1. Non-technical summary

Introduction

Environmental assessment is a process designed to take environmental impacts into account in the development of a project or program plan, right from the early stages of consideration. It serves to enlighten both the project owner and the administration on the definition of the project or plan, with regard to environmental issues and those relating to human health in the area concerned, as well as to inform and facilitate public participation. It must report on the potential or proven effects of the project, plan or program on the environment, and analyze and justify the choices made with regard to the issues identified in the area concerned.

Plans and programs are referred to as Strategic Environmental Assessments (SEAs). Maritime spatial planning (MSP) documents are systematically subject to this process, in accordance with article R.122-17 of the French Environment Code. The preparation and implementation of this document are carried out under the authority of the coordinating prefects, the maritime prefect of the East Channel North Sea area and prefect of the region Normandie. At national level, the planning process is overseen by the ministries responsible for the sea, the environment and energy.

This report describes the environmental assessment process carried out to update the strategic section of the East Channel North Sea Strategic Plan for the third implementation cycle of the Marine Strategy Framework Directive, in accordance with article R.122-20 of the French Environment Code. In particular, it covers issues linked to offshore wind power planning, as the mapping of priority areas. Offshore wind planning has been integrated into the strategic document by law n°2023-175 of March 10, 2023 relating to the acceleration of renewable energy production.

This report was produced by the government departments in charge of drawing up the plan (national services in charge of marine spatial planning, marine ecosystems, offshore wind development, along with local states services), with the support of external service providers: the EPICES and Biotope consortia, and the CREOCEAN consultancy firm for elements specific offshore wind power.

It should be noted that the updating of the MSP document, like its preparation, is carried out in two stages - the strategic section and then the operational section. This report concerns only the update of the strategic section adopted in 2019. The operational component adopted in 2022 remains unchanged at this stage. **In the remainder of this report, we will therefore refer to the MSP document's strategic section.**

This assessment benefits from the feedback of the French Environmental Authority on both parts of the first MSP documents.

Methodological choices and their limits

The SEA took place from April to December 2024. The SEA was structured around three main methodological choices:

a) **Continuity with SEA of the previous MSP document**
As the strategic section update is not a complete overhaul, the methodology is largely consistent with that of previous assessments, particularly the first exercise.

b) **Particular attention to the development of marine renewable energies, especially from**

offshore wind power

As the planning of offshore wind power development is the most significant evolution of the strategic section, particularly in terms of environmental impact, it has been the subject of specific assessment work anddevelopments in this report.

c) Taking into account the preliminary framework of Environmental Authority

At the request of the project owner, this SEA was subject of a preliminary review by the Environmental Authority (EA)[1].

However, the very fact that the environmental assessment in this case concerns a planning document implies limits inherent to this type of plans or programs. The uncertainties concerning, on the one hand, the assessment of the good ecological status of many environmental issues, and on the other hand, the precise knowledge of the pressures applied on the marine environment by numerous human activities. The various impacts can be counted and compared according to various criteria, but in no case can they be measured in terms of magnitude in relation to each other. The impact of the planning document will therefore depend on the implementation of planned projects and activities, for which the information available is limited. This last limitation explains in particular the difficulties encountered in fully applying the mitigation hierarchy and in precisely defining compensation measures on the scale of the strategic section.

Brief presentation of the SFM and the context in which it was developed

With its maritime and coastal areas, France boasts a remarkable natural heritage and significant potential for socio-economic development. The sea and coasts are subject to multiple uses, as well as pressures climate change, land-based pollution and the impact of human activities. In order to guarantee the good environmental status (GES) of the marine environment while enabling the economic and social development of the sea and coast, a first national strategy was adopted in February 2017 for 6 years (2017-2023). This first National Sea and Coastline Strategy (SNML) was revised in 2023, and the SNML 2024-2030 was adopted by decree on June 10, 2024.

The **National Sea and Coastline Strategy** provides a reference framework for public policies concerning the sea and coast. The SNML thus embodies the maritime pillar of ecological planning, and is thus articulated with other national strategies, notably the national port strategy, the national biodiversity strategy, the national low-carbon strategy, the multi-year energy program and the national coastline strategy.

The National Sea and Coastline Strategy 2024-2030 sets four **main priorities for the period**:

— Carbon neutrality: to help achieve carbon neutrality by 2050, the accelerated deployment of offshore wind power, with a target of 45 GW installed by 2050, is combined with the decarbonization of ports and ship fleets and the preservation of blue carbon ecosystems;

[1] Avis délibéré de l'Autorité environnementale pour le cadrage préalable de l'évaluation environnementale stratégique des stratégies de façades maritimes intégrant le développement de l'éolien en mer - Avis délibéré n° 2024-039 adopté lors de la séance du 13 juin 2024.

— Biodiversity: drawing on knowledge and innovation, the SNML promotes the preservation of maritime and coastal ecosystems in mainland France and the French overseas territories, in particular through the deployment of highly protected areas ;

— Equity: action must contribute to the short- and long-term well-being of the populations, employees and players in the maritime and coastal areas of France and its overseas territories, in particular by rethinking the tourism and economic attractiveness of coastal areas;

— Economy: innovation and training are mobilized to strengthen the competitiveness of our sustainable blue economy and the sovereignty of France in mainland France and the French overseas territories.

The MSP documents are the territorial declination of this national strategy.

France has chosen to use these documents to meet its obligations transpose two European framework directives:

- **The Marine Strategy Framework Directive** (Directive 2008/56 of June 17, 2008) aims to maintain or achieve good environmental status in the marine environment. Accordingly, member states are required to draw up marine strategies, to be reviewed every six years.

- **The Maritime Spatial Planning Framework directive** (Directive 2014/89 of July 23, 2014), which establishes a framework for maritime planning and requires member states to ensure coordination of the various activities at sea. Plans have thus been drawn up that identify the spatial and temporal distribution of relevant, existing and future activities and uses in their marine waters.

As such, they include maritime spatial planning elements and the marine environment action plan. From a formal point of view, the Environment Code (articles R219-1-7 to R219-1-14) stipulates that these documents comprise four parts:

- the existing situation, the challenges and a vision for the future of the East Channel North Sea area (part 1) ;

- the definition of strategic targets from an economic, social and environmental point of view, and associated indicators; these are accompanied a vocation map that defines coherent zones within maritime areas with regard to the general challenges and targets assigned to them (part 2);

- procedures assessing the implementation of the MSP document (part 3);

- the action plan (part 4).

Parts 1 and 2 of the MSP document constitute the **strategic section**. The latter was drawn up in 2018 and was the subject of an initial strategic environmental assessment. Following subsequent consultations, this strategic section was officially adopted on September 25, 2019. **This SEA concerns the update of this first strategy, initiated in 2023.**

The updating of the strategic section was the subject of a **public debate**, organized between November 2023 and April 2024, mutualized with offshore wind planning. Various events (public meetings, workshops, various initiatives, visits, mobile debates and webinars) were organized by the French National Commission for Public Debate. On the East Channel North Sea area, these included 3 public meetings in major towns along the coastline, 11 mobile debates and 5 workshops on the proposals arising from the public debate. An online participatory platform was also set up, more than 1,000 textual contributions (for all mainland maritime regions combined).

The minutes and balance sheet of the public debate, published by the French National Commission for Public Debate on June 26, 2024, summarized the public's contributions and included requests for clarification and recommendations to the project owner (the French government and French TSO). On October 18, 2024, the ministerial decision of October 17, 2024 was published following the public debate on the updating of the MSP documents and the mapping of priority maritime and land areas for offshore wind power[2], as well as the project owners' report on the lessons learned from the public debate[3].

Linking the MSP document's strategic section with other plans and programs along the coast

An analysis is proposed to meet the challenges of coordination with other plans and programs along the coast, based on their "functional" nature (the programs pursue targets that are partly common), or their "structuring" nature (compatibility/consideration required by law), or their scale (national, regional or basin- wide).

Given the **interactions between land and sea**, watersheds and land areas have an influence on maritime and coastal areas, particularly through water quality or obstacles to land/sea connectivity. The proper coordination of MSP document with land-based planning documents that have an impact on the sea and coastline, in particular water development and management master plans, regional sustainable development and territorial equality plans, territorial coherence plans and local town planning schemes .

Main elements of the update and justification of the choices made

The report examines the changes envisaged when the strategic section is updated, and explains :

— reasonable alternative solutions to meet the purpose of the plan, scheme, program or planning document within its territorial scope. The advantages and disadvantages of each alternative are indicated;

— the reasons for the draft plan, scheme, program or development document.
planning has been selected with particular regard to protection targets.

The main changes from the previous cycle are as follows:

(a) **the introduction of offshore wind power planning** to meet France's commitments, with a national target of 45 GW commissioned by 2050, with view to achieving carbon neutrality by that date. The priority areas identified in MEMN are aimed at the installation of 4

[2] Online access to the decision: https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000050362918

[3] Access to report at online : www.eoliennesenmer.fr/sites/eoliennesenmer/files/inline-https://files/Rapport%20MO_sep2024-A4-10_17.pdf

GW of new projects by 2035 and 2 to 3 GW by 2040. These areas are with additional zones for 2050. (see below)

(b) strengthening the protection of marine ecosystems through the development of **highly protected areas planned for each maritime region**. In view of the combined effect of the numerous pressures exerted on a particularly constrained area (maritime traffic, fishing, tourism, offshore wind , etc.) and the objective of achieving good ecological status (GES) for marine waters, the target of 1% of the waters of the Eastern Channel North Sea maritime region covered by highly protected areas by 2027 has been included in the National Sea and Coastline Strategy and in the National Biodiversity Strategy.

(c) **an updated vision for the maritime region**, with a 2050 horizon instead of 2030 for the former strategic section. The vision has been strengthened in terms of biodiversity (integration t trajectory for highly protection areas development (ZPF)) and offshore wind power development.

(d) **updating of the assessment of the initial status of** marine waters, to evaluate whether or not good ecological status has been achieved for each ecological issue.

(e) the **updating of environmental targets** in order to make more operational those adopted in the previous cycle that still lacked monitoring indicators or had indicators that had not been evaluated, and to adjust the wording of certain targets or indicators to improve their readability. Some targets have been created to take account of changes in certain public policies (for example, the setting of a target for the development of highly protected areas).

(f) **updating the socio-economic targets** to reflect the targets of the national strategy 2024-2030 and following the work carried out on the façade (changes in context and issues), and also taking into account the actions of the MSP document action plan (2022), which provide specific responses to certain issues.

(g) **updating of vocation maps** which identify coherent zones within the maritime region and provide spatial reference points for the strategies .

The report considers various alternative scenarios to updating the strategy : no update, no articulation between maritime planning and offshore wind planning, or with the development of high protection. The focus is on the reasonable alternative options discussed for offshore wind power.

The reasons for updating the socio-economic and environmental targets are also presented.

The first strategy identified 15 strategic targets, broken down into 52 environmental targets (based on 77 indicators) and 49 socio-economic targets (119 indicators, of which only a third had been calculated during the first cycle). The Regional maritime council collectively discussed the updating of the socio-economic targets, to make them easier to read, while the consultation on the indicators took place in writing procedure, on the basis of the indicators developed at national level.

<u>Offshore wind power development</u>

The rapid reduction of greenhouse gas emissions, in line with France's international and European commitments, is at the heart of mitigating climate change, which is now a major threat to all ecosystems.

The national strategy 2024-2030 identifies carbon neutrality as one of four priorities, and places the development of offshore wind power as a pillar of the decarbonization of energy in France. Objective 13 sets national targets of 18 GW commissioned by 2035 and 45 GW of generating capacity by 2050. In order to achieve this target, the updated maritime façade strategy introduces offshore wind power planning for two horizons:

- **A map of priority areas in which offshore wind farm projects can be awarded within 10 years** of its adoption;

- **A map of priority areas by 2050**, which will be refined and revised after an in-depth study**.** new public participation process, which should take place within the ten years**.**

Alternative scenarios to the development of these additional offshore wind power capacities be installed by 2050 (to meet our needs for decarbonized electricity and achieve our climate objectives of lower greenhouse gas emissions) reduce or even eliminate the effects of these installations on the marine environment, but make the decarbonization of the French energy mix highly uncertain. The environmental report studies alternative options (no development of other means of production, or development of other renewable or nuclear means of production).

For the East Channel North Sea area, four sectors have been selected (see map below):

- **Fécamp Grand Large (FGL) - A 10-year priority zone**, part of the AO10 competitive bidding process (France's 10th offshore wind farm tender) for a total of 4 GW.
- **Roches Douvres (RD) - 10-year priority zone**, concerned by the AO11 competitive bidding procedure(s). The project(s) will be the subject of specific consultations involving the maritime authorities of the East Channel-North Sea and North Atlantic-West Channel seaboards, as well as the Conférence Régionale pour la Mer et le Littoral de Bretagne. Total installed capacity may not exceed 3 GW in Roches Douvres.
- **Albâtre Grand Large (AGL) - An area that can be developed subject to further studies**, changes in existing uses and continued local consultation with stakeholders.
- **Picard Opale (PO) - Valuable area subject to further studies** and continued local consultation with stakeholders.

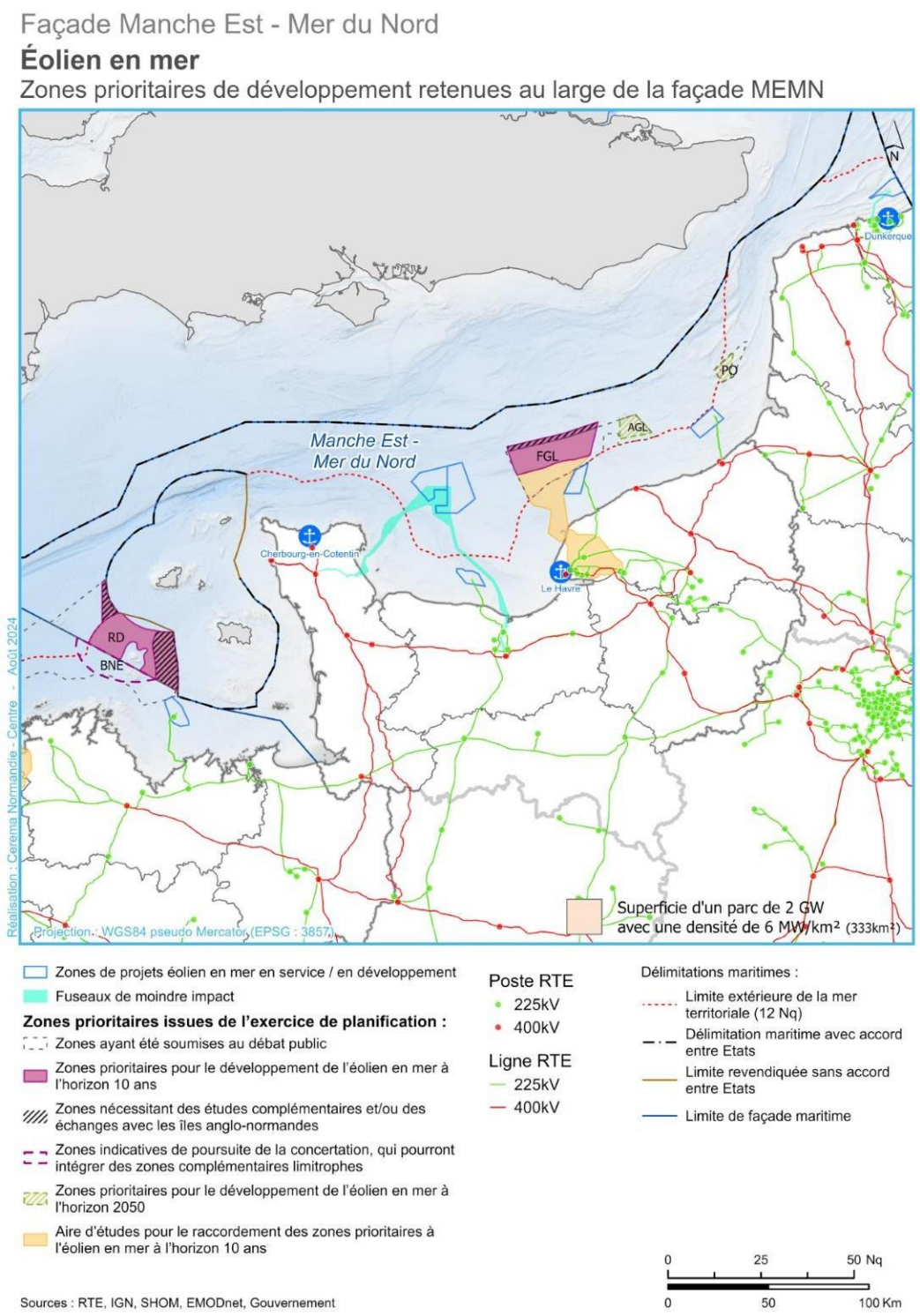

Figure 1 - Priority development zones off the East Channel and North Sea area.

Initial state of environment

The MSP document implements the marine strategy framework directive and, as such, directly targets the maintenance or achievement of good ecological status in marine waters. To this end, the "marine environment" section includes an initial state of the environment and targets dedicated to achieving good ecological status.

However, the notion of "environmental issue" as defined in the SEAs is broader than the notion of "ecological issue" defined by the MSFD and based on "descriptors" of the good ecological status of marine waters, to cover landscapes, GHG emissions, air quality and risks. This report takes up the structure of the issues established during the SEAs of the first MSP document, with a few changes to take into account (1) the requests for greater detail expressed by the Environmental Authority in its opinions on the previous SEAs, and (2) new elements contributing to the establishment of this inventory (in the descriptor sheets in particular). The result is a list of 19 issues to be taken into account, divided into three categories (see table below).

Category issues	Acron.	Environmental issues	Correspondence with MSFD descriptors	Characteristic elements
Issues related to the components of the marine environment	HB	Benthic habitats	D1	Quality of major biogenic habitat types, rocky, sedimentary, humid
	HP	Pelagic habitats	D1	Deep-sea habitats, food webs
	MT	Mammals and turtles	D1	Species distribution and abundance: home ranges of sedentary bottlenose dolphin groups, seal colonies, feeding areas, other species cetaceans, sea turtles
	OM	Seabirds	D1	Species distribution and abundance: nesting, feeding areas, colonies, wintering sites for seabirds and coastal birds, areas of maximum density, functional areas, birds migrants
	PC	Fish and cephalopods	D1	Species distribution and abundance: functional halieutic zones (spawning grounds, nurseries), localized populations (benthic invertebrates, elasmobranchs), areas of concentration and abundance. amphihaline fish migration
	EC	Commercial species	D3	Stock status of commercially exploited fish, crustacean and mollusc species
Pressures on the marine environment	ENI	Non-native species	D2	Non-native species that are invasive or disrupt ecosystems
	Eut	Eutrophication	D5	Human-induced eutrophication
	Int	Integrity of funds	D6	Disturbance and physical loss of the seabed
	Hyd	Hydrographic changes	D7	Hydrographic conditions
	Cont	Contaminants	D8	Chemical contaminants in the environment
	Qs	Health issues	D9	Chemical or microbiological contaminants in seafood products intended for human consumption human consumption
	From	Waste	D10	Quantity of waste and micro-waste floating, on the shore, on the seabed, ingested
	Br	Noise	D11	Level of noise disturbance by impulsive or continuous man-made noise
Other environmental issues	Pay	Land and underwater Landscapes	Not concerned	Elements of coastal landscapes (lighthouses, classifications) and underwater landscapes
	GHG	GHG emissions	Not concerned	GHG emissions

	Air	Air quality	Not concerned	Air pollutants
	Ris	Natural and human hazards	Not concerned	Climatic, natural and industrial risks
	Co	Knowledge	Not concerned	Production of knowledge about environments, species and socio-economic activities

For each of these issues, the report presents: (1) a summary of their main characteristics on the sea and coastline, (2) a summary of their current status, based on scientific productions integrated into the strategic section, (3) a spatial analysis of the deviation from good status or the level of issue on the scale of the vocation zones.

The graph below summarizes the analysis carried out on the good environmental status deviation or the level of challenge[4].

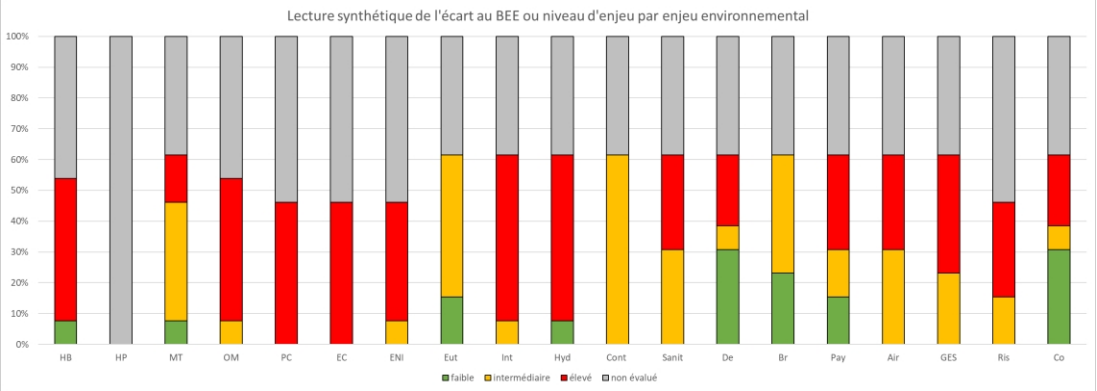

Figure 2 - Summary of deviation from good ecological status (GES) or level of challenge by environmental challenge.
Percentages are relative to the number of vocation zones (i.e. 8). For example: for benthic habitats, the deviation from GES is high for around 50% of the zones.

Changing pressures and activities

The interactions between activities and the marine environment are manifold. Indeed, activities can generate pressures on the marine environment (environmental modifications, pollution, overexploitation, climate change, non-indigenous species, etc.) and lead to impacts on species and habitats.

Matrixes are proposed in the report to cross-reference the pressures generated by the marine environment and the potential impacts generated.

A summary of recent trends in activities and pressures over the last cycle is shown below. proposed in the report.

A number of key findings stand out:

— The most important activities on the sea and coastline **have shown varied recent development trends**, with some declining (professional and leisure fishing) and others increasing (materials extraction, shipbuilding, energy production, submarine cables).

— Of the 17 activities studied, trends remain the same for 11 activities and change for 4 others (2 activities are new). **Pressure** from agriculture and aquaculture appears to **easing**, while pressure from seaside activities, coastal tourism and offshore defense/intervention **is increasing**.

— The reliability of these trend estimates is highly dependent on the availability of indicators for the entire maritime region.

Impact analysis

At the strategic stage, the impacts identified remain "potential" insofar as the actual impacts depend, in particular, on the measures taken as part of the MSP document actions to achieve socio-economic and environmental targets.

On the one hand, potential negative impacts are likely to be reduced by implementing the mitigation hierarchy as part of these measures. On the other hand, the environmental benefits expected from certain environmental targets will also depend on how they are implemented.

A) potential impact of environmental targets

It appears that changes in environmental targets are likely to generate 350 potential impacts on the 19 environmental issues.

By their very nature, environmental targets aim to improve the ecological status of the marine environment. However, while two- thirds (around 63%) of the impacts are considered positive, one-third (37%) are currently considered conservatively neutral.

This is due to the fact that some targets are based on compliance with existing regulations or the absence of any increase in anthropogenic pressures compared with their current level, or include indicators that have yet to be defined. Reinforcing the drive to improve ecological status will require improved knowledge and coordination with other planning processes (inland surface waters planning, in particular).

B) potential impact of strategic socio-economic targets

An update of the impacts of the current socio-economic targets was carried out, by (1) analyzing the consequences of any changes in the titles and indicators on their impacts; (2) analyzing the consistency of impacts with the activities/issues cross-referencing matrixs; (3) integrating the impact assessment of socio-economic-related actions analyzed during the SEA of the operational component of the first MSP document (2021); (4) assessing the impacts of the new socio-economic targets.

The specific socio-economic targets of the East Channel North Sea area are likely to generate some 430 potential impacts. The vast majority of socio-economic targets are likely to have a positive or neutral impact (around 75%), with the remainder likely to have a negative impact. However, the latter conclusion needs to be qualified, as actual impacts will depend on the precise conditions of implementation of the socio-economic targets and application of the mitigation hierarchy.

The issues most affected by these impacts are contamination (34 impacts), seabed integrity (31 impacts), benthic habitats and seabirds (28 impacts) and fish and cephalopods (27 impacts), i.e. two from the second group (issues related to pressures on the marine environment) and three from the first group (issues related to components of the marine environment). The other issues come next, with waste (26 incidences), landscape and atmospheric pollutants (25 incidences), marine mammals and turtles (23 incidences), commercial and non- indigenous species (22 incidences), hydrographic changes and pelagic habitats (21 incidences), noise, knowledge and risks (20 incidences). The issues least affected by impacts are GHG emissions (18 impacts), eutrophication (13 impacts) and health issues (10 impacts).

C) potential impact of the vocation map

By organizing the various uses of the marine environment spatially, the vocation map itself has an impact on the environment. The distribution of marine protected areas and activities is designed to minimize negative environmental impacts and optimize positive measures. An analysis of cumulative pressure levels on the various environmental issues was carried out in each sector of the vocation map.

For each sector, activity levels (aquaculture, MREs, maritime transport, etc.) were cross-referenced with issue (environmental, pressure, other issues), in current and future situations, to identify a pressure level. There are limits to this exercice, linked to the availability and accuracy of information on activities, particularly in the future.

The summary of this analysis for all sectors of the vocations map, with regard to the current and future situation, is presented in the report.

It shows a high level of cumulative pressure from socio-economic activities across all sectors. Differences are apparent in terms of environmental issues, which are mostly high in sector 4 "Baie de Seine", sector 1 "Caps et détroit du Pas-de-Calais" and, to a lesser extent, sectors 2 ("Estuaires picards et mer d'Opale"), 7 ("Ouest Cotentin - Baie du Mont-Saint-Michel"), 6 ("Nord Cotentin") and 5 ("Large baie de Seine"). For the two remaining sectors (sector 3 "Côte d'Albâtre et ses ouverts" and sector 8 "Mer Celtique et Manche Ouest"), the issues are broadly divided between high and intermediate issues. Pressure levels are unlikely to change in the future.

D) Focus on offshore wind power

The development of offshore wind power makes a major contribution to mitigating climate change by producing low-carbon electricity. Combined with energy sobriety and efficiency, the decarbonized electrification to which wind power contributes will eliminate the need for carbon-based fossil fuels (oil, gas), with view to achieving carbon neutrality by 2050.

It should be noted that the availability of carbon-free electricity will enable the production of carbon-free fuels (ammonia, hydrogen, etc.) that can be used by the various ship fleets, or their electrification, thus reducing greenhouse gases and atmospheric pollutants from these fleets.

This contribution underpins the offshore wind power development targets set out in the National Sea and Coastline strategy 2024-2030. However, this development must be carried out under conditions that minimize local negative impacts on the marine environment.

An analysis of the expected environmental impact of offshore wind farms is proposed for each development phase (construction, operation, decommissioning) for the entire maritime region, and in particular for the most sensitive areas: benthic habitats, marine avifauna, marine mammals, fish and mega-invertebrates.

THE ANTICIPATED EFFECTS OF THE CONSTRUCTION PHASE WILL MAINLY AFFECT :

- Benthic populations and functional zones for fish populations, directly impacted by modifications to the seabed;
- Marine mammals are sensitive to the noise generated by construction work and the risk of collision with ships.

Priority is therefore given to locating developments outside high-risk areas and reducing noise pollution.

THE ANTICIPATED EFFECTS OF OPERATION MAINLY AFFECT :

- Birds, with the risk of collision, loss habitat and obstacles to movement.

Avoidance/reduction are therefore focused in particular on the location of the parks away from the main functional areas for the most sensitive bird species.

E) potential impact on Natura 2000 areas

Of the 8 zones on the coast's vocation map, all include Natura 2000 areas (18 Special Protection Areas and 30 Special Areas of Conservation, 10 of which are strictly marine (see map below).

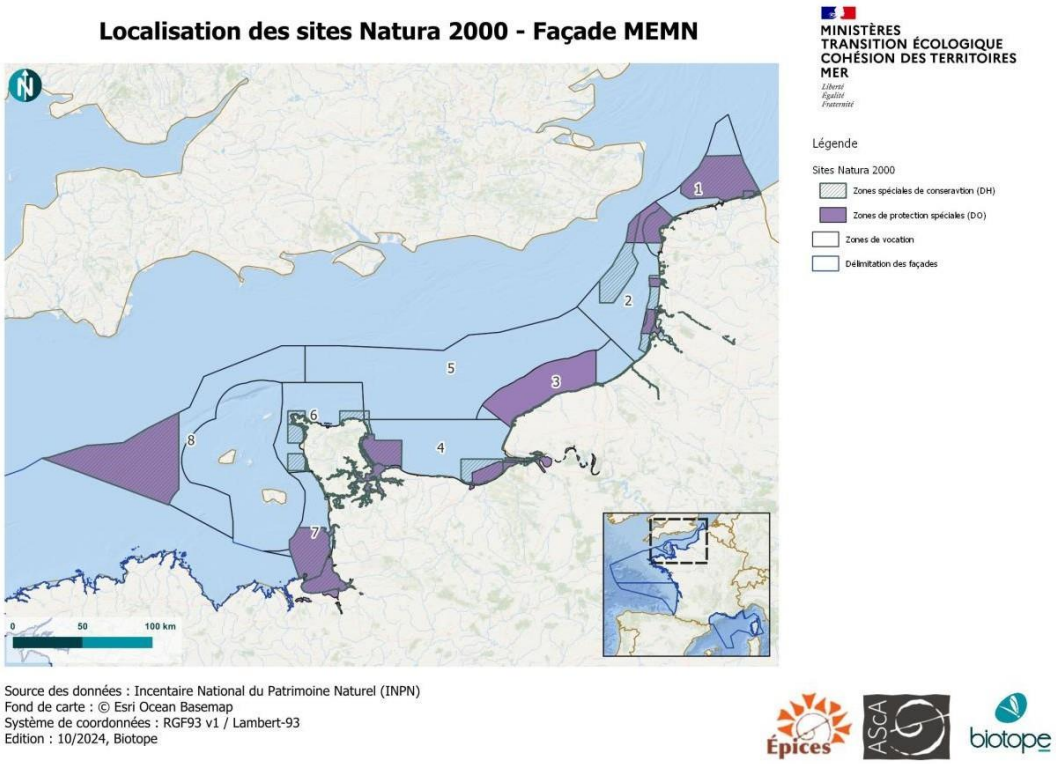

Figure 3 - Location of Natura 2000 sites within the 8 vocation zones of the East Channel North Sea area.

On the East Channel North Sea area, the overall analysis of impacts on habitats and species of community interest justifying the designation of a Natura 2000 area shows that :

- The strategic section sets targets for improving practices in all socio-economic activities. A clear majority of the targets have been assessed as likely to have a positive impact on the various stakeholder groups of community interest. While certain targets are specifically aimed at restoring certain ecosystems (salt meadows, coastal wetlands), all actions aimed at reducing pressure contribute to the passive restoration of ecosystems, by reducing pressure.

- Very few of the targets have been assessed as likely to have a direct negative impact on habitats and species of community interest, although all the environmental issues groups are concerned. Among the activities concerned by negative impacts, only aquaculture, offshore wind power and aggregate extraction are subject to development via the designation of new potentially exploitable areas, while the other impacts concern already existing activities. The impact assessment of offshore wind farm projects on the maritime region, and the evaluation of any Natura 2000 impacts, will be able to assess the compatibility of each project with the conservation objectives of Natura 2000 sites, and the mitigation measures to be implemented. At the scale of the strategic section of the planning document, these measures involve avoiding as far as possible the areas most frequented by species of community interest.

Two targets have an uncertain and potentially negative impact, linked to the development of tourism, which could result in habitat destruction or degradation, and species disturbance. The MSP document plays an important role in overseeing these new activities to limit their impact on the environment, notably through environmental targets and vocation maps. Several socio-economic targets also incorporate an environmental dimension, and should limit the negative impact of these activities. The strategic MSP document targets limiting the degradation of marine, coastal and wetland benthic habitats, reducing pollution and waste, reducing the accidental capture of marine mammals and seabirds, and limiting the risk of collisions and disturbance to marine megafauna during work at sea or induced by various activities. In addition, many socio-economic targets are involved in 4 major cross-cutting themes related to the indirect reduction of pressures through climate change adaptation or mitigation, sober consumption (energy, water and land), the land-sea link, essential to the proper functioning of ecosystems, and the reduction of $_{CO2}$ emissions. Accordingly, the updated strategic section should not significantly affect the habitats and species of community interest. However, particular attention will need to be paid to ensuring that targets are properly taken into account during project development.

Additional measures have already been or will be implemented to limit the negative impact of socio-economic activities on the environment. This is the case, for example, with professional fishing, for which a "fishing risk" analysis (impact assessment under the Nature directives) has been set up within the specific framework of establishing the guidance document of each Natura 2000 site. In the case of offshore wind farms and marine aggregate extraction, the impact and mitigation measures proposed will enable specific consideration to be given to the issues = in each area affected by these activities. Projects likely to affect Natura 2000 sites must specify their impact and the mitigation measures implemented on these sites in a Natura 2000 impact assessment. This assessment must ensure that the activity does not harm the conservation objectives of the species and/or habitats that led to the designation of the site concerned.

Finally, the impact analysis highlighted a point of attention concerning amphihaline fish of community interest: the environmental targets seem sufficient to limit the negative impacts of existing and planned socio-economic activities, but in view of their state of conservation, they are not sufficient to limit the negative impacts of existing and planned socio-economic activities.

Given that the conservation status is reduced overall, attention is needed to improve the status of most special areas of conservation. In this context, the analysis also highlighted the importance of planning special protection areas within Natura 2000 sites, and in particular the importance of choosing which areas to prioritize.

Analysis of mitigation measures taken to avoid, reduce or offset impacts

Impact avoidance and reduction are often difficult to distinguish in practice. Avoidance is understood as a geographical avoidance, which avoids all impacts on a given target. If not all impacts on a target are avoided, the term reduction is used.

Avoidance is achieved in MSP document's strategic section by the spatial planning of different human activities in the vocations map. An example of this is the choice to locate wind power development in certain maritime zones, away from major environmental issues. Priority areas for wind power development are also located outside the study sectors for high protection.

Another form avoidance lies in the choice of technologies associated with the development of socio-economic activities.

Then, at the level of the projects linked to each activity, additional avoidance or reduction choices can be made according to the context and the impact assessment.

It should be pointed out that, by its very nature, the strategic sectionis intended to include mitigation measures to avoid and reduce the pressures exerted on the marine environment. Indeed, insofar as the DSF must enable the maintenance or achievement of good environmental status in the marine environment, this ambition must be reflected in the strategic section, notably via environmental and socio-economic targets, as well as in spatial planning choices.

For the East Channel North Sea area, the planning choices have been specified in Appendix 9 of the strategic section for the following subjects: **offshore wind farms**, **highly protected areas, aquaculture and marine aggregate extraction**, in line with logic of avoidance. This stage has enabled us to :

— identify the areas of least environmental concern or sensitivity, while taking into account the technical and economic constraints on the development of activities, in order reconcile the environment and socio-economic activities;

— for offshore wind power, to plan the implementation of projects, in particular installed capacity and the start of construction work, in order to reconcile the various uses underway, while taking into account economic, technical and logistical issues, as well as the avoidance of the most significant environmental challenges.

- for highly protected areas, identify the areas of greatest biological diversity to be given priority in the consultation process.

On the East Channel North Sea area, an in-depth revision of the socio-economic targets has been carried out. Some of these new or revised present potentially positive impacts on certain environmental issues that may be negatively impacted (or uncertainly impacted) by other targets. As such, the inclusion of these new socio-economic targets in the revised strategic section of the planning document can be seen as a step towards reducing the potentially negative or uncertain impact of other targets.

The strategic section does not include any direct action to compensate for the impact of planning, but it does "anticipate and territorialize the compensation process, and prescribe conditions for subsequent projects[5]", to guide project developers towards degraded sites to invest in.

The precise mitigation measures required to limit the impact of offshore wind farm projects will be defined at the end of the impact assessment. The report presents the existing mitigation measures for these projects, as well as certain requirements imposed on future projects through tender specifications. Measures for monitoring the impact of projects and the effectiveness of mitigation measures will also be defined at the end of the impact assessment.

Indicators for monitoring potential impacts

An assessment of the environmental targets was carried out, with regard to the goals set for the indicators associated with the environmental targets in the previous version of the MSP document. It was found to be impossible to assess most of them. A project was launched to operationalize the indicators that could not be monitored and evaluated:

— for the majority of them, to keep them as they are[6] as soon as they can be made operational (implementation of a protocol, designation of a service responsible of the monitoring, data banking, etc.);

— for a number of them,, to retain them despite certain existing reservations the possibility of making them operational (but with prospects deemed sufficient to justify maintaining them): funding not yet secured, data provision arrangements to be specified, monitoring arrangements to be defined with the creation of a tool... ;

— for a small number them, to remove them as non-operational.

This work will enable to better assess whether the environmental targets are achieving their goal - and the associated positive impacts - in the next cycle. However, four environmental targets have been retained without indicators, which have yet to be defined for the next cycle.

In addition, a number of environmental tarfets and indicators have been created to reflect changes in public policy. These environmental targets and indicators are all based on operational monitoring systems, thus ensuring broader coverage of all ecological issues and associated monitoring (e.g. marine litter).

In terms of socio-economic targets, the first planning document identified 15 general strategic targets, broken down into 49 specific targets, based on 84 indicators. According to an initial analysis carried out by the French Ministry of Ecology's statistics department, 20 were difficult to fill in today. There was therefore a need to develop these indicators for the purposes of assessment, management and readability.

The main criteria used to update socio-economic targets are as follows:

[5] https://www.igedd.developpement-durable.gouv.fr/IMG/pdf/4__ cadrage_dsf_bleu_v5_delibere_v2_cle5a794c.pdf

[6] With possible modifications to the wording.

- taking into account the national targets for offshore wind power deployment over the next 10 years, and 2050 ;

- the articulation with the national sea and coastline strategy;

- cross-referencing environmental and socio-economic indicators;

- broadening the range of topics covered: this has led to the inclusion of a cross-cutting target relating to the reduction of greenhouse gas emissions, and to increased monitoring of activities linked to shipping and tourism;

- the reliability of indicators in terms of data sources and accessibility.

An analysis of the indicators in the revised strategic section revealed that several comments made in the previous environmental assessment of the document have been taken into account. Thus, several major targets have seen their indicators consolidated (addition of indicators to complete the existing ones), and strengthened in their precision (capacity to report on stated objective) and operational character (their capacity to be filled in).

That said, there is still room for improvement for several major strategic targets, particularly in terms of taking into account changes in socio-economic targets (e.g., training fishermen in environmental aspects, a target added during the revision work, but for which there are as yet no indicators). 7 targets introduced during the update, such as the reduction of land-based pollution, do not yet have indicators, and for others the monitoring of certain dimensions remains to be worked out, such as the artificialization due to the development of maritime traffic, or the evolution of the practices of pleasure boaters or the frequentation of certain sites within the framework of tourism and nautical leisure.

More broadly, the improvement of environmental practices can be further strengthened in the socio-economic targets (with the notable exception of the new general target relating to land-based pollution), and will need to be accompanied by indicators to report on the potential impact of targets on the environment. Work on socio-economic indicators will be continued as part of the updating the strategic MSP document monitoring system.