

Maritime Spatial Planning (MSP) in Belgium

Analysis of the period 2000-2011

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Introduction

Purpose of this document

Maritime Spatial Planning (MSP) is a process that never ends, it is a process where continuous improvement is possible. In Europe but also in individual member countries MSP was set high on the agenda. In recent years there have already been various developments in Belgium in spatial planning at sea and at the coast. This report gives a summary of what has happened so far concerning spatial planning at sea and on the coast in Belgium at both policy and project level.

Report structure

The report is created within the framework of the European project 'Combining Sea and Coastal Planning in Europe' (C-Scope) and is structured in analogy with the United Nations Educational, Scientific and Cultural Organization (UNESCO) Manual for Marine Spatial Planning¹. This handbook outlines an approach in ten steps that demonstrates how MSP can become operational. For each measure the desired result is defined as well as the various tasks associated with the step. The steps represented in this guide are largely based on the analysis of various current MSP initiatives across the world.

A maritime spatial planning process does not result in a one-off plan. It is a continuous process that has to be adapted and evaluated over time. Ten elementary steps must be taken for successful implementation. These ten steps do not entail a simple, linear or demarcated process, but a cyclical process whereby all steps must be considered together. For example, the purpose and the objectives set early in the process will probably be adapted when the costs and benefits of various management measures are determined later. The involvement of stakeholders will also influence the planning process over time. Planning is by nature a dynamic process, and adjustments will be required as the process evolves over time.

This report is structured on the basis of these ten steps, but with the associated action attuned to the Belgian situation. The purpose and the content of each measure are briefly described in each section. More information on each

measure can be found in the UNESCO Manual on MSP. For each step the report offers a diagrammatical summary of the situation of the main processes in Belgium with respect to spatial planning on the coast and at sea.

With the application of the UNESCO Guide to the Belgian situation, an overview of how far the process has progressed in Belgium, is given. Where possible, gaps are defined and further coordination is required. The ten steps set out the direction for the future.

Criteria for integrating information in the report

This report doesn't want to limit MSP just to the seaside, but also includes the harbours and land components in the discussion. It is important to fine-tune planning on land and at sea. Geographically, the area is demarcated as the ten coastal municipalities and the Belgian part of the North Sea (BPNS). The geographic demarcation is also used in the Belgian report on the implementation of Recommendation 2002/413/EC concerning Integrated Coastal Zone Management.

A lot of information is available on the BPNS and the Belgian coast. The focus of this report is to only include the information, processes or research related to the coast or the BPNS, and that show a clear link with the development of spatial planning on land or at sea. Sectoral approaches, processes or legislation that can be of importance for various sectors or users of the BPNS are not considered. Only projects containing an usable case study or constituent aspect from which lessons can be drawn for the future are listed.

The information related to spatial planning on land, which has been integrated in this report, is limited. Only the principal information, which makes it possible to draw parallels between planning on land and at sea has been considered.

¹ Ehler, Charles, and Fanny Douvere. *Marine Spatial Planning: a step-by-step approach toward ecosystem-based management*. Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. IOC Manual and Guides No. 53, ICAM Dossier No. 6. Paris: UNESCO. 2009 (English).

Step 1:

Identifying need and establishing authority

The goal of this step

Two points in particular need to be considered before starting a MSP (Maritime Spatial Planning) process. Firstly, it has to be clearly defined why a MSP process needs to be developed. This will ensure that the process stays on track. Secondly, it should also be clear whether the appropriate authority to develop and implement MSP is present. If not, the effort might be wasted if implementation is not possible later on.

What outputs should be delivered

- A preliminary list of specific problems needed to be solved by maritime spatial planning
- Decision about what kind of authority is needed for developing maritime spatial planning

What are the tasks in this step

Task 1: Identifying why maritime spatial planning is needed

Task 2: Establishing appropriate authority for MSP

In 2003, a Federal 'North Sea' minister responsible for the integrated management of the BPNS was appointed. The core issues of his policy framework included the development of an offshore wind farm, the delimitation of marine protected areas, a policy plan for sustainable sand and gravel extraction, enhanced financial resources for the prevention of oil pollution, the mapping of marine habitats, protection of wrecks valuable for biodiversity, and the management of land-based activities that have an impact on the marine environment. Together, these objectives provide the basis for a 'Master Plan' that was implemented in two phases³.

After the elections in 2007, a new Minister for the Marine Environment was appointed and in his federal policy note presented in 2008, there are references to the sustainable management of the North Sea and the development of a marine register⁴.

'The carrying out of most human activities at sea takes place within a system of environmental permits and authorisations based on the scientific evaluation of their impact on the marine environment.

Furthermore, endeavours for space at sea, including space for nature conservation, have significantly increased in recent years. Today, research into each (new) activity from the perspective of sustainable development has become even more indispensable than before, in both a national and international context. Hence, the impact on the environment must be integrated in a total assessment along with the economic and social impact. This new phase must be developed, guided and integrated at federal administration level with the stakeholders to result in a true «marine register»'

In November 2009, a new State Secretary (elected in 2008) presented a federal policy note 'Marine Environment' to the Belgian chamber of representatives⁵. In this policy document, the sustainable management and protection of the sea focuses on 4 policy pillars:

- Sustainable Management of the human activities at sea
- The protection and conservation of the marine biodiversity
- Monitoring the quality of the marine environment
- Environmental surveillance and prevention of marine pollution

SPATIAL PLANNING PROCESS AT SEA

Task 1

Identifying why you need maritime spatial planning

The best way to start the process is to identify the need of a Maritime Spatial Plan. Most countries that have successfully embarked on MSP have done so out of a need to tackle particular conflicts or problems, either existing or anticipated.

The need for a more comprehensive approach towards spatial planning for the BPNS (Belgian Part of the North Sea) became particularly urgent in light of new objectives and associated targets, such as the need for offshore energy production and the development of a European network of protected areas².

² Douvere, F.; Maes, F. (2007). *The role of marine spatial planning in sea use management: The Belgian case*, in: *Marine Policy*, 31: pp. 182-191

³ Bossu, P.; Plasman, C. (2004). *Een doorbraak in het Belgische Noordzeebeleid?*. *Argus Milieumagazine* 2(1): 4-8

⁴ *Algemene Beleidsnota van de eerste minister inzake marien milieu - 52 0995/ (2007/2008)*: <http://www.dekamer.be/FLWB/PDF/52/0995/52K0995015.pdf>

⁵ *DOC 52 2225/024 - 25 november 2009 - Algemene Beleidsnota Marien Milieu*

The document clearly refers to the implementation of the European Marine strategy⁶ as milestone for the further coordination and implementation of Maritime Spatial Planning (MSP). The policy note Marine Environment can be seen as a commitment to work towards MSP in 2010 and 2011. The clear objectives given in the text for such a MSP are the determination of 'conservation objectives for species and habitats' and to deal with the European Commission assigning marine protected areas (within the framework of Natura 2000) in the Exclusive Economic Zone. The further phases of these processes will provide input for the environmental part of the Maritime Spatial Plan⁷.

The federal policy note 'Transport', also presented by the State Secretary who has the authority on Marine Environment and Transport, describes the development of the first marine Master plan in 2003, but also suggests expanding this first plan with the further development of sustainable maritime transport within the Belgian EEZ (Exclusive Economic Zone)⁸. It also mentions that the area for the development of offshore energy needs to be revised based on an integrated vision that takes into account the marine environment, the reduction of CO₂, the economic development of the harbours, the safety of marine transport and the development of Short Sea Shipping.

Task 2 Establishing appropriate authority for maritime spatial planning

The most important thing when creating authority to plan for MSP is to make sure that the output - the maritime spatial management plan - will be enforceable. One way to establish authority for MSP is by the creation of new legislation. Another way is to start from existing legislation - either by re-interpreting it or by slightly modifying it. A third possible way to establish authority for MSP is to work it into provisions that can be added to legislation that is either already in development or which is under consideration for development in the near future.

Within the governance of the Belgian Part of the North Sea (BPNS) there are different authorities involved (Table 1).

Table 1. Multi-level governance in the Belgian Part of the North Sea (BPNS) and the coastal zone	
Internationaal obligations: conventions and commitments (2010 Target...)	
EU obligations: EU-directives (Habitats Directive...)	
Federal state	
Federal competences at sea: nature conservation, protection of the marine environment, offshore windmill parks, shipping, military, etc.	Federal competences on land: contingency planning, etc
Flemisch Region	
Flemish competences at sea: fishing, dredging, etc.	Flemish competences on land: nature conservation, tourism, ports, etc.
1 Provincie (West-Flanders)	
10 coastal municipalities	

Table:
Multi-level governance in the Belgian Part of the North Sea (BPNS) and the coastal zone⁹

Before 2003, the various agencies dealing with different aspects of the North Sea had their own authorities. In 2003, with the appointment of the new federal government a specific paragraph on the North Sea was included in the governmental agreement.

"[7] For the North Sea, one of the richest and largest natural areas of our country, the government will develop a long-term vision whereby the sustainable management of fishing, sand extraction, shipping and ecological values of the sea will be the starting points.¹⁰"

For its implementation, new resources (people and means) were provided, for example the creation of a Minister for the North Sea. This Minister would have the right to take initiative in the coordination of all matters relating to the North Sea policy at Ministerial level. For the first time Belgium got a Minister for the North Sea. His function was to coordinate these authorities within the framework of North Sea Management, with the development of a sustainable vision for the North Sea as goal. It was this federal Minister who had the authority for Maritime Spatial Planning.

⁶ DIRECTIVE 2008/56/EC of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive) <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:164:0019:0040:EN:PDF>

⁷ DOC 52 2225/024 - 25 November 2009 - Algemene Beleidsnota Marien Milieu

⁸ DOC 52 2225/023 - 25 November 2009 - Algemene Beleidsnota Transport

⁹ Rabaut, M.; Degraer, S.; Schrijvers, J.; Derous, S.; Bogaert, D.; Maes, F.; Vincx, M.; Cliquet, A. (2009). Policy analysis of the MPA-process in temperate continental shelf areas. *Aquatic Conserv. Mar. Freshw. Ecosyst.* 19: 596-608

¹⁰ <http://mobielvlaanderen.be/pdf/beleidsnota-brieven/federaalregeerakkoord2003.pdf>

SPATIAL PLANNING PROCESS ON LAND

Task 1

Identifying why you need maritime spatial planning

Space in Flanders is scarce, finite and losing its quality. Spatial planning is more and more seen as an important tool for tackling structural problems (traffic safety, public transport, urban decline, social segregation, lack of space for economic activities, affordable housing, environmental protection etc.)

In spatial planning faces the following challenges:

- satisfying a quantitative and qualitative housing need
- satisfying the need for sufficient, well-equipped industrial areas for new economic activities and ensuring development opportunities for existing economic activities
- providing sufficient and high quality space for agriculture
- safeguarding and where possible enhancing undeveloped space and its landscape qualities (nature, woodland, agriculture)
- accommodation of the significant growth of mobility with good road, waterway, rail and pipeline infrastructures; ensuring accessibility to and the liveability of (for instance, economically) important centres in Flanders¹¹
- accommodation of highly dynamic tourist and recreational activities and providing a qualitative recreational network

Task 2

Establishing appropriate authority for maritime spatial planning

Belgium, being a federal country, does not have responsibility at national level for spatial planning. The regional authorities have the competence to put legislation with respect to spatial planning in place. Within the Flemish Region there are three government levels which have competences in spatial planning at their direct disposal: the region, the province, and the local authority.

These three government levels can all draw up spatial structure plans ('ruimtelijke structuurplannen'). These are strategic plans; they consist of an indicative, a directive, and a legally binding section. The plans can also contain parts which are binding for other government authorities.

Spatial structure plans drawn up at a lower government level must be approved by the next successive higher government level. The plans must be oriented to conform to the stipulations of the spatial structure plans of the higher government level. In principle, they are fixed for a period of 5 years. In addition to the spatial structure plans, all three government levels have the competence to make spatial implementation plans ('ruimtelijke uitvoeringsplannen'). These are binding plans to carry into effect parts of a structure plan.

In Belgium, federal legislation and regulations for spatial planning and urban development began on 29 March 1961¹². This so-called 'Urban development Act' introduced land use plans. Due to the constitutional reform of 1980, the powers to legislate on spatial planning were transferred from the Belgian State to the regions. Since then, the Flemish authority has the power to change regional plans on the territory of the Flemish Region. That authority of the Flemish Region reaches to the mean low-tide mark, which serves as the base-line.

In 1996, the Planning Decree¹³ introduced the structure plans. Structure plans are not 'land use' plans but 'only' policy plans that indicate the desired spatial development of the area. The Decree provided the authority for structure plans at three levels: The Flemish region, the provinces and the municipalities.

The Planning Decree:

- gives a description of the term 'spatial structure plan'
- states that spatial structure plans must be drawn up on three levels: Flemish Region, the provinces and municipalities
- regulates the content and the legal status of the spatial structure plans
- regulates the procedure for the implementation of the spatial structure plans
- regulates the carrying out of the spatial structure plans

By the Decree of 18 May 1999¹⁴ regarding the organisation of spatial planning, the former 'Urban development Act' and the Planning Decree were replaced. This Decree introduced a new system of spatial implementation plans: from the moment that a public body has a structure plan, that authority does not make zoning plans any longer, but instead makes spatial implementation plans ('ruimtelijke uitvoeringsplannen') in implementation of the structure plans.

¹¹ *Spatial Structure Plan for Flanders, Ministry of the Flemish Community, Environment and Infrastructure Department, Administration for Zoning, Housing and Monuments and Landscapes, Spatial Planning Division, Brussels, 1998*

¹² *Act of 29 March 1962 with regard to the organisation of spatial planning and urban development*

¹³ *Decree of 24 July 1996 with regard to the spatial planning, Belgian Law Gazette, 27 July 1996*

¹⁴ *Decree of 18 May 1999 with regard to the organisation of spatial planning,*

Conclusions regarding identifying need and establishing authority for maritime spatial planning

- In the past, the need for Maritime Spatial Planning (MSP) was determined by the delimitation process related to Natura 2000 areas and the determinations of the areas at sea for development of wind energy
- Different policy documents show a clear need from the policy sectors to proceed with a MSP process. This need has also been encouraged by the European Policy and Legislation.
- A clear legal framework for organising spatial planning at sea doesn't exist. On the other hand, such framework is present for planning on land. Because of the lack of a legal framework for spatial planning at sea, delimitations and spatial restrictions are often on an ad hoc basis, not always initiated by a policy question. There exists only sectoral legislation, an integral approach is missing.
- It is not clear which principles will be applied, which final dates will be proposed, how choices will be made,... For the new MSP that is about to begin, it is unclear who has the authority to start a MSP process.
- Flanders plays a primary role in land and coastal spatial planning. Maritime Spatial Planning, however, remains a federal competence.

Step 2: Obtaining financial support

The goal of this step

A Maritime Spatial Plan (MSP) is not possible without adequate financial resources. Identifying financing mechanisms are most likely being done in conjunction with the task of setting goals and objectives.

What outputs should be delivered

- A financial plan that estimates the costs of MSP activities
- Identifies alternative means to obtain financing for those MSP activities.

What are the tasks in this step

- Task 1: Identifying alternative financing mechanisms
Task 2: Defining the feasibility of alternative funding mechanisms

SPATIAL PLANNING PROCESS AT SEA

The different governments that undertake parts of the MSP process rely on direct allocations to their budgets from general tax revenues. In Belgium, agencies are often given responsibilities to undertake MSP activities without receiving additional funds. In the past but also now, no budget is allocated for the follow-up of a MSP. There was also no general overview available of the estimated costs of a MSP. Partnerships such as the Coordination Centre on Integrated Coastal Zone Management (ICZM) and the coast guard are funded by the different partners representing the provincial, Flemish and federal governments.

A budget for research on MSP was available via The North Sea Research Program and the 'Science for a sustainable Development Program' of the Belgian Federal Science Policy Office (BELSPO) as well as via other European programs. There are still funding opportunities within the Seventh Framework Program for Research and Technolo-

gical Development or the INTERREG-programs, financed through the European Regional Development Fund (ERDF). Several INTERREG projects had MSP as topic of their project plan: COREPOINT, IMCORE, C-SCOPE,... Projects such as MESMA are funded by the Seventh Framework Program for Research and Technological Development, EU's main instrument for funding research in Europe (2007-2013). Other financing procedures are possible, for example, grants or donations, partnerships with NGOs, funds from the private sector, users fees...¹⁵ But none of them are at the moment used for setting up a MSP in Belgium.

SPATIAL PLANNING PROCESS ON LAND

The Flemish agency competent for spatial planning on land receives a working budget and personnel from general public finances. Also municipal or provincial spatial planning departments receive finance from the general budget. The government also finances the spatial planning process within the harbours.

A subsidy may be requested for strategic projects. Such a project must result in a spatial planning process exceeding the local level. Public parties who are contributing to the spatial quality of Flanders, can apply for these funding. They must have an importance at Flemish level, departing from existing visions and stimulating the cooperation of spatial bodies in an strategic area, such as a development area around a public transport node or an inner city revitalisation area.

Conclusions regarding obtaining financial support

- A sustainable financing strategy for MSP should be tailored to the specific financial, legal, administrative, social and political conditions. This is not yet developed for Belgium.
- Funding for monitoring and research on MSP is available by scientific funding sponsored by the federal and Flemish government. Also by EU funding, there are possibilities to receive funding.
- There is no specific budget allocated to MSP within the different governmental bodies in Belgium.

¹⁵ Ehler, Charles, and Fanny Douvere. *Marine Spatial Planning: a step-by-step approach toward ecosystem-based management. Intergovernmental Oceanographic Commission and Man and the Biosphere Program. IOC Manual and Guides No. 53, ICAM Dossier No. 6. Paris: UNESCO. 2009 [English].*

Step 3:

Organizing the process through pre-planning

The goal of this step

Spatial planning is likely to be most successful in achieving expected or desired outcomes/results when conducted on the basis of an 'objective-based approach'. An objective based approach is organized around a hierarchy of goals, objectives and indicators that evaluate the performance of management measures in achieving those goals and objectives. This implies that analysis conducted during the planning phases is related to the goals and objectives. Also the identification of management measures, and the strategy for implementing such measures, are all carried out to achieve the goals and objectives.

What outputs should be delivered

- Organization of a maritime spatial planning team with the desired skills
- A work plan that identifies key work products and resources required to complete the outputs of planning on time
- Defined boundaries & time frame for analysis and management
- A set of principles to guide development of the maritime spatial management plan
- A set of goals and objectives for the management area.

What are the tasks in this step

- Task 1: Creating the maritime spatial planning team
- Task 2: Developing a work plan
- Task 3: Defining boundaries and timeframe
- Task 4: Defining principles
- Task 5: Defining goals and objectives
- Task 6: Identifying risks and developing contingency plans

Overview

Tasks	1st MSP Cycle (2003-2006)	Spatial Structure Plan Flanders
Task 1: Creating a spatial planning team	?	✓
Task 2: Developing a work plan	✓	?
Task 3: Defining boundaries and timeframe	?	✓
Task 4: Defining principles	?	✓
Task 5: Defining goals and objectives	✓	✓
Task 6: Identifying risks and developing contingency plans	?	?

SPATIAL PLANNING PROCESS AT SEA

Task 1 Creating the Maritime Spatial Planning team

A key task is to organize a MSP (Maritime Spatial Planning) team. In Belgium there is no such team. Different skills and competences are available within the governmental agencies or ministries, the scientific community and non-governmental organizations or consultants.

Table 2: Overview of the competences needed in a spatial planning team

Competences needed in a spatial planning team	Present in Belgium
Program management: Strategic thinking about space and time	✓
Authority: Knowledge of spatial implications of legislation:	✓
Analysis: Analytical thinking about Space and Time	✓
Planning: Conceptualization Spatial Systems Thinking	✓
Implementation: Conflict Resolution	✓
Monitoring and Evaluation: Cause-and-Effect Thinking	✓
Communications: Strategic Communications	✓

All key tasks are covered by agencies or organisations present in the Belgian governmental structure. All the expertise is there but has to be brought together. A non-exhaustive list of institutes that has to be involved in a formal or informal way within a maritime spatial planning process:

- Federal Public Service (FPS) Marine Environment - FPS Economy
- Fisheries department
- Researchers in the context of scientific projects and PhDs.
- Scientific Institutes: the Management Unit of the North Sea Mathematical Model and the River Scheldt estuary (BMM-MUMM); Flanders Marine Institute (VLIZ), Ugent - the Maritime Institute,...
- Working groups on MSP as result of projects such as GAUFRE, C-SCOPE, MESMA...
- Individual initiatives - Planners collective
- Economically driven initiatives: Consultant companies or Consortium of dredging companies: 'Vlaamse Baaien 2100'
- Coastguard - Sea extraction funds

Task 2

Developing a work plan

Resources for Maritime Spatial Planning (MSP) - including time - are usually limited. Therefore it is essential to develop a work plan that specifies what parts of the process should be done by whom, in what timeframe, at what costs and how the various parts relate to each other. At present, in Belgium there is no MSP workplan developed, with clear tasks, timing,...developed by the governmental agency responsible for MSP.

Several existing plans, developed by different agencies can jointly create a work plan for MSP. For example: the Flemish government developed an integrated coastal strategy, which deals with the protection of the coast against flooding until 2050. This plan is also the result of a clear process with defined tasks, timings and responsibilities.

Task 3

Defining Maritime Spatial Planning Boundaries and Timeframe

From a management perspective, the boundaries are formed by the different policy aspects. Different studies define different boundaries depending on the theme being studied.

Task 4

Defining Principles

Maritime Spatial Planning (MSP) should be guided by a set of principles that determine the nature and characteristics of the MSP process and reflect the results wanted to achieve by MSP. During the first MSP process in Belgium, it was not clear if there was a set of principles defined. In 2010, the federal policy note Marine Environment clearly refers to the implementation of the European Marine strategy as a keystone for the further coordination and realisation of a Maritime Spatial Planning¹⁶.

There are other processes for which a set of principles have been developed that can be easily adapted to a current MSP process. At EU level, a 'Roadmap for Maritime Spatial Planning: Achieving common principles in the EU' was adopted by the Commission on 25 November 2008. It provides information on the current Maritime Spatial Planning practices in EU Member States and in third countries, sets out key principles¹⁷.

The 10 key-principles on MSP in the EU¹⁸:

- Overarching principle: ecosystem approach
- Using MSP according to area and type of activity
 - Defining objectives to guide MSP
 - Developing MSP in a transparent manner
 - Stakeholder participation
 - Coordination within Member States-simplifying decision processes
 - Ensuring the legal effect of national MSP
 - Cross-border cooperation and consultation
 - Incorporating monitoring and evaluation in the planning process
 - Achieving coherence between terrestrial and maritime spatial planning
 - Strong data and knowledge base

Within the GAUFRE project, the core values of the North Sea are determined for each use within the coastal and marine area. The three core values are 'the value of well-being or social value', 'ecological and landscape value', and 'economic value'. In addition to the three core values, the GAUFRE project identified three general principles which influence the management of the BPNS (Belgian Part of the North Sea). These include the precautionary principles, sustainable management and sustainability, and security.

The European Recommendation on Integrated Coastal Zone Management¹⁹ (COM/00/545 of 8 Sept. 2000) was adopted on 30 May 2002. The Recommendation contained

¹⁶ DOC 52 2225/024 - 25 november 2009 - Algemene Beleidsnota Marien Milieu

¹⁷ Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU, COM(2008) 791 final

¹⁸ Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU, COM(2008) 791 final

¹⁹ Recommendation of the European Parliament and of the Council of 30 May 2002 concerning the implementation of Integrated Coastal Zone Management in Europe (2002/413/EC)

eight principles to guide coastal management in Member States. Since the publication of the Recommendation in 2002, the principles have quickly become a standard against which progress in ICZM in Europe is measured²⁰. These principles are also relevant for MSP.

Task 5 **Defining Goals and Objectives**

Specifying Maritime Spatial Planning (MSP) goals and objectives are essential to help to focus and tailor the MSP effort towards achieving results. A goal is a statement of general direction or intent. An objective is a statement of desired outcomes or observable behavioural changes that represents the achievement of a goal.

In 2003, a federal minister responsible for the management of the Belgian Part of the North Sea (BPNS) was appointed. The core issues of his policy framework provided the base for a 'Master plan' that was implemented in two phases.²¹

The core issues were:

- Development of an offshore wind farm
- Delimitation of marine protected areas
- Policy plan for sustainable sand and gravel extraction
- Enhance financial resources for the prevention of oil pollution
- Mapping of marine habitats
- Protection of wrecks valuable for biodiversity
- Management of land-based activities that have an impact on the marine environment.

The federal policy note 'Transport' refers to the process of 2003, with the development of the first spatial plan, but also suggests expanding this first plan with the conservation and development of sustainable maritime transport within the Belgian EEZ (Exclusive Economic Zone).²²

The clear objectives for the realisation of such MSP, as stated in the federal policy note Marine Environment 2010, are the determination of the 'conservation objectives for species and habitats' and the delimitation of the marine protected areas in the Exclusive Economic Zone within the framework of Natura 2000.²³

Task 6 **Identifying risks and developing contingency plans.**

A pre-planning should include an assessment of the risks of what could go wrong during the planning process. Strategic Environmental Assessments (SEA) and Environmental Impact Assessments (EIA) identify risks from an environmental point of view and are imbedded in divers planning processes, such as the extraction of gravel, sand, the building of wind farms and the integrated master plan for Flanders future coastal safety. Other risks or contingency plans are absent.

SPATIAL PLANNING PROCESS ON LAND

Task 1 **creating the spatial planning team**

A team of specialists and experts is brought together in the Flemish Government to create the Spatial Structure Plan Flanders. Within the different local authorities, there are civil servants responsible for spatial planning.

Task 2 **Developing a work plan**

It is not clear if there was a work plan developed.

Task 3 **Defining Maritime Spatial Planning Boundaries and Timeframe**

The planhorizon for the first Spatial Structure Plan for Flanders (SSPF) was 2007. The plan is evaluated every five years and is now due a second review. This second review ensures the updating and partial review of the Spatial Structure Plan for Flanders for the period to 2012. The Spatial Structure Plan for Flanders has demarcation at regional level.

Task 4 **Defining Principles**

The Spatial Structure Plan for Flanders has been an important foundation of spatial policy since 1997. It is not so much a plan as a vision. A vision that indicates how the space in Flanders is best managed. Four spatial principles

²⁰ Communication from the Commission - Report to the European Parliament and the Council: an evaluation of Integrated Coastal Zone Management (ICZM) in Europe /* COM/2007/0308 final */

²¹ Bossu, P.; Plasman, C. (2004). Een doorbraak in het Belgische Noordzeebeleid?. Argus Milieumagazine 2(1): 4-8

²² DOC 52 2225/023 - 25 november 2009 - Algemene Beleidsnota Mobiliteit

²³ DOC 52 2225/024 - 25 November 2009 - Algemene Beleidsnota Marien Milieu

are defined within the context of the SSPF. These four spatial principles concretise the vision of the spatial development of Flanders²⁴.

- Devolvement
- 'Gates' (harbours and international airports and train stations) as engines for development
- Infrastructures as a bond and base for the location of activities
- Physical system as the base for spatial structuring.

These four spatial principles must always be considered in coherence.

Task 5

Defining Goals and Objectives

The vision of the spatial development of Flanders leads to four basic objectives. These are:

1. the selective development of urban areas, the targeted interweaving and integration of functions and provisions, including the economic activities in the urban areas; the absolute priority here is the best possible use and management of the existing urban structure;
2. the conservation and, where possible, the enhancement of the rural zone and the combination of housing and work in the nuclei of the rural zone;
3. the concentration of economic activities in the places forming part of the existing economic structure of Flanders;
4. the optimisation of the existing traffic and transport infrastructure, whereby the spatial conditions are created for the improvement of collective transport and the organisation of traffic-generating activities at points opened up by public transport.

These four basic objectives refer to the spatial aspects of social functioning. They entail a powerful reference to the ecological, the economic and the social-cultural aspects of social functioning.²⁵

Task 6

Identifying risks and developing contingency plans.

The Spatial Structure Plan Flanders (SSPF) was not subject to a Strategic Environmental Assessments (SEA) or an Environmental Impact Assessment (EIA). However, an Environmental Impact Assessment can be carried out for spatial implementation plans.

Conclusions regarding organizing the process through pre-planning

- There is no Maritime Planning team in place in Belgium for an update or the organisation of a second MSP cycle (dd13/01/2011)
- Within the first Maritime Spatial Planning (MSP) cycle there was no clear work plan available that outlines the goals, principles and boundaries for Belgium. The goals and objectives should be related with the particular problems and conflicts that are present in the area.
- For planning on land there is a clear vision with a number of principles and policy guidelines
- An assessment of the risk is conducted in several sectoral planning processes but not from an integrated perspective.

²⁴ Ruimtelijk Structuurplan Vlaanderen - http://www.rsv.vlaanderen.be/export/sites/rsv/uploads/documenten/overRSV/rsv_w.pdf

²⁵ Ruimtelijk Structuurplan Vlaanderen - http://www.rsv.vlaanderen.be/export/sites/rsv/uploads/documenten/overRSV/rsv_w.pdf

Step 4:

Organizing stakeholder participation

The goal of this step

The most important reason to organize stakeholder engagement is because a Maritime Spatial Plan (MSP) aims to achieve multiple objectives and should therefore reflect the expectations, opportunities or conflicts arising in the MSP area. Which stakeholders should be involved, when they should be involved and what form this involvement should take will ultimately be closely linked to and influenced by two questions:

- Who decides what during the planning and implementing steps of the MSP process?
- Who is responsible for MSP planning and development?

What outputs should be delivered

- A plan indicating when and how to involve which stakeholders throughout the maritime spatial planning process.

What are the tasks in this step

- Task 1: Defining who should be involved in MSP
- Task 2: Defining when to involve stakeholders
- Task 3: Defining how to involve stakeholders

Overview

Project	Task 1: Who is involved?	Task 2: When involved?	Task 3: How to involve?
Designation of Marine Protected Areas (MPAs)	√	√	√
Provincial Spatial Implementation Plans for Beaches and Dykes	√	√	√
Integrated Master Plan for Flanders Future Coastal Safety	√	√	√
User Agreements for MPAs	√	√	√
Spatial Structure Plan Flanders (SSPF)	√	√	√
Strategic Planning Process harbours	√	√	√

SPATIAL PLANNING PROCESS AT SEA

There are several examples of stakeholder participation that occurred during the first MSP process²⁶. These include the designation of Marine Protected Areas (MPAs) in the Belgian part of the North Sea and the Provincial Spatial Implementation Plans for Beaches and Dykes (Provinciale Ruimtelijke Uitvoeringsplannen - PRUP).

Designation of Marine Protected Areas (Federal public Service (FPS) Marine Environment)²⁷

- What: Based on scientific insights and international legal obligations, the nature conservation movement and the federal government felt the need to designate Marine Protected Areas (MPAs) in Belgium.
- Who is involved: The authorities (minister of the North Sea, federal administration, Local authorities (civil servants), the academic world, Nature conservation movements, North Sea users (water sports, fishermen, ship owners,...) and local politicians.
- When are they involved: During the consultation process
- How are they involved: Through bilateral consultation

Provincial Spatial Implementation Plans for Beaches and Dykes (The province of West-Flanders)²⁸

- What: to create legal certainty and a comprehensive policy framework for beaches and dykes along the whole Belgian coast.
- Who is involved: Civil servants of the province, local politicians, civil society, Authority for tourism (WESTTOER), the Flemish Agency for Spatial Planning and Heritage Properties,
- When are they involved: During the informal preparatory study stage and the official consultations.
- How are they involved: Through informal preliminary consultations, official consultation through plenary meetings

²⁶ Bogaert, D.; Cliquet, A.; Maes, F. (Ed.) (2008). *Kustzonebeleid: samen in zee? Beleidsprocessen voor Belgische mariene beschermde gebieden en het Provinciaal Ruimtelijk Uitvoeringsplan Strand en Dijk*. pp. 9-10

²⁷ Bogaert, D.; Cliquet, A.; Maes, F. (2009). *Designation of marine protected areas in Belgium: a legal and ecological success? Mar. Policy 33(6): 878-886*

²⁸ Bogaert, D.; Cliquet, A.; Maes, F.(Ed.) (2008). *Kustzonebeleid: samen in zee? Beleidsprocessen voor Belgische mariene beschermde gebieden en het Provinciaal Ruimtelijk Uitvoeringsplan Strand en Dijk*. pp. 9-10

Integrated master plan for future coastal safety (Flemish Agency for Coastal Services)

- What: The integrated master plan for Flanders future coastal safety developed by Flemish Agency for Coastal Services will form a baseline for further coastal developments concerning coastal safety.
- Who is involved: The Flemish Agency for Coastal Services, civil servants of the province and the Flemish government, local politicians, the general public...
- When are they involved: During the informal preparatory study stage and the official consultations.
- How are they involved: Flemish Agency for Coastal Services has developed a communication strategy, including public consultation, exhibitions and information sessions for a broad public. Participation was an integral part of the strategy developed by the Steering committee.

User agreements for MPAs (FPS Marine Environment)

- What: Within the framework of the designation of MPA's, user agreements have to be developed.
- Who is involved: The Federal government, North sea users (water sports, fisherman,...), the Flemish Agency for Coastal Services.
- When are they involved: During consultation meeting to develop the agreements.
- How are they involved: By consultation meetings

The first steps towards the establishment of a socio-economical advisory body have been made. In this advisory body it will be possible to request for structural advice on the North Sea to divers social and economical stakeholders. In 2010, the Maritime Institute (Ghent University) implemented a study on this topic following a request of Federal Public Service Marine Environment²⁹. There already is an environment advisory body in place in Flanders²⁹.

SPATIAL PLANNING PROCESS ON LAND

Spatial Structure Plan Flanders

- What: The Spatial Structure Plan Flanders represents the policy framework for future spatial developments.
- Who is involved: Flemish Government and Strategic Advisory Committees
- When are they involved: The consultations form a part of the approval process.
- How are they involved: prior to consultation, advice formation, public enquiry

Conclusions regarding organizing stakeholder participation:

- There is no framework for participation in Belgium regarding MSP. The sectors were involved ad hoc and there is no continuity in participation or feedback to the stakeholders.
- Depending on the target group, different forms of participation are used, although the right instruments are not always used for the right groups, which can lead to miscommunication³⁰.

²⁹ <http://www.minaraad.be/>

³⁰ Bogaert, D.; Cliquet, A.; Maes, F. (2009). *Designation of marine protected areas in Belgium: a legal and ecological success? Mar. Policy* 33(6): 878-886

Step 5:

Defining and analyzing existing conditions

The goal of this step

The goal of this step is to get a good overview of the existing conditions, by means of an inventory. Its purpose is to bring together a wide range of baseline information. An inventory should also take into account any trends and developments in order to be able to assess spatial pressures at a later stage of the planning process.

At least three general categories of spatial information are relevant (1) biological and ecological distributions including areas of known importance for a particular species or biological community, (2) spatial information about human activities; and (3) oceanographic and other physical environmental features (bathymetry, currents, sediments). The mapping of jurisdictional and administrative boundaries will also be relevant when institution arrangements are considered. When conducting a review of available data, it is important to look for spatial information that covers most of the marine area.

In this step the projects that cover the whole BPNS and that have a direct link with spatial data regarding ecological, environmental, oceanographic or human activities are considered.

What outputs should be delivered

- An inventory and maps of important biological and ecological areas in the marine management area
- An inventory and maps of current human activities (and pressures) in the marine management area
- An assessment of possible conflicts and compatibilities among existing human uses
- An assessment of possible conflicts and compatibilities between existing human uses and the environment

What are the tasks in this step

Task 1: Collecting and mapping information about the ecological, environmental and oceanographic conditions

Task 2: Collecting and mapping information about human activities

Task 3: Identifying current conflicts and compatibilities

Overview

This is a list of common referred projects within the context of maritime spatial planning. The projects in the list are mostly integrated projects or monitoring projects. The list is non-exhaustive.

Project	Land/Sea	T1: Ecological, environmental and oceanographic conditions	T2: Human activities	T3: Conflicts and compatibilities
GAUFRE (2003-2005)	Sea	√	√	√
BWZee (2004-2006)	Sea	√		
MAREBASS (2002-2006)	Sea	√		
MARE-DASM (1998-2002)	Sea		√	
BALANS (2002-2006)	Sea		√	√
BEWREMABI (2003-2006)	Sea			√
COASTAL ATLAS	Land/Sea		√	
MESMA	Sea	√	√	√
Spatial Structure Plan Flanders	Land	√	√	√

Monitoring projects	Land/Sea	T1: Ecological, environmental and oceanographic conditions	T2: Human activities	T3: Conflicts and compatibilities
TROPHOS (2002-2006)	Sea	√		
MACROBEL (2001-2003)	Sea	√		
WESTBANKS (2006-2011)	Sea	√		
Flemish Banks Monitoring Network	Sea	√		
Water Framework Directive MONITORING	Sea	√		
VESSEL MONITORING SYSTEMS	Sea		√	

GAUFRE – project (2003-2005)³¹

The analysis section of the GAUFRE project, is focussed on the data of the Belgian Part of the North Sea (BPNS) suitable for the spatial planning project. This section is divided into three specific domains. First, the environment is described by providing a simple analysis of how homogeneous zones link and integrate with a whole array of environmental factors. The focus is on legal, geophysical and ecological zoning. Secondly, the infrastructure within the BPNS is studied and described. The actual uses –both historic current and future- are described in detail in a third domain. The data collected was entered into a GIS system to create a database of layered marine environmental information. The resulting images of spatial delimitation and intensity form the base of the studies carried out in the second and third section of the project.

A biological valuation map for the Belgian part of the North Sea project (2004-2006)³²

The BWZee project aimed to develop a scientifically acceptable and widely applicable valuation strategy for marine areas and to apply this strategy to the Belgian Continental Shelf (BCS). The end-product was an integrated, full-coverage biological valuation map representing the biological and ecological value of all subareas within the Belgian BCS. The marine biological valuation map of the BPNS integrates the valuation of different ecosystem components such as the seabirds, macro- en epibenthos and demersal fish. Other ecosystem components (phytoplankton, sea

mammals, zooplankton, meiobenthos...) are not included in the assessment because the data availability for these ecosystem components was not very high at the time of the project.

MAREBASS (2002-2006)³³

The MAREBASS project aimed at the developing of a framework for the assessment and management of marine sediments. This required a significant increase in the knowledge regarding the spatial variability of the seafloor, both on a broad, regional and on a site-specific scale. The main outcome, useful for future Maritime Spatial Planning, were a series of thematic maps covering the entire Belgian part of the North Sea. These maps were made using GIS tools, sometimes in combination with more powerful geo-statistical software packages.

The mapping of the seabed sediments has resulted in a highly detailed distribution map of the median grain-size of the sand fraction in the Belgian part of the North Sea. This deliverable product was very important because of the increasing demand for knowledge on the nature and distribution of marine aggregates, the need to evaluate the impact of anthropogenic activities on the physical seabed and its potential to link up different ecosystem components that are substrate-bound. In addition to the median grain size map, a map with the sampling density was produced to provide insight into the map's reliability.

³¹ Maes, F.; De Batist, M. et al. (Ed.) (2005). *Towards a Spatial Structure Plan for Sustainable Management of the Sea: Mixed actions - Final report: SPSD II (MA/02/006)*. Belgian Science Policy: Brussels, Belgium. XIII, 384 + maps (2 volumes) pp

³² Derous, S.; Vincx, M. et al. (2007). *A biological valuation map for the Belgian part of the North Sea (BWZEE)*. Belgian Science Policy: Brussels, Belgium. 161 pp.,

³³ Van Lancker, V.R.M.; Du Four, I. et al. (2007). *Management, Research and Budgeting of Aggregates in ShelfSeas related to End-users (Marebasse)*. Belgian Science Policy: Brussel, Belgium. 139 pp.,

Vessel monitoring systems

Data gathered from vessel monitoring systems are saved and processed by 'shipping assistance' and can be of use for a view of the traffic on the BPNS.

MARE-DASM (1998-2002)³⁴

Marine Resource Damage Assessment and sustainable management of the North Sea was one of the first interdisciplinary projects in Belgium in which natural and social scientists cooperated on a North Sea topic. The experience gained in MARE-DASM proved to be highly valuable for the management of GAUFRE.

BALANS (2002-2006)³⁵

The main goal of BALANS is to gain experience in correlating and balancing relevant social, economic and ecological data, through the elaboration of indicators and weighing these indicators for shrimp fisheries and sand and gravel extraction. Its developed model can serve as an example for sustainable management of the North Sea.

COASTAL ATLAS³⁶

The Coastal Atlas gives an overview of the different aspects of the coast. The atlas contains a limited set of aggregated data, but by linking the atlas to the databases of the sustainability indicators for the coast, a rich dataset was added. All the data used in the atlas is 'open source', mostly provided by public authorities and their administrations. The final product will be a policy supporting tool that will back the ICZM process for a wide range of coastal actors, planners and managers.

BEWREMABI (2003-2006)³⁷

Studies on the biodiversity on shipwrecks, showed that shipwrecks have an increased habitat complexity and host more species than the soft substrates in the nearby area. They are important too as model for artificial hard substrates and can be classified as marine protected areas.

MESMA (2009-2013)³⁸

The EU FP7 project MESMA focuses on marine spatial planning and aims to produce integrated management tools

(concepts, models and guidelines) for Monitoring, Evaluation and implementation of Spatially Managed marine Areas, based on European collaboration. MESMA is expected to supply innovative methods and integrated strategies for governments, local authorities, stakeholders, and other managerial bodies for planning and decision making at different local, national, and European scales, for sustainable development of European seas.

Monitoring projects

*TROPHOS*³⁹ (2002-2006): TROPHOS was designed as a fundamental research project to understand the causal relationship between patterns and functioning of the higher trophic levels in the BCS (Belgian Continental Shelf), with special attention to food web interactions, dispersion mechanisms and distribution patterns of benthic communities. The output, a large database capturing highly valuable data on the benthos, birds and fishes of the BCS, is very valuable for a MSP-process as it gives vital information on the marine environment.

*MACROBEL*⁴⁰ (2001-2003): The monitoring of long-term biodiversity trends for the macrobenthos has resulted in an atlas on the medium-term evolution of the occurrence of selected macrobenthic species on the BCS⁴¹. This atlas gives an overview of the distribution and biological characteristics of the 53 dominant macro benthic species actually encountered on the BCS.

*Flemish Banks Monitoring Network*⁴²: The Flemish Banks Monitoring Network consists of a nautical Monitoring Network made up of measuring pillars and wave data buoys, weather forecasting centres on the shore and a computer network in Ostend. The data collected gives baseline information on the oceanographic states of the BPNS.

*Monitoring within the water directive framework*⁴³: The EU Water Framework Directive (WFD 2000/60/EU) has as its main purpose the protection and improvement of the surface and groundwater, but is also applied to the coastal waters (out to 1 nautical mile) for environment status (biological, chemical) and the territorial waters (12 nautical miles) for chemical conditions.

³⁴ Maes, F. [Ed.] (2003). *Assessment of marine degradation in the North Sea and proposals for sustainable management: final report November 2002* (Ministerial Order BA3673, Contract nr. MN/02/71). Scientific Support Plan for a Sustainable Development Policy (SPSD I): Program "Sustainable Management of the North Sea". SSTC/DWTC: Brussel, Belgium. 3 vol. + summary + annexes pp.

³⁵ Maes, F.; Polet, H. et al. (2007). *Balancing impacts of human activities in the Belgian part of the North Sea (BALANS)*. Belgian Science Policy: Brussel, Belgium. 200 + annexes, cd-rom pp.

³⁶ Maelfait, H.; Belpaeme, K. (2010). *The Belgian Coastal Atlas: moving from the classic static atlas to an interactive data-driven atlas*. *J. Coast. Conserv.* 14(1): 13-19

³⁷ Mallefet, J.; Zintzen, V. et al. (2008). *Belgian shipwreck: hotspots for marine biodiversity BEWREMABI: final report*. Belgian Science Policy: Brussels, Belgium. 151 pp:

³⁸ <http://www.mesma.org/> consulted on 05/10/2011

³⁹ Anon. (2004). *Hogere trofische niveaus in de Zuidelijke Noordzee "TROPHOS": wetenschappelijk verslag voor de periode van 01/02/2003-31/01/2004*. Brussel, Belgium. 23 pp

⁴⁰ Wittoeck J., Degraer S., et al. (2005) *Long term trends of the macrobenthos of the Belgian Continental Shelf (MACROBEL): final report*. Belgian Federal Science Policy Office, 66p.

⁴¹ Degraer S., Wittoeck J., et al. (2006). *De macrobenthos atlas van het Belgisch deel van de Noordzee*. Federaal Wetenschapsbeleid D/2005/1191/5, 164 pp. ISBN 90-810081-5-3

⁴² <http://www.meetnetvlaamsebanken.be/> consulted on 02/08/2010

⁴³ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0060:EN:NOT>

WESTBANKS⁴⁴ (2006-2011): The project wants to understand benthic, pelagic and airborne ecosystem interactions in shallow coastal seas. The project focussed on structuring processes and interactions on the species and population level situated at the sediment, water and air interface of the marine ecosystem.

SPATIAL PLANNING PROCESS ON LAND

Spatial Structure Plan for Flanders

The Spatial Structure Plan for Flanders contains an analysis of the existing spatial structure of Flanders, the trends, the spatial problems and the potentials, and this again for the four structure-determining components: the urban space, the open space, the space for economic development and the linear infrastructure. In the trends the actual (spatial) developments of the previous years are analysed, and it is shown how these today help shape the existing spatial structure in Flanders.

Conclusions regarding defining and analyzing existing conditions

- There is a lot of information available on the important biological and ecological areas and the current human activities, collected within the framework of scientific projects and programs. It is difficult to keep the data obtained from the research projects up to date.
- A assessment of the possible conflicts and compatibilities among existing human uses, and between existing human uses and the environment has been worked out by the GAUFRE project.
- There are significant investments in scientific research. However, it is important to strive as much as possible to a better integration of all these informations and investigation results in policy. In that way, development, management and protection of the North Sea will profit.

⁴⁴ Westbanks - <http://www.vliz.be/imis/imis.php?module=project&proid=2051>

Step 6:

Defining and analyzing future conditions

The goal of this step

In this phase of the planning process is the aim to answer the question: 'Where do we want to be?' A spatial sea use scenario is a good basis to start with. It provides a vision that projects the future use of marine space, based on a set of goals, objectives and assumptions about the future.

What outputs should be delivered

- A trend scenario, illustrating how the Maritime Spatial Planning (MSP) area will look if present conditions continue without new management interventions
- Alternative spatial sea use scenarios illustrating how the management area might look when human activities are re-allocated based on new goals and objectives
- A preferred scenario that provides the basis for identifying and selecting management measures in the spatial management plan (Step 7)

What are the tasks in this step

Task 1: Visualizing current trends in the spatial and temporal needs of existing human activities

Task 2: Estimating spatial and temporal requirements for ocean space demands

Task 3: Identifying possible alternative future scenarios for the planning area

Task 4: Selecting the preferred spatial sea use scenario

SPATIAL PLANNING PROCESS AT SEA

In Belgium, different projects and processes defined and analysed future conditions. In this chapter several of those projects are discussed, but this is a non-exhaustive list.

GAUFRE⁴⁵

In the project, there was a visualisation projection for each of the human uses, so that spatial and temporal implications were visualized to the maximum extent possible. These maps clearly indicated where, when and how the visualized human uses or non-uses occurred. The maps also showed spatial and temporal requirements for new demands for ocean space.

Six scenarios have been developed for the future of the BPNS (Belgian Part of the North Sea), based upon the previous mentioned core values. Three of the scenarios focus strongly on one of the core values. The other three scenarios are based on crossovers between two of the core values. These extreme scenarios provide an opportunity to consider the bigger and less obvious picture. They reveal new possibilities and are designed to encourage the development of a policy that not only reflects present trends, but also anticipates future changes within the North Sea environment. A spatial structure plan for the BPNS should, in fact, aim at a balance of the core values.

⁴⁵ GAUFRE: Maes, F.; De Batist, M. et al. (Ed.) (2005). *Towards a Spatial Structure Plan for Sustainable Management of the Sea: Mixed actions - Final report: SPSD II (MA/02/006)*. Belgian Science Policy: Brussels, Belgium. XIII, 384 + maps (2 volumes) pp

Overview

	T1: Projecting Current Trends	T2: Estimating new demands	T3: Alternative futures	T4: Selecting Scenario
1st MSP cycle				
GAUFRE	✓	✓	✓	
VLAAMSE BAAIEN	✓	✓	✓	
MAGNIFICANT SURROUNDINGS #*			✓	
M.U.D.			✓	
Spatial Structure Plan Flanders	✓	✓	✓	✓

* ongoing

The six scenarios have been translated into separate structure maps to visualise their management options. Structure maps are generally used in spatial planning on land. The six structure maps of GAUFRE can be used as a basis for the development of a spatial plan for the BPNS and neighbouring zones. Those structure plans facilitate discussion of spatial planning at sea, including the discussion to designate certain areas to certain activities or the exclusion of activities in certain areas.

There was no single vision formulated on the different scenarios. Such a vision would form the base for the future management of the BPNS. The GAUFRE team sees this step as a task for the government.

VLAAMSE BAAIEN 2100⁴⁶

A consortium of Flemish dredging companies and consultancies worked on a vision for a sustainable future for the coast. They presented a long term vision, based on estimations and put forward future projects/scenarios. Ten projects are presented that can be developed in the short and long term. Vlaamse Baaien isn't a blueprint but only lists ideas of how the coast could look and which only could be developed in close consultation with all the stakeholders and people involved.

Spatial Manifest M.U.D.⁴⁷

In 2004, the Flemish Architecture Institute (VAi) gave the assignment to FLCextended to carry out design-oriented research around the Belgian coast. This was the spatial manifest 'M.U.D.'. With the spatial manifest 'M.U.D.', FLCextended has developed a framework to open the debate as regards content for planning on sea/at land and initiate the creation of vision for the North Sea and the coast. By design-oriented research a future scenario was obtained for the coastline between Calais and Antwerp, partly on the Belgian part of the North Sea and partly in the coastal area and its polders. M.U.D. comprises ideas on possible planning at sea, but particularly focuses on the interaction between sea and land as a future conflict zone ('flood'), as an area with an enormous spatial potential.

The research project Magnificent Surroundings # North Sea and coastline⁴⁸

The design-oriented research process 'Magnificent Surroundings # North Sea and coastline' studies the particulars of simultaneous and holistic plans on land and at sea. The project builds on the earlier project M.U.D. The aim is to develop a vision of the future for the Belgian Part of the

North Sea and its coastline, and to check this vision, using various designs (combined in a design atlas) and various promenades according to the art of the promenadology of L. Burckhardt. In the research it is suggested that the sea and coastline are a form of magnificent surroundings, urgently requiring spatial design to anticipate and consider the changes in the long term who are the result of climate change, increasing coastal migration and the energy issue.

SPATIAL PLANNING PROCESS ON LAND

Spatial Structure Plan for Flanders

The Spatial Structure Plan for Flanders contains a set of forecasts. In the forecasts, developments of existing evolutions in the future are projected.

First it is looked at the demographic developments, and the developments for the sectors housing, employment, traffic and transport, tourism and recreation, agriculture and other sectors. Then for all sectoral developments, the spatial consequences are shown in figures so the future demand for space is made clear⁴⁹

The Spatial Structure Plan for Flanders also discusses the desired spatial structure. Based on the spatial options for each component, development perspectives are drawn up in a coherent way for the land and space use for sectoral developments (home building, economic activities, tourism and recreational infrastructure, retailers, agricultural function, etc.).

Conclusions regarding defining and analyzing future conditions

- The GAUFRE project had already completed the various preparatory steps (projecting current trends, estimating new demands and developing alternative scenarios), and has limited itself in the last steps, because it is clearly a task of the authorities to take the lead in selecting the scenarios.
- Trends are analysed until a certain level in the GAUFRE project, but further analysis for all sectors is vital.
- New demands are not mapped for the Belgian Part of the North Sea (BPNS).
- Within the first Maritime Spatial Planning cycle, there was no scenario building.

⁴⁶ Vlaamse Baaien 2100 – THV Noordzee en Kust (2009) - <http://www.imdc.be/html/ned/18050/html/home.html>

⁴⁷ Goossens, C. (2007), "M.U.D.", in: *Achtergrond 03 -Architect/Ontwerper/Onderzoeker? Casus Mare Meum: een oefening op de zee*, uitgave Vlaams architectuur Instituut, Antwerpen p 37-51, zie ook <http://www.flcextended.be/MAREMEUM/MAREMEUM.html>

⁴⁸ Geldof, C. (2009), "Ruimtelijke planning op zee ??? Met de zee mee? over het hoe en waarom", in *Tussen droom en werkelijkheid, gebundelde papers en ontwerpogaven*, Bouma, G., Filius, F., Leinfelder, H., Waterhout, B. (red), uitgave Plandag 2009 (PDD, BNSP en VRP), p483-496, <http://www.plandag.org/content.php?page=home>

⁴⁹ Ruimtelijk Structuurplan Vlaanderen - http://www.rsv.vlaanderen.be/export/sites/rsv/uploads/documenten/overRSV/rsv_w.pdf

Step 7:

Preparing and approving the spatial management plan

The goal of this step

This final planning phase answers the question: How do we get there? A maritime spatial management plan should be developed to identify specific management measures that will shape the desired future through explicit decisions on the location and timing of human activities.

The maritime spatial management plan should be a statement of policy from the responsible management authority or authorities, in partnership with other key agencies and authorities that are responsible for single sectors. It should present an integrated vision on the spatial aspects of their sectoral policies in the areas of economic development, maritime transport, environmental protection, energy, fisheries, and tourism. The maritime spatial management plan should be closely integrated within public investment programs, should highlight the spatial dimension of integrated management, and should show where maritime policies fit together and where they do not.

What outputs should be delivered

- An identification and evaluation of alternative management measures for the spatial management plan
- Identification of criteria for selecting alternative management measures
- A comprehensive management plan, including a zoning plan if needed.

What are the tasks in this step

- Task 1: Identifying alternative spatial and temporal management measures
- Task 2: Specifying criteria for selecting maritime spatial management measures
- Task 3: Developing a zoning plan
- Task 4: Evaluating a spatial management plan
- Task 5: Approving a spatial management plan

Overview

Project	T1: Identifying spatial and temporal measures and institutional arrangements	T2: Specifying criteria for selecting management measures	T3: Developing the zoning plan	T4: Evaluating the spatial management plan	T5: Approving the spatial management plan
GAUFRE	√	√			
1st MSP cycle	√	?	√	?	?
Spatial Structure Plan Flanders	√	√	√	?	√

SPATIAL PLANNING PROCESS AT SEA

Task 1: Identifying alternative spatial and temporal management measures

The first task of Step 7 is to identify alternative spatial and temporal management measures. The GAUFRE project (described in Step 5) gives detailed information on the different infrastructures in the Belgian Part of the North Sea (BPNS). Furthermore, it also gives an overview of the users of the BPNS paying attention to the legislative framework and the existing situation. The work forms an important basis, but there is a need to update the GAUFRE inventory.

Task 2: Specifying criteria for selecting maritime spatial management measures

The GAUFRE project describes the relationships between uses and infrastructures in terms of legislation, their existing situation in terms of spatial delimitation and intensity, and their interaction with inter alia the environment. For each user of infrastructure on the BPNS the suitability, the impact on other users, the impact on environment and the impact on socio-economic issues was discussed using scientific data.

It is not clear which criteria were used for the selection of activity related areas or maritime spatial management measures that were implemented in the first Maritime Spatial Planning (MSP) cycle.

Task 3: Developing the zoning plan

The current zoning plan consists of a collection of the sectoral uses and areas. In 2006, a map of the Belgian part of the North Sea was produced by the Federal Public Service (FPS) Economy and indicated the main areas of the master plan. Together with the new legislation, which gives more input on permits, licences, and user rules, this forms the current zoning plan.

Task 4: Evaluating the spatial management plan

There is no tool or evaluation system in place that can be used to evaluate MSP.

Task 5: Approving the spatial management plan

For the implementation of the first step in the Belgian MSP in 2003, there was clearly chosen to establish authority for MSP departing from existing legislation, either by re-interpreting it or by slightly modifying it to provide a basis for MSP. At present, no such procedures are in place.

SPATIAL PLANNING PROCESS ON LAND

In the Spatial Structure Plan for Flanders, after the selection of the desired spatial structure, for each structure-determining component objectives, development perspectives and instruments were drawn up. In addition, the Spatial Structure Plan for Flanders contains a set of measures and instruments to support the desired spatial structure. The compulsory provisions that form a separate part of the plan, form the link between the developed desired spatial structure and its realisation. The plan was subjected to an extensive public enquiry and was approved in the Flemish Government on 19 November 1997.⁵⁰

Conclusions regarding preparing and approving the spatial management plan

- An update of the spatial and temporal management measures is needed.
- There is a need for comprehensive criteria to designate areas and make choices
- There is a zoning plan available, but this plan is no more than a collection of zones for different sectors.
- There are no evaluation tools for MSP available

⁵⁰ http://rsv.vlaanderen.be/export/sites/rsv/uploads/documenten/overRSV/Krijtlijnen_folder_rsv_w.pdf

Step 8:

Implementing and enforcing the spatial management plan

The goal of this step

This step is the start of the next phase - the implementation phase. Implementation is the process of converting Maritime Spatial Planning (MSP) plans into actual operating programs. It is the action phase. As part of the implementation process, designated governmental institutions or newly created bodies will initiate the new management actions set out in the approved management plan.

What outputs should be delivered

Clear identification of actions required to implement, ensure compliance with, and enforce the spatial management plan.

What are the tasks in this step

Task 1: Implementing the spatial management plan
Task 2: Ensuring compliance with the spatial management plan
Task 3: Enforcing the spatial management plan

the protection of the marine environment subject to Belgian Jurisdiction (Marine Protection Act of 20 January 1999). The Marine Protection Act (1999) introduced a licence requirement and an environmental impact assessment for activities in the maritime areas subject to Belgian jurisdiction:

- Civil engineering works
- The digging of trenches and raising of the seabed
- The use of explosives and high power acoustic devices
- The abandonment and destruction of wrecks and sunken cargoes
- Industrial activities
- The activities of advertising and trading companies.

The following activities are not subject to licensing or authorization subject to this law:

- Commercial fishing
- Scientific marine research
- Shipping, (exception of the activities referred to in article 25, section 1).
- The activities referred to in the Continental Shelf Act of 13 June 1969
- Individual non-profit activities
- Activities necessary for exercising the authority of the Flemish Region

Concessions granted under the Continental Shelf Act of 13 June 1969, such as those for sand and gravel extraction, are excluded from the prior licensing or authorization system and the environmental impact assessment procedure of the Marine Protection Act (1999).

These concessions are regulated by a Royal Decree of 1 September 2004 that introduces conditions, a new geographical delimitation, and the procedure for granting concessions for the exploration and exploitation of mineral resources and other non-living resources in the territorial sea and on the continental shelf. Another Royal Decree of 1 September 2004 introduced the environmental impact assessment rules for the exploration and exploitation of non-living resources in the territorial sea and on the continental shelf under the Continental Shelf Act (1969)⁵¹.

SPATIAL PLANNING PROCESS AT SEA

The implementation of the first phase was carried out through the existing authorities and institutes. There was clearly chosen to establish authority for MSP departing from existing legislation, either by re-interpreting it or by slightly modifying it to provide a basis for MSP.

During the period leading to the ratification and parliamentary approval of the United Nations Convention on the Law of the Sea (UNCLOS) III in 1998, two important implementing decrees were prepared and finally adopted in 1999: the Act concerning the Belgian Exclusive Economic Zone (EEZ) in the North Sea (EEZ Act of 22 April 1999) and the Act on

⁵¹ Douvere, F.; Maes, F. (2007). *The role of marine spatial planning in sea use management: The Belgian case*, in: *Marine Policy*, 31: pp. 182-191

In addition to the environmental permit procedure, there is a procedure for granting a domain concession (Royal Decree 20 December 2000, published in the Belgian Official Journal 30 December 2000, changed by the Royal Decree of 28 September 2008, Belgian Official Journal of October 30th, 2008) for the proposed project area. Requests are submitted to the CREG (Commission for the Regulation of the Electricity and the Gas), which advises the Minister for Energy⁵².

There is also a permit procedure for the installation of the cables (Royal Decree 12 March 2002, published in the Belgian Official Journal 9 May 2002). Requests are submitted to the Federal Policy Service for Economic Affairs, who advises the Minister for Energy⁵³.

At international and European level, maritime activities are regulated through a range of sectoral laws, plans and licences/permits. An examination of the constraints imposed on MSP by international and European Community (EC) law relating to a range of specific activities, is conducted by the European Commission⁵⁴.

In Belgium, during the first MSP cycle, existing single-sector management institutions carried out most implementation activities. These institutions (as mentioned in Step 1) can use the zoning plan and legislation as guides for granting permissions as well as for the other actions for which they are responsible. The general requirements in the legislation, such as the permits and licences, are ensuring that there is compliance and that the MSP can be enforced.

Accordingly, for example, each dredging vessel operating in Belgium, must have a register supplied by the Continental Shelf department of the Federal Policy Service (FPS) Economy in which relevant information about each reclamation must be noted. In addition, a black box carrying out measurements must be present on board. There is also the program for air observation above the North Sea that supervises, assistants, controls and observes various users of the Belgian Part of the North Sea.

SPATIAL PLANNING PROCESS ON LAND

A spatial implementation plan is a plan with which the authorities identify land use in a certain area. For all parcels in a certain area it is stated out very clearly what is and is not allowed. Various types of spatial implementation plans

exist in order to implement visions relating to spatial planning on land. Spatial implementation plans (Ruimtelijke Uitvoeringsplannen) are always based on the vision of a spatial structure plan. A regional spatial implementation plan carries out the Spatial Structure Plan for Flanders.

Spatial implementation plans contain town and country planning conditions relating to the use, the organisation and the management of a piece of land. Once the spatial implementation plans are approved, town and country planning licences can be issued. Building inspections ensure that the development is built in conformity with the licence. Compiling a spatial implementation plan is incorporated in a whole procedure, with a public consultation. The environmental impact of each spatial implementation plan can be part of the procedure. When the impact is expected to be significant, the spatial implementation plans must be accompanied by an environmental impact assessment. This assessment process has its own procedures with a separate public consultation.

There are many instruments and tools to implement the Spatial Structure Plan for Flanders, including:

- Strategic urban projects (e.g. major station areas, ...)
- Delineation of areas of natural and agricultural structure;
- Delineation of urban areas
- Spatial implementation plans for the development of new golf courts
- Spatial implementation plans for the zoning of wind turbines
- Spatial implementation plans for regional industrial areas
- ...

In addition, the Spatial Structure Plan for Flanders is also implemented by various planning initiatives at lower levels (provincial and municipal), including through provincial and municipal spatial structure plans and the provincial and municipal spatial implementation plans. Spatial structure plans drawn up at a lower government level must be approved by the next successive higher government level. The plans must be to conform to the stipulations of the spatial structure plans of the higher government level.

Harbours: an example of the implementation of the Spatial Structure Plan for Flanders

The harbours and airports are important engines of economic development in Flanders and of great strategic importance⁵⁵. The development of the sea harbours and ease of

⁵² <http://www.mumm.ac.be/NL/Management/Sea-based/windmills.php> - consulted on 4 august

⁵³ <http://www.mumm.ac.be/NL/Management/Sea-based/windmills.php> - consulted on 4 august

⁵⁴ European Commission - LEGAL ASPECTS OF MARITIME SPATIAL PLANNING - Oct 2008

⁵⁵ Spatial Structure Plan for Flanders, Ministry of the Flemish Community, Environment and Infrastructure Department, Administration for Zoning, Housing and Monuments and Landscapes, Spatial Planning Division, Brussels, 1998

access to them must be guaranteed by their demarcation in spatial implementation plans, and by the improvement of the existing and the construction of missing infrastructure. The harbours have a separate strategic plan. Drawing up a strategic plan for the harbours fits in the coalition agreement of the Flemish Government of 13 July 1999⁵⁶, in which it is determined that a strategic plan is to be developed for each harbour area in Flanders. This decision in turn fits on the one hand in the Spatial Structure Plan for Flanders, and on the other hand in the Port Decree.

In the Spatial Structure Plan for Flanders⁵⁷ it is determined that the harbours of Ostend and Bruges, must be developed as gateways at Flemish level. Hence, at Flemish level a spatial vision must be developed for each harbour and its surrounding area, on the basis of which a regional spatial implementation plan (RUP) must be drawn up together with the government sectors concerned.

The Decree of 2 March on policy and management for harbours⁵⁸ (the Port Decree) sets out the basis for the new harbour policy, in which based on the development of a general vision, the totality of marine resources in Flanders is maximally utilised. Art. 3 of the Port decree indeed determines that "in accordance with the legislation on spatial planning, the Flemish Government establishes the boundaries of the seaport areas. For the harbours the implementation plans in the land-use plan or in regional spatial plans apply for land demarcated as seaport area." In other words, the administrative authority of the harbour is (spatially) limited to the perimeter of the seaport area.

Within the framework of the spatial structure plans several strategic development schemes and plans have been worked out, for urban areas, economic networks and especially the strategic plans for harbours:

- What: The strategic plans lay the basis for future developments in the harbour.
- Who is involved: involved administrations, users of the harbour, residents of the village and town districts around the harbours
- When are they involved: consultation forms part of the process
- how are they involved: through a plan group, steering committee, technical task&finish groups, information days, study day/forum, newsletters.

Conclusions regarding implementing and enforcing the spatial management plan

- There is no holistic spatial management plan at sea to implement
- Enforcement and management is implemented by existing legislation. The different legislations are not gathered in an integrated Maritime Spatial Planning process

⁵⁶ Vlaams regeerakkoord van 13 juli 1999 " Een nieuw project voor Vlaanderen " ,www.vlaanderen.be/ned/sites/regeerakkoord, 81.

⁵⁷ (BVR 23 September 1997)

⁵⁸ Decree of 2 March with regard to 2 March with regard to policy and management of harbours, Belgian Law Gazette, 4 April 1999

Step 9:

Monitoring and evaluating performance

The goal of this step

Monitoring is particularly important for helping to provide the basic data that should underpin any evaluation. The cost of this should be included from the very beginning. An effective performance monitoring system begins with a clear set of well-specified planning objectives. An agreement on the monitoring objectives as well as a clear definition on the outcomes are essential. Subsequently key performance indicators should be established to measure, monitor and report on the progress towards meeting the goals and objectives of Maritime Spatial Planning.

What outputs should be delivered from this step

- A monitoring system designed to measure indicators of the performance of maritime spatial management measures
- Information on the performance of maritime spatial management measures that will be used for evaluation
- Periodic reports towards decision makers, stakeholders, and the public on the performance of the maritime spatial management plan.

What are the tasks in this step

- Task 1: Developing the performance monitoring program
- Task 2: Evaluating performance monitoring data
- Task 3: Reporting results of performance evaluation

Overview

Tasks	Task 1: Developing the performance monitoring program	Task 2: Evaluating performance monitoring data	Task 3: Reporting results of performance evaluation
Energy	✓	✓	✓
Radar and weather masts	/	/	/
Wreck and wreck salvage	✓	✓	✓
Shipping	✓	✓	✓
Commercial fisheries	✓	✓	✓
Military exercises and ammunition	/	/	/
Sand and gravel extraction	✓	✓	✓
Dredging and disposal of dredged material	✓	✓	✓
Recreation and tourism on the beach	✓	✓	✓
Recreation and tourism at sea	/	/	/
Aquaculture	/	/	/
Nature Conservation	✓	✓	✓

SPATIAL PLANNING PROCESS AT SEA

In the first phase of the MSP process, the performance monitoring plan formed a part of the new legislation. Several single-sector authorities are responsible for monitoring.

Radar and Weather Towers

It is known where all measure posts and radar systems are situated, but it is not clear if there is an organisation who is checking if all buoys and towers still have a relevant function or have become redundant.

Military exercises and ammunition

The limitations concerning the marine protected areas, stipulated in the Law of 20 January 1999 on the protection of the marine environment in the marine areas under Belgian jurisdiction, are not applicable for military activities. The military authority, in accordance with the Minister of Environmental Affairs, will take all the necessary measures to prevent damage and environmental disturbance, without compromising the effective work of the defence units. There are also exceptions on the prohibition statements concerning the marine nature reserves dedicated to for military activities. Exceptions for military activities were also made on the limitations for shipping in marine protected areas: the special routing system does not hold for war ships and marine assistance ships. The report duty for captains involved in a shipping accident also doesn't hold for these ships. In the sea areas certain activities are subject to a preceding license or authorization, but military activities can only be subject to such license or authorization after a joint recommendation by the Minister, responsible for the protection of the marine environment, and the Minister of Defense. Furthermore, Law also exempts military activities from compliance with environmental effects reporting and the environmental impact assessment.

The legal coordinates of the zones for execution of the different sub-uses are given in Messages to Seafarers (Berichten aan Zeevarenden – BaZ), published by the Department of the Environment and Infrastructure, Administration Waterways and Maritime Affairs, Ministry of the Flemish Community. These coordinates are updated every year and announced before the beginning of a new year.

Shipping

The principal goals of the Department for Guidance of Navigation is to guide the navigation to and from Flemish and Dutch harbours as safely and smooth as possible. To ensure this, vessels from the French-Belgian border are followed visually, auditorially and electronically, through Vessel Traffic Services (VTS).

Wreck and wreck salvage

The knowledge and information on maritime-archaeological heritage is not systematically gathered and spread. This was the reason for the establishment of a maritime-archaeological heritage in 2006. This databank contains information on archaeological heritage in the Belgian territorial sea, the Belgian continental shelf and the Flemish rivers. The locations of the wrecks are also studied and have been mapped out by the Flemish Government⁵⁹.

Sand & Gravel extraction

From the Federal Policy Service (FPS) Economy, there is the continuous study of the consequences of sand and gravel reclamation for the marine environment. This study is conducted by the Continental Shelf Service of the FPS Economy; the Management Unit of the North Sea Mathematical Model and the River Scheldt estuary (BMM-MUMM); and the Institute for Agricultural and Fisheries Research - Fisheries⁶⁰. Here a great diversity of techniques and technology is used to determine the consequences of reclamation as correctly and completely as possible.

A North Sea Exploitation Advisory Commission coordinates the administrations that manage the exploration and the exploitation of the continental shelf and the territorial sea.

This commission:

- coordinates the evaluation of the concession applications;
- formulates advice about these applications;
- follows up the various studies concerning the impact of sand reclamation on the Belgian continental shelf;
- evaluates the three-yearly reporting of the results of the controls;
- advises corrective measures if a negative influence is perceived;
- formulates policy preparation advice about all aspects concerning the sand reclamation.

⁵⁹ <http://www.vlaamsehydrografie.be/wrakkendatabank>

⁶⁰ http://statbel.fgov.be/nl/ondernemingen/specifieke_domeinen/Zand_grindwinning_zee/index.jsp

Dredging and disposal of dredged material

Extraction activities have been subjected to a monitoring program, almost from the commencement of exploitation in 1976. The monitoring undertaken is two-fold: (1) the activity of the extraction vessels is followed (volume dredged, location and time), using extraction registers and, since 1996, Electronic Monitoring Systems (EMS or 'black-boxes'); and (2) the physical impact of the extraction on the environment (since 1999, studied with a multibeam echosounder). To measure changes in the bathymetry of the seabed floor, high-resolution acoustic tools such as sidescan sonar and multibeam can be used⁶¹.

The quantities of dredged material dumped at sea, have been monitored since 1991, when the first permits for dumping dredged material at sea, were granted. In addition to the research and monitoring programs imposed in the permits, the quality of dredged material is assessed every 10 years as part of a large-scale monitoring program, executed by the Flemish region⁶².

Commercial fishing

The Fisheries Service (part of the Department of Agriculture and Fisheries, Agriculture and Fisheries) aims to support policy, follows up the established measures and inspects them regarding fishery at sea. Fisheries Service imposes quotas and can close fishing areas when necessary. In addition to collecting and analyzing data on the various fisheries, the department brings out several publications, including an annual survey of the fish landings and value of landings (revenue) of the Belgian sea fisheries.

Fishing licenses are also issued by the Fisheries Service. The licenses are linked to the power and tonnage (size) of the fishing boats. An inspection service verifies if the fishing landings are in compliance with the law. This is done through a vessel monitoring system (VMS). For assessing the sea, the Fisheries Service works regularly together with other Coast Guard partners. In order to protect fisheries, there is a cooperation with the Navy and the aircraft of the Management Unit of the North Sea Mathematical Model and the River Scheldt estuary (BMM-MUMM)⁶³.

Nature Conservation

In the framework of the policy plans, the BMM-MUMM has been assigned to monitor the hydrodynamics, the composition of the benthos and the bird level in marine protected areas (MPA's). Attention has to be drawn to the fact that there is no specific monitoring in the MPA's to evaluate the government policy and to advise the government. However, the inventories of fauna and flora in the North Sea, performed by scientific organizations, indicate the international importance of the coastal zone regarding to protection of nature⁶⁴.

Wind energy

BMM-MUMM carries out a monitoring program as provided for in the environmental permit to estimate the positive and negative effects of wind turbines at sea. The first phase of this monitoring program started one year prior to the construction of the first wind turbines on the Thornton Bank (i.e. 2005) and will last six years to identify and quantify any effects.⁶⁵ The monitoring program is carried out in co-operation with other institutes. After this first phase, the intention is to provide a summary and start a discussion on the monitoring activities and the results, together with the BMM-MUMM, the scientific bodies involved and the wind power industry. This will be a first thorough evaluation of the possible impacts of wind turbines at sea in Belgian waters.

Recreation and tourism on the beach

Various information on coastal tourism is constantly followed by means of the permanent measuring system that was developed within the framework of the Coastal Action Plan III project KITS (Coast Indicators Tourism Statistics). The measuring system was refined in 2008 and for the first time in 2009 provided figures on coastal municipality level.

There is no performance monitoring program for aquaculture, recreation and tourism at sea and radar and vessel masts.

⁶¹ Degrendele, K.; Roche, M.; Schotte, P.; Van Lancker, V.; Bellec, V., and Bonne, W., this volume. Morphological evolution of the Kwinte Bank central depression before and after cessation of aggregate extraction. *Journal of Coastal Research* 51.

⁶² Calewaert J.-B., Lescauwaele A.-K., Mees J., Seys J., Hostens K., Redant F., Moulart I., Raemaekers M., Demaré W., Vanhooreweder B., Mergaert K., Maes F., Douvere F., Belpaeme K., Maelfait H., Kyramarios M., Tak P., Overloop S., Peeters B. (2005) MIRA- Milieurapport Vlaanderen, Achtergronddocument 2005, *Kust en zee. Vlaamse Milieumaatschappij*

⁶³ <http://lv.vlaanderen.be/nlapps/docs/default.asp?id=204>

⁶⁴ Beleidsplannen beschermde mariene gebieden in het Belgische deel van de Noordzee. Minister bevoegd inzake het mariene milieu- DG5 Leefmilieu, Dienst Marien Milieu - 25 juli 2009

⁶⁵ Degraer, S. & Brabant, R. (Eds.) (2009) *Offshore wind farms in the Belgian part of the North Sea: State of the art after two years of environmental monitoring*. Royal Belgian Institute for Natural Sciences, Management Unit of the North Sea Mathematical Models. Marine ecosystem management unit. 287 pp. + annexes.

SPATIAL PLANNING PROCESS ON LAND

The monitoring and evaluation of the Spatial Structure plan, has different levels. This is a non-limitative list of some important monitoring and evaluation processes.

- There is a qualitative evaluation, that delivers an input to the short term revisions of Spatial Structure Plan.
- There is a quantitative intern monitoring regarding the spatial implementation plans
- There are elements of monitoring in the publications of the Flemish Government regarding different topics, broader then spatial use only⁶⁶
- A first analysis of the environment is being conducted.
- A draft vision on the spatial development towards 2020 was presented

Conclusions regarding monitoring and evaluating performances:

- There are clear monitoring and evaluation processes for certain activities (sand and gravel extraction, wind energy, MPA's) on the Belgian continental shelf. The monitoring conditions often originate from EU legislation.
- The sectoral approach for monitoring and evaluating measures, has as a consequence that the various results are looked at separately.

⁶⁶ The VRIND indicators

Step 10:

Adapting the spatial management process

The goal of this step

The results from monitoring and evaluation should be used to adapt maritime spatial planning and management. An adaptive management is a systematic approach for improving management through learning by monitoring and evaluating management outcomes.

What outputs should be delivered

- Proposals for adapting management goals, objectives, outcomes and strategies for the next round of planning,
- Identification of applied research needs.

What are the tasks in this step

Task 1: Reconsidering and redesigning the maritime spatial planning program

Task 2: Identifying applied research needs

Task 3: Starting the next cycle of maritime spatial planning

SPATIAL PLANNING PROCESS AT SEA

The question here is - what has been accomplished through the MSP process and learned from its successes and failure. Different publications show clearly what has been accomplished through the MSP process and make an evaluation of the process:

- State of the sea after 4 years North Sea Policy- Peter Bossu: ARGUS Milieumagazine, Volume 5 No. 4
- Who rules the coast- Policy Processes in Belgian MPAs and Beach Spatial Planning - Dirk Bogaert & Frank Maes (eds.)

For the next years, based on personal communication from Federal Public Service (FPS) Marine Environment, a new process on maritime spatial planning will start soon.

Over the following years the federal government will also be working to set up an advice structure for a federal marine environmental policy. The task of this structure will be the management of the human activities at sea in consultation with the socio-economical actors and stakeholders.⁶⁷

SPATIAL PLANNING PROCESS ON LAND

The Spatial Structure Plan for Flanders was revised for the first time in 2003. The first review was incorporated in the original text and re-issued⁶⁸. The Flemish Government provisionally ratified the review on 18 December 2009. Each citizen could respond during a public enquiry that ran from 10 February to 11 May 2010. This second review ensures the updating and partial review of the Spatial Structure Plan for Flanders for the period to 2012. The new proposals for texts changes are put together in an 'addendum'. The addendum is not an independent text. It must be read together with the last edition of the Spatial Structure Plan for Flanders.

There is also a vision paper on spatial use and taking up space 2020-2050. At the end of May 2009, on the request of the Minister of Spatial Planning, the support centre on Space and Living and the regional department on spatial planning wrote a preparatory "Vision paper on spatial use and taking up space 2020-2050" for the thorough review of the Spatial Structure Plan Flanders (SSPF). It is not a document already with policy guidelines for a new SSPF. It looks at the context, challenges, lines of thinking and the possible approach to a thorough review of the SSPF.

The Flemish government stated in their governmental agreement the ambition of working towards a new Spatial Structure Plan for Flanders. In the policy note 2009-2014, the Minister of Spatial Planning stated the engagement to sketch a working plan, timing and process⁶⁹. In July 2010 the Flemish government accepted this Policy plan for Space in Flanders⁷⁰.

Conclusions regarding adapting the spatial management process:

- For the moment there is no maritime spatial planning process, but when this is established, adaptive management is crucial.

⁶⁷ Algemene Beleidsnota Marien Milieu – Staatsecretaris Schouppe – 25 november 2009

⁶⁸ 'Ruimtelijk Structuurplan Vlaanderen, gecoördineerde druk (april 2004)'

⁶⁹ Beleidsnota Ruimtelijke Ordening 2009-2014, Een ruimtelijk beleid voor en op ritme van de maatschappij. Philippe Muyters

⁷⁰ Parl. St. Vl. Parl. 2009-10, nr. 198/6

Colofon

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Acronyms & Abbreviations

BCS:	Belgian Continental Shelf
BELSPO:	Belgian Federal Science Policy Office
BMM-MUMM:	Management Unit of the North Sea Mathematical Model and the River Scheldt estuary
BPNS:	Belgian Part of the North Sea
CREG:	Commission for the Regulation of the Electricity and the Gas
C-Scope:	Combining Sea and Coastal Planning in Europe
EC:	European Community
EEZ:	Exclusive Economic Zone
EFRD:	European Regional Development Fund
EIA:	Environmental Impact Assessments
EMS:	Electronic Monitoring Systems
EU:	European Union
FPS:	Federal Policy Service
ICZM:	Integrated Coastal Zone Management
MESMA:	Monitoring and Evaluation of Spatially Managed Areas
MPA:	Marine Protected Areas
MSP:	Maritime Spatial Planning
OSPAR:	Oslo/Paris convention (for the Protection of the Marine Environment of the North-East Atlantic)
SEA:	Strategic Environmental Assessments
SSPF:	Spatial Structure Plan for Flanders
UNCLOS:	United Nations Convention on the Law of the Sea
UNESCO:	United Nations Educational, Scientific and Cultural Organization
VMS:	Vessel Monitoring System
VTS:	Vessel Traffic Services
WFD:	Water Framework Directive

