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Marine Protected Areas and Maritime Spatial Planning in the North Sea

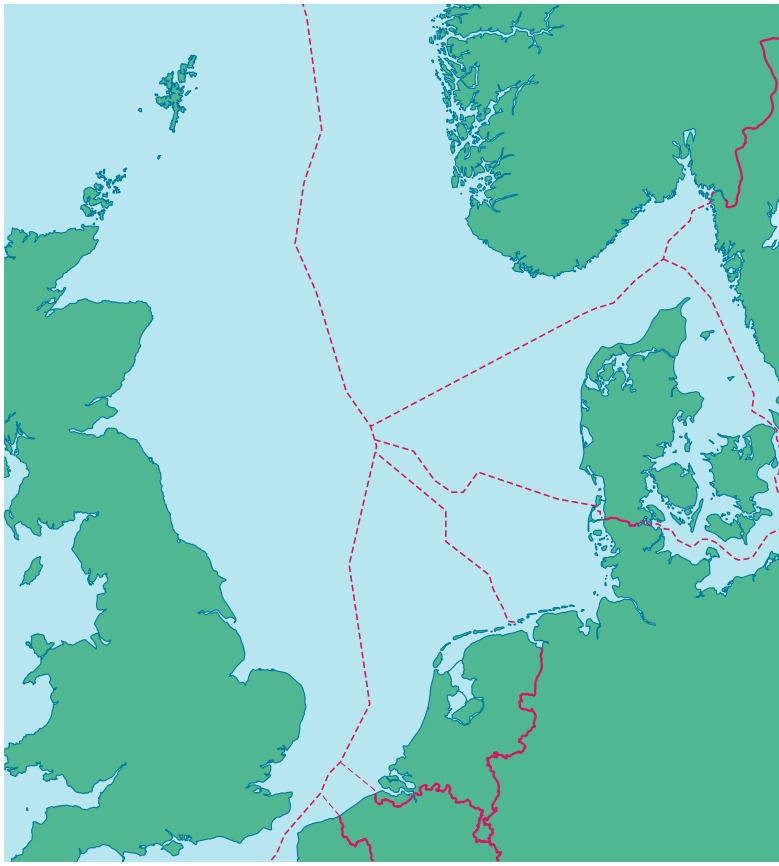
National approaches and implications for effective protection

North Sea Alliance

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The North Sea with its shallow waters and strong winds hosts Europe's largest offshore wind capacity. However, it is also one of the most overexploited seas under severe pressure from oil and gas drilling, intensive shipping, pollution, dredging, military exercises, unsustainable coastal developments, and destructive fishing practices. These have caused severe biodiversity loss and ecosystem degradation, which are aggravated by climate change. A rapid transition to green energy is essential and offshore wind energy is central to achieving climate neutrality but increases the cumulative impacts on North Sea ecosystems. To achieve both climate and biodiversity goals, we need to harmonise offshore wind development with nature protection and restoration.



1. Introduction

While Marine Protected Areas (MPAs) are an integral part of Maritime Spatial Planning (MSP) in the North Sea, they are legally and functionally distinct tools. MPAs designate areas for conservation objectives, while MSP allocates maritime space among competing uses, including offshore wind and nature restoration and protection. To balance the two, we need (a) MPAs that offer effective protection and (b) designation and management of MPAs integrated into processes for ecosystem-based MSP.

MPAs are a central component of the marine biodiversity policy of the European Union (EU), providing a spatial framework for the conservation of designated species, habitats, and, in some cases, ecological processes. While the spatial coverage of MPAs has increased significantly in recent years (more than tripled between 2012 and 2023, reaching 13.7% in European seas[1]), concerns remain about the level of protection they provide. Under the EU Biodiversity Strategy adopted in 2020, Member States committed to protect at least 30% of EU seas and to ensure at least 10% are strictly protected by 2030, but the implementation is lagging. Moreover, under the EU Nature Restoration Regulation, restoration measures need to be put in place in 20% of EU seas by 2030. As of 2022, only 0.2% of EU waters were fully or highly protected, and 86% of the area of MPAs showed low protection levels or incompatibility with conservation.[2] Protection efforts are hindered by a lack of shared definitions of "protection" and "strict protection". Moreover, there are inconsistencies in how MPA conservation objectives are integrated into national MSP processes.[3] In this context, integration means more than representing MPAs as spatial layers on a map but requires that MPA objectives influence decisions on the siting, permitting, mitigation measures and management of other maritime uses.

2. The EU MPA and MSP policy frameworks for the North Sea

In the EU, MPAs are primarily designated under the *Birds and Habitats Directive (BHD)* for specific habitats or species and constitute the Natura 2000 network, but the level of protection depends on site-specific conservation objectives and management measures.[4] Member States can designate additional national MPAs independent of the species and habitat lists of the Natura 2000 network. MPAs are also required and shaped by the *Marine Strategy Framework Directive (MSFD)*, which mandates that Member States implement spatial protection measures and create a "coherent and representative network" of MPAs to achieve or maintain Good Environmental Status (GES) by 2020. In practice, GES has not been reached, there is no network of MPAs yet and not enough strictly protected areas.[5]

Under the EU Biodiversity Strategy for 2030, "strict protection" remains a policy concept, not an explicit legal category. According to a technical guidance issued by the European Commission in 2022, strictly protected areas are designated to conserve or restore ecological integrity, and natural processes are left essentially undisturbed by human pressures and threats. Active management may sustain or enhance natural processes.[6] However, this definition is not legally binding and does not definitely exclude harmful activities.

Under the *EU Maritime Spatial Planning Directive (MSPD)*, MSP is intended to support the sustainable growth of maritime economies, sustainable development of marine areas, and sustainable use of marine resources. It should apply an ecosystem-based approach and keep cumulative pressures compatible with GES to balance the spatial needs of offshore energy, maritime transport, fisheries, aquaculture, and nature conservation. In practice, ecosystem-based MSP is not yet implemented sufficiently, which the North Sea Alliance addresses in a dedicated publication, including definitions, guiding principles and policy recommendations to further strengthen marine protection on the North Sea basin level.

North Sea Alliance view on a definition of "strictly protected MPA"

All North Sea Alliance partners have definitions for "strictly protected MPA" (see page 10). All these definitions have the following elements in common:

- Strictly protected marine areas should safeguard and enable the recovery of marine biodiversity and ecosystems by allowing natural processes to remain essentially undisturbed.
- All extractive and habitat-damaging activities must be excluded or effectively prevented.
- Human activities should be limited to measures that directly serve the protection, restoration or management of the ecosystem, including appropriate scientific research and monitoring, and should be compatible with the ecological requirements of the respective area.
- Nationally legally binding measures are adapted to the national context.



3. Country snapshots

Denmark

MPA coverage and level of protection

According to the Danish Marine Spatial Plan from 2023 ("*Havplansaftalen*"), 31.7% of the Danish marine area is formally designated as MPAs and 6% are designated as strictly protected. The latter is set to increase to 8% in 2028 and 10% in 2030. However, many of the MPAs are in "residual" marine areas with limited economic interest and with marine nature values of little significance. Their effectiveness is further compromised by the range of activities taking place in Danish MPAs, including bottom-trawling and offshore wind parks. Only oil and gas extraction is banned. Strictly protected areas still allow sailing (including buoys and other demarcation), sand dredging in shipping lanes, hunting, recreational angling, spearfishing, nature restoration and research, deployment and maintenance of cables and pipelines, surveys in relation to marine archaeology, swimming and anchoring,[7] even though several of these activities are extractive and/or can have direct negative impacts on marine species and habitats. Although around 31.7% of Denmark's marine waters are officially protected, The Ocean Institute estimates that only 8.3% benefit from effective protection measures.[8] According to the Biodiversity Council, even only 1.9% are effectively protected, especially considering mobile demersal fisheries.[9]

Integration of MPA conservation objectives into MSP processes

Denmark adopted a legally binding Marine Spatial Plan in 2021 ("*Havplansaftalen*"), covering territorial waters and the EEZ. The plan must be revisited and updated at least every 10 years and was last adjusted in 2023 to include development zones for renewable energy. In this adjustment process it was also agreed to establish 30% protected areas and 10% strictly protected areas by 2030.

Germany

MPA coverage and level of protection

Germany has designated three national MPAs, covering approximately 28% of its North Sea Exclusive Economic Zone (EEZ). Together with the MPAs in the territorial waters, 45% of the German North Sea is designated as protected. However, in the MPAs in the EEZ (or in parts thereof) a range of human activities are generally allowed and take place, including commercial fishing (including bottom-trawling, pelagic fishing, gillnets), recreational fishing and military activities. In addition, some activities are not allowed by default, but may take place after a review, such as sand and gravel extraction and pipelines and cables are crossing the MPAs. There is one offshore wind park ("*Buitendiek*") inside the MPAs, but it predates the designation of the

MPA. Oil and gas extraction is still allowed in MPAs in the EEZ, but a new law currently under discussion would ban oil and gas extraction in MPAs (even though exemptions will be possible). Aquaculture and carbon storage are explicitly forbidden. Germany has not yet designated any strictly protected areas. There is a no-take zone excluding all forms of fishing on the Amrum Bank within the MPA "Sylter Außenriff – Eastern German Bight". However, this area amounts to less than 1% of the German North Sea EEZ. Although Germany has reached the 30×30 goal in terms of numbers, effective protection to restore and protect its ecosystems within these areas as well as implementation of strict protection is still lacking.

Integration of MPA conservation objectives into MSP processes

Germany's current MSP for the German EEZ in the North Sea and Baltic Sea entered into force in 2021, following the first plan adopted in 2009. (The territorial zone up to 12 nautical miles is subject to different governance regimes and planning rules, which are under the mandate of the federal states.) The plan designates the MPAs in the EEZ as priority areas for nature conservation. However, multiple harmful human activities are overlapping with MPAs and the MSP does not sufficiently consider the value of protected areas overall. The next revision of the German MSP therefore needs to better integrate MPA conservation objectives into spatial planning and ensure that other uses are compatible with achieving those objectives; however, the revision is currently pending due to the forthcoming EU Ocean Act and associated developments at EU level.

The Netherlands

MPA coverage and level of protection

In the Netherlands, approximately 30% of Dutch marine waters are designated as MPAs, either under the EU Birds and Habitats Directives or under the MSFD. The latter includes specific oyster restoration zones, for example in a no-fisheries zone in the Frisian Front. In practice, almost all human activities are still taking place in the majority of the MPAs. Harmful activities such as bottom trawling and shipping generally remain allowed unless a site-specific conservation measure explicitly restricts them. Offshore wind farms, cables and pipelines, sand extraction, and oil and gas are likewise not automatically excluded from protected areas but may be permitted under the Nature Conservation Act. 13.8% of the Dutch North Sea has been closed to bottom-disturbing fishing under the North Sea Agreement ("*Noordzeeakkoord*", of which 7.2% is currently enforced and an additional 6.6% is currently under review on EU level), by 2030 this is set to increase to 15%. Even within these areas closed to bottom-disturbing fishing, other damaging activities such as gas extraction, seismic surveys, and explosive clearances can be permitted. The North Sea Agreement contains an additional goal to close 2.8% of the Dutch EEZ located in the Frisian Front to all types of fisheries (creating a no fisheries zone) by 2030. In total, less than 1% of Dutch waters are strictly protected, with no current proposals to expand strict protection further.

Integration of MPA conservation objectives into MSP processes

The Dutch MSP is implemented through the North Sea Programme 2022–2027 integrating nature protection, offshore wind, shipping and resource use. The programme for 2028-2033 is currently being drafted. MPA conservation objectives are structurally integrated into the Netherlands' MSP through this Programme. The designated Natura 2000 and MSFD-protected seabed areas are marked directly onto the programme's spatial development strategy map alongside shipping routes, wind-energy zones, sand-extraction reservations and cable/pipeline corridors, giving conservation areas explicit standing in the overall zoning of sea space. Integration operates through several mechanisms: (1) the "ecosystem" policy track commits to preserving and protecting all designated Natura 2000/MSFD areas and requires that any new spatial claim be tested against the preconditions of the marine ecosystem before space is allocated; (2) an explicit numerical target of 15% of the Dutch EEZ closed to seabed-disturbing fishing by 2030 is embedded as a spatial-planning goal, to be met specifically within existing and future Natura 2000/MSFD areas; (3) area-specific conservation objectives are translated into binding management plans that regulate which activities, including which fishing methods, may co-occur in a protected area; and (4) the general licensing/

assessment framework used for every new activity on the North Sea contains a mandatory Natura 2000 assessment so that conservation objectives act as a filter on all subsequent spatial allocation decisions.

However, what is incomplete is whether the Programme actually delivers the conservation outcomes it aims for: the programme itself acknowledges that good environmental status for several elements has not yet been achieved, that management plans for some areas (e.g. Brown Ridge, Frisian Front) still need to be drawn up or adapted during 2022-2027, and that cumulative-effects insight across multiple closed areas and multiple sectors remains a knowledge gap. Furthermore, the Programme doesn't assign any spatial claims specifically for nature restoration, assuming the current protection regimes and spatial claims are enough for future restoration projects under the Nature Restoration Law.

Belgium

MPA coverage and level of protection

Approximately 37.8% of Belgian marine waters are designated as MPAs under the EU Birds and Habitats Directives. Despite high coverage, almost all human activities still take place in the Belgian MPAs, including bottom trawling, shipping, sand extraction, military use and aquaculture. The Princess Elisabeth zone for offshore energy partly overlaps with the Habitat Directive area "*Vlaamse Banken*". However, approximately 6.4% of the Belgian part of the North Sea is designated as three strictly protected areas ("marine reserves") in the third Belgian Marine Spatial Plan for 2026-2034. Only activities for safety, protective measures, shipping and monitoring are allowed within the marine reserves, according to the Law on the Protection of the Marine Environment and the Organisation of Marine Spatial Planning in Belgian Maritime Areas.[10] Currently, bottom-trawling is still taking place in the marine reserves, but there is an ongoing process to set aside approximately 9.8% of the Belgian marine waters in seafloor integrity areas, under the Common Fisheries Policy Article 11 procedure. If adopted, these would encompass the marine reserves. Although Belgium has reached the 30×30 goal in terms of numbers, effective protection within these areas as well as implementation of strict protection is still lacking to effectively protect threatened species and habitats.

Integration of MPA conservation objectives into MSP processes

Belgium operates one of the most compact but detailed MSPs in Europe, legally binding through Royal Decrees and regularly updated every eight years. Belgium's current MSP for the Belgian EEZ in the North Sea entered into force on 20 March 2026, following the first plan adopted in 2014, and the second in 2020. The plan designates the MPAs as priority areas for nature conservation under the EU Birds and Habitats Directives, but the MSP still allows multiple harmful human activities to overlap with the MPAs. The next revision of the Belgian MSP would therefore need to clearly consider the value of MPAs and marine reserves by better integrating their conservation objectives, designate marine reserves as priority areas for nature protection and restoration, and ensure that other uses are compatible with achieving those objectives.



Country	Denmark[10]		Germany[11]	Netherlands[12]	Belgium[13]	
Coverage of North Sea MPAs						
Official MPA coverage	31.7%		45%	28%	37.8%	
Strictly protected	6%		0%	<1%	0% (will increase to 6.4%)	
Activities allowed in MPAs						
activities	*protected areas*	*strictly protected areas*	*protected areas*	*protected areas*	*protected areas*	*strictly protected areas*
shipping	yes	yes	yes	yes	yes	yes
recreational fishing	yes	yes	partially	yes	yes	no
pelagic fishing	yes	no	yes *(only small exception)*	yes	yes	no
bottom-trawling	yes	no	partially	partially	yes	yes *(ban in progress)*
passive fishing	yes	no	partially	yes	yes	no
aquaculture	yes	no	no	yes *(currently only nearshore)*	yes	no
sand and gravel extraction	yes	no	yes	yes	yes	no
oil and gas extraction	no	no	yes *(ban in progress)*	yes	no	no
oil/ gas pipelines	yes	yes	yes	yes	yes	yes *(no new ones)*
telecommunication cables	yes	yes	yes	yes	yes	yes *(no new ones)*
offshore wind farms	yes	no	no *(one legacy OWF, exemption possible)*	no	yes	no
wind energy cables	yes	yes	yes	yes	yes	no
carbon storage	not yet *(permit in process)*	no	no	no *(only pipelines)*	no	no
military activities	yes	yes	yes	yes	yes	yes
dredged material disposal	yes *(but requires a permit and the process is strict)*	no	no	partially	yes	yes
anchorage	yes *(based on an assessment of vulnerable habitats)*	yes	yes	yes	yes	no
water sports (sailing, surfing, etc.)	yes *(but can be regulated)*	yes	yes	yes	yes	yes

Table 1. Coverage of North Sea MPAs and activities allowed in MPAs.



4. Recommendations for effective protection

Currently the gap between official designations and effective protection remains substantial. To ensure that protected area targets are not only reached on paper, but that they translate into effective protection, the North Sea Alliance recommends to:

1. Internationally agree on the urge for **legally binding strictly protected MPAs** that definitively exclude all extractive, destructive or habitat-damaging activities.

2. Fully use the **opportunities of MSP processes** by (1) considering the conservation demands and effects of MPAs, (2) treating nature protection and restoration as baseline priorities, and (3) moving beyond specific activity bans by defining a standalone legal category for strictly protected marine areas.

3. Allocate the necessary resources for **monitoring, inspection and enforcement**. Set clear legal conditions for socio-economic activities in the vicinity of MPAs through designated maps used by the maritime stakeholders, efficient monitoring systems (cameras, drones, etc.), control processes and legal procedures to pursue and investigate, prosecute and sanction infringement.

4. In the **implementation of the EU Nature Restoration Regulation**, give due importance to passive restoration in the form of strictly protected areas. Active restoration should only be implemented where passive restoration alone is not sufficient for marine ecosystems to recover in the medium-term. By removing harmful human pressures, ecosystems can recover naturally at a lower cost and higher scale than through active technical interventions.

5. In the **upcoming Ocean Act**, establish legally binding objectives and timebound and measurable targets (with thresholds) for 2030, 2040 and 2050, including for the achievement of the effective protection of at least 30% of EU seas and at least 10% under strict protection and for the restoration of ecosystems.

Organisational definitions of strict protection

The following definitions outline the participating organisations' individual perspectives on strict protection:

Deutsche Umwelthilfe (DUH)

In strictly protected marine protected areas, all extractive, destructive and disturbing activities must be excluded or effectively prevented. The only exceptions should be measures that directly serve the protection or restoration of the ecosystem, including necessary scientific monitoring. Protection measures must be specific, effective and tailored to the ecological requirements of the respective area. When selecting areas for strict protection, particular emphasis should be placed on areas with very high biodiversity value or potential.

In concrete terms, from DUH's perspective, this means that activities including commercial and recreational fishing, aquaculture, resource extraction, CO_2 storage, offshore infrastructure incompatible with the conservation objectives, disruptive shipping, military activities, the dumping of dredged material, as well as recreational and water sports activities causing significant disturbance, must be excluded from strictly protected marine protected areas. Only in this way can natural processes remain essentially undisturbed and protection measures have a preventive effect.[15]

World Wide Fund for Nature (WWF) – Internal definition (for all offices)

WWF understands that the primary objective of strictly protected areas should be the protection and recovery of marine biodiversity, building resilience and reversing ecological deterioration, including passive restoration of ecosystems and their functions. Strict protection must exclude all extractive and habitat damaging activities. Human activities are limited to conservation purposes and equitable management measures, including appropriate and careful scientific research as strictly protected areas may play a role as valuable scientific reference sites, to find solutions compatible with the ecological needs of the site while recognising the needs and rights of indigenous peoples and local communities (IPLCs) ensuring their inclusive participation in their design and management.

Seas At Risk (SAR) – Internal definition

All extractive, destructive and disturbing activities are forbidden, except as needed for the conservation and restoration of the ecosystem including scientific monitoring.

North Sea Foundation (NSF)

NSF does not currently have its own definition of strict protection and supports the use of the Seas At Risk (SAR) definition for the purposes of this publication.

Endnotes and References

1 European Environment Agency (2025). *Marine Protected Areas in Europe's Seas* (https://www.eea.europa.eu/en/analysis/indicators/marine-protected-areas-in-europes-seas). Last accessed 26 October 2026.

2 Aminian-Biquet et al. (2024). *Over 80% of the European Union's Marine Protected Area Only Marginally Regulates Human Activities*. One Earth, *7(9), 1614–1629 (*https://doi.org/10.1016/j.oneear.2024.07.010).

3 Calado et al. (2027). *Marine Protected Areas and Maritime Spatial Planning Integration Dynamics across Europe*. Marine Policy, *195, Article 107272 (*https://doi.org/10.1016/j.marpol.2026.107272).

4 The United Kingdom and Norway are not EU Member States and are therefore subject to different national and international policy frameworks, including the OSPAR Convention.

5 European Court of Auditors (2026). *Marine Protected Areas – Designation Alone Is Insufficient for Meaningful Protection. Special Report 25/2026* (https://www.eca.europa.eu/en/publications/SR-2026-25).

6 European Commission (2022). *Criteria and Guidance for Protected Areas Designations*. Commission Staff Working Document, SWD(2022) 23 final (https://environment.ec.europa.eu/system/files/2022-01/SWD_guidance_protected_areas.pdf).

7 Danish Ministry of the Environment (2024). *Designation of Protected Marine Strategy Areas – Addendum to the Programme of Measures for Denmark's Marine Strategy II* (https://mim.dk/media/4l0ijb1f/udpegning-af-beskyttede-havstrategiomraader-tillaeg-til-indsatsprogrammet-for-danmarks-havstrategi-II_.pdf).

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10 Belgian Federal Public Service Health, Food Chain Safety and Environment (2022). *Law on the Protection of the Marine Environment and the Organisation of Marine Spatial Planning in Belgian Maritime Areas* (https://etaamb.openjustice.be/nl/wet-van-11-december-2022_n2022034447.html).

11 **Denmark:** Strict protection is governed by the *Agreement on Denmark's Marine Spatial Plan*. Danish Government (2023) (https://www.em.dk/Media/638259808269191809/aftaletekst-danmarks-havplan.pdf).

12 **Germany:** The listed activities permitted in MPAs refer exclusively to the German exclusive economic zone (EEZ). See Federal Agency for Nature Conservation (BfN) (2020), *MPA Management Plans* (https://www.bfn.de/managementplaene); European Commission (2023), *Commission Delegated Regulation (EU) 2023/340* (https://eur-lex.europa.eu/eli/reg_del/2023/340/oj/eng); Germany (2025), *Carbon Dioxide Storage and Transport Act* (https://www.gesetze-im-internet.de/kspg/); and Federal Ministry for the Environment (2025), *Draft Law on Resource Extraction in MPAs* (https://www.bundesumweltministerium.de/gesetz/referentenentwurf-zum-gesetz-zur-einschraenkung-der-aufsuchung-und-gewinnung-von-bodenschaetzen-in-den-geschuetzten-meeresgebieten-im-bereich-der-deutschen-ausschliesslichen-wirtschaftszone-und-des-festlandsockels).

13 **Netherlands:** For permitted activities in individual MPAs, see Rijkswaterstaat (n.d.), *Natura 2000 Site Management Plans* (https://www.rwsnatura2000.nl/gebieden/default.aspx). Last accessed 26 October 2026.

14 **Belgium:** Strict protection is governed by a combination of the *Marine Environment and Spatial Planning Act*, Law of 11 December 2022 (https://etaamb.openjustice.be/nl/wet-van-11-december-2022_n2022034447.html), and the *Belgian Marine Spatial Plan 2026-2034*, Belgian Federal Government (https://www.health.belgium.be/nl/themas/leefmilieu/marien-milieu/marien-ruimtelijk-plan). Last accessed 26 October 2026.

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