BLUES

Co-funded by the European Union

24 January 2023

Notes of the final conference of the HELCOM BLUES project (IC BLUES 1-2023)

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Structure and format of the meeting

Due to the geopolitical situation, HELCOM is currently in a strategic pause and official meetings of all HELCOM Working and Experts Groups and other subsidiary bodies are suspended until further notice. Informal consultation sessions, without Russian participation, can be organized and hosted by a Contracting Party. Accordingly, Latvia kindly agreed to host the informal consultation session for the HELCOM BLUES project final conference, to enable discussion on the achieved deliverables and further use of results.

Furthermore, in line with the project application and due to the large number of external interested parties participating in the conference, the final project conference was held online (17th January 2023). More than 80 participants (annex 1), representing all eight Baltic Sea countries which are also EU member states, as well as representative from the EU, Observers and sister projects, took part in the full day meeting (online, via zoom).

The video of the final project conference was recorded and made available online: here

Overall, the final project conference focused on presenting the project results from the activities concerning biodiversity, marine litter, underwater noise and efficiency and measures; as well as their current and future use and connection to the third holistic assessment of the Baltic Sea (HOLAS 3) and EU processes. General information about the project and its activities are available from the HELCOM BLUES project website. The conference was moderated by Ottilia Thoreson.

The format of the final conference of the HELCOM BLUES project was introduced by Jana Wolf, the HELCOM BUES project coordinator.

Opening words and introduction to biodiversity topics in HELCOM BLUES

The conference moderator, Ottilia Thoreson, gave a brief summary of the HELCOM BLUES project, which has been funded by the EU (DG ENV) and continued for the duration of 2 years (25.01.2021-24.1.2023). The project set out with the goal to support attaining Good Environmental Status (GES) in the Baltic Sea, by supporting the development of new and advanced indicators, as well as regionally coordinated measures addressing various pressures affecting the sea. It also supported assessments of the state of the Baltic Sea through improved monitoring, notably on biodiversity, marine litter and underwater noise. In total, 14 partners and seven subcontractors with various backgrounds in policy, research, academia and civil society were involved from six Baltic Sea countries.
All questions during this conference were taken up in the informal conference notes, with questions that could not be answered during the conference itself (e.g., due to time limitations), being replied to in the notes.

The topic of biodiversity of the HELCOM BLUES project was introduced. This topic represents Activity 2 of the project, with 5 different tasks as part of it, as following:
A2.1 Bycatch
A2.2 Fish
A2.3 Pelagic habitat
A2.4 Harbour porpoise
A2.5 BEAT/ Food webs

A2.1 Bycatch

The topic of bycatch within the HELCOM BLUES project, with its set out (sub-)tasks, deliverables, summary of results, use of results, outputs and key messages for science and policy makers, was presented by Volker Dierschke. The presentation is available both on the informal consultation session site as well as the BLUES project website.
Discussions after the presentation contained the following questions:

Q: In which fishing gears are the estimated by-catch rates the highest? Coastal static gears or offshore trawls?

A: Static nets (e.g. gill nets) which are close to the coast have the highest incidence of bycatch, as these overlap with the habitat of the species at risk and thus increase the risk of bycatch (this applies to both birds and mammals)

Q: In the water bird assessment, what rule of aggregation of assessments across species are applied? OAO/conditional/proportional etc?
A: OOAO is usually used but here, all evaluation and assessment results for all species (even before aggregation) showed not good environmental status.

Q: How much must bycatches in general decrease to be considered as "OK" (not threating mammals and bird populations)?
A: In a threatened or declining population species we usually apply that rule of zero bycatch (this approach is used in HELCOM and OSPAR). In more abundant species it is a bit more challenging to say because we need population modelling to estimate how many individuals could still be bycaught without negative consequences for the population/species. So far monitoring and quantitative data are not sufficient yet to apply these population models. Thus, we hope, and plea, that more monitoring is implemented as fast as possible to enable this work and enable appropriate threshold values development.
The exact approach developed under the HELCOM BLUES project for HOLAS 3, is included in the indicator report for bycatch, which will be officially published and openly accessible to everyone in March 2023.

A2.2 Fish

The topic of fish within the HELCOM BLUES project, with its set out (sub-)tasks, deliverables, summary of results, use of results, outputs and key messages for science and policy makers, was presented by Elisabeth Bolund. The presentation is available both on the informal consultation session site as well as the BLUES project website.
Discussions after the presentation contained the following questions:

Q: How were new locations for fish chosen?
A: The term new locations referred to in the presentation imply new for recording of data and analyses (e.g. the locations were monitored before already but had previously not had enough data to be used to establish a reference period for data analyses). So new locations refer to having now enough years/data to be used for the analyses/assessment.
A: In case of Poland location, long enough data series exist for 3 transitional water bodies.

Q: Do the L90 values call for more no fishing areas? And how much of an area should be free of fishing?
A: This is a very good policy implication question. I can only provide some personal reflection on the matter. We do see significant positive effects on size of individuals in no fishing areas l, and thus it seems logical to include this as an effective management action.
Thus, NFA is an efficient tool for supporting large fish. These species are rather local in their appearance, usually on the scale of tens of km's, but connectivity between areas is of importance.

A2.3 Pelagic habitat

The topic of pelagic habitats within the HELCOM BLUES project, with its set out (sub-)tasks, deliverables, summary of results, use of results, outputs and key messages for science and policy makers, was presented by Marie Johansen. The presentation is available both on the informal consultation session site as well as the BLUES project website.
Discussions after the presentation contained the following questions:

Q: Very interesting, thank you. If predation pressure (from clupeid fish) is driving the not Good Status of mean size of zooplankton, then we should increase the fishing pressure on central Baltic herring (that is already

today overfished) to meet the zooplankton threshold value, or? Seems to a conflict across management goals of fish and zooplankton here!
A: Thank you for the question. This is exactly why we suggested in our summary (and reports) that zooplankton should be part of the food web indicator work. The assumption here is that herring, which is fished, would drive zooplankton size, but usually herring of commercial size does not exert strong predatory pressure on zooplankton, it is more likely that this is done by species such as stickleback and sprout. But we do have very strong indication that zooplankton size is driven by predation. This is for example seen in single population of copepod we also see this trend of removing adult stages, which is only possible by predation from vertebrate predators. Who exactly is belonging to this group would benefit from further investigation.

Q: Is the predation of herring responsible for reduced zooplankton size or that of invasive comb jellies Mnemiopsis. How about the role of stickleback in the Baltic Proper?
A: We do not have Mnemiopsis in central part of the Baltic Sea, at least in those quantities to have an affect. The exact predators needs to be discussed in more detail with fish experts; the current assumption is now that it might be sprat or stickleback for zooplankton.
A: Regarding the stickleback they can play a role, but still only comprise around 10% of the total pelagic fish biomass in the Baltic Proper!
A: Sprat is more abundant and herring size has increased rather sharply during the last decades, so this might be a reason. Would be great to look more into detail on this! We at SLU have a lot of good data that is more or less fishy.

A2.4 Harbour Porpoise

The topic of harbour porpoise within the HELCOM BLUES project, with its set out (sub-)tasks, deliverables, summary of results, use of results, outputs and key messages for science and policy makers, was presented by Anita Gilles. The presentation is available both on the informal consultation session site as well as the BLUES project website.
Discussions after the presentation contained the following questions:

Q: What was the biggest challenge, or key priority for this scientific assessment?
A: Data are available for this assessment (qualitative for historical records, the rest quantitative). For the trend analyses also more work on new statistical analyses and method development is upcoming and these advanced techniques help on the data analyses (e.g., probability analyses). Also, habitat models and using more information from other ecosystem components, help us to put more power on the collected data for this cryptic, diving species.

A2.5 BEAT/ Food webs

The topic of BEAT/ Food webs within the HELCOM BLUES project, with its set out (sub-)tasks, deliverables, summary of results, use of results, outputs and key messages for science and policy makers, was presented by Henrik Nygård. The presentation is available both on the informal consultation session site as well as the BLUES project website.
Discussions after the presentation contained the following questions:
Q: What are the significant differences in the food web analyses from HOLAS 2 to HOLAS 3?
A: In HOLAS 2 it was just qualitative description of key indicators, while now in HOLAS 3 we have a much better overview and have widened the selection of indicators and have been able to do more quantitative assessment with a trend analyses and food web modelling available. So the project was able to advance this topic of food webs quite substantially.

Video and website for indicators

Many deliverables and tasks in the HELCOM BLUES project have been related to advancing and developing new indicators for the assessment.

Accordingly, a project video on the topic of indicators has been developed and has been showcased at the conference. The indicator video is intended for public outreach and as a dissemination tool also after end of the project, and is available on the project website and on the HELCOM Channel on YouTube.

Furthermore, for the topic of indicators, a new developed indicator website has been established, which is designed to include all current and future indicators and enable anyone interested to access the newest indicator reports. The indicator website will be made publicly available end of March and include the finalized indicator reports.

Introduction to results of marine litter

The topic of marine litter of the HELCOM BLUES project was introduced. This topic represents Activity 3 of the project, with 2 different tasks as part of it, as following:
A3.1 Beach litter
A3.2 Microlitter

A3.1 Beach litter

The topic of beach litter within the HELCOM BLUES project, with its set out (sub-)tasks, deliverables, summary of results, use of results, outputs and key messages for science and policy makers, was presented by Eva Blidberg. The presentation is available both on the informal consultation session site as well as the BLUES project website.
Discussions after the presentation contained the following questions:

Q: Thanks Eva for an interesting presentation. Do you have any explanations for the spatial differences across HELCOM assessment units in status? Is it due to currents, consumption patterns, maritime traffic routes, or something else (related to the indicator/method)?
A: Currents could be a reason for spatial differences, but several aspects will play into subregional differences. For example, also outputs from rivers will influence these differences. Also different type of beaches (e.g. used by tourists vs not visited) causes a lot of variation. Thus, there are many aspects of these data that could and should be explored more in the future.

Q: The frequency of finding face masks must have exploded during the corona pandemic. Which category do they fit into?
A: Face masks are not listed as one single category for this assessment; they are counted as “medical or plastic litter items”. For the Swedish area, I can say that, we haven’t seen much rise in that category, because they were not used so much, but rather occurred in city areas. For the area of northern Germany the reason is that so far only rural areas beaches have been monitored.

Q: Some manufacturers of single use plastic products circumvented the Directive by printing "this product can be used a number of times" on the package and slightly making bags or plastic cutlery thicker to fulfil the details of the directive. I assume you will still treat these as single-use items in the future?
Q: Yes, we will continue to include them in the list of single use plastics regardless of the industries’ statement.

A3.2 Microlitter

The topic of beach litter within the HELCOM BLUES project, with its set out (sub-)tasks, deliverables, summary of results, use of results, outputs and key messages for science and policy makers, was presented by Elke Fischer. The presentation is available both on the informal consultation session site as well as the BLUES project website.
Discussions after the presentation contained the following questions:

Q: Thank you so much for your presentation. As you mentioned there are quite a lot of aspects in the topic of microlitter that needs to be developed to ensure we have good monitoring and assessments. For examples

you mentioned the lack of monitoring stations. What is your priority or plea in terms of ensuring that cooperation strengthens between countries on this topic in the future to ensure advancing work on microlitter?
A: Strong cooperation between countries is key, major hindrances for microlitter monitoring are related to logistics and we currently have a lack of resources (not of willingness) that needs addressing. To set up new indicator and to set up new sampling approach is very expensive. Also, we still don't know the spatial distribution of microlitter. Does it e.g. depend mostly on sea currents or is it rather related to sources? That's why, in the monitoring guidelines we made in the HELCOM BLUES project, we recommended to have both, monitoring stations with link to potential sources (i.e. closer to coastline) and sampling in more outer sea areas.

Introduction to results of underwater noise

The topic of underwater noise of the HELCOM BLUES project was introduced. This topic represents Activity 4 of the project, with 2 different tasks as part of it, as following:
A4.1 Continuous noise
A4.2 Impulsive noise
A special thank you and acknowledgement goes to Jakob Tougaard, who has been very actively involved in the work of the HELCOM BLUES project for the topic of underwater noise.

A4.1 Continuous noise

The topic of continuous noise within the HELCOM BLUES project, with its set out (sub-)tasks, deliverables, summary of results, use of results, outputs and key messages for science and policy makers, was presented by Aleksander Klauson. The presentation is available both on the informal consultation session site as well as the BLUES project website.
Discussions after the presentation contained the following questions:

Q: You mentioned avoidance and masking behaviour as two criteria. What does it mean as pressure for animals and is there a correlation to an activity and what impact does it have to animal behaviour? If there is a correlation which activity is key for policy to focus on?
A: Continuous noise is affecting marine biota and this is low frequency which is generated by ships. This affects mostly fish but might also affect marine mammals. More work needs to be done to better understand what exactly are the effect of continuous noise on the relevant species and which areas are most affected. It would be interesting, for example, to investigate in more detail how spawning grounds in the southern Baltic Sea, where we have a lot of shipping noise, are affected (e.g for cod that are communicating in low frequencies). So more work to be done to address these open questions still.

Q: Thank you very much for the interesting presentation. Could you elaborate the decision to use 20dB as the excess level? Could it make sense to model this with lower levels such as 15 or 12bB? 20dB seems very high.
A: This is a value that can certainly be discussed. We have been using 20 db for half the time (50% of the month) because it is a rather large value and we are sure to have masking for fish at this value. If a lower value is chosen, then we could not have the same certainty about this effect. More research needs to be done to show what would be the best value exactly. So far many studies have come from laboratories which are very different from conditions in nature, so this is also an area where results might give different results and need to be taken into account. So overall more data on behaviour and masking is needed to decide on the best possible value for excess level db range.

Q: Thanks for the very interesting presentation. From the EU side, it is important to mention that this work is closely interlinked with the discussions within TG Noise which led to the recent adoption of EU threshold values for underwater noise. Support from HELCOM will also be key in the future for concrete implementation of the EU threshold values and for assessments of the state of the Baltic Sea areas

A: Yes, the work in the project has been closely linked to work in TG Noise, and members of the HELCOM BLUES project are also strongly involved with the work in TG Noise, which has ensured alignment and harmonisation of the work done on underwater noise.

Q: the EU framework allows HELCOM to set a lower area threshold than 20% based on regional specificities. Are there any regional specificities you consider important in order to use a lower threshold in future assessments?
A: Yes, lower threshold can be chosen if there is a doubt that some habitats are more vulnerable (e.g. located too close to the shipping lane).

Q: Thanks for an interesting presentation. I might have missed this, but how did you settle on the limit of 110dB? It seems high considering that humans sustain permanent hearing damage after prolonged exposure to 90 dB?
A: Underwater decibel scale considerably differs from dB scale in air as they are using different reference values and acoustical impedances in the water and air are different. As a result, for the same pressure value SPL in water is about 60 dB higher than in air.

Q: I just want to point out that there are studies showing that high-frequency components of vessel noise can cause disturbance to harbour porpoises. So while I'm glad to see the results of this study showing that noise is not a big problem for marine mammals in the Baltic, I think maybe this is a simplified picture of the situation.
A: Current study is showing that on the level of HELCOM subbasins marine mammals have enough space, where they are not overexposed to shipping noise. In case of a closer look to some specific habitat frequently visited by porpoises the situation can be different.

A4.2 Impulsive noise

The topic of impulsive noise within the HELCOM BLUES project, with its set out (sub-)tasks, deliverables, summary of results, use of results, outputs and key messages for science and policy makers, was presented by Mirko Mustonen. The presentation is available both on the informal consultation session site as well as the BLUES project website.
Discussions after the presentation contained the following questions:

Q: Thank you for a good presentation. Can you elaborate on the reason of using the 20% area approach. We know of several events in those years where animals were killed due to impulsive noise events (explosions), even if maybe the event affected less than 20% of an area. Could this be taken into account in the assessment?
A: To prevent mortality of marine mammals during explosions mitigation measures, such as observers (for spotting animals) and acoustic deterrent devices should be used. In this study 20% threshold cares about the health of the population rather than that of individual animals.

Q: It seems awkward to me that in sum of both types of sources we allow 40 % of the Baltic Sea area affected either by continuous noise or impulsive noise and still would have GES, not having looked into (continuous) noise contribution of recreational boats yet and likely also missing some military (impulsive) sources. Do the results (all green) tell Managers/Policy makers that no additional mitigation measures are needed?
A: With the current approach and assessment for HOLAS3, we have now a lot better assessment than in previous HOLAS 2, but of course there is room for discussion and improvements in the future. This is only a starting point for now and we welcome and look forward to all future discussions on how to improve this work for the next assessment.
Currently, we are assessing the whole Baltic Sea, and that's why the overall percentage of the affected area is small. So, the issue here is that we need to assess a huge area (entire Baltic Sea) based on very local data (noise events). This is why these results seem counterintuitive or even contradictory, because the area of the entire Baltic Sea is so huge that less than 80% shows up as being affected. So, in the future, i.e. for the next assessment, the choice of area for the analyses might need to be adjusted.

Q: Thank you for your good work and explanations. I agree that we still need more discussions in HELCOM groups.
A: Yes, the work done has been part presented in the expert group on underwater noise (EG Noise) and been reviewed by the relevant Working Groups and HOD, as well as presented at EU level meeting (TG Noise). Despite the HELCOM BLUES project ending, these results will of course be continued to be used for advancing the work on underwater noise at HELCOM and at regional level. Please note also that HELCOM is committed to address underwater noise issues through the Regional Action Plan on Underwater Noise (https://helcom.fi/wp-content/uploads/2021/08/Rec-42_43-1.pdf)

Video for the Economic and Social Analysis (ESA)

The Economic and social Analyses has been one of the largest activities in the HELCOM BLUES project and has become an increasingly important part of the regional work. Thus, the second project video has been chosen to promote this theme.
The video on ESA is intended for public outreach and as a dissemination tool also after end of the project, and is available on the project website and on the HELCOM Channel on YouTube.

Introduction to results of the analysis to support effective regional measures

The topic of efficiency and measure of the HELCOM BLUES project was introduced. This topic represents Activity 1 of the project, with 4 different tasks as part of it, as following:
A1.1 Developing the assessment framework
A1.2 Improved data for the assessment
A1.3 Estimation of benefits
A1.4 Effectiveness of measures and policy-support
This presentation was given as one overall presentation by two speakers, Antti Iho and Luke Dodd.

A1 Efficiency and measures

The topic of the analysis to support effective regional measures noise within the HELCOM BLUES project, with its set out (sub-)tasks, deliverables, summary of results, use of results, outputs and key messages for science and policy makers, was presented as one overall presentation by two speakers, Antti Iho and Luke Dodd. The presentation is available both on the informal consultation session site as well as the BLUES project website.
Discussions after the presentation contained the following questions:

Q: There was a BalticSTERN report on willingness to pay by different countries. Do you know if since then the willingness to pay has changed or is there any new trends on the general public's willingness to pay?
A: This systematic follow up of development of the values surveys would bring us this overall trend in the willingness to pay. Repeating surveys would bring important info and less bias/uncertainty on development of willingness to pay and this would be important also for policy support.
However, please note that BalticSTERN asked about eutrophication and not GES overall (as this project activity does), so they are not really easy to compare and feeds into key messages at end of our presentation. Both cost of degradation and GES analyses are at the early stages and need more development.
A: We cannot really compare results with BalticSTERN but what we could compare in principle with BalticSTERN is the recreational benefits (we have estimates). However, BalticSTERN was done in 2010, so lots of changes in travel/recreational behaviour have occurred since then. That's why this was not really ideal to embark on comparing results from these two assessments. From Latvia we know that awareness and values on willingness to pay is increasing!

Q: Are the benefit results per capita of coastal population or per capita for each resident of that country?
A: They are each per capita of the country.

Q: This cost benefit analyses is very much desktop study/theory and challenging to put it into practise, so great challenge on how the CP have put the measures in place. Do you have a summary or plea for CBA. What would you tell a decision maker?
A: Baby steps are needed, first we have to start from the framework development for each country. Incentives are needed for measures to be implemented, so it is important to point out good instruments/incentives for the measures. If these do not exist, maybe it is better to do other measures. Also a continued support for science is needed to get better data and information on the topic.

Video on the topic of holistic assessments (HOLAS)

The third video featured the holistic assessment of the Baltic Sea (HOLAS) which has been an essential part of the HELCOM BLUES project. The video is also intended to be used for public outreach far beyond the life of the project and links to the presentation on HELCOM BLUES and the bigger picture it fits into, thus linking the BLUES project to other EU processes and directives. The video on creating holistic assessments is available on the project website and on the HELCOM Channel on YouTube.

A7 Coordination and use of all BLUES project results: BLUES and beyond – the big picture

The topic of how work in the HELCOM BLUES project fits into a wider context, thus relating it to HELCOM work, EU processes, MSFD, regional work, and links with other international directives was presented by Jannica Haldin (representing Activity 7, coordination, in the project). The presentation is available both on the informal consultation session site as well as the BLUES project website.
Discussions after the presentation contained the following questions:

Q: Thank you for your presentation, it is quite impressive how many deliverables from the BLUES project you have achieved to incorporate into the third holistic assessment of the Baltic Sea and how these fit into work on national, international and EU level work such as the MSFD. You showed us that the ultimate aim is to achieve affective measures to achieve GES. Could you explain why reaching GES is important and why are measures key for this?
A: GES is has become a buzzword, but it is important to remember that underpinning the work to reach good status as part of various policies is the reality that our society is part of the environment. GES is not external to our own existence and wellbeing but something that has a direct effect on us.. So without good status of the environment we cannot not achieve the full potential the environment can offer society. Also, GES secures resilience and buffering capacity for species all across the Baltic Sea. These species have a crucial part in the ecosystem, some of which we are not even yet aware of. So GES is really a crucial part of policy work and underpinning the concept of GES is securing the function of the ecosystem as a whole, which we are part of.
Measures are key to achieving GES because at their core all negative impacts on the Baltic Sea can be traced back to us humans, i.e. impacts caused by the activities of humans/society. Since the ecosystem is very complex, it is not possible to manage the environment itself, nor is there a need to, but with measures we can manage the impact of our own activities to have as little negative impact as possible. So this is the part where measures come in and where we are getting most benefit with least cost.

Q: After this 2 year project which learnings have you taken from this project? Which aspects have been most exciting learning or challenges in this process?
A: One of the key take home message is the importance of a good plan, a clear set of outcomes, when you start. This is very helpful (even though not a deliverable) since this project has been very complex and containing so many different activities, tasks and topics, which all come with their own individual challenges. Also the importance of having the relevant experts and people in the right place, while ensuring continuous communication with the end users to meet their actual needs and thus ensure usability of the outputs, cannot be highlighted enough.
In addition, the opportunity to engage in continued discussion with experts, managers and policy makers via this project, HELCOM BLUES has enabled us to ensure project products that can actually be used and move work forwards (i.e. visible by the many products being approved and used now for HOLAS 3). Furthermore, the

project has allowed us to work quite closely with other regional experts (OSPAR; NEA PANACEA etc), which is even more important taking into account that OSAPR and HELCOM share a number of CP for which alignment and harmonisation of processes is crucial. Without the project this would have not been possible to achieve and the work could have not been as aligned with other RSC as it is now.

Q: It is fantastic to hear that so much of the work in HELCOM BLUES could be aligned with OSPAR. Taking into account that this work needs to be done also by other RSC, for MSFD, do you have any advice for applying this and for setting up this type of project?
A: In addition to the actual deliverable, it is very important to note down how you got there. This helps other regional seas to use the same approach while being ablet to make adjustment to take regional differences into account to cater best to their needs. This also helps with adopting results in general since it enables a greater transparency.
Funding for these types of projects, where you have the freedom to target the gaps and week points that you have are crucial. These projects give RSC the freedom to target the specific needs and gaps of their region and use and what other RSC have done and implemented successfully already and take advantage of topics that might be further developed in other areas then your own.

Follow-up comment from EU representative: Thank you very much for the excellent presentations and this excellent conference. I would like to share appreciation on EU level for this HELCOM BLUES project. It is very important for us to hear these messages for science and especially policy makers. It is very much appreciated how clear this was all organised and stated, as well as the unified layout and schematics of the presentations which made it easy to follow the messages and outcomes. This is also a good lesson learnt for us at EU level for enabling future projects..
This work is very important for implementation of MSFD work, and HELCOM , and of course work of all RSC, is really key. So we can only support the HELCOM BLUES message on the need to link the different regional work!

Closing words

Q: What are the next steps now after the final conference and after the end of the HELCOM BLUES project?
A: For most of the outputs of the project (indicators etc), the next stesp are now that they are being included in the state of the Baltic Sea report, i.e. the HOLAS 3 report. Following that there will bea wide review of the methodology, approaches, indicators etc that were included in the HOLAS 3 process and investigate and review where could we do better and develop more in the future to close any gaps. This step will be done end of 2023/early 2024. Based on this, new work plans will be done on all indicators, methodology etc. which was developed under the BLUES project, to ensure improvements again for the next holistic assessment. This way, new discovered gaps can be closed and taken into account, to ensure there is always an improvement from one assessment to the next.

Q: For when exactly is the publication of HOLAS 3 planned?
A: This is a stepwise publication process, since CP need different parts of the HOLAS 3 products at different point in time, for their reporting in national processes. The deadline for publishing all the underlying data and for publication of the indicator reports and the thematic assessments, is end of March 2023.
The actual State of the Baltic Sea summary report and the according website will be done in autumn 2023 (since this summary report is based on all the results of the indicator reports and thematic assessment results together and needs official approval). Aim is to have this published latest in October 2023, but hopefully even a bit earlier.

Annex 1: List of participants

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