CAPACITY4MSP
Strengthening the capacity of MSP stakeholders and decision makers

Interreg
Baltic Sea Region

EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND

EU STRATEGY FOR THE BALTIC SEA REGION
FLAGSHIP

Synthesis Report on the Experience from Maritime Spatial Planning Projects in the Baltic Sea Region and the Resultant Policy Messages

‘The Synthesis report on the experience from maritime spatial planning (MSP) projects in the Baltic Sea Region and the resultant policy messages’ was developed by the consortium of the Interreg BSR project platform Capacity4MSP: Strengthening the capacity of MSP stakeholders and decision makers.

Editors:

Jacek Zaucha, Magdalena Matczak, Jakub Turski, Maritime Institute of the Gdynia Maritime University; Inga Jēkabsone, VASAB Secretariat. 2021.

Disclaimer:

Table of Contents

Introduction

This report has been prepared by the project partners under the Interreg BSR programme project “Strengthening the capacity of MSP stakeholders and decision makers” (Capacity4MSP). The overall aim of this report is to synthesize and multiply the knowledge gained from various maritime spatial planning (MSP) projects and MSP practices within and beyond the Baltic Sea Region (BSR) in order to supplement the EU’s, pan-Baltic and national commitments towards well-functioning MSP in the BSR by 2021. The objective of the report is to increase the visibility and impact of the concluded and ongoing transnational MSP projects and to demonstrate synergies between their achievements, and by that facilitate successful alignment of new sea uses (for example, renewable energy production, aquaculture, protection of underwater heritage). The report will also enhance the synergies in MSP with regard to the application of horizontal issues — for example, the concept of multi-use, land-sea interaction, cumulative impacts — from the perspective of new sea uses.

The target group that the report aims to address is MSP decision- and policy-makers (in particular, the HELCOM-VASAB MSP Working Group and relevant ministries) with regard to revision processes of MSP policy frameworks. The report brings additional input to the future MSP agenda after 2020 (e.g. the update on HELCOM Baltic Sea Action Plan (BSAP) preparation of the new MSP Roadmap 2021-2027, preparations for the update of VASAB LTP), as well as identifies potential themes for MSP cooperation projects for the next EU financial perspective 2021 - 27. Since application, evaluation and monitoring the performance of maritime spatial plans will be a key challenge after 2020/21 (i.e., when maritime spatial plans have to be ready according to the EU MSP Directive, which establishes a framework for maritime spatial planning), the report tries to contribute in this regard by defining criteria and indicators for MSP process, content and performance. A proposal for a methodology to follow up on the previous accomplishments of regional MSP commitments is formulated below. This proposal could be utilized to investigate a suitable future regional follow-up system for the HELCOM-VASAB MSP WG. The need for regular monitoring and evaluation of MSP is also regarded a topical task for the Baltic MSP in the REGIONAL BALTIC MSP ROADMAP2013-2020, and the report recognizes and supports it. The report also contributes to the efforts to implement MSP coherently across the BSR, especially the Russian Federation, where the development of MSP is lagging compared to EU Member States. In this regard, the report provides proposals for the enhancement of the Russian MSP and marine management framework.

The report is composed of two parts. The first part screens and analyses the good practices in the themes important for the future of the BSR MSP. The following themes have

been investigated: cumulative impact assessment, green infrastructure, land-sea interactions, transnational actions, climate change, blue growth (blue economy) and the carrying capacity of a marine environment, data, MSP education, safety, socio-economic analysis, multi-use and conflict analysis, energy, new shipping, aquaculture, maritime cultural heritage, recreation and tourism, vision, ecosystem-based approach (EBA), monitoring and evaluation. In the second part, the conclusion of this examination is proposed in terms of: creating synergies between themes, a list of issues/activities of key importance for the development of BSR MSP (gaps in good practices, needs for further transnational co-operation), criteria and indicators for the process, content and performance of MSP. Governance is a cross-cutting theme present in many good practices, and therefore has not been analysed separately. However, a key challenge in terms of marine space governance remains unsolved, i.e. how to wisely structure the processes which come in hierarchical order after a maritime spatial plan has been adopted to ensure the implementation of the key targets planned. This is a key issue conditioning the effectiveness of the public intervention in the development of a marine space. Experience and practical knowledge on this issue remains scarce.

The following projects have been screened for good practices of MSP:

INTERREG projects: BalticLINes, BalticRIM, BalticInteGrid, Baltic Blue Growth, Plan4Blue, Land Sea Act, PlanCoast Submariner, Aquabest, SeaPlanSpace, InnoAquaTech, Baltacar, PartiSEApate, BaltSeaPlan, GRASS;

BONUS projects: BONUS BaltSpace, BONUS BASMATI;

DG MARE funded projects and initiatives: Plan Bothnia, Baltic Scope, Pan Baltic Scope EU MSP Platform;

HORIZON projects: MUSES/UNITED;

ERASMUS+: Knowledge Flows.

The most important sources of good practices have been the BSR Interreg projects. The table below lists the good practices provided by these projects. The projects are described in more depth in Annex 1, with the background analysis attached in other Annexes.

For presenting the results of the screening effort, the themes were grouped into four larger categories:

1. **Planning**: visions, cross-border planning, transnational collaboration, monitoring and evaluation;
2. **Analysis**: socio-economic analysis, MSP knowledge, data, Cumulative Impact Assessment;
3. **Concepts**: multi-use, land-sea interactions, green infrastructure, ecosystem-based approach, climate change, safety;
4. **Sea uses**: recreation and tourism, shipping, blue economy, aquaculture, energy, marine culture heritage, fishery.

The list of good practices provided by MSP projects.

	CIA	GI	LSI	Cross-border planning	Transnational collaboration	Climate Change	Blue Economy	DATA	MSP Knowledge	Safety	SocioEconomic Analysis	Multi Use analysis	Energy	Shipping	Aquaculture	Fishery	MCH	Recreaction & tourism	Visions	Ecosystem Based Approach	Monitoring/ evaluation
Baltic Lines								x	x				x	x					x		
BalticRIM			x				x	x	x		x						x				
BalticIntegrid					x								x						x		
BalticBlueGrowth		x					x	x			x				x			x		x	
MSP Platform							x	x	x		x	x							x	x	x
Land Sea Act			x				x				x		x				x				
Baltic Scope		x							x	x				x						x	x
Pan Baltic Scope	x	x	x		x	x		x			x					x				x	x
Muses/United												x	x		x		x	x			
Basmati	x	x						x				x									
BaltSpace					x				x		x										x
SeaPlanSpace					x				x												
InnoAquaTech															x						
Knowledge Flows									x												
Plan4Blue		x			x						x								x		
Baltacar		x			x			x	x								x	x			
Plan Bothnia				x	x											x			x		
PartiSEApate					x		x	x					x	x	x		x				
BaltSeaPlan				x			x	x	x	x			x		x	x			x		
GRASS											x				x						
AquaBest															x						
Submariner							x								x						
PlanCoast									x												

Part I Good Practices

A. Planning

A1. VISIONS: HOW TO PREPARE MSP VISIONS AND RUN VISIONING PROCESSES

Visioning and scenario exercises have often been used at the initial stages of the MSP process with the aim to anticipate changes in maritime sectors, discuss different options for a maritime space in question and agree on a preferable course of development. These processes have been beneficial for creating an understanding of long-term planning objectives, aligning different sectoral priorities and defining planning objectives as a result. For the visions several good practices were identified: the overall MSP Vision 2030 for the Baltic Sea Region (**BaltSeaPlan**), a handbook on developing MSP visions **(MSP Platform),** the MSP vision for the Bothnian Sea **(Plan Bothnia),** the vision of the meshed grid for interconnecting offshore wind farms **(Baltic InteGrid),** a long-term vision for sustainable blue growth **(Plan4Blue),** and a foresight report for the BSR shipping **(Baltic LINes).** Of these visions, at least two influenced the national MSP processes: **BaltSeaPlan** and **Baltic LINes,** largely thanks to the MSP authorities' involvement in the preparation work and ownership of the outcomes.

A 1.1. MSP visions and visioning

The development of a MSP vision usually starts with an investigation of future trends, using methods such as forecasts and/or scenarios to analyse possible and/or desirable future conditions. Scenarios offer a good starting point for stakeholder engagement and for raising discussions. Providing an overview of the existing maritime sector developments and their evolution can be the first step for planners when assessing spatial requirements of maritime sectors. The development of a vision also allows for the identification of priorities and potential synergies in each

space and the agreement on objectives, for which indicators can then be developed. **Vision 2030,** developed under the **BaltSeaPlan,** provides guidance through the stages of an MSP life cycle. It starts by setting common goals, values and priorities, asking what the Baltic Sea region could or should be like in 2030. The vision also asks for the necessary spatial governance framework and provides principles which should be applied by the Baltic Sea states in the future MSP process, for example Pan-Baltic thinking, spatial efficiency and spatial connectivity. The vision identifies key topics for a sustainable development of the Baltic Sea, which require cross-border cooperation (fishery and aquaculture, linear infrastructure, shipping, natural environment). As a result, the vision influenced the planning in many countries, the preparation of the guiding documents by the HELCOM-VASAB MSP WG and gave birth to many transnational projects. ***The Handbook for developing Visions in MSP*** (by the EU MSP Platform) clarifies the meaning of the different formats and elements a vision may entail, i.e. scenarios, forecasts, visions, strategies, action plans and roadmaps, and explains how they can be used in MSP processes. The Handbook presents methodological approaches used in the existing and on-going vision development processes and highlights the lessons learnt. It provides multiple examples from the vision development processes in the Baltic Sea, for example the BaltSeaPlan Vision 2030. The Handbook does not only highlight good practices on related formats, processes and tools from these given processes, but also lists lessons to be learned to inform and potentially improve future vision processes.

During **the Young Planners' Contest** organised by VASAB, the vision of the United Baltic Belt was elaborated. It envisaged that by 2050 the Baltic Sea and its coastal area would be governed as a united entity, which would increase the quality of life, improve the environmental status of the Baltic Sea and harmonize planning processes across the borders. The details can be found on VASAB website (https://vasab.org/ypc/contest-results/).

The vision for the Bothnian Sea illustrates how such MSP can be formulated. It is composed of key overarching goals (describing an ideal situation in the future) and a mechanism that might help in approaching these ideals.

Vision for the Bothnian Sea:

The Bothnian Sea remains a place of unique natural beauty where human activities take place without damaging the Sea's ecological status, contribute to combating global climate change and enable communities in the region to prosper. This vision should be implemented by six objectives covering ecosystem integrity, protected areas, maritime traffic, renewable energy, fisheries as well as regional development.

Finally, the **Plan4Blue** project conducted a very comprehensive multi-method scenario process. This is a good practice that illustrates visionary planning of how to prepare a long-term vision of sustainability by applying the scenario planning method. This practice utilised extensive stakeholder involvement in the scenario development

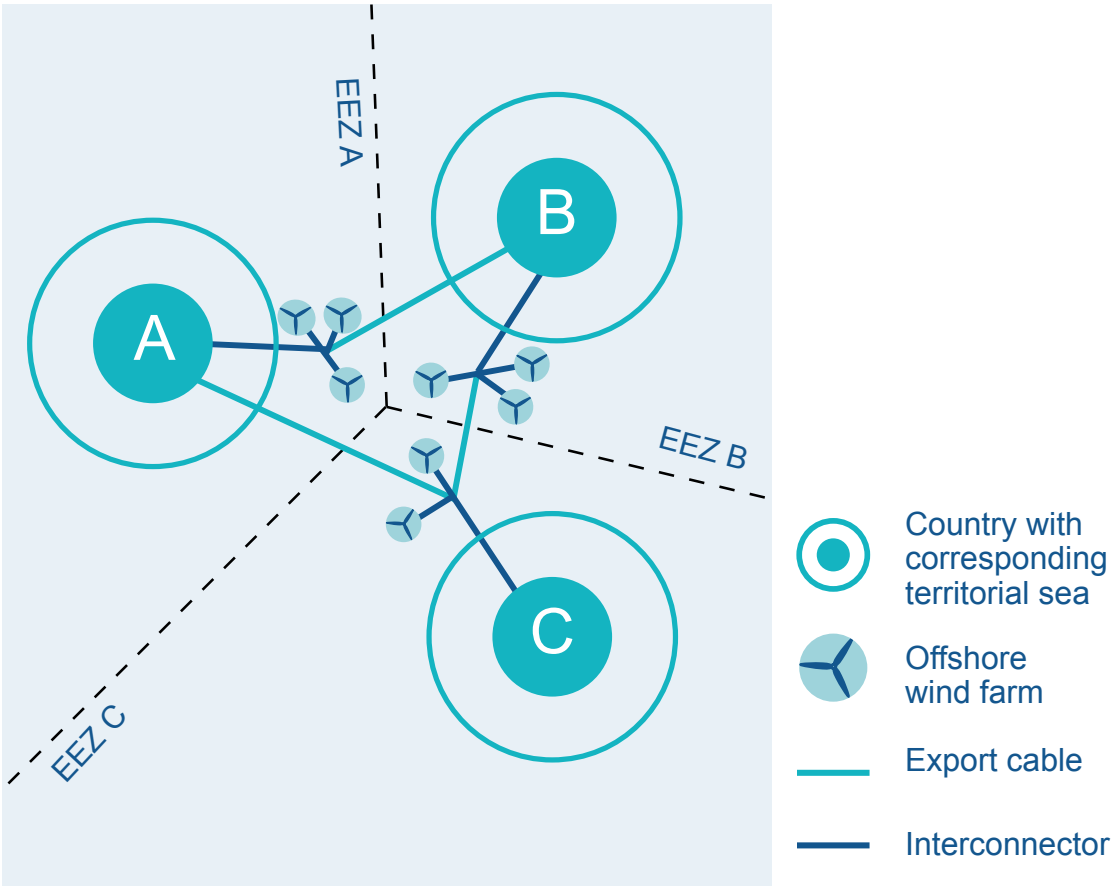
process. The experience is described in the report ***Blue Growth — Drivers and alternative scenarios for the Gulf of Finland and the Archipelago Sea***, which also elaborates on the methodology and its applicability to other areas.

A 1.2. Sectoral visions and visioning

Two sectors prepared their visions for the development of the Baltic space**: offshore energy (Baltic InteGrid project) and shipping (Baltic LINes project).** A mesh grid is used to create a vision in which offshore farms are connected not only to their home countries but also among themselves. This is a more integrated approach with links between wind farms in the territorial waters or EEZs of several countries. The farms are linked to each other as well as to the shore grid of several countries. In this situation, some submarine cables have a twofold use, serving as both interconnectors and export cables.

The **Baltic InteGrid** project has tested this perspective of a meshed grid for the Baltic Sea to be realised by 2050, tentatively named BOG 2050. The project analysis showed that, in many ways, a meshed grid would be the best method to ensure that the additional power generated offshore in the Baltic Sea in the coming decades can reach end-users as efficiently as possible. Such a grid would also strengthen interconnections between the countries in the Baltic Sea Region, improving energy security.

The **Baltic LINes** project has developed **spatial shipping scenarios in the Baltic Sea**. The report ***QUO VADIS: Exploring the future of shipping in the Baltic Sea*** summarises these efforts and can be treated as a blueprint in terms of preparing sectoral spatial visions for the sea. More details of the report are available in the shipping section of this report.



Source: Baltic InteGrid: towards a meshed offshore grid in the Baltic Sea, p.5 available at: http://www.baltic-integrid.eu/index.php/download.html (accessed 1 October 2020)

A 1.3. Key observations (input to the conclusions)

Good practices related to visions have been documented. Despite their great potential to influence the planning process and outcomes, they have not been frequently used. The most probable reasons are either lack of trust in the practical power of a vision to make a difference to the reality or the concentration on concrete planning topics. As suggested by the HELCOM-VASAB MSP WG, several countries have been reluctant due to lack of long-term sectoral policies and targets. However, visions are important for stakeholder engagement, adding social sustainability to the economic and environmental ones, and for discussing long-term development goals. At least in the BSR, a more complex cross-sectoral vision (integrating sectors) prepared by different authorities has not been sufficiently developed (such as the BSR Integrated Coastal Management (ICM) vision proposed by students at the BSR Young Planners` Contest initiated and organised by VASAB). Perhaps the exercise with the BSR MSP Vision 2030 should be repeated in around 2022, when new knowledge has been accumulated over the period of ten years (MSP plans will be prepared in all BSR EU countries), and other authorities should be invited to participate. For pursuing visions, political commitment is necessary (also for a mesh grid).

A 2. CROSS-BORDER PLANNING: HOW TO ALLIGN MSP PLANS BETWEEN NEIGHBOURING COUNTRIES AND/OR NEIGHBOURING REGIONS

Cross-border cases related to MSP demonstrate joint planning attempts of neighbouring countries. As a rule, regulatory or even non-binding MSP plans prepared under the Directive of the European Parliament which establishes a framework for maritime spatial planning are done within national set-up since spatial planning remains a national sovereign task. Therefore, cross-border planning attempts deliver know-how on opening these planning processes and on placing them in a broader international context. Such cross-border non-regulatory pilot plans were prepared by the **BaltSeaPlan** and **Plan Bothnia projects.** However, no good practices on coherent regional cross-border **MSP** have been identified in the projects under examination.

A 2.1. Cross-border planning cases

Four cross-border pilot maritime spatial plans or planning processes have been identified. Three of them have been executed in the Western part of the BSR: for the Middle Bank (Poland and Sweden), Bothnia Bay (Finland and Sweden) and for the Pomerania/Arkona Bight (Poland, Sweden, Germany and Denmark) (**BaltSeaPlan)**. The plan for Bothnian sea covers the Northern BSR (**Plan Bothnia**). All of them were executed before starting national MSP processes, in line with the EU Directive. Thus, these plans can be seen as a preparatory stage for official national plans. Their elaboration helped in mapping all existing and potential uses in the planned areas regardless of their location,

launched discussion on cross border issues and revealed differences in the direction of spatial development of marine areas of neighbouring countries and by that contributed to the diminishing of the scale of cross-border conflicts. The findings were summarised in the project reports. For instance, the result of the **Plan Bothnia project** prepared the MSP document ***Planning the Bothnian Sea***, which was created as a collective effort by six partners and numerous participants from regional and national authorities in Sweden and Finland. Also, methodology for cross-border planning was tested under these cross-border pilot maritime spatial plans. In addition to that, the nature of the MSP transnational process, the roles of the various stakeholders, the methods and patterns of communication, the level of institutional engagement, the timing and regularity of contact, building of trust and understanding, and public communication have been analysed, discussed or conceptualised.

A 2.2. Key observations (input to the conclusions)

Informal cross-border planning attempts should be launched when official national MSP processes are started. They can be continued with non-EU states not planning their marine waters under national MSP. Such exercises may also be useful among EU Member States in the areas requiring better cross-border planning alignment, e.g. the Gulf of Riga or Danish Straight. They can be used for deepening some important themes and engaging cross-border stakeholders. However, such informal planning exercises should not substitute legally mandated planning processes.

A 3. TRANSNATIONAL COLLABORATION: COLLABORATION ON MSP ENCOMPASSING SEVERAL COUNTRIES

Transnational collaboration in MSP results in concepts, recommendations, guidelines, exchange of experience rather than in transnational maritime spatial plans. Currently the main forum for transnational MSP co-operation in the BSR is provided by the HELCOM-VASAB MSP Working Group (elaborating guidelines, encouraging information and knowledge exchange etc.) and transnational projects, which develop and propose new ideas and suggestions. However, they often have insufficient capacity to influence the MSP reality or limited time horizon to implement them.

Eight relevant good practices have been identified so far: testing and conceptualization of transnational collaboration themes (e.g. prefeasibility studies and concepts) (**Baltacar**, **Baltic InteGrid, Plan4Blue**) and strengthening transnational cooperation (**BaltSpace, PanBalticScope (2), PartiSEApate and PlanBothnia**). Moreover, many projects have issued transnational recommendations relevant for pan-Baltic coherence of MSP, among them PanBaltic Scope, BalticSCOPE, Baltic Rim, Baltic LINes, PartiSEApate, BaltSeaPlan[1]. They are discussed under the relevant themes covered by those projects. On top of that, project **SeaPlanSpace** has prepared and tested training on MSP, which is offered in line with internationally agreed curricula. This project will be described in the chapter on education.

[1] Recommendations for a future MSP data infrastructure.

A 3.1.Transnational cooperation processes

Projects **PartiSEApate** and **Plan Bothnia** contributed first to the development of the BSR governance model on transnational MSP and to strengthening the BSR governance on MSP. The model shows a division of labour among different MSP actors (ministries, planning agencies, other stakeholders) and different planning scales. The key elements are the following:

- the HELCOM-VASAB MSP WG, composed of representatives from VASAB & HELCOM member states/parties; decisions are taken in consensus;
- important documents developed by the aforesaid working group guiding or supporting BSR MSP: ***MSP principles, MSP Roadmap and Guidelines, MSP country fiches*** (initially developed within the framework of the PartiSEApate project) improving MSR MSP governance;
- different expert sub-groups which work within a given time period on specific MSP topics (e.g. BSR MSP Data Expert Sub-group);
- a permanent MSP dialogue coordinator, hosted by the VASAB secretariat and assisted by the HELCOM secretariat;
- pan-Baltic sector/stakeholder organisations;
- an MSP practitioners'[2] network;
- Planners' Forum[3] (Pan Baltic Scope).

The **BONUS BALTSPACE** project suggested a further extension of the model. The essence of this proposal is the integration of a collective action- and agency-driven coordination. This means strengthening both existing Baltic forms of transnational collaboration and deepening informal collaboration on Baltic and sub-Baltic level. More permanent forums (e.g. encompassing regional and local actors) for transnational collaboration as well as forums for specific marine sub-basins and straits are required at a pan-Baltic institutional level. Such forums could continuously serve the needs of informal transnational coordination, which was found to be very important to facilitate more practical discussions on MSP implementation in different countries in the Baltic Sea Region. Under the **Pan Baltic Scope** project, the existing key documents providing frame for transnational co-operation (the Baltic Sea Broad-scale MSP Principles, Regional Baltic MSP Roadmap 2013-2020, and Guidelines on transboundary consultations, public participation and co-operation) were evaluated and recommendations for possible update of the framework were prepared. A separate evaluation of the guidelines for the implementation of ecosystem-based approach in MSP in the Baltic Sea area was conducted. Within the project, also the idea of the Planners' Forum was launched. The Planners' Forum is a practical, hands-on vehicle to deal with planning issues in the Baltic Sea Region, ensuring cross-border perspective and increased coherence. The Forum has acted as a practical dissemination and collaboration platform, supporting ongoing national and regional MSP processes and the

[2] ToR for Data group were prepared within PartiSEApate project, and practical support and assistance to the Data group meetings has been ensured by series of HASPS projects.
[3] Please see: http://www.panbalticscope.eu/activities/cross-border-collaboration-and-consultation-to-support-national-msp-processes/planning-forum.

implementation of the MSP policy. It provided an opportunity for in-depth discussions, establishing practical task forces and exchanging good practices and experiences in MSP among practitioners. It has complemented the current cooperation within the HELCOM-VASAB MSP Working Group with practical, task-oriented and informal working methods, thereby contributing to an efficient, completer and more strengthened MSP network. In addition to that, the **Plan4Blue** project developed recommendations on cross-border collaboration. They highlight the importance of learning, sharing information and the long-term cyclical nature of MSP. Finally, transnational co-operation of MSP authorities with regard to concrete planning issues as a part of the official MSP planning was tested under the **Pan Baltic Scope** project (e.g. Finland-Aland-Sweden case). The **Pan Baltic Scope** project and its predecessor, Baltic SCOPE, brought together planning authorities in the Baltic Sea Region to examine jointly problems related to MSP, increase MSP capacity and discuss joint planning solutions on cross-border issues. The process carried out in the projects was linked to the on-going (or in the preparation phase) national MSP processes. The collaboration within the **Baltic SCOPE** project tested and used a stepwise and cross-cutting planning approach in the Finland-Aland-Sweden case. The steps involved the preparation, including the assessment reports, identification of planning needs, finding solutions and agreeing on conclusions. One lesson learned is that transnational collaboration requires teamwork at pan-Baltic level as well as a bi- or tri-lateral cooperation among the countries. Also, gathering and building common planning evidence, criteria and approaches are very useful activities. The project suggests the establishment of a permanent forum for networking and hands-on collaboration between the planning authorities.

A 3.2.Transnational planning concepts

There are several concepts which have been operationalised and tested. The first one is related to linear infrastructure. The essence of good practice lies in preparing prefeasibility studies on transnational energy transmission links which consider the complexity of spatial development, conflicting spatial interests and the national character of MSP. Under the **Baltic InteGrid** project, prefeasibility studies were performed for two cases. The first one was an electrical connection between Poland, Sweden and Lithuania, integrated with planned offshore wind farms in these countries. The second one studied German - Swedish interconnection, with the possibility to connect offshore wind farms located in Denmark (off the coast of Bornholm). The analytical work conducted for the study included the analysis of the existing and planned off-shore wind farm (OWF) projects and infrastructure, spatial and environmental analysis, technical design and cost-benefit analysis (CBA) using the ENTSO-E CBA methodology. For each case six development scenarios were devised, depending on the level of integration and speed of OWE development in the region.

The second good practice is related to transnational tourism. Under the **Baltacar** project, which involved three countries, the concept of shared transnational diving parks situated in the border areas was elaborated. It also provided joint principles

for diving and maritime cultural heritage (MCH). This is an innovative idea to promote shared maritime cultural heritage in cooperation with partner countries. It forces to create joint rules and enhance cooperation, which can only occur if the countries trust each other and have sufficient legislative premises. Furthermore, it erases obstacles such as maritime country borders, therefore the monitoring of underwater cultural heritage or diving activity would not be limited within the borders of one country. The third set of good practices was elaborated under the **Plan4Blue** project. The project conducted three cross-border case studies on shipping, pelagic fishing and NATURA 2000 network. In addition, the project reviewed literature on cross-border collaboration in spatial planning in both marine and terrestrial context.

A 3.3. Key observations (input to the conclusions)

Transnational collaboration in MSP has firm ground and tradition in the BSR. The MSP planners are aware in which situations and for which topics close collaboration between countries is reasonable. Also, procedures for the coordination of the official plans have been established. Moreover, elements requiring transnational MSP co-operation (identified in Vision 2030) have been operationalised under various projects, with the Information available at EU MSP Platform. A key dilemma is the extension of the existing modus of co-operation to implement a broader, i.e. more multi-level, transnational governance model. This should engage other ministries at national or regional level.

A 4. MONITORING AND EVALUATION: MONITORING IMPLEMENTATION OF PLANS AND MONITORING AND EVALUATING THEIR IMPACTS/RESULTS

Monitoring and evaluation will be one of the key MSP concerns when plans will be launched and start functioning. This will be an extremely challenging task regarding transnational impacts since various plans will be built in different ways (methodological or even axiological differences). The experience in this theme is scarce, only a few good practices have been identified (**MSP Platform, Baltic SCOPE**, **Pan Baltic Scope** and **BaltSpace**). However, also the SDI4SEB project indicators can be seen as an example of a monitoring attempt covering mainly coastal areas (ICZM).

A 4.1. Good monitoring practices

As part of MSP for Blue Growth Technical Study (2017), **the EU MSP Platform** published a ***Handbook on MSP Indicators Development*** (2018), which helps authorities to define objectives for MSP and to develop appropriate indicators to monitor MSP processes and link their outcomes to Blue Growth. It presents a step-by-step approach to developing MSP indicators and provides the MSP community with suggestions on the use of spatial indicators to support the inclusion of sustainable Blue Growth in MSP processes. There are no one-size-fits-all solutions for MSP and related indicator development, which is why the Handbook offers a flexible approach with examples of possible indicators that need to be customised to the local contexts. MSP processes should be guided by pre-defined objectives, whose achievement may be tracked through appropriate indicators.

Under the **BaltSpace** project, an indicator system was tested as a monitoring tool tracing the links between maritime economic development and the environmental and socio-economic status of the planning area. The main objective is to see whether MSP is beneficial for coastal communities in terms of economic growth and social well-being, as well as for the general ecological status of the marine environment. Indicator systems can be used to estimate the impacts of MSP *ex ante* and evaluate them *ex-post*, for example in terms of spatial efficiency, functionality of ecosystems, navigation, economic cost reduction and contribution to social welfare.

A guidance on evaluation and monitoring of transnational collaboration in maritime spatial planning (MSP) was developed under the **Baltic SCOPE** project. The guidance proposes an approach to evaluating such processes. It is based on findings from a literature review on evaluation of spatial planning at sea and on land and, especially on the material collected during the execution of the project. The Guidance underlines that cross-border collaboration is practiced in very different contexts and has very different objectives. This means that the evaluation framework cannot be presented as one standard evaluation protocol. Instead, it must be flexible and adaptable for different contexts and cases.

The **Pan Baltic Scope** project developed conceptual basis for monitoring and evaluation. For this purpose, literature on evaluation of MSP and spatial planning on land, as well as literature on evaluation of broad-scale, multi-level and multisectoral policies that have much in common with broad-scale spatial planning such as MSP were evaluated. Another part of the project was practical work together with Latvian and Polish MSP authorities to observe how they are planning to monitor and evaluate their national MSP. The key findings on evaluating MSP plans are the following. Firstly, objectives given for the plans are not always specific enough for successful monitoring and evaluation. There is a need to develop general objectives and more specific sub-objectives. Secondly, useful indicators do not focus on the results of the plans only. The project has identified indicators that focus on the context of MSP, on the process and inputs needed for successful MSP and on the outputs that produce the preferred results. Finally, the monitoring of MSP cannot be based solely on indicators, because of the difficulty to differentiate between changes which are a result of MSP and those which are not. As a complement, input from experts and stakeholders can be collected in deliberative, systematic assessments of how MSP influences maritime sectors, marine environment and the society.

A 4.2. Key observations (input to the conclusions)

This is one of the most topical issues for the future BSR collaboration on MSP. The theoretical foundations do exist, but the issue needs deeper analysis and further practical testing. It should be done within the framework of a transnational project and the professional discourse (exchange of experience) at the HELCOM-VASAB MSP WG level. Attention should be given to monitoring the governance of MSP and impact of MSP on blue economies. Implementation must be demonstrated much more clearly and possible consequences for other agencies/ministries should be assessed and monitored. This is a key precondition for an adaptive MSP.

B. ANALYSIS

B 1. SOCIO-ECONOMIC ANALYSIS: ASSESSING AND ENHANCING SOCIO-ECONOMIC IMPACT OF MSP

Socio-economic analyses are important not only in MSP but in other governance processes. Under MSP they offer a comparative frame for various MSP decisions support planners in finding some priorities in the situation of spatial conflicts. Yet, their main role is to act as a boundary spanning object during the MSP process. Eight good practices have been identified in this theme so far. Majority of them are related to the assessment of concrete cases and tool development (**MSP Platform**, **Plan4Blue, BaltSpace**, **Pan Baltic Scope, Land Sea Act, Baltic Blue Growth)**. There are also some more application oriented good practices such as proposals of some new products or services requiring marine space that would generate innovative socio-economic benefits (**BalticRIM**, **GRASS)**.

B 1.1. Analysis, attempts and tools to assess socio-economic benefits

The EU MSP Platform organised a Roundtable in 2017 on the topic of socioeconomics in MSP. The aim was to exchange information about on-going research and to gather a better understanding of the socio-economic aspects of MSP. Research on socio-economic aspects of MSP was, and still is, in its infancy and the involved researchers may be interested in methodologies and approaches used in other projects. The Roundtable sought to foster a better

understanding of these methods and additionally inspire concrete research questions.

The **Pan Baltic Scope** project collated insights into how economic, social, cultural and ecosystem services impacts

could be understood and assessed in the context of MSP, what kind of methods, approaches and concepts are available for their assessment, examples of studies that could provide useful results, and what the current status of the assessment of these impacts in the Baltic Sea is. The project delivered recommendations on how to develop a framework for economic and social analyses in MSP. The project also further developed the economic model for the assessment of the costs and benefits of different sea use scenarios in Estonia, including the on-line tool **PlanWise4Blue**. The tool is an application that combines models of marine economy and cumulative impact assessment. Such a model allows to assess economic benefits of various management scenarios along with their environmental impact across the Estonian sea space. The application assesses the economic benefits of sectors such as fisheries, aquaculture, reed harvesting, wind energy, maritime transport and recreation, as well as the cumulative impacts of human activities on natural resources. The application allows to display the values of ecosystem service (i.e. provisioning, regulating and maintenance services) indicators across the Estonian sea space, as well as to assess the effect of various scenarios on the model output.

The **Land Sea Act's *Blue Growth Check Report*** analyses the existing socio-economic background situation and provides an evaluation tool for checking the conditions and assessing the potential for promoting Blue Growth. The ***Action Plan for Embedded Entrepreneurship and Blue Growth*** will offer solutions for existing problems hindering the blue growth.

The **Plan4Blue** has developed a research method (a combination of qualitative and quantitative research) for scenario process and economic and socioeconomic analyses. The current status and potential of the selected blue economy businesses in the project area was studied with statistical analysis, supported by interviews to determine future trends and analysis of strategies for the blue industries. The economic performance of blue sectors was studied using statistical analysis and input-output tables. The project has also developed recommendations for the analysis of sustainable blue economy.

The **BaltSpace** project developed a tool for spatial cost-benefit analysis that is intended for analysing the distribution of costs and benefits associated with the development of OWF. The tool fostered the understanding on which actors (e.g. big enterprises, SMEs, companies/employees in a particular region) gain most benefit. Furthermore, it helps to show the geographical distribution of benefits. It was tested in Germany to analyse the spatial economic impact of the selected offshore farms.

Under the **Baltic Blue Growth,** a report on socio-economic aspects of mussel farming in the Baltic Sea Region was prepared. The socio-economic analysis facilitates the mussel farm adaption to local conditions and thus create at least two to four new direct jobs in each mussel farm. As the industry evolves, it will have a direct and indirect impact on tourism industry. Mussel farming would have an indirect effect on reducing illegal fishing, as the inspection of mussel farms would prevent potential illegal fishing.

B1.2. New marine products and services offering socio-economic benefits

Under the **BalticRIM,** the Status report on socio-economic aspects was prepared. The report shows how to link maritime and underwater cultural heritage to the blue economy sectors. The report gives an overview of socio-economic aspects and other management issues when linking maritime and underwater cultural heritage.

The **GRASS** project, another good practice, concerns macro-algae harvesting. The practice therefore offers insights into how to use aquaculture for socio-economic benefits and shows solutions to overcoming a number of challenges, also in the context of MSP. Biomass produced from macro-algae can be used as food and consumables, such as plastics and energy, and can serve as socio-economic benefit for some (remote) coastal regions in the Baltic Sea. To support planners in finding appropriate locations for aquaculture and especially places for growing macro-algae, GRASS collected and analysed environmental data, identified sites where microalgae can be grown and developed efficient production methods. A manual on efficient production methods of macro-algae farming in the Baltic Sea Region as well as validated user-friendly factsheets on the potential and environmental impacts of macro-algae production have been prepared as guidance for farmers, responsible administration and maritime spatial planners. A manual on the regulative opportunities and barriers concerning macro-algae production in the Baltic Sea is another relevant output to support entrepreneurs in taking up such business and contributing to economic growth in the region.

B 1.3. Key observations (input to the conclusions)

Work on socio-economic analysis in the BSR is progressing. It is still in its infancy phase, testing tools and approaches, but it has reached the critical mass to serve as the boundary spanning object. Such work should be supported in the future. There is a need to continue the work in this direction, in particular to devise spatial oriented tools which would help MSP planners to predict the socio-economic consequences (primary, secondary and tertiary, i.e. through the multiplier effect) of allocating a given amount of sea space to a given sea use. A variety tools should be developed to gain the most accurate account of the situation. More specialists, especially economists, should be engaged in this work.

B 2. MSP KNOWLEDGE: DEVELOPING, ACCUMULATING AND SHARING KNOWLEDGE ON MSP

MSP is a relatively new way of managing maritime space, which for ages has been treated as abundant and accessible to everybody. For a broad range of stakeholders this governance mechanism is unknown and might even cause some prejudices. For this reason, systematic information and knowledge sharing plays an important role in alleviating such social barriers. Knowledge sharing is the best way to inform stakeholders about benefits and costs that are related to MSP and yield MSP better social acceptance. Thus, the key challenge is to educate a broad spectrum of those affected by MSP, not only MSP planners

or researchers. There are various ways of providing such education, starting from producing various training and information materials to providing formal training organised by planners or MSP researchers. Several good practices have been identified under this theme so far (**PlanCoast, MSP Platform, Baltic SCOPE, Baltacar**, **BaltSeaPlan, SeaPlanSpace, BaltSpace, BalticRIM, Baltic LINes, Knowledge Flows).** Also, master thesis have been developed under some transnational projects (e.g. Pan Baltic Scope). In addition to that, the Baltic MSP Forums or the Connecting Seas conference and thematic workshops deserve to be mentioned in this context as they have been educational to a degree with various elements of MSP being shown, discussed and explained. This is an example of knowledge sharing among various MSP stakeholders.

B 2.1. Developing information sources for self-education

Traditional handbooks and guidelines are related to MSP either generally or to some of its aspects. The most well-known BSR textbook is the **PlanCoast**'s ***Handbook on Integrated Maritime Spatial Planning***. It explains the rationale for MSP and presents the MSP cycle with the necessary steps under each stage. Within the **Baltic SCOPE** project, a report was elaborated describing the methodology (or recipe) used to develop the Maritime Spatial Plan (MSP) for the internal waters, territorial waters and exclusive economic zone (EEZ) of the Republic of Latvia. Similar descriptions incorporating MSP methodology can be found under **BaltSeaPlan** reports (case of Middle Bank and the Pomeranian Bight). During the **Baltacar** project, a handbook was created with advice

and examples of how to create a dive park. The practical examples are mainly taken from the work on Dalarö Dive Park in the Stockholm archipelago.

The FAQ pages of **the MSP Platform** present a comprehensive overview of the most frequently asked questions on 21 topics related to Maritime Spatial Planning. It is based on secondary and tertiary available materials from projects, practices and MSP processes and is supplemented by original work executed by the EU MSP Platform Team through studies and organised expert roundtables. The FAQ pages present a general overview of the topic and its main issues, followed by a set of frequently asked questions, which are accompanied by comprehensive answers. The answers are linked to concrete examples and guidance that can be found on the Platform website and are sorted into relevant topics: Practices; Projects; Guidance and Tools, Plans and Studies; Studies and Methodologies; Plans and Pilot Plans; Decision Support/Assessment Tools; Data Portals. Generally, the content of the FAQs also directly reflects the background papers and studies developed by the MSP Platform expert team. In all cases, the original input and drive for the FAQs and the topics were generalised to link to other relevant questions as well as any material that may enhance guidance for the reader.

These are the 21 topics for which an FAQ page has been created:

1. Climate Change
2. Communicating MSP
3. Cross-border Cooperation
4. MSP Sectors (with 9 extensive sub-sector sections)
5. Cross-sector Integration
6. Ecosystem-based Approach
7. Indicators, Monitoring and Evaluation
8. Land-Sea Interactions in MSP
9. Marine Cultural Heritage (MCH) and MSP
10. MSP Data and Assessment Tools
11. MSP for Blue Growth
12. MSP Options and Scenarios
13. MSP Strategies
14. MSP Visions
15. Multi-scalar Approach to MSP
16. National Defence and Security
17. Nature Conservation
18. Stakeholder involvement
19. Scientific Research
20. Socio-economic aspects
21. Strategic Environmental Assessments (SEA)

B 2.2. Awareness raising

Various and in many cases unconventional educational and awareness-raising MSP training materials were produced under several projects. The non-standard tools are a non-scientific, easy-to-read comic brochure and game on MSP. The brochure was developed under the **BaltSeaPlan** project by the Baltic Sea office of the WWF Germany. It is engaging due to its funny comic format and depicts the objectives and possible benefits of an MSP process. The main objective of the brochure is to explain the MSP process to non-specialists by taking the reader through the different steps of the process. It demonstrates conflicting interests, competing uses, a thorough analysis of spatial aspects and a final establishment of a plan. It shows that a solution must and can be found through a process that involves authorities, stakeholders and interest groups to establish a formal set of regulations for all uses. Other objectives have been to explain the guiding principles like the ecosystem-based approach, the participatory approach as well as the zoning approach. The **Baltic LINes** project enabled the development and application of a Baltic Sea edition of the interactive simulation platform MSP Challenge. This edition was applied in three workshops held in the BSR, involving almost 100 energy, shipping and environmental stakeholders from the region. Based on the concept of the MSP Challenge, a business game on Maritime Spatial Planning for Marine Cultural Heritage was performed in Russia under the **Baltic LINes** project (modified under the **BalticRIM)** to practically train stakeholders in the questions of MSP and Maritime Cultural Heritage (MCH). The game

is easy to play, using mainly written descriptions and maps, without need for IT support or other solid gadgets.

In the recently started ERASMUS+ project **Knowledge Flows in MSP**, a problem-based learning approach is being applied and a portfolio of teaching concepts, tools and materials will include online assets and digital games similar to the MSP Challenge, which has been further developed based on experiences from the **Baltic LINes** project as well as its sister project, the **NorthSEE** project.

B 2.3. Formal education

The **BaltSpace** course was offered in the English language and targeted mainly early-career researchers and professionals. It aimed at helping them to analyse how trans-boundary integration challenges play out in various MSP situations. The training took the form of a one-week summer school BONUS. The **BaltSpace** researchers and invited MSP experts made state-of-the-art updates on the academic discourse and provided empirical insights on transnational MSP and integration challenges. The students were also engaged in solving concrete MSP problems. They gained not only new insights in transnational MSP, but also expanded their international professional networks on MSP research and practice.

So far MSP training has mainly been offered for the EU countries in the English language and has focused on a narrow target group of MSP planners, students and researchers without covering a broader spectrum of stakeholders. The novelty of the **SeaPlanSpace** education proposal is in offering systematic (usually 90 hours in one semester) post-graduate training for professionals and students on MSP according to a standardised, internationally agreed curriculum. The dilemma with such a broadly offered training is that it requires transnational approach (joint standards, joint pool of knowledge, etc.). In addition, it should be offered in national languages if a broad range of entities affected by MSP is intended to be engaged. The essence of the good practice elaborated under the **SeaPlanSpace** project is in pooling resources from all the participating countries when preparing the content of the training. The training covers both practical and theoretical aspects of MSP and is offered by university professors and persons having practical experience in MSP. Majority of lecturers come from the country where the training is provided and from which the participants are recruited, but part of the training is delivered by foreign experts with translation into the national language. Training is based on manuals/handbooks jointly developed by experts of five countries. The manuals are bilingual - in the national language and in English. This allowed the training curriculum to be developed by the best MSP experts, who were also engaged in preparing the training materials (manuals/handbooks). Although training is to be delivered in national languages, part of it is run by international experts to ensure that trainees are aware of different aspects, dimensions and approaches to planning in the neighbouring country. A joint cross-border preparation of training will result in the creation of a marine governance network. It is planned that the network initiated by the project partners will remain open. The training can

be joined by educational entities and by MSP end-users who take interest in this subject. The manuals will continue to be updated and new ones will be prepared on demand. Training for MSP end-users will be offered on a commercial basis or involving public funds.

Knowledge Flows in MSP draw further on those experiences from within the MSP community, where students have worked together with MSP researchers and planners to co-create master classes and PhD courses. Real planning problems will be developed into a local case study material to be included in summer/winter schools on MSP and workshops for young planners.

B 2.4. Key observations (input to the conclusions)

Transnational education on MSP takes various forms and formats. Know-how and experience are available and can be adopted to the needs of each BSR country. The necessary critical mass was achieved in the BSR with target groups having been offered educational endeavours specific for them or fine-tuned to their needs. If training should be supported in the future, it should be targeted towards authorities from the countries which experience the biggest problems with pursuing their MSP or social groups negatively affected by the ongoing MSP processes. This means that additional local courses would be useful but their content should be focused on problems and challenges of smaller maritime regions like the Gulf of Finland or Danish straights. The existing forums for information exchange like the Baltic MSP Forum should be continued, but they should engage stakeholders not only planners and authorities

B 3. DATA: ACQUIRING, COMPILING, PROCESSING, INTERPRETING AND VISUALIZING DATA IMPORTANT FOR MSP

Data availability and harmonization is crucial for pursuing evidence-based MSP and therefore is subject to numerous guidelines and MSP principles, including the ones from the HELCOM-VASAB MSP WG. Data is also the key to coherent maritime spatial planning across borders. With easy access to other countries' maritime spatial plans, cross-border collaboration is easier. It is easier to get an overview when MSPs are presented in one map using a common terminology scheme. Also, mismatches between plans can be identified earlier in the planning processes. Therefore, the HELCOM-VASAB MSP WG is supported by the DATA subgroup (BSR MSP Data ESG). The aim of the **BSR MSP Data Expert sub-group** is to support data, information and evidence availability for MSP processes with regard to cross-border/trans-boundary planning issues to ensure comparability of maritime spatial plans in the Baltic Sea Region. The BSR MSP Data ESG is currently working on input and output data. This is a unique form of collaboration in the BSR. It helps to understand the data needed to do the plans (input data) and the data as plans (output data). BSR experts from the BSR MSP Data ESG are now contributing to the EU Technical group on MSP

Data (initiated by DG MARE, which aims to create a data model for MSP plans (output data) similarly to HELCOM-VASAB MSP Output Data guidelines).

Data is a popular subject for transnational co-operation. The EU MSP Platform lists 211 good practices on MSP data and the body of those practices is growing rapidly. Also, important good practices have been elaborated in the BSR. They are related to new data collection (**BalticRIM, Baltacar, Baltic LINes, Pan Baltic Scope**), data tools (**Baltic Blue Growth, BaltSeaPlan, Pan Baltic Scope, Baltic LINes)** and conceptualisation of the data issues for MSP **(PartiSEApate, EU MSP Platform)**.

With regard to data conceptualisation in the BSR, the **Baltic LINes** should be highlighted due to their contribution to the creation of the concept and realisation of the Baltic Sea MSP maps – BASEMAPS.

B 3.1. Data issues conceptualisation

A stakeholder workshop took place as part of the **PartiSEApate** project to discuss MSP Data and a Data Network to clarify the main needs and rules of data usage and collection for MSP. Those findings were confronted with the opinions of MSP data experts collected through an internet-based questionnaire survey supplemented by individual telephone interviews, a follow-up teleconference and a workshop during a PartiSEApate partner meeting. As the result, the most important "data issues" at the Baltic Sea Region level were identified. Those issues were used as basis for forming the BSR MSP DATA Expert Sub-Group and formulating terms of reference for its work.

The EU MSP Platform's *MSP Data Study: Evaluation of data and knowledge gaps to implement MSP* (2016) covered data and information needs for MSP, recognizing that they may differ across European sea basins. A successful development and implementation of MSP relies on the availability and access to sound spatial information on the marine environment, as well as current and possible future maritime human activities. The study investigated actual MSP information needs, focusing on what planners need to know and how data can be translated and used to provide this information: technical aspects to address issues such as the provision of data through data infrastructures, converting raw data into useful formats for planning and how data can be shared across borders.

B 3.2. Collecting new types of data

The **BalticRIM** project has conducted the assessment of the available maritime cultural heritage (MCH) data and proposed measures for the MSP data exchange as well as terminology harmonization. The report was elaborated presenting data which describe MCH and underwater cultural heritage (UCH), as well as their usefulness for the creation of MSP in different partner states. The analysis is intended to assess the usefulness of data in implementing MCH policies in the participating countries.

Under the **Baltacar** project, shipwrecks have been documented, chiefly by photographing, filming, measuring and sketching. These have readily been used as mutually

complementary methods in order to ensure good documentation and have been used with success in many underwater archaeological excavations. Comprehensive documentation of a wreck site and a 3D model of the wreck are a good start for planning diving and a virtual tour for people who do not want to dive.

B 3.3. Data tools

Many projects and/or countries created tools, e.g. BASEMAPS, MSP Challenge (computer simulation using real data), Baltic Explorer, or made data-related advances, e.g. Swedish Symphony or Finnish Velmu, the digitalisation of Danish MSP, or HELCOM visualisation of AIS data. Key tools developed under transnational MSP projects are presented below.

Under the **BaltSeaPlan** project, a web application for MSP was developed in the framework of the BaltSeaPlan project and based on Boundary-GIS Geo-Portal. This is a supporting tool aiming to facilitate stakeholder involvement. The application allows any type of stakeholder to view the current planning status of an area and comment on it. The user can do so without any specific computer knowledge. The GIS Server runs the geo-database, which supports 1) feature classes (base layers, administrator's layers, user's layers and other graphics), 2) raster datasets (base layers, administrator's layers, user's layers and other graphics), 3) tables (attribute tables).

The **Baltic LINes** developed and promoted the MSP data tool BASEMAPS (Baltic Sea MAP Service hosted by HELCOM). The tool is a browser-based application that allows MSP practitioners to access the relevant and most recent MSP datasets hosted by the respective Baltic Sea Region countries. As it can take time for all data providers to publish data through standard services, BASEMAPS uses a system to access both centralized (for example, from HELCOM Map and Data Service) and decentralized data. The **Baltic LINes** project contributed to the creation of the concept and realisation of the Baltic Sea MSP MAP service for input data. While **Baltic LINes** developed BASEMAPS to input data, Pan Baltic Scope continued with output data and a recommendation on output data. The **Pan Baltic Scope** collaboration resulted in new viewing and data upload tools within the web BASEMAPS. The tools allow to get an overview of the countries' progress with their MSP processes and offers a possibility to browse the maritime spatial plans of the countries in one single map (output data). It is also possible to browse MSP designations by types and sectors. Not all the countries have adopted the plans yet, but the objective is to include all adopted maritime spatial plans in the Baltic Sea Region.

Under the **Baltic Blue Growth** project, a tool was established to properly present the necessary data for mussel farming. This tool is Operational Decision Support System (ODSS). The ODSS is a user-friendly web application which makes it possible to share and analyse environmental data related to mussel farming. The ODSS contains all existing on-site evidence of the effects of mussel farming in the Baltic Sea area. The ODSS also features a novel spatial modelling framework to show where mussel production potential and

nutrient removal is the highest. This information is crucial to allocate the best possible mussel cultivation areas that will most effectively decrease nutrient content in the water.

B 3.4. Key observations (input to the conclusions)

Data is a key MSP concern. One cannot expect to achieve a full data coverage necessary for MSP, so MSP must be conducted under limited data constraint. Support for collecting new data under a BSR harmonised way and schedule should be continued also in the future. The BSR MSP Data ESG should continue as an important forum for MSP data sharing. More handy tools for sharing and discussing data between planners and stakeholders should be welcomed. Integration of various types of data should also be encouraged (blue economy and biological data, MSP expert data etc.). Also new ways of generating and storing data should be promoted. MSP should have a much stronger voice on which data and how is generated, also with the use of which modern technologies. MSP planners should be trained for that.

B 4. CUMULATIVE IMPACT ASSESSMENT: HOW TO ASSESS COMBINED EFFECTS OF VARIOUS SEA USES ON MARINE ENVIRONMENT UNDER MSP

Cumulative impact assessments make it possible to understand the combined effects on the environment of many human activities taken together. In maritime spatial planning, evaluation of cumulative impacts represents both a necessity and a way to support long-term sustainability in alignment with the ecosystem-based approach. The environmental status of the sea is of high concern for planners, due to interactions between humans and the environment. Our sea uses have impacts on the marine ecosystems, but the status of the ecosystems also affects our possibilities to utilise sea resources. It is important to understand how past, current and foreseeable future human activities may affect the marine environment to help us minimise risks and support long-term sustainability. In the EU MSP Platform only 16 good practices are related to the cumulative impacts, with only one practice originating in the BSR. Two practices, both related to the development of relevant tools, have been identified for the purpose of this report (**BONUS BASMATI** and **Pan Baltic Scope**).

B 4.1. Good practices related to cumulative impact

The **Pan Baltic Scope** project developed the ***BSII Cumulative Impact Assessment Toolbox*** (BSII CAT). The toolbox includes tools for calculating the Baltic Sea Impact Index and the Baltic Sea Pressure Index. It also supports the identification of areas with high ecological value or high potential for providing ecosystem services, supporting the green infrastructure concept as developed in another activity within the project. Two case studies were carried out to test the tool (assessing cumulative impacts on the environment under different scenarios for offshore wind farm development at the scale of the Baltic Sea Region, and assessing cumulative impacts on green infrastructure). The tool uses

regional data as default, but it can also be applied using data layers if they align with the basic requirements of the tool.

One of the main outcomes of the project is the already mentioned **PlanWise4Blue** application. The tool allows to assess not only the economic benefits of marine sectors but also cumulative impacts of human activity on natural resources. The application is described in the chapter on socio-economic analysis.

As part of the **BONUS BASMATI** project, ***the cumulative impact assessment tool MYTILUS*** has been developed at Aalborg University. MYTILUS provides an open-source toolbox enabling assessments of cumulative impacts of various maritime activities on a marine ecosystem and its services. MYTILUS is very flexible and is based on a stand-alone concept combining user-friendliness, flexibility, high analytical capacity, and high-performance calculations. The toolbox includes functionality for calculating spatial distributions of pressures and impacts, which can be applied to various input datasets at any scale. In MYTILUS it is possible to compare cumulative impacts of different planning options, and the tool has been tested at the pan-Baltic scale based on HELCOM HOLASII data as well as at a more detailed level based on the Swedish MSP data prepared for calculations in Symphony. MYTILUS is part of a broader suite of decision support tools for MSP developed as part of the BONUS BASMATI project. In addition to the impact on the environment, the MYTILUS tools suite can provide estimates of the impact of various maritime activities on each other - a so-called conflict score, which

can be positive, indicating conflict, or negative, indicating synergy and enabling multi-use potentials. This is an important complementary figure to assess when allocating space in maritime spatial planning.

B.4.2. Key observations (input to the conclusions)

Despite some progress, the tools for cumulative impacts assessment are insufficiently developed. The work on cumulative impacts should be continued as it contributes to more conscious application of the ecosystem-based approach under MSP as required by Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014, establishing a framework for maritime spatial planning. The existing tools should be disseminated and tested under the official MSP. There is a need to connect the existing models with economic impact models. Bioeconomic models should also be considered. The results should be discussed at the level of the HELCOM-VASAB MSP WG for vigorous experience sharing.

C. CONCEPTS

C 1. MULTI-USE (MU): HOW TO CONSIDER MULTI-USE UNDER MSP

Multi-use is a normative concept which promotes efficient and sparing use of the sea resources, including sea space. Two or more uses are combined to use the same resource when such combination provides additional economic or social or environmental benefits in comparison to a single use. Multi-use enhancement is one of the key tasks of MSP, but practical experience is rather limited, and even the trade-offs of multi-use have not been properly tested yet. There is not a single attempt of direct MU enhancement under the existing MSP plans in the BSR. In this theme only a few good practices have been identified so far (**MUSES**, **MSP Platform, BONUS BASMATI**) in addition to the underwater park described under recreation. The findings of the B-RIM will be added but the project results have not been finalized yet.

C 1.1. Good multi-use practices

The **MUSES** project has mainly examined synergies (drivers and benefits) which may result from combining two or more activities in close geographic proximity. Depending on the legislation, planning tradition, proximity to the coast and social perspectives, certain combination may be perceived either as synergetic or conflicting. The project offers methods on how to assess MUs and their future potential. The project identified the most promising MUs for the BSR: underwater cultural heritage combined with tourism and environmental protection and offshore wind energy combined with either tourism or aquaculture. MUSES suggested that MSP should require, as a good practice, that the users who are granted right to a given sea area think about potential multi-use options already at the preplanning and design stages of concrete projects. This can be an MSP requirement for being given right to a sea space. As the MUSES project has concluded, for multi-use to be developed it requires interest and support from at least two of three parties: one user and the regulator

or both users, so that MSP can have a proactive role in this case. The **MUSES** project has also developed ***the Ocean Multi-use Action Plan,*** which addresses inappropriate regulatory, operational, environmental, health and safety, societal and legal barriers to multi-use development. It identifies six priority lines or key thematic recommendations for addressing barriers to multi-use implementation:

- ***Integration & Coordination*** between different sectoral structures, institutions and actors through cross-sectoral platforms;
- ***Maritime Spatial Planning*** that identifies multi-use opportunities and suitable areas and comprehensive policies promoting multi-use, especially for new joint developments;
- ***Policy & Regulation*** which creates a strong framework for MUs at national level, with clear EU guidance;
- ***Capacity Building & Training,*** especially for fishers and aquaculture farmers, including knowledge exchange between stakeholders;
- ***Funding*** for innovative and technological solutions to advance MU development;
- ***Research & Pilot Studies*** to inform business models and improve understanding of MU value chains;
- ***Marketing & Dissemination*** of good practices and information through integrated MU platforms which consider local needs.

The EU **MSP Platform** has developed a study on conflicts in MSP, titled ***Addressing Conflicting Spatial Demands in MSP: Considerations for MSP Planners.*** The study used a case study approach to presenting various examples of possible conflicts in marine environment and to demonstrating how they are dealt with in an MSP process. This report is relevant for many marine sectors, in particular shipping and energy.

The EU MSP Platform has an FAQ section which provides more information on the topic of cross-sectoral integration and answers the following questions:

- **What are the challenges and limitations associated with cross-sectoral integration?**
- **How can one analyse the costs and benefits associated with a given set of maritime uses?**
- **What kind of tools are available to plan and manage the overlapping sea uses?**
- **Are there samples available for written dispute resolution agreements?**
- **What are some examples of cross-sectoral synergies and multi-use opportunities?**

The EU MSP Platform also contains a page on MSP sectors and conflicts where various case studies have been presented, including those in the Baltic Sea, for example ***Potential conflict between shipping and planned offshore renewable energy installations in Estonia, Poland's***

analysis of its defence and security needs in Study of Conditions of Spatial Development of Polish Sea Areas, and Adding offshore wind visibility requirements to the MSP in Mecklenburg Vorpommern, Germany.

As part of the suite of spatial decision support tools developed within the **BONUS BASMATI** project, a tool for analysing potential multi-use locations was developed to provide estimates for how various maritime activities impact each other.

C 1.2. Key observations (input to the conclusions)

Multi-use is a new issue under MSP. It is one of the key tasks that should be undertaken in the future to enhance wise and responsible management of the sea ecosystems under MSP. Practical good practices related to different combinations are necessary which would be similar to the one developed under the Baltacar on the underwater cultural park. The multi-uses identified under **MUSES** for the BSR should be tested as separate transnational projects. Trade-offs of multi-use require testing in practical environment and **BONUS BASMATI** tool can be helpful in that.

BalticRIM recommended that both planners and MCH experts should promote the multi-use (heritage and other uses) concept for the sea. Most importantly, multi-use can be applied to heritage sites combining tourism, protection and sustainable use of nature and heritage sites.

C2. LAND-SEA INTERACTIONS (LSI): CONSIDERING IMPACT OF MSP ON DEVELOPMENT ON LAND AND IMPACT OF LAND DEVELOPMENT ON MSP

Alignment between marine and terrestrial planning is important to avoid contradiction in the development of the coastal zone. The influence of some terrestrial interactions can extend to the exclusive economic zone and open sea. In 2017, the EU Directorate General for Environment published a study titled ***Land-Sea Interactions in Maritime Spatial Planning***, which explores the relationship between the Directive on Maritime Spatial Planning (the Directive of the European Parliament establishing a framework for maritime spatial planning) and land-sea interactions (LSI), as well as the relationship between LSI and Integrated Coastal Zone Management. The report describes the LSI of eight most typical marine development sectors, along with the key messages and issues to be considered in the MSP process. Further exploration of the topic is the subject of the ESPON project on MSP and LSI. In the EU MSP Platform one can find 91 world-wide good practices related to LSI[4]. Also, two good practices have been recently elaborated under transnational BSR projects: **Land-Sea-Act, Pan Baltic Scope** and **BalticRIM**.

C 2.1. Good practices related to land-sea interactions

The BSR practices are application oriented. The **Pan Baltic Scope** Synthesis Report ***Lessons, Stories and Ideas on How to Integrate Land-Sea Interactions into MSP*** showcases how planners from the Baltic Sea have tried to

[4] LSI project Final Report (20.02. 2020) is published in ESPON website.

tackle Land Sea Interactions (LSI) in countries and regions at different stages of developing marine and coastal planning. It presents experiences, challenges and enablers when integrating LSI in cross-border contexts, based on cases in Finland, Åland, Sweden, Estonia, Latvia, and Germany. The report is aimed at coastal and marine planners and experts from all institutional levels working on the land-sea interface. The **Land Sea Act** has demonstrated how to guide national public bodies (ministries, agencies), coastal regional authorities and local municipalities and multi-sectoral stakeholders to: improve transnational cooperation and foster Blue Growth and facilitate knowledge exchange to empower less developed regions; raise capacity (awareness, knowledge and skills) to enhance Blue Growth initiatives and integrated development in coastal areas; balance the development of new sea uses with coastal community interests by improving inter-scalar and cross-sectoral coastal governance in all BSR. The essence of good practices is the creation of Multi-level Governance Agenda on Blue Growth and Spatial Planning in BSR.

The cultural heritage is a representative example of a land-sea interaction issue. So far within MSP the cultural heritage has been usually narrowed down to the underwater cultural heritage and thus falling within the competences of maritime administration. The **BalticRIM** project turns attention to the need of widening the cultural heritage definition in MSP which would treat the coastal zone as a single historically and culturally coherent area with historical visual aspects to be protected and possessing undiscovered potential.

C 2.2. Key observations (input to the conclusions)

There is a growing number of good practices related to LSI. This is a popular research and discussion topic also in the BSR, and the body of know-how and experience is expected to grow due to progress in official MSP in the BSR. The current support for LSI is sufficient. If further incentives should be foreseen, they should aim at enhancing inclusion of local actors to the MSP process and examination of the interactions related to social sustainability (how allocation of the sea space benefits various social groups on land).

C 3. GREEN INFRASTRUCTURE: HOW TO CONSIDER GREEN INFRASTRUCTURE UNDER MSP

Green infrastructure can be considered as a contribution of MSP to the EU Green Deal. The concept of green infrastructure is not new, and it was promoted by VASAB in its first ***Tallinn report*** **(*Vision and Strategies around the Baltic Sea*)** in the mid-1990s. However, its adaptation to the marine space has been carried out only recently and still is an issue heavily debated by researchers and MSP planners. The first attempt was done fifteen years ago under the Balance Project, which conceptualised an idea of the blue corridors, i.e. routes through which different areas are connected. They are essential in the network of protected areas in the sea. This concept of the Balance Project has been used in official MSP under different names, with emphasis on blue corridors connecting land and sea,

which were explored vigorously. Different countries have attempted to work with valuable (nature) marine areas and some projects have been a reason for cross-country collaboration. However, the lack of uniform methodology has always been a problem. This was elaborated only under the **Pan Baltic Scope** project under the heading of blue-green infrastructure, with focus on marine protected areas (MPA) and their connectivity. Important good practices have been achieved in the BSR. They are related to general approach to the blue corridor planning concept (**Plan4Blue, Baltic SCOPE, Pan Baltic Scope**) or to practical attempts of building blue-green infrastructure elements (**Baltic Blue Growth, Baltacar, BONUS BASMATI**).

C 3.1. Conceptual development of blue-green infrastructure

The **Baltic SCOPE** project has attempted and raised the idea of marine green infrastructure (GI) concept for the Baltic Sea. The results were presented in topic papers of Central Baltic and Southwest Baltic cases and in the final reports. The **Pan Baltic Scope** project developed further the concept of marine green infrastructure, defining it as a spatial network of ecologically valuable areas which are significant for the maintenance of ecosystems' health and resilience, biodiversity conservation and multiple delivery of ecosystem services essential for human well-being. The project has tested GI mapping at the scale of the Baltic Sea, covering the two essential aspects, i.e. the identification of areas of high ecological value and potential supply of ecosystem services. The proposed concept of marine GI can support planners in applying an ecosystem-based approach in MSP as well as nature conservation authorities in assessing coherence of the MPA network. A separate study was made on the identification of so-called climate refugia, i.e. areas important for specific species in the future. The **Plan4Blue** project developed a marine and coastal sea environmental vulnerability profile for the Gulf of Finland as a spatial data layer that incorporates the distribution of nature values and their sensitivities to disturbances. The result can inform MSP planners on the areas needing particular attention when planning their use. The vulnerability mapping was further developed by combining it with the HELCOM Baltic Sea Pressure Index as a measure of cumulative spatial human pressures. The Gulf of Finland marine environmental vulnerability profile was used to identify the likelihood and magnitude of potential environmental effects under multiple human pressures and to develop the Gulf of Finland marine and coastal sea environmental cumulative risk profile to be used in the ecosystem-based adaptive MSP processes in Estonia and Finland.

C 3.2. Blue-green infrastructure elements/nodes (indirect contribution to GI)

The **Baltic Blue Growth** project has discussed conditions and factors influencing the development of mussel farming in the Baltic Sea. In the Baltic circumstances the key benefit would be of ecological nature. Mussel farms would improve the quality of marine waters, as mussels absorb nutrients and thus significantly increase the clarity of water. They can be used to combat non-point sources of eutrophication. The **Baltacar** project discussed issues concerning underwater

wreck parks and trails that facilitate access to antiquities and ensure environmental sustainability while seen as part of the Baltic green infrastructure. The project demonstrated how to raise awareness and educate about the value of submarines not only as cultural but also natural monuments.

One case study within the **BONUS BASMATI** project considered how Latvian MSP was setting the ambition of defining location criteria specific to goal (environmental factors) and identifying eliminating criteria and environmentally suitable territories for potential MPAs.

C 3.3. Key observations (input to the conclusions)

The methodology proposed and tested so far needs to be developed further to include a connectivity analysis of ecologically valuable areas, a more comprehensive ecosystem service assessment and an improvement in input data quality. Further testing should be continued to better align the concept of GI with MPA development. The results should be discussed at the level of the HELCOM-VASAB MSP WG for vigorous experience sharing.

C 4. ECOSYSTEM-BASED APPROACH (EBA) HOW TO APPLY AN ECOSYSTEM-BASED APPROACH IN MSP

The ecosystem-based approach is an overarching condition of MSP in the EU according to the EU MSP Directive (Article 5 of the Directive of the European Parliament, establishing a framework for maritime spatial planning). The approach allows a holistic consideration of the marine environment, while acknowledging that humans are an integral part of the natural system. This concept originates from the UN Convention on Biological Diversity and its importance regarding the sea space is highlighted in the EU's Marine Strategy Framework Directive. In the BSR, special VASAB and HELCOM guidelines cover EBA and instruct on how EBA should be implemented in MSP. The potential adjustments of EBA guidelines are envisaged by the HELCOM-VASAB MSP WG in the years 2020-2021. Despite numerous good practices at the EU MSP Platform (113 practices in total), the platform experts are of the opinion that 'practical implementation of the ecosystem-based approach as the scientific basis for MSP is in the early stages throughout the EU'. Several challenges do exist. Under this theme few good practices have been identified (**Baltic Blue Growth, MSP Platform**, **Baltic SCOPE, Pan Baltic Scope**).

C 4.1. Good practices regarding ecosystem-based approach

The EU MSP Platform developed a policy brief ***Implementing the Ecosystem-based Approach in MSP*** in 2018. It provides a detailed overview of EBA in relevant EU legislation, including the relationship between the Marine Strategy Framework Directive and the MSP Directive (the Directive of the European Parliament establishing a framework for maritime spatial planning), a discussion on the challenges and potential solutions for integrating EBA and MSP, and examples of existing tools for integrating the two. The Policy Brief has been developed based on briefing papers developed by the MSP Assistance Mechanism for the EC Member States Expert Group on MSP. The Policy Brief

provides insights into the different tools which can facilitate the implementation of EBA in MSP and presents an overview of successfully applied EBA in MSP processes in the EU Member States. The aim of the brief is to provide assistance to policymakers and planners with implementing these concepts jointly and concrete recommendations for planners.

The **Baltic SCOPE** project developed a toolbox with three checklists to support the application of an ecosystem-based approach in MSP. The first checklist helps to secure that all key elements of the ecosystem-based approach (based on the HELCOM/VASAB MSP guidelines) are included in the MSP process and its organization. The second checklist is a 'planning support' checklist to be used in the planning process to identify potential conflicts and synergies and their possible solutions. It is more of a guideline for planning than a classic checklist. The checklist covers three sectors (shipping, energy and fishery) in relation to the environment. The third checklist (to be used in the planning stage) focuses on conflicts and synergies in relation to the environment.

Under the **Pan Baltic Scope** project, a handbook was developed with the aim to be a practical tool for the planners' day-to-day work in a transnational environment in the Baltic Sea Region and beyond. It addresses the implementation of an ecosystem-based approach, guiding through the comparison of different Strategic Environmental Assessments (SEA) and linking MSP to other key policies like the EU Marine Strategy Framework Directive (MSFD). In addition to the handbook, it contains a review of scientific literature, selected reports and pertinent guidance documents. It includes an analysis of the consistency between the identified perspectives and recommendations and the way the ecosystem-based approach is characterised and operationalised in the HELCOM-VASAB Guideline for the implementation of ecosystem-based approach in Maritime Spatial Planning in the Baltic Sea area. Another outcome of the Pan Baltic Scope project are the recommendations to the EBA[5].

The **Baltic Blue Growth** project provided the concept of ecosystem services financed by the EU funds. The set-up of payments to mussel farms to reward their owners for ecosystem services provided by the farms is realistic, but it must not be left to individual mussel farmers to create on their own. The project has operationalised such a payment scheme to be run by public authorities responsible for combating maritime pollution (eutrophication).

C 4.2. Key observations (input to the conclusions)

The necessary foundations for applying EBA are in place. In the future some educational support would be beneficial. The EBA results should be monitored and discussed at the level of the HELCOM-VASAB MSP WG for vigorous experience sharing.

C 5. CLIMATE CHANGE: HOW MSP SHOULD TAKE INTO CONSIDERATION CLIMATE CHANGE

According to the data and projections available regarding the climate change in the Baltic Sea region in the next 100 years, the most probable changes are related to the increase

[5] See http://www.panbalticscope.eu/wp-content/uploads/2019/12/PBS-Synthesis-Report.pdf.

of sea surface temperature, more frequent extreme weather events and decreased ice cover. These changes would affect several human activities at sea and on shores. According to the Pan Baltic Scope ***Climate Refugia report*** (based on climate change scenario modelling many species), the Baltic Sea species will have a different geographical distribution in 2100. The situation with freshwater species will remain the same or undergo slight changes, following the change in salinity, temperature, water clarity and nutrients. Whereas marine species that require a certain level of salinity will be reduced in the northern and central Baltic Sea, as well as the Bothnian Sea. These changes will affect food-webs and have implications for economic, cultural and recreational ecosystem services.

These projected conditions may increase the settlement of new species that are either spreading to the Baltic Sea area naturally or have been deliberately or accidentally introduced by humans. They can also change the current sea use patterns, affecting such sectors as tourism, fishery, mariculture, and protection of marine cultural heritage. Also, port infrastructure and human settlements can be affected. Some sectors (e.g. renewable energy production, mariculture for environmental protection or CO_2 storage) should be given higher priorities due to climate change, and MSP must take all these factors into consideration. However, MSP experience is limited in this field. At the EU MSP platform, only 41 good practices were identified and many only loosely related to climate change. For the purpose of this report, only one good practice has been identified within the **Pan Baltic Scope** project.

C 5.1. Good practices regarding climate change

The Pan Baltic Scope project produced a report ***Climate Refugia in the Baltic Sea.*** The report recommends that the expected changes in the distribution of species and consequently in the distribution of respective ecosystem services should be modelled and the so called 'climate refugia' areas should be identified. It is an area where climate change will not affect the habitat or species severely, even if such affects would be severe in the larger area. The report concludes that such especially valuable areas 'should be of fundamental concern to marine spatial planning, environmental protection and the development of coastal economies'.

The study recommends to model future distribution of major ecologically important species and to compile maps of important ecological hotspots for biodiversity and specific ecosystem services in the future.

C 5.2. Key observations (input to the conclusions)

The theme of climate change and MSP adaptation to this issue has not been sufficiently developed despite the importance of the problem. More good practices and collaboration are needed in the future. The critical mass of experience and evidence is limited to allow for any HELCOM--VASAB WG decisions on the issue. MSP should co-operate more closely with blue sectors and coastal planners to achieve more meaningful results in this respect. The question of the relation between MSP and long-term resilience of coastal municipalities in the context of climate change requires further work.

C 6. SAFETY: HOW MSP CAN ENHANCE BROADLY UNDERSTOOD SAFETY (REDUCING NUMBER OF ACCIDENTS) IN VARIOUS FIELDS SUCH AS NAVIGATION, POLLUTION, EXTREME WEATHER EVENTS

Blue Growth and the advent of new sea users might jeopardise maritime safety. This safety should be understood not only in terms of navigation safety, but also include climate change[6] related extreme weather events or oil leakages from WW II wrecks. In this theme two good practices were identified (**Baltic SCOPE, BaltSeaPlan**), while the **Baltic LINes** and **BalticMaster** projects also dealt with safety issues. The **PartiSEApate** project organised a workshop on climate change and the **Deduce** and **SDI4SEB** projects collected a comprehensive set of ICZM indicators indirectly related to broadly understood safety of coastal areas in Poland, Lithuania, and Kaliningrad oblast of the Russian Federation.

C 6.1.Good safety practices

Under the **BaltSeaPlan** project, various marine policies were screened for their influence on and consideration for marine safety. The practice allows to assess the compatibility of MSP, including safety aspects, with other relevant policies and strategies. It also permits a comparison of the current MSP compatibility with relevant policies and strategies across countries (i.e. Estonia, Germany, Latvia, Lithuania, Poland, Russia and Sweden) and lets experts devise ways to improve it. The analysis of BaltSeaPlan is still a good basis for further investigation of safety aspects related to MSP in the BSR.

The Danish Maritime Authority, in the name of the **Baltic SCOPE** project, elaborated a proposal on guidance for harmonised safety zones at a pan-Baltic level. The purpose of the Guidance is to inform planners in the Baltic Sea Region about the specific navigational concerns to address when assessing the impact of offshore developments on existing marine traffic routes and navigational safety so that they can, already at an early stage, take account of the factors involved when planning offshore renewable energy installations within their allocated water space.

C 6.2.Key observations (input to the conclusions)

The good practices related to safety are uneven. They have been developed mainly with regard to navigation and some sectoral policies, but there is not a sufficient number of good practices showing how MSP should deal with other safety concerns such as extreme weather events, massive oil leakages, potential environmental disasters. There is a need to devise tasks and responsibilities for MSP and SEA/EIA in this regard.

[6] Safety aspects related to climate change are analysed in the climate change chapter.

D. SEA USES

D 1. RECREATION AND TOURISM: HOW TO CONSIDER RECREATION AND TOURISM UNDER MSP

Recreation and tourism are one of the key blue sectors according to the EU Blue Growth analysis. It uses an entire marine space, but the key benefits are concentrated near the coast due to the relevance of the 3S recreation model[7] in the BSR. Therefore, various spatial conflicts are related to tourism development, and they should be taken into consideration and addressed by MSP. However, good practices on handling tourism by MSP under transnational MSP projects are scarce. On the EU MSP platform, 74 good practices in this theme were described, 27 of which are related to the BSR. As far as projects are concerned, only a few good practices have been identified so far in this theme (**Baltic Blue Growth**, **Muses, Baltacar)**. On top of that, also the **BalticRIM** project has analysed some tourism aspects and the **SDI4SEB** project some recreational issues.

D 1.1. Good practices in recreation and tourism

The **MUSES** project has explored 4 multi-use combinations involving recreation and tourism:

1. Tourism, fisheries and environmental protection
2. Tourism, underwater cultural heritage and environmental protection
3. Tourism and aquaculture
4. Offshore wind farm and tourism

All four combinations were found to be of interest in the Baltic Sea. ***The Ocean Multi-Use Action Plan*** presents some of the existing multi-use cases, for example in the coastal areas of Denmark, Sweden, Germany, where offshore wind farms are already being consciously integrated into regional tourism activities, and in Finland, where tourism combined with marine cultural heritage (e.g. diving and walking trails) provides additional, innovative tourism opportunities that could potentially sustain the tourism sector all year round. Such initiatives could also provide an additional sustainable source of funding for UCH and environmental protection, as well as facilitate better local acceptance of offshore wind developments. One of the case studies within MUSES specifically analysed the opportunities and barriers for multi-use of tourism, offshore wind and aquaculture in the southern part of Gotland.

[7] 3S model (sand, sun, sea) means passive tourism related to spending time on the beach, i.e. tourism activities encompassing enjoyment of the sun, sand, and sea.

The **Baltacar** project demonstrated how to promote diving by creating diving parks. The establishment of underwater wreck parks and trails facilitates access to antiquities and ensures their sustainable management. As diving tourism is still developing, managers of cultural heritage and providers of diving services need to start their work jointly and follow the same principles. This is the only way to keep the underwater sites, which are sensitive to human impact, open to visitors in the long term.

The **Baltic Blue Growth** project demonstrated symbiosis of aquaculture and tourism. Mussel farms provide water filtration, so the setting up of mussel farms has an indirect impact on increasing the touristic value of a region, and MSP should take it into consideration.

The **BalticRIM** project shows how cultural heritage can be viewed as a social capital in the recreational sector and also highlights the potential threats and challenges connected to the growth in the tourism sector. During the BalticRIM project some tourism-related issues were addressed and attempts were made to start discussions mainly in the following fields:

- More effective communication between spatial planners and cultural heritage specialists was established during the project, different planning solutions were compiled in areas rich for cultural heritage.
- Attempts of cross-sectoral communication were made in different case study areas. For example, an event was organised in Tallinn, Estonia, between museums, NGOs, local municipalities, academics and cultural heritage specialists, where the marketing potential of maritime and underwater cultural heritage was discussed.
- Events for hobby divers were arranged in Estonia, Finland and Germany.

D 1.2. Key observations (input to the conclusions)

Practices on the inclusion of recreation and tourism into MSP are scarce in the BSR. The tourism sector is extremely diverse and dispersed and therefore not an easy MSP stakeholder. Yet, its economic power is high, mainly through local governments. There is a deficit of good practices showing how in practice tourism related conflicts can be handled in MSP. Multi-use and the development of a new form of tourism (diving) might be an option, but it only partially solves the problems related to a traditional 3S tourism model. MSP should also develop know-how on handling mobile tourism, e.g. yachting. One of the options could be a better co-operation between ICZM and MSP.

Above all, it seems to be crucial to promote and valorise the importance of UCH and MCH in creating and enhancing well-being, quality of life, identity, sense of place, social capital, Blue Growth, and the power of heritage to build ties between generations and people.

D 2. SHIPPING: HOW TO CONSIDER SHIPPING UNDER MSP

Shipping is a traditional sea user. It will grow in the BSR in

the future, meaning larger vessels with more load. One issue is navigation safety, the second issue is shipping constraints posed by new sea users. All these must be handled under MSP, but so far participation of the shipping sector in MSP processes has not been very vigorous. Shipping is a core sector in MSP and good planning requires information on ship movements over time as well as knowledge of the development plans of the shipping industry. At the first glance there are numerous good practices related to shipping (110 in the EU, 52 of which are related to the BSR) but their closer inspections reduce this number to 4 or 5 BSR good practices directly related to shipping. For the purpose of this report, three good practices (excluding shipping safety discussed under safety theme) have been identified in this theme (**PartiSEApate, Baltic SCOPE, Baltic LINes**). The work on shipping in MSP should be aligned with efforts of the **Maritime Working Group** (WG Maritime) of HELCOM. This group works on preventing pollution from ships, including deliberate operational discharges as well as accidental pollution. Proper MSP should diminish the risk of navigation accidents.

D 2.1. Good practices in shipping

A workshop on shipping and ports within MSP was organised by the **PartiSEApate** project**.** It has initiated pan-Baltic multi-sectoral stakeholder discussion on key issues in the Baltic Sea Region. It has also identified appropriate ways, platforms and players for channelling input and information between the industry and the planners. The workshop listed key issues that MSP should resolve to enhance sustainable maritime transport and made both sides aware of each other's needs and opportunities. This was the first macro-regional meeting between planners and sectoral representatives. The **Baltic SCOPE** project made shipping density maps spanning from 2006 to 2015 available. All the maps are available through the HELCOM AIS Explorer. The maps were created from quality controlled Automatic Identification System (AIS) data, which allows filtering the shipping data by month and by the type of ship.

Under the **Baltic LINes** a study on future scenarios of shipping in the BSR was conducted. To elaborate these scenarios, multiple activities have been undertaken. Among them were a statistical scenario analysis and activities involving stakeholders, like the elaboration of questionnaires filled in by key stakeholders and the hosting of a 2-day MSP challenge computer simulation game. The study focused not only on shipping density and turnover forecasts but also on the trends and potential changes in the sector caused by applying restrictions or new technological developments. Particular attention was paid to the developments that should be considered by MSP.

The project also analysed planning mismatches in handling shipping lanes and corridors in MSP planning. Usually, the main goal for designating shipping areas in MSP is to safeguard a space for the current and/or future needs of the shipping sector during the weighting process. Since a maritime spatial plan shall cover the spatial needs for different activities over the entire (national/regional) sea area, two questions arise: a) how to deal with areas regulated by the International Maritime Organization (IMO) and b) how to deal with areas that are completely unregulated to this date (i.e.

how to transfer existent regulations and how to designate new areas for shipping). While transferring the existing IMO regulations to MSP seems to be easy, the determination of how much space is needed for shipping outside the routing schemes (now and in future) is a more complicated question. Responsibilities for MSP and those for the regulation of ship traffic often lie with different competent authorities. Unlike international regulations for shipping, the requirements within MSP vary among countries.

The project findings served as a basis for further discussions with stakeholders on spatial requirements of shipping within MSP and were considered when developing spatial scenarios for shipping for the years 2030 and 2050. They were further utilised for the preparation of joint planning criteria and their (different) application in different countries. As a practical output, the **Baltic LINes** project developed a step-by-step guidance on handling cross-border shipping in MSP. The main findings were made in the course of discussions during project meetings, stakeholder consultations and expert interviews.

D 2.2. Key observations (input to the conclusions)

Practices on the inclusion of shipping in MSP are sufficient in the BSR, in particular thanks to the Baltic LINes. In many MSP plans shipping receives sufficient attention. However, some unclear issues remain such as the impact of new shipping technologies on MSP. More cooperation with the HELCOM MARITIME WG is required in the future as postulated by the **Baltic LINes**.

D 3. AQUACULTURE (MARICULTURE): HOW TO CONSIDER AQUACULTURE UNDER MSP

Aquaculture belongs to one of the key blue sectors in the EU. There are different types of aquacultures depending on their main purpose and function. One type of aquaculture is the practice of cultivating aquatic organisms for human or animal consumption, in general run by private enterprises on a commercial basis. Another type is cultivation of aquatic plants (e.g. reed) for commercial reasons. However, there is also a type of aquaculture practiced mainly for the protection of marine environment (some types of plant or mussel aquaculture). It provides important non-commercial regulating ecosystem services and therefore requires support from the public sector.

Due to its economic importance, aquaculture is a popular MSP topic but less so in the BSR. Of the 539 good aquaculture practices on the EU MSP Platform only 38 concern the BSR, and in many cases their relation to actual aquaculture is very loose. The main reason for this is the oceanographic conditions of the Baltic Sea that do not support extensive aquaculture for human consumption like other EU sea basins do. New technologies and more holistic policies (e.g. environmental policy) might change this situation and make aquaculture for the protection of marine environment more popular in the BSR. Several good practices (**PartiSEApate, BaltSeaPlan**, **GRASS, Baltic Blue Growth, MUSES, AquaBEST, Submariner**) and tools (**InnoAquaTech, Baltic Blue Growth**) have been identified so far regarding the conceptualization of aquaculture in relation to MSP.

D 3.1. Spatial conceptualisation of aquaculture

The **PartiSEApate** workshop on MSP and aquaculture initiated a pan-Baltic multi-sectoral stakeholder discussion on the overall development prospects and related spatial targets for aquaculture in the Baltic Sea, as well as the specific nature of conflicts and synergies with other sectors and interests in the Baltic Sea. The workshop also identified the key expectations of aquaculture towards MSP in the Baltic Sea Region, which are still valid and should guide MSP.

Within the **BaltSeaPlan** project, ***the Baltic Sea MSP Vision 2030*** has been elaborated. This document recognizes aquaculture as an important marine sector.

1. Marine aquaculture producing high quality and healthy products has gained in relevance as a result of more sustainable fishing practices and consumer demand for sustainable local fish and seafood. Marine aquaculture is environmentally sound.

2. The cultivation of algae is gradually developing as an economic activity for pharmaceutical and other industries. Algae are also grown for bioenergy and contribute to nutrient reduction in parts of the Baltic Sea.

Also, spatial planning implications for aquaculture have been identified. They form the MSP vision for aquaculture development. In particular, the Vision requires that areas for marine aquaculture are carefully selected to avoid negative impacts on water quality and natural fish stocks. This means that site specific regulations should accompany aquaculture licences. Whenever environmentally feasible and safe, the principle of spatial efficiency is in place, e.g. placing aquaculture sites for co-use within already used areas such as wind farms.

The **Submariner** project has identified locational conditions/ requirements for several types of plant aquaculture such as reed farms or micro-algae as well as for mussel cultivation.

The **Baltic Blue Growth** project elaborated a ***method for integrating mussel farms in MSP processes***. A uniform planning methodology, which was developed within the project, addresses optimal environmental conditions for mussel growth, role and utilization of national and regional aquaculture development plans, legal regulations and formal procedures, role and power of associations representing the sector, potential conflicts with other marine use and ways to minimize or mitigate them. The proposed approach is presented in the document ***Addressing the mussel farms in maritime spatial planning process***.

The **GRASS** project has developed a) a pan-Baltic map, depicting the potential of macro-algal cultivation and harvesting as well as b) a manual on environmental impact assessment for macro-algae cultivation and harvesting in the Baltic Sea. Both products can help planners to include the aquaculture sector into their work. This knowledge base can serve as a starting point to take macro-algae and aquaculture aspects in general into account during the on-going elaboration of national maritime spatial plans as well their next generation after 2021. MSP in Estonia has already taken these maps into account within their CURRENT official MSP plan – even though they have NOT provided a spatial designation to them; but have only used these maps as background information in

view of designating other uses (e.g. NOT in these areas with future potential for seaweed farming).

The **MUSES** project examined multi-use related to aquaculture in all five EU Sea Basins. These include mainly a) fisheries or aquaculture combined with offshore wind farms or b) a softer multi-use (as it does not imply long term hard infrastructure) between fisheries or aquaculture and tourism. It should be noted that the combination between fisheries and aquaculture has not been considered as a multi-use as these two uses have been found to usually exclude each other (e.g., no fishing where aquaculture takes place and vice versa). The Sea Basin Factsheets as well as the MUSES Action Plan provide a good snapshot of the challenges and opportunities for aquaculture or fisheries related multi-use in the Baltic Sea basin. The MUSES found that combinations involving fisheries or aquaculture with environmental protection and tourism have a strong potential in contributing to Blue Growth in the region.

A good fish aquaculture practice for MSP comes from the Finnish Aquaculture SPATIAL plan developed under **AquaBEST**. The key finding is that maritime spatial planning should be linked with aquaculture licensing (spatial planning should be easily accessible to fish farmers and authorities).

D 3.2. Tools supporting aquaculture

The **Baltic Blue Growth** project elaborated a model for predicting mussel growth potential. This model has been made available through the Operation Decision System tool.

The **InnoAquaTech** Decision Support Tool, developed as an innovative online platform, helps the user set up a virtual aquaculture system and simulate its performance in terms of resource consumption (environmental aspects) and running costs (economic aspects). One can e.g. choose the number, volume and dimensions of tanks, adapt the water circulation management in the system, make decisions about the farmed species and put custom prices on the main resources that are necessary to run such an aquaculture facility. According to the chosen selection, one will receive information about the quantity of consumed resources, as well as their respective economic correlations under the specific chosen scenario. Such a tool may be useful for businesses and planners when sitting the aquaculture i.e. when deciding on a suitable zone for aquaculture activities.

D 3.3. Key observations (input to the conclusions)

Further support to aquaculture should cover mainly technological readiness and spatialisation of sectoral policies. Also, environment policy should be re-examined to ensure it supports plant and mussel aquaculture practices which are beneficial to environmental status.

D 4. BLUE ECONOMY: HOW TO SUPPORT SUSTAINABLE DEVELOPMENT OF MARINE SECTORS UNDER MSP

The relation between MSP and Blue Economy is multi-faceted

and not yet fully explored. MSP aims to reduce or avoid conflicts between a variety of economic and non-economic functions. MSP is also a tool to identify and give suitable room to new and changing spatial uses. MSP may be used to open new economic potentials by fostering synergies between different uses. The substantial political support of the EU with regard to Blue Growth has not resulted in a large number of good practices, with only 58 such practices identified on the EU MSP Platform. More than a half of them are related to the BSR. For the purpose of this report six good practices have been identified so far. They belong to two categories: general conceptualization (**MSP Platform**, **PartiSEApate, Land-Sea-act, Submariner**) and more practical examples of including blue economy in MSP or assisting MSP in doing so (**Plan4Blue**, **Baltic Blue Growth, BaltSeaPlan, Land-Sea-Act, BalticRIM**). One should also keep in mind that many blue economy related practices were developed under projects dealing with separate blue sectors (**Baltic LINes, Baltic InteGrid, Submariner**). Many of them are analysed under the relevant sectoral chapters of this report.

D 4.1. Conceptualization of blue economy under MSP

Although the **PartiSEApate** recommendations are not blue economy specific, they provide a background for wiser and better-orchestrated sustainable exploitation of sea resources. Some of the recommendations are important for this theme, mainly the ones suggesting not only focusing on environmental impacts but incorporating socio-economic impact issues and synergies while developing MSP. This was the first BSR attempt to combine Blue Growth and the carrying capacity of an environment.

The EU MSP Platform has developed the study Maritime Spatial Planning (MSP) for Blue Growth. The study addressed three distinct aspects of MSP: 1) How to develop a vision for maritime space that can be effectively used in MSP? 2) What kind of future trends impact on sector development and how do they influence the MSP process? 3) How can MSP authorities monitor whether they are on the right track with their MSP Blue Growth objectives? These three distinct aspects were developed as stand-alone documents. The sector fiches explain how to best consider the development of each sector during MSP processes and how to reach the related Blue Growth potentials in a sustainable manner. The fiches are the result of the review of the existing work on the future uses of the sea and the evolution of different maritime sectors. The nine fiches cover offshore wind energy, tidal and wave, coastal and maritime tourism, marine aggregates and marine mining, shipping and ports, oil and gas, cables and pipelines, fishing and marine aquaculture. The fiches deal mainly with the spatial dimension of the expected evolution of the sectors. They also investigate the interactions between the sectors and offer a set of concrete recommendations on how both planners as well as sectors may inform each other to create optimal MSP solutions. Another Handbook for developing MSP indicators suggests indicators related to Blue Growth, maritime sectors and MSP processes.

The main outputs of the project **Land-Sea-Act** are ***Policy brief on key messages on land-sea interactions and***

Blue Growth initiatives, ***Blue Growth Check Report***, ***Action Plan 'Entrepreneurship and Blue Growth'***, and ***Multi-level Governance Agenda on Blue Growth and Spatial Planning in BSR.*** For Blue Growth sectors the most relevant output will be the aforesaid ***Action Plan***. For various governance authorities (including municipalities) and NGOs, the applicable guidance will be provided by ***Multi-level Governance Agenda on Blue Growth and Spatial Planning in BSR***. Clearer rules and guidance could also help to attract new investment. These outputs will contribute to the EU Green Deal.

The **Submariner** project has developed the handy ***Compendium: An Assessment of Innovative and Sustainable Uses of Baltic Marine Resources***. The compendium presents various innovative Blue Growth sectors in the BSR and discusses their development potential. It provides a comprehensive picture of these sectors in the Baltic Sea Region as well as the state of knowledge and environmental, institutional and regulatory conditions for their development. This compendium can have indirect impact on MSP as an awareness rising tool for MSP planners.

D 4.2. Practical enhancement of blue economy under MSP

The Lithuanian MSP exercise, done under the **BaltSeaPlan** project, focused on the development of the purposive scheme of MSP and the implementation of relevant actions (e.g. the identification of potential conflicts and synergies, the assessment of the national legal framework and identification of MSP-related strategic targets), as well as on raising public awareness. The practice highlighted essential steps needed when negotiating blue economy cooperation and support and assessed the environmental conditions and their carrying capacities. Alternative locations have been discussed with key stakeholders to find out more about possible ways to mitigate the impacts of the OWE energy sector.

The **Plan4Blue project** has developed **a** report on blue economy potential, sectoral strategies and development trends. The data presented in this report illustrates the potential and future development of the blue economy within the project area and will provide information for the MSP process aiming at supporting sustainable growth. By involving cross-sectoral participants in the investigation of blue economy, this report attempts to bring together some of the sectoral visions and strategies that set perspectives for the blue economy development in the Plan4Blue project area in Finland and Estonia. Thus, the project offers a good practice on assessing Blue Growth potential.

The **Baltic Blue Growth** extensively discussed various aspects of mussel farming and by that gave important guidelines and information for those interested to start this type of a business in the BSR. It should keep kept in mind that mussel farming offers important environmental benefits (absorption of nutrients) and might improve the carrying capacity of natural marine environments.

The **Land-Sea-Act** project developed the Southwestern Kurzeme demonstration case study in Latvia, which aimed at balancing blue growth and the carrying capacity. The case study tested the application of the ecosystem services

approach, participatory approach and novel planning methods and tools. Part of the work was the mapping and assessment of the coastal ecosystems, landscape and ecosystem services that are essential for local communities as well as scenario building. Within the trade-off analysis of the proposed scenarios, the social, economic and environmental impacts as well as impacts on ecosystem service supply were assessed. Spatial solutions for the development and balanced use of land-sea resources were elaborated for the demonstration case area.

D 4.3. Key observations (input to the conclusions)

The development of blue economy is a complex issue since it covers the allocation of marine space for the development of new products and enhancing the efficiency of production. MSP can contribute to that by finding optimal sites for locating blue sectors. Such sites should ensure synergies between blue sectors and minimize conflicts with marine environments. Despite many good blue economy practices, ones genuinely encompassing both Blue Growth and the carrying capacity of an environment are scarce. The issue of the carrying capacity is one of the least researched under MSP so far and it requires further support and investigations. There is a need of political commitment to this issue at the HELCOM and VASAB level to enhance holistic collaboration between environmental and blue economy stakeholders and authorities.

D 5. ENERGY: HOW TO CONSIDER OFFSHORE ENERGY UNDER MSP

Offshore energy is among the most topical issues discussed under MSP. Some experts believe that it has contributed to the popularity of MSP in the EU. Offshore energy belongs to non-mobile sea uses and therefore requires careful space allocation to avoid conflicts with other uses and negative impact on navigation safety. Various approaches are applied in MSP for efficient handling of offshore energy, and they differ greatly among the countries. Despite active discussions and the exchange of experience, the adopted solutions are not standardised (offshore farms as closed areas or active support for multi-use in the energy sea areas). In this theme 136 good practices have been described at the EU MSP Platform, 50% of which are related to the BSR. For the purposes of this report several good practices have been identified so far. Those practices are related to the conceptualisation of the energy issues, the preparation of additional energy related evidence for planning offshore energy in MSP (**Baltic Integrid, Muses, PartiSeaPate, Baltic LINes**) and the location of concrete offshore energy sites **(BaltSeaPlan, Land Sea Act, Baltic LINes)**.

D 5.1. Spatial conceptualisation of offshore energy and supporting MSP in its inclusion

The **Baltic InteGrid** project assessed the optimised potential of offshore wind energy in the Baltic Sea Region by applying an approach in which offshore energy sites are integrated with interconnectors.

The **MUSES** project has developed a ***Multi-Use Analysis Overview*** report with a chapter focusing on energy related multi-uses: offshore wind and wave energy, offshore wind and aquaculture, offshore wind and tourism, and offshore wind and fisheries. All, excluding offshore wind and wave energy, were considered relevant for the Baltic Sea. The project examined with what other uses offshore energy can be combined in order to ensure additional pecuniary or less tangible socio-economic benefits or lower costs.

The **PartiSEApate** project has framed the discussion between MSP planners and offshore energy developers and other energy stakeholders. The project workshop on MSP and off-shore energy initiated pan-Baltic multi-sectoral stakeholder discussion on key issues relevant for planners and energy developers at the Baltic perspective. The workshop identified conflicts and synergies between offshore energy and other users. The workshop also formulated some recommendations on MSP and offshore energy.

To get a better understanding of the needs of the offshore energy sector, the **Baltic LINes** project developed future energy scenarios for 2030 and 2050, covering offshore wind power and grid infrastructure in the Baltic Sea (including Skagerrak and Kattegat). The **Baltic LINes** project also compared the planning criteria used in different Baltic Sea countries and summarised key similarities and differences. These findings were utilised in a step-by-step guidance for handling cross-border energy issues in MSP. The project findings indicate that the role that MSP has in deciding locations of offshore energy installations at sea differs considerably between countries, especially the relationship between sectoral decision making and MSP. In brief, in some countries MSP takes into account the decisions made in sectoral planning, while in other countries MSP steers sectoral decision making.

D 5.2. Locating offshore energy sites

The project **BaltSeaPlan** has tested and demonstrated how to use Marxan, a decision support tool mostly used in conservation planning, to optimize algorithms for finding the most cost-efficient sites suitable for offshore wind farm installations in Germany, Sweden, Poland and Denmark. The main objective for applying Marxan was to test the usefulness and reliability of a systematic decision support system for a specific MSP challenge other than conservation (in this case cross-border MSP) to analyse the potential of offshore wind power for different cost and target scenarios.

The **Land-Sea-Act** project has elaborated *Strategic Solutions for Balanced Use of Land-Sea Resources* in the Southwestern Kurzeme coast of Latvia. It includes proposals on most suitable locations for offshore wind parks. The solutions resulted from participatory approach and novel planning methods and tools.

The **Baltic LINes** project found out that there is no common BSR understanding of the factors that needs to be considered when planning and designating new locations for offshore wind farms (OWFs). During the project, a list of 40 different factors were identified that have been found to be relevant for both assessing wind energy potential at sea and actual spatial planning of OWFs. A clear conclusion on the variety of criteria is that there are several aspects that need to be

considered, but since OWF is a rather novel topic in many countries, methods and approaches have not been stabilised. There are not any existing international bodies which would take the role of developing common sets of criteria. As the introduction to this report pointed out that countries practice MSP in different ways, there is also one notable difference between countries. It is that in some countries decisions and planning are based on using national standards, while in some countries matters are handled case by case and there are not any clear national standards.

D 5.3. Key observations (input to the conclusions)

The inclusion of energy under MSP is equipped with numerous good practices so the body of knowledge related to this issue is large. Still pending is support for multi-use of energy sites, and many technical, administrative and economic questions remain open. A Baltic or European energy Vision will be helpful in this regard.

D 6. MARINE CULTURAL HERITAGE (MCH): HOW TO CONSIDER MARINE CULTURAL HERITAGE UNDER MSP

MCH is a relatively novel issue for MSP, especially if a broader approach to MCH is adopted, i.e. MCH covering also terrestrial sites, not only underwater objects (UCH). In this case MSP must take into consideration the impact of terrestrial MCH on the use and development of the sea space. Another issue is the areal approach to MCH and new planning categories such as battlefields or ship traps, which encompass a wide spectrum of cultural heritage. Finally, in the BSR, MCH is consider as one of the key drivers for multi-use, i.e. development of other sectors, in particular tourism. There is a limited body of experience on MCH (including UCH), with only 33 good practices related to MCH at the EU MSP Platform. Almost half of them are related to the BSR. The Baltic Sea hosts exceptionally well-preserved wooden shipwrecks, designated as UCH, attracting tourists (particularly divers) from all over the world. For the purposes of this report several good practices have been identified (**BalticRIM, MUSES, PartiSEApate, Baltacar**, **Land-Sea-Act**).

D 6.1. Good practices regarding MCH

The **PartiSEApate** project started a discussion on the inclusion of underwater cultural heritage in MSP. The workshop organised by this project initiated a pan-Baltic multi-sectoral stakeholder discussion on establishing MSP as a management tool for underwater cultural heritage (UCH) and on possible MSP solutions for balancing interests and providing sustainable UCH protection and management. The workshop identified key issues important for MSP with regard to UCH in the Baltic Sea Region.

These discussions have been continued under the **BalticRIM** project, which extended the concept towards marine cultural heritage (MCH). One of the key achievements are the principles of including MCH under MSP, in particular the importance of the areal approach. As far as practical experience on including MCH under MSP is concerned, the Polish case study of

Buck Bay can serve as an example. In this study the paleo-landscapes were defined, identified and examined as an MSP layer. The project developed a set of recommendations both for planners and for the heritage experts, authorities and stakeholders. These recommendations encompass a wide range of issues, from very specific ones on how the information on MCH should be prepared to better suit the planning process to more general ones dealing with wide concepts of multi-use or blue economy. The project also delivered a memorandum on the cooperation between the planners and MCH authorities, which proposes potential ways of cooperation at the pan-Baltic level.

The MUSES project has examined the multi-use potential of UCH in all five EU Sea Basins. The MUSES have found that combinations involving UCH, environmental protection and tourism have a strong potential in contributing to Blue Growth in the BSR. The BSR Factsheet and Ocean Multi-Use Action Plan chapter on Tourism, UCH and Environmental Protection may serve as a good source for planners and other decision makers when considering UCH in their planning processes and UCH management plans. Both documents provide a good overview of existing examples and good practices related to combining UCH, tourism and environmental protection and point out to opportunities for advancing these concepts further.

The **Baltacar** project advanced research and information on UCH. The creation of 3D wreck models and virtual examples of existing diving parks as well as the promotion of MCH by creating diving park description made the theme more popular among general public. Without leaving home, it is possible to see underwater wrecks. As a result of BALTACAR project, knowledge about the importance of MCH and what can be found at the bottom of the sea has been facilitated, which will help to protect MCH more effectively.

The **Land-Sea-Act** project has analysed incorporation of social and cultural values - in contrast to environmental and economic data - into planning processes for the sea. This has been done in relation to MSP of the Gulf of Gdańsk in Poland[8]. Through qualitative research (in depth interviews), knowledge has been gathered on what cultural values are important for the coastal communities and visitors. The research focused on intangible cultural heritage, which is understood as the values that people place on marine ecosystems. This activity aimed to address this gap by testing a specific MSP support framework that includes cultural values in the planning processes in the Gulf of Gdansk area. This case study will also explore how cultural values are currently recognized by the tourism sector in the region, and what can be done to promote the concept of Blue Growth within tourism businesses.

D 6.2. Key observations (input to the conclusions)

There is a need to enhance the importance of MCH within MSP. The smaller UCH/MCH categories such as shipwrecks, lighthouses or archaeological sites of a given area should be analysed jointly to define a protected underwater or maritime landscape area and the analysis should address categories like cultural and emotional value. This will affect the way how MSP addresses MCH

[8] Please see https://land-sea.eu/cultural-values-in-msp-blue-growth-polish-case/.

in practice (with focus on connectivity between objects, multi-use and areal approach). For the development of this theme, governance will play a crucial role in the future.

D 7. FISHERY: HOW TO CONSIDER FISHERY UNDER MSP

Fishery is a traditional maritime sector which is losing its economic rationale. This is due to overfishing and the intrusion of sectors with higher added value in the recent years. There are several types of fisheries, e.g. artisanal fishery executed by small boat owners near the sea coast (also known as a small-scale fishery) and commercial fishery with bigger boats exploring entire sea basins (a large-scale fishery). Each type of fishery requires different approach in the MSP context. Unfortunately, only a few good practices related to fishery have been identified in the BSR in the MSP context. They were produced under **BaltSeaPlan, Plan Bothnia** and **Pan Baltic Scope**.

D 7.1. Good practices in fishery

The **BaltSeaPlan** produced a report ***Towards the Integration of Fisheries into Maritime Spatial Planning.*** This report is based on the project planning experience and outputs of such projects as the BALANCE and **Plan Bothnia,** which also considered fisheries as an important sea use and attempted to define areas suitable for fishery activities or areas where fisheries are in conflict with other uses. The report explains why fishery should be integrated into maritime spatial planning. The benefits of the inclusion are presented in the context of integrated sea use management and the possibility for resolving the sea-use spatial conflicts for fishing grounds. The legal basis of fisheries' management was also analysed. The report traces the integration of fisheries in the various steps of MSP and identification of the data gaps and the lack of methodological experience that might hamper full-fledge integration of fishery in MSP. The project has also produced two descriptive reports: ***Fisheries in BaltSeaPlan: Polish case study in the pilot area of the Pomeranian Bight*** **and** ***Fishery Study for MSP In Latvia*****.** They demonstrate the scope of MSP-relevant analysis of this sector.

The **Pan Baltic Scope** has produced exclusive new maps on essential fish habitats. These maps represent spawning areas of cod, sprat, herring, European flounder, Baltic flounder, as well as recruitment areas of perch, pikeperch, and nursery areas of flounder. This was done jointly by fish experts (scientists) of all the countries around the Baltic Sea. Agreed aggregated maps cover the entire Baltic Sea, which makes them potentially reliable and important planning evidence for national MSP and contributes to transboundary coherence of plans.

D 7.2. Key observations (input to the conclusions)

The existing good practices demonstrate how to integrate fishery in MSP in general and indicate what type of fishery data should inform MSP. However, more precise good practices on handling the transformation of fishery under MSP and securing co-existence of fishery and other sectors still need to be developed.

Part II Application Oriented Conclusions

This part of the Synthesis Report aims at addressing policy makers. It adopts the form of a roadmap/policy brief for MSP and emphasizes the topics which require public support at the current stage of the MSP development in the BSR (finalization and adoption of marine plans). The policy roadmap/brief focuses on issues which need to be improved and where gaps with regard to shared common understanding exist. The final part contains supporting tools to be of assistance for practitioners in enhancing the aforesaid development.

Policy Brief

In the course of the discussions among the project partners and with the stakeholders, the tasks identified in Part I were prioritized, as well as the following elements for each task were identified to ensure their implementation:

1. Financial and organizational ways and means of addressing or handling the task (e.g., projects, scientific analysis, political actions);
2. Responsibility for handling the task (who should do what);
3. Maturity of actions in handling the task;
4. Responsibility for bridging gaps.

Table 1. The themes in need of public support in the current stage of the BSR MSP development

No.	Task	Priority	Financial means	Responsibility	Maturity	Remarks
		High/ medium/ low	*Projects/States*	*H-V/ National authorities/ Planners/ Scientists*	*Spontaneous/ Regular/ Long-term*	
1.	Repeating BSR MSP Vision 2030 exercise in around 2022 (adding social sustainability to the economic and environmental ones)	Medium	State budgets	Planners as part of the Planners' Forum (supported by scientists who can facilitate the process)	Spontaneous one-time effort	
2.	Launching informal cross-border planning attempts when starting official national MSP processes, in particular with non-EU states	Low	States (within EU co-operation) and projects (with the third countries)	Planners	Ad hoc one-time effort if necessary	Plans have recently been or are about to be adopted.
3.	Extension of the existing modus of co-operation to implement a broader, more multi-level transnational governance model. This should engage other ministries at national (or regional) level.	Low	State budgets	National authorities	Regular and continuous efforts according to specificity of each country, reported regularly at the HELCOM-VASAB MSP Working Group meetings.	
4.	**Spatial analysis tools that help MSP planners to assess possible socio-economic consequences (primary, secondary and tertiary; using the multiplier effect) of allocating a given amount of sea space to a given sea use**	Top priority	Developed within applied and research projects, and disseminated via Planners' Forum	Planners jointly with scientists	Ad hoc, but supported by the HELCOM-VASAB MSP WG	*Should include ecosystem approach since the value of ecosystems is important for socio-economic development*

Table 1. The themes in need of public support in the current stage of the BSR MSP development

No.	Task	Priority	Financial means	Responsibility	Maturity	Remarks
		High/ medium/ low	*Projects/States*	*H-V/ National authorities/ Planners/ Scientists*	*Spontaneous/ Regular/ Long-term*	
5.	Good practices of how MSP should deal with safety concerns such as extreme weather events, massive oil leakages, potential environmental disasters	Low	Developed within both applied and research projects, and disseminated via the Planners' Forum	Planners, experts and scientists, but also planner networks	Ad hoc	
6.	Good practices on handling tourism-related conflicts, multi-use or a new form of tourism, for example yachting, under MSP. Need to promote and valorise the role of UCH and MCH in creating and enhancing well-being, quality of life, identity, sense of place, social capital, and blue growth	Medium	Developed within applied projects, and disseminated via the Planners' Forum	Planners jointly with tourism and MCH experts	Ad hoc	
7.	Impact of new shipping technologies on MSP	Low	Developed within research projects, and disseminated via the Planners' Forum	Scientists and planners	Ad hoc	
8.	Good practices of how MSP should deal with MU	High	Applied projects financed by, e.g., Interreg	MSP authorities in co-operation with sectoral authorities. Also, regions (selected) and companies should be involved in case of mariculture and fishery.	Regular: community of practice (example Belgium working through specific innovation areas)	

Table 1. The themes in need of public support in the current stage of the BSR MSP development

No.	Task	Priority	Financial means	Responsibility	Maturity	Remarks
		High/ medium/ low	*Projects/States*	*H-V/ National authorities/ Planners/ Scientists*	*Spontaneous/ Regular/ Long-term*	
9.	Training targeted at/offered to/ tailored for the needs of: a) authorities from the countries that have the greatest difficulties in implementing MSP; b) communities that are negatively affected by MSP	Medium	State budgets	Planners and scientists	Ad hoc	*Should invite experienced authorities/ planners that can share good examples.*
10.	Extension of the existing fora for information exchange in order to engage a broad range of stakeholders, not only planners and authorities	Very low	State budgets	Planners (mainly Planners' Forum as a vehicle)	Ad hoc	
11	**Monitoring MSP processes (coherence of MSP), results and monitoring/assessing impact of MSP on other policies**	Top priority	Project run by MSP national authorities and financed by the EU	National authorities co-operating at the HELCOM-VASAB MSP WG meetings	Intensive initial phase (facilitating) as a project, followed by a regular, long-term task for the HELCOM-VASAB MSP WG to develop the system further	
12.	Ways and tools for the inclusion of local actors in the MSP process	High	Various projects encouraged and monitored by MSP authorities (State should play the role of facilitator and co-ordinator)	Planners jointly with regional authorities and scientists	Can be ad hoc, but the results should be monitored at a regular level in each country	

Table 1. The themes in need of public support in the current stage of the BSR MSP development

No.	Task	Priority	Financial means	Responsibility	Maturity	Remarks
		High/ medium/ low	*Projects/States*	*H-V/ National authorities/ Planners/ Scientists*	*Spontaneous/ Regular/ Long-term*	
13.	**Analysis of the interactions related to social sustainability (how allocation of sea space benefits various social groups on land)**	Top priority	Research projects	Scientists supported by planners if necessary	Long-term, resulting in new knowledge and education	
14.	Connectivity analysis of ecologically valuable areas (continuation)	High	Applied projects funded externally for developing and testing approaches	Planners, national authorities, scientists co-operating together	Ad hoc	
15.	A more comprehensive ecosystem service assessment and improvements in input data quality	Medium	Research projects	Scientists supported by planners if necessary	Long-term (new knowledge should be developed and exchanged regularly by the Planners' Forum)	
16.	Educational support on the essence of EBA	Very low	State budgets	Planners jointly with scientists	Ad hoc	
17.	Support for collecting new data under a BSR harmonised way and schedule (continuation).	High	New project following Capacity4MSP	MSP data providers taking part in the BSR MSP Data Expert SubGroup of HELCOM-VASAB MSP WG	Regular, based on the BSR MSP Data Expert Subgroup	
18.	More handy tools for sharing and discussing data between planners and stakeholders, integration of various types of data (blue economy and biological data, MSP data etc.).	High	New projects, but should be partly financed by states	HELCOM-VASAB MSP WG in co-operation with planners and scientists	Long-term, regular, but initial input can come from projects, while demand - from planners	

Table 1. The themes in need of public support in the current stage of the BSR MSP development

No.	Task	Priority	Financial means	Responsibility	Maturity	Remarks
		High/ medium/ low	*Projects/States*	*H-V/ National authorities/ Planners/ Scientists*	*Spontaneous/ Regular/ Long-term*	
19.	New ways of generating and storing data. MSP data generation driven by MSP needs. Training MSP planners to formulate needs and understand existing possibilities (e.g., big data).	Low	New projects, but part of the work should be financed by states	HELCOM-VASAB MSP WG in co-operation with planners and scientists	Long-term, regular, but initial input can come from projects, while demand-from planners	
20.	Tools for assessing cumulative impacts (developing and testing)	Medium	Applied projects funded externally for developing and testing approaches	Planners, national authorities, scientists co-operating together	Ad hoc	
21.	Bio-economic models (considering, developing and testing)	Medium	Research projects funded externally for developing and testing approaches	Scientists, planners, national authorities co-operating together	Ad hoc	
22.	Analysing the role of MSP in the long-term resilience of coastal municipalities in the context of climate change	Medium	Applied projects funded externally for developing and testing approaches	Regional authorities, planners, national authorities, scientists co-operating together	Ad hoc	
23.	**Analysing ways of adapting MSP to climate change**	Top priority	State budgets in combination with EU Funds (projects)	HELCOM-VASAB MSP WG	Regular task of the HELCOM-VASAB MSP WG since new evidence is to be expected, but the initial input can be at project level	
24.	Analysis of the impacts of sectoral and horizontal policies on aquaculture	Low	State budgets in combination with EU Funds (projects)	MSP national authorities and sectoral authorities	Ad hoc, but planners should be informed	

Table 1. The themes in need of public support in the current stage of the BSR MSP development

No.	Task	Priority	Financial means	Responsibility	Maturity	Remarks
		High/ medium/ low	*Projects/States*	*H-V/ National authorities/ Planners/ Scientists*	*Spontaneous/ Regular/ Long-term*	
25.	Enhancing technological readiness of mariculture	Medium	EU Funds (projects)	National sectoral authorities	Ad hoc, but planners should be informed	
26.	**Good practices on combining blue growth and the carrying capacity of an environment**	Top priority	Applied projects but partially also national authorities	Scientist as key identifiers of benefits and impacts of maritime activities. Yet planners should be responsible for using research funding and bringing it to the planning practice	Continuous development of good practices	
27.	**Support for multi-use of energy sites**	Top priority	States	Early OWF countries (Denmark and Germany less so) because it should come before licensing	Ad hoc	
28.	New ways of covering MCH by MSP (focus on connectivity between MCH, multi-use and areal approach and intangible values)	Medium	States	HELCOM-VASAB MSP WG	Regular task of the HELCOM-VASAB MSP WG since new evidence is to be expected	
29.	Good practices on handling transformation of fishery under MSP and securing co-existence of fishery with other sectors	High	States	HELCOM-VASAB MSP WG	Regular task of the HELCOM-VASAB MSP WG since new evidence is to be expected	

Source: authors elaboration based on the outcomes of the Capacity4MSP project partner discussions

1. Interpreting these findings one can notice the following:

   1.1. The highly prioritised tasks/themes are related to broadening MSP and extending it. This includes opening MSP to other sectors and policies, in particular economic ones (**assessing socio-economic consequences of allocating a given amount of sea space to a given sea use, multi-use of energy sites ,** dealing with multi-use in general**, combining blue growth and the carrying capacity of an environment**, handling transformation of fishery under MSP and securing co-existence of fishery with other sectors , integration of various types of data i.e. on blue economy and biological data etc.), but also attracting and understanding new types of stakeholders who have been less active in MSP so far (**analysis of the social impact of MSP, i.e. how allocation of the sea space benefits various social groups ,** tools for sharing and discussing data between planners and stakeholders as well as ways and tools for the inclusion of local actors in the MSP process).

   1.2. Important actions for the success of MSP, i.e. its opening and broadening, seem to have been taken in the past, but they should be continued: e.g. connectivity analysis of ecologically valuable areas or support for collecting new data under a BSR harmonised way and schedule.

   1.3. Nevertheless, one can notice new challenges for MSP that require joint intensive efforts: **monitoring the governance of the MSP processes (coherence of MSP), MSP results and monitoring/assessing the impact of MSP on other policies, as well as analysing ways of MSP adaptation to climate change**. In either case the existing experience is limited and needs to be accumulated.

2. As far as financing is concerned, there is a great deal of expectations related to external EU funds for both research and application-oriented (INTERREG type) projects.

   2.1. This funding should enhance ten of the 12 high and top importance themes of the synthesis report.

   2.2. In a few cases projects might be complemented by in-house planning effort that might be financed from national budgets. Such efforts can help with the preparation/identification of tools for sharing and discussing data between planners and stakeholders, **analysing ways of MSP adaptation to climate change, good practices on combining blue growth and the carrying capacity of an environment.**

   2.3. Only two themes have been considered as remaining entirely in the financial responsibility of national authorities: transformation of fishery under MSP and securing co-existence of fishery with other sectors and **multi-use of energy sites.**

   2.4. An interesting observation is the high role of the Planners' Forum in disseminating the project results.

This is a new element in the BSR co-operation set-up. So far, this role has been played mainly by the bi-annual BSR MSP forums. The HELCOM-VASAB MSP WG has time and resource restriction to do that, as well as limited interest.

3. Responsibility for developing themes was divided in a more balanced way. Each type of MSP body or level has been assigned some tasks. However, three patterns can be noticed: the themes requiring BSR policy level leadership, those that can be performed at national level and the rest (the largest group) requiring joint harmonious efforts of various bodies. One task was regarded as science-oriented.

3.1. Future Agenda for the HELCOM-VASAB MSP WG (i.e. national authorities in co-operation):

- enhancing **monitoring governance of the MSP processes;**
- initiating work on a**nalysing ways of MSP adaptation to climate change;**
- starting work on transformation of fishery under MSP and securing co-existence of fishery with other sectors;
- collecting new MSP data under a BSR harmonised way (BSR MSP Data Expert Subgroup of the HELCOM-VASAB MSP WG);
- elaboration of handy tools for sharing and discussing data between planners and stakeholders, integration of various types of data (the HELCOM-VASAB MSP WG in co-operation with planners and scientists).

3.2. Tasks requiring collaboration of various dispersed actors:

- Planners together with scientists should develop tools assessing **the socio-economic consequences of MSP allocations.**
- MSP authorities in co-operation with sectoral authorities should work on good practices of how MSP should deal with multi-use.
- Planners, regional authorities and scientists should jointly come up with tools for the inclusion of local actors in the MSP process.
- Scientists supported by the planners should analyse **the MSP interactions related to social sustainability**.
- Planners, national authorities and scientists should jointly continue work on the connectivity of ecologically valuable areas.

3.3. National task:

- **Support for multi-use of energy sites** should be tested and applied by early OWF countries because it should come before licensing.

3.4. Scientific task:

- **Good practices on combining blue growth and the carrying capacity of an environment** should be developed by scientist since they have a key role in identifying benefits and impacts of maritime activities. Yet, planners should be responsible for using research funding and bringing it to the planning practice.

4. The majority of the tasks would require regular, organised efforts. Most of these efforts should be organised or at least monitored by the HELCOM-VASAB MSP WG. This shows the importance of this group for the success of MSP in BSR and huge amount of trust accumulated thanks to its current work. In cases when tasks require mainly ad hoc actions (this is related to accumulation of good practices or some scientific analysis) it is postulated to make use of the concept of community of practice (the Belgium example of working through specific innovation areas). This ensures firmer basis for the work and smaller risk of diminishing the result of the project. With regard to the BSR situation, such community of practice can be formed at the Planners' Forums.

5. The gaps related to the prioritised task.

   The initial list of gaps for all tasks/themes identified is presented in Annex 2. After discussions among the project partners, gaps for the most important themes were substantiated and remedies were proposed. These gaps and remedies are presented in the table below. The bodies proposed to be responsible for alleviation of the gaps are either at the EU or Baltic level. This indicates the importance of continuation of MSP collaboration in multi-lateral set-ups. As far as the BSR level is concerned, the HELCOM-VASAB MSP WG should work on eliminating the following gaps through the following means:

- Bridging the MSP **monitoring deficit** by framing a professional discourse on monitoring at the Baltic level. Establishing collaboration with other sectors would be very helpful.
- **Insufficient willingness of the countries to work on connectivity of ecologically valuable areas** can be alleviated by building common understanding among the countries on the importance of it (e.g. ministerial declarations).
- BSR MSP Data Expert Sub-group should continue as an important forum for MSP to **diminish disbelief in concrete benefits from data sharing.**
- Insufficient political commitment on combining blue growth and the carrying capacity of an environment would require that HELCOM and VASAB enhance a holistic collaboration between environmental and blue economy stakeholders and authorities.
- Lack of critical mass of experience on transforming fishery under MSP and securing co-existence of fishery with other sectors calls for HELCOM-VASAB MSP WG effort in order to ensure a take-off (by covering transaction costs).

Table 2. Gaps and remedies in the current stage of the BSR MSP development

No.	Task	Priority	Gap	
		High/ medium/ low	*Essence*	*Remedies*
1.	Spatial analysis tools that help MSP planners to assess possible socio-economic consequences (primary, secondary and tertiary, using the multiplier effect) of allocating a given amount of sea space to a given sea use	**Top priority**	Important gaps among countries and different schools of planning	There is a need for an EU-wide debate on the socio-economic consequences of MSP as part of various events. Examples of covering this topic by national MSP should be highlighted.
2.	Good practices of how MSP should deal with multi-use	High	Important gaps among countries and lack of critical mass of experience	Policy commitment to multi-use can be provided by the European Commission and European Parliament. Accumulation of experience would require pilot actions financed at the EU level.
3.	**Monitoring MSP processes (coherence of MSP), results and monitoring/assessing impact on other policies**	Top priority	The theoretical foundations do exist but deepening and further practical testing should be done since there is a general deficit in this domain	The EU should finance applied projects on testing various approaches to MSP monitoring. The HELCOM-VASAB MSP WG has the key role in framing professional discourse on monitoring at the Baltic level. Establishing collaboration with other sectors would be very helpful.
4.	Ways and tools for the inclusion of local actors in the MSP process	High	Lack of critical mass of experience. Differences in stakeholder engagement strategies among the countries (problem of costs and time pressure). Different planning cultures and paradigms.	The European Commission and European Parliament should take a policy lead in pursuing this theme.
5.	**Analysis of the interactions related to social sustainability (how allocation of the sea space benefits various social groups on land)**	Top priority		
6.	Connectivity analysis of ecologically valuable areas (continuation)	High	Insufficient knowledge and experience coupled with differing priorities among the countries on the importance of this issue	The HELCOM-VASAB MSP WG's guiding role in building common understanding among the countries should be continued.

Table 2. Gaps and remedies in the current stage of the BSR MSP development

No.	Task	Priority	Gap	
		High/ medium/ low	*Essence*	*Remedies*
7.	Support for collecting new data under a BSR harmonised way and schedule (continuation)	High	Insufficient resources and different data culture among the countries	BSR MSP Data ESG should continue as an important forum for MSP data sharing. MSP planners should have a much stronger voice on how and which data is generated, also with the use of modern technologies
8.	More handy tools for sharing and discussing data between planners and stakeholders, integration of various types of data (i.e. blue economy and biological data, MSP expert data etc.)	High	Lack of convincing experience that new tools improve the stakeholder process. Lack of trust that data sharing provides more benefits than costs	
9.	**Analysing ways of adapting MSP to climate change**	Top priority	Lack of critical mass of experience	The European Commission and European Parliament should take a policy lead in pursuing this theme
10.	**Good practices on combining blue growth and the carrying capacity of an environment**	Top priority	Insufficient political commitment and lack of knowledge. Siloed way of policy making	A need for political commitment at the HELCOM and VASAB level to enhance holistic collaboration between environmental and blue economy stakeholders and authorities
11.	**Support for multi-use of energy sites**	Top priority	Lack of Baltic or European energy Vision or policy commitment on that	Policy commitment to multi-use can be provided by the European Commission and European Parliament
12.	Good practices on handling transformation of fishery under MSP and securing co-existence of fishery with other sectors	High	Lack of critical mass of experience	A need for leadership of the HELCOM-VASAB MSP WG to ensure a take-off

Policy Oriented Tools

This part of the synthesis report aims mainly at informing the EU funding programmes about what tools are necessary to enhance the BSR MSP in the future. As a part of the Capacity4MSP project, the need and directions for developing supporting tools for practitioners for the top priority tasks have been identified. Such tools should enhance and improve the implementation and development of the priority tasks for future success of BSR MSP. The needs and directions were identified in an interactive dialogue between MSP planners and experts, in particular project partners and representatives of the associated organisations of the Capacity4MSP project. It seems that only a few top priority tasks require new tools, while for some of them the existing tools should be adjusted. For some of the tasks elaboration of new tools seems preliminary. The synthetic results are presented in Table 3.

Table 3. Tools

No.	Top priority Task	Needs and direction of development of Policy oriented tools
1.	Spatial analysis tools that help MSP planners to assess possible socio-economic consequences (primary, secondary and tertiary, using the multiplier effect) of allocating a given amount of sea space to a given sea use	The existing tools such as the Spatial Economic Benefit Analysis, Maritime spatial rent, maritime spatial multipliers (based on input-output matrices) provide an interesting starting point. Yet these tools should be used cautiously, e.g. multiplier effects are normally very difficult to assess and impact analysis is only one out of many inputs in the MSP decision-making process. Directions for development: ○ The tools should better reveal trade-offs between uses (i.e. economic results of allocating more space to one use at the expense of another one) and synergy effects between uses. ○ There is a need for better discrimination between marine and terrestrial activities in the EUROSTAT data (e.g. marine tourism versus non-marine tourism).
2.	**Monitoring MSP processes (coherence of MSP), results and monitoring/assessing impact on other policies**	There is no need for new tools. The existing tools should be tested and verified by various countries. This experience should be discussed and broadly debated among experts and practitioners and a catalogue of the most promising monitoring tools should be created. Each of the countries will select the most appropriate tools from the catalogue. Therefore, the key task is to provide a framework for assessing which tools work in which contexts and why, rather than to jointly create specific tools in the BSR. Desired characteristics of the potential tools: ○ easiness to apply; ○ consistency over time; ○ providing an overall picture (one indicator positive, the other negative); ○ easiness to communicate the results.
3.	**Analysis of the interactions related to the social sustainability (how allocation of the sea space benefits various social groups on land)**	There are some promising tools, such as hit maps, for measuring emotional bond to the sea and various indicators measuring the fairness of the MSP process. Yet, the most important task (before finetuning the tools) is to make social sustainability a more explicit objective for MSP. Directions of tool development: ○ Who benefits is more important than measuring benefits and loses due to MSP. ○ Territorial impact assessment/sustainability appraisals should be expanded to include various social aspects.

Table 3. Tools

No.	Top priority Task	Needs and direction of development of Policy oriented tools
4.	Analysing ways of adapting MSP to climate change	Existing tools, like Symphony, Baltic Sea Impact Index Tool and PlanWise4Blue have similar limitations, as they analyse resilience and migration only. These tools are very helpful, but do not give new information in relation to adaptation to climate change. Directions of tool development: ○ a need for a model which predicts changes in the ecosystem to be expected if areas are climate proofed; ○ knowledge base about the existing tools, i.e. their strong points and limitations, has to be improved.
5.	Good practices on combining blue growth and the carrying capacity of an environment	Sectoral tools do not cover all aspects of the ecosystem carrying capacity, and cumulative impact assessment tools should be improved and used more widely. Directions of tool development: ○ The duration of the impact should be evaluated more precisely – how long it/they are/is lasting. ○ Heritage and other tourism features should be included. ○ Additional information on noise, sand extraction, marine litter impacts on the carrying capacity should be integrated. ○ A comparison of impacts on land vs. in the sea (nutrient concentrations, energy) should be taken into consideration. ○ The depiction of the results of various impacts should be improved. ○ The positive impacts of nature-based solutions should also be taken onboard. ○ Data quality for relevant assessments should be improved.
6.	Support for multi-use of energy sites	The existing tools: MUSES DABI approach, MULTI-FRAME Assessment Approach, SOMOS Risk Assessment Framework, Community of Practice and UNITED are in the phase of pilot tests as a proof of concept. They suffer from severe shortcomings related to planning system and legislation (who decides on multi-use and how is that decided, voluntary versus mandatory character of multi-use, the problem of overlapping permits, the way of implementing multi-use into MSP, technical challenges, e.g. what fishing gear is suitable, question of quotas) Directions of tool development: ○ removing gaps and advancing/testing the existing tools; ○ concentrating on the engagement forms/tools needed to facilitate the ‘creation’ of multi-use, and on communication tools for communicating multi-use benefits.

PART III Annexes

Annex 1: List of projects analysed

Project	Funding source	Implementing Period	Countries participating	Budget, EUR
BalticL ines	INTERREG V B: Baltic Sea Region Programme 2014 - 2020	January 2016 - April 2019	Denmark Estonia Finland Germany Latvia Lithuania Netherlands Poland Sweden	€2.400,000
BalticRIM	INTERREG V B: Baltic Sea Region Programme 2014 - 2020	October 2017 - September 2020	Denmark Estonia Finland Germany Lithuania Poland Sweden Russia	€2,621,797.80
BalticIntegrid	INTERREG V B: Baltic Sea Region Programme 2014 - 2020	March 2016 - February 2019	Denmark Estonia Finland Germany Latvia Lithuania Poland Sweden	€3,948,000.00

Annex 1: List of projects analysed

Project	Funding source	Implementing Period	Countries participating	Budget, EUR
BalticBlueGrowth	INTERREG V B: Baltic Sea Region Programme 2014 - 2020	May 2016 - April 2019	Denmark Estonia Germany Latvia Poland Sweden	€4,650,000.00
EU MSP Platform	European Maritime and Fisheries Fund (EMFF)	2016-	Germany Poland Belgium Italy Spain UK	
Land Sea Act	INTERREG V B: Baltic Sea Region Programme 2014 - 2020	January 2019 - December 2021	Denmark Estonia Germany Latvia Poland Sweden	€2,209,690.80
Baltic SCOPE	European Maritime and Fisheries Fund (EMFF)	March 2015 - March 2017	Denmark Estonia Germany Latvia Poland Sweden	€2,600,000
Pan Baltic Scope	European Maritime and Fisheries Fund (EMFF)	January 2018 - December 2019	Denmark Estonia Finland Germany Latvia Poland Sweden	€ 3,315,113

Annex 1: List of projects analysed

Project	Funding source	Implementing Period	Countries participating	Budget, EUR
Muses	Horizon 2020	November 2016 - October 2018	Germany Greece Italy Netherlands Poland Portugal UK	€1,987,603.88
Basmati	BONUS Programme 2010-2017	July 2017 - July 2020	Denmark Finland Germany Latvia Sweden	€2,800,000
BaltSpace	BONUS Programme 2010-2017	January 2015 - January 2018	Denmark Germany Lithuania Poland Sweden	€2,000,000
SeaPlanSpace	Interreg South Baltic Programme 2014 - 2020	January 2018 - December 2020	Denmark Germany Lithuania Poland Sweden	€1,684,656.95
InnoAquaTech	Interreg South Baltic Programme 2014 - 2020	July 2016 - June 2019	Denmark Germany Lithuania Poland	€1, 677, 126.25

Annex 1: List of projects analysed

Project	Funding source	Implementing Period	Countries participating	Budget, EUR
Knowledge Flows	Erasmus+	September 2019 – August 2022	Finland France Denmark Germany Netherlands UK	€447,852
Plan4Blue	2014 - 2020 INTERREG V-A Finland - Estonia - Latvia - Sweden (Central Baltic)	October 2016 - September 2019	Estonia Finland	€1,998,000
Baltacar	2014 - 2020 INTERREG V-A Finland - Estonia - Latvia - Sweden (Central Baltic)	January 2017 - December 2019	Estonia Finland Sweden	€1,490,113
Plan Bothnia	EU DG Mare – European Integrated Maritime Policy	January 2010 - January 2012	Finland Sweden	€500,000
PartiSEApate	INTERREG IV B: Baltic Sea Region Programme 2007 - 2013	January 2012 - January 2014	Germany Latvia Lithuania Norway Poland Sweden	€1,000,000

Annex 1: List of projects analysed

Project	Funding source	Implementing Period	Countries participating	Budget, EUR
BaltSeaPlan	INTERREG IV B: Baltic Sea Region Programme 2007 - 2013	January 2009 - January 2012	Denmark Estonia Germany Latvia Lithuania Poland Sweden	€3,700,000
GRASS	INTERREG V B: Baltic Sea Region Programme 2014 - 2020	January 2019 - June 2021	Estonia Finland Germany Latvia Poland Sweden Russia	€ 1,946,057.80
AquaBest	INTERREG IV B: Baltic Sea Region Programme 2007 - 2013	September 2011 - August 2013	Denmark Estonia Finland Germany Latvia Poland Sweden Belarus	€3,744,989.00
Submariner	NTERREG IV B: Baltic Sea Region Programme 2007 - 2013	June 2010 - Sep tember2013	Denmark Estonia Finland Germany Latvia Lithuania Poland Sweden	€3,580,700.00

Annex 1: List of projects analysed

Project	Funding source	Implementing Period	Countries participating	Budget, EUR
PlanCoast	INTERREG III B: CADSES Programme 2000-2006	January 2006 - January 2008	Bulgaria Croatia Germany Italy Poland Romania Slovenia Serbia Montenegro Ukraine Albania Bosnia and Herzegovina	€2,000,000

Annex 2: List of gaps in the common understanding for all the tasks identified in the report

	Topic	Issues	
		Task in need to advance	Gaps in the common understanding
1.	VISIONS	Repeating the BSR MSP Vision 2030 exercise in around 2022 (adding social sustainability to the economic and environmental ones)	Lack of trust in visioning among decision makers Social sustainability not properly enhanced
2.	CROSS-BORDER PLANNING	Launching informal cross-border planning attempts when starting official national MSP processes, in particular with non-EU states	Gaps on essence of MSP with non-EU states
3.	TRANSNATIONAL COLLABORATION	Extension of the existing modus of co-operation to implement a broader, transnational, more multi-level governance model. This should engage other ministries at national (or regional) level.	Other ministries and agencies not aware of the importance of MSP
4.	SOCIO-ECONOMIC ANALYSIS	Spatial analysis tools that help MSP planners to assess possible socio-economic consequences (primary, secondary and tertiary; through the multiplier effect) of allocating a given amount of sea space to a given sea use	Important gaps among countries and different schools of planning
5.	SAFETY	Good practices on how MSP should deal with safety concerns such as extreme weather events, massive oil leakages, potential environmental disasters	Important gaps among countries and lack of critical mass of experience
6.	RECREATION AND TOURISM	Good practices on handling tourism-related conflicts, mobile tourism, multi-use, or new forms of tourism, e.g. yachting, under MSP. Need to promote and valorise the role of UCH and MCH in creating and enhancing well-being, quality of life, identity, sense of place, social capital, and blue growth	Lack of critical mass of experience better co-operation between ICZM and MSP might help
7.	SHIPPING	The impact of new shipping technologies on MSP	More intensive cooperation of planners with the HELCOM MARITIME WG would be enhanced

Annex 2: List of gaps in the common understanding for all the tasks identified in the report

	Topic	Issues	
		Task in need to advance	Gaps in the common understanding
8.	MULTI-USE (MU):	Good practices of MSP handling multi-use	Important gaps among countries and lack of critical mass of experience
9.	MSP KNOWLEDGE	Training targeted at authorities from the countries with greatest difficulties in pursuing their MSP or at social groups negatively affected by MSP Extension of the existing fora for information exchange to engage a broad range of stakeholders, not only planners and authorities	Different situation among the countries due to differences in the scope and depth of the MSP processes but gaps can be diminished through collaboration
10.	MONITORING AND EVALUATION	Monitoring the governance of MSP processes (coherence of MSP) and results and monitoring/assessing the impact of MSP on other policies	The theoretical foundations do exist but deepening and further practical testing should be done in the frame of transnational project and the professional discourse at the HELCOM-VASAB MSP WG level
11.	LAND SEA INTERACTIONS (LSI)	Ways and tools to include local actors in the MSP process Analysis of the interactions related to the social sustainability (how allocation of the sea space benefits various social groups on land)	Lack of critical mass of experience Differences in stakeholder engagement strategies among countries (problem of costs and time pressure)
12.	GREEN INFRASTRUCTURE	Connectivity analysis of ecologically valuable areas (continuation) A more comprehensive ecosystem service assessment and improved quality of the input data	The role of the HELCOM-VASAB MSP WG in building a common understanding
13.	ECOSYSTEM-BASED APPROACH (EBA)	Some educational support on the essence of EBA	The EBA results should be monitored and discussed at the level of the HELCOM-VASAB MSP WG for vigorous experience sharing

Annex 2: List of gaps in the common understanding for all the tasks identified in the report

	Topic	Issues	
		Task in need to advance	Gaps in the common understanding
14.	DATA	Support for collecting new data under a BSR harmonised way and schedule (continuation) More handy tools for sharing and discussing data between planners and stakeholders, integration of various types of data (blue economy and biological data, MSP expert data etc.). New ways of generating and storing data MSP data generation driven by MSP needs Training MSP planners to formulate needs and understand existing possibilities (e.g., big data)	BSR MSP Data ESG should continue as an important forum for MSP data sharing. MSP should have much stronger voice on how and which data is generated also with the use of modern technologies
15.	CUMULATIVE IMPACT ASSESSMENT	Developing and testing tools for assessing cumulative impacts Bio-economic models (considering, developing and testing)	The results should be discussed at the level of the HELCOM-VASAB MSP WG for vigorous experience sharing.
16.	CLIMATE CHANGE	Analysing the role of MSP in ensuring long-term resilience of coastal municipalities in the context of climate change Considering ways how MSP should adapt to climate change	Lack of critical mass of experience
17.	AQUACULTURE (MARICULTURE)	Analysing the impact of sectoral and horizontal policies on aquaculture Enhancing technological readiness of mariculture	
18.	BLUE ECONOMY	Good practices on combining blue growth and the carrying capacity of an environment	A need of political commitment to this issue at the HELCOM and VASAB level in order to enhance holistic collaboration between environmental and blue economy stakeholders and authorities
19.	ENERGY	Support for multi-use of energy sites	A Baltic or European energy Vision will help considerably

Annex 2: List of gaps in the common understanding for all the tasks identified in the report

	Topic	Issues	
		Task in need to advance	Gaps in the common understanding
20.	MARINE CULTURAL HERITAGE (MCH)	New ways of covering MCH by MSP (focus on connectivity between MCH, multi-use and areal approach and intangible values)	Lack of critical mass of experience
21.	FISHERY	Good practices on handling the transformation of fishery under MSP and securing co-existence of fishery and other sectors	Lack of critical mass of experience

CAPACITY4MSP
Strengthening the capacity of MSP stakeholders and decision makers

Interreg Baltic Sea Region

EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND

EU STRATEGY FOR THE BALTIC SEA REGION FLAGSHIP

www.capacity4msp.eu

The Interreg BSR programme's co-financed project platform Capacity4MSP aims to strengthen the capacity of maritime spatial planning stakeholders, policy- and decision-makers through intensified dialogue activities and amplifying gained knowledge in maritime spatial planning. Capacity4MSP builds on the results of the current and recently completed MSP projects and ongoing MSP processes in the Baltic Sea Region.

Since June 2020 project platform is granted with a flagship status of the EU Strategy for the Baltic Sea Region under the policy area Spatial Planning.

Duration:	1 August 2019 – 30 March 2022
Total project budget:	€ 1,089,272.50
European Regional Development Fund:	€ 909,950.00
The European Neighbourhood Instrument and Russia budget:	€ 179,322.50
Own contribution:	€ 192,695.88

Lead Partner

VASAB
VISION & STRATEGIES AROUND THE BALTIC SEA

Project Partners

Maritime Institute Gdynia Maritime University

Breaking New Ground Aalborg University

Swedish Agency for Marine and Water Management

HELCOM

Ministry of Environmental Protection and Regional Development Republic of Latvia

ЕРМАНЬ

RSHU

SUBMARINER NETWORK