



Sea basin maritime spatial planning: A case study of the Baltic Sea region and Poland

Jacek Zaucha*

Maritime Institute in Gdańsk, PL80-830 Gdańsk, Długi Targ 41–42, Poland



ARTICLE INFO

Article history:

Received 25 November 2013

Received in revised form

15 April 2014

Accepted 1 May 2014

Available online 29 May 2014

Keywords:

Maritime spatial planning

Sea-basin governance

ABSTRACT

This paper reviews the development of sea basin maritime spatial planning (MSP) through the concerted efforts of several coastal nations based on the case of the Baltic Sea Region. Additionally, the readiness of Poland to assume its place within the existing sea-basin planning system is analyzed since Poland, as one of the last countries in the region to do so, announced the official commencement of MSP on November 18, 2013. The paper analyzes the progress of MSP in the Baltic Sea Region and discusses the question of the interplay between planning efforts executed nationally and the need to take into consideration much broader sea-basin contexts and perspectives. The conclusions drawn at the end of the paper explain how macro-regional MSP systems influence planning efforts in individual countries and how they might alleviate barriers that are typically encountered in the initial stages of MSP development at national levels.

© 2014 The Author. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/3.0/>).

1. Introduction

Maritime spatial planning (MSP) in the European Union exhibits clear trends towards Europeanization, similarly to those observed in terrestrial spatial planning [1,2]. In brief, this can be defined as the appearance of shared European norms, rules, and approaches [3,4] in planning efforts that are otherwise implemented nationally. Apart from political factors related to the general tendency for European integration, the most important factor stimulating this trend is the subject of planning—the sea. Maritime planning is not the same as terrestrial planning, and the differences between marine and land spaces as planning subjects have been discussed extensively in the literature [5,6]. However, one of the most important differences should be mentioned yet again: “The sea is borderless” [7]. Seas have no physical barriers to stop the spread of pollutants, the migration of organisms, or the transfer of sediments. Therefore, the sea should be exploited within a wider, supranational, systematic perspective, and such a perspective is required when planning sea areas. With this in mind, the European Commission has called for cross-border cooperation in MSP [8,9] and has even proposed a directive to serve this aim [10]. This prompts questions of how advanced spatial planning coordination processes are within the supranational perspective of sea basins, what conditions should be fulfilled by countries to allow such systems to function, and which conditions are most difficult to fulfill, i.e., which present special challenges for the macro-regional,

or sea basin level, coordination of maritime spatial plans. Resolving these problems is especially important in light of the European Commission's proposals in the draft directive on maritime spatial planning [10].

In an attempt to answer these questions, the present paper uses the experience of the Baltic Sea Region (BSR) and Poland as a part of this macro-region. A three-step approach was used for the work: (1) the cornerstones of the Baltic Sea basin MSP coordination effort are identified and analyzed based on the literature and the author's own experience (informed insider view or participation approach); (2) the MSP in Poland is analyzed with a focus on a critical examination of existing planning efforts and how these align with the cornerstones, because the Polish maritime administration announced the formal commencement of maritime spatial planning on November 18, 2013; (3) conclusions are drawn with the hope that they will trigger a general debate on MSP. Quite a number of papers describing MSP experiences in various countries and/or parts of Europe have been published recently [11–16]. However, macro-regional experiences, including those of the Baltic Sea Region (BSR), are much less known even though the BSR is a pioneer of MSP cooperation on a sea-wide scale [6,7], and Poland was the first Baltic Sea country to develop a new legal framework for MSP in 2003. Thus, these experiences can be of interest to the wider public.

2. Transnational maritime spatial planning in the Baltic Sea

MSP was initiated about 14 years ago in the Baltic Sea area with the BaltCoast project, which was the first to formulate the concept

* Tel.: +48 603 665 910.

E-mail address: jacek.zaucha@im.gda.pl

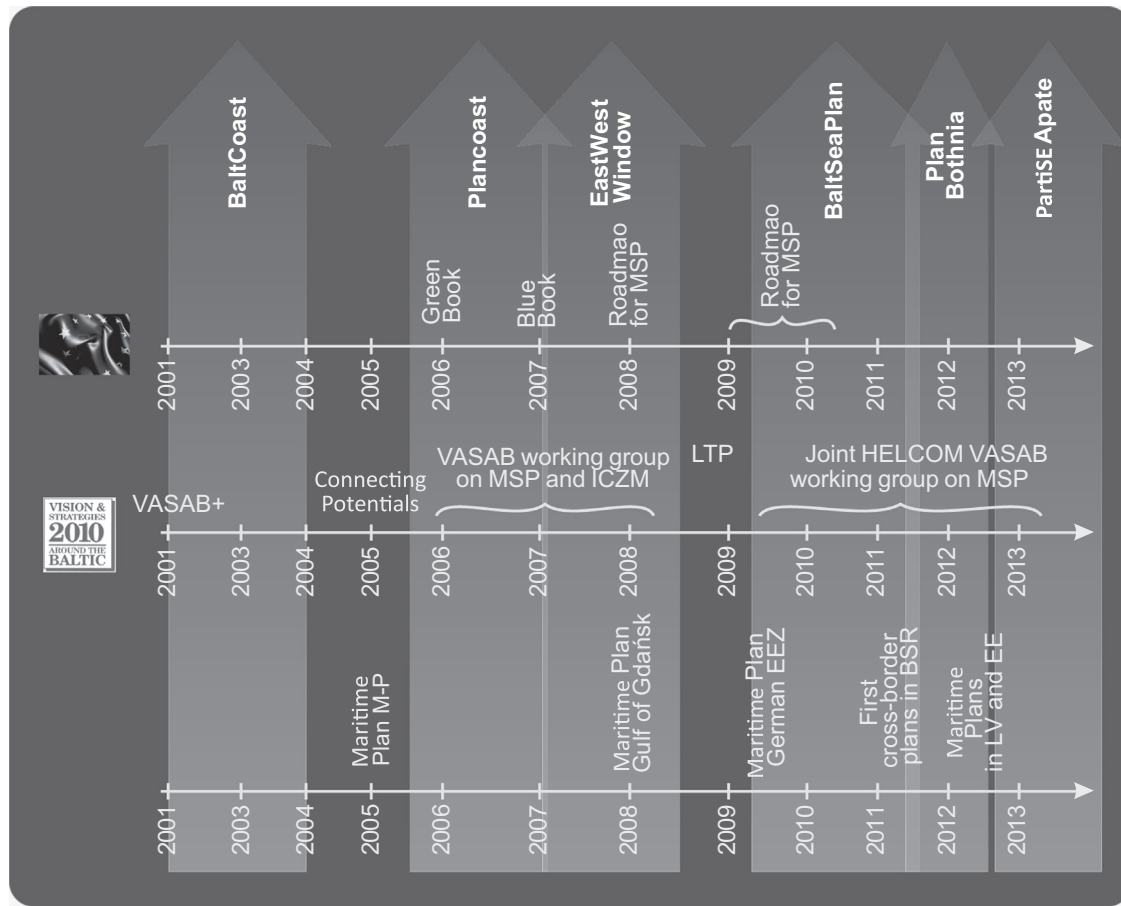


Fig. 1. Development of MSP in the BSR.

Source: [18]

of MSP and to propose basic MSP principles. The first political document that mentions MSP was the Declaration of Ministers responsible for spatial planning and development in the BSR countries of 2001 [17]. MSP in the BSR is linked inseparably with the cooperation of these ministers known as Vision and Strategies around the Baltic Sea (VASAB 2010). In 2001, the ministers also instructed spatial planners to “include off-shore and landside coastal areas” explaining that “growing spatial conflicts in coastal waters /.../ show a need to apply instruments of spatial planning” [17].

Since an extensive monograph of the Baltic Sea MSP will be published shortly [18], no detailed analysis is presented in the present paper; however, the specific Baltic model of MSP development is worth examining. It was based on creating a political framework through ministerial cooperation (VASAB), testing methodology, and gaining practical planning experience through international pilot projects such as BaltCoast, PlanCoast, BaltSeaPlan [19], EastWest Window, Plan Bothnia [20], and currently PartiSEApate.¹ Practical experience and know-how were implemented in strategic documents at the policy level. These, in turn, led to initiating new cooperation projects to test tools and organizational and institutional solutions for MSP. Within these projects, or using experience from

them, formal maritime spatial plans were developed in Germany, while in Poland, Latvia, Lithuania, and Estonia pilot maritime spatial plans were developed, which included some transnational plans (Table 2). This approach has resulted in an iterative process of gaining practical insight and experience and translating it into legislative provisions and administrative arrangements, then further testing and continuous improvement (Fig. 1).

From the VASAB viewpoint [6], MSP has been a transnational process from the outset. The most important constitutive elements of the planning system developed by Baltic Sea maritime planners are as follows (Fig. 2):

1. the directional objective of MSP at regional levels was agreed upon in the EU Strategy for the BSR—the action plan for this strategy requires drawing up and applying transboundary, ecosystem-based Maritime Spatial Plans throughout the region by 2020. This means that Baltic Sea countries must aim to develop national maritime spatial plans based on the ecosystem approach and that planning should be coherent across borders, which entails close cross-border cooperation [21];
2. agreement on the vision of MSP development – this is presented in *BaltSeaPlan Vision 2030 – Towards the sustainable planning of Baltic Sea Space* [22] that was developed by the BaltSeaPlan project and next supported officially by VASAB. This document specifies the objectives which should be served by MSP, the so-called guiding principles (sustainability and coherence, or pan-Baltic thinking, spatial efficiency, and connectivity), and it designates key transnational topics requiring transnational collaboration (marine environment, BSR energy, maritime transport, fisheries and aquaculture), and, finally, it

¹ More information about these projects can be found at the respective websites:

- BaltCoast (2002–2005)—http://plancoast.eu/files/baltcoast_final_report.pdf,
- PlanCoast (2006–2008)—<http://plancoast.eu/>,
- BaltSeaPlan (2009–2012)—<http://www.baltseaplan.eu>
- EastWest Window (2007–2008)—<http://www.vasab.org/east-west-window/>
- PartiSEApate (2012–2014)—<http://www.partiseapate.eu/>
- Plan Bothnia (2010–2012)—<http://planbothnia.org/>.

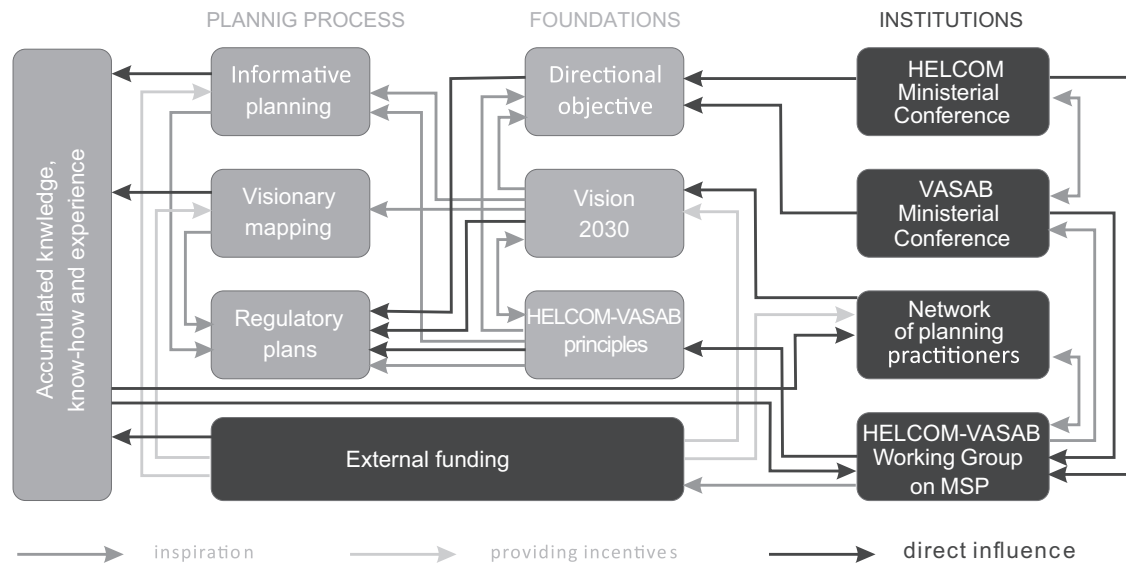


Fig. 2. Model of MSP in the Baltic Sea Region.
Source: author's own elaboration

Table 1
Baltic Sea broad-scale maritime spatial planning principles and their character.
Source: [23] and author's own elaboration.

Principle	Character of principle (to what it refers)		
	Goals and aims of the plans and ambitions of the entire planning process	Planning methodology and content of the plans	Institutional and organizational setup
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		+	+

identifies the key elements for progressing in line with the vision such as the BSR institutional setup, relations between Baltic and national MSP levels, improving knowledge of sea processes, and some others;

- agreement on the principles comprising the minimum scope of maritime spatial plans and planning methodology—this is set forth in the document adopted by VASAB and HELCOM² “Baltic Sea Broad-scale Maritime Spatial Planning Principles”[23]. These principles are presented in Table 1. In brief, these principles lay out the objectives which should be supported by the plans and the planning process, the methodological requirements, and the necessary institutional and organizational solutions. They are of a complex character. Although the principles have some gaps and weaknesses, (e.g., there is no guidance on institutions of transnational coordination and consultation or coherent terrestrial and maritime spatial planning), as a document adopted following prolonged negotiation and extensive discussion, it provides a common denominator and the core of MSP in the BSR;

- a permanent platform for Baltic Sea cooperation at the political level—this is the Joint HELCOM–VASAB Working Group on MSP established in 2010 by VASAB and HELCOM and comprises senior officials from MSP national institutions and the EU Commission. The group is the regional platform for ensuring cooperation between BSR countries and its aim is to ensure coherent MSP processes in the cross-border context in the BSR. The primary mandate of the group is to facilitate the of MSP in the region, but the group acts also as a permanent forum for exchanging experience on MSP, solving practical problems, and coordinating MSP efforts. It also examines the results of MSP projects from the BSR and other regions, and is engaged in awareness raising activities. The group has also contracted analyses of and research on MSP.
- permanent collaboration of maritime planners—this is possible thanks to international projects, which were mentioned previously, and the Baltic network of planning practitioners, which is to be established soon (as the result of a course on MSP for professionals conducted by the Baltic University Programme in September–October 2013 that was initiated by VASAB);
- a political suprastructure in the form of ministerial conferences of VASAB and HELCOM—this ensures recognition of MSP and its firm place in the political agenda both at national and BSR

² Helsinki Commission—the executive body of the Convention on the Protection of the Marine Environment of the Baltic Sea Area.

levels. The challenge is to achieve improved transfer to the national level, so solutions and ideas developed at the BSR level are implemented through the cooperation of responsible national, regional, and local authorities, i.e., through cooperative spatial planning with other specialties and sectors.

Another important element was and remains the system of financial support. It comprised EU programs for territorial cooperation financed through Structural Funds (Baltic Sea Region Programme 2007–2013, South Baltic Cross-border Co-operation Programme 2007–2013), ENPI programs allowing cooperation with Russia on MSP matters (Lithuania–Poland–Russia ENPI Cross-border Cooperation Programme 2007–2013), and supporting research (Program BONUS 185). External funding was important because of the

pioneering character of the work on the macro-regional MSP system, and, in effect, of the high transaction costs. This funding permitted conducting the projects and the resulting learning process mentioned above. In the future, however, MSP will have to be funded increasingly from national sources, as it already done in Germany, Lithuania, and Estonia.

Lastly, two important characteristics of the Baltic Sea MSP model should be mentioned. Special attention is focused on integrative MSP and ecosystem-based MSP in the BSR. The impetus for this is the goal of developing pan-Baltic thinking as described in Vision 2030. This approach is apparent in the formulation of the principles, especially 1–4 that refer to the ecosystem approach, and 5–9 of the integrated approach. In any case, ecosystem-based MSP and the integrated approach interpenetrate and are immanently linked, as is

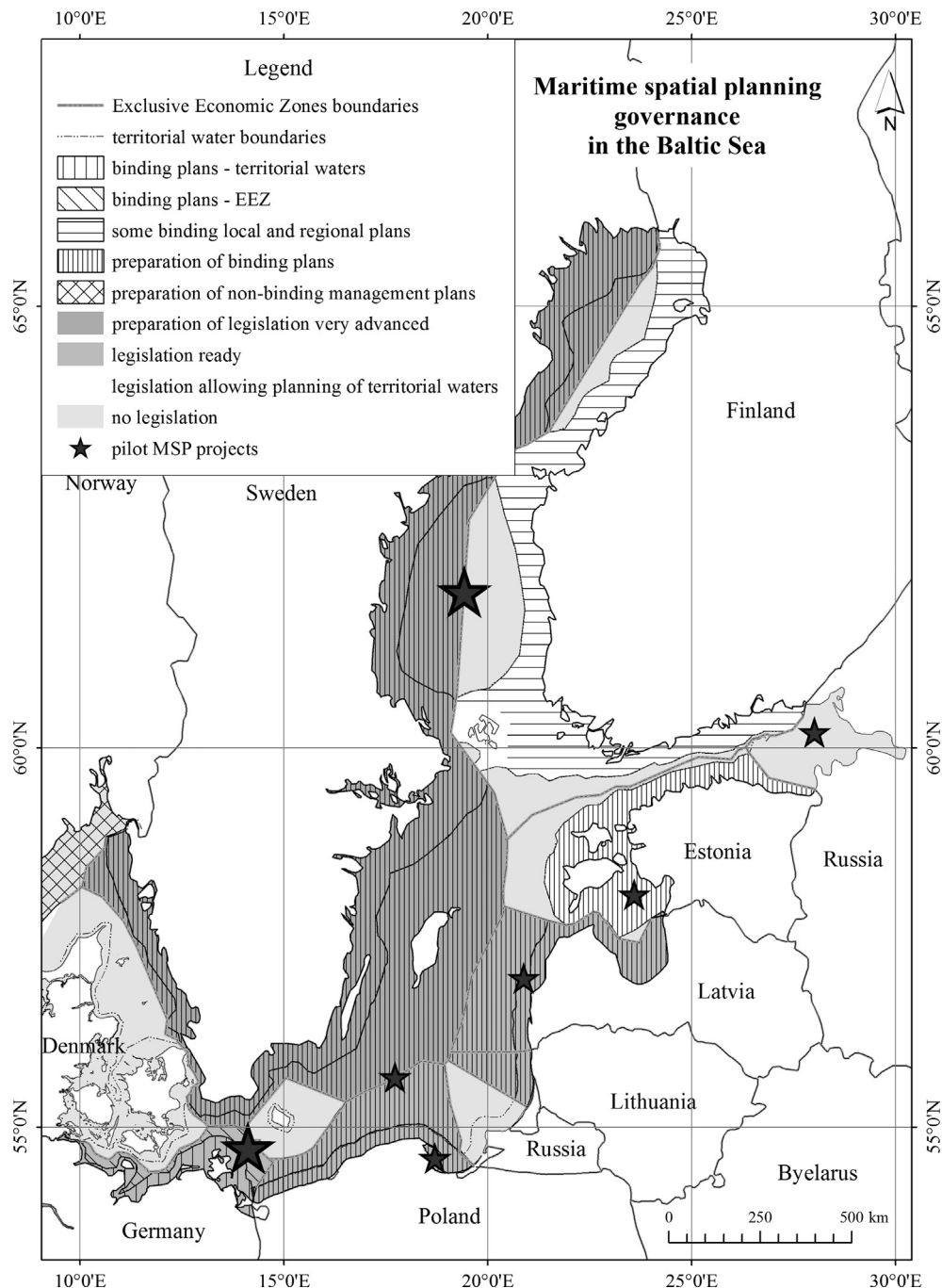


Fig. 3. Progress of MSP in the Baltic Sea Region.

Source: [18]

Table 2

The nature of the BSR maritime spatial plans.

Source: author's own elaboration based on [18].

Category	Explanation	Plans
Informative planning	The main goal of the planning effort is to map, or identify, resources, pressures and demands on resources, conflicts, vulnerabilities (sensitive mapping) and risks (contingency planning)	<ul style="list-style-type: none"> • Pilot Hiiumaa and Saaremaa and Pärnu Bay MSP [Estonia] • Pilot marine plan for the Bothnian Sea [Sweden and Finland] • Planning of the Lithuanian sea under the BaltSeaPlan [Lithuania] • Pilot Project Pomeranian Bight / Arkona Basin [Denmark, Germany, Sweden, and Poland]
Strategic visionary mapping	The main goal is to inspire other actors that shape spatial development with their actions; however, planning agencies have no coercive power over them	<ul style="list-style-type: none"> • Pilot maritime spatial plan for the western coast of Latvia and adjacent waters [Latvia] • Pilot maritime spatial plan for the western part of the Gulf of Gdańsk [Poland]^a • Pilot maritime spatial plan for the southern Middle Bank area [Poland and Sweden]^a
Regulatory planning	The planning agency has economic or regulatory power over sea users and the plan becomes a vehicle of implementation of publicly-agreed goals and priorities, regarding the use of sea resources, nature conservation, and conflict resolution	<ul style="list-style-type: none"> • Regional plans in Finland covering territorial waters [Finland] • Spatial Development program of Mecklenburg-Vorpommern [Germany] • Spatial plan for the German EEZ of the Baltic Sea [Germany] • Extending the National General Plan of Lithuania off-shore (in preparation) [Lithuania] • Hiiumaa and Saaremaa and Pärnu Bay MSP (in preparation) [Estonia]

^a The plan falls between the categories of visionary mapping and regulatory planning since it has been used by the Polish Maritime Administration as the source of the best available knowledge while deciding on sea space use.

shown in analyses presented in the literature on the subject [11,24,25]. Although the character of the ecosystem approach defined in Baltic Sea principle 2 is rather narrow and refers mainly to the MSFD and good ecosystem status, when viewed as an element of a wider purpose (i.e., all the principles), the understanding of the ecosystem approach seems to be more in line with the spirit of the Convention on Biological Diversity and the Malawi Principles [26], which is an understanding and interpretation of this category in the context of not only ecological, but also of economic and social aims [11,24,27]. The HELCOM–VASAB Working Group on MSP is striving to clarify these issues and has developed a first draft of guidelines on the application of the ecosystem approach in different planning phases [28]. The integrated approach is understood within Baltic Sea cooperation in accordance with the spirit of the principles in four dimensions: intersectoral integration, international integration, integration between different levels of governance (vertical coordination), and last, but not least, integration between sea and land.

Research conducted in 2013 [18] indicate that BSR countries are at various MSP implementation stages (Fig. 3, Table 2). In Germany, formal, or legally binding, maritime spatial plans have been developed and implemented for territorial waters and the EEZ. In Finland, counties include territorial waters in their spatial plans, while in Sweden this has been done by four municipalities. MSP was tested in Poland, Lithuania, Latvia, and Estonia as pilot plans, some of which also included cross-border dimensions [20,19]. Planners from Sweden and Finland have prepared a common cross-border pilot spatial plan covering the whole of the Bothnian Sea, and cooperative cross-border spatial planning was tested by planners from Germany, Poland, and Sweden. Russia is at the inventory and mapping stage and is preparing for new legal solutions to allow for MSP. Sweden is in the final stages of adopting law for supralocal MSP. Lithuania and Estonia have used experience from the pilot plans, and now are preparing formal plans. Thanks to common projects, mainly the BaltSeaPlan and Plan Bothnia, the methodology of all these plans is quite similar, but with differences in the planning culture and in the composition of goals and objectives.

3. Elements comprising transboundary MSP

Two documents were used to identify the elements which are the core of mutually coordinated MSP systems, i.e., planning sea areas that is cohesive throughout a sea basin. The draft directive [10] mentioned earlier and the VASAB report (elaborated within the framework of the Plan Bothnia project), named “Necessary common minimum requirements for Maritime Spatial Planning (MSP) in the Baltic Sea” [29]. This report is now used for developing an MSP governance model for the BSR within the framework of the PartiSEApate project, which will be presented at the VASAB Ministerial Conference in 2014. Although the main purpose of the draft directive [10] is to promote the sustainable growth of maritime and coastal activities and the sustainable use of coastal and marine resources by establishing, among others, a framework for MSP in EU waters, there is also the underlying goal of ensuring effective trans-boundary cooperation between member states on MSP, and facilitating the development of sea basin perspectives and mutually-coordinated approaches to sea space within a sea basin.

The report on minimum requirements [29] focuses on the issue of the minimum transnational co-operation needed to successfully initiate and implement MSP in the BSR.

The comparison of the two documents highlights significant similarities, as follows (Table 3):

- agreement on objectives and main MSP principles (minimum agreement on these matters);
- minimum thematic scope of the plans;
- similar/same elements of planning procedures;
- institutional agreements.

Since these elements form the core of the system of mutually coordinated sea basin MSP, verifying whether or not they are included in the Polish MSP permits assessing the ability of Poland to participate in wider Baltic Sea cooperation and to assess the extent to which Polish MSP converges with the European and Baltic Sea approaches.

Table 3

Key elements necessary to ensure effective transnational co-operation in MSP. Comparison of the BSR and EU approaches.
Source: author's own elaboration.

Key fields of coordination of MSP in the Baltic Sea Region	Draft directive [10]	Common minimum requirements for maritime spatial planning (MSP) in the Baltic Sea [29]
Axiology (goals, objectives, principles)	Reference to the common goal or ambition of MSP i.e., “promoting the sustainable growth of maritime and coastal economies and the sustainable use of marine and coastal resources” and reference to specific goals for key maritime sectors: energy, maritime transport, fishery and aquaculture, as well as environment protection and ecology	Reference to the goals in the VASAB–HELCOM principles [23]
Institutions	Call for institutions through which MSP trans-boundary cooperation can be pursued	Also attempts to provide an operational definition of the minimum understanding on the nature of MSP, by listing the four key characteristics of MSP in the transnational context Call for institutions through which MSP trans-boundary cooperation can be pursued, description of division of work between different types of international MSP institutions
Plans (scope and content)	List of maritime activities (sea uses) that should be taken into consideration by plans Mapping marine waters included in plans. Such mapping identifies the actual and potential spatial and temporal distribution of all relevant maritime activities	List of maritime topics (sea uses) that should be taken into consideration by plans Agreement on minimum scope of the stock taking phase (mapping of current uses, planned investments, but also policies and socioeconomic situation on land, etc.) Agreement on a common legend for BSR maritime plans Agreement on the basic types of designated areas included in the plans
Planning process: methodology and planning procedures	Need for periodical evaluation and revision	Need for periodical evaluation and revision based on: <ul style="list-style-type: none"> ● harmonized performance indicators agreed between all Baltic Sea countries on all topics relevant to the objectives of the MSP (long term requirement) ● inventory of all the available data to be done by each Baltic Sea country (short term requirement)
	Need for mutual coordination of plans and trans-boundary co-operation among member states and other countries in the same marine sub-regions	Need for mutual coordination of plans and trans-boundary co-operation of member states and other countries in the same marine sub-regions. Detailed description of the content of such collaboration in different planning phases. Need for consultation and collaboration in the post-approval phase when issuing construction or location permits and in the monitoring phase
	Need for public participation and inclusion of all relevant stakeholders	Establishing mechanisms to ensure regular involvement of key stakeholders at the transboundary level which should function as a learning process
	Need for organizing the collection of the best available data and the exchange of information	Need for data harmonization among all Baltic Sea countries in the long term, but the need for Baltic Sea countries to inventory all their available mapping data in the short term
	Need of conducting assessment of environmental effects of plans (SEA) in line with EU legal requirements	Need to complement SEA with Sustainability Appraisals
	Need to identify the trans-boundary effects of maritime spatial plans and strategies for marine waters and coastal zones under the sovereignty or jurisdiction of third countries in the same marine region or sub-region	
		Need for monitoring progress in MSP in the BSR based on targets that will be drawn up and agreed upon for transboundary MSP processes

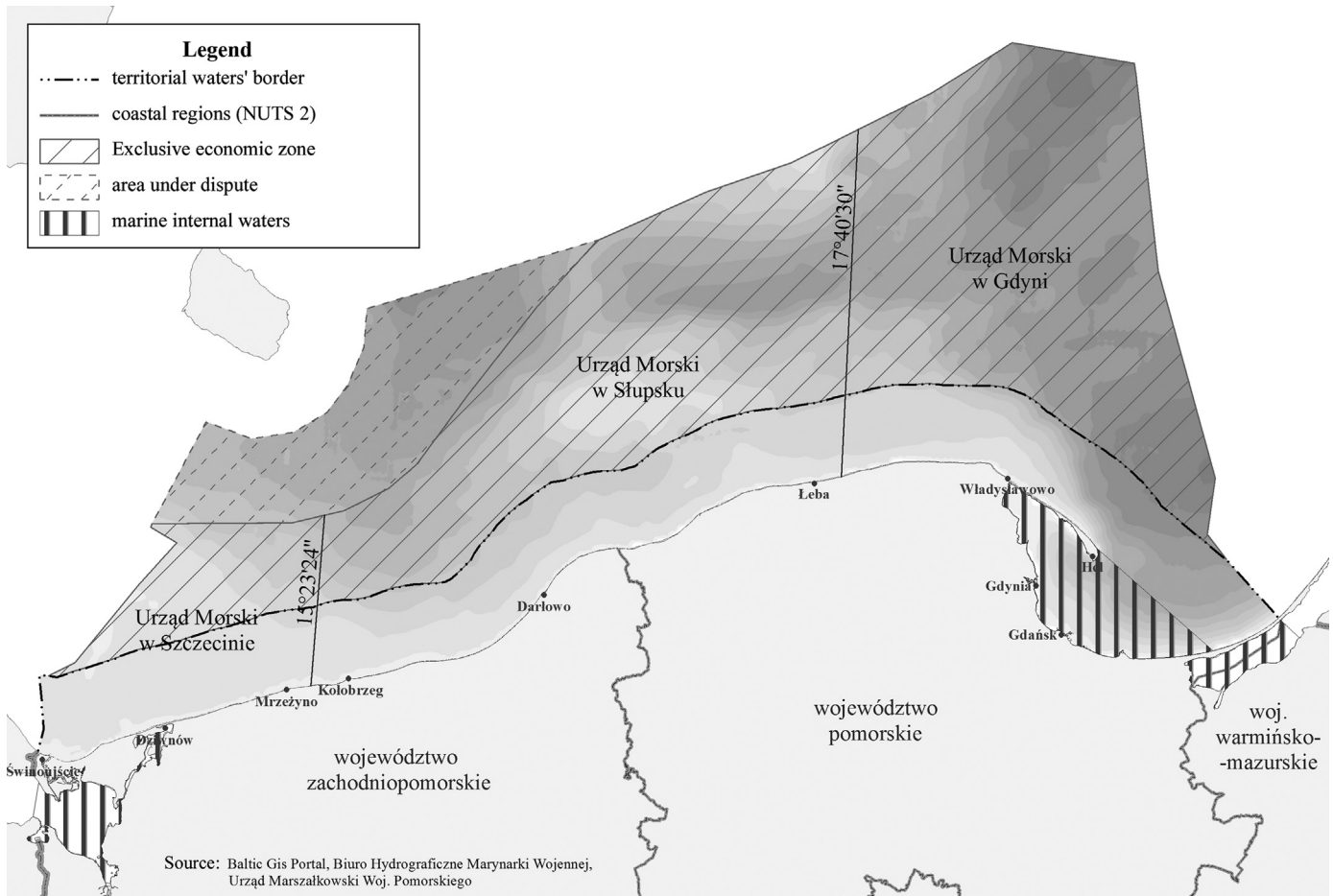


Fig. 4. Polish marine waters.

Source: [31]

4. Spatial planning in Polish marine waters

Since information about MSP in Poland is available in the literature [30–32], only the most important characteristics are presented in this paper.

The total area of the internal Polish marine waters is about 1991 km². The area of the 12-nm zone is 8682 km², while that of the EEZ is 22634 km². A disputed area with unresolved claims from Denmark and Poland is located south of Bornholm (Fig. 4). Sea areas are managed for the Polish state by the minister responsible for matters of maritime economy, which, at present, is the Minister of Infrastructure and Development, and the regional administration of the directors of three Maritime Offices. The Maritime Institute in Gdańsk, which is subordinate to the ministry, is a think tank for MSP and new, innovative sea uses [33,34]. MSP is promoted under the recently developed Maritime Policy of Poland, which is the policy of the entire government. Sea space is also included in the Spatial Development Concept of Poland, which is a part of the Long-Term Development Strategy. In effect, Poland is one of a few countries worldwide that has achieved a high level of strategic integrity between marine and terrestrial spaces.

Regulations concerning spatial planning of sea areas are contained in the Act on Sea Areas of Poland and Maritime Administration of March 21, 1991. They regulate planning of sea space and of the terrestrial strip immediately adjacent to these areas known as the “coastal belt” (in Polish *pas nadbrzeżny*). The maritime spatial plans set forth rules for:

- prohibitions or limitations in the use of the sea areas, taking into account the requirements of environmental protection;
- distribution of public investment;
- directions of development of transport and technical infrastructure;
- areas and conditions of environmental protection and the preservation of cultural heritage.

The legislation does not, however, stipulate that the development of maritime spatial planning is compulsory. A ministerial ordinance on the required textual and graphic form of maritime spatial plans was adopted recently, and this filled in an important gap in the law on MSP. However, even before adopting this ordinance, a pilot plan for the western part of the Gulf of Gdańsk³ was prepared in 2008 [35,36], and transboundary pilot plans with Sweden, Denmark, and Germany were developed in 2010–2012 for the Middle Bank⁴ [37] and for the Pomeranian Bight⁵ [38]. These three maritime plans (Fig. 5) are non-binding since they are pilot

³ This encompasses the sea area (405.5 km²) situated to the west of the line connecting the tip of the Hel Peninsula with the Gdynia/Sopot boundary.

⁴ The plan covers a part of the sea around the southern Middle Bank (1751.5 km²) located in the middle of the Baltic Sea.

⁵ The area of the plan (14,100 km²) is delimited by a line running from southwestern Bornholm southwards to Wolin Island on the western coast of the Polish Zachodniopomorskie Voivodeship, westward to Germany/Mecklenburg-Vorpommern along the coast of the Usedom Peninsula and the island of Rügen to its northernmost headland—Arkona, then north to Sweden, eastwards along the southern coast of Skane, and finally crossing the sea again back to Bornholm.

- the use of sea areas;

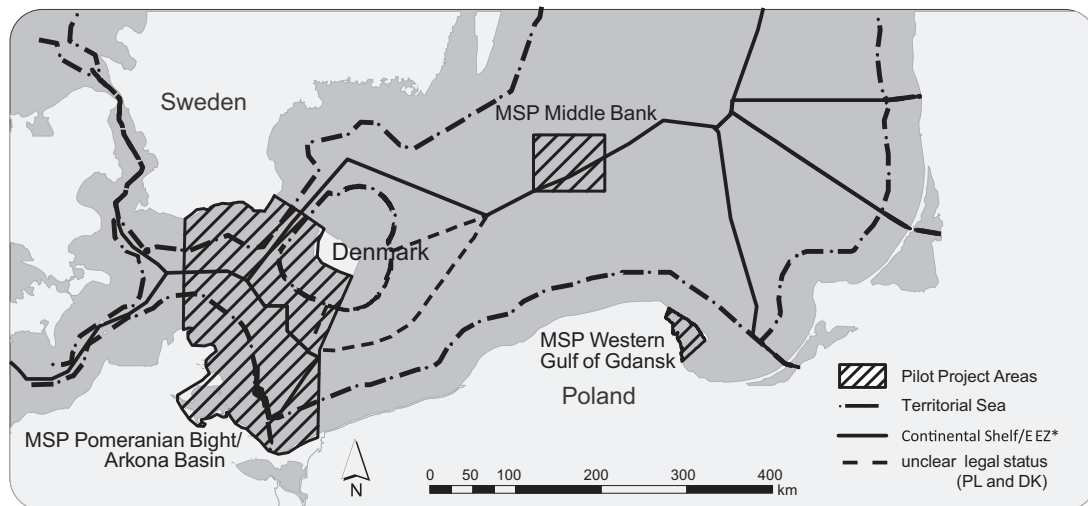


Fig. 5. Maritime spatial plans covering Polish marine waters.
Source: BaltSeaPlan

plans, but they are used by the Maritime Administration as the best available knowledge in its daily decision making.

The plans for the Pomeranian Bight and for the Middle Bank are of a strategic character. They aim to balance the different interests in the sea space. The plans contain determinations concerning the principles of development, use, and protection of sea space, and indicate priorities for some parts of the space. General zones prevail. The Pomeranian Bight plan is one of the first draft maritime plans worldwide to cover sea areas of four states.

The plan for the western part of the Gulf of Gdańsk is of a comprehensive nature. On the one hand, the plan is structural as it provides a diagnosis of spatial conditions of development, specifies components of the spatial system and their mutual relationships, and indicates the desired shape in the sea area. On the other hand, similarly to local land use plans, it sets forth detailed conditions, requirements, and certain specific limitations on the utilization of sea space. The reason for this is that the planned area has been and remains the site of many conflicts and multiple pressures; thus, it requires detailed analysis and solutions. All this makes the plan for the Gulf of Gdańsk unique among the BSR maritime plans as an example of a comprehensive, local type of plan.

5. Maritime spatial planning in Poland as a part of the broader Baltic system

In this section the key fields of coordination of MSP in the BSR (identified in Table 3) will be used to assess the ability of Poland to function smoothly within this system.

Lack of priorities is quite a problem. Despite elaboration of the Maritime Policy and despite a general subscription to the goals of sustainable development, including MSFD ambitions which are found in several national documents, clearly stated decisions with regard to MSP goals and functions are lacking. In effect, arbitration between diverse ways of using the sea space has no axiological basis since the state has not developed clearly defined priorities for sea space use. There is also no operational definition of the concept of spatial order at sea; however, the following have been proposed as its constituent elements [36]:

- ensuring coherence between spatial management on land and sea;
- managing space economically, designating space for future sea utilization that is at present unknown;

- limiting adverse effects of natural hydromorphological processes on the coastline and preventing the emergence of new processes of this kind;
- maintaining conditions for biodiversity and the sustainable development of marine and land ecosystems in the entire complexity of their interrelations;
- ensuring continuity of areas with dominating ecological functions;
- maintaining the public nature of recreational areas;
- minimizing conflicts between various forms of sea space use;
- maintaining the accessibility of key urban areas and harbour facilities from the sea;
- balancing the supply and demand for sea areas suitable for investment;
- protecting social values, including reconciling collective and individual interests, establishing social contacts, and reducing spatial conflicts.

The lack of priorities makes it very difficult for Polish authorities to define their interests and concerns in Baltic-wide MSP cooperation, and decisions are made on a somewhat ad hoc basis.

Institutional setup enables Poland to participate actively in joint BSR MSP efforts. There is a clear assignment of MSP duties and clear “ownership” of the marine waters on behalf of Polish citizens. This means that there is a designated leader in the country with the mandate to develop MSP. This allows for an integrated approach, and prevents favoring any single sea sector over others. Representatives of Poland take a very active role in the work of the HELCOM–VASAB Working Group on MSP in the BSR including, among others, shaping institutional arrangements in this field.

The planning content of Polish transnational plans in the Middle Bank and Pomerania Bight was developed during and within the BaltSeaPlan project, and it is, in effect, in line with the other BSR undertakings and coincides satisfactorily with the only binding German maritime spatial plans in the Baltic Sea area. An important difference is the more holistic approach of these two Polish plans and the inclusion of some innovative features such as identifying areas for commercial fish well-being and formulating concrete requirements for the protection of underwater cultural heritage. Both plans are of a pilot nature, so their elaboration should be treated, among other aspects, as an exercise testing BSR requirements within the scope and content of plans.

Table 4

Compliance of Polish maritime spatial plans with VASAB–HELCOM Principles.

Source: [39].

Principle	Key issues covered under given principle	Plans		
		Gulf of Gdańsk	Southern Middle Bank	Pomeranian Bight
1) Sustainable management	Balance between economic, environmental, social, and other interests	Comprehensive goals covering all aspects of sustainable development but lack of specific, measurable objectives. Interesting instruments for conflict mitigation	Comprehensive goals but lack of specific, measurable objectives. Sufficient analysis of conflicts. Instruments for conflict mitigation	Comprehensive goals covering all aspects of sustainable development, but lack of specific, measurable objectives. Interesting instruments for conflict mitigation (modeling tools)
	Integration of sectoral planning	Only developmental trends analyzed plus strategies of regional, local, and port authorities	Comprehensive analytical framework of BaltSeaPlan used for assessing the impact of policies	Comprehensive analytical framework of BaltSeaPlan used for evaluating policies
2) Ecosystem approach	Good status of the Baltic Sea ecosystem	All descriptors taken except food web	Shipping safety, biodiversity, and protection of habitats, populations of commercially-exploited fish and shellfish, human-induced eutrophication, sea-floor integrity taken into consideration	Shipping safety, biodiversity and protection of habitats, populations of commercially-exploited fish and shellfish, human-induced eutrophication, sea-floor integrity taken into consideration
	Protection of the marine environment	Many innovative measures for protecting the marine environment, noise free zones, no-go reed field areas, no-go seal areas, etc.	Ensuring good state of marine ecosystems recognized as one of the most important priorities of the plan. Concrete ways of preventing environmental conflicts proposed in the plan	Important measures for the protection of the marine environment discussed, e.g.: no-go zones, buffer areas around constructions, delineation of protected areas outside NATURA 2000 zones, for instance, to ensure fish well-being
3) Long term perspective and objectives	Long term vision and other long term strategies	Poland's Spatial Development Concept used to designate the goals of the plan	Poland's Spatial Development Concept, Swedish National Maritime Policy Bill, international strategies (EU, VASAB, HELCOM) taken into consideration to various extents	Several national and international long-term strategies (EU, VASAB, HELCOM) taken into consideration to various extents
	Long term planning horizon and forward-looking approach	Lack of specification of planning horizon. Provisions of the plan take into consideration long-term phenomena such as climate change and coastal erosion	Lack of specification of planning horizon. Provisions of the plan take into consideration long-term phenomena such as technological changes, need of re-using sea space	Lack of specification of planning horizon. Different scenarios with regard to location of wind farms
4) Precautionary principle	SEA	Interesting example of the SEA methodology and content (done as a pilot). SEA broadly consulted	SEA has not been conducted due to the pilot nature of the plan	SEA has not been conducted due to the pilot nature of the plan
	Precautionary measures	Precautionary measures related to environment, noise, and infrastructure	Precautionary measures related to environment and underwater cultural heritage	Precautionary measures related to environment, open spaces, and cultural heritage
5) Participation and Transparency		Traditional consultation with stakeholders (meetings for discussing draft plan)	Traditional consultation with stakeholders (meetings during plan preparation)	Testing cross-border involvement of stakeholders. Involvement of stakeholders secured at an early planning stage
6) High quality data and information basis		Extensive information collected thanks to on spot research, traditional data processing (pen and pencil). Lack of data sharing culture. Insufficient use of stakeholders for information extraction and data mining	Intensive work devoted to classifying information gaps and researching their main causes	Use of modeling techniques and decision support tools for data processing. Attempt to improve international (cross-border) compatibility of data
7) Transnational coordination and consultation	International legislation	Reference only to key pieces of international legislation	Insufficient use of stakeholders for information extraction and data mining. Legislation analyzed in relation to different issues (navigation, environment, linear infrastructure, underwater heritage, fishery and mariculture, research, mining, power production). Template of international legislation that should be referred to	Legislation analyzed in relation to different issues (navigation, environment, linear infrastructure, underwater heritage, fishery and mariculture, research, mining, power production). Detailed references to all relevant pieces of international legislation
	Cross-border coordination	Cross-border aspects not significant due to location of the planned area far from external Polish sea borders	Genuine cross-border provisions ensuring joint management of the coastal zone area but lack of cross-border stakeholder participation	Genuine cross-border preparation of the plan. Four different national teams cooperating. Four national stakeholder processes run and coordinated

8) Coherent terrestrial and maritime spatial planning	Via analysis of terrestrial developmental plans and strategies and via stakeholder participation	Not relevant (distance from land)	Via analysis of terrestrial developmental plans and strategies and via stakeholder participation
9) Planning adapted to characteristics and special conditions in different areas	Delimitation of sea basins (subareas) based on their features and properties, sea basins comprising functional grids covering the whole planned area	Different characteristics of the planned area examined in depth to find the most suitable sea basins for different uses	Comprehensive analysis of characteristics and special conditions of the different sub-basins
10) Continuous planning	Right to plan (ownership of the planning process) Monitoring and evaluation	Legal responsibility to plan clearly assigned in Poland issues of insufficient funding and legal foundations require improvement No specific provisions for monitoring, evaluation, or amendments	Continuous planning require improvement

The plan for the Gulf of Gdańsk differs distinctly from those of the Middle Bank and Pomeranian Bight. Although a similar range of sea area uses was considered in this plan, their functioning was determined in a more detailed way. This, in turn, required a more in-depth analysis of the relationships between the various uses of the sea and sea space. It was necessary to designate sea sub-areas that were not too large in order to formulate concrete restrictions and determinations for them. Ownership rights are used when making such subdivisions in terrestrial planning, but in sea areas this is impossible, and the subareas were designated using the criteria of ecological integrity and ecosystem fragmentation. This approach, based on functional ties within the marine ecosystem, is a Polish contribution to the Baltic MSP system in its search for common denominators for the scope and content of plans.

The compatibility of methodology and planning procedures in Poland with Baltic recommendations was assessed by investigating the degree to which the VASAB–HELCOM Principles [23] have been implemented in Polish plans since they put flesh on the general formulations of the draft directive [10] and common requirements [29]. The results of the analysis are presented in Table 4.

Analyses of this type were performed for the all Baltic Sea countries within the framework of the PlanBothnia project [39]. Low compliance at the Baltic level was identified for the following principles [18], which are presented in order from the lowest level of compliance:

- Principle 10: Continuous planning in the areas of monitoring and evaluation—no attention given to evaluation, except in the German plans for which SEA requires such evaluations;
- Principle 1: Sustainable management in the areas of balance between interests—insufficient attention to the social dimension and goals that are too general;
- Principle 8: Coherent terrestrial and maritime spatial planning—lack of know-how and formal channels for its integration;
- Principle 7: Transnational coordination and consultation (cross-border coordination)—very formal consultations;
- Principle 7: Transnational coordination and consultation (international legislation)—insufficient attention to the preservation of cultural heritage.

Against this background, Poland looks quite good. Some mistakes made during the first planning exercises, for example, not focusing enough on analyzing sectoral policies, were not repeated in subsequent plans. Polish plans take into account all three dimensions of sustainable development and pay due attention to underwater cultural heritage despite the lack of clear legal provisions to do so. Polish law ensures achieving coherence between terrestrial and maritime spatial planning. The main weaknesses are in the expert character of the plans and in insufficiently intense work with stakeholders during the early stages of the planning process. Additionally, systems for monitoring the effects of plan implementation, evaluation, and plan review and revision are lacking, and an important barrier is the weak culture of data and information sharing. Thanks to the work on developing SEA for the Gulf of Gdansk spatial plan, Poland has obtained experience elaborating SEA for maritime spatial plans; however, proper experience and know-how regarding Sustainability Appraisal is lacking. Nevertheless, through the work on preparing pilot plans and the knowledge and experience gained by the public administration and spatial planners in Poland is sufficient for Polish MSP to become a healthy part of the wider Baltic Sea system of maritime spatial planning. Moreover, Polish planning procedures ensure the proper implementation of nearly all the HELCOM–VASAB principles for MSP.

6. Conclusions

This case study of Poland indicates that the macro-regional level is very important for the development of national MSP. Most of the knowledge and know-how in Poland was accumulated thanks to BSR cooperation, which permitted extending and improving planner capacities and their toolboxes through, among other methods, analyzing the impact of sectoral policies on sea space.

In Poland, as is likely the case in other BSR countries, some barriers do exist that hamper the inclusion of Polish MSP into the wider BSR system of coordinating plans. In the Polish case, these are:

- the axiological layer:
 - the lack of clearly defined priorities for sea space use;
 - the lack of a concept of spatial order in the sea area;
- inadequacy of planning procedures:
 - insufficient work with stakeholders at all stages of the planning process (expert character of the plans);
 - lack of know-how and procedures for monitoring the effect of plan implementation (including evaluation) and for systematic revision;
 - lack of data exchange channels and procedures on national and Baltic scales stemming from the lack of the culture, or willingness, of sharing information voluntarily;
- financial barriers.

The macro-regional level can be instrumental in removing many of these barriers

- For example, common concepts and ideas about the use of the Baltic Sea space could be discussed and developed at the Baltic level. Some targets, such as those concerning off-shore renewable energy production, or maritime landscape preservation, might even be agreed to by Baltic countries more formally. The same could also apply to designating areas important for fish well-being, areas requiring scientific research, or when establishing intelligent transport corridors. The balance between the environmental and economic aspects and objectives of MSP should also be resolved at the Baltic level. Without resolving these issues, achieving cohesion of national maritime spatial plans in the sea basin dimension will be difficult, and will ultimately affect their desired overall impact.
- Evaluating and monitoring require common Baltic standards and techniques, which are lacking at present [40]. Sharing experiences and developing standards and tools should probably be done at the Baltic Sea level as was done with applying the ecosystem approach to MSP.
- Initiating data and information sharing at the Baltic Sea level could prompt reciprocal action at national levels. An example is needed that illustrates the gains are greater than the expenditures.

The EU directive on MSP should focus more on macro-regional cooperation and better define the role it should play in achieving the objectives of the directive and the scope of agreements to be developed at that level. Thus, the directive would not be charged with not conforming to the principle of subsidiarity.

Despite solidly preparing to become a part of the Baltic Sea system of MSP, Poland has begun the formal maritime spatial planning process only recently. Nearly ten years were spent conducting only pilot projects. This is difficult to explain based solely on funding since lost revenue for sea space use far exceed plan development costs. The passive culture of spatial planning and a lack of trust in Baltic added value in MSP [18] could explain this, at least to some extent, but further study of these issues is required.

References

- [1] Dühr S, Stead D, Zonneveld W. The Europeanization of spatial planning through territorial cooperation. *Plann Pract Res* 2007;22(3):291–307.
- [2] Dühr S, Colomb C, Nadin F. European spatial planning and territorial cooperation. London, New York: Routledge; 2010; 452.
- [3] Zaucha J. Economization of spatial planning. The case of Poland's Spatial Development Concept. Gdańsk: Institute for Development; 2010; 9 (Working Papers 1002).
- [4] Zaucha J. Is spatial planning a driver for sustainable development in Poland? *Plann Pract Res* 2007;22(3):463–71.
- [5] Tyldesley D Making the case for marine spatial planning in Scotland, report commissioned by RSPB Scotland and RTPi in Scotland; 2004. p. 35.
- [6] Zaucha J. Sea use planning and ICZM. Gdańsk: Vision and Strategies around the Baltic Sea; 2008; 57. (<http://www.vasab.org/east-west-window/documents.html>) (Final report from working group 3. Input to the LTP).
- [7] Cieslak A. Maritime spatial planning in the Baltic Sea Region. *Informationen zur Raumentwicklung* 2009;8/9:607–12.
- [8] Commission of the European Communities. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. An Integrated Maritime Policy for the European Union. European Commission, COM; 2007 (575 final, Brussels, 10 October 2007).
- [9] Commission of the European Communities. Roadmap for maritime spatial planning: achieving common principles in the EU. Communication of the European Communities, COM; 2008 (791 final, Brussels, 25 November 2008).
- [10] Commission of the European Communities. Proposal for a Directive of the European Parliament and of the Council establishing a framework for maritime spatial planning and integrated coastal management. COM; 2013 (133 final, Brussels, 12 March 2013).
- [11] Douvère F. The importance of marine spatial planning in advancing ecosystem-based sea use management. *Marine Policy* 2008;32:762–71.
- [12] Douvère F, Ehler CN. New perspectives on sea use management: Initial findings from European experience with marine spatial planning. *J Environ Manage* 2009;90:77–88.
- [13] Calado H, Ng K, Johnson D, Sousa L, Phillips M, Alves F. Marine spatial planning: lessons learned from the Portuguese debate. *Marine Policy* 2010;34:1341–1349.
- [14] Trouillet B, Guineberteau T, de Cacqueray M, Rochette J. Planning the sea: the French experience. Contribution to marine spatial planning perspectives. *Marine Policy* 2011;35:324–34.
- [15] Flannery W, O Cinneide M. A roadmap for marine spatial planning: a critical examination of the European Commission's guiding principles based on their application in the Clyde MSP Pilot Project. *Marine Policy* 2012;36:265–71.
- [16] Jay S, Klenke T, Ahlhorn F, Ritchie H. Early European Experience in Marine Spatial Planning: planning the German Exclusive Economic Zone. *Eur Plann Stud* 2012;20(12):2013–31.
- [17] Wismar Declaration and VASAB 2010+ Spatial Development Action Programme. Wismar: Vision and Strategies around the Baltic Sea; 2001. p. 39.
- [18] Zaucha J The key to governing the fragile Baltic Sea. Maritime spatial planning in the Baltic Sea Region and way forward. Gdańsk-Riga: Vision and Strategies around the Baltic Sea; 2014 (in printing)
- [19] Schultz-Zehden A, Gee K. BaltSeaPlan findings—experiences and lessons. Berlin: S. Pro; 2013; 148.
- [20] 153. Helsinki: Helsinki Commission; 2012.
- [21] Commission of the European Communities. Commission Staff Working Document accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions concerning the European Union Strategy for the Baltic Sea Region. Action Plan. February 2013 version. SEC(2009) 712/2, Brussels.
- [22] Gee K, Kannan A, Heinrichs B. BaltSeaPlan Vision 2030: towards the sustainable planning of Baltic Sea space. Hamburg: BaltSeaPlan; 2011; 46.
- [23] Baltic Sea broad-scale Maritime Spatial Planning (MSP) principles (<http://www.vasab.org/files/documents/MSP/HELCOM-VASAB%20MSP%20WG%20Principles.pdf>).
- [24] Foley MM, Halpern BS, Micheli F, Armsby MH, Caldwell MR, Crain CM, et al. Guiding ecological principles for marine spatial planning. *Marine Policy* 2010;34:955–66.
- [25] Ehler C, Douvère F. Marine spatial planning: a step-by-step approach toward ecosystem-based management. Paris: UNESCO: Intergovernmental Oceanographic Commission and Man and the Biosphere Programme; 2009; 99.
- [26] Principles. The Convention on Biological Diversity. (<http://www.cbd.int/eco-system/principles.shtml>).
- [27] Curtin R, Prellezo R. Understanding marine ecosystem based management: a literature review. *Marine Policy* 2010;34:821–30.
- [28] The ecosystem approach in drafting a spatial plan for a sea area. HELCOM-VASAB MSP WG (http://meeting.helcom.fi/c/document_library/get_file?p_l_id=18967&folderId=2201877&name=DLFE-53813.pdf) [retrieved August 12, 2013].
- [29] Heinrichs B, Gee K. Necessary common minimum requirements for Maritime Spatial Planning (MSP) in the Baltic Sea. Plan Bothnia project 2012 ([retrieved August 16, 2013])(http://www.vasab.org/files/documents/MSP/minimum_requirements.pdf).
- [30] Jay S, Flannery W, Vince J, Liu WH, Xue J, Matczak M, et al. International progress in marine spatial planning. In: Chircop S A, Smout C, McConnel M,

- editors. Ocean yearbook 2013, 27. Leiden: Martinus Nijhoff Publishers; 2013. p. 171–212.
- [31] Cieślak A, Zaucha J. Poland. In: Cieślak A, Jakubowska P, Ścibior K, Staskiewicz A, Zaucha J, editors. Compendium of maritime spatial planning systems in the Baltic Sea Region Countries. Warsaw– Gdańsk: Maritime Institute in Gdańsk; 2009. p. 54–63.
- [32] Zaucha J. Offshore spatial information—maritime spatial planning in Poland. *Reg Stud* 2012;46(4):459–73.
- [33] Zaucha J, Matczak M, Przedrzymirska J, editors. Future use of the polish maritime areas for economic and ecological purposes. Gdańsk: Maritime Institute in Gdańsk; 2009.
- [34] Schultz-Zehden A, Matczak M. Compendium. An assessment of innovative and sustainable uses of Baltic marine resources. Gdańsk: Maritime Institute in Gdańsk; 2012; 258.
- [35] Zaucha J, Ścibior K. Maritime spatial planning —pilot maritime plan in Poland. In: Palmowski T, Vaitekunas S, editors. The Problems of Development and International Co-operation in the Region of the Southern Baltic, 17. Coastal Regions; 2009. p. 144–58.
- [36] Zaucha J. Pilot Draft Plan for the West Part for the West Part of the Gulf of Gdansk. First Maritime Spatial Plan in Poland. Gdańsk: Maritime Institute in Gdańsk; 2010; 81. (<http://www.im.gda.pl/wydawnictwa>).
- [37] Zaucha J, Matczak M. Developing a Pilot Maritime Spatial Plan for the Southern Middle Bank. BaltSeaPlan Report no. 10. Gdańsk: Maritime Institute in Gdańsk; 2011; 79. (<http://www.baltseaplan.eu/index.php/Reports-and-Publications;809/1>) ([retrieved August 19, 2013]).
- [38] Käppeler B, Toben S, Chmura G, Walkowicz S, Nolte N, Schmidt P, et al. Developing a Pilot Maritime Spatial Plan for the Pomeranian Bight and Arkona Basin. BaltSeaPlan report no 9. Hamburg: Bundesamt für Seeschifffahrt und Hydrographie; 2011; 135. (<http://www.baltseaplan.eu/index.php/Report-s-and-Publications;809/1>) ([retrieved August 18, 2013]).
- [39] Zaucha J, Matczak M. Identification of maritime spatial planning best practices in the Baltic Sea Region and other European Union maritime regions. Gdańsk: Plan Bothnia and Maritime Institute in Gdańsk; 2012; 73. (http://www.vasab.org/files/documents/MSP/MSP_best%20practices.pdf) ([retrieved August 17, 2013]).
- [40] Carneiro G. Evaluation of marine spatial planning. *Marine Policy* 2013;37: 214–229.