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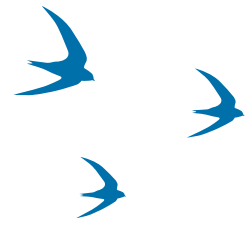
Assessment of the Maritime Spatial Plan of Belgium

Alignment of Belgium's Maritime Spatial Plan
with EU Environmental Objectives

June 2022

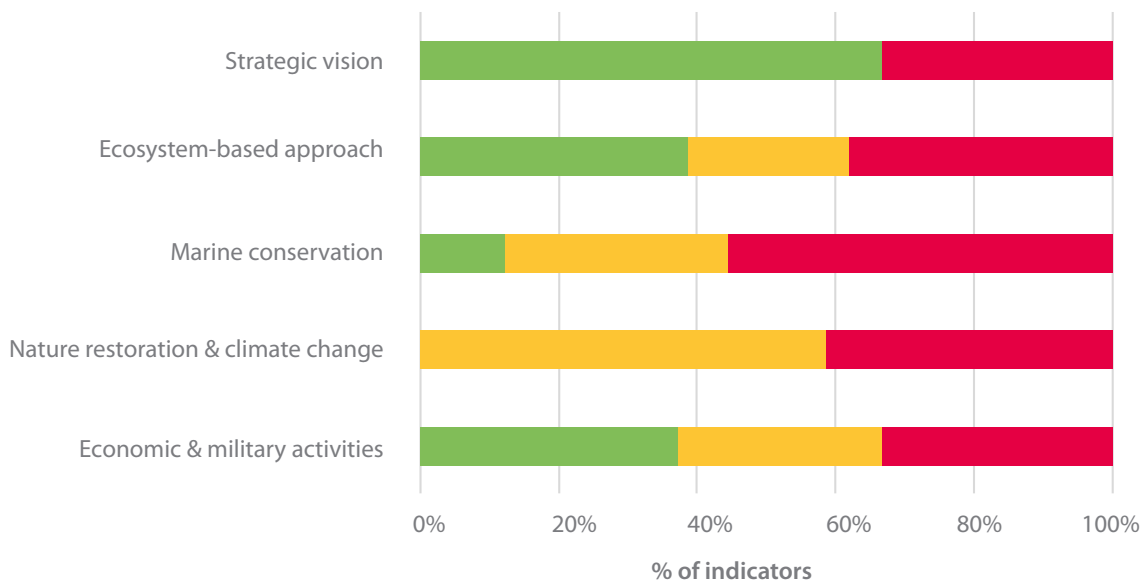





Summary of the assessment



Belgium's marine space is under very intensive use. The Belgian maritime spatial plan sets out clear objectives within a long-term perspective. It makes explicit spatial choices and provides a robust framework for decision-making at project level. The maritime spatial plan has been prepared following a thorough strategic environmental assessment which indicates that current and planned activities risk substantial adverse impact on the marine environment. The maritime spatial plan does not include sufficient measures to mitigate these impacts and protect sensitive ecosystems. Shipping, offshore wind and commercial fishing

place the most substantial impacts on the marine environment. It must be considered very unlikely that the volume and density of planned activity within these sectors is compatible with the achievement of Good Environmental Status as required under the EU Marine Strategy Framework Directive. It may be noted that proposed restrictions on fishing activity within a Natura 2000 marine protected area have not been implemented due to an apparent incompatibility with EU legislation. This serves to illustrate the implications of inherent contradictions between the objectives of EU sectoral and environmental policies and legal frameworks.



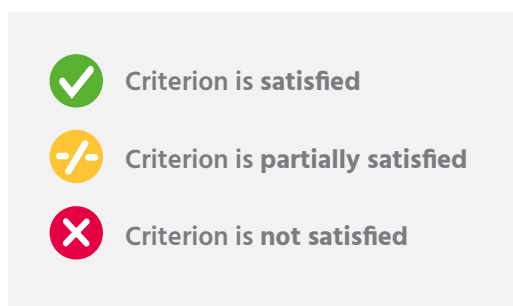
 Satisfied
  Partially satisfied
  Not satisfied

Percentage of indicators under each area of the assessment that are satisfied/partially satisfied/not satisfied by the Maritime Spatial Plan

About this assessment

This assessment of the alignment of Belgium's Maritime Spatial Plan (MSP) with EU environmental objectives was commissioned by BirdLife Europe and Central Asia (BL ECA) and conducted by Dr Cormac Walsh Research and Consulting (independent consultant). Inputs were received from national experts familiar with the MSP. The assessment follows the methodology detailed in the report *Are EU Member State's Maritime Spatial Plans fit for nature and climate? Technical Report – Approach and Main Findings*. The assessment is indicator-based with each indicator accorded a 'traffic light' score.

Scoring system



Documents¹ included in the assessment

- Royal Decree establishing the marine spatial planning for the period 2020 to 2026 in the Belgian sea-areas, July 2019 (official courtesy translation) (BE_MSP).
- **Annex 1:** Spatial analysis of sea areas (translated from the Dutch) (BE_MSP_Annex_1).
- **Annex 2:** Long-term vision, objectives and indicators, and spatial policy choices (BE_MSP_Annex_2).
- **Annex 3:** Actions to implement the marine spatial plan (translated from the Dutch) (BE_MSP_Annex_3).
- **Annex 4:** Maps.
- **Strategic Environmental Assessment of the Draft Marine Spatial Plan,** May 2018 (translated from the Dutch version) (BE_ENV).

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¹ References to these documents in the assessment include the document reference shown above in brackets followed by the page number(s).

Detailed Assessment

1. Strategic Vision

1.1 Strategic Vision & Long-term Objectives



Criterion	1.1a Does the MSP set out a future vision with long-term objectives?
Score	Assessment
	<p>Yes, the MSP sets out a future vision with strategic, long-term objectives. The development of activities in the Belgian part of the North Sea (BNS) is to be based on the following three 'core principles' against which all future activities must be assessed.</p> <ul style="list-style-type: none"> • <i>Naturalness is a basic precondition for the development of the BNS in all its dimensions;</i> • <i>The BNS will continue to provide important uses to support social welfare in the future;</i> • <i>In the future, the principle of multiple use of space will be the norm for all use of space within the BNS (BE_MSP_Annex 2, 5).</i>
Criterion	1.1b Is the time period of the plan (usually 5 or 10 years) ² positioned within a longer timeframe?
Score	Assessment
	<p>Yes, the time period of the plan is 2020-2026. The long-term vision has a time horizon of 2050:</p> <p><i>The BNS will continue to provide important utilities to support social welfare in 2050</i> <i>By 2050, the principle of multiple space use will be the norm for all space use within the BNS (BE_MSP_Annex_2, 8, 10).</i></p>
Criterion	1.1c Does the MSP allow for the future expansion of Marine Protected Areas (MPAs) to meet the targets ³ set out in the EU Biodiversity Strategy for 2030?
Score	Assessment
	<p>There is no plan to expand protected areas. However, already 36.5% of the area is under some form of protection. There are no current plans to introduce strictly protected areas.</p> <p><i>Extending marine protected areas: extending marine protected areas, beyond a solution for the Vlakte van de Raan, in the Belgian North Sea is not recommended as a large part of it (more than 33%) is already protected. The design and implementation of effective management measures is deemed to be more important and efficient (BE_MSP, 62).</i></p> <p><i>No additional marine protected areas are foreseen in the coming planning period, nor is there currently a need to adjust the delimitation of the special nature conservation area 'Flemish Banks'. However, attention is paid to the implementation of effective protection measures in these current areas (BE_MSP_Annex_2, 22).</i></p>

2. The time period of the plan refers to the period of validity (before the next revision/update is required). The longer timeframe refers to period of usually multiple decades within which the objectives of the plan may be set out. Not all plans will make reference to longer time frame.

3. Protection of 30% of the sea in the EU with at least one third of protected areas being strictly protected.


2. Ecosystem-based Approach

2.1 Precautionary Principle

Indicator	2.1a Does the MSP make explicit reference to the precautionary principle as the basis of decision-making?
Score	Assessment
	<p>It is noted that in accordance with national legislation, all users of the BNS are required to respect the precautionary principle (BE_ENV, 32). The precautionary principle receives a mention in Annex 1 as a planning principle of Belgian MSPs.</p> <p><i>The precautionary principle: preventive measures should be taken if there are reasonable grounds for concern about pollution, even if there is not yet conclusive evidence of causality</i> (BE_MSP_Annex_1, 8).</p>
Indicator	2.1b Has the precautionary principle been applied to relevant MSP provisions?
Score	Assessment
	<p>The application of the precautionary principle is not further specified. The need for a precautionary approach to reduce the risk of shipping accidents is noted within the text of the Environmental Report. In practice, this appears to be applied flexibly, as permits for economic activities are granted without a full assessment of cumulative impacts.</p> <p><i>Due to the delineation of new zones for renewable energy and zones for commercial and industrial activities, both plan alternatives involve a significant increase in risks for shipping. If one wants to achieve at least the same level of safety as the MSP for the period 2014-2020, and not endanger the realisation of the Good Environmental Status, it is essential that all necessary preventive and precautionary measures are taken to ensure safety and avoid an accident with possible resulting environmental damage</i> (BE_ENV, 160).</p> <p>It is further stated that certain activities, including wind farms, are only acceptable if necessary precautionary measures are taken to enhance safety and reduce the risk of accidents causing environmental damage (BE_ENV, 157).</p>
Indicator	2.1c Is there evidence that MSP zoning decisions and/or spatial policies have been substantially informed by the precautionary principle?
Score	Assessment
	<p>There is no direct evidence of this. The MSP does, however, include IMO⁴ designated precautionary areas, where ships are required to navigate with particular caution due to the high intensity of activities and increased risk of accidents (BE_ENV, 152). In some cases, knowledge gaps concerning potential impacts are acknowledged (e.g., cumulative impact of underwater noise from operational wind farms on harbour porpoises) but activities with unknown/unconfirmed impacts are nevertheless permitted. Zones for economic development and wind energy overlap with Natura 2000 protected areas.</p>



4. International Maritime Organisation.

2.2 Cumulative Impact Assessment



Indicator	2.2a Was a cumulative impact assessment⁵ conducted as part of the preparation of the MSP?
Score	Assessment
	<p>Yes, an assessment of cumulative impacts has been conducted. This assessment is, however, for the most part, qualitative and, in a number of cases, significant gaps in knowledge are recognised (e.g., in relation to the disturbance effect of underwater noise from all planned wind farms together (and associated pile-driving), the impact of electromagnetic fields caused by windfarm connection cables, and the impact of turbidity due to the cumulative impacts of ground-disturbing activities (BE_ENV, 123, 214, 242).</p>
Indicator	2.2b Is the MSP designed accordingly, recognizing ecological limits and cumulative impacts?
Score	Assessment
	<p>The need to respect the carrying capacity of the ecosystem is recognised in the Environmental Report:</p> <p><i>...integrated marine spatial planning seeks to maximise opportunities, include new perspectives within economic sectors and set priorities based on scientific insights while respecting the carrying capacity of the ecosystem (BE_ENV, 13).</i></p> <p>It is argued that the mapping of activities and spatial and temporal coordination measures allow for the carrying capacity of the ecosystem to be identified and respected:</p> <p><i>Spatial and temporal coordination between, and mapping of, all users allows for a transparent assessment of needs in an open, cross-sectoral manner and respects the carrying capacity of the ecosystem (BE_MSP_Annex_1, 6).</i></p> <p>There is, however, no evidence that the volume of activity permitted within the BNS lies within the carrying capacity of the marine ecosystem.</p>
Indicator	2.2c Is there evidence that MSP zoning decisions and/or spatial policies have been substantially informed by an assessment of cumulative impacts?
Score	Assessment
	<p>There is no direct evidence of this. Indeed, given the high intensity of activity in a confined space, significant cumulative and cross-sectoral synergetic impacts must be assumed.</p>

5. EU MSFD Art. 8.



2.3 Ecological Limits

Indicator	2.3a Does the MSP include an explicit calculation of ecological limits or carrying capacity?
Score	Assessment
	No, the MSP does not include explicit calculations of ecological limits.
Indicator	2.3b Is there evidence that MSP zoning decisions and/or spatial policies have been substantially informed by an assessment of ecological limits (e.g., safe biological limits for commercially exploited fish and shellfish)?
Score	Assessment
	There is no direct evidence of this.


2.4 Ecosystem Services


Indicator	2.4a Does the MSP explicitly identify ecosystem services?
Score	Assessment
	<p>Yes, the MSP explicitly identifies ecosystem services. This must, however, be regarded as a superficial assessment which is not supported by detailed mapping or identification of relevant ecosystem components. The following types of ecosystem services are identified:</p> <p><i>Services that provide a product, e.g. aquaculture, wind and wave energy, exploitation of mineral resources;</i></p> <p><i>Ancillary services, e.g., safety, transport;</i></p> <p><i>Cultural services, e.g., the presence of cultural heritage, recreational services;</i></p> <p><i>Regulating services: climate, including carbon sequestration (BE_MSP, 51).</i></p> <p>The natural state of the marine environment is defined in terms of ecosystem services: <i>The desired quality of the marine environment is defined according to the ecosystem services to be provided, including its intrinsic value. Consequently, naturalness in the future must be of a level that allows healthy economic development, without compromising current and future ecosystem services (BE_MSP, 51).</i></p>
Indicator	2.4b Is there evidence that MSP zoning decisions and/or spatial policies have been substantially informed by an assessment of ecosystem services?
Score	Assessment
	There is no direct evidence of this.

2.5 Ecosystem Sensitivity Analysis



Indicator	2.5a Does the MSP include an ecosystem sensitivity analysis, assessing in particular sensitivity to human-induced changes or influences?
Score	Assessment
	A systematic sensitivity analysis has not been conducted.
Indicator	2.5b Is there evidence that MSP zoning decisions and/or spatial policies have been substantially informed by an assessment of ecosystem sensitivity?
Score	Assessment
	<p>There are multiple references to the sensitivity of both habitats and species in the environmental report. Considerations of ecosystem sensitivity have influenced the determination of some permissible uses in conservation areas.</p> <p><i>In order to give some sensitive habitats in the special nature conservation area Flemish Banks the chance to recover and survive, the aim is to restrict the use of the most sensitive areas. These include sand and gravel extraction, dredging, recreational fishing and professional fishing (BE_MSP_Annex_2, 22).</i></p> <p><i>Professional fishing remains possible in the entire Special Area for Nature Conservation. The aim is to give some sensitive habitats the chance to recover and survive. For this purpose, three search zones have been designated (two within the habitat area of Flemish Banks, one above it) which have been chosen for their importance of the "sandbank" and "reef" habitats (BE_MSP_Annex_2, 22).</i></p> <p>The MSP includes a zoning designation for research areas focussed on the integrity of the seafloor, informed by considerations of the sensitivity of seafloor habitats to disturbance (BE_ENV, 95-6).</p>

2.6 Future Scenarios



Indicator	2.6a Have alternative future scenarios informed the preparation of the MSP?
Score	Assessment
	<p>Yes, the Environmental Report includes a comparative assessment of three alternative scenarios as follows:</p> <ul style="list-style-type: none"> • Zero Alternative: a reference scenario, describing the situation in the reference year 2020, assuming continuation of measures under the 2014-2020 MSP; • Alternative 1: draft MSP 2020-2026; <p>Alternative 2: comprising alternative options not included within the draft MSP (BE_ENV, 21).</p>

Indicator	2.6b Is there evidence that MSP zoning decisions and/or spatial policies have been substantially informed by an assessment of alternative scenarios?
Score	Assessment
	There is no direct evidence that specific zoning decisions have been informed by the assessment of alternative scenarios. At a broad level, it may be assumed that the comparison of alternative scenarios has informed the approach to zoning.

2.7. Monitoring and Adaptation

Indicator	2.7a Does the MSP make arrangements for ongoing monitoring of marine ecosystems?
Score	Assessment
	Yes, monitoring is encouraged and there are several zones for monitoring. <i>In addition, the BNS must also be a place for research, education and monitoring. The existing accessibility of the BNS for these activities should also be maintained as much as possible in the period 2020-2026. The principle that 'scientific research is allowed everywhere, barring exceptions' will be retained, including industrial research, trials in realistic conditions and demonstration projects (BE_MSP_Annex_2, 21).</i>
Indicator	2.7b Does the MSP make provision for adaptive modification of the MSP in response to identified changes in the marine environment, or new information pertaining to pressures on the marine environment?
Score	Assessment
	Provision is made for adaptive modification. This can take place either via a six or eight-yearly plan revision cycle or by ministerial order: <i>Given that the sea is a dynamic environment and spatial requirements can change rapidly, the spatial planning process must strike a balance between flexibility and stability. Monitoring and evaluation of the choices made is advised. That is why an amendment procedure is also provided by law... (BE_MSP, 43).</i>




2.8 Good Environmental Status


Indicator	2.8a Does the MSP make explicit reference to the requirements of the Marine Strategy Framework Directive (MSFD) ⁶ in relation to the achievement of Good Environmental Status (GES)?
Score	Assessment
	<p>Yes, specific reference is made to the imperative of achieving and maintaining Good Environmental Status and the role of the MSP in contributing to this objective.</p> <p><i>The MSP should contribute spatially to the achievement of:</i></p> <ul style="list-style-type: none"> • <i>Good environmental status, as defined by the Marine Strategy Framework Directive;</i> • <i>A good surface water status, as defined by the Water Framework Directive;</i> • <i>The favourable conservation status as defined by the Habitats and Birds Directives, and to compliance with the Habitats and Birds Directives regulations in general (BE_MSP_Annex_2, 18).</i> <p><i>The vision puts naturalness first as a basic boundary condition and is therefore based on the protection of the most ecologically valuable areas by defining marine protected areas with effective management measures. In these marine protected areas, it is necessary to strive for good environmental status in line with the Marine Strategy Framework Directive and to achieve the conservation objectives in line with the Habitat and Birds Directives (BE_MSP_Annex_2, 18).</i></p> <p><i>In accordance with the Marine Strategy Framework Directive (MSFD), a 'good environmental status' (GES) is aimed for the entire BNS. The relevant descriptors are D1 'Biodiversity', D4 'Food chains' and D6 'Seabed integrity' (BE_ENV, 101).</i></p>
Indicator	2.8b Does the MSP indicate how the MSFD implementation process has informed the MSP?
Score	Assessment
	<p>The MSP includes a general statement that the environmental objectives (as stated in 2.8a above) must be 'kept in mind'. Specific measures to achieve Good Environmental Status are focussed on protected areas. These measures are not further specified within the MSP:</p> <p><i>The objectives mentioned in the previous paragraph must be kept in mind in every project and human activity (BE_MSP_Annex_2, 18).</i></p> <p><i>Specific environmental measures to achieve that state are preferentially taken in the protected areas to the extent that there is a link with the conservation status of the habitats and species for which these areas are designated (BE_MSP_Annex_2, 18-9).</i></p>

6. Marine Strategy Framework Directive.


3. Marine Conservation

3.1 Location of Conservation Areas and Economic Activities




Indicator	3.1a Is the location of protected areas founded on a clear and transparent scientific rationale?
Score	Assessment
	<p>Yes, emphasis is placed on a scientifically-based delineation and objectives for protected areas:</p> <p><i>A broadly tested and scientifically substantiated delineation and description of the objectives of marine protected areas should be paramount. Only on this basis can a meaningful choice be made with regard to location, size and possible multiple use of space. This justification immediately serves to justify 'no use' marine protected areas versus marine protected areas with adapted co-use (BE_MSP_Annex_2, 18).</i></p>
Indicator	3.1b Do conservation areas explicitly exclude the following from taking place within or adjacent to their boundaries: commercial fishing; wind energy development; shipping; sand and gravel extraction; military use?
Score	Assessment
	<p>Restrictions on certain activities at specific locations are foreseen. In some cases, however, such restrictions are phrased as aims or options rather than concrete determinations. The final decision is to be made at a later stage in the process. Almost all areas of the Belgian MSP permit multiple uses in addition to nature conservation. An exception is a small area in the eastern part of the BNS that is designated for nature conservation/research of the seafloor only:</p> <p><i>In order to give some sensitive habitats in the special nature conservation area 'Flemish Banks' the chance to recover and survive, the aim is to restrict the use of the most sensitive areas. These include sand and gravel extraction, dredging, recreational fishing and professional fishing (BE_MSP_Annex_2, 22).</i></p> <p><i>Professional fishing remains possible in the entire Special Area for Nature Conservation. The aim is to give some sensitive habitats the chance to recover and survive. For this purpose, three search zones have been designated (two within the habitat area of Flemish Banks, one above it) which have been chosen for their importance of the "sandbank" and "reef" habitats (BE_MSP_Annex_2, 23).</i></p>
Indicator	3.1c Does the MSP include buffer zones to ensure sufficient distance between protected areas and wind energy zones?
Score	Assessment
	<p>There is no mention of buffer zones in the MSP.</p>

Indicator	3.1d Does the MSP provide a clear and transparent scientific rationale for the colocation (multi-use) of conservation areas and economic activities?
Score	Assessment
	<p>There is a strong emphasis placed on multi-use within the MSP. An assessment of the options for multiple use are included in relation to the planning of individual activities, such as fisheries, cabling, wind farms and aquaculture. Particularly problematic is an apparent preference for multi-use within protected areas, including Natura 200 sites. A clear, evidence-based scientific rationale for multi-use within designated protected areas is not provided.</p> <p><i>Finally, forms of multiple use of space that provide benefits for the marine environment are always sought (Annex_2, 26).</i></p> <p><i>Although wind farms are not naturally occurring ecosystems, they have a certain ecological value due to the fact that there are fewer soil disturbing activities. The potential of the renewable energy zone in terms of nature protection and ecology as a multiple use of space is therefore recognised and supported. Given the objective of reducing the eutrophication level of the BNS, aquaculture projects that can reduce the eutrophication level are being tested. These projects can make a positive contribution to achieving good environmental status (Annex_2, 23)</i></p> <p><i>When there are new functions or activities in the Belgian North Sea, it will be examined what the possibilities are for multiple use of space and working with nature, according to nature conservation or development (bio-remedying aquaculture, breeding grounds for small gulls, tern island, artificial reefs, etc.). (p.62)</i></p> <p>In the long-term multiple use of space is to be established as the default for the Belgian marine space. A distinction is made between three forms of multi-use: dynamic, semi-dynamic and static, dependent on the combination of static designations and dynamic activities.</p> <p><i>By 2050, the principle of multiple space use will be the norm for all space use within the BNS (BE_MSP_Annex_2, 10).</i></p>

3.2 Ecological Corridors

Indicator	3.2a Does the MSP provide for protected ecological corridors ⁷ ensuring connectivity between conservation areas?
Score	Assessment
	<p>There is no mention of ecological corridors.</p>


7. EU Biodiversity 2030.

Indicator	3.2b Does the MSP take explicit account of the life-cycles⁸ of mobile marine species (birds, bats, fish and marine mammals)?
Score	Assessment
	<p>There is no explicit account of life-cycles. They are however mentioned when it comes to limiting human uses of certain areas for breeding/spawning times.</p> <p><i>Depending on the conservation objectives for the nature protection area, certain restrictions can be imposed on the exploitation. These may be temporary measures depending on breeding or spawning seasons or the temporary closure of a concession zone due to too great an environmental impact (soil alteration) (BE_MSP_Annex_1, 99).</i></p> <p><i>For the species occurring in the Birds Directive areas, preservation of the present surface area and quality of the habitat is sufficient. During the breeding season (April to August), the maintenance of peace and quiet in the immediate vicinity of the breeding colony is essential for the preservation of the habitat.) (BE_MSP_Annex_1, 45).</i></p> <p><i>The BNS has a number of rich fishing grounds with a great diversity of fish species. The BNS functions as a nursery and spawning area for various fish species. As a nursery zone, the BNS is important for species such as mackerel, cod, sprat, sole or plaice. As a spawning area, the BNS is important for sole, plaice, sprat, sand eels, lemon sole, herring, cod and whiting (BE_MSP_Annex_1, 33).</i></p>
Indicator	3.2c Are migratory routes for birds protected by the provisions of the MSP⁹?
Score	Assessment
	<p>Specific areas and routes are mentioned as important for migratory birds. Other uses are, however, generally permitted in these areas. There is no specific protection for migratory routes for birds within the MSP. Research in this area is currently in progress.</p> <p><i>For seabirds, the shallow western coastal banks are particularly important. Among other things, they serve as a wintering place for various seabirds. The western part of the BNS (Kustbanken, Flemish Banks) is protected as a habitat directive area - and (partly) as a Birds Directive area and Ramsar area (BE_MSP_Annex_1, 34).</i></p>
Indicator	3.2d Does the MSP make provisions to minimise the disruption or fragmentation of ecological corridors due to the following activities: shipping; sand and gravel extraction; seismic exploration; offshore wind (and related servicing infrastructure)?
Score	Assessment
	<p>There is no mention of ecological corridors. Given the intensity of current and planned activity in the BNS, disruption of ecological connectivity is to be expected.</p>

8. E.g. reference to breeding grounds.

9. AEWA Art. 2.1, Annex 3.2.4, CMS Art. 1.

3.3 Protected Species



Indicator	3.3a Does the MSP include explicit measures to ensure the protection of species in accordance with EU legislation and international commitments?
Score	Assessment
	<p>The following are listed as internationally important seabird species: Red-throated diver, grebe, great black-backed gull, lesser, black-backed gull, Caspian tern, common tern and little tern. For four species a special protection area (SPA) has been designated under the Birds Directive (sandwich tern, common tern, grebe and little gull) (BE_MSP_Annex_1, 33). These species are found near the coast. Measures are in place to ensure 'peace and quiet in the immediate vicinity of the breeding colony of birds nesting close to the port of Zeebrugge (BE_MSP_Annex_1, 45).</p> <p>Reference is made to the ASCOBANS management plan for the protection of harbour porpoises. While it is recognised that windfarm construction may impact adversely on harbour porpoise populations, it is noted that wind farms may also lead to a localised increase in biodiversity and that studies show that harbour porpoises are not negatively impacted by wind farms during their operation (BE_MSP_Annex_1, 32, 39). Specific measures for other species are not found within the MSP text.</p>





Northern gannet (*Morus bassanus*)
Photo: Yves Adams

4. Nature Restoration and Climate Change




4.1 Nature Restoration

Indicator	4.1a Does the MSP make specific provisions for the restoration of ecosystems ¹⁰ ?
Score	Assessment
	<p>It is noted that all users of Belgian marine space are legally obliged to undertake restoration measures. These provisions are, however, limited to the application of the mitigation hierarchy and do not allow for more general restoration of the marine environment and achievement of GES:</p> <p><i>The law of 20 January 1999 on the protection of the marine environment and the organisation of marine spatial planning in sea areas under Belgian jurisdiction ... stipulates several principles that the users of Belgian marine waters must respect. These include the... restoration principle: in the event of damage or disruption to the environment, the marine environment should be restored to its original state as far as possible (BE_MSP_Annex_1, 8-9).</i></p> <p>Ecosystem restoration features as a core element of the future vision for the BNS: <i>Actions related to the preservation and restoration of the desired naturalness in the BNS take many forms... (including)... passive or active restoration of lost natural habitats (e.g. reefs of European oyster) because they have lost or minimised ecosystem services. A return to the days when there was no human impact is obviously not feasible (BE_MSP_Annex_2, 7-8).</i></p> <p>The MSP does not include further specific provisions for ecosystem restoration.</p>
Indicator	4.1b Does the MSP explicitly take account of the likely impacts of climate change on the marine ecosystem?
Score	Assessment
	<p>Climate change and disturbances in marine ecosystems must be taken into account to increase variability (and further changes in the biosphere). In order to deal with these changes appropriately, our knowledge needs to be further valorised (BE_MSP_Annex_2, 9).</p> <p>Specific likely impacts of climate change are identified. These include impacts on sea level, water temperature, fish population, wind, wave height, storm frequency and acidification (BE_MSP_Annex_1, 133).</p>

10. EU Biodiversity 2030.

Indicator	4.1c Does the MSP include specific measures to mitigate the impacts of climate change on the marine ecosystem and allow for adaptation (e.g., migration of species)?
Score	Assessment
	<p>Yes, specific measures are included, aimed at reducing climate change impacts and contributing to achieving carbon neutrality. The MSP does not include measures to support ecosystem adaptation and resilience in the face of climate change impacts.</p> <p><i>The MSP contributes to the fight against climate change by:</i></p> <ul style="list-style-type: none"> • <i>The climate impact of zoning and the conditions for activities are evaluated at both planning and project levels;</i> • <i>At a minimum, climate neutrality is pursued at both project and plan levels;</i> • <i>If two or more projects compete to occupy a particular zone, climate impact is an important decision criterion (BE_MSP_Annex_2, 19).</i>
Indicator	4.1d Does the MSP identify suitable areas for compensation, or does it have relevant provisions to support the implementation of compensation measures in the marine environment (e.g., for infrastructure projects on land or at sea)?
Score	Assessment
	The MSP does not contain such provisions.

4.2 Climate Change Mitigation

Indicator	4.2a Does the MSP make reference to the role of marine ecosystems as carbon sinks¹¹?
Score	Assessment
	<p>There is limited mention of the role of ecosystems as carbon sinks. Indeed, some permitted activities are expected to have an adverse impact on seabed carbon sinks (e.g., bottom trawling).</p> <p><i>Ecosystem services can be structured as follows: ... Regulatory services: climate, including carbon uptake (BE_MSP_Annex_2, 9).</i></p>
Criterion	4.2b Does the MSP quantify the contribution of marine carbon sinks to climate mitigation?
Score	Assessment
	No.
Criterion	4.2c Does the MSP include explicit measures to safeguard the contribution of marine carbon sinks?
Score	Assessment
	No. Measures to mitigate seabed disturbance are, however, planned.



5. Economic and Military Activities

5.1 Shipping


Indicator	5.1a Does the MSP include specific measures to ensure marine ecosystems are not negatively impacted by shipping activity?
Score	Assessment
	Yes, the MSP includes an assessment of the risks posed to marine ecosystems by shipping activity. Measures include alignment of shipping routes and monitoring and regulations to reduce the risk of oil and chemical discharge (detailed below).
Indicator	5.1b Does the MSP include an assessment of the potential risks posed by shipping accidents (e.g., spillages of hazardous substances) to marine ecosystems?
Score	Assessment
	<p>Yes, due to the high density of shipping activity in the BNS, the risk of oil pollution is considered to be quite high, both from deliberate and accidental oil spillages (BE_MSP_Annex_1, 37). Existing regulations (including MARPOL¹² designation) are found to have reduced the number and volume of discharges. The risks posed by oil and chemical pollution are assessed.</p> <p><i>Various chemicals used to prevent algal blooms on the hulls of ships can be released into the sea as a result of shipping. Operational spills are also a potential threat. Discharges include oil spills, chemicals used to flush the holds, fuel residue spills, etc. Accidental oil pollution is also a major threat, especially to seabirds and beach fauna and flora. Finally, some shipping may cause disturbance to fauna (BE_MSP_Annex_1, 76).</i></p>
Indicator	5.1c Does the MSP include explicit measures to mitigate the risks posed by shipping accidents to marine ecosystems?
Score	Assessment
	The risk of head-on collisions between ships is at certain locations (off Noordhinder) considered to be particularly high. This risk is expected to increase with the installation of wind turbines due to a reduction in visibility. A traffic separation scheme will serve to mitigate this risk, with incoming and outgoing traffic taking different routes. IMO precautionary areas have been adapted at Westhinder and at Gootebank. In these areas, ships are required to take additional precautions. In addition, some shipping traffic is subject to mandatory pilotage (BE_MSP_Annex_1, 69).
Indicator	5.1d Does the MSP include seasonal restrictions on shipping, such as speed restrictions or re-routing (e.g., during the breeding season of protected and vulnerable species)?
Score	Assessment
	No.

12. The International Convention for the Prevention of Pollution from Ships.


5.2 Commercial Fishing

Indicator	5.2a Does the MSP include restrictions on commercial fishing methods (e.g., bottom-trawling) to minimise damage to marine ecosystems?
Score	Assessment
	<p>Restrictions on fishing gear are considered necessary in the Flemish Banks Natura 2000 protected area. Approval for most of these measures have, however, not been granted to date.</p> <p><i>In certain zones in the habitat directive area of the Flemish Banks, fishing gear that has an impact on the seabed should be prohibited or subject to conditions (beam trawl, otter net, seine, pair trawling). However, approval for these measures has not been obtained within the framework of European legislation. Consequently, these measures have not entered into force (BE_MSP_Annex_1, 85).</i></p>
Criterion	5.2b Does the MSP include additional restrictions on commercial fishing activity (e.g., vessel size, seasonal constraints) to minimise damage to protected and vulnerable ecosystems and habitats and to achieve healthy populations of commercial fish species?
Score	Assessment
	<p>Yes, there are restrictions on trawler size within the 0-12 nautical mile zone:</p> <p><i>In the zone between 0 and 12 NM, there is a restriction for beam trawlers and only fishing vessels with a maximum power of 300 hp are allowed (small fleet segment). In the zone between 3 and 12 NM vessels with a gross tonnage of more than 70 GT Euro cutters) are allowed, provided that their maximum power does not exceed 300 hp (BE_MSP_Annex_1, 82).</i></p> <p>It is not clear that these restrictions are sufficient to ensure minimal damage to protected and vulnerable ecosystems and to achieve healthy populations of commercial fish species.</p>

5.3 Extractive Activities




Indicator	5.3a Does the MSP include restrictions on extractive activities (e.g., oil, gas, deep-sea mining, sediment extraction) to minimise damage to protected and vulnerable ecosystems and habitats?
Score	Assessment
	<p>Yes, the extraction of sand and gravel is restricted and carefully monitored. Concessions (with a specified maximum volume) are granted by the relevant ministry (BE_MS_Annex_1, 91). Permits for sand extraction, however, continue to be granted in Natura 2000 areas.</p> <p>Oil and gas extraction does not occur within the BNS.</p>

5.4 Military activity

Indicator	5.4a Does the MSP include restrictions on military activities (e.g., seasonal, time of day, noise restrictions) to minimise damage to protected and vulnerable ecosystems and habitats?
Score	Assessment
	<p>There are no concrete restrictions on military activities. Some measures are in place or advised to reduce the impact of military activity on the marine environment.</p> <p><i>... the restrictions that normally apply in marine protected areas or marine reserves do not automatically apply to military activities. However, military personnel are expected to take all necessary measures to avoid damage or nuisance to the marine environment (BE_MSP_Annex_1, 105).</i></p> <p><i>Other exercises involving explosions/shooting also disturb marine animals and birds. However, the impact is minimised by using pingers to scare away fauna during exercises or to detonate ammunition underwater. The ammunition that ends up on the seabed during exercises is not cleared away. This can have a possible negative effect on the local ecosystem because of the danger of copper and lead leaching from the ammunition. The effect of this leaching may be smaller than that caused by other activities, but it can nevertheless have a local impact (BE_MSP_Annex_1, 105).</i></p>



5.5 Noise and Light Pollution

Indicator	5.5a Does the MSP include an assessment of the impacts of noise pollution on the marine ecosystem?
Score	Assessment
	<p>Yes, the environmental report includes a detailed assessment of underwater ambient and impulsive noise attributed to various human activities (BE_ENV, 60ff). Certain activities such as military exercises, wind farm construction and fishing are found to impact adversely on species sensitive to disturbance such as harbour porpoises and some species of seabirds (BE_MSP_1, 39, 59, 86). The impact of noise pollution caused by shipping is mentioned briefly in the environmental report. Shipping noise is a contributor to ambient underwater noise levels (BE_ENV, 60).</p> <p>With regard to the impacts of wind farm construction, acute physical effects on marine mammals in Natura 2000 sites are not expected, assuming specific conditions are strictly adhered to:</p> <p><i>No acute physical effects are expected on marine mammals in Belgian waters and in the Dutch, French and UK Natura 2000 sites, provided that specific conditions are strictly observed to avoid direct exposure to very high noise levels. In addition, care should be taken that simultaneous pile-driving activities at various wind farms do not make too large an area unsuitable for marine mammals. Chronic effects on the distribution and behaviour of harbour porpoises due to cumulative noise from operational wind farms constitute a knowledge gap (BE_ENV, 10).</i></p>
Indicator	5.5b Does the MSP include specific and concrete measures to ensure that noise pollution is minimised?
Score	Assessment
	No. Technical measures are currently under consideration.
Indicator	5.5c Does the MSP include specific measures to minimise the impact of light pollution (e.g., from shipping and harbour activities)?
Score	Assessment
	No.

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