

# Addendum to the South Atlantic Sea Basin Strategy

Additional targets to the  
environmental objectives and  
exceptions

Joint consultation on the action  
plan and monitoring framework





## Table of contents

|  |    |
|--|----|
| Introduction.....  | 3  |
| Part A - Targets defined for establishing strong protection zones on the Sea Basin .....   | 4  |
| Context .....  | 4  |
| Characteristics of Strong Protection Zones (SPZs): .....   | 4  |
| List of potential SPZ study areas .....  | 4  |
| Proposed targets .....   | 5  |
| Part B - Targets defined to consider the new issues and ambitions of the SBSD .....  | 8  |
| Special habitats:.....   | 8  |
| Seabirds: .....  | 8  |
| Seabed integrity - artificialization:.....   | 9  |
| Anthropogenic pressures:.....  | 10 |
| Part C - Targets defined in the course of developing the Adour-Garonne and Loire-Brittany SDAGEs and their consistency with the SBSD . | 13 |

Amending and/or additional documents integrated into the South Atlantic Sea Basin Strategy:

- **Annex 6b: Table of environmental targets and associated indicators:** updating the table

- **Annex 5d: Methodology for developing and revising environmental targets:** CEREMA report "*Artificialization of coastal and marine environments - Methods for determining indicators 1 and 2 - 2021*"

## Introduction

The first two parts of the South Atlantic Sea Basin Strategy Document (SBSD SA), forming the Sea Basin Strategy (SBS), were adopted by inter-prefectoral order on 14 October 2019. This strategy defines maritime space planning, 7 vocation zones for the South Atlantic coastline and the objectives to be achieved in each of these zones or for the entire coastline. On the environmental aspects, this document is the local version of the Marine Strategy Framework Directive (MSFD). The second cycle of the Marine Environment Action Plan (PAMM) is therefore integrated into the SBSD.

The order of 11 July 2018 on the criteria and methods to be implemented for the preparation of the first two parts of the SBSD recalls that the environmental targets (mentioned in Article R. 219-7 of the Environmental Code) are defined so that the pressures exerted by human activities on the marine environment are compatible with the achievement or maintenance of good environmental status of marine waters by the end of the current cycle of the "Marine Strategy" framework directive. This order also recalls that the indicators associated with the environmental targets (ET) include **targets against which the achievement of the targets is assessed**.

France has therefore made a commitment to the European Commission to achieve the environmental targets set out in this strategy: these are accompanied by **ambitious, but realistic and measurable targets**. All these elements are presented in Annex 6b of the SBS. The nature and methodology for the development of ETs, indicators and targets are specified in Annexes 5 and 6c.

At the time the Sea Basin Strategy was adopted, some of these targets could not be defined, due to a lack of data or maturity of consultations. 28 targets have yet to be defined for the South Atlantic sea basin (32 at national level), in a timeframe that allows various elements to be taken into account:

- the progress of studies under the first cycle of the Bay of Biscay PAMM (2016-2021), on the "M003" measure aimed at setting up strong protection zones;
- the new issues and new ambitions of the SBSD, in particular the artificialization of the coastline and seabed, dry docks, incidental catches of seabirds and cetaceans, the preservation of functional habitats for seabirds and the preservation of eelgrass beds.
- the revision of the Adour-Garonne and Loire-Brittany Water Development and Management Master Plans (SDAGE);

Work was carried out to evaluate and consolidate existing monitoring networks in order to define them: the coherence between these networks and those used for monitoring the objectives of the Water Framework Directive was sometimes reinforced on this occasion. In accordance with Annex 6b of the SBS, of these 28 indicators, 26 targets could be defined and agreed in parallel with the work on developing the action plan and will be adopted jointly in 2022. It should be noted that two monitoring indicators, relating to artificialization, have been merged into one.

While all the environmental targets remain in the South Atlantic Sea Basin Strategy (and unchanged), one target however could not be set following this additional work. The indicator concerned is therefore designated as "**candidate for the 3rd MSFD cycle**", with further work to be carried out to make it operational for the next MSFD cycle. For this second cycle, on the other hand, these indicators will not be monitored and reported to the European Commission.

This note summarises how each of the additional set targets were defined, and the nature of the work carried out:

- in relation to defining strong protection zones (Part A);
- for taking into account the new issues and ambitions of the SBSD in relation to the Marine Environment Action Plan of the first cycle (Part B);
- as part of the revision of the Adour-Garonne and Loire-Brittany Water Development and Management Master Plans and to ensure consistency with the SBSD (part C).

This document therefore specifies the changes made to the South Atlantic Sea Basin Strategy, following the concerted definition of new targets relating to environmental targets and the identification of exceptions. They will be adopted in 2022, following the joint consultation process with the SBSD action plan and monitoring framework.

## A. Targets defined for establishing Strong Protection Zones (SPZs)

### Context

The first cycle of the Bay of Biscay PAMM (2016-2021) included the measure M003-NAT1B which provided for: *"Complete the network of marine protected areas by establishing strong protections in sectors of remarkable marine biodiversity"*. The aim of this measure is to create a coherent, connected network of strong protection zones (SPZs) that is representative of the diversity of marine ecosystems on each sea basin in mainland France. This strong protection will be established as a priority within existing marine protected areas.

In the South Atlantic Sea Basin Strategy, 8 targets were adopted in 2019 as "defined and agreed under measure M003 and adopted simultaneously with the SBSB action plan".

Methodological work to define and then spatially identify potential SPZs was initiated in 2020, simultaneously with the development of the SBSB action plan.

However, this work is not yet complete and will be continued under a new action in the SBSB action plan (action AT-01: Develop the network of strong protection zones and strengthen control of them). Nevertheless, a first list of potential strong protection zones could be determined. It is presented in this document. A consultation is to be held shortly at national level to better understand the distribution of efforts between the coastlines, both in mainland France and in the overseas territories.

### Characteristics of a Strong Protection Zone (SPZ)

A natural area with existing or planned protection must meet 5 criteria to be considered a SPZ:

1. Focus on priority ecological issues, strong and major issues identified by the sea basin strategy documents (in annex 5 of the South Atlantic SBS), constituting sectors of remarkable marine biodiversity at coastline scale;
2. Be set up as a priority within a marine protected area (MPA) (except in special cases defined by the national framework);
3. Have specific regulations for activities to enable the main pressures on the ecological issues justifying strong protection to be significantly reduced or even eliminated. Concerning professional maritime fishing activities, the measures are proposed according to the results of the "fishing risks assessments" carried out in the framework of the Natura 2000 DOCOBs;
4. Be based on a management document, drawn up by the governance body of the MPA in question, defining protection objectives and a system for evaluating the effectiveness of the system;
5. Benefit from an operational control system for activities.

SPZs are neither a new MPA status nor additional MPAs. The aim is to recognise what exists and to strengthen its management or protection where appropriate. Therefore, in addition to the analysis of existing regulations and issues for the designation of SPZs, it is important that these areas are part of a representative global network, i.e. allowing for:

- each of the ecological issues identified in the Sea Basin Strategy Documents are well represented in the network (representativeness criterion);
- several examples of the issue are represented in the network: for example, several meadow areas are present in the network of SPZs on the coast (replication criterion);
- each example of the issue is sufficiently large (viability criterion);
- each example of the issue targeted is linked to the others, i.e. these areas are sufficiently close (connectivity criterion).

### List of potential SPZ study areas

As part of the development of the SBSB action plan and the definition of targets for several environmental targets, a first list of study areas for potential SPZs is proposed. This list will be completed and refined in the framework of action AT 01 in the coming years.

Proposals for new strong protection zones within the perimeter of each marine nature park and their subsequent implementation will be the subject of local consultation within their management boards, to define the precise perimeter and measures associated with these strong protections. The reinforcement of the protection of species and habitats is a common principle of action for the two marine nature parks of the South Atlantic coast, already expressed in their recently validated management plans. However, the location of the strong and major ecological issues, whose protection needs to be strengthened, remains to be specified in the action programmes of each park.

An annual status report on identifying new proposals for strong protection zones and their implementation will be produced regularly as part of the monitoring of the SBSB action plan.

The study areas for potential SPZs are as follows:

- **Sectors 15 and 16 - "Central and southern Bay of Biscay slope"**  
Zones to be studied within the Natura 2000 offshore sites in the process of being designated for the "reefs" issue;
- **Sector 21 - "Pertuis sea and Gironde plume":**  
Extension of the Marais d'Yves national nature reserve, a project including a marine section of about 800 ha, underway as part of action 35 of the national biodiversity plan  
Contribution of the Marine Nature Park of the Gironde Estuary and the Pertuis sea soon to be published;

- **Sector 22 - "Plateau de Rochebonne":**  
Zone to be studied within the Special Area of Conservation "Plateau de Rochebonne" (SAC - Natura 2000 Habitats site) and the Special Protection Area "Pertuis charentais - Rochebonne" (SPA - Natura 2000 Birds site);
- **Sector 24 - "Arcachon Bay"**  
Contribution of the Arcachon Bay Marine Nature Park and its future opening, soon to be published;
- **Sector 25 - "Gironde and Landes sandy coasts":**  
Area under study within the Natura 2000 Habitats and Birds sites "To the right of Lac d'Hourtin-Carcans" (special area of conservation - Natura 2000 Habitats site/special protection area - Natura 2000 Birds site);
- **Sector 26 - "Basque Country":**  
Two areas considered within the mixed and marine Natura 2000 sites.

These study areas aim to strengthen the MPA network in order to integrate, **as a priority, certain strong or major ecological issues identified in the SBS** by coherent ecological sectors (Annex 5 of the SA SBS, map of sectors above).

The creation of new strong protection zones aims to strengthen the protection of certain marine ecosystems considered to be priorities, and to provide the South Atlantic Sea Basin with a coherent network of protected areas by 2030, therefore contributing to the overall achievement of good environmental status of marine waters.

**Proposed targets for monitoring some of the environmental indicators of the South Atlantic SBS in relation to establishing SPZs**

| Environmental target  | Associated indicator  | Proposed target and potential SPZ  |
|---|---|--|
| <b>D01-HB-OE03</b><br><br>Reduce the physical disturbance of intertidal rocky habitats caused by human use, particularly by fishing on foot                         | <b>D01-HB-OE03-ind1</b><br><br>Surface of sensitive intertidal rocky habitats located in strong protection zones  | Increase in the area of intertidal rocky habitats* under strong protection [in each of the following areas [with at least one area per sector of high or major concern]].<br><br>List of potential SPZs** relevant to this habitat:<br>- Sector 21 (Pertuis sea and Gironde plume): The work of analysing existing and potential SPZs will be carried out with the Marine Natural Park.<br>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Natural Park.<br>- Sector 26 (Basque Country): Restriction area of Guéthary, Falaises and the Basque rocks to the right of the Conservatoire du Littoral sites<br><br>*Boulder fields, intertidal mussel beds, cystoseira belts or lithophyllum pavements<br>**Naming of an area intended to host an SPZ, the precise perimeter of which will be defined after local consultations. |
| <b>D01-HB-OE04</b><br><br>Avoid physical disturbance to sabellariidae (honeycomb worms) bioconstructions by trampling, recreational fishing and seabed fishing gear | <b>D01-HB-OE04-ind1</b><br><br>Proportion of the surface area of bioconstructions of the species <i>Sabellaria alveolata</i> constituting the main source areas for its larval distribution, located in strong protection zones | Increase in the proportion of the surface area of bioconstructions of the species <i>Sabellaria alveolata</i> constituting the main source areas for its larval distribution located in strong protection [in each of the following zones [with at least one area per sector of high or major concern]].<br><br>List of potential SPZs* relevant to this habitat:<br>- Sector 21 (Pertuis sea and Gironde plume): The work of analysing existing and potential SPZs will be carried out with the Marine Natural Park.<br>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Natural Park.<br><br>* Naming of a zone intended to host a SPZ, the precise perimeter of which will be defined after local consultations.   |
| <b>D01-HB-OE06</b><br><br>Reduce physical disturbance to subtidal and circalittoral sedimentary habitats,   | <b>D01-HB-OE06-ind1</b><br><br>Proportion of surface area of subtidal and circalittoral sedimentary habitats located in   | Increase in the proportion of the surface area of subtidal and circalittoral sedimentary habitats in strong protection [in each of the following zones [with a minimum of one zone per sector of high or major concern]]   |

|   |   |  |
|---|---|--|
| particularly in the 3-mile zone   | strong protection zones   | <p>List of potential SPZs* relevant to this habitat</p> <ul style="list-style-type: none"> <li>- Sector 21 (Pertuis sea and Gironde plume): Extension of the Marais d'Yves national nature reserve (dwarf eelgrass beds). The work of analysing other existing and potential SPZs will be carried out with the Marine Natural Park.</li> <li>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Natural Park.</li> <li>- Sector 25 (Gironde and Landes sandy coasts): The definition of the measures to be implemented in the framework of the current ARP (fisheries risk assessment) will be considered as a SPZ.</li> </ul> <p>* Naming of a zone intended to host a SPZ, the precise perimeter of which will be defined after local consultations.</p>  |
| <p><b>D01-HB-OE10</b></p> <p>Avoid abrasion and smothering of areas most representative of deep-sea habitats (Vulnerable Marine Ecosystems) and reduce abrasion of particular geomorphological structures</p> | <p><b>D01-HB-OE10-ind3</b></p> <p>Proportion of the area of known Vulnerable Marine Ecosystems located in strong protection zones</p> | <p>100% of the reef sub-areas of the Natura 2000 site "Celtic Seas - Bay of Biscay slope", in a strong protection zone.</p> <p>Increasing trend for other Vulnerable Marine Ecosystems (VMEs)</p>  |
| <p><b>D01-OM-OE06</b></p> <p>Limit physical, noise and light disturbance to seabirds in their functional habitat areas</p>  | <p><b>D01-OM-OE06-ind3</b></p> <p>Surface of foreshore bird functional areas located in strong protection zones</p>                   | <p>Trend towards an increase in the foreshore bird functional areas in a strong protection zone</p> <ul style="list-style-type: none"> <li>- Sector 21 (Pertuis sea and Gironde plume): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.</li> <li>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.</li> </ul>  |
| <p><b>D06-OE02</b></p> <p>Reduce disturbance and physical loss of generic and special habitats associated with maritime structures, activities and uses</p>   | <p><b>D06-OE02-ind2</b></p> <p>Proportion of surface area of each special habitat located in strong protection zones</p>              | <p>Increase in the proportion of the surface of each special habitat* in a strong protection zone [in each of the following areas [with at least one zone per sector of high or major concern]]</p> <p>List of potential SPZs** relevant to this habitat</p> <ul style="list-style-type: none"> <li>- Sector 21 (Pertuis sea and Gironde plume): Extension of the Marais d'Yves national nature reserve (dwarf eelgrass beds). The work of analysing other existing and potential SPZs will be carried out with the Marine Natural Park.</li> <li>- Sector 22 (Plateau de Rochebonne): Plateau de Rochebonne (kelp)</li> <li>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Natural Park.</li> </ul> <p>* Maërl bench, Intertidal mussel beds, Subtidal mussel beds, Lanice bench, Dwarf eelgrass beds, Marine eelgrass beds, Hermella, Flat oysters, Kelp, Atlantic salt marshes, Pioneer glasswort vegetation</p> <p>**Naming of an area intended to host an SPZ, the precise perimeter of which will be defined after local consultations.</p> |
|   | <p><b>D07-OE03-ind1</b></p> <p>Percentage of estuaries located in strong protection zones</p>   | <p>Increase in the percentage of estuaries under strong protection [in each of the following zones [, with at least one area per sector of high or major concern]: list of potential SPZs* relevant to this habitat]</p> <ul style="list-style-type: none"> <li>- Sector 21 (Pertuis sea and Gironde plume): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.</li> </ul>   |

|  |  |  |
|--|--|--|
| <b>D07-OE03</b>  |  | * Naming of a zone intended to host a SPZ, the precise perimeter of which will be defined after local consultations.   |
| Limit pressures and barriers to sea-land connectivity in estuaries and coastal lagoons | <b>D07-OE03-ind2</b><br><br>Percentage of coastal lagoons located in strong protection zones | <p>Increase the percentage of coastal lagoons under strong protection [in each of the following areas [, with at least one zone per sector of high or major concern]: list of potential SPZs* relevant to this habitat]</p> <p>- Sector 21 (Pertuis sea and Gironde plume): The work of analysing existing and potential SPZs will be carried out with the Marine Natural Park.</p> <p>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Natural Park.</p> <p>* Naming of a zone intended to host a SPZ, the precise perimeter of which will be defined after local consultations.</p> |

## **B. Targets defined to consider the new issues and ambitions of the SBSD**

### **Special habitats:**

#### **D01-HB-OE05-ind1 & ind3:**

Marine eelgrass is protected in New Aquitaine under the Law of 10 July 1976 (Decrees of 19 April 1988 relating to the list of protected plant species in the Poitou-Charentes region, and of 8 March 2002 relating to the list of protected plant species in the Aquitaine region).

The absence of foot fishing pressure is therefore targeted for this species. For dwarf eelgrass, a downward trend is defined.

Within the strong protections, the pressures linked to anchoring, will be eliminated (or avoided) on the sea grass bed in view of the proven pressures of mooring and anchoring (excluding ecological mooring): fragmentation or even disappearance of meadow surfaces due to the friction or dredging of the anchoring lines, particularly in areas of high tide and shallow depths.

As this is a protected species, a minimum pressure level will be targeted for marine eelgrass.

Outside of the strong protections, a trend target is defined, if no reference value is available on the coastline.

#### **D01-HB-OE06-ind2:**

The trend target aims, through regulatory measures defined in the framework of fishing risk assessments (known as ARP), to reduce the physical disturbance caused by towed gear on sedimentary habitats (1160 and 1110 including maërl benches).

#### **D01-HB-OE10:**

The reef sub-areas of the Natura 2000 site "Celtic Seas - Bay of Biscay slope" were proposed by the Maritime Prefect on the basis of the best available scientific information provided by the MNHN (National Museum of Natural History) and the OFB (French Office of Biodiversity) and in close consultation with the affected fisheries committees and producers' organisations. They correspond to the most ecologically rich areas and have avoided as far as possible the areas that are most restrictive for the profession.

In addition to the habitats covered by these sub-areas, other vulnerable marine ecosystems have been identified as strong and major issues in the SBSD. In particular, these are the habitats of the Gouf de Capbreton (located in territorial waters), the Dôme de Gascogne, the Plateau de Rochebonne, the muddy canyons of Cap Ferret and Arcachon (habitats not covered by the Habitats Directive) and the habitat formed by cold gas emissions at the edge of the plateau (habitats discovered after the site designation process), and isolated Basque rocky beds.

### **Seabirds:**

#### **D01-OM-OE01-ind1:**

The target is to identify those areas within the essential areas for seabirds (area of maximum density) that are at risk from incidental catch pressure (area at risk). For all of these areas, reduction measures (regulatory, contractual or voluntary) will be implemented to minimise this risk, as is required throughout the national territory due to the protection status of the species (all seabird species are protected) and within the SPA (Special Protection Area) network under the Birds Directive.

#### **D01-OM-OE04-ind1:**

In January 2019, the OFB consulted the Groupement d'Intérêt Scientifique Oiseaux Marins (GISOM) in its capacity as scientific expert to find out its capacity to monitor, determine the reference value and information (and the associated methodology) for certain indicators relating to seabirds.

GISOM has therefore committed to developing three indicators (D01-OM-OE04-ind1, D01-OM-OE04-ind2, D01-OM-OE06-ind1) and in November 2019 produced the methodological report associated with each of these indicators.

Concerning indicator D01-OM-OE04-ind1, GISOM first defined the list of island seabird colonies of high concern and the list of introduced and domesticated species to be controlled. It has defined the monitoring materials, methods and systems to be used to identify whether or not pressure is present.

Sites of high concern are defined as those meeting the RAMSAR criteria of international importance or hosting more than 15% of the national population.

The current state of functional habitats available for seabirds (concentration of individuals on a limited number of sites and increasing scarcity of potential carry-over sites) and the proven, but controllable, impacts of predation on breeding success lead to the setting of an ambitious target of 0 high-concern island colonies with proven pressure from introduced or domesticated species.

#### **D01-OM-OE05-ind1 & 2:**

The concentration of anthropogenic pressures on the coastal strip has led in a few decades to a very rapid reduction in the surface area of functional habitats available to seabirds, which has resulted in a drop in numbers for the most sensitive species. For example, nearly a third



of the seabird species breeding in France are now endangered or critically endangered (14 species out of 47).

The targets set correspond to the restoration of at least one functional site per marine sub-region by 2026. In the absence of a precise identification of suitable sites for this type of restoration, no figures could be proposed.

### Seabed integrity - artificialization:

The SBS's targets on artificialization are innovative and ambitious. They required the definition of artificialization, the perimeter on which it is considered and the sharing of a realistic objective on a sensitive policy, on which the coastal economy partly depends.

In the framework of the second implementation cycle of the MSFD, a new environmental target D06 OE01 specifically addresses the artificialization of the coastal and littoral marine environment, in the sense of physical losses. A second target concerns the physical disturbance and physical loss of generic and special habitats related to maritime structures, activities and uses.

The principle of this target D06 OE01 is to control the artificialization of the shore (coastal line and lower levels), by defining a limit value (target) to be reached by 2026 for each indicator.

In this context, the indicators of target D06 OE01 concerning the physical loss of habitat linked to the artificialization of the coastline, the foreshore and the seabed (0-20 m) adopted in the Sea Basin Strategies in 2019 are as follows:

- indicator 1 (MED coastline): Percentage of artificial coastline (emerged structures);
- indicator 2 (Eastern English Channel-North Sea, NAMO, SA coastlines): Percentage of artificial foreshore (emerged structures). For this indicator specifically, two different targets have been set:
  - A target for the upper limit of the foreshore (in linear km): the method of calculating the target is the same as for indicator 1 concerning the Mediterranean coast;
  - A target for intertidal space (in ha);
- indicator 3 (Eastern English Channel-North Sea, NAMO, SA, MED coastlines): Percentage of artificial seabed (emerged and submerged structures) between 0 and 10 m;
- indicator 4 (Eastern English Channel-North Sea, NAMO, SA, MED coastlines): Percentage of artificial seabed (submerged structures) between 10 and 20 m.

In order to simplify the work of the examining authorities, it was decided to merge the indicators D06-OE01-ind3 and D06-OE01-ind4. Therefore, this new indicator takes into account the percentage of artificial seabed between 0 and 20 metres.

The identification of a **reference rate of artificialization** was therefore essential to establish these targets. This rate was established by CEREMA for the coastal and foreshore areas only (i.e. for indicators 1 and 2) and for the period 2002-2014, in the context of a report entitled "Artificialization of coastal and littoral marine environments, Methods for determining indicators 1 and 2" (CEREMA, 2021), annexed to this document.

The main novelties brought about by the definition of these D06 OE01 indicators and their targets in relation to pre-existing indicators relating to the artificialization of the coastline and the coast in France are summarised below:

1. In terms of their **definition and their use** the indicators relating to artificialization in D06 OE01 of the MSFD correspond to the **rate of artificialization** of the coastline (in kilometres, for all the sea basins, called the "upper limit of the artificial foreshore" for the Atlantic and Channel sea basins), on the one hand, and of the foreshore surface area on the other hand (in hectares, for the Atlantic and Channel only). In this respect, they differ from the **rate of artificialization calculated at a given moment** offered by other pre-existing indicators;
2. In **regulatory terms** the ET indicators of the MSFD and their targets are accompanied by a **compatibility obligation** for offshore authorisations. As a result, the **requirement for reliable results** is high. They must be able to be converted into absolute values in an accurate manner for easier processing of authorisations;
3. In terms of the **pressures considered**, the indicators relating to artificialization in D06 OE01 of the MSFD focus on **physical losses** and do not take into account **physical disturbances** caused by structures. Indeed, another MSFD ET (D06 OE02) deals with physical disturbances. Moreover, the uncertainties in the calculation methods for considering physical disturbances are currently significant. This is why the indicators relating to artificialization in D06 OE01 of the MSFD only consider the extent of structures in artificialization, without considering the zone of influence of the structures, unlike the artificialization assessment carried out within the framework of the integrated management of the coastline, for which it is essential to consider, even approximately, the zone of influence of structures;
4. From a **methodological point of view**, the artificial linear length for the indicators of D06 OE01 of the MSFD is calculated **without using a projection on a reference coastline**, so as to adapt to changes in the reference land-sea boundary, which is currently being redefined (SHOM-IGN work). This is not the case for the Water Framework Directive and the SNGITC, where the rate of artificialization calculated at a given time is based on a projection of coastal structures (identified from databases, aerial photographs, etc.) onto a **reference coastline** (Histolitt, v2, 2009, SHOM-IGN) which is now **obsolete**.

## Anthropogenic pressures:

### D08-OE04:

A study by CEREMA on all the coastlines identifies and characterises docking areas: this survey was carried out and delivered in July 2018 but was not shared with all the stakeholders. Therefore, its results must be compared on the one hand with the detailed territorial analysis carried out by the Water Agencies, and on the other hand with the analysis of the competent services for water policing (DREAL, DDTM) with the port management authorities.

The problem of a dry docks and the technical solutions to be found must therefore be discussed on a case-by-case basis, and it is not relevant to set a numerical target, so the target is "upward trend".

### D11-OE01:

TG Noise has not yet set any targets and is still working on them. The next TG Noise meeting is scheduled for 17 February 2021.

| Environmental target  | Associated indicator   | Proposed target   |
|---|--|---|
| <b>Special habitats</b>   |  |   |
| <b>D01-HB-OE05</b><br><br>Avoid physical disturbance of eelgrass beds (by anchoring, seabed fishing gear and foot fishing)                | <b>D01-HB-OE05-ind1</b><br><br>Proportion of known surface area of eelgrass beds ( <i>Zostera marina</i> and <i>Zostera noltei</i> ) that is not open to mooring   | Upward trend, at least prohibition in the SPZs set up under D06-OE02-Indicator 2, for the special habitat "Eelgrass beds".<br>The list of relevant potential SPZs* affected by this special habitat is as follows:<br>- Sector 21 (Pertuis sea and Gironde plume): Extension of the Marais d'Yves national nature reserve (dwarf eelgrass beds). The work of analysing other existing and potential SPZs will be carried out with the Marine Natural Park.<br>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Natural Park.<br>* Naming of a zone intended to host a SPZ, the precise perimeter of which will be defined after local consultations. |
|   | <b>D01-HB-OE05-ind3</b><br><br>In Natura 2000 sites, the proportion of intertidal meadow surface identified as "at moderate to high risk" in the framework of the analysis of risks damaging the conservation objectives of Natura 2000 sites subject to foot fishing pressure*<br><br>* the wording "foot" has been added to the indicator, for more precision on the nature of the pressure affected | 1) In the sites affected by the Decrees of 19 April 1988 relating to the list of protected plant species in the Poitou-Charentes region, and of 8 March 2002 relating to the list of protected plant species in the Aquitaine region: 0% for <i>Zostera marina</i><br><br>2) In other cases: downward trend   |
| <b>D01-HB-OE06</b><br><br>Reduce physical disturbance to subtidal and circalittoral sedimentary habitats, particularly in the 3-mile zone | <b>D01-HB-OE06-ind2</b><br><br>In Natura 2000 sites, the proportion of surface area of sedimentary habitats (1160 and 1110 including maerl banks*) identified as "at moderate or high risk" in undermining the conservation objectives of Natura 2000 sites subject to fishing pressure (bottom towed gears)   | Downward trend  |

|  |   |  |
|--|---|--|
|  |   |  |
| <b>Seabirds</b>  |   |  |
| <b>D01-OM-OE01</b><br><br>Reduce incidental catches of seabirds* (offshore and near colonies), and in particular reduce incidental catches of the most vulnerable species such as Balearic, Yelkouan and Cory's shearwaters by longlines, set nets and small pelagic seine net | <b>D01-OM-OE01-ind1</b><br><br>Proportion of maximum density area at risk for which incidental catch avoidance or reduction measures are planned                          | 100%   |
| <b>D01-OM-OE04</b><br><br>Reduce pressure from introduced and domesticated species on seabird breeding sites   | <b>D01-OM-OE04-ind1</b><br><br>Proportion of island breeding seabird colonies of high concern* for which introduced and domesticated species represent a proven pressure. | 0 for remote island sites without human occupation<br><br>A downward trend for the others  |
| <b>D01-OM-OE05</b><br><br>Maintain or restore functional seabird habitats in coastal wetlands  | <b>D01-OM-OE05-ind1</b><br><br>Number and surface area of restored functional sites on the coastline  | Upward trend.<br><br>The map of functional sites will be established during 2020 by the LPO or RNF.  |
|  | <b>D01-OM-OE05-ind2</b><br><br>Functional habitat area for seabirds in wetlands of coastal municipalities   | Maintenance<br><br>The reference value will be known in 2020 or 2021 by the LPO or RNF   |
| <b>Sea-floor integrity - Artificialization</b>   |   |  |
| <b>D06-OE01</b><br><br>Limit the physical loss of habitat linked to the artificialization of the coastal area, from the highest foreshore level to 20 metres depth   | <b>D06-OE01-ind2</b><br><br>Percentage of artificial foreshore* (emerged structures and developments)   | a) For the entire coastline, a downward trend in the average rate of artificial development of the upper foreshore in linear terms compared with the average reference rate, evaluated at 3.7% over 6 years<br><br>b) For the whole coastline, a downward trend in the average rate of artificial development of the foreshore in hectares compared to the average reference rate evaluated at 3.3% over 6 years |
|  | <b>D06-OE01-ind3</b><br><br>Percentage of artificial seabed (emerged and submerged structures and developments) between 0 and 20 m  | For the entire coastline, a downward trend in the average rate of coastal land development in hectares compared with the average reference rate, estimated at [pending the results of the CEREMA study in March 2021]  |
| <b>Anthropogenic pressures</b>   |   |  |

|   |  |   |
|---|--|---|
| <b>D08-OE04</b><br><br>Limit the discharge of contaminants and the spread of non-indigenous species into the natural environment during dry-docking (recreational and professional vessels) and maintenance of underwater equipment (buoys, farming structures, etc.) | <b>D08-OE04-ind1</b><br><br>Number of ports equipped with docking areas with an effluent treatment system                    | Upward trend                                |
| <b>D11-OE01</b><br><br>Reduce the level of noise related to impulsive emissions with regard to the risks of disturbance and mortality of marine mammals   | <b>D11-OE01-ind1</b><br><br>Spatial extent of the recorded 'strong' to 'very strong' events as a percentage of the coastline | Target defined in the framework of TG Noise |

### C. Targets defined within the framework of developing the Adour-Garonne and Loire-Brittany SDAGEs

In accordance with IX of Article L212-1 of the Environmental Code, the SDAGE must be compatible or made compatible with the environmental targets defined in the PAMM, during its periodic update provided for in IV of Article L. 212-2. Conversely, the PAMM includes environmental targets and associated indicators for achieving good environmental status of marine waters, which are compatible or made compatible with the SDAGE (Article L.219-9 of the Environmental Code).

Pursuant to the provisions mentioned in IX of Article L212-1 and insofar as many of the pressures on marine ecosystems are generated on land, the environmental targets of the SBSDs, concerning these pressures on land or in relation to water policy, define new results to be achieved within the framework of the SDAGEs currently being drawn up for the third management cycle 2022-2027. As a result, the SDAGEs and Programmes of Measures (PoMs) must define the measures contributing to the achievement of these results, within the limits of their legal scope, unless exemptions or exceptions to the achievement of these objectives are included in the Sea Basin Strategy Documents. In the South Atlantic Sea Basin, no exemption or exception is foreseen in this respect.

#### Eutrophication (D05OE01 ind1 and ind2 & D05OE02 ind1 and ind2)

Of the four environmental targets defining descriptor 5, the targets for indicators 1 and 2 of EO1 and EO2 have not been adopted in September 2019 as these are dependent on the strategy deployed in the SDAGEs. They have therefore been determined with the basin authorities, on the basis of the assessment methods and local strategies defined in the SDAGEs. The targets correspond to the objectives defined in the SDAGEs.

#### The two environmental targets are:

- **D05 OE01:** Reduce nutrient inputs (nitrates and phosphates), particularly from rivers flowing into eutrophied marine areas
- **D05 OE02:** Reduce nutrient inputs (nitrates and phosphates), particularly from small coastal rivers that flow into sensitive marine areas due to their confinement or the presence of habitats sensitive\* to these inputs

#### For each ET, two indicators have been defined and adopted in 2019:

"Ind1/2: Proportion of streams, rivers and watercourses leading to eutrophied marine areas with concentrations of (nitrate/phosphate) compatible with the GES threshold values for the Nutrient criterion (mainly with regard to the Chlorophyll-a criterion)"

#### D05OE01 ind1:

The target adopted for the South Atlantic coastline is 100% of streams, rivers and watercourses leading to eutrophied marine areas whose nitrate concentrations are compatible with the GES threshold values for the Nutrient criterion by 2026.

#### D05OE01 ind2:

The target for the South Atlantic coastline is 100% of streams, rivers and watercourses leading to eutrophied marine areas with phosphate concentrations compatible with the GES threshold values for the Nutrient criterion by 2026.

#### D05OE02 ind1:

The target adopted for the South Atlantic coastline is 100% of streams, rivers and watercourses leading to sensitive marine areas due to their confinement or the presence of sensitive habitats whose nitrate concentrations are compatible with the GES threshold values for the Nutrient criterion by 2026.

#### D05OE02 ind2:

The target adopted for the South Atlantic coastline is 100% of streams, rivers and watercourses leading to sensitive marine areas due to their confinement or the presence of sensitive habitats whose phosphate concentrations are compatible with the GES threshold values for the Nutrient criterion by 2026.

#### D07OE03 ind3:

For the South Atlantic coastline, the target is an "upward trend" in the number of obstacles that cannot be removed and whose impacts on currentology, sedimentology or continuity have been minimised by 2026.

#### D08OE07:

**Indicator 1 was defined as a "candidate" indicator** in view of the methodological difficulties in defining a numerical target consistent with the indicator's title, particularly for sediments, in connection with the work in progress on a harmonised WFD-MSFD method in the 0 to 1 nautical mile overlap zone.

Only indicator 2 will be monitored for target D08OE7. The target is set at 100% of coastal water bodies in good chemical status under the WFD.

#### D09 OE01 ind2:

In order to be in line with the SDAGE strategy, it was specified that a degraded quality was a worse status than a B classification (according to the Hygiene Package).

The target adopted for the South Atlantic coastline is 0% of REMI monitoring points on the coastline showing a deterioration in microbiological quality or showing a deteriorated quality that is not improving (general trend over 10 years).

| Environmental target   | Associated indicator  | Proposed target  |
|--|---|--|
| <b>D05-OE01</b><br><br>Reduce nutrient inputs (nitrates and phosphates), particularly from rivers flowing to eutrophied marine areas   | <b>D05-OE01-ind1</b><br><br>Proportion of streams, rivers and watercourses leading to eutrophied marine areas with nitrate concentrations compatible with the GES threshold values for the Nutrient criterion (mainly in relation to the Chlorophyll-a criterion)   | At the scale of the marine subregion , 100% of the rivers in the marine subregion under consideration have nitrate concentrations (mg/L) that are compatible with the threshold values for achieving the GES for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)<br>At the river scale, nitrate concentrations (mg/L) compatible with the GES threshold values for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)     |
|  | <b>D05-OE01-ind2</b><br><br>Proportion of streams, rivers and watercourses leading to eutrophied marine areas with phosphate concentrations compatible with the GES threshold values for the Nutrient criterion (mainly in relation to the Chlorophyll-a criterion)   | At the scale of the marine sub region, 100% of the rivers in the marine subregion under consideration have phosphate concentrations (mg/L) that are compatible with the threshold values for achieving the GES for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)<br>At river level, phosphate concentrations (mg/L) compatible with the GES threshold values for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)     |
| <b>D05-OE02</b><br><br>Reduce nutrient inputs (nitrates and phosphates), particularly from small coastal rivers that flow into sensitive marine areas due to their confinement or the presence of habitats sensitive to these inputs | <b>D05-OE02-ind1</b><br><br>Proportion of streams, rivers and watercourses leading to sensitive marine areas due to their confinement or the presence of sensitive habitats with nitrate concentrations compatible with the GES threshold values for the Nutrient criterion (mainly in relation to the Chlorophyll-a criterion)   | At the scale of the marine subregion, 100% of the rivers in the marine subregion under consideration have nitrate concentrations (mg/L) that are compatible with the threshold values for achieving the GES for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)<br>At the river scale, nitrate concentrations (mg/L) compatible with the GES threshold values for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)      |
|  | <b>D05-OE02-ind2</b><br><br>Proportion of streams, rivers and watercourses leading to sensitive marine areas due to their confinement or the presence of sensitive habitats with phosphate concentrations compatible with the GES threshold values for the Nutrient criterion (mainly in relation to the Chlorophyll-a criterion) | At the scale of the marine subregion, 100% of the rivers in the marine sub region under consideration have phosphate concentrations (mg/L) that are compatible with the threshold values for achieving the GES for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)<br>At the river scale, phosphate concentrations (mg/L) compatible with the GES threshold values for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion) |
| <b>D07-OE03</b><br><br>Limit pressures and barriers to sea-land connectivity in estuaries and coastal lagoons  | <b>D07-OE03-ind3</b><br><br>Number of non-removable obstacles whose impacts on currentology, sedimentology or continuity have been minimised  | Upward trend   |

|   |  |                     |
|---|--|---------------------|
| <b>D08-OE07</b><br><br>Reduce discharges of land-based contaminants into the sea (excluding dredging and piling activities)                 | <b>D08-OE07-ind1</b><br><br>Number of non-achievements of GES threshold in sediment and biota  | Candidate indicator |
|   | <b>D08-OE07-ind2</b><br><br>Number of coastal water bodies with good chemical status under the WFD   | 100%                |
| <b>D09-OE01</b><br><br>Reduce direct transfers of microbiological pollutants, particularly to swimming areas and shellfish production areas | <b>D09-OE01-ind2</b><br><br>Proportion of REMI monitoring points on the coastline showing a deterioration in microbiological quality or showing a deteriorated quality that is not improving (general trend over 10 years) | 0%                  |

**Changes made to the South Atlantic sea basin strategy**


In the light of all these elements, the South Atlantic sea basin strategy is modified and completed as follows.

- **Annex 6b: table of environmental targets and associated indicators:** update of the table. NB: in the attachment to this document, the changes made to the table are shown in blue
- **Annex 5d: Methodology for developing and revising environmental targets:** CEREMA report "Artificialization of coastal and marine environments - Methods for determining indicators 1 and 2 - 2021"



## **Sea Basin strategy**

South Atlantic Sea Basin Strategy Document





## SUMMARY TABLE

### ENVIRONMENTAL TARGETS (ET)

- The 2026 targets associated with the ET indicators will have to be achieved unless exceptions or exemptions are activated within the framework of the action plan (see Articles L21-12 and L219-14 of the Environmental Code).
- Local ETs: insofar as the environmental target aims to reduce pressure "in particular" on certain areas or specific species, this does indeed target areas or species that require particular attention, but it does not mean that the environmental target is limited to those specifically targeted areas or species. This information can be used to guide the development of the action plan.

NB: in the attachment to this document, the changes made to the table are shown in blue

#### Descriptors

|                      |        |              |      |     |    |
|----------------------|--------|--------------|------|-----|----|
| <b>D1.</b>           |        | Biological   |      |     |    |
| diversity .....      |        |              | 19   |     |    |
| <b>D2.</b>           |        | Invasive     | 27   |     |    |
| species .....        |        |              |      |     |    |
| ...                  |        |              |      |     |    |
| <b>D3.</b>           |        | Exploited    | 28   |     |    |
| species .....        |        |              |      |     |    |
| ..                   |        |              |      |     |    |
| <b>D4.</b>           |        | Food         | 29   |     |    |
| web .....            |        |              |      |     |    |
| <b>D5.</b>           |        |              | 30   |     |    |
| Eutrophication ..... |        |              |      |     |    |
| .....                |        |              |      |     |    |
| <b>D6.</b>           |        | Seabed       | 32   |     |    |
| integrity .....      |        |              |      |     |    |
| <b>D7.</b>           |        | Hydrographic | 33   |     |    |
| conditions .....     |        |              |      |     |    |
| <b>D8.</b>           |        |              | 35   |     |    |
| Contaminants .....   |        |              |      |     |    |
| .....                |        |              |      |     |    |
| <b>D9.</b>           |        | Health       | 37   |     |    |
| issues .....         |        |              |      |     |    |
| <b>D10.</b>          |        | Marine       | 38   |     |    |
| waste .....          |        |              |      |     |    |
| ...                  |        |              |      |     |    |
| <b>D11.</b>          | Energy | introduced   | into | the | 39 |
| sea .....            |        |              |      |     |    |

## D1. Biological diversity

| Descriptor            | General strategic ETs   | ET code     | Specific strategic ETs cycle 2  | Indicator (description and reference value)   | 2026 target   |
|-----------------------|---|-------------|---|---|---|
| D1 - Benthic habitats | D01HB<br>Limit or avoid anthropogenic physical disturbances that impact on the good environmental status of littoral benthic habitats, continental shelf and deep-sea habitats, especially special habitats | D01-HB-OE01 | Adapt grazing pressure and reduce physical disturbance of salt marshes and pioneer glasswort vegetation due to anthropogenic activities (leisure and professional)  |   |   |
|                       |   | D01-HB-OE02 | Restore salt marsh areas in zones threatened by sea level rise  | - Indicator 1: Number and surface area of new restored sites  | - Upward trend, as of the adoption of the sea basin strategy  |
|                       |   | D01-HB-OE03 | Reduce the physical disturbance of intertidal rocky habitats* caused by human use, particularly by foot fishing<br>*Boulder fields, intertidal mussel beds, cystoseira belts and lithophyllum pavements   | - Indicator 1: Surface of sensitive intertidal rocky habitats located in strong protection zones  | <p>Increase in the area of intertidal rocky habitats* in strong protection [in each of the following areas ], with at least one zone per sector of high or major concern]: list of potential SPZs** relevant to this habitat</p> <p>- Sector 21 (Pertuis sea and Gironde plume): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.</p> <p>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.</p> <p>- Sector 26 (Basque Country): Restriction area of Guéthary, Falaises and the Basque rocks to the right of the Conservatoire du Littoral sites</p> <p>*Boulder fields, intertidal mussel beds, cystoseira belts or lithophyllum pavements</p> <p>**Naming of an area intended to host an SPZ, the precise perimeter of which will be defined after local consultations.</p> |
|                       |   |             |   | - Indicator 2: Average number of boulders turned over and not replaced by recreational foot fishers using the boulder field habitat   | - Downward trend  |
|                       |   | D01-HB-OE04 | <p>Avoid physical disturbance to sabellariid bioconstructions (hermella) by trampling, recreational fishing and seabed fishing gear</p> <p>ET applying to the entire South Atlantic coastline but targeting in particular:</p> <p>- Oléron coast (S. alveolata reef on bedrock in the west of the island)</p> | <p>- Indicator 1: Proportion of the surface area of Sabellaria alveolata bioconstructions constituting the main source areas for its larval distribution, located in strong protection zones</p> <p>Nb: Hermella are a special habitat. As such, they are also covered by indicator D06-OE2-ind2. The targets for these two indicators will therefore be identical.</p> | <p>Increase in the proportion of the surface area of Sabellaria alveolata bioconstructions constituting the main source areas for its larval distribution located in strong protection [in each of the following zones ], with at least one area per sector of high or major concern]: list of potential SPZs* relevant to this habitat:</p> <p>- Sector 21 (Pertuis sea and Gironde plume): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.</p> <p>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.</p> <p>* Naming of a zone intended to host a SPZ, the precise perimeter of which will be defined after local consultations.</p>   |
|                       |   |             |   |   |   |
|                       |   | D01-HB-OE05 | <p>Avoid physical disturbance of eelgrass beds (by anchoring, seabed fishing gear and foot fishing)</p> <p>For anchorages, ET applying to the entire South Atlantic coastline but targeting in particular:</p> <p>- Gironde Estuary and Pertuis Sea</p>   | - Indicator 1: Proportion of known surface area of eelgrass beds (Zostera marina and Zostera noltei) that is not open to outer anchoring  | <p>Upward trend, at least prohibition in the SPZs set up under D06-OE02-Indicator 2, for the special habitat "Eelgrass beds".</p> <p>The list of relevant potential SPZs* affected by this special habitat is as follows:</p> <p>- Sector 21 (Pertuis sea and</p>   |

|                                   |  |             |   |   |  |
|-----------------------------------|--|-------------|---|---|--|
| D1 - Benthic habitats (continued) |  |             | <p>- Arcachon Bay</p> <p>For recreational fishing, ET applying to the entire South Atlantic coastline but targeting in particular:</p> <p>- Gironde Estuary and Pertuis Sea</p> <p>- Arcachon Bay</p> |   | <p>Gironde plume): Extension of the Marias d'Yves national nature reserve (dwarf eelgrass beds). The work of analysing other existing and potential SPZs will be carried out with the Marine Nature Park.</p> <p>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.</p> <p>* Naming of an area intended to host a SPZ, the precise perimeter of which will be defined after local consultations</p>  |
|                                   |  |             |   | - Indicator 2: Number of new authorisations or renewals of authorisations for anchorages generating seabed abrasion, excluding ecological anchorage, in eelgrass beds   | - 0, as of the adoption of the sea basin strategy  |
|                                   |  |             |   | - Indicator 3: In Natura 2000 sites, the proportion of intertidal sea grass bed surface identified as "at moderate or high risk" in the framework of the analysis of risks damaging the conservation objectives of Natura 2000 sites subject to foot fishing pressure   | <p>1) In the sites affected by the Decrees of 19 April 1988 relating to the list of protected plant species in the Poitou-Charentes region, and of 8 March 2002 relating to the list of protected plant species in the Aquitaine region: 0% for <i>Zostera marina</i></p> <p>2) In other cases: downward trend</p>   |
|                                   |  | D01-HB-OE06 | Reduce physical disturbance to subtidal and circalittoral sedimentary habitats, particularly in the 3-mile zone   | - Indicator 1: Proportion of surface area of subtidal and circalittoral sedimentary habitats located in strong protection zones   | <p>Increase in the proportion of the area of subtidal and circalittoral sedimentary habitats located in strong protection [in each of the following areas [, with at least one area per sector of high or major concern]: list of potential SPZs* relevant to this habitat]</p> <p>- Sector 21 (Pertuis sea and Gironde plume): Extension of the Marais d'Yves national nature reserve (dwarf eelgrass beds). The work of analysing other existing and potential SPZs will be carried out with the Marine Nature Park.</p> <p>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.</p> <p>- Sector 25 (Gironde and Landes sandy coasts): The definition of the measures to be implemented in the framework of the current ARP (fisheries risk analysis) will be considered as a SPZ.</p> <p>* Naming of a zone intended to host a SPZ, the precise perimeter of which will be defined after local consultations.</p> |
|                                   |  |             |   | - Indicator 2: In Natura 2000 sites, the proportion of surface area of sedimentary habitats (1160 and 1110 including maerl banks*) identified as "at moderate or high risk" in the framework of the analysis of the risks of damaging the conservation objectives of Natura 2000 sites subject to fishing pressure (bottom towed gears) | Downward trend   |

| Descriptor                        | General strategic ETs   | ET code     | Specific strategic ETs cycle 2   | Indicator (description and reference value)   | 2026 target   |
|-----------------------------------|---|-------------|--|---|---|
| D1 - Benthic habitats (continued) | D01HB<br>Limit or avoid anthropogenic physical disturbances that impact on the good environmental status of littoral benthic habitats, continental shelf and deep-sea habitats, especially special habitats | D01-HB-OE10 | Avoid abrasion and smothering of areas most representative of deep-sea habitats (Vulnerable Marine Ecosystems*) and reduce abrasion of particular geomorphological structures**:   | - Indicator 1: Share of known VMEs subject to bottom fishing in the Atlantic  | - 0% beyond 400m, in accordance with EU regulation 2016/2336  |
|                                   |   |             | * Definition of Vulnerable Marine Ecosystems based on:<br>- the IFREMER proposal for France transmitted to ICES (for the Atlantic and the Channel),<br>- the identification of vulnerable marine ecosystems carried out in the framework of the United Nations Environment Programme - Mediterranean Dark Habitats Action Plan (for the Mediterranean)<br><br>** Structures defined during the identification phase of the issues for the implementation of the MSFD<br><br>The map of VMEs and specific geomorphological structures can be found in the ET sheet. | - Indicator 3: Proportion of known VME area located in strong protection zones  | 100% of the reef sub-areas of the Natura 2000 site "Celtic Seas - Bay of Biscay slope", in a strong protection zone.<br><br>Increasing trend for other Vulnerable Marine Ecosystems (VMEs). |
|                                   |   |             |  | - Indicator 4: Share of known specific geomorphological structures** subject to bottom towed gears<br><br>For the South Atlantic coastline: plateau de Rochebonne, isolated Basque rocky bottom and habitat 1180 (Structures formed by gas emissions at the edge of the slope). | - No increase   |

| Descriptor                    | General strategic ETs   | ET code     | Specific strategic ETs cycle 2   | Indicator (description and reference value)   | 2026 target   |
|-------------------------------|---|-------------|--|---|---|
| D1 - Marine Mammals - Turtles | D01-MT<br>Reduce or avoid pressures that cause direct mortality and disturbance to marine mammals and turtles | D01-MT-OE01 | Limit human disturbance of marine mammals  | - Indicator 1: Percentage of operators carrying out whale dolphin and seal watching activities who have signed up to and respect a good practice approach (charter)                     | - Upward trend  |
|                               |   | D01-MT-OE02 | Reduce incidental catches of sea turtles and marine mammals, in particular small cetaceans | - Indicator 1 (harbour porpoises and common dolphins): Mortality rate (assessed on absolute mortalities) per incidental capture and per species   | - Decrease to a value less than 1% of the best population estimate (ASCOBANS 2000) for each species |
|                               |   |             |  | - Indicator 2 (other marine mammals): Apparent incidental catch mortality rates by species (number of observed strandings with evidence of incidental catch/total number of strandings) | - Decrease by one third in the apparent incidental catch mortality rate for each species            |
|                               |   |             |  | - Indicator 3: Total number (or by species) of marine turtles observed or reported (dead or alive) with evidence of incidental catches and/or accidental capture                        | - Downward trend  |
|                               |   | D01-MT-OE03 | Reduce collisions with sea turtles and marine mammals                                      | - Indicator 1: Apparent collision mortality rate of stranded sea turtles and marine mammals   | - Downward trend  |

| Descriptor    | General strategic ETs   | ET code     | Specific strategic ETs cycle 2  | Indicator (description and reference value)  | 2026 target  |
|---------------|---|-------------|---|--|--|
| D1 - Seabirds | D01-OM<br>Reduce or avoid pressures causing direct mortality, disturbance and loss of functional habitats important for the life cycle of seabirds and foreshore birds, in particular for vulnerable and endangered species | D01-OM-OE01 | Reduce incidental catches of seabirds* (offshore and near colonies), and in particular reduce incidental catches of the most vulnerable species such as Balearic, Yelkouan and Cory's shearwaters by longlines, set nets and small pelagic seines | - Indicator 1: Proportion of maximum density area at risk for which incidental catch avoidance or reduction measures are planned   | -100%  |
|               |   |             | * see seabird species listed in the GES Decree  |  |  |
|               |   | D01-OM-OE02 | Prevent collisions of seabirds with offshore infrastructure, particularly wind farms (application of the avoid, reduce and compensate sequence)   | - Indicator 1: Rate of authorised projects for which the impact study, after application of the ARC sequence, assesses the residual impact on seabirds as compatible with the achievement of good environmental status for each species frequenting the area of the assessed project, at affected marine coastline(s) level by each of these species | - 100% of projects authorised as of the adoption of the sea basin strategy   |
|               |   |             |   | - Indicator 2: Rate of authorised wind farms with a system for assessing and, where appropriate, reducing the level of collision pressure on the populations of species using the wind farm.   | - 100% of projects authorised as of the adoption of the sea basin strategy   |
|               |   | D01-OM-OE03 | Avoid loss of functional habitats for seabirds*, especially in marine areas where density is highest<br><br>* See seabird species listed in the GES Decree  | - Indicator 1: Percentage of artificial foreshore surface area and percentage of artificial coastline by functional site of high concern*<br>*High-concern sites are defined as those meeting the RAMSAR criteria of international importance or hosting more than 15% of the national population  | - No increase in artificial area following the application of the ARC* sequence as of the adoption of the sea basin strategy.<br><br>* Pursuant to Article L163-1 of the Environmental Code, there will be no net loss of biodiversity after application of the ARC sequence |
|               |   | D01-OM-OE04 | Reduce pressure from introduced and domesticated species on seabird breeding sites*<br><br>* See seabird species listed in the GES Decree   | Indicator 1: Proportion of island breeding seabird colonies of high concern* for which introduced and domesticated species represent a proven pressure.<br>*High-concern sites are defined as those meeting the RAMSAR criteria of international importance or hosting more than 15% of the national population                                      | - 0 for remote island sites with no human occupation<br>A downward trend for the others  |
|               |   |             |   | Indicator 2: Proportion of continental breeding seabird colonies of high concern* for which introduced and domesticated species represent a proven pressure<br>*High-concern sites are defined as those meeting the RAMSAR criteria of international importance or hosting more than 15% of the national population                                  | - Significant decrease   |
|               |   | D01-OM-OE05 | Maintain or restore functional seabird habitats* in coastal wetlands  | - Indicator 1: Number and surface area of functional sites restored on the coastline   | - Upward trend.<br>The map of functional sites will be established during 2020 by the LPO or RNF.  |
|               |   |             | The map of functional habitats for seabirds will be drawn up as part of the SBSO action plan<br><br>* see seabird species listed in the GES Decree  | Indicator 2: Functional habitat area for seabirds in wetlands in coastal municipalities  | - Maintenance<br>The reference value will be known in 2020 or 2021 by the LPO or RNF   |

| Descriptor                | General strategic ETs   | ET code     | Specific strategic ETs cycle 2   | Indicator (description and reference value)  | 2026 target   |
|---------------------------|---|-------------|--|--|---|
| D1 - Seabirds (continued) | D01-OM<br>Reduce or avoid pressures causing direct mortality, disturbance and loss of functional habitats important for the life cycle of seabirds and foreshore birds, in particular for vulnerable and endangered species | D01-OM-OE06 | Limit physical, noise and light disturbance to seabirds* in their functional habitat areas<br><br>* See seabird species listed in the GES Decree   | - Indicator 1: Proportion of colonies of high or major concern* according to the AFB's classification of issues for which physical, noise and light disturbances constitute a risk to their long-term survival   | - No colonies of high or major concern  |
|                           |   |             |  | - Indicator 2: Percentage overlap of human activities of any kind on functional areas (and periods) of coastal shorebirds  | - Decrease with regard to the values that will be calculated from 2018 onwards on sites applying the protocol developed by RNF  |
|                           |   |             |  | - Indicator 3: Surface area of foreshore bird functional areas located in strong protection zones  | Trend towards an increase in the surface area of foreshore bird functional areas in the strong protection zone<br><br>- Sector 21 (Pertuis sea and Gironde plume): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.<br>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park. |
|                           |   | D01-OM-OE07 | Avoid or adapt the extraction of species identified under the International Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) and threatened at European level in the public maritime domain | - Indicator 1: Proportion of populations, threatened at European level and listed in column A of Annex 3 of the AEWA Agreement (excluding category 2*, 3* and 4 benefiting from an adaptive management plan for extraction in the absence of a moratorium or permanent ban on hunting provided for in this framework) prohibited from extraction at national level | 100%  |

| Descriptor           | General strategic ETs   | ET code     | Specific strategic ETs cycle 2   | Indicator (description and reference value)  | 2026 target   |
|----------------------|---|-------------|--|--|---|
| D1 - Cephalopod fish | D01PC<br>Limit pressure on vulnerable or endangered fish species or even promote their restoration and limit the level of pressure on important fish functional areas | D01-PC-OE01 | <p>Maximise the survival of accidentally caught elasmobranchs, in particular species prohibited from fishing (category A)* and species not prohibited from fishing but of conservation priority (categories B and C)</p> <p>*see list below from Stéphan et al (2016) and updated from the 2017 ICES advice; species are divided into 3 categories, A, B and C:<br/> - Category A = prohibited species according to Regulation (EU) 2018/120 of 23/01/2018 and Recommendation CGPM/36/2012/3<br/> - Category B = species subject to ICES or ICCAT assessment, subject to regulation or not<br/> - Category C = non-assessed and unregulated species.<br/> The top 10 list of species in each category by coastline is given in the dedicated ET sheet</p> <p>South Atlantic:<br/> Category A: White skate - <i>Rostroraja alba</i>, Angel shark - <i>Squatina squatina</i>, Flapper Skate - <i>Dipturus batis</i> cf. <i>intermedia</i>, Blue Skate - <i>Dipturus batis</i> cf. <i>flossada</i>, Norwegian skate - <i>Dipturus nidarosiensis</i> (Prohibited in zone 7 but not zone 8), Basking shark - <i>Cetorhinus maximus</i>, Porbeagle shark - <i>Lamna nasus</i><br/> Category B: Common thresher - <i>Alopias vulpinus</i>, Blue shark - <i>Prionace glauca</i>, Sailfin roughshark - <i>Oxynotus paradoxus</i>, Velvet belly lanternshark - <i>Etmopterus spinax</i>, Small-spotted catshark - <i>Scyliorhinus canicula</i>, Nursehound - <i>Scyliorhinus stellaris</i><br/> Category C: Bramble shark - <i>Echinorhinus brucus</i>, Common eagle ray - <i>Myliobatis aquila</i>, Atlantic torpedo - <i>Torpedo nobiliana</i>, Pale ray - <i>Bathyraja pallida</i>.</p> |  |   |
|                      |   | D01-PC-OE02 | <p>Promote the restoration of critically endangered elasmobranch populations according to the IUCN Red List of Threatened Species and in particular (see list below)<br/> - Proposed for the South Atlantic coastline:<br/> Flapper Skate - <i>Dipturus batis</i> cf. <i>intermedia</i><br/> Angel shark - <i>Squatina squatina</i></p>  | - Indicator 1: Number of critically endangered elasmobranch species present in French mainland waters  | - Stable or decreasing  |
|                      |   | D01-PC-OE03 | <p>Adapt extractions downstream of the saltwater limit (SWL) of amphihaline species in order to achieve or maintain good stock status and reduce incidental catches of amphihaline species* whose renewal capacity is compromised, in particular in areas of large gatherings, estuaries and estuarine plumes identified by the PLAGEPOMI</p> <p>ET applied to all coastlines but targeting in particular:<br/> South Atlantic: Sèvre Niortaise, Pertuis Gironde Marine Nature Park, Nivelle and Adour targeted in accordance with the provisions of the Loire-Brittany and Adour-Garonne SDAGEs concerning migratory fish</p> <p>*The amphihaline species targeted by regulatory provisions aimed at improving the status of their populations are: - European sea sturgeon - Allis shad and Twaït shad - Sea lamprey and river lamprey - Atlantic salmon and sea trout - European eel</p> <p>N.B.: This ET aims to complement the provisions already existing in the PLAGEPOMI</p>   | - Indicator 1: Number of catches of amphihalines declared/year by professional fishermen in estuaries, estuarine plumes and channels downstream of the saltwater limit (SWL) | - a) For eel: Eel management plan targets, i.e. - 60% fishing mortality between the reference years 2004-2008 (professional maritime fisheries)<br>b) For other species: Maintenance or reduction |
|                      |   |             |  | - Indicator 2: Number of sturgeons unloaded, except for exemptions or exceptions.  | 0   |
|                      |   |             |  | - Indicator 3: Number of new authorisations issued by DDTMs for set net fishing by recreational fishers in salmonid reserves   | - 0, as of the adoption of the sea basin strategy   |
|                      |   |             |  | - Indicator 4: Access rights quotas for amphihaline fishing in estuaries   | - Maintenance or reduction  |



| Descriptor                       | General strategic ETs   | ET code     | Specific strategic ETs cycle 2  | Indicator (description and reference value)   | 2026 target  |
|----------------------------------|---|-------------|---|---|--------------|
| D1 - Cephalopod fish (continued) | D01PC<br>Limit pressure on vulnerable or endangered fish species or even promote their restoration and limit the level of pressure on important fish functional areas | D01-PC-OE05 | <p>Reduce all pressures that affect the extent and condition of identified important functional fishing areas (ZFHi) (including spawning grounds, nurseries, migration routes), essential for the life cycle of fish, cephalopods and crustaceans of fishing interest</p> <p>N.B.: The maps of the Functional Fishing Areas (including Important Functional Fishing Areas) will be produced as part of measure M004</p> | <p>- Indicator 1: Surface area of important functional fishing area (ZFHi)* protected through a Fishing Conservation Area (FCA) per coastline</p> <p>*ZFHi definitions: The importance of a functional area is characterised by a high concentration of individuals at a given life stage in a small area. It makes a significant contribution to the following life stage. Among the different categories of functional areas involved in the life cycle of fisheries resources, three categories of functional areas have been selected: spawning grounds, nurseries and migration routes used by amphihaline and reef species.</p> | Upward trend |

## D2. Invasive species

| Descriptor                  | General strategic ETs  | ET code  | Specific strategic ETs cycle 2  | Indicator (description and reference value)   | 2026 target   |
|-----------------------------|--|----------|---|---|---|
| D2 - Non-indigenous species | D02ENI<br>Limit the risks of introducing and spreading non-indigenous species through human activities | D02-OE01 | Limiting the risk of introducing non-indigenous species through the import of fauna and flora                     | - Indicator 1: Number of checks revealing the presence of level 2 non-indigenous species during border controls, provided for by Article 15 of the European regulation of 22 October 2014 and by Article L 411-7 of the Environmental Code.   | - Downward trend  |
|                             |  | D02-OE02 | Limit the transfer of non-indigenous species (NIS) from heavily impacted areas                                    |   |   |
|                             |  | D02-OE03 | Limit the risks of introducing and spreading non-indigenous species (NIS) from ships' ballast water and sediments | - Indicator 1: Number of ships complying with the regulations in force concerning ballast water management (division 218 of the regulations annexed to the Decree* of 23/11/87 as amended)  | 100% of ships authorised to use French ports that apply the regulations (within a period set by division 218 of the regulations annexed to the Decree of 23/11/87 as amended) |
|                             |  | D02-OE04 | Limit the risks of spreading non-indigenous species during the introduction and transfer of aquaculture species   | - Indicator 1: Proportion of the number of applications for permits to introduce exotic species for aquaculture farming examined in accordance with the provisions of Council Regulation (EC) No 708/2007 of 11 June 2007 concerning use of exotic and locally absent species in aquaculture and Commission Regulation (EC) No 535/2008 of 13 June 2008 laying down the method for the implementation of Council Regulation (EC) No 708/2007 concerning use of exotic and locally absent species in aquaculture | 100%  |
|                             |  |          |   | - Indicator 2: Number of new NIS likely to be introduced by marine farming activities.  | - No increase in the number of NIS  |

D3. Exploited species

| Descriptor              | General strategic ETs   | ET code  | Specific strategic ETs cycle 2  | Indicator (description and reference value) | 2026 target  |
|-------------------------|---|----------|---|---|--|
| D3 - Commercial species | D03<br>Encourage exploitation of fish and shellfish stocks at the maximum sustainable yield level | D03-OE01 | In accordance with the Common Fisheries Policy (CFP), adjust fishing mortality to achieve maximum sustainable yield (MSY) for fish stocks covered by international and European recommendations | Indicator 1: Fishing mortality rate         | - Fishing mortality rate corresponding to MSY for each stock under the CFP |
|                         |   | D03-OE02 | Adapt fishing mortality to ensure sustainable management of local stocks for fish stocks that are fully or partially covered by a national or sub-national assessment and are managed locally   |   |  |
|                         |   | D03-OE03 | Adapt recreational fishing catches to achieve or maintain good stock status based on the best available knowledge   |   |  |

D4. Food webs

| Descriptor     | General strategic ETs  | ET code  | Specific strategic ETs cycle 2   | Indicator (description and reference value)  | 2026 target   |
|----------------|--|----------|--|--|---|
| D4 - Food webs | D04<br>Promote the maintenance of the trophic resources necessary for large predators in the environment | D04-OE02 | <p>Adapt fishing mortality on forage species* to promote the maintenance of the trophic resources needed by large predators**</p> <p>*The forage fish concerned are: SA: herring, sand eel, sprats, sardines, mackerel, anchovies, jack mackerel</p> <p>**The large predators considered are seabirds, marine mammals and predatory fish</p> | - Indicator 1: Fishing mortality and spawning stock biomass of each forage species | - Compliant with MSY under the CFP  |
|                |  | D04-OE03 | Maintain zero harvesting of oceanic micronekton (especially krill, and myctophids or lanternfish etc.)   | - Indicator 1: Harvesting of micronekton forage species on the slope and beyond    | 0<br>N.B.: depending on the knowledge available on an acceptable level of exploitation for ecosystems, the target may be reviewed in 2024 |

## D5. Eutrophication

| Descriptor          | General strategic Ets  | ET code  | Specific strategic ETs cycle 2  | Indicator (description and reference value)  | 2026 target  |
|---------------------|--|----------|---|--|--|
| D5 - Eutrophication | D05<br>Reduce excessive nutrient inputs and their transfer to the marine environment | D05-OE01 | Reduce nutrient inputs (nitrates and phosphates), particularly from rivers flowing into eutrophied marine areas   | <p>- Indicator 1: Proportion of streams, rivers and watercourses leading to eutrophied marine areas with nitrate concentrations compatible with the GES threshold values for the Nutrient criterion (mainly in relation to the Chlorophyll-a criterion)</p> <p>Note: A selection of rivers leading to eutrophied marine areas from the 45 rivers retained in the modelling work will be carried out at the time the thresholds are defined. The 45 rivers selected for modelling are:<br/>- SA: Charente, Seudre, Gironde estuary (Dordogne and Garonne), Leyre, Adour</p>   | At marine sub region level, 100% of the rivers in the marine sub region under consideration have nitrate concentrations (mg/L) that are compatible with the threshold values for achieving the GES for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)<br>At river level, nitrate concentrations (mg/L) compatible with the GES threshold values for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)     |
|                     |  |          | ET applying to the entire South Atlantic coastline but targeting in particular:<br>- South Atlantic: Mouth of the Gironde   | <p>- Indicator 2: Proportion of streams, rivers and watercourses leading to eutrophied marine areas with phosphate concentrations compatible with the GES threshold values for the Nutrient criterion (mainly in relation to the Chlorophyll-a criterion)</p> <p>Note: A selection of rivers leading to eutrophied* marine areas from the 45 rivers retained in the modelling work will be carried out at the time the thresholds are defined. The 45 rivers selected for modelling are:<br/>- SA: Charente, Seudre, Gironde estuary (Dordogne and Garonne), Leyre, Adour</p>  | At marine sub region level, 100% of the rivers in the marine sub region under consideration have phosphate concentrations (mg/L) that are compatible with the threshold values for achieving the GES for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)<br>At river level, phosphate concentrations (mg/L) compatible with the GES threshold values for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion) |
|                     |  |          |   | - Indicator 3: Proportion of coastal agglomerations equipped with WWTPs (more than 10,000 population equivalent) discharging directly into the sea in compliance with the UWW regulation   | 100%   |
|                     |  | D05-OE02 | <p>Reduce nutrient inputs (nitrates and phosphates), particularly from small coastal rivers that flow into sensitive marine areas due to their confinement or the presence of habitats sensitive* to these inputs</p> <p>*habitats sensitive to eutrophication in the Channel and Atlantic: maerl beds, sabellarid bioconstructions, eelgrass beds and salt marshes</p> <p>ET applying to the entire South Atlantic coastline but targeting in particular:<br/>- South Atlantic: Arcachon bay (Leyre), Pertuis (Lay, Sèvre niortaise, Seudre, Charente-Boutonne), Bidassoa, Adour</p> | <p>- Indicator 1: Proportion of streams, rivers and watercourses leading to sensitive marine areas due to their confinement or the presence of sensitive habitats* with nitrate concentrations compatible with the GES threshold values for the Nutrient criterion (mainly in relation to the Chlorophyll-a criterion)</p> <p>* Note: A selection of rivers leading to sensitive marine areas due to their confinement or the presence of sensitive habitats among the 45 rivers retained in the modelling work at the time the thresholds are defined. The 45 rivers selected for modelling are:<br/>- SA: Charente, Seudre, Gironde estuary (Dordogne and Garonne), Leyre, Adour</p> | At marine sub region level, 100% of the rivers in the marine sub region under consideration have nitrate concentrations (mg/L) that are compatible with the threshold values for achieving the GES for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)<br>At river level, nitrate concentrations (mg/L) compatible with the GES threshold values for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)     |

| Descriptor                      | General strategic ETs  | ET code  | Specific strategic ETs cycle 2  | Indicator (description and reference value)   | 2026 target  |
|---------------------------------|--|----------|---|---|--|
| D5 - Eutrophication (continued) | D05<br>Reduce excessive nutrient inputs and their transfer to the marine environment | D05-OE02 | Reduce nutrient inputs (nitrates and phosphates), particularly from small coastal rivers that flow into sensitive marine areas due to their confinement or the presence of habitats sensitive* to these inputs  | - Indicator 2: Proportion of streams, rivers and watercourses leading to sensitive marine areas due to their confinement or the presence of sensitive habitats* with phosphate concentrations compatible with the GES threshold values for the Nutrient criterion (mainly in relation to the Chlorophyll-a criterion)   | At marine sub region level, 100% of the rivers in the marine sub region under consideration have phosphate concentrations (mg/L) that are compatible with the threshold values for achieving the GES for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion)<br>At river level, phosphate concentrations (mg/L) compatible with the GES threshold values for the nutrient criterion (mainly with regard to the Chlorophyll-a criterion) |
|                                 |  |          | *habitats sensitive to eutrophication in the Channel and Atlantic: maerl beds, sabellarid bioconstructions, eelgrass beds and salt marshes<br><br>ET applying to the entire South Atlantic coastline but targeting in particular:<br>- South Atlantic: Arcachon bay (Leyre), Pertuis (Lay, Sèvre niortaise, Seudre, Charente-Boutonne), Bidassoa, Adour | * Note: A selection of rivers leading to sensitive marine areas due to their confinement or the presence of sensitive habitats among the 45 rivers retained in the modelling work at the time the thresholds are defined. The 45 rivers selected for modelling are:<br>- SA: Charente, Seudre, Gironde estuary (Dordogne and Garonne), Leyre, Adour<br><br>- Indicator 3: Proportion of coastal agglomerations equipped with WWTPs (more than 10,000 population equivalent) discharging directly into the sea in compliance with the UWW regulation |  |
|                                 |  | D05-OE03 | Do not increase nutrient inputs in areas with little or no impact of eutrophication   | Indicator 1: NO3 concentration in mg/l (in coastal MSFD geographical units of assessment, river)  | Do not increase concentration levels compared to those calculated in the previous period under the WFD Monitoring Programme  |
|                                 |  |          |   | Indicator 2: Concentration of PO43- in mg/l (in coastal MSFD geographical units of assessment, river)   | Do not increase concentration levels compared to those calculated in the previous period under the WFD Monitoring Programme  |
|                                 |  | D05-OE04 | Reduce atmospheric nitrogen (Nox) inputs at national level  |   |  |

## D6. Seabed integrity

| Descriptor            | General strategic ETs  | ET code  | Specific strategic ETs cycle 2  | Indicator (description and reference value)   | 2026 target   |
|-----------------------|--|----------|---|---|---|
| D6 - Seabed integrity | D06<br>Avoid the loss and physical disturbance of marine habitats from maritime and coastal activities | D06-OE01 | Limit the physical loss of habitat linked to the artificialization of the coastal area, from the highest foreshore level to 20 metres depth | <p>- Indicator 2: Percentage of artificial foreshore* (emerged structures and developments)<br/>*definition according to MEDAM: Port, port of refuge, groyne, landfill, artificial beach (horseshoe shaped beach), pontoon, dykes</p> <p>- Indicator 3: Percentage of artificial seabed (emerged and submerged structures and developments) between 0 and 20 m</p>                | <p>a) Downward trend in the average annual rate of artificialization of the upper foreshore (in coastal terms) observed between 2019 and 2026 compared with the average annual rate observed between 2002 and 2014, estimated at 0.63% per year</p> <p>b) Downward trend in the average annual rate of foreshore artificialization observed between 2019 and 2026 compared to the annual rate observed between 2002 and 2014, estimated at 0.55% per year</p> <p>For the entire coastline, a downward trend in the average rate of coastal land artificialization in hectares compared with the average reference rate estimated at [pending the results of the CEREMA study in March 2021]</p>   |
|                       |  | 06-OE02  | Reduce disturbance and physical loss of generic and special habitats associated with maritime structures, activities and uses               | <p>- Indicator 1: Extent of new physical loss of special habitats in km<sup>2</sup> due to marine structures (including underwater structures), extraction of materials, dredging and dumping of dredged materials, following the application of the ARC sequence</p> <p>- Indicator 2: Proportion of surface area of each special habitat located in strong protection zones</p> | <p>0 net losses on special habitats, as of the adoption of the sea basin strategy, after application of the ARC sequence</p> <p>Increase in the proportion of the area of each special habitat* in strong protection [in each of the following areas [, with at least one area per sector of high or major concern]: list of potential SPZs** relevant to that habitat]</p> <p>- Sector 21 (Pertuis sea and Gironde plume): Extension of the Marais d'Yves national nature reserve (dwarf eelgrass beds). The work of analysing other existing and potential SPZs will be carried out with the Marine Nature Park.</p> <p>- Sector 22 (Plateau de Rochebonne): Plateau de Rochebonne (kelp)</p> <p>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.</p> <p>* Maerl beds, Intertidal mussel beds, Subtidal mussel beds, Lanice banks, Dwarf eelgrass beds, Marine eelgrass beds, Hermella, Flat oysters, Kelp, Atlantic salt marshes, Pioneer glasswort vegetation</p> <p>**Naming of an area intended to host an SPZ, the precise perimeter of which will be defined after local consultations.</p> |

## D7. Water conditions

| Descriptor                  | General strategic ETs   | ET code  | Specific strategic ETs cycle 2   | Indicator (description and reference value)  | 2026 target   |
|-----------------------------|---|----------|--|--|---|
| D7- Hydrographic conditions | D07<br>Limit changes in hydrographic conditions (caused by human activities) that are unfavourable to the proper functioning of the ecosystem | D07-OE01 | Avoid significant* residual impacts of turbidity on habitats and the main important functional fishing areas which are the most sensitive to this pressure, due to the influence of maritime structures, material extraction, dredging, dumping of dredged material, developments and land-based discharges<br>*significant residual impacts as defined in the environmental assessment<br><br>N.B. 1: This objective targets the main important functional fishing areas (ZFHi) and the following habitats: maerl beds, phanerogam sea grass beds (eelgrass, seagrass, cymodocea), fucal, kelp and cystoseira belts, lithophyllum pavements, sabellariid bioconstructions and coralligenous (coastal and deep).<br><br>N.B. 2: ZFHi maps will be produced as part of measure M004 | - Indicator 1: Number of new authorisations and renewals of authorisations for maritime activities, developments and land-based discharges with a significant residual impact on turbidity following the application of the ARC sequence on the habitats most sensitive to this pressure | 100% of new authorisations and authorisation renewals concern projects that do not present significant residual impacts following the application of the ARC sequence, as of the adoption of the sea basin strategy   |
|                             |   |          | Avoid any new anthropogenic modification of the hydrographic conditions with a significant residual impact* on the currentology and sedimentology of the sectors of concern and first and foremost in the macro-tidal bays, maximum current zones and areas of hydraulic dunes<br><br>* significant residual impacts as defined in the environmental assessment  | - Indicator 1: Number of new developments with a significant residual impact following the application of the ARC sequence (as defined in the environmental assessment)  | 100% of new authorisations concern projects with no significant residual impact following the ARC sequence, excluding tidal turbines, and 100% of tidal turbine projects minimising their impact, as of the adoption of the sea basin strategy  |
|                             |   | D07-OE03 | Limit pressures and barriers to sea-land connectivity in estuaries and coastal lagoons   | - Indicator 1: Percentage of estuaries located in strong protection zones  | Increase in the percentage of estuaries in strong protection [in each of the following zones [, with at least one area per sector of high or major concern]: list of potential SPZs* relevant to this habitat]<br><br>- Sector 21 (Pertuis sea and Gironde plume): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.<br><br>* Naming of a zone intended to host a SPZ, the precise perimeter of which will be defined after local consultations.   |
|                             |   |          |  | - Indicator 2: Percentage of coastal lagoons located in strong protection zones  | Increase the percentage of coastal lagoons in strong protection [in each of the following areas [, with at least one zone per sector of high or major concern]: list of potential SPZs* relevant to this habitat]<br><br>- Sector 21 (Pertuis sea and Gironde plume): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.<br>- Sector 24 (Arcachon bay): The work of analysing existing and potential SPZs will be carried out with the Marine Nature Park.<br><br>* Naming of an area intended to host a SPZ, the precise perimeter of which will be defined after local consultations. |
|                             |   |          |  | - Indicator 3: Number of non-removable obstacles whose impacts on currentology, sedimentology or continuity have been minimised  | Upward trend  |



|  |  |          |  |  |  |
|--|--|----------|--|--|--|
|  |  | D07-QE04 | Ensure sufficient freshwater in the coastal area throughout the year, particularly by reducing water extraction levels (groundwater and surface water) at catchment area level |  |  |
|--|--|----------|--|--|--|

## D8. Contaminants

| Descr<br>tor  | General strategic ETs   | ET<br>code | Specific strategic ETs cycle 2  | Indicator (description and reference value)   | 2026 target  |
|---|---|------------|---|---|--|
| D8 - Contaminants   | D08<br>Reduce or eliminate inputs of chemical contaminants into the marine environment, whether from land or sea, chronic or accidental | D08-OE01   | Reduce contaminant inputs from rainwater runoff from towns, coastal settlements and ports   | - Indicator 1: Percentage of towns or their public establishments for cooperation having a rainwater zoning in accordance with L 2224-10 of the general code of local authorities and a sanitation master plan in accordance with the Decree of 21 July 2015  | - Upward trend   |
|   |   | D08-OE02   | Reduce direct inputs of contaminants into the sea, particularly oil from maritime transport and sailing   | - Indicator 1: Number of accidental spills of contaminants at sea   | - Downward trend   |
|   |   |            |   | - Indicator 2: Number of confirmed reports of illegal oil discharges at sea   | - Decrease in the number of confirmed reports of illegal dumping                                       |
|   |   |            |   | - Indicator 3: Proportion of oiled seabirds found dead or dying on beaches.   | - Proportion of oiled seabirds found dead or dying on beaches less than 10% of total stranded seabirds |
|   |   | D08-OE03   | Reduce discharges of liquid effluents (black water, grey water), residues of oil and hazardous substances from commercial, fishing and sailing vessels  | - Indicator 1: Number of ports with individual or joint ship-generated waste and cargo residues reception and handling plans, excluding small non-commercial marinas whose port reception facilities are integrated into the waste treatment system operated by or on behalf of a municipality*<br><br>*in accordance with Article R5314-7 of the Transport Code and the Directive of 17 April 2019 on port reception facilities for the disposal of ship waste.  | 100%   |
|   |   | D08-OE04   | Limit the discharge of contaminants and the spread of non-indigenous species into the natural environment during the careening of vessels (recreational and professional) and submerged equipment (buoys, farming structures, etc.)   | - Indicator 1: Number of ports with careening areas equipped with an effluent treatment system  | Upward trend   |
|   |   | D08-OE05   | Limit direct inputs, transfers and remobilisation of contaminants at sea linked to activities at sea other than dredging and dumping (e.g. digging of the seabed for cable installation, MRE, maritime transport, etc.) and eliminate discharges, emissions and releases of the primary hazardous substances mentioned in Annex 10 of the WFD | - Indicator 1: Number of sacrificial anodes containing primary hazardous substances (primary hazardous substances mentioned in Annex 10 of the WFD, including cadmium and its compounds, nickel, mercury and lead) used on port structures and other structures installed at sea, with the exception of traces compatible with the provisions of the Decree of 8 July 2010 establishing the list of primary substances and setting the methods and deadlines for the progressive reduction and elimination of discharges, runoffs, direct or indirect discharges of primary substances and hazardous substances referred to in Article R. 212-9 of the Environmental code | 0, from 2021 (WFD deadline)  |
| - Indicator 2: Proportion of projects authorised from the adoption of the sea basin strategies where the mass of each of the following substances (aluminium, zinc, indium, copper) in sacrificial anodes is minimised taking into account the best available techniques* at the time of submission of the application for authorisation<br>*within the meaning of Article 3 of Directive 2010/75 of 24/11/2010 on industrial emissions (integrated pollution prevention and reduction) | 100% of projects authorised as of the adoption of the sea basin strategy  |            |   |   |  |

| Descriptor | General strategic ETs | ET code | Specific strategic ETs cycle 2 | Indicator (description and reference value)  | 2026 target   |
|------------|-----------------------|---------|--------------------------------|--|---------------|
|            | D08                   |         | Limit the input of sediment    | - Indicator 1: Quantity of submerged dredged | - No increase |

|                               |  |          |  |   |                     |
|-------------------------------|--|----------|--|---|---------------------|
| D8 - Contaminants (continued) | Reduce or eliminate inputs of chemical contaminants into the marine environment, whether from land or sea, chronic or accidental | D08-OE06 | contaminants into the sea above the regulatory thresholds linked to dredging and dumping activities    | sediments with a concentration greater than N1* (Decree of 9 August 2006, version in force as of the adoption of the sea basin strategy)<br>*(N1): Contaminant concentrations below which dumping may be permitted but a further study is required if this threshold is exceeded.   |                     |
|                               |  |          |  | - Indicator 2: Quantity of submerged dredged sediments with a concentration greater than N2** (Decree of 9 August 2006, version in force as of the adoption of the sea basin strategy)<br>*(N2): Contaminant concentrations above which dumping may only be permitted if it can be demonstrated that it is the least damaging option for the aquatic and terrestrial environment. | - No increase       |
|                               |  | D08-OE07 | Reduce discharges of land-based contaminants to the sea*<br>* excluding dredging and piling activities | - Indicator 1: Number of non-achievements of GES threshold in sediment and biota  | Candidate indicator |
|                               |  |          |  | - Indicator 2: Number of coastal water bodies with good chemical status under the WFD   | 100%                |
|                               |  | D08-OE08 | Reduce atmospheric inputs of contaminants  |   |                     |

## D9. Health issues

| Descriptor         | General strategic ETs   | ET code  | Specific strategic ETs cycle 2   | Indicator (description and reference value)   | 2026 target                          |
|--------------------|---|----------|--|---|--------------------------------------|
| D9 - Health issues | D09<br>Reduce microbiological, chemical and phycotoxic contamination that degrades the health quality of seafood, aquaculture and fisheries production areas and swimming areas | D09-OE01 | Reduce direct transfers of microbiological pollutants, particularly to swimming areas and shellfish production areas | - Indicator 1: Proportion of swimming sites with at least sufficient swimming water quality   | 100% (target of Directive 2006/7/EC) |
|                    |   |          |  | - Indicator 2: Proportion of REMI monitoring points on the coastline showing a deterioration in microbiological quality or showing a deteriorated quality that is not improving (general trend over 10 years) | 0%                                   |

## D10. Marine waste

| Descriptor  | General strategic ETs  | ET code  | Specific strategic ETs cycle 2  | Indicator (description and reference value)   | 2026 target   |
|-------------|--|----------|---|---|---|
| D10 - Waste | D10<br>Reduce inputs and presence of waste in the sea and on the coastline from land or sea origin | D10-OE01 | Reduce the input and presence of land-based waste found at sea and on the coastline           | - Indicator 1: Quantities of the most common land-based waste on the seabed and coastline                               | - Downward trend  |
|             |  | D10-OE02 | Reduce the input and presence of waste at sea from maritime activities, uses and developments | - Indicator 1: Quantities of the most common waste from the main maritime activities on the coastline and on the seabed | - Downward trend  |
|             |  |          |   | Indicator 2: Quantity of waste collected in fishing ports from maritime fishing activities                              | - Upward trend<br>Note: The target of an upward trend is to intensify the collection effort |

## D11. Energy introduced into the sea (noise)

| Descriptor  | General strategic ETs  | ET code  | Specific strategic ETs cycle 2   | Indicator (description and reference value)  | 2026 target   |
|-------------|--|----------|--|--|---|
| D11 - Noise | D11<br>Limit noise emissions in the marine environment to non-impact levels for marine mammals | D11-OE01 | Reduce the level of noise related to impulsive emissions with regard to the risks of disturbance and mortality of marine mammals | - Indicator 1: Spatial extent of the recorded 'strong' to 'very strong' events as a percentage of the coastline  | Target defined in the framework of TG Noise   |
|             |  |          |  | - Indicator 2: Rate of projects generating impulsive emissions with a risk of disturbance and mortality of marine mammals (following the environmental assessment) and having implemented measures to reduce the acoustic impact | 100% of projects authorised as of the adoption of the sea basin strategy  |
|             |  | D11-OE02 | Maintain or reduce the level of continuous noise produced by human activities, particularly maritime traffic                     | - Indicator 1: Low frequency anthropogenic noise in water (maximum level and spatial extent). (GES criterion D11C2)  | - Decrease (i.e. the spatial median of the interannual differences in maximum levels per coastline is zero or negative) |



Supplementary document to  
Annex 5d of the South Atlantic sea  
basin strategy - "Methodology for  
developing and reviewing  
environmental targets"

CEREMA report "Artificialization  
of coastal marine environments -  
Methods for determining  
indicators 1 and 2 - 2021"









## NOTES

[illegible]

#### **Design and production**

##### **Interregional Directorate for the South Atlantic Sea**

Coordination mission of maritime and coastal public policies  
1-3, rue Fondaudège CS 21227  
33074 Bordeaux Cedex

---

**Edition: April 2021**



**Interregional Directorate for the Sea  
South Atlantic**

1-3, rue Fondaudège CS 21227  
33074 Bordeaux Cedex  
Tel: +33 (0) 5 56 00 83 00  
[dirm-sa@developpement-durable.gouv.fr](mailto:dirm-sa@developpement-durable.gouv.fr)

