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COASTAL AND MARINE ECOSYSTEMS**

**STRATEGIC ENVIRONMENTAL ASSESSMENT
OF THE SEA BASIN STRATEGY DOCUMENT EAST CHANNEL –
NORTH SEA**

OPERATIONAL ASPECT OF THE SBSDS

Environmental report
submitted for
consultation

February 2021



Évaluer les Politiques et Innover
pour les Citoyens et les Espaces



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1. Non-technical summary

Sea Basin Strategy Documents (SBSDs) must be subject to an impact assessment, as mentioned in Article R122-17 of the Environmental Code.

The purpose of this environmental assessment is to ensure the relevance of the choices made with regard to the environmental issues at stake by assessing the positive and negative impacts in a predictive manner, and by proposing, if necessary, measures to avoid, reduce or compensate for the negative impacts. This assessment was performed by a group of independent consultancies responsible for producing the report and monitored by a steering committee made up of the MTE, the four IMDs and the public establishments providing scientific and technical support for the drafting of the SBSD (OFB, IFREMER and CEREMA).

The particular context of the development of the SBSDs gives this SEA certain specificities:

(1) it concerns a strategic document in the field of sustainable development at sea, which therefore pursues environmental targets. As a result, the initial state of the environment and the objectives to be achieved in this area are co-substantial with the SBSD, through its marine environmental component, constituted by the APME (Action Plan for the Marine Environment);

(2) it is part of an iterative consultation process, because the SBSDS is involved in the implementation of two European directives that do not have the same precedent;

(3) the fact that the SBSDS was developed in two stages - strategic and then implementable – each of these is subject to an environmental assessment, and the implementable assessment, which is the subject of this report, benefits from the feedback from the Environmental Authority on the strategic assessment.

This environmental report was produced between October 2019 and January 2021, with three main methodological choices, largely inspired by the EA's opinion on the environmental assessment of the strategic component:

- a more precise assessment of the significant effects of the SBSDS on the environment by: (1) reinforcing the spatialisation of the analysis, (2) analysing more precisely and in a spatialised manner at the scale of each vocation zone, the situation of the various environmental issues with regard to the good environmental status or in terms of level of issue and (3) associating with the nature of the impacts identified a number of characteristics that allow them to be better compared and analysed in an overall manner;
- a more integrated approach to environmental and socio-economic objectives by: (1) seeking to analyse the overall impact of the SBSDS actions through the way the actions were organised in a combined manner in the Action Plan and through the linkages between the actions and (2) seeking to mobilise some of the results of

cost-effectiveness analysis and analysis of the economic and social impact of the proposed actions;

- an iterative approach integrated into the development process by: (1) providing for three successive iterations, each including an impact assessment and proposals for improving the way in which environmental issues are considered in the proposed actions and (2) developing tools and methods of representing impacts that allow for exchanges with the coastlines on the impact assessment of their action plan and for integrating changes to the action plan as they occur.

There are also four main limitations:

- (1) the existing uncertainties concerning, on the one hand, the assessment of the good status of many environmental issues and, on the other hand, the precise knowledge of the pressures exerted on the marine environment by many human activities;
- (2) the impossibility of "quantifying" the overall impact of the proposed action plan, as the different impacts can be counted and compared according to various criteria, but in no way sized in relation to each other;
- (3) the context of the health crisis in which the environmental assessment took place, which greatly hindered the iterative process that was a central methodological feature of the approach;
- (4) the same health crisis context has deeply affected many socio-economic activities in coastal areas, without it being possible to know to date whether this will constitute lasting disruptions or whether it will return to the pre-crisis situation, thus making it impossible to establish a trend scenario without SBSDs.

BRIEF PRESENTATION OF THE SBSDs AND THEIR DEVELOPMENT CONTEXT

From a formal point of view, the Environment Code stipulates (Articles R219-1-7 to R219-1-14) that the Sea Basin Strategy Document comprises four parts:

- the existing situation, the challenges and a vision for the future of the coastline desired in 2030; (part 1)
- the definition of strategic objectives from an economic, social and environmental point of view and the associated indicators; they are accompanied by a vocational APME which defines, within the maritime areas, consistent zones with regard to the issues and general objectives assigned to them; (part 2)

- the arrangements for evaluating the implementation of the strategy document; (part 3)
- the action plan. (part 4)

Parts 1 and 2 of the Sea Basin Strategy Document constitute the "**maritime coastline strategy**", which was developed in 2018 and was subject to an initial strategic environmental assessment. Following consultations, this maritime coastline strategy was officially adopted in each coastline in September/October 2019.

Parts 3 and 4, the monitoring framework and the action plan, constitute the **implementable part** of the SBSDS. The latter was developed between October 2020 and January 2021 and is the subject of a second Strategic Environmental Assessment of the DFS. **This report concerns this second SEA and therefore focuses on the implementable part of the SBSDS.**

The Sea Basin Strategy Documents are the result of two directives:

- **The Marine Strategy Framework Directive** (Directive 2008/56 of 17 June 2008), which aims to restore or maintain the good environmental status of the marine environment by 2020. For example, Member States must draw up Marine Action Plans to be reviewed every six years.
- **The Maritime Spatial Planning Directive Framework Directive** (Directive 2014/89 of 23 July 2014) which establishes a framework for maritime planning and requires Member States to ensure coordination of different activities at sea. Thus, by 2021, they must develop plans that identify the spatial and temporal distribution of relevant, existing and future activities and uses in their marine waters.

As such, they include the Maritime Spatial Planning Directive elements and the action plan for the marine environment.

The SBSDS is drawn up under the guidance of the coordinating prefects: the maritime prefect and the regional prefect coordinating the coastline. This prefectural pairing is based on a coastline administrative commission, the composition of which is set by inter-prefectural order 49/2016 of 9 June 2016, and on the Sea Basin Council (SBC), a consultation body provided for by article L.219-6-1 of the environment code, which has been in place for each coastline since 2010. The mission of the SBC is to facilitate the coordination of the use, development, protection and enhancement of the coastline and the sea, in consultation with all governance stakeholders.

The drafting of the SBSDS is therefore part of a spatial planning maritime and coastal methodology. The Interregional Directorate for the Sea (IMD) is responsible for steering the project.

At the national level, coordination is ensured by the Délégation à la Mer et au Littoral (DML) and the Direction de l'Eau et de la Biodiversité (WBD), services under the authority of the Ministries of the Sea and of Ecological Transition.

With regard to the development of the implementable strand in particular, it should be highlighted

- that the process of developing environmental actions and socio-economic actions has some differences, both in method and timing. The main one is that the development of environmental actions is steered at the national level (WBD), whereas the socio-economic actions are steered by the IMDs;
- that the integration of the different actions into a single action plan was mainly the responsibility of the IMDs, with the national steering committees dealing little with this issue.

Finally, a special effort has been made to link the development of maritime strategies with the water development and management master plans (SDAGE). This document also identifies other documents with which the SBSDS should be linked.

THE ENVIRONMENTAL ISSUES OF THE COASTLINE

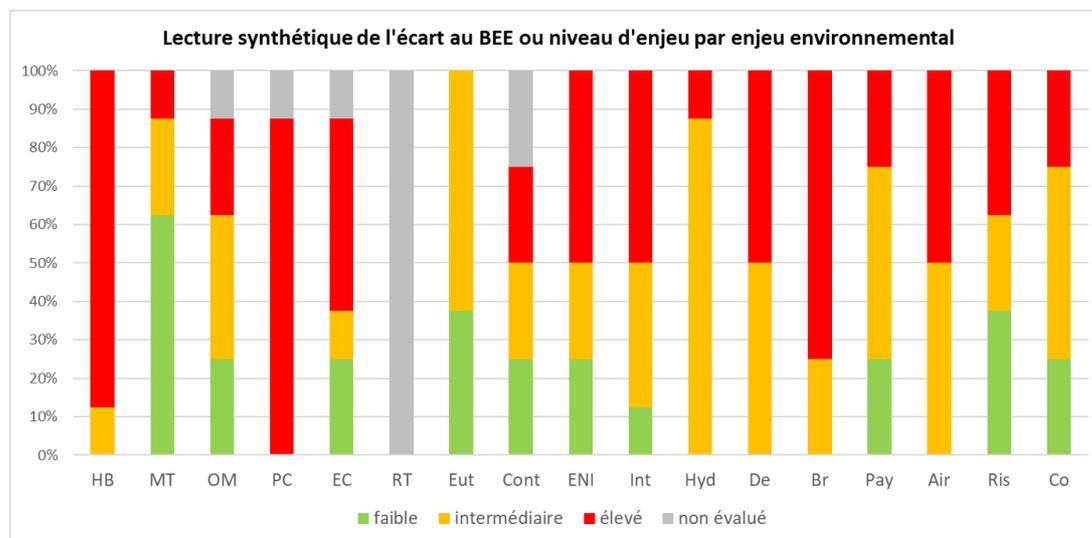
Seventeen environmental issues were identified, based in particular on the descriptors of good environmental status (GES) as defined by the MSFD. They are presented in the table below.

Category of issues	Acron.	Environmental issues	Correspondence to descriptors MSFD	Characteristic elements
Issues related to the components of the marine environment	HB	Benthic habitats	D1-HB	Quality of major biogenic, rocky, sedimentary, deep, wetland habitat types
	MT	Mammals and turtles	D1-MT	Species distribution and abundance: home range of sedentary bottlenose dolphin groups, seal colonies, feeding areas, other cetaceans
	OM	Sea birds	D1-OM	Species distribution and abundance: nesting, feeding areas, colonies, wintering sites of sea birds and coastal birds, maximum density areas, functional areas
	PC	Fish and cephalopods	D1-PC	Distribution and abundance of species: functional fishing areas (spawning grounds, nurseries), localized populations (benthic invertebrates, elasmobranchs), concentration and migration areas for amphihaline fish
	EC	Commercial species	D3	Stock status of commercially exploited fish and shellfish species
	RT	Food webs	D4	Food balance
Issues related to pressures on the marine environment	NIS	Non-native species	D2	Non-native species of an invasive or ecosystem-disrupting nature
	Eut	Eutrophication	D5	Human-induced eutrophication
	Int	Seabed integrity	D6	Integrity of the seabed and artificialization of the coastline
	Hyd	Modification of the hydrographic conditions	D7	Hydrographic conditions
	Cont	Chemical and biological	D8 and D9	Chemical contaminants in the environment, phycotoxins, microbiological contaminants

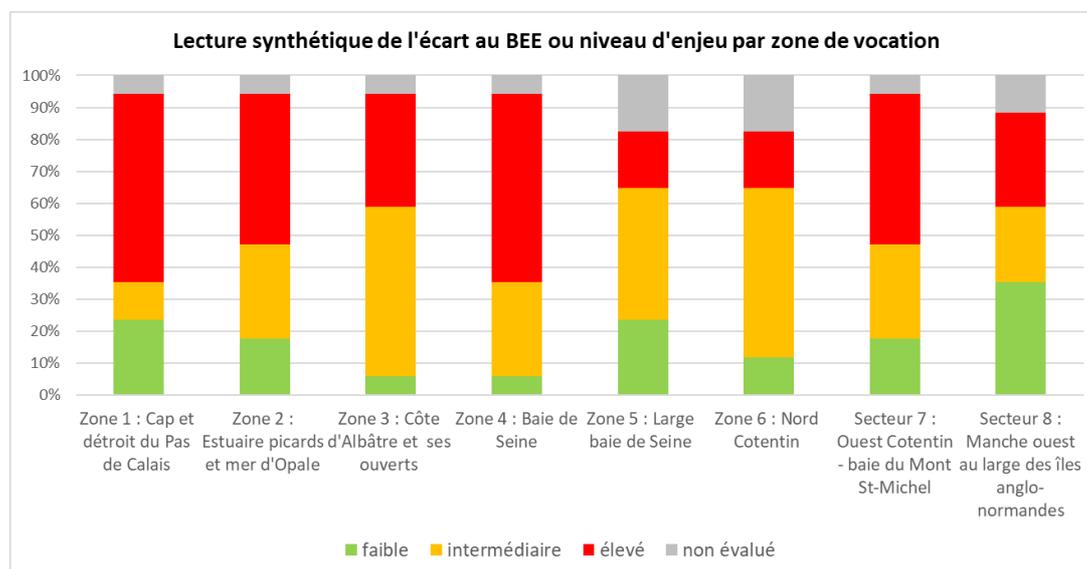
	De	Waste	D10	Amount of floating waste and micro-waste, on the shore, on the bottom, ingested
	Br	Noise	D11	Level of noise disturbance
Other societal issues	Pay	Landscapes and seascapes	Not relevant	Elements of coastal (lighthouses, classifications) and underwater landscapes
	Air	Air quality	Not relevant	Greenhouse gases, air pollutants
	Ris	Natural and human risks	Not relevant	Climatic, natural and industrial risks
	Co	Knowledge	Not relevant	Production of knowledge on environments, species and socio-economic activities

For each of these 17 issues, the report presents: (1) a summary of their main characteristics on the coastline, (2) a summary of their current status, (3) a spatial analysis of the deviation from good status or the level of challenge at the scale of the vocation zones and (4) a summary of the links between anthropogenic activities and this status (main pressures of anthropogenic origin that can affect this status, on the one hand, and the degree of dependence of anthropogenic activities on this status, on the other).

The two graphs below present the synthesis of the spatial analysis performed concerning the deviation from the GES or the level of challenge, the first being a reading by environmental challenge and the second a reading by vocation zone.



The percentages are relative to the number of vocational areas (i.e., 30). For example: for habitats the GES deviation is high for about 90% of the benthic areas



The percentages are relative to the number of issues (i.e., 17). For example: in zone 1, about 60% of the issues have an GES gap or high stakes.

The first graph shows that the main issues for the coastline concern fish and cephalopods, benthic habitats and commercial species, where the GES gap appears to be high for most of the catchment areas. Noise, waste, air quality, non-indigenous species (NIS) and seabed integrity are also important issues in at least 50% of the areas. The issues of hydrographic conditions and eutrophication appear to be less significant, with very few areas showing a high level of concern; however, a majority of areas show an intermediate level of concern for these two issues. Finally, the issues related to marine mammals appear with a low deviation from good status on a majority of the vocation zones; the significant deviation from good status is noted on the offshore zones. It should be noted that food networks are the environmental issue on which the most effort will certainly be required in the future (not assessed here).

In general, it should be noted that the reliability of the assessment of issues related to the biocenosis is generally less good than the reliability of issues related to pressures or other societal issues.

The second graph shows that zones 1 and 4, then 2 and 7 appear to have the most significant environmental issues, with the majority of environmental issues having a high level of concern or deviation from good status. Zones 5 and 6 have fewer high-stakes issues, but also have more unassessed issues. Finally, zone 8 appears to have the most issues with a low level; however, it should be noted that the deviation from good status of the issues related to biodiversity (HB, OM, MT and PC) all show a high deviation from GES in this zone.

IMPACT ANALYSIS

Situation in the absence of a SBSDS

In order to try to clarify the evolution of environmental issues in the absence of a LSF, one can try to analyse the trend of pressure-producing activities. The available data and indicators on the recent evolution of these activities have been researched and the synthesis that can be made in terms of trends is given in the table below.

Activity	Summary	Reliability synthesis
Seaside activities / Coastal tourism	↘	++
Agriculture	↗	++
Aquaculture	→	+
artificialization of the coastline	↗	++
Submarine cables	↗	+
Shipbuilding	↗	+
Defence	↘	+++
Extraction of materials	↗	++
Industries	↘	+
Recreational boating	↗	++
Recreational fishing	↘	+
Professional fishing	↘	+
Energy production	↗	+
R & D	↗	+++
Maritime public works	↗	++
Maritime transport	↘	+++

Two important findings emerge from this table:

- on the one hand, some of the most important activities on the coastline have been declining in recent years: fishing, industry, maritime transport, and others have been growing: the production of renewable energy and the extraction of materials in particular;
- on the other hand, the reliability of these trend estimates remains limited, in the absence of an effective system for monitoring the evolution of pressures exerted by socio-economic activities, which has yet to be built (see part 6 of this report).

It could be deduced from the first observation that, in the absence of a SBSDD, pressures will continue on the marine environment and that the situation of many environmental issues is likely to continue to deteriorate. Such a forecast, based on a simple extension of recent trends, is nevertheless very risky, for at least three reasons:

(1) the health crisis experienced worldwide in 2020 has had a major impact on the dynamics of many economic activities (e.g., passenger transport), and it is very difficult to know today whether a return to the previous dynamics will take place or whether there will be a lasting break in the trend;

(2) the level of uncertainty in the data and indicators mentioned above also makes this exercise of extending past trends very uncertain.

(3) Uncertainties due to Brexit.

Analysis of impacts on environmental issues

IMPACT OF THE DIFFERENT ACTIONS OF THE Action Plan

The main results of the analysis of the impacts of the actions at the level of the different parts of the Action Plan are summarised in the table

below: Part I: Socio-economic actions:

The Action Plan consists of 46 socio-economic actions, which have varying degrees of positive, negative or uncertain impacts, with a significantly higher proportion of positive impacts.

In total, three actions lead to negative impacts, which nevertheless find a form of linkage with other socio-economic actions allowing a reduction of their potential effects.

Cumulatively, in view of the number of actions having an impact on the knowledge issue, the Action Plan will bring a definite improvement in the understanding of the impacts of socio-economic activities on the environment.

The issues related to habitats and species (HB, MT, OM, PC, EC), as well as those related to pressures: contaminants (Cont), seabed integrity (Art), hydrographic conditions (Hyd) and waste (De), and to societal issues: landscape (Pay) and air quality (Air), are well covered by the socio-economic actions of the Action Plan and the impacts are also strongly positive.

In comparison, there are fewer impacts on the issues of food web (RT), eutrophication (Eut), NIS, noise (Br) and risk (Ris), but they are mostly positive or uncertain.

Part II: Environmental actions:

The Action Plan contains 47 environmental actions, all of which have positive impacts.

Cumulatively, the environmental actions mainly lead to impacts on the knowledge issue, then on the habitat (HB) and species (MT, OM, PC, EC, RT) issues. They have less impact on issues related to pressures (Eutrophication, Contaminants, Seabed integrity, NIS, Hydrographic Conditions, Waste, Noise), and on societal issues of Landscape and Risk. No positive, uncertain or negative impacts on air quality were noted.

CUMULATIVE IMPACT OF THE ENTIRE Action Plan

The issues in the first group, referred to in the previous section as "issues related to the components of the marine environment", have a high number of impacts, the majority of which are positive, but with a high proportion of medium to long-term occurrence and a high level of uncertainty. Although the strong predominance of positive impacts and the localised nature of negative impacts (MRE installation zones, possible aquaculture development zones, port development) allow us to conclude that the action plan has an overall positive impact on them, it is impossible to say how extensive this impact is and therefore how effective the action plan is in restoring good status. Moreover, these issues are not in the same situation with regard to the GES:

- three of them show a significant overall gap with the GES which seems difficult to close at the scale of this first action plan (benthic habitats, fish and cephalopods and commercial species);
- the issues concerning marine mammals and turtles and sea birds present a more favourable situation which the action plan should at least consolidate, even if the impact of future wind farms on marine and migratory birds should call for the utmost vigilance;
- for the food web issue, the GES is not defined and the deviation from it is not assessed, and it is therefore even more difficult to comment on the overall impact of the action plan.

For the second group of issues, "issues related to pressures on the marine environment", the impact of the SBSDS is expected to be less significant than for the first group, given the smaller number of actions impacting on these issues, although this smaller number is partly offset by a higher proportion of impacts with low uncertainty as to their occurrence. Furthermore, the overall impact of the action plan is likely to be more or less strong depending on the different issues making up this second group:

- rather modest for eutrophication, NIS and noise, which does not have the same consequences given the different situation of these issues (see section 4). Noise and NIS are in a rather unfavourable situation on the coastline, while eutrophication is in an intermediate situation.

– more important for contaminants, seabed integrity, hydrographic conditions and waste. This greater impact of the action plan on these four issues is all the more relevant as they present fairly high levels of challenge. Nevertheless, it is impossible to make a statement on a possible return to good status as this has not been defined for three of them (waste, hydrographic conditions and integrity of the seabed). As for contaminants, the overall gap in some coastal areas seems difficult to close on the scale of this action plan;

The issues in the third group "Other societal issues" will all be positively impacted by the action plan as it has a very high proportion of positive impacts and only one negative impact (on landscape). However, the overall effect of the action plan differs quite widely for each of these four so-called 'societal' issues:

– the action plan has a fair number of landscape impacts, the vast majority of which are positive. The overall effect will be all the greater if the actions with these impacts are targeted at the areas where the landscape issues are the strongest. In addition, attention should be paid to the uncertain impact on the landscape of large-scale wind farms and port developments;

– air quality and risk impacts are much less numerous, although all are positive. Concerning the risk and the fight against atmospheric pollution, it is not certain that the plan is equal to the stakes, which are quite high overall. Furthermore, the occurrence of these positive impacts is mostly estimated to be in the long term. With regard to the reduction of GHG emissions, it is difficult to give an opinion given the absence of a diagnosis of the initial situation;

– finally, the impacts on knowledge are numerous, all positive and mostly short-term. The plan should therefore significantly improve the level of knowledge about the coastline, which is highly relevant given the existing uncertainties.

SPATIALISED IMPACTS AT THE LEVEL OF USE AREAS

With regard to the vocational zones affected by the impacts described above, it appears that all zones have roughly the same impact profile. Thus, in all areas:

– the majority of impacts relate to the knowledge issue,

– a very large proportion of the impacts relate to habitat and species issues

– a slightly smaller but significant share of the total concerns the pressures of contaminants, seabed integrity, changes in hydrological conditions, waste and the societal issue of landscape.

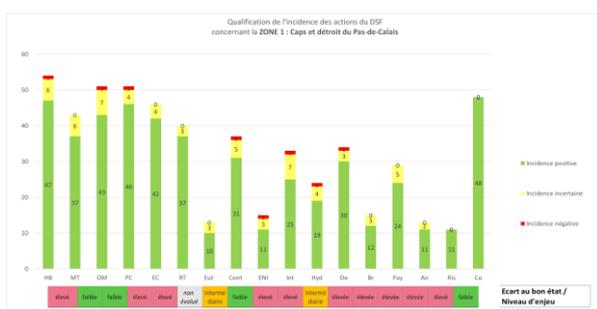
- Finally, far fewer impacts are noted for eutrophication, NIS, noise, and societal issues of air quality and risk.

This pattern is found in both offshore and coastal areas, but:

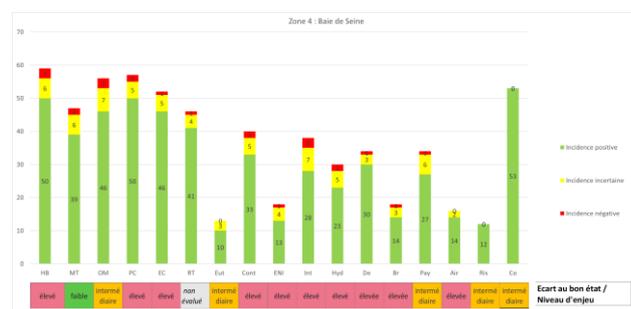
- On the one hand, the offshore areas (zones 5 and 8) differ in the number of impacts compared to the coastal areas (zones 1, 2, 3, 4, 6, 7)
- On the other hand, the differences between the numbers of impacts per issue are slightly less pronounced in the wider areas.

This slight difference between these two types of areas is in line with the assessment of the issues at stake, which shows that the offshore areas have a slightly lower level of issue or deviation from good status than the coastal areas on the various issues.

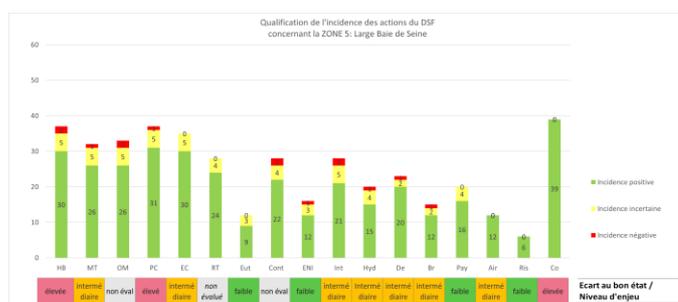
Illustration: Impact profiles for two coastal areas and one offshore area (see detailed annex for all areas)



Zone 1: Capes and Straits of Pas de Calais (coastal area)

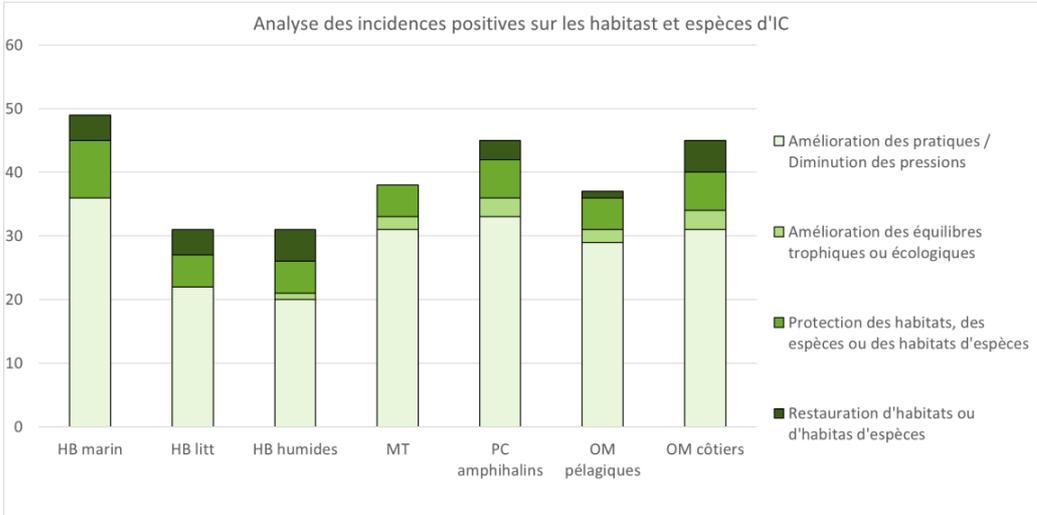


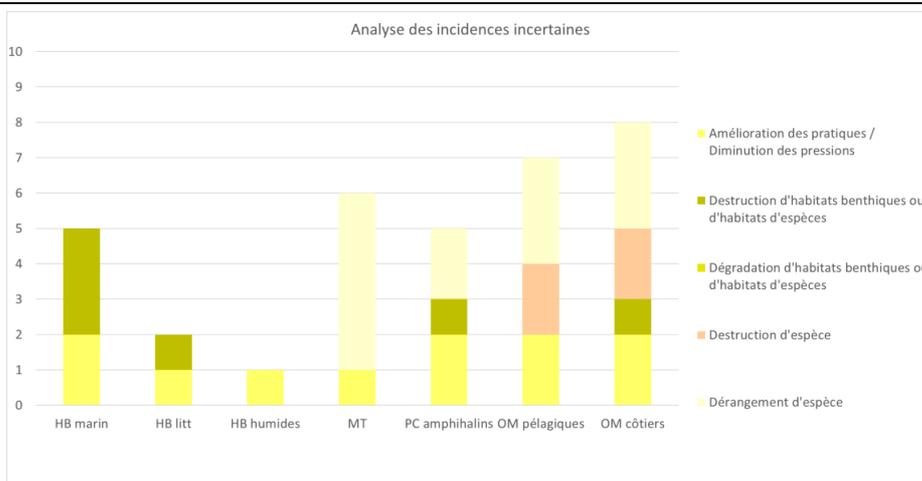
Zone 4: Bay of Seine (coastal area)



Zone 5: Large Bay of Seine (offshore area)

SBSD IMPACTS ON DFS ON COASTLINE NATURA 2000 SITES

<p>Positive impacts on CI habitats and species</p>	<p>The majority of the impacts of the SBSDS actions are positive (67 actions have positive impacts). The following graph shows the distribution of these impacts by CI issue groups.</p>  <p>As illustrated in the graph above, the positive impacts are aimed in particular at improving practices or reducing pressures and concern all stakeholder groups. All socio-economic activities are concerned by this objective of improving practices: aquaculture, agriculture, risks, professional and recreational fisheries, electricity production, tourism, yachting and water sports, port activities and transport, sediment extraction, activities that are likely to be located within Natura 2000 sites. The actions of the SBSDS should thus enable better consideration of CI issues by limiting the degradation of marine, coastal or wetland benthic habitats, reducing pollution and waste, reducing the accidental capture of marine mammals or sea birds, and limiting the risks of collisions and disturbance of marine megafauna during work at sea or induced by the various activities</p> <p>In addition, 12 SBSDS actions are aimed more specifically at protecting or restoring environments, including 7 actions specifically targeting CI habitats or species: between one and three SBSDS actions concern each group of issues of Community interest: marine habitats, foreshore habitats, habitats located in the transition zone (between fresh and salt water), mammals and turtles, fish, sea birds and coastal birds The other 5 are more cross-cutting (not specific to any issue group).</p>
<p>Uncertain impacts on habitats and CI species</p>	<p>13 actions may result in uncertain positive or negative impacts on CI habitats and species at this stage. The following graph shows how uncertain impacts are distributed across the CI issue groups:</p>

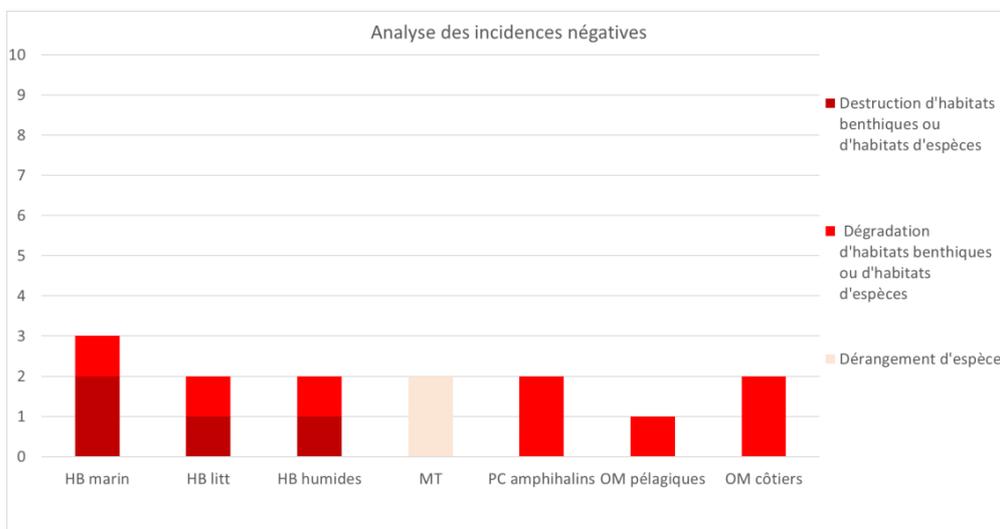


These uncertain impacts may have rather positive effects (related to possible improvement of practices), or negative effects (related to possible destruction or degradation of habitat, destruction or disturbance of species).

NEGATIVE IMPACT ON IC HABITATS AND SPECIES IC

3 actions in the SBSDS are likely to have negative impacts on CI habitats and species. The impacts include the destruction or degradation of benthic habitats or species habitats, as illustrated in the following graph:

Negative impacts on CI habitats and species



These impacts are due to the potential development of aquaculture sites, the potential development of MRE and a port development.

The precise nature of the impacts induced by these projects will depend on the design and implementation modalities. Several actions allow for a link with these actions with negative impacts in order to support these projects and to consider the issues related to the preservation of the marine environment in their definition (see chapter 6).

ANALYSIS OF MEASURES TAKEN TO AVOID, REDUCE AND COMPENSATE - ENVIRONMENTAL IMPACTS

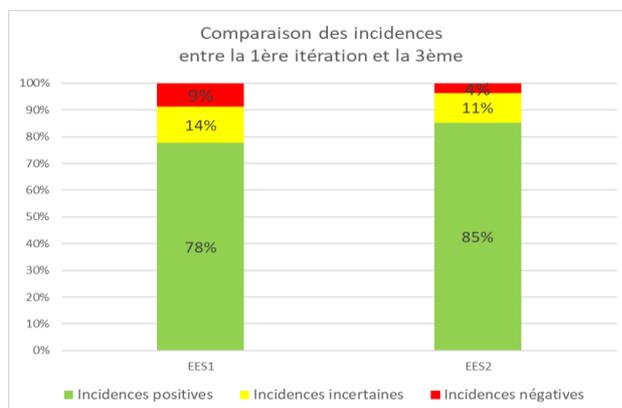
The iterative process of SEA has made it possible to integrate reduction or avoidance measures into certain actions that initially had potential negative or uncertain impacts. In some cases, this integration has changed the characterisation of the impacts from negative or uncertain to positive, and in others it has reduced the negative impact, although it is not possible to say to what extent. Thus, in successive iterations of the SEA:

- some 30 RE measures were proposed for socio-economic actions with potentially negative or uncertain impacts;
- about twenty were included in the action plan sheets, the IMD having justified its choice not to include the others during discussions with the evaluator (often because these RE measures were already the subject of other actions, particularly environmental).

In addition to considering the RE measures proposed by the evaluator, the evolution of the action plan can also lead to an improvement in impacts, notably with the integration of new actions with positive impacts.

The product of these different developments in the Action Plan in terms of its environmental impacts is illustrated in the graph opposite.

Finally, in addition to these developments directly related to the iterative process of SEA, it should be noted that eight actions or sub-actions of the Action Plan can be considered as RE measures of another action with negative or uncertain impacts.



IMPACT MONITORING INDICATORS

The development of the monitoring framework, which, together with the action plan, forms the implementable part of the SBSB, enables France to meet its obligations under the two framework directives on Marine Strategy (MSCD) and Maritime Spatial Planning Directive (MSCD). It thus defines the monitoring strategy to be put in place with the following objectives

- To update and clarify the evolution of the existing situation on the maritime coastline;
- Evaluate the achievement of the strategic targets of each coastline.

This joint monitoring framework for the environmental and socio-economic strategic targets is therefore, like the SBSB, being developed for the first time. It integrates the monitoring framework of the MSCD, which was the subject of a first version during the first cycle of this directive implemented prior to the drafting of the SBSB. This first version of the "SBSB" monitoring framework was finalised at the end of January 2021.

Capacity of the monitoring framework to improve the monitoring of the GES deviation

This capability is directly linked to the improvement of the monitoring framework of the MSCD, which is the subject of Annex 1 of the monitoring framework. The improvements for the second cycle proposed in this appendix¹ can be seen in relation to the assessment of the GES deviation or the level of challenge that may have been made at the scale of the different vocation zones of the coastline. This is the purpose of the table below.

¹ And in particular in the tables in part 3 "Summary of the devices integrated in the monitoring programme" of each monitoring programme detailed in Annex 1.

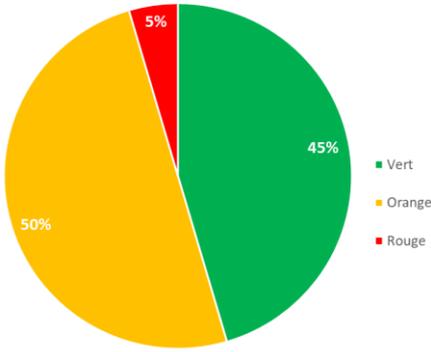
Issues	Overall assessment at scale of all VZs	Overall reliability at the scale of all VZs	Monitoring device as described in Annex 1 of the DDS
HB	Overall high GES gap	Low	None operational, almost 60% not operational but expected to be at the end of this cycle and more than 40% to be established
MT	Overall low GES gap	Average	About 70% of the schemes are operational, and 30% are not operational but should be by the end of this report cycle
OM	Overall average GES gap	Low	About 50% of the schemes are operational, and 50% are not operational but should be by the end of this report cycle
PC	Overall high GES gap	Low	Two out of four schemes are operational, the other two should be operational by the end of this cycle Furthermore, one out of four sub-programmes is to be set up and will therefore not be operational at the scale of the next cycle
EC	Overall high GES gap	Low	Two-thirds of the schemes are operational and one-third are not operational but should be at the end of this cycle
RT	Not rated	Not applicable	No monitoring devices specifically targeted at this issue
Eut	Overall average GES gap	Good	All devices are operational
Cont	Overall average GES gap	Good	Two-thirds of the schemes are operational and one-third are non-operational but should be at the end of this cycle
NIS	Overall high level of concern	Good	Monitoring programme fully under development
Int	Overall high level of concern	Good	Half of the schemes are operational and the rest are non-operational but should be operational at the end of this cycle
Hyd	Overall medium level of concern	Average	40% of schemes operational and 60% of schemes not operational but expected to be at the end of this cycle
De	Overall high level of concern	Good	Two out of nine schemes to be set up and out of the others, 50% are operational and 50% are not operational but should be at the end of this cycle
Br	Overall high level of concern	Good	One in four of the schemes to be created and of the remaining three, only a quarter are operational and three quarters are not operational but should be by the end of this cycle

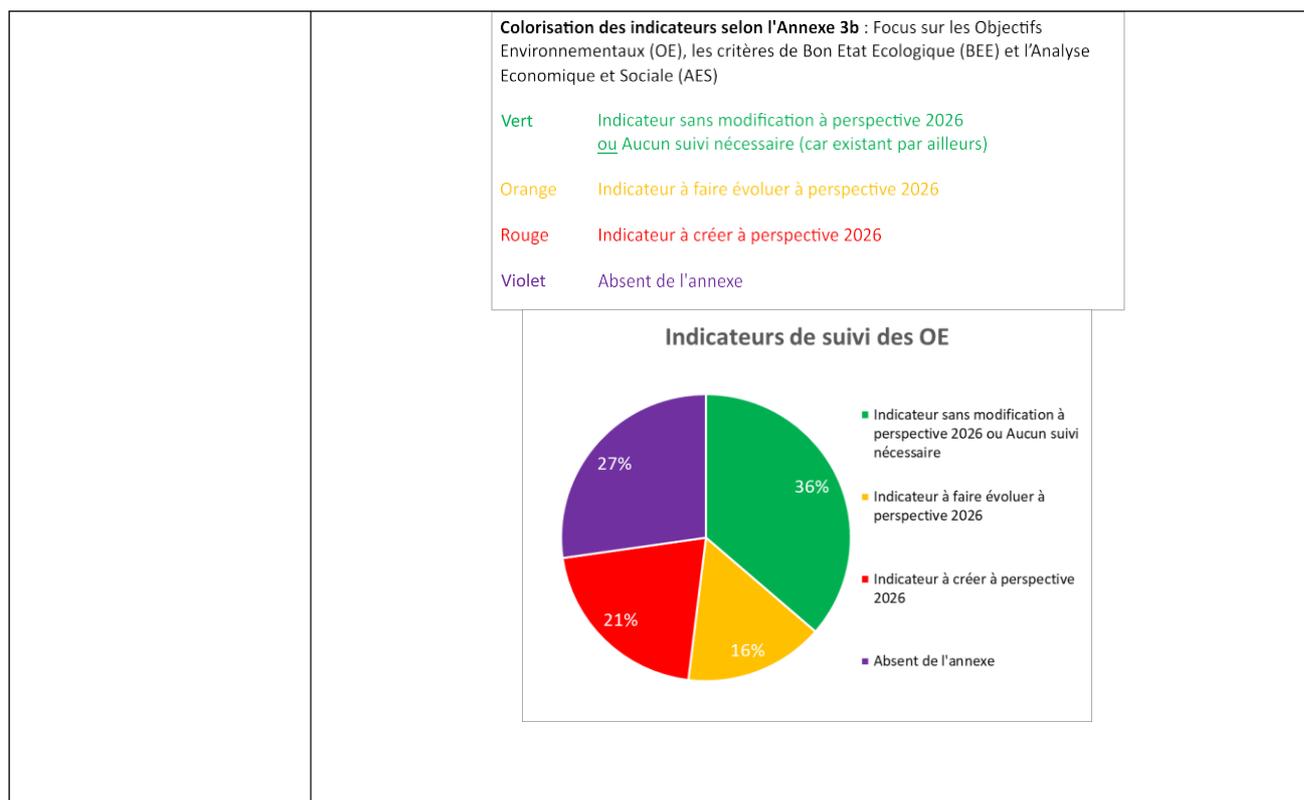
This table shows that the assessment of the GES gap is expected to improve significantly in

the next cycle, provided that the currently non-operational monitoring devices are effectively operational by the end of 2026.

Capacity of the monitoring framework to report on the main impacts identified

The aim here is to understand **the capability to monitor the main impacts environmental issues identified during the analysis.**

<p>Operationality of monitoring of negative or uncertain impacts - reading on monitoring indicators linked to socio-economic objectives</p>	<p>On the Eastern Channel-North Sea side, 11 socio-economic actions are likely to have negative (24 impacts) or uncertain (70 impacts) impacts. In the monitoring framework, these actions refer to 22 monitoring indicators linked to the socio-economic objectives. Their operationality can be approached by type and with the following results for the 22 indicators concerned.</p> <div data-bbox="671 669 1305 952" style="border: 1px solid black; padding: 5px;"> <p>Colorisation des indicateurs selon l'Annexe 3a : Indicateurs et dispositifs de collecte de données – Partie « activités, usages et politiques publiques »</p> <p>Vert Dispositif de collecte et Producteur/concentrateur des données</p> <p>Orange Au cours du premier cycle, la pertinence de cet indicateur sera étudiée au regard des conditions d'accessibilité aux données et/ou de la faisabilité de programmer un dispositif de collecte dédié <u>ou</u> Dispositif de collecte non renseigné</p> <p>Rouge Indicateurs à définir</p> </div> <div data-bbox="692 954 1281 1420" style="text-align: center;"> <p>Indicateurs de suivi des OSE</p>  <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Color</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Vert</td> <td>45%</td> </tr> <tr> <td>Orange</td> <td>50%</td> </tr> <tr> <td>Rouge</td> <td>5%</td> </tr> </tbody> </table> </div>	Color	Percentage	Vert	45%	Orange	50%	Rouge	5%
Color	Percentage								
Vert	45%								
Orange	50%								
Rouge	5%								
<p>Operationality of monitoring of negative or uncertain impacts - reading on monitoring indicators attached to environmental targets</p>	<p>On the Eastern Channel-North Sea side, the 84 negative and uncertain impacts concern 15 out of 17 issues (except Ris and Co), with between 1 and 7 impacts per issue. The main issues concerned are OM, Int (10 impacts), HB (9 impacts), MT (8 impacts), PC, Cont, Hyd and Pay (7 impacts). Other issues are less concerned: EC (6 incidences), RT, NIS (5 incidences), De, Br, (4 incidences), Eut (3 incidences) and Air (2 incidences).</p> <p>In the monitoring framework, the issues related to the biocenosis and the pressures refer to 77 monitoring indicators linked to the environmental targets. Their operationality can be approached by type and with the following results for the 77 indicators concerned.</p>								



In fact, 36% of them (green for 28/77) have an indicator that is already operational (with no change in the 2026 perspective or no monitoring required under the SBSO because it is being performed elsewhere) and a little over 20% are to be created (red for 16/77). An effort remains to be made on the other indicators (amber for 12/77): evolving existing indicators to obtain information on finer indicators within the framework of the SBSOS. It should also be noted that it is not possible to comment on almost 30% of the indicators, as these are not included in Annex 3b.

Finally, for MRE, ports and aquaculture, which are the main activities concerned by negative and uncertain impacts, the results are rather encouraging, as the indicators are largely operational.

2. Introduction

2.1. What is a strategic environmental assessment?

The European Directive of 27 June 2001 on the assessment of the effects of plans and programmes on the environment² establishes the principle of an environmental assessment prior to the adoption (or "ex-ante" assessment) of those plans and programmes that are likely to have significant effects on the environment and which set the framework for subsequent decisions. The Sea Basin Strategy Documents (SBSDs) meet this definition and must therefore be subject to such an assessment, as mentioned in Article R122-17 of the Environment Code, which lists the various plans and programmes concerned.

The purpose of this environmental assessment is to ensure the relevance of the choices made with regard to the environmental issues at stake by assessing the positive and negative impacts in a predictive manner, and by proposing, if necessary, measures to avoid, reduce or compensate for the negative impacts. More specifically, the approach has the following three objectives:

- assist in the development of the plan/programme by considering all environmental fields and identifying its effects on the environment. The aim is to integrate environmental considerations at each stage of the plan/programme development in an iterative process leading progressively to the environmental optimisation of the project through the study of alternative solutions;
- to contribute to the proper information of the public and to facilitate its participation in the decision-making process of the programme development;
- to inform the administrative authority that adopts the plan/programme on the decision to be taken.

While the environmental report proposed here is in line with these objectives, the particular context of the development of the SBSBs - recalled below - gives this SEA certain specificities:

- (1) it concerns a strategic document in the field of sustainable development at sea, which therefore pursues environmental targets. As a result, the initial state of the environment and the objectives to be achieved in this area are co-substantial with the SBSB, through its marine environmental component, constituted by the APMEs (Action Plan for the Marine Environment);

² Directive transposed into French law by order no. 2004-489 of 3 June 2004, decree no. 2005-613 of 27 May 2005 (and the circular of the Ministry of Ecology and Sustainable Development of 12 April 2006) and decree no. 2012-616 of 2 May 2012.

- (2) the integrating nature of the SBSDS, which is the implementation of two European directives, and the fact that the environmental component was drawn up earlier
 - the APME having been the subject of a first implementation cycle prior to the establishment of the LSFs - the approach is part of an iterative consultation process since the first cycle of the APME has already been submitted to the environmental authority for an opinion;
- (3) because the SBSDS was drawn up in two stages - strategic and then operational - each of which was subject to an environmental assessment, the operational assessment, which is the subject of this report, benefits from the feedback from the Environmental Authority on the strategic assessment;
- (4) the proposed assignment is focused on only one part of the SEA process, the production of the environmental report, with the other parts (e.g., consultation with the environmental authority and the public) being managed directly by the developer.

2.2. Content of the environmental report

The content of the environmental report is set out in the Environmental Code (Article R 122-20). It includes:

- a non-technical summary ;
- a general presentation indicating, in summary form, the objectives of the plan, scheme, programme or planning document and its content, its relationship with other plans, schemes, programmes or planning documents and, where appropriate, whether the latter have been, will be or may be subject to an environmental assessment;
- a description of the initial state of the environment in the area concerned, including a description of the environmental issues of the area in which the plan, scheme, programme or planning document will apply;
- a statement of the likely significant effects of the implementation of the plan, scheme, programme or other planning document on the environment, including, where appropriate, human health, population, biodiversity, fauna, flora, soil, water, air, noise, climate, architectural and archaeological cultural heritage and landscape. The likely significant effects on the environment are considered in terms of whether they are positive or negative, direct or indirect, temporary or permanent, short-, medium- or long-term, or in terms of the cumulative impact of these effects;
- the presentation of the measures taken to avoid, reduce or compensate for the negative environmental impacts of the plan, scheme, programme or other planning document;

- presentation of the criteria, indicators and procedures, including deadlines, used to verify, after the adoption of the scheme, plan or programme, the correct assessment of the adverse effects identified;
- the presentation of the methods used to prepare the environmental impact report.

2.3. SEA methodology and process

2.3.1. The methodological choices

They are of three types and result both from the nature of the programme evaluated - the operational part of the SBSDS and in particular its action plan (Action Plan) - and from the consideration of the feedback from the Environmental Authority (EA) on the environmental assessment of the strategic part of the SBSDS3.

a) A more accurate assessment of significant effects

The environmental assessment performed by EPICES & ASCA on the strategic component of the SBSDS identified a large number of potential impacts of this planning document but did not conclude on its ability to promote the achievement of good environmental status (GES) by 2026 at the latest as required by the MSCD. The opinion of the Environmental Authority on this first assessment clearly pointed out these limitations and called for progress in the accuracy of this assessment of the overall impacts of the SBSDS in terms of achieving good status. Three methodological approaches have been used in this assessment to improve the accuracy of the impact assessment in relation to the achievement of the GES:

- the first is to strengthen the spatialisation of the analysis, i.e., to complete the overall assessment at the scale of the entire maritime coastline with an assessment of the impacts at the scale of each vocation zone defined during the first phase of the preparation of the SBSDS;
- the second is to analyse more precisely, and also spatially at the level of each vocation zone, the situation of the various environmental issues in relation to the good environmental status (deviation from GES) or in terms of the level of issue if GES is not defined;
- the third is to associate with the nature of the identified impacts (positive or negative) a certain number of characteristics (time scale in which the impacts will appear, level of uncertainty associated with their appearance, more or less perennial/irreversible character, etc.), making it possible to better compare and analyse them in a global manner.

³Opinions numbers 2018 104, 2018 105, 2018 106 and 2018 107 of 20 February 2019.

However, even if the implementation of these methodological choices has made it possible to improve the accuracy of the analysis, it is still methodologically difficult to conclude on the capability of the operational part of the SBSDS to promote the achievement of the GES by 2026 at the latest, given the persistence of certain limitations mentioned below.

b) A more integrated approach

During the preparation of the strategic section of the SBSDS, the stakeholders in the front line were led to question consistency of the two types of objectives included in this planning document (environmental targets and socio-economic objectives). In some cases, they have even tried to merge the two categories of objectives in order to develop a truly integrated marine policy. However, despite the efforts made, it has not always been possible to make these objectives fully consistent and the question of the necessary trade-offs and compromises has often been postponed until the definition of actions and their implementation criteria. The issue of the truly integrated nature of the SBSDS is therefore central to the development of its operational component, and the environmental assessment of the SBSDS must take this into account. Two methodological approaches were used to promote this more integrated approach:

— the first is to seek to analyse the overall impact of the SBSDS's actions, whether these actions are environmental or socio-economic in nature. In order to do this, it is necessary not only to analyse the actions according to the objectives to which they refer (environmental or socio-economic), but also to look at (1) the way in which the actions have been organised in a combined manner in the Action Plan, and (2) the links that exist between actions of a different nature - for example, an environmental action may "compensate" in terms of impact for a socio-economic action;

— the second was to seek to mobilise in this environmental assessment some of the results of the other analyses performed in parallel by the group of service providers selected to support the development of the operational part of the SBSDS (cost/effectiveness analysis and analysis of the economic and social impact of the proposed actions)⁴. However, this mobilisation was lessened by the narrower scope of these other analyses, which were only requested on the environmental actions of the DFS.

c) A more iterative process

The aim of environmental assessment is to integrate environmental considerations at each stage of the plan's development in an iterative process leading progressively to the environmental optimisation of the project. In the environmental assessment of the strategic component of the LSF, this iterative process was relatively limited due to a particularly tight timeframe. In its opinion on this first evaluation, the EA recommends improving this iterative nature. Two methodological approaches were used for this purpose:

— on the one hand, a process involving three successive iterations, each of which includes an impact assessment and proposals for improving the way in which environmental issues are considered in the proposed actions (Avoid and Reduce measures);

⁴ The summary results of these different analyses performed in parallel with this SEA are provided in Annex 6 of this environmental report.

— on the other hand, from the first iteration onwards, tools and methods of representation of impact analyses (Excel grids, maps, etc.) were developed, which made it possible to (1) discuss the impact assessment of their action programme with the coastlines, and (2) progressively integrate the programme's changes into the same methods of representation, which saved time during the last iterations, which were often constrained by the final deadline

2.3.2. A four-phase SEA process

First, it should be recalled that this SEA took place in a very specific context: that of the global health crisis linked to Covid19. The constraints linked to this crisis, in particular the deterioration of working conditions and the need to adapt the consultation processes, greatly disrupted its progress. The initial timetable for the project was adjusted to take account of the crisis, and it took 16 months to complete instead of the 10 months initially planned.

Four phases of widely varying duration, can be distinguished in the conduct of this SEA:

- a scoping phase, mainly concerning the spatial analysis of the situation of the various environmental issues with regard to the GES and the development of impact analysis grids and tools, took place over approximately 6 months (October 2019 / March 2020);
- a first iteration of the impact analysis of the actions proposed in the first version of the action plan took place between April and September 2020;
- a second iteration of the impact assessment, incorporating changes in the proposed actions between the first and second versions of the action plan, took place between October and December 2020;
- a third and final iteration based on the final version of the action plan was performed in January 2021, in parallel with the finalisation of the environmental report.

2.3.3. The main limitations encountered

Four main limitations can be highlighted in relation to this environmental assessment:

- the first concerns the existing uncertainties related to, on the one hand, the assessment of the good status of many environmental issues and, on the other hand, the precise knowledge of the pressures exerted on the marine environment by many human activities (for example, withdrawals linked to fishing on foot or recreational fishing);
- the second limitation is that it is not possible to 'quantify' the overall impact of the proposed action plan, as the different impacts can be counted and compared according to various criteria, but in no way scaled in terms of magnitude in relation to each other. Added to the first, this second limitation explains in particular the difficulties encountered in reaching a precise conclusion as to whether the action plan will restore the GES by 2026 at the latest;

– the third limitation that can be cited results from the context of the health crisis in which the environmental assessment took place, which greatly hindered the iterative process that constituted a central methodological bias of the approach. Indeed, the disruptions linked to the crisis led (1) to a lengthening of the deadlines for drawing up the content of the action plans, thereby postponing the impact analyses that could be performed, and leading to a very significant 'compression' of the deadlines for the second and third iterations of the analysis, and (2) to a deterioration in the working conditions of the IMD teams, thus limiting the time that could be devoted to taking account of the analyses performed in the context of the successive iterations of the SEA;

– a fourth and final limitation is also linked to the context of the health crisis, which has profoundly affected many socio-economic activities in coastal areas, without it being possible to know to date whether this will constitute a lasting break or whether the situation will return to that of before the crisis. As a result, the elaboration of a trend scenario in the absence of a SBS, which could serve as a reference for the analysis of impacts, an already particularly complex exercise, was made impossible by the crisis context.

3. Brief presentation of the SBSD and the context in which it was developed

3.1. Origin and development of the SBSDs

With its maritime and coastal areas, France has a remarkable natural heritage and a significant potential for socio-economic development. The sea and coastline are already subject to numerous uses, but they are also subject to numerous pressures due to climate change, land-based pollution or the impact of activities. In order to ensure good environmental status and better economic and social development of the sea and coastline, a national strategy was adopted in February 2017.

For each of the maritime coastlines in mainland France and for each of the overseas maritime basins, a planning document - the strategic document for the coastline or overseas maritime basin - must specify the conditions for implementing the national strategy, taking account of local specificities. It will include spatial planning in the form of a APME of the uses of maritime spaces. In mainland France, the coastline strategy document is drawn up by the State in consultation with the maritime and coastal stakeholders meeting within the Sea Basin Council. It is subject to prior consultation with the public.

The establishment of strategic documents for the coastline is part of two common initiatives at European level, which are the subject of the "marine strategy" and "Maritime Spatial Planning Directive" framework directives.

The consultation with the public concerns the proposed vision for the coastline. It is a prerequisite for the definition of the maritime coastline strategy. It took place for two months from 26 January 2018.

The establishment of Sea Basin Strategy Documents is part of the implementation of the two framework directives "marine environment strategy" and "Maritime Spatial Planning Directive" at European level.

An initial consultation with the public concerned the proposed vision of the future of the coastline, prior to the definition of the coastline strategy. It took place for two months from 26 January 2018. A further consultation phase is planned for 2021.

The four maritime coastlines in mainland France



The legal and political framework of the Sea Basin Strategy Document

THE NATIONAL AND COMMUNITY FRAMEWORK

France ranks first among nations for the richness of its marine ecosystems. The excellence of its oceanographic research is recognised throughout the world, certain industrial sectors such as shipbuilding, freight transport and boating are at the cutting edge, its flag is recognised for the quality, technical nature and reliability of its ships and crews, its national navy is present on all seas, and changes or impulses are being launched for historical or emerging sectors. Finally, its expertise in the management of natural marine protected areas is widely recognised throughout the world.

Since 2007, following the Grenelle Environment Forum and the Grenelle Maritime Forum, France has been committed to a maritime policy aimed at integrated management of the sea and coastline. It aims at both the sustainable development of maritime and coastal activities and the preservation of the marine environment, as well as a better linkage between land and sea. The Environment Code provides the legislative framework for the implementation of this policy in Articles L219-1 to L219-18. In particular, it establishes a national strategy for the sea and the coastline and its implementation in strategic documents for the coastline and maritime basin.

The national strategy for the sea and the coast is responsible for providing a reference framework for public policies concerning the sea and the coast. It is linked in particular with the National Strategy for the Ecological Transition to Sustainable Development, the National Research Strategy and the National Biodiversity Strategy, to which it contributes and for which it is the reference for the sea and the coast.

The national strategy for the sea and the coast (adopted by the decree of 26 February 2017) sets four long-term, complementary and inseparable **objectives**:

- ecological transition for the sea and the coast ;
- the development of the sustainable blue economy ;
- the good environmental status of the marine environment and the preservation of an attractive coastline;
- the influence of France as a maritime nation.

At the European level, considering that the seas and oceans are drivers of the European economy through a strong potential for innovation and growth, the EU Member States have agreed to promote an **integrated maritime policy**. It aims to address maritime issues in a more consistent way and to strengthen coordination between the different areas of activity. The aim is to promote

"blue growth", i.e., sustainable growth, in the marine and maritime sectors as a whole. It is part of the Europe 2020 strategy for **smart** (knowledge and innovation based), **sustainable** (more resource efficient, greener and more competitive) and **inclusive** (high employment and social and territorial cohesion) **growth**.

The European Integrated Maritime Policy encourages authorities at all levels (international, national, regional and local) to exchange data and cooperate rather than working in isolation on different aspects of the same problem and establishes close cooperation between policy makers in different sectors and at all levels of decision-making. It is based in particular on two framework directives:

- **The Marine Strategy Framework Directive** (Directive 2008/56 of 17 June 2008), which aims to restore or maintain the good environmental status of the marine environment by 2020. For example, Member States must draw up Marine Action Plans to be reviewed every six years.
- **The Maritime Spatial Planning Directive Framework Directive** (Directive 2014/89 of 23 July 2014) which establishes a framework for maritime planning and requires Member States to ensure coordination of different activities at sea. Thus, by 2021, they must develop plans that identify the spatial and temporal distribution of relevant, existing and future activities and uses in their marine waters.

The Sea Basin Strategy Documents are the implementation of these two directives. As such, they include the elements of Maritime Spatial Planning Directive and the marine action plan.

THE SCALE OF THE COASTLINE

The **coastline strategy document** specifies and completes the guidelines of the national strategy for the sea and coastline with regard to the economic, social and ecological issues specific to the coastline. It includes proposals for the development of activities and the regulation or reduction of human pressure on marine and coastal environments. For the first time, a set of maps summarises the issues for the general public and specifies the sectors to be favoured for the establishment of activities and for the preservation of the marine and coastal environment. The package aims to coordinate the

activities and to prevent conflicts linked to the diversification and densification of uses of the sea and the coast.

Given the **interaction between land and sea**, not everything is settled at sea. Watersheds and land areas have an influence on maritime and coastal areas through issues of water quality, land use, major urban, tourist and agricultural developments, projects for activities at sea, etc. The strategic documents for the coastline are intended to provide guidelines for everything that has an impact on the sea and the coastline in the coastal regions. One of the challenges is to link them with land-based planning, the most important of which are the master plans for water development and management (SDAGE), the regional plans for sustainable development and territorial equality (SRADDET), the territorial consistency plans (SCOT) and the local urban plans (PLU).

The coastline strategy document is subject to an **obligation to consider** any terrestrial project, plan or programme that has an influence on the sea, and to be **compatible with** urban planning documents (coastal SCOTs, PLUs or equivalent documents). For projects, plans and programmes that would be located exclusively at sea, this obligation becomes a requirement of **compatibility** in all cases.

From a formal point of view, the Environment Code stipulates (Articles R219-1-7 to R219-1-14) that the Sea Basin Strategy Document comprises four parts:

- the existing situation, the challenges and a vision for the future of the coastline desired in 2030; (part 1)
- the definition of strategic targets from an economic, social and environmental point of view and the associated indicators; they are accompanied by a vocational APME which defines, within the maritime areas, consistent zones with regard to the issues and general objectives assigned to them; (part 2)
- the arrangements for evaluating the implementation of the strategy document; (part 3)
- the action plan. (part 4)

Parts 1 and 2 of the Coastline Strategy Document constitute the "**maritime coastline strategy**". The latter was developed in 2018 and was subject to an initial strategic environmental assessment. Following consultations, this maritime coastline strategy was officially adopted in each coastline in September/October 2019.

Parts 3 and 4, i.e., the **action plan**, which sets out all the concrete and operational actions to be implemented at national and local level to meet the strategic targets set beforehand, and the **monitoring framework** to assess compliance with the objectives, constitute the **operational part of** the SBSDS. The latter was developed between July 2019 and January 2021 and is the subject of a second Strategic Environmental Assessment of the DFS. **This report concerns this second SEA and therefore focuses on the operational part of the SBSDS.**

The process of developing SBSDs

At the national level, coordination is ensured by the Délégation à la Mer et au Littoral (DML) and the Direction de l'Eau et de la Biodiversité (WBD), services under the authority of the Ministries of the Sea and of Ecological Transition.

At local level, the integrated maritime policy is of interest to all the institutional partners, both maritime and land-based, and coordination of administrative structures and coordination bodies is necessary. This is performed by two coordinating prefects: the maritime prefect and the regional prefect coordinating the coastline.

This prefectural pairing is based on a coastline administrative commission, the composition of which is set by inter-prefectural order 49/2016 of 9 June 2016, and on the Sea Basin Council (SBC), a consultation body provided for by article L.219-6-1 of the environment code, which has been in place for each coastline since 2010. The mission of the SBC is to facilitate the coordination of the use, development, protection and enhancement of the coastline and the sea, in consultation with all governance stakeholders.

The drafting of the SBSDS is therefore part of a spatial planning maritime and coastal methodology. The Interregional Maritime Directorates (IMD) are responsible for steering the project.

The process of developing the SBSD Action Plan

As the process of developing the environmental and socio-economic actions differed in some respects, both in method and timing, they are described in turn below.

First of all, the main stages in the development process of **environmental actions** can be characterised as follows:

- an inventory of existing actions that already contribute to the achievement of the objectives of the SBSD, not only by the State but also by local authorities and other partners, and by the implementation of European and international policies. The Water and Biodiversity Directorate (WBD) contributed to this inventory by drawing up a list of national and international actions that will be communicated to the coastlines in May 2019⁵;
- analysis of the sufficiency of these existing actions in relation to the achievement of the strategic targets set out in the first part of the SBSDS. This analysis, performed in each coastline by experts, does not constitute a robust assessment⁶ of the capability of existing actions to achieve the objectives set, and generally concludes that it is necessary to strengthen existing actions with new ones;

⁵ This inventory only covers actions adopted as of 2016. It thus completes the one performed in the framework of the first cycle of implementation of the MSCD.

⁶ Which would have been methodologically very difficult to achieve anyway.

- proposal of new actions by the "State" sphere (MTE and OFB) on the basis of (1) the harmonisation of sufficiency analyses performed in the coastlines, (2) proposals for new actions from the coastlines, and (3) the expertise of the WBD, OFB and other central administration directorates;
- consultation meetings on these proposals for new actions, involving the IMDs, the DREALs, the MTE services and associated experts (OFB in particular). Six one-day national meetings were held from November 2019 to January 2020;
- a coastline consultation phase was then planned in the process, which was largely disrupted by the onset of the health crisis. Feedback from the coastlines on this first version of the environmental action sheets, which may include proposals for new actions, was provided in spring 2020;
- a national harmonisation was performed in May-June 2020 and validated by the Blue NOC on¹ July 2020;
- following this national harmonisation, a new version of the environmental action plan was sent by the MTE to the coastlines in July 2020, accompanied by a draft financial model and decision support elements (cost effectiveness analysis in particular); the objective of the financial model was to identify the costs, pilots and potential financiers to ensure the operability of the actions and to retain only the actions with a pilot and financing;
- a new phase of consultation was then performed in the front of the building and led to a return to the WBD in October/November 2020;
- a second and final national harmonisation was performed in November 2020 and validated by the Blue NOC in December 2020.

Then for **socio-economic actions**, the process of elaboration can be described by the following steps:

- work by the State departments responsible for maritime and coastal issues was performed in 2019 to identify courses of action. From the outset, these considerations took account of the opinions of the authorities and the public expressed in the consultations relating to the development of the maritime coastline strategy. These exchanges made it possible to refine the initial proposals for action by comparing them with the projects performed locally. In absolute terms, courses of action (without drafting complete sheets) have been determined locally at the level of each coastline in autumn 2019;
- development of action proposals by the coastlines, in consultation with socio-economic stakeholders and associations. The timing of this first proposal differs widely depending on whether or not the coastlines had time to carry out the necessary consultation before the health crisis began. As a result, the drafting of this first proposal for socio-economic action sheets was spread out between March 2020 and July 2020, depending on the coastlines;
- at the request of the coastlines to pool certain actions, particularly in certain areas that also fall under national jurisdiction, consultation meetings

were organised by the DML in July 2020 and resulted in the production of a dozen national action sheets in autumn 2020;

— a second phase of consultation with the stakeholders according to modalities specific to each coastline took place from October to December 2020.

This difference in the timetable for the production of environmental and socio-economic actions, which varies according to the coastline, has led to successive iterations of the SEA being performed at different stages of progress for the two types of action.

Finally, **the integration of the various actions into a single action plan** was essentially the responsibility of the IMDs, as the national steering committees did not deal with this issue much. This integration work suffered from the time lag between the development of the environmental actions and the development of the socio-economic actions, the latter having been stabilised later.

3.2. The specific context of the Eastern Channel-North Sea coastline

At the level of the Eastern Channel-North Sea coastline, the development of the Action Plan began in November 2019, based on an inventory, performed during the summer of 2019, of the actions performed by the State services and local authorities under public policies, and then the analysis of the adequacy of these actions to the objectives of the SBSD. During the PC of 21 November 2019, the working method for the co-construction of the Action Plan was outlined: when existing actions do not allow the strategic targets of the SBSD to be achieved, new actions are proposed, in conjunction with the stakeholders of the coastline territory. For this purpose:

— On the one hand, four workshops with the public and local stakeholders were held in January 2020, in Calais (62), Le Crotoy (80), Le Havre (76) and Cherbourg (50). They brought together more than 60 participants who were able to formulate concrete proposals for national and local socio-economic and environmental actions to meet the objectives of the maritime coastline strategy.

— In addition, the five specialised commissions of the SBC met on 9, 14 and 16 January 2020. Each of the commissions was able to propose actions and react on those identified at national level.

These meetings and workshops led to the proposal of the first action plan at the PC extended to the SCs on 7 February 2020. It was sent to the WBD and DML on 14 February.

The construction of the action plan then continued through electronic consultations between May and September 2020, with the members of the standing and specialised committees and with the technical secretariat of the action plan.

The meetings of the Standing Committee and the Specialised Committees on 2 and 13 October 2020 have enabled the actions of the SBSD NMR or to be stabilised.

3.3. The Eastern Channel-North Sea coastline action plan

This draft report was prepared without a complete version of the Action Plan in its "mock-up" form. The impact analysis was performed on the basis of the V3 version of the action sheets provided on 17 December 2020.

This document consists of three chapters. The summary is presented below: 1/

Reminder of the general strategic targets of the coastline strategy

2/ Existing actions contributing to the achievement of the general strategic targets

2.1 Socio-economic themes

2.2 Environmental themes

3/New actions in the coastline strategy document

3.1 New socio-economic actions PM /

Maritime fisheries

AQUA / Aquaculture

MRE / Marine Renewable Energies

MSE / Marine Aggregate Extraction

PTM / Ports and Shipping INN /

Shipbuilding and Nautical Industry

SEC / Maritime Safety

TOU - SPO / Tourism and water sports

RI, FORM & CON / Research and innovation, maritime training and knowledge

PPS / Sites, landscape and maritime

heritage RLI / Coastal risks

3.2 New environmental actions D1- HB /

Benthic habitats

D1- MT / Marine mammals and turtles D1-OM /

sea birds

D1-PC / Fish and cephalopods D2

/ Non-native species

D3 / Commercial species

D4 / Food webs D5 /

Eutrophication

D6 / Seabed integrity D7 /

Hydrographic conditions D8 /

Chemical contaminants

D9 / Microbiological contaminants

D10 / Waste

D11 / Underwater noise

Transversal actions

Annex 1: linking the SBSB with the draft SDAGEs 2022-2027 Annex 2:

Cerema study - artificialization of marine and coastal environments

Annex 3: Exemption from environmental targets or good environmental status of marine waters

Glossary

Table of acronyms

3.4. The challenges of coordination with other plans and programmes in the area

The search for plans, programmes and strategies (PPS) likely to be linked to the SBSDS has identified that we are at a turning point, with most PPSs coming to an end between 2020 and 2022, and thus being largely in the process of being drawn up (SDAGE, SRADDET, Grand Port Strategy, etc.). Consequently, the group worked on the most recent versions available.

3.4.1 THE PLANS AND PROGRAMMES WITH A "FUNCTIONAL" LINK: SBS/SDAGE LINK

WATER DEVELOPMENT AND MANAGEMENT MASTER PLAN (SDAGE)

The Master Plan for Water Development and Management (SDAGE) is the tool for implementing the Water Framework Directive (WFD), which aims to achieve or maintain good surface and groundwater status throughout Europe. As mentioned above, the SBS is the implementation document for the MSFD, which aims to achieve or maintain good environmental status of marine waters on European territory, and which is implemented in France through the Action Plans for the Marine Environment (APMEs) initiated in 2012 and integrated into the SBS from 2018.

These two directives therefore have a common objective of achieving good status in the waters to which they apply, waters which partially overlap. Furthermore, analysis of the good status of marine waters requires an analysis of the pressures that are exerted on them, some of which are linked to "terrestrial" surface and groundwater (land-based inputs of physical or biological contaminants, freshwater flow, etc.). The linkage of these two directives is therefore a key issue, which the EC insisted on in its communication of 14 November 2012 on an "Action Plan to safeguard Europe's water resources" (the so-called Blueprint).

At national level, this linkage is the subject of a technical note from the WBD dated 24 November 2020. It replaces the circular of 17 February 2014 and now considers the new issues arising from the entry into force of the law for the reconquest of biodiversity, nature and landscapes of 8 August 2016 and the integration of the marine environment action plans (MEAPs) into the Sea Basin Strategy Documents (SBSDs).

This technical note specifies in particular:

(1) the governance arrangements to promote a consistent implementation of the two directives:

- reciprocal participation of the deconcentrated services and the competent authorities in the basin and coastline administrative commissions;
- active participation of the DREALs and the Water Agencies in the technical secretariats responsible for drawing up the SBSDs and the IMDs in the technical secretariats responsible for drawing up the SDAGES;

- reciprocal information of the Basin Committees (BC) and the Maritime Councils of the Coastlines (MCC) on the SDAGEs and SBSDs under preparation;
- linking the timetables for the different stages of consultation of the assemblies and making the information available to the public.

(2) coordination in the development of the implementation elements of the two Directives:

- linking the FSP monitoring framework and the SDAGE monitoring programme ;
- linking the environmental component of the strategic targets and action plans of the SBSDs with the orientations of the SDAGE(s) and their programme of measures. This linkage involves (i) the partial coupling of the timetables for the action plans of the BSFs, the SDAGEs and their programmes of measures, (ii) the categorisation of the sources of pressure on the marine environment targeted by the strategic targets and action plans of the BSFs and the definition of the associated measures and actions in the programmes of measures of the SDAGEs and the BSF action plans Three types of pressure sources have thus been defined: pressure sources giving rise to measurements only detailed in the SDAGEs and their measurement programs (example: nutrient inputs from watersheds), pressure sources giving rise to actions only detailed in the SBSDS action plans (example: underwater noise disturbances linked to maritime transport), the sources of pressure giving rise to measures and actions that must be detailed simultaneously in the SBSDS action plans and in the SDAGE and / or their program of measures (example: loss of functional sea bird habitats in coastal wetlands), (iii) setting additional targets associated with the environmental targets of the SBSDS and concerning the SDAGEs;
- linkage to the environmental component of the status of the existing SBSDs and the WFD status report: definition of a harmonised method for the initial MSCD assessment and the WFD status report, which will be used, among other things, for the preparation of the third cycle MSCD assessment from November 2022.

These different elements of linkage detailed in this technical note have had concrete consequences on the elaboration of the operational part of the SBSDS and its strategic environmental assessment:

(1) in terms of timetable, the date of referral to the EA has been set for the beginning of February 2021 in order to allow a joint consultation period for the operational part of the SBSDS and the SDAGE(s);

(2) in terms of process, the Water Agencies have been involved in the various national meetings of the environmental action development process described above (notably the Blue WG).

At the **scale of the Eastern Channel-North Sea coastline**, this SBSDS/SDAGE linkage concerns both the Artois-Picardy SDAGE and the Seine-Normandy SDAGE. It is managed by:

- assiduous participation by the IMD in the various bodies of the Artois-Picardy and Seine-Normandy Water Agencies. The coordinating prefects, in conjunction with their departments, ensure consultation with the stakeholders for the two plans, via the Seine-Normandy and Artois-Picardy basin committees and the Eastern Channel-North Sea Maritime Council.

- Members of structures common to both bodies (Basin Committee and SBC)
- Regular collaborative work by the technical departments.

For example, with regard to the Seine-Normandy SDAGE, work aimed at linking the Eastern Channel-North Sea or SBSB with the SN 2022-2027 SDAGE has been performed since 2019. IMD Eastern Channel-North Sea took part in various meetings for the preparation of the SDAGE SN (participative seminar on the launch of the work to prepare the draft SDAGE SN 2022-2027 (September 2019), Basin Committees (October 2019, December 2019, June 2020, October 2020), Coastal and Marine Environment Commission (May 2020), meetings of the Permanent Commission on Programmes and Forward Planning). This organisation allows:

- Identification of the common objectives between the strategic environmental targets of the SBSB by descriptor and the orientations and provisions of the draft Seine-Normandy SDAGE. The list of these joint guidelines and provisions and the corresponding environmental targets of the SBSB are provided in the annexes to both the SDAGE and SBSB programmes. Many of the SDAGE's guidelines and provisions aim to reduce pressures on coastal and marine waters, including micropollutants, nitrogen flows, macro-waste, dredged sediments, and changes to the coastline.

- Co-writing certain objectives: IMD Eastern Channel-North Sea has actively participated in the drafting of the SDAGE's Fundamental Objective n°5 "Protect the sea and the coastline", and in the drafting of the preamble of the WFD/CSCD linkage chapter.

- To carry out joint reflections on cross-cutting themes between the two documents: in particular, IMD Eastern Channel-North Sea participated in various seminars between September 2019 and October 2020: thematic seminars on coastal strip management (November 2019), thematic seminars on wetlands and ecological continuity (January 2020), thematic seminar on marine eutrophication and nutrient flows (February 2020).

Concerning the SDAGE Artois-Picardie, work aimed at linking the SBSB Eastern Channel-North Sea with the SDAGE SN 2022-2027 was performed in 2020, which allowed:

- Identify the common objectives between the strategic environmental targets of the SBSB (descriptors) and the orientations and provisions of the Artois-Picardie SDAGE project. The list of these joint guidelines and provisions and the corresponding APME operational objectives is provided in the Annex (Annex X) to this document and the SDAGE.

- Harmonise the targets of certain descriptors: Eutrophication (descriptor 5) and Chemical and biological contamination (descriptors 8 and 9) between the two documents.

- To reflect on certain specific guidelines to ensure their compatibility, for example provision 9.3 (ARC on wetlands) of the SDAGE with environmental target D01-HB-OE1 of the SBSB Eastern Channel-North Sea (adapt grazing pressures and reduce physical disturbance of salt meadows and saltwort pioneer vegetation linked to anthropogenic activities)

This work on linking the two SDAGEs and the SBSB will be continued in 2021 during the period of public consultation and the joint bodies for the plans, and with regard to the opinions issued by the Conseil maritime de coastline and the Comité de Bassin on the two documents.

MARINE AGGREGATES GUIDANCE AND MANAGEMENT DOCUMENT (DOGGM)

The implementation of the guidance and sustainable management documents for marine aggregates (**DOGGM**) constitutes the declination of the marine part of the strategy for the sustainable management of land and marine aggregates and quarry materials and substances.

The DOGGM is drawn up for 12 years, with an evaluation and assessment of its implementation after 6 years, and covers the Eastern Channel-North Sea coastline.

The DOGGM is currently being drafted in the Eastern Channel-North Sea. This document has a special status in relation to the SBSB as it provides a framework for the management of marine aggregates extraction. It is part of the Maritime Spatial Planning Directive process and contributes to the objectives of the SBSBs. As such, it will form an annex to the Eastern Channel-North Sea maritime coastline strategy. The development of the DOGGM should seek to reconcile the marine aggregates extraction activity with the environmental and socio-economic objectives of the SBSB.

3.4.1 THE PLANS AND PROGRAMMES WITH A "STRUCTURING" LINK

REGIONAL PLANNING, SUSTAINABLE DEVELOPMENT AND TERRITORIAL EQUALITY SCHEME (SRADDET)

The **regional plans for land use planning, sustainable development and equality (SRADDET)** are plans that must set objectives and general rules in all of the following areas: territorial balance and equality, economical management of space, opening up rural areas, transport infrastructure and intermodality, housing, energy management and development, combating climate change, air pollution, protection and restoration of biodiversity, and waste prevention and management.

The SRADDET⁷ is an enforceable document with a hierarchy of compatibility with the SDAGE and consideration with the SBSB. This is why the SBSB is mentioned in the SRADDET Normandy and Haut de France.

With regard to the SRADDET Normandy:

The SRADDET 2019-2025 of Normandy was approved by the regional prefect on 2 July 2020. The sea and coastline theme is addressed in several guidelines, but some of them are particularly relevant to the objectives of the SBSBs.

⁷ which absorbs the Regional Waste Prevention and Management Plan (PRPGD), the Regional Climate Air and Energy Plan (SRCAE), the Regional Ecological Coherence Plan (SRCE), the Regional Infrastructure and Transport Plan (SRIT), the Regional Intermodality Plan (SRI)

Thus, among the 74 objectives of the SRADDET, the following objectives echo the environmental and socio-economic actions of the SBSB: objectives 9 and 10, linked to the enhancement and protection of natural coastal areas, Objectives 62 and 64, linked to the restoration of the functionality of coastal environments and ecological continuities, Objectives 52 or 70 on renewable energies, Objective 74 on waste, Objectives linked to the development of digital technology, Objectives 19 and 20 on transport, Objectives 9 and 45 on sustainable tourism and the ecological transition based on education for sustainable development

Finally, it should be noted that the regional objective of the SRADDET "To be able to integrate the approaches developed by all the stakeholders in the territory" refers to the integration of strategies performed in the region by the State and its operators, and in particular the SBSB.

With regard to the SRADDET Hauts de France:

The SRADDET 2019-2025 of the Hauts de France was approved by prefectural decree on 4 August 2020. It is based on four main areas: economic attractiveness, inter-regional assets, the development model and resource management. These priorities are broken down into 44 objectives, some of which more specifically echo the objectives of the BSF: those linked to resource management (objectives 31 to 44, which deal in particular with the themes of energy, air quality, climate change, waste, biodiversity and landscape), as well as the objectives linked to the balanced and sustainable development of the coast (objectives 12 to 14, which deal with the development of the maritime economy, the conditions for preserving the attractiveness of the coast, and the issues of knowledge and governance).

On the SBSB side, it can be noted that:

- the sufficiency analysis sheets performed on the SBSB actions mention SRADDETs on several occasions concerning the socio-economic objectives PTM-7C - Access to ports, PTM-7F - Modernisation of port areas, RLI-15A - Coastal risks.
- The Normandy Regional Council and the Haut de France Regional Council, members of the SBC, were able to give an opinion on the links between the actions of the SBSB and the objectives of the SRADDETs, in order to verify their compatibility or complementarity with the objectives of the SRADDET, particularly on the subjects of ecological transition, the circular economy, access of economic activities to the sea and Maritime Spatial Planning Directive, or even the management of the coastline

REGIONAL MARITIME STRATEGY (RMS)

The maritime strategy of the Normandy region was adopted in March 2019. This SMR is oriented around 6 strategic axes: consolidating the maritime identity of Normandy, encouraging the development of the maritime and river economy, guiding and training in sea-related professions, encouraging research, development and innovation, guaranteeing the development of the Normandy coastline and establishing appropriate governance and preparing for the future.

In September 2019, CESER Haut de France published the Blue Book Ambition "Littoral" for the Haut de France region. It focuses on 3 axes: 1-The sea as a resource; 2-A territory united and open to the world, 3-Living well on the coast.

LARGE PORT STRATEGY

Concerning the port of Le Havre and Rouen:

During the Comité Interministériel de la Mer (CIMER) in November 2018, the government decided to proceed with the integration of the ports of Le Havre, Rouen and Paris into a single public port establishment on the Seine. The HAROPA Economic Interest Grouping brings together these major seaports and has the following main missions: to reinforce the efficiency of strategic port missions; to conduct axis actions; to be a place for sharing experiences and good practices.

The Strategic Plan for the period 2020-2025 has been broken down into 4 development pillars: These include "Customers and Service", "Innovation", "Ecological Transition" and "Women and Men". The "Innovation" and "Ecological Transition" pillars present objectives linked to those of the SBS, such as the fluidification of traffic, the development of clean ports, the production of renewable energy, the digital transition, a policy to reduce carbon use, and the management of biodiversity.

Concerning the port of Le Havre:

In the same way, the sea and river ports of the Hauts-de-France region have joined together in the Norlink Ports association since 2017. The Large Marine Port de Dunkerque [Dunkirk] is one of them. Dunkerque MOC has developed its strategic project for 2019-2023.

As far as DFS is concerned, Objective 7 aims to strengthen the strategic positioning of the ports along the coast, to encourage port cooperation, and to modernise infrastructures and equipment while limiting disturbances to the environment. A number of actions have been developed: PTM- Eastern Channel-North Sea-05 (Equip ports with dedicated clean energy refuelling structures), PTM-Eastern Channel-North Sea-01 (Construct the Le Havre port gateway subject to regulatory authorisation and respecting activities), PTM-Eastern Channel-North Sea-02 (Strengthen inter-port cooperation at interregional level).

OTHER STRUCTURING DOCUMENTS

The **flood risk management plans** (PGRI) initiated by the European Directive on the assessment and management of flood risks, known as the "flood directive" and transposed into French law as part of the law of 12 July 2010 on the national commitment to the environment, have been set up in each major river basin. For the sake of consistency, the implementation of the Flood Directive (FD) is subject to a review every 6 years, like the SDAGE(s), and its timetable has been adapted to that of the WFD so that these two directives benefit from a certain number of steps and mutualised means. Thus, **the draft Seine-Normandy PGRI and Artois-Picardy PGRI** are coming to the end of their lifespan and those for the 2022-2027 cycle are currently being drawn up. They are subject to environmental assessment. The IRMP must consider the SBS and be compatible with its objectives.

Other strategies or schemes are coming to an end. This is the case in particular:

- the 2016-2021 **migratory fish management plan (PLAGEPOMI)** for the Seine-Normandy basin and the 2015-2020 Artois-Picardy migratory fish management plan;
- **regional strategies for integrated coastline management**. The one in Hauts de France is expected by the end of 2021.
- **regional plans for economic development, innovation and internationalisation (SRDEII)** Normandy 2016-2020 and Haut-France 2017-2021.

Finally, **the regional plans for the development of marine aquaculture** in the former regions of Normandy and Hauts de France must be compatible or made compatible with the objectives of the SBS (art. L. 219-4 of the EC). The SRDAMs currently in force in Normandy and Hauts-de-France were established by four separate orders of the prefects of the Haute-Normandie region on 7 December 2015, the Basse-Normandie region on 18 December 2015, the Picardie region on 30 November 2015, and the Nord-Pas-de-Calais region on 11 December 2015. These specify the need to carry out a review of the implementation of these plans, at the latest at the end of a period of five years from the date of their adoption. These assessments will be used to define the new aquaculture vocation maps, which will correspond to the new SRDAMs, and which will be integrated into the aquaculture planning of the coastline strategy document. These SRDAMs must therefore evolve to meet national aquaculture production objectives while respecting the environmental targets set by the strategic document for the coastline.

4. The environmental issues of the coastline

4.1. Structure of the issues to be considered

The sources mobilised to establish the initial state of the environment and identify the environmental issues to be considered are mainly derived from the scientific production performed in the context of the implementation of the second cycle of the APMEs (initial assessment of the state of the marine environment and analysis of the environmental impact of human activities). Four main sources, partly annexed to the SBSB, were mobilised within this production:

- the scientific and technical summary of the initial assessment of the ecological status of marine waters with respect to the 11 descriptors of the MSFD (Annex 2a to the SBSB);
- the sheets associated with the environmental targets (Annex 6b to the SBSB);
- the environmental issues APME, including the mapping of ecological issues as well as the description of the sectors with ecological issues identified (Annex 5 to the SBSB);
- the environmental report of the strategic environmental assessment of the coastline maritime strategies performed in 2018 (hereafter referred to as "SEA1").

As the notion of environmental issue in the SEA sense is broader than the notion of ecological issue, we have taken up the structuring of issues established during the SEA1 proposing the consideration of 17 environmental issues divided into three categories, which are listed in the table below:

Category of issues	Acron.	Environmental issues	Correspondence to descriptors MSFD	Characteristic elements
Issues related to the components of the marine environment	HB	Benthic habitats	D1-HB	Quality of major biogenic, rocky, sedimentary, deep, wetland habitat types
	MT	Mammals and turtles	D1-MT	Distribution and abundance of species: home range of sedentary bottlenose dolphin groups, seal colonies, feeding areas, other cetaceans
	OM	Sea birds	D1-OM	Distribution and abundance of species: nesting, feeding areas, colonies, wintering sites of sea birds and coastal birds, areas of maximum density, functional areas
	PC	Fish and cephalopods	D1-PC	Distribution and abundance of species: functional fishing areas (spawning grounds, nurseries), localized populations (benthic invertebrates, elasmobranchs), areas of concentration and migration of amphihaline fish
	EC	Commercial species	D3	Stock status of commercially exploited fish and shellfish species

	RT	Food webs	D4	Food balance
Issues related to pressures on the marine environment	NIS	Non-indigenous species	D2	Non-native species of an invasive or ecosystem-disrupting nature
	Eut	Eutrophication	D5	Human-induced eutrophication
	Int	Seabed integrity	D6	Seabed integrity and artificialization of the coastline
	Hyd	Modification of the hydrographic conditions	D7	Hydrographic conditions
	Cont	Chemical and biological contamination	D8 and D9	Chemical contaminants in the environment, phycotoxins, microbiological contaminants
	De	Waste	D10	Amount of floating, shoreline, bottom, ingested waste and micro-waste
	Br	Noise	D11	Level of noise disturbance
	Other societal issues	Pay	Landscapes and underwater	Not relevant
Air		Air quality	Not relevant	Greenhouse gases, air pollutants
Ris		Natural and human risks	Not relevant	Climatic, natural and industrial risks
Co		Knowledge	Not relevant	Production of knowledge about the environment, species, socio-economic activities

To complete the initial environmental assessment of the SBSDS, the initial environmental assessment detailed below will seek to further spatialise the components of the 17 environmental issues. For this purpose, a methodology based mainly on the annexes to the SBSDS, and applicable zone by zone, was developed in order to differentiate the deviation from good environmental status (GES) by zone⁸.

– In the case where the GES is assessed at the coastline scale (whole or part), two inputs were used to spatialise the GES gap:

- the distribution of habitats/species at stake, specific to each area (case of: HB, MT, OM, PC, EC),
- the existence of spatialised maps of the results enriching the GES (case of: Eut, Cont).

– In the case where the GES could not be assessed, the choice was made to define a "level of challenge" based on the distribution of anthropogenic activities, which makes it possible to: either qualify the level of pressure exerted by anthropogenic activities on the challenge (case of: NIS, Art, Hyd, De, Br, Air, Ris), or to assess this level on the basis of elements favourable to the issue (case of: Pay, Co).

⁸ Annexes 2a and 6b to the SBSDS are the only studies available to date that have sought to accurately assess the good environmental status of the 11 MSFD descriptors.

4.2. Issues related to the components of the marine environment

The Eastern Channel-North Sea coastline is characterised by:

- a vast natural public maritime domain shaped by extremely variable tidal ranges and the strongest tidal currents of any coast in mainland France.
- shallow seabed ranging from 50 to 100 metres. However, the Casquets pit reaches 160 metres. The coastal areas show a fairly marked dynamic. Thus, the coastline evolves thanks to the semi-diurnal tide, climatic conditions, and sediment transits.
- significant hydrodynamics with many rivers and estuaries forming bays in contact with the marine environment, or, in a more modest way, harbours at the mouth of small coastal rivers.

The Channel North Sea Marine Sub-Region (MRS) covers 8 key areas⁹. It should be noted that these sectors correspond identically to the vocational zones, although the names differ.

Under the MSFD, the Eastern Channel - North Sea (ECNS) maritime coastline is integrated into the Channel - North Sea Marine Sub-Region (MNS MSR). Of the 11 sectors with ecological issues identified within this marine sub-region (cf. Annex 5b part 1 of the SBS), 8 belong to the Eastern Channel-North Sea coastline. It should be noted that the determination of the sectors of the vocations APME of the Eastern Channel-North Sea coastline was based on these 8 sectors with ecological issues, without however taking up their exact names and numbers.

4.2.1. Benthic habitats

LOCATION OF HABITATS OF STRONG CONCERN AND ASSESSMENT OF THEIR STATUS AT COASTLINE LEVEL

The Eastern Channel - North Sea is a part of the marine sub-region that is particularly representative of the **sedimentary habitats** that occupy more than 95% of its floor. The areas of bays and estuaries are characterised by fine, more or less silted-up sediments, whereas the areas with strong currents (the Pas de Calais Strait, the central Channel and the coasts of Upper Normandy) are characterised by coarser sediments ranging from medium sands to pebbles and rocks.

The ecological issue of sedimentary habitats is reported as major in three sub-sectors (out of eight):

⁹ Southern North Sea and the Strait of Pas de Calais, Coastal River - Seine-Marine coastline, Eastern Channel, Bay of Seine, North Cotentin, Gulf of Normandy Breton (West Cotentin), Celtic Sea and Western Channel

- The Seine Bay presents major challenges for subtidal and intertidal coarse sediments. It is also the most representative site in France for subtidal heterogeneous sediments;
- The Norman-Breton Gulf is the most important site at national level for coarse sediments and gravel, eelgrass beds, sandy foreshores and salt meadows. It is important to specify the particular issues of the maerl beds and the hermeilla alveolata reefs in the Mont-Saint-Michel bay.
- In the Celtic Sea and Western Channel, heterogeneous subtidal sediments are a major issue, as are coarse subtidal sediments.

To measure the state of benthic habitats, the BenthVal indicator quantifies the loss of species abundance between two years sampled during the period 2012- 2016. In the Channel and North Sea marine sub-region, the BenthVal indicator was calculated for a total of 18 stations characteristic of six major types of benthic habitats on soft substrates:

Main types of benthic habitats with loose substrates	BenthVal indicator 2012-2016 <i>(The number represents the number of measuring stations)</i>		
	Decline in housing condition	Stability of habitat condition	Increase in the state of the habitat
Infralittoral sands			2
Infralittoral muds		1	1
Coastal circalittoral sands		2	
Intertidal sediments	2	5	1
Coastal circalittoral muds	1		1
Coarse infralittoral sediments	2		

Source - Assessment of the achievement of good environmental status of benthic habitats under descriptors 1 and 6

For the Marine sub-region, the indicator tells us that:

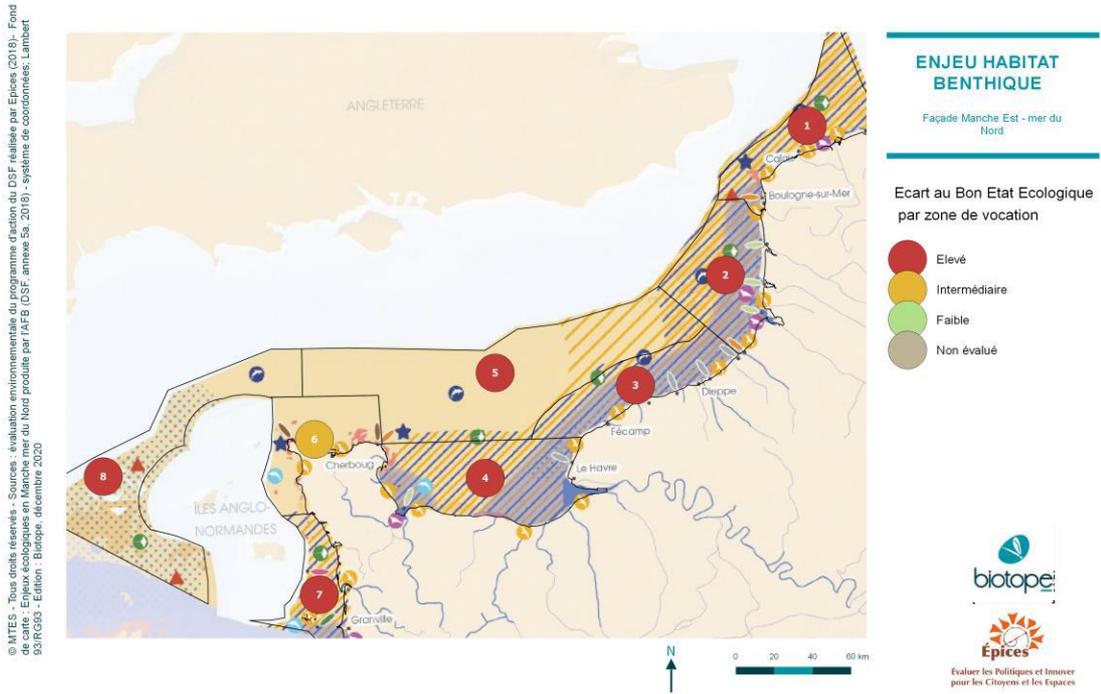
- The infralittoral sand habitat is in an improving condition;
- Intertidal sediments, subtidal muds, coastal circalittoral muds and coastal circalittoral sands are rather stable in their condition;
- The infralittoral coarse sediments are in a deteriorating state.

In terms of deviation from good environmental status, only the vocation zone 6 Golfe Normand Breton (West Cotentin) stands out from the other zones by having a deviation from the GES ranked

The gap between the two zones is "intermediate", while the other zones have a "high" gap. It should be noted, however, that for the two habitats at risk in ZV6, only one habitat could be assessed.

For the 7 areas with a "high" GES deviation, the reliability of the results obtained is considered to be low as the GES deviation is mainly based on Natura 2000 data and the European Red List classification of habitats where possible, as the GES status could not be assessed on its own.

OVERALL SPATIAL DISTRIBUTION AT VOCATION ZONE LEVEL: GES DEVIATION



PRESSURES ON HABITATS

The main sources of pressure exerted by human activities on benthic habitats are the following (source: SBSO EO sheets, Annex 6):

Type d'habitat benthique Activité génératrice de pression	Habitats rocheux intertidaux	Habitats rocheux subtidaux et circalittoraux	Habitats sédimentaires	Herbiers de zostères	Prés salés
Travaux publics maritimes	Non Oui	Non Oui	Non Oui	Non Oui	Non Oui
Artificialisation des littoraux	Non Oui	Non Oui	Non Oui	Non Oui	Non Oui
Agriculture et industries	Non Oui				Non Oui
Pêche professionnelle	Oui Oui	Oui Oui	Oui Oui	Oui Oui	
Pêche de loisirs	Oui Oui		Oui Oui		
Aquaculture				Oui Oui	
Extraction de matériaux			Non Oui		
Tourisme littoral				Oui Oui	Oui Oui
Activités balnéaires et fréquentation de plage			Non Oui	Oui Oui	
Navigation de plaisance et sports nautiques				Oui Oui	

Caption:

- ✓ Activity generating pressure for the habitat type (most contributing)
- ✓ Activity dependent on the ecological status of the habitat type

4.2.2. Mammals and turtles

STATUS OF MARINE MAMMALS AND TURTLES OF STRONG CONCERN AND ASSESSMENT OF THEIR CONDITION AT COASTLINE LEVEL

The French Biodiversity Office in its document presenting the ecological challenges of the marine sub-region shows that the Channel is a major concentration site for:

- The **bottlenose dolphin** in the Normandy-Breton Gulf area and the northern Cotentin. The site of the Norman-Breton Gulf is among the most important in Europe;
- **Colonies of harbour and grey seals**, present in most of the areas of the Eastern Channel-North Sea coastline but particularly in the southern North Sea and the Strait of Calais and the Picardy estuaries and the Opal Sea;
- The **harbour porpoise** has a strong presence in most areas of the Eastern Channel-North Sea coastline;
- **Marine turtles** including leatherbacks and loggerheads are reported episodically without reproducing there.

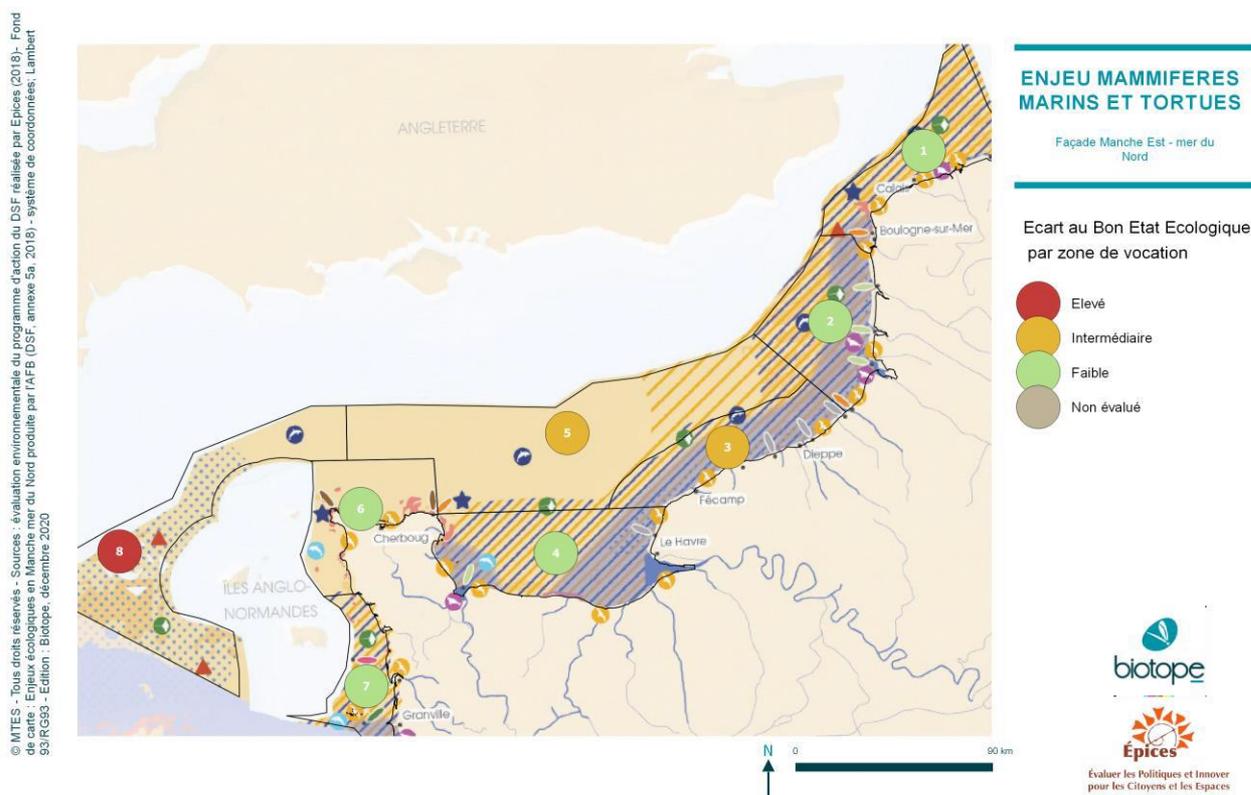
The population trends of the main species at stake are as follows:

- The bottlenose dolphin has a stable or even increasing population in certain sectors;
- For the seal species group (harbour and grey seals), their population has been steadily increasing since monitoring began in France;
- Conversely, harbour porpoise bycatch rates have affected the population dynamics of this species.

Groupe d'espèces	Espèce	Evolution (mesure de l'abondance et distribution)
Phoques	Phoque veau-marin	Augmentation
	Phoque gris	Stable
Petits odontocètes	Marsouin commun	Stable mais augmentation de captures accidentelles
	Grand dauphin	Stable ou augmentation
	Lagénorhynque à bec	Stable
Mysticètes	Petit rorqual	Stable

Source - Assessment of the achievement of good environmental status of benthic habitats under the descriptor

OVERALL SPATIAL DISTRIBUTION AT VOCATION ZONE LEVEL: GES DEVIATION



When considering all the populations of marine mammals and turtles at stake in a spatialised manner, it is possible to observe significant spatial differences in the GES deviation between zones. It can be seen that the deviation from the GES is generally low in the coastal zone, due to the GES being reached for seals, and higher when moving towards the offshore areas where the presence of small cetaceans is more marked. Therefore, the issues in zone 8, shown in red on the APME, were mainly characterised by the assessment of harbour porpoises. This assessment does not achieve good environmental status because of the high rate of accidental catches for this high-stake species. Zone 3, classified as "intermediate", is the result of considering the issues of porpoises (not reaching the GES) and seals (reaching the GES).

PRESSURES ON MARINE MAMMALS AND TURTLES

The **main sources of pressure exerted by human activities on marine mammals and sea turtles** are as follows (source: SBSD EO sheets, Annex 6):

Activité génératrice de pression	Mammifères marins et tortues
Transports maritimes et ports	Non Oui
Pêche professionnelle	Non Oui
Production d'énergie	Non Oui
Tourisme littoral	Oui Oui
Activités balnéaires et fréquentation de plage	Oui Oui
Agriculture	Non Oui
Navigation de plaisance et sports nautiques	Oui Oui
Défense et intervention publique en mer	Non Oui
Industries	Non Oui

Légende :

✓ **Activité génératrice de pression pour les mammifères marins et tortues (les plus contributives)**

✓ **Activité dépendante de l'état écologique des mammifères marins et tortues**

4.2.3. Sea birds**STATUS OF HIGH-STAKE SEA BIRDS AND ASSESSMENT OF THEIR STATUS**

The French Office for Biodiversity, in its document presenting the ecological challenges of the marine sub-region, considers that the Channel is a **major site for the concentration of marine avifauna**, since 18 species of sea birds regularly nest and reproduce there. The Channel is the leading concentration site for marine avifauna, particularly in winter (in the Eastern Channel and the Bay of Seine) but also in summer (in the Bay of Seine and in the Norman-Breton Gulf, a major site for **the Balearic shearwater and the moulting common scoter**).

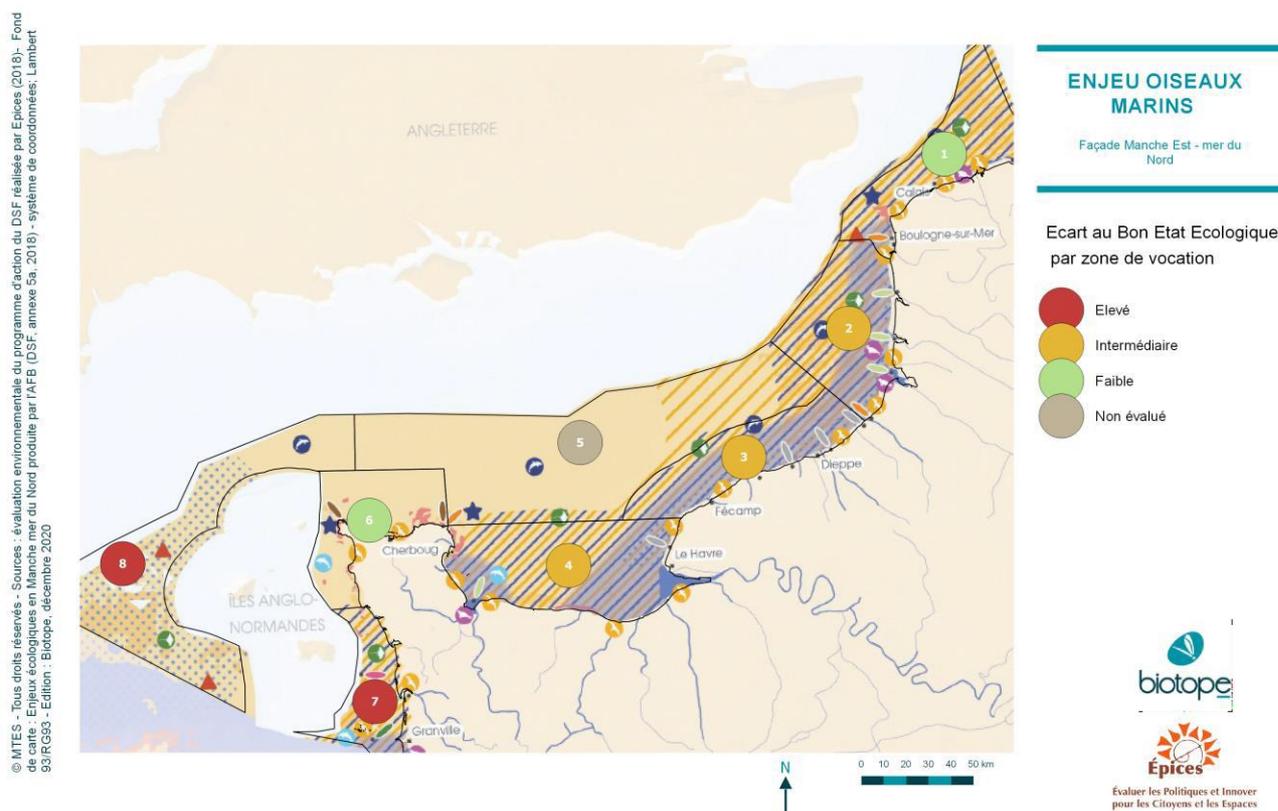
On the foreshore, 4 wintering sites have internationally significant numbers of birds (the Bay of Mont-Saint-Michel, the Picardy coast, the Bay of Veys and the west coast of the Cotentin). The cliff sectors (Cap Blanc-Nez, Pays de Caux and Bessin) make the Channel the **leading marine sub-region for the nesting of Black-legged Kittiwake, Northern Fulmar and Herring Gull**. The lower coasts are used more by shorebirds (Great Gravelot, Ring-necked Plover and Oystercatcher).

The analysis of the good environmental status assessment shows that:

- Of the 15 species of breeding sea birds, according to the population abundance criterion, 9 species achieve good status, 3 species do not (northern fulmar, great cormorant, herring gull) and 3 species are not assessed;

- Of the 12 species of coastal shorebirds, according to the criterion of the abundance of the population, all species achieve good status;
- The criteria of sea bird abundance (26 species) and sea bird juvenile production (15 species) could not be assessed.

OVERALL SPATIAL DISTRIBUTION AT VOCATION ZONE LEVEL: GES DEVIATION



Zones 7 and 8 are the only ones with a high GES deviation on the coastline. Coastal areas 2, 3 and 4 have an intermediate GES gap. Zones 1 and 6 have a low GES deviation, and the GES deviation could not be assessed in zone 5 for birds.

However, it is important to note that the reliability of the status is considered low for all areas. Indeed, the GES is not known for a large majority of species or assessed on the basis of a single assessment criterion (Annex 2a of the SBSO). Thus, for sector 7, of the 15 high-stake species that were considered, 13 had not been assessed. For sector 8, five species were assessed on a single criterion and one species was not assessed. Zone 1, where the deviation from the GES is low, is composed of 4 species classified as good status out of 6 considered in the analysis. And in zone 6, of the 3 species at stake in zone 6, the status is only known for one.

PRESSURES ON SEA BIRDS AND COASTAL BIRDS

The **main sources of pressure exerted by human activities on sea birds** are as follows (source: SBSO EO sheets, Annex 6):

Activité génératrice de pression	Oiseaux marins	
Tourisme littoral	Oui	Oui
Activités balnéaires et fréquentation de plage	Oui	Oui
Navigation de plaisance et sports nautiques	Oui	Oui
Artificialisation des littoraux	Non	Oui
Pêche professionnelle	Non	Oui
Production d'énergie	Non	Oui
Pêche de loisirs	Non	Oui

Légende :

✓ Activité génératrice de pression pour les oiseaux marins (les plus contributives)

✓ Activité dépendante de l'état écologique des oiseaux marins

4.2.4. Fish and cephalopods

STATUS OF HIGH-STAKE FISH AND CEPHALOPODS AND ASSESSMENT OF THEIR STATUS

The French Biodiversity Agency, in its document presenting the ecological challenges of the marine sub-region, considers that for fish species:

- Coastal fine sediments, bays and estuaries and salt meadows are major areas for nurseries, especially for the following species: sea bass, dab, whiting, plaice, sole, herring and sprat;
- The coarse sediments of the open sea are more spawning grounds for dab, plaice, sole, whiting, cod (...);
- These sedimentary areas are also important for curly, soft and brown skates;
- On the coast, some species spawn in the bays or in the coastal river, such as cuttlefish, herring and greyfish;
- The bays are also frequented by amphihaline fish such as eels, shad, lampreys and salmon.

In addition, several species of elasmobranchs, with very unfavourable conservation status at global level, were historically well represented in the marine sub-region (e.g., white skate, angel shark and skate).

An assessment of the good environmental status of the fisheries resource shows that the attainment or non-attainment of the GES could be assessed for a total of 26 species at the scale of the coastline

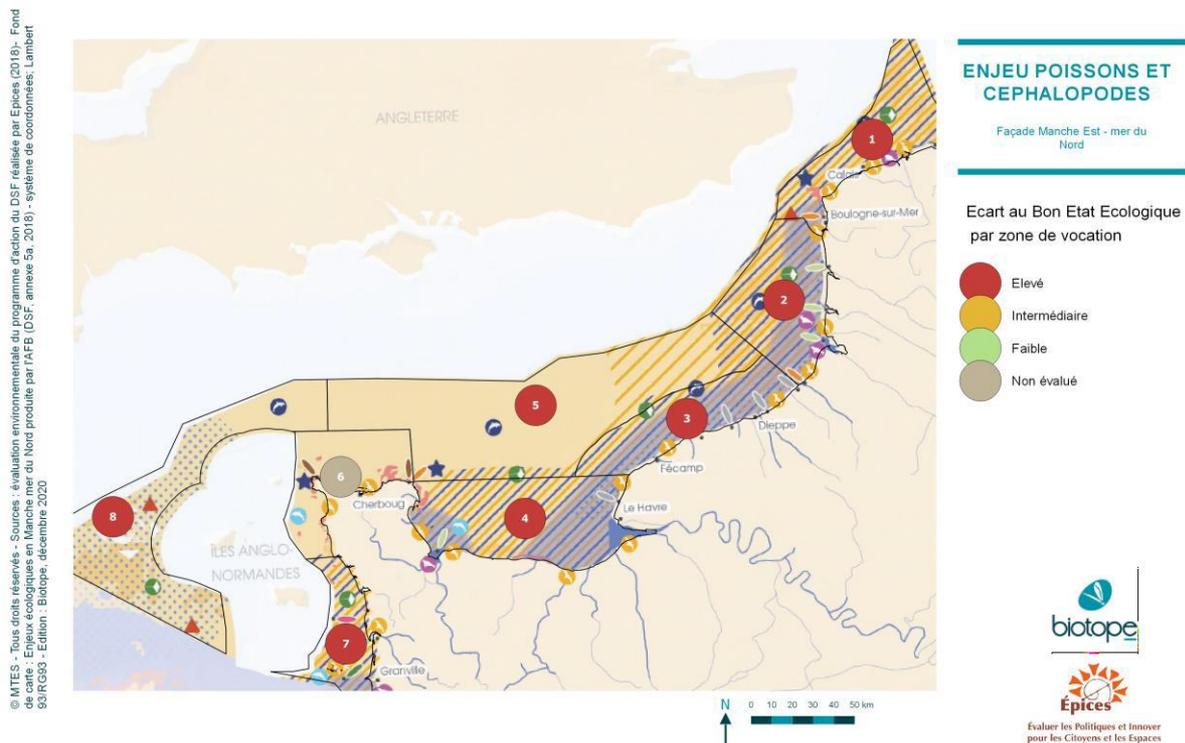
Eastern Channel-North Sea (1 coastal fish species out of 14 species, 9 pelagic fish species, 9 demersal fish species and 7 amphihaline fish species out of 11), i.e., 12% of the

list of species identified as relevant at national level for the assessment of the fish and cephalopod components:

For coastal fish species, 13 of the 14 species were not assessed due to insufficient data. The risk of extinction for each of these 13 species is considered to be of "least concern" by the IUCN. The only species assessed (sea bass) does not meet the GES;

- For amphihaline fish species, all the species selected as representative do not reach the GES. The trend in overall status is consistently downward for the European eel, and unknown for the other species;
- Half of the demersal fish species assessed reach the GES. However, these species represent just under 6% of the diversity of fish and elasmobranchs observed during the CGFS6 ;
- Commercially exploited pelagic fish species meet GES conditions for only three of them (herring, Atlantic bluefin tuna and swordfish). For the two pelagic species with protected status (basking shark and porbeagle), the GES is not met;
- No cephalopod species could be assessed.

OVERALL SPATIAL DISTRIBUTION AT VOCATION ZONE LEVEL: GES DEVIATION



There is a high deviation from the GES for the overall fish and cephalopod issue for the entire coastline. Indeed, too few fish and cephalopod species have reached the GES. Furthermore, the reliability of these results is low because for many of the species at risk identified, the status of the GES has not been assessed.

PRESSURES ON FISH AND CEPHALOPODS

The **main sources of pressure exerted by human activities on fish and cephalopods - wild species** - are the following (source: SBSO EO sheets, Annex 6):

Type de poissons et céphalopodes Activité génératrice de pression	Zones fonctionnelles halieutiques	Poissons et céphalopodes côtiers	Secteurs de concentration et de migration des amphihalins	Elasmo-branches
Transports maritimes et ports	Non	Oui		
Travaux publics maritimes	Non	Oui	Non	Oui
Production d'énergie	Non	Oui		
Extraction de matériaux	Non	Oui		
Pêche professionnelle	Oui	Oui	Oui	Oui
Pêche de loisirs	Oui	Oui	Oui	Oui
Artificialisation des littoraux	Non	Oui	Non	Oui
Tourisme littoral	Oui	Oui	Oui	Oui
Navigation de plaisance et sports nautiques	Oui	Oui	Oui	Oui
Activités balnéaires et fréquentation de plage			Oui	Oui

Caption:

- ✓ Pressure-generating activity for fish and cephalopods (most contributory)
- ✓ Activity dependent on the ecological status of the type of fish and cephalopods

COMMERCIAL SPECIES¹⁰

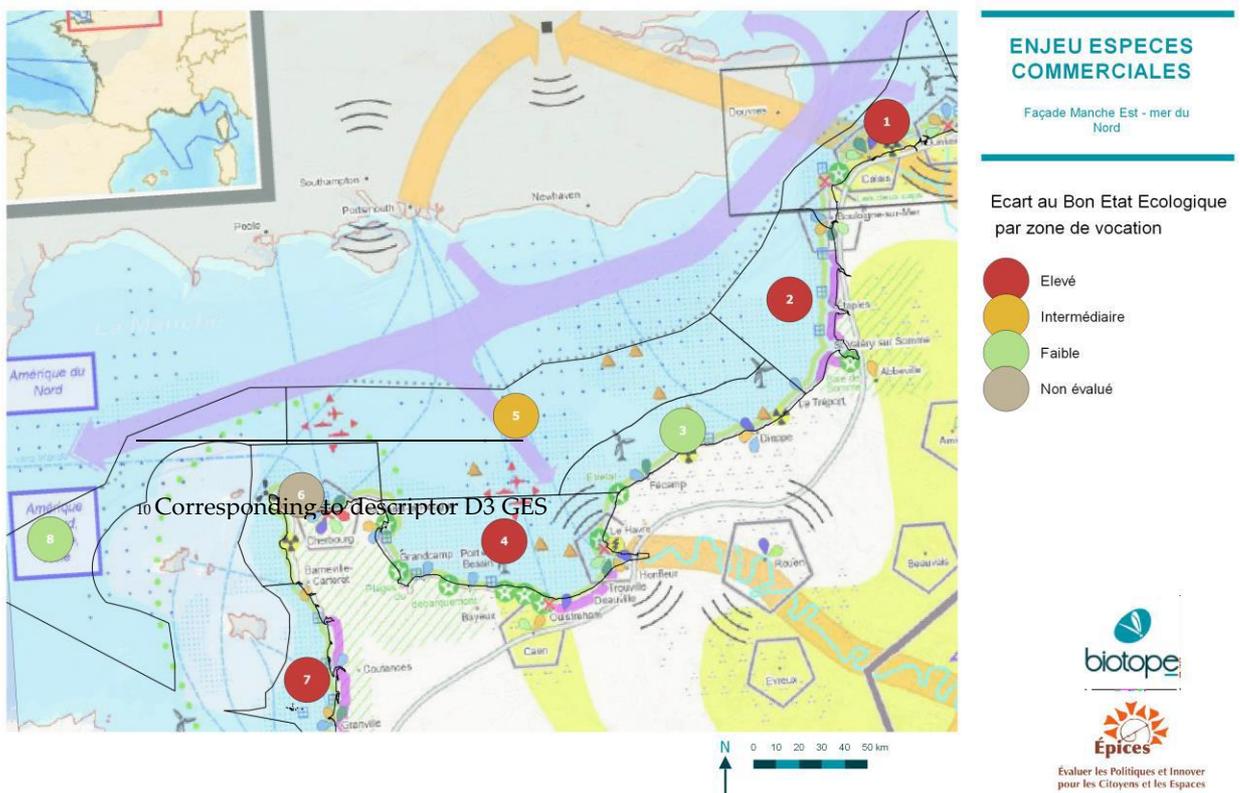
STATUS OF HIGH-STAKE COMMERCIAL SPECIES AND ASSESSMENT OF THEIR STATUS

Commercial species are those species that are mainly exploited by professional fishermen for the purpose of marketing. GES descriptor 3 identifies 86 stocks that are wholly or partly within the waters covered by the ENMW frontage and for which scientific expertise has been provided. Based on the catches of the fleets, the following stocks contribute to more than 60% of the total landings in value from the French fleets dependent on this coastline: scallops for 28%, sole for 17% and finally sea bass, a species of sole, whelk, mackerel, whiting and plaice.

For commercially exploited species, the achievement of good environmental status is based on the Common Fisheries Policy objective of maximum sustainable yield. Overall, it can be said that out of the 86 species for which scientific expertise is available in the Eastern Channel-North Sea front, 25 have been quantitatively assessed: 12 species reach the GES against 13 that do not, including sole which represents 17% of total landings. Furthermore, the results obtained over the last 10 years show that conditions are improving for many of the stocks surveyed. The main pressures likely to degrade the state of the resource of commercial species are professional and recreational fishing, which act on fishing mortality.

OVERALL SPATIAL DISTRIBUTION AT VOCATION ZONE LEVEL: GES DEVIATION

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As regards the spatial GES deviation from the vocational zones, it differs from one zone to another: high in zones 1, 2, 4 and 7, low in zones 3 and 8, intermediate in zone 5 and not assessed in zone 6. However, it is important to note that the reliability of this status is rated low for all areas, as good status is not known for a significant proportion of the species at risk considered in the analysis of vocation areas. Thus, in zones 3 and 8, only one species has a known status and is in good condition, resulting in a low GES deviation, while the other species do not have a known GES status.

PRESSURES ON COMMERCIAL SPECIES

Two activities in particular contribute to the pressure on commercial species: professional and recreational fishing, notably through species extractions impacting on the structure and abundance of communities and bycatch leading to increased mortality and injury. These activities are also dependent on the ecological status of the issue. To a lesser extent, other activities can generate impacts: material extraction, through the destruction of benthic species, or research and development activities which can generate one-off impacts through scientific sampling (Source: Appendix 6c of SBSB Flight 1).

4.2.5. Food webs

Several specific pelagic habitats have been identified. These are the two strait zones (Calais and Cotentin), the coastal river zone (between Antifer and Boulogne sur Mer) and the land-sea interface zones that are the large macro-tidal bays (Picardy estuaries, Seine Bay, Veys Bay and Mont St Michel Bay). The planktonic communities of these habitats, supra-benthic species (shrimps) and small benthic fish (sand eels, gobies, callionyms) play an important role in the food networks of the marine sub-region.

The main sectors of primary and secondary producers and forage species are :

- The Southern North Sea and the Strait of Calais with mainly callionymids as forage species;
- The Picardy estuaries and the Opal Sea with mainly callionyms, sand eels, gobies and shrimps as forage species;
- The coastal river - Seine marine coastline which is a feeding area for top predators;
- The Seine Bay with mainly callionymids, sand eels and gobies as forage species;
- The Normandy-Breton Gulf with mainly sand eels as forage species.

With regard to the assessment of good environmental status, in the absence of a scientific report on this topic, no conclusion on the status of the GES can be drawn. However,

the analysis of the ecological status of the forage species subject to sampling - sand eel, anchovy, sprat and sardine (source report D3, Initial State and ICES Opinion) shows that:

- The GES is not met for sand eels in particular in the North Sea sector;
- The GES is achieved for sardines;
- No assessment for anchovies and sprat.

The main pressures that impact the food web are

- Nutrient inputs;
- Harvesting of fodder species ;
- Changes in hydrographic conditions.

Other pressures to be considered include inputs of hazardous waste substances, inputs of organic matter, introduction of microbial pathogens and introduction of non-native species.

The status of the GES has not been assessed for this issue. A fortiori, it was therefore not possible to spatialise the deviation from the GES at the level of the vocation areas.

4.3. Issues related to pressures on the marine environment

4.3.1. Non-native species

ORIGIN OF PRESSURES AND ASSESSMENT OF THE SIGNIFICANCE LEVEL

Since 2012, 34 new NIS have been reported in French waters in mainland France, 28 of which correspond to a first report on a French scale. Eight new NIS were reported in the Channel and North Sea. They are Chordates, Annelids, Cnidarians and Arthropods. Given the heterogeneity of the available data due to the lack of standardisation of methods, it is currently not possible to statistically assess whether or not the GES is achieved.

The main anthropogenic activities that may contribute to the introduction of NIS are the following (source: SBSO EO sheets Annex 6). In the absence of a dedicated monitoring programme, it is difficult at present to measure whether the impacts of non-native species are decreasing or increasing.

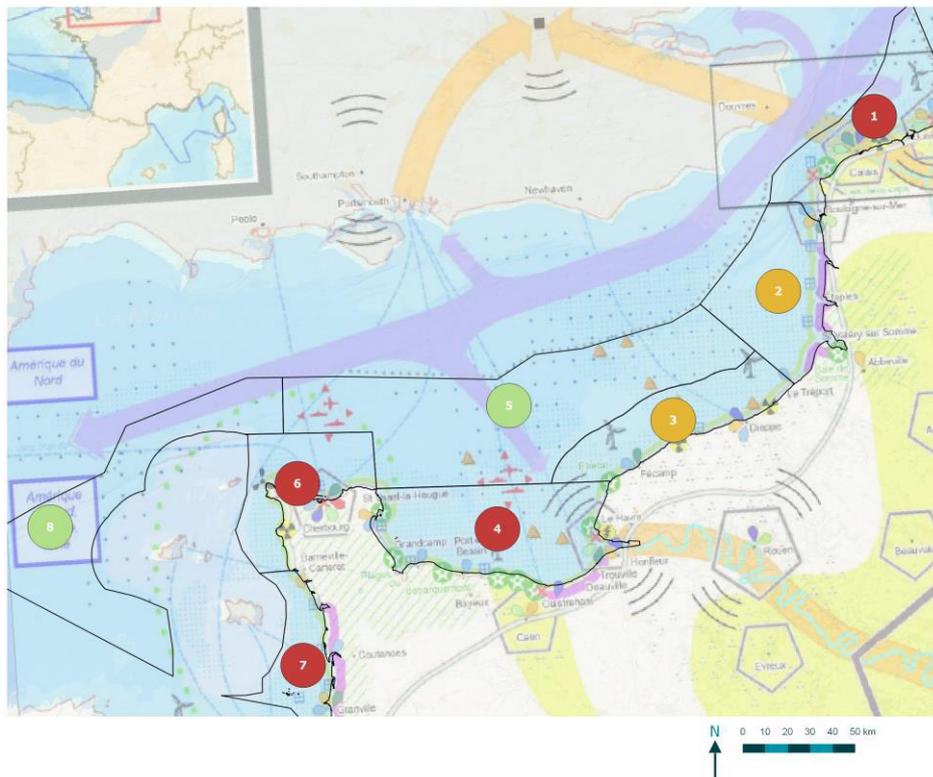
Pressure-generating activity	Non-native species
Maritime transport and ports	No Yes
Defence and public intervention at sea	No Yes
Aquaculture	Yes Yes
Boating and water sports	No Yes
Recreational fishing	Yes Yes
artificialization of the coastline	No Yes

Caption:

- ✓ Generating activity the introduction of non-native species (the most contributing ones)
- ✓ Proliferation state dependent activity of non invasive species

SYNTHETIC SPATIAL DISTRIBUTION AT THE SCALE OF VOCATION ZONES: SIGNIFICANCE LEVEL

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ENJEU ESPECES NON INDIGENES
 Façade Manche Est - mer du Nord

Niveau d'enjeu par zone de vocation

- Elevé
- Intermédiaire
- Faible
- Non évalué



As the status of the GES was not assessed for the NIS issue, the spatialisation of the issue by vocation area was based on the distribution of activities that could exert pressure on the issue. Four vocational zones have a high level of concern regarding NIS: ZV1, 4, 6 and 7 because they combine the presence of aquarium zones and commercial ports,

or large commercial port. The other coastal areas (2 and 3) are classified as intermediate, mainly due to the presence of shellfish growing areas. The offshore areas (5 and 8) are less affected by NIS and are classified as low risk.

4.3.2. Eutrophication

ORIGIN OF PRESSURES AND ASSESSMENT OF THE SIGNIFICANCE LEVEL

Eutrophication¹¹ is a process driven by an enrichment of water by nutrients, especially nitrogen and/or phosphorus compounds, leading to: an increase in algal growth, primary production and biomass; a change in the balance of organisms; and a degradation of water quality.

The main ecological issues impacted by this pressure are: HFAs (spawning grounds, nurseries), sedimentary and rocky intertidal habitats, pelagic habitats and food networks.

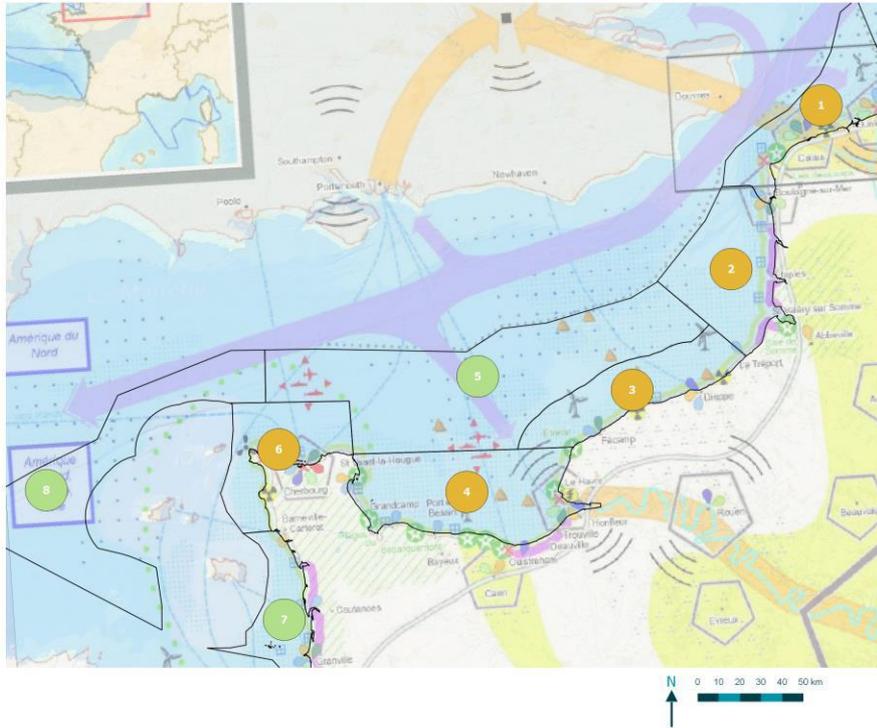
Analysis of the achievement of good environmental status shows that GES is not achieved in 4.6% of the MMN marine sub-region, in particular the coastal (West and East Côte de Nacre and Barfleur) and intermediate (Seine estuary and Baie de Somme) areas. It appears that the eutrophication problem is associated with the combined action of high nutrient and chlorophyll-a concentrations in the Somme and Seine estuaries. Indeed, there are still significant nutrient flows in these two rivers, with a stagnation or a significant increase in nitrate flows since the 1990s (and a decrease in phosphates). The absence of eutrophication problems between these two areas may be due to the dilution of the Seine plume at the Normandy flower coast. Furthermore, the results show that macroalgal strandings lead to the GES not being reached for some Normandy coastal water bodies located in the Baie de Seine, and therefore under the potential influence of its discharges. Offshore areas are not affected.

This is reflected quite well in the spatialisation by vocation area by the increase in the level of stake in the areas concerned from low to intermediate (figure below).

SYNTHETIC SPATIAL DISTRIBUTION AT THE SCALE OF VOCATION ZONES: SIGNIFICANCE LEVEL

¹¹ according to the DSCMM by the task group5, 2010 Ferreira et al., 2010

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ENJEU EUTROPHISATION

Façade Manche Est - mer du Nord

Niveau d'enjeu par zone de vocation

- Elevé
- Intermédiaire
- Faible
- Non évalué



The main inputs of nutrients are by land, river and/or air. The main activities generating eutrophication are agriculture, maritime transport and the artificialization of the coastline (source: SBSDE EO sheets, Annex 6):

Pressure-generating activity	Eutrophication
Agriculture	No Yes
artificialization of the coastline	No Yes
Maritime transport and ports	No Yes
Industries	No Yes
Coastal tourism, seaside activities and beach use, boating and water sports	Yes No
Aquaculture	Yes No
Extraction of materials	No Yes
Recreational fishing	Yes No

Caption:

- ✓ Eutrophication generating activity (most contributing)
- ✓ Dependent activity of the state eutrophication

4.3.3. Integrity of seabed

ORIGIN OF PRESSURES AND ASSESSMENT OF THE SIGNIFICANCE LEVEL

The definition of good environmental status for seabed integrity is as follows: the level of seabed integrity ensures that ecosystem structure and function are maintained and that benthic ecosystems in particular are not disturbed.

The GES is unknown for all coastlines. However, the evaluations provide a picture that shows that:

- Potential physical losses of the seabed represent an area of 218 km² in the MMN MRS (less than 0.8% of the MRS area);
- Potential physical disturbances of the seabed cover an area of over 28,219 km² in the MMN MRS (99.6% of the MRS area);
- The majority (85%) of the major benthic habitat types present in the MMN MRS are potentially disturbed to more than 99% of their extent.

The GES assessment also shows that professional bottom fishing is the activity most responsible for the potential physical disturbance of the major benthic habitat types in the MMN MRS. Two other activities are responsible for significant potential physical disturbance¹² for certain habitat types: dredging for "coastal circalittoral heterogeneous sediments" and mooring for "offshore circalittoral sands", responsible for more than 14% and 8.8% of the potentially disturbed surface respectively.

Pressure-generating activity	Integrity of the seabed
Extraction of materials	No Yes
Maritime public works	No Yes
Professional fishing	No Yes
Seaside activities and beach use	No Yes
Aquaculture	No Yes
Submarine cables	No Yes
Boating and water sports	Yes

Caption:

✓ Activity generating artificialization of the seabed (the most contributory)

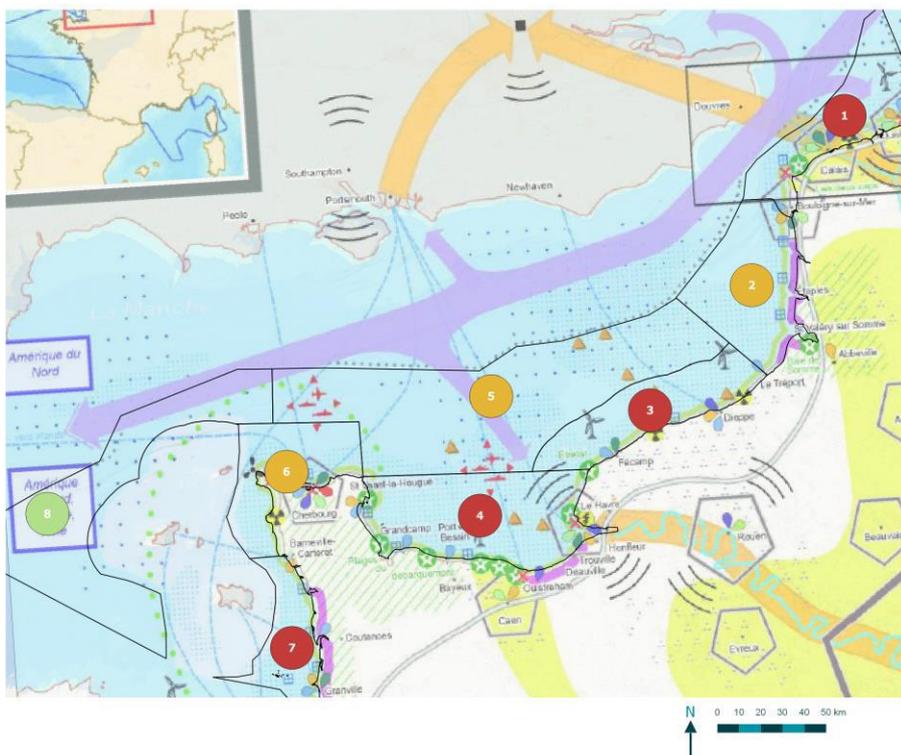
✓ Activity dependent on the integrity of the seabed

¹² The adjective "potential" here reflects the many assumptions and uncertainties associated with this assessment.

Power generation	No	Yes
Research and development	No	Yes
Recreational fishing	No	Yes

SYNTHETIC SPATIAL DISTRIBUTION AT THE SCALE OF VOCATION ZONES: SIGNIFICANCE LEVEL

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ENJEU INTEGRITE DES FONDS MARINS

Façade Manche Est - mer du Nord

Niveau d'enjeu par zone de vocation

- Elevé
- Intermédiaire
- Faible
- Non évalué



As the status of the GES was not assessed at this stage, the spatialisation of the seabed integrity issue by vocation area was based on the distribution of activities that may exert pressure on the issue. Four vocational zones have a high level of concern regarding this issue: ZV1, 3, 4, and 7, because they cumulate more than four activities at stake (e.g., anchoring, aquaculture, coastal works, extraction of materials, dredging, dumping of materials). The other areas have an intermediate level of concern with less pressure activities. Zone 8 offshore, which has only dragging fishing activity, is classified as low risk.

The **main anthropogenic activities likely to have an impact on the integrity of the seabed** are the following (source: SBSO EO sheets, Annex 6):

4.3.4. Changes in hydrographic conditions

ORIGIN OF PRESSURES AND ASSESSMENT OF THE SIGNIFICANCE LEVEL

The coastline has 4 main hydrological structures, which are

- A "semi-permanent" frontal zone of coastal rivers with high associated planktonic biomasses present in the sectors of the Picardy estuaries and the Opal Sea and the coastal river - seino-marine coastline;
- Eddies and Calais fronts in the southern North Sea and the Pas de Calais Strait;
- A transition zone between the Western and Eastern Channel qualified by maximum tidal currents and the Barfleur gyre in the North Cotentin sector;
- A Ushant thermal front and late summer stratification with associated high planktonic biomasses in the Celtic Sea and Western Channel.

The assessment of the good environmental status of water conditions considers seven pressures: changes in the nature of the bottom and in current, tidal, wave, temperature, salinity and turbidity regimes.

The GES's assessment of hydrographic conditions, based on data on human activities, has shown significant variations in exposure to pressures:

- The coastal zone is the most exposed to the hydrographic pressures considered;
- The modification pressures of "turbidity" and "background nature" have the largest potential exposure areas (100% of the MMN MRS).

SYNTHETIC SPATIAL DISTRIBUTION AT THE SCALE OF VOCATION ZONES: SIGNIFICANCE LEVEL

The results presented in the APME below are taken from the GES's technical assessment synthesis. They are thus based mainly on the APME of potential risks of modification of benthic habitats. In order to read the scale of the vocational zones, it was necessary to zoom in on this resource APME, which made it difficult to read due to the inherent pixelation. The resulting reliability should therefore be considered low. The decision was made to increase the level of risk when a part of the area, whatever its size, presented a medium (intermediate level) or high (high level) risk. As a result of this synthesis, the level of concern for hydrographic conditions is high for VZ 4 and intermediate for the other zones. It can be noted that the areas with the highest risk of modification coincide with the areas with the highest accumulation of anthropogenic activities, in particular with regard to dumping, aquaculture, dredging, material extraction, coastal structures including the presence of ports.

- Monitoring of dioxin and dioxin-like PCBs shows that the threshold for bivalves has been exceeded at one station in the Baie de Seine, and that there has been no decrease in the concentrations of dioxin-like compounds between 2010 and 2015 ;
- Regarding pesticides, the concentration of lindane in bivalves exceeds the threshold for 4 of the 20 stations of the MMN MRS (i.e., 20% of the stations monitored);
- Finally, TBT (tributyltins) threshold exceedances were observed in bivalves at 25% of the stations monitored in the MMN MRS.

– For fish: threshold exceedances were observed for CB 118 in all species except the small dogfish, as well as for dioxins and dioxin-like compounds in mackerel.

In the MMN MRS, the threshold exceedances are mainly located in the areas influenced by the inflow from the Seine (estuary and Baie de Seine, and its plume in the Pays de Caux).

The GES's assessment of chemical contaminants in the environment according to the effects on the ecosystem shows mainly:

- Non-achievement of the GES for the indicator relating to the monitoring of gastropods (Imposex) for 59% of the stations;
- GES achievement for dab and flounder for 4 fish health indicators; 3 indicators not assessed for GES achievement but with levels suggesting a potential genotoxic effect for dab and flounder and reprotoxic effect for flounder;
- An GES achievement for mussels in the Baie de Seine.

Regarding health issues, of the 11 indicators on the content of different groups of chemical contaminants and algal toxins (phycotoxins) in edible tissues of seafood products potentially intended for human consumption, 3 indicators meet the GES and 8 do not. Indeed:

- significant exceedances of the maximum regulatory limit are observed for hydrocarbons, as well as for some phycotoxins;
- exceedances of the regulatory limit (less than 2% of the samples) are also found for mercury, cadmium, benzo(a)pyrene, polychlorinated biphenyls and some groups of dioxin-like compounds.

With regard to microbiological contamination, the Channel-North Sea has the highest number of days when the regulatory threshold was exceeded over the period 2010-2015 among the four MRS. For bathing water quality, the Eastern Channel-North Sea MRS is one of the 2 lowest ranked MRS together with the Celtic Sea.

The main sources of chemical contamination are: agriculture (pesticides, chemical fertilisers, antibiotics and antiparasitics, metals, etc.), industry (PAHs, PCBs, residues, etc.), the environment (water, air, soil, etc.) and the environment (water, air pollution)

(drugs, metals, VOCs, POPs, etc.) and maritime transport and ports (degassing, collisions, damage, groundings, etc.).

The main source of microbiological contamination is the diffuse and punctual terrestrial input (in the case of overflowing STEPs) of microbial pathogens and bacteria resulting from domestic activities and collective and non-collective wastewater treatment systems (source: SBSB EO sheets, Appendix 6):

Pressure-generating activity	Contaminants (chemical)	Health issues (microbiological)
Agriculture	No	No
Industries	No	No
Maritime transport	No	No
Port activity		No
Shipbuilding	No	No
Maritime public works	Yes	No
Submarine cables	No	No
Extraction of materials	No	No
Power generation	No	No
Professional fishing	Yes	No
Aquaculture	Yes	Yes
artificialization of the coastline	No	No
Coastal tourism	Yes	Yes
Seaside activities and beach use	Yes	Yes
Boating and water sports	Yes	Yes
Defence and public intervention at sea	No	No
Recreational fishing	Yes	Yes

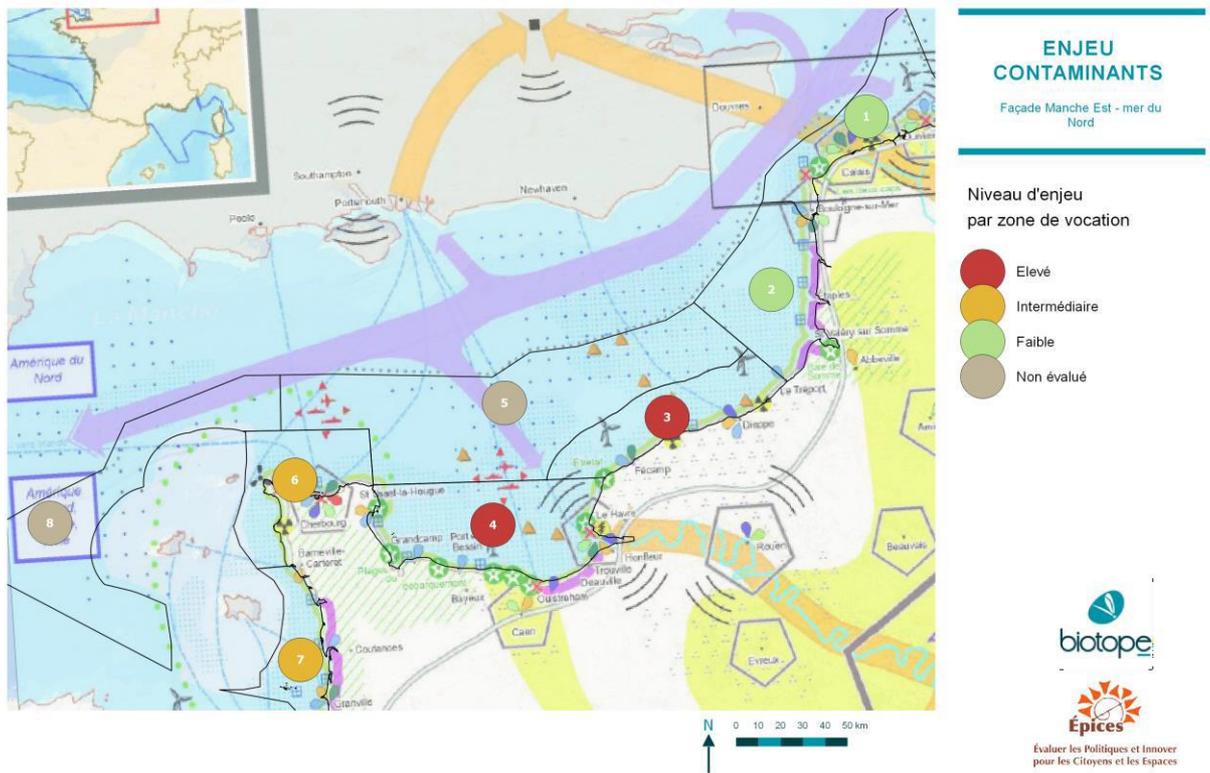
Caption:

- ✓ Activity generating chemical and microbiological contamination (most contributory)
- ✓ Activity dependent on the state of chemical and microbiological contamination

Oil spills and illegal oil discharges have decreased significantly, both in terms of accidental pollution on the coastline and worldwide, and illegal discharges. However, new risks of marine pollution are emerging in connection with maritime transport: gigantic ships, biofuels with little-known consequences for the environment, chemical products and containers.

SYNTHETIC SPATIAL DISTRIBUTION AT THE SCALE OF VOCATION ZONES: SIGNIFICANCE LEVEL

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The results presented in the APME above are taken from the GES's technical assessment synthesis. They are thus based on the maps referring to the state of concentrations of the main contaminants (metals, PAHs21 , PCBs22 and pesticides) in sediments and bivalve molluscs, and on the Imposex bioindicator APME. Our analysis is based on the thresholds for the different substances being exceeded. VZ 3 and 4 have high levels of concern as more than two substances exceed the threshold. For example, in VZ 3, these are metals and PAHs in the sediment and PCB levels in bivalve molluscs. For VZ 1 and 2, the level of concern is low, out of 9 substances, 8 are below thresholds and one is not assessed for ZV2 and higher for ZV1. Offshore areas are not assessed and coastal areas 6 and 7 are rated intermediate.

4.3.6. Waste

ORIGIN OF PRESSURES AND ASSESSMENT OF THE SIGNIFICANCE LEVEL

The waste considered in this issue is macro- and micro-waste on the shoreline, floating and on the bottom.

The species impacted are all marine species that are likely to interact with the waste: turtles, birds, mammals, invertebrates or fish. Impacts on species are related to ingestion, entanglement (fishing gear, strapping, etc.) and overlap.

Despite the acquisition of a lot of better structured data since the initial assessment of the APME cycle 1 in 2012, only the following indicators could be assessed

:

- Floating and bottom wastes: GES is not achieved in the MMN MRS;
- Waste ingestion by Northern Fulmars: GES is not achieved in the MMN MRS.

On the other hand, for floating and bottom litter, the GES is not achieved due to the lack of a significant downward trend.

The **main sources of waste are land-based activities (urban, tourist, port and industrial areas), transfer routes (waterways, urban wastewater) and maritime activities (maritime transport, fishing, aquaculture, boating)** (source: SBSO EO sheets, Annex 6):

Pressure-generating activity	Waste
Maritime transport and ports	No Yes
Professional fishing	Yes Yes
Aquaculture	Yes Yes
Industries	No Yes
artificialization of the coastline	No Yes
Recreational fishing	Yes Yes
Coastal tourism, seaside activities and beach use, boating and water sports	Yes Yes

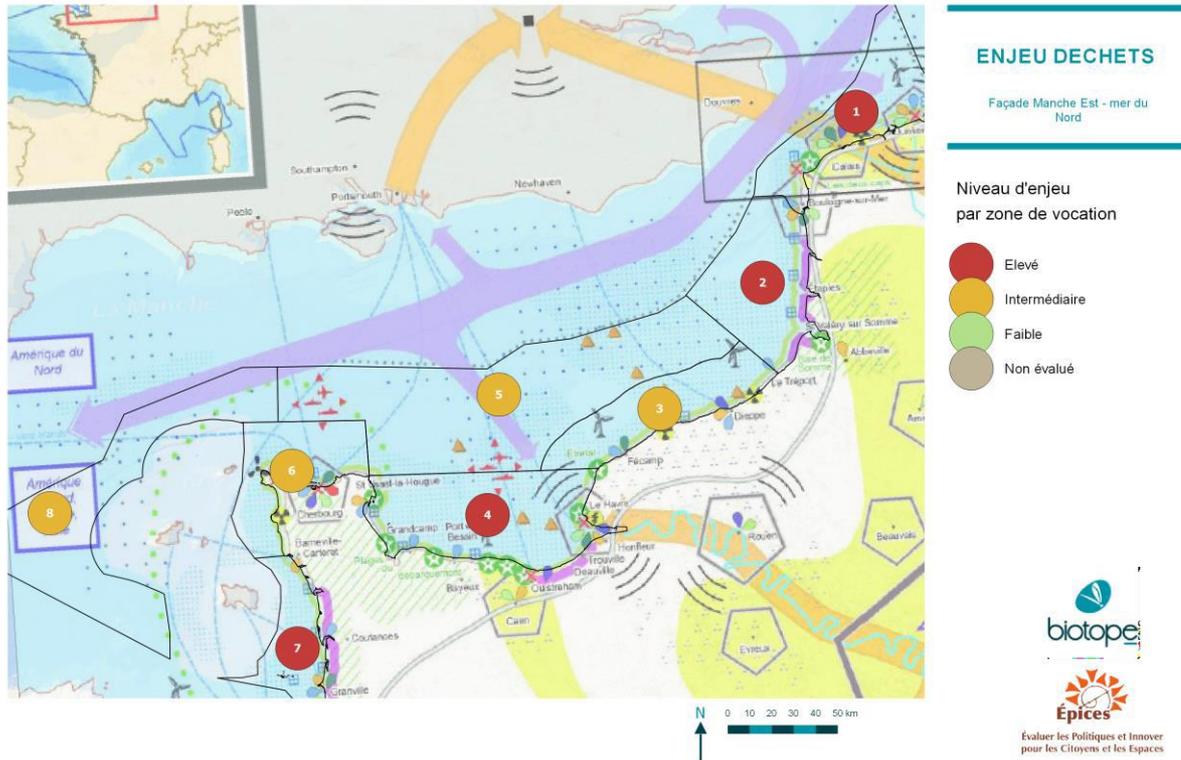
Caption:

✓ Generating activity of waste (the most contributory)

✓ Dependent activity of the state in waste

SYNTHETIC SPATIAL DISTRIBUTION AT THE SCALE OF VOCATION ZONES: SIGNIFICANCE LEVEL

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The results presented in the APME above are taken from the description of descriptor D10 (environmental target and associated indicators) and are based on the maps showing the main activities that generate waste on the coastline. They are based on maps referring to activities producing waste (ports, maritime transport, waterways, industry, shellfish areas, fishing, tourism, etc.). It can be seen that the level of concern is rated as high to intermediate across the entire frontage, with the presence of activity rated as major to intermediate in these areas.

4.3.7. Noise emissions

ORIGIN OF PRESSURES AND ASSESSMENT OF THE SIGNIFICANCE LEVEL

Noise emissions mainly impact marine mammals. The GES is assessed using two criteria based on the characteristics of the signals emitted: high intensity impulsive sounds and continuous sounds. For marine mammals, these sound emissions can cause acoustic disturbance (risk of disturbance), excess mortality due to acoustic exposure (risk of lethality) or masking of communications by mysticetes or whales (risk of masking).

Regarding the assessment of impulsive sound and based on the available data, the results show that exposure to impulsive emissions is localised in the coastal zone of the MMN MRS. It should be noted that the most common emissions are underwater explosions associated with counter-mining operations.

For the assessment of continuous sound, it is difficult to define robust thresholds for increases in these emissions due to uncertainties and the lack of in-situ measured data. The achievement of good environmental status is considered as not assessed.

The **main human activities likely to generate noise pollution** are the following (source: SBSB EO sheets, Annex 6):

Pressure-generating activity	Noise emissions
Maritime transport and ports	No Yes
Maritime public works	No Yes
Defence and public intervention at sea	No Yes
Research and development	No Yes
Extraction of materials	No Yes
Submarine cables	No Yes
Power generation	No Yes
Boating and water sports	No Yes

Caption:

✓ Activity generating noise emissions

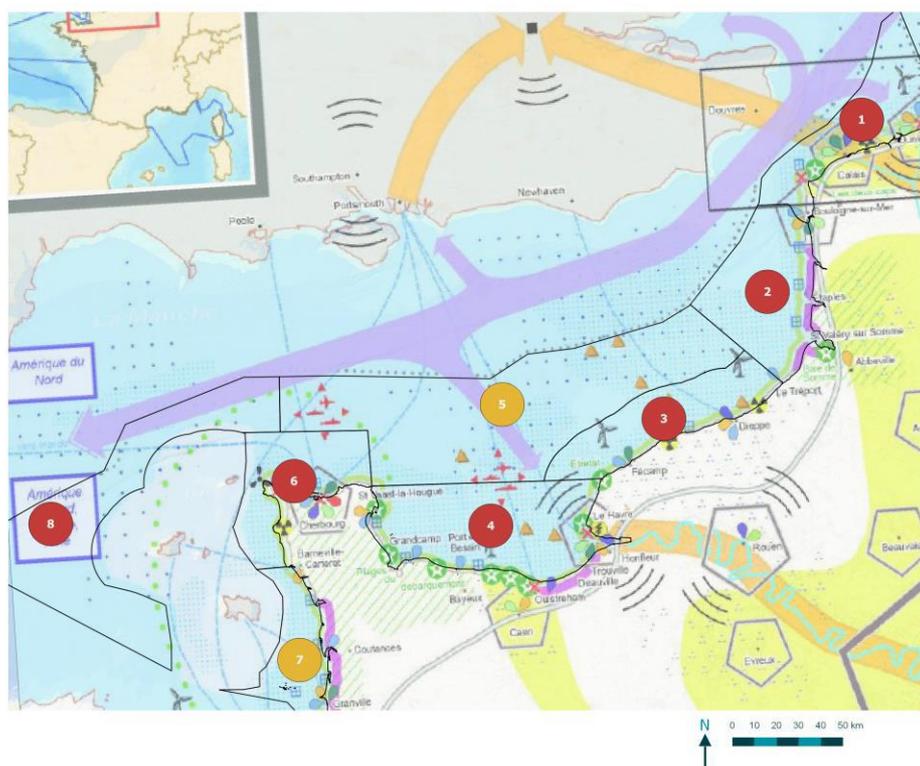
(most contributory)

✓ Activity dependent on noise emissions

SYNTHETIC SPATIAL DISTRIBUTION AT THE SCALE OF VOCATION ZONES: SIGNIFICANCE LEVEL

As the ecological status of the noise issue was not assessed, the spatialisation of the issue by vocation zone was based on the distribution of activities that may exert pressure in terms of impulse or continuous noise emissions (EO sheet D11). These activities are weighted according to whether they are identified as high contributors. Five areas have a high level of concern (2, 3, 4, 6, 8) as there is a major presence of noise emitting activity in these areas. For zones 5 and 7, the activity is qualified as intermediate.

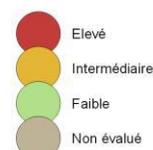
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ENJEU BRUIT

Façade Manche Est - mer du Nord

Niveau d'enjeu par zone de vocation



Évaluer les Politiques et Innover pour les Citoyens et les Espaces

4.4. Other societal issues

4.4.1. Landscapes and cultural heritage

QUALIFICATION OF HIGH-STAKE LANDSCAPES

The Eastern Channel-North Sea seafront has a very rich landscape. It is also marked by the presence of exceptional sites, in particular the bay of Mont Saint-Michel, classified as a UNESCO World Heritage Site, the beaches of the D-Day landings of 6 June 1944, the Grand Site de France of the two capes in the Pas-de-Calais and the cliffs of Etretat.

All the landscapes of the Eastern Channel-North Sea seafront have been listed in four landscape atlases. The following are the highlights:

- The Lower Normandy coastline includes a great wealth of landscape units: wide foreshores, harbours, cliff coasts, flat and sandy coasts, coves and capes, dunes, islands.
- The coastline of Upper Normandy offers spectacular views between the Pays de Caux and the Channel, with recognised sites (the Etretat and Durdent valleys), but remains difficult to access, the coastal valleys being the only link between land and sea.

- The Somme coastline has landscapes of long shingle levees, dune massifs and low fields. It is 60 kilometres long and extended by a low plain, structured by the estuaries of the Authie, the Somme and the Bresle. Less urbanised than the neighbouring coasts, with a sparse road network, this coastline is both a protected natural area and an industrial extraction site.
- The Pas de Calais and Nord coastline has coastal landscapes grouped into three landscape units: dune landscapes and estuaries of the Opal Coast, Opal cliff landscapes and dune landscapes of the North Sea. The narrow coastal strip is marked by important port landscapes, the site of the two capes, emblematic of the region, and the network of waters and polders in maritime Flanders.

Although the coastal departments of the East Channel-North Sea coastline do not have the largest classified areas, they stand out for their number of classified sites. Calvados and Seine-Maritime are respectively **the third and fourth** departments with the highest number of listed sites (57 listed sites).

The regional nature parks determine through their charter the guidelines for the protection, enhancement and development of their territory. The charters determine in particular the guidelines and fundamental principles for the protection of landscape structures in the park territory. On the scale of the Eastern Channel-North Sea coastline, there are 3 NRP: the NRP of Caps et Marais d'Opale in Pas de Calais, the NRP of Boucles de la Seine Normande straddling Seine Maritime and Eure and the NRP of Marais du Cotentin et du Bessin mainly in the Manche.

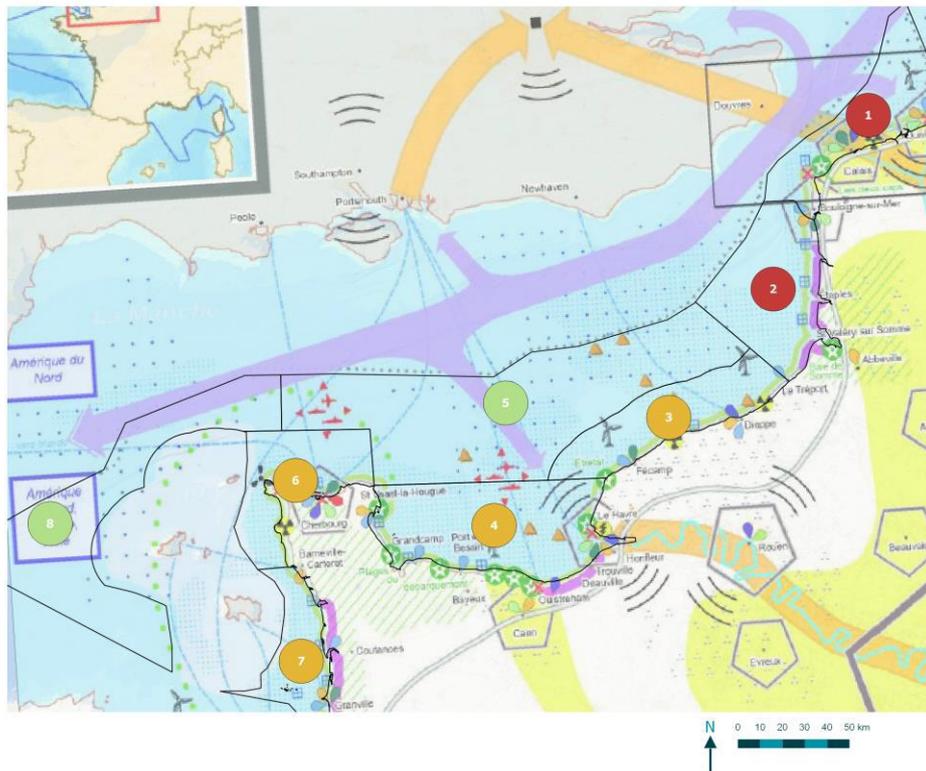
The underwater landscapes are best experienced through scuba diving. On the Eastern Channel-North Sea coastline, 36 diving sites have been identified, some of which are wrecks. In this field, several thousand wrecks are referenced, mainly near the coast.

The pressures on the landscape are mainly linked to the artificialization of the coastline, maritime transport and yachting (waste dumping, wrecks).

SYNTHETIC SPATIAL DISTRIBUTION AT THE SCALE OF VOCATION ZONES: SIGNIFICANCE LEVEL

The results presented in the APME below are based on the number of listed and classified sites, the presence of natural parks (PNN, PNR, PNM), the number of major French or UNESCO sites or the number of underwater landscape elements (wrecks, artificial reefs, underwater paths, diving areas, other). The level of concern is classified as high to intermediate in coastal areas and low in the open sea. For zones 1 and 2, the stakes are high: the landscapes there are more recognised by various protection or classification tools, highlighting remarkable landscapes.

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ENJEU PAYSAGES TERRESTRES ET SOUS-MARINS

Façade Manche Est - mer du Nord

Niveau d'enjeu par zone de vocation

- Elevé
- Intermédiaire
- Faible
- Non évalué



4.4.2. Air quality

QUALIFICATION OF THE SPECIFICITIES OF THE QUALITY OF LITTORAL AIR

Air quality is determined by the quantities of pollutants (fine particles, heavy metals, etc.) present in the breathable atmosphere. This concentration of pollutants evolves as a function of local emissions, regional inputs, dispersion and transformation phenomena.

Analysis of the air quality topic of the 4 environmental profiles of the 4 former regions of the NMW frontage (Basse Normandie, Haute Normandie, Picardie and Nord Pas de Calais) shows us that:

- In Basse Normandie, air pollution in terms of nitrogen oxides and fine particles is concentrated around 77 municipalities, which represent 3.6% of the former region's surface area and 31.7% of the population. These are areas of dense housing or under the influence of high-traffic roads. On the coast, only the cities of Cherbourg and Avranches are concerned.
- In Upper Normandy, air quality is generally degraded due to nitrogen dioxide and fine particle emissions. Indeed, this sector, with an important industrial fabric along the Seine valley, often appears at the top of the French regions' ranking in terms of emissions of pollutants into the atmosphere.

- In Picardy, air quality is relatively good (the average "atmo" index for Picardy is 3/10). Road and air transport are the largest contributors of ozone precursor gases.
- In Nord Pas-de-Calais, air quality in the region is generally good for most of the year, but the situation remains worrying for certain pollutants and in certain sectors: pollution peaks are recorded every year for suspended dust and, in particular in coastal areas (especially Dunkirk) and rural areas, for ozone. The share of industrial discharges is predominant in the region.

In the marine environment, atmospheric deposition can be chemicals (heavy metals and persistent organic pollutants) and nutrients (phosphorus and nitrogen):

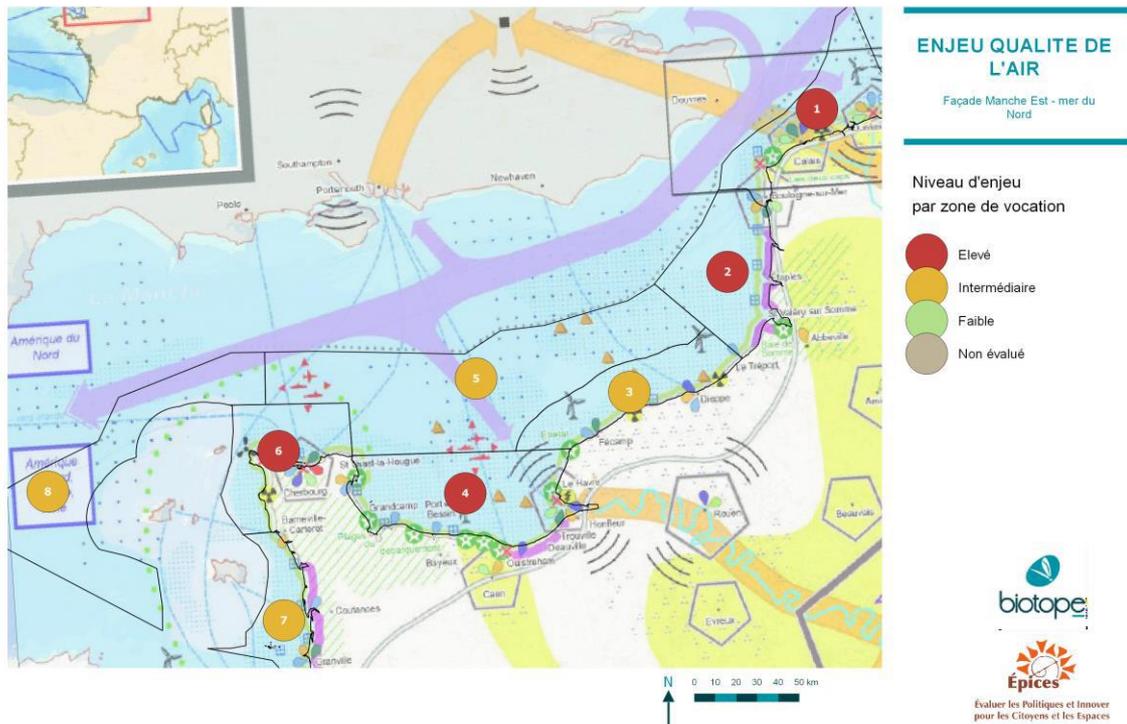
- Atmospheric deposition of chemicals: total and net deposition of cadmium and lead is higher in the North East Channel/North Sea, probably due to higher rainfall. Long-range transport of emissions from sources outside the coastline contributes to atmospheric inputs to the Eastern Channel-North Sea coastline. These atmospheric inputs of heavy metals and persistent organic pollutants (POPs) show a decreasing or stabilising trend since the 1990s.
- Atmospheric deposition of nutrients: atmospheric inputs of phosphorus are relatively low compared to riverine inputs of phosphorus, while inputs of total nitrogen are not negligible. Nitrogen from mainly agricultural sources contributes more to deposition from shipping and combustion sources and from industries.

The deposition, due to local inputs, is higher near the coast and lower in the open sea. It should be noted, however, that the enrichment of the marine environment in nitrogen due to atmospheric inputs is much more diluted throughout the marine sub-region than riverine inputs, which are mainly concentrated along the coast.

SYNTHETIC SPATIAL DISTRIBUTION AT THE SCALE OF VOCATION ZONES: SIGNIFICANCE LEVEL

The results presented in the APME below are based on the presence of pollutant-emitting activities: commercial ports, density of maritime traffic or presence of macro-algae development sites. For the high-stake areas (1, 2, 4, 6) at least two of these criteria were found to be present. For zones 3, 5, 7 and 8 the issue is classified as intermediate due to a lower traffic density or the absence of major ports.

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4.4.3. Natural hazards

QUALIFICATION OF HIGH-STAKES NATURAL HAZARDS

More than a third of the coastline of the Eastern Channel - North Sea is **eroding**, the highest proportion of the four maritime coastlines. The issue that this risk raises is that of the disappearance of spaces, in fact 100km² of surfaces are less than 250 metres from the eroding shoreline.

Sea flooding is either an event or a long-term phenomenon. In both cases the damage to activities or individuals can be very significant. Indeed, 408,500 people live in the low-lying areas, and there are many SEVESO classified sites along the Channel-East North Sea coast.

In 2014, the global average surface temperature is $0.57 \pm 0.09^{\circ}\text{C}$ above the 1961-1990 normal (14°C). In the departments of La Manche and Calvados, global warming has been estimated at an annual average of 0.6°C between 1950 and 2010. In the former Nord-Pas-de-Calais region, the rise in temperature since 1850 is estimated at between 0.9 and 1°C . In the Eure and Seine-Maritime regions, the average minimum and maximum temperatures rose by 2.6°C between 1955 and 2010. Climate change can disrupt ocean balances. The overall changes resulting from climate disruption would have the following consequences:

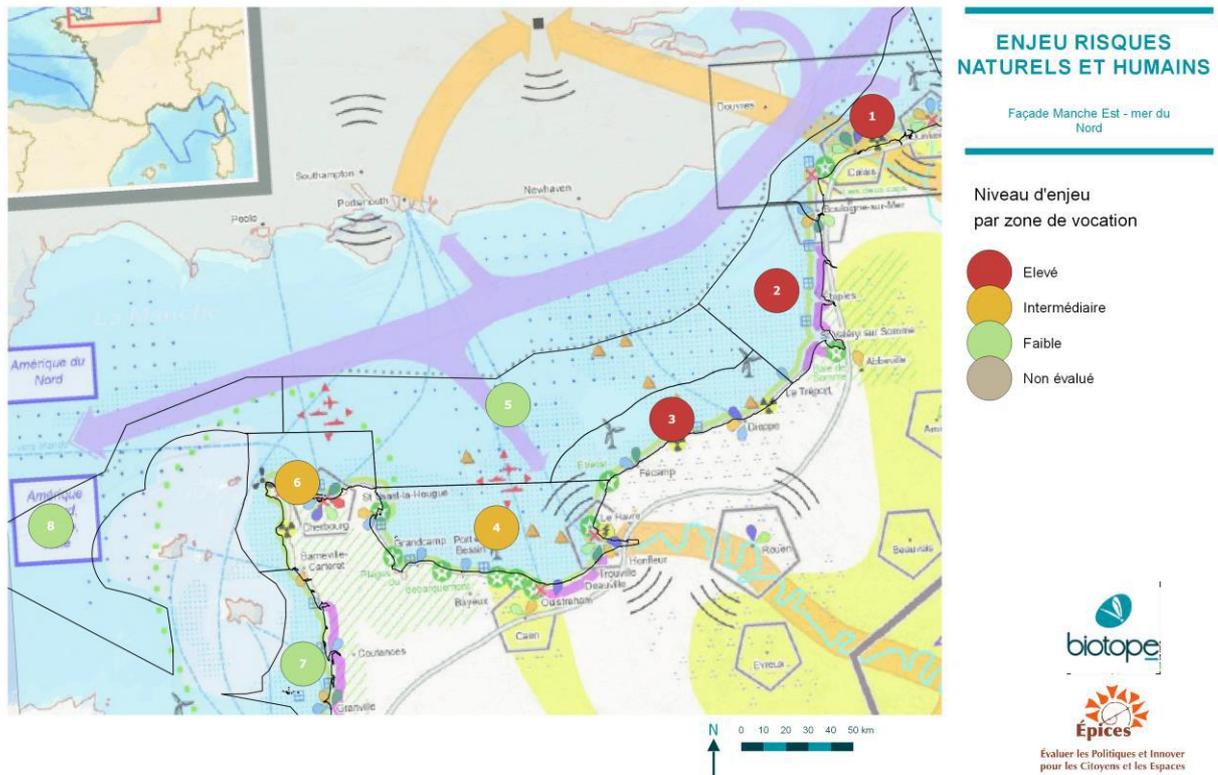
- Sea level change ;
- Disturbance of the marine environment both in terms of currents and the physical characteristics of the water bodies;

- Ecosystem change due to marine disturbance ;
- Changes in storm patterns.

On the East Channel-North Sea coast, 6 tide gauges have recorded a rise in relative sea level of around 6 to 8 centimetres since 1975. The many consequences of climate change on the coastline are potentially very important from the point of view of the environment but also of human construction. Indeed, marine activities such as fishing and transport would see their environment modified, which would potentially jeopardise their survival. Land-based activities and organisations would also be impacted with the modification of the risk of marine submersion but also the erosion of the coastline. These two phenomena could call into question the establishment of all kinds of structures. Moreover, the salinisation of groundwater would put a strain on a vital resource.

SYNTHETIC SPATIAL DISTRIBUTION AT THE SCALE OF VOCATION ZONES: SIGNIFICANCE LEVEL

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The results presented in the APME above are thus based on the presence or absence of four types of risk (industrial, flooding, coastal erosion, nuclear). Zones 1, 2 and 3 have a high stake because they combine all these risks. The zones with an intermediate level of concern are VZ 4 (Seveso site) and VZ 6 (nuclear site).

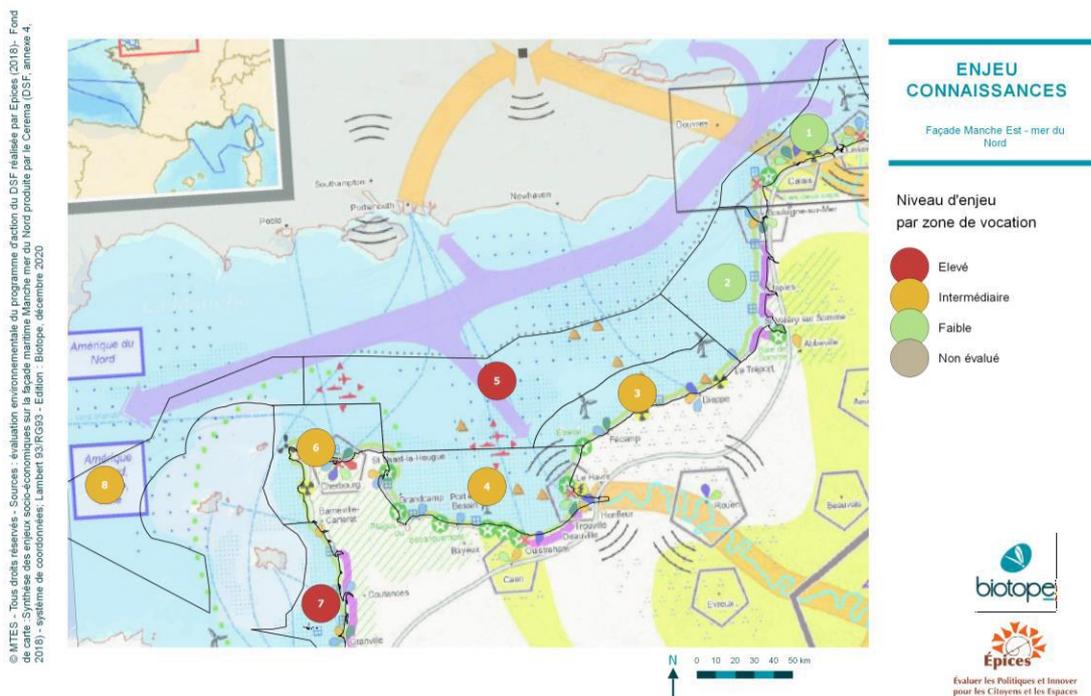
4.4.4. The organisation of environmental knowledge and research

QUALIFICATION OF KNOWLEDGE ISSUES

Public research on the marine environment in the Eastern Channel-North Sea coastline involves 313 people, which represents 6% of the people involved in the maritime research effort in France. Furthermore, according to the criterion of the research effort of companies and administrations in 2013, the Normandy and Hauts de France Regions are among the lowest in France, with respectively 1.4% of GDP (8th Region out of 12) and 1.1% of GDP (last Region in mainland France).

The coastline houses four vessels dedicated to research. The stakeholders of the coastline are involved in three main competitiveness clusters, which bring together companies, scientists and training: the Mer Bretagne Atlantique competitiveness cluster, based in Brittany, the AQUIMER cluster, based in Boulogne-sur-Mer, and the Nov@log cluster, in the Normandy and Ile-de-France regions. Partnerships between research and the economic sectors are taking shape in four main areas: maritime fishing, marine farming and shellfish farming; shipbuilding and boating; marine renewable energy; and logistics. A major challenge for research and development is the deepening of studies on the cumulative risks of human activities, allowing planning and synergies that respect marine and coastal environments, as well as innovation in sustainable techniques and technologies. The development of joint research with British laboratories is also of great interest for the knowledge of the environment.

SYNTHETIC SPATIAL DISTRIBUTION AT THE SCALE OF VOCATION ZONES:



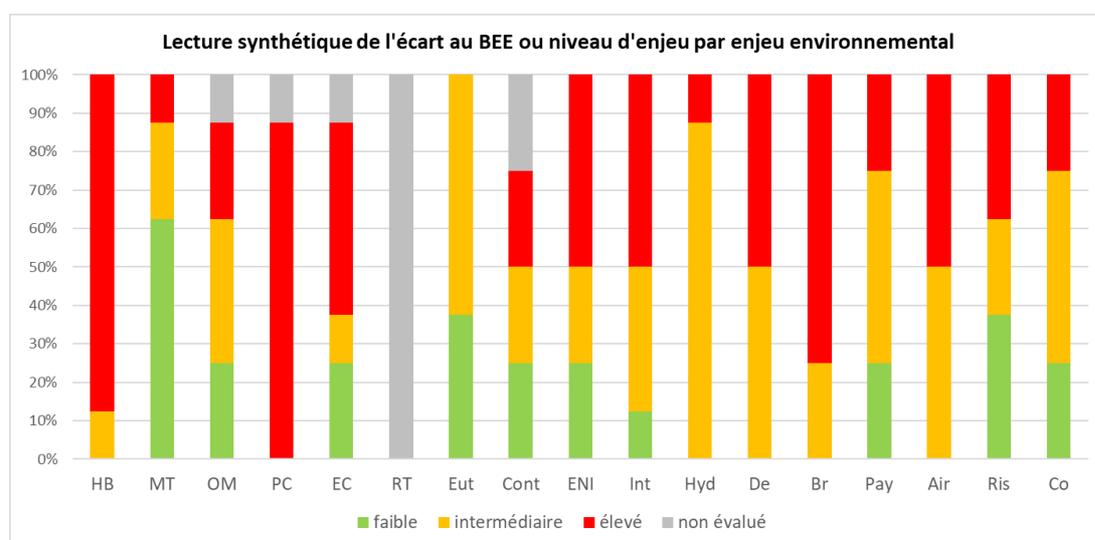
SIGNIFICANCE LEVEL

The results presented in the APME above are based on four criteria: the presence of nature parks, the surface area covered by N2000 areas, the presence of nature reserves and

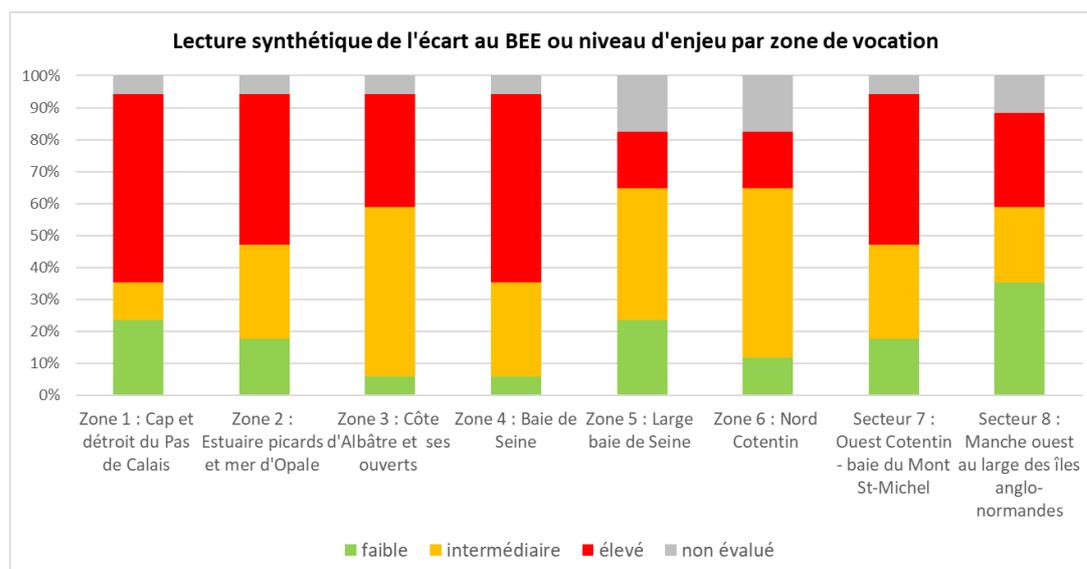
the presence of wind farms. VZ 1 and 2 are covered by a major presence of tools allowing a good knowledge of the area, hence a low stake for these two zones. VZ 3, 4, 6, 8 have been assessed as intermediate in terms of knowledge and VZ 5 and 7 have been classified as having a lower level of knowledge (and therefore a high challenge in terms of knowledge acquisition).

4.5. Summary of the environmental issues of the coastline

At the end of this part devoted to the reading of the environmental issues on the Eastern Channel-North Sea frontage, we can in synthesis produce the following two graphs presenting the deviation from the GES or the level of issue, the first one constituting a reading by environmental issue and the second one a reading by vocation zone.



The percentages are relative to the number of vocational areas (i.e., 8). For example: for benthic habitats, the GES gap is high for about 90% of the catchment areas



The percentages are relative to the number of issues (i.e., 17). For example: in zone 1, about 60% of the issues have an GES gap or high stakes.

The main issues for the coastline concern fish and cephalopods and benthic habitats, where the deviation from the GES appears to be high for most of the areas of interest.

Noise, waste, air quality, non-indigenous species (NIS) and seabed integrity are also important issues in at least 50% of the areas. The issues related to marine mammals appear with a low deviation from good status on a majority of the vocation zones; the important deviation from good status is noted on the offshore zones.

Finally, the issues of hydrographic conditions and eutrophication appear to be less significant, with very few areas showing a high level of concern; however, a majority of areas show an intermediate level for these two issues.

It should be noted that food networks are the environmental issue on which the most effort should certainly be focused in the future. In general, it should be noted that the reliability of the assessment of issues related to the biocenosis is generally less good than the reliability of issues related to pressures or other societal issues.

Zones 1 and 4, then 2 and 7 appear to have the most significant environmental issues, with the majority of environmental issues having a high level of concern or deviation from good status.

Zones 5 and 6 have fewer high-stakes issues, but also have more unassessed issues.

Finally, zone 8 appears to have the most issues with a low level; however, it should be noted that the deviation from good status of the issues related to biodiversity (HB, OM, MT and PC) all show a high deviation from GES in this zone.

5. Analysis of impacts

5.1. Situation in the absence of a SBSDS

The Eastern Channel - North Sea coastline is a **major migration route at European level for many species of fish, birds and marine mammals**. It is also an area with a wide range of marine habitats that are conducive to the renewal of certain species. The Channel-North Sea coastline includes **three major soft-bottom biocenoses** (gravel, sand and mud), which are populated by molluscs and crustaceans, as well as **six hard-bottom biocenoses**, which are predominantly algal.

For all species, fine coastal sediments, bays and estuaries and salt meadows are major **nursery** areas, while coarse offshore sediments are more likely to be **spawning** areas. A transitional zone in terms of fish species, the Channel-North Sea marine sub-region is home to over **100 demersal species, 30 of which are regularly abundant**.

The presence of **marine mammals is significant in the Channel and North Sea** (and beyond), with **nine species of cetaceans and two species of seals**. The Channel is also a concentration site for **sea birds, as eighteen species of sea birds regularly nest and breed on the coast**. Of these, eight are considered endangered, vulnerable or near-threatened.

In terms of economic activities, the Hauts-de-France and Normandy regions have coastlines characterised respectively by a concentration of **industrial and port activities** and by cultural and leisure activities. They are also renowned for their **fishing and shellfish farming activities**. The coastline includes several UNESCO World Heritage sites (Mont-Saint-Michel, Bay of the Somme, Le Havre) and bears witness to a strong military imprint.

As mentioned in the previous section, many environmental issues in the Eastern Channel and North Sea are of concern:

- a significant GES gap for Benthic Habitats, Fish and Cephalopods and Commercial Species, and an unassessed GES for Food Webs;
- high stakes on noise, litter, contaminants, seabed integrity and non-native species;
- there are also important issues concerning air pollution and risks, as well as a low level of knowledge in certain sectors.

This situation of environmental issues results in particular from the numerous pressures exerted by the existing socio-economic activities on the coastline. According to the coastline Maritime Strategy, the main pressures are the following:

- the most significant physical pressures correspond to the artificialization of the coastline, human activities (in particular shellfish farming, cooling of power stations, etc.) and the use of water

These include the construction of waterways (e.g., electricity, agricultural irrigation, and the channelling of watercourses), deposits on the seabed (e.g., dredged material, burial of cables and pipelines, wrecks). The problems linked to noise emissions (from maritime traffic or underwater works), air pollution from heavy fuel oil from ships, pollution from marine waste, or disturbance of fauna by human traffic are also important;

- the most significant chemical pressures that can be cited are the inputs of chemical substances, radionuclides and nutrients in excessive quantities (eutrophication) impacting the environment, both from activities such as agriculture or industry and from the consequences of highly urbanised areas, river inputs;
- finally, with regard to biological pressures, the introduction of pathogenic microbes, invasive species and the selective extraction of species by fishing, both professional and recreational, are the pressures that have the greatest impact on the Channel and North Sea ecosystem.

These pressures result from the most developed activities on the Eastern Channel-North Sea frontage. At the forefront of these are:

- **maritime transport and ports:** The Eastern Channel-North Sea coastline is located on the Northern Range axis, the **main European port axis and the 2nd largest in the world**. This port concentration is a gateway to the European hinterland. **The coastline has three major maritime ports** (Dunkirk, Le Havre, Rouen) of European and national importance.

It sees **20% of the world's maritime traffic** passing through its waters. In 2015, it accounted for **55.4% of total metropolitan freight traffic**, making it the largest in the country. 96% of the port activity of the coastline is performed in the 3 MPAs (Dunkirk, Le Havre and Rouen).

It is also the **leading coastline in terms of passenger transport by ferries** (60% of national traffic) due to cross-Channel traffic, particularly from Calais, which remains the leading passenger transport port with 32% of national traffic in 2015.

The maritime transport sector (freight and passengers) counts 9,000 FTEs in the coastal departments of the Eastern Channel-North Sea in 2014.

Nevertheless, it seems that maritime transport on the coastline suffered a slight decline between 2008 and 2016 (slowdown in traffic in commercial ports and a decrease in the number of registrations). Due to the coronavirus health crisis, traffic losses are not negligible in 2020 and will probably not be negligible in 2021.

- **fishing:** The Eastern Channel-North Sea coastline **represents 18% of the metropolitan fleet** (in 2014, 780 vessels) for 2233 full-time equivalent seafarers and 24% of the national turnover (238 M€). They employ 2233 full-time equivalent seafarers. **The boats operate mainly in coastal areas:** bottom trawl, dredge for scallops, mainly in Normandy, fish nets, traps for large shellfish, mainly in Normandy.

On this coastline, access to British waters, which are rich in fish, is a determining factor for fishermen, and is dependent on the outcome of the Brexit negotiations.

- **aquaculture and fish farming at sea:** the coastline is home to 11% of companies and 17% (800 FTEs) of French shellfish farming jobs in 2013, for a turnover of €133 million. As elsewhere, the shellfish farming activity is characterised by small structures whose size is, however, higher than the national average. These are scattered along the coast, mainly in the Channel. **Mussel farming is particularly important** on this coastline, **representing 1/4 of the French surface area used for mussel production**. It is also found on the Opal Coast and in the Somme and Veys bays. Contrary to the other coastlines, shellfish farming activity appears to be stable.

On the Eastern Channel-North Sea coast, **marine fish farming is very little developed**. It mainly concerns 4 sites for about 100 full-time equivalents.

- **agriculture:** On the East Channel-North Sea coastline, **agricultural land covers 69% of the territory** of the 7 coastal departments. Field crops and cattle breeding largely dominate the agricultural activity of the coastline. With an annual production of 4.9 billion litres, a third of which is produced in La Manche, **the coastline covers 20% of the national milk production**. **Cereal and oilseed crops (COCs) occupy more than 1.3 million hectares, or 11% of national production**.

- **maritime public works:** On the Eastern Channel-North Sea coastline, the number of jobs generated by the maritime and fluvial public works sector in the coastal departments amounted to 300 FTEs in 2014. **Dredging performed** for the maintenance of the 3 major seaports (Dunkirk, Le Havre and Rouen) **alone accounted for more than 68% of the total volume dredged in 2015**. The Eastern Channel-North Sea coastline has 19 disposal sites at sea in 2015. In 2013, the sediments of the ports of Le Havre and Boulogne sur Mer were affected by contamination levels.

- **energy production:** The Eastern Channel-North Sea coastline has the greatest **potential for marine renewable energy**. It has 4 of the 7 wind farm projects underway (Fécamp, Courseulles-sur-Mer, Dunkerque, Dieppe - Le Treport). The Fécamp wind farm, which is the most advanced, is expected to come into operation in 2022. A project for a tidal turbine plant was recently relaunched in Cherbourg-en-Cotentin, near the Raz Blanchard, which is one of the two areas in France most suitable for this type of energy. For offshore wind, the SBSDD identifies two main areas on the vocation APME suitable for wind projects. Within these areas, a public WBDate is to identify more precise areas for a 1 GW offshore wind farm off Normandy.

- **material extraction:** On the Eastern Channel-North Sea coast, **7 siliceous material extraction sites**, off the Seine Bay and the Albâtre Coast, are currently being exploited, mainly for the construction industry, and account for **18% of the national production of marine aggregates** (2014). There are 110 direct jobs, 13 material reception and processing facilities and 9 unloading ports. For some territories, this **production can represent up to 80% of the local needs in aggregates** (Le Havre-Fécamp coastal strip). To date, there are no new applications for mining permits on this coastline and the term of the current concessions is relatively long (around 2040). The SBSDD does, however, provide for the possibility of opening exclusive research permits in the medium term. In the long term, the coastline has **significant resources which represent 27% of the known available resources in mainland France** (excluding resources in the Mediterranean which are not known).

• **the cable business:** The Eastern Channel-North Sea front panel has the highest transport capability electricity compared to other seaboards due to the proximity of the UK. It is also characterised by a high density of cables, mainly for **telecommunications** between the British Isles and the European continent. In the coming years, cable activity on the coast will focus mainly on **power cable projects**, including the connection of **marine renewable energy installations and power interconnections**.

The pressure on the marine environment linked to the cable activity is mainly due to the laying of cables during the bottom preparation and sinking operations. Once the cable is laid, the impact on the environment is low.

In order to try to clarify the evolution of environmental issues in the absence of a SBSDS, we can try to analyse the trend of these pressure activities. The available data and indicators on the recent evolution of these activities have been researched (see details in annex) and the synthesis that can be made in terms of trends is given in the table below.

Activity	Summary	Reliability synthesis
Seaside activities / Coastal tourism	↘	++
Agriculture	↗	++
Aquaculture	→	+
artificialization of the coastline	↗	++
Submarine cables	↗	+
Shipbuilding	↗	+
Defence	↘	+++
Extraction of materials	↗	++
Industries	↘	+
Recreational boating	↗	++
Recreational fishing	↘	+
Professional fishing	↘	+
Energy production	↗	+
R & D	↗	+++
Maritime public works	↗	++
Maritime transport	↘	+++

Two important findings emerge from this table:

— on the one hand, some of the most important activities on the coastline have been declining in recent years: fishing, industry, maritime transport, and others have been growing: the production of renewable energy and the extraction of materials in particular;

– on the other hand, the reliability of these trend estimates remains limited, in the absence of an effective system for monitoring the evolution of pressures exerted by socio-economic activities, which has yet to be built (see part 6 of this report).

It could be deduced from the first observation that, in the absence of a SBSB, pressures will continue on the marine environment and that the situation of many environmental issues is likely to continue to deteriorate. Such a forecast, based on a simple extension of recent trends, is nevertheless very risky, for at least three reasons:

(1) the health crisis experienced worldwide in 2020 has had a major impact on the dynamics of many economic activities (e.g., passenger transport), and it is very difficult to know today whether a return to the previous dynamics will take place or whether there will be a lasting break in the trend;

(2) the level of uncertainty in the data and indicators mentioned above also makes this exercise of extending past trends very uncertain.

(3) Uncertainties due to Brexit.

5.2. Analysis of impacts on environmental issues

5.2.1. Impacts of the different actions of the Action Plan

NEW SOCIO-ECONOMIC ACTIONS

PM / MARITIME FISHERIES

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
PM-AQUA-Eastern Channel-North Sea coastline-01	To assist fishermen in the preparation of grant applications	I	I	I	I	I	I		P		I		P			P		
PM-Eastern Channel-North Sea coastline-01	Encourage the improvement of fishing gear selection	P			P	P	P				P							P
PM-AQUA-Eastern Channel-North Sea coastline-02	Promote consumer access to fisheries resources by developing innovative marketing channels for fishing, fish farming and shellfish farming					P												
PM-AQUA-Eastern Channel-North Sea coastline-03	Develop communication to promote the various labels and quality seals for seafood products	P	P	P	P	P			P	P	P	P	P					P

The new socio-economic actions related to marine fisheries are likely to generate 28 impacts spread over 13 different issues. The nature of these impacts is overwhelmingly positive (21).

Uncertain impacts (7) depend on the nature of the grants awarded (PM- AQUA-Eastern Channel-North Sea-01). These should in principle be positive, the aim being to promote the ecological transition of vessels and fishing gear.

The process of developing actions has made it possible to integrate the environmental dimension by affirming the DDTM's role as a one-stop shop for the allocation of subsidies, thereby providing good information to professionals (PM-AQUA-Eastern Channel-North Sea-01), the integration of studies on the impact of fishing gear on benthic habitats into calls for projects aimed at improving fishing practices (PM-Eastern Channel-North Sea-01), the strengthening of controls on labelled species (PM-AQUA-Eastern Channel-North Sea-03) and the considering of the seasonality of species (PM-AQUA-Eastern Channel-North Sea-02).

AQUA / AQUACULTURE

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
AQUA-NAT-01	Planning future aquaculture areas on the coast	N		N	N	I		I	N	N	N	N	N		I			P
AQUA-Eastern Channel-North Sea coastline-01	Promote the development of sustainable fish farming which is adapted to the high national potential	P		P	P	P		P	P	P	P	P	P		P			P
AQUA-NAT-02	Secure the procedures for examining applications for operating permits for aquaculture farms	P		P	P	P		P	P	P	P	P	P		P			P

The new socio-economic actions related to aquaculture are likely to generate 36 impacts spread over 12 different issues. The nature of these impacts is overwhelmingly positive (25).

The intensity of the potentially negative impacts (9) will depend on the actual implementation of the planned aquaculture areas (AQUA-NAT-01) and the definition of the projects (location of sites, type of farming, farming density, methods used, etc.). These negative impacts should be put into perspective: the objective of the SBSD actions is to anticipate potential development areas, to allow the selection of sectors with the lowest stakes and to better understand future impacts. The fact that the new RASDAMs are integrated into the forthcoming SBSDs can also be seen as a RE measure with regard to the expected compatibility with the environmental targets.

Thus, the planning of the aquaculture activity AQUA-NAT-01 finds a form of articulation with other socio-economic actions (in particular AQUA-NAT-02 and AQUA-Eastern Channel-North Sea-01) which will make it possible to limit the negative impacts (see chapter 6). The actions of the Action Plan in relation to aquaculture should enable anticipation and control of the expected impacts of aquaculture development, on the one hand, and provide the tools and knowledge necessary for investigating authorities to carry out appropriate environmental assessments during the implementation of projects, on the other.

MRE / MARINE RENEWABLE ENERGIES

The new socio-economic actions related to Marine Renewable Energy are likely to generate 73 impacts spread over 14 different issues. The nature of these impacts is positive for almost half of them (35), uncertain for the other half (30) and negative for some (6).

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
MRE-Eastern Channel-North Sea coastline-01	Conducting consultations on the coastline with a view to allow the launch of calls for tender for projects that are in line with the objectives set out in the Multiannual Energy Plan (MPE)	N	N	N	I	I	I		N	I	N	I		N	I	P		P
MRE-Eastern Channel-North Sea coastline-02	Create a scientific coastline council	P	P	P	P	P	P		P	P	P	P		P	P	P		P
MRE-Eastern Channel-North Sea coastline-03	Create a management and monitoring committee for wind projects on the coast	P	P	P	P	P	P		P	P	P	P		P	P	P		P
MRE-Eastern Channel-North Sea coastline-04	Develop a training offer adapted to the MRE sector																	
MRE-Eastern Channel-North Sea coastline-05	Continue and encourage research for the development of marine renewable energy	I	I	I	I	I	I		I	I	I	I		I	I	P		P
MRE-Eastern Channel-North Sea coastline-06	Promote experiments on uses living with one another																	P
MRE-Eastern Channel-North Sea coastline-07	Continue studies to assess the possibilities of pooling and optimising connections	I	I	I	I	I	I		I	I	I	I		I	I	P		P

As for aquaculture (see above), these negative impacts result from the desire to develop MRE projects in the Eastern Channel-North Sea, in accordance with the guidelines and objectives set out in the EPP adopted in 2020: their intensity will depend on the actual implementation of MRE projects (MRE-Eastern Channel-North Sea-01) and their definition (location of sites, farming density, methods used, etc.). These negative impacts are mitigated by the anticipation of the activity and the participation of environmental stakeholders in the definition of the projects: consultation with environmental stakeholders who are part of the SBC's CP and CS, creation of a scientific college of recognised experts (MRE-Eastern Channel-North Sea-02) and a management and monitoring committee for the coastline (MRE-Eastern Channel-North Sea-03).

The uncertain impacts are linked in particular to the research actions (MRE-Eastern Channel-North Sea-05 and MRE-Eastern Channel-North Sea-07), the results of which cannot be qualified at this stage but should contribute to a better environmental integration of the activity.

The process of developing actions has made it possible to integrate the strengthening of knowledge of the impacts of MRE projects on the components of the natural marine environment (MRE-Eastern Channel-North Sea-05 and MRE-Eastern Channel-North Sea-07).

GME / EXTRACTION OF MARINE AGGREGATES

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
GME-Eastern Channel-North Sea coastline-01	Improving knowledge of exploitable deposits in the Eastern Channel and North Sea																	P

The new socio-economic actions related to marine aggregates extraction are likely to generate a single impact. It is positive and concerns the improvement of knowledge (the action does not foresee any campaigns at sea, therefore no specific impact to be noted).

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
PTM-Eastern Channel-North Sea coastline-01	Construct the port of Le Havre's chatière subject to the delivery of the authorisations provided for by the regulations and in compliance with the activities	N	N	N	N	N	N				N	N			N			
PTM-Eastern Channel-North Sea coastline-02	Strengthening inter-port cooperation at interregional level	I	I	I					I	I	I	I	I	I		I		
PTM-Eastern Channel-North Sea coastline-03	Develop the dredged material re-use sector	P			P				P		P	P	P					P
PTM-Eastern Channel-North Sea coastline-05	Equip ports with dedicated clean energy refuelling structures								P							P		
PTM-Eastern Channel-North Sea coastline-04	To enhance the value of port land by developing a sustainable and concerted development approach			I							I				I	P		

The new socio-economic actions related to Ports and Marine Transport are likely to generate 32 impacts spread over 15 different issues. The impacts are almost equally divided between positive (10), negative (10) and positive (10) (9) and uncertain (13).

The uncertain impacts are related to the possible developments needed on the port land (PTM-Eastern Channel-North Sea-04) as well as to the possible increase of maritime traffic counterbalanced by an optimisation of the organisation of the spaces which would limit overloads, displacements, etc. (PTM-Eastern Channel-North Sea-02). (PTM-Eastern Channel-North Sea-02).

The negative impacts are related to the Port du Havre channel development project (PTM-Eastern Channel-North Sea-01). Their intensity will only be known when the project is defined and the results of its environmental assessment are published. DFS's action is aimed at providing appropriate support to ensure that environmental issues are considered. The iterative process of developing new actions has served as a reminder of the expectation of the exemplary principle of environmental assessment and the demonstration of the compatibility of the project with the environmental targets of the SBSDS for this action.

INN / NAVAL AND NAUTICAL INDUSTRY

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
INN-NAT-01	Contribute to the dialogue between the State and the sector in terms of R&D support and make State support more visible, particularly in terms of clean propulsion and eco-design								P				P			P		P
INN-Eastern Channel-North Sea coastline-01	Promoting access to nautical activities	I	I	I	I			I	I			I						
INN-Eastern Channel-North Sea coastline-02	Supporting ports in their digitalisation process	I	I	I				I	I			I						
INN-Eastern Channel-North Sea coastline-03	Supporting nautical stakeholders in the evolution of yachting uses	P																P
INN-Eastern Channel-North Sea coastline-04	Structuring innovation in the naval and nautical sectors		P						P				P			P		P
INN-NAT-02	Supporting the digital transformation of companies, the production chain (parent companies and subcontractors) and the products of the naval and nautical industries																	P
INN-NAT-05	Develop the dismantling sector for pleasure craft by providing greater support to the eco-organisations in charge of the sector in the development of the sector, to individuals and local authorities, and to port managers								P				P		P			P

The new socio-economic actions related to the shipbuilding and marine industry are likely to generate 32 impacts spread over 12 different issues. Half of them (16) have a positive impact and the other half (16) are uncertain.

The positive impacts relate in particular to the reduction of contaminants, pollution and waste.

The uncertain impacts are related to the possible increase in visitor numbers (INN- Eastern Channel-North Sea-01, INN-Eastern Channel-North Sea-02), counterbalanced by a better organisation of the space.

The iterative process of developing the sheets has made it possible to include a programme to raise awareness of environmental issues among new users (INN- Eastern Channel-North Sea-01), the dissemination of information on the regulations (INN-Eastern Channel-North Sea-02) and the environmental integration of alternative solutions for storing boats during the winters.

SEC / SMARITIME SAFETY

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
SEC-Eastern Channel-North Sea coastline-01	Securing navigation and maintaining maritime activities in the vicinity of the cables														P			

The new socio-economic action related to maritime safety is likely to generate a single impact. It is positive about the underwater landscape.

The iterative process of developing the action has allowed the notion of appropriate action to be integrated with the ecological issues at stake, allowing impacts on benthic habitats to be avoided.

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
TOU-SPO-Eastern Channel-North Sea coastline-01	Optimise waste collection on the foreshore and at sea, by facilitating voluntary participation by users, and organise the recovery of materials collected	P	P	P	P								P					
TOU-SPO-Eastern Channel-North Sea coastline-02	Raising awareness of the environmental issues among the general public	P	P	P	P	P		P					P					
TOU-SPO-Eastern Channel-North Sea coastline-03	Boosting cruise terminals														I	I		
TOU-SPO-Eastern Channel-North Sea coastline-04	Promote sustainable and eco-responsible tourism on the coastline with a view to developing a "multi-activity" offer	P	P	P	P								P					

The new socio-economic actions related to tourism and water recreation are likely to generate 19 impacts spread over 9 different issues. The majority of impacts are positive (17). The remaining impacts are uncertain (2).

The positive impacts relate in particular to the environmental issues of biodiversity and waste reduction.

Uncertain impacts are related to the possible increase in tourism activity at the cruise terminals (TOU-SPO-Eastern Channel-North Sea-03), which may potentially lead to onshore developments (landscape impacts) and increased travel (air quality impacts).

RI, FORM & CON / RESEARCH AND INNOVATION, MARITIME TRAINING AND KNOWLEDGE

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
RI-FOR-CON-Eastern Channel-North Sea coastline-01	Promote and enhance the value of maritime occupations																	
INN-NAT-04	Anticipate the needs in terms of skills and job volumes to reinforce the attractiveness of the maritime industries sector																	
RI-FOR-CON-Eastern Channel-North Sea coastline-02	To promote maritime training courses leading to qualifications by relying on a reference centre to promote the sea trades																	
RI-FOR-CON-Eastern Channel-North Sea coastline-03	Developing qualifications and skills adapted to the new challenges of the ecological transition	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
RI-FOR-CON-Eastern Channel-North Sea coastline-04	Prioritise funding for public and private research projects	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
RI-NAT-01	Developing the observation of the blue economy	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
RI-FOR-CON-Eastern Channel-North Sea coastline-05	Referring to research structures and disseminating their work																	P
RI-FOR-CON-Eastern Channel-North Sea coastline-06	Facilitate the sharing and dissemination of all data on the marine environment	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
RI-FOR-CON-Eastern Channel-North Sea coastline-07	To develop a strategy for the development of the sector blue biotechnologies at the scale of the coastline																	P

9 new socio-economic actions linked to research, innovation, maritime training and knowledge activities are likely to generate 84 impacts spread over all the issues (17). The impacts are exclusively positive. They obviously concern an improvement in knowledge, its

dissemination, sharing and adding value, which will indirectly lead to a better consideration of environmental issues, thus having a positive effect on almost all the issues.

SPP / SITES, LANDSCAPE AND MARITIME HERITAGE

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
SPP-Eastern Channel-North Sea coastline-01	Support the creation and development of an "open-air museum"																	
SPP-Eastern Channel-North Sea coastline-02	Structuring and promoting maritime activities and trades																	
SPP-Eastern Channel-North Sea coastline-03	To encourage the organisation of maritime and nautical events by providing technical support to project leaders	P	P	P	P	P	P						P		P			

3 new socio-economic actions are related to sites, landscapes and maritime heritage. Only one (SPP-Eastern Channel-North Sea-03) is likely to generate 8 impacts spread over 8 issues. The impacts are exclusively positive. These are linked to raising awareness of environmental issues among water sports professionals and to the supervision of water sports events from an environmental point of view. The impacts are positive in terms of environmental issues related to biodiversity, waste reduction and limiting the impact on the landscape.

RLI / COASTLINE RISKS

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
RLI-Eastern Channel-North Sea coastline-01	Support the development, at the right geographical scales, of territorial strategies for adapting to the mobility of the coastline, in a context of climate change, by the authorities responsible for urban planning and coastal risk management (Gemapi)	P		P	P						P	P			P		P	P
RLI-Eastern Channel-North Sea coastline-02	To develop a risk culture on the coast in terms of marine submersion and coastline recession among local decision makers and the general public	P		P	P						P	P			P		P	

The new socio-economic actions related to coastal risks are likely to generate 15 impacts spread over 8 issues. The impacts are exclusively positive. They are linked to two actions: a planning action for local integrated coastline management strategies (RLI-Eastern Channel-North Sea-01), and a communication action on risk culture (RLI-Eastern Channel-North Sea-02). These actions focus on flexible management solutions and strategic retreat.

CONCLUSION ON SOCIO-ECONOMIC ACTIONS

The Action Plan consists of 46 socio-economic actions, which have varying degrees of positive, negative or uncertain impacts, with a significantly higher proportion of positive impacts.

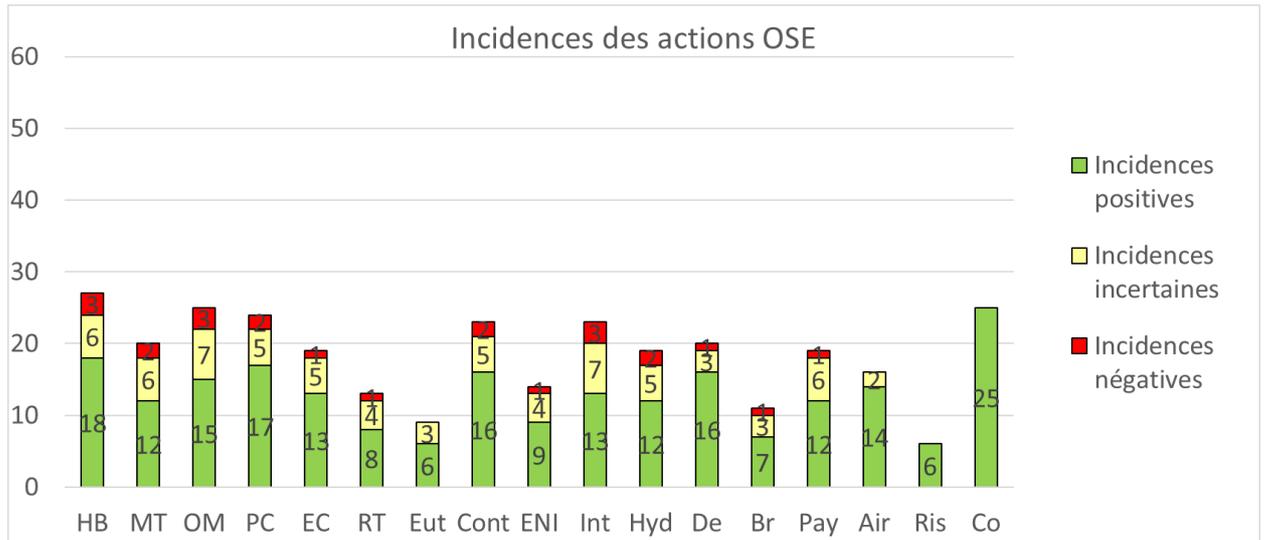
In total, three actions lead to negative impacts, which nevertheless find a form of articulation with other socio-economic actions allowing a reduction of their potential effects.

Cumulatively, in view of the number of actions having an impact on the knowledge issue, the Action Plan will bring a definite improvement in the understanding of the impacts of socio-economic activities on the environment.

The issues related to habitats and species (HB, MT, OM, PC, EC), as well as those related to pressures: contaminants (Cont), seabed integrity (Art), hydrographic conditions (Hyd) and waste (De), and to societal issues: landscape (Pay) and air quality (Air), are well covered by the socio-economic actions of the Action Plan and the impacts are also strongly positive.

In comparison, there are fewer impacts on the issues of food web (RT), eutrophication (Eut), NIS, noise (Br) and risk (Ris), but they are mostly positive or uncertain.

The following graph shows the impact of socio-economic actions on each issue.



A detailed description of these cumulative impacts is provided in Chapter 5.2.3, issue by issue.

NEW ENVIRONMENTAL ACTIONS

D1- HB / BENTHIC HABITATS

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
D01-HB-OE01-AN1	Formulate management recommendations for the activities taking place on the salt meadows based on a dedicated observatory	P		P	P	P	P				P				P		P	P
D01-HB-OE03-AN1	Create an observatory for frequentation on the foreshore	P		P									P					P
D01-HB-OE06-AN1	Strengthen the consideration of benthic habitats in offshore authorisations	P									P	P			P		P	P
D01-HB-OE06-AN2	Re-examine the framework for issuing exceptional trawl fishing authorisations and dredge fishing authorisations in the 3-mile band	P			P	P	P				P							P
D01-HB-OE06-AN3	Sharing better "upstream" knowledge of the impacts of operations to reduce the vulnerability of coastal areas	P									P	P			P		P	P
D01-HB-OE10-AN3	Assess the level of interaction of activities with particular geomorphological structures at stake and adapt regulations if necessary	P				P												P

6 new environmental actions focus on the consideration of benthic habitats. They are likely to generate positive impacts (34).

Various benthic habitats are targeted by the 6 actions: salt meadows, intertidal rocky habitats, subtidal and circalittoral sedimentary habitats, deep-sea habitats. The actions are protection actions (D01-HB-OE10-AN3, D01-OM-OE03-AN1), actions to improve practices (D01-HB-OE01-AN1: agriculture; D01-HB-OE06-AN1: activities subject to authorisation; D01-HB-OE06-AN2: fishing) and actions to improve knowledge (D01-HB-OE03-AN1; D01-HB-OE06-AN3).

In addition to the positive impact on benthic habitats, the protection of habitats or the reduction of pressures on the environment will have positive impacts on 10 other environmental issues.

D1- MT / MARINE MAMMALS AND SEA TURTLES

		HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
D01-MT-OE01-AN1	Strengthen the supervision and regulation of outdoor sports and leisure activities affecting marine mammals and of commercial marine mammal watching activities		P															
D01-MT-OE02-AN1	Reduce the impact of incidental catches of marine turtles by training fishermen and maintaining an appropriate network of care centres		P															
D01-MT-OE03-AN1	Identify and reduce the risks of collision between maritime transport and marine mammals on the Atlantic coast		P															P

Three new environmental actions focus on the consideration of marine mammals. The actions concern a reduction in pressure via improvements in the practices of three activities: pleasure boating, professional fishing and maritime transport.

D1-OM / O MARINE SEALS

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
D01-OM-OE01-AN1	Identify and reduce the risks of accidental capture for each of the species of community interest		P	P		P	P											P
D01-OM-OE02-AN1	Forming a national coordination body for coastal scientific councils (CSF) on offshore wind energy			P	P	P								P				P
D01-OM-OE03-AN1	Develop and implement appropriate management and protection tools for high-stake sea bird species at the marine sub-regional level	P		P	P	P	P		P		P		P		P			P
D01-OM-OE04-AN1	Monitor and control introduced and domesticated species on sea bird breeding sites.			P			P											
D01-OM-OE05-AN1	Identify, maintain and restore mid-littoral and functional sea bird habitats that are degraded and/or exposed to coastal habitat compression.	P		P	P	P	P				P	P			P		P	P
D01-OM-OE06-AN1	Strengthen the consideration of the sensitivity of marine species (birds, mammals and turtles) to disturbance in permits at sea and in local regulations	P	P	P	P	P	P				P			P	P			P
D01-OM-OE06-AN2	Structuring the practice of coastal and marine sports and leisure activities (information, awareness-raising and regulation) on issues of sensitivity of species and environments	P	P	P					P				P	P				

Seven new actions focus specifically on sea birds. The 48 impacts are exclusively positive.

Some of these actions specifically address the protection of certain issues: protection of mid-littoral habitats: D01-OM-OE05-AN1, breeding sites: D01-OM-OE04-AN1, high-stakes sea birds: D01-OM-OE03-AN1, migratory birds: D01-OM-OE07-AN1; other actions concern the reduction of pressure from certain activities: water sports and leisure activities: D01-OM-OE06-AN2, activities subject to authorisation: D01-OM-OE06-AN1, MREs: D01-OM-OE02-AN1 and professional fishing: D01-OM-OE01-AN1.

The protection of bird habitats on the one hand and the reduction of pressures on the other will have a positive effect on 13 other environmental issues, in addition to the sea bird issue.

D1-PC / FOISSAGES AND CEPHALOPODS

Action code	Name	HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
D01-PC-OE01-AN1	Review the regulations on elasmobranch catches and, on this basis, identify the actions to be implemented at national and local level				P	P	P											P
D01-PC-OE02-AN1	Develop and implement a national action plan Multi-species NAP for elasmobranchs				P	P	P											P
D01-PC-OE3-AN1	Develop and implement a national amphihaline migratory plan for optimised management of migratory fish throughout the land-sea continuum	P			P	P	P				P	P						
D01-PC-OE3-AN2	To avoid or reduce the risks of damage to the population dynamics of amphihaline species linked to catches in sectors where amphihalines are at stake, in addition to existing management plans				P	P	P					P						P
D01-PC-OE5-AN1	Strengthen the protection of Important Fisheries Functional Areas (IFAs), including the establishment of Fisheries Conservation Areas (FCA) pilots on each coastline	P			P	P	P	P	P		P							P

Six new actions focus specifically on fish and cephalopods. The 27 impacts generated are exclusively positive. The actions are either actions to protect certain specific issues: important fisheries functional areas: D01-PC-OE5-AN1, Migratory Fish: D01-PC-OE3-AN1, Elasmobranchs: D01-PC-OE02-AN01), or the reduction of fishing pressure (D01-PC-OE01-AN2, D01-PC-OE01-AN1, D01-PC-OE3-AN2). Therefore, in addition to the fish and cephalopods issue, these actions should have a positive impact on 8 other issues.

D2 / NON-NATIVE SPECIES

		HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
D02-AN1	Improving the management of non-native marine species	P			P	P	P			P					P			P

A new action focuses on non-native species. It leads to 7 impacts, exclusively positive, spread over 7 issues. The action will lead to an improvement in knowledge on this issue, a reduction in the risk of introducing NIS, leading to a reduction in the risk of erosion of biodiversity (the entire food web likely to be affected) and a reduction in the risk of degradation of benthic habitats.

D3 / COMMERCIAL SPECIES

		HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
D03-OE02-AN1	Identify priority stocks of local importance that are not under Community management for which management could be established or improved, depending on their conservation status and socio-economic importance, and draw up the corresponding management plans	P	P	P	P	P	P											P
D03-OE3-AN1	Harmonise and strengthen the regulation of recreational fishing and raise awareness of its implementation among fishermen	P	P	P	P	P	P					P						P

Two new actions specifically concern commercial species. They result in 15 impacts, all of them positive, spread over 8 issues. In particular, they should lead to a reduction in pressure on commercial species and thus to an improvement in trophic balances.

D4 / FOOD WEBS

		HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
D04-AN1	To contribute to a better management of the harvesting of forage species at European level.	P	P	P	P	P	P											P

Only one action specifically concerns food networks, in connection with fishing activities. The impacts are spread over 7 issues and are exclusively positive.

D5 / EUTROPHICATION

There are no new actions specifically targeting this issue.

D6 / INTEGRITY OF THE SEABED

		HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
D06-OE01-AN1	Develop a strategic front-end vision on the objective of moving towards "zero net artificialization"	P	P	P	P	P	P				P	P			P		P	P
D06-OE01-AN2	Support the implementation of the ARC sequence at sea in the context of authorisations for projects that lead to the artificialization of the marine environment	P	P	P	P	P	P				P						P	P

Two new actions specifically address the integrity of the seabed. Their 14 impacts are all positive and spread over 11 issues: these actions should indeed lead to actions to restore certain environments, which will have a positive effect on all the biodiversity issues, the landscape, the integrity of the seabed, hydrographic conditions and natural risks.

D7 / HYDROGRAPHIC CONDITIONS

		HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
D07-OE03-AN1	Promote land-sea connectivity in estuaries and lagoons in addition to what is being done on ecological continuity under the SDAGE and PLAGEPOMI, by intervening on obstacles impacting currentology and sedimentology.	P		P	P	P	P				P	P			P		P	P
D07-OE04-AN1	Define how to better consider the need for freshwater supplies to marine environments in the regulations	P		P	P	P	P					P			P			P

Two new actions specifically address hydrographic conditions. The 18 impacts are exclusively positive and are spread over 10 issues. They are particularly aimed at land-sea continuities. The restoration actions will have a positive impact on all the marine biodiversity issues.

D8 / CHEMICAL CONTAMINANTS

		HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
D08-OE03_AN1	Mandatory reporting of chemical discharges at sea in digital format by chemical tankers								P									P
D08-OE04-AN1	Identify and equip with effluent treatment systems the docking areas of marinas, mooring areas and boatyards. Raise awareness among managers and users of good docking practices.	P	P	P	P	P	P		P									
D08-OE05-AN1	Limit/prohibit discharges from open-loop scrubbers (which wash boat exhaust gases) in specific areas	P	P	P	P	P	P		P									
D08-OE06-AN1	Encourage and support the implementation of shared dredging operations and promote the long-term creation of suitable sediment recovery channels which are adapted to the territories	P	P	P	P	P	P		P		P							
D08-OE06_AN2	Study, assess and reduce the sources of endocrine disruptors displaced at sea by the dumping of dredged sediments								P									P

Five new actions specifically address the issue of contaminants. All 26 impacts are positive. The actions concern in particular the reduction of pressures linked to port and nautical activities and sediment extraction. In addition to the positive impact on contaminants, the impacts are therefore positive for all biodiversity issues.

D9 / MICROBIOLOGICAL CONTAMINANTS

No new actions in the SBSDS specifically address this issue.

D10 / WASTE

		HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
D10-OE01-AN1	Preventing waste discharges upstream of sewage and stormwater systems	P	P	P	P	P	P		P				P		P			
D10-OE01-AN2	Combating waste in sewage and stormwater systems	P	P	P	P	P	P		P				P		P			P
D10-OE01-AN3	Identify priority landfills and waste accumulation areas and the different funding possibilities for their abatement	P	P	P	P	P	P		P				P		P			P
D10-OE01-AN4	Raising awareness, informing and educating on ocean pollution by waste	P	P	P	P	P	P		P				P		P			
D10-OE01-AN5	Encourage the reduction, collection and recovery of waste from maritime activities and support activities towards sustainable sustainable equipment	P	P	P	P	P	P		P				P					P
D10-OE02-AN1	Improve waste management in ports, develop passive waste fishing and study methods of recovering plastics which have stayed at sea	P	P	P	P	P	P		P				P					P
D10-OE02-AN2	Continuing the deployment of European Clean Ports certification	P	P	P	P	P	P	P	P	P			P					

The 7 new actions on waste lead to 66 exclusively positive impacts, spread over 12 issues. Four actions deal with the prevention of land-based waste, two actions deal with waste management in ports and activities

in the maritime sector, one action focuses on awareness-raising. The reduction of waste will indirectly have positive impacts on all environmental issues related to biodiversity and contaminants, and for some actions also on the landscape, NIS and eutrophication issues.

D11 / UNDERSEA NOISE

		HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
D11-OE1-AN1	Collect and disseminate data on impulsive noise from industrial operations		P	P	P	P	P							P				P

One action specifically addresses underwater noise. It consists of collecting data on impulsive noise emissions. These data should make it possible to assess the areas and periods of emissions potentially impacting on marine fauna. Their acquisition is therefore a prerequisite for taking mitigating measures on the various marine species (MM, turtles, fish, crustaceans and the entire food web, including marine diving birds). The impacts are positive and relate to 7 issues.

CROSS-CUTTING ACTIONS

		HB	MT	OM	PC	EC	RT	Eut	Cont	NIS	Int	Hyd	De	Br	Pay	Air	Ris	Co
AT01	Develop the network of strong protection zones and strengthen their control	P	P	P	P	P	P				P	P			P			
AT-02	Developing the network of marine educational areas	P	P	P	P	P	P	P	P	P	P	P	P	P	P			
AT-03	Develop an application integrating regulations and information related to recreational boating areas	P	P	P	P	P	P						P	P				
AT-04	Improving the control system for the marine environment	P	P	P	P	P	P	P	P	P	P	P	P	P				
AT-06	Submitting and implementing a Life project for "Mobile marine species"		P	P	P													

Five environmental actions are cross-cutting: these are protection actions, which are not targeted or localised at this stage (AT-01 and AT-02), communication actions for pleasure boaters (AT-03), management of mobile species (AT-06) and strengthening of controls at sea (AT-04). The 47 impacts, all positive, potentially affect 14 issues.

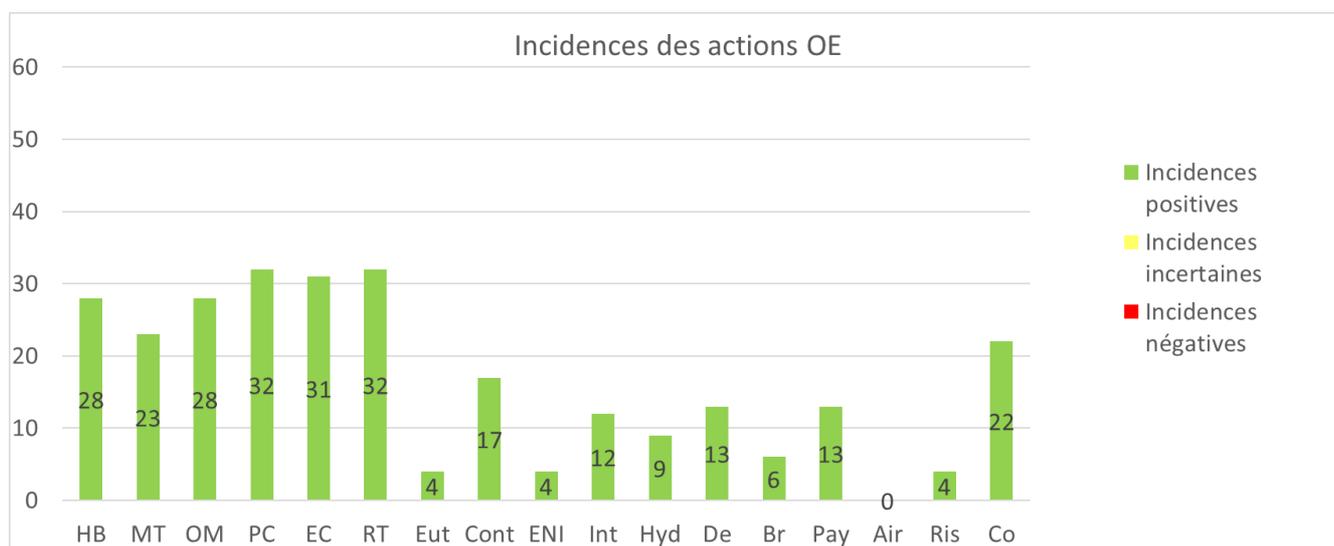
CONCLUSION ON ENVIRONMENTAL ACTIONS

The Action Plan contains 47 environmental actions, all of which have positive impacts.

Cumulatively, the environmental actions mainly lead to impacts on the knowledge issue, then on the habitat (HB) and species (MT, OM, PC, EC, RT) issues.

They have less impact on issues related to pressures (Eutrophication, Contaminants, Seabed integrity, NIS, Hydrographic Conditions, Waste, Noise), and on societal issues of Landscape and Risk. No impact on air quality was noted.

The following graph shows the impact of environmental actions on each issue.



A detailed description of these cumulative impacts is provided in Chapter 5.2.3, issue by issue.

5.2.2. Impact characterisation

The analysis of the impacts continued by characterising them according to three criteria:

- Their level of uncertainty. The question to be answered is "Are the intended effects of the action certain, following its implementation?". The level of uncertainty of the impacts is then low (the effects of the action are certain, following its implementation) or high¹³ (the effects of the action are uncertain, following its implementation).
- The time frame in which they occur. The question is: "What is the timeframe for the occurrence of the impacts?". Impacts occur in the short term (effects of the action occur before the end of the current programming period 2026) or in the medium-long term (effects of the action occur beyond this programming period or after several programming periods).
- Their sustainability. The question is: "Are the effects of the action reversible?". Impacts are reversible (the effects of the action fade over time or can be reversed) or irreversible (the effects of the action are permanent over time). This parameter may also be irrelevant to the impact.

¹³ In particular, a high level of uncertainty will be associated with impacts related to actions whose implementation requires referral to supranational bodies. Because of this uncertainty, the objectives associated with these actions are subject to concessions.

From this analysis of the impact characterisation, the following lessons can be drawn:

- Almost half of the positive impacts (40%) have a high level of uncertainty, which may be an area for improvement. This concerns in particular issues related to benthic habitats and species (marine mammals and birds), certain pressures (waste) or societal dimensions (risk).
- Half of the positive impacts will occur after the expiry of the Action Plan (54%), which may be another important point to try to improve. This concerns in particular issues related to water conditions, waste, eutrophication and societal dimensions (air quality, risks).
- Less than a third of the positive impacts are reversible, which is a strength for positive impacts, as 80% are permanent. The much smaller number of negative impacts is almost 70% reversible, which is also a positive point of the action plan.
- Note that the impacts on knowledge have the most favourable characteristics: 90% low uncertainty and irreversibility and 65% short-term. Moreover, there are many of them and there are no uncertain or negative impacts on this issue.

More detailed information on this characterisation is included in the following analysis (5.2.3.), as it details the results for each of the 17 issues

5.2.3. Cumulative impacts of the whole Action Plan

5.2.3.1. BENTHIC HABITATS

The SBSDS Action Plan is likely to generate 61 impacts on benthic habitats, the vast majority being positive (52/61 or 85%). For the remaining impacts, 6 actions are identified as having uncertain impacts and 3 actions as having negative impacts. In sum, 66% of the programme's actions will potentially impact on this issue. In terms of positive impacts, the majority of impacts relate to:

- sub-actions to improve knowledge (32%) and awareness (24%) aimed at changing practices in activities,
- and concrete actions (22%), accompanied by adaptation of regulations (12%) and planning (9%).

These positive impacts are more strongly direct (35/52 or 65%) than indirect, and mainly of a permanent nature. However, half of the positive impacts are expected to occur in the medium to long term, and half of these actions have a high degree of uncertainty.

As for the negative impacts, although fewer in number (3), they nevertheless have rather unfavourable characteristics: the effects are rather certain and short term. The three negative impacts come from actions relating to MRE, aquaculture and the Port of Le Havre's chatière project. The negative impacts are

this means that the focus is on certain identified areas where attention should be paid. This is the purpose of some of the SBSDS actions:

- Three actions propose the coordination of MRE projects via the establishment of a scientific council, a management and monitoring committee and a national coordination body.
- The review of the SRDAMs and the definition of planning criteria to identify suitable areas on land and at sea (Aqua-Nat-01), coupled with the action to improve the understanding of aquaculture impacts (aqua-Nat-02) and the strengthening of the appraisal procedures for the authorisation of aquaculture operations, should help to minimise the potential impacts associated with aquaculture activity
- Monitoring and accompanying the port project of the Chatière du Port du Havre (PTM-Eastern Channel-North Sea-01).

6 uncertain impacts may act on benthic habitats, mainly related to:

- actions to improve knowledge, the effects of which on benthic habitats remain uncertain at this stage;
- a possible decrease in pressure linked to the development of more eco-responsible activities (fishing and aquaculture), offset, however, by a potential development of these activities;
- possible developments in relation to MREs,
- to an increase in use: transport (INN-Eastern Channel-North Sea-02, PTM-Eastern Channel-North Sea- 02) and pleasure boating (INN-Eastern Channel-North Sea-01).

These uncertain impacts are linked to other actions that are conducive to better environmental consideration, particularly actions related to the improvement of practices or the preservation of benthic habitats. Monitoring the evolution of these activities will be essential to ensure the preservation of benthic habitats.

As the deviation from the GES is high in most areas (see part 4), the proportion of actions that have a positive impact on this issue seems necessary. Potentially negative impacts arise from targeted development actions in certain areas, which will be subject to environmental assessment. The SBSDS's action is aimed in particular at providing examining departments with the tools they need to examine projects and providing project owners with support in integrating environmental issues into the definition of their projects.

In view of the level of challenge assessed in part 4 (high deviation from GES), this varied but very positive intensity of actions may potentially allow some vocation areas to approach GES, or at least maintain the good status of some habitats. Despite this, it is not possible to make a statement on a return to GES due to the uncertainty of the impact of certain actions at this stage and the difficulty of measuring the achievement of good status at the scale of the coastline and its vocation zones.

5.2.3.2. MAMMALS AND TURTLES

The DFS Action Plan is likely to generate 47 impacts on marine mammals and turtles, the vast majority being positive (39/47 or 83%). As for the remaining impacts, 6 actions have uncertain impacts and 2 actions are identified as having negative impacts. In sum, 51% of the programme's actions will potentially impact on this issue.

Concerning the positive impacts, the majority of the impacts are related to **changes in practices or the reduction of pressures on this group** (accidental catches, disturbances, risk of collision, pollution), a small part are **protection actions**. These impacts are more strongly direct (28/39 or 41%) than indirect. The actions and sub-actions generating impacts on mammals and turtles have a relatively balanced profile between knowledge, awareness/communication/training and concrete actions. Regulatory sub-actions are also notable for this issue, although fewer in number than the other three categories. Most of the positive impacts are permanent. The effects will occur for a small majority in the short term and with certainty.

The negative impacts are due to actions related to MREs and a port project. Although fewer in number (2), they nevertheless have rather unfavourable characteristics: incidences with a low level of uncertainty as to their occurrence and a short time frame. On the other hand, the effects are considered to be mostly reversible.

Some actions in the SBSDS help to minimise the effects of these two actions on marine megafauna:

- Three complementary actions propose the coordination of MRE projects via the establishment of a scientific council, a management and monitoring committee and a national coordination body.
- The improvement of knowledge on MRE, supported by several environmental actions of the SBSDS, should allow for the development of this activity in a manner consistent with the preservation of the TM issue.
- Monitoring and accompanying the port project of the Chatière du Port du Havre.

Regarding uncertain actions (6), they concern:

- actions to improve knowledge, the effects of which on marine mammals remain uncertain at this stage,
- a possible reduction in pressure linked to the development of more ecologically responsible activities (fishing) counterbalanced by a potential development of the activity; monitoring the evolution of these activities will thus be essential to ensure that there is no impact on marine mammals;
- to certain potential developments in connection with MREs in particular,
- to an increase in use: transport (INN-Eastern Channel-North Sea-02, PTM-Eastern Channel-North Sea- 02) and pleasure boating (INN-Eastern Channel-North Sea-01).

These uncertain impacts find a form of synergy with other actions favourable to a better consideration of the environment, in particular actions linked to the improvement of practices (yachting, professional fishing and maritime transport).

In view of the level of challenge assessed in part 4, all of these impacts may potentially enable certain areas of use to move closer to the GES (areas 3, 5 and 8), or at least to maintain the current status of certain marine mammal populations. The positive impacts relate in particular to the improvement of practices linked to transport and professional fishing activities, which are two actions identified as the most contributory to pressures on mammals and turtles. Finally, it should be noted that an action linked to the improvement of knowledge on noise will enable this effect to be better considered in future applications for authorisation.

5.2.3.3. SEA BIRDS

The DFS Action Plan is likely to generate 57 impacts on sea birds, the vast majority of which are positive (47/57 or 82%). For the remaining impacts, 7 and 3 actions are identified as having uncertain and negative impacts respectively. In sum, 60% of the programme's actions will potentially impact on this issue.

With regard to positive impacts, the majority of impacts are related to changes in practices or the reduction of pressures, while a few are related to protection and restoration actions, but also to the improvement of the trophic balance necessary for the feeding of sea birds. The majority of these impacts are direct (29) rather than indirect (18). One third of the actions generating impacts on sea birds are related to knowledge sub-actions, 23% to awareness-raising actions and 21% to operational actions. Among the remaining sub-actions, regulation is also relatively well represented. While the majority of the effects are characterised as long-lasting, a dominance of effects will nevertheless occur in the long term and about half of the effects have a high degree of uncertainty as to their occurrence.

The negative impacts (3) are fairly certain to occur in the short term but are considered to be mostly reversible. The three potentially negative impacts stem from actions relating to MRE, the development of the Port of Le Havre and aquaculture. The negative impacts are thus concentrated in certain areas identified for the development of these activities.

Regarding uncertain actions (7), they concern:

- actions to improve knowledge, the effects of which on birds remain uncertain at this stage;
- a possible decrease in pressures linked to the development of more eco-responsible fishing and aquaculture activities (PM-AQUA-Eastern Channel-North Sea-01), counterbalanced by a potential development of these activities;
- potential developments in relation to MRE (MRE-Eastern Channel-North Sea-05 and MRE-Eastern Channel-North Sea-07) and port activities (PTM-Eastern Channel-North Sea-04);
- to an increase in use: transport (INN-Eastern Channel-North Sea-02, PTM-Eastern Channel-North Sea- 02) and pleasure boating (INN-Eastern Channel-North Sea-01).

Monitoring the development of these activities will thus be essential to avoid impacts on sea birds. However, these uncertain impacts can be linked to other actions that are conducive to taking better account of the environment, in particular actions related to improving practices.

This impact profile seems to be more likely to result in potential positive effects. In view of the level of challenge assessed in section 4, the combination of these impacts has the potential to move some vocation areas closer to GES (areas 2, 3, 4, 7 and 8 in particular). However, the development of pressure-generating activities (in particular MRE) in certain areas of use which currently show a low deviation from the GES (areas 1 and 6) does not allow a return to the GES to be decided at this stage. The SBSB's action thus aims to provide the examining services with the tools and knowledge necessary for the examination of projects and to provide project owners with support in integrating environmental issues into the definition of their projects.

5.2.3.4. FISH AND CEPHALOPODS

The DFS Action Plan is likely to generate 59 impacts on fish and cephalopods, the vast majority being positive (52/59 or 88%). For the remaining impacts, 5 actions are identified as having uncertain impacts and 2 actions as having negative impacts. In sum, 63% of the programme's actions will potentially impact on this issue. In terms of positive impacts, the majority of impacts are related to changes in practices or the reduction of pressures.

The majority of these positive impacts are direct (36/52) rather than indirect (16/52). Nearly one third of the actions generating impacts on fish and cephalopods are related to knowledge sub-actions, followed by operational actions and awareness raising/communication/training actions. Regulatory and planning sub-actions are also well represented. These positive impacts are long-lasting and the effects are mostly certain. The time frame of the occurrence, on the other hand, is characterised in the medium to long term.

For the two negative impacts, the timeframe for the occurrence of the impacts is mostly short term, with effects that are rather certain, but rather considered reversible. The project concerns aquaculture development and the development of the Port of Le Havre.

As for uncertain impacts, they arise from actions on MRE and fishing/aquaculture activities and possible developments (nautical and tourist activities). Actions with uncertain impacts should be monitored to avoid negative impacts.

This impact profile thus seems to induce rather positive potential effects but of varying intensity. Negative impacts are likely to be concentrated in certain identified areas (aquaculture, Port of Le Havre): the SBSB's action should enable project owners to have support in integrating environmental issues into project definition. The positive actions relate to professional and recreational fishing activities and artificialization, which are considered to be major contributors to pressure on the issue. However, the challenge is far from achieving the GES for the entire coastline (see section 4). In this sense, the action of the DFS could be

this is particularly true for the objective of achieving a return to GES. It should be noted, however, that the reliability of the value of the deviation from good status established in part 4 is noted as low; the high proportion of actions to improve knowledge on this issue is therefore appropriate.

5.2.3.5. COMMERCIAL SPECIES

The SBSDS Action Plan is likely to generate 55 impacts on commercial species, the vast majority being positive (49/55 or 89%). For the remaining impacts, 7 actions are identified as having uncertain impacts and 1 action as having potentially negative impacts. In sum, 60% of the programme's actions will potentially impact on this issue.

The positive impacts are more strongly direct (32/49) than indirect. The actions generating impacts on commercial species are mainly related to knowledge sub-actions (nearly one third), followed by operational actions and awareness raising/communication/training actions. Regulatory and planning sub-actions are also well represented. These positive impacts are long-lasting and the effects are mostly certain. However, the time frame for the occurrence of the disease is mostly medium to long term.

The potentially negative impact concerns the development of the Port of Le Havre (chatière), located in zone 4. The time frame for its occurrence is short term, with potential effects that are rather certain and considered irreversible. The DFS plans to accompany this project to ensure that environmental issues are considered. The environmental assessment of this project will need to demonstrate its compatibility with the objectives of the SBSDS.

As for the uncertain impacts, they arise from actions on MRE and fishing/aquaculture activities. However, there are also positive actions on these same activities, which are considered to be strong contributors to the pressures on the issue.

This impact profile thus appears to induce potential positive but low intensity effects on this issue over the duration of the programme. In view of the overall high level of challenge assessed in part 4, this low intensity of actions may be potentially insufficient to achieve the GES at the scale of the action plan, particularly in coastal areas where there are significant activities (ports, aquaculture, shipping).

5.2.3.7. FOOD NETWORKS

The SBSDS Action Plan is likely to generate 48 impacts on food networks, the majority of which are positive (43/48). For the remaining impacts, 4 actions are identified as having uncertain impacts and 1 action as having potentially negative impacts. In sum, 50% of the programme's actions will potentially impact on this issue.

The positive impacts are more strongly direct (27/43) than indirect. The actions generating impacts on commercial species are mainly related to knowledge sub-actions (almost one third), followed by operational actions and awareness raising/communication/training actions. The regulatory and planning sub-actions are also good

the predominantly certain effects. The timing of the occurrence, however, is mostly in the medium to long term.

The potentially negative impact concerns the development of the Port of Le Havre (chatière), located in zone 4. The DFS plans to accompany this project to ensure that environmental issues are considered. The time frame for its occurrence is short term, with potential effects that are rather certain and considered irreversible. The environmental assessment of this project will need to demonstrate its compatibility with the objectives of the SBSDS.

As for the uncertain impacts, they arise from actions on MRE and professional fishing activities. Indeed, as far as professional fishing is concerned, it is not possible at this stage to know whether the expected effects related to more eco-responsible fishing will be effective if the activity tends to develop. For MREs, the effects can potentially be positive, depending on the mode of operation chosen. In addition, a number of DFS actions related to these same activities are considered to have positive effects on this same issue.

This impact profile appears to have some potential positive effects, but probably not enough at the scale of the programme (the occurrence of these effects is assessed in the long term). It is not possible to comment on a return to the GES as it is not yet defined.

5.2.3.7. NON-NATIVE SPECIES

The SBSDS Action Plan is likely to generate 18 impacts relating to this pressure on the marine environment, a small proportion of the total impacts and therefore an issue that is little affected by the SBSDS. The majority of them are positive (13/18). However, a significant proportion (28%) of the impacts are uncertain (4) and negative (1).

The positive impacts are more strongly direct (10/13) than indirect. Indeed, the actions and sub-actions generating impacts on NIS have a typological profile with a dominance of operational, planning, knowledge and awareness actions. The positive impacts have fairly favourable characteristics: a majority with low uncertainty about their occurrence and a perennial character. The time frame for occurrence is however mixed (half short term, half long term). Some of these actions with positive impacts concern activities considered as strongly contributing to the potential development of NIS (Aquaculture, MRE).

The negative and uncertain impacts come from actions relating to ports and aquaculture, as well as MRE development projects. However, there are potentially favourable synergies between these impacts and other actions (socio-economic and environmental) of the SBSDS that could lead to an avoidance or reduction of this pressure.

This impact profile seems to induce rather positive potential effects but of low intensity concerning this issue over the duration of the programme. In view of the level of challenge assessed in part 4, this low intensity of action may be potentially insufficient in coastal areas where there are significant activities (ports, aquaculture, shipping). However, it is not possible to comment on a return to the GES as this is not yet defined.

5.2.3.8. EUTROPHICATION

The SBSDS Action Plan is likely to generate 13 impacts relating to this pressure on the marine environment, a small proportion of the total impacts and therefore an issue that is little affected by the SBSDS. The majority of them are positive (10/13 or 77%). The remaining actions have uncertain impacts (3).

The positive impacts are more strongly direct (7/13) than indirect. The actions and sub-actions generating impacts on eutrophication have a typological profile with a dominance of awareness-raising-communication-training actions, followed by operational actions, knowledge improvement and planning. The positive impacts have fairly favourable characteristics: the majority have low uncertainty and are long-lasting. However, the majority of them occur in the long term.

The negative impact is related to the potential development of aquaculture activity. If the effect is considered fairly certain, the time frame for its occurrence is long term and the effect is considered reversible.

Uncertain impacts come from actions related to increasing the number of visitors (port activity and tourism). However, these uncertain impacts have some potentially favourable synergies with other actions (socio-economic and environmental) of the SBSDS that could lead to an avoidance or reduction of this pressure (reduction of pollution, increase of controls).

This impact profile seems to induce rather positive potential effects but of low intensity concerning this issue over the duration of the programme. It should be noted that an important part of eutrophication comes from waterways. Complementarity with the actions supported by the SDAGE is therefore essential to improve the state of this issue. However, it is not possible to comment on a return to the GES as this is not yet defined.

5.2.3.9. INTEGRITY OF THE SEABED

The DFS Action Plan is likely to generate 39 impacts concerning this pressure on the marine environment. The majority of them are positive (29/39 or 74%). As for the other impacts, there are 7 uncertain impacts and 3 negative impacts. In sum, 42% of the programme's actions will potentially impact on this issue.

The positive impacts are more strongly direct (22/29) than indirect. The actions and sub-actions generating impacts on the integrity of the seabed have a typological profile with a dominance of communication actions, followed by operational actions and awareness-raising-communication-training in equal parts. Planning approaches are also well represented. The positive impacts have fairly favourable characteristics: dominant with low uncertainty, and largely permanent. The time frame for occurrence is however mixed (half short term, half long term).

As for the negative impacts (3), they will occur in certain ways and in the short term, but they are mostly reversible. They come from actions on

MRE, the development of the Port of Le Havre and aquaculture. The negative impacts are thus concentrated on the areas identified for the development of these activities.

Regarding uncertain actions (7), they concern:

- knowledge enhancement actions, whose indirect effects remain uncertain at this stage on the issue of fund integrity,
- a possible decrease in pressure linked to the development of more eco-responsible activities (fishing, aquaculture), offset, however, by a potential development of these activities;
- to the developments potentially necessary in connection with MRE, the development of port land, transport activities and nautical activities.

This impact profile seems to induce positive potential effects: many actions have positive impacts on this issue and target activities defined as contributing to the pressures generated on this issue (fishing, extraction of material and maritime public works, but also aquaculture, MRE, natural risks). Other actions of the Action Plan are in synergy with these positive actions, such as the actions to protect certain benthic habitats at stake or the action concerning the objective of "zero net artificialization". The uncertain and negative impacts are thus linked to other actions that promote better environmental awareness (see Chapter 6). Together, these impacts have the potential to move some vocation areas closer to GES. However, the level of concern in zones 1, 3, 4 and 7 is high and some activities with negative effects on the integrity of the seabed are planned in these zones. In any case, however, it is not possible to comment on a return to the GES as this is not yet defined.

5.2.3.10. CHANGES IN HYDROGRAPHIC CONDITIONS

The DFS Action Plan is likely to generate 30 impacts concerning this pressure on the marine environment. The majority of them are positive (23/30). For the remaining impacts, 5 actions are identified as having uncertain impacts and 2 actions as having potentially negative impacts. In sum, 32% of the programme's actions will potentially impact on this issue.

The positive impacts are more strongly direct (18/23) than indirect. The actions and sub-actions generating impacts on hydrographic conditions have a typological profile with a dominance of knowledge, operational and awareness actions. Planning actions are also well represented. Positive impacts have fairly favourable characteristics: dominant with low uncertainty, and perennial. The time frame for occurrence is however mixed (half short term, half long term).

The negative impacts are due to the planned development of aquaculture activities (zones 1, 2, 4 and 7) and the Le Havre port channel (zone 4). The negative impacts are thus concentrated on the areas identified for the development of this activity. Their characteristics are mixed: they will occur with some certainty, the timeframe for their occurrence is long term for one and short term for the other, and their permanence is reversible for one and irreversible for the other.

Uncertain impacts arise from the projected development of MRE and port and transport activities.

This impact profile will lead to positive effects on this issue, the level of which is estimated to be intermediate for most of the vocation areas (see section 4). However, attention should be paid to zone 4, given the high stakes identified there and the negative effects that may occur in this zone. In any case, however, it is not possible to comment on a return to the GES as this is not yet defined.

5.2.3.11. CHEMICAL AND BIOLOGICAL CONTAMINATION

The DFS Action Plan is likely to generate 40 impacts concerning this pressure on the marine environment. The majority of them are positive (33/40 or 83%). For the remaining impacts, 6 actions are identified as having uncertain impacts and 2 actions as having negative impacts. In sum, 43% of the programme's actions will potentially impact on this issue.

The majority of positive impacts are more direct (29/33) than indirect. The actions and sub-actions generating impacts on contaminants have a typological profile with a dominance of communication actions, followed by operational actions and awareness-raising-communication-training in equal parts. The planning process is also important. Positive impacts have fairly favourable characteristics: dominant with low uncertainty, and perennial. However, the time frame of the occurrence is mostly long term.

The negative and uncertain impacts come from actions relating to ports and aquaculture, as well as MRE projects and the potential increase in maritime activities (transport). However, there are potentially favourable synergies between these impacts and other actions (socio-economic and environmental) in the SBSDS that could lead to the avoidance or reduction of these pressures (e.g., D08-OE4-AN1 on docking areas, D08-OE5-AN1 on scrubber discharges, AQUA-Eastern Channel-North Sea-01 on sustainable fish farming, PTM-Eastern Channel-North Sea-05 on clean energy supply in ports). Some of these actions with positive impacts are also related to activities that are considered to be highly contributory to potential developments of contaminants (transport).

This impact profile leads to potential positive effects. In view of the deviation from good status assessed in part 4, the positive effect may be potentially insufficient in coastal zones where the presence of activities (ports, aquaculture, shipping) is important (zones 3 and 4 in particular, where the deviation from GES is high, and zones 6 and 7 where the deviation is intermediate). Other sectors with a lower level of concern for this issue could see an improvement (zones 1 and 2 in particular), although it is not possible to say whether the GES will be achieved.

5.2.3.12. WASTE

The DFS Action Plan is likely to generate 34 impacts concerning this pressure on the marine environment. The majority of them are positive (30/34). For the remaining impacts, 3 actions are identified as having uncertain impacts and 1 action as having negative impacts. In sum, 37% of the programme's actions will potentially impact on this issue.

The positive impacts come from a variety of activities that contribute to this pressure. The positive impacts are more strongly direct (24/30) than indirect. The actions and sub-actions generating the impacts on waste have a typological profile with a dominance of knowledge and awareness actions, and operational actions. Positive impacts have fairly favourable characteristics: dominant with low uncertainty, and perennial. The time frame for occurrence is however mixed (half short term, half long term).

As for the negative impact, it will potentially occur in the medium to long term, and the effects will be reversible. It comes from the planned development of the aquaculture activity. The negative impacts are thus concentrated on the areas identified for the development of this activity.

Uncertain impacts include a potential increase in boating, tourism and transport activities.

This impact profile will lead to potential positive effects on all vocation areas, but rather in the medium to long term. Given the level of challenge assessed in Part 4 (high challenge in zones 1, 2, 4 and 7), it can be considered that the Action Plan will help to improve this situation but may not be sufficient at the programme level. However, it is not possible to comment on a return to the GES as this is not yet defined.

5.2.3.13. NOISE

The SBSDS Action Plan is likely to generate 18 impacts relating to this pressure on the marine environment, a small proportion of the total impacts and therefore an issue that is little affected by the SBSDS. The majority of them are positive (14/18). For the remaining impacts, 3 actions are identified as having uncertain impacts and 1 as having negative impacts. In sum, 19% of the programme's actions will potentially impact on this issue.

The positive impacts are more strongly direct (11/14) than indirect. The actions and sub-actions generating noise impacts have a typological profile with a dominance of knowledge and awareness actions, followed by operational actions. Positive impacts have favourable characteristics: dominant with low uncertainty, short-term occurrence and perennial.

The negative impact comes from the MRE planning actions. It will potentially and definitely occur in the short term, but the effect is considered reversible. However, this negative impact is potentially linked to other actions (socio-economic and environmental) of the SBSDS that could lead to a reduction of this pressure.

Uncertain impacts include a potential increase in boating, tourism and transport activities.

This impact profile appears to induce positive potential effects, with favourable characteristics. However, given the level of challenge assessed in Part 4, which is high for most areas, it is difficult to conclude that this challenge has improved across the programme. On the other hand, the action of the DFS should significantly improve the state of

knowledge on this issue and to take better account of noise-sensitive species. It is not possible to comment on a return to the GES as it is not yet defined.

5.2.3.14. LAND- AND UNDERWATER LANDSCAPES

The DFS Action Plan is likely to generate 38 impacts on this issue for the marine environment. The majority of them are positive (28/35). For the remaining impacts, 6 actions are identified as having uncertain impacts and 1 action as having negative impacts. In sum, 38% of the programme's actions will potentially impact on this issue.

The positive impacts are more strongly direct (18/38) than indirect. The actions and sub-actions generating the impacts on the landscape have a typological profile with a dominance of knowledge and awareness actions, followed by operational actions. Positive impacts have fairly favourable characteristics: dominant with low uncertainty, and perennial. The time frame for occurrence is however mixed (half short term, half long term).

The negative impact may come from the development action on the Port of Le Havre, the characteristics of which would be a short-term occurrence and certain and irreversible effects. Only the environmental assessment of the project can qualify these impacts. The SBSDD provides for support for this project to optimise its environmental integration and recalls the obligation to demonstrate its compatibility with the objectives of the SBSDD.

Uncertain impacts arise from potential developments related to MRE, aquaculture and cruise terminals. On the other hand, a certain number of SBSDD actions have a positive synergy with these impacts, aiming at a respectful development of these activities on the one hand, and a protection and restoration of natural environments on the other hand, which a priori has a positive impact on the landscape aspects.

This impact profile thus seems to induce rather positive potential effects on this issue over the duration of the programme. However, negative or uncertain impacts are concentrated in certain areas (port area, MRE, aquaculture areas), the effects of which will have to be studied in their environmental assessment.

5.2.3.15. AIR QUALITY

The SBSDD Action Plan is likely to generate 16 impacts in relation to this issue, a small proportion of the total impacts and therefore an issue not significantly affected by the SBSDD. The majority of them are positive (14/16). No negative impacts are expected on this issue, but 2 are rated as uncertain. In sum, 17% of the programme's actions will potentially impact on this issue.

The positive impacts are half direct (10/14) and half indirect. The actions and sub-actions generating noise impacts have a typological profile with a dominance of knowledge and awareness actions, followed by operational actions. Positive impacts have fairly favourable characteristics: dominant with low uncertainty, and perennial. However, the time frame for occurrence is overwhelmingly considered to be long-term.

The two uncertain impacts stem from actions leading to a possible increase in maritime traffic. Monitoring the development of port and tourist activities is therefore important.

This impact profile appears to be more likely to result in potential positive effects, but in the long term and with a low number of impacts. In view of the high stakes in part 4 in most of the vocational areas, an improvement can be expected, but probably not enough at the programme level.

5.2.3.16. NATURAL AND HUMAN RISKS

The SBSDS Action Plan is likely to generate 13 impacts in relation to this issue, a small proportion of the total impacts and therefore an issue not significantly affected by the SBSDS. All impacts are positive. In sum, 14% of the programme's actions will potentially impact on this issue.

Just over half of the positive impacts are direct (8/13). The actions and sub-actions generating impacts on natural and human risks have a typological profile with a dominance of knowledge and awareness actions, followed by operational actions. However, there is still a high level of uncertainty as to the occurrence of these effects and their long-term timing. The effects are considered to be perennial.

This impact profile will lead to potential positive effects, but rather in the long term. In view of the level of the issue assessed in part 4, this low intensity of actions at the programme level may be potentially insufficient in coastal areas where the issue is considered important.

5.2.3.17. KNOWLEDGE

The SBSDS Action Plan is likely to generate 56 impacts relating to this issue, representing a high proportion of the total impacts of the SBSDS (60%). They are all positive.

The positive impacts are more strongly direct (55/56) than indirect. Positive impacts have very favourable characteristics: dominant with low uncertainty, predominantly short-term occurrence, and perennial.

This impact profile is therefore very positive. In view of the level of risk assessed in part 4, this high intensity of action should significantly improve the state of knowledge in the areas of the coastline, partly in areas where the state of knowledge seems to be weak.

5.2.3.18. CONCLUSION

The issues in the first group, referred to in the previous section as "issues related to the components of the marine environment", have a high number of impacts, the majority of which are positive, but with a high proportion of medium to long-term occurrence and a high level of uncertainty. Although the strong dominance of positive impacts, as well as the localised nature of negative impacts (MRE implementation areas, possible aquaculture development areas, port development), allows us to conclude that the action plan has a positive overall impact on them, it is impossible to rule out

its extent and therefore on the capability of the action plan to restore good status. In addition, these issues are not in the same situation with respect to the GES:

- two of them show a significant overall deviation from the GES, which seems difficult to close at the scale of this first action plan (benthic habitats, fish and cephalopods);
- the issues concerning marine mammals and turtles and sea birds are in a more favourable situation, which the action plan should at least consolidate, even if the impact of future wind farms on marine and migratory birds should call for the utmost vigilance;
- for the food web issue, the GES is not defined and the deviation from it is not assessed, and it is therefore even more difficult to comment on the overall impact of the action plan.

For the second group of issues, "issues related to pressures on the marine environment", the impact of the SBSDS is expected to be less significant than for the first group, given the smaller number of actions impacting on these issues, although this smaller number is partly offset by a higher proportion of impacts with low uncertainty as to their occurrence. Furthermore, the overall impact of the action plan is likely to be more or less strong depending on the different issues making up this second group:

- rather modest for eutrophication, NIS and noise, which does not have the same consequences given the different situation of these issues (see section 4). Noise and NISs are in a rather unfavourable situation on the coastline, while eutrophication is in an intermediate situation.

- more important for contaminants, seabed integrity, hydrographic conditions and waste. This greater impact of the action plan on these four issues is all the more relevant as they present fairly high levels of challenge. Nevertheless, it is impossible to make a statement on a possible return to good status as this has not been defined for three of them (waste, hydrographic conditions and integrity of the seabed). As for contaminants, the overall gap in some coastal areas seems difficult to close on the scale of this action plan;

The issues in the third group "Other societal issues" will all be positively impacted by the action plan as it has a very high proportion of positive impacts and only one negative impact (on landscape). However, the overall effect of the action plan differs quite widely for each of these four so-called 'societal' issues:

- the action plan has a fair number of landscape impacts, the vast majority of which are positive. The overall effect will be all the greater if the actions with these impacts are targeted at the areas where the landscape issues are the strongest. In addition, attention should be paid to the uncertain impact on the landscape of large-scale wind farms and port developments;
- air quality and risk impacts are much less numerous, although all are positive. Concerning risk and atmospheric pollution control

, it is not certain that the plan is up to the challenge, which is quite high overall. Furthermore, the occurrence of these positive impacts is mostly estimated to be in the long term. With regard to the reduction of GHG emissions, it is difficult to give an opinion given the absence of a diagnosis of the initial situation;

– finally, the impacts on knowledge are numerous, all positive and mostly short-term. The plan should therefore significantly improve the level of knowledge about the coastline, which is highly relevant given the existing uncertainties.

5.2.4. Spatial impacts at the level of the vocation zones

In terms of the vocational zones affected by the stated impacts, it is apparent that all zones have a similar impact profile. Thus, in all areas:

– the majority of impacts relate to the knowledge issue,

- a very large proportion of the impacts relate to habitat and species issues
- a slightly smaller but significant share of the pressures relate to Contaminant, seabed integrity, Alteration of Hydrological Conditions, Waste and the landscape societal issue.
- And finally, far fewer impacts are noted on the eutrophication, NIS, Noise, and Air Quality and Risk societal pressures.

This pattern is found in both offshore and coastal areas, but:

- On the one hand, the offshore areas (zones 5 and 8) differ in the number of impacts compared to the coastal areas (zones 1, 2, 3, 4, 6, 7)
- On the other hand, the differences between the numbers of impacts per issue are slightly less pronounced in the wider areas.

This slight difference between these two types of areas is in line with the assessment of the issues at stake, which shows that the offshore areas have a slightly lower level of issue or deviation from good status than the coastal areas on the various issues.

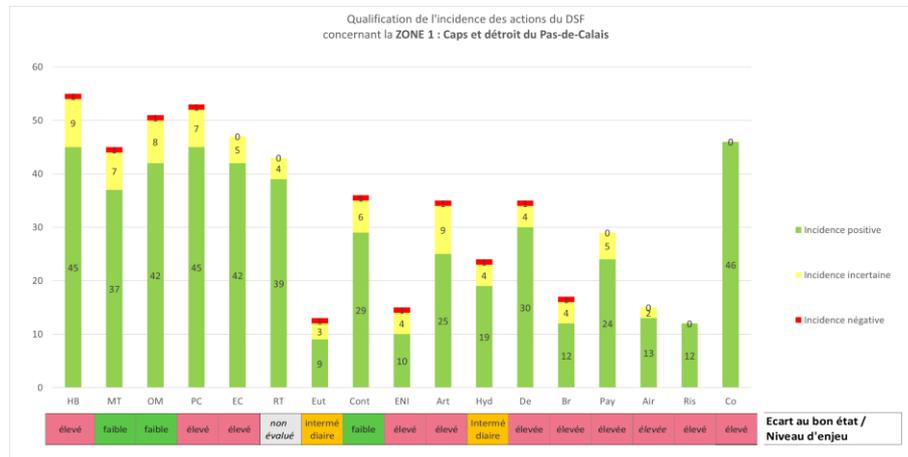
Among the coastal areas:

- Zone 4 is the zone where the most positive, negative and uncertain impacts are noted. It is also the one with the highest-pressure levels (Cont, NIS, Art, Hyd, Waste and Noise).
- It should also be noted that zones 2 and 7 have slightly more positive profiles (more than 90% positive impacts in these zones compared to just over 80% in the other zones).

The action of the DFS seems particularly relevant for the habitat and species issues (in particular HB, MT, OM, PC, EC, RT) which in most areas present a

significant GES gap (or an unevaluated status), as well as for the knowledge issue, in particular true of the low level of reliability attributed to the assessment of the GES by issue and by vocation zone.

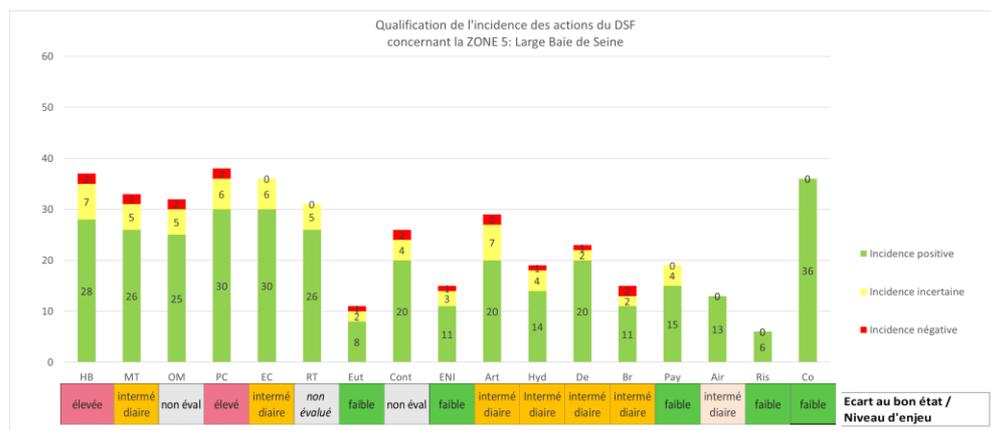
Impact profile for a coastal area, Zone 1:



Impact profile for coastal zone 4, with the highest concentration of impacts:



Impact profile for an offshore area:

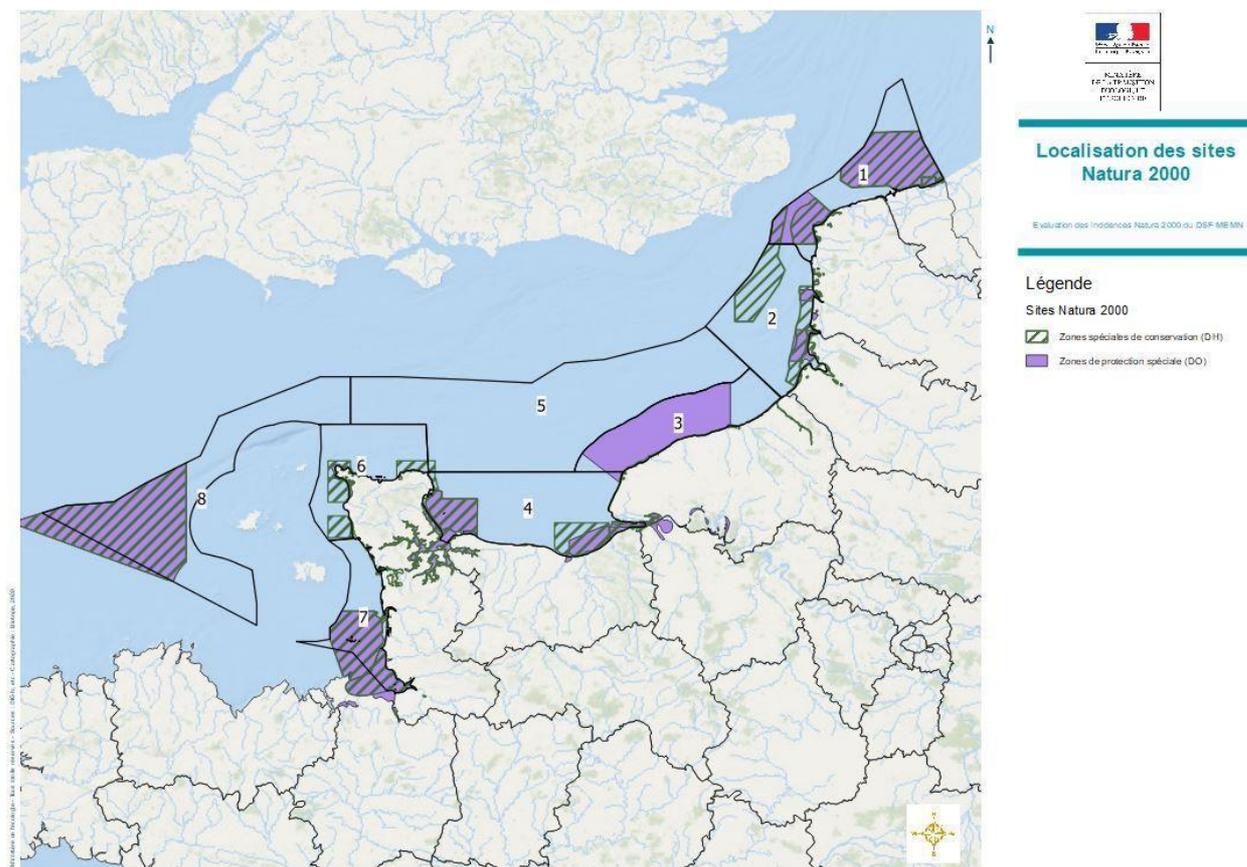


5.3. Analysis of potential impacts on Natura 2000 areas

5.3.1. Presentation of Natura 2000 sites

Location

Of the 8 zones delimited by the APME of the coastline's functions, 7 include areas classified as Natura 2000.



The Special Protection Areas (SPAs) of the coastline:

17 SPAs are located on the Eastern Channel-North Sea coastline. See list in Annex 5.

❖ Birds of Community interest at the origin of the designation of the sites Natura 2000 sites on the coast:

Of the bird species of community interest for which the Eastern Channel-North Sea Special Protection Areas were designated, only sea bird species are included in the impact assessment of the BSF. They were divided into two groups:

- Pelagic sea bird species: Northern Fulmar, English Shearwater, Balearic Shearwater, Northern Gannet, Razorbill, Atlantic Puffin, etc. These species spend most of their lives at sea: they only come ashore on the French coast to nest. They feed at sea, by diving.
- Coastal sea bird species: this group includes surface sea birds (terns, storm-petrels, gulls), shorebirds (e.g., Oystercatcher, Common Grackle, Lesser Scaup, etc.), sea ducks (Common Scoter, Red-breasted Merganser, Common Eider, Shelduck, etc.), coastal divers (Grebes, Divers, Crested Cormorant). These species feed either on the foreshore, on the surface of the sea or by submerging up to 20 m.

The table in Appendix 5 lists the CI bird species and their conservation status on the sites, for which the coastline has a particular responsibility. These species are those whose numbers are greater than 10% of the French total (source: CEREMA, 2014) ¹⁵

The Channel and North Sea is an important migration and wintering area for sea birds, mainly terns (caugek and common), gannets, brant, gulls (pygmy, black-legged, black-headed), anatidae and waders. On the foreshore, 4 wintering sites are of international importance: the Bay of Mont-Saint-Michel, the Picardy coastline, the Bay of Veys, and the west coast of the Cotentin.

It is thus a concentration area of international importance in winter (Eastern Channel and Baie de Seine in particular).

In summer, the Bay of Seine and the Norman-Breton Gulf are major sites for the Balearic Shearwater and the Common Scoter.

The rocky cliff areas are used by pelagic sea birds for nesting (Northern Fulmar, etc.).

Note: Although no Natura 2000 sites are present in zone 5, pelagic sea bird species use this area for feeding (gannets and alcids offshore), as do migratory species (Mediterranean gulls, loons and grebes that station themselves on the coast) for their movements. Thus, the DFS actions planned in zone 5 are likely to interfere with these CI bird species that are the reason for the designation of the Natura 2000 sites of the Eastern Channel-North Sea frontage.

¹⁵ Source: SEA APMEs Bay of Biscay - CEREMA 2014 - Pages 248-249 (except for offshore reefs as the areas concerned did not exist in 2014).

The Special Areas of Conservation (SAC) of the coastline

31 SACs are located on the Eastern Channel-North Sea frontage. See list in Annex 5.

❖ The CI habitats that led to the designation of the SACs:

The benthic habitats of Community interest that are the reason for the designation of the special areas of conservation of the coastline selected for the impact assessment are the marine or wetland habitats located on the coastline. For the purpose of this analysis, they were divided into three groups:

- Marine benthic habitats located in the subtidal zone, whether sedimentary or rocky in nature: these are reef habitats (1170), sandbanks with little permanent marine water cover (1110). It should be noted that the coastline is particularly represented by sedimentary habitats, including habitats of particular concern: eelgrass beds and hydraulic dunes (zones 1 and 2). Among the reefs, the two particular rock structures Ridens de Boulogne (zone 2) and Roches Douvres are noteworthy.
- Habitats located on the littoral fringe (intertidal zone, foreshore): this group includes areas exposed at low tide, sandy or muddy foreshore (1140), rocky cliffs (1170), intertidal or mediolittoral reefs (1170). Note the particular issue for the hermeles reefs in the Bay of Mont Saint-Michel (zone 7), and the "Reefs" habitat present on the "Littoral cauchois" site (zone 3), which is made up of limestone substrate. This area is the only one in France with this feature.
- Habitats located in transitional environments mixing freshwater and water: these are salt meadows (1330), lagoons (1150) and estuaries (1130), located in zones 2, 3, 4, 6 and 7.)

❖ The CI fauna species for which the SACs were designated: :

The species of community interest that led to the designation of the special conservation areas of the coastline retained for the impact analysis are marine species, grouped into two groups:

- Marine mammals: the harbour porpoise, the grey seal, the calf seal and the bottlenose dolphin are present on the coast. While all areas are affected by the presence of these species, the following can be noted: The sandbanks, which are very well represented in zones 1 and 2, offer resting places that are particularly appreciated by grey seals (the main French colony). The Bay of Veys (zone 4) and the Bay of Mont Saint-Michel (zone 7) are home to a resident breeding population of the Harbour seal (2nd largest colony of Harbour seals in France). Zone 6 is an important passageway (bottleneck area for migrating and hunting marine mammals). Finally, a high density of harbour porpoise is noted in summer in zone 8.
- Amphihaline fish: Large shad, Blueback herring, Sea lamprey. Adult populations of amphihaline fish may occupy the continental shelf for feeding during their marine phase. Their reproductive phase

passes into the river. In zone 4, the Seine estuary is a major issue for sea lampreys, and the Vire is a major issue for the Great Shad.

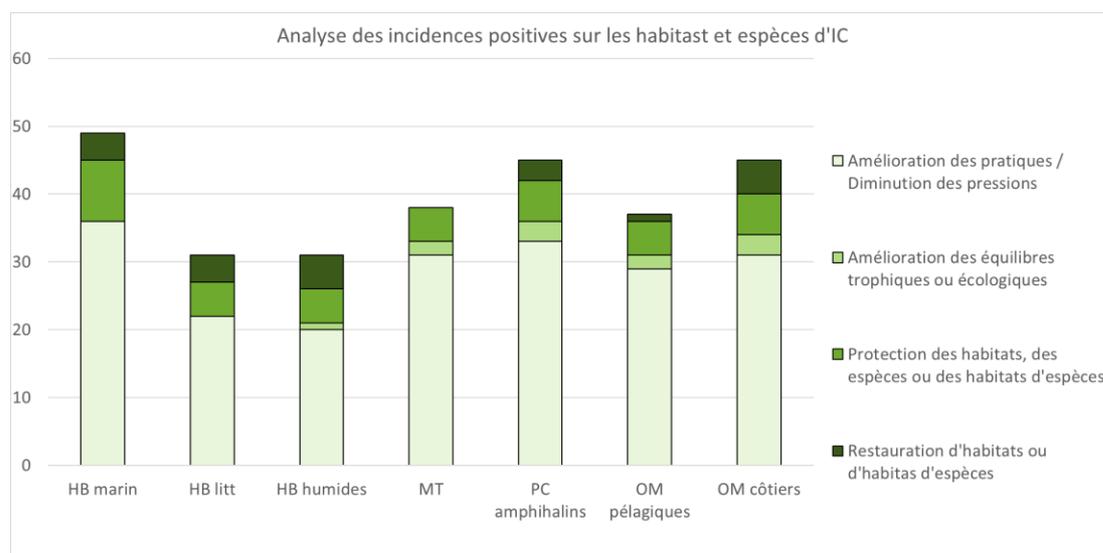
The table in Annex 5 presents the list of CI habitats and fauna species and their conservation status on Natura 2000 sites, for which the coastline has a particular responsibility. These species are those whose employment numbers exceed 50% of the French workforce (source: CEREMA, 2014) ¹⁶

5.3.2. Analyses of the potential impact of the SBSD on the Natura 2000 sites of the coast

The analysis below is performed on all the vocational zones. A spatial analysis of these impacts is presented in Annex 5.

Choice of protection of Natura 2000 issues in the SBSD

The majority of the impacts of the SBSDS actions are positive (67 actions have positive impacts). The following graph shows the distribution of these impacts by CI issue groups.



As illustrated in the graph above, the positive impacts are aimed in particular at improving practices or reducing pressures and concern all stakeholder groups. All socio-economic activities are concerned by this objective of improving practices: aquaculture, agriculture, risks, professional and leisure fisheries, electricity production, tourism, yachting and nautical leisure activities, port activities and transport, sediment extraction, activities that are likely to be located within

¹⁶ Source: SEA APMEs Bay of Biscay - CEREMA 2014 - Pages 248-249 (except for offshore reefs as the areas concerned did not exist in 2014).

Natura 2000 sites. The actions of the SBSB should thus enable better consideration of CI issues by limiting the degradation of marine, coastal or wetland benthic habitats, reducing pollution and waste, reducing the accidental capture of marine mammals or sea birds, and limiting the risks of collisions and disturbance of marine megafauna during work at sea or induced by the various activities

In addition, several SBSB actions are aimed more specifically at environmental protection or restoration, some of which specifically target CI habitats or species. These actions are listed below:

Issue group	Specific actions to preserve CI issues
Marine habitats	Assess the level of interaction of activities with specific geomorphological structures at stake and adapt regulations if necessary (D01-HB-OE10-AN3)
Habitats of the foreshore area	Identify, maintain and restore mid-littoral and functional sea bird habitats that are degraded and/or exposed to coastal habitat compression. (D01-OM-OE05-AN1)
Habitats in transition zones	Promote land-sea connectivity in estuaries and lagoons in addition to what is being done on ecological continuity under the SDAGE and PLAGEPOMI, by intervening on obstacles impacting currentology and sedimentology. (D07- OE03-AN1),
Amphihaline fish	<p>Develop and implement a national amphihaline migratory plan for optimised management of migratory fish throughout the land-sea continuum (D01-PC-OE3-AN1)</p> <p>Promote land-sea connectivity in estuaries and lagoons in addition to what is being done on ecological continuity under the SDAGE and PLAGEPOMI, by intervening on obstacles impacting currentology and sedimentology (D07-OE03- AN1)</p> <p>Identify and reduce the risk of accidental capture for each species of community interest (D01-OM-OE01-AN1)</p>
Sea birds	<p>Develop and implement appropriate management and protection tools for high-stake sea bird species in the marine sub-region (D01-OM-OE03-AN1)</p> <p>Monitor and control introduced and domesticated species on sea bird breeding sites (D01-OM-OE04-AN1)</p> <p>Submit and implement a Life "Mobile Marine Species" project (AT06)</p>

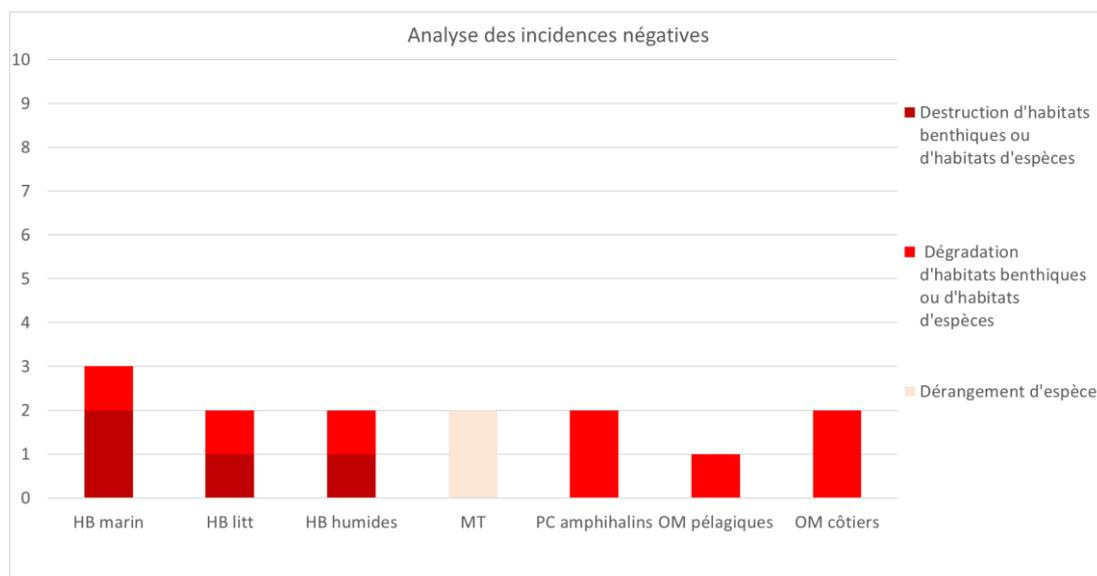
Issue group	Specific actions to preserve CI issues
	Identify and reduce the risks of accidental capture for each of the species of Community interest (D01-OM-OE01-AN1)
Coastal birds	<p>Identify, maintain and restore mid-littoral and functional sea bird habitats that are degraded and/or exposed to coastal habitat compression. (D01-OM-OE05-AN1)</p> <p>Monitor and control introduced and domesticated species on sea bird breeding sites (D01-OM-OE04-AN1)</p> <p>Submit and implement a Life "Mobile Marine Species" project (AT06)</p> <p>Identify and reduce the risk of accidental capture for each species of community interest (D01-OM-OE01-AN1)</p>
Cetaceans	Submit and implement a Life "Mobile Marine Species" project (AT06)

Finally, in addition to these protection actions, there are several cross-cutting actions that should lead to a better preservation of CI habitats and species:

- Develop the network of strong protection zones and reinforce their control (AT01),
- Develop the network of marine educational areas (AT02),
- Strengthen consideration of the sensitivity of species to disturbance in offshore permits and local regulations (D01-OM-OE06-AN1),
- Develop a strategic vision of the coastline on artificialization with the aim of moving towards "zero net artificialization" (D06-OE01-AN1)
- Support the implementation of the ARC sequence at sea in the context of authorisations for projects leading to the artificialization of the marine environment (D06-OE01-AN2).

Negative impacts on CI habitats and species

3 actions in the SBSDS are likely to have negative impacts on CI habitats and species. The impacts include the destruction or degradation of benthic habitats or species habitats, as illustrated in the following graph:



These impacts are induced by:

1 Two actions related to the planning of socio-economic activities:

- planning of aquaculture areas (AQUA-NAT-01): The Natura 2000 sites in zones 1, 2, 4 and 7 are particularly affected.
- the launch of future calls for tender for offshore wind projects (MRE- Eastern Channel-North Sea-01): Vocation zones 1, 3, 4, 5, 6 and 8 are particularly concerned by the risk of impacts on birds (loss of hunting habitats, risk of collision during migration), on marine habitats, or on cetaceans (disturbance during the construction phase of the projects).

The nature of the impacts induced by these two actions depends on the design and implementation of future MRE and aquaculture projects. The DFS Action Plan foresees several actions to reduce these impacts associated with the development of these projects:

- the creation of a specialised body: a scientific council for the (MRE-Eastern Channel-North Sea- 02) and a management and monitoring committee (MRE-Eastern Channel-North Sea-03).
- Incentives for sustainable development of aquaculture activities: (AQUA-Eastern Channel-North Sea-01),
- Improving knowledge of the impacts of these activities (Aqua-Nat-02, D01-OM-OE02-AN1, MRE-Eastern Channel-North Sea-05)
- The preservation actions mentioned in the previous chapter, which make it possible to locate and protect the issues of the coastline

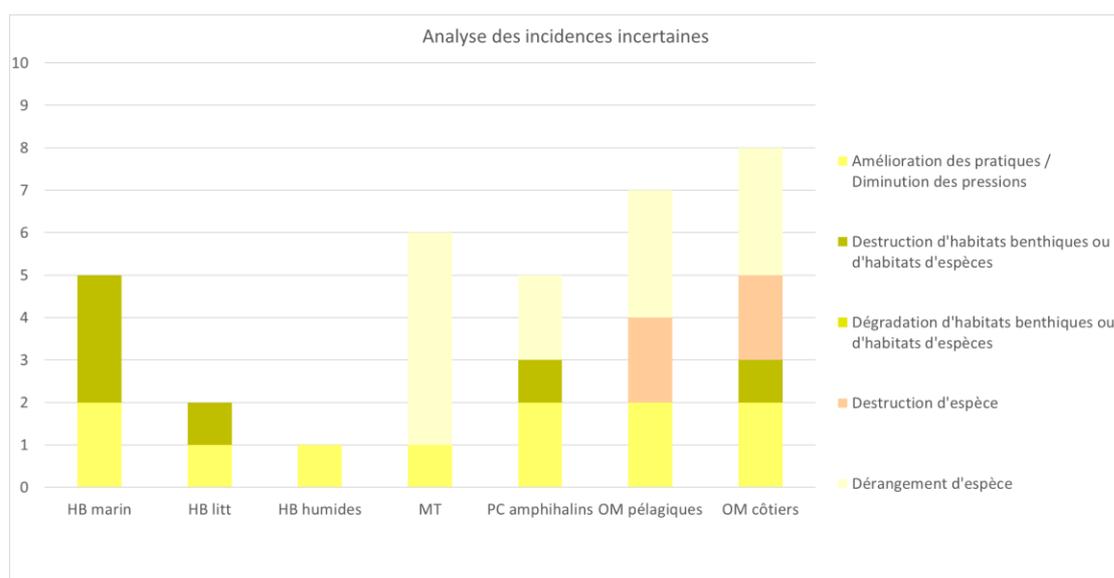
2 A development action, aiming at the construction of the Port of Le Havre's chatière (PTM-Eastern Channel-North Sea-01), located in zone 4. The impacts may therefore concern CI habitats and species in the Seine Estuary Natura 2000 area: risk of destruction or degradation of benthic CI habitats, risk of impact on amphihaline fish

(area heavily used by two species of community interest: large shad (classified in 2019 as critically endangered on the French red list) and brown shad), risk of modification of hydromorphological conditions.

SBSD's action aims to accompany this project so that the issues related to the preservation of the marine environment are considered. It will therefore be necessary to ensure that the project does not have a significant impact on the issues at stake in the Seine Estuary Natura 2000 site, through an appropriate impact assessment. In this sense, the action specifies the principle of exemplarity expected from the environmental assessment of the project and the expectation of a report on the compatibility of the project with the environmental targets of the SBSDS, in particular those aimed at preserving habitats.

Uncertain impacts on CI habitats and species

13 actions may result in uncertain positive or negative impacts on CI habitats and species at this stage. The following graph shows how uncertain impacts are distributed across the CI issue groups.



Thus, some uncertain impacts may have rather positive effects (related to a possible improvement of practices), or negative effects (related to a possible destruction or degradation of habitat, destruction or disturbance of species)

The actions concerned are:

- actions potentially leading to developments (INN-Eastern Channel-North Sea-01, MRE-Eastern Channel-North Sea-07, MRE-Eastern Channel-North Sea-05, MRE-Eastern Channel-North Sea-01, and PTM-Eastern Channel-North Sea-04). All of these actions include guidelines for considering sensitive areas, raising awareness of environmental issues among stakeholders, and using existing buildings for development. In addition, action D06-OE01-AN1, which aims for no net loss of land due to artificialization, should help to limit the impact.

- actions leading to a possible development of fishing activities (PM- AQUA-Eastern Channel-North Sea-01), or an increase in tourism or transport (TOU-SPO-Eastern Channel-North Sea-03, INN-Eastern Channel-North Sea-02) and yachting (INN-Eastern Channel-North Sea- 01): Monitoring the development of these activities will be essential to ensure that there are no negative effects on CI habitats and species.
- and actions aimed a priori at taking better account of environmental issues, but whose effects remain too uncertain at this stage on CI habitats and species. These are actions aimed at reducing fishing-related pressures (PM-Eastern Channel-North Sea-01 and PM-AQUA-Eastern Channel-North Sea-01).

6. Analysis of the measures taken to Avoid, Reduce and Compensate - ARC - environmental impacts

The measures taken to avoid, reduce and ultimately compensate for negative environmental impacts are part of the iterative process of environmental assessment outlined above (SEA methodology). This so-called ARC sequence for minimising the impacts of development projects on biodiversity and the environment is also intended to be applied at the level of public planning policies such as the Strategic Coastal Zone Document, whether in their strategic or operational aspects. However, unlike what is possible in impact assessments at the scale of precisely defined projects, we have already highlighted above the difficulty of reaching a precise conclusion on the ability of the operational part of the SBSDS to restore GES. Consequently, while it is possible to detail here the avoidance and reduction measures implemented during the process of drawing up the action plan, it is not possible to specify the residual impact and therefore to propose possible compensatory measures for this possible residual impact. Finally, as the implementation of the RE sequence is characterised by its progressive nature as the action plan evolves, the following elements can be considered as the justification of the final choices made.

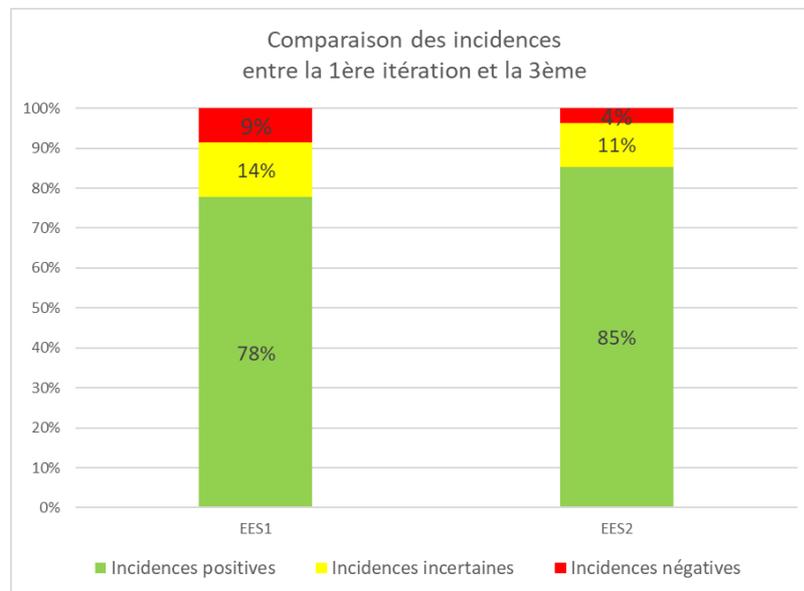
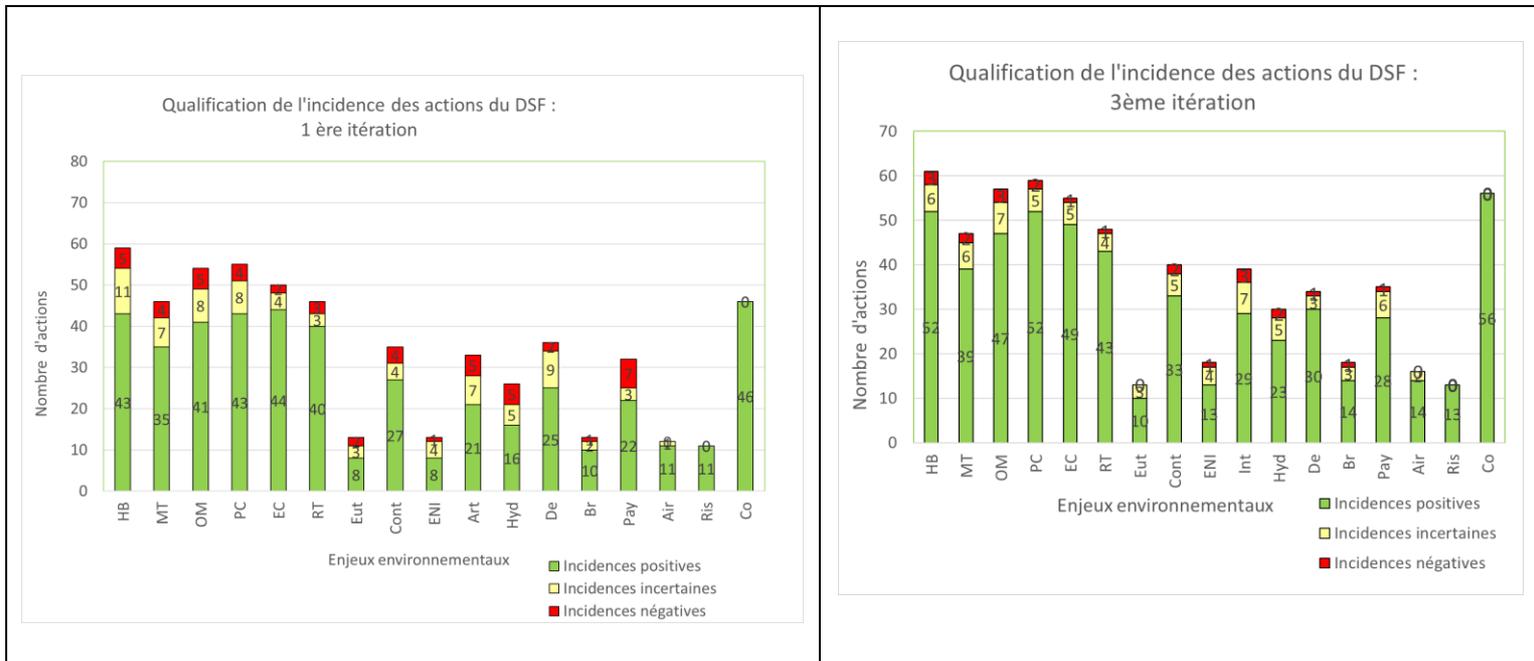
The iterative process of SEA has made it possible to integrate reduction or avoidance measures into certain actions that initially had potential negative or uncertain impacts. In some cases, this integration has changed the characterisation of the impacts from negative or uncertain to positive, and in others it has reduced the negative impact, although it is not possible to say to what extent. The product of this whole process of progressive improvement of the SBSDS MED Action Plan in terms of its environmental impact is detailed below.

During successive iterations of the SEA:

- some 30 RE measures were proposed for socio-economic actions with potentially negative or uncertain impacts;
- about twenty were included in the action plan sheets, the IMD having justified its choice not to include the others during discussions with the evaluator (often because these RE measures were already the subject of other actions, particularly environmental).

In addition to considering the RE measures proposed by the evaluator, the evolution of the action plan has also led to an improvement in impacts, notably with the integration of new actions with positive impacts between the first and second versions of the action plan. This improvement was nevertheless reduced at the end of the process by the deletion of actions with positive impacts, because they could not be finalised or arbitrated in favour of their continuation (action on health risk management in aquaculture, action on the hunting of migratory birds).

The product of these different developments in the Action Plan in terms of its environmental impacts is illustrated in detail by environmental issue in the graphs below.



These charts highlight the following points:

- (1) this development is explained by the integration of RE measures in some socio-economic actions.
- (2) strengthening of positive impacts, either in relation to the evolution of actions (from uncertain to positive) and by the addition of new actions generating additional positive impacts.

(3) as well as a small shift in uncertain impacts, either towards positive impacts or in relation to the addition of new actions with uncertain impacts.

Finally, in addition to these developments directly related to the iterative process of SEA, it should be noted that some actions or sub-actions of the action plan can be considered as RE measures of another action (when it is an action) or of the same action (when it is a sub-action). These RE measures directly integrated into the action plan by the designers are summarised in the table below.

The articulation between these actions is presented below:

Action or sub-action that can be considered as an RE measure	Justification
Actions related to MREs	
<p>SA 1 of the MRE-Eastern Channel-North Sea-01 action: Refer to the permanent and specialised commissions of the Eastern Channel-North Sea or SBC so that they can draw up an opinion or contribution for all offshore wind and MRE project opportunities on the coast</p>	<p>This sub-action allows for the upstream prevention of potential impacts of the MRE-Eastern Channel-North Sea-01 action on the development of offshore wind turbines.</p> <p>The consultation proposed in the description of the action will make it possible to avoid and/or reduce the impacts of future MRE project proposals, with environmental stakeholders being part of the SBC's PC and SC.</p> <p>The PC and SC can base their considerations on the knowledge gained from the environmental actions in the DFS action plan (D01-OM-OE02-AN1, D01-PC-OE5-AN1, D01-OM-OE02-AN1) or following experiments performed in the context of the development of MRE (MRE- Eastern Channel-North Sea-05). Feedback on the cohabitation of uses at sea can also provide enlightening elements (MRE-Eastern Channel-North Sea-06).</p>
<p>Action MRE-Eastern Channel-North Sea-02: Create a scientific coastline council</p>	<p>This action will help to reduce the impact of the MRE-Eastern Channel-North Sea-01 action on the development of MRE.</p> <p>This scientific college of recognised experts will help to improve knowledge of the impacts of MREs, promote least impact practices and effective measures.</p>
<p>Action MRE-Eastern Channel-North Sea-03: Create a management and monitoring committee for wind projects on the coast</p>	<p>This action will contribute to reducing the impact of the MRE-Eastern Channel-North Sea-01 action on the development of offshore wind farms: this committee will make it possible to coordinate actions on the scale of the coastline (e.g., scheduling of the work phases of the various projects, avoiding cumulative impacts linked to noise; harmonising the monitoring performed for the various authorised wind farms)</p>
<p>D01-OM-OE02-AN1: Prefigurin g a coordinating body national scientific councils (CSC) for wind energy in the EU sea</p>	<p>This action will help to reduce the impact of the MRE-Eastern Channel-North Sea-01 action on the development of offshore wind turbines. This action will strengthen knowledge of the impacts of MRE projects on the components of the natural marine environment and</p>

	share feedback on RE experiences
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Action or sub-action that can be considered as an RE measure	Justification
Actions related to aquaculture	
SA2 and SA3 of the AQUA NAT 02 action "Supporting the procedures for examining applications for authorisation to exploit marine cultures	Predictive modelling of the impacts of an aquaculture farm (SA2) and training of authorities (SA3) will help to reduce the impact of the AQUA NAT 01 action on the planning of future aquaculture areas
AQUA-Eastern Channel-North Sea coastline-01: Promote the development of sustainable fish farming adapted to the high national potential	This action should minimise potential impacts related to the aquaculture development of AQUA NAT-01
Actions related to water sports	
TOU-SPO-Eastern Channel-North Sea-02: Raising public awareness of environmental issues	Raising the awareness of new water sports enthusiasts should reduce potential impacts in relation to action INN-Eastern Channel-North Sea-01: Promote access to water sports activities: The possible development of new practising audiences must be well supported and they must be made aware of environmental issues.
Actions in relation to developments	
D06-OE01-AN1 aiming at Zero Net artificialization	This action reduces the impact on actions that may lead to development, including PTM-Eastern Channel-North Sea-04 (Valuing port land) and PTM-Eastern Channel-North Sea-01 (Building the port of Le Havre gateway): To enhance the value of port land by developing a sustainable and concerted development approach

7. Indicators for monitoring the impacts

The coastline strategy paper (SBSDS) consists of four parts, the third of which is devoted to the arrangements for evaluating the implementation of the SBSDS. The monitoring framework is therefore an integral part of this third part, which, together with the action plan, constitutes the operational part of the SBSDS.

The development of this monitoring framework enables France to meet its obligations under the two EU framework directives on Marine Strategy (MSFD) and Maritime Spatial Planning Directive (MSFD). It thus defines the monitoring strategy to be put in place with the following objectives

- To update and clarify the evolution of the existing situation on the maritime coastline;
- To evaluate the achievement of strategic targets specific to each coastline.

This joint monitoring framework for the environmental and socio-economic strategic targets is therefore, like the SBSDS, being developed for the first time. It integrates the monitoring framework of the MSFD, which was the subject of a first version during the first cycle of this directive implemented prior to the drafting of the SBSDS. This first version of the "SBSDS" monitoring framework was finalised at the end of January 2021.

For this environmental assessment, the monitoring framework was mobilised in two directions¹⁷:

- on the one hand, to understand its capability to improve the monitoring of the evolution of the GES gap, since this capability conditions the possibility to assess the overall impact of the action plan in a more robust way;
- secondly, to understand its capability to monitor the main environmental impacts identified during the analysis, and in particular the impacts presenting a potential risk for the restoration of the good status of environmental issues, i.e., negative or uncertain impacts.

7.1. Capability of the monitoring framework to improve the monitoring of the GES gap

This capability is directly linked to the improvement of the monitoring framework of the MSFD, which is the subject of Annex 1 of the monitoring framework. The improvements for the second cycle proposed in this annex¹⁸ can be set against the assessment of the GES gap or the level of challenge that may have been made at the scale of the different vocation zones of the coastline - see part 4 of this report. This is the purpose of the table below.

¹⁷ Mobilisation within an extremely tight timeframe given the concomitant finalisation of the monitoring scheme and the environmental report.

¹⁸ And in particular in the tables in Part 3 "Summary of the devices integrated in the monitoring programme" of each monitoring programme detailed in Annex 1.

Issues	Overall assessment at scale of all VZs	Overall reliability at the scale of all VZs	Monitoring device as described in Annex 1 of the DDS
HB	Overall high GES gap	Low	None operational, almost 60% not operational but expected to be at the end of this cycle and more than 40% to be established
MT	Overall low GES gap	Average	About 70% of the schemes are operational, and 30% are not operational but should be by the end of this cycle
OM	Overall average GES gap	Low	About 50% of the schemes are operational, and 50% are not operational but should be by the end of this cycle
PC	Overall high GES gap	Low	Two out of four schemes are operational, the other two should be operational by the end of this cycle Furthermore, one out of four sub-programmes is to be set up and will therefore not be operational at the scale of the next cycle
EC	Overall high GES gap	Low	Two-thirds of the schemes are operational and one-third are not operational but should be at the end of this cycle
RT	Not rated	Not applicable	No monitoring devices specifically targeted at this issue
Eut	Overall average GES gap	Good	All devices are operational
Cont	Overall average GES gap	Good	Two-thirds of the schemes are operational and one-third are non-operational but should be so at the end of this cycle
NIS	Overall high level of concern	Good	Monitoring programme fully under development
Int	Overall high level of concern	Good	Half of the schemes are operational and the rest are non-operational but should be operational at the end of this cycle
Hyd	Overall medium level of concern	Average	40% of schemes are operational and 60% of schemes not operational but expected to be at the end of this cycle
De	Overall high level of concern	Good	Two out of nine schemes to be set up and out of the others, 50% are operational and 50% are not operational but should be at the end of this cycle
Br	Overall high level of concern	Good	One in four of the schemes to be created and of the remaining three, only a quarter are operational and three quarters are not operational but should be by the end of this cycle

This table shows that the assessment of the GES gap is expected to improve significantly in the next cycle, provided that the currently non-operational monitoring devices are effectively operational by the end of 2026. Only three issues are still expected to have significant

uncertainties in terms of assessing their status at that time:

- **benthic habitats**, for which the monitoring framework should be improved, while maintaining a certain number of systems still in the research or experimental stage ("to be set up" systems in the table). Given the importance of this issue on the coastline (deviation from the GES difficult to assess but high overall), we can only recommend that the utmost attention be paid to improving the monitoring framework for it;
- **food networks**, which is an issue whose GES is neither defined nor assessed today, and which is not subject to a specific monitoring programme for the next cycle;
- **non-native species**, for which the monitoring programme is not expected to be operational by 2026 as it is still under development. The good reliability shown in the table is related to the methodology used to determine the level of risk: it is based on the identification of activities generating NIS, which are therefore well known on the coastline. However, the GES gap is not defined, and it is important to remain vigilant about the ability to assess this important issue on the coastline.

7.2. Capability of the monitoring framework to report on the main impacts identified

The aim here is to understand **the monitoring capability of the main environmental impacts identified during the analysis**. This refers to the definition of the indicators proposed in the FMS and the operational nature of the monitoring framework put in place to assess them.

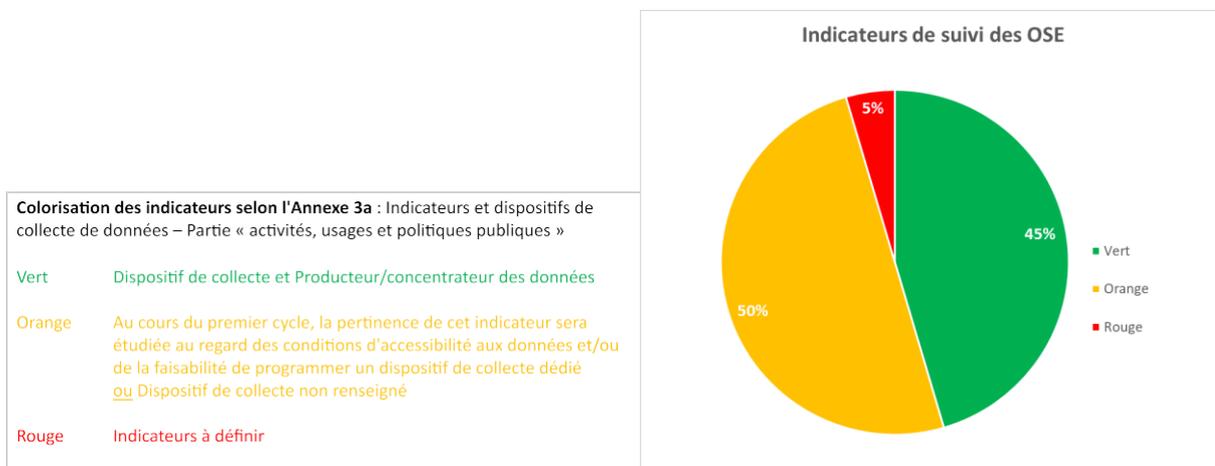
In order to do this, we have included all socio-economic actions that are likely to have one or more negative or uncertain environmental impacts. For these, we have studied the indicators planned for the socio-economic and environmental targets (see Annexes 6a and 6b of the SFM19), and have established, on the basis of Annexes 3a and 3b of the monitoring framework²⁰ , typologies concerning the more or less operational character of these indicators. We also looked at the existence of specific indicators for socio-economic activities that could generate the negative or uncertain environmental impacts, and similarly looked at their more or less operational nature. The following three paragraphs summarise these analyses.

ABILITY TO IMPLEMENT MONITORING NEGATIVE OR UNCERTAIN IMPACTS - READING ON THE MONITORING INDICATORS ATTACHED TO THE SOCIO-ECONOMIC OBJECTIVES

¹⁹ Annex 6: strategic targets Part A: Socio-economic strategic targets (6a) and Part B: environmental targets (6b)

²⁰ in Annex 3a: Indicators and data collection devices - Part "activities, uses and public policies" and Annex 3b: Focus on environmental targets (EOs), good environmental status (GES) criteria and Economic and Social Analysis (ESA)

On the Eastern Channel-North Sea side, 11 socio-economic actions are likely to have negative (24 impacts) or uncertain (70 impacts) impacts. In the monitoring framework, these actions refer to 22 monitoring indicators linked to the socio-economic objectives. Their operability can be approached by type and with the following results for the 22 indicators concerned.



The monitoring of socio-economic actions with negative or uncertain environmental impacts seems rather operational from the point of view of the indicators attached to the SEOs, since half of them (green for 10/22) have a data collection mechanism and a data producer, and only one remains to be defined (red for 1/22). However, an effort remains to be made on half of the indicators (orange for 11/22): to prove the relevance of the indicator and/or to specify the collection system.

Of the eleven actions, those with negative impacts are MRE, ports and aquaculture. The operational character of the socio-economic monitoring indicators is heterogeneous according to these themes: 100% operational for aquaculture, more mixed for MRE (3 green, 3 orange, 0 red) and especially for ports (2 green, 4 orange and 1 red).

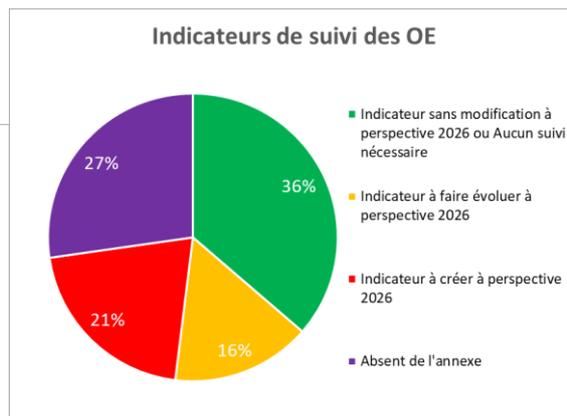
ABILITY TO IMPLEMENT MONITORING OF NEGATIVE OR UNCERTAIN IMPACTS - READING ON THE MONITORING INDICATORS ATTACHED TO THE ENVIRONMENTAL TARGETS

On the Eastern Channel-North Sea side, the 84 negative and uncertain impacts concern 15 out of 17 issues (except Ris and Co), with between 1 and 7 impacts per issue. The main issues concerned are OM, Int (10 impacts), HB (9 impacts), MT (8 impacts), PC, Cont, Hyd and Pay (7 impacts). Other issues are less concerned: EC (6 incidences), RT, NIS (5 incidences), De, Br, (4 incidences), Eut (3 incidences) and Air (2 incidences).

In the monitoring framework, the issues related to the biocenosis and the pressures refer to 77 monitoring indicators linked to the environmental targets. Their operability can be approached by type and with the following results for the 77 indicators concerned.

Colorisation des indicateurs selon l'Annexe 3b : Focus sur les Objectifs Environnementaux (OE), les critères de Bon Etat Ecologique (BEE) et l'Analyse Economique et Sociale (AES)

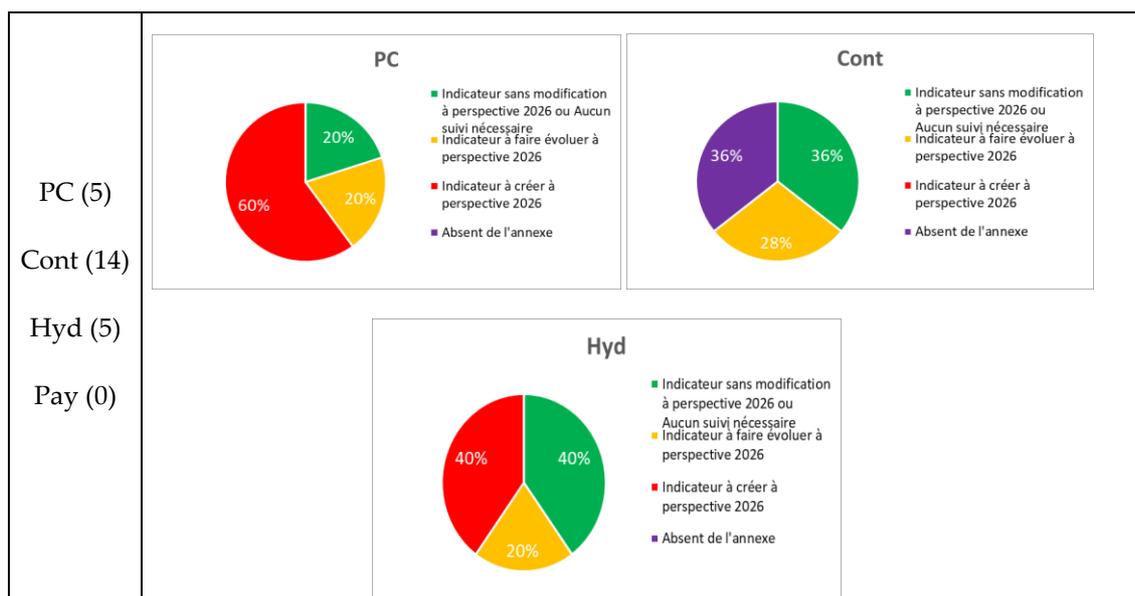
- Vert** Indicateur sans modification à perspective 2026
ou Aucun suivi nécessaire (car existant par ailleurs)
- Orange** Indicateur à faire évoluer à perspective 2026
- Rouge** Indicateur à créer à perspective 2026
- Violet** Absent de l'annexe



The monitoring of socio-economic actions with negative or uncertain environmental impacts seems to be less operational from the point of view of EO indicators than from the point of view of ESO indicators as mentioned above. In fact, 36% of them (green for 28/77) have an indicator that is already operational (with no change in the 2026 perspective or no monitoring required under the SBSBD because it is being performed elsewhere) and a little over 20% are to be created (red for 16/77). An effort remains to be made on the other indicators (amber for 12/77): evolving existing indicators to obtain information on finer indicators within the framework of the SBSDS. It should also be noted that it is not possible to comment on almost 30% of the indicators, as these are not included in Annex 3b.

For the main issues concerned with negative and uncertain impacts, the results are as follows (in brackets, the number of indicators on each descriptor):

OM (12) Int (5)	OM <ul style="list-style-type: none"> ■ Indicateur sans modification à perspective 2026 ou <u>Aucun suivi nécessaire</u> à perspective 2026 ■ Indicateur à faire évoluer à perspective 2026 ■ Indicateur à créer à perspective 2026 ■ Absent de l'annexe 	Int <ul style="list-style-type: none"> ■ Indicateur sans modification à perspective 2026 ou <u>Aucun suivi nécessaire</u> à perspective 2026 ■ Indicateur à faire évoluer à perspective 2026 ■ Indicateur à créer à perspective 2026 ■ Absent de l'annexe
HB (14) MT (5)	HB <ul style="list-style-type: none"> ■ Indicateur sans modification à perspective 2026 ou <u>Aucun suivi nécessaire</u> à perspective 2026 ■ Indicateur à faire évoluer à perspective 2026 ■ Indicateur à créer à perspective 2026 ■ Absent de l'annexe 	MT <ul style="list-style-type: none"> ■ Indicateur sans modification à perspective 2026 ou <u>Aucun suivi nécessaire</u> à perspective 2026 ■ Indicateur à faire évoluer à perspective 2026 ■ Indicateur à créer à perspective 2026 ■ Absent de l'annexe



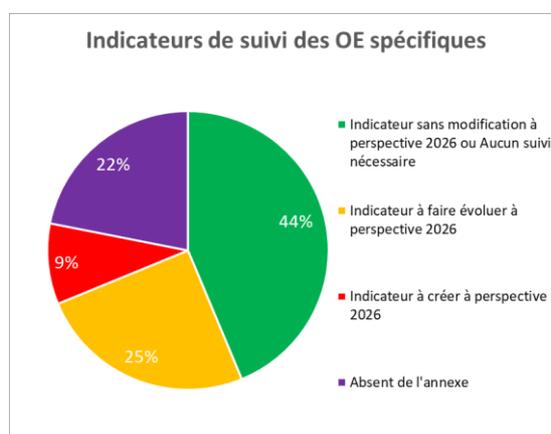
The ability to implement monitoring of indicators concerning the issues on which there are the most negative and uncertain impacts appears to be very heterogeneous. Monitoring efforts should be particularly developed on the integrity of the seabed, marine mammals, fish and cephalopods as well as hydrographic conditions.

ABILITY TO IMPLEMENT ACTIVITY-SPECIFIC ENVIRONMENTAL INDICATORS

Among the 77 indicators for monitoring environmental targets, we were able to identify about 30 (32/77) specific to activities, in particular those likely to generate the negative and uncertain impacts of our 11 socio-economic actions:

- Fishing: commercial fishing (4 - 3 green and 1 purple), shore fishing(1 green), commercial and recreational fishing (4 - 1 green and 3 red)
- Aquaculture (2 - 1 green and 1 purple)
- Energy production(2 green)
- Material extraction (6 - 4 green and 2 orange)
- artificialization of the coastline(3 orange)
- Shipping and boating: Shipping (2 - 1 green and 1 orange), Boating (3 - 1 green, 1 red and 1 purple), Mixed(3 purple)
- Ports (2 - 1 green and 1 orange)

First of all, as shown in the graph opposite, the indicators that can be identified as specific to activities are generally more implementable than the indicators as a whole (44% green against 36% and 9% red against 21%), which is a good thing.



Furthermore, for MRE, ports and aquaculture, which are the main activities concerned by negative and uncertain impacts, the results are rather encouraging, as the indicators are largely implementable.