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12 NATURE CONSERVATION

12.1 DESCRIPTION

The term 'Nature conservation' includes all coastal and marine areas that have received (or could receive) some kind of protection status, together with information on valuable marine areas.

12.2 SUBUSES AND DESCRIPTION

Different types of nature conservation areas can be distinguished and each of them have separate types of uses:

- **Ramsar sites** ('Wetlands of international importance'): *The Convention on Wetlands of International Importance especially as Waterfowl Habitat*, signed in Ramsar, Iran, in 1971, is an inter-governmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources (RAMSAR 2004). The Ramsar convention defines wetlands as comprising of stretches of marsh, peat land or natural or artificial water, either permanent or temporary, where the water is static or running, fresh, briny or salty, including stretches of seawater where the depth does not exceed 6 metres at low tide (MUMM 2003). Appropriate wetlands should be included in the list of wetlands of international importance if they play an international role from an ecological, botanical, zoological, limnological or hydrological point of view. The Conferences of the Parties worked out criteria for designation sites as wetlands of international importance. One of the criteria is the so-called 1% criterion: if the wetland is home to at least 1% of the bio-geographical population of a bird species ecologically depending upon these wetlands each season, then this zone will be included in the list of wetlands of international importance for birds as a priority. The Convention on Wetlands came into force for Belgium on 4 July 1986.
- **Beach reserves**: Nature reserves situated on the beach.
- **Marine protected areas**: All marine areas receiving a degree of protection under the Law of 20 January 1999 on the protection of the marine environment in the marine areas under Belgian jurisdiction are considered to come within the meaning of this term. These could be integral or specific marine reserves, special protected areas or special areas of conservation, closed areas or buffer zones.
- **NATURA 2000 areas**
 - **Habitats Directive areas**: The Habitats Directive (Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora) provides for the establishment of a coherent ecological network of special conservation zones. This network, Natura 2000, is designed to guarantee the conservation of a minimum level of biodiversity in Europe. The types of habitat that take priority include, amongst others, sand banks with only a shallow covering of seawater (definition habitat 1110 Pal.Class 11.25: Sand banks with permanent shallow covering of seawater (rarely more than 20 m below MLLWS). The Habitats Directive also recognizes that conserving habitats of great value and the diversity of landscapes makes it possible to conserve marine diversity. This is why the shallow sandbanks are to be protected as a priority (MUMM 2003).
 - **Birds Directive areas**: Pursuant to article 4 of the European Birds Directive (Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds) the Member States need to take protection measures for the sea and coastal areas where birds, described in Annex I, are

living, so that they can continue to exist and reproduce in these places. Similar measures need to be taken for bird species that aren't mentioned in Annex I, but which occur in high densities or are threatened or very rare. A number of species occurring in the North Sea satisfy these (internationally determined) criteria and so the species or their habitats need to be protected.

12.3 LEGISLATIVE FRAMEWORK

(updated by Cliquet A.)

12.3.1 Ramsar sites

Description

The area of the Coastal Banks in the territorial sea is designated as a Ramsar area, but no protection measures (as indicated in article 3 (1) of the Convention) have been taken. The Flemish territorial sites that have been designated as Ramsar areas are protected with certain measures (regulations on environmental impact assessments and Decree on vegetation changes; see Cliquet (2000), but these Flemish measures are not valid in the territorial sea, as this falls under the competence of the federal government. Attempts to designate the Coastal Banks as a nature reserve failed, which can be considered as a breach of article 4 (1) of the Convention.

Another area in the coastal zone that was designated as a Ramsar area was the Zwin area (including the beach zone in front of it). As this site is situated in the Flemish Region, certain measures (regulations on environmental impact assessments and Decree on vegetation changes) apply.

Legislation

(Cliquet et al. 2004 ; Maes and Cliquet 2005)

- International Convention on Wetlands of International Importance especially as Waterfowl Habitat, Ramsar, 2 February 1971).

- Implementation in Belgium:
 - Law of 22 February 1979 concerning the approval of the Convention on wetlands of international importance especially as Waterfowl Habitat, *BS* 12 April 1979.

 - Royal Decree of 27 September 1984 concerning the designation of water areas of international importance, *BS* 31 October 1984, amended by the Decision of the Flemish Government of 27 May 1987, *BS* 1 August 1987.

12.3.2. Beach reserves

Description

The Baai van Heist was designated in 1997 as a Flemish nature reserve (Ministerial Decree of 22 October 1997, *BS* 18 December 1997, amended by the Ministerial Decree of 13 July 2000, *BS* 5 September 2000). The coordinates of the area were not given; only a description is available: the area situated in Knokke-Heist between a western boundary which lies at 10 metres distance from the eastern dam of the harbour of Zeebrugge parallel with the eastern dam, the dike, the mean low water line and a eastern boundary which lies at 500 metres distance from the eastern dam of the harbour of Zeebrugge (not numbered in the land register).

The beach of the Ijzermunding was designated in 1999 as a Flemish nature reserve (Ministerial Decree of 3 March 1999, *BS* 9 April 1999, extended by the Ministerial Decree of 27 September 2001, *BS* 24 October 2001). The coordinates of this area were not given; only a description is available: area situated in Nieuwpoort, along the channel of the river Ijzer and including the grounds, known in the land register as Nieuwpoort, first division, section F, parcel numbers 6 F2, 6 S, 6 T, 6 X, 6 Y, 6 A2, 6 E2, 6 G2, 6 K2, 8 B, 10 C2, 6 H2, 10 X, 10 Y, 10 B2, 10 D2, 10 E2, 10 F2 and 351 G, with a total surface area of 52 ha 61 a 54 ca. This area also includes: the entrance way and adjacent pool, known in the land register as Nieuwpoort, first division, section H/2, parcel number 349 B2; the regional property between the eastern low harbour dam (not including the dam itself) of the channel of Nieuwpoort; the high water line (including the dune foot reinforcement); the low water line of the sea charts (which constitutes the boundary between the Flemish Region and the territorial sea); and an eastern boundary that lies 1100 metres from the eastern low harbour dam of the channel of Nieuwpoort, is orientated perpendicular to the high water line, and connects the high water line with the low water line as shown on the sea charts.

This latter nature reserve was extended to 53 ha 11 a 06 ca with the inclusion of the regional property (not numbered in the land register) situated between the former eastern boundary line of the nature reserve, the low water line of the mean low water spring (as indicated on the sea chart) and the high water line (including the concrete dune foot reinforcement and the second groin with respect to the harbour dam of the channel of Nieuwpoort).

Although the designation of an area as nature reserve is the most stringent way to protect these biotopes, it is clear that two beach reserves alone will be insufficient to protect the beaches in a sufficient way (Herrier 2002).

Another problem associated with beach reserves is the seaward boundary. The division of jurisdiction between the federal and the regional government means that the seaward boundary is located at the low water line. Beyond this line the federal government holds jurisdiction. Despite this the beach forms an ecological entity with the sublittoral zone. There are also certain uses, like beach fisheries, which can cause disturbance to the beach reserve from the zone beyond the low water line. To be able to protect the beach reserves in a sufficient, and ecologically justified way, the designation of marine reserves, adjacent to the beach reserves is of utmost importance (Herrier 2002). The legal basis for designating marine protected areas, including marine reserves adjacent to beach reserves, is set out in the Law of 20 January 1999. This law provides for future marine nature reserves to be integrated and for activities that are unrelated to management of the nature reserve to be prohibited. However, certain exceptions exist:

- Commercial fisheries are still allowed, but the activities can be limited or prohibited by the King after a common recommendation of the Minister of Agriculture and the Minister of Environment (art. 8, iv). Note: recreational fisheries are prohibited in the nature reserves.
- Shipping and military activities are still allowed, but can also be limited by the application of certain legal decrees.

Area specific nature management has yet to be implemented. However, the Royal Decree of 21 December 2001 was implemented by the federal government in order to avert the threat of beach fisheries beyond the low water line.

Only a small part of the beaches on the Belgian coastline receive protection under the Dune Protection Decree of July 1993.

The wet beach and large parts of the dry beach have not received any planological designation on the regional plans, even though they are included in the definition of nature areas under the Royal Decree of 28 December 1972. Even with a nature designation it wouldn't be possible to exclude all adverse activities from these beach areas. This is because, for example, the regulations on urban development for nature areas are very limited. Still it would help if certain parts of the beach were given a nature designation, because nature conservation measures are coupled to a planological 'nature' designation (for instance when the areas of Flemish Ecological Network are determined or when the spatial execution plans are developed).

Several regulations in the Royal Decree of the 4th of August 1981 limit the use of the Belgian beaches (including beach nature reserves).

For construction works in beach nature reserves special permits or concessions are required (see paragraph on 'Coastal Defense').

Legislation

(Cliquet et al. 2004 ; Maes and Cliquet 2005)

- Decree of the 21 October 1997 concerning nature conservation and the natural environment, *BS* 10 January 1998, as amended (= Decree Nature Conservation):
 - Article 34 (For these (beach) nature reserves a managing plan needs to be implemented and advisory commission needs to be installed)
 - Article 35 (declaration of prohibitions in the (beach) nature reserves (can be deprived by the managing plan if necessary). These prohibitions are extended with the prohibitions of the Ministerial Decree of 23 October 1975 concerning the regulations on the control, the police and the traffic in State nature reserves, outside the public streets, *BS* 31 December 1975.
- Baai van Heist: Managing plan: Ministerial Decree of 13 July 2000, *BS* 5 September 2000 / Advisory Commission: Ministerial Decree of 16 November 1998, *BS* 7 January 1999.
- Ijzermending: Managing plan: not yet determined / Advisory Commission: Ministerial Decree of 21 May 1999, *BS* 17 August 1999.
- Decree of 14 July 1993 concerning the protection measures for the coastal dunes, *BS* 31 August 1993, as amended:
 - This Decree holds the legal basis for a building prohibition in the protected dune areas, but does not offer protection against other activities, like intensive recreation. The Baai van Heist was protected as a protected dune area by the Decision of the Flemish Government of 4 October 1995, *BS* 25 October 1995; ratified by the Decree of 29 November 1995, *BS* 30 November 1995.
- Royal Decree of 28 December 1972 concerning the design and implementation of the draft regional plans and regional plans, *BS* 10 February 1973.
- Royal Decree of 4 August 1981 on a police and shipping regulation for the Belgian territorial sea, the ports and beaches of the Belgian coast, *BS* 1 September; as amended.

12.3.3. Marine protected areas

Description

The legal basis for designating marine protected areas is provided under the Law on the Protection of the Marine Environment. The Law provides authority for the designation of marine protected areas and the implementation of appropriate nature conservation measures that are necessary for the protection of such areas. The law also provides a basis for taking specific protection measures in favour of certain species and contains a prohibition on hunting birds and marine mammals (Maes et al. 2000).

'Marine protected area' in the law is a general term and includes several categories: marine reserves, 'special protected areas' (Birds Directive), 'special areas of conservation' (Habitats Directive), closed areas and buffer zones.

In future marine nature reserves all activities will be prohibited unless they are included within the following exceptions:

- Commercial fisheries are still allowed, but the activities can be limited or prohibited by the King after a common recommendation of the Minister of Agriculture and the Minister of Environment (art. 8, iv). Note: recreational fisheries are prohibited in the nature reserves;
- Shipping and military activities are still allowed, but can also be limited by the application of certain legal decrees.

Legislation

(Cliquet et al. 2004 ; Maes and Cliquet 2005)

- Law of 20 January 1999 on the protection of the marine environment in the marine areas under Belgian jurisdiction, *BS* 12 March 1999; as amended.
- Royal Decree of 21 December 2001 concerning the species conservation in the marine areas under Belgian jurisdiction, *BS* 14 February 2002.

12.3.4. Habitats Directive areas

Description

Several areas of land within the Region of Flanders are already designated as Special Areas of Conservation under the Habitats Directive, but no marine areas are yet designated (only proposed!). When this happens the protection measures determined by the Directive should be transposed into federal legislation.

Parts of Belgium's beaches have been designated as Special Areas of Conservation (e.g. existing beach nature reserves), but no coordinates of these areas are given (only maps of the areas available).

Legislation

(Cliquet et al. 2004 ; Maes and Cliquet 2005)

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora *Official Journal L* 206, 22 July 1992 P. 0007 – 0050, as amended.

- Implementation in Belgium:
 - Decree of 21 October 1997 concerning nature conservation and the natural environment, *BS* 10 January 1998, as amended by the Decree of 19 July 2002, *BS* 31 August 2002.
 - Decision of the Flemish Government of 24 May 2002 concerning the designation of areas which are presented to the European Commission as Special Areas of Conservation, in execution of article, part 1 of the Directive 92/43/EEG of the Council of the European Communities of 21 May 1992 concerning the conservation of natural habitats and the wild fauna and flora, *BS* 17 August 2002.
 - Law of 20 January 1999 on the protection of the marine environment in the marine areas under Belgian jurisdiction, *BS* 12 March 1999; as amended.

12.3.5. Birds Directive areas

Description

Several areas of land within the Region of Flanders are already designated as Special Protected Areas under the European Birds Directive. When this happens the protection measures determined by the Directive should be transposed into federal legislation.

Parts of Belgium's beaches are designated as special protected areas (e.g. beach adjacent to Zwin area) under the Birds Directive, but no coordinates for these areas are given under the Annexes.

Legislation

(Cliquet et al. 2004 ; Maes and Cliquet 2005)

- Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds, *Official Journal L* 103, 25 April 1979 P. 0001 – 0018, as amended.
 - Implementation in Belgium:
 - Decree of 21 October 1997 concerning nature conservation and the natural environment, *BS* 10 January 1998, as amended by the Decree of 19 July 2002, *BS* 31 August 2002.
 - Decision of the Flemish Government of 17 October 1988 concerning the designation of Special Protected Areas conform article 4 of the Directive 79/409/EEG of the Council of the European Communities of 2 April 1979 concerning the conservation of wild birds, *BS* 29 October 1988, as amended.
 - Law of 20 January 1999 on the protection of the marine environment in the marine areas under Belgian jurisdiction, *BS* 12 March 1999; as amended.

12.4. EXISTING SITUATION

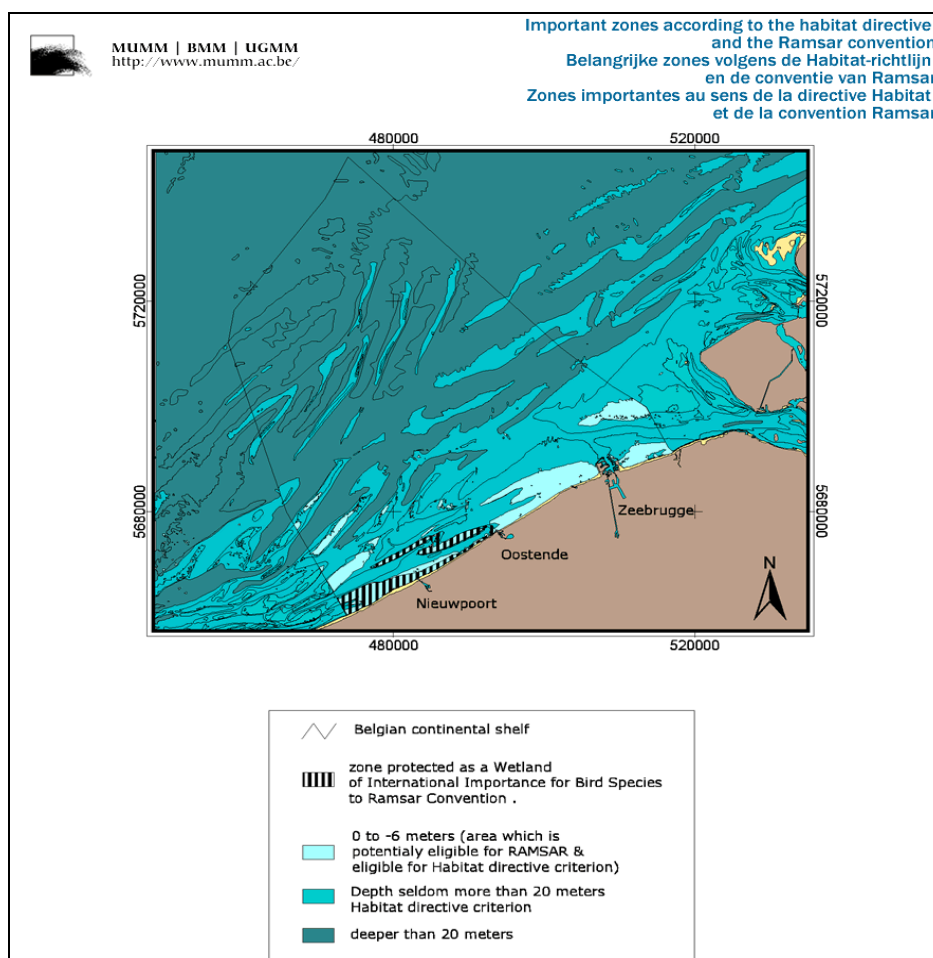
12.4.1. Ramsar sites

12.4.1.1. Spatial delimitation

The coordinates are given on the RAMSAR site (RAMSAR 2004) (Map I.3.12a).

Figure I.3.12a (MUMM 2003) gives an overview of the zones which are potentially to be included in the list of RAMSAR sites (represented in light blue) and which are already designated as a RAMSAR site (indicated with vertical lines).

Figure I.3.12a: Important zones according to the Habitats Directive and the Ramsar Convention (MUMM 2003).



Belgium presently has 6 sites **designated** as Wetlands of International Importance, with a surface area of 7935 hectares. Only **two areas** are situated in the study area of the project (MUMM 2003). A Ramsar zone has been approved in the Belgian part of the North Sea in order to protect the Black Scoter (Flemish Banks area). A detailed description of the two Ramsar sites is given on the RAMSAR website (Ramsar 2004):

Flemish Banks area

This should actually be named the '**Coastal Banks area**':

General description:

The sandbank area, from Oostende to the French-Belgian border, extends 3 nautical miles from the baseline (although the Vlaamse Banken extend further into the sea) and shallower than –6 m MLLWS. The site includes the lowest zone of the beach and adjacent marine waters overlying submerged banks. (Ramsar site no. 326, designated since 27/09/1984).

Ecological features:

The area is used by large numbers of wintering grebes and sea ducks and provides important winter foraging and roosting areas for numerous species of shorebirds.

Human activities at the site:

Commercial fishing, water-based recreation, sand and gravel extraction.

Disturbance/Threats:

Wintering sea birds (especially sea ducks and grebes) are regularly disturbed by boats, especially sailing boats during the weekends (large yacht harbour in Nieuwpoort). The impact of recreational fisheries was very high, but dropped in 1996 due to the implementation of some Royal Decrees (RD of 11 March 1996, *BS* 28 March 1996 and RD of 12 April 2000, *BS* 3 May 2000). Tourists badly disturb foraging waders on the beach, especially during the summer season and on sunny weekends in the winter. The water quality of the North Sea along the Belgian coast is not very good, due to the direct outlet of sewage pipes etc. Negative effects on the ecosystem have not yet been noted. Apart from the chronic oil pollution, as elsewhere along the North Sea coasts, there are sometimes more important but local oil spills. Physical disturbance due to sand and gravel extraction also occurs in this area.

Human activities in the surroundings:

Recreation / military activities.

Disturbance/Threats: Pollution from outside the Belgian territorial waters (coming from the Channel). There are also military activities between Nieuwpoort and Lombardsijde (shooting exercises).

Conservation measures taken: all hunting is prohibited along the beach and in the marine areas under Belgian jurisdiction.

Zwin, including adjacent beach zone (Ramsar 2004):

General description:

Sharing the border with the Netherlands the site, created as bird habitat in the 1960s, consists of saltmarsh, mudflats, creeks and artificial brackish pools connecting it to the North Sea. The site is the southernmost remainder of a late medieval estuary. A shallow creek at the eastern end, which forms an open connection to the North Sea, feeds a system of four brackish lagoons. The water level in these lagoons is kept artificially high. The whole area often floods during winter and at spring tides (Ramsar site no. 328, designated since 27/09/1984). This area is also designated as a Special Protected Area under the EC Birds Directive and is classified as a Nature Reserve and Classified Landscape.

Ecological features:

The mudflats support pioneer vegetation communities, the saltmarsh consists of numerous species of salt-resistant plants. It's an important area for staging, roosting, wintering and breeding various species of water birds.

Human activities at the site:

Nature conservation, education and tourism.

Disturbance/Threats

Heavy recreation and silting up of the creeks.

Human activities in the surroundings:

Agriculture (more intensive, arable land).

Disturbance/Threats: threats exist on the Dutch side, where tourism is still increasing. Holiday villages have been built in the buffer zone of this reserve resulting in increased recreation pressure. The buffer area of the former grasslands and shrubs is used for cattle grazing. Farmers in the polder area (arable land and small grasslands) regularly disturb geese and other waterfowl from their fields. Lowering the intensity of grazing, and the amount of fertilisers used, could result in an increase of indigenous flora and fauna.

Conservation measures taken:

The area has been designated as a Classified Landscape since 1941 and is zoned as a Nature Reserve on rural planning maps. 125 ha of the reserve is situated in Belgium while a further 25 ha of the reserve is located within the Netherlands. External factors (mainly sand deposits on the beach of Knokke-Heist) have gradually increased silting of the creeks, mudflats and saltmarshes. This has caused the reserve to be less frequently flooded during high tides and decreased the reserves ornithological importance, mainly as a feeding area. In 1989 the Minister of Public Works decided to support the necessary works to re-open the main inlet creek (on the Dutch border). As a first attempt about 150000 m³ of sand was removed in November 1989 to restore a regular tidal rhythm. Reintroduction programs in the wildlife park, which is adjacent to the reserve, have lead to an increase in feral populations of Greylag Geese (*Anser anser*), Night Heron (*Nycticorax nycticorax*) and White Stork (*Ciconia ciconia*). Although sheep graze on some of the saltings, no shooting is allowed within the Zwin reserve.

12.4.1.2. Intensity and identification

"Intensity" of nature protection areas is expressed as the "status" (designated or proposed) and the degree of protection (not, partly or totally protected).

Ramsar sites	Zwin (beach area)	Designated	Protected
	Coastal Banks area	Designated	Partly protected

12.4.2. Beach reserves

12.4.2.1. Spatial delimitation

Coordinates were deduced from the descriptions in the jurisdiction or found on the website of OC GIS-Vlaanderen (2003). In 2001 2 beach reserves were designated on the Belgian coast. These are called 'Baai van Heist' and 'Ijzermunding'. The 'Ijzermunding' is actually a nature reserve that stretches further inland, but the beach part of the nature reserve is designated as beach reserve. The low water line is the seaward boundary. No new beach nature reserves have been designated since 2001.

12.4.2.2. Intensity and identification

"Intensity" of nature protection areas is expressed as the "status" (designated or proposed) and the degree of protection (not, partly or totally protected).

Beach reserves	Baai van Heist	Designated	Protected
	Beach adjacent to Ijzermunding	Designated	Partly protected

12.4.3. Marine Protected Areas

12.4.3.1. Spatial delimitation

Coordinates were deduced from the website of OC GIS-Vlaanderen (2003), according to descriptions of the proposed areas. The two proposed areas were:

- The Coastal and Flemish Banks area (which largely consist out of two parts):
 - sub-area Trapegeer – Broersbank
 - sub-area Stroombank
- The marine part of the 'Baai van Heist'

Since no marine reserves or other Marine Protected Areas are yet designated for the Belgian marine area, it could be useful to investigate where the most important (or most valuable) marine areas are situated for the different ecosystem components. Haelters et al. (2004) have already undertaken an investigation on marine avifauna and three important bird areas have been identified (see above, Birds Directive areas). This type of information isn't available yet for other ecosystem components. The project BWZee (2004-2006, financed by the Belgian Science Policy) was initiated in May 2004 and will produce a full-coverage biological valuation map for the BPNS, considering both benthos and avifauna. This map will reveal which areas are most valuable for the maintenance and protection of these ecosystem components. Because this map will only be available in 2006, the identification of valuable biological areas in this report should be viewed with caution. The benthic life of the BPNS is distributed along three gradients: a sedimentological gradient and two geographical gradients. The distribution of the meio- and macrobenthos is mostly determined by the sedimentological gradient, while the epi- and hyperbenthos is mostly distributed along the onshore-offshore and longitudinal geographical gradients. Gheerardyn (2002) made a preliminary biological valuation map for the macrobenthos of the BPNS and this study revealed three important areas for macrobenthos:

- the western Coastal Banks (the area comprising the sand banks Trapegeer, Den Oever and Broersbank and the gullies Potje and Westdiep)
- the Flemish Banks (the area comprising the sand banks Middelkerkebank, Kwintebank, Buiten Rattel and Oostdijck and the gullies between these sand banks)

It should be noted that these two areas are not necessarily valuable biological areas for other benthos components. However, both areas mentioned above have a broad diversity in sediments and are situated along the onshore-offshore gradient. The longitudinal distribution gradient is lacking, but by proposing another conservation area in the eastern coastal zone, for instance the De Vlakte van de Raan, this can be solved. Due to the lack of biological data for this area an objective evaluation of its biological value isn't possible at this time.

For commercial fish species, important areas can be visualised by investigating their spawning and nursery areas (UKOOA 2004). An overview of these areas is given in Table I.3.12a.

Table I.3.12a: Overview of the spawning areas and nursery grounds on the BPNS for some commercial fish species.

Area of BPNS	Important area	Commercial Species	Period	Importance (in comparison to North Sea)
Small strip along coast	Nursery ground	Sole		Low
Coastal zone	Nursery ground	Plaice		Low
BPNS except coastal zone	Spawning area	Plaice	December-March	Medium
		Sprat	May-August	Medium
		Sandeels	November-February	Medium
	Nursery ground	Sandeels		Medium
Western part	Spawning area	Lemon Sole	April-September	Low
	Nursery ground	Lemon Sole		Low
North-western corner	Spawning area	Herring	November-January	Low
North-eastern corner	Spawning area	Cod	January-April	Low
Northern part	Spawning area	Whiting	February-June	Low
Entire BPNS	Spawning area	Sole	March-May	High
	Nursery ground	Mackerel		High
		Cod		High
		Sprat		High

It can be concluded that the entire BPNS is important for the selected fish species to some degree, but the species most dependent on the area for their reproduction seem to be Mackerel, Cod and Sprat. However, no clear patterns can be deduced from these rough maps.

When the BWZee project is finalized the resulting marine biological valuation maps will form a more scientifically sound information source to aid in policy decisions concerning the designation of sites as marine nature reserves.

12.4.3.2. Intensity and identification

"Intensity" of nature protection areas is expressed as the "status" (designated or proposed) and the degree of protection (not, partly or totally protected).

Proposed marine reserves	Coastal and Flemish Banks area	Not officially proposed	/
	Marine part of Baai van Heist	Not officially proposed	/

12.4.4. Habitats Directive Areas

12.4.4.1. Spatial delimitation

Coordinates were deduced from the descriptions in the jurisdiction or found on the website of OC GIS-Vlaanderen (2003).

The scope of application of the Habitats Directive includes the light blue and blue zone referred to above in Figure I.3.12a.

An examination of the figure reveals that this category is clearly found in the maritime zone under Belgian jurisdiction. Approximately 85% of the relevant zones are located in the territorial sea.

The Habitats Directive also recognizes that conserving habitats of great value, and the diversity of landscapes, makes it possible to conserve marine diversity. This is why it is a priority to protect the shallow sandbanks (MUMM 2003).

Typical bird species occurring in high concentrations and characteristic for shallow sandbank ecosystems (Maes et al. 2000):

- Guillemot – *Uria aale* – Zeekoet
- Razorbill – *Alca torda* – Alk
- Gannet – *Morus bassanus* – Jan van Gent

An area of 17000 ha, comprising the entire existing Ramsar 'Flemish Banks' site, has been **proposed** to the European Commission to be considered as a **Special Area of Conservation under the EC Habitats Directive** in the North Sea (federal territory) (Maes et al. 2000).

Several areas in the coastal zone (of the study area, Flemish territory) have already been designated as Special Areas of Conservation under the Habitats Directive:

- Dune area adjacent to the Westhoek (De Panne)
- Dune area Oostduinkerke-Bad
- Dune area Groenendijk-Bad
- Dune/beach area adjacent to Ijzermonding (next to channel)
- Dune area between Middelkerke and Westende-Bad
- Dune area on right hand side of channel Oostende
- Dune area between De Haan and Wenduine
- Dune area between Wenduine and Blankenberge
- Dune area on right hand side of Blankenberge
- Beach zone Baai van Heist
- Beach adjacent to Zwin area.

12.4.4.2. Intensity and identification

"Intensity" of nature protection areas is expressed as the "status" (designated or proposed) and the degree of protection (not, partly or totally protected).

Habitat areas (on Flemish territory)	Adjacent to De Westhoek (De Panne)	Designated	Protected
	Oostduinkerke-Bad	Designated	Protected
	Groenendijk-Bad	Designated	Protected
	Ijzermonding (east of shipping channel)	Designated	Protected
	Between Middelkerke and Westende-Bad	Designated	Protected
	East of shipping channel Oostende	Designated	Protected
	Between De Haan and Wenduine	Designated	Protected
	East of Blankenberge	Designated	Protected
	Baai van Heist	Designated	Protected
Habitat areas (on federal territory)	Beach zone adjacent to the Zwin area	Designated	Protected
	Trapegeer-Stroombank area	Proposed	/

12.4.5. Birds Directive Areas

12.4.5.1. Spatial delimitation

Coordinates were deduced from the descriptions in the jurisdiction or found on the website of OC GIS-Vlaanderen (2003).

A report by Haelters et al. (2004) identifies important bird areas. The identification of important bird areas in Belgian marine waters is based on original results from regular ship based surveys (1992-2002) completed by the Institute of Nature Conservation. The identification of important bird areas is obviously a prerequisite to their designation as Birds Directive Areas.

The species (and their habitats) found within the BPNS area that need protection pursuant to Annex I of the Birds Directive are:

- Sandwich Tern – *Sterna sandvicensis* – grote Stern
- Common Tern – *Sterna hirundo* – Visdief
- Little Tern – *Sterna albifrons* – Dwergstern

Four other species reached the 1% population limit in the Belgian sea during the period 1992-2002:

- Great-Crested Grebe – *Podiceps cristatus* – Fuut
- Little Gull – *Larus minutes* – Dwergmeeuw
- Common Scoter – *Melitta nigra* – Zwarte Zee-eend
- Great Skua – *Stercorarius skua* – Grote Jager

The most important areas for these species can be selected by using GIS to interpret data from species surveys. The Great Skua is not concentrated within sea areas. Accordingly, an area-directed conservation

policy is not ideal for this species. The Little Tern is very rarely counted at sea. Instead the Little Tern concentrates in the vicinity of the eastern dam, within the harbour of Zeebrugge, which is a foraging area. This foraging area is entirely enclosed by the most important concentration area of Common Tern. When the most important areas for the Great-Crested Grebe, the Common Scoter, the Sandwich Tern, the Common Tern and the Little Gull are merged into one map, three areas appear as most appropriate for the protection of these species, namely:

- an area on the west coast (off Koksijde and De Panne), from the low water line up to 6 NM
- an area on the middle coast (Middelkerke – Bredene), from the low water line up to 6 NM in the western part and between 1.5 and 6 NM from the coast in the eastern part of the area
- an area enclosing the front part of the harbour of Zeebrugge

Generally, the areas closer to the coast are more important for most key species. Several coastal areas (Flemish territory) have already been designated as Special Protected Areas under the Birds Directive:

- beach zone adjacent to the Zwin
- area left of the harbour of Zeebrugge
- beach zone in De Panne

12.4.5.2. Intensity and identification

“Intensity” of nature protection areas is expressed as the “status” (designated or proposed) and the degree of protection (not, partly or totally protected).

Bird areas (on Flemish territory)	Beach zone adjacent to the Zwin area	Designated	Protected
	West of harbour of Zeebrugge	Designated	Protected
	De Panne	Designated	Protected
Bird areas (on federal territory)	Off Koksijde and De Panne	Not officially proposed	/
	Off Middelkerke-Bredene	Not officially proposed	/
	Area enclosing harbour of Zeebrugge	Not officially proposed	/

12.5. INTERACTIONS

12.5.1. Suitability for user

Details – if applicable – can be found in the chapter that is specifically dedicated to “Suitability”.

12.5.2. Impact on other users

Details – if applicable – can be found in the chapter that is specifically dedicated to “Interaction among users”.

12.5.3. Impact on environment

Details – if applicable – can be found in the chapter that is specifically dedicated to “Interaction between users and the environment”.

The designation of a nature conservation area should result in a standstill or improvement of the ecological/physico-chemical quality of the area. Since different stakeholders heavily use the BPNS, the designation alone will not be effective to achieve this, and protection measures will have to be applied to the area.

The effect of designating an area as an MPA is still not known and there are different opinions in respect of the possible outcomes (deterioration, no effect, improvement). For a discussion on this topic please refer to Rabaut (2004).

12.5.4. Impact on socio-economy

No data exists on the socio-economic effects of designating nature conservation areas in the Belgian coastal zone. Obviously the closure of certain areas for fisheries and/or aggregate extraction will have significant economic effects on those sectors.

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