Mr. Wojciech Kraśniewski                                   | Institute of Meteorology and Water<br>Management NRI<br>Maritime Branch<br>ul. Waszyngtona 42<br>PL-81 342 Gdynia                   | Dir.Phone: +48 586288261<br>Fax: +48 586288163<br>Email: Wojciech.Krasniewski@imgw.pl       |
| <b>SWEDEN</b>  |   |   |
| Mr. Philip Axe   | Swedish Agency for Marine and Water<br>Management<br>Gullbergs Strandgata 15<br>Box 11 930<br>SE-404 39 Gothenburg                  | Dir.Phone: +46 (0) 10 698 6026<br>Fax:<br>Email: philip.axe@havochvatten.se                 |
| Ms. Karin Wesslander                                       | SMHI, Sven källfelts gata 15, 426 71 Västra<br>Frölunda,  | Dir.Phone: +46 (0) 31 751 8949<br>Email: karin.wesslander@smhi.se                           |
| <b>ICES</b>  |   |   |
| Mr. Hjalte Parner  | International Council for the Exploration<br>of the Sea (ICES)<br>H. C. Andersens Boulevard 44-46<br>1553 Copenhagen V<br>Denmark   | Dir.Phone: +45 33386737<br>Fax:<br>Email: hjalte@ices.dk                                    |
| <b>SECRETARIAT</b>   |   |   |
| Ms. Vivi Fleming-Lehtinen<br>EUTRO-OPER Project<br>Manager | HELCOM Secretariat<br>Katajanokanlaituri 6 B<br>FI-00160 Helsinki   | Dir.Phone: +358 400 329157<br>Fax: +358 207412645<br>Email: vivi.fleming-lehtinen@helcom.fi |
| Mr. Joni Kaitaranta<br>Data Administrator                  | Helsinki Commission<br>Katajanokanlaituri 6 B<br>FI-00160 Helsinki  | Dir.Phone: +358 468509206<br>Fax: +358 207412645<br>Email: joni.kaitaranta@helcom.fi        |

## ANNEX 2 Anticipated future needs for HELCOM eutrophication assessment work.

### Expert work for the assessment

- initiating eutrophication assessment for HOLAS II
- reviewing assessment data and products when updating eutrophication assessment
- updating text for indicator and assessment reports (to be presented in HELCOM website)
- updating and harmonizing coastal indicators and targets
- further developing the coastal assessment
- agreeing on indicator specifications for core indicators (eg. method correction factors)
- agreeing on specifications for coastal HEAT assessment (eg. indicator weights)
- initiating update of oxygen debt indicator from consultant, if the indicator cannot be included in the algorithms of assessment workflow (*in need of financing*)
- initiating possible update of coastal indicators, if cannot be included into the algorithms of assessment workflow

### Development of assessment methods

- testing inclusion of ferrybox flow-through data for the update of the core indicator chlorophyll-a
- testing inclusion of EO-data for the update of core indicator Secchi depth
- testing inclusion of DIVA analysis on 20K grid to the update of core indicators DIN and DIP as well as pre-core indicators Ntot and Ptot
- finalizing pre-core and candidate indicators, specifically
  - o nutrient and spring bloom target setting: we will contact the national institutes to find out whether the models ERGOM, MIKE, SMHI, BFM(SYKE), BALTSEM etc are up to it (*could be secured through financing*)
  - o spring bloom: Finland will aim to update with data from southern Baltic during 2016, although the spring bloom is very small in these areas
  - o cyanobacterial bloom: inclusion of PEG biomass fact sheet (*could be secured through financing*)
  - o oxygen consumption: More work budgeted nationally in 2016 for testing further whether the approach would be suitable, and for subsequent indicator development
  - o shallow area oxygen indicator for open-sea areas: combining oxygen concentration and salinity data, should be developed further
  - o macrozoobenthos indicator for open-sea areas, possible need is known after revision of commission decision; if needed, ges-boundaries should be updated to suit present assessment unit division
- including and evaluating EO-datasets for chlorophyll-a indicator update also for southern Baltic regions, Finland aims to provide product
- possible update of HEAT after revision of commission decision
- developing confidence scoring in HEAT 3.0

### Further improvement of data and work flow

- algorithms for oxygen debt (*in need of financing*)
- inclusion of new data types into the eutrophication assessment data flow, when new CORE indicators are introduced
- development of algorithms for possible new CORE indicators
- development of algorithms for possible updates of assessment tool
- inclusion of data-driven coastal assessment, once agreed upon by eutrophication experts
- possibility for utilizing remotely accessed databases directly, for datatypes going into assessment database without quality check at ices
- more sophisticated chart components developed by ICES, to be embedded into both workspace and HELCOM web site

- Sweden's wish to include algorithms of OSPAR COMP into eutrophication assessment data flow, to be used for the Kattegat
- possibility for contracting parties to receive comparison of cruise report data and submitted data from ICES, upon request
- details in the present assessment work flow dataview
  - o possibility to download filtered datasets
  - o possibility of filtering using station name
  - o including filtering for HELCOM sub-basins also for coastal areas, to facilitate eg. producing plots based on the number of coastal unit per HELCOM sub-basin achieving GES
  - o including submission enquiry name into the stations sheet as a filtering option (to find out who submitted the data)
  - o show also other parameters except ER in the map

## ANNEX 3 Grouping of indicators used in the eutrophication assessment dataview

| Criteria | Name                                       | Abbreviation | Description   | Period | Season | CP                                |
|----------|--|--------------|---|--------|--------|-----------------------------------|
| 1        | Dissolved Inorganic Nitrogen               | DIN          | Dissolved Inorganic Nitrogen  | 12-3   | Winter | SEA,LAT,POL, SWE                  |
| 1        | Dissolved Inorganic Phosphorus             | DIP          | Dissolved Inorganic Phosphorus  | 12-3   | Winter | SEA,LAT,POL, SWE                  |
| 2        | Chlorophyll a                              |              | Combination of EO and in situ Chlorophyll a                                 | 5-9    | Summer | SEA,GER,EST,FIN, LAT,POL,SWE, DEN |
| 2        | Secchi Depth                               |              | Secchi Depth  | 6-9    | Summer | SEA,GER,EST,FIN, LAT,SWE          |
| 3        | Oxygen Debt                                |              | Oxygen  | 1-12   | Annual | SEA,GER,SWE                       |
| 1        | Total Nitrogen                             | TN           | Total Nitrogen  | 1-12   | Annual | GER,POL,SWE                       |
| 1        | Total Phosphorus                           | TP           | Total Phosphorus  | 1-12   | Annual | GER,POL,SWE                       |
| 3        | Oxygen                                     |              | Oxygen  | 9      | Summer | GER                               |
| 3        | Zoobenthos Quality element                 |              | Zoobenthos QE (GER, POL, DEN) or ZKI (EST)                                  |        |        | GER,POL,DEN, EST                  |
| 1        | Total Nitrogen                             | TN           | Total Nitrogen  | 6-9    | Summer | EST,FIN                           |
| 1        | Total Phosphorus                           | TP           | Total Phosphorus  | 6-9    | Summer | EST,FIN                           |
| 2        | Phytoplankton biovolume                    |              | Phytoplankton biovolume   | 6-9    | Summer | EST,FIN,LAT,POL,SWE               |
| 3        | Benthic macroflora depth distribution      |              | Benthic macroflora depth distribution                                       | 7-9    | Summer | EST                               |
| 3        | Fucus vesiculosus depth distribution       |              | Fucus vesiculosus depth distribution  | 7-9    | Summer | EST                               |
| 2        | Proportion of perennial species            |              | Proportion of perennial species   | 7-9    | Summer | EST                               |
| 3        | Large invertebrates FDI                    | FDI          | Large invertebrates FDI   | 7-9    | Summer | EST                               |
| 3        | Large invertebrates KPI                    | KPI          | Large invertebrates KPI   | 7-9    | Summer | EST                               |
| 3        | Macrophytes, sheltered                     |              | Macrophytes, sheltered  | 7-8    | Summer | FIN                               |
| 3        | BBI  | BBI          | BBI   | 5-6    | Summer | FIN                               |
| 3        | Benthic Quality Index                      | BQI          | Benthic Quality Index   | 5      | Summer | LAT,SWE                           |
| 3        | Phytobenthos Ecological Quality Index      | PEQI         | Phytobenthos Ecological Quality Index                                       | 7-9    | Summer | LAT                               |
| 3        | Furcellaria lumbricalis depth distribution |              | Furcellaria lumbricalis depth distribution                                  | 7-9    | Summer | LAT                               |
| 2        | Chlorophyll a                              |              | Chlorophyll a   | 1-12   | Annual | POL                               |
| 1        | Dissolved Inorganic Nitrogen               | DIN          | Dissolved Inorganic Nitrogen  | 1-12   | Annual | POL                               |
| 1        | Dissolved Inorganic Phosphorus             | DIP          | Dissolved Inorganic Phosphorus  | 1-12   | Annual | POL                               |
| 2        | Secchi Depth                               |              | Secchi Depth  | 1-12   | Annual | POL                               |
| 3        | Oxygen                                     |              | Oxygen  | 6-9    | Summer | POL                               |
| 3        | Macrovegetation Quality element            |              | Macrovegetation QE (SWE), Macrophytes QE (GER, POL), Macrophyte, open (FIN) | 7-9    | Summer | SWE, GER, POL, FIN                |
| 1        | Total Nitrogen                             | TN           | Total Nitrogen  | 12-2   | Winter | SWE                               |
| 1        | Total Phosphorus                           | TP           | Total Phosphorus  | 12-2   | Winter | SWE                               |
| 2        | Chlorophyll a (in-situ)                    |              | Chlorophyll a (in-situ)   | 5-9    | Summer | SEA,GER,EST,FIN, LAT,POL,SWE      |
| 2        | Chlorophyll a (eo)                         |              | Chlorophyll a (eo)  | 6-9    | Summer | SEA,GER,EST,FIN, LAT,POL,SWE      |

