

# THE INTERNATIONAL PERSPECTIVE: LESSONS FROM RECENT EUROPEAN EXPERIENCE WITH MARINE SPATIAL PLANNING<sup>1</sup>

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## ABSTRACT

Increased development pressures on the marine environment and the potential for multiple use conflicts, arising as a result of the current expansion of offshore wind energy, fishing and aquaculture, dredging, minerals extraction, shipping activities, and meeting international and national commitments to biodiversity conservation, have led to increased interest in sea use planning (marine spatial planning) and ocean zoning as new tools for management. Several European countries, on their own initiative or driven by the European Union's Marine Strategy (2005) and Maritime Policy (2006), the Bergen Declaration of the North Sea Conference, and the EU Recommendation on Integrated Coastal Zone Management (2002), have taken global leadership in implementing sea use planning. The Bergen Declaration specifically invited the OSPAR Commission to investigate the possibilities of further international cooperation in developing marine spatial planning as a management tool. Belgium, The Netherlands, and Germany in the North Sea, and the United Kingdom in the Irish Sea, have already completed preliminary sea use plans and zoning proposals for sea areas within their national jurisdictions. This paper will review briefly the need for sea use planning in the seas of Europe, the policy framework and context, the benefits and gaps, and four examples of sea use planning.

**Key words:** Sea use management, marine spatial planning, marine protected areas, ocean zoning, spatial ecology and conservation

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## 1. Nature and Context of Ecosystem-based, Sea-Use Management

The results of the recent Millennium Ecosystem Assessment, as well as other global and regional assessments of the marine environment, confirm that biodiversity in the world's oceans and coastal areas continues to decline as a consequence of uncoordinated and unsustainable human activities. Over the past 50 years humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for ecosystem services such as food, fresh water, timber, fiber, and fuel<sup>3</sup>. This has resulted in a substantial and largely irreversible loss in the diversity of life on Earth.

During the past decade, the traditional sectoral approach to natural resource and environmental management was recognized as insufficient to address human impacts on the environment. A more holistic *ecosystem approach* has emerged that calls for a comprehensive look at all dimensions of environmental problems<sup>4</sup>.

Ecosystem approaches, as adopted by many multi-lateral environmental agreements, provide an important framework for assessing biodiversity and ecosystem services and evaluating and implementing potential responses. Many different 'ecosystem approaches' exist. The ecosystem approach developed in the context of the Convention on Biological Diversity (CBD), the ecosystem approach to fisheries (EAF) and integrated marine and coastal area management (IMCAM) (or alternatively, 'integrated coastal area management' or 'integrated coastal zone management' – terms that are relatively

equivalent, differing only in the amount of coastal or marine environment covered) represent three useful tools for making progress towards a more integrated and holistic management of ocean spaces and resources. Both ecosystem management and integrated coastal and ocean management adopt a holistic, integrated approach covering both the environmental and socio-economic dimensions, and are basically similar. However, the scale and level of management intervention might vary with respect to geographical scale<sup>5</sup>. The ecosystem approach has become widely accepted as a key framework in delivering sustainable development.

## 2. Marine Spatial Planning as a Tool to Implement Ecosystem-based, Sea Use Management

Despite its broad acceptance, so far the ecosystem approach has been more a concept, widely discussed at scientific fora, but with few examples of actual practice. A basic premise of the ecosystem approach is that there is no 'correct' way to implement it, but only that certain principles and guidance should apply.

*Ecosystem-based management is an integrated approach to management that considers the entire "ecosystem," including people.* The goal of ecosystem-based management is to maintain an ecosystem in a healthy, productive and resilient condition so that it can provide the goods and services people want and need. Ecosystem-based management differs from current approaches that usually focus on a single species, sector, activity or concern; it considers the cumulative impacts of different sectors.

Specifically, ecosystem-based management<sup>6</sup>:

- emphasizes the protection of ecosystem structure, functioning and key processes;
- accounts explicitly for the interconnectedness within systems, recognizing the importance of interactions between many target species or key services and other non-target species;
- acknowledges interconnectedness among systems, such as between air, land and sea;
- integrates ecological, social, economic, and institutional perspectives, recognizing their strong interdependence; and
- ***is place-based (or "area-based") in focusing on a specific ecosystem and the range of activities affecting it (emphasis added).***

The application of ecosystem approaches in the marine and coastal areas builds on the concept of integrated management, already widely used for the management of coastal areas. Integrated management involves comprehensive planning—including marine spatial planning (MSP)—and the regulation of human activities toward a complex set of multiple, and often conflicting, objective—and aims at minimizing conflicts among uses and users while ensuring long-term sustainability. It recognizes the need to protect the ecosystem taking into account the effects of multiple uses, and acknowledges the

limitations of the sectoral approaches and the linkages between inland, coastal and ocean uses. *In fact, applying the ecosystem approach in the marine environment is an evolution of integrated coastal and ocean management, with a greater emphasis on ecosystem goals and objectives and their outcomes. Moving to an ecosystem approach is an evolutionary step in integrated management and action, not a break with the past.* Since marine spatial planning and ocean zoning are also “place-based” or area-based,” they can be carried out at a marine ecosystem level. Marine spatial planning has been defined as “...a strategic plan for regulating, managing, and protecting the marine environment that addresses the multiple, cumulative, and potentially conflicting uses of the sea.”<sup>7</sup>

Spatial planning is an essential tool for managing the development and use of land in many parts of the world. In North America and Europe it is commonly used as an essential component of developmental and environmental management. The traditional and incremental, permit-by-permit approach has now been replaced by a comprehensive planning approach that lays out a vision to be developed for an area. This approach is now the standard for terrestrial land-use planning and decision-making.

In many respects, ‘planning’ in the marine environment today resembles terrestrial planning in the 1960s. With only a few exceptions, there is no clearly articulated spatial vision for the use of marine areas, no plan-based approach to management, and consequently, a lack of certainty for marine developers and users. This is exacerbated by the sector-by-sector responsibilities for determining development applications in the marine environment. It is now time for a strategic and integrated plan-based approach for marine management, instead of the piecemeal view, not the least so that commitments made in a number of important international and national marine policy declarations, including commitments to an “ecosystem approach,” could be fulfilled.

We are now at a stage where the ecosystem approach needs to be brought beyond the conceptual level of implementation allowed by its principles and guidance. Concrete tools must be identified and applied to make the ecosystem approach a reality. It is increasingly clear that governments and stakeholders lack some of the tools to make an ecosystem approach operational, especially with regard to cross-sectoral integration. Despite the existence of theory, practice, and tools that support the implementation of ecosystem-based management of marine areas, practical obstacles to implementing the concept remain. They can be summarized as (a) defining the management unit; (b) developing understanding; and (c) creating the planning and management framework<sup>8</sup>.

The key challenge today is to make the concepts operational, and one way to do this is to demonstrate practical experiences and benefits of the application of marine spatial planning and ocean zoning. The evolution of marine spatial planning and ocean zoning<sup>9</sup> is an important step toward making "ecosystem-based, sea-use management" a reality.

Ecosystem-based, sea use management, including the important tools of marine spatial planning and ocean zoning<sup>10</sup>:

- a. *Applies an ecosystem approach* to the regulation and management of development and activities in the marine environment by safeguarding ecological processes and overall resilience to ensure the environment has the capacity to support social and economic benefits (including those benefits derived directly from ecosystems);

- b. *Provides a strategic, integrated and forward-looking framework* for all uses of the sea to help achieve sustainable development, taking account of environmental as well as social and economic objectives;
- c. *Identifies, conserves, or where necessary and appropriate, recovers or restores important components of coastal and marine ecosystems*, including natural heritage and nature conservation resources; and
- d. *Allocates space* in a rational manner that avoids or minimizes conflicts of interest and, where possible, maximizes synergy between sectors.

### **3. International Experiences of Marine Spatial Planning and Ecosystem-based, Sea Use Management**

Spatial planning and ocean zoning is an essential tool for managing the development and use of land in many parts of the world. In North America and Europe, marine spatial planning is commonly used as an essential component of developmental and environmental planning. The traditional 'project-by-project, permit-by-permit' approach has now been replaced by a comprehensive planning approach that lays out a vision to be developed for an area. In many respects, 'planning' in the marine environment today resembles terrestrial planning in the 1970s.

Thirty years ago marine endangered species were the focus of the marine problems (e.g., whales and turtles), then environmental conditions (e.g. coral reefs, seagrasses). Now, the threat is the loss of entire marine ecosystems. Only planning and management at the level of marine ecosystems can deal with the scope and scale of this new problem<sup>11</sup>.

While initially the idea of marine spatial planning and ocean zoning was stimulated by international and national interests in developing marine protected areas, e.g. the Great Barrier Reef Marine Park, more recent attention has been placed on managing the multiple use of marine space, particularly in areas where use conflicts are already clear, for example in the North Sea.

#### **3.1. International legal framework for marine spatial planning**

There is an extensive legal and policy framework relevant to the development of marine spatial planning. International legal requirements that need to be taken into account within any marine spatial planning framework include:

- a. United Nations Convention on the Law of the Sea (UNCLOS);
- b. Chapter 17 of Agenda 21;
- c. International Maritime Organization convention and protocols (such as MARPOL, the London Dumping Convention, Oil Pollution Preparedness Responses and Control (OPRC));
- d. 1995 Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities;
- e. 1995 UN Fish Stocks Agreement, and the FAO Code of Conduct for Responsible Fisheries;
- f. The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December

- 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks;  
g. World Summit for Sustainable Development 2002; and  
h. Convention on Biological Diversity (CBD).

### 3.2. Current international examples of marine spatial planning

Several countries have begun to move the conceptual work forward by shifting the focus more toward putting marine ecosystem-based management into practice, through marine spatial planning and ocean zoning.

Table 1: Current international examples of Marine Spatial Planning and Sea-use Management<sup>12</sup>

Country	Agency	Project	Website
Australia	Great Barrier Reef Marine Park Authority	GBRMP zoning	www.gbrmpa.au
Australia	National Ocean Office	Marine Bioregional Planning (Southeast Region and North Regional Plans)	www.oceans.au/MBP.jsp
Baltic Sea Region	Danish Forest and Nature Agency	BALANCE	www.geus.net/balance/
Belgium	Flemish Ministry of Mobility & North Sea	Master Plan for the Belgian Part of the North Sea	<a href="http://www.belspo.be/belspo/fedra/proj.asp?l=en&amp;COD=MA/02">http://www.belspo.be/belspo/fedra/proj.asp?l=en&amp;COD=MA/02</a>
Canada	Fisheries & Oceans Canada	Eastern Scotian Shelf Integrated Management (ESSIM) Project	www.mar.dfo-mpo.gc.ca/oceans
Canada	Fisheries & Oceans Canada and New Brunswick	Southwest Bay of Fundy Marine Resources Use Plan	
China	State Oceanic Administration	Territorial Sea zoning	
Denmark, Germany & The Netherlands	Wadden Sea Secretariat	Trilateral Wadden Sea Cooperation Area	www.waddensea-secretariat.org
Ecuador	Galapagos National Park, Ministerio del Ambiente	Galapagos Marine Reserve Zoning	www.galapagospark.org
Finland	Finnish Natural Heritage Service (Metsähallitus)	BALANCE Project (Baltic Sea Management-Nature Conservation and Sustainable Development of the Ecosystem through Spatial Planning)	www.balance-eu.org/wp4/index.html
Italy, Slovenia, & Croatia	Italian Ministry for the Environment and Territory	ADRICOSM (Adriatic Sea Integrated Coastal Areas and River Basin Management System Pilot Project)	www.bo.ingt.it/adricosm/
Germany	German Federal Ministry of Transport, Building and Housing (BMVBW) and the Federal Office for Building and Regional Planning (BBR)	EEZ and Territorial Sea Planning	

<b>The Netherlands</b>	Ministry of Transport, Public Works & Water Management—North Sea Directorate	Integrated Management Plan for the North Sea 2015	www.noordseeloket.nl
<b>New Zealand</b>	Department of Conservation	Regional Coastal Plan for Northland	<a href="http://www.nrc.govt.nz/planning/AdoptedRegionalCoastalPlan.shtml">www.nrc.govt.nz/planning/AdoptedRegionalCoastalPlan.shtml</a>
<b>Norway</b>	Department of Environmental Protection	Barents Sea and sea areas off the Lofoten Islands	www.dep.no/md:english/IntegratedManagementBarentsSea/bn.html
<b>United Kingdom</b>	Department of Environment, Food, & Rural Affairs (DEFRA)	Irish Sea Pilot Project	<a href="http://www.jncc.gov.uk">www.jncc.gov.uk</a> www.defra.gov.uk
<b>United States of America</b>	National Oceanic & Atmospheric Administration	Florida Keys & Channel Islands National Marine Sanctuaries (zoning)	floridakeys.noaa.gov channelislands.noaa.gov
<b>United States of America</b>	California	California Ocean Resources Management	resources.ca.gov/ocean/strategy
<b>United States of America &amp; Canada</b>	Gulf of Maine Council on the Marine Environment	Gulf of Maine Mapping Initiative	www.gulfofmaine.org
<b>United States of America</b>	Conservation International	Marine Management Areas, e.g., Sulu Sulawesi, Patagonian Sea, Gulf of California	portals.conservation.org/marine

Source: Ehler, C., Nature and Context of Ecosystem-based Sea-Use Management, UNESCO (unpublished)

## 4. The increasing need for sea use planning in Europe

### 4.1. Policy framework and context<sup>13</sup>

As early as in 1999, the European Spatial Development Perspective recognized that all sectoral policies have a territorial (or spatial) impact and that a spatial plan is the most appropriate means of resolving conflicts between sectoral interests and policies<sup>14</sup>. European legislation and initiatives relevant for marine spatial planning in the coastal and the marine environment include:

#### **a. Green Paper on the future Maritime Policy for the European oceans and seas (2006);**

On 7 June 2006, the EU launched its long-expected Green Paper 'Towards a future Maritime Policy for the Union: A European vision for the oceans and seas.' In its future ocean policy, marine spatial planning is seen as a key aspect to managed a growing and increasingly competing maritime economy, while at the same time safeguarding biodiversity<sup>15</sup>.

#### **b. EU Thematic Strategy for the Marine Environment (2005)**

In 2005, the EU Marine Thematic Strategy provides a supportive framework for national marine spatial plans, particularly for achieving 'good environmental status' of EU waters by 2021<sup>16</sup>.

**c. *EU Recommendations on Integrated Coastal Zone Management (ICZM) (2002)***

In 2002, the EU recommendations on Integrated Coastal Zone Management (ICZM) identified marine spatial planning as a key ingredient in achieving integrated management of the coastal area and its resources<sup>17</sup>. The first High Level Forum on ICZM emphasised the potential to use spatial planning, integrated with sea-use planning and marine resources management, at national, regional and local level as a way to apply a holistic and dynamic perspective in ICZM<sup>18</sup>.

**d. *The Fifth Ministerial North Sea Conference (2002)***

The need for a MSP is also reflected at the regional level. In 2002, the Ministerial Declaration of the 5<sup>th</sup> North Sea Conference (Bergen)<sup>19</sup> invited the OSPAR Commission to investigate the possibilities of further international cooperation in developing MSP as a tool for an effective sea use management. The OSPAR Working Group on Spatial Planning is currently designing a set of guidelines to implement MSP in the North Atlantic Region<sup>20</sup>.

**e. *European Wildlife Directives***

Among the most important drivers for MSP in Europe is the European legislation on nature conservation as part of the EU contribution to implement the 1992 Convention on Biological Diversity. The two most significant are the Birds Directive<sup>21</sup>, 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<sup>22</sup> 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. Natura 2000 forms the cornerstone of Europe's nature conservation policy<sup>23</sup>.

The Directive requires that within Natura 2000 sites damaging activities are avoided that could significantly disturb the species or deteriorate the habitats for which the site is designated and that positive measures are taken, where necessary, to maintain and restore these habitats and species to a 'favorable conservation status' in their natural range. How this is achieved is up to the individual countries to decide, to legally ensure site conservation. The provisions used can be statutory (e.g. making a nature reserve), contractual (e.g., signing management agreements with the land owner) or administrative (providing the necessary funds to manage the site). Whatever method is used, it must take account of the economic, social and cultural requirements and regional and local characteristics of the area concerned<sup>24</sup>.

Implementing the Natura 2000 network in the marine environment has presented a number of challenges. While the duties on Member States are the same as for the terrestrial environment – that is, to maintain and restore the marine species and habitat types listed in the Habitats and Birds Directives to a favorable conservation status – the level of progress in designating and protecting marine sites is not nearly as far along as on land. According to June 2005 figures, Member States have so far designated 459 marine SPAs under the Birds Directive and 1250 SACs with a marine component under the Habitats Directive. Most are located in coastal waters and usually form a natural

seaward extension of a terrestrial site. Very few qualify as offshore marine sites.

Recognizing the complexities of marine designations and the general lack of progress relative to terrestrial designations, the Commission set up a marine expert working group in 2003 to look in detail at the provisions of the two Directives as they apply to the marine environment. The conclusions of the group are currently being used by the Commission to elaborate a guidance document on Natura 2000 in the marine environment, which is due to be published in 2006<sup>25</sup>

#### **f. EU Common Fisheries Policy (2002)**

Additionally, in the framework of the Common Fisheries Policy<sup>26</sup> (CFP) (2002), the EU seeks to achieve sustainable exploitation of its fisheries resources. Among general measures to limit the overexploitation of fish, seven Regional Advisory Councils (RACs) were established to provide improved consultation with stakeholders on the management of their areas. In an attempt to respond to the challenges of closed or semi-closed fishing areas, the Regional Advisory Council for the North Sea<sup>27</sup> recently established a Working Group on Marine Spatial Planning.

Most initiatives on MSP in Europe are driven by international and European legislation that is, in turn, a reflection of the discussion and controversy regarding new uses of the sea and the seabed and the increasing need to meet commitments on biodiversity conservation.

#### **g. EU Water Framework Directive (2000)**

The aim of the Water Framework Directive (WFD) is to establish a framework for the protection of inland surface waters, transitional waters (estuaries and brackish waters), coastal waters and groundwater. The principal objective is that these water bodies should achieve good status by 2015, which includes the establishment of a register of protected areas in and the development of a management plan (including spatial planning) for each river basin<sup>28</sup>.

### **4.2. Practical examples of marine spatial planning in the North Sea**

Several European countries, on their own initiative or driven by European legislation and policy, have taken global leadership in assessing and implementing MSP in a broader context. Most international plans have been brought forward to establish Marine Protected Areas and marine reserves. The focus of these plans has been to ensure that conservation objectives are not impaired by human activity. The European examples however, are paying much more attention to identifying and resolving conflicts between different sea uses and users. The Netherlands developed an 'Integrated Management Plan for the North Sea 2015', that includes a 'Spatial Planning Policy Framework' directed toward economically efficient use of their marine space<sup>29</sup>. The coastal *Länder* in Germany recently extended their spatial planning competencies to the territorial sea (TS), while the Federal Spatial Planning Act has been amended to extend national sectoral competencies (including MSP) to the exclusive economic zone (EEZ)<sup>30</sup>. The United Kingdom is currently considering a 'Marine Bill' that would develop a process and examine the benefits of MSP for its entire marine waters<sup>31</sup>.

Other European examples are the 'Adriatic sea integrated coastal areas and river basin management system pilot project' (ADRICOSM). This project looks at how to efficiently organise, evaluate and co-ordinate multinational research, development and implementation programs that advance the understanding, monitoring and predictive capabilities in the Adriatic Sea. It is designed to provide tools for use in marine spatial planning. Marine spatial planning in the Baltic region is currently being investigated through the 'INTERREG IIC project Baltic Manual' that is designed to provide a platform for mutual learning and with it promote development and co-operation in spatial planning management and research<sup>32</sup>.

The following sections will explain how Belgium, Germany, The Netherlands, and the United Kingdom are interpreting and planning European and international MSP responsibilities. A comparison will be made for these countries that will include the following aspects:

- a. Goals and objectives of MSP;
- b. Legal framework for MSP;
- c. Status of implementation of MSP;
- d. Continuity of MSP at the government level; and
- e. Preliminary outcomes and results of the planning process, where possible

Based on these European case studies on MSP, conclusions will be drawn on what MSP does and what we can expect from it. Since the marine areas of three of these countries are physically connected with each other, it will also be possible to make conclusions about the need for integration and cooperation among national marine spatial plans.

#### **4.2.1. Belgium<sup>33</sup>**

Belgium is among the first countries to actually start implementing an operational, multiple-use planning system covering its territorial sea (TS) and EEZ<sup>34</sup>. MSP in Belgium developed on an ad hoc basis, mainly driven by international and European environmental protection commitments and increasing opportunities for the exploitation of the marine environment.

Central to the Belgian legislative framework for MSP is a system of permits linked with environmental impact assessments. However, new activities, the expansion of existing activities, an increasing need for nature conservation, and the goal to integrate the management of marine and coastal ecosystems definitely led to increased conflicts that could be dealt with by a permit system or an environmental impact assessment only. 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 development of the European network of protected areas (Natura 2000).

At the policy level, the response to this challenge resulted in the development of a 'Master Plan' for the entire Belgian TS and EEZ. Despite the lack of a formal legal basis for MSP in Belgium, the 'Master Plan' provides a translation of current and future objectives of various sectors into a spatial vision. The first two phases of the 'Master Plan' are now operational and focus on spatial delimitations for sand and gravel extraction and a zone for future offshore wind energy projects (Phase 1), followed by the

delimitation of marine protected areas as part of the EU Natura 2000 Network (Phase 2) (see Figure 1).

*Figure 1: The implementation of marine spatial planning in the Belgian Part of the North Sea*

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Time 2006 image  
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At the scientific level, the discussions and controversy regarding new uses and requirements of the sea and seabed at both the national and international scene led to the GAUFRE<sup>35</sup> study that made it possible to anticipate new developments in a balanced and sustainable way. The study envisaged the creation of scenarios expressing an integrated vision for MSP for the BPNS, based on a set of core values, including ecological value. The process of creating alternative scenarios of MSP is a means rather

than an end in itself. MSP must include an integrated vision of all uses within the BPNS. This approach would place a desirable structural plan for the BPNS somewhere in the middle of the six scenarios, including the 'Natural Sea'. In other words, there should be a consideration and weighing of the different values to elaborate a complete spatial structural plan for the BPNS. However, the selection of a desirable structural plan is a political, not a technical decision.

#### 4.2.2. The Netherlands

The Netherlands developed an 'Integrated Management Plan for the North Sea 2015' with the objective to provide economically effective use of their marine resources. Marine spatial management has been considered as a key tool in achieving this objective. The Dutch spatial planning policy aims to prevent fragmentation and promote the efficient use of space, while giving private parties the scope to develop their own initiatives in the North Sea<sup>36</sup>.

The Dutch government has adopted a spatial policy in which use zones are defined wherever necessary, but which gives private parties the latitude to develop initiatives within certain constraints. In areas of tension between market freedom and government policy, spatial management is a means of fostering sustainable use while simultaneously allowing as much scope as possible for private sector initiatives<sup>37</sup>.

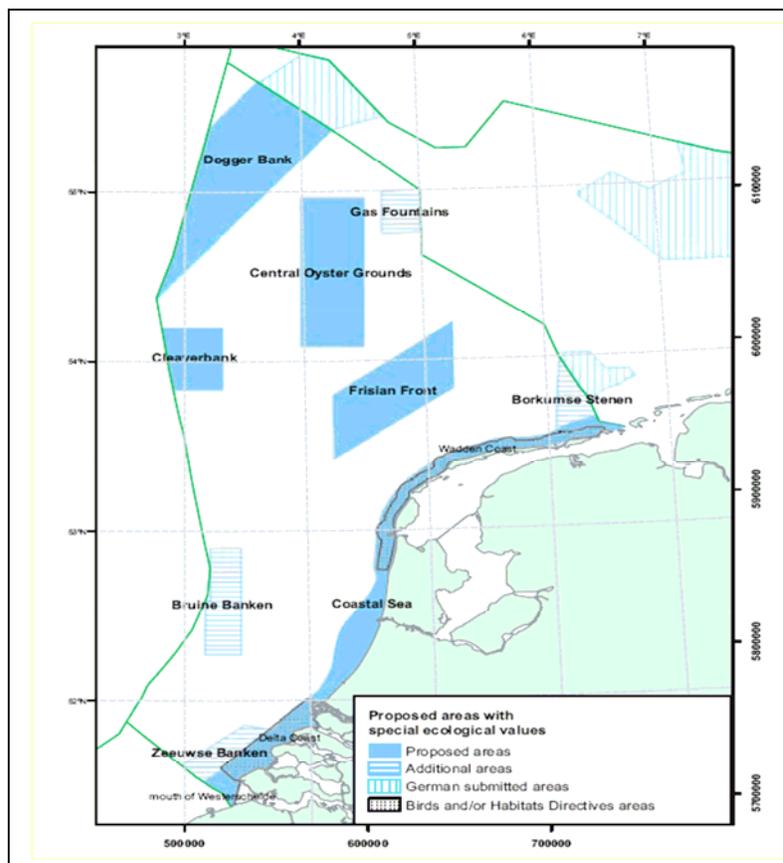
As in Belgium, central to the Dutch spatial management is a system of permits. Additionally however, a set of other tools are currently in development that will provide insight into spatial developments and potential problems and will facilitate managing the use of space, if necessary. These new tools include:

- a. *Opportunity maps* that shows where the function is permitted to develop within the current legislative and regulatory framework and where users believe it is most likely to develop;
- b. *Spatial monitoring and permit tracking system* that facilitates the development an up-to-date picture of current and anticipated uses of space and the validation and applications of the various permits;
- c. *Integrated (spatial) assessment framework for issuing permits* that allows to steer more forcefully and explicitly on the basis of spatial aspects such as multipurpose use of space;
- d. *Exploratory spatial studies for a specific function* that allows adjustments in the management of one or more functions;
- e. *Disadvantage compensation* that can be claimed from the competent authority if a user believes that it is being harmed by another legal use; and
- f. *Joint initiatives* promoted by the government to invite private parties and civil society to present initiatives that combine use functions.

To form a picture of potential problem areas, an analysis was made of current use of space in the Dutch Part of the North Sea and the developments surrounding existing and new activities. The Dutch (land-based) Spatial Planning Act contains a basis for applying the specific instruments and powers to the Exclusive Economic Zone, if necessary<sup>38</sup>.

With regard to the implementation of EU Natura 2000, no areas have yet been designated in the Dutch Part of the North Sea, except for the coastal zone of the North Sea north off the Wadden Islands and the Voordelta. However, the Dutch 'National Spatial Strategy'<sup>39</sup> provides a conservation regime for five areas in the North Sea with special ecological values, including the Dogger Bank, The Cleaverbank, the Central Oyster Grounds, the Frisian Front and the Coastal Sea (see Figure 2). Further determination of boundaries of areas with special ecological values will take place in the Integrated Management Plan North Sea 2015. The regime of conservation in the National Spatial Strategy comprises: "New plans, projects or activities within and in the vicinity of these ecologically valuable areas, that may have significant consequences for the characteristics to be conserved and the nature values in these areas are not allowed, unless there are no actual alternatives and reasons of great public importance are involved". This basic principle is similar to the scope of weighing in Article 6 of the Habitats Directive<sup>40</sup>. Applying the definitions, the Dogger Bank, the Cleaverbank and the Coastal Sea come under the criteria of the Habitats Directive and the Coastal Sea and the Frisian Front come under the criteria of the Birds Directive. In all areas including the Oyster Grounds, a high biodiversity of zoobenthos was observed, which is one of the criteria under OSPAR.

Figure 2: Marine Spatial Planning for Nature Conservation in the Dutch Part of the North Sea<sup>41</sup>



### 4.2.3. Germany

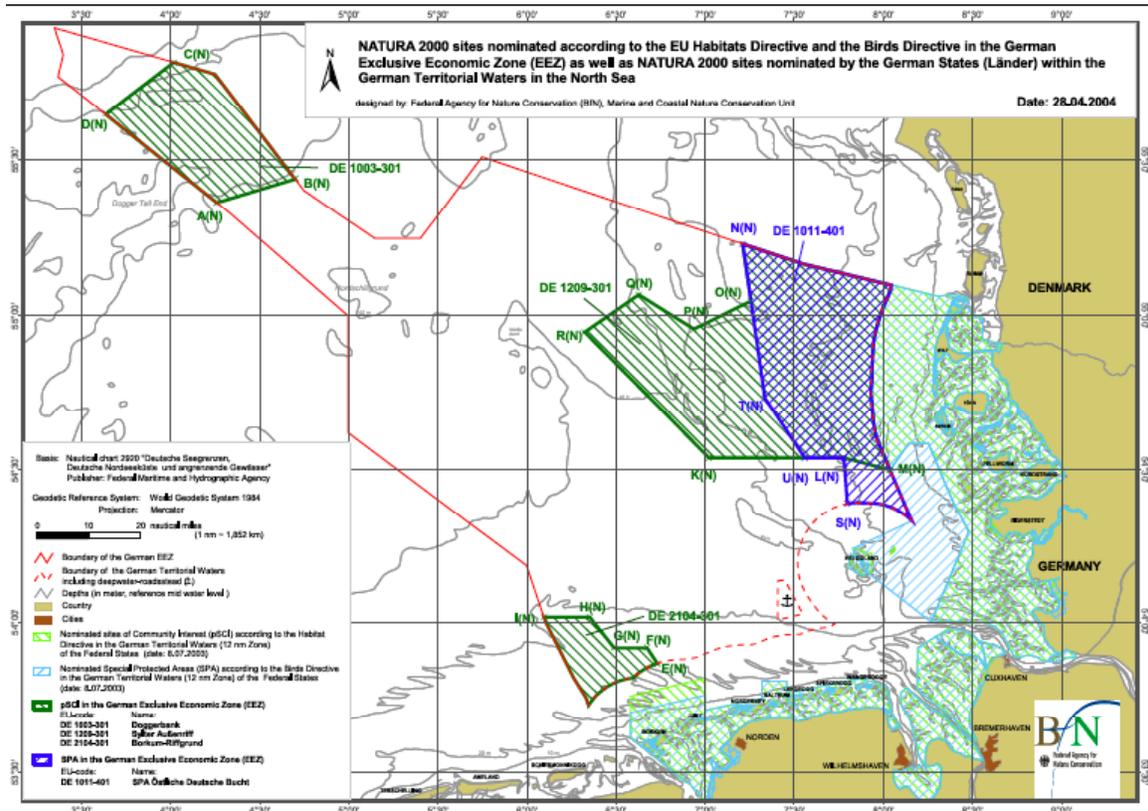
Marine spatial planning in Germany is still in an early stage. MSP initiatives in Germany started in December 2001. One motive was the different competences for approval of activities in the EEZ and territorial waters in combination with more intense and diverse uses of oceans and coastal waters that create conflicts among different users. In July 2004 an amendment of the Federal Regional/Spatial Planning Act entered into force that stated that the Federal Ministry of Transport, Building and Urban Affairs (former Federal Ministry of Transport, Building and Housing) shall make a statutory instrument setting out the objectives and principles of regional/spatial planning in the EEZ. The planning initiative for the EEZ started with the Federal Ministry setting up goals and principles for this spatial planning. The aim is to achieve a Marine Spatial Plan for the EEZ; the intent is to make a strategic environmental assessment of this plan<sup>42</sup>.

An information base based on a marine geospatial information system has been created that enables mapping of different uses. At the regional level, the *Länder* Mecklenburg-Western Pomerania has made a 'Regional Development Plan 2005' that includes territorial waters where suitable areas for offshore wind farms, priority areas for nature conservation and so on, have been indicated.

A scientific project has been started to assess the potentials of a national strategy for spatial planning in the context of ICZM. The project attempts to design a framework suitable for the specific German context with a special focus on conflict minimization and flexibility as its core concerns. Six spatial elements were identified as a matrix for spatial development<sup>43</sup>. A spatial strategy should be a participatory planning and decision-making process.

With regard to the designation of MPAs in the framework of EU Natura 2000, Germany designated various areas in May 2004 (Figure 3). An important step toward the decrease of fragmentation in national MPA management is that the coordinates of the German areas at the Dogger Bank and at the Borkumse Stones have been used for the determination of the boundaries of the areas proposed for protection in the Dutch part of the North Sea.

Figure 3: Marine Spatial Planning for Nature Conservation in the German Part of the North Sea



#### 4.2.4. The United Kingdom

The United Kingdom is currently considering a Marine Bill with the purpose of introducing a new framework for the management of their seas, based on marine spatial planning that balances conservation, energy and resource needs<sup>44</sup>. The bill is being drafted by the Department for Environment, Food, and Rural Affairs (DEFRA) and is an important issue of the Labour Party Manifesto<sup>45</sup>. MSP is the principal function of the bill and the one that forms the context that links together many of the other elements of the bill, including managing marine fisheries, licensing marine activities, improving marine nature conservation, and a new marine management organization. The UK Government endorsed the ecosystem approach to the management of human activities in its 2002 Marine Stewardship report, "Safeguarding the Seas"<sup>46</sup>. The bill is now in a 12-week public consultation stage that will last from March – June 2006<sup>47</sup>.

In December 2004 DEFRA commissioned a study to research options for developing, implementing, and managing MSP in UK coastal and offshore waters<sup>48</sup>. The study had two key objectives: (1) to obtain a better understanding and appreciation of available evidence and experiences to date in the field of MSP and its relevance and applicability to UK marine and coastal waters; and (2) to undertake a pilot project to determine the feasibility and practicality of developing and applying a marine spatial plan.

The production of the marine plan included the setting of goals and objectives, scoping and data collection, forecasting, and generating spatial use alternatives. The alternatives were then used in the development of a marine spatial plan. Monitoring and evaluation of implementation was proposed to understand the successes and failures of the plan and to provide a basis for future revisions. Stakeholders were involved in all stages of the process to simulate actual conditions.

*Figure 4: Marine Spatial Planning for Nature Conservation in the Irish Sea*

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TIFF (Uncompressed) decompressor  
are needed to see this picture.

Many of the stakeholders involved in the pilot project were concerned that any actual planning authority might have either an industry or environmental bias. Therefore, any plan-making authority should have a clear and unambiguous sustainable development responsibility. Another important issue was how to balance the desire for certainty with flexibility in the sea use planning process. The need to balance a top-down planning approach reflecting governmental policies and priorities with a bottom-up consensus of stakeholders was another important concern.

The pilot project was completed at the end of 2005. Some of its principal findings included:

- a. MSP should be implemented as a legally-binding process with the purpose of achieving sustainable development of the marine environment;
- b. MSP should be developed at the regional scale;
- c. The plan-making body should be the guardian of the MSP and management process;
- d. Public participation should be integrated into the MSP process;
- e. MSP should plan for the long term, i.e., 20 years;
- f. MSP should be used to identify preferred locations for future development for specific sectors with flexibility to incorporate changes in technology and economics.

## **5. Potential Benefits of Marine Spatial Planning**

While there is little substantive evidence given the limited experience of actual marine spatial plans to date, the principal benefits of a marine spatial planning system for sea use management include:

- a. Marine spatial planning is a practical tool to make marine conservation a reality. In many countries, specific nature conservation legislation that affects the marine area is currently made of regimes that are primarily terrestrial in focus but which have been extended to the marine realm. Marine spatial planning that is coordinated among all sectors and users of the marine area can help achieve marine nature conservation goals and objectives without limiting future economic growth;
- b. Marine spatial planning could provide greater certainty to developers concerning potentially acceptable locations for different types of development<sup>49</sup>;
- c. The use of marine spatial planning allows for early identification of potential conflicts, and therefore a chance to resolve them, between industries and between development and important wildlife areas. Marine spatial planning can offer transparency in both human and environmental impacts and enable potential conflicts to be identified and resolved at the planning stage, rather than at a later stage when considerable investment has been made for individual proposals or damage to the environment is irreversible<sup>50</sup>, and;
- d. A marine spatial planning system allows a more strategic approach to management in that it would improve our understanding and consideration of the cumulative and combined effects between different activities and the environment itself. This understanding allows planning pro-actively, rather than just reacting to applications, changes and situations<sup>51</sup>.

## **6. Key Findings and Lessons from the European Experience on Marine Spatial Planning**

The lessons to be learned from international experiences on international marine spatial planning are limited because many of the plans and initiatives are relatively recent. Therefore, it is difficult to determine whether particular approaches being adopted will have more effective results and positive outcomes than others in delivering sustainable development. However, some valuable conclusions can be drawn from these preliminary international experiences:

### **Key Finding 1: The need for continuity**

Preliminary results reveal that MSP is a continuous process rather than a single, one-time plan that is often inspired by a range of issues. In the North Sea region, much can already be achieved without a formal legal framework for marine spatial planning.

At this stage, the continuity in the governmental approaches toward marine spatial planning is not predictable. The need for marine spatial planning is currently still much dependent on the policy framework of the government officials in office.

### **Key Finding 2: The need for international cooperation**

The planning community widely agrees that planning is best done at a regional level. The regional scale is usually the most appropriate scale to implement marine spatial planning.

The North Sea, for example, is a very dynamic system that cannot be delineated by the borders of the national territorial seas and EEZs. Therefore, a sound national policy has to take an international approach in which the specific issues of the national level are considered in the context of the whole North Sea, and perhaps even beyond. National plans should be translated into international policy in which sea uses should be planned to complement one another on an international scale.

There is some consensus that the 'Regional Seas' level is an appropriate scale to manage marine nature conservation. Some literature also suggests that Regional Seas might be an appropriate scale for marine spatial planning. However, there is no hard and fast rule about how the regional level defined<sup>52</sup>. A key role for marine spatial planning will be to translate tangible targets at the regional sea scale while at the same time integrating sectoral policies<sup>53</sup>.

### **Key Finding 3: The need for a comprehensive legal framework**

International experiences show that much can already be achieved in the absence of a legal framework for marine spatial planning. However, it also recognized that a comprehensive legal basis for marine spatial planning provides a more strategic, integrated and forward-looking framework for all uses of the sea, taking social and economic benefits into account, while nature conservation commitments are placed at

the heart of planning and management.

#### **Key Finding 4: The need to adapt principles, procedures and processes from land use planning to the marine environment**

Marine spatial planning and zoning can be seen as the spatial components of integrated coastal (or ecosystem) management (ICM). While the terrestrial part of ICM is already using the long established land-use planning system. Marine spatial planning can provide an analogous planning system for the sea.

Work done in various countries (mainly UK and Belgium), both at the academic and policy level, show that much can be learned from existing land use planning systems and approaches. However, it is important to consider the differences when managing the marine environment. First, the marine area is three dimensional and dynamic in nature, and multiple uses of the same location, simultaneously, or during different times or seasons will occur more than the norm on land. Second, although there are some private property rights in the coastal zone, the sea is generally a public rather than a private resource.

#### **Key Finding 5: The need for stakeholder involvement in the development and implementation process of marine spatial planning**

People and their activities that use natural resources are at the centre of ecosystem-based, sea use management. Stakeholder participation is an essential part of the ecosystem approach. People should be able to contribute fully to the decisions that influence their own and future lives. Stakeholder involvement is also linked with the 'fair and equitable sharing of benefits', the social pillar of sustainable development that seeks to ensure that those who live within an area are able to share in the benefits (economic, social and environmental) that result from the use of its resources<sup>54</sup>. The participation of stakeholders in the development and implementation of MSP is therefore essential for its success. However, it is critical to involve stakeholders in a systematic manner, which can be done through the use of a stakeholder analysis<sup>55</sup>.

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