BaltSeaPlan

FINDINGS

Experiences and Lessons from BaltSeaPlan

Angela Schultz-Zehden and Kira Gee
March 2013

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CONTENT

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INTRODUCTION

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The € 3.7 million project "BaltSeaPlan – Introducing Maritime Spatial Planning in the Baltic Sea" was implemented between January 2009 and April 2012 under the framework of the ERDF co-financed Baltic Sea Region Programme. Led by the German Federal Maritime and Hydrographic Agency, 14 partners from EU Baltic Sea Region states worked together in order to promote the implementation of Maritime Spatial Planning (MSP) throughout the Baltic Sea Region.

This publication provides an overview of the outcomes, results and lessons to be learnt from the numerous activities undertaken within the BaltSeaPlan project. Although other MSP projects have produced results almost at the same time as BaltSeaPlan, and although national governments, transnational working groups as well as the EU Commission have since taken up new initiatives, this report is mostly based on activities and results of BaltSeaPlan itself. In order to place BaltSeaPlan within the wider MSP context, the report gives a brief overview of the situation at the beginning of the project and a description of the situation one year after its completion.

Much was achieved within BaltSeaPlan that can help guide future MSP activities. Rather than the detailed project results, which are summarised in a total of 31 BaltSeaPlan Reports, the purpose of this report is to extract general lessons which can be applied to other maritime planning contexts. Although each MSP project will need to take account of its own specific situation, it is hoped that these lessons can offer useful pointers for how to tackle MSP processes both at the national and transnational level.

Like BaltSeaPlan itself, the report uses the MSP planning cycle developed under the predecessor "PlanCoast"[1] project as a structural guide. It highlights:

- how selected planning steps were implemented within BaltSeaPlan,
- what outcomes were achieved through these activities,
- what lessons can be learned from the approaches chosen.

The report is structured as follows:

- Chapter 1 describes the general background against which BaltSeaPlan was conceived. It gives the logic behind the various BaltSeaPlan activities, the project partners, and the context of the various pilot projects. External developments with impact on BaltSeaPlan results are also highlighted. Although these aspects cannot always be planned at the beginning of a project, the chapter may provide some lessons on potential success factors for project implementation.
- Chapter 2 focuses on elements of the stocktake. It draws conclusions from the research done by the project partners on national or regional policy priorities and objectives for maritime space and describes key elements of the BaltSeaPlan Vision 2030, which sets out general planning principles for MSP in the Baltic Sea.
- Chapter 3 focuses on data issues and tools. It highlights lessons learned by the partners in their search for data and shows the tools and methods applied in order to overcome data and information gaps. A summary is provided of the BaltSeaPlan recommendations for a future MSP data infrastructure. The chapter also underlines the need for developing a joint MSP research agenda in order to overcome existing data and knowledge gaps.

1 Schultz-Zehden, A., Gee, K., Scibior, K. (2008) Handbook on Integrated Maritime Spatial Planning: Experience, Tools & Instruments, Case Studies from the INTERREG III B CADSES PlanCoast Project (www.plancoast.eu). Please note also other MSP planning cycles, e.g. BALANCE Technical Summary Report, part 4 and Ehler & Douvere (2009) Marine Spatial Planning: a step by step approach toward ecosystem based management. Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. Manual and Guides No. 53, IOCAM Dossier No. 6. Paris: UNESCO.

- Chapter 4 primarily deals with conflict analysis. It shows the different approaches taken by the project partners to identify planning issues and potential conflicts in maritime space, as well as their different rationale in (and ways of) working with stakeholders. The methodology of undertaking a Strategic Environmental Assessment is presented using a Polish pilot case as an example.
- Chapter 5 is concerned with the actual planning process. It describes the actual criteria applied within each pilot case for deciding on the compatibility and prioritisation of certain uses over others. The chapter stresses the importance of going beyond the names of specific area categories: 'Priority area' for example may be interpreted quite differently and cannot be taken to indicate the same concept as a matter of course. This in turn is an indication that the nature of maritime spatial plans may vary considerably.
- Chapter 6 sets out the overall conclusions and lessons to be learned from BaltSeaPlan. It also gives an outlook as to what still needs to be done in order to develop MSP into a suitable instrument for achieving sustainable maritime development.

As the coordinator of BaltSeaPlan and the author of the BaltSeaPlan Vision, respectively, both authors have been heavily involved in BaltSeaPlan activities. The responsibility for implementing BaltSeaPlan activities was that of the partners alone.

In writing this report, we have drawn heavily on the input provided by all BaltSeaPlan project partners and the experts involved. In the case of specific activities undertaken at partner level these findings mostly rely on what partners have expressed within their reports and are not based on an extra set of evaluating questions. In many cases, we quote essential paragraphs such as checklists, recommendations, overview tables, figures and graphs from the respective BaltSeaPlan Reports. A full list of all BaltSeaPlan Reports is provided at the end of chapter 6.

Any comparative analyses, references to the MSP cycle and lessons learnt are our own conclusions and do not represent joint results agreed by all BaltSeaPlan partners.

Berlin, March 2013, Angela Schultz-Zehden/Kira Gee

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ABOUT BALTSEAPLAN

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While previous projects and initiatives mainly developed the concept and provided the rationale for MSP, it was the ambition of BaltSeaPlan to gather as much practical experience as possible. This was to involve real data gathering, analysis of existing strategies for the sea, developing draft maritime spatial plans for concrete pilot areas and hands on stakeholder engagement. All these were to be used as a basis for creating joint understanding of how to introduce and ultimately implement maritime spatial planning throughout the Baltic Sea Region.

The ambition:
Gain practical experience in Maritime Spatial Planning

Given the lack of a legal basis it was clear from the outset that BaltSeaPlan could not achieve the actual adoption of the draft maritime spatial plans developed under its framework. Nevertheless, all activities were designed in such a way that they could serve as a solid basis for real planning processes in the future. As such, there was continuous consultation with the responsible administrative and policy level as well as relevant stakeholders.

Before BaltSeaPlan

Discussions on a possible project began in 2007, two years before the actual project start, in line with the publication of the EU Blue Book on Integrated Maritime Policy (published in October 2007). The Blue Book introduced Integrated Maritime Spatial Planning as a fundamental tool for the sustainable development of marine areas and coastal regions. November 2007 also marked the adoption of the HELCOM Baltic Sea Action Plan[2], which includes Recommendation 28E/9 on the "Development of Broad-scale Marine Spatial Planning Principles in the Baltic Sea Area". Both policy documents were partly based on the VASAB Gdańsk Declaration, which was published even earlier in 2005.

MSP Policy Background 2007:
- VASAB Gdańsk Declaration
- EU Blue Book
- Helcom Recommendations on MSP Principles

The more detailed project design was developed during a two-day project development workshop held in Hamburg in January 2008 where interested partners gathered and discussed their possible roles and activities. The final application for funding was submitted in May 2008 and approved by the Monitoring Committee in October 2008.

The original application also foresaw the active involvement of partners from Kaliningrad and North West Russia. They had, however, to withdraw during the contracting phase for formal reasons as Russia had not signed the overall agreement to participate in the BSR Programme.

With the exception of Germany and Poland, no Baltic Sea country had any practical experience with MSP at that time, or created a legal basis for such planning. In the rest of Europe, practical MSP experience was similarly limited.

In Germany, Mecklenburg-Vorpommern was a forerunner in practical maritime spatial planning, having adopted its first MSP for the 12 nm zone as early as 2005. Preparations for maritime spatial plans for the German EEZ began in 2004/2005 and were adopted in Sept. 2009 (North Sea) and in Dec. 2009 (Baltic Sea). By 2007 a first pilot MSP had been prepared for Gdańsk Bay in Poland. The institutions responsible for these maritime spatial plans, namely the Federal Maritime and Hydrographic Agency (BSH), the Ministry of Transport, Building and Regional Development of Mecklenburg-Vorpommern, the Maritime Office in Gdynia and the Maritime Institute in Gdańsk, were also the initiating partners of BaltSeaPlan.

Mecklenburg-Vorpommern:
a forerunner in Maritime Spatial Planning

2 HELCOM Baltic Sea Action Plan adopted at the HELCOM Ministerial Meeting on 15 November 2007 in Krakow, Poland

Preparatory MSP Projects: BaltCoast & PlanCoast

These institutions and their planning staff had already gained experience in collaboration and cooperation through their involvement in BaltCoast (2002 – 2005) and PlanCoast (2006 – 2008)[3]. Both projects were led by the Mecklenburg-Vorpommern Ministry of Transport, Building and Regional Development, which used the transnational experience to strengthen its own MSP process.

BaltCoast: Introducing the concept of MSP

BaltCoast was the first project to apply the concept of ICZM to offshore areas and combine it with the strengths and tools of spatial planning. The "BaltCoast recommendations"[4] found expression in numerous policy documents, such as the VASAB Gdańsk Declaration and not least in the concept of Integrated Maritime Spatial Planning actively promoted by the EU Blue Book.

BALTCOAST RECOMMENDATIONS[5]

Use the strengths of spatial planning for a successfull implementation of ICZM and for cross-sector coordination of offshore development in national 12NM zones and beyond.

01. Role of Spatial Planning in ICZM
    - ICZM is the responsibility of political bodies of all levels
    - Do not create ICZM specific institutions – improve the use of existing ones
    - Cross-sectoral agencies at regional level should take the lead for implementation
    - Link the regional approach with case specific solutions
    - Spatial Planning should take a central role in ICZM
    - The focus should be on implementation rather than on theoretical ICZM discussions.

02. Implementation of Sea Use Planning (extend spatial planning to the offshore side)
    - Agree on the systematic information exchange concerning offshore uses,
    - Prepare spatial plans for offshore areas where needed and
    - Introduce project oriented and cross-sectoral coordination procedures.

PlanCoast: Handbook on MSP planning cycle

In PlanCoast these recommendations were developed further into more practical guidelines for spatial planners, decision-makers and stakeholders on how to pursue effective Integrated Maritime Spatial Planning. A "Handbook on Integrated Maritime Spatial Planning"[6] was published which set out the various steps as part of an MSP planning cycle. Not only did the handbook provide a set of checklists and tools for each step, but also drew up a concept for the political and administrative framework required for IMSP. It also highlighted existing good practices throughout the Baltic Sea, Adriatic and Black Sea.

3 www.plancoast.eu
4 http://www.plancoast.eu/files/baltcoast_final_report.pdf
5 Heinrichs B., Schultz-Zehden, A., Toben S. (eds.): The INTERREG III B BaltCoast Project. Coastline Reports 5 (2005), ISSN 0928-2734
6 Schultz-Zehden et al. 2008, Handbook on Integrated Maritime Spatial Planning: Experience, Tools & Instruments, Case Studies from the INTERREG III B CADSES PlanCoast Project.

Another important facilitating role was played by VASAB. VASAB had laid a first foundation for MSP in the Baltic Sea with the publication of its VASAB 2010+ Spatial Development Action Programme in 2001. VASAB also initiated the BaltCoast project. With the adoption of the Gdańsk Declaration in 2005[7], which was developed within BaltCoast, it was the first organisation to call for the introduction of MSP throughout the Baltic Sea Region. It subsequently established a specific working group on MSP, of which the German and Polish initiators of BaltSeaPlan are members.

VASAB:
Laying the foundation for MSP already by 2001

At the time of creating BaltSeaPlan it was almost impossible to engage planning authorities or similar institutions officially responsible for MSP as project partners. The simple reason was that none existed at that point outside of Germany and Poland. With BaltSeaPlan moving further offshore, the municipalities and regions from Sweden or Finland which had still participated in ICZM-related activities in BaltCoast no longer represented a direct target group. The ministries and agencies at national level were also reluctant to commit themselves to such a project since they could not be sure of the role they would eventually be assigned within MSP. After all, even terrestrial planning is located in different ministries in the different countries, ranging from interior affairs, construction or environment all the way to regional development. In Sweden, the Environmental Protection Agency agreed to be involved at a strategic level, but no government body could be engaged as a project partner in any of the Baltic States, Finland or Denmark.

In 2007 – hardly any official institution appointed for MSP in BSR countries

As an alternative strategy, the project therefore involved those institutions and organisations as active partners that could expect to be given an active role in MSP in their countries. These included marine research institutes and universities as well as NGOs as important stakeholders and/or organisers of stakeholder participation in MSP processes.

BaltSeaPlan partners:
official authorities, marine research institutes and NGOs

Moreover all partners had already been involved in MSP-related projects. The University of Aarhus (NERI) had been one of the core partners in the “Balance” project, which had developed a classification of marine landscapes. The WWF in Germany had facilitated ICZM processes in the Greifswalder Bodden area, culminating in voluntary agreements between nature conservation, leisure boating and fishing. The Swedish partners as well as the Baltic Environmental Forum had also been active in stakeholder involvement and planning processes at the coastal level (COASTMAN/Natura 2000 management plans).

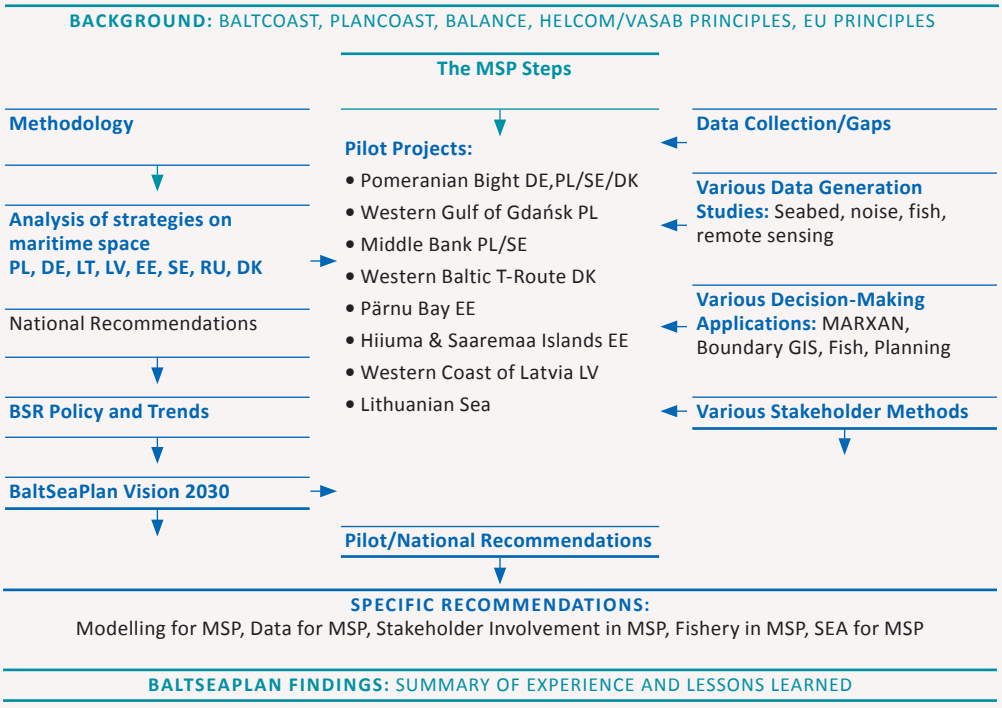
BaltSeaPlan activities

Based on the findings of previous regional, national and transnational projects BaltSeaPlan activities were designed to provide support to all aspects of maritime spatial planning within the Baltic Sea Region where gaps had been identified. While previous projects still made a distinction between ICZM and MSP, the focus of BaltSeaPlan was on Integrated maritime spatial planning, seeking to extend the principles of terrestrial spatial planning and ICZM to the open sea.

Covering all aspects of maritime spatial planning

7 http://www.vasab.org/download/documents/GdańskDecl_&_PolicyDoc.pdf

BALTSEAPLAN ACTIVITIES SET UP



A. Schultz-Zehden, Final Partner Meeting 11/01/12

Taking the IMSP process as a starting point, project partners worked both at the level of specific MSP planning and the wider IMSP environment. The following aims were pursued within a total of five work packages:

01. Improve the information base for maritime spatial planning:

- Create a forum for dialogue
- Bring together spatial planners and scientists.
- Compile current uses, natural values and conflicts in the Baltic Sea.
- Clarify MSP data needs.
- Identify sources of data and information.
- Fill data gaps and exchange-data.
- Identify relevant modelling methods.
- Develop an MSP data governance model.

02. Include spatial planning in national maritime strategies:

- Assess national frameworks, methodologies and sectoral strategies influencing the use of sea space (e.g. energy, fishery, transport, tourism, as well as nature conservation).
- Develop recommendations on spatial issues within National Maritime Strategies and use analyses to foster a national cross-sectoral debate on goals and targets for dealing with space and how to fill gaps in national sectoral policies and strategies.

03. Develop a vision for maritime spatial planning in the Baltic Sea 2030

- based on the national visions, taking into account transnational interdependencies and cumulative impacts.
- Initiate a BSR wide campaign to discuss the BaltSeaPlan Vision 2030 and its recommendations and draft a roadmap on steps to be taken to reach this vision.

04. Start MSP processes in 8 pilot areas:

- Danish Straits/T-Route (DK)
- Pomeranian Bight (DE/DK/SE/PL)
- Western Gulf of Gdańsk (PL)
- Middle Bank (SE/PL)
- Lithuanian Coast (LT)
- Western Coast of Latvia (LV)
- Pärnu Bay (EE)
- Hiiumaa and Saaremaa Islands (EE)

05. Lobby and capacity building for MSP:

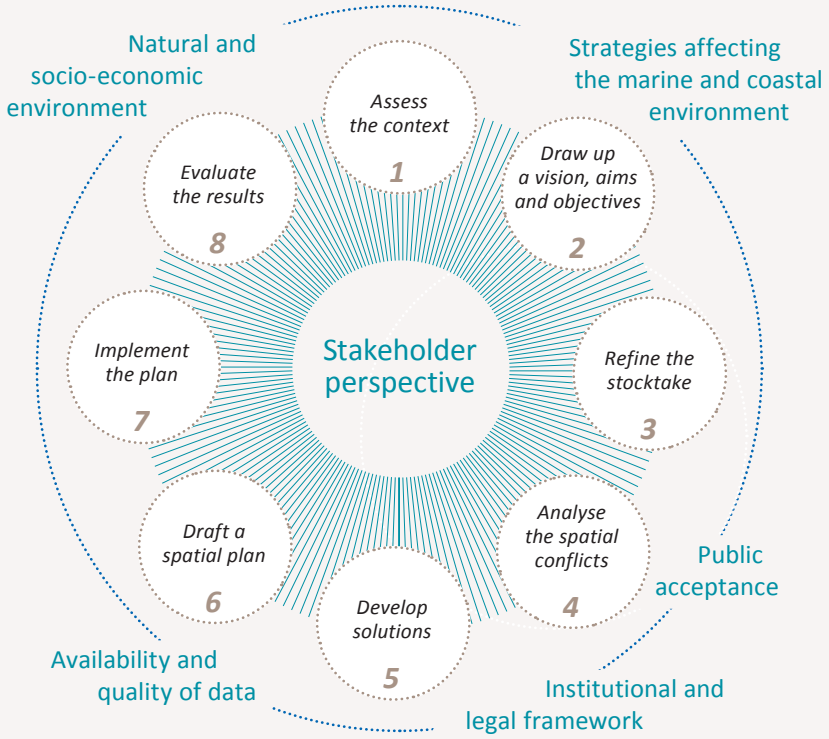
- Stakeholder involvement and participative planning methods.
- Workshops & conferences for decision-makers and creating public acceptance for MSP.
- A BaltSeaPlan series of guidelines and policy recommendations.

A LINKED SET OF ACTIVITIES RATHER THAN A SEQUENCE

Activities in all five work packages did not run sequentially, but went on in parallel. Close links developed between the work on specific pilot plans and recommendations for the more general MSP environment. All experts and project partners were part of different project groups enabling the different working groups to inspire each other.

- Overall data recommendations were also driven by the practical experience gained in the pilot projects.
- Pilot projects took into account the results of analysing national strategies with impact on maritime space.
- The criteria used in some of the pilot projects took into account the principles of the Vision 2030.
- The recommendations and guidelines for fishery were included in the draft MSP for the Pomeranian Bight; the recommendations themselves were inspired by fishery-related findings in other pilot projects.

THE INTEGRATED MSP PROCESS



Source: Schultz-Zehden et al. 2008: PlanCoast Handbook on IMSP

ONE PLANNING CYCLE …

The MSP planning cycle: A basis for all pilot projects

For the MSP pilot projects, BaltSeaPlan chose a modus operandi which was based on the planning cycle described in the Handbook on Integrated Maritime Spatial Planning[8]. Other similar cycles were also taken into account, such as those described by the Balance"[9] project and the Intergovernmental Oceanographic Commission and Man and the Biosphere Programme[10]. The planning cycle as agreed in BaltSeaPlan was composed of the following steps:

I – Assess the context:

01. Set up the MSP team and external services, assess the existing institutional and legal framework, estimate the financial resources needed for developing the pilot MSP;

8 Schultz-Zehden et al. 2008, Handbook on Integrated Maritime Spatial Planning: Experience, Tools & Instruments, Case Studies from the INTERREG III B CADSES PlanCoast Project. Berlin. www.plancoast.eu

9 BALANCE Technical Summary Report, part 4: Towards marine spatial planning in the Baltic Sea. BALANCE Lead Partner: The Danish Forest and Nature Agency, no date.

10 Ehler, C. & Douvere, J. (2009): Marine Spatial Planning: a step-by-step approach toward ecosystem-based management. Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. Manual and Guides No. 53, IOCAM Dossier No. 6. Paris: UNESCO

02. Designate an MSP area with clear geographical boundaries;

03. Identify and map relevant stakeholders (contact lists, communication, awareness raising events);

04. Hold joint stakeholder meetings to help assess strategic policy documents and to understand sectoral policy priorities;

II – Stocktaking:

05. Collect data and information on the ecological, social and economic situation, consider mid-term and long-term development trends;

06. Spatial mapping of existing sea uses and identification of potential conflicts;

07. Assess the problems recognised, their influence on economic development and impact on the environment;

08. Assess the legislative framework and its provisions with regard to the rights of sea uses, identify needs for potential amendments for resolving emerging conflicts;

III – Planning:

09. Resolve conflicts by reconciling the various interests (development of different scenarios to be proposed for relevant stakeholder groups);

10. Elaborate a zoning concept (cartographic and descriptive parts) and define the objectives and conditions for each zone. Organise stakeholder meetings and intensive consultation within this step; consider the submitted proposals and comments.

11. Conduct a strategic environmental impact assessment for the maritime spatial plan.

IV – Implementation:

12. MSP implementation and enforcement by endorsing needed amendments or supplements in the legislation as well as relevant decision making to forester the implementation of the MSP

V – Monitoring:

13. Evaluation of the implementation process against the agreed indicators and time schedule, revision of the plan, if needed or starting new MSP process.

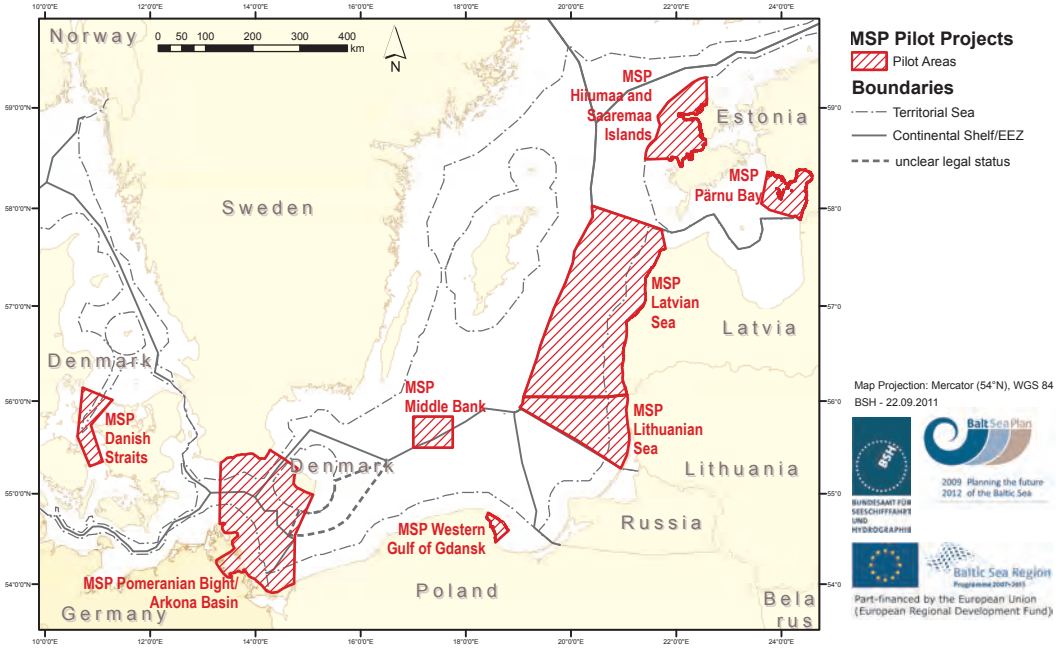
This modus should not be seen as a recipe book to be followed in strict order, but rather as a "pick-and-mix" approach in which appropriate sections can and should be adapted to the particular circumstances. Even though all partners agreed to follow the basic steps of the IMSP process cycle, each project partner developed their own site-specific approach, emphasizing those elements which were seen as priority needs depending on the different conditions in each area.

… BUT DIFFERENT MSP PILOTS

Pomeranian Bight: Exploring transnational MSP aspects

The area of Pomeranian Bight is subject to many uses and interests and already has statutory MSPs covering the German part of the pilot area (Mecklenburg-Vorpommern responsible for the 12NM area and the Federal Maritime and Hydrographic Agency BSH for the Exclusive Economic Zone). Comprising project partners from four national states (GE, PL, DK, SE), emphasis in this transnational pilot area was on how these existing plans can be aligned with future maritime spatial plans both with Germany and the other countries that make up the Pomeranian Bight (especially Poland). The pilot project group explored whether any transnational and comparable data existed, whether the different planning approaches actually fitted together, whether the allocation of uses within the area would differ if taken on a "no national border" basis and how new topics such as fishery and fish protection could be included within the MSP.

OVERVIEW OF BALTSEAPLAN PILOT PROJECTS



From BaltSeaPlan Report No. 9

Middle Bank: A strategic plan for an offshore area

Middle Bank was another transnational pilot case situated far from the coast in the Swedish/Polish EEZ. Its emphasis was very different to the Pomeranian Bight pilot case. The site was taken on to showcase how a maritime spatial plan can be developed for a transnational area that has few stakeholders and for which there is very little information. The plan was more of a strategic nature, seeking to prevent future conflicts rather than mitigating current ones. As a result, the maritime spatial plan developed is rather unique. As such, it might serve as a basis for other plans in other more remote offshore areas.

The MSP pilot cases in the Baltic States also had to start from scratch since they could not resort to any prior planning exercises. Here too, the approaches differ considerably.

In the two Estonian pilot sites (Pärnu Bay/Hiiumaa and Saaremaa Islands) it soon emerged that the data base was very weak, especially with respect to habitats. Emphasis was thus placed on expert modelling to develop this information. A new interactive ICT tool was designed allowing stakeholders to view maps of existing uses and to introduce their own perspectives.

Estonia:
Filling data gaps & testing a new interactive Web Tool

For the Western part of the Latvian Sea a participatory planning exercise was carried out. This process was supplemented by contracted studies to fill the information gaps identified with the stakeholders. These studies substantiated planning decisions where possible.

Latvia:
A stakeholder participation approach to MSP

In Lithuania, emphasis was less on completing the full planning exercise but on laying a solid foundation. Focus here was on translating existing data into spatially relevant data and to use this information to identify possible areas of conflict. Stakeholder involvement aimed less at helping the planning team but to prepare the ground for real-life MSP by raising awareness about the importance of the sea and sea space.

Lithuania: Preparing data and stakeholders for the real MSP to come

Unlike the other five pilot projects, BaltSeaPlan activities for the Danish Straits as well as the Western Gulf of Gdańsk concentrated on one specific topic within the MSP cycle. In Poland a full Strategic Environmental Impact Assessment was carried out on the basis of an existing pilot maritime spatial plan (developed under the previous PlanCast project) including stakeholder involvement. The Danish pilot tested the potential of new research and mapping methods for future MSP and SEA exercises.

Danish Straits: Testing new impact research & mapping methods

An SEA for the MSP of the Gulf of Gdańsk

JOINT WORKING GROUPS FOR JOINT RECOMMENDATIONS

In the pilot MSPs the transnational element was mainly brought about by a transnational exchange of experience between planners. Other BaltSeaPlan activities were even more transnational in character in that partners jointly developed working methods and prepared reports. For instance, partners agreed to apply the same methodology for analysing policies and strategies with relevance to maritime space. Taking the Polish methodology as a blueprint sped up the work and ensured a comparable information base was created. Despite the considerable differences between the countries, it was therefore possible to draw Baltic Sea-wide conclusions on current policy gaps and the possible improvements to be achieved for (and through) MSP throughout the region.

One methodology for policy analysis across all BSR countries

Country-specific analyses, knowledge provided by the partners, and an international policy analysis were brought together in an overview on policies, trends and strategies that will influence the use of the Baltic Sea in the years to come. The resulting report also pointed out those policy fields where no clear objectives have been set. This report laid the foundation for the BaltSeaPlan Vision 2030, which was subsequently developed by project partners in an 18-month process facilitated by its authors.

Vision 2030

BaltSeaPlan recommendations for an “integrated pan-Baltic Data Model, Data Exchange and Good Governance” for MSP as well as the BaltSeaPlan MSP Model Report are the result of a series of discussions held within the joint BaltSeaPlan data working group. Not only are these truly transnational, but they also benefited from the transdisciplinary combination of experts from natural science, modern data and GIS systems as well as spatial planning.

The role of the data working group

Joint working groups were also established to cover the specific aspects of stakeholder involvement and fishery in MSP. Even though project partners chose and applied their individual approach towards these topics, these were discussed in joint meetings and summarised by experts from the WWF in two specific reports.

Summary reports: Stakeholder involvement and fishery in MSP

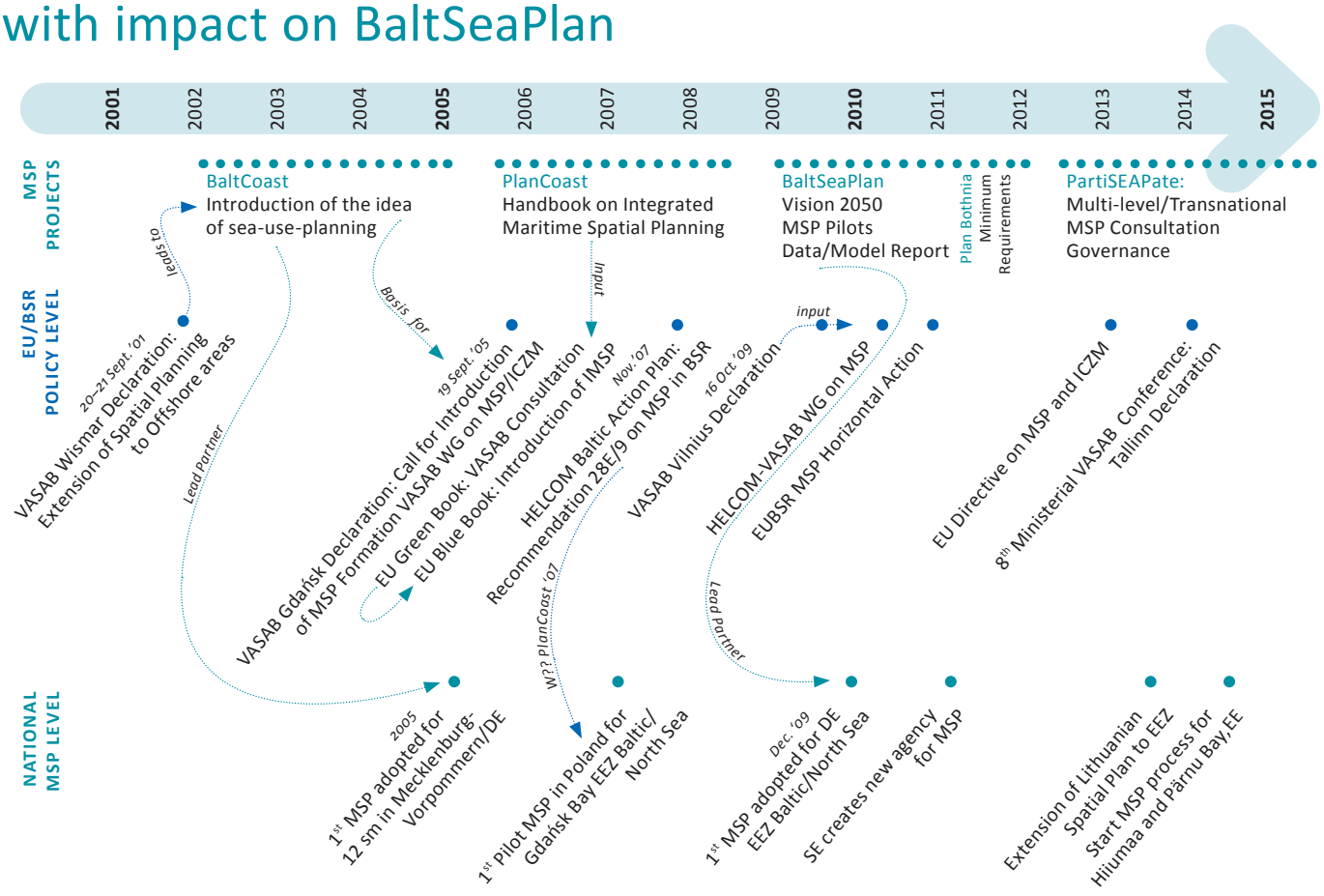
Work in BaltSeaPlan was facilitated by the high level of continuity and the logical sequence of activities within a string of previous projects (BaltCoast/PlanCoast/Balance/East West Window). The work of these projects made sure that project activities could start quickly, and also meant that a high level of trust had already been generated between the core project partners. As a result, it was possible to mix partners from different previous projects and/or different academic backgrounds including the natural and social sciences (i.e. biology, geology, geography, land use planning, economy, law). This stimulated thinking in new perspectives. The project also benefited from a neutral coordinator who did not represent a specific country or sector but was knowledgeable on the topic as she had also been in charge of the previous projects BaltCoast and PlanCoast. All together this created a working atmosphere conducive to intense, sometimes controversial but always respectful, constructive discussions.

A SPECIFIC SET OF TECHNICAL REPORTS

Technical reports: Authors opinion

All technical BaltSeaPlan Reports were developed by experts from within the project partnership or commissioned by one project partner. Results were either used as a technical basis within one or more pilot MSP, or the report itself is based on results from the BaltSeaPlan pilot projects.

Developments outside BaltSeaPlan with impact on BaltSeaPlan



EUROPEAN AND BALTIC SEA TRANSNATIONAL LEVEL

EU Roadmap for MSP

At the European level the "Roadmap for Maritime Spatial Planning" launched by the European Commission in 2008 invited a debate on the ten principles on MSP published in November 2008[11]. In a series of workshops organised by the Commission in 2009 – with participation of BaltSeaPlan partners – stakeholders from all relevant maritime sectors endorsed the 10 key principles as an appropriate, comprehensive and important basis for the development of MSP in Europe.

VASAB Vilnius Declaration 2009

In October 2009, the ministers responsible for spatial planning within the Baltic Sea Region recognized that the Baltic Sea environment and the sustainable use of sea resources need to be supported by integrated land and sea space planning and management (VASAB Vilnius Declaration[12]). The declaration states that a common Baltic approach to MSP should be discussed, that tools and methods of such planning should be developed, and that close cooperation should be sought with HELCOM.

Helcom-VASAB Working Group on MSP established 2010

The Joint HELCOM-VASAB Working Group on Maritime Spatial Planning was subsequently created with representatives from all relevant national ministries and agencies around the Baltic Sea Region.

11 Commission of the European Communities 2008: Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU. COM(2008) 791 final, Brussels, 25.11.2008

12 http://www.vasab.org/conference/upload/dokumenti/vasab_vilnius_declaration_2009final.pdf

The group developed the Baltic Sea Broad-scale MSP principles, which were subsequently adopted by the VASAB CSPD and HELCOM HOD in December 2010[13].

Andrzej Cieslak of the Maritime Office Gdynia (BaltSeaPlan project partner) is the elected co-chair of the joint working group from the VASAB side. Nico Nolte of the Federal Maritime and Hydrographic Agency (BaltSeaPlan lead partner) was the vice-chair until 2012. A very close connection was thus created between the BaltSeaPlan project and discussions at this important MSP policy forum. The links between the project and policy were further strengthened by the fact that Nico Nolte is also the German representative at OSPAR (North Sea), ICES and the subsequently EU Member States Expert Group on Maritime Spatial Planning.

MSP: A horizontal action in the EU Strategy for the Baltic Sea Region

The EU Strategy for the Baltic Sea Region[14], launched in November 2009, notes the importance of land-based and Maritime Spatial Planning. HELCOM and VASAB were appointed to act jointly as Horizontal Action Leaders for MSP within EUSBSR.

DG Mare MSP Pilot Projects: MASPMOSE and Plan Bothnia

As part of the EU Integrated Maritime Policy, DG MARE launched two preparatory actions in the Baltic Sea and the North Sea/North East Atlantic in 2009. These specifically aimed at developing cross-border cooperation aspects of MSP. The "Plan Bothnia" project ran between December 2010 and May 2012 under the co-ordination of the HELCOM Secretariat and explored the offshore areas of the Bothnian Sea between Finland and Sweden. As one of the project partners to this project, VASAB commissioned two studies on "Necessary common minimum requirements for MSP in the Baltic Sea"[15] and "MSP best practices in the BSR and other European maritime regions"[16]. Both documents were able to significantly draw on the experience developed within BaltSeaPlan.

NATIONAL LEVEL

UK Marine and Coastal Access Act 2009 and Marine Policy Statement

In England, the UK Marine and Coastal Access Act of 2009 enabled the establishment of the Marine Management Organisation, which has begun MSP processes at various sites in English territorial waters. The UK Marine Policy Statement, released in 2011, was jointly adopted by Wales, Scotland and Northern Ireland, with those regions also expected to start MSP soon.

Swedish Agency for Marine and Water Management established 2011

In Sweden an inquiry to include international management of the Baltic Sea and the planning of Swedish sea areas had been carried out between 2007 and 2008. It proposed the introduction of a new planning system for Sweden's sea areas that would be based on marine spatial plans similar to the comprehensive plans for land areas. Following a consultation process the Swedish Board of Fisheries was dissolved and the "Swedish Agency for Marine and Water Management (SwAM)" established in July 2011.

13 http://www.helcom.fi/stc/files/HELCOM-VASAB%20MSP%20WG%20Principles.pdf
14 http://www.balticsea-region-strategy.eu/
15 Heinrichs, B., Gee, K. (2012): Necessary common minimum requirements for Maritime Spatial Planning (MSP) in the Baltic Sea: Contribution to the Plan Bothnia work package "Region-wide recommendations on minimum requirements for MSP systems." Unpublished manuscript.
16 Zaucha, J., Matczak, M. (2012): Identification of maritime spatial planning best practices in the Baltic Sea Region and other European Union maritime regions. Contribution to the Plan Bothnia work package "Region-wide recommendations on minimum requirements for MSP systems." Unpublished manuscript.

3

STRATEGIES & VISIONS FOR BALTIC SEA SPACE

STRATEGIES & VISIONS FOR BALTIC SEA SPACE

Analysis of existing policies

BaltSeaPlan partners reviewed existing regional and national policy documents with relevance for their given sea space [17]. These included:

- Horizontal Policies

  National & regional development strategies; spatial strategies and development programmes; economic and innovation policies as well as infrastructure development

- Sectoral Policies

  Environmental and ecology; sea port and transport; fishery, energy; tourism; maritime economy; maritime research; coastal defence

- Funding Programmes

  Large-scale EU funding programmes which may influence the use of sea space especially in the new EU Member States. They create important incentives by covering the transaction costs of many actions, especially those in line with the Lisbon and Gothenburg strategies.

For each policy document the stated objectives and/or priorities were analysed according to the following matrix:

The analysis sought to answer the following two questions:

- To what extent will the implementation of the objectives/priorities of the given document influence the use of sea space (direct versus indirect impact)?
- What is the likelihood of their implementation (strong versus weak impact)?

Policy impact:
direct vs indirect
strong vs. weak

For each policy, an impact table was produced. A combined look at all the policy impact tables made it possible to identify any explicitly stated government priorities that can act as a driving force for marine development.

IMPACT	DIRECT	MEDIUM	INDIRECT
STRONG	Policy creates legal or administrative conditions for sea use or proposes specific politically accepted targets, goals and principles for this use	Policy creates strong incentives or disincentives for the use of sea space	Policy might influence use of sea space through awareness raising, changing the priorities/ values of decision makers, influencing the availability of sea resources or non-administrative conditions of their use
WEAK (LACKS IMPLEMENTATION)			

If priorities could be identified, their compatibility was checked across the various policy levels (i.e. from municipal to the transnational level) and across policy areas (i.e. cross-sectoral/horizontal – sectoral). If no priorities could be identified, areas with strategic policy gaps were identified instead. These may require further development either to provide maritime spatial planning with better guidance or to enable MSP to fill the gaps.

Government priorities:
Compatibility?
Policy gaps?

17 BaltSeaPlan Reports No. 1–7

POLICIES WITH STRONG AND DIRECT IMPACT:	POLICY GAPS AND/OR POLICIES WITH WEAK IMPACT:
• Cohesion/Lisbon policy	• Cross-sectoral socio-economic Strategies
• Spatial planning policy	• Sustainable development strategies
• Environmental policy	• Marine aquaculture policy
• Port development	• Climate change policy
• Transport policy	• Research, education and information policy
• Fishery policy	• Surveillance policy
• Energy policy	• Maritime employment policy
• Coastal protection	• Maritime cluster policy
• Mining and mineral extraction	• Cultural heritage policy
	• Maritime defence policy

RECOMMENDATIONS TO IMPROVE NATIONAL MARITIME POLICIES

Different countries, similar conclusions

Even though some differences could be noted between countries, the conclusions drawn by BaltSeaPlan partners from their country analyses and the resulting recommendations for the future development of their national maritime policy showed a surprising range of similarities.

A key finding is that policies rarely give specific targets and objectives, which made it difficult to detect any specific contradictions between the various sectoral policies or policy levels. However, it was possible to identify missing policies or links between policies.

01. Several activities requiring some type of public intervention do not have proper policy coverage in BSR countries. Maritime Policy should pay special attention to them.

- Almost all countries lack a cultural heritage policy. Despite the Treaty of La Valetta[18] and some valuable results from some other BSR programme projects (i.e. MACHU[19]), there is hardly any regulatory framework and policy concerning maritime (underwater) heritage. The result is its unrestricted exploitation which would not be allowed in the same way on land.

Missing marine policy: Cultural Heritage

02. Numerous policies are insufficiently sea-oriented. While there are many strategies for terrestrial areas including the coast, sea activities are almost entirely missing from such strategies.

- Where necessary, national maritime policy should initiate the reformulation or extension of such policies in order to properly address maritime questions and specificity; i.e. for maritime mining and surveillance.
- While all countries include marine (renewable) energy resources within their energy

Policies with insufficient maritime focus:

- Mining
- Surveillance
- Energy cables
- Education
- Research, cluster development
- Tourism
- Climate change

18 Council of Europe (1992): European Convention on the Protection of the Archaeological Heritage (revised), Valetta, 16.1.1992. 1992

19 Managing Cultural Heritage Underwater: A maritime research project funded by the EU Culture 2000 programme. Amersfoort, January 2008. www.machuproject.eu/dMACHU_report_1.pdf

policies, with the exception of Germany hardly any consideration is yet given to the development of relevant transmission infrastructure.

- Little attention is paid to the specific maritime policies in the field of fostering innovation, research, education and cluster development. These questions should be properly considered in maritime policy, and a national cross-sectoral debate should be initiated on them.
- Despite the existence of numerous tourism development strategies at all levels, hardly any of them take into account sea space as such. Maritime policy should encourage harmonization of national tourism policy, local and regional development programmes with regard to proper tourism infrastructure development. Key challenges are to alleviate tourism pressure on land, to encourage tourists to use sea space, and to assess the relationship between coastal development and the necessary sea space to ensure this takes place.
- Even policy related to climate change requires greater maritime orientation. For MSP it is important to better understand sea level rise and species-related change due to climate change.

03. In other clearly maritime policy fields such as fishery, shipping, and defence, strategies and policies do take into account maritime space. But these sectors have a tradition to keep to themselves without disclosing information to maritime spatial planners.

Defence, fishery, shipping: Sectors keeping to themselves

- Maritime defence policies exist, but are classified in almost all countries and thus lack transparency. It is therefore difficult to establish clear criteria for reserving space for national defence purposes. As this creates conflict it should be taken on board by maritime policy.
- Fishery obviously has a lot of impact and knowledge of its spatial dimension. However mainly due to commercial interests, not only does it not disclose this information from maritime spatial planners, but has also failed to developed and formulate a clear policy and strategic line among its own stakeholders. The same is true for shipping. Both sectors are critical stakeholders due to their importance for maritime space. They have often been critical of MSP as they have so far benefited from the "open space" approach predominant in the sea.
- Generally every attempt must be made to bring maritime sectors together into an overall process of communication and exchange of knowledge.

04. Maritime policy should explore synergies between different policies.

No consideration of synergies

- In most Baltic Sea Regions mussel or algae cultivation is not profitable if merely regarded from the perspective of commercial products. It may, however, pay off if combined with marine conservation policy (nutrient reduction). Thus aquaculture policy should for instance be better coordinated with energy or environment protection policy. Such synergies would improve the efficiency of using maritime space.

05. Maritime policy should pay more attention to multi-layer and cross-sectoral governance.

Little correlation between regional & national policies

- Policies run at different levels of public administration and by different authorities show little correlation with regard to maritime issues. There is for example little correlation between local and regional spatial plans, between national port development strategies and regional or local developmental strategies, between national energy policy and spatial plans at the regional and local level, or between fishery

policy and relevant spatial policies at regional and local levels, for instance compensating for downsizing in the fishery sector.etc.

06. Maritime policy should pay attention to land-sea integration

- Key issues include the technical infrastructure needed to connect marine uses to the mainland, such as connecting marine mining areas and areas of renewable energy generation with relevant land-based facilities.
- Coastal protection should be seen from a dual perspective, namely the preservation of coastal settlements and the preservation of maritime habitats.
- Coastal development, in particular tourism-related, should take into consideration maritime perspectives, e.g. the protection of marine habitats etc.

Little correlation between land & sea policies

07. Planning processes should be adapted in order to strengthen the land sea integration taking into account the following considerations:

- Because of the diversity of institutional arrangements, problem-related arrangements will be needed for different planning regions. These should, however, be based on the same main strategic principles:
  - Economic development will benefit from better links between economic planning and spatial planning. The regional level is important for economic development and should be able to be more active in strategic maritime spatial policy making. The core topics and drivers for coastal zones, i.e. recreation and tourism, ports, maritime clusters and innovation need to be connected to offshore maritime spatial plans or included in national coordination.
  - Proper coordination has to be achieved between MSP as a planning instrument at national level and territorial planning of coastal municipalities. National interests reflected in MSP have to be taken into account in local territorial plans, and vice versa, i.e. local territorial plans should also be considered during the elaboration of MSPs. For this purpose, coordination at regional level has to be improved and tools developed to interact more effectively with national MSP development.
  - In countries, where this is not yet the case, planning competences of local authorities could be extended into coastal waters (for example up to 5 m depth) to enable the development of coastal infrastructure, sea related tourism activities, port development and coastal fishery. Accordingly the coastal zone could be planned on a more detailed level, corresponding to the scale of local territorial plans.

Link economic with spatial planning

Link national MSPs with coastal planning

Extend planning competences of local authorities

A NEED FOR NATIONAL PRIORITIES

Throughout Baltic Sea countries there is a lack of clearly defined national priorities for maritime space. The policy framework gives few spatial objectives or targets which could act as a decision base for maritime spatial planning.

A lack of priorities and measureable targets

National priorities should be derived from the needs and priorities set by the various sectors. They should be developed in an integrated cross-sectoral approach in order to resolve and mitigate conflicts between competitive activities and interests. All policy priorities should be specified by means of nationally agreed quantitative development targets and indicators. National maritime policy targets should also take into account pan-Baltic cooperation and the objective of harmonising sea use activities across the Baltic Sea.

FROM PAN-BALTIC TARGETS TO NATIONAL PRIORITIES … SOME EXAMPLES:

PAN-BALTIC TARGETS AND COOPERATION	NATIONAL PRIORITY SETTING
ENERGY	**ENERGY**
• Agreement on developing a transnational energy transmission infrastructure for the purpose of connecting offshore wind farms to the grid. This should serve as a basis for decisions on wind farm capacities.	• Policy planning document or legislation on wind farm development in the EEZ.
• Pan-Baltic agreement on the maximum area to be taken up by wind energy and other artificial structures.	• Deciding on development targets for offshore wind energy production, economically well-grounded (as well as ecologically acceptable) area allocation and solutions for connecting wind farms to the national or pan-Baltic electricity grid. Wind energy producers should be obliged to feed the energy generated into the national grid.
TRANSPORT/TECHNICAL CORRIDORS	• Setting priorities in territorial waters for renewable energy production and safety.
• Co-operation on establishing intelligent transport corridors in the most intensively used navigation areas, as well as international corridors for technical infrastructure.	**ENVIRONMENT**
• Information exchange and communication on areas dedicated to technical underwater infrastructure.	• Allocating priority areas for fish reproduction and ecosystem conservation, the preservation of cultural heritage and the coastal landscape.
ENVIRONMENT	• Defining priority areas for nature conservation in territorial waters by designating marine protected areas.
• Pan-Baltic targets on habitat and maritime landscape conservation.	• Securing the interests of coastal fisheries by promoting new forms of sea use. Local coastal communities are economically and socially dependent on fishing activities and also on fish processing which provides jobs for a large share of the costal rural population.
• Maintenance of international blue corridors.	
• Co-operation on sea ranching covering not only fish breeding but also keeping rivers accessible for fish for spawning.	

FACILITATING MSP VIA POLICY DEVELOPMENT

The above has shown a clear need for developing cross-sectoral national maritime policies. MSP is an important tool for implementing these. At the same time, maritime policy should also facilitate the development of maritime spatial planning as such.

BaltSeaPlan partners recommend focus on the following issues:

- Establish a proper legal basis for MSP in the countries where such legal basis is still missing (including land-sea planning harmonization and a hierarchical planning system)
- Establish clear priorities which MSP can use for solving conflicts in national maritime areas,
- Develop an information base for MSP which is policy and not research driven,
- Develop a research agenda for MSP, e.g. to establish the impacts of different sea uses,
- Develop decision support models for MSP
- Develop methodologies for new types of planning (e.g. no human interference areas, no exhaust gas areas, blue corridors, intelligent corridors etc.)
- Develop human capacity for preparing MSP.

MSP:
A maritime policy field in itself

Developing the Pan-Baltic Vision 2030

What future do project partners envisage for marine space in the Baltic in 2030? How can MSP help to achieve this vision? Moving away from national perspectives, the idea of a broader "vision" was to take a holistic view of Baltic Sea space, proposing an ideal outcome for the entire Baltic Sea from the perspective of maritime spatial planning.[20]

Rather than fully idealised, it was decided that the vision should be grounded in actual developments and existing objectives for Baltic Sea space. International policy is a driver of developments in the field of renewable energy or nature conservation for example, and there are clear trends in sectors such as shipping that point to future growth. The vision thus extrapolates from the "givens" already set for the Baltic to an imagined future where MSP has been fully implemented across the Baltic according to jointly developed principles. As such, the BaltSeaPlan Vision 2030 is actually a BaltSeaPlan roadmap towards 2030.

A roadmap towards achieving the vision

Developing the vision took several steps. The first preparatory step was to draw together international and national sectoral trends and (where possible) targets for the Baltic and to analyse the current international policy framework which acts as a driver of developments. This was followed by the development of the actual vision, which includes general pan-Baltic planning principles, suggestions for dealing with transnational sea uses, and structures necessary for implementing the vision.

PREPARING FOR A PAN-BALTIC PERSPECTIVE 1: CROSS-SCALE IMPLICATIONS OF INTERNATIONAL POLICIES AND PRESSURES

A comprehensive analysis was carried out of existing international and national policy drivers as a way of identifying key future pressures on the Baltic Sea and possible MSP responses. Analysis showed the cross-scale implications of such policies, demonstrating how the theoretical policy stage translates into real life pressures which then need to be dealt with nationally or locally.

From theoretical policy to real life pressures

Climate change is an example for a policy area where these cross-scale implications become particularly apparent. International policy is one of the key drivers behind the formulation of renewable energy targets. Although these targets are not mandatory in a legal sense, they do come with a specific timeline set out at EU level. Various national targets have thus been formulated for renewable energies and incentives put in place for offshore wind farming, which in turn has lead to high dynamism in the sector. Offshore wind farming, together with the necessary cable connections to the mainland, thus emerges as one of the most important emerging pressure on Baltic Sea space.

Climate change:
→ driving renewable energy
→ and thus offshore wind energy

The interplay between international policy and possible MSP responses can also be highlighted for marine conservation. International policy aims include the improvement of water quality and maintenance of ecological health; this leads to calls for more sewage treatment plants, networks of protected areas, or buffer zones for shipping lanes so that potential collision risks are kept as far away as possible from sensitive habitats.

Environmental policy drivers
→ leading to Marine Protected Areas or buffer zones

20 BaltSeaPlan Report No. 8: Towards a Common Spatial Vision: Implications of the international and national policy context for Baltic Sea space and MSP, and Gee, K., Kannen, A., Heinrichs, B. (2011): BaltSeaPlan Vision 2030: Towards the sustainable planning of Baltic Sea space. www.baltseaplan.eu

The following list summarizes trends and pressures identified during policy analysis in key sectors. They have been linked to implications, potential policy responses and relevance for MSP. This type of analysis provides a useful overview of potential spatial implications of sectoral trends, as well as a list of potential planning responses to be considered.

LIST OF TRENDS AND PRESSURES IN KEY SECTORS, LINKED TO IMPLICATIONS, POTENTIAL POLICY RESPONSES AND RELEVANCE FOR MSP

TRENDS AND PRESSURES	IMPLICATIONS	POLICY RESPONSES COMMONLY CALLED FOR:	RELEVANCE FOR MSP IN TERMS OF:
Intensification of fishing/overuse compared to available resources (growth also in recreational fishing)	reduced fish stocks	restore habitats in inland waters	take into account in siting decisions for other uses
		reduce overfishing: e.g. set maximum limits, use selective fishing techniques	designation of fishing zones
		increase resilience of marine ecosystems, fisheries management	spawning/nursery areas (offshore wind farms as nursery areas)
Growth in container, passenger and oil transport	increased shipping frequency, larger ships, increased feeder traffic, increased risk of accidents	expand port facilities; focus on intermodal transport chains; slow steaming to reduce pollution; minimise accident risk;	traffic separation zones, safety zones to fixed installations
Continued investment in offshore wind farming	new offshore wind farms to be established (planning permission already granted, search areas established)	sensitive siting	siting decisions, designation of suitable areas/unsuitable areas
New cables in connection with offshore wind, some few new data cables and gas pipelines	no anchor zones restrict other sea uses, no trawling, disturbance of sea bed		bundling of offshore wind cables, a dedicated grid, temporary safety zones during construction
Investment in port structures to accommodate growth in transport sector	increased need for dredging, space for port expansion, restrictions on other uses	integrated transport planning	(temporal) zoning in port areas
Growth in coastal tourism	new marinas, new tourism infrastructure,		temporal zoning to reduce conflicts in inshore waters
An expanding network of Marine Protected Areas	restrictions on other uses	zoning schemes, effective land-sea integration (agricultural run-off)	establishing compatibilities of use, (temporal) zoning and management approaches to be applied

From BaltSeaPlan Report No. 8

PREPARING FOR A PAN-BALTIC PERSPECTIVE 2: SECTORAL ANALYSIS AT THE NATIONAL LEVEL

In order to understand the "givens" for the future development of the Baltic Sea, policy priorities and existing spatial targets also need to be collated for individual countries. Given the lack of clear spatial targets and priorities provided in policies, BaltSeaPlan partners had to go back to expert judgement for identifying spatially relevant trends in each of the key sectors.

Expert opinions rather than policy targets

Comparison of results shows offshore wind farming, port development and shipping, nature conservation (Natura 2000), and the extractive industries (sand and gravel, oil and gas) to be the sectors with the greatest future impact on marine space. They are also sectors with a transnational dimension. MSP is a relevant tool of intervention for all of these.

The example of offshore wind farming

The figures below were calculated based on the available national information. Individual countries operate to different time horizons, rendering direct comparison difficult. Also, different conversion rates are employed to calculate the area needed to achieve a certain output in MW. In the national surveys, estimates of MW/km² range between 4 and 7.6. Here we use 4.54 (DK) as a reasonable average to calculate area needs and the percentage of national marine space to be allocated to offshore wind farming.

SPATIAL NEEDS OF OFFSHORE WIND FARMING

	DK	DE	EE	LT	LV	PL	SE	COMMENTS
TOTAL MW PROJECTED (SUM OF EXISTING/ PLANNED/ APPLIED FOR)	2872	3435 (max. applied for territorial sea/EEZ)	2200 (applied for)	1850 (1000 realistic)	1375	1500 (to be installed by 2020) 10.000 max. potential*	2500 (= 10 TWh)	*assuming full use of potentially suitable areas, with 4MW/km²
TIME HORIZON	2025	2030	2018		2030	2020	2020	
AREA REQUIRED (KM2) (AREA = MW/4.54)	632	757 (max. applied for)	484	407 (600 under EIA, ~ 200 realistic)	302 (800 search area, 200 reserved)	330 for 2020 target. (2500 defined as suitable area)	550 (500 conditional interest area)	calculated figures except for figures in brackets
% OF NATIONAL MARINE SPACE	1.39	4.9	1.33	6.25 (3.07 more realistic)	1.05	5.95	0.33	calculated figures based on HELCOM total space
TREND	growth 7.6-fold increase expected in coming 15 years.	growth	growth	growth. Grid link to SE planned.	growth	growth	little growth. Possible alternative wave power	as estimated by partners

Adapted from BaltSeaPlan Report No. 8

PREPARING FOR A PAN-BALTIC PERSPECTIVE 3: IDENTIFYING SECTORAL TRENDS

Analysis of international trends and country-specific information was subsequently combined in an analysis of the expected dynamism of key sector and their possible developments until 2030.

A sketch of the future rather than a forecast

TRENDS EXPECTED IN KEY SECTORS

SECTOR	CURRENT DYNAMISM	DEVELOPMENT EXPECTED UP TO 2030
mariculture	0	slow growth so far, may pick up in future
military activity	0	no information available
oil and gas exploration	0	4 platforms continue to operate; granting of new licences depends on political framework, less significant than oil export/transport from RU
sand and gravel extraction	0	expected to remain stable
cable and pipeline construction	+	Plans for more gas pipelines & electricity cables; possible development of a Baltic SuperGrid would add to total length of electricity cables.
coastal tourism	+	Coastal tourism and recreation (e.g. boating, fishing) will continue to grow. Strong increase in cruise tourism expected.
fishing	+	Pressure on fisheries to continue; growing importance of protected areas, nurseries, and sustainable fisheries management
landscape protection (coastal and marine)	+	Marine landscapes gradually to gain importance; coastal landscape important for tourism.
Marine Protected Areas	+	Aim to create representative network of MPAs; up to 30 % of Baltic Sea area would be needed to meet 20 % representation target for habitats; management plans expected as well as links to MSFD
offshore wind farming	+	significant growth of total MW produced offshore; increase in the total sea area dedicated to offshore wind farming
dredging for ports	++	More dredging to be expected to cater for larger ships at hubports
ports (incl. LNG terminals)	++	Some port considerable extension plans; investments for deeper channels & landward cargo handling facilities; Connections to hinterland essential.
recreational boating	++	increase in parallel with expansion of tourism
seafloor habitats (reefs)	++	Added protected zones likely to be established as more data becomes available
shipping (goods, passengers)	++	continuous increase in number of ships, shipping frequency and volumes transported
shipping (oil)	++	continuous growth in oil transportation & size of tankers; Gulf of Finland significant location of main oil terminals
transport infrastructure on land	++	investments in rail and road infrastructure expected, but will take time. Focus on main transport axes and access to ports.

BaltSeaPlan Report No. 8


Transnational Connectivity

SPATIAL IMPLICATIONS OF THE TRENDS IDENTIFIED

Dynamic growth does not always translate into large demand on space

Dynamic growth in a sector, however, does not automatically translate into significant spatial requirements. A sector that is showing strong growth may still be minor as far as its overall spatial needs in the Baltic are concerned. This is the case for offshore wind farming for example, which is far more significant in terms of spatial requirements in the North Sea than the Baltic. Nevertheless, the impact of offshore wind farming on habitats and other sea uses may still be considerable.

Sector targets ≠ spatial strategy

Another point is that even for sectors where specific targets exist, these do not automatically translate into actual use of space. Specific targets exist in most countries for offshore wind farming (either in terms of total MW to be achieved, or the total number of turbines to be built by 2030, or the total TWh to be generated), but this does not automatically translate into approved projects or project applications in all countries.

Same targets – but relative importance on countries' maritime space may differ

Also, even though sectoral trends are similar across countries, their national spatial relevance may still differ widely. This is because different Baltic Sea states commit different percentages of their waters to a particular use. Taking offshore wind farming as an example, the difference between the total MW projected in Germany (3.435) and Sweden (2.500) might not look very significant. However in terms of percentage of maritime space required these plans take up 5 % of German waters compared to merely 0.33 % in Sweden, which is a significant difference.

Amount of space allocated for a given sector: not a sufficient criteria

With respect to environmental issues, two aspects stand out. One is that the call for achieving "good environmental status" for all water bodies by 2020 does not automatically translate into more space required for conservation as spatial instruments may not be the only instrument of choice for achieving good environmental status. At present, none of the Baltic Sea countries aim to designate more marine protected areas. The other aspect relates to Natura 2000 areas. There is an assumption amongst BaltSeaPlan partners that many Natura 2000 areas have been designated without sufficient regard to habitat quality; there is also a lack of management measures and their enforcement. Germany and Poland are currently working on management plans for Natura 2000 sites.

Implications for pan-Baltic spatial vision

What does this imply for the development of a pan-Baltic spatial vision? One lesson is that the real pressures resulting from the current trends are more readily identified from the compatibility of uses rather than the total spatial requirements of individual sea uses. Another lesson is that Natura 2000 sites are contested with respect to their spatial extent and compatibility with other sea uses. Countries also differ with respect to the importance they assign to certain trends and sectors, making it difficult to agree on a common approach. Lastly, it is impossible to plan for all sea uses in the Baltic purely based on ideal natural conditions or the most suitable areas overall: It would be impossible for instance to bundle offshore wind farming in one part of the Baltic rather than taking a national perspective.


15
June

THE BALTSEAPLAN VISION: PRINCIPLES FOR ALLOCATING SEA SPACE

From MSP principles to planning principles

As a first step in developing their vision for pan-Baltic MSP, BaltSeaPlan partners took into account the existing ten principles for MSP developed by the EU and those adopted by the HELCOM/VASAB working group on MSP. Although they represent a good baseline, they were not considered sufficient for guiding pan-Baltic MSP in the future.

EU MSP PRINCIPLES[21]

- Use MSP according to area and activity
- Define objectives to guide MSP
- Develop MSP in a transparent manner
- Ensure stakeholder participation
- Ensure coordination with Member States and simplify decision processes
- Ensure the legal effect of national MSP
- Engage in cross-border cooperation and consultation
- Incorporate monitoring and evaluation in the planning process
- Achieve coherence between marine and terrestrial spatial planning – establish a relations with ICZM
- A strong data and knowledge base

HELCOM – VASAB MSP PRINCIPLES[22]

- Sustainable management
- Ecosystem approach
- Long term perspective and objectives
- Precautionary principle
- Participation and transparency
- High quality data and information basis
- Transnational coordination and consultation
- Coherent terrestrial and maritime spatial planning
- Planning adapted to characteristics and special conditions at different areas
- Continuous planning

The vision puts forward a sustainability approach to spatial development. Humans are regarded as an integral part of the ecosystem and dependent on ecosystem services and benefits. Sustainability means that economic, social and ecological interests are balanced in every case of spatial decision-making.

BaltSeaPlan partners developed a further set of key principles that are instrumental in ensuring that Baltic Sea space and the Baltic Sea environment are planned sustainably.

Pan-Baltic thinking …

The Baltic Sea: one planning space and one ecosystem

… regards the Baltic Sea as one planning space and ecosystem at all stages of the MSP process. Pan-Baltic thinking means that planners should always consider the long-range impacts of uses and base their decisions on long-term sustainability and quality objectives that have been specified and jointly agreed for the environment, economy and social sphere. These take into account the carrying capacity of the sea and acknowledge that different priorities make sense in different areas of the Baltic. Given that MSP should facilitate fair distribution of advantages and disadvantages of human use of the sea, no region should a priori be precluded from being able to develop its potential in a sustainable way.

21 Communication from the Commission - Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU (/* COM/2008/0791 final */)

22 Helsinki Commission, Meeting 13–14 April 2010. Maritime Spatial Planning: Joint HECOM VASAB principles and Working Group, HELCOM HOD 31/2010, Annex 1.

Spatial efficiency …

Maritime space:
A valuable public good

… postulates that sea space is a valuable public good that must be used sparingly and carefully. The sea should not be used as a repository for problematic land uses. The impact of sea uses on the wider Baltic should be minimized.

Immovables, i.e. existing resources, large infrastructure or habitats, have priority in the allocation of space. Rather than breaking fresh ground for additional uses, planners do their best to promote co-use of sea space, making good use of synergies wherever possible and appropriate. At the same time the principle also translates into declaring some areas as "no-go areas" to be kept free from all but fleeting or temporary uses – for environmental, cultural or resource related reasons.

Connectivity across Baltic Sea space …

Connecting across planning areas

… means that planners do not only think about their own backyard, but focus on the connections of a given use or habitat to other areas or other uses or habitats. Linear elements connect patches of use across national borders, such as shipping lanes connecting ports or transmission cables connecting offshore wind farms to the mainland grid. Linear elements should be planned in such a way that patches of a particular type of use or function are connected as efficiently as possible. Considerable spatial advantage is for instance gained by bundling linear structures in designated corridors where possible. Migration routes for birds and so-called blue corridors for fish also represent linear planning elements, safeguarding important connections between spawning or breeding areas and feeding grounds. Measures would need to be agreed on how to achieve such bundling.

In order to facilitate the planning of patches, non-spatial sectoral plans including sectoral objectives need to be drawn up. Linear structures should be planned at pan-Baltic level; these should then form the backbone of national maritime spatial plans.

A pan-Baltic approach to transnational topics

Four core transnational spatial topics

Transnational agreement must be reached on those topics:

- which are of particular importance for the sustainable development of the Baltic Sea Region,
- where all Baltic Sea states are affected by future developments in these topic areas,
- where the impacts of siting decisions go beyond the boundaries of national waters.

These topics are:

- A healthy marine environment
- A coherent pan-Baltic energy policy
- Safe-clean and efficient maritime transport
- Sustainable fisheries

Allocation of space in these four areas needs to be based on a Baltic Sea wide environmental assessment and – where applicable – a socio-economic cost-benefit analysis in order to identify the most suitable areas. General objectives and targets are not set nationally, but for the Baltic Sea region as a whole, allowing Baltic countries to contribute more or less to a particular policy target as long as the overall objective is guaranteed. Transnational MSP solutions are developed based on these.

VISIONS FOR KEY TRANSNATIONAL TOPICS

For all four transnational topics BaltSeaPlan partners not only developed a vision of the given sector, but also laid out the respective spatial planning implications. The following table shows the main points for each topic:

VISION 2030	SPATIAL PLANNING IMPLICATIONS
A HEALTHY MARINE ENVIRONMENT	
Good Environmental Status achieved: • Pollution and nutrient inputs substantially reduced • Good water quality achieved • Important biota & habitats protected • High biodiversity achieved	MSP based on ecosystem approach: • Habitat connectivity is ensured • Research is more spatially focused; natural science research forms basis for quality objectives → Environmental data is translated into spatial information • Transnational evaluation criteria have been developed • Impacts of uses are evaluated across borders
COHERENT PAN-BALTIC ENERGY POLICY	
• The Baltic Sea Region relies on as much renewable energy as possible • An allocation has been achieved between BSR countries in terms of which renewables are to be realised where depending on specific conditions; some countries will be net importers/others net exporters of renewable energy • Offshore windfarming has been realised in suitable areas	• A pan-Baltic energy infrastructure (SuperGRID) is in place • Land-/sea-based grids are well integrated • Cable connections/oil & gas pipelines are bundled in corridors • Sufficient space is set aside for renewable energy aims • Co-uses are promoted, but only in locations outside risk and sensitive areas based on environmental pre-screening and risk assessment of sites
SAFE, CLEAN, EFFICIENT MARITIME TRANSPORT 2030	
• Sea transport is an integral part of wider Baltic Sea Region transport policy with well-planned hinterland connections • Separation schemes are in place – safe and efficient (faster) shipping takes place along designated routes • Ships use clean fuel and ports have adapted to this	• Port development and shipping lanes are based on integrated view • Intelligent corridors / routes; which are not impeded by fixed installations, are established • The rearrangement of shipping lanes possible • Areas are established, where shipping needs to be avoided or is not possible at all or only with compulsory pilotage systems put in place • Transnational contingency planning is in place
SUSTAINABLE FISHERIES & AQUACULTURE	
• Baltic Sea fisheries (incl mariculture) deliver high quality food and are managed in such way that sustainable stocks are secured & integrity of ecosystems is preserved • Established fishing practices in the Baltic are supplemented by extensive sea ranching schemes • Marine aquaculture (incl. algae cultivation) has gained relevance and is only allowed where environmentally sound	• Blue corridors for fish are guaranteed • Spawning & nursery areas are protected • No-takes rules and management practices have been implemented • Areas for marine aquaculture have been carefully selected • Fisheries management legislation has been revised according to MSP needs

Adapted from BaltSeaPlan Vision 2030

STRUCTURES & PROCESSES REQUIRED TODAY TO ACHIEVE THE SPATIAL USE OF TOMORROW

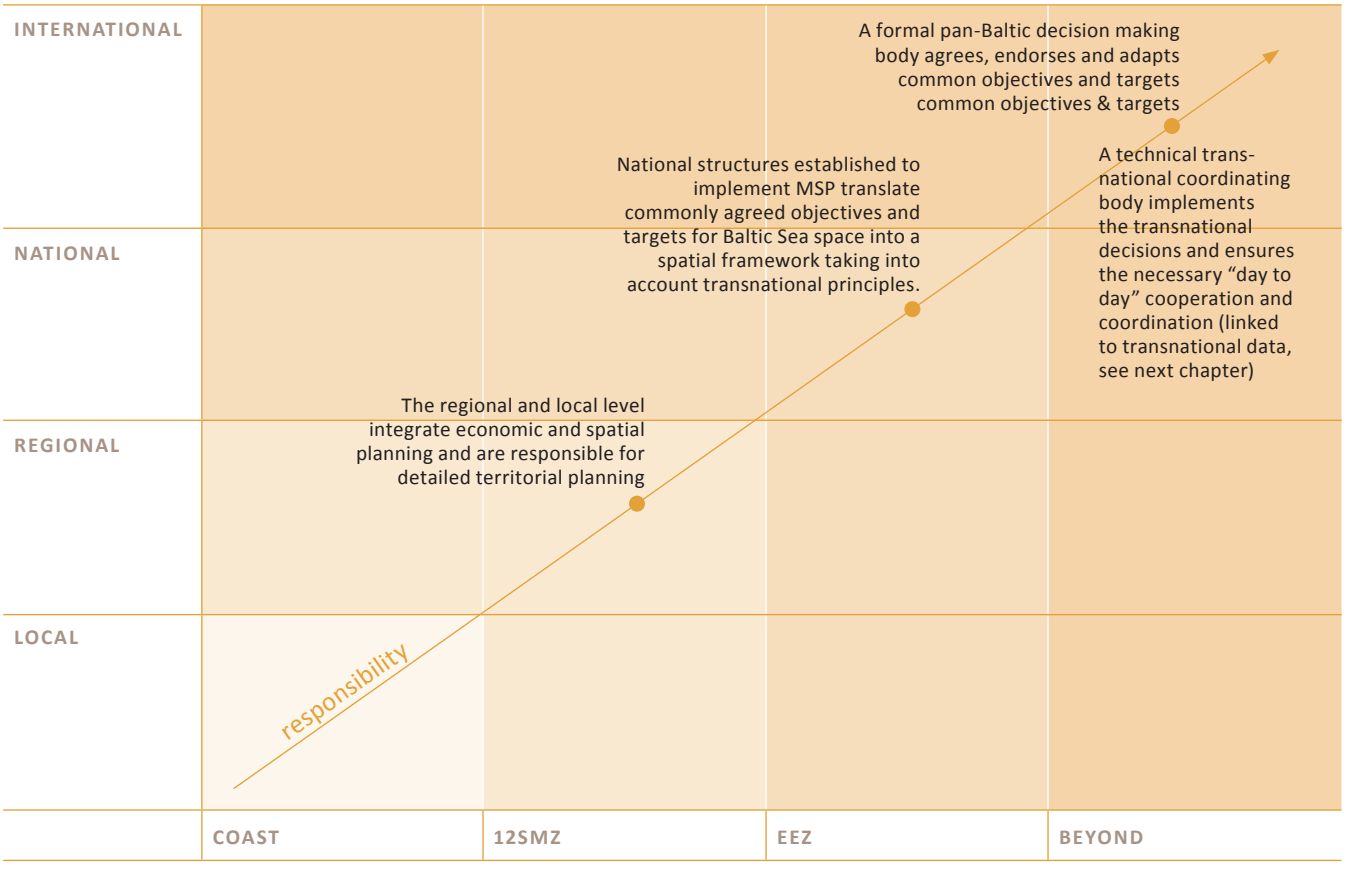
Transnational agreement is not about giving up sovereign rights level. On the contrary, the implementation of the common vision and its principles depends on input by and agreement with national stakeholders. National maritime spatial plans are the primary means for translating the commonly agreed objective and targets for the Baltic Sea into a tangible spatial framework. National plans in turn should be closely aligned with the sub-national level. MSP should therefore be understood as a cooperative practice that involves several spatial and administrative levels. There is also the issue of continuity: A local plan, for instance, only makes sense if its key objectives do not contradict what is said in the regional plan.

A seabasin approach requires strong regional and national MSP implementation

This process encapsulates the basic philosophy behind the principle of spatial subsidiarity developed by BaltSeaPlan partners: Facilitated by appropriate structures and processes at national and international level, spatial challenges should be dealt with at the lowest most appropriate spatial level.

Subsidiarity:
Spatial challenges should be dealt with at lowest possible level

DIFFERENT ROLES & RESPONSIBILITIES IN MSP (A POSSIBLE SET UP)



THE BALTSEAPLAN VISION AS A STIMULUS FOR NATIONAL & INTERNATIONAL DEBATE ON MSP

The set of BaltSeaPlan recommendations developed within the Vision 2030 and the analysis of strategies with impacts on maritime space were used in a series of round table debates organised at the national and transnational level.

BaltSeaPlan collaboration with various inter-ministerial groups in Latvia

The Latvian Baltic Environmental Forum invited competent authorities to join the co-ordination group for providing political backstopping in development of the Latvian MSP pilot project. During the Project implementation time, the co-ordination group met four times as well as took active part in other events organised by the project. The group did not only follow the developments of the pilot project, but also extensively discussed the BaltSeaPlan discussion papers. Furthermore the project collaborated closely with the Inter-Ministerial working group on Integrated Maritime Policy , established by the Cabinet of Ministers of Latvia in 2010 and co-ordinated by the Ministry of Transport, as well as the Inter-Ministerial consultative group on MSP, co-ordinated by the Ministry of Environmental Protection and Regional Development.

The Latvian coordination group consisted of representatives from the

- *Ministry of Environmental Protection and Regional Development (Spatial planning, environmental protection, nature conservation departments),*
- *Ministry of Transport (Development planning department)*
- *Ministry of Economy (Energy Department)*
- *Ministry of Agriculture (Fishery Department)*
- *Ministry of Defence (Defence planning unit)*
- *Maritime Administration of Latvia*
- *Ministry of Culture (State inspection for heritage protection)*
- *Kurzeme Planning region*
- *Association of Local authorities*
- *Latvian Institute of Aquatic Ecology*

The WWF roadshow on MSP

In 2011 the WWF Germany Baltic Sea office, in co-operation with BaltSeaPlan partners, organised three all-day workshops on MSP in Latvia, Estonia and Finland. The workshops addressed the national situation, conflicts, challenges and progress of MSP in each country. This was set against the developments of MSP as seen from a European and Baltic Sea wide perspective and the experience of Germany and Sweden in how their administrative systems have adapted to MSP processes.

Helcom-VASAB WG on MSP & European MSP groups

At the Baltic Sea wide level the HELCOM/VASAB working group on MSP served as an important forum for discussing the BaltSeaPlan Vision 2030. In view of the general quality of many recommendations and their transferability to other sea-basins, BaltSeaPlan principles and messages were also discussed in European fora on MSP.

Throughout all these meetings, however, the "visionary" quality of BaltSeaPlan recommendations became obvious[23] given the following:

01. Lack of tradition/experience in cross-sectoral discussions and priority setting

Joint win-win solutions & spatial priorities:
New concepts

In many cases BaltSeaPlan was the first attempt to apply integrated cross-sectoral spatial planning principles within marine waters. Previous experiences in planning for marine areas mostly targeted particular sectors, e.g. navigation, fishery, oil mining, allocation of space for potential wind farms or management plans for Marine Protected Areas. As a result there has been very little experience in cross-sectoral discussions and searching for win-win solutions or compromises among representatives of different competent authorities – each sector regards its own goals and targets as national priority, which other sectors should respect. Setting spatial priorities for particular use within particular area turned out to be a rather difficult concept which is not always understood and accepted. Therefore, especially in the beginning, the gains to be obtained from MSP are not always fully realised.

02. Lack of Pan-Baltic perspective in thinking about use of marine resources

Benefits of pan-Baltic perspectives not clear enough

Discussions with stakeholders and competent authorities showed difficulties in perceiving the Baltic Sea as one planning space and ecosystem. It is difficult for national authorities to conceive of the Baltic as a space where MSP would need to implement commonly agreed goals and targets. National authorities are reluctant to give up rights over national marine space and resources, and the common responsibilities for the Baltic and the benefits of a shared approach are not sufficiently clear.

There is much need for more active involvement of the national and local stakeholders within the international debate about the future of the Baltic Sea. It is on this basis that the follow-up project "PartiSEApate" has been created (see back cover).

23 Adapted from BaltSeaPlan Report No. 16, discussed and agreed by all other project partners

4

DATA AND INFORMATION FOR MSP

DATA AND INFORMATION FOR MSP

A unison call for better and relevant data

MSP crucially depends on data and knowledge about the sea as a resource as well as the human activities impacting on it. Shortages with respect to data and knowledge have been an issue ever since the first publications on MSP. The PlanCoast Handbook on MSP (April 2008) already called for the "improvement of quality, comparability and accessibility of spatial data by implementing the EU INSPIRE Directive" and recommended systematic information exchange (e.g. by bringing together coastal and marine data collection and management in one institution and creating a regularly updated coastal and marine cadastre). It also recommended collecting data according to need (e.g. regular monitoring of relevant trends and additional data collection in response to specific spatial problems). Both the EU principles and the HELCOM/VASAB principles on MSP acknowledge these recommendations. The BaltSeaPlan Vision 2030 also stresses data and information as a key success factor.[24, 25]

Current knowledge conditions

BaltSeaPlan: The first assessment of data for MSP in the BSR

BaltSeaPlan was the first project to seriously assess existing data and information sources around the Baltic Sea. Naturally, many other initiatives and projects such as the HELCOM Geo-Information Database exist on a national and transnational scale, but until BaltSeaPlan no systematic analysis had been undertaken to assess their relevance and usability for maritime spatial planning throughout the Baltic Sea Region in general and the BaltSeaPlan pilot areas in particular.

Two main sets of questions emerge. The first is related to data availability. Are relevant data available at all, are they reliable and in the right format, and where can they be obtained? This leads to questions surrounding the data infrastructure across the Baltic and suggestions for collating dispersed data sources and improving access to quality data for MSP. The second is related to data gaps and the information essential to MSP as a forward-looking instrument of planning. What data is essential for MSP versus simply nice to have? What are the most urgent data gaps, and how can research best strive to fill them? And how can maritime spatial plans be drawn up despite ongoing information gaps? Based on the actual experience of the partners with the basic stocktake, this chapter looks at both of these questions in turn.

EXPERIENCES WITH THE BASIC STOCKTAKE

Any maritime spatial planning exercise has to start with a basic stocktake in order to provide planners with a sense of the context and environment in which they operate.

The analysis of strategies with impact on the given pilot maritime area provided some initial background information on the political and institutional context, indicating the main pressures and driving forces likely to shape coastal and marine development in the near future. This information, however, is rarely spatially explicit. In order to get an over-

24 Communication from the Commission - Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU (/* COM/2008/0791 final */)

25 Helsinki Commission, Meeting 13–14 April 2010. Maritime Spatial Planning: Joint HECOM VASAB principles and Working Group, HELCOM HOD 31/2010, Annex 1.

view of the current situation in the respective pilot areas, project partners therefore moved on to the next step in the preparatory phase of MSP, which is to gather and map a range of baseline information for the sea area in question. The aim of this exercise is to create an overview of the following:

- the administrative context sea: boundaries at sea
- the physical/biological context: bathymetry/ecology incl. habitats/geology/oceanography/climate data/indices (vulnerability, biodiversity etc.),
- human activities (present/planned/relevant former activities/functions)
- designated areas and regulations (MSP/national, IMO, EU etc.)
- designated areas for nature conservation (national/EU/HELCOM/UNESCO etc.)

Better data on uses than environment

The pilot projects showed that even this supposedly simple exercise is difficult to complete. Although spatial data on current uses was more or less available (albeit difficult to obtain), spatially relevant data on the coastal and marine environment was often missing entirely.

CURRENT USES MAPPED

	POM. BIGHT	MIDDLE BANK	PÄRNU BAY	HIIUMAA	LITHUANIA	LATVIA
SHIPPING	✓	✓	✓	✓	✓	✓
NATURE CONSERVATION (1) no protected areas in pilot (2) suggested new areas	✓	✓ (1)	✓	✓	✓ (2)	✓
MINING (SAND & GRAVEL)	✓	✓	✓	✓	✓	✓
FISHERY	✓	✓	✓	✓	✓	✓
ENERGY (OFFSHORE WIND) (1) hydrocarbons	✓	✓	✓	✓	✓	✓ (1)
TOURISM	✓		✓	✓		✓
CULTURAL HERITAGE					✓	✓
DEFENCE: (1) dumping sites (2) miltary training		✓ (1)	✓ (2)	✓ (2)	✓ (1)	✓ (1+2)
LINEAR INFRA-STRUCTURE	✓	✓	✓	✓	✓	✓

studies by BSP

AVAILABLE INFORMATION ON THE NATURAL ENVIRONMENT

	POM. BIGHT	MIDDLE BANK	PÄRNU BAY	HIIUMAA	LITHUANIA	LATVIA
SEABED	Morphology, Sediments (BALANCE), Bathymetry (mapped)	Geology and bathymetry (both mapped)	General Description	General Description	Sea bottom morphology and lithology (mapped)	General Description of sea bottom
WATER	Salinity distribution (modelled)	Bottom and surface salinity and temperature (mapped Aarhus Uni)	General Description: temperature	General Description: salinity	General description temperature, salinity	
CLIMATE	% of ice coverage (mapped) Wind speed at 100m height above sea level (mapped)	% of ice coverage (mapped) Wind speed at 100m height above sea level (mapped)	General Description: ice coverage		General Description: Ice coverage Wind & currents wave regime	General description including ice coverage and wind
BENTHIC HABITATS	Benthic habitats (Balance Model) Info on species numbers BUT => No comparable spatial data for whole project area	General description on benthic habitats	Benthic habitats (modelled)	Benthic habitats (modelled)	Information due to newly proposed areas (mapped)	Description of the Ecological value (map of high ecological value areas in stocktake)
SEA BIRDS / MIGRATION BIRDS	Bird habitats and conservation areas, Bird migration routes (mapped)		General description	General description	General description	General description
FISH	Spawning areas for cod (mapped)	Cod occurrence (mapped) Fish species	General description	General description	Fish Study	Fish Study
HARBOUR PORPOISE	Important Areas Occurrence	Occurrence (mapped)	General description	General description		

studies by BSP

Much ecological data is available, but it does not come in a spatial format, allowing only rather general descriptions of habitats and bird and fish distribution as shown below. This is also evidenced by the ecosystem evaluation framework, which shows the knowledge status of key ecological attributes in some of the selected BSP pilot areas based on contributions from project experts, various modelling efforts and relevant literature sources. Even though the general characteristic of the coastal and marine environment can be described in terms of basic oceanographic data, habitat data – even in protected areas (Natura 2000) – was found to be insufficient as to provide a basis for spatial planning decisions.

BALTSEAPLAN ECOSYSTEM EVALUATION FRAMEWORK – KNOWLEDGE STATUS OF KEY ATTRIBUTES

	KATTEGAT/ DANISH STRAITS	POMERANIAN BIGHT (GERMANY)	POMERANIAN BIGHT (POLAND)	PÄRNU BAY/ HIIUMAA AND SAAREMAA ISLANDS	BALTIC SEA WIDE
OCEANOGRAPHY					
Ocean current patterns and variability					
Rate and frequency of water mass renewal and exchange					
Surface temperature/salinity					
Bottom temperature/salinity					
Light penetration					
Wind and wave conditions					
Wind and wave conditions					
Sea ice conditions					
Location and frequency of upwelling					
Upwelling intensity					
GEOLOGY					
Water depth					
Major substrate, seabed, landscape types					
Presence of boulder reefs					
Bottom roughness (rugosity)					
ECOLOGY					
Benthic infauna communities					
Benthic macroalgal vegetation cover					
Distribution of phytoplankton biomass					
Distribution of key macrophyte and invertebrate species					
Distribution of valuable habitats (EU Habitats Directive)					
Spawning areas of cod					
Spawning areas of herring					
Major migration routes, resting and feeding areas of seabirds					
Core distribution areas of seals and harbour porpoise					
Water and habitat quality					
Level and frequency of oxygen deficiency					
Level of eutrophication					

Adapted from BaltSeaPlan Report No. 19

not present/not applicable/not relevant
unknown
under study
partly known
well known

PROBLEMS WITH DATA AVAILABILITY AND ACCESS[26]

Generally, questions around data always centre on the same questions:

01. Quality: Is there data that meet our needs?

02. Availability: Can we get the data?

03. Usability: Can we use the data?

04. Reliability: Can we trust the data?

The BaltSeaPlan experience revealed problems with all four.

Data often too general to serve the purpose of MSP

As indicated already, data quality and availability remain a major problem. Quality is a problem with respect to spatial resolution: Information provided by the HELCOM database or the ICES rectangles for fishery for example is far too general to serve the purpose of MSP. Metadata, if available at all, frequently does not contain sufficient information, and some data sets only contain rudimentary information, such as the basic geometry of sites (delineation, lines, specific sites) but no further details on these elements such as name, status or type. Data availability is a particular problem for offshore areas: Although for chosen hotspots, usually in bays and along the coast, plenty of data is available on current uses and planned activities, obtaining the same information for offshore areas is much more difficult. Moreover the great majority of data-providing initiatives are research-based, implying limited time and funding. This results in discontinuity and selective data coverage.

The "search for" MSP data: difficult to find – as spread out in many sources

Dispersal of data is another problem both at national as well as the pan-Baltic scale. BaltSeaPlan partners lost a lot of time searching for suitable data stored at different institutions. The EMODNET, MDI-DE and INSPIRE geoportals are potentially very useful providers of good quality, unrestricted maritime data free of charge, but they are still being built up and do not have an explicit MSP focus. Most of data stored in the HELCOM database currently does not meet MSP data requirements (validity, actuality, accuracy, completeness, etc.).

With the exception of the CONTIS database operated by BSH, no Baltic Sea Region country has a national integrated marine database. However, many are currently implementing interesting networking attempts, usually driven by the need to implement the INSPIRE Directive. Various databases are currently being developed, partly available as Web Map Services or via geoportals.

It should be stressed that the biggest challenge for creating an integrated marine data infrastructure is no longer the lack of databases, but their impenetrable complexity and insufficient compatibility. There are no serious intentions to unify existing national and/or sectoral marine databases.[27]

26 The following three sub-chapters are drawn from BaltSeaPlan Report No. 20: which provides a summary of the discussions held in the BaltSeaPlan Data working group.

27 BaltSeaPlan Report No. 20

Restricted access to data was another common obstacle for BaltSeaPlan pilot MSPs. Some of the data had to be purchased. Sometimes, to avoid legal problems, planners chose to only use the official map layers published by the relevant authorities since only these have legal status. In some cases, this limited the scope of the pilot plans and their information value.

Data restrictions: Who owns the data?

Some stakeholders were found to monopolise information and intentionally restrict access to data, revealing only a biased picture and forcing spatial planners to draw the conclusions desired by those stakeholders. This was noted especially with regard to environmental protection, fisheries, and national defence. Consequently, closed military marine areas have not been discussed in the pilot MSPs even though they could be potentially suitable locations for other uses.

Sectoral data: biased information?

Scale and data resolution is also an issue. The spatial and temporal resolution of the available data strongly limited the resolution and thus quality of the MSP pilot plans. However, different pilot areas demanded different minimum resolutions: the case of Pomeranian Bight (14.100 km²) was naturally less detailed than, for example, the case of Pärnu Bay (1.990 km²).

Different MSP – different scales required

The transnationality of some pilot projects, as well as the interdisciplinarity nature of MSP created additional challenges during the compilation of data into data sets and maps. Data from different institutions, even on the same issue, were sometimes submitted in different formats. Data on cables was sometimes submitted for the full length of the cable (e.g. across several countries), or in part (only covering national waters), or in many segments. Data were also provided in different coordinate systems. In the case of transnational pilot areas, language and comprehensibility of the information provided was also an issue during compilation of data sets.

Compatibility of MSP Data

In summary, data for MSP is of varying quality, difficult to obtain, and of limited usability.

Administrative Gap: It should be noted that BaltSeaPlan was implemented at a time where none of the Baltic Sea countries (with the exception of Germany and Poland) had either clearly assigned a responsible institution for MSP nor set out clear responsibilities for data gathering, storage and exchange (except Germany). In parallel to creating a legal basis for MSP, it is hoped that countries will also resolve questions related to the organisation of data and information flow.

In order to deal with these difficulties, access to relevant data and information needs to be improved, and ways need to be found to fill the most pressing data gaps.

Facilitating access to relevant data: The BaltSeaPlan MSP data recommendations

In order to ensure readily accessible, relevant spatial information especially for cross-border planning purposes, stronger co-operation is necessary between data providers and the national authorities responsible for data collection. BaltSeaPlan partners put forward the following recommendations: [28]

Requirements for layout for MSP Data: first ideas developed in BaltSeaPlan

01. A pan-Baltic MSP data infrastructure should be created to ensure the availability of up-to-date, transferable, interoperable data and metadata. For this purpose, the INSPIRE Directive should be amended with regard to marine space and maritime features to ensure it covers aspects relevant to MSP.

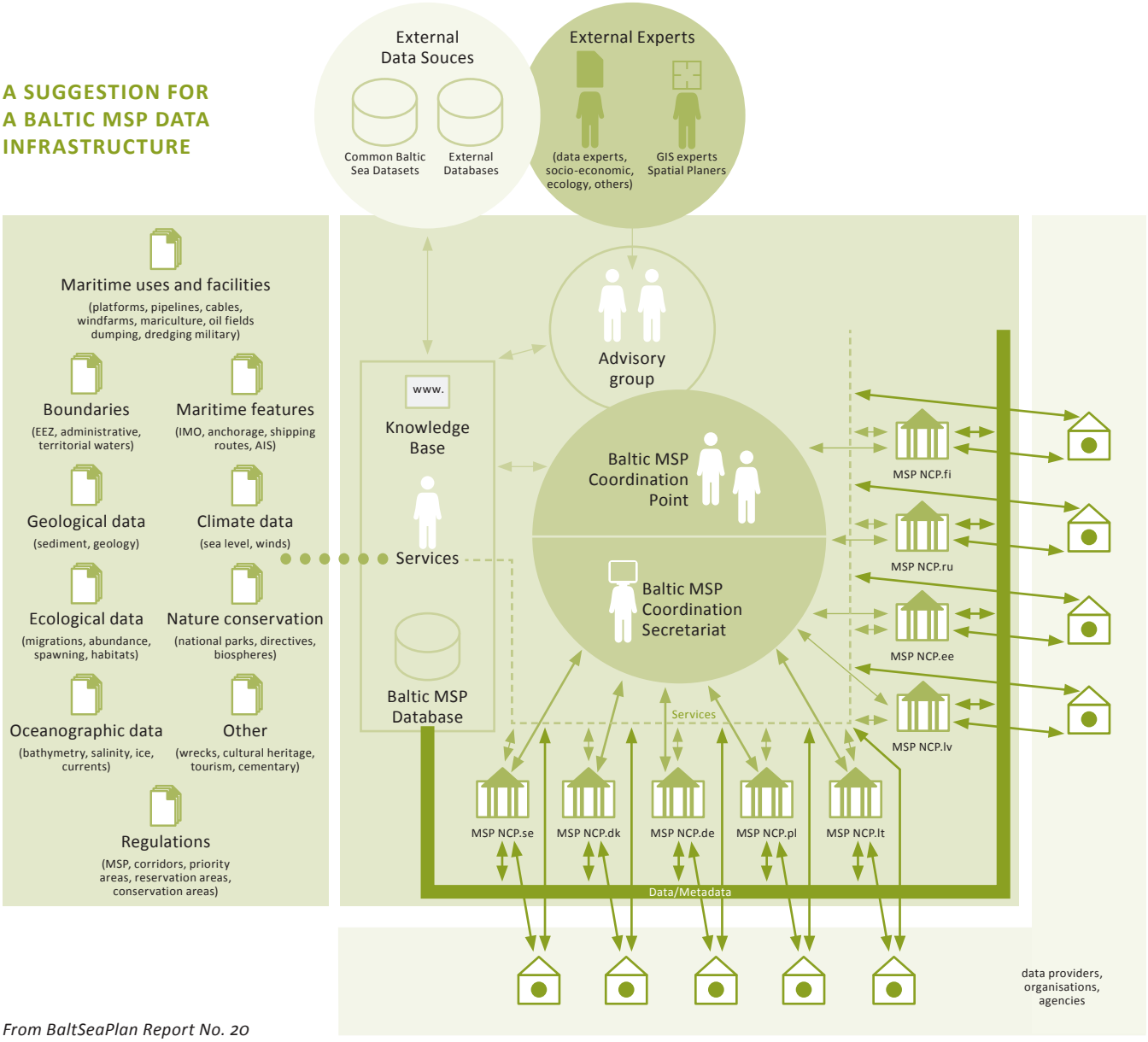
02. In order to deliver the minimum level of information required for MSP, the MSP data infrastructure should be based on a specific layout. The specifications developed by BaltSeaPlan with regard to data scope, formats and technical requirements should be built on and further developed. The minimum information range for MSP can then be extended where necessary.

Functional levels of a MSP Data network

03. A transnational network for MSP data exchange should be set up consisting of the following functional levels:
    - A pan-Baltic MSP Data Coordinating Group, which is responsible for managing the Baltic MSP Infrastructure. The group would be responsible for making available pan-Baltic data sets relevant to MSP, and creating harmonised pan-Baltic data sets from national data etc.
    - National MSP Data Contact Points, which are responsible for making national MSP relevant data available to the MSP infrastructure.
    - Regional MSP Data Points (for larger countries or federal states), which are responsible for making regional MSP relevant data available to the MSP infrastructure in cooperation with the National Data Contact Points.
    - MSP Data Providers, offering their data to the regional/national MSP Data Contact Points according to the set rules.

28 The full wording of the BaltSeaPlan MSP data recommendations can be found in Annex II of BaltSeaPlan Report No. 20.

A SUGGESTION FOR A BALTIC MSP DATA INFRASTRUCTURE



From BaltSeaPlan Report No. 20

04. Data exchange should be facilitated via a Baltic Sea MSP data portal which offers digital map and geo data services. These could be linked and/or integrated into individual applications. All registered users of the network would be entitled to unrestricted searching, viewing, downloading and processing of the data. In turn, they should make available any products developed on the basis of the data and/or provide their data to their respective National/Regional MSP Data Contact Point (in the agreed format).

    For issues where rapid change and dynamic development can be expected, National/Regional MSP Contact Points should provide updated data sets in the data infrastructure at regular 6-month intervals. The interval for updating other data should be set as necessary.

A Baltic Sea MSP data portal

05. A permanent MSP Data Expert Group should be created to advise the Pan-Baltic Data Coordinating Group, consisting of spatial planners and GIS experts from all BSR countries. Further experts on relevant issues can be appointed and/or consulted as necessary. Its tasks should include:
    - monitoring and suggesting improvements to the content of pan-Baltic data sets and the data exchange system,
    - providing a methodology for assessing data needs and suggesting ways of data management, as well as give advice on gaps to be filled,
    - ensuring links to other data networks,
    - ensuring links to the Transnational MSP Coordination Secretariat (BaltSeaPlan Vision 2030).

MSP Data Expert Group

06. The pan-Baltic data infrastructure should draw on unrestricted data available free of charge, such as data produced during the course of statutory activities or publicly funded projects. In the case of duly restricted/commercial data, only the associated metadata and products can be made available.

Based on unrestricted data

07. Baltic Sea states should grant adequate financial and organisational resources for securing the implementation and maintenance of a sustainable MSP data network and infrastructure. Existing networks such as the HELCOM/VASAB working group on MSP should be considered as a starting point for building up the data exchange network.

Dealing with data and knowledge gaps: Towards a common research agenda

INSUFFICIENT SPATIAL ATTRIBUTION OF ECOLOGICAL INFORMATION

Lack of spatial attribution of environmental data

As indicated above, the spatial attribution of ecological information was found to be insufficient for the purpose of MSP. Spatial information on marine habitats is scattered and incomplete, and although many parameters such as hydrography, plankton, benthos, harmful substances and oil spillages are monitored regularly and systematically (e.g. as part of national monitoring activities[29] coordinated by HELCOM (COMBINE), this data is not made available in a format suitable for MSP. Even the basic long-time datasets of the main hydrographical parameters have not yet been mapped in a coherent fashion. Information on migratory species such as fish, birds and marine mammals is not collected in a spatially or temporally coherent manner, and information is also missing on annual or life cycles and seasonal patterns for particular species of concern.

Link between environmental information and MSP often not clear

Least of all is known about cumulative impacts on the marine ecosystem and interactions of human activities. There is little data on the susceptibility of species of concern to natural and anthropogenic pressure, making it very difficult for example to define marine ecological corridors.

29 According to the EU Water Framework Directive all coastal member states are obliged to undertake systematic monitoring of the ecological status of marine waters

Some gaps were filled by the BALANCE project (now within the HELCOM database) and the present large-scale habitat mapping projected by the German Federal Agency for Nature Conservation will provide more clarity for the Natura 2000 areas in the German EEZ. Mostly though, research results are scattered and often provided along administrative rather than ecosystem boundaries.

TRANSLATING ENVIRONMENTAL INFORMATION INTO INDICES

In order to facilitate planning, complex environmental information needs to be translated into parameters (indices) which can be used in assessment. However, it is not always clear which parameters are actually needed or even suitable for MSP. Planners cannot use basic ecological information unless there are established routines or procedures for translating ecological (and hydrographic) data into relevant planning information. For example, what does oxygen deficiency in a certain area really mean for planning?

In order to overcome this difficulty, a starting point may be to construct lists of environmental drivers and pressures and link these to the potential (ecological) implications, policy responses and relevance for MSP. The following table shows how this can be done using the examples of sea level rise and changes in sea acidification.

Implications of environmental drivers on MSP

LINKING ENVIRONMENTAL DRIVERS AND PRESSURES WITH ECOLOGICAL IMPLICATIONS, POLICY RESPONSES AND RELEVANCE FOR MSP

DRIVERS/PRESSURES	IMPLICATIONS	POLICY RESPONSES COMMONLY CALLED FOR	RELEVANCE FOR MSP IN TERMS OF:
sea level rise and increased likelihood of extreme events (flooding, erosion)	loss of coastal protection	re-think coastal infrastructure and avoid maladaptation, eg obstructing capacity of coastal and marine ecosystems to respond to sea level rise	re-location, no planning permission for construction in floodplains, soft coastal defence where appropriate
	vulnerability of infrastructure to extreme events	adaptation (incl. hazard management and insurances)	strategic choices regarding infrastructure, back-ups and energy security
changes in acidification, temperature, pH	effect on fisheries, aquaculture		take into account in siting decisions for aquaculture
	decreased amounts of sea ice		increases available/ accessible space
	more frequent algal blooms (linked to eutrophication)	impact on coastal tourism	temporal zoning
	loss or shifts of biodiversity, loss of associated ecosystem services	enhance the resilience of marine ecosystems	connectivity of Natura 2000 sites to allow for species migration; adaptation of ecosystem service use

From BaltSeaPlan Report No. 8

LACK OF OTHER ESSENTIAL INFORMATION

Apart from ecological data, gaps were also identified for other information categories. Uncertainties exist with respect to ship wrecks and other objects on the sea floor which can easily be destroyed by submarine activities. Sunken hazardous substances such as chemical weapons from World War II, large reserves of which still exist in the Baltic Sea, can present a threat to human health and the environment when disturbed.

Proper information tools for supporting decision-making processes or monitoring land-sea interaction are lacking. For instance there is a lack of monitoring of types of anthropological pressure placed on coastal zones (e.g., urban or tourism pressure).

Finally it should be noted that especially the economic valuation of planning decisions has so far been neglected as a research area. At present, this often purely relies on stakeholder input rather than expert studies.

Economic valuation even missing as research area

THE NEED FOR A COMMON BSR RESEARCH AGENDA

Given recent development such as the Marine Strategy Framework Directive and the general aim of MSP to facilitate sustainable marine development, planners thus require additional information in three key areas:

- In order to implement the ecosystem-based approach, maritime spatial planners require a comprehensive assessment of marine ecosystem health and its links to human well-being. Sustainability policies such as the EU MSFD require knowledge-based solutions in order to achieve sustainability objectives and good environmental status of the Baltic Sea.
- The increasing demand for marine goods and services can exceed the provisioning capacity of marine ecosystems. This requires a better understanding of the linkage between ecosystem goods and service, coastal populations and human well-being.
- In some marine areas, the most striking data gaps are apparent in offshore areas where economic development has so far been limited. At the same time it is precisely those areas of the Baltic Sea that are of growing interest for MSP as forward looking planning has a key role to play here.

Information needed in three key areas

Based on the above, BaltSeaPlan drew up the following recommendations for a common MSP research agenda.[30]

01. A co-ordinated system should be established for assessing water quality, biodiversity values and coastal erosion processes. Continuous monitoring and a regularly updated database are essential in this.

02. Developing scientifically sound criteria for ecosystem management and protection measures should be encouraged.

03. Research on climate change impacts and related adaptation measures for coastal areas should be supported.

04. Decision support systems and modelling tools should be developed (e.g. distribution/ ecological niches of strategically important species and habitats; fish spawning areas; dynamics of coastal processes; suitable areas for offshore wind farms etc.).

05. Socio-economic assessment, including monetary valuation, of marine ecosystem services and impacts of MSP should be undertaken to enable better decision making with regards to sea use activities.

06. Due to the high costs of marine research, national research programmes dedicated to marine issues should be launched.

07. Information and knowledge should be shared between public and quasi-public bodies at no cost.

30 From BaltSeaPlan Report No. 20

Addressing information gaps in the planning process

TYPES OF INFORMATION GAPS

Irrespective of the quality of the information base, planners will always be faced with information gaps during the planning process. Although they may look similar at first glance, there are differences in the underlying reason for the missing information. Planners should be aware of the type of information gap they face, as a different approach has to be taken for each in order to continue the planning process.

The issue can be analysed in the present but its future development remains unclear (static knowledge):

- Regular exchange of know-how and experience on maritime spatial plans of other countries.
- Joint BSR vision on the use of marine space

TYPES OF INFORMATION GAPS REQUIRE DIFFERENT SOLUTIONS:

TYPE OF INFORMATION GAP	SHORT TERM SOLUTIONS	LONG TERM SOLUTIONS
Lack of information: The issue has not been analysed sufficiently (lack of knowledge)	• Modelling the marine environment (e.g. habitats) • Precautionary measures – provisions in the plan spelling out the need for further research • Request to prepare detailed plans before committing to large scale investments • TIA procedures for other investments	• EMODNET shaped in line with MSP needs • Joint BSR research agenda for MSP • BSR agreement on the minimum scope of inventories done in relation to localization of large-scale investments
Lack of spatial attribution: The issue has been analysed but spatial aspects have been omitted	• Extracting expert knowledge via stakeholder processes	• Promotion of interdisciplinary research • Concerted BSR research (e.g. BONUS)
Disclosure gap: The issue has been analysed sufficiently, but there is no incentive for sharing information (hidden knowledge)	• Genuine stakeholder processes	• Awareness raising on the benefits of maritime spatial planning
Temporal gap:	• Reserve sea space for unknown future developmental purposes.	• Introducing multi-year maritime programmes
Communication gap: cognitive artifacts/modalities (e.g. language): Information channels are unable to diffuse and communicate information and/or knowledge across different groups (e.g. due to its complexity)	• Interdisciplinary and transnational planning teams	• Minimum common denominator on MSP methodology in the BSR • Regular exchange of know-how and experience on maritime spatial plans of other countries • Joint BSR vision on the use of marine space • Joint BSR work on a methodology for valorisation of marine space
Institutional gap: lack of proper information within regulatory frameworks resulting from institutional deficiencies (i.e. lack of policies, regulations, targets, objectives, etc.) *From BaltSeaPlan Report No.10*	• Recommendations for developing the institutional system for MSP • Examination of background reports relevant for MSP and draft legislation proposals (and their justifications)	• Agreement on the comprehensive objectives or visions, targets, and goals for using marine space at national and international levels • Operationalization of the agreed targets in line with the MSP specificity • Development of supportive tools for decision making in MSP (as proposed under BONUS)

OVERVIEW OF AVAILABLE MODELS FOR MSP[31]

Given the current data and information gaps, BaltSeaPlan partners assessed what kind of benefits could be derived from bringing together modelling and MSP processes. To what extent can modelling results contribute to the MSP process?

Generally it was found that models can play an important role in supporting MSP as long as they deliver in terms of their outputs and reliability. Models are useful for:

Possible use of Models in MSP

- supplementing field observations and filling observational data gaps and processes,
- providing geospatial data information for GIS applications and other management or spatial planning tools
- improving the existing knowledge base on ecological and other environmental key indicators and their linkages and functioning,
- providing scenario based conflict, sensitivity and impact assessments
- prioritising sea uses.

Lack of decision support models

Overall there is a lack of decision support models for MSP, ranging from basic drift models on oil spill diffusion up to complex models for the assessment of policy options.

The following models were identified as useful and thus likely to find application within the MSP data infrastructure:

Model types

- Hydrodynamic models (e.g. COHERENS, BSHcmod, HIROMB, RCAO, HAMSOM, GETM, MIKE 3, MOM, SHYFEM, WAM)
- Ecosystem models (e.g. ERGOM, ECOSMO, ECOPATH, SCOBI, BalEco)
- Habitat/habitat suitability models (for vegetation, bottom habitats and species modelling)
- Atmospheric models (for meteorological or wave modelling purposes)
- Management models and tools (e.g. Baltic NEST decision support system, MarineMap, MARXAN, different public participation tools)

In BaltSeaPlan pilot cases models were used for all these purposes.

But what are the specific issues that modelling should actually address? BaltSeaPlan dealt with this by first identifying specific MSP-related questions and priorities for core issues such as protected areas, shipping, offshore wind farming or fishery.

31 This chapter is based on BaltSeaPlan Report No. 19: Modelling for Maritime Spatial Planning:Tools, concepts, applications and BaltSeaPlan Report No. 20, Data exchange structure for Maritime Spatial Planning

EXAMPLE: MODELLING QUESTIONS IN MSP RELATED TO SHIPPING

IMPACTS	SCENARIOS

• Distribution of noise affecting seabirds and marine mammals.
• Coastal erosion and redistribution of sediments.
• Oil spill and physical damage through collision and grounding
• Contamination through bilge water and use of detergents.
• Impact on land-based transport in the coastal zone (harbour size, transport infrastructure and traffic volume).
	• What is the expected development of future ship traffic in terms of ship size, cargo type and numbers (commercial and recreational shipping)?
	• What is the critical level (cargo type, no.) in relation to potential shipping impacts in specific areas,
	  • to what extent can increasing traffic volume increase the oil pollution risk in general
	  • and do the impacts differ from open water to narrow straits?
	• How can we avoid accidents (route planning, e.g. scenarios to minimize accidental oil spill into vulnerable marine areas such as Natura 2000 sites and important fishing grounds)?

From BaltSeaPlan Report no. 19

These questions were then linked to methods and concepts that synthesize the model outputs, allowing them to be integrated in the maritime spatial planning process.

EXAMPLE FOR SYNTHESISING INFORMATION: HOW DO SHIPPING ACTIVITIES INFLUENCE THE MARINE ECOSYSTEM?

TYPES OF MODELLING AND MODELLED VARIABLES	RELATED QUESTIONS	HUMAN PRESSURES OTHER THAN SHIPPING	NATURAL FORCING FACTORS
SIMPLE "DISTANCE MODELS"			
Disturbance distance of birds	Disturbance, habitat loss	Military exercises, wind parks	
Disturbance distance of seals	Disturbance, habitat loss	Military exercises	
Disturbance distance of harbour porpoise	Disturbance, habitat loss	Military exercises	
HYDRODYNAMIC MODELLING			
Bio-connectivity	Area of influence of protected areas, impact of constructions on connectivity (wind farm case story)	Maritime constructions (e.g. wind farms)	Current patterns, bottom roughness
COMBINED SPATIAL AND STATISTICAL MODELLING			
Oil transportation vs. quality of valuable habitats in sensu the EU Habitats Directive	Oil transportation vs. quality of valuable habitats in sensu the EU Habitats Directive	Shipping, eutrophication	Salinity, bottom topography, substrate type, wind/waves, upwelling intensity, ice conditions

From BaltSeaPlan Report No. 19

Filling data gaps in BaltSeaPlan

BaltSeaPlan partners contributed to filling the existing data and information gaps through a series of special expert reports. These covered a wide range of issues including the effects of noise on harbour porpoises, seabed and habitat mapping, remote sensing methods and spatial information for fishery.[32]

THREE INTERLINKED STUDIES IN THE HATTER BARN AREA

Effects of Ship Noise on Harbour Porpoises[33]

Between Dec 2009 and Aug 2010 the effect of ship noise on the harbour porpoises was assessed in five areas along the main shipping route through the Great Belt (T route) and fast ferry lanes across the Great Belt (between Jutland and Sjalland).

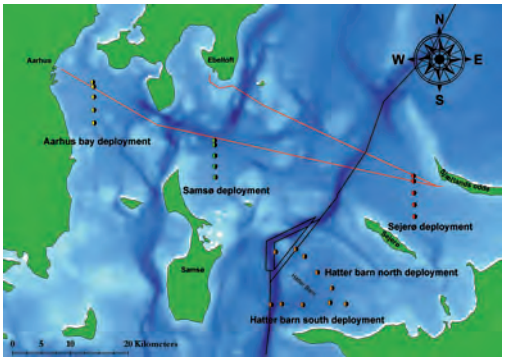
The area around Hatter Barn was chosen as it is known as a notorious risk area for grounding and collision of ships passing the Danish straits to and from the Baltic. At the same time large parts of the pilot area are designated as Natura 2000 sites, and Hatter Barn is a key area for marine mammals like harbour porpoises and harbour seals. Accidents in the area could cause severe effects on valuable ecosystems and protected areas.

Ship noise was recorded in all stations with highest levels within shipping lanes. Peak energy in all cases was at low frequencies (below 1Hz/often around 100 Hz), which is well below the range of best hearing for harbour porpoises. Noise level decreased with increasing distance from the shipping lane, often with a significant high-pass filtering of the noise due to the absorption of the very long-waved low frequencies into the shallow bottom.

No general correlation between acoustic activities of harbour porpoises and distance to shipping lanes could be demonstrated, indicating no general influence of shipping lanes on porpoise distribution. Also analysing porpoise abundance on a minute to minute basis failed to demonstrate a correlation to broadband noise levels. This likely reflects that any reaction of porpoises to ships happens at a very close range and thus is not detectable at the scale of the study.

Hatter Barn:

- a risk area for shipping accidents
- highly valuable habitats
- marine mammals



Effects on reef habitats by deepening the shallow water areas

Map showing deployment sights (dots), fast ferry route (red line) and the Hatter barn area of the T -°©-route (black line).

From BaltSeaPlan Report No. 21

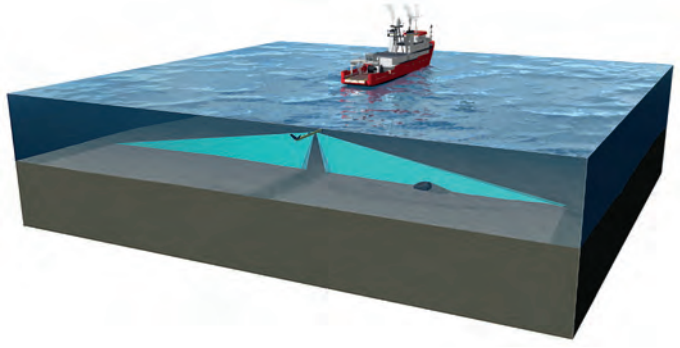
32 BaltSeaPlan Reports No. 21 Effects of underwater noise on harbour porpoises around major shipping lanes, No. 22: Remote sensing methods for detecting small fishing vessels and fishing gear – a feasibility study in the Pomeranian Bight and Arkona Sea. No. 27: Seabed and habitat mapping in the Hatter Barn area – a high risk area for shipping in the Danish Straits.

33 For full details see: BaltSeaPlan Report No. 21

Testing new methods for seabed mapping[34]

The reef areas around Hatter Barn including the two shipping routes were mapped (a) using the classical approach where evaluation of side scan sonar data is combined with visual ground truthing data, and (b) a new methodology using high resolution bathymetry data from multibeam sonar to calculate seabed roughness (rugosity index).

(a) Side scan sonar method
(b) Rugosity method



Side scan towing fish and survey vessel configuration. Illustration: Carsten Egestal Tuhuesen, GEUS, 2011.

Even though the results differ a lot, the combination of the two methods gives a good picture of the presence of reef structures:

- The strength of the side scan sonar method is its ability to differentiate between a variety of seabed types including muddy, sandy, gravelly and stony sea beds. Almost 21.4 km2 of seabed was categorised as reef with more that 10 % of stone larger than 10 cm. Approximately 6 km2 or 28 % of the reef areas were judged to have high stone cover (> 80 %).
- The strength of the rugosity method is its simplicity and high level of detail. It solely depends on an algorithm which calculates the differences caused by changes in bathymetry between grid cells. The areas estimated with this method were smaller, adding up to only 15.5 km². Only 1 km² had a density of > 80 % which was considerably lower than the estimate given by the side scan method. 81 % of the sediment classified as less than 10 % of hard bottom substrate by the rugosity method fell within the classification of gravel and sand obtained by side scan sonar.

Strength of side scan sonar method:
Ability to differentiate

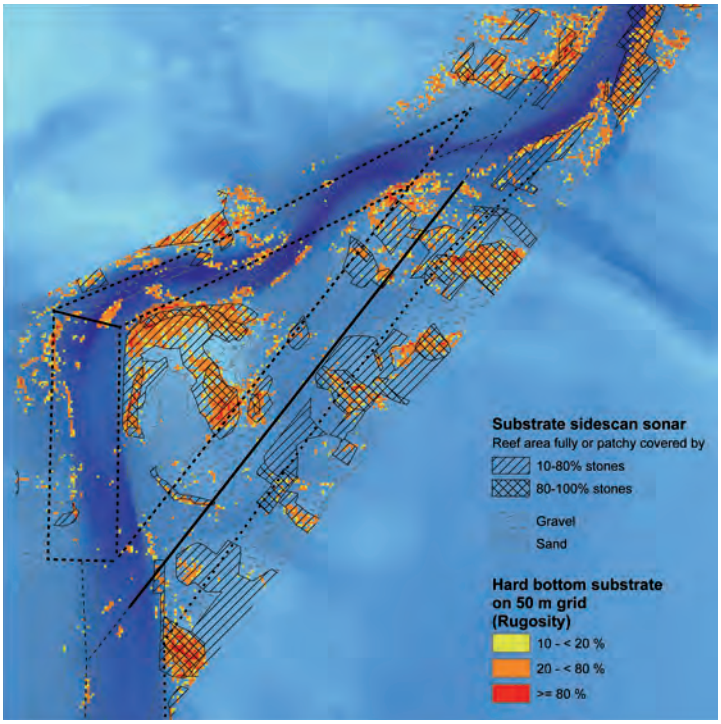
Strength of rugosity method:
simplicity & high level of detail
faster & cheaper

The costs of mapping an area like Hatter Barn differ substantially between the two methods: The side scan sonar method took 10 weeks in all, whereas the rugosity analysis based on previously collected multibeam data took only a week to develop and another week to carry out, validate and report. Thus in a case like Hatter Barn where side scan and high resolution bathymetry data already exist, the rugosity method for mapping reef areas was found to be much cheaper and more detailed than the side scan method.

The new mapping technique based on rugosity has therefore much potential as a cheap and effective mapping tool for specific reef structures in cases where high resolution bathymetry data are already available. These kinds of data exist for large parts of inner Danish waters along the major sailing routes, in areas where we practically know very little about the seabed today.[35]

34 For full details see: BaltSeaPlan Report No. 27: Seabed and habitat mapping in the Hatter Barn area – high risk area for shipping in the Danish Straits
35 BaltSeaPlan Report No. 27

PERCENTAGE OF HARD BOTTOM SUBSTRATE WITHIN 50 M GRID CELLS



From BaltSeaPlan Report No. 27

Comparison of the areas with 10 %–80 % and ≥ 80 % hard bottom sibstrate detected with side scan sonar and the rugosity index.

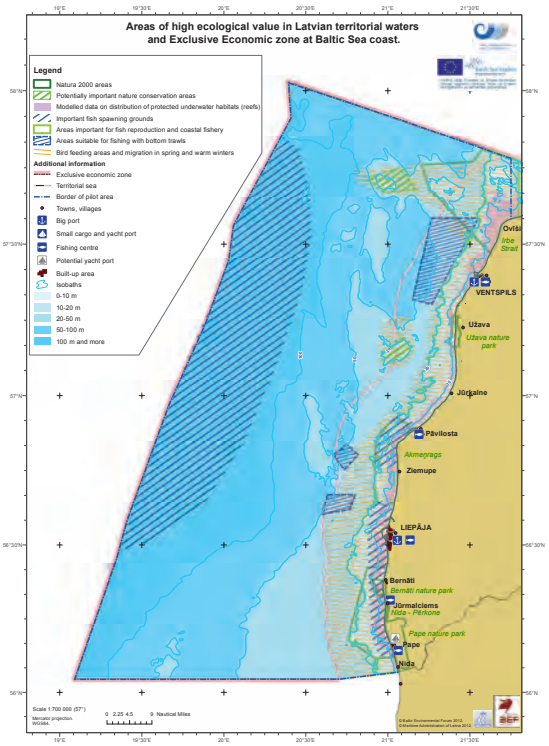
Effects of ship traffic on the dispersal of marine organisms[36]

Within the same study on seabed and habitat mapping also a direct impact of shipping on the benthic seaweed forest could be demonstrated. It was possible to set up a habitat model describing the development of seaweed based on empirical relationships between total macroalgal cover, depth and presence/absence of ships in the water above the seabed. The model showed a significant reduction of macroalgal cover on hard bottom substrates within the shipping routes compared to the hard bottom areas outside the shipping routes.

36 BaltSeaPlan Report No. 27

HABITAT MODELLING IN LATVIA[37]

Spatial modelling was also used to on the Western coast of Latvia. Within the pilot area, reef habitats are found in coastal waters which are also spawning grounds for several fish species of high commercial value. Information on reef habitats is essential for MSP to avoid their mechanical destruction by activities such as wind farm development, dredging and dumping of dredged material and extraction of mineral resources.Information on the distribution of reefs is very scattered. Precise mapping of reefs using scuba diving and underwater video techniques is carried out only in relatively small areas. Thus a model was used to estimate the distribution of reef habitats.



Model used to define distribution of reef habitats/areas of high nature value

Modelling is based on available information on bathymetry, sediments and bottom vegetation extracted from the video surveys conducted during the LIFE nature project at 566 stations on a regular 400 x 400 m grid along the Nida – Bernāti coastline. Wave exposure was modelled using an operational wave model. Statistical modelling of reef occurence is based on generalized additive models (GAM), using the R software package.

37 For full details of the two habitat models described also see BaltSeaPlan Report No. 16.

HABITAT MODELLING IN ESTONIA[38]

In the Estonian pilot areas (Saaremaa and Hiiumaa Islands and Pärnu Bay) data on different human uses was available to a reasonable extent. However, natural values were practically unknown except for some recent mapping exercises in the Natura 2000 areas. Therefore, the aim of modelling was to provide up-to-date information on the valuable habitats in sensu the EU Habitats Directive in order to quantify the distribution of important habitats.

Spatio-temporal modelling was done in the following sequence:

01. Gathering contextual data on valuable habitats and potential prediction layers (nutrient loading, salinity, bathymetry, wind and wave condition, exposure, etc.) as well as their interactions in space and time.
02. Pre-selection of key abiotic and biotic parameters.
03. Quality check of records before including data into models.
04. Modelling of sediment types using remote sensing data.
05. Spatio-temporal modelling of the keystone species associated with the valuable habitats.
06. Spatio-temporal modelling of the valuable habitats.

Spatial modelling was based on the MARS models which uses a non-parametric regression technique. This is more flexible than linear regression models and simple to understand and interpret.

As a result of modelling exercise the location of important habitats and the key species within the habitats could be quantified. The following types of the EU Habitats Directive Annex 1 habitats were found:

- Sandbanks, which are slightly covered by sea water all the time (Type 1110)
- Mudflats and sandflats not covered by seawater at low tide (Type 1140)
- Reefs (Type 1170)

left: The spatial distribution of reefs (red colour) in the Pärnu pilot area under current conditions.

right: The spatial distribution of reefs (red colour) in the Pärnu pilot area under changed climate conditions.

From BaltSeaPlan Report No. 13

38 BaltSeaPlan Report No. 13: Towards a Pilot Maritime Spatial Plan for the Pärnu Bay.

The special case of fishery

In Europe, fisheries have mostly been left out of MSP regimes so far as fisheries are not regulated and managed by national governments. There are still doubts within the fisheries sector and the MSP community on whether fisheries should really be included in MSP. Many are claiming that fisheries are too complicated to manage through MSP, that the appropriate data are missing and that there is no legal framework for integrating fisheries within the same regime as other sea uses.[39] BaltSeaPlan showed that integration of fisheries in MSP is both possible and useful. Fishery is featured in most of the BaltSeaPlan pilot reports, and a series of expert reports were drawn up.[40] Key results are brought together in a summary report on fisheries.[41]

FIVE GOOD REASONS WHY FISHERIES SHOULD BE DEALT WITH BY MSP[42]

BaltSeaPlan demonstrated that including fisheries in an overall system of integrated management of sea uses and functions is not only possible, but also logical and of mutual benefit:

01. Fisheries should be part of the debate when the "claims" for sea space are staked and space is distributed between the various users. The fisheries sector may have good arguments to put forward – related to employment, food supply, tradition and culture – but these will only count if fishermen are willing to voice them. Fishermen will need to convince society, planners and decision-makers that fishery is more important in certain sea areas than other uses. For that, they will need to employ the same language and tools as the other sectors.

Putting fisheries on a par with other uses

02. Fishermen like to argue that fishing is allowed everywhere and that consequently, all sea areas are equally important. This is easily countered by arguing that if all sea areas are equally valuable, it matters little which are taken up by other sea uses. In order to evaluate which sea use is best located where, or which function must be maintained in a certain area, the fishery sector needs to identify the most profitable areas or those that are essential for certain life stages of fish reproduction (i.e. nursery & feedings grounds). If the sector does not identify its priority areas, the competing sectors will pick their own priority areas, leaving fishermen with what happens to be left over.

Identifying best fishery sites to prepare for competition for space

03. Good and convincing information is an essential basis for exchanging arguments. Potential conflicts between sea uses and functions can only be made apparent and discussed if the needs and values of fishing areas and requirements vis-à-vis other sectors are described, evaluated and visualized on maps. Spatial representation is also needed when it comes to finding compromises and solutions.

Visualizing conflicts

39 BaltSeaPlan Reports No. 26: Towards integration of Fisheries into Maritime Spatial Planning
40 BaltSeaPlan Reports No. 22: Feasibility Study on Remote Sensing Application for small Fishing Vessels and Fishing Gear Detection in the Pomeranian Bight and Arkona Sea as an Example for Surveillance of Sea Areas, No. 23: Legal and planning options for integrating Fisheries into Maritime Spatial Planning at the Baltic Sea, No. 30: Case Study: Site selection of fisheries areas for Maritime Spatial Planning with the help of tool "Marxan with Zone" in the pilot area Pomeranian Bight.
41 BaltSeaPlan Report No. 26
42 From BaltSeaPlan Report No. 26

04. Fish are part of the marine ecosystem and important elements of marine food webs. In exploiting certain areas, fisheries will therefore not only compete with other human uses but also with nature conservation interests. Direct competition results from the fact that commercial fish species are elements of the very ecosystem that nature conservation seeks to protect. They are prey for other species such as mammals or sea birds, a regulating factor in balancing the food web and an interdependent animal community. Finding solutions with respect to nature conservation demands requires that data are prepared in even greater detail.

Finding solutions with nature conservation

05. Preparing good and convincing data that describe fisheries and its impacts qualitatively, quantitatively and spatially will not only be helpful in underpinning fisheries claims in a spatial planning context but also be a necessity in fulfilling the requirements of the EU Marine Strategy Framework Directive (MSFD) in its aim to reach "Good Environmental Status" (GES) of all European seas by 2021. Fish feature in three out of the eleven so-called "descriptors" of GES which are currently being translated into measurable target values for different sea areas; i.e. biodiversity; commercially exploited fish stocks and marine food web.

Fish: one of the descriptors of Good environmental status

The BaltSeaPlan Vision 2030 also highlights fisheries as one of four key topics to be dealt with at a transnational level and shows important maritime spatial planning implications such as the creation of blue corridors as well as allocation of spawning and nursery areas.

FISH AND FISHERY DATA SOURCES FROM: ECOLOGICAL VERSUS USER DATA

So far, there is no commonly agreed set of data and information which would allow fishery to be included in MSP. Generally, data can be derived from two perspectives, which are often seen as opposites but are actually two sides of the same coin:

DATA TYPES AND SOURCES	PLANNING PRINCIPLES
HABITAT/SPECIES DATA (DATA ON FISH) Source: Fishermen!/Ecological monitoring data Identification of essential fish habitats such as spawning grounds, nursery areas, adult feeding areas, migration corridors, productive fishery grounds	**PROTECTION OF VALUABLE CONSERVATION SITES** • Contribute to Good Environmental Status by safeguarding the sea areas from negative impacts • Identify important areas for fish spawning and nursery
USER DATA (DATA ON FISHERY) Source: Fishermen (logbook data)/remote sensing, catch data (how much of which fish is caught with what gear where) and vessel data (position/routes of fishing vessels)	**SECURE SUSTAINABLE FISHERIES** • Identify priority areas for the fishery sectors • Protect spawning and nursery areas from fishery pressure

BALTSEAPLAN USE OF DATA AND RELATED STUDIES ON FISHERY

In view of limited time and resources, as well as uncertainties regarding how best to deal with fishery, BaltSeaPlan partners agreed that each pilot area would develop studies and planning proposals suitable for their given test areas rather than all taking the same approach. Fishermen played an important role in most of the stakeholder activities undertaken within BaltSeaPlan.

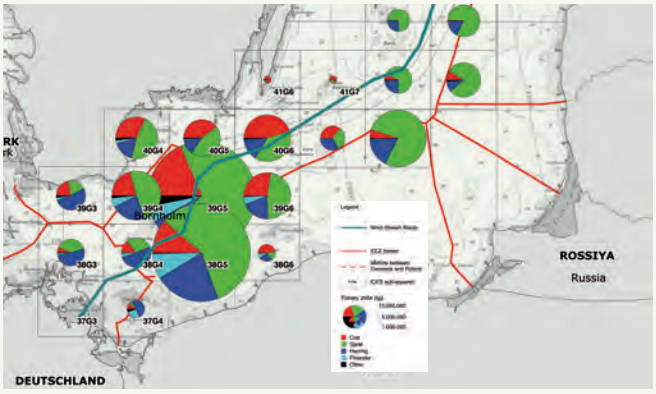
As can be seen from the following data sources and maps, fishery within BaltSeaPlan was mainly dealt with from the user/fishery side. Even though numerous information gaps were encountered, which make it difficult to take real planning decisions, fishermen themselves were still the best data source. Stocktaking thus concentrated on suitable/priority fishery areas rather than no-go spawning areas.

The following information gaps were identified: [43]

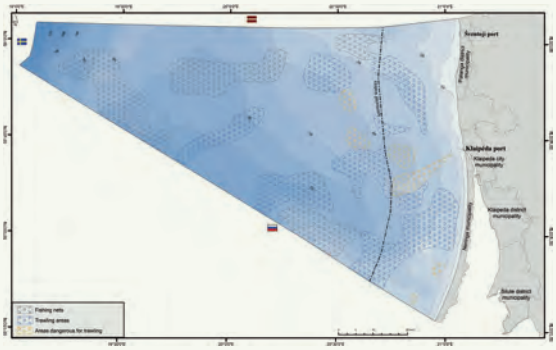
Lack of Information:	approximately 90 % of fishing vessels are below reporting requirements and thus do not have to report catch sites
Knowledge gaps:	Lack of information/knowledge on fish migration routes Lack of data regarding the possible susceptibility of species of concern to natural and anthropogenic pressures
Temporal gap:	Technology for detection of smaller vessels and gill nets will need to be refined further if reliable outputs are to be obtained from the remote surveillance of fisheries operations via satellite.
Lack of spatial attribution:	ICES catch data (and in some cases spawning and nursery areas) come in rectangles with a resolution of approx. 30 x 30 km. MSP will require much more fine-grained information.
Disclosure gap:	MSP processes must recognize the fact that fishermen may be reluctant to part with certain information for understandable reasons. The fact that fishermen do not own licenses, privileges, or the fish stock makes any sharing of information on the quality of stocks or profitable fishing areas a competitive risk: If displayed on maps, other fishermen might use such information to the disadvantage of its supplier.

43 From BaltSeaPlan Report No. 26

Various types of information were used in drafting the BaltSeaPlan pilot maritime spatial plans:



From BaltSeaPlan Report No. 10

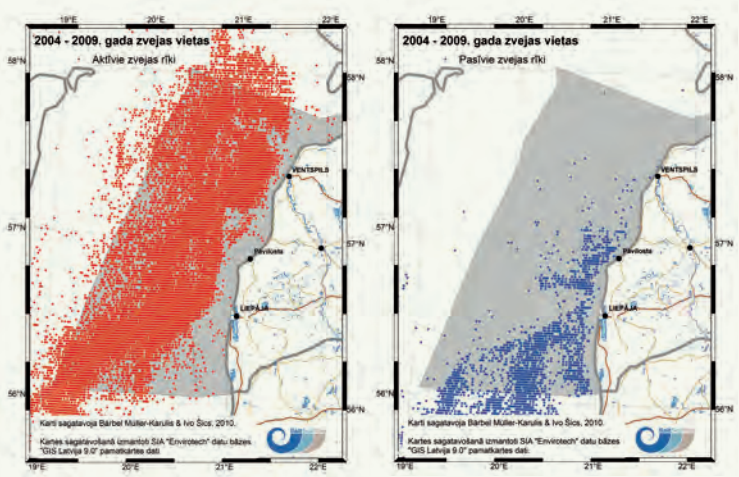


From BaltSeaPlan Report No. 15

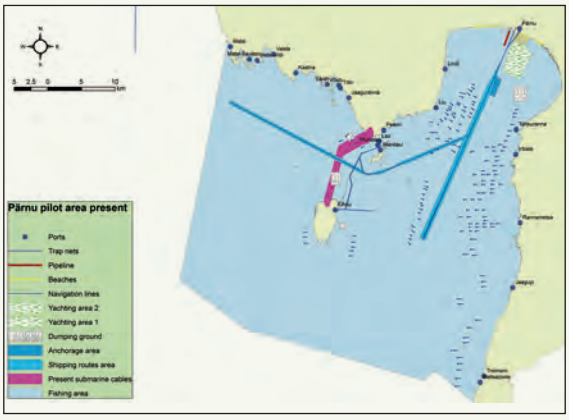
Middle Bank: Total volume of catches in ICES squares in 2004 Areas of cod appearance and harbor porpoise

Source: Nord Stream AG available at www.nord-stream.com (map FC-8)

Lithuanian Sea: trawling net areas areas dangerous for trawling (based on info from fishing vessel captains) licences for commercial fishing (near the coast and off-shore)



From BaltSeaPlan Report No. 16



From BaltSeaPlan Report No. 13

Latvian Sea: Priority areas for bottom trawling

Location of fishing activities with passive and active fishing gear (2004 – 2009)

Important fishing spawning areas

Location of fishing operations in Latvian EEZ in 2004 – 2009 (A – trawling, B – gillnets) → Intensity of fishery and areas important for fishery (bottom trawling and coastal fishing and fishing reproduction) (coastal waters up to 20 m depth)

Statistics: number of fishermen, employment, fishing fleet, fishing days per fisherman and catches per specie

Pärnu and Hiiumaa: Legaly ensured fishing areas

Modelling “spawning areas for herring”

Most of this information is relevant for the stocktaking phase and provides essential background for problem and conflict analysis. The next step is to use this information for actual zoning, which was done by the Pomeranian Bight pilot study (see chapter on zoning).

5

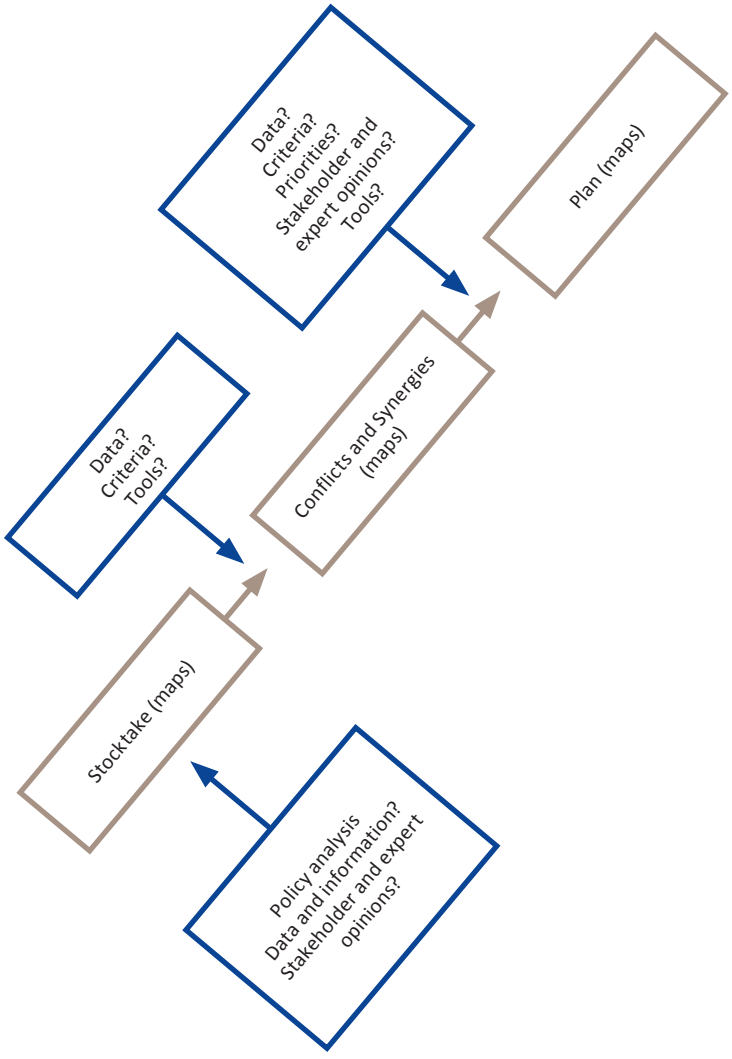
PROBLEM & CONFLICT ANALYSIS

PROBLEM & CONFLICT ANALYSIS

Problem analysis marks the end of the preparation phase and the beginning of the planning phase in MSP. Sound data and information are crucial now, including information on what sea uses are planned where, how intense the planned uses are likely to be and what impacts they will have on the environment and on other sea uses.

Unlike the preparation phase, which aims to collate as much targeted information as possible, the planning stage now calls for some form of evaluation and judgement. Decisions will need to be taken on whether impacts are considered to be harmful to the environment (a form of problem analysis) and what limits are to be imposed on which uses, where and why (the actual planning stage). It therefore makes good sense to involve as many stakeholders as possible in these stages as early as possible. This was the route taken by all pilot projects, which began stakeholder involvement during conflict analysis (see chapter 6)

This chapter sets out how the partners moved from stocktaking to planning and what criteria they employed to arrive at solutions. It also describes the role of stakeholders in this process and what tools were used to help complete each step.



From stocktake to problem analysis

Stocktakes need to be more focused

For some of the pilot projects, the step from stocktake to problem analysis was not an easy one. In some cases, the stocktake was very broad, which was useful for background information but made it more difficult to pinpoint those problems that really had spatial relevance. Most pilot projects also spent considerable effort describing the natural and socioeconomic characteristics of the respective pilot area, but did not always pick up on this in the subsequent planning stages. Another problem was that the stocktaking phase took much longer than expected due to problems encountered with gathering even basic data (see previous chapter). Most pilot projects therefore were not able to commission problem-oriented studies which could have helped to provide background information on specific issues.

It makes sense to restrict the preparatory stages of MSP to those issues that really drive developments in the sea. A comprehensive overview of key trends, issues and objectives for each sector is good background information, but more importantly, the stocktake should conclude with the implications this has for spatial planning. Focusing the stocktake in this wayis a good way of ensuring a well-grounded problem analysis. It also ensures that only relevant data is collected and that relevant data gaps are identified.

Conflict analysis within BaltSeaPlan

Conflict analysis focused on analysing existing sea uses

Problem analysis within BaltSeaPlan was largely interpreted as conflict analysis based on the stocktake of current uses. An option not used in practice but highlighted as a possibility in a separate report[44] is the modelling of identified trends into the future (as might be the case for climate change), which could also form the basis for problem analysis.

Generally speaking, conflict analysis tended to concentrate on existing sea uses and planned sea uses as evident from national policies and those targets that are available. There was little analysis of environmental problems except for impacts of sea uses on existing or planned protected areas and vice versa. Problems such as climate change were rarely mentioned, most likely because of the unclear impacts and long-term time horizon.

Conflict analysis in BaltSeaPlan was composed of the following elements:

01. Collating sectoral targets and priorities,

02. Assessing the specific conflict potential in the area,

03. Assessing the spatial compatibilities of uses and expected uses,

04. Visualization of conflicts in marine space,

05. Differentiating between different types of conflict.

44 BaltSeaPlan Report No. 13

1. COLLATING SECTORAL TARGETS AND PRIORITIES

Sectoral targets as a starting point for conflict analysis

Sectoral targets and priorities are a useful starting point for conflict analysis as they point towards future developments and potentially contradictory claims on space. Specific targets are relatively easy to collect as they are fairly precise. A good example are existing national targets for offshore wind farming, which may be expressed differently by different countries (e.g. in MW planned or in the number of turbines), but which give a good indication of priorities in the sector. Targets such as MW can then be translated into the likely spatial requirements these developments will have.

Priorities are less precise than targets, but still a good indication of likely future developments. They can be collated in a participatory way involving stakeholders, or as a desktop exercise using document analysis. Existing targets and priorities represent a "given" which definitely needs to be accounted for in the maritime spatial plan.

Different ways of identifying priorities

Latvia[45] chose to summarise relevant issues for each sector, including the expected development trends, the relevance of the sector and also potential conflicts with other sea uses. Lithuania[46] asked stakeholders to rank their own sectoral priorities and the perceived priorities of other sectors. Both approaches result in a list of sectoralpriorities which gives a first indication of possible conflicting interests:

SECTOR	ISSUES (LATVIAN APPROACH)	PRIORITIES IDENTIFIED BY STAKEHOLDERS (LITHUANIAN APPROACH)
Fishery	Maintaining fishery as part of the local cultural heritage and as a potential basis for tourism	construction of small ports and marinas, modernisation of the fishing fleet
Shipping and ports	Likely increase in cargo turnover and transit cargo, accompanied by greater needs for space both in ports (danger of erosion) and on the sea. Likely increased collision risks resulting from increased shipping intensity.	modernisation of infrastructure, deepening the Klaipeda shipping canal, deepwater port construction (the latter two are in conflict) LNG terminal construction
Tourism	Strong role in regional development, needs to be balanced with conservation interests.	recreational infrastructure, marinas for small and recreational boats
Offshore wind farming	There is a target of 180 MW to be achieved by 2020. An investigation area of 1570 km^2 will be provided for licensing offshore wind farms.	Wind energy development
Oil	7 blocks for have been set aside for oil extraction (2,675 km^2) and 66 blocks for investigation of oil resources (17,800 km^2).	
Environment		pollution prevention, biodiversity conservation

2. ASSESSING THE SPECIFIC CONFLICT POTENTIAL IN THE AREA

Conflict maps as a common outcome

Conflict analysis is the next logical step which follows from the assessment of sectoral priorities. This not only means identifying (real and potential) conflicts, but also rating

45 BaltSeaPlan Report No. 15: Towards a Pilot Maritime Spatial Plan for the Lithuanian Sea.
46 BaltSeaPlan Report No. 16 : Developing a Pilot Maritime Spatial Plan for the Western Coast of Latvia

them in terms of their severity and relevance. There is no set format for doing this, and each pilot project developed its own method. In some cases, a compatibility matrix was used as a visual aid; others used specific typologies to describe the nature of the conflicts encountered. Each pilot project ended with a map highlighting the spatial distribution and location of the conflicts identified.

Similar conflicts were identified

The most common conflict potential is between combinations of offshore wind farming, ports and shipping, Natura 2000, tourism and fishing. More localized conflicts included those between different forms of recreation (e.g. boating and fishing in coastal waters), those between new uses such as offshore wind and sand and gravel extraction, oil and gas, and military uses.

More conflicts than synergies

Some claims on marine space are more problematic in terms of potential conflicts than others. Natura 2000 areas emerge as one of the most difficult, potentially conflicting with shipping lanes, dredging, trawling and other destructive uses, offshore wind farming (sea-bed and birds), mining, sand and gravel extraction, fishing, and alien species from ballast water.Shipping and energy can also be problematic in that they create spatial pressure transnationally and nationally. Nearly all countries are planning upgrades of port facilities in line with expected growth in sea-borne transportation and LNG. Offshore wind farming and Natura 2000 were two of the few sea uses for which potential synergies were identified.

Conflicts occur in clusters

An interesting finding is that conflicts tend to occur in clusters of two to three different uses. Common conflict clusters in the pilot areas include the following:

01. offshore wind farming, nature conservation and the landscape

02. coastal fishery, nature conservationand oil extraction

03. tourism and nature conservation

04. oil mining, fishery and shipping

3. ASSESSING THE SPATIAL COMPATIBILITIES OF USES AND EXPECTED USES: CONFLICT MATRICES AS A KEY TOOL

Conflict matrices identify conflict potential or real conflicts

Conflict matrices make for a useful visual aid in identifying conflicts. They were used in two different ways: Firstly, as an indication of conflict potential, and secondly, as an indication of real conflicts. The former establishes which sea uses can potentially occupy the same sea space (assisted perhaps by appropriate management) and which sea uses are mutually exclusive. This can be useful background information with respect to achieving spatial efficiency. In the latter case a matrix summarizes the conflicts identified and picks out those that can be lessened through MSP.

Compatibility of uses vs. environmental compatibility

The first table is an example of the first case, representing an overview of spatial compatibilities in the Baltic. This is not a comprehensive list of all sea uses; importantly also, it does not refer to the environmental compatibility of these uses. The table simply shows where uses can conceivably occupy the same sea space. Synergies have only been listed where they are obvious and where uses can actually have a mutual benefit rather than just tolerating each other. In the case of coastal tourism/fishing this primarily refer to local, traditional fishing activities.

SPATIAL COMPATIBILITY OF KEY USES IN THE BALTIC

	cables and pipelines	coastal tourism	dredging	fishing	landscape	mariculture	marine mammals/birds	mining sand, gravel, oil, gas)	MPAs	offshore wind farms	ports (incl. LNG terminals)	recreational boating	seafloor Habitats (reefs)	shipping (goods, passengers)	shipping (oil)[1]
cables and pipelines			xx	x[49]		x[48]	x[48]	xx	x[48]	x	x[48]		xx	0[48]	0[48]
coastal tourism				s			s			0	x[49]				
dredging	xx					x[49]		xx	xx				xx		
fishing	x[50]	s	x[49]			x	x	xx	x[52]	xx	xx		xx		
landscape						x				xx	x				
mariculture			x[51]	x	x			xx	xx	s	xx			xx	xx
marine mammals/birds	x[47]	s	x	x						x	xx			xx	xx
mining (sand, gravel, oil, gas)	xx		xx	xx		xx			xx[53]	xx	xx		xx	x	x
MPAs (Natura 47000)	x[51]		xx	x[52]		xx		xx[53]		xx[54]	x[55]			x	x
offshore wind farms	xx	0		xx	x	s	xx	xx	xx[55]		xx		x	xx	xx
ports (incl. LNG terminals)		x		x	x	xx	xx	xx	x[56]				xx		
recreational boating						xx								0	
seafloor habitats (reefs)	xx		xx	xx[48]				xx		x	xx			x	x
shipping (goods, passengers)						xx	xx	xx	x	xx		0	x		
shipping (oil)						xx	xx	xx	xxx			0	x		

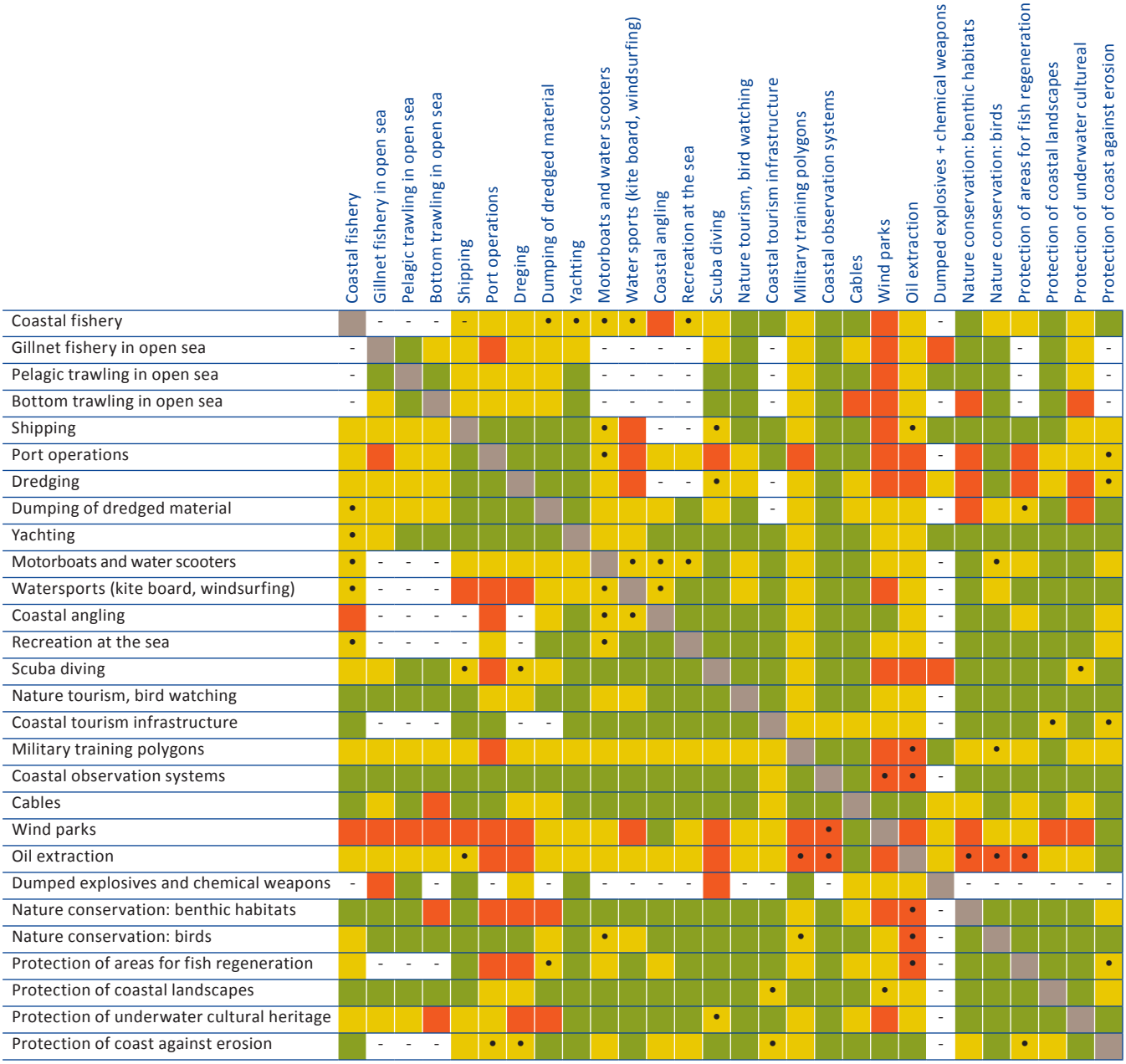
x = some incompatibility
xx = strong incompatibility
0 = possible incompatibility
s = potential synergy

47 Shipping (oil) is considered a major threat on account of the dangers of oil spills. It is listed separately because MSP has a particular role here in minimising collision risks and the potential impact of oil spills (e.g. extra wide shipping lanes, safety distance to fixed uses such as offshore wind farms, siting of potential collision risks away from sensitive habitats, ensuring good access to rescue boats etc.)
48 Spatial incompatibility during laying cables and pipelines and maintenance
49 Visual impact
50 trawling
51 Might affect water quality
52 If sea floor habitats are affected
53 Depending on what is protected; may be a temporal conflict that is open to management
54 Especially sea floor habitats, other on account of water quality
55 Not necessarily in every case, depends on protected good (and EIA)
56 LNG ports in Natura 2000 sites

From BaltSeaPlan Report No. 9

In the Latvian pilot project, a conflict matrix identifies real conflicts requiring a solution: Those that are particularly serious and those where there is an overlap of incompatible interests. The conflict matrix therefore identifies topic areas where spatial solutions will need to be found.

CONFLICT ANALYSIS



From BaltSeaPlan Report No. 16

- Compatible sea uses necessary
- Sea uses compatible under certain conditions
- Conflicting sea uses
- • Spatial solutions/conditions for sea use
- - Sea uses that spatially are not overlapping

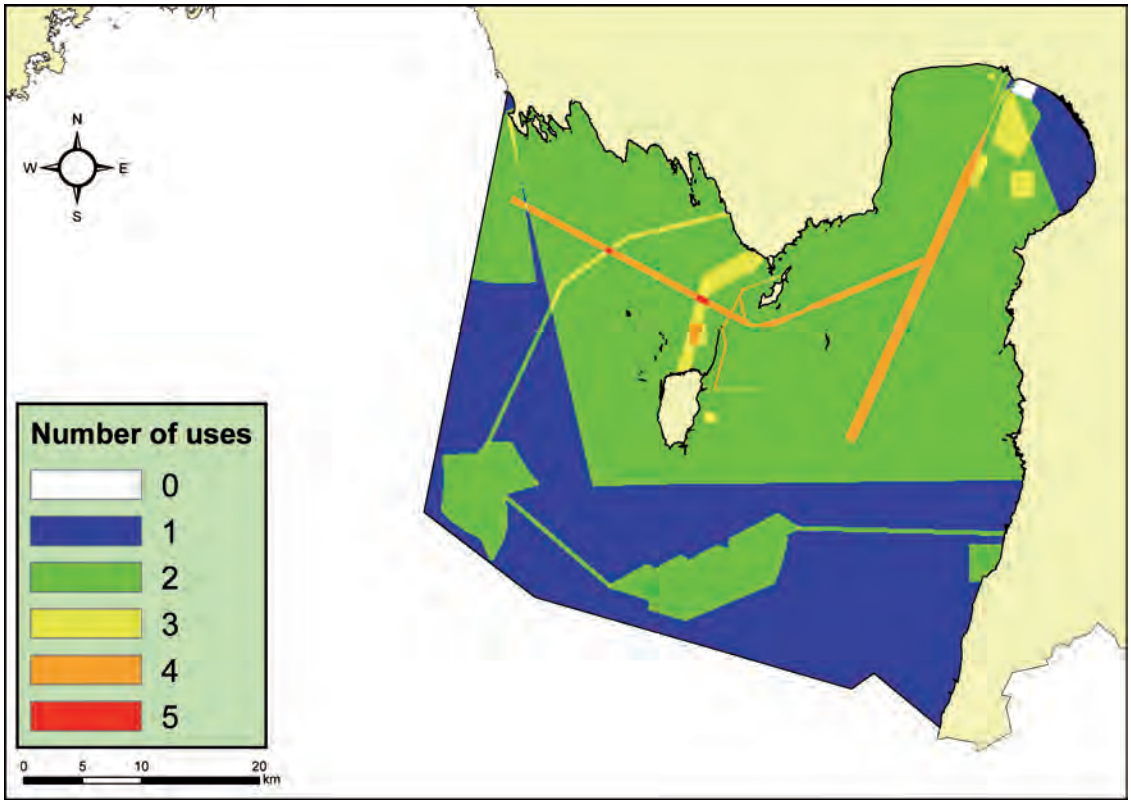
4. VISUALISATION OF CONFLICTS IN MARINE SPACE

Conflict maps are a useful visualisation tool

All pilot projects used a map to show the spatial overlaps of different sea uses and set objectives for maritime space. In some cases these overlays also included environmental information (e.g. water depth). Such overlays are useful tools of visualisation in that they represent snapshots of the existing pattern of use and can be used to highlight projected uses, both those already agreed (e.g. search areas) or those still under debate (e.g. proposed nature conservation areas). This makes them good tools of communication as they can be used as a basis for stakeholder discussion.

In line with the above conflict matrices, however, it should be noted that mere overlap of uses does not necessarily imply conflict. In the case of Middle Bank[57], offshore wind farming was found to be quite compatible with overlapping cod spawning areas for example. In the case of Lithuania, conflicts did not arise from competition between different uses, but rather the unclear allocation of priorities and the lack of comprehensive regulation for marine space. The maps produced for the Lithuanian Sea and Middle Bank therefore only express overlap rather than conflicts. The same applies to the Estonian pilot case: A map was produced showing intensity of use expressed in the total number of uses counted for specific sea areas.

THE NUMBER OF USES IN GIVEN SEA AREAS OF PÄRNU BAY



From BaltSeaPlan Report No. 13

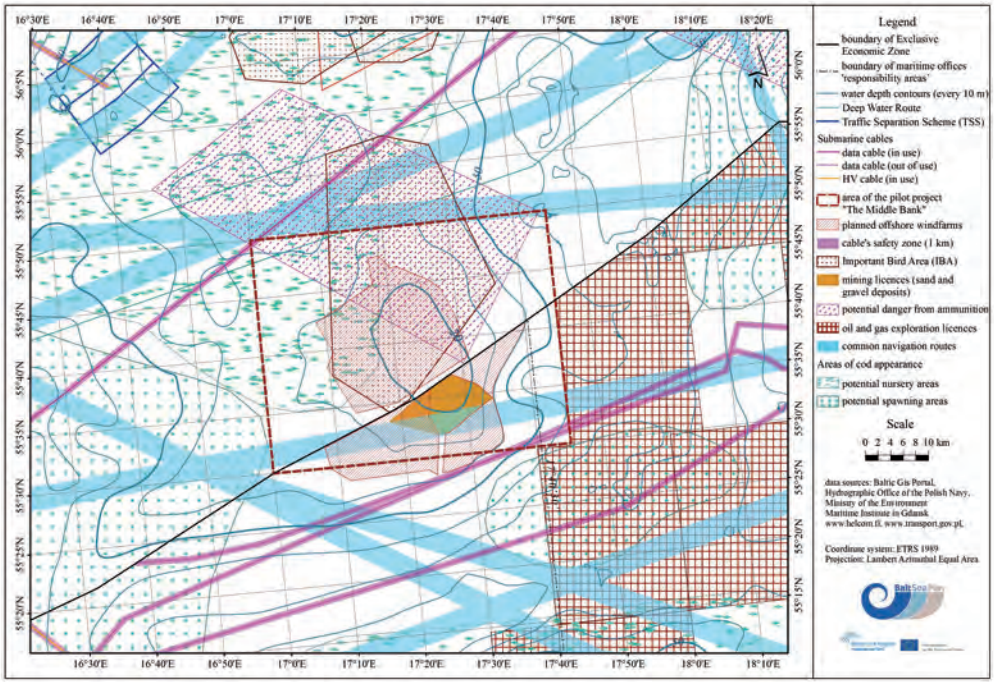
57 BaltSeaPlan Report No. 10: Developing a pilot Maritime Spatial Plan for the Middle Bank.

The Estonian case[58] illustrates a general finding from the nearshore pilot cases, which is that single use or no use areas are actually rather rare.

Another point is that conflicts will not always arise from specific uses, but rather from their knock-on effects. In Middle Bank, offshore wind farms themselves were estimated to be relatively unproblematic due to the low volume of shipping. Here it is the associated transmission cables that are likely to conflict with shipping, fishing and aggregate extraction. Ideally, conflict analysis should take account not only of existing uses, but also of prospective new uses and their likely impacts.

Conflicts due to the knock-on effects of uses

OVERLAPPING USES IN THE CASE OF MIDDLE BANK

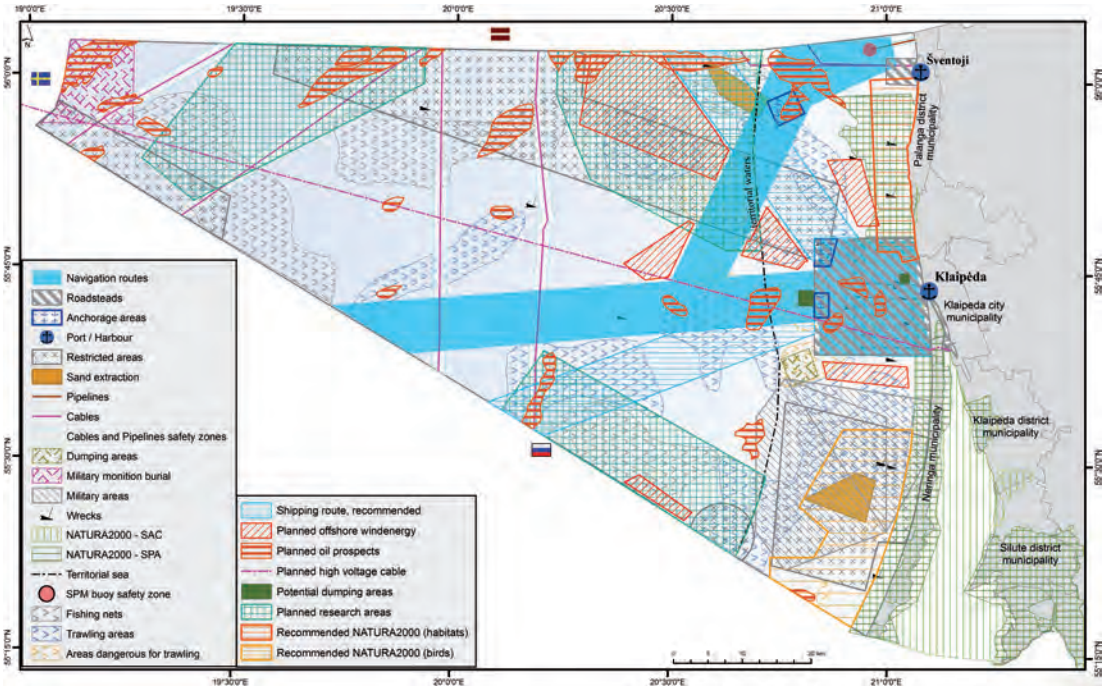


From BaltSeaPlan Report No. 10

Spatial overlap does not always imply conflict

58 BaltSeaPlan Report No. 13

OVERLAPPING SEA USES IN THE LITHUANIAN PILOT AREA



From BaltSeaPlan Report No. 15

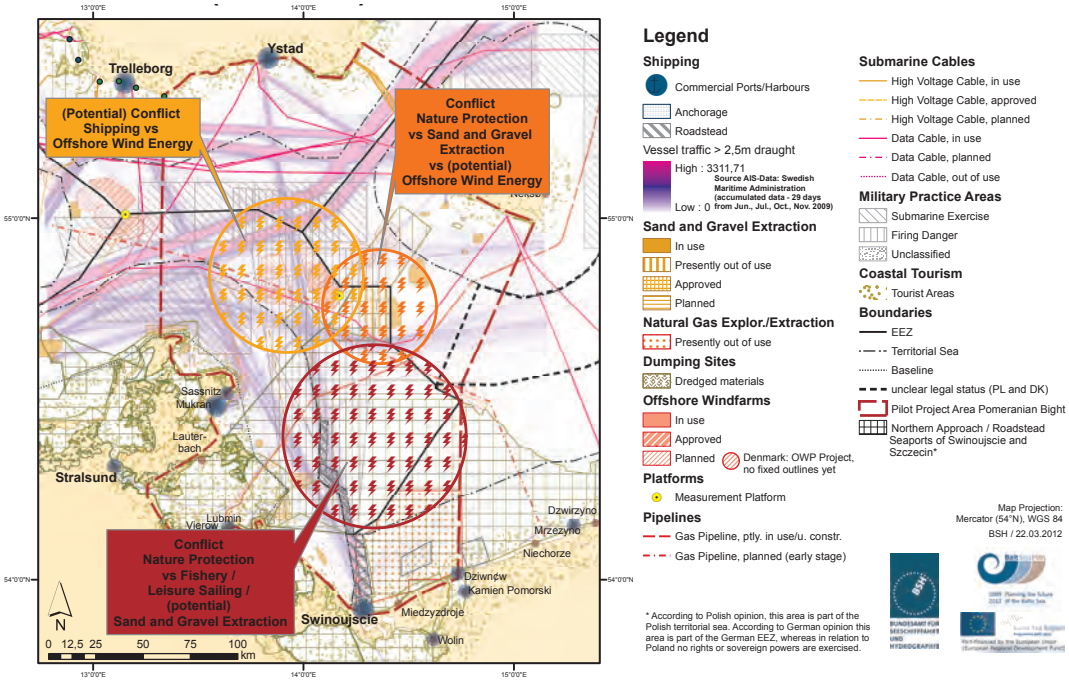
Ideally, conflict analysis should take account not only of existing uses, but also of prospective new uses and their likely impacts.

Like Middle Bank, the Pomeranian Bight[59] case study took account of prospective new uses. A conflict map was produced showing specific conflict clusters arising in specific locations on account of potential new uses. At this stage, these potential new uses are only possibilities, but given the existing policy environment and national targets, it is reasonably likely that they will become a reality in the mid-term. Conflicts mostly involve offshore wind farming as a new use arriving in a busy sea area, but there are also existing conflicts such as nature conservation, fishing and leisure activities which may be exacerbated by an additional use (in this case, aggregate extraction).

Analysing the conflict potential of new uses

59 BaltSeaPlan Report No. 9: Developing a Pilot Maritime Spatial Plan for the Pomeranian Bight and Arkona Basin

OVERLAPPING USES AND AREAS OF CONFLICT IN THE POMERANIAN BIGHT PILOT AREA



From BaltSeaPlan Report No. 9

5. DIFFERENTIATING BETWEEN DIFFERENT TYPES OF CONFLICT

Typologies of conflictscan be a useful pointer for the next stage of developing solutions.

Typologies of conflict help develop solutions

Latvia used a simple distinction of main marine and smaller coastal conflicts:

Main marine conflicts arising from new sea uses such as offshore wind farming and oil extraction. Both are expected to reduce the available areas for fishery and shipping, with negative impacts also on nature conservation (biodiversity, fish spawning, coastal landscape).

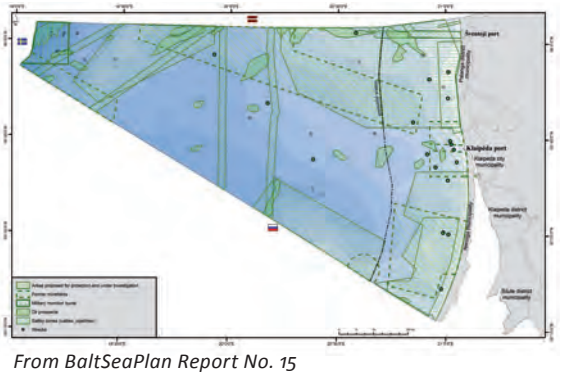
Smaller coastal and marine conflicts (localized) are those between recreational activities, angling and coastal biodiversity/local people. These are probably easier to resolve than the above.

A spatial typology of conflicts

The Lithuanian pilot project mapped different areas characterised by particular types of conflict. These conflicts arise from specific constellations of use and environmental conditions in certain sea areas. Each area type requires a specific form of management:

Areas defined by existing restrictions or special concerns. These areas include dumping grounds for ammunition, particular nature conservation assets, or areas of particular environmental sensitivity. Conflicts in these areas can be resolved by using appropriate spatial measures (e.g. buffer zones) or excluding certain uses.

AREAS OF SPECIAL CONCERN

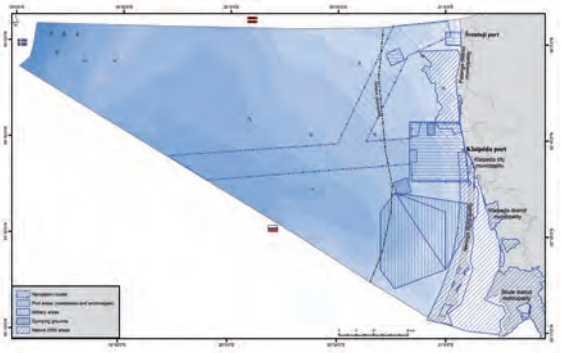


From BaltSeaPlan Report No. 15

Green areas: Areas proposed and under investigation for nature conservation, former minefields, military ammunition burial, oil prospects, wrecks, safety zones around cables and pipelines

Areas already reserved for or occupied by other uses which are subject to specific regulations and restrictions. Although not principally closed to new uses, detrimental impacts on the existing uses should be avoided. If a new use is to be given priority in such an area, compensation measures would need to be considered in order to ensure the objectives of the original use are not compromised.

AREAS ALREADY RESERVED BY OTHER USES



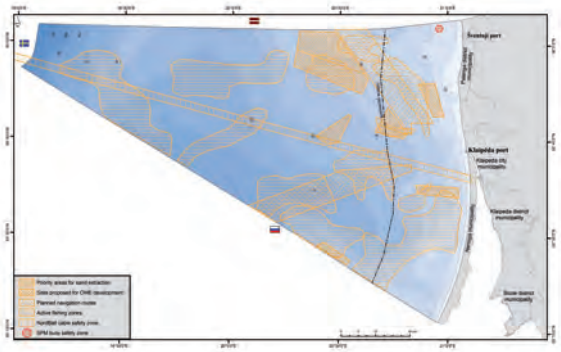
From BaltSeaPlan Report No. 15

Blue areas: navigation routes, port areas, military areas, dumping grounds, Natura 2000 areas

Areas proposed as priority areas because of particular suitability for certain uses. Areas particularly suitable for several uses are likely to lead to intense discussion.

No go areas where no other use is possible because of existing high level priority or strong reservation for future uses.

PRIORITY (ORANGE) AND NO GO (RED) AREAS



From BaltSeaPlan Report No. 15

Orange/red: priority areas for sand extraction, proposed OWF sites, planned navigation routes, active fishing zones, nordBalt cable safety zone, SPM buoy safety zone

In the Middle Bank pilot case conflicts were categorized according to the degree to which they can be solved by MSP.

- Those conflicts that can be solved by planning provisions, e.g. by spatially separating the different uses
- Conflicts that can be solved by planning provisions but only in ways not entirely in line with international law, e.g. restricting some freedoms of the sea in order to make room for other sea uses where sea space is scarce
- Preliminary solutions based on insufficient knowledge; the precautionary principle is applied
- Conflicts that cannot be solved by planning provisions because there is no existing policy; management options were proposed instead

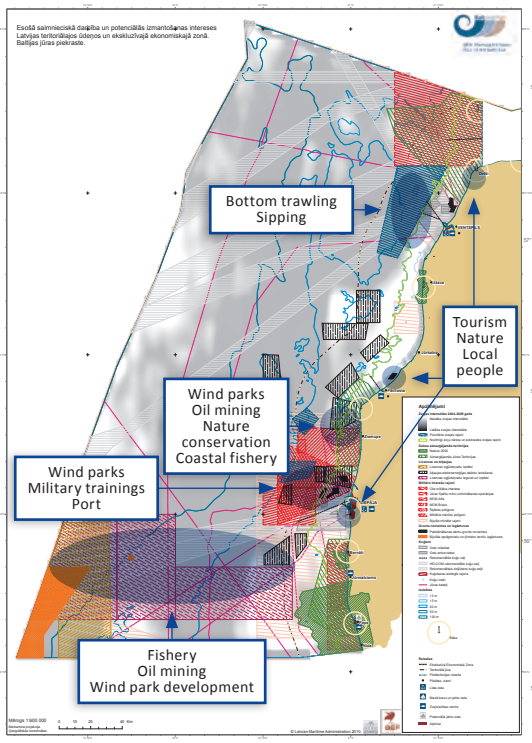
Conflicts that can and cannot be solved by MSP

A TYPOLOGY OF CONFLICTS DEPENDING ON WHETHER THEY CAN BE SOLVED BY MSP OR NOT

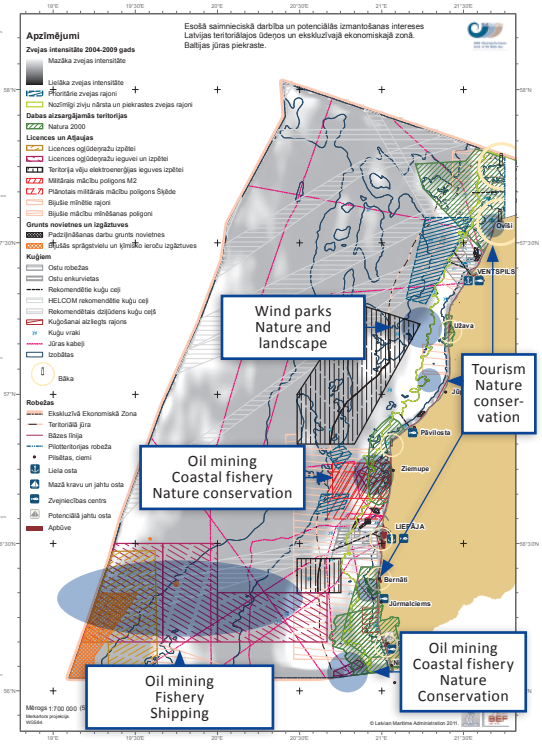
From BaltSeaPlan Report No. 10

CONFLICT ANALYSIS AS A DYNAMIC PROCESS

Conflict analysis should be regarded as a dynamic process, especially (but not only) where stakeholders are directly involved. In Latvia, conflict analysis was dynamic simply because the available information on sea uses kept changing. The nature of the conflicts did not change, but the location of conflicts in space had to be re-considered over the course of the planning process.



Map 1: Identivied conflicting sea use area October 2010



Map 2: Identified conflicting sea use area June 2011

From BaltSeaPlan Report No. 16

Revisit conflict analysis as new information becomes available

A similar case can be made for new information becoming available. Most likely, this will be environmental information (e.g. new habitat maps, information on changing environmental conditions), but it could also be information on current uses (e.g. the compatibility of mariculture and offshore wind farming). New information may also relate to new forms of sea use, such as the arrival of offshore wind farming and other forms of energy generation a decade ago. This emphasises the cyclical nature of MSP and the need to keep each stage of the planning process flexible to account for new information. Another aspect is that stakeholder opinions and priorities may shift in time, leading to different assessment of information.

THE DESIRED OUTCOME OF CONFLICT ANALYSIS

Conflict analysis should give planners specific tasks

Irrespective of the form of conflict analysis chosen, and irrespective of stakeholder involvement, conflict analysis should end with a specific and coherent task for planners to be tackled in the planning stage. An indication should be given of what priorities should be set in space, where and why.

Stakeholder involvement at different stages of the planning process

There are various reasons for involving stakeholders in MSP processes. Within BaltSeaPlan, the most common reasons were to gain better understanding of the complexity of the marine area, to learn more about the human influences on the area, to understand the underlying sectoral priorities and interests, and to identify conflicts and problems. Another reason was to develop new solutions to the problems identified.[60]

It is worth remembering that each of the BaltSeaPlan pilot projects differed substantially with regard to the size of the planning area, legal conditions as well as the competences and experience of the planning team itself. These differences are reflected in the degree of stakeholder involvement in the pilot projects. Stakeholder involvement differed in terms of scope and timing depending on the purpose, research focus, and types of conflict anticipated in the project.

ORGANISING STAKEHOLDER INVOLVEMENT[61]

Generally, pilot projects organised stakeholder involvement along similar lines:

Different pilots – but one logic of planning for stakeholder involvement

Step 1: Agreement on the stakeholder management approach ("What do we want?")

Step 2: Identification of potential stakeholders and stakeholder groups (stakeholder mapping – "who should be informed/involved"?)

Step 3: Running a stakeholder typology ("How can we learn more about the stakeholders, their interests and expectations?")

Step 4: Finding the right techniques and timing to interact with different stakeholder groups ("How to interact, with what purpose and when?")

Step 5: Evaluation of the process/activities ("How did it work?")[62]

As a rule, stakeholders included those formally invited to MSP processes, those linked to commercial and non-commercial activities in the project area, and those who contribute to the public and scientific debate on the use of maritime space. However, stakeholder groups differ from country to country and from MSP area to MSP area, which made it impossible to draw up a generic list of stakeholders that should be involved in MSP within the BSR. An important lesson is that stakeholder management needs to take into account the plurality and diversity of stakeholders in each specific case. There is no room for stereotypes and no way around a proper stakeholder analysis as a foundation for good stakeholder involvement in MSP.

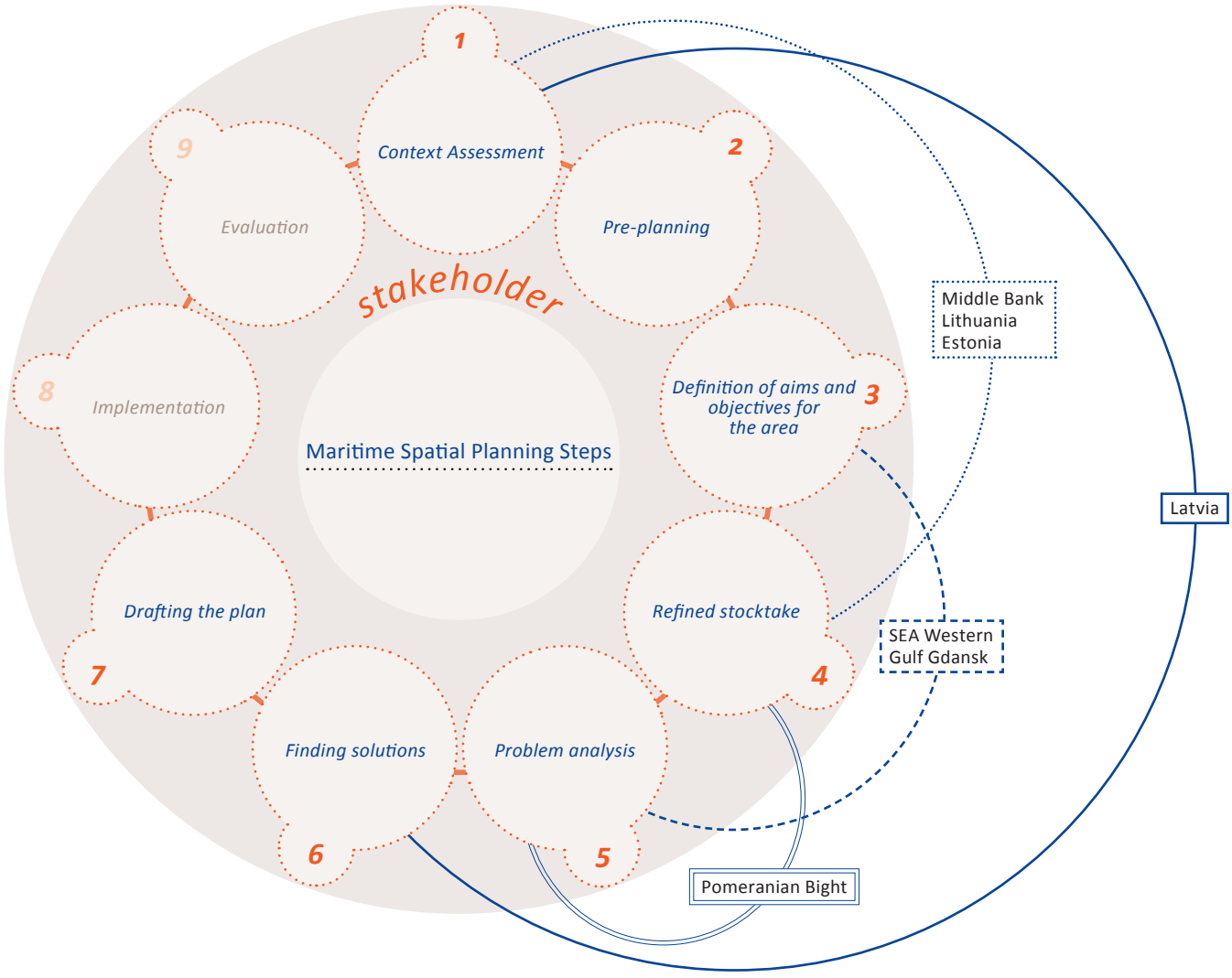
No uniform typology of stakeholders

The timing and extent of stakeholder involvement also differed considerably among the pilot projects. Latvia, Middle Bank, Lithuania and Estonia began stakeholder involvement as early as the context assessment and pre-planning stages and continued it all the way through to conflict analysis. In the case of Latvia, stakeholder involvement extended one step further to finding solutions for the problems identified. Pomeranian Bight only involved stakeholders during the stocktaking phase, although potential conflicts were also discussed (see figure below).

Different timing of stakeholder involvement

60, 62 From BaltSeaPlan Report No. 24: p. 9
61 From BaltSeaPlan Report No. 24

PHASES OF STAKEHOLDER INVOLVEMENT IN THE PILOT PROJECT



TIMING AND SCOPE OF STAKEHOLDER INVOLVEMENT IN THE VARIOUS PILOT PROJECTS

Different intensities of stakeholder involvement

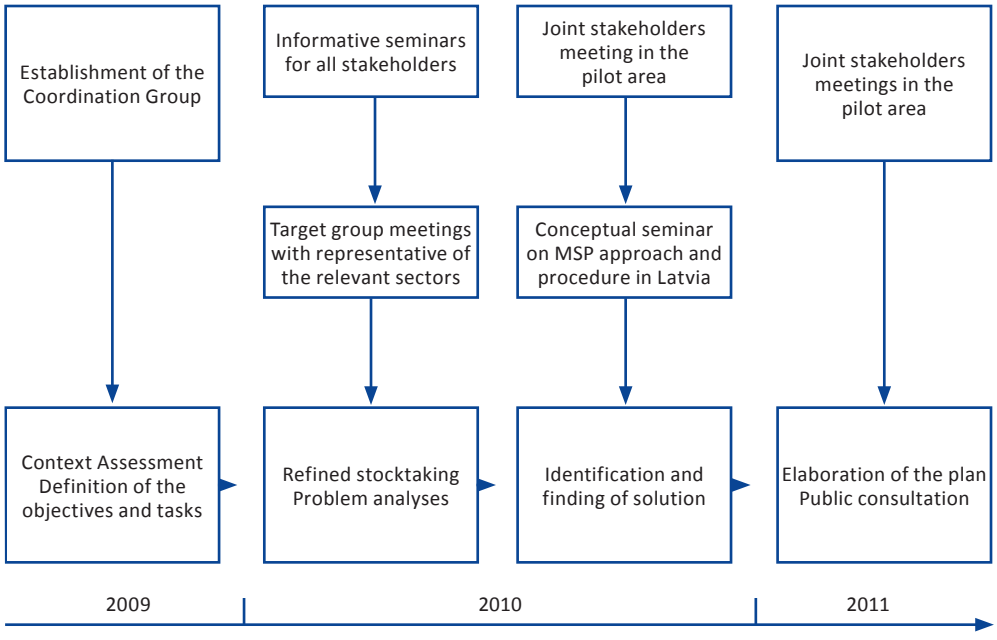
There are different intensities of stakeholder involvement ranging from consultative to fully participative approaches where the stakeholders themselves decide on the plan and the authorities merely facilitate the legal process.[63]

- In the Pomeranian Bight pilot case a consultation-based approach was chosen where the project partners gathered stakeholders' views and attitudes on marine uses and priorities for their own internal assessment.
- In Estonia a mixed approach was chosen, mostly focusing on generating new expert knowledge. A new interactive stakeholder tool was developed and tested within the Parnu Bay pilot showing that stakeholder discussions can be efficiently supported by visualisation of map layers.

63 From BaltSeaPlan Report No. 24

- In Lithuania, BEF prepared the ground for developing a maritime spatial plan by means of general awareness-raising and stakeholder involvement in conflict identification.
- The Latvian pilot project was the most inclusive process overall, applying a participative planning approach in a total of 17 workshops. Different stakeholders were involved, amounting to a total of 200 participants. This approach was chosen due to the lack of a legal basis for MSP and no clear "holder" of relevant information.

STAGES OF STAKEHOLDER INVOLVEMENT IN THE LATVIAN PILOT CASE



From BaltSeaPlan Report No. 16

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Involvement in at least three stages

As a general lesson, there is no hard and fast rule for the timing or intensity of stakeholder involvement. If previous work (e.g. drafting an SEA) has already involved stakeholders, it may be enough to bring in stakeholders just for analysing conflicts in space. A general conclusion is that ideally, stakeholders should at least be actively involved in three phases: the initial preparatory phase (before preparation of the draft plan in order to give opinions), the phase of MSP development (to allow them to get to know the plan and to state their interests) and the phase of drafting and approval in order to deal with contentious issues.[64]

Advantages of early stakeholder involvement

Early stage stakeholder involvement such as carried out in Latvia and Lithuania does bring several clear advantages: Not only does it raise awareness of MSP as a concept and process, but also leads to comprehensive discussion of the issues at hand, collaborative identification of conflicts and problems, and joint proposal of solutions. It also means stakeholders have a chance of getting to know one another, building trust among each other and also in the MSP process and its facilitators. In the case of Latvia and Lithuania, this will help when MSP begins "for real" and is done as an official statutory process.

Before engaging in an MSP process, it therefore pays to think carefully about the degree of participation that is desired and possible in terms of budgets and timing.

64 From BaltSeaPlan Report No. 24

THE SPECIAL CASE OF THE TRANSNATIONAL MSP PILOT PROJECTS

More time & resources required for transnational stakeholder involvement

Stakeholder involvement is easier to organise in the case of a national project. Constraints at the transnational level can magnify problems experienced at the national level as there are different languages, different planning traditions, as well as potentially competing economic interests to consider (one example is potentially competing ports). Uneven distribution of space and resources is also an issue (for example, Natura 2000 areas taking up much sea space in some countries but not in others). Transnational planning processes therefore need longer lead-in times and more financial resources than national processes, relying all the more on the close cooperation between the relevant planning authorities.

Both transnational cases within BaltSeaPlan were of particular complexity with regard to stakeholder involvement. In the case of Middle Bank, two countries came together to deal with a relatively remote sea region a long way from the coast and under limited current pressure. This made it difficult to identify relevant stakeholders which were willing to even think about this area. The Pomeranian Bight pilot area in contrast is a large area with a wide range of uses and some intense pressures, but involves four countries all at different stages of maritime spatial planning (Sweden was engaged in an institutional and legal transition phase).

A planner-led approach

A decision was taken that neither of the two transnational pilot cases would attempt a fully interactive participative planning process. Instead, focus was on the planners themselves, creating closer liaison, gaining mutual understanding and trust and agreeing on shared aims and objectives for marine space. This is important since close cooperation between the relevant planning authorities is a prerequisite for transnational processes as only they can coordinate transnational stakeholder processes and ensure a productive outcome.

Nevertheless national consultations and workshops were also organised in the respective Polish and German parts of the Pomeranian Bight pilot area. The purpose was to identify and confirm trends and developments and to give room to more informal exchange of information, e.g. on different scenarios for shipping traffic.

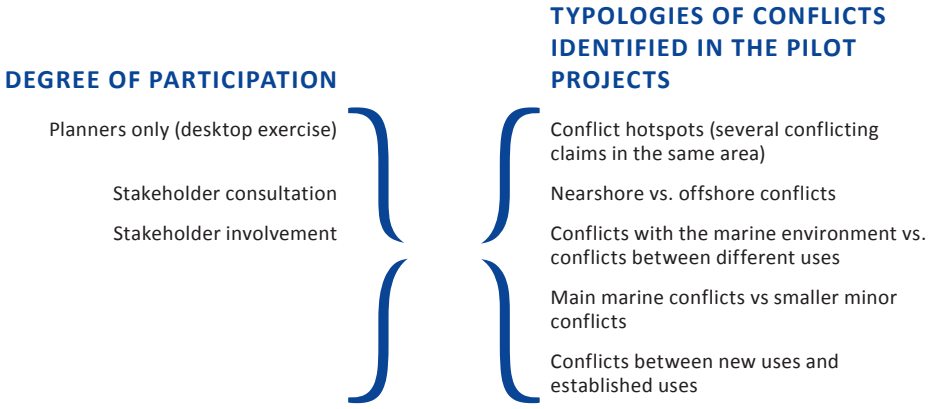
It has to be stressed that BaltSeaPlan has not resulted in a template for transnational stakeholder consultation or involvement. The follow-up project "PartiSEApate", however, will take this issue on board with the two transnational BaltSeaPlan pilots serving as a testing ground.

STAKEHOLDER INVOLVEMENT IN CONFLICT ANALYSIS: TOOLS AND METHODS

Stakeholder involvement is particularly important in conflict analysis as this is the time for defining criteria for problem-solving. What use should be given priority where and why? The better this preparatory step is managed, the greater the likelihood that good solutions will be found and that the plan will find widespread acceptance.

From planner-led to stakeholder-led conflict identification

Identification of conflicts can either be stakeholder-led and more participative or planner-led and less participative. The extreme ends of the scale would be a fully interactive stakeholder workshop (as was done in Latvia), and a desktop exercise where conflict identification and their localization is done by planners based on existing maps. Both processes have advantages and disadvantages, with a stakeholder led process clearly more costly in terms of time and effort involved. Broad-scale stakeholder participation is especially important where MSP has no previous tradition, or where certain issues are much contested.



BaltSeaPlan tested two tools to facilitate stakeholder-based conflict analysis: BaltSeaPlan Web as a GIS-based application, and the World Café and Café Scientifique as two methods.

BaltSeaPlan Web: A New Tool for Stakeholder Involvement[65]

BaltSeaPlan Web is an information and communication tool developed specifically for maritime spatial planning purposes by the University of Tartu[66]. Users can create their own maps, which has the advantage of promoting social negotiation by highlighting multiple and even opposing perspectives. This can facilitate better understanding between different user communities.

In Scotland, a similar online tool was developed together with fishermen to allow. Marine Scotland to visualise the areas used by fishermen.

The tool was tested within the Pärnu Bay pilot project, where it was used to integrate herring fishery management into the MSP process.

65 From BaltSeaPlan Report No. 28: BaltSeaPlan Web - advance tool in support of Maritime Spatial planning
66 From BaltSeaPlan Report No.13

The participative process took the following steps:

05. A GIS map was produced showing the spatial distribution of tourism, fishing, shipping, military, and planned wind farms, as well as jurisdictional boundaries delineating the areas covered by existing management arrangements.

Identifying the Pärnu Bay MSP area as a place based management area

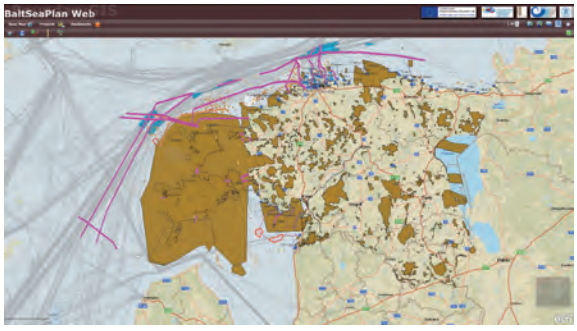
06. Spatial conflicts were identified between the inherently spatial ecological components and the human use components in the area. The map layer visualization of BaltSeaPlan Web was used to discuss the planning concept for Pärnu Bay MSP at a stakeholder meeting in May 2011. At this meeting, stakeholders reached consensus on a general shared vision and conceptual definition of "Pärnu Bay as a cradle of marine life including fish".

Identifying Spatial Conflicts

07. The special case of the herring fishery was then discussed and information included in the map. Pärnu Bay is an area of shallow water where trap net fishery is the only permitted type of fishery. The herring fishery is fee-based and requires registration as a commercial entrepreneur. Fishermen receive fishing permits on the condition that they observe all spatial and temporal restrictions. The number and the positions of the individual trap nets in Pärnu Bay are historically established.

Integrating information about herring fishery

SCREENSHOT OF THE BALTSEAPLAN WEBTOOL



Sea areas planned for wind farm development will most probably need to be closed for some fisheries, resulting in more restrictions to the herring fishery.

MSP would mean more restrictions to fishery

Stakeholders underlined the importance of protecting herring spawning grounds in Pärnu Bay, which are sensitive both to increasing human pressure and environmental regime shifts. Reliable long-term data on spawning grounds constitute a factual basis for potentially implementing "Essential Fish Habitats" (EFH) in support of the shared vision of Pärnu Bay as a "cradle of herring".

The Estonian Marine Institute continues to make available the BaltSeaPlan Web application. Project partners can freely use this web application under the condition that the software source is duly acknowledged.

The Latvian case: participatory conflict analysis

The Latvian project is exemplary for participatory conflict analysis and the joint preparation of solutions.

Identifying conflicting issues by sector

A first general stakeholder meeting was organised to identify perceived (general) incompatibilities and concerns for the pilot area. A list of potential conflicting issues was then drawn up over the course of four thematic meetings with fishermen, wind farm developers, ports, coastal municipalities, and tourism representatives. Each sector was able to comment on the perceived conflict potential and the issues they considered to be in conflict. This resulted in the following table of expected conflicts drawn up from the respective sectoral perspectives:

EXPECTED CONFLICTS FROM THE PERSPECTIVE OF THE SECTORS

	CONFLICTING SECTORS	MAIN CONFLICTING ISSUES
FISHERY	Wind farms	Limitations for fishery within territory of wind farms: Fishermen expect to be compensated for the loss of income. Coastal zone (up to 20 m depth) and fish spawning areas should be regarded priority area for fishery, where no wind parks should be allowed.
	Oil mining	Minor limitations for fishery foreseen, but might have negative impacts on fish stock and spawning grounds
	Shipping	Fishing with stationary fishing gears might be not allowed on intensively used shipping routes
SHIPPING & PORTS	Wind farms	Not acceptable on frequently used shipping routes
	Fishery	Fishing with stationary fishing gears on shipping roots shall be avoided
	Military trainings	Military shooting polygons should not overlap with port area (case of Liepaja port)
	Shipping	Demarcation of official shipping routes would be against the rights shipping freedom
WIND FARMS	Energy	Connection possibilities and capacity of existing and planned electricity power grid are not enough for ambitious wind park development plans
	Military trainings	Wind parks should not overlap with shooting polygons
	Shipping	Navigation through wind farms might be limited depending on situation and size of the ship
	Oil mining	Area licensed for investigation and oil mining are not available for wind park development
COASTAL MUNICIPALITIES & TOURISM	Coastal infrastructure	Lack of access roads and parking lots cause conflicts between tourists, local inhabitants, anglers and nature conservation
	Ports	Ports do not have sufficient infrastructure for recreational boats (lack of marinas);
	Nature conservation	Intensive tourism and water sports should be kept away from the sites important for bird resting and moulting or vulnerable coastal habitats
	Fishery	Illegal, not marked fishery nets that are placed in front of ports or areas used for water sports
	Wind farms	Potentially visual negative impact on landscape at the sites important for tourism and recreation if placed closer than 30 km from coast
	Military trainings	Not enough coordination/information on schedule of military trainings

From BaltSeaPlan Report No. 16

The World Café method

A conflict map was produced on the basis of this and put up for discussion at a second stakeholder meeting. In order to stimulate a more direct exchange of opinions among different sectors and find consensual solutions for conflicting issues, stakeholders at this second meeting were divided into four mixed groups. Using the "World Café method", they were then invited to discuss the conflicts related to the sectors of fishery, wind farming, shipping and ports, and tourism. In a World Café, the groups move from one table to another discussing the conflicts of one sector, respectively. The facilitator stays with the same sector table and introduces the outcomes of the previous discussion to the next group. The next group then adds their own proposals. The discussion was facilitated by the project team who also compiled the results and presented them back to the plenary. As a result of this discussion some of the conflicts were eliminated and technical solutions proposed for others.

PRINCIPLES OF THE WORLD CAFÉ

Adapted from BaltSeaPlan Report No. 16

Café Scientifique in Lithuania

A series of Café Scientifique events were held in Klaipeda as part of the Lithuanian pilot project. Café Scientifique is a method which is used around the world to explain science to the public in a friendly, relaxed "café" format The Lithuanian events covered the history of marine culture, development of offshore wind and marine protected areas in the context of MSP. It was found that the informal setting of the event helped to appease the tensions between the conflicting sides while nevertheless providing a forum for diversity of views. At the same time the discussion was kept free from professional jargon. By attracting various stakeholders invited personally and through mailing lists, Café Scientifique proved to be an effective way of awareness-raising, highlight existing conflicts and promote stakeholders by encouraging open expression of different views on MSP.[67]

The Café Scientifique method reduces tensions

DIFFERENCES IN STAKEHOLDER INVOLVEMENT BETWEEN TERRESTRIAL AND MARITIME SPATIAL PLANNING

According to a joint assessment undertaken by BaltSeaPlan partners there are important differences offshore and onshore stakeholder management. These are largely determined by:

- The nature of the stakeholders: In MSP participation of stakeholders has so far been limited to associations, NGOs and public agencies. Even though some partners have experienced the formation of ad hoc protest groups there are usually no NIMBY groups (NIMBY = Not in my back yard!). The experience of project partners is that stakeholders involved in MSP processes tend to be more professional than stakeholders involved in onshore planning processes.

Different Stakeholders

- The ownership status: Marine space is mostly in the public domain and the number of stakeholders is smaller compared to the number of stakeholders involved in planning on land. Instead of private owners or residents, many users of the sea are mobile, with their actual base in other places. Whilst this seems to reduce the number of potential spatial conflicts it also renders the identification and selection of stakeholders more complicated.

Hardly any private "owners"

- The dependence on international legal acts: MSP is linked to international legal acts, which are less specific about how to run stakeholder management and less prescriptive as to who should be involved. Onshore spatial planning tends to be based on more detailed legislation.

Legal acts less specific

- The quality and quantity of information: Usually spatial knowledge of marine areas is less detailed than that of land areas. This makes it even more important to involve a wide range of stakeholders in MSP who may be able to add relevant information.

More Important as information source

- The role of political influence and public attention: According to the project partner's experiences MSP processes can be as political as onshore planning processes. Political influence on the MSP process is usually top-down and stems from governments and ministries with different programmatic interests[68].

More "top-down"

67 see BaltSeaPlan Report No. 24
68 BaltSeaPlan Report No. 24

Preparing a Strategic Environmental Assessment for a Maritime Spatial Plan[69]

PROVISIONS OF THE SEA DIRECTIVE

Integrate environmental considerations in preparation & adoption of plans

According to the Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment a Strategic Environmental Assessment (SEA) must be carried out for an MSP. The objective of the so-called "SEA Directive" is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development. A fundamental aspect of the SEA is the environmental report (Art. 5), in which the likely significant effects of implementing the plan or programme on the environment are identified, described and evaluated together with reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme.

Essential parts of an SEA

An SEA report for MSP must inter alia cover:

- a description and assessment of the marine environment (status quo analysis),
- a description and evaluation of any substantial impacts on the marine environment that are likely to be caused by implementing the maritime spatial plan,
- measures aiming at preventing or reducing such substantial impacts as best possible including monitoring, and
- a compatibility assessment regarding Natura 2000 areas.

Based on current knowledge

According to Art. 5(2) SEA-Directive this environmental report needs only include information that may reasonably be required, taking into account current knowledge and methods of assessment, the contents and level of detail in the maritime spatial plan, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in order to avoid duplication. The latter is especially true as a more detailed Environmental Impact Assessment is required for the licensing of projects after the Maritime Spatial Plan has entered into force.

Given the limited amount of MSPs currently in force real-life experience of preparing an SEA is limited. The following section thus draws on two cases, i.e. the real case of the SEA prepared for the German MSP for the EEZ of the Baltic Sea and the pilot SEA prepared for the Gulf of Gdansk MSP.

Normally an SEA is an integral part of the preparation of the MSP. Within BaltSeaPlan, however, it was not possible to prepare SEAs for each of the pilot areas. A full-scale SEA was prepared in retrospect for the pilot MSP for the Gulf of Gdansk, which had already been developed in 2007–2008 during the course of the predecessor PlanCoast project.

69 This chapter is based on BaltSeaPlan Report No. 25

SEA: MEASURING THE IMPACT OF THE PLAN RATHER THAN MARINE USES

It is important to note that the SEA does not assess the ecological effects of given uses, but only the effect of the plan. Since the regulations of a maritime spatial plan primarily relate to existing uses, the ecological impacts of these uses only partly depend on the implementation of the maritime spatial plan. Offshore wind energy represents an exception.

An MSP should "per se" have positive environmental effects on maritime space

Basically, an improvement can be expected for the marine environment as a result of the maritime spatial plan and the implementation of its planning designations. This is due to the fact that marine uses would also develop without a maritime spatial plan. In this case, however, this development would occur without the controlling and mitigating effect of the plan. In the maritime spatial plan, the marine environment represents an important element of consideration.

Area designations oprimised as a result of the SEA

Since an SEA is normally prepared in parallel to the maritime spatial plan, area designations can be expected to undergo a continuous optimisation process taking into consideration the findings of the SEA. In the case of drafting a maritime spatial plan for the German Baltic EEZ, environmental knowledge and concerns were taken into account in designating offshore wind areas. While drafting the plan, spatial designations were checked for their environmental impacts and adapted accordingly. Expected substantial negative effects of certain uses led to general and source-related regulations in the plan which aimed at avoiding or reducing such effects. The SEA assessment showed that implementation of the plan will have no negative impact on marine environment. Offshore wind energy has been excluded from Natura 2000 areas in the EEZ.

SEA METHODOLOGY IN THE POLISH CASE[70]

Regulations for SEA for plans and programmes have so far only been applied to terrestrial sites and never been used to assess the impact of an MSP on the marine environment. This lack of specific regulations may result in subjective and unsynchronized methodologies even though an SEA should obviously be based on objective principles. Due to the high likelihood of transboundary consultation during SEA processes in MSP, it would be desirable to ensure joint methodological roots (follow a similar logic of assessment) or to base them on a joint BSR methodological denominator (e.g. use a similar typology of impacts and similar approach to BSR strategies and documents etc). The following methodology developed within the BaltSeaPlan SEA case may serve as a good starting point for developing such a commonly agreed methodology.

Stakeholder involvement in SEA is essential

Strong stakeholder involvement is necessary to ensure the SEA is a success. Stakeholders should be involved from the beginning (as a part of the MSP preparation process) to identify different impacts and to discuss the cumulative matrices. Such discussion should have an iterative character as this is a learning process.

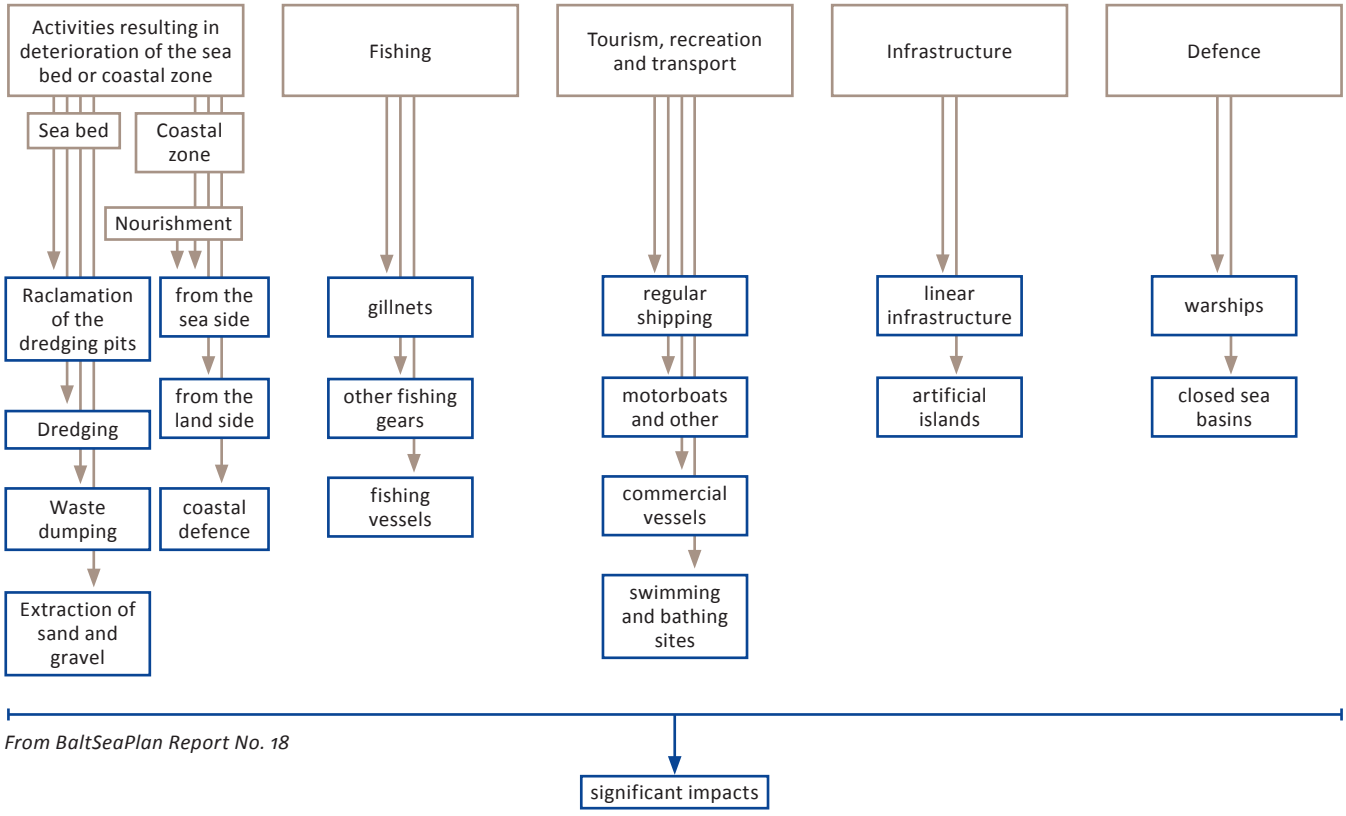
The SEA requires the following steps:

70 See also BaltSeaPlan Report No. 18: Strategic Environmental Assessment for the Western Gulf of Gdansk. The report provides a more detailed English summary of the Polish methodology.

01. The starting point of an SEA process should be the identification of all sea uses with significant effects on the environment.

02. In cases where the SEA covers Natura 2000 areas, it is important to understand the reason for designating the Natura 2000 area (what is to be protected) and to critically

SOURCES OF POTENTIALLY SIGNIFICANT IMPACTS ON ENVIRONMENT



From BaltSeaPlan Report No. 18

verify these ambitions by looking at the current reality. It is crucial to have a clear picture of the respective conservation objectives, objects of protection and integrity of Natura 2000 sites/areas as well as of all other important components of the natural environment. This assessment is based on literature review as well as close collaboration with nature conservation authorities.

What should be protected by Natura 2000 areas?

03. Based on the previous steps (interactions with stakeholders, environmental authorities, planning team literature review) a detailed list of objects (elements of the environment) needs to be prepared which should be subject to the SEA. In the Polish case it was decided to do a separate assessment for a) elements (components) of the environment and b) objects protected by the Natura 2000 network.

Detailed list of objects that should be subject to assessment

04. In a next step the various impact typologies need to be defined. The definition of what constitutes a significant negative impact is the most crucial issue here. In the Polish case this process was divided into the following stages:

Define: what is a significant negative impact?

- stage 1. – identification of potential significant impacts,
- stage 2. – analysis of expected significant impacts,
- stage 3. – assessment of expected significant impacts,

Identification of potential impacts was based on the available literature, expert knowledge and the know-how of stakeholders. A significant impact was defined as a negative or positive (in comparison to the starting point defined as the moment in time before enforcement of the plan) measurable change of the state or function of elements of the environment caused directly or indirectly by activities allowed in the maritime spatial plan. The significance of the impact was assessed by the whole SEA team in order to ensure at least some objectivity of this category.

From the point of view of the regulatory function of the SEA for MSP, the crucial issue in the Polish pilot project was to develop an 'impact' matrix' that would allow the objective assessment of provisions of the maritime spatial plan in terms of time and space. This was a challenge as the regulation does not provide a model definition of impact scales (what is the meaning of 'low' or 'significant').

Presentation of cumulative impacts

05. At this stage, analysis becomes complex. It is critical thus to use some tools to clearly present the different impacts, their location and intensity. In the Polish case, description and calculation matrices were used for the presentation of cumulative significant impacts on the natural environment. For each source of impact potential significant effects were listed with the concrete name of the sea basin/sea subarea (taken from the plan) and with a calculation of the affected sea area and length of the coastline. This allowed calculation of the respective shares of the planned area affected positively, negatively or not affected at all by the impact. Calculation matrixes were used to calculate the total areas affected by each selected source of impact.

AN EXAMPLE OF THE DESCRIPTION MATRIX FOR THE SELECTED IMPACT SOURCE (I.E. COASTAL INFRASTRUCTURE)

SOURCE OF IMPACT	POTENTIAL EFFECTS	PROVISIONS OF THE PLAN	SEA BASINS (NUMBERS)	LENGTH OF THE COASTLINE IN KM
Coastal infrastructure	• destruction of sea bed and bottom habitats	not allowed	no	0
	• diminishing water transparency,	allowed	02, 11, 15, 16, 17, 22	17, 38
	• changes in landscapes (both terrestrial and maritime)	not regulated	01, 03–10, 12–14, 18–21, 22–30	58, 80
	• development of periphyton			
	Reduction of negative impact		no	no
	Lack of reduction of negative impact		all basins	76,18
	Not relevant			

From BaltSeaPlan Report No. 18

06. According to the SEA Directive all impacts should then be classified as:

Classification of impacts

- direct or indirect,
- short or medium or long-term or permanent or temporary,
- strong, medium or weak,
- positive or negative.
- In the Polish case the impacts of each of the activities (defined at the start of the analysis) on all components of the environment were assessed according to three criteria:
- direction of influence (positive, negative)
- relation to the influenced object (direct, indirect, cumulated) and
- timescale of influence (short term, medium term and long term, permanent).

DIRECTION AND INTENSITY OF THE INFLUENCE WAS DETERMINED :

ACTIVITIES REGULATED BY THE PLAN	ACTIVITIES RESULTING IN DETERIORATION OF THE SEABED OR COASTAL ZONE							FISHERY RELATED ACTIVITIES			TOURISM, RECREATION AND TRANSPORT RELATED ACTIVITIES				ACTIVITIES CONNECTED WITH CONSTRUCTION AND EXPLOITATION OF INFRASTRUCTURE		ACTIVITIES CONNECTED WITH NATIONAL DEFENCE – MILITARY	
Elements of the environment, and subjects and objects of protection of Natura 2000 areas	Reclamation of the dredging pits	Dredging	Dumping	Sand and gravel extraction	Nourishment from the sea side	Nourishment from the land site	Coastal defence	Gillnets	Other fishing gears	Fishing vessels	Regular shipping	Motor boats	Commercial vessels	Swimming and bathing sites	Linear infrastructure	Artifical islands	Warships	Closed sea basins
Sea bottom	⫩	-	-	▬	-	-	▬	-	0	0	0	0	0	▲	▬	▬	-	0
Water	┼	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-	0
Animals																		
...																		

From BaltSeaPlan Report No. 18

Presentation of cumulative impacts

KEY TO THE TABLE ABOVE		INTENSITY		
	IMPACTS	SYMBOL	IMPACTS	SYMBOL
DIRECTION OF INFLUENCE	Significant positive	⫩	Weak positive	┼
	Significant variable	∓	Weak variable	⊥
	Probably negative but impossible to definitively assessing			▲
	Significant negative	▬	Weak positive	-

Assessment of the cumulative environmental impacts of the plan's solutions was done under six main headings describing the functional character of the respective sea area (transport accessibility, national defence, economical activities, protection of people and property on land, nature conservation, protection of cultural and material heritage).

07. Different types of impacts should be communicated to stakeholders in relation to the objects of impact (identified under step 4). This part of the work is critical since it forms the core of the stakeholder debate, and in case of cross-border impacts also the debate with transnational stakeholders.

Recommendations for possible changes in the plan

08. These findings were then used to formulate SEA conclusions with respect to MSP, detailing the necessary changes that would need to be made in the plan in order to eliminate the most acute impacts (by changing planning provisions) or to alleviate or compensate negative impacts on environment. Measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme were proposed. Finally, monitoring measures were described.

SEA RECOMMENDATIONS

Establish unified SEA methodology especially for transboundary plans

- A unified methodology (minimum common denominator) across the Baltic Sea Region (if not Europe-wide) for carrying out SEA for MSP is deemed necessary, especially in the case of transboundary plans.
- Stakeholders need to be involved from the very beginning.
- Unified standards and definitions for impact assessment should be developed for the Baltic Sea for 'significant' and 'probable', taking account of the specificity of the Baltic Sea environment.

A sequence of SEA steps

- SEAs for MSPs should be carried out in a sequence of phases:
  - Documentation and analysis: specifying the methodology and the definitions used in the SEA, analysis of planning documents, assessment of the current environmental status in the area covered by the MSP and in the close vicinity (especially for MSPs covering areas near the coast),
  - Assessment of the compatibility of the maritime spatial plan with other documents, especially ones related to environmental protection,
  - Assessment of environmental impacts of the provisions of the maritime spatial plan, taking into account the requirements of the EIA Directive and of national legislation,
  - Conclusions and recommendations: alternative solutions, compensating measures, methods and a programme of monitoring,
  - Summing up: revision of outcomes from earlier phases, defining necessary corrections/improvements in the MSP, recommendations.

6

DEVELOPING THE MARITIME SPATIAL PLAN

DEVELOPING THE MARITIME SPATIAL PLAN

Drafting the maritime spatial plan brings to fruition a long process of preparation and conflict analysis. Within BaltSeaPlan, draft maritime spatial plans were produced for two transnational pilot cases (Pomeranian Bight[71] and Middle Bank[72] and a national pilot case[73] (Western Coast of Latvia).

This section compares the various planning objectives, the purpose and aim of the plans, the planning logic applied in each case, planning tools employed, and the area categories (zones) used.

General planning objectives

THE SUSTAINABILITY APPROACH TO SPATIAL DEVELOPMENT

The first question to be asked in developing a maritime spatial plan is what is to be achieved for the marine area in question and the people using this area.

Bringing together the ecosystem perspective and the development approach

BaltSeaPlan illustrated two essential perspectives for viewing the sea. The first is the ecosystem perspective, where the sea is regarded from an ecological perspective. This approach is closely linked to concepts such as ecosystem function and integrity and the ecosystem approach, which in turn is linked to the idea of environmental quality. The main thrust of this approach, which is also linked to concepts such as good ecological status, is to ensure that the marine environment is protected from harm, e.g. by minimising pressures. Concepts such as MPAs and zoning lend this approach a spatial dimension.

The second is the development approach, where the focus is on the sustainable use of physical resources (e.g. gravel beds) or the use of the sea as a medium (e.g. for transport). Here, the starting point is the spatial demands of the various uses. The relationship between uses and their best possible distribution in space plays the key role. Certain sea uses rely on particular parameters (e.g. water depth, sand and gravel deposits), or the occurrence of particular species (fishing). For "immobile uses", siting is critical because the range of suitable locations may be limited; the impact on the marine environment is also an important consideration here.

BaltSeaPlan has brought these approaches together in a sustainability approach to spatial development. In this approach, humans are regarded as an integral part of the ecosystem and dependent on ecosystem services and benefits. As stated before, sustainability means that economic, social and ecological interests need to be balanced in every case of spatial decision-making, with spatial efficiency and pan-Baltic thinking the key elements throughout. This perspective is presented in a coherent way in the Vision 2030 and also in all the spatial plans developed in the pilot projects.

71 BaltSeaPlan Report No. 9
72 BaltSeaPlan Report No. 10
73 BaltSeaPlan Reports No. 16 and 17

PURPOSE & AIMS OF THE PLAN

Shared understanding of the purpose and aims of an MSP

The pilot projects showed widespread agreement on the purpose of a maritime spatial plan. A maritime spatial plan is considered a strategic and future-oriented document whose aim it is to (1) prevent or mitigate conflicts and (2) strike a balance between environmental and socio-economic objectives for maritime space. The plan is thus seen as a means of setting spatial priorities and ensuring sustainable development of marine space.

Latvia for example see the pilot plan as:

- A strategic zoning document, which
- Defines directions for balanced use of marine space,
- Sets priorities for certain uses within certain areas.[74]

Partners also have a shared view of the general aims and objectives of the maritime spatial plan, as can be shown from this grouping of original wording"[75]:

• Ensure safe and sustainable sea use (PomBight & Middle Bank)
• Ensure that spatial development is cohesive (PomBight & Middle Bank)
• Ensure the economical use of sea space (PomBight) • Promote economic development based on sustainable use of maritime space (LV) • Ensure economic use of sea space, leaving possibly large areas for future unknown uses of the sea. (Middle Bank)
• Ensure the good status of marine ecosystems (PomBight& Middle Bank) • Preserve marine ecosystems and its functions by applying ecosystem-based approach in MSP (LV)
• Ensure preservation and protection of cultural heritage (PomBight& Middle Bank)
• Ensure/enable that international obligations resulting from ratified international agreements and from international law (including EU law) are met (PomBight& Middle Bank)

Shared sustainability focus

All three cases serve to illustrate the strong sustainability focus of the plans. Pomeranian Bight attempts to implement the spatial efficiency principle by determining the most suitable areas for offshore wind farming irrespective of national borders.

Both transnational plans refer to cooperation as an essential element of future planning. Pomeranian Bight is the only plan which explicitly lists cooperation of authorities and exchange of knowledge, as well as monitoring as specific aims of the plan (see below).

FROM GENERAL AIMS TO SPECIFIC OBJECTIVES

Differing specific objectives of the plan

Whilst the general purposes and aims set out for the various maritime spatial plans are very similar, the specific objectives for the spatial plan show considerable differences. This is because the objectives build on the conflict analysis carried out in the previous step.

74 BaltSeaPlan Reports 16
75 BaltSeaPlan Report No. 9, 10 and 16

IN THE LATVIAN CASE, THE OBJECTIVES OF THE PLAN READ AS FOLLOWS:

- define appropriate locations for wind farms without disturbance of other uses,
- minimize impacts of oil exploration,
- balanced development of coastal fishery, tourism and recreation,
- ensure protection of underwater heritage,
- find solutions for dumping and dredging/impacts on fish nursery areas,
- ensure cumulative effects do not negatively impact on marine biodiversity, habitats and bird areas

From BaltSeaPlan Report No. 16

THE AIMS AND KEY OBJECTIVES FOR THE POMERANIAN BIGHT PILOT AREA:

Shipping/Ports

- Promote safe and clean shipping, shipping transport as well as motorways of the sea (MoS)
- Reduce the collision risk in dangerous goods transport

Infrastructure/Energy

- Find suitable areas for renewable energy/wind farms
- Promote a smart (transnational) transmission grid (possibly as part of a Baltic Super Grid)
- Cable and pipeline corridors

Tourism

- Ensure favourable conditions for tourism (avoid negative impact of other uses on tourism)
- Development of marinas

Protection of valuable nature conservation sites

- Protect benthic and pelagic and bird habitats and species (esp. wintering birds)
- Ensure a balanced/coherent network of protected areas (e.g. Natura 2000 and national nature reserves)
- Contribute to the good environmental status of the area by safeguarding the sea areas from negative impacts
- Identify important areas for fish spawning and nursery
- Ensure good water quality (e.g. with regard to tourism etc.) Secure sustainable fisheries
- Promote sustainable fisheries
- Protect spawning & nursery areas from high fishery pressure (identify and value these areas)
- Identify priority areas for specific parts of the fisheries sector in the pilot area

Governance

- Promote the cooperation of authorities/government and exchange of knowledge

Monitoring

- Create an efficient transnational monitoring network

From BaltSeaPlan Report No. 09

Sectors featured in the plan

Sectors with a transnational element feature in all three pilot plans as well as the Vision 2030. This is encouraging as coherence will need to be established in dealing with these sectors across the Baltic. Other sectors appear to be more localized and are only featured in some of the plans.

All plans cover transnational sectors

SECTORS FEATURED IN ALL PLANS:	SECTORS FEATURED IN SOME PLANS:
• Nature conservation (Natura 2000)	• Tourism
• Fishing	• Scientific research
• Energy generation (offshore wind)	• Underwater heritage
• Linear infrastructure (cables, pipelines)	• Mariculture
• Shipping	• Military uses
• Extractive industries (sand, gravel, oil)	

The planning logic: Assigning priorities

Applying a planning logic means deciding what is to be given priority in the planning area where and why.

What is to be given priority and where?

In some cases, this may be relatively straightforward. Certain sea areas may be particularly suitable to certain uses and less so for others. Also, “immobile” uses can only take place in certain sea areas. Other sea areas, however, may potentially be suitable for many forms of use. Careful weighing of interests is required in all these cases.

What criteria can be applied at this point beyond the tools of EIA and SEA? What was the process that led from conflict assessment to a maritime spatial plan in the pilot projects, and how were priorities set for maritime space?

PLANNING LOGIC AND CRITERIA APPLIED

Different ‘planning logics’ are conceivable. If the task is to accommodate new of expanding uses, one approach is to search for ‘available’ space within existing patterns of use. This approach was adopted by Pomeranian Bight, which mostly looked for the best available locations for placing particular uses irrespective of national borders. Another approach is to maximize spatial efficiency by clustering uses and promoting co-use as much as possible. Prioritizing co-use was the approach taken by Middle Bank.

Different planning logics are conceivable

Pomeranian Bight

Pomeranian Bight: Identifying spatial requirements and zoning categories

After the assessment of potential and actual conflicts between the various sea uses in the planning area (done by experts and confirmed by stakeholder consultation), the planning team identified the current and future sea uses that were to be covered by plan. These were shipping, nature conservation, sand and gravel extraction, fishing, military use, offshore wind farming, cables and pipelines, and tourism. Specific objectives (see above) were then specified for each of these which acted as guiding principles for the planning process.

Space was then assigned according to the following planning logic:

01. Identification of spatial requirements of:

- Existing and planned transnational linear structures, i.e. mapping requirements for shipping routes and cables and pipelines.
- Patchy transnational uses, such as sand and gravel extraction, offshore wind farming and valuable ecosystems and habitats.
- Spatial requirements of tourism, military use and fishing were also taken into account.

02. Designation of buffer zones around linear and non-linear activities and infrastructure (shipping, pipelines and cables, offshore wind farms).

03. Adequate designations for selected areas, with suitability/appropriateness the guiding factor for assigning priority (see section on zoning)

04. Specification ofadditional management recommendations for each sector specified in the plan, covering aspects that cannot be covered by MSP but which are important nevertheless for achieving the respective objectives.[76]

Middle Bank

Middle Bank: Preventing future conflict

The planning process for Middle Bank started off differently as it is not based on current conflicts (of which there are little to none). Rather than dealing with existing or imminent conflicts, the plan in this case intends to prevent any such conflicts from arising in the future. Thus the planning team looked to future-oriented strategies, such as the objectives and priorities set out in the National Spatial Development Concept of Poland, and analysed their implications for the pilot area. The Swedish approach to spatial planning was also taken into account.

Inventory of the natural environment and current and future uses

01. An in-depth inventory of the planning area also looked less into conflicts between existing uses, but focused more on the natural environment.

02. The planning team then identified the current and future sea uses that were to be covered by plan. These were shipping (mainly transnational routes), nature conservation, fishery (areas for juvenile cod), economic activities (such as the construction of offshore wind farms), mariculture, aggregate extraction and networks of linear technical infrastructure.

Policy analysis

In the next step principles were drawn up for allocating marine space based on a comprehensive policy analysis. Focusing on the sectors of environment, fishery, energy and min-

76 From BaltSeaPlan Report No. 9

ing, as well as the EU 2020 objectives and spatial policies (such as UNCLOS), policies were identified which affect the development of Middle Bank.

From these, the following were identified as general objectives for MSP:

- avoid fragmentation of habitats
- reserve the most suitable areas for renewable energy production
- pay attention to the interests of fishery
- respect the growing needs of maritime transport
- ensure safety of navigation
- reserve space for unknown future uses.

Importance of natural conditions

03. In the case of Middle Bank, natural conditions are highly important. For this reason, the first step of conflict evaluation was to assess the impact of the various uses on the natural environment in the pilot area.

Priority for multiple uses

04. Assessment was then carried out of the compatibilities of sea uses amongst each other. No single use was given a privileged position although international law grants some uses extraordinary rights (freedom of the seas). National and international documents were used to prioritize different sea uses, but it was difficult to decide whether shipping should make room for wind farming or vice versa for example. The Bank is highly suitable for offshore wind farming, and large wind farms are planned in parts of the pilot area within the 40 m depth contour. Offshore wind farming was given priority, but this requires a shifting of navigation routes. Problems included the difficulty of assessing the danger emanating from old mines and the significance of underwater heritage (wrecks).

Applying the precautionary principle

05. The planning team then decided to give higher priority to multiple uses (e.g. offshore wind farming in combination with mariculture) rather than single uses. The precautionary principle was applied in cases where habitat documentation is incomplete, excluding sea uses from a potential priority area for the environment if they interfere with habitat protection function.

06. The planning team then designated zones for different combinations of uses.[77]

Western Coast of Latvia

Latvia developed criteria and priorities in a participative approach which involved a wide range of stakeholders: Conflict analysis was followed by a step where specific conflict clusters were located in the marine area by the planning team. A second stakeholder workshop was organised specifying and eliminating some conflicts and proposing solutions. The planning team then drew up a proposal of zoning solutions which was presented at the third stakeholder meeting which also included competent authorities. The plan was then developed to implement these zoning proposals.

77 From BaltSeaPlan Report No. 10

The sequence of planning decisions was as follows:

Incompatible uses identified first

01. Spatially incompatible uses: identification and rules for priority setting:

- No stationary construction (e.g. wind parks, oil mining platforms) should be allowed in military training polygons and on frequently used shipping routes.
- No wind farm development in polygons licensed for oil extraction since oil extraction rights are exclusive for a certain period.

Immobile uses identified next

02. Identification of existing sea uses that cannot be shifted:

- Natura 2000 sites, existing dumping sites for dredged material, former military and chemical dumping sites, cables and their protection belts, lighthouses, shipwrecks

Establishing conditional compatibility

03. Conditional compatibility was established next together with priorities arising from these:

- Priority for shipping routes over potential wind park areas and fishery activities.
- Priority for coastal fishery and regeneration of fish resources in coastal waters up to 20 m depth.
- Priority for nature conservation inNatura 2000 sites or other areas of high biological value (e.g. reefs, bird resting and moulting sites).
- Priority for landscape over wind park development in areas of outstanding natural landscapes up to 20 – 30 km from coast.

Additional information on the map

04. Additional information was given

- on the map, i.e. territorial sea/EEZ, bathymetry, coastal settlements, built up areas, ports and fishery centres
- in the written plan; i.e. list of problems for which no real solution was found.[78]

Planning Tools

THE USE OF MARXAN AS A DECISION-AID TOOL

Marxan helps to identify suitable areas

Marxan is a software package which was used as a decision aid system in the Pomeranian Bight pilot area in two cases: one, to help find suitable areas for offshore wind farming[79], and two, to find suitable areas for fishing[80].

Finding suitable areas for offshore wind farming

Offshore wind farming as a case study

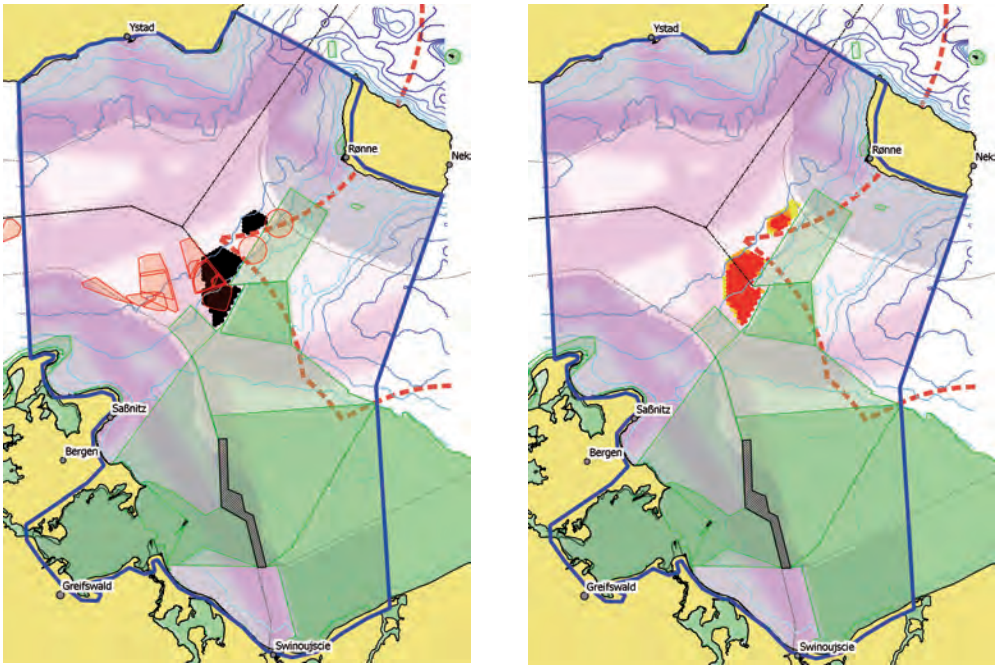
In the Pomeranian Bight case study, the challenge was to identify areas that are suitable for offshore wind (e.g. in terms of wind availability and water depth), yet (1) do not interfere with the main transport and ferry routes in the pilot area, (2) have no negative impact on tourism and (3) do not interfere with important areas for wintering birds and spawning areas of Baltic Herring. Marxan can be used to show trade-offs between the potential

78 From BaltSeaPlan Report No. 16
79 BaltSeaPlan Report No. 29: Case Study: Systematic site selection for offshore wind power with Marxan in the pilot area Pomeranian Bight.
80 BaltSeaPlan Report No. 30

profitability of offshore wind areas (e.g. in terms of MW produced or installation costs) and the costs incurred by the environment and other sea uses.

Different scenarios were drawn up based on different costs and revenues (costs for example include different degrees of visibility of offshore wind farms from the coast, the total MW generated, or different settings for buffer zones between offshore wind farms and shipping routes). The scenarios allow planners to visualize different planning priorities and options.

MARXAN RESULTS: IDENTIFYING OF SUITABLE AREAS FOR OFFSHORE WIND FARMING IN THE POMERANIAN BIGHT PILOT AREA



From BaltSeaPlan Report No. 29

Defining suitable fishery areas (Marxan with Zones)[81]

Marxan with Zones requires spatial information

Marxan with Zones is an extended version of Marxan. In order to work with the software, information needs to be entered on fishing effort, essential fish habitats and areas that offer good economic conditions for fishermen. Limiting factors that indicate less favourable conditions also need to be entered (such as priorities within the fishery sector, parameters that limit suitability for fishing such as distance from port, biogeographic factors, protected areas, competing sea uses). The modeller then selects certain target values, such as areas with high fishing success, abundance of commercial fish, a specific operation range of vessels, or the occurrence of spawning areas. The modeller also sets the tool to weigh the cost features in a certain way. The computer then calculates how often the conditions defined by the modeller are met in spatial planning cells in random calculation runs. The result is a series of maps, visualizing those areas within a larger sea area that best meet the given target values. Different scenarios for defined planning units can be produced by slightly altering the sets of targets and costs in different calculation runs.

81 See BaltSeaPlan Reports No. 9, 26 and 30

Although this assessment tool only underwent a first test, it has demonstrated that biological and operational aspects of fisheries management can be visualized in principle and that different ways can be found for satisfying fisheries interests without jeopardizing sustainability. The study also demonstrates that it is possible to identify important fisheries areas through commercial, ecological and biogeographical parameters. A broader in-depth-application was not possible during this project, but it is recommended that this is done in the future.

Proof of concept in principle

Working with Marxan with Zones to identify suitable areas for coastal fishing in the Pomeranian Bight pilot area, it soon became clear that data scarcity was the main constraint. The results obtained can therefore only be used to illustrate the options of Marxan with Zones. Fisheries data are very variable in quality; ecological data and the definition of potential conflicts were also very restricted.

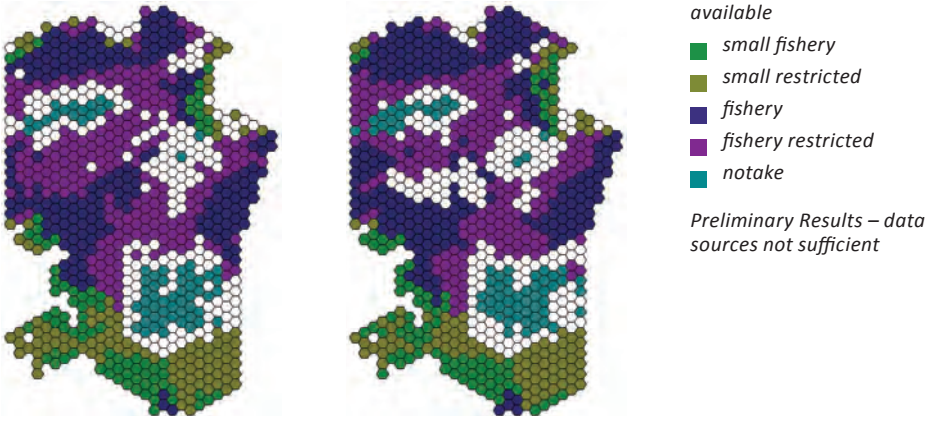
Data constraints hamper outcomes

In addition to improving the available input data, a key lesson is to involve planning agencies, scientists and stakeholders to refine the definition of Marxan conflicts and targets. Typical questions that occurred during the study were:

Lessons for the future

- Do we want to strengthen small-scale fisheries?
- What sizes of no-take areas have the desired effect?
- What sizes of no-take areas can we afford if we also want to have fishery options close to harbour?
- Is it possible to combine offshore wind farming sites and no-take areas?
- How do the single features contribute or conflict with a target or within the single zones?

MARXAN WITH ZONES FOR FISHERIES: ZONING CONCEPT FOR 30 % CONSERVATION TARGETS: A) WITHOUT, B) WITH OFFSHORE WIND POWER AS CONFLICTING USE BOTH TO FISHERY AND NO-TAKE AREAS.



From BaltSeaPlan Report No. 30

The example of using Marxan with Zones demonstrates that such tools can be useful for highlighting relevant questions to be asked, as well as data gaps to be filled. Marxan emerged as a useful tool for drawing up a range of scenarios, applicable to offshore wind farming and fishing alike albeit with constraints. More intensive data preparation and better integration into a planning group would improve its applicability.

Area categories (zones) in BaltSeaPlan

Zoning is an essential MSP tool

Zoning is a spatial planning tool that allows certain activities to be restricted or encouraged in designated areas. Zoning is a means of exerting area-based control, for example to separate conflicting uses, which is why it has come to symbolise the essence of MSP.

Although zoning is a key element of maritime spatial planning, zoning maps should not be mistaken for the only elements that make up a maritime spatial plan.

Zones have legal implications

In a statutory maritime spatial plan, each zone has specific legal implications. Clear definition of these legal implications is a must because once it is approved the maritime spatial plan is binding, at least for the public authorities that grant permits for sea uses. The fact that each zone comes with legal consequences sets them apart from areas covered by voluntary agreements or other management agreements that apply to certain areas.

Zoning is no substitute for licensing

Zoning is no substitute for the necessary approval or licensing procedures. Concrete projects and activities need to be subject to environmental impact and risk assessments, which under specific circumstances may lead to projects being refused planning consent despite the fact they would generally be eligible under a zoning regime.

The Vision 2030 – a common denominator?

Within BaltSeaPlan, no statutory MSPs were developed. Nevertheless, zoning is the centrepiece of the draft MSPs produced. All three pilot plans spent much time describing the rationale behind their zoning concepts and the area categories used. The BaltSeaPlan Vision 2030 represented a theoretical common denominator which defined four types of area categories. Open use areas are not specifically assigned, they exist by default if no other category is assigned.

ZONING DEFINITIONS AS SET OUT IN THE BALTSEAPLAN VISION 2030

Priority areas	no use is allowed that would significantly constrain the use that is given priority in this area. Strict priority areas could be shipping lanes, nature protection areas, offshore wind farm sites, fish spawning and nursery areas, raw material resources, marine archaeological sites, or areas important for tourism.
Reservation areas	a certain use is given special weight in the process of balancing the competing interests in the area. The difference to priority areas is that it is not certain that the use receiving specific attention has absolute priority.
Suitable areas	an activity is exclusively assigned to respective suitable areas which have been chosen along a range of parameters – outside of these areas the activity is not allowed and not licensable.
Open use areas	no use has priority and all uses other than those restricted to suitable areas are allowed

VARYING DEFINITIONS OF ZONES

Differing definitions for priority and reservation area

Despite this common definition, rather striking differences are found in both the definition and the application of priority area and reservation area. Pomeranian Bight is the only pilot case which used the area categories and definitions proposed in the vision. Below is an overview of the different definitions used in the draft pilot plans:

Priority area:

- "One type of use receives priority over all other types of use. No use is allowed that would significantly constrain the use that is given priority in this area."
- as above, "to be assigned based on pre-existing priority uses (policy documents) or environmental conditions"
- "Those areas deemed most suitable for specific uses"

Reservation area:

- "A less stringent priority area (more open to negotiation)"
- "Area already occupied (reserved) by uses such as navigation routes, port areas, military areas, dumping grounds, Natura 2000 areas"
- "Area where uses are considered a priority if agreement with other sea uses is achieved and no major conflicts exist, or if additional research is needed in order to ascertain what is the most appropriate sea use in a particular area."

The direct comparison of the German MSPs and the Pomeranian Bight case study reveals differences in the definition and application of area categories even within adjoining marine areas.

	TERRITORIAL SEA MECKLENBURG-VORPOMMERN	GERMAN BALTIC EEZ	POMERANIAN BIGHT PILOT PLAN
Topics zoned for	• Offshore wind energy • Cables and pipelines • Nature conservation • Tourism and leisure • Marine raw materials	• Shipping • Pipelines and cables • Marine scientific research • Offshore wind energy	• Shipping • Offshore wind energy • Cables and pipelines • Tourism • Marine raw materials • Nature conservation • Fishery
Zoning categories	Suitable areas • Offshore wind energy • Priority areas • Nature conservation – offshore or inland waters • Marine raw materials offshore Reservation areas • Nature conservation – offshore or inland waters • Tourism offshore • Marine raw materials offshore • Supply lines offshore	Priority areas • Shipping • Pipelines • Offshore wind Reservation areas • Shipping • Pipelines • Marine research	Suitable areas • Offshore wind energy Priority areas • Shipping • Marine raw materials • Nature conservation Reservation areas • Shipping • Cables and pipelines • Tourism • Marine raw materials • Nature conservation • Fishery
Definition of suitable areas	"Outside of marine suitable areas for offshore wind energy in the territorial sea no wind turbines may be erected"		"Outside of suitable areas for offshore wind energy the erection of wind turbines is not permitted."
Definition of priority areas	"In the marine priority areas ... (use) and management is given priority over other spatially relevant claims of interest. Any spatially relevant planning measures and projects in these areas that are not compatible with the function of the priority area for ... (use) and management are prohibited."	"(Use) is granted priority over the other spatially significant uses in the priority areas for (use) as indicated in the map. To the extent spatially significant planning measures and projects are not compatible with the function of the (use) priority area in these areas they are not permitted."	"In the priority areas for ... (use), (use) is given priority over other spatially significant sea uses. Spatially significant planning measures and projects incompatible with the priority function of (use) are not permitted in these areas."
Definition of reservation area	"Special consideration is given to the function of (use) in the reserve areas (use). This needs to be taken into account when considering other spatially relevant planning, measures and projects."	"Special consideration is given to (use) in the reservation areas for (use) as indicated in the map. This needs to be taken into account in a comparative evaluation with other spatially significant planning tasks, measures and projects."	"Special weight is given to (use) against other spatially relevant plans and activities."

Compiled by Bettina Käppeler, BSH

The main difference between priority areas and reservation areas is that priority areas are legally binding, indicating that priorities have been conclusively weighed. Reservation areas stipulate planning principles which are to be weighed in subsequent planning decisions such as approval and licensing processes.

Other zoning categories

Apart from different interpretations of the same zoning category, different pilot projects also used additional designations not mentioned in the BaltSeaPlan Vision 2030. Examples are "recommended zone" and "transnational zone"

ZONES USED IN THE DIFFERENT PILOT CASES

	PRIORITY AREA	RESERVATION AREA*	RECOMMENDED ZONE	SUITABLE AREA	NO GO AREA	TRANSNATIONAL ZONE	OPEN USE AREA
VISION	x	x		x	x		x
POMERANIAN BIGHT	x	x		x			x
MIDDLE BANK	x		x			x	x
LATVIA	x	x			x		x
LITHUANIA	x	x			x		

**Reservation area is defined differently by Latvia and Lithuania.*

Differences in applying the categories

Differences are also noted in the readiness to assign certain areas a certain status. A key difference seems to be whether MSP is already a legally binding tool or not. In Germany for example, partners were much more careful in designating priority areas since this status makes it much harder for any other use to stake a claim for the same area. For this reason, no Natura 2000 area was given priority status as this would make any kind of co-use very difficult. Partners in the other countries seemed less concerned about the potential legal implications of area designations and were more flexible in assigning zones.

If a transnational framework is to be established for MSP in the Baltic Sea Region, much greater clarity is needed on the specific definitions of the area categories used in order to make them truly compatible. Planners need to be aware of the legal implications when using the planning categories.

THE SAME NAME HIDES DIFFERENT ZONING CONCEPTS USED FOR DIFFERENT PLANNING PURPOSES

Differences in interpreting and applying area categories are an indication of the fundamentally different approaches pursued by the pilot projects.

Pomeranian Bight and Latvia: Classic zoning plans

Pomeranian Bight and the Latvian pilot plan are ‘proper’ maritime spatial plans in the sense of using their respective zoning categories to assign priority to existing uses and restrict other uses. These plans set out rules and regulations to guide “what is/will be”, specifying what use is to be treated in what way where. Categories are used as ‘proper’ planning categories; transposed into a statutory maritime spatial plan all categories would carry legal consequences. This makes these pilot plans classic “MSP zoning plans” for regulating existing and imminent uses.

Middle Bank and Lithuania: Strategic plans

Middle Bank and Lithuania in contrast base their zoning concepts on clusters composed of suitability, existing uses, priorities and restrictions rather than individual uses as in the case of Pomeranian Bight. Rather than typical zoning plans, these two plans are actually strategic plans where zones are used to indicate the overall suitability of sea areas for potential

(combinations of) future uses. Zoning categories thus indicate "what could be", describing future options rather than actual regulations. Although zones have the same name as in the Pomeranian Bight and Latvian pilot projects, the principles behind them are quite different. These differences are also reflected in the actual zoning maps produced.

ZONING IN PRACTICE: CONCEPTS AND MAPS

Pomeranian Bight

Priority and reservation areas

In this pilot project, zoning is based on the four area categories and definitions set out in the Vision 2030. Priority area status is assigned to shipping routes, cables and pipelines, sand and gravel extraction, and nature conservation (National Parks, future core zones of nature reserves). Suitable area status is assigned to offshore wind farming, and reservation area status to shipping, tourism, sand and gravel extraction, nature conservation, fisheries.

Priority and reservation areas

Each type of use is described in terms of the general planning approach. Planning categories and the criteria applied are then specified together with further management recommendations and issues that still need to be dealt with. This is illustrated using the example of cables and pipelines[82]:

01. Planning approach:

- The draft plan accepts the existing and planned power and data cables and pipelines as a given, and accepts that not all cable connections for approved (or planned) offshore wind farms are known yet. Planned pipelines that have not yet been routed were not considered (e.g. Baltic Pipe).
- The linear infrastructure corridor as designated in the M-V Spatial plan for the GreifswalderBodden was integrated in the plan as a reservation area for cables and pipelines (the NordStream pipeline is within this corridor).
- The NordStream pipeline (partly operating/partly still under construction in Dec. 2011) has been given the designation of "reservation area" along its route within the project area with a 500m safety buffer on either side.
- A reservation area was designated for cables along the existing multi-cable connections between the Swedish coast and Bornholm – to do justice to and secure this vital connection to the island.
- No provisions were made for existing single cables. Issues related to future cable projects have to be negotiated and weighed against other spatially relevant issues, in particular those which have been assigned priority or reservation areas.
- For cables transporting energy generated within the pilot area compulsory feed-in points into the electricity grid on land have been assigned where already known. No provisions have been made yet for power generated in potential Danish wind farms near Bornholm.
- Beyond the designated reservation areas, some general spatial recommendations are made for the location of transit corridors for cables and pipelines, as well as general corridors for linear infrastructure as part of a potential Pan-Baltic Sea Network. These corridors could enhance coordination and reduce conflicts in the planning and laying of cables and pipelines and would represent the backbone of a future Baltic Sea Energy/

82 From BaltSeaPlan Report No. 9

Electricity Grid. The pilot area only represents a very small part of the Baltic Sea and is not the appropriate scale for addressing these issues; such corridors would need to be discussed and identified at a pan-Baltic scale[83]. As far as possible, such corridors could be handled as reservation areas for linear infrastructure.

PLANNING CATEGORY	CRITERIA
Joint reservation area cables and pipelines Special consideration is given to the laying, operation and maintenance of cables and pipelines in the joint reservation areas for cables and pipelines.	• existing pipeline with a 500 m buffer to either side • existing cable connections between Sweden and Bornholm: width of corridor up to 2.5 km (defined by route of outermost cables) plus a 500 m buffer on either side • overlapping reservation area for pipelines and cables in the GreifswalderBodden area

From BaltSeaPlan Report No. 9

02. Further management recommendations:

- If they cannot run in parallel to existing structures, pipelines and other submarine cables should cross priority areas for shipping by the shortest route possible.
- When routeing pipelines and submarine cables, consideration should be given to existing uses and rights of use, protected area designations and the interests of fisheries. Wherever possible, submarine cables should be laid in parallel using existing corridors, or routed in parallel to existing structures and facilities. Submarine cables should not cross other existing or planned pipelines or submarine cables if this can be avoided. When routing new pipelines and submarine cables, an appropriate distance from existing cables and pipelines is to be maintained.
- To minimise any potential negative impacts on the marine environment during construction, sensitive habitats should not be crossed when particular species are particularly vulnerable. Any damage to or destruction of particularly sensitive habitats such as sandbanks, reefs, and benthic communities of conservation concern, is to be avoided both during the construction and operation of pipelines and submarine cables.
- The transport of energy generated in the pilot area to suitable landing points or/and a future Baltic Sea Energy Grid is to be ensured.

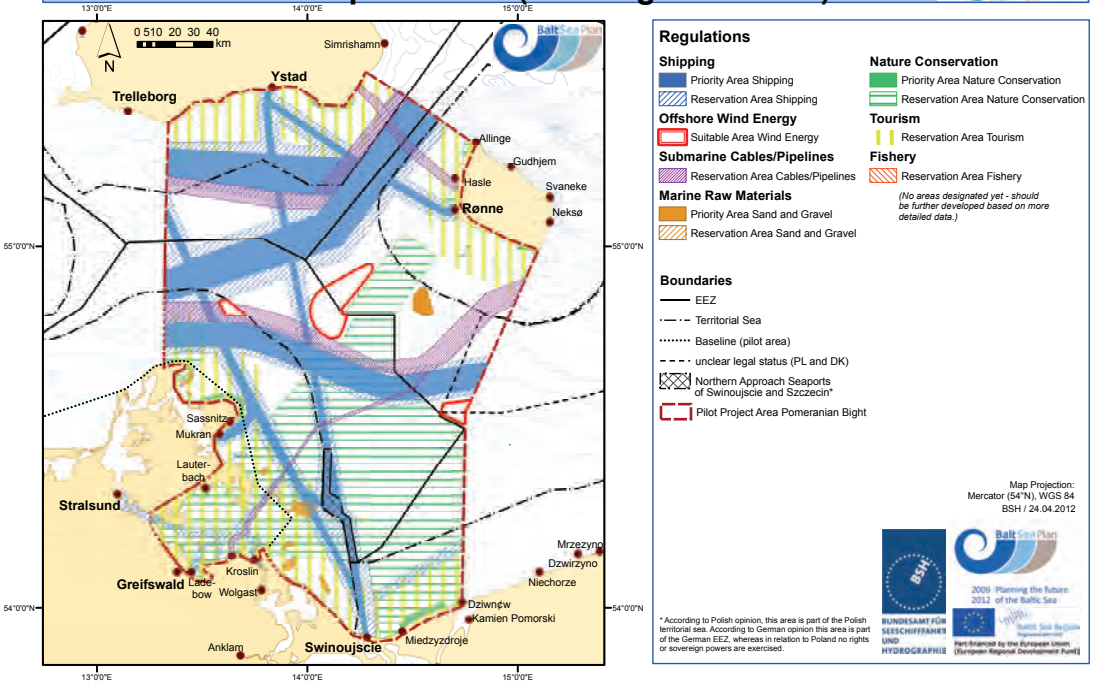
03. Issues that still need to be dealt with:

A more comprehensive plan with regard to cables and pipelines requires further information than what is available at present.

- This applies to the prospective route for the Baltic Pipe – it could not be considered since there is no official route as yet.
- Likewise, more information would be needed to include provisions (and designate areas) for a prospective Baltic Supergrid.
- Specific information on the location of planned Danish offshore wind farms and potential cable connections is also missing.[84]

83 See also the BaltSeaPlan Vision 2030
84 From BaltSeaPlan Report No. 9

Pilot Project Area Pomeranian Bight / Arkona Basin
- DRAFT Maritime Spatial Plan (Working Document) -



From BaltSeaPlan Report No. 9

Western Coast of Latvia

The zoning concept in Latvia

Zoning is based on existing sea use activities (fishery, shipping, port operations, military training, cables), conservation areas, and potential sea use activities (wind park development and oil extraction). It also takes into account data on bathymetry, ecological features (e.g. distribution on benthic habitats and areas important for regeneration of fish) the location of ship wrecks and former dumping grounds of ammunition and chemical waste. The following categories were used:

Priority areas

Priority use zone: Specifies sea uses are treated as a priority in a particular area, restricting other sea uses. Priority use zones are defined based on the following criteria:

- Priority areas defined by legal acts or national planning documents (e.g. nature conservation, port operation, oil mining etc.),
- Natural conditions that determine the particular suitability of an area for a particular use (e.g. areas important for coastal fishery and regeneration of fish), reef habitats or other protected natural assets; areas particularly suitable for wind farm development (e.g. water depth, geology and wind speed, no/minor conflicts with other uses),
- Agreements achieved among competent authorities and other stakeholders during the course of the planning process.

Reservation areas

Reservation areas for particular uses: Defines sea uses which can be considered a priority if agreements with other sea uses can be achieved and no major conflicts exist. The category also applies if additional investigations are needed in order to ascertain the most suitable sea use in a particular area.

Other areas

No go areas define restrictions for particular sea uses, e.g. areas forbidden for shipping due to safety reasons.

General use zone: all sea uses are permissible as long as they do not contravene existing legal requirements, are defined by national or international law, or do not cause substantial conflicts with other sea uses, or do not have considerable negative impact on the marine environment.

The plan identifies a total of 12 priority areas, each of which is described in some detail. For each priority area, activities are specified that need co-ordination and/or approval by the competent authorities, as well as activities that are prohibited by law or not recommended.

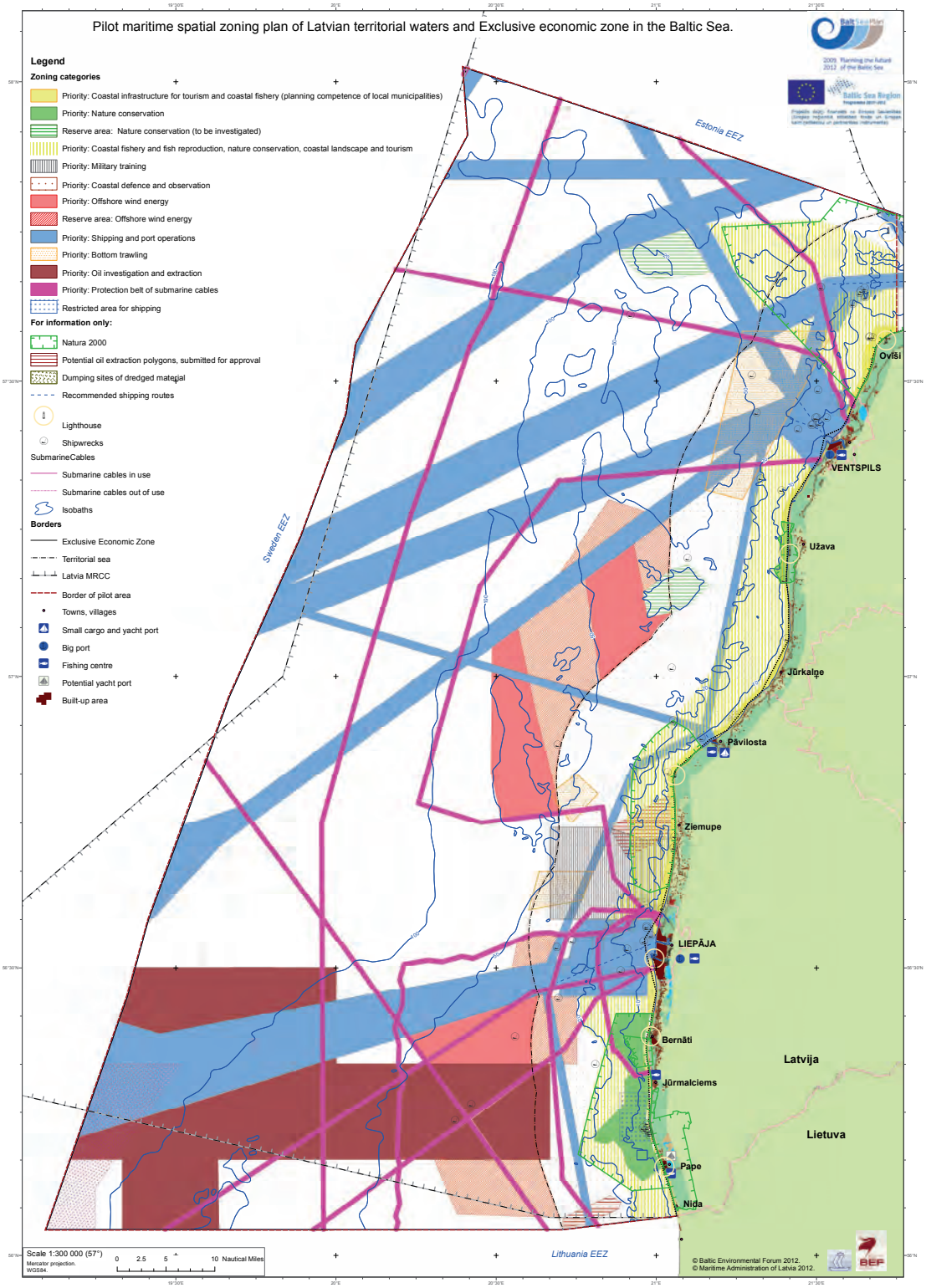
EXAMPLE: DESCRIPTION OF ZONING CATEGORIES IN LATVIA

CODE	TYPE	TITLE OF THE ZONE (USE PRIORITY)	DESCRIPTION	ACTIVITIES THAT NEEDS COORDINATION/ APPROVAL BY AUTHORITIES	ACTIVITIES THAT ARE PROHIBITED BY LOW OR NOT RECOMMENDABLE
1.	P	Priority: coastal fishery and infrastructure development for tourism and coastal fishery (planning competence of local municipalities	Coastal waters up to 1 nm from coastline, defined by mean water level (or 5 – 10 m depth), where sea use planning on more detailed (local) level is necessary, to insure development and maintenance of necessary infrastructure for recreation, tourism, coastal fischer and protection of coastline against erosion.	Establishment of any permanent infrastructure has to be co-ordinated with local authority and authority in charge for fish resources – MoA (In case of negative impact on fish spawning areas, losses to fishery sector has to estimated and compensation paid) as well as other competent authorities – MA, REB, etc.	Activities that are forbidden according to individual rules of protected areas, other legal acts (e.g. Law on Protection Belts) as well as spartial planning documents of local authorities.
2.	P	Priority: Nature conservation and regeneration of fish resources	Areas that are included in strict protection zones of the protected areas	According to individual rules of protected areas	According to individual rules of protected areas
2.1.	P	Priority: Nature conservation and regeneration of fish resources	Strict protection zone of Marine Protected Area "Nida-Perkone"	Tourism and water sports in accordace with individual rules of protected area	Activities that may cause destruction of reef habitats, e.g.: • Wind park development • Extraction of oil and mineral resources • Deepening of shipping routes • Establishment of new dumping sites of dredged material • Aquaculture • Trawling
2.2.	P	Priority: Nature conservation and regeneration of fish resources	Nature reserve "Utava"	Tourism and water sports in accordance with individual rules of protected area	• Activities that may cause destruction of reef habitats (see 2.1.) • Using of water scooters • Organisation of competitions for motor boats, water scooters and water-skiing • Organisation of military trainings • Trawling

From BaltSeaPlan Report No.16

Two reservation areas are also defined, one no go area, and one general use zone with priority for fishing.

THE PILOT MARINE SPATIAL PLAN FOR THE EEZ AND TERRITORIAL WATERS ON THE WESTERN COAST OF LATVIA



From BaltSeaPlan Report No.16

Pilot Area Middle Bank

Definition of sub-areas

As stated above, Middle Bank took a different approach to zoning altogether. Due to the strategic nature of the draft plan, sub-areas were defined not to maintain functionalities of the planned area, but to secure space of particular importance for the most important sea users. Three types of sub-areas were established:

Priority sub-areas

- priority sub-areas, where one type of use is given priority over all other types of uses,

Recommended sub-areas

- recommended sub-areas, where some types of use are welcome and encouraged (some functions are considered as very important)

General sub-areas

- general sub-areas, where no use is given priority.
- Transborder sea basins, where consultation is to be carried out between Sweden and Poland based on EIA documentation for artificial structures, installations and mining activities. The exception is the mining and transport of hydrocarbons, for which trans-border consultation is required in the entire planning area.

Based on this methodology, and drawing on information from the stocktake, and making use of the precautionary approach, the following types of sub-area were established:

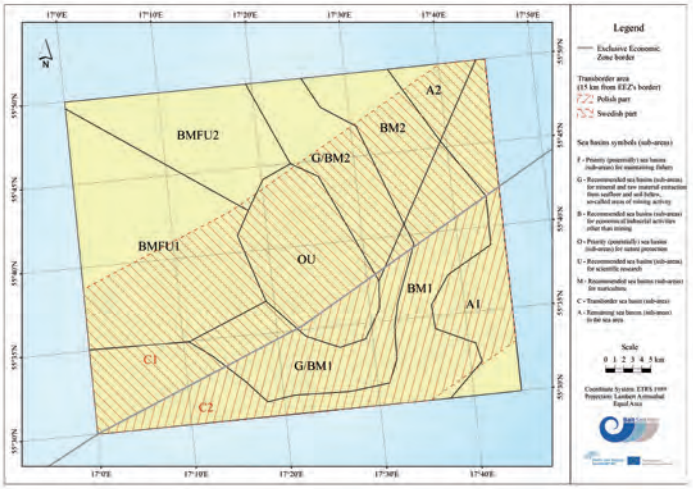
- Priority sub-areas for fishery (maintaining cod) and nature conservation
- Recommended sub areas for mineral and raw material extraction (mining), economic/ industrial activity other than mining, scientific research, mariculture,
- A transborder sub-area
- Remaining areas (general zone)

Priority and recommended functions can co-exist

Priority and recommended functions may co-exist in the same space. If the recommended functions compete, the competent authority should require the stakeholders to state their preferences and organise a tender procedure or set an appropriate time sequence as to what is to be allowed when. For each sub-area, requirements and recommendations for use were formulated. International law was particularly important here as national states only have limited jurisdiction over their EEZ. There are four types of prohibition and requirement for the various sub-areas:

- In the priority sub-areas, those functions are excluded that collide with the priority function. Activities conflicting with the priority function of nature conservation for example are not permitted in the potential priority sub-area for nature conservation.
- Linear infrastructure can only be placed in designated corridors which cross priority and recommended sub-areas in certain areas of the plan.
- Cross-border consultation is required in transborder sub-areas based on EIA documentation.
- The general sub-area (set aside for unknown future use) requires a TIA before mining activities, construction of artificial structures, and linear infrastructure. This should cover safety of navigation, safety of sea fishing, safe air navigation, underwater archaeological heritage, and safety related to prospecting for seabed resources.

THE MIDDLE BANK AREA'S DIVISION INTO SEA BASINS (SUB-AREAS)



From BaltSeaPlan Report No. 10

Combinations of use in specific sub-areas

The maritime spatial plan then combines uses as much as possible, implementing the principle of spatial efficiency. It consists of the following combined sub-areas:

- Sub area OU – priority area for nature conservation and scientific research
- Sub-area BMFU – recommended area for economic/industrial activities other than mining, recommended for mariculture, potential priority area for fishery, recommended for scientific research
- Sub-area BM – recommended for economic/industrial activities other than mining, recommended for mariculture
- Sub-area G/BM – recommended for mining, and power production/mariculture
- Sub-area C – transboder area
- Sub-area A – general area

The Lithuanian case

No plan, but a way forward for dealing with conflicts

Although it did not develop a maritime spatial plan, Lithuania proposed a way forward for dealing with different types of conflict. This made use of different types of zones which specify the suitability of certain areas for particular uses or combinations of use.

The first step was to produce a map of current and planned sea uses to show spatial overlaps. Stakeholder consultation was then carried out to highlight main potential areas of conflict. The planning team then grouped potential conflicts according to their nature and their possible influence on the development of other marine activities. The following area categories were developed:

Area categories

- Special concern areas: areas that carry certain risks to other users, or are particularly sensitive, or represent an existing asset (new uses would need to deal with these)
- Reserved areas: areas already occupied by priority uses; here new uses would need to enter into negotiation with the existing user,

- Priority areas: areas where certain uses would need to be given priority due to national policy or particular suitability,
- no go areas to be avoided due to existing high level priority or future need

A potential conflict management scheme was drawn up to highlight options for different types of conflicts.

POTENTIAL CONFLICT MANAGEMENT SCHEME

No obvious conflicts; management hints: priority assessment, mitigation measures, avoidance of specific sensitive areas/assets

Conflicts possible, but manageable; hints: compensations measures, feasibility studies including coast efficiency assessment, strong national priority status

High level conflicts, no management possible until restrictions removed due to closure of activity, new high level priority assigned, re-planning (planning) would be needed

From BaltSeaPlan Report No. 15

It should be noted that these are not planning categories, merely categories for identifying conflicts.

WHAT AREA CATEGORIES WERE ASSIGNED TO WHICH USES?

Sectors and area categories

The following table is an overview of the area designations given to the various sectors and uses. It reflects the varying interpretations of the respective zones and shows similarities as well as differences. In the Latvian case, virtually all uses have been given a priority area (with specific descriptions of what is allowed and what isn't), while the Pomeranian Bight pilot project was much more cautious in using this category. Note that the definition of priority area and reservation area differs between the three projects.

SECTORS AND AREA CATEGORIES APPLIED

SECTOR	PILOT PROJECT	PRIORITY AREA	RESERVATION AREA	SUITABLE AREA	NO GO AREA	OTHER
SHIPPING	POM BIGHT	yes	yes			
	MIDDLE BANK					
	LATVIA	yes			yes	
NATURE CONSER-VATION	POM BIGHT	yes	yes			
	MIDDLE BANK	yes				
	LATVIA	yes	yes			
SAND AND GRAVEL EXTRACTION	POM BIGHT	yes	yes			
	MIDDLE BANK					recommended sub-area for mineral and raw material extraction
	LATVIA					
MILITARY USE	POM BIGHT					
	MIDDLE BANK					
	LATVIA	yes				
FISHING	POM BIGHT		yes			
	MIDDLE BANK	yes				priority sub-area for the maintenance of fishery but no recommended areas for fishing
	LATVIA	yes (bottom trawling, coastal fishery, regeneration of fish resources)				
OFFSHORE WIND FARMING	POM BIGHT			yes		
	MIDDLE BANK					
	LATVIA	yes	yes			
CABLES AND PIPELINES	POM BIGHT		yes			
	MIDDLE BANK		yes			
	LATVIA	yes				
TOURISM	POM BIGHT		yes			
	MIDDLE BANK					not an issue
	LATVIA	yes				

SECTOR	PILOT PROJECT	PRIORITY AREA	RESERVATION AREA	SUITABLE AREA	NO GO AREA	OTHER
ECONOMIC ACTIVITIES OTHER THAN MINING	MIDDLE BANK					recommended sub-area for economic/industrial activities other than mining
RESEARCH	MIDDLE BANK					recommended sea area for scientific research
MARICULTURE	LATVIA	yes				
	MIDDLE BANK					recommended sub-area for mariculture
COASTAL DEFENCE AND OBSERVATION	LATVIA	yes				

OPTIONS FOR THE SPATIAL REGULATION OF FISHERY

Legal options for the spatial regulation of fisheries

A technical report looked at the legal options offered under EU law for the spatial regulation of fisheries. The main focus of the report was on whether it is possible to set aside marine areas where fisheries would be temporarily or permanently restricted for certain gear types or techniques. The report suggests specific areas where (1) fishery is to be excluded for the benefit of preserving biodiversity (e.g. by means of management plans for nature conservation areas), or (2) areas where certain fisheries are protected from competing fishing practices (e.g. to exclude sprat fisheries in habitats that hold large stocks of juvenile cod in the same area and of the same size as sprat).

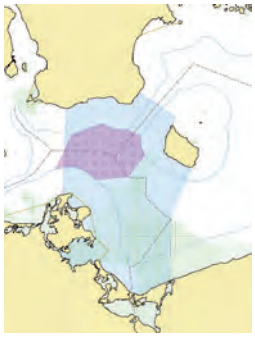
Priority areas for fishing

The report also allows the identification of priority areas that protect fisheries from other claims such as dredging, mineral extraction or wind farm installation, and outlines how such regulations could be implemented. Spatial suggestions are put forward that could be integrated into a maritime spatial plan, as well as fisheries internal management or nature conservation management plans.

PROTECTION OF THE COD SPAWNING AREA WEST OF BORNHOLM: EXCLUSION OF INDUSTRIAL FISHERIES[85]

Location:

- EEZ of Sweden, Denmark and Germany (outside of Natura 2000 site network)



Magenta: Area of regulation

Other map features:

- Light blue background: pilot area
- Green hatching: Natura 2000 site network (SPA/SAC)
- Interrupted lines: baseline, 12nm zone, national border

Regulating regime:

- Fisheries legislation of the EU (Regulation (EC) 2187/2005 or Regulation (EC) 2371/02)

Regulative instrument:

- Closed area (with reference to specific gear)
- Temporal vertical closure (with reference to specific gear)

Target uses to be regulated:

- Industrial fisheries
- Bottom trawling (seasonally)

Comments: Industrial fisheries should be excluded from the main cod spawning area indicated above (which is the central part of the main spawning area in the Arkona Basin west of Bornholm). This requires an according regulation in the spatial plans of Sweden, Denmark and Germany for the EEZ.

Regulations to be imposed should be:

- A total exclusion of the fishing on sand eel and sprat
- A complete ban of nets with mesh sizes below 100 mm
- A ban of bottom trawling from February to June to protect the cod during spawning season

Categories in sectoral planning:

- Closure for industrial fishing
- Temporal closure for bottom trawling
- Area with important assets for fish fauna diversity

Will need to be translated into MSP categories/areas

Transposition needs:

Cod is of central importance to Baltic Sea fisheries, but also to natural community dynamics. If cod popuations are severely reduced, the ecosystem is altered to an unnatural state. In Natura 2000 habitats such as reefs or sandbanks this reduction is incompatible with the conservation objectives there.

Cod spawning areas in the western Baltic are of central importance for recruitment to the central Baltic cod population. 20 % – 50 % of the fish originate from this spawning area and not from the central Baltic itself Cod stocks in the southern Pomeranian Bay (including the numerous SACs located there) are also sustained by these spawning areas.

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OVERALL CONCLUSIONS

OVERALL CONCLUSIONS

This chapter summarises the achievements and outcomes of BaltSeaPlan as well as the lessons that can be learned from the project. It also suggests further steps that can be taken in order to progress MSP at a more general level. This outlook may be of use to all MSP players and forthcoming initiatives irrespective of their region or sea area.

Developments since BaltSeaPlan

BaltSeaPlan has received much attention throughout the Baltic Sea Region, in other countries and from DG Mare. The recommendations, principles, models and methods developed already form the basis for many follow-up activities on MSP. BaltSeaPlanhas thus achieved its overall ambition, which was to contribute to making MSP a living practice within the Baltic Sea Region.

Although not always a direct consequence of BaltSeaPlan, it is notable that most Baltic Sea countries have now become active in establishing the structures and legislation necessary for maritime spatial planning.

- Responding to an overall inquiry and consultation process, the "Swedish Agency for Marine and Water Management (SwAM)" was established in July 2011. The agency is tasked with developing the Swedish MSP system, implementing the EU MSFD and the common fisheries policy and coordinating this work with the EU Water Framework Directive. The new legislation authorizing MSP in Sweden is expected to come into effect by early 2013. — Sweden
- In Latvia the work of BaltSeaPlan was guided by an inter-ministerial group on MSP. This stimulated government in early 2012 to begin creating MSP legislation and to start a real planning process. As a result, the Latvian Institute of Aquatic Ecology (LIAE), which is the competent authority for implementing the MSFD for Latvia, was given the mandate to develop a maritime spatial plan for Latvia from 2014 onwards. — Latvia
- In Lithuania the MSP planning process has already started. In late 2011 the Ministry of Environment issued a tender for the extension of the Lithuania General Plan towards the whole Lithuanian sea. The tender was won by the BaltSeaPlan project partner CORPI. The first draft plan is expected to be finalised by the end of 2013. — Lithuania
- In Estonia the Government initiated two Maritime Spatial Plans in October 2012. The plans cover the Pärnu Bay area and the territorial sea around Hiiumaa island. Both plans are building on the information and experience gathered throughout the BaltSeaPlan process given that both areas were already partly covered in the project. — Estonia
- In Poland it is expected that a tender will be launched by spring 2013 for the preparation of a strategic plan for the whole Polish sea. — Poland
- In Mecklenburg-Vorpommern (Germany) the experience gained within BaltSeaPlan esp. in relation to stakeholder participation and transboundary exchange have been of high interest for the currently ongoing process of updating the Regional Spatial Development Program (incl. a Strategic Environmental Assessment). An external moderator shall assure an effective participation and a broad acceptance of the designations to be made, by trying to get all stakeholders involved in the formal participation process – from local citizens to representatives of the European neighbouring states. — Germany/Mecklenburg-Vorpommern

Added stimulus for MSP development in the Baltic Sea Region is provided internationally:

Vision 2030 acknowledged by VASAB CSPD

- In April 2012 the VASAB Committee on Spatial Planning and Development acknowledged the BaltSeaPlan Vision 2030. The HELCOM-VASAB working group on MSP considered the report a good background report for any future joint HELCOM/VASAB Vision forthe Baltic Sea. The VASAB CSPD also announced that MSP willbe one of the key topics to be covered by the next Ministerial Conference to be held in autumn 2014.

PartiSEApate

- In June 2012 a follow-up project "PartiSEApate – Multi-level Governance in Maritime Spatial Planning" was approved by the Monitoring Committee of the Baltic Sea Region Project. The project, which is led by the Maritime Institute of Gdansk and includes the VASAB Secretariat as well as the newly founded Swedish Agency as its partners, will run until autumn 2014.

EU Framework Directive on MSP/ ICZM

- Probably the most important stimulus for MSP is the planned Framework Directive on MSP and Coastal Management, which the European Commission is expected to release in 2013.

With the joint HELCOM-VASAB working group on Maritime Spatial Planning the Baltic Sea region can boast an ideal body for furthering cooperation between countries, thus ensuring coherence of the various planning efforts within the fragile ecosystem of the small Baltic Sea.

BaltSeaPlan products

BaltSeaPlan reports

On the tangible side, BaltSeaPlan has resulted in more than 31 reports, all of which are available as free downloads from the BaltSeaPlan website. BaltSeaPlan has also generated other products which are available to future MSP initiatives in the Baltic Sea region and beyond.

But the achievements of BaltSeaPlan should not only be measured in terms of visible outputs. The intangible outputs that resulted are just as important for the future of MSP in the Baltic Sea region. These outputs include generating greater awareness of marine space, bringing together different perspectives on space, and generating understanding of the scope and processes involved in MSP.

DRAFT MARITIME SPATIAL PLANS

Conflict analyses based on stocktake

All pilot projects were able to produce a stocktake, comprising an overview of the natural conditions in the given marine area as well as existing and planned sea uses. This was accompanied by a thorough analysis of existing strategies and plans for the area in question. The stocktakes also identified data still missing for MSP.

All pilot projects also carried out some form of conflict analysis, not only identifying the relevant issues but also the relevant stakeholders for the areas in question.

MSPs for new areas

Four pilot areas were able to produce a draft maritime spatial plan for areas where no such plan existed before. Although they are based on similar aims, each pilot plan is the result of a different planning logic using different tools and methods. This reflects the importance of flexibility, taking into account different planning traditions and objectives as well as practical differences, for instance determining the possibilities for stakeholder involvement.

Transboundary MSPs

BaltSeaPlan was one of the first European projects that tried its hand at transboundary MSP. Two transboundary draft maritime spatial plans were produced, one for the Pomeranian Bight/Arkona Basin area and the other for the Middle Bank area. This is a truly innovative step in MSP which lays the ground for potential "real life" transboundary planning exercises in the Baltic Sea.

It is not expected that these draft plans will be taken on board as statutory MSPs. Nevertheless, they are an important point of departure for any subsequent planning processes that may follow. A data set has become available in each pilot region for future initiatives to build on. At the same time, process results such as stakeholder engagement, getting to know one another and building trust cannot be underestimated.

SEA METHODOLOGY

A starting point for a common SEA methodology across the BSR

The pilot MSP for the "Gulf of Gdansk" – already prepared under the preceding PlanCoast project – was used to develop and test a methodology of adapting regulations concerning a Strategic Environmental Assessment to the needs of the marine environment. The methodology is also available as a separate recommendation. These outputs can serve as a good starting point for a commonly agreed SEA methodology for MSPs across the Baltic Sea Region.

NEW PLANNING PRINCIPLES

The BaltSeaPlan Vision 2030 has established a new set of planning principles which should act as a guide to all maritime spatial planning decisions around the Baltic Sea Region. Developed for a regional sea, these same principles could be transferred to other regional seas.

Pan-Baltic perspective

The first principle is that planners should take a pan-Baltic perspective. From an ecological perspective, this means that planners regard the Baltic Sea as one ecosystem at all stages of the MSP process. Moreover, they also regard it as one planning space which is utilized in line with ecological opportunities and constraints (e.g. sea basins). The pan-Baltic perspective thus brings together a pragmatic and a visionary element: On the one hand, it demands suitable planning solutions for transnational sea uses (e.g. shipping), on the other, it calls for an overall vision for maritime space and its use.

Connectivity Principle

The connectivity principle springs from the pan-Baltic perspective in that it tasks planners with ensuring the necessary connections between habitats on the one hand and between sea uses on the other. Focus should be on these connections within distinct planning areas, but also across the Baltic Sea as a whole and between land and sea. Shipping and energy grids are obvious examples where MSP has to ensure both transnational as well as land-sea connections. But connectivity also means that issues should not be regarded in isolation. Nature conservation and fishery need to be understood from the perspective of ecological rather than administrative boundaries, taking into account the impacts of other sea uses on species and habitats and cumulative impacts for example.

Spatial efficiency

The spatial efficiency principle in turn stresses the importance of encouraging co-use wherever possible. Combinations of uses should be promoted as much as possible in line with creating a polyculture of use, minimising the amount of "fresh" ground to be broken for new or additional uses. Efficiency is thus synonymous with maximising synergies rather than allowing each sector to claim "their" own space. Efficiency can be promoted by means of strategic spatial plans that set out sea areas suitable or unsuitable for particular combinations of use, such as the draft MSPs for Middle Bank and Lithuania.

The connectivity principle highlights the importance of spatial subsidiarity, which is best understood as a nested approach to MSP across different geographical areas. This in turn underlines the importance of docking points between the various maritime spatial plans (national, regional) as well as the importance of joined up thinking rather than planning for a particular area in isolation.

PUTTING FISHERY ON THE SPATIAL AGENDA

A new sectoral category

BaltSeaPlan has helped to put fishery on the planning agenda by testing various methods of obtaining fishery data, models for defining fishery areas and translating fishery needs into planning categories. Within the pilot case Pomeranian Bight, fishery was earmarked for the first time as a distinct sectoral category, with the understanding that specific planning and management provisions will be included in future plans as more knowledge is generated.

NEW ANALYTICAL COMPUTER MODELS & TOOLS

BaltSeaPlan developed and applied a wide range of models and tools which are set out in dedicated reports. These include:

- Habitat models used in Latvia, Estonia and Denmark
- Remote sensing method for detecting fishing vessels
- New seabed mapping methods (rugosity vs. side scan sonar method)
- MARXAN with zones used for:
  - the identification of suitable areas for fishery
  - the identification of offshore wind energy sites
- BaltSeaPlan "Modelling Report" – an overview of models with relevance to MSP

BALTSEAPLAN MSP DATA RECOMMENDATIONS

BaltSeaPlan developed recommendations for a future pan-Baltic MSP data infrastructure which address both political decision-makers and technical data experts. The recommendations deal with the administrative, structural side of data exchange as well as the specific data content and data formats.

Most importantly, the BaltSeaPlan data recommendations move away from the idea of an all-encompassing data collection. Instead BaltSeaPlan promotes the idea of a decentralized data system which is managed by a Baltic MSP coordinating point but fed by all kinds of data providers. This is the only way of ensuring data is kept up-to-date, complete and of sufficient quality. The objective must therefore be to create a network of data providers, which align their data according to the given data infrastructure rather than the creation of a single data collection point.

A decentralised data system with one coordinating point

MSP COMMUNICATION PRODUCTS AND TOOLS

Apart from methodologies tested, BaltSeaPlan has published three distinct products which are readily available to any future MSP project:

The publication "Become a Maritime Spatialist in 10 minutes", produced by the project partner WWF, is available in all Baltic Sea Region languages as a free download from the BaltSeaPlan website. It is also available from the BaltSeaPlan website as an animated power point which can be used at all kinds of MSP workshops. Due to their humorous cartoon style, the visuals have already appeared in many other publications not related to BaltSeaPlan. The success of the publication is due to the fact that it does not only appeal to MSP experts, but can also be used for awareness raising and educational purposes for many different target groups including school children.

The MSP Comic – also as animated power point

The Danish partner NERI produced a 10 minute film on MSP. Although the film focuses on Danish spatial planning issues and research activities, it provides a good general introduction to MSP which is suitable for a wider public.

A 10 min film on MSP for the general public

The Boundary GIS application "BaltSeaPlan Web" developed by the University of Tartu is available for other MSP initiatives to build on. It is highly recommended that future MSP initiatives consider the possibility of building on this application before beginning to develop their own stakeholder mapping and/or visualisation tools.

The BaltSeaPlan Web

INTANGIBLE OUTPUTS: EXTENDING THE MSP FAMILY

Next to these tangible products, the most important achievement of BaltSeaPlan is that it has helped to truly put MSP on the agenda of Baltic Sea region countries. BaltSeaPlan was successful in widening the circle of experts on MSP across all Baltic Sea countries, most notably in Latvia, Lithuania, Estonia and Poland where the number of MSP "insiders" was extended markedly.

Although the core BaltSeaPlan products were developed by project partners and experts, stakeholder involvement was a key element of many activities.

In Latvia for instance, stakeholders had not come together before to discuss conflicts in marine space. As a result, the pilot project made a real difference in terms of the output achieved (a plan) but also more generally in promoting spatial thinking amongst Latvian stakeholders. An important outcome here is greater problem awareness and also mutual

awareness of the stakeholders involved. There is also greater awareness of what can be achieved by means of MSP and where the limits of the MSP process lie.

Brochures like "Become a Maritime Spatialist in 10 minutes" and the BaltSeaPlan Vision 2030 also reached wider target groups well beyond a narrow expert level. Project reports were used as background papers for presentations and discussions in all kinds of events, be it a bilateral meeting, a technical seminar, a stakeholder workshop or political conference from the regional up to the European level.

More than 1000 people have attended workshops or conferences where BaltSeaPlan was a topic.

Generally though, insufficient awareness persists in the public and political domains on the importance and implications of spatial thinking in the sea. There are many misunderstandings of what MSP can and cannot do, either over- or underestimating its theoretical and practical scope.

Nevertheless, within the Baltic Sea region, discussions have now reached a new level. It is no longer a question of whether to introduce MSP, but rather of how to do it. BaltSeaPlan ensured there are more experts at hand who can build on the experience of having "done" it at least once already.

Lessons learned

Based on the practical experiences gathered during the actual planning processes in the pilot areas, BaltSeaPlan offers a number of general lessons for MSP projects and processes.

CLARIFICATION IS NEEDED ON THE PURPOSE AND AIMS OF A PLAN

Different purposes & scope

- BaltSeaPlan has shown that plans can differ markedly in purpose and scope. Some of the draft pilot plans produced were strategic plans, others more like a statutory zoning plan. Some plans sought to ensure the best possible spatial fit for every sector based on spatial priorities, others were guided by the idea of careful "husbandry of space", ensuring not only best spatial fit, but also sparing use of maritime space with a view to future developments as yet unknown.

Different aims of an MSP

- This leads to the conclusion that different understanding exists of the aim of a maritime spatial plan. A link is apparent here to the lack of strategic and political guidance for maritime space (see below). There is a difference between MSP as an arbiter of conflicts (seeking to resolve existing spatial conflicts in the best possible way), and MSP as a forward-looking tool which is used in a more strategic, forward-looking way in order to promote a particular view of marine space.

From a vision for space to strategic plans to zoning plans

- It thus becomes clear that there is a need to differentiate much more clearly between a vision for the sea space in question (ideally building on a broader vision for the regional sea as a whole), a strategic plan setting out principles for sea use and options for allocating sea space (such as which uses could be combined particularly well where, or areas

where certain combinations of use should be excluded) and a proper "zoning plan" with designated areas for certain uses. Planners should always ask very carefully why the plan is drawn up in the first place and what it is setting out to achieve. Is it a broad-scale vision which is being developed? Is it a strategic plan, a plan to promote blue growth, a conflict map or a zoning plan? Only when this is clear can the relevant information and knowledge be gathered and knowledge gaps identified.

- It is interesting to note a marked difference in how plans were developed in countries with and without legal provisions for MSP. Whilst the former were more mindful of the legal consequences of area designations and their implications for any existing or future users of that space, the latter operated more freely.

Plans differ depending on legal context

THE MSP CYCLE IS A USEFUL FRAMEWORK BUT NO ONE SIZE FITS ALL

- Despite the different approaches chosen, activities within BaltSeaPlan have proven the validity of the MSP planning cycle as a guiding framework. It makes good sense to follow the logical sequence of planning from context analysis, stocktake, conflict analysis and drawing up the plan because it lends the planning process a certain inner logic.

Validity of planning cycle

- Nevertheless, although MSP follows similar basic steps there is no single formula or process that fits all. BaltSeaPlan shows that similar outcomes can be achieved through several routes (e.g. zoning concepts). All pilot projects drafted their plans according to their own internal logic, opportunities and constraints, and all make good sense for the specific situations under consideration. This illustrates the need to keep MSP flexible and adaptable to different circumstances.

No single formula for MSP

- Rather than understanding the MSP cycle as a sequence where the next step is only considered when the current one is completed, experience shows that it is important to consider the entire planning cycle right from the very beginning. In this way, the process of MSP and the desired outcome can be better matched with aspects such as information gathering, stakeholder involvement or later stage evaluation, making the entire process more efficient and to the point.

Consider the whole cycle from the very beginning

- Given their diversity, maritime spatial plans need to offer suitable docking points for other, neighbouring plans. Common zoning categories, or at least common objectives for area designations are required so that a coherent and connected framework can be achieved for the Baltic Sea as a whole. Spatial subsidiarity is an important principle here as it does not make sense for every plan to deal with everything. Transnational strategies will tend to be more general than national plans, not least because it is easier to involve stakeholders at a national or regional level. However, spatial subsidiarity can only work within the context of such a coherent framework.

Offer suitable docking points

- To make MSP processes more efficient, it is important to ensure that all steps are target-oriented. There is a great danger of getting entangled in data collection and data constraints. To avoid collecting data for information's sake, emphasis should be placed on the kind of information which is really relevant for the kind of planning that is being undertaken. Target orientation is particularly important in the context analysis and stocktake. This comes back to the point of clearly defining what kind of plan is to be produced at the beginning of the process.

Use a target-oriented approach

DIFFICULTIES CURRENTLY STILL IN IMPLEMENTING THE CONNECTIVITY AND EFFICIENCY PRINCIPLES

Find the "fit" between transnational visions and national/regional MSPs

- Work on the Vision 2030 helped BaltSeaPlan partners to translate the sustainability principle into clear planning principles which provide a good logic for decision making. Spatial connectivity and promoting co-use as a means of ensuring spatial efficiency are relevant principles for all forms of planning. At the same time, it is recognized that such principles are easier to stipulate than to put into actual practice. More work is required to develop "connectivity and efficiency thinking" and to implement them based on real information, such as analyses of synergies between different uses and cumulative impact assessments.
- In practice, it has proven difficult to achieve adequate "fit" between the transnational common vision and national/regional maritime spatial plans. Many discrepancies remain between transnational and national/regional objectives for Baltic Sea space which are difficult to resolve due to different political and sectoral interests and also lack of structures and formal requirements.

More knowledge required for some connectivity themes

- Also, more knowledge is required for truly implementing connectivity thinking such as blue corridors. For combined uses it is important to understand whether the expected benefits sufficiently outweigh any additional costs that may arise. As long as no cost is associated with using "new maritime space", the objective of "leaving as much space as possible unused" is likely to become compromised quite quickly.

SHORTCOMINGS AT THE STRATEGIC POLITICAL LEVEL NEED TO BE RESOLVED

- All BaltSeaPlan pilot projects were hampered by the lack of political targets, visions and strategies for the respective maritime space. Rather than being tasked with a clear aim or objective of "what to plan for", BaltSeaPlan partners had to develop their own aims and objectives for their given pilot area.

More spatial thinking needed in political strategies

- The analysis of national and regional strategies revealed a surprisingly large number of policy areas which do not take maritime space into account. The stocktakes identified topics with clear impact on marine space, but for which no dedicated marine strategy exists. Cultural heritage at sea has not been dealt with; only few strategies exist for mining at sea, transmission infrastructure (although this may change with the completion of plans for a Baltic Sea grid), research and education. Tourism and climate change often also lack a specific marine dimension.
- Although stakeholder consultation and involvement can go some way towards filling this gap, it cannot replace strategic political decisions and long-term planning for sea space.

MORE EFFORT SHOULD BE MADE TO FOSTER DIALOGUE AND BUILD TRUST

between MSP and sectors

More and more stakeholders open up for dialogue

- Although they are clearly highly relevant for a pan-Baltic approach to MSP, some sectors such as fishery and shipping are difficult to involve in MSP as they have a tradition of keeping to themselves. In BaltSeaPlan, some stakeholders in environmental protection and national defence showed a tendency to monopolise information and intentionally restrict access to data. This leads to a biased picture of maritime space and may force planners to draw the conclusions desired by those stakeholders.
- At the same time, BaltSeaPlan has shown that a growing number of governmental and sectoral stakeholders recognize the fact of MSP and that their initial resistance is now turning into a more co-operative approach. Stakeholders are beginning to understand that they need to define and express their interests spatially in order to be recognized as equal players within MSP.

Sectoral participation can help to close existing information gaps

- A well planned participative approach has been proven useful in overcoming some of the most urgent information gaps such as those on fishing grounds. Stakeholders – if they understand their role in the process – have proven to be a rich source of valuable information which may otherwise not be available to planners. This specifically also includes the scientific community.

Stakeholder involvement: a must in conflict analysis

- Where a good information base exists, it may be enough to bring in stakeholders at a later stage of the MSP cycle. Stakeholder involvement is a must, however, for conflict identification and for proposing first solutions as planners often lack important information. At the same time, this is where limits of stakeholder and scientific knowledge may become apparent, especially with respect to impacts and connectivity issues (e.g. the ability to define blue corridors).
- Stakeholder knowledge is therefore not sufficient to close all information gaps. Stakeholder information is guided by interests, and there is the possibility that stakeholders will exploit powerful positions at the expense of others. Stakeholder information cannot replace political guidance and strategic priority setting for maritime space, not can it replace scientific research. Independent monitoring of spatial activities and more scientific data are therefore also required.

Knowledge brokerage between the disciplines involved in MSP in order to operationalise research results

Knowledge brokerage is a two-way street

- Knowledge brokerage is necessary across the various disciplines involved in MSP, from the natural, engineering and computer sciences to social sciences and economic and legal issues. BaltSeaPlan created dialogue between researchers, data providers and project partners; the resulting outputs (i.e. modelling report, MARXAN application, boundary GIS, data recommendations) can serve as examples of good practice in such knowledge brokerage. Much more such collaboration is required in order to operationalise research and data results for MSP purposes.
- Knowledge brokerage between stakeholders and planners is also important and should be understood as a two-way street. MSP is a great opportunity for developing a broader

vision for the sea. Planners should demand more input from stakeholders with respect to strategic sea use planning and encourage the development of a shared vision for the future of the sea.

Stakeholder involvement needs careful planning

Go carefully with stakeholders...

- Stakeholder involvement needs to be planned very carefully depending on the situation at hand. Talking to stakeholder groups separately may be a good way to begin the process as this provides them with a protected environment in which to share their fears and expectations openly before confronting them with other stakeholder groups.

and expect no quick results

- No quick results should be expected from participative MSP processes as the different levels of interest (local to international) and different professional and cultural backgrounds may lead to difficulties in finding a common language.

The best understanding of MSP is generated by doing it

- Many stakeholders still misunderstand the implications of a maritime spatial plan. Real understanding of MSP is best achieved by working directly with all kinds of stakeholders on a selected range of topics in a specific pilot area.

SEA assess plans not uses

- Misunderstandings also persist with respect to the role of the Strategic Environmental Assessment. Maritime uses such as offshore wind farms would also be licensed in the absence of an MSP, but this would be unlikely to take an integrated perspective. The SEA, which explicitly assesses the impact of the maritime spatial plan, should produce a positive result as the plan ensures that an integrated perspective is taken of maritime developments.

Stocktake ≠ Plan

Limits of visualisation

- Visualisation and mapping tools have proven to be useful, but also have limits when it comes to showing the consequences of zoning provisions. There is a tendency to regard the outcomes of stocktaking exercises or conflict maps as ready-made zoning plans. Stakeholder involvement throughout the MSP process is the best way of overcoming such misunderstandings.

Stakeholder involvement needs to be fostered at the transnational level

No process yet for transnational stakeholder involvement

- The transnational BaltSeaPlan pilot projects (Pomeranian Bight/Middle Bank) did not reach a stage of defining appropriate processes for a transnational stakeholder involvement. This needs to be taken up by future projects.
- For transnational stakeholder involvement it may make good sense to start with separate sectoral groups, i.e. creating cross-border topic groups before bringing them all together in one workshop. Cultural differences may be substantial both among sectors and between planners. For transnational processes, even more time is needed to make sure everyone is on the same page.

THE IMPORTANCE OF CLOSING THE PLANNING CYCLE

- Future initiatives should generate more knowledge on closing the planning cycle, i.e. move from the development of the plan to the actual implementation of the plan, monitoring the consequences of the given planning provisions and revisions to the plan (also via management provisions for specific areas).
- It should be emphasized that monitoring and evaluation need to be conceived of right at the beginning of an MSP process. BaltSeaPlan pilot projects showed that this is easily forgotten as conflict resolution and proposing spatial solutions are more prominent in the early stages of the process. Monitoring and evaluation, however, are also key issues in the context of data and information. Data and information raised need to be matched with suitable indicators capable of describing the state of maritime space (including the marine environment in line with the MSFD and trends and developments in maritime use) and the success of the plan both in terms of outputs and processes. Different forms of monitoring and evaluation will also be needed for different types of plan (e.g. a strategic plan vs. a zoning plan).

Consider monitoring & evaluation of MSPs

Next stages and future steps

A year has passed between the conclusion of BaltSeaPlan and the publication of this report. Some of the action points called for have already been taken up by new initiatives; others remain to be taken up by future projects, policies and strategies.

The next few years will be decisive as nearly all countries around the Baltic Sea are now engaged in designing the necessary legislation and structures for future MSP processes. These developments will gain even more impetus with the new EU framework directive on MSP which is expected to be published shortly.

EXTENDING & WIDENING THE MSP NETWORK

Along with the parallel project “Plan Bothnia”, which was funded by DG MARE, BaltSeaPlan contributed to generating much needed expertise in MSP. Both projects, however, mostly focused on planners and selected experts. In future, this circle of experts should be widened to include more sectoral expertise. This should not be limited to expertise in specific marine areas, but strive to integrate sectoral views with a pan-Baltic perspective. This should also refer to the specific sectoral aims and objectives for maritime space, expectations of trends and development and potential conflicts and impacts of use on maritime space.

Integrate traditional and new sectors into MSP dialogue

Whilst sectors such as shipping, offshore wind energy, nature conservation and fishing have become obvious interest groups to talk to in national MSP processes, the same is not yet true in transnational MSP thinking. Not much dialogue has so far been instigated at an international level. If the new MSP principles such as connectivity and spatial efficiency are to be implemented, such dialogue is necessary especially at the transnational level. A discussion how such exchange could be instigated is under way in the HELCOM/VASAB Work-

ing Group on MSP for example. Widening the MSP circle should also include dialogue with new players within maritime space, such as mariculture or cultural heritage. Last not least, MSP needs to increasingly focus on climate change, pre-empting possible consequences as early as possible before large infrastructural measures are put in place which may be difficult to reverse.

BaltSeaPlan has shown that such processes take time, extending beyond the scope of limited projects. Ideally, stakeholder dialogue should be institutionalized across sectors in order to promote mutual understanding and trust. Institutionalization would also allow constant adaptation to new challenges and demands in marine space and reviews of existing MSP provisions.

DEVELOP "RULES OF THE GAME" FOR PRIORITY ISSUES

Extending the MSP dialogue needs to be accompanied by clear "rules of the game" for those involved. Although reference is made to the Baltic Sea region, these requirements will likely also apply to other regions and seas.

Establish Transnational objectives & targets

Rather than harmonizing everything, BaltSeaPlan has shown the importance of systematic co-operation over longer periods of time on selected pan-Baltic issues. Key issues that require true dialogue are those that require transnational thinking, such as creating shipping corridors, energy grids and blue corridors for fish, birds and connected habitats.

Align planning provisions to ensure docking stations

Further work is also needed to define the precise "docking stations" between the various MSPs developed in the countries and regions. This will require an alignment of planning provisions such as types of area categories. Processes need to be established that enable different planning cycles to be aligned, and more work should be done to enable SEA methodologies to be aligned across the Baltic Sea region.

Transnational consultation process

So far no process has been agreed upon ensure regular transnational consultation, specifying when consultation should take place, on what issues and with whom. A useful starting point may be the "minimum requirements for MSP" which were developed as part of Plan Bothnia, as well as the suggestions made by the BaltSeaPlan Vision 2030.

Future transnational processes need to be developed jointly by planners and relevant stakeholders, setting out what can be done at the national/regional level and what needs to be done jointly. The principle of spatial subsidiarity needs to be made more specific in terms of the implications for national and transnational MSP processes.

RAISING AWARENESS FOR MARITIME SPACE

In line with the above, joint work is needed to develop tools for stakeholder involvement and participative planning methods for offshore and/or transnational areas.

As the analysis of national and regional strategies has shown, there is a surprising lack of policies which truly take account of marine space. The mainland is still the prevailing spa-

tial perspective. Awareness needs to be raised both at a political and sectoral level of the need to integrate marine space into policy. Such a strategic perspective is essential for developing a holistic vision for maritime space and for a future-oriented, strategic dialogue on how this space is to be used.

ADD NEW TOPICS

Fishery and cultural heritage should become more prominent players within MSP. For the transboundary dimension of fishery, common methods should be discussed, including both planning-related aspects (e.g. zones) and aspects related to decision-taking (e.g. compatibility of fishing with other uses, setting priorities etc.)

BUILD A DATA NETWORK

Emphasis should be placed on the creation of a network of data providers, which operates around a clear set of exchange standards and procedures facilitated by one coordinating point. The task of the coordination point is to ensure both data fit and relevance, with the latter ensured by the integration of maritime spatial planners as advisers. This kind of data network should enable maritime spatial planners to obtain the necessary, up to date and relevant information for their given planning purposes when and if needed.

DEVELOP A COMMON MSP RESEARCH AGENDA

BaltSeaPlan has shown that research, especially on environmental issues, can be very expensive. In times of limited budgets it is even more important that a targeted and transnational approach is instigated based on knowledge brokerage between the world of MSP and the world of the natural and social sciences.

BaltSeaPlan has illustrated the broad diversity of knowledge required for MSP. Much relevant knowledge is still lacking, in particular with respect to the (cumulative) impacts of sea uses, the connections between different sea uses, the link between sea uses and habitats, and the connections between different species and habitats. Such knowledge is not only essential for implementing the principle of connectivity, but also the principle of spatial efficiency by promoting co-use.

BaltSeaPlan has clearly demonstrated that the socio-economic aspects of MSP are still under-researched and undervalued. Socio-economics are essential for understanding the full spectrum of land-sea connections as well as the social and economic consequences of planning provisions. This in turn is essential for laying open the advantages and disadvantages of planning options, enabling a broader public debate on what outcomes are desired and how MSP can help to ensure a fair distribution of costs and benefits of marine developments.

Research, however, should not be carried out for research's sake. It should strive to focus on relevant planning issues, which can be local, national or transnational in nature. Research should be focused through regular contact with planners (ensuring relevance) and be accompanied by strategies for knowledge brokerage, informing planners in turn on new insights and developments.

Create intersections with the MSFD

MSP is but one tool in achieving healthy marine ecosystems and sustainable sea use. Intersections need to be found with the Marine Strategy Framework Directive in order to ensure compatibility of the two approaches. This calls on scientists and practitioners to engage in dialogue and to co-operate with respect to optimising MSP as a tool and facilitator of good environmental status.

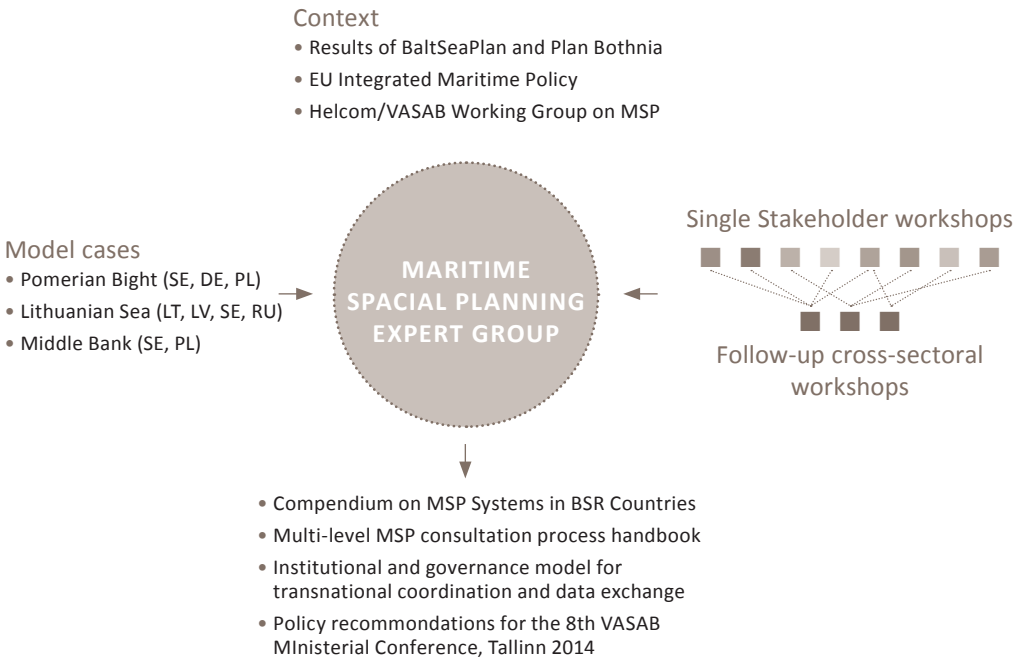
Give greater consideration to economics during planning

Further work is also needed to find a suitable balance between the costs of preparing a plan (its level of detailed and evidence-based features) and the desired level of accuracy in the context of the role of a given plan.

TOWARDS IMPLEMENTATION AND ASSESSMENT OF MSPS

BaltSeaPlan stopped short of assessing the possible consequences of planning and the different planning provisions suggested in the pilot plans. In future initiatives it is highly important to consider the consequences of different zoning categories for licensing procedures, such as for offshore wind farms, cables, oil and gas drilling, gravel extraction and protected areas. The transnational pilot project of Pomeranian Bight/Arkona Basin has given an indication of how this could be done, stipulating aspects that need to be regulated by means of future licensing processes and management plans for each sector covered by the plan.

PartiSEApate: Promoting Multi-Level Governance in Maritime Spatial Planning through out the Baltic Sea Region



PartiSEApate has been approved as a new Flagship Project under the revised EUSBSR Action Plan. It will run between January 2013 and September 2014, drawing on the lessons learned during BaltSeaPlan as well as the Plan Bothnia project. The partnership includes those institutions throughout the Baltic Sea Region officially charged with carrying out MSP as well as the VASAB secretariat. The Helcom-VASAB working group on MSP acts as an advisory board to PartiSEApate.

PARTISEAPATE ACTIVITIES

MSP consultation processes

Partners in PartiSEApate will develop and test requirements, methods and tools for MSP consultation processes across national or regional borders using three pilot areas from BaltSeaPlan as a case study. Stakeholder engagement will also be tested across all levels. Specific questions to be dealt with include:

- How can we deal with different planning cultures and potential pitfalls and problems in communication and collaboration?

- How can we streamline the preparation of maritime spatial plans with cross-border impacts – what has to be done together, what can be done individually? This will include a look at topics with transnational impact, comparable legends, types of zones, and ways of sea space prioritisation.
- Can the existing pilot plans developed in BaltSeaPlan be used as templates for maritime spatial plans? What changes are needed in order to achieve greater compatibility of the planning methods used by the countries involved?
- How can cross-border MSP consultation take place in practice? What should take place at which stage, with whom, in what way, how much time is needed, what outcome can be expected, which language should be used?

The objective is to develop practical guidance for planners on how to carry out multi-level MSP consultation processes throughout the BSR.

Compendium on MSP governance structures throughout the Baltic Sea Region

Based on the 2009 VASAB compendium, PartiSEApate will develop a web-based compilation of information on MSP structures across all countries of the Baltic Sea Region. The resulting information structure, which can be updated on a regular basis by Baltic Sea Region countries, can serve as an information basis for facilitating cross-border consultation processes.

Pan-Baltic Dialogues

PartiSEApate will engage national bodies, sectors and researchers in a dialogue on MSP at a pan-Baltic level. This dialogue will focus on topics identified as requiring stronger interaction between planners, responsible institutions and experts, such as

- Shipping & Port Development
- Offshore Wind Energy & Energy Grids
- New forms of Mariculture
- Cultural Heritage
- Environment/Nature Protection
- Climate Change Consequences
- Research for MSP
- MSP Data Infrastructure & Exchange

A series of workshops will be held to enable representatives to gain better understanding of what MSP means to them, the transnational nature of their field. The workshops will also explore their priorities, objectives, fears and hopes.

Based on the stakeholder methodology developed by the Latvian partners in BaltSeaPlan, sectoral workshops will take place first followed by cross-sectoral workshops in order to identify synergies and conflicts (spatial efficiency and connectivity). This could serve as a blueprint for future MSP governance processes.

PartiSEApate Recommendations

PartiSEApate will develop recommendations for a future MSP governance structure throughout the Baltic Sea Region. This will be presented at the next ministerial meeting of VASAB to be held in Tallinn in autumn 2014. This will include a concept for a pan-Baltic MSP governance model to ensure transnational coordination and data exchange in MSP. It will also include policy recommendations for how to develop transnational MSPs.

Further information about PartiSEApate can be found on *www.partiseapate.eu*

PartiSEApate

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BaltSeaPlan FINDINGS

The 3.7 million € Baltic Sea Region Programme 2007–2013 project "BaltSeaPlan" (2009–2012) has been the largest project in recent years dealing with maritime spatial planning throughout the Baltic Sea Region.

Under the lead of the German Federal Maritime and Hydrographic Agency (BSH) and covering partners from all Baltic Sea countries (except Finland) a set of closely interlinked activities has been carried out covering all elements of the maritime spatial planning cycle. All of them were designed with the intention to support relevant institutions and actors throughout the Baltic Sea Region to turn maritime spatial planning into reality. The results of these activities have been documented in a series of 31 separate reports as well as various publications.

The BaltSeaPlan Findings offer a summary over all project activities, methods applied, problems encountered, outputs achieved as well as future actions needed to develop MSP even further. Emphasis is put on conclusions and lessons to be learned from BaltSeaPlan, which should be taken into account in any kind of future initiatives on maritime spatial planning throughout the Baltic Sea Region and beyond.

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