MASPNOSE

Preparatory Action on Maritime Spatial Planning in the North Sea

Inventory and analysis of monitoring and evaluation tools

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Coordinated by:

Dr. Birgit de Vos
LEI, Alexanderveld 5, 2585 DB The Hague, The Netherlands

Contributors:

Dr. Birgit de Vos, LEI (sDLO), Alexanderveld 5, 2585 DB The Hague, The Netherlands

Arie van Duijn, LEI (sDLO), Alexanderveld 5, 2585 DB The Hague, The Netherlands

Dr. Marian Stuiver, Alterra (sDLO), Wageningen, the Netherlands

David Goldsborough, Centre for Marine Policy, Leeuwarden, the Netherlands

Martin Pastoors, Centre for Marine Policy, Leeuwarden, the Netherlands

Bas Bolman; IMARES (sDLO), Postbus 571780AB, Den Helder, The Netherlands

Dr. ir. Saskia Hommes; Stichting Deltares; Delft, The Netherlands

Prof. dr. Frank Maes, Maritime Institute, GhentUniversity

Thomas Kirk Sørensen, DTU Aqua, Jægersborg Allé 1, 2920 Charlottenlund, Denmark

Dr. Vanessa Stelzenmüller; Johann Heinrich von Thünen Institute (vTI), Federal Research Institute for Rural Areas, Forestry and Fisheries, Institute of Sea Fisheries; vTI-SF, Hamburg, Germany

Prof. dr. Jan van Tatenhove, Wageningen University, the Netherland

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Executive Summary

This document deals with monitoring and evaluation aspects in Maritime Spatial Planning (MSP) processes. Effective monitoring and evaluation is widely recognised as a fundamental component of maritime spatial management and needs to concentrate on the most important issues potentially affecting a maritime area. For measuring performance of an implemented plan it is important to set clear objectives. Progress and outcomes are then measured through the process of evaluation and monitoring against those objectives.

This document has three objectives:

1. The first objective is to make an inventory and analysis of available monitoring and evaluation practices in relation to MSP. There are many different approaches possible to deal with monitoring and evaluation of MSP. To meet this objective three essential characteristics of monitoring and evaluation practices are distilled from these variety of approaches: the focus on the adaptive management part of MSP, the development of specific indicators to guide the monitoring process and the identification and use of smart objectives. Finally, we will introduce the approach of Hockings et al (2000) to capture MSP processes that take into account these three essential characteristics (section 2).

2. The second objective is to provide guidelines for describing and evaluating the national MSP processes and to operationalize the EC's 10 key principles for MSP for monitoring and evaluation (section 3). The results consist of a detailed description of the key principles for MSP and the potential indicators for monitoring and evaluation of each of the principles.

3. The third objective is to provide specific recommendations for evaluating the experiences in the two MASPNOSE case studies and how to effectively learn from the experiences in two case studies (section 4). To this end, we will use a modified version of the Hockings et al (2000) approach that will include the 10 key principles for MSP. This version will allow a general classification of the management processes in the MSP case studies of MASPNOSE.

1   Introduction

This document deals with monitoring and evaluation aspects in Maritime Spatial Planning (MSP) processes. Effective monitoring and evaluation is widely recognised as a fundamental component of maritime spatial management and needs to concentrate on the most important issues potentially affecting a maritime area (Unesco/IOC, 2006). The monitoring and evaluation of management performance and effectiveness in maritime ecosystems may be undertaken for a variety of purposes, e.g. adaptive management, improving planning, promoting accountability, and encouraging appropriate resource allocation (Day, 2008). For measuring performance of an implemented plan it is important to set clear objectives, as well as to specify management strategies in order to achieve those objectives. Progress and outcomes are then measured through the process of evaluation and monitoring against those objectives.

This document has three objectives:

1. The first objective is to make an inventory of available monitoring and evaluation practices in relation to MSP (section 2)
2. The second objective is to provide guidelines for describing and evaluating the national MSP processes and to operationalize the EC's 10 key principles for MSP for monitoring and evaluation (section 3)
3. The third objective is to provide specific recommendations for evaluating the experiences in the two MASPNOSE case studies and how we can effectively learn from the experiences in two case studies (section 4)

2   Monitoring and evaluation

2.1   Introduction

There is not yet a lot of experience with monitoring and evaluation (M&E) in cross border MSP processes. Therefore, as stated in the MASPNOSE proposal, the available tools and methods to monitor and evaluate the performance of a maritime spatial plan will be reviewed beyond the national examples involved and will take into account best practices,

such as e.g. Australia's Great Barrier Reef Management Plan (GBRMP) and the Florida Keys National Maritime Sanctuary management plan (Douvere & Maes 2010; Douvere& Ehler 2009). As the application of a multi-objective approach MSP is a relatively new approach this inventory will look beyond established single-objective MSP practices at closely related fields like Integrated Coastal and Ocean Management (Unesco/IOC 2006), and other practices that monitor and evaluate the effect of measures on the coastal and maritime environment, like MPAs (Hockings et al, 2000 and Pomeroy et al, 2004). In paragraph 2.2 we will summarise these lessons to be learned. We will introduce three essential characteristics that should guide every MSP process: 1: adaptive management, 2: the development and monitoring of indicators and 3: the identification and use of smart objectives. Furthermore we propose to use the management cycle of Hockings et al (2000) as an analytical framework for MSP as it covers these three essential characteristics.

2.2   Essential characteristics of monitoring and evaluation practices in marine spatial planning: a literature review

Maritime spatial planning (MSP) is a continuing, iterative, and learning process that is adapted over time (Unesco/IOC, 2009). An adaptive approach to MSP involves exploring alternative ways to meet management objectives, predicting the outcomes of alternative management measures, implementing one or more of these alternative management measures, monitoring to learn about the effects of management measures, and then using the results to update knowledge and adjust management actions (Douvere and Ehler, 2010).

Adaptive management

Adaptive management is based on a circular – rather than a linear – management process, which allows information concerning the past to feed back into and improve the way management is conducted in the future (IUCN, 2006). This has consequences for monitoring and evaluation practices. It is therefore important that MSP processes are monitored and evaluated in each phase of MSP process (see figure 1), only in that way policy makers are able to adjust and steer the process on time.

Douvere and Ehler (2010) differentiate between two types of monitoring in relation to MSP. The first is the probably best-known form. It refers to monitoring that assesses the 'state-of-the-system' or 'state-of-the-environment'. A second form of monitoring entails measuring the actual performance of management measures proposed through, for example, a maritime spatial plan. This form of monitoring can be referred to as 'performance

monitoring'. The information derived from the performance evaluation can form the basis for adapting the maritime spatial plan. (Douvere and Ehler, 2010).

Monitoring refers to "a continuous activity that uses the systematic collection of data on selected indicators to provide managers and stakeholders with indications of the extent of progress toward the achievement of management goals and objectives" (Kusek and Rist 2004), while evaluation refers to "the assessment of achievements against some predetermined criteria, usually a set of standards or management objectives" (Pomeroy et al. 2004) (Douvere and Ehler, 2010).

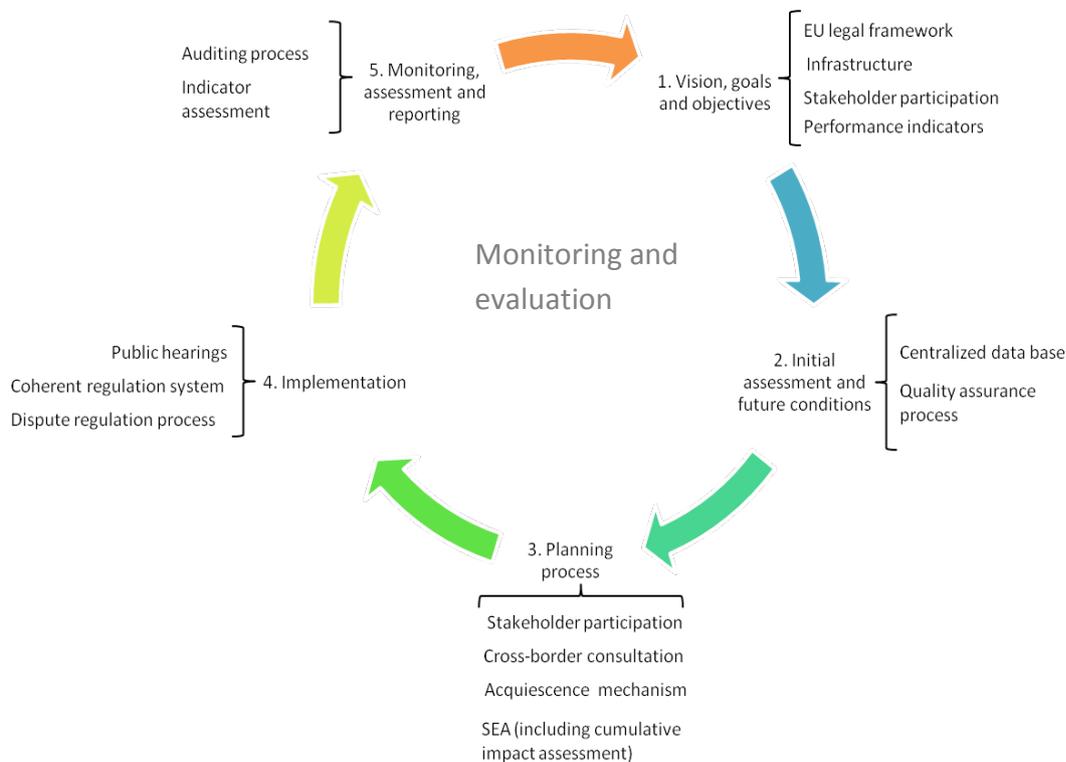*Figure 1: Monitoring and evaluation throughout the entire MSP process*

The development and monitoring of indicators

In order to evaluate the effectiveness of a MSP process, a range of indicators need to be developed and monitored. In literature (Unesco/IOC (2006; Douvere and Ehler, 2010), roughly three types if indicators are distinguished:
- ecological indicators which reflect trends in the state of the environment

- socio-economic indicators which reflect the state of the human use of marine ecosystems
- institutional or governance indicators (see examples in table 1).

Goal	Governance indicator
Ensuring adequate institutional, policy and legal arrangements	1. Procedures for plans, programmes and projects affecting coastal zones 2. Existence and adequacy of legislation enabling MSP 3. EIA, SEA and CCA procedures for plans, programmes and projects affecting coastal zones
Ensuring adequate management processes and implementation	1. Existence, status and coverage of MSP plans 2. Active management in areas covered by MSP plans 3. Routine monitoring, evaluation and adjustment of MSP initiatives 4. Sustained availability and allocation of human, technical and financial resources for MSP, including the leverage of additional resources
Enhancing information, knowledge, awareness and participation	1. Existence, dissemination and application of MSP-related scientific research and information 2. Level of stakeholder participation in, and satisfaction with decision-making processes 3. Existence and activity level of NGOs and CBOs supportive of MSP 4. Procedures in place for monitoring, evaluating and adjusting the plan or programme
Mainstreaming MSP/ICOM into sustainable development; Economic instruments Mainstreaming	1. Use of technology, including environmentally friendly technology, to enable and support MSP 2. Use of economic instruments in support to MSP 3. Incorporation of MSP into educational and training curricula and formation of MSP staff

Table 1: Examples of governance indicators (adapted from Unesco/IOC, 2006).

Identification and use of smart objectives

Pomeroy, et al (2004) define twelve steps (see box 1) that should be addressed in evaluation processes in which the identification and use of smart objectives can be considered as the most vital step. This is also recognised by Douvere and Ehler (2010). Based on an analysis of national spatial plans they concluded that the lack of clear, measurable objectives results in the inability to monitor and review the outcomes of marine spatial plans systematically and prevents the understanding whether MSP is actually successful or not.

- Identify your goals and objectives
- Match relevant indicators to your goals and objectives
- Review and prioritise the indicators identified
- Identify how the selected indicators relate to one another
- Assess resource needs for measuring your indicators
- Determine the audience who will receive the evaluation results
- Identify who should participate in the evaluation
- Develop a timeline and workplan for the evaluation
- Implement your evaluation workplan
- Collect data
- Manage collected data
- Analyse collected data
- Encourage peer review and independent evaluation of results

Box 1: Twelve steps for monitoring and evaluation in Marine Protected Areas (Pomeroy, et al, 2004)

Objectives should have a number of SMART characteristics, including (Ehler and Douvere 2009):

- *Specific*: an objective needs to be concrete, detailed, focused, and well-defined in terms of specifying the outcome;
- *Measurable*: an objective needs to allow measuring the outcome and is – ideally – expressed as a quantity;
- *Achievable*: a good objective will be attainable within a reasonable amount of effort and resources;
- *Relevant*: an objectives will typically lead to a desired goal, either on its own or in conjunction with other objectives;
- *Time-bound*: an objective should indicate a finish and start date in relation to what is to be accomplished

Based on experience in the monitoring process in the Great Barrier Reef Management Plan (BRMP, Day 2008) lessons that could be relevant for monitoring and evaluation practices in the context of MSP are:

- Start with a modest monitoring programme for a few key performance indicators and expand programs as guided by experience.
- Consider opportunities for participatory monitoring and evaluation programs
- Do not wait for all the answers or perfect science before taking management action
- Monitor the 'performance' of management
- Consider innovative monitoring approaches that may be more affordable/acceptable
- Consider need for monitoring a wider context than within an individual zone

Box 2: Lessons from the Great Barrier Reef Management Plan (Day 2008)

An analytical framework for MSP: The management cycle of Hockings et al (2000)

We propose to use the management cycle of Hockings et al (2000) as an analytical framework for MSP as it covers the above mentioned essential characteristics that we have found in the literature review. Hockings et al (2000) developed a cyclical process with six stages or elements, as shown in Figure 2. The management cycle illustrated (Figure 2) identifies six important elements in this process that should, ideally, all be assessed if effectiveness of management is to be fully understood: 1) Context, 2) Planning, 3) Inputs, 4) Process, 5) Outputs, and 6) Outcomes. Evaluation that assesses each of the elements of Figure 2 (and the links between them) should provide a relatively comprehensive picture of management effectiveness. Furthermore, Hockings et al (2000)developed a set of questions that should be addressed in each of these 6 elements for good protected area management. We will clarify these questions below (table 2).

Figure 2: The Framework for assessing management effectiveness of protected areas (Hockings et al, 2000)

Element	Assessment issues
Context	- What are the values and significance of the area? - What are the threats and opportunities? - What social, economic and political factors influence management? - Who is involved?
Planning	- Is the legal status and tenure of the site clear? - How adequate is the protected area system? - Does the design of site allow it to function effectively? - Does the site have clear management planning?
Inputs	- What resources are needed for effective management? - Are sufficient resources being devoted to managing the protected area system/site? - How are resources being applied across the various areas of management? - Is the project working with the right partners?
Process	- Are the best systems and processes for management being used, given the context and constraints under which managers are operating? - Are established policies and procedures being followed? - What areas of management need attention to improve the capacity of managers to

		undertake their work (more resources, staff training etc.)?
Outputs	-	What products and services have been delivered? (e.g. number of users, meetings, length of part boundary)
	-	Have planned work programmes been achieved? (actual versus planned)
Outcome	-	A management plan or other relevant work plan;
	-	The identification of specific threats
	-	The objectives of the IUCN categories of protected areas

Table 2: Management steps and issues to be assessed in good protected area management (adapted from Hockings et al, 2000)

2.3   Conclusions

It is clear from the description above that there are many different approaches possible to deal with monitoring and evaluation of MSP. What connects the recent insights in these approaches are three essential characteristics ; the focus on the adaptive management part of MSP, the use and monitoring of concrete objectives and the use of clear indicators. For the evaluation of the MASPNOSE case studies, we propose in section 4 to use a modified version of the Hockings et al (2000) approach that will allow a general classification of the management processes in the MSP case studies of MASPNOSE. In this modified version we have included the EC's 10 key principles. Prior to that we need to operationalize these 10 key principles. This is done   in the section below and is built on the general principles of M&E but using specific operationalization derived from the MRAG (2008) report on MSP added with definitions applied in scientific literature.

3 Operationalizing the EC's 10 key principles for MSP

The MSP policy cycle to a certain degree overlaps with the EC's key principles for MSP. In the MASPNOSE deliverable D1.3.3 we will describe, analyse and evaluate the experience with the EC's key principles in the two case studies. This will be done according to relevance of the EC's key principles for MSP within an MSP process in a cross border context. The description, analysis and evaluation will primarily be based on the description and contrasting of national MSP processes (i.e. MSP cycle, policy cycle and key principles, see D1.1) and the evaluation of the cross-border MSP processes in the two case studies. This chapter will attempt to operationalize the EC's 10 key principles for MSP.

The EC's key principles for MSP are presented below in the numerical order they are given in the Roadmap for Maritime Spatial Planning (EC 2008). Therefore the order in which they are presented here does not indicate either importance or a certain order. We start the operationalization of the key principles with the text that can be found in the EC roadmap. This text is the basis for the operationalization. Then, we introduce attributes to evaluate their implementation. Where possible we use the attributes that can be found in MRAG (2008). Based on this we define practical questions that can be used when evaluating MSP processes.

For most of the EC principles attributes have been proposed to evaluate their implementation on a scale from 1-6 based on the MRAG report. This can be done on a consistent basis for each principle. In cases where no classification is available from MRAG (2008) we have used scientific literature.

1. Using MSP according to area and type of activity

EC Roadmap for MSP text:

Management of maritime spaces through MSP should be based on the type of planned or existing activities and their impact on the environment. A maritime spatial plan may not need to cover a whole area (e.g. EEZ of a Member State). For densely used or particularly vulnerable areas, a more prescriptive maritime spatial plan might be needed, whereas general management principles might suffice for areas with lower density of use. The decision to opt for a stricter or more flexible approach should be subject to an evaluation process. MSP operates within three dimensions, addressing activities (a) on the sea bed; (b) in the water column; and (c) on the surface. This allows the same space to be used by different purposes. Time should also be taken into account as a fourth dimension, as the compatibility of uses and the "management need" of a particular maritime region might vary over time.

Key points:

- The Appropriate Assessment (AA) is the standard legal requirement for all plans and projects likely to have a significant impact on European sites (Special Areas of Conservation (SAC) or Special Protection Area (SPA).
- The Strategic Environmental Assessment (SEA) Directive ensures that plans likely to have significant effects on the environment are made subject to an environmental assessment, prior to their approval or authorisation. Spatial planning is one of the main issues to be addressed by the SEA-Directive. Consultation with the public is a key feature of environmental assessment procedures.
- The Environmental Impact Assessment (EIA) Directive establishes similar requirements for projects as the SEA Directive. Governments must notify and consult each other on all major projects under consideration that might have adverse environmental impact across borders. This is specifically relevant to wind farms.

References:

- Habitats Directive (Directive 92/43/EEC)
- Birds Directive (79/409/EEC)
- Strategic Environmental Assessment Directive (Directive 2001/42/EC)
- Environmental Impact Assessment Directive
- Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991)

Operationalization:

- Does a maritime spatial plan exist? For which area?
- Do legally established procedures exist for carrying out an Appropriate Assessment (AA) for plans and project likely to have a significant effect on SAC or SPA?
- Do legally established procedures exist for strategic environmental assessment (SEA) for policies, plans and programmes relevant to maritime areas?
- Do procedures exist for EIA in a transboundary context in accordance with the Convention on Environmental Impact Assessment in a Transboundary context?
- Have assessments (AA, SEA, EIA) been conducted, which one(s)? And do they take into account the four dimensions?

2. Defining objectives to guide MSP
EC Roadmap for MSP text: MSP should be used to manage ongoing activities and guide future development in a sea area. A strategic plan for the overall management of a given sea area should include detailed objectives. These objectives should allow arbitration in the case of conflicting sectoral interests.

Key points:
The word objectives requires further operationalization. A possibility is to make the objectives SMART
  1. Specific; clear about what, where, when, and how the situation will be changed
  2. Measurable; able to quantify the targets and benefits
  3. Achievable; able to attain the objectives (knowing the resources and capacities at the disposal of the community);
  4. Realistic; able to obtain the level of change reflected in the objective
  5. Time-Bound; stating the time period in which they will each be accomplished

References: • Intergovernmental Oceanographic Commission (Unesco/IOC) 2006. A Handbook for Measuring the Progress and Outcomes of Integrated Coastal and Ocean Management. Paris (p. 17) • **http://cec.vcn.bc.ca/cmp/modules/pd-smar.htm**
Operationalization: • Have objectives been defined in the Maritime Spatial Plan? • Do these objectives comply with the SMART characteristics as mentioned above?

3. Developing MSP in a transparent manner
EC Roadmap for MSP text: Transparency is needed for all documents and procedures related to MSP. It's different steps need to be easily understandable to the general public. This will allow full information to all parties concerned and therefore improve predictability and increase acceptance.
Key points: Transparency of documents and procedures with a focus on the general public (i.e. not stakeholders). Transparency can be defined as : as *the extent to which all stakeholders have a shared understanding of, and access to, product and process related information that they request, without loss, noise, delay and distortion* (Hofstede 2002)
References: • Intergovernmental Oceanographic Commission (Unesco/IOC) 2006. A Handbook for Measuring the Progress and Outcomes of Integrated Coastal and Ocean Management. Paris (p. 26 and p. 137-149)   • MRAG (2008), Legal Aspects of Maritime Spatial Planning, Framework Service Contract, No. FISH/2006/09 – LOT 2 (Table p. 61-64)

Operationalization: Is the MSP process transparent, and on which scale?

	Transparency
1	No transparency or information available on plans or projects
2	Information available on request for some projects (in English)
3	Information available on request for most projects (in English)
4	Information on selected plans and projects made available to the public through a limited number of mechanisms (e.g. meetings) (in English)
5	Information on most plans and projects made available to the public through a number of forms (e.g. newspapers, meetings, websites) (in English)
6	Information on most plans and projects activity promoted to the public through a number of forms (e.g. newspapers, websites, meetings) (in English)

Source: MRAG (2008)

4. Stakeholder participation
EC Roadmap for MSP text: In order to achieve broad acceptance, ownership and support for implementation, it is equally important to involve all stakeholders, including coastal regions, at the earliest possible stage in the planning process. Stakeholder participation is also a source of knowledge that can significantly raise the quality of MSP.
Key points: For the participation in the policy cycle, there are five levels of participation (De Graaf, 2007): **1.** One-way communication of information from a government to citizens and stakeholders. **2.** Consultation; when a government asks citizens' and stakeholders' opinions about a specific policy. **3.** Advice. Here governments should react to citizens and stakeholders. **4.** Co-production. When a government is one of the partners in a partnership. Partners collaborate on an equal basis. **5.** Co-decision. A new organisation or association is created out of every partner (or participant), which has all responsibilities and will take the decisions. Stakeholders are generally satisfied with their participation in the planning process and activities when they *perceive* their views and concerns are taken into account by decision makers and managers (Unesco/IOC, 2006)
References: • Unesco/IOC (2006). A Handbook for Measuring the Progress and Outcomes of Integrated Coastal and Ocean Management. Paris (p. 26 and p. 137-149). • De Graaf, L. 2007. Stakeholders Support in Urban Governance (p. 2 and p. 3). • MRAG (2008), Legal Aspects of Maritime Spatial Planning, Framework Service Contract, No. FISH/2006/09 – LOT 2 (Table p. 61-64 and text on p.67) • Gerrits, L, and J. Edelenbos (2004) Management of Sediments through Stakeholder Involvement. The risks and value of engaging stakeholders when looking for solutions for sediment-related problems. Journal of Soils and Sediments 4(4) pp. 239-246
Operationalization Continued on next page

Operationalization:

1. Degree of stakeholder participation

Degree of influence	Governance styles	Role of the stakeholder	Role of the expert	Role of the policy-maker
Stakeholders are not involved	1.Closed authoritarian	None	Delivers information to the policy makers on demand. No information to stakeholders	Policy makers determine policy: policy process is closed
Stakeholder are informed-they remain passive	2.Open authoritarian	Stakeholder receive information, but do not deliver input to the process	Delivers information to the stakeholders on demand of the policy-makers	Policy makers determine policy: information is issued to the stakeholders
Stakeholders are consulted	3.Consulting style	Stakeholders are consulted	Delivers information to the participants on demand of all parties	Policy makers determine policy and open the process to input by stakeholders, but it is not obliged to adopt their recommendations
Stakeholders give advice	4.Participative style	Stakeholders become advisors to the process	Delivers information to all parties on demand of all parties	Policy process is open to input by stakeholders, they take the input into account, but have the right to deviate from it in their decisions
Stakeholders become co-producers	5.Delegating style	Co-decision makers within the set of preconditions	Experts treat policy makers and stakeholders as equal clients, advice and knowledge provision to both actors	Policy makers may take the input of stakeholders into account and honour if its fits into the set of preconditions
	6.Co-operative style	Policy-partners on the basis of equivalence	Experts treat stakeholders as equal knowledge providers	Policy makers interact with stakeholders on the basis of equivalence, they take the input very seriously
Stakeholders do not only produce solutions, but also decide about them	7.Facilitating style	Taking initiatives, making decisions	Experts support stakeholders with knowledge; experts treat stakeholders as their clients	Offers support and leaves the production of solutions and decisions to the participants

Degrees of participation and influence in policy processes (Gerrits and Edelenbos, 2004)

2. Level of satisfaction: Assess the level of satisfaction through either observation or a satisfaction survey in the form of a short questionnaire.

5. Coordination within Member States — Simplifying decision processes

EC Roadmap for MSP text:

MSP simplifies decision making and speeds up licensing and permit procedures, for the benefit of maritime users and maritime investment alike. Coordinated and cross-cutting plans need a single or streamlined application process and cumulative effects should be taken into account. The internal coordination of maritime affairs within Member States proposed in the Guidelines for an Integrated Approach to Maritime Policy should also benefit the implementation of MSP.

Key points:

Coordination within Member States has two levels of measurement: 1) The existence of a coordinating body. 2) Its degree of representation, functionality, effectiveness and sustainability. The idea is that making activities subject to licensing is a precondition for planning activities. The legal framework for issue of licences or permits should be clear and efficient, but most importantly the institutional set-up (jurisdiction and cooperation/coordination) should be designed in a way to allow for a final decision that is dealing with all aspects of a permit in a comprehensive, integrated and consistent manner (MRAG, 2008).

References:

- Unesco/IOC (2006). A Handbook for Measuring the Progress and Outcomes of Integrated Coastal and Ocean Management. Paris (p. 114-116).
- MRAG (2008), Legal Aspects of Maritime Spatial Planning, Framework Service Contract, No. FISH/2006/09 – LOT 2 (Table p. 61-64 and text on p.66)

Operationalization:

- Does a coordinating administrative body exist for MSP within the Member States?
- Does this body have a legal and formal mandate and authority?
- Are activities subject to licensing and permit procedures?
- How can these be placed in the permitting and licensing scale (below)

Permitting and Licensing scale	
1	Open access – no restrictions or requirements for licensing.
2	Unclear/non transparent or contradictory licence requirements. Incomplete licensing regime. No inter–agency coordination.
3	Comprehensive licensing regime. Unclear/non transparent procedures: - licences from different agencies with different objectives. OR - unclear division of competences between different agencies either horizontally or vertically. No inter-agency coordination.
4	Several different licences from different agencies. Clear division of competences between institutions, not always effectively implemented. Limited inter-agency coordination with respect to most aspects relevant to the allocation of permits. Information to applicant on permitting process is available.
5	Several different licences required for a specific activity but clear and coordinated procedures. Clear division of competences effectively implemented. Inter-agency coordination with respect to all aspects relevant to the allocation of permits. Easily available and transparent information on permits.
6	Streamlined transparent process with information readily available. No contradictions. Simplified and clear procedures. Clear mechanism to coordinate/ manage overall decision making process for the allocation of space. OR One stop shop – a single application process that can cover multiple licence applications and take into account the overarching MSP objectives.

Source: MRAG, 2008

6. Ensuring the legal effect of national MSP
EC Roadmap for MSP text: MSP does not replicate terrestrial planning at sea, given its tri-dimensionality and the fact that the same sea area can host several uses provided they are compatible. However, in the same way that terrestrial planning set up a legally binding framework for the management of land, MSP should be legally binding if it is to be effective. This might also raise the issue of the appropriate administrative framework for MSP.
Key points: The existence and adequacy of legislation enabling the implementation of MSP interventions.
References: • Unesco/IOC (2006). A Handbook for Measuring the Progress and Outcomes of Integrated Coastal and Ocean Management. Paris (p. 117-119)   • MRAG (2008), Legal Aspects of Maritime Spatial Planning, Framework Service Contract, No. FISH/2006/09 – LOT 2 (Table p. 61-64 and text on p.65)
Operationalization: • Does an adequate legislation exist that enables the implementation of MSP interventions?   • On which scale? (see below)

Policy and legal framework scale	
1	No policy on MSP. Sectoral legislation does not contribute to MSP in any material way.
2	Limited sectoral legislation e.g. ad hoc zoning of maritime areas for specific sectoral activities. No policy on MSP.
3	Sectoral legislation with no formal mechanisms to coordinate spatially relevant decisions. Draft MSP policy.
4	Sectoral legislation and specified coordination mechanisms for spatially relevant. Clearly defined MSP policy adopted but no MSP legislation yet. Adoption of MSP legislation in progress.
5	Comprehensive MSP legislation adopted but not yet implemented.
6	Comprehensive MSP legislation adopted and implemented: - Adoption of any necessary subordinate legislation. - Law has stood the passage of time. - No serious litigation.

Source: MRAG, 2008

7. Cross-border cooperation and consultation

EC Roadmap for MSP text:

Cooperation across borders is necessary to ensure coherence (t**he OECD argues that** *coherence is about the overall state of mutual consistency among different policies* (OECD, 1996) of plans across eco-systems. It will lead to the development of common standards and processes and raise the overall quality of MSP. Some organisations such as HELCOM have already started this work.

Key points:

The maritime environment is characterised by its openness and general lack of clearly visible natural boundaries (other than at its landward boundary). Therefore MSP decisions within a given legal jurisdiction are likely to have impacts on neighbouring jurisdictions, especially as regards environmental and economic issues. The Cross-Border Cooperation indicator assesses the extent to which a given system provides for transboundary planning (MRAG, 2008). Potential bottlenecks in cross-border cooperation can be:

- Cultural, social, political and economic differences across borders
- Dissimilarities between economic systems and in levels of economic development ('divide of affluence');
- Dissimilar social systems;
- A lack of a common language and cultural tradition;
- Poor knowledge of each other's' attitudes and behavioural patterns (prejudices)
- Ethnic and national identities
- Different governance systems (e.g. domination of central authorities over local authorities or participatory governance)
- Competitiveness

These aspects can all contribute to a lack of trust between potential partners, inhibiting co-operation across borders (Krätke 1998: 250-1).

References:

- MRAG (2008), Legal Aspects of Maritime Spatial Planning, Framework Service Contract, No. FISH/2006/09 – LOT 2 (Table p. 61-64 and text on p.67).
- Krätke (1998) Problems of Cross-Border Regional Integration. The Case of the German-Polish Border Area. European Urban and Regional Studies.

Operationalization:

Cross-border cooperation scale (MRAG, 2008)	
1	No mechanism for consulting with neighbours or coordinating across other boundaries (land/sea; administrative boundaries) beyond requirements of EC environmental law
2	Ad hoc mechanisms for consultation across boundaries Case by case basis
3	Non-binding national criteria for cross-boundary consultation (beyond requirements of EC environmental law) Limited guidelines available
4	Mutual rules guiding transboundary co-operation, ensuring permanent exchange of Information (e.g. bi-lateral agreements) Voluntary guidelines on cooperation and coordination across subnational boundaries (i.e. land/sea boundaries, administrative boundaries)
5	Mandatory trans-boundary consultation procedures based on binding national criteria and mutual rules guiding co-operation Guidelines on cooperation and coordination across sub-national boundaries accepted as normal practice (i.e. land/sea boundaries, administrative boundaries
6	Mandatory trans-boundary consultation procedures implemented with joint decision making and conflict resolution Legislation and related mechanisms for cooperation and coordination across subnational boundaries (i.e. land/sea boundaries, administrative boundaries

8. Incorporating monitoring and evaluation in the planning process
EC Roadmap for MSP text: MSP operates in an environment exposed to constant change. It is based on data and information likely to vary over time. The planning process must be flexible enough to react to such changes and allows plans to be revised in due course. To meet these two requirements, a transparent regular monitoring and evaluation mechanism should be part of MSP.
Key points: Monitoring, evaluation, reporting and adaptive management are widely recognised as fundamental components for effective maritime management. Similarly, MSP should not be considered as a 'once-off' exercise, but instead should be considered as a continuous and iterative process that involves all the above elements (Day 2008).
References: • Day, J. (2008) The need and practice of monitoring, evaluating and adapting maritime planning and management—lessons from the Great Barrier Reef. Maritime Policy 32, pp. • Douvere F. & Charles N. Ehler (2010) The importance of monitoring and evaluation in adaptive maritime spatial planning. Journal of Coastal Conservation
Operationalization: Monitoring: • Do legally established procedures exist for monitoring of maritime management? • If yes/no to what degree does monitoring of maritime management take place, and in which stages of the policy cycle? Evaluation: • Do legally established procedures exist for evaluation of maritime management? • If yes/no to what degree does evaluation of maritime management take place, and in which stages of the policy cycle?

9. Achieving coherence between terrestrial and maritime spatial planning — relation with ICZM

EC Roadmap for MSP text:
Achieving consistency between terrestrial planning (including coastal zones) and maritime planning systems is a challenge. Coastal zones are the "hinge" between maritime and terrestrial development. Drainage areas or land-based impacts from activities such as agriculture and urban growth are relevant in the context of MSP. This is why terrestrial spatial planning should be coordinated with MSP. The respective services should cooperate and involve stakeholders so as to ensure coherence.

Key points:
According to Smith et al. (2010) integration of land and sea use planning systems can be approached in two contexts. The first relates to that of spatial planning frameworks per se and involves the integration of land and sea use planning systems. The second involves the operation of these systems within the wider context of environmental management (see section below on Spatial Planning and Environmental Management).
In the context of the land-sea divide, there are a number of mechanisms and approaches which may facilitate integration. These include Integrated Coastal Zone Management (ICZM) and Strategic Environmental Assessment (SEA). Adherence to other European environmental directives will also demand cross-coast planning, as well as improved guidance and capacity building to encourage greater awareness and understanding of the needs of both maritime and terrestrial components (Smith et al. 2010).

References:
- English Nature (2003) Review of how the Land Use Planning Systems could Influence the Development of a Maritime Spatial Planning System for England. English Nature Research Reports. Report Number 566.
- Smith, Hance D., Frank Maes, Tim A. Stojanovic and Rhoda C. Ballinger (2010) The integration of land and maritime spatial planning. Journal of Coastal Conservation.

The European Parliament and the Council adopted in 2002 a Recommendation on Integrated Coastal Zone Management which defines the principles sound coastal planning and management. These include:
- The need to base planning on sound and shared knowledge
- The need to take a long-term and cross-sector perspective
- To pro-actively involve stakeholders and
- The need to take into account both the terrestrial and the marine components of the coastal zone (http://ec.europa.eu/environment/iczm/home.htm)

Operationalization:
- Does planning follow the Integrated Coastal Zone Management approach as described above?
- Is a Strategic Environmental Assessment (SEA) being performed?
- Is there adherence to other European environmental directives (which ones)?

10. A strong data and knowledge base

EC Roadmap for MSP text:

MSP has to be based on sound information and scientific knowledge. Planning needs to evolve with knowledge (adaptive management). The Commission has started several scientific and data gathering tools that will assist MSP in this process. These include a European Maritime Observation and Data Network (EMODNET), an integrated database for maritime socio-economic statistics (currently under development by ESTAT), the European Atlas of the Seas (to be delivered in 2009) and the Global Monitoring for Environment and Security (Kopernikus).

Key points

Data and information are important to the management natural resources including maritime space. Several types of data and information are required: ecological and environmental, social and economic information. This will facilitate decision-making on the allocation of space and assess the implementation and progress of MSP (MRAG, 2008).

References:
- Unesco/IOC (2006). A Handbook for Measuring the Progress and Outcomes of Integrated Coastal and Ocean Management.
- MRAG (2008), Legal Aspects of Maritime Spatial Planning, Framework Service Contract, No. FISH/2006/09 – LOT 2 (Table p. 61-64 and text on p.66).

Operationalization:

	Data and information management scale (MRAG, 2008)
1	No /few spatial data exist on biological/ecological aspects (e.g. maritime substrates, habitats, species) and no data on social/economic aspects (e.g. maritime activities.) No mechanisms in place for collection or dissemination of relevant information.
2	Basic biological data exist (e.g. depth and substrate type) for most of the coastal zone, but are not easily available to planners/stakeholders but no social/economic data
3	Biological data exist on maritime substrates, habitats, main species of commercial interest and very Limited social/economic data on some maritime activities (e.g. location and direct economic value for some activities) for the coastal zone. Lack of coordination on data collection, analysis and synthesis of information.
4	Good biological data exist on maritime substrates, habitats, most species of commercial interest and biodiversity, for the coastal zone and some of the EEZ. Some socioeconomic data available on some maritime activities (i.e. location and direct economic value), for the coastal zone and some of the EEZ. Some data are available in GIS format. Efforts are underway to collect further data. Data can be accessed where required but may not be well coordinated (e.g. data held by many different institutions, different formats used, different access procedures). Basic analysis and synthesis of data into useful information.
5	Comprehensive biological data exist on maritime substrates, habitats, ecosystem functions, all species of commercial interest, and biodiversity for the coastal zone and most of the EEZ. Some social/economic data exist (i.e. location and direct & indirect economic values) for most sectoral activities in the coastal zone and most of the EEZ. Most data are available in GIS format. Efforts are underway to collate existing data into an integrated, comprehensive GIS-based central data facility. Data are processed into useful information and relatively easy to access where required. Efforts are underway to provide complete coverage of the EEZ.
6	Comprehensive data exist on maritime substrates, habitats, ecosystem functions, all species of commercial interest, biodiversity and maritime sectoral activities for the coastal zone and the whole EEZ. Comprehensive social/economic data on maritime activities (i.e. location, economic, social and cultural values) for the coastal zone and the whole EEZ. All data are processed into useful information and available in GIS format and most have been collated into an integrated, comprehensive GIS-based central data facility. Data are easily available, and effectively disseminated where required.

4   A framework for analysing the MASPNOSE case studies

The MASPNOSE project aims to design a process for cross-border MSP and to develop a concept for monitoring and evaluation. In order to evaluate and monitor MSP processes we have looked in section 2 at several M&E practices in related fields, as well as at scientific literature. From that we have taken three main characteristics of monitoring and evaluation, which are the following: 1) monitoring and evaluation should be performed in the various stages of the management cycle in order to steer and adapt management, 2) monitoring and evaluation should use indicators, and 3) monitoring and evaluation should be based on clear (SMART) objectives. In addition, in section 4, we have operationalized the ten key principles as defined by the European Commission. In the MASPNOSE project these insights will be tested in the case studies on its applicability and effectiveness. In order to do that we combine the management cycle of Hocking, Stolton and Dudley (2000) with the questions that need to be addressed within the 10 key principles (see table 3).

The MASPNOSE project mainly aims to gain insight into cross border cooperation, therefore this also has the focus when analysing the case studies. The case studies should help us to analyse cross border cooperation in maritime spatial planning processes, and to make recommendations for future processes that are characterised by cross border cooperation.

M&E	Related questions	Key Principle
Baseline information (Where are we now?)	1. What was the frequency and content of the interactions between the different countries at the start? - Between which countries and which actors? - On which subjects? - What kind of interaction? (physical meetings, phone calls, e-mails) - And how often (regular meetings/one time experience)? 2. What are the values and what is the significance of the area? 3. Is a coordinating administrative body present for MSP within the Member States and does this body have a legal and formal mandate and authority?	7 5
Planning (Where do we want to be, and how are we going to get there?)	4. Does a maritime spatial plan exist and are objectives defined? 5. By who? 6. Do these objectives comply with the SMART characteristics? 7. Are these objectives agreed on by all parties involved? If not, by who? 8. Does a system for transboundary planning exist and on what scale ? 9. Does an adequate legislation exist that enables the implementation of MSP interventions and on which scale? 10. Is there consistency between terrestrial planning (including coastal zones) and maritime planning systems?	1, 2 4 2 4 7 6 9

M&E	Related questions	Key Principle
Inputs (what do we need?)	11. Which actors/institutions (from which countries) are involved?	4,7
	12. Are these the right actors?	4
	13. What type of data was involved?	10
	14. How much time can participants spend on this process?	4
Process (How do we go about it?)	15. In what way are contact moments between the (international) stakeholders arranged? (meeting, phone calls, e-mails, international coordination body etc.)	4
	16. Who is responsible for contact moments?	4
	17. Is the MSP process transparent and on which scale?	3
	18. What is the degree and level of stakeholder participation?	4
	19. Is a monitoring and evaluation plan available? Made by who?	8
	20. In which stages of the policy cycle does M & E take place?	8
	21. Is a coordinating administrative body established for MSP within the Member States and does this body have a legal and formal mandate and authority?	5 5 5
	22. Are activities subject to licensing and permit procedures?	5
	23. How can these be placed in the permitting and licensing scale?	5
	24. What is the data and information management scale?	10
	25. Are established policies and procedures being followed?	1
Outputs (What did we do and what products or services were produced?)	26. What products and services have been delivered? (actual versus planned)	7
	27. In which language?	7
	28. Were different stakeholders involved than with the start of the process? Why?	4
	29. Are stakeholders satisfied with the degree of participation?	4
Outcome (What is achieved?)	30. Has a common agenda or other relevant work plan been made?	4
	31. Have agreements been made between the different countries?	4
	32. Has an international coordinating body been established?	5
	33. Has a Maritime Spatial Plan been produced?	1

Table 3: A framework for the monitoring and evaluation of the MASPNOSE cross border MSP case studies

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Directives and conventions
Habitats Directive (Directive 92/43/EEC)
Birds Directive (79/409/EEC)
Strategic Environmental Assessment Directive (Directive 2001/42/EC)
Environmental Impact Assessment Directive
Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991)

Internet sources
http://cec.vcn.bc.ca/cmp/modules/pd-smar.htm

Abbreviations

AA	Appropriate Assessment
CCA	Carrying Capacity Assessment
EIA	Environmental Impact Assessment
ICOM	Integrated Coastal and Ocean Management
M&E	Monitoring and Evaluation
MSP	Marine Spatial Planning or Maritime Spatial Planning
SEA	Strategic Environmental Assessment

About MASPNOSE

MASPNOSE is a Preparatory Action on Maritime Spatial Planning in the North Sea, funded by the DG MARE under tender 2009/17. MASPNOSE aims to facilitate concrete, cross-border cooperation among European countries on ecosystem-based maritime spatial planning (MSP). Building on previous and ongoing initiatives, the project explores opportunities for collaboration among North Sea countries and for an international strategy for the Southern North Sea, establishing elements for a common agenda for cooperation of countries in the region.

MASPNOSE gathers information and analyse the current conditions, including ecological and biological features as well human use and its impact. This information will be used to design a process for cross-border MSP and to develop a concept for monitoring and evaluation of these processes. MASPNOSE acknowledges the overarching importance of national authorities in MSP development and the very important role of other stakeholders.

MASPNOSE focusses on two case studies:

1. Thornton Bank. The case study comprises an area between Belgium and The Netherlands, partly on sand banks located on both sites of the border. Cross-border MSP could aid to address the issue of wind energy, shipping, fisheries management, aquaculture and nature conservation.

2. Dogger Bank. The case study comprises an area between the United Kingdom, the Netherlands, Germany and Denmark. Cross-border MSP could aid to address the issue of fisheries management, nature conservation and sustainable energy production.

MASPNOSE started on 1 December 2010 and will finish on 31 May 2011.

www.cmp.wur.nl/maspnose