

# 13



## Military use

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Military activities and exercises regularly take place in the Belgian part of the North Sea (BNS) and in the coastal area. These include: target practice on land towards the sea, target practice on sea towards floating targets, detonation exercises with practice mines and found mines, exercises to lay, search and sweep mines, and extensive mine exercises of several NATO countries. In addition, amphibian, rescue and fly exercises take place as well (*Maes et al. 2005*<sup>78467</sup>, *GAUFRÉ project BELSPO*). A dump site of war munitions from World War I (WWI) is located in the BNS. It is situated along the coast of Knokke-Heist on the shallow sandbank 'De Paardenmarkt'. According to OSPAR, 148 dump sites of war munitions are located in the North Sea and the north-eastern part of the Atlantic Ocean (*OSPAR QSR 2010*<sup>198817</sup>).

## 13.1 Policy context

The policy relating to military activities is a federal matter belonging to the Ministry of Defence (*beleidsnota landsverdediging 2012*<sup>226457</sup>). An overview of the legislation with regard to the military activities (at sea) is given in the coastal codex, theme *military activities*.

## 13.2 Spatial use

In the BNS, a number of zones reserved for military activities are indicated on the nautical charts (*Vermeersch & Desnouck 2009*<sup>135696</sup>). The coordinates of these areas are communicated in the *Notices to Mariners* (BaZ) at the beginning of each year (*BaZ 2013 nr. 1*<sup>225449</sup>, *Deros 2005*<sup>78297</sup> (*GAUFRÉ project BELSPO*)). Some military zones have already been adjusted according to the shipping traffic and wind farms. In the draft of the Marine Spatial Plan (*Ontwerp van koninklijk besluit tot vaststelling van het marien ruimtelijk plan*<sup>227527</sup>), as proposed by the Minister competent for the North Sea, sufficient space for military activity is provided. Furthermore, it is examined whether there is a potential conflict between these military activities and the concession area for the energy atoll, as well as between the target practices in Nieuwpoort-Lombardsijde and the natural functions.

### 13.2.1 Military exercises in the coastal zone and the Belgian part of the North Sea

In the BNS and the coastal zone, military activities and exercises regularly take place (*BaZ 2013 nr. 1*<sup>225449</sup>, Ministry of Defence). These include:

- Target practices from land towards the sea. This happens only during the day from the military base (beach) in Lombardsijde. The practice area (D07) is divided into three sectors (K-small, M-medium and G-Large), depending on the weapons used. Every year the practice area is approximately 150 days available for military activities. The K-sector is used about 60 days, the M-sector 30 days, and the G-sector 2 days per year. Depending on the operational requirements of the Belgian army, these numbers may change.
- Target practices at sea towards floating targets. These take place in the 'BNOM zone' in the proximity of the 'Hinderbanken' sandbanks, both during day and night-time. During the exercises, the ships are located in the southern part of the pentagon, and aim at targets in the North. The target practices are performed very rarely (up to 5 times per year), as the Belgian frigates mainly practice in Dutch waters.
- Detonation exercises with practice mines. This happens in the circular area in the south-eastern part of the BNOM zone (zone Thorntonbank-Gutterbank). After the exercises, the practice mines are removed.
- The zone QZR 040 is a practice area used by the international naval mine warfare school of Eguermin in Ostend for Naval Mine Counter Measures (NMCM) training.
- Detonation of found mines. Very occasionally, a real war mine can be found by ships, fishermen or dredgers. Such mines are also detonated in the circular area, unless in case of an emergency.
- Exercises to lay, search and sweep mines. These exercises take place in two smaller areas, in particular NB-01 (between Gootebank and Westhinder, for exercises in deep water) and NBH-10 (between Wenduine and Oostendebank, for exercises in shallow water). For certain manoeuvres, or due to weather conditions, it may be necessary to navigate outside of these areas. The training zones can therefore be extended, if necessary, to the circular detonation zone and towards the port of Ostend. Both zones are rarely used.
- Amphibian, rescue and fly exercises.
- Extensive mine exercises by several NATO countries. There is no set area for this kind of exercises. NATO always announces the location of the exercises beforehand. The NBH-10 zone is one of the possible training zones. Such large-scale exercises are held every two years in the BNS.

## DEMARCATION OF MILITARY TRAINING ZONES IN THE BNS

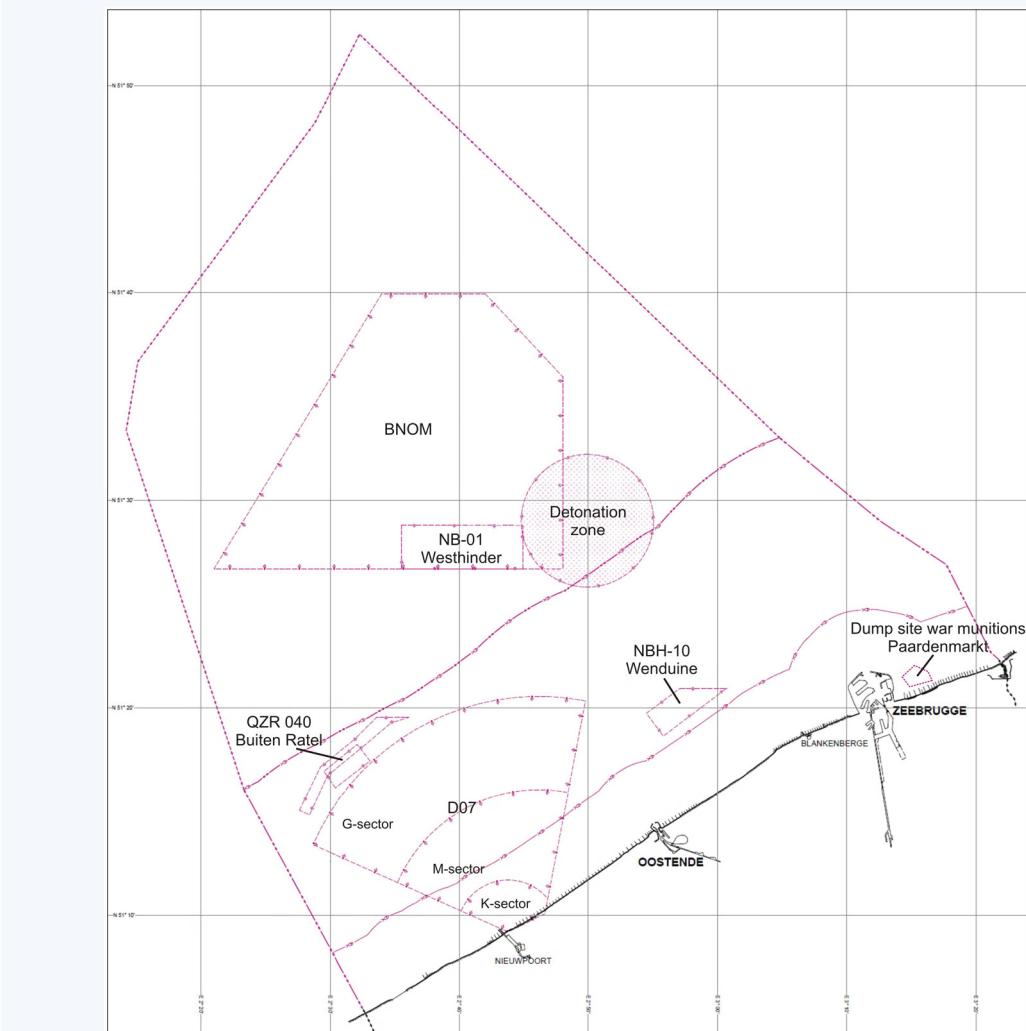


Figure 1. The demarcation of military training zones in the BNS ([Continentaal Plat & Vlaamse Hydrografie 2013 227521](#)).

Besides the different training activities, the Belgian army also takes part in the SAR (Search and Rescue) organisation, under the leadership of the Maritime Rescue and Coordination Centre ([MRCC](#)), by means of helicopters and boats. The frequency of the SAR activities depends on the incidents that happen in the BNS. Additionally, in cooperation with other national governments, military infrastructure is deployed for security reasons in the framework of existing agreements and cooperation agreements.

### 13.2.2 Army bases

The following army bases are located in the coastal area:

- Quarter Lombardsijde (Nieuwpoort);
- Quarter Adjutant Vlieger F. Allaeyns (Koksijde);
- Marine base Bootsman Jonsen (Ostend), including the naval mine warfare school;
- Marine base Zeebrugge;
- Quarter LTZ V. Billet (Brugge).

([website Belgian army](#))

There are also a number of military domains in the coastal zone which have a management protocol with the Flemish Region (generally this is the Agency for Nature and Forest (ANB)):

- Camp Lombardsijde in Middelkerke (54 ha);
- Camp 't Pompje in Oudenburg (62 ha);
- Munition depot Zedelgem-Zuid in Jabbeke (73 ha).

### 13.3.3 Dump site for war munitions

After WWI, the Belgian army dumped German war munitions a few kilometres off the coast of Knokke-Heist on a shallow sandbank called 'De Paardenmarkt'. There are at least 35,000 tons of munitions, an estimated third of which are toxic gas grenades (*Missiaen & Moerkerke 2002*<sup>26622</sup>). On the hydrographical maps of the Belgian coast, this place is prohibited for fishing and anchoring (*Maes et al. 2000*<sup>18619</sup>). The exclusion zone is a pentagon of about 3 km<sup>2</sup> (*Missiaen et al. 2002*<sup>23307</sup>). The official coordinates of the pentagon are:

- 51°21',60N – 03°14',37E
- 51°22',15N – 03°15',32E
- 51°21',85N – 03°16',37E
- 51°21',42N – 03°16',70E
- 51°21',12N – 03°14',95E

(*Schrijvers 2005*<sup>78292</sup>, *GAUFRE project BELSPO*)

## 13.3 Societal interest

The Belgian army is not only responsible for the defence of the Belgian marine areas. In the case of an emergency in the North Sea, the army offers help and assistance and provides *inter alia* Sea King helicopters ([website airbase Koksijde](#)), "ready duty ships" and divers ([website coastguard](#), Ministerial Decree 19 april 2005 rampenplan Noordzee). Through the commander of the province of West Flanders, deployment of additional staff, infrastructure and military resources can be asked for (Source: National Defence, Guidelines for Homeland Operations).

In addition, the navy is responsible for the detection of violations in the Belgian exclusive economic zone (EEZ) (*law of 22 April 1999, law of 20 January 1999*). The *Regent Decree of 30 March 1946* grants other specific powers to the Belgian navy regarding demining and the surveillance of fisheries. Hence, the Naval component performs checks on board of fishing vessels in cooperation with the Flemish Department of Agriculture and Fisheries.

Through *Maritiem Informatie Kruispunt (MIK)* in Zeebrugge and Ostend Radio, the Belgian army constitutes a part of the operational branch of the [structure Coast Guard](#). The organisation and responsibilities of MIK are stipulated in the *Royal Decree of 6 February 2009*. In addition to the distress, emergency and safety traffic, Ostend Radio provides the notifications to shipping, both inland and at sea (Source: Admiralty List of Radio Signals – Maritime Radio Stations). The army also intervenes in the case of pollution in the North Sea and in case of the detonation of explosives at sea ([website Coast Guard](#)).

Table 1. The direct employment at the army bases in the coastal zone in 2012 (Source: Ministry of Defence).

BASE	EMPLOYMENT (2012)
Zeebrugge (marine base, including crew)	1,380
Ostend (naval mine warfare school)	123
Lombardsijde (practice area + med)	532
St-Kruis (training navy, including Dutch colleagues in the context of binational activities)	357
Koksijde (helicopter base)	371
Poelkapelle (dismantling of munitions)	116
<b>Total</b>	<b>2,879</b>

Furthermore, the naval component of the Belgian army is responsible for the operation of the marine research vessel Belgica, which is operated by the Direction Natural Environment of the Royal Belgian Institute of Natural Sciences (RBINS). The army is also responsible for the training of foreign naval officers in the NATO naval mine warfare school in Ostend ([website Eguermin](#)). For this purpose they have their own databases on the sea bed and resources to investigate this matter at their disposal. In this context, there is also collaboration with universities.

### 13.3.1 Employment

With several bases along the coast, the Belgian army is responsible for significant direct and indirect employment. In 2012, direct employment in the coastal region amounted to 2,879 employees (table 1). Indirect employment derives from various maintenance companies which employ their staff at the bases (e.g. vessels maintenance), as well as from companies which perform occasional assignments for the army either at the naval base, or at their own shipyards. Furthermore, the suppliers of the quarters and ships should also be taken into account (Source: Belgian army).

## 13.4 Impact

### 13.4.1 Impact on the marine environment

#### MILITARY ACTIVITIES IN THE BNS AND SEAWARD TARGET PRACTICE

The impact on the marine environment of military activities in the BNS and seaward target practice is discussed in detail in the following study: [Degraer et al. \(2011\)](#)<sup>225352</sup>. The detection of mines and submarine exercises where sonar is used (zones NB-01 and NBH-10) may have a negative effect on marine mammals and fish ([André et al. 2010](#)<sup>200613</sup>, [Degraer et al. 2011](#)<sup>225352</sup>). Other exercises with explosions / target practices can disrupt marine animals and birds. The temporary nature of the exercises should, however, be taken into account.

Munitions that end up on the seabed during exercises are not cleared. This may locally have a negative impact on the ecosystem, due to the risk of leakage of copper and lead from munitions, although the effect of this leaching may be smaller than the leaching due to other activities ([Derous 2005](#)<sup>78297</sup> ([GAUFRE project BELSPO](#)), [Maes et al. 2005](#)<sup>78467</sup> ([GAUFRE project BELSPO](#)), [Degraer et al. 2011](#)<sup>225352</sup>).

The target practices on land towards the sea take place near the ‘De IJzermonding’ nature reserve and near the Ramsar and Habitats Directive Area of the ‘Flemish Banks’. The negative impact on fauna can be partially reduced by proper timing that takes into account the presence of large concentrations of marine mammals and seabirds which are highly sensitive to disturbance ([Degraer et al. 2011](#)<sup>225352</sup>).

#### DUMP SITE FOR WAR MUNITIONS

The release of chemicals that were used in the munitions of the *Paardenmarkt* site, such as mustard gas and Clark components (see among others [Missiaen & Moerkerke 2002](#)<sup>26622</sup>, [Francken & Ruddick 2003](#)<sup>138993</sup>, [Francken et al. 2006](#)<sup>138994</sup>, [Francken & Ruddick 2007](#)<sup>138995</sup>, [Francken & Hafez 2009](#)<sup>142543</sup>, [Missiaen & Henriet 2010](#)<sup>199351</sup>), may lead to the pollution of the sediment and the water column, and to the disturbance of the food chain ([OSPAR QSR 2010](#)<sup>198817</sup>, [Goffin et al. 2007](#)<sup>114225</sup>, [André et al. 2010](#)<sup>200613</sup>). A synthesis of the scientific research conducted on the impact of the munitions storage on the *Paardenmarkt* sandbank is given in [Missiaen & Henriet \(2010\)](#)<sup>199351</sup>.

### 13.4.2 Impact on other users

Unexploded war materials constitute a potential danger for users of the sea such as fishermen and dredgers. The procedure to follow in Belgium when encountering mines or explosives is available in [BaZ 2013 nr. 1](#)<sup>225449</sup> and in the [chart of explosives](#).

## 13.5 Sustainable use

### 13.5.1 Measures for seaward target practice

The target practices from the coastal area of Nieuwpoort-Lombardsijde are subject to restrictions in order to reduce social nuisance. No target practices take place on Saturdays, Sundays, public and school holidays. The periods when the target practices are suspended, are shown in the NtM (*BaZ 2013 nr. 1*)<sup>225449</sup>. Infringements and complaints relating to the rules of the target practice may be submitted to the Federal Police (website [Belgian army](#)).

The target practices take place near the nature reserve 'De IJzermonding' and in the marine areas of the western coastal zone protected by the EU *Birds and Habitats Directives* (see also theme *Nature and environment*). The effects of these target practices on the environment can be reduced by proper timing (for example, no target practices during the breeding season or by taking into account the presence of marine mammals) (*Maes et al. 2005* <sup>78467</sup>, [GAUFRÉ project BELSPO](#), *Degraer et al. 2011* <sup>225352</sup>).

### 13.5.2 Measures for military activities at sea

On an international level, military ships need to respect the rules that are stipulated in the '*United Nations Convention on the Law of the Sea*', [UNCLOS](#), 1982. The impact of military activities on the marine environment is not covered by environmental policies and treaties, such as the international [ASCOBANS](#) agreement (even though a call for mitigating measures was included in the [resolution ASCOBANS 2006](#) <sup>206792</sup>) and the European *Marine Strategy Framework Directive* (MSFD). There has been a plea for the consideration of the environmental effects of new military activities in the context of the Natura 2000 sites that are protected by the European *Birds Directive* and *Habitats Directive*. Article 6 (3) and (4) of the *Habitats Directive* offers a balanced framework to solve potential conflicts between military activities and environmental protection at sea ([Guidelines for the establishment of the Natura 2000 network in the marine environment \(2007\)](#) <sup>214813</sup>).

On the Belgian level, the measures protecting the marine environment (see theme *Nature and environment*) do not consider military activities (*law of 20 January 1999*). The military activities can only be submitted to a permission or authorisation as a result of a common proposal by the minister whose authority includes the protection of the marine environment and by the minister of Defence. In that case, the permission or authorisation is granted by both ministers. The *law of 20 January 1999* does, however, state that the military authority, in consultation with the minister, needs to put everything in order to prevent damage and environmental disturbance, without affecting the preparedness of the military force. In *Degraer et al. (2011)* <sup>225352</sup> a few measures were proposed in order to mitigate the impact of military shipping, the detonation of ammunition at sea, the use of a sonar, chemical pollution, etc.

The current trend for navy ships is to set an example on the ecological level. Within NATO a special task force exists (SWG12). Its aim is to promote the exchange of information between and the development of solutions within the NATO navies, in order to meet the national and international regulations regarding the protection of the marine environment and in order to create common initiatives for building an environmentally friendly fleet. In order to realise these goals, NATO copied and adapted the principles of the [MARPOL Convention](#) to the specific demands of navy ships. This resulted in a series of publications, the 'Allied Maritime Environmental Protection Publication' (AMEPP). These publications each treat a specific aspect of maritime environmental protection. The purpose of the documents is to provide a clear, general guideline for shipping architects and designers of navy systems. On the basis of the AMEPP documents, the environmental legislation is incorporated in the design of new ships, with minimal impact on the operational capacities, readiness, safety, survival and comfort of the crew (Source: Belgian army).

Since 1966 the testing of nuclear weapons in the BNS has been forbidden by law. The abandonment of nuclear weapons or weapons of mass destruction outside territorial waters has been forbidden since 1973, and since 1999 this prohibition has applied to the entire BNS (*Maes et al. 2005* <sup>78467</sup>, [GAUFRÉ project BELSPO](#)).

### 13.5.3 Measures as to dump sites for war munitions

On an international level, the [OSPAR Convention](#) (1992) prohibits the dumping of all waste or other matters, including chemical waste. The dumping of chemical weapons at sea was finally forbidden explicitly with the ratification of the Chemical Weapons Convention ([CWC](#)) in 1997 (*Missiaen & Moerkerke 2002* <sup>26622</sup>). Later on OSPAR published a

recommendation for reporting with regard to conventional and chemical ammunition in the OSPAR area ([OSPAR recommendation 2010/20](#)<sup>225444</sup>).

On the European level, the dumping of ammunition appears in *Decision 2850/2000/EC* where a common framework is established for collaboration in case of marine pollution, caused by accidents or caused deliberately. Moreover, the dumping site of the *Paardenmarkt* sandbank is located in the Birds Directive Area SBZ (special protection area) 3 (*Birds Directive*). Furthermore, the *Marine Strategy Framework Directive* (MSFD) offers an important framework to take measures against pollution from ammunition in offshore dump sites. One of the descriptors in the *MSFD* to determine a good environmental status (GES) concerns the concentration of polluting matters ([Law et al. 2010](#)<sup>202492</sup>). Given the fact that the dumping site at the *Paardenmarkt* sandbank is situated within the territorial waters and partly within the coastal waters, the *Water Framework Directive* (WFD) offers a relevant legislative framework in case of pollution. The WFD and the MSFD were incorporated in the Belgian legislation by the *Royal Decree of 23 June 2010 - oppervlaktewatertoestand* and the *Royal Decree of 23 June 2010 - mariene strategie*.

Due to the short distance from the coast and the shallow location, and given the fact that the dumping area is partly situated in the Birds Directive Area SBZ (special protection zone) 3, it is very important to monitor the ammunition dump site on a regular basis. (e.g. [Missiaen et al. 2002](#)<sup>23307</sup>, [Missiaen & Moerkerke 2002](#)<sup>26622</sup>, [Martens 2005](#)<sup>80181</sup>, [Missiaen & Henriet 2010](#)<sup>199351</sup>, [website BMM](#). [Missiaen & Henriet \(2010\)](#)<sup>199351</sup> provides an overview of the conducted research and gives recommendations concerning further research and monitoring of the *Paardenmarkt* site. The geochemical analysis of water samples and sediment samples providing information on the condition of the potential leaking and decomposition of the chemical compounds is monitored in the following studies: [Francken & Ruddick \(2003\)](#)<sup>138993</sup>, [Francken et al. \(2006\)](#)<sup>138994</sup>, [Francken & Ruddick \(2007\)](#)<sup>138995</sup> and [Francken & Hafez \(2009\)](#)<sup>142543</sup>. In [Degraeer et al. \(2011\)](#)<sup>225352</sup>, it is recommended to not intervene in the *Paardenmarkt* site at this moment.

### 13.5.4 The management of military domains

The Belgian army applies the federal and regional environmental legislation to the military activity, as far as this application does not obstruct the operational character or the international obligations (Source: *Bijlagenota bij het Federaal Milieucharter (12 december 2001)* and *Beleidsnota van Landsverdediging inzake Leefmilieu (14 januari 2004)*). The internal environmental care within the Belgian army is mentioned in [André et al. \(2010\)](#)<sup>200613</sup>. Three military domains in the coastal area are controlled by the Agency for Nature and Forest (ANB) through a cooperation protocol: camp Lombardsijde, camp 't Pompje and the ammunition depot Zedelgem-Zuid. The military function prevails and sets preconditions, but the often unique ecological, as well as recreational/economic values are recognised and correspondingly managed ([Dumortier et al. 2009](#)<sup>142607</sup>). The environmental technical management plan concerning the dunes of the military domain 'Kwartier Lombardsijde' is established in [Degezelle & Hoffmann \(2002\)](#)<sup>106066</sup>.

## Legislation reference list

Table with international agreements, conventions, etc.

INTERNATIONAL AGREEMENTS, CONVENTIONS, ...			
Abbreviations (if available)	Title	Year of conclusion	Year of entering into force
<a href="#">MARPOL Convention</a>	International Convention for the prevention of pollution from ships, as modified by the Protocol of 1978 relating thereto	1973	1978
<a href="#">UNCLOS</a>	United Nations Convention on the law of the sea	1982	1994
<a href="#">ASCOBANS</a>	Agreement on the conservation of small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas	1991	1994
<a href="#">OSPAR Convention</a>	Convention for the protection of the Marine Environment of the North-East Atlantic	1992	1998
Chemical Weapons Convention ( <a href="#">CWC</a> )	Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction	1993	1997

Table with European legislation. The consolidated version of this legislation is available on [Eurlex](#).

EUROPEAN LEGISLATION				
Abbreviations (if available)	Title	Year	Number	
<b>Directives</b>				
Habitats Directive	Council Directive on the conservation of natural habitats and of wild fauna and flora	1992	43	
Water Framework Directive	Directive 2000/60/EC establishing a framework for Community action in the field of water policy	2000	60	
Marine Strategy Framework Directive	Directive 2008/56/EC establishing a framework for Community action in the field of marine environmental policy (Marine Strategy Framework Directive)	2008	56	
Birds Directive	Directive on the conservation of wild birds	2009	147	
<b>Other (Decisions, Communications, White Papers, etc.)</b>				
	Decision of the European Parliament and of the Council of 20 December 2000 setting up a Community framework for cooperation in the field of accidental or deliberate marine pollution	2000	2850	

Table with Belgian and Flemish legislation. The consolidated version of this legislation is available on [Belgisch staatsblad](#) and the [Justel-databases](#).

BELGIAN AND FLEMISH LEGISLATION	
Date	Title
<b>Laws</b>	
Wet van 20 januari 1999	Wet ter bescherming van het mariene milieu in de zeegebieden onder de rechtsbevoegdheid van België
Wet van 22 april 1999	Wet betreffende de exclusieve zone van België in de Noordzee
<b>Royal Decrees</b>	
Besluit van de Regent van 30 maart 1946	Besluit betreffende oprichting en organisatie van de Marine

BELGIAN AND FLEMISH LEGISLATION (continuation)	
Date	Title
KB van 6 februari 2009	Koninklijk besluit tot oprichting en organisatie van het maritiem informatiekruispunt
KB van 23 juni 2010 - oppervlaktewatertoestand	Koninklijk besluit betreffende de vaststelling van een kader voor het bereiken van een goede oppervlaktewatertoestand
KB van 23 juni 2010 - mariene strategie	Koninklijk besluit betreffende de mariene strategie voor de Belgische zeegebieden
<b>Ministerial Decrees</b>	
MB van 19 april 2005	Ministerieel besluit tot vaststelling van het Rampenplan Noordzee

