Pan Baltic Scope

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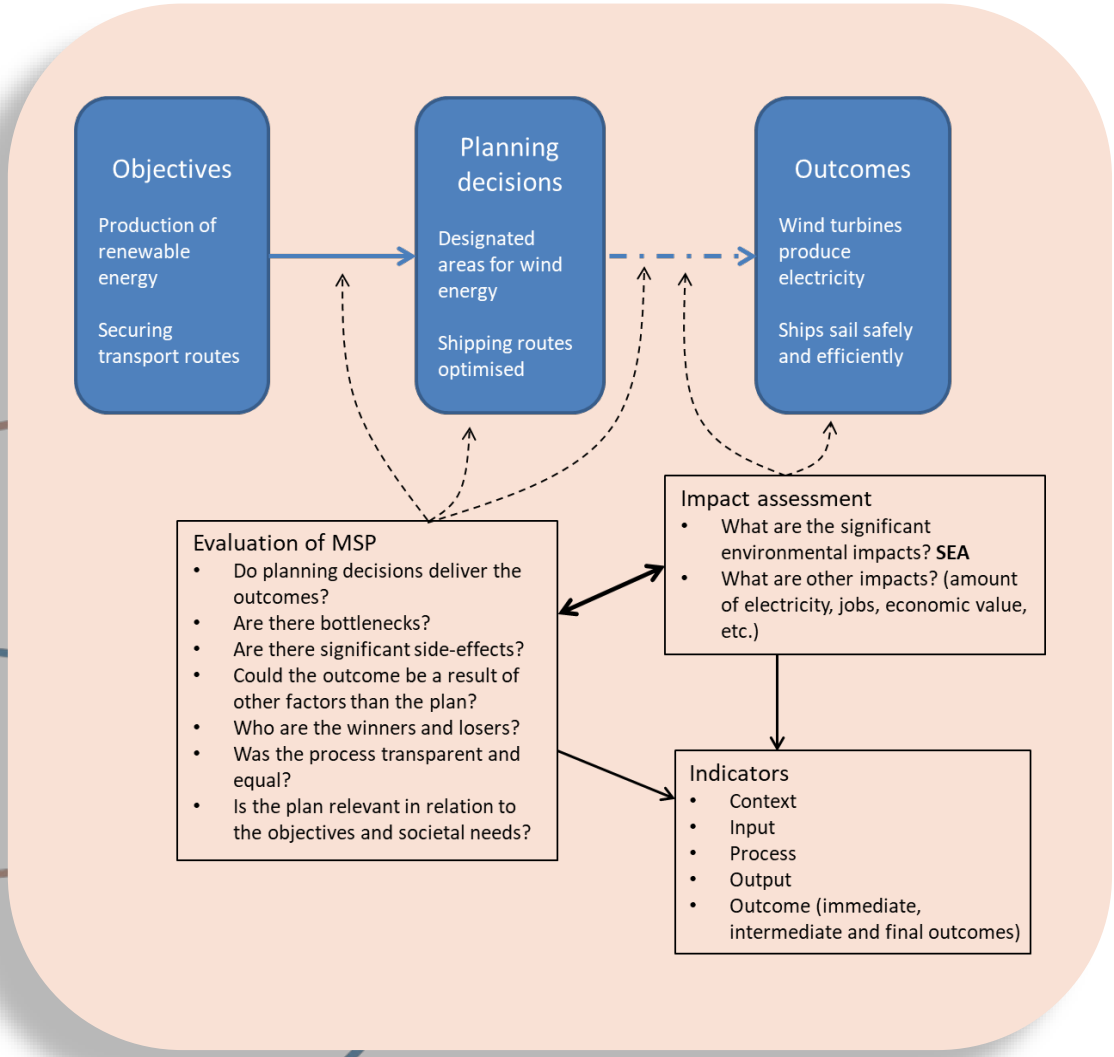
Monitoring and Evaluation of Maritime Spatial Planning

Cases of Latvia and Poland as examples



Monitoring and Evaluation of Maritime Spatial Planning. Cases of Latvia and Poland as examples

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Executive Summary

EU member states, also the ones that did not produce maritime spatial plans (MSP) before the EU directive on MSP came into force, are gradually finalising their first MSP plans. By March 2021, as the directive requires, we will then have the unique situation of seeing the European seas spatially planned. Then it will be time to ask *what we have achieved with that, for whom – and how*? Yet, MSP is not just a one-time experiment; it is a cyclical process that includes review and update phases. Further relevant question then is *How can we improve the MSP plans and the ways we produce them*? To answer these questions, we need concepts and methods of monitoring and evaluation that allow us to learn and to improve.

This report compiles the results of the Pan Baltic Scope project activity that focussed on the monitoring and evaluation of MSP. The work consisted of two parts. One was to develop conceptual basis for monitoring and evaluation. For this purpose, we reviewed literature on evaluation of MSP and spatial planning on land, as well as literature on evaluation of broad-scale, multi-level and multi-sectoral policies that have a lot in common with broad-scale spatial planning such as MSP.

The pivotal challenge of the monitoring and evaluation of spatial planning is that in many respects it is very difficult and sometimes even impossible to know how a spatial plan actually affects the use of the sea areas, maritime sectors or marine environment. This so-called attributability or causality challenge boils down to the question of how we can prove that an observed change is caused by the MSP plan and not by various other factors. This question plays a central role in this report as it has implications on the methods of monitoring and evaluation, on how to organise the process and even on the selection of indicators.

One of the key points on addressing the challenges of determining what effects MSP actually generates can be summarized that it is important to look at the goal achievement, but due to the attributability challenge its possibilities are limited. Then an evaluation approach that looks at MSP from different perspectives and in a broader context can produce useful information that helps partially circumvent the attributability challenge.

The other key point pertains to process and methods of evaluation especially emphasising that experts and stakeholders in different maritime sectors have valuable insights and experiences to assess how an MSP plan has or can influence their field of activity. An assessment based on views of experts and stakeholders does not completely solve the challenges of determining MSP impacts either, but, when conducted in a systematic and structured way, the assessment can shed light on what are plausible impacts and through which mechanisms the impacts are generated.

Finally, it needs to be underlined that the main purpose of evaluating MSP is to foster learning and to help improving the MSP. A key for learning is to understand what MSP does and causes. Methodological choices for evaluation as well as measuring the impacts or use of indicators should serve that purpose.

The second part of this project activity consisted of practical work together with Latvian and Polish MSP authorities to follow how they are planning to monitor and evaluate their national MSP. The report focuses thus on monitoring and evaluation of national level MSP. Both countries are doing their first MSP cycle. Latvia had its MSP plan approved in 2019, and Poland is following close behind with its schedule. Consequently, they are planning for the monitoring and evaluation of MSP for the first time.

The purpose of this report is to present different approaches to conducting and organising the monitoring and evaluation of MSP. The examples from Latvian and Poland, as well as Belgium and Germany, presented in this report show that there are several correct ways of doing it. The report's conceptual background of realist evaluation would also indicate that there is not one correct way of monitoring and evaluation. The purpose of the report is thus to give ideas and examples as well as to provide conceptual background and vocabulary for developing monitoring and evaluation of MSP.

We organised a session on monitoring the effectiveness of MSP at the MSP Forum "Global meets regional" in November 19-20, 2019 in Riga, Latvia. The session presented five national examples of organising monitoring and evaluation of MSP. The session discussions indicated that countries can organise their monitoring and evaluation of MSP in different ways, and they have good reasons to do so. The session conclusions also indicated that monitoring and evaluation should be kept rather simple and pragmatic, instead of aiming to build very complicated frameworks. This is one of the main messages of this report. Discussions in the MSP Forum session on monitoring and evaluating can be summarised in statement: "Do not go crazy with indicators!"

The task summarised the results of the work in three general recommendations:

- Broad objectives are needed to provide overall direction and purpose for MSP. But to ensure successful monitoring, detailed sub-objectives need to be developed too. The sub-objectives need to be realistic, clearly defined and verifiable. Qualitative and quantitative indicators for monitoring MSP should be linked to the sub-objectives, as well as to broader developments in maritime sectors, the marine environment and society.
- Organise systematic expert and stakeholder assessment processes that can help reduce uncertainties about the outcomes of MSP and how it influences maritime sectors, the marine environment and society. A practical solution for this would be to form national MSP monitoring and evaluation networks, based on the existing national working groups that support the preparation of MSP plans.
- HELCOM-VASAB MSP Working Group or planning authorities in the Baltic Sea Region should organise, in a few years' time, a workshop for all the Baltic Sea Region countries to discuss first national monitoring outcomes and possibilities of cross-border co-operation in monitoring and evaluation.

The recommendations are explained in more details in the final section of the report.

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1. Introduction

This report compiles the results of the Pan Baltic Scope project activity that focussed on the monitoring and evaluation of MSP. The work consisted of two parts. One was to develop conceptual basis for monitoring and evaluation. For this purpose, we reviewed literature on evaluation of MSP and spatial planning on land, as well as literature on evaluation of broad-scale, multi-level and multi-sectoral policies that have a lot in common with broad-scale spatial planning such as MSP.

The section 2 presents the findings on the conceptual basis for monitoring and evaluation. It presents purposes and practices of evaluating spatial plans. The section introduces the challenge of determining and knowing the actual effects of MSP and proposes some methodological and procedural solutions that can help in dealing with the challenge. The last part of the section 2 focuses on indicators.

The second part of the activity consisted of practical work together with Latvian and Polish MSP authorities to follow how they are planning to monitor and evaluate their national MSP. The country-specific sections (3.1 for Latvia and 3.2 for Poland) describe objectives for national MSPs and how countries have planned to organise their monitoring and evaluation activities. Annex 1 describes specific measures to support the implementation of the Latvian MSP, including measure-specific indicators. Annex 2 describes a possible, unofficial method of following the progress of MSP in Poland. In Poland, an official requirement is only to conduct a very general follow-up of the development of maritime sectors to check for the relevance of the MSP and to link the follow-up with environmental monitoring. Therefore, it is important to notice that the more detailed approach for the follow-up presented in this report is unofficial and tentative.

The Section 4 presents conclusions from the work and recommendations for monitoring and evaluation of MSP.

The purpose of this report is to present different approaches to conducting and organising the monitoring and evaluation of MSP. The examples from Latvian and Poland, as well as Belgium and Germany, presented in this report show that there are several correct ways of doing it. The report's conceptual background of realist evaluation would also indicate that there is not one correct way of monitoring and evaluation. The purpose of the report is thus to give ideas and examples as well as to provide conceptual background and vocabulary for developing monitoring and evaluation of MSP.

2. Monitoring and evaluation of spatial planning

2.1. Purposes of evaluation

Evaluation of plans and policies is generally required by national and European legislation. Evaluation has an instrumental purpose of improving planning and implementation of plans, but there is also the possibility to be more ambitious in pursuing sustainability. Evert Vedung (2010, 263) has summarised why evaluation of policies is needed,

> *"If you carefully examine and assess the results of what you have done and the paths toward them, you will be better able to orient forward. Good intentions, increased funding and exciting visions are not enough; it is real results that count. The public sector must deliver. It must produce value for money."*

By conducting evaluations, we can improve the plans and the processes of producing them. The evaluation will help the planners, affected parties and the public in general to conclude whether the jointly set objectives have been met or, in the case of *ex ante* evaluation, whether it is plausible that the objectives will be met. A successful evaluation will also help to understand why certain elements of the policy or plan work or do not. These questions pertain to effectiveness of planning, but in the cases of spatial planning or broad-scale policies the concept of effectiveness needs to be understood more broadly than simply as an achievement of predefined objectives. This point has been brought out reputedly in literature on evaluation of spatial planning (e.g. Carmona and Sieh 2008; Faludi 2000; Guyadeen and Seasons 2018; Laurian, et al. 2010) and in relation to evaluation of broad-scale policies and programmes (e.g. de Souza 2013; Gerrits and Verweij 2015; Patton 2015; Reynolds, et al. 2012; Van Der Meer and Edelenbos 2006). One particular challenge of evaluating MSP is the question of attributability, which is discussed in more detail in the next section.

In addition to assessing effectiveness (in its broader sense), an evaluation can also shed light on how satisfied different stakeholder groups are with the process and show who are or are likely to be affected by the planning decisions and how they are affected (European Commission 2013).

Evaluation of planning and plans can increase transparency and ensure accountability of planning, while fostering social learning and increasing sustainability of governance. Evaluations "*provide opportunities to learn about the questions to ask, the goals to set and how to frame the issues as well as the instrumental learning about how to design or implement the policy"* (Mickwitz 2006, 18).

Oliveira and Pinho (2011, 295) summarise the benefits of evaluating spatial planning by stating that evaluation can:

a) Legitimise planning, improving citizens' understanding of the impacts of proposals;
b) Help decision making to tackle complex problems;
c) Track, and eventually adjust the course of planning proposals, reviewing the implementation of operational actions or the allocation of resources; and
d) Contribute to a continuous learning process.

Engaging experts and stakeholders into monitoring and evaluation serves not only the purposes of knowing the effects of MSP, assessing the relevance of MSP or quality of the process. MSP is a cyclical, continuous process that does not stop when a plan has been finalised and approved. Implementation of broad-scale spatial plans is typically dependent on actions and decisions made by various actors within various processes (Faludi 2000). Consequently, engaging a large group of

relevant actors in the review and update phases of the planning cycle is an opportunity to "keep up the momentum" gained in the plan-making phase.

2.2. Practice of evaluation of spatial planning

There is a long tradition of spatial planning on land. Consequently, different approaches to evaluate the plans have been developed. Studies on evaluation practice of land planning point out, however, a relative negligence toward evaluation – especially *ex post* evaluations of plan effectiveness. The explanation given to this negligence is that the established planning practices are so strongly focussing on the production of plans that evaluation is, if not completely neglected, often introduced as an afterthought (Guyadeen and Seasons 2018; Laurian, et al. 2010; Oliveira and Pinho 2011). In comparison to the evaluation of broad-scale policies, the *ex post* evaluation of spatial planning has received much less attention and has been invested in considerably less (Oliveira and Pinho 2011). One of the forerunners of the evaluation of marine planning and management Jon Day (2008, 824) has witnessed that:

> *"Evaluation is often viewed as an 'optional extra', good in theory but difficult in practice. Both monitoring and evaluation programs, although supported in principle, often get displaced by more 'urgent' (though often less important) day-to-day management activities."*

Several approaches and concepts for evaluating MSP have been developed (Carneiro 2013; Day 2008; Douvere and Ehler 2011; Fletcher, et al. 2013; Kelly, et al. 2014; Soma, et al. 2014; Stelzenmüller, et al. 2015; Varjopuro 2019). The latter work includes the publication of several guidance documents aimed at directing the organization and conduct of MPS evaluation processes (Ehler 2014a; EU MSP Platform 2018; TPEA 2014; Varjopuro 2017; Vos, et al. 2012).

The MSP evaluation approaches presented in the literature cover processes, outputs and outcomes or elaborate generalised evaluation typologies. An emphasis on outcomes is discernible, in general, and several tools to quantitatively model impacts have been published (see e.g. reviews of the tools in Pınarbaşı, et al. 2017; Stelzenmüller, et al. 2013). MSP processes have been addressed in some publications, while the quality of the outputs and especially MSP's relation to social sustainability aspects are among the least covered topics.

As MSP is quite recent development in marine governance in general there are not that many reported examples of how MSP has been evaluated. There is an interesting early example of marine spatial management and its monitoring and evaluation from the Great Barrier Reef in Australia's east coast (Day 2008), but most literature on MSP and evaluation has focussed on presenting different evaluation frameworks and methods. There are, however, some practical examples of actual evaluations and reviews of MSP from Europe. We present briefly some of these in this report.

The EU countries are finalising the implementation of the EU MSP directive. For many countries this is their first cycle of MSP. Consequently, we will have more experience of how countries evaluate their MSP in a few years' time and concrete plans of evaluation even before that. This report presents plans of evaluation and monitoring of Latvia and Poland.

2.3. Challenge of knowing the effects of MSP

A cornerstone of evaluation and monitoring and key to developing methods for that is the challenging epistemological question of our ability to know the effects of MSP and what MSP delivers in practical terms. It has been pointed out that identification of the exact impacts of MSP or of spatial planning on land requires careful consideration. This stems from the so-called attribution or causality problem that is common to evaluation of spatial plans at sea and on land (Carneiro 2013; Faludi 2000; Guyadeen and Seasons 2018; Laurian, et al. 2010; European Commission 2013). The challenge is to know and prove that an MSP is causing or at least contributing to the observed changes in the use of a sea area. The causes of this problem can be traced back to three characteristics of MSP planning:

1) MSP operates in a societal and natural environment that is affected by various anthropogenic and natural processes (Jay 2018). The topics that MSP targets are influenced by multiple other factors than MSP only. How can we then isolate the effects of MSP from other factors? (Carneiro 2013).
2) Marine areas are often already governed by sectoral policies when MSP is started (Toonen and van Tatenhove 2013). What are the possibilities of MSP to influence decisions made in processes that steer the same topics that MSP is addressing? Does MSP have a mandate to do that?
3) MSP is not a very detailed plan – and it shouldn't be. MSP can designate areas for specific uses and may set conditions for the use, but the actual development of the areas is stipulated in private and public decision-making and also permitting processes that come after MSP (Ehler, et al. 2019). Again, to what extent the concrete consequences of these detailed level decisions are attributable to planning provisions given in MSP plans?

An additional perspective is that the three factors can cause considerable delays in generating impacts. Therefore, it may take years until impacts occur, which may make, for instance, a six-year review cycle too short for drawing accurate conclusions. For instance, after an MSP plan indicates an area for offshore wind energy production, the technical planning and implementation of the projects typically takes between 7 and 11 years, but it can last even longer (Hundleby, et al. 2017).

The challenge of attribution is not specific to MSP. This challenge has been discussed extensively in relation to evaluation of spatial planning (e.g. Faludi 2000; Guyadeen and Seasons 2018; Laurian, et al. 2010; Carmona and Sieh 2008) and in relation to evaluation of broad-scale policies and programmes (e.g. Patton 2015; Reynolds, et al. 2012; de Souza 2013; Gerrits Verweij 2015; van der Meer and Edelenbos 2006).

2.3.1. Addressing the uncertainty: implications for focus of evaluation

Several approached have been suggested to deal with the challenge of determining how much spatial plans or broad-scale policies influence the developments that they aim to influence (e.g. Faludi 2000; Patton 2015; Guyadeen and Seasons 2018; Laurian, et al. 2010; Carmona and Sieh 2008; Reynolds, et al. 2012; Gerrits Verweij 2015; van der Meer and Edelenbos 2006). A clear conclusion is that a simple, rationalistic idea of "measuring" the results of MSP must be replaced by a different way of thinking about evaluating spatial plans and even the planning itself. These considerations can be summarized making a distinction between conformance evaluation and performance evaluation. Conformance evaluation assesses whether a plan's objectives have been met. It compares the actual developments at sea with the plan and tries to establish a clear relationship between them. Performance evaluation has a different focus that sets MSP in a broader context. It asks, for instance, if the plan affected decision-making in the maritime sectors or permitting procedures.

Performance evaluation assesses the usefulness of MSP through its broader effects and side-effects (Carneiro 2013; Guayadeen and Seasons 2018; Laurian, et al. 2010).

One must note that terminology on evaluation of policies and plans is not settled and the same terms can be used for different purposes. This is particularly the case with "performance evaluation" that is sometimes used in a narrow sense to refer to the evaluation of effectiveness in the sense of conformance evaluation. In this report we use the term "performance evaluation" only as an alternative to "conformance evaluation" or evaluation of the effectiveness.

The distinction between conformance and performance evaluation has been discussed extensively in spatial planning evaluation literature, that relates it to different planning philosophies. Conformance evaluation is linked to the rationalist idea of a spatial plan as a blueprint for how things will evolve in the future. From such a perspective, "measuring" the effectiveness of spatial plans seems logical by comparing the actual, observable development to the objectives set in the plan. That view has been challenged from alternative theoretical perspectives of planning, which prefers performance evaluation approach. From that perspective, spatial planning is not understood as a blueprint, but more as a decision framework or policy process that gives guidance and raises important topics for regional and sectoral development. The spatial plan provides spatial expressions of societal preferences and needs, not a blueprint for the future. From this perspective, it is not necessarily a sign of a failure in the implementation of the plan, if decisions or actual developments deviate from what was expressed in the plan. The planning process can be considered successful or effective in a broader sense if deviations can be justified in relation to the plan and the plan is frequently used or consulted in the decision-making process. The performance-based approach considers planning an ever-changing process which faces significant uncertainties (Guyadeen and Seasons 2018; Laurian, et al. 2010; Shahab, et al. 2019).

The key points from the literature above can be summarized that it is important to look at the goal achievement (conformance), but due to the attributability challenge its possibilities are limited. Performance evaluation can produce useful information that helps partially circumvent the attributability challenge. In other words, in evaluation of MSP we should look at MSP from different perspectives and in a broader context. A key for learning is to understand what MSP does and causes. Then measuring the impacts or use of indicators should serve that purpose.

2.3.2. Addressing the uncertainty: implications for process and methods of evaluation

The above-mentioned difficulties in knowing exactly the impacts of MSP pose a serious challenge on monitoring and evaluating MSP. One conclusion is that quantitative measuring of the impacts is possible only for very few aspects of MSP. Even if in many aspects it may be impossible to prove unequivocally that MSP has caused specific changes in the use of a sea area, there are qualitative approaches that can provide plausible descriptions that MSP has contributed to the specific changes. Such approaches can reduce uncertainties.

The realist evaluation approach has been suggested for evaluation of plans and policies that are by their nature broad-scale and multi-level and address several sectors (Astbury and Leeuw 2010; Coryn, et al. 2011; Gerrits and Verweij 2015; Marchal, et al. 2013; Patton 2015; Pawson and Manzano-Santaella 2012). MSP plans are typically such. The realist evaluation is a very pragmatic,

empirical approach that is often summarized by the following questions (Pawson and Manzano-Santaella 2012):

- What works (or doesn't work)?
- For whom (and to what extent)?
- In which circumstances does it work?
- How and why does it work?

Methodologically, realist evaluation uses multiple methods and sources of information. In this section we focus on the utilization of expert and stakeholder-based methods to evaluate MSP, which is one way to reduce uncertainty related to knowing the impacts of MSP.

A systematic, structured expert and stakeholder-based evaluation can be built on the so-called theory-based evaluation methodology (Laurian, et al. 2010; Wong, et al. 2006). The approach is particularly developed for evaluating policies and plans that operate in complex environmental and societal contexts (Astbury and Leeuw 2010; Coryn, et al. 2011) and is, in fact, recommended by the European Commission for evaluations of regional development policies (European Commission 2013) that have some commonalities with MSP. The application and conceptual basis of this approach to evaluate MSP is described in more details by Varjopuro (2019).

The term *theory-based* implies that all decisions, explicitly or implicitly, include an idea – a theory – of how that decision will be implemented and how it will produce the intended results. An important part of the evaluation is then to describe how various components of the evaluated intervention relate to each other and to describe the factors that influence the relations (Astbury and Leeuw 2010; Coryn, et al. 2011). This relational perspective makes the theory-based evaluation approach particularly suitable for dealing with the uncertainties of determining the effects of MSP. However, the evaluation must not be designed in a reductionist manner and use methods, which could produce only one possible explanation of how MSP is generating effects. Hansen and Vedung (2010) emphasise that when dealing with broad-scale, multi-sectoral policies and plans, it is not advisable to try and reduce different perceptions on the intervention (or, particularly, the planning objective) to only one theory of change. Elaboration of multiple theories of change that elucidate different value positions and perceptions can be a powerful tool to support well-informed decision-making on complicated issues.

A central practical phase in this type of evaluation is the construction of plausible steps from planning decisions to preferred outcomes. The plausible steps can be described in multiple ways. A short storyline can present the overall assumptions (theories of change) in a comprehensible way, but for evaluation purposes a deconstruction of the assumption into components and their relations allows more detailed handling. The theories of change can be described visually as cognitive maps that show causal relations between components of the theory of change. With such visualisation one should avoid too mechanistic – or even deterministic – ways of presenting causal relations between the components (A -> B -> C). Alternatively, the components can be described in tables as in the following simplified scheme related to renewable offshore energy targets (Table 1).

Table 1. A simplified scheme of a plausible impact sequences from a planning decision to preferred outcomes with examples of evaluative questions to be discussed with experts and stakeholders. (similar questions can be rephrased in the past tense for an *ex post* evaluation)

Objective	Production of renewable energy at sea increases by X GW by 2030.	
Planning decision (output)	Areas designated for wind energy production at sea Cable routings defined in the plan Limitation or requirements concerning the designated areas in the planning documents	Examples of evaluative questions to be discussed with experts and stakeholders: • Is the area sufficient to reach the target? • Are the areas or cable routings feasible? • What are conceivable impacts on marine environment and other sea uses?
Immediate outcome	Knowledge of renewable energy operators increases on the availability of space, conditions set for development of the areas, target values. Interest to build more wind energy capacity at sea increases.	Examples of evaluative questions to be discussed with experts and stakeholders: • Is information reaching the target audience and all affected parties? • Are companies and other actors getting interested or concerned? • Which other factors may support or hinder the outcomes to realise?
Intermediate outcome	Permit applications are submitted to authorities. Permits are issued	Examples of evaluative questions to be discussed with experts and stakeholders: • Are permit application submitted? • Are stakeholder groups mobilised to support or oppose? • What sort of permits are issues (contents), if any? • Which other factors may support or hinder the outcomes to realise? • Can we identify side-effects? (unintended consequences) • Who are affected and how?
Long-term outcome	Renewable energy is being produced offshore	Examples of evaluative questions to be discussed with experts and stakeholders: • How much electricity is produced? • What are the environmental, economic and social impacts? • Which other factors may support or hinder the outcomes to realise? • Can we identify side-effects? (unintended consequences) • Who are affected and how?

Table 1 presents a simplified scheme that can be used to structure discussions with and a collection of input from experts and stakeholders to develop a rich description of how the preferred objectives can be or were reached, or why reaching of the objective failed. The evaluative questions suggested in the table link the MSP plan and its implementation directly to other decision-making processes and effects in the broader context of MSP, well in line with the performance evaluation approach (see above, Section 2.1.3.1).

To address the challenges of knowing the impacts of MSP it is of outmost importance to shed light on different factors that support or hinder the development towards the preferred objective. In the case of offshore energy, the factors could be the development of energy technology and the cost of building wind turbines, energy consumption trends and price as well as renewable energy policies and subsidy schemes. Consideration of other factors is important, since reaching the preferred objective can be more a result of these other factors than the MSP plan. Similarly, not reaching the objective is not necessarily a failure in how the MSP decision was reached or formulated.

It is also advisable to use the opportunity provided by this type of evaluation approach to identify unintended consequences and to systematically map who the affected parties are and how they are affected in different steps of the scheme. This evaluation approach provides for an opportunity to organise a broader societal discussion on the MSP process and MSP impacts. Such a discussion could be linked to the principles of good governance (transparency, participation, equity). Such discussion would be facilitated if the input from experts and stakeholders on the impacts and impact mechanism of MSP is partly or completely collected in a participatory or deliberative process, during which different views can be elucidated and debated.

Key points of process and methods of evaluation acknowledge that experts and stakeholders in different maritime sectors have valuable insights and experiences to assess how an MSP plan has or can influence their field of activity. An assessment based on views of experts and stakeholders does not completely solve the challenges of determining MSP impacts, but, when conducted in a systematic and structured way, the assessment can shed light on what are plausible impacts and through which mechanisms the impacts are generated.

2.3.3. Practical examples of organizing MSP evaluation: Belgium and Germany

Evaluation of MSP has been organized in different ways as exemplified in the following two examples from Belgium and Germany. The descriptions are based on interviews of persons working at the responsible ministry (in Belgium) or authority (in Germany). These examples of MSP evaluation were also presented at the MSP Forum in Riga in November 20, 2019.

Belgium would be an example of utilising both open stakeholder process and more focussed expert/authority processes, while the way German MSP for the EEZ was evaluated was a combination of internal expert evaluation and external evaluation.

Example Belgium

A new MSP plan for Belgium was approved in 2019. An evaluation of the previous plan as well as the process that developed it were evaluated in informal consultations with a large number of

stakeholders and a formal consultation conducted by an advisory committee made up of representatives of several ministries and authorities.

The first round of informal consultation took place in 2015 with a focus on collecting views of stakeholders on the planning process. This was done only one year after the plan had come into force in 2014. The stakeholders were asked how they had experienced the process and how it should be improved in the next planning round. The second round of stakeholder consultation took place in 2017 with a focus on the content of the plan. The stakeholders were asked to evaluate the existing plan and to give their observations and suggestions for improvements for the next planning cycle. This consultation round started with a stakeholder event in Bruges, where, for instance, the board game version of the MSP Challenge game (see Mayer, et al. 2014) was utilized to explain to the stakeholders the basics of MSP.

The informal consultation phase was followed by official consultation that was conducted by the advisory committee. The official consultation started in 2018. The results of the stakeholder consultation of the previous years were available by that time to inform and give guidance for the official process.

During the implementation of the plan (2014-2020) the official advisory committee oversees the implementation of the plan also on an annual basis. The document that structures overseeing consists of distinctive tasks, with a responsible authority, objective, completion year and relevant indicator for each task. Most indicators are qualitative, such as specifying whether a certain type of study was conducted, or a guideline published. The committee specifies the level of completion towards the objective each year on a three-level scale: no progress, some progress, completed.

Example Germany EEZ

In Germany the responsibility of MSP in the exclusive economic zone (EEZ) is with the Federal Maritime and Hydrographic Agency (BSH). The evaluation of the MSP for the EEZ is organised by the BSH as well. The evaluation consisted of two main elements: the internally led evaluations in 2012 and 2019 and external strategic environmental assessment (SEA) in 2017. The evaluation and follow-up of the MSP plan has also been supported by environmental monitoring programmes. The internal evaluation has been conducted twice, in 2021 and 2019, to inform on the review of the MSP plans. These evaluations were conducted by the planning authority mainly as a desk study. As part of the evaluation, the planning authority consulted a scientific advisory board that supports MSP preparation. The committee consists of legal, spatial planning and natural science experts. The evaluation did not engage stakeholders or consult representatives of different sectors. Stakeholders will be, however, consulted in the forthcoming preparation of the next MSP, but mainly to collect information for the new plan, not to assess or reflect on the existing plan.

The internal evaluations focused on the few main topics that are relevant in the MSP plan for the German EEZ. In the first evaluation the focus was mainly of offshore energy developments, while the later evaluation covered shipping, offshore energy production and nature conservation. The evaluation was a qualitative assessment of goal achievement, for instance a key focus was whether the plan had supported coordination between shipping and renewable energy interests. Before the current evaluation, the BSH also produced a separate evaluation paper on impacts of the MSP on the offshore energy development. The recent discussions with the scientific advisory board have also addressed the MSP process – not only the goal achievement. A conclusion of the recent internal evaluation is that the MSP planning should, indeed, focus more broadly on different topics.

2.4. Indicators for MSP evaluation and monitoring

Indicators are useful for monitoring the impacts of MSP or achievement of its objectives. The information they provide can also help discussions with experts and stakeholders. However, the role of indicators must be considered carefully by highlighting their role as supporting tools, not as the monitoring and evaluation framework.

In this report we do not present a new, generic list of indicators for MSP. There are several sources for indicators relevant for MSP (e.g. Botero, et al. 2016; Buhl-Mortensen, et al. 2016; Böhnke-Henrichs, et al. 2013; Carneiro 2013; Day 2008; Ehler 2014b; EU MSP Platform 2018; Ferreira, et al. 2018; Varjopuro 2017). In this section we present some principles to be considered in indicator development and a categorisation of different types of indicators. In the following section we present the plans of monitoring and evaluation of MSP in Latvia and Poland. This includes introduction to the types of indicators to be used in both countries. The annexes present the lists of indicators to be used in Latvia and Poland.

A complicated set of indicators does generate a large amount of information, but it may be difficult to extract relevant messages from that. This was reminded in presentations at the MSP Forum in Riga in November 2019. A presentation of the evaluation of MSP in the federal state of Mecklenburg-Vorpommern in Germany described an unsuccessful experience of a very complicated evaluating framework to measure the effects of MSP that did not provide, in the end, very usable information. The evaluation of the next round of MSP will be simpler, focussing probably on steering effects, changed societal requirements and developments in sectorial planning. In other words, a move from conformance evaluation to performance evaluation.

*Discussions in the MSP Forum session on monitoring and evaluating can be summarised in statement: "**Do not go crazy with indicators!**"*

2.4.1. Qualitative and quantitative indicators

It was pointed out in the previous section that there are considerable challenges in knowing exactly the impacts of MSP. This must be taken seriously also in designing the indicator system to monitor MSP. In many respects the impacts cannot be measured in any credible sense, which means that the use of quantitative indicators must be considered and justified carefully. Qualitative indicators can sometimes provide more usable information for monitoring and evaluation purposes, but also their use must be justified carefully, and they must be designed in a rigorous manner.

Quantitative and qualitative indicators have their strengths and weaknesses Quantitative indicators give a very clear measure of progress and are numerically comparable. Quantitative indicators – when designed in a methodologically robust manner – do not require a lot of further interpretation or judgement, and they produce a clear result.

Status and development of relevant topics are sometimes better captured by a qualitative indicator than a quantitative one. For example, the implementation of an MSP may include conducting a certain type of studies or data collection as in the case of Belgium and Latvia (presented below). Here, the qualitative verification of whether the task is achieved or not can be part of the indicator system. In addition to such yes/no verification, assessment of the usefulness of the information gained can be included.

Combination of qualitative and quantitative indicators can produce good results. For instance, process indicators can follow the number of stakeholder events and number of stakeholders consulted, but if such information is added with qualitative feedback from the stakeholders, the planning authorities will have a good information basis for improving the planning process.

Another example of combining qualitative and quantitative indicators is the question of MSP's influence on economic development of maritime sectors. Quantitative information on the status and trend of different sectors (e.g. employment, share of the GDP) can be used as a basis for discussions with experts and stakeholders on MSP's possible contributions to the development of the sectors.

The expert and stakeholder-based assessment of the impacts of MSP should lead to an identification of usable quantitative and qualitative indicators for monitoring MSP. For instance, the evaluative questions given as examples in Table 1 could each be accompanied by one or several indictors. Similarly, the expert and stakeholder input on contextual factors, unintended consequences and affected parties provide useful information that can be a basis for indicators.

2.4.2. Different types of indicators

As emphasized in section 2.1 and 2.2, evaluation should focus on various aspects of MSP in the sense of performance evaluation that requires paying attention to a broader context of spatial plan instead of focusing on the narrow perspective of conformance. These are the quantitative or qualitative indicators that are directly linked to objectives and immediate and intermediate outcomes of MSP. The above described expert and stakeholder-based approach can be used to generate such indicators, for instance the evaluative questions in Table 1. These objectives must be very carefully design and justified considering the challenges of knowing the impacts of MSP. It may turn out that only a limited number of such indicators can be identified.

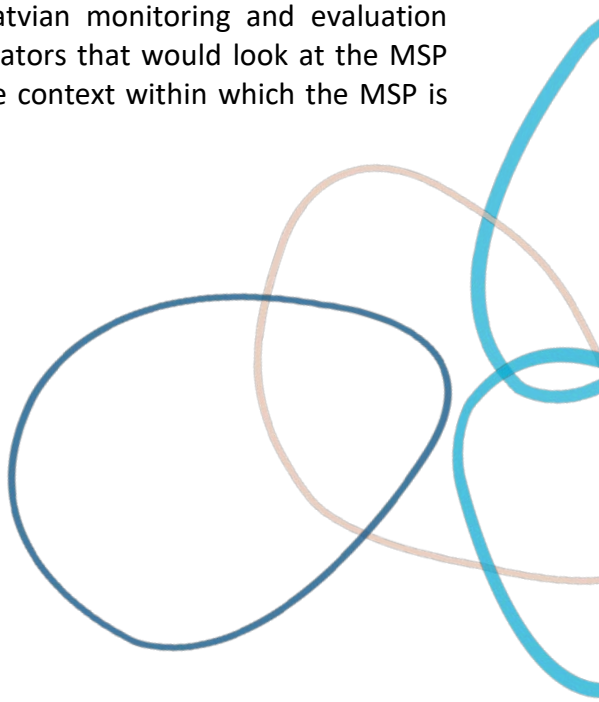
Achievement of the preferred outcomes of MSP are affected by several contextual factors and, yet, it may be difficult to design indicators that would be directly linked to impacts of MSP. Furthermore, MSP may cause several unintended consequences. These can be identified in the expert and stakeholder-based assessment and used as a basis on which to design context indicators. Context indicators will tell about broader trends relevant to MSP and its objectives. They should be designed just as carefully as the indicators to monitor MSP progress as their relevance has to be justified. The expert and stakeholder-based assessment can be utilized for identifying a limited number of the most relevant context indicators. The context indicators will also help to assess the relevance of the national MSP during the review that leads to the next round of planning.

As pointed out above, there are several lists of MSP indicators. The most comprehensive study on indicator development was conducted as part of the EU MSP Platform (https://www.msp-platform.eu/sites/default/files/20180419_published_version_.pdf). In that study the categories of indicators were linked to five levels of MSP objectives (Table 2).

Table 2 Types of indicators in the EU MSP Platform technical study

Objective level	Indicator level	Rationale
Overarching Blue Growth objectives	Overarching Blue Growth indicators (long-term impacts)	Indicators linked to overall Blue Growth objectives such as sustainable job creation, economic growth (gross added value), and greenhouse gases (GHG) reduction. These indicators are affected by a host of factors which are external to MSP processes, which is why they are mostly useful as an element of the context.
Global objectives	Impact	Usually these are longer-term results which are linked to global objectives.
Immediate objectives	Outcome	Results sought by authorities, which are directly or indirectly linked to output indicators.
Operational objectives	Output	Output indicators should be a direct product of MSP processes, which can have effects in different socioeconomic and ecological dimensions.
MSP process objectives	MSP process	These are indicators which capture the main MSP processes.

The five categories of indicators developed in the EU MSP Platform Technical Study fit quite well with the idea of performance evaluation, which sees spatial planning as a continuous process situated within a broader context. However, as was pointed out, for instance by Carneiro (2013), Ehler (2014) and Wong et al. (2006), it is useful to assess also the quality and relevance of the plan itself and the resources dedicated to plan-making. This adds one additional category of indicators, namely the input indicator, which is also included in the Latvian monitoring and evaluation framework. We suggest, thus, the following categories of indicators that would look at the MSP plan, process of planning, outputs and outcomes as well as the context within which the MSP is situated.



Context indicators

- **Collect information on general developments in maritime sectors and marine environment.**
- **This information will help in assessing the relevance of the MSP: is the MSP focussing on the most important issues?**

Input indicators

- **Collect information on actions and resources to develop the plans and responsibilities.**
- **This information will help in assessing preconditions for successful planning.**

Process indicators

- **Collect information on the planning process – also from the stakeholders!**
- **This information will help in assessing the quality of the planning process, including equity and representativeness. They also set the standard for a good quality process.**

Output indicators

- **Collect information on the planning decisions and study the plan.**
- **This information will help in assessing the quality and relevance of the plan: is the plan responding clearly to the most important developments and to the needs of stakeholders?**

Outcome indicators

- **Collect information on immediate, intermediate and long-term outcomes such as licence application procedures and projects resulting from the plan, i.e. information on the impacts.**
- **This information will help in assessing the progress in the implementation of the plan (necessary milestones) and the results of the plan (NOTE: assess what has been the influence of the plan, consider the attribution).**

3. Cases

3.1. Latvia

Latvia finalised its first MSP plan in spring 2019. The Latvian MSP is a national level long-term spatial development planning document that defines in writing and graphical form the use and conditions for the use of the sea for the internal waters, territorial sea and exclusive economic zone waters of the Republic of Latvia. The MSP has been formulated in accordance with the Spatial Development Planning Law (in force since 1 December 2011) and CM Regulation No. 740 of 30 October 2012 on the Procedures for the Development, Implementation and Monitoring of the Maritime Spatial Plan.

The planning authority is the Ministry of Environmental Protection and Regional Development (MoEPRD). The planning has been guided by a national MSP working group that is composed of relevant ministries and public bodies, planning regions and coastal municipalities, as well as non-governmental organizations (Veidemane et al. 2017). During the planning process there have been several stakeholder events and consultation to gain input and comments from the society (Caune, et al. 2017).

The MSP comprises four sections: the explanatory note, strategic section, description of the planned use of the sea and the graphical part.

The explanatory note of the MSP contains the principles of development and methods of the MSP, the connection of the MSP with other development planning documents and legal enactments, a general overview of the existing situation and hydrographical division of the Baltic Sea, marine transport, fishery and marine aquaculture, as well as energy production, national defence interests, tourism and recreational development, the extraction of the mineral resources, environmental quality, including climate change characteristics; information regarding biological diversity and protected nature territories, and ecosystem services. Besides the description of the existing uses of the sea, the explanatory note provides an assessment of the existing condition and development trends.

The strategic section of the MSP provides a long-term vision and priorities for the use of the sea. The section describing the planned use of the sea defines priority use areas, their functions and the restrictions in their use, as well as the strategic aims and measures of the MSP.

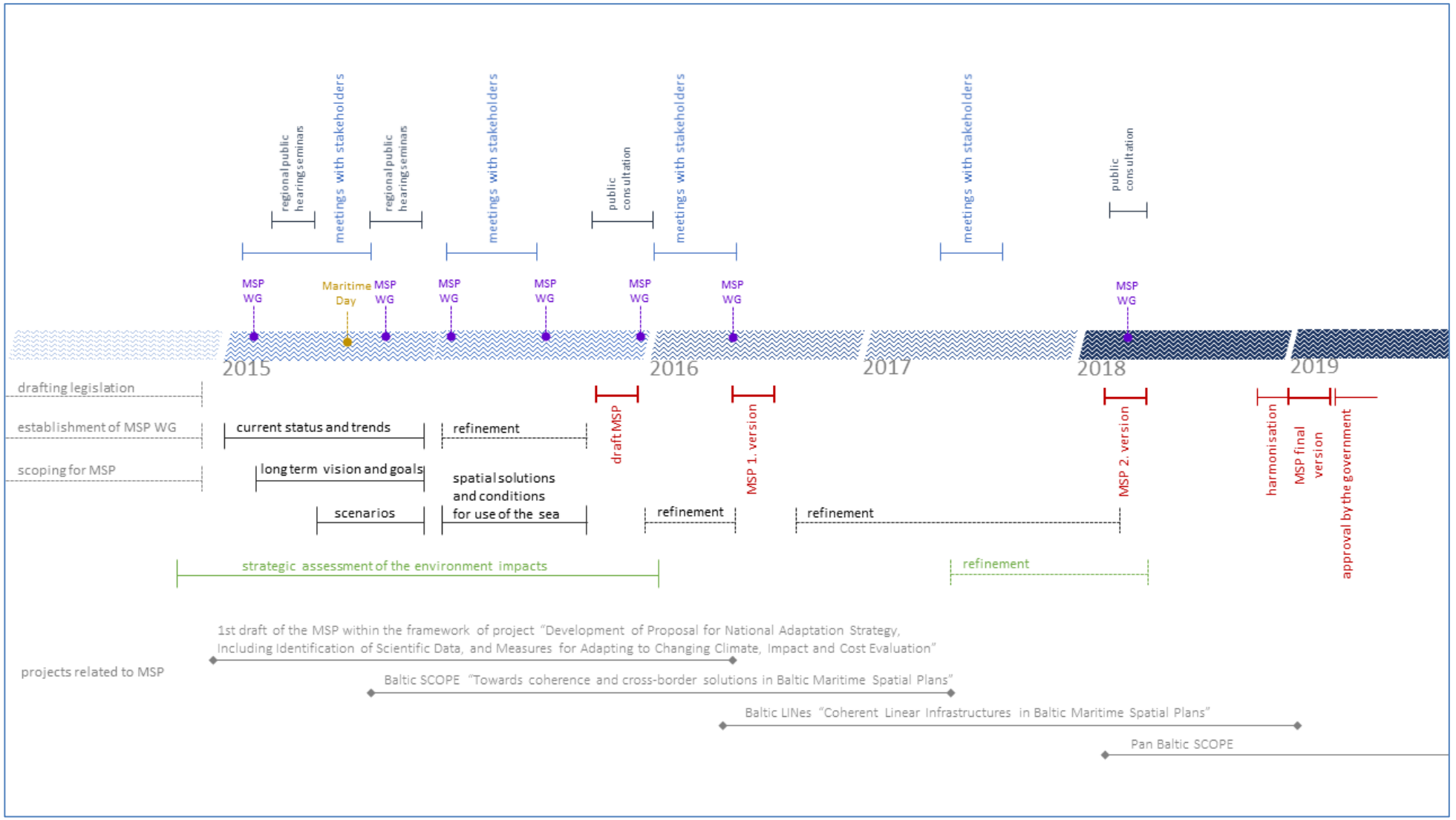


Figure 1. Progress of Latvia's MSP elaboration

Latvia's MSP plan was adopted in 2019.

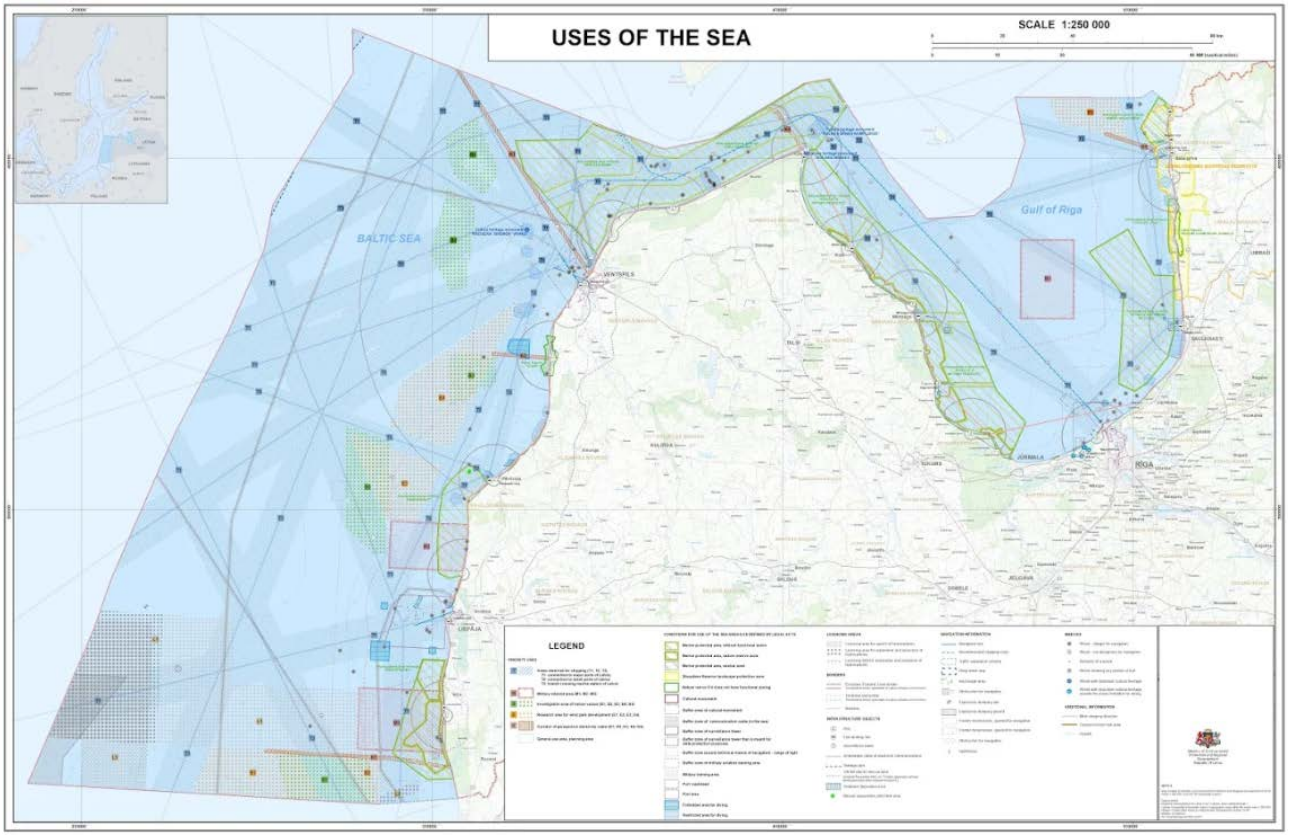


Figure 2. MSP plan of Latvia (source: http://www.varam.gov.lv/eng/darbibas_veidi/maritime_spatial_planning/)

3.1.1. Objectives of MSP

The maritime spatial planning process is based on the following conditions:

- Non-deterioration of the environmental condition and ecological parameters must be ensured for the use of the marine space and the ability of the ecosystem to adapt, as well as creating favourable conditions for improving the environmental condition and marine resources;
- The existence of current, traditionally formed types of sea use must be ensured, which already occupy a defined marine space and thereby impact and create conditions for finding areas for new human activities at sea;
- The development of existing human activities and conditions created for the introduction of new types of sea use must be supported;
- Decisions regarding the introduction of new types of use of marine resources and space must be based on research regarding the technical and economic grounds thereof, impact on the environment and marine ecosystem, and must comply with the state policy aims and priorities.

The aim of the Latvian MSP is to balance the interests of the environment, society and economy and to promote sustainable development of the marine space, permitting or restricting specific actions in the sea and along the coast. The goal was drafted based on the objectives and priorities expressed in relevant policy documents. A proposal for the goal was presented to regional workshops, where various stakeholders could give their input. Also, sector-based workshops and two cross-sectoral workshops were organized to collect more focused input.

The long-term vision for the use of the sea outlines the desired situation for 2030 (see Figure 3), reflecting sustainable use of marine space without endangering the current marine ecosystem. The main priorities are a healthy marine environment and a stable ecosystem, as well as national defence. Maritime development and safe shipping, sustainable fisheries and tourism, as well as the use of RESs at sea have been identified as priorities in the sectors of the economy.

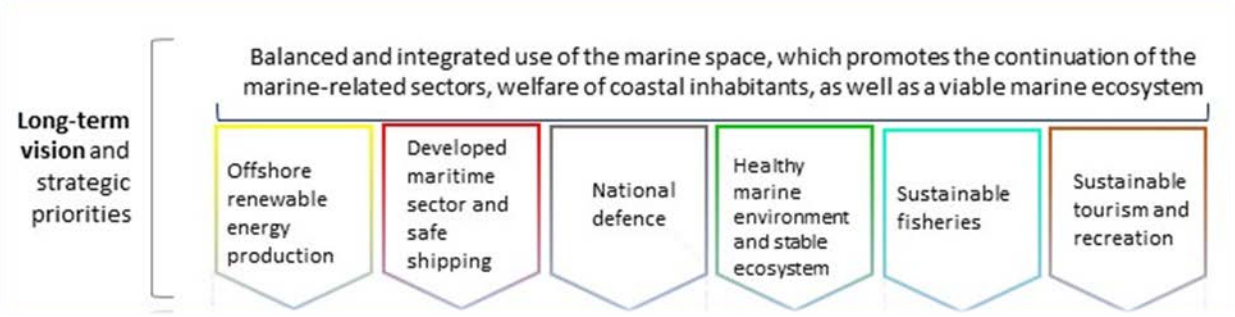


Figure 3. Priorities set out in the long-term vision

On a more operational level three strategic objectives and specific tasks under them were defined and fine-tuned throughout the development of the MSP (Veidemane et al. 2017). The strategic objectives are:

SO1: Rational and balanced use of the marine space, preventing inter-sectoral conflicts and preserving free space for future needs and opportunities;

SO2: The marine ecosystem and its ability to regenerate is preserved, ensuring the protection of biological diversity and averting excessive pressure from economic activities;

SO3: Integrated use of marine and terrestrial areas by promoting the development of maritime related businesses and the development of the required infrastructure.

3.1.2. Implementation of the Latvian MSP

Altogether 16 specific measures were agreed in negotiations with several relevant ministries and authorities (on multiple levels) for the implementation of the Latvian MSP according to the general and strategic objectives. These are listed below under the three strategic objectives.

SO1: Rational and balanced use of the marine space, preventing inter-sectoral conflicts and preserving free space for future needs and opportunities.

- To update data on fishing intensity in the Baltic Sea.

- To carry out scientific research regarding the suitability of environmental conditions for the cultivation of different aquaculture species in the sea, assessing potential environmental risks and developing environmentally friendly technology suitable for Latvia's conditions.
- To perform studies on the accessibility of marine subterranean depths resources in the sea waters of Latvia and the technology for extraction thereof, which would not cause significant damage to the marine ecosystem.
- To support the development of a public infrastructure for the growth of marine tourism in significant places in the territorial sea waters of Latvia and on the coast, and to promote a more varied coastal tourism offer.
- To identify the underwater and marine cultural heritage assets of Latvia and develop guidelines for the management thereof.
- To support renewable energy demonstration projects in the sea by raising eligible funds from foreign financial aid or State budgets.

SO2: The marine ecosystem and its ability to regenerate is preserved, ensuring the protection of biological diversity and averting excessive pressure from economic activities

- To update information regarding ecologically significant areas, the distribution and condition of biotopes/species, based on the latest studies and monitoring data.
- To assess the distribution and supply of marine ecosystem services according to internationally approved methods.
- To analyse and assess spatial distribution of significant fish spawning grounds and nursery grounds.
- To regularly observe and assess the status of the seal population and the areas important for them, as well as prepare a species protection and management plan.
- To create a maritime information system to ensure efficient and timely exchange of data on the marine ecosystem.
- To develop methodology for evaluation of spatial cumulative impacts from the use of the sea using good environmental status indicators and to ensure application of the methodology within the EIA process.

SO3: Integrated use of marine and terrestrial areas by promoting the development of maritime related businesses and required infrastructure

- To develop a network of marinas and jetties by ensuring an appropriate range of services, safe navigation and positioning in the context of the Baltic Sea yachting routes and tourism destinations.
- When planning investments within port development programmes, to take into account the risks posed by climate change and the need to adapt infrastructure or port activities to mitigate climate change risks, or to adapt to new conditions, and assess options for improving energy efficiency by building infrastructure and using innovative solutions that reduce GHG emissions.

- To create a model for determining the impact of economic activities on long-shore sediment flow, assessing the process of coastal erosion and accumulation.
- To develop spatial solutions (measures) for minimising erosion effects, including identifying sites suitable for extraction of sand for beach nourishment, as well as places that require beach nourishment, without posing a risk of negative impact on the marine ecosystem.

The measures are described in more details in Annex 1, which contains the following information for each of the 16 measures.

Table 3. Structure of description of measures to implement Latvia's MSP

Columns	Explanation
Measure	Description of the task
Result indicator	Description of the indicator which will show that the sub-objective is achieved.
Assessment of measure implementation (Qualitatively/quantitatively), including a base value, if relevant	Is the indicator qualitative or quantitative? For quantitative indicators the present situation (typically year 2018) is taken as the base value.
Responsible authorities	Authorities that are responsible for each task. For some tasks several authorities on different levels are identified.
Deadline	The year when the task should be fulfilled. The years of completion are 2020, 2024 or 2030. Some tasks should be conducted regularly.
Source of financing	Indication of expected or possible funding sources

3.1.3. Plan for monitoring and evaluation

Organisation of monitoring and evaluation

For the purpose of monitoring the implementation of the MSP, once a year the MoEPRD reviews the actual use of the sea and updates the geospatial data and maps of the MSP as required. In addition to that, the MoEPRD established the Maritime Planning Working Group that consists of

representatives of different ministries, agencies, planning regions and associations[1]. A similar working group functioned already during the preparation of the MSP plan. The working group will meet at least once a year to monitor the implementation, by organising a face-to-face meeting. It is expected to ensure exchange of the most up-to-date information and data for the purposes of the implementation of the maritime plan. To support the follow-up, input from a larger group of experts and stakeholders will be collected through surveys. The MoEPRD will collect information at least once per 6 years. The surveys are now scheduled to be done in 2023 and 2029 and will be evaluated together with Programme of Measures (MSFD) and National Climate and Energy Plan.

The follow-up of the Latvian MSP addresses the following perspectives:

- MSP implementation; whether the implementation rules are efficient, the recommendations for sea uses are properly applied, the licencing and permitting activities conform to the provisions of the MSP plan;
- whether the criteria for sea uses meet the needs of the sectors;
- stakeholder satisfaction; and
- The impact of the activities defined by the MSP on the environment, economy and social aspects.

Latvia's MSP regulation sets six years reporting period for the follow up of the MSP. The MoEPRD prepares an informative report regarding the implementation of the MSP and submits it to the Council of Ministers for reviewing. The report may include proposals for amendment of the MSP plan and legislation. Reporting of the MSP will be coordinated with reporting of the implementation of EU's Marine Strategy Framework Directive (programme of measures).

Use of indicators

The Latvian MSP document describes different sets of indicators to be used for monitoring. The first set of indicators focuses on the MSP process. It consists of the input indicators, which tell about preconditions for successful MSP, the process indicators, which assess the quality of the MSP process, and the output indicators, which are important steps towards successful implementation of the MSP. These qualitative indicators are meant to be used in an interim assessment of the implementation of the MSP.

(A) Input indicators:

- The authority responsible for the MSP has been defined, it coordinates the development of the MSP and monitoring of its implementation and review or updating;

[1] MoEPRD (Spatial planning department; Climate change department); the Ministry of Defence; the Ministry of Foreign Affairs; the Ministry of Economics; the Ministry of the Interior; the Ministry of Culture; the Ministry of Transport; the Ministry of Justice; the Ministry of Agriculture; the Cross-sectoral Co-ordination Centre; Kurzeme planning region; Riga planning region; the Latvian Association of Coastal Local and Regional Governments; the Environmental Advisory Council; the Fisheries Advisory Council; the Latvian Port Association; the Latvian Transit Business Association; State Land Service of Latvia; Latvian Naval Flotilla Coast Guard Service of the National Armed Forces; National Heritage Board of Latvia; Health Inspectorate.

- The authorities that are involved in the MSP process and simultaneously ensure the implementation thereof have been defined;
- The necessary financing is ensured for the development, monitoring, review and updating of the MSP;
- The MSP process is assured with qualified specialists and experts.

(B) Process indicators:

- An MSP development and monitoring working group has been established;
- The stakeholders have been defined and are involved in the MSP process;
- The stakeholders are satisfied with their participation in the MSP process;
- A scientific consultation committee has been established for the MSP process.

(C) Output indicators:

- A policy and legal framework ensure the implementation of the MSP and intersectoral integration;
- Information and data are regularly collated and supplemented, ensuring the implementation, review and updating of the MSP;
- The issuance of permits and licences is straightforward, mutually coordinated and open;
- The objectives and priorities of various sectors for the use of the sea are harmonised during the MSP process;
- Cross-border cooperation is ensured in the planning and use of the marine space.

The second set of indicators is the most elaborated one. It is designed to follow up implementation of the MSP and is directly linked to three strategic objectives and 16 measures to implement the MSP described above. It is partly overlapping with the output indicators listed above, but is more elaborate. The measures and the indicators are described in Annex 1. Annex 1 also contains a categorisation of the indicators that is presented in the section 2.4.2 above.

The indicators of measure implementation are assessed qualitatively, describing how the implementation of a specific measure affects sustainable use of the marine space, and quantitatively, describing the changes in the quantitative indicator against the base value defined in 2018.

The table in Annex 1 consists of different types of indicators. The most common type of indicators is output indicators as most of the measures will develop assessment methods, guidelines or data bases. There are 11 output indicators. The set of indicators consists of four context indicators that collect information on maritime activities or marine environment. Two of the indicators are outcome indicators collecting information on the number of yachts served in marinas and on renewable energy installations. The latter is an outcome indicator as the measure aims to promote demonstration projects on renewable energy technology. If the measure was aiming at increasing production of renewable energy at sea, then the number of renewable energy installations would rather be counted as an output indicator. This example shows how the categorisation of indicators is not self-evident.

One of the indicators has, in fact, two parts. It is the indicator for measure 2.1, which is defined as "Report prepared on the distribution and conservation status of protected biotopes and species, and identified potential marine protected areas". In respect of the information on distribution and conservation status of biotopes and species, the indicator tells about the context of MSP, while the latter part identifies potential (new) MPAs which can be taken as an output that may lead to designation of new MPAs in the future.

The third set of indicators utilises environmental monitoring data collected for the implementation of the EU's Marine Strategy Framework Directive (MSFD) as well as economic and social information included in the assessments required by the MSFD. In order to improve the monitoring programme after 2020, Latvian Institute for Aquatic Ecology (LIAE) plans to obtain and analyse new environmental information by 2022, as well as prepare proposals for marine environmental indicators. The Latvian MSP document does not explain how this third set of information will be used in relation to follow up of the implementation of the MSP.

3.1.4. Further development and suggestions

The Latvian MSP authority has identified several topics to be further developed to improve monitoring, evaluation and assessments of the impacts of MSP. These are:

- Environmental indicators (link to MSFD)
- Cumulative impact models
- Ecosystem services tool
- Green infrastructure concept
- Stakeholder participation tool
- Scenarios as a method for stakeholder involvement

Exact process of development of all these is not yet decided, but the focus in the next years would be on: investigating socio-economic impacts to coastal communities; researching for better environmental and fisheries data; using up-to-date data in decision making.

Based on the general evaluation concepts and methodologies described in Section 2, some suggestions for further development can be given. These relate to processes and methods for collecting input from experts and stakeholders.

In Latvia, the Maritime Planning Working Group has been established for monitoring the implementation of the MSP. It consists of representatives of different ministries, agencies, planning regions and associations, bringing thus together a diverse expertise, which is a recommended approach to deal with the uncertainties related to knowing the effects of large-scale, collaborative, multi-sector policies (see Section 2.3.1 above). The preparation of the Latvian MSP was supported by the Maritime Planning Working Group, but the MSP process was collaborative also beyond the interagency working group with several steps of stakeholder consultations and participatory events. There is a plan to conduct surveys as part of the follow-up process, but it would be useful to organize similar participatory events also for the purpose of monitoring the implementation of the MSP. Such events could focus on identifying in which ways and through which mechanisms the MSP influences

sectors and coastal communities and how the MSP plan provisions have influenced sectoral decision-making and permit procedures in concrete terms. Such collaborative expert evaluation should be systematic and collaborative to produce plausible explanations of the influences of the MSP. Collecting input with surveys is a good method to reach a large group people, but organizing exploratory workshops, for instance with special topics, would allow more informed discussions.

Many of the measures described in Annex 1 will prepare different types of studies or collection of information to follow developments at sea. The knowledge gained by these studies and data collection generates information that is related to the context of the MSP or its final outcomes. However, it may be difficult to link the results of the studies and data collection directly to the spatial plan, the output of the planning process or to the exact contribution of a maritime spatial plan in the developments at sea (see Section 2.1). Identification of causality is difficult in general in relation to broad-scale policies and spatial plans. The literature on evaluation suggests that in such cases it would be important to follow also if required steps, in other words the immediate and intermediate outcomes, towards the final outcomes are taken. One simple addition to the table presented in Annex 1 would be a column to specify milestones for the measures that have deadline by 2030. By adding milestones (*intermediate outcomes*) to the framework, the working group could do the follow-up more effectively if the necessary steps are taken towards the stated objective progress towards the final outcomes. Many of the measures have deadlines in quite near future, in 2020 or 2024, in which case defining milestones or intermediate outcomes is not very productive.

3.2. Poland

The process of preparing Poland's first national MSP is approaching the final stage (Figure 4). The MSP plan will be a detailed, comprehensive plan. The Polish territorial waters and EEZ are divided into more than 100 "sea basins", each of which will be designated a primary use and allowed uses that mostly relate to specific sectors or nature conservation with some uses being more general such as "space reserved for future use". Each basin specification sets specific requirements for use of the basin and stipulates prohibitions and restrictions to use of the marine areas.

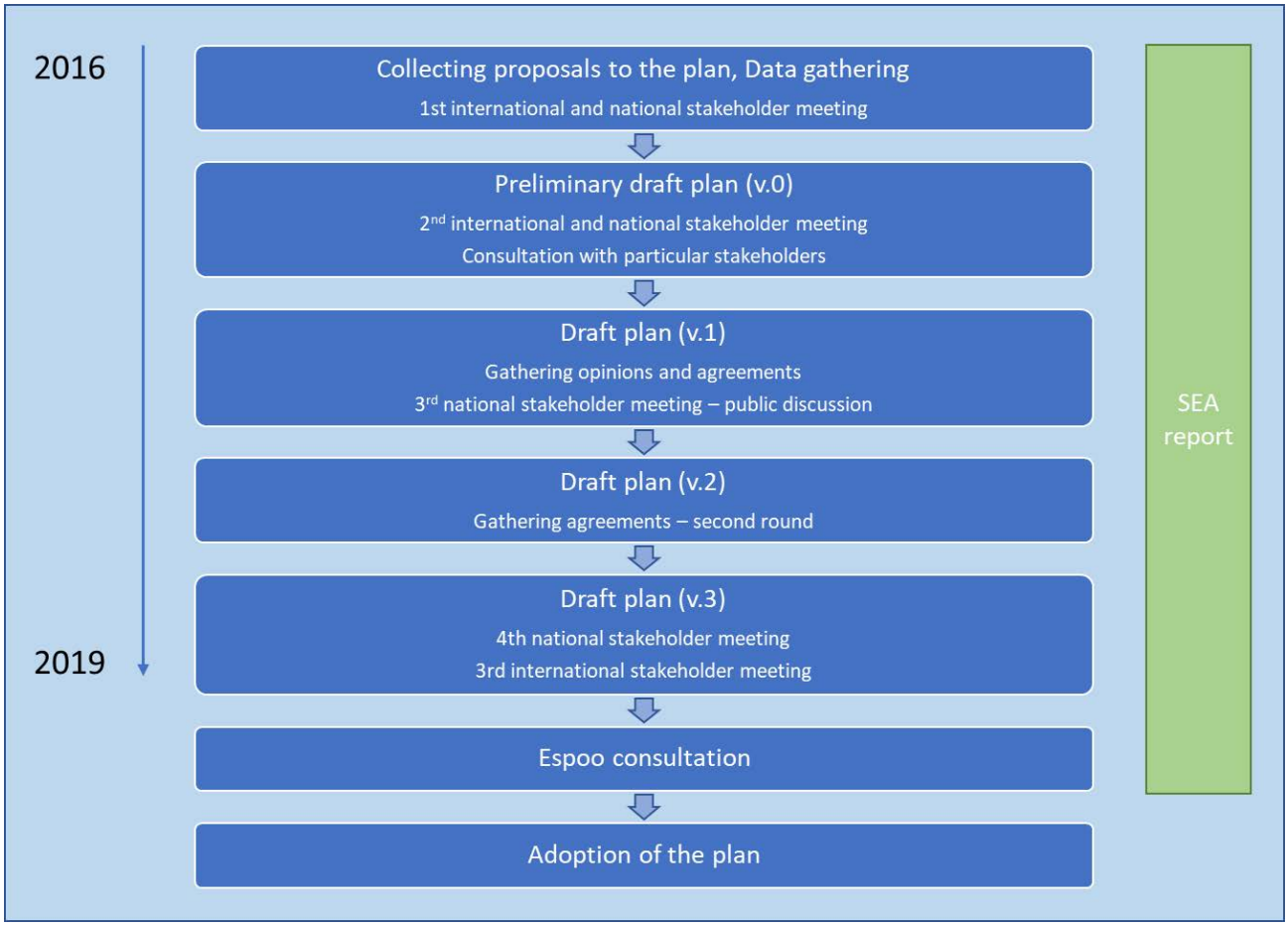


Figure 4. Process of MSP plan-making in Poland (source: https://www.msp-platform.eu/sites/default/files/download/poland_country_fiche_05.06.2019_0.pdf)

The Ministry of Maritime Economy and Inland Navigation has the responsibility of the legislation, adoption and international cooperation of MSP in Poland, while three Maritime Offices will have the responsibility of the implementation of the plan. Also, the Maritime Offices have an important role in the preparation of the plan that was commissioned to a consultant.

The Polish sea areas are governed by the Minister of Maritime Economy and Inland Navigation. The sea areas are administered by his regional maritime administration, i.e. the Directors of Maritime Offices (Szczecin, Słupsk and Gdynia).

In order to implement Directive 2014/89/EU, the Polish parliament adopted changes on The Act on Sea Areas of Poland and Maritime Administration of March 21st, 1991, on 4th September 2015, regarding inter alia, the MSP procedure in Poland. The regulations concerning maritime spatial discussed in Chapter 9 "Maritime spatial planning in maritime internal waters, territorial sea and

exclusive economic zone". This chapter describes the whole procedure, basis and principles of developing maritime spatial plans in Poland.

The supporting law is "Ministerial ordinance on required scope of MSPs in their textual and graphic parts". The ordinance specifies:

the MSP terminology; the scope of the plans and necessary links between different planning regimes (NATURA 2000, terrestrial plans); the objects to be planned; the textual and graphical requirements.

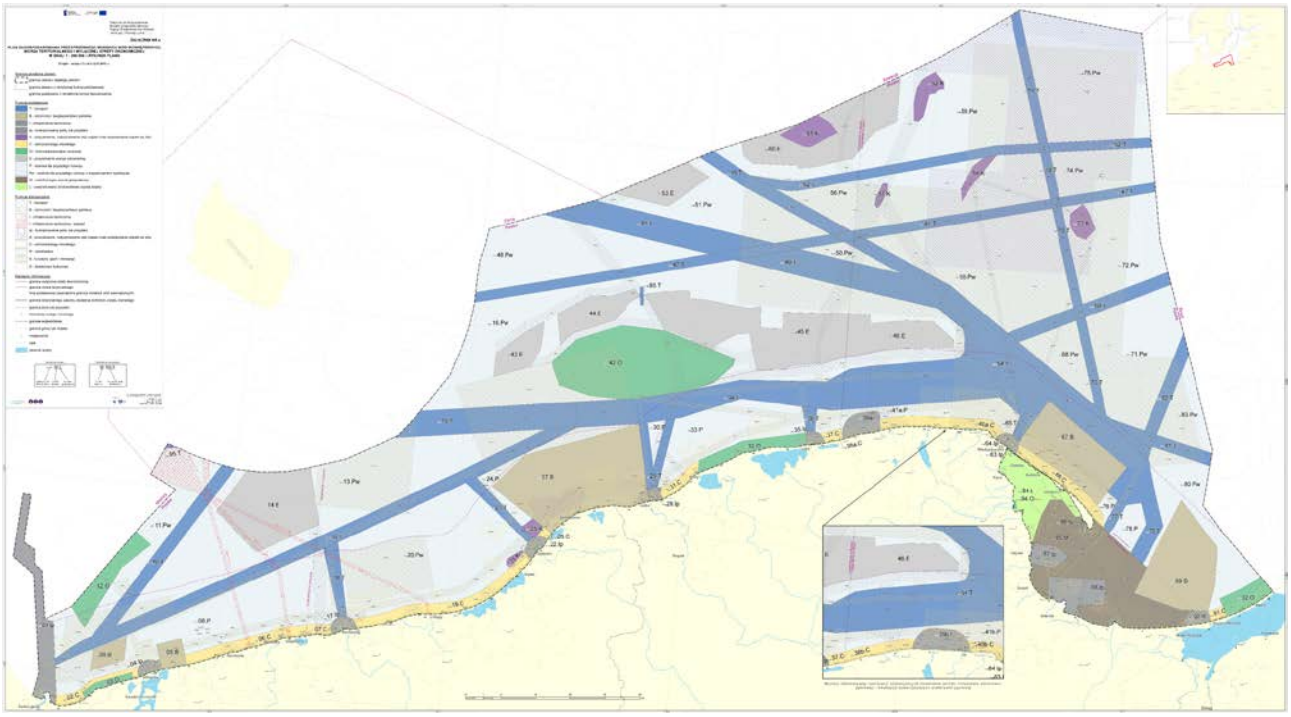


Figure 5. Draft MSP plan of Poland (Source: Jacek Zaucha's presentation at MSP Forum on 20 November 2019

3.2.1. Objectives of MSP

The overall objective of the MSP of Poland is achievement of sustainable development within the area covered by the plan and the adjacent area in economic, social and environmental dimensions. The Polish legislation on MSP sets six broad objectives to be achieved by the plan. These objectives are based on the existing legislation and policies pertaining to maritime activities and protection of the marine environment.

The six broad objectives are:

- Support of sustainable development in the maritime sector with the economic, social and environmental aspects taken into account, including the issues of improving the state of environment and resilience to climate change;
- National security and defence of the State;
- Ensuring coordination of subjects acting in the sea area and forms of using the sea, coherent management of the marine and coastal areas and their resources;
- Increasing the share of the maritime sector in the GDP and employment in the sector;
- Strengthening the position of Polish seaports, improving the competitiveness of sea transport, and ensuring maritime safety;

- Space-efficient management leaving possibly much space for future forms of using the sea (including those at present unknown).

3.2.2. Plan for monitoring and evaluation

In Polish law that guides MSP there is no direct obligation for monitoring the plan. However, the law stipulates the need to evaluate the plan at least every 10 years and the environmental monitoring is to be developed within the MSFD framework that can inform also MSP. Evaluation is described in the Act on Sea Areas of Poland and Maritime Administration of 21 March 1991:

- In order to assess the validity of plans, the territorially competent director of the maritime office shall apply to the bodies that had legal obligation to participate in elaboration of the plan, for providing information on changes in the spatial development of the area covered by the plan and analyses changes in this area, taking into account the permits issued for the construction and use of artificial islands and structures and permits issued for laying or maintaining cables or pipelines.
- On those bases, the director of the maritime office prepares a report on the maritime spatial development. The results of this assessment and the report are forwarded to the ministers responsible for maritime economy, water management, regional development, construction, spatial planning and development, and housing for consideration. On the basis of the report and feedback obtained, the minister competent for maritime economy shall decide on the plan change and the scope of necessary changes.

Therefore, the monitoring and evaluation framework in Poland seems very general and probably will be developed further on in the future according to the needs, by the decisions of the competent authorities.

3.2.3. Further development and suggestions from Pan Baltic Scope project activity

Pan Baltic Scope activity 1.1.3 developed possible concepts and methods to support monitoring and evaluation of the MSP of Poland in the future. This task was conducted in collaboration with the Ministry of Maritime Economy and Inland Navigation, Maritime Offices and the consultant that is supporting the preparation of the MSP plan, but the results of the activity should not be considered as official and are not necessary to be implemented in the future. The Polish team found the activity a very good exercise for MSP planners and perhaps the starting point for a discussion on the need for establishing the monitoring of the maritime spatial plans in Poland.

It was further found out that the monitoring of the maritime spatial plan (MSP) should be distinguished from the evaluation of the validity of the MSP required by Act on Sea Areas of Poland and Maritime Administration. The assessment whether the plan is still valid or not can be made based on:

- the number of applications that cannot be considered positively due to the provisions of the MSP;
- a socio-economic assessment.

Suggestion on follow-up of achievement of objectives (possible indicators)

During the Pan Baltic Scope project an exercise was conducted to develop indicators and methods to follow the achievement of the six broad objectives. This exercise was found useful even though the Polish planners concluded that there is no direct relationship between the indicators for activities in sea areas and MSP planning provisions. In many cases, the plan is a necessary element because it triggers certain processes, but there is no certainty that it was the only factor that caused one or another consequence. The MSP has an impact on the implementation of certain projects but is not responsible for their implementation. We can therefore try to measure a broader context but not the direct impact of the plan on the sea areas.

For the purpose of the follow-up, the six objectives are too broad, and they are also partly overlapping. In the project activity, each of the six objectives were given sub-objectives to make them more tangible. These sub-objectives are not approved officially as part of the Polish MSP system.

The six objectives and unofficial sub-objectives are:

a. Support of sustainable development in the maritime sector with the economic, social and environmental aspects taken into account, including the issues of improving the state of environment and resilience to climate change;
   - Reduce conflicts
   - Create conditions for synergies and multi-use
   - Ensure conditions for coast stability (climate change)
   - Support the most vulnerable and culturally valuable sectors
   - Reduce negative environmental pressures
   - (sub-objectives for the economic aspects are under Objective d)

b. National security and defence of the State;
   - Minimise risks for serious accidents on the sea
   - Secure possibilities for military training on adequate level

c. Ensuring coordination of subjects acting in the sea area and forms of using the sea, coherent management of the marine and coastal areas and their resources;
   - Perform informational function towards the plan users (external and internal)
   - Update the information base
   - Create right conditions for the implementation of land-sea interaction

d. Increasing the share of the maritime sector in the GDP and growth of employment in the sector;
   - Share of the maritime sector in GDP is increased
   - Employment in the maritime sector grows

e. Strengthening the position of Polish se ports, improving the competitiveness of sea transport, and ensuring maritime safety;
   - Secure safe access to the seaports from the sea and space for developing seaports seawards

- Secure high quality and safe transport connection between Polish ports and other ports

f. Space-efficient management leaving possibly much space for future forms of using the sea (including those at present unknown).
   - Minimize spatial defragmentation
   - Minimize spatial spill-offs of the functions which permanently occupy the space (clustering)
   - Reserve areas for future uses
   - (multi-use of sea areas is under Objective a)

The unofficial sub-objectives were a basis for the identification of possible indicators and sources of information. These are described in detail in Annex 2. This part of the exercise was structured by applying some of the principles of theory-based evaluation in a rather simple way: differentiations between intermediate steps and final outcomes (Table 4). Poland's MSP defines uses and restrictions for over 100 areas in the Polish marine waters. These areas are called "sea basins" in the Polish MSP planning system. This would allow quite a detailed follow-up of the planning provisions given to each of the sea basins.

Table 4 can also be utilised in structuring discussions with experts and stakeholders as it focuses on concrete topics, but still leaves room for interpretations and debates.

Table 4. Aspects of Poland's unofficial monitoring and evaluation framework. See Annex 2.

sub-objective		
Intermediate steps	Related indicators	Sources of information
Final outcome	Related indicators	Sources of information
Relevant basin-specific basic and allowed functions:		
Relevant basin-specific restrictions:		

The identification of sources of information for each indicator underlined the limitation of the available data. For many of the indicators data is not easily available, which revealed a need for new data collection processes. It was also found that in many cases discussions with experts and stakeholders might be necessary, which in turn would help to think of the possible ways of organising monitoring and evaluation.

Suggestion on the process of monitoring and evaluation

Although there is no concrete monitoring and evaluation mechanism discussed yet in Poland, the preparation of the plan has shown the validity and importance of the stakeholder dialogue at various geographical scales. This asset should be used also for monitoring purposes since it will facilitate the plan update and maintain critical mass of trust and stakeholder engagement around the MSP, so important for the success of public governance. Therefore, the following elements might form the cornerstones of the Polish monitoring system in the future:

a) Periodical (bi-annual?) meetings with general public on the outcomes and performance of the plan, organized in the same way as the consultation meetings during the plan preparation (organized by the Maritime Administration);
b) Discussions of the intergovernmental committee, gathering the ministries responsible for maritime space; organized in *ad hoc* manner (according to needs) but at least once every three years (organized by the responsible Ministry);
c) Scientific conferences on the MSP based on scientific grants presenting the outcomes of the research on the MSP in Poland; organized regularly in cooperation with the Maritime Administration (organized by leading scientific centres or as part of National Maritime Fora).
d) An interim report on the development of the maritime space five years after the plan's enforcement that might serve as the contextual base for discussions under points a-c.

It would also be advisable if three directors of Maritime Offices in Poland would make an agreement on joint monitoring of the development of the Polish sea areas in the same way as they did for the preparation of the draft maritime spatial plan in the scale 1:200 000.

4. Conclusions and recommendations

The first part of the report presents a conceptual basis for monitoring and evaluation. For this purpose, we reviewed literature on evaluation of MSP and spatial planning on land, as well as literature on evaluation of broad-scale, multi-level and multi-sectoral policies that have a lot in common with broad-scale spatial planning such as MSP.

Conclusions from the literature review can be summarized that it is important to look at the goal achievement (conformance), but it many respects it is very difficult and sometimes even impossible to know how a spatial plan actually affects the use of the sea areas, maritime sectors or marine environment. This question plays a central role in this report as it has implications on the methods of monitoring and evaluation, on how to organise the process and even on the selection of indicators. An evaluation approach (performance evaluation) that understands MSP as a broad policy framework rather than as a blueprint for future developments can produce useful information that helps partially circumvent the attributability challenge. The purpose of evaluating is to enhance learning and a key for learning is to *understand* what MSP does and causes. Then measuring the impacts or use of indicators should serve that purpose. The following scheme (Figure 6) summarises the evaluation framework. Cruxes of evaluation are to increase our understanding of the relationships between objectives, planning decisions and outcomes, to identify possible problems and discrepancies between them and in the practice and process of planning, and to illustrate what consequences the plan may have on the society and the environment. This requires a critical, realist approach to evaluation.

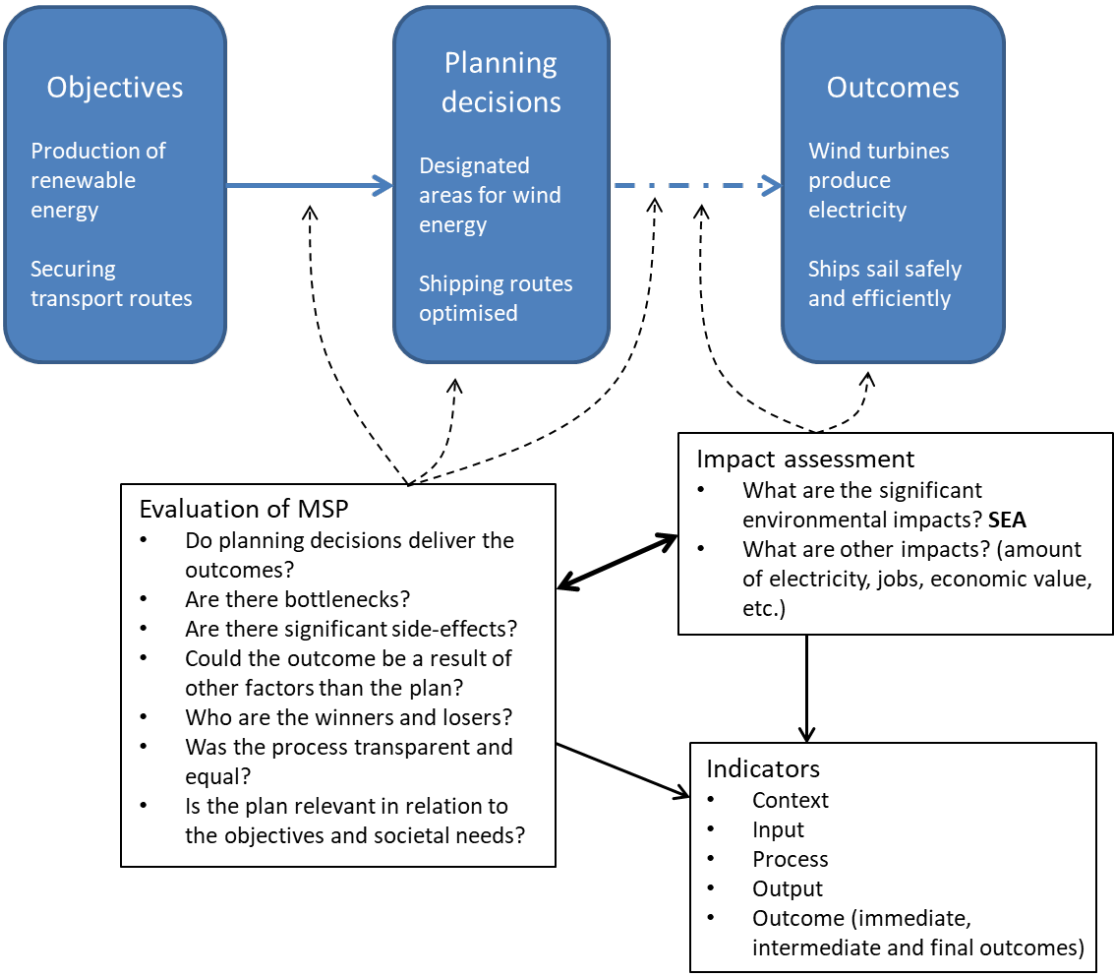


Figure 6. Schematic presentation of MSP evaluation framework

This work produced three project-level recommendations. The recommendations generalise findings from the Latvian and Polish cases as well as from the literature on the evaluation of MSP, spatial planning on land and broad-scale policies. We also raise here some observations from a session on the monitoring of the effectiveness of MSP that was organised as part of the MSP Forum "Global meets regional" in November 19-20, 2019 in Riga, Latvia.

Each of the recommendations is explained and justified in the following sub-sections.

Recommendation on defining MSP objectives and indicators

Broad objectives are needed to provide overall direction and purpose for MSP. But to ensure successful monitoring, develop detailed sub-objectives too. The sub-objectives need to be realistic, clearly defined and verifiable. Qualitative and quantitative indicators for monitoring of MSP should be linked to the sub-objectives, as well as to broader developments in maritime sectors, the marine environment and society.

The importance of clear objectives is often emphasised in literature on evaluation. For the purpose of evaluation, the objectives should be expressed in ways that are specific enough (Day 2008; Ehler 2014a; Katsanevakis, et al. 2011; Kelly, et al. 2014; Portman 2011). It is often suggested that the objectives should be SMART (Specific, Measurable, Achievable, Relevant and Time-bound). In the case of Poland, the six broad objectives were given more tangible, unofficial sub-objectives to support follow-up. It must be noted, though, that the SMART objectives have, by definition, a narrow perspective, and individual SMART objectives cannot cover large societal objectives. A bigger picture may be lost in the details. Therefore, the recommendation is to formulate also broad objectives to give an overall direction and purpose for MSP.

It is also questionable how "measurable" MSP objectives can be if it is understood as quantitative measuring (see Section 2.3 on the challenge of knowing the effects of MSP). Therefore, the recommendation uses a broader term "verifiable" that allows both qualitative and quantitative means of verification.

The second part of the recommendation relates to the types of indicators. Clearly defined sub-objectives are a good basis for generating indicators that are relevant to the stated objectives. As Section 2.4 on the indicators points out, there are several aspects of MSP than can be followed up: achieving the objectives is only one of six focuses for monitoring and evaluation. One can collect information on the broader context of the MSP with indicators to assess the relevance of the MSP. Also, it is important to check for the quality of the process. The indicators for the process also define the standard for good quality process.

Several publications present possible indicators for MSP. These are good sources for developing indicators. One of the key messages from this activity is, however, that one should select a limited number of well targeted and cost-effective indicators, instead of aiming to cover all possible aspects of MSP. It is also a good idea to try and coordinate monitoring with the environmental monitoring that is done for the EU's Marine Strategy Framework Directive, as is the intension in countries such as Poland, Latvia and Germany, presented in this report.

The main purpose of monitoring and evaluation is to foster learning and improvement, for which indicators can be a useful help, but a set of indicators is not the same as monitoring and evaluation framework. One of the key messages from the session on monitoring the effectiveness of MSP at the MSP Forum in November 2019 was: "*Do not go crazy with the indicators*".

Recommendation on the processes of monitoring and evaluation

Organise systematic expert and stakeholder assessment processes that can help reduce uncertainties about the outcomes of MSP and how it influences maritime sectors, the marine environment and society. A practical solution for this would be to form national MSP monitoring and evaluation networks, based on the existing, national working groups that support the preparation of MSP plans.

Due to significant uncertainties of knowing the effects of MSP, this report suggests evaluation methods that are designed to enhance our understanding of possible effects of MSP and the impact mechanisms rather than measuring them. The suggested methods collect inputs from experts and stakeholders in a deliberative process that acknowledges pluralism and alternative ways of understanding the possible effects of MSP. Such processes should be organised in systematic and structured ways to ensure that the knowledge base for monitoring and evaluation is broad.

Participatory collection of input from experts and stakeholders can significantly support utilisation of information collected with the help of indicators. Broad expertise is needed to explain how MSP has affected or failed to do so in relation to information collected with, for instance, context indicators. Also, feedback on the MSP process can help better identify needs of developing the process if survey-based information indicates some problems in the process.

Both Latvia and Poland are planning to organise a long-term process of following up the progress in their MSPs. Both countries will utilise the expertise of sectoral administrations and agencies. In Latvia, this is planned to be done in the context of the Maritime Planning Working Group that existed already in the plan-making phase. Expertise of such a working group should be utilised also in a systematic, structured manner as described in Section 2.3.2. Both countries also plan to collect input from stakeholders.

The process of the evaluation of the MSP of Belgium was based on extensive, participatory stakeholder consultations that addressed both the process and contents of the MSP. In addition to that, Belgium has an interagency advisory committee that meets regularly to follow the progress of its MSP.

Engaging experts and stakeholders in monitoring and evaluation serves also another purpose apart from knowing the effects of MSP or assessing the relevance or MSP or quality of the process. MSP is a cyclical, continuous process that does not stop when the plan is finalised and approved. Implementation of broad-scale spatial plans is typically dependent on actions and decision made by various actors within various processes (Faludi 2000). Then, engaging a large group of relevant actors in the review and update phases of the planning cycle, there is an opportunity to "keep up the momentum" gained in the plan-making phase.

Recommendation on transnational exchange of experiences on monitoring and evaluation

HELCOM-VASAB MSP Working Group or planning authorities in the Baltic Sea Region should organise, in a few years' time, a workshop for all Baltic Sea Region countries to discuss first national monitoring outcomes and possibilities of cross-border co-operation in monitoring and evaluation.

The report shows some national approaches to organising the monitoring and evaluation of MSP or planning how it could be organised. As can be seen, there are different ways. The report's conceptual background of realist evaluation would also indicate that there is not one correct way of monitoring and evaluation. Countries can learn from others' ways of conducting and organising monitoring and evaluation, including their sets of indicators.

There is a particularly good opportunity for learning from other countries in the Baltic Sea region in a few years' time. This is because for most of the countries the current planning cycle is the first one. This is largely due to the EU's MSP directive that requires the EU member states to prepare their MSP plans by March 2021. There is a lot to learn from the first planning cycle, monitoring and evaluation included.

The HELCOM-VASAB MSP Working Group has been the platform for the Baltic Sea countries' MSP cooperation since 2010. It has supported cooperation between the countries in preparing their MSPs and it is also a relevant platform to exchange experiences in monitoring and evaluation. Sharing the experiences and knowledge regarding indicators would also be an opportunity to determine if there are any aspects of monitoring and evaluation that could benefit from regional sea level practical cooperation. The current mandate for the working group is until the end of 2021. If it is not continued, cooperation between the Baltic Sea countries could be arranged as an activity of a joint project.

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Annex 1. Measures for implementing MSP in Latvia and indicators

As explained in the Section 3.1.3, Latvia has created two sets of indicators for following the MSP and its implementation. One set focuses on qualitative indicators to be used in an interim assessment of the implementation.

Input indicators:

- The authority responsible for the MSP has been defined, it coordinates the development of the MSP and monitoring of its implementation and review or updating;
- The authorities that are involved in the MSP process and simultaneously ensure the implementation thereof have been defined;
- The necessary financing is ensured for the development, monitoring, review and updating of the MSP;
- The MSP process is assured with qualified specialists and experts.

Process indicators:

- An MSP development and monitoring working group has been established;
- The stakeholders have been defined and are involved in the MSP process;
- The stakeholders are satisfied with their participation in the MSP process;
- A scientific consultation committee has been established for the MSP process.

Output indicators:

- A policy and legal framework ensure the implementation of the MSP and intersectoral integration;
- Information and data are regularly collated and supplemented, ensuring the implementation, review and updating of the MSP;
- The issuance of permits and licences is straightforward, mutually coordinated and open;
- The objectives and priorities of various sectors for the use of the sea are harmonised during the MSP process;
- Cross-border cooperation is ensured in the planning and use of the marine space.

The other set of indicators focuses on individual measures that are defined for achieving the specific objectives of Latvian MSP. The three tables below on pages 39-44 present the Latvian measures to support implementation of MSP. It defines the measures, identifies suitable indicators as well as the responsible government body and deadlines. The last column lists the types of indicators. This column is not included in the official table. It is added for the Pan Baltic Scope project purposes.

These two sets of indicators consist of the following types of indicators (see Section 2.4.2):

Types of indicators	Number of indicators for the interim assessment	Number of indicators to follow implementation of measures
Context indicator		4
Input indicator	4	
Process indicator	4	
Output indicator	5	12
Outcome indicators		2

SO1: Rational and balanced use of the marine space, preventing inter-sectoral conflicts and preserving free space for future needs and opportunities						
Measure	***Result indicator***	***Assessment of measure implementation (Qualitatively/ quantitatively)***	***Responsible authorities***	***Deadlines***	***Source of financing***	***Type of indicator (addition to official table, see section 2.1.4)***
1.1. Update data on fishing intensity in the Baltic Sea	• Regularly updated information on fishing activities of Latvian fishermen	Qualitatively	BIOR	Regularly	State budget (within the current budget)	*Context indicator (development of a sector)*
1.2. To carry out scientific research regarding the suitability of environmental conditions for the cultivation of different aquaculture species in the sea, assessing potential environmental risks and developing environmentally friendly technology suitable for Latvia's conditions.	• Number of scientific studies that offer aquaculture manufacturing technology suitable for the marine conditions of the sea waters of Latvia.	Quantitatively Base value (2018):0	MoA in cooperation with BIOR, MoEPRD in cooperation with LIAE	Regularly	EU funds, State and local government budgets	*Output indicator (studies on suitable technology)*
1.3. To perform studies regarding the accessibility of marine subterranean depths resources in the sea waters of Latvia and the technology for the extraction thereof, which would not cause significant damage to the marine ecosystem.	• The number of research studies that offer an assessment of marine subterranean depths resources and environmentally friendly technology for the extraction.	Quantitatively <u>Base value</u> (2018):0	MoEPRD	Regularly	EU funds, State budget	*Output indicator (studies on suitable technology)*

1.4. To support the development of a public infrastructure for the growth of marine tourism in significant places in the territorial sea waters of Latvia and on the coast, to promote a more varied coastal tourism offer.	• An investment programme for the coast has been prepared.	Qualitatively	MoEPRD, MoE, KPR, RPR	By 2024	EU funds, State budget	*Output indicator (investment programme)*
1.5. To identify the underwater and marine cultural heritage assets of Latvia and develop guidelines for the management thereof.	• Research has been carried out and guidelines developed for the management of the underwater and marine cultural heritage assets.	Qualitatively	NCHB	By 2030	EU funds, State budget	*Output indicator (guidelines)*
1.6. To support renewable energy demonstration projects in the sea by raising eligible funds from foreign financial aid or State budgets	• Number of (wind, wave) energy facilities installed in the sea	Qualitatively Base value (2018):0	MoE, MoF	2030	EU funds, State budget	*Outcome indicator (in relation to measure that aims for demonstration projects)*

SO2: The marine ecosystem and its ability to regenerate is preserved, ensuring the protection of biological diversity and averting excessive pressure from economic activities						
Measure	***Result indicator***	***Assessment of measure implementation (Qualitatively/ quantitatively)***	***Responsible authorities***	***Deadline***	***Source of financing***	***Type of indicator (addition to official table, see section 2.1.4)***
2.1. To update information regarding ecologically significant areas and distribution and condition of biotopes/species, based on the latest studies and monitoring data.	• Report prepared on th e distribution and cons ervation status of protected biotopes an d species and identifie d potential marine protected areas identified.	Qualitatively	MoEPRD, LHEI, DAP	2030	State budget (within the existing budget), EU funds	*Context indicator (information collection)* *Output indicator (potential MPAs)*
2.2. To assess the distribution and supply of marine ecosystem services according to internationally approved methods.	• Assessment prepared on the services provided by the marine ecosystem.	Qualitatively	LHEI	2024	EU funds, State budget	*Context indicator (assessment of ecosystem services)*
2.3. To analyse and assess spatial distribution of significant fish spawning grounds and nursery grounds.	• Report prepared on the spatial distribution of fish spawning and fish nursery grounds.	Qualitatively	BIOR	2024	EU funds, State budget	*Context indicator (information on spawning and nursery areas)*
2.4. To regularly observe and assess the status of the seal population and the areas important for them, as well as prepare a species protection and management plan.	• A species protection and management plan has been developed.	Qualitatively	NCA in cooperation with BIOR	2020	EU funds, State budget	*Output indicator (management plan)*

2.5. To create a maritime information system to ensure efficient and timely exchange of data on the marine ecosystem.	• A marine data system is developed and regularly updated.	Qualitatively	MoEPRD	2020	EU funds, State budget	*Output indicator (data system)*
2.6. To develop methodology for evaluation of spatial cumulative impacts from the use of the sea using good environmental status indicators and to ensure application of the methodology within the EIA process.	• A methodology has been developed.	Qualitatively	MoEPRD	2020	EU funds, State budget	*Output indicator (methodology for cumulative impact assessment)*

SO3: Integrated use of marine and terrestrial areas by promoting development of maritime related businesses and the development of the required infrastructure						
Measure	***Result indicator***	***Assessment of measure implementation (Qualitatively/ quantitatively)***	***Responsible authorities***	***Deadline***	***Source of financing***	***Type of indicator (addition to official table, see section 2.1.4)***
3.3. To develop a network of marinas and jetties by ensuring an appropriate range of services, safe navigation and positioning in the context of the Baltic Sea yachting routes and tourism destinations.	• Increased number of yachts served in ports	Quantitatively Base value (2018): 2262[2]	MoEPRD, MoT, KPR, RPR	2030	EU funds, State budget	*Outcome indicator*
3.2. By planning investments within port development programmes, to take into account the risks posed by climate change, the need to adapt infrastructure or port activities to mitigate climate change risks or to adapt to new conditions, and assess options for improving energy efficiency, building infrastructure and innovative solutions that reduce GHG emissions.	• Risks due to climate change are evaluated within the port development programmes and appropriate adaptation measures are included, and opportunities to reduce GHG emissions are evaluated	Qualitatively	MoT, port authorities	2024	EU funds, State budget	*Output indicator (risk assessment and measure identification)*

[2] Sources: Data provided by the administration of Kurzeme planning region and Riga planning region regarding the number of yachts served in 2018

3.3. To create a model for determining the impact of economic activities on long-shore sediment flow, assessing the process of coastal erosion and accumulation.	• Study performed and model created	Qualitatively	MoEPRD	2030	State budget	*Output indicator (impact assessment model development)*
3.4. To develop spatial solutions (measures) for minimising erosion effects, including identifying sites suitable for extraction of sand for beach nourishment, as well as places that require beach nourishment, without posing a risk of negative impact on the marine ecosystem.	• Spatial solutions (measures) developed for minimising coastal erosion in places with the highest risk of coastal erosion have been developed.	Qualitatively	MoEPRD	2030	State budget	*Output indicator (development of measures)*

Annex 2. A tentative table of possible indicators to follow up Poland's MSP

This annex presents an example of how broad objectives as defined in the Polish MSP legislation could be divided into more specific sub-objectives. These are only tentative sub-objectives, not official ones.

This part of the exercise was structured by applying some of the principles of theory-based evaluation in a rather simple way: differentiations between intermediate steps and final outcomes as described in the table below. In the table possible indicators and sources of information are identified for each of the intermediate step and final outcome.

Poland's MSP defines uses and restrictions for over 100 areas in the Polish marine waters. These areas are called "sea basins". We identified, when relevant, which of the sea-basin specifications could be relevant for different sub-objectives.

Objective		
Sub-objective		
Intermediate steps	Related indicators	Sources of information
Final outcome	Related indicators	Sources of information
Relevant basin-specific basic and allowed functions:		
Relevant basin-specific restrictions:		

This tentative exercise identified a large number of possible indicators of different types. Further elaboration of the table should identify the most relevant and feasible of the indicators, if these were to be used later for actual follow up.

Types of indicators identified in the tables below:

Types of indicators	Number of indicators
Context indicator	15
Input indicator	0
Process indicator	12
Output indicator	25
Outcome indicators	19

<table>
<tr><td colspan="3">Objective a)

support of sustainable development in the maritime sector with the economic, social and environmental aspects taken into account, including the issues of improving the state of environment and resilience to climate change;</td></tr>
<tr><td colspan="3">ECONOMIC ASPECTS see objectives d and e

Dealt with in objective d)</td></tr>
<tr><td colspan="3">SOCIAL ASPECTS</td></tr>
<tr><td colspan="3">sub-objective a1) Reduce conflicts</td></tr>
<tr><td>Intermediate steps:

Identify conflicts</td><td>Related indicators:

- Number of complaints presented to the authorities (not only simple number of complaints, but also severity, e.g. repeated complaints)
- Number of negative decisions (refusals)

Process indicators (2)</td><td>Sources of information:

- §10 of “Required scope of…” says that comments and opinions to draft plans will be recorded
- Court cases
- Contacts to the authorities</td></tr>
<tr><td>Final outcome:

Mitigation of the conflicts</td><td>Related indicators:

- Finalized conflict mitigation processes
- Number of complaints presented to the authorities (not only simple number of complaints, but also severity, e.g. repeated complaints)

Process indicators (2)

- Satisfaction with the plan

Outcome indicator (1)</td><td>Sources of information:

- Court cases
- Meeting memos or documents of conflict mitigation processes
- Meetings with stakeholders, surveys
- Input from authorities
- Outcomes of scientific research</td></tr>
<tr><td colspan="3">Relevant basin-specific basic and allowed functions:

All functions</td></tr>
<tr><td colspan="3">Relevant basin-specific restrictions:

All restrictions</td></tr>
</table>

sub-objective a2) creating conditions for synergies and multi-use		
Intermediate steps: Knowledge of actors on synergies and multi-use increases	Related indicators: - Studies and examples of feasible combinations (practically tested by someone else) - Negative feedback on multiuse proposed in the plan Output indicators (2)	Sources of information: - R&D related information sources that would tell that relevant studies are being conducted/funded? - Contacts to the authorities - Register of conflicts and negative claim - Register of new multi-use proposals
Final outcome: Sustainable and more efficient accommodations of multiple uses	Related indicators: - Number of multi-use accommodations Outcome indicator (1) - Number of basins where multi-use is allowed Output indicators (1)	Sources of information: - Issued permission (register) - Expert analysis of the plan
Relevant basin-specific basic and allowed functions: M – multi-functional economic growth – basin intended for development of economic functions (tourism, transport) and coastal protection. Also other categories of sea-basins are possible as more than one use is allowed in some cases. For instance, in sea-basins E (Energy) aquaculture is allowed as a complementary activity.		
Relevant basin-specific restrictions:		
sub-objective a3) ensuring conditions for coast stability (climate change)		
Intermediate steps: Knowledge of actors (municipalities) on coastal stability increases Permits issues are in line with the idea of coastal stability	Related indicators: - Number of permits - Number of costal investments inside and outside coast areas (piers and groynes) Output indicators (2)	Sources of information: - Register from maritime administration (needs to be created)
Final outcome: High level of coastal protection (specific name in the legal act)	Related indicators: - Changes of coastal security levels - Number or severity of damage caused by storm surges - Measurement results of coastal erosion Outcome indicators (3)	Sources of information: - Maritime administration - Legal acts

<table>
<tr><td colspan="3">Relevant basin-specific basic and allowed functions:

coastal protection (C)</td></tr>
<tr><td colspan="3">Relevant basin-specific restrictions:

proximity to the coast, availability of sand</td></tr>
<tr><td colspan="3">sub-objective a4) reduction of negative environmental pressures</td></tr>
<tr><td>Intermediate steps:

Identification of the most important negative pressures

Identification of how and which pressures the plan can address and mitigate</td><td>Related indicators:

- Pressures and indicators from SEA report

Outcome indicators (1)</td><td>Sources of information:

- SEA ex ante</td></tr>
<tr><td>Final outcome:

Pressures (that the plan can address) are kept under control (acceptable levels)</td><td>Related indicators:

- Number of decisions related to the environmental pressures taking into consideration recommended stipulation of the plan
- Indicators of pressures from ex ante SEA

Output indicators (2)</td><td>Sources of information:

- SEA ex ante</td></tr>
<tr><td colspan="3">Relevant basin-specific basic and allowed functions:

All of the basin attributes except O that are areas for nature conservation</td></tr>
<tr><td colspan="3">Relevant basin-specific restrictions:

Natura 2000 areas</td></tr>
</table>

MSP Platform report suggests the following matrix. Could be useful for monitoring purposes

Descriptors / sectors	Renewable energy (wind, tidal, wave)	Coastal and maritime tourism	Fishing	Marine aquaculture	Ports and shipping	Oil and gas production	Marine aggregates	Pipelines and cables
D1. Biodiversity	☒	☒	☒	☒	☒	☒	☒	☒
D2. Non-indigenous species	☐	☒	☒	☒	☒	☐	☐	☐
D3. Commercial fish / shellfish	☐	☐	☒	☐	☒	☐	☐	☐
D4. Marine food webs	☐	☐	☒	☒	☐	☐	☐	☐
D5. Eutrophication	☐	☒	☒	☒	☒	☐	☐	☐
D6. Sea-floor integrity	☒	☐	☒	☒	☒	☒	☒	☒
D7. Hydrographical conditions	☒	☐	☐	☐	☒	☒	☒	☐
D8. Contaminants	☐	☒	☐	☐	☒	☐	☐	☐
D9. Contaminants in seafood	☐	☐	☐	☐	☒	☐	☐	☐
D10. Marine litter	☐	☒	☒	☒	☒	☐	☒	☐
D11. Introduction of energy	☒	☒	☐	☐	☒	☒	☐	☒

Table 23 Blue Economy sectors / descriptors (possible links)

sub-objective a5) supporting the most vulnerable and culturally valuable sectors		
Intermediate steps: Engage the sectors in the planning Understand stakes, problems and aspirations of those sectors Formulation of planning principles and solutions supporting use of sea area by those sectors	Related indicators: - Participation of fishermen in meetings - Complaints from small fishery sector to the authorities Process indicators (2) - Stipulation of the plan supporting vulnerable and culturally valuable sectors (e.g. small scale fishery) Output indicator (1)	Sources of information: - Documentation of the MSP process and feedback received Reports from the meetings and proposals to the plan
Final outcome: Maintenance of those sectors, continuance of existence	Related indicators: - Area designation for small-scale coastal fishing or area designations for other purposes that take into account interest of small-scale fisheries Output indicator (1) - Complains from small fishery sector to the authorities	Sources of information: - Register from maritime administration - Additional meetings - Fishery statistics

	Outcome indicator (1) Suggested in the EU MSP Platform report: - cross tonnage of fishing fleet - tons of catch Context indicators (2) (as those outcomes are results of various factors)	
Relevant basin-specific basic and allowed functions: Fishery is allowed everywhere with some restrictions on fishing in offshore wind production areas Restrictions to secure spawning of commercial fish species.		
Relevant basin-specific restrictions:		

Objective b) national security and defense of the State		
sub-objective b1) Minimising risks for serious accidents on the sea		
Intermediate steps: Understanding of spatial mechanism that lead to accidents Formulation of spatial rules and measures preventing accidents and allowing immediate actions	Related indicators: - number of rules related to different types of risks/accidents (e.g. buffers, width of the transport routes, security zones around wind mills pillars) Output indicator (3)	Sources of information: - MSP planning evidence (analyzing solutions employed by MSP in other countries), - Navigation analyses - Administrative decisions on security or closed zones
Final outcome: Keeping the existing level of accidents in spite of increase of sea uses	Related indicators: - No of accidents related to shipping - No of accidents related to constructions Outcome indicators (2)	Sources of information: - State Marine Accident Investigation Commission - Maritime administration
Relevant basin-specific basic and allowed functions: Transport (T), Tourism (S), Environmental protection (O), Constructions and Artificial Inlands (W)		
Relevant basin-specific restrictions: Buffers around wind mill areas (sea-basin category E) in order to increase navigation safety		

sub-objective b2) Securing possibilities for military training on adequate level		
Intermediate steps: Monitor intensity of the use of sea by the military Reallocation of the sea space for military purposes	Related indicators: - Present intensity of use by the military + expected change Context indicator (1) - Percentage of the sea areas for military function Output indicator (1)	Sources of information: - Navy/defense sector - Notices to Mariners - MSP plan proposal - MSP planning process (information from stakeholders)
Final outcome: Adequate, justified area for military purposes	Related indicators: - Percentage of the sea areas for military function Output indicator (1) - Closure of military areas in days - Share of trainings outside allocated areas - Satisfaction of the plan Outcome indicators (3)	Sources of information: - Notices to mariners - Navy / defense sector - Navy / defense sector
Relevant basin-specific basic and allowed functions: B – basins for national security and defense;		
Relevant basin-specific restrictions:		

Objective c) ensuring coordination of subjects acting in the sea area and forms of using the sea, coherent management of the marine and coastal areas and their resources		
sub-objective c1) performing informational function towards the plan users (external and internal)		
Intermediate steps: Knowledge of sea users is increasing Conscious sea use decisions by investors	Related indicators: – Number of requests for interpretation of the plan – Number of visits to the website – Number of meeting participants Process indicators (3)	Sources of information: - Maritime administration

Final outcome: Efficient and evidence-based sustainable use of the sea	Related indicators: - Applications for sea use in line with the planning provisions Output indicator (1)	Sources of information: - Maritime administration
Relevant basin-specific basic and allowed functions: All		
Relevant basin-specific restrictions:		
sub-objective c2) updating the information base (updated plan based on new information)		
Intermediate steps: Regularly updating the information base	Related indicators: - How often database is updating Output indicator (1)	Sources of information: - Maritime administration
Final outcome: Publicly available information base	Related indicators: - Map availability for users Output indicator (1)	Sources of information: - Maritime administration
Relevant basin-specific basic and allowed functions: - All		
Relevant basin-specific restrictions:		
sub-objective c3) creation of the right conditions for implementation of land-sea interaction		
Intermediate steps: Knowledge of land-based entities on the condition of sea areas All applications receive positive environmental decisions	Related indicators: - Cooperation between municipalities and maritime administration - Number of joint meetings with municipalities Process indicators (2)	Sources of information: - Expert opinion from maritime administration - Expert opinion from terrestrial authorities
Final outcome: Land-sea coherence	Related indicators: - Number of positive administrative decisions of terrestrial authorities in the coastal zone (including pipelines, cables) Output indicator (1) - Satisfaction from MSP solutions of the terrestrial authorities in terms of land-sea interactions	Sources of information: - Expert opinion from maritime administration - Expert opinion from terrestrial authorities - Register of decisions

	Outcome indicator (1)	
Relevant basin-specific basic and allowed functions:		
Relevant basin-specific restrictions:		

Objective d) increasing the share of the maritime sector in GDP and growth of employment in the sector;		
sub-objective d1) Share of the maritime sector in GDP and employment is increased		
Intermediate steps: - Identify the relevant maritime sub-sectors with growth potential - Space is allocated for the relevant maritime activities	Related indicators: - Present economic importance of the maritime sub-sectors in terms of share of the GDP and employment - Growth potential of the maritime sub-sectors (share of GDP and employment Context indicators (2) - Number of basins allocated to the maritime economic activities from the growing maritime sectors - % of sea space allocated to the maritime economic activities from the growing maritime sectors (cumulative of all basins) Output indicators (2)	Sources of information: The study was done in 2011 financed by DG Mare https://webgate.ec.europa.eu/maritimeforum/system/files/Final%20Report%20Revision%206%20Dec%202013_NEW%20TEMPLATE.pdf and it will be repeated The new study will start in November. This is one time effort and should be continued afterwards - The plan and its basin descriptions
Final outcome: - Share of the maritime sector in GDP has increased	Related indicators: - Change in share of the maritime sector in GDP - Change in employment in the maritime sector Context indicators (2) as the outcome is a result of multiple factors - Possible sub-sector indicators (impact assessment of the plan on GDP based on following indicators), source: EU MSP Platform technical study o MWh of wind power produced (Renewable energy)	Sources of information: - National statistics, Eurostat: Gross value added in coastal regions (Eurostat – mare_10r_3gva) - National statistics; Sector authorities; Eurostat - To identify what role(s) MSP has played needs expert assessments

	o Night spent at tourist accommodation (Tourism) establishments o Tourist visitors in locations (at sea?) (Tourism) o Million cubic meters of aggregate extracted per year (minerals) o Passenger transport to/from main ports (Transport) o Gross weight of goods transported to/from main ports (Transport) o Tons of oil per day extracted (Oil & Gas) o Cubic meters of gas per day extracted (Oil & Gas) o Tons of oil transported o Cubic meters of gas transported (Gas pipes) o Terabits per second transmitted (Communication cables) o Megawatts connected to the grid (Electricity cables) o Value of fish catch (Fishing) o Value of aquaculture production (Fish, mussel, algae farming)	

Relevant basin-specific basic and allowed functions:

- Number of sea basins that have relevant basic functions
- % of sea space that have relevant basic functions,
- Possible basic function specific indicators
    - T - Transportation: Passanger transport to/from main ports; Gross weight of goods transported to/from main ports
    - Ip – port infrastructure – basins providing access to ports;
    - R – Fishery: Value of fish catch
    - A – Aquaculture; Value of aquaculture production
    - E – Production of renewable energy: MWh of wind power produced
    - K - Exploration, prospecting and extraction of mineral resources: Million cubic meters of aggregate extracted per year - Oil and gas??
    - S- Tourism, sport and leisure: Night spent at tourist accommodation establishments; Tourist visitors in locations (at sea?)
    - W – basins for locating artificial islands, structures and devices;
    - M – multi-functional economic growth – basin intended for development of economic functions (tourism, transport) and coastal protection.

Relevant basin-specific restrictions:

<table>
<tr><td colspan="3">Objective e)

strengthening the position of Polish sea ports, improving the competitiveness of sea transport, and ensuring maritime safety</td></tr>
<tr><td colspan="3">sub-objective e1) securing safe access to the sea ports from the sea and space for development of the seaports seaward</td></tr>
<tr><td>Intermediate steps:

Securing space for development ports in MSP</td><td>Related indicators:

- Industry needs mapped

Context indicator (1)

- Space allocated for development of the port in percentage to the space occupied by the port

Output indicator (1)</td><td>Sources of information:

- Maritime administration
- MSP
- Maritime administration</td></tr>
<tr><td>Final outcome:

Development of ports

Avoidance of accidents</td><td>Related indicators:

- Increase of ports turnover
- Increase of passengers

Context indicators (2) as the outcome is a result of multiple factors

- Increase number of piers and other seaward port infrastructure
- Stakeholder satisfaction level
- Number of accidents

Outcome indicators (3)</td><td>Sources of information:

- Statistical offices

- Information from maritime administration and stakeholders</td></tr>
<tr><td colspan="3">Relevant basin-specific basic and allowed functions:

Operation of the port or marina (Ip), Transport (T)</td></tr>
<tr><td colspan="3">Relevant basin-specific restrictions:</td></tr>
<tr><td colspan="3">sub-objective e2) securing high quality and safe transport connection of Polish ports and other ports</td></tr>
<tr><td>Intermediate steps:

Securing space for transport development</td><td>Related indicators:

- Industry needs mapped

Context indicator (1)

- Consultations with neighboring countries

Process indicator (1)

- Space allocated for transport</td><td>Sources of information:

- Maritime administration
- Meeting(s) with neighboring countries

- MSP
- Maritime administration</td></tr>
</table>

	Output indicator (1)	
Final outcome: Safe functioning of maritime transports from/to Polish port	Related indicators: - Number of ship trips outside of transport areas - Number of accidents Outcome indicators (2)	Sources of information: - AIS (Automatic Identification System)
Relevant basin-specific basic and allowed functions: Transport (T)		
Relevant basin-specific restrictions:		

Objective f) space-efficient management leaving possibly much space for future forms of using the sea (including those at present unknown); (multi-use covered in a2)		
sub-objective f1) minimizing spatial defragmentation		
Intermediate steps: Investors know where to lay cables	Related indicators: - Information about cables and cables' corridor needs collected - Area occupied by cables currently Context indicators (2)	Sources of information: - Consultations with the industry and with the neighboring countries - MSP
Final outcome: Cables, pipelines and other linear elements put in the designated corridors (parallel)	Related indicators: - percentage of cables located in infrastructure corridors Outcome indicator (1)	Sources of information: - Maritime administration (permits)
Relevant basin-specific basic and allowed functions: W – basins for locating artificial islands, structures and devices?? I – basins for objects of technical infrastructure??		
Relevant basin-specific restrictions:		
sub-objective f2) minimizing spatial spill-offs of the functions, which permanently occupy the space (clustering) , e.g. wind farms, oil extraction		
Intermediate steps:	Related indicators: - Percentage of areas designated for aquaculture, energy and mining	Sources of information: - MSP - Maritime administration

Knowledge of the investors on the designated areas for those functions increases Applications are in line with those designations	- Applications from investors regarding the investment location, broken down into designated areas and those outside them Output indicators (2)	
Final outcome: Rationalisation of spatial designations	Related indicators: - Development of functions outside designated areas Context indicator (1)	Sources of information: - Maritime administration
Relevant basin-specific basic and allowed functions: Production of renewable energy (E); Exploration, prospecting and extraction of mineral resources (K), Operation of the port or marina (Ip) A – basins for aquaculture		
Relevant basin-specific restrictions:		
sub-objective f3) areas reserved for future uses		
Intermediate steps: Use of multiuse Awareness of the possible future uses increases	Related indicators: - Identification of possible future uses Context indicator (1) - Number of sea areas reserved for future use (Function P) Output indicator (1)	Sources of information: - MSP
Final outcome: Real use of these areas, which had no predestined future functioning	Related indicators: - Ability of plan to accommodate new uses - Output indicator (1) - Changes of the space of sea areas reserved for future uses Outcome indicator (1)	Sources of information: - Expert opinion - Maritime administration
Relevant basin-specific basic and allowed functions: Space reserved for future use (P)		
Relevant basin-specific restrictions:		

This report presents the results of the Pan Baltic Scope project activity that focussed on the monitoring and evaluation of MSP. The activity consisted of two parts. One developed a conceptual basis for monitoring and evaluation based on literature on evaluation of spatial planning at sea and on land. The second part is based on practical work with Latvian and Polish MSP authorities to plan monitoring and evaluation of their national MSP. The report includes examples also from Belgium and Germany.

Practical evidence from different countries as well as from literature on evaluation indicates that there is not one correct way of monitoring and evaluation of MSP. The purpose of the report is thus to give examples and to provide conceptual background and vocabulary for developing monitoring and evaluation of MSP.

Pan Baltic Scope brought together national authorities and regional organizations towards coherent national maritime planning in the Baltic Sea region and enhances the lasting macro-regional mechanisms for cross-border MSP cooperation.

Swedish Agency for Marine and Water Management

Ministry of Environmental Protection and Regional Development of the Republic of Latvia

Danish Maritime Authority

VASAB

Republic of Estonia Ministry of Finance

Satakuntaliitto The Regional Council of Satakunta

SYKE

Nordregio

Ålands landskapsregering

Pan Baltic Scope

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Find all project results:

www.panbalticscope.eu