

13

Military use



Authors

Ben Wouters ¹
Pascal Depoorter ²
Thierry Pâris ¹
Hans Pirlet ³

Reviewers

Steven Degraer ⁴
Eric Stienen ⁵
Tine Missiaen ⁶

¹ Belgian Defence

² Coast Guard Secretariat

³ Flanders Marine Institute (VLIZ)

⁴ Royal Belgian Institute of Natural Sciences (RBINS), Operational Directorate Natural Environment

⁵ Research Institute for Nature and Forest (INBO)

⁶ Ghent University (UGent)

Citation:

Wouters, B., Depoorter, P., Pâris, T., Pirlet, H., 2015. Military use. In: Pirlet, H., Verleye, T., Lescrauwaet, A.K., Mees, J. (Eds.), Compendium for Coast and Sea 2015: An integrated knowledge document about the socio-economic, environmental and institutional aspects of the coast and sea in Flanders and Belgium. Ostend, Belgium, p. 223-232.

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 historical real mines, exercises to lay, search and sweep mines, and extensive mine exercises with several NATO countries. In addition, amphibian, rescue and fly exercises take place as well ([Maes et al. 2005](#), [GAUFRE project BELSPO](#), [Berichten aan Zeevarenden 2015 nr. 1](#)). A World War I dump site of war munitions is located in the BNS. It is situated along the coast of Knokke-Heist on the shallow sandbank *De Paardenmarkt*. According to OSPAR, 148 munitions dump sites are located in the North Sea and the northeastern part of the Atlantic Ocean ([OSPAR QSR 2010](#)).

13.1 Policy context

The policy relating to military activities is a federal matter belonging to the Ministry of Defence ([website Belgian Defence](#)). 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 & Desnoux 2009](#)). The coordinates of these areas are communicated in the Notices to Mariners (*NtM*) at the beginning of each year (*NtM 2015 nr. 1*). Some military zones have been adjusted in view of the shipping traffic and wind farms.

The zones for military use are also demarcated in the marine spatial plan (royal decree of 20 March 2014, see also [Van de Velde et al. 2014](#)) (figure 1). The compatibility with other (potential) users such as the zone for an energy atoll is taken into account (see theme **Energy (including cables and pipelines)**).

13.2.1 Military exercises in the coastal zone and the BNS

In the BNS and the coastal zone, military activities and exercises regularly take place (*NtM 2015 nr. 1*, [Belgian Defence](#)). These include:

- Target practices from land towards the sea. These practices only take place during the day on 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 available for military activities for approximately 150 days. The K-sector is used about 60 days, the M-sector 40 days, and the G-sector 20 days per year. These numbers may vary depending on the operational requirements of the Belgian Defence.
- Detonation exercises with practice mines. These exercises take place in the circular area in the southeastern part of the BNOM zone (zone Thornton Bank-Gutter Bank). After the exercises, the practice mines are removed.
- The QZR 040 zone 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 historical real mines. Very occasionally, a real war mine is 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, more precisely NB-01 (between Goote Bank and Westhinder, for exercises in deep water) and NBH-10 (between Wenduine and Oostende Bank, 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.
- 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.

Besides the different training activities, the navy vessels and resources of the Belgian Defence are used for military operations such as ensuring the Maritime Situational Awareness (MSA) for the guidance and monitoring of foreign vessels and for a large range of specific military security interventions (e.g. Maritime Security Operations – MSO).

THE DEMARCATION OF MILITARY TRAINING ZONES IN THE BNS

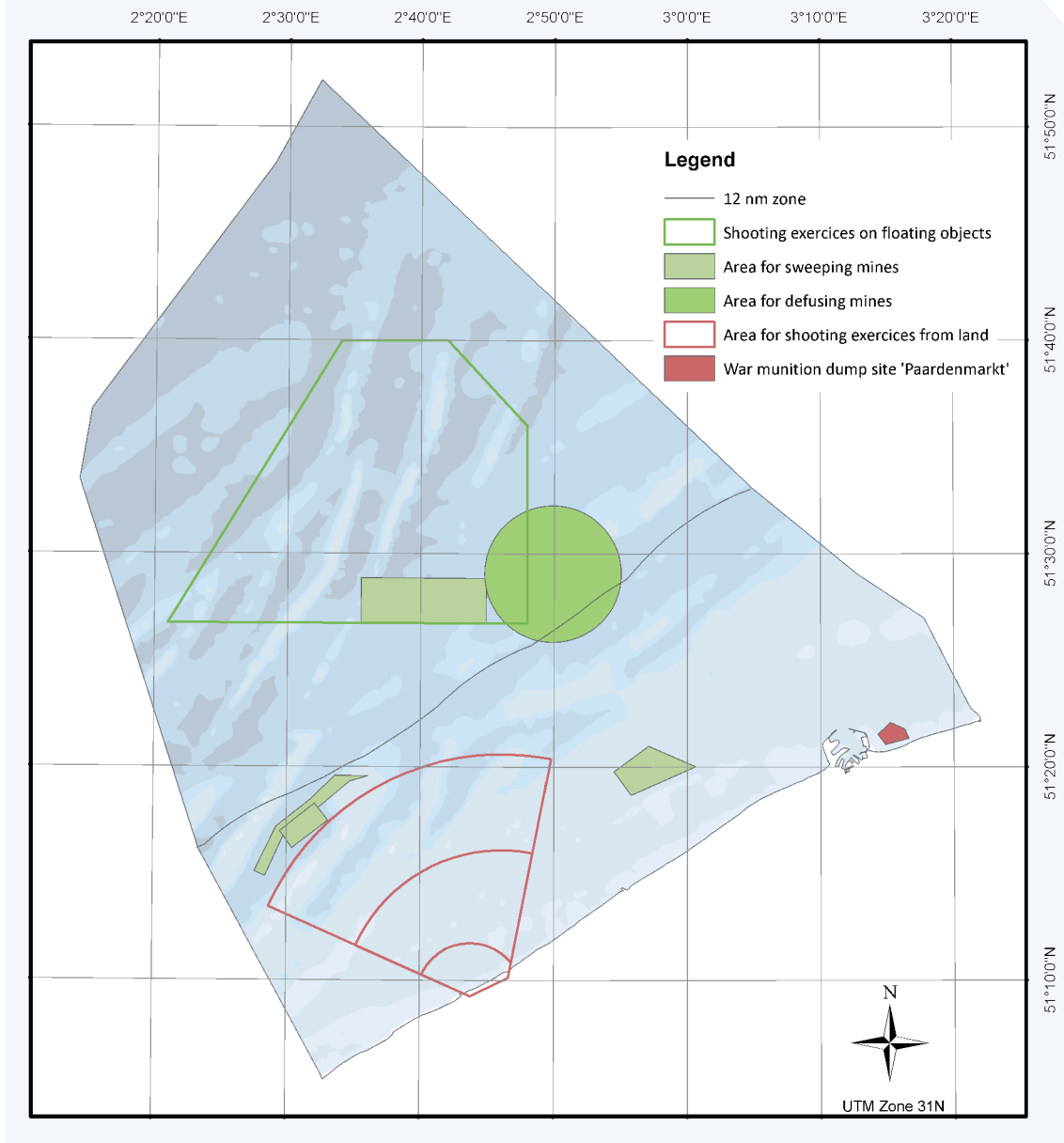


Figure 1. The demarcation of military training zones in the BNS (source: KBIN/IRSNB, marineatlas.be, based on the royal decree of 20 March 2014).

The Belgian Defence also takes part in the SAR (Search and Rescue) organisation by means of helicopters and boats under the leadership of the Maritime Rescue and Coordination Centre (MRCC) (theme Maritime transport, shipping and ports). The frequency of the SAR activities depends on the incidents which occur in the BNS.

Additionally, in cooperation with other national governments, military infrastructure is deployed for security reasons in the framework of existing agreements.

13.2.2 Military bases

The following military bases are located in the coastal area:

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

([website Belgian Defence](#))

The following military domains in the coastal zone have a management protocol with the Flemish Region (in general the agency for Nature and Forest ([ANB](#))):

- Camp Lombardsijde in Nieuwpoort/Middelkerke (54 ha);
- Camp 't Pompje in Oudenburg (62 ha);

13.2.3 Munitions dump site

After WWI, the Belgian Defence dumped German 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. Until recently, it was assumed that about one third consisted of poison gas shells. However, new indications reveal that this percentage may be significantly higher ([Missiaen 2013](#)). The exclusion zone is a pentagon of about 3 km² ([Missiaen et al. 2002](#)). The official coordinates of the pentagon are included in the marine spatial plan (royal decree of 20 March 2014, see also [Van de Velde et al. 2014](#)). In this pentagon, bottom-disturbing activities are prohibited (royal decree of 20 March 2014).

13.3 Societal interest

The Belgian Defence is not only responsible for the military tasks within the BNS. In case of an emergency in the North Sea, the Belgian army offers help and assistance and provides *inter alia* helicopters ([website airbase Koksijde](#)), 'ready duty ships' and divers ([website coastguard](#), General Emergency and Intervention Plan (ANIP) North Sea). The commander of the province of West Flanders is competent for the deployment of additional staff, infrastructure and military resources (source: Belgian 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). There is a collaboration with the scientific service 'Management Unit of the Mathematical Model of the North Sea' (MUMM) of the Royal Belgian Institute of Natural Sciences ([RBINS](#)) in the framework of detecting and combating pollution at sea. Thus, support is provided in the detection of polluters. The regent decree of 30 March 1946 grants other specific competences to the Belgian Navy regarding marine and coastal demining and the surveillance of fisheries. In this context, the Navy performs checks on board fishing vessels in cooperation with the Flemish Agriculture and Fisheries department.

Through *Maritiem Informatie Kruispunt* ([MIK](#)) in Zeebrugge and Ostend Radio, the Belgian Defence constitutes a part of the operational branch of the [structure Coast Guard](#) (theme **Maritime transport, shipping and ports**). The organisation and responsibilities of MIK are stipulated in the royal decree of 6 February 2009. In addition to 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 Belgian Defence also intervenes in case of pollution in the North Sea and in case of the detonation of explosives at sea ([website Coast Guard](#)).

Furthermore, the Belgian Navy is responsible for the operation of the marine research vessel *Belgica*, which is managed by the Operational Directorate Natural Environment ([RBINS](#)). The Navy 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 databases at their disposal with regard to the seabed and resources to investigate this matter. In this context, there is also collaboration with universities.

Finally, Belgian Defence is involved in a project about archaeological heritage in the North Sea ([Search project](#)). The aim is that the users of the North Sea – such as the Belgian Defence – disclose information related to heritage to the other partners involved (see theme **Maritime and coastal heritage**).

EMPLOYMENT

With several bases along the coast, the Belgian Defence is responsible for significant direct and indirect employment. In 2015, direct employment in the coastal region amounted to 2,945 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 Navy 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 Defence).

Table 1. The direct employment at the army bases in the coastal zone in 2015 (source: Belgian Defence).

BASE	EMPLOYMENT (2015)
Zeebrugge (naval base, including crew)	1,480
Ostend (naval mine warfare school)	130
Lombardsijde (practice area + medical detachment)	400
St-Kruis (training navy, including Dutch colleagues in the context of binational activities)	430
Koksijde (airbase)	365
Poelkapelle (dismantling of munitions)	140
Total	2,945

13.4 Impact

13.4.1 Impact on the marine environment

MILITARY ACTIVITIES IN THE BNS AND SEAWARD TARGET PRACTICE

The impact of military activities in the BNS and seaward target practice on the marine environment is discussed in detail in [Degraer et al. \(2011\)](#). 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](#), [Degraer et al. 2011](#)). Other exercises with explosions / target practices can disrupt marine animals and birds ([Degraer et al. 2011](#)).

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 \(GAUFRE project BELSPO\)](#), [Maes et al. 2005 \(GAUFRE project BELSPO\)](#), [Degraer et al. 2011](#)).

The target practices on land towards the sea take place near the *De IJzermondig* nature reserve (Estuary of the Yser) and near the Ramsar and habitats directive area of the Flemish Banks. Furthermore, there are two marine birds directive areas (special protection area 1 and 2) in the vicinity of the target practices. The negative impact on fauna can be partially reduced by a 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](#)).

MUNITIONS DUMP SITE

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](#), [Francken & Ruddick 2003](#), [Francken et al. 2006](#), [Francken & Ruddick 2007](#), [Francken & Hafez 2009](#), [Missiaen & Henriët 2010](#), [Missiaen 2013](#)), may lead to pollution of the sediment and the water column, and to disturbance of the food chain ([OSPAR QSR 2010](#), [Goffin et al. 2007](#), [André et al. 2010](#)). A synthesis of the scientific research conducted on the impact of the munitions storage on the Paardenmarkt sandbank is available in [Missiaen & Henriët \(2010\)](#). A summary is given of the studies with regard to the topography, localisation of munitions, characterisation of the subsurface, sampling and chemical monitoring, security, distribution of toxic components, biomonitoring and possible technical solutions. Furthermore, this report also makes recommendations for possible investigations and / or actions to be undertaken in the future.

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 be followed in Belgium when mines or explosives are encountered is available in *NtM 2015 nr. 1* and in the *chart of explosives*.

In order to keep the sea, coastal waters and harbour channels free from mines, the Belgian Navy has concluded an international cooperation with the Dutch Navy (BENEFICIAL COOPERATION). In this context, they particularly address the problem of residual explosives from the First and Second World Wars.

13.5 Sustainable use

13.5.1 Measures for seaward target practice

The target practices which occur in the coastal area of Nieuwpoort-Lombardsijde are subject to restrictions in order to reduce social nuisance. No target practices take place on Saturdays, Sundays, and public and school holidays. The periods when the target practices are suspended, are shown in the NtM (*NtM 2015 nr. 1*). Infractions and complaints relating to the target practice rules can be submitted to the Federal Police (website *Belgian Defence*).

The target practices take place near the nature reserve *De IJzermonding* (Estuary of the Yser) and in the marine areas of the western coastal zone which are 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 a 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*, *GAUFRE project BELSPO*, *Degraer et al. 2011*).

13.5.2 Measures for military activities at sea

On an international level, naval ships need to respect the rules 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 has been included in the *ASCOBANS resolution 2006*) 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, protected by the European Birds Directive and Habitats Directive. Article 6 (3) and (4) of the Habitats Directive provide 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*).

On the Belgian level, the measures protecting the marine environment (see theme **Nature and environment**) do not cover 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 the latter case, the permission or authorisation is granted by both ministers. The law of 20 January 1999 does, however, state that the military authorities, in consultation with the minister (whose task it is to protect the marine environment), need to make every effort to prevent damage and environmental disturbance, without affecting the preparedness of the military force. In *Degraer et al. (2011)* a few measures have been proposed in order to mitigate the impact of military shipping, the detonation of ammunition at sea, the use of 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 for this purpose (SWG12). Its aim is to promote the exchange of information between the NATO navies as well as the development of solutions, 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. To realise these goals, NATO has adopted the principles of the *MARPOL Convention* and adapted them to the specific demands of navy ships. This has resulted in a series of publications such as the Allied Maritime Environmental Protection Publication (AMEPP). These publications each treat a specific aspect of maritime environmental protection. The

purpose of these documents is to provide a clear, general guideline for shipping architects and designers of navy systems. On the basis of the AMEPP publications, the environmental legislation is incorporated in the design of new ships with minimal impact on the operational capacity, readiness, safety, survival and comfort of the crew (source: Belgian Defence).

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 from 1999 onwards, this prohibition applies to the entire BNS (*Maes et al. 2005*, *GAUFRE project BELSPO*).

13.5.3 Measures with regard to munitions dump sites

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 forbidden with the ratification of the Chemical Weapons Convention (*CWC*) in 1997 (*Missiaen & Moerkerke 2002*). Subsequently, OSPAR published a recommendation for the reporting of conventional and chemical ammunition in the OSPAR area (*OSPAR recommendation 2010/20*).

On the European level, the dumping of ammunition is discussed in decision 2850/2000/EC, which establishes a common framework for collaboration in case of accidental or deliberate marine pollution. Moreover, the dumping site of the Paardenmarkt sandbank is located in the birds directive area (SBZ 3). Furthermore, the Marine Strategy Framework Directive (MSFD) constitutes an important framework for 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*). 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 have been incorporated in 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 3), it is crucial to monitor the ammunition dump site on a regular basis (e.g. *Missiaen et al. 2002*, *Missiaen & Moerkerke 2002*, *Martens 2005*, *Missiaen & Henriët 2010*, *Missiaen 2013*, *website MUMM*). The contingency plan for the North Sea (ministerial decree of 19 April 2005 – will be replaced by the ANIP North Sea in 2015) also takes the Paardenmarkt sandbank into account. The publication *Missiaen & Henriët (2010)* provides an overview of the conducted research and gives recommendations concerning further research and monitoring of the Paardenmarkt site. The condition of the potential leakage of chemical compounds in the sediment and water column is monitored and modelled in the following studies: *Francken & Ruddick (2003)*, *Francken et al. (2006)*, *Francken & Ruddick (2007)* and *Francken & Hafez (2009)*. In *Degraer et al. (2011)*, it is recommended not to intervene in the Paardenmarkt site at this moment. *Missiaen et al. (2013)* formulates recommendations about the geochemical monitoring of the Paardenmarkt site.

13.5.4 The management of military domains

The Belgian Defence 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 Defence is mentioned in *André et al. (2010)*. Two military domains in the coastal area are managed by the agency for Nature and Forest (ANB) through a cooperation protocol: camp Lombardsijde and camp 't Pompje. 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*). The environmental technical management plan concerning the dunes of the military domain 'Camp Lombardsijde' has been established in *Degezelle & Hoffmann (2002)*. The ammunition depot Zedelgem-Zuid has been fully transferred by the Defence to the agency for Nature and Forest (ANB).

Legislation reference list

Table with international agreements, conventions, etc.

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

EUROPEAN LEGISLATION			
Abbreviations (if available)	Title	Year	Number
Directives			
<i>Habitats Directive</i>	Council Directive on the conservation of natural habitats and of wild fauna and flora	1992	43
<i>Water Framework Directive</i>	Directive 2000/60/EC establishing a framework for Community action in the field of water policy	2000	60
<i>Marine Strategy Framework Directive</i>	Directive 2008/56/EC establishing a framework for Community action in the field of marine environmental policy (Marine Strategy Framework Directive)	2008	56
<i>Birds Directive</i>	Directive on the conservation of wild birds	2009	147
Other (Decisions, Communications, White Papers, etc.)			
	<i>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</i>	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	File number
Laws		
Wet van 20 januari 1999	Wet ter bescherming van het mariene milieu in de zeegebieden onder de rechtsbevoegdheid van België	1999-01-20/33
Wet van 22 april 1999	Wet betreffende de exclusieve zone van België in de Noordzee	1999-04-22/47
Royal Decrees		
Besluit van de Regent van 30 maart 1946	Besluit betreffende oprichting en organisatie van de Marine	

BELGIAN AND FLEMISH LEGISLATION (continuation)		
Date	Title	File number
KB van 6 februari 2009	Koninklijk besluit tot oprichting en organisatie van het maritiem informatiekruispunt	2009-02-06/39
KB van 23 juni 2010 - oppervlaktewatertoestand	Koninklijk besluit betreffende de vaststelling van een kader voor het bereiken van een goede oppervlaktewatertoestand	2010-06-23/04
KB van 23 juni 2010 - mariene strategie	Koninklijk besluit betreffende de mariene strategie voor de Belgische zeegebieden	2010-06-23/05
KB van 20 maart 2014	Koninklijk besluit tot vaststelling van het marien ruimtelijk plan	2014-03-20/03
Ministerial Decrees		
MB van 19 april 2005	Ministerieel besluit tot vaststelling van het Rampenplan Noordzee	2005-04-19/40

