Macaronesian Maritime Spatial Planning

"GUIDANCE REPORT ON TRANSBOUNDARY MSP"

Approach for cross-border cooperation in Macaronesia

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Summary

This report delivers guidance on transboundary Maritime Spatial Planning and an approach for cross-border cooperation in Macaronesia, under MarSP project Work Package 6 “Macaronesian Cross-border Cooperation” and Task 6.1 “Cross-border cooperation”.

The governance context has a great influence on the nature, legitimacy and effectiveness of the cross-border cooperation mechanisms for the Macaronesian MSP, the same way as the socio-economic, political, legal and environmental regional conditions, will shape these priority issues. These must be set according to the MSP objectives so that they can contribute to the improvement in cross-border cooperation. A clear and well-structured process, formed by all the relevant parts, can facilitate the

commitment and accelerate the planning step. This being said, the necessary steps are being taken, as well as numerous efforts, that can nurture a long-term scenario, favourable for the region.

Disclaimer: All maps and figures serve as a working tool only and shall not be considered as an official or legally-binding map representing marine borders in accordance with international law. Those maps and figures shall be used without prejudice to the agreements that will be concluded between Member States or between Member States and non-EU states in respect of their marine borders.

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ABNJ	Areas Beyond National Jurisdiction
ACP	Africa, Caribe and the Pacific
BEST	Biodiversity and Ecosystem Services in Territories of European overseas
BWM	International Convention for the Control and Management of Ships'Ballast Water and Sediment
CBD	Convention of Biological Diversity
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CECAF	Fishery Committee for Eastern Central Atlantic
CFP	Common Fishery Policy
CISE	Common Information Sharing Environment
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CTI-CFF	Coral Triangle Initiative on coral Reefs, Fisheries and Food Security
DGRM	General Direction of Natural Resources, Security and Maritime Services
EBA	Ecosystem Based Approach
EC	European Commission
ECS	Extended Continental Shelf
EEZ	Exclusive Economic Zone
EGTC	European Grouping for Territorial Cooperation
EIA	Environmental Impact Assessment
ERDF	European Regional Development Fund
EU	European Union
EUBSR	European Union Strategy for the Baltic Sea Region
FAO	Food and Agriculture Organization of the United Nations
GMDSS	Global Maritime Distress Safety System
GPS Azores	Geographical and Political Scenarios in Maritime Spatial Planning for the Azores and North Atlantic (project)
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICT	Information and Communication Technology
IMO	International Maritime Organisation
INSPIRE	Infrastructure for Spatial Information in Europe
INTERREG-V-A	European Territorial Co-operation Program for Transnational Co-operation (Spain- Portugal)
IOC	Intergovernmental Oceanographic Commission of UNESCO
IUCN	International Union for Conservation of Nature
LBOGEM	Portuguese Law that establish the Bases of the Policy of Planning and Management of the National Marine Space

MAC	Macaronesia
MARPOL	International Convention for the Prevention of Pollution from Ships
MarSP	Macaronesian Marine Spatial Planning (project)
MSFD	Marine Strategy Framework Directive
MSP:	Marine or Maritime Spatial Planning
MUSES	Multi-Use in European Seas (project)
OPRC	International Convention on Oil Pollution Preparedness, Response and Co-operation
ORs	Outermost Regions
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic
POMAC	European Territorial Co-operation Program for the Azores, Madeira and the Canary Islands
RFMOs	Regional Fisheries Management Organizations
SAR	International Convention on Maritime Search and Rescue
SDGs	Sustainable Development Goals
SIMCelt	Supporting Implementation of Maritime Spatial Planning in the Celtic Seas (project)
SIMNORAT	Supporting Implementation of Maritime Spatial Planning in the Northern European Atlantic (project)
SMEs	Small and Medium Enterprises
SOLAS	International Convention for the Safety of Life at Sea
SPREP	Secretariat of the Pacific Regional Environment Programme
SRR	Search and Rescue Regions
TFEU	Treaty of the Functioning of the European Union
TPEA	Transboundary Planning in the European Atlantic (project)
UNESCO	United Nations Educational, Scientific and Cultural Organization
WATCH	West African Talks on Cetaceans and their Habitat (project)

1. INTRODUCTION

What is the purpose of this report?

The maritime spatial planning (MSP) works within a defined area due to both physical and ecological processes, as well as for the administrative jurisdictions of the different States involved. The jurisdictional limits rarely agree with the ecological limits (Jay *et al.*, 2016), therefore addressing correctly transboundary issues is both key to MSP (Frazão Santos *et al.*, 2018) and to maintain an ecological approach (EBA[1]) (GEF LME:LEARN, 2018a)(GEF LME:LEARN, 2018a). In this sense, "the transboundary nature of the ocean means that activities and the pressures that they cause necessitate collaborative work between governments across marine regions to ensure the sustainability of shared resources; whereas the multiplicity and complexity of ocean governance measures therefore necessitate a broad range of interdisciplinary expertise, as well as regional and international cooperation" (European Parliament, 2018).

Transboundary cooperation for MSP gives the opportunity to improve efficiency in planning and management of resources and coastal and marine activities, facilitating decision making (Carneiro *et al.*, 2017). Transboundary thinking is, therefore, part of the foundation of MSP and a characteristic of the marine environment to be planned (Jay, 2012).

This report aims to be a guide through a series of recommendations, general at first and specific to maritime sectors after, to promote transboundary cooperation in the European Macaronesia MSP.

Directive 2014/89/EU establishing a framework for maritime spatial planning.
Article 11. Cooperation among Member States

As part of the planning and management process, Member States bordering marine waters shall cooperate with the aim of ensuring that maritime spatial plans are coherent and coordinated across the marine region concerned. Such cooperation shall take into account, in particular, issues of a transnational nature.

Who should use this report?

This orientations' report is primarily intended for professionals responsible for the planning and management of marine areas and their resources, i.e. decision makers and interest groups of the maritime sectors of the European Macaronesia in general.

This report will be also particularly useful to stakeholders belonging to those maritime sectors and matters that for the actual and future development of their activities and/or their interests, might be affected by issues that expand across their national maritime borders.

[1] For the purposes of this document, the term 'ecosystem-based approach' (EBA) is used throughout in the same way as in the Marine Spatial Planning Toolkit (GEF LME:LEARN, 2018b): "Similar terms are often used to refer to the same concept: ecosystem-based approach (EBA), ecosystem-based management (EBM), ecosystem approach (EA). EBA is normally used in Europe, as referenced in the Marine Strategy Framework Directive and MSP Directive, while in the US, EBM is normally used. EA is used in the Convention on Biological Diversity

What key sources of information have been used?

This report is based, among others, on regional investigations that served as the foundation for this work: a diagnostic of the European Macaronesia socio-ecosystem (García-Onetti *et al.*, 2018); an analysis on its Macaronesian marine governance system (García-Sanabria *et al.*, 2019); and an analysis of lessons learned and good practices that can be applied to Macaronesia (Cordero Penín *et al.*, 2019a). These have both aimed to show transboundary dynamics and mechanisms to promote transboundary MSP within the MarSP Project's framework. Also, as a support to this report, results from the questionnaires filled by stakeholders during the participation workshops held in Azores, Madeira and Canarias, have been included.

Of all the consulted documents, reports from the European Union stand out, such as "Cross-border cooperation in Maritime Spatial Planning" (Carneiro *et al.*, 2017) and the "Marine Spatial Planning (MSP) Toolkit" (GEF LME:LEARN, 2018a). It is worth mentioning that these documents include a comprehensive analysis of case studies and good practices from which they developed general recommendations about cross-border and transboundary cooperation applicable to almost any maritime planning project. This makes them valuable references for this report, in which lessons learned have been included within the specific context of the European Macaronesia.

Furthermore, other specific works related to outermost regions (EASME, 2017a, 2017b, 2017c, 2017d; Solbes, 2011) or blue growth (EASME, 2017e; Lukic *et al.*, 2018) have been relevant. Lessons learned of international initiatives on MSP have also been analysed since they could serve as an inspiration for transboundary cooperation in the European Macaronesia. Among these initiatives can be noted the ones undertaken in the Baltic Sea (Baltic SCOPE), in the Northern Sea (SIMCelt), in the Northeast Atlantic (TPEA and SIMNORAT) or in the Azores (GPS Azores and MUSES).

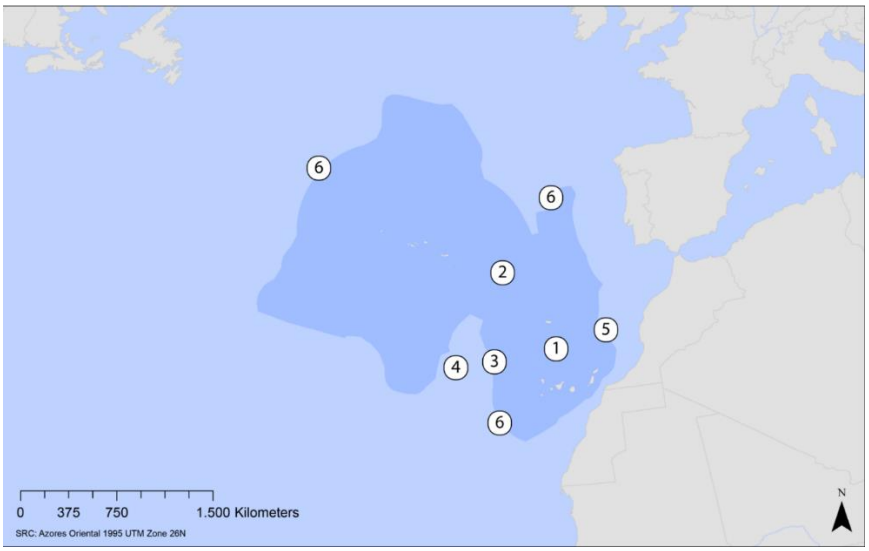
Finally, there have been selected those good practices especially related to cross-border cooperation that could be best applied or be a source of inspiration to our study area. This selection has been compiled from the Global MSP Inventory, published by the European Commission, along with its "study on international best practices for cross-border MSP" (Carneiro *et al.*, 2017).

2. THE SCOPE OF TRANSBOUNDARY COOPERATION IN THE EUROPEAN MACARONESIA

The Macaronesian marine ecosystem, as well as the majority of Large Marine Ecosystems (LMEs) span across national jurisdictional boundaries (European Commission DG for Regional Policy, 2011) and these tend to have different levels of complexity for the European Macaronesia (the Azores, Madeira and the Canary Islands). In the report titled `Marine Spatial Planning (MSP) Toolkit` (GEF LME:LEARN, 2018a) it is worth noting the distinction made between 'cross-border MSP', referring to cases between two or more countries that share a common administrative border, and 'transboundary MSP' which refers to cases where multiple countries share an ecosystem. In the European Macaronesia both cases occur. On the one hand, there are cross-border processes between Spain and Portugal, at a multi-national level where both countries have jurisdiction over a joint ecosystem. Nevertheless, it is worth highlighting that transboundary MSP processes in the European Macaronesia should consider other MSP processes of third communitarian countries such as Cape Verde and other West African countries. They should consider the whole sea basin of the Macaronesian biogeographic region and its ecosystems. Furthermore, in this European area, transboundary MSP involves the governments of all three autonomous communities of the European regions of the Azores, Madeira and the Canary Islands.

Given the common ecosystem that all the three European Macaronesia autonomous communities share, the scope of transboundary cooperation for MSP could include the entire marine areas in which Portugal and Spain have to develop MSP plans. Therefore, each country must decide on the scope, which, in fact, could include all the jurisdictional marine areas claimed by both countries. Figure 1 shows, only by way of indication, the possible marine area for the European Macaronesia.

Figure 1. Possible scope of transboundary cooperation in the European Macaronesia



Source: Macaronesian region, listed in the EU Marine Strategy Framework Directive (article 4), marine sub-region of the North-east Atlantic Ocean marine region, in the European Environmental Agency (EEA), 2017. Developed by: Suárez de Vivero J.L.
The numbers indicate the most important jurisdictional type of marine borders and the different scenarios of transboundary cooperation (for more information see table 1).

Since there is no official map of the scope of application of MSP in the specific legislation of Spain (there is for Portugal), the area of application of both countries has been used for the Marine Strategy Directive (which in the case Portuguese coincides with that of MSP), published in the European Environment Agency (EEA) in 2017. In the Spanish case, for example, the border limits established by the extended continental shelf are not included, something that may vary over time in the successive processes of revision of the plans.

Within this common socio-ecological space, there are different priority areas for cross-border cooperation, among which, obviously (but not exclusively), those areas where we find shared borders stand out. It should be noted that in this case it is a complex reality because some jurisdictional limits are still in the process of legal consolidation, so these limits have not been drawn in Figure 1 (it is not the objective of this report, nor of this project, to define these borders). This situation can also be considered as an opportunity, as it opens up all options for cooperation between the states involved. That is why in this study we prefer to talk about areas of opportunity for cooperation in the field of MSP.

Despite this, it cannot be ignored that the contacts between different jurisdictional spaces generate a wide diversity of border types that require different legal and political treatment (Suárez de Vivero, 2018). This diversity has been reflected in Figure 1, where the main types of jurisdictional borders identified have been indicated with numbers. These will be the subject of the analysis below, since they will determine the scenario of cross-border cooperation and, hence the procedures to carry it out, the associated political level, which institutions could / should be involved, what types of measures could be proposed in each case, etc. That is, in which places some of the recommendations indicated in the document can be applied, or in what way they should be carried out.

However, it is important to point out that in the case of the European Macaronesia, borders tend to be far from coastal areas. That is why, contrary to what happens in continental marine-coastal borders, it is difficult to find here border areas where there is an exceptional concentration of maritime activities crossing borders or competing for ecosystem services, which also coincides with a concentration of ecosystems or especially sensitive areas (they are the known “hot spots”, which do occur in estuaries or transboundary bays or in semi-enclosed and complex marine basins shared by many countries such as the Mediterranean or the Baltics). It is for this reason that, instead of thinking about cooperation from a spatial perspective (a specific place of cooperation) and speaking, for example, of shared “areas”, it is worth focusing on cooperation in terms of processes. This implies identifying particularly important, interesting or transnational issues that represent an opportunity for cooperation in the field of MSP. In this sense, the scope of cooperation will not be limited in this work to a map of areas of action, but rather to the identification of cross-border issues of shared interest, whose development from a regional perspective (Macaronesia) could have a high impact on different archipelagos.

Diversity of border types and scenarios of cooperation considering the contact that exists between different jurisdictional spaces in the European Macaronesia:

A border may be the result of different combinations on both sides between territorial sea, contiguous zone, exclusive economic zone and high seas. Cooperation can occur on issues related to the surface and the water column, and also on the continental shelf, or the sea and ocean floor and its subsoil outside the limits of the national jurisdiction (“the Zone”). That is why it can be said that the cooperation processes between countries are strongly conditioned by the administrative and legal reality associated with these combinations. The following table details the main types of legal limits indicated with the corresponding number on the map in Figure 1 and the type or scenario of cooperation that can take place in Macaronesia.

Table 1. Summary of the diversity in types of borders in the marine basin of the European Macaronesia

Nº on the MAP	MAIN BORDER TYPES *[Sequence of waters, bed and subsoil connected on the jurisdictional borders around the archipelagos of Macaronesia]*	PRIORITY COOPERATION SCENARIO* [(a) cross-border co-op. country-country and with the international community in general. (b) co-op. between regions of the European Union]
1	Border Canary Islands (Spain) – Madeira (Portugal)	a) Bilateral cooperation Spain - Portugal b) Interregional cooperation Canary islands region (SP) – Madeira region (PT)
2	Border Azores (Portugal) – High Seas – Madeira (Portugal) *(in the seabed and subsoil under the High Seas the E.C.S. of Portugal is, without border)*	a) International cooperation Portugal – International community / bilateral coop. with third countries b) Inter-regional cooperation Azores region (SP) – Madeira region (PT) (national coop.)
3	Border Madeira (Portugal) – High Seas – Canary Islands (Spain) *(in the seabed and subsoil under the High Seas there is a border: E.C.S. Madeira (PT) – E.C.S. Canary I. (SP))*	a) International cooperation Portugal/Spain – International community; bilateral cooperation Spain-Portugal b) Interregional cooperation Canary Island region (SP) – Madeira region (PT)
4	Border Madeira/Azores (Portugal) – High Seas – Canary Islands (Spain) *(in the seabed and subsoil under the High Seas there is a border: E.C.S. of Azores (PT) – The Area – E.C.S. Canary I. (SP))*	a) International cooperation Portugal/Spain – International community; bilateral co-op. Spain-Portugal b) Interregional cooperation Canary Islands region (SP) – Azores/Madeira region (PT)
5	Border Madeira (Portugal)/Canary Islands (Spain) – Waters around other riparian States	a) Bilateral cooperation Spain/Portugal – other riparian States
6	Border Madeira/Azores (Portugal)/Canary Islands (Spain) – High seas *(in the seabed and subsoil under the High Seas there is a border: E.C.S. of Azores (PT)/Madeira (PT)/Canary I. (SP) – The Area)*	a) International cooperation Portugal/Spain – International community/bilateral cooperation with third countries

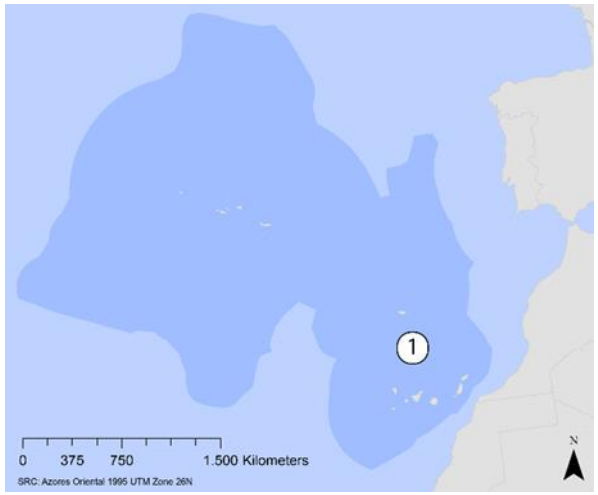
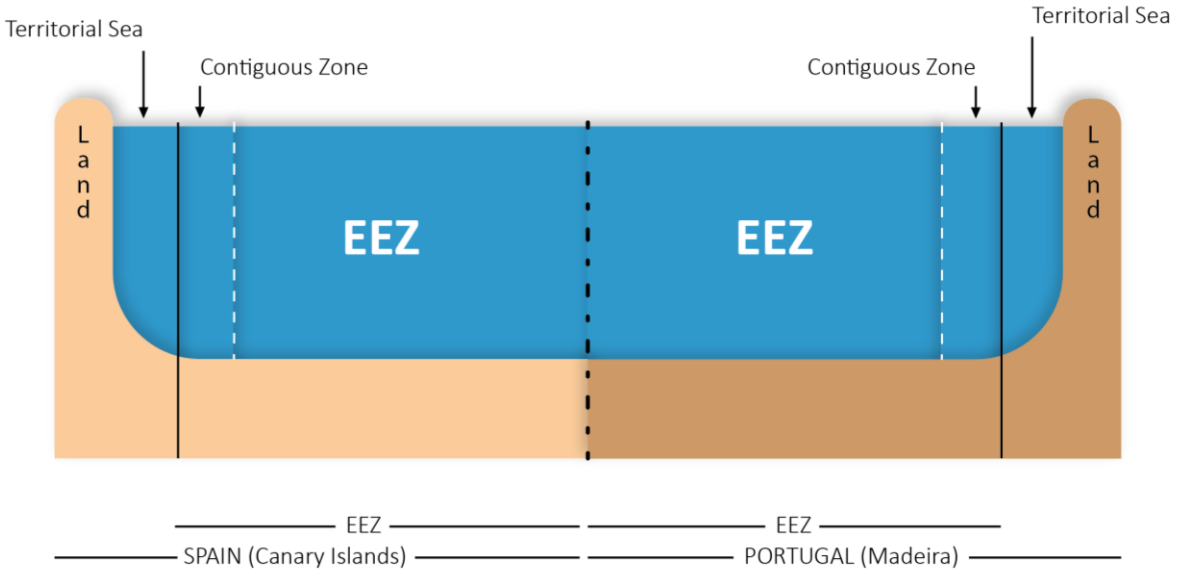
***** Only the most complex cross-border cooperation cases are listed in this column. In EEZ, although they are waters under national jurisdiction, it must be remembered that third States also have rights related to navigation, the laying of cables and pipes, etc., so that whenever we talk about these waters it is necessary to assume cross-border cooperation with other countries.

E.C.S. = Extended Continental Shelf, claimed by Spain and Portugal
PT = Portugal; **SP** = Spain
The area = the area of the seabed and ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources

Source: Authors own

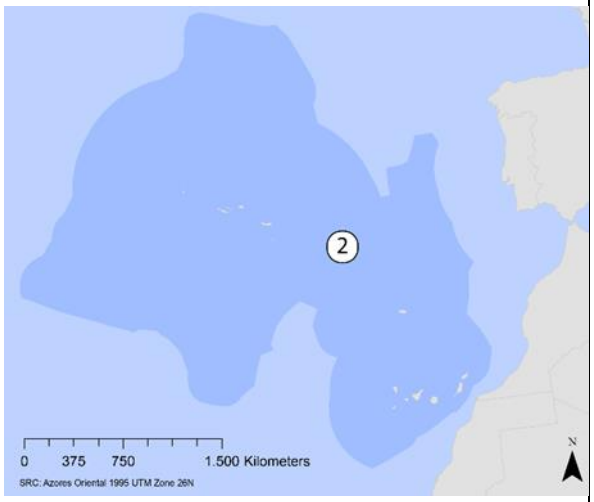
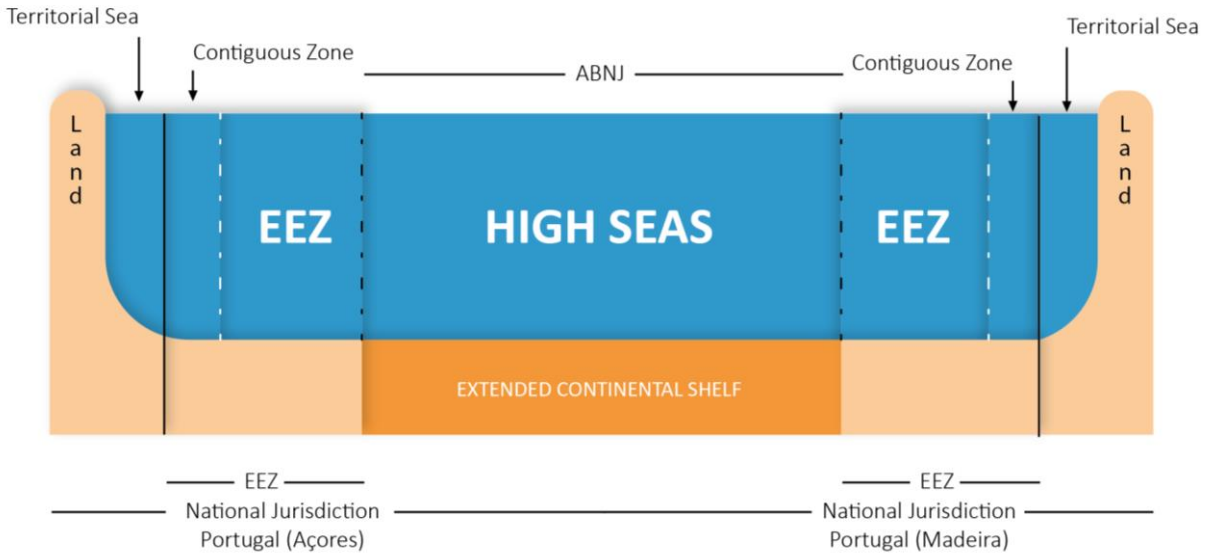
Next, schematic figures are detailed, the sequences of maritime zones with different regimes, according to the Convention of the International Law of the Sea, which we find in the different types of border. Each sequence allows for the anticipation of administrative details that should be considered for the efforts of coordination and cross-border cooperation that MUST occur when designing and/or implementing the different MSP plans. As already noted, a lack of coherence between contiguous plans could lead to administrative fragmentation of the marine ecosystem of Macaronesia, which demonstrates ecological conditions of continuity. Meaning that, uncoordinated decision-making on both sides of these borders can have important implications on both ecosystems and the beneficiaries that use their services, threatening the well-being of the region.

Figure 2. Type of border 1

Location	Scheme of the sequence of jurisdictional limits in contact
	
Sequence	**Priority cooperation**
Border Canary Islands (Spain) – Madeira (Portugal)	a) Bilateral cooperation Spain - Portugal b) Interregional cooperation Canary islands region (SP) – Madeira region (PT)

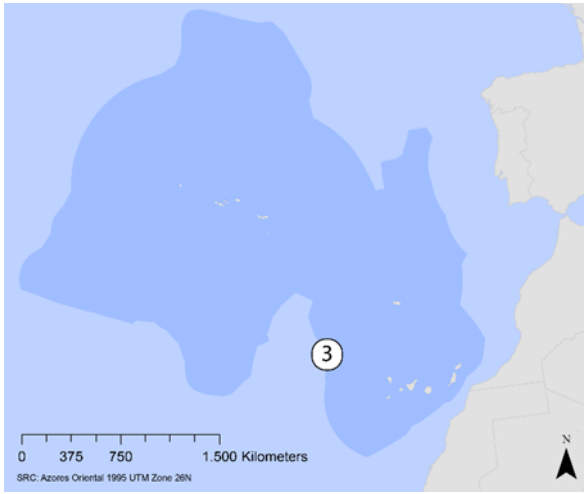
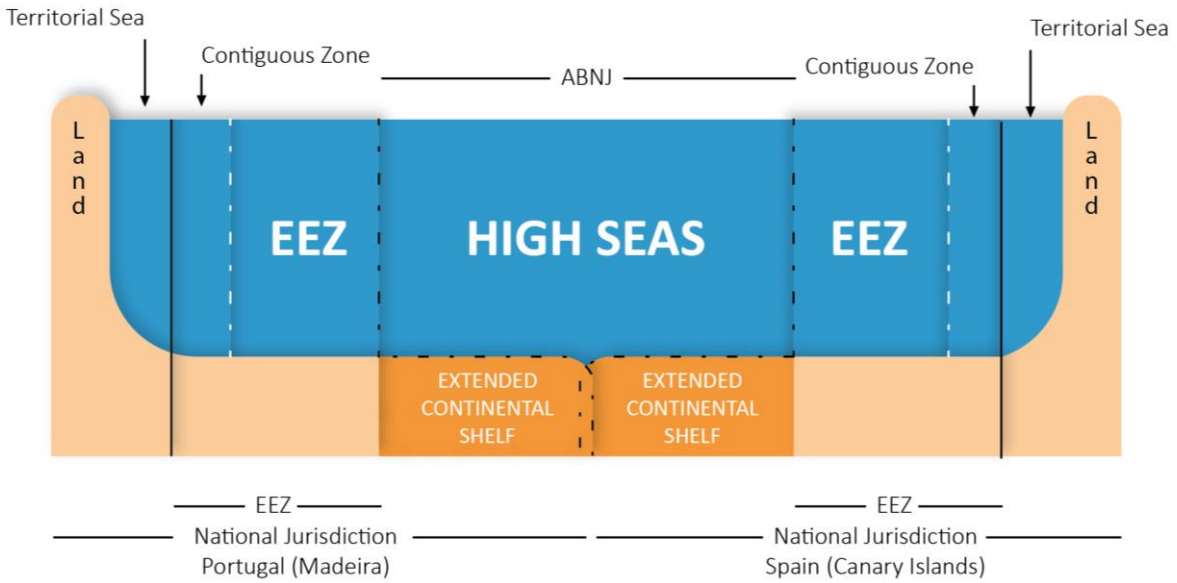
This is the most important type of direct border between Spain and Portugal that we find in the waters of the European Macaronesia. As previously noted, only the type of border covering more surface area has been represented, without entering into specific details, which does not mean that other types of borders cannot exist in that area. It should again be remembered that in the EEZ, although they are waters under national jurisdiction, it must be remembered that third States also have rights related to navigation, the laying of cables and pipes, etc. Hence whenever we talk about these Waters, cross-border cooperation with other countries is deemed necessary. More specifically, it is worth highlighting the great prominence of the autonomous governments of the archipelagos of Madeira and the Canary Islands in the Spain-Portugal bilateral cooperation processes (and which already has interesting precedents of collaboration in cooperation projects between European regions, such as the Interreg).

Figure 3. Type of border 2

Location	Scheme of the sequence of jurisdictional limits in contact
	
Sequence	**Priority cooperation**
Border Azores (PT) – High Seas – Madeira (PT) (in the seabed and subsoil under the High Seas there is the E.C.S. of Portugal, without border)	a) International cooperation Portugal – International community/bilateral coop. with third countries b) Interregional cooperation Azores region (SP) – Madeira region (PT) (national coop.)

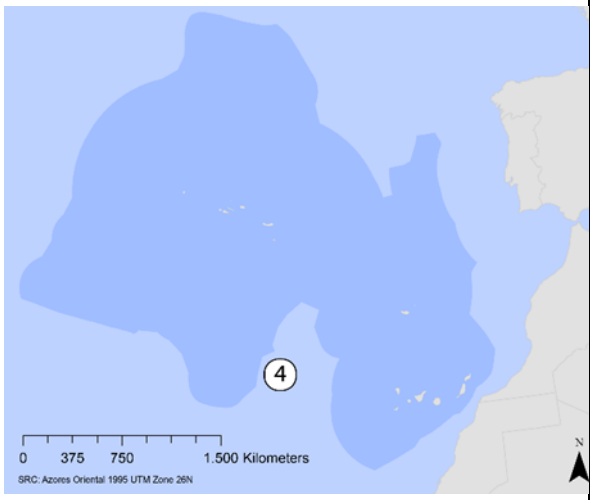
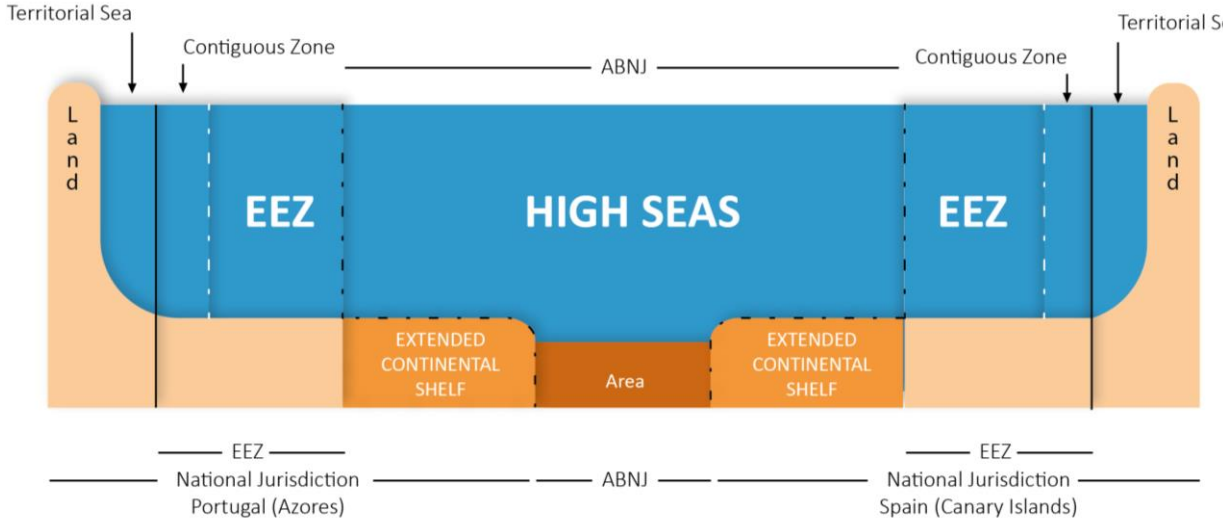
In this case there is no border between the two nations of Spain-Portugal (as in the previous case), and even on the seabed there is continuity in the Portuguese jurisdiction through the extended continental shelf. However, cross-border cooperation is important as part of that platform comes under the high seas. In addition, beyond cross-border cooperation, the importance of cooperation between the autonomous governments of Azores and Madeira for the development of their respective MSP plans is noted.

Figure 4. Type of border 3

Location	Scheme of the sequence of jurisdictional limits in contact
	
Sequence	**Priority cooperation**
Border Madeira (PT) – High Seas – Canary I. (SP) (in the seabed and subsoil under the High Seas there is a border: E.C.S. of Madeira (PT) – E.C.S. Canary I. (SP))	a) International cooperation Portugal/Spain – International community; bilateral coop. Spain-Portugal b) Interregional cooperation Canary Island region (SP) – Madeira region (PT)

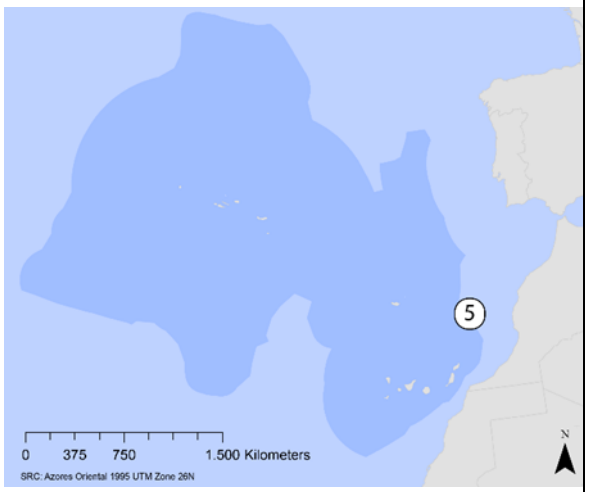
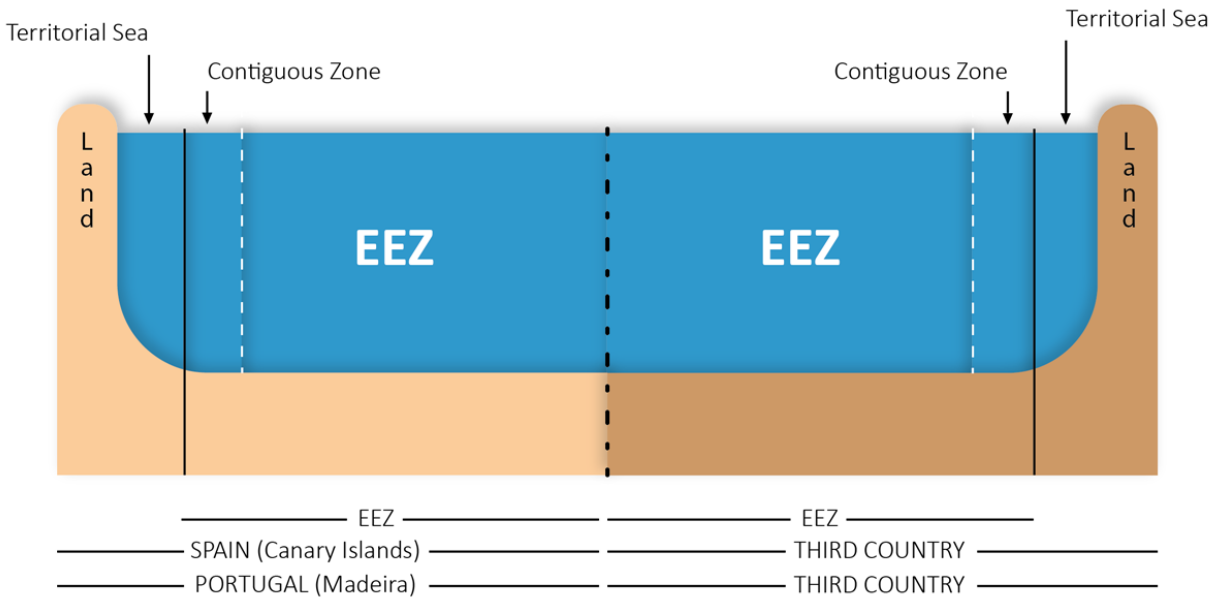
It is a type of border with some complexity, as there is a point of overlap in the claims of the extended continental shelf that both countries have made within the framework of UNCLOS. As mentioned above, this figure does not presuppose the scope of the MSP plans of both sides of the border and it will be the respective institutions responsible for both countries that decide that area. Regardless, bilateral cooperation between the two countries will be very important in the management of activities that affect the seabed and subsoil, as there will need to be collaboration with the international community in the column and surface of water (High Seas).

Figure 5. Type of border 4

Location	Scheme of the sequence of jurisdictional limits in contact
	
Sequence	**Priority cooperation**
Border Madeira/Azores (Portugal) – High Seas – Canary Islands (Spain) *(in the seabed and subsoil under the High Seas there is a border: E.C.S. of Azores (PT) – The Area – E.C.S. Canary I. (SP))*	a) International cooperation Portugal/Spain – International community; bilateral coop. Spain-Portugal b) Interregional cooperation Canary Islands region (SP) – Azores/Madeira region (PT)

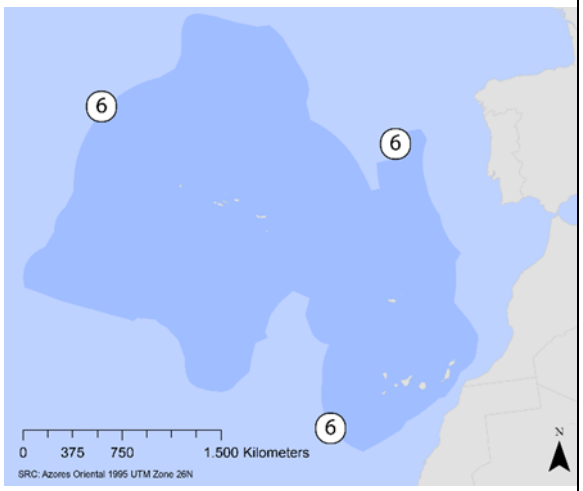
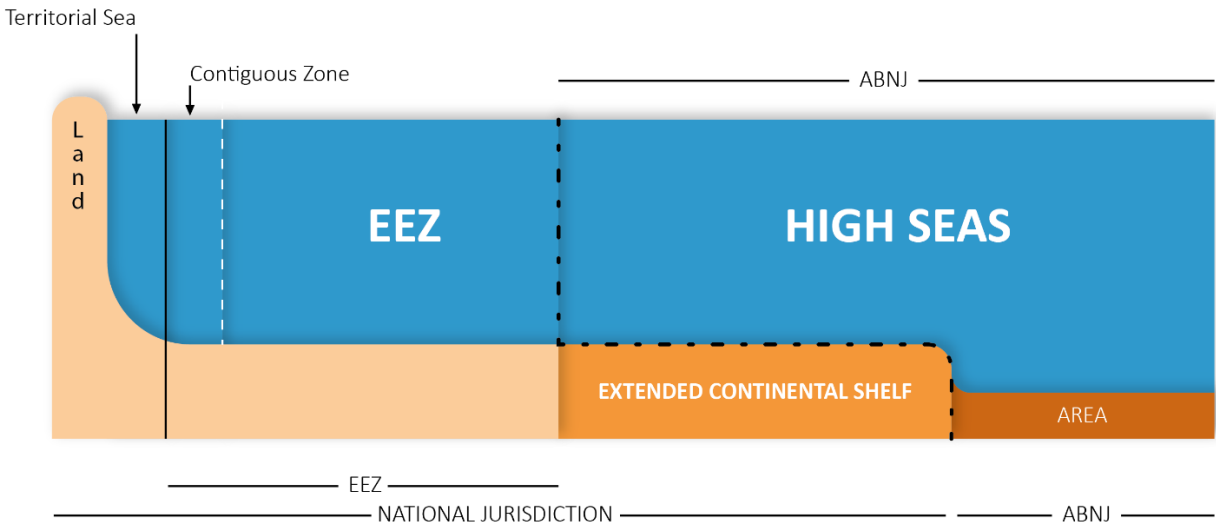
It is a special cooperation area, since, although there is no direct Spain-Portugal border, both borders are very close. In fact, they are so close that an international stretch of water and seabed virtually encapsulates or encloses on the extended continental shelf of both countries (the Zone). It should be remembered that the legal regime of the Zone is dealt with in Part XI of UNCLOS and the development of economic activities and the exploitation of resources must be organized and controlled through the International Seabed Authority.

Figure 6. Type of border 5

Location	Scheme of the sequence of jurisdictional limits in contact
	
Sequence	**Priority cooperation**
Border Madeira (Portugal)/Canary Islands (Spain) – Waters around other riparian States	a) Bilateral cooperation Spain/Portugal – with other riparian States

It is a type of border that involves various countries (Morocco, for example). Each case must be analysed specifically, but again, regardless of where the administrative limit is located, it requires bilateral cooperation between two sovereign states, to which the necessary collaboration must be added in relation to the authorized activities for third countries in the EEZ.

Figure 7. Type of border 6

Location	Scheme of the sequence of jurisdictional limits in contact
	
Sequence	**Priority cooperation**
Border Madeira/Azores (Portugal)/Canary Islands (Spain) – High seas *(in the seabed and subsoil under the High Seas there is a border: E.C.S. of Azores (PT)/Madeira (PT)/Canary I. (SP) – The Area)*	a) International cooperation Portugal/Spain – International community/bilateral coop. with third countries

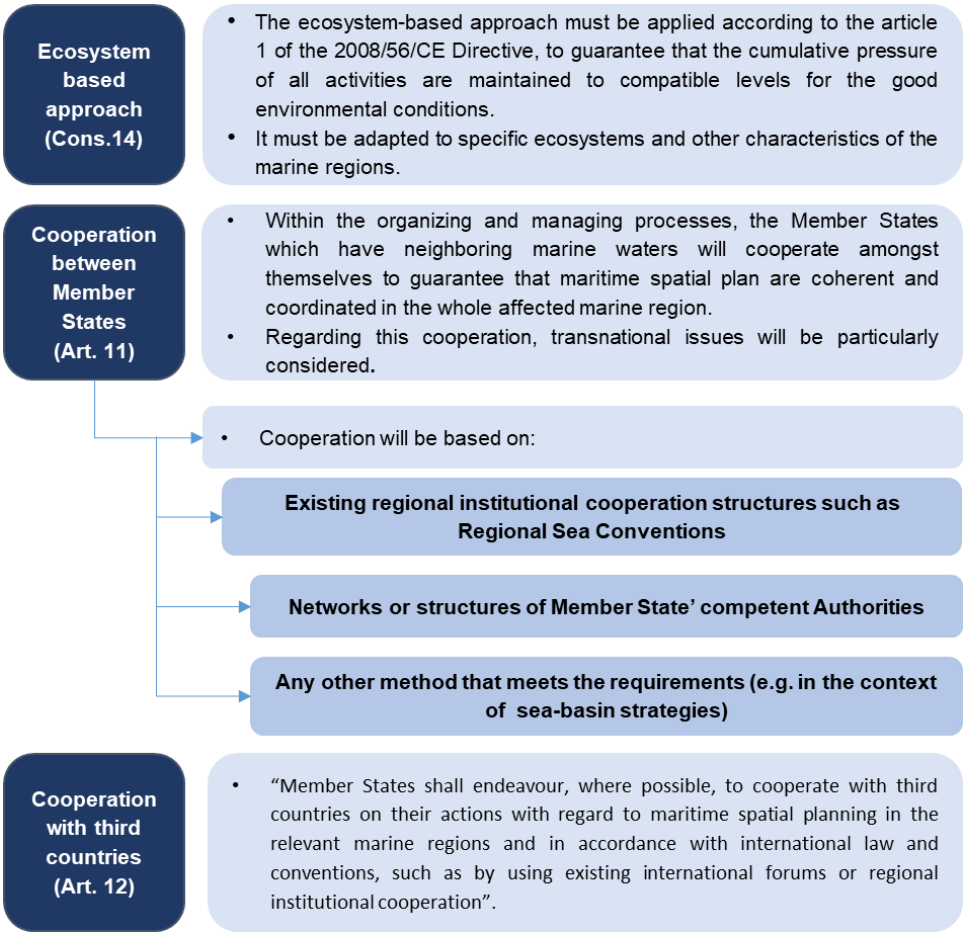
This is the type of edge that extends in the Atlantic to the west and north of Macaronesia and joins the waters of Portugal or Spain with the marine area beyond national jurisdiction. In this case, international cooperation is essential and cooperation frameworks such as OSPAR or other possible international conventions are of particular relevance, in addition to what is regulated under UNCLOS.

3. EUROPEAN FRAMEWORK FOR TRANSBOUNDARY COOPERATION

A significant part of cross-border cooperation in Europe, has its foundations in the binding directives between Member States (between them or with third countries). For this reason, this section includes the main lines drawn by the European Union regarding cross-border cooperation, emphasizing those applied to maritime spatial planning and the marine environment, as well as others related to cooperation between countries.

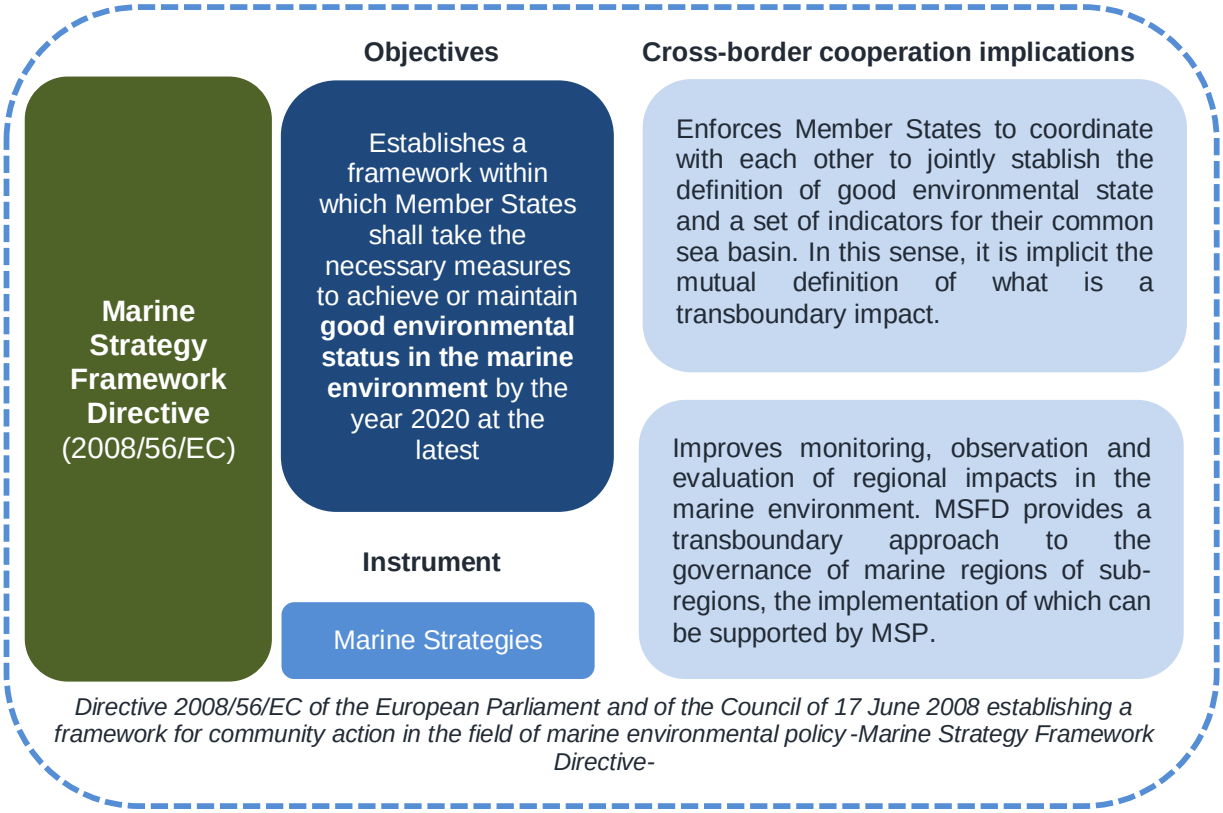
In addition to the specifications of the MSP European Directive, the implications of cross-border cooperation are developed through national reciprocations between Spain and Portugal. Maritime activities tend to have a transboundary dimension as the oceans and seas of the world are interconnected. As a result, planning and decision making at a national scale affect other neighbouring countries. As a consequence, the MSP Directive enforces Member States to cooperate and to guarantee that their maritime spatial plans are coherent and coordinated across the marine region concerned (Article 11 of the Directive). In a similar way, the MSP Directive includes 14 mentions to the need to maintain an ecosystem-based approach to ensure that the collective pressure of all maritime activities (including those with transboundary effects) is kept within levels that are compatible with the achievement of the good environmental state established in the Marine Strategy Framework Directive (2008/56/CE) (Figure 8).

Figure 8. Implications for transboundary cooperation derived from the 2014/89/CE Directive for MSP



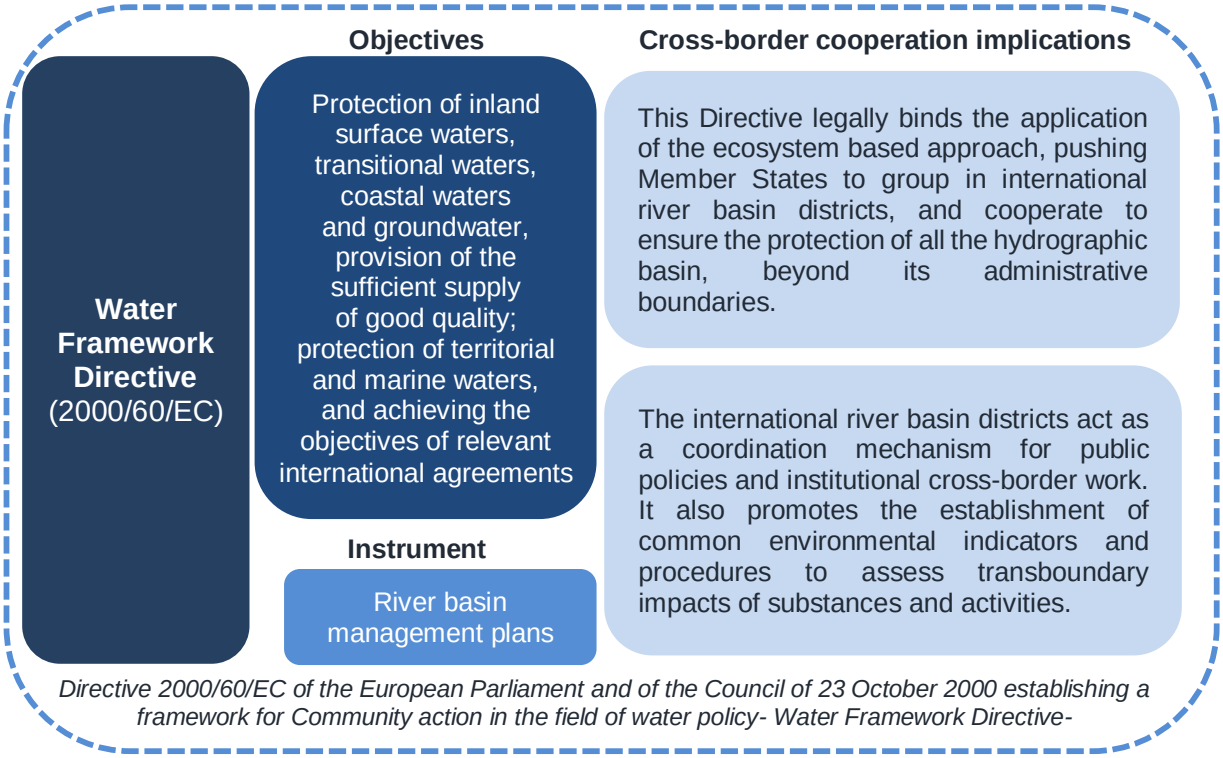
Indeed, there is a large amount of European legislation that promotes cooperation between Member States. By studying Directives with major implications on the marine environment, a wide range of scenarios of relevant transboundary cooperation mechanisms for MSP processes in European Macaronesia is revealed[2]. For this report, the European Directives that have been highlighted are: the Marine Strategy Framework Directive, the Water Framework Directive, the Birds and Habitats Community Directives, the Common Fisheries Policy, the Environmental Impact Assessment Directive, the Strategic Environmental Assessment Directive, the INSPIRE Directive, the Ship-source pollution and criminal penalties Directive (Figures 9-16).

Figure 9. Cross-border implications derived from the Marine Strategy Framework Directive (MSFD)



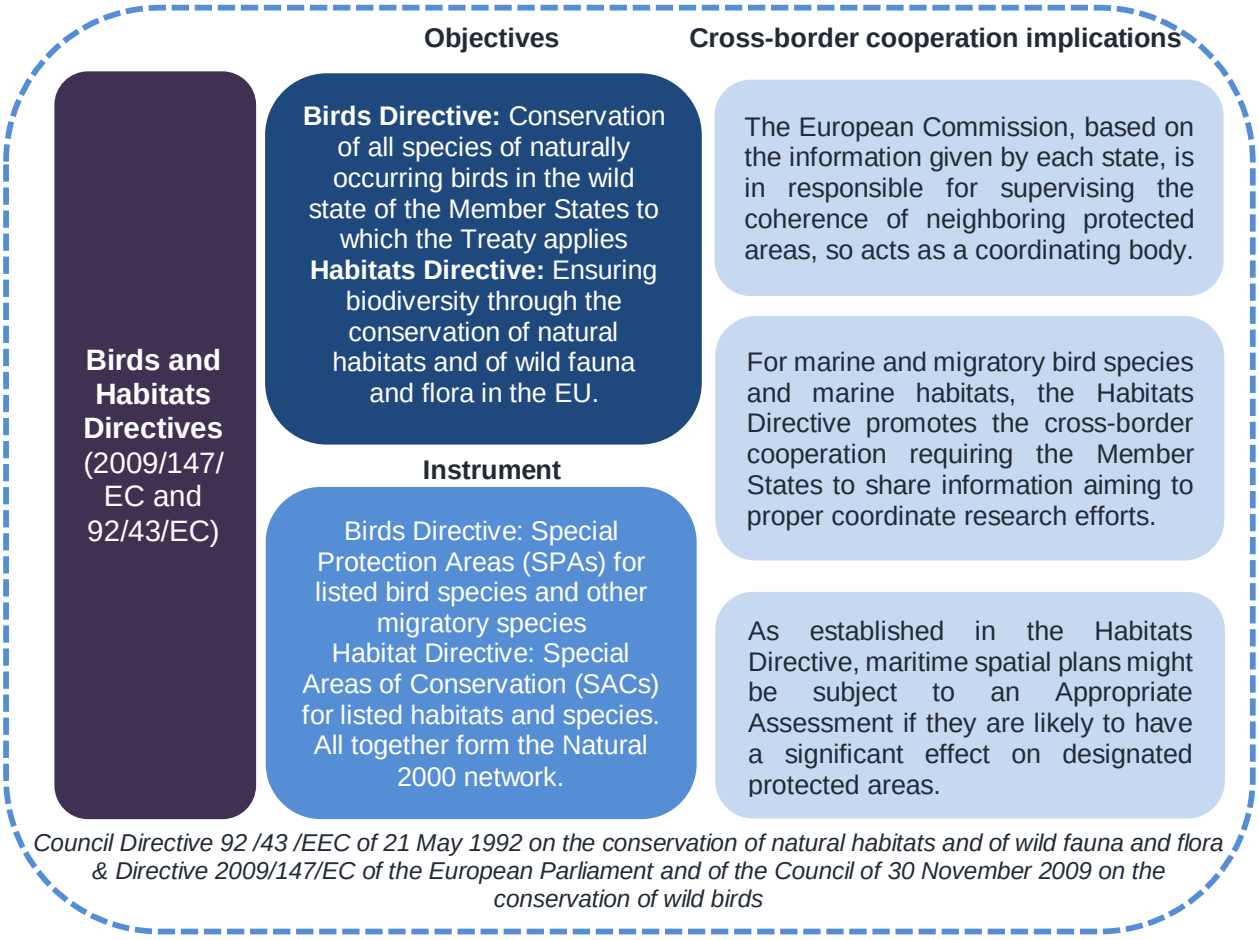
[2] This type of study has also been done in other projects such as in the Celtic Sea (Ansong *et al.*, 2018)

Figure 10. Cross-border implications derived from the Water Framework Directive (WFD)



Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy- Water Framework Directive-

Figure 11. Cross-border implications derived from the Birds and Habitats Community Directives



Council Directive 92 /43 /EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora & Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

Figure 12. Cross-border implications derived from the Common Fisheries Policy (CFP)

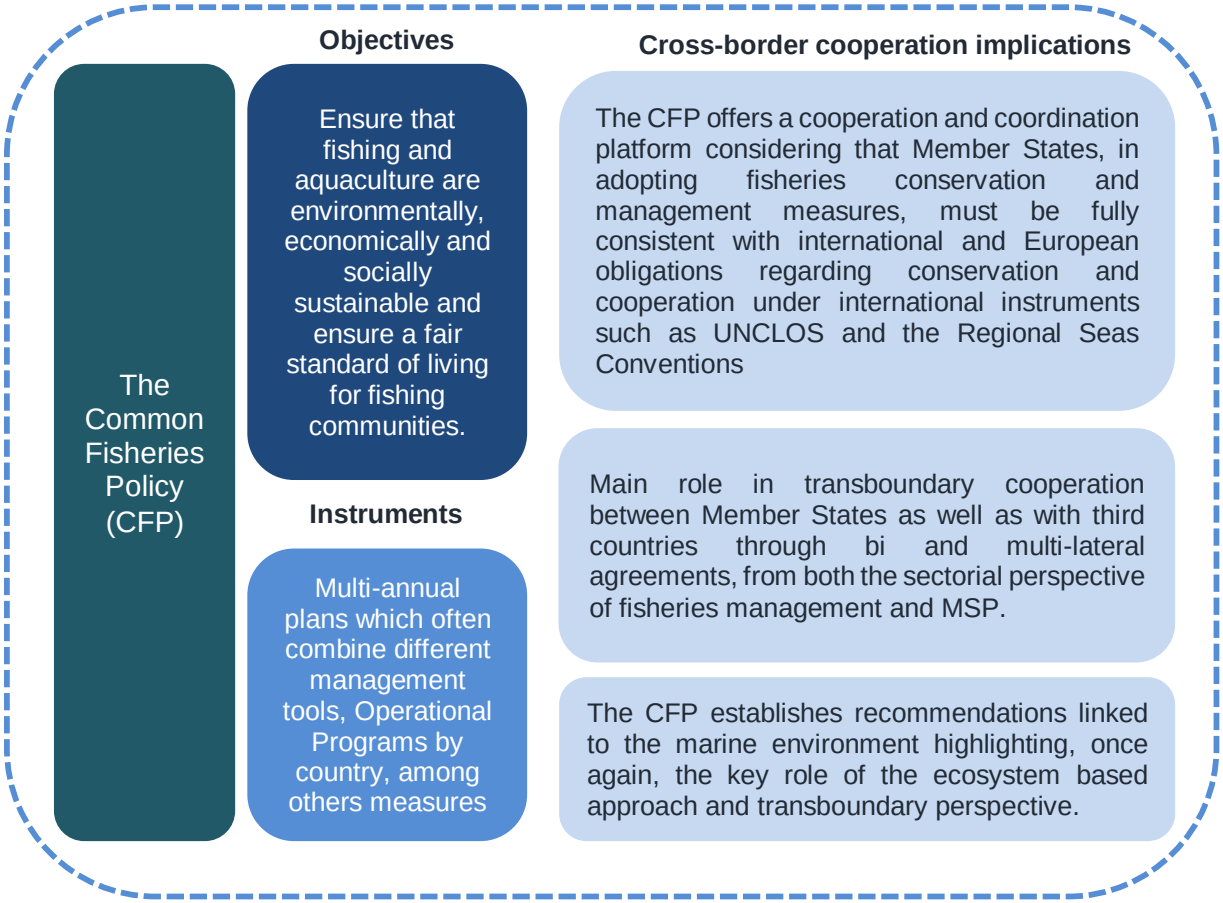
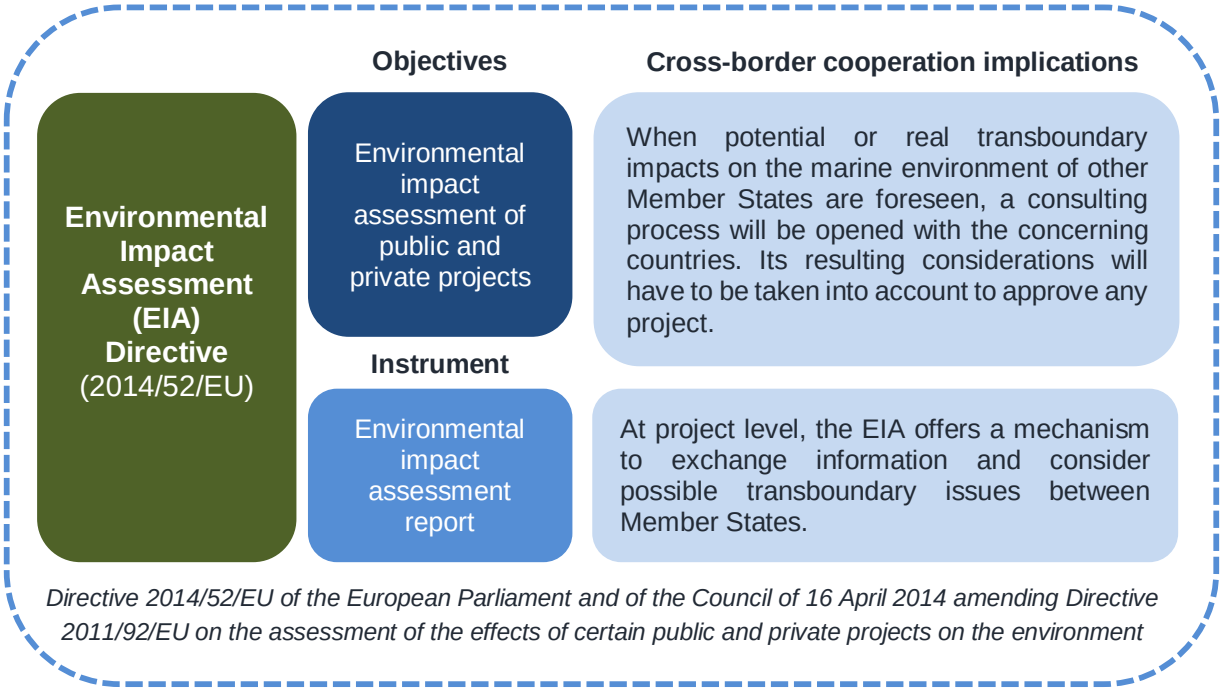
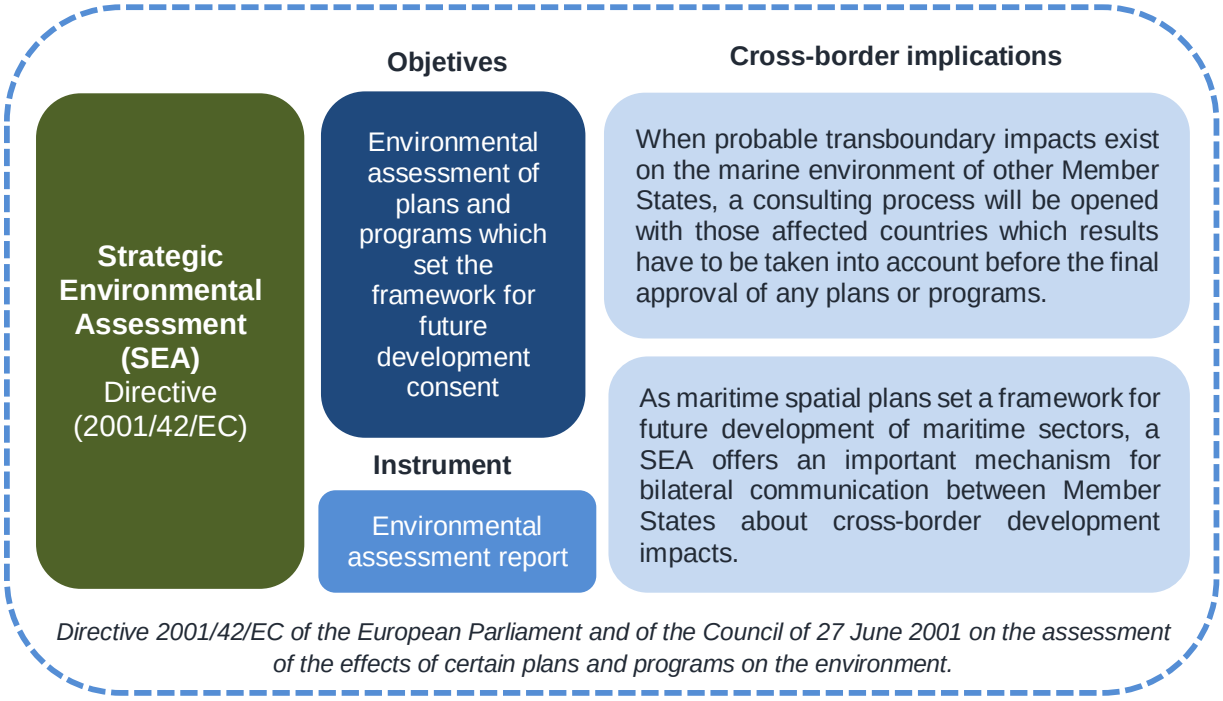


Figure 13. Cross-border implications derived from the Environmental Impact Assessment (EIA) Directive



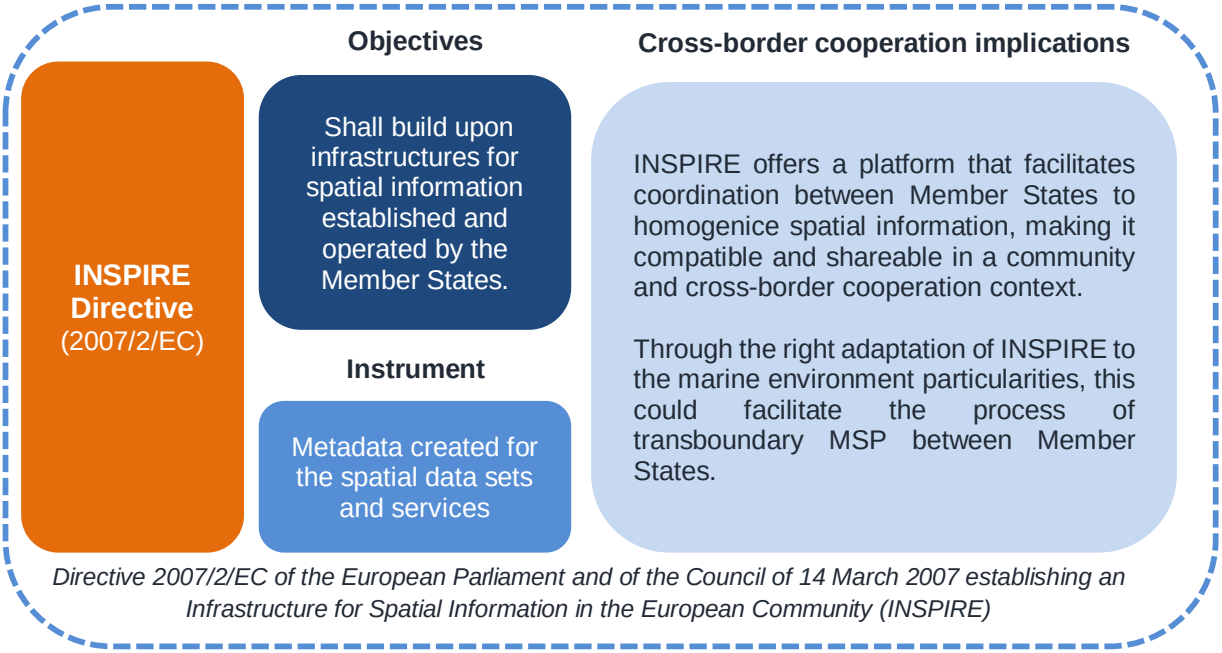
Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment

Figure 14. Cross-border implications derived from the Strategic Environmental Assessment Directive



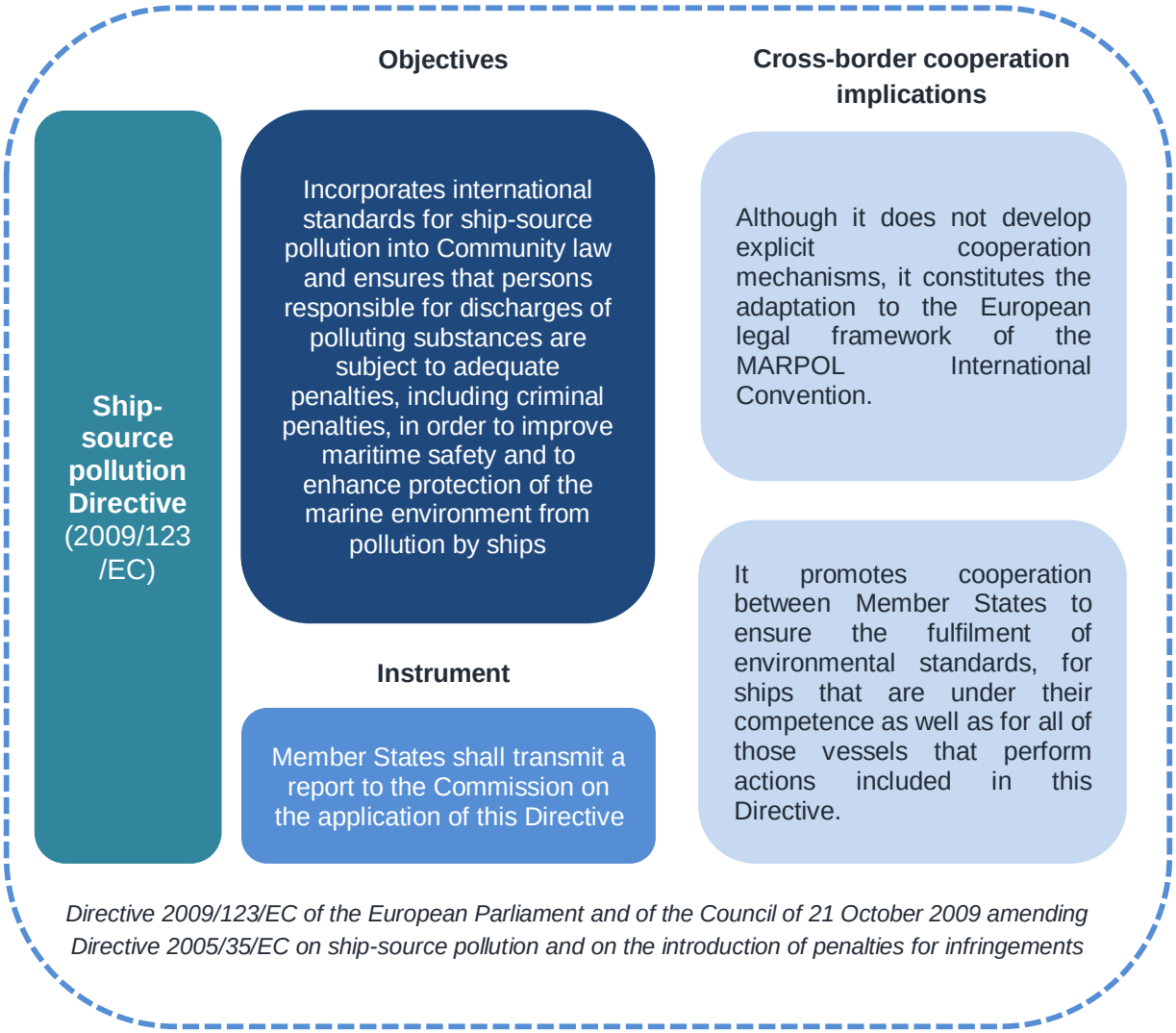
Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programs on the environment.

Figure 15. Cross-border implications derived from the INSPIRE Directive



Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)

Figure 16. Cross-border implications derived from the Ship-source pollution and criminal penalties Directive



Besides the above mentioned Directives, various European laws are relevant, as well as international agreements and corresponding national applications that consolidate and specify actions for mechanisms of cooperation development. One example is the 2002/59/CE Directive (and its modifications) related to the establishment of a community monitoring and information system on maritime traffic[3], or the 2009/18/CE Directive that establishes the fundamental values that rule the investigation of accidents in the maritime transport sector[4]. Furthermore, it is important to consider the

[3] DIRECTIVE 2009/17/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2009, amending Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system.

[4] DIRECTIVE 2009/18/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2009 establishing the fundamental principles governing the investigation of accidents in the maritime transport sector and amending Council Directive 1999/35/EC and Directive 2002/59/EC of the European Parliament and of the Council.

application of this European normative framework to the national legislation of each Member State, considering that through ratification, they specify how to develop those cooperation mechanisms[5].

On the other hand, one could also consider other political drivers such as international agreements. For example, and in a non-binding sense, the Maritime Strategy for the Atlantic Ocean Area and the Atlantic Action Plan[6] offer a European platform where governments, regional authorities, civil society and representatives of maritime sectors can coordinate. The aim of which is identifying common issues and priorities for Blue Growth, as well as for cooperation to exchange information, research, fight against illegal, unregulated and undeclared fishing, etc. Additionally, it provides an example of the EU commitment to promote cooperation policies due to, amongst others, a general concern for environmental problems and over exploitation of fishing resources (Suárez-de Vivero and Rodríguez Mateos, 2014).

It is also important to mention the progressive emphasis from the European Union with regard to cross-border cooperation in matters of marine areas. For example, the world-wide debate raised around three main issues on the World Maritime Day in 2019[7]: Accelerating blue economy innovation: harnessing EU funds and instruments; Offshore Europe: oceans and the EU's 2050 decarbonisation strategy; EU Blue Economy report II: the growing contribution of emerging sectors; constructing the European Ocean Alliance: increasing ocean literacy throughout Europe; Ports and Port tech clusters: hubs for blue growth ecosystems; upgrading maritime safety and security: the role of CISE; Re-energizing the blue economy in the Atlantic Area: Towards a new Action Plan; Blue Circular Economy: initiatives and ambitions for a clean ocean.

Furthermore, it is also necessary to highlight the MSP global, initiative in which IOC-UNESCO and the European Commission form an alliance to develop international directives on MSP. With this common project, they support the implementation of a "Joint Roadmap" to accelerate MSP processes around the world, with the creation of an International Forum for discussion and exchanges on cross-border MSP at international level. The Roadmap also foresees the creation of international guidelines on transboundary MSP (IOC-UNESCO, 2017).

[5] For more information about how some of these directives are applied under Spanish and Portuguese legislation, one can consult the analysis of the Macaronesian governance system in García-Sanabria *et al.*, 2019.

[6] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, regarding the development of a Maritime Strategy for the Atlantic Ocean Area (COM/2011/782) and an Action Plan for a Maritime Strategy in the Atlantic area (COM/2013/279).

[7] More information at: https://ec.europa.eu/maritimeaffairs/maritimeday/en/en/lisbon-2019

4. RECOMMENDATIONS FOR TRANSBOUNDARY MSP IN THE EUROPEAN MACARONESIA

This chapter gathers recommendations for transboundary and cross-border cooperation for MSP processes of the European Macaronesia. It contains specifically those that have arisen from previous research and MSP initiatives (see sources of information used in the introduction section). Each one of which has been developed to provide a better understanding of their application to this particular sea basin.

4.1. Build cooperation based on the international framework

Transboundary cooperation in the Macaronesia can (and must) be determined, influenced and inspired by the supranational and international context. The mechanisms associated with this context (e.g. institutions, protocols, rules, conventions and treaties) are the basis on which national mechanisms are built, developed and understood, including those at a regional level (in the archipelagos in this case). For the supranational scale, there are two general types of mechanisms: the rules of the community and international agreements and treaties. These tools and the processes created by them can facilitate cooperation in the sea basin.

Instruments negotiated under the work of an international organization, implying a number of participant countries, are usually known as agreements or treaties and are legally binding. This means that the signatory parties commit to the fulfilment of it. The objectives included in this international legal framework then become common for all signatories. Thus, treaties and agreements can be seen as transboundary cooperation catalysts around the common goals they establish, especially for neighbouring countries that share the same ecosystem.

On this point, it is worth mentioning the United Nations Convention on the Law of the Sea (UNCLOS). Adopted and signed in 1982, it is the common framework for all countries regarding sea issues (jurisdiction, uses, etc.). The Convention created three international institutions to oversee the fulfilment of its content: (1) The International Tribunal for the Law of the Sea, (2) the International Seabed Authority and (3) the Commission on the Limits of the Continental Shelf. This treaty, considered as a "constitution for the seas" given its relevance, is a common agreement point for all countries and must always be present in any marine initiative at an international level. The different combinations at marine borders of different jurisdictions established in the Convention, require different legal and political treatment that affect the cross-border cooperation efforts, as was addressed in chapter 2 (co-op. scope).

The international conventions that apply to the European Macaronesia are numerous and varied. They could influence or constitute mechanisms for cross-border cooperation between Spain and Portugal, and their corresponding archipelagos. Table 2 shows some examples of international treaties

and the transversal and specific issues that they deal with, linked to regulations of some of the major maritime sectors.

Table 2. Examples of international conventions where Spain and Portugal are signatories and affect the Macaronesia

Topic	International mechanism	Comments
Conservation	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES[8])	The conservation of the marine environment is a transversal matter that includes all levels of governance (GEF LME:LEARN, 2018b). These conventions established a long-term vision and objectives at a global level for the protection of biodiversity in the marine environment.
	Convention of Biological Diversity (CBD[9])	
	Bern Convention[10]	
	Convention on Environmental Impact Assessment in a Transboundary Context[11]	
	Cooperation Agreement for the Protection of the Coasts and Waters of the North-East Atlantic against Pollution (Lisbon Agreement[12])	This mechanism assures the cooperation between contractual parties (Portugal, Spain, France, Morocco and the European Union) in case of fossil fuel pollution incidents or other dangerous substances in the region, that is established by the external border of the EEZ of each contractual State, and by the borders established in the Bonn Agreement and the Barcelona Convention.
Maritime traffic	MARPOL Convention[13]	Beyond conventions that deal with specific matters, the maritime traffic is regulated importantly by actors like International Maritime Organization (IMO) (GEF LME:LEARN, 2018b).
	London Convention[14]	
	International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM[15])	
	International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC[16])	
Maritime rescue	International Convention for the Safety of Life at Sea (SOLAS)	The IMO also plays a relevant role like in the Global Maritime Distress Safety System (GMDSS). World's oceans are divided in 13 search and rescue areas, in which neighbouring countries must coordinate themselves to establish their search and rescue regions (SRR).
	International Convention on Maritime Search and Rescue (SAR)	
Fishing	International Commission for the Conservation of Atlantic Tunas (ICCAT)	The FAO establishes specific bodies for each international fishing area. Extrapolating the Atlantic Ocean, one of the major achievements in institutional cooperation is the one of the Mediterranean Sea where informal agreements exist between ICCAT and the rest of international organizations that intervene in the regulations for tuna fishing (European Commission-Europe Aid Cooperation Office, 2009; (Suárez de Vivero, 2012).

[8] Ratified by Portugal in 1980 and by Spain in 1986.

[9] Ratified by Portugal in 1993 and by Spain in 1994

[10] Ratified by Portugal in 1981 and by Spain in 1986.

[11] Ratified by Portugal in 2000 and by Spain in 1992.

[12]The Lisbon agreement, signed don October 17th of 1990, was modified in its Article 3, letter c) through the Additional Protocol signed don May 20th of 2008 due to a particular situation between Spain and Morocco regarding the Occidental area of Sahara, so that the agreement could be rectified by both parts (COM(2009) 436 final). (European Commission, 2009).

[13] Ratified by Portugal in 1987 and by Spain in 1984.

[14] Ratified by Portugal in 1977 and by Spain in 1975.

[15] Ratified by Portugal in 2017 and by Spain in 2016.

[16] Ratified by Portugal in 2006 and by Spain in 1995.

Even though international bodies and politicians are in favour of promoting transboundary cooperation between countries, it is interesting that in some cases, the ecosystem continuity of the Macaronesian bio-region tends to be divided and separated in different planning areas (García-Onetti *et al.*, 2018). This situation is given, as a case study, within the Convention for the Protection of the Marine Environment of the North-East Atlantic (the 'OSPAR Convention') that includes the Azores in the Northeast Atlantic area and leaves out Madeira and the Canary Islands. In a similar way, the Food and Agriculture Organization of the United Nations (FAO) establishes a series of international fishing areas without considering the presence of highly migratory species of fishing interest that are common for the whole sea basin. Despite the latter, this issue offers an opportunity to set common proposals and management mechanisms for European Macaronesia.

It is also worth mentioning in this section the opportunity for transboundary cooperation that underlies in adjacent waters of the extended continental shelf. Rights of countries over their claimed extended continental shelves are limited to seabed and subsoil exploration and exploitation of its natural resources– art. 76 and 77 of the UNCLOS Convention[17]. Thus, these waters are considered maritime areas beyond national jurisdiction (ABNJ), commonly known as high seas (those areas of the ocean in which no nation has exclusive responsibility) and often considered as global "common goods".

The complex ecosystems in ABNJ are extremely difficult to manage to ensure sustainable use of their resources and conservation of their biodiversity. These ecosystems in open seas are also exposed to negative impacts from human activities (e.g. maritime pollution, fishing and mining). In these cases, the situation is more serious and complex due to the lack of a governance framework and instruments designed to manage international waters (GEF, 2019[18]).

Giving response to this management need of pressures and impact from human activities in ABNJ is still in its early stages. UNCLOS recognizes that "States shall cooperate on a global basis and, as appropriate, on a regional basis" for the protection of the marine environment (Art. 197 UNCLOS Convention).

In this sense, the regional approach for preservation of the marine environment, that should prevail in the Macaronesia, might well favour political consensus between Spain and Portugal, given that all their archipelagos are outermost regions that share a similar history, culture and interests. At the same time, this provides an appropriate scale for the implementation of an ecosystem-based approach for the marine environment conservation (Wright *et al.*, 2018). In this context, regional initiatives with the objective of promoting conservation and sustainable use of marine biodiversity in ABNJ around the Macaronesia, can add good experiences and "easy wins" towards a greater process of transboundary cooperation for MSP.

In the case of Macaronesia, there is an ABNJ of special interest (see Figure 1, area number 4, and its development in Figure 5). This area constitutes not only an opportunity scenario on which it is possible to apply joint measures for bilateral cooperation between Spain-Portugal, but also at an international level because they cross the waters of extended continental shelves claimed by Spain and Portugal, around the regions of the Azores, Madeira and the Canary Islands, which go beyond their

[17] The continental platform under national jurisdiction is defined in article 76 of the UNCLOS Convention, that establishes the right of the coastal States to determine the external limit of the continental shelf by using two possible formulas based on two criteria: the natural extension: "The continental shelf of a coastal State includes the marine seabed underground of underwater areas that go beyond their territorial seas and along the natural extension up to the most exterior border of the continental margin, or until a 200 nautical miles counted from the base lines from which the width measurement of the territorial sea begins, in cases where the exterior border of the continental margin does not reach that distance."

[18] More info: https://www.thegef.org/topics/areas-beyond-national-jurisdiction (consulted on 02/04/2019)

jurisdictions. MSP Plans of both countries in both jurisdictional areas could reflect this cooperation, ensuring the continuity of solutions beyond respective borders. In Figure 17, there is an example of transboundary cooperation in a similar scenario.

Figure 17. Good practices and lessons learned about management based on common interests: high-sea cooperation in enclaves of the South Western Pacific

Cooperation in "high-sea pockets"

In 2008, the Western and Central Pacific Fisheries Commission (WCPFC), the regional fisheries management organization for tuna in the western and central Pacific Ocean (WCPO), adopted a binding measure that regulated fishing by purse seine tuna vessels in two of four pockets in areas beyond national jurisdiction (ABNJ), which are areas of the high seas that are wholly enclosed by Exclusive Economic Zones (EEZs) of Pacific Island States. The aim was to reduce pressure on overexploited tuna resources and protect socio-economic interests of small fisheries of the developing Pacific Island States (WCPFC, 2008 and 2012)

4.2. Consider the causes that determine the European Macaronesia context

The development of the different activities and uses that take place in European Macaronesia, and therefore, decisions and solutions that are given for their management, are conditioned by a series of changing drivers that shape the regional context. Understanding these drivers or driving forces that act at a regional level (beyond administrative jurisdictions) allows for appreciation of the basic context in which causal relationships are established between anthropogenic activities (regardless of the type) and the socio-ecosystem of the region. The information provided by these drivers must be considered in decision making.

First of all, it is vital to consider the conditions of insularity and remoteness from the continent. The Azores, Madeira and the Canaries, are recognized as European outermost regions in the Treaty of the Functioning of the European Union (TFEU) in articles 349 and 355. This categorization responds to these particularities (e.g. distance from the continent, insularity, adverse geography and climate and reliance on a reduced number of products, etc.) that differentiate them from the rest of the EU regions, and that somehow affect their socio-economic development. Nevertheless, these regions have great potential and several advantages for their own growth trajectory as well as for that of Europe. For example, exceptional biodiversity and marine ecosystems, great development potential for renewable energies, etc. (UE, 2010[19]). At the same time, these archipelagos benefit from specific funds intended to compensate the socio-economic impacts derived from the previous mentioned factors. Their insular characteristic and distance from the continent, give rise to different rhythms compared to the rest of the national territory. Neither do special issues of these autonomous regions to get duly reflected in general national reports. Therefore, these constraints must be continuously considered as crucial aspects for the European Macaronesia MSP processes.

Thus, even if they are not exclusive, the following driving forces have been highlighted: culture, demographics, socio-political drivers, scientific research and technological innovation, according to García-Onetti *et al.* (2018) (Table 3).

[19] European Union, 2010. The outermost regions: European regions of assets and opportunities ISBN: 978-92-79-24952-5. Pp,24. Available at: https://ec.europa.eu/regional_policy/sources/docgener/presenta/rup2012/brochure_rup_en.pdf

Table 3. Approximation of the main driving forces of change in Macaronesia

Culture	Established by the type of relation given between society and the ecosystem, conditions the remaining drivers. It refers to the values, beliefs and laws. In Macaronesia, this cultural framework is quite common. Besides the particularities given in each of the islands, it is its outermost regional characteristic, its insularity and its historical and traditional framework that shelters great similitudes between both countries and sets the relations of this region with its environment and the rest of the islands. This common cultural framework can facilitate collaboration and cooperation opportunities between islands and other countries since there can also be a base for mutual understanding. For the Azores, Madeira and Canaries, the maritime characteristic intervenes in their society, its well-being and its priorities, so that transboundary MSP can't oversee the cultural aspects. Furthermore, including cultures means mentioning awareness, information, public participation and implication of interest groups, and their populations' general perception. Matters of transboundary cooperation, transversal priorities and a long-term plan, needs constant nourishment for a feeling of belonging and implication. This will finally constitute the base for any transboundary cooperation in regions such as Macaronesia, and hence they should be done considering both the benefits to their interest, and the well-being of the general population. In addition, this particular cultural heritage is also reflected at institutional and political levels. This often facilitates more links for cooperation between archipelagic governments than exist between their respective national governments.
Demographic changes	Determined by geographic and cultural elements, demographic changes have also a main role as a driving force for socio-ecological changes. This means that changes related to the population (their habits and sectors of economic priority), including changes to the transient population, cause fluctuations on the demand for services, as well as consumer and producer patterns. These are also influenced by globalization, which has significant consequences, both at a local and regional level within their social and ecosystem areas. These demographic changes, even though they can be analysed in isolation (inhabitants, visitors, development indicators, etc.), are closely related to economic and political drivers. Nevertheless, the changes and demographic tendencies in the Macaronesia must be considered when developing long-term initiatives, plans or programs.
Socio-political drivers	The political decisions made in the Macaronesia are determined by the unique European context of the three islands. Not only through the legal and political framework, but also through incentives that support the development of a region that exhibits particular trends in specific sectors of the maritime environment, such as those related to the blue growth. Macaronesia, as an outermost region, faces great challenges which are intensified by globalization and climate change. The regional economy depends on a limited number of economic sectors. Its limitations, including distance, result in additional costs to the productive system which blocks full participation in the single market. Even though it is part of the EU and the single market, the outermost regions are different in many respects, albeit there are some initiatives from the Commission to adopt politics adaptable to the particularities of this region. The major exclusive economic zone that the three archipelago constitute in total present opportunities to develop a blue economy and convert it into a major agent for international governance of the oceans. The outermost regions and in particular Macaronesia, are part of a broader context where different types of relations (economic, social, political, etc.) are carried out with third countries where proximity to other markets facilitate exchanges and investments, rendering it a more complex scenario.
Research and scientific and technological innovation	New improvements in this driving force allow for attaining and exploiting resources that couldn't be done before or hadn't evolved before. This has modified the uses that take place in the area, with implications for the ecosystems and human well-being. These are therefore vectors with great significance when dealing with environments as complex as the sea, where technological improvements represent a way to overcome natural obstacles, while at the same time, create opportunities and connections between countries and interest groups. Regions like Macaronesia, have unique assets that have great potential for research and leading-edge innovations like bio-economy or climate change. Currently, there is uneven sectoral progress which is mainly due to the how, who and where that these scientific and technological innovations are taking place. The traditional marine and maritime sectors, like fisheries, maritime transport and coastal tourism and cruises, are a great source of employment for local populations. Currently, new sectors like renewable marine energy, aquaculture and blue biotechnology are still insufficiently developed and are developed, along with the benefits, by other regions.

4.3. Progress in mutual understanding of the government structures of each country

In transboundary MSP processes, it is common that the various countries are in different stages of their national MSP processes. Each country also has its own governance framework, characterized by administrative structures, legislative instruments with its own distribution of competencies. To define the goals of a given transboundary MSP process, and ensure regional coherence among the resulting marine spatial plans, it is therefore necessary to have knowledge of, and work within the possibilities of the governance context of each participating country (Jay and Gee, 2014).

Apart from potential cooperation cases with third countries, the European Macaronesia exhibits different government structures and pace of progress between Portugal and Spain[20] (analysed in detail in García-Sanabria *et al.*, 2019). (García-Sanabria et al., 2019)On the whole, while the Autonomous Region of Madeira already has an MSP plan (*Plano de Situação do Ordenamento do Espaço Marítimo*), the Azores is still completing theirs, but is at a more advanced stage than the Canaries that has just begun its MSP process.

Portugal converges the majority of competencies for the maritime sectors under the same institution. Furthermore, the Autonomous Regions of Azores and Madeira have a high level of autonomy[21], having the authority to exercise (jointly with the State) maritime planning and management powers in their surrounding waters up to 200 marine nautical miles, i.e. over their respective exclusive economic zones (EEZ)[22]. They are also responsible for their own MSP processes. With regard to the development of management plans in the extended continental platform, the national institution, in this case DGRM, is responsible for development, along with the waters corresponding to the marine projection of the continental territory. However, the plan is a single document that coherently integrates all areas (continental projection, extended continental shelf and marine zones adjacent to the autonomous regions of Azores and Madeira)

Spain, on the other hand, competencies for the maritime sectors are distributed among several institutions, with the national level holding the majority of maritime authority, including developing maritime spatial plans (Figure 18). Nevertheless, the Canary Islands, with the regulatory approval of the

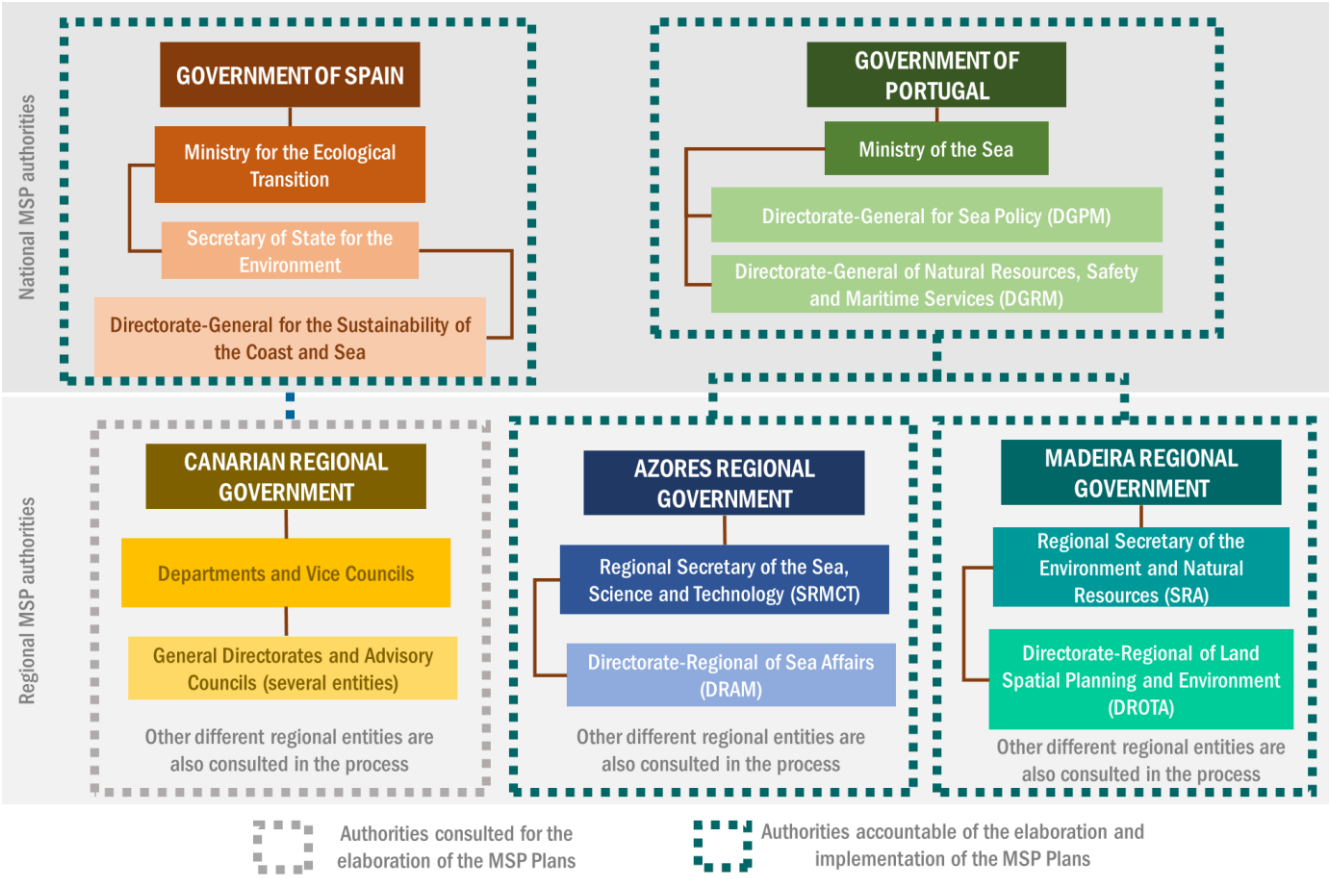
[20] It is worth mentioning the dynamic character of governmental structures, so that the actual institutions that are in charge of carrying out the MSP plans, can change their configuration in the future. It is therefore important to consider the legislative change and governmental structural change, as well as the distribution of competencies. More information in García-Sanabria *et al.*, 2019.

[21] According to Law n. º 13/91 of the 5 of June regarding the Political-Administrative Statute of Autonomy of the Autonomous Region of Madeira and Law n. º 39/80 of the 5 of August equivalent for the Azores.

[22] According to article 12º of the Law-Decree 38/2015 that develops the Law n. º 17/2014 of the 10th of April that stablishes the bases of the policy of spatial planning and management of the national marine territory.

new Statute of Autonomy[23], extends its marine territory to the so-called Canary waters[24] that form the "special maritime area of the Autonomous Community of the Canary Islands". Among other important considerations is the fact that the Canaries are becoming responsible for their natural protected areas (Art. 154), maintaining its powers on coastal planning, and acquiring new functions on for the management of the maritime-terrestrial public domain (Art. 157). However, it is still too early to assess the precise effects that this new Statute of Autonomy will have over the MSP process.

Figure 18. Shows the primary authorities responsible for the development of MSP in Macaronesia until December 2018



Source: Authors' own, based on legal framework of Ministry and regional structure[25]

The legislative frameworks and processes that each country employed for their maritime areas, as well as how they have approached the transposition of the European Directives (Figure 19), must also be understood.

[23] Organic Law 1/2018, November 5th, of the reform of the statute of Autonomy of the Canaries https://www.boe.es/buscar/doc.php?id=BOE-A-2018-15138

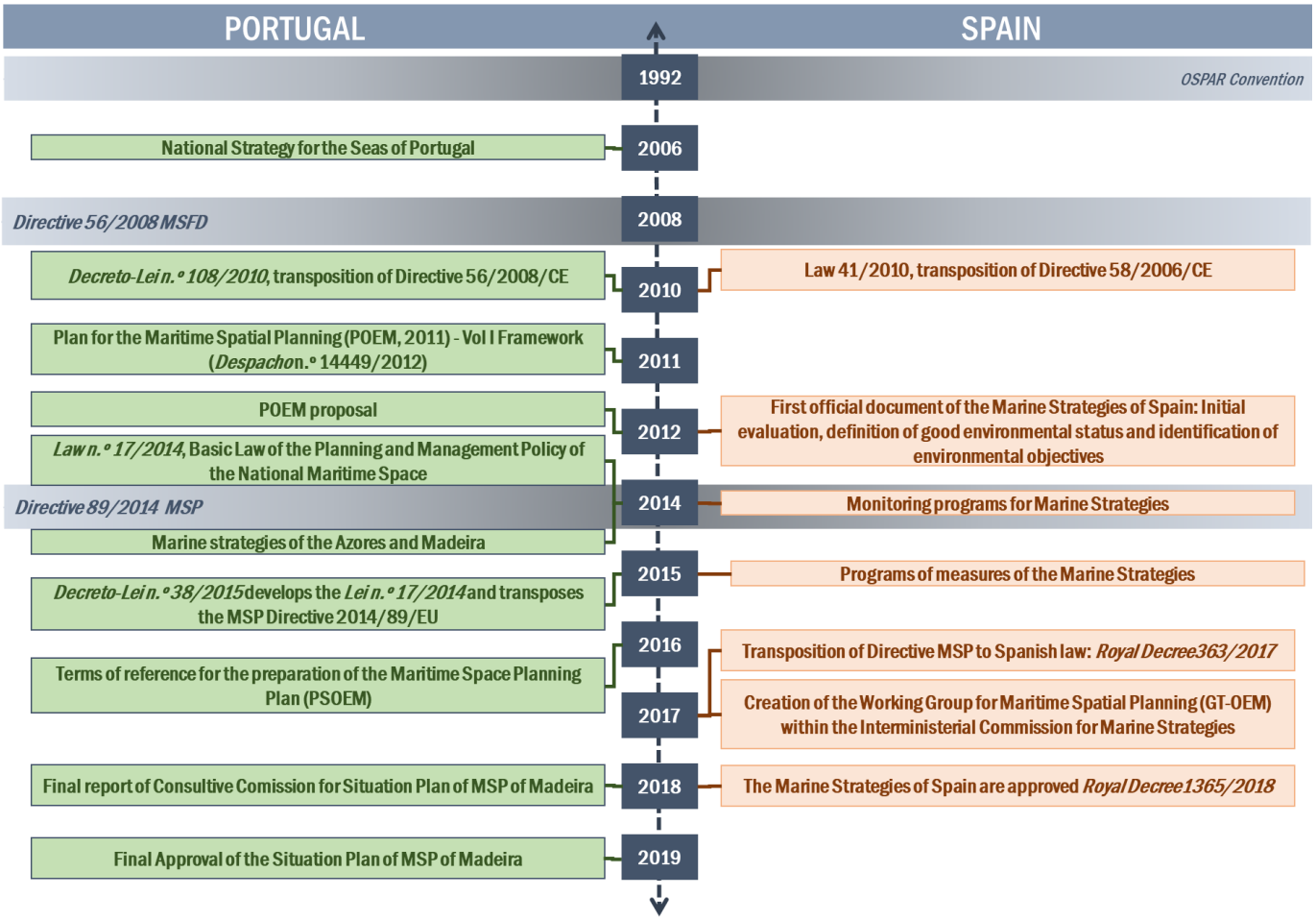
[24] This maritime space was initially defined by Law 44/2010 of the waters of the Canary Islands. Law and map available at: https://www.boe.es/buscar/pdf/2010/BOE-A-2010-20140-consolidado.pdf

[25] Spain: Royal Decree 595/2018 that establishes the basic organic structure of the Ministerial Departments; Portugal: Law Decree 251-A/2015 that approves the Organic Law of the XXI Constitutional Government; Azores: Regional Regulatory Decree n. º 9/2016/A of the XII Regional Government of the Azores; and Madeira: Regional Regulatory Decree n. º 13/2017/M that approves the organization and functioning of the XII Regional Government of Madeira.

In this respect, Portugal has been generally planning its maritime territory since the approval of its first National Strategy for the Sea[26] in 2006, and just previous to transposing the MSP Directive, they approved a law to establish the bases of their policy of planning and management for the national marine space (LBOGEM[27]). Thus, this transposition was done by adapting the LBOGEM to the requirements of the Directive, including the environmental principles of the Environment Law 19/2014, and not directly those from the national transposition of the Marine Strategy Framework Directive.

On the other hand, the Spanish approach to planning the national marine territory began in 2017 and the MSP processes are closely related to the development of Marine Strategies. The MSP Directive was transposed within a different legal rank (Royal Decree 363/2017) to the Marine Strategy Framework Directive (Law 41/2010).

Figure 19. Timeline of main milestones in the national transposition of EU Directives MSP and MSFD consequent processes and results.



Source: Authors' own based on both national legal frameworks and DROTA suggestions.

[26] Council of Ministers decision on the approval of the first National Sea Strategy. https://dre.pt/web/guest/pesquisa/-/search/545593/details/maximized

[27] Law nº 17/2014, from 10 of April, that establishes the Bases of the Policy of Planning and Management of the National Marine Space (LBOGEM) https://dre.pt/web/guest/pesquisa/-/search/25343987/details/normal?p_p_auth=UkAr160j

All the above must be taken into consideration when designing and managing transboundary cooperation mechanisms. The different levels of autonomy of the archipelagos, the uneven distribution of competencies of the maritime sectors and the various levels of cooperation between institutions within the countries, all suppose a series of challenges that have to be considered in transboundary MSP processes. All of this will determine up to which point cross-border *hot spot* areas or broader scale issues can be jointly managed and governed collaboratively.

4.4. Promote cooperation between Spain and Portugal relying on existing cooperation mechanisms

Understanding the different types of existing cooperation mechanisms is crucial to progress in a sound, justified and coherent manner with the structures of government and collaboration that already operate between neighbouring countries. Thus, decisions will be based, not only on the particularities of each area of cooperation, but also on previous cooperation contexts. This will optimize efforts, as well as allow for advances towards common goals and cultivate the process of transboundary cooperation. This is particularly true for bilateral relations between Spain and Portugal.

Bilateral agreements between Spain and Portugal generate mutual obligations for both and consequences in the event of non-compliance. For the European Macaronesia, bilateral agreements between Spain and Portugal are one of the cornerstones of transboundary cooperation.

One of the most crucial starting points of bilateral relations between Spain and Portugal was set by the Bilateral Treaty of Friendship and Cooperation that came into effect in 1978. It represented a new beginning for relations between the two States. Within this framework, Spanish and Portuguese summit meetings have taken place every year to address various topics on transboundary cooperation, the last one was in 2018[28].

In this last summit meeting, it was agreed that for maritime transport, new ways of enhancing collaboration between the adjacent maritime areas of both countries had to be sought. Similarly, other issues were discussed regarding promoting common maritime surveillance and rescue services, as well as marine pollution. All of these issues aim to improve human safety at sea, maritime safety, protection of the marine environment and maritime transport services. Spain also expressed its interest in supporting Portugal in hosting the Summit Meeting of the Oceans in 2020 as part of the 2030 Agenda. This event revolves around the 14th SDG for conservation and sustainable use of oceans, seas and marine resources. Even though this is still at its very beginnings, the declaration of intentions of the Spanish and Portugal Summit Meeting reflects a willingness and an opportunity to move forward towards common issues and transboundary cooperation in the European Macaronesia, facilitating coherent and effective implementation of MSP processes in the sea basin.

Another remarkable legal precedent, even if it is not specific to the European Macaronesia region, is the Treaty of Valencia[29]. The objective of this treaty is to promote and legally regulate transboundary cooperation between the Portuguese and Spanish authorities within each of its competencies. This treaty was the result of the first Spanish and Portuguese Summit Meeting for Transboundary Cooperation. Although the scope of the Treaty of Valencia is limited to the Iberian borders, in practice, the Interreg funding programs broadened its scope, attracting a wider range of stakeholders than those originally considered as recipients of the Treaty (Santos Soeiro *et al.*, 2017).

[28] Declaration of the XXX Spanish and Portugal Summit Meeting, available at: https://goo.gl/pBzKsZ

[29] Treaty between the Kingdom of Spain and the Portuguese Republic about transboundary cooperation among territorial entities, held in Valencia on October 3rd 2002. Available at: https://goo.gl/FExQQq

Moreover, the creation of the European Grouping of Territorial Cooperation (EGTC) from the legislation (EC) 1082/2006 constituted a major effort to speed up transboundary cooperation processes. The fact that this body had legal status allowed for much greater impact on joint transboundary cooperation.

Given that, there is still not a specific equivalent body for seas and oceans, this type of collaboration mechanism is an interesting reference that could guide the creation of new bilateral cooperation mechanisms for MSP. Table 4 shows other interesting agreements between Spain and Portugal relating to cross-border cooperation and collaboration on specific issues. All of these reinforce background understanding of cross-border cooperation that could serve as a basis for the development of transboundary cooperation in the European Macaronesia.

Table 4. Examples of bilateral agreements between Spain and Portugal

Topic	Agreement	Comments
Environmental Impact	Action protocol between Spain and Portugal for the application of environmental assessments of plans, programs and projects with cross-border effects (2008) [30].	Mainly focused on the processes of public information and cross-border effects, providing tools for information exchange and evaluation of environmental effects.
Defence	Agreement between the Kingdom of Spain and the Portuguese Republic for cooperation on defence matters, done in Bayona on June 22nd of 2015.	Includes, besides specific issues of defence, collaboration actions towards energy and climate change challenges; cooperation for geographic, cartographic, hydrographic, oceanographic and meteorological activities; promotion of historical, cultural and sport activities; and humanitarian help and joint actions.
Research	Agreement between the Spanish State Government and the Portuguese Republic Government about Oceanographic Cooperation, signed in Lisbon on May 27th of 1971.	
	Agreement on scientific and technological cooperation between the Kingdom of Spain and the Portuguese Republic, done in Figueira da Foz, on November 8th of 2003.	
Fishing	Fishing Agreement between Spain and Portugal for the performance of activities of the artisanal fleet of Madeira and the Canaries (2012) [31].	It is the only specific agreement for the Macaronesian area. Applied to the fisheries of tuna caught by rod and the Black Scabbardfish in jurisdictional waters for the artisanal fleet, establishing specific measures for cooperation and collaboration in the sector.
	Agreement on the conditions of the activities of Spanish and Portuguese fleet in waters between the Kingdom of Spain and the Portuguese Republic, signed in Luxembourg on June 18th of 2018.	Not applied in the Macaronesian area but it does set an interesting record for cooperation and co-management.
Tourism	Cooperation agreement between the Kingdom of Spain and the Portuguese Republic in the tourism area, done in Madrid on November 25th of 2006[32].	
Energy	International Agreement related to the establishment of an Iberian market for electric power between the Kingdom of Spain and the Portuguese Republic, done in Santiago de Compostela, on October 1st of 2004[33].	

[30] Action protocol between Spain and Portugal for the application of environmental assessments of plans, programs and projects with cross-border effects. Signed in Madrid, February 19th of 2008. Available at: https://goo.gl/Dm6LGs

[31] Fishing agreement between the Kingdom of Spain and the Portuguese Republic for the performance of activities of the artisanal fleet of Madeira and the Canaries, done «ad referendum» in Oporto, on May 9th of 2012.

[32] Cooperation agreement between the Kingdom of Spain and the Portuguese Republic in the tourism area, done in Madrid on November 25th of 2006. (from 2008, published in BOE in 2008 - https://goo.gl/s3ZLGW - and in Portugal in 2008 - https://goo.gl/DF8u85-)

[33] International Agreement related to the establishment of an Iberian market for electric power between the Kingdom of Spain and the Portuguese Republic, done in Santiago de Compostela, on October 1st of 2004

Finally, it is important to consider two key questions: i) the specific content of these agreements and ii) the philosophical strategy that guide them. Firstly, the fact that these agreements are very specific in form and content regarding the subject matter in question, means their resulting outputs are also very specific and cannot be extrapolated into other areas or for similar matters. At the same time, however, the fact that these agreements deal with specific issues without bias to the delimitations or jurisdictional limits, offers new approach strategies among the signatory parties. This promotes the application of similar solutions for common problems, without stalling on issues that can threaten transboundary cooperation, such as border demarcation or sovereignty disputes. This is the strategic aspect of these agreements. The sum of all bilateral agreements constitutes a basis to incentivize transboundary cooperation at different governmental levels, while encouraging mutual commitment and knowledge for the governance of common goods.

4.5. Create integrated bilateral structures and instruments for the Macaronesia

A coordination process through the establishment of a consensus figure (or body) for the different areas, can legitimize transboundary cooperation as well as guarantee commitment during the planning and implementation of MSP processes. Apart from the internal national and regional marine spatial planning processes, there might exist other common processes and goals for all areas involved.

It must be remembered that the MSP Directive itself suggests structures for transboundary cooperation between Member States (Article 11) such as: existing regional structures of institutional cooperation (e.g. regional maritime conventions), networks or bodies of competent MSP authorities from Member States, and/or any other method that fulfils the requirements (e.g. within the marine basin strategy framework).

There are several examples of good practices that agree on the usefulness of creating transnational agencies to deal with the particular reality of their region. These structures can be newly created (for example the regional secretariats, such as the Secretariat of the Pacific Regional Environment Programme (SPREP), see Figure 20).

These transnational bodies might be of a different nature as the recommendation relies on bringing together all maritime competent authorities to coordinate decision making with consideration of the general interest and welfare of the community, in this case those of Macaronesia. An example of this can be found in the peninsula by the Commission for the Application and Development of the Agreement for the Protection and Sustainable Use of Waters within the Spanish and Portuguese Hydrographic Basins[34]. Following this example, the first step would be the development of an agreement, a memorandum of understanding or a joint document on which to set the bases for collaboration and cooperation.

As seen from above, there are previous records of thematic bilateral commissions for the implementation of existing (or those still to be defined) bilateral agreements. It is therefore essential that this type of cooperation is based on integrating instruments for common regional objectives. Thus, this will also be a key step to set out the cooperation process within the general political framework as well as the strategic processes in Macaronesia.

There are numerous examples of the creation of instruments (regional plans or strategies) reinforced by commissions or groups focused on a common goal, such as the EU Strategy for the Baltic Sea Region or the Coral Triangle Initiative on coral reefs, Fisheries and Food Security (see Figures 21 y 22). These instruments (or platforms) aim for connectivity between regional and national land-sea plans and allow for practical collaboration between different institutional levels that are involved in the marine environment management of Macaronesia (like the TPEA initiative, Figure 23). This point is particularly important, as the process for public policies, particularly for transboundary MSP, do not follow a specific methodology, but are dynamic processes that require constant feedback for improvement, both in form and content. In fact, the very same government structures that intervene are

[34] More information at: http://cadc-albufeira.eu/es/

dynamic and can affect the achievement of MSP processes results previously planned. Building platforms that can integrate both national processes and potentially even address the development of joint instruments (like a sub-plan of transboundary planning for a specific area), can guarantee and facilitate the continuity of the governance processes.

Figure 20. Good practices and lessons learned from the creation of cross-border structures: Secretariat of the Pacific Regional Environment Programme (SPREP)

Secretariat of the Pacific Regional Environment Programme (SPREP)
[21 island countries and territories in the Pacific]. **1993**

Fuente: https://www.sprep.org/

SPREP is the key intergovernmental organization in the region for the natural environment and sustainable development, and it is one of the intergovernmental bodies that form the Council of Regional Organisations in the Pacific. According to what is established in the SPREP, its purposes are to promote the cooperation in the South Pacific Region and assist to protect and improve the natural environment and guarantee sustainable development for future generations. There are multiple planning efforts in different time scales that change from community to regional size.

Why is it interesting for the European Macaronesia?

The elaboration of regional documents for a joint conservation and management of the marine environment are a powerful collaboration mechanism related to MSP. The support given by joint management and conservation projects for the islands implies processes that are worth considering for future proposals. The establishment of a common secretariat for the archipelagos of the European Macaronesia can set common objectives for management and conservation of the marine environment.

Figure 21. Good practice and lessons learned from the creation of instruments: EU Strategy for the Baltic Sea Region (EUBSR)

EU Strategy for the Baltic Sea Region. EUBSR

[Sweden, Denmark, Estonia, Finland, Germany, Latvia, Lithuania and Poland]. **2009**

Fuente: https://www.balticsea-region-strategy.eu

The plan has 13 political areas and 4 horizontal actions that represent the main areas where the EUSBSR can contribute to improvements by either addressing the main challenges or exploiting key opportunities of the region. The EUSBSR is implemented in specific projects and joint processes that are known as Flagships of the EUSBSR and which specifically demonstrate the progress of the Strategy. The Strategy also receives cooperation from neighboring EU countries (Russia, Island, Norway and Byelorussia).

Why is it interesting for the European Macaronesia?

The EUSBR followed a detailed MSP process with pilot cases and transboundary cooperation mechanisms between Member States and with third countries. The development of a transboundary MSP strategy for the European Macaronesia would be one step further than currently national MSP plans. This type of instrument could be a fundamental objective for the region.

Figure 22. Good practice and lessons learned from the creation of instruments: The Coral Triangle Initiative on coral Reefs, Fisheries and Food Security (CTI-CFF)

The Coral Triangle Initiative on coral Reefs, Fisheries and Food Security (CTI-CFF)

[Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands, Timor-Leste] **2007**

Fuente: http://www.coraltriangleinitiative.org/about

This case relates to a multilateral association between six countries that work together to maintain their maritime and coastal resources by facing crucial issues like food safety through a sustainable management of natural maritime resources, biodiversity and climate change. It is the first multilateral cooperation of its kind (2007). To achieve the common objectives, they created a Regional Action Plan with three levels of collaborative participation: Council of Ministers, High Officials Committee and Working Groups.

Why is it interesting for the European Macaronesia?

It is an example of the creation of transboundary cooperation mechanisms aiming to achieve common goals for their surrounding sea. Besides the regional plan, a regional organization is configured to guarantee the conservation of marine ecosystems and value activities such as artisanal fishing or sustainable tourism. This case serves as an inspiration for the transboundary cooperation creation process beyond the particularities of resources and activities of this case (also related to the Macaronesia).

Figure 23. Good practice and lessons learned from the creation of cross-border structures: Transboundary Planning in the European Atlantic (TPEA)

Transboundary Planning in the European Atlantic (TPEA)

[Ireland, Portugal, Spain and UK]. **2012**

Fuente: https://cora.ucc.ie/handle/10468/2718
https://www.iwlearn.net/documents/28637

TPEA was a pilot initiative that gathered governmental bodies, research centers and agencies from the United Kingdom, Portugal, Spain and Ireland. The TPEA association work was focused on three key aspects of MSP: commitment of the involved parties; governance and legal framework and the data management. The project's objectives included developing a common vision on how the study area should look like in the future and two agreements of understanding: one relating to the transboundary areas and another one about the meaning of ecosystem-based approach at regional scales.

Why is it interesting for the European Macaronesia?

The TPEA project offers information and good practice guidance on transboundary planning and cross-border cooperation in MSP, which can serve as background, inspiration and an interesting starting point for the European Macaronesia region.

Besides the importance of developing transboundary plans, the possibility of creating cooperation instruments among administrations at a subnational scale is also interesting. For example, between the Portuguese archipelagos that have considerable autonomy. This could facilitate the consideration of insular particularities through the adoption of specific measures. In this sense, the maritime area of international waters (above the national extended continental shelf) between Madeira and the Azores could be considered (see Area 2 in Figure 1, and Figure 3).

The relevance of these cross-border integrating structures and instruments is also based on the outermost condition of Macaronesia. The outermost regions are tied to EU legislations with all its rights and duties, with the exception of those cases where there can be exemptions or specific measures.

Specifically, the management of fishing fleets of the outermost regions (ORs) is addressed in the current Common Fishing Policy (CFP). This includes the creation of a specific consulting council designed for the ORs that did not exist in the previous CFP (Benoit, 2017). This consulting council for the Macaronesian fisheries could be responsible for, among other matters, measures for the CFP that are also reserved for ORs, such as the exlusive fishing rights in the first 100 nautical miles measured from the base line, or fishing ooportunities derived from the agreements negotiated with third countries of North and Western Africa.

In 2007, the European Parliament Resolution for the management of fishing fleet of the ORs[35], was approved and published in August 2018. The latter resolution addresses important matters among which is the especially significant "Dispositions relative to the particularities and geographic conditions of the ORs".

Getting back to the idea of creating transnational structures, clusters can be considered as such. A cluster, known as a geographic concentration of companies and interconnected institutions that act in a specific field can be tools for territorial development. They create a union with the same goal, encourage cooperation and improve economic competitiveness, establishing links between companies and institutions. For the case of Macaronesian, improvement in this area is observed and benefits transboundary cooperation in the maritime areas. Examples are the Mac Clustering[36] (Inter cluster Cooperation for Internationalization and Innovation in Companies of the Macaronesia) and the declaration of intentions from governments of the Macaronesian archipelagos to formalize the Blue Economy Cluster for the Macaronesia[37] in 2019.

Some of these cooperation bodies could lead to opportunities to defend, as lobbies, the maritime interests of these archipelagos in national, European and international forums.

[35] European Parliament Resolution, of April 27th of 2017, about the management of fishing fleet in outermost regions (2016/2016(INI)). Available at: https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=CELEX%3A52017IP0195

[36] More information at: https://www.clusteringmac.eu/el-proyecto

[37] More information at: http://www.puertocanarias.com/es/node/357

4.6. Create a shared vision and identify common key issues for transboundary cooperation through participation of relevant stakeholders

The creation of a shared vision could lay the foundations for identifying common objectives that will guide transboundary MSP processes, allowing common understanding to facilitate the essential transboundary coherency in the maritime spatial planning of the sea basin. It is advisable that various maritime sectors are involved so that they can participate in the joint identification of priority issues for transboundary cooperation. This will improve their empowerment and support transboundary MSP initiatives, and respond to the real and main needs of the region.

Reflecting the reality and needs of the outermost archipelagos and elevate them to higher national political frameworks can be extremely difficult. There is much misalignment between the priorities of the archipelagos and the objectives of national governments. Thus, participation of island communities is fundamental to avoid conflicts between local and national policies (Greenhill, 2018).

There are multiple references regarding the benefits of involving the different stakeholders in the MSP processes. This is one of the most common recommendations for transboundary and cross-border cooperation among the main information sources that were consulted (see sources of information in the introduction section). They show how fundamental it is to generate transparency and trust among all stakeholders and participants involved in transboundary MSP processes. Due to this, and to enrich the whole process, it is advisable to not only involve stakeholders, but to do so as soon as possible during the first stages of the planning process. This will contribute to the avoidance of potential conflicts; to identify priorities, challenges and opportunities for transboundary cooperation; the development of a vision and transboundary instruments that are coherent; and improve the acceptance of solutions and measures that may be proposed.

The different pace of progress in MSP across borders can also influence the degree of motivation, the amount of information that different stakeholders from the various countries have and, finally, their capacity to participate effectively (Morf *et al.*, 2019). Nevertheless, these limitations, along with the possible cultural differences and methodologies of each country, might also enrich the process, allowing for learning and bringing about new focuses and solutions (Jay and Gee, 2014).

During the participative processes that took place within the MarSP project's framework, it was possible to obtain information worth considering for transboundary cooperation (De Andrés García et al., 2019). In this sense, the different stakeholders of each archipelago highlighted the challenges of cross-border cooperation in the European Macaronesia. These are, in descending order: (1) the different legal frameworks and institutions; (2) the fact that each country looks after its own interests; (3) lack of resources; (4-5) lack of control, audit and illegal activities; and (6) lack of information exchange.

On the other hand, as is shown in Figure 24, the opportunities for cross-border cooperation that were best valued were: (1) joint projects for conservation and shared marine protected areas; (2) sharing information and cooperation to find solutions for common problems; (3) standardization of collected information to generate common indicator systems that allow for comparing results; (4) joint projects

for border area control, rescue and audits; and (5) joint projects for regulating, planning and delimitating uses and activities.

Figure 24. Importance valuation of cooperation opportunities by stakeholders for the European Macaronesia

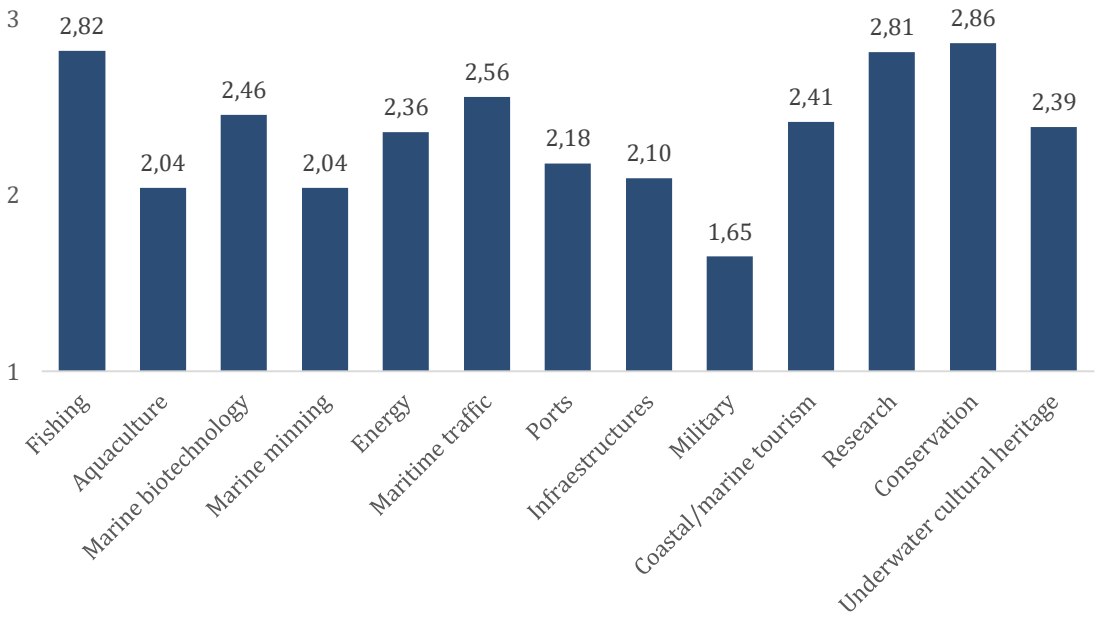
Matters of common interest for transboundary cooperation in Macaronesia must be considered as strategic pillars on which specific and targeted actions can be built. These matters are connected, on the one hand, the intervening parts in the MSP process (both states and administrative and sectorial bodies), as well as, on the other hand, the main characteristics of the socio-ecosystem of the sea basin as a whole, with specific spatial dimensions within the planning. There are also other issues that are strategic (because of their potential) and priority (because of their importance) for transboundary cooperation, due to their transversal characteristics.

The selection of issues, as a whole from a regional perspective and not emphasizing the particularities of each archipelago is therefore justified for the scope of the European Macaronesia. In this sense, a selection of priority issues for transboundary cooperation in the European Macaronesia has been done. This selection has been based on studies of the characterization of the socio-ecologic system (García Onetti *et al.*, 2018) together with stakeholder perception obtained during the participation process (De Andrés García et al., 2019). These are:

1. Fishing.
2. Research.
3. Conservation.
4. Energy.
5. Maritime transport and port activities.
6. Coastal and maritime tourism.
7. Maritime rescue and protection of the marine environment.

Of all of these, the first three were regarded as the most important ones by the different stakeholders, followed by maritime traffic, marine biotechnology and coastal and maritime tourism (Figure 25) where value 3 represents high importance, 2 medium and 1 low importance.

Figure 25. Importance valuation of maritime sectors by stakeholders for the European Macaronesia



The seven identified issues consider the peculiarities and the common needs of the European Macaronesia, responding not only to trends and European and international political drivers for the development of the Blue Economy in general. These are proposed as pillars on which to focus political commitment and efforts to develop interrelated and coherent sectorial mechanisms to strengthen transboundary cooperation and planning of targeted actions. During development and implementation of these mechanisms, new common work processes will be generated as well as links between the maritime governance frameworks of the different jurisdictions. Also, after solving the first common problems, these key issues can be used as facilitators to extend transboundary cooperation mechanisms to other areas, developing new and more complex ones or unblocking opportunities for collaborations that were not be possible until then.

The usefulness of focusing planning and management efforts on issues of common interest for all parties is exemplified through one of the selected case studies related to the conservation of the Lesser Sunda Ecoregion marine environment (Figure 26).

Figure 26. Good practices in transboundary management regarding common matters: designing a resilient network of MPAs in the Lesser Sunda Ecoregion

Designing a resilient network of MPAs- linking coastal and deep-sea ecosystems in the Lesser Sunda Ecoregion.
[Indonesia, Timor Leste]. **2013**

Sources: http://marineplanning.org/wp-content/uploads/2018/02/Nine_years_Lesser_Sunda.pdf
http://www.reefresilience.org/wp-content/uploads/Lesser_Sunda_factsheet.pdf

This Project designed a MPAs network in the Lesser Sunda Ecoregion. A wide range of activities were carried out in the designing process: ecological and socio-ecological evaluations to determine climate change impacts and the use of resources in those ecosystems; development of scientific, legal and collaborative frameworks to establish and administrate a MPA network and; design and apply spatial planning tools to address the designing problems of the MPA network, resilience and changes in resources usage.
Collaborations were established between the Timor Leste government to provide capacity building and technical support workshops to design MPAs policies and networks.

Why is it interesting for the European Macaronesia?

The Macaronesia, as a bioregion, shares ecosystems and shows physical and natural processes that occur across the jurisdictional borders. Because of it, replicating this case study and establishing a network of MPAs in this maritime area, could increase the effectiveness of conservation efforts as well as the value given to these natural areas. This can also help promoting their consideration as one of the strategic benefits of the region.

4.7. Adopt a flexible approach to define transboundary cooperation areas around common interests

For MSP to be truly efficient, maritime spatial plans within the same sea basin must be coherent, be integrated with each other and address different types of cross-border considerations. This includes aspects that are common within the region, regardless of the borders that exist between them. For example, the movement of substances and species, the development of certain maritime areas, specific pressures and impacts. Stressing these processes and transboundary dynamics promotes agreement and jointly defines the interests on which to focus cooperation processes in MSP. Similarly, these common interests encourage working towards institutional mechanisms that achieve shared goals and responsibilities.

At a transboundary level, having the delimitation and typology of the different jurisdictional limits in the maritime environment clear is fundamental. It is through these areas that the efforts of transboundary MSP tend to be concentrated. There is no official basis to define the areas of transboundary cooperation. However, the TPEA project, recommends these to be defined flexibly and not necessarily focused on the jurisdictional delimitations. Instead, it advises the establishment of the areas that are able to be covered: the most relevant issues, the different stakeholders´ points of view, transboundary patterns for activities, governance aspects and geographic characteristics.

In the European Macaronesia, these geographic considerations are especially important. The fact of being outermost regions, located far from the continent and being formed by islands, determines that the areas of interest for cross-border cooperation in the maritime environment are extensive. In this regard, unlike other sea basins like the Baltic Sea or the North Sea, that are semi-closed systems or have shared bays where maritime issues are concentrated, definition of susceptible areas for cross-border cooperation in the European Macaronesia is a complex process.

Addition, within our study area, there are administrative borders that are not clear or around which no official agreement (nor extra official) has been reached between the respective countries. Thus, focusing transboundary MSP processes around legal and administrative limits will not always be desirable. With a broader approach that revolves around processes that occur across administrative limits, ensures a more efficient use and conservation of common resources (Douvere, 2008). It also helps avoid or minimize tension over territorial disputes and jurisdictional claims (Jay *et al.*, 2016). As an enlightening example, there have been interesting efforts for the creation of **'common areas of cooperation'**, such as the French proposal during the negotiation between France and Italy for the delimitation of their continental shelf (from 1969 to 1975) (Caffio, 2016). This is located west of the Strait of Bonifacio, between the maritime zones of Spain, France and Italy.

International waters are a good example of the above. Due to their very nature, they do not respond to any jurisdiction of any State, but rather to common interests. In this sense, the need for transboundary MSP processes in international waters has long been promoted and highlighted (Frazão Santos *et al.*, 2018). To this end, international agreements are needed to assure proper management and conservation (see section 4.1, about ABNJ).

One case studies that provides evidence of good practices regarding this matter, is the international treaty developed by the Commission for the Conservation of Antarctic Marine Living Resources, CCAMLR (Figure 27).

Figure 27. Good practices and lessons learned regarding management based on common interests: Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)

Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)
[Argentina, Australia, Belgium, Brazil, Chile, China, EU, France, Germany, Italy, India, Japan, South Korea, Namibia, New Zealand, Norway, Poland, Russia, South Africa, Spain, Sweden Ukraine, United Kingdom, USA, Uruguay]. **1982**

Source: www.ccamlr.org

It is an international treaty that was adopted during the Convention on the Conservation of Antarctic Marine Living Resources that took place in Canberra, Australia, from May 7th to the 20th of 1980. It is a multilateral response to concerns that increasing non-regulated captures of krill in the Austral ocean could be prejudicial for the Antarctic marine ecosystems, particularly for marine birds, seals, whales and fishes that depend on krill for feeding. The very same Commission is formed by members of different countries, which supposes a supranational cooperation mechanism itself.

Why is it interesting for the European Macaronesia?

The creation of a supranational commission or body that ensures the conservation of marine life can be a good practice to adopt in the European Macaronesia region. From a common commission for the marine environment, maritime spatial plans can emphasize on issues that present common goals.

Furthermore, there are other examples of cross-border cooperation beyond the strict delimitation of jurisdictional limits. One interesting case is between Japan and China in the East China Sea (Figure 21).

Figure 28. Good practices and lessons learned regarding management based on common interests: Sea of Peace, Cooperation and Friendship in the East China Sea[38]

Sea of Peace, Cooperation and Friendship in the East China Sea
[China and Japan]. **2007**

Source: https://www.mofa.go.jp/files/000091726.pdf

"In order to make the East China Sea, where the sea boundary between Japan and China has not been delimitated, a 'Sea of Peace, Cooperation and Friendship', Japan and China have agreed, through serious consultations based on the common understanding between leaders of the two countries achieved in April 2007 as well as their new common understanding achieved in December 2007, that the two countries cooperate with each other without prejudice to the legal positions of both countries during the transitional period pending agreement on the delimitation and taken the first step to this end".

Why is it interesting for the European Macaronesia?

There are mechanisms to cooperate, focusing on issues of common understanding, without prejudice to the legal position of both countries regarding the shared marine area.

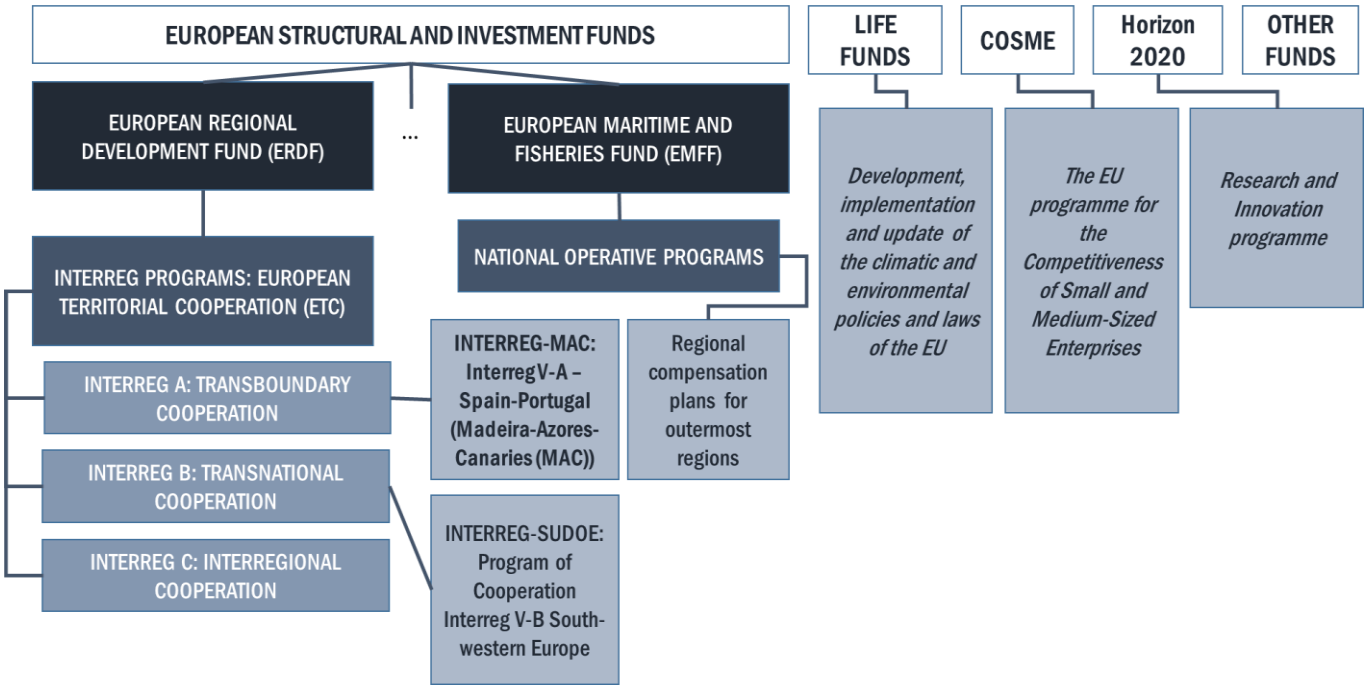
[38] For further background on this, see (Jianjun, 2009). A Note on the 2008 Cooperation Consensus Between China and Japan in the East China Sea. Ocean Development & International Law, 40(3), 291-303. More info: http://www.ispsw.com/wp-content/uploads/2016/01/396_Kadir.pdf

4.8. Support transboundary cooperation through the existing initiatives and best available knowledge

There are several initiatives and projects in the region that are a valuable example of transboundary cooperation. These are often useful to solve problems and give answers to immediate needs, to generate knowledge and lessons learned, and contribute to creating credibility and links between the intervening parts. These initiatives also create positive circumstances for collaboration, which should be assured by its institutionalization, when applicable, for MSP processes. This will allow, in turn, a better utilization of efforts, as well as increasing its impact on decision-making.

As mentioned in previous recommendations, the three archipelagos of the European Macaronesia are at different stages regarding their MSP processes, which makes it more difficult, among other things, to exchange data and information. Thus, the integration of their MSP plans and comparison of their approaches will be difficult until the first generation of plans are approved. Meanwhile, projects like MarSP makes it possible to anticipate the exchange of ideas and contribute to better integration and coherence of the planning processes across borders. For this reason, European financing for projects plays an important role in strengthening the collaboration and integration between countries (Urtane *et al.*, 2017). These types of projects are possible, thanks to financing mechanisms that acknowledge the achievement of global objectives included in the European Integrated Maritime Policy (Figure 29).

Figure 29. Cooperation mechanisms available for Macaronesia as the main financing channels of the European Integrated Maritime Policy



Between 2014 and 2020, the European Structural and Investment Fund provides almost 13.300 million euros to the outermost regions (European Commission, 2017). Therefore, they are an important source of investment and employment creation. This includes two specific assignments for regional development and fishing, to compensate for the additional costs that these regions face due to remoteness and insularity.

Derived from the ERDF funds, there is the Operational Program for Territorial Cooperation INTERREG V-A Spain -Portugal MAC (POMAC). This program is the main financial instrument that Spanish and Portuguese outermost regions have recourse to for an efficient solution to the common challenges that they face in matters of innovation, competitiveness, internationalization and sustainable development. More specifically, this program contributes to enhancing research, technological development and innovation (target 1); improvements in the competitiveness of companies (target 2); promoting the adaption to climate change and risk prevention and management (target 3); preserving and protecting the environment and promoting resource efficiency (target 4); and improving the institutional capacity and efficiency of the public administration (target 5).

The POMAC program also includes numerous initiatives related to the marine environment through projects that have been financed from the periods 2000-2006, 2007-2013, and 2014-2020. In this respect, considering cooperation between countries and autonomous communities, numerous projects have been, or are currently being developed (the current financial period is ongoing until 2020). The following projects can be highlighted in order to better understand cooperation and collaboration records on different matters. Overall, these matters represent the priority issues for transboundary cooperation in MSP for the European Macaronesia (Figure 30).

This analysis and compilation of transboundary cooperation projects is diverse and does not exclude other projects financed by other mechanisms. All these together constitute an approximation of the progress in transboundary cooperation in Macaronesia with regard to issues of interest for MSP. All these projects, together with their results and joint processes, present an existing collaboration and cooperation scenario of different stakeholders, bodies and institutions (universities, research groups, companies, etc.) that should be embedded in current and future MSP process.

However, the most serious problem, lies in the lack of continuity of these initiatives and in the limited impact these have on decision makers. In many occasions, the results are lost when funding ends. Thus, it would be interesting to pose cooperation strategies to frame these efforts in a joint strategy and improve their implication and usefulness for MSP in the European Macaronesia.

Figure 30. Projects developed in Macaronesia related to transboundary, international and maritime environment cooperation

Fisheries

INTERREG-MAC 2007-2013
- **"MARISCOMAC**: development of scientific bases, training and transfer of technology and knowledge for the exploration, transformation and commercialization of seafood in the Macaronesia".
- **"MARPROF:** bases for management and gastronomic valuing of the Macaronesian deep fisheries species.

INTERREG IIIB 2000-2006:
- "**MARINOVA**: marine aquaculture and artificial reefs. New integrated production models.
- "**MARTEC**: marine technologies to increase the fisheries productivity.

Maritime traffic and ports

INTERREG-MAC 2007-2013
- **MACSA**: Program to promote sustainable development of commerce and maritime transport in Western Africa.

INTERREG-MAC 2014-2020:
- **SMART BLUE**: regional maritime cluster network for small and medium-scale enterprises in the blue growth.
- **ECOMARPORT**: technology transfer and eco-innovation for environmental management of ports.

OTHERS:
- **GESPORT:** Eurafrican cooperation network for the port industry.

Coastal and marine tourism

INTERREG-MAC 2007-2013
- **GESTATLANTICO**: sustainable exploitation and management of coastal zones of the Eurafrican littoral.
- **MACAROAVES:** rural development and ornithological tourism.

INTERREG-MAC 2014-2020:
- **SMARTDEST**: a strategy and tools development to convert the islands into smart touristic destinies.
- **MACAROFOOD**: Macaronesian marine products valuing: tourism, gastronomy and professional capacity.
- **NAUTICOM**: network for nautic cooperation in the Macaronesia. Promotion of touristic and blue growth.
- **MARCET**: cetaceans conservation and monitoring for sustainable whale watching.
- **ECOTUR_AZUL**: developing a common ecotourism model to value and protect the heritage resources of the coastal and maritime territories.
- **MARGULLAR**: tourism and archaeological underwater heritage in the Macaronesia.
- **ECOTOUR**: valuing the natural resources of coastal protected areas to promote ecotourism.

Conservation

INTERREG-MAC 2007-2013
- **CARMAC**: water quality improvement of bathing and coastal waters.
- **GESMAR:** sustainable management of marine resources.
- **PELAGOS:** a model for the coordinate management of natural marine resources of the Macaronesia.
- **SOST-MAC:** synergies and cooperation for sustainable actions on the Macaronesian natural protected areas.

INTERREG-MAC 2014-2020:
- **RIS3_NET:** promoting interregional cooperation for smart development of the Macaronesia.
- **MIMAR:** monitoring, control and mitigation of marine organisms associated to human disturbances and climate change.
- **PLASMAR:** bases for sustainable planning of marine protected areas.

Other programs:
- **ARCOPOLplatform:** improving the maritime security in the Atlantic space to strengthen coastal zones protection against maritime pollution through the application o the results from ARCOPOL and ARCOPOLplus.

MSP initiatives

- **TPEA:** transboundary planning in the European Atlantic.
- **GPS Azores:** geographical and political scenarios in maritime spatial planning for the Azores and North Atlantic.
- **MUSES:** opportunities for multi-use in European Seas, including Eastern Atlantic.

Marine research

INTERREG-MAC 2007-2013
- **ALGABIOMAC:** biotechnology industry development from macro and micro algae.
- **Red BANGEMAC**: genetic bank of the Macaronesia.
- **ESTRAMAR:** I+D+I Marine-maritime Strategy for the Macaronesia.
- **MacSIMAR:** incorporation of the integrated meteorological and oceanographic monitoring system in the European Marine-maritime Research Strategy.

INTERREG-MAC 2014-2020:
- **ViMetRi-MAC:** meteorological monitoring system to assess environmental risks.

Biotechnology

INTERREG-MAC 2007-2013
- **ALGABIOMAC:** biotechnology industry development from macro and micro algae.
- **Red BANGEMAC**: genetic bank of the Macaronesia

INTERREG IIIB 2000-2006:
- **BANCOMAC:** bank of marine organisms of the Macaronesia of Cabo Verde-Azores-Canaries.

INTERREG-MAC 2014-2020:
- **MACBIOBLUE:** technology transfer for enterprises to develop new products and processes in the blue biotechnology field.
- **REBECA:** network of excellence on blue biotechnology (algae).

Further consideration needs to be given to data and information exchange between countries. This is not always simple and is usually limited by national laws for data dissemination and a lack of common standards for content and visualization of data (Urtane *et al.*, 2017). One of the actions within the MarSP project aims to adapt the INSPIRE Directive for the marine environment. The idea to standardize spatial data management in the three archipelagos of the European Macaronesia so that they are coherent, exchangeable and useful to promote cross-border cooperation. Another study, among those analysed, that can be considered as a good practice regarding data and information exchange, is the Grenada & Grenadine Islands initiative (Figure 31).

Figure 31. Good practices around data and information exchange: transboundary Grenada Bank & Grenadine Islands

The Grenada Bank & Grenadine Islands
[St Vincent & the Grenadines & Grenada (Wider Caribbean)]. **2006**

Sources: http://www.grenadinesmarsis.com

From 2006-2012, a participatory geographical information system was created together with maritime sectors, agencies of maritime management communities of the Grenadines islands, local and regional NGOs and academics.
This unique information system integrates a broad range of knowledge based on the sea and provides an information platform, useful for planning and coastal maritime transboundary management at a subnational scale in these islands.

Why is it interesting for the Macaronesia?

The importance of creating common procedures and approaches for information exchange in a participatory matter among all the parts involved, is fundamental to be able to compare and give coherence and continuity to the maritime spatial planning plans through administrative borders. This case study, performed in these islands, represents a good practice that can be adopted in the Macaronesia region. Furthermore, it includes a potential cooperation in which Areas Beyond National Jurisdiction might be considered.

Besides the initiatives within specific projects and programs, there are also experiences, mainly sectorial ones that bring stakeholders closer through common goals, that create a strong link for cooperation beyond specific results. Some of these are:

- MACARONESIA INITIATIVE: this created a Marine Protected Area for Cetaceans and other Marine Mammals[39]. The declaration and the Macaronesian Initiative were presented in the governmental session of WATCH (West African Talks on Cetaceans and their Habitat) (Tenerife, 2007). The Declaration invited the governments of Cape Verde, Spain and Portugal to consider the adoption of specific agreements for the biogeographic region of Macaronesia.
- Proposal for a ban on the use of military sonar in all EEZ of Macaronesia[40]: this initiative aims to extend the ban on the use of the military sonar in all exclusive economic zones of the

[39] Access to the document, report and declaration: https://goo.gl/4YKKoj
[40] More information at: http://www.uicn.es/web/pdf/XIV_foro/Programa.pdf

archipelagos of the Azores, Madeira and Cape Verde. It was defended in the XVI IUCN Forum held in the Canary Islands, on August 2018 with the support of the government of the Canary Islands and the euro parliamentarians of the outermost regions.

- "Clustering" (Inter-cluster Cooperation for the Internationalization and Innovation of Companies in the Macaronesia), promotes synergies between different Innovative Business Clusters of Macaronesia. It aims to share good practices on business cooperation and internationalization, to improve SMEs competitiveness. This initiative is intended to be carried out until 2020.
- "BEST" (voluntary scheme for Biodiversity and Ecosystem Services in Territories of European overseas[41]). Its main goal is to support biodiversity conservation and the sustainable use of ecosystem resources, including ecosystem based approaches for climate change adaptation and mitigation in the outermost regions of the EU. Even though it is focused on the three archipelagos of the European Macaronesia, it is an important initiative that studies changes of underwater vegetation, the loss of ecosystem services, and compares the value of the marine ecosystems in the Azores, the Canary Islands and Guadalupe.

"Smart Islands"[42], represents a bottom-up effort from the authorities and communities of the European islands. It is based on previous years of collaboration between the European islands and aims to convey the important potential of islands as laboratories for technological, social, environmental, political and economic innovation. The Smart Islands initiative is inspired by the concept of Smart Cities. It goes one-step further by extending synergies beyond energy, transport and ICT by including water and waste, addressing the circular economy. The regional governments of Azores, Madeira and Canarias are part of this initiative.

[41] More information at https://goo.gl/JHrKF4
[42] More information at: http://www.smartislandsinitiative.eu

4.9. Transboundary cooperation with third countries as a catalyst and outlook for the Macaronesian sea basin

The inclusion of third counties in the establishment of common objectives for the sea basin promotes the adoption of conciliatory approaches, the search of common interests and joint collaboration proposals. Additionally, third country agreements must be considered if the whole Macaronesia bio-region wants to be managed based on the continuity of its ecosystems. Finally, the European outermost regions are key platforms to strengthen bonds with neighbouring countries around European policies and MSP practices.

Global challenges and greater interdependency demand that outermost regions reinforce and broaden cooperation with third countries (non-European). This type of regional cooperation and the deepening of bonds with third countries is a fundamental pillar of the EU strategy for its outermost regions (COM 2017[43]). The Commission has promoted this cooperation through political dialogue and specific territorial cooperation programs and Economical Association Agreements[44]. In this sense, the proximity with non-European markets can facilitate commercial and investment exchanges.

Given its geo-strategic position, Macaronesia could play an important role at global forums regarding international governance of the oceans. Also, working in association with regional and international organizations with technical knowledge and experience, will promote opportunities for development of emerging sectors, and will facilitate the realization of joint actions in areas of common interest.

In this regard, some of the most representative matters on which to develop transboundary cooperation with third countries are energy and fishing. As for energy, there appear to be common pockets of oil beneath the seabed between the Canary Islands and Morocco. There is also the issue of maritime cables, the power network and the common energy market (García-Onetti et al., 2018). Altogether, these constitute cooperation which aims to improve the development of the related sectors among the European archipelagos of the Macaronesia themselves and with third countries.

Furthermore, fishing is a specially complicated matter, as this sector is mainly regulated at the European and international level. In this sense, the EU, as well as Spain and Portugal, have fishing agreements with third countries, e.g. Morocco, Cape Verde, Mauritania and Senegal, that require special treatment. Fees and contributions are negotiated based on different priorities and interests in both

[43] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank: A stronger and renewed strategic partnership with the EU's outermost regions. COM (2017) 623 final. Strasbourg, 24.10.2017.Available at: https://ec.europa.eu/regional_policy/sources/policy/themes/outermost-regions/pdf/rup_2017/com_rup_partner_es.pdf

[44] The Economical Association Agreements can be commercial and developmental between the EU and African countries, the Caribbean and the Pacific (ACP), aiming to facilitate integration of the ACP countries in the global economy, through the gradual liberalization of commerce and the improvement of cooperation related to it. These agreements are adapted to specific regional circumstances and promote the sustainable growth and the reduction of poverty through commerce. More information: http://trade.ec.europa.eu/tradehelp/es/acuerdos-de-asociacion-economica-aae

directions[45]. Additionally, fishing that is carried out beyond national jurisdictional waters (industrial fishing) increases the pressure on the same fish stocks that artisanal regional fisheries depend on, thus affecting the sustainability of their activity. This connexion between industrial and artisanal fishing is hard to define in detail as there is a lack of accurate information about the causal relationship of these practices and the tendencies of the related ecosystem services. However, international agreements constitute a framework within which to progress in a specific sub-region or area. Hence, this type of international cooperation must be considered, given the characteristics of the fishing sector in the region and the types of agreements that are established with third countries.

Moreover, Macaronesia has a series of unique advantages for research and state-of-the-art innovation in areas such as bio economy. Its extensive exclusive economic zones offer great potential for blue growth, and make them important agents for cooperation with third countries and international governance of the oceans. Traditional maritime sectors of fishing, maritime transport, coastal tourism and cruises help create employment for local populations. New maritime sectors, like renewable marine energy, aquiculture and blue biotechnology are still insufficiently developed, albeit they have great potential.

Finally, the creation of cross-border structures as it was described before (see 4.5), at the service of common goals and the well-being of the sea basin, can also favour progress towards agreement and cooperation with non-European states.

[45] For more information, go to EU publications on agreements with third countries related to fishing: https://ec.europa.eu/fisheries/cfp/international/agreements/

5. SPECIFIC CONSIDERATIONS FOR TRANSBOUNDARY COOPERATION FOR PRIORITY ISSUES IN THE EUROPEAN MACARONESIA

The Macaronesian region has geographical and socio-cultural elements that are very specific, but comparable in general among the archipelagos that form it. Factors like insularity and remoteness result in common singularities for the development of specific maritime sectors (European Commission, 2018). These challenges, by being common, offer opportunities from which transboundary cooperation efforts can be developed. In this sense, as mentioned in the introduction, it is worth noting the main challenges that should be considered holistically within MSP processes. These could lead to interesting opportunities that can structure the efforts of cross-border cooperation, particularly between Spain and Portugal.

This report only addresses the priority issues previously identified (section 4.6).

I. Fishing

The fishing sector is highly dependent on the ecosystem characteristics of the marine environment. Thus, current and future conditions and trends for this sector include the state of fish stocks of commercial interest and the ecological environment on which these depend on. Furthermore, this sector is strongly related to fishing equipment and the technology used for this activity (i.e. the fishing pressures exerted). The dynamic nature of fishing resources and their great mobility across jurisdictional borders, makes this sector of one of the most relevant matters for transboundary cooperation in the European Macaronesia. Another aspect to consider in the sea basin is the presence of important migratory marine species (such as tuna) that force the extension of cooperation to third countries.

Between Spain and Portugal, there is a common framework to manage fishing: The Common European Fishing Policy (CFP), in addition to international fishing agreements that affect the Macaronesian region.

In the European Macaronesia, there is a long historical tradition with sociocultural bond, as well as similar problems, such as the decline of traditional fleets, the increase of sport fishing, the lack of information on illegal and non-declared fishing, and a great influence of fleet from outside the planning scope of the European Macaronesia, among others. All this leaves a series of challenges and opportunities on which to forge transboundary cooperation in Macaronesia (Table 5).

Table 5. Challenges and opportunities in the fishing sector for MSP and transboundary cooperation in the Macaronesia

Challenges	Opportunities
• Management is exerted at a multi scale level (supranational (EU), national, regional and with third countries) which has complex political implications. • The classification of these fishing areas by international bodies (e.g. FAO)	• Agreements on co-management for the migratory fishing species or common species in Macaronesia and the open sea areas within the EEZ of the archipelagos. • Possibility to share and export good practices for fishing management and farming and technology among the different archipelagos. • Possibility to establish synergies in collaboration (agreements, negotiations, participation, coordination, etc.)

breaks Macaronesia into different parts. • Insufficient generational replacement of fishermen, and insufficient technological knowledge for the current characteristics of fishing grounds. • Lack of information and knowledge of certain fish populations, as well as updated data on size and age of fishing vessels. • Lack of investment on improvements, diversification and modernization of the sector. • High transport cost due to remoteness and high dependency on the European Maritime and Fishing Fund (EMFF). • Lack of infrastructure to process catches (except for tuna) and lack of investment and improvement of the bidding markets and landing places. • Non-declared catches (from sport fishing or illegal sources that are sold in non-officially) affect negatively stock evaluations, while illegal activities harm the competitiveness of artisanal fisheries. • Trans-shipment in the high seas of catches fished within Macaronesian waters that land on the continent. • Lack of an effective control and surveillance system to monitor the fishing activity in waters of the sea basin to avoid illegal fishing. • Climate change effects are expected to have an impact on the size of fish stocks and distribution of species. The fishing sector is highly dependent on market variability.	in tracking, control and regulation of illegal fishing or trans-shipment that affects the whole sea basin. • Opportunity to strengthen coordination with the Regional Fisheries Management Organizations (RFMOs) such as the International Commission for the Conservation of Atlantic Tuna (ICCAT) and the Fishery Committee of the Eastern Central Atlantic (CECAF) to improve control and monitoring of non-regulated fishing (e.g. monitoring tuna fishing grounds near the Canary Islands). • Create synergies with other important sectors of the region such as tourist fishing. • Opportunity to create a registered trademark to improve the marketing of Macaronesian fishing products, creating associations between fishermen communities to generate added value and help them exploit new market opportunities. • Identify and mutually agree on the relevant areas to create regional marine protected fishing grounds (i.e. spawning grounds). • Empowerment of local authorities and fishing entities in the diversification process, renewal and improvement of the sector in an economical growth context for maritime issues, through bonds between the islands and the archipelagos (i.e. association of fishing communities). • Opportunity to promote the creation of a common platform for fishing data gathering that could help management, monitoring and control of the sector. • Exchange of scientific knowledge to establish connexions and build bridges between science and decision making authorities. • The current Common Fisheries Policy includes several interesting measures for the outermost regions fishing fleet, such as exclusive rights to access the 100 nautical miles from its base lines, fishing opportunities under the negotiated rules with third countries, or the creation of an advisory council for the European outermost regions. • Possibility to create fishing councils for the European outermost region under the CFP including the archipelagos of the European Macaronesia.

II. Coastal and maritime tourism

Tourism in Macaronesia, coastal and maritime, is one of the main points of the socio-economic reality of the region. It is a sector that in general terms, is developing and gaining strength, even though there are some differences among the archipelagos (the Canarias stands out) and among the islands as well. Even though tourism tend to be focused on certain islands (e.g. Gran Canaria, Tenerife, São Miguel or Madeira), its relevance at a regional level is indisputable. Both from a socio-economic (benefits and employment) and a socio-ecosystem perspective, its impacts reach beyond the places where it is focused. Furthermore, there is a tendency for diversification and high demand of tourism activities related to the sea (cruises, whale watching, diving, leisure fishing, water sports, etc.) resulting in high dynamics and connectivity with a transboundary nature.

These circumstances, pose challenges but also opportunities for transboundary cooperation to be considered in MSP plans (Table 6).

Table 6. Challenges and opportunities in the tourism sector for MSP and transboundary cooperation in Macaronesia

Challenges	Opportunities
• High demand (with an increasing trend) for resources and ecosystem services: energy, water, space, waste disposal, transport, etc. • Tourists from cruises have short stays. • Insufficient balance between the demands of new tourism activities, creation of infrastructure and environmental protection and its resources. • Lack of predictive diagnostics for demand and tourist needs, such as the lack of moorings in harbours, especially for bigger yachts. • Lack of capacity studies on the main ecosystems/routes/areas with high demand for the sector and its different activities.	• Important cultural connections that could boost the creation of a new unified identity in the European Macaronesia as a tourist destination. • Increase in cruises as a type of tourism that could enhance routes between the archipelagos, as well as increase opportunities for smaller islands. As well as contributing to income in low tourism seasons. • Potential to explore maritime tourism and recreational activities (e.g. sailing, whale and bird watching, fishing or marine gastronomy). • Opportunity to enhance an ecotourism model given the environmental characteristics and the resources in Macaronesia, using the processes created by other projects that aim to create a common ecotourism model. • Local authorities can improve their potential by developing a holistic view for the development of the sector and by strengthening synergies throughout the tourism value chain, with other maritime activities and other territories of the same basin (offering tourism activities between islands and archipelagos as a cultural mosaic and experience linked to Macaronesia).

III. Maritime transport and harbour activity

Improved mobility is essential for reducing the 'accessibility gap' caused by remoteness, insularity and external dependence that the ORs face. This can stimulate regional wealth with greater social inclusion and environmental sustainability (Pickup, L. and Mantero, C. 2017). Thus, the maritime transport sector (passenger and cargo), and therefore harbour activity, is crucial for communication between islands and the continent, as well as for the development of local economies. The fragmentation of the territory makes ferries the most important means of transport for passengers and cargo. Besides, the geo-strategic position of Macaronesia makes it a key stopping point for the great oceanic routes.

Likewise, the strategic relevance of mobility is enlarged by the enhancing of integrated activities within the Maritime Cluster of Macaronesia, which will in turn, impulse new activities related to the blue economy, with all being supported by the harbours. Its growth will use the sea, as far as its spatial and technological expansion in the region, it is something that must be considered as a whole (Table 7).

Table 7. Challenges and opportunities in the maritime transport and harbour activity sector for MSP and transboundary cooperation in the Macaronesia

Challenges	Opportunities
• Fighting the outermost condition and the dependency of the sector associated with certain financing funds (ERDF). • Need to connect with the Trans European Transport Network.	• The strategic position of the Macaronesia in the Atlantic Ocean offers advantages for the development of maritime cargo transport. • The harbour network in the Macaronesia region cooperate with projects that are part of the Transnational Cooperation Program for Madeira, Azores and the Canarias, that has coordination and transfer of knowledge as its main objective.

• Cruises have routes that are too rigidly set between the main islands, with a set harbour activity, taking place within short periods. • Cargo transport and harbour activity is focused in the main islands, working on occasions, independently from each other. • Changes in transport and harbour sectors require major investment. • Improving control and monitoring of marine invasive species due to change in water temperature. • Dovetail the growing lines of high-speed maritime transport with cetacean communities.	• Possibility of creating synergies between maritime transport and coastal and cruise tourism since the harbour infrastructures are key for the development of these activities. • The harbour and maritime transport sector are linked to important technological innovations that can enhance and incentivize new formulas to increase cooperation between entities in these sectors and between governments. • The "Connecting Europe" Mechanism (from the Cohesion Funds) supports projects related to "Sea Highways" and ecological maritime transport. These could provide opportunities cooperation to integrate the sector into the national MSPs and within a regional level. • Macaronesia as an outermost region, can become a provisioning maritime point and serve as an example of energy stations along the maritime lines (including natural liquefied gas). • Opportunity to integrate the MSP processes to a decisive sector for the regional economy. • Establishment of routes and required steps for fishing grounds, harbours and access routes, to funnel activity to certain areas and minimize environmental impacts (collisions with cetaceans, possible maritime accidents and spills, the introduction of invasive species, etc.).

IV. Energy

Even though the energetic use of the ocean resources (including oil explorations) is currently an emerging sector in Macaronesia, this has taken the spotlight on the political agenda of the three archipelagos. Besides oil exploration, testing sites and the installation of platforms, as well as existing cables to distribute power in the region, these have unavoidable spatial implications for maritime spatial planning and for transboundary cooperation.

Firstly, there are references and initiatives that are actually being developed as pilot projects on alternative energy sources from wind and the ocean (mainly in the Canary Islands and Madeira). Since 2014, the outermost regions established an "energy network" to cooperate for sustainable energy solutions.

With all that, some of the challenges and opportunities that make energy one of the priorities matters in transboundary cooperation must be considered (Table 8).

Table 8. Challenges and opportunities in the energy sector for MSP and transboundary cooperation

Challenges	Opportunities
• The sector is still developing for the maritime areas (pilot cases for renewable energies in Macaronesia). • Unfavourable climate conditions in the basin for certain types of energies. • Little continental shelf and great depths near the coastal line that limits what areas can be adapted for the development of the sector. • Limited potential, in the short term, to transform oceanic energy sources as an alternative to fossil fuels. • The outermost and regional characteristics increases the cost and necessary logistics of all steps for energy production (production, storage or transmission to the national network through cables, etc.).	• Strategic interest in renewable energy from the ocean as an alternative for energy self-sufficiency (e.g. El Hierro and the Canary Islands) and substitution/reduction of power produced by external sources. • Great potential for research and technological improvements. • Common European framework that facilitates the enhancement for the generation of renewable energy projects among countries that are in a common energy market. • Interests claimed by different clusters and companies to invest in the region and boost this sector. • Improving self-sufficiency of the outermost regions in energy matters can bring significant economic benefits in terms of growth, competitiveness and creation of employment, which would contribute to the achievement of the EU climate and energy policies' objectives.

V. Conservation

The conservation of natural capital has important relevance in its own right. Considering the need to maintain ecosystem services that have a direct relationship to human well-being of the region.

There is growing social and economic value in conservation of marine species and habitats in Macaronesia. Not only to support activities but also due to the increase of pressures (and impacts) and vulnerability at a regional and global level (Table 9). Thus, there is an increase in perception and awareness, but mainly a great availability of information on it.

Considering the high connectivity of the marine environment, this matter determines the global functioning of the system which should increase interregional and international relations.

On the other hand, it is important to highlight the existence of numerous protected marine areas, which represents a large mosaic of areas protecting habitats and species under different categories in the three archipelagos, as well maritime corridors in the whole area. This zoning has important repercussions for maritime spatial planning in the whole Macaronesian region.

Table 9. Challenges and opportunities of conservation for MSP and transboundary cooperation in the Macaronesia

Challenges	Opportunities
• Spatial implications and limitations for the use of protected areas that demand complicated integration for the region. • Great functional dynamics and natural processes that must be considered from a multidimensional perspective (spatial and temporal) for its determination and interaction with other sectors that are present in the marine environment. • Protected areas total a great extension, divided among the three archipelagos and in the ABNJ. • Lack of instruments to manage the protected areas in general and jointly. • Great extensions of marine areas that translate to investment in terms of control and information collection for the whole region. • Instrumental and administrative differences according to the type of protected area and the implicated body (differences between entities, archipelagos and countries). • Segmentation of the Macaronesia bioregion in the application of international agreements, such as the OSPAR Convention.	• The protected areas network has an important role to play as individual areas are frequently interconnected because they share ecosystem functions and processes (system production and use of benefits in different areas). • Possibility to address transboundary issues through bioregional planning (landscape scale) as was promoted by the World Commission on Protected Areas of IUCN. • Conservation as a tool to address the pressures from different areas that have a common impact on the marine environment, and that are relevant for the region (pollution by land sources, marine waste, etc.) and can be catalysts for transboundary cooperation. • The final objective of protection and conservation is the same for the three archipelagos, hence there is potential synergy for regional conservation. • Possibility to establish ecologic corridors that connect different critical habitats, usually known as functional linked areas. • Great potential related to biotechnology regarding current characteristics and those still unknown due to technical limitations and investment. • A protected area and its area of influence can be a link for co-management from different perspectives and create connections between sectors (research, fishing, tourism). • Opportunity to recover the monk seal populations (*Monachus monachus*) in the Canary Islands and create collaboration agreements for its conservation between Madeira, the Canaries and Mauritania.

VI. Research

From a regional point of view, research in Macaronesia, has a long history of frequent collaboration and cooperation from different entities and research groups, both between archipelagos and countries (researcher network and collaborative entities). Not only are there interesting elements for current and future research, but there is also a common facilitating framework for this confluence. This promotes the creation of synergies, such as the specific ways for cohesion, collaboration and cooperation in transboundary areas and specifically for the region as well (specific funds for Macaronesia, etc.). Furthermore, the common European framework, while determining the legal requirements that stipulate the collection of information and the collaboration between the parties and neighbours (Good Environmental Status in the Marine Environment, included in the Marine Strategy Framework Directive), also has a framework for improving and standardizing data (INSPIRE Directive). These lead to constant communication and with the goal of improving the marine environment in general, and for Macaronesia in particular.

In addition, it is not trivial to consider the social and economic repercussions that research can have, understood in the broader sense, including the acceptance of research carried out by different entities and with different criteria (biotechnology, oceanography, geology, economy, etc.). The implications involve multiple sectors (social, economic and environmental) based on a shared environment. These results, benefits and/or effects are evident in the short, medium and long-term, and are transferrable to society (in general terms). They provide better information and knowledge, act as stimulants for collaboration and cooperation among those interested and/or implicated. This has an importance for transboundary cooperation and for the Macaronesian regional potential that lies evidently in the sea and its resources (Table 10).

Table 10. Challenges and opportunities for research in MSP and transboundary cooperation in Macaronesia

Challenges	Opportunities
• Research bodies have economic and technical limitations that on occasions make it difficult for investment and new initiatives. • Frequent demand of private investment mainly for specific sectors (energy, transport, etc.). • Inaccessibility to generated information due to unpublished information by public sources (completed projects or not continued) or by the requirements of private investment. • High dependency on institutions and departments that lead the researches for which it is difficult to obtain the results for other entities (even within the same country). • Complications in evaluating the regional needs in the long-term for the design of strategies and research areas.	• Potential for economic development in R&D in the marine environment for some emerging maritime sectors (renewable energy, marine mining, biotechnology, etc.). • Possibility to attribute value to the lessons learned from initiatives and developed research to consolidate new initiatives and strategies. • Favourable European context: European Parliament Resolution of 2018 on the governance of oceans, that reveals the need to set terms and legislative proposals to improve cooperation and oceanographic research, the development of capacities and technological transfer, and to establish mechanisms to support coordination, as well as supervision and evaluation at an EU level. • EU financial support (4 million euros for 2018-2020), aimed at increasing participation of the outermost regions of the EU research program and display their capacities for research and innovation, as well as the priorities for intelligent specialization due to the value of their assets. • Possibility of mapping the capacities within the region in its experienced research sectors and select potential European and international partners that could reinforce those capacities further. • Potential to continue and improve cooperation to establish consortium for the preparation of projects and proposals. • Benefit from the existing initiatives such as the FORWARD project: promotion of excellence in research in outermost regions of the EU, to promote cooperation and synergy creation. • Create a platform of digital support that collects and establishes the guidelines for standardization and that gathers the results, information and spatial data generated by the various research projects in the Macaronesia, that can help with the management of the marine environment.

VII. Maritime rescue and protection of the marine environment

Maritime rescue and protection of the marine environment is understood as a single matter and a priority for transboundary cooperation in Macaronesia. This responds to the international context established by international agreements (SAR Convention) and European (Integrated Maritime Surveillance). Therefore, there is a common context for the archipelagos of the Azores, Madeira and the Canaries in matters such as maritime rescue, but also includes the protection of the marine environment, such as the monitoring of spills, waste and accidents. The acquired commitment for these agreements assumes a series of political, operational, social and environmental implications of transversal characteristics that translates into the marine environment and common objectives for the archipelagos and the countries.

Likewise, Macaronesia is a geo-strategic place for maritime traffic (common to all the archipelagos that form it) but also a place of migration (especially in the case of the Canaries) that justifies the cooperation and collaboration between countries. Integrating this as a matter of priority for transboundary cooperation in Macaronesia implies the inclusion of agents that traditionally are exempt from participation in the processes of maritime spatial planning (Army, Navy and other governmental dependencies). However, these play an important role that can stimulate transboundary cooperation in the marine environment of the region. Mainly with their responsibility within terms included in the agreement and protocols regarding the protection of the marine environment.

It is important to keep in mind other cooperation mechanisms between Spain and Portugal, such as the cooperation Agreement in matters of defence of 2015. Even though the main objective of this agreement is specifically defence, other diverse areas are included: oceanography and certain types of activities such as humanitarian help that is directly related with maritime rescue.

Lastly, it is important to mention that although there are areas of Macaronesia with distributed areas for the application of responsibilities of the parts, as signatories of the agreement, there are also empty spaces. These spaces are not exempt from the convergence of other sectors and activities that take place in the marine environment. For these spaces, it is even more important to highlight transboundary cooperation (Table 11).

Table 11. Challenges and opportunities for maritime rescue and protection of the marine environment for MSP and transboundary cooperation in Macaronesia

Challenges	Opportunities
• Areas underexposed to responsibilities from countries in Macaronesia. • Areas with great extensions that imply a great deployment of complex resources and technical and investment demands. • Levels in charge of negotiation in these matters include government areas at national levels and security where synchronization is complicated between countries, and even within the same country.	• The definitions of the limits of responsibilities in these matters, for each country, is done voluntarily, in accordance with specific interests and based on agreements with neighbouring countries. For this the convention established a framework for cooperation and dialogue. • Cooperation agreements that propose a wide range of opportunities to create an inter-sectoral cooperation framework, as well as a transboundary one within Macaronesia. • Possibility to jointly coordinate public services to rescue human lives at sea, and prevent and fight against pollution of the marine environment, provide monitoring services and assistance for maritime traffic and sailing, towage and assistance to ships. • National rescue and protection of the marine environment plans for the long term (in the case of Spain for example, eight years) so that it implies a strategic plan that establishes the framework to propose protocols and specific measures that can be distributed and create synergies among countries. • Monitoring tasks carried out in a coordinated manner, represent a possibility to cooperate in a transboundary way for a common good, while at the same time setting the bases for dialogue. • Possibility to reach synergies with other implicated sectors in activities that are performed in the marine environment such as research and conservation.

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