



D1.1
Description of MSP
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List of acronyms

CIAM: Comissão Interministerial para os Assuntos do Mar (Portugal).
CMF: Conseil Maritime de Façade (France).
CMPP: Clyde Marine Planning Partnership (Scotland).
CNML: Conseil National de la Mer et des Littoraux (France).
DAERA: Department of Agriculture, Environment and Rural Affairs (Northern Ireland).
DEFRA: Department for Environment, Food and Rural Affairs (UK).
DGRM: Direção-Geral de Recursos Naturais, Segurança e Serviços Marítimos (Portugal).
DIRM: Direction Interrégionale de la Mer (France).
DHPLG: Department of Housing, Planning and Local Government (Ireland).
DROTA: Direção Regional do Ordenamento do Território e Ambiente (Madeira, Portugal).
DSF: Document Stratégique de Façade (France).
EC: European Commission.
EEA: European Environment Agency.
EEZ: Exclusive Economic Zone.
EMODnet: European Marine Observation and Data Network.
EU: European Union.
EUNIS: European Nature Information System.
HOOW: *Harnessing Our Ocean Wealth* (Ireland).
ICES: International Council for the Exploration of the Sea.
MCAA: Marine and Coastal Access Act (UK).
MMO: Marine Management Organisation (UK).
MPA: Marine Protected Area.
MPPS: Marine Planning Policy Statement (Ireland).
MPSRG: Marine Planning Stakeholder Reference Group (Wales).
MSFD: Marine Strategy Framework Directive.
MSP: Maritime Spatial Planning.
NGO: Non-Governmental Organisation.
NI: Northern Ireland.
NMPF: National Marine Planning Framework (Ireland).
OSPAR Convention: Oslo-Paris Convention for the protection of the marine environment of the north-east Atlantic.
POEM: Plano de Ordenamento do Espaço Marítimo Nacional (Portugal) / Plan de Ordenación del Espacio Marítimo.
SA: Sustainability Appraisal.
SAC: Special Area of Conservation (EU Habitats Directive).
SCI: Special Conservation Interest (or Sites of Community Importance, designation under the Habitats Directive).
SEA: Strategic Environmental Assessment.
SPA: Special Protection Area (EU Birds Directive).
SPP: Statement of Public Participation.
TUPEM: Títulos de Utilização do Espaço Marítimo (Portugal).
UK: United Kingdom.
WNMP: Welsh National Marine Plan.

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1 Introduction

This report initiates an investigation of relevant information supporting the implementation of Maritime Spatial Planning (MSP) in the European Atlantic. It provides an overview of the baseline environmental and biological characteristics and legal arrangements for Maritime Spatial Planning in the Atlantic region. It also provides detailed information on the geography of the region including a description of benthic and pelagic habitats, physical features, oceanographic characteristics, legal and governance arrangements for MSP in five Atlantic European countries involved in the SIMAtlantic project: France, Spain, Portugal, Ireland and the United Kingdom (Northern Ireland and England).

1.1 Background and context

The European Commission has defined MSP as *'a process by which the relevant Member State's authorities analyse and organise human activities in marine areas to achieve ecological, economic and social objectives'* (Directive 2014/89 EU, art.3). The MSP Directive was adopted in 2014 and establishes a framework for MSP, *'aimed at promoting the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources'* (Directive 2014/89 EU, art.1). The 23 coastal Member States are obliged under the MSP Directive to develop a national maritime spatial plan by 31 March 2021 at the latest, with a minimum review period of 10 years.

In practice, MSP can be considered in a broader way as encompassing both formal and informal public undertakings and initiatives on how to use the sea space. Beyond plans and other regulations, MSP can thus take the form of different non-binding visions, strategies etc., related to the use of maritime space. Concerning the European Atlantic, the Commission published a Communication on Developing a Maritime Strategy for the Atlantic Ocean Area in 2011¹ in response to stakeholders seeking more ambitious, open and effective cooperation in the Atlantic Ocean area. This grouped the challenges and opportunities facing the Atlantic into five themes:

- implementing the ecosystem approach
- reducing Europe's carbon footprint
- sustainable exploration of the natural resources on the sea floor
- responding to threats and emergencies
- socially inclusive growth.

The strategy recognised the role of maritime spatial planning as a tool to implement the ecosystem approach in the Atlantic Ocean area.

In order to foster knowledge and innovation around MSP, many projects have been deployed or are on-going within Europe, a great majority funded via EU funding programmes. The ambition of those projects is not only to exchange experience, transfer and create knowledge, but also to foster coherence among the various MSP initiatives within one sea-basin.

¹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions developing a maritime strategy for the Atlantic Ocean area /* com/2011/0782 final */

1.2 The SIMAtlantic project

SIMAtlantic, Supporting Implementation of Maritime Spatial Planning in the Atlantic, is a two-year project-funded by the European Commission which seeks to build capacity to support the uptake and implementation of Maritime Spatial Planning in five European Atlantic Member States in line with the provisions of the MSP Directive (Directive 2014/89/EU). Led by the MaREI Centre in University College Cork, the project brings together eleven partners representing government bodies, public scientific bodies and universities from Ireland, France, Spain, Portugal and the United Kingdom (Northern Ireland and England). The objectives of the SIMAtlantic project will be achieved through a series of concrete actions of direct operational relevance to competent authorities and public bodies tasked with developing and implementing marine plans by March 2021. The project will result in methodologies, practical guidance documents, communication tools and regional data and information catalogue to assist the work of marine planning authorities. Taking into account the findings of the DG-MARE sister projects SIMCelt and SIMNORAT, SIMAtlantic also aims at furthering past experience of cross-border cooperation between the partners of the consortium. This will culminate with an 'Atlantic vision' for MSP that will identify common objectives and provide recommendations on how transboundary MSP can be advanced on the basis of existing environmental conditions, governance arrangements including structures and mechanisms for cross-border cooperation.

This report establishes a foundation of understanding for the production of future project outputs and the definition of an overarching vision which should reflect the characteristics of the Atlantic marine region and draw together the findings from the project work.

1.3 Project area

The SIMAtlantic project area corresponds to the OSPAR regions III and IV. OSPAR III encompasses the Celtic Seas between 48° N and 60° N and from 5° W of the island of Britain to 9° W of the northwest coast of France. OSPAR IV includes the Bay of Biscay and the Iberian coast region from 48°N to 36°N and from 11°W to the coastlines of France, Portugal and Spain. The project area encompasses both inshore and offshore waters including territorial seas, exclusive economic zones and continental shelf. In order to include the areas of SIMNORAT project, the geographical scope of SIMAtlantic has been extended to the West to cover an area of transboundary interest between Spain and the Northern limit of the Portuguese jurisdictional border. The region of transboundary interest includes the Galicia Bank (180 km west from Galician coast) and Vigo and Vasco Da Gama seamounts, both part of OSPAR IV. According to QGIS application, the total area of the SIMAtlantic project comprises approximately 1, 301, 246 km².

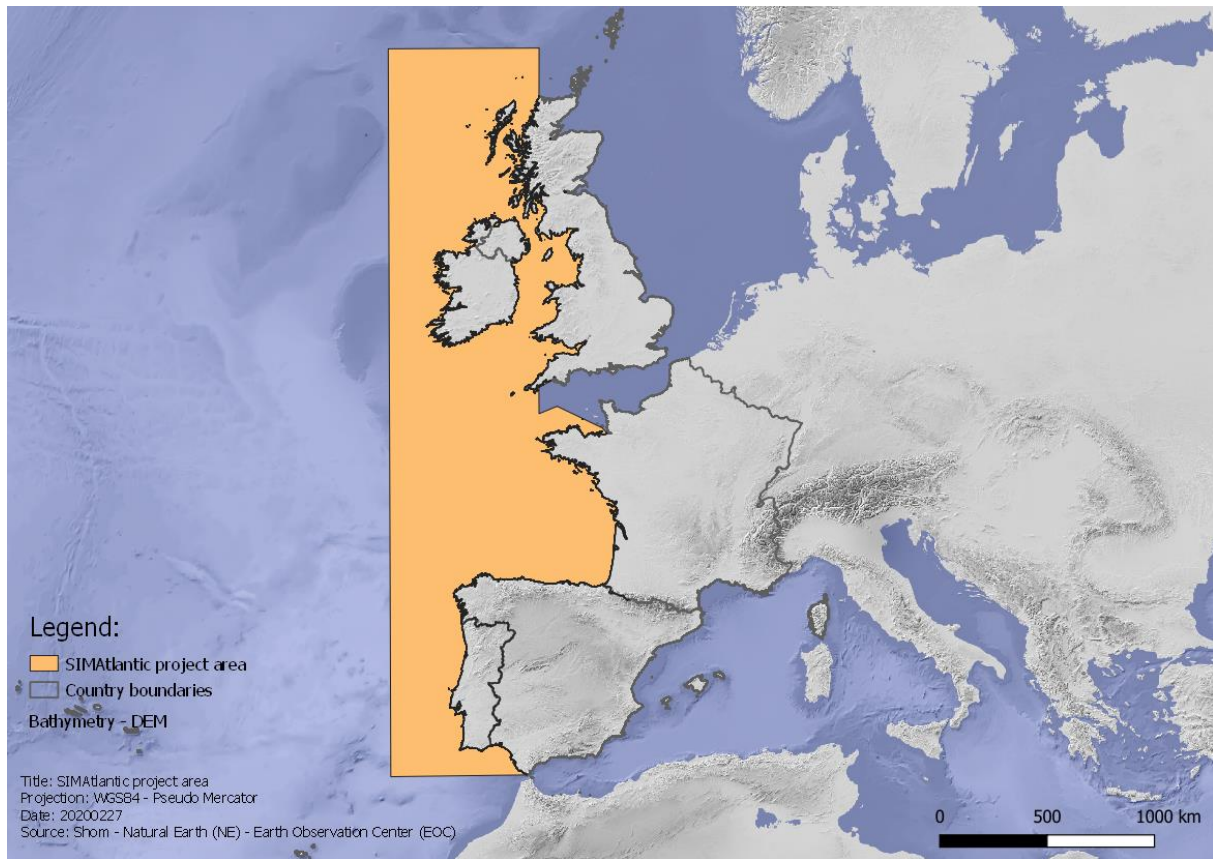


Figure 1: SIMAtlantic study area comprising OSPAR III and IV areas, extended to the west

2 Physical characteristics

2.1 Bathymetry

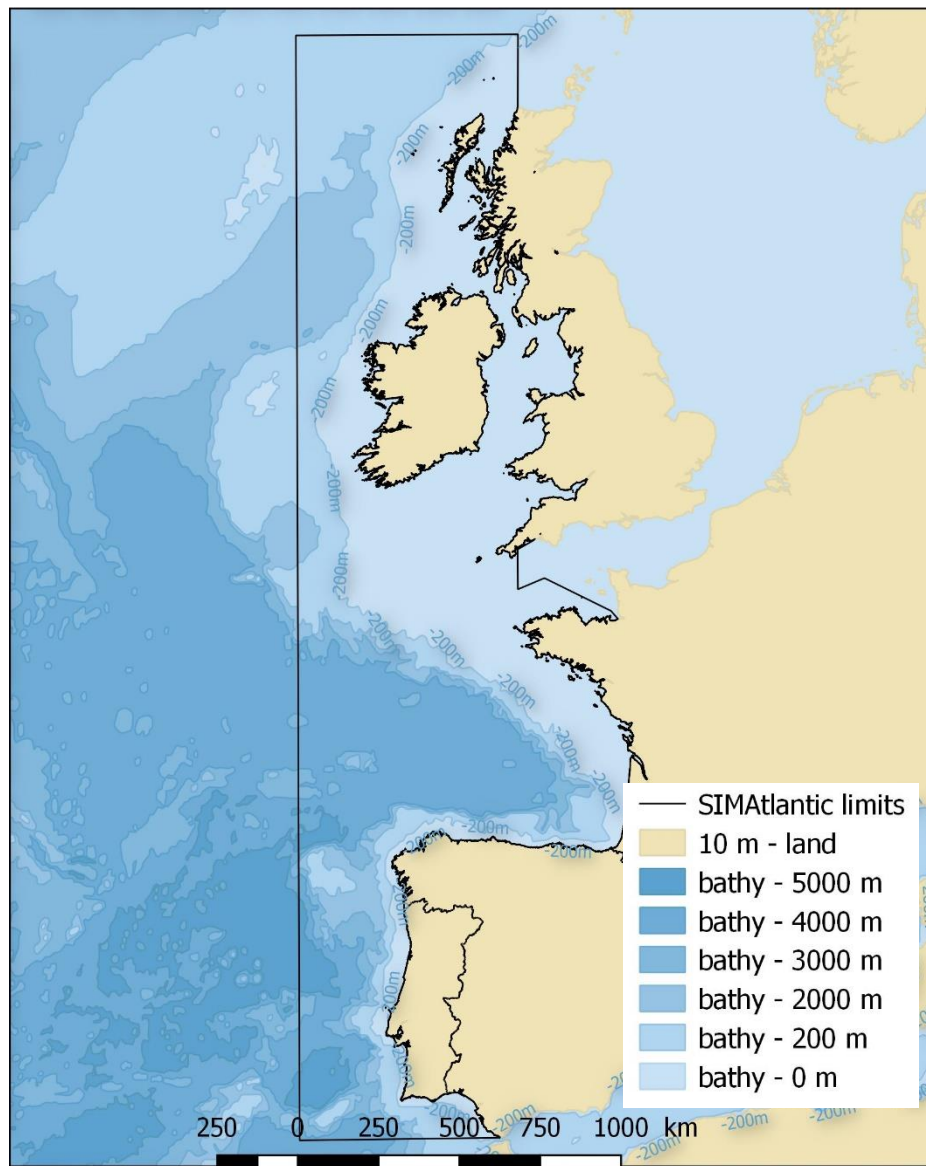


Figure 2: Bathymetry of SIMAtlantic area

The bathymetry of the seabed can be divided into two major areas: the continental shelf with relatively shallow waters (200 m deep) and the deep ocean (2000 m up to 5000 m), separated from shallow areas by the continental slope.

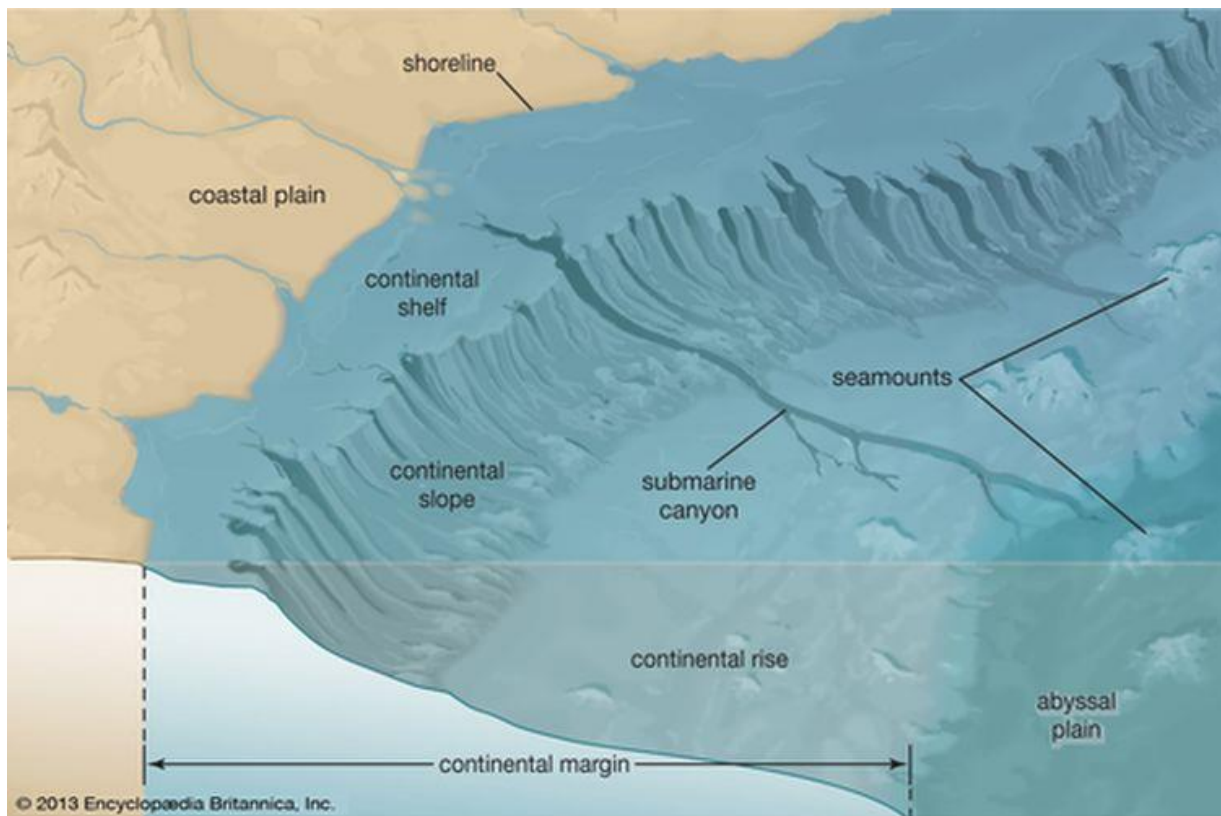


Figure 3: General topographic profile of the continental margin

Under the UN Law of the Sea Convention, the continental shelf comprises the seabed and subsoil of the submarine areas that extend throughout the natural prolongation of the land territory to the outer limit of the continental margin or to a distance of 200 nautical miles from the baselines where the continental margin does not extend up to that distance.² In the project area, the continental shelf represents 40% of the total area.³ Whilst the continental shelf reaches more than 400 km wide in the south of the Celtic sea, it is only 10-12 km along the Cantabrian coast.

The seabed of the Celtic Seas ecoregion primarily comprises gravels and diverse sediment types with extensive areas of mixed sediments: from coarse to muddy sand areas on the Malin shelf, coarse and mixed sediments with some muddy patches in the Irish Sea and coarse sediments, shelf rock and sublittoral sands and muds in the Celtic Sea. The English Channel, the Celtic Sea and most of the Irish Sea are characterised by fine muds, sandy muds, sand and gravel (O'Higgins et al. 2017). Areas of rock and hard substratum are present in the northern and inshore parts of the Celtic Seas ecoregion (ICES, 2016). Similarly, the seabed of the Bay of Biscay and the Iberian Coast ecoregion, is dominated by sand and muddy-sand areas, with a large mud area in the Gulf of Cadiz and northern portion of the Bay of Biscay (ICES, 2018).

² United Nations Convention on the Law of the Sea (adopted 10 December 1992, entered into force 16 November 1994) 1833 UNTS 397 (UNCLOS), Article 76

³ The continental shelf is considered here as the seabed less than 200 m deep (estimated by QGIS tool)

On the deep ocean seabed, sediment consists mainly of the remains of microscopic organisms from the overlying waters, with small amounts of mineral particles (from 100 m to 2 km thick) (Frid et al., 2003).

2.2 Hydrography (water circulation)

In very general terms, the overall pattern of water circulation is northward (predominantly south to north) along the continental slope with complex intermediate water movements and seasonal variability. The Irish Sea has an open connection with the Atlantic Ocean and is dominated by strong tidal currents on the eastern side. The pathway of water circulation is also strongly influenced by wind. The main input of water occurs at the southern end, generating a weak northward flow, although local currents can move in the opposite direction at points close to the coast.

In the centre of the Celtic Sea, the water flow is weak and during summer it is strongly stratified by layers with different physical properties (temperature, salinity, water density). Most of the water mass in the Atlantic region finds its source in the North Atlantic or results from the mixing of colder Atlantic water with warmer water mass from the Mediterranean Sea. Salty and dense water mass from the Mediterranean Sea enter the Atlantic Ocean through the Gibraltar strait. The mixing water masses from the Mediterranean Sea and Atlantic Ocean occurs along the western Iberian slope at depths from 600 m to 1300 m. Patterns of water circulation over the shallower continental shelf areas are influenced by the combined effects of tides, density differences and wind.

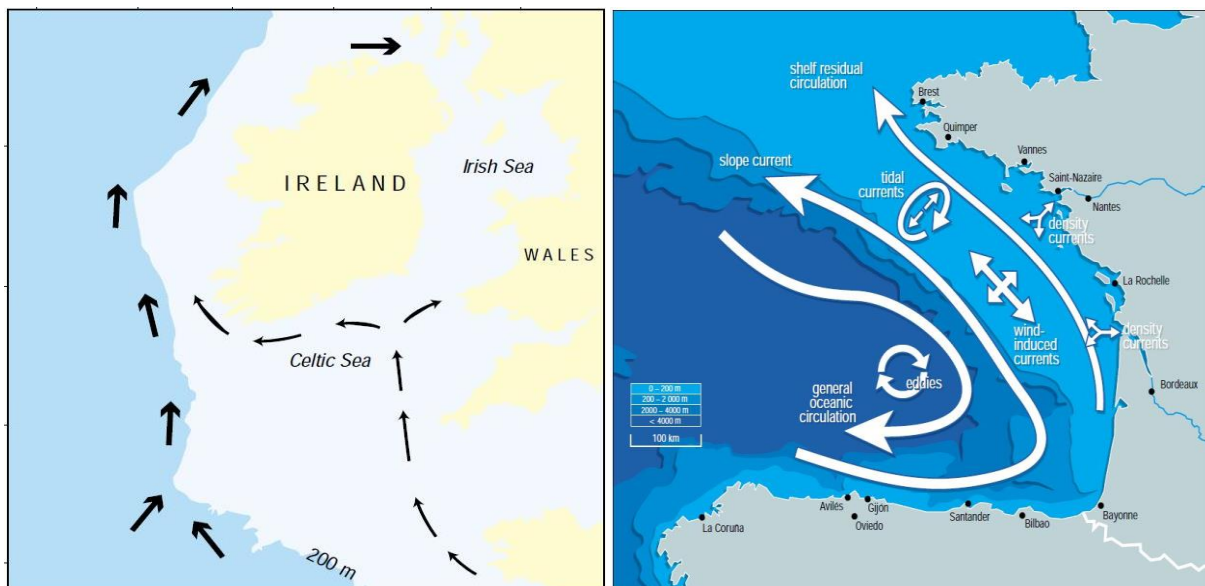


Figure 4: General circulation on and around the Irish Shelf (source: OSPAR III QSR, adapted from Pingree and Le Cann (1989)) /Schematic illustration of circulation in the Bay of Biscay (from Koutsikopoulos and Le Cann (1996)).

A key feature of the area is the upwelling cycle of cold water from deeper layers to the surface in coastal areas along the west Iberian coast (Figure 6). Seasonal coastal upwelling events (spring and summer) result from persistent wind causing warm surface water to move away from the coast and be replaced by cold, deeper water that wells up from below. Coastal seasonal upwelling begins off the Iberian Peninsula in late spring and reaches its maximum in summer, by which time it also occurs in the south-eastern Bay of Biscay (Frid et al., 2003).

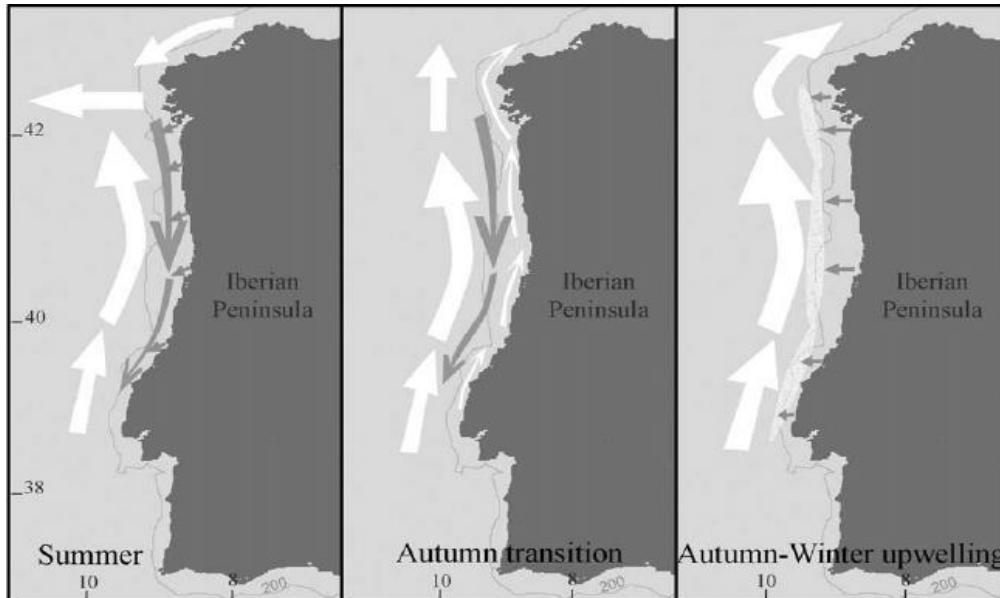


Figure 5: Simplified diagram of surface water circulation in western Iberia. Left: summer (upwelling season); middle: autumn transition; right: autumn-winter upwelling conditions (from L. Escalera et al. /Harmful Algae 9 (2010) 312–322)

Constant circulation of the ocean mix nutrient-poor with nutrient-rich waters, which sustain rich marine ecosystems present in European seas, particularly in the SIMAtlantic area.

3 Descriptions of main key habitats and species

The review of the main coastal and marine habitats in the SIMAtlantic area takes into account work based on the Marine Strategy Framework Directive (MSFD, according to the Commission Decision 2017/848) and the principles of the EUNIS classification (European Nature Information System), which has been developed by the European Environment Agency (EEA) to facilitate the harmonised description and collection of data from across Europe. A description of the coastlines is also proposed, based upon the latest OSPAR Quality Status Report (2000).

According to EUNIS, the main criteria used to classify habitats are biological zone, substratum, exposure (hydrodynamics), environmental data such as salinity and dominant species or characteristic biological communities. Therefore, approximately 1000 habitats have been described, organised in six hierarchical levels. The MSFD defines broad habitat types widely as corresponding to EUNIS “level 2” habitat typology.

3.1 Coastal habitats

Coastal habitats are those located above spring high tide limit (or above mean water level in non-tidal waters) occupying coastal features and characterised by their proximity to the sea, including coastal dunes and wooded coastal dunes, beaches and cliffs (EUNIS habitat classification 2007 – Revised descriptions 2012 amended 2019).

3.1.1 Description of coastlines in the Celtic Seas ecoregion

Ten coastal sectors are described below including five for the western seaboard of Great Britain and five for the island of Ireland (OSPAR, 2000):

1) The coastal area located between Cape Wrath and Ardnamurchan Point comprises a series of fjord or sea lochs and rocky headlands with cliffs and areas of sand dunes. Offshore, the Western Isles are characterised by low but deeply shelving coastlines with rocky embayment and pocket dunes.

2) Ardnamurchan Point to Corsewall Point: the northern part is deeply indented by fjordic inlets (sea lochs), with a shoreline resistant to erosion. Numerous islands are present to the south and west; from the Clyde Estuary southwards, the coastline is relatively linear and of low relief.

3) Corsewall Point to Colwyn Bay: from Corsewall Point to the Solway Firth, the coastline is rocky whereas further south the hinterlands are low-lying and the shoreline is characterised by numerous sand and shingle beaches. The section contains fourteen estuaries, all except one occupying more than 5000 Ha.

4) Colwyn Bay to Kenfig: the coasts of the isle of Anglesey and Llyn Peninsula to the south are rocky and their limestone habitats, cliffs and heath-covered slopes support important plant and seabird communities. At many points along this coastline there are sand dune systems and salt marshes, often associated with bays and estuaries.

5) Kenfig to Land's End: the central feature of this coast is the Severn Estuary, one of the most extensive estuary systems in Celtic seas ecoregion. The coasts of Devon and Cornwall to the south are more exposed than those of the Severn Estuary and Bristol Channel. The more southerly part of this coast is noted for its sea cliffs, including the headlands of Land's End and Cape Cornwall.

6) Malin Head to Carlingford Lough: Lough Foyle is an extensive embayment containing a large area of sandy shore (Magilligan strand). To the north east there is a remarkable basalt pavement formation known as the Giant's Causeway and large strands of sand flat and dunes. The Bann River catchment includes the largest lake (Lough Neagh) in this ecoregion. To the south there are three other major sea loughs: Belfast, Strangford and Carlingford Loughs, with fine sand as well as extensive areas of intertidal mud and salt marsh. Carlingford Lough is situated between Northern Ireland (UK) and the Republic of Ireland, and is one of the case studies of the SIMAtlantic project.

7) From Carlingford Lough to Howth Head, the shoreline is characterised by softer forms of intertidal substrate with extensive strands of sand flats and tidal mudflats. With the exception of Dublin Bay and Wexford Harbour, the east coast of Ireland is characterised by an absence of bays and inlets and a transition from harder intertidal substrates in the north to extensive sandy beaches in the south.

8) Carnsore Point to Mizen Head: Rocky and indented shores are an important feature of the south coast of Ireland. There are numerous coastal inlets and bays including larger navigable estuaries in Cork Harbour and Waterford Harbour. Coastal inlets and bays are composed of fine sediments to bedrocks. The south coast is moderately sheltered from the prevailing west to south-west winds. The coast to the east has sandy beaches for more than half its length

with rocky and muddy substrates. Westwards, the intertidal substrates become increasingly rocky with a corresponding reduction in sand and varying amounts of mud.

9) Mizen Head to Clew Bay: this coastline is very rocky with a series of large bays and inlets that provide a degree of shelter from the prevailing south-westerly winds and large Atlantic waves that are prominent features of the west coast environment. To the south of the area there is a series of long, narrow inlets (i.e. rias) separated by mountainous peninsulas. From Tralee Bay to Galway Bay there are stretches of more linear coastline, including some long sandy beaches, although the foreshore remains predominantly rocky with steep cliffs in many areas. North of Galway Bay the shoreline is once more highly indented and characterised by an irregular series of rocky bays with small sandy beaches. The Shannon Estuary extends about 100 km from the tidal limits to the mouth at Loop Head.

10) Clew Bay to Malin Head: the coastline is predominantly rocky but has many large bays with fine sandy beaches. It is also heavily indented and has a number of large promontories exposed to strong westerly winds and some of the largest waves in the ecoregion. There are many small islands, especially in Clew Bay and off the west coast of County Donegal. Prominent features of the north-west coast are the three large sea inlets of Sheephaven Bay, Mulroy Bay and Lough Swilly.

3.1.2 North and Western Brittany coastlines (France)

1) The area between the bay of Mont Saint Michel and Corsen point is characterised by the succession of more or less high rocky coasts, separated by rocky capes that block all or part of sedimentary transport, allows to group a large number of biocenoses on a restricted surface. The key feature of this coastline is, on the ecological level, the difference of tidal range which results in shoreline exposure and important currents. Offshore, Ushant island marks the southern limit of the Celtic Sea and the southern entrance to the western English Channel.

2) From Corsen point to Penmarc'h point: rocky points intersperse with bays (Brest harbour, Douarnenez and Audierne bays) until the point of Raz, which is extended to the west by the "Chaussée de Sein". Further south are sandy beaches until the point of Penmarc'h.

The geographical situation of Brittany makes it possible to maintain the coexistence of numerous Mediterranean and Nordic species at the limits of their distribution.

3.1.3 Description of coastlines in the Bay of Biscay and Iberian coast ecoregion

1) From Penmarc'h Point to the Vendée coast: the coastline is jagged and composed of volcanic and metamorphic rock formations with abrupt slopes of variable height. The NW-SE orientated littoral is particularly battered.

2) Between Belle-Ile to Noirmoutier Island is relatively protected by islands and shoals and large mud banks occur at depths of 30 m or less.

3) Between the islands of Noirmoutier and Ré, the Vendée coast is a discontinuous strand of coastal dunes.

4) From the Charente narrows to the right bank of the Gironde estuary, the coastline is calcareous and represents a transition to detrital and clay formations.

5) South Gironde, the Aquitaine coast is rectilinear, devoid of islands and directly exposed to the swell. The sandy coastline is in a constant state of change and being eroded at rates of 1 – 5 m/yr. The eroded material is then moved southwards.

6) The Basque coastline is mountainous, precipitous and very jagged, with numerous rivers and gullies along its length. The rocky coastline extends for 1075 km along the Cantabrian coast, and then for 1354 km, first westwards and then southwards, along the Galician coast. It is the most irregular section of the Iberian Peninsula and contains many rias (see Section 2.6.2). Beaches cover 6.3% of the Cantabrian coast and 13.8% of the Galician coast.

7) South of Galicia, but to the north of 41° N, the coastline is mostly rocky and shallow. To the south of 41° N, a rectilinear sandy coast extends to just north of the Nazaré Canyon, interrupted only by Cape Mondego, just north of 40° N. Further south, beaches are replaced by cliffs which extend to Cape Raso, at the latitude of Lisbon. Carbonate rocks are eroded by wave action and the sediments rapidly transported out of the area. Sediment only accumulates at the mouths of small rivers and creeks.

- From Cape Raso to Cape Sines (38° N) two irregular rocky sections of coastline alternate with two smooth sandy sections. Steep cliffs occur to the south of Cape Sines, with a few beaches at the mouths of small creeks and coastal inlets.

- Western section of the southern Iberian Peninsula is characterised by cliffs. To the extreme west the cliffs are cut in carbonate rocks and the beaches are small and mainly associated with creek mouths. Proceeding eastwards the cliffs become cut in detrital rocks, and the lower levels of consolidation allow more extensive strands. As a rule, both types of cliff are actively and strongly subject to erosion.

- Roughly between 8° W and 7° 30' W there is a series of barrier islands which correspond to the outer limit of a lagoon area known as Ria Formosa.

- Further east, a wide coastal plain extends to the mouth of the Guadalquivir Estuary. Marshes and spits (Huelva and Seville) give way to a rocky relief combined with sandy beaches, dunes and marshes, as well as a wide bay (Cadiz).

- At the south-eastern end, between Sancti Petri and Punta Tarifa, steep slopes and cliffs predominate, with sandy beaches at their base. (OSPAR, 2000 (region IV)).

Along the coast of France and Ireland, seaweeds (*Ascophyllum nodosum*) and kelp (*Laminaria hyperborea*, *L. digitata*) are harvested for use in alginates and fertiliser production (EEA, 2003).

3.2 Marine habitats

3.2.1 Benthic broad habitats

Benthic habitats are formed of marine organisms living on or within sediments and rocks. They sustain essential ecological processes and functions to support healthy ecosystems.

Benthic habitats a key component of the marine food web, including commercial fish and shellfish species and provide a major food source for predators (OSPAR, 2017).⁴

Depending on local hydrodynamic conditions, benthic habitats range from rock and other hard substrata to soft sediment types.

Low energy environments (parts of the Irish Sea, English Channel, most of the Celtic Seas) are characterised by fine muds, sandy muds, sand and gravel. In contrast, high energy areas (North Channel, south-west and west of Isle of Man and the Bristol Channel) are characterised by bedrock outcrops and platforms. Closer to the shelf break, sands and gravels dominate the seabed. The presence of an inshore cold-water coral reef, the Mingulay Reef Complex, has to be noted in shallow water off the west coast of the Outer Hebrides. Other biogenic reef forming species such as the Ross worm (*Sabellaria spinulosa*), blue mussel (*Mytilus edulis*) and maerl (*Phymatoliton calcareum*, *Lithothamnion corallioides*) are common in the Bristol Channel. Extensive rock habitats occur in most inshore areas and further offshore the west and north coasts of Scotland, where sponge and turf communities as well as kelp and seaweed communities dominate. This region is also home of large areas of mixed sediments and coarse to muddy sands (O'Higgins et al., 2017).

The substrate of the shelf of the Bay of Biscay and the Iberian Coast ecoregion is dominated sand and muddy-sand areas, with a large mud area in the Gulf of Cadiz (ICES, 2018).

The EUNIS benthic habitats are mapped at different levels of detail and can be obtained from the European Marine Observation and Data Network (EMODnet) Seafloor Habitats portal. Those maps are produced using a combination of benthic survey data and modelled habitat maps.

Many of the larger animal species associated with benthic habitats are of commercial interest including, but not limited to, the Norway lobster (*Nephrops norvegicus*) which is a major commercial invertebrate species in SIMAtlantic area, several species of crabs (mainly *Cancer pagurus*, *Maja brachydactyla*), lobsters (*Homarus gammarus*), scallops (*Pecten maximus*, *Aequipecten opercularis*) and other bivalve shellfish, particularly in the Celtic seas ecoregion.

Hake (*Merluccius merluccius*) is the most abundant predator in the demersal community. Anglerfish (*Lophius piscatorius*), megrim (*Lepidorhombus whiffiagonis*), and sole (*Solea solea*) are more abundant in the northern part of the area. Cold-water species such as whiting (*Merlangius merlangus*) and pollack (*Pollachius pollachius*) only occur north of Portugal. Skates, sharks, and deep-sea fish occur over the continental slope and in the deeper parts of SIMAtlantic area (ICES, 2018)⁵.

4 <https://oap.ospar.org/en/ospar-assessments/intermediate-assessment-2017/biodiversity-status/habitats/extent-physical-damage-predominant-and-special-habitats/>

5 <https://www.ices.dk/explore-us/Action%20Areas/ESD/Pages/Bay-of-Biscay-and-the-Iberian-Coast-State-Fish.aspx>

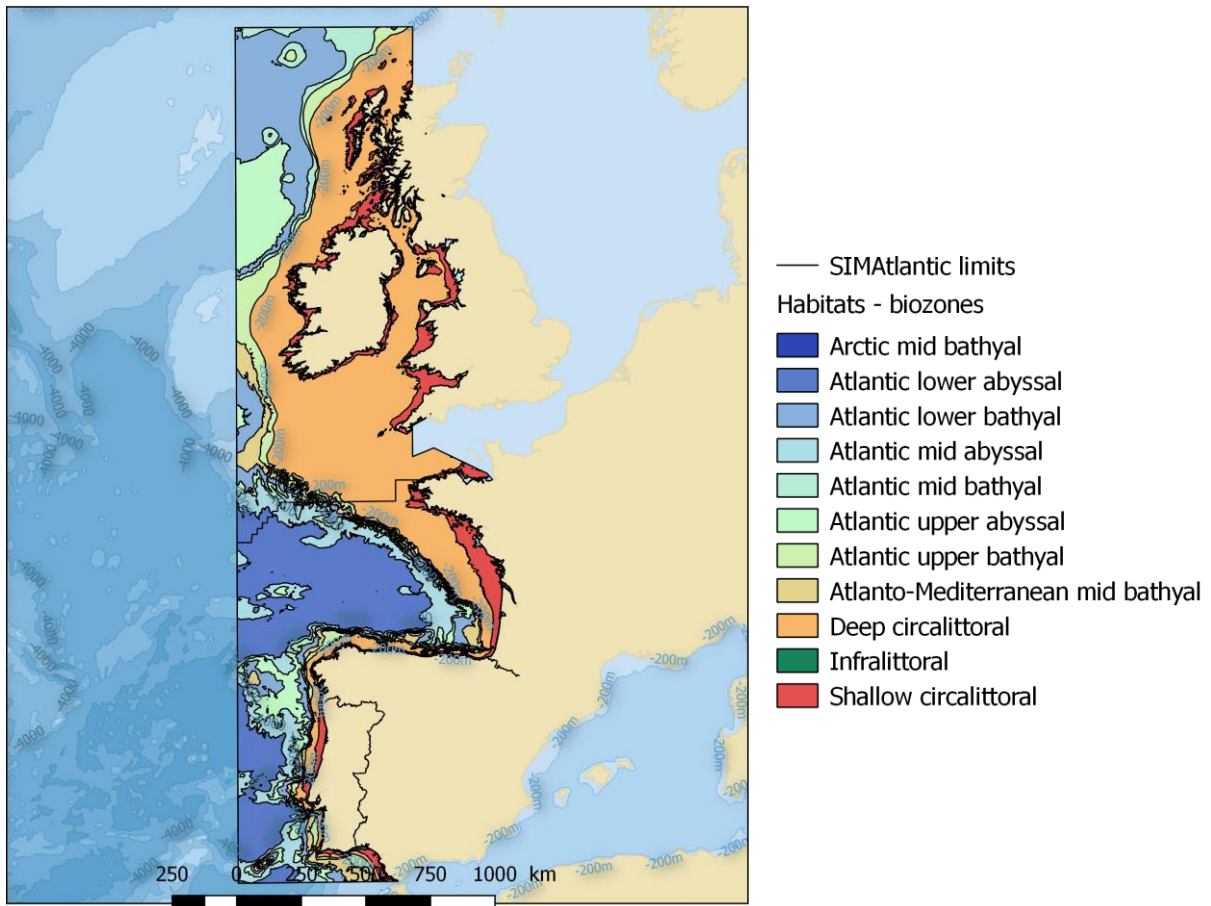


Figure 6: Main biozones in the SIMAtlantic area (source: EMODnet)

3.2.2 Pelagic water column

According to EUNIS classification, two hierarchical levels have been established to classify pelagic water column, based on physical and hydrodynamic criteria. Because of the strong temporal nature of the pelagic environment, the water column at a given location can be classified differently at different times of the year (<https://eunis.eea.europa.eu/habitats/3>).

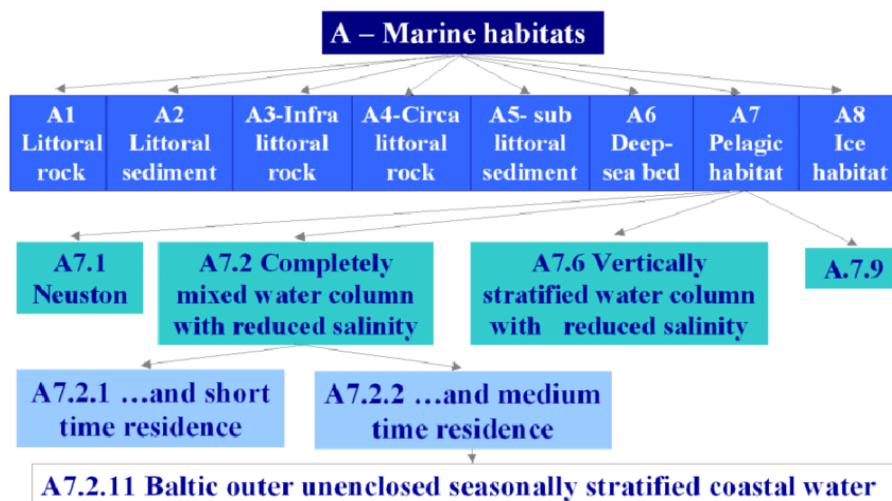


Figure 7: EUNIS classification of pelagic habitats (Gailhard Rocher et al., 2012)

3.2.2.1 Plankton

Gathering microscopic organisms passively floating or only weakly swimming, plankton drift in the ocean along with the water currents. Planktonic organisms range in size from tiny plants and animals, including the larval stages of many fishes, to rather large jellyfish (Frid et al., 2003).

a) Phytoplankton

Phytoplankton form the basis of the food chain in the surface waters. Like all plants, they require light, carbon dioxide, and nutrients to grow. As carbon dioxide is always available in seawaters, variations of light and the quantity and types of nutrients play a major part in controlling the growth of the phytoplankton.

In the Celtic Seas ecoregion, phytoplankton abundance and the abundance of diatom and dinoflagellate species in shelf and oceanic waters west of the European shelf show long-term declines since 1958, while diatom and dinoflagellate species abundances increased in coastal waters of the Malin shelf and southwest of Ireland between 1990 and 2010 (ICES, 2016, Celtic Sea ecosystem overview). In the Bay of Biscay and Iberian coasts ecoregion, phytoplankton biomass is mainly influenced by coastal upwelling, coastal run-off and river plumes, seasonal currents, internal waves and tidal fronts. (ICES, 2018, ecosystem overview).

b) Zooplankton

The herbivorous copepods dominate the zooplankton community (*Calanus spp.*, *Acartia spp.*), but chaetognaths, siphonophores, medusae, appendicularians as well as meroplankton are a significant part of the zooplankton biomass throughout the year. (ICES, 2016)⁶. Crab larvae are also important during winter months along the Portuguese coast. Biomass of zooplankton varies along the year.

As with phytoplankton, there are strong inter-annual variations in zooplankton abundance with implications for the availability of food supplied for fish larvae (ICES, 2016). Important biogeographic shifts in zooplankton community structure however have been reported across large parts of the North Atlantic, due to increasing sea surface temperature.

3.2.2.2 Main commercially pelagic fish and cephalopods species

Fish diversity is high in SIMAtlantic area, regarding its wide latitudinal extension. The largest pelagic fishery targets, in weight, are blue whiting (*Micromesistius poutassou*), mackerel (*Scomber scombrus*), horse mackerel (*Trachurus trachurus*), herring (*Clupea harengus*), boarfish (*Capros aper*)⁷, and sprat (*Sprattus sprattus*) in the Celtic Seas ecoregion (ICES, 2018, Fisheries Overviews). In the Bay of Biscay and Iberian coasts ecoregion, the pelagic habitat is mainly dominated by sardine, anchovy, mackerel, horse mackerel, and blue-whiting. Some migratory species also appear in specific periods, such as tuna species: albacore (*Thunnus alalunga*) and bluefin (*Thunnus thynnus*).

⁶ http://www.ices.dk/explore-us/Action%20Areas/ESD/Pages/Celtic-Seas_State_Zooplankton.aspx

⁷ This species is not of commercial interest but is regularly caught as bycatch with Norway lobster trawl. <http://ichtyo.cnrs.fr/pages/fr/fichefr.php?var=252>

Regarding cephalopods in the Bay of Biscay and Iberian coasts ecoregion, the most abundant and commercially exploited species are long-finned squid and cuttlefish. Abundance of short-finned squid increases westwards towards Galicia, and decreases to the south of the Iberian coast. Octopodidae are abundant and heavily exploited along the Iberian coast (ICES, 2018)⁸.

3.3 Habitats and species of particular concern

The species and habitat types mentioned below are those listed under the Habitats Directive⁹ (annex I and II) and the OSPAR list of ‘threatened’ and/or ‘declining’ species and habitats¹⁰.

3.3.1 Marine habitats

As discussed above, the MSFD has defined broad habitat types as corresponding to EUNIS “level 2” habitat typology. The Habitats Directive lists in its Annex I “habitats of community interest”, including marine habitats (EC, 2017).

Threatened and declining habitats, according to OSPAR¹¹, are listed in the following table and their correspondence with Annex I habitats is listed (Morel *et al.*, 2018):

8 <https://www.ices.dk/explore-us/Action%20Areas/ESD/Pages/Bay-of-Biscay-and-the-Iberian-Coast-State-Fish.aspx>

9 Directive 92/43/ECC of the Council of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) [1992] OJ L 206/7

10 OSPAR Agreement 2008-06 List of Threatened and/or Declining Species and Habitats (Replaces Agreement 2004-6)

11 <https://www.ospar.org/work-areas/bdc/species-habitats/list-of-threatened-declining-species-habitats>

Habitats cited in OSPAR convention, occurring in SIMA Atlantic area	Potential correspondence with habitats listed in ANNEX I Habitats directive EEC 92/43	EUNIS code
Coral gardens	Reefs	A6.1 to A6.9
Deep-sea sponge aggregations	Reefs	A6.62
<i>Cymodocea</i> meadows ¹²	No connection found	A5.531
Intertidal <i>Mytilus edulis</i> beds on mixed and sandy sediments ¹³	Reefs/Mudflats and sandflats not covered by seawater at low tide	A2.721
Intertidal mudflats	Sandbanks which are slightly covered by seawater all the time/ Mudflats and sandflats not covered by seawater at low tide/ Coastal lagoons	A2.3
<i>Lophelia pertusa</i> reefs	Reefs	A5.631 or A6.611
Maerl beds	Sandbanks which are slightly covered by seawater all the time/ coastal lagoons	A5.51
<i>Modiolus modiolus</i> beds	Reefs	A5.621 to A5.624
<i>Ostrea edulis</i> beds	Sandbanks which are slightly covered by seawater all the time/ estuaries/ large shallow inlets and bays/ reefs/	A5.435
<i>Sabellaria spinulosa</i> reefs	Reefs	A4.22 or A5.611
Seamounts	No connection found	A6.72
Sea-pen and burrowing megafauna communities	Large shallow inlets and bays	A5.361 or A5.362
<i>Zostera</i> beds	Estuaries/ Sandbanks which are slightly covered by seawater all the time	A2.611 or A5.533 or A5.545

3.3.2 Marine species

Annex II of the Habitats Directive provides a list of species of community interest including nine marine habitats types and 16 marine species for which Special Areas of Conservation (SACs) are required.¹⁴ Appendix II of the EU marine guidelines (EC, 2007) has listed 8 marine species¹⁵ from the Directive present in the Atlantic:

- fish: *Petromyzon marinus*, *Alosa alosa*, *Alosa fallax*;
- mammals and reptiles: *Tursiops truncatus*, *Phocoena phocoena*, *Halichoerus grypus*, *Phoca vitulina*, *Caretta caretta*.

3.3.2.1 Fish and shellfish species

OSPAR list of threatened and/or declining species occurring in the SIMA Atlantic area:

¹² Only present in Bay of Biscay and Iberian coast (OPSAR IV) ecoregion, with the Sado estuary as northern limit

¹³ Only cited as threatened and/or declining for Celtic seas (OPSAR III) ecoregion

¹⁴ Habitats Directive, Article 3(1) Annexes I and II

¹⁵ Except seabirds, as they are subject to a specific directive

Species	Area concerned
<i>Alosa alosa</i> (Allis shad)	SIMAtlantic area
<i>Acipenser sturio</i> (Sturgeon)	Bay of Biscay and Iberian coast area
<i>Anguilla anguilla</i> (European eel)	SIMAtlantic area
<i>Centroscymnus coelolepis</i> (Portuguese dogfish)	SIMAtlantic area
<i>Centrophorus granulosus</i> (Gulper shark)	Bay of Biscay and Iberian coast area
<i>Centrophorus squamosus</i> (Leafscale gulper shark)	SIMAtlantic area
<i>Cetorhinus maximus</i> (Basking shark)	SIMAtlantic area
<i>Dipturus batis</i> (synonym: <i>Raja batis</i>) (Common Skate)	SIMAtlantic area
<i>Raja montagui</i> (synonym: <i>Dipturus montagui</i>) (Spotted Ray)	SIMAtlantic area
<i>Gadus morhua</i> (Cod)	Celtic seas area
<i>Hippocampus guttulatus</i> (synonym: <i>Hippocampus ramulosus</i>) (Long-snouted seahorse)	SIMAtlantic area
<i>Hippocampus hippocampus</i> (Short-snouted seahorse)	SIMAtlantic area
<i>Lamna nasus</i> (Porbeagle)	SIMAtlantic area
<i>Nucella lapillus</i> (Dog whelk, shellfish)	SIMAtlantic area
<i>Petromyzon marinus</i> (Sea lamprey)	SIMAtlantic area
<i>Rostroraja alba</i> (White skate)	SIMAtlantic area
<i>Salmo salar</i> (Salmon)	SIMAtlantic area
<i>Squalus acanthias</i> ([Northeast Atlantic] spurdog)	SIMAtlantic area
<i>Squatina squatina</i> (Angel shark)	SIMAtlantic area

3.3.2.2 Seabirds

The Wild Birds Directive (2009/147/EC) lists a number of regularly occurring migratory bird species whose conservation requires designation of Special Protection Areas (SPAs) or prohibition against deliberate killing, capture, disturbance and destruction of nests.¹⁶ Only seabird species, namely species of birds that rely on the marine and coastal environment for feeding, resting and breeding (Furness and Monaghan¹⁷, 1987) are considered for the purposes of this report. A number of protected seabirds regularly occur or migrate in the SIMAtlantic area. At least 23 species of seabirds are known to breed in the Celtic Sea ecoregion (ICES, 2018), 13 species in the Bay of Biscay subregion (Yesou, 2012).

In October 2014 started a marine scientific programme, called ObSERVE¹⁸, aiming to improve the knowledge and understanding of protected offshore species and sensitive habitats across Ireland's EEZ. Seabirds observations highlighted their changing distribution with season and

16 Directive 2009/147/EC of 30 November 2009 on the conservation of wild birds (Birds Directive) [2009] OJ L20/7, Article 4(1) (2). Article 5

17 Furness, R.W., Monaghan, P. Seabird Ecology (1st ed. Tertiary Level Biology, Blackie & Son, 1987)

18 <https://www.dccae.gov.ie/en-ie/natural-resources/topics/Oil-Gas-Exploration-Production/observe-programme/Pages/ObSERVE-Programme.aspx>

the importance of more coastal waters for seabirds throughout the year, but particularly in summer. Summer surveys were dominated by auks, petrels, northern gannets (*Morus bassanus*), northern fulmars (*Fulmarus glacialis*) and Manx shearwaters (*Puffinus puffinus*), while winter surveys were dominated by black-legged kittiwakes (*Rissa tridactyla*) and gull species, as well as increased abundances of northern fulmars.

The Bay of Biscay and Iberian coast ecoregion is considered as one of the poorest regions in the European Atlantic, in terms of nesting seabird communities (number and biomass). Nevertheless, the Iberian Peninsula provides a strategic geographical position for the migratory behaviour of seabirds (OSPAR, 2000 (region IV)).

Three Seabird species are threatened or declining in SIMAtlantic area according to OSPAR¹⁹:

Species	Area concerned
<i>Puffinus mauretanicus</i> (Balearic shearwater)	SIMAtlantic area
<i>Sterna dougallii</i> (Roseate tern)	SIMAtlantic area
<i>Uria aalge</i> – Iberian population (synonyms: <i>Uria aalge albionis</i> , <i>Uria aalge ibericus</i>) (Iberian guillemot)	Bay of Biscay and Iberian coast area

3.3.2.3 Reptiles and mammals

Two species of seal are known to occur in the Celtic Seas: the grey seal (*Halichoerus grypus*) and the harbour seal (*Phoca vitulina*).

Ten cetacean species commonly occur or are resident in the project area including minke whale (*Balaenoptera acutorostrata*), fin whale (*Balaenoptera physalus*), harbour porpoise (*Phocoena phocoena*), short-beaked common dolphin (*Delphinus delphis*), sperm whale (*Physeter macrocephalus*), longfinned pilot whale (*Globicephala melas*), northern bottlenose whale (*Hyperoodon ampullatus*), Sowerby's beaked whale (*Mesoplodon bidens*), Risso's dolphin (*Grampus griseus*), and bottlenose dolphin (*Tursiops truncatus*) (ICES, 2016). white-beaked dolphin (*Lagenorhynchus albirostris*), Atlantic white-sided dolphin (*Lagenorhynchus acutus*), killer whale (*Orcinus orca*) have been specifically reported in the Celtic Seas ecoregion, striped dolphin (*Stenella coeruleoalba*) and Cuvier's beaked whale (*Ziphius cavirostris*) in the Bay of Biscay and Iberian coast ecoregion.

In Ireland's EEZ, ObSERVE program made it possible to learn more about the occurrence, distribution, abundance and migration habits of more than 20 species of whales, dolphins and porpoises, particularly species that are rarely observed. It highlighted the importance of the continental shelf margin, and also the Porcupine Basin, to these species.

The North-East Atlantic turtle populations occur in very low densities over a very large area, and breed outside the area (OSPAR 2001 advice). Nevertheless, five different species have been known to venture into the SIMAtlantic area: leatherback (*Dermochelys coriacea*), Loggerhead (*Caretta caretta*), Hawksbill (*Eretmochelys imbricata*), Kemp's Ridley (*Lepidochelys kempi*) and Green Turtle (*Chelonia mydas*) (OSPAR, 2000).

¹⁹ <https://www.ospar.org/work-areas/bdc/species-habitats/list-of-threatened-declining-species-habitats>

Marine mammals and marine turtles that are threatened or declining, according to OSPAR, are:

REPTILES (turtles)	Area concerned
<i>Caretta caretta</i> (Loggerhead turtle)	Bay of Biscay and Iberian coast area
<i>Dermochelys coriacea</i> (Leatherback turtle)	SIMAtlantic area
MAMMALS	
<i>Balaenoptera musculus</i> (Blue whale)	SIMAtlantic area
<i>Eubalaena glacialis</i> (Northern right whale)	SIMAtlantic area
<i>Phocoena phocoena</i> (Harbour porpoise)	Celtic seas area

3.3.3 Marine Protected Areas

Marine Protected Areas (MPAs) are geographically distinct zones for which conservation objectives are set (EEA, 2015). Moreover, they are a key policy measure and management tool for understanding and protecting marine ecosystems. In order to protect the marine ecosystems of European seas, the European Union has established objectives regarding MPAs, organised as a network of individual MPAs covering a representative proportion of biological diversity present there.

One of the key policy commitments is “Aichi Target 11” under the Convention on Biological Diversity, asking for 10% of coastal and marine areas, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures by 2020.

By the end of 2016, 14.2% of the Celtic Seas and 9.9% of the Bay of Biscay and Iberian coasts ecoregions were covered by MPAs (EEA, 2018), representing a total area of 211,719.45 km², mainly in nearshore and coastal waters. Considering Natura 2000²⁰ marine coverage, **in 2018** 10.3% of the Celtic Seas were covered by Natura 2000 sites, and 14.7% considering the Bay of Biscay and Iberian coast ecoregion (EEA, 2018).

According to QGIS application, using EMODnet data, Natura 2000 sites cover 329,136 km² of the SIMAtlantic area (139,755 km² for Special Protection Areas (SPA), 187,514 km² for Special Conservation Interest (SCI) and 1,868 km² for both SPA and SCI), representing approximately 25% of the area.

²⁰ Natura 2000 is a network of protected areas covering Europe's most valuable and threatened species and habitats. The sites within Natura 2000 are designated under the Birds and the Habitats Directives.

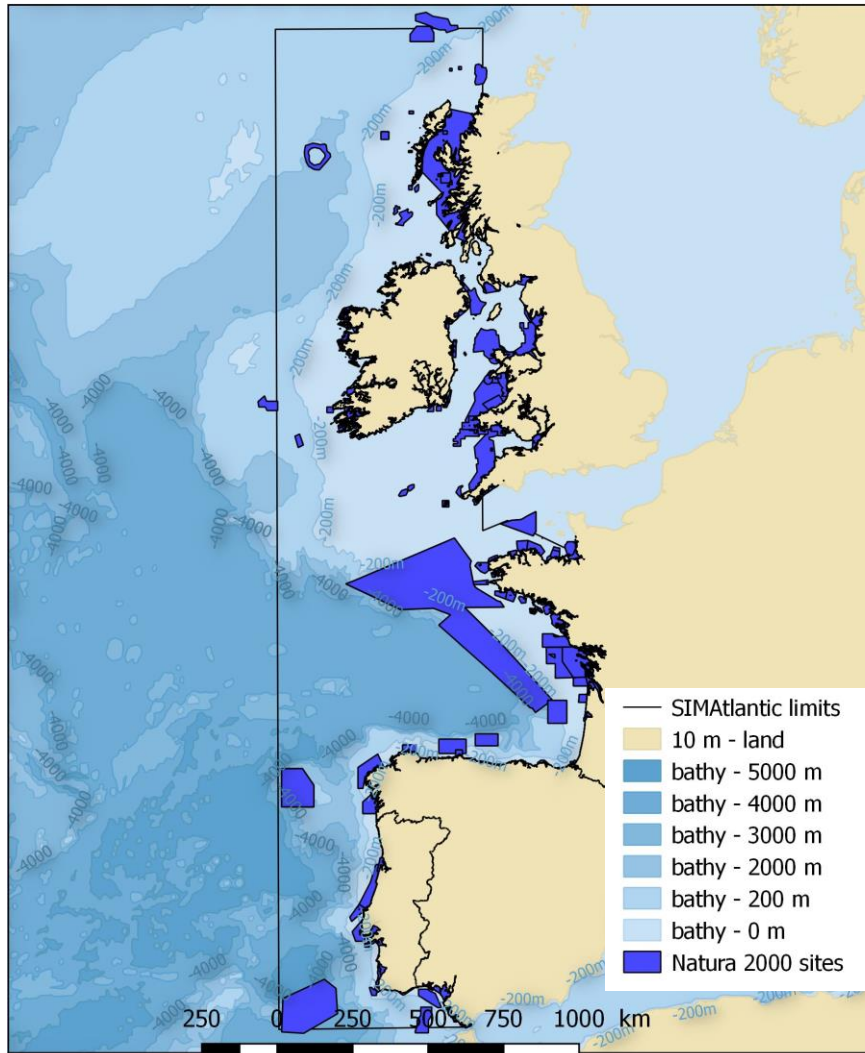


Figure 8: Natura 2000 sites (Special Protection Areas (SPA) and Special Conservation Interest (SCI))

4 Legal frameworks and status of MSP implementation in the SIMAtlantic area

4.1 United Kingdom

4.1.1 England

Status of national MSP

The Department for Environment, Food and Rural Affairs (DEFRA) is the authority responsible for developing maritime spatial plans (referred to in the UK as marine plans) and has delegated most of the functions related to these plans to the Maritime Management Organisation (MMO), a non-departmental executive public body. Maritime spatial planning is governed by the Marine Policy Statement setting out the policy objectives for UK marine

waters and the Marine and Coastal Access Act 2009.²¹ Eleven marine areas have been defined²² of which four are of relevance to the SIMAtlantic project, namely the North West Inshore and Offshore areas and parts of the South West Inshore and Offshore areas. Their boundaries were established through consultation, based on oceanographic and biogeographical factors as well as practical considerations (MMO, 2014). Marine plans are to be developed by 2021 for each marine region. The marine plans for the Eastern Region (Inshore and Offshore)²³ were completed in 2014 and the Southern (South and Offshore)²⁴ marine plans were the second to be adopted in July 2018. Marine plans take a long-term view of activities (20 years) and will be reviewed every 3 years. The MMO is responsible for the delivery of the planning process and is also responsible for licensing marine activities, fisheries management and operations functions ([MSP-platform – Oct. 2018](#)). Under the Marine and Coastal Access Act 2009, each marine plan is subject to a Sustainability Appraisal (SA). Sustainability Appraisals evaluate the environmental and socio-economic impacts of marine plans developed in marine regions in order to take steps to avoid and / or mitigate these impacts. A scoping report for the SA is now complete for the north-eastern, north western, south-eastern and south-western marine plans. These scoping reports provide the framework and approach for the SA process and explain how it will be undertaken in the marine planning process (O’Higgins et al., 2017). The South West²⁵ and North West²⁶ sustainability appraisal options assessment reports were published in June 2018.

21 <http://www.legislation.gov.uk/ukpga/2009/23/contents>

22 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/325688/marine_plan_areas.pdf

23 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/312496/eastplan.pdf

24

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/726867/South Marine Plan 2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/726867/South_Marine_Plan_2018.pdf)

25 <https://www.gov.uk/government/publications/south-west-sustainability-appraisal-options-assessment-report>

26 <https://www.gov.uk/government/publications/north-west-sustainability-appraisal-options-assessment-report>



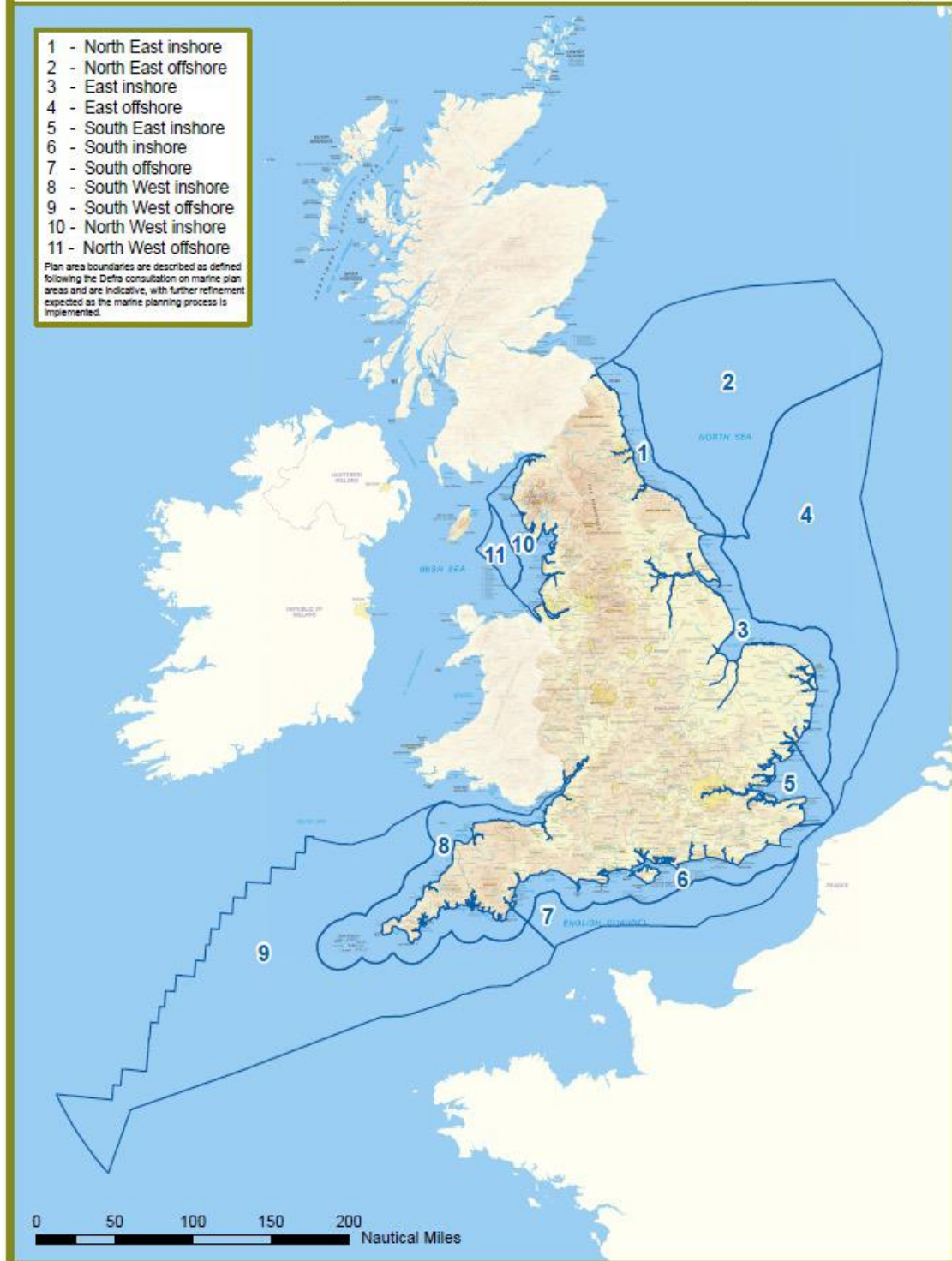
Marine
Management
Organisation

Marine Plan Areas in England

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- 1 - North East inshore
- 2 - North East offshore
- 3 - East inshore
- 4 - East offshore
- 5 - South East inshore
- 6 - South inshore
- 7 - South offshore
- 8 - South West inshore
- 9 - South West offshore
- 10 - North West inshore
- 11 - North West offshore

Plan area boundaries are described as defined following the Defra consultation on marine plan areas and are indicative, with further refinement expected as the marine planning process is implemented.



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Figure 9: Marine plan areas in England

Stakeholder engagement / governance

In developing the remaining marine plans, the MMO implements various measures for formal public consultation.

- direct email to interested people
- press releases
- local media
- marine planning newsletter or marine developments blog
- online through government, agency and third party websites
- MMO offices
- meetings and public drop-in sessions
- consultation with bordering and international countries²⁷

Workshops were organised between January and February 2019 in the remaining areas to complement engagement supported by online response forms. Statements of public participation (SPPs) were released for the north east, north west, south east and south west in July 2016²⁸ outlining how and when stakeholders can and will be directly involved in plan development ensuring a transparent planning process.

The MMO has a Marine Information System (MIS) that allows stakeholders to view and comment on the MMO data layers and evidence base. Stakeholder engagement is informed by public statements. Participation takes the form of stakeholder engagement at the national level (MSP-platform – Oct. 2018).

4.1.2 Scotland

Status of national MSP

Marine planning in Scotland is regulated by the UK Marine Policy Statement. The Marine (Scotland) Act 2010²⁹ and the Marine and Coastal Access Act 2009³⁰ establishes a legal framework for marine planning in Scotland's inshore waters (out to 12 nautical miles) and offshore waters (12 to 200 nautical miles), respectively. The two Acts, also referred to as Marine Acts, require Scottish Ministers to prepare and adopt marine plans for both Scotland's inshore and offshore waters in conformity with the UK Marine Policy Statement. The Scottish Ministers exercise their power through Marine Scotland, a Directorate of the Scottish Government. Scotland's first statutory 'National Marine Plan' was published in 2015 as a single document comprising two marine plans for both inshore and offshore waters (Scottish government, 2015). A three year report, the National Marine Plan Review 2018, has been released assessing the implementation and effectiveness of the plan³¹.

The Marine (Scotland) Act provides for the establishment of regional plans by Marine Planning Partnerships in each Scottish Marine Region extending out to 12 nautical miles.

27 <https://www.gov.uk/guidance/marine-plans-development>

28 <https://www.gov.uk/government/publications/statement-of-public-participation-north-east-north-west-south-east-and-south-west>

29 Marine (Scotland) Act 2010, Schedule 1. Available at <http://www.legislation.gov.uk/asp/2010/5/contents?>

30 Marine and Coastal Access Act 2009. Schedule 6. Available at <http://www.legislation.gov.uk/ukpga/2009/23/contents>

31 <https://www.gov.scot/publications/national-marine-plan-review-2018-three-year-report-implementation-scotlands/>

Scottish territorial waters were divided into 11 marine regions following a consultation process in 2013 that defined the boundaries (Figure 10). Since this consultation, marine plans are in preparation for each of these areas. Partnerships are formed to develop regional maritime plans for their areas. They set goals for economic, social, marine, climate change and sustainable development policies. The Clyde Marine Planning Partnership and the Shetland Islands Marine Planning Partnership were established and were the first to implement regional marine planning processes.

A pilot regional marine plan for Pentland Firth and Orkney Waters was published in March 2016. Although this is not a statutory marine plan, the Pilot Plan sets out planning policy framework in advance of the statutory Regional Plans for both the Orkney and North Coast Marine Regions (O'Higgins et al. 2017). A separate MSP process for the Shetland Islands also resulted in a non-statutory plan in 2014.

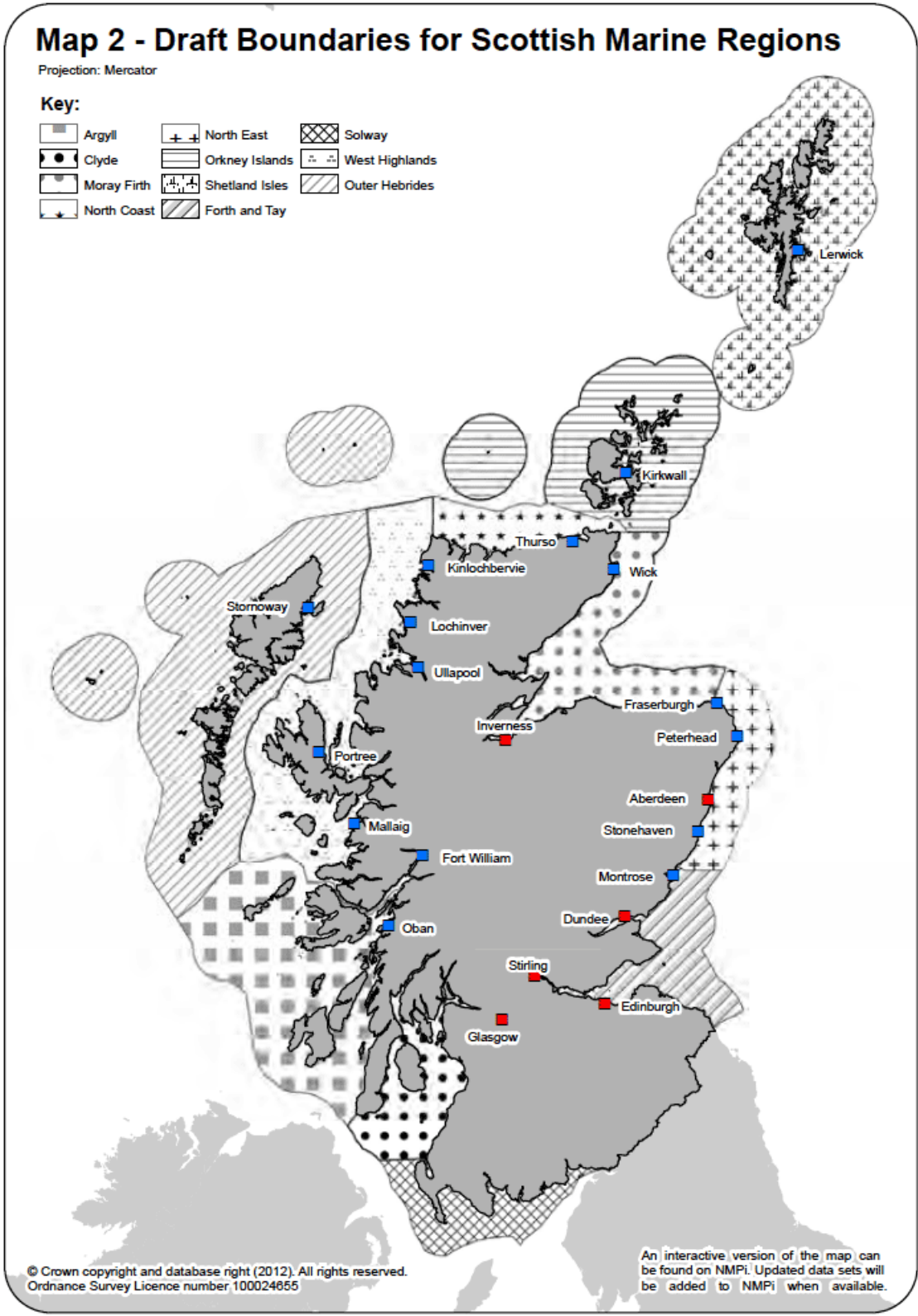


Figure 10: Scottish Marine Regions³²

32 <https://www.gov.scot/binaries/content/gallery/publications/publication/2014/12/scotlands-national-marine-plan-9781784128555/00467355.qif>

Stakeholder engagement / governance

Regional marine planning is undertaken by Marine Planning Partnerships³³, which consist of marine stakeholders who reflect marine interests in their regions. The size and composition of those partnerships will vary by region, issues and existing groups. Local authorities, coastal fishing groups, local coastal partnerships and their coordinating body, the Scottish Coastal Forum, will play a role in the development of regional plans. Regional marine planning functions will be delegated to marine planning partnerships to take into account local circumstances and smaller ecosystem units. Partnerships will develop public participation statements, ensuring that local communities and stakeholders have the opportunity to contribute to the development of the plan (O'Higgins et. al, 2017).

Once their regional marine plans are adopted, the partnerships must oversee the implementation of their plans, monitor their regions and the effects of their policies, review objectives and policies and modify their plans if required or requested by Scottish Ministers.

The composition of the Partnerships should bring together a wide range of sectors with interests in the marine region. For example, the Clyde Marine Planning Partnership (CMPP) membership currently consists of 24 stakeholders, including protection and recovery, recreation, trade, public authorities, etc.

CMPP Structure

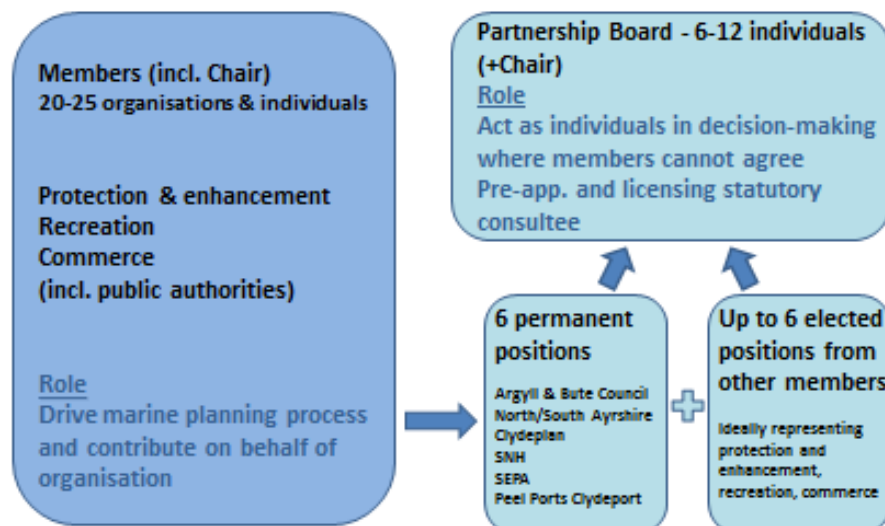


Figure 11: Clyde Marine Planning Partnership Structure³⁴

33 <https://www2.gov.scot/Topics/marine/seamanagement/regional/partnerships>

34 <http://www.clydemarineplan.scot/wp-content/uploads/2017/04/Clyde-Marine-Planning-Partnership-operational-guidance.pdf>

To assist in the development of national and regional marine planning, Marine Scotland has developed the National Marine Plan interactive tool³⁵ which displays the spatial data upon which an assessment of the status of the Scottish marine area is based, including a summary of significant anthropogenic pressures and impacts, provided by the Scottish Marine Atlas.

4.1.3 Wales

Status of national MSP

Marine planning for Wales operates within the framework of the UK Marine Policy Statement. Marine planning in Wales is governed by the UK Marine Policy Statement and the Marine and Coastal Access Act (MCAA) 2009. Under the Marine and Coastal Access Act 2009, the Welsh Ministers are the planning authority for the Welsh inshore and offshore areas. A first National Marine Plan³⁶ (WNMP) covering both Welsh inshore and offshore waters was published by the Welsh Government on November, 12th 2019 accompanied by supporting documentation including Habitats Regulation Assessment and Sustainability Appraisal (Welsh Government, 2019). The Plan will be accompanied by non-statutory Implementation Guidance to assist local planning authorities in taking authorisation and enforcement decisions in compliance with the Plan. The Implementation Guidance is currently being developed by the Marine Planning Decision Maker’s Group and will be circulated in 2020.

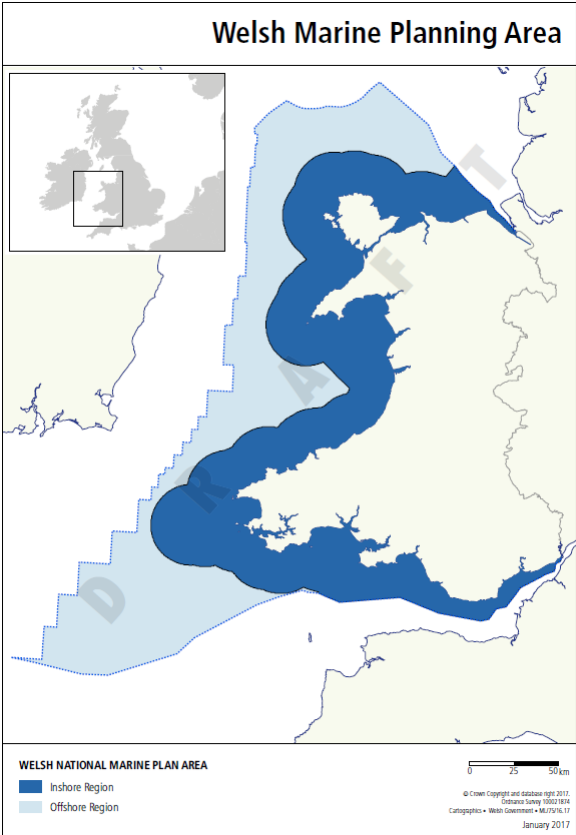


Figure 12: Welsh Marine Planning Area - Welsh National Marine Plan - Welsh Government (2019)

35 <https://www2.gov.scot/Topics/marine/seamanagement/nmpihome>

36 <https://gov.wales/marine-planning#section-29566>

Stakeholder engagement / governance

The Welsh Government launched an eight-week consultation process on the draft public participation statement in 2014. In addition, a 12-week consultation period on the Draft Vision and Objectives for the Welsh National Marine Plan and the scope of the Sustainability Appraisal was launched in August 2014. The 2015 Wales Coastal Directory and the Welsh Marine Strategic Advisory Group also provides a list of stakeholders and organisations with coastal and marine interests that may be involved in the planning process³⁷ (O’Higgins et al. 2017). In developing the plan, the Welsh authorities sought the views of stakeholders in different ways:

- Statement of public participation. In January 2017, the Welsh Government updated its Statement of Public Participation (SPP) and confirmed its intention to develop a plan ready to be published for consultation that year.
- The Marine Planning Stakeholder Reference Group (MPSRG)³⁸ has been created to consult stakeholders and collect stakeholders feedback on the Draft Welsh National Marine Plan (WNM) and provide strategic advice on the content of the plan and its implementation.
- Public consultation on the draft WNMP was launched in December 2017 and closed on 29 March 2018. A summary of consultation responses was published in July 2018 (Welsh Government, 2018).³⁹
- An interactive Marine Planning Portal has been developed to raise understanding on existing development authorisations and provide stakeholders with an opportunity to comment on the available evidence base underpinning the WNMP.

4.1.4 Northern Ireland

Status of national MSP

Marine planning in Northern Ireland is governed by the UK Marine Policy Statement. The Marine Act (Northern Ireland) 2013 builds on the provisions of the Marine and Coastal Access Act 2009 by establishing a strategic marine planning system in the coastal and offshore waters of Northern Ireland.

The Department of Agriculture, Environment and Rural Affairs (DAERA) is the marine planning authority responsible for preparing plans in Northern Ireland, with other relevant departments and agencies providing assistance on areas where they have policy responsibilities. A national Marine Plan for both the Inshore and Offshore Area, will be published as one document, and will contain provisions relating to retained functions (matters not fully devolved to Northern Ireland).

The draft Marine Plan for Northern Ireland was published for public consultation on 18 April 2018, accompanied by a sustainability appraisal.

37 <http://gov.wales/docs/dra/publications/150805-wales-coastal-directory-group-map-en.pdf>

38 <https://gov.wales/marine-planning-stakeholder-reference-group/terms-of-reference>

39 Consultation – Summary of response: Draft Welsh National Marine Plan. Available at <https://gov.wales/draft-welsh-national-marine-plan>

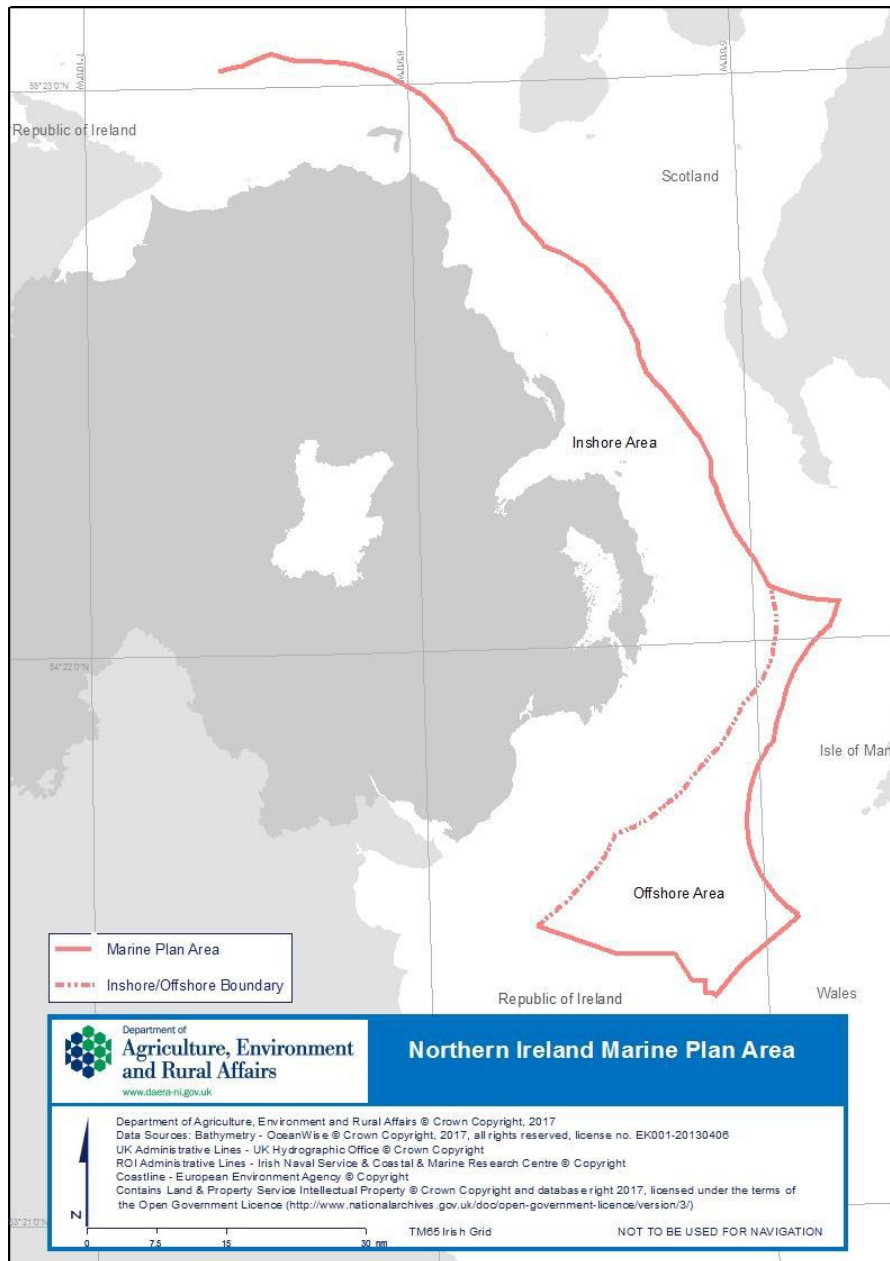


Figure 13: The Northern Ireland Marine Area (Source: DAERA)

Stakeholder engagement / governance

Several meetings took place in order to foster cooperation between the authorities involved in MSP:

- Department of the Environment Marine Division stakeholder event - 7 November 2013
- Sustainability Appraisal Scoping Workshop – 6 May 2014
- Ongoing engagement with NI and UK departments with responsibilities in the Northern Ireland marine area to ensure their respective responsibilities are accurately reflected
- Ongoing co-operation with authorities which share NI regional seas.

Stakeholder engagement is informed by the published Statement of Public Participation. In developing the plan, the following engagement has taken place:

- Department of the Environment Marine Division held a series of public stakeholder events in November 2012 at 12 coastal locations around Northern Ireland. An easy read leaflet on marine planning, was also developed for these events.
- Schools engagement took place in November 2012, visiting 12 primary and second level schools. Two age specific versions of the Statement of Public Participation were developed for the schools, as part of a package.
- Four sectoral workshops for Energy, local Councils, Tourism and Recreation, and Environmental stakeholders were held in October 2012 and also meetings with the Fishing and Ports sector stakeholders in 2012 and 2013.
- Consultation on the Vision, the Objectives and marine plan alternatives, took place at a key stakeholder workshop event on 7 November 2013.
- Subsequent engagement with stakeholders also took place via regular newsletters and email shots and ongoing updating of the marine plan website. The Statement of Public Participation was also reviewed and updated in 2014, 2017 and 2018 to reflect progress on the marine plan and future milestones for engagement opportunities.
- A Sustainability Appraisal Scoping Workshop was held on 6 May 2014
- Ongoing engagement with NI and UK departments with responsibilities in the Northern Ireland marine area takes place to ensure their respective responsibilities are accurately reflected. Northern Ireland departments are engaged through an Inter-Departmental Marine Co-ordination Group.
- Ongoing co-operation is taking place with authorities which share NI regional seas, notably Ireland.

Whereas the statutory consultation on the draft Northern Ireland Marine Plan and its associated documents (including the assessment of sustainability and the appropriate assessment) was opened to public submissions on 18 April 2018⁴⁰ and closed on June 15, 2018, it is a material consideration in authorisation and enforcement decisions impacting the marine area. During the consultation period, more than 70 organisations and individuals submitted their proposals online, by email or in writing.

Submissions were received from a wide range of stakeholders, including members of the public, coastal community groups, environmental NGOs, sports organisations, stakeholder representation organisations, fisheries organisations, suppliers of energy, local authorities and public sector bodies.

A synopsis of the responses to the consultation will be published in 2020.

A [Marine Map Viewer interactive planning tool](#) supplements the Marine Plan and provides spatial economic, environmental and social information to proposers and stakeholders. It will also assist public authorities in their decision making processes.

40 <https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/Marine%20Plan%20for%20NI%20final%2016%2004%2018.PDF>

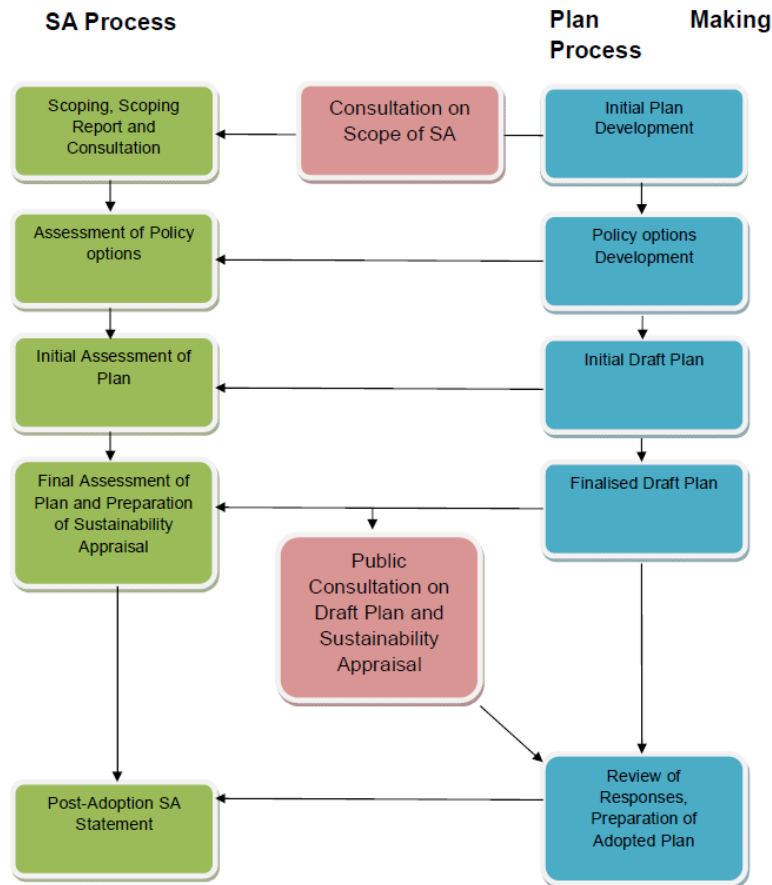


Figure 14: Consultation process in Northern Ireland⁴¹

4.2 Ireland

Status of national MSP

The development of an overarching national marine spatial plan framework for maritime spatial planning has been identified as a Government policy objective in Ireland's Integrated Marine Plan, *Harnessing Our Ocean Wealth* (HOOW) (2012). HOOW predates the adoption of the MSP Directive. The MSP Directive has been subsequently transposed into Irish law through the Planning and Development (Amendment) Act, 2018. The Act provides a legal basis for the development of a national marine plan with possibility of establishing more detailed plans for parts of the maritime area (regional or sectoral). Under the Act, the Department of Housing, Planning and Local Government (DHPLG) is the competent authority for preparing Ireland's first National Marine Plan on behalf of the Government.

The process of developing Ireland's first National Marine Plan was formally initiated in December 2017 with the publication of *Towards a Marine Spatial Plan for Ireland* – a roadmap which sets out the overall process, milestones, timeframe and opportunities for stakeholder engagement in the development of the plan. A draft maritime spatial marine spatial plan,

⁴¹ <https://www.daera-ni.gov.uk/articles/marine-plan-northern-ireland#toc-0>

which is known as the [National Marine Planning Framework \(NMPF\)](#), was published in November 2019 for a 3-month consultation and public engagement process.

The NMPF will apply to Ireland's maritime area. The maritime area is defined in the Act and includes internal waters (sea area), territorial seas, exclusive economic zone (EEZ) and continental shelf. The maritime area comprises approx. 490,000 km² and extends from mean high water mark at the coast seaward to in excess of 200 nautical miles in parts.

Plans apply in the maritime area to:

- any policy, programme or plan in relation to development or activity, or proposed development or activity,
- the giving of any consent or approval, or the grant or issue of licences, certificates or other like documents,
- regulation of any such development or activity.

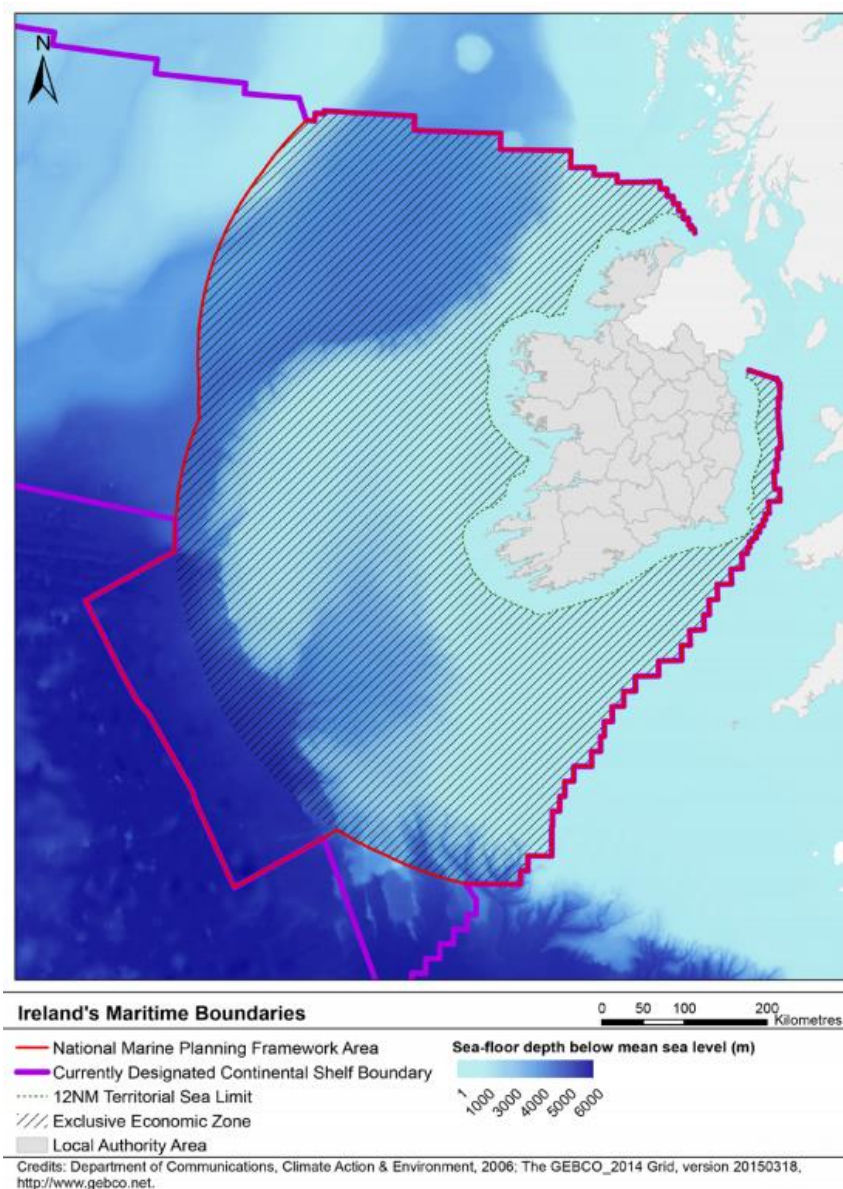


Figure 15: Ireland's Maritime Boundaries

The NMPF is governed by the Marine Planning Policy Statement (MPPS). The final MPPS accompanied the consultation draft of the NMPF in November 2019 after a 2-month consultation period over Summer 2019. The MPPS describes various components of Ireland’s marine planning system and outlines the vision, priorities and policies underpinning the adoption of the final NMPF. Under the Marine Planning Policy Statement, the NMPF constitutes the forward planning component of an integrated marine planning system with features distinct forward planning, development management and enforcement elements (Figure 15).

In addition to the NMPF, updated legislation (in the form of the Marine Planning and Development Management Bill 2019) will reform and modernise Ireland’s marine planning system by introducing a single State consent and a streamlined development management regime for the entire maritime area. The Bill will provide for the designation of Strategic Marine Activity Zones where activities of environmental, economic and social importance may receive priority over other maritime users. When formal designation is made by Order of the Government, Strategic Marine Activity Zones will become an integral part of the NMPF and as such, become legally binding on marine decision-makers.

Adoption of the final NMPF and associated environmental assessments (including strategic environmental assessment and appropriate assessment) is expected in late 2020.

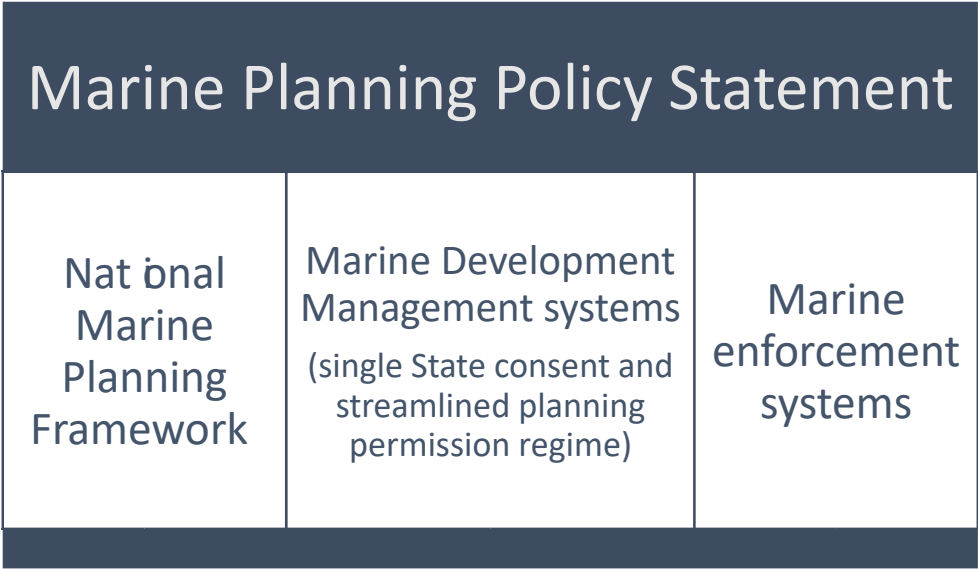


Figure 16: Ireland’s integrated marine planning system (Marine Planning Policy Statement Consultation Draft, 2019)

Stakeholder engagement

A series of public and stakeholder events were held nationally between March and July 2018 to raise awareness on the national plan-making process and facilitate public participation on DHPLG’s plan-making activities. Following this, an NMPF Baseline Report was drawn up that included a description of the context for marine spatial planning as well as setting out the “as is” situation in terms of existing activity in Ireland’s maritime area and identifying future opportunities and constraints for these activities. The NMPF Baseline Report was then subject to a 3-month consultation from September to December 2018. During the consultation period, which included numerous regional public events across Ireland to

engage stakeholders in person, over 170 submissions were received on the Baseline Report and these informed the content of the draft NMPF.

In addition to online engagement and roadshows, eight meetings of the NMPF Stakeholder Advisory Group were convened between September 2018 and October 2019 to allow detailed discussions on the content of the draft NMPF. The Stakeholder Advisory Group comprises representatives from marine sectoral activities, State agencies, non-governmental organisations, professional bodies and academia.

An online consultation process on the Consultation Draft NMPF was launched on 12 November 2019 and is open until 28 February 2020. In parallel, the DHPLG supports the engagement of stakeholders and local communities by hosting regional public events that facilitate participation on the draft NMPF. Regional public events will commence on November 21st 2019 starting in Limerick and continuing to Westport, Galway, Tralee, Killybegs, Bantry, Dungarvan, Dublin and Wexford.

Transboundary engagement has been facilitated by the creation of a group of planning officials from Ireland, Northern Ireland, England, Scotland, Wales and the Isle of Man. This forum meets on an ad-hoc basis and operates as a standing mechanism for transboundary cooperation between competent marine planning authorities of Ireland and the United Kingdom. This mechanism is in addition to formal notifications issued under the SEA Directive to the UK, France, Spain, and Portugal.

To ensure MSP work is informed by good practice as well as wanting to inform others of its MSP work on a regular basis, Ireland also participates in international initiatives and groups such as this SIMAtlantic project, the EU's [Atlantic Action Plan](#), the EU MSP Member State Expert Group, and the IOC UNESCO / EC [MSPglobal](#) initiative. Ireland will also be hosting European Maritime Day in Cork on 14-15 May 2020, an opportunity to engage internationally on MSP, and this will be followed by Seafest on the 15-17 of May 2020 – Ireland's largest free family-friendly maritime celebration that will provide a platform to raise awareness of MSP amongst the wider public as well as informed stakeholder community.

4.3 France

Status of national MSP

In 2017 France adopted its National Strategy for the Sea and Coast (*Stratégie nationale pour la mer et le littoral*, *SNML*)⁴² which defines the overarching framework for guiding public policies affecting the sea and coasts in France metropolitan and oversea territories. The strategy sets out four long-term strategic objectives to 1) deliver the ecological transition for the sea and coastline, 2) support sustainable blue economy, 3) restore and achieve the good environmental status of the marine environment and the preservation of an attractive coastline, and 4) promote France's ability to wield influence as a seafaring nation.⁴³

42 http://www.ecologique-solidaire.gouv.fr/sites/default/files/17094_National-Strategy-for-the-Sea-and-Coast_EN_fev2017.pdf

43 Ministry for the Ecological and Inclusive Transition. 2017. National Strategy for the Sea and Coast. Available at http://www.geolittoral.developpement-durable.gouv.fr/IMG/pdf/17094_strategie-nationale-pour-la-mer-et-le-littoral_en_fev2017.pdf

The Strategy is implemented in metropolitan France and overseas territories by means of sea basin strategic documents, also referred to in French as *Documents Stratégiques de Façade (DSF)*. Four sea basins have been delimited in the French mainland waters:

1. Eastern Channel-North Sea
2. North Atlantic-Western Channel
3. South Atlantic
4. Mediterranean coast.

The DSF are described as the 'legal solution chosen by France' to fulfil the requirements of the MSFD and the MSP Directive⁴⁴, fostering an integrated and ecosystem-based approach. The purpose of these documents is to refine and supplement the objectives of the SNML by adapting these to the economic, social and environmental specificities of each sea basin area.

The French Ministry for the Ecological and Inclusive Transition is the national authority responsible for overseeing the overall national marine planning process. At the sea basin scale, the DSF are developed under the responsibility of a couple of state representatives: a regional prefect (for the land side) and a maritime prefect (for the sea side).

The French public authorities are currently developing the DSFs in close collaboration with stakeholders, at national scale (through the national council for the sea and the coastline) and local scale (through the French sea basin Maritime Councils).

Each document will be developed following a strategic and operational phase. In September and October, 2019, the coordinating prefects adopted the strategic component of their DSFs which comprises a review of the initial situation and defines the challenges and overarching vision for each sea basin by 2030. In addition, each DSF provides for a series of strategic objectives which are associated with a 'designated uses maps' or 'vocation maps'.⁴⁵ These 'designated uses maps' allocate the maritime space to specific uses/activities or environmental requirements in a way that is consistent with the challenges and strategic objectives assigned to the sea basin by the Sea Basin Strategy.⁴⁶ The DSF will be complemented by an Action Plan and assessment programme by the end of 2021.

44 European MSP Platform. Available at <https://www.msp-platform.eu/countries/france>

45 Sea Basin Strategy for the South Atlantic. Available at <<http://www.geolittoral.developpement-durable.gouv.fr/documents-english-version-r549.html>>

46 Sea Basin Strategy Documents for the North Atlantic-Western Channel. Available at <<http://www.geolittoral.developpement-durable.gouv.fr/documents-english-version-r549.html>>

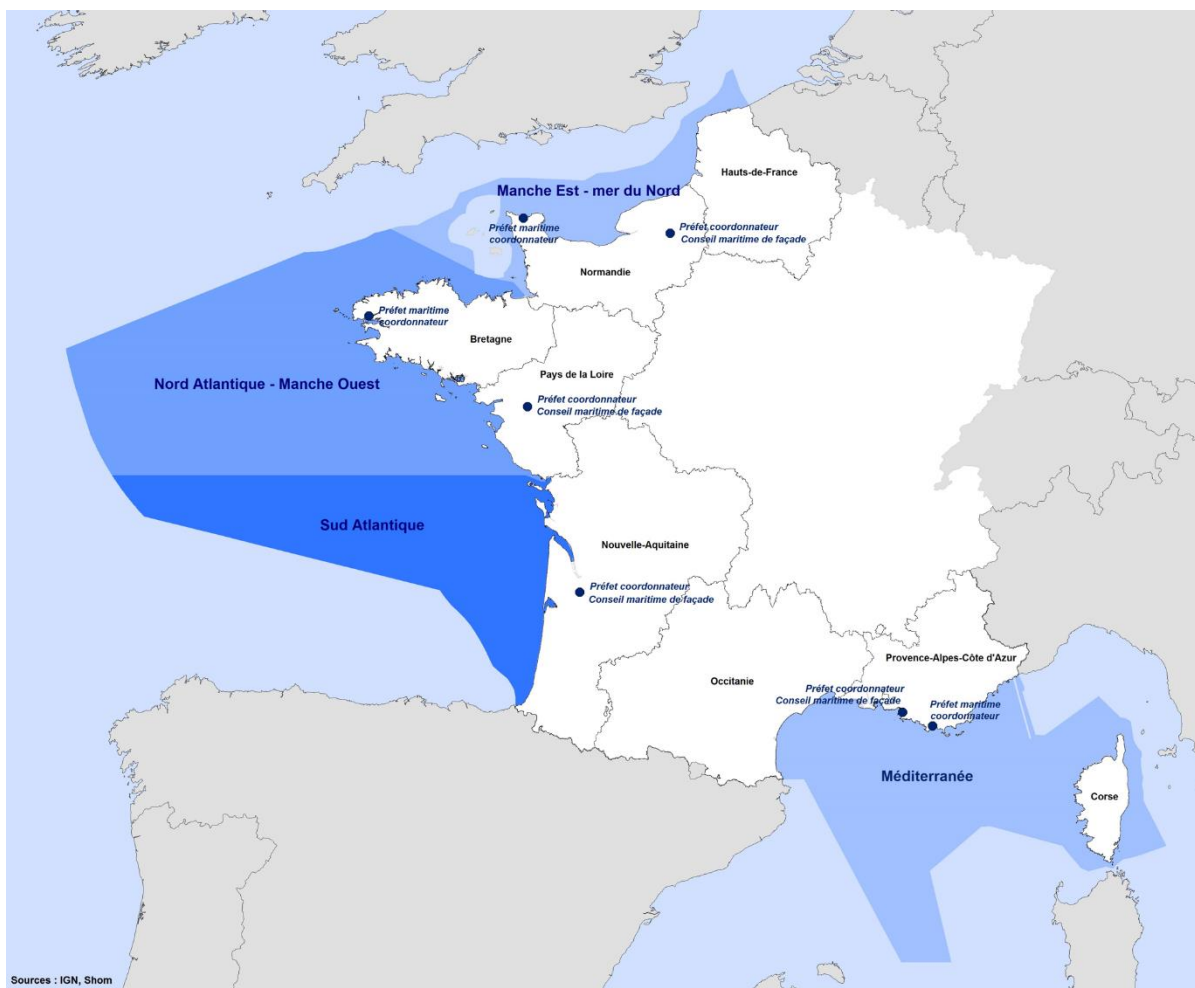


Figure 17: French Sea Basins

Stakeholder engagement / governance

The National Council for the Sea and Coastal Areas – *Conseil national de la mer et des littoraux (CNML)*

The *Conseil national de la mer et des littoraux*⁴⁷ (National Ocean and Coastal Council) (CNML) provides a forum for discussion and strategic reflection on the implementation of national maritime policies. The Council was created by the French Law 2010-788 of July 12, 2010 on National Commitment for the Environment, also referred to as ‘Grenelle II’. The CNML is involved in the development, implementation, monitoring and evaluation of the SNML. The Council can be consulted on any question relating to the sea and the coast. It contributes, through its opinions and proposals, to the orientation and coordination of public actions at sea and in coastal territories.

The CNML is chaired by the Prime Minister or, by delegation, by the Minister in charge of maritime affairs under the Ministry for the Ecological and Inclusive Transition. It comprises fifty-two members divided into six colleges: a college of elected representatives comprising twenty-six members; a college of representatives of public institutions, comprising five members; a college of business representatives comprising six members; a panel of

47 <https://www.ecologique-solidaire.gouv.fr/conseil-national-mer-et-des-littoraux-cnml>

representatives of national representative trade unions representing five members; a college of associations and foundations comprising seven members; a college of qualified personalities and ex-officio members comprising three members.

A specific working group on MSP has been created within the CNML when the planning process has been launched to provide recommendations on the process itself and on strategic orientations.

The Sea basin Councils – *Conseils Maritimes de Façade* (CMF) -

Four integrated consultation bodies, the Sea basin Councils (known in France as *Conseils Maritimes de Façade, CMF*), were created pursuant to Article L219-6-1 of the Environment Code to facilitate consultation on the development and implementation of DSF in each sea basin area. Their main function is to make recommendations related to the development of maritime sectors, use, planning and protection of marine resources.

CMFs allow various stakeholders (State, local authorities, associations, socio-professional organisations) with an interest at sea, along the coast and on land to take part in the management of maritime areas.

The Councils are chaired by the coordinating prefects and bring together approximately 80 stakeholders representing government bodies, local authorities and their groupings; various associations and representatives of professional sectors.

Consultation on strategic plans

A public consultation was launched from January 26, to March 25, 2018. This consultation exercise was supervised by the French National Commission for Public Debate and carried out through various ways:

1. The development of a participatory online platform to enable the public to learn more about planning and its objectives and to comment on the proposed future vision.
2. Conducting citizens' workshops organised in several coastal cities. The consultation resulted in a report published on April 24, 2018. At the beginning of May 2018, the summary of public contributions was brought to the attention of the CMFs.
3. The four DSF have been developed in cooperation with stakeholders and have been evaluated by the French environmental authority. They were then subject to a national online public consultation until June 4, 2019.

4.4 Spain

Status of national MSP

Spain adopted Royal Decree No 363/2017 of 8 April establishing a Framework for Maritime Spatial Planning which transposes Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2015 into Spanish law establishing a framework for maritime spatial planning. The Spanish Law on the Protection of the Marine Environment 41/2010 sets out the general principles for planning the marine environment through the preparation, adoption and implementation of marine strategies. Law No 41/2010 has transposed the Marine Strategy

Framework Directive (MSFD) and regulates maritime areas under the "maritime-terrestrial public domain", which includes territorial waters and natural resources of the economic zone and continental shelf. The law established that Spanish marine strategies are planning tools (planes de ordenación del espacio marítimo – POEM) in each marine sub-region (a total of five, one for each Spanish maritime subdivision) (Dilasser et al., 2019).



Figure 18: The five [Spanish marine subdivisions](#)

Maritime and coastal responsibilities are shared between central and regional governments. The Ministry of Ecological Transition is the authority responsible for the coast and the marine environment as well as biodiversity. The Ministry of Agriculture, Fisheries and Food is the fisheries authority (MSP-platform – Dec 2018). Regional governments are taken into account in the decision-making process, within the legally established coordination bodies.

An Interministerial Commission on Marine Strategies (*Comisión Interministerial de Estrategias Marinas – ICES*) was created in 2012 to coordinate the development, implementation and monitoring of marine environmental planning. It includes the competent ministerial departments in the marine environment. A working group was created in June 2015 in order to work on the organisation of the maritime space (*Grupo Trabajo d'Ordenación del Espacio Marítimo - GT-OEM*), which since then has been dedicated to the coordination of tasks for creating ordination plans (MSP-platform – Dec 2018).

Stakeholder engagement / governance

In order to establish the strategical objectives of the POEMs, a first meeting took place in February 2019, with representatives from autonomous communities of the coast, in particular regional governments in charge of aquaculture, fisheries, tourism, regional harbours, underwater cultural heritage and environment. A second meeting took place the 6th of March 2019, with representatives of the stakeholders, environmental associations and civil society.

A first draft of the POEM will be available online at the beginning of 2020. Workshops are also to be planned during 2020 for public consultations.⁴⁸

4.5 Portugal

Status of national MSP / Transnational / thematic

Responsibility for maritime affairs was transferred in 2015 to a new Ministry of the Sea (MSP-platform – June 2019). Since 2015, the Ministry of the Sea is, therefore, responsible for maritime affairs in Portugal and the DGRM (Directorate General of Natural Resources, Security and Maritime Services) is responsible for the coordination of the Portuguese maritime spatial plan and responsible for planning the Continental maritime area and the extended continental shelf. The autonomous regions of the Azores and Madeira are responsible for planning their own EEZ (Fig. 17). For the two autonomous regions, the competent authorities are the Regional Planning and Environment Directorate of the Regional Government of Madeira and the Regional Directorate of Maritime Affairs of the Regional Government of the Azores (Périssé et al., 2019).

The Interministerial Commission for Maritime Affairs (CIAM) brings together representatives of all relevant ministries. The autonomous regions of Madeira and the Azores have exclusive and shared competences with the national government in the field of maritime affairs. The committee is made up of public institutions of the Ministry of the Sea, the Portuguese Agency for the Environment, Nature Protection, representatives of the municipalities, autonomous regions of the Azores and Madeira and representatives of the economic sectors. The advisory committee follows the process from the beginning and gives its opinion on the MSP (MSP-platform – June 2019).

The Portuguese MSP fundamental Law No. 17/2014 on marine spatial planning and management was approved in April 2014 and was enabled in legislation through Decree-Law No. 38/2015, in March 2015.

Decree-Law No. 38/2015 defines among others, the regime of maritime spatial planning instruments: i) Situation Plan (Plano de Situação do Ordenamento do Espaço Marítimo Nacional – PSOEM) with the identification of the protection and preservation areas of the maritime space, and the temporal and spatial distribution of current and potential uses and activities; ii) Allocation Plans for the private use of some areas or volume of the maritime not considered in the situation plan.

⁴⁸ <https://www.miteco.gob.es/es/costas/temas/proteccion-medio-marino/ordenacion-del-espacio-maritimo/>, consulted the 14th of January 2020

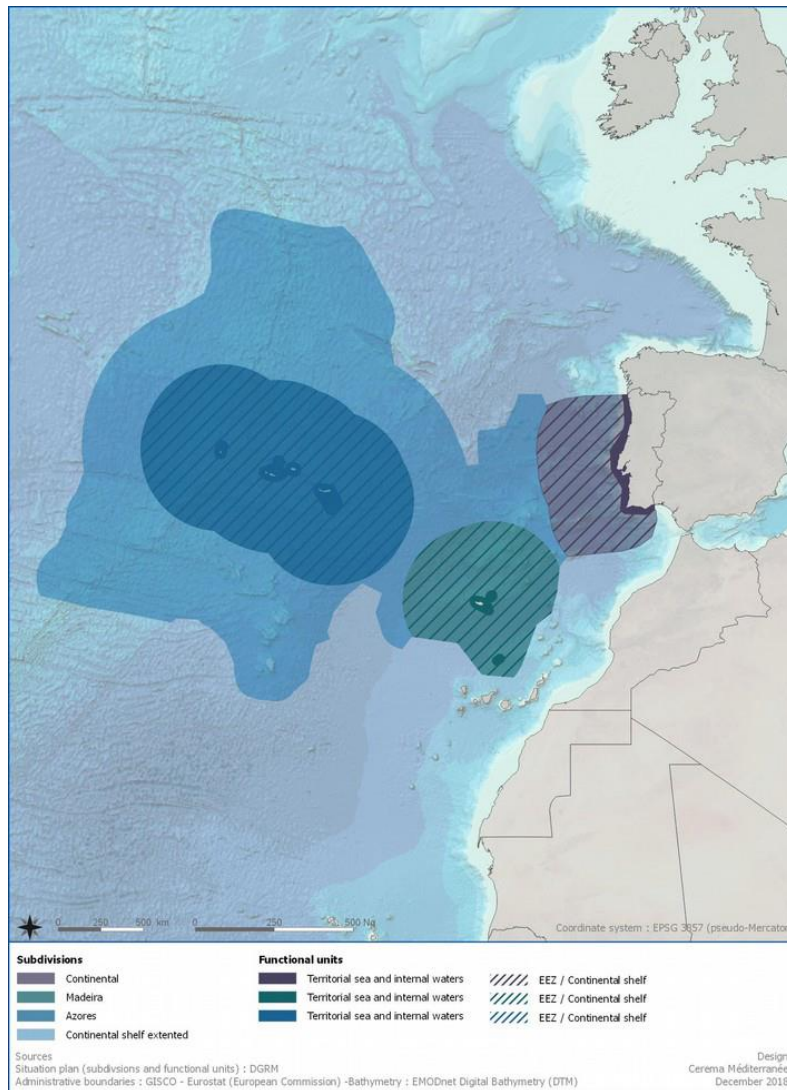


Figure 19: Portuguese Situation plan: subdivisions and functional units (Giret et al., 2019)

PSOEM defines a development model based on the proposal of potential areas for development of private activities in the maritime space. Consequently, it is expected that the Territorial Sea of the Mainland subdivision will experience an increase allocation of space for maritime activities. These activities will need private use permit (TUPEM - Título de Utilização Privativa de Espaço Marítimo). It is also within this space that most of the common uses, such as artisanal fisheries, recreational vessels occur, and the port and navigation easements take place. Therefore, this is the most challenging area for the coexistence of multiple uses

In 2015, [Order No. 11494/2015](#) established the preparation and development of the Situation Plan, defining the competent authorities responsible for and supporting the process.

The Plan for the Continent, Madeira and Extended Continental Shelf subdivision is in the process of being published in the Portuguese official journal and the Azores subdivision will be published during 2020.

Stakeholder engagement / governance

Stakeholder participation started early in the development of the situation plan. Several meetings with economic sectors and NGOs took place. For the fishing sector in particular, specific workshops were organised separately to enable the identification of the most relevant areas for each fishing gear to avoid affecting these areas by other private uses.

Working groups

Six Working Groups (WGs) coordinated by DGRM and by DROTA (Madeira subdivision) have been formed to identify the spatial and temporal distribution of existing and potential uses and activities for the next 10 or 20 years:

- Defence, security and navigation
- Marine aquaculture and biotechnology
- Nature conservation and scientific research
- Marine mineral resources, energy resources and renewable energy, infrastructures, and other uses or activities of an industrial nature
- Recreation, sport, tourism, underwater cultural heritage
- Dredged material disposal and marine aggregates

Advisory committees

The advisory committees for situation plan support and monitor the progress of the PSOEM, promoting multi-sectoral interests.

In 2015 Ordinance 11494/2015 established the Advisory Committee for the Continent and the Extended Continental Shelf subdivision and also the Advisory Committee for the Madeira subdivision.

A website and a geoportal (www.psoem.pt) have been created with all the information relating to the planning of the Portuguese maritime area, as well as to facilitate the development of the situation plan and public participation⁴⁹. This site is available to stakeholders so they can follow current progress on MSP. It provides general and technical information, including the minutes of the technical working groups, public consultations and the geoportal.

The public consultation on the situation Plan (Continental, Madeira and the Extended Continental Shelf subdivisions) and on the Strategic Environmental Assessment took place from April 30 to July 31, 2018 and from December 12, 2018 to January 31, 2019. 250 written comments were received, and the following sessions took place: 4 public sessions (Leixões, Lisboa, Faro, Funchal), 3 sessions specific to the fishing sector (Leixões, Lisboa, Faro) and one session for the coastal municipalities (Coimbra) ([MSP-platform – June 2019](#)). The plan was approved by the Council of Ministries in October 2019.

⁴⁹ http://www.psoem.pt/comissao_consultiva/

5 Conclusions

This global overview sets out the first key features of SIMAtlantic project area, both from a geographical and ecological point of view as well as from the institutional point of view, on the implementation of MSP. As has been shown, this wide area covers five countries that have not reached the same point in their maritime strategies implementation, and have undertaken the work through different ways. Collecting data that could be harmonised and used by different countries, in order to facilitate transboundary MSP challenges, is one of the issues of this project, taking into account what has already been done and ongoing with European projects such as EMODNET program. A second step should be to implement new tools in order to disseminate the content of planning documents to stakeholders and general public.

To date, transboundary MSP work has been limited to legal consultations between countries, as plans and their evaluations (SEAs, SAs) go along. Besides, stakeholder consultations appear to be focused on national levels (although on various scales), whereas many issues at sea should be considered at a transnational scale.

As marine space is a complex system, requiring better knowledge and with multiple and various interactions, including land-sea interactions, an ecosystem-based approach should help to go beyond jurisdictional boundaries and build a real European vision for the Atlantic.

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