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<b>Document title</b>	Prolongation proposal for Quality assurance of phytoplankton monitoring in the Baltic Sea (HELCOM PEG QA), 2020-2024
<b>Code</b>	6-12
<b>Category</b>	DEC
<b>Agenda Item</b>	6 – Matters arising from the HELCOM Groups
<b>Submission date</b>	17.11.2021
<b>Submitted by</b>	Executive Secretary

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## Background

Due to the Covid-19 pandemic it has not been possible for the HELCOM Phytoplankton Expert Group to arrange the annual physical meetings during 2020 and 2021, and thus the funding reserved for these two meetings has not been utilized. For this reason, HELCOM PEG asked STATE & CONSERVATION 14-2021, if it would be possible to submit a proposal for the prolongation of the project period with two years. STATE & CONSERVATION 14-2021 welcomed the submission of a proposal for the prolongation of the phytoplankton work to STATE & CONSERVATION 15-2021. STATE & CONSERVATION 15-2021 approved the proposal on prolongation of PEG for adoption at HOD 61-2021, after inclusion of amendments by Germany.

The project proposal for the prolongation of the Quality assurance of phytoplankton monitoring in the Baltic Sea (HELCOM PEG QA) project is contained in this document, including amendments proposed by STATE & CONSERVATION 15-2021. Changes in comparison to the project plan submitted to HOD 56-2019 are highlighted in yellow. All changes to the budget represent the moving of funds already included in the budget of the original project plan to other years within the proposed extension of the project. Due to savings accumulated during the Covid-19 time, the project budget does not need to be allocated in the HELCOM budget.

## Action requested

The Meeting is invited to adopt the amended project proposal for PEG QA 2020-2024.

## PROJECT DESCRIPTION

### 1. Title of the project:

Quality assurance of phytoplankton monitoring & assessment in the Baltic Sea (HELCOM PEG QA)

### 2. Project Manager(s):

Ms. Iveta Jurgensone, Latvia, 2020-2024

### 3. Proposing party:

Contracting parties: Latvia

### 4. The body supervising the project:

HELCOM STATE & CONSERVATION

### 5. Target and activities:

The main target of the project is to ensure and maintain high quality standard of the international Baltic Sea regional phytoplankton monitoring within the HELCOM COMBINE Program. Furthermore, the project will act as a platform to bring the work on phytoplankton indicators forward. This should be achieved by:

- Maintaining annual training courses (workshop)
- Maintaining the phytoplankton biovolume list
- Participation in intercalibrations
- Maintaining the HELCOM guidelines for monitoring of phytoplankton species composition, abundance and biomass
- The project will serve as a forum for discussion of phytoplankton indicators being developed in HELCOM and the results of the indicator evaluation of future HELCOM holistic assessments.

The main activities within the project will be carried out in two meetings per year. In spring a 2-day on-line meeting will be held with the main purpose of updating the HELCOM PEG Biovolume file. In autumn a 3-4 day physical meeting will be held, facilitating a training course with one or several invited teachers. The venue of the workshops will be circulated between the Contracting Parties and their marine laboratories. Suggested host countries are: Poland in 2022, Sweden (Umeå University) in 2023 and in 2024 Denmark. Intersessional activities will be organized if needed. The following types of activities are planned:

#### Activity:

#### Training courses

#### Aim:

To maintain continuity and high quality in phytoplankton identification and quantification, in particular because a new generation of phytoplankton researchers and analysts are currently joining the PEG;

To follow recent changes in the taxonomy of Baltic Sea relevant phytoplankton in order to keep the PEG Phytoplankton species/biovolume list up to date.

The training courses are planned to encompass:

- a) Identification of phytoplankton species;

- b) Maintaining and enhancing the competence of analysts to identify alien species;
- c) Enhancing the competence of analysts to distinguish resting stages from vegetative stages in the plankton

Presenting representative and validated images of Baltic Sea phytoplankton species, publicly available in the HELCOM PEG image gallery at [www.Nordicmicroalgae.org](http://www.Nordicmicroalgae.org).

#### **Intercalibrations**

To keep the high standard of phytoplankton monitoring in the Baltic Sea and to ensure the comparability of results. The group is active in selecting suitable intercalibrations which could be participated by the group members. At the annual meetings, we allocate time to discuss and find solutions for the possible quality problems revealed within intercalibrations. In addition, organizers of the intercalibrations are invited to the meeting for presentation of the results where the results will be evaluated and discussed and can lead to future suggestions for intercalibrations.

#### **Further unifying the counting method**

To continuously update the HELCOM monitoring manual for phytoplankton species composition, abundance and biomass.

#### **Updating of the biovolume file**

To add new taxa and size classes when necessary; to update the biovolume file according to recent taxonomical changes in co-operation with ICES Data Centre.

#### **Harmonization of biovolume calculations between CEN standard EN16695:2015 and the PEG biovolume list**

To start the harmonization of biovolume calculations between the PEG biovolume file and the CEN standard EN-16695:2015 by starting with taxa that show major differences.

#### **Production of environmental fact sheets**

To update and produce environmental fact sheets to track changes in Baltic Sea phytoplankton community structure.

#### **Platform for phytoplankton indicators**

Within PEG a sub-group will be established which is responsible for preparing a 0,5 day session at the yearly meetings in order to discuss progress within indicator development and in a later stage to discuss possible assessment of pelagic habitats within HOLAS III. Further development of the Dia/Dino Indicator is planned, to better define the target of this indicator and broaden the interpretation regarding status accordingly. The adjustment of the CyaBI indicator required before application in HOLAS III will continue to be made in consultation with the PEG group.

Furthermore, the group will act as a forum for possible intersessional work on indicator development. It is planned to share national experiences from the latest assessment in 2022 and discuss the outcome of the HELCOM indicator workshops in the next PEG meetings in 2022 and 2023. So far, the indicator work will be conducted by a lead-country approach but in order to develop a holistic assessment of pelagic habitats, including

zooplankton, an externally funded EU-project has started this year. This is the HELCOM BLUES project, that includes several members of the PEG group. The project will have a pelagic habitat holistic approach. The progress of this project will be presented at the on-line meeting in autumn 2021 to enable other members to comment and discuss. Any future initiatives of funding possibilities is crucial as work with indicators are time consuming. PEG acknowledge the excellent work of the HELCOM secretariat to enable the BLUES funding and hope that the Secretariat will help out in future calls.

Relevant HELCOM indicators:

Diatom/Dinoflagellate index

Seasonal succession of dominating phytoplankton groups

Cyanobacterial bloom index (PEG to be consulted)

The project period is hereby proposed to be prolonged from the originally envisioned three years to five years, due to the exceptional circumstances caused by the COVID-19 pandemic. Ms. Iveta Jurgensone, Latvia, will be the chair and convener during 2020-2024.

## 6. Expected results.

The outcome of the project will be:

- a) Annual reports from the three workshops to HELCOM STATE & CONSERVATION;
- b) Annually revised species/biovolume list of Baltic Sea phytoplankton species;
- c) Updated HELCOM Monitoring manual for Phytoplankton - Species composition, abundance and biomass
- d) We will discuss the existing and possible new phytoplankton indicators, including proposals for integration and aggregation. The outcome of this will be presented as a part in the annual workshop report.
- e) After participating intercalibrations, the outcome of results and discussions will be presented as a part in the annual workshop report.
- f) Updated HELCOM environmental fact sheet (Cyanobacteria biomass) or send the Nostocales biomass data through the HELCOM Secretariat to be used for indicator fact sheet, depending on decision on how to use information in the BSEFS;
- g) Continuation of contribution of quality-checked images to the HELCOM PEG image gallery at [www.Nordicmicroalgae.org](http://www.Nordicmicroalgae.org);
- h) Final report (2020-2024).

## 7. Consistency with HELCOM priorities yes no

## 8. Timetable

The project will be carried out in 2020-2024 as a continuation to the ongoing HELCOM PEG project for 2017-2019. More specific timetable:

Regular tasks will be discussed during all workshops, for example:

- discussion on new species and size classes that have occurred in the previous year's samples including non-indigenous species. New species have to be presented with picture showing characteristic features for the species and location of sampling
- discussion of new environmental fact sheets and updating of the existing one (Cyanobacteria biomass)

- harmonization of species identification by common microscopy of samples from the Baltic Sea
- harmonization of analyzing methods by discussing the methodology and intercalibration results to assess homogeneity in the analyses
- information on recent changes in taxonomy of planktonic microalgae
- new images to add to the phytoplankton image gallery
- information on new relevant literature, projects about e.g. the development of phytoplankton indicators, meetings and conferences
- review of phytoplankton indicators being developed by Lead Countries, including integration and aggregation and possible thresholds.

Specific tasks for the workshops are:

*Workshop 2022, to be held in Poland*

- a) Phytoplankton identification workshop: Summaries on the Advanced Phytoplankton Course APC12 by Iveta Jurgensone and Heidi Hällfors
- b) Practical work with participants' samples.
- c) Discussion of the next intercalibration which will be recommended to be participated by the group members. Wishes of the group will be sent to the representatives of the ProfTest SYKE, which is organizing interlaboratory proficiency tests for phytoplankton.
- d) Discussion about which indicators contracting parties used in their latest MSFD assessment (to exchange experiences from the procedure used in different countries and how the different indicators works in different sea areas), which indicators should be prioritized according to the outcome of HELCOM indicator workshops and later progress in the BLUES project.

*Workshop 2023, to be held in Sweden*

- a) A training course on Baltic Sea phytoplankton identification, Heidi Hällfors, Finland.
- b) A lecture about choanoflagellates, teacher will be decided
- c) Planning the next project (2025-2027).
- d) Discussion of the HOLAS III assessment of pelagic habitats

*Workshop 2024, to be held in Denmark*

- a) A training course diatoms, Nina Lundholm, Denmark or on diatom resting spores and dinoflagellate cysts, Anna Godhe, Sweden.
- b) Presentation of the results from the ProfTest SYKE 2023 intercalibration and discussion of the outcome.
- c) Discussion of assessment of pelagic habitat to be included in HOLAS IV.

Specific tasks to support the development and evaluation of phytoplankton indicators

As this project period is in the middle of the 6 years cycle of the HOLAS IV assessment period, focus will be on discussions on revised indicators or new proposed indicators that have been developed after the current assessment period.

## 9. Budget.

### 9.1. Total costs

The total costs for HELCOM from 2020 to 2024 are estimated to be 14980 EUR.

## 9.2. Costs divided per financial year

### *Estimated costs for HELCOM*

#### 2022:

Compensation for one teacher (120 EUR/h, 8 hours)	960 EUR
Travel and accommodation for the teacher	1000 EUR
Administrative costs	1100 EUR
Travel and accommodation for project manager to present the PEG work in the HELCOM State and Conservation meeting	600 EUR
<b>SUM</b>	<b>3660 EUR</b>

#### 2023:

Compensation for one teacher (120 EUR/h, 8 hours)	960 EUR
Travel and accommodation for the teacher	1000 EUR
Administrative costs	1100 EUR
Participation in the intercalibration	3000 EUR
Travel and accommodation for project manager to present the PEG work in the HELCOM State and Conservation meeting	600 EUR
<b>SUM</b>	<b>6660 EUR</b>

#### 2024:

Compensation for one/two teachers (120 EUR/h, 8 hours)	960 EUR
Travel and accommodation for the teacher	1000 EUR
Presentation and evaluation of the Proftest SYKE 2023 phytoplankton intercalibration at PEG annual workshop	1000 EUR
Administrative costs	1100 EUR
Travel and accommodation for project manager to present the PEG work in the HELCOM State and Conservation meeting	600 EUR
<b>SUM</b>	<b>4660 EUR</b>

## 9.3. Sources of financing divided per financial year

In general both HELCOM and the host countries finance the workshops and activities therein:

2022: HELCOM and Poland

2023: HELCOM and Sweden

2024: HELCOM and Denmark

The share of the host country is estimated to be ca. 1500 EUR annually. The estimated costs for HELCOM do not cover the expenses of the national experts expected to participate in the project.

## 10. Additional requests

### 10.1. From the contracting parties

The Contracting Parties are required to cover the travel expenses for the participation of the national experts in the workshops.

## 11. Procedure of nomination of the Project team members

The present phytoplankton expert group consists of the following experts:

Hans Jakobsen	Denmark
Helene Munk Sørensen	Denmark
Andres Jaanus	Estonia
Marko Järvinen	Finland
Heidi Hällfors	Finland
Sirpa Lehtinen	Finland
Jeanette Göbel	Germany
Anke Kremp	Germany
Susanne Busch	Germany
Jessica Saule	Germany
Iveta Jurgensone	Latvia
Irina Olenina	Lithuania
Janina Kownacka	Poland
Justyna Kobos	Poland
Wojciech Kraśniewski	Poland
Evgenia Lange	Russia
Katerina Voyakina	Russia
Andrey Sharov	Russia
Marléne Johansson	Sweden
Siv Huseby	Sweden
Helena Högländer	Sweden
Marie Johansen	Sweden
Ann-Turi Skjevik	Sweden
Maria Karlberg	Sweden
Lars Edler	Sweden

## 12. Signatures of the project managers.

**Ms. Iveta Jurgensone**

Chair of HELCOM Phytoplankton Expert Group

**13. Opinion of the chairman of the relevant body.**

**14. Opinion of the Executive Secretary**

**15. Decision of the heads of Delegation**

(Reference is to be given to the relevant Minutes of the Heads of Delegation's Meetings)

\_\_\_\_\_ to establish \_\_\_\_\_not to establish