A survey on the Strategic Environmental Assessment (SEA) in Maritime Spatial Planning (MSP) in the Baltic Sea Region

Synthesis Report

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Written by Kristina Veidemane, EU MSP Platform
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Produced by the MSP Assistance Mechanism (AM MSP)

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1. Context

Regional Maritime Spatial Planning Roadmap 2021-2030 (Roadmap) has been adopted by VASAB CSPD/BSR 85th meeting on 6 May 2021 and adopted by the HELCOM Ministerial Meeting 2021. The objective 3 of the Roadmap aims to contribute to achieving progress towards good environmental status of the Baltic Sea. One of the agreed actions towards this objective is to "*3.2.Develop a Baltic SEA-framework including themes, common data, assessment methods for impact evaluation, cross-border consultations*". It is anticipated that the Baltic Sea countries would agree on a Baltic SEA-framework to improve compatibility of SEA practices and results by 2025.

Another agreed action *3.5. Promote the use of methods and tools in MSP for assessing cumulative environmental and other impacts of sea-based activities*" is closely linked to the 3.2. as SEA procedure requires that plans and programmes shall assess also cumulative impacts.[2] Further on, the action 3.1. on updating EBA guidelines is closely linked with both above-mentioned actions, since SEA is an essential part of the application of ecosystem-based approach in MSP.

During the informal consultation session of the HELCOM-VASAB MSP Working Group (IC HELCOM-VASAB MSP WG 2-2023) on 9-10 March, 2023, the implementation of the latest developments related to the workplan was discussed. The Session welcomed the information from the European Commission that the EU MSP Assistance Mechanism (MSP AM) is ready to support implementation of tasks 3.2 and 3.5, conducting a survey on conducting SEAs for Baltic MSP, to identify key issues for harmonizing the SEA procedures in the Baltic Sea region. Respectively, this survey shall contribute to the implementation of actions 3.2 and 3.5 of the HELCOM-VASAB MSP WG's workplan 2022-2024.

This report presents the survey results, which were obtained through a desk study of available plans and SEA documents (including environmental reports and planning documents), as well as through information exchange and interviews conducted between the AM Baltic focal point and MSP and SEA experts from the Baltic Sea countries.

[2] Annex I and Annex II of the Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.

2. Scope of the survey

The survey aimed to collect information and to summarise practices and lessons learned from conducting SEA during the preparation and adoption of recent maritime spatial plans by the Baltic Sea countries.

All the Baltic Sea states have adopted their maritime spatial plans (MSPs) according to the MSP Directive (see Table 1). Denmark and Sweden are currently revising their plans inter alia to contribute achieving new targets for renewable energy and/or nature conservation. Both countries have prepared environmental reports for the revised MPSs and are conducting Espoo transboundary consultations in winter 2023/2024.

Table 1. Status of MSP in the Baltic Sea countries

	DE	DK	EE	FI	LV	LT	PL	SE
Date of adoption of the current MSPs	01.09.2021	29.09.2023	12.05.2022	15.12.2020	21.05.2019	29.09.2021	14.04.2021	10.02.2022.

The SEA directive (2001/42/EC) requires that an environmental assessment shall be carried out for plans and programmes which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for future development consent of projects listed in the Annex I and II of the Directive 2014/52/EU[3]. A maritime spatial plan as a public planning document is a subject of the directive.

Baltic Sea countries are also Contracting Parties of the Espoo Convention and its Protocol on SEA[4] aiming to ensure integration of environmental assessment into their plans and programmes at the earliest stages.

As recognised by the HELCOM-VASAB guidelines on implementation of EBA in MSP in the Baltic Sea area, SEA is an important tool for implementing the ecosystem-based approach in maritime spatial planning as it identifies, describes and assesses the likely significant effects on the ecosystem[5].

[3] Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment

[4] https://unece.org/introduction-sea-protocol; https://unece.org/text-protocol;

[5] http://vasab.org/wp-content/uploads/2018/06/Guideline-for-the-implementation-of-ecosystem-based-approach-in-MSP-in-the-Baltic-Sea-area-1.pdf

Another HELCOM-VASAB Guidelines on transboundary consultations, public participation and co-operation(6) recommends to building transboundary consultations for MSP on the framework of the Espoo Convention while strengthening the scope of consultations with a broader range of MSP issues, in particular socio-economic ones. Consultations should be extended towards encompassing not only potential conflicts but also synergies (socio-economic opportunities) because of voluntary compliance of the competent authorities in the BSR.

The Survey examined the following aspects of SEA in MSP:

- What are national legal requirements for conducting SEA for MSP? Was the screening needed for deciding on SEA for MSP?
- How the scope, focus and content of SEA was defined?
- How was the zero-alternative defined? How were reasonable alternatives (scenarios, options) included?
- What methodologies (e.g., tools, toolkits, guides) were applied for assessing existing situation and effects? What were challenges faced to conduct SEA? Data availability, knowledge for assessment?
- How was transboundary consultation organised?
- Was there a coordination between SEA and transboundary cooperation for MSP (Article 11 of MSP Directive 2014/89/EU)/?
- Were there mitigation measures proposed in the SEA/environmental report?
- Which SEA findings were incorporated in the plan?
- Who carried out the SEA (for example, authority, consultant) and how was it linked to the planning process?
- What are your recommendations for a Baltic SEA framework to facilitate EBA based MSP (content wise, procedural, institutional)?

[6] https://helcom.fi/wp-content/uploads/2019/08/Guidelines-on-transboundary-consultations-public-participation-and-co-operation-_June-2016.pdf

3. Main findings

3.1. National legal requirements for conducting SEA for MSP

Article 3 of the SEA directive (2001/42/EC) requires that environmental assessments, in accordance with the obligations of the SEA directive, be conducted for plans and programmes likely to have significant environmental effects. The SEA directive includes, among others, country planning or land use in the list of plans and programmes likely to have such effects. Additionally, this article emphasizes that plans or programmes subject to SEA will establish the framework for the future development consent of projects listed in Annexes I and II to Directive 85/337/EEC.

In practice, different approaches have been taken regarding whether the SEA for MSP, a type of country planning document, should be conducted. The most common approach is to mandatory require a SEA when creating a maritime spatial plan (see Table 2). The legal requirements for undertaking SEA have been established through specific laws on environmental impact assessment, integrated into spatial planning laws or incorporated into both sets of laws.

In another situation, the determination of whether a MSP serves as a framework for decisions, such as approving or issuing permits for projects, is a factor influencing the decision not to conduct a SEA in accordance with the directive's obligations. This consideration played a decisive role in the case of the Finnish MSP, which functions as a strategic planning document with indirect guiding implications but does not serve as a basis for granting permits or approving projects. However, the Finnish Act on the Assessment of the Effects of Certain Plans and Programmes on the Environment require that the authority responsible for a plan or programme ensures a comprehensive examination and assessment during the document's preparation process if the implementation may have significant environmental effects. Consequently, the environmental impacts were scrutinized during the preparation of the MSP, reflecting certain elements of an ecosystem-based approach in MSP.

Table 2. Relevant national Legal Acts requiring SEA for MSP

Country	Legal document	References to Legal acts requiring SEA	Reference to MSP in SEA law
DE	Both – Planning Act and EIA Act	Spatial Planning Act, § 8 Act on Environmental Impact Assessment, Annex 5., point 1.	Yes, Federal spatial planning in accordance with § 17 paragraphs 1 and 2 of the Spatial Planning Act

Country	Legal document	References to Legal acts requiring SEA	Reference to MSP in SEA law
DK	SEA&EIA Act	Act on Environmental Assessment of Plans and Programs and of Specific Projects	No, MSP as spatial planning document
EE	Planning Act	Planning Act § 13 point 2 and 4	No, as Planning Act also regulated SEA for spatial planning
FI	SEA Act Land Use and Planning Act 5§, 9§, 29a§,40a§,55a§,63§	Act does not require SEA for documents that do not set a framework for project development	No
LV	EIA Act	Law on "Environmental Impact Assessment" and the Cabinet Regulation No 157 "Procedures for Carrying Out a Strategic Environmental Impact Assessment"	No, MSP as spatial planning document
LT	SEA Act	Resolution No 967 of the Government of the Republic of Lithuania of 18 August 2004 “On Approval of the Order on Strategic Assessment of the Effects of Plans and Programmes on the Environment”	Yes, comprehensive plans as such are pointed out. In Lithuania MSP is a part of comprehensive plan.
PL	Both – Planning Act and EIA Act	Act on Sea Areas and Marine Administration, Article 37.b., point 2. Act on Providing Information on the Environment and Environmental Protection, Public Participation in Environmental Protection and Environmental Impact Assessment	No, MSP as development planning document
SE	Both – Planning act and EIA	The Marine Spatial Planning Ordinance (2015:400) Environmental Code, chapter 6 Environmental Assessment Regulation (2017:966), § 2; 2.g)	Yes, marine plan is listed §2; 2.g) of the Regulation.

3.2. Scoping of SEA

Article 5 of the SEA directive (2001/42/EC) requires that the environmental authorities shall be consulted when deciding on the scope and level of detail of the information which must be included in the environmental report. The Directive does not require to produce a separate scoping document. Most of the Baltic Sea

countries make the scoping report mandatory. The countries also inquire the written opinion of the competent body and other relevant environmental and nature protection institutions (see Table 3). Poland and Latvia defined the scope of the SEA considering the conditions and requirements received from the competent authorities in writing. However, for Latvia's first MSP, a dedicated meeting with the SEA competent authority was organized.

The scope of the SEA for MSP also varies among the Baltic Sea countries. Some nations focused their reports on meeting the requirements of the SEA directive, while others adopted a broader perspective, encompassing socioeconomic, macroeconomic, and cultural considerations. Few reports highlight climate change aspects, whereas other countries incorporate assessments related to ecosystem services. Estonia and Sweden (for revised MSP) even label the outcome as an impact assessment report.

Consultations during the scoping process are implemented by all countries; however, the target groups for seeking feedback differ slightly. Some countries seek input from environmental and nature authorities, while others engage with municipalities. Additionally, certain countries communicate with neighbouring nations during the scoping process.

Table 3. Scoping of SEA

Country	Requirements for scoping	Output of the scoping	Scope of the environmental report (ER)	Consultations during scoping stage
DE	Spatial Planning Act, § 8	Scoping report	Environment as defined in SEA directive, ecosystem services, climate change	Authorities and interested stakeholders, neighbouring countries comment on draft scoping report
DK	SEA&EIA Act, Article 11	Scoping report	Environmental aspects, impacts on environmental goals and objectives	Authorities and interested stakeholders, neighbouring countries comment on draft scoping report
EE	Planning Act, § 18	Scoping report (Memorandum of intention to conduct impact assessment of MSP)	Broad assessment (environment, economic, human health, social and cultural)	Authorities and interested/ conserved parties are invited to submit proposals, comments
FI	-*	Not applicable	Not applicable	Not applicable

Country	Requirements for scoping	Output of the scoping	Scope of the environmental report (ER)	Consultations during scoping stage
LV	Article 23.5 of the EIA law and Article 7.1 of the Regulation No 157	Results of consultation with competent SEA authority and Nature Conservation Agency on scope and details for SEA	Environment as defined in SEA directive and ecosystem services	A meeting with the competent SEA authority, written inquiry from Nature Conservation Agency; In ordinary cases, consultations are conducted either in writing or orally.
LT	SEA Act, chapter 6.	Scoping report	Environmental and nature, social and cultural, economic, and macroeconomic aspects	Environmental authorities
PL	EIA Act, Article 51	Written responses from environmental and health authorities on the scope and level of detail of the information required in an environmental report	Environment as defined in SEA directive	Environmental and health (Sanitary Inspection) authorities
SE	Environment Code, ch.6, section 9-10.	Scoping report	For MSP, an extensive environmental assessment, but shorter sustainability assessment. For the amended MSP, an extended SEA approach with broader assessment - including economic and social dimension and to have single document instead of two (environmental report and sustainability appraisal).	Municipalities, county administrative boards and other authorities, neighbouring countries

** The authorities responsible for the MSP must ensure that the environmental impacts of the plan are studied and assessed to a sufficient extent during its preparation if the implementation of the plan may have significant environmental impacts. Therefore, an impact assessment was carried out and report prepared.*

3.3. Identification and evaluation of alternatives

Article 5(1) of the SEA Directive mandates the identification, description, and evaluation of reasonable alternatives in the environmental report. However, the directive doesn't explicitly define the term 'reasonable alternatives,' providing countries with broad discretion to fulfil this requirement based on the objectives

of their plans or the planning process. Various countries have adopted different approaches to meet this requirement (see Table 4). In some instances, scenarios or strategic spatial alternatives have been employed as tools to stimulate discussions on potential development directions in the marine areas. Latvia and Finland, for example, have taken a visionary approach, exploring diverse alternatives. Conversely, Denmark has opted for a goal-based approach, ensuring the achievement of set policy targets within a given timeframe. This approach is also taken by Sweden during the revision of MSP. Other countries have developed alternatives interactively during the drafting of MSP, simultaneously assessing the impacts of each alternative and producing recommendations for conditions of sea use.

The SEA directive states that the environmental report must include information about the likely evolution of the state of the environment without implementing the plan or programme, commonly referred to as the 'zero alternative'. In the context of MSP, the option of not having a plan is viable, as its development is mandated by law. Consequently, considering the evolution of the state of the environment without implementing the plan as a reasonable zero alternative is not applicable.

When an early revision of MSP is carried out before the legally required deadline, some countries may opt to use an existing plan as the zero alternative. However, this approach is not universally employed, given that spatial allocations in the existing plan may fall behind the requirements of development and may not be implemented as initially planned. Consequently, the revised MSP often includes a description of the baseline or how the status would change without a plan, serving as an alternative known as the "zero alternative."

Table 4. Assessment of alternatives

Country	Reasonable alternatives	Zero alternative
DE	Tiered approach implemented. Spatial planning options A, B, C were created and assessed at the conceptual stage and preliminary assessment of selected environmental aspects carried out. This was before the preparation of the ER. In a next step, the draft ER was prepared in parallel to the 1st draft plan and subsequently consulted. The draft ER examined selected sectoral and subregional planning options in the context of the assessment of alternatives in accordance with the planning that is becoming more concrete. In the final ER, the focus of the alternative assessment was on justifying the weighed planning option.	ER states that zero alternative is not considered a reasonable option. Qualitative assessment on the likely evolution thereof without implementation of the MSP is presented

Country	Reasonable alternatives	Zero alternative
DK	The methodological framework for the environmental assessment of Denmark's MSP relies on a goal-based scenario approach. In the process of preparing the environmental assessment, the scenarios have been formulated to depict a realistic development of the specific sectors planned for or designated areas in the MSP. These scenarios are then juxtaposed with the relevant environmental objectives applicable to different sections of the sea areas.	Qualitative assessment if an MSP is not implemented.
EE	Impact assessments do not elaborate different impact assessment alternatives but evaluate the compliance of planning solutions developed in the planning proceedings with strategic objectives or expected significant adverse and beneficial impact.	No
FI	Several spatial scenarios (vision-based) were developed with involvement of stakeholders. The assessment of scenarios was treated as a distinct task within the MSP process. The Impact Assessment of the Plan included the state of the environment without implementing the plan (zero alternative), and how the status would change when implementing the Plan.	No, Alternatives included in the Scenario assessment Qualitative assessment if an MSP is not implemented.
LV	Several spatial scenarios (vision-based) were developed with involvement of stakeholders and then assessed in SEA process.	Qualitative assessment if an MSP is not implemented.
LT	2 alternatives of MSP are described and assessed in SEA process. The Alternative I can be also considered as zero alternative, as it reflects the status quo – retaining the existing strategic approaches to the development of maritime areas and responding to the concrete solutions currently in place.	Qualitative assessment if the Comprehensive plan is not implemented.
PL	Polish MSP does not contain comprehensive scenarios covering all Polish waters. Both drafting teams (Authors of the Plan and SEA Report) worked in parallel throughout the MSP process proposing different alternatives for spatial use and conditions. The SEA team made recommendations, and the MSP addressed these recommendations. The final version (version 3) incorporated all the recommendations.	Qualitative assessment if an MSP is not implemented.
SE	For MSP assessment two alternatives of the marine plans with alternative offshore wind energy production areas and analyzed the environmental effects were developed within SEA. For the amended MSP, the 2 alternatives cover the offshore energy areas: proposed area is the Alternative 1; priority area + alternative areas is the Alternative 2.	For MSP - Qualitative assessment if an MSP is not implemented. For the amended MSP - the zero alternative is current status in the sea use (1 offshore energy area) and not what is expected till 2030 due to existing MSP.

3.4. Methodologies for the environmental impact assessment

3.4.1. Mapping of nature values

For most countries, the development of their first MSP represented an opportunity to establish a benchmark for the current state of the marine environment in a spatially explicit manner. Consequently, significant efforts were devoted to collecting data, information, and knowledge. The marine, environmental, and nature-related information utilized to designate areas for specific sea uses was also leveraged in the implementation of Strategic Environmental Assessment (SEA). This integration was particularly notable in cases where Maritime Spatial Plan (MSP) teams and SEA teams overlapped, with many experts contributing to both processes. This approach facilitated a holistic and more cohesive planning and assessment process, thereby promoting an ecosystem-based approach in MSP.

The situation regarding availability of spatial information varied among countries (see Table 5). Some nations developed various environmental and nature spatial datasets due to their unavailability, while others benefited from pre-existing information sourced from in-house resources or state agencies and authorities. A few countries even conducted dedicated studies to gather new evidence to implement the precautionary principle. However, certain data gaps persist, such as those related to bird migration, bat migration, and in some countries, mammals (see section 3.4.2.). These gaps stem from insufficient monitoring coverage in national waters as well as the Baltic Sea basin, primarily due to the mobile nature of these species.

Table 5. Overview on efforts in mapping nature values during MSP and SEA.

Country	Mapping values
DE	No special efforts for MSP – available marine monitoring data used. MSP and SEA utilised results of the extensive data collection in the context of environmental impact studies and construction and operational monitoring for the offshore wind farm projects and accompanying ecological research.
DK	No special efforts for MSP – available monitoring and nature data used.
EE	Before MSP the environmental data were very fragmented. To improve this, several analyses were conducted within the framework of the MSP with the aim of consolidating existing information into a single database (e.g. bird migration corridors and stopovers, seal distribution and marine use). Surveys have also been carried out to obtain additional data (e.g. on bats).
FI	The EMMA (ecologically significant marine underwater areas) maps were financed by MSP process and prepared by Finnish Environmental Institute. The work was rather intensive to bring data layers on nature values in one GIS data base and link the data to human activities. Ecological connections were identified.

Country	Mapping values
LV	• During the development of the MSP in 2015-2016, a national scale benthic habitat map was created for the first time in Latvia. Since that the benthic habitat map is updated regularly. • Fish stock assessment maps based on scientific research data (BIOR, experts) were created as well. • Spatial distribution of selected marine bird species – information was digitalised in a consolidated maps • HELCOM data sets on seals were used directly for assessment of the status as well to impacts • Mapping of ecosystems services provided by benthic habitats; • Assessment of state of biodiversity components, e.g., state of macrozoobenthos, average summer concentrations of chlorophyll-a,
LT	No special efforts for MSP – available monitoring and nature data used.
PL	No specific environmental researches for purpose of the ER were conducted, and ER Report was prepared on the basis of published information and unpublished own materials by specialists of the interdisciplinary team, available research results of other research teams, research results from environmental impact reports and data of institutions which perform the assessment of the state of marine environment. The used information included current available information and spatial data from, inter alia, the Ministry of the Environment, the General Directorate for Environmental Protection, the European Environment Agency, other institutions, and in particular, data from maritime offices concerning the location of the technical and protective strips. Information from websites of the General Directorate for Environmental Protection (http://natura2000.gdos.gov.pl/), and precisely, from the Standard Data Forms (SDFs) of the Natura 2000 network areas in the Polish sea areas and those located in the coastal area adjacent to the area covered by the draft MSP, were used. The results of nature inventories (mainly cartographic materials) made for the purposes of development of draft protection plans for Natura 2000 areas also used.
SE	Distribution maps of nature values (ecosystem components) in the Swedish sea has been developed. These are based on existing data and compiled by experts. Symphony includes 32 different ecosystem components, for example cod, fish spawning areas and, mussel reefs. Better knowledge is from areas that are protected for nature conservation purpose. For amended MSP – additionally information on migratory birds was received from SEPA. Fishery – new data – aggregated for several years. Bats – SEPA and University of Lund informed that there are no maps on migration areas for bats, but bats follow migration patterns of smaller birds.

3.4.2. Pressure assessment

Recognizing the existing level and trends of pressures from human activities is crucial for assessing new developments. This recognition is tied to understanding the carrying capacity of the marine ecosystem and its resilience to emerging issues. The SEA directive also mandates a review of any existing environmental problems relevant to the plan or program, including those pertaining to areas of particular environmental importance.

Analysis of ERs for MSP reveals that environmental problems and pressures are addressed with varying approaches. Most commonly, environmental pressures

are integrated either into assessments of environmental status or into assessments of impacts of the proposed MSP. Germany, for instance, has described and assessed the state of the environment, integrating a legacy perspective that includes existing anthropogenic factors.

Other countries have opted to describe environmental problems in a separate chapter. Poland, for instance, has identified classical environmental issues such as excessive inflow of biogenic substances, pollution with hazardous substances, and pollution of the marine environment with domestic waste and litter. Additionally, Poland has spatially linked these problems to their sources. Furthermore, the Polish ER highlights governance or management issues, such as the lack of protection plans for protected sea areas within the coverage of the Draft Plan. Consequently, this deficiency may lead to inadequate or complete lack of nature conservation efforts in these protected areas.

A few countries have utilized HELCOM data to describe pressures or recognize problems within their own marine waters. For instance, Finnish MSP benefited from AIS data on maritime traffic, while Latvia integrated information from HELCOM assessments related to environmental issues such as eutrophication, hazardous substances, biodiversity, maritime affairs, and climate change.

Countries like Estonia and Sweden, which employ spatial tools to assess impacts, have compiled data on human activities and related pressures for use in impact assessments. For example, the Symphony model used by Sweden includes 41 different environmental pressures, including underwater noise, fish catch, and turbidity. Finnish approach to reducing human impacts on the marine environment is based on spatial prioritization approach (Zonation analysis) where ecological values are prioritised and suitable areas for offshore wind power, for example, are selected to minimise their impact.

3.4.3. Individual and cumulative impact assessment

Each country has developed unique methodologies and tools to assess environmental impacts within their MSP, reflecting diverse priorities and contexts (see Table 6). The scope of environmental components covered in impact assessments varies based on the scoping process or adherence to legally binding standards. For instance, Germany encompasses all environmental issues listed in the SEA directive, including biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage (including architectural and archaeological heritage), landscape, and their interrelationships. Conversely, countries like Lithuania have devised their own methodologies (e.g., multi-criteria analysis) integrating impacts on macroeconomic and economic development, social and cultural development equally.

Methods employed range from qualitative assessments based on expert judgment to semi-quantitative and quantitative approaches utilizing criteria, indicators, and data sources. The use of matrices to link sea use, pressure, and environmental effects is a prevalent approach, varying from establishing a connection to assigning relative values and employing a color-coded system to denote impact severity. Qualitative assessments are more prominent in the Environmental Report (ER) compared to measurable indicator-based trends or assessments of significance. All countries rely on expert knowledge and available literature to inform their assessments, striking a balance between scientific rigor and practicality. While some countries employ maps to visualize the spatial implications of environmental impacts, others lack this component in their assessments.

Thematically, impact assessments focus on a selected number of sectors, such as emerging sea uses like offshore wind energy development or fish farming, or consistently cover all sea-uses, functions or rules established by MSP.

The cumulative impact assessment mostly utilizes qualitative approaches. Many countries, including Germany, Denmark, and Sweden, present assessments by describing the nature and potential consequences of cumulative impacts on environmental assets or components. The variety of assets or components targeted by the assessment differs between countries, often covering marine habitats, seabirds, marine mammals, fish populations, and seabed conditions.

Considering multiple sectors or activities within the marine space, such as renewable energy development, raw material extraction, infrastructure development, and aquaculture, aggregates to the overall impact on various environmental factors. Mathematical summing of impacts has been applied to illustrate the presence of multiple activities and potential impacts. The use of comprehensive assessment tools has been demonstrated by Estonia (PlanWise4Blue) and Sweden (Symphony).

Several countries acknowledge the presence of uncertainty in their assessments due to limitations in data and knowledge, as well as the strategic character of maritime spatial planning. Latvia acknowledges the importance of developing methodologies for conducting cumulative impact assessments in MSP effectively.

These diverse approaches highlight the complexity of MSP and the need for tailored methodologies to address environmental considerations in maritime planning.

Table 6. Overview on the impact assessment approaches.

Country	Individual impact assessment	Cumulative impact assessment
DE	The description and assessment of potential environmental impacts caused by spatial and textual designations of the Plan is based on the current state of the environment and the functions and importance of an area for protected assets in relation to the effects emanating from the plan designations and the resulting potential impacts. A matrix has been created to show the links between use, pressure, and effects on environmental assets. The effects are indicating permanent or temporary perspective. Assessment criteria: intensity, range and duration or frequency of the effects; as well as probability and reversibility of the impacts. The assessment results are presented in a qualitative way per individual sector.	The assessment results are presented in a qualitative way consolidating to the environmental asset (component) level derived from the individual use-based assessment. The following environmental assets (components) are covered: Soil/area, benthos and biotope types, Fish, Marine mammals, Seabirds and resting birds, Migratory birds.
DK	The assessments are made based on identified evaluation criteria, indicators, and data sources. If no data base is available, the assessment is based on a qualitative assessment. Maps to illustrate spatial implications, e.g. overlay of the areas of bird interest and development zones for renewable energy. For some environmental issues, such as CO_2 emission reduction a quantitative effect is presented.	Assessment of cumulative effects are presented based on individual sea use sectors as well as combined use of the sea space (e.g. combination of renewable energy, raw material extraction, oil and gas extraction, infrastructure (bridges/tunnels), aquaculture). The following cumulative effects are described in a qualitative way: Blocking migratory birds' routes; Blocking bats routes; disturbance (displacement) of sea and coastal birds; fish population; Loss and disturbance of seabed; marine mammals; on nature and environmental protection, Emission of greenhouse gases, water quality, accidents.
EE	The MSP focuses primarily on new uses of the sea where development interest already exists or is predictable due to good preconditions: aquaculture and energy production. Subsequently, the ER focuses on these two sea-uses. Yet, the approach has been from perspectives of the environmental components: hydrometeorology and hydrodynamic; habitats and biota. Maps to illustrate spatial implications, e.g. overlay of the areas of bird interest and development zones for renewable energy.	The PlanWise4Blue model assessed the combined impacts of marine activities - trawling, inland waterway, dumping and deposits - and wind energy development areas foreseen in the Estonian Maritime Spatial Plan on different ecosystem components, as these activities can have a significant impact on the environment.

Country	Individual impact assessment	Cumulative impact assessment
FI	The assessment presents the impacts in semiquantitative way - positive; slightly positive, significantly positive, neutral, slightly negative, locally negative, negative, conflicting. The results are presented using color scheme. The assessment focuses on activities (maritime sectors) and their impacts on human living conditions and living environment; soil and bedrock, water, air and climate; plant and animal species, biodiversity and natural resources; regional and urban structure, urban and energy economy, and transport; cityscapes, landscapes, cultural heritage and the built environment; development of effective competition in business life. There are no spatial implication maps.	There was no cumulative impact assessment.
LV	A matrix of individual pressures was created. Based on that maps with spatial implications were created, showing spatially explicit impacts on environmental components.	There was no knowledge of the cumulative impacts neither at national or Baltic scale. The spatial HELCOM or other national tools were in stage of development at that time. As one of its tasks, MSP has committed to developing a methodology for conducting cumulative impact assessments.
LT	Two Alternatives are assessed according to a set of criteria and indicators. The assessment is based on multicriteria approach (impact matrix), summing up of the assigned scores. There are no spatial impact assessment maps presented in the Environmental Report.	Cumulative impact assessment is implemented through multicriteria analysis.
PL	Assessment of impacts were implemented in 3 stages: 1) identification of likely significant impacts; 2) analysis of likely significant impacts; 3) assessment of likely significant impacts. The starting point was to determine the likely significant impacts (measurable changes in the condition or function of natural components) that may result from the implementation of the provisions of the draft MSP concerning the so-called basin functions. A matrix table was prepared to present the links between pressures and components of the environment. This was based on available literature and expert knowledge.	The cumulative impact on the environment is understood as the sum of impacts of all basic and permitted functions in the Polish sea areas. The greater the number of functions assigned to the area, the stronger the cumulative impact. A more detailed assessment was not possible at this stage of the strategic environmental impact assessment.

Country	Individual impact assessment	Cumulative impact assessment
SE	A matrix has been developed to describe how sensitive each ecosystem component is to each pressure. This sensitivity matrix is based on the opinions of experts from a large number of external expert panels, with participants from academia, county administrative boards, and environmental consultants. For example, turbidity has a much greater impact on fish spawning than on harbour porpoises. For the amended MSP, the impact assessment is rather focused on offshore wind energy development.	For the MSP, the cumulative impact is calculated for every area of the sea by summing up all the impacts of all environmental pressures on all ecosystem components. The result is illustrated partly through maps of the environmental effect, known as impact maps, and partly through tables and diagrams that illustrate which sectors and loads affect each ecosystem component. The value is based on current knowledge, and in many cases, the uncertainty is large. The value is for comparison between areas rather than being related to absolute limit values. For the amended MSP, the focus is on individual sectors (such as offshore wind parks) having cumulative impacts in the proposed areas. SYMPHONY provides an assessment of cumulative impacts on the same area from different perspectives. It is also possible to assess the impact on a single ecosystem component in a larger area.

3.4.4. Data and knowledge gaps

It is anticipated that an Environmental Report (ER) also includes descriptions of any difficulties encountered in terms of technical deficiencies or lack of expertise in compiling the required information and assessments. Practices in addressing data availability issues and indicating gaps in knowledge on the marine environment and potential impacts vary widely. Some countries have included a separate chapter in the ER on data sources and have indicated the challenges faced in compiling the documents. Others have described data gaps while presenting impact assessments on specific environmental components or by certain sectors or sea-uses. The most common challenges are related to the following issues:

<u>1. Marine data and knowledge</u>

- The unknown state of the environment for nature components in more detailed spatial resolution.
- There is a lack of threshold values for assessing the state and deviations from good status for several environmental assets (components).

- Many studies are local and site-specific, raising concerns about their appropriateness when scaled up to model large-scale phenomena.
- Marine habitat data outside marine protected areas, particularly in EEZ, is insufficient.
- Information regarding the migratory routes of birds and bats is lacking.
- There is an inadequate availability of long-term data series or analytical methods, such as combining extensive information on biotic and abiotic factors, to better comprehend the intricate interrelationships of the marine ecosystem.

2. Evidence on effects from the sea – uses

- Long-term effects stemming from the operation of offshore wind farms on sea birds, mammals, and fish populations require additional evidence and thorough examination.
- Due to gaps in understanding how activities affect individual ecosystem components or the ecosystem as a whole, identifying causal relationships to observed positive or negative consequences for marine use becomes challenging.
- Describing potential technological advancements in maritime sectors, such as the rapid development of offshore wind energy production (e.g., turbine size and height, spatial requirements), poses difficulties in assessing the significance of impacts.
- The effects of shipping, including on noise pollution and seabed integrity, necessitate data and assessment technique.
- The impacts of research activities on marine ecosystems necessitate attention.
- The influence of visual conditions in coastal sea areas, including the presence of wind parks and other infrastructure objects, requires consideration.
- Enhancing cultural heritage assessments to evaluate the risk of encountering cultural heritage at sea is also crucial.
- Understanding the resource needs and impacts associated with the construction of new artificial islands is imperative.

3. Shortage in Know-how

- The selection of assessment indicators is often driven by data availability, leading to potential limitations in the representativeness and comprehensiveness of the assessment.
- Uncertainty tends to increase with higher levels of aggregation. As the level of analysis becomes more comprehensive, encompassing a greater number of system components and their interactions, the complexity of uncertainties also rises.

- There is a deficiency in scientific assessment criteria, both concerning the evaluation of the environmental status and regarding the impacts of anthropogenic activities on the development of the living marine environment. This lack impedes the comprehensive consideration of cumulative effects over time and space.

3.5. Transboundary consultation on SEA and coordination on MSP

Article 7 of the SEA directive outlines the procedure for transboundary consultations on environmental matters. Transboundary consultations involving authorities and the public in neighbouring Member States must be organized if significant transboundary effects (positive as well as negative) on the environment are likely. The Member State in whose territory the plan or programme is being prepared shall, before its adoption, send a copy of the draft plan or programme and the relevant environmental report to the other Member State.

Where a Member State is sent a copy of a draft plan or programme and an environmental report, it shall indicate to the other Member State whether it wishes to enter into consultations before the adoption of the document gets finalized or goes through the legal process, and if it so, indicates the Member States concerned shall enter into consultations concerning the likely transboundary environmental effects and the measures envisaged to reduce or eliminate such effects. Where such consultations take place, the Member States shall agree on detailed arrangements to ensure that the authorities and the public in the Member State likely to be significantly affected are informed and given an opportunity to forward their opinion within a reasonable time-frame.

According to the article 10 of the SEA Protocol under Espoo Convention, the Party of the Protocol shall as early as possible before the adoption of the plan or programme notify the affected Party. The notification shall include a) the draft plan or programme and the environmental report including information on its possible transboundary environmental, including health, effects; and (b) Information regarding the decision-making procedure, including an indication of a reasonable time schedule for the transmission of comments. Although SEA Protocol requires to notify as early as possible, the notification letter must include the documents which are typically not ready at the early stage of the MSP and SEA processes.

In practice, a first notification letter for majority of countries was sent in the early stage of MSP and SEA indicating that the planning process had been launched and briefly describing the process and content of the anticipated plan. Some countries also attached a draft scoping report and asked for comments on both the scope of the environmental report and the MSP itself.

A transboundary consultation on SEA (Espoo consultation) is viewed not only as a mandatory process but also as an important activity to inform neighbouring countries about assessment results and draft MSP. As the form and timing of the consultation are not explicitly defined, arrangements shall be agreed upon, Consequently, the approach to consultation has varied in terms of which Member States are consulted and whether a transboundary consultation meeting is arranged. Some countries organised consultation meetings with direct neighbouring countries to communicate about cross-border issues, other countries invite all countries of the Baltic Sea basin. The approach depends on the scope and the identified scale of impacts. Due to the unlikely effects on the environment, some Member States have indicated that they do not engage in transboundary consultation, especially in cases where they do not have direct bordering marine areas.

At the end of the consultation process, it is common to produce an overview table listing all received comments and responses, detailing how each comment is perceived and addressed.

Article 11 of the MSP Directive requires that Member States bordering marine waters cooperate with the aim of ensuring coherence and coordination in maritime spatial plans across the relevant marine region. This cooperation must take into account issues of a transnational nature. In this context, the coordination of environmental interests, particularly the assessment of cumulative effects, is considered a crucial aspect of transboundary cooperation.

For some countries, the Espoo consultation meetings also serve as a formal procedure for discussing MSP content and proposed solutions consciously, making it a key process between neighbouring countries. Successive meetings organized for transboundary coordination on MSP were often topic-specific and typically arranged within the framework of cross-border projects.

Some countries organized information meetings with the goal of presenting drafts of MSP and SEA reports at various stages of elaboration and providing opportunities for participants from abroad to ask questions. In the case of Poland, three initial meetings were organized for the MSP contact points from the Baltic Sea Region. Additionally, bilateral meetings between countries were organized by MSP focal points. The aim of such meetings was to exchange information regarding the draft MSP and SEA reports and collect expert opinions from other countries to ensure the coherence of the plans. The basis for such meetings were the Guidelines on transboundary consultations, public participation, and cooperation of the HELCOM-VASAB MSP WG.

Baltic Sea Interreg projects and the Baltic transboundary projects funded the European Maritime and Fishery Fund have been very important mechanisms to support transboundary cooperation on different issues, increasing planning capacities, enhancing methodologies, as well as establishing networks of experts

thus to ensure the coherence in development across countries while addressing potential cross-border environmental impacts.

Table 7. Overview on transboundary consultation.

Country	Transboundary consultations on SEA	Countries consulted	Main issues	Transboundary consultations on MSP
DE	• Notification letter sent with a scoping report • 3 consultation meetings organised: 1) on scoping; 2) 1st draft MSP and ER; 2) 2nd draft MSP and ER • Received responses from EE, LV, PL, SE, DK • Letter of the response sent and all comments reflected in a separate document.	All Baltic Sea countries, except RU as it is not Espoo party	• Transboundary shipping, • Offshore wind development • Cumulative environmental impacts of wind energy. • Nature protection areas	• Online consultation meeting organised on MSP and ER
DK	The ER 2021: • Notification letter to all Baltic Sea countries • Consultation with countries who expressed interest. • Online consultation meeting • Written Comments received from DE, PL, FI and feedback provided. • Letter of consent The ER 2023 – consultation ongoing.	• Countries who expressed the interest - DE, PL, LV, LT, FI. • Public online consultation meeting for everyone	• Nature: impact on migratory routes of birds, bats and mammals; • Shipping corridors; • Offshore wind energy development; • Marine protected areas	• Online consultation meeting organised on MSP and ER
EE	• Notification letter; • 3 consultation meetings: 1) on scoping in Tallinn; 2) on draft MSP and SEA, online 3) on final solution and SEA, online.	Notification to all Baltic Sea countries, including Russia (consultations started in 2018); ER Report to FI, LV, LT, RU, SE	Major issues: 1) the proposed wind energy development areas should not impede international shipping traffic; and 2) the impacts associated with aquaculture areas and the planning conditions affecting them.	Arranged with support of the transboundary projects and other forums

Country	Transboundary consultations on SEA	Countries consulted	Main issues	Transboundary consultations on MSP
FI	• Not organised as no SEA was not conducted	Notification to all Baltic Sea countries, including Russia	• Marine nature including migratory species • Maritime traffic	• Consultation meetings 1) On-site Seminar in 2018 and 2) On-line Webinar in spring 2020 • Official consultation phase in Spring 2020 • Cooperation through transboundary projects
LV	• Notification letter; • Consultation meeting with LT; written communication with EE, SE	• Neighbouring countries invited to consultation - EE, LT and SE; • Information also sent to EE, LT, SE	Impacts on migratory birds, migratory routes of bats and seals, fish due to the developments of: • Shipping routes, • Potential wind park development areas, • Solutions of future transmission of electricity, • Areas for exploration and extraction of hydrocarbons.	• Meetings with EE, LT in the initial stage; with LT also on 1st draft of MSP; • Cooperation via transboundary projects
LT	• Notification letter; • Consultation meeting with LV and SE in Lithuania	• Neighbouring countries – SE and LT invited to consultation	• Port development • Offshore wind park development	Not organised
PL	• Information letter sent to all Baltic Sea countries that are the parties of the SEA Protocol, indicating potential impacts on DE, SE, DK; • Notification under SEA-protocol sent to DE, SE, DK • Received comments from DK, DE, SE, LT • Letter of the response SEA statement) sent and all comments reflected in a separate document. • 3 international consultation meetings	DE, SE, DK due to likely significant environmental impacts	• Areas of Concern: Impacts on nearby border Natura 2000 sites, its habitats and species (birds), mammals; • Analysis Approach: CIA; EBA in the MSP; integration of MPAs in MSP	• 3 international consultation meetings to discuss relevant issues for MSP and SEA; • Bilateral meeting with SE on Middle Bank and OWP

Country	Transboundary consultations on SEA	Countries consulted	Main issues	Transboundary consultations on MSP
SE	• Notification letter along with the scoping report; inviting to comment on the report • Consultation meeting on the proposed MSP and draft SEA; • Meeting on the reviewed plan and ER	All Baltic Sea countries, except RU as it is not an Espoo party		• Included in the meetings on SEA

3.6. Mitigation measures

The environment report shall contain the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme (SEA Directive, Annex I, (g)). The Article 7, point 2 of the SEA directive mandates that countries shall enter into transboundary consultations on the measures envisaged to reduce or eliminate potential negative effects.

The HELCOM-VASAB Guideline on EBA in MSP[7] defines the mitigation measures as measures which are envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan. During the implementation of MSP countries shall look for solutions to avoid, mitigate or compensate for negative impacts on the marine ecosystems and ensure sustainability in the uses of natural resources, respecting the capacity of ecosystems to respond to human-induced changes in the achievement of the strategic goals and environmental objectives (according to the BSAP).

The scope and level of detail in the proposed mitigation measures exhibit considerable variation among the countries (see Table 8). A set of mitigation measures with a preventive character aligns with the implementation of the precautionary principle already in MSP process – such as the waiving of the designation of wind energy production from nature conservation areas. Placement or location away from sensitive areas is the key type of measure; however, this is still challenging in open sea areas due to insufficiency in nature related data.

[7] Guideline for the implementation of ecosystem-based approach in Maritime Spatial Planning (MSP) in the Baltic Sea area; https://www.helcom.fi/wp-content/uploads/2019/08/Guideline-for-the-implementation-of-ecosystem-based-approach-in-MSP-in-the-Baltic-Sea-area_June-2016.pdf

Another set of governance-related mitigation measures involves conducting targeted marine studies and project specific assessments during the EIA process before permitting. These studies and assessments will provide new evidence for the next cycle or amending phase of MSP. They prove valuable in delineating the boundaries, enhancing flexibility and adaptability, particularly in cases where the EIA process for individual projects uncovers unexpected findings.

Thematically, mitigation or preventive measures are directed towards specific sectors, notably offshore wind energy development and oil and gas production, particularly concerning environmental components such as birds, bats, and mammals. ER has addressed risk management requirements to minimize the potential risks associated with accidents and pollution disasters. The development of ports, including extensions, has garnered attention due to its potential to exert significant negative effects on nearby nature protection areas and coastal geomorphological processes, such as coastal erosion.

Table 8. Proposing mitigation measures in the Environment Report

Country	Proposing mitigation measures	Proposing mitigation measures with transboundary relevance
DE	The ER, chapter 8 includes a set of measures to be implemented during planning and measures at the concrete implementation level. Measures in existing Site Development Plan are mentioned as well.	The ER, chapter 4.1. on transboundary impacts states that the provisions of the MSP do not pose any significant impacts on the areas of the neighbouring countries bordering the German Baltic Sea EEZ. However, due to potential cumulative effects on the highly mobile biological assets fish, marine mammals, seabirds and resting birds, as well as migratory birds and bats, some impact-reducing and damage-limiting measures are indicated. For example, the installation of the foundations of wind turbines and platforms is only permitted in the specific approval procedure if effective noise reduction measures are applied.
DK	The ER 2021 - Yes, dedicated chapter 7.1., table 7.1. The ER 2023 – the mitigation measures are included in the chapter of impact assessment (chapter 7). The chapter 10 points out the importance of the close coordination between planning and permitting authorities across the borders.	The ER 2021, chapter 6., table 6.1. presents the recommendations and measures of the transboundary relevance (ER, 2021). Measures target offshore wind energy development and oil and gas production for the following environmental components as birds, bats, mammals. The ER 2023 does not specify mitigation measures in transboundary context, except a need for coordination between planning and permitting authorities across the borders.

Country	Proposing mitigation measures	Proposing mitigation measures with transboundary relevance
EE	The ER proposes environmental measures to mitigate the impacts on environmental components and protected areas and objects. Site specific mitigation measures are proposed for Natura 2000 areas.	ER concludes that there is no direct transboundary impact associated with the MSP. Potential transboundary impacts need to be specified and assessed during the EIA process at the project level.
FI	No, as the plan was strategic in nature. The report "Impact Assessment of the Finnish Maritime Spatial Plan" presents overarching recommendations pertaining to MSP in a general sense.	No, transboundary environmental impact assessment not covered by the report.
LV	The ER, chapter 9 presents governance measures to prevent or reduce potential negative impact. The particular focus is on established procedures (licencing, EIA) for potential new sea uses.	No, as significant negative transboundary environmental impacts were not identified.
LT	Mitigation measures are presented for the transport sector (i.e., development and expansion of small seaports and wharfs on the Baltic Sea coastline) requiring to consider the coast formation processes and need to protect coasts from erosion. Specific measures to be elaborated in the next planning steps.	No, even the potential negative impacts from Butinge port on the Pape Nature Park, Latva is noted.
PL	The ER, chapter 11 included mitigation measures, which were appropriate to the level of detail in the draft plan. At first the chapter highlights that at the stage of the EIA of individual projects. Furthering, the chapter includes solutions that would implement EBA in detailed planning and EIA of the projects.	The ER, Chapter 14 contains specific recommendations that have also a potential to minimise transboundary impact. For example, allowed distance of offshore wind energy from Special Protection Areas, corridors between offshore wind parks to mitigate impacts on bird species.
SE	Swedish ER for MSP, chapter 11.2. and the table contains a compilation of measures in the environmental impact assessment of the approved marine spatial plan. Draft ER for revised MSP states that the table is still relevant, yet the focus is on those measures that mitigate impacts of offshore wind energy development.	Draft ER: For birds, possible barrier effects need to be investigated, especially upon establishment in several areas simultaneously and with consideration to planned wind power projects in the neighbouring countries. Cross-border collaboration on the assessment of these kinds of cumulative effects is desirable.

3.7. Integration of SEA findings in MSP

In accordance with Article 8 of the SEA Directive, the environmental report and the outcomes of both national and transboundary consultations shall be considered during the preparation and adoption of the plan. Subsequently, Member States must ensure that, upon plan adoption, relevant authorities, the public, and any transboundary consulted Member State are informed, and the following documents are made available: the adopted plan and a statement

summarizing how environmental considerations have been integrated into the plan and how the environmental report has been considered in decision-making.

The procedure and practice for implementing the above-written provisions vary among countries also in case of MSP (see Table 9). Some countries, such as Denmark and Latvia, have published a statement as a separate concise document. The German MSP contains concise information covering all three consultation stages and issues addressed therein. The Estonian MSP briefly describes and presents how the results from the environmental report are integrated into the MSP.

Table 9. Information on adoption of the MSP and taking into account the SEA findings.

Country	Practice in integration of SEA	Available information on integration of SEA findings in MSP
DE	The Appendix of the adopted MSP contains a section that describes in detail how the SEA results have been taken into account in the MSP.	https://www.bsh.de/EN/TOPICS/Offshore/Maritime_spatial_planning/Maritime_Spatial_Plan_2021/maritime-spatial-plan-2021_node.html
DK	Summary statement as a separate document in Danish is published.	https://havplan.dk/content/api/latest/files/b0635289-e114-4392-a714-dc423ded0f93/file
EE	Adopted MSP (Explanatory Memorandum), Chapter 4.2. Taking into account the results of impact assessment contains table on relevant SEA aspects to be taken into account.	Information is presented at the webpage on MSP and the Ministry of the Regional Affairs and Agriculture page: https://www.agri.ee/en/maritime-spatial-planning
FI	n.a.	n.a.
LV	Summary statement as a separate document in Latvian is published.	https://www.varam.gov.lv/lv/juras-planojums https://drive.google.com/file/d/1ED68k4g3_nqyaAJRwF6tljT9t4c2a-_R/view
LT	Summary statement as a separate document in English is published	https://www.bendrasisplanas.lt/2019/10/02/strategic-environmental-assessment-sea/
PL	Announcement of completion of the MSP (Polish) was published. For neighbouring countries, a statement on Explanation of how the results of the transboundary environmental impact study have been taken into account and to what extent	https://www.umgdy.gov.pl/plan_morski/ogloszenie-6/
SE	Dedicated chapter (No13) in the MSP.	https://www.havochvatten.se/en/our-organization/publications/swam-publications/2023-05-31-marine-spatial--plans.html

Beyond the official display of documents, it is crucial to emphasize that in the majority of countries, MSP and SEA teams collaborated closely. This

collaboration ensured the integration of environmental considerations into MSP. Given the considerable duration of the first MSP cycle in many countries, numerous interactions and internal debates among teams and experts on environmental matters may not be documented; however, the issues were addressed based on the available relevant data and knowledge.

The practical implementation of the findings or recommendations are implemented via different mechanisms. Most often these are conditions/rules for use of the specific area (zone) or guidance/recommendations for next steps in implementing MSP through licencing, permitting or more detailed planning.

4. Recommendations to the Baltic SEA framework expressed during the interviews

Views on common Baltic SEA Framework:

Views on the common Baltic SEA framework vary among countries and experts. Some emphasize the importance of dedicating efforts to continued collaboration on transboundary projects and with experts, supporting scientific work on challenging topics for the entire Baltic Sea. The priority lies in strengthening existing frameworks rather than creating new ones, with the SEA serving as an instrument for implementing the results of the ecosystem-based approach and promoting practical application.

On the contrary, an alternative and prevailing view among experts proposes that establishing a shared understanding of SEA principles within MSP could be advantageous. This involves aligning aspects such as data sets, methodologies, baseline descriptions, and consultation procedures to foster coherence and consistency. It is suggested that HELCOM-VASAB member countries agree on a best practice standard for transboundary consultation going beyond minimum requirements set by SEA Protocol/Directive. The importance of conducting Baltic-wide assessments and consultations is underscored, considering that national MSPs have been carried out independently in terms of process and speed. Coordination of the transboundary SEA process could be supported centrally by a transnational body, such as the MSP assistance mechanism, HELCOM Secretariat, or HELCOM-VASAB MSP Working Group.

Methodologies of impact assessment:

- Baltic-Wide Assessments and Consultations: While the contents may be subject to debate, SEA should underscore cumulative impacts and adopt a more strategic perspective on sectoral development, preferably with a long-term focus. Given the dynamic nature of marine areas, assessing cumulative impacts requires consideration of larger areas, making cross-border assessments highly relevant.
- The SEA serves as a tool for implementing the Ecosystem-Based Approach. However, the practical application of the EBA approach needs robust promotion, targeting not only MSP stakeholders but also institutions responsible for environmental protection in the Baltic Sea countries. Comments received from transboundary consultations are specific to potential pressures and impacts rather than the approach itself.
- While acknowledging the multidimensional and complex nature of the marine ecosystem where pressures and impacts are cumulative and vary

over space and time, there is a call from experts and stakeholders for a simple and standardized tool to assess impacts in a transparent manner.

- Recognizing the uncertainty surrounding economic sectoral developments and their potential environmental impacts within MSP. It would be beneficial to provide guidance or examples on effectively utilizing scenarios and managing their associated uncertainties in SEA.

Importance of Transboundary and Regional Projects:

- Communication among experts in transboundary projects is highly valuable for a better understanding of different comments and reactions from neighbouring countries during the consultation phase. Acquiring knowledge about the context and perspectives of neighbouring countries is essential and can be facilitated through cooperation projects or other platforms. Transboundary projects are also valuable for networking and establishing informal contacts to develop solutions for common challenges.
- Establishing a dedicated cooperation mechanism for the development of Electricity Grid Infrastructure is crucial due to individual connections potentially leading to larger impacts on seabed habitats. Considering the ambitious wind energy plans and the areas allocated for this sea-use in MPSs, ensuring transboundary grid connections, including a collaborative SEA study for the Baltic Sea, becomes imperative.

Transboundary Data Sets:

- Utilising existing and available platforms, including Geographic Information Systems (GIS), for collaboration and communication across countries. However, it is emphasized that national datasets play a more crucial role than Baltic Sea basin studies and assessments.
- Maximizing the impact of numerous initiatives within the EU focused on digital platforms and tools for use in MPS. This could be achieved through collaboration, combining efforts, and streamlining resources to capitalize on synergies. For example, projects like EMODNET and Basemaps could complement each other well.
- Highlighting the importance of using all available data derived from projects and research. Otherwise, the produced results stay as reports and not applied in real life situations.
- Need for continuous work to increase spatial resolutions.
- Advocating for stakeholder engagement, particularly involving marine data providers from different sectors, to support the Baltic SEA framework.
- Acknowledging the variations in data availability and quality among countries, with some possessing superior data, information, and

knowledge. This recognition implies that the SEA should integrate not only the HELCOM dataset but also utilize data of the highest quality available.

Collaboration of Planning and Environmental Impact Teams:

- Strongly recommending close links and integration between the planning and environmental impact teams. This way the SEA will not merely a subsequent report but actively influences the planning outcome. The stronger and earlier this integration occurs, the more powerful SEA becomes, yielding greater benefits. The simultaneous preparation of the SEA Report and the spatial plan encourages ongoing discussions and the implementation of pro-environmental solutions proposed by the SEA Report team.
- Highlighting the importance of increased information exchange between neighbouring countries. Organizing extended unofficial meetings during the MSP and SEA processes can lead to fewer comments during the official SEA procedure when the formal consultation is carried out in accordance with the SEA directive and Espoo Convention. Therefore, facilitating additional information exchange between neighbouring countries is beneficial, going beyond the minimum legal requirements.