

MARINE SPATIAL PLANNING INSTRUMENTS FOR SUSTAINABLE MARINE GOVERNANCE

SEAPLANSPACE

GENERAL KNOWLEDGE MANUAL



2021

SEAPLANSPLACE General Knowledge Manual

Marine spatial planning instruments for sustainable marine governance

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About the SEAPLANSPLACE Manual

This General Knowledge Manual has been developed jointly by the SEAPLANSPLACE project partners as a part of the SEAPLANSPLACE project “*Marine Spatial Planning Instruments for Sustainable Marine Governance*”. The SEAPLANSPLACE project is funded by the EU under the INTERREG South Baltic funding scheme (2014–2020). The aim of the SEAPLANSPLACE project is to improve the understanding of Marine Spatial Planning (MSP) among employees, stakeholders and the public. To this end, training has been organised for students, employees and other interested parties in the countries of the project partners. Manuals have also been developed which contain basic and essential information on MSP and which could be used as a knowledge base at the training events. In addition, the manuals represent a comprehensive source of information on MSP that can also be used independently without participating in the training. Six manuals have been produced within the framework of the project. One of these manuals is the General Knowledge Manual with an international and broader perspective. In addition, national manuals on MSP have been produced in Poland, Lithuania, Sweden, Denmark and Germany. These country-specific manuals are available in English and also in the national languages. The English-language country-specific manuals have been published in the Coastline Reports series by EUCC – The Coastal Union Germany. The country-specific manuals in national languages are available as digital versions on the SEAPLANSPLACE Web Portal (www.seaplanspace.eu). The digital manuals will be updated after the completion of the training sessions.

This General Knowledge Manual deals with essential aspects of MSP that are relevant for all the countries bordering the South Baltic Sea. These concerns, for example guidelines, laws and strategies, apply to all countries due to them belonging to the same institutions or organisations, such as the EU, UN or HELCOM. However, it also concerns the common affiliation to shared economic, social, cultural and natural areas. The aim of the handbooks is to improve mutual understanding between the Baltic Sea states and to also facilitate transnational co-operation.

The authors of the chapters are representatives of the SEAPLANSPLACE project partners.

The content of this manual is the sole responsibility of the authors and can in no way be taken to reflect the views of the European Union, the Managing Authority or the Joint Secretariat of the South Baltic Cross-border Co-operation Programme 2014–2020.

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ACRONYMS

ACRONYMS

BSAP	– Baltic Sea Action Plan
BSR	– Baltic Sea Region
CMSP	– Coastal and Marine Spatial Planning
DG Mare	– The European Commission’s Directorate-General for Maritime Affairs and Fisheries
EA	– Ecosystem Approach
EBA	– Ecosystem-based Approach
EBM	– Ecosystem-based Management
EIA	– Environmental Impact Assessment
EEZ	– Exclusive Economic Zone
ESPOO	– The Convention on Environmental Impact Assessment in a Transboundary Context (informally called the Espoo Convention)
EUSBSR	– EU Strategy for the Baltic Sea Region
HELCOM	– Helsinki Commission
ICAM	– Integrated Coastal Area Management
ICZM	– Integrated Coastal Zone Management
IOC-UNESCO	– Intergovernmental Oceanographic Commission of UNESCO
IMO	– International Maritime Organization
IMP	– Integrated Maritime Policy
IMSP	– Integrated Maritime Spatial Planning
INTERREG	– Donor Programme Stimulating Interregional Co-operation in the European Union
MPA	– Marine Protected Area
MSFD	– Marine Strategy Framework Directive
MSP	– Marine/Maritime Spatial Planning
MSPD	– Maritime Spatial Planning Directive
SMAP	– Short and Medium-term Priority Environmental Action Programme for the Mediterranean
SDG	– Sustainable Development Goal
SEA	– Strategic Environmental Assessment
SPA	– Special Protection Area (of the NATURA 2000 Directive)
TIA	– Territorial Impact Assessment
UNCLOS	– United Nations Convention on the Law of the Sea
UNEP-MAP	– United Nations Environment Programme – Mediterranean Action Plan
VASAB	– Visions and Strategies around the Baltic Sea 2010
WFD	– Water Framework Directive

FOREWORD

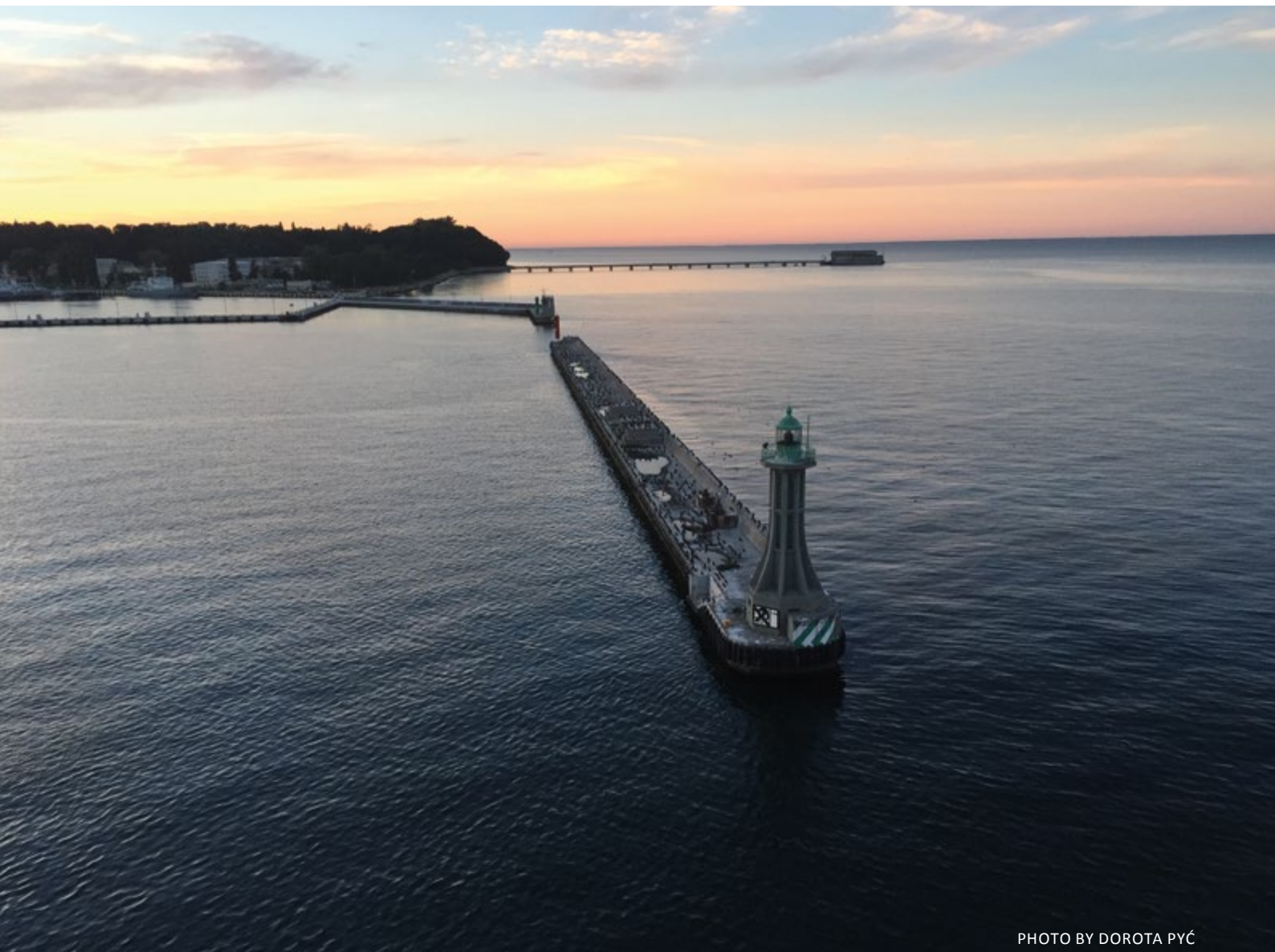


PHOTO BY DOROTA PYĆ

FOREWORD

FOREWORD

This manual contains a comprehensive review of all aspects related to maritime spatial development in the South Baltic Region – one of the most progressive EU regions in terms of transboundary co-operation, jointly addressing both sub-national challenges as well as opportunities. The manual offers unprecedented knowledge in the field of maritime spatial development by evaluating economic, geographical, social, cultural, legal and administrative perspectives on how seas and oceans should be sustainably used whilst securing the health of vital ecosystems and by ensuring ecosystem services are provided within their natural capacity.

According to the EU Commission (Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 10 October 2007 on an Integrated Maritime Policy for the European Union, COM(2007)575, p.5), MSP is one of three most important cross-cutting policy tools of integrated maritime policy (together with maritime surveillance which is critical for the safe and secure use of marine space as well as being an extensive and accessible source of data and information). Its main advantage is securing a comprehensive and integrated approach to development. In other words, as described in the aforesaid Communication, MSP cuts “across sea-related sectoral policies and supports joined up policy making”. MSP, thanks to its integrative nature, if properly managed, also offers a spatial order at sea in line with the set of values shared by a given society (Zaucha, Pardus, 2019). This is a key advantage of MSP, since the future development of seas and oceans belongs to an integrated, interdisciplinary and functional approach as clearly shown by the cumulative experience of scientific research in this field (Gee 2019; Gee, Siedschlag 2019; Faludi 2019; Jerzak et al., 2019; Schultz-Zehden et al., 2019).

As pointed out by Ehler et al. (2019) MSP has gained momentum in recent years with more than 600 MSP initiatives run nowadays all over the world. The same authors predict that by 2030, a “third of the world’s EEZs will be covered by government-approved maritime spatial plans”. Similar acceleration can also be observed in the South Baltic Region. In Mecklenburg-Vorpommern a new plan was initiated in 2016 replacing the plan of 2005 (the first EU maritime spatial plan). The maritime spatial plan for the German EEZ of 2009 is now under revision. The Lithuanian plan was adopted by the Parliament (Seimas) in 2015 as a part of the Comprehensive Plan of the Republic of Lithuania. The Latvian plan has also been adopted this year. Polish and Swedish plans have already completed their ESPOO process and are in the final stage of government approval with both of them expected to be approved officially in 2021. Also, Denmark claims it too will have its plan ready in the same time frame.

In parallel, the research on MSP is flourishing. Ehler et al. (2019) identified 10,000 articles on MSP. Recently, a comprehensive interdisciplinary monograph on MSP has been published by Palgrave (Zaucha and Gee, 2019) and several seminal papers on MSP tools of an integrative nature have become available – Gee et al. (2019) (tools supporting MSP through their ability to integrate), Pınarbaşı et al. (2017) (decision support tools) and Stelzenmüller et al. (2013) (tools promoting better spatial integration of aquaculture, fisheries and other sea uses). All these have given a new impetus to the integrative and interdisciplinary nature of MSP.

Spatial planning of maritime areas has appeared in different countries for different reasons and at different times (Zaucha 2009). In Germany, the stimulus came from the government’s energy policy promoting renewable energy based on specific quantified goals (Ścibior, 2009). The driving force in the Netherlands was the need to secure sand reserves for the coastal defence, to provide convenient navigation to ports and to identify locations for wind farms, all of these issues were treated as high priority. In Australia, the death and disappearance of coral was the turning point leading to planning efforts (Lawrence et al., 2002). In all of these countries, maritime management has always been strategically important and even now is seen as a national challenge, yet the incentives were coming from below. Public authorities took planning initiatives under the pressure of the societies, investors or other stakeholders (e.g. environmentalists). Planning was the result of a specific problem that had to be solved using a planning approach. However, in the South Baltic Area the situation has been different. Except for Germany, there have not been any acute economic or environmental risks requiring immediate response in the form of MSP. The pressure on the economic use of sea areas in the Southern Baltic was by far much lower than in the Netherlands or Belgium. The ecological value of the Southern part of the Baltic Sea is huge, but still (at least in the eyes of the public and decision makers) smaller than, for example, the Great Barrier Reef. Thus, MSP in the South Baltic Area is driven by the desire to secure spatial order, harmonious development of the sea space among various countries and to mitigate any potential spatial conflicts. MSP was launched due to a conscious decision by public administration, aware – thanks to

FOREWORD

international co-operation – of incoming challenges and development trends. MSP is rather a prospective forward-looking mechanism, anticipating the best future for the Baltic Proper and the southern part of the Baltic Sea. It must be all encompassing, comparing various options that compete for the possible development of this maritime region. This leads to MSP being more demanding than in other parts of the world, since it has to be more comprehensive, more integrative (Piwowarczyk et al., 2019), and must recognise the importance of intertemporal processes, for instance, by taking the interests of future generations into consideration.

However, this situation will only add to the complexity of MSP in the South Baltic area. The divergence and multiplicity of options, scenarios and interests would require careful and well-designed participation of stakeholders in the entire MSP cycle, starting from the pre-planning phase through stock-taking, scenario building formulation of the plan and its adoption, implementation, monitoring and assessment. Such participation and engagement (Maczak et al., 2014) should cover not only various types of planners, maritime authorities, local and regional governments but also sectoral authorities, NGOs, private businesses and the general public. In particular, it is important to enable stakeholders with limited capacity and knowledge of MSP such as fisheries (Ciołek et al., 2018). Initially, stakeholders should obtain a minimum knowledge of MSP to be able to understand how it will affect them and how they should contribute to the planning process so that they avoid negative outcomes for their sectors. On achieving this they would be able to participate in a positive and beneficial way. This manual is a building block to launch such an effort. It presents MSP related knowledge to various types of stakeholders, informing them about important conditions and circumstances they have to take into consideration while trying to affect maritime spatial development through their participation in the MSP processes.

For that reason, we (all the partners of the SEAPLANSPLACE project) would like to encourage all entities who care about the sea to read and digest this manual. In doing so readers will become more conscious and better-informed participants in MSP processes in their countries. Calado et al. (2019) list the skills necessary to become an MSP practitioner. The most important attribute is the ability to analyse and to engage with stakeholders, closely followed by strong communication skills, and the ability to synthesise information whilst focussing on transdisciplinarity. This manual aims to build the third type of skills among the South Baltic MSP stakeholders. And this is the main reason why it is highly recommended for the use in their day to day routines.

Professor Jacek Zaucha, University of Gdańsk

INTRODUCTION



PHOTO BY DOROTA PYĆ

INTRODUCTION

INTRODUCTION

Maritime spatial planning (MSP) is a new type of sustainable marine governance and a cornerstone of the EU Blue Growth Strategy and EU Integrated Marine Policy. By 2021, marine spatial plans will have come into force in all EU member countries as stipulated by the Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014. MSP is not just flourishing within the EU but all over the world as a consequence of demographic change, need to secure food, use of raw materials and connectivity for a growing number of inhabitants on our planet, while keeping blue growth within the carrying capacity limits of marine ecosystems. This has already been indicated in the Foreword of this manual.

MSP requires new skills and new types of knowledge, not only for those who develop these plans, but also for a wider range of people. MSP creates new employment opportunities and also a demand for skilled people who understand the consequences of the implemented plans for regions, municipalities and for private companies. Knowledge is also required by institutions, stakeholders and the public who want to assess how they will be affected by the implementation of the plans or how they may wish to become actively involved in the planning process.

Some training in MSP has already taken place in the South Baltic area, but the main focus has been on PhD-students and marine administration staff. Nevertheless, there is a great need for information and training in many parts of the work force and also the public. Within the SEAPLANSPLACE project, basic information on this topic will be developed and further training events with a broader focus will be held in various countries.

Even though the planning processes for MSP are different in the individual Member States and the legal implementation of the developed plans at the national level differs, there is a large area of overlap between the countries bordering the South Baltic Sea. One reason for the overlap is that the Baltic Sea is a common economic, social and natural space that requires close coordination between neighbouring countries. Another reason is that the same international laws, regulations and legal provisions are applied in the states, either because of the common membership in the EU or because of other international provisions, e.g. international law. As a result, a joint, transnational approach to the issue of MSP is very sensible and also necessary. This is where the SEAPLANSPLACE project and, in particular, the jointly developed *General Knowledge Manual* is relevant. The General Knowledge Manual represents a common knowledge base which can be used for further education in the field of MSP for different professional groups as well as for the public in all the states of the South Baltic Sea and beyond.

In this manual, the acronym MSP is used to designate both 'maritime spatial planning' and 'marine spatial planning'. There is no set definition of either term, and their usage varies greatly – between countries, contexts and approaches. The authors of this manual have therefore decided on a pragmatic approach, and MSP is used throughout as an acronym for both terms.

Within the field of (anglophone) science there seems to be a certain consensus that the term 'marine' encompasses the realm of the natural environment in oceans and seas, including conservation and protective measures induced on the marine environments' own terms. Comparably, 'maritime' pertains to human endeavours in relation to the use of the sea and the resources in it – often in relation to the generation of economic value. However, this distinction is not made in all languages, within all professional fields, and not in all countries (Hildebrand & Schröder-Hinrichs, 2014).

In the European Union, the directive which guides joint policymaking is termed Maritime Spatial Planning and indeed, it could readily be argued that the EU approach to MSP primarily focuses on optimising and organising human use of ocean and sea-based resources. The EU Directive, however, does stipulate that an ecosystem-based approach must be applied, and it can be argued, that this emphasis on sustainable use indicates that the boundaries between conventional understandings of 'marine' and 'maritime' approaches are somewhat diluted (Ehler et al., 2019). This suggests that the MSP acronym indeed may designate both marine and maritime perspectives.

THE AUTHORS & PROJECT PARTNERS



THE AUTHORS & PROJECT PARTNERS



MARCIN BURCHACZ graduated from the University of Gdańsk where he specialised in Maritime Transport and Seaborne Trade. He is professionally associated with the Maritime Institute, which is currently part of the Maritime University of Gdynia. His scientific activities cover fields related to maritime sectors, i.e. maritime transport, maritime trade, port economy, in particular the development of local ports. He has also participated in the works related to the creation of the Polish project of maritime spatial plan. For many years, he has been leading and participating in the international research and development projects financed by European funds, including the development of the European transport corridors, inland waterways and territorial co-operation.



ROBERT DOBAK is a marine spatial planning coordinator working at the County Administrative Board of Kalmar, Sweden. The County Administrative Board is a governmental regional authority responsible for coordinating the physical planning on land and at sea, especially for the interaction between national authorities and municipalities. He has been working with physical planning in coastal and maritime areas in the south-eastern part of Sweden since 2013. His work includes a planning perspective with the consideration of different fields at national, regional as well as local geographical levels with regard to different sectors, such as nature conservation, shipping, sea-based energy, fisheries, military and cultural heritage. Working on different geographical scales also involves participation in planning processes with various perspectives, like the comprehensive planning of the municipality, the regional planning made by regions and the national marine spatial planning performed by the Government.



MARCIN KALINOWSKI, MSc. Eng., graduated in Economics Affairs at the Technical University of Gdańsk. Currently Head of the Department at the Maritime Institute (MI), which is part of the Maritime University of Gdynia. He has actively participated in and managed – on behalf of MI – many Baltic Sea Region development projects, including BaSIM, Baltic Master, BATCo, LocPorts and VILA. He was a member of the team preparing a study on the conditions of spatial management of Polish maritime areas – compiling a stock-taking report that initiated formal work on MSP in Poland in 2015. He is a member of the MI team that is working on the first official MSP for the Polish maritime areas. His scientific activities cover fields related to the maritime sectors, i.e. regional development, maritime transport, development of local ports.



HENRIK NILSSON works as a Research Associate at the World Maritime University in Malmö, Sweden. He has been working with MSP and ocean governance since 2010 in different locations around the world including the Baltic Sea, the North Sea, West Africa and, currently, in the Eastern Caribbean. He holds an MSc in Political Science from Lund University in Sweden.

THE AUTHORS & PROJECT PARTNERS



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DOROTA PYĆ, PhD, is an Associate Professor of Law and Head of the Maritime Law Department at the University of Gdańsk (Poland), where she specialises in the law of the sea, maritime law and marine environmental law. She chairs the Maritime Law Commission of the Polish Academy of Science. From 2013 to 2015, she served as the Undersecretary of State at the Ministry of Transport Construction and Maritime Economy and then at the Ministry of Infrastructure and Development of the Republic of Poland. She is Project Manager of SEAPLANSPLACE – *Marine spatial planning instruments for sustainable marine governance*.



KATJA RUDOW, PhD, has graduated in urban and regional planning and agricultural sciences. She has broad experience in international projects as well as in assessing policy measures. She has worked for a municipality planning authority. In the SEAPLANSPLACE project Katja's main focus is on policy aspects of MSP and participation processes.



DAVIDE TAGLIAPIETRA is a biologist researcher at the National Research Council, Institute of Marine Science, Venice headquarters (CNR-ISMAR). His main field of study is the ecology of coastal transitional ecosystems such as lagoons and estuaries with particular reference to the benthic compartment. Over the last decade his research has been addressed also towards wood bioerosion in the marine environment particularly important for the damage to the Cultural Heritage, both present and archaeological, to biogenic reefs and alien species. He is an author or co-author in over 100 publications on estuarine ecology, co-author of the Italian manual of methods for the study of the marine benthos and co-editor of the "Atlas of the Lagoon of Venice" (also as web-atlas).



JULIUS TAMINSKAS, PhD, is an Associate Professor and Head of the Laboratory of Climate and Water Research at the Nature Research Centre of Lithuania. His main research interests include assessment and forecasting of climate, groundwater and surface water resources and their quality. He investigates the climatic features of the South Baltic Area and their long-term changes. Julius Taminskas also conducts research on the effects of climate change on water balance and the stability of aquatic ecosystems. He is the author of more than 100 publications in international scientific journals.

THE AUTHORS & PROJECT PARTNERS



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SEAPLANSPACE 1

SOUTH BALTIC MARITIME GEOGRAPHY



PHOTO BY DOROTA PYĆ

SEAPLANSACE 1

SOUTH BALTIC MARITIME GEOGRAPHY

1. SOUTH BALTIC MARITIME GEOGRAPHY

1.1. NATURAL CONDITIONS

(JULIUS TAMINSKAS, RAMŪNAS POVILANSKAS)

Good knowledge of marine geography is necessary for a sustainable MSP process providing significant leverage to advance the integration between science and management of marine areas and resources. Hence, it is a pivotal aspect of MSP (Telles, 2018). This knowledge is particularly pertinent to the South Baltic, which is shared by eight countries, fragmented by bottom sills, and put under permanent stress from human impact. The knowledge of marine geography is usually garnered by specialised national academic marine research institutes and maritime survey agencies operating within transnational collaboration networks. This knowledge is further integrated into the national MSP processes and it contributes to the international awareness on the physical and environmental state and trends of the Baltic Sea.

For example, any data on the marine environment of international relevance collected by the national agencies are further collated by HELCOM which regularly publishes the Baltic Sea Environment Proceedings series. The proceedings highlight different aspects of the environmental state and trends of the Baltic Sea and its sub-regions. HELCOM published the most recent comprehensive report in 2018. Besides the HELCOM Proceedings series, groups of marine scientists publish academic monographs (Wulff et al., 2013) or papers (Link et al., 2018) dedicated to delivering comprehensive knowledge on the marine geography of the Baltic Sea that is relevant for MSP.

The Baltic Sea is a part of the Atlantic Ocean which is deeply incised into the north of Europe. It is a typical continental inland sea. The area of the Baltic Sea (without islands) is 420,000 km² (HELCOM, 2018). The maximum depth of the sea is at the Landsort Deep (458 m), but the average depth is only 55 m. Correspondingly, the water volume is also little – just 21,000 km³. In the southwest, the Kattegat connects the Baltic Sea with the Skagerrak, which belongs to the North Sea. The western boundary of the Baltic Sea runs between the Kattegat and the Skagerrak: from the tip of the Skaw Spit in the north of the Jutland Peninsula to the Tjörn Island on the western coast of Sweden.

Nine countries surround the Baltic Sea – Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, and Sweden. It has a catchment area around four times bigger than its surface area. The Baltic Sea is one of the world's largest water bodies, or, according to some estimates, it is even the largest.

Both marine and freshwater species inhabit the Baltic Sea. However, the overall number of species is relatively low when compared to many other more open seas of the World Ocean due to its low salinity. The drainage area is inhabited by ca. 85 million people, who make a substantial impact on the status of the Baltic Sea with their activities on both land and sea.

Due to the minimal water exchange caused by its sill-dominated bottom geomorphology and an intra-continental geographical location, nutrients, contaminants and other harmful substances from the catchment area accumulate in the Baltic Sea and are only slowly diluted. As a result, a particular concern for the Baltic Sea is an extensive area with poor oxygen conditions in the deep water. The climate-related rise in the average surface water temperature and lowering salinity will further adversely affect the spatial distribution of species over time, as well as the availability of their food and their physiology.

Learning objectives

After completing this theme, trainees will be able to:

1. Understand the essential physical and environmental differences between the southern and the northern parts of the Baltic Sea.
2. Recognise the most critical environmental issues and MSP challenges of the South Baltic.
3. Distinguish essential physical and geomorphological features of the three different South Baltic seaside regions.
4. Comprehend the system of coastal and marine protected areas of the southern rim of the Baltic Sea.

SEAPLANSPEACE 1

SOUTH BALTIC MARITIME GEOGRAPHY

1.1.1. THE SOUTH BALTIC MARINE AREA DELIMITATION

The discharge of freshwater into the Baltic Sea from over 250 rivers and the intrusion of the saline water from the North Sea create a strong salinity gradient in the Baltic Sea. As a result of the gradient, the salinity of the Baltic Sea decreases from southwest to northeast. It is highest in the southwest (the Kattegat – 19‰ at the surface) and decreases to 3‰ in the Bothnian Bay in the north and the Gulf of Finland in the northeast. By comparison, the salinity of the Atlantic Ocean and the northern North Sea reaches 35‰. Due to its strong salinity gradient, and, therefore, ecological features, the entire Baltic Sea is sub-divided into 17 sub-basins based on topography, hydrology and ecology (Fig. 1.1).

Conventionally, the boundary between the Northern Baltic Proper and both the Eastern and the Western Gotland basins serves as the physical boundary of the North Baltic and the South Baltic Areas. The bottom topography of the Baltic Proper is not facilitative for the clear delimitation of both parts of the Baltic Sea. Nevertheless, it is possible to distinguish a low arc-shaped sill stretching from Saaremaa Island in the east to Gotska Sandön islet in the west and further to the Swedish coast north of the Landsort Deep (Fig. 1.2). The sill has some impact on the hydrology, salinity and ecology of the Baltic Proper. Therefore, it can indeed be considered as a boundary between the North Baltic and the South Baltic parts of the sea.



Figure 1.1. Sub-regions of the Baltic Sea (HELCOM, 2018)

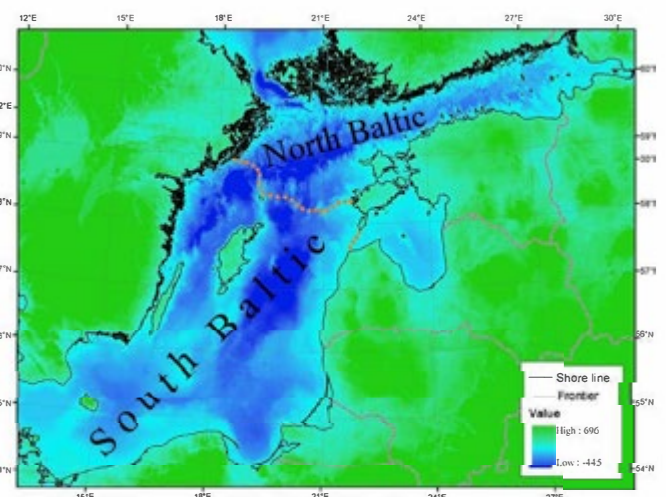


Figure 1.2. Bottom relief in the central part of the Baltic Sea (drawn by Ramunas Povilanskas, bottom topography - courtesy by ABIORAS). The physical boundary between the North Baltic and the South Baltic is marked in orange

Hence, besides the Eastern and the Western Gotland Basins, the other eight sub-basins of the South Baltic are the Gdańsk Basin, the Bornholm Basin, the Arkona Basin, the Bay of Mecklenburg, Kiel Bay, the Sound, the Great Belt and the Kattegat (Fig. 1.1). The Eastern and Western Gotland Basins comprise the main parts of the Baltic Proper. The Bornholm Basin is the basin east of Bornholm Island, and the much shallower Arkona Basin stretches from Bornholm to the Danish islands of Zealand and Falster. Further southeast, the Gdańsk Basin covers the Gdańsk Bay from the Hel Spit in Poland to the Sambian Peninsula in the Kaliningrad Oblast of Russia.

1.1.2. GEOGRAPHICAL FEATURES

The Bay of Mecklenburg and Kiel Bay are the most southwestern sub-basins of the Baltic Sea. The three Danish straits, the Sound, the Great Belt, and the Little Belt connect the Baltic Sea with the Kattegat (the westernmost sub-basin of the Baltic Sea) and the Skagerrak which is a part of the North Sea. The Eastern Gotland Basin is the largest sub-basin. The Western Gotland Basin is the deepest and has the Landsort Deep, the deepest point of the Baltic Sea (458 m deep) within its limits. Seven of the ten largest Baltic Sea islands are in the South Baltic: Zealand (area 7,031 km²), Funen (3,099 km²), Gotland (2,960 km²), Öland (1,342 km²), Lolland (1,243 km²), Rügen (926 km²), and Bornholm (588 km²).

Although many geographers consider that the temperate maritime climate characterises the entire South Baltic area, it is not accurate. Indeed, the entire South Baltic area is in the temperate climate zone and according to the modified Köppen–Geiger climate classification, it is assigned to the warm, fully humid, temperate climate sub-zone (Kottek et al., 2006). Due to its geographical location and configuration, the western part of the South Baltic Area still has many maritime features in the Kattegat, the Great Belt, the Sound and Kiel Bay. However, there are significant continental features moving eastwards.

Since the Baltic Sea is less influenced by the Gulf Stream than Northwest Europe, and the South Baltic area is relatively small, it does not develop its characteristic maritime climate features. Nevertheless, many larger islands, like Bornholm or Öland, as well as the sandy South Baltic barrier spits benefit from an unusually mild and sunny microclimate. On Öland, in the northeast of the South Baltic area, the highest average monthly air temperature (19.8°C) is in August, whereas the lowest average monthly air temperature (−1.1°C) is in February. The average annual precipitation on the island is just 400 mm, and the annual sunshine duration is ca. 2000 hours (Povilanskas et al., 2020).

Meanwhile, on the Curonian Spit, i.e. on the southeast fringe of the South Baltic Area, the highest average monthly air temperature (18.7°C) is in July, whereas the lowest average monthly air temperature (−1.1°C) is in January. The average annual precipitation on the spit is 620 mm, and the annual sunshine duration is ca. 1700 hours (Povilanskas, 2004). The global climate change is felt in the entire South Baltic area, first of all, for a higher and more frequent number of storm surges and a decrease in the mean number of ice days (Povilanskas et al., 2011). Water salinity is also affected due to increased input of freshwater from the catchment area. The large-scale variability over time in temperature and salinity is, however, also influenced by hydrodynamic factors (HELCOM, 2018).

Except for Finland, all other eight Baltic Sea Region (BSR) countries border at least some of the South Baltic sub-basins. Although the catchment area of the northern part of the Baltic Sea is significantly larger than that of the southern part of the Baltic Sea, the population density in the catchment area of the southern part is larger than in the north by a factor of 10. As opposed to the north BSR where the population is concentrated in large metropolitan areas, in the southern part of the Baltic Sea catchment area, the population is spread more equally.

1.1.3. GEOLOGY AND GEOMORPHOLOGY

The southern part of the Baltic Sea, like the whole sea, is very young in geological terms (Tuuling et al., 2011). The water from the Atlantic and Arctic oceans has filled in a geomorphological basin formed by glacial erosion during the last few ice ages. Just 7,000 to 2,000 years ago, the sea level rose during the so-called Littorina Transgression. As a result, the mainland bridge between southern Sweden and Denmark became flooded, the new connection between the North Sea and the Baltic Sea opened, and the eastern part of Denmark was split into the islands as we see them today. Furthermore, an access to the Baltic Proper near the Darss Sill in front of the modern German coast was also opened recently.

The glaciers had almost completely melted by then. The mainland of Scandinavia, as well as the areas in modern Gotland and Kalmar Counties continued to rise so that the coastline experienced rapid changes. Meanwhile, due to isostatic counter-balancing processes, the sea bottom in the southern part of the Baltic Sea continued to sink. Therefore, the advancing sea flooded the youngest glacial landscapes along the southern rim of the sea and transformed them significantly. As a result, the irregular forms of the modern South Baltic seacoasts developed. Hence the current fascinating diversity of the seacoasts, seascapes and the marine nearshore of the southern rim of the Baltic Sea can be observed.

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SOUTH BALTIC MARITIME GEOGRAPHY

1.1.4. COASTAL TYPES

Despite being tiny on a global scale, the South Baltic, its coastal areas in particular, can boast an exceptionally rich diversity of coastal landscapes, geomorphological features, and nature habitats. This diversity is remarkable even if compared with other coastal areas of Europe (Baltranaite et al., 2017). There are rocky shores of skerry archipelagos scattered along the coast of Sweden and the South Baltic barrier spits and coastal lagoons; the 100-m high steep coastal cliffs (Fig. 1.3) and the vast and flat river deltas; the mobile coastal dunes and the glacial boulder ridges and shingle beaches.

Indeed, all coastal territorial entities (counties and municipalities) in the entire South Baltic area, in all eight riparian countries, can boast a very high diversity of coastal habitats, landscapes, and seascapes (Table 1.1). It is a truly unusual feature for such a tiny area on a global scale. The resulting different patterns of physical characteristics in the South Baltic area in terms of geomorphological structures and scenery follow particular geographical distribution patterns. We can distinguish three large seaside sub-regions (Fig. 1.4): (I) the southeast Scandinavian coast and islands; (II) the South Baltic coast and islands; and (III) the southeast Baltic graded coast.

The Southeast Scandinavian coast and islands comprise of the rocky Scandinavian coast and three large skerry archipelagos in Blekinge and Kalmar counties: Blekinge, Oskarshamn, and Tjust as well as three of the ten largest Baltic Sea islands: Gotland (Sweden), Öland (Sweden) and Bornholm (Denmark). An exceptionally mild temperate climate dominates the southeast Scandinavian coast and islands when compared to the adjacent Scandinavian mainland. Mild winters, warm and dry summers, relatively many hours of sunshine during the protracted Nordic summer daylight, exuberant nature of deciduous forests and alvar habitats make this region popular with tourists in summer and shoulder seasons.

The South Baltic coast and islands, as a seaside region, is a very diverse coastal area with indented coastlines of predominantly glacial origin in four South Baltic countries – Sweden, Denmark, Germany and Poland. Large islands characterise the area: Zealand (Denmark) is the largest island in the Baltic Sea, Lolland and Falster (both Denmark) and Rügen (Germany) are also ranked among the twelve largest. Three Danish straits connecting the Baltic Sea with the Kattegat, as well as the indented fjord, fjard and bodden seascapes and coastal landscapes, also make this region popular with leisure fishermen and nature tourists.

The landscapes and seascapes of the southeast Baltic graded coast are in sharp contrast with the natural features of the other two South Baltic seaside sub-regions. The southeast Baltic graded coast comprises the Baltic Sea coast and its hinterland in four countries: Poland, Russian Federation (Kaliningrad Region), Lithuania, and Latvia. The landscape features have resulted from the post-glacial fluctuations of the Baltic Sea level combined with the sediment input from large rivers, erosion of glacial promontories, and longshore marine sediment drift (Gelumauskaitė, 2003). These strong external forces have created a remarkable coastal landscape mosaic with wide sandy beaches, and dune ridges (Fig. 1.5)



Figure 1.3. Chalk cliffs on Rügen Island (Mecklenburg - Vorpommern, Germany), the highest cliffs of the South Baltic rim (photo by Ramūnas Povilanskas)



Figure 1.4. South Baltic seaside sub-regions: (I) the southeast Scandinavian coast and islands; (II) the South Baltic coast and islands; and (III) the southeast Baltic graded coast (Baltranaite et al., 2017)

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Figure 1.5. Mobile coastal dunes on the Curonian Spit (Lithuania/Russia) (photo by Ramūnas Povilanskas)

Table 1.1. Essential physical geographical features of South Baltic seaside sub-regions (Baltranaitė et al., 2017)

Physical geographical factors	Sub-region I	Sub-region II	Sub-region III
Backwaters (förd, fjard, bodden and haff)		X	X
Cliffs	X	X	X
Coastal erosion and sea level rise	X	X	X
Coastal foredunes and mobile dunes		X	X
Coastal lakes and wetlands		X	X
Islands	X	X	
Longer sunshine hours	X	X	X
Mild climate	X	X	X
Nature	X	X	X
Sandy beaches	X	X	X
Skerries	X		
Wind and wave climate	X	X	X

The dune landscapes of the southeast Baltic graded coast are interspersed with large coastal lagoons, coastal lakes and wetlands, as well as ancient and active coastal cliffs, bluffs and gullies. Three large barrier spits (Hel, Vistula and Curonian), two of the largest river deltas in the BSR (Vistula and Nemunas), as well as two of the largest lagoons in Europe (Curonian and Vistula) – all can be found along this relatively short strip of the Baltic Sea coast along with some of the best sandy beaches in the entire BSR (Žaromskis, Gulbinskas, 2010).

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1.2. SOUTH BALTIC MARINE ENVIRONMENT (JULIUS TAMINSKAS, RAMŪNAS POVILANSKAS)

1.2.1. SALINITY AND BIODIVERSITY GRADIENTS

As already mentioned, the South Baltic marine environment is characterised by an extreme salinity gradient and a resulting biodiversity gradient from the southwest to the northeast which has a decisive role in shaping the physical geographical and environmental conditions (Table 1.2). The main information and data sources on salinity and biodiversity in the Baltic and respective countries are the national marine environmental monitoring agencies and marine research institutes. As mentioned, all data is collated by HELCOM and published in Baltic Sea Environment Proceedings series, highlighting the environmental state and trends of the Baltic Sea and its sub-regions.

Since saline water is heavier than freshwater, it is hard for the saline ocean water to overcome the numerous sills of the South Baltic. Notably, in relatively calm summer conditions, the 22m deep Darss Sill located between the Danish island of Falster and the Fischland–Darss–Zingst Peninsula on the German Baltic coast serves as a significant hydrographic threshold for the saline water from the North Sea to reach the Baltic Proper. On the other hand, since freshwater is lighter, the surface water of the South Baltic straits is relatively fresh (7 to 8 ‰) even in Kattegat and the Belt Sea (Stigebrandt, 2013).

Table 1.2. Salinity and biodiversity gradients of the South Baltic marine environment (HELCOM, 2018)

South Baltic marine sub-basin (from west to northeast)	Coastal regions (country abbreviations in brackets)	Average salinity ‰ (summer)		Number of aquatic macrospecies
		Surface	Bottom	
Kattegat	Capital Region (DK), Mid Jutland (DK), North Jutland (DK), Zealand (DK), Scania (SE), Halland (SE), Västra Götaland (SE)	20	34	1607
The Sound	Capital Region (DK), Zealand (DK), Scania (SE)	18	22	1044
Great Belt Basin	Mid Jutland (DK), South Jutland (DK), Zealand (DK), Schleswig-Holstein (DE)	16	30	849
Kiel Bay	South Jutland (DK), Zealand (DK), Schleswig-Holstein (DE)	16	28	818
Bay of Mecklenburg	Zealand (DK), Mecklenburg – Western Pomerania (DE), Schleswig-Holstein (DE)	12	26	707
Arkona Basin	Capital Region (DK), Zealand (DK), Mecklenburg – Western Pomerania (DE), Scania (SE)	9	12	603
Bornholm Basin	Capital Region (DK), Mecklenburg – Western Pomerania (DE), Pomerania (PL), West Pomerania (PL), Blekinge (SE), Kalmar (SE), Scania (SE)	7.5	16	441
Gdańsk Basin	Pomerania (PL), Kaliningrad (RU)	7.5	12	292
Western Gotland Basin	Gotland (SE), Kalmar (SE), Östergötland (SE), Södermanland (SE), Stockholm (SE)	6.5	12	246
Eastern Gotland Basin	Saaremaa (EE), Courland (LV), Klaipėda (LT), Pomerania (PL), Kaliningrad (RU), Gotland (SE)	7	12	294

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As a result, to the west of the Darss Sill, the South Baltic aquatic environment can still be characterised as a marine one. Meanwhile, to the east of the Darss Sill, in the Arkona Basin and eastwards, the Baltic Sea becomes brackish with a significant decline in the overall number of species. Also, such typical marine species as the common starfish (*Asterias rubens*) and the common shore crab (*Carcinus maenas*) become absent further eastwards from the Darss Sill. The Sound, which is just 10 to 12m deep in the artificially dredged navigation fairways, serves as an additional threshold facilitating the ecological contrast between the southwest and the northeast parts of the South Baltic. These sharp geographical differences within the South Baltic marine environment are essential for many aspects of MSP.

1.2.2. MAJOR RIVERS AND THEIR DISCHARGE

As mentioned, due to limited water exchange with the North Sea, the South Baltic marine environment is very much susceptible to the input of nutrients, contaminants and hazardous substances from the major river basins. Three of the nine rivers with the largest runoff to the Baltic Sea discharge into the South Baltic (Table 1.3). Especially the Oder and the Vistula, which drain the most densely inhabited South Baltic catchment areas, bring many nutrients and contaminants to the sea. For instance, average concentrations of total nitrogen in the Bornholm Basin are high due to the influence from the river Oder plume (HELCOM, 2018). Notably, the negative impact of the Oder is mitigated by Oder Lagoon as a transitional water body partly retaining these nutrients (see Chapter on Emerald Growth).

Table 1.3. The largest rivers discharging to the South Baltic (Miaschi, 2018)

Name	Mean discharge in m ³ /s	Length in km	Catchment area in km ²	Countries within the catchment area
Vistula	1080	1047	194,424	Poland, tributaries in Belarus, Ukraine, Slovakia
Neman	678	937	98,200	Belarus (spring), Lithuania, Russia
Oder	540	866	118.861	Czechia (spring), Poland, Germany

1.2.3. EUTROPHICATION IN THE SOUTH BALTIC

Eutrophication has plagued the Baltic Sea for many decades due to past high and still excessive inputs of nitrogen and phosphorus. 97% of the total Baltic Sea area is affected by eutrophication, and 12% is in the worst status category (HELCOM, 2018). Inputs of nitrogen and phosphorus from land have declined. However, the effect of these measures is not yet reflected in the status of the marine environment. Compared to the previous assessment period (2007–2011), in 2016, the eutrophication status has improved in the Gdańsk Basin but deteriorated in four of the seventeen Baltic Sea sub-basins (Fig. 1.6). However, the available information on eutrophication is, as of yet, largely underused in MSP in any of the South Baltic countries, mainly because the pollution sources are land-based.

Only in the Great Belt, nutrient levels were in a 'good status'. Similarly, only in the Kattegat, these levels were just below the limit for a 'good status', and direct effects were in a 'good status' there. Nevertheless, a long-term analysis of integrated assessment results indicates an improving eutrophication status in the westernmost parts of the Baltic Sea since the mid-1990s – in the Kattegat, the

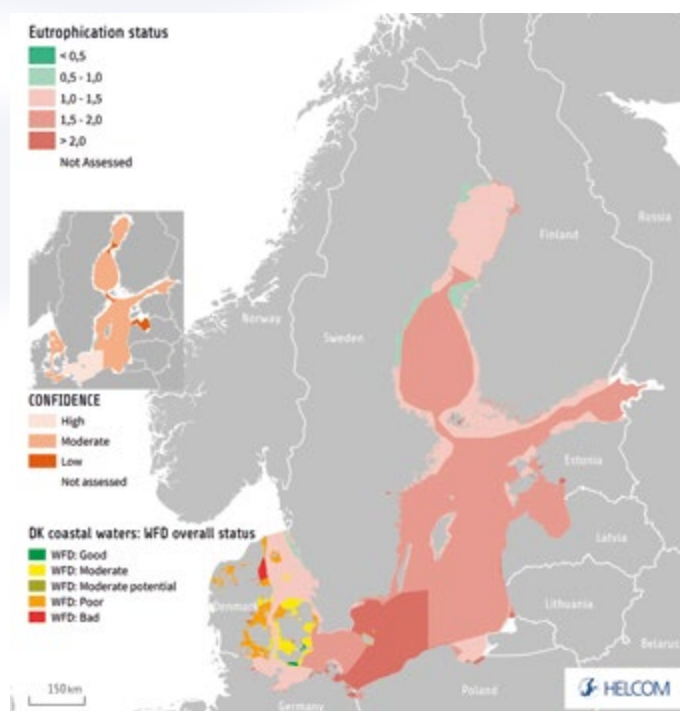


Figure 1.6. Integrated status of eutrophication in the Baltic Sea 2011–2016. Each assessment unit shows the result for the criteria group furthest away from a 'good status' (HELCOM, 2018)

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Danish Straits and the Arkona Basin (Andersen et al., 2017). Also, only a few coastal areas are currently unaffected by eutrophication, but an improving trend can be observed in some indicators and sub-basins. However, for measures such as the reduction of nutrient loads, it will take several decades before the full effects appear in the environment.

The Baltic Sea has a long water retention time, lasting over decades. Therefore, pools of nutrients and organic matter accumulated over decades with high nutrient inputs will retard the improvement in environmental conditions (HELCOM, 2018). Nevertheless, the aforementioned improvement of the eutrophication status in the westernmost parts of the Baltic Sea (Anderson et al., 2017) results from earlier decreases in nitrogen loadings, proving that the nutrient reductions are effective (HELCOM, 2018). Phosphorus concentrations, however, have not shown the same improvement yet. For most sub-basins, they are constant or even increasing, for instance in the Bornholm Basin and the Western Gotland Basin, except for a decrease in Kiel Bay and the Great Belt. However, reductions in phosphorus load are expected to lead to decreasing concentrations over the coming years.

Eutrophication in the South Baltic facilitates production of organic matter in the form of either phytoplankton (causing algal blooms) or other organic matter (causing reduced water clarity). So far, water clarity has improved in only in three western South Baltic sub-basins. As the total amount of organic matter in the system is still at a high level after many decades of elevated nutrient inputs, water clarity is not expected to increase until the pools of organic matter are degraded or washed out of the Baltic Sea. Recovery is expected to take decades.

1.2.4. OTHER ENVIRONMENTAL ISSUES

Levels of contaminants in the South Baltic are still elevated and continue to give cause for concern. Pressure on the aquatic environment from contaminants is still high in all parts of the Baltic Sea. Eleven of the assessed Baltic Sea sub-basins fall into the worst status category, with Kiel Bay and Eastern Gotland Basin being the most contaminated in the South Baltic (HELCOM, 2018). The integrated contamination status mainly depends on polybrominated flame retardants, mercury, cadmium and lead along with radioactive caesium (Cs-137) deposited after the accident at the Chernobyl nuclear power plant in 1986.

Mercury concentrations in fish muscle have exceeded the threshold level in almost all monitored sub-basins. Only the Arkona Basin and a few coastal Danish and Swedish areas meet 'good status' requirements. Lead also fails to stay below the threshold value in biota (herring, cod, flounder, dab, eelpout, perch and molluscs), except for the Kattegat and a few South Baltic coastal areas (HELCOM, 2018). The concentrations of radionuclides are below the threshold value when measured in fish from the Arkona Basin, the Bay of Mecklenburg and the Kattegat, indicating a good status only in these three South Baltic sub-basins.

Nevertheless, the number of improving trends outweighs the number of deteriorating trends in the monitored hazardous substances. Levels of radionuclides are now at acceptable in the water and sediments of some sub-basins and can be expected to be so in all of the Baltic Sea by 2020 due to the steady half-life of radioactive decay (HELCOM, 2018). The concentrations of Cs-37 in herring have decreased from the high values in the 1990s in all the sub-basins. The use of polybrominated flame retardants has been banned in most products in Europe since 2004 and so decreasing concentrations should be expected in the future.

Currently, pharmaceuticals and marine litter are two major groups of marine pollutants of emerging concern. The most frequently detected pharmaceutical substances belong to the therapeutic groups related to the needs of the ageing society. These include anti-inflammatory and analgesics, cardiovascular and central nervous system agents (HELCOM, 2018). The level of consumption of pharmaceuticals in the societies around the Baltic Sea is indeed shocking. What amounts of, e.g. diclofenac must be consumed by people living in coastal communities for significant concentrations of residue to become later traceable in marine waters when the wastewater treatment finally discharges into the sea.

Plastic litter is of particular concern due to the risk it poses to the environment and its slow rate of degradation. The smallest plastic micro-litter is invisible to the human eye but reaches the marine food web when animals ingest it. Larger marine litter deteriorates habitat quality and can cause direct harm to animals when they swallow it or become entangled. Ca. 70% of litter items in the Baltic Sea come from plastic materials (HELCOM, 2018). Beach litter monitoring takes place in several South Baltic coastal regions, showing that the number of beach litter items ranges from around 50 on reference beaches to up to 300 on urban beaches, per 100 metres of the shoreline.

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The highest adverse impacts on marine biodiversity have currently taken place in the southwest Baltic Sea. The pressures resulting in the most substantial impact on species are concentrations of nutrients and contaminants, non-indigenous species, and the extraction of fish. Based on the available indicators, open-sea marine habitats achieve a good status only in the Kattegat. 'Chlorophyll-a' indicating, among other things, the risk of algal blooms shows the worst status for the Arkona Basin, relative to other sub-basins. Coastal pelagic habitats show a good integrated status in about one-fifth of the assessed areas. Among the marine mammals, grey seals and harbour seals show increasing population sizes. However, among the three harbour seal management units in the South Baltic, only the Kattegat population shows a good status.

Two sub-populations of harbour porpoise (*Phocoena phocoena*) live in the Baltic Sea: one mainly occurring east of Bornholm in the Baltic Proper and the other one occurring in the Belt Sea, the southern Kattegat, and the southwestern parts of the Baltic Sea. The harbour porpoise population is more abundant in the Kattegat and the southern parts of the Baltic Sea. The Baltic Proper population of harbour porpoise, with a population size around 500 animals causes particular concern. For harbour porpoise, drowning in fishing gear is a primary pressure of concern. The Kattegat-Belt-Sea-Western Baltic subpopulation has been also assessed by HELCOM as threatened, albeit with a lower threat status of 'vulnerable' and the sub-population being stable.

The data available for the South Baltic sub-basins and species indicate a decreased nutritional status and size structure in commercial fish, pointing towards a deteriorating food web status. Throughout the South Baltic sub-basins, the integrated results reflect a 'deteriorated' status of cod (*Gadus morhua*), and in some cases also of sprat (*Sprattus sprattus*) or herring (*Clupea harengus*) (Table 1.4). The status of salmon (*Salmo salar*) stocks is satisfactory in the Western Gotland sub-basin, but unsatisfactory in the Eastern Gotland. There is no data about salmon stocks in other South Baltic sub-basins. Plaice (*Pleuronectes platessa*) in the Kattegat is the only demersal stock achieving a 'good' status.

Table 1.4. Status of some internationally managed fish stocks in the South Baltic during 2011-2016 (HELCOM, 2018)

Dwelling mode	Species	Stock	Achieving reference indicator value
Demersal	Cod (<i>Gadus morhua</i>)	Southwest Baltic, Eastern Gotland Basin	Fails
Demersal	Plaice (<i>Pleuronectes platessa</i>)	Kattegat, Belt Sea, Sound	Achieves
Demersal	Sole (<i>Solea solea</i>)	Kattegat, southwest Baltic	Fails
Pelagic	Herring (<i>Clupea harengus</i>)	Kattegat, southwest Baltic, spring spawners	Fails
Pelagic	Herring (<i>Clupea harengus</i>)	Eastern Gotland Basin	Achieves
Pelagic	Sprat (<i>Sprattus sprattus</i>)	Baltic Sea	Fails
Migratory species	Salmon (<i>Salmo salar</i>)	Eastern Gotland Basin	Fails
Migratory species	Salmon (<i>Salmo salar</i>)	Western Gotland Basin	Achieves
Widely distributed species	Eel (<i>Anguilla anguilla</i>)	Throughout its natural range	Fails

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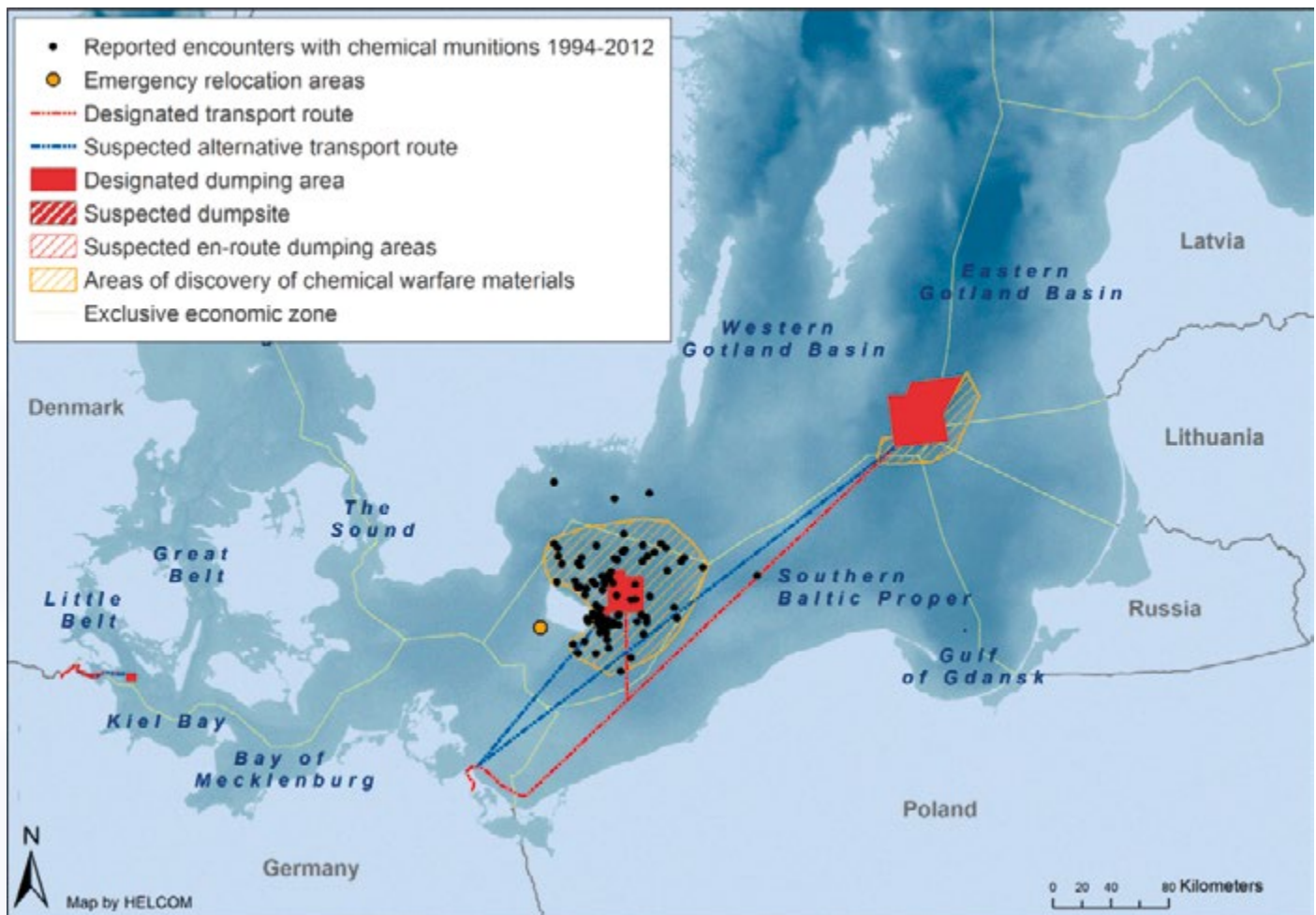


Figure 1.7. Overview map of known and suspected dumpsites of chemical warfare materials in the Helsinki Convention Area. Reported encounters with chemical warfare materials and emergency relocation areas are also indicated (HELCOM, 2013)

1.2.5. SEA-DUMPED CHEMICAL MUNITION

The Allies dumped about 40,000 tonnes of chemical munitions into the Baltic Sea after the Second World War. According to estimates, these chemical munitions contained 15,000 tonnes of chemical warfare agents. They were dumped, mainly from vessels headed for the designated dumping areas, by throwing them overboard in the areas of target sites as well as on their way from the loading harbours (e.g. Wolgast and Flensburg). The military scattered chemical warfare materials within the dumping areas marked on sea charts, in their vicinity and on their transport routes. However, there remains uncertainty about the total amounts, types and exact locations of the dumped munition. The main idea was to dump the chemical warfare materials as far away and as deep as possible. Yet, this was not always achievable due to the lack of available resources and tight schedules for demilitarisation. With a depth of about 30m, the southern entrance to the Little Belt is the earliest and the most-shallow of all dumping sites. Later, the Military Administrations in Germany chose deeper basins south-east of Gotland, east of Bornholm and in the Skagerrak, each of them exceeding water depths of 70m, for dumping chemical warfare materials (Fig. 1.7).

Even today, the possibility of lay people coming into contact with chemical warfare materials while working in the western and southern Baltic Sea cannot be ruled out (e.g. fishermen or workers involved in offshore construction activities). Given the increasing utilisation of the seafloor for commercial purposes (e.g. sea cables, offshore wind farms, pipelines), the risk of encountering sea-dumped munitions is increasing. Also, in some regions of concern in the southern Baltic Sea (Germany, Denmark, Poland and Latvia), beach visitors are at risk of encountering white phosphorus washed ashore (HELCOM, 2013). This incendiary agent can cause burns and is very toxic. According to the historical

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information available, sulphur mustard is the most common toxic substance in the dumped munitions. This warfare chemical agent poses a risk to humans who encounter it, and to living organisms within its vicinity, taking into account both short- and long-term effects. HELCOM keeps an annual record on the reported incidents related to chemical munitions caught by fishermen. There is an apparent decrease in the annual number of reported incidents, except for 2003. Possible reasons for this decrease are fewer fishing hours, changes in the local abundance of fish, the use of state-of-the-art fishing gear and, last not least, gaps in national reports. The decrease in the early 1990s coincided with the sharp decline of the fishing activities in the areas off Bornholm.

1.2.6. SOUTH BALTIC COASTAL AND MARINE PROTECTED AREAS

Thanks to the fall of the Iron Curtain in the early 1990s, an essential feature of the South Baltic Area emerged – a mosaic of coastal and marine protected areas. In 1994, the Group of Focal Points representing ministries responsible for spatial planning of the Baltic Sea countries/regions produced a comprehensive report, *Vision and Strategies around the Baltic Sea 2010* (VASAB, 2010). The report identified the spatial development features, which were the foundations for long-term sustainable development and materialisation of spatial visions in various sub-regions of the BSR, including cross-border collaboration. In the South Baltic area, the geographical types of areas supporting dynamism and quality of life branded as ‘patches’ included coastal zones, islands and cultural landscapes (Group of Focal Points, 1994).

The South Baltic area, mainly, its coastal rim, is indeed abundant with protected nature areas (Baltranaitė et al., 2017). It is no surprise then that four South Baltic coastal landscapes and features are listed on the UNESCO World Heritage list. These include the Agricultural Landscape of Southern Öland (Sweden), the Curonian Spit (Lithuania/Russia), and the Stevns Klint (Denmark), as well as the Ancient and Primeval Beech Forests of Europe, including the ones on the island of Rügen (Germany). Furthermore, there are five coastal UNESCO Biosphere Reserves designated in the South Baltic area: Møn (Denmark), Southeast Rügen (Germany), Słowiński National Park (Poland), the Blekinge Archipelago and Kristianstad Vattenrike (both in Sweden).

Some of these World Heritage sites and biosphere reserves listed by UNESCO are also designated by the South Baltic countries as national parks, along with other coastal landscapes and seascapes. Altogether there are eight national parks in seven countries, two regional parks in Lithuania and two landscape parks in Poland (Table 1.5). Most of these areas also comprise the “List of the coastal and marine Baltic Sea protected areas” (HELCOM, MPAs). These areas aim to protect valuable marine and coastal habitats in the Baltic Sea. This can be achieved by careful planning and managing human activities within those areas. [For more information on HELCOM, please see chapter 2.1.4 and 2.4.3.]

In 2016, there were 176 HELCOM MPAs in the Baltic Sea (HELCOM, 2016). 116, or almost 2/3 of them were within the South Baltic area (66 in Denmark, 12 in Germany, 3 in Latvia, 6 in Lithuania, 9 in Poland, 2 in Russia and 18 in Sweden). The target set by the HELCOM, 2010 Moscow Ministerial Declaration is that at least 10% of the marine area in all sub-basins of the Baltic Sea, including the Exclusive Economic Zone [EEZ, see chapter 2.2.2] areas beyond territorial waters, is covered by MPAs, where it is scientifically justified. Thus, further consideration is needed to evaluate whether the 10% target is ‘scientifically justified’ in the Eastern and Western Gotland Basin.

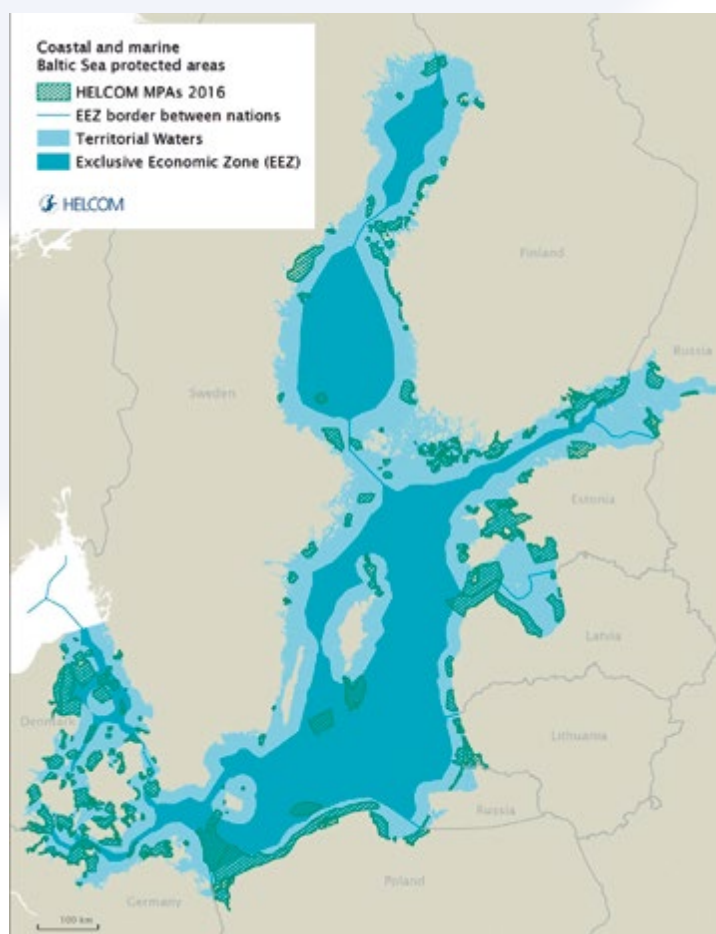


Figure 1.8. HELCOM MPAs in the Baltic Sea, as reported by the HELCOM countries (status in March 2016) (HELCOM, 2016)

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Table 1.5. National parks, UNESCO World Heritage sites and Biosphere Reserves of the South Baltic (Baltranaitė et al., 2017)

* also landscape parks of Poland and regional parks of Lithuania

** UNESCO World Heritage sites and Biosphere Reserves

*** including only coastal territorial entities of the Baltic Sea

Territorial entities	National parks*		UNESCO areas**	
	Area, km ²	% of total entity area	Area, km ²	% of total entity area
Gotland County (Sweden)	44.90	1.42	12.44	0.39
Kalmar County (Sweden)***	1.98	0.02	3839.14	24.98
Blekinge County (Sweden)***	0.00	0.00	2149.69	32.98
Scania County (Sweden)***	20.15	0.19	1043.75	10.08
Capital Region (Denmark)***	390.00	18.51	66.56	3.16
Zealand Region (Denmark)***	0.00	0.00	456.18	6.84
Schleswig-Holstein Federal State (Germany)***	0.00	0.00	3.00	0.04
Mecklenburg-Vorpommern Federal State (Germany)***	835.00	6.49	259.00	2.01
West Pomeranian Voivodeship (Poland)***	109.37	1.94	0.00	0.00
Pomeranian Voivodeship (Poland)***	374.22	10.25	507.44	13.90
Kaliningrad Oblast (Russian Federation)***	66.21	3.05	66.21	3.05
Klaipėda County (Lithuania)***	608.72	14.16	120.00	2.79
Kurzeme Planning Region (Latvia)***	265.00	5.29	0.00	0.00
TOTAL	2715.55	3.40	4944.27	6.19

Table 1.6. Percentage of HELCOM MPAs in South Baltic HELCOM sub-basins (HELCOM, 2016)

Sub-basin	HELCOM MPA network coverage per sub-basin (%) (territorial waters only)	HELCOM MPA network coverage in the EEZ (% of total EEZ per sub-basin)
Kattegat	23	20
The Sound	14	0.3
Great Belt	39	5
Kiel Bay	39	32
Bay of Mecklenburg	17	14
Arkona Basin	15	17
Bornholm Basin	17	13
Gdańsk Basin	16	0
Western Gotland Basin	4	5
Eastern Gotland Basin	7	2

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Currently, except for both Gotland sub-basins, the 10% target is met in the territorial waters of all the remaining eight South Baltic sub-basins (Fig. 1.8).

However, considering the coverage of MPAs in the EEZs of each South Baltic riparian country, the situation is far less satisfactory. The HELCOM MPA network coverage in the EEZ is sufficient only in the Kattegat, Kiel Bay, the Bay of Mecklenburg, the Arkona Basin, and the Bornholm Basin (Table 1.6). The South Baltic offshore areas, and the seascapes typically associated with them are still in need of further protection.

Summary

The southern part of the Baltic Sea differs significantly from the northern part both in physical and in ecological aspects. It has not only different features of maritime geography but it also faces different environmental issues and challenges. Continued and strengthened efforts are needed to further reduce pressures on the environment, to restore species and habitats to a healthy state and to reach long term sustainability in the use of South Baltic marine resources. Nevertheless, some positive environmental trends in the South Baltic marine environment indicate that there might be a tipping point approaching, especially regarding the diffuse nutrient loads from agriculture. The improving situation in some aspects also indicates that Baltic Sea regional collaboration gives some positive outcomes.

The essential future collaboration themes for the Baltic Sea countries include finalising the achievement of nutrient reduction targets and ending pollution, engaging in cross-sectoral approaches and adapting environmental management to climate change. There are, however, several other concerning and menacing long-term trends for the South Baltic, besides climate change. These threats, first of all, are the adverse environmental impacts of rapidly developing South Baltic coastal economies on the marine biodiversity in the southwestern part of the Baltic Sea and the increasing threat to the marine environment posed by pharmaceuticals and plastic litter.

Questions for reflection and discussion

1. What are the main differences between the southern and the northern parts of the Baltic Sea in different aspects?
2. Explain why the adverse environmental impacts on marine biodiversity are currently most menacing in the southwestern part of the Baltic Sea?
3. What, in your opinion, should be done with the dumped chemical munitions in the South Baltic? Explain your opinion.

1.3.HUMAN, ECONOMIC AND SOCIAL ACTIVITIES IN THE SOUTH BALTIC REGION (MARCIN BURCHACZ, MARCIN KALINOWSKI)

1.3.1. DEMOGRAPHICS OF THE SOUTH BALTIC REGION

A coastal region of the European Union is a statistical region, defined at NUTS level 3 of the geographical nomenclature, that has a coastline or more than half of its population living less than 50 km from the sea. Thus, the area of the South Baltic Region is maritime by nature and it includes coastal regions of northern Germany, Poland as well as Lithuania, southern Sweden and Danish islands of Zealand, Lolland and Falster. In particular, the following NUTS 3 regions in the given countries should be mentioned:

1. Germany – districts (Landkreise) of Mecklenburg-Vorpommern: Nordwestmecklenburg, Rostock, Vorpommern-Rügen, Vorpommern-Greifswald and district-free city (kreisfreie Stadt): Rostock,
2. Denmark – Regional Municipality of Bornholm and Region Zealand (subregions: Østsjælland, Vest- og Sydsjælland),
3. Lithuania – counties of Klaipėda, Tauragė and Telšiai,
4. Poland – subregions of: Miasto Szczecin, Szczeciński, Szczecinecko-pyrzycki, Koszaliński, Słupski, Starogardzki, Chojnicki, Gdański, Trójmiejski and Elbląski,
5. Sweden – counties of: Kalmar, Blekinge, Skåne and Kronoberg.

The territory of the South Baltic Region designated by the Interreg Programme is visualised in the map below.

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The Eurostat database indicates that in 2018 the region was populated by nearly 9 million inhabitants. The data in the table below indicates that over the last five years the number of people has been steadily increasing.

Table 1.7: Population of the South Baltic Region in NUTS 3 regions between 2014–2018. Source: Eurostat database

NUT3 Regions		2014	2015	2016	2017	2018	2014–2018 (%)
Vorpommern-Greifswald	DE	238 185	237 697	238 358	237 374	237 066	-0.47
Nordwestmecklenburg	DE	155 265	155 424	156 270	156 825	156 993	1.11
Vorpommern-Rügen	DE	223 109	223 470	224 820	224 971	225 123	0.9
Landkreis Rostock	DE	210 555	211 878	213 473	213 945	214 635	1.94
Rostock, Kreisfreie Stadt	DE	203 431	204 167	206 011	207 513	208 409	2.45
Østsjælland	DK	239 016	241 870	244 698	246 594	247 774	3.66
Vest- & Sydsjælland	DK	577 710	578 610	582 801	585 959	587 250	1.65
Bornholm	DK	40 305	39 919	39 847	39 773	39 715	-1.46
Klaipėdos apskritis	LT	329 013	327 300	324 618	320 507	320 507	-2.59
Tauragės apskritis	LT	104 623	103 083	101 200	98 608	98 608	-5.75
Telsių apskritis	LT	145 482	143 511	141 293	137 769	137 769	-5.3
Miasto Szczecin	PL	405 358	404 849	404 705	402 415	401 556	-0.94
Koszaliński	PL	353 542	352 628	351 466	350 976	350 921	-0.74
Szczecinecko-pyrzycki	PL	428 233	426 348	423 865	423 003	420 869	-1.72
Szczeciński	PL	504 267	504 661	503 989	504 852	505 527	0.25
Elbląski	PL	526 553	524 824	523 096	520 777	519 207	-1.4
Trójmiejski	PL	740 681	740 928	741 521	742 845	743 330	0.36
Gdański	PL	546 540	553 224	559 238	566 182	574 187	5.06
Słupski	PL	329 672	329 605	329 178	329 051	329 170	-0.15
Chojnicki	PL	221 282	221 274	221 329	221 803	222 423	0.52
Starogardzki	PL	426 642	426 528	425 793	425 919	425 816	-0.19
Kronobergs län	SE	187 156	189 128	191 369	194 628	197 519	5.54
Kalmar län	SE	233 874	235 598	237 679	242 301	243 536	4.13
Blekinge län	SE	152 757	154 157	156 253	158 453	159 371	4.33
Skåne län	SE	1 274 069	1 288 908	1 303 627	1 324 565	1 344 689	5.54
TOTAL		8 797 320	8 819 589	8 846 497	8 877 608	8 911 970	1.3

The population growth can be connected with more general trends in demographics of the entire BSR. A detailed migration analysis was conducted in 2017 by VASAB. It specifically indicates that the South Baltic population is growing at the expense of the northern and eastern regions. The highest increases are visible in the northern Poland, including the areas of the city ports of Gdańsk and Szczecin-Świnoujście as well as the southern areas of the Nordic countries. The positive population development is mainly caused by in-migration from the north-eastern countries and by regional migration, and also by a positive, natural population change in Poland.

Other visible trends in the demographics of the area are urbanisation and suburbanisation which are characterised by positive population development of metropolises, and larger cities. These trends are mainly caused by gains

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from migration. In the southern and western BSR large cities as well as their surrounding areas often show a positive population growth. This can also be connected with the fact, that in South Baltic countries, such as Poland and former East Germany with previously more compact cities, the suburbanisation processes started later. However, the growth of the cities takes place as the rural areas and municipalities steadily depopulate. The declining population in sparsely populated regions, is indicating a migration trend “from the countryside to the city”. In the medium term, rural areas, which over a long time period demonstrated a positive natural population change, will not be able to maintain a sufficient potential for population reproduction. In the Nordic countries, in Poland and Germany smaller cities inside rural areas still show a certain population growth albeit at the expense of the surrounding rural settlements.



Figure 1.9: NUTS 3 regions of the South Baltic Sea area. Source: southbaltic.eu

Large cities constitute well-developed job markets. They also provide opportunities for educational development and are centres for business activities. Looking from a wider perspective, this situation is underpinned by deepening integration within the BSR, EU countries as well as within the broader European region. What is more, this mobility has been integral to the economic success of the Baltic region, over the past years, a substantial growth has been observed in cross-border flows of goods and services, capital, firms as well as people. This has also been further strengthened in many ways by infrastructure development and activities of regional institutions all improving regional connectivity of the Baltic area.

1.3.2. BLUE ECONOMY ACTIVITIES IN THE SOUTH BALTIC REGION

Traditional maritime sectors and increasingly, innovative marine activities are at the heart of the economies of the South Baltic coastal regions. People have used the Baltic Sea for a very long time, especially as a transportation route and source of food. Today the surface and seabed of the Baltic are the places for much more diverse and intensive human activities. These include the traditional uses, maritime transportation and fisheries for example, but also more recent developments such as aquaculture, oil and gas exploitation, offshore wind, cables and pipelines as well as leisure activities including boating.

In comparison to the other EU regions, the Baltic Sea enjoys higher growth and lower unemployment rates. It also benefits from strong research and innovative activities that promote significant positive change from a tradition of close co-operation. Since this is an area with a densely populated coastline and very intensive use of the sea and its ecosystems, the maritime economy can only thrive if its precious marine resources are used in a sustainable manner. And the BSR has all the necessary elements for successful development of an innovative and sustainable maritime economy.

Nowadays, all economic activities relating to the oceans, seas and coasts are referred to worldwide as the blue economy. In fact, the term covers a wide range of interlinked established and emerging sectors.

In general, the blue economy includes the following six established sectors: marine living resources, marine extraction of non-living resources, maritime transport, port activities, shipbuilding and repair and coastal tourism. Table 1.8 below presents the major maritime sectors and sub-sectors.

The emerging blue economy and innovative sectors include blue energy, i.e. offshore wind energy, ocean energy (wave and tidal), blue bio economy and biotechnology, marine minerals, desalination and maritime defence. These sectors offer significant potential for growth and jobs, especially in the field of renewable energy. Offshore wind for instance has seen an exponential growth, which has led to a similar increase in jobs in EU coastal communities.

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Table 1.8: Established Sectors in the Blue Economy and their subsectors. Source: The EU Blue Economy Report (2019)

Sector	Sub-sector
Coastal tourism	Accommodation Transport Other expenditures
Marine living resources Extraction and commercialisation of marine living resources	Capture fisheries Aquaculture sector Processing and distribution
Marine non-living resources Marine extraction of minerals, oil and gas	Extraction of crude petroleum Extraction of natural gas Extraction of marine aggregates Support activities for petroleum and natural gas extraction Support activities for other mining
Port activities Ports, warehousing and construction of water projects	Warehousing and storage Cargo handling Construction of water projects Service activities incidental to water transport
Shipbuilding and repair	Building of ships and floating structures Building of pleasure and sports boats Marine machinery Marine equipment Repair and maintenance of ships and boats
Maritime transport	Sea and coastal passenger water transport Sea and coastal freight water transport Inland passenger water transport Inland freight water transport Renting and leasing of water transport equipment

It must be remembered, that the Blue Economy is interconnected with many other activities in the economy and its impact goes beyond the sectors mentioned above. This means that, beyond its specific contribution, it has important multiplier effects on the income and jobs in many sectors of the Blue Economy.

However, these sectors are also encountering challenges. For instance, some land based emerging sectors are developing faster than their maritime counterparts. Wind energy production continues to be cheaper on land, making competition tough for developing offshore activities, particularly in view of low energy prices. The lack of electrical connections (cables/grids) is also a substantial barrier to the development of offshore wind farms, adding to investment costs.

Throughout the world there is evidence of mounting interest in marine resources and expansion of maritime industries to create jobs and economic growth. Energy and food security are key priorities. Therefore, five promising areas of activity for 'Blue Growth' have been identified at the European Union policy level including aquaculture, renewable energy (offshore wind, wave and tidal), seabed mining, blue biotechnology and tourism. Development of these activities is often connected with the experience of the traditional maritime industries such as offshore oil and gas, shipping, fisheries and an already well-established tourism sector.

1.3.3. KEY MARINE SECTORS IN THE COUNTRIES OF THE BALTIC SEA

Fishing activities

Fishing activities in the Baltic Sea can be divided into two main types: commercial and recreational fishing. Recreational fishing refers to fisheries as a leisure activity and it takes place mainly in the coastal areas of the Baltic Sea. Commercial fishing includes mainly activities of vessels registered in national fishery vessel registers.

Based on the latest available figures, in 2015 the total commercial fisheries fleet of the EU Member Countries operating in the Baltic Sea, consisted of 6192 registered vessels, 9% of which were large scale vessels, whereas 91% were small scale vessels.

Commercial fishing activities, particularly those of larger vessels (>12 m), are relatively well known as they are closely monitored by various data collection activities and for the EU members as part of the Common Fisheries Policy implementation. However, the activities of smaller coastal vessels, like leisure boats in the Baltic Sea, remain to be recorded. These vessels commonly use types of gear different than the larger vessels, usually various static or passive gear, e.g. set gillnets and longlines as well as fixed traps, without a defined main gear used to target a wider variety of species. Smaller vessels employ more fishermen per landed fish and tend to focus on catching higher value species for human consumption. The species targeted by recreational fisheries vary depending on local circumstances. As an example, in Sweden recreational catches are mostly perch, pike and pikeperch. Also, sea trout and salmon are attractive species for recreational fishing in the region, even if most of such activities take place in estuarine and river grounds of such migratory species, and ensure sustainable growth of such recreational fishing.

Aquaculture activities

Aquaculture is the controlled production of aquatic organisms whether at sea, in estuaries or inland. As an activity, aquaculture today provides half of all fish for human consumption worldwide and has had a vigorous global growth during recent decades. Many Baltic Sea coastal countries such as Denmark, Germany and Poland, have a long history with inland aquaculture of rainbow trout, but also of other species such as common carp.

There are 332 aquaculture sites in the Baltic Sea. In terms of volume nearly 90% of aquaculture production for human consumption in the Baltic Sea waters is cultivation of rainbow trout. The area of Kattegat in Denmark is one of the biggest production locations in the Baltic Sea.

Table 1.9: Aquaculture production in Baltic Sea countries. Source: Own elaboration based on Co-ordinating Working Party on Fishery Statistics (CWP), Rome 2016

Country	Baltic Sea	Inland
Denmark	Rainbow trout (ca. 12 000 t/yr), mussels (minor)	Rainbow trout, salmon, oysters, eel, other freshwater fishes
Germany	Rainbow trout (ca. 20 t/yr)	Common carp, Salvenilus, rainbow trout, other freshwater fishes
Lithuania	(no production)	Common carp, rainbow trout, other freshwater fishes
Poland	(no production)	Common carp, rainbow trout, other freshwater fishes
Sweden	Rainbow trout (ca. 2 000 t/yr), mussels (ca. 1 500 t/yr)	Common carp, Salvenilus, European eel

Offshore windfarms

Wind power and other offshore renewables, such as wave power, are parts of the solution in the ongoing global move away from coal, oil, gas and nuclear power toward more sustainable forms of energy production, mainly to reduce CO² emissions and to reduce global climate change. The first offshore windfarm in the world, the Danish Vindeby, was constructed in 1991 in the western end of the Baltic Sea. However, it is especially during the last ten years that the interest in offshore wind energy in the Baltic Sea has taken off. Denmark and Sweden were the first countries to develop offshore windfarms in the region during the 1990s, but since 2011 Germany has quickly established itself as a major offshore wind country in the region. 95% of the existing capacity is located in the south-west of the BSR in the territorial waters of Denmark, Sweden and Germany. There are currently many planned projects active in Poland as well as in Finland, Denmark, Sweden and Germany.

Despite the quick developments offshore, the bulk of wind power developments today take place on dry land. As an example, in the EU in 2016, 10 923 MW were installed onshore compared to 1 567 MW offshore. However, this ratio is changing as cost-efficiency of offshore developments is improving.

By the end of 2017 there was a total number of 578 offshore turbines divided between 17 offshore windfarms (solitary turbines excluded) in the Baltic Sea. In total these generate a nominal total of 1,7 GW. The recent developments were fast and the capacity nearly tripled from 598 MW to 1669 MW during the period of 2012–2017.

Offshore oil and gas

Offshore oil and gas exploration does not involve not large-scale activities in the southern BSR. These activities are likely to increase though as there are plans to exploit a number of new fields in the Polish Exclusive Economic Zone.

Port industry and shipping

The BSR is a very prosperous region and maritime transport has contributed to its prosperity. The Baltic Sea is one of the most heavily trafficked seas in the world, accounting for up to 15% of the world's cargo transportation. According to the HELCOM Automatic Identification System (AIS) for monitoring maritime traffic, established in mid-2005, there are about 2,000 ships in the Baltic marine area at any given time, and each month around 3,500–5,000 ships ply the waters of the Baltic Sea (HELCOM, 2009). In 2014, the overall transport work increased by 2.2% year-on-year, while the total travelling distance of IMO-registered vessels decreased by 1.2%. The simultaneous increase in transport work and the decrease in travel distance indicates an increase in the average vessel transport capacity.

Baltic ports have become crucial nodes in the international flow of goods and as significant wealth generators. About 200 ports (excluding small recreational ports), which are different with regards to ownership, size, traffic, turnover, infrastructure, etc., are settled along the Baltic coastline. The Baltic seaports' turnover has developed steadily. The decade 2005–2014 brought double digit growth (+14.3%) to the entire sector of Baltic ports.

It is important to emphasise that seaports as gateways or focal points between sea and land play a crucial role in the development and functioning of maritime economies as a whole. Ports may affect the activation of the economy of the regions constituting the basis for diversified economic activities.

Thus seaports as economic and spatial structures as well as nodal points of the transport infrastructure, also perform basic economic functions for the region:

1. Transport, related to cargo handling and transshipment, as well as storage of goods,
2. Industrial, involving performance of industrial activities in port areas (repairs and construction of small vessels as well as repairs of fishing gear and its manufacture),
3. Commercial, referring to the role and function that a seaport performs in the process of distribution of goods, e.g. sorting, repackaging, sale and purchase contracts, financial and legal services,
4. Baltic fishery services, including transshipment, storage and processing of fish as well as cutters and fishing boats using the port,
5. Tourism and recreation, involving the operation of international passenger traffic and passenger ships, coastal shipping passenger vessels, yachting, as well as various forms of water sports and recreation (fishing, diving, etc.).

1.3.4. COUNTRY SPECIFIC MARITIME ECONOMIC ACTIVITIES

Germany

The key maritime sectors of the German economy include: offshore wind energy, coastal tourism, yachting and marinas, short-sea shipping (incl. 'Roll-on/Roll-off', in short: 'Ro-Ro'), cruise tourism, shipbuilding (excl. leisure boats) and ship repair, blue biotechnology.

An extension of offshore wind energy is a main concern of the Federal Government due to Germany's nuclear power phase-out and climate protection targets. This sector has prospects for development.

Tourism is one of the economic pillars of the German regions located by the BSR. With about 31 million overnight stays (9.5% of the country) the BSR is the most popular maritime travel destination in Germany. Coastal tourism (incl. yachting and marinas) is the largest employer among other maritime activities.

As the European shipbuilding industry has been in decline due to competition from Asia as well as the global economic crisis, the German shipbuilding industry has started to focus on technologically sophisticated niche markets to survive. Many shipyards implement their specialisation strategies and now focus on building technologically sophisticated ships and vessels, mainly yachts, passenger ships, 'Ro-Ro' ships, and offshore installation ships.

Denmark

The key maritime sectors of the Danish economy include: offshore wind energy, marine aquaculture, fish for human consumption, short-sea shipping.

Denmark is the country with the longest experience in the offshore wind energy sector, having established the first farm in 1991 with a significant amount of installed capacity. In 2011, 9% of its turbines were located offshore and produced 36% of the national wind power production. A new Energy Agreement states that by 2020 50% of the electricity will have come from wind power. 75% of this growth was expected in offshore wind farms. Growth in the sector also presents good employment opportunities in terms of installation and servicing of offshore wind turbines. Likewise, the production of installation ships and equipment for establishing offshore wind farms is a market with growth potential for Denmark.

Marine aquaculture is one of the fastest growing sectors in Denmark. The main aquaculture species produced is rainbow trout (26% in sea cage production and 70% of that in the Baltic Sea). Danish aquaculture has seen a 7-fold increase in volume since 2008. Development is supported by national strategies and it is substantially financed by both national and EU funds. Development of sea farming also creates beneficial circumstances for the aquaculture equipment sector.

Denmark is the largest fisheries exporter in the region (annual exports can reach up to 90% of the total catch). The sector continues to be a substantial contributor to the national added value. General trends in the fish processing sector include: innovative and highly efficient processing technologies.

Denmark is one of the five largest shipping nations in the world based on owned and operated tonnage. Short-sea shipping plays an important role in the economy and daily life. Major destinations include Sweden, Germany, Norway and the UK. Internationally, the most transported items are ferry goods, crude oil and mineral oil. Denmark has 391 inhabited islands; for the smaller ones the supplies by sea are vital and are locally subsidised. Short-sea shipping in Denmark has good potential for growth due to the increasing trade with the Baltic States and Poland, growth of the offshore energy sector and the increase in export of agricultural products.

Lithuania

The key maritime sectors of the Lithuanian economy include: short-sea shipping (incl. 'Ro-Ro'), shipbuilding (excluding leisure boats) and ship repair, fish for human consumption, water projects and coastal tourism.

The main seaports of Lithuania are Klaipeda and the Butinge oil terminal and the main transport partners are Russia and Belarus. As far as competition goes, many Baltic seaports are similar in terms of operations. One potential area for growth is stevedoring and specific technological development (some of which originates locally).

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The shipbuilding sector, like in other European countries, has shifted towards building more complex ships of higher added value. Regular trade relations are maintained with Denmark, Germany and Norway, mostly in the export of ferries, but also rescue ships, rafts, tanks, docks, buoys and floating or submersible drilling and commercial fishing platforms. The Western Shipyard Group is one of the largest corporations in Lithuania, incorporating 23 companies.

Poland

The key maritime sectors of the Polish maritime economy include: shipbuilding (excl. leisure boats) and repair, coastal tourism, offshore oil and gas, yachting and marinas (leisure boat building), protection of habitats/marine aquaculture/environmental monitoring.

The shipbuilding and repair industry is one of the most important in terms of employment in maritime sectors. The industry has gone through a process of structural change after the accession of Poland to the EU. In particular, the Polish ship repair yards have maintained rather favourable competitive positions with an excess of orders in relation to their capacities.

Extraction of traditional energy sources, such as gas and oil at sea plays a marginal role in the Polish economy as well as in ensuring security of energy supplies at the country level. The availability and extraction of energy offshore or in the territory of the maritime regions would attract energy intensive industries, contributing to development of the regions, creation of new jobs positions and strengthening synergy effects. There are currently three exploited oil and gas fields in the region. Two of the existing fields, called B-3 and B-8, lie in the Polish EEZ, to the north of the Gdańsk region. The production rigs on B-3 are connected to the coast with pipelines, gas in the case of B-3 and oil and gas for the D-6 field. The B-8 operation is connected to B-3 (crude oil pipeline), not to the shore.

Table 1.10: Maritime economic activities in the South Baltic countries. Source: Study on Blue Growth, Maritime Policy and the EU Strategy for the Baltic Sea Region, Final Report, European Commission, Brussels 2013

Country	Largest Maritime Economic Activities (MEAs)	Fastest growing MEAs	Most promising MEAs
Denmark	Short-sea shipping followed by coastal tourism, fish for human consumption and passenger ferry services	Marine aquaculture, projections of habitats and aggregate mining	Short-sea shipping, passenger ferry services, fish for human consumption, marine aquaculture, offshore wind energy and coastal tourism
Sweden	Coastal tourism, fish for human consumption, short-sea shipping and passenger ferry services	Water projects, cruise tourism and inland waterway transport	Short-sea shipping, passenger ferry services, marine aquaculture, offshore wind energy, coastal tourism and cruise tourism
Lithuania	Fish for human consumption and shipbuilding and repair	Environmental monitoring	Shipbuilding and repair, water projects, short-sea shipping, fish for human consumption and coastal tourism
Poland	Fish for human consumption, shipbuilding and repair, coastal tourism and water projects	Passenger ferry services, cruise tourism and offshore oil and gas	Shipbuilding and ship repair, offshore oil and gas, offshore wind energy, coastal tourism, yachting and marinas and a combination of protection of habitats/marine aquaculture/environmental monitoring
Germany	Coastal tourism and fish for human consumption, short-sea shipping and shipbuilding and repair	Offshore wind energy, fish for human consumption, cruise and coastal tourism and coastal projection	Shipbuilding and ship repair, short-sea shipping, blue biotechnology, offshore wind energy, coastal tourism, yachting and marina, and cruise tourism

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Another important sector is coastal tourism which plays a significant economic role. The main players come from the private sector (small and medium size enterprises) and from the public sector (coastal municipalities). Coastal tourism is a sector of the top importance for many peripheral areas of Poland as it is the only tangible alternative to fisheries. The main development driving forces are geographic characteristics of the Polish coastline (nice sandy beaches) coupled with the entrepreneurship of Polish business people and local governments.

Sweden

The key maritime sectors of the Swedish economy include: coastal tourism, cruise tourism, passenger ferry services, marine aquaculture, offshore wind energy, short sea shipping (incl. 'Ro-Ro').

1.3.5. SOCIOECONOMIC CHALLENGES FACING THE COMMUNITIES OF THE BALTIC SEA REGION

The region has developed from a geographical area mostly characterised by the division of the Baltic Sea, to a highly integrated, dynamic and growing collection of nations, considered by many as a frontrunner in several respects. The BSR has undoubtedly benefitted from European integration and the attributable effects of the Baltic states and Poland chasing its more developed Nordic neighbours.

The BSR has benefitted to a large extent from diminishing barriers to trade, increasing integration and advancing globalisation. Although some friction points still hinder trade in goods and services, the BSR has already come fairly close to the materialisation of the free trade ideal. Germany is the largest trading partner of most countries in the region. Except for the case of Russia's trade flows, the share of intra-industry trade is fairly high in mutual trade.

National domestic markets have given way to the BSR as a new domestic market, which is under intensifying competitive pressure from outside. More companies have published strategies in which the BSR is defined as their domestic market. National borders no longer constitute a barrier to internationalisation or impose unreasonable costs on such a process. This means that supply and demand within adjacent market economies tend to be merged when profit-seeking companies aim to sell high or buy low, or are seeking advantageous locations for their various operations.

This positive situation has been underpinned by strong engagement with the global economy, as well as investments in innovation and human capital and strong policy foundations. Over the past two decades, there has been substantial growth in cross-border flows of goods and services, capital, firms and people. Regional connectivity has also been strengthened in multiple ways, from infrastructure to regional institutions.

Today, after two decades of steady progress, the outlook for the region is still positive, but a variety of challenges lie ahead in an even more complex global environment. This suggests that the road forward may not be as smooth as it was before, unless the region is able to face stronger global competition and the ever-faster pace of technological change. These challenges, it can be argued, may be best taken head on by a cohesive, integrated region working for common interests based on shared values. However, as the geopolitical and economic environments change, so may the current institutional and co-operational framework that supports the BSR may require a change as well.

Currently, there are several challenges emerging and opportunities that the Baltic economies will need to respond to in order to sustain their performance. For one thing, many BSR economies are facing the problem of aging populations. Thus, a greater contribution will be required from labour productivity growth – and at a time when productivity catch-up gains are less available because the BSR economies are closer to the income frontier.

In addition, the open economies of the BSR region will need to respond to challenges of the global economy. First, there is rapidly increasing global competition which means that the BSR economies will need to work to sustain their competitive edge. Secondly, the global economic and political environment that has supported the BSR growth is facing a series of risks from protectionism and weaponisation of international commerce, to geopolitical risk. And thirdly, disruptive technologies such as automation and AI, although bringing a series of new growth opportunities, they also have the potential to disrupt labour markets and economies.

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All economic activities that derive from coastal areas bring employment and economic benefits to national economies, and also directly affect people's wellbeing, for example, by providing recreational space. Due to this fact, in the last decade, environmental and economic questions have taken priority over other issues in the Baltic. This is down to the fragile environmental conditions of the Baltic Sea waters and an increasing awareness of local communities. While substantial progress has been made in solving environmental problems and creating a common market around the Baltic Sea area, much remains to be done, particularly in the alignment of ecological and economic aspects and activities.

These issues have been tackled at the level of policy making for many years now. In 2009 eight EU countries that make up the BSR (Sweden, Denmark, Estonia, Finland, Germany, Latvia, Lithuania and Poland) signed the jointly-agreed Action Plan for the Baltic Strategy. In 2009 the European Union Strategy for the Baltic Sea Region (EUSBSR) was approved by the European Council following a communication from the European Commission. The document is the first macro-regional strategy in Europe. The Strategy helps to mobilise all relevant EU funding to support policies and to coordinate the actions of the European Union, EU countries, regions, pan-Baltic organisations, financing institutions and non-governmental bodies to promote a more balanced development of the BSR.

In fact, the Strategy is an agreement between the Member States of the EU and the European Commission to strengthen co-operation between the countries bordering the Baltic Sea in order to meet the common challenges and to benefit from common opportunities facing the region. Its implementation is co-ordinated through close contact with the European Commission and all the relevant stakeholders, i.e. other Member States, regional and local authorities, inter-governmental and non-governmental bodies. The Strategy also welcomes co-operation with the EU neighbouring countries (Russia, Iceland, Norway and Belarus).

The Strategy is divided into three objectives which represent the three key challenges. The first, 'Save the Sea', is focused on actions to protect the sea connecting all the countries in the macro-region. The specific goals include reducing eutrophication, protecting water from hazardous substances, making shipping more sustainable and increasing maritime safety and security. The second objective, 'Increase Prosperity', is much broader. The goals range from promoting health to supporting innovation. Other areas include capacity building for societal security, co-operation within the tourism sector and advancing culture and education.

The third objective, 'Connect the Region', is focused on infrastructure. It consists of two main pillars: transport and energy. They cover all modes of transport and both connect the BSR Member States to third party countries. The energy goals involve improving interconnectivity, ensuring security of supply and creating a level playing field for market participants. There are also horizontal actions which add a broader perspective to the EUSBSR main objectives: spatial planning, relations with neighbours, capacity building and climate policy.

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SOUTH BALTIC PERSPECTIVE ON MSP



PHOTO BY DOROTA PYC

2. SOUTH BALTIC PERSPECTIVE ON MSP

2.1. GENERAL MSP CONCEPT, TERMINOLOGY AND KEY ISSUES (DOROTA PYĆ)

2.1.1. MSP ORIGIN

Although terrestrial planning has been commonly used for many decades, MSP is still a relatively new concept. The first international meeting devoted to MSP was organised by the Intergovernmental Oceanographic Commission of the United Nations Educational and Scientific Organization (IOC UNESCO) in 2007. It was assumed that the implementation of MSP in the planning process would enable integrated, forward-looking and coherent decision-making regarding human uses of the sea.

Generally, MSP (as a process) has the potential to address the impacts of almost all human activities in marine areas and coastal zones. The concept of MSP is that marine ecosystems can be productive, resilient to change, and therefore promote economic activity that will not exceed their ecological carrying capacity.

MSP is an element of sea use management, to make well informed and coordinated decisions about how to use marine resources sustainably and how to reduce conflicts between maritime space stakeholders. Moreover, it is a practical way to create and to implement a rational organisation of sea/maritime space uses and to strengthen the interaction between its stakeholders (Pyć, 2019a).

MSP is usually based on sustainable development so as to achieve socio-economic and ecological goals in an open and transparent manner as part of the planning and management process. In a broader context, MSP is therefore one of the elements of sustainable marine governance, including, among others: visioning, programming, public participation, agreeing on common goals and objectives, reporting, impact assessments, monitoring and financing.

Essential characteristics of MSP include: ecosystemicity, sustainability, integration, interactivity, adaptability, resilience, commitment/engagement and participation as well as co-operativeness. The MSP process connects multiple public authorities/administration and other stakeholders (users) of marine areas, i.e.: shipping and ports, fishing and aquaculture, marine mining and offshore energy, recreation and tourism.

2.1.2. MSP DEFINITION

There is no single/unified/common official definition for MSP, instead, the definition is based on an ecosystem approach to managing human activities in the marine environment.

1. VASAB: MSP is defined as a legally based hierarchical process reconciling competing claims on the sea space (sea surface, sea bottom and water column) in line with the goals and values of the given society, manifested in national and international priorities and agreements. MSP guides and monitors sea space development through the appropriate instruments (e.g. vision, strategies, spatial plans). MSP requires continuous assessment of the planning results versus development trends and adequate revision of visions, plans, and strategies¹,
2. 2006: The UK Marine Spatial Planning Pilot Consortium Report defines MSP as: “an integrated, policy-based approach to the regulation, management and protection of the marine environment, including the allocation of space, that addresses the multiple, cumulative and potentially conflicting uses of the sea and thereby facilitates sustainable development”²,
3. 2009: The UNESCO’s Intergovernmental Oceanographic Commission (IOC, 2009) defines MSP as: “a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that are usually specified through a political process” (Ehler, Douvere, 2009). The IOC Guide on Marine Spatial Planning: a step-by step approach towards an ecosystem-based management [see chapter 3] has been used as the reference document for developing the policy context in the European Union in the Directive 2014/89/EU establishing the framework for maritime spatial planning. MSP is by

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definition a “political” process and requires decisions to be made in various governmental authorities to support, initiate, develop and ultimately to impact MSP (Ehler, Douvère, 2009). Implementation of MSP is the responsibility of public authorities (national level) and depends on public funds,

4. 2014: The COP CBD states that “marine spatial planning is a useful tool for applying the ecosystem approach to marine and coastal management”. A decision adopted by the Conference of the Parties to the Convention on Biological Diversity at its twelfth meeting XII/23. Marine and coastal biodiversity: impacts on marine and coastal biodiversity of anthropogenic underwater noise and ocean acidification, priority actions to achieve Aichi Biodiversity Target 10 for coral reefs and closely associated ecosystems, and marine spatial planning and training initiatives³,
5. 2014: The EU MSP Directive defines maritime spatial planning as a process by which the relevant Member State’s authorities analyse and organise human activities in marine areas to achieve ecological, economic and social objective (Article 3),
6. MSP at the national level is defined as a process across sectors – horizontal integration, as well as across administrative and planning levels – vertical integration (GEF LME: LEARN, 2018, p. 12).

In all definitions MSP is based on the allocation of marine space in order to achieve sustainable development goals. Understood as a purely technical process, MSP serves as an instrument of maritime policy at both regional and national levels for the implementation of the European Union’s integrated maritime policy (Pyć, 2019b). This policy is focused on an integrated approach to maritime affairs, referring to all available research methods used in the field of identifying and solving problems arising from the use of the sea by humans. The reason to support the introduction of an integrated approach is the recognition of the ‘maritime dimension’ and the establishment of a link with: the competitiveness of maritime industries and job creation, maritime fisheries and aquaculture, international maritime trade, maritime transport and logistics; access to energy sources, the effects of climate change and counteracting them, ensuring a high level of environmental protection and maintaining biodiversity, marine research and innovations.

MSP is a process that serves to ensure the introduction of spatial order in seas and oceans. The main goal of MSP is the division of sea space with the purpose of fairly distribution of marine areas and their resources in many ways through various entities, including coastal states and legal and natural persons. This process may require restrictions on the use of maritime space (e.g. temporary or zonal) and, in justified cases, aims to avoid conflicts between different users of the environment and improves the management of their activities which involve using the resources of marine and coastal environments. Increasing the capacity of administrative bodies and other entities in the field of maritime management is also of utmost importance.

MSP is a process which aims to distribute space dynamically for many types of sea use by humans. As such, it also imposes time constraints and even exclusions regarding its use in order to avoid conflicts between the various users of the environment and to improve the management of human activities directed towards the use of the resources of the marine and coastal environment. MSP should be based on a holistic approach which assumes the existence of multidimensionality and interdependencies of interactions in the marine environment, occurring as a result of various activities undertaken and carried out there including economic activities. In the European Union, specifically in those Member States that have developed MSP instruments, the implementation thereof remains at the national level and is carried out by the authorities of those Member States. The planning process is subject to the analysis of the use of the marine environment and its resources, necessary for decision making.

2.1.3. MSP GOALS

MSP aims to identify and encourage the use of multi-purpose and sparing maritime space uses, in compliance with relevant domestic laws and policies as well as at maximising compatibilities among human activities and reducing conflicts (disputes) among human uses or between human uses and nature⁴. The main MSP goal is to promote sustainable development and to identify the utilisation of maritime space for different sea uses, as well as to manage spatial uses and conflicts in marine areas.

2.1.4. MSP PRINCIPLES

Ecosystem approach, ecosystem-based approach and ecosystem-based management

Ecosystem approach (EA) is a term used in the Convention on Biological Diversity (CBD). According to the Conference of the Parties to the CBD: “The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. An EA is based on the application of appropriate scientific methodologies focused on levels of biological organisation, which encompass the essential structure, processes, functions and interactions among organisms and their environment. It recognises that humans, with their cultural diversity, are an integral component of many ecosystems”. EA is often used interchangeably with EBM.

The MSP process is expected to apply an ecosystem-based approach (EBA), where the term is also used in Europe (e.g. Marine Strategy Framework Directive (MSFD), MSP Directive). The EBA should be applied in a way that is adapted to the specific ecosystems and other specificities of the different marine regions and takes Regional Sea Conventions (e.g. Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 – Helsinki Convention) into consideration, based on existing knowledge and experience (Preamble 14. MSP Directive). According to the MSP Directive, the application of EBA will contribute to promoting the sustainable development and growth of the maritime and coastal economy and the sustainable use of marine and coastal resources. According to the MSFD, marine strategies shall apply an EBA to the management of human activities, ensuring that the collective pressure of such activities is kept within levels compatible with the achievement of good environmental status and that the capacity of marine ecosystems to respond to human-induced changes is not compromised, while enabling the sustainable use of marine goods and services by present and future generations (Article 1(3)). Thus, developing the EBA to MSP is essential for ensuring sustainable sea-use and protecting the environment.

Ecosystem-based management (EBM) is used inter alia in the US. EBM is a management framework that integrates biological, social, and economic factors into a comprehensive strategy aimed at protecting and enhancing the sustainability, diversity, and productivity of natural resources. EBM is an integrated approach to management that considers the entire ecosystem, including humans. The goal of EBM is to maintain an ecosystem in a healthy, productive and resilient condition so that it can provide the services humans want and need. EBM differs from prevailing approaches that are usually focused on a single species, sector, activity or concern; it considers the cumulative impacts of different sectors. EBM “emphasizes the protection of ecosystem structure, functioning, and key processes; is place-based in focusing on a specific ecosystem and the range of activities affecting it; explicitly accounts for the interconnectedness among ecosystems, such as between air, land, and sea; and integrates ecological, social, economic, and institutional perspectives, recognising their strong interdependencies”⁵.

Precautionary approach and precautionary principle

A precautionary approach: where there are threats of serious or irreversible damage, a lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation (UN Conference on Environment and Development, 1992). The precautionary principle: “preparing for unknown changes and protecting resources is the best approach for long-term community resilience to keep resource[s] healthy in the long-term. With or without climate and/or ocean change impacts, these are things that will help our community be happier and healthier over time” (Ehler, 2013).

Adaptive management

Adaptation means adjustment in natural or human systems in response to actual or expected climate and/or ocean changes, or their effects, which moderates harm or exploits beneficial opportunities (United Nations Intergovernmental Panel on Climate Change, 2007). “The ecosystem approach requires adaptive management to deal with the complex and dynamic nature of ecosystems and the absence of complete knowledge or understanding of their functioning. Ecosystem processes are often non-linear, and the outcome of such processes often shows time-lags. The result is discontinuities, leading to surprise and uncertainty. Management must be adaptive in order to be able to respond to such uncertainties and contain elements of “learning-by-doing” or research feedback. Measures may need to be taken even when some cause-and-effect relationships are not yet fully established scientifically”⁶.

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SOUTH BALTIC PERSPECTIVE ON MSP

BSR common principles

In the BSR, the development of common principles of maritime spatial planning is associated with the involvement of all relevant entities and bodies. In this area, the following approaches are: holistic, ecosystem and precautionary. Maritime spatial planning in the area of the Baltic Sea is of interest to international organisations and institutions, including the European Union and the Baltic Marine Environmental Protection Commission (HELCOM).

The HELCOM Action Plan of 2007 contained a commitment addressed to the States Parties of the Helsinki Convention for the Protection of the Marine Environment of the Baltic Sea Area to jointly develop the implementation of general cross-sectoral MSP principles based on an EA in co-operation with other international bodies. It is worth noting that the document on general principles of MSP in the Baltic Sea, developed by the HELCOM Joint Group and VASAB, defines ten principles of MSP: sustainable management, EA, long term perspective, precautionary principle, participation and transparency, high quality data and information bases, transnational coordination and consultation, coherent terrestrial and marine spatial planning, planning adapted to characteristics and special conditions at different areas and continuous planning. In order to facilitate the protection and sustainable use of the Baltic Sea incorporating the ten principles set out above, HELCOM 28E/9 is adopted on the development of general principles of MSP in the Baltic Sea area. These rules remain in close relation with the MSP directive. The first of the ten HELCOM/VASAB principles, the principle of sustainable management, subordinates MSP as a tool to achieve the goals of balancing economic, social and environmental interests by dividing marine space, managing different types of sea use, integrating sector planning and applying an ecosystem approach for a long term period. The precautionary principle and the EA determine the current framework for spatial planning in marine areas and they regulate various human activities in the marine environment, taking the protection of marine and coastal ecosystems and biological diversity into account.

2.1.5. MSP INSTRUMENTS

MSP aims to provide guidelines for a range of decision-makers responsible for single-sectors in the maritime economy (e.g. shipping, fishing, aquaculture, marine environmental and coastal protection, marine mining, tourism) how to make comprehensive and complementary decisions. Effective MSP depends on appropriate MSP instruments.

MSP instruments are tools for achieving the objectives of MSP in practice. The implementation of these MSP instruments by Member States of the European Union takes place at the national level, and their use is within the limits of competences and tasks of the authorities of these Member States.

The basic MSP instrument is the maritime spatial plan. This plan is designed to resolve both current conflicts as well as prevent future conflicts. MSP can be integrated with terrestrial planning. Thus, it is well observed that terrestrial planning, coastal planning or management and water management planning are not integrated enough, and rather weakly connected to MSP. Community and local authority engagement (involvement) in developing marine spatial plans helps to increase terrestrial knowledge on MSP. Furthermore, the plan is to ensure synergy and to aggregate the objectives of the given community of the state in relation to the marine space.

2.1.6. MSP PARTICIPATION

There are many reasons for stakeholders' participation in MSP. Most of them are due to the nature of MSP. On the one hand, an important part of MSP are stakeholders' expectations, opportunities and conflicts/disputes, including those not expressed directly or difficult to identify at an early enough stage of planning.

A stakeholder (maritime space user) is usually defined as any individual, group or organisation that has an interest in, or that can affect or is affected, positively or negatively, by an MSP maritime space management process.

MSP is a complex process involving a wide range of stakeholders and may have positive effects by:

1. Providing opportunities for stakeholders to express their interests related to a specific maritime space,
2. Leading to increased understanding of other stakeholders needs,
3. Creating synergies and cross-sectoral co-operation fields,
4. Creating trust and stakeholders' ownership of planning solutions.

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SOUTH BALTIC PERSPECTIVE ON MSP

On the other hand, the extent of stakeholder engagement (commitment) in MSP differs regionally (at the regional level) or locally (at the national level). It mainly depends on domestic law and policy as well as on MSP culture. Stakeholders should participate at various stages of the MSP process, which include: pre-planning, stock-taking, planning, implementing, monitoring and evaluation (reporting) and adaptation.

2.1.7. MSP CO-OPERATION

MSP is a practical way to create and implement a rational organisation in the use of ocean space. It is important to strengthen the interaction between its users in accordance with the principles of sustainable development and environmental protection and in connection with the implementation of socio-economic goals⁷.

According to the EA, MSP requires intersectoral communication and co-operation at a range of levels (e.g. government ministries, management agencies). However, different legal orders and administrative (institutional) structures pose obstacles to co-operation such as varying domestic planning regulations. Horizontal coordination is important, but vertical coordination (government-municipalities) is of equal importance too.

Regionally (or internationally) integrated MSP requires cross-border co-operation among different administrative levels responsible for spatial planning. Moreover, a transboundary planning dimension and decision-making create the need for common action at the South Baltic level. Therefore, the existing framework of the international and European law and policy has to be well identified and interpreted by administration and other MSP stakeholders. Cross-border co-operation refers to engagement between two or more neighbouring states that share a common border⁸.

In a cross-border (transboundary) context, co-operation is required among the same (or similar) sectors and administrative levels across the states. The EU Member States bordering marine areas shall co-operate with the aim of ensuring that maritime spatial plans are coherent and co-ordinated across the marine region concerned (the BSR). In particular, such co-operation shall take issues of a transnational nature into account.

2.1.8. MSP CULTURE

MSP culture is a concept based on the identification and recognition of cultural values understood as an ethical justification (moral duty) for the protection and preservation of the marine environment, promoting the need of sustainable marine governance for rational socio-economic human uses of the sea space. Successful MSP can help to ensure an environmentally, economically and socially sustainable development of the South Baltic as a coastal region.

Planning culture is not only about the perception of marine environment but also about openness, co-operation, trust and the ability to rely on expert knowledge, skills and experience in acquiring tacit-knowledge etc.⁹

In Europe, the EU Member States are at different stages of MSP development. Moreover, planning cultures differ substantially, which has an impact on how national maritime spatial plans are developed.

To achieve the desired level of regional three-dimensional sustainability, it is necessary to develop a common language as an indispensable component of MSP culture. Thus, a common MSP language is essential for stakeholders' communication (in the South Baltic area) in order to avoid misunderstandings (e.g. in terminology – “common” understanding of terminology).

2.2. INTERNATIONAL FRAMEWORK FOR MSP (DOROTA PYĆ)

2.2.1. SUSTAINABLE MARINE GOVERNANCE

Sustainable marine governance (SMG) is an essential way of achieving the objectives of sustainable development. It ought to be understood as the process of planning, as well as decision-making and management at the national and regional levels taking the global ocean as an ecological unity into account. The process of decision-making is closely interrelated with regional and transnational cross-border co-operation.

SMG means the coordination of various uses of the ocean and protection of the marine environment. SMG is also defined as the process necessary to sustain the ecosystem structure and functions. Effective ocean governance requires globally-agreed international rules and procedures, regional actions based on common principles, national legal frameworks and integrated policies.

The SMG institutional framework is composed by the administrative mechanisms that are required to establish a system of coordination and co-operation between all the stakeholders that have a role in the management of the ocean. In order to avoid the fragmentation of decision-making and exclusion of stakeholders and to implement an ocean governance framework, the international and regional regulations and procedures of coordination and co-operation should be taken into consideration. In this context, the holistic, ecosystem and precautionary approaches are very important as a direction or even a driving force for the system.

The holistic, ecosystem and precautionary approaches are recognised as rules of marine resources management, but the idea of global ocean governance and regional maritime management is deeply fragmented and insufficiently developed. Numerous sectors are regulated and managed independently of each other, by diverse agencies and under different rules and procedures.

The EA has its roots in international environmental law. This approach is defined as the integrated management of human activities based on the knowledge of ecosystem dynamics to achieve sustainable use of ecosystem goods and services and maintain ecosystem integrity. This kind of approach has many implications for global ocean governance (GOG) including the need to establish no-take reserves, effective marine monitoring and protection of threatened and endangered marine living resources.

The precautionary approach is necessary in effective prevention against degradation of the marine environment. According to the precautionary approach, where there are threats of serious or irreversible damage, the lack of total scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

The problems of functional nature are related to the process of planning and implementation of many elements which are included in maritime policies.

Sustainable marine governance as well as management of the marine environment (or management of the World Ocean – GOG) are essential for achieving the objectives of sustainable development. The common and rational use of the World Ocean (which is also defined as the marine environment and its resources) should be based on integrated maritime governance, understood as the processes of planning, decision-making and management on a global level. It also includes maritime areas beyond national jurisdiction, and integrates activities substantively and institutionally. Protection and preservation of the environment as a unity along with its natural resources should be considered as superior to irrational use of the marine environment. It is assumed that this would be possible with the establishment of a global maritime administration having clear objectives and scope of activities.

Therefore, it would also need to have appropriate available financial resources and adequately-trained human resources, as well as a constantly-updated database. The establishment of integrated management of the marine environment in the maritime areas within the boundaries of coastal states and territories, where coastal states exercise sovereign rights associated with efficient and flexible instruments, allows a reasonable balance between the protection and preservation of the environment and the freedom to use the seas and oceans. The sectoral approach to the marine environment, developed and persisted through the years, should be balanced by an integrated approach.

The United Nations Convention on the Law of the Sea (UNCLOS)¹⁰ provides a comprehensive basis for an internationally accepted legal regime of the law of the sea and enshrines the notion that “the problems of ocean space are closely interrelated and need to be considered as a whole”. UNCLOS has been widely recognised as ‘the constitution of the seas and oceans’. Moreover, UNCLOS promotes a holistic approach to sustainable marine governance relevant to MSP, mainly by implementing the obligation to protect and preserve the marine environment (e.g. Article 192). However, UNCLOS does not contain any provisions relating *expressis verbis* to sustainable marine governance (or GOG) or MSP. Thus, UNCLOS prescribes that states shall co-operate on a global or regional basis, directly or through competent international organisations, in formulating and elaborating international rules, standards and recommended practices and procedures for the protection and preservation of the marine environment, taking characteristic regional features into account (Article 197).

The implementation of the Sustainable Development Goal on oceans (SDG#14) is one of 17 goals of the UN Agenda for Sustainable Development 2030 and takes MSP and a generally EBM approach into account and provides an effective framework for guiding the sustainable development of coasts and oceans. The UN’s vision regarding MSP is based on: the use of interdisciplinary sciences for better policy-making and management, e.g. strengthening the socio-economic analysis; planning for the local context – ‘No one size fits all’; combining the single-sector and multi-sector area-based approaches; advancing the cross-border use of MSP, integrated coastal zone management (ICZM) and marine protected areas (MPAs); harmonising the legal and regulatory frameworks across borders; ensuring full benefit-sharing among stakeholders; developing practical trade-off analyses for realistic planning; using risk-analysis and investment scenarios for engagement of the private sector.

2.2.2. MARITIME AREAS LEGAL STATUS

In general, UNCLOS consists of norms regulating the use of the marine environment and its resources in accordance with the norms defining the legal status of different marine areas, overseeing the fulfilment of the rights and obligations of states in marine areas, and providing the basis for creating an ocean governance framework (Pyć, 2019a). “The Law of the Sea (UNCLOS and its related instruments) provides the basic legal framework for the allocation of maritime space to states, their rights and obligations regarding such space in its different compartments, and the system for international co-operation towards ocean management and conservation”¹¹. The term *marine areas* spaces or zones have a purely conventional meaning in the Law of the Sea. On the basis of their legal status, UNCLOS divides marine areas into three categories: (1) marine areas included in the territory of a state; (2) marine areas which are subject to limited jurisdiction and in which a coastal state enjoys sovereign rights; and (3) marine areas located beyond national jurisdiction. The marine areas included in the territory of a coastal state are: internal waters (Article 8, UNCLOS), territorial sea, (Articles 3–4, UNCLOS), and archipelagic waters (Articles 46–54, UNCLOS).

Internal waters are the waters landward of the baseline of the territorial sea. A coastal state has sovereignty over its internal waters, and it extends to the air space over the internal waters as well as to their bed and subsoil. Similarly, an archipelagic state has sovereignty over the international waters of the archipelago.

The territorial sea includes a narrow band of water extending seaward from a coastal state’s baseline. Every state has the right to establish the breadth of its territorial sea up to a limit which does not exceed 12 nautical miles measured from the baselines. The outer limit of the territorial sea is the line at which every point is at a distance from the nearest point of the baseline, equal to the breadth of the territorial sea. The external boundary of the territorial sea is the border of the coastal state’s territory. The legal status of the territorial sea is subject to the coastal state’s sovereign authority which extends to the air space over the territorial sea as well as to its bed and subsoil. Regarding the territorial sea, the legal order of the coastal state is in force. The specificity of the state’s maritime territory reflects the compromise resulting from the idea of freedom of the seas, the provision of a number of rights to foreign ships in the territorial sea belonging to the coastal state, and the sovereignty and territorial authority of the coastal state over its territorial sea.

According to UNCLOS, ‘an archipelago’ means a group of islands, including parts of islands, interconnecting waters and other natural features which are so closely interrelated that such islands, waters and other natural features form an intrinsic geographical, economic and political entity, or which have historically been regarded as such. ‘An archipelagic state’ refers to a state constituted wholly by one or more archipelagos and may include other islands. The sovereignty of an archipelagic state extends to the waters enclosed by the archipelagic baselines drawn in

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accordance with Article 47, UNCLOS, described as archipelagic waters, regardless of their depth or distance from the coast. This sovereignty extends to the air space over the archipelagic waters, as well as to their bed and subsoil, and the resources contained therein.

The marine areas under limited jurisdiction in which a coastal state has sovereign rights include: the Exclusive Economic Zone (EEZ, Articles 55–75, UNCLOS), the continental shelf (Articles 76–85, UNCLOS), and the contiguous zone (Article 33, UNCLOS). The EEZ is an area beyond and adjacent to the territorial sea which does not extend beyond 200 nautical miles from the territorial sea baselines and it is subject to a special legal status (Article 55 of UNCLOS). Within an EEZ, the coastal state has the right to exploit the water column, seabed and subsoil. The EEZ is not a part of the state territory. While the coastal state has sovereign rights over the resources of the zone and its economic use, it does not exercise sovereignty over the zone itself. Only those rights which, in accordance with the purpose and character of the zone are related to conducting economic activity within it, are qualified as sovereign. The coastal state is not obliged to make these resources available to other states, even if it does not take advantage of them. The sovereign rights granted to the coastal state in the EEZ are limited in two ways. Firstly, the state exercises these rights only for the purpose of exploiting, researching, protecting and managing the natural resources of the zone, and secondly, when exercising these rights, the coastal state should duly take the rights and obligations of other states into account, and should act in accordance with the provisions of the UNCLOS.

The coastal states in the EEZ zone also have jurisdiction in the establishment and use of artificial islands, installations and structures, marine scientific research and in the protection of the marine environment. The consequence of the applying of the freedom of the seas principle in the EEZ is the application of provisions on the High Seas, provisions which regulate and form part of the legal status of the EEZ, with restrictions resulting from the sovereign rights of coastal states. Freedom of navigation may be limited by the rights of the coastal state in the scope of the marine environmental protection, for example against pollution from ships. However, these powers do not give the coastal state complete freedom of action. In order to protect the interests of other states, laws and regulations issued to prevent, reduce and control pollution from ships, coastal states must act in compliance with generally accepted international rules and standards.

The continental shelf of a coastal state comprises the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin; or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, where the outer edge of the continental margin does not extend up to that distance. The coastal state exercises sovereign rights over the continental shelf for the purpose of exploring and exploiting its natural resources. The contiguous zone provides a buffer consisting of an additional 12 nautical miles beyond the territorial sea. Hence, the outer limit of the contiguous zone does not exceed 24 nautical miles from the territorial sea baselines. Within this zone, a state has the right to enforce its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea.

Marine Areas Beyond National Jurisdiction (ABNJ) include the High Seas (Articles 86–115, UNCLOS) and ‘the Area’ (deep seabed, Articles 133–155, UNCLOS). The High Seas refer to the water column beyond the EEZ. It is neither subject to any sovereign power nor appropriated, open to the common use of all states, in accordance with the principle of freedom of the seas. From a legal standpoint, the High Seas is not subject to the sovereignty of any state and its use is free for all states. The principle in force regarding the freedom of the seas, specifically the High Seas, means that all states can use this area. Certainly, the use of the High Seas must be carried out in such a way which does not affect the interests of other states. The High Seas is *res usus publicum* (Pyć, 2011). The High Seas, however, includes airspace and all states have the right to rationally use this airspace.

‘The Area’ is the seabed, ocean floor and subsoil beyond national jurisdiction and has a special legal status. UNCLOS regulates the issue concerning the legal status of ‘the Area’ under Part XI. ‘The Area’ and its resources are the common heritage of mankind (CHM). No state shall claim or exercise sovereignty or sovereign rights over any part of ‘the Area’ or its resources, nor shall any state or natural or juridical person appropriate any part thereof. All rights regarding the resources of ‘the Area’ are vested in mankind as a whole. ‘The Area’ is intended only for the use of peaceful aims. Activities related to exploration and use of ‘the Areas’ are managed by the International Seabed Authority (ISA), a special management unit established for this very purpose. All the States Parties of UNCLOS are *ipso facto* members of the ISA. The ISA is the organisation through which the States Parties organise and control activities in ‘the Area’, particularly with a view to administering the latter’s resources (Article 133). ‘The Area’ will ensure a fair distribution of benefits to all states taking good faith into account (e.g. Articles 157 and 300) (Pyć, 2019a).

2.2.3. MARINE ENVIRONMENTAL PROTECTION AND PRESERVATION

Our oceans and seas are threatened by climate change, natural disasters, environmental degradation, depletion of fisheries, loss of biodiversity and ineffective flag state. The process of ocean acidification, which has wide-ranging negative impacts on the World Ocean's health and marine living resources, is a global problem. UNCLOS is one of the most important sources of GOG. The Convention on the Law of the Sea establishes a legal regime of rules and recommended practices which can be used as a structure of government.

UNCLOS establishes the legal framework for all activities in the oceans. According to its preamble, UNCLOS sets out a legal order for the seas and oceans to facilitate international communication and promote peaceful uses of the seas and oceans, equitable and efficient utilisation of their resources, conservation of their living resources and study, protection and preservation of the marine environment.

UNCLOS establishes a holistic and ecosystem approach, and one of its objectives is to develop the rational use of maritime resources whilst conserving the marine living resources. The Convention on the Law of the Sea has introduced the obligation to protect and preserve the marine environment to international law (Article 192) as *ius cogens* – an imperative norm for international community.

MSP ensures protection of the marine environment by coordinating all maritime activities. MSP involves identifying possible uses of marine resources and their rational distribution, as well as providing sustainable activities in terms of the ecosystem, all of which are performed in the marine environment in order to achieve economic, social and environmental objectives arising from regional and national policies in accordance with international rules and standards, recommended practices and procedures for the protection and preservation of the marine environment.

2.2.4. CLIMATE CHANGE MITIGATION AND ADAPTATION

Marine and coastal areas are particularly vulnerable to adverse effects resulting from the expected rise of the sea level caused by climate change. Climate change, although currently difficult to predict, is a progressive phenomenon with potential to negatively impact on human ability to achieve sustainable development goals, and is in fact a global issue for humanity. Climate change is characterised by the complexity of processes and mechanisms that cause negative sequences of changes in the environment understood as an ecological unity. Due to constantly collected scientific data in the last dozen or so years, many debates on climate change have taken place at international forums. These debates along with many other actions have significantly influenced the knowledge about the global ocean threats. For example, the ocean is negatively influenced by increasing greenhouse gas (GHG) emissions from human activities. This causes ocean warming, acidification and deoxygenation, consequently leading to changes in oceanic circulation and chemistry, rising sea levels, and it also induces extreme weather conditions and changes biological diversity of marine species.

The objective of the United Nations Framework Convention on Climate Change (UNFCCC) is to achieve stabilisation of greenhouse gas concentrations in the atmosphere at a level that prevents harmful anthropogenic impacts on the climate system. Consequently, UNFCCC obliges States Parties to develop sustainable management and co-operation, including some issues of the oceans and coastal zones. The UNCLOS does not regulate, *expressis verbis*, the issue of reducing GHG emissions that cause marine pollution and harm the marine environment, however the regulations of UNCLOS Part XII are relevant to climate change. Thus, the essence of UNCLOS is implementation of its obligation to protect and preserve the marine environment and to take measures necessary to prevent, reduce and control marine pollution primarily by states. The Kyoto Protocol to UNFCCC corresponds very well to the fulfilment of the general obligation to protect and preserve the marine environment. Moreover, in this case, the legal enforcement of the UNCLOS obligates the state-parties to protect and preserve marine environment and takes measures necessary to prevent, reduce and control marine pollution in terms of climate protection and also by ensuring the use of energy efficient measures for ships.

In line with the mandate given to the International Maritime Organization (IMO) under the Kyoto Protocol, the IMO Maritime Environmental Protection Committee (MEPC) has developed technical and operational measures that aim to eliminate emissions as referred to in the Kyoto Protocol by developing energy efficiency measures for ships. In 2018, the IMO developed its own strategy to reduce GHG from ships. This "Initial IMO Strategy on reduction of GHG emissions from ships" is aimed at reducing international GHG emissions from international shipping in compliance with the goals presented in the Paris Agreement as well as at supporting the achievement of the United Nations 2030 Agenda for Sustainable Development priorities and its Sustainable Development Goals.

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2.3. EUROPEAN FRAMEWORK FOR MSP (DOROTA PYĆ)

2.3.1. BLUE GROWTH OPPORTUNITIES

Blue Growth is an initiative developed by the European Union to harness the potential of the coast and sea for jobs, value and sustainability, in both traditional (shipbuilding, transport, fisheries, tourism) and innovative sectors (mineral resources, renewable energy, biotechnology, aquaculture)¹². MSP supports and facilitates the implementation of the Europe 2020 Strategy for smart, sustainable and inclusive growth¹³. [For more information on the EU's Blue Growth strategy and its implementation in the South Baltic Region, please see Chapter 1.3.2.]

2.3.2. INTEGRATED MARITIME POLICY

In Europe, according to the policy of the European Union, MSP involves the process of planning and regulating all human activities in marine areas, including maintaining the good condition of marine ecosystems as well as marine biodiversity. The process of decision-making is closely interrelated to international global and regional co-operation, and this approach is the essence of the maritime policy for both the European Union and states in their national and regional maritime relations. This is also a framework for developing actions for better ocean governance.

The European Union promotes an Integrated Maritime Policy (IMP), which means a Union policy that aims to foster coordinated and coherent decision-making to maximise the sustainable development, economic growth and social cohesion of the Member States, and notably the coastal, insular and outermost regions in the Union; as well as maritime sectors, through coherent maritime-related policies and relevant international co-operation (Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on 10 October 2007 on an Integrated Maritime Policy for the European Union, COM(2007)575).

The IMP of the European Union arises either through legislative actions or through executive initiatives of its Member States. It is desirable to base the development of the management system on several factors, including, the integration of instruments and institutional capacity for co-operation and coordination, development of a knowledge base incorporating cross-cutting tools necessary to enable the introduction of an integrated policy, and finally the improved quality of sector policies through the active search for synergies and increased coherence between sectors.

The concept of the EU IMP permits a clear vision of a direction that the Member States should follow to achieve an integrated and sustainable management in marine affairs. European regional maritime management is based on MSP, decision making and integrated management understood as the implementation of decisions and continuous improvement of planning procedures and decision-making.

According to IMP, MSP involves the process of planning and regulating all human activities in maritime areas, including maintaining the good condition of marine ecosystems as well as marine biodiversity. MSP is an instrument of maritime policy, both at national and regional levels.

"A new integrated governance framework for maritime affairs requires cross-cutting tools to help policy makers and economic and environmental actors to join up their policies, to interlink their activities and to optimise the use of the marine and coastal space in an environmentally sustainable manner. As set out in the Integrated Maritime Policy Communication, these tools comprise: the development of a more integrated network of surveillance systems for the European waters, the development of maritime spatial planning, assisted by a road map drawn up by the European Commission, and an EU Marine Observation and Data Network (EMODNET) to optimise and to bring coherence to the current fragmented initiatives that gather data on oceans and seas"¹⁴. MSP in the area of the Baltic Sea is of interest to international organisations and institutions, including the European Union and the Baltic Marine Environmental Protection Commission (HELCOM).

2.3.3. MSP LEGAL REQUIREMENTS

Ecological, economic, social and legal conditions related to MSP issues differ substantially in marine areas around Europe. However, the EU legal framework contains a number of requirements relating to MSP and it provides a legal basis for MSP instruments, such as the MSP Directive, WFD, MSFD, SEA and EIA Directive, IPPC Directive as well as Common Fisheries Policy and Natura 2000.

MSP Directive

The adoption of the EU Directive establishing a framework for MSP (the MSP Directive) plays an important role in developing MSP in Europe by promoting MSP instruments. The Directive of the European Parliament and of the Council of 23 July 2014 establishing a framework for the MSP Directive aims at promoting the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources. The MSP Directive does not affect the sovereign rights and jurisdiction of the EU Member States over maritime areas which derive from the international law, particularly the UNCLOS. According to the MSP Directive, MSP involves identifying possible uses of marine resources and their rational distribution, as well as providing sustainable activities in terms of the ecosystem, all of which are performed in the marine environment in order to achieve economic, social and environmental objectives arising from regional and national policies in accordance with international rules and standards, recommended practices and procedures for the protection and preservation of the marine environment (EC, 2014).

The MSP Directive requires EU Member States to:

1. Set up maritime spatial plans which identify the spatial and temporal distribution of relevant existing and future activities and uses in their marine areas,
2. Designate competent authorities to implement the MSP Directive,
3. Ensure public participation with public information at an early stage and involve any relevant stakeholders, authorities or public concerned.

The MSP Directive entered into force in September 2014. National marine spatial plans shall be established by 31 March 2021 at the latest.

Summary

MSP is a process of managing human activities in the marine environment in order to achieve sustainable development. The dynamics of development in maritime sectors, including new types of human activities in the marine environment (e.g. marine aquaculture, marine energy) and its impact on maintaining good conditions within marine ecosystems, requires continuous monitoring of economic, social and ecological processes taking place in marine areas. The use of the EA and the precautionary principle in developing maritime spatial plans, with decision making within the ICZM, requiring transparent procedures, a flexible system of institutional coordination and public consultations.

2.4. REGIONAL FRAMEWORK FOR MSP (MACIEJ NYKA)

2.4.1. INTEGRATED COASTAL ZONE MANAGEMENT IN THE BALTIC SEA

The Baltic Sea is a prime example of a shallow enclosed coastal sea where human development activities continue to have a major influence on ecology and sustainable use of coastal and marine ecosystems. The Baltic Sea, due to its geographical characteristics, is one of the most vulnerable seas in the world. Recognising the adverse effects mentioned above has stimulated a search for improvements in development strategies, policies, institutional arrangements, laws and regulations, and human resource development as a means of achieving more sustainable and equitable forms of development. ICZM is one of the development planning and management tools widely adopted by the Baltic States in their search for more sustainable forms of development (Burbridge, 2004). The European Commission defines ICZM as “a dynamic, continuous and iterative process designed to promote sustainable management of coastal zones” (European Commission, 1999). The main aim of ICZM is to integrate in a sustainable manner the coastal protection, nature and resource conservation, as well as economic development. In addition, ICZM means the integration of objectives and visions, integration of instruments and strategies to reach these objectives, integration of stakeholders in policy-making, administration, science and local population, integration of sectors, branches and interests as well as spatial integration of land and sea (Schernewski, Schiewer, 2001).

ICZM has been performed in the Baltic Sea Area for almost 30 years (Welp, 1999). The HELCOM Baltic Sea Joint Comprehensive Environmental Action Programme included the development of Integrated Coastal Zone Management Plans for five coastal lagoons and wetlands, four of which were transboundary. The coastal zone management in

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the Baltic Sea area by means of HELCOM Recommendation 24/10 has been implemented together with suitable EU legislation in that field since the year 2002 (HELCOM, 2003). Management of human activities as well as MSP in the Baltic Sea, have a strong transboundary dimension, requiring the national management, the systematic sea basin (regional) coordination and the cross-border interactions. Recently, the coastal zone management in the Baltic Sea has been supplemented with suitable legislation aimed at implementing marine spatial plans, matching together perfectly the coastal, transitional waters management and marine areas spatial planning.

The Baltic Sea and its coasts have been intensively used for more than a millennium, however, there was a major rise in utilisation in the 20th century (Schernewski, Schiewer, 2001). The unsustainable uses of the Baltic Sea and its coasts resulted in destruction, pollution and social problems, which made it obvious, without a proper managerial approach, any further development might endanger the area. Currently, the coastal zone plays a central role as an interface for trade, municipalities, industry, traffic, energy generation, shipping, agriculture, fisheries and tourism (Schernewski, Schiewer, 2001). The Baltic Region is expected to become a major centre for economic growth and prosperity in Europe. The contemporary use of sea waters results in destruction due to ship traffic and tourism. The sea suffers from pollution, such as oil spills, organic chemicals or heavy metal loads. The most important problem caused by land pollution is the eutrophication (Schernewski, Schiewer, 2001).

Increasing water levels expected due to changes in climate will be a major problem for coastal protection and might even alter the coasts at an enhanced speed. Until now, precautionary measures have been insufficient to overcome the expected extreme floods without catastrophic damages. There are technical tools to manage coastal protection, such as geographical information systems (GIS) (Tiepolt, 2001). Nonetheless, climatic changes will interfere with the majority of uses of the ecosystem in the coastal zone.

The above-mentioned risks pose challenges both to integrated coastal management and MSP. Taking the decades of experience in performing integrated coastal management in the BSR into account, we may learn from the experience how to perform the task of MSP in the Baltic Sea Area. Therefore, co-operation instruments developed in coastal zone management can be applied to MSP.

2.4.2. MSP AS A MEANS OF SUSTAINABLE GOVERNANCE

In the first decade of the twenty first century the areas of ICZM and MSP provided new formats for collaboration in the South Baltic Region (Palmowski, Tarkowski, 2018). Those new formats were required, since after the political changes in Central and Eastern Europe by the mid 1990s, new means of reintegrating the BSR were strongly needed. The environmental protection consensus among the Baltic Sea states, as well as the awareness of interdependence of the region's countries in issues related to the protection and management of the Baltic Sea Area have created an atmosphere for closer co-operation. This was especially true when taking the impetus of integration into consideration. It stemmed from the European Union enlargement in 2004 and the accession requirements together with a need to adapt the new Baltic Sea Area Member States to the new political and legal situation of EU membership.

The above-mentioned political scenario brought greater attention of the European Union to the Baltic Sea. It also created the momentum to develop two of the most important institutions and enabled international co-operation in the BSR in the field of MSP, namely the Helsinki Convention and the Vision and Strategies around the Baltic Sea (VASAB). These two groups of the regional, Baltic institutional co-operation in the field of MSP supplement the efforts of the European Union in that sphere and coordinate actions undertaken by the BSR countries in the field of MSP. The international co-operation regarding MSP in the BSR fully implements the concept of governance.

Governance is a concept that has made a dizzying career since the beginning of the 21st century (Ciechanowicz-McLean, Nyka, 2016). The UN Commission on Global Governance, in its report *Our Global Neighbourhood*, defines governance as: "[t]he sum of the many ways individuals and institutions, public and private, manage their common affairs". It is a continuing process through which conflicting or diverse interests may be accommodated and co-operative actions may be taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest. It has turned out in many areas, which historically have been the domain of governments' activity, that the hierarchical structure of subordination, based on the doctrine of division of competences, division of power and the use of command and control instruments, is not effective in overcoming the challenges of modern times. With that in mind, alternatives to

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the existing mechanisms have been developed. Marine governance can be a good example of such an approach. Strong stakeholders, such as shipping and oil companies, environmental protection organisations, other representatives of civil society together with international and regional organisations and traditionally states, are engaged in the processes connected with finding equilibrium in using the sea (Kelly, Ellis, Flannery, 2018). It is obvious, however, that private entities, environmental organisations or business representatives cannot be equipped with imperative measures provided for in the constitutional norms for state authorities. As a result, new and alternative mechanisms for regulating marine issues have been created, which are alternative to traditional forms of command and control. More soft law acts, references to technical standards arising outside the system of state regulation (e.g. IMO or ISO standards), corporate social responsibility, public-private partnership, amongst many others have appeared (Ciechanowicz-McLean, Nyka, 2016).

This phenomenon can be easily observed in the BSR in the field of MSP. Coastal states are increasingly urged to transform their sectoral and fragmented marine governance regimes and to implement integrated and holistic management approaches. However, to be successful, integrated governance mechanisms, such as MSP and EBM, involve various actors and stakeholders (Kelly, Ellis, Flannery, 2018) and this involvement takes a form that goes far beyond a simple legal regulatory measure used in national and international legal systems. It merges scientific, practitioners', civil society's governmental and local governmental involvement and care for sustainable use of the Baltic Sea area.

A huge role in sustainable marine governance, especially in the field of MSP in the BSR, is played by economic and soft law instruments provided for the BSR by the EU and regional co-operation initiatives. International co-operation is not so often framed by classical international conventions or other traditional legal instruments, or if so, it is at a very high level of generality. The soft law instruments including visions, recommendations, ministerial declarations, action plans and others, have become equally important. Economic measures are even more interesting vehicles for developing MSP as a sustainable governance vehicle. They take the form of various funds and programmes which enable financing of regional initiatives often undertaken by local citizens, entrepreneurs, academia and others, enabling them to supplement efficiently the efforts at the international, regional or governmental levels. A number of MSP related programmes efficiently support VASAB and HELCOM, as well as the EU in achieving their goals in the field of MSP and sustainable marine governance. What is more, the added value of such programmes is that they enhance the public participation in sustainable marine governance (Tarvainen, Tolvanen, Repka, 2015).

2.4.3. MSP REGIONAL/COMMON LEGAL BASIS

Marine resources are collective by their very nature. Borders on land, which can be based on certain natural features of the landscape, such as rivers, valleys, forests and mountains, are purely conventional. Ecosystem services, as well as social interests and anthropopression, tend to transcend national borders at the sea (Nyka, 2017). This creates a strong need for an effective collaboration. In the BSR, the intergovernmental level of collaboration is co-ordinated by the Baltic Marine Environment Protection Commission – HELCOM and VASAB. The EUSBSR confirms a prominent role of HELCOM and VASAB in promoting MSP in the region together with other stakeholders according to the Horizontal Action 'Encouraging the use of Maritime and Land-based Spatial Planning in all Member States around the Baltic Sea and develop a common approach for cross-border co-operation' (HA Spatial Planning).

The regional intergovernmental co-operation in the BSR uses traditional international legal instruments. The main consequence of this approach is, that in order to put formal obligation on a co-operating state, this state has to accept it formally. There is always a possibility of a veto and political efforts always aim at unanimous decision-making procedures (Hassler, 2018). For some critics it means that the lowest common denominator is always chosen when decisions are being made. This is only true when we analyse the regional decision-making in isolation from obligations stemming from the EU law and socially sensitive issues connected with societies' pressures in the fields of marine environment protection and MSP. A huge advantage of regional co-operation is the fact it can be much better shaped and adapted to meet local needs and challenges as well as capabilities. These local particulars may have economic, geographic, social, biological and many other grounds for concern and have to be taken into consideration in MSP and management processes.

VASAB

Established in 1992, VASAB is a multilateral intergovernmental co-operation of 10 countries of the BSR in spatial planning and development (VASAB, 2019). It is guided by the Conference of Ministers responsible for spatial planning

and development. Its most important institution is the Committee on Spatial Planning and Development of the Baltic Sea Region (CSPD/BSR) composed of representatives of respective ministries and regional authorities (Germany, Russia). The main function of VASAB is to prepare policy options for the territorial development of the BSR. This intergovernmental organisation, supported by local experts, provides a forum for exchange of know-how on spatial planning and development between the Baltic Sea countries. It promotes and participates in co-operation projects which provide an added value to achieve a well-integrated and coherent BSR. An example of such a project is the Joint HELCOM-VASAB Maritime Spatial Planning Working Group, which was launched in October 2010 by HELCOM and the VASAB Committee on Spatial Planning and Development of the Baltic Sea Region (CSPD/BSR). That project also fulfilled other objectives of VASAB – co-operation with other pan-Baltic, macro-regional, European and international organisations/initiatives. VASAB also creates an institutional framework which promotes a dialogue with sectoral institutions, and acts as the Horizontal Action “Spatial Planning” co-ordinator within the EUSBSR for land-based spatial planning and co-coordinates MSP jointly with HELCOM.

HELCOM

The 1992 Helsinki Convention entered into force on 17 January 2000. The contracting parties were the European Union, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden. The Convention covers the whole Baltic Sea area, including inland waters as well as water of the sea itself and the sea-bed. The measures are also taken in the whole catchment area of the Baltic Sea to reduce land-based pollution (Luka, 2006). HELCOM (the Baltic Marine Environment Protection Commission – Helsinki Commission) is the governing body of the Convention on the Protection of the Marine Environment of the Baltic Sea area. HELCOM’s eight main groups implement policies and strategies and propose issues for discussion at the meetings of the Heads of Delegations, where decisions are made. Out of those eight groups five are permanent and three are time-limited groups. The following can be identified among the permanent groups: the Group on the Implementation of the Ecosystem Approach (Gear), the Maritime Working Group (Maritime), the Working Group on Reduction of Pressures from the Baltic Sea Catchment Area (Pressure), the Response Working Group (Response) and the Working Group on the State of the Environment and Nature Conservation (State and Conservation). The permanent groups are supported by the following time-limited groups: the Group on Sustainable Agricultural Practices (Agri), the Group on Ecosystem-based Sustainable Fisheries (Fish), the Joint HELCOM-VASAB Maritime Spatial Planning Working Group (HELCOM-VASAB MSP WG).

2.4.4. MSP REGIONAL/INTERGOVERNMENTAL ORGANISATIONS

The Helsinki Convention covers the whole of the Baltic Sea area, including inland waters as well as the water of the sea itself and the seabed. Measures are also taken in the whole catchment area of the Baltic Sea to reduce land-based pollution (Luka, 2006). This means that despite being a Regional Sea Convention, the Helsinki Convention also regulates inland activities. The latest amendment entered into force on 1 July 2014. The main function of the Helsinki Convention is to set up a Baltic Marine Environment Protection Commission (HELCOM). The Helsinki Convention contains general commitments in the field of preventing environmental pollution in order to promote the ecological restoration of the Baltic Sea area and preservation of its ecological balance (Sands, Peel, Fabra, MacKenzie, 2012). The general commitments under the Helsinki Convention are supplemented by the HELCOM’s recommendations which are the secondary source of law under the Helsinki Convention regime. In addition, the Ministerial Declarations are issued, which serve as policy guidelines for HELCOM. Among the general commitments of the Helsinki Convention several principles can be identified which may play a huge role in MSP. The countries are obliged to apply the precautionary principle [see Chapter 2.2.1] when dealing with marine environment protection. The ‘polluter pays’ principle should be applied to human activities in the Baltic Sea (Sands, Peel, Fabra, MacKenzie, 2012). The Convention promotes the use of the best available technology and the best environmental practice in the protection of the Baltic Sea environment, as well as ensuring that the implementation of the Convention does not cause transboundary pollution or other unacceptable environmental strains. It also obliges countries to perform environmental impact assessments on new activities that are likely to cause an adverse effect on the Baltic Sea Area.

Baltic Sea Action Plan

The Baltic Sea Action Plan (BSAP) is an ambitious policy programme adopted in 2007 by all the coastal states and the EU. The BSAP determines actions which are necessary to ensure the Baltic Sea achieves a ‘good environmental status’ by the year 2021 (HELCOM, 2007). It provides HELCOM with directions and goals for future co-operation. It incorporates

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the latest scientific knowledge and innovative management approaches into the strategic policy implementation and stimulates the goal-oriented, multilateral co-operation around the BSR (Pyhala, 2012). A vision shared by all the states, which have co-operated in preparation and implementation of the programme, is a healthy Baltic Sea environment, with diverse biological components functioning in balance, resulting in a good environmental/ecological status and supporting a wide range of sustainable, human, economic and social activities (HELCOM, 2007). The BSAP focuses on four priority areas: eutrophication, hazardous substances, maritime safety and nature protection.

BSAP is being updated and adapted on a regular basis which allows us to say that this is a living document, which changes and adapts in order to better fit the challenges. Moreover, the Action Plan referred to the problem of MSP, calling for development by 2010, as well as testing, applying and evaluating by 2012, the broadscale, cross-sectoral principles of MSP based on the ecosystem approach. The aims of the principles were to:

1. Ensure co-operation and participation of all HELCOM Contracting Parties in the formulating of principles,
2. Give guidance on planning and protection of the marine environment and nature, including habitats and seafloor integrity,
3. Secure the sustainable use of marine resources by reducing user conflicts and adverse impacts of human activities .

Those principles were adopted in 2010 by HELCOM HOD 34-2010 and the 54th Meeting of VASAB CSPD/BSR and are described further in this volume.

The BSAP incorporates an EA to Baltic Sea environmental protection. The concept was developed after the convention had been signed and thus, the EA is not mentioned directly in the Helsinki Convention.

BSAP is accompanied by a number of HELCOM recommendations which also touch upon the subject of MSP. The most important one is Recommendation 28E/9 on the development of broadscale MSP principles in the Baltic Sea Area.

VASAB Long-Term Perspective

The VASAB's involvement in MSP dates back to the beginning of the new millennium. In 2001, a conference for ministers responsible for spatial planning and development of 11 BSR countries was held in Wismar. The result of this conference was the adoption of the Wismar Declaration. The Wismar Declaration stressed the need for spatial planning to promote sustainable development with regard to the enlargement of the EU and marked the extension of spatial planning to offshore areas. As a consequence of that conference, the Working Group of VASAB was created, to deal with problems of ICZM and marine spatial plans. The VASAB Long-Term Perspective (LTP) is a transnational strategic spatial planning document on territorial integration, which leads to territorial cohesion in the BSR. The VASAB Long-Term Perspective was adopted during the 7th Ministerial Conference on 16 October 2009 in Vilnius, Lithuania (Zauch, 2014). The main focus of this conference was the development of recommendations for future transnational actions based on the experience that had been gained since the adoption of the VASAB 2010 vision in Tallinn in 1994. The Ministers agreed on the Spatial Development Action Programme – VASAB 2010 PLUS, as a common platform for more focused joint activities. The links and co-operation between VASAB and other spatial development institutions and programmes (e.g. INTERREG, ESPON) were defined. During the meeting the Ministers agreed that common responsibilities and challenges had emerged which called for deeper pan-Baltic co-operation on spatial planning and development, as well as the integration of spatial development policies into all relevant sectors (Hassler et al., 2018).

There are five main aims of LTP. First, it intends to position the BSR in the European framework by introducing the VASAB concepts and priorities into the ongoing discussion on the territorial dimension of the EU Cohesion Policy, and on the territorial context of the EU co-operating with neighbouring countries. Secondly, it aims to sustain a dialogue between the BSR stakeholders on connecting potentials across the borders and strengthening transboundary synergies between national/regional plans, strategies and programmes in the BSR. Thirdly, it emphasises a need for the BSR countries to plan appropriate financial resources for the implementation of the guidelines and actions settled by LTP. Fourthly, it features a policy orientation towards MSP, thus supporting Europe-wide efforts in this matter of importance, as the sea is an outstanding feature of the BSR. Finally, it also provides the ground for monitoring and evaluation of territorial development processes in the BSR (Szydarowski, 2013).

The Long-Term Perspective for the Territorial Development of the BSR (LTP) attempts to define important challenges with a trans-national relevance and to illustrate how to deal with them. Despite its regional characteristic, it is a document

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which develops transnational and trans-sectoral co-operation and coherence through MSP instruments. The document highlights the present territorial development trends and challenges and presents a long-term perspective for the region, with the focus on urban networking and urban rural relations, accessibility and management of the Baltic Sea. LTP also contains a list of proposed actions to stimulate the territorial development potentials and to overcome the existing gaps — for both the coming years and in the long run. To fulfil this aim, there is a need to continue transnational co-operation in spatial planning in the BSR.

2.4.5. MSP TRANSBOUNDARY DIMENSION

At the EU level, Directive 2014/89/EU, the so-called MSP Directive, calls for transboundary co-operation between the EU Member States (Article 11) as well as other (non-EU) states (Article 12) (Janßen et al., 2018). This co-operative approach aligns with HELCOM Recommendation 28E/9 on development of broadscale MSP principles in the Baltic Sea Area. HELCOM and VASAB remain the most important regional coordinative bodies of MSP in the Baltic Sea Area.

Recommendation 28E/9 identifies various areas of potential transboundary co-operation and regional co-operation in the process of MSP (Long, 2010). The first area of coordination, mentioned by the recommendation, is the joint development of the marine and coastal broadscale common spatial planning principles, with the aim of facilitating the protection and sustainable use of the Baltic Sea. Such a document was developed in 2010 by the HELCOM-VASAB MSP WG and it forms a common basis for performing the national processes of MSP. International co-operation can also serve the purpose of filling spatial data gaps among states that share their data on coastal biodiversity, natural resources and their protection, the use of land and water areas, demographical data, data concerning sea traffic and shipping. The recommendation also identifies the possibility of developing joint solutions by the Baltic Sea coastal states to the problems associated with accessing spatial data. An important role in this field is played by GIS, co-ordinated at the EU and regional HELCOM levels. The HELCOM GIS database is made available to all the Helsinki Convention Member States in order to use data for the spatial planning activities in their countries. The last area that covers international co-operation and is identified by the Recommendation, includes activities which may have negative transboundary effects on the environment and coastal populations. In that respect consultations with the affected states should be performed (HELCOM, 2007).

The Regional Baltic Maritime Spatial Planning Roadmap 2013–2020, adopted by the HELCOM Ministerial Meeting in 2013 (HELCOM-VASAB, 2013a) and welcomed by the VASAB Ministerial Conference in 2014, calls for the development of guidelines regarding:

1. Transboundary consultations and co-operation in the field of MSP,
2. Public participation in MSP with transboundary dimensions (Zaucha, 2014).

As a result of this call, the guidelines on transboundary consultations, public participation and co-operation were adopted in 2016. The guidelines cover:

1. Consultations between MSP authorities of neighbouring countries and/or those countries directly affected by MSP and the related public participation process that should take place concerning transboundary aspects during the process of drafting a maritime spatial plan,
2. Co-operation between MSP authorities at the pan-Baltic scale on issues affecting most or all the Baltic Sea and/or the level involving most or all BSR countries as well as the process foreseen to ensure effective stakeholder engagement at a more strategic level.

The consultation processes should be in line with the common approaches decided in the pan-Baltic co-operation. The aim of the processes should ensure that maritime spatial plans are coherent across the Baltic Sea-basin scale. The coherence of marine spatial plans does not mean uniformity, as it is obvious that they are developed in different administrative and legal surroundings, in different traditions and spatial planning cultures. It is, however, important to treat this diversity as an advantage, as long as it remains within the framework of the common and coherent vision of MSP in the BSR and reflects the principles, which have been jointly developed by the BSR countries. The role of facilitators of cross-border consultations should be performed by National MSP contact points. The National MSP contact points are the gateways able to sort out, discuss and address, within each country, the problems and questions related to MSP, raised by the competent MSP authorities from other countries (HELCOM-VASAB, 2013b). The following recommendations have been prepared for the consultation process:

1. Broadening the scope of the transboundary dialogue: Building on the Espoo Convention [see Chapter 6.2] while strengthening the scope of consultations,
2. Establishing a formal process of transboundary information exchange and consultation early in the MSP process,
3. Organising stakeholder involvement in the transboundary consultation process,
4. Developing a transboundary consultation strategy,
5. Strengthening informal transboundary co-operation processes.

The need for a pan-Baltic perspective on the MSP has also been identified by the HELCOM-VASAB. Due to the relatively small size of the Baltic Sea and its unique characteristics as an almost enclosed natural system, as well as having a strong co-operative culture between countries in the region, the BSR is considered as an early promoter of a sea-basin-wide, transboundary approach to MSP (Schultz-Zehden, Gee, 2016). For pan-Baltic co-ordination on the MSP process, the following recommendations have been developed (HELCOM-VASAB, 2013b):

1. Continuing policy guiding at the pan-Baltic level,
2. Creating and facilitating expert groups for pertinent MSP topics and issues and implementing their results,
3. Engaging and co-operating with other pan-Baltic organisations on a continuous basis,
4. Promoting informal pan-Baltic co-operation of MSP practitioners.

2.4.6. MSP NATIONAL ADMINISTRATIVE AND LEGAL SETTINGS

Local Government

Local government involvement is crucial for successful MSP (Hassler et al., 2018). Although the MSP process is not always performed by local government institutions, they always play a crucial role in the consultation processes. Local governments, due to the fact of being formally chosen under democratic processes, obtain a decent mandate to speak on behalf of their local community. The land planning competences, which are performed by local government, play an important role in performing MSP. The land-sea planning coherence is in need for MSP to achieve its goals (Hassler et al., 2018). Local government is usually best informed about any potential conflicts, as well as on competition for the sea space and different stakeholders' interests in the whole administration. Thus, local government is important in performing the MSP conflict avoidance function. Moreover, local government has a well-grounded position in the integrated coastal management, which is another argument for providing it with a crucial role in MSP. Local government is also an important stakeholder in the MSP process due to the fact that cities and local communities are often engaged locally in transboundary co-operation, having experience in solving local transboundary problems and performing projects for local communities.

Civil Society Involvement

EBM is founded on three pillars: managerial, informational and participatory. Each of those pillars, while remaining within the scope of the managerial sciences, also have a legal dimension. One of the most important sources of international law, which formulates the basis for public involvement in the mechanisms of environmental protection, is the X principle of the Rio Declaration. The managerial pillar of EBM uses the adaptive management mechanism as a tool for achieving the environmental goals (Nyka, 2018). An adaptive management of ecosystems, as one of the preconditions for its effectiveness, requires the proper information management and access, as well as public participation. The above-mentioned interlinkages are reflected by various legal instruments, which regulate the environment of the Baltic Sea, including MSP. The regulation of stakeholder involvement in the environmental management of Baltic Sea waters can be identified at the global international law level, regional law level, including the EU law and the Helsinki Convention, and at the national levels of Baltic States. Ensuring an effective legal framework for public participation and access to information is a crucial element of planning cycles of the Water Framework Directive, Marine Strategy Directive, as well as the Directive establishing a framework for MSP (Nyka, 2018).

The Baltic Sea is surrounded by the countries with a relatively high ecological awareness, as well as with a long tradition of civil involvement in the governance processes. Individual projects are supported by regionally co-ordinated funding. What is more, the fact that 9 out of 10 BSR states are EU Member States, improves the coherence of those initiatives. They generally aim at improving the communication and awareness in the MSP processes, ensuring the proper representation of stakeholder interests in the processes, as well as MSP data collection and processing. The following are just some of the ongoing projects supporting the MSP process in the BSR: the Pan Baltic Scope (www.panbaltic.org).

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panbalticscope.eu) which aims to achieve coherent national MSP in the BSR and to build the lasting macro-region mechanisms for cross-border MSP co-operation; LAND-SEA-ACT – Land-sea interactions advancing Blue Growth in the Baltic Sea coastal areas, which explores governance practices to balance local communities' interests with large scale development in MSP; SEAPLANSACE – MSP instruments for sustainable marine governance which aims to increase know-how and knowledge on sustainable marine governance for people engaged in maritime issues (www.seaplanspace.eu); and BONUS BASMATI – Baltic Sea MSP for sustainable ecosystem services that develops integrated and innovative solutions for MSP related to marine and coastal ecosystem services and marine protected areas, develops and applies spatial decision support systems including data discovery and exchange facilities, and develops means for interactive multi-level, multi-stakeholder and cross-sector governance (www.bonusbasmati.eu). In this field it is also worth highlighting the Baltic Rim Project as well as the Capacity4MSP Project.

Summary

MSP, as the process for sustainable management of marine resources, is multilevel by definition. The regional co-operation plays a crucial role, due to the fact that challenges associated with MSP often have a transboundary character. On the other hand, they also reflect the regional specificity which exists due to the geographic, social and political factors. MSP, from the regional perspective of the Baltic Sea, has been developed on the basis of co-operation of states, regions and local communities in the field of ICZM. MSP, not limiting itself to the already existing institutions and networks, has brought an additional value by showing mutual interdependence, creating transboundary forms of co-operation, as well as ensuring greater civil society involvement in the process of sustainable governance of marine areas.

The co-operation takes the form of a traditional top-down approach as well as a bottom-up approach.

Different actors are involved, traditionally states and international organisations, however, other forms of civil society involvement can be also observed, which is worth stressing. VASAB and HELCOM are the most prominent forms of international co-operation in the field of MSP in the region. HELCOM having a status of an international organisation, with a relatively wide and interesting law-making capability and being able to implement control competences and VASAB serving more as a platform for a highly expertise and refined intergovernmental co-operation, are supplementary to each other in the MSP process. They influence and coordinate individual states' actions, trying to balance their interests.

Local government, as well as NGOs and other forms of civil society involvement are crucial for the MSP process that supports the adaptive management in the MSP process and through this, contributes to the implementation of the EA. Various programmes, financed by the EU or other sources which provide necessary financial resources required to support civil society's involvement, are an important way of supporting that involvement. The fact, that an intensive transboundary co-operation in the region has a long history, which can be traced back to the Hanseatic League, additionally reinforces the regional co-operation. The BSR takes advantage of this opportunity, showing a deep involvement of individuals in ensuring the sustainable use of the Baltic Sea.

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ECOSYSTEM-BASED APPROACH (EBA)



PHOTO BY DOROTA PYĆ

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ECOSYSTEM-BASED APPROACH (EBA)

3. ECOSYSTEM-BASED APPROACH (EBA) (HENRIK NILSSON)

3.1. ORIGIN AND GENERAL IDEA BEHIND THE CONCEPT

Since the beginning of mankind, human and natural systems have continuously interacted and co-existed, to different extents and at different levels – local, regional and global. However, since the beginning of the 19th century and the discovery of the use of fossil fuels as an energy source, human impact on natural systems has increased rapidly to such an extent that these systems are now changing to a point where they risk not being able to function as they should (Moberg and Simonsen). This calls for a new way of understanding planning and management of natural resources in a holistic way, where impact of human activities and the links between ecosystems and human systems are better understood and managed.

EBA is a widely used concept and a strategy for environmental management on land as well as in the sea. The overall goal of EBA is to ensure that exploitation of ecosystems is done in a sustainable way and that the ecosystem sets the limits for how and to what extent it can be exploited. A key feature of the strategy is that it also recognises the fact that humans, with their cultural diversity, are an integral component of many ecosystems (CBD Guidelines, 2004). The concept can be seen as a response to the previous ways of managing natural resources and human activities which, to a large extent, was done on a sectoral basis without considering links and interdependencies between ecosystem services and human activities. Applying an EBA to management of natural resources is also a method of moving away from governance and management based on geo-political boundaries to integrated planning at a regional or ecosystem level (Hegeland, 2015). [see Chapter 2.1.4]

The EBA concept has its origin in the UN convention on biological diversity (1993) and conveys three main objectives; conservation of biological diversity, sustainable use of the components of biological diversity and fair and equitable sharing of the benefits arising out of the utilisation of genetic resources. Within the framework of the CBD convention, EBA was discussed during a workshop in Lilongwe, Malawi in January 1998. At the subsequent 4th meeting of the CBD convention (Bratislava, Slovakia, 1998) the results of the workshop were presented and twelve principles for EBA were identified, hereinafter called the Malawi principles. Based on the Malawi principles the CBD has developed the following definition of the ecosystem-based approach:

“The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. Thus, the application of the ecosystem approach will help to reach a balance of the three objectives of the Convention: conservation, sustainable use and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. An ecosystem approach is based on the application of appropriate scientific methodologies focused on levels of biological organization, which encompass the essential structure, processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of many ecosystems”.

In the same meeting it was also decided that the EBA should be used whenever possible but in particular in the thematic working programmes pointed out in the CBD convention. One of these areas is marine and coastal biodiversity which emphasises the need to better understand the vulnerability and resilience of oceans in order to take appropriate measures to avoid further degradation of the marine ecosystem.

EBA is also a way to look at human and natural systems in an integrated way in order to identify and understand interdependencies and interactions between the two systems. The interactions between these two systems are also referred to as Coupled Human and Natural Systems (CHANS) (Liu, 2007). CHANS challenge traditional planning and management strategies for natural resources as it puts focus on the links between the two systems rather than just understanding them as stand-alone systems. Traditionally

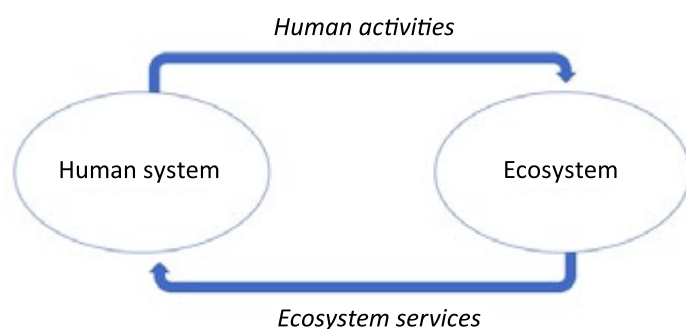


Figure 3.1 Coupled Human and Natural Systems, Source: Adapted from National Science Foundation

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social scientists have often focused on human interactions, minimising the role of the environmental context whereas ecologists have traditionally focused on pristine environments in which humans are external and rarely dominant agents. Policies formed on the basis of the study of one system only do not usually lead to sustainable outcomes. However, some new policies like ecosystem-based management (EBM) of the ocean seem to move in the direction of more sustainable outcomes (Liu, 2007).

The Malawi principles state that implementation of an EBA should be based on all forms of relevant information. In this regard, and referring to the discussion about CHANS, it is important to consider not only environmental information in the application of an EBA but also human activities and, most importantly, the links between these two systems before making decisions on how to implement an EBA.

The Malawi principles

1. Management objectives are a matter of societal choice,
2. Management should be decentralised to the lowest appropriate level,
3. Ecosystem managers should consider the effects of their activities on adjacent and other ecosystems,
4. Recognising potential gains from management there is a need to understand the ecosystem in an economic context, considering e.g. mitigating market distortions, aligning incentives to promote sustainable use, and internalising costs and benefits,
5. A key feature of the EA includes conservation of ecosystem structure and functioning,
6. Ecosystems must be managed within the limits of their functioning,
7. The EA should be undertaken at the appropriate scale,
8. Recognising the varying temporal scales and lag effects that characterise ecosystem processes, objectives for ecosystem management should be set for the long term,
9. Management must recognise that change is inevitable,
10. The EA should seek the appropriate balance between conservation and use of biodiversity,
11. The EA should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices,
12. The EA should involve all relevant sectors of society and scientific disciplines.

3.2. EBA IN MSP

There seems to be a consensus among stakeholders, be it decision makers at international and national level, civil servants or local communities, that MSP should be developed and implemented based on an EA. At the EU level it is also reflected in the legislation of the major policies for ocean governance such as the MSP directive (2014/89/EU), the MSFD (2008/56/EC) and the WFD (2000/60/EU). For example, Article 5 of the MSP Directive states that:

“When establishing and implementing maritime spatial planning, member states shall consider economic, social and environmental aspects to support sustainable development and growth in the maritime sector, applying an ecosystem-based approach, and to promote the coexistence of relevant activities and uses”.

Article 1(3) of the Marine Strategy Framework Directive states that:

“Marine strategies shall apply an ecosystem-based approach to the management of human activities, ensuring that the collective pressure of such activities is kept within levels compatible with the achievement of good environmental status and that the capacity of marine ecosystems to respond to human-induced changes is not compromised, while enabling the sustainable use of marine goods and services by present and future generations”.

However, when it comes to operationalisation, there is little practical institutional guidance on how an EBA should be implemented in any field including into MSP. Neither the MSP directive nor the MSFD give any concrete guidance and leave it up to the Member States to carry out their own interpretation and application of the concept. In a closed water body like the Baltic Sea where countries share responsibility for managing the same ecosystem, this poses a particular challenge as countries need to agree on a common approach in order to avoid a fragmented

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management system. At a regional level, HELCOM has recently developed a guide for implementation of an EBA into MSP for the Baltic Sea (mentioned below in more detail). A challenge related to this is to make all the Baltic Sea countries adopt this approach, or at least not deviate from it too much, with their own national initiatives.

Table 3.1: Applying EBA principles into MSP. Source: *The Ecosystem Approach in Maritime Spatial Planning – A Checklist Toolbox*, 2017. Baltic Scope project

	Sweden	Estonia	Latvia	Poland	Germany	Denmark
Good Environmental Status						
Does MSP support the achievements and/or contribute to maintaining GES?	YES	YES	YES	YES	YES	PARTLY
Best knowledge						
Is the best knowledge and practise applied in planning?	YES	PARTLY	YES	YES	YES	PARTLY
Precaution						
Is the precautionary principle considered in planning?	YES	PARTLY	YES	YES	YES	PARTLY
Alternatives						
Are alternatives used in planning?	YES	YES	YES	YES / PARTLY	PARTLY	PARTLY
Ecosystem services						
Is the assessment of ecosystem services included in planning?	PARTLY	PARTLY	YES	PARTLY	NO	PARTLY
Mitigation						
Is mitigation applied in planning?	YES	YES	YES	YES	YES	PARTLY
Relational understanding						
Is a holistic system perspective used in planning?	YES	YES	PARTLY	YES	PARTLY	PARTLY
Participation&communic.						
Is participation and communication ensured in planning including the SEA?	YES	YES	YES	YES	PARTLY	PARTLY
Subsidiarity&coherence						
Is the subsidiarity aspect and coherence between levels considered in planning?	YES	YES	YES	YES	YES	YES
Adaptation						
Is adaptation considered in planning?	YES	YES	YES	YES	YES	YES

Another impeding factor for successful implementation of the EBA into MSP is the fact that there are only a few well documented case studies available in the literature which can help to draw lessons from the past experiences and to inform future initiatives (Domínguez-Tejo et al., 2016 in Altvater, 2018). The few examples that do exist worldwide tend to be small-scale, fishery-based, or in the incipient stages, leaving EBM proponents to base their arguments on principles rather than on tangible proof (Tallis, 2010).

Moreover, unfortunately the EBA concept is often perceived as too complex and expensive to implement which then further constrains its implementation possibilities (Tallis, 2010). As a consequence, the number of reference examples on how to successfully implement an EBA in MSP are few and progress is often made through pilot case examples.

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Table 3.2 HELCOM/VASAB guidelines on implementation of an EBA in MSP processes

ISSUE TO BE CONSIDERED	SPECIFICATION
Best available knowledge and practice	Allocation of human uses should be based on the latest state of knowledge of the ecosystem
Precaution	Anticipatory and preventive planning shall promote sustainable use in marine areas. Activities that may lead to significant impacts on the marine ecosystem require a careful survey and weighting of the risks.
Alternative development	Alternatives should be developed to reduce negative environmental impacts on ecosystem goods and services
Identification of ecosystem services	In order to ensure a socio-economic evaluation of effects and potentials, the ecosystem services provided need to be identified
Mitigation	The measures are envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment when implementing the plan
Relational understanding	Effects on the ecosystem caused by human activities and interactions between human activities and the ecosystem, need to be considered
Participation and communication	All relevant authorities, stakeholders and wider public shall be involved in the planning process at an early stage. The results shall be communicated
Subsidiarity and coherence	MSP, based on the EBA, shall be carried out at the most appropriate level and shall seek coherence between the different levels
Adaptation	The sustainable use of the ecosystem should apply an iterative process including monitoring, reviewing and evaluation of both the process and the outcome

The table above is a revised version. For the original please see: http://www.balticscope.eu/content/uploads/2015/07/BalticScope_Ecosystem_Checklist_WWW.pdf

In applying an EBA in MSP processes is a way to manage human-induced activities and natural resources in an integrated way. In theory, through such an approach, all human induced pressures on the marine ecosystem could be considered collectively when managing human activities and lay the foundation for a sustainable decision-making process. However, management of natural resources, as well as human activities, tend to be localised and limited within sectors making it challenging to implement this approach efficiently and successfully. In a closed water body like the Baltic Sea, where nine different countries need to plan and manage one marine ecosystem in a co-ordinated way, the challenge becomes even bigger as it puts large demand on international co-operation, agreement on common objectives and ways to reach them.

Cross-border MSP is widely discussed in scholarly literature (e.g. Backer, 2010; Jay et al., 2015 and Tetenhove, 2017). Outcomes from e.g. the Baltic Scope project (2015–2017) show that a continuous dialogue between planners in different countries has increased the understanding of similarities and differences in their respective MSP plans which improves the possibilities for cross-border MSP management. However, it also concludes that it does not seem meaningful to try to synchronise national MSP and have common plans as the participating countries' approaches and priorities differ, and are likely to continue doing so in the future (Urtāne et al., 2017).

Nevertheless, MSP is seen as a useful tool to effectively implement ecosystem-based sea use management. A recent practical guide for how this could be done is a checklist toolbox developed within the framework of the Baltic Scope project (2015–2017) by partners from Sweden, Estonia, Latvia, Poland, Denmark and Germany. The aim of the checklist is to show that it is possible to integrate the EBA in MSP and also that there are several

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different ways of doing it depending on the context and prerequisites in a specific area. The checklist is based on the broadscale principles for applying the EBA in MSP developed by HELCOM (see below for a list of the principles) and allows MSP practitioners, in a systematic way, to verify if their MSP working process is taking the EBA sufficiently into account.

As a pilot case, all the partner countries in the project have filled in the checklist and answered Yes, Partly or No to the questions regarding if the MSP process in their respective countries consider the EBA, as defined by the HELCOM broadscale principles. The results show that there are variations between countries in the level of applying and interpreting how an EBA should be integrated into MSP processes. One critical remark can be made in relation to the question about assessment of ecosystem services in planning. MSP is usually described as a tool that aims to both promote blue growth and at the same time work for protection and conservation of marine ecosystems. Without identifying and understanding the value of a certain service provided by the ecosystem – be it in monetary terms or in any other way – there is a risk that planning is done overlooking basic functions in an ecosystem and giving priority to other activities.

3.3. REGIONAL AND NATIONAL APPROACHES TO THE EBA IN THE BALTIC SEA

In the Baltic Sea there are different initiatives to implement EBM on a regional level, the most prominent one being the 1992 Helsinki Convention adopted by all the Baltic Sea countries and the European Commission. The convention covers the whole Baltic Sea area and includes inland waters, the sea area itself and the sea floor. Additional measures are also taken in the catchment area in order to mitigate pollution from land-based sources. The main aim of the convention is to prevent and eliminate pollution in order to promote ecological restoration of the Baltic Sea environment and preserve its ecological balance. Similar to the CBD convention, the Helsinki Convention also emphasises that the precautionary principle should be used by all the Contracting Parties in their efforts to improve the state of the Baltic Sea environment.

In 2007, members of HELCOM agreed on the BSAP which aims to restore the good ecological status of the Baltic marine environment by 2021. [For a full description of the BSAP, please see Chapter 2.4.4] The BSAP is also an example of actions to promote EBM at a regional level with concrete indicators and quantitative target levels to define good environmental status. In one of its four key working areas – Biodiversity – MSP is mentioned and a commitment is made to develop broadscale, cross-sectoral MSP principles based on the ecosystem approach by 2010 (HELCOM, 2016, guideline for implementing the EBA in MSP). The principles are:

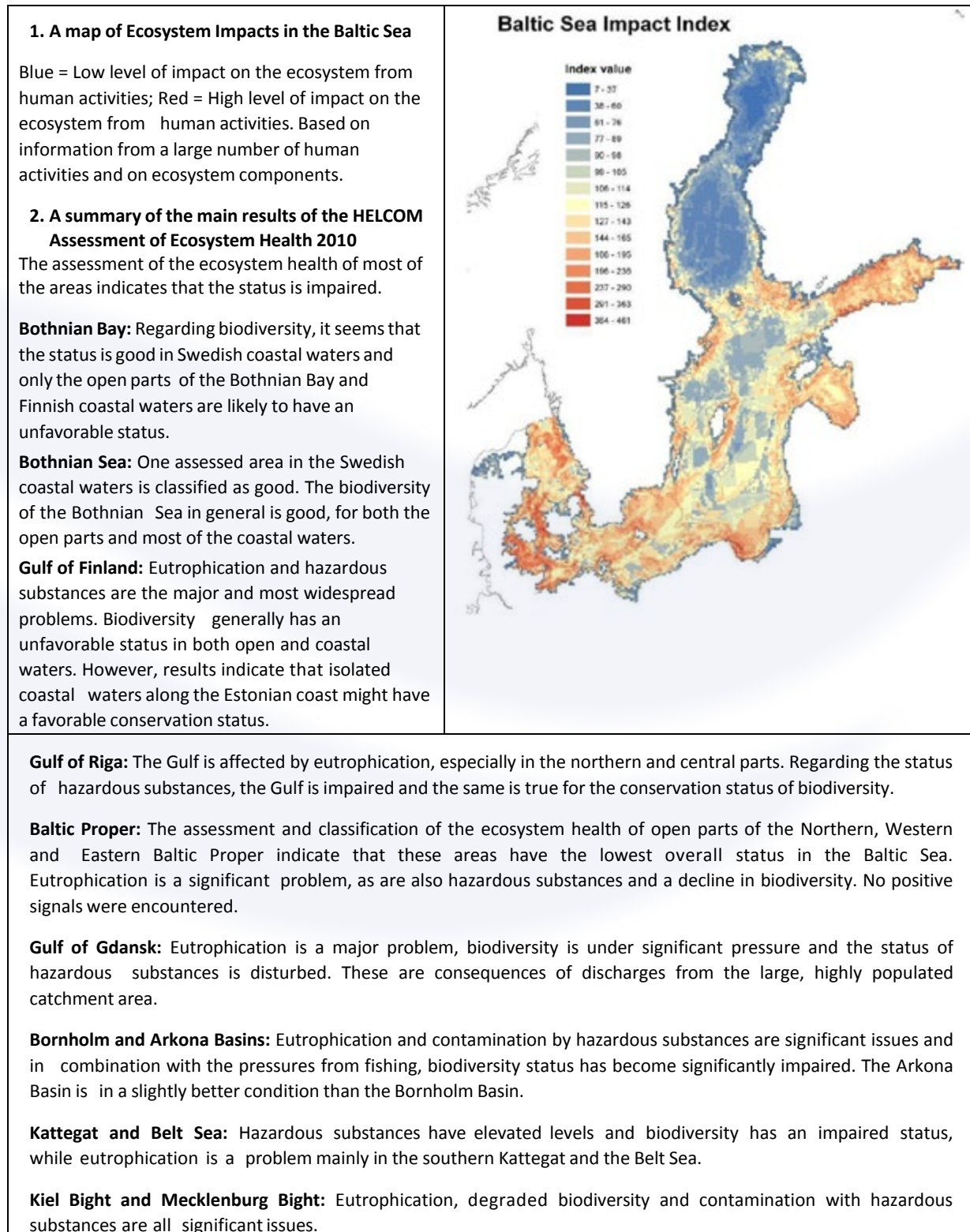
1. Sustainable management,
2. Ecosystem approach,
3. Long term perspective and objectives,
4. Precautionary Principle,
5. Participation and Transparency,
6. High quality data and information basis,
7. Transnational coordination and consultation,
8. Coherent terrestrial and maritime spatial planning,
9. Planning adapted to characteristics and special conditions in different areas,
10. Continuous planning.

In order to ensure co-operation between the Baltic sea countries in coherent MSP, a joint co-shared working group was set up in 2010 between HELCOM and VASAB. The working group meets up to three times per year and follows, examines and makes use of the outcomes of regional MSP projects in the Baltic Sea. It also provides a forum for a regional, trans-boundary and cross-sectoral dialogue on ICZM and MSP which supports promotion of the Baltic region as a global and European forerunner in MSP. In addition to the previously developed Baltic Sea broadscale MSP principles mentioned above, the following guide has been developed by HELCOM/VASAB to facilitate implementation of an EBA in MSP in a co-ordinated way at Baltic Sea Region level.

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Figure 3.2: Ecosystem impacts in the Baltic Sea. Source: HELCOM Initial Holistic Assessment, 2010



Source: HELCOM, 2016 (the table above is a revised version. For the original please see: http://www.helcom.fi/Documents/Action%20areas/Maritime%20spatial%20planning/Guideline%20for%20the%20implementation%20of%20ecosystem-based%20approach%20in%20MSP%20in%20the%20Baltic%20Sea%20area_June%202016.pdf).

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As mentioned earlier in this chapter the EBA can be seen as a response to the earlier ways of managing natural resources and human activities in an integrated way. Different kinds of human activities have different impacts on the marine ecosystem in spatial as well as in temporal distribution. In order to be able to plan and make decisions in a sustainable way it is important to consider all pressures at the same time for a given area. HELCOM has been collecting data on environmental conditions and human activities in the Baltic Sea since its conception in 1974. In the first HELCOM Initial Holistic Assessment (2010) [see Chapter 1.3] an analysis of the ecosystem impacts in the Baltic Sea was made. It shows the geographical variations of accumulated anthropogenic pressures on the marine ecosystem. The assessment is based on 52 different types of pressures on 14 biological ecosystems.

As shown on the map, impacts are particularly high in the coastal areas where population density is high, and in the central and southern parts of the Baltic Sea. This poses a particular challenge to governments on international co-operation in ecosystem management as the pressures are not limited within national borders but they rather extend from one country to another. [For further discussion on socioeconomic development aspects in the South Baltic Region, see Chapter 1.3]

Summary

The EBA is a strategy for management of natural resources that moves away from the traditional sector based environmental planning and management to a more holistic way where human activities are seen as an integral part of the ecosystem. The strategy has its origin in the CBD convention and the so-called Malawi principles from 1998. A key feature of the strategy is that it should be based on relevant scientific information about environmental conditions as well as human activities and, most importantly, the links and interdependencies between these two systems.

The broad and ambitious scope of the EBA is sometimes considered as an obstacle for its implementation. However, through legislation and policies at different levels it is clear that there is political will to apply an EBA to management of natural resources, including marine resources.

In the Baltic Sea the most prominent example of implementing an EA at a regional level is the HELCOM BSAP, with defined goals and targets for what needs to be achieved. In addition, the HELCOM/VASAB working group has developed guidelines for how an EBA could be applied in MSP. Operationalisation of these guidelines by the respective Baltic Sea countries still remains a challenge although cross-border co-operation and agreement on common goals in general are promoted as key aspects for a sustainable management of the Baltic Sea.

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STAKEHOLDER PARTICIPATION IN MSP
– BEST PRACTICES



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4. STAKEHOLDER PARTICIPATION IN MSP – BEST PRACTICES (KATJA RUDOW)

4.1. INTRODUCTION

Why participation in MSP?

In recent years, there has been a stronger trend towards participation procedures and civic participation in general. An example of this is the Aarhus Convention. The Aarhus Convention is an international convention that aims to regulate access to information, the right of public participation in decision-making and access to justice in environmental matters. The convention was negotiated within the framework of the United Nations (UN), i.e. the UN/ECE (United Nations Economic Commission for Europe) and was adopted on 25 June 1998 in the Danish city of Aarhus at the fourth Pan-European Ministerial Conference „Environment for Europe“. The political idea behind the convention was and is to strengthen democratic principles and the rule of law. State-independent institutions, such as environmental NGOs should be able to protect the interests of the environment and actually stand up for them.

In line with these principles, the EU Commission announced as early as 2008 in its Roadmap for MSP that one of the common principles for the development of planning practice was the participation of interest groups in the planning process. In concrete terms, it is formulated as follows: „In order to achieve broad acceptance, identification and support during implementation, all interest groups, including coastal areas, should also be involved in the planning process as early as possible. Stakeholder participation is also a source of know-how and can significantly improve the quality of MSP.“ (EU Commission, 2008). The same applies to cross-border co-operation and consultation, which are also laid down in these principles.

The EU Directive establishing a framework for MSP also states that the participation of different stakeholders and the public should take the form of a consultation. The recitals of the Directive already state (21): „The management of marine areas is complex and involves public authorities, economic operators and other stakeholders at different levels. In order to promote sustainable development effectively, it is essential that stakeholders, the authorities concerned and the public are consulted at an appropriate time, in accordance with the relevant Union legislation, in the context of the preparation of maritime spatial plans in accordance with this Directive“. (European Commission, 2014). Article 9 then clarifies public participation once again. The public should be informed and consulted at an early stage of the planning process in accordance with the provisions of EU law, and the specific rules for participation procedures should be laid down by the Member States themselves. Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC (OJ L 156, 25.6.2003, p. 17) is cited as an example of appropriate public participation (EU-Commission, 2003).

To some extent, the need for public participation also results from national legal bases. In Germany, for example, MSP is implemented within the framework of, and on the basis of the Federal Spatial Planning Act (ROG), in which § 9 provides for participation in the preparation of plans for spatial planning.

Participation procedures can take different forms (public participation, stakeholder involvement, stakeholder participation, stakeholder engagement, etc.). It is not always possible to make a clear distinction, and in some cases the names are used interchangeably, but in general they have a similar objective. Since this chapter is essentially a compilation of existing texts which deal with different aspects of participation, different terms are also used. As it is one objective of this chapter to present information about participation in MSP with a more general point of view, different materials deriving from various sources were used. One of the core forms of participation in MSP is stakeholder participation. For this reason, many of the findings and recommendations presented below relate to stakeholder participation.

Also, from a scientific point of view, there are a number of factors in favour of public participation. Morf et al. (2019) state in their article on the challenges of stakeholder participation in cross-border MSP in the Baltic Sea that scientific evidence exists that demonstrates „integrative“ participatory and adaptive approaches can help to address the sometimes ‘wicked problems’ that MSP has to address. In particular, problems concerning knowledge gaps and other uncertainties, value and target conflicts, and the unequal distribution of profits and costs can be reduced by participation procedures.

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In other documents it says with a special view to the Baltic Sea states of the former Eastern Bloc: “Stakeholder involvement at the early stages of preparation of plans facilitates implementation of such documents. Moreover, in countries where responsibilities for the preparation of maritime spatial plans have not been legally decided yet and MSP is possible only as a grass-root initiative, planning must be anchored in voluntary co-operation among different stakeholders and interest groups. Otherwise it would remain hardly implementable. Public participation is of key concern in the eastern BSR countries that have inherited from the past the culture of narrow (passive) public involvement in decision-making. Public participation is sometimes limited there (in many cases in line with legal requirements) to consultation of the plans prepared in advance by the experts or professional planning teams. Stakeholders are rarely involved at the early planning stage. Latvian good practice shows that this can be changed and that a plan gains in quality from early involvement of stakeholders. The Latvian practice encourages moving the planning process from a solely expert-based towards a stakeholder driven approach. The key requirement is, however, a representative mix of stakeholders to avoid favouring any interest.” (Zaucha, 2014).

According to Beierle & Cayford (2002), a comprehensive investigation of the effects of public participation in the environmental sector within the framework of a meta-study, has produced the following results in particular:

1. Public values have been incorporated into decisions
2. The quality of material decisions has improved
3. There has been a change in the relationship amongst the public and between the public and the authorities
4. Knowledge building and better understanding among the public

Stakeholder participation – What are the expected effects?

Overall and outside of MSP, stakeholder participation is expected to have a number of positive effects, which can occur jointly or individually. A broader selection of effects is presented below:

1. Improved democracy,
2. Improved communication and understanding,
3. Raised awareness,
4. Gained knowledge,
5. Stakeholder involvement as a contact point,
6. Transparency of values, preferences and needs,
7. Strengthened trust, mutual esteem and companionship,
8. Provides transparency of planning and decision-making processes,
9. Contribution to quality assurance,
10. Improved problem solving,
11. Identification and reduction of potential conflicts,
12. Improved legitimization, compliance and implementation of plans,
13. Scaled down false expectations of stakeholder groups.

Morff et al. (2019) see the concrete significance of stakeholder participation for MSP above all in three following points:

1. Mobilising and assembling a diverse range of knowledge,
2. Providing a forum for addressing value differences,
3. Enhancing the overall legitimacy of the MSP process and decision-making.

All in all, a large number of positive effects can be expected from public participation. Which effects actually come to bear depends on the local situation, the targets, the methods and procedures chosen and many other influencing factors that cannot always be completely controlled from the outside.

Risks of stakeholder participation

In addition to these numerous advantages, stakeholder participation can also have risks. If one is aware of these risks, one can influence them when controlling the participation process or at least try to minimise them. However, there is no guarantee for successful citizen participation.

1. Risks of stakeholder participation (selection),
2. Political manipulation of the process by participants and agencies,
3. Social groups with strong articulation will continue to be privileged,

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4. Participating articulation-weak milieus are neglected, since this is always connected with an expenditure of resources,
5. No solutions can be found for conflicts,
6. Escalating conflicts instead of lowering them,
7. Low quality of decisions and reasoning,
8. Achieving trivial and undesirable results,
9. Chatty bias – the bias that occurs when certain individuals are more outspoken than others and their views stand out,
10. Challenge to achieve fairness and representation,
11. Actors deliberately force disruption of the participation process in order to delay or prevent the planned project.

It is generally assumed that the benefits outweigh the risks. Nevertheless, it can be helpful for a successful participation process to carry out a risk analysis at an early stage of the participation process in order to be able to take appropriate measures in the right time if the process develops in a direction that is undesirable. This would also support the transparency of the process and the reasons for decisions and actions taken.

Levels of stakeholder participation

Stakeholder participation can be used for very different purposes and intentions. In principle, at the beginning of the participation process, it is good to consider what level of participation is necessary, desired or possible in the respective process (participation objective). Within the framework of the transparency requirement, it is advantageous to inform the participants what level of participation is actually aimed for, since the respective level is also associated with special expectations of the participants.

Essentially, three levels (information, consultation and participation in decision-making) of participation can be identified, each with very different degrees of public involvement. In some cases, the literature also describes further differentiated levels. The application of the higher levels requires the application of the lower levels beforehand.

The following figure shows participants' expectations according to the level of participation. In order to avoid disappointment in the course of participation, it is good to clarify in advance whether the necessary resources (time, financial and personnel resources, political will, etc.) are available in order to be able to fulfill the promises associated with the chosen form of participation.

The selection of the participation goal or the form of participation also has an impact on the selection of the methods applied.

Levels of stakeholder participation in MSP

In the context of participation procedures for MSP processes, Morf et al. identify six levels of participation based on interaction, rights and roles of authorities and participants.

Within the project PartiSEApate a handbook on Multi-level Consultation in MSP has been developed. It provides an insightful checklist of tasks that MSP organizers should perform at different stages of the process together with stakeholders at multiple levels. It emphasises the importance of MSP focal points in each country to facilitate cross-border consultations and describes the respective roles and tasks of the multiple players within a transboundary MSP process. It is meant to help maritime spatial planners decide 'why and how' to involve stakeholders from a given level at an appropriate time in the planning cycle. The handbook has a universal appeal: although it has been developed based on the experience of the BSR countries, it can be applied in other EU sea basins and other parts of the world (Matczak, et al., 2014).

4.2.METHODS FOR STAKEHOLDER PARTICIPATION

4.2.1. PRELIMINARY CONSIDERATIONS

Formal or free / informal processes

When selecting methods for stakeholder participation, a fundamental distinction must be made between formal processes and free or informal processes.

Formal participations refers to participation processes for which there are specific legal provisions regarding their implementation. These regulations can, for example, concern time limits for participation, the number of participation rounds, mandatory selection of institutions that must be involved or the handling of comments that are received late. These rules must be strictly observed to ensure that a legally valid plan is created at the end of the planning process.

In informal planning processes, the requirements for implementation are much less restrictive and the planning of participation can be much more unrestricted. Here it is more important to select an appropriate approach in order to achieve the expected results.

Theoretically, free and formal procedures can also be combined. However, this requires particularly careful planning of the participation process in advance, as compliance with time schedules is particularly important in formal procedures and it must be ensured that the legal requirements can be met.

Distinction between formal and informal processes in MSP

A distinction can also be made between formal and informal participation in MSP participation processes. Ultimately, however, there is no reason why MSPs should not apply a broad mix of methods to formal planning processes as long as the legally binding regulations are complied with. One example of formal planning within the framework of MSP is the establishment of the Mecklenburg-Vorpommern Regional Development Programme or the regional development plans for the EEZ of the German North Sea and the Baltic Sea. These plans are drawn up on the legal basis of the Federal Regional Planning Act (ROG) and the Mecklenburg-Vorpommern Regional Planning Act. Section 9 of the Federal Spatial Development Act regulates participation in the preparation of spatial development plans. Section 7 of the Act on Spatial Planning and Regional Planning of the State of Mecklenburg-Vorpommern regulates participation in the preparation of the regional development programme. Examples of informal participation within the framework of MSP in Germany could include participation processes within the framework of ICZM. [For further information about ICZM, please see Chapter 2.4.1.]

Further framework conditions

Once it has been determined whether the participation process to be carried out is a formal or informal procedure, further framework conditions, e.g. for the selection of suitable methods, must be made clear. Before a decision is made determining which method is used, the following questions, among others, need to be clarified.

What is the aim of the participation? Should the opinions of participants be sought? Or is it about the participants participating, taking part in decisions or even making decisions themselves? Depending on the level of participation, different demands are placed on the methods.

1. What results are to be achieved (in the overall process, in the sub-processes)?
2. Which target groups should be involved and why? Are there people within these target groups who are particularly, difficult to reach? How can they also be included?
3. What leeway do you have? What is the (political, structural, legal, etc.) framework for the participation process?
4. Which contents are to be processed?
5. How conflictual is the topic or field?
6. When should the participation process take place and how long should / can it last?
7. Where should the participation process take place?
8. How can participants be informed or kept up to date?
9. What financial, personnel and time resources are available?

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The results of this clarification process form the basis for determining the appropriate methods. The central parameters for selecting the method(s) are summarised briefly below:

1. Aim of the participation,
2. Number of participants,
3. Complexity and expected conflicts of the topic,
4. Available financial, human and time resources,
5. Intensity of participation / willingness to keep the promises associated with it.

The participation of citizens, stakeholders and institutions cannot be organised according to a scheme. Each case brings new issues, actors, lines of conflict and possibilities for shaping. Participation does not consist of many different individual measures. It must be rather thought of as an overall process where individual steps are able to build on each other.

4.2.2. WHICH METHOD IS SUITABLE?

Some common methods for participation processes are presented below. Most methods can be used in all participation formats, some are specific to participation in MSP.

Participation scoping

In order to be able to carry out high-quality participation, a plan for participation must first be drawn up. This is often done solely by the initiator of the participation process. Within the participation scoping, citizens, stakeholders and interest groups already participate in the development of the plan for the participation process, e.g. in the definition of the objectives, the procedure applied and the target groups to be involved. Since the scope and procedure of the participation process are determined in participation scoping, this format constitutes the first step of participation. Especially in the case of conflict-prone topics, it is advisable to develop the participation concept together with the relevant interest groups. Usually, the scoping is done in four steps (Figure 4.1).

Scoping is recommended for various reasons before the start of a participation process. On the one hand, the participation concept gains in quality because the citizens and interest groups involved are better able to judge what the public needs are with regard to the upcoming participation process and can thus introduce them into the concept. In this way, the participation concept can ultimately be adapted precisely to the local conditions. In addition, scoping can create confidence in the participation process because all the groups have been involved in its development and can now hardly accuse it of being unbalanced or unfair. Although successful participation scoping increases the chances that the participation process will produce constructive results, it offers no guarantee. Nonetheless, irreconcilable differences in the content can lead to certain groups disrupting the dialogue and so the issue of managing expectations becomes highly relevant.

Stakeholder analysis

Another very widespread method in participation processes is stakeholder analysis. Stakeholder analysis attempts to identify and examine the relevant stakeholders systematically and as thoroughly as possible. Various methods can be combined for stakeholder analysis. Both the identification and the description of the stakeholders leave room for an intuitive approach. The spectrum ranges from empirical methods (mood barometer, survey, interview) to visual facilitation methods.

Within the framework of participation processes, there are various possible uses for stakeholder analysis. Depending on whether it is used in preparation, accompanying or ex-post (e.g. in the context of a lesson learned), the group of participants and the scope of the analysis can vary. Five steps can be distinguished in the basic procedure:

1. Identification of stakeholders,
2. Description of the stakeholders, e.g. with regard to attitudes, interests, opportunities, strengths, risks, influence, decision-making potential, available information, etc.,
3. Analysis and presentation of relationships and networking between stakeholders,
4. Comparison and analysis, e.g. to derive possible conflicts of interest or objectives,
5. Derivations of measures and consequences.

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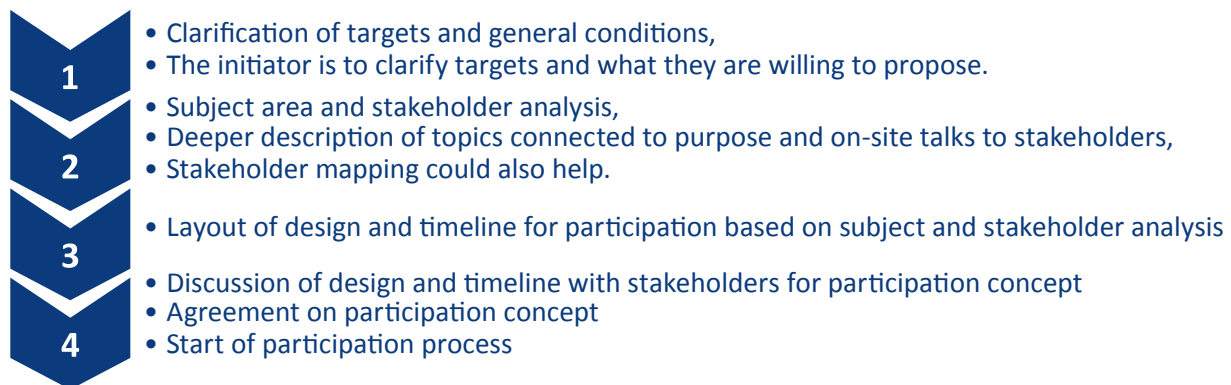


Figure 4.1: Steps in scoping. Source: Own scheme, based on Paust A., 2016

Stakeholder analysis is not a rigid concept, but can be used in different variations for participation processes. Adapted to specific contexts, it can provide valuable services in preparation, support or within the framework of evaluation and follow-up. As a systematic method, it can help to find a suitable way of dealing with the various actors and their different interests in order to integrate them into the project in a targeted manner.

Within the scope of stakeholder analysis, an analysis matrix can be created to present the different positions and influences possible between the different stakeholder groups.

Stakeholder mapping

The actor map can be used as an instrument in stakeholder analysis. In principle, it is related to social network analysis. The aim of the actor map is to graphically depict the relationships between the individual interest groups. Various stakeholder mapping tools can be used for this purpose. They are available in PowerPoint as well as in other computer programs.

One example of a mapping process for the MSP can be found in detail in the case study Stakeholder Involvement in Long-term Maritime Spatial Planning: Latvian Case by Arturs Caune et al. (2019). [For more information on the Latvian Case, please see Chapter 4.4.1.]

Use of checklists

Since a participation process is not particularly standardised, but can sometimes be quite complex and lengthy, it is advisable to work with checklists to ensure that all aspects have been considered.

In principle, it is true that each participation process should be individually adapted to the respective issue, the groups involved and the participation objective. However, participation processes are carried out for numerous processes and plans, in fact, many of these already created checklists are now available on the internet. Even if one has created a checklist at the beginning of the process in which all the important aspects are presented, it is advisable to have a look at the checklists of other participation processes to make sure that important points are not missed. Since participation processes are sometimes tied to a specific timetable, repeating individual steps can lead to problems.

In principle, a checklist should contain the following points:

1. Targets of participation,
2. Background information,
3. Legal requirements,
4. Stakeholders,
5. Decision-makers,
6. Responsibilities,
7. External partners / contractors,

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8. Scope for action,
9. Process control,
10. Method selection,
11. Schedule,
12. Public relations,
13. Measures / events to be carried out,
14. Securing strategy for the results,
15. Documentation.

Documentation concept

For a transparent course throughout the participation process it is important to document all steps of the procedure carefully. This should not only include which steps were taken, but also which decisions were made and why. Since it cannot be assumed that all stakeholder groups can assert their maximum expectations in the participation process, it is important for all participants to know why decisions were made, how and by whom.

Press activity, media and information concept

Since participation is also highly influenced by communication, it is advisable to develop a press activity, media and information concept. This should be carefully chosen according to the intended level of participation. At every stage in the planning of information and communications, it must be established who is to be reached and what means of information and communications are to be deployed and combined. There is a multitude of options, for instance:

1. Advertisements or articles in the local, regional or national press,
2. Features, roundtable discussions on television, interviews on the radio and television,
3. Use of social networking services (Facebook, Twitter, etc.),
4. Own website, online platforms, letters, flyers, door-to-door leafleting,
5. Billboard posters, brochures, information boards, exhibitions, public information centres,
6. Direct talks in a formal or informal setting; presentations and discussions at events.

It is important that the necessary information should be made available in a form that is intelligible to the public and relevant stakeholders without omitting important information. In addition, care should be taken to ensure that the amount of information is manageable for all. In addition, the items for discussion need to be 'translated'. The highly complex technical texts of the planning and application documents have to be reduced to intelligible summaries that a non-specialist can understand. Of particular importance here are non-technical summaries intelligible to all. The careful selection and editing of information that is useful to the public and stakeholders can convince them of the sincerity of the participatory endeavours whilst reducing the amount of information to that which is specifically important to them.

At the same time, the objective information on the project is the crucial to fill in the gaps in the public's knowledge or to correct inaccurate information. This sets the stage for establishing trust through transparency. However, in addition to the reduced and 'translated' texts, citizens should also have an opportunity to inspect the planning documents and consultancy studies in their original form. In this way, any fears they may have that important and possibly crucial points have been suppressed during the transformation can be allayed.

Use of the internet

Active use should be made of the internet to present the objectives of the project, the process and the outcome of the public participation exercise. It can also be used for online-participation tools.

Using the internet makes it possible to reach a very large group of people without any major effort. The creation of a continuous internet platform on the participation process should form the mainstay of a comprehensive approach to participation. Both the 'information' and 'consultation' forms of participation can be reflected here. A purpose-related website makes it possible to:

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1. Disseminate information on the project, on the process of public participation (subject matter, information, consultancy studies) and on the documentation of the outcome of the public participation exercise,
2. Provide information on the progress of the participation process by distinguishing between 'state of play' and 'archive',
3. Inform interested parties at an early stage of relevant events using a continuously updated timetable,
4. Obtain opinions and comments on individual issues; online platforms can also be created for this purpose,
5. Provide the public with a platform for the exchange of information (for instance frequently asked questions, blog, chat),
6. Disseminate, which of these possibilities can and should be used has to be decided a new for each participation process and it also depends on the available human, technical and financial resources.

Using the internet may also be a suitable way of engagement in a wide geographical area, e.g. transnational MSP where travelling may not be a viable option. More recommendations for transnational participation in MSP are given in IW Learn Manuals, chapter 4: Stakeholder Engagement in MSP (<https://www.iwlearn.net/manuals/marine-spatial-planning-msp-toolkit/4-stakeholder-engagement-in-transboundary-msp>).

'Living Q' method

The 'Living Q' method is one method applied in MSP to help bring together actors with various backgrounds in order to identify mismatches and synergies so as to jointly aim towards coherent and coordinated practices. The 'Living Q' is a communication method to make actors systematically aware about their viewpoints in an interactive, communicative and playful environment, while it draws on the results from a preceding 'Q Methodology' study. The results from 'Living Q' exercises with international expert's groups from the European sea basins show that the method is capable of fostering communication and interaction among actors participating in 'Living Q' exercises, while having the potential to generate added value in planning processes by actor interaction in a collaborative setting (Ripken et al., 2018).

Development of scenarios and visions

Scenarios are also frequently used in planning processes to represent different planning variants and assess their consequences. The use of scenarios can also be useful in participation processes.

Visions are employed for different purposes, both as integral parts of MSP processes or separately. In some cases, the process itself is more important than the final document as it presents a mechanism for stakeholder engagement and facilitates dialogue on a joint future. In other instances, the final document is crucial, for example, if it provides statutory norms and principles. The development of a vision for MSP is especially useful in (Lukic et al., 2018):

1. Raising awareness of emerging issues,
2. Enabling coordination between different authorities addressing sectors and issues,
3. Engaging stakeholders and capacity building, particularly where MSP is a new process,
4. Providing a long-term focus for MSP that may exceed political cycles,
5. Accounting for future uses not present so far,
6. Achieving better land-sea integration of planning.

Use of handbooks

Even though every participation process is different, a lot of experiences from previous participation processes and pilot projects are already available. Manuals or handbooks have also been developed in the field of MSP, which contain a range of useful information for new participation processes. Some are mentioned here as an example:

Lukic Ivana, Schultz-Zehden Angela, and de Grunt Lisa Simone, (2018). Handbook for developing Visions in MSP. *Technical Study under the Assistance Mechanism for the Implementation of Maritime Spatial Planning*. https://www.msp-platform.eu/sites/default/files/vision_handbook.pdf

Matczak Magdalena, Przedzrymirska Joanna, Zaucha Jacek, Schultz-Zehden Angela, (2014). PartSEApate, *Handbook on multi-level consultations in MSP*, <https://www.iwlearn.net/resolveuid/2d4c8b54-6575-4f89-88bf-8cd5d367cac0>

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Brouwer Herman, Woodhill Jim, (2016). The MSP Guide, how to design and facilitate multi-stakeholder partnerships, <http://www.mspguide.org/msp-guide>

EU MSP Platform FAQ Stakeholder involvement in MSP, <https://www.msp-platform.eu/faq/stakeholder-involvement>

MSP Challenge game

Especially in the context of participation processes in MSP the MSP Challenge game can be used. MSP Challenge 2050 is a visual game on MSP to encourage stakeholders to engage in a deeper understanding of other parties' objectives and it comes in two formats: as a board game and as a computer supported simulation-game. It gives an insight into the diverse challenges of the sustainable planning of human activities in marine and coastal ecosystems. This is an innovative format to quickly introduce the essence of MSP to outsiders, in particular politicians, decisions makers and stakeholders from various sectors using sea space. It aims to cultivate a spirit of collaboration and shows what can and cannot be achieved through MSP. The board game is more suitable for stakeholders who are only just being introduced to the MSP concept, while the computer game is best used with stakeholders who have some previous MSP experience. A board game covers several square meters and uses physical tokens representing human activities, including maritime sectors as well as ecological functions, that players (the planners) move across the board, in an exercise that recreates the space that maritime sectors take up in a given marine area. Several special editions have been launched, including focuses on short-sea shipping, sustainable blue development, sustainable coasts and oceans, as well as a special edition for Marine Scotland. The board game presents a fictional marine space to avoid any political tensions, and planners are assigned to one of three fictional countries represented on the board, with the instruction to simultaneously achieve 'good environmental status' and 'Blue Growth', according to different specific objectives and targets. The game is best played with around 20 players and should not take longer than a few hours. More information can be found at <https://www.msp-platform.eu/practices/msp-challenge-simulation-game>.

4.3. CONDUCTIVE AND HINDERING FACTORS FOR STAKEHOLDER INVOLVEMENT

The quality and general framework of the process are crucial to successful public participation. Simply creating more scope for participation is not, in itself, sufficient to achieve the desired positive effects. The accessibility and dissemination of high-quality information are two of the basic prerequisites for ensuring that third parties can engage with the project. The information should be carefully selected and presented. It is advisable to use various media to disseminate the information in order to reach different groups, possibly via information channels that are specific to individual target audiences. Other fundamental factors determining successful participation are a sound basis of trust and a procedure that is perceived as being fair in terms of the approach, interpersonal relations and the outcome. If the parties treat each other with mutual respect, this not only has a positive impact on the trust between the players but is also a major foundation for a relationship that is perceived as being fair between stakeholders and others involved. Accurate and comprehensive information plus a transparent approach makes it more likely that people will perceive the process as being fair and equitable. Likewise, a distribution of costs and benefits that all the parties involved believe to be balanced is the basic prerequisite for ensuring that the outcome of the process is perceived as being fair (Federal Ministry of Transport and Digital Infrastructure Germany, Manual for good public participation, 2014).

The selection of stakeholders should not exclude any interest groups. It should include not only those parties on which the project will have an adverse impact, but also parties who are basically in favour of the project. Involving project proponents can, through the exchange of interests and concerns, establish mutual understanding, thereby improving the quality of the process. A balanced discussion of pros and cons should be the objective of a participatory process. However, acceptance cannot be achieved unless the affected parties are actually enabled to participate. This includes not only the provision of suitable information, adequate resources (in terms of both time and money) and the admission that they have a say in the matter, but also an understanding of the subject matter and the ability to move and express themselves in 'expert circles' so that their own concerns are actually heard. A lack of these skills, combined with a perception that they are affected by the project, can often result in the affected parties feeling powerless. Measures designed to empower people to participate include information events, citizens' surgeries, question-and-answer sessions and the appointment of a facilitator, who makes complex issues easy to understand for members of the public without specialist knowledge.

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To summarise, the following factors have proven to be beneficial for the success of participation processes:

1. Possibility for influence in decision making as well as in setting up the participation process,
2. Participation / including the selection of participants must be transparent,
3. A prerequisite for the participation process is a clear basis for discussion, which must first be the same for everyone through dissemination of comprehensive information,
4. Comprehension of the process,
5. Use of target-group-specific procedures,
6. There must be recognisable advantages / recognisable added value from participation,
7. To give the participants the feeling of acting on their own responsibility,
8. Governance of participation (defining the rules of the game, having a neutral leader or moderator),
9. Timeline of process from beginning to end with ongoing communication to stakeholders throughout,
10. Suitable timing,
11. Participation beyond legal requirements (e.g. more than just formal participation),
12. Regular updates over the course of the process,
13. Direct contact with the parties involved,
14. Results-oriented and forward-looking process,
15. Having a media and communication concept in place.

The expected positive effect and the effort/costs that participation involves are in a ratio that is acceptable to all the stakeholders

Experience with various participation processes has shown that factors that hinder the success of participation processes can also occur, for example:

1. The participants idea that ‘the state’ regulates everything,
2. Community interest lags behind individual interest (often representatives of individual interests present in proceedings),
3. Missing leadership function or missing moderation of the process,
4. Bad timing, participation too late in process,
5. Legal requirements for participation are adhered to too strictly and the wishes of those involved cannot be implemented,
6. Project and participation targets not made transparent,
7. Lack of personnel or financial resources,
8. Too little political support for the results of participation.

With timely and careful planning of a participation process, attempts can be made at an early stage to exclude the occurrence of obstructive factors with suitable measures.

4.4. PRACTICAL EXAMPLES OF PARTICIPATION PROCESS IN MSP

4.4.1. STAKEHOLDER INVOLVEMENT IN LONG-TERM MSP: THE LATVIAN CASE

A very well-documented example of stakeholder involvement in MSP is the participation process in the INTERREG project: „Coherent Linear Infrastructures in Baltic Maritime Spatial Plans (Baltic LINes)”. The basic features of this process are briefly presented here based on the article by Caune et al. (2019).

The specific project task: development of future scenarios for the shipping and energy sectors together with the stakeholders. Identification of the critical issues pertaining to these sectors in the BSR.

Goals of the participation process:

1. Informing and raising awareness of MSP,
2. Involving in the planning process,
3. Creating a link between the shipping and energy sectors,
4. Facilitating cross-sectoral discussions between experts,
5. Engaging into an international perspective,
6. Gaining understanding and acceptance of MSP proposals.

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STAKEHOLDER PARTICIPATION IN MSP – BEST PRACTICES

Specific stakeholder involvement targets for the project:

1. Stakeholder mapping and defining their level of involvement,
2. Enriching the stakeholder map with experts,
3. Creating a core team of experts and facilitators,
4. Common development of future scenarios.

Methods applied:

1. Brainstorming,
2. Information material,
3. Use of scenarios,
4. Surveys,
5. Interviews,
6. Workshops & World Cafe,
7. Final strategic discussion.

Steps taken:

1. Stakeholder identification and mapping,
2. Adaption and use of sector representatives' communication and involvement methods,
3. Management and involvement process of sector representatives,
4. Development of future scenarios.

Development of scenarios:

One aim of the participation process was to develop scenarios for sharing the Baltic together with the stakeholders from the shipping and energy sectors. In fact, the process consisted of eight steps that were taken together with stakeholders and other external experts. In brief, the process could be summed up with the following four steps (Caune et al., 2019):

1. Defining the influencing factors,
2. Understanding possible futures,
3. Building sectoral scenarios,
4. Building cross-sectoral spatial scenarios.

The chosen approach had a number of advantages. The stakeholder representatives and other interested parties were presented with the results of the scenario development process. By involving representatives of ministries and responsible institutions in the panel discussions, a mutual dialogue was developed and understanding between the shipping and energy sectors was promoted; at this stage, issues to be addressed and steps to be made by involved parties in the context of MSP and the further development of shipping and energy sectors were defined. The future course of the project development and the involvement of stakeholder representatives at the BSR level were outlined.

4.4.2. EXAMPLES OF FORMAL REQUIREMENTS REGARDING THE GERMAN SPATIAL PLANNING LAW (ROG) FOR PARTICIPATION PROCESSES IN MSP

As already mentioned, the choice of a participation process depends on whether it is a formal or informal planning process. In Germany, the MSP process is implemented by setting up a spatial development plan, i.e. as part of a formal planning procedure. The regulations of the ROG thus lay down the binding framework for participation there. This concerns all the points above:

1. Who is involved?
2. What timeframes and deadlines must be considered?

It may also be relevant to clarify:

1. What is to be communicated? e.g. in the announcement of the participation,
2. Which further requirements have to be considered?

The following is a brief introduction to a few essential requirements that must be considered in every formal regional planning process in Germany.

SEAPLANSPACE 4

STAKEHOLDER PARTICIPATION IN MSP – BEST PRACTICES

The essential rules for participation in regional planning processes are laid down in § 9 ROG (German Spatial Planning Law). This states that the public must be informed about the preparation of spatial development plans. In addition, the public must be given the opportunity at an early stage to comment on the draft of the plan and the associated documents. The documents required for this must be publicly displayed. Time limits are specified for the duration of the display as well as for the period of the announcement of the display. The public is granted a time limit within which comments have to be submitted. In most cases, comments received after this deadline do not have to be taken into account for the weighing of arguments.

The same applies to 'public bodies concerned within their interests'. This involves public authorities, institutions and also companies, if they are involved in the performance of public tasks. Depending on the area and type of the plan, the list of authorities may vary. It is sometimes quite difficult to obtain binding information as to whether a list is complete or not. Sometimes the list is very long, if, for example, all the municipalities of a federal state must be integrated. Typical public bodies that have to be involved are ministries, administrative regional authorities, counties, regional planning associations, environmental authorities and institutions, churches, farmers' associations, youth organisations, authorities for the environment, conservation, radiation protection, disaster protection, fire protection, but also forestry authorities and transport companies as well as network operators and representatives of real estate.

If the draft plan is substantially amended in the course of the procedure or if new aspects have emerged, the amended plan must be publicly displayed again and opened for statements. If the plan is expected to have a significant impact on the neighbouring countries, they must also be involved. The participation of the neighbouring states is also regulated in § 25 ROG. In Germany, it is generally assumed that there will be at least two rounds of participation, but it can be more. The above-mentioned deadlines also apply to renewed participation rounds.

The documents to be publicly displayed must include at least the draft spatial development plan, its reasoning and, in the case of an environmental assessment being carried out, the relevant documents and environmental report; there may even be more applicable documents which should also be displayed. It is the decision of the body responsible for the spatial development plan to determine which documents are appropriate.

The statements of the public and the other authorities must then be taken into account when weighing the interests. Everyone giving a statement will be informed retrospectively, with regards to the way the statement has affected the plan.

The plan may be invalid if one of the regulations is violated, e.g. if the display period was too short, the announcement on the display of documents was not sufficient, one of the public bodies affected by its concerns was not involved, not all the necessary documents were publicly displayed or the occurrence of any further violations.

For this reason, it is very important to know exactly what the binding rules for participation are and to adhere to them, otherwise the years of effort to produce a binding plan document can be nullified by one small mistake. Many of these more formal errors can be rectified, but this often requires a repetition of the planning process or parts of it.

Summary

Participation of the public and stakeholders in policy-making in general and in MSP in particular is expected to have a number of positive effects. Examples are the improved acceptance of the measures and the development of an additional source of information. Prior to the participation process, a number of questions should be clarified, e.g. what level of participation is targeted and which resources are available for the respective participation format? In MSP, it must be clarified whether the participation should be formal or informal. In the case of a formal participation, the relevant legal regulations must be carefully observed. A number of different methods are available for participation processes, e.g. scoping, stakeholder analysis, mapping and many more. The selection of the right method depends on the objectives and framework conditions of the participation process.

Questions for reflection and discussion

1. What are the expected positive effects of participation?
2. What are the risks of participation?
3. Why is it important to distinguish between formal and informal participation?
4. Name three levels of stakeholder participation and explain their different promises to the public,
5. What are the appropriate methods in participation processes?

SEAPLANSPACE 5

EMERALD GROWTH: MARITIME SPATIAL
PLANNING AND TRANSITIONAL WATERS



PHOTO BY DOROTA PYC

SEAPLANSPEACE 5

EMERALD GROWTH: MARITIME SPATIAL PLANNING AND TRANSITIONAL WATERS

5. EMERALD GROWTH: MARITIME SPATIAL PLANNING AND TRANSITIONAL WATERS (RAMŪNAS POVILANSKAS, JULIUS TAMINSKAS, DAVIDE TAGLIAPIETRA)

The term ‘transitional waters’ was introduced in 2000 with the Water Framework Directive of the European Communities (WFD, 2000/60/EC) to describe the aquatic continuum between freshwaters, coastal waters, and marine waters. ‘Transitional waters’ are defined in the Official Journal of the European Communities 43 (L327) as ‘*bodies of surface water in the vicinity of river mouths which are partially saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows*’.

Transitional waters are highly productive, diverse, ecologically essential systems on a global scale which are valuable for the services they have been providing to human societies since at least the Neolithic age. Transitional waters supply food, shelter, transportation routes and also serve as natural wastewater treatment systems. However, ecosystem goods and services of transitional waters are poorly understood, although they are essential for a comprehensive understanding of the sustainability conditions of the more extensive coastal and maritime regions. Therefore, any mismanagement of transitional waters might cost dearly.

The Emerald Growth is a concept specifically tailored to address sustainable development and management issues of transitional waters contributing to the Blue Growth in a broader MSP framework. The topic of transitional waters management and Emerald Growth in the context of MSP is discussed and taught here because it is particularly important for the South Baltic Area due to the marine geography of the region. Five of eight transboundary transitional waters of the Baltic Sea are located at its southern rim (Fig. 1). They all require close cross-border co-operation in MSP between the neighbouring countries sharing them.

In the context of MSP, usually the Land-Sea-Interaction (LSI) has been more studied and addressed, and the EU MSPD refers to the interplay between the ICZM and MSP. Albeit, the transitional waters play the pivotal role in LSI, and, hence, in MSP in the South Baltic Area, the peculiarities of their management and planning are largely ignored by policy-makers. Meanwhile, the ecology and economy of transitional waters are a result of very specific and dynamic LSI patterns that need dedicated management and planning efforts however, there has been very limited discussion on this in the context of MSP to date.

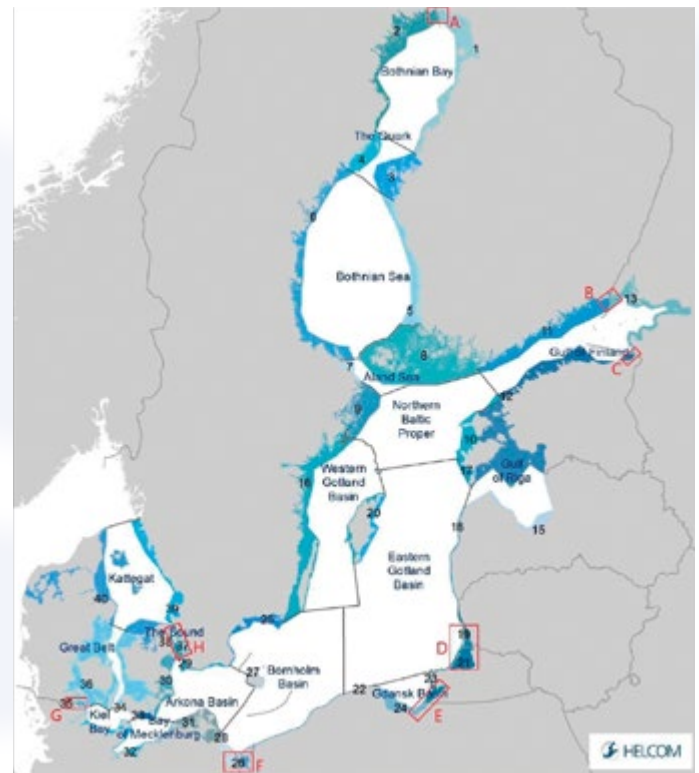


Figure 5.1. Distribution of coastal and transitional waters in the Baltic Sea Region (HELCOM). Transboundary transitional waters marked in red by the authors

Learning objectives

After completing this theme, trainees will be able to:

1. Understand the term ‘transitional waters’,
2. Recognise physical, ecological, economical and management peculiarities of transitional waters,
3. Appraise the concept of Emerald Growth and its difference from the concepts of Green Growth and Blue Growth,
4. Comprehend the essential differences, gaps and overlaps of two Directives of the EU: Water Framework Directive – WFD (2000/60/EU) and the Maritime Spatial Planning Directive – MSPD (2014/89/EU).

5.1. TRANSITIONAL WATERS

The presence of human settlements along the shores of estuaries and lagoons they have been providing since very ancient times, representing the nucleus of early civilisation and later social and economic establishments (Razinkovas–

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EMERALD GROWTH: MARITIME SPATIAL PLANNING AND TRANSITIONAL WATERS

Baziukas, Povilanskas, 2012). In the Mediterranean Basin, we have several documented pieces of evidence of multiple uses of coastal lagoons, from fisheries to transportation (Breber et al., 2008). In the 1st century AD, Romans used the Tyrrhenian coastal lagoon system as connection route between Rome and Naples for commercial and military purposes (Viaroli et al., 2005).

From the ecological point of view, transitional waters are ecotones between terrestrial, freshwater and marine ecosystems characterised by high spatial heterogeneity and temporal variability (Basset et al., 2006). The term 'transitional waters' denotes a wide array of ecosystem types, including river mouth ecosystems, lagoons, coastal lakes, rias, fjords and fjards, brackish wetlands and hypersaline ecosystems. Due to the hydrological balance between freshwater and marine forces, transitional waters, particularly the rias and the lagoon types, are sediment and nutrient sinks, modulated through multiple scales of variation according to the dial and lunar tidal cycles, seasonal and longer terms, precipitation cycles, and climate (McLusky, Elliott, 2007).

Provisional classification of different coastal types covered by the term 'transitional waters' provided in Table 5.1, while the distribution of various types of transitional waters in Europe is presented in Fig. 5.2.

Transitional waters are under massive human impact being the sites of major ports and cities. Therefore, these areas have been degraded by port activities, dredging and the pollution from industrial, urban, and agricultural activities, fishing and aquaculture. These problems have a huge impact on human wellbeing in coastal areas, since goods and services of the transitional waters, being as diverse and the aquatic ecosystems supporting them, are affected as well (Razinkovas–Baziukas, Povilanskas, 2012). Therefore, recently, the transitional waters of the EU received special attention from legislators. Transitional waters, being ecotones between freshwater, coastal, and terrestrial ecosystems, have always prompted the need to be categorised into operational types from both the academic and applied points of view (Basset et al., 2006).

According to McLusky and Elliott (2007), the term 'transitional waters' in practice means '*aquatic areas which are neither fully coastal nor enclosed or flowing freshwater areas*' and may be defined by physiographic features, discontinuities, salinity, or any other hydrographic feature. Even though the technical typology defined in the EU Water Framework Directive (WFD) is essential for defining a set of environmental descriptors and reinforcing environmental protection, the transitional waters are still a very complicated and often disguising term in this typology.

Table 5.1.: Main physiographic forms included under the term transitional waters (after McLusky, Elliott, 2007) *available in the Baltic Sea

Type	Characteristics
Classical estuary*	Tidally dominated at the seaward part; salinity notably reduced by freshwater river inputs; riverine dominance inward
Fjord*	Land freshwater seepage or markedly seasonal riverine inputs; limited tidal influence; stratified; long narrow, glacially eroded sea inlet, step sided, sill at mouth
Lentic non-tidal lagoon*	Limited exchange with the coastal area through a restricted mouth; separated from sea by a sand restricted mouth; separated from sea by sand or shingle banks, bars, coral, etc., shallow area, tidal range < 50 cm
Lentic microtidal lagoon	As above but with tidal range > 50 cm
Ria	Drowned river valley, some freshwater inputs; limited exchange
River mouth	River outlet as well-defined physiographic coastal feature
Delta*	Low energy, characteristically shaped, sediment dominated, river mouth area; estuary outflow
Coastal plume*	Outflow of estuary or lagoon, notably diluted salinity and hence different biota than surrounding coast

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EMERALD GROWTH: MARITIME SPATIAL PLANNING AND TRANSITIONAL WATERS

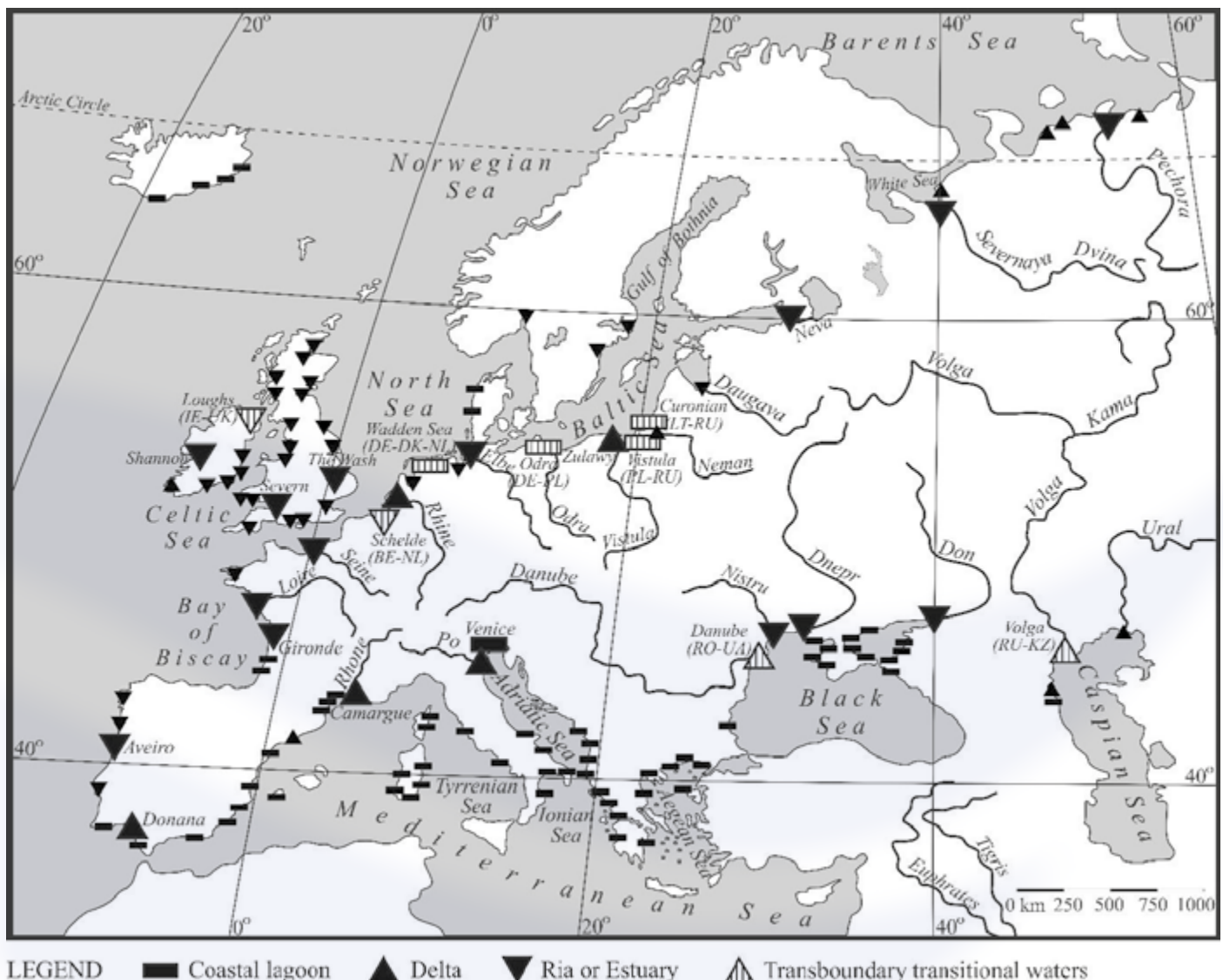


Figure 5.2. Distribution of transitional waters in Europe (Razinkovas-Baziukas, Povilanskas, 2012)

This definition is even more problematic when applied to the three largest European transboundary lagoons situated on the southern rim of the Baltic Sea. The issue is particularly complicated because two of these transitional water bodies are shared with the Russian Federation, which is not an EU member and, therefore, the term 'transitional waters' has no legislative consequences in the Russian parts of both lagoons. Schernewski and Wielgat (2004) highlighted that each Baltic Sea country adopted a somewhat different approach, and some do not appear to be designating any transitional waters despite the WFD regulations.

In the Baltic Sea area, Finland and Estonia do not appear to have transitional waters, while in Sweden there has been an attempt to overcome problems with designating transitional waters by suggesting a further category, that of enclosed, brackish coastal types. The Baltic Sea and the North Sea coasts of Denmark have no transitional waters. In Germany, transitional waters were designated for its North Sea estuaries but not for its Baltic Sea estuaries and lagoons. Lithuania considers the Curonian Lagoon have been a transitional water body. Additionally, the discharge plume from the Klaipeda Strait into the Baltic Sea is also designated as transitional waters.

Poland has designated as its transitional waters the entire areas of the Polish parts of Vistula Lagoon and Oder (Szczecin) Lagoon, a part of the Gulf of Gdańsk (the inner Puck Bay) as well as the open parts of the Pomeranian Bay and the Gulf of Gdańsk where riverine discharge plumes have an impact (Krzymiński et al., 2004). Poland has also designated the

coastal areas affected by the riverine/lagoon plumes discharging into the open Baltic Sea as transitional waters. Latvia treats the Daugava River estuary at Riga and the riverine discharge plume into the Gulf of Riga as a transitional water area.

Most of the properties of transitional waters derive from both hydrological balance and land-water interfaces. They are characterised by strong directional gradients of salinity, organic matter, nutrients and oxygen concentrations which act as fine-mesh filters in selecting potential coloniser species. From a trophic point of view, transitional waters are very productive. The overall hydrological and ecological balance that maintains the ecological status of transitional waters covers scales ranging in time from minutes and hours to years for long term hydrologic balance and large species population dynamics. On the spatial scale, the effects of transitional waters are felt from local to global, considering the migratory fish and bird species.

5.2. WFD (2000/60/EC) AND MSPD (2014/89/EU): MANAGEMENT SCOPES AND AREAS

Although the EU WFD provides an operational definition of transitional waters, there is, indeed, an ambiguity originating from different approaches by the Member States in defining transitional waters (Elliott, McLusky, 2002; McLusky, Elliott, 2007). The discussions on habitat definition became relevant within the EU, given the implementation of the EU WFD (2000/60/EC). There is also a need to define the limits of scope of the MSPD (2014/89/EU). It explicitly states in its Preamble (paragraph 15) that MSP will contribute, among other things, to achieving the aims of Directive 2000/60/EC of the European Parliament and the Council (i.e. the WFD).

The Preamble of the MSPD further states (paragraph 16): *‘Marine and coastal activities are often closely interrelated. In order to promote the sustainable use of maritime space, maritime spatial planning should take into account land-sea interactions.’* Article 2 (Scope) of the MSPD further explicitly defines the distinction between marine and coastal waters in its very first paragraph: *‘1. This Directive shall apply to marine waters of Member States, without prejudice to other Union legislation. It shall not apply to coastal waters or parts thereof falling under a Member State’s town and country planning, provided that this is communicated in its maritime spatial plans.’*

Such a definition of the MSPD scope means that each EU Member State should define the boundary between the transitional and coastal waters, which fall within the sphere of regulation of the MSFD and the WFD, and the marine waters which are the focus of both the MSFD and the MSPD and are subject to MSP. If the coastal waters or parts thereof fall under town and country planning, this must be communicated in the descriptive part of the maritime spatial plans. To make matters even more confusing, three Baltic Sea countries – Latvia, Lithuania and Poland consider nearshore plumes resulting from the most extensive river discharge as transitional waters. It implies that these nearshore areas fall under the regulation of all three directives – WFD, MSFD and MSPD.

In any case, the essential difference between the WFD, MSFD and the MSPD is that the former two tackle any issues pertinent to water quality management and improvement. Meanwhile, the MSPD addresses different issues and aims to combine the EA with spatial planning principles. Therefore, considering the issues of a good water quality status and its indicators, which is at the core of the WFD, the MSPD plays a complementary role. As mentioned above, MSP should contribute, among other things, to achieving the aims of the WFD, for example, a ‘good status’ of transitional, coastal and marine waters in EU Member States.

The WFD process for identifying coastal and transitional water body types required the development of new approaches. It also implied the need to agree on a standard set of typology factors (i.e. salinity, tidal range, and exposure), and their categories for comparable and consistent typology categorisation across the regional seas. It was also acknowledged that the estuarine, coastal and marine water body types are not distinct categories that can be easily identified by a set of factors, but rather a continuum. Therefore, the borderline between the three separate types is often difficult to define (Borja et al., 2010).

There are still doubts whether transitional waters should be excluded from the MSPD focus, if they have a sizeable marine influence, e.g. tidal systems or where salinity incursion occurs, as these by definition are part of marine systems. In their conclusion, Borja et al. (2010) emphasise that there is a need for a harmonised, seamless transition from catchment through transitional waters and coast to a marine system.

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EMERALD GROWTH: MARITIME SPATIAL PLANNING AND TRANSITIONAL WATERS

The fuzziness and difficulties with clear delimitation of different water system types is best illustrated by cases of transboundary water bodies even within the 'borderless' EU. For example, in the Oder lagoon, the Polish and German parts belong to different typologies (the Polish part being designated as transitional waters whereas the German part as coastal waters), which are confusing for both research and management matters.

5.3. EMERALD GROWTH CONCEPT

In recent decades, the European Union has directed many efforts towards new concepts of sustainable growth, first the terrestrial one (Green Growth) and then the maritime one (Blue Growth). According to the Organisation for Economic Co-operation and Development (OECD): '*green growth means fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies.*' (Aoki-Suzuki, 2015). Governance of marine resource use is increasingly facilitated around a recently introduced term and concept of Blue Growth (Eikeset et al., 2018). Blue Growth is meant to realise sustainable economic growth based on the exploitation of marine resources, while at the same time preventing their degradation, overuse, and pollution (Boonstra et al., 2018). [See also Chapter 1.3.2. for more information on EU's Blue Growth Strategy.]

The EU's Blue Growth strategy emphasises the importance of marine areas for innovation and growth in five sectors in addition to increased emphasis on MSP and coastal protection (Burgess et al., 2018). The Blue Growth concept recognises that diverse ocean uses, such as fisheries, shipping, tourism, and marine ecosystem services, such as food provisioning, coastal protection, and carbon storage, are inter-connected. Additional value can be gained from managing these uses and services jointly rather than addressing them separately (Burgess et al., 2018).

Table 5.2.: Drivers, indicators and planning approaches relevant in the MSP context

Notions	Green Growth	Emerald Growth	Blue Growth
Key drivers	1) Environmental and climate change and resulting economic policy changes 2) Circular economy advancement	1) Depletion of living resources of transitional waters 2) Eutrophication 3) Growing industrial and recreational use	1) Growing shipping 2) Marine pollution 3) Depletion of living marine resources 4) Growing demand for energy and mineral resources 5) Expanding networks of bottom pipelines and cables
Main indicator groups (OECD)	1) Economic growth, productivity and competitiveness 2) Labour markets, education and income 3) Carbon and energy productivity 4) Resource productivity 5) Multi-factor productivity 6) Natural asset base 7) Renewable stocks 8) Non-renewable stocks		
Main planning approaches	1) Hierarchical approach 2) Master-planning 3) Sectoral planning 4) Functional zoning 5) Detailed physical planning	1) Master-planning 2) Sectoral planning 3) Functional zoning 4) Trade-offs 5) Ecosystem-based planning 6) Transboundary coherence	1) Master-planning 2) Sectoral planning 3) Functional zoning 4) Trade-offs 5) Ecosystem-based planning 6) Transboundary coherence

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EMERALD GROWTH: MARITIME SPATIAL PLANNING AND TRANSITIONAL WATERS

In coastal areas, especially in lagoons and estuaries, the marine and terrestrial domains intertwine intimately, bringing out a unique habitat, with peculiar characteristics, in many aspects, hostile, while others are particularly favourable to human settlement. This environmental mosaic, which, as mentioned, extends from local to global, has generated particular socio-ecosystems of transitional waters with required special human skills, adaptive strategies and constant care of the environment. In transitional waters, it is challenging to discuss either Green Growth or Blue Growth purely.

In this interim zone, the two aspects of sustainable growth go together and have always been intimately connected. In these environments set like gems of the coast, we should instead discuss Emerald Growth (Tagliapietra et al., 2020). It is the combination of Green Growth and Blue Growth in a particular transitional waters' environment, where terrestrial and marine ecosystems interact. It treasures traditional knowledge of the elaborate lagoon and estuarine socio-ecosystems that have developed in these environments over the millennia but also implies new technological and economical solutions.

The Emerald Growth concept better describes the spatial planning aspects of ecosystem services of transitional waters lying between the terrestrial (Green Growth) and marine areas (Blue Growth). It includes and reassesses traditional knowledge of the coastal environment of lagoons and estuaries as an engine for sustainable development, but also proposes locally-tailored approaches for the renewal of these unique areas. It can be achieved by combining both Green Growth and Blue Growth concepts regarding sustainable ways of enhancing the well-being of coastal communities and their prospects for sustainable development. It also implies avoiding the adverse effects that may result from coastal population decline or monoculture (e.g. fishing or coastal tourism).

On a conceptual level, the Emerald Growth concept is a framework for analysing socio-economic growth and human well-being relying on sustainable use of transitional waters, their resources and ecosystem services. It is explicated in a similar way as the Blue Growth concept, where the complexity of ocean systems, combined with limitations on data and capacity, demands an approach to management that is pragmatic, meaning goal and solution-oriented, realistic, and practical (Burgess et al., 2018; Eikeset et al., 2018). On the other hand, the Emerald Growth drivers, indicators and planning approaches are also coherent with the Green Growth principles (Aoki-Suzuki, 2015; Jänicke, 2012; Lyytimäki et al., 2018).

While concrete planning guidelines for transitional waters and the Emerald Growth pertinent to the EU WFD, MSFD and MSPD regulations are still in the conceptual phase (Tagliapietra et al., 2020), the drivers, indicators and planning approaches, which have been already proven relevant in the MSP context, are summarised in Table 5.2.

5.4. SUSTAINABLE ECONOMY OF TRANSITIONAL WATERS

Transitional waters such as estuaries and coastal lagoons are situated on the interface between land and ocean. The functioning of transitional water ecosystems, if they are healthy, produces several essential goods and services for human populations – biological production, biodiversity conservation, river flow purification, storm and flood protection, cycling and transformation of elements and nutrients and wastewater treatment. However, goods and services delivered by transitional waters are not adequately defined yet (Razinkovas–Baziukas et al., 2012). McLusky, Elliott (2007) note that ecological concepts such as resilience and ecosystem goods and services are still poorly quantified for marine and estuarine environments. Yet, they must be quantified and linked to the management framework to provide a holistic approach to managing these environments.

Transitional waters provide biological resources, which have been commercially exploited since the pre-historic times (Viaroli et al., 2005). Due to their geographical position between the firm terrestrial ground and deep sea, these shallow dynamic water bodies play a key role as spawning areas for fish and invertebrates, support rich biodiversity and provide migration corridors for fish and waterfowl (Breber et al., 2008). Despite the high value of the goods and services provided by the transitional waters the spatial coverage of aquatic systems is much less documented, as compared to the terrestrial systems (Beaumont et al., 2007). This lack of information, therefore, hinders the decision-making process (Daily et al., 2009) and, by extension, the implementation of supranational legislation by the EU Member States.

The goods and services delivered by the transitional water ecosystems can be categorised into six broad groups (Razinkovas–Baziukas et al., 2012):

1. Conservation of aquatic biodiversity, particularly the biodiversity of migratory fish and birds,
2. Protection of marine environments from both physical disturbance due to flooding, and chemical disturbance due to watershed pollution,
3. Production of goods, in terms of fish, mussel, clam and shrimp production,
4. Providing amenities for nature, water-tourism and other outdoor leisure activities,
5. Maintaining specific coastal cultural and historical heritage values like traditions of combining fisheries and farming, sustainable small-scale aquaculture,
6. Providing diverse and relatively readily available information and data for environmental research, education and public awareness efforts illustrating interconnections of physical, ecological and human processes shaping the environment.

According to the Millennium Ecosystem Assessment, **ecosystem services** could be grouped into four broad categories (Razinkovas–Baziukas et al., 2012):

1. **Provisioning**, such as the production of food and water, other biological and non-biological products. Transitional waters provide food products like fish, shellfish, crustaceans and seaweeds, building materials such as sand and gravel and medicinal products from marine plants, microbes and animals. The definition can be expanded to include renewable energy (wind and wave power and estuarine tidal power systems),
2. **Regulating** services are the benefits obtained from the regulation of ecosystem processes, like climate and disease control. Transitional waters outperform any other ecosystem concerning regulating services (Newton et al., 2018). Transitional waters and their specific habitats, e.g. salt marshes, mangroves and intertidal flats regulate several material flows. They recycle different elements, reduce excess nutrients flowing to the ocean, protect the hinterland against flooding caused by storms or hurricanes and absorb and process waste materials,
3. **Cultural** services are non-material benefits people obtain from ecosystems through, for instance, recreation and aesthetic experiences. Many large cities and sea-ports hosting the majority of the world's population are located closely to lagoons and estuaries. They directly profit from recreation services delivered by the transitional waters,
4. **Supporting** services are those that are necessary for the production of all other ecosystem services, like soil formation and nutrient cycling. Primary production is another supporting service as it fuels and maintains the higher trophic levels of the ecosystem and its biodiversity. For instance, coastal lagoons, estuaries and other transitional waters provide the essential nursery grounds for the young of many commercially harvestable fish species.

Increasing use of aquatic resources by all sectors of society and the mismanagement as a result of many conflicting stakeholder interests are responsible for the degradation of these ecosystems and the potential decline of their economic value. The benefits that these ecosystems generate are threatened by society's activity (Nobre, 2009). Transitional waters like coastal lagoons or estuaries are under constant pressure, including habitat loss and pollution coming from their surroundings and catchments (Aubry, Elliott, 2006; Zalvidar et al., 2008). Examples include the declining capacity of the transitional waters to provide fishery products or ensure the cycling of elements.

Over the past 50 years, humans have changed ecosystems of transitional waters more rapidly and extensively than in any comparable period in the past. Although the changes that have been made to ecosystems have contributed to substantial net gains in human well-being and economic development, these gains had some costs such as degradation of many ecosystem services and the increased risks of adverse changes (Duarte et al., 2009). The degradation of ecosystem goods and services could increase significantly in the future and in turn, this will influence human well-being.

Adverse changes in ecosystems directly feedback to the socio-economic system that relies on the ecosystem's goods and services. An example is the loss of estuarine wetlands providing fish nursery areas where these juvenile fish then go on to become the commercial stocks (Hassan et al., 2005). For the sustainable management of environmental resources, identification and quantification of ecosystem goods and services are increasingly required (Troy, Wilson, 2006). An understanding of the functions and valuation of the ecosystem is crucial for appropriate decision making.

Any degradation of the transitional waters will act as a bottleneck in the movement of organisms from the sea to rivers and vice versa (in the case of fishes) and from the wetlands to the Arctic breeding grounds (in the case of birds).

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Thus, the reduction of carrying capacity in the transitional waters will have far-reaching repercussions. Successful reversal of the degradation of transitional waters needs sound scientific information that can be used to quantify the costs of policy enacting, and benefits from proper management of the natural resources and economic functions of transitional waters.

Summary

The WFD process for identifying coastal and transitional water body types required the development of new approaches and the need to agree on a standard set of typology factors and their categories for comparable and consistent typology categorisation across the coastal areas of the regional seas. The estuarine and coastal types are not distinct categories that can be easily identified by a set of factors, but rather a continuum. It is questioned whether estuaries and other transitional waters should be excluded from MSP. As a result of this vague definition, each Baltic Sea country has adopted a slightly different approach, and some do not appear to be designating any transitional waters.

However, the differences in formal designation should not be considered as an obstacle for the transboundary co-operation efforts in the management of the transitional waters. The concept of the Emerald Growth offers a conceptual framework for better understanding and dealing with complex and complicated issues, pertinent to environmental protection and sustainable development of the economies of transitional waters, particularly the transboundary ones. On the policy aspect, stronger links should be established between the Emerald Growth and MSP. For this aim, it is necessary in each particular case to find a balance between different EU directives (WFD, MSFD and MSPD) in order to deliver a holistic approach to the transitional waters' management (Boyes, Eliot, 2014; da Luz Fernandez et al., 2017).

Questions for reflection and discussion

1. How do you understand the statement that from an ecological point of view, transitional waters are ecotones between terrestrial, freshwater and marine ecosystems, being characterised by high spatial heterogeneity and temporal variability?
2. How do you understand the statement that from a management point of view, we need a merged approach and a harmonised, seamless transition from catchment through transitional waters and coast to an open marine system?
3. Explain what physical and environmental features determine the role of transitional waters as spawning areas for fish and invertebrates and as habitats supporting rich biodiversity and providing migration corridors for fish and waterfowl?
4. Explain why transitional waters have the ecological peculiarity of being both very fragile and resilient at the same time?

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CROSS-BORDER AND TRANSBOUNDARY
CO-OPERATION IN MSP



PHOTO BY DOROTA PYĆ

6. CROSS-BORDER AND TRANSBOUNDARY CO-OPERATION IN MSP **(JACEK ZAUCHA)**

Although MSP usually remains under the jurisdiction of national (or subnational) authorities, it differs from its land counterpart in much greater intensity of international interconnections. The planned object – marine ecosystem – forms the coherent unity and therefore, it should not be managed from national but rather from a supranational (i.e. sea basin) perspective.

Thus, cross-border and transboundary co-operation is so crucial for coherence of MSP efforts influencing the same body of sea waters. One should keep in mind that, for example, a decision of building a port in territorial waters of a given South Baltic country might directly affect coast formation in the other BSR countries. Also, a decision to erect off-shore wind-farms might change migratory routes of the birds, which are important for bio-diversity of the entire macro region.

In this chapter the notion of cross-border co-operation will be reserved for co-operation between neighbouring countries (or regions) sharing the same maritime border, whereas transboundary (or transnational) co-operation will be related to broader undertakings usually encompassing various countries or regions sharing a given sea basin (or its coherent large part). According to VASAB-HELCOM Guidelines (2013), cross-border co-operation concentrates on issues which are relevant for two or more neighbouring countries, whereas transboundary co-operation focuses on issues which are of a pan-Baltic, cross-border nature, the impacts of which may extend across boundaries, not necessarily only of immediate neighbouring countries. In both cases the aim of co-operation lies in addressing impacts that extend national borders. One should keep in mind that in marine circumstances such impacts are numerous (oceanographic, environmental, economic etc.).

6.1. CONCEPTUALISATION OF THE CROSS-BORDER AND TRANSBOUNDARY DIMENSIONS OF MSP

The call to use spatial planning as a new way of managing maritime space for the first time in Europe appeared in an international document. This was done during the conference of spatial planning ministers in the BSR countries (VASAB) in a declaration adopted in Wismar in 2001. It was symptomatic that this plea for development of MSP initially appeared as a result of international co-operation. The first Baltic MSP attempts are summarised in the *Recommendations on the role of Spatial Planning in Integrated Coastal Zone Management and Sea Use Planning*. Two issues are highlighted there: coordination between sectors and uses, and transnational concertation (*Use the strengths of spatial planning for cross-sector coordination in offshore development, introduce tools and methods for spatial coordination of offshore uses, improve the transnational discussion and concertation process*). In this regard the document pointed out the need for a coherent vision of transnational corridors for international shipping and transmission networks, pipelines, cables (cf. Zaucha, 2014a, pp. 12-13). The aforesaid recommendation should be considered as the first stage of the conceptualisation of the cross-border and transboundary dimension of MSP in the EU. The cornerstones of such internationalisation are provided by common transnational planning principles, cross-border co-ordinated planning of spatial development elements crossing administrative borders of countries or regions (e.g. blue/green corridors, shipping corridors, cables) as well as co-operation in creating knowledge and exchange of MSP experiences.

A few years later the EU Commission also joined the efforts of conceptualisation of the international (cross-border and transboundary) dimension of MSP, but it soon became a centre for crystallization and supporting joint international work in this sphere. The origins of this commitment can be found in the concept of an integrated EU maritime policy promoted by the Directorate-General for Maritime Affairs and Fisheries (DG MARE).

In the Green Paper - Towards a future Maritime Policy for the Union: a European vision for the oceans and seas (EC, 2006, p. 33), there are arguments that support the need to internationalise MSP, as follows:

1. The requirement to coordinate cross-border activities and infrastructure,
2. The need to develop multilateral rules that reconcile freedom of navigation with the need for MSP.

The strong desire of the EU Commission for internationalisation of MSP can be illustrated by the following quote from the Green Paper, "A broad debate is needed on the principles which should underlie such planning. Although individual decisions on activities should be taken at a national or local level, a degree of commonality between the

systems will be needed to ensure that decisions affecting the same ecosystem or cross-border activities, such as pipeline and shipping routes, are dealt with in a coherent manner.” (EC, 2006, p. 33). The Commission also called upon the Member States to set up the appropriate transboundary planning processes making use of the existing regional organisations active in marine affairs such as HELCOM¹⁵ for the Baltic, OSPAR¹⁶ for the North East Atlantic, the UN-MAP¹⁷ and the Barcelona Process¹⁸ for the Mediterranean, as well as regional and international fisheries organisations. In addition to that, in the “Blue Book for an Integrated Maritime Policy for the European Union”, the Commission underlined a need for a commitment at European level for common EU principles and guidelines to facilitate the MSP process and to ensure that regional marine ecosystems that transcend national maritime boundaries are respected (EC, 2007, p. 6). Such principles were elaborated by the Commission one year later in the Roadmap for MSP and among them a prominent place was given to an issue of cross-border co-operation and consultation. The principle reads: “Co-operation across borders is necessary to ensure coherence of plans across ecosystems. It will lead to the development of common standards and processes and raise the overall quality of MSP...” (EC, 2008, p. 10). In this Roadmap, the Commission has also repeated the familiar argument that MSP decisions taken in one country have an impact on neighbouring countries but it was used that time for a brave attempt to change the existing status quo and secure also for the EU level an important role in the planning domain that according to *EU acquis* should be reserved for the Member States. This was done through a straightforward message: “Implementation of MSP is the responsibility of the Member States. The subsidiarity principle applies, but action at EU level can provide significant added value.” (EC, 2008).

In parallel VASAB also formulated its own principles for the BSR. They were even more far-reaching in this respect, emphasising not only the need for transnational coordination and joint planning with neighbouring countries, but also the need to take into account the experience, recommendations and information of pan-Baltic organisations and Conference of the *Council* of Europe of Ministers Responsible for Spatial Planning CEMAT (Zauch, 2008). Also, the Intergovernmental Oceanographic Commission (IOC) of UNESCO has contributed in a meaningful way to the conceptualisation of cross-border and transboundary dimension of MSP. The extensive information about the advancement and scope of MSP around the world and the conclusions drawn from these experiences have been published on the website of the IOC.

In the following years the conceptualisation benefitted from several reports on MSP contracted by the EU Commission and within the framework of transnational (usually INTEREEG) joint projects on MSP. An example of such a report is *The Essence of MSP* (EC, 2010). In this document, the Commission points to the international dimension of this planning, stating that, thanks to a common approach, planning in the Member States will be more effective, it will be easier to respond to global and cross-border challenges such as climate change, competitiveness of the EU’s maritime economy and the ecosystem nature of managing sea resources. The EU level should provide coordination in this respect.

In the joint transnational projects, planners of MSP from different countries could get to know each other, build trust, identify problems requiring joint solutions, test decision-making tools not only based on national conditions, but also taking into account the wider perspective of the entire sea basin. The projects were also a forum for involving industry stakeholders or NGOs as well as public administration at various levels in the planning work. They created awareness of the role of MSP and created a common understanding of what can and what cannot be done under MSP. In advance, they made it possible to identify future cross-border conflicts in maritime space management and possible synergies. The contribution of these projects to the conceptualisation of the international dimension of MSP is presented in the table 6.1.

The EU framework directive dedicated to MSP can be treated as the culmination of activities in the field of conceptualisation of the international dimension of MSP in the EU. Its first initial draft (EC, 2013) included both MSP and ICZM. [For more information on ICZM, please see Chapter 2.4.1.]

The cross-border (international) dimension of both processes was clearly outlined in this draft. As a minimum requirement, the following was stipulated:

1. Ensuring, as part of MSP, effective cross-border co-operation between the Member States, their authorities and stakeholders representing sectoral policies, identifying the transboundary impact of planning solutions on waters or coastal areas within the jurisdiction of third-party countries and establishing co-operation on these matters with the competent authorities of those countries in resolving these issues,

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- In addition, the practical dimension and scope of cross-border co-operation is specified in Article 12 stating that it should ensure coherence and coordination of plans (strategies) in a given maritime region, and in particular this co-operation should concern cross-border issues such as cross-border infrastructure. Two forms of conducting this co-operation have also been proposed, i.e. through regional institutional co-operation structures and/or dedicated networks of the Member States' competent authorities.

Table. 6.1. The contribution of selected international projects to the conceptualisation of the cross-border and transboundary dimension of MSP. Source: Zaucha, 2018

Project	Contribution to the conceptualisation of the cross-border and transboundary dimension of MSP.
BaltCoast	The first attempt to conceptualise the cross-border and transboundary dimension of MSP as part of the recommendations on the role of spatial planning in integrated coastal management and maritime planning (Zaucha, 2014a, 13)
Balance	Development of the concept of marine (blue) ecological corridors (Martin, Nilsson, 2006)
PlanCoast	The first and an attempt to share experience between different sea basins (Schultz-Zehden et al., 2008)
East-West Window	First project promoting an EU approach to MSP vis-à-vis third countries, i.e. Russia (Zaucha, Zotov, 2008) A model for starting a discussion on MSP in countries with no experience in this fieldSea Basin Principles on MSP (Zaucha, 2008) The first compendium on MSP covering the BSR countries (Cieślak et al., 2009)
BaltSeaPlan	The first transnational vision on ways to conduct MSP within the sea basin (Baltic Sea) (Gee et al., 2011) Two pilot spatial cross-border plans for maritime areas (Zaucha, Matczak, 2011; Käppeler et al., 2011) Tested MARXAN as a tool to support the choices of planning cross-border solutions (Göke, Lamp, 2011)
MESMA	Innovative methods and integrated strategies for governments, local authorities, stakeholders, and other management bodies to support planning decisions at various local, national and European levels. Strategic tools for the sustained development of European seas and coastal areas, combining and optimising the benefits of using marine areas and the health and resilience of ecosystems, considering economic and ecological differences
Plan Bothnia	Collection, processing and visualisation of information necessary to prepare a transboundary spatial plan of maritime areas (Backer, Fraix, 2012)
Mesh Atlantic	A set of common maps with a harmonised and agreed methodology for maritime areas of the Atlantic in the EU
SHAPE	Common methodology for implementing MSP in the Adriatic Sea Joint Adriatic Atlas supporting MSP and ICZM
PartiSeaPate	A template for working with stakeholders in the dimension of the sea basin (Baltic Sea) (Schultz-Zehden, Gee, 2015) A template for management of planning processes within the sea basin (Baltic Sea) (Schultz-Zehden, Gee, 2016)
TPEA	A check list containing the main steps for spatial planners involved in transboundary MSP (Jay, Gee, 2014)
ADRIPLAN	A proposal of strategic planning in the Adriatic-Ionian macro-region with particular emphasis on cross-border issues that require cross-border management (Barbanti et al., 2015, pp. 173-178) Lessons learned from transboundary and cross-border co-operation in MSP (Barbanti et al., 2015, pp. 239-241)
SIMCelt	Challenges and opportunities for cross-border co-operation in MSP and possible approaches to solving them in the Celtic Sea
Baltic Scope	Identification of specific issues requiring joint (cross-border) planning throughout the Baltic Sea, agreeing on a list of specific problems and threats in this area, and adopting recommendations on how to carry out planning in these topics to take into account the interests of other countries (Baltic Scope, 2017) A joint Baltic checklist for planning processes, the fulfilment of which gives planning an ecosystem character (Schmidtbauer Crona, 2017)
Baltic LiNEs	The concept of a coherent transnational network of corridors (shipping routes and energy corridors) in the entire sea basin (Baltic Sea, North Sea) - its development and implementation (Matczak et al., 2019)
Pan-Baltic Scope	Developing the Baltic wide concept of green infrastructure (Ruskule et al., 2019) Evaluation of the implementation of the international guidelines (the Baltic Sea broadscale MSP principles, regional Baltic MSP roadmap 2013-2020, and guidelines on transboundary consultations, public participation and co-operation) that provide a common regional framework supporting cross-border co-operation and coherent national MSP implementation in the BSR.

As is widely known, this draft has not been accepted by the Member States as it limits their discretionary powers too much in the matters reserved exclusively to the competences of the Member States. The ICZM was removed from the text of the directive and the scope of the document is limited to MSP. Some detailed provisions have been softened, e.g. the definition of the minimum content of maritime spatial plans has been abandoned and this has been replaced by an indicative enumeration of issues (ways of using sea areas) that may be covered by the maritime spatial plans.

However, the provisions regarding the cross-border dimension of MSP did not change significantly in the finally adopted Directive (EC, 2014), although they took a slightly more laconic form. The requirement to co-operate with Member States and third-party countries was included in the minimum planning requirements (Article 6) and Article 11, and repeated the provisions of the draft directive regarding co-operation with Member States, removing only the example of cross-border infrastructure and adding „other appropriate” to forms of co-operation. The issue of third-party countries (Article 12) also remained, however, has been softened. Instead of the expression *‘shall make every effort to co-ordinate’*, for the description of the nature of interaction with these countries the expression *‘shall endeavour where possible to co-operate’* was used. Moreover, the final wording of the directives indicated that this co-operation was to be in accordance with the provisions of international law and regional conventions and that it might take place, inter alia, through the use of international forums or regional institutional co-operation.

Nowadays, the conceptualisation of the cross-border and transboundary dimension of MSP takes place mainly through the EU MSP platform (<https://www.msp-platform.eu/>) launched under leadership of S.Pro on demand and with funds provided by the EU Commission (DG Mare). It presents almost all existing EU experience on MSP including national planning processes, sea basin co-operation networks, international projects and their results, as well as progress in the implementation of MSP in EU countries and the specifics of this process. A separate section in the platform is devoted to transboundary and cross-border co-operation (<https://www.msp-platform.eu/faq/cross-border-co-operation>).

6.2. INSTRUMENTS FOR STRENGTHENING THE CROSS-BORDER AND TRANSBOUNDARY DIMENSION OF MSP

The cornerstones of the cross-border and transboundary dimension of MSP are provided in the legal acts governing MSP. At the supranational level two of them play an important role: the aforesaid EU Directive establishing a framework for MSP (EU, 2014) and the ESPOO convention that has given ground for another EU Directive (Directive 2003/35/EC). The EU Directive establishing a framework for MSP is very general in terms of prescribing the nature and modalities of the cross-border consultations. As the provision of the MSP Directive related to this issue were discussed in the previous subchapter here only the Convention will be presented in more depth. Convention on Environmental Impact Assessment in a Transboundary Context (so called ESPOO Convention) was adopted by the United Nations Economic Commission for Europe (UNECE) in 1991 and entered into force on 10 September 1997. It was complemented with the Protocol on Strategic Environmental Assessment. The Convention sets out the obligations of Parties to assess the environmental impact of certain activities at an early stage of planning. It also lays down the general obligation of states to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across boundaries. The Convention establishes procedures for co-operation and settlement of disputes related to the implementation and analysis of environmental impact assessments.

Therefore, the Convention is an important instrument for international agreement on projects that may have a significant impact on the environment – including those located in maritime areas. In addition to that, the aforesaid Protocol on Strategic Environmental Assessment obliges the signatories to analyse the environmental consequences of the official draft plans and programmes through preparing ‘strategic environmental assessment’ (SEA). The plans and programmes subject to this procedure are listed in Annex II of the protocol. Maritime spatial plans are subject to SEA and if significant cross-border environmental impact has been detected under the SEA report such plan should be subject to the formally outlined trans-boundary consultation procedure. Article 10 of the protocol regulates such consultations. It stipulates when notification is required, what its scope should be, the procedure for starting, and necessary arrangements for consultations. Participation in this process by the countries potentially influenced by the environmental impact of the marine spatial plan is voluntary. The main drawback of the aforesaid protocol is in limiting transboundary consultations to the environmental matters and starting consultation of the plans when they are almost finalised – so only limited scope for changes is possible in practice.

Transboundary soft law (principles, guidelines)

For the limitations of the legal acts described above, in practice, so-called acts of soft-law (i.e. internationally agreed but formally non-binding documents) play an important role in providing the outlines of transboundary or cross-border interactions on MSP. As a rule, such documents have been related mainly to the preparation of the plans. There is an important gap in terms of the cross-border or transboundary dimension of the monitoring and evaluation of the maritime spatial plans. In the BSR (and therefore in the South Baltic Area) three documents substantiate the cross-border and transboundary dimension of MSP: The HELCOM-VASAB Baltic Sea Broadscale Maritime Spatial Planning Principles (adopted by HELCOM and VASAB at the end of 2010), Baltic MSP Vision (adopted by VASAB in 2012) (Gee et al., 2011), HELCOM-VASAB Guidelines on transboundary consultations, public participation and co-operation (adopted by HELCOM and VASAB in 2013 and 2014 respectively).

The aforesaid **principles** provide a general framework for MSP in the BSR. Principle no. 7 stipulates that *'maritime spatial planning should be developed in a joint pan-Baltic dialogue with coordination and consultation between the Baltic Sea states, bearing in mind the need to apply international legislation and agreements and, for the HELCOM and VASAB EU Member States, the EU acquis communautaire. Such dialogue should be conducted in a cross-sectoral context between all coastal countries, interested and competent organizations and stakeholders. Whenever possible maritime spatial plans should be developed and amended with the Baltic Sea Region perspective in mind'*. Thus, it identifies some cornerstones of the transboundary and cross-border dimension of the Baltic MSP: transnational dialogue, international legislation, and BSR perspective.

These principles were detailed with regard to cross-border and transboundary consultations, and co-operation in the *Guidelines on transboundary consultations, public participation and co-operation* that were prepared and discussed (as in the case with principles) by the Joint HELCOM-VASAB Maritime Spatial Planning Working Group.

The guidelines propose a distinction between consultation within a process related to the preparation of a specific maritime spatial plan and co-operation, which deals with general issues, i.e. the exchange of information and opinions on far-reaching, strategic issues and the creation of understanding and trust.

In the first domain the guidelines define the content of the consultation process, which may include: informing stakeholders, using their publicly available information resources, asking them for specific contributions to the planning process, e.g. for information or statistical data, as well as asking them for opinions and evaluation plan objectives, methods or proposals for planning solutions, and finally developing new knowledge, know-how or preliminary solutions. Regarding consultation, the guidelines suggest:

1. Extending the scope of cross-border consultations to include social and economic issues and starting consultations in the initial phase of the planning process (the issue is to do more than only comply with the modest requirements of the ESPOO Convention in this respect),
2. Specific ways of organising cross-border consultations at various stages of the planning process, i.e. they specify the procedure and scope of informing MSP authorities of other countries in the initial planning phase, and in subsequent stages propose the procedure for involving foreign stakeholders through the above-mentioned authorities from their own countries,
3. Developing a communication strategy for involving cross-border stakeholders (language issues, also the need for personal meetings in neighbouring countries),
4. Maintaining informal contacts (co-operation, exchange of information and opinions) to complement the formal consultation process, which allows trust to be built and seeks solutions to complicated situations. Such contacts should be maintained especially between authorities from different countries responsible for MSP.

Regarding co-operation, it was proposed:

1. Continuing policy guidance at the pan-Baltic level,
2. Creating and facilitating expert groups to solve important planning problems and implementing the results of their work,
3. Engaging and continuing constant co-operation with other pan-Baltic organisations (to encourage them to participate in national planning processes and to involve them in the work of expert groups),
4. Supporting informal co-operation between MSP practitioners (discussion platforms, seminars and meetings on various spatial scales).

The vision “Towards the sustainable planning of Baltic Sea Space” (Gee et al., 2011) was created under the transnational BaltSeaPlan project, and then was officially recognised by the VASAB Planning and Spatial Development Committee. This document specifies the Baltic criteria for assessing proposed or considered MSP decisions (planned solutions) and identifies the main issues requiring international co-operation within the BSR. They include the marine environment, energy, transport and fisheries with mariculture, each of them should have agreed Baltic goals, solutions and targets within the framework of Baltic MSP co-operation. The vision focuses on the joint working steps necessary to implement the functional coherence of the maritime space in the BSR. According to the vision the following would require joint efforts:

1. exchanging information and spatial data for building knowledge on maritime space and monitoring,
2. paying attention to the principle of subsidiarity, i.e. making MSP decisions at the lowest adequate level of management,
3. transnational agreement for preparation of decision impacts which exceed national borders, which are then subsequently implemented as part of national or sub-national plans,
4. formal structures for coordinating planning between countries or even making key planning decisions (regarding goals or target values, as well as the vision itself) at the BSR level.

All three documents have greatly enhanced the preparation of MSP plans in the South Baltic area.

Other transboundary documents and concepts

The difference in comparison with these pieces of so-called soft law is that the documents and models described in this subchapter have been jointly elaborated by MSP authorities from various countries but have never been officially adopted within an international framework. An important cross-border and/or transboundary dimension is demonstrated by the governance model for the Baltic MSP and Baltic Scope recommendations and to a lesser extent by various check-lists.

The work on the systemic framework for the functioning of the Baltic MSP in the transnational dimension (governance model) (Heinrich, Gee, 2012) was started in parallel with preparation of the aforesaid vision under the PlanBothnia project. The model specifies minimum requirements ensuring authentic transnational spatial planning of the Baltic Sea. They are divided into several groups:

1. The first one concerns a coherent understanding of the essence of spatial planning and its transnational dimension (its main element was the axiological layer combining vision criteria and planning principles adopted by HELCOM-VASAB),
2. The second group refers to legal and institutional requirements and points to the need to build planning based on the main acts of international law, extension of environmental impact assessment of the plan by socio-economic issues (so-called sustainability assessment) and establishment of an international coordinating or decision-making body at ministerial level, as postulated in the vision,
3. The third group includes tasks related to the planning process and content of plans, which included a catalogue of transnational planning topics, an outline of the necessary transnational planning co-operation and a proposal to standardise the types of areas identified in plans and map drawing (a common legend for all countries). This group also includes the requirements for consulting plans (a postulate to extend consultations under SEA to also cover socio-economic issues) and requirements for the implementation phase of plans (e.g. the concept of common Baltic monitoring indicators, a system of consultations on changing plans and procedures for projects with significant cross-border impact),
4. The fourth group conveys the need for joint educational activities at the Baltic level related to shaping the knowledge and awareness of stakeholders or decision makers on MSP.

The model was subject to reflections of the Joint HELCOM-VASAB Maritime Spatial Planning Working Group. Despite differences of opinions, there was a consensus that the common system should include the agreed axiological layer, agreeing on the content of plans, tools and methods of co-operation, including the creation of coordination and/or decision-making structures dedicated to this co-operation, which should as a result ensure a coherent transnational planning system (Zaucha 2014a, pp. 73-74). The model in detail is presented in table 6.2.

Work on the system was continued as part of the PartiSEApate project, thanks to which it was possible to examine the views of stakeholders regarding transnational management or orientation of MSP in the BSR. The concept of the Baltic dialogue was used in the study, asking respondents among others in what direction they believe the Baltic MSP system

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would develop (Schultz-Zehden, Gee, 2016, p. 37). Although respondents predicted that the development of the maritime planning system would take place mainly at the national level, they noticed the usefulness of the Baltic coordination system, emphasising the importance of pragmatism and linking Baltic and national planning efforts. The need for consultation at an early stage of the planning process was also acknowledged (Schultz-Zehden, Gee, 2016, pp. 37-39).

Table 6.2. Key minimum requirements ensuring authentic transnational spatial planning of the Baltic Sea. Source: dwelling on *Schultz-Zehden, Gee* (2016, p. 37)

National level	Supranational level
Legal aspects	
Designation of a responsible authority for MSP in the EEZ and for ICZM in territorial waters. Specification of the issues to be regulated in the maritime spatial plan. Specification of the legal effect of the plan (i.e. whether the plan is binding to public authorities only, or to private persons also) Basic requirements for the participation process beyond the EU SEA regulations Monitoring requirements for the plan Maximum period before updating and revising the plan.	A formal ministerial co-ordinating body for pan-Baltic MSP issues A transnational coordinating body, at a technical level, to develop common methods and contents, including an integrated vision for the Baltic Sea as a whole
Preparation of plans	
Clearly-defined objectives showing: <ul style="list-style-type: none"> o the planning area o the issues to be resolved, o responsibilities o the regulations needed o the management tools available, including finances o inventory of all available mapping data 	Information exchange: <ul style="list-style-type: none"> o on planning intentions with possible cross-border effects o on cross-border user interests o on cross-border environmental requirements o of available relevant data on the ecosystem, marine activities and projects o agreement on information needs for the preparatory stock-take o main topics of relevance in transboundary MSP o harmonised data between all Baltic Sea countries (in the long run) o a common legend (common symbols and colours) for the most important topics
Planning and consultations	
Defining basic types of zone in the MSP <ul style="list-style-type: none"> o General use zone, where no use is given priority, nor restricted, by the rules of the spatial plan. o Priority use zone, where no use is allowed that would significantly constrain the use that is given priority in this zone o Restricted access zone where certain uses are prohibited o Targeted management zone, where the underlying basic zone needs to be complemented by detailed management regulations 	Transnational co-operation, information and concertation for planned designations of areas/regulations with possible transnational or cross-border effects. Joint elaboration of a transnational plan, or parts thereof, for topics where information and concertation is not sufficient (e.g. for cross-border linear infrastructure).
Implementation of the plan	
Inventory preparation of all available data that is needed to define appropriate monitoring indicators	Consultation on permits for private or public sea uses with potential transnational or cross-border implications

Under the Baltic Scope transnational project Baltic MSP authorities have jointly developed recommendations on MSP across borders (Baltic Scope, 2017). The recommendations propose practical solutions on how to deal under MSP with cross-border problems and challenges. The recommendations cover four aspects and four sectors. The aspects are as follows: transboundary co-operation, processes, planning evidence and stakeholders, and platforms. The sectors include: shipping, fisheries, energy and environment. The majority of these recommendations repeat what was said in the previous documents, in particular the governance model, (strengthening co-operation between MSP and sectoral authorities and pan-Baltic organisations or initiating policy level agreements at the Baltic level on MSP relevant issues and targets) but few of them highlight new issues. For instance, it has been recommended that planning authorities and maritime administration should map transboundary synergies and conflicts to help planners of MSP to identify areas requiring their special attention. Those authorities should also provide better connection between Baltic Sea level and national policies. This might help to solve conflicting national interests that cannot be solved through informal dialogue between planners.

Also, several check lists that help to strengthen the coherence of MSP efforts have been jointly elaborated under various MSP projects. The most important lists concern stakeholder involvement (Matczak et al., 2014) – the product of the PartiSEApate project or the ecosystem approach (Schmidtbauer Crona, 2017) – the product of the Baltic Scope project. Also, some important methodological reports have played similar roles as the aforesaid checklist, i.e. guiding practical MSP work towards better coherence among the countries. For instance, under the Baltic Scope the methodological guidelines on evaluation and monitoring of transboundary aspects of MSP have been jointly elaborated by some of the MSP responsible authorities in the BSR (Varjopuro, 2017). The issue was deepened under the Pan Baltic Scope project with two practical case studies related to Latvian and Polish MSP.

Transboundary plans

Since maritime spatial plans are in the jurisdiction of national governments it is very unlikely that cross-border genuine maritime spatial plans will be developed for sea and oceans covered by EEZ or national waters. The problem is the difference in national legislation, axiology behind MSP, and planning culture. Therefore, such transnational or cross-border plans usually take the form of pilot, non-binding planning exercises. Two plans of such nature were prepared for the South Baltic Area: Plan for Pomeranian Bight (Käppeler et al., 2011) and plan for the Middle Bank (Zauchka, Matczak, 2011). Both of them within the BaltSeaPlan project.

The pilot plan for the Middle Bank covered the exclusive economic zone on both sides of the maritime border between Poland and Sweden. This was a poorly investigated and highly undeveloped area, potentially useful for wind energy development (shallow depth, strong wind), but also possibly valuable from an ecological point of view (e.g. harbour porpoise resting area). The plan was prepared despite significant gaps in available knowledge and initiated a dialogue between responsible MSP authorities from Sweden and Poland on the future coherent use of the Middle Bank. This dialogue resulted in a similar approach to the Middle Bank in both official maritime spatial plans, produced by these two countries (to be finalised in 2020 or 2021) despite the fact that each plan was constructed differently (non-binding, very general Swedish plan and detailed regulatory Polish plan). The precautionary approach developed under the cross-border plan was entirely absorbed by the Swedish plan. Middle Bank was considered as an area suitable for offshore energy development provided the environmental investigation allows for that. Moreover, thanks to the discussions informed by the pilot plan, Swedish planners secured other banks as the harbour porpoise dedicated areas. This can be seen as a cross-border planning synergy since Poland was unable to do that due to the absence of other banks in its waters that are visited frequently by harbour porpoise. Thanks to that, the development of off-shore energy became a reasonable option at the Polish part of the Middle Bank as well.

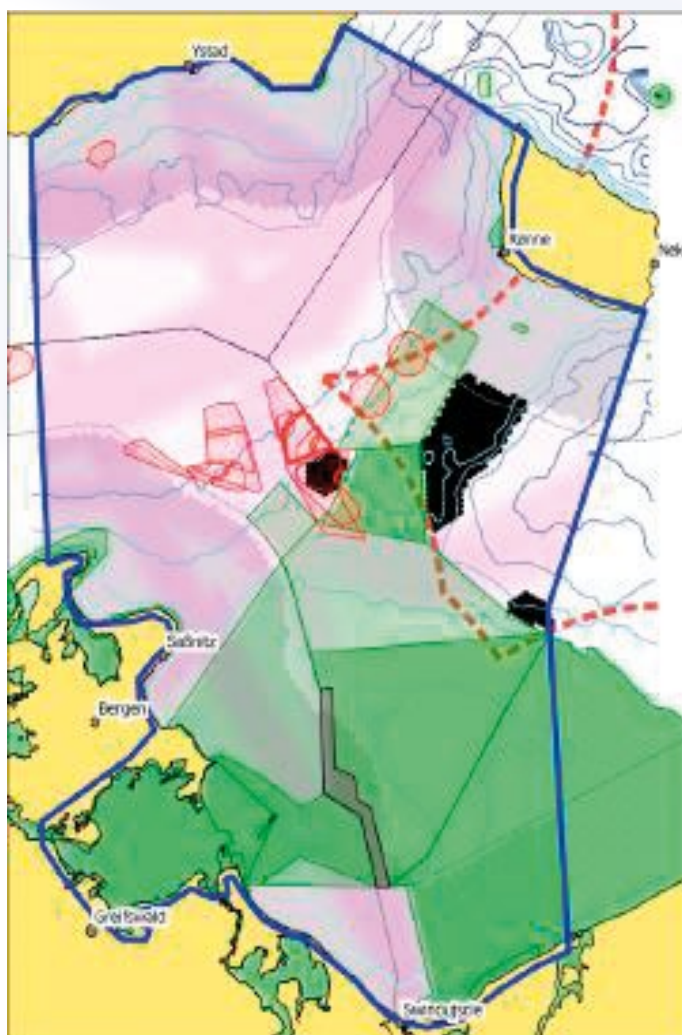
The draft spatial plan of the Pomeranian Bight was developed for the cross-border area for which some legally binding plans already existed for Germany (for the German EEZ and for the territorial waters of Mecklenburg-Vorpommern) but with no MSP process started in Sweden, Poland or Denmark. The draft plan (in the same way as the draft plan for the Middle Bank) first identified the main uses and conflicts between them, then proposed transboundary approaches for dealing with these conflicts, and identified transboundary agreed ones and finally defined general objectives for each of the uses and looked for their spatial expression in terms of different spatial designations for example, sea areas in which a given use is welcomed or restricted. However, the most innovative part of the plan was testing the principle raised in the BSR Vision for MSP (Gee et al., 2011) that considered a supranational (e.g. South Baltic) planning perspective in finding the best allocation for sea uses. This principle might lead to specialisation of countries with regard

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to some sea uses determined by the value and valuableness of national maritime space relative to maritime space available in other countries. This may result in the abandonment of certain ways of using the maritime space in a given country, and the intensification of other ways depending on the specifics of this space (e.g. habitats, biodiversity or bottom sediments). However, all countries must agree on some form of redistribution of benefits between them from various sea uses. However, this would require not only the co-operation and agreement of spatial planners, but full trust and freedom of doing business. This is not an easy task, however, the first step was done under the pilot plan for the Pomeranian Bight by providing some planning options for the optimal location of offshore wind farms in the maritime areas of Germany and Denmark. For their identification, the MARXAN software was used, which indicated the best location for the off-shore energy sites for the Pomeranian Bight according to the adopted criteria (e.g. the necessary production volume, principles of minimising production costs, allocating the least ecological valuable areas for economic activities, the imperative of protecting sea landscapes). The results of the simulation are shown in Figure 6.1.

Figure 6.1 indicates the need to transfer almost all German farms to the maritime space of Denmark. Thus, the majority of farms from the Pomeranian Bight perspective should not be located in Germany, as the German plan assumes, if only sending electricity over 50 km would not be too expensive. Better sites are provided by Danish sea space. The described above MARXAN analysis illustrates the power of the cross-border approach in MSP. For instance, for some countries it might even be more profitable even to pay for development of some sea uses (or sea protection) in the sea water of their neighbours instead of doing it under the jurisdiction of their own maritime areas.



Explanation:

Black area: sites selected by MARXAN.

Red hatched areas: Offshore wind farm sites foreseen in national plans.

Pink lines: Shipping routes.

Red dashed line: 50 km line for cable connections.

Grey: Visibility belt from the coast.

Green: Natura 2000

Figure 6.1. Planning options provided by MARXAN for a Pomeranian Bight target of 218 km² for mean wind availability (Source: Käppeler et al., 2011, p. 71)

Transboundary MSP forums

Regularly organised meetings, seminars and conferences as well as working groups provide, like projects, an opportunity to exchange experience on MSP, as well as to inspire and be inspired by it. Moreover, permanent international structures (standing committees, working groups) can elaborate some pieces of soft law or other documents and solutions (analysed at the beginning of this chapter) that might influence the scope and content of MSP. The permanent structures will be described in the next chapter; therefore, this section will focus on more relaxed forms of co-operation, i.e. regular conferences and other meetings.

Periodical conferences on MSP are organised by the EU Commission (DG Mare). In parallel with the legislative work, and after the approval of the MSP directive, the international debate initiated by the Commission on MSP developed. It was framed by the Commission workshops and conferences on MSP. Some of them concerned cross-border co-operation. For example, the 6th Conference (23–24 June 2016) was organised under the slogan of MSP in the global dimension. In addition to presenting the experiences of non-EU countries, an important element was spatial planning in the open seas and in the area. This was due to the intention of the Commission to extend planning to these areas (EC 2016). Also, at the 7th Conference (15–17 March 2017), known as the 2nd International Conference on MSP, discussed such issues as the intensification of marine planning in the global dimension or the role of this planning in the search for answers to global challenges. Nowadays, the EU Commission supports International MSP forums co-organised by the Intergovernmental Oceanographic Commission of the UNESCO (described in the next chapter).

At the BSR level VASAB has been organising regular MSP conferences in Riga, called Baltic MSP Forum. The first forum took place in 2014, the second in 2016 and the third in 2019. Their main aim was to facilitate discussions among those involved and affected by MSP, and further develop and enhance MSP in the BSR. The conferences were and are extremely successful, being attended by hundreds of people from various countries and continents with all participants of transnational projects wanting to present their results there.

Cross- border and transboundary consultations

Cross-border or transboundary consultations on maritime spatial plans are analysed in detail in the technical study of the EU MSP Platform (Waldman et al., 2018) and therefore, only some relevant South Baltic/BSR aspects will be discussed here.

In the BSR, cross border or transboundary consultations are part of the MSP process as stipulated by the aforesaid guidelines of HELCOM-VASAB. Environmental aspects (SEA report) are consulted within the ESPOO procedures. The BSR experience on the ESPOO process shows limited interest of the neighbouring countries to participate actively (case of Lithuanian, Latvian and German plans that are formally approved). The reason might be the timing of these consultations, conducted usually when the draft plan is ready and it is too late to influence it. However, as pointed out by Schmidbauer Crona (2015), the ESPOO process is important since it uses official ‘channels’, attracts attention of various authorities beyond MSP and due to its legal character in many cases pushes them to be active. Therefore, the aforesaid guidelines were proposed to complement the ESPOO process by including all other relevant MSP issues and starting it at an early stage of planning. However, this means in practice that the formal ESPOO process is complemented by ‘informal’ consultations between neighbouring countries. This has been the case for the plans which are currently (or have been recently) under preparation in Poland, Latvia and Sweden. For instance, in the case of the Latvian plan, an initial transboundary meeting with Estonia and Lithuania was held in July 2015. The purpose of the meetings was to introduce the Latvian MSP and SEA process, provide information on the current stage of MSP and discuss scenarios. In November 2015, Latvia informed Estonia, Sweden and Lithuania about the timing of national public consultations and also offered to organise transboundary consultations simultaneously. Only Lithuania welcomed this offer and the public consultation meeting was held in Vilnius at the end of January 2016, and covered both Latvia’s maritime spatial plan (first draft) and its SEA. Afterwards, the transboundary consultations were continued within the Baltic Scope project with all Latvian sea neighbours. Sweden also organised an informal MSP-notification meeting to inform about starting MSP in Sweden. All neighbouring countries were invited to the meeting held on Gotland on 11–12 September, 2013. The notification meeting served to inform neighbours about the maritime spatial plan’s content, time horizon and underlined axiological layer. The Swedish MSP notification also included also SEA-scoping and the possibility for early feedback on the SEA. Afterwards, two other transnational meetings were organised, the final one on 10 December 2019 completed the period of informal consultations and started the formal ESPOO procedure. After the

second international meeting foreign authorities and Baltic bodies were invited to submit comments in writing. Those comments have affected and changed the Swedish plan. Sweden also used the Baltic Scope project for more frequent collaboration with the BSR countries. The same line was followed by Poland. Three international meetings accompanied the Polish MSP process. A notification meeting (18–19 October 2016) took place before starting preparation of the *Draft Maritime Spatial Plan of Polish Sea Areas in scale of 1:200,000*. The planning process, timing, objectives and impact of the plan as well as key conditions affecting the Polish maritime spatial plan were explained and discussed. Over 40 participants from 7 countries attended this event. The second international seminar took place on 6–7 November 2017. The draft ‘zero’ of the plan was presented and discussed (the draft contained only: analysis of conflicts and draft allocation of the main functions/uses without any detailed solutions) and the envisaged SEA procedure was outlined. A part of the meeting was devoted to discussion of cross-border issues. The meeting was attended by over 40 participants from Germany, Denmark, Sweden, Russia, Latvia and Finland. Poland was represented by the MSP authorities General Directorate for Environmental Protection, Ministry of Foreign Affairs and the contractors preparing the plan. The third meeting took place on 4–5 June 2019. The initial third draft of the plan (full plan after national consultations and including SEA suggestions) was presented and the participants received an opportunity to submit comments on this draft orally (during the meeting) or in writing. Those comments were included in the fourth draft handled to the government for adoption.

Cross-border and transboundary co-operation in the EU and BSR

Baltic Sea Region

Many practical cases from the BSR show a genuine pursuit towards cross-border coordination of maritime spatial plans. As pointed out by Zaucha (2018, p. 114) consultations and notifications on starting MSP at the earliest stage of the planning process (pre-planning) is becoming good practice in the BSR. (However, one should keep in mind that this is not always necessary, as in the case of regional plans in Finland, which have limited cross-border impact). Considering the uniqueness of the BSR, it is worth taking a closer look at how the international dimension of MSP was built and why this sea basin is a leader in terms of MSP progress and what method in this macro region has been used to ensure consistency of maritime spatial plans.

The essence of the Baltic transboundary co-operation in MSP is the interpenetration and close feedback loop between the two levels responsible for planning: levels of practitioners and decision makers. The funds are provided by the financial allocations from DG Mare and INTERREG that partially finance this collaboration. Practitioners work on specific planning solutions in the framework of transnational projects initiated and implemented by spatial planners, research institutes and interested stakeholders. The results of their work are analysed and incorporated into administrative arrangements within the quasi-formalised co-operation of decision-makers from responsible MSP Ministries forming the Joint HELCOM-VASAB Maritime Spatial Planning Working Group. Summing up, one can say that the international Baltic co-operation in the field of MSP takes place at two levels: intergovernmental and also intersectoral (as part of the working group) and between spatial planners (as part of transnational projects). In this way, a unique model of transnational Baltic co-operation was created, exerting a significant influence on the practical international dimension of MSP in this macro-region (Fig. 6.2).

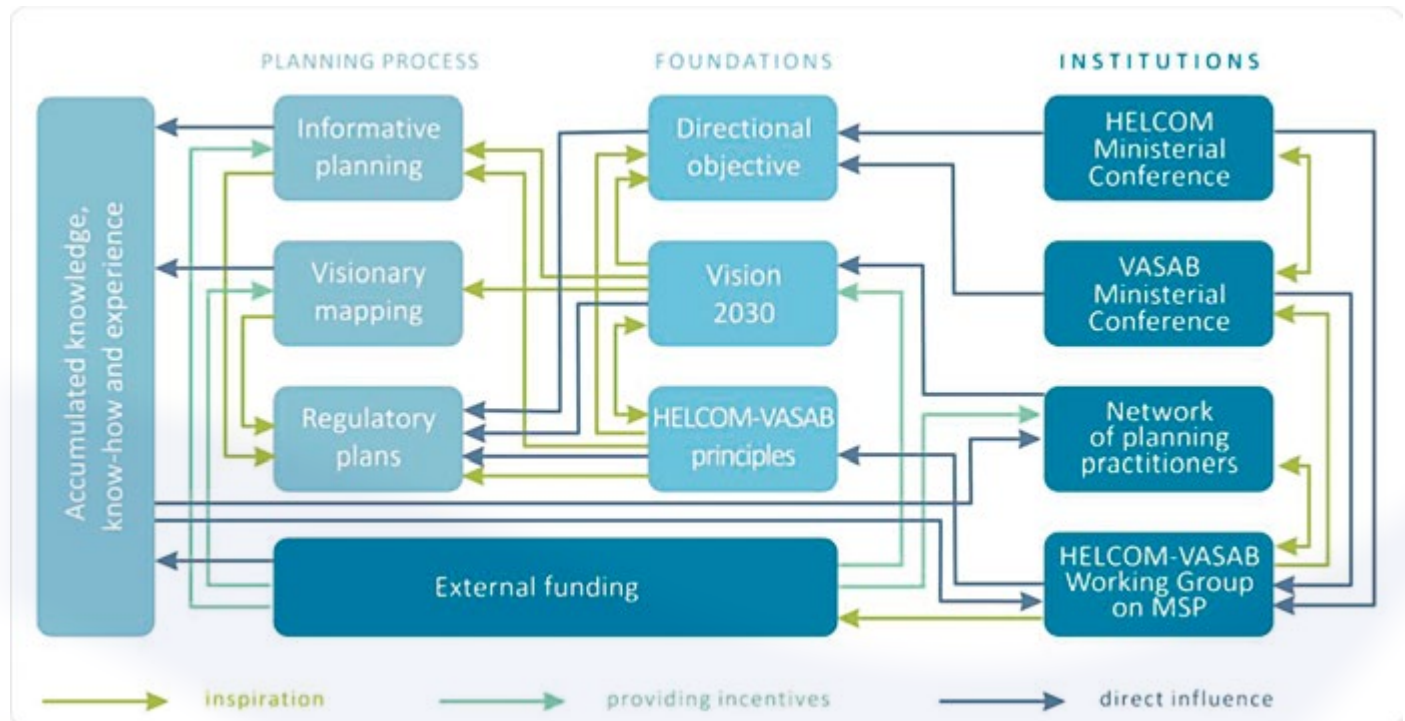
The transnational projects (BaltCoast, East West Window, PlanCoast, BaltSeaPlan, PartiSEApate) constituted a key mechanism that shaped the Baltic common planning practice regarding MSP. The most important of them that contributed the most to development of MSP content in the BSR are analysed in the literature (e.g. Zaucha, 2014a, pp. 23–25). In addition to the projects listed above one should also acknowledge the important contribution of Baltic Scope and Pan Baltic Scope projects. Their added value stems from the fact that they have secured practical international co-operation of maritime administrations from the BSR countries during the actual planning process that took place parallel to their implementation. So, they provided informal forums for consultation and testing of the planning solutions. In the previous sections of the manual there are numerous references to transboundary outcomes of the transnational projects listed above. Therefore, in the remaining part of this section the ministerial level of collaboration will be presented in more depth.

In 2010, a Joint HELCOM-VASAB Maritime Spatial Planning Working Group was created, composed of representatives of ministries (or their subordinate agencies) from VASAB and HELCOM member countries responsible for environmental protection and those with MSP. The European Commission is also a member of the group and NGOs have the observer status. This group was subordinated to the Steering Committees of both co-operation networks: i.e. the Planning and Spatial Development Committee of VASAB and the Heads of the HELCOM delegations.

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Figure 6.2. Baltic transboundary co-operation in the field of MSP. (Source: Zaucha, 2014b)



At a time when most of the Baltic countries were preparing to elaborate maritime spatial plans, collaboration between the Joint HELCOM-VASAB Maritime Spatial Planning Working Group and MSP practitioners resulted in the creation of a common methodological framework for MSP (at least in a form of minimum common Baltic denominator). Nowadays, the Joint HELCOM-VASAB Maritime Spatial Planning Working Group works on future-oriented issues such as coherence of the maritime spatial plans or their evaluation and assessment. The Pan-Baltic Scope results inform this process.

The dialogue described above was strengthened by giving the Joint HELCOM-VASAB Maritime Spatial Planning Working Group the status of coordinator of the Horizontal Action "Spatial Planning" under the EU Strategy for the BSR. The essence of this Strategy (EC, 2009) is the co-operation of the private, public, academic and civic sectors in various scales and spatial cross-sections supporting the achievement of agreed macro-regional objectives: good ecological status of the Baltic Sea (Save the Sea), transport integration of the macro-region (Connect the region) and strengthening the prosperity level in the macro-region (Increase prosperity) – for more on the strategy, see Zaucha (2020; 2013). One of the ways to achieve these goals is MSP, considered a horizontal action, and thus permeating other thematic areas. Therefore, the strategy assumes strengthening the spatial planning of maritime and land areas in all Member States in the BSR and developing a common approach to cross-border co-operation in this sphere. The Joint HELCOM-VASAB Maritime Spatial Planning Working Group is responsible for the sea related part of the task.

European Union

In 2011, DG Mare established a permanent working group composed of representatives of the Member States' administrations responsible for implementing MSP (Member States Expert Group on MSP). Its purpose is to advise the European Commission on all aspects of MSP. This group creates a de facto European mechanism for the coordination of activities in the field of MSP, sets the framework for joint activities (workshop seminars) and indicates the topics necessitating expert analysis. In order to learn from MSP worldwide, DG Mare also launched a study on international best practices for cross-border MSP²⁰.

The "Joint Roadmap to accelerate Maritime/Marine Spatial Planning processes worldwide" adopted during the 2nd International Conference on Maritime Spatial Planning, in March 2017 in Paris, foresaw the creation of an international forum for discussion and exchanges on cross-border MSP at an international level. Joint Roadmap defines priority areas and strategic objectives for mutual co-operation. It contributes to sketching out a vision and a role for MSP in

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implementing Agenda 2030 – the UN Resolution 70/1 of 2015 that pushes forward 17 sustainable development goals designed to be a „blueprint to achieve a better and more sustainable future for all”, and to improving cross-border and transboundary co-operation where it already exists and promoting MSP processes in areas where it is yet to be put in place. To that end the International MSP Forum was initiated by a series of workshops on MSP worldwide: Brussels (24–25 May 2018), La Reunion (26–29 March 2019), Vigo (12-15 May 2019) and Riga (19-21 November 2019). The workshops/conferences aimed at exchange of good practices and interactive discussions in order to work towards the creation of international guidelines on the transboundary MSP.

Summary

From the analyses carried out above, some key conditions for adequately establishing the international dimension of MSP at a supranational (sea basin) level, or rather for taking this dimension into account in national or regional planning work, can be identified. They include (Zauch, 2018):

1. Legal requirements for coordination and securing coherence of maritime spatial plans of the EU Member States (EU MSP Directive, ESPOO process),
2. The adequate level of institutionalisation of MSP co-operation at the EU (or sea basin) level at least being able to direct development and remove bottlenecks in the implementation of maritime spatial plans (examples are Joint HELCOM-VASAB Maritime Spatial Planning Working Group or Member States Expert Group on MSP). At this level, documents guiding MSP development should be created and sea basin targets agreed. The result might be:
 - a) Agreed minimum axiological layer regarding planning goals at sea basin level,
 - b) Development of guidelines for MSP, including methods of international coordination and direction, available in the public domain,
 - c) Sea basin or EU level coordination of MSP tasks requiring supranational management or facilitation (the collection of data and information needed for MSP is an example of one of the tasks that should be done at supranational level),
6. Numerous international projects enabling joint analysis of challenges, problems and spatial conflicts within sea basins. Also resulting in formal and informal co-operation networks,
7. Various discussion forums on methodological issues of MSP, good practices, innovations etc,
8. Verbal and financial incentives to carry out coordination work at the sea basin levels (macro-regions) taking their specificity into account.

All this should ultimately lead to the development of maritime spatial plans for national/subnational sea areas that are coherent and co-ordinated with the plans of other countries/regions. Unfortunately, it is still unclear what the coherence ambitions are in practice, i.e. whether coherence should be achieved by the level of objectives met, or whether sufficient outcome would be the lack of conflicts, or rather harmonised routes of transport, ecological and infrastructural corridors or maybe sufficient size of marine protected areas within a given sea basin ensuring good status of the marine environment or the well-being of living organisms.

SEAPLANSPACE 7

MONITORING AND EVALUATION



PHOTO BY DOROTA PYĆ

7. MONITORING AND EVALUATION (ROBERT DOBAK)

A great way of dealing with the stress on our seas, affected by human activities, is to make a maritime spatial plan. In accordance with EU Directive 2014/89/EU, the plan and the planning process can ideally address how different sectors collectively impact the marine environment and propose solutions and illustrate the effects on individual sectors. The greater the proposed change, the greater the need for a process and a plan that can show how and in which ways human activities can be improved in order to decrease the burden on the marine environment.

Conditions should be improved in conjunction with ensuring the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources. According to the EU directive, the need to monitor and evaluate the plans is a part of the process of developing maritime spatial plans that are to be determined by each EU country. The plans, to be adopted no later than 31 March 2021, should have an in-built process that covers monitoring and evaluation in order to verify they deliver results that take into account various aspects of the relevant plans and policies.

However, as this is the first time that many EU countries will be delivering a maritime spatial plan, there will be some general and country-specific methodical issues to address to ensure that the monitoring and evaluation of the processes and the plans will be focused on the relevant indicators and objectives.

7.1. MONITORING AND EVALUATION - AS DESCRIBED IN THE EU-DIRECTIVE 2014/89/EU

In the EU Directive 2014/89/EU (“establishing a framework for maritime spatial planning”, commonly known as the *maritime spatial framework directive* or *MSPD*), the most concrete issues for addressing monitoring and evaluation can be found in point (18) and Article 14. However, as the MSPD is a framework directive, some of the underlying directives such as 2009/28/EG (“use of energy from renewable sources”) and 2000/60/EG (“establishing a framework for Community action in the field of water policy” – commonly known as the *water framework directive* or *WFD*) might also address specific questions about monitoring and evaluation that will affect the planning and evaluation of maritime spatial plans. For a complete list of other EU directives included, see point (15) in the MSPD.

Table 7.1: Point 18. Source: EU Directive 2014/89/EU

(18) Maritime spatial planning should cover the full cycle of problem and opportunity identification, information collection, planning, decision-making, implementation, revision or updating, and the monitoring of implementation, and should have due regard to land-sea interactions and best available knowledge. Best use should be made of mechanisms set out in existing or future legislation, including Commission Decision 2010/477/EU (1) and the Commission’s Marine Knowledge 2020 initiative.

Table 7.2: Article 14 Monitoring and reporting. Source: EU Directive 2014/89/EU

Article 14 Monitoring and reporting

1. Member States shall send copies of the maritime spatial plans, including relevant existing explanatory material on the implementation of this Directive, and all subsequent updates, to the Commission and to any other Member States concerned within three months of their publication.
2. The Commission shall submit to the European Parliament and to the Council, at the latest one year after the deadline for establishment of the maritime spatial plans, and every four years thereafter, a report outlining the progress made in implementing this Directive.

In point (18), monitoring is only mentioned specifically for “monitoring of implementation” but monitoring and evaluation must be considered during the whole process. The implementation of the plan aims to fulfil different objectives and whether the maritime spatial plan succeeds or not depends on many factors that must be identified due to specific circumstances in every single EU country (Varjopuro, 2017). If, during the first cycle, the plans do not deliver results according to their objectives, then proper “...revision or updating...” as mentioned above will be impossible to

achieve if the next planning cycle is not based on monitoring and evaluation, whether or not the process and plan delivers the expected results.

According to Article 14 of the MSPD, the EU Commission is expected to report to the EU Parliament and to the Council by 2022 at the latest (and every fourth year thereafter) about the progress which makes the need for monitoring and evaluation necessary. Usually, in the context of MSP, monitoring is referred to as the collection of data or following a certain index, while evaluation can be seen as a wider process that attempts to estimate the performance of a plan, for example (Ehler, 2014).

An interesting approach could be to start with a relevant comparison to the EU WFD, considering implementation, monitoring and evaluation. The comparison will serve as an interesting and useful example to illustrate the need for discussions concerning methods and methodologies regarding monitoring and evaluation of the maritime spatial plans. Both directives cover marine areas, even if the WFD only covers a small marine area, close to land, compared to the MSPD.

7.2. SIMILARITIES AND DIFFERENCES REGARDING MONITORING AND EVALUATION BETWEEN THE DIRECTIVE 2000/60/EG (WFD) AND THE DIRECTIVE 2014/89/EU (MSPD)

Taking a closer look at monitoring and evaluation in the WFD, monitoring as referred to in the WFD could refer to monitoring of coastal water quality and different parameters such as fish, algae and water chemistry required to reach 'good surface water status'. According to the WFD, the amount or level of certain parameters being monitored (such as certain fish species) in Annex V should target and fulfil the environmental standards set by each individual country. Monitoring in the context of MSPD would mean, for example, that certain key indicators and objectives relevant to the planning process, or the performance of the plan, will be identified and monitored (Ehler, 2014).

The most comparable part of the WFD is the area that covers the programmes of measures that should enable the environmental quality standards of biology and chemistry to achieve 'good surface water status' by 2027 at the latest. The WFD is more detailed in many aspects compared to the MSPD – and more specified, which makes comparisons between countries easier. Also, there are intercalibrations between EU countries as part of the process to achieve the correct environmental quality standards. There are several guidance documents, such as different Common Implementation Standards (CIS guidance documents) which help EU countries implement legislation and achieve the targets. As an example, there is a CIS guidance document that analyses the need to consider the economy and the environment in the implementation: "Guidance Document No 1: Economics and the Environment – The Implementation Challenge of the Water Framework Directive". According to the directive, the programme of measures should be published and available for public participation so that the authorities, business sector and the public may give their opinion as to whether it can be approved. After having been adopted, it will be revised in cycles. The programme of measures has been adopted in cycles every sixth year since 2009 and good ecological status should be reached by 2027 at the latest. The need for evaluation is obvious if the programme of measures is to enable the environmental standards to be achieved.

The MSPD, on the other hand, is less detailed and contains no further instructions or governance of how to achieve (with an EBA), as stated in Article 1 of Directive 2014/89/EU: *...the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources*. No indexes or indicators have been presented to clarify what should be achieved by the EU countries in order to meet the MSPD's intentions. However, HELCOM has formulated a guideline on how to implement the EBA in MSP in the Baltic Sea, highlighting SEA as an important tool for implementing the EBA in the maritime spatial plans (HELCOM, 2014).

However, intercalibration between EU countries in the MSP process is taking place in projects financed by the EU, such as BaltSeaPlan (www.baltseaplan.eu) and Baltic Scope (www.balticscope.eu), usually between the national authorities responsible for national MSP. Sometimes, stakeholders, usually at a national level (representing shipping, energy, fisheries, etc.) are invited to co-operate on certain issues. The regional and local level of MSP in the different countries is less considered in international planning processes and less abundant in the co-operation between countries.

Thus, considering MSP according to the MSPD, there is a great need to define what to monitor and what to evaluate, how such monitoring should be carried out and by whom, if the main goals are to be achieved by taking into account

the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources. All goals should be achieved with an EBA – which also must be defined in the context of the Baltic Sea. Definitions, and perhaps in the future within the EU, a standardised approach will, in certain respects, help to make the results comparable between the EU countries that share the same seas. A well-developed process for formulating a maritime spatial plan will mean that when the planning starts, there is an overall idea of how decisions regarding the temporal and spatial use of the sea should be evaluated and no planning will be made without considering the evaluation. The differences between the WFD and the MSPD also mean that formal responsibility (such as who will carry out the monitoring and evaluation and who will receive the results) is resolved early in the process when the WFD is implemented. Within the MSPD, formal responsibility for monitoring and evaluation, establishing financial and formal responsibility, intercalibration between countries, etc. still need to be resolved.

7.3. MONITORING AND EVALUATION OF THE MSP PROCESS, THE IMPLEMENTATION OR THE MARITIME SPATIAL PLAN?

Except for the implementation, as mentioned specifically in the MSPD, it could also be of interest to monitor and evaluate the plan itself and the outcome of the plan, as well as the process. For example, important moments in the process could be the identification of relevant stakeholders, the extent of stakeholder participation and the opportunities for stakeholders to practically influence the planning process and the maritime spatial plan. This may increase the possibility of the plans being accepted.

Stakeholders can include politicians, authorities, business sectors, non-governmental organisations or the public. Their needs and requirements have to be coordinated so that it will work with the planning process to make the co-operation possible. The level of participation, the timing of the process, the moments, etc. must be decided and communicated before the planning process starts. All the partners need to feel that their participation in the process is meaningful and that their opinions have been respected, whenever possible. Decisions regarding how to evaluate the process must be made in advance and the methods defined before the planning process begins. If a stakeholder's participation in the process is important, then the stakeholder's participation also must be evaluated.

There are different ways of evaluating a maritime spatial plan. Depending on the legal nature of the plan, a binding plan may be evaluated in a certain way, but a plan intended to be a guidance document may need a different focus, perhaps on how the stakeholders use the plan in their businesses. Also, consideration must be given as to whether the plan has a visionary focus, in contrast to the current mode, or if it is mainly aiming to maintain the current mode at sea. Also, the principles for evaluation must be considered, whether they are based on a performance or a conformance evaluation (Oliviera & Pinho, 2010), as this will affect how the evaluation (and the planning) will be performed. Base levels need to be established when the objectives for the evaluation and monitoring have been set. The sources and accuracy of the data will be of interest from the stakeholders' point of view.

7.4. KNOW YOUR MARITIME SPATIAL PLAN AND HOW IT WILL WORK IN A MARITIME CONTEXT

As stated in the MSPD, everything in the maritime spatial plans should adopt an EBA when trying to promote the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources. However, the maritime spatial plan and the implementation of the EU directive in several countries with different national legislation have made it difficult to make uniform proposals regarding the purpose of monitoring and evaluation (Varjopuro, 2017). Even if the countries around the South Baltic share the same sea as a resource, there is no immediate and easy way of identifying common methods regarding how to monitor and evaluate the outcome of the maritime spatial plans.

The need for a great change in the South Baltic means that maritime spatial plans are suitable as a cross-sectorial instrument, viewing and illustrating how the necessary changes will affect all relevant sectoral interests. The greater the changes that must take place, the greater the need to illustrate the effects on different sectors, with different geographical levels and to show how they will be affected. Thus, the need for effective MSP (and plans) is also a need from a democratic perspective in order to visualise the improvements resulting from the evaluation and to make them accessible to the public.

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If the objectives of the visions, policies or strategies are not known at the beginning of the process, then it will be difficult to make a plan that can ultimately be evaluated and monitored to verify whether the objectives have been met. Understanding and mapping the visions, policies and strategies may also help from the perspective that guidance could be offered regarding the evaluation and monitoring associated with them. If possible – the interpretations of visions, policies and strategies must be approved by politicians at the relevant levels before planning. This will improve the likelihood of making a fair evaluation in order to establish whether the plan will deliver the expected result. Note, the visions, policies or strategies may not always be fulfilled by the decisions in a maritime spatial plan regarding how to use sea space.

The maritime spatial plan and its dependence on other supportive tools: legal, financial and informative tools

A maritime spatial plan may depend on other tools outside the legal and policy framework of the maritime spatial plan. Implementation of the maritime spatial plan may involve legislation that affects different business sectors, information, financial subsidies and other arrangements throughout the planning cycle. A business sector that is involved in the plan may need financial subsidies to complement the spatial and temporal regulations in a maritime spatial plan. For example, the energy sector must be sure that investments are made in such a way that wind turbines located at sea are built and installed within a favourable time frame with optimal administration with regards to environmental permission from the authorities. There are, of course, other factors that could affect the maritime spatial plan, such as the macroeconomic situation, technical developments and political initiatives that affect profitability in the business sectors.

Ultimately, an evaluation of the impact of a maritime spatial plan may not only consider the actual use of sea space, but it also must take into account the legal, financial, informative and other elements that may support the implementation of the plan. This means that the plan can catalyse changes needed to create the establishment of proper supporting legal, financial and informative elements. The fact that the plan can be connected to other supporting tools will make it easier for MSP to succeed. However, it is also more relevant to monitor and evaluate the certain effects of specific factors that make the plan to succeed with the objectives (Carneiro, 2013).

7.5. HOW TO DESIGN THE PROPER MONITORING AND EVALUATION

It would appear that recommending methods or ways of designing the evaluation of maritime spatial plans must be country specific, or perhaps sector specific, with an international approach on both large and minor geographical scales.

It is common with ongoing monitoring and evaluation to include several sectors that could be useful in evaluating a new maritime spatial plan. However, some of the sectors to be included in the maritime spatial plan may not have taken the EBA into consideration many years ago when the sectoral plans were being formulated. The need for sea-based, renewable energy (when society is transforming from fossil or nuclear based energy production) may not have been foreseen; as well as the fact that biodiversity is under significant pressure in many areas with many species in the Baltic Sea becoming endangered in recent years, some even facing extinction.

Monitoring and evaluation of the plan may have to be translated into indicators that will serve as benchmarks taking into account the results the plan is supposed to deliver. It is important to isolate what should be monitored and evaluated so that only factors that depend on and affect the decisions made in the plan, regarding sea use from an aerial and temporal perspective, will be evaluated. The way in which the maritime spatial plan is evaluated must reflect the visions, policies and strategies that were interpreted in the plan. Therefore, it is primarily the decisions made in the maritime spatial plan that will be evaluated.

For many EU countries, this will be the first time they have created a maritime spatial plan with the ambition of integrating all sectors into one plan. As most countries are making a plan that is specifically adapted to their legislation and administrative needs, the system for evaluation and monitoring must also be flexible in the initial phase. It is probable that questions regarding the need for a standardised monitoring and evaluation process will emerge in the future with a view to making it easier to compare the outcomes of plans from different EU countries.

Summary

SEAPLANSACE 7

MONITORING AND EVALUATION

The ambitions, as written in the EU Directive 2014/89/EU, are high when it comes to the results that the maritime spatial plans are expected to deliver considering the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources. There will most likely be difficulties in comparing the outcomes of plans by different countries due to differences in national legislations. The way the directive has been implemented in the countries will also contribute to differences in the outcomes.

Using the seas in more sustainable ways is urgent: the environmental situation in many seas, like the Baltic Sea, needs to be radically improved. The maritime spatial plan is an important tool to get an overview of the spatial use of the sea and can be used to show connections regarding political visions, policies and strategies that affect spatial planning. The improvements will only be possible though if the maritime economy makes several changes to the way it works, with a view to strengthening sustainability. If it is not possible to monitor and evaluate the future outcomes of the maritime spatial plans in a systematic way, then the EU has literally been throwing money in the sea.

SEAPLANSPACE

CONCLUSION



PHOTO BY DOROTA PYĆ

CONCLUSION: THE ESSENCE OF MARITIME SPACE AND MARITIME SPATIAL PLANNING
(KARIN TOPSØ LARSEN, LISE SCHRØDER)

Oceans, seas, and maritime environment can in many ways be considered to be the last planning frontier. While every square meter of land has been explored, excavated, mapped, and to some extent designated legally binding ownership and rights of usage, maritime space has been much more elusive. The essence of maritime space is its fluidity and multidimensionality, the characteristics that underline its transient nature as an environment, as an ecosystem and as a space for human activities – economic, political as well as recreational. Human uses of maritime space are on the rise – shipping, offshore wind farms, aquaculture, transportation, coastal and cruise tourism and water sports – these are all areas of expanding usage, and this is true both in terms of geographical space and frequency of use. It is therefore more necessary than ever to plan that use – to allocate rights where several types of users are active simultaneously as well as to guard the environmental systems that are the base of all the resources we humans covet. Thus, it is the richness of space and the vastness of the resources on offer within maritime space that call on the need for a comprehensive governance of the marine environment.

In the context of the European Union, MSP under the 2014 EU Directive establishing a framework for maritime spatial planning has been, to date, the most comprehensive tool for making an attempt at a multi-national, multi-scalar, multi-sectoral and multi-faceted governing of the use of maritime space and its many as well as scarce resources. It is an attempt to develop transboundary co-operation among the EU Member States regarding the sustainable and optimal use of maritime space across all the sea basins in and around the EU: the North Sea, the East and West Mediterranean, the Atlantic Ocean, the Black Sea and the Baltic Sea.

Amongst these, the Baltic Sea has by far the longest experience of cross-border co-operation. Through HELCOM (The Baltic Marine Environment Protection Commission) and VASAB (Visions and Strategies around the Baltic Sea), intergovernmental co-operation and regional convention-development have taken place – covering many sectors with specific attention to the environmental issues in the Baltic Sea Basin. The EU MSP Directive and the national MSP legislation that it encompasses consolidate such cross-border co-operation.

This General Knowledge Manual has been created as part of the EU Interreg South Baltic project, SEAPLANSPLACE. The primary purpose of the project has been to provide training and education as well as to develop training course material on MSP in the context of the Baltic Sea, targeting a large number of stakeholders and MSP actors. Prior to this project, competence development and knowledge generation about MSP took place largely under the auspices of the research community and between national governments.

The SEAPLANSPLACE project has explicitly targeted a much wider audience – anticipating that once national MSP laws are passed within all the EU countries – especially those around the Baltic Sea, there will be a demand for more people with MSP competences. This encompasses, for example, public servants at the local municipality level, i.e. urban and other spatial planners who are knowledgeable about planning processes concerning land areas, but who lack knowledge about spatial planning in maritime environment, including the legal aspects. Another example concerns representatives from a wide number of MSP stakeholders within specific economic sectors, who may be very familiar with the sector-specific interests, but who need information about how to interact with other stakeholders in planning processes – concerning both the scale (local, regional, national and international MSP processes) as well as intersectionality. The third example refers to many informal stakeholder groups (i.e. NGOs) who have legitimate interests in the future development of the environment in the coastal areas they use as well as in the sea at large. Examples of these stakeholders are organisations and voluntary groups that work to promote nature conservation, associations that represent recreational users, i.e. wind surfers, anglers etc. These groups may not need formal education in MSP but they do need information about how they may participate in this kind of planning process.

A special point to be made here concerns the demand for targeting MSP knowledge and competence needed at the local level. As each EU country passes national MSP laws, local government institutions will come to play a more central role in consultative planning processes to contribute to ensuring coherent land-sea interaction and in activating local stakeholders in cross-sectoral local interest clarification and formulation processes.

Within the manual, there is a key message that permeates throughout. Whether reading the chapters on the maritime geography and geology of the Baltic Sea, the demography and economy of the region, the chapter on

the MSP concept, principles, legal frameworks and governance structures, or whether the manual treats about the importance of the EBA or stakeholder participation or the processes of monitoring and evaluation, it is repeatedly stated explicitly as well as implicitly, that MSP is quintessentially a cross-border and transboundary process. The nature of the Baltic Sea and the ecosystem processes that condition its development constitute the common border between all the countries, and all the people who make up the local communities around the Baltic Sea. We therefore have a common interest, and it is this common interest that is the basic premise for all interaction, communication and collective governance.

Concomitant with the realisation that MSP is an international endeavour, the SEAPLANSPLACE project also puts focus on the significant differences in national MSP governance. In Sweden, for instance, local municipalities have had MSP under their jurisdiction for a number of years – each municipality not only being responsible for planning on land, but also for the territorial seas that extend directly out from each coastal municipality into the Baltic Sea. In Germany, the territorial seas are the planning responsibility of the regional government (the *Länder*), but because Germany has different *Länder*s, that have coasts on different sea basins, these are only the regions of Schleswig-Holstein and Mecklenburg-Vorpommern, which are responsible for the Baltic Sea. In Poland a new integrated planning approach has been introduced in order to ensure a sustainable exploitation of natural resources and development of the potential of the Baltic Sea and its coast. In other countries, such as Denmark, municipal planning jurisdiction stops at the waterfront and both territorial waters and the exclusive economic zone are planned by the national authorities. Thus, the target groups for MSP training programmes differ significantly between the countries – and the motivations to participate among political representatives and public servants at different levels of governance vary greatly.

There are also significant differences in how long each country has worked with MSP, while some countries – Poland for example – have had maritime spatial laws in place for two decades – laws which have only needed to be amended in order to comply with the EU MSP Directive from 2014. In some other countries, such as Lithuania, the MSP processes have started much more recently.

These points of differences between the countries and their MSP structures and practices are significant, because they render a 'one-size-fits-all' training and education programme less meaningful. There are simply different primary issues and different primary target groups in each country. Thus, this *General Knowledge Manual* is supplemented by *Country Specific Manuals* for Lithuania, Poland, Germany, Denmark, and Sweden.

It is, however, an important – and indeed central – task of the SEAPLANSPLACE to work towards an international understanding of the common connection and the common ground that the Baltic Sea is. We are doing so by working towards knowledge sharing and capacity building regarding MSP, by endeavouring to create a common planning language, and by enabling planning participation addressing a wide group of stakeholders. A specific aim of this project has also been to enhance a shared understanding of the 'burning platform' that the current environmental state of the Baltic Sea represents, whilst simultaneously recognising the richness of common resources available to all.

We, the partners of the SEAPLANSPLACE project hope that this General Knowledge Manual, combined with the Country Specific Manuals and the MSP training courses, will contribute to the ongoing process of co-development, co-stewardship, co-enjoyment and co-governance of the Baltic Sea – by means of the tools of maritime spatial planning.

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ENDNOTES

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- ³ UNEP/CBD/COP/DEC/XII/23, 17 October 2014, para. 18, p. 5, <https://www.cbd.int/doc/decisions/cop-12/cop-12-dec-23-en.pdf>
- ⁴ <http://www.baltseaplan.eu/index.php/BaltSeaPlan-Vision-2030;494/1>
- ⁵ Scientific Consensus Statement on Marine Ecosystem-Based Management, prepared by scientists and policy experts to provide information about coasts and oceans to U.S. policy-makers, 2005, <https://marineplanning.org/wp-content/uploads/2015/07/Consensusstatement.pdf>; MSP Road Map <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0791:FIN:EN:PDF>; VASAB https://vasab.org/wp-content/uploads/2018/06/BALTIC-SEA_web.pdf
- ⁶ Decision V/6 of the Conference of the Parties to the Convention on Biological Diversity, <https://www.cbd.int/decision/cop/default.shtml?id=7148>
- ⁷ UNESCO IOC 2009. Marine Spatial Planning: a step-by step approach towards ecosystem-based management, IOC/2009/MG/53, p. 18; <http://unesdoc.unesco.org/images/0018/001865/186559e.pdf>
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- ¹² Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions “Blue Growth opportunities for marine and maritime sustainable growth” https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/docs/body/com_2012_494_en.pdf
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- ¹⁹ <http://www.panbalticscope.eu/activities/cross-border-collaboration-and-consultation-to-support-national-msp-processes/monitoring-and-evaluation/>
- ²⁰ The results are discussed at <https://ec.europa.eu/easme/en/news/study-what-are-best-practices-cross-border-maritime-spatial-planning>