BALTSPACE

EXPLORING POSSIBILITIES AND CHALLENGES FOR MSP INTEGRATION IN THE BALTIC SEA

BALTSPACE DELIVERABLE: D1.2: FINAL GUIDANCE DOCUMENT ON ANALYSING POSSIBILITIES AND CHALLENGES FOR MSP INTEGRATION

Authors: Fred Saunders[a], Michael Gilek[a], Kira Gee[b], Cordula Göke[c], Björn Hassler[a], Paula Lenninger[a], Anne Luttmann[d], Andrea Morf[e], Joanna Piwowarczyk[f], Kerstin Schiele[d], Igne Stalmokaite[a], Helena Strand[e], Ralph Tafon[a] and Jacek Zaucha[g]

Stockholm, September 2016

Keywords: Marine spatial planning; integration; social science; Baltic Sea Region; transnational, sustainable development

Contributions made by: [a] Södertörn University, School of Natural Sciences, Technology and Environmental Studies, Sweden; [b] Helmholtz-Zentrum Geesthacht Zentrum für Material-und Küstenforschung GmbH, Germany; [c] Aarhus University, Denmark; [d] Leibniz Institute for Baltic Sea Research Warnemünde, Germany; [e] Swedish Institute for the Marine Environment, Sweden; [f] Institute of Oceanology of the Polish Academy of Sciences, Poland; [g] Maritime Institute in Gdansk, Poland.

Important note: This document is a deliverable of the BONUS BALTSPACE project.

Recommended reference: Saunders et al. (2016): BONUS BALTSPACE Deliverable D1.2: Possibilities and Challenges for MSP Integration

BONUS
SCIENCE FOR A BETTER FUTURE OF THE BALTIC SEA REGION

BALTSPACE has received funding from BONUS (Art 185) funde jointly from the European Union's Seventh Programme fc research, technological development and demonstration, an from Baltic Sea national funding institutions

Contents

Summary

This report makes a case for examining the role of integration and its links to how sustainable development is variably expressed in different marine spatial planning (MSP) contexts. The aim of the report is to refine an analytical approach to examine integration in MSP in the Baltic Sea through consideration of preliminary empirical results from a broad range of case studies. MSP is conceptualised here as a governance platform for improving processes to enable political decision-making with the aim to achieve sustainable development of marine space. Integration is universally espoused as a means to address a variety of challenges closely related to MSP's sustainable development ambitions, such as supporting inter-sectoral decision-making, stakeholder engagement and cross-border interaction, but its role, value and implementation in MSP has not been examined in any empirical detail. Although increased integration may well have positive effects on MSP processes and outcomes, in some instances, the contrary might also be the case. With these thoughts in mind, this report argues that we need to analyse integration as a multidimensional concept in MSP processes and outcomes. Based on understandings of integration derived from MSP experience and concepts in the broader social science literature, an analytical framework is developed to examine MSP practice in the Baltic Sea. Integration is conceptualised as including transboundary/cross-border, policy/sectoral, stakeholder and knowledge dimensions. Despite common requirements under the European Union MSP Directive and policies, national jurisdictions are likely to adopt MSP differently, which has implications for the role integration is likely to play in national and transnational MSP practice. Drawing on empirical data derived from national MSP studies, stakeholder dialogue forums and preliminary interviews with stakeholders the analytical framework is applied to examine how particular integration challenges play out in both national and transnational marine space across the Baltic Sea Region. The analytical framework is then used to structure an examination of several case studies from different parts of the Baltic Sea Region. Based on consideration of the empirical work and an analyses of previous experiences in science and practice we then propose some revisions to the initial analytical framework presented earlier. The revised analytical framework, while capturing the integration dimensions mentioned earlier, also includes consideration of the following aspects of integration: how 'balance' between sustainable development dimensions is exercised; the character of cross-boundary interactions; and temporal dynamics. Instead of a conclusion, short think-pieces are presented to capture the main insights of the report, which could be used to aid the examination of integration in MSP in other MSP contexts, beyond the Baltic Sea.

1. Introduction

Marine spatial planning (MSP) as a means of marine governance has been given more prominence recently in response to the problems of fragmentation of marine regulation, increasing pressures upon the seas, the emergence of new maritime industries and tensions between sectoral interests and environmental protection (Douvere and Ehler 2009). MSP, itself could be seen as a response to a lack of integration. Integration in a broad sense here meaning coordinated, cohesive, coherent and multi-sectoral decision-making over marine planning and use. Contextual mechanisms and processes primarily at the national level, which create differences among planning systems (Kidd and Shaw 2014) are likely to give rise to varying MSP integration concerns, which will be elaborated on in this report. Enhancing integration is seen as a key means to address these different forms of fragmentation by helping to mediate competing values and interests to reach consensus and in this way contribute to meeting aspirations for sustainable development in marine space (Ritchie and Ellis 2010; Varjopuro et al. 2015). Integration here is seen as playing an instrumental role in realising different ends, rather than as an ends in itself. Such ends are commonly concerned with enhancing the efficiency of marine governance, but as this report argues throughout MSP ambitions are also closely linked to the MSP goal of contributing to sustainable marine use. While integration has been universally adopted as a policy principle it is still poorly defined and its empirical implications understudied, so there is a need to conceptualise and examine its multiple dimensions in different MSP contexts.

In response to this challenge, this report proposes an analytical framework which supports a more detailed examination of multiple MSP integration challenges. In doing so we hope to get a better grasp of different integration processes as well as how these interact with conceptual understandings and practices of sustainable development in MSP. A key aim of this work is to provide analytical guidance to the ongoing BONUS BALTSPACE project. We use empirical examples from the Baltic Sea to illustrate selected aspects of the analytical framework. This enables us to explore the way that enabling conditions and constraints (the role of processes, institutional arrangements, historic contexts etc.) in different Baltic Sea settings affect the possibilities of integration for the purpose of achieving greater coherence in using marine space.

The report is structured as follows: First, the important instrumental role that integration plays in pursuing sustainable development is discussed. Integration as a general concept in MSP is then introduced to understand its role and how it is variously understood and applied. At the conclusion of this discussion an analytical framework that incorporates four dimensions of integration is proposed to examine MSP. We then describe the approach taken to select the Baltic Sea case-studies and the methods and sources of empirical material used in this study. The dimensions of the analytical framework are then connected to relevant theoretical literature and illustrative empirical cases of integration challenges from the Baltic Sea. The subsequent section reflects on the implications of these preliminary results for understanding the different roles of integration in relation to MSP, how the analytical integration framework proposed could be refined and developed and proposes a way to conceptualise the relationships between MSP, integration and sustainable development. The report concludes by capturing some of the key insights of the report in the form of think-piece snippets, which could be used to aid examining of MSP integration in other MSP contexts beyond the Baltic Sea.

2. Background – MSP and Sustainability

This section articulates linkages between integration challenges in MSP and its underpinning sustainable development ambitions.

MSP places emphasis on integrating and balancing a range of socio-economic, socio-cultural and environmental goals in decision-making over use of marine space (Agardy et

al. 2011). It provides a framework for balancing the three pillars of sustainable development - ecological, social and economic. In this section are discussions on: 1) hard/soft conceptions of sustainable development, which primarily relate to the ecological dimension; 2) stakeholder inclusion and knowledge claims of sustainable development, which relate to the social dimension; and 3) Blue growth and other non-environmental forms of sectoral development, which relate to the economic dimension.

The EU has clearly stated that the ambition of MSP is to support sustainable development in marine governance contexts through stakeholder involvement and realising optimisation strategies regarding sector/policy integration (EU 2014). At a general level, it is widely accepted, that this is to be achieved by 'balancing' environmental care, with a wide diversity of growing interests across a variety of sectors, jurisdictions and scales. MSP is seen to be able to provide the integrating platforms and decision-making tools and processes to realise this balance so often referred to.

While the EU's intent seems clear, its application in MSP can be interpreted differently. As Ritchie and Ellis (2010) observe, "…for some, the perception of the 'marine problem' may be essentially an environmental one, while others perceive its prime cause lying with the institutional fragmentation governing the management and regulation of the seas" (p.703).

The discussion above suggests that the strength of protection given to the environment in MSP is likely to have implications for the role of integration in construing what might constitute balanced[1] sustainable use of the marine environment in any one context. Furthermore, Jones (2014), in discussing MSP and sustainability, argues that the environment can either be depicted as a competing sectoral interest ('soft sustainability') or as a special concern with recognition of ecological limits that frame development possibilities ('hard sustainability'). Jay et al. (2016b), when talking about the Ecosystem Approach to Management[2] (EAM) in MSP, make a similar observation but use the terms deterministic (hard) and relativistic (soft). Sticking with the terminology of Qui and Jones (2013), the hard demarcation separating the two sides of the debate focuses on the degree of permissible substitutability between the economy and the environment or between 'natural capital' and 'manufactured capital', which has for a long time been a feature of the broader sustainable development discussion. Qiu and Jones (2013) note that these two different conceptions of MSP are discernible in the EU's MSP institutional architecture. According to them, the EU's Integrated Maritime Policy primarily frames MSP in win:win terms[3] (or 'soft sustainability') whereas the EU's Marine Strategy Framework Directive more squarely emphasises environmental protection (or 'strong sustainability'). How these different interpretations of sustainable development translate to MSP at the national level and manifest in transnational settings is an empirical question that is considered in this report. Whether this rather binary analytical view is helpful or not in understanding the nuances of the role of integration in MSP is still an open question. The hard versus soft debate is part of a larger discursive contest over sustainable development, where there are a diverse range of views about both what

[1] What 'balance' means here is ambiguous and its meaning is subject to context. This opaqueness around balance, in part also reflects a broader debate in the sustainable development discourse related to, for example, how to prioritise among the so called pillars and in particular the lack of agreement on what should constitute the social pillar of sustainable development. Concepts related to the Social Pillar that are promoted include, equity, participation and social cohesion, among others (Murphy 2012). It also relates to which pillar of sustainable development should be given priority in any given context, which is inevitably a political decision.

[2] This approach is also variously called the Ecosystem-based Approach, Marine Ecosystem-Based Management, among others. These terms of commonly used interchangeably to refer to the concept that emerged from the Convention on Biological Diversity. For the sake of consistency, we use the term, Ecosystem Approach to Management (EAM) throughout this report.

[3] Win-win here refers to an outcome that is mutually positive economically (and potentially socially, depending on distributional characteristics) and environmentally.

should properly constitute it, and the appropriate and prudent pathways towards it. Regardless of the position one takes on the soft/hard sustainability debate, MSP involves considering competing marine use options, where choices among different knowledge claims, values and interests have to be continuously faced. While we see that possibilities for synergies may arise in MSP, we take the view that trade-offs between different interests (which may align with different dimensions of sustainable development) are more likely to be the norm than the exception[4]. MSP provides a decision-making platform to facilitate these trade-offs. So how to 'balance' development deemed to be of strategic (political) importance, with environmental care and deliberative processes of stakeholder involvement is no doubt a challenging ambition for the role of integration in MSP (Olsen et al. 2014).

The EAM has widely been seen as a key way for MSP to adopt a comprehensive approach to decision-making to fulfil its sustainability aspirations. EAM strives to embed the complexity of ecological interactions, including human use into a rational decision-making framework. It adopts several principles (or operating guidelines) that overlap with those commonly articulated in both sustainable development and MSP, such as the precautionary principle, the importance of a cross-sectoral, cooperative and coordinated approach, the need for stakeholder engagement, protection of the ecosystem by setting goals, adaptation and the need to consider scientific and other types of knowledge in decision-making, among others (Katsanevakis et al. 2011; Long et al. 2015). Like sustainable development, EAM is open to different conceptual and operational interpretations as the recent work by Jones (2014) and Jay et al. (2016b), referred to above alludes. Much has been written on the scientific concepts and principles of EAM and the various difficulties in realising their effective implementation (Tallis et al. 2010). Given this difficulty of translating EAM into practice, recently more emphasis has been put into elaborating how this could (or should) occur (e.g. the recently adopted, *Guideline for the implementation of ecosystem-based approach in Maritime Spatial Planning (MSP) in the Baltic Sea area* (HELCOM-VASAB MSP Working Group 2015). Within an EAM framework, ecosystem services have been seen as indicators/criteria to make more legible what needs to be governed and secured in pursuit of sustainable development.

In practice, MSP is administered by states within the institutional architecture of multinational directives, policies and strategies, such as *Blue Growth* (Jay et al. 2016a) and the EU MSP related directives discussed above.[5] However, despite recent urgings from Flannery et al. (2016) to radicalise MSP, it is highly unlikely that MSP would give space to deliberate over more fundamental human-nature relations necessitating wholesale institutional re-design or transformation requiring reconfiguration of power relations[6]. To this end, sustainable development, at least in its weak form[7] has been criticised for being at 'best an empty phrase and at worst a Trojan horse for a redefinition of the public interest by a powerful few' (Voss and Kemp 2006:3). Others see this lack of definitional prescriptiveness as beneficial as it allows space for MSP

[4] In a recent review of 16 marine spatial plans from around the world, Collie et al. (2014) identified an extensive list of mechanisms to deal with trade-offs. So the need to negotiate trade-offs in MSP is widely recognised in practice and is explicitly mentioned as a challenge in the HELCOM approved Broad-scale Marine Spatial Planning Principles in the Baltic Sea area (HELCOM-VASAB MSP Working Group 2010b).

[5] The institutional architecture of MSP is in any one setting (in the Baltic Sea Region) bound to be dense and complex and includes MSP specific directives and policies (at various levels of governance), others which may be sector-based as well as international environmental instruments such as Espoo and Strategic Environmental Assessment (SEA).

[6] Such as the adoption of a 'multi-dimensional strong sustainability' perspective that more fully considers all the sustainable development dimensions rather than limiting consideration to just the ecological and economic dimensions as Qui and Jones' (2013) soft/hard binary analytical approach does.

[7] The weak form of sustainable development is similar to what Qui and Jones (2013) refer to as a soft form of sustainable development.

sustainability goals to be adopted to 'local conditions' in a way that is able to consider the unique contexts of contingent socio-economic and environmental settings. However, such contingent adaptation would require the systematic involvement in MSP of organised interests and perspectives from business and civil society that might not otherwise be represented by governments (Joas et al. 2008). According to Redclift (2014) the struggle to constitute sustainable development in particular settings comes down to a struggle between control and discursivity, which he sees as an inherently political process. Here, control is likely to relate to a form of governance or steering (top-down or strategic) and discursivity is the democratic space for different views to be expressed and pursued (bottom-up). This is because sustainability, like MSP; while arguably having 'objective' characteristics, is fundamentally underpinned by normative ambitions and preferences (Adger and Jordan 2009), which are decided upon through political processes.

In line with this idea of MSP as a form of marine governance for sustainability, commentators on MSP such as Kidd and Shaw (2014) have argued that its development and implementation should be undertaken in partnership and through consensus-oriented processes with a wide range of organisations from the public, private, and voluntary sectors. Stakeholder engagement, commonly linked to sectoral interests, in MSP is seen as giving opportunities for different values, interests and types of knowledge to be expressed, considered and negotiated, but it is not without its problems as contestations and conflicts over competing uses are a common occurrence (Flannery et al. 2016). There are, however, outstanding questions about how to develop pro-active integrative planning processes to support this engagement of stakeholders across multiple sectors, scales and administrative boundaries in MSP decision-making (Olsen et al. 2014). A focus on the role of integration in MSP can help shed light on current challenges and practices and help provide a basis of knowledge useful for MSP practice.

Arguably, environmental challenges, such as those confronting MSP, can be seen as social issues in that they closely relate to institutionalised human behaviour that determine difficult choices, such as those between environmental protection or development.[8] So scoping what should properly constitute sustainable development in MSP to support analysis is no straightforward matter and as the governance discussion above informs us, this must go beyond linear views of scientific knowledge (as an uncontested knowledge claim) informing policy (Kidd and Ellis 2012). Here, we are not concerned with precisely pinning down the relationship between MSP, integration and sustainability, but rather to explore how integration is conceived and enacted in different MSP organisational arrangements, platforms, procedures and practices.

Adopting this approach takes us further analytically than the Qui and Jones (2013) hard and soft versions of sustainable development, by offering more nuanced socio-political accounts of the processes underpinning preferences inherent in different expressions of MSP and how these manifests in particular empirical settings. It is highly likely that a variety of sustainability discourses are mobilised by different interests[9], how these are handled in MSP ultimately hinges on the workings of power related to how aspects of integration (further elaborated below) are handled in specific processes, including among others, stakeholder engagement, transparency of decision-making, inclusion of different types of knowledge (attached to stakeholder engagement and influence), adoption of a cross-sectoral approach and coordination over different scales.

[8] In that, institutional behaviour such as through governance (and government), economic policies and incentives, social and behavioural factors and technology are linked to both environmental impacts as well as potential 'sustainable' responses through institutional redesign. How these factors then relate to how the sea is used is seen to be fundamental to the work of MSP. Indeed, Jay et al. (2016b) take the realm of the social in MSP even further when they attribute 'the rise of MSP as an expression of the social construction of environmental problems' (p. 129).

[9] For example, in reality in MSP, small-scale fishers and marine conservationists are likely to conceive sustainable development vastly differently than windfarm proponents.

3. Integration in MSP

This section describes integration as multidimensional concept and drawing on this discussion proposes an analytical framework to examine the roles of integration in MSP.

3.1 Purposes of Integration

The purpose of integration in MSP, like other forms of governance for sustainability, is multi-dimensional, not all of which are explicitly addressed in this report, e.g., land-sea integration. At a more general level, MSP aims to support sustainable use of marine resources, which necessarily includes developing a cross-sectoral approach to addressing environmental, social and economic goals (Ritchie and Ellis 2010; Ohlsen et al. 2014). Gilliland and Laffoley (2008) stress that this ought to be delivered in partnership with a wide range of organisations from the public, private, and voluntary sectors. To address these multiple goals in a marine context, a central task of MSP is to integrate diverse sectors, different (levels) planning authorities (including cross-national), and the different interests, strategies and epistemologies of stakeholders. Therefore, a central purpose or function of integration in MSP is to reduce fragmentation or uncoordinated decision-making and action in MSP between these various aspects and in doing so achieve positive synergistic effects. Ultimately, it implies actors linking in some way and developing knowledge to overcome fragmentation and foster cohesion with the aim of engaging in the common purpose of sustainable marine use[10] (Vigar 2009).

Integration processes that link a broad range of cross-sectoral interests are thought to be able to provide platforms that are able to facilitate the multi-dimensional and multi-level decision-making required for sustainable marine governance. This assumes that such linkages are more likely to foster more coherent decision-making. Vertical integration, which commonly also involves cross-sectoral linkages, here implies establishing forums, platforms or processes (or other forms of interaction) that coordinate between governance levels across multiple levels, including in transboundary settings. Conceiving MSP as a platform for improving processes to enable political decision-making of marine space, also includes its role as an institutionalised arrangement conducive to hammering out political balancing of interests (incorporating sustainable development dimensions).

3.2 Processes or Means of Integration

In a national context, states will express different: ways of organising MSP, interpreting and adopting international conventions/directives; and national strategic interests (this may also even vary among delineated MSP administrations within countries) (Jay et al. 2016a). A recent study across the EU found that MSP tends to be dominated by states pursuing their national strategic interests by privileging the interests of certain sectors in MSP decision-making (e.g. windfarm development, national security) (Jones et al. 2013b). However, what strategic national interests are and how they are exercised in different MSP settings is likely to vary. If the findings of Jones et al. (2013a) have general validity, a key question that then arises is how strategic national interests can be squared with scientific knowledge informing ideas of environmental limits and the more democratically-oriented ambitions of MSP, such as place-based or issue-oriented stakeholder engagement? With this in mind, the national level becomes an important site to examine the role of integration in MSP, particularly given that authorities are increasingly given statutory national authority for implementing MSP and required to act in transnational, national and sub-national planning contexts (Jay et al. 2016a).

In thinking about the means of integration in MSP it will be important here to examine what instruments are used in MSP. Such instruments will vary widely between contexts,

[10] While sustainability might constitute a common purpose, as pointed out throughout this report, how this is conceptualised and practiced in different MSP setting will vary.

but could include formalised institutional arrangements, voluntary approaches and partnerships or mechanisms specific to particular sectors or contexts.

The level of ambition in different MSP contexts is also likely to influence the type of integration processes being undertaken or sought. For example, multi-sectoral forward-looking (strategic and visionary) spatial planning aimed at sustainable use in a coastal zone, is likely to present different integration challenges and responses than say to an open sea area where the primary aim may be to minimise conflicts among a smaller range of users though a more reactive and regulatory approach.

MSP decision-making tools have also been cast as being able to support integration. For example, particular tools might act to facilitate a structured approach to stakeholder dialogue (e.g., Open Standards for the Practice of Conservation, see Schwartz et al. 2012), act as providers of data or bridge between different forms of knowledge (e.g., Marxan, see (Göke and Lamp 2012) or facilitate vertical and horizontal integration (e.g., Bow-tie, see Cormier et al. 2015). However, more research is required within MSP contexts, to better understand whether tools and approaches can make a substantial contribution to resolving the integration challenges discussed above. While not covered within this report, the larger BONUS BALTSPACE project will seek to address this issue by assessing the capacities of different tools to address the multiple integration challenges discussed here.

3.3 The Challenges of Integration

MSP is first of all a national issue as institutional MSP arrangements are legislated and enacted in national settings that reflect different of processes, institutional setups, historic contexts that affect integration possibilities. The transnational dimension of MSP adds a further layer of complication (see Table 1. for a summary of this challenge). The need to integrate MSP over borders within transnational marine environments appears exceedingly clear, especially given the recent surge in plans to develop new types of maritime industries, such as the European Union's ambitious *Blue Growth Strategy* (Jay et al. 2016b). This will be a challenging task in a complex transboundary context, like the Baltic Sea with its differing politico-administrative traditions, languages, marine conditions, economic interests and levels of institutionalised MSP engagement (Tynkkynen et al. 2014).

This imperative for transnational MSP integration is evident from both environmental and economic (arguably a sub-set of the social) perspectives. The three pillars of sustainable development are deeply interwoven, hence the need for joined up approaches in how they are expressed in MSP. Marine ecosystem values and processes as well as human development activities transcend national boundaries, so connectivity (which implies a form of integration) for conservation, shipping and fishing, among others needs to be considered at a localised as well as regional sea basin levels (Jay et al. 2016a). Furthermore, inadequate integration in MSP has been implicated in conflicts over resources and other marine values and uses both within domestic and transnational marine space (Ritchie and Ellis 2010). These transnational MSP challenges are summarised in Table 1.

If the aspirations to 'balance' inter-related sustainable development ambitions in MSP is to be fulfilled (as espoused for example by the HELCOM-VASAB MSP WG 1/2010 in the Baltic Sea context) it will require knowledge input from a range of natural and social science disciplines in addition to the views and experiences from a wide range of affected or engaged stakeholders. The integration problem here is conceived as how to integrate separate sectoral/policy interests into an overarching MSP platform that improves marine planning processes and decision-making. While MSP, like all sustainable governance pursuits, is likely to be constrained by different knowledge deficits and limitations (Coffee and O'Toole 2012) a further problem is presented by integration. That is, how to give weight to different forms of knowledge (scientific disciplinary/multi-disciplinary, policy/managerial, local, resource user) in decision-making? This is likely be a difficult

process, particularly if opposing knowledge types and related claims are linked to deep conflicts over marine resource rights. Also implicated in the knowledge integration challenge is how to ensure the transmission and sharing of knowledge among organisations involved in MSP. This may be a problem in proprietary knowledge situations, where there may be commercial incentives for private sector stakeholders to closely guard knowledge/information.

Stakeholder integration relates to an overarching challenge of how to formulate and define marine environmental and use problems in such a way that all stakeholders can meaningfully contribute to the problem at hand. This relates to the inclusion and active involvement of stakeholders in MSP processes, their role(s), and the degree of their influence on outcomes in concrete terms (so that there are incentives for them to participate) (Jones et al. 2013b). Still, it has been acknowledged that there is a lack of understanding about how different strategies for stakeholder integration may work in different MSP settings (McCann et al. 2014). Additionally, a key challenge is how to develop processes to support participation among a range of stakeholders and put measures in place to manage conflicting interests in a timely manner to inform high quality policy/planning outcomes.

The challenge of integration has been recognised within the MSP literature (Portman 2011; Kidd 2013; Schultz-Zehden and Gee 2013; Jones 2014; Zaucha 2014), although it has been dominated by descriptive approaches and formulation of typologies describing different aspects of integration (Kidd and Ellis 2012). Integration as a policy and analytical problem has also been discussed elsewhere – most saliently in the fields of sustainable development (Brown et al. 2005; Adger and Jordan 2009), ICZM (McKenna et al. 2008; Bremer and Glavovic 2013), environmental policy integration (Jordan and Lenschow 2010), planning theory (Stead & Meijers 2009; Vigar 2009; Straalen 2012), socio-ecological systems (Ostrom 2009), among others.

From the above discussion we have identified key integration challenges in MSP, which are presented in Table 1.

Table 1. Critical integration challenges linked to MSP.

MSP integration challenge	**Specific examples**
Multi-scale and transboundary integration	• Integration between different (geo)political scales (e.g. local, regional, national, international) • Integration of MSP across national borders • Integration of MSP and terrestrial planning
Policy and sector integration	• Integration of environmental policies (in particular MSFD) and *Blue Growth* • Sectoral integration in public policy (e.g. maritime transports, fisheries, tourism etc.) • Integration of public, private and voluntary sector activities
Stakeholder integration	• Integration of stakeholder knowledge, values, interests, critique etc. in MSP with regard to important procedural aspects (e.g. transparency, legitimacy, power, mobilisation, timing, roles)
Integration of knowledge base	• Interdisciplinary integration linked to e.g. risk and uncertainty analysis, sustainability assessments • Integration of sectoral knowledge • Integration of decision support tools in practical MSP processes handling ecological, economic and social issues on a spatial level

3.4 Specificities and Limitations of Integration

In reality, integration may not be viable, desirable or efficient in all MSP situations. From a pragmatic perspective it might only be prudent to only integrate those additional sectors, stakeholders or scales that are essential to solving particular MSP problems or who are (or feel that they are) affected in some way. This view suggests that for every context, the degree, extent, and type of integration will be specific and that there is no blueprint model to guide what is the appropriate level or type of integration approach. It also suggests that valuable lessons to develop a more nuanced understanding of integration are likely to be gained through examining the experiences and practices of MSP.

In as much as enhancing integration may have positive effects on MSP processes and outcomes by redressing concerns of fragmentation and lack of coordination (over scales, jurisdiction and sectors), imprudent integration strategies, in addition to being inefficient, may have effects that are contrary to MSP's underpinning sustainable development ambitions or may differ widely between MSP contexts depending on sustainable development has been conceptualised. For example, increased vertical integration between different jurisdictions may concentrate decision-making power at higher levels and reduce opportunities for stakeholder engagement and/or the consideration of 'local knowledge' (i.e., limit or constrain bottom-up processes) that may better inform decision-making. Another example is when countries are developing MSP in cross-border situations perhaps a 'sufficient' integration is avoidance or minimization of conflicts of interest, and compatible co-location of marine use and activities, rather than deeply entwined institutional arrangements that demand heavy transactions costs. Such a strategy may be aimed at integration to ensure spatial harmonisation over the border areas. Depending on the sectoral focus this may or may not be an effective approach.

Rather than searching for a definitive understanding of integration, this research seeks to better understand how integration manifests in different MSP institutional arrangements and processes and with what implications, as well as how various stakeholders in these processes perceive (and develop expectations about) the role of integration. Understanding perceptions linked to specific MSP contexts is likely to be important as different conceptions and expectations of integration among stakeholders are likely to make it difficult for them to cooperate, integrate policies, or implement policies in an integrative manner.

3.5 An Analytical Framework to Examine Integration in MSP

As the discussion above suggests, integration in MSP has a multidimensional character and includes challenges of vertical integration through levels of governance/cross border, horizontal integration across multiple sectors/policy, and stakeholder and knowledge integration across diverse interests and epistemologies (as presented in Table 2). We use these four lenses to assist the delimitation and clarification of the illustrative examples of MSP from the Baltic Sea.

Table 2. Analytical Framework to examine integration in MSP

Integration Dimension	**MSP Ambition**
Transboundary/cross-border	to garner cooperation among jurisdictions (e.g., cross-national and sub-national) borders to further coherent planning and use between maritime activities and good environment status across borders and in the open sea – particularly in transnational marine space
Policy/sectoral	to pre-emptively address sectoral use incompatibilities, but also to achieve synergistic interaction between sectoral interests – where mutual benefit/interest is emphasised (and sought after) - rather than only where sectoral interests are pursued
Stakeholder	to develop processes to support engagement among a range of stakeholders and put measures in place to manage conflicting interests in a timely and deliberative manner to inform what are regarded as legitimate and high quality policy/planning processes and outcomes.
Knowledge	to interlink different forms of stakeholder knowledge and to fill gaps, to support multi-disciplinarily and robust science-based approaches to underpin MSP decision-making in pursuit of sustainable marine governance.

4. Methodology

The case studies presented here are findings based on preliminary empirical work undertaken by the BONUS BALTSPACE project. BONUS BALTSPACE consists of a multi-disciplinary team of researchers based in various countries around the Baltic Sea, who are working on a larger project to better understand the role of integration in MSP.

4.1 Case-study Selection

Our approach can be seen as conceiving MSP rather broadly, as a marine governance approach to meet sustainable development goals. It is also evident that in order to capture and examine a wide range of integration related MSP experiences that we need consider the role integration plays in a range of different settings around the Baltic Sea.

In order to inform the selection of case studies the BALTSPACE project developed the following criteria:

a) *overall breadth and specificity* – the selected cases should cover all the integration challenges (defined in the analytical framework) across a broad range of geographical, institutional and use/issue contexts;

b) *transnational relevance* - good possibility of generating findings and observations of importance to other countries and sea basins;

c) *pragmatic considerations* - the availability of data, information, and access to cases, i.e., the possibility of conducting qualitative research and examining/testing MSP tools.

(adapted from Zaucha et al. 2016)

These selection criteria were applied to inform the selection of case studies presented in this report. Table 3 below provides a brief profile of the case studies examined in this report.

Table 3. Profile of Case Studies

Selected cases	Summary Description of the Case	Integration Focus
Regional, HELCOM Baltic-wide	The character of transnational MSP with a focus on the role of the regional Baltic-wide level	Vertical integration/transboundary coordination of MSP
Lithuania and Latvia comparison	International cross-border comparison of the way that Lithuania and Latvia has gone about establishing MSP	International cross-border/stakeholder engagement
Germany – a sub-national comparison	Comparison between two MSP jurisdictions in Germany describing different conceptions of sustainable development and cross-boundary compatibility	Cross-boundary
The Sound (Öresund), Denmark and Sweden	An examination of the role of Sweden and Denmark's different MSP institutional contexts and the implications for cross-level, horizontal type of planning in the Sound.	Transboundary cooperation, cross-sector
Stakeholder engagement - Fishers Engagement in Polish MSP	A focus on the problems of engaging coastal fishers in MSP in Poland	Sector/Stakeholder
The difficulty of 'integrating' stakeholder knowledge in Polish MSP	An account of the difficulty of 'integrating' fisher's knowledge in Polish MSP	Knowledge

4.2 Data Sources and Methods

In each of the countries mentioned above, in country researchers have undertaken interviews focussed on understanding the integration challenges through the views of those involved in the different MSP case-study contexts. This includes interviewing actors involved in and responsible for MSP in each country/case study setting as well relevant national authorities, sector representatives, and other affected actors, such as fishers, wind power entrepreneurs and lower level experts and decision makers, among others. The range and types of questions asked differed to some extent between the cases but the focus was on trying to understand important aspects of integration in particular case study settings. So rather than mechanically asking questions related to each integration dimension referred to above, we have been more concerned to understand the key characteristics and challenges in each case study settings to try and understand how these relate to the integration. The collection of empirical material across the case studies is ongoing and some of the accounts below rely more heavily on primary data than others (a more complete account of the secondary data drawn on for the empirical accounts presented here is available in Zaucha et al. (2016).

Table 4 shows how we have approached the collection of empirical material to examine integration in MSP in this report. To gain insights into the multidimensional roles of integration in MSP we have examined the arrangement of formalised institutional (hard) spaces at different scales (laws, regulations, policies, authorities and procedures) and to some extent how these affect particular case study contexts, as well as, in some cases how informants (planners/practitioners/marine stakeholders) reflect on roles of integration in different planning processes and practices.

Table 4. Collection of Case study material

Analytical Variables	Source of Data	Methods
Regulations and procedures – (formal and informal rules including expressed ambitions) – laws, regulations and procedures enabling or disabling integrative MSP planning processes at different scales	Documentation; Informants	Text analysis; Interviews
Practices - What does integration mean and how does it occur in different aspects of MSP in practice	Informants; Documentation; MSP forums (interaction)	Interviews; Extended Peer Review

In presenting, the linkages between integration concepts and empirical challenges in the Baltic Sea we follow the structure of the analytical framework presented in 3.5., Table 2. This allows us to explore each integration dimension by drawing on thinking suited to interrogate the preliminary empirical data presented. In the subsequent section, we then reflect on the suitability of this framework and consider ways to further develop it as an integration analytical framework to examine MSP. This approach has been adopted so as to assist in the analytical guidance of ongoing BONUS BALTSPACE research.

5. Linking conceptual understandings of Integration and Empirical Challenges in the BSR

This section provides a more in-depth conceptual discussion of each integration dimension identified above by drawing on relevant theory and by discussing empirical examples of the integration challenge from around the Baltic Sea Region. Each integration dimension in the analytical framework proposed could be conceptualised in numerous ways depending on the empirical context, e.g., knowledge integration – focus on problems of knowledge sharing or the weighting given different types of knowledge in decision-making. The accounts presented below exemplify a particular angle of each integration dimension that is deemed relevant to understanding the particular case-study being examined.

5.1 Transboundary/cross-border coordination

The cases presented below highlight different aspects of transboundary MSP integration dynamics. In section 5.1.1 HELCOM's coordination role across the Baltic Sea is put into focus. Section 5.1.2 presents an international cross-border comparison of the way that Lithuania and Latvia has gone about developing national MSPs. Section 5.1.3 discusses cross-border MSP dynamics in Germany by comparing and examining the interaction between different administrative jurisdictions. Each case study offers different integration insights.

5.1.1 Transboundary regional coordination – compatibility of national MSPs

MSP by nature has a distinct transnational character, because activities such as wind park planning, fishing, shipping and building of power grids often take place in international waters[11] and may interfere with other countries' interests. Moreover, marine ecosystems seldom coincide with national borders, which means

Transboundary MSP strategies in the Baltic Sea region up until now have primarily been targeted at achieving functional coherence, rather than what could be seen as a stronger form of integration.

[11] In the Baltic Sea there is no international waters as all of the EEZs are adjoining each other.

that some form of joint responsibility is called for. Thus, there is a demand for international cooperation, or at least transnational coherence[12], to reduce inefficiencies where states downplay positive or negative effects upon others or opportunistically free-ride on others' efforts (Victor 2006; Hassler 2015). This is especially challenging in MSP contexts, where not only national borders need to be bridged, but also cultural, administrative and sectoral differences among countries. Furthermore, in contrast with national settings, where authoritative regulations can be made and enforced relatively effectively, international treaties and other transnational agreements are built on the foundation of consensual decision-making, under the threat of the "law of the least ambitious programme" (Underdal 1980).

Against this background, the establishing of the HELCOM-VASAB MSP Working Group on MSP (MSP WG) at the Ministerial meeting in 2010, St Petersburg, represents an interesting attempt to elaborate not only a regional perspective, but also to bridge conceptual and cultural differences between regional marine environmental protection (Helsinki Commission; HELCOM) and physical planning (VASAB) at national as well as regional levels. Soft mechanisms such as workshops, sharing of experiences and discussions over country and sector borders were used to, if not reach consensus, at least identify points of agreements and issues that were in need of further deliberation.

However, it was soon apparent that it was a challenging task to bring HELCOM and VASAB cultures and perspectives closer together. Comparing two key documents developed within these two institutions – the Baltic Sea Action Programme (HELCOM 2007) and VASAB Long Term Perspective for the Territorial Development of the Baltic Sea Region (VASAB 2009), differences in perspectives and focus are substantial. For example, whereas BSAP is built upon the fundament of the Ecosystem Approach to Management (EAM), the concept of Ecosystem Approach is not mentioned at all in the LTP. Instead, sustainable development is used to capture the broader aspects of ecological, economic and social sustainability. It has been argued by, for example, Jakobsson (2012, p.13) that EAM places more far-reaching demands on environmental protection measures than is the case with the environment as a 'sector' in the formation of sustainable development. These different perspectives could also be described as EAM viewing ecosystem parameters as boundary conditions that cannot be transgressed without risking system-wide and potentially cascading repercussions, while the essence of planning philosophy is centred around balancing of competing interests, where environmental concern represent but one interest, among others. This division is similar to Qui and Jones' (2013) argument about hard and soft renderings of sustainable development in MSP.

Given the fact that EAM had become a guiding principle not only in BSAP, but in global treaties such as the Convention on Biodiversity and in key EU Directives (WFD, MSFD, MSP) as well, it is not surprising that it has become frequently referred to in recent HELCOM/VASAB strategic documents such as the Regional Baltic Maritime Spatial Planning Roadmap 2013-2020, Guideline for the Implementation of ecosystem-based approach in Maritime Spatial Planning (MSP) in the Baltic Sea area and MSP WG Work plan 2014-2016. However, the details of how to bring planning perspectives and EAM together to forge concrete management strategies have only recently begun to be worked out.

It can be argued, that transboundary MSP strategies in the Baltic Sea region have adopted a functional coherence approach, rather than a higher degree of integration. The main ambition in adopting this approach is to inform other countries about national plans being elaborated and to take possible effects upon other countries into consideration in order to promote coherence, in accordance with the Espoo Convention and the UNECE Protocol on Strategic Environmental Assessment. The emphasis on

[12] Coherence as a policy principle is understood here to mean an ambition to promote compatibility among different processes and objectives.

coherence seems to have primarily or only been on environmental aspects thus far. Formally, these communications are labelled Consultations and should involve competent national authorities (MSP WG 2016: 2). An important rationale of the coherence perspective is spatial subsidiarity, that is, MSP decisions should be taken at the lowest, appropriate level, reflecting that national preferences on how to design plans vary considerably among the Baltic Sea countries (MSP WG 2016: 3).

Although a strong case can be made for adopting a coherence perspective, rather than a deeper and more demanding integrative approach in transnational Baltic Sea MSP policies, the parallel adoption of EAM seems to require more than coherence and consultations. Ecosystem boundaries typically span several country borders, if not the entire Baltic Sea, which may mean that far-reaching integration is needed on matters such as indicators, measuring methods but also targets, objectives and cost-sharing to go from words to action in implementing EAM in transnational settings. The need for dual strategies – consultations for improved coherence and cooperation for deeper integration or consultation/cooperation - has been underlined by HELCOM-VASAB MSP WG (MSP WG 2016). The EU MSFD will clearly be especially important in how to address the EAM perspective in transnational MSP efforts. However, it has been observed that EAM in the Baltic Sea region has not yet been elaborated much in day to day practices (Hassler et al. 2013; Gilek et al. 2016). Apart from emphasising the need for "informal routes of communication…between relevant authorities", "informal discussions", "regular contacts…to build trust", establishing of "expert groups" and similar loose objectives (MSP WG 2016: 6-7), it has yet to be elaborated how – concretely – spatial subsidiary and national pluralism in MSP-making can be reconciled with the need for cooperation and integration, including transnational stakeholder inclusion and public participation, which seems to be required for EAM to have a real influence on the future management of the Baltic Sea (Schultz-Zehden and Gee 2016).

5.1.2 'Hard' sustainability vs 'soft' sustainability - comparing Latvia and Lithuania MSPs

Here we discuss how different MSP policy frameworks, procedures and different stakeholder involvement strategies in Latvia and Lithuania provide empirical evidence of divergent conceptions of sustainability within MSP.

The way that the MSP priorities were set and organised suggests that there are clear differences to interpreting sustainability between Lithuania and Latvia.

When preparing the public participation strategy in Latvia the key sectors connected with maritime issues were identified. Different governmental and non-governmental organisations including environmental groups and business sectors on national and local levels were identified as MSP stakeholders. Local administrative bodies, such as coastal municipalities were also identified as part of this initial stakeholder mapping exercise. An environmental NGO representative who was involved in the process described it in this way: "We created substantial database (of potential marine stakeholders) with more than 400 entry contact points. Municipalities played a very important role in Latvia. From what I heard, in Lithuania local municipalities, were not very active. In Latvia municipalities were very active in discussing MSP related issues on tourism and recreation, local fishery and ports."[13]

During the first phase of the MSP process in Latvia, three open regional meetings were organised in different coastal areas in March 2015. During these meetings the discussion centred on the MSP process, the current situation, preliminary results from the stocktaking and Baltic Sea targets related to environmental processes and values (Interview with the BEF Latvia 2016). During the second stage of the planning process

[13] In Latvia coastal municipalities are in charge of management of the coastal fisheries. This differs from Lithuania.

alternative MSP scenarios were developed which were presented in a second round of regional workshops, which were open to all stakeholders – already identified or not. Hence, three regional stakeholder meetings were organised - in Liepaja, Ventspils and Sulkrasi in July 2015. Apart from the regional workshops, the planners organised several individual sectoral consultations in the spring and autumn of 2015. The goal of the first round of individual consultations was to identify and clarify the needs of the stakeholders. During the second round of individual consultations a draft MSP, which had been evaluated in terms of the operationalisation of the ecosystem approach was discussed (described in more detail below). Key sectors such as shipping, energy, tourism and recreation, fisheries, underwater cultural heritage, nature conservation and others sectors relevant for sea uses were consulted (Interview with BEF Latvia, 2016). Some of the sectoral meetings were multisector rather than just between the MSP planners and the target sector. For example, during the meetings with the port authorities and the OSWE sector the representatives from the environmental sector were also invited to introduce the concept of "good environmental status" (Interview with the Latvian Institute of Aquatic Ecology 2016). The environmental sector did not meet any major objections from other sectors during these meetings.

A number of actors involved in the Latvian MSP stressed that nature conservation and environmental protection are prioritised on the national MSP agenda. According to representatives from the Ministry of Environment Protection and Regional Development of the Republic of Latvia, MSP was elaborated by explicitly developing and applying an ecosystem-based methodology, which involved mapping ecosystem values and services and assessments of the impacts of alternative sea use scenarios and the solutions proposed for the permitted uses by the MSP. In developing this approach, the descriptors from the EU MSFD were explicitly drawn on in order to "assess the significance of human pressure" during the MSP process. This suggests at the very least an approach where perceived ecological limits informed MSP, presumably with the aspiration to ensure ecological values and processes were not subjected to threshold level pressures.

This viewpoint was reinforced by several different respondents, who were part of the MSP elaboration process in Latvia and gives support to the argument that ecosystem conservation has been a foundation and overarching societal objective of the MSP process in Latvia. For instance, respondents from the Latvian institute of Aquatic Ecology and Baltic Environmental Forum Latvia confirmed that the planners had followed an ecosystem approach when developing the methodology of the MSP (Interview with Baltic Environmental Forum Latvia (BEF) and Latvian institute of Aquatic Ecology, 2016). In other words, the planners attempted to classify and assess what type of ecosystem services each marine biotope provides. The reasoning behind the importance of adopting an ecosystem approach was tightly connected with the emergence of new economic activities in the sea and their likely impact on the marine environment as the following quote from an employee working with MSP from the Latvian Institute of Aquatic Ecology indicates, "if a new economic activity (e.g. aquaculture development) would try to enter the marine waters we would be able to inform the developers on what type of ecosystem services exists in this particular area. As a result, we would be able to assess what would happen to the marine environment if we would lose half of this territory". This 'hard' sustainability approach or, in other words, the underlying environmental protection factor when considering future development scenarios of other economic sectors, also underpins the argument presented by the respondent from the regional governmental authority, Kurzeme planning region, "Latvia has a strong tradition on nature protection. Meanwhile, the concept of *Blue Growth* is relatively new and people are not aware of it".

On the other hand, a different approach seems to have been adopted towards sustainability in the Lithuanian MSP. For instance, among the objectives of the planning of marine areas a goal "to maintain balance between economic development and good ecological status" is set (The Parliament of the Republic of Lithuania No. 12-1781). In addition, coherence is emphasised as an MSP planning principle to ensure "a balance

between regional economic development, social well-being and healthy or (and) resilient ecosystem of the Baltic Sea" (Ibid, p. 4). The wording in these ambitions imply that the marine environment is a sectoral interest to be considered alongside other maritime sectors. In order words, the Lithuanian MSP appears to be adopting a 'soft' sustainability approach that looks to 'balance' the needs of different marine sectors without any 'hard' privileging or preferencing of environmental concerns. This 'soft' sustainability approach was also reinforced during a MSP transboundary meeting between Lithuanian and Latvia in 2014. During the meeting Latvian environmental representatives were interested to learn how Lithuanian MSP is supporting the MSFD with regards to achievement of a good environmental status (GES). In response to this question the planners attending highlighted that "the priority of the Lithuanian MSP is to foster the maritime economy and minimise negative impact of economic development" (Blazauskas et al, 2014, p. 24).

The process of stakeholder involvement in Lithuania was twofold. On the one hand, the planning process followed official procedures of stakeholder involvement (e.g. public announcement of the beginning of the planning process, official meetings with the inter-ministerial group (comprised of vice ministers of the respective key ministries) and MSP working group (comprised of the developers of the plan and the respective people from the Ministry of Environment). Broader stakeholder involvement was not seen as necessary. Therefore, the public hearing processes of the prepared strategic environmental assessment (SEA) was considered to be a very good opportunity for other actors (NGOs, local authorities) to get involved in the process (Interview with the Ministry of Environment, 2016). In addition, Lithuanian planners organised one transboundary consultation with Latvia as part of the Lithuania MSP SEA. On the other hand, the face-to-face meetings, roundtables and other workshops were organised through direct contact with targeted sectors (Port of Klaipeda, Navy, Maritime Safety Administration) in order to find solutions to certain problems/potential conflict situations identified by the planners. Communication regarding OSWE mainly took place via the telephone. Communication regarding conservation and protected areas was undertaken through formal processes. However, the majority of face-to-face meetings and workshops on national and international level were placed under the EU-funded project agenda (PartiSeaPate). Thus, according to a MSP planner, they were not a part of the so called official MSP process. Nevertheless, these sectoral discussions undertaken as part of the PartiSeaPate project[14] were incorporated into the official MSP process.

The participation of coastal municipalities in the MSP process was ad hoc since "a comprehensive mechanism on communicating properly along the vertical governance line from the ministerial level down to coastal municipalities was not required" (Blazauskas et al. 2014 p. 3). In the approach adopted, regional authorities and civil society actors had an opportunity to present their comments upon the draft MSP during the MSP SEA public hearing meetings.

The outcomes of the respective MSP processes in Lithuania and Latvia is far from clear since Lithuania is still preparing the implementation program of the adopted MSP and Latvia is still in the process of the adoption of its MSP. However, the way that the MSP priorities were set and organised suggests that there are clear differences to interpreting sustainability.

The empirical evidence presented here indicates that Latvia and Lithuania have deployed contrasting stakeholder engagement procedures. The development of the MSP in Latvia has involved a systematic public participation strategy including broad-ranging workshops and seminars, sectoral face-to-face meetings as well as three rounds of cross-sectoral regional seminars, including discussions on alternative MSP scenarios and proposed sea use solutions (Interview with BEF Latvia 2016). This quite extensive stakeholder engagement process with, it appears, deliberative aspects, contrasts with

[14] http://www.partiseapate.eu/

that undertaken in Lithuania, where there was relatively little dialogue with local or regional actors. Lithuania's approach was expert dominated and strategic in character, which involved a minimum number of formal consultation events with key sectoral stakeholders and governmental institutions (Blazauskas et al. 2014).

In comparing these preliminary findings of the Lithuanian and Latvian approach to MSP, Latvia in addition to taking a rather strong and considered stand on environmental protection, also adopted a more open and more inclusive approach to stakeholder engagement, which centred on exchange among a diverse range of stakeholders about alternative MSP pathways. There are a few caveats to this assessment though. The Latvian MSP planners seemingly made no attempts to engage with the broader publics[15] and made pluralist assumptions about representation by including different government and non-government organisations. It is also unclear whether these planning processes were conducted in a reflexive way, allowing for different interpretations of ecological limits (or the extent of conservation) in the context of diverse stakeholder knowledge input. This means that the participatory dynamics and the possibilities for stakeholder influence in both Latvia and Lithuania requires deeper examination.

5.1.3 Cross-scale interrelations in multiple German MSP jurisdictions

Cross-scale integration refers to integration across different spatial and administrative levels. This concern of the interrelationship of different MSP jurisdictions is not only a transnational problem, but also occurs at the sub-national level as the German case shows.

In Germany, administrative responsibilities for marine space are divided, effectively creating a cross-border planning situation with separate jurisdictions and planning systems existing side by side. The Federal Maritime and Hydrographic Agency (BSH) is responsible for administering MSP in the EEZ, while the two federal states of Schleswig-Holstein (SH) and Mecklenburg-Vorpommern (MV) are responsible for planning in their respective territorial waters. The EEZ has had a maritime spatial plan since 2009; the MV plan has been in place since 2005 and has recently undergone its first revision under the guidance of the Ministry of Energy, Infrastructure and State Development, with a revised plan published in July 2016. SH does not have a marine plan as such but a spatial development plan that encompasses coastal waters. The spatial development programme for MV (LEP-MV) is an example of an integrated document in that the marine plan is part of a wider state development programme. Nevertheless, coastal waters are treated as a distinct spatial entity, facing their own pressures of use and requiring their own balance of interests.

> Although both marine plans have grown from similar concerns over growing pressures of use and the potential for new conflicts in marine space, and despite essentially identical descriptions of the purpose of spatial planning, slightly different interpretations of "sustainable development" and "ordering marine space" ultimately lead to different priorities for space.

[15] The concept of 'publics' acknowledges that 'the public' is not a homogenous actor, but made of heterogeneous actors and constellations with different values, interests, identities etc.

Table 5. Guidelines for spatial development in the current EEZ and MV marine plans

EEZ[16]	**MV**[17]
Safeguarding and strengthening maritime traffic	Developing MV into a European Baltic Sea region that is open to the world
Strengthening economic capacity through orderly spatial development and optimisation of spatial use	Increasing the economic competitiveness of MV
Promotion of offshore wind energy use in accordance with the Federal Government's sustainability strategy	Creating perspectives for living and working in MV, in particular for young people and young families
Long-term and sustainable use of the special features and potentials of the EEZ through reversible uses, efficient use of space, and priority of marine-specific uses	Expanding the educational, cultural, scientific, research and technological capacity of MV
Safeguarding the natural environment by avoiding disruptions to and pollution of the marine environment	Improving transport infrastructure, in particular connections to wider Germany and Europe
	Strengthening agriculture in MV
	Securing and carefully using the outstanding natural and landscape qualities of MV
	Profiling MV as a tourism, health and recreational destination
	Preserving, using and marketing the cultural and historical potential of the state, preservation of a high quality building culture and ensuring future-oriented urban development
	Development of the state via its network of towns, working hand in hand with strong administrative structures
	Strengthening future perspectives for rural areas
	Securing and using the potentials of coastal waters

The laws that guide MSP in both administrative contexts are similar enough to permit the close alignment of MSP approaches, as well as specific provisions and designations (see Table 5.). This similarity, however, does not necessarily lead to spatial coherence as the interpretation of the respective laws differs due to the inherently different contexts of each plan. On the face of it, the EEZ plan is a regulatory plan designed to minimise conflict whilst the MV plan is a regulatory spatial development programme designed to deliver tangible environmental, economic and societal benefits. Although the EEZ plan also seeks to deliver environmental, economic and societal benefits, this is made much less explicit and is not pursued in the sense of actively developing space – the approach is rather limited to simply managing spatial conflicts. Although both marine plans have grown from similar concerns over growing pressures of use and the potential for new conflicts in marine space, and despite essentially identical descriptions of the purpose of spatial planning, slightly different interpretations of "sustainable development" and "ordering marine space" ultimately lead to different priorities for space. It can also be noted that rather than an integrated process in the sense of joint planning, both of the

[16] ROP Baltic, 2009

[17] State Development Programme MV, 2005

original plans have been developed side by side, with only limited evidence for coordination of selected aspects (e.g., the specification of so-called target corridors for electricity cables, linking offshore wind farms in the EEZ to grid connectors on the MV coast). This situation has somewhat improved during the preparation of MV's second plan where there was a greater level of exchange with the BSH (pers. comm., interview).

This case shows that even within national contexts, MSP can be embedded in different jurisdictions with related institutional environments made up of particular regulations, norms and practices. Whether different jurisdictions correspond to each other (e.g., flow of information, mutual impact, and spatial use continuity/compatibility) is likely to be important to determining the effects of integration. Synergistic interaction between jurisdictions would reflect integration between levels where regulations, norms and practices not only are mutually adjusted, but actually reinforce each other. The German case considered here shows attributes of functional coherence in MSP rather than mutually shared or reinforcing goals.

5.2 Policy/sectoral Integration – The Transnational Case of the Sound

Policy and sector integration, also called horizontal integration, is concerned with promoting greater coherence between diverse policies/sectors – but in reality not always at similar administrative/governmental levels. From a practical perspective, integration across sectors and policies is not a purpose in itself. Rather, it becomes necessary either in connection with gaps in focus and responsibilities or with incompatibilities between policy packages and sectors, such as competition and disturbance in the interaction between use interests and policy pillars. In MSP, this may range between multi-sectoral forward-looking (strategic and visionary) spatial planning aimed at defining the present and opening for new spatial uses while considering conservation needs in marine areas or aiming to minimise perceived conflicts though a more reactive and regulatory approach.

> To support the processes of multi-sector integration in MSP, there is a need to develop supporting institutional frameworks and processes at the transnational level, but –as relevant sector responsibilities might be located at different administrative levels – also a need to work vertically across levels

Policy and sector integration are central in the conceptualisation of sustainable development, as finding a balance between social, economic and environmental pillars of policy (e.g. UNCED 1992 Agenda 21). This thinking is also evident in the EU's expressed ambition of using MSP to achieve balanced outcomes (of the environmental, social and economic pillars), which it assumes is implicated in increased marine and coastal sustainability. Sector or policy integration is seen as promoting a maximising of (potential) synergistic effects between both diverse pillars and uses within one pillar – with mutual benefits developed through the integration process.

Here, we examine the challenge of sector/policy integration in the Sound between Denmark and Sweden (SE: Öresund/DK: Øresund). This rather narrow marine strait includes mainly territorial waters and is situated between the cities of Malmö (SE) and Copenhagen (DK) in the South and Helsingborg (SE) and Helsingør (DK) in the North, with the former connected across the Sound by the Öresund Bridge and the latter by ferry lines. The Sound is surrounded by a densely populated, attractive coastal landscape and claimed by many intensifying uses such as shipping, wind power or recreation, implying tight linkages between land and water. The institutional frameworks for MSP are in their formatives stages, but already there are discernible differences across the Sound.

So far, in the Sound, there has not been a transnational (transboundary) forum with a responsibility to foster overall sector and policy integration. For traditional uses such as shipping or fishing and 'older problems' such as environmental pollution and

conservation, there are global and sea-basin and sector-based transnational coordination institutions, although so far with few cross-integrative features (see 5.1.1). With the Sound Water Collaboration (working with marine environmental issues and monitoring across the Sound) and the Greater Copenhagen Malmö Region (working with economic development), the Sound area features two regionally specific integration forums, yet without any authority of spatially integrative strategic planning.

Since 1987, the municipalities have had the responsibility for strategic and operational spatial planning in Swedish territorial waters. In parallel, national sector authorities have had the right to define national interest areas – which need to be considered in municipal MSP. This is now being complemented by national MSP through the Swedish Government, represented by the Swedish Authority of Marine and Water Management (SwAM) with responsibility for MSP in territorial waters and EEZ - overlapping with 11 Nautical Miles (NM) with municipal MSP. SwAM has worked to mobilise (mainly national) sector authorities and map their interests in topical groups and recently presented these sector inventories of interests, synergies and conflicts at a cross sector stakeholder meeting in Stockholm.[18] Thus, national cross sector integration is now under way in Sweden. In Denmark, municipalities are only responsible for onshore planning and MSP is solely a national task, coordinated by the Ministry of Business and Growth, in praxis by the Danish Maritime Agency subordinated to this Ministry (until October 2015 maintained by the Danish Nature Agency). The Maritime Agency coordinates MSP with eight other ministries with marine or maritime responsibilities. MSP is at its formative phase[19].

The above mentioned socio-ecological and institutional conditions in a relatively confined marine space suggest a high potential for institutional problems and marine use conflicts, thus providing an interesting setting to examine multidimensional integration challenges and institutional learning on how to tackle them in a cross-border setting.

Based on our analysis so far, a first challenge from a sector integration perspective is that transnationally, a horizontal feature for spatial integration is lacking. There are forums for particular well-established sectors at varying scales, e.g. shipping (IMO global), fisheries (European Union Fisheries Policy) and conservation (EU/HELCOM/OSPAR), which are not yet especially well linked, and even existing integrative features are not necessarily applied. The latter can be illustrated by the example of sand extraction and related EIA according to the Espoo Protocol. Beach nourishment with sand is now being tested to counteract storm damage, inundation and erosion along the sandy seashores of the Sound, as such hazards are expected to increase due to climate change related sea level-rise. However, especially in Denmark, sand is not readily available onshore anymore, which has resulted in increasing extraction in marine areas. Danish sand is also delivered to Sweden, so far mainly for onshore uses. Marine sand extraction can affect seabed fauna and flora negatively and conflict with conservation and fisheries interests, thus requiring cross-sector coordination in a larger-scale ecosystem perspective. Thus, in connection with Danish sand extraction in the Sound, Swedish authorities have repeatedly requested to be informed according to the Espoo Protocol. However, Danish authorities considered the transnational environmental effects not to be substantial enough to apply it. Swedish authorities now try to coordinate transnationally across sectors by including extraction as an issue in their in-depth MSP process for the Sound, which is just commencing.

Looking at the institutional structure presented above, a second type of cross-sector integration related challenge is that in coastal and marine planning across national boundaries, responsibilities for specific policies and sectors as well as cross-sector

[18] For more information on the Swedish system see SwAM's homepage: www.havochvatten.se and havsplanering/marine spatial planning.

[19] For more information see also: Anker et al. (2014): Forvaltning af kystzonen. Rammer, udfordringer og scenarier. IGN Rapport August 2014, Institut for Geovidenskab og Naturforvaltning, Frederiksberg, http://ign.ku.dk/formidling/publikationer/rapporter/filer-2014/Kystzoneforvaltning_Rapport_samlet.pdf

management are not located at the same level. Swedish municipalities have a right to plan in territorial waters, with national planning by the Swedish Authority for Marine and Water Management partially overlapping. In Denmark, this responsibility is entirely national, located with the Maritime Authority. So, horizontal and vertical integration are often linked, which can be difficult in a transnational setting. Meaning, for example, that the Scania County Council and municipalities on the Swedish side have problems to get in contact with a relevant national counterpart on the Danish side. This also includes the question of how to – in a legitimate and efficient way - interact with non-authority stakeholders at different geographic scales on the other side of the border.

A third type of cross-sector integration related challenge is that the manner of planning and integration and sector priorities vary across countries – as illustrated by planning for offshore wind energy. There are no sector structures to facilitate transnational energy planning in the Sound. On both sides wind energy development has been sector driven, including municipal energy companies - on one side (Sweden) more strategic and on the other (Denmark) more ad-hoc – using the available integrative features to coordinate with other sectors, but without an overall strategic perspective.

Most Swedish municipalities in the Sound have used their statutory strategic spatial planning mechanism to elaborate thematic wind power strategies including both water and land.[20] This occurred in coordination, if not collaboration, with neighbouring municipalities. Wind power is highly controversial for residents, to the extent that in the North part of the Sound marine wind power development is not supported (e.g. in Helsingborg). Malmö municipality in the South, however, would like to develop wind energy but lacks backing from the County Administrative Board and is transnationally challenged by Danish development in the windward part of the Sound. Moreover, a Danish provider (HOFOR - Greater Copenhagen Utility) even wants to establish turbines on the Malmö side of the Sound. The need for renewable energy and the expected conflicts have been driving Swedish municipal MSP to produce, as a minimum, thematic strategic statements on the suitability of specific marine areas – coordinated with other sector interests.

Danish planning in the Sound, has so far not been strategic. With higher wind velocities and good construction conditions in other marine areas, wind power development in the Sound has not been a national priority. Nevertheless, most existing sites are on the Danish side, and further are under evaluation.[21] Existing turbines were established before strategic sector planning for wind power began, conducted on a "first come, first serve" basis. Cross-sector coordination implied hearings and round-table discussions of ministerial and national sector actors with regard to specific applications and ideas for development, but little cross-sector transnational interaction.

Thus, Sweden has long had a framework for strategic and cross-sector MSP in territorial waters, but has so far mainly used it for urgent, conflictive issues and not in transnational contexts. Denmark does not consider the Sound to be of strategic national importance for the same issues, with less strategic but more ad-hoc interest based planning as a consequence.

Summing up, in the Sound, cross-sector and policy integration so far seems to have been limited in scope and at the municipal level in Sweden and ad-hoc and at the national level in Denmark. Cross-sector transboundary integration would appear to be

[20] For example, the Swedish municipalities of Helsingborg, Höganäs and Ängelholm have elaborated a common theme strategy for sustainable energy; for Helsingborg, see e.g.: http://www.helsingborg.se/startsida/trafik-och-stadsplanering/planering-och-utveckling/oversiktsplanering/gallande-oversiktsplaner/vindkraft/; or Malmö:
http://malmo.se/download/18.6fb145de1521ab79c0a23c2e/1454398193749/Planeringsunderlag+f%C3%B6r+vindkraft+i+Malm%C3%B6+2012.pdf

[21] http://89.188.72.181/vind/her-er-vi-i-gang/

urgently needed for MSP in the Sound and while currently under rapid development it has not yet been formally institutionalised.

Both countries are at an early stage of implementing the EU-MSP Directive in national MSP[22]. While Denmark is almost starting from scratch, a key challenge for Sweden will be how to institutionalise the interrelationship between "new" national and "old" municipal MSP. This will also need to include the regional level responsible for economic development, so as to enable the realisation of strategic national aims without undermining opportunities for lower levels. Transnational cross-sector integration is especially challenging because of the distribution of responsibilities and the resulting need to work across a range of administrative levels – with associated problems of involving stakeholders and sharing knowledge and information, etc. There is an indication of different interpretations of MSP and differing sector priorities in Sweden and Denmark. This could pose challenges in the Sound. In a wider Baltic perspective, Sweden has a comparatively high focus on 'ecology', whereas Denmark has so far been more 'use' oriented.

Drawing on the Sound as an example of transboundary horizontal integration of MSP, sector and policy responsibilities are likely to be located at different administrative and political levels in different jurisdictions, which implies at the very least, a need to actively coordinate MSP interaction across these jurisdictional boundaries.

5.3 Stakeholder Engagement - Fishers Engagement in Polish MSP

In MSP, like other areas of governance, it is generally assumed that enhancing stakeholder participation will increase the legitimacy of decisions, generate alternative perspectives as well as inform better decisions. Participation in this sense would cover state, private and civil society actors. While the Polish case only provides a glimpse into the difficulty of stakeholder engagement in practice, we will reflect on it here to illustrate both what can be gleaned from this case, but also where we would require further empirical examination to enrich analytical insights.

While an 'open approach' to participation can be seen to be inclusive, it also raises questions about whether all potential stakeholders have the financial and human resources necessary to effectively participate in MSP processes with the hope of influencing outcomes.

In MSP in Poland there is no legal definition of who is stakeholder, therefore, at least in theory, anyone who considers their interests to be affected by MSP can participate in the related stakeholder processes. There are also general legal guidelines how public consultations should be performed. Such an open approach in MSP can be seen to be inclusive, but it also raises questions about whether all potential stakeholders have the financial and human resources necessary to effectively participate in MSP processes with the hope of influencing outcomes. It also gives no insights about how stakeholders are treated in the engagement process. Other factors that have been implicated in mitigating against wider stakeholder inclusion in MSP include Poland's strong tradition of expert-based spatial planning and the tendency to grant privileged positions to well organised or strategically important stakeholders. Several commentators have described these tendencies and a general disappointment with how public institutions have implemented consultations in the past (Siemiński 2007; Goździewicz-Biechońska 2008; Celiński et al. 2011; Kolarska-Bobińska 2013; Kaczmarek and Wójcicki 2015).

The most intensive conflicts experienced in MSP in Poland have been among different parts of the fisheries sector and between fishers and other sectors (Zaucha 2012). The difficulty of engaging Polish fisheries in the MSP related planning must be understood in

[22] Presently, with the on-going development of Swedish and Danish national MSPs and the EU-EASME-financed Baltic SCOPE project, intensive transboundary institutional interaction of MSP authorities is developing, but encountering numerous challenges (see http://www.balticscope.eu/).

the context of broader historical shifts affecting Polish fisheries up to and including Poland's accession into the EU. In 1989, Poland experienced the fall of the communist regime and then the transition to a market economy was followed by entrance into the European Union. These radical structural transformations led to an extremely turbulent process as the Polish fishing underwent adaptive restructuring to accommodate the new political, economic and environmental institutional demands as well the directives of the European Union. Undoubtedly these historical shifts in governance affecting the conditions of fishing have exacerbated the profound break down in trust between Polish marine authorities, other sectoral stakeholders and different parts of the fisheries sector. Commentators have noted that mistrust has been evident in several MSP related processes (Zaucha 2010; Matczak and Zaucha 2015) such as (i) pilot MSP plans (2008-2012), (ii) preparation of the pilot strategic environmental assessment process for the pilot MSP for the Western part of Gdańsk Bay (2011-2012), (iii) preparation of Natura 2000 management plans for marine areas (since 2011), and (iv) the MSP inventory study or so-called stock-taking report (2014-15). During these MSP related processes, it has been observed that fishers, as a traditional user of the sea, have demonstrated a limited willingness to participate in MSP in an engaged way and/or acknowledge the interests and negotiating positions of other sectors. The most deep-rooted conflicts have been between different parts of the fishing sector and conservation proposals and potential off-shore wind energy (OSWE) developments. Tensions between fishing and nature conservation have proved difficult to resolve with no possibility of a consensus type agreement currently apparent. An important aspect of this conflict seems to be attributable to contests over the validity of fishers' knowledge, which is largely seen to be imbued with self-interest and therefore partial – this is elaborated on more below. Conflict between (prospective) OSWE and fishing interests seems to have a slightly different origin. There is a commonly held view among a variety of marine stakeholders, including potential developers of offshore wind farms, related supply chain industries and some environmental non-governmental organisations (ENGO) that there is a lack of strategic political decisiveness on where and how to develop the OSWE sector. As a new marine actor, this further exacerbates the fishers' view that OSWE is not a legitimate marine actor/sector. Compounding this apprehensiveness by fishers towards OSWE is the lack of data on the implications of OSWE developments on fisheries.

The Polish case study illustrates the importance of context in generating an understanding of integration challenges. The origins of the conflict in MSP in Poland, precedes the formal establishment of MSP. Regardless, it adversely affects possibilities for a more integrated sector and stakeholder engagement. In the Polish context, consensus style decision-making among stakeholders seems to be difficult for the reasons discussed above (and below). Additionally, deep schisms among different types of fishers (i.e., industrial, cutters and small boats) makes representation in MSP stakeholder processes more complex and fraught, particularly if fishers are perceived within MSP as 'one stakeholder'. This emphasises the importance of how sectoral representation is conceived in MSP can affect possibilities for stakeholder engagement. It is likely that different types of fishers if they participate are likely to present different opinions and emphasise different solutions to the 'fishing problem' in MSP. Creating further complexity this diversity of input from fishers needs to be considered alongside scientific, ENGO and fishing administrative input. Given the long tradition of taking a 'scientific approach' to spatial planning in Poland it is also likely that fishers feel that their local knowledge and experiential-based expertise is not valued in MSP. This 'bad' previous experience, whether it is actually part of MSP or not, has been shown in other MSP contexts, to affect the readiness of stakeholders to partake in future MSP engagement (Fox et al. 2013).

Certainly, in the Polish MSP, conflicts are overt and not papered over with the screen of consensus, however to understand how the MSP institutional arrangements are affecting the prospect of a more collaborative style decision-making we would need to more detailed examination of MSP planning practice. This would enable us to capture more

insights into how power and privilege plays out in actual MSP decision-making among the different parts of fisheries and others. For instance, how does representation of fishers in MSP relate to claims on and/or actual use of marine space? In MSP, is there a delineation between different types of fishers that have claims and/or use in different marine spaces? How to weigh up traditional claims on marine use against new uses also seems to be a concern for MSP in Poland. Also the strategic importance that is given to OSWE as a new marine actor would need to be further examined in relation to engagement with fishers. Drawing from this example of stakeholder conflict it is likely to be important when analysing MSP to understand how conflicting interests among stakeholders are negotiated and whether differences among stakeholders are able to be expressed and taken into consideration when informing MSP decision-making (Allmendinger 2010; Bond 2010; Kannen 2014). This means examining both the particular (historical) institutional context and the actual stakeholder interactions as well as stakeholders' knowledge and abilities to examine various options in order to understand how agreements or proposals reflect the different values, goals and forms of knowledge of individuals (and perhaps the interests they represent). It may also mean seeing fishers as more than marine users, but recognising that the sea may be seen more as a 'way of life'.

It does not seem as though the articulation of difference has shaped an iterative learning process for all stakeholders involved. Clearly fishers, while affected by previous experience and their fast changing sectoral governance and institutional arrangements, feel that they are disadvantaged by the existing ways of their engagement in marine governance processes, including MSP. Gaining a deeper understanding of fishers' perspectives (recognising the heterogeneity of fishers' views and concerns) may help to provide insights into possible responses.

By drawing on the Polish MSP case study, we have shown how stakeholder engagement can be a messy and difficult process, where deep rooted conflict is difficult to dislodge. This case study has also shown the importance of taking a contextualised view to understanding what particular factors are acting to impede or facilitate stakeholder integration. The structural changes in Polish fisheries have no doubt played a role in fermenting feelings of mistrust between authorities, scientific and parts of the fisheries sector. This may not be the case in other national settings – hence the emphasises put here on the contingent character of this knowledge integration challenge. That said, the account illustrates the challenges of how to formulate and define marine environmental and use problems in such a way that all stakeholders can meaningfully contribute to the problem at hand. This relates to the inclusion and active involvement of stakeholders in MSP processes, their role(s), and the degree of their influence on outcomes in concrete terms (so that there are incentives for them to participate) (Jones et al. 2013b).

5.4 Knowledge Integration: The Difficulty of 'Integrating' Stakeholder Knowledge in Polish MSP

> The knowledge integration challenge in MSP centres on how to mix scientific knowledge with the knowledge politics of stakeholder participation in a way that supports social learning, deliberation and improves the evidence-base underpinning decisions

While MSP, like other form of environmental governance, aspires to be informed by broad stakeholder participation, several commentators (Richie and Ellis 2010; Kidd and Shaw 2014) have argued that MSP has difficulty realising this aspiration in practice due to its adoption of a planning approach that owes more to scientific rationality than collaborative planning ideals. This observation has important implications for knowledge integration.

HELCOM strongly emphasises that MSP should be based on EAM, which in turn should be underpinned by an evidence-based approach rooted in scientific knowledge (HELCOM 2007; HELCOM-VASAB MSP Working Group

2010; HELCOM-VASAB MSP Working Group 2015). This raises the question of what scope is then provided for other types of knowledge, which may take different forms and be rooted in embodied experiences of particular locales. We will draw loosely on Cash et al.'s (2003) use of the concepts of credibility, legitimacy and salience to discuss the effectiveness of links between knowledge and its application in MSP.

As inferred in the stakeholder discussion above, the problems of effectively including fishers in MSP in Poland is at least partly related to knowledge integration. More broadly, MSP stakeholders will clearly have different backgrounds and knowledge, different acceptance for scientific arguments, and, therefore, ability to effectively participate and forward knowledge in MSP. For example, how should stakeholders' knowledge which does not have a clear spatial dimension be handled and considered in MSP? (Zaucha 2012). Inevitably, all stakeholder knowledge is fragmented and/or incomplete and often irrevocably fused with values or interests. This is why MSP leans heavily towards an evidence base for decision-making informed by scientific knowledge, which is largely seen by authorities to be objective, value-free and these two characteristics imply that it is accurate (to the best extent possible). This purified view of scientific knowledge generation has been strongly contested of course (Michałek and Kruk-Dowgiałło 2015). There is evidence from elsewhere of the acknowledgement of limitations of scientific knowledge in MSP, such as in Denmark where fish habitat mapping through interviews with fishers has been included in MSP (Sørensen et al. 2015). In this instance this was seen as the 'best available data' and could be interpreted as both acknowledgement of the limitations of scientific knowledge (particularly scientific geographic data) and the credibility and salience of fishers' knowledge. Stakeholders also employ the neutrality of science to forward arguments. Scientific knowledge generated within different disciplinary-based ontological and epistemological views is likely to yield different results about the same object of empirical inquiry and therefore inform different courses of policy action (Gallardo et al. forthcoming). The same research results can, therefore, lead to various, sometimes contradictory conclusions and policy recommendations. This might happen in particular, where the issue is of high public concern, or when primary data are not publicly available. This adds to a lack of trust and perception that science is an instrument to pursue different goals.

Common with other environmental governance fields, MSP, is invariably constrained by different knowledge deficits – and limitations (Coffee and O'Toole 2012). Acknowledging how this applies to scientific knowledge in providing an evidence-base for MSP appears significant and is inherently related to how the precautionary principle is interpreted. However, how non-science-based stakeholder input could help to complement understandings and contextualise MSP remains challenging and responding to this effectively will be crucial if MSP is to play a role in realising the multidimensional goals of marine sustainability.

In MSP in Poland, scientifically generated environmental knowledge is prioritised and is generally regarded as the only credible source of information to inform decisions, regardless of the type of stakeholders involved. Consequently, traditional and/or local knowledge holders such as near-shore fishers, commonly express concerns that their placed-based and embodied knowledge is largely ignored or devalued in formal planning processes such as MSP. In doing so they raise both concerns over the legitimacy of MSP processes and the salience of scientific geographic knowledge. Flannery et al. (2016) talk of the difficulty of incorporating the social/cultural knowledge of fishers into formalised rational planning processes. Relatedly, the participation of experts in MSP in Poland is dominated by marine natural science expertise (marine biologists and fishery scientists) or economists, but excludes other disciplinary-based expertise that are based more in qualitative approaches, such as sociology or anthropology. Reflecting on this bias, there has been an observable tendency in Polish MSP to privilege quantitative environmental data, without critically considering its limitations. Polish fishers also complain of non-neutral interpretations of scarce scientific data that excessively promote environmental protection and the use of precautionary principle. At the same time there are claims by

fishers that these proposals tend to disregard their well-being[23]. The issues raised above that encompass knowledge credibility, legitimacy and salience problems has led to a diminishment of trust in scientists and scientific knowledge among fishers. This poses a significant problem for MSP as fishers are a major stakeholder group and their relative hostility to MSP has consequences for meaningfully considering fishers' knowledge and interests in planning processes. Additionally, such antagonistic relations have the potential to manifest as clashes with other marine actors - working more generally to undermine the effectiveness and legitimacy of MSP. Somewhat paradoxically, when fishers have engaged in MSP processes they have challenged scientifically generated knowledge (in particular that related to environment protection) as value-laden and/or deficient and thereby demand that 'more' research (presumably to generate better scientific knowledge) be undertaken before important planning decisions are taken. This can be observed in the case of OSWE development, where fishers have pointed to a lack 'hard' evidence of claims of a benign relationship between proposed OSWE farms and their effect on fisheries.

For a long-time, well before the advent of MSP, near-shore fishers have held strong views that conservation of seals and cormorants negatively affect their livelihoods (Michałek and Kruk-Dowgiałło 2015). While it has been shown that there are areas where such an effect is discernible, there is little scientific evidence backing the broader spatial validity of this claim. When fishers demand additional research, how such research should be conducted or what it should targeted at finding out is not always abundantly clear. This is not a stakeholder concern that can be addressed with more scientific knowledge, but reflects deeper reservations about feelings of vulnerability about fishers' rights in the face of newcomers (and what they may see as the strengthening of some actors, i.e., conservation, energy sector) on the marine scene. As Flannery et al. (2016) point out the primary purpose of MSP is to plan and manage for multiple uses, which is not the same or does not necessarily imply reconciling the diverse forms of knowledge domains among stakeholder groups. So looking to 'integrate' fisher knowledges into MSP and therefore potentially pitting it against scientific knowledge in an institutional environment where scientific knowledge is privileged is likely to be an unproductive approach - at least from the view of the fishers. This shows that the way that knowledge integration is exercised in MSP is likely to closely relate to how balance is conceived in MSP, as it indicates, perhaps obtusely, the degree of consideration given to stakeholder voices in decision-making processes. In this way integration can have distributional effects in terms of what is integrated and what is not integrated (Vigar 2009). This also links to ideas of transparency in governance – not only giving stakeholder voices but also making transparent how these voices and "knowledges" have been dealt with

The example of the Polish fisheries shows that MSP, in adopting an evidence-based approach, perhaps ought to more fully recognise the challenges raised by scientific uncertainty/disagreement and the importance of developing approaches to help reduce and address such challenges. Inviting fishers to participate in MSP and then excluding their knowledge input is bound to be a fraught approach. An alternative approach may be to establish ground rules for interpretation and application of the precautionary principle and how to value different forms of knowledge in decision-making under conditions of uncertainty. As Johnsen (2014) suggests, fishers are likely to possess more knowledge about conditions at a localised scale than scientific knowledge. Griffin (2009) makes a similar point that knowledge conflicts (or difficulties in integrating knowledge systems) are often attributable to questions of scale, particularly where it is claimed that scientific knowledge has not adequately considered local knowledge and experience often due to concerns over knowledge credibility or the blurring of the fact/value distinction[24].

[23] The most common example is the EU ban on driftnets to protect harbour porpoises. The ban was introduced based on scientific research but has turned out not to be the best solution in the Baltic Sea.

[24] The claim that actors are conflating how the world is (fact) versus how it ought to be (values).

The considered inclusion of such localised knowledge may also work in instances of overt and deeply entrenched conflict to moderate negative attitudes towards participating in MSP. This more considered approach may be especially important where there are concerns about high cumulative impact over time and through co-use of particular marine areas (Halpern et al. 2009). Knowledge integration involves bridging between all forms of knowledge and MSP policy (Blythje and Dadi 2012). This may not necessarily mean neutralising power-related imbalances between different forms of knowledge such as those discussed above in the Polish MSP, but rather seeing differences as an inevitable part of bridging processes where deliberation is required to assess their relevance, meanings and interpretations.

This discussion has shown that an important aspect of the knowledge integration challenge in MSP centres on how to mix scientific knowledge with the knowledge politics of stakeholder participation in a way that supports social learning, deliberation and improves the evidence-base underpinning decisions. While scientific knowledge is seen as a credible and trusted source of knowledge in MSP, power mediates how different forms of knowledge are integrated into governance decision-making (Berkes et al. 2006; Griffin 2013). Knowledge integration also rests on a willingness by diverse stakeholders to share knowledge and in doing so be assured that this knowledge will not be summarily dismissed as value-laden and/or impartial, but will be subjected to discursive scrutiny in transparent processes to appraise the contribution it can make to MSP. This case clearly shows the difficulty of a science-oriented MSP coping with place-based epistemologies. How to integrate these different types of knowledge in a way that improves the evidence-base of MSP in pursuing sustainable marine planning and use is a critical question.

6. Reflections

This section reflects on the preceding case studies of the integration challenges in the Baltic Sea. Furthermore, it considers the implications of these challenges for understanding the various roles of integration in MSP as well as what this might mean for sustainable marine governance.

6.1 Reflections on the Integration Framework

The analytical structuring of the empirical information presented in this paper made it possible to illustrate a broad range of integration challenges and to some extent, responses in terms of their scale, objectives, the key actors involved, and the instruments involved. Interrogating approaches to integration in this way has helped both to understand the context-specific challenges (e.g., Polish fisheries and MSP; different MSP formation processes in Lithuania and Latvia) and how integration has been (as an ongoing phenomena) conceptualised and practised in these different MSP settings. Here we reflect on these findings to try to better understand the relations between the analytical dimensions, but also to consider possible ways to deepen these understandings.

6.1.1 Relations between sectors, stakeholders and knowledge

The four-dimensional analytical framework used to examine MSP, focussing analytically on one dimension of integration at a time allowed us to draw on appropriate concepts to interrogate and deepen our understanding of integration related MSP practices. The case studies also showed how the different integration dimensions closely interact in practice. The degrees of interaction between the integration dimensions[25] varies depending on the particular dynamics of case-study settings and how examination of them are scoped and

[25] And others not focussed on such as land-sea, planning implementation and spatialised use outcomes

conceptualised. Further insights derived from our empirical cases are offered on this below.

For example, the Polish fisheries case illustrated that in order to understand a problem of stakeholder integration related to fisheries participation in MSP in Poland we needed to understand why fishers were reluctant to engage in MSP. This particular integration challenge appears to be driven by the fishers deeply rooted historical concerns over the devaluation of their knowledge (and how this is seen to be continued in MSP decision-making processes) – illustrating a close linkage between stakeholder integration and what knowledge is valued in MSP. The marine planning authorities in Poland were seen to take an overly technical-analytic approach to marine governance (incl. MSP) practice, which tends to valorise scientific knowledge. How could MSP be changed to better include the fisheries as a sector through effective stakeholder engagement? Drawing on the knowledge integration discussion above, an alternative approach could be taken by Polish authorities where fisheries place-based knowledge, instead of being treated as partial, is used as a means to interrogate or enrich placed-based relevance of scientific knowledge. Of course how this occurs also has implications for sector/policy integration, as fisheries is a traditional marine sector.

Our empirical accounts above suggest that the role of the state in MSP is critical to possibilities for integration and how it is likely to play out in practice. This underlies the point that how sectoral representation is defined in the MSP decision-making space is likely to significantly affect both the extent of stakeholder inclusion as well as what knowledge is included as shown so starkly in the Polish case. That is, if sectoral representation in MSP is constituted narrowly (as the formation of MSP in Lithuania thus far seems to have been), it may be the case that government authorities dominate the decision-making processes. Alternatively, in other governance contexts, sectoral representation may be conceived more broadly to include civil society, private and other actors. These two approaches reflect contrasting views about what stakeholders to include in MSP (at least in the studied phases of MSP). This suggests that it is not only the range of sectors who participate in MSP decision-making that may be important to understanding the different country conditions for integration but also how different countries conceptualise sectoral representation in MSP. There are likely to be a number of factors at play here, including the planning context – is the focus on resolving a particular MSP problem, is it geared towards a process of developing a national MSP? We also need to acknowledge that countries may take different approaches to broaden or narrow inclusion of stakeholders at different phases of MSP. For instance, Lithuania might adopt a much wider approach to what constitutes sectoral involvement or indeed stakeholder engagement during the implementation phases of the MSP process. Additionally, it is likely that institutional arrangements and administrative traditions in countries play a role in how sectors are included in MSP, although this factor does not seem to provide a compelling explanation at first glance in the Lithuania/Latvia comparison. All of these factors are likely to impinge on the character of integration in any one setting.

The observations discussed above may contain at least two important analytical insights with methodological implications which provide insights into the character of integration: 1) What sectors are included? (2) How is sectoral representation constructed in MSP, i.e. what parts of society are included? Although, hypothetically if say Poland adopted a narrow statist approach to sectoral integration (perhaps similar to the Lithuanian example discussed above), involving only government sectoral agencies (including those responsible for fisheries) it could be argued that 'more' sectoral integration would be achievable. Continuing this hypothetical scenario, this would involve government sectoral agencies acting as the de facto representatives of resource users (the fishers themselves would be excluded) and other interest groups. Narrowing the scope of whose or what interests are to be integrated in this way may deliver increased chances of intra-sectoral consensus and perhaps even inter-sectoral consensus (with conservation and OSWE interests), but such an agreement would be different in character than one that sought

to integrate a broad range of stakeholders and their divergent knowledge. This hypothetical example shows that how sectors are included in MSP inevitably links to stakeholders and knowledge, but how these linkages are conceptually examined, has implications for how they are revealed analytically. In the Polish case, enhancing integration (across all sectoral, stakeholder and knowledge dimensions) would require building bridges of cooperation and communication which could be facilitated through joint data collection and mutual validation of knowledge processes with scientists over concerns such the effects of wildlife on fisheries and the implications of OSWE. This is likely be a long-term endeavour, which still is unlikely to be able to address the resentment that some fishers may feel towards the imposition of stricter regulation.

So we can see from this discussion that sectoral integration can be closely related to stakeholder and knowledge integration, in the sense that each sector (and the multiple actors therein) has legitimate views based on their specific sectoral knowledge (linked to values, interests etc.). So there may be inter-sectoral platforms, but key sectoral stakeholders or representatives may be missing or their knowledge contribution excluded for one reason or another. For example, Flannery et al. (2016) discusses the difficulty of integrating cultural knowledge or cultural values in MSP. If stakeholder representation and knowledge claims tend to be tightly linked to sectors[26] what are the implications for stakeholders who do not fit neatly within sectoral categories? What about other interest groups, such as those opposing OSWE on the basis of aesthetic seascape concerns? These may constitute emergent locally-based NGOs or form alliances with existing NGOs or other actors (e.g., scientists). This also indicates that how stakeholders mobilise and organise may be important for their inclusion in MSP. When scrutinising sector integration in practice it is likely to be important to ascertain what sectors are included, but also how sectoral representation in MSP is constituted. That is, does it only include government authorities or is it construed more broadly to encompass the corporate sector, other levels of government, the voluntary sector etc.

6.1.2 Cross-scale complexity

The Sound case, showed the importance of many integrated processes occurring across multiple sectors and scales simultaneously. The transnational character of settings like the Sound add another layer of complexity to MSP. The discussion on cross-sector transboundary integration presented here implies integration in this context means that MSP needs to work across all administrative levels in both Denmark and Sweden to ensure compatibility or coherence (also see the German case), but also along vertical lines between sector hierarchical levels as well as between national MSPs, regional levels (county administrative boards in Sweden) and municipalities. Fostering stakeholder engagement, knowledge networks and institutional mechanisms to support such cross-scale problem-solving is likely to be part of the recent mandate to coordinate MSP for national authorities in both countries. Whether such planning is able to secure a coherent or even an integrated transnational approach, reflecting national priorities, while being amenable to placed-based solutions and engagement epitomises the challenge of integration in MSP in this transnational example.

Vertical integration assumes that in some way there is a hierarchical forms of interaction at work - a type of downscaling where governance decisions at higher levels reach out as it were and directly influence specific MSP settings. Arguably, such a conception was not observable in the HELCOM/VASAB case discussed above. Rather, soft forms of power, where collaboration among member countries to shape compatible MSP outcomes, seems to characterise the approach. The Baltic-wide empirical case indicated that integration in this regional context is primarily concerned with policy coordination aiming towards functional MSP coherence among Baltic States, rather than achieving uniformity

[26] Of course there will be exceptions to this. An example would be in the case of OSWE proposals where say local residents may be included on the basis of seascape aesthetic concerns. In this example, it is unclear how it relates to sectoral interests, although they be mobilized through municipalities or NGOs.

among national MSPs. Coherence here is presumably aimed at achieving a form of compatibility among plans. Whether this Baltic-wide thinking reaches down to the level of transboundary interaction between states in particular MSP contexts, such as in the Latvia/Lithuania case and the Sound is as yet unclear. As formalised approaches of MSP at national levels take shape we are likely to be able to examine this empirical question more thoroughly. The different MSP processes and ambitions discussed in the Latvia/Lithuania case, however, may reveal insights into challenges of achieving functional coherence in transnational MSP practice, where there appears to be different views on sustainability. This case also showed the variability of application of key MSP and sustainable development related concepts such as the EAM and stakeholder engagement.

6.1.3 Temporal aspects of MSP – the need to adapt

While the temporal aspect of integration has not featured heavily in this report up until now, after reflecting on the empirical material it warrants exploration here to enable us to further develop and refine our thinking around integration. Others have also noted the importance of integration across time/space in MSP (see Kidd 2013).

It was evident that the development of the Lithuanian National MSP was conducted as a type of discrete project where planning parameters and broad goals for national marine use were established through a process dominated by high-level decision-making. This approach also seems to have clearly delineated the development of the MSP from its implementation. The institutional arrangements to support the implementation of the MSP - to give it effect – are still unelaborated. This raises temporal aspects of MSP. In this report we variously considered MSP in the context of specific geographical areas, such as in the Sound and the different jurisdictions in Germany, as well as through comparing national processes in the formation of MSPs, among others. In this way we conceived MSP in place specific contexts (with the exception of the Baltic-wide case), while also considering how the relative stage of MSP formation processes were affecting integration challenges. In the Sound both Sweden and Denmark are in the formative stages of developing MSP and this clearly affected the possibility of integrated planning. The PartiSEApate project outlined an eight stage MSP reiterative cycle, which shows MSP as a continuous planning process with a logical if somewhat uncertain sequence of stages. Interestingly in all of the stages it is deemed that involvement of stakeholders is central. Of course what this means is open to interpretation and in practice will likely depend on the stage of MSP. It will be influenced by such factors as the geographical setting of focus (i.e., near shore or EEZ) or the dispositions of the responsible authority (Lithuania).

Among the cases considered, the German case was the only example of a MSP that had been 'fully formed' and which could consider the 'spatialised outcomes' of MSP. Here we were not much concerned with outcomes in the sense of achieving their goals on the ground, but more the cross-border relationship between the EEZ and the coastal zone MSPs. The limited availability of fully formed MSP in the Baltic Sea means that examination of the effectiveness of spatialised use outcomes as the integration of planning and practice is missing in this report.

A key role of MSP is to provide a basis for marine use that takes account of current uses, while being future oriented. This role is to both facilitate and give certainty to desirable future marine activities, as well to ensure that such activities do not overly impinge of achieving 'good environmental status'. This ambition, to balance between consideration of current imperatives and desirable future states, is similar to the intergenerational aims and orientation of sustainable development. This suggests that current decisions in MSP prefigure future uses (and relatedly) desired environmental states. This aspect of integration (consolidating the now and the future), while not considered directly in our analysis is critical to the role of MSP. Aside from preventing future conflicts, MSP sets a pathway to the future that will be central to the configuring of the relationship between

environment and development concerns in marine contexts. An important factor in MSP in the Baltic Sea is (and will be) the development of OSWE, which is a non-traditional marine use that is widely seen (not uncontroversially) as an essential part of a sustainable future. So tracking a pathway to the future through various reflexive planning steps that take account of changing circumstances (as opposed to a master planning process aimed at a planning solution) is widely advocated in MSP and arguably needs to be given more attention in the integration approach discussed in this report.

In MSP (and relatedly, EAM) adaptation (or adaptive capacity/management) is a key concept seen as a way to enable the refinement of spatial management arrangements as knowledge accumulates over time within particular contexts. In principle (at least), the need to adapt has also been recognised in policy circles, including MSP and EAM (HELCOM 2010; HELCOM-VASAB MSP Working Group 2015). Adaptation in this sense must take place in relation to a desired ecosystem state, such as attaining good environmental status. In the scholarly literature adaptation is heavily associated with a resilience/socio-ecological system (SES) approach. Ostrom's 2008 paper is a key contributor to the SES approach. It argues that, in complex transboundary governance contexts such as MSP in the Baltic Sea, the key challenge is how to vertically link institutions at various levels, whilst enabling enough flexibility to support adaptive management approaches that are not overly constrained by hierarchical order – suited to local conditions. In this sense the primary goal for policymakers and managers in MSP would be not to manage change, but to manage the capacity of social-ecological systems to cope with and respond to change, given highly uncertain future conditions (Moser and Ekstrom 2010). Key theorists, like Berkes (2006) argue that to apply adaptive management is simply to be reflective and experimental - to learn by doing over time. While some commentators argue that 'one simply cannot manage adaptively' rather the ambition is to enhance flexibility among stakeholders in the coupled social system and in the policy literature adaptation tends to adopt a managerial tone. This can be seen in HELCOM-VASAB MSP Working Group's (2015) definition of adaptation in the Guideline for the implementation of ecosystem-based approach in Maritime Spatial Planning (MSP) in the Baltic Sea area, 'Adaptation: The sustainable use of the ecosystem should apply an iterative process including monitoring, reviewing and evaluation of both the process and the outcome' (p. 7).

The challenge for the BONUS BALTSPACE project is how to examine this is practice. Pressey et al. (2013) suggest that such adaptive mechanisms could variously involve conceptual, operational, institutional, or policy dimensions. Mills et al. (2015) argues that spatial plans are more likely to undergo ongoing revision and refinement, if they explicitly recognise the need for adaptation and mechanisms to support this in the planning cycle. Given the function of MSP as a forward looking governance approach to support sustainable use of the marine environment and the acknowledgement of the importance of continuous planning there are important reasons to look closer at the more precise mechanisms of adaptation in MSP institutional arrangements.

6.2 Insights into MSP and Sustainable Development

Balance is a commonly used term to describe how the different pillars of sustainable development are (or should be) given due consideration in MSP processes and reflected in outcomes. In MSP, how scientific knowledge and stakeholder input is weighed, how strategic versus stakeholder-based interests are handled, and whether there has been multi-scale and multi-sectoral interaction are all implicating factors in how balance is applied in any one MSP setting. The German case shows that different overarching ambitions for marine space affect expressions of sustainable development, even within country settings. In this case the near shore area was shown to be a focus for multi-sectoral planning, whereas the EEZ was underpinned by a more strategic view

characterised by the forwarding of State interests and a conflict mitigation approach. Despite these differences in institutionalised processes and substantive goals it seems that these approaches to MSP are likely to be cohesive to the extent of providing spatial use continuity.

We have not been able to present any MSP experience in the Baltic Sea that clearly or conclusively shows positive cross-sector processes or synergies generated from such processes through MSP. Perhaps this is because MSP is still in its infancy in the Baltic Sea and institutional arrangements are still at their formative stages of construction. Or alternatively, regardless of the maturity of MSP institutional arrangements, in MSP such synergistic outcomes are likely to be the exception rather than the norm, i.e., trade-offs are likely to be prevalent or perhaps the situation is somewhere in between where compromises and collaboration play a strong role. It is difficult to draw any firm conclusions about this given the limits of our empirical material at this stage of the research process, so we are hesitant to make strong claims. However, what is needed to examine ideas of positive synergies in MSP more carefully is more detailed examination of multi-sector/stakeholder platforms, including in-depth interviews with participating and non-participating actors to ascertain how MSP constitutes the institutional arrangements of participation and decision-making and how the process of interaction and decision-making play out. The apparent failure in Poland to engage fishers, with their socio-cultural understanding of the marine environment that encompasses a wider sense of being and identity than merely resource use or conservation, starkly illustrates the limits of valorising scientific knowledge as the only (or at least strongly preferenced) evidence-base for MSP. This highlights the tensions between securing sustainable development in MSP, which on the one hand should be underpinned by scientific rationality and on the other hand through widespread stakeholder engagement, where meaningful opportunities to influence planning decisions exist (Ritchie and Ellis 2010).

In the Sound, the lack of cross-sectoral forums to plan for OSWE development transnationally may be indicative of coordination problems between different levels of planning in Denmark and Sweden. The fact, that some municipalities in the Sound have adopted a negative position on OSWE development seems to be a response to aesthetic, seascape concerns raised by residents. In some ways these municipal stances reflect a concern to enhance the place-based legitimacy of OSWE in the Sound. It remains to be seen how MSP national approaches in both Sweden and Denmark can blend national strategic decision-making with opportunities for more regional and local involvement (aspiring to a kind of 'loose vertical integration' with top-down and bottom-up synergies). Apart from the above procedural aspects, our empirical work has not proceeded far enough yet to analyse the spatial dimensions of social sustainability and how they have been dealt with.

The Lithuania/Latvia case study discussed the different adoptions of sustainable development in MSP. The contrast in this case in terms of the position given to environmental protection and the involvement of stakeholders in the MSP development process provides support for Qui and Jones' (2013) claims of different interpretations of sustainable development in MSP. Whether these differences play out in manifestly different environmental outcomes remains to be seen. We have argued in the paper that social sustainability is a pillar of sustainable development that is often overlooked in MSP with its pre-occupation with environmental and economic concerns. Furthermore, we advanced the argument that a consideration of democratic aspects of social sustainability could provide more nuanced interpretations than the hard or soft analytical binary of sustainable development in MSP. Thinking around this needs to be further developed, but it is closely linked to the exercise of democracy in MSP, in terms of how sectoral (and relatedly stakeholder) involvement is conceived (narrowly or broadly), whether cross-sectoral platforms for decision-making exist and the degree to which they support deliberation, and how strategic and other interests are given weight in MSP decision-making.

In as much as Latvia appears to exhibit a much stronger propensity in its MSP to privilege the environment than Lithuania, it also reflected an approach concerned with seeking legitimacy through broader stakeholder engagement. Whether this stakeholder integration was supported by what could be termed reflexive planning, which would involve a sustained reflection of the stakeholders' prior knowledge and willingness to review preconceptions, is difficult to discern. However, what is clear is that a wide array of government and non-government actors were actively included in the MSP in Latvia and participated in developing and evaluating MSP scenarios. Understanding the dynamics of these participatory interactions in a more detailed way would be important to gauge opportunities for inclusion of different types of knowledge and what actors could actually influence MSP. This preliminary finding, however, indicates that Latvia adopted a strong(er) approach to sustainability in MSP, where the ecological (through the EAM) and social pillar (at least procedurally) of sustainable development appeared to be given much more attention than in the Lithuanian process. The Lithuanian MSP process by contrast was expert dominated with far less multisector interaction and active engagement with stakeholders beyond what were considered as key governmental sectoral interests.

Table 6. Relations between integration dimensions and sustainable development discourses.

Integration Dimension/Institutional Ambition	**MSP Implementation Emphasis**	**Links to Sustainable Development Discourse**
*balance	ecological boundary conditions/limits - win-win	affects whether environmental protection or maritime development is privileged
vertical (territorial)	top down - bottom up	affects strategic decision-making and possibilities for more 'localised' influence
*cross-border (territorial)	disjointed - coherent	affects possibilities for a harmonised approach across scales to development and environmental protection, as well as between adjoining areas/or areas of shared interest
horizontal- policy/sector	ad hoc - strategic	affects likelihood of effective consideration (trade-off/synergies) of multiple sustainable development goals
stakeholder	tool for legitimacy - implementation efficiency	affects possibility for participation and deliberation
knowledge	scientific knowledge - stakeholder knowledge	affects the scope of the evidence-base and opportunities for a broad range of stakeholders' knowledge to be valued
*temporal[27]	static - adaptive	affects the capacity of the MSP process to adopt a reflexive approach over time

*Added to the analytical framework

In Table 6. the Implementation Emphasis items are conceived as endpoints in a continuous scale, rather than as binary pairs. These endpoints should not be viewed in absolute terms but rather will be applied to characterise empirical situations that are

[27] There are also time: space integration aspects to MSP zoning and use, which affect coherency of spatialised use outcomes; as well in sustainable development thinking related to the relative weight given to resolving short-term problems over long term sustainable development visions.

located somewhere in between, along a conceptual scale. The Links to Sustainable Discourse column elaborates how the Implementation Emphasis relates to various factors important for sustainability. This approaches then structures our analytical approach by lending itself to making relative comparisons between empirical cases of MSP integration problems and their relationship to sustainability.

Table 6 describes linkages between the dimensions of integration, two alternate ends of the continuum depending on the emphasis adopted in MSP and their relationship to different interpretations of key aspects of sustainability development (which as we have underlined throughout this report is MSP's overriding objective). To enhance the analytical clarity of our framework three additional dimensions have been added, which are: (1) balance or the relative weight given to environmental protection or maritime development; (2) cross-border integration which considers the compatibility of MSP over borders/scales and (3) temporal, which considers affects the capacity of the MSP process to adopt a reflexive approach over time. Table 6 shows how adopting different approaches to integration is likely to affect sustainable development attributes. An example of this is the contrasting approaches taken to formulate MSP between Lithuania and Latvia, including how Latvia sought to actively adopt an ecosystem-based approach which centred environmental quality and which also included a rather extensive stakeholder engagement process. Whether this results in a stronger version of sustainability remains to be seen. Regardless, examining integration as an ends in itself, say through measuring degrees of integration is not likely to be informative. Connecting integration to sustainable development conceptually provides more insights into the character of integration in specific contexts. For example, if sectoral representation is conceived narrowly what analytical insight is there to be had by saying that there was strong integration if it only involved a narrow range of stakeholders, e.g., government authorities? Should this be regarded as strong integration if sectoral representation is deemed in such a narrow way, in say, coastal zones? Contrastingly, how should we understand and evaluate integration where a wide range of sectoral actors are involved and deliberative processes engaged, but there are lingering antagonisms and ongoing conflict? A scenario of more participation and deliberation, but perhaps less integration? Taking a top-down approach at particular stages of MSP may result in easier pathways to integration – increase efficiency and functionality of decision-making, but it might also suppress or temporarily displace conflict. Is this problematic from a sustainable development perspective or indeed is it consistent with HELCOM-VASAB Baltic Sea Broad–scale Maritime Spatial Planning Principles relating to participation and transparency? Our understanding of integration, say across these two contrasting scenarios, needs to contextualised both to understanding the dynamics of the local setting, but also how it relates to the broader sustainable development ambitions of MSP. Linking the integration challenges to sustainable development attributes in this way allows us to get insights into how different countries are conceptualising sustainable governance in MSP, while also providing insights on likely problem areas for coherence.

7. Key Insights

This concluding section presents some of the key insights of the report. In order to make these more legible they are organised into categories with different purposes in mind. The statements below are phrased differently and are intended as think-pieces to elicit reflection, rather than as prescriptive guidelines on how to conceptualise and apply integration in MSP. They are observations and propositions that should be taken as partial and provisional. Many could be considered as working hypotheses that require further examination in different empirical contexts. Some are methodological in that they urge more attention be paid on examining empirical aspects of integration (specifically directed at the BONUS BALTSPACE project), some are targeted at providing more in-depth conceptual/analytical insights into integration and the ways dimensions of integration interact, some highlight aspects of the relationship between sustainable

development and integration, and others are observations involving tentative empirical claims about MSP and integration in the Baltic Sea.

7.1 Methodological

These insights specifically relate to methodological guidance to inform how BONUS BALTSPACE research can be empirically deepened to provide integration insights into MSP.

1. *Examination of spatialised outcomes of MSP may be important to examine effective integration of MSP process and practice.*

2. *More detailed examination of actual MSP practices (i.e. facilitation, stakeholder framing, participation and interaction) is required to get insights into how trade-offs are facilitated between sectors and related stakeholders in MSP decision-making.*

3. *Temporal aspects need to be considered when examining MSP institutional arrangements to assess whether the particular institutional arrangements of MSP have the capacity to adapt over time to both changing environmental and social conditions (temporal integration).*

7.2 Analytical

While the following observations have been derived in the Baltic Sea empirical context and to some extent through the literature, they are developed below to elicit reflections on how to conceptualise and analyse integration in MSP both in the Baltic Sea and in other contexts.

4. *Vertical integration appears to be more likely to occur between different sub-national levels, where institutions tend to be more formally hierarchically nested.*

5. *Vertical linkages between national and sub-national levels will be variable across particular MSP country contexts. Although there will be formal and informal aspects to this, it will be likely to be heavily influenced by the way MSP is legally framed and institutionally arranged.*

6. *How sectoral representation is constituted in national MSP arrangements may directly affect the range of stakeholders and related knowledge included and considered in MSP decision-making.*

7. *Sectors are likely to be affected by vertical integration processes variably, given the different institutional arrangements in which they are embedded.*

8. *Policy/sector integration in MSP may refer to both degrees of coherence among policy goals and processes of developing integrated policies (e.g. platforms, processes).*

9. *The temporal aspects of MSP integration should be considered as a continual planning process in order to adapt to future conditions and planning needs.*

10. *Cross-scale MSP dynamics requires institutional steering to ensure sufficient coordination of interactions and systematic consideration of interests and perspectives between different levels and sectors across borders.*

11. *How 'evidence-based' is interpreted, particularly what consideration is given to the relative weight given to scientific and stakeholder knowledge in key MSP decision-making forums is likely to be crucial for knowledge integration.*

7.3 Empirical – Baltic Sea

The following observations relate to preliminary empirical findings in the Baltic Sea context.

12. *Differences in MSP governance (institutional arrangements) between Baltic countries may not necessarily create MSP incoherence, especially where boundary uses and goals are compatible.*

13. *Different sectors are likely to be affected by vertical integration processes variably. Some MSP objects such as energy grids are administered at the national level while others such as the environment tend to be organised in vertically scaled administrative arrangements.*

14. *The relationship between HELCOM, VASAB and Baltic member countries should be conceived as horizontal integration since it involves collaboration between member governments (at the same level), although individual entities, such as WGs) may act with agency in regard to Baltic-wide MSP matters.*

15. *Functional coherence (reducing contradictions) appears to characterise the goal of cross-border MSP integration in the Baltic Sea context. The effectiveness of this integration aim is still uncertain, particularly in relation to environmental goals at a Baltic-wide scale.*

7.4 Sustainable Development

The following observations relate to the relationship between integration and sustainable development.

16. *Key attributes of sustainable development are likely to be affected by how the different dimensions of integration articulated here are adopted within specific MSP contexts (see Table 6.).*

17. *How balance between environmental goals and economic development (a key integration challenge) is conceptualised and practiced is contingent on interpretations of sustainable development in different MSP contexts.*

18. *Consideration of governance aspects of MSP could complement hard and soft interpretations of sustainable development and how it is applied in MSP (captured in Table 6).*

19. *Integrating today's concerns with future sustainable development visions is an important role for MSP.*

References

Adger W.N., Jordan A. (2009). Sustainability: exploring the processes and outcomes of governance. In Adger WN, Jordan A (eds.) *Governing Sustainability* (Pp. 3-31). Cambridge: Cambridge Univ Press.

Agardy, T., G. Notarbartolo di Sciara, and Christie, P. (2011). Mind the Gap: Addressing the Shortcomings of Marine Protected Areas through Enabling Conditions and Outstanding Challenges in Marine Protection and Management. *Marine Policy* 3: 226–232.

Allmendinger, P. (2010). Spatial planning, devolution, and new planning spaces. *Environment and Planning C: Government and Policy* 28: 803-818

Berkes, F., Reid, W.V., Wilbanks, T. and D. Capistrano (2006). Conclusions. In: Reid, W.V., Berkes, F., Wilbanks, T. and D. Capistrano (eds.) *Bridging Scales and Knowledge Systems* (Pp. 315-331). Millennium Ecosystem Assessment and Island Press: Washington DC.

Blazauskas, N., V. Langas, D. Depellegrin, A. Ruskule and Kalvane, I. (2014) *Lithuanian model case: case study report*. PartSEApate. Available at: http://www.partiseapate.eu/wp-content/uploads/2014/09/Lithuanian-case-report.pdf

Blythe, J.N., Dadi, U., (2012). Knowledge integration as a method to develop capacity for evaluating technical information on biodiversity and ocean currents for

Bond, S. (2010). Negotiating a 'democratic ethos': moving beyond the agonistic – communicative divide. *Planning Theory* 10(2): 161-186.

Bremer, S. and B. Glavovic (2013). Mobilizing knowledge for coastal governance: re-framing the science–policy interface for integrated coastal management. *Coastal Management* 41(1): 39-56

Brown, K., Mackensen, J. and Rosendo, S. (2005) Integrated Responses. In K. Chopra, R. Leemans, P. Kumar, H. Simons (eds.). *Ecosystems and human well-being: policy responses: findings of the Responses Working Group of the Millennium Ecosystem Assessment* (Pp. 425-463). Washington, Covelo and London: Island Press.

Celinski, A., Fratczak, P., Herbst, J., Kolakowska, Z., Matuszewski, J., Owczarek, D., et al. (2011). Final report on the study of the effectiveness of mechanisms for public consultation (summary). Warsaw: The Unit for Social Innovation and Research "Stocznia and Millward Brown SMG/KRC"

Coffey, B. and K. O'Toole (2012). Towards an improved understanding of knowledge dynamics in integrated coastal zone management: A knowledge systems framework. *Conservation and Society* 10(4): 318-329

Collie, J.S., Vic Adamowicz, W.L., Beck M.W., Craig B., Essington T.E., et al. (2013). Marine spatial planning in practice. *Estuarine, Coastal and Shelf Science* 117: 1–11.

Cormier, R., Kannen, A., Elliott, M. and, Hall, P. (2015). Marine Spatial Planning Quality Management System. *ICES Cooperative Research Report 327*, http://www.ices.dk/sites/pub/Publication%20Reports/Cooperative%20Research%20Report%20%28CRR%29/crr327/Marine%20Spatial%20Planning%20Quality%20Management%20System%20CRR%20327.pdf.

Douvere, F. and C.N. Ehler (2009). New perspectives on sea use management: Initial findings from European experience with marine spatial planning. *Journal of Environmental Management* 90(1): 77-88.

European Commission (2012). Progress of the EU's Integrated Maritime Policy.

European Union (2014). Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning.

Flannery et al. (2016). Exploring the winners and losers of marine environmental governance/Marine spatial planning: Cui bono? Etc. *Planning Theory & Practice*, 17(1): 121-151.

Fox, E. et al. (2013). Addressing policy issues in a stakeholder-based and science-driven marine protected area network planning process. *Ocean & Coastal Management* 74: 34-44.

Gallardo, G.L., Saunders, F., Sokolova, T., Börebäck, K., van Laerhoven, F., Kokko, S. and Tuvendal, M. (forthcoming) We adapt … but is it good or bad? Locating the political ecology and social-ecological systems debate in reindeer herding in the Swedish Sub-Arctic.

Gilek, M., Karlsson, M., Linke, S. and Smolarz, K. (eds.). (2016). *Environmental Governance of the Baltic Sea*. Springer.

Gilliland, P.M., & Laffoley, D.d' A. (2008). Key elements and steps in the process of developing ecosystem-based marine spatial planning. In: Douvere, F. & Ehler, C. (eds.) 2008. Special issue on the role of marine spatial planning in implementing ecosyste-based, sea use management. *Marine Policy* 32 (5):787-796.

Göke, C. and Lamp, J. (2012). Case Study: Systematic site selection for offshore wind power with Marxan in the pilot area Pomeranian Bight. BaltSeaPlan. *BaltSeaPlan Report no. 29*. Available at: www.baltseaplan.eu

Goździewicz-Biechońska, J. (2008) Partycypacja społeczna w tworzeniu prawa na przykładzie miejscowego planu zagospodarowania przestrzennego. *Samorząd Terytorialny* 7-8.

Griffin, L. (2009). Scales of knowledge: North Sea fisheries governance, the local fisherman and the European scientist. *Environmental Politics* 18(4): 557-575

Griffin, L. (2010). The limits to good governance and the state of exception: A case study of North Sea fisheries. *Geoforum* 41(2): 282-292.

Halpern, B. S., C. V. Kappel, K. A. Selkoe, F. Micheli, C. M. Ebert, C. Kontgis, C. M. Crain, R. G. Martone, C. Shearer, and S. J. Teck. (2009). Mapping cumulative human impacts to California Current marine ecosystems. *Conservation Letters* 2:138-148.

Hassler, B (2015). Coping and adaptation in socio-ecological problem structures: Towards an integrated framework for analyzing trans-boundary environmental problems in marine settings. *Working Paper*, ISSN 1404-1480 ; 2015:1. Huddinge: Södertörns högskola.

Hassler, B., M. Boström and S. Grönholm (2013). Towards an ecosystem approach to management in regional marine governance: The Baltic Sea context. *Journal of Environmental Policy & Planning* 15(2): 225-245.

HELCOM (2007). *Baltic Sea Action Plan*. HELCOM Ministerial Meeting, Krakow,

HELCOM (2010). Ecosystem Health of the Baltic Sea 2003–2007: HELCOM Initial Holistic Assessment. *Balt. Sea Environ. Proc.* No. 122.

HELCOM-VASAB MSP WG (2016). *Guidelines on Transboundary Consultations, Public Participation and Co-operation*. Document approved by the 12th meeting of the HELCOM-VASAB MSP Working Group on 24-25 February, 2016.

HELCOM-VASAB MSP Working Group (2010). *Baltic Sea broad-scale marine spatial planning principles*. Available at: http://www.helcom.fi/Documents/HELCOM%20at%20work/Groups/MSP/HELCOM-VASAB%20MSP%20Principles.pdf

HELCOM-VASAB MSP Working Group (2015). *Guideline for the implementation of ecosystem-based approach in Maritime Spatial Planning (MSP) in the Baltic Sea*. Available at: http://www.helcom.fi/news/Pages/New-Guideline-adopted-on-ecosystem-based-approach-in-maritime-spatial-planning-in-the-Baltic-Sea.aspx integrated coastal management. *Environ. Sci. Policy* 19-20: 49-58.

Jakobsson, C. (2013). Definitions of the Ecosystems Approach and Sustainability. In Jakobsson, C. (ed.) *Sustainable Agriculture: Ecosystem Health and Sustainable Agriculture 1*. The Baltic University Programme: Uppsala University

Jay, S., Alves, F. L., O'Mahony, C., Gomez, M., Rooney, A., Almodovar, M., Campos, A. (2016a). Transboundary dimensions of marine spatial planning: Fostering inter-jurisdictional relations and governance. *Marine Policy* 65: 85-96.

Jay, S., Klenke, T., & Janßen, H. (2016b). Consensus and variance in the ecosystem approach to marine spatial planning: German perspectives and multi-actor implications. *Land Use Policy* 54: 129-138.

Joas. M., Jahn, D. and Kern. K. (eds.) (2008). *Governing a Common Sea: Environmental Policies in the Baltic Sea*. Earthscan.

Johnsen, J. P., and B. Hersoug. (2014). Local empowerment through the creation of coastal space? *Ecology and Society* 19(2): 60. http:// dx.doi.org/10.5751/ES-06465-190260

Jones, P. (2014*). Governing marine protected area: Resilience through diversity*. Earthscan series. Routledge: Oxford.

Jones, P., Lieberknecht, L. and W. Qiu (2013a). Typology of conflicts in MESMA case studies. Deliverable 6.1 of MESMA Work Package 6 (Governance). Available at: http://www.homepages.ucl.ac.uk/~ucfwpej/pdf/MESMAD6-1.pdf

Jones, P., Lieberknecht, L.M. and W. Qiu (2013b). Approaches for addressing conflicts in the MESMA case studies. Deliverable 6.2 of MESMA Work Package 6 (Governance). Available at: http://www.homepages.ucl.ac.uk/~ucfwpej/pdf/MESMAD6-2.pdf

Jordan, A. and A. Lenschow (2010). Policy Paper. Environmental Policy Integration: a State of the Art Review. *Environmental Policy and Governance* 20(1): 147-158.

Kaczmarek, T., Wójcicki, M. (2015.) Uspołecznienie procesu planowania przestrzennego na przykładzie miasta Poznania. *Ruch Prawniczy, Ekonomiczny i Socjologiczny* LXXVII (1): 219-236.

Kannen, A. (2014). Challenges for marine spatial planning in the context of multiple sea uses, policy arenas and actors based on experiences from the German North Sea. *Regional Environmental Change* 14: 2139-2150.

Katsanevakis, S., V. Stelzenmüller, A. South, et al. (2011). Ecosystem-based marine spatial management: review of concepts, policies, tools and critical issues. *Ocean & Coastal Management* 54:807-820.

Kidd, S. (2013). Rising to the Integration Ambitions of Marine Spatial Planning: Reflections from the Irish Sea. *Marine Policy* 39: 273-282

Kidd, S. and D. Shaw (2014). The social and political realities of marine spatial planning: some land-based reflections. *ICES Journal of Marine Science*. doi: 10.1093/icesjms/fsu006

Kidd, S. and G. Ellis (2012). From the land to sea and back again? Using terrestrial planning to understand the process of marine spatial planning. *Journal of Environmental Policy and Planning* 14(1): 49-66

Kolarska-Bobinska, L. (2003). The EU accession and strengthening of institutions in East Central Europe: The case of Poland. *East European Politics and Societies* 17(1): 91-98.

Long, R.D., Charles, A. Stephenson, R.L. (2015). Key principles of ecosystem-based management. *Marine Policy* 57: 53-60.

MASPNOSE (2013). *Final Report. Deliverable D1.3.3*. Available at: https://www.wageningenur.nl/upload_mm/c/f/2/f25d7f9e-34fa-4c31-a5ab-c79768d46f64_MASPNOSE%20D1.3.3%20final%20report.pdf

Matczak, M. and Zaucha, J. (2015). Maritime Spatial Planning in Poland. Progress and International Context. *Folia Pomeranae Universitatis Technologiae Stetinensis. Oeconomica* 317(78)1: 59-72.

McCann, J., Smythe, T., Fugate, G., Mulvaney, K. and D. Turek (2014). *Identifying Marine Spatial Planning Gaps, Opportunities, and Partners: An Assessmen*t. Coastal

McKenna J., Cooper J.A.G., O'Hagan A.M. (2008). Managing by principle: A critical analysis of the European principles of Integrated Coastal Zone Management (ICZM). *Marine Policy* 32: 941-955.

Michałek M. and Kruk-Dowgiałło L. (2015). Konsultacje społeczne jako element planowania ochrony obszarów natura 2000 na przykładzie zatoki puckiej, *Inżynieria Ekologiczna Ecological Engineering* 42: 95-104.

Mills, M., Weeks R., Pressey, R.L., Gleason, M.G., Eisma-Osorio, R.L. (2015). Real-world progress in overcoming the challenges of adaptive spatial planning in marine protected areas*. Biological Conservation* 181: 54-63.

Moser, S.C., and Ekstrom, J.A. (2010). A framework to diagnose barriers to climate change adaptation. *Proceedings of the National Academy of Sciences* 107: 22026-22031.
Murphy, K. (2012). The social pillar of sustainable development: a literature review and framework for policy analysis. *Sustainability: Science, Practice, & Policy* 8(1).
Olsen E., Fluharty D, Hoel A.H., Hostens K., Maes F., Pecceu E. (2014). Integration at the Round Table: Marine Spatial Planning in Multi-Stakeholder Settings. *PLoS ONE* 9(10) e109964. doi:10.1371/journal.pone.0109964.
Ostrom, E (2009). A General Framework for Analyzing Sustainability of Social-Ecological Systems. *Science* 325(5939): 419-422.
Ostrom, E. (2008). *Polycentric systems as one approach for solving collective - action problems*. Bloomington: Indiana University.
Poland. 15 November 2007. 101 pp. Available at: http://www.helcom.fi/baltic-sea-action-plan/action-plan/
Portman, M.E. (2011). Marine Spatial Planning: Achieving and Evaluating Integration. *ICES Journal of Marine Science: Journal du Conseil*, 68(10): 2191-2200.
Pressey, R. L., Mills, M., Weeks, R., and Day, J. C. (2013). The plan of the day: managing the dynamic transition from regional conservation designs to local conservation actions. *Biological Conservation* 166: 155-169.
Qiu, W. and P.J.S. Jones (2013). The emerging policy landscape for marine spatial planning in Europe. *Marine Policy* 39: 182-190.
Redclift, M. (2014). Sustainable development. In V. Desai; R. B. Potter (eds.). *The companion to development studies* (3rd ed.). London, UK: Routledge, pp. 481-485.
Resources Center and Rhode Island Sea Grant College Program: Narragansett, R.I. pp. 60.
Ritchie, H. and G. Ellis (2010). A system that works for the sea? Exploring stakeholder engagement in marine spatial planning. *Journal of Environmental Planning and Management* 53(6): 701-723.
Schultz-Zehden, A. and K. Gee (2013). BaltSeaPlan Findings – Experience and Lessons. Available at: http://www.baltseaplan.eu/index.php/Reports-and-Publications;809/1
Schultz-Zehden, A., Gee, K. and K. Scibior (2008). *Handbook on Integrated Maritime Spatial Planning*. Available at: http://www.vn.government.bg/PlanCoast/LASTVersion_handbook_web.pdf
Schwartz M.W., Deiner C., Forrester T., Grof-Tisza P., Matthew J., Santos M., et al. (2012). Perspectives on the open standards for the practice of conservation. *Biol. Conserv*.155:169-177.
Siemiński W. (2007). Cele i zasady partycypacji społecznej w planowaniu przestrzennym„Człowiek i Środowisko" 31 (1-2): 37-59.
Sørensen, T. K., Egekvist, J., Brown, E. J., Hansen, F. I., Carl, H., Rask Møller, P., Støttrup, J. (2015). Multidisciplinary mapping of fish habitats in the Sound, Denmark for maritime spatial planning. Abstract from ICES Annual Science Conference 2015, Copenhagen, Denmark.
Stead, D. & Meijers. E. (2009) Spatial Planning and Policy Integration: Concepts, Facilitators and Inhibitors. *Planning Theory & Practice* 10(3): 317-332.
Straalen, van F.M. (2012). The concept of integration in spatial planning: An exploration. AESOP. Available at: http://www.narcis.nl/publication/RecordID/oai%3Alibrary.wur.nl%3Awurpubs%2F426468.
Tallis H., Levin P. S., Ruckelshaus M., Lester S. E., McLeod K. L., Fluharty D. L. and Halpern B. S. (2010). The many faces of ecosystem-based management: Making the process work today in real places. *Marine Policy* 34:340-348.
Tynkkynen, N., Schönach, P., Pihlajamäki, M. and D. Nechiporuk (2014). The Governance of the Mitigation of the Baltic Sea Eutrophication: Exploring the Challenges of the Formal Governing System. *Ambio* 43(1): 105-114
Underdal, A. (1980). *The Politics of International Fisheries Management: The Case of the Northeast Atlantic*. New York, NY: Columbia University Press.

Varjopuro, R, Soininen, N, Kuokkanen T., Aps, R., Matczak M, Danilova, L. (2015). Communiqué on the results of the research on blue growth in the selected international projects aimed at enhancement of maritime spatial planning in the Baltic Sea Region (BSR). *Bulletin of the Maritime Institute in Gdańsk* 30(1): 72-77.

VASAB (2009). *VASAB Long-Term Perspective for the Territorial Development of the Baltic Sea Region. Towards better territorial integration of the Baltic Sea Region and its integration with other areas of Europe*. Riga, October 2009.

Victor, D. G. (2006). Toward effective international cooperation on climate change: Numbers, interests and institutions. *Global Environmental Politics* 6: 90–103.

Vigar, G. (2009). Towards an integrated spatial planning? *European Planning Studies* 17 (11): 1571-1590.

Voss, J. P. and Kemp, R. (2006). Sustainability and Reflexive Governance – Introduction. In: Voss, J.P., Bauknecht, D. and Kemp, R. (eds.). *Reflexive Governance for Sustainable Development* (Pp. 3-28). London.

Young, O. (2002). *The Institutional Dimensions of Environmental Change – Fit, Interplay, and Scale*. The MIT Press: Cambridge, MA

Zaucha J. (2010). *Pilot draft plan for the west part of the gulf of Gdańsk. First maritime spatial plan in Poland*. Gdańsk, Instytut Morski, 81.

Zaucha J. (2012). Offshore Spatial Information - Maritime Spatial Planning in Poland *Regional Studies* 46(4): 459-473.

Zaucha, J. (2014). Sea basin maritime spatial planning: A case study of the Baltic Sea Region and Poland. *Marine Policy* 50: 34-45.

Zaucha, J., Gilek, M. et al. (2016). BONUS BALTSPACE Deliverable 2.1: Baseline-Mapping and Refined Case Study Design. Available at: http://www.baltspace.eu/index.php/published-reports