



Baltic Marine Environment Protection Commission

Working Group on the State of the Environment and Nature
Conservation

STATE & CONSERVATION
13-2020

Online, 5-9 October 2020

Document title	Draft HELCOM Holistic Assessment Methodology Development Project (HELCOM MetDev), 2021
Code	4J-8
Category	DEC
Agenda Item	4J – Progress of relevant HELCOM expert groups and projects
Submission date	14.9.2020
Submitted by	Secretariat

Background

In the approved preliminary plan for HOLAS III, in line with the wishes expressed by the Contracting Parties, all technical development work and improving of infrastructure needed to support the State of the Baltic Sea report takes place prior to the start of the actual HOLAS assessment process. This development work is clustered under a HOLAS III preparatory phase. The preparatory phase is structured along three distinct but interlinked projects outlining the main stands identified as requiring further work: consolidation and development of indicators, establishing and improving data flows, and refining and further developments of the assessments (as illustrated in Figure 1 in this document). The preparatory phase is proposed to run from the beginning of 2020 to the first quarter of 2022, in a staggered structure (as presented in Figure 2 in this document). The project plans for the development of indicators and improving data flows have been approved in HOD 54-2018, and HOD 57-2019 respectively. Following the approval of the provisional plan for HOLAS III, including the preparatory work, at HELCOM 41-2020, the work on drafting the project plan for the third step of the preparatory phase has commenced, as contained in this document.

The outline and aim of the HELCOM Holistic Assessment Methodology Development (MetDev) Project as presented in this document constitutes the second draft and proposed structure of the project. The content of this draft has been presented for input to GEAR 22-2020 and to STATE&CONSERVATION 12-2020, as well as to HOD 58-2020 for information. Guidance provided by the WGs will be incorporated in the further development of the project proposal.

For spatial pressure and impact assessment, as included in Work package 1 of this document GEAR has established a three step process to identify further development needs and the second step, a Scoping Meeting, was held 8-9 September 2020. The output of the workshop has been used to guide the preliminary content of WP1, which will be further refined following the third and last step of the process, a technical development workshop planned for early November. Thus the WP1 work is still only partially covered by this document.

Currently funding has not been secured for the full project. Further development of the HEAT, BEAT and CHASE tools, included in the original draft submitted to STATE&CONSERVATION 12-2020, have been partially included in the successful Baltic DataFlow project proposal (submitted to CEF Telecom in 11/2019) and these aspects have now been fully removed from the project proposal.

A number of other tasks related to additional needed developments for BEAT, as well as work on cost-benefit analyses under work package 2, have been proposed for inclusion in the draft HELCOM BLUES project proposal (EMFF/MSFD call 2020). These have currently been removed from the project, but may need to be included before final approval should the proposal not be successful, to ensure necessary development takes place prior to HOLAS III.

Action requested

The Meeting is invited to:

- review the updated project plan for MetDev and endorse it for submission to GEAR 23-2020 and following further development, e.g. based on outcome of CIA technical development workshop and HELCOM BLUES project proposal, to HOD 59-2020 for approval, thus enabling the work to begin in early 2021.
- consider providing national funding to support the work.

PROJECT DESCRIPTION

1. Title of Project

HELCOM Holistic Assessment Methodology Development Project (HELCOM MetDev), 2021

2. Project Manager(s)

HELCOM Secretariat, Professional Secretary.

3. Proposing Party

Contracting Party

Commission

Subsidiary body

Heads of Delegation

Executive Secretary

4. The body supervising the project

State and Conservation Working Group and Professional Secretary

5. Target and activities

Background

Early preparation for the HOLAS III process has been identified as important for the successful implementation of the next holistic assessment. The provisional plan for HOLAS III divides the work into two main work phases, the preparatory work and the holistic assessment. The preparatory work is intended to review and further develop the necessary components and improve infrastructure to support the next holistic assessment. This is required in order to ensure that critical components (indicators, dataflows and tools) are fit for purpose, and to maintain the continued policy relevance of the work.

The preparatory work has been structured along three distinct but interlinked projects: consolidation and development of indicators (HELCOM Indicators), establishing and improving data flows (HELCOM DataFlow), and refining and further developing the assessments (HELCOM MetDev) (as illustrated in figure 1). The preparatory phase has been agreed to run from the beginning of 2020 to the first quarter of 2022, in a staggered structure where each project provides information to and helps guide the consequent projects throughout the duration (as illustrated in figure 2).

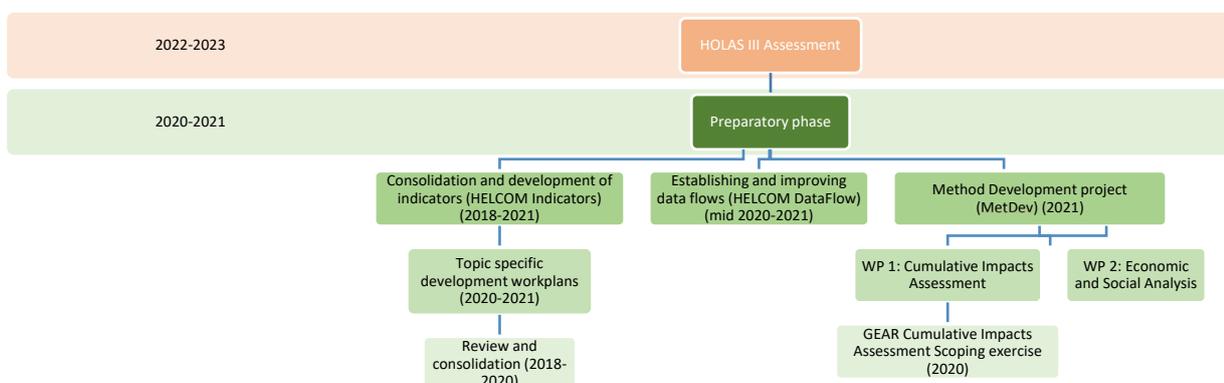


Figure 1. The preparatory work has been structured along three distinct but interlinked projects: consolidation and development of indicators (HELCOM Indicators), establishing and improving data flows (HELCOM DataFlow), and refining and further developing the assessments (HELCOM MetDev).

	2020				2021				2022				2023			
	Q1	Q2	Q3	Q4												
Indicator development/consolidation (HELCOM Indicators)																
Establishing and ensuring dataflows (HELCOM DataFlow)																
Refining and further developments of assessments (HELCOM MetDev)																
HOLAS III Assessment																

Figure 2. The preparatory phase is proposed to run from the beginning of 2020 to the end of 2021, in a staggered structure where each project provides information to and helps guide the consequent projects throughout the preparatory phase

The MetDev project, as outlined in this document, would be targeting the third and final step of the preparatory phase, namely improving the indicator driven integrated assessment tools (HEAT, BEAT and CHASE) as well as other tools or methods such as cumulative impacts and methods used for analysis of economic and social aspects, which underpin the holistic assessment of the Baltic Sea environment. Consequently, the HELCOM MetDev project is proposed to consist of three distinct work packages, corresponding to the three work strands for which further development would be beneficial:

- **Work package 1: Cumulative Impacts Assessment**
- **Work package 2: Economic and Social Analyses**

The aim of the project is to ensure that the tools and methods used are fit for purpose and fully operational for the Third State of the Baltic Sea Assessment (HOLAS III).

The project will build on lessons learnt from the Second State of the Baltic Sea report (HOLAS II 2018) as well as link closely and contribute to the work done under the two already approved preparatory projects, HELCOM Indicators and HELCOM DataFlow. It is e.g. likely that modification and refinements of the integrated assessment tools are needed following the incorporation of new data strands stemming from step two (HELCOM DataFlow) and possible new or consolidated indicators stemming from step one (HELCOM Indicators). The project would also work closely together with organizations hosting and/or maintaining some of the HELCOM assessment tools, e.g. ICES. GEAR 20-2019 invited the Secretariat and the relevant Expert Groups to prepare more specific information on identified gaps and development needs for the various work strands not covered by the indicator work, as identified in the HOLAS II process or in subsequent work. This information, together with input received through the HOLAS II Lessons Learned survey have been considered when outlining the work under the respective work packages presented in this project plan.

Activities

Work package 1: Cumulative Impact Assessment

Project staff: project researcher (located at Secretariat), data developer

HELCOM Expert Support: HELCOM Expert Groups based on identified need

Review, guidance and approval: State and Conservation

Human activities in the Baltic Sea and its catchment area create a variety of potential pressures. To support ecosystem-based management of human activities and to provide a system that enables linking the quality of the environment to its management there is a need to identify relevant activities and quantify intensities and distribution of the anthropogenic pressures affecting the marine environment, as well as to identify and quantify their impacts on the Baltic Sea ecosystem.

If each of the pressures affecting the Baltic Sea is considered individually, they may appear to be at sustainable levels. However, at any given point multiple pressures are affecting the species and habitats of the marine environment and these pressures jointly cause cumulative impacts. When considered together, particularly when their temporal and spatial distribution overlap, the total impact of these pressures on the environment may be considerable and especially so when acting on sensitive habitats or species.

To bring together spatial information on the distribution and intensity of activities/pressures and their potential (cumulative) impacts on ecosystem components HELCOM has, for its previous holistic assessments HOLAS I in 2012 and HOLAS II 2018, developed and used the Baltic Sea Pressure Index (BSPI) and the Baltic Sea Impact Index (BSII).

GEAR 21-2020 started planning the HOLAS III process leading up to the publication of the Third State of the Baltic Sea report. As part of this planning process the question arose on how to tackle cumulative impact assessments (CIA) in the Baltic Sea region in future assessments and on the role of the Baltic Sea Pressure and Impact Indices (BSPI/BSII) in HOLAS III. The GEAR meeting concluded that BSPI/BSII should be included as part of HOLAS III, but in what capacity and format is still to be considered. GEAR 21-2019 concluded that further discussion is needed on how to tackle cumulative impact assessment for the purpose of HOLAS III, including, but not limited to

- identifying what is required from such an assessment
- what the current and possible use of the assessment outputs are
- considering the added value of such assessments
- the analysis and interpretation of results
- how to handle uncertainty and possibilities for validation of assessment results
- how to better link the assessment with the indicator evaluation.

GEAR agreed on a three step process to reach a shared view on these questions and by extension the development needs for HOLAS III. The first step was to collect national information on the view and potential use of cumulative impact assessments through a survey, to be used as a basis for further discussion at a CIA Scoping meeting. Contracting Parties also discussed to broaden the scope of the discussion with a view to discussing how pressure, impact and status information can be linked. The questions raised regarding CIA require clarification by autumn 2020 so that the development of agreed deliverables can be included the proposal for a project in preparation of HOLAS III, the MetDev project, for approval by HOD 59-2020 in December 2020.

HOD 58-2020 endorsed the arrangements for taking forward the CIA-work in a three step approach including a questionnaire, a scoping meeting and a technical workshop.

The first step was executed by distributing a survey to GEAR contacts. The questionnaire provides examples of policy contexts for HELCOM work on CIA and explores in two sets of questions The responses were collated and used as a basis for the discussion at the scoping meeting, the output of which includes an overview of envisioned used for pressure and impact assessment, provides long and short term priorities for further development and identifies how current challenges and barrier could be tackled.

At CIA Scoping 1-2020 the participants recognized spatial pressure and impact assessment as providing a good platform for regional cooperation and needed support for transboundary work.

Overall the meeting advocated a broader scope of pressure and impact analysis, one that supports ecosystem based management., e.g by supporting prioritization, planning and implementation of measures and management actions. To increase the added value of the further development planned to take place prior to HOLAS III an assessment tool must be able to:

1. Be used for subset analysis (e.g. analyses of specific species/pressures/activity combinations). Such subset analyses were recognized as providing valuable spatial support and context for status assessments.
2. An analysis should strive to show results at an ecologically relevant scale, and any tool developed should thus be scalable within the same analyses.
3. Separate between direct and indirect pressures
4. Include information regarding the scale of a pressures to the overall impact, by presenting proportional values, and linking back to the activity causing the pressure, by 1km² square.
5. Assign proportional values of impact to different sectors.
6. Present distribution of pressures and impact at 1km² resolution and identify "hot spots"/risk areas of high pressure.
7. Be very clear on the method, assumptions and data included. Consider how the significance of the uncertainty can be communicated, e.g. differences in quality of underlying data.
8. Allow for results to be validated.

The work on further development of the cumulative impact assessment approach is closely tied to data availability and as such Work Package 1 is especially tightly linked to the work done under the HELCOM DataFlow project and a dynamic and close cooperation between WP1 and a number of the activities under the DataFlow project are foreseen.

Based on the outcome of the scoping exercise the following priorities for further development for HOLAS III have been identified:

- A. Capacity for subset analyses of any activity/pressure/impact/ecosystem component combinations
- B. Proportional value of pressure to impact
- C. Linking back proportion of impact to the relevant human activity
- D. Differentiate between direct and indirect pressures
- E. Identify proportional value of impact by various sectors
- F. Improved confidence assessment and presentation of uncertainties and assumptions.
- G. Validation of results

Content outlining the technical development work will be developed in the technical development workshop (CIA Scoping 2-2020) which is planned for 3-4 November 2020.

Timeline

Guidance
Review
Approval

Task	2021												2022		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
A. Capacity for subset analyses of any activity/pressure/impact/ecosystem component combinations															
B. Proportional value of pressure to impact															
C. Linking back proportion of impact to the relevant human activity															
D. Differentiate between direct and indirect pressures															
E. Identify proportional value of impact by various sectors															
F. Improved confidence assessment and presentation of uncertainties and assumptions.															
G. Validation of results															

Work package 2: Economic and Social Analyses

Project staff: Project researcher (located at Secretariat), supported by intersessional work of EN ESA experts

HELCOM Expert Support: EN ESA

Review, guidance and approval: GEAR

The aim of the work package on ESA within MetDev is to further develop regional methods and results for economic and social analyses (ESA) to support the holistic assessment of the marine environment by addressing some of the shortcomings and development needs identified in previous regional ESA work. It builds on previous HELCOM experiences and work on ESA for the State of the Baltic Sea report in HOLAS II ([TAPAS](#) and [SPICE](#) projects, 2016-2018), maritime spatial planning ([Pan Baltic Scope project](#), 2018-2019) and analyses of existing and new measures to support the BSAP update ([ACTION](#) project and SOM Platform, 2019-2020), as well as reflects the [ToR](#) for HELCOM EN ESA and [Roadmap](#) for continued HELCOM work on ESA. Implementing ESA for HOLAS III as proposed here would meet some of the aims of the ESA roadmap.

The economic and social analyses (ESA) for State of the Baltic Sea report in HOLAS II covered the entire Baltic Sea region but were limited to selected human activities (use of marine waters) and environmental themes/ecosystem services (cost of degradation). Furthermore, although a conceptual framework for linking the use of marine water and cost of degradation analyses was developed, they were conducted separately in HOLAS II due to lack of suitable data, approaches and resources, and the link between the environmental status assessment and ESA was missing. An important development area is the improved integration within the components of ESA, and between ESA and environmental assessments, which enables a meaningful

evaluation of how the marine environment affects human welfare and ensures improved relevance of the assessment for future management.

Following an invitation from GEAR 20-2019 to prepare more specific information on identified gaps and development needs for HOLAS III, a proposal for ESA in HOLAS III was presented to GEAR 21-2019 ([Document 5-1](#)). GEAR 21-2019 supported the proposal and the integration of ESA to other work strands in HOLAS III, and took note that priorities and ambition level of the work needs to be adjusted depending on the resources ([Outcome](#), paras 5.29-5.31). The following is based on that earlier proposal for ESA in HOLAS III.

These have been identified as priority areas for ESA in HOLAS III:

- A. Improved integration of ESA and environmental assessments
- B. Improved implementation of the ecosystem services approach
- C. Pilot assessment of the prospects of marine ecosystem accounting

Although listed separately, the priority areas are interlinked, and will be developed in parallel. The work entails some conceptual development, in particular related to items A and E, and development of approaches, data collection and analyses for regional assessments. In addition to regional approaches, the outcomes of the work are aimed to support national ESA assessments, e.g. related to EU MSFD Programmes of Measures.

To achieve its objectives, the work package works closely together with the other work strands in MetDev and the two other preparatory projects, HELCOM Indicators and HELCOM DataFlow. In addition, contribution from the HELCOM EN ESA is required in terms of concrete inputs, guidance and review of the work. This activity can also support the development and operationalization of the causal framework developed in the state/pressure indicators process.

A. Improved integration of ESA and environmental assessments (EN ESA, Project researcher)

Activity A establishes conceptual and operational relationships between the marine environment and human welfare by linking measures/actions, human activities, pressures, state, ecosystem services and human welfare in a causal framework. It is necessary for developing a connection between ESA and other components of HOLAS III, and the elements within ESA (e.g. use of marine waters and cost of degradation analyses). The activity enables assessing the connections between economic activities, current and future use of the sea, as well as human welfare and the state of the Baltic Sea. This activity is linked to developing the ecosystem services approach under activity B and uses inputs from the other activities in the work package.

Furthermore, activity A would directly support and provide added benefit for the application of the HELCOM indicators. The methodology would enable data collection that could be described and visualized to highlight trends and changes in human activities and drivers (i.e. supporting indicators) that help outline the root cause of the pressures or state changes monitored by HELCOM Contracting Parties. In doing so, the HELCOM indicator catalogue would be better integrated into a causal framework and build structures that would enable improved follow up for the BSAP in the future.

The activity builds on the development of concepts, approaches and data in the HELCOM SPICE, Pan Baltic Scope and HELCOM ACTION projects. The sufficiency of measures (SOM) analysis, carried out by the ACTION project and SOM Platform to support the BSAP update, can provide a partial basis for integrating ESA and environmental assessments in a causal framework. The SOM assessment links measures, activities, pressures and environmental state, but additional development is required for covering ecosystem services and human welfare, as well as linkages between the use of marine waters and cost of degradation analyses.

Although being a part of the ESA work package, the work is interdisciplinary in nature and requires the involvement of economists, marine scientists and experts from other fields for successful assessment. To that end, regular planning and working meetings between the Work Packages under MetDev, as well as the other preparatory projects HELCOM Indicators and HELCOM DataFlow, ESA, relevant HELCOM EGs and other experts involved in the preparatory work for HOLAS III are organized.

This activity would start at the beginning of the project and run until the end of the project.

B. Improved implementation of the ecosystem services approach (Project researcher)

Activity B entails developing approaches and collecting background information for identifying and assessing marine and coastal ecosystem services, including how the marine ecosystem contributes to the provision of ecosystem services, and what benefits and socioeconomic values people derive from these ecosystem services. It is tightly linked to activity A and supports the integrated assessment of the marine environment by developing an approach and providing information on one of the linkages.

The activity builds on previous work on ecosystem services in HOLAS II and other assessments, such as BONUS projects. It collects information from existing assessments on the provision and value of Baltic Sea ecosystem services. It advances the use of ecosystem services approach in regional ESA.

C. Pilot assessment of the prospects of marine ecosystem accounting (Project researcher)

Activity E develops an approach for a marine ecosystem accounting pilot to describe and quantify interactions between the economy and marine environment. It describes how and to which extent the Baltic Sea provides benefits to people, as well as how social and governance factors affect the status and associated benefits. Ecosystem accounting provides an additional perspective for linking the ecosystem and socio-economic system in activity A. The work builds on the data, methods and expertise in the HELCOM EN ESA.

Timeline

Guidance
Review
Approval

Task	2021												2022		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
A. Improved integration of ESA and environmental assessments															
B. Improved implementation of the ecosystem services approach															
C. Improved integration of ESA and environmental assessments															

6. Expected results

The expected results are in the form of documents and operational data flows supporting HOLAS III Assessment, more explicitly:

Work package 1:

The expected results are in the form of approaches, tools and methods that support HOLAS III assessment and analysis:

An improved, fit for purpose spatial presentation tool capable of:

1. dynamic scaling,
2. subset analyses
3. identifying proportional value of pressure to impact
4. linking back proportion of impact to the relevant human activity
5. differentiating between direct and indirect pressure
6. identify proportional value of impact by various sectors

Visual representation at 1km² resolution and improved confidence assessment and presentation of uncertainties and assumptions.

A method for validation of analysis results.

Work package 2:

The expected results are in the form of approaches, tools and methods that support HOLAS III assessment and analysis:

1. Improved approach for integrating ESA to other components of HOLAS
2. Improved method for regional ecosystem services approach
3. Approach for pilot marine ecosystem accounting assessment

7. Consistency with HELCOM priorities

yes no

8. Timetable (including number of Project Team meetings)

The project will start in Q1/2021 (January) and will finish in Q1/2022 (March).

9. Budget (taking into account financial year from 1 July to 30 June)

9.1 Total Costs

The planned 18-24 man months would require an estimated XXXXXX Euros funding.

This is intended to be divided as follows:

- 6-12 man months for cumulative assessment development (HELCOM);
- 12 man months for development of methods for economic and social analyses (HELCOM).

9.2 Sources of financing divided per financial year

Financial Year	Man Months
1/2021-6/2021	XX
7/2021-6/2022	XX

10. Additional requests (manpower, equipment, facilities, etc.)

10.1 From the Contracting Parties

The Project will possibly need specific information from and cooperation with national experts.

10.2 From the Secretariat

The Secretariat will ensure coordination of the project with other planned and ongoing HELCOM processes, including indicator development work, data flow development, facilities and equipment needed for the work, and in-house support for the development of tools and methods.

11. Procedure of nomination of the Project team members

Two project researchers and one data developer to be employed to the Secretariat.

The appointed staff will follow the HELCOM risk management procedure.

12. Signature of the Project Manager(s)

13. Opinion of the Chairs 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 Meeting)

_____ to establish _____ not to establish