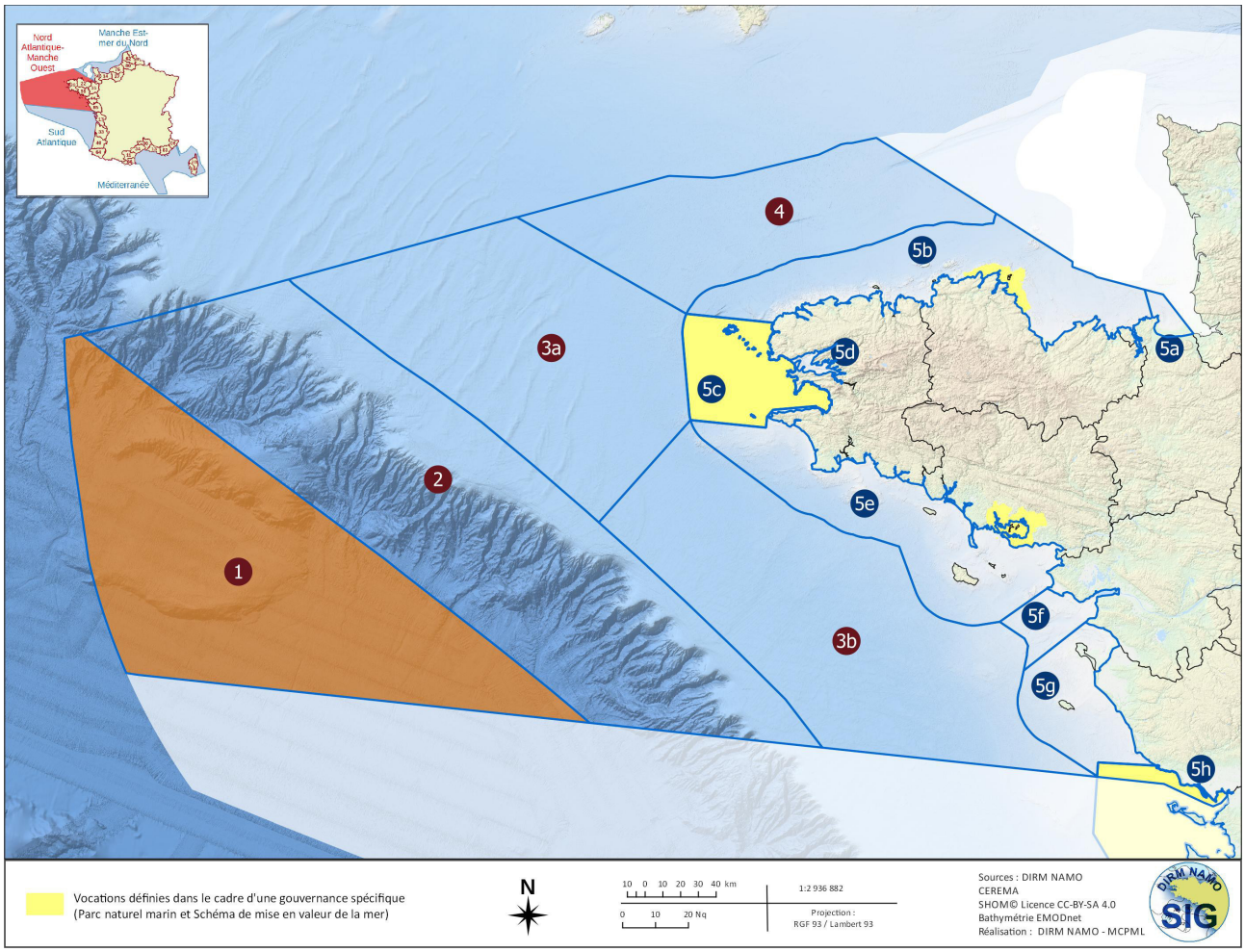
1 Fact sheet of the NAWC vocation map

ZONE No. 1 Abyssal Plain



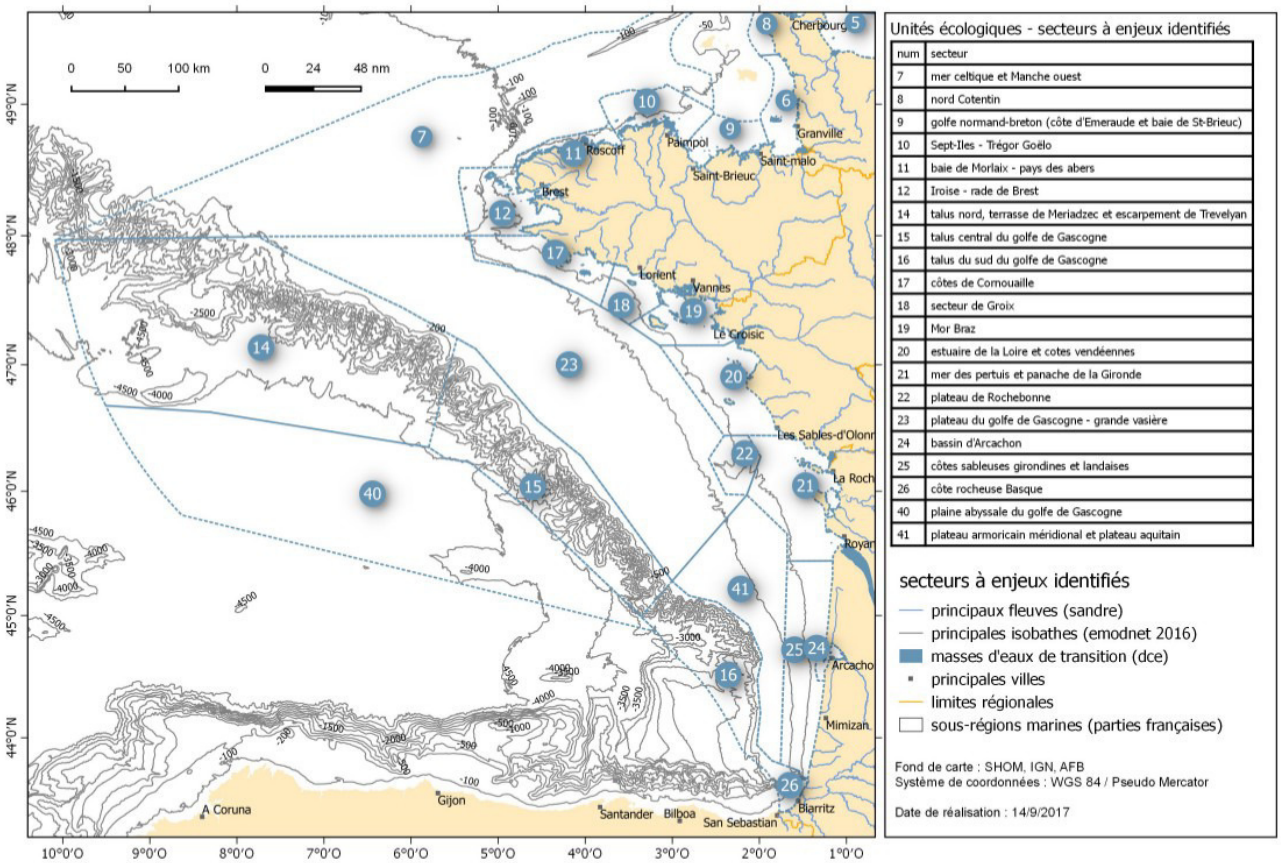
1. Synthesis of zone 1

Limits of the zone

The limits are drawn on an indicative basis, on the scale of the map, based on (legal, administrative, bathymetric, geomorphological) references, specified below.

- West : the administrative limit of the exclusive economic zone (Montego Bay Convention 1982);
- South : the administrative limit between the North Atlantic-Western Channel (NAWC) and South Atlantic (SA) coastlines (Article R.2917-1-7 of the French Environmental Code);
- East : the – 4 000 m isobath marking the western limit of the zone 2.

Main environmental issues under the MSFD



The ecological areas concerned are the northern part of the continental slope (**area No. 14**) and the abyssal plain of the Bay of Biscay (**area No. 40**).

- **For the area 14: Northern part of the continental slope**

(North Slope, Meriadzeck terrace and Trevelyan escarpment)

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**High**:** slope front, canyons, important biomass and associated planktonic diversity
	Primary and secondary producers and forage species	**nd:** forage species (micronekton)
Benthic habitats and geomorphological structures	Sub-aqueous dunes on the shelf and upper continental slope	**High**:** sub-aqueous dunes on the upper continental slope
	Distinctive geomorphological structures	**High**:** unknown breakwater, Trevelyan Escarpment, Meriadzek Terrace, bathyal muds
	Deep-sea habitats	**High:** white coral reefs, antipatharids, gorgonians, sponges and other solitary scleractinians or in colonies, bathyal muds with sea pens **nd:** soft-bottom coral gardens

The geological, geochemical and physical conditions of the seabed and the water column define diverse habitats hosting specific biological communities. Beyond the shelf, the continental slope, mostly covered with sediments and notched in places by rocky submarine canyons, extends to the abyssal plain, also covered with fine sediments. These sediments are formed essentially by the residues of the planktonic and

pelagic ecosystems to which continental inflows are added. The canyons canalize the flows of particles and organic matter from the continental shelf towards the abyssal plain and are centres of sedimentary deposits and carbon sinks.

Within the canyons in the North of the slope, antipatharids and gorgonians, solitary and colonial Scleractinaria, white coral reefs, aggregations of sponges (on hard and soft substrate), bathyal mud communities with sea-pens (Pennatulacea) were identified. Contrary to the canyons of the South, the white coral reefs are more abundant there. In the north of the area, sub-aqueous dunes are formed under the influence of the tide wave.

The particular topography of the canyons interacts with the dominant hydrodynamic processes along the margins, whether they are the currents due to the wind or the tidal currents, to create upwelling or downwelling phenomena. The variable amplitude and the complex interactions of these processes produce a great heterogeneity of edaphic, hydrodynamic and trophic conditions both on the scale of a region and on the scale of a canyon.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** hake, mackerel, horse mackerel
	Functional fishing areas - Nurseries	**High**:** sprat, Atlantic horse mackerel, mackerel
	Locally important populations of Elasmobranch species	**High:** porbeagle **, Norwegian skate
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**High:** density all species, Northern fulmar (winter)
	Harbour porpoise maximal density areas	**High*:** harbour porpoise (summer)
Details of certain crosscutting issues	Other cetaceans	**High:** most species of cetaceans (maximum diversity), delphinidae **Medium:** globicephala

The rugged topography of the canyons provides a refuge for certain species of fish including elasmobranch species (Norwegian skate) and the concentration of organic matter offers privileged nursery areas (mackerel, hake, horse mackerel). These functionalities are reflected in the significant presence of birds (including the Northern fulmar) and marine mammals (common dolphin, common bottlenose dolphin, common porpoise).

- **For area 40: Abyssal plain of the Bay of Biscay**

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**High**:** deep dispersion layer, important related zooplanktonic biomass
	Specific geomorphological structures	**High**:** Biscay seamount
	Primary and secondary producers and forage species	**High:** forage species (krill)

Knowledge on the benthic compartment is limited. The abyssal plain is dominated overall by fine sediments (mud and sand). The associated ecosystems are relatively unknown but the seabed species associated with them have very slow biological cycles which make them vulnerable to variations in pressure. In the south of the area, the dome of Gascogne is a seamount characterized by a depth of 4000

metres, i.e. nearly 500 metres less than the surrounding zones. The ecosystems associated with this seamount are unknown.

Details of certain crosscutting issues	Other cetaceans	**Major:** fin whale (maximum European density) **High:** delphinidae (summer), most species of cetaceans (low densities)
	Marine turtles	**High:** area of concentration of leatherback turtles (summer)

The oceanic zone is characterized by pelagic habitats which are relatively nutrient-poor at the surface (compared to the other areas) and by a deep layer which is more rich in zooplankton, called "deep dispersion layer". This layer, which is particularly rich in krill, is the privileged feeding zone of the fin whale, whose density there is the highest in Europe. The large diving cetaceans also use it (sperm whale, bottlenose whale, pilot whale and Risso's dolphin) as well as small delphinids in the surface (common dolphin, blue and white dolphin, bottlenose dolphin), the leatherback turtle in the summer and pelagic birds (in particular large shearwater species).

Associated water body under the Water Framework Directive

Non applicable since the zone is located offshore and with no direct link with the terrestrial environment.

Governance systems

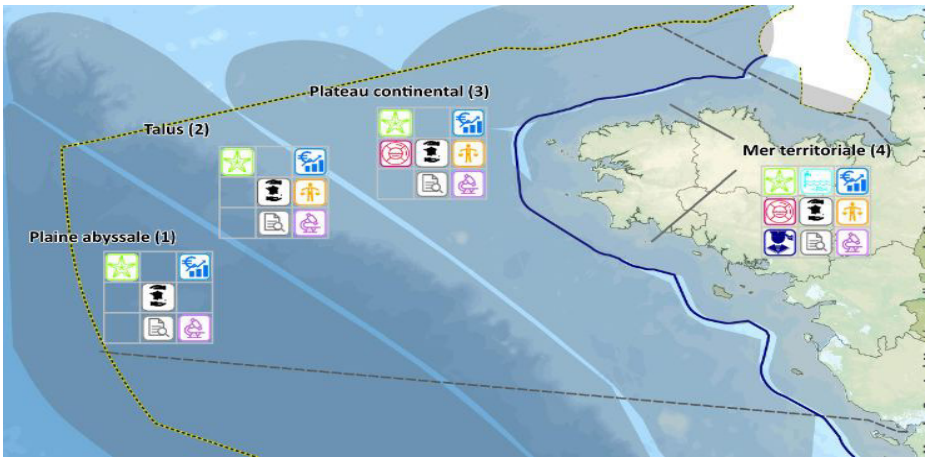
Located within the economic zone, the zone 1 is concerned by the following systems:

- the Sea Basin Council (SBC) North Atlantic West (NAMO) in application of Article L219-6-1 of the French Environmental Code;
- the regional conference of the sea and coastline in Brittany in application of Article 3 bis.-II of the amended decree of 5 May 2011;
- the steering committees of the Natura 2000 sites concerned (cf. environmental map);
- the nautical commissions;
- the regional assembly for the sea and coastline of Pays de la Loire;
- the defence zones (by appealing to the commander of the maritime zone at the maritime prefecture for the Atlantic);

Spatial constraints arising from other processes:

- N/A.

2. INTEGRATED ISSUES



On the abyssal plain, the major issues selected concern the good ecological status of the marine environment, national defence and safety, the maritime economy, knowledge, research, innovation.

3. STRATEGIC OBJECTIVES

Refer to Appendix 6 (strategic environmental and socioeconomic objectives)

4. VOCATIONS OF ZONE No.1 "ABYSSAL PLAIN"

The priorities in terms of vocation are established and applicable on the scale of each of the thirteen zones.

Vocation of zone 1 "Abyssal plain": Use and possible valorization of the environment and marine resources through a sustainable exploitation conditional on a better knowledge of the zone and on the preservation of the large cetaceans and their nutritive resources.

At the level of the zone, the priority is given to one or several activities or environmental requirements in cohabitation with other activities. The aim is not to exclude but to encourage the cohabitation of uses to serve the strategic objectives identified while enabling the priorities to be to be determined within the area in the event of a dispute.

The known technical potentials associated with this zone (*MRE, marine aggregates, fisheries, aquaculture*) are specified in Appendix 0 (atlas) in part 1 of the maritime coastline strategy (current situation).

For the possible launch of finer planning levels, required by particular projects, a cross-reference between the vocation map, the maps of the present sheet and the current situation maps (Appendix 0) mentioning the potentials and constraints known at the date of publication of the maritime coastline strategy can make it possible to propose more restricted zones at the debates of the local governance bodies (SBC, CRML and ARML, etc.).

A non-cited usage in a zone can be established or exist before the vocation map, but it cannot avail itself of a strategic priority as defined in the present document.

5. REQUIREMENTS OR RECOMMENDATIONS

Non impact on certain components of the ecosystems

The systematic implementation of the sequence avoid – reduce – compensate at sea is required.

It is recommended, in accordance with the CGEDD report of October 2017 on the Avoid Reduce Compensate sequence at sea, to:

- Incorporate measures taking account of all the diffuse and global impacts and clearly marking the implementation of the principle of absence of net loss of biodiversity provided for by the Biodiversity Law of 8 August 2016.

- Provide for shared compensation measures with a proven ecological efficiency and monitored over the long term, taking into account not only the exceptional biodiversity, but also the ordinary biodiversity in particular through ecosystem services.

It is recommended to take into account particular zoning mechanisms, when they exist: cf. maps relating to the environment below.

Conditions for the sequence of events

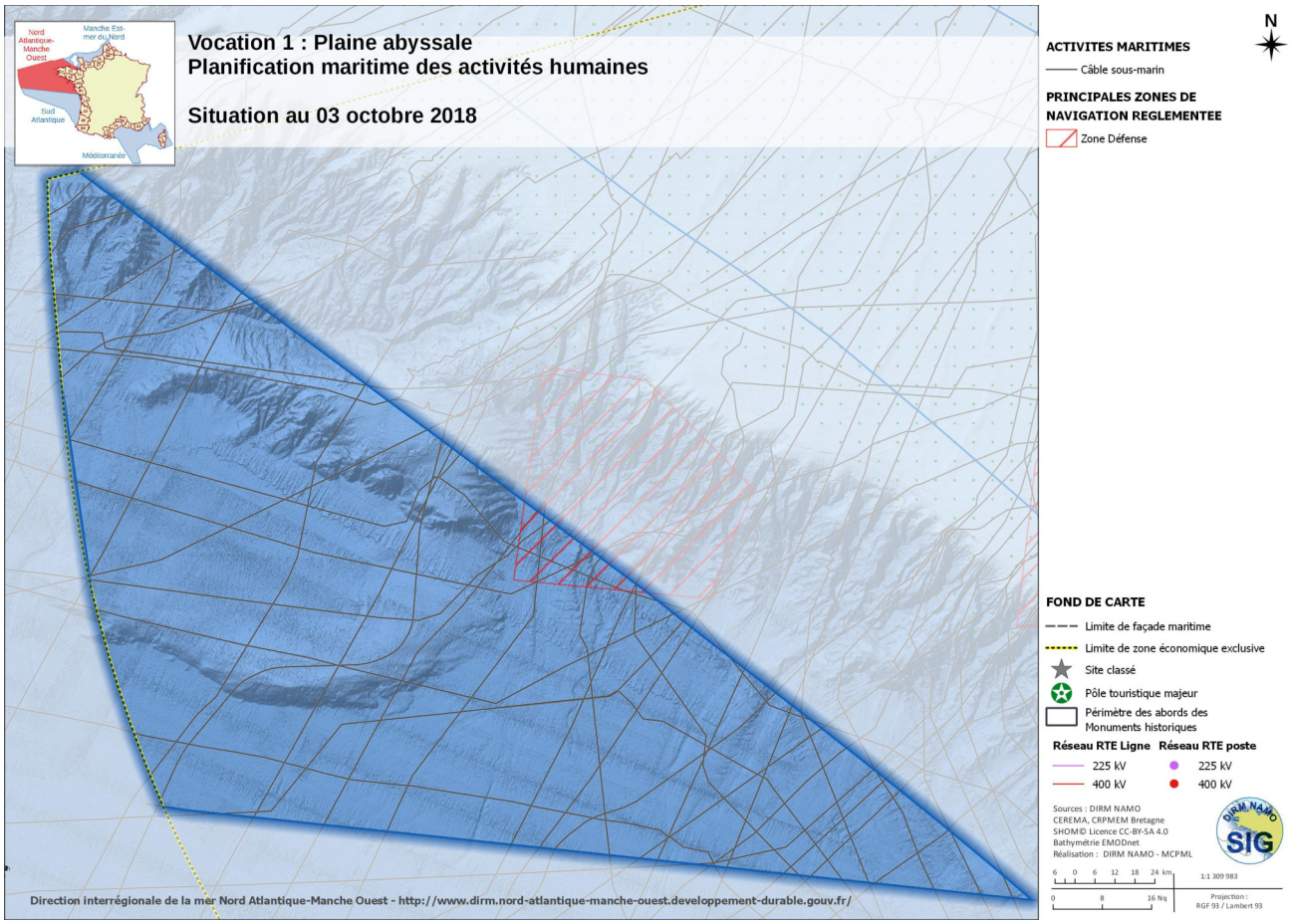
There is a requirement before the start of a new activity project, subject to authorization, and/or environmental assessment, that the petitioner:

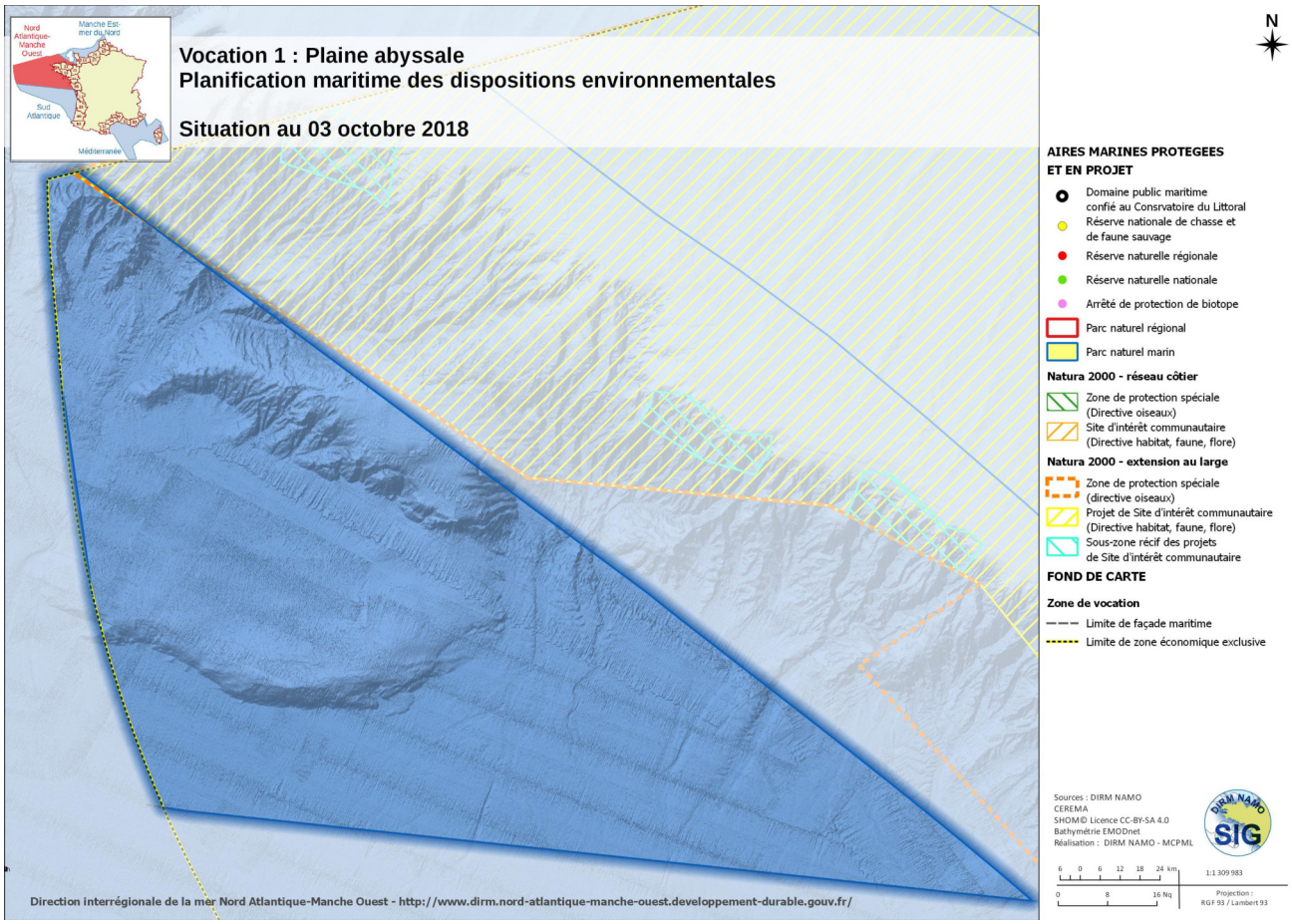
- acquires and shares in-depth knowledge of the zone in terms of exploitable resources and environmental issues, in particular those of ecosystem functioning;
- carries out an appropriate study depending on the classification of the environmental issues presented above.
- studies the compatibility of the project with the national defence activities and, if required, with other activities

It is recommended that the complementary skills acquired are capitalized and made available to the public, governance bodies and specialists, including in research.

Compliance with existing maritime planning related to human activities (cables) detailed below.

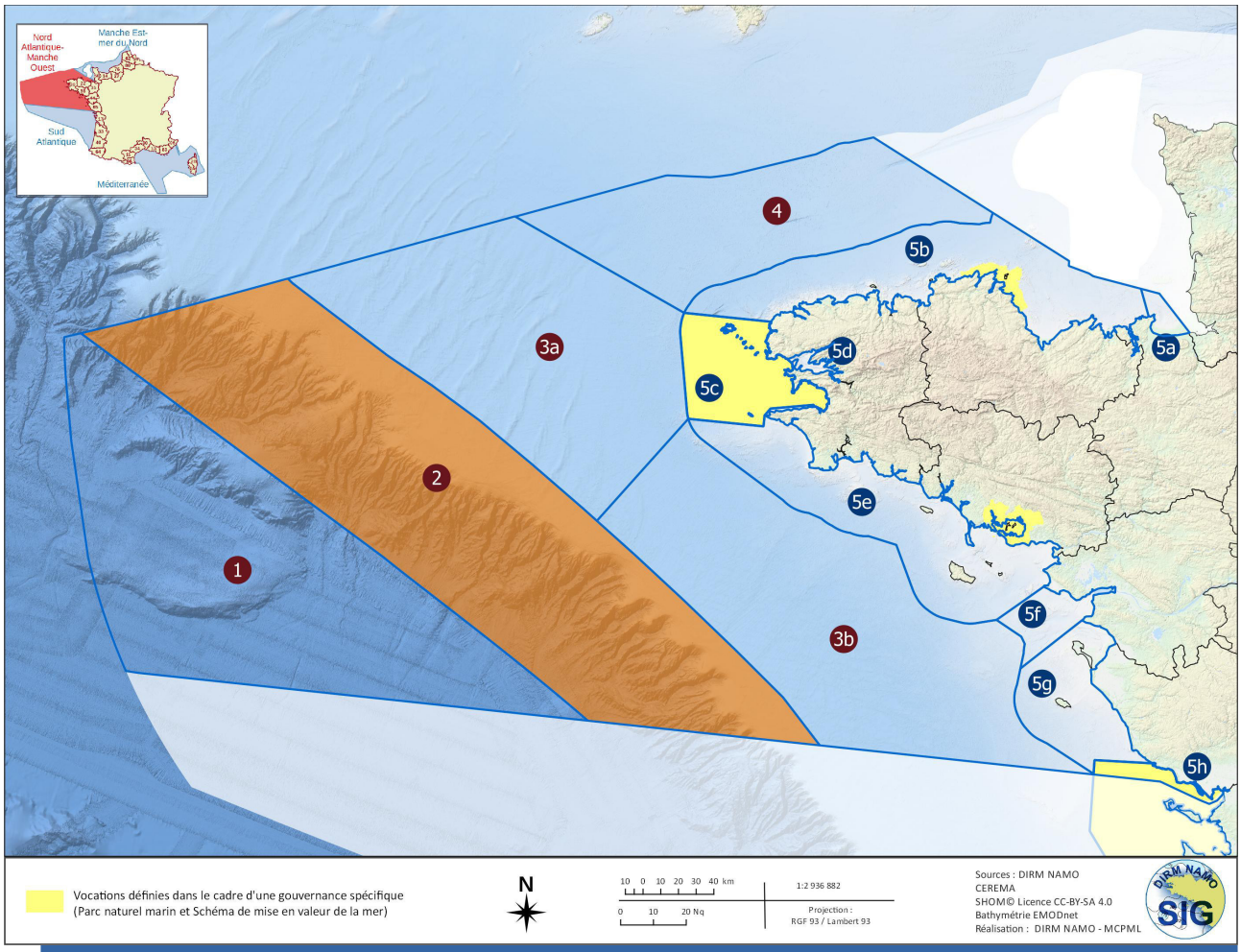
Existing maritime planning





Fact sheet of the NAWC vocation map

ZONE No. 2 Continental slope



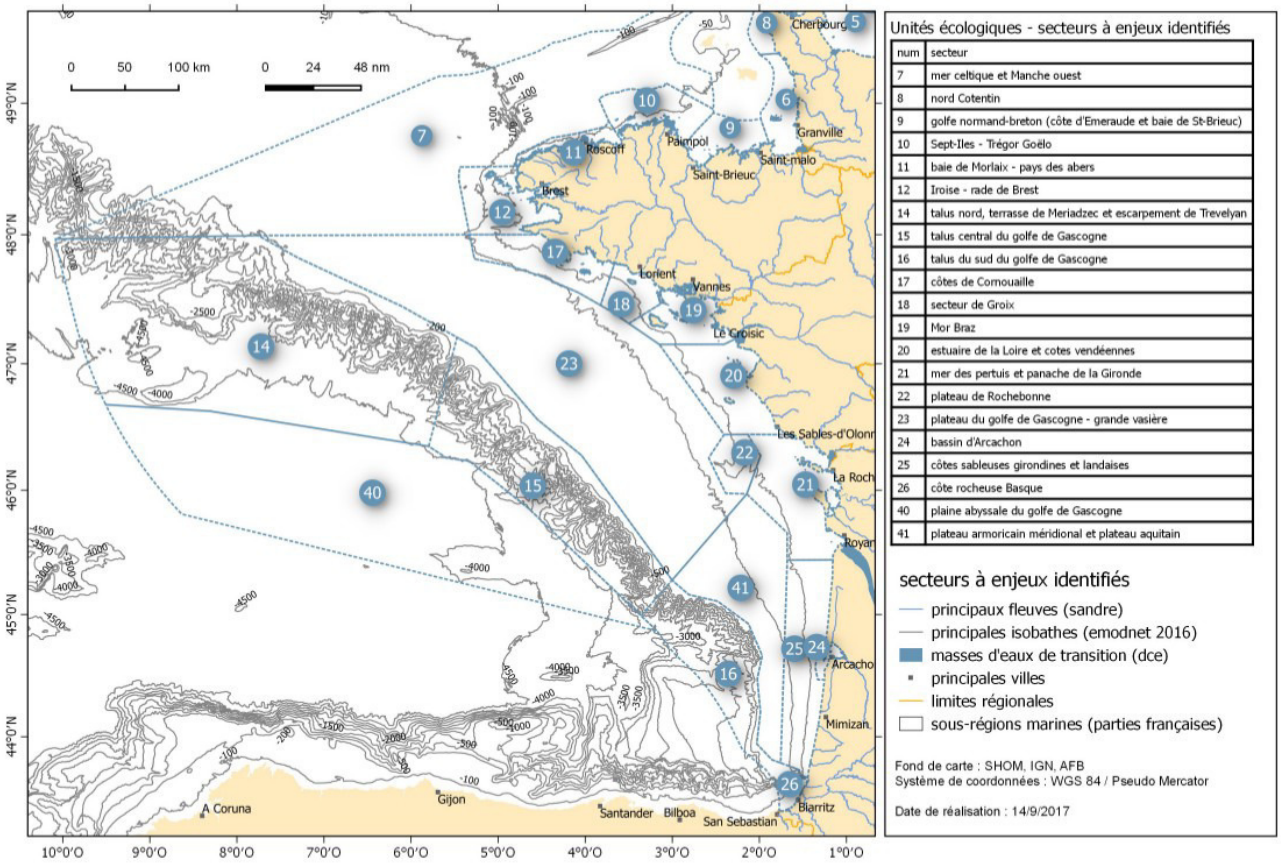
1. Synthesis of zone 2

Limits of the zone

The limits are drawn on an indicative basis, on the scale of the map, based on (legal, administrative, bathymetric, geomorphological) references, specified below.

- West: the – 4 000 m isobath marking the eastern limit of zone 1;
- South: the administrative limit between the North Atlantic-Western Channel (NAWC) and South Atlantic (SA) coastlines (Article R. 219-1-7 of the French Environmental Code);
- East: the – 200 m isobath marking the limit with zone 3;
- North: the administrative limit of the exclusive economic zone (Montego Bay Convention 1982).

Main environmental issues under the MSFD



num	secteur
7	mer celtique et Manche ouest
8	nord Cotentin
9	golfe normand-breton (côte d'Emeraude et baie de St-Brieuc)
10	Sept-Iles - Trégor Goëlo
11	baie de Morlaix - pays des abers
12	Iroise - rade de Brest
14	talus nord, terrasse de Meriadzec et escarpement de Trevelyan
15	talus central du golfe de Gascogne
16	talus du sud du golfe de Gascogne
17	côtes de Cornouaille
18	secteur de Groix
19	Mor Braz
20	estuaire de la Loire et cotes vendéennes
21	mer des pertuis et panache de la Gironde
22	plateau de Rochebonne
23	plateau du golfe de Gascogne - grande vasière
24	bassin d'Arcachon
25	côtes sableuses girondines et landaises
26	côte rocheuse Basque
40	plaine abyssale du golfe de Gascogne
41	plateau armoricain méridional et plateau aquitain

The ecological areas[1] mainly concerned are the northern part of the continental slope (**area No. 14**) and the central part of the continental slope (**area 15**).

To a lesser extent, in the north, the area of the Celtic Sea and Western Channel is also concerned (**area No. 7**).

- **For area 14: Northern part of the continental slope**

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**High**:** slope front, canyons, important biomass and associated planktonic diversity
	Primary and secondary producers and forage species	**nd:** forage species (micronekton)
Benthic habitats and geomorphological structures	Sub-aqueous dunes on the shelf and upper continental slope	**High**:** sub-aqueous dunes on the upper continental slope
	Distinctive geomorphological structures	**High**:** unknown breakwater, Trevelyan Escarpment, Meriadzek Terrace, bathyal muds
	Deep-sea habitats	**High:** white coral reefs, antipatharids, gorgonians, sponges and other solitary scleractinians or in colonies, bathyal muds with sea pens **nd:** soft-bottom coral gardens

(North slope, Meriadzeck terrace and Trevelyan escarpment)

1* means that the responsibility criterion of the area for the issue is considered very likely based on an expert's opinion

** means that the issue is considered as strong but that the issues have not been ranked in a hierarchical order within the categories: functional fishing areas, hydrographic and geomorphological structures

The geological, geochemical and physical conditions of the seabed and of the water column define diverse habitats hosting specific biological communities. Beyond the shelf, the continental slope, mostly covered with sediments and notched in places by rocky submarine canyons, extends to the abyssal plain, also covered with fine sediments. These sediments are formed essentially by the residues of the planktonic and pelagic ecosystems to which continental inflows are added. The canyons canalize the flows of particles and organic matter from the continental shelf towards the abyssal plain and are centres of sedimentary deposits and carbon sinks.

Within the northern canyons of the slope, antipatharids and gorgonians, solitary and colonial Scleractinaria, white coral reefs, aggregations of sponges (on hard and soft substrate), bathyal mud communities with sea-pens (Pennatulacea) were identified. Contrary to the canyons of the South, the white coral reefs are more abundant there. In the north of the area, sub-aqueous dunes are formed under the influence of the tide wave.

The particular topography of the canyons interacts with the dominant hydrodynamic processes along the margins, whether they are the currents due to the wind or the tidal currents, to create upwelling or downwelling phenomena. The variable amplitude and the complex interactions of these processes produce a great heterogeneity of edaphic, hydrodynamic and trophic conditions both on the scale of a region and on the scale of a canyon.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** hake, mackerel, horse mackerel
	Functional fishing areas - Nurseries	**High**:** sprat, Atlantic horse mackerel, mackerel
	Locally important populations of Elasmobranch species	**High:** porbeagle **, Norwegian skate
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**High:** density all species, Northern fulmar (winter)
	Harbour porpoise maximal density areas	**High*:** harbour porpoise (summer)
Details of certain crosscutting issues	Other cetaceans	**High:** most species of cetaceans (maximum diversity), delphinidae **Medium:** globicephala

The rugged topography of the canyons provides a refuge for certain species of fish including elasmobranch species (Norwegian skate) and the concentration of organic matter offers privileged nursery areas (mackerel, hake, horse mackerel). These functionalities are reflected in the significant presence of birds (including the Northern fulmar) and marine mammals (common dolphin, common bottlenose dolphin, common porpoise).

- **For the area 15: Central part of the continental slope**

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**High**:** slope front, canyons, important biomass and associated planktonic diversity
	Primary and secondary producers and forage species	**nd:** forage species (micronekton)
Benthic habitats and geomorphological structures	Specific geomorphological structures	**High**:** slopes and canyons with high levels of biodiversity
	Deep-sea habitats	**High:** antipatharids, gorgonians, sponges and other solitary scleractinians or in colonies **nd:** white coral reefs, soft-bottom coral gardens, bathyal mud with sea pens

The geological, geochemical and physical conditions of the seabed and of the water column define diverse habitats hosting specific biological communities. Beyond the shelf, the continental slope, mostly covered with sediments and notched in places by rocky submarine canyons, extends to the abyssal plain, also covered with fine sediments. These sediments are formed essentially by the residues of the planktonic and pelagic ecosystems to which continental inflows are added. The canyons canalize the flows of particles and organic matter from the continental shelf towards the abyssal plain and are centres of sedimentary deposits and carbon sinks. A diversity of ecological units (antipatharids, gorgonians, sponges) were observed all along the centre and the south of the slope; their richness varies depending on the canyons. Thus, the canyons of the centre are more representative of the solitary and colonial Scleractiniaria, whereas the canyons of the southern area are important for bathyal muds with sea-pens. At the southern extremity, the canyon of the Gouf-Cap-Breton is a particularity at global level because of its proximity to the coast since only about thirty "coastal" canyons have been identified in the world. The hydrological and sedimentary exchanges with the coast are significant there and enable the development of a very particular fauna. The particular topography of the canyons interacts with the dominant hydrodynamic processes along the margins, whether they are currents due to the wind or tidal currents, to create upwelling or downwelling phenomena. The variable amplitude and the complex interactions of these processes produce a great heterogeneity of edaphic, hydrodynamic and trophic conditions both on the scale of a region and on the scale of a canyon.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** hake, mackerel, horse mackerel and sardine
	Functional fishing areas - Nurseries	**High**:** Sprat, Atlantic horse mackerel, mackerel
	Locally important populations of Elasmobranch species	**High*:** porbeagle, bramble shark (historically important)
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**High:** densities all species
Details of certain crosscutting issues	Other cetaceans	**High:** most species of cetaceans (maximum diversity), delphinidae and globicephala

The rugged topography of the canyons provides a refuge for certain species of fish, including elasmobranch species (porbeagle, bramble shark) and the concentration of organic matter offers privileged nursery areas for sardines and anchovies. These functionalities are reflected in the presence of seabirds (European storm petrel) and marine mammals such as the pilot whale but also the bottlenose dolphin and the large divers further South.

- **For area 7: Celtic seas and Western Channel**

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**High**:** Ushant thermal front and late stratification in summer, associated high planktonic biomass
	Primary and secondary producers and forage species	**nd:** forage species (phytoplankton) associated with the front
Benthic habitats and geomorphological structures	Sub-aqueous dunes on the shelf and upper continental slope	**High**:** main area for subaqueous dunes
	Distinctive geomorphological structures	**High**:** Roches-Douvres, Hurd's Deep
	Sedimentary habitats	**Major:** heterogeneous subtidal sediment **High:** subtidal coarse sediment

The pelagic habitats of the Western Channel and the Celtic Sea are characterized by a thermal front (Ouessant) which forms from spring to the end of summer between the cold and mixed waters near the coast and the warmer stratified offshore waters. This area is a zone of strong primary and secondary production. The stratified waters (north of the front) can also be the seat of primary production at very high levels at the end of the summer. As for the seabeds, they are characterized by rather coarse sediments (except in the most western part) forming large sub-aqueous dunes while at the north-east, Hurd's Deep and the Roches Douvres plateau are geomorphological particularities.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** horse mackerel, spider crab, European sprat, brill, red gurnard, Atlantic pollock, lemon sole, sardine, pout, bass, sole
	Localized populations of benthic invertebrates protected and/or exploited	**High*:** Atlantic horse mackerel, edible crab, queen scallop
	Locally important populations of Elasmobranch species	**High:** blue skate and flapper skate **nd:** blue shark, basking shark (summer), spotted ray
	Seabird colonies and feeding grounds	High: Northern gannet **Medium:** European herring gull **Low:**lesser black-backed gull, great black-backed gull **nd:** feeding grounds of Anglo-Norman colonies
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**High:** density all species, Northern fulmar (winter)
	Harbour porpoise maximal density areas	**High:** harbour porpoise (summer)
Details of certain crosscutting issues	Other cetaceans	**High:** Common dolphin (feeding area**)**
	Marine turtles	**High:** area of concentration of leatherback turtles (summer)

In connection with these hydrographic and geomorphological conditions, a rich food web is established and the area is a significant summer feeding site for the megafauna: birds (in particular Northern gannet, fulmar and Great black-backed gull), small cetaceans (porpoise and common dolphin) and Elasmobranch species including sharks (blue and basking sharks) and skates. This area is also an important egg-laying area for several species of fish including the common sole and the bass, and concentrations of leatherback turtles are observed in the west in the summer period.

Associated water body under the Water Framework Directive

Non applicable since the zone is located offshore and with no direct link with the terrestrial environment.

Governance systems

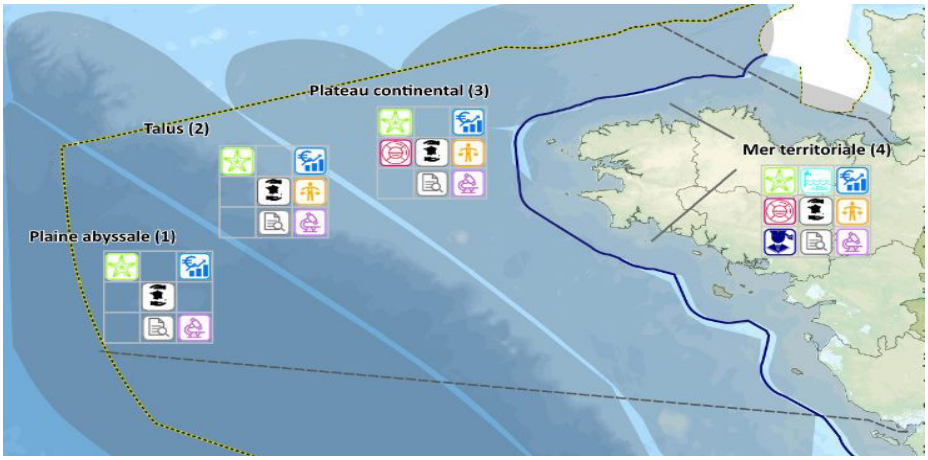
Located within the economic zone, zone 2 is concerned by the following systems:

- the Sea Basin Council (SBC) North Atlantic West (NAMO) in application of Article L219-6-1 of the French Environmental Code;
- the Regional Conference of the Sea and Coastline in Brittany in application of Article 3 bis.-II of the amended decree of 5 May 2011;
- the regional assembly for the sea and coastline of Pays de la Loire;
- the defence zones (by appealing to the commander of the maritime zone at the maritime prefecture for the Atlantic);
- the nautical commissions.

Spatial constraints arising from other processes:

- N/A.

2. Integrated issues



On the continental slope, the major issues selected concern the good environmental status of the marine environment, national defence and safety, the maritime economy, knowledge, research and innovation and the carrying capacity of maritime areas (commercial sea fisheries, transport, international communication cables).

3. Strategic objectives

Refer to Appendix 6 (strategic environmental and socioeconomic objectives)

4. Vocations of zone No. 2 " Continental Slope"

The priorities in terms of vocation are established and applicable on the scale of each of the thirteen zones.

Vocations of zone No.2 "Continental slope": Sustainable exploitation of marine resources that is respectful of habitats and species of high environmental concern.

At the level of the zone, the priority is given to one or several activities or environmental requirements in cohabitation with other activities. The aim is not to exclude but to encourage the cohabitation of usages in the service of the strategic objectives identified while enabling the priorities to be determined within the zone in the event of a dispute.

The technical potentials known and associated with this zone (MRE*, marine aggregates, fisheries, aquaculture*) are specified in Appendix 0 (atlas) in Part 1 of the maritime coastline strategy (current situation)

For the possible launch of finer planning levels, required by particular projects, a cross-reference between the vocation map, the maps of the present sheet and the current situation maps (Appendix 0) mentioning the known potentials and constraints at the publication date of the maritime coastline strategy can enable more restricted zones to be proposed at the debates of the local governance bodies (SBC, CRML and ARML, etc.).

A non-cited usage in a zone can be established or exist before the vocation map, but it cannot avail itself of a strategic priority as defined in the present document.

5. Requirements or recommendations

Non impact on certain components of the ecosystems

The systematic implementation of the sequence avoid – reduce – compensate at sea is required.

It is recommended, in accordance with the CGEDD report of October 2017 on the Avoid Reduce Compensate sequence at sea, to:

- Incorporate measures taking account of all the diffuse and global impacts and clearly marking the implementation of the principle of absence of net loss of biodiversity provided for by the Biodiversity Law of 8 August 2016.
- Provide for shared compensation measures with a proven ecological efficiency and monitored over the long term, taking into account not only the exceptional biodiversity, but also the ordinary biodiversity in particular through ecosystem services.

It is recommended to take into account particular zoning mechanisms, when they exist: cf. maps relating to the environment below.

Conditions for the sequence of events

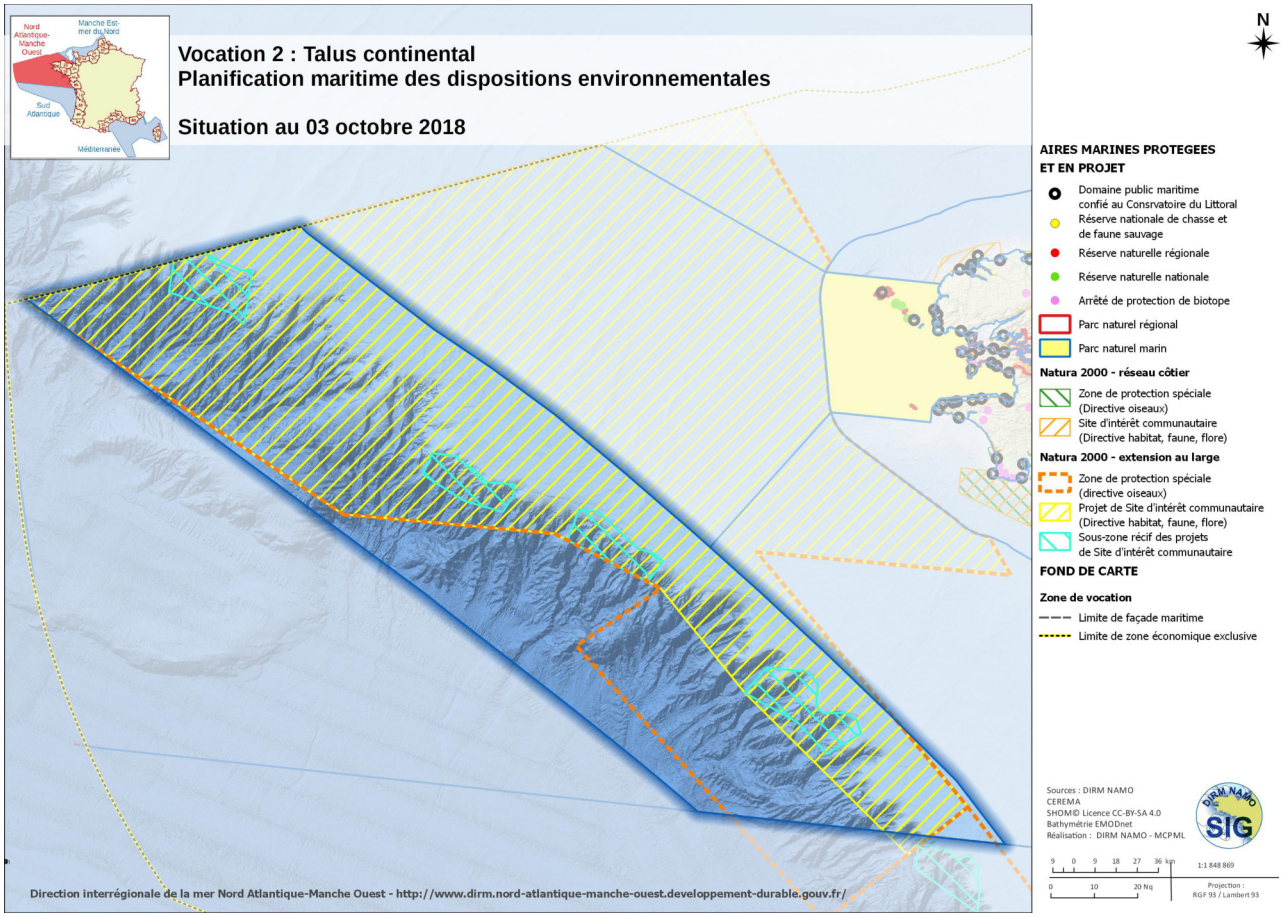
There is a requirement before the start of a new activity project, subject to authorization, and/or environmental assessment, that the petitioner:

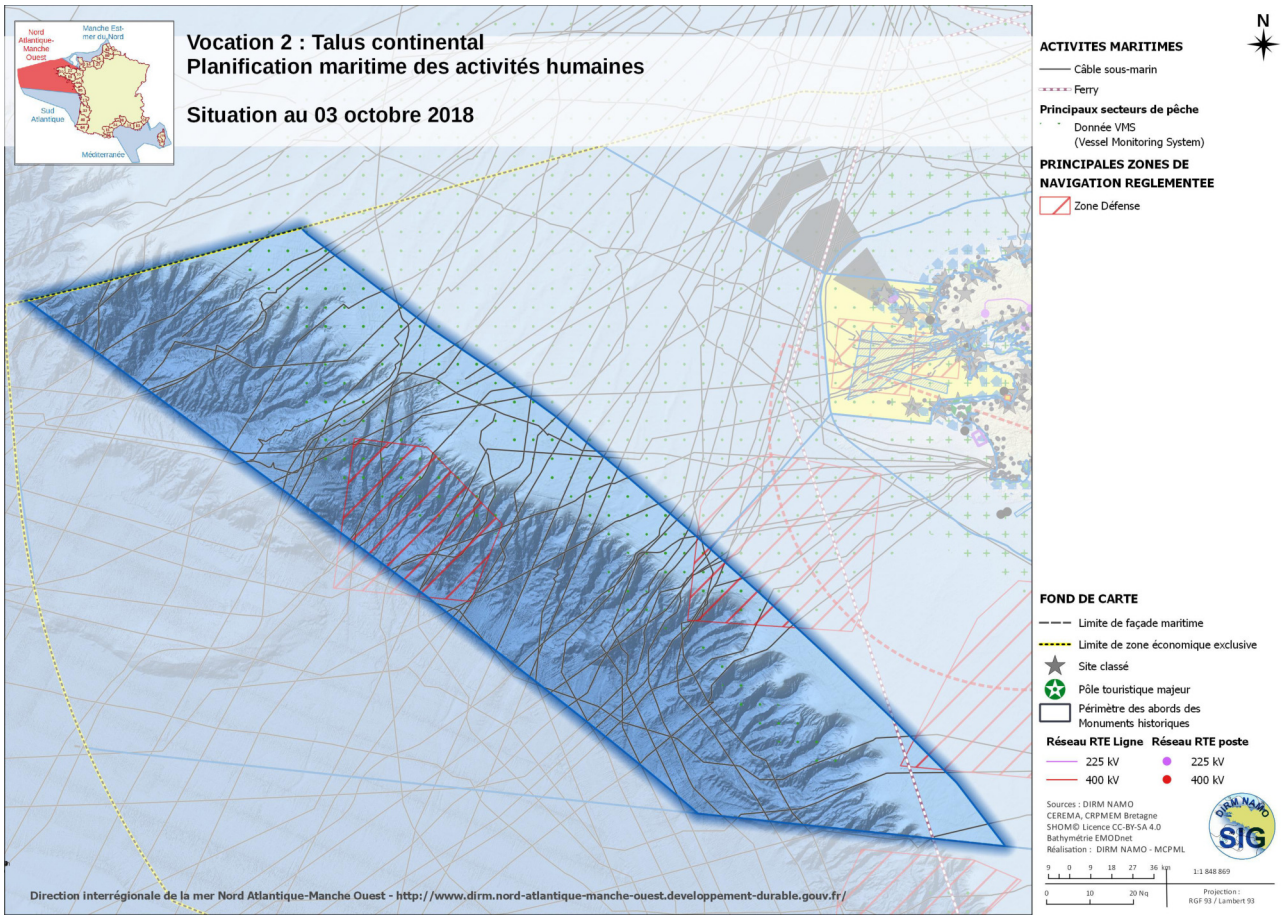
- acquires and shares in-depth knowledge of the zone in terms of exploitable resources and environmental issues, in particular those of ecosystem functioning;
- carries out an appropriate study depending on the classification of the environmental issues presented above.
- studies the compatibility of the project with the national defence activities and, if required, with other activities

It is recommended that the complementary skills acquired are capitalized and made available to the public, governance bodies and specialists, including in research.

Compliance with existing maritime planning related to human activities (cables) detailed below.

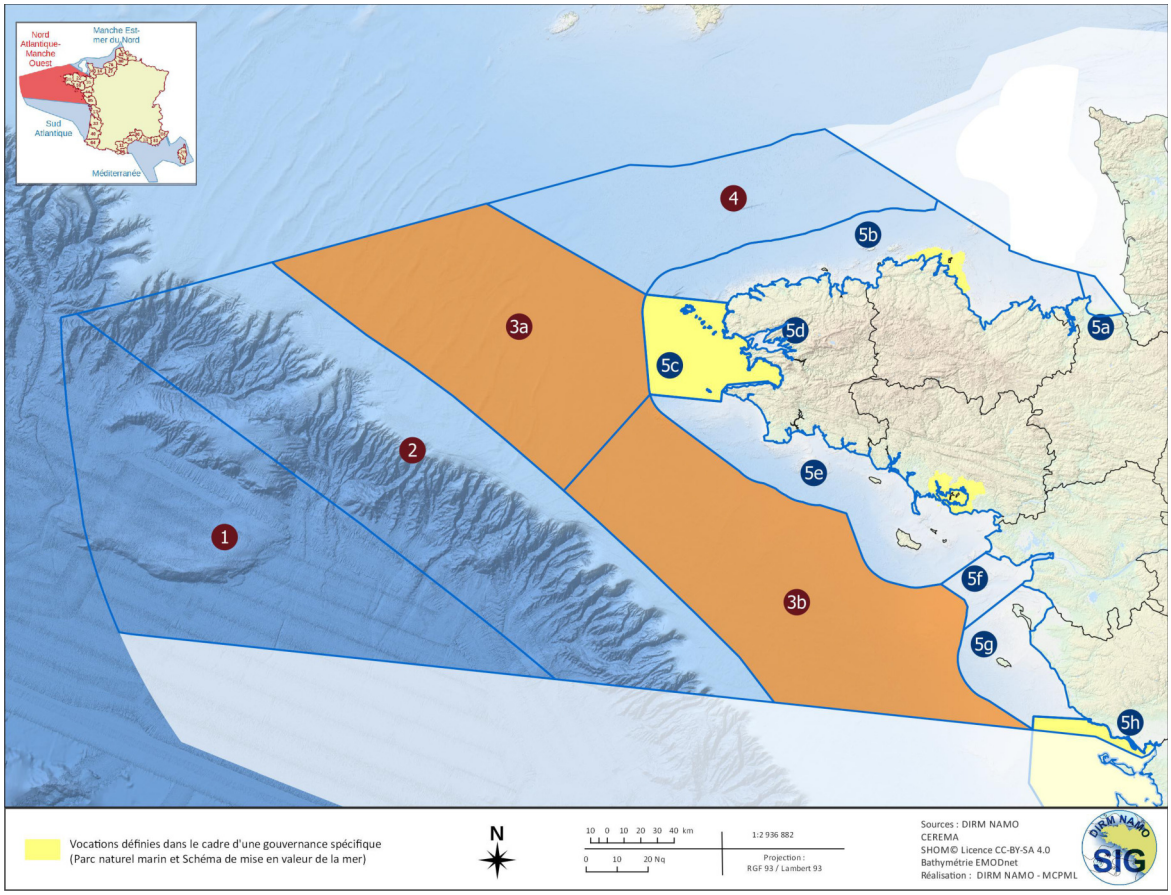
Existing maritime planning





Fact sheet of the NAWC vocation map

ZONE No. 3 Continental shelf



1. Synthesis of zone 3

Limits of the zone

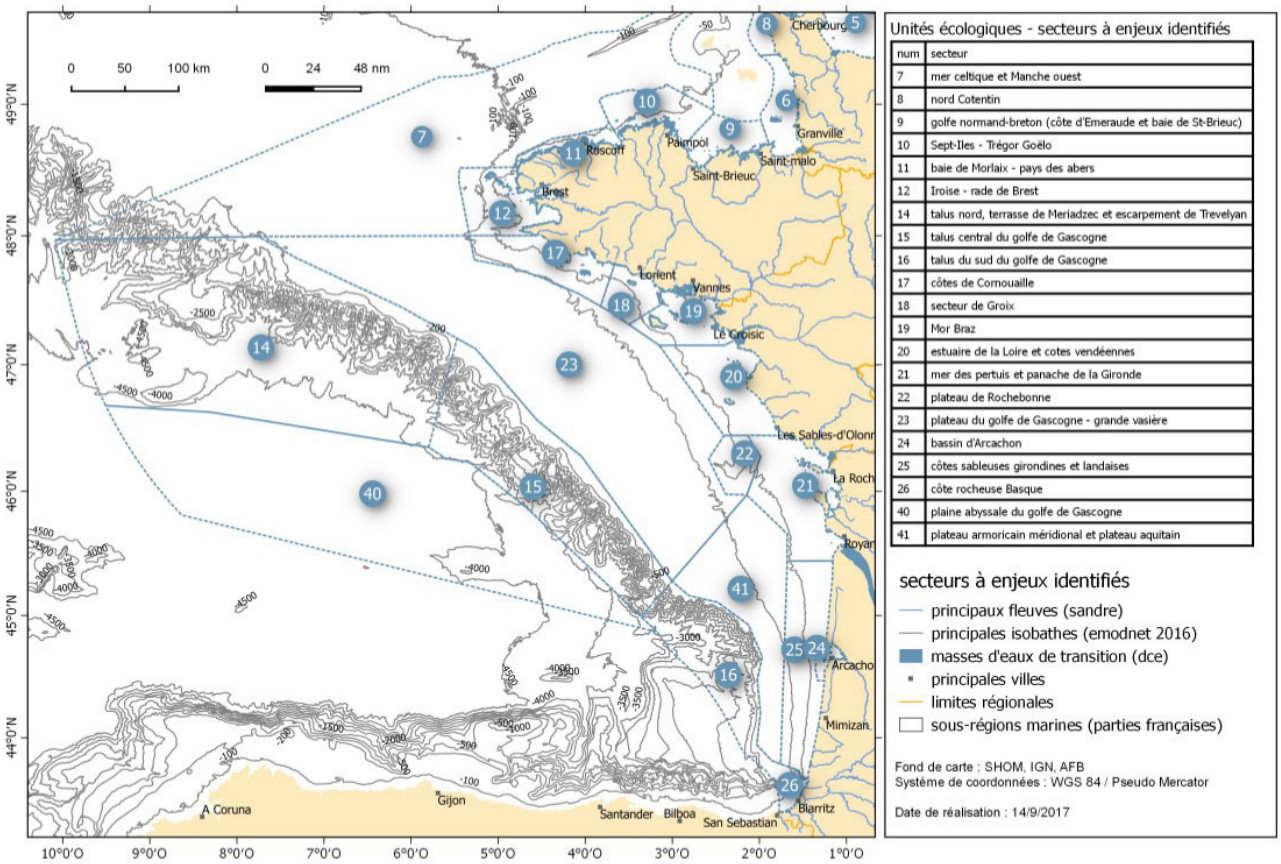
The limits are drawn on an indicative basis, on the scale of the map, based on (legal, administrative, bathymetric, geomorphological) references, specified below.

- West: the – 200 m isobath marking the limit with zone 2;
- South: the administrative limit between the North Atlantic-Western Channel (NAWC) and South Atlantic (SA) coastlines (Article R.2917-1-7 of the French Environmental Code);
- East: the limit of the territorial sea (12 nautical miles measured from the right baseline) marking the limit with zone 5 ;
- East: the limit with zone 4 from a line drawn from the north-west extremity of the Iroise marine natural park (PNMI) extending to the EEZ by being aligned on the southern limit of the traffic separation scheme (TSS, cf. IMO resolutions 1973, 1977 and 2003);
- North: the administrative limit of the exclusive economic zone (Montego Bay Convention 1982).

It is divided into 2 zones:

- 3a: North continental shelf;
- 3b: Central continental shelf;

Main environmental issues under the MSFD



The ecological areas[1] concerned are:

Zones of the continental shelf	Ecological areas
3a: North continental shelf	The Celtic Sea and West Channel (**area 7**), the Grande Vasière (**area 23**)
3b: Central continental shelf	The Grande Vasière (**area 23**), the area of Groix (**area 18**) the Rochebonne shelf (**area 22**), the Loire estuary and coasts of Vendée (**area 20**)

- **For area 23: Grande Vasière**

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**High** :** bourrelet froid (cold pool)
Benthic habitats and geomorphological structures	Biogenic habitats	**Major:** circalittoral mud with sea pens
	Rocky habitats	**High:** circalittoral reefs
	Sedimentary habitats	**High:** subtidal medium sands, heterogeneous subtidal sediments, subtidal mud **Medium:** subtidal coarse sediment

The continental shelf of the Bay of Biscay is mainly occupied by circalittoral sandy fractions crossed by deep muddy veins. In the centre, large circalittoral rocky shelves are present. To the east, the Grande Vasière (large mudflat) extends over more than 50 nautical miles. This biogeographic transition zone creates a gradient in the benthic and pelagic communities and testifies to the effects of climate change on the whole trophic network as well as on hydrographic conditions.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** horse mackerel, hake, anchovy, sole, whiting
	Functional fishing areas - Nurseries	High**: **sprat, Atlantic horse mackerel, mackerel, hake**
	Localized populations of benthic invertebrates exploited	**High*:** nephrops
Details of certain crosscutting issues	Other cetaceans	As a cross-cutting issue delphinidae and porpoises at depths of between 50 and 100 m

These sandy-muddy habitats offer nursery or spawning ground areas for many species, including hake and langoustine. A significant biodiversity is observed in the Bay of Biscay since it marks the southern limit of the distribution range of many northern species and the northern limit of many southern species. More specifically in this area, we may note, among the plethora of sea birds, the significant presence of the European storm petrel in summer, and of the Great skua and the Black-legged kittiwake in winter. The cetaceans include the common dolphin and the minke whale.

For area 22: Rochebonne shelf

1 * means that the responsibility criterion of the area for the issue is considered very likely based on an expert's opinion
** means that the issue is considered as strong but that the issues have not been ranked in a hierarchical order within the categories: functional fishing zones, hydrographic and geomorphological structures

Hydrographic conditions, pelagic habitats and food webs	Primary and secondary producers and forage species	**High**:** forage species
Benthic habitats and geomorphological structures	Distinctive geomorphological structures	**High** :** Rochebonne shelf, upwelling and related cyclonic eddies
	Biogenic habitats	**Medium:** laminaria **nd:** sabellaraia

The Rochebonne shelf is a geomorphological particularity of the South-Armorican continental basement. In its northern part, it consists in particular of shallows with reefs situated at a depth of 3 and 5 m and their walls. In the periphery of the shelf, the seabeds, at a depth of – 50 to – 60 m, are composed of sandy to pebbly sediments in the North and East and of muddy sediments in the South and West. The cyclonic currents, formed around rocky pinnacles, carry nutritive elements from the mudflat towards the surface and thereby enable the development of a strong primary production. The clarity of the area enables the development of Laminaria seaweed (significant algal biomass) at exceptional depths, down to a depth of 40 m, and makes it the southern limit of the distribution range of some of these algae.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** horse mackerel, seabass
	Functional fishing areas - Nurseries	**High**:** sprat, Atlantic horse mackerel, mackerel
	Locally important populations of Elasmobranch species	**High:** bramble shark (historically important) **nd:** common skate
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**High:** densities all species
Details of certain crosscutting issues	Other cetaceans	**As a cross-cutting issue delphinidae and porpoises at depths of between 50 and 100 m**

The rocky peaks of the shelf are characterized by a high biodiversity (in particular sponges, cnidarians et brachiopods). The shelf is an important zone for marine mammals (common dolphin, common porpoise and common bottlenose dolphin), elasmobranch species (common skate, and bramble shark) and has a fishing role of spawning ground and nursery area. In the southern part, below the wall, the muddy and sandy-muddy habitat is a breeding area for langoustine and a spawning area. The ornithological interest of the area is strong throughout the year in the migration period, in autumn (autumn stopover of Leach's storm-petrel), and in winter (common gull, common guillemot, winter staging of little gull).

- **For area 7: Celtic seas and Western Channel**

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**High**:** Ushant thermal front and late stratification in summer, associated high planktonic biomass
	Primary and secondary producers and forage species	**nd:** forage species (phytoplankton) associated with the front
Benthic habitats and geomorphological structures	Sub-aqueous dunes on the shelf and upper continental slope	**High**:** main area for subaqueous dunes
	Distinctive geomorphological structures	**High**:** Roches-Douvres, Hurd's Deep
	Sedimentary habitats	**Major:** heterogeneous subtidal sediment **High:** subtidal coarse sediment

The pelagic habitats of the Western Channel and the Celtic Sea are characterized by a thermal front (Ouessant) which forms from spring to the end of summer between the cold and mixed waters near the coast and the warmer stratified offshore waters. This area is a zone of strong primary and secondary production. The stratified waters (north of the front) can also be the seat of primary production at very

high levels at the end of the summer. As for the seabeds, they are characterized by rather coarse sediments (except in the most western part) forming large sub-aqueous dunes while at the north-east, Hurd's Deep and the Roches Douvres plateau are geomorphological particularities.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** horse mackerel, spider crab, European sprat, brill, red gurnard, Atlantic pollock, lemon sole, sardine, pout, bass, sole
	Localized populations of benthic invertebrates protected and/or exploited	**High*:** Atlantic horse mackerel, edible crab, queen scallop
	Locally important populations of Elasmobranch species	**High:** blue skate and flapper skate **nd:** blue shark, basking shark (summer), spotted ray
	Seabird colonies and feeding grounds	High: Northern gannet **Medium:** European herring gull **Low:**lesser black-backed gull, great black-backed gull **nd:** feeding grounds of Anglo-Norman colonies
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**High:** density all species, Northern fulmar (winter)
	Harbour porpoise maximal density areas	**High:** harbour porpoise (summer)
Details of certain crosscutting issues	Other cetaceans	**High:** Common dolphin (feeding area)
	Marine turtles	**High:** area of concentration of leatherback turtles (summer)

- **For area 18: Coast of Lorient – from Trévignon to Quiberon**

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**High**:** coastal upwelling, cold pool
	Land-sea interface and river plumes	**nd:** numerous land – sea interfaces (Ria d'Etel, sea of Gâvres, Rade de Lorient, estuaries of the rivers Laïta, Belon and Aven)
Benthic habitats and geomorphological structures	Sub-aqueous dunes on the shelf and upper continental slope	**High**:** sub-aqueous dunes and shell sands
	Biogenic habitats	**Major:** circalittoral mud with sea pens **High:** maerl banks,sabellaraia* **Medium:** marine eelgrass communities*, laminaria*
	Sedimentary habitats	**High:** subtidal mud

-

The coast of Lorient is the seat of a strong primary productivity. A vast complex of rocky habitats rich in Laminaria is present at the South of the Groix island whereas in the North, zones of maerl and eelgrass beds in a good state of conservation represent a high stake. Off the island, the circalittoral m*uds* with *sea-pens* are a major stake. Located at the land-sea interface, the rias (Étel) and estuaries (Laïta, Belon, Aven) are remarkable entities characteristic of South Brittany.

The rias enable the run of lamprey and salmon towards fresh water. At sea, the area is used by species such as basking shark, sardine and langoustine (exploited species). In this transition area for seabirds, the Balearic shearwater comes to feed on forage fish in the summer. Its hunting areas are shared with porpoises and small delphinids as well as other birds such as the European herring gull, the Lesser black-backed gull, the European shag, the Great black-backed gull and the Common tern.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** spider crab, sprat, sardine and cuttlefish
	Localized populations of benthic invertebrates exploited	**High**:** turbot, sprat, Atlantic horse mackerel, mackerel, nephrops, spiny lobster
	Diadromous fish concentration and migration areas	**High*:** lamprey, salmon **Medium:** shads
	Locally important populations of Elasmobranch species	**High*:** basking shark
	Waders nesting and feeding grounds	**Medium:** Kentish plover
	Seabird colonies and feeding grounds	Medium: **European herring gull** **Low:** lesser black-backed gull, great black-backed gull, European shag, common tern
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**High*:** densities all species, Balearic shearwater
Details of certain crosscutting issues	Other cetaceans	As a cross-cutting issue delphinidae and porpoises at depths of between 50 and 100 m

- **For area 20: Loire estuary and Coast of Vendée**

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**nd:** autumnal warm-water tongue
	Land-sea interface and river plumes	**High**:** Loire plume, great associated planktonic abundance and diversity, semi-enclosed bays (Bay of Bourgneuf)
	Primary and secondary producers and forage species	**nd:** forage species (common prawn)
Benthic habitats and geomorphological structures	Biogenic habitats	**High:** dwarf eelgrass beds, sabellaraia, laminaria, Haploops populations **Medium:** maerl beds, Atlantic salt meadows
	Rocky habitats	**High:** circalittoral reefs, infralittoral reefs **Medium:** mediolittoral reefs
	Sedimentary habitats	**High:** fine subtidal sands, subtidal muddy mixed sediments, intertidal mud flats, subtidal mud **Medium:** intertidal sediments, subtidal coarse sediments

-

The area of the Loire estuary, of the coasts of Vendée and Ile d'Yeu (Note: eelgrass and Laminaria issues in particular) is under the influence of the plume of the Loire (strong telluric inflows) and of an important tidal front which is at the origin of strong currents. The semi-closed Bay of Bourgneuf has a specific functioning characterized by a very shallow depth and a slowed water renewal. Made up of intertidal mudflats, it is bordered by aquatic plant communities of the schorre and is the second most important zone in France for honeycomb worm reefs. In the least turbid zones, sensitive and fragile habitats such as the maerl, eelgrass beds or Laminaria are also present. These elements are at the origin of a very strong primary and secondary production and of a high planktonic diversity.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** horse mackerel, capelin, bluntnose sixgill shark, seabass, pout, sole, sardine, sprat, anchovy, cuttlefish
	Functional fishing areas - Nurseries	**High**:** hake, red mullet, wedge sole, brown shrimp, bluntnose sixgill shark, cuttlefish, pout, Atlantic horse mackerel, mackerel, seabass, whiting, plaice, sole, sardine, sprat, anchovy
	Localized populations of benthic invertebrates protected and/or exploited	**High*:** common prawn, cockle, brown shrimp
	Diadromous fish concentration and migration areas	**Major:** eel **High:** Twaite shad*, Allis shad, lamprey, salmon*
	Waders nesting and feeding grounds	**Major:** pied avocet, black-tailed godwit, common redshank, black-winged stilt
	Seabird colonies and feeding grounds	**High:** Mediterranean gull, sandwich tern, common tern
	Wintering grounds for waterfowl	**High:** pied avocet, European herring gull, Eurasian teal, black-tailed godwit
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**High:** densities all species, Balearic shearwater*
Details of certain crosscutting issues	Other cetaceans	As a cross-cutting issue delphinidae and porpoises at depths of between 50 and 100 m

On the coast, many intertidal and infralittoral mudflats are present and characterize the area; they are important nurseries for commercial species (sole, whiting, plaice, bass, etc.) and host many bird species, particularly during the wintering and breeding periods (Pied avocet, Black-tailed godwit, Black-winged stilt). Around Ile d'Yeu (from the coast to the sea), owing to the strong primary and secondary productivity, a high diversity of seabirds use the area throughout the year (permanent colonies of Mediterranean gull, Sandwich tern, Common tern), in summer (Balearic shearwater, European herring gull, European storm petrel, etc.) or in winter (Common guillemot, Black-legged kittiwake, Great skua).

Further offshore, the subtidal sands and subtidal heterogeneous silted sediments are very well represented habitats and play an important functional role. Finally, forage species such as the brown shrimp, key links of the food chain, develop in the Loire estuary, a major transition zone for many diadromous species (in particular the eel). In connection with these hydrographic and geomorphological conditions, a rich trophic network is established and the area is an important summer feeding site for the megafauna: birds (in particular Northern gannet, fulmar and Great black-backed gull), small cetaceans (porpoise and common dolphin) and elasmobranch species including sharks (blue and basking sharks) and skates. This area is also an important egg-laying area for several species of fish including the common sole and the bass, and concentrations of leatherback turtles are observed in the west in the summer period.

Associated water body under the Water Framework Directive

Non applicable since the zone is situated offshore and with no direct link with the terrestrial environment.

Governance systems

Situated within the economic zone, zone 3 is concerned by the following systems:

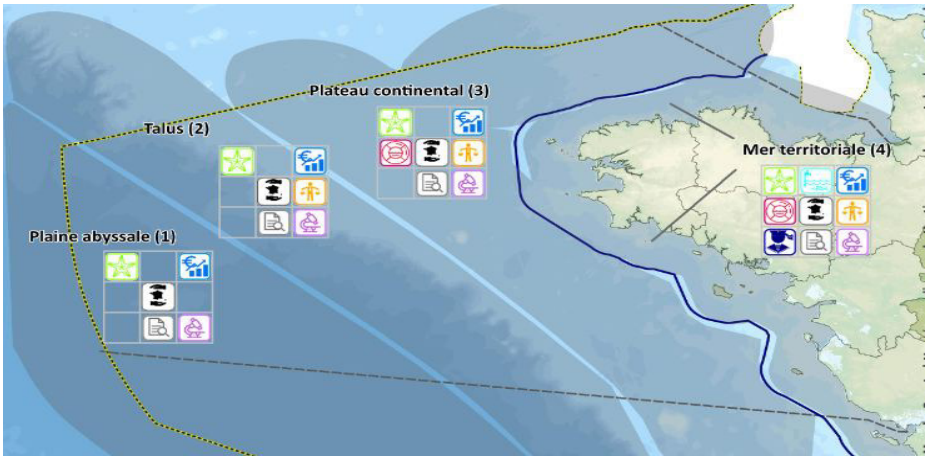
- the Sea Basin Council (SBC) North Atlantic West (NAMO) in application of Article L219-6-1 of the French Environmental Code;
- the regional conference of the sea and coastline in Brittany in application of Article 3 bis.-II of the amended decree of 5 May 2011 (zones 3a and 3b);
- the regional assembly for the sea and coastline of Pays de la Loire (zone 3b);

- the defence zones (zones 3a and 3b);
- The nautical commissions (zones 3a and 3b).

Spatial constraints arising from other processes

- N/A.

2. Integrated issues



On the continental shelf, the major issues selected concern the good ecological status of the marine environment, the national defence and safety, knowledge, research and innovation, the maritime economy and the carrying capacity of maritime areas (cohabitation of professional sea fisheries, transport, international communication cables) and maritime safety (related to the traffic density at sea, commercial sea fisheries and “trans-Channel” and international freight and passenger transport).

3. Strategic objectives

Refer to Appendix 6 (strategic environmental and socioeconomic objectives)

4. Vocations of zone No. 3 “Continental shelf”

The priorities in terms of vocation are established and applicable on the scale of each of the thirteen zones.

Vocations of the zone No.3 a “North continental shelf”: Priority to sustainable commercial fisheries; by ensuring cohabitation, by order of importance, with maritime transport and the development of renewable energies; by preserving the habitats and species of high environmental concern.

Vocations of zone No. 3b “Central continental shelf: Priority to the development of floating wind turbines and sustainable commercial fisheries; by ensuring cohabitation, by order of importance, with maritime transport and the extraction of marine aggregates; by preserving the habitats and species of high environmental concern.

This zone will be the first to be studied for the development of floating wind power by taking into account the works conducted at regional level, by extending beyond the boundary of the zone 3b if necessary.

On the scale of each of these zones, the priority is given to one or several activities or environmental requirement in cohabitation with other activities. The aim is not to exclude but to encourage the cohabitation of uses to serve the strategic objectives identified while enabling the priorities to be to be determined within the area in the event of a dispute.

The known technical potentials associated with this zone (MRE, marine aggregates, fisheries, aquaculture) are presented in the Cartographic Appendix (atlas) of part 1 of the maritime coastline strategy (current situation).

A non-cited usage in a zone can be established or exist before the vocation map, but it cannot avail itself of a strategic priority as defined in the present document.

For the possible launch of finer planning levels, required by particular projects, a cross-reference between the vocation map, the maps of the present sheet and the current situation maps (Cartographic Appendix) mentioning the known potentials and constraints at the publication date of the maritime coastline strategy can enable more restricted zones to be proposed at the debates of the local governance bodies (SBC, CRML and ARML, etc.).

5. REQUIREMENTS OR RECOMMENDATIONS

Non impact on certain components of the ecosystems

The systematic implementation of the sequence avoid – reduce – compensate at sea is required.

It is recommended, in accordance with the CGEDD report of October 2017 on the Avoid Reduce Compensate sequence at sea, to:

- Incorporate measures taking account of all the diffuse and global impacts and clearly marking the implementation of the principle of absence of net loss of biodiversity provided for by the Biodiversity Law of 8 August 2016.
- Provide for shared compensation measures with a proven ecological efficiency and monitored over the long term, taking into account not only the exceptional biodiversity, but also the ordinary biodiversity in particular through ecosystem services.

It is recommended to take into account particular zoning mechanisms, when they exist: cf. maps relating to the environment below.

Conditions for the sequence of events

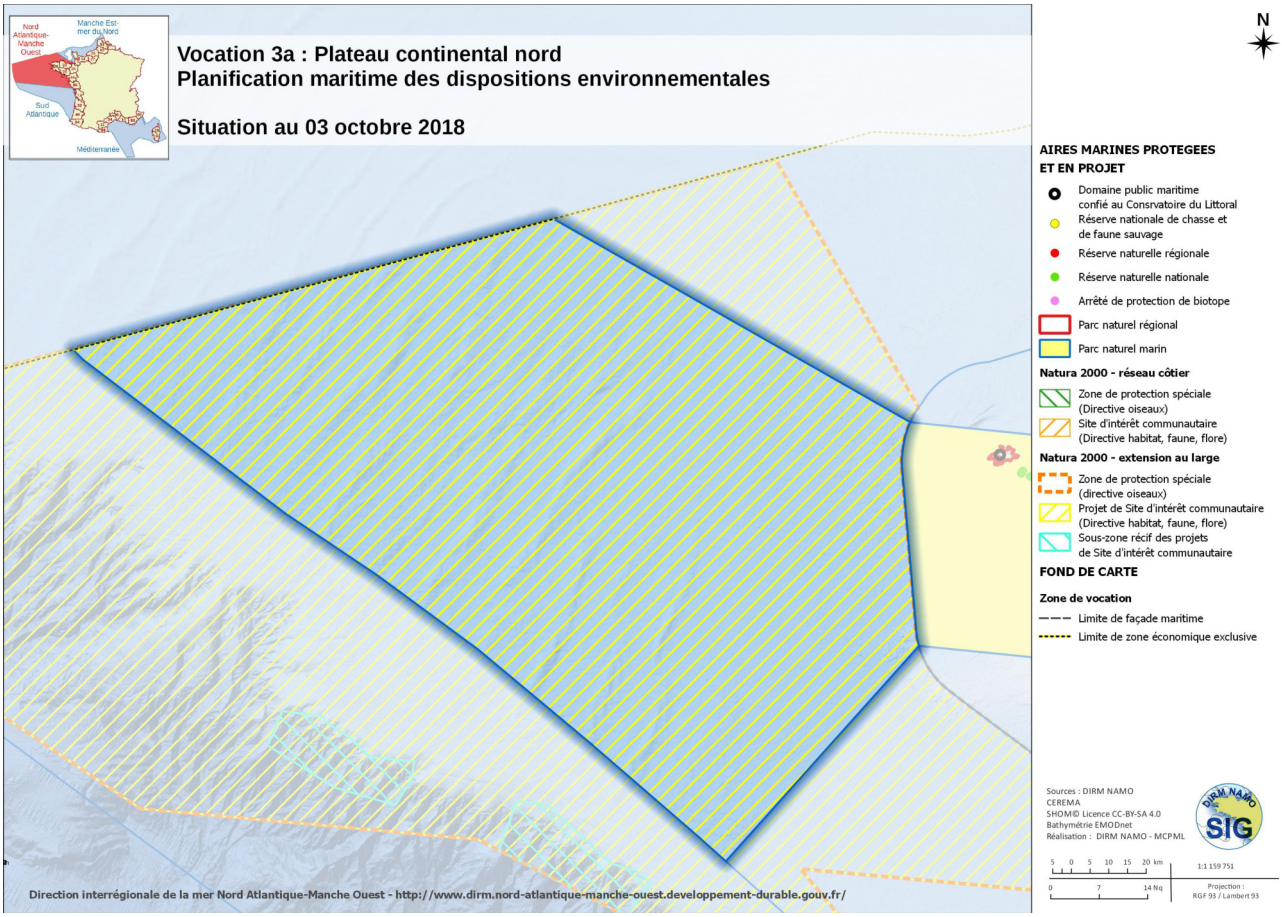
There is a requirement before the start of a new activity project, subject to authorization, and/or environmental assessment, that the petitioner:

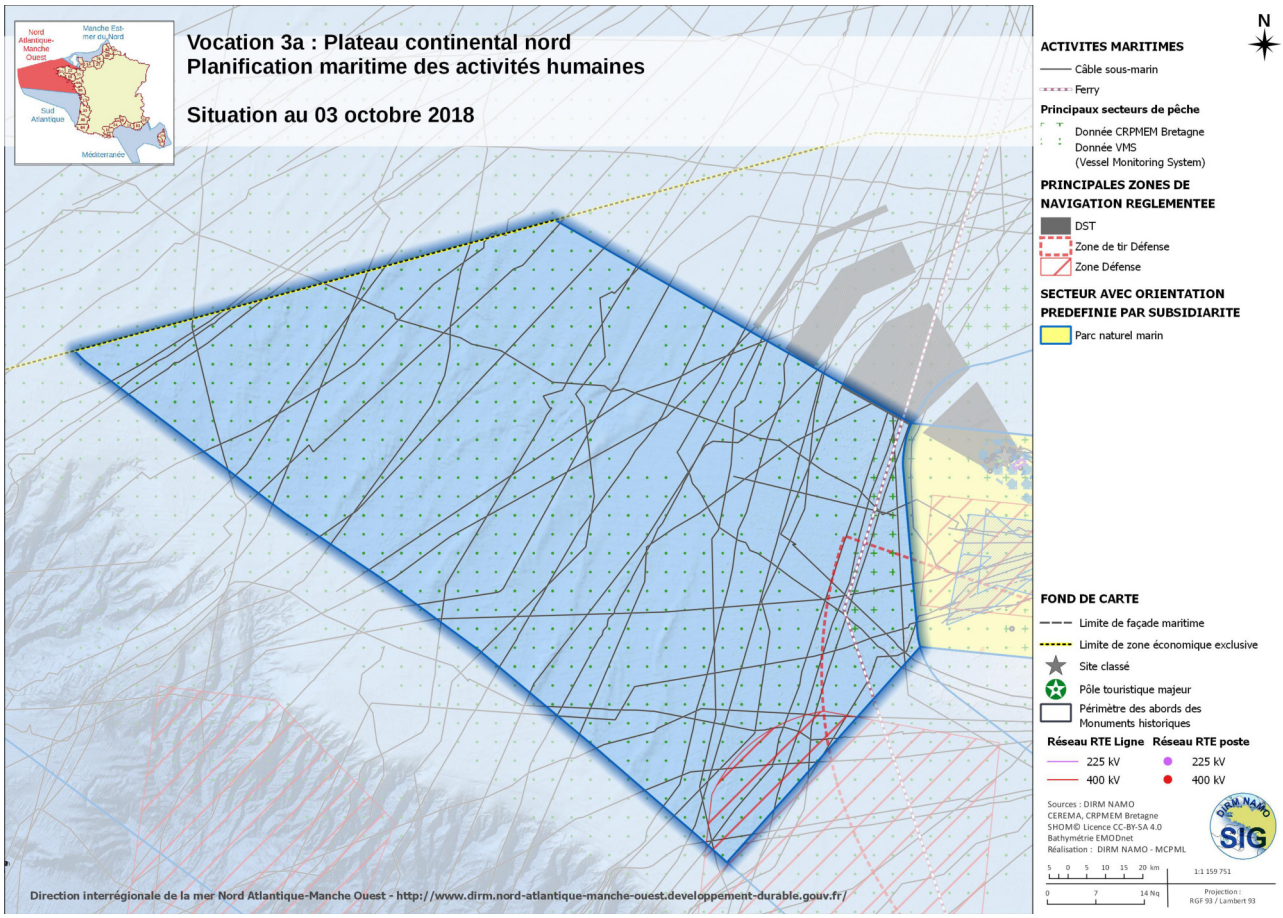
- carries out an appropriate study depending on the classification of the environmental issues presented above.
- studies the compatibility of the project with the national defence activities and, if required, with other activities

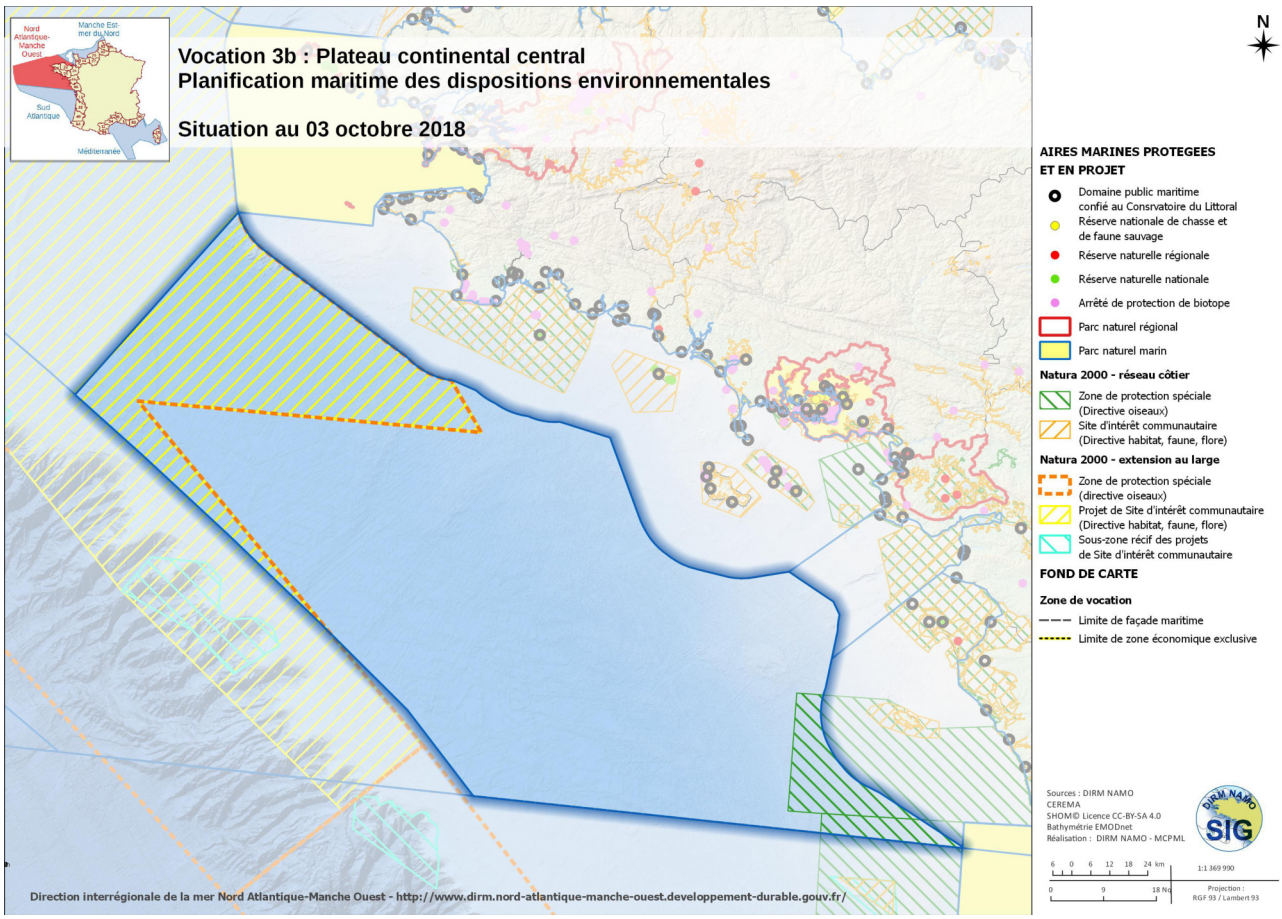
It is recommended that the complementary skills acquired are capitalized and made available to the public, governance bodies and specialists, including in research.

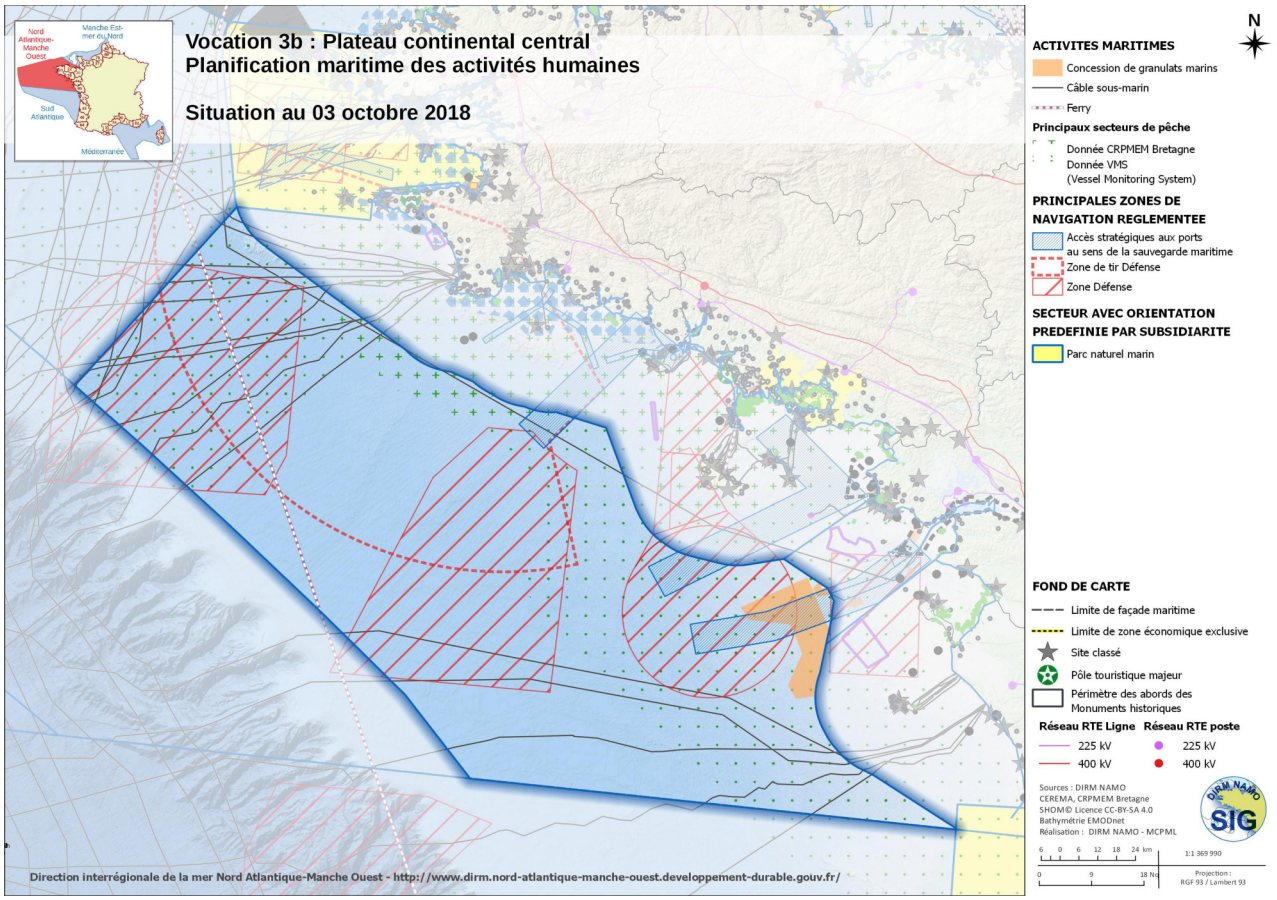
Compliance with existing maritime planning related to human activities (cables) detailed below.

Existing maritime planning






Vocation 3b : Plateau continental central
Planification maritime des dispositions environnementales
Situation au 03 octobre 2018
Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
N
AIRES MARINES PROTEGEES ET EN PROJET
Domaine public maritime confié au Consrvatoire du Littoral
Réserve nationale de chasse et de faune sauvage
Réserve naturelle régionale
Réserve naturelle nationale
Arrêté de protection de biotope
Parc naturel régional
Parc naturel marin
Natura 2000 - réseau côtier
Zone de protection spéciale (Directive oiseaux)
Site d'intérêt communautaire (Directive habitat, faune, flore)
Natura 2000 - extension au large
Zone de protection spéciale (directive oiseaux)
Projet de Site d'intérêt communautaire (Directive habitat, faune, flore)
Sous-zone récif des projets de Site d'intérêt communautaire
FOND DE CARTE
Zone de vocation
Limite de façade maritime
Limite de zone économique exclusive
Sources : DIRM NAMO
CEREMA
SHOM© Licence CC-BY-SA 4.0
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
DIRM NAMO SIG
1:1 369 990
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Vocation 3b : Plateau continental central
Planification maritime des activités humaines
Situation au 03 octobre 2018
Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
N
ACTIVITES MARITIMES
Concession de granulats marins
Câble sous-marin
Ferry
Principaux secteurs de pêche
Donnée CRPMEM Bretagne
Donnée VMS (Vessel Monitoring System)
PRINCIPALES ZONES DE NAVIGATION REGLEMENTEE
Accès stratégiques aux ports au sens de la sauvegarde maritime
Zone de tir Défense
Zone Défense
SECTEUR AVEC ORIENTATION PREDEFINIE PAR SUBSIDIARITE
Parc naturel marin
FOND DE CARTE
Limite de façade maritime
Limite de zone économique exclusive
Site classé
Pôle touristique majeur
Périmètre des abords des Monuments historiques
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225 kV
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400 kV
Sources : DIRM NAMO
CEREMA, CRPMEM Bretagne
SHOM© Licence CC-BY-SA 4.0
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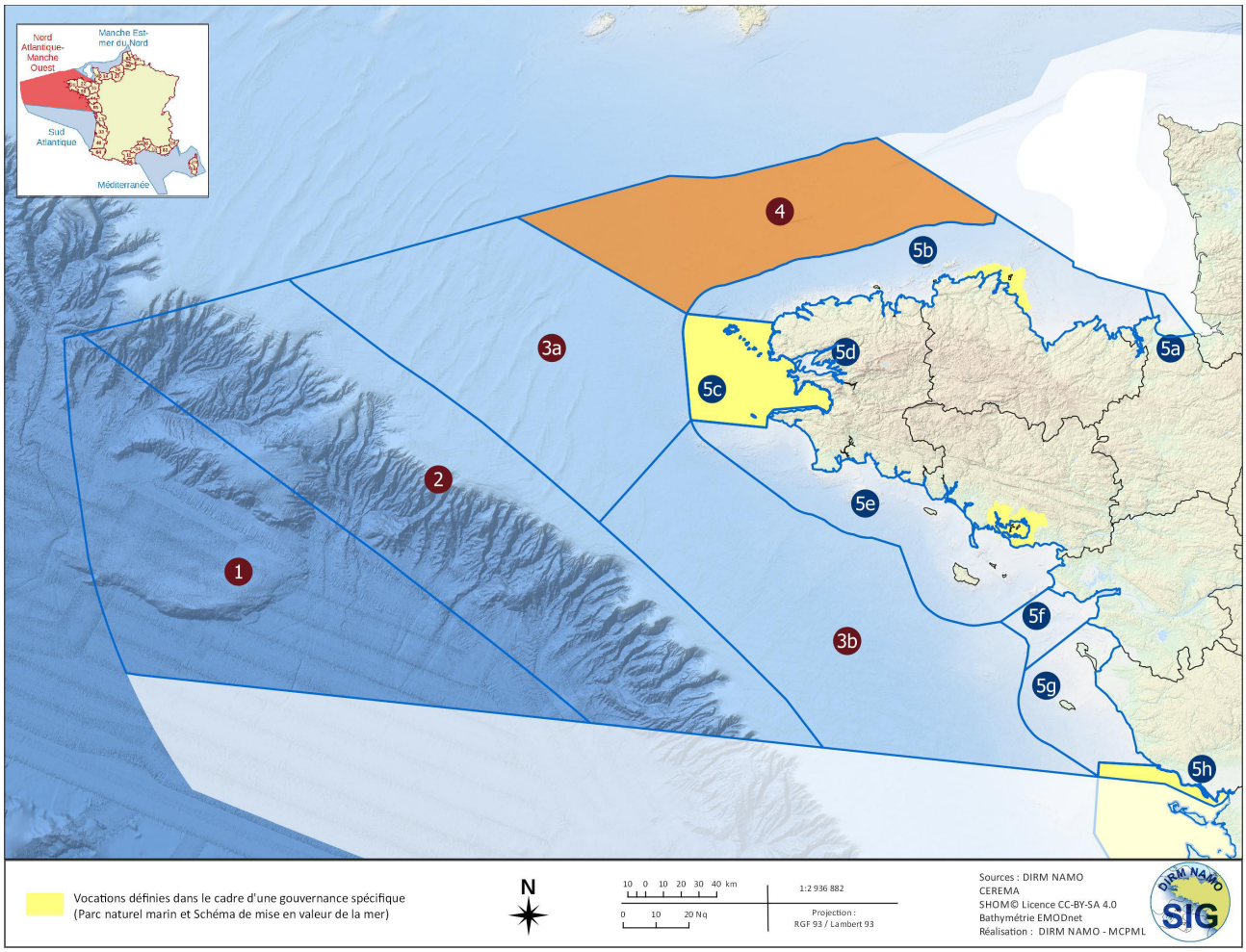
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/

Fact sheet of the NAWC vocation map

ZONE No. 4 Western Channel



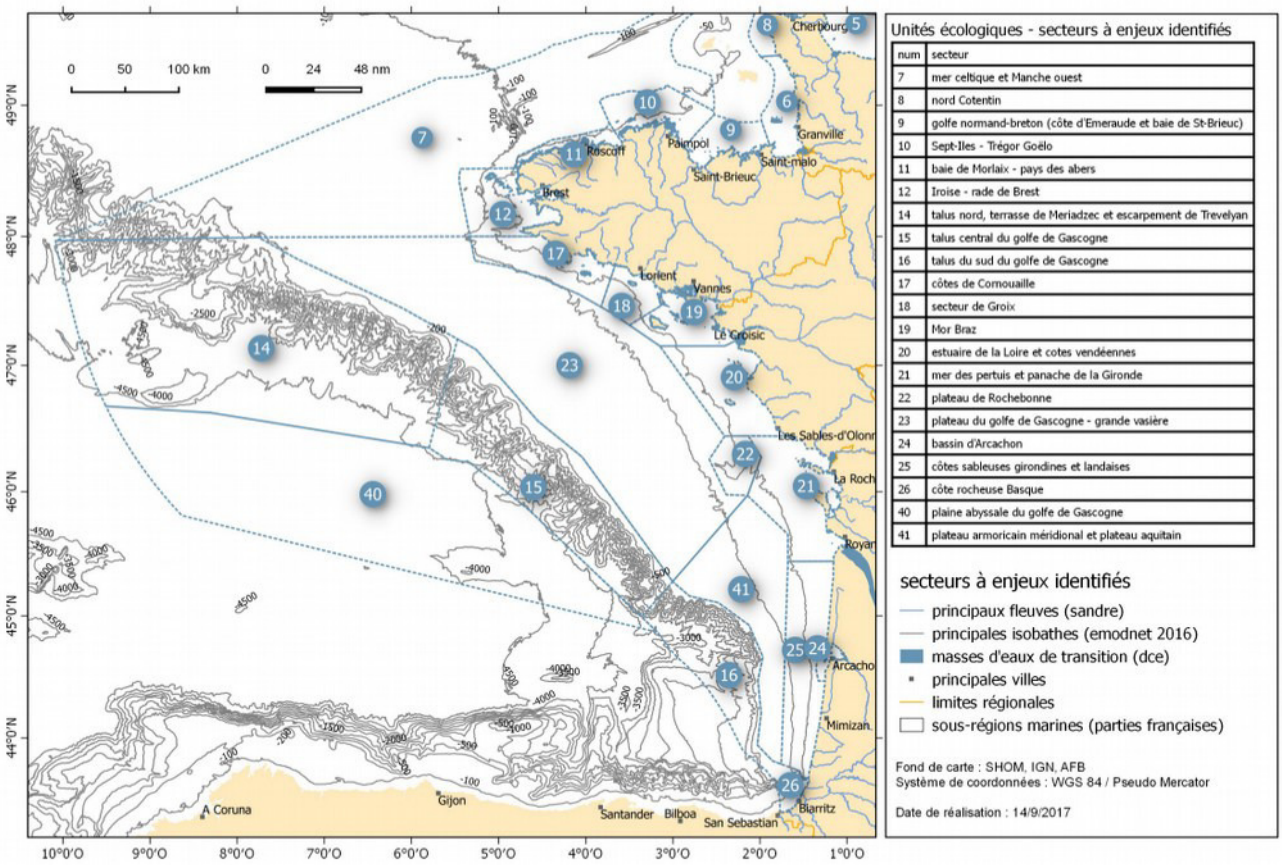
1. SYNTHESIS OF ZONE 4

Limits of the zone

The limits are drawn on an indicative basis, on the scale of the map, based on (legal, administrative, bathymetric, geomorphological) references, specified below.

- South: the administrative limit between the North Atlantic-Western Channel (NAWC) and Eastern Channel-North Sea Atlantic (ECNS) coastlines (Article R. 219-1-7 of the French Environmental Code);
- North: the administrative limit of the exclusive economic zone (Montego Bay Convention 1982);
- South: limits of zone 5b corresponding to the territorial sea (12 nautical miles measured from the right baseline) ;
- West: the limit with zone 3a defined based on a line drawn from the north-western extremity of the PNMI extending to the EEZ, aligned on the southern limit of the traffic separation scheme (TSS), cf. IMO resolutions 1973, 1977 et 2003).

Main environmental issues under the MSFD



num	secteur
7	mer celtique et Manche ouest
8	nord Cotentin
9	golfe normand-breton (côte d'Emeraude et baie de St-Brieuc)
10	Sept-Iles - Trégor Goëlo
11	baie de Morlaix - pays des abers
12	Iroise - rade de Brest
14	talus nord, terrasse de Meriadzec et escarpement de Trevelyan
15	talus central du golfe de Gascogne
16	talus du sud du golfe de Gascogne
17	côtes de Cornouaille
18	secteur de Groix
19	Mor Braz
20	estuaire de la Loire et cotes vendéennes
21	mer des pertuis et panache de la Gironde
22	plateau de Rochebonne
23	plateau du golfe de Gascogne - grande vasière
24	bassin d'Arcachon
25	côtes sableuses girondines et landaises
26	côte rocheuse Basque
40	plaine abyssale du golfe de Gascogne
41	plateau armoricain méridional et plateau aquitain

The ecological area[1] concerned is that of the Celtic Sea and Western Channel (**area No. 7**). The main environmental issues associated are the following (Appendix 2a of the SBSD)

For area 7: Celtic seas and Western Channel

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**High**:** Ushant thermal front and late stratification in summer, associated high planktonic biomass
	Primary and secondary producers and forage species	**nd:** forage species (phytoplankton) associated with the front
Benthic habitats and geomorphological structures	Sub-aqueous dunes on the shelf and upper continental slope	**High**:** main area for subaqueous dunes
	Distinctive geomorphological structures	**High**:** Roches-Douvres, Hurd's Deep
	Sedimentary habitats	**Major:** heterogeneous subtidal sediment **High:** subtidal coarse sediment

The pelagic habitats of the Western Channel and the Celtic Sea are characterised by a thermal front (Ouessant) which forms from spring to the end of summer between the cold and mixed waters near the coast and the warmer stratified offshore waters. This area is a zone of strong primary and secondary production. The stratified waters (north of the front) can also be the seat of primary production at very high levels at the end of the summer. As for the seabeds, they are characterized by rather coarse sediments (except in the most western part) forming large sub-aqueous dunes while at the north-east, Hurd's Deep and the Roches Douvres plateau are geomorphological particularities.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** horse mackerel, spider crab, European sprat, brill, red gurnard, Atlantic pollock, lemon sole, sardine, pout, bass, sole
	Localized populations of benthic invertebrates protected and/or exploited	**High*:** Atlantic horse mackerel, edible crab, queen scallop
	Locally important populations of Elasmobranch species	**High:** blue skate and flapper skate **nd:** blue shark, basking shark (summer), spotted ray
	Seabird colonies and feeding grounds	High: Northern gannet **Medium:** European herring gull **Low:**lesser black-backed gull, great black-backed gull **nd:** feeding grounds of Anglo-Norman colonies
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**High:** density all species, Northern fulmar (winter)
	Harbour porpoise maximal density areas	**High:** harbour porpoise (summer)
Details of certain crosscutting issues	Other cetaceans	**High:** Common dolphin (feeding area**)**
	Marine turtles	**High:** area of concentration of leatherback turtles (summer)

In connection with these hydrographic and geomorphological conditions, a rich trophic network is established and the area is an important summer feeding site for the megafauna: birds (in particular Northern gannet, fulmar and Great black-backed gull), small cetaceans (porpoise and common dolphin) and elasmobranch species including sharks (blue and basking sharks) and skates. This area is also an important egg-laying area for several species of fish including the common sole and the bass, and concentrations of leatherback turtles are observed in the west in the summer period.

1 * means that the responsibility criterion of the area for the issue is considered very likely based on an expert's opinion
** means that the issue is considered as strong but that the issues have not been ranked in a hierarchical order within the categories: functional fishing areas, hydrographic and geomorphological structures

Associated water body under the Water Framework Directive

Non applicable since the zone is situated offshore and with no direct link with the terrestrial environment.

Governance systems

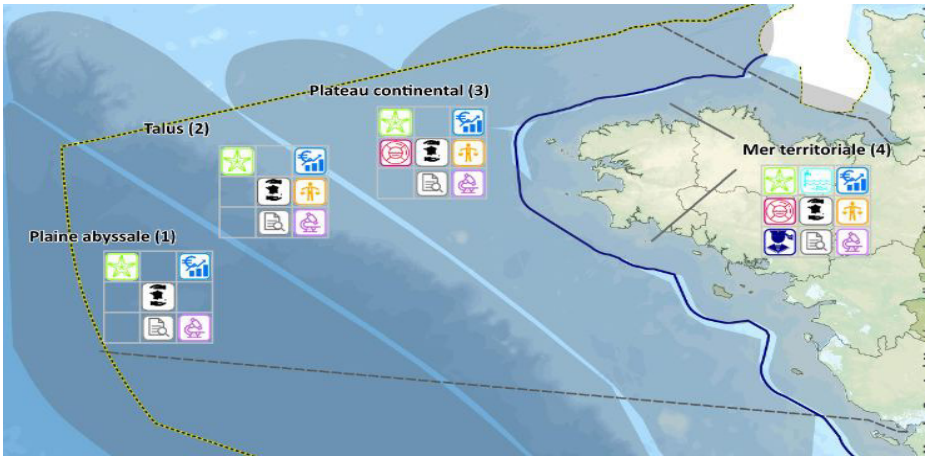
Located within the economic zone, zone 4 is concerned by the following systems:

- the Sea Basin Council (SBC) North Atlantic West (NAMO) in application of Article L219-6-1 of the French Environmental Code;
- the regional conference of the sea and coastline in Brittany in application of Article 3 bis.-II of the amended decree of 5 May 2011;
-
- the defence zones (by appealing to the commander of the maritime zone at the maritime prefecture for the Atlantic);
- the nautical commissions.

Spatial constraints arising from other processes

- Presence of the traffic separation scheme (TSS).

2. INTEGRATED ISSUES



For the Western Channel, the major issues selected concern the good ecological status of the marine environment, national defence and safety, knowledge, research and innovation, the maritime economy and the carrying capacity of maritime areas (cohabitation of commercial sea fisheries, transport, international communication cables) and maritime security (related to the traffic density at sea, commercial sea fisheries and cross-Channel and international freight and passenger transport).

3. STRATEGIC OBJECTIVES

Refer to Appendix 6 (strategic environmental and socioeconomic objectives)

4. VOCATIONS OF ZONE No. 4 “WESTERN CHANNEL”

The priorities in terms of vocation are established and applicable on the scale of each of the thirteen zones.

Vocations of zone No. 4 “Western Channel”: Priority to maritime transport; by ensuring cohabitation, by order of importance, with sustainable commercial fishing activities, marine renewable energies* and the extraction of marine aggregates; by preserving the seabirds and marine mammals.

In this zone, the identification of suitable areas for marine renewable energies must be studied in further detail and extend beyond it if necessary, on the basis of the work conducted at regional level.

At the level of the zone, the priority is given to one or several activities or environmental requirements in cohabitation with other activities. The aim is not to exclude but to encourage the cohabitation of uses to serve the strategic objectives identified while enabling the priorities to be to be determined within the area in the event of a dispute.

The known technical potentials associated with this zone (*MRE, marine aggregates, fisheries, aquaculture*) are specified in Appendix 0 (atlas) in part 1 of the maritime coastline strategy (current situation).

For the possible launch of finer planning levels, required by particular projects, a cross-reference between the vocation map, the maps of the present sheet and the current situation maps (Appendix 0) mentioning the known potentials and constraints at the publication date of the maritime coastline strategy can enable more restricted zones to be proposed at the debates of the local governance bodies (SBC, CRML and ARML, etc.).

A non-cited usage in a zone can be established or exist before the vocation map, but it cannot avail itself of a strategic priority as defined in the present document.

5. REQUIREMENTS OR RECOMMENDATIONS

Non impact on certain components of the ecosystems

The systematic implementation of the sequence avoid – reduce – compensate at sea is required.

It is recommended, in accordance with the CGEDD report of October 2017 on the Avoid Reduce Compensate sequence at sea, to:

- Incorporate measures taking account of all the diffuse and global impacts and clearly marking the implementation of the principle of absence of net loss of biodiversity provided for by the Biodiversity Law of 8 August 2016.
- Provide for shared compensation measures with a proven ecological efficiency and monitored over the long term, taking into account not only the exceptional biodiversity, but also the ordinary biodiversity in particular through ecosystem services.

It is recommended to take into account particular zoning mechanisms, when they exist: cf. maps relating to the environment below.

Conditions for the sequence of events

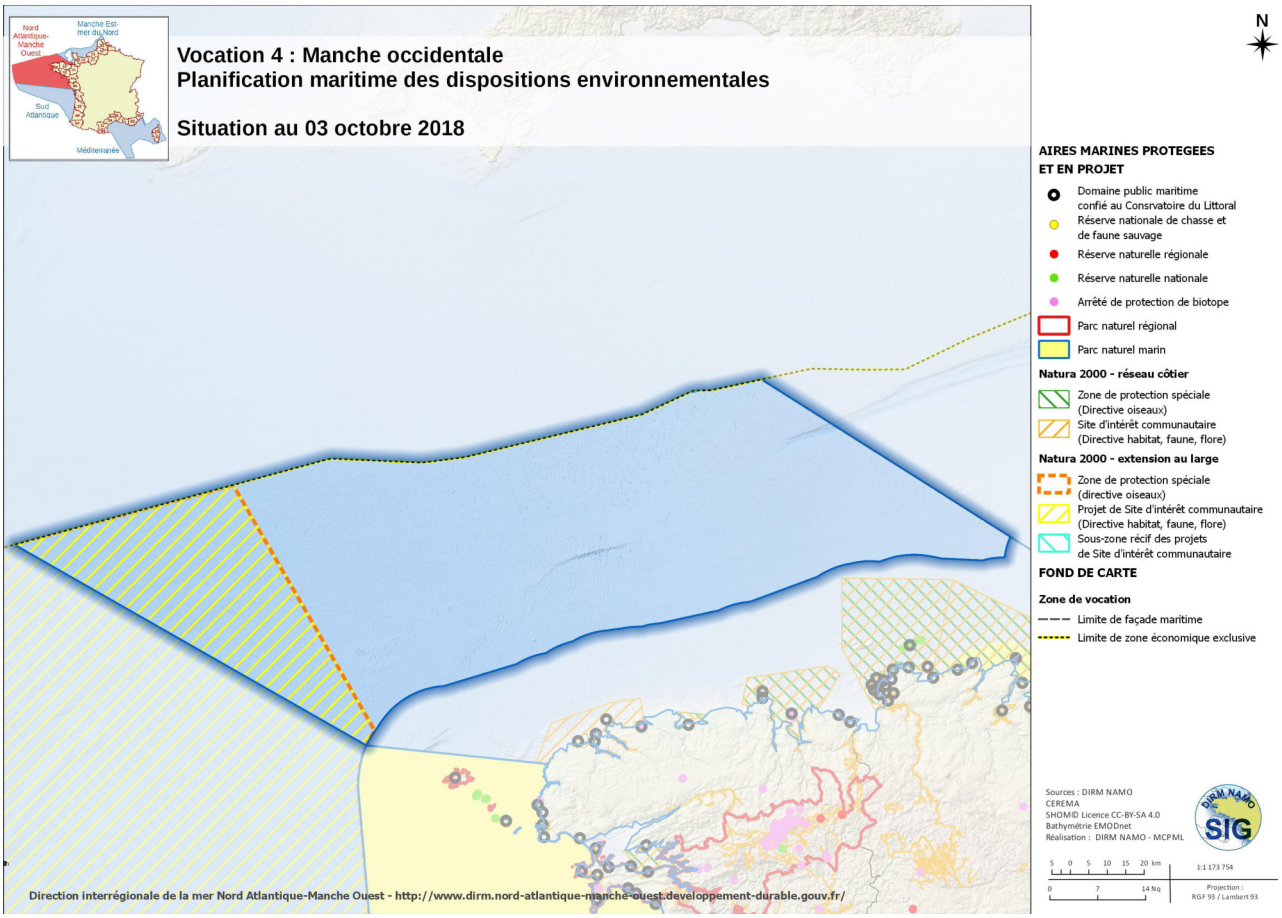
There is a requirement before the start of a new activity project, subject to authorization, and/or environmental assessment, that the petitioner:

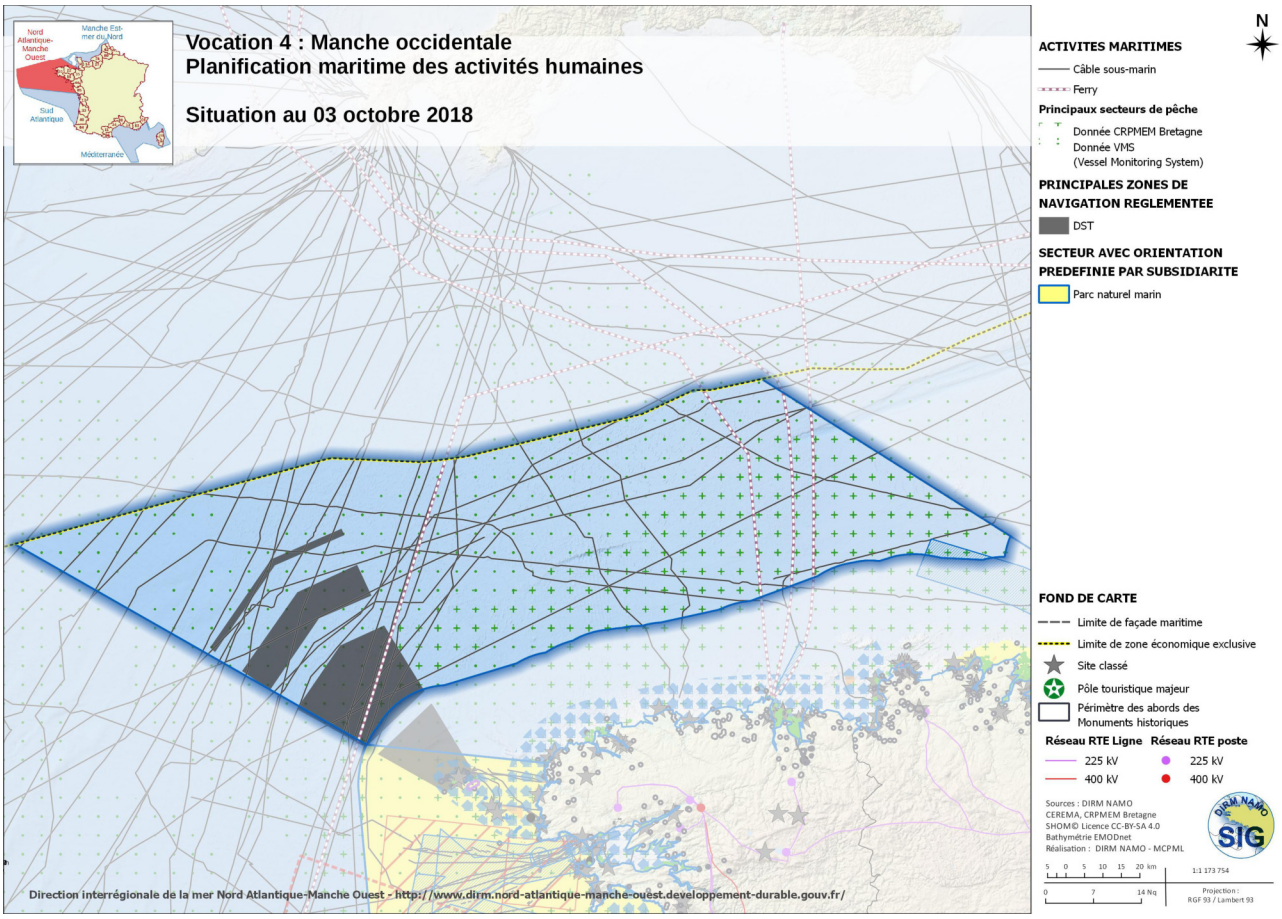
- carries out an appropriate study depending on the classification of the environmental issues presented above.
- studies the compatibility of the project with the national defence activities and, if required, with other activities

It is recommended that the complementary skills acquired are capitalized and made available to the public, governance bodies and specialists, including in research.

Compliance with existing maritime planning related to human activities (cables) detailed below.

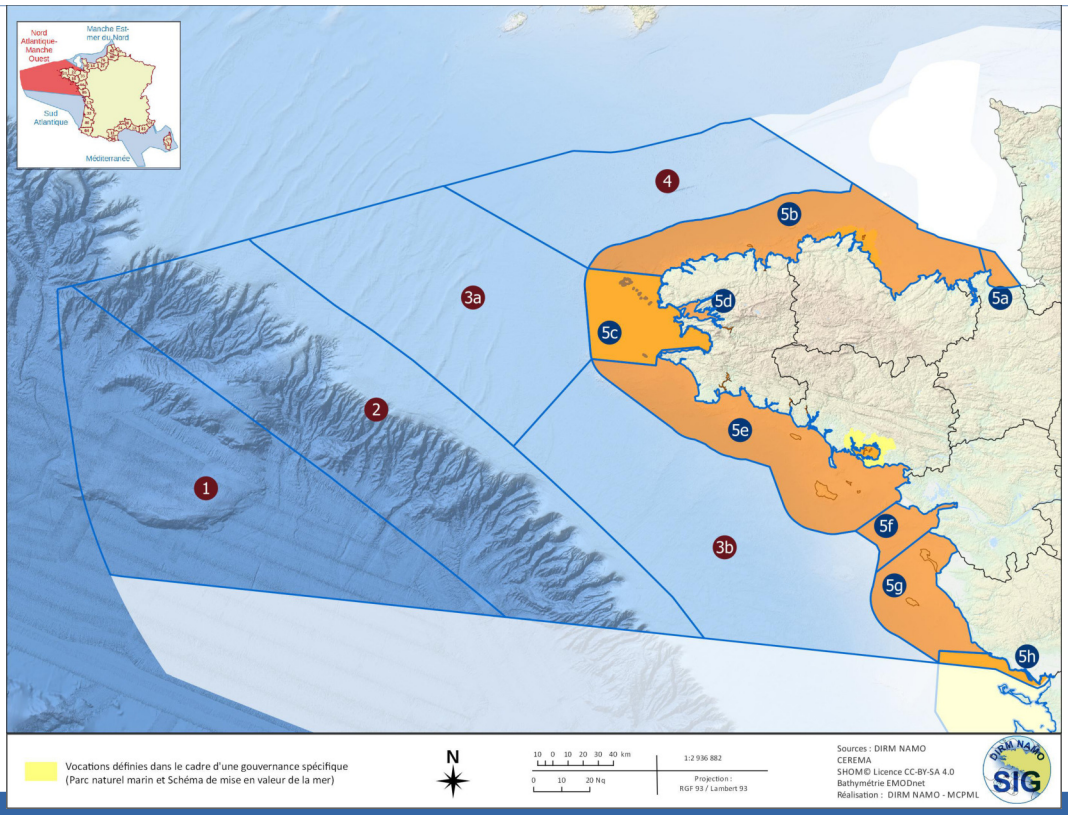
Existing maritime planning





Fact sheet of the NAWC vocation map

ZONE No. 5 Territorial Waters



SYNTHESIS OF ZONE 5

Limits of the zone

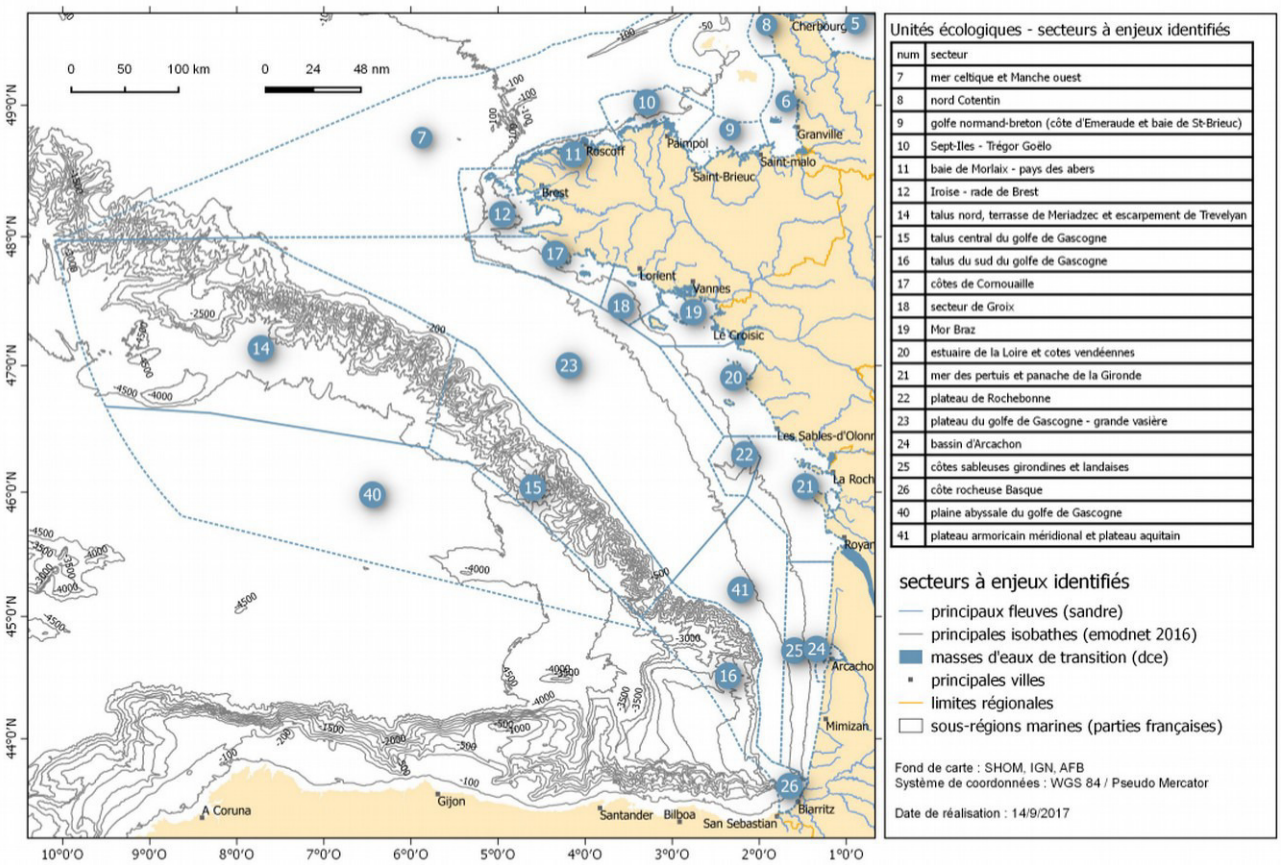
The limits are drawn on an indicative basis, on the scale of the map, based on (legal, administrative, bathymetric, geomorphological) references, specified below.

- high sea side (west), the limit of the territorial sea (12 nautical miles measured from the right baseline) marking the limit with zones 3 and 4;
- South, the administrative limit between the North Atlantic-Western Channel (NAWC) and South Atlantic (SA) coastlines (Article R.219-1-7 of the French Environmental Code);
- South, the administrative limit between the North Atlantic-Western Channel (NAWC) and Eastern Channel-North Sea (ECNS) coastlines (Article R.219-1-7 of the French Environmental Code);
- land side (east), the high-water line, i.e. that of the highest waters in the absence of exceptional weather disturbances (Article L. 2111-4 and L2111-6 of the French General Code on Public Property). For the estuaries, the transversal limit of the sea is taken into account.

It is divided into 8 areas:

- 5a: Norman Breton Gulf and Bay of Mont-St-Michel ;
- 5b: North Brittany;
- 5c: Iroise Marine Natural Park;
- 5d: Brest harbour;
- 5e: South Brittany;
- 5f: Loire Estuary;
- 5g: Bay of Bourgneuf and Coast of Vendée;
- 5h: Gironde Estuary and Pertuis Sea Marine Natural Park

Main environmental issues under the MSFD



The ecological areas concerned are:

Zones of the territorial sea	Ecological areas
5a: Norman Breton Gulf and Bay of Mont St-Michel	The Norman Breton Gulf (Bay of Granville) (**area 6**)
5b: North Brittany	The Norman Breton Gulf (Emerald Coast and Bay of Saint Brieuc (**area 9**), the Sept Îles and Trégor Goëlo (**area 10**), the Bay of Morlaix and Pays des Abers (**area 11**)
5c: Iroise Marine Natural Park	Iroise Sea (including Brest harbour)
5d: Bay of Brest	Iroise Sea (including Brest harbour)
5e : South Brittany	the Cornouaille coast of Audierne in Trévignon (**area 17**), the coast of Lorient from Trévignon to Quiberon (**area 18**), Belle Île-Quiberon-le Croisic (**area 19**)
5f : Loire Estuary	Belle Île-Quiberon-le Croisic (**area 19**), Loire Estuary and Coast of Vendée (**area 20**)
5g: Bay of Bourgneuf and Coast of Vendée	Loire Estuary and Coast of Vendée
5 h: Gironde Estuary and Pertuis Sea Marine Natural Park	Gironde Estuary and Pertuis sea (**area 21**), Rochebonne Shelf (**area 22**)

The main environmental issues associated[1] are the following (Appendix 2a of the SBSD)

- **For area 6: Norman Breton Gulf (Western Cotentin)**

Hydrographic conditions, pelagic habitats and food webs	Land-sea interface and river plumes	**Strong**: Macro-tidal area causing an intense water exchange and eddy structures around the islands and archipelagoes**
	Primary and secondary producers, and forage species	**Strong**: forage species: sandeel**
Benthic habitats and geomorphological structures	Sub-aqueous dunes on the shelf and upper continental slope	**Strong**: Sub-aqueous shell sand dunes**
	Biogenic habitats	**Major: honeycomb worms S. alveolata** **Strong: maerl beds*, Lanice patches, marine eelgrass beds, flat oysters*, Atlantic salt meadows, Salicornia spp. pioneer vegetation** **Medium: kelp (Laminaria)**
	Rocky habitats	Medium: reefs Mediolittoral
	Sedimentary habitats	Major: subtidal coarse sediments, intertidal sediments Strong: subtidal mixed sediments

Located in a shallow depth notch with a rugged topography and confined between the Cotentin and the bays of North Brittany, the waters of the Norman Breton gulf are constantly mixed by powerful currents. Governed by an exceptional tidal regime, the currents become eddy gyres around the islands, archipelagoes, and rocky shoals and accelerate near the capes. They structure in this way a mosaic of coastal and underwater landscapes alternating large sandy bays and cliff coasts, sub-aqueous dunes and subtidal and intertidal reefs. The species living on the seabed are organized according to the size of the sediments and their ability to adapt to the seabed mobility. Subtidal mixed sediments predominate. They occupy two thirds of the area essentially in the high seas and are favourable to bivalve molluscs (oysters, warty venus, dog cockle, scallops) and gasteropods (whelk) but also to certain Elasmobranch species such as the undulate ray which is highly present in this area. The rocky sea floors and reef zones provide suitable habitats for crustaceans (lobster, spider crab).

1 * means that the responsibility criterion of the area for the issue is considered very likely based on an expert's opinion
** means that the issue is considered as strong but that the issues have not been ranked in a hierarchical order within the categories: functional fishing areas, hydrographic and geomorphological structures

"Restricted" size functional areas for marine species	Functional fishing areas - Spawning grounds	Strong**: sole, spider cuttlefish, brill, squid and black sea bream
	Functional fishing areas - Nurseries	Strong**: bass, plaice, sole, pollock, ling, brown shrimp, thornback ray, turbot, spider crab, whiting, lobster, cuttlefish, pout, black sea bream
	Localized populations of benthic invertebrates exploited	Strong*: European lobster, whelk, warty venus & dog cockle
	Diadromous fish concentration and migration areas	Strong: salmon Medium: shads, lampreys
	Locally important populations of Elasmobranch species	Strong*: undulate ray and smooth skate
	Waders nesting and feeding grounds	Strong: Eurasian oystercatcher Medium: Kentish plover
	Seabird colonies and feeding grounds	Strong: European shag, Great black-backed gull, Roseate tern Nd: feeding site of Anglo-Norman colonies
	Wintering grounds for waterfowl	Strong: Black-tailed godwit, Dunlin, Grey plover, Common shelduck and Brant goose, Light-bellied brent goose, Eurasian oystercatcher
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	Major: Balearic shearwater, wintering and moulting of Common scoter Strong: densities all species
	Home range for resident communities of bottlenose dolphins	Major: Bottlenose dolphin (resident community)
	Seal colonies and feeding grounds	Strong: Harbour seal

The sedimentary foreshores (intertidal sediments major issue) host particular habitats such as honeycomb worm (Sabellaria alveolata) reefs and marine and dwarf eelgrass beds. The finest sediments, of muddy to sandy-muddy type, are confined at the bottom of bays. It is in these estuaries and in the Bay of Mont Saint Michel that we find the vegetated estuary floors (particularly developed salt meadows and pioneer glasswort) among the most developed in mainland France. They are intimately related to the mouths of the coastal rivers, an essential interface area for diadromous fish such as the salmon. We also find there important coastal nurseries of bass, plaice and sole, a sole spawning area, and along the coast, the main cuttlefish egg-laying areas which equally attract top predators including a significant population of sedentary bottlenose dolphins. These same foreshores and bay host a particularly rich and diversified avifauna and are sites of international importance for at least 5 wader species, particularly during wintering, and essential areas for certain vital phases (retreat site for the Roseate tern, summering site for the Balearic shearwater, moulting site for the Common scoter). The isolated islets and archipelagoes (Chausey in particular) host significant numbers of seabirds (European shag, Great black-backed gull, Eurasian oystercatcher, Red-breasted merganser) whereas the Bay of Mont Saint Michel, the largest bay of the area, hosts all year long a colony of harbour seals at the limit of their distribution range.

- **For area 9: Emerald Coast and Bay of Saint-Brieuc**

Hydrographic conditions, pelagic habitats and food webs	Land-sea interface and river plumes	**High**:** macrotidal area causing intense wave action, dynamic confinement of water masses (Saint Brieuc Bay)
	Sub-aqueous dunes on the shelf and upper continental slope	**High**:** sub-aqueous dunes and shell sands
Benthic habitats and geomorphological structures	Biogenic habitats	**Medium:** dwarf eelgrass beds, maerl beds **Low:** Atlantic salt meadows
	Sedimentary habitats	**Medium:** subtidal coarse sediment

Subject to a macrotidal regime, the waters of the bays in North Brittany are mixed by powerful currents which accelerate near the capes and shoals. The very rugged coast alternates large sandy bays and cliff coasts, sub-aqueous shell sand dunes and subtidal reefs which structure a mosaic of underwater landscapes. The species living on the seabed are organized according to the size of the sediments and their ability to adapt to the seabed mobility. Gravel and coarse sediments predominate. They occupy two thirds of the zone's surface area, essentially offshore, and are favourable to bivalve molluscs (scallops, venus clams). Along the coast, a few localized areas of maerl are well identified. The phytoplankton production is moderately high in the coastal area, the large bays (of Saint Malo, of Saint Brieuc) and the bays of intermediate size along the coast (Fresnaye, Arguenon, Lancieux). The finest sediments, of muddy to sandy-muddy type, are confined at the bottom of bays and host habitats such as the marine and dwarf eelgrass beds and the schorre plants (salt meadows).

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** black seabream, cuttlefish
	Functional fishing areas - Nurseries	**High**:** seabass, spider crab, Atlantic pollock, ling, sprat, cuttlefish, flatfish**s**
	Localized populations of benthic invertebrates protected and/or exploited	**High*:** scallop, carpet shells
	Diadromous fish concentration and migration areas	**Medium:** lampreys
	Locally important populations of Elasmobranch species	**High*:** undulate ray
	Seabird colonies and feeding grounds	**Major:** common guillemot **High:** razorbill **nd :** roseate tern
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**High:** Balearic shearwater
	Home range for resident communities of bottlenose dolphins	**Major:** bottlenose dolphin (resident community)

The high productivity of these bays generates a significant biomass of invertebrates which are the prey of an aquatic fauna (crabs and fish) at high tide and are consumed by birds at low tide (especially waders and wintering Anatidae species). This area therefore has a very high secondary production potential (nurseries for young fish such as the bass and plaice) favourable to the top predators that occupy the coastal area (significant population of sedentary bottlenose dolphins). They are also important feeding grounds for the Balearic shearwater during summering. Finally, the cliffs (in particular from Cap Fréhel to Cap d'Erquy) and certain islets play an essential role for the nesting and feeding of the Common guillemot and the Razorbill.

- **For area 10: Sept Iles and Trégor Goëlo**

Hydrographic conditions, pelagic habitats and food webs	Land-sea interface and river plumes	**High**:** dynamic confinement of water masses (Bay of Lannion)
Benthic habitats and geomorphological structures	Sub-aqueous dunes on the shelf and upper continental slope	**High**:** sub-aqueous dunes and shell sands
	Biogenic habitats	**High:** maerl beds, marine eelgrass communities*, laminaria **Medium:** dwarf eelgrass beds
	Rocky habitats	**High:** infralittoral reefs **Medium:** mediolittoral reefs
	Sedimentary habitats	**Medium:** subtidal coarse sediment

From Plouha to Lannion, through the Bréhat archipelago and Sept-Îles, the coastal area, rocky and dotted with more than 280 islands and islets but also sub-aqueous dunes, is deeply mixed. The low levels of chlorophyll-a are not conducive to high primary production. The seabed, made up of coarse sediments, reefs and boulder fields is very favourable to Laminaria habitats and hosts significant crustacean populations. On the coast, maerl beds are still alive despite the gradual invasion by the slipper limpet and the industrial exploitation which lasted until 2013. Furthermore, some bays have eelgrass beds of significant size.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High***:** bluntnose sixgill shark
	Functional fishing areas - Nurseries	**High***:** Atlantic pollock, ling, edible crab, spider crab, lobster
	Diadromous fish concentration and migration areas	**High* :** salmon **Medium:** shads, lampreys
	Locally important populations of Elasmobranch species	**nd:** porbeagle
	Waders nesting and feeding grounds	**Medium:** ringed plover, Eurasian oystercatcher
	Seabird colonies and feeding grounds	**Major:** Northern gannet, Atlantic puffin, razorbill, Manx shearwater **High:** common guillemot, roseate tern* Medium: European storm petrel*, European shag, Northern fulmar
	Wintering grounds for waterfowl	**High:** dark-bellied brent goose
	with maximum density and functional areas identified for seabirds in the non-breeding season	**High:** Balearic shearwater
	Home range for resident communities of bottlenose dolphins	limit of the home range for resident communities of bottlenose dolphins
	Seal colonies and feeding grounds	**Major:** grey seal

The islets and the rocky coast are very favourable to the reproduction of Northern gannets, Razorbills, Manx shearwaters and Atlantic puffins as well as for the reproduction of the Common guillemot and the Roseate tern. These same species find further offshore privileged feeding areas which they share with the Balearic shearwater during summering. The area hosts one of the main colonies of Grey seal in Brittany. Finally, the estuaries of Trieux and Jaudy are important for migratory fish (Atlantic salmon) and are, with the bay of Lannion and the Paimpol cove, very attractive zones for waders (during wintering) and Anatidae species (Dark-bellied brent goose). The area of the furrow of Talbert (sillon de Talbert) and the Bréhat archipelago are major nesting sites for waders and host between 10 % and 15 % of the French population of Ringed plover.

- **For area 11: Bay of Morlaix and Pays des Abers**

Benthic habitats and geomorphological structures	Sub-aqueous dunes on the shelf and upper continental slope	**High**:** sub-aqueous dunes and shell sands
	Biogenic habitats	**High:** marine eelgrass communities, laminaria
	Rocky habitats	**High:** infralittoral reefs **Medium:** dwarf eelgrass beds, mediolittoral reefs
	Sedimentary habitats	**Medium: subtidal muddy mixed sediments, intertidal sediments**

On the periphery of the Ouessant front, the pelagic habitats are characterized by levels of chlorophyll-a that are rarely high and an mixing which is conducive to an intense regeneration of nutrients. The subtidal and intertidal reefs are well represented there and especially the Laminaria forests in the Abers, the boulder fields and the sub-aqueous dune systems of small size made up of shell sand. A few areas of marine eelgrass beds are of medium concern.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** bluntnose sixgill shark
	Functional fishing areas - Nurseries	**High**:** Atlantic pollock, ling, edible crab, red gurnard, seabass
	Diadromous fish concentration and migration areas	**Medium:** lampreys **Low:** salmon
	Waders nesting and feeding grounds	**High:** Eurasian oystercatcher
	Seabird colonies and feeding grounds	**High:** great cormorant **nd :** roseate tern
	Wintering grounds for waterfowl	**High:** European golden plover
	Seal colonies and feeding grounds	**Low:** grey seal

Within the estuarine zones and the bay floors which succeed one another, the sandy zones are suitable for hosting the large number of wintering waders. The islets of the bay of Morlaix and Trévors are breeding sites for the Great cormorant and the Golden plover. These two zones historically hosted nesting terns and especially the Roseate tern. The area also offers resting sites for the grey seal (bay of Morlaix, plateau of La Méloine and Portsall rocks) but are not suitable for breeding or moulting. Finally, this area is suitable for bass nurseries in the coastal area.

- **For the area 12: Iroise Sea** *(including Brest harbour)*

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**High**:** Ushant front and associated high planktonic biomass, zone of maximum currents in the Fromveur strait and the Raz de Sein
	Land-sea interface and river plumes	**High**:** semi-enclosed bays
	Primary and secondary producers and forage species	**nd:** forage species (phytoplankton) associated with the front
Benthic habitats and geomorphological structures	Sub-aqueous dunes on the shelf and upper continental slope	**High**:** sub-aqueous dunes and shell sands
	Biogenic habitats	**Major:** maerl beds **High:** marine eelgrass communities, flat oysters*, laminaria
	Rocky habitats	**High*:** grottos, circalittoral reefs, infralittoral reefs
	Sedimentary habitats	**Medium:** subtidal coarse sediment

-

The areas of confrontation between the Ouessant front in the west, the homogeneous zone and the internal front of Iroise are areas with a significant vertical circulation (upwelling and downwelling) and lead to the formation of eddies. It is around the Molène archipelago, Ouessant island and the île de Sein that the tidal currents are the most intense. The macro-algae and planktonic micro-algae find there both the light and the nutrient salts necessary for their development; the plankton is dominated by small-sized organisms. This conjunction is concomitant with the peaks of landing of sardines and anchovies captured in Iroise.

The area includes an overwhelming majority of open environments and seabeds of the French Channel-Atlantic coasts. The coastal circalittoral level is mostly rocky. The substrate is colonized by a variety of sessile fauna including mainly bryozoans, sponges, anthozoans, hydroids, and ascidians. The circalittoral level of the high seas is observed in Iroise at a depth of 70 to 100 m. From the faunistic point of view, it is characterized by the presence of the yellow coral and gorgonians relatively shallow in depth. The beds of coarse sands form in Iroise two complexes in the surroundings of Ouessant and on both sides of the zone of reefs known as Chaussée de Sein. They take the form of shoals (Ouessant shoal, Armen shoal) and fields of ripples (ripple field of Pierres Noires, Banc du Four, Banc de Kafarnao, bank at the entrance of the bay of Douarnenez and bank at the outlet of the Goulet de Brest) whose sands are extremely calcareous and organogenous. These geomorphological structures, which are sub-aqueous dunes put in place by the tidal currents, are particularly unstable and shelter many species of forage fish including three species of sandeels (lesser, common and smooth sandeel).

The Laminary fields are very developed in the Molène archielago and on the Chaussée de Sein. They are complex coastal systems very rich in terms of biomass (the most abundant in mainland France) and biological diversity. They form undersea forests which shelter a multitude of organisms that make up remarkable ecosystems characteristic of cold waters. The boulder field is the most diversified intertidal habitat: it is mainly found on the islands and in a good conservations status. Maerl beds are also present (Les Pourceaux, Telgruc sur Mer, Camaret, Molène archipelago, bay of Douarnenez) including one of major interest (Brest harbour). The area also has significant surface areas of marine eelgrass beds, largely fragmented.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** Brill, cuttlefish
	Functional fishing areas - Nurseries	**High**:** Atlantic pollock, ling, crab, red gurnard, thornback skate, turbot, seabass
	Localized populations of benthic invertebrates protected and/or exploited	**High* :** saltwater clams, spiny lobster
	Diadromous fish concentration and migration areas	**High:** Allis shad, lamprey, salmon**
	Locally important populations of Elasmobranch species	**High*:** basking shark, thornback skate
	Waders nesting and feeding grounds	**Medium:** ringed plover, Eurasian oystercatcher **Low:** Kentish plover
	Seabird colonies and feeding grounds	**Major:** European storm petrel **High:** European shag, Northern fulmar, lesser black-backed gull, great black-backed gull, black-legged kittiwake, Manx shearwater **Medium:** great cormorant, little tern
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**Major:** densities all species **High:** Manx shearwater, red-breasted merganser, black-throated loon
	Home range for resident communities of bottlenose dolphins	**High:** Bottlenose dolphin (resident community)
	Seal colonies and feeding grounds	**Major:** grey seal
	Harbour porpoise maximal density areas	**Medium:** harbour porpoise in summer

The bass, whose stocks are in decline, and the lobster are among the emblematic fishing species of the area. Two coastal populations of bottlenose dolphins are present in the Iroise Sea, one on the Chaussée de Sein and the other in the Molène archipelago. One of the rare Grey seal colonies in France is established in these same sites. The most important French colonies of European storm petrel, a species which comes ashore only for the needs of reproduction, are situated in the Molène archipelago; the islands and islets are suitable habitats for the nesting of this bird whose activity on land is essentially nocturnal. The little terns nest mainly in Iroise on the sand and pebble beaches (Molène archipelago and île de Sein). The Balearic shearwater is present in the bay of Douarnenez during the summer period. In winter, the Iroise is a site of international importance for waders such as the Ringed plover (60 % of the nesting pairs in Brittany) whereas the Brest harbour plays a major role in the hosting of wintering seabird populations (Red-breasted merganser and Black-throated loon, in particular). Regarding diadromous fish, the Aulne and Elorn rivers are important for the Allis shad and the Salmon.

- **For area 17: Coast of Cornouaille – from Audierne to Trévignon**

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**High**:** coastal upwelling, cold pool
Benthic habitats and geomorphological structures	Sub-aqueous dunes on the shelf and upper continental slope	**High**:** sub-aqueous dunes and shell sands
	Distinctive geomorphological structures	**High**:** structures formed by gas emissions (pockmarks)
	Biogenic habitats	**Major:** circalittoral mud with sea pens **High:** maerl beds, laminaria*, Haploops populations **Medium:** dwarf eelgrass beds
	Rocky habitats	**High:** circalittoral reefs*, infralittoral reefs*
	Sedimentary habitats	**High:** subtidal mud **Medium:** subtidal coarse sediment

Owing to its low bathymetry, the South Finistère area does not benefit from the installation of a real thermal front. On the other hand, the mixed and cold water of the Atlantic and the many coastal upwelling currents enrich the area in nutrients, which generates a high primary production of phytobenthos and macro-algae. Near the coast, the seabeds are characterised by the alternation of coarse sediments, shell sands (sub-aqueous dunes) and infralittoral reefs. Beautiful maerl bed areas, whose conservation status are very variable, infralittoral reefs including Laminaria forests and honeycomb worms are observed. A significant marine eelgrass bed is present around the Glénan Islands down to depths of 10 metres. This habitat is also found near the coast in the form of a mosaic. Offshore, the sub-littoral Grande Vasière (lage mudflat), very rich in langoustines, starts; the muds with sea-pens, characteristic of an undisturbed muddy habitat, are very well represented there.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** spider crab, sardine and cuttlefish
	Localized populations of benthic invertebrates exploited	**High**:** turbot, sprat, Atlantic horse mackerel, mackerel, mackerel, nephrops, spiny lobster
	Diadromous fish concentration and migration areas	**High*:** lamprey*, salmon **Medium:** shads
	Locally important populations of Elasmobranch species	**High:** blue skate (located in the Glénan Islands), basking shark*, bramble shark (historically important in the Glénan Islands)
	Waders nesting and feeding grounds	**Low: Kentish plover**
	Seabird colonies and feeding grounds	**Major:** roseate tern **High:** lesser black-backed gull, sandwich tern **Medium:** great black-backed gull and European herring gull **Low:** European shag, common tern
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**Major:**densities all species **High:** Balearic shearwater
	Seal colonies and feeding grounds	**Low:** grey seal
Details of certain crosscutting issues	Other cetaceans	**Low*:**short-beaked common dolphin

The Penmarc'h/Glénan/Trévignon area is one of the most diversified in terms of habitats and one of the richest in number of species of heritage interest. The high primary production capacity attracts many seabird species. The île aux Moutons is a suitable nesting site for terns and hosts the first French colonies of Roseate tern (in terms of nesting numbers) and Lesser black-backed gull and the second colony of Sandwich

tern. The area is also suitable for the Common dolphin, the Basking shark and other Elasmobranch species such as the Common skate and the Bramble shark.

- **For area 18: Coast of Lorient – from Trévignon to Quiberon**

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**High**:** coastal upwelling, cold pool
	Land-sea interface and river plumes	**nd:** numerous land – sea interfaces (Ria d'Etel, sea of Gâvres, Rade de Lorient, estuaries of the rivers Laïta, Belon and Aven)
Benthic habitats and geomorphological structures	Sub-aqueous dunes on the shelf and upper continental slope	**High**:** sub-aqueous dunes and shell sands
	Biogenic habitats	**Major:** circalittoral mud with sea pens **High:** maerl banks,sabellaraia* **Medium:** marine eelgrass communities*, laminaria*
	Sedimentary habitats	**High:** subtidal mud

The coast of Lorient is the seat of a strong primary productivity. A vast complex of rocky habitats rich in Laminaria is present at the South of the Groix island whereas in the North, zones of maerl and eelgrass beds in a good state of conservation represent a high stake. Off the island, the c*ircalittoral muds* with *sea-pens* are a major stake. Located at the land-sea interface, the rias (Étel) and estuaries (Laïta, Belon, Aven) are remarkable entities characteristic of South Brittany.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** spider crab, sprat, sardine and cuttlefish
	Localized populations of benthic invertebrates exploited	**High**:** turbot, sprat, Atlantic horse mackerel, mackerel, nephrops, spiny lobster
	Diadromous fish concentration and migration areas	**High*:** lamprey, salmon **Medium:** shads
	Locally important populations of Elasmobranch species	**High*:** basking shark
	Waders nesting and feeding grounds	**Medium:** Kentish plover
	Seabird colonies and feeding grounds	Medium: **European herring gull** **Low:** lesser black-backed gull, great black-backed gull, European shag, common tern
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**High*:** densities all species, Balearic shearwater
Details of certain crosscutting issues	Other cetaceans	As a cross-cutting issue delphinidae and porpoises at depths of between 50 and 100 m

The rias enable the run of lamprey and salmon towards fresh water. At sea, the area is used by species such as basking shark, sardine and langoustine (exploited species). In this transition area for seabirds, the Balearic shearwater comes to feed on forage fish in the summer. Its hunting areas are shared with porpoises and small delphinids as well as other birds such as the European herring gull, the Lesser black-backed gull, the European shag, the Great black-backed gull and the Common tern.

- **For area 19: Belle-Ile – Quiberon – Le Croisic**

Hydrographic conditions, pelagic habitats and food webs	Land-sea interface and river plumes	**High**:** semi-enclosed bays (Gulf of Morbihan), bay and river plume (Vilaine estuary)
Benthic habitats and geomorphological structures	Biogenic habitats	**High:** maerl beds, common eelgrass beds, dwarf eelgrass beds*, laminaria*, circalittoral mud with sea pens **Medium:** Atlantic salt meadows
	Rocky habitats	**High:** circalittoral reefs, infralittoral reefs* **Medium:** mediolittoral reefs
	Sedimentary habitats	**High:** subtidal mud, intertidal mud flats*

This area has sandy-muddy foreshores in the bays (Morbihan Bay) and estuaries (Vilaine, Loire) as well as large rocky bays and rias. The rocky seabeds of the coast, materialized by the Ponant islands, gradually give way to the sandy-muddy seabeds and the Grande Vasière further offshore. The seabeds show habitat mosaics composed of eelgrass beds (major site in the Morbihan Bay), maerl beds (major sites in Belle-Île, Houat and Hoëdic), Laminary forests, honeycomb worm reefs and sandy zones of varying grain size. The rocky zones offshore shelter a variety of fixed fauna (echinoderms, gorgonians, etc.) and the Grande Vasière is the fixing support for sea-pens, an indicator species for undisturbed muds. From a hydrological point of view, this entity is largely influenced by the plumes of the Loire and Vilaine rivers, both in terms of salinity and suspended matter and chlorophyll.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High**:** spider crab, capelin, sprat, sole, cuttlefish
	Functional fishing areas - Nurseries	High**: **anchovy, hake, red mullet, eel, wedge sole, brown shrimp, bluntnose sixgill shark, turbot, sprat, cuttlefish, pout, horse mackerel, mackerel, seabass, whiting, plaice, sole**
	Localized populations of benthic invertebrates exploited	**High* :** nephrops, common prawn, cockle, clam, goose-neck barnacle
	Diadromous fish concentration and migration areas	**High*:**Twaite shad, Allis shad **High:** salmon **Medium: lampreys**
	Locally important populations of Elasmobranch species	**High*:** basking shark
	Seabird colonies and feeding grounds	**Major:** lesser black-backed gull **High:** great black-backed gull **Medium:** European shag, European herring gull, great cormorant, common tern
	Wintering grounds for waterfowl	**High:** pied avocet, black-tailed godwit, dunlin, dark-bellied brent goose, northern pintail, northern shoveler, horned grebe, Eurasian spoonbill
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**Major:** densities all species, Balearic shearwater **High:** red-breasted merganser and loons (winter)
	Harbour porpoise maximal density areas	**Medium*:** harbour porpoise
Details of certain crosscutting issues	Other cetaceans	**Low*:** short-beaked common dolphin

This very nutritive entity plays an important functional trophic role both on the coast (between Quiberon and Le Croisic) and offshore (Grande Vasière) and has many spawning and nursery areas. The estuaries are moreover the privileged route of diadromous fish, especially the Allis shad. Finally, this area located on a major migration route is attractive for the avifauna and contains breeding and feeding areas for many species, in particular lesser black-backed, great black-backed, and European herring gulls. The area is also an important breeding area for two cormorant species (Great cormorant, European shag) and one of the feeding areas of the Balearic shearwater which migrates along these coasts between August and October.

- **For area 20: Loire estuary and Coast of Vendée**

Hydrographic conditions, pelagic habitats and food webs	Distinctive hydrological structures	**nd:** autumnal warm-water tongue
	Land-sea interface and river plumes	**High**:** Loire plume, great associated planktonic abundance and diversity, semi-enclosed bays (Bay of Bourgneuf)
	Primary and secondary producers and forage species	**nd:** forage species (common prawn)
Benthic habitats and geomorphological structures	Biogenic habitats	**High:** dwarf eelgrass beds, sabellaraia, laminaria, Haploops populations **Medium:** maerl beds, Atlantic salt meadows
	Rocky habitats	**High:** circalittoral reefs, infralittoral reefs **Medium:** mediolittoral reefs
	Sedimentary habitats	**High:** fine subtidal sands, subtidal muddy mixed sediments, intertidal mud flats, subtidal mud **Medium:** intertidal sediments, subtidal coarse sediments

The area of the Loire estuary, of the coasts of Vendée and île d'Yeu (Note: eelgrass and Laminaria issues in particular) is under the influence of the plume of the Loire (strong telluric inflows) and of an important tidal front which is at the origin of strong currents. The semi-closed Bay of Bourgneuf has a specific functioning characterized by a very shallow depth and a slowed water renewal. Made up of intertidal mudflats, it is bordered by aquatic plant communities of the schorre and is the second most important zone in France for honeycomb worm reefs. In the least turbid zones, sensitive and fragile habitats such as the maerl, eelgrass beds or Laminaria are also present. These elements are at the origin of a very strong primary and secondary production and of a high planktonic diversity.

"Restricted" size functional areas for marine species	Functional fishing areas – Spawning grounds	**High***:** horse mackerel, capelin, bluntnose sixgill shark, seabass, pout, sole, sardine, sprat, anchovy, cuttlefish
	Functional fishing areas - Nurseries	**High**:** hake, red mullet, wedge sole, brown shrimp, bluntnose sixgill shark, cuttlefish, pout, Atlantic horse mackerel, mackerel, seabass, whiting, plaice, sole, sardine, sprat, anchovy
	Localized populations of benthic invertebrates protected and/or exploited	**High*:** common prawn, cockle, brown shrimp
	Diadromous fish concentration and migration areas	**Major:** eel **High:** Twaite shad*, Allis shad, lamprey, salmon*
	Waders nesting and feeding grounds	**Major:** pied avocet, black-tailed godwit, common redshank, black-winged stilt
	Seabird colonies and feeding grounds	**High:** Mediterranean gull, sandwich tern, common tern
	Wintering grounds for waterfowl	**High:** pied avocet, European herring gull, Eurasian teal, black-tailed godwit
	Areas with maximum density and functional areas identified for seabirds in the non-breeding season	**High:** densities all species, Balearic shearwater*
Details of certain crosscutting issues	Other cetaceans	As a cross-cutting issue delphinidae and porpoises at depths of between 50 and 100 m

On the coast, many intertidal and infralittoral mudflats are present and characterize the area; they are important nurseries for commercial species (sole, whiting, plaice, bass, etc.) and host many bird species, particularly during the wintering and breeding periods (Pied avocet, Black-tailed godwit, Black-winged stilt). Around Ile d'Yeu (from the coast to the sea), owing to the strong primary and secondary productivity, a high diversity of seabirds use the area throughout the year (permanent colonies of Mediterranean gull, Sandwich tern, Common tern), in summer (Balearic shearwater, European herring gull, European storm petrel, etc.) or in winter (Common guillemot, Black-legged kittiwake, Great skua).

Further offshore, the subtidal sands and subtidal heterogeneous silted sediments are very well represented habitats and play an important functional role. Finally, forage species such as the brown

shrimp, essential links in the food chain, develop in the Loire estuary, a major transition zone for many diadromous species (in particular the eel).

Associated water bodies under the Water Framework Directive

Zones of the territorial sea	Coastal water bodies
5a: Norman Breton Gulf and Bay of Mont St-Michel	Bay of Mont Saint-Michel (FRGC01)
5b : North Brittany	Rance-Fresnaye (FRGC03); End of Bay St Brieuc (FRGC05); Saint-Brieuc offshore (FRGC06); Paimpol-Perros Guirec (FRGC07), Perros-Guirec offshore (FRGC08), Perros Guirec Morlaix offshore (FRGC09), Bay Lannion (FRGC10), Bay Morlaix (FRGC11), Léon-Trégor offshore (FRGC12), Abers (FRGC13)
5c : Iroise Marine Natural Park	Iroise-Camaret (FRGC17), Iroise high sea (FRGC18), Bay Douarnenez (FRGC20)
5d : Bay of Brest	Brest harbour (FRGC16)
5e : South Brittany	Audierne offshore (FRGC24), Bay Audierne (FRGC26), Concarneau offshore (FRGC28), Bay Concarneau (FRGC29), Laïta-Pouldu (FRGC32), Laïta offshore (FRGC33), Lorient - Groix (FRGC34), Bay Etel (FRGC35), Bay Quiberon (FRGC36), Groix-offshore (FRGC37), Bay-offshore (FRGC38), Morbihan Bay (FRGC39), Belle Ile (FRGC42)? Bay Vilaine- Côte (FRGC44), Bay Vilaine – offshore (FRGC45)
5f: Loire Estuary	Loire Offshore (FRGC46)
5g: Bay of Bourgneuf and Coast of Vendée	Ile d'Yeux (FRGC47), Bay Bourgneuf (FRGC48), Saint Jean Mont (FRGC49), Vendée – Les Sables (FRGC50),
5h: Gironde Estuary and Pertuis Sea Marine Natural Park	South Vendée (FRGC51) Breton Pertuis (FRGC53)

Governance systems

Located within the economic zone, zone 5 is concerned by the following systems:

- the Sea Basin Council (SBC) North Atlantic West (NAMO) in application of Article L219-6-1 of the French Environmental Code;
- the Regional Conference of the Sea and Coastline in Brittany in application of Article 3 bis.-II of the amended Decree of 5 May 2011;
- the regional assembly for the sea and coastline of Pays de la Loire;
- the regional councils of Brittany and Pays de la Loire and departmental councils of Ille-et-Vilaine, Côtes d'Armor, Finistère, Morbihan, Loire-Atlantique and Vendée;
- the defence zones (by appealing to the commander of the maritime zone at the maritime prefecture for the Atlantic)
- ;
- Loire Brittany basin committee in application of Article L213-8 of the French Environmental Code;
- the nautical commissions;
- the local water commissions (commissions locales de l'eau - CLE) of the coastal water management and planning schemes (schémas d'aménagement et de gestion des eaux - SAGE);
- The Shore council (CELRL)
- the management councils of the Iroise and Gironde Estuary and Pertuis Sea marine natural parks;
- the steering committees of the sea development plans (schémas de mise en valeur de la mer - SMVM) of Trégor Goëlo and of the Morbihan Bay ;
- the steering committees of the Natural 2000 sites concerned (cf. environmental map);

- the local information and surveillance commissions (commissions locales d'information et de surveillance - CLIS) for marine aggregate extraction concessions;
  the commission for the coordinated monitoring of marine aggregate extraction sites in Pays de la Loire (guideline 2 of the guidance document for sustainable management of marine aggregates, DOGGM)
- the port councils of St-Malo, St-Brieuc, Paimpol, Lézardrieux, Tréguier, Morlaix, Roscoff, Brest, Douarnenez, Guilvinec, Quimper, Lorient, Vannes, Auray, Concarneau, Asserac, Mesquer, Piriac, La Turballe, le Croisic, Pornichet, Nantes-St-Nazaire, la Plaine, Préfailles, Pornic, les Moutiers en Retz, les Brochets, les Champs, l'Epoids, Beauvoir, Fromentine, Ile D'Yeu, Saint-Gilles-Croix-de-Vie, Sables d'Olonne, Aiguillon-sur-Mer, La Faute-sur-Mer;
- the marine culture commissions.

Focus on the governance systems concerned by the zone

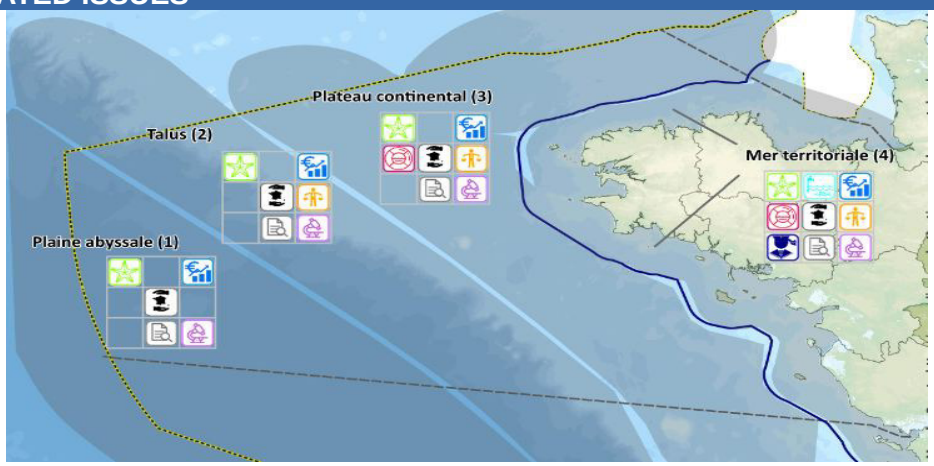
Zones of the territorial sea	**Local governance**
5a: Norman Breton Gulf and Bay of Mont St-Michel	CLE of the SAGE Coastal basins of the Dol de Bretagne region (SAGE04033)
5b: North Brittany	CLE of the SAGE: Rance, Frémur, Bay of Beaussais (SAGE04015), Arguenon - Bay of La Fresnaye (SAGE04043), Bay of Saint-Brieuc (SAGE04040), Argoat-Trégor-Goëlo (SAGE04048) Bay of Lannion (SAGE04046) Léon-Trégor (SAGE04045) Lower Léon (SAGE04044) Steering committee of the SMVM Tregor Goëlo CLIS of the concession of the Duons
5c: Iroise Marine Natural Park	Management council of the Iroise MNP CLE of the SAGE: Elorn (SAGE04026) Aulne (SAGE04014) Bay of Douarnenez Lower Léon
5d Brest harbour	CLE of the SAGE: Elorn Aulne Bay of Douarnenez (SAGE04054) CLE inter-SAGE Aulne Elorn
5e South Brittany	CLE of the SAGE: West Cornouaille (SAGE04049) Odet (SAGE04013) South Cornouaille (SAGE04056) Elle - Isole - Laïta (SAGE04012) Scorff (SAGE04042) Blavet (SAGE04007) Morbihan Bay and ria of Etel (SAGE04053) Vilaine (SAGE04008) Steering committee of the SMVM Morbihan Bay
5f : Loire Estuary	CLE of the SAGE Loire Estuary (SAGE04001) CLIS of the concession of Le Pilier Local information commission (CLI) on dredging of the GPM Nantes Saint Nazaire

	Monitoring, information and consultation committee (Commission de suivi, d'information et de Concertation - CSIC) of the Cairnstrath A and SN-2 concessions
5g: Bay of Bourgneuf and Coast of Vendée	CLE of the SAGE: Bay of Bourgneuf and Marais Breton (SAGE04022) Vie and Jaunay (SAGE04023) Auzance Vertonne and coastal streams and rivers (SAGE04006)
5h: Gironde Estuary and Pertuis Sea Marine Natural Park	Gironde Estuary and Pertuis Sea Marine Natural Park CLE of the SAGE Lay (SAGE04003) CLE of the SAGE Sèvre Niortaise river and Marais Poitevin CLIS of the concession of the Payré

Spatial constraints arising from other processes

- Presence of the traffic separation scheme (TSS).

2. INTEGRATED ISSUES



For the territorial sea, all the issues coexist at variable levels of intensity according to the subdivisions: the good ecological status of the marine environment, the quality of coastal waters, national defence and safety, knowledge, research and innovation, the maritime economy and the carrying capacity of maritime areas (cohabitation of commercial sea fisheries, transport, international communication cables) and maritime safety (related to the traffic density at sea, commercial sea fisheries and cross-Channel and international freight and passenger transport) and appropriation of the sea by the civil society.

3. STRATEGIC OBJECTIVES

Refer to Appendix 6 (strategic environmental and socioeconomic objectives)

4. VOCATIONS OF ZONE No. 5 "TERRITORIAL WATERS"

The priorities in terms of vocation are established and applicable on the scale of each of the thirteen zones.

Main vocation of zone 5: General priority in the zones 5a to 5h recovering the good status of the marine environment and the water quality by taking into account hydrosedimentary dynamics and the land-sea link for the benefit of ecosystem services and cohabitation of maritime and coastal usages and activities.

Each zone of the territorial sea is, furthermore, the subject of a particular vocation which expresses a desired evolution relating to one or several activities and/or to the quality of the marine environment and of the coastal waters (cf. Table below).

The known technical potentials associated with this zone (*MRE, marine granulates, fisheries, aquaculture*) are specified in the cartographic appendix (atlas) in part 1 of the maritime coastline strategy (current situation).

For the possible launch of finer planning levels, required by particular projects, a cross-reference between the vocation map, the maps of the present sheet and the current situation maps (Cartographic Appendix) mentioning the known potentials and constraints at the publication date of the maritime coastline strategy can enable more restricted zones to be proposed at the debates of the local governance bodies (SBC, CRML and ARML, etc.).

Based on the principle of complementarity and subsidiarity, the vocation map integrates the vocations established by existing plans such as the marine natural parks and the sea development plans (schémas de mise en valeur de la mer - SMVM).

The priorities in terms of vocation are established and applicable on the scale of each of the 8 zones

Zones of the territorial sea	Specific vocations
5a: Norman Breton Gulf and Bay of Mont St-Michel	Priority to the cultural heritage, sustainable fisheries and aquacultures, in cohabitation with tourist activities and the preservation of marine ecosystems.
5b: North Brittany	Priority to sustainable fisheries and aquacultures; by ensuring the cohabitation, by order of importance, with marine renewable energies, sustainable water sports and tourism; by preserving the habitats of high ecological concern, the seabirds and marine mammals. This zone includes the scope of the SMVM of Trégor - Goëlo, which defines vocation zones within the framework of a specific governance
5c :Iroise Marine Natural Park	Knowledge of the heritage, protection and sustainable development of the marine environment (Management guidelines defined in Article 6 of the Decree 2007-1406 of 28 September 2007 on the creation of the Iroise marine natural park).
5d: Bay of Brest	Priority to industrial-port and military activities; by ensuring the cohabitation, by order of importance, with the fisheries, aquacultures, recreational boating, all the sustainable nautical activities and tourism; by ensuring the recovery of the water quality and the preservation of habitats of high ecological concern.
5e : South Brittany	Priority to sustainable fisheries and aquacultures; by ensuring cohabitation, by order of importance, with marine renewable energies, sustainable water sports and tourism; by taking into account the preservation of the stretch of dunes, the habitats of high ecological concern and the seabirds. This zone includes the scope of the SMVM of the Morbihan Bay, which defines vocation zones within the framework of a specific governance, as well as a part of the district of the Grand Port Maritime (major seaport).
5f: Loire Estuary	Priority to industrial-port activities and maritime traffic; by ensuring cohabitation, by order of importance, with sustainable fisheries and aquacultures, sustainable water sports and tourism, marine renewable energies and the extraction of marine aggregates; by preserving the high estuarian and retro-littoral ecological stakes and the good functioning of the land-sea interface.
5g: Bay of Bourgneuf and Coast of Vendée	Priority to sustainable fisheries and aquacultures; by ensuring cohabitation, by order of importance, with marine renewable energies, sustainable water sports and tourism; by taking into account the preservation of the stretch of dunes and the preservation of habitats and species of high ecological concern.
5h Gironde Estuary and Pertuis Sea Marine Natural Park	Knowledge of the heritage, protection and sustainable development of the marine environment (Management guidelines defined in Article 8 of the Decree 2015-424 of 15 April 2015 on the creation of the Gironde Estuary and Pertuis Sea Marine Natural Park).

On the scale of the zone, the priority is given to one or several activities or environmental requirement in cohabitation with other activities. The aim is not to exclude but to encourage the cohabitation of uses to serve the strategic objectives identified while enabling, in the case of a dispute, the priorities to be determined within the area.

A non-cited usage in a zone can be established or exist before the vocation map, but it cannot avail itself of a strategic priority as defined in the present document.

5. REQUIREMENTS OR RECOMMENDATIONS

Non impact on certain components of the ecosystems

The systematic implementation of the sequence avoid – reduce – compensate at sea is required.

It is recommended, in accordance with the CGEDD report of October 2017 on the Avoid Reduce Compensate sequence at sea, to:

- Incorporate measures taking account of all the diffuse and global impacts and clearly marking the implementation of the principle of absence of net loss of biodiversity provided for by the Biodiversity Law of 8 August 2016.
- Provide for shared compensation measures with a proven ecological efficiency and monitored over the long term, taking into account not only the exceptional biodiversity, but also the ordinary biodiversity in particular through ecosystem services.

It is recommended to take into account particular zoning mechanisms, when they exist: cf. maps relating to the environment below.

Conditions for the sequence of events

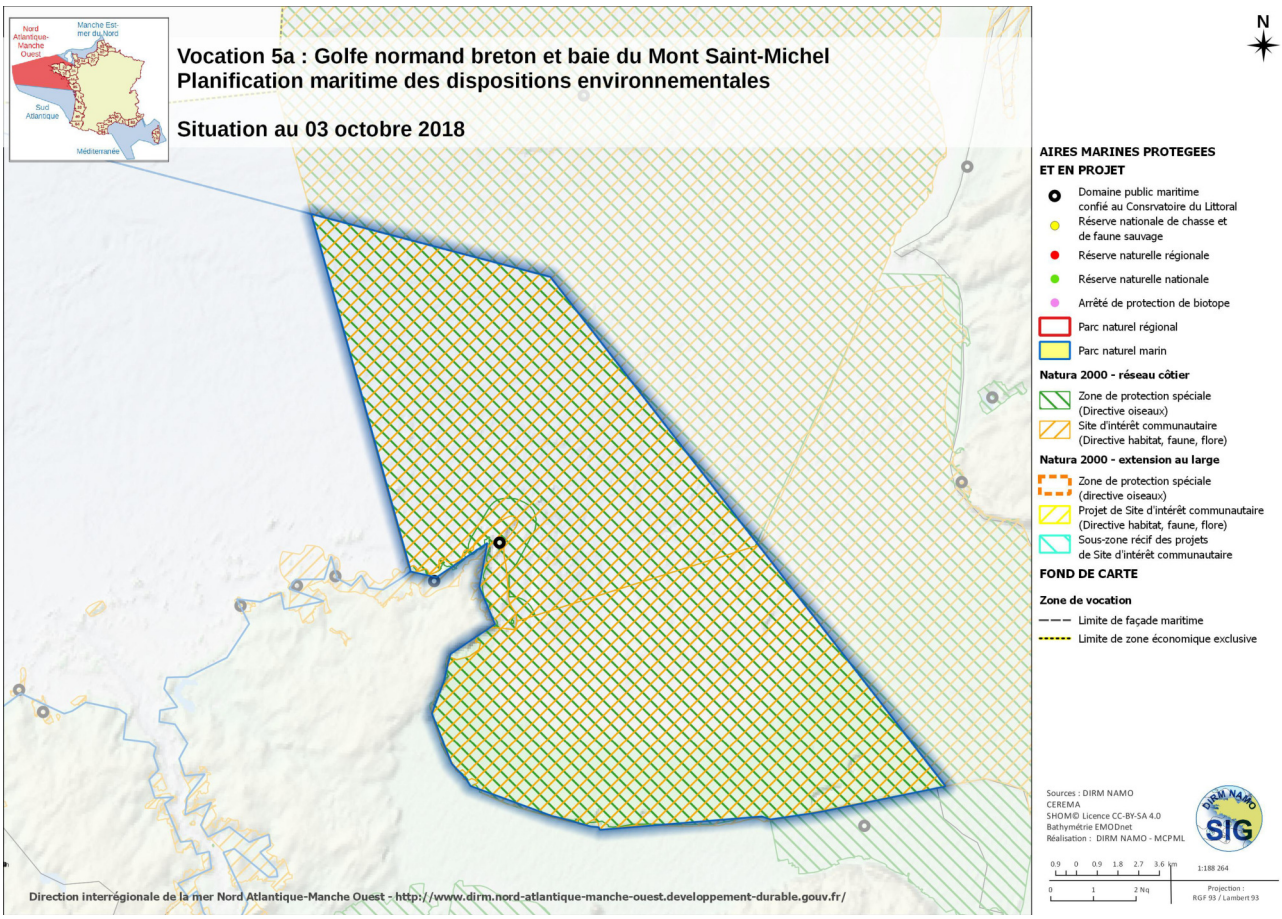
There is a requirement before the start of a new activity project, subject to authorization, and/or environmental assessment, that the petitioner:

- carries out an appropriate study depending on the classification of the environmental issues presented above.
- studies the compatibility of the project with the national defence activities and, if required, with other activities

It is recommended that the complementary knowledge acquired is capitalized on and made available to the public, governance bodies and specialists, including researchers.

Compliance with existing maritime planning related to human activities (cables) detailed below.

Existing maritime planning


Vocation 5a : Golfe normand breton et baie du Mont Saint-Michel
Planification maritime des dispositions environnementales
Situation au 03 octobre 2018
Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
N
AIRES MARINES PROTEGEES ET EN PROJET
Domaine public maritime confié au Consrvatoire du Littoral
Réserve nationale de chasse et de faune sauvage
Réserve naturelle régionale
Réserve naturelle nationale
Arrêté de protection de biotope
Parc naturel régional
Parc naturel marin
Natura 2000 - réseau côtier
Zone de protection spéciale (Directive oiseaux)
Site d'intérêt communautaire (Directive habitat, faune, flore)
Natura 2000 - extension au large
Zone de protection spéciale (directive oiseaux)
Projet de Site d'intérêt communautaire (Directive habitat, faune, flore)
Sous-zone récif des projets de Site d'intérêt communautaire
FOND DE CARTE
Zone de vocation
Limite de façade maritime
Limite de zone économique exclusive
Sources : DIRM NAMO
CEREMA
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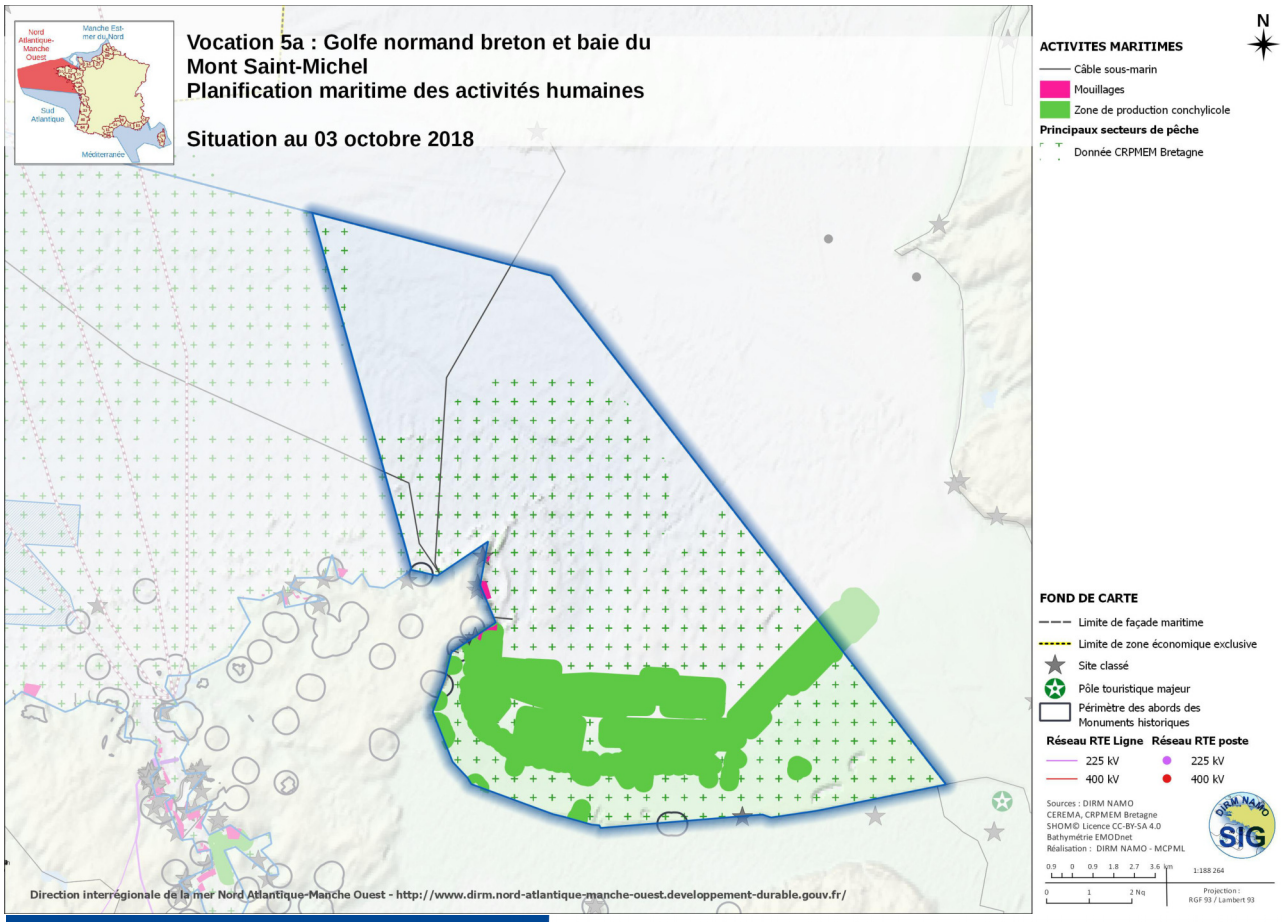
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
1:188 264
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Vocation 5a : Golfe normand breton et baie du Mont Saint-Michel
Planification maritime des activités humaines
Situation au 03 octobre 2018
Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
N
ACTIVITES MARITIMES
Câble sous-marin
Mouillages
Zone de production conchylicole
Principaux secteurs de pêche
Donnée CRPMEM Bretagne
FOND DE CARTE
Limite de façade maritime
Limite de zone économique exclusive
Site classé
Pôle touristique majeur
Périmètre des abords des Monuments historiques
Réseau RTE Ligne
225 kV
400 kV
Réseau RTE poste
225 kV
400 kV
Sources : DIRM NAMO
CEREMA, CRPMEM Bretagne
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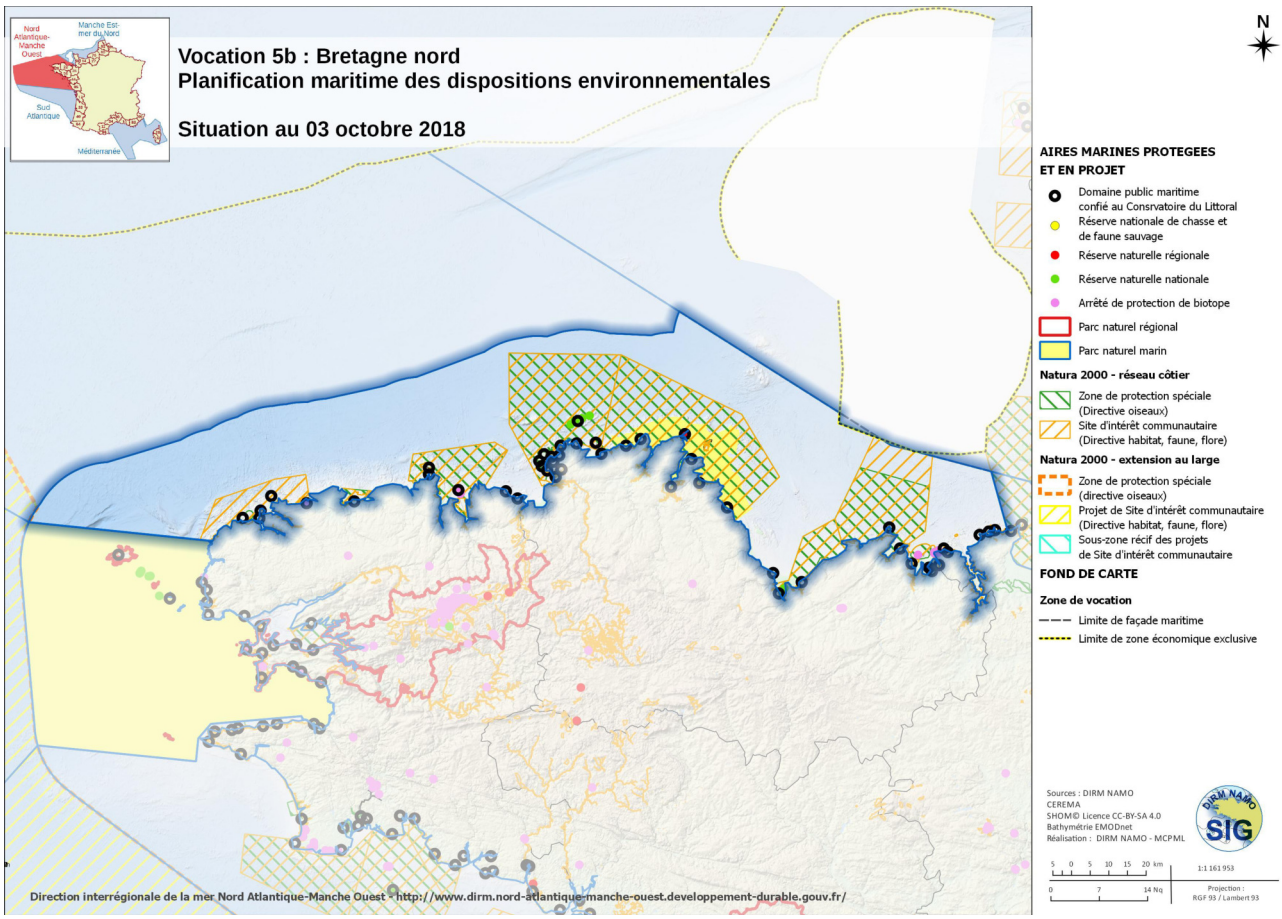
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
1:188 264
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Vocation 5b : Bretagne nord
Planification maritime des dispositions environnementales
Situation au 03 octobre 2018
Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
N
AIRES MARINES PROTEGEES ET EN PROJET
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Limite de zone économique exclusive
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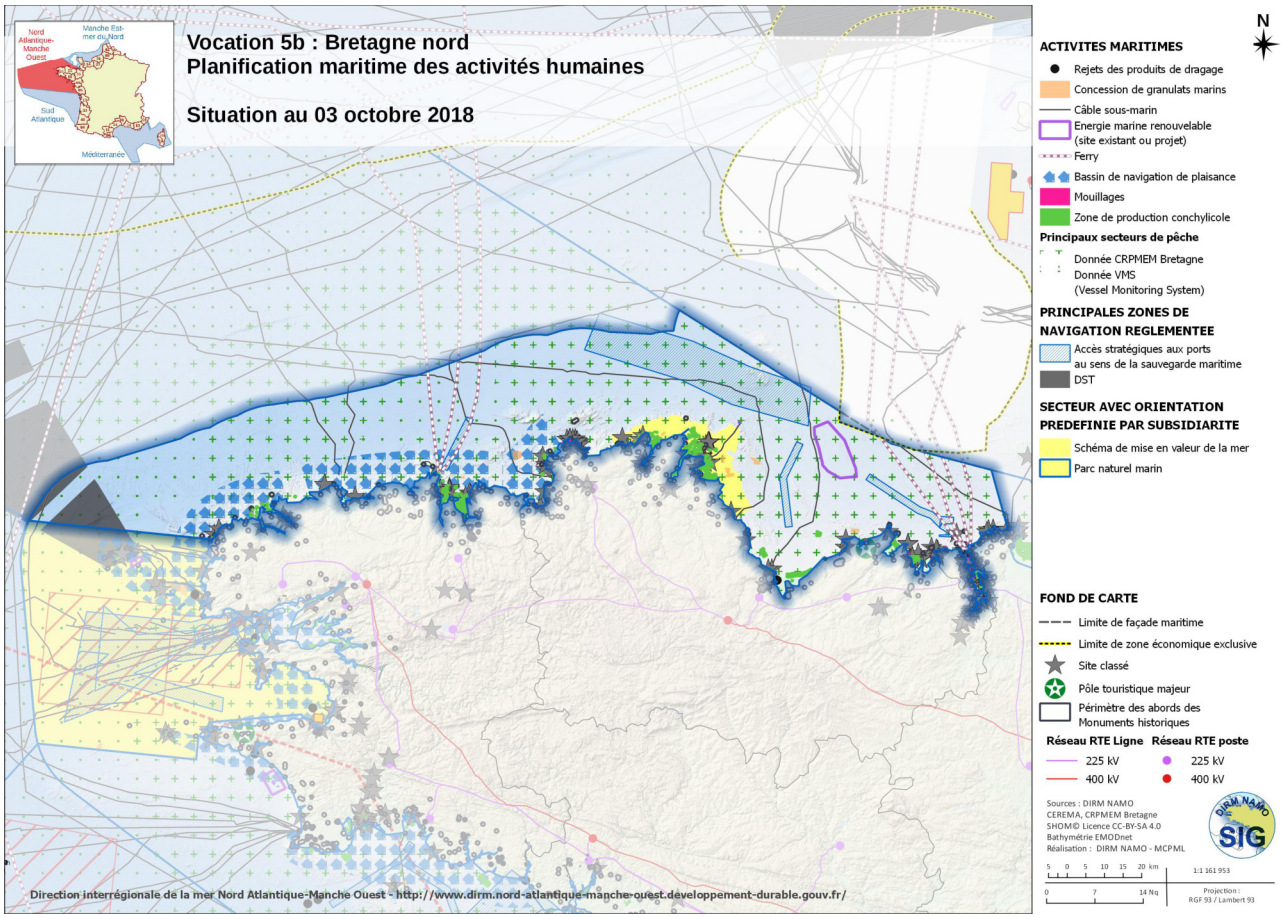
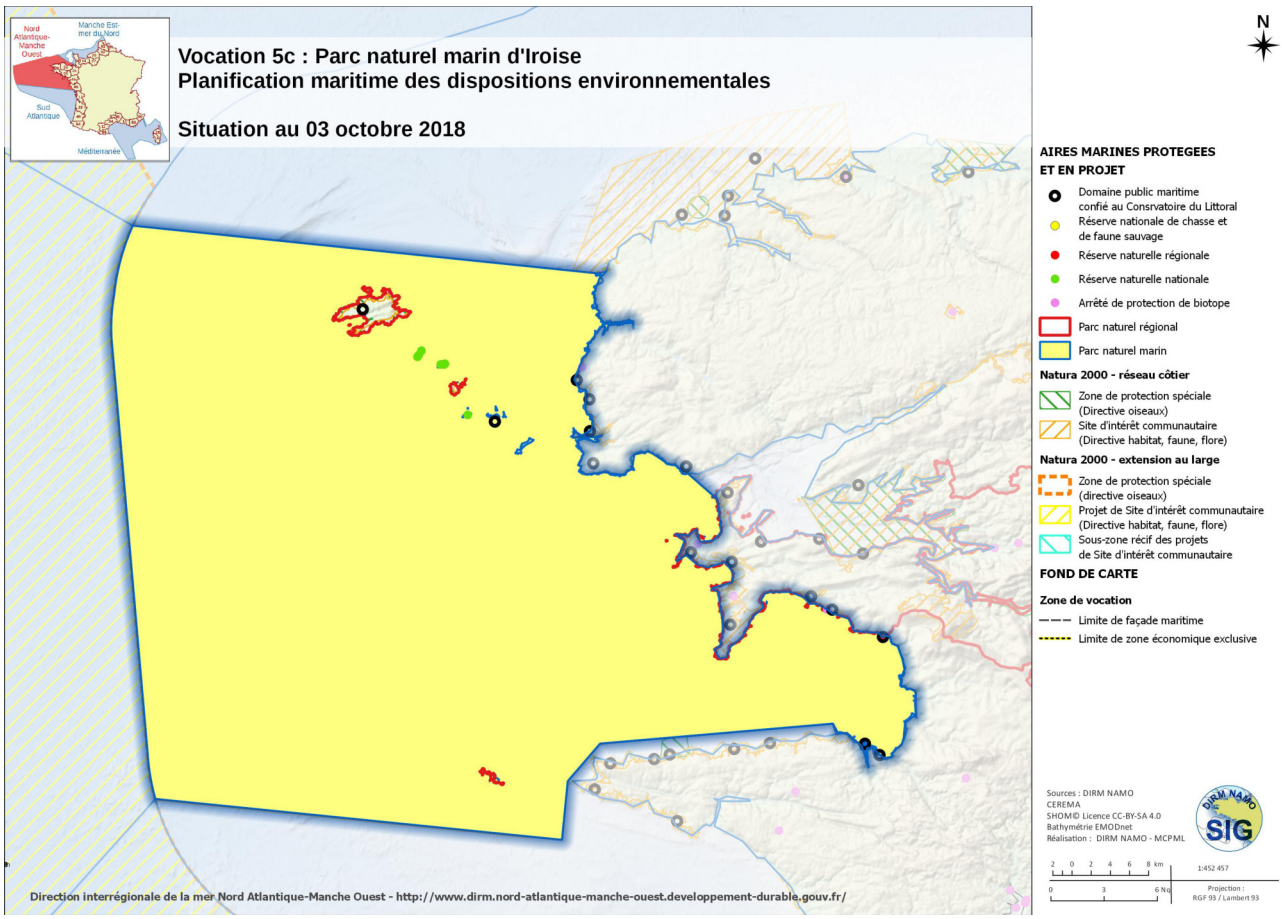
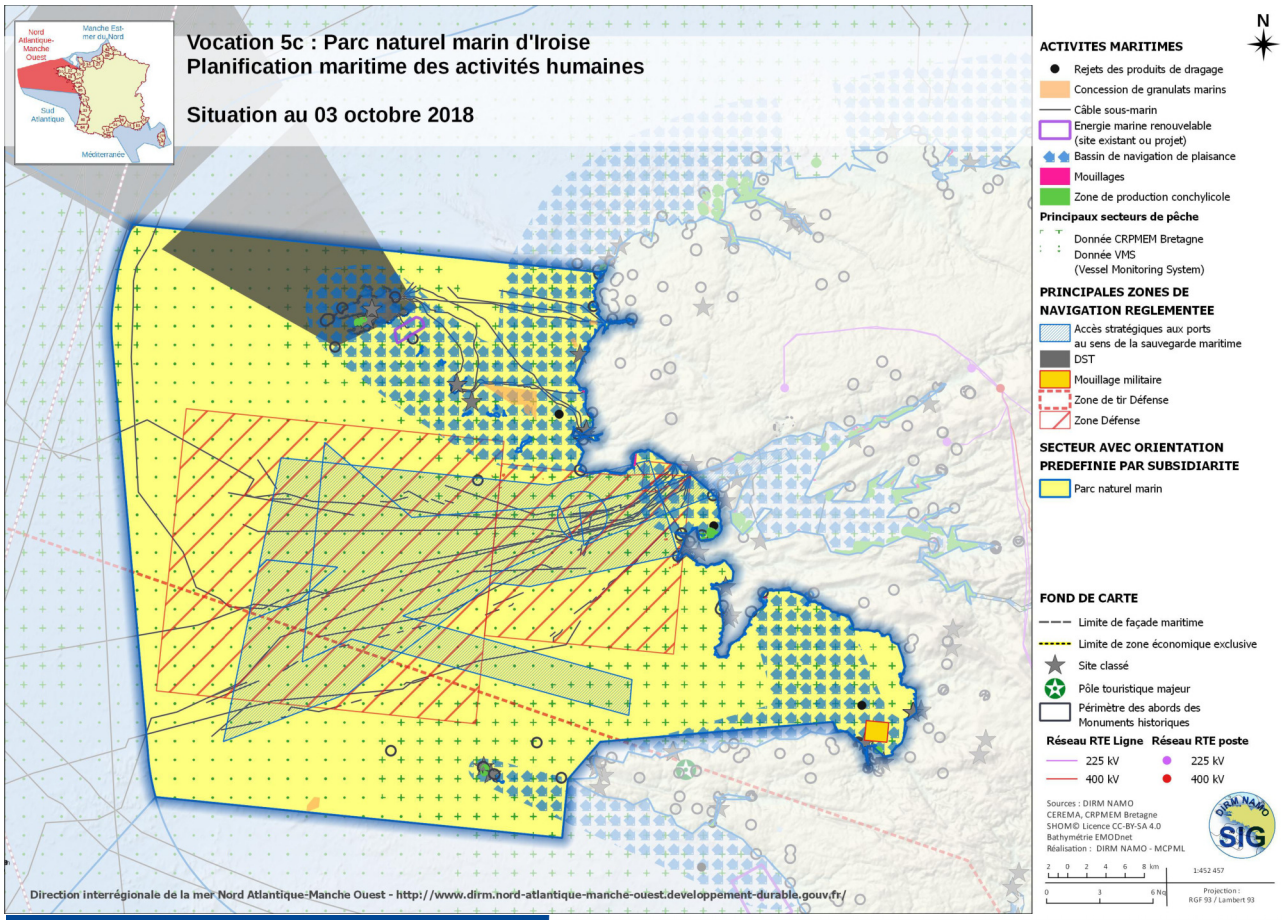
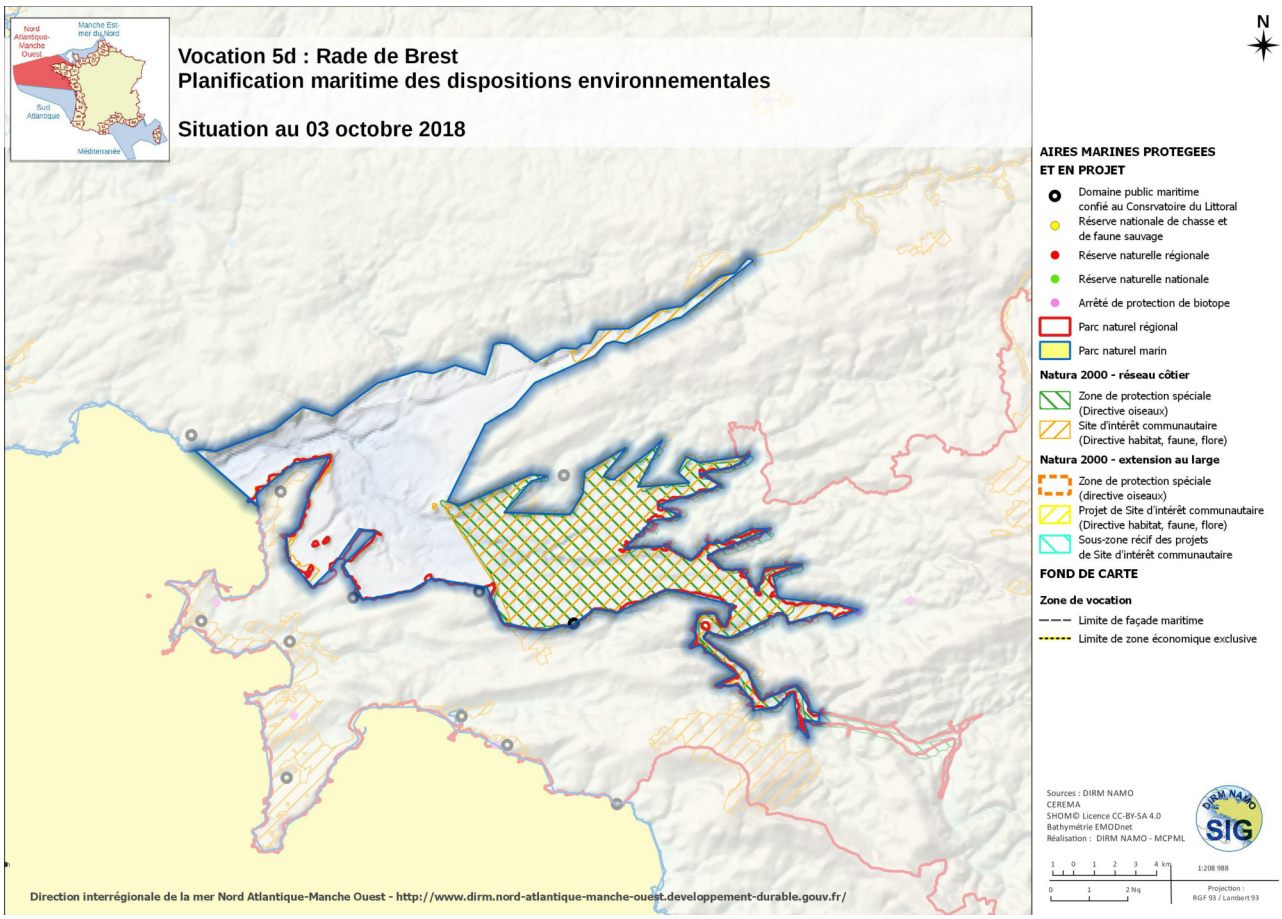
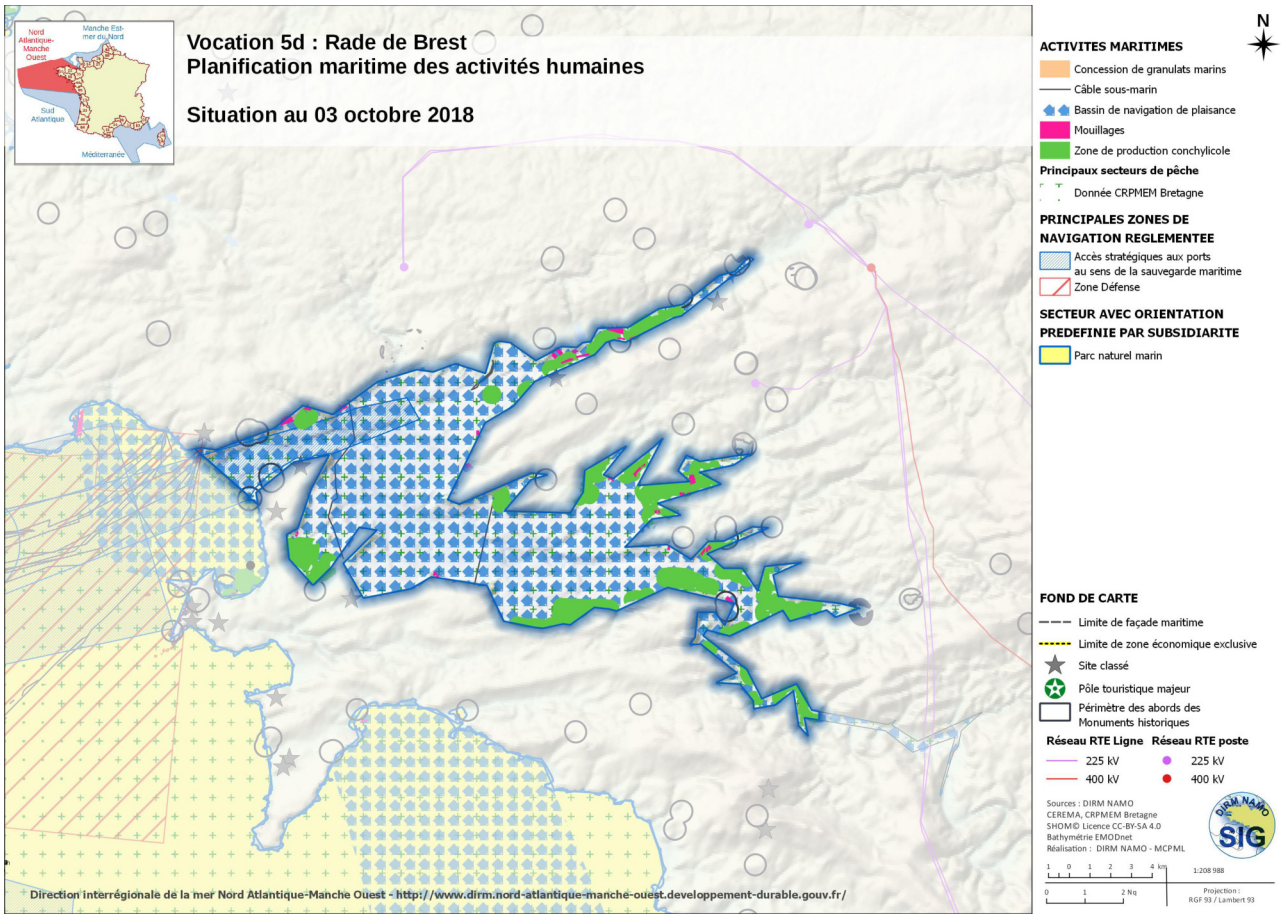
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
DIRM NAMO SIG
1:1 161 953
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/

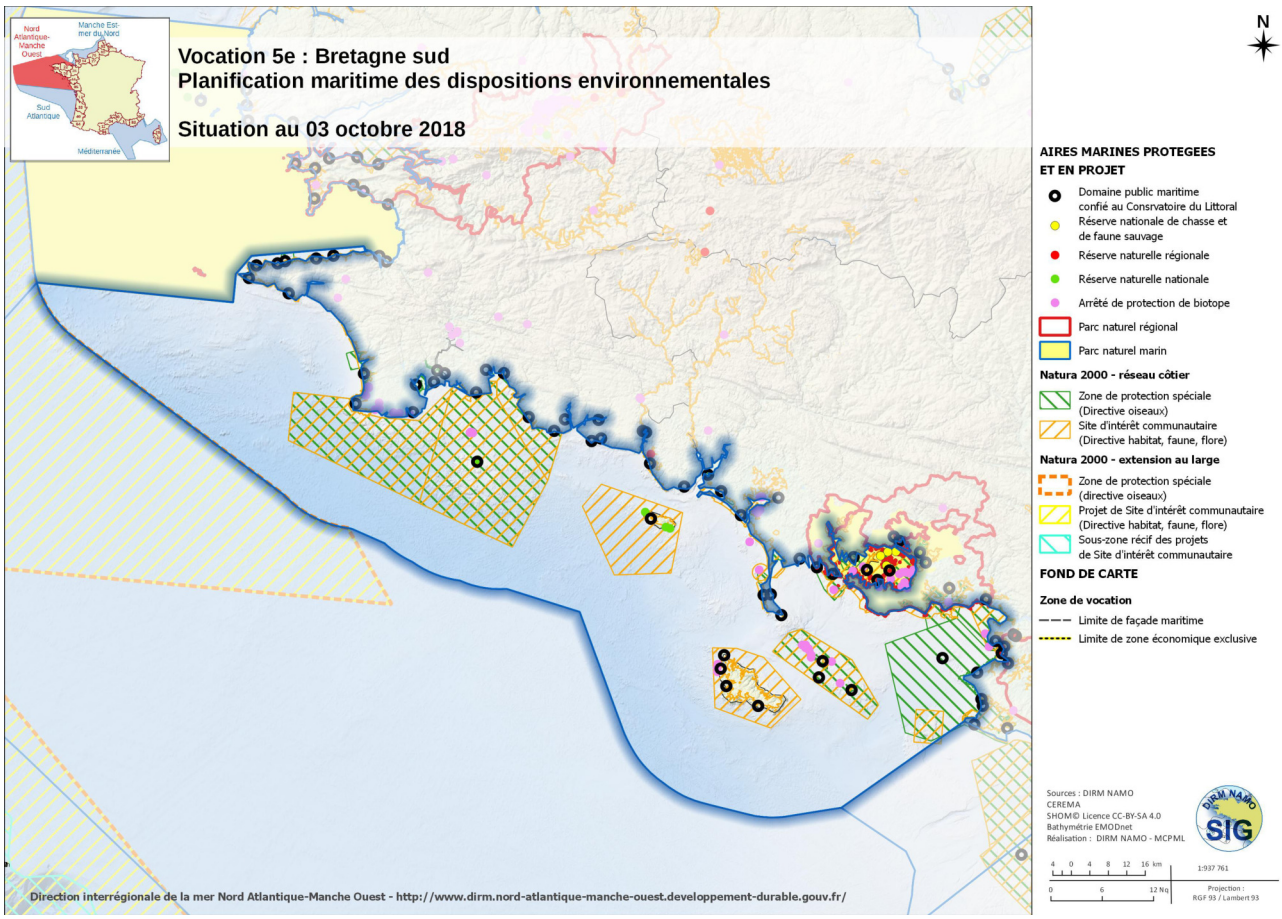

Vocation 5b : Bretagne nord
Planification maritime des activités humaines
Situation au 03 octobre 2018
Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
N
ACTIVITES MARITIMES
Rejets des produits de dragage
Concession de granulats marins
Câble sous-marin
Energie marine renouvelable (site existant ou projet)
Ferry
Bassin de navigation de plaisance
Mouillages
Zone de production conchylicole
Principaux secteurs de pêche
Donnée CRPMEM Bretagne
Donnée VMS (Vessel Monitoring System)
PRINCIPALES ZONES DE NAVIGATION REGLEMENTEE
Accès stratégiques aux ports au sens de la sauvegarde maritime
DST
SECTEUR AVEC ORIENTATION PREDEFINIE PAR SUBSIDIARITE
Schéma de mise en valeur de la mer
Parc naturel marin
FOND DE CARTE
Limite de façade maritime
Limite de zone économique exclusive
Site classé
Pôle touristique majeur
Périmètre des abords des Monuments historiques
Réseau RTE Ligne
225 kV
400 kV
Réseau RTE poste
225 kV
400 kV
Sources : DIRM NAMO
CEREMA, CRPMEM Bretagne
SHOM© Licence CC-BY-SA 4.0
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
DIRM NAMO SIG
1:1 161 953
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Vocation 5c : Parc naturel marin d'Iroise
Planification maritime des dispositions environnementales
Situation au 03 octobre 2018
Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
N
AIRES MARINES PROTEGEES ET EN PROJET
Domaine public maritime confié au Conservatoire du Littoral
Réserve nationale de chasse et de faune sauvage
Réserve naturelle régionale
Réserve naturelle nationale
Arrêté de protection de biotope
Parc naturel régional
Parc naturel marin
Natura 2000 - réseau côtier
Zone de protection spéciale (Directive oiseaux)
Site d'intérêt communautaire (Directive habitat, faune, flore)
Natura 2000 - extension au large
Zone de protection spéciale (directive oiseaux)
Projet de Site d'intérêt communautaire (Directive habitat, faune, flore)
Sous-zone récif des projets de Site d'intérêt communautaire
FOND DE CARTE
Zone de vocation
Limite de façade maritime
Limite de zone économique exclusive
Sources : DIRM NAMO
CEREMA
SHOM© Licence CC-BY-SA 4.0
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
DIRM NAMO SIG
1:452 457
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Vocation 5c : Parc naturel marin d'Iroise
Planification maritime des activités humaines
Situation au 03 octobre 2018
Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
N
ACTIVITES MARITIMES
Rejets des produits de dragage
Concession de granulats marins
Câble sous-marin
Energie marine renouvelable (site existant ou projet)
Bassin de navigation de plaisance
Mouillages
Zone de production conchylicole
Principaux secteurs de pêche
Donnée CRPMEM Bretagne
Donnée VMS (Vessel Monitoring System)
PRINCIPALES ZONES DE NAVIGATION REGLEMENTEE
Accès stratégiques aux ports au sens de la sauvegarde maritime
DST
Mouillage militaire
Zone de tir Défense
Zone Défense
SECTEUR AVEC ORIENTATION PREDEFINIE PAR SUBSIDIARITE
Parc naturel marin
FOND DE CARTE
Limite de façade maritime
Limite de zone économique exclusive
Site classé
Pôle touristique majeur
Périmètre des abords des Monuments historiques
Réseau RTE Ligne
225 kV
400 kV
Réseau RTE poste
225 kV
400 kV
Sources : DIRM NAMO
CEREMA, CRPMEM Bretagne
SHOM© Licence CC-BY-SA 4.0
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
DIRM NAMO SIG
1:452 457
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
Vocation 5d : Rade de Brest
Planification maritime des dispositions environnementales
Situation au 03 octobre 2018
N
AIRES MARINES PROTEGEES ET EN PROJET
Domaine public maritime confié au Consrvatoire du Littoral
Réserve nationale de chasse et de faune sauvage
Réserve naturelle régionale
Réserve naturelle nationale
Arrêté de protection de biotope
Parc naturel régional
Parc naturel marin
Natura 2000 - réseau côtier
Zone de protection spéciale (Directive oiseaux)
Site d'intérêt communautaire (Directive habitat, faune, flore)
Natura 2000 - extension au large
Zone de protection spéciale (directive oiseaux)
Projet de Site d'intérêt communautaire (Directive habitat, faune, flore)
Sous-zone récif des projets de Site d'intérêt communautaire
FOND DE CARTE
Zone de vocation
Limite de façade maritime
Limite de zone économique exclusive
Sources : DIRM NAMO
CEREMA
SHOM© Licence CC-BY-SA 4.0
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
DIRM NAMO SIG
1:208 988
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
Vocation 5d : Rade de Brest
Planification maritime des activités humaines
Situation au 03 octobre 2018
N
ACTIVITES MARITIMES
Concession de granulats marins
Câble sous-marin
Bassin de navigation de plaisance
Mouillages
Zone de production conchylicole
Principaux secteurs de pêche
Donnée CRPMEM Bretagne
PRINCIPALES ZONES DE NAVIGATION REGLEMENTEE
Accès stratégiques aux ports au sens de la sauvegarde maritime
Zone Défense
SECTEUR AVEC ORIENTATION PREDEFINIE PAR SUBSIDIARITE
Parc naturel marin
FOND DE CARTE
Limite de façade maritime
Limite de zone économique exclusive
Site classé
Pôle touristique majeur
Périmètre des abords des Monuments historiques
Réseau RTE Ligne
225 kV
400 kV
Réseau RTE poste
225 kV
400 kV
Sources : DIRM NAMO
CEREMA, CRPMEM Bretagne
SHOM© Licence CC-BY-SA 4.0
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
DIRM NAMO SIG
1:208 988
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
Vocation 5e : Bretagne sud
Planification maritime des dispositions environnementales
Situation au 03 octobre 2018
N
AIRES MARINES PROTEGEES ET EN PROJET
Domaine public maritime confié au Consrvatoire du Littoral
Réserve nationale de chasse et de faune sauvage
Réserve naturelle régionale
Réserve naturelle nationale
Arrêté de protection de biotope
Parc naturel régional
Parc naturel marin
Natura 2000 - réseau côtier
Zone de protection spéciale (Directive oiseaux)
Site d'intérêt communautaire (Directive habitat, faune, flore)
Natura 2000 - extension au large
Zone de protection spéciale (directive oiseaux)
Projet de Site d'intérêt communautaire (Directive habitat, faune, flore)
Sous-zone récif des projets de Site d'intérêt communautaire
FOND DE CARTE
Zone de vocation
Limite de façade maritime
Limite de zone économique exclusive
Sources : DIRM NAMO
CEREMA
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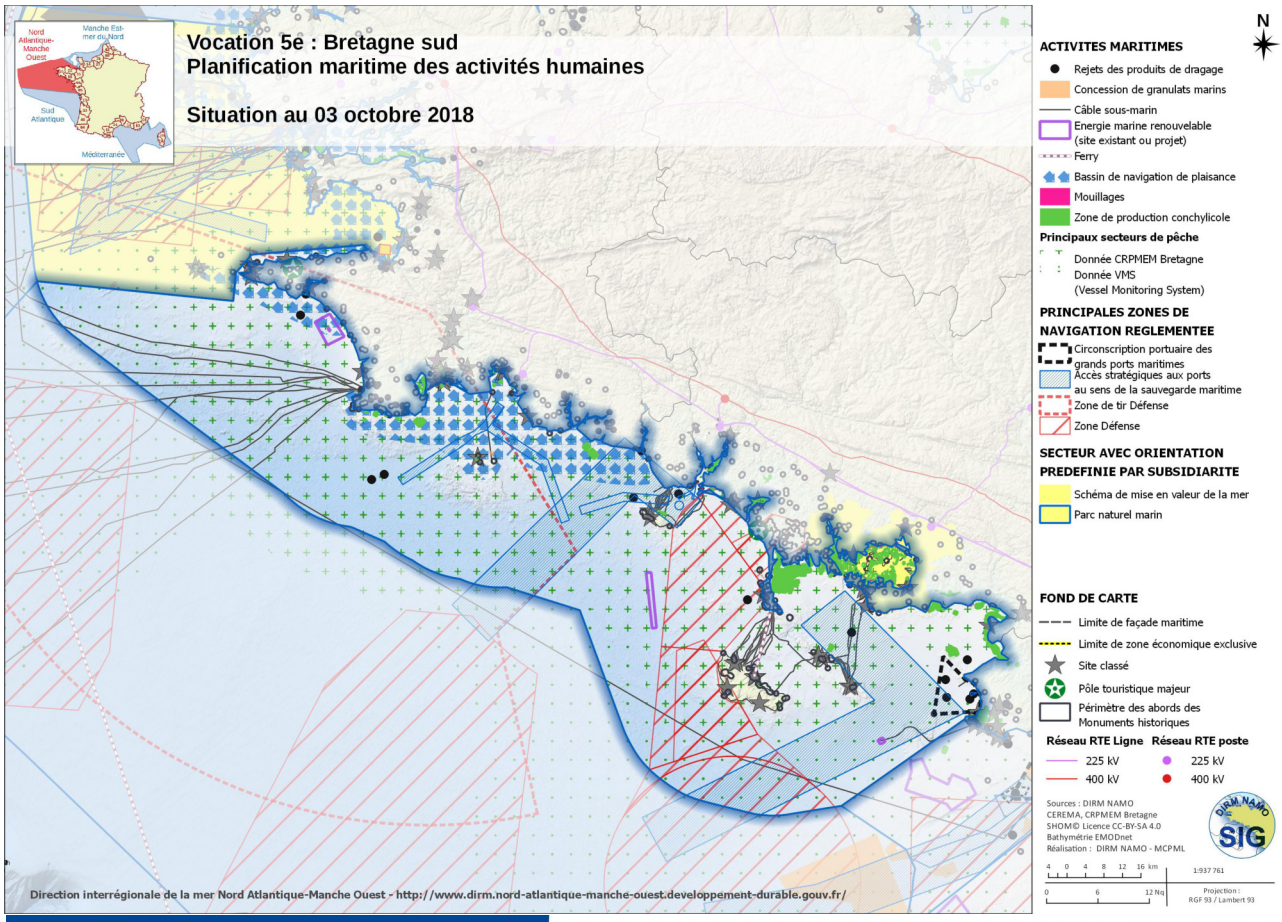
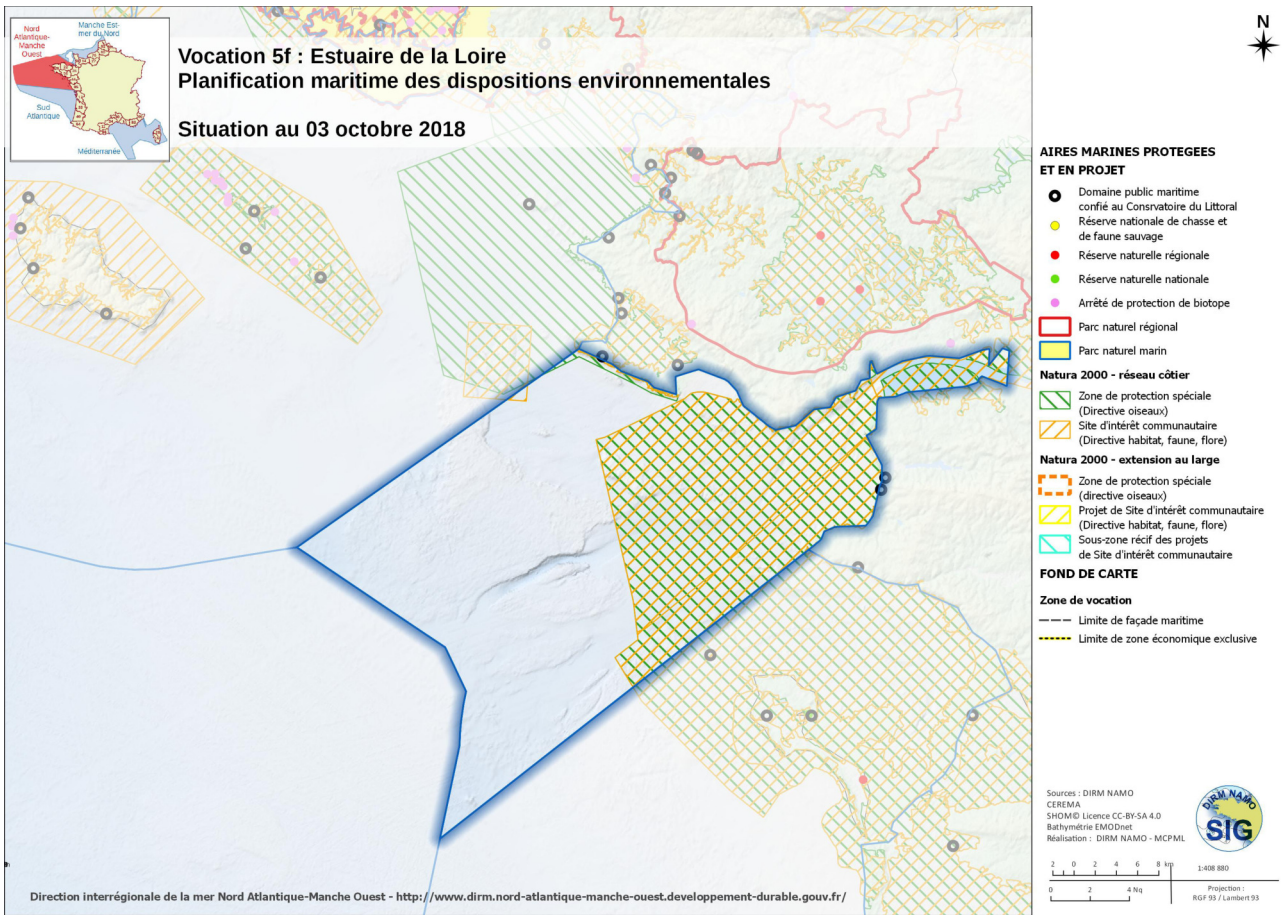
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
DIRM NAMO SIG
4 0 4 8 12 16 km
1:937 761
0 6 12 Nq
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
Vocation 5e : Bretagne sud
Planification maritime des activités humaines
Situation au 03 octobre 2018
N
ACTIVITES MARITIMES
Rejets des produits de dragage
Concession de granulats marins
Câble sous-marin
Energie marine renouvelable (site existant ou projet)
Ferry
Bassin de navigation de plaisance
Mouillages
Zone de production conchylicole
Principaux secteurs de pêche
Donnée CRPMEM Bretagne
Donnée VMS (Vessel Monitoring System)
PRINCIPALES ZONES DE NAVIGATION REGLEMENTEE
Circonscription portuaire des grands ports maritimes
Accès stratégiques aux ports au sens de la sauvegarde maritime
Zone de tir Défense
Zone Défense
SECTEUR AVEC ORIENTATION PREDEFINIE PAR SUBSIDIARITE
Schéma de mise en valeur de la mer
Parc naturel marin
FOND DE CARTE
Limite de façade maritime
Limite de zone économique exclusive
Site classé
Pôle touristique majeur
Périmètre des abords des Monuments historiques
Réseau RTE Ligne
225 kV
400 kV
Réseau RTE poste
225 kV
400 kV
Sources : DIRM NAMO
CEREMA, CRPMEM Bretagne
SHOM© Licence CC-BY-SA 4.0
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
DIRM NAMO SIG
4 0 4 8 12 16 km
1:937 761
0 6 12 Nq
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Vocation 5f : Estuaire de la Loire
Planification maritime des dispositions environnementales
Situation au 03 octobre 2018
Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
N
AIRES MARINES PROTEGEES ET EN PROJET
Domaine public maritime confié au Consrvatoire du Littoral
Réserve nationale de chasse et de faune sauvage
Réserve naturelle régionale
Réserve naturelle nationale
Arrêté de protection de biotope
Parc naturel régional
Parc naturel marin
Natura 2000 - réseau côtier
Zone de protection spéciale (Directive oiseaux)
Site d'intérêt communautaire (Directive habitat, faune, flore)
Natura 2000 - extension au large
Zone de protection spéciale (directive oiseaux)
Projet de Site d'intérêt communautaire (Directive habitat, faune, flore)
Sous-zone récif des projets de Site d'intérêt communautaire
FOND DE CARTE
Zone de vocation
Limite de façade maritime
Limite de zone économique exclusive
Sources : DIRM NAMO
CEREMA
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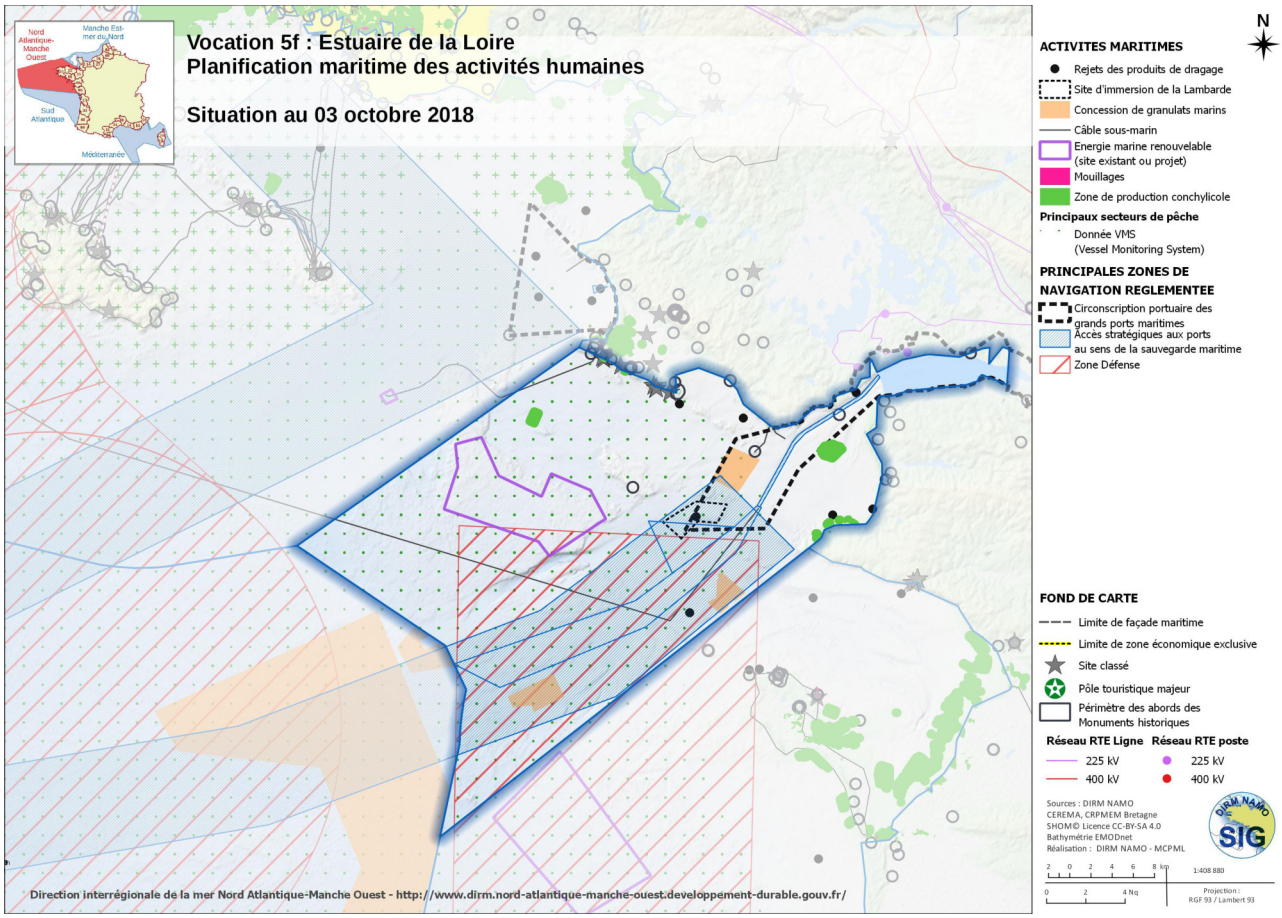
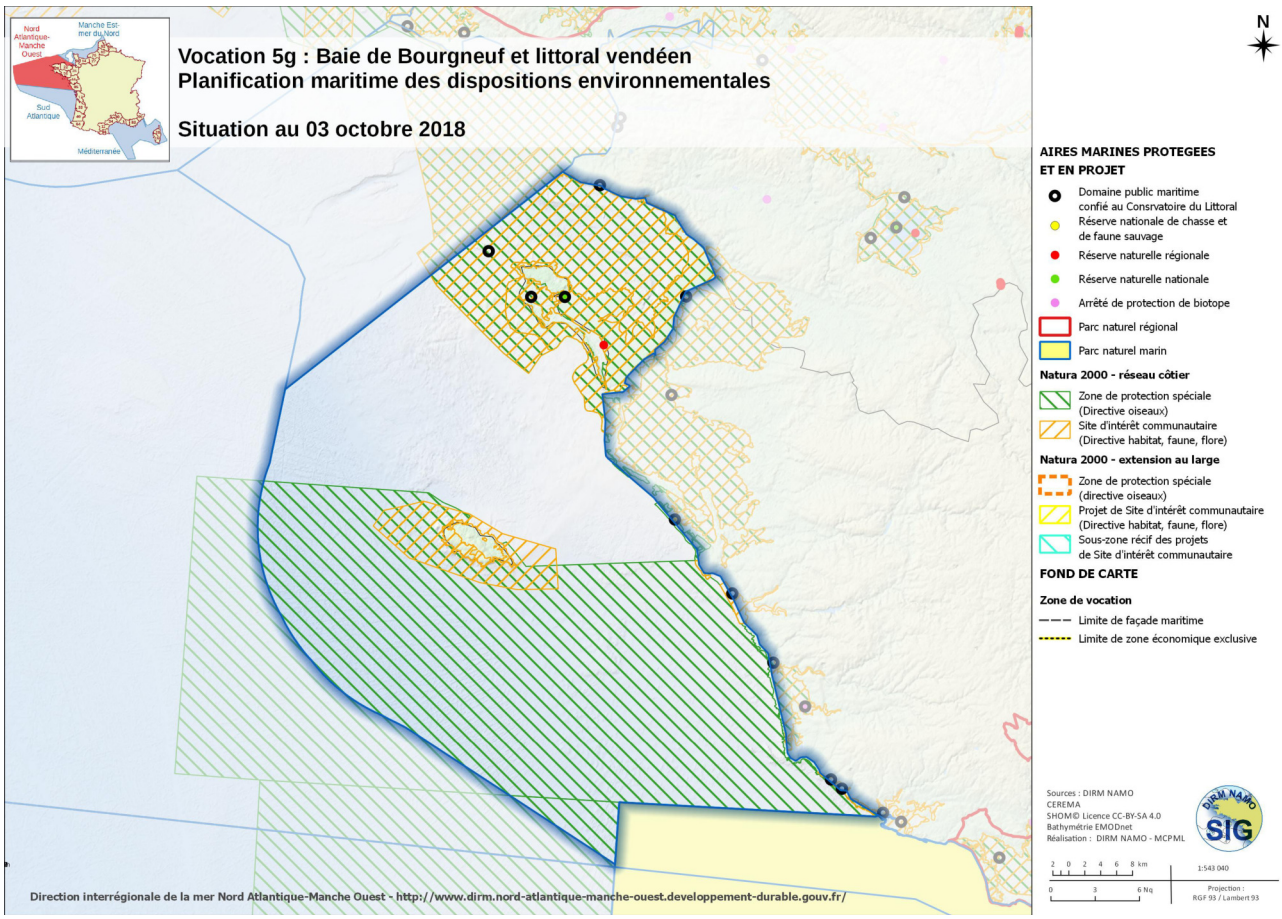
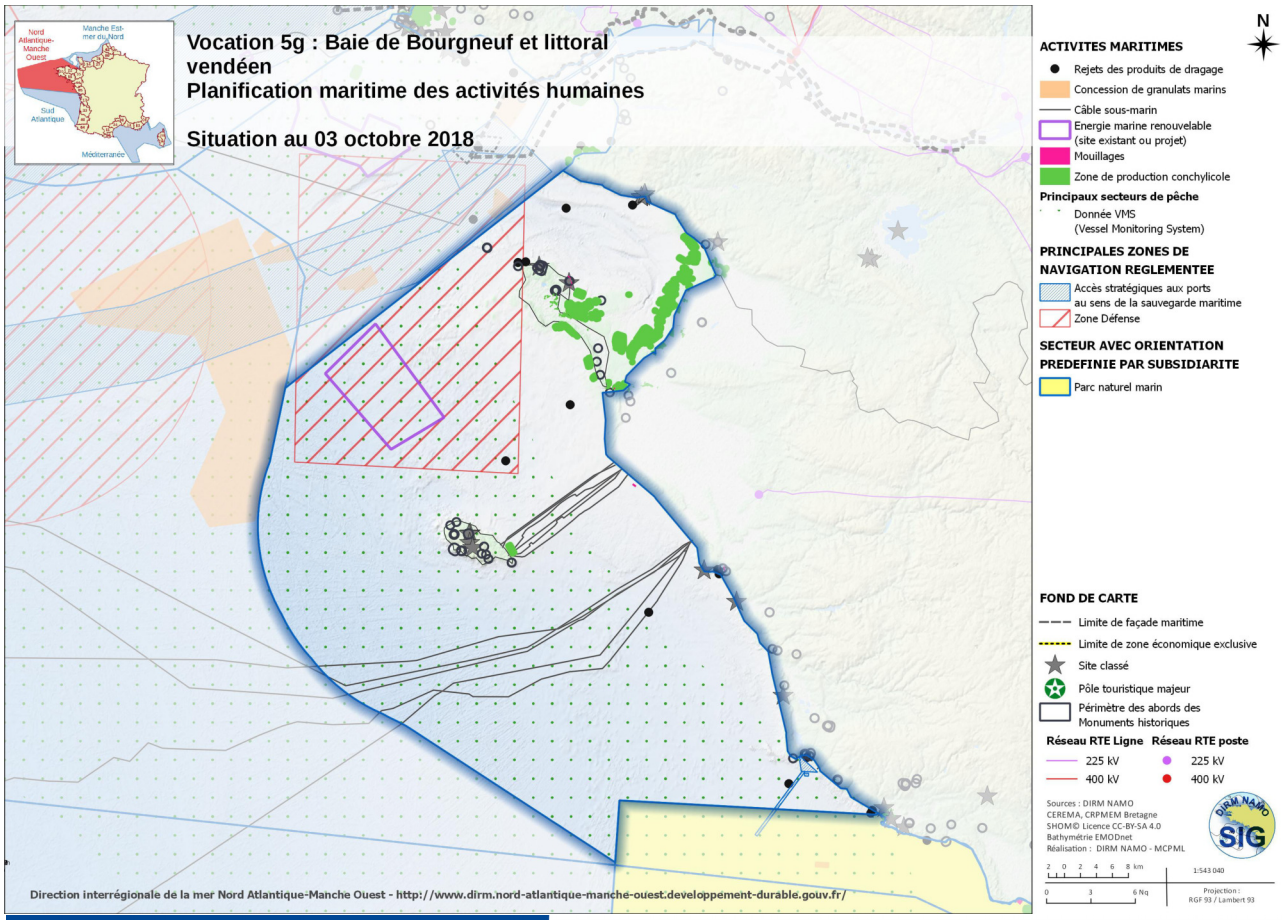
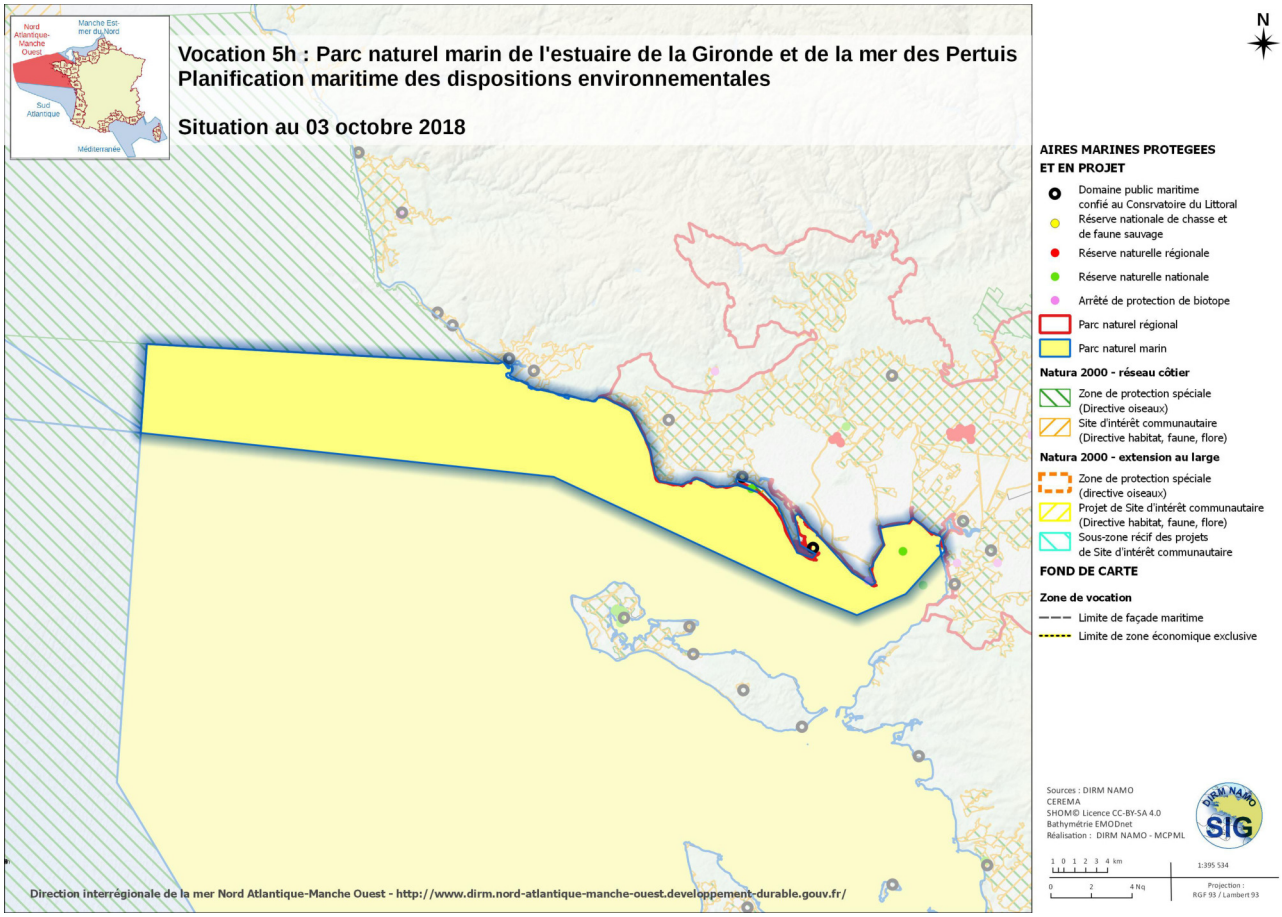
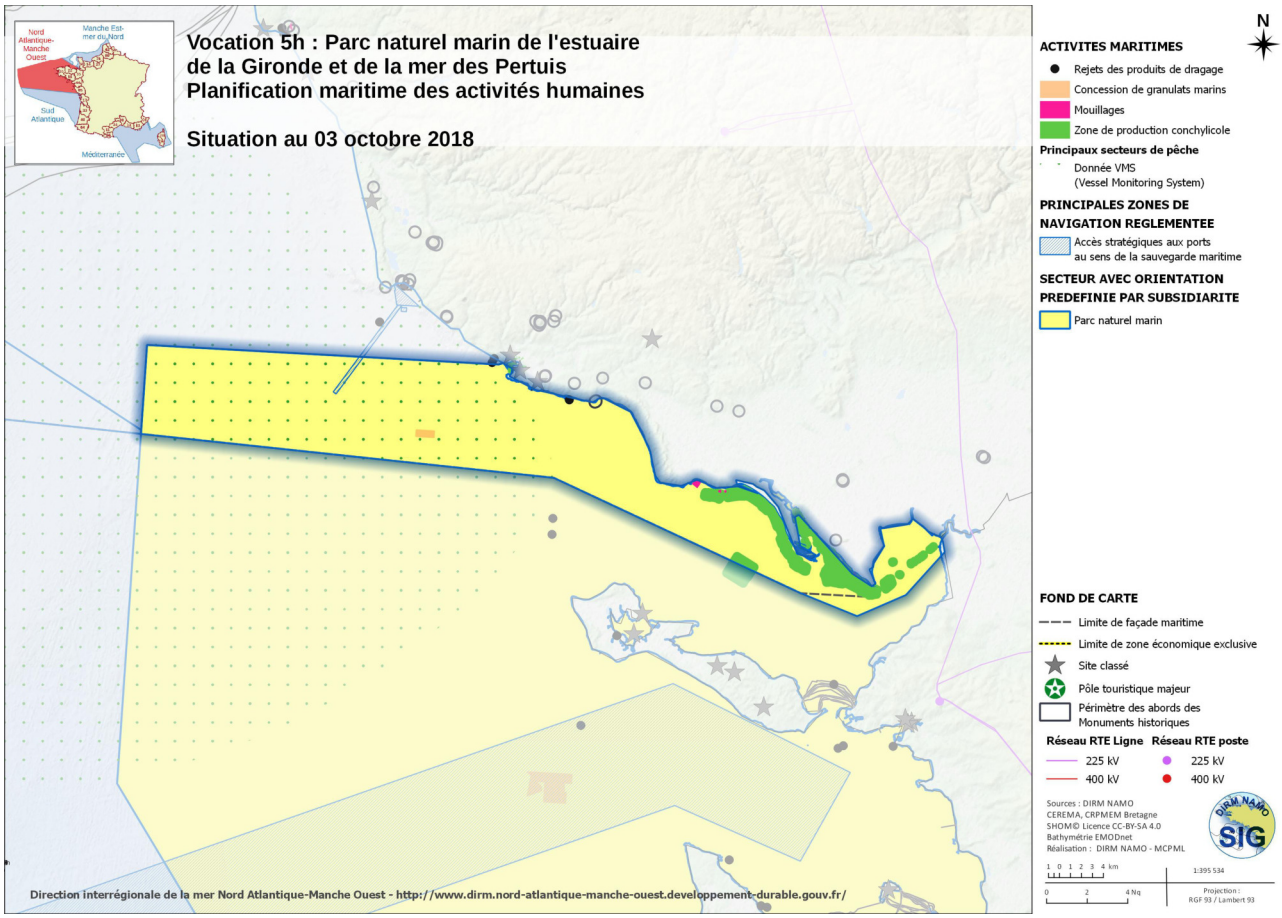
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
DIRM NAMO SIG
1:408 880
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Vocation 5f : Estuaire de la Loire
Planification maritime des activités humaines
Situation au 03 octobre 2018
Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
N
ACTIVITES MARITIMES
Rejets des produits de dragage
Site d'immersion de la Lambarde
Concession de granulats marins
Câble sous-marin
Energie marine renouvelable (site existant ou projet)
Mouillages
Zone de production conchylicole
Principaux secteurs de pêche
Donnée VMS (Vessel Monitoring System)
PRINCIPALES ZONES DE NAVIGATION REGLEMENTEE
Circonscription portuaire des grands ports maritimes
Accès stratégiques aux ports au sens de la sauvegarde maritime
Zone Défense
FOND DE CARTE
Limite de façade maritime
Limite de zone économique exclusive
Site classé
Pôle touristique majeur
Périmètre des abords des Monuments historiques
Réseau RTE Ligne
225 kV
400 kV
Réseau RTE poste
225 kV
400 kV
Sources : DIRM NAMO
CEREMA, CRPMEM Bretagne
SHOM© Licence CC-BY-SA 4.0
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
DIRM NAMO SIG
1:408 880
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Vocation 5g : Baie de Bourgneuf et littoral vendéen
Planification maritime des dispositions environnementales
Situation au 03 octobre 2018
Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
N
AIRES MARINES PROTEGEES ET EN PROJET
Domaine public maritime confié au Consrvatoire du Littoral
Réserve nationale de chasse et de faune sauvage
Réserve naturelle régionale
Réserve naturelle nationale
Arrêté de protection de biotope
Parc naturel régional
Parc naturel marin
Natura 2000 - réseau côtier
Zone de protection spéciale (Directive oiseaux)
Site d'intérêt communautaire (Directive habitat, faune, flore)
Natura 2000 - extension au large
Zone de protection spéciale (directive oiseaux)
Projet de Site d'intérêt communautaire (Directive habitat, faune, flore)
Sous-zone récif des projets de Site d'intérêt communautaire
FOND DE CARTE
Zone de vocation
Limite de façade maritime
Limite de zone économique exclusive
Sources : DIRM NAMO
CEREMA
SHOM© Licence CC-BY-SA 4.0
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
1:543 040
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Vocation 5g : Baie de Bourgneuf et littoral vendéen
Planification maritime des activités humaines
Situation au 03 octobre 2018
Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
N
ACTIVITES MARITIMES
Rejets des produits de dragage
Concession de granulats marins
Câble sous-marin
Energie marine renouvelable (site existant ou projet)
Mouillages
Zone de production conchylicole
Principaux secteurs de pêche
Donnée VMS (Vessel Monitoring System)
PRINCIPALES ZONES DE NAVIGATION REGLEMENTEE
Accès stratégiques aux ports au sens de la sauvegarde maritime
Zone Défense
SECTEUR AVEC ORIENTATION PREDEFINIE PAR SUBSIDIARITE
Parc naturel marin
FOND DE CARTE
Limite de façade maritime
Limite de zone économique exclusive
Site classé
Pôle touristique majeur
Périmètre des abords des Monuments historiques
Réseau RTE Ligne
225 kV
400 kV
Réseau RTE poste
225 kV
400 kV
Sources : DIRM NAMO
CEREMA, CRPMEM Bretagne
SHOM© Licence CC-BY-SA 4.0
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
1:543 040
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
Vocation 5h : Parc naturel marin de l'estuaire de la Gironde et de la mer des Pertuis
Planification maritime des dispositions environnementales
Situation au 03 octobre 2018
N
AIRES MARINES PROTEGEES ET EN PROJET
Domaine public maritime confié au Consrvatoire du Littoral
Réserve nationale de chasse et de faune sauvage
Réserve naturelle régionale
Réserve naturelle nationale
Arrêté de protection de biotope
Parc naturel régional
Parc naturel marin
Natura 2000 - réseau côtier
Zone de protection spéciale (Directive oiseaux)
Site d'intérêt communautaire (Directive habitat, faune, flore)
Natura 2000 - extension au large
Zone de protection spéciale (directive oiseaux)
Projet de Site d'intérêt communautaire (Directive habitat, faune, flore)
Sous-zone récif des projets de Site d'intérêt communautaire
FOND DE CARTE
Zone de vocation
Limite de façade maritime
Limite de zone économique exclusive
Sources : DIRM NAMO
CEREMA
SHOM© Licence CC-BY-SA 4.0
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
1:395 534
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/


Nord Atlantique-Manche Ouest
Manche Est-mer du Nord
Sud Atlantique
Méditerranée
Vocation 5h : Parc naturel marin de l'estuaire de la Gironde et de la mer des Pertuis
Planification maritime des activités humaines
Situation au 03 octobre 2018
N
ACTIVITES MARITIMES
Rejets des produits de dragage
Concession de granulats marins
Mouillages
Zone de production conchylicole
Principaux secteurs de pêche
Donnée VMS (Vessel Monitoring System)
PRINCIPALES ZONES DE NAVIGATION REGLEMENTEE
Accès stratégiques aux ports au sens de la sauvegarde maritime
SECTEUR AVEC ORIENTATION PREDEFINIE PAR SUBSIDIARITE
Parc naturel marin
FOND DE CARTE
Limite de façade maritime
Limite de zone économique exclusive
Site classé
Pôle touristique majeur
Périmètre des abords des Monuments historiques
Réseau RTE Ligne
225 kV
400 kV
Réseau RTE poste
225 kV
400 kV
Sources : DIRM NAMO
CEREMA, CRPMEM Bretagne
SHOM© Licence CC-BY-SA 4.0
Bathymétrie EMODnet
Réalisation : DIRM NAMO - MCPML
1:395 534
Projection : RGF 93 / Lambert 93
Direction interrégionale de la mer Nord Atlantique-Manche Ouest - http://www.dirm.nord-atlantique-manche-ouest.developpement-durable.gouv.fr/