IMPLEMENTATION OF NATURA 2000 IN THE MARINE ENVIRONMENT. A BELGIAN CASE STUDY.

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Abstract

European legislation and policy contain obligations on the designation and management of Natura 2000 sites in the marine environment. In implementing these obligations ecological, legal and social challenges occur. As designation of marine sites is a relatively recent process, additional sites will have to be designated, based on the ecological criteria set forth in the Habitats Directive. For these sites ecological objectives and management and restoration measures have to be taken. The exact procedure for designating the sites and determining both the ecological goals and the management measures is left to the member countries. Each country will have its own legislation and procedures. The procedure to designate sites might involve public participation. This raises questions on how to organize public participation and on the impact of public participation (to what extent can public participation influence decision making in setting ecological goals and determining management measures?). The ecological, legal and social issues relating to the implementation of Natura 2000 in the marine environment will be discussed in a Belgian case study. A legal framework has been put forward for the designation and management of Belgian marine sites. After a lengthy and difficult process, several Natura 2000 sites were designated. The process for establishing conservation objectives and taking specific management measures is ongoing. Although several sites have been designated, additional designation seems necessary.

1 Introduction

The need to designate Marine Protected Areas (MPAs) as a contribution to preserve and improve marine biodiversity has been put forward in several international policy instruments and legislation (Cliquet et al. 2008). In the Plan of Implementation of the World Summit on Sustainable Development (2002) governments accepted to establish a globally representative system of marine and coastal protected areas by 2012. At the 7th meeting of the parties (COP7) to the Convention on Biological Diversity (CBD-COP7) it was decided to establish and maintain a network of marine and coastal protected areas by 2012. The European Birds and Habitats Directives oblige member states of the European Community to designate marine areas as part of the Natura 2000 network. The Natura 2000 network consists of Special Protection Areas (SPAs) for birds, and Special Areas of Conservation (SACs) for certain habitats and species. According to the EU Biological Diversity Plan (European Commission 2006) the network of SPAs and SACs in the marine environment should be completed by 2008. The necessary management measures should be taken by 2012 and this applies both to the SPAs designated under the Birds Directive and the SACs under the Habitats Directive. For the designation of the Natura 2000 network in the marine environment the Commission has issued guidelines for both the designation and the management of those areas (European Commission 2007) and has provided an interpretation manual of European Union habitats (http://ec.europa.eu/environment/nature/natura2000/marine/docs/appendix_1_habitat.pdf).

Although the legal obligations contain a clear goal and timeframe, there are still several ecological, social and legal challenges. Ecological questions relate to which habitat types in the marine
environment have to be designated as Natura 2000 site, how the ecological goals should be defined and which management and restoration measures should be taken. Social issues include the question of how to organize the process of designation and management of the sites. Specific attention is paid to the question of public participation: to what extent is public participation desirable, how should it be organized and what is the impact of public participation (to what extent can public participation influence decision making in setting ecological goals and determining management measures). Legal questions relate to the legal basis and legal procedures in national law for designating and conservation of sites. The ecological, social and legal issues relating to the Belgian Natura 2000 sites will be discussed and analysed.

2 Ecological aspects of designation and management of Natura 2000 in the Belgian marine environment

In the Belgian part of the North Sea different habitat types occur. An overview is given in Rabaut et al. (2008a). A first habitat type that occurs are sandbanks which are slightly covered by sea water all the time (1110). The designated SAC Trapegeer-Stroombank (see below 3) was designated for the occurrence of habitat 1110 (as well as for the occurrence of high diversity of Bivalves and for the importance for seals). However, more scientific research will be necessary to define the favourable conservation status of this specific area as the current definition is too generic for direct application. Mudflats and sandflats not covered by seawater at low tide (1140) are a second habitat type that can be found in the Belgian part of the North Sea. So far, no such habitats were proposed as an SAC. Reefs (1170) can be either biogenic concretions or of geogenic origin. They are hard compact substrata on solid and soft bottoms, which arise from the sea floor in the sublittoral and littoral zone. Reefs may support a zonation of benthic communities of algae and animal species as well as concretions and coralligenic concretions. Reef forming animal species in the North Atlantic and North Sea include polychaetes, bivalves and cold water corals. For each species group some examples are provided which should be taken into account when deciding whether a certain habitat type is present or not, but such lists of examples should not be considered as being exhaustive (pers. comm. F. Kremer, European Commission, DG Environment, Nature and Biodiversity Unit). A recent scientific study (Rabaut et al., in press) studied the habitat modifying effects of the tube dwelling polychaete *Lanice conchilega*, a species that was earlier described as an ecosystem engineer (Rabaut et al. 2007). To classify as reefs however, bio-engineering activities need to significantly alter several habitat characteristics: elevation, sediment consolidation, spatial extent, patchiness, reef builder density, biodiversity, community structure, longevity and stability (guidelines to apply the mentioned definition are provided by Hendrick and Foster-Smith (2006)). Rabaut et al., in press, show that the elevation and sediment consolidation of the biogenic mounds was significantly higher compared to the surrounding unstructured sediment. Areas with *L. conchilega* aggregations tend to be extensive and patchiness is high. Their study combines these results with previous studies on the biological implications of this species. The impact of *L. conchilega* on the biodiversity was demonstrated by Zühlke (2001), Rabaut et al. (2007) and Van Hoey et al. (2008). The authors evaluate the different physical and biological aspects of the tube worm aggregation and conclude that *L. conchilega* qualifies as a reef builder (Rabaut et al., in press).

The interpretation manual provides also in lists of the habitat types that can be associated in the field. Sandbanks (1110) can be found in association with the two other habitats that can be found in the Belgian part of the North Sea: mudflats and sandflats not covered by seawater at low tide (1140) and reefs (1170). Reefs (1170) can be found in association with sandbanks (1110). Because of only recent scientific appreciation of *L. conchilega* as reef builder, ‘reefs’ (1170) are not considered, at this
moment, as SACs in the Belgian coastal waters. It is, however, clear that the reef builder *L. conchilega* will be important for the evaluation of the favourable conservation status of the habitats in the SAC Trapegeer Stroombank.

As Member States have to propose a list of sites indicating which natural habitat types in Annex I are native to its territory the sites host and reefs are mentioned as a possible associated habitat to that of sandbanks (1110), there is a clear need to integrate these biogenic reefs in formal designation and management measures. Moreover, the species is a proxy for biodiversity and for the provision of goods and services. The ecological restoration of the particular sandbank habitats in the Belgian part of the North Sea will also be related to reducing existing human pressure. There is general scientific evidence that beam trawl fisheries have a far reaching impact on sandbank systems and more specifically, there is evidence of decreasing biodiversity of the polychaete reefs after fishing disturbance (Rabaut et al. 2008b).

Article 4 of the Habitats Directive indicates that Member States should use relevant scientific information as well as criteria set out in Annex III to propose a list of sites indicating which natural habitat types in Annex I are native to its territory the sites host. The study in Rabaut et al. (2008a) clearly shows that the reef habitat type can easily be assessed as important, using the criteria of Annex III of the Habitats Directive. Moreover, the Interpretation Manual of the European Commission describes reefs (1170) as possible associated habitat type to that of sandbanks (1110). Besides, the impact of beam trawl fisheries on these reefs is known. It is therefore suggested in Rabaut et al. (2008a) to classify the allocated SAC as a sandbank habitat type (1110), associated with the reef habitat type (1170) and to ban bottom fisheries in this area.

Within the framework of the OSPAR Convention a research was conducted as to find out whether the designated Belgian MPAs qualify for inclusion as OSPAR areas, or whether other areas may qualify for inclusion. For that purpose a report was produced (Haelters et al. 2007) from which it appears that the already designated MPAs in the Belgian part of the North Sea do not fully qualify for the criteria for the identification and selection of OSPAR MPAs. With the exception of gravel banks it was not possible to identify areas with endangered habitats or endangered species, as included in the OSPAR list. One new area is proposed: the Westhinder area. This is an area with hard substrata, with a surface area of 119 km² or about 3.4% of the Belgian marine waters. The area is mainly situated within the Belgian exclusive economic zone. This area can possibly qualify as SAC under the Habitats Directive.

3 Legal aspects of designation and management of Natura 2000 in the Belgian marine environment

The federal Act on the protection of the marine environment (Act of 20 January 1999, amended by Act of 17 September 2005) is the basic legal instrument for the designation and management of Natura 2000 sites in the Belgian marine environment. This Act enables the designation of MPAs in Belgian marine waters, including the territorial sea and the exclusive economic zone. Five types of MPAs have been distinguished in the Act: integral marine reserves, specific marine reserves, Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), closed zones and buffer zones (Cliquet and Maes 1998). Only the SPAs/SACs are relevant for the focus of this paper. The Act does not make any further provisions concerning the procedure for designating the MPAs, nor provides procedural obligations with regard to participation in the designation of the MPAs.

On the conservation of the SPAs/SACs the Act on the marine environment (as amended in 2005), provides that, by Royal Decree, activities can be forbidden within the sites, except for certain activities
mentioned in the Act (such as fishing, dredging etc.). The reasoning behind this legal provision is that some of these activities belong to Flemish competences and thus cannot be regulated by the federal government, who is responsible for marine nature conservation. This complicates the establishment of conservation objectives and management measures and might impede the favourable conservation status of the habitats and species for which the sites have been designated.

After some failed attempts to designate MPAs in the period 1999-2003 (Bogaert et al. 2008; Bogaert et al., subm.), several SPAs and SACs were designated by Royal Decree of 14 October 2005 (Fig. 1). Three areas along the coastline were designated for the protection of birds (SPAs), with surface areas of 110.01 km², 144.8 km² and 50.95 km² respectively. Another two areas for the protection of habitats (SACs) were established: ‘Trapegeer-Stroombank’ (SAC 1), parallel along the West coast with a surface area of 181 km² and ‘Vlakte van de Raan’ (SAC 2) at the East coast with a surface area of 19.17 km². These two SACs have the necessary surface and distance to each other (28 km) to be considered biologically linked (Rabaut et al. 2008b). After the designation, an energy firm (Electrabel) started a legal procedure for the Belgian Council of State to file a complaint against the designation of the ‘Vlakte van de Raan’ as SAC, because of the withdrawal of an earlier environmental permit for building an offshore windmill farm in that area. In February 2008 the Belgian Council of State annulled the decision on the designation of the ‘Vlakte van de Raan’ as an SAC, because of insufficient motivation.

![Fig. 1. Overview of designated sites (2005)/(Bogaert et al. subm.)](image-url)

Although no specific conservation objectives have been set for these sites, several conservation measures were already included in the legislation. The reasoning behind the process was that the designated areas have to be protected against potential impacts of future activities. Hence, current activities within the MPAs were not perceived as a threat to reaching the objectives. Thus within the SPAs and SAC, the following activities are prohibited: all building activities, industrial activities and activities of commercial and advertising enterprises. In the SAC, the dumping of dredged material and inert materials of natural origin is also forbidden. In SPA 1 and SPA 2, common tern, sandwich tern,
little gull and great crested grebe are protected. During winter, helicopter flights at altitudes of less than 500 ft and the passage of high speed vessels and offshore water sports are forbidden. The Minister of Environment can consult with the Minister of Defence on the planning of military firing exercises and other military activities. Furthermore, an appropriate assessment has to be designed of all new plans and projects that are likely to have a significant effect on the site in view of the site's conservation objectives. A new plan or project can only be allowed if it does not adversely affect the integrity of the site concerned. In case of a negative assessment, the plan or project can only be allowed under certain strict conditions as provided in the Royal Decree (which implements Article 6 of the EU Habitats Directive).

For all MPAs, voluntary user agreements can be concluded with user groups. Agreements have already been concluded with organizations of the water sports recreation sector. Those agreements mainly emphasize the distribution of information on the protected areas by the water sports organizations to their members. Moreover they recommend some measures for the protection of the marine environment (e.g. the recommendations not to fish close to wrecks, to avoid damage to the sea bed when dropping anchor, to respect fauna and flora at sea).

A policy plan must be formulated within three years after the designation of each site. In april 2008 a draft plan was prepared by the Federal administration for the marine environment. A public participation round was held (including public meetings at the coast). The revised draft plan was finalized in July 2008 (FOD 2008; https://portal.health.fgov.be/) and was handed over to the federal Minister responsible for the marine environment. The draft plan contains a description of the sites, a description of the different uses, an overview of existing measures and user agreements. Finally the draft plan suggests 14 measures. It is beyond the scope of this article to give a complete overview of the measures proposed. The measures include different issues, such as communication about the sites, setting up of advisory commissions and the setting up of a monitoring programme. The measures on communication and involvement of stakeholders is in line with the process of designation that started in 2003 (see below 4). Most of the proposed measures however lack a detailed and concrete character and are still in the planning phase. A project will be set up in order to formulate conservation objectives. An agreement will be concluded with the competent Flemish authority to stop the negative effects of beam trawl fishing. Also, new proposals for the redesignation of the SPAs will be made. Although scientific literature points outs the necessity to designate additional SACs, the draft policy plan does not mention any concrete measure. It does not mention the redesignation of the Vlakte van de Raan as an SAC. However, the policy plan mentions that research will be conducted to establish a list with proposed Sites of Community Importance.

4 Social aspects of designation and management of Natura 2000 in the Belgian marine environment

Before the actual designation of the Natura 2000 sites in 2005, several attempt to designate MPAs have been undertaken, though without any success. We can distinguish three different periods: the first attempt (1999), the second attempt (1999-2003) and the third period (2003-2006). For the actual description of these three periods we can refer to Bogaert et al. (2008). We include some general conclusions here on the designation process, based on a process analysis (Bogaert et al. subm.).

The initial MPA designation process in Belgium in 1999 is a classic example of a top-down approach. The federal authority imposed policy decisions on local authorities and stakeholders without any form of consultation. It should not be surprising that this policy process got bogged down. Local authorities and stakeholders felt ignored and had the impression that their autonomy was compromised. The
federal authority was confronted with questions of legitimacy and a problem of lack of trust. As an explanation for the inadequate attention to participation we can refer to capacity problems in the form of a lack of adequate means and experienced people within the federal authorities of that time, as well as strategic and content-related arguments. Strategically speaking it was the intention to complete the policy process quickly before the government's term of office was over. With regard to content the initial policy of designation was almost exclusively based upon scientific knowledge and the federal authorities hardly based itself upon so-called layman’s knowledge. Putting less effort into participation does not necessarily lead to saving time. The strategic argument ‘time’ could not be maintained since the opposition to the policy carried out resulted in delaying and finally discontinuing the process. As a consequence of the nearly exclusive attention to scientific knowledge local stakeholders (state, market and civil society) did not identify with the intended policy. The almost completely scientific arguments of the federal authorities did not correspond to the layman's knowledge of hands-on experts of the coastal region and considerably contributed to the protest against the intended policy. It is advisable to better align the policy arguments to that of the stakeholders (see below).

During the third (successful) attempt of designation MPAs, bilateral consultation with stakeholders appeared to play a crucial role in depolarizing the MPA designation process. The parties involved were contacted with a question for information, instead of with an announcement (as it was done in the first two attempts). Through bilateral consultation actors more easily give up their often rigid positions and role patterns, which are inspired by all kinds of group dynamic processes. This is essential for restoring confidence and gathering information. From our ex-post evaluation it appears that the most important disadvantage seems to be the risk of loss of transparency in policy processes both with regard to the choice of participating actor as well as to content. Criteria are needed for the selection of actors. What matters in bilateral consultation is not only ‘how’ this participation is achieved, but in particular also ‘who’ is involved or – even more important – ‘who’ is ‘not’. It is for example remarkable that for the MPA designation process in Belgium there was preliminary bilateral consultation with ‘heavy economic’ sectors (sand and gravel and wind turbines) about zoning and concessions for their economic activities. Once there was clarity on this issue the MPAs dossier was taken up again. The economic criteria played an important role, perhaps too important, in the selection of actors without their role being made more explicit. Therefore, it is advisable to make the criteria used more explicit. Sometimes the dividing line between bilateral consultation and ‘backroom politics’ disappears. Bilateral consultation implies that the process is not transparent for people who are not involved. It is advisable to communicate more openly with everyone whether involved or not.

The seas are traditionally public goods that belong to everyone. In the evaluation of the MPA policy process we have observed that participants from civil society and market emphasize their individual interest. Only representatives of nature conservation associations and some authorities invoke ‘the collective interest’ as an argument in the participation procedures. However, among public authorities this strongly depends on the level of government. Comparatively local authorities seem to pay more attention to individual interests (of the municipality, of private persons…) than higher level authorities. Participation resulted in adjusting initial objectives and certain stakeholders talked about ‘the erosion of the plan objectives’ at the expense of the collective interest. This resulted in the designation of ‘paper MPAs’ in which hardly or no adequate management measures and effective protection are provided. The process confronts us with a paradox of extensive and collective interest and also with questions such as ‘who can participate in what and in which phases of the policy process?’. Just as it is better not to make and carry out policy on the basis of scientific knowledge alone, neither should it be done exclusively on the basis of (a mixture of) economic, social and political interests. In other words there is a need for a kind of ‘middle-ground’ approach (Jones 2002; Jones 2006).
A ‘middle ground’ approach combines top-down and bottom-up approaches in the management process. Policy should neither be based upon scientific knowledge alone, nor exclusively on formal legislation and regulations. There is a need for a kind of ‘middle-ground’ approach, both with regard to arguments as well as to informal and formal rules. A ‘middle-ground’ approach concerning ‘knowledge’ does not presuppose a middle ground position between scientific opinion and so-called layman’s know-how, but it does presuppose that scientific opinion will be supplemented by, or checked against layman’s know-how. In this way actors are involved in the policy process at an early stage and there is more chance of successfully developing a shared discourse. Attention is needed to ‘authority’, ‘formality’ and ‘precision of the prescription’ in the rules that are used. Starting up policy processes without clarity about possible consequences, results in (legal) uncertainty among actors, eroding confidence and trust and issues of legitimacy, which eventually bring policy processes to a standstill. Rather than exclusively aiming at formal legislation and regulations based upon strict prohibitions, the aim should also be to achieve informal rules and elements such as voluntariness, co-responsibility and confidence. Nevertheless, it is crucial for the success of policy processes that it is clear from the outset what the possible consequences of the intended policy will be for all stakeholders. Clarity about possible consequences is also a condition for follow-up, evaluation and feedback. Although the user agreements, as applied with regard to MPAs in Belgium, may be useful for making various stakeholders more responsible, they provide no guarantee for efficient and effective management of the MPAs due to, among other things, a lack of follow-up and feedback. In other words there is also need for a follow-up after participation.

By follow-up care we mean not only the importance of follow-up, supervision and enforcement, but also ‘aftercare’ for actors who participated in the policy process. Attention is further needed to the dissemination of information after policy decisions have been taken. From our study it appears, however, that there is a particular need for follow-up care (policy) after the end of the participation process and the decision-making. Information on the policy outcomes does not reach the individual participant, or at least not sufficiently so. By paying more attention to information on policy decisions and the underlying arguments there is more chance of creating a feeling of involvement and shared responsibility.

Conclusions

Belgium started its implementation of Natura 2000 in the marine environment with the designation of five sites in 2005, of which one was annulled in 2008. However, the process of designation is not finished and new sites will have to be proposed. Indications are given in literature, but further research will be necessary. A next step, the setting of conservation objectives, has not started yet. Some conservation measures have been taken in legislation, but the ambition level is so low, that the existing sites can be regarded as paper MPAs. The legal basis for the implementation is present in the Act of 1999. However, due to a division of competences in the federal state, additional measures (e.g. regarding beam trawl fishing) are required at the Flemish level. The process analysis of the different attempts to designate MPAs, learned that a classical top-down approach failed, and led to distrust amongst the stakeholders as well as a lack of designation of sites. An informal, bilateral consultation round restored trust for the different stakeholders at the coast. However, it is important that participation in a decision making process remains transparent. It should also not undermine the general policy goals (in case, the conservation and restoration of the marine environment). Thus a balance must be found between formal binding rules and informal voluntary approaches. A follow-up at all stages of the decision making process is necessary and might lead to a larger feeling of involvement and shared responsibility amongst stakeholders.
References


