

MASPNOSE

Preparatory Action on Maritime Spatial Planning in the North Sea

Initial assessment report

Deliverable D1.1

Due date of deliverable: June 2011 (month 7)
Submission date first draft: July 2011 (month 8)
Submission date final version: October 2011

Version 18.10.2011



This project is co-financed under the European Integrated Maritime Policy



Coordinated by:

Dr. Vanessa Stelzenmüller

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

Contributors:

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

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

Dr. Matthias Kloppmann; Johann Heinrich von Thünen Institute (vTI), Federal Research Institute for Rural Areas, Forestry and Fisheries, Institute of Sea Fisheries; Partner 20, vTI-SF, Hamburg, Germany

Prof. dr. Frank Maes, Maritime Institute, GhentUniversity

Ina Krueger, MSc. ; Stichting Deltares; Delft, The Netherlands

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

Lybrich van der Linden, BSc.; Stichting Deltares; Delft, The Netherlands

David Goldsborough, Centre for Marine Policy 1; P.O.Box 1528 8901 BV Leeuwarden, the Netherlands

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

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

Grete Elisabeth Dinesen; DTU Aqua, Jægersborg Allé 1, 2920 Charlottenlund, Denmark

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

Acknowledgements

The MASPNOSE consortium wishes to thank the following for their contributions to this report:

Nico Nolte, BSH, Hamburg, Germany

Joachim Raben-Levetzau, Lene Westergaard and Ulrik Christian Berggreen, Danish Nature Agency.

Lodewijk Abspoel (Dutch Ministry of Infrastructure and Environment)

Index

1	Executive Summary.....	4
2	Introduction	5
3	National MSP: Current state, potentials and limits for cross-border MSP.....	5
3.1	Belgium.....	5
3.2	Denmark.....	18
3.3	Germany.....	28
3.4	Netherlands.....	40
4	National MSP processes.....	54
4.1	Belgium.....	54
4.2	Denmark.....	57
4.3	Germany.....	57
4.4	Netherlands.....	58
4.5	Comparison of national MSP processes.....	60
4.6	References.....	66
5	Criteria and selection process for MASPNOSE case studies.....	68
6	Case study fact sheets.....	69
6.1	Case study Belgium-Netherlands: Cross-border issues, interaction of human activities, opportunities and bottleneck for cross-border MSP	69
6.2	Case study Doggerbank: Cross-border issues, interaction of human activities, opportunities and bottleneck for cross-border MSP	72
7	Cross-border MSP development: A first guidance	75
	About MASPNOSE	81

1 Executive Summary

This report forms the initial assessment (deliverable D1.1) of the MASPNOSE project, which is the main deliverable of component 1.1. The contents comprises a comprehensive description of current marine spatial planning (MSP) initiatives in Belgium, Denmark, Germany, and the Netherlands including a scoping for cross-border MSP (section 3). In section 4 national MSP approaches were described, compared and evaluated to which extent the ten EU principles have been accounted for. The selection (section 5) and specification of case study areas (section 6) as well as a first guidance for cross-border MSP (section 7) form further parts of this report.

Section 3 forms a contextual narrative of the respective marine spatial planning initiatives in the different countries. More precisely the borders, goals, operational objectives and targets, relevant policy frameworks, mayor human activities and bio-physical features were described along with the respective processes for monitoring and auditing. In addition, the strength and weaknesses were defined for each country, based on current experience, and the opportunities for cross-border MSP were listed.

The qualitative comparison of the national MSP processes for the plan development can be found in section 4. The lack of a legal base for a MSP process in Belgium caused the greatest relative differences between the national MSP processes. Thus, plan specific objectives and a plan based Strategic Environmental Assessment (SEA) do exist only for Germany and the Netherlands. A gap across all MSP processes was a clearly defined monitoring and auditing process for the implemented plans using performance assessment measures. Further all national processes are specific to the area and activities and therefore fully satisfy the first EU principle for MSP. The definition of objectives and the strong data and knowledgebase showed the least deviations across the countries. Further, in all countries the principles on stakeholder participation and the achievement of a coherent terrestrial and marine spatial planning have been identified as areas for improvements for future MSP processes.

The selection of the MASPNOSE case studies was based on transparent criteria (stakeholder involvement, governments involved, multi-sectoral interest, cross-border opportunities) and a process which involved the consultation of the national authorities responsible for the respective MSP process (section 5). The Belgium-Dutch and Doggerbank case studies fulfilled best those criteria and were deemed to be most suitable to deliver on the main objectives of MASPNOSE. Those case studies are described in more detail in section 6 including the definition of clear case study objectives.

We used the results of the qualitative comparison of MSP processes and existing practical guidance for MSP to outline in section 7 a potential process for the development of cross-border MSP in the North East Atlantic/ North Sea/ Channel area, which explicitly accounts for the ten EU MSP principles. From this first draft proposal for a process of cross-border MSP we identified some key issues to be further explored in MASPNOSE: i) defining the regional basis for cross-border MSP, ii) testing the appropriateness of existing conventions, networks and institutions to facilitate cross-border MSP, iii) scoping the willingness of regional stakeholder groups to participate in a MSP process, iv) assessing the feasibility of a central data and knowledge base, and v) assessing the feasibility for a coherent planning and permitting system.

2 Introduction

MASPNOSE aims to 1) encourage and facilitate cross-border cooperation among European countries on ecosystem based MSP, 2) test the applicability of the 10 key principles for MSP, identified by the Roadmap on MSP, and 3) identify potential barriers in the implementation of national and cross-border MSP. Component 1.1 'Initial assessment' builds up the knowledgebase on current MSP initiatives and approaches in Belgium, Denmark, Germany, and the Netherlands. Furthermore, the potentials and bottlenecks of cross-border MSP in selected sea areas are analysed in this component. This report summarises the results and findings for the contextual analysis and initial assessment (section 3 and 4), the selection and specification of case study areas (section 5 and 6), and the development of a first guidance for cross-border MSP (section 7). This guidance is a first draft which will be further developed within the components 1.2 and 1.3. Thus this deliverable is a building block for the future work in those components where example cross-border marine spatial plans (1.2) and a framework for the assessment of their performance (1.3) will be developed.

3 National MSP: Current state, potentials and limits for cross-border MSP

This section summarises the current state of MSP in Belgium, Denmark, Germany, and the Netherlands and highlights the general potentials and bottlenecks for cross-border MSP. Thus for each member state a comprehensive review of the relevant policy framework, context, goals and objectives, regulations and review processes was conducted. Based on the current experience of the national MSP processes their respective strength and weaknesses were summarised together with the general opportunities for cross-border MSP. In the following this structured review is presented for each of the four member states.

3.1 Belgium

In the following the Belgian Masterplan on MSP is reviewed.

3.1.1 Description of borders of the national marine spatial plan(s) or spatial management plan(s)

The Belgian MSP applies in the territorial sea and in the exclusive economic zone, as delimited by bilateral agreements between France, UK and The Netherlands. The MSP does not integrate land activities in the framework of ICZM.

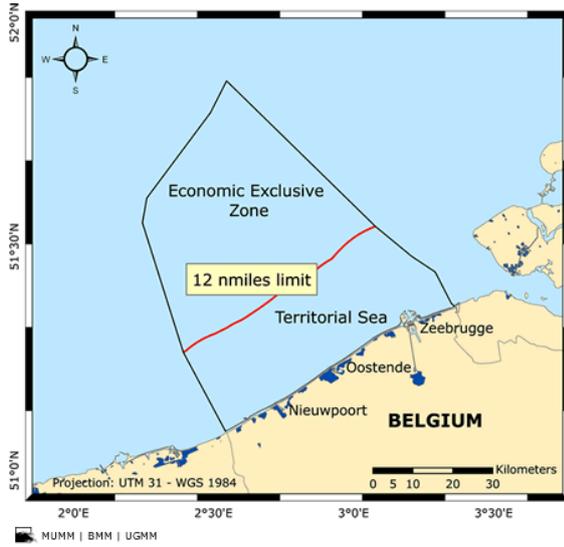


Figure 3.1.1: Boundaries of the Belgian MSP

3.1.2 Authorities involved in the national marine spatial plan(s) or spatial management plan(s)

- At federal level: Ministries of Environment; Economics; Energy; Transport; Defence; Sciences
- At regional (Flemish) level: Ministries of Fisheries; Maritime Services (coastal defence, pilotage, rescue at sea, ...); Environment (limited to the beaches)

3.1.3 Policy framework relevant for the national marine spatial plan(s) or spatial management plan(s)

Table 3.1.1: Overview of international, regional and national policy frameworks relevant for the national MSP process or spatial management plan.

Level	Policy framework of MSP or spatial management plan	Reference
International, Supra-regional	<ul style="list-style-type: none"> – United Nations Convention on the Law of the Sea of 10 December 1982 – UNESCO Biosphere Reserves – RAMSAR Convention – International Convention for the Safety of Life at Sea (SOLAS), esp. Regulation SOLAS V/10 Ships' routing – London Convention and London Protocol – MARPOL (International Convention for the Prevention of Pollution from Ships) – UNCLOS (United Nations Convention on the Law of the Sea) – Ballast Water Convention (BWM) 	<p>International Legal Materials (ILM): websites convention secretariats</p> <p>UNCLOS, 1982</p> <p>SOLAS, IMO 1974: SOLAS V/10</p> <p>IMO, 72/96</p> <p>MARPOL 73/78</p> <p>UNCLOS, 1982</p> <p>IMO, 13/02/2004</p>
EU/Regional	<ul style="list-style-type: none"> – Valletta Treaty/ Malta Convention, European Convention on the Protection of the Archaeological Heritage – EU Nitrate directive 	<p>16/01/1992</p> <p>91/676/EEC</p>

	<ul style="list-style-type: none"> – EU directive regarding geological storage of carbon dioxide (CCS Directive) – European Fishing Fund (EFF) Operational Programme – European Directive on Port Reception Facilities – EU Water Framework Directive – Marine Strategy Framework Directive – Regional: OSPAR Convention; UNECE Espoo Conventions (EIA & SEA); UNECE Aarhus Convention (public participation) – EU: Birds and Habitats Directives; Natura 2000; – Floods Directive; – EIA & SEA Directives – Renewable Energy Directives – Green Paper on a Future Maritime Policy for the EU (2006); – EU Blue Paper on Integrated Maritime Policy, October 2007 – EU Roadmap for MSP – Common Fisheries Policy (CFP) 	<p>2009/31/EC</p> <p>(EC) No 1198/2006</p> <p>2000/59/EC</p> <p>2000/60/EC</p> <p>2008/56/EC</p> <p>22/09/1992</p> <p>79/409/EEC,92/43/EEC</p> <p>2007/60/EC</p> <p>85/337/EEC, 2001/42/EC</p> <p>2009/28/EC</p> <p>SEC(2006) 689</p> <p>COM(2007) 574 final</p> <p>COM/2008/0791</p> <p>(EC) No 2371/2002</p>
National	<ul style="list-style-type: none"> – Act on the protection of the marine environment; Continental Shelf Act; EEZ Act; Fisheries legislation; shipping legislation; legislation implementing international and EU legal instruments; royal decrees implementing relevant national legislation: Master Plan (MSP) has been established by a series of decisions taken by the Federal Council of Ministers – MSP in Belgium has no legal basis on its own 	<p>Moniteur Belge / Belgisch Staatsblad</p>

3.1.4 Map(s) of the national marine spatial plan(s) or spatial management plan(s)

Belgian marine spatial management has no statutory basis as such. Management is based on existing legislation and a Masterplan. The Masterplan was decided in the Council of Ministers in two phases. Phase I (2003 - 2004) focused on: 1. the exploration and exploitation of sand and gravel (relocating previous locations) ; 2. indicating a zone for offshore wind energy production. In both cases there has been an environmental impact assessment and existing legislation was amended or further implemented. Phase II (2005) designated protected zones implementing the EU Birds and Habitat Directives. In 2005 the first five zones received legal status: three bird protection areas or SPAs located in front of the three Belgian seaports and two SACs were designated as important and valuable natural habitats. In March 2006 a sixth zone received protected status: the waterfront of the marine reserve of the Bay of Heist

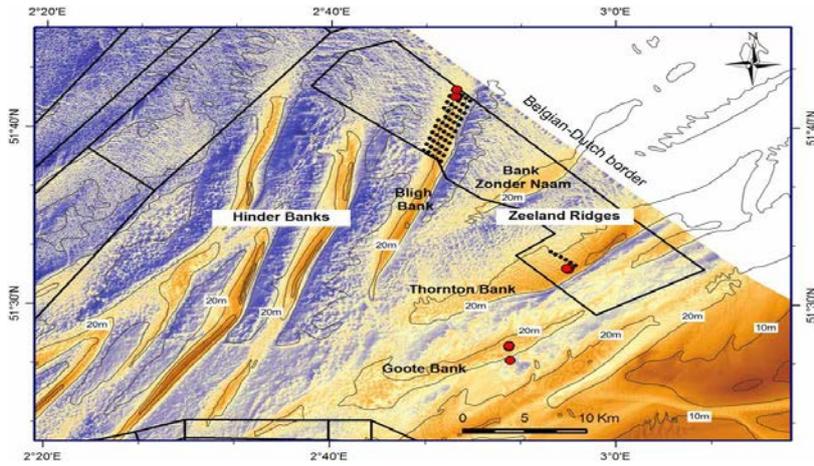


Figure 3.1.6: Sand banks in and nearby the concession zone for offshore wind mills
Source: Management Unit of the North Sea Mathematical Models (MUMM)

Major shipping routes and anchoring zone

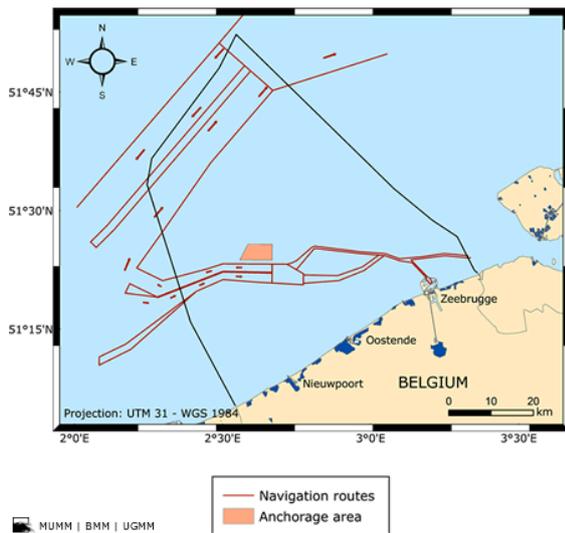


Figure 3.1.7: Source: Management Unit of the North Sea Mathematical Models (MUMM)

Mineral resources control and exploration zones

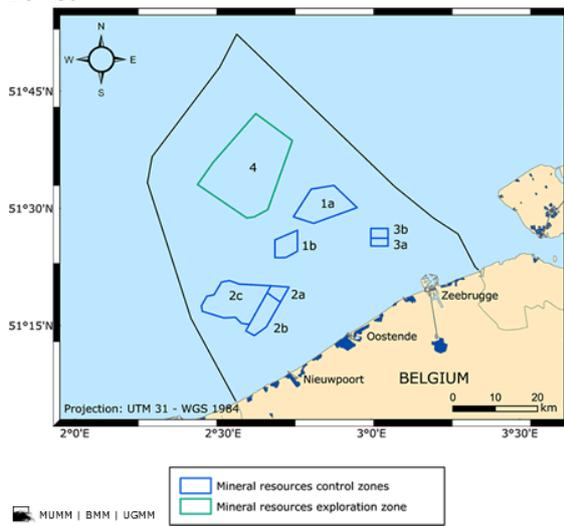


Figure 3.1.8: Source: Management Unit of the North Sea Mathematical Models (MUMM)

Dredging and dumping zones and war munitions deposit zone **Military exercise zones**

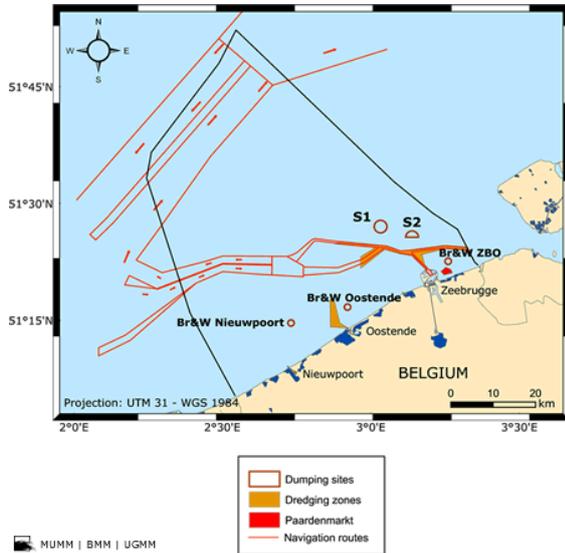


Figure 3.1.9: Source: Management Unit of the North Sea Mathematical Models (MUMM)

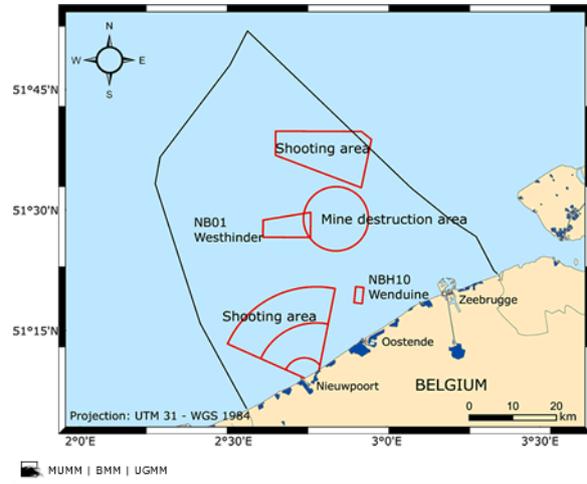


Figure 3.1.10: Source: Management Unit of the North Sea Mathematical Models (MUMM)

Communication cables and gas pipelines

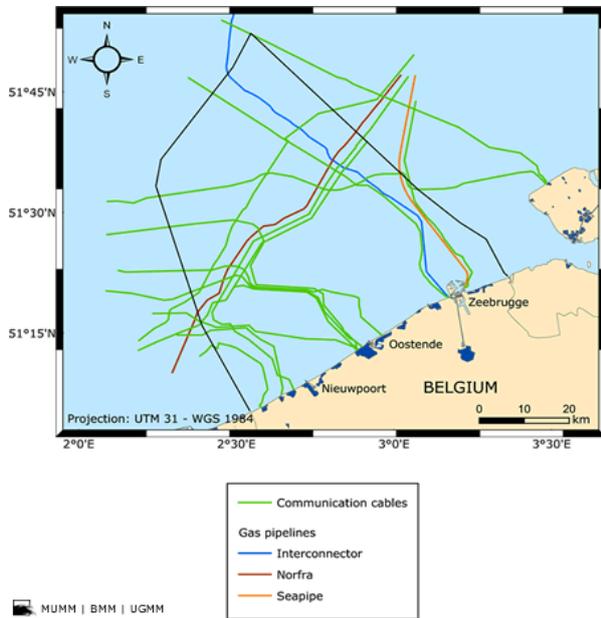


Figure 3.1.11: Source: Management Unit of the North Sea Mathematical Models (MUMM)

Aquaculture: designated and permitted zones

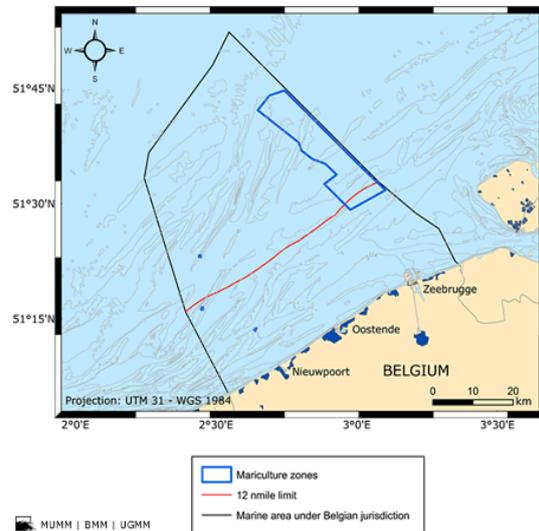


Figure 3.1.12: Source: Management Unit of the North Sea Mathematical Models (MUMM)

3.1.5 List of the human activities managed by the marine spatial plan(s) or spatial management plan(s)

Table 3.1.2: List of human activities managed by the Masterplan. In cases where priorities are associated to certain activities the ranking is listed.

Human activity	Rank**	Geodata available for MASPNOSE	Data source*
Shipping	1	y	Agentschap voor Maritieme Dienstverlening en Kust (MDK)
Offshore wind farms	2	y	Ministry of Economics & MUMM
Sand & gravel extraction	3	y	Ministry of Economics & MUMM
Pipelines & cables	2	y	Ministry of Economics
Military activities	4	y	Ministry of Defense
Dredging and disposal	1	y	MUMM & MDK
Aquaculture	4	y	Ministry of Fisheries, ILVO & MUMM
Fisheries	3	N	Ministry of Fisheries (partial), ILVO (partial) & fishermen
Nature conservation	2	Y	Ministry of Environment & MUMM & INBO
Tourism	4	N	WES

* Some data can be found at: <http://www.vliz.be/vmdcdata/wlist.php>

** Ranking by author based upon experience in past stakeholder participations and guidance committees in scientific projects (expert judgment): 1 = high priority – 4 = less priority

3.1.6 List bio-physical or other features implemented in the marine spatial plan(s) or spatial management plan(s)

Bio-physical and geophysical features are not explicitly mentioned in the Masterplan, however they are explicitly taken into account to designate nature protection and conservation areas (Natura 2000), implicitly regarding fisheries versus wind farming sites and to designate sites for sand and gravel exploitation.

Table 3.1.3: List of bio-physical features integrated in the plan.

Bio-physical features or user features	Geodata available for MASPNOSE (y/n)	Comments	Data source
Macrobenthos	Y	Important indicator for habitat selection (Habitat Directive)	Ghent University / MUMM
Birds	Y	Important indicator for selecting bird areas (Birds Directive)	INBO
Marine Mammals	partially		MUMM & INBO
Wind speed	Y	Wind farms	MUMM
Substratum	Y	Geophysical zonation	Ghent University / MUMM
Sand types	Y	Economic exploitation	Ministry of Economics/MUMM
Habitat & birds directive	Y	Areas are designated	MUMM / INBO
Aquaculture	Y	Zones are indicated	ILVO/MUMM
Wind farms	Y	Areas are designated	MUMM / Ministry of Economics
Dredging sites	Y	Areas are indicated	MDK
Dumping sites of dredged materials	Y	Areas are designated	MUMM
Sand & gravel extraction	Y	Areas are designated and area exploitation controlled	MUMM
Ship wrecks	Y	Indicated – cultural heritage – hotspots for fishing	VIOE / Ministry of Defense
War ammunition dumping site	Y	Prohibited area for fishing	MUMM
Shipping (lanes)	Y	Indicated	Ministry of Mobility / MDK / IMO

Depth

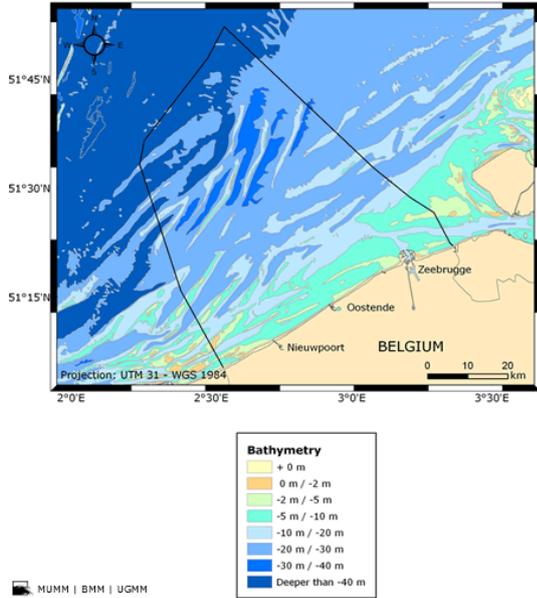


Figure 3.1.13: Source: Management Unit of the North Sea Mathematical Models (MUMM)

Sandbanks

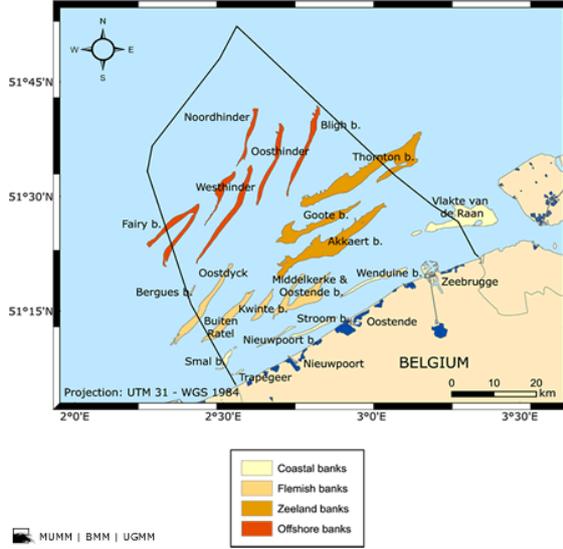


Figure 3.1.14: Source: Management Unit of the North Sea Mathematical Models (MUMM)

Designated Wetland of international importance under the Ramsar Convention

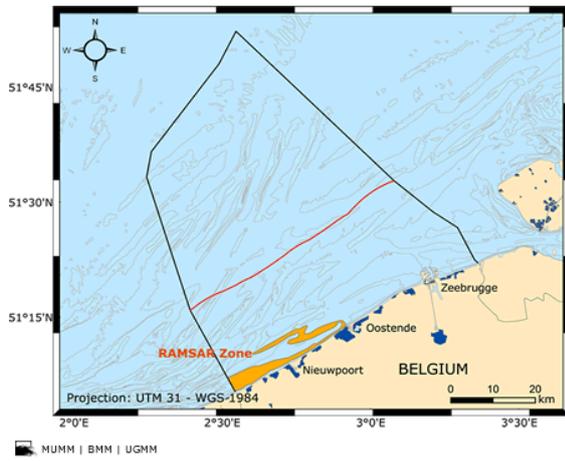


Figure 3.1.15: Source: Management Unit of the North Sea Mathematical Models (MUMM)

Special Area of Conservation (SAC) under the Habitat Directive (92/43/EEC) and Special Protection Areas (SPA) under the Birds Directive (79/409/EEC)

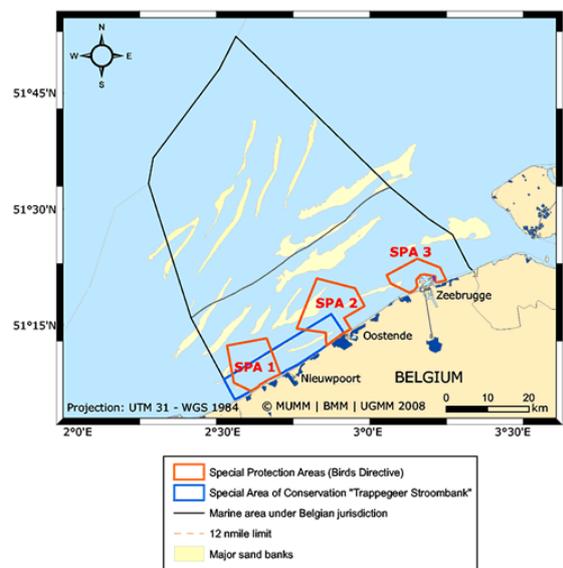
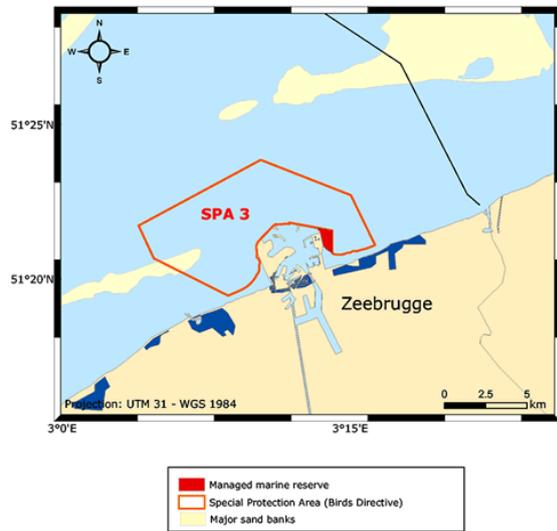


Figure 3.1.16: Source: Management Unit of the North Sea Mathematical Models (MUMM)

The Managed Marine Reserve



MUMM | BMM | UGMM

Figure 3.1.17: Source: Management Unit of the North Sea Mathematical Models (MUMM)

Wrecks with ecological value

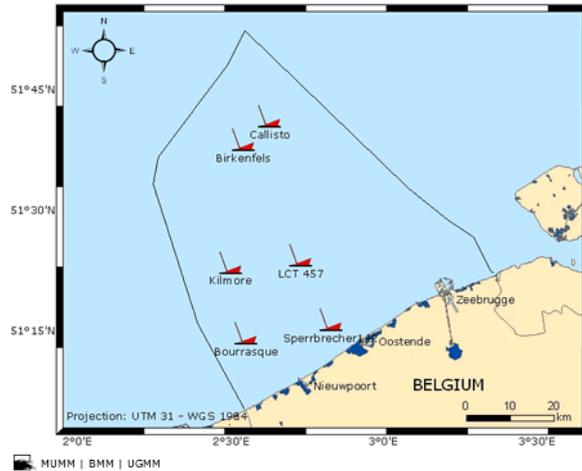


Figure 3.1.18 Source: Management Unit of the North Sea Mathematical Models (MUMM)

3.1.7 Goals and high-level objectives of the national marine spatial plan(s) or spatial management plan(s)

- Safety of maritime transport
- Sustainable management
- Ecosystem approach
- Nature conservation
- Precautionary principle
- Promotion of renewable energy (offshore wind farms)
- Avoid and reduce environmental damage by multiple activities
- Create win-win situations (e.g. offshore wind parks and aquaculture or restricted fishing)

3.1.8 Operational objectives of the national marine spatial plan(s) or spatial management plan(s)

- Offshore wind parks (park = 270 km² today - 5 firms intend to produce 1.554 MW, but the target for the installed capacity is 2.000 MW). The renewable energy target for Belgium is 13% in 2020 (Directive 2009/28/EC, national action plan renewable energy (November 2010)), however not specified what the contribution of offshore wind will be.
- Guarantee sand and gravel extraction for building and construction purposes, as well as coastal defense (quantifiable: permitted to maximum 3 million cubic meters/year or 15 million cubic meters during 5 years, with exclusion of coastal defense). So far, actual exploitation never reached the maximum volume that is permitted. According to the zone and sector, exploitation can take place all year round or only in certain months of the year. A fourth zone can be a maximum of 46 km² in surface and is only open for exploration – not exploitation activities.

- Designated Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) intended for the conservation of certain marine habitats or species, implementing the Bird-Directive, the Habitat-Directive and Natura 2000. In 2005 the five zones received legal status: three bird protection areas or SPAs located in front of the three Belgian seaports and two SACs were designated as important and valuable natural habitats. In March 2006 a sixth zone received protected status: the waterfront of the marine reserve of the Bay of Heist.

3.1.9 Description of audit and/ or review process of the national marine spatial plan(s) or spatial management plan(s)

No overall review process available due to lack of statutory basis of MSP.

Continuous sectorial audit and monitoring process for sand and gravel extraction (black box), dredged materials dumped (environmental effects of dumping) and environmental effects of offshore wind mills.

3.1.10 Description of the strength and weaknesses of the marine spatial plan(s) or spatial management plan(s)

Table 3.1.3: Brief overview of observed positive and negative experiences, impacts or issues associated to the marine spatial plan(s) or spatial management plan(s).

Strength/ positive experience or impact	Weakness/negative experience or impact
Clear indication what activities can take place where	No process available to review MSP on a regular basis
Guarantee for investors and exploiters of natural non-living resources that their activities can take place: investment security	Inadequate stakeholder participation
(Potential) user-user conflicts are visible and can be anticipated	No cooperation for the management of transboundary MPAs
Easy understandable for the general public and stakeholders having different stakes	No transboundary vision on MSP

3.1.11 General issues and opportunities for cross-border MSP.

Opportunities for transboundary MSPs between Belgium and The Netherlands:

1. Shipping safety
2. Offshore wind farms (area of Thornton Bank) and related cables
3. Management of a transboundary MPAs (Vlakte van de Raan)
4. Fisheries

3.1.12 References

Management Unit of the North Sea Mathematical Models at:

<http://www.mumm.ac.be/EN/index.php>

Ministry of Economics (overall MSP map)

MAES, F., DE BATIST, M., VAN LANCKER, V., LEROY, D., VINCX, M. (eds.), *Towards a Spatial Structure Plan for the Sustainable Management of the Sea (GAUFRE)*: Brussels, Belgian Science Policy, 2005, 384 p. + Annexes [D/2005/1191/25]

MAES, F., SCHRIJVERS, J. & VANHULLE, A., (red.), *A Flood of Space. Towards a Spatial Structure Plan for the Sustainable Management of the North Sea*, Brussels, Belgian Science Policy, 2005, 204 p. [D/2005/1191/20] + Cd-Rom [D/2005/1191/20]

DOUVERE, F., MAES, F., VANHULLE, A., SCHRIJVERS, J. (2007). The Role of Marine Spatial Planning in Sea Use Management. The Belgian Case, *Marine Policy* 31 (2) 182-191.

PLASMAN, C. (2008). Implementing marine spatial planning: A policy perspective. *Marine Policy* 32 (5) 811-815.

Degraer, S., Brabant, R. & Rumes, B. (Eds.) (2010) Offshore wind farms in the Belgian part of the North Sea: Early environmental impact assessment and spatio-temporal variability. Royal Belgian Institute of Natural Sciences, Management Unit of the North Sea Mathematical Models. Marine ecosystem management unit. 184 pp. + annexes.

SOMERS, E. & MAES, F. (2011). National Report for Belgium on the Law Applicable on the Continental Shelf and in the Exclusive Economic Zone. *Ocean Development and International Law* (forth coming)

3.2 Denmark

Currently Denmark has no formal marine spatial planning process.

3.2.1 Description of borders of the national marine spatial plan(s) or spatial management plan(s)

In Denmark (March 2011) there is no formal spatial plan for marine areas. A report *“The Integrated Maritime Strategy”*, published by the Danish government in July 2010 (Danish Govt. 2010), states that there is a need for a more formalised coordination between Danish authorities with responsibilities for management at sea. The strategy suggests that a renewal of the existing forum for coordination between maritime directors as well as a working group, consisting of the affected Danish authorities, which will make suggestions for future practice of maritime spatial planning in Denmark.

In the following steps a working group has been established *“Havplangruppen”* (*“Sea Planning Group”*) (authors’ own translation) consisting of representatives from relevant maritime authorities/ministries with the Ministry of Environment acting as secretariat for the group. The mandate of the group is to map the Danish judicial and administrative landscape relevant to planning in/of Danish marine territory and to identify viable options for future marine spatial planning in Denmark.

The working group has at this point completed its work. However, its final report has not yet been formally approved. The report is expected to be submitted to a designated governmental body in the fall of this year (2011). Discussions in the group have shown much variation in the views on maritime spatial planning held by the various maritime authorities and reaching a common ground has been difficult. The overall conclusion coming from the group is to await the outcome of the EC’s impact assessment of MSP policy options and any subsequent proposals regarding maritime spatial planning procedure from the EU before proceeding with taking a consolidated position. Though the governmental working group on MSP was not able to reach a common understanding, its value is appreciated as the group has served as a platform for preparing the Danish authorities for any upcoming discussions relating to expected EU policy proposals on maritime spatial planning.

3.2.2 Authorities involved in the national marine spatial plan(s) or spatial management plan(s)

In the absence of a formal marine spatial planning framework in Denmark, permission for area usage is usually managed in an ad hoc, *permit by permit* fashion, and most often coordinated bilaterally between involved Ministries and/or Agencies. However, several authorities use planning in their management, e.g.:

- Danish Energy Agency: wind turbines, designating concession areas, cables, administration of oil & gas laws
- Danish Maritime Authority: shipping routes, navigational safety
- Danish Defence (establishment of training areas)
- Danish Coastal Authority (flood risk management plan)
- Nature Agency (water plans, Natura2000 plans, marine strategies, designating areas for extracting sand and gravel, environmental assessments regarding extraction of oil & gas, nature reserve planning, etc.)
- Danish Directorate of Fisheries (designating areas with certain regulations).

The usual management procedure in Denmark involves stakeholders in both the planning procedure and specific decisions. All authorities make use of public hearings, consultations and dialogue with the general public and stakeholders in relation to both planning and to specific regulatory functions.

3.2.3 Policy framework relevant for the national marine spatial plan(s) or spatial management plan(s)

Table 3.2.1: Overview of the relevant policies at international, national and local level.

Level	Policy framework of MSP or spatial management plan	English translation	Reference
International, Supra-regional	<ul style="list-style-type: none"> – United Nations Convention on the Law of the Sea of 10 December 1982 – UNESCO Biosphere Reserves – RAMSAR Convention – International Convention for the Safety of Life at Sea (SOLAS), esp. Regulation SOLAS V/10 Ships' routing – London Convention and London Protocol – MARPOL (International Convention for the Prevention of Pollution from Ships) – UNCLOS (United Nations Convention on the Law of the Sea) – Ballast Water Convention (BWM) 		International Legal Materials (ILM): websites convention secretariats UNCLOS, 1982 SOLAS, IMO 1974: SOLAS V/10 IMO, 72/96 MARPOL 73/78 UNCLOS, 1982 IMO, 13/02/2004
EU/Regional	<ul style="list-style-type: none"> – Valletta Treaty/ Malta Convention, European Convention on the Protection of the Archaeological Heritage – EU Nitrate directive – EU directive regarding geological storage of carbon dioxide (CCS Directive) – European Fishing Fund (EFF) Operational Programme – European Directive on Port Reception Facilities – EU Water Framework Directive – Marine Strategy Framework Directive – Regional: OSPAR Convention; UNECE Espoo Conventions (EIA & SEA); UNECE Aarhus Convention (public participation) – EU: Birds and Habitats Directives; Natura 2000; – Floods Directive; – EIA & SEA Directives – Renewable Energy Directives – Green Paper on a Future Maritime Policy for the EU (2006); – EU Blue Paper on Integrated Maritime Policy, October 2007 – EU Roadmap for MSP – Common Fisheries Policy (CFP) – Trilateral Wadden Sea Cooperation 2010 (Denmark, Germany, Netherlands) – Joint Declaration on the Protection of the Wadden Sea 		16/01/1992 91/676/EEC 2009/31/EC (EC) No 1198/2006 2000/59/EC 2000/60/EC 2008/56/EC 22/09/1992 79/409/EEC, 92/43/EEC 2007/60/EC 85/337/EEC, 2001/42/EC 2009/28/EC SEC(2006) 689 COM(2007) 574 final COM/2008/0791 (EC) No 2371/2002
National	BEK nr 860 af 15/09/2005 Bekendtgørelse om erhvervs-mæssigt fiskeri efter hesterejer ved den jyske vestkyst	Law about fishing brown shrimp along the western Jutland coast incl. the Wadden Sea	https://www.retsinformation.dk/Forms/R0710.aspx?id=8330 Shrimp line. Related to national fisheries legislation. LBK nr 978 af 26/09/2008 Fiskeriloven.
National/Local	Assorted nature reserve legislation, e.g. Bekendtgørelse om fredning og vildtreservat i Vadehavet 1)	Law about reservation/protection of the Wadden Sea	Vejledning til bekendtgørelse om fredning og vildtreservat i Vadehavet https://www.retsinformation.dk/forms/R0710.aspx?id=86998 https://www.retsinformation.dk/

			forms/R0710.aspx?id=13147
National	Bekendtgørelse om fiskeri efter samt landing af blåmuslinger fra Vadehavet	Law about fishing blue mussels in the Wadden Sea	https://www.retsinformation.dk/Forms/R0710.aspx?id=77967 Related to national fisheries legislation. LBK nr 978 af 26/09/2008 Fiskeriloven.
National	Lov om nationalparker (e.g. Wadden Sea)	Law about national parks	https://www.retsinformation.dk/forms/r0710.aspx?id=13117#K5
local	Bekendtgørelse om konsekvensvurdering vedrørende internationale naturbeskyttelsesområder samt beskyttelse af visse arter ved projekter om etablering m.v. af elproduktionsanlæg og elforsyningsnet på havet	Law regarding impact assessment in international nature conservation areas and protection of species in projects dealing with energy infrastructures and electricity at sea (in Danish)	BEK nr 1476 af 13/12/2010 https://www.retsinformation.dk/forms/R0710.aspx?id=134988#B1
National	Bekendtgørelse af lov om miljømål m.v. for vandforekomster og internationale naturbeskyttelsesområder (Miljømålsloven) ¹	Transposition of WFD and Natura, Ramsar into DK law. Law about environmental targets (incl. Int. Protected areas) Natura regulation is supported by existing sub-regulations such as fisheries laws, nature reserves etc.	LBK nr 932 af 24/09/2009 https://www.retsinformation.dk/forms/R0710.aspx?id=127102
National	Loven om havstrategien	Transposition of MSFD in national law	LOV nr 522 af 26/05/2010 https://www.retsinformation.dk/Forms/R0710.aspx?id=131991
National	Crangon shrimp fishing grounds: Shrimp (Crangon) Fishery with beam trawl not permitted within 3 nm of the coast and within Rejelinien "The Shrimp Line": a coastal boundary that excludes shrimp trawlers from the coastal zone to protect juvenile flatfish.		
National	Natura 2000 management planning (in progress)		
National	WFD water plans (in progress)		
National	Fish: Management plan for houting (Coregonus oxyrinchus) Snæbel http://www.snaebel.dk/Projektet/Maal/		

3.2.4 Map(s) of the national marine spatial plan(s) or spatial management plan(s)

Figures of some (not all) relevant spatial layers. More available if needed. GIS files can be made available incl. VMS data in aggregated format.

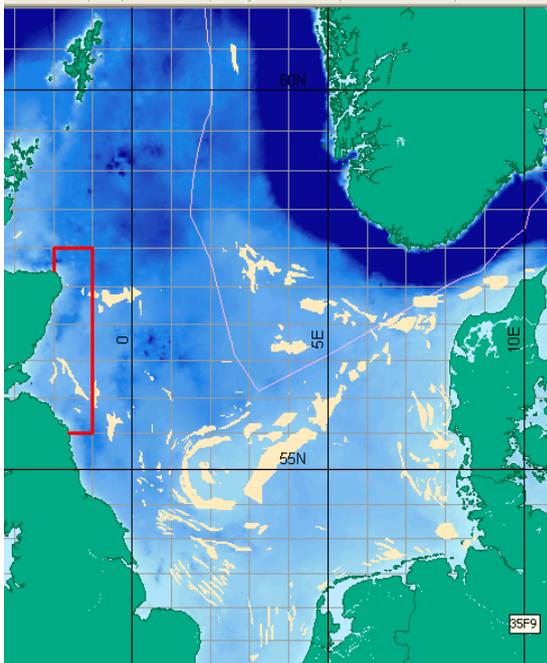


Figure 3.2.1: Sandeel banks North Sea (DK fisheries).

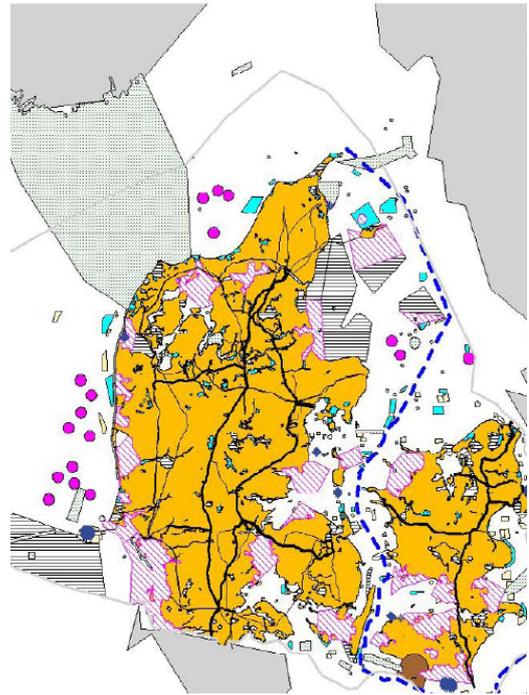


Figure 3.2.2: Assorted maritime layers.

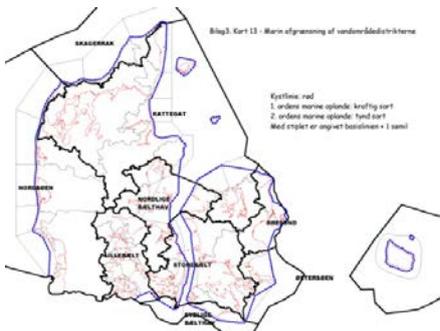


Figure 3.2.3: WFD boundaries.

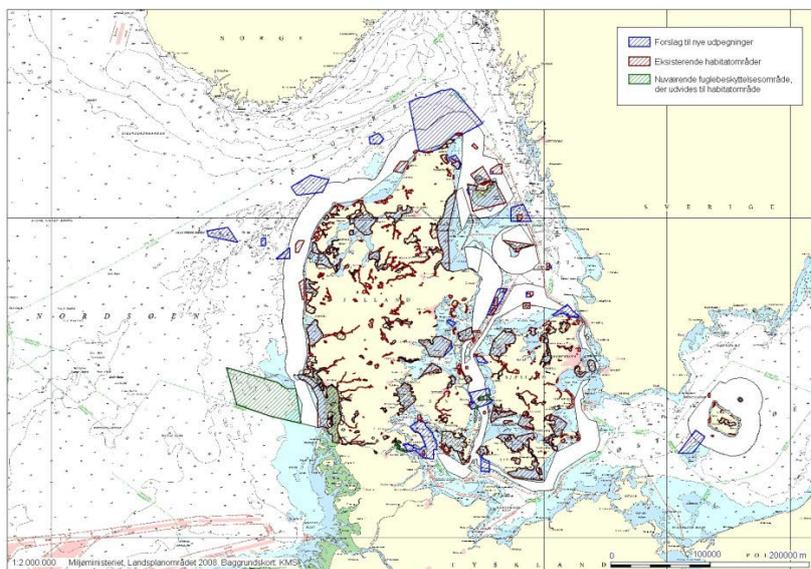


Figure 3.2.4: DK Natura 2000 + 12 nm limit

3.2.5 List of the human activities managed by the marine spatial plan(s) or spatial management plan(s)

Table 3.2.1: List of human activities that are available as geographical maps (ArcGIS). In cases where priorities are associated to certain activities the ranking is listed.

Human activity	Geo-data/	Geodata available for MASPNOSE (y/n)	Data source
Shipping routes	y	Coordinates likely available	Farvandsvæsnet
Oil & Gas extraction	y	GIS layers likely available	Energistyrelsen
Raw material extraction	y	Coordinates available	Danish Nature Agency
Military areas	y	Coordinates/Geodata available	Farvandsvæsnet
Maritime emergency areas (shipping)	y	Coordinates/Geodata likely available	Farvandsvæsnet
Fishery with bottom contacting gear	(y)	aggregated data available for DTU Aqua, only for vessels of >15 m length. Logbook data available at ICES square resolution for some vessels <15m.	DTU Aqua
Stationary fishery	(y)	aggregated data available for DTU Aqua, only for vessels of >15 m length. Logbook data available at ICES square resolution for some vessels <15m.	DTU Aqua
Pelagic fishery	(y)	Aggregated data available for DTU Aqua, only for vessels of >15 m length. Logbook data available at ICES square resolution for some vessels <15m.	Fiskeridirektoratet (DTU Aqua)
Wind mill farms	y	Near-shore, offshore	Energy agency
Cables	y	pending	pending
Pipelines (oil/gas)	y	yes	Danish Nature Agency
Aquaculture/mariculture	y	Near-shore	municipalities, Fisheries Directorate
Boundaries of various legislation, e.g. Jagt & Vildtforvaltningsloven	y	Often related to temporal regulations (open/closure of an activity, minimum size, etc.) within specific areas	Danish Nature Agency
Boundaries of nature reserves	y	Often identical to Natura 2000 areas.	Danish Nature Agency
Boundaries of NATURA 2000 areas in the North Sea	y	There are 11 NATURA 2000 habitats off shore in the Danish part of the North Sea, including 11 habitat	Danish Nature Agency

		areas & 2 bird areas. In addition, there are several near-shore and inshore NATURA 2000 areas. Together, they cover 7 NATURA 2000 nature types and several species of birds, fish and mammals (see details below).	
WFD boundaries	y	Near-shore, offshore regulations.	Danish Nature Agency
12 nm boundary (fisheries)	y	yes	DTU Aqua

3.2.6 List bio-physical or other features implemented in the marine spatial plan(s) or spatial management plan(s)

Table 3.2.3: List of bio-physical features that are available as geographical maps (ArcGIS).

Bio-physical feature (North Sea area of the Danish Seas)	Geodata available for MASPNOSE (y/n)	Comments	Data source
Geological substrate distribution	Y	Cover parts of the North Sea, data accuracy and origin varies	KMS/GEUS
Biodiversity and aggregate mapping	to be confirmed	Transects of the North Sea; regional biodiversity assessment results from e.g. HARMONY project.	Orbicon/NST (HARMONY project)
Sea floor depth distribution	Y	Data accuracy and origin varies between sites	KMS/Farvandsvæ snet
Detailed topography of shipping routes	Y (potentially available upon request)	Multibeam- data, cover only major shipping routes	KMS/Farvandsvæ snet
NATURA 2000 nature types	n/y (distribution maps are often not available=non-existing)	The nature types vary between individual NATURA 2000 sites. Some nature types have been mapped, but most often accurate positions is non-existing. 7 marine habitat types are included in one or more of the NATURA 2000 sites in the Danish North sea and adjacent waters: No. 1110, 1130, 1140, 1150, 1160, 1170, 1180. Protected species include: fish (1095, 1096, 1099, 1102, 1103, 1106, 1113), birds (several) and mammals (1351, 1355, 1365). Almost all habitat types and species are	Danish Nature Agency, NERI-AU, Miljøportalen,

		included in the Danish Wadden Sea NATURA site.	
Protected species	n/y (distribution maps are often not available=non-existing)	This	Nature Agency, NERI-AU, Miljøportalen,
Ship wrecks	y	Data of variable accuracy and origin	Farvandsvæsnet?, Kulturarvstyrelsen?
Fished areas with different gears	y	VMS data for different fisheries	DTU Aqua
Sandeel banks	y		DTU Aqua

3.2.7 Goals and high-level objectives of the national marine spatial plan(s) or spatial management plan(s)

For Natura 2000 sites the overarching goal is favorable conservation status for habitats and species.

For WFD: good ecological and chemical status.

For MSFD: Good environmental status for 11 qualitative descriptors of GES.

In the following tables the goals and objectives from DK “Integrated Maritime Policy” are listed.

Table 3.2.4: Goals identified in DK govt. report “The Integrated Maritime Strategy”

No.	High level goals
1	Favourable conditions for development of the maritime sector
2	Decreased emission of greenhouse gases and reduction of air pollution
3	Protection of the marine environment and the coastal zone
4	Increased safety at sea
5	Increased coordination of initiatives and management within the maritime sector

Table 3.2.5: Objectives identified in DK govt. report “The Integrated Maritime Strategy”

No. (refers to goals in table 1)	Objectives
1	Shipping and transport: ensure a flexible administration with few obstacles for industry.
1	Fisheries: continue efforts to ensure that CFP moves in sustainable direction (via e.g. catch quotas, more selective gears). Work towards 2012 reform of CFP which supports fishermen’s responsibility for achievement of sustainable catches.
1	Tourism: continue to create opportunities for development for cruise ship tourism, boating and recreational fisheries.
1	Administrative issues: evaluate and reduce administrative burdens in relation to

	international rules (maritime).
1	Public/stakeholders: ensure coherence between websites of maritime authorities.
1-7 Baltic Sea	<ol style="list-style-type: none"> 1. Create favourable conditions for maritime industry, a healthy environment, safety at sea and sustainable development. 2. New initiatives to create added value in relation to existing activities and institutions. 3. Maritime initiatives must see to it that the Baltic region and its maritime industries fall under global rules and conditions. 4. Sustainable development of maritime industries, where the Baltic Sea Action Plan and the Marine Strategy Framework Directive serve as the environmental basis.
2	30% of total energy consumption in Denmark must come from renewable energy by 2020
2	Aim to exploit DK oil and gas reserves as well as possible in a safe way with respect for the environment through improved methods.
2	Maintain focus on exploiting DK potential for offshore wind energy as an alternative to fossil fuels.
2	Continue to push for global, binding and flag-neutral IMO rules for the CO ₂ emissions in international shipping.
3	Ensure the implementation of the MSFD as an environmental foundation for future sustainable development of maritime industries.
3	<p>Work towards:</p> <ul style="list-style-type: none"> • ratification of the Ballast Water Convention by 2011 and implementation of the – arbejde for, at ballastvandkonventionen kan ratificeres i løbet af 2011 • implementation of the The Nairobi International Convention on the Removal of Wrecks by 1 Jan 2013. • ratification of the Hazardous Noxious Substance Protocol as quickly as possible, no later than 2012; • reduction of oil and chemical pollution from offshore industry in the North Sea.
3	Improve capabilities and preparedness in relation to monitoring and mitigation of pollution.
4	Submit suggestion to IMO for revised shipping routes in DK seas.
5	Establish forum for all maritime stakeholders based on developments within Maritime Policy.
5	<p>MSP:</p> <ul style="list-style-type: none"> • ensure that when implementing MSP in DK that all stakeholders are involved. • establish MSP working group with relevant authorities • develop proposal/strategy for future use of MSP in DK
5	Ensure coordinated development of geographic/geospatial infrastructure

3.2.8 Operational objectives of the national marine spatial plan(s) or spatial management plan(s)

See 3.2.7

3.2.9 Description of audit and/ or review process of the national marine spatial plan(s) or spatial management plan(s)

There is currently no formal marine spatial planning framework in Denmark and each sector employs spatial management independently. Audit processes in relation to national plans are usually reviewed and revised on an ad hoc basis. However, for plans based on EU directives (Natura 2000 management plans, water plans, marine strategies) the cycle is typically every 6 years.

3.2.10 Description of the strengths and weaknesses of the marine spatial plan(s) or spatial management plan(s)

Weaknesses:

No comprehensive planning mechanism for maritime space.

The majority of human activities at sea are controlled by specific authorizations, which gives an **ad hoc allocation of the marine space**.

Denmark has **no overall policy for integrated coastal zone management** and thus no overall policy for integration between planning of the coastal zone and offshore areas..

In relation to **trans-boundary cooperation/planning**, when a certain plan or activity is assumed to have significant trans-boundary effects, the affected neighbouring countries are generally consulted; primarily in consistent with statutory rules, which implement the EIA Directive, the SEA Directive and the Espoo Convention. In several occasions agreements with neighbouring countries have been made e.g. the oil contingency planning, the Wadden Sea Plan, etc. but there is **no formal spatial planning framework in place to resolve trans-boundary issues**.

Permits often contain a proviso for permits given by other authorities and it is the applicant who is responsible for obtaining all relevant permits

Lack of coordination on data collection, analysis and synthesis of spatial information.

No general guidelines for balancing interests in a particular area of the sea, i.e. consensus is the aim.

Strengths:

All authorities make use of **public hearings, consultations and dialogue with the general public and stakeholders** in relation to both planning and to specific regulatory functions.

A **division of competences**, which builds on laws and delegations, is established (but this is not always sufficiently transparent.)

Coordination exists between authorities and is based on consultation and ongoing collaboration, e.g. committees and coordination groups.

Table 3.2.6: Brief overview of observed positive and negative experiences, impacts or issues associated to the marine spatial plan(s) or spatial management plan(s).

Strength/ positive experience or impact	Weakness/negative experience or impact
public hearings, consultations and dialogue with the general public and stakeholders	No comprehensive spatial planning mechanism
division of competences is established	<i>ad hoc</i> allocation of the marine space
Coordination exists between authorities	no overall policy for integrated coastal zone management
	no formal spatial planning framework in place to resolve trans-boundary issues
	Permits often contain a proviso for permits given by other authorities
	Lack of coordination on data and information.
	No general guidelines for balancing interests

3.2.11 General issues and opportunities for cross-border MSP.

- Development of renewable energy in case study area (Dogger bank): cumulative impacts
- The effects of national activities/planning on the transboundary activities of neighbouring countries.
- Wind/natura2000: issues related to development of wind energy on one side of the border and Natura 2000 site on the other.
- Coastal to open water integration (with focus on the Wadden Sea, integrate with COEXIST, MESMA etc).

3.2.12 References

2000/60/EC. Directive of the European parliament and of the council of 23 October 2000 establishing a framework for Community action in the field of water policy. Official Journal of the European Communities L327: 1-72

2001/42/EC. Directive of the European parliament and of the council on the assessment of the effects of certain plans and programmes on the environment. Official Journal of the European Communities L197: 30-37

2008/56/EC. Directive of the European parliament and of the council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive). Official Journal of the European Union L164: 19-40

2009/147/EC. Directive of the European parliament and council of 30 November 2009 on the conservation of wild birds. Official Journal of the European Union L20: 7-25

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

Danish Government (2010). En samlet maritim strategi. Report of the The Ministry of Economic and Business Affairs. 100 p.

3.3 Germany

In the following the maritime spatial plan of the German EEZ of the North is reviewed together with coastal spatial management plans of the federal states Lower Saxonia, Hamburg and Schleswig-Holsteins.

3.3.1 Description of borders of the national marine spatial plan(s) or spatial management plan(s)

Spatial plan area comprises the EEZ, which in turn is limited by the 12 nautical mile (nm).

The coastal zones of the federal states of Lower Saxonia, Hamburg and Schleswig-Holsteins range from mean tide high-water seawards until the 12 nautical mile limit. Between the federal states the borders are not established beyond the 3 nautical miles.

3.3.2 Authorities involved in the national marine spatial plan(s) or spatial management plan(s)

- BSH; Federal Maritime and Hydrographic Agency, Hamburg, Germany
- Ministries of Interior of Land Schleswig-Holstein and Lower Saxonia
- Ministry of Rural Areas, Nutrition, Agriculture and Consumers Rights of Schleswig-Holstein and Lower Saxonia
- Federal State Authorities of the Wadden Sea National Park

3.3.3 Policy framework relevant for the national marine spatial plan(s) or spatial management plan(s)

German EEZ MSP is legally binding (BMVBS, 2009).

Table 3.3.1: Overview of international, regional and national policy frameworks relevant for the national MSP process or spatial management plan.

Level	Policy framework of MSP or spatial management plan	Reference
International, Supra-regional	<ul style="list-style-type: none"> – United Nations Convention on the Law of the Sea of 10 December 1982 – UNESCO Biosphere Reserves – RAMSAR Convention – International Convention for the Safety of Life at Sea (SOLAS), esp. Regulation SOLAS V/10 Ships' routing – London Convention and London Protocol – MARPOL (International Convention for the Prevention of Pollution from Ships) – UNCLOS (United Nations Convention on the Law of the Sea) – Ballast Water Convention (BWM) 	International Legal Materials (ILM): websites convention secretariats UNCLOS, 1982 SOLAS, IMO 1974: SOLAS V/10 IMO, 72/96 MARPOL 73/78 UNCLOS, 1982 IMO, 13/02/2004
EU/Regional	<ul style="list-style-type: none"> – Valletta Treaty/ Malta Convention, European Convention on the Protection of the Archaeological Heritage – EU Nitrate directive – EU directive regarding geological storage of carbon dioxide (CCS Directive) – European Fishing Fund (EFF) Operational Programme 	16/01/1992 91/676/EEC 2009/31/EC (EC) No 1198/2006

	<ul style="list-style-type: none"> – European Directive on Port Reception Facilities – EU Water Framework Directive – Marine Strategy Framework Directive – Regional: OSPAR Convention; UNECE Espoo Conventions (EIA & SEA); UNECE Aarhus Convention (public participation) – EU: Birds and Habitats Directives; Natura 2000; – Floods Directive; – EIA & SEA Directives – Renewable Energy Directives – Green Paper on a Future Maritime Policy for the EU (2006); – EU Blue Paper on Integrated Maritime Policy, October 2007 – EU Roadmap for MSP – Common Fisheries Policy (CFP) – Trilateral Wadden Sea Cooperation 2010 (Denmark, Germany, Netherlands) – Joint Declaration on the Protection of the Wadden Sea 	<p>2000/59/EC 2000/60/EC 2008/56/EC 22/09/1992</p> <p>79/409/EEC,92/43/EEC 2007/60/EC 85/337/EEC, 2001/42/EC 2009/28/EC SEC(2006) 689</p> <p>COM(2007) 574 final</p> <p>COM/2008/0791 (EC) No 2371/2002</p>
National	<ul style="list-style-type: none"> – The German Spatial Planning Act 2004 – Federal Government's, Energy and Climate Programs (IEKP; 2007) – Federal Government's national marine strategy for sustainable use and protection of the seas (2008) – German statutory order on MSP in September 2009 – Spatial planning designations of the German coastal states Lower Saxony (2008) and Schleswig-Holstein (2005) 	<p>ROG 2004 ROB 2005 ROKK 2005</p>

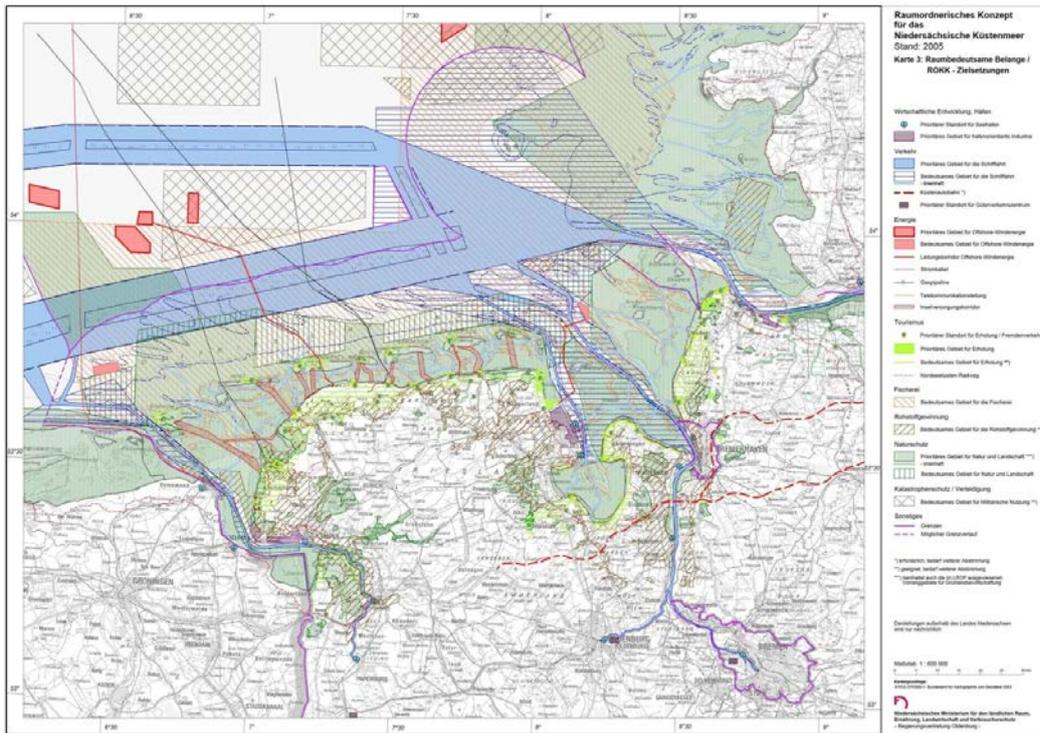


Figure 3.3.3: Spatial plan of the German coastal North Sea showing preference areas for different uses. Source: Ministry of Rural Areas, Nutrition, Agriculture and Consumers Rights Lower Saxonia

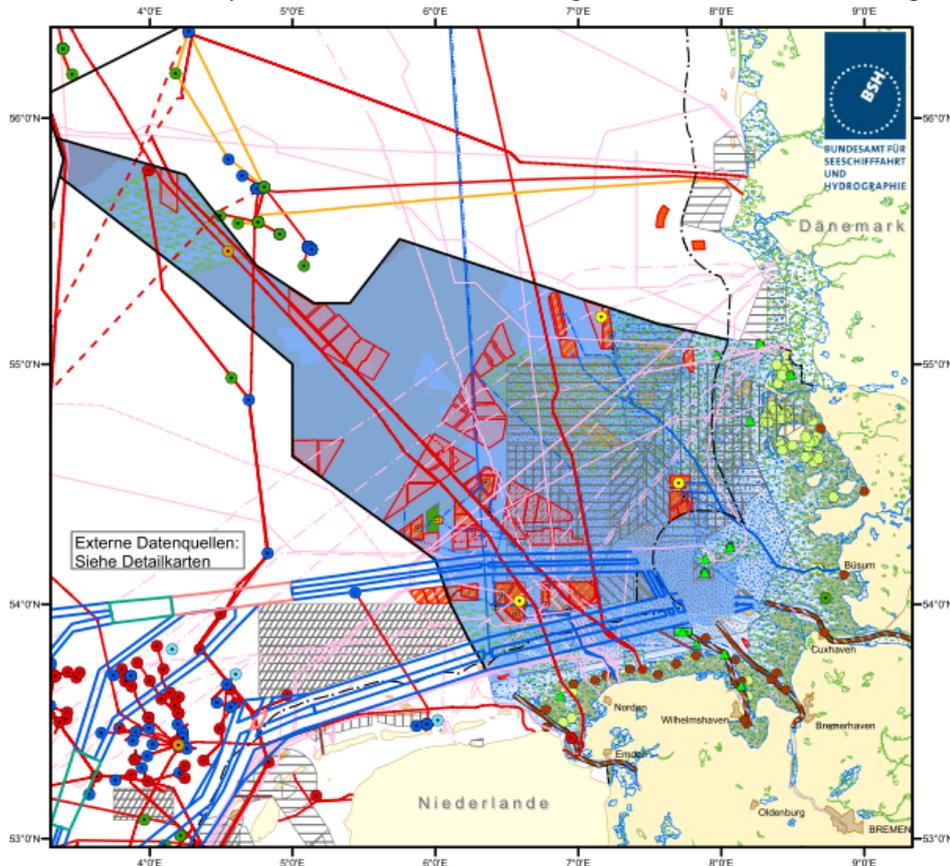


Figure 3.3.4: Uses and protection in German territorial waters. Data source: www.bsh.de.

The geodata of the spatial plans will be available for MASPNOSE.

3.3.5 List of the human activities managed by the marine spatial plan(s) or spatial management plan(s)

Table 3.3.2a: List of human activities managed by the EEZ plan. In cases where priorities are associated to certain activities the ranking is listed.

Human activity	Rank	Geodata available for MASPNOSE (y/n)	Data source
Pipelines and cables	1	Yes	BSH
Shipping	2	Yes	BSH
Energy production (wind energy)	3	Yes	BSH
Exploitation of non-living resources	3	Yes	BSH

Table 3.3.2b: List of human activities managed by the coastal spatial plans. In cases where priorities are associated to certain activities the ranking is listed.

Human activity	Rank	Geodata available for MASPNOSE (y/n)	Data source
Economic development and harbors	1	Y	Ministry of Interior LS
Shipping and traffic	1	Y	Ministry of Interior LS
Energy, Renewables	2	Y	Ministry of Interior LS
Recreation/Tourism	3	Y	Ministry of Interior LS
Fisheries	3	Y	Ministry of Interior LS
Mining/Extraction of abiotic resources	4	Y	Ministry of Interior LS
Nature conservation	5	Y	Ministry of Interior LS
Coastal protection	5	Y	Ministry of Interior LS

3.3.6 List bio-physical or other features implemented in the marine spatial plan(s) or spatial management plan(s)

Table 3.3.3: Bio-physical or other features which are spatially represented or mentioned in the plans with no associated targets.

Bio-physical or user features	Geodata available for MASPNOSE (y/n)	Comments	Data source
Fisheries and mariculture	Yes	Fisheries and mariculture are mentioned in the plan but neither represented spatially nor regulated by the plan. The CFP applies to Fisheries. Important areas for shrimp and plaice are designated in coastal spatial management plans.	vTI/BLE Ministry of Interior LS
Marine scientific research	Yes	Marine scientific research is mentioned and spatially represented in the plan.	vTI
Military use	(Yes)	Military use is not regulated by UNCLOS therefore no regulations have been implemented in the plan.	(BSH)
Nature conservation (Natura 2000)	Yes	Natura2000 areas are designated and implemented in the spatial plan. Area of the Wadden Sea National Parks	Federal Agency of Nature Conservation (BfN)
Leisure and tourism	(Yes; only coastal leisure areas)	Not regulated by the plan as minimum distance of wind energy to coast 32 km. Coastal areas and islands.	Ministry of Interior Lower Saxonia
Dumping sites and sediment deposition	Yes	Dumping sites are included in the plan for information only. No regulation by the plan.	BSH
Sand and gravel extraction	Yes	Mentioned in the plan as assigned priority areas	
Oil- and gas			
Cultural heritage sites	(Yes)	Not shown in the map but mentioned as a possible interfering feature.	(BSH)
Harbour development	No	Jade-Weser_Port, Hamburg Port	

3.3.7 Goals and high-level objectives of the national marine spatial plan(s) or spatial management plan(s)

Goals:

1. Securing and strengthening maritime traffic
2. Strengthening economic capacity through orderly spatial development and optimisation of spatial use
 - Investment security
 - Avoidance of negative effects of uses on each other due to the optimal allocation of use
 - Enhancement of infrastructure for ship traffic
3. Promotion of offshore wind energy use in accordance with the Federal Government's sustainability strategy (only EEZ)
4. Long-term sustainable use of the properties and potential through reversible uses, economic use of space, and priority of marine uses
 - Promotion of multiple-use of sea space
5. Securing natural resources by avoiding disruptions to and pollution of the marine environment
 - Protection of natural functions, systems and processes
 - Avoidance of pollutions
 - Preservation of biodiversity

Table 3.3.4: Regulations in the spatial plan of the EEZ of the North Sea and the related high level objectives

Regulation in the plan	High-level objectives
Shipping	<ul style="list-style-type: none"> ● Shipping is granted priority over the other spatially significant uses in the priority areas for shipping as indicated in the map. To the extent spatially significant planning, measures and projects are not compatible with the function of the shipping priority area in these areas they are not permitted
Exploitation of non-living resources	<ul style="list-style-type: none"> ● After termination of use, structural installations for resource exploitation must be dismantled. ● When exploiting resources, due consideration shall be given to existing pipelines and submarine cables and an appropriate distance from them shall be maintained
Pipelines and cables	<ul style="list-style-type: none"> ● The operation and maintenance of pipelines is given priority over other spatially relevant uses in the priority areas for pipelines as indicated in the map. Any spatially relevant plannings, measures and projects in these areas that are not compatible with the function of the priority area for pipelines are prohibited ● When designations of priority areas for pipelines overlap with priority areas for wind energy, the requirements of the pipelines shall be given priority ● Submarine cables for the transport of power generated in the EEZ shall cross priority areas for shipping by the shortest route possible if they cannot be run parallel to existing structures ● After termination of use, pipelines and submarine cables shall be dismantled. If dismantling would cause greater environmental harm than leaving them in place, the dismantling requirement may be waived wholly or in part unless dismantling is required to ensure the safety and efficiency of navigation. ● When routing new pipelines and submarine cables, due consideration shall be given to existing pipelines and submarine cables and an appropriate distance from them shall

	be maintained
Energy production, wind energy	<ul style="list-style-type: none"> • The production of wind energy is granted priority over other spatially significant uses in the priority areas for wind energy shown in the map. To the extent that spatially significant planning, measures and projects are not compatible with the function of the wind energy priority area in these areas, they are prohibited. • The construction and operation of power production facilities in the priority areas for wind energy shall not impair the safety and efficiency of navigation • Offshore wind turbines outside the designated priority areas are not allowed in Natura 2000 areas. Offshore wind farms already approved and those having reached an advanced stage in the approval procedure when the Spatial Plan entered into force are exempted from this regulation • The wind energy reference area identified in the map is designed for installation-related parallel investigations and shall be kept free of construction • After termination of use, offshore wind energy turbines shall be dismantled. If dismantling would cause greater environmental harm than leaving them in place, the dismantling requirement may be waived wholly or in part unless dismantling is required to ensure the safety and efficiency of navigation • The hub height of offshore wind turbines shall be limited to 125 m above mean sea level. This limitation applies only to offshore turbines that are visible from the coast or from islands • During energy production activities, due regard shall be given to existing pipelines and submarine cables and an appropriate distance from them shall be maintained

Lower Saxonia:

- Increase harbor areas and enhance harbor facilities to allow for the establishment of wind mill construction sites, maintenance and wrecking yards
- Deepening of shipping routes in estuaries and rivers (Ems, Weser, Elbe)
- Minimize the number of offshore windpark prototypes
- Designate areas of fisheries relevance, implement conservation objectives into fisheries management
- Designate zones of resource extraction
- Protect wadden areas, salt marshes, islands and dunes, estuaries by establishing marine reserves
- Protect sites and monuments (e.g. light houses)
- Maintain and adjust coastal defense systems to expected water levels rise

Schleswig-Holstein:

- Assess and enhance harbor facilities of Brunsbüttel, Husum and BÜsum
- Ensure secure shipping in the traffic zone North of Helgoland
- Ensure that infrastructure of offshore windparks does not conflict with shipping, nature conservation and coastal defense
- Implement and maintain FFH and RAMSAR areas
- Maintain and enhance dikes adjusting for increased sea water level, protect the coastline of islands (Sylt)

3.3.8 Operational objectives of the national marine spatial plan(s) or spatial management plan(s)

Table 3.3.4: Regulations in the spatial plan of the EEZ of the North Sea and the related operational objectives.

Regulation	Operational objective
Energy production, wind energy	<ul style="list-style-type: none"> • 20000 MW to be installed by 2030

3.3.9 Description of audit and/ or review process of the national marine spatial plan(s) or spatial management plan(s)

Existing international and national monitoring programs in the North Sea should be used to monitor the impacts of the implemented marine spatial plan. Those national and international monitoring programs are:

- National BLMP monitoring program
- BSH marine environmental monitoring network “MARNET”
- OSPAR monitoring program (e.g. Joint Monitoring and Assessment Program, Quality Status Report)
- ICES monitoring program
- Monitoring of the preservation status of specific species and habitats according to Art. 11 FFH Directive
- Management plans for the SPA “East of the German Bight” (European bird sanctuary) or studies for the assigned FFH areas
- Environmental monitoring (BNatSchG)
- Measures according to the EU Marine Strategy Directive
- Measures according to the EU Water Framework Directive

Further the impacts on the environment have to be consolidated and analysed within the framework of a project-related monitoring. Ultimately, the plan-related monitoring will merge and evaluate these results.

For the federal spatial management initiatives, several fora for integrated coastal zone management and associated research projects analyzed the actual and planned use of coastal zones and suggest spatial zoning. Results of these reviews can be found under www.ikzm-strategie.de.

EG/2003/35 and EG/2003/4 are implemented into EU water policy frameworks such as the WRL or MSFD and require national authorities to inform the public and stakeholders on the assessment, description of good environmental status, management objectives, monitoring regime and measures program. These audits are scheduled for 6 months and should be completed before July 2012. Though the MSFD is not a MSP in a strict sense, it is tied to spatial measures such as marine reserves.

3.3.10 Description of the strength and weaknesses of the marine spatial plan(s) or spatial management plan(s)

Table 3.3.5: Brief overview of observed positive and negative experiences, impacts or issues associated to the marine spatial plans.

Strength/ positive experience or impact	Weakness/negative experience or impact
<ul style="list-style-type: none"> • Strategic Environmental Assessment report according SEA-Directive as the basis for the plan development 	<ul style="list-style-type: none"> • The monitoring of the plan bases on both results of exiting monitoring activities (e.g. ICES, OSPAR, etc) and aggregated project-related assessments • No further specifications on the measures of success are defined (how can a sustainable spatial development be evaluated?) • A specific framework for a sustainability appraisal of the plan is missing • While environmental impacts of the implemented plan are addressed by the national and international monitoring programs (socio)economic impacts are not assessed.
<ul style="list-style-type: none"> • Guiding principle is a “sustainable spatial development, which brings the social and economic demands regarding space in line with its ecological functions and leads to a permanent, large scale balanced order” (ROG). • This is in line with the high level goal of the MSFD which is the promotion of sustainable use of the marine environment while safeguarding its processes, functions and structures. 	<ul style="list-style-type: none"> • Although fisheries is mentioned in the plan as an activity of economical importance no spatial representation of this activity is included in the plan
<ul style="list-style-type: none"> • An impact assessment has to be conducted for each project (wind energy) • The project related impact assessment has to follow assessment standards (StUK) 	<ul style="list-style-type: none"> • Although an impact assessment is conducted for each project (wind energy) the aggregation of the monitoring activities is only loosely described. • Although the risk of cumulative impacts is explicitly addressed in the plan the project related assessment framework gives no further guidance on how to assess cumulative impacts • The potentials of the multiple use of spatial units are not addressed
<ul style="list-style-type: none"> • The multiple use of spatial units is promoted by the plan 	<ul style="list-style-type: none"> • The potentials and limits of the multiple use of spatial units are not quantified in the project related assessment.
<ul style="list-style-type: none"> • Raise awareness of coastal development in legislation and governance 	<ul style="list-style-type: none"> • Unresolved competence of federal authorities
<ul style="list-style-type: none"> • Promote development of renewable energy 	<ul style="list-style-type: none"> • Need for viable indicators
<ul style="list-style-type: none"> • Enhance national and international cooperation e.g. between federal states or within the WSAP 2010 	<ul style="list-style-type: none"> • Data structure of existing monitoring programs not unified

3.3.11 General issues and opportunities for cross-border MSP.

In Germany the federal states of Lower Saxony and Schleswig Holstein pursue their own spatial management initiatives which have to be aligned with the spatial plan of the EEZ of the North Sea. For example in the spatial concept of Lower Saxony areas important for fisheries have been identified while there is no spatial representation of fishing areas in the EEZ. The installation of approx. 20000 MW in the EEZ is an ambitious target requiring the designation of large parts of the EEZ as wind energy areas (see as an example Fig. 3.3.5). Hence, this planning target has cross-border implications. The national and international fishing activities currently taking place in the planned and approved wind energy areas have to be relocated which could result in a number of future spatial use scenarios with different environmental and economic impacts. Further German wind energy areas border with Dutch wind energy areas as well as with Dutch and Danish conservation areas. Thus the cross-border impacts of the German planning objectives are unclear.

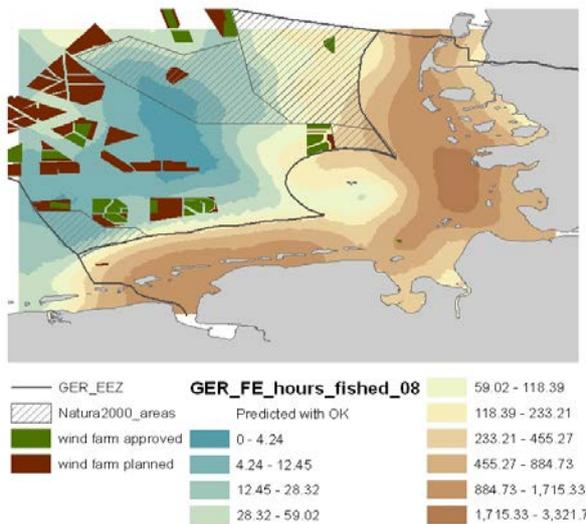


Figure 3.3.5: As an example German Bight with designated Natura2000 sites and approved and planned wind farm areas with total German fishing effort as hours fished in 2008 derived from VMS data.

Opportunities for cross-border MSP are:

- Development of a transparent framework on the management of those cross-boundary activities accounting for their combined impacts on both the single uses and the marine environment.
- Implementation of a cross-boundary wind energy permitting system which would require the comparison and alignment of socio-economic and environmental objectives and related targets for the plan area.
- Alignment of different national planning objectives such as the promotion of renewable energy and nature conservation.
- Infrastructure e.g. cables and pipelines may be used synergistically by adjacent facilities such as offshore wind parks.
- Managing conservation zones across borders ensures connectivity and coherence of MPA networks.

3.3.12 References

Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, 2006. Integriertes Küstenzonenmanagement in Deutschland – Nationale Strategie für ein integriertes Küstenzonenmanagement, Bestandsaufnahme 2006). 99 pp.

Innenministerium des Landes Schleswig-Holstein, 2006. Raumordnungsbericht Küste und Meer. Landesplanung in Schleswig-Holstein 32, 76 pp.

Niedersächsisches Ministerium für den ländlichen Raum, Ernährung, Landwirtschaft und Verbraucherschutz – Regierungsvertretung Oldenburg -, 2005. Raumordnungskonzept für das niedersächsische Küstenmeer. 81 pp.

2000/60/EC. Directive of the European parliament and of the council of 23 October 2000 establishing a framework for Community action in the field of water policy. Official Journal of the European Communities L327: 1-72

2001/42/EC. Directive of the European parliament and of the council on the assessment of the effects of certain plans and programmes on the environment. Official Journal of the European Communities L197: 30-37

2008/56/EC. Directive of the European parliament and of the council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive). Official Journal of the European Union L164: 19-40

2009/147/EC. Directive of the European parliament and council of 30 November 2009 on the conservation of wild birds. Official Journal of the European Union L20: 7-25

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

3.4 Netherlands

3.4.1 Description of borders of the national marine spatial plan(s) or spatial management plan(s)

The Dutch part of the North Sea covers 10% (58 000 km²) of the North Sea. Beyond the 1 km municipal and provincial zone, policy and management of the North Sea is the direct responsibility of central government. Dutch jurisdiction with regard to the EEZ is more restricted than the 12-mile zone (NWP, 2010). The Dutch Continental Shelf borders in the north with Germany (DE), the west with the United Kingdom (UK) and in the south with Belgium (BE). Figure 3.4.1 shows possible future developments regarding N 2000 sites and wind farms on the Dutch continental shelf and surrounding North Sea countries. Activities close to the Dutch border include:

- NL- BE: Shipping, wind parks and conservation areas (N2000)
- NL- UK: North-west: primarily conservation areas (N2000)
South-west: primarily shipping, wind parks and possible new N2000 sites.
- NL-DE: Sand extraction, possible new wind park locations, possible new N2000 sites and shipping.

3.4.2 Authorities involved in the national marine spatial plan(s) or spatial management plan(s)

Policy set out for Marine Spatial Management Netherlands is set out in the National Water Plan (NWP 22.12.2009), which, according to the Dutch Water Law (22.12.2009), has to be formulated every six years. The current NWP was produced in cooperation by the predecessors of the current Ministry for Infrastructure and Environment¹ and the Ministry of Agriculture, Nature and Food Quality², which is one of the predecessors of the current Ministry of Economic Affairs, Agriculture and Innovation. The NWP 2009-2015 contains, among others, a paragraph on the management of the North Sea, in which the Spatial Management Plan for the North Sea is explained in short, accompanied by a map. Attached to the NWP is the Policy Document on the North Sea 2009-2015 (22.12.2009), which offers a more detailed and specific illustration of this Spatial Management Plan.

The responsible authority for formulating, implementing and evaluating the North Sea Paragraph in the NWP and the Policy Document on the North Sea is the Ministry for Infrastructure and Environment, which constitutes the central government organ entrusted with policy-making and the coordination of the management for the Dutch section of the North Sea beyond the one mile coastal fringe. This ministry is supported in this task by the IDON, an Inter-ministerial consultation body for the management of the North Sea. The IDON consists of delegates from different ministries³. Its task is to assist the Minister of Infrastructure and Environment in the formulation, implementation and evaluation of the Integrated Management Plan for the North Sea 2015 (IMPNS 2015) for the North Sea, which translates the Policy Document of the North Sea into a spatial management plan. The current Marine Spatial Management Plan, the so-called Integrated Management Plan for the North Sea 2015 (IMPNS 2015) was formulated in 2005 and is thus based on the old legislation before the

¹In 2010, the Ministry of Transport, Public Works and Water Management and the Ministry of Housing, Spatial Planning and the Environment were merged to form the Ministry of Infrastructure and the Environment.

²In 2010, the Ministry of Agriculture, Nature and Food Quality was merged with the Ministry of Economic Affairs to form the Ministry of Economic Affairs, Agriculture and Innovation.

³Ministry of Infrastructure and Environment, Ministry of Economic Affairs, Agriculture and Innovation, the Ministry of Finance and the Ministry of Defense.

National Water Law was in place⁴. The NWP states that an update of the MPNS was planned for 2010. However a new version has yet to be published.

The responsible body for the execution of Marine Spatial Management Plan is Rijkswaterstaat, the executive organ of the Ministry of Infrastructure and Environment. The Rijkswaterstaat administers all major infrastructures in the country and is responsible for its design and construction, as well as its management and maintenance.

3.4.3 Policy framework relevant for the national marine spatial plan(s) or spatial management plan(s)

The following table lists the policies and laws on which the North Sea Paragraph of the National Water Plan and the Policy Document on the North Sea 2010-2015 are based.

⁴According to the old legislation, the management of the North Sea fell under the spatial planning law (*Wet Ruimtelijke Ordening*), and the Marine Spatial Management Plan was thus part of the national Spatial Planning Policy Document (*Nota Ruimte*). Those parts of the national Spatial Planning Policy Document, however, which were dealing with the management of the North Sea, were replaced by the National Water Plan, which was issued in December 2009.

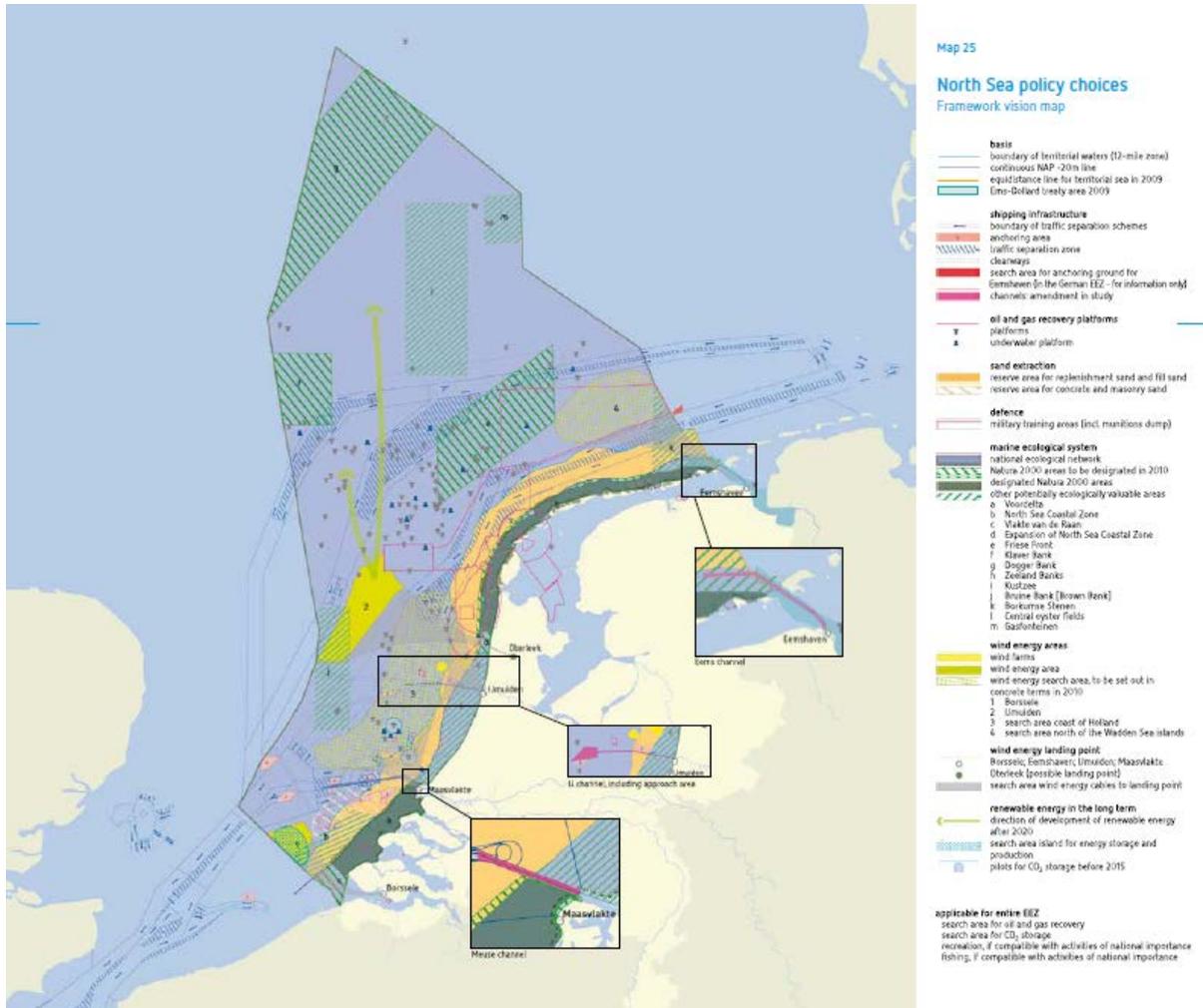
Table 3.4.1: Overview of international, regional and national policy frameworks relevant for the national MSP process or spatial management plan.

Level	Policy framework of MSP or spatial management plan	Reference
International, Supra-regional	<ul style="list-style-type: none"> – United Nations Convention on the Law of the Sea of 10 December 1982 – UNESCO Biosphere Reserves – RAMSAR Convention – International Convention for the Safety of Life at Sea (SOLAS), esp. Regulation SOLAS V/10 Ships' routing – London Convention and London Protocol – MARPOL (International Convention for the Prevention of Pollution from Ships) – UNCLOS (United Nations Convention on the Law of the Sea) – Ballast Water Convention (BWM) 	<p>International Legal Materials (ILM): websites convention secretariats UNCLOS, 1982 SOLAS, IMO 1974: SOLAS V/10 IMO, 72/96 MARPOL 73/78 UNCLOS, 1982 IMO, 13/02/2004</p>
EU/Regional	<ul style="list-style-type: none"> – Valletta Treaty/ Malta Convention, European Convention on the Protection of the Archaeological Heritage – EU Nitrate directive – EU directive regarding geological storage of carbon dioxide (CCS Directive) – European Fishing Fund (EFF) Operational Programme – European Directive on Port Reception Facilities – EU Water Framework Directive – Marine Strategy Framework Directive – Regional: OSPAR Convention; UNECE Espoo Conventions (EIA & SEA); UNECE Aarhus Convention (public participation) – EU: Birds and Habitats Directives; Natura 2000; – Floods Directive; – EIA & SEA Directives – Renewable Energy Directives – Green Paper on a Future Maritime Policy for the EU (2006); – EU Blue Paper on Integrated Maritime Policy, October 2007 – EU Roadmap for MSP – Common Fisheries Policy (CFP) – Trilateral Wadden Sea Cooperation 2010 (Denmark, Germany, Netherlands) – Joint Declaration on the Protection of the Wadden Sea 	<p>16/01/1992 91/676/EEC 2009/31/EC (EC) No 1198/2006 2000/59/EC 2000/60/EC 2008/56/EC 22/09/1992 79/409/EEC, 92/43/EEC 2007/60/EC 85/337/EEC, 2001/42/EC 2009/28/EC SEC(2006) 689 COM(2007) 574 final COM/2008/0791 (EC) No 2371/2002</p>
National	<ul style="list-style-type: none"> – Water Law – Spatial Planning Law – National Spatial Strategy, Creating Space for Development 	<p>29/01/2009, Waterwet 20/10/2006, Wet ruimtelijke ordening Lower House of the States General, sessionyear 2005-</p>

	<ul style="list-style-type: none"> – National Water Plan – Policy Document on the North Sea 2010-2015 – Integrated Management Plan for the North Sea 2015 (IBN) – International Policy Programme Biodiversity 2008-2011 – Amendment of the Nature Protection Law 1998 and the Flora and Fauna Law 1998 in relation to the extension of the scope of action of both laws to the Exclusive Economic Zone 	<p>2006, 29435. Ministerie van Infrastructuur en Milieu, 22/12/2009 Ministerie van Infrastructuur en Milieu, 22/12/2009 Lower House of the States General, session year 2004-2005, 30195, no. 1 Minister van Economische zaken, Landbouw & Innovatie, Minister van Infrastructuur en Milieu 2008 Tweede Kamer, vergaderjaar 2008-2009, 32 002, No 3.</p>
--	---	---

3.4.4 Map(s) of the national marine spatial plan(s) or spatial management plan(s)

Figure 3.4.1 Framework vision map (NWP, 2010)



3.4.5 List of the human activities managed by the marine spatial plan(s) or spatial management plan(s)

Table 3.4.2: List of human activities managed by the plans.

Human activity	Rank	Geodata available for MASPNOSE (y/n)	Data source
Sand extraction	x	Contact with Rene van 't Hart (waiting for his reply 17-05-2011)	RWS Dienst Noordzee
Renewable energy (Wind energy)	x	„	„
Oil and Gas exploitation	x	„	„
Military exercise areas	x	„	„
Cables and pipelines		„	„
MPA		„	„
Shipping (regulated on an international scale)	x	„	„

x = activity is of national importance

3.4.6 List of bio-physical or other features implemented in the marine spatial plan(s) or spatial management plan(s)

Policies of the Dutch spatial management plan regarding bio-physical and other features are safeguarded by the European Bird and Habitat directive, EU fisheries policy, Ospar convention and the Marine Strategy Framework directive. These combined in the integrated management plan for the North Sea 2015. In accordance to these policies the Netherlands (just like the other EU Member states) is subject to undertake initial assessments, formulate targets, develop management plans and monitor, evaluate and deliver regular reports to the relative administrating bodies regarding the state of bio-physical and other features. In the Netherlands, the Bird and Habitat Directive/ N2000 sites are implemented through the Natuurbeschermingswet (nature protection law).

Table 3.4.3: List of bio-physical features integrated by the plans.

Bio-physical features	Geodata available for MASPNOSE (y/n)	Comments	Data source
Relevant under Habitat directive for NCP:	Page 21 22 of North sea policy document .		Imares
Bentic Fauna (Habitattype 1110 ⁵ , 1180 ⁶ and 1170 ⁷)			Lindeboom et al, 2005
Sea mammals (Grijze Zeehond, Gewone Zeehond, Tuimelaar, Bruinvis)			Lindeboom et al, 2005
Fish (Rivierprik, Zeeprik, Elft, Fint, Steur)			Lindeboom et al, 2005
Relevant under Bird directive for NCP			Lindeboom et al, 2005

⁵Permanent door zeewater overstroomde zandbanken

⁶Permanent onder water staande structuren gevormd door weglekkende gassen

⁷Reefs

Appendix 1 and other migrating bird species mentioned in article 4, second paragraph (Parelduiker, Roodkeelduiker, IJsduiker, Kuifduiker, stormvogeltje, Vaal Stormvogeltje, Vale Pijlstormvogel, Dwergmeeuw, Grote Stern, Visdief, Noordse Stern, Dwergstern en Zwarte Stern)			Lindeboom et al, 2005
Relevant under Ospar:			
criteria as stated in ANNEX A (Threatened or declining species and habitats/ biotopes, Important species and habitats/ biotopes, Ecological significance, High natural biological diversity, Representativity, Sensitivity, Naturalness)			Lindeboom et al, 2005 & OSPAR, 2003
Relevant under Marine Strategy Framework Directive		Initial assessment is scheduled to be finished in 2012.	The Spatial Planning Policy Document, (EU, 2008)
Physical loss (smothering, sealing)			
Physical damage (changes in salinization, abrasion), selective extraction)			
Other physical disturbance (noise & marine litter).			
Interference with hydro- logical processes (change thermal & salinity regime)			
Contamination by hazardous substances (introduction (non)- synthetic compounds & substances, radio- nuclides)			
Systematic and or intentional release of substances			
Nutrient and organic matter enrichment (input of fertilizers and other nitrogen, organic matter)			
Biological disturbance (introduction microbial pathogens, non-indigenous species and translocations, selective extraction of species)			

3.4.7 Goals and high-level objectives of the national marine spatial plan(s) or spatial management plan(s)

	High level goals*	Source
1	Guarantee a safe and livable delta	NWP 2009
2	Sustainable, spatially-efficient, and safe use of the North Sea in balance with the marine ecosystem as defined in the WFD, MSFD, BHD; protect and develop the marine ecosystem	NWP 2009 (WFD, MSFD, BHD, CFP, IMP, OSPAR, Nitrate reg.)

	High level goals*	Source
3	The North Sea is a healthy, dynamic and open marine ecosystem that is used sustainably. Economic, ecological and socio-cultural values are in balance (planet, people, profit). By contributing to the formulation of an integrated policy and measures for the protection of marine biodiversity and the creation of a global network of protected marine areas, the Netherlands meets (international) goals for the marine ecosystem. The ecosystem approach and the precautionary principle are applied actively in the policy.	BN 2009
4	Sustainable and climate-resistant water management	WV 2007Watervisie
5	CO2 reduction: Energy saving and sustainable energy use. In the transition phase (until 2050), CO2 capture and storage will be necessary to reach the climate goals. Large scale CSC from 2020 onwards. Smaller oil and gas fields are dismantled where possible	NMP4 2001, NWP 2009, BN 2009
6	Increasing of and investing in flood protection	DC 2008
7	Preserve locations for sand extraction and replenishment to guarantee sufficient and affordable sand for building activities; enable new strategies for sand extraction in the light of climate change. Sand extraction is a priority activity between the -20m depth line and the 12nm limit.	NWP 2009, BN 2009, DC 2008
8	Use space for cables and pipelines as efficiently as possible. Electricity cables, telecommunications cables and pipes are bundled where possible.	NWP 2009 BN 2009
9	Sustainable fisheries; national policy focuses on fostering responsible fisheries and a balance between fisheries and nature; aiming for a re-allocation of responsibilities between government and industry. Sustainable fishing and marine aquaculture sustain a healthy fish population and so fishing remains the socio-economic basis for parts of the coastal region. Natural benthic life has recovered.	NWP 2009, BN 2009, CFP
10	Foster (international) tourism; improve and strengthen this sector through innovation and sustainability Unobstructed views across the sea along almost the whole stretch of coastline. Archaeological values in the seabed have been well preserved.	NWP 2009, BN 2009
11	Secure freshwater supplies in the long term	DC 2008
12	Protection and development of the Waddensea area and landscape; Transnational protection of the Waddensea, including the Eems-Dollard estuarine area. Combining the world heritage site with safety and liveability. Protection against flooding from the sea, accessibility of ports and islands, economic development; protection of cultural values and of archeological values in the sea seafloor.	NWP 2009, NR, PKB Waddenzee

	High level goals*	Source
13	Strengthen international cooperation and collaboration in the field of North Sea management and policy.	
14	Facilitate an infrastructure that contributes to the expected demand for communication connections and transport of gas, oil and electricity.	IBN 2015, NR
15	Innovation programs	NWP 2009, BN 2009
16	Conserve and further develop the contribution of the shipping sector to the maritime cluster and Dutch economy. Maintain a vital fleet. The North Sea is of profound social significance for shipping. Harbours that are easy and safe to reach, and free, safe passage are guaranteed for shipping.	NWP 2009, BZ Beleidsbrief Zeevaart BN 2009
17	Ensure national security/safety: sufficient defense areas at sea to be able to train defense actions and test methods/material	NWP 2009, BN 2009, TSMO, mijnbouwregeling
18	Islands and artificially enlarged coastal areas shall NOT be used for living and working, but possibly as pilot studies for innovation experiments (e.g. energy storage, NO airport at sea	NWP 2009, BN 2009

*Note: Partly derived from MESMA (www.mesma.org)

3.4.8 Operational objectives of the national marine spatial plan(s) or spatial management plan(s)

	Operational objectives*	Source
1	Extract in a socially acceptable manner, based on a policy for building material. No sand extraction landwards of the -20m depth line. To limit possible effects on benthic fauna and to guarantee sand replenishment within the 12 nm zone, sand extraction will not be deeper than 2m.	NWP 2009, BN 2009, Beleidsregels ontgroningen in Rijkswateren.
2	Extraction of shells is allowed off the -5m depth line. Quantity shall be in balance with the natural replenishment.	NWP 2009, BN 2009
3	Increase capacity of wind energy in the North Sea: 950 MW by 2011; 6000 MW by 2020 (requiring at least 1000 km ²) Prepare for further international growth after 2020. Limited number of large wind turbine areas.	NWP 2009, BN 2009, WPSZ
4	Space for large-scale sustainable energy: 20% and 40% of all energy produced in a sustainable manner in 2020 and 2040, respectively. sustainable wind energy	NWP 2009, WPSZ
5	40% of today's traditional beam trawl fishery will have changed to other techniques by 2012	NWP 2009, BN 2009
6	No fisheries or permanent buildings in the coastal zone, in order to not constrain recreation and tourism in the coastal zone. Free view of the horizon from the coast.	NWP 2009, BN 2009

	Operational objectives*	Source
7	A common strategy for the southern North Sea (B+NL+D+DK+UK): formulation of a vision and starting points for marine spatial planning and legal requirements	NWP 2009, MSP, MSFD, Natura 2000, IMP
8	Interdepartmental meeting of directors North Sea (IDON), observing the implementation of an integral North Sea management	BN 2009
9	Innovation programs, e.g. Fishery Innovation Platform (VIP)	VIP
10	Building a system of traffic separation schemes, clearways and anchoring areas allowing safe and prompt handling of shipping	BZ
11	Military areas at sea for exercise, defined from 2004-2014	TSMO
12	Unobstructed views across the sea along almost the whole stretch of coastline.	BN 2009
13	The Netherlands meets (international) goals for the marine ecosystem.	BN 2009

*Note: Partly derived from MESMA (www.mesma.org)

Further operational goals exist for Natura 2000 and the North Sea Coastal Zone, Dutch Delta Region (Voordelta; Vlakte van de Raan).

3.4.9 Description of audit and/ or review process of the national marine spatial plan(s) or spatial management plan(s)

It is the intention that information from operational practice is used to more effectively prepare policy, for example by carrying out feasibility and enforceability assessments. In other words practical experience is used to assess the feasibility and enforceability of envisaged policy. With regard to for instance water quality, which is largely determined by water flowing in from outside the North Sea management area, this also includes identifying problem areas and influencing policies for neighboring sea areas and rivers.

The Dutch MSP, which is specified in the National Water Plan (NWP), is valid for a period of six years (2009 to 2015) after which it will be revised. A first evaluation is planned for 2013. Then, the NWP will be subjected to an evaluation procedure ('Waterbalans') by the Netherlands Environmental Assessment Agency. The focus of the evaluation is to be determined in 2011. The structure of the content, the organization and the external process of the "Waterbalans" will be set up in 2011 by the projectteam. This team consists of the Netherlands Environmental Assessment Agency, Deltares and the WaterService.

Parallel to the general policy assessment and evaluation certain activities are subject to regular reporting on monitoring and evaluation under different EU directives and international conventions. These include:

- OSPAR

Every ten years Ospar publicizes a quality status report. Within the different member states frequent monitoring programs are undertaken in accordance with Ospar regulations.

- Bird and Habitat Directive
Natura 2000 Effects Assessment (every six years), Benthos monitoring: CSO shellfish database, BEAST, DFS, Counting of birds during wintertime (yearly), Counting of sea mammals
- Marine Framework directive
Deadline for initial assessment is 2012. Then every member state is obligated to repeat the assessment every 6 years.
- Fisheries (e.g. ICES monitoring)
The General Inspection Agency (Algemene Inspectie Dienst) is a governmental agency for enforcement of the Dutch Fishery Law and operates under the Ministry of Economy, Agriculture and Innovation (EL&I). The instruments of the GIA consist of control, verification, investigation and enforcement communication (see below, section monitoring). Monitoring regarding fisheries is executed by:
 - VMS (Vessel Monitoring System)
This systems monitors the speed and location of every fishing boat larger than 15 meters.
 - VIRIS (Fishery Registration System)
Registration of fishing boats. Also registers where and when fishing has been taken place, including method, catchments and landings.
 - Logbook
Registers catchments and landings. Mandatory for all commercial fisheries. Electronic version implemented since 2010.

There is no transparent, publicly accessible mechanism, by which the results of these monitoring procedures are fed into the MSP process. However, within the Ministry of Infrastructure and Environment a yearly report is published concerning the status of the MSP.

3.4.10 Description of the strength and weaknesses of the marine spatial plan(s) or spatial management plan(s)

Strength (internal)*
<ul style="list-style-type: none"> • Need for participation recognized in NWP and embedded in IMPNS 2015 • Integrated policy of International/ regional conventions, European directives and National policies/ Law (transparency) • Permits process is streamlined • Multiple use in time and space is considered and embedded in integrated assessment framework⁸. • Precautionary principle is embedded in integrated assessment framework • Before new activities are allowed on the North Sea, added value has to be proven
Weakness (internal)*

⁸ Integrated assessment framework is a tool for permits. Permitting has been and remains an important instrument for regulating activity in the North Sea.

- International cross border cooperation is not fully formalized⁹
- No/ poor long term spatial vision considering i.e. future developments of climate change, new emerging uses¹⁰.
- Not all uses are obliged to apply the integrated assessment framework and therefore circumvent environmental assessment.

*Note: In relation to the EU ten principles

3.4.11 General issues and opportunities for cross-border MSP

For the Dutch EEZ, Marine Spatial Planning is first and foremost a matter of the national government. However this does not imply that laws, regulations and policies are consistent among each other. It is not clear for instance how the use of the North Sea, in which the ecosystem based approach is central, can be synchronized with the targets for the protection of nature and the environment in general. Once the protection targets for Natura 2000 and the indicators and GES of the MSFD have been further elaborated, it is necessary that these targets will be aligned with existing spatial management and the organization of the Dutch EEZ.

Opportunities for cross-border MSP are:

- Harmonization of marine spatial policies within the national borders and at the same time between countries.
- Opportunities do not so much lie in the field of fixed activities (except when operating in border zone) ; they lie with mobile activities that cross borders on a regular basis
- Cross border licensing: national implementation of Natura 2000 and MSFD implies usage permits that are granted on a national level; however the use of marine areas is international. For instance, if a Belgian beam trawler fishes in Dutch and or French waters, does a Belgian permit suffice or should the fisherman also apply for Dutch and or French permits?
- International agreements on which activities should be permitted and which tools should be applied. The Netherlands for example uses the integrated assessment framework which addresses certain points that might not be of interest to neighboring countries.
- International fisheries management plan for Doggerbank Natura2000 site (FIMPAS).
- Connection or cooperation between wind parks (licensing, maintenance, sharing knowledge).
- Measuring cumulative effects of activities on marine ecosystems in cross-border areas.

3.4.12 References

DC 2008. Samenwerken met water (working together with water).

www.deltacommissie.com/.../2008-12-10%20publieksversie.pdf

Dutch Central Government. 2009. National Waterplan 2010-2015. The Hague: Dutch central Government

Dutch Central Government. 2009. The Spatial Planning Policy Document 2015. The Hague: Dutch central Government

⁹Exceptions are the HELCOM and OSPAR protocols. Formal Trilateral Wadden Meetings also exists for this purpose.

¹⁰Flexibility is guaranteed however by “ structuurvisie status” and revision after 3 years

- EU 1991. Nitrates Directive. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31991L0676:EN:HTML>
- EU 2000. Water Framework Directive. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0060:EN:HTML>
- EU 2002. Common Fisheries Policy. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:358:0059:0080:EN:PDF>
- EU 2008. Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU. http://ec.europa.eu/maritimeaffairs/pdf/com08_791_en.pdf
- EU 2010. Proposal for an Integrated Maritime Policy. http://ec.europa.eu/maritimeaffairs/pdf/com_2010_494_en.pdf
- European Parliament and the Council of the European Union. Directive 2008/56/EC Of The European Parliament and of the Council of 17 June 2008. Brussels: European Union
- Interdepartmental Directors Consultative Committee North Sea. 2005. Integrated management plan for the North Sea 2015. Rijswijk: Dienst Noordzee
- Lindeboom, H.J., Geurts van Kessel, A. J.M. & Berkenbosch, A. 2005 Gebieden met bijzondere ecologische waarden op het Nederlands Continentaal Plat
- Ministeries van Defensie, VROM, LNV 2010. Tweede Structuurschema Militaire terreinen (Second structural scheme military areas) http://www.noordzeeloket.nl/Images/Structuurschema%20Militaire%20Terreinen%20Deel%204_tcm14-4031.pdf
- Ministerie van EZ, LNV en VROM 2007. Nederland veroveren op de toekomst. Kabinetsvisie op het waterbeleid (Water Vision). http://www.noordzeeloket.nl/Images/Watervisie_tcm195-194740_tcm14-3388.pdf
- Ministerie van I&M 2009. Beleidsbrief Zeevaart (policy document marine traffic). <http://www.rijksoverheid.nl/bestanden/documenten-en-publicaties/brieven/2009/12/28/beleidsbrief-zeevaart/beleidsbrief-zeevaart.pdf>
- Ministerie van LNV 2007. Visserij Innovatie Platform (Fisheries innovation platform). <http://www.visserijinnovatieplatform.nl/>
- Ministerie van VROM 2007. PKB Derde Nota Waddenzee (3rd Planning Act Wadden Sea) http://www.waddenzee.nl/fileadmin/wk/inhoud/Beleid_en_beheer/pdf/Derde_Nota_Waddenzee_deel_4.pdf
- Ministerie van VROM, EZ, V&W, LNV, Financiën, Buitenlandse Zaken 2007. Nieuwe energie voor het klimaat. Werkprogramma schoon en zuinig. ([Working programme Clean and efficient](#)) <http://www.rijksoverheid.nl/bestanden/documenten-en-publicaties/rapporten/2007/09/01/nieuwe-energie-voor-het-klimaat-werkprogramma-schoon-en-zuinig/7421.pdf>
- Ministeries van VROM, LNV, VenW, EZ en OCW 2006. Nota Ruimte (Land Use Planning Memorandum). http://www.noordzeeloket.nl/Images/Nota%20Ruimte_tcm14-2239.pdf
- Ospar Commission 2003. Guidelines for the Identification and Selection of Marine Protected Areas in the OSPAR Maritime Area

SER 2001. Nationaal Milieubeleidsplan 4 (Forth national environmental policy plan).http://www.ser.nl/~media/DB_Adviezen/2000_2009/2001/b20003%20pdf.ashx

4 National MSP processes

MSP is a public process through which parts of the three dimensional marine space are analysed and allocated to specific uses or non-uses, to achieve ecological, economic and social objectives that are usually specified through the political process (Maes 2008). Between EU member states the respective MSP process differs and in the following we briefly describe the national approaches for the development of a marine spatial plan or spatial management plan.

4.1 Belgium

4.1.1 General description

Marine spatial planning in the BPNS, a zone of 3,600 km² encompassing the territorial sea and the exclusive economic zone/fishery zone/continental shelf, used to be ad hoc based. Driving forces for this ad hoc planning were the development of the law of the sea and Belgian legislation (legal driving force) and the increasing opportunities for the exploitation of the marine environment (economic driving force). During the period leading to the ratification and parliamentary approval of the Law of the Sea Convention in 1998, two important implementing laws were in preparation and finally adopted in 1999: the Act concerning the exclusive economic zone of Belgium in the North Sea (EEZ Act of 22 April 1999) and the Act on the protection of the marine environment under Belgian jurisdiction (Marine Protection Act of 20 January 1999). These acts provide a legal basis to decide upon existing and new uses of the sea.

The Marine Protection Act (1999) introduced a license requirement and an environmental impact assessment for a proposed activity in the maritime areas under Belgian jurisdiction. Except for the licences granted under fishing laws and the concessions granted under the Continental Shelf Act of 13 June 1969, any other activity in the BPNS that is subject to licensing or authorization pursuant to either the present Marine Protection Act and its implementing orders or any other legal or regulatory provisions in force, is also subject to an environmental impact assessment by the competent authority, both before and after the licence or the authorization is granted. The environmental impact assessment is intended to allow an evaluation of the effects of these activities on the marine environment (article 28 §1). Any person who wishes to carry out an activity referred to in §1 must enclose an environmental impact report with his application for a licence or authorization (article 28 §2). After the licence or authorization has been granted, the activity shall be subjected to supervision programmes and continuous environmental impact surveys. These supervision programmes and continuous environmental impact surveys shall be carried out or commissioned at the expense of the holder of the licence or authorization. If this study reveals new harmful effects for the marine environment, the licence or authorization may be suspended or withdrawn in accordance with the applicable suspension or withdrawal procedure (article 29).

Two Royal decrees of 2003 introduced the aforementioned licensing procedure and the environmental impact assessment procedure: a Royal decree of 7 September 2003 concerning the procedure for licenses and the authorization of certain activities in the marine areas under Belgian jurisdiction (License Decree) and a Royal decree of 9 September 2003 concerning the rules of an environmental impact assessment in application of the law of 20 January 1999 on the protection of

the marine environment in the marine areas under Belgian jurisdiction (Environmental Impact Decree). Both decrees cover the question of allocation and suitability of e.g. offshore windmill farms and make an ad hoc spatial planning possible by means of licenses and concessions that are required. Concessions granted under the Continental Shelf Act of 13 June 1969 such as for sand and gravel extraction, are excluded from the prior licensing or authorization system (art. 25) and the environmental impact assessment procedure (art. 28) of the Marine Protection Act (1999). A Royal Decree of 1 September 2004 introduces conditions, a 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 (EIA Decree) introduces the environmental impact assessment rules for this exploration and exploitation in application of the Continental Shelf Act (1969).

Applications must be made with the Minister of Economic Affairs (Federal Public Service Economy); they are subject to an environmental permit. A maximum amount of 15 million m³ can be exploited by all permit holders taken together over a period of five years. A yearly retribution on the basis of the extracted volume will be paid by the permit holders to the Management Unit for the North Sea Mathematical Models (MUMM) and into the Fund for the exploration and exploitation of mineral and other non-living resources in the territorial sea and on the continental shelf in order to contribute to the scientific research for the impact of such activities on the sedimentary deposits and on the marine environment (this research will be reported on a three-year basis). The Fund will be responsible for the mapping of the bathymetry, morphology, and sedimentology, and of the geological structure of the sand banks on the Belgian continental shelf. Furthermore it will engage in monitoring the impact of sand and gravel extraction on the sediments and the morphology of the seabed.

The need for a more comprehensive approach toward spatial planning for the BPNS became particularly urgent in light of new objectives and associated targets such as the need for offshore energy production and the adoption of the EU network of protected areas. Among the drivers for MSP in Belgium was the European legislation on nature conservation as part of the EU contribution to implement the Convention on Biological Diversity. The two most significant are the Birds Directive, providing a framework for the identification and classification of Special Protection Areas (SPAs) for rare, vulnerable or regularly occurring migratory species, and the Habitats Directive requiring member states to select, designate and protect sites that support certain natural habitats or species of plants or animals as Special Areas of Conservation (SACs). Together the SACs and the SPAs will create a network of protected areas across the EU, known as Natura 2000.

In an attempt to respond to these new challenges, a Master Plan for the BPNS has been adopted in two phases (2033-2005) by the Council of Ministers. This Master Plan is the basis for MSP in terms of zoning, however without a clear legal basis. This means that there is no process for review and no particular legal duty to involve stakeholders in a review process.

Despite the lack of a legal basis for MSP in Belgium, this Master Plan provided objectives for several sectors into what than can be called a “spatial vision.” The first phase of the Master Plan focused on spatial delimitations for sand and gravel extraction and zones for future offshore wind energy projects. Since the mid-1970s, sand and gravel extraction in the BPNS was limited to two concession zones and required an inclusive monitoring program. However, the existing procedure was not sufficient to establish sustainable exploitation of the resource. Extractions concentrated in zones

closest to the coast as a result of economic efficiency or sand quality requirements, while certain other areas were not taken into account as being important fish spawning areas. In 2003, the Master Plan proposed a more diverse zoning system linking a spatial vision to the existing requirement of an environmental assessment evaluation/report. The most intensive exploitation areas now include control zones for which a time-based rotation procedure attempts to spread the pressure of extraction and allow the used area to restore. In certain other areas, extraction is prohibited during fish spawning seasons. For all areas the composition of the sand has been identified, so that where no high quality sand is needed it can be gained by recycling former dredge disposal areas. The introduction of maximum quota assures that a shift from land to sea extraction is limited. In the framework of both climate change and supply issues, Belgium initially committed to produce 6% of its total energy consumption from renewable resources by 2010, while the target is now 13%. Given the limited space on land, offshore wind energy production became increasingly attractive. Since 2000, the construction and exploitation of wind farms in the BPNS requires an area concession, and an environmental permit for the construction and exploitation of the wind farm and submarine electricity cables. Prior to the Master Plan, companies spent resources on developing proposals risking not to receive a permit because of the lack of a spatial framework for wind energy in the BPNS. Now, an offshore wind zone is defined for which companies can submit proposals for the construction of a wind mill farm. The criteria for the delimitation of these zones were based on the level and value of biodiversity in the area, visual pollution, and its importance for fishery activities. The offshore wind mill farm zone might host projects on aquaculture, e.g. the production of mussels, bringing new perspectives for the fisheries sector whose survival has been threatened during the recent years (Douvere, F. et al. 2007). Three companies, C-Power (Thorntonbank: 60 turbines, 330 MW), Belwind (Blighbank: 110 turbines, 330 MW) and Eldepasco (Bank zonder Naam: 36 turbines, 180-252 MW), were granted a domain concession and an environmental permit to build and exploit an offshore wind farm. In 2010, three other companies, Norther, Rentel and Seastar, obtained a concession, but still have to apply for an environmental permit.

The second phase of the Master Plan identified SPAs for rare, vulnerable or regularly occurring migratory species and SACs to support certain natural habitats or species in the BPNS, as part of the Belgian commitments to implement the Natura 2000 objectives. Three zones have been identified as SPAs, located in front of the three Belgian seaports. In addition, two SACs were identified as important and valuable natural habitats subject for protection. In March 2006 a sixth zone received protected status: the waterfront of the marine reserve of the Bay of Heist Prior. Stakeholder consultation was an essential ingredient for defining and successfully managing protected areas in the BPNS. These consultations resulted in user agreements, signed between the Belgian government and the sectors and containing commitments regarding conservation measures for the areas. It is obvious from the above that, while there is no formal legal system for MSP in the BPNS, there are many existing initiatives that seek to manage spatial aspects of human activities (Douvere, F. et al. 2007).

4.1.2 What kind of evaluation method is proposed/used?

There is no formal evaluation method for the MSP process in Belgium so far, due to lack of a statutory basis. No Strategic Environmental Assessment (SEA) procedure took place for the Master Plan as a whole. It is the intention to start discussing a statutory basis for MSP, including an evaluation of the existing plan and the introduction of formal stakeholder participation processes. However on a project basis, there is a process of continuous evaluation of the environmental effects for sand and gravel exploitation, for dumping of dredged materials and for offshore wind farms. The

legal basis can be found in the previous mentioned laws. Existing international and national monitoring programs, as well as scientific research, can be used for evaluation.

4.1.3 What is the focus of the evaluation (e.g. do they focus on process, input, output)?

First of all the process to further improve or adapt MSP in Belgium needs to be approved. On a project basis, outputs are evaluated and inputs can be adjusted depending on the evaluation of the required output. Parts of the plan are adjusted by making use of existing legislation (cf. adjustment of the offshore wind concession zone as a result of new data on shipping routes). For example, a decision to allow certain types of fisheries or aquaculture in the offshore wind park will depend on several evaluation criteria such as environmental indicators (species abundance), safety or security criteria and socio-economic criteria.

4.1.4 Which indicators have been used/proposed?

At plan level there are no indicators defined.

4.2 Denmark

Currently there is no formal MSP process in Denmark.

4.3 Germany

4.3.1 General description

The German spatial plans of the EEZ of the North and Baltic Sea contribute to the implementation of the Federal Government's Energy and Climate Programme and the national marine strategy for sustainable use and protection of the seas (national strategy for the seas) of 1 October 2008. Thus MSP is seen as an important tool to solve an increasing number of conflicts in coastal and offshore waters. The German spatial plan of the North Sea defines targets and principles of spatial planning in the EEZ:

- Securing and strengthening maritime traffic
- Strengthening economic capacity through orderly spatial development and optimisation of spatial use
- Promotion of offshore wind energy use in accordance with the Federal Government's sustainability strategy
- Long-term sustainable use of the properties and potential of the EEZ through reversible uses, economic use of space, and priority of marine uses

In general, the development of marine spatial plans is related to the Strategic Environmental Assessment Directive (SEA), which is a legally enforced assessment procedure (2001/42/EC). The purpose of the SEA Directive as stated in Art. 1 is "to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable

development by ensuring that in accordance with the provisions of this Directive an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment.” Therefore in 2007 an environmental assessment has been carried out by the Federal Maritime and Hydrographic Agency (BSH) following the criteria listed in Annex I of the SEA Directive.

This environmental report comprises an assessment of the marine environmental status, a evaluation of substantial impacts on the marine environment that are likely to be caused by the implementation of the spatial plan, and measures to prevent or compensate any substantial impacts. The plan is the outcome of this comprehensive environmental assessment, thus the designation of areas for certain uses will not have any substantial impacts on the protection and conservation goals of the FFH and bird sanctuary areas or which will meet the requirements of the United Nations Convention on the Law of the Sea in conjunction with § 57 BNatSchG (Federal Nature Conservation Act).

The draft maritime spatial plan together with the environmental assessment report was subjected to public participation and international consultation in 2008. Thus the draft plan and the environmental report were open to the bordering states, the German authorities and the public in two participation rounds, giving the opportunity to issue statements. The legal ordinance including the spatial plan of the EEZ of the North Sea was set into force in September 2009.

4.3.2 What kind of evaluation method is proposed/used?

Existing international and national monitoring programs in the North Sea should be used to monitor the impacts of the implemented marine spatial plan. Those national and international monitoring programs comprise for instance National BLMP monitoring program, BSH marine environmental monitoring network “MARNET”, OSPAR monitoring program, ICES monitoring program, Monitoring of the preservation status of specific species and habitats according to Art. 11 FFH Directive or management plans for the SPA “East of the German Bight” (European bird sanctuary) or studies for the assigned FFH areas (see section 3.3.9). Further the impacts on the environment have to be consolidated and analysed within the framework of a project-related monitoring. Ultimately, the plan-related monitoring will merge and evaluate these results.

4.3.3 What is the focus of the evaluation (e.g. do they focus on process, input, output)?

The monitoring activities focus on the impacts of the plan. Thus the evaluation refers to the output.

4.3.4 Which indicators have been used/proposed?

There are no indicators defined.

4.4 Netherlands

4.4.1 General description

The marine spatial plan for the Dutch part of the EEZ is specified in the National Water Plan (NWP). This document delineates the main features of the national water management, based on an integrated approach to the management of fresh- and marine waters. For the spatial planning of the

main national watercourses, including the North Sea, the NWP also functions as a structural vision, which guarantees that water issues are incorporated into terrestrial planning.

Marine spatial planning as such was called into life as a result of an increasing spatial pressure in the Dutch North Sea, caused by a diversification and expansion of uses. Its overall objective is to generate a sustainable, spatially efficient and safe management, with priority allocated to the following uses, which are considered of national importance:

- sand mining and backfilling of coastal protection infrastructure,
- sustainable (wind-) energy
- oil and gas mining
- navigation; and
- defence.

In the preparation of the NWP, not only all ministries, provinces and municipalities were consulted, but also the national authorities of neighbouring countries. Specifically for the preparation of the North Sea Paragraph (which, together with the Policy Document on the North Sea constitutes the MSP) within the NWP, stakeholder participation was introduced in two workshops, to which organized interest groups and research institutes were invited. Through these workshops, stakeholders could contribute in the formulation of documents, but due to time pressure, they were not involved in the initial steps of the MSP procedure, and hence could not participate in the overall vision forming and the prioritization of topics. A strategic environmental assessment (SEA) was conducted on the NWP as a whole. With respect to the MSP for the Dutch EEZ, cumulative effects of wind energy expansion and sand mining activities on Natura 2000 areas were examined, but no other interactions or cumulative impacts of different combinations of uses were considered.

For the purpose of public consultation, the preparative documents (time schedule and program of work, overview of main features of plan and goals, objectives and indicators of marine strategy) were published at different times during the planning procedure. Public reactions and statements, together with official replies were also published. The draft NWP, together with the report of the SEA was disclosed for input from the public in early 2009, and it was finalized by the council of ministers and handed in to the second chamber in December 2009. Adoption by parliament was delayed, due to non-scheduled re-elections in 2010, to December 2010. The Dutch MSP will be valid for a period of six years (2009 to 2015) after which it will be revised. A first evaluation is planned for 2013.

4.4.2 What kind of evaluation method is proposed/used?

In 2013, the NWP will be subjected to an evaluation procedure ('Waterbalans') by the Netherlands Environmental Assessment Agency. Monitoring is linked to specific MSP processes e.g. Natura 2000 sites.

4.4.3 What is the focus of the evaluation (e.g. do they focus on process, input, output)?

The focus of the evaluation is to be determined in 2011. The structure of the content, the organization and the external process of the "Waterbalans" will be set up in 2011 by the projectteam. This team consists of the Netherlands Environmental Assessment Agency, Deltares and the WaterService.

4.4.4 Which indicators have been used/proposed?

See 4.4.3.

4.5 Comparison of national MSP processes

We compared the MSP processes in Belgium, Germany and Netherlands, described in the previous sections, and contrasted those processes against the ten EU principles (Table 4.5.1). Denmark has not been included in the comparison because there is no formal MSP process underway.

Due to lack of the statutory basis for MSP in Belgium this process differs most from those in Germany and the Netherlands, where a legal basis for MSP exists. In Germany and the Netherlands MSP specific objectives have been developed, whereas in Belgium MSP specific objectives do not exist. Thus in Belgium goals and objectives are driven by national legislations and EU directives and represent therefore a rather nested set of objectives, partly without a clear spatial and temporal context. The Dutch MSP is a so-called structural vision which shows where developments may take place. It does not indicate where developments have to take place. Although Germany and the Netherlands have plan specific objectives those are always not operational.

Thus Germany and the Netherlands based the MSP development on a Strategic Environmental Assessment (SEA; 2001/42/EC), which helped to define e.g. science requirements for the support of the integrated management initiatives such as the assessment of environmental impact. The SEA is a systematic assessment of the likely significant environmental effects of plans and programs developed by public bodies. In contrast, in Belgium there is a process of continuous evaluation of the environmental effects for sand and gravel exploitation, for dumping of dredged materials and for offshore wind farms at a project level and activity level. On a more detailed level Germany and the Netherlands addressed the assessment of cumulative effects of human activities in their SEAs. However, only to a limited extent did these comprise a detailed assessment of combined or cumulative impacts of human activities on the marine environment or on activities. Thus the assessment of cumulative impacts of human pressures in practice is still a challenge (see e.g. Halpern et al., 2008; Ban et al., 2010; Stelzenmüller et al., 2010). Common to all three countries is the lack of a formal auditing process for the implemented plans using monitoring and performance assessment measures. Although all marine plans are subjected to a revision the concept of an adaptive management was not formulated in the respective plan. However, the Netherlands will conduct a plan specific auditing in 2013. Although individual procedures differed, in all three countries stakeholders have been engaged at different levels in the planning process.

An initial comparison of the national MSP processes against the EC principles for MSP (COM 2008) is presented in Table 4.1. Project members and national marine planners contributed the respective national information to Table 4.5.1. Therefore this comparison is based on expert judgement and does not (yet) address the indicators for coherence with the MSP principles being developed under MASPNOSE Component 1.3. Also Table 4.5.1 describes the current state and views, which are due to change in the future, following also the principle of adaptive management. Thus, the relative comparison of the different levels of implementation of the 10 key principles (good, intermediate, poor) reflects the views of the respective contributors. However, this comparison gives a further insight in the differences between national MSP processes and allows deriving some challenges for a cross-border MSP process (see section 7).

All national MSP processes are specific to the area and activities and therefore fully satisfy the first principle. The definition of objectives and the strong data and knowledgebase showed the least

deviations across the countries. Stakeholder participation and coherence between terrestrial and marine planning appeared to be a challenge in all of the countries. In the Netherlands and Germany this was the first MSP cycle which has been carried out. It is expected that operationalisation of principles will continue to be developed.

The lack of a legal base for a MSP process in Belgium appears to have caused the greatest differences between the national MSP processes. Plan specific objectives and a plan based Strategic Environmental Assessment only exist for Germany and the Netherlands. A gap across all processes is a clearly defined monitoring and auditing process for the implemented plans. The EU MSP principle 8 states that underlying data on which MSP plans are based needs to be monitored, and plans must be flexible enough to be revised in due course (COM 2008). The fundamental principles for monitoring include identifying the objectives, monitoring options, scale, costs and benefits (Day, 2008). This includes the definition of performance measures as the ultimate aim of monitoring and evaluating management performance is to demonstrate the extent to which the objectives of marine planning and management have been achieved. However, it is worth mentioning here that the Dutch and German MSP have been developed under great temporal pressure and the operationalization of the principals is an ongoing process.

Table 4.5.1: Qualitative evaluation of national MSP processes in relation to the implementation of the 10 EU key principles for maritime spatial planning (EU 2008). The colors indicate a qualitative measure (green= good; orange= intermediate, red=poor) of satisfaction of the respective MSP principle.¹¹

EU principles for MSP	Belgium	Germany	Netherlands
1. Using MSP according to area and type of activity	MSP of the Belgian Part of the North Sea accounts for the surface, sea bed and water column and has designated areas for specific activities. Exploitation prohibitions are possible, as well as limitations of activities in specific areas. Also a temporal aspect can be taken into account. All these require or are a result of an initiative in existing legislation.	MSP of the North Sea accounts for the surface, sea bed and water column and has designated areas for specific activities.	MSP of the Dutch North Sea accounts for the surface, sea bed and water column and has designated areas for specific activities. Limitations of specific areas is possible and temporal aspect can be taken into account.
2. Defining objectives to guide MSP	Objectives to guide MSP in Belgium are of a legal or policy nature and can be found in the Act on the protection of the marine environment under Belgian jurisdiction (Marine Protection Act of 20 January 1999), in international law and particular EU Directives not in the MSP. These objectives are not necessary MSP specific, but can be used to guide MSP, such as: sustainable management, precautionary principle, safety of navigation, nature protection, and public participation.	The plan specifies clear principles and targets used for its development.	The Dutch MSP, which is formulated in the policy document on the North Sea (which constitutes part of the National Water Plan (NWP)) defines mostly qualitative and several quantitative objectives. The Dutch Spatial Planning Act and the Water Act provide the legal framework for the Dutch MSP as described in the National Water plan.
3. Developing MSP in a transparent manner	A very limited transparency for only the few ones actually involved. In fact no transparency in terms of public participation or consultation.	All documents (draft maritime spatial plan and SEA report) were available to the public in the consultation process, all statements from agencies and NGOs have been published on the homepage of BSH	The National Water Plan (and the SEA report) was subjected at different stages of the planning process to public consultation. Public statements and responses were published. For the Wind Energy search area, a informational note was prepared with an outline of the MSP process. Consultations were carried out in a cross-border context.

¹¹This table is a first exploration of MSP processes. It is based on expert opinions of the involved institutes. It cannot be seen as a benchmark. During future interviews and workshops this table will be validated with other public and/or private experts.

EU principles for MSP	Belgium	Germany	Netherlands
4. Stakeholder participation	Stakeholder participation was limited to some key stakeholders, e.g. fisheries and nature conservation. Besides the results of this participation was not transparent and cannot be controlled.	Stakeholder participation was a crucial part of the plan development. However, the fishing sector was reluctant to participate in the process.	Organized stakeholder groups and research institutes were specifically involved in the MSP procedure for the two most contested parts of the Dutch EEZ through planning workshops, not for the whole MSP. The “overlegorgaan Water en Noordzee” is the platform for engaging stakeholders. Stakeholders also participated in the Natura 2000 processes.
5. Coordination within Member States Simplifying decision processes	Due to the federal state system the coordination and decision process is rather complex. Since most decision taken belonged to the federal government, legally speaking there was no co-ordination required for the 1 st MSP. In the meantime a co-ordination structure was set up that can be used for future MSP (was not set up for MSP purposes). If this structure will be the most suitable one and will simplify decision processes is not guaranteed. There was co-ordination to designate a sixth zone with protected status: the waterfront of the marine reserve of the Bay of Heist. This nature conservation area is a land-sea interaction area for which the different governments are competent for nature protection. There is also coordination related to safety of shipping.	Due to the federal state system the coordination and decision process is rather complex. However, a coordinated communication took place for the plan development. EEZ plans take into account both the designations in the maritime spatial plan and the project licenses in the territorial sea.	In the Netherlands, MSP is the task of the central government. Coordination among ministries is guaranteed through joint committees set up for developing the MSP (IDON). Caring for the coast is a shared responsibility for national government, provincial authorities, water management authorities (/water boards) and municipal authorities. Each government level has a number of specific tasks in this respect. <ul style="list-style-type: none"> - National government draws up a national policy for the management of the coast, water, nature and spatial planning; Rijkswaterstaat implements coastline maintenance on behalf of the national government by conducting coastal replenishment operations and it is responsible for the management of the North Sea. - Provincial authorities have an important control responsibility in terms of the implementation of national policy. They ensure that there is area based and area-specific coordination with all the stakeholders and they are responsible for spatial planning in the shape of a structural vision document. - Municipal authorities are also responsible for spatial planning, and particularly for their own structural vision documents, zoning schemes and local regulations for the use of the coastal zone.”

EU principles for MSP	Belgium	Germany	Netherlands
6. Ensuring the legal effect of national MSP	The Master Plan as such has no legal effect (adopted in the Council of Ministers). For the implementation of the Master Plan existing laws and regulations are made or new ones approved. The MSP process is nonexistent and as a consequence has no legal effects.	The plan of the EEZ of the North Sea is legally binding since 2009.	The National Water Plan (NWP) was adopted by the ministerial cabinet in 2009, and at the end of 2010 it was adopted by parliament.
7. Cross-border cooperation and consultation ¹²	There was no cross-border co-operation for the Master Plan. However there is quite some cross-border co-operation in relation to specific topics: e.g. between Belgium and France to designate and manage cross-border habitats to be protected; between Belgium and The Netherlands related to the safety of shipping	Cross-border consultation took place with the neighboring countries.	Draft MSP was made available to bordering countries. The ambition and details of the SEA for the National Water Plan were shared with neighbouring countries.
8. Incorporating monitoring and evaluation in the planning process	There is no specific monitoring and evaluation process defined in the planning process, since there is no planning process.	There is no specific monitoring and evaluation process defined. The monitoring of the implemented plan bases on both results of exiting monitoring activities (e.g. ICES, OSPAR, etc) and aggregated project-related assessments.	In 2013, the NWP will be subjected to an evaluation procedure ('Waterbalans') by the Netherlands Environmental Assessment Agency. Licenses are monitored by Rijkswaterstaat (Ministry of Infrastructure and Environment). If and how these and other specific monitoring programmes (e.g. for the Natura 2000 sites) are linked to the MSP process is not clear yet. Monitoring forms input to the next planning cyclus or to intervene in activities.

¹² HELCOM and OSPAR specify recommendations for cross-border cooperation and consultation. These recommendations are not included in this report. If necessary they might be included in other MASPNOSE products.

EU principles for MSP	Belgium	Germany	Netherlands
9. Achieving coherence between terrestrial and maritime spatial planning in relation with ICZM	No coherence so far.	Within the 12 sm the federal states are responsible for spatial planning. There are efforts to align those planning activities to terrestrial planning. However, a coherent planning system linking offshore, near shore and onshore planning does not exist.	The NWP also serves as a structural vision for terrestrial spatial planning in the coastal areas. The area of the coast up to 1 km offshore is a shared responsibility of the national and local government. Provinces also have a planning role. There are regular consultations between all administrative levels which creates some linkages between the MSP process and the ICZM process.
10. A strong data and knowledge base	There are lots of data, since the area is very small, easy accessible and there is long marine research tradition in Belgium. North Sea research developed as a result of dedicated North Sea research programs since the seventies, with attributed funding. This was additional to European and other research programs.	There is a strong data base on environmental features, distribution of activities, and assessment of potential impacts. However, poor information is available on the assessment of cumulative impacts on the environment and socio-economic impacts.	No central database, but there are databases on sampling and monitoring of species. There are also databases on fisheries (VIRIS, VMS, Logbook). Natura 2000 assessments (effects, cumulative impacts) are not located at a central database. Developments are ongoing for the “informatiehuis marien”



4.6 References

Ban, N.C., Alidina, H.M., Ardron, J.A., 2010. Cumulative impact mapping: Advances, relevance and limitations to marine management and conservation, using Canada's Pacific waters as a case study. *Marine Policy* 34, 876-886.

Day, J., 2008. The need and practice of monitoring, evaluating and adapting marine planning and management-lessons from the Great Barrier Reef. *Marine Policy* 32, 823-831.

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 p. + annexes.

DEGRAER, S., BRABANT, R. & RUMES, B. (Eds.) (2010) *Offshore wind farms in the Belgian part of the North Sea: Early environmental impact assessment and spatio-temporal variability*. Royal Belgian Institute of Natural Sciences, Management Unit of the North Sea Mathematical Models. Marine ecosystem management unit. 184 p. + annexes.

DOUVERE, F., MAES, F., VANHULLE, A., SCHRIJVERS, J. (2007). The Role of Marine Spatial Planning in Sea Use Management. The Belgian Case, *Marine Policy* 31 (2) 182-191.

EC 2001/42. 2001. Directive of the EU parliament and of the council on the assessment of the effects of certain plans and programs on the environment.

Halpern, B.S., McLeod, K.L., Rosenberg, A.A., Crowder, L.B., 2008. Managing for cumulative impacts in ecosystem-based management through ocean zoning. *Ocean and Coastal Management* 51, 203-211.

IDON (2011) Val van Kabinet vertraagt Noordzeebeleid. Nieuwsbrief Juni 2011, No 11.

IenM (2009) Nota van Antwoord naar aanleiding van inspraak ontwerp Nationaal Waterplan. Beleidsnota, 22 December 2009 (<http://www.rijksoverheid.nl/documenten-en-publicaties/notas/2009/12/22/nota-van-antwoord-naar-aanleiding-van-inspraak-ontwerp-nationaal-waterplan.html>).

IenM (2009) Nationaal Water Plan, Ministerie van Infrastructuur en Milieu, 22/12/2009.

IenM (2009) Policy Document on the North Sea 2010-2015 (Beleidsnota Noordzee), 22/12/2009.

Maes, F., 2008. The international legal framework for marine spatial planning. *Marine Policy* 32, 797-810.

MAES, F., DE BATIST, M., VAN LANCKER, V., LEROY, D., VINCX, M. (eds.), *Towards a Spatial Structure Plan for the Sustainable Management of the Sea (GAUFRE)*, Brussels, Belgian Science Policy, 2005, 384 p. + Annexes [D/2005/1191/25]

MAES, F., SCHRIJVERS, J. & VANHULLE, A., (red.), *A Flood of Space. Towards a Spatial Structure Plan for the Sustainable Management of the North Sea*, Brussels, Belgian Science Policy, 2005, 204 p. [D/2005/1191/20] + Cd-Rom [D/2005/1191/20]

Management Unit of the North Sea Mathematical Models at: <http://www.mumm.ac.be/EN/index.php>



PBL (2011). PBL Werkprogramma 2011. (http://themasites.pbl.nl/images/Werkprogramma-PBL-2011_tcm60-49627.pdf)

PLASMAN, C. (2008). Implementing marine spatial planning: A policy perspective. *Marine Policy* 32 (5) 811-815.

Rogers, S.I., Tasker, M.L., Earll, R., Gubbay, S., 2007. Ecosystem objectives to support the UK vision for the marine environment. *Marine Pollution Bulletin* 54, 128-144. SOMERS, E. & MAES, F. (2011). National Report for Belgium on the Law Applicable on the Continental Shelf and in the Exclusive Economic Zone. *Ocean Development and International Law* (forth coming)

Stelzenmüller, V., Lee, J., South, A., Rogers, S.I., 2010. Quantifying cumulative impacts of human pressures on the marine environment: A geospatial modelling framework *Marine Ecology Progress Series* 398, 19-32.

VenW (2009) Waterbesluit, Art 1-8.

VenW (2009) Houdende regels met betrekking tot het beheer en gebruik van watersystemen (Waterwet), 29/01/2009.



5 Criteria and selection process for MASPNOSE case studies

The selection of the MASPNOSE case studies was based on a transparent and criteria based process which involved the consultation of the national authorities responsible for the respective MSP process. Within the project five criteria with a cross-boundary dimension were defined to select a final set of cross-border MSP case studies. Those criteria are:

1. Stakeholder involvement: involvement of NGO's, private sector in the case study area, e.g. by trying to influence the spatial planning process
2. Governments involved: at least two governments should be involved in the case study area
3. Multi-sectoral interest: several sectors should be active in the case study area
4. Cross-border opportunities: Mutual benefits can be expected as a result of cross-border planning
5. General interest and the willingness to share information: Stakeholders have a general interest in a cross-border planning issues and share information to define and assess the defined planning objectives.

A number of cross-border issues and potential case studies have been discussed in the first MASPNOSE workshop and were described in detail in section 3 within the national reviews (Table 5.1). Below the candidate case studies are mapped against the six selection criteria.

Table 5.1: Comparison of the candidate case studies.

Selection criteria	Belgium-Dutch case study	Doggerbank case study	German-Danish border	International dimension of German MSP
Stakeholder involvement	yes	yes	partly	partly
Governments involved	Belgium, The Netherlands	UK, The Netherlands, Germany, Denmark	Germany, Denmark	Germany, Netherlands, Denmark
Multi-sectoral interest	Yes: shipping, wind farms, fisheries, aquaculture, nature conservation	Yes: Natura 2000, fisheries, gravel extraction, wind farms	Yes: conservation areas, fisheries, wind farms	Yes: wind farm, fisheries
Cross-border opportunities	yes	yes	yes	partly
General interest and the willingness to share information	yes	yes	partly	partly

This comparison revealed that the Belgium-Dutch and Doggerbank case studies fulfill best the selection criteria. Thus those case studies were deemed to be most suitable to deliver on the main objectives of MASPNOSE. The first case study is an area on the Dutch-Belgium border where the cumulative effects and siting of wind farms are the key issues. The Dogger Bank was selected as the second case study by the MASPNOSE team. The two case studies are described in more detailed in section 6.



6 Case study fact sheets

6.1 Case study Belgium-Netherlands: Cross-border issues, interaction of human activities, opportunities and bottleneck for cross-border MSP

Cross-border area and issue:

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

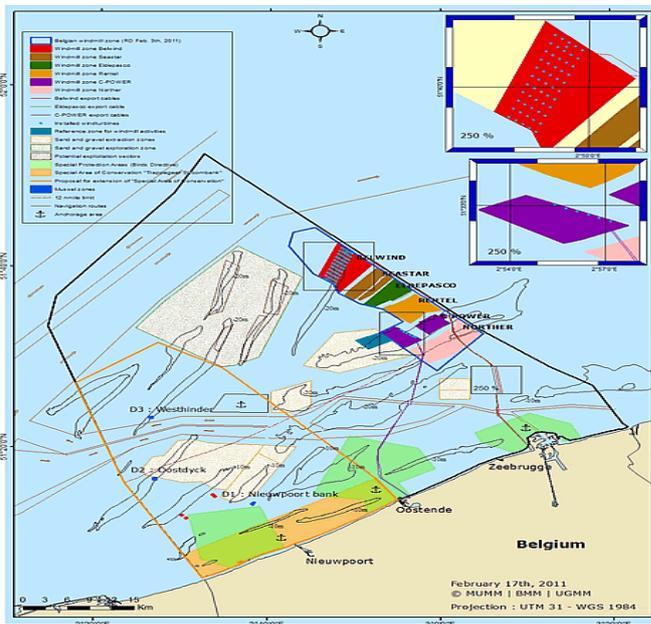


Figure 6.1.1: Offshore wind mills on the Belgian part of the border.

Source: Management Unit of the North Sea Mathematical Models (MUMM)

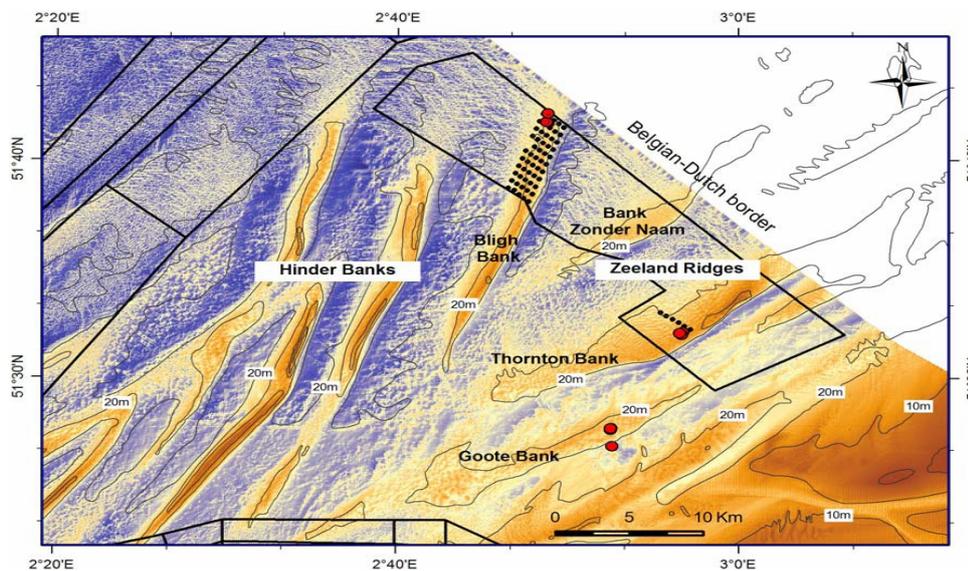


Figure 6.1.3: Transboundary sand banks in the Belgian concession zone for offshore wind mills

Source: Management Unit of the North Sea Mathematical Models (MUMM)



<p>Human activities: wind energy & cables shipping fisheries aquaculture nature conservation.</p>	<p>Bio-physical features: Relatively shallow water with varying depths due to the sand banks. The Thornton Bank is situated about 27 km from the Belgian coast in depths of 12 to 27 meter. The Bligh Bank is situated about 42 km from the coast in water depths between 20 to 35 meters. The Bank zonder Naam is situated 38 km from the coast. From a sedimentary perspective, the monitoring areas at the Bligh Bank and Thorntonbank (i.e. impact areas) and the Goote Bank (i.e. reference area) are highly similar, with a domination of medium sand (median grain size: 250-500 μm) in absence or with a very low mud content (max. 1 %) and a low organic matter content (0.3-1.8%). The macrobenthic community structure showed quite some natural spatio-temporal variability, with macrobenthic densities, ranging from 10 – 1930 ind./m^2, being significantly lower in 2009 compared to 2008 at the Blighbank and to 2005 at the western part of the concession area at the Thorntonbank. Species richness (NO), ranging from 1 to 24 spp./0.1 m^2, was however comparable to 2005 and 2008, as well as biomass, ranging from < 0.001 to 37 g/m^2. Dominant hard substrate species are <i>Nephtys cirrosa</i>, <i>Bathyporeia guilliamsoniana</i> and <i>Spiophanes bombyx</i>, although local variation exists. From the 46 prey types collected from the guts and stomachs of line fished pouting, the amphipod <i>Jassa herdmani</i> and its tube mats, crabs, such as <i>Pisidia longicornis</i> and detritus were most frequently (11-67 %) encountered. Especially <i>J. herdmani</i> (84 % of numerical prey abundance) and <i>P. longicornis</i> (10 %), two of the most common hard substratum macrofaunal species, tended to dominate the food composition of pouting at the Thorntonbank GBFs (S Degraer <i>et al</i> 2010).</p>
--	--

What are the opportunities and bottlenecks for cross-border MSP in the case study area?

Opportunities: joint monitoring activities, joint fisheries management, joint efforts to realize additional wind farms, development of transboundary management plans, harmonisation of regulatory issues, such as safety of shipping, nature protection (network of marine protected areas), development of a coherent policy towards the expansion of wind farm concession, sharing cables bringing electricity on land, ...

In the border area there can be 3 different functions identified as of importance to collaborate on:

- Shipping, including 'short sea shipping'
- Wind farms and connection to land, including safety in connection to shipping
- MPA (Nature 2000) areas versus fishing activities

Bottlenecks: lack of time for the development of a common policy and vision, the organisation of transboundary stakeholder assessments due to a different stakeholder practice, legal and policy constraints due to different priorities

Who is involved in cross-border MSP in the case study area?

- Governments of the Netherlands, Belgium and Flanders, and their representatives (public servants)
- Local authorities and the coastal population closest to the area
- Port authorities
- Fishermen active in the area and/or their representatives
- Nature conservation organizations



- Offshore wind operators
- Shipping sector
- Dredging companies
- Coast guard

What are the goals of the MASPNOSE case study?

The MASPNOSE objectives will be tested for the case study area in comparing and analyzing the actual MSP plans of both countries and their process for adaptation, with the objective to assess:

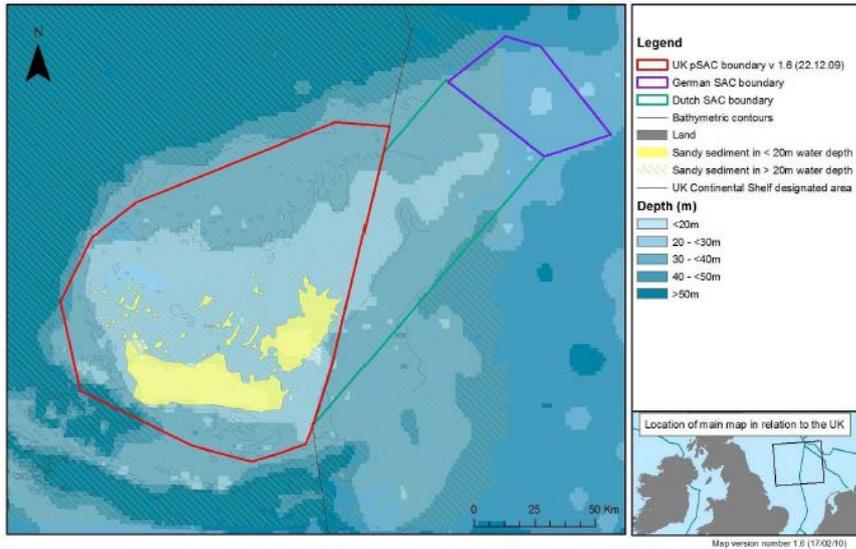
- Develop a strategy and define a set of common objectives for MSP in a cross-border area, by making use of thematic maps
- Explore and visualize different opportunities and constraints for further development of the zone in a cross boundary context (e.g. what are the strategic agenda points of both governments and their stakeholders in this zone).
- Develop a test case of the function and usefulness of MSP and its 10 key principles in this particular cross-border area.



6.2 Case study Doggerbank: Cross-border issues, interaction of human activities, opportunities and bottleneck for cross-border MSP

Cross-border area and issue:

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



Above: UK Dogger Bank pSAC boundary in relation to neighbouring Member States' (Netherlands, Germany) SAC site boundaries

Figure 6.2.1: MASPNOSE case study area.

The focus of the case study is on the whole feature of the Dogger Bank that has been designated or proposed as Special Areas of Conservation (SAC) under the Habitats Directive (EC Directive 92/43/EEC). Within the case study four specific sub-areas of the Dogger Bank are identified:

1. The German SCI (Site of Community Importance)
2. The Dutch proposed SCI (pSAC)
3. The UK possible SAC
4. The boundary of Tranche A (Dogger Bank project One) of the Forewind Dogger Bank Wind farm Zone

<p>Human activities:</p> <ul style="list-style-type: none"> Fisheries Shipping Nature conservation Oil and Gas exploration Wind farm development Pipes and cables 	<p>Bio-physical features:</p> <p>Relatively shallow water, with a minimum depth of 18 meters and on average between 30 to 40 meters deep. The predominant sediment type is sand with widespread areas of gravely sand and small patches of sandy gravel and gravel. It is an area with a complex hydrographic regime causing the water column to be mixed year round. The level of phytoplankton production is very high and samples taken in 2001 indicate a richer (more and larger animals of a range of species) fauna on the bank than that found on more southerly sandbanks (DTI,</p>
--	---



	2001). A number of commercially important species of demersal and pelagic fish have spawning grounds around the Dogger Banks. These include mackerel, herring, cod, whiting, plaice, sole, sand eels and sprat.
--	---

What are the opportunities and bottlenecks for cross-border MSP in the case study area?

The location and characteristics of the Dogger Bank make it an ideal case to study on cross-border MSP issues. Specific MSP activities will be monitored, described and analysed in order to be understand opportunities and bottlenecks for cross-border MSP.

- 1. Fisheries and Nature conservation National versus international** In the Dutch FIMPAS (Fisheries Measures in Marine Protected Area's) project, which started in 2008, three test cases were selected: the Frisian Front the Cleaver Bank and the Dogger Bank. Germany and the United Kingdom are included in the process of the Dogger Bank case to achieve international coherence. This process should lead to an integrated advice from the [International Council for the Exploration of the Sea](#) (ICES). The NSRAC (North Sea Regional Advisory Council) was asked by the FIMPAS project at the third FIMPAS workshop (January 2011) to develop a position paper for fisheries management in relation to nature conservation on the Dogger Bank. This position paper should be completed before the FIMPAS 4 meeting of September 26th, 2011.
 - *Opportunities: development of a fisheries management plan that takes nature conservation into account; the production of a fisheries management plan for a trans boundary area in a regional sea by the NSRAC.*
 - *Bottlenecks: the large number of stakeholders can make the process, leading up to a position paper, very complex; only a short period of time is available for producing the position paper; trans boundary cooperation between Member States is not well developed.*
- 2. National MSP plans and specific MSP plans (EMPAS and FIMPAS)** A comparison of the national plans for the Dogger Bank, i.e. German MSP and the EMPAS project, Dutch MSP and the FIMPAS project and the relevant UK plans. The three national processes will all be examined in light of the EU 10 principles for MSP and national MSP processes using an agreed set of indicators. The result will be an assessment of the feasibility of an integrated plan for the Dogger Bank.
 - *Opportunities: learning from national MSP processes and from the two specific fisheries management in MPA projects; identifying differences, similarities and overlap between the studies MSP plans and processes.*
 - *Bottlenecks: operationalizing the EU 10 principles for Maritime Spatial Planning.*
- 3. Sand Eel and wind energy.** Two trans boundary MSP issues will be highlighted in this case study: Sand eel fisheries and renewable energy production (wind energy) on the Dogger Bank. All relevant stake holders will be identified for each issue and the applicability of the ten principles will be examined.
 - *Opportunities Sand Eel : to identify possible effects of spatial management options on Sand Eel Fisheries.*
 - *Bottlenecks Sand Eel: Translating spatial management options into scenario's that can be run in a Sand Eel model.*
 - *Opportunities Wind Energy: identifying the effects of the projected wind farm on other activities.*



- *Bottlenecks Wind Energy: predicting the effects of the projected wind farm on other activities.*

Who is involved in cross-border MSP in the case study area?

- Governments of the United Kingdom, Germany, the Netherlands and Denmark.
- Fisheries organisations that are active on the Dogger Bank
- Conservation Organisations that are active on the Dogger Bank
- The North Sea Regional Advisory Council (NSRAC)
- Forewind
- Shipping sector
- Organizations of the Fisheries Measures in Marine Protected Area's (FIMPAS) project

What are the goals of the MASPNOSE case study?

The MASPNOSE objectives will be tested in the Dogger Bank case study by carrying out a number of related activities. For all activities the MSP process will be monitored, described and analysed.

- A. Facilitate the North Sea Regional Advisory Council (NSRAC) with the development of a position paper setting out a management proposal for fisheries management in relation to nature conservation on the Dogger Bank.
- B. A comparison of the national plans for the Dogger Bank, i.e. German MSP and the EMPAS project, Dutch MSP and the FIMPAS project and the relevant UK plans. The result will be an assessment of the feasibility of an integrated plan for the Dogger Bank.
- C. Formulating scenarios for two specific case studies: Sand eel fisheries and renewable energy production (wind energy). that will be used in MESMA as a model to assess the spatial extent and recovery time of local habitat deterioration, shifting local fishing patterns and changes in other anthropogenic pressures on sand eels as an ecosystem indicator species. All relevant stake holders will be identified for each issue and the applicability of the ten principles will be examined.
- D. An analysis of how the different national and trans boundary spatial management processes as described in A, B and C can be used to improve on-going and planned trans-boundary spatial planning processes.



7 Cross-border MSP development: A first guidance

The review and comparison of national MSP processes allowed for the identification of mismatches between the MSP processes in Belgium, Germany and the Netherlands (section 4 and 7.2). We built on this comparison and used existing practical guidance for MSP (section 7.1) to outline a potential process for the development of cross-border MSP in the North East Atlantic/ North Sea/ Channel area which accounts also for the EU MSP principles. The potential process or methodology for cross-border MSP described in section 7.3 is a draft. This draft needs to be discussed and developed further in the following phases of the project.

7.1 Practical guidance for MSP development

Practical guidance for the development of MSP often describes a sequence of steps and tasks in a planning framework. A prominent example is provided by the UNESCO where worldwide MSP examples have been described and synthesised in a good practice guide for MSP (Ehler & Douvère 2009) (Figure 7.1). In total ten steps depict the cyclic process of scoping, assessment, development and implementation with strong stakeholder participation throughout. Another example, describing in more detail the development of MSP with zoning, was developed by the EU funded program BALANCE (www.balance-eu.org) (see Figure 7.2). This program aimed to develop informed marine management tools for the Baltic Sea based on spatial planning and cross-sectoral and transnational co-operation.

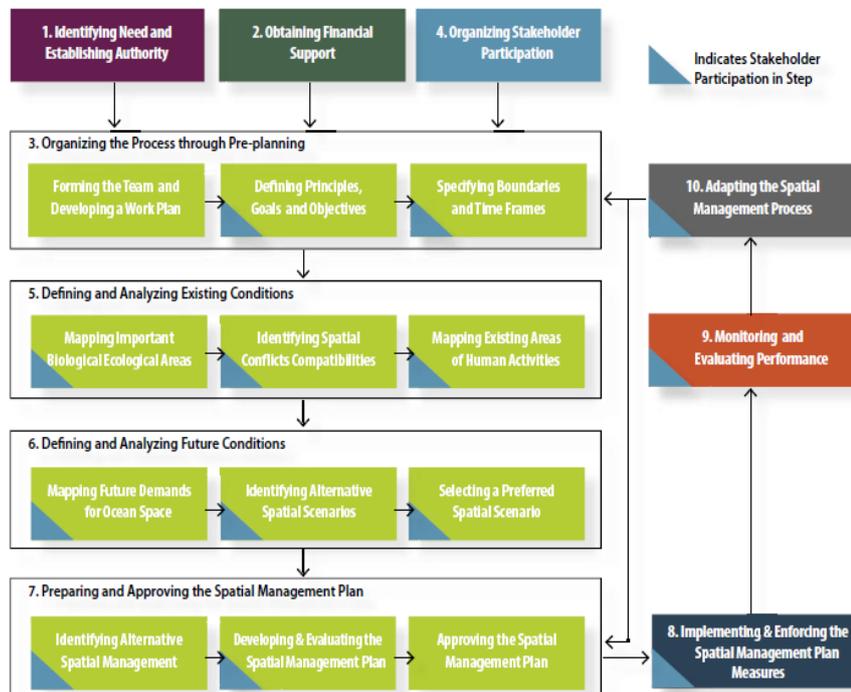


Fig. 1. A Step-by-Step Approach to Marine Spatial Planning

Figure 7.1.1: Example of MSP process (UNESCO guide on MSP) as one possible integrated management.

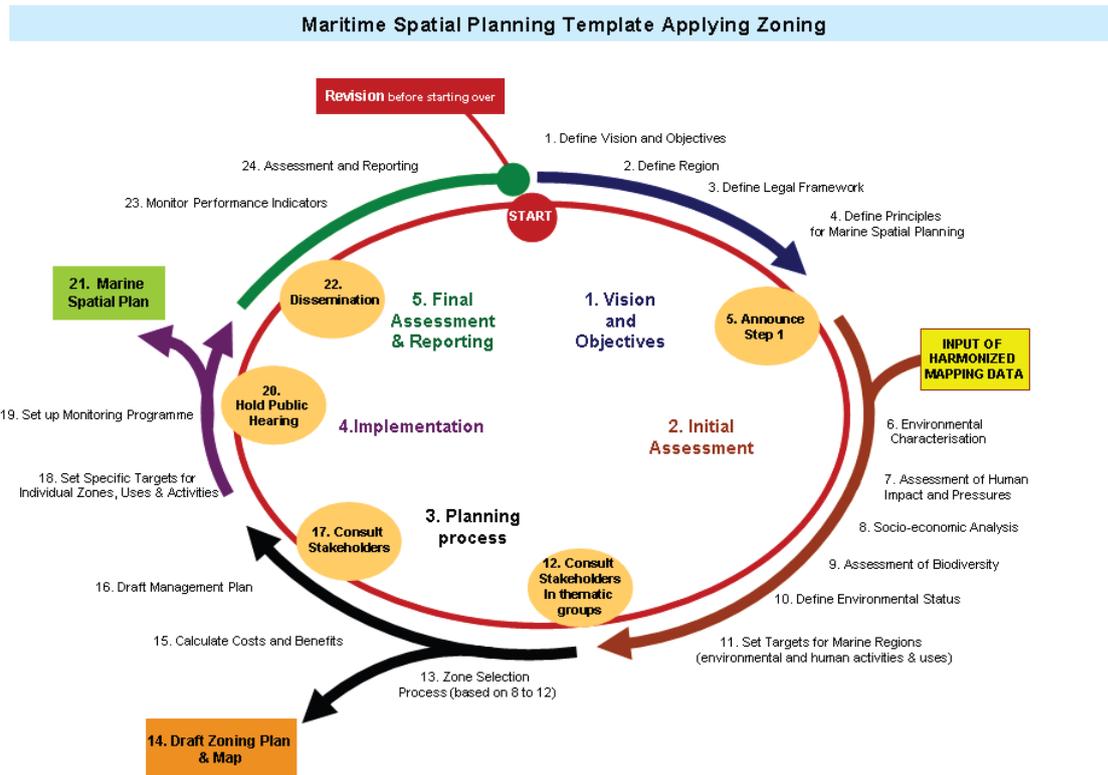


Figure 7.1.2: MSP and zoning cycle developed by the EU funded Balance program (source: www.balance-eu.org/xpdf/balance-technical-summary-report-no-4-4.pdf)

The above described examples show how the concept of adaptive management is applied to the MSP process (Douvere & Ehler 2010, Olsen et al. 2011b). Besides the development of a standardised MSP framework recent work by Foley et al. (2010) emphasised the need of an ecosystem-based MSP. The authors defined ecological principles that articulate the scientifically recognized attributes of healthy, functioning ecosystems, which should be incorporated into a decision-making framework. An ecosystem-based management is a widely accepted concept which aims to maintain an ecosystem in a healthy, productive and resilient condition so that it can provide the services humans want and need (Rosenberg & McLeod 2005). MSP is advocated as a tool that can support the implementation of an ecosystem-based marine management (Olsen et al. 2011a).

7.2 Opportunities and challenges for cross-border MSP

The opportunities for cross-border MSP, that followed from the reviews of the national plans, are as follows:

- Harmonization of marine spatial policies within the national borders and between countries.
- Coherent cross border licensing and permitting system for e.g. mobile activities (sand exploitation), common proposals for fishing activities, the development of offshore renewables (maintenance, sharing knowledge, infrastructure) and common agreement to indicate shipping routes and to ensure safety of shipping. This includes also the coherent development of co-use opportunities such as passive fishing (e.g. gill nets) or aquaculture inside offshore wind parks.



- Support the implementation of an ecosystem-based management via e.g. the implementation of an international fisheries management plan or the assessment of cumulative effects of activities (ecosystem specific instead of institutional boundaries).
- Cross border action plans, drills and exercises with regard to disasters (e.g. oil spills).
- Managing cumulative effects of activities on marine ecosystems and other activities in cross-border areas (e.g. joined monitoring).

In contrast the main challenges are the organisation of transboundary stakeholder assessments due to a different stakeholder practice, legal and policy constraints due to different priorities. Further the large number of stakeholders can make such a process very complex and slow.

7.3 Draft methodology for cross-border MSP

The general process for cross-border MSP should contain the key elements of adaptive marine spatial planning like scoping, initial assessment, planning, implementation and monitoring. Further the cross-border MSP framework should be conform to the ten EU principles for MSP (see section 4.5). For instance principle 7 (Table 7.3.1) is already accounted for in a cross-border MSP context. Other principles reflect the contents of an adaptive MSP cycle such as the definition of objectives (2) and the incorporation of monitoring and evaluation in the planning process (8).

Table 7.3.1: EU principles for MSP (COM 2008).

EU principles for MSP
1. Using MSP according to area and type of activity
2. Defining objectives to guide MSP
3. Developing MSP in a transparent manner
4. Stakeholder participation
5. Coordination within Member States — Simplifying decision processes
6. Ensuring the legal effect of national MSP
7. Cross-border cooperation and consultation
8. Incorporating monitoring and evaluation in the planning process
9. Achieving coherence between terrestrial and maritime spatial planning in relation with ICZM
10. A strong data and knowledge base

In contrast, the other principles can only be implemented through the specifics of across-border MSP planning framework. In Figure 7.3.1 we illustrate a proposed cross-border MSP process and describe below the specific tasks and procedures associated to each framework step. More precisely, we illustrate under each steps only the tasks which are particular for the North East Atlantic/ North Sea/ Channel area and which are conform to the ten MSP principles of the EU.



C1.1 – Initial assessment report – D1.1

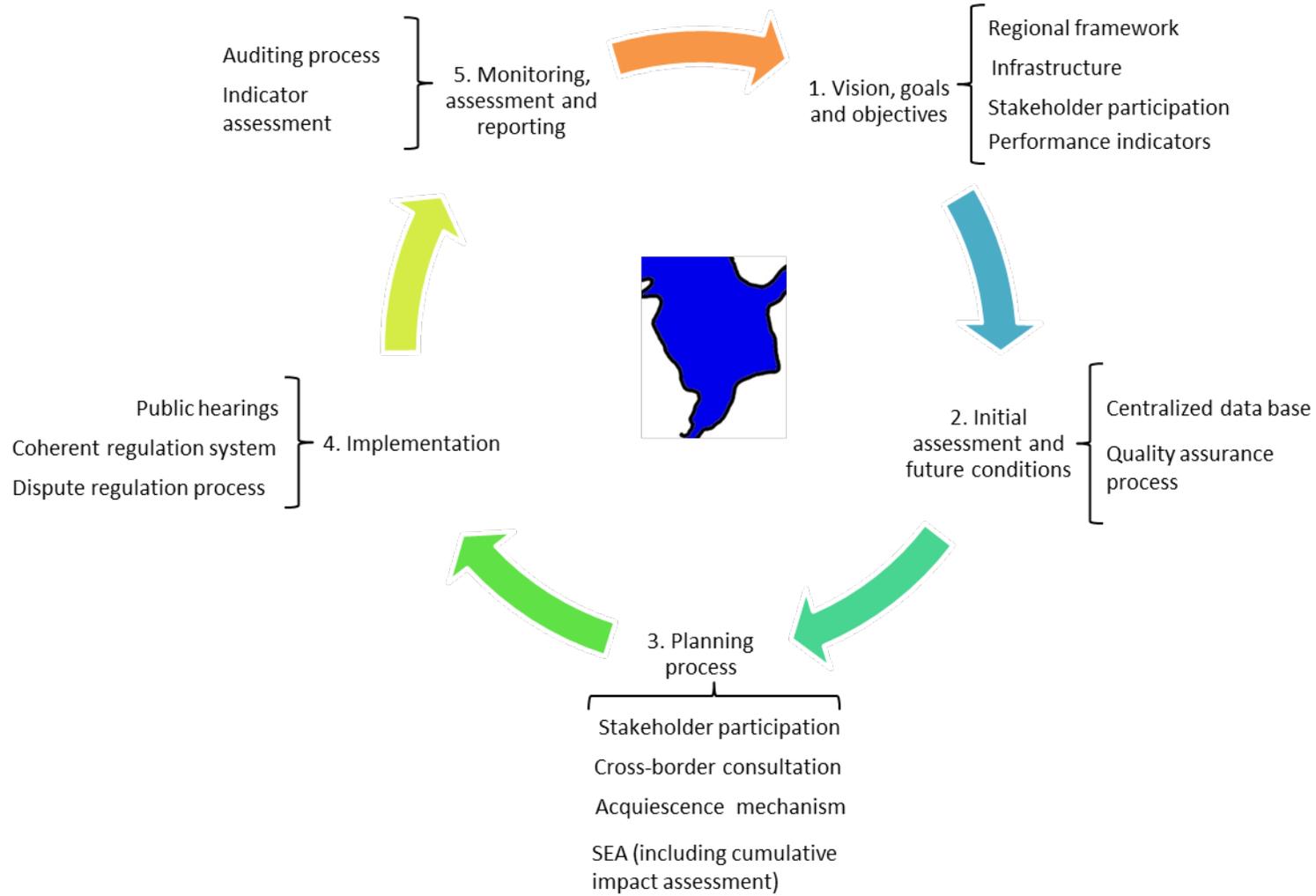


Figure 7.3.1: Proposed cross-border MSP process with indicated key elements of adaptive MSP in relation to the ten EU principles for MSP.



1. Vision, goals and objectives

The definition of goals, objectives and related performance indicators for a cross-border maritime spatial plan would require the use of existing infrastructures such as the regional seas conventions (e.g. OSPAR) and other regional co-operation agreements. Also the stakeholder participation could be organised through existing communities and groups such as the NSRAC. Thus at this stage a regional overview of the planning area, geographic scope and regional goals and objectives would be required together with the regulatory context. The regulatory context would outline how the cross-border plan would be aligned or incorporated into existing MSP initiatives. This also comprises a summary of all statutes, rules, and regulations relevant to implement the cross-border plan. Hence, such a regulatory context would address the EU principle on the alignment of planning initiatives including those between land and sea.

2. Initial assessment and future conditions

The initial assessment would be based on environmental, social, economic, and other necessary data and knowledge, describing the existing and predicted future conditions, uses, and characteristics of the sea area covered by the cross-border plan. Such an initial assessment could be conducted by the regional programs such as OSPAR. The harmonization of data and knowledge is essential for a compressive assessment. Existing data bases such as the ones maintained by ICES or OSPAR could be used. Other regional data bases such as EMODNET are currently developed. The assessment would also include an analysis of ecological condition or health and of cumulative risks as well as forecasts and models of cumulative impacts on both ecosystem components and human activities. Again this would be in line with the current effort within OSPAR to provide a method for cumulative impact assessment. One important point which is not addressed in most national planning initiatives is the process of quality assurance. Quality assurance may be related to scientific information and could be addressed by the installment of scientific advisory boards or specific legal frameworks in the development phase.

3. Planning process

The planning process would require an intense collaboration with the stakeholder groups to develop planning options. Further the cross-border consultation should also incorporate regional organizations such as ICES having a long history in the development and evaluation of international management plans. Important in a cross-border context is the use of a standardized impact assessment of the proposed plan such as a SEA which should also include the assessment of cumulative impacts of the proposed measures. An acquiescence mechanism would explicitly specify mechanisms to enhance coordination and cooperation among decision-makers. Such a mechanism would also promote consistency in each national interpretation and application of its respective existing laws and regulations relevant for the implementation and enforcement of the plans.

4. Implementation

The implementation of a cross-border plan would also require a coherent planning and permitting system in the respective member states. There is no existing infrastructure which could support the implementation of such a coherent planning system. Public hearings would contribute to a transparent planning process. Another important aspect for a transparent implementation phase is the dispute regulation process which clearly outlines the management of disagreements.

5. Monitoring, assessment and reporting

In a cross-border context the auditing process should account for monitoring activities that do exist at a national and international level. It could also be related to regional monitoring activities under the MSFD, which in turn will be harmonised with the help of the regional sea conventions. The definition of performance indicators which takes place earlier in the process is crucial for the auditing



process and depends on the defined targets and operational objectives. Ideally, a central reporting system should be used.

Hence from the above described process we could identify some key issues which need to be further investigated in MASPNOSE:

- The need for a regional basis for cross-border MSP
- The appropriateness of existing conventions, networks and institutions to facilitate cross-border MSP
- The willingness of regional stakeholder groups to participate in a MSP process
- The assessment of the feasibility of a central data and knowledge base
- The assessment of the feasibility for a coherent planning and permitting system

7.4 References

- COM(2008)Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU. 791 final
- Douvere F, Ehler CN (2010) The importance of monitoring and evaluation in adaptive maritime spatial planning J Coast Conservat DOI: 10.1007/s11852-010-0100-9
- Ehler C, Douvere F (2009) Marine Spatial Planning: a step-by-step approach toward ecosystem-based management. Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. I. In: OC Manual and Guides No. 53 IDNPU (ed)
- Foley MM, Halpern BS, Micheli F, Armsby MH, Caldwell MR, Crain CM, Prahler E, Rohr N, Sivas D, Beck MW, Carr MH, Crowder LB, Emmett Duffy J, Hacker SD, McLeod KL, Palumbi SR, Peterson CH, Regan HM, Ruckelshaus MH, Sandifer PA, Steneck RS (2010) Guiding ecological principles for marine spatial planning. Mar Policy 34:955-966
- Olsen E, Kleiven AR, Skjoldal HR, von Quillfeldt CH (2011a) Place-based management at different spatial scales. J Coast Conservat 15:257-269
- Olsen SB, Olsen E, Schaefer N (2011b) Governance baselines as a basis for adaptive marine spatial planning. J Coast Conservat 15:313-322
- Rosenberg AA, McLeod KL (2005) Implementing ecosystem-based approaches to management for the conservation of ecosystem services. Mar Ecol Prog Ser 300:270-274



About MASPNOSE

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

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

MASPNOSE focusses on two case studies:

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

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

www.cmp.wur.nl/maspnose

