

# C1.3.6. CASE STUDY # 2 – CROSS BORDER MPA GALICIA BANK – VIGO AND VASCO DA GAMA SEAMOUNTS

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Version 2



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## Component 1.3.6 – Case Studies on Approaches to MSP Implementation

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## ACRONYMS

ABNJ – Areas Beyond National Jurisdictions

CEDEX - Centre for Experimental Studies and Public Works

CETMAR - Technological Centre of the Sea

EBM – Ecosystem Based Management

IEO - Spanish Institute of Oceanography

INDEMARES - Inventory and Designation of the Natura 2000 Network in Marine Areas of the Spanish State

MPA - Marine Protected Area

MSP - Maritime Spatial Planning

OSPAR - Convention for the Protection of the Marine Environment of the North-East Atlantic (the 'OSPAR Convention')

PT - Portugal

SAC – Special Areas of Conservation

SCI - Site of Community Importance

SP - Spain

SPA - Special Protection Area

TBPA- Transboundary Protected Areas

UAVR - University of Aveiro

VMS – Vessel Monitoring System



# 1. Introduction

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## SIMNORAT Project

The Supporting Implementation of Maritime Spatial Planning (MSP) in the Northern European Atlantic region project (SIMNORAT) brings together a number of partners — research organisations, marine planning authorities and marine management bodies — who have extensive experience with regard to maritime planning, policy and management. SIMNORAT focuses on the two key objectives stated in the call of proposal of DG Mare:

- Support the implementation of the Directive on Maritime Spatial Planning in Member States' marine waters
- Launch and carry out concrete, cross-border MSP cooperation between Member States in the Northern Atlantic, involving three Member States and the relevant authorities responsible for MSP in the selected area, and the CPMR for the level of the Regions.

SIMNORAT partners address both key objectives through a variety of approaches, including literature and desktop research; future trend analysis; collaborative scenario development; practitioner/stakeholder interview; development of case studies; and stakeholder engagement mechanisms. Sub-themes relevant to both of the key objectives will provide the context and scope for how each of the methodological elements will be used. Such subthemes include:

- Understanding current and potential future demands relevant to transboundary areas and issues;
- Access to data and data-specific barriers to transboundary cooperation;
- Development and testing of approaches to stakeholder engagement within marine planning processes in relation to transboundary areas and issues;
- Consideration of potential options for transboundary cooperation in preparing maritime spatial plans.

SIMNORAT outputs are practitioner focused, and look to identify and share best practice on technical, (e. g. data management), scientific (e.g. ecosystem based management), and social (e.g. stakeholder engagement processes) aspects of MSP implementation that address barriers to implementation of the MSP Directive and effective cooperation on transboundary working for MSP.



This report is the output of one of the case studies of the SIMNORAT project, shared by Portugal and Spain. All background information presented in this document supports a conceptual methodology to create and manage a cross-border Marine Protected Area (MPA) between both countries. In order to achieve this, the case study focused on the existing Spanish MPA of Galicia Bank and on the Vigo and Vasco da Gama Seamounts, located in the western limit of the geologic continental platform and on the northern limit of the Portuguese jurisdictional area.

- The case study exercise is focused on four main objectives/ Identification of the existing uses and activities, as well as the major pressures;
- Analysis of the governance framework in Spain and Portugal regarding marine conservation and maritime spatial planning;
- Comparative analysis of Portuguese and Spanish marine and coastal planning policies and management tools;
- Development of a roadmap for a cross-border MPA between Spain and Portugal.

## 2. Setting the scene of cross border issues

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Marine and coastal ecosystem and ecological processes do not recognize human boundaries (Portman, 2016). As recognized in the UNCLOS provisions the ocean should be addressed as an interconnected system. Moreover, coastlines are shared by States which makes marine governance and consequently the formulation and implementation of MSP, transboundary by nature (Tatenhove 2017; Papageorgiou & Kyvelou, 2018)).

The transboundary dimension of the ocean has been addressed by many policy documents namely EU and U.N. (such as the MSP Directive, the MSFD, the Barcelona and OSPAR Conventions) (Fernandes et al. 2013). The SIMNORAT project, as well as other similar and homologous projects undertaken in some marine regions, reflect the need to adapt to the transboundary nature of the sea taken into account the Ecosystem approach principle instead thinking on a geopolitical or sectorial basis when planning the sea (Papageorgiou & Kyvelou, 2018).

The MSP Directive, in its Article 11, states that “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”, indicating that such cooperation shall be pursued through the use of existing regional institutional cooperation structures (e.g. Regional Sea Conventions); networks / structures of Member States’ competent authorities; and / or any other method (e.g. sea-basin strategies).

However, most of the times, conceptual and institutional challenges hamper transboundary MSP initiatives (Flannery et al. 2015; Tatenhove 2017). Especially institutional challenges come as a result of the fragmented responsibilities within the Member States and the different kinds of authorities, institutions policies and regulations existing in a marine region that is surrounded by multiple countries or administrations (Raakjaer et al. 2014; Jay et al. 2016).

Although there is an inherent uncertainty regarding the level of cooperation that is required to address transboundary issues, this cross-border case study can represent an excellent opportunity to share problems or look for shared opportunities regarding conservation on the marine

environment. It also enhances learning opportunities and sharing of context-specific approaches that can lead to effective and successful MSP process.

### Transboundary Marine conservation initiatives

The latest inventory undertaken by the United Nations Environment Programme (UNEP) includes 227 transboundary conservation areas (TBCAs) worldwide which cooperation ranges from informal agreements to government-to government treaties. International Union for Conservation of Nature (IUCN) considers 3 type of transboundary conservation areas; Transboundary Protected Area, Transboundary Conservation Landscape and/ or Seascape and Transboundary Migration Conservation Areas. To these three designations can also be added a special designation of Park for Peace. Besides the classification, what enforces and empowers these transboundary initiatives is the official international recognition as World Heritage Sites, Ramsar Sites and Biosphere Reserves (Vasilijević, M. et al., 2015).

Taking into account the case study, it was considered an added value to look for transboundary marine conservation initiatives, those that are specifically cross-border, independently of their international recognition. To understand their main features regarding institutional, governing, management frameworks, and commonalities and differences between them, it were analysed 6 cross-border MPAs (Figure 1) chosen in accordance with the Figure 2. **Selection criteria of the cross-border initiatives**

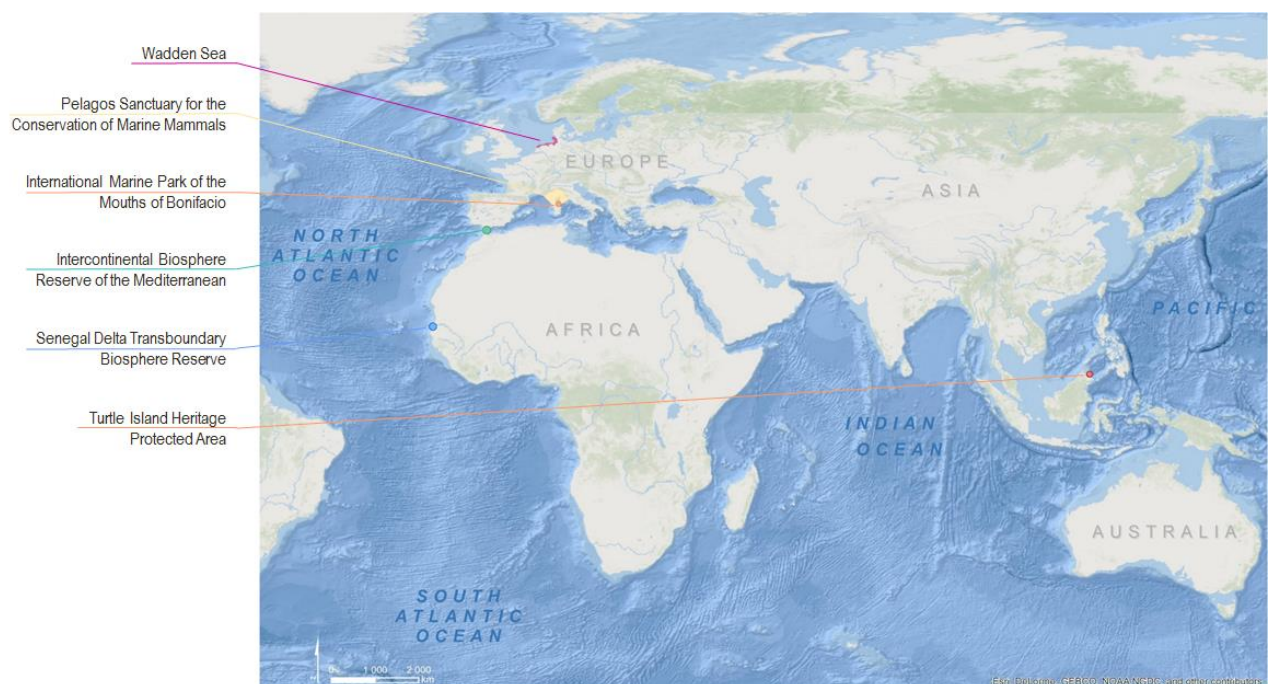


Figure 1. Geographic location of the studied cross-border initiatives (Source: UAVR, 2018)

All of the 6 MPAs analysed were set under formal agreements, from which, only one of them was legally binding and all the others were put in place through “softer” instruments like Memorandum of Understanding, Declaration of Intentions etc.

According to the objective of the case study, the research team took special attention to the binding example, since that a hypothetical cross-border MPA between Portugal and Spain depend on legal and management mechanism to succeed.

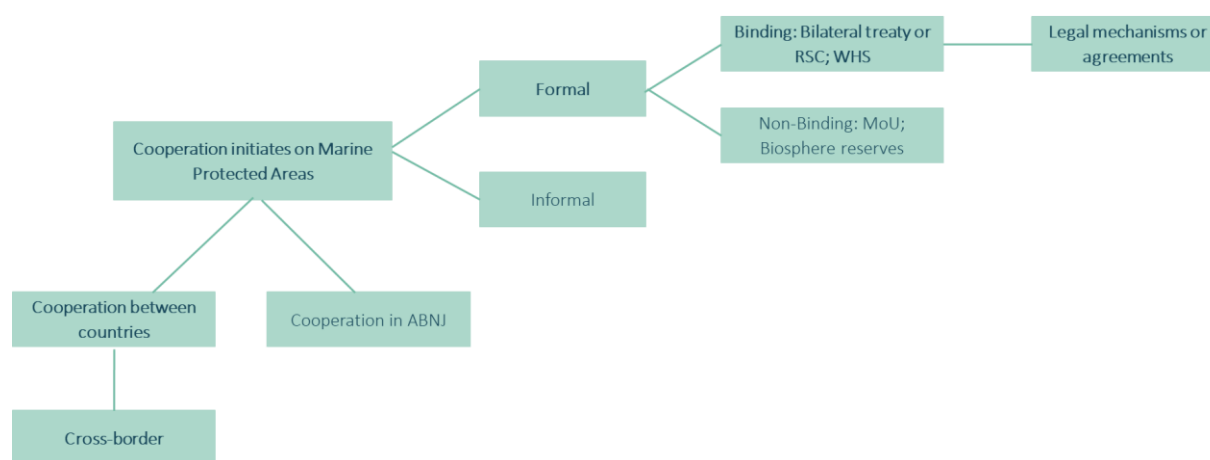


Figure 2. Selection criteria of the cross-border initiatives (UAVR, 2018)

After a prompt analysis all of the examples have a transboundary decision body for political guidance (which will have bi annual or triannual meetings), while most of them have added a second level of decision too, more technical, for the direct management of the area. Another important feature is that most of them have implemented an advisory committee with scientific experts and NGOs showing that the stakeholder engagement is important in these kind of initiatives. Working groups and National Focal points are also used to better address shared problems bridging the higher resolutions bodies with local operational groups.

Regarding management, many cases conduct a real shared management while the rest have established common transboundary guidelines but implemented at national levels, sometimes complemented with specific projects for some areas and/or topics.

## International cooperation and the MSP Directive

MSP faces the same challenge of mismatch between ecological and jurisdictional borders that normally faces marine conservation. This is the reason why the MSP Directive encourages Member States bordering a coastal zone or maritime area of another Member State *'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'* (Art. 11(1)). In other words MSP Directive ask to Member states the ability and capability to ensure cooperation among their different regimes by sharing and defining common goals and setting up strategic cooperation to find institutional solutions for transboundary problems in a cooperative way. This is also true for shared conservation initiatives.

Several previous pilot projects (MASPNOSE, Plan Bothnia, BaltSeaPlan and TPEA explored opportunities and challenges of carrying out cross-border MSP in Europe's regional seas and other projects (SIMWESTMED, SIMCELT, SUPREME, ETC) were promoted by the European Commission to assist Member States to implement the Directive and in the identification of good practices focusing in cross-border challenges, opportunities and constraints resulting from different case studies..

Although MSP Directive is targeted to European Union Member States the cooperation with third countries should be strengthened. For this reason, the EU jointly with IOC launch a pilot project - MSPglobal - to test practices of cross-border cooperation with non EU Member States.

Specifically, MPAs will benefit from its integration in the MSP framework since MSP processes helps increase coordination between administrations, increase cross-border cooperation and protect the environment through early identification of impacts and defining opportunities for multiple uses of space and strict protection (Agardy et al., 2011).

Christie and White (2006) states that *"to be effective on a wide scale, MPAs should be embedded within large planning frameworks such as integrated coastal management (ICM) or ecosystem-based management (EBM)"*. It seems coherent to think that MSP could be as well, an integrating framework for MPAs in wide scale as it allows both, a high level of environmental protection and addresses a wide range of human activities (Day,2008) balancing the demands for development with the need to protect the environment.

### 3. Galicia Bank & Vigo and Vasco da Gama Seamounts

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This case study conceptualizes the implementation of a cross-border MPA in the Northwest sector of Iberian Peninsula, and covering areas of the Portuguese and Spanish Exclusive Economic Zones (EEZs). The study area includes the Spanish Marine Protected Area of Galicia Bank and the Vigo and Vasco da Gama seamounts, which are located in western limit of the geologic continental platform and on the northern limit of the Portuguese jurisdictional area (Figure 3. **Case Study Area (Source: IEO, 2018))** and in the border of OSPAR areas IV and V (**Erreur ! Source du renvoi introuvable.**). The area comprised between them and the coast is also considered in the analysis in order to take into account all the pressures and activities that might represent a risk for conservation.

The exercise advances the background work for a future common institutional intention, in the creation of a cross-border MPA between Portugal and Spain. The report will give a background work to the identification of relevant issues (including challenges and opportunities) for a future action in this context, not implying any type of decision or commitment on the planning of the activities

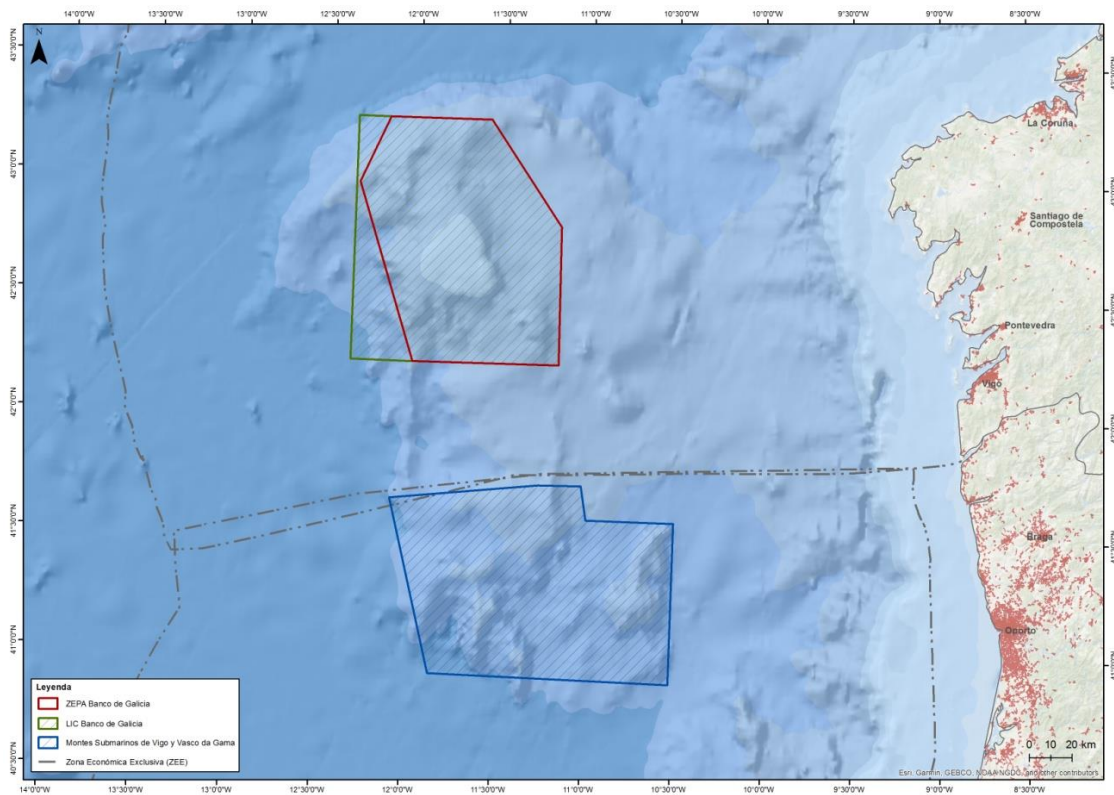


Figure 3. Case Study Area (Source: IEO, 2018)

Since one of the objectives of the case study is to identify challenges, the case study exercise will not discuss maritime limits, however, it will take into account jurisdiction conflicts in order to represent the real context in which future planning will be developed.

### *Geographical location*

The Galicia Bank is a seamount located to the northwestern Iberian Peninsula (Fig. 4), 180 km from Galician coast<sup>1</sup>, in the Spanish EEZ at the western boundary of the continental platform. Its summit is located at a depth of between 650 and 1.500 metres. Its steep slopes descend from the summit to the abyssal plains situated 4.000 meters below sea surface. It is inclined towards the northwest and with a length of 75 kilometres in northeast-southwest direction and 58 kilometres in northwest-southeast direction, this summit occupies an area of 1.844 square kilometres.

The Spanish MPA is classified by two protection figures included in the Natura 2000 Network: Site of Community Importance (SCI) and Special Protection Area (SPA), according to the Habitats Directive and the Birds Directive, respectively. Both area sites are not overlapping in space, SCI is

<sup>1</sup> [https://www.indemares.es/sites/default/files/banco\\_de\\_galicia.pdf](https://www.indemares.es/sites/default/files/banco_de_galicia.pdf)

bigger than SPA, 10.235,12 sq<sup>2</sup> and 8.722,70 sq<sup>2</sup> respectively, but covers all bank completely. The sites were declared within the framework of the LIFE+ Project INDEMARES (*“Inventory and designation of the Natura 2000 network in marine areas of the Spanish State”*).

For those sites, there are not Management Plans. They are expected to be finished by 2020. Although SCI and SPA were declared in 2014<sup>2</sup>, the Management and Monitoring Guidelines were written<sup>3</sup> in order to guarantee the habitats and species conservation from these sites and as a basis of the future Management Plans.

The area comprising Vigo and Vasco da Gama Seamounts is the proposed MPA of Portugal located on the northern limit of the Portuguese jurisdictional border (Fig 4). These seamounts are situated in the lower slope of the Iberian continental margin and, *a priori*, have similar characteristics as the Galicia Bank. The area of the proposed MPA is about 9.975 square kilometres.

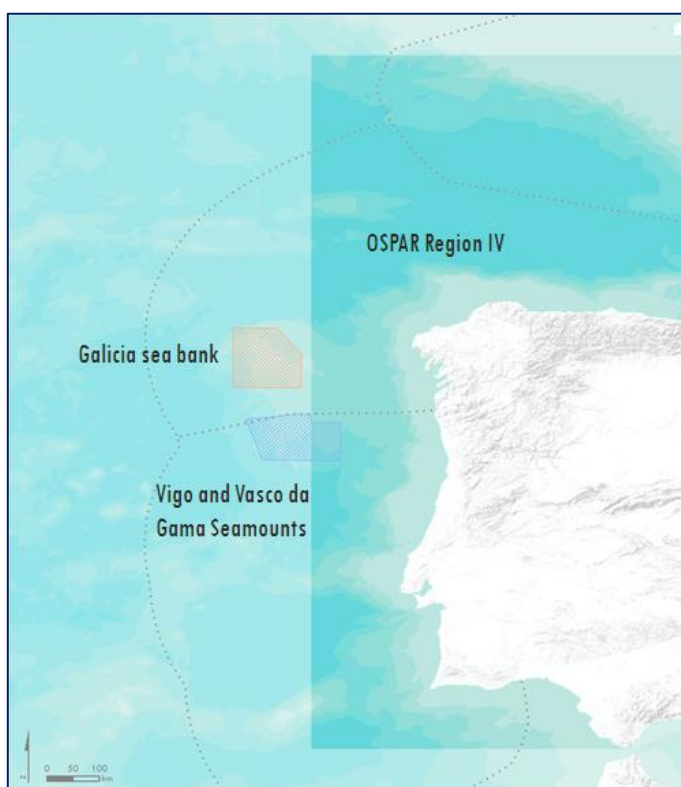


Figure 4. Case Study Area in OSPAR IV and V Regions (Source: UAVR, 2018)

<sup>2</sup> <https://www.boe.es/boe/dias/2014/07/21/pdfs/BOE-A-2014-7726.pdf> and <https://www.boe.es/boe/dias/2014/07/17/pdfs/BOE-A-2014-7576.pdf>

<sup>3</sup> [https://www.indemares.es/sites/default/files/a7\\_02\\_bancogalicia\\_directrices.pdf](https://www.indemares.es/sites/default/files/a7_02_bancogalicia_directrices.pdf)



## Case study boundaries

The case study of the Galicia Bank and Vigo and Vasco da Gama Seamounts is considered as two distinct MPAs and the connectivity area between them. The similarities between habitats and potential connectivity pathways between the two areas raise the possibility of an ecological continuity requiring a transboundary management mechanism. It means that the exact boundaries between areas need more scientific knowledge.

It should be underlined that in the analysis phase of the Case Study, the area between the seamounts and the coast was included in order to consider the impacts from activities ongoing there. In addition, considering the analysis and management scale definitions derived from subtask C1.3.1.5. of the most appropriate geographical scale for MSP plans at national scale in this case study we could consider as **Erreur ! Source du renvoi introuvable.**:

- Analysis scale: It is the broader. It covered the two conservation areas, the connectivity area between them and it extend to the coast.
- Management scale: only formed by the two protected areas and the area between them.

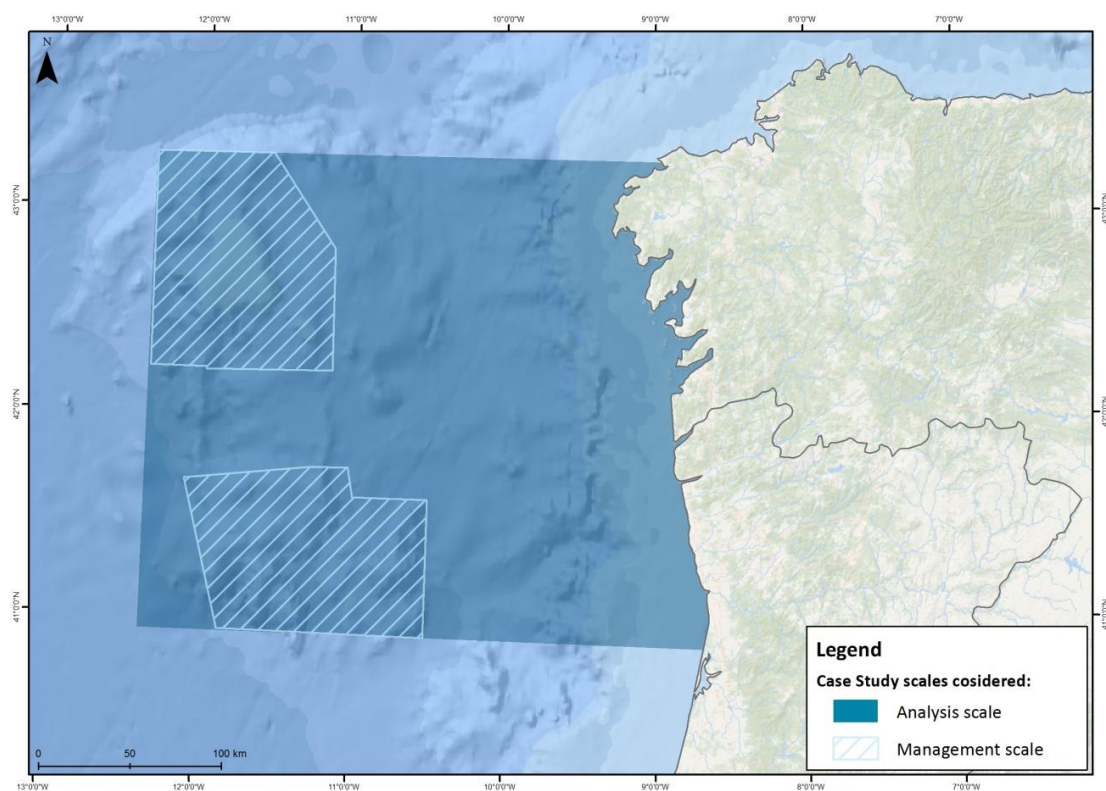


Figure 5. Case Study scales considered (Source: IEO, 2019)

## Governance framework regarding marine conservation and MSP

Portugal and Spain have different governance frameworks in what concerns MSP and nature conservation, namely marine conservation responsibilities. The main difference resides in the separation of competences, while Portugal has different organisms for Maritime Spatial Planning and marine nature conservation, in Spain competences are hold by the same institution (

Figure 6. Governance framework of environmental conservation and maritime spatial planning (Spain/Portugal) (Source: UAVR, 2019).

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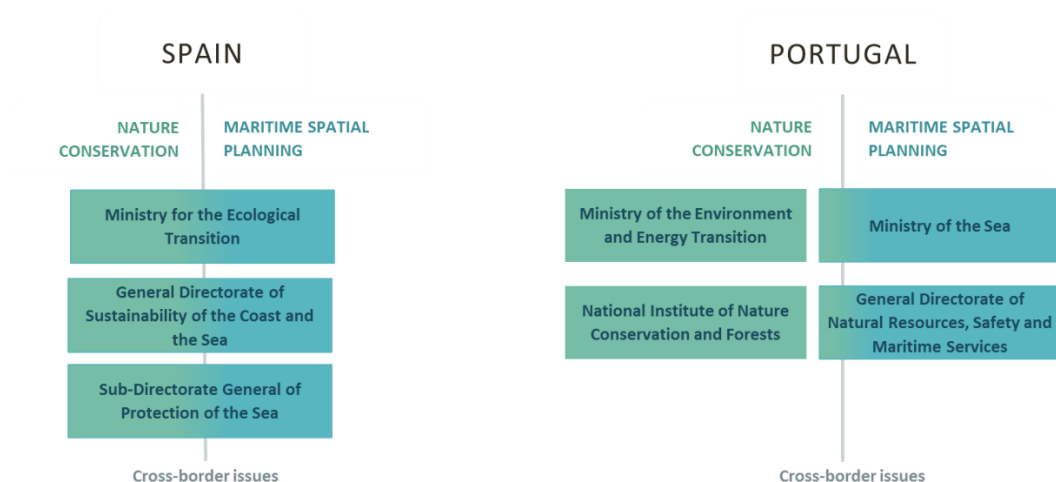


Figure 6. Governance framework of environmental conservation and maritime spatial planning (Spain/Portugal) (Source: UAVR, 2019).

The case of Spain is generally complex in terms of competences as some of them are transferred to the autonomous regions. However, in this case it could be simpler due to the geographical location of the case study, far from the coast.

Regarding marine conservation, when marine protected areas are in external waters without proved ecological connectivity to a protected area on land (as it is the case of the Galicia Bank), the competence will be of the Ministry for the Ecological Transition through its Sub-Directorate General of Protection of the Sea.

Regarding MSP, competences are of the central government too. The Sub-Directorate General of Protection of the Sea coordinates a working group on MSP (GT-OEM - by its initials in Spanish), to implement the Directive. This Working Group is formed by representatives from all ministries with competences and/or interests in the marine area.

Apart from being the same organism in charge of both issues (MSP and MPAs), the link between MSP and marine conservation in Spain is reinforced by the fact that the GT-OEM was created under the auspices of the Interministerial Commission of Marine Strategies (CIEM- by its initials in Spanish) which was in charge of the MSFD implementation in Spain.

As regard of cross-border and international matters, which is intrinsic to the case study, competencies are always of the central government, with the support of the Ministry of Foreign Affairs when official agreements have to be carried out.

The Portuguese governance framework, concerning marine conservation and maritime spatial planning, is well established with a clear separation of competences. Conservation issues are directly under the competence of the Ministry of the Environment through the National Institute of Nature Conservation and Forests (ICNF by its initials in Portuguese) being responsible for managing the national network of protected areas and the marine protected areas behind the territorial waters. MPAs beyond Territorial Sea and MSP are under the competence of the Ministry of the Sea through the General Directorate of Natural Resources, Safety and Maritime Services (DGRM - by Portuguese initials).

The negotiations towards official agreements for the cross-border MPA, will also depend on the Ministry of Foreign Affairs to manage diplomatic issues and the Ministry of the Sea to engage the process with Spain.

Regarding the legal framework applying to the case study area in Spain is the Law of Protection of the Marine Environment which transposes the MSFD and regulates all conservation measures in external waters and the MSP Royal Decree which transposed the MSP Directive.

In Portugal the legal framework to be applied to the case study area will highly depend on the type of classification of the MPA. Nevertheless the area was identified by the National Working Group for MPAs<sup>4</sup> and included in the national Maritime Spatial Plan, the Situation Plan (PSOEM – by Portuguese initials) which is now on the final phase of the public consultation.

About management tools, under provision of the MSFD and in the framework of the implementation of the Law of Protection of the Marine Environment, five strategies were approved for the five Marine Demarcations in which the Spanish jurisdictional waters were divided.

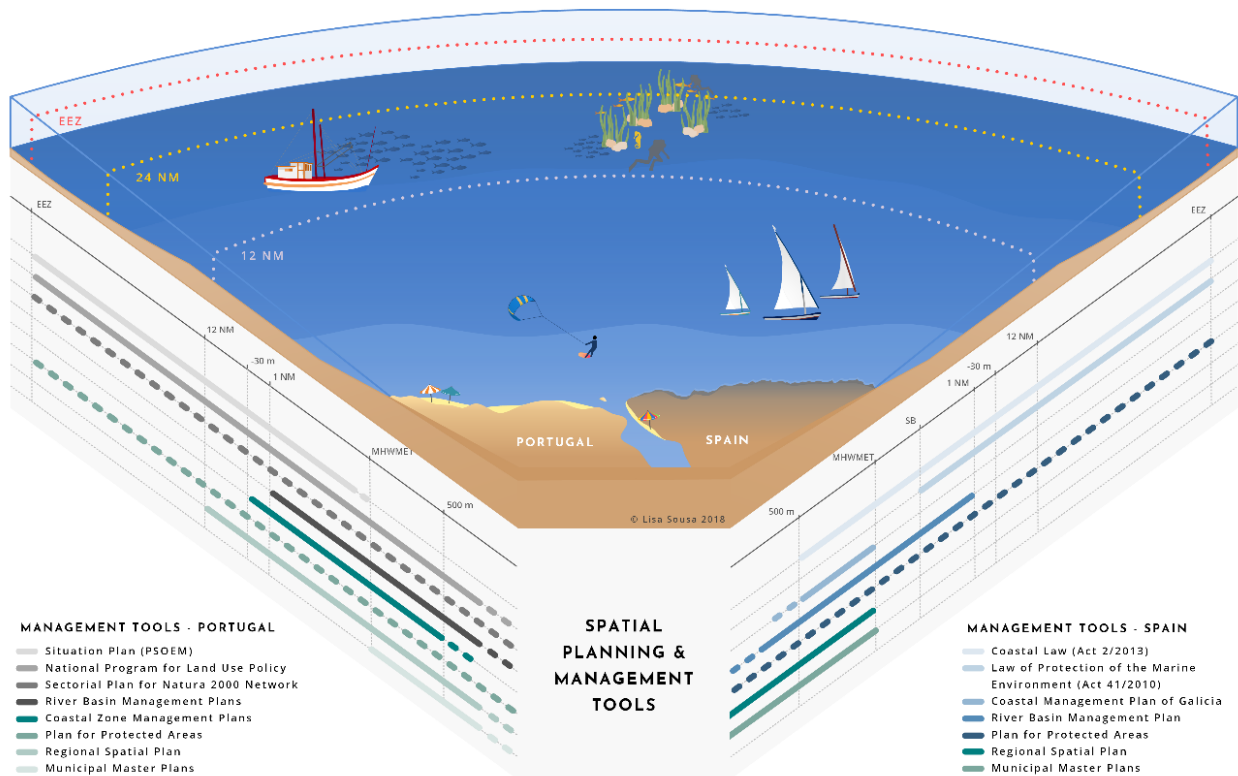
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<sup>4</sup> Dispatch Minister of the Sea no. 1/2017, 6 of March

Specifically for this case study, the strategy for the North Atlantic Demarcation is relevant. It was implemented in 2018 and includes an environmental and socio-economic analysis, establishment of environmental objectives, monitoring programs and program of measures.

The MSFD is being implemented by the Portuguese authorities considering four marine subdivisions (mainland, Azores, Madeira and extended continental shelf (ECS)) and their marine strategies. These strategies include the Initial Assessment (environmental and socio-economic analysis and environmental targets), performed in 2102 for mainland and ECS subdivisions and in 2014 for Azores and Madeira subdivisions, and the monitoring program and program of measures performed in 2104 for all the subdivisions. Specifically for the case study, the relevant subdivision is Portuguese mainland.

Considering planning tools (**Figure 7**), in Spain the MSP implementation is still in a very early stage. Its geographical scale has been defined as the one designed for the Marine Strategies, in this case, the North-Atlantic Demarcation, from the coast to the limit of the EEZ, excluding transitional waters. In Portugal, MSP implementation is more advance, Maritime Spatial Plan is under public consultation, and follows the same four subdivisions of the MSFD.



**Figure 7.** Territorial incidence of Portuguese and Spanish spatial planning and management tools, which are considered relevant for the MSP process (Source: UAVR, 2018)

When talking about overlapping and integration between planning and management tools, the following could be identified, showing different levels of interaction:

For Spain:

Planning/management tools	Level of overlapping	Description of overlapping	Applies to the Case Study?
<b>Eventual MSP Plan vs Marine Strategy</b>	100% overlapping	Any measure approved by the MSP plan should be in accordance with the objectives defined in the Marine Strategy.	yes
<b>Eventual MSP Plan vs Coastal Management Plan</b>	Overlapping coastal waters.	MSP will not apply to coastal waters and parts of them that are the subject of land-use planning and urban planning measures.	No applies
<b>Marine Strategy vs River Basin Management Plans)</b>	Overlapping coastal waters.	Marine Strategies will not apply to coastal waters regarding aspects covered by the river basin management plans.	No applies

For Portugal:

Planning/management tools	Level of overlapping	Quality of the overlapping	Applies to the Case Study?
<b>MSP Plan vs Marine Strategy</b>	100% overlapping	Any measure approved by the MSP plan should be in accordance with the objectives defined in the Marine Strategy.	yes
<b>MSP Plan vs Coastal Zone Management Plan</b>	Overlapping in coastal waters.	MSP applies to coastal waters and must be harmonized with the Coastal Zone Management Plans rules and zoning.	No applies
<b>Marine Strategy vs River Basin Management Plans</b>	Overlapping in coastal waters.	Marine Strategies will not apply to coastal waters regarding aspects covered by the river basin management plans.	No applies

### Physical description

The Atlantic margin of Iberia region is of special geological interest in that its present-day morphology has been structured by both Mesozoic extensions and Eocene compression (Pyrenean orogeny), and to a lesser extent by Miocene compression (Betic orogeny). The Eocene compression resulted in the rejuvenation of the rifted morphology and the uplift of rifted basement blocks to form marginal seamounts, the most notable of which are Galicia Bank and Vasco da Gama, Porto and Vigo Seamounts (IEO, 2014).

Substrate types of this case study area are dominated by sand and muddy-sand areas. These seamounts and rocky bottom of the continental platform and incoherent soft sediments form perfect conditions of main habitats.

Seamounts generate some specially and specific oceanography and geological conditions. Thanks to these conditions, they represent unusual hotspots of life offshore, favoured by the accumulation of nutrients around the area.

In addition, of the Galicia Bank being located in the middle of the Atlantic, it is influenced by different regions and water masses, which favours great disparity of environments. In addition, the local circulation that is typically originated on the seamounts - rising water masses, turns and eddies - favours the retention of nutrients and larvae on the bank, explaining the existence of a "submerged island" of high biodiversity in the middle of the Atlantic. This hotspot of biodiversity illustrates perfectly this kind of system, being one of the most productive areas of marine seas (Fundación Biodiversidad, 2014).

### Ecological description

The Seamounts present in between OSPAR IV and OSPAR V Regions, as Galicia Bank and Vigo and Vasco da Gama Seamounts are hotspots of marine life. Its location, its geological and oceanographic conditions and the productive conditions and the availability of food that exist in the column of water imply the generation of numerous habitats (**Figure 8**) and species, in many occasions considered as endemic ones (IEO, 2014).

The Galicia Bank, as a Site of Community Importance (SCI), was declared according by habitats and species species included in the annexes of de Habitat Directive. In this case, habitats like some white cold-water corals, water corals, as *Lophelia pertusa* and *Madrepora oculata*, and species as the loggerhead turtle (*Caretta caretta*) and the bottlenose dolphin (*Tursiops truncatus*) were significant (

**Figure 8**). The presence of these species and numerous species of seabirds, as Madeira Storm-petrel (*Oceanodroma castro*), extremely rare in the waters around the Peninsular Spain, has made the area priority for conservation and worthy of being part of the Natura 2000 marine network.

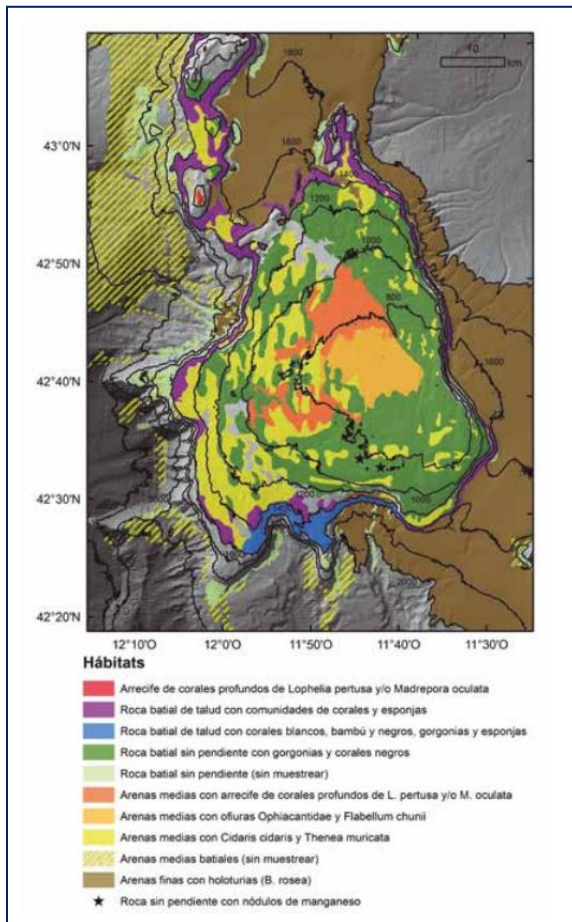


Figure 8. Habitats founded in Galicia Bank (on the left), white cold-water corals (*Lophelia pertusa* and *Madrepora oculata*) (on the right) (Source: IEO, 2013)

In total, 793 species were identified in the LIFE+ Project “INDEMARES” in Galicia Bank, from which 20, they had never been seen before. At the summit and on its steep slopes, the mountain is home to a diverse fauna. It involves species of different groups, such as sponges, molluscs, worms, polychaetes, corals, fishes and sea urchins.

Vigo and Vasco da Gama Seamounts seem to have similar ecological conditions as Galicia Bank. They also presents favourable conditions

of concentration of mesopelagic organisms such as migratory species of marine vertebrates typical from oceanic ecosystems located in the seamounts of the Northeast Atlantic. The predominant sea bottom substrates are rocky, exposed in some locations or interspersed with a mix of incoherent soft sediments: occurrence of deep-sea aggregations of corals and sponges, occurrence of crinoid populations, and cold water coral gardens, including, *Lophelia pertusa* (Fundación Biodiversidad, 2014).

Pelagic species, as cetaceans, sharks, seabirds or marine turtles, are also frequent in waters and bottoms of seamounts due to the abundance of food in the water column. Cetacean species as fin whales (*Balaenoptera physalus*) or bottlenose dolphin (*Tursiops truncatus*) are also regular visitors in the area. It is also an important area of feeding for big cetaceans, with presence of Odontocetes, with two species of zifios: Cuvier's beaked whale (*Ziphius cavirostris*) and Sowerby's beaked whale (*Mesoplodon bidens*). (Fundación Biodiversidad, 2014)

For seabirds, case study area is used by numerous species for their migration periods as the



northern fulmar (*Fulmarus glacialis*), great shearwater (*Puffinus gravis*), Leach's storm petrel (*Oceanodroma leucorhoa*), red phalarope (*Phalaropus fulicarius*), long-tailed jaeger (*Stercorarius longicaudus*), pomarine jaeger (*Stercorarius pomarinus*), or Arctic tern (*Sterna paradisaea*).

### Human activities

Because of the distance from the Case Study area from coast, the intensity of human activities in the area is low. Demographic pressure, tourism, mineral extraction and coast dumping do not affect directly the case study.

Major uses are:

- Fisheries: The Galicia Bank has been an area of little fishing activity in the past due to the distance to coast. Currently, fisheries are seasonal along the year, and for a specific species, for example, tuna. In addition, its distance makes fishing unfeasible for the Galician artisanal fleet and only the industrial fleet with different types of fishing gears as bottom-set longlines, surface longlines, gillnets and trolls, approaches the area in search of good captures.

For Vigo and Vasco da Gama Seamounts fishing areas are located also near from coast, dedicated to trawling fisheries or crustaceans and purse-seine fishing (**Figure 9**).



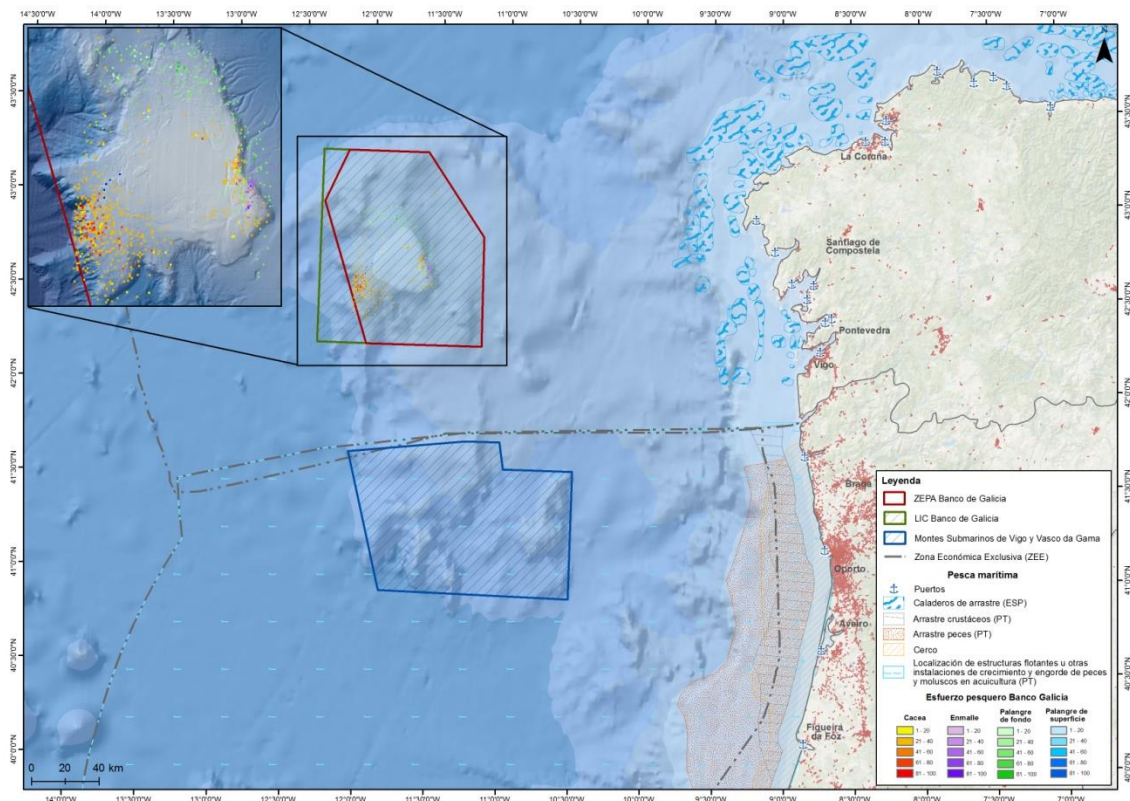


Figure 9. Fishing zones in Case Study (Source: IEO 2018)

Despite of the fishing sector having a low incidence, trawling is the type of fishing that generates the greatest pressure on the seabed, given its impact on vulnerable species and habitats, as 1170 Habitat (Reefs) according to Habitats Directive. Fishery of tuna is a seasonal activity, which interacts with other species that use the area for feeding, as cetaceans. Other fishing activities as longlines could affect some seabirds, especially in migration period.

- Maritime traffic / Navigation: Mainly routes crossing northwestern Galicia, coming from North Sea and Baltic Sea crossing the English Channel towards the Mediterranean through the Strait of Gibraltar, or towards Africa and America. These routes go in parallel to the west of the Iberian Peninsula (**Figure 10**).

Routes are used for commercial navigation, tourism (cruises) and short to long distance. There are many important ports within intense international maritime traffic, as Vigo Port.

Traffic is distributed by the Particularly Sensitive Maritime Area of Western Europe-Separation Zone Boundary.

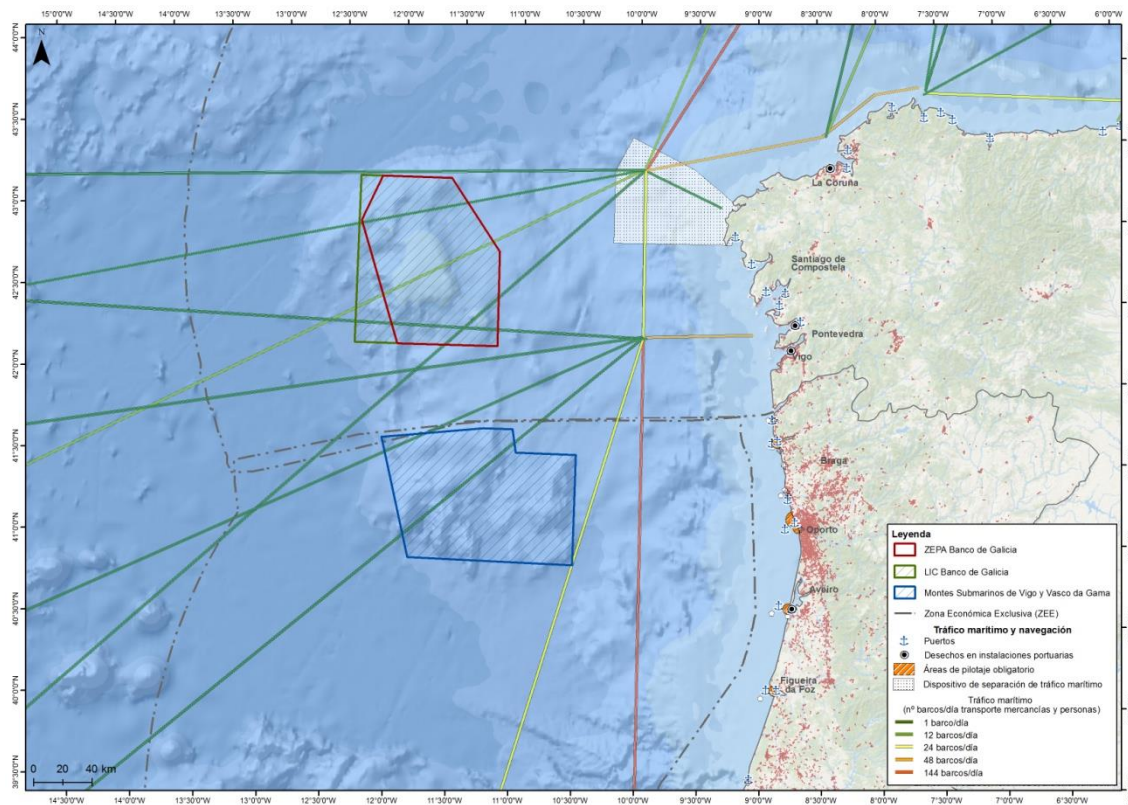


Figure 10. Maritime Traffic in Case Study (Source: IEO, 2018)

However, the Case Study area is not highly affected by maritime traffic. Mainly affections could come from acoustic pollution, which it has low incidence due to the distance to the densest areas of traffic, and it is possible to suffer by chemical threat as a consequence of isolated maritime accidents or exploration and exploitation of hydrocarbons.

Underwater cables: The strategic location of the Galicia Bank and Vigo and Vasco da Gama Seamount is a potential area of laying energy and telecommunication cables to connect countries in de UE or Africa and Asia. Currently, this is the distribution of submarine cables crossing OSPAR IV and V regions (Figure 11).

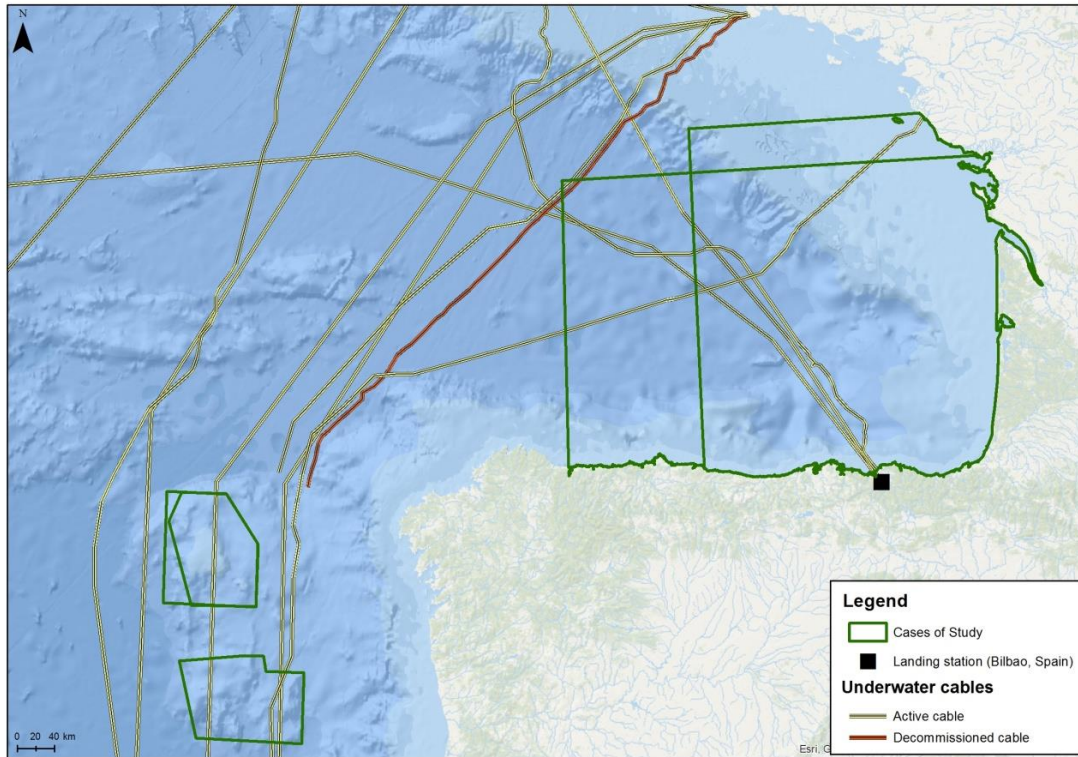


Figure 11. Underwater cables crossing SIMNORAT project area (Source: IEO, 2018)

Despite of the strategic location, due to the fact that Galicia Bank was declared SCI in 2014, until the approval of the SAC Management Plan in 2020 by the Ministry for Ecology Transition, there is a Guideline for the Management Plan of the SCI which indicates that any activity in the protected area will require an Environmental Impact Assessment and the approval of the Ministry for Ecological Transition.

The correct management of fishing, maritime traffic and the possibility of laying underwater cables is vital to prevent future impacts and pressures that could modify oceanographic conditions or threaten the biodiversity.



## 4. Perceptions for a future cross border MSP

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### 4.1 Partners

In order to identify the strengths, weaknesses, opportunities and threats of implementing a cross-border Marine Protected Area, a SWOT analysis, was performed taking into account the major steps and principles identified in the subtask C1.3.1.1 (**Figure 12**). This analysis had in consideration the partners (PT/SP) visions regarding the possible implementation of the case study in the broader scope of MSP. In this section, the major highlights of the analysis are presented.

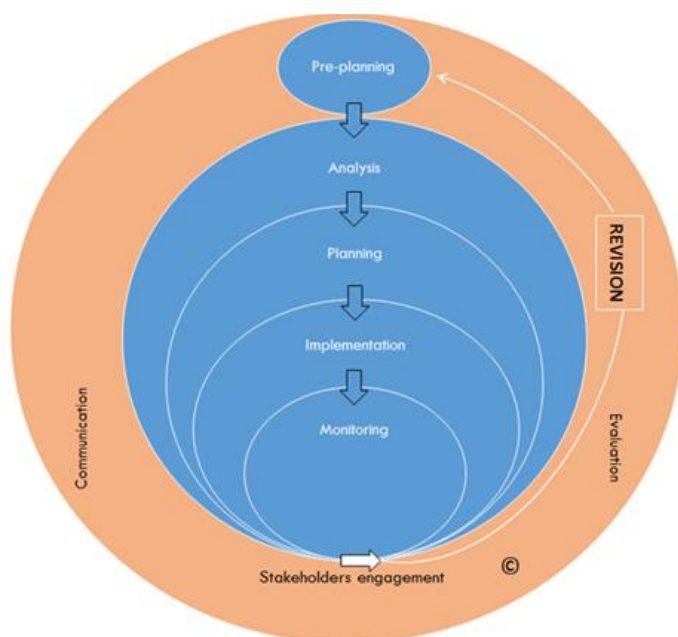


Figure 12. Major steps of the MSP process, subject to the SWOT analysis (Source: UAVR, 2018).

### Pre-planning

Portugal and Spain have identified as an opportunity, their common planning experience in land use and their historical background in cross-border cooperation managing shared resources as a way to facilitate a possible cooperation in cross-border MSP. On the other hand, ambiguity in terminology



and differences in interests, also taking into account the different phases in which the countries are in the MSP implementation, could be a constraint to this possible collaboration.

A transboundary or cross-border geoportal, as the one built in SIMNORAT project, will benefit the planning process. Indeed, it will give a global vision of the cross-border area. Many of the available maritime spatial data are already in compliance with the INSPIRE Directive although some data is still not available, either because of format issues or because of lack of open access. In general, European requirements for Member States (e.g. MSFD, MSPFD) provide the common basis for cross-border working, although the differences in administrative and governance structure (e.g. regional governments) makes the collaboration more complex and the differences in regulations may cause limitation in a joint decision-making.

In the case of Portugal and Spain the sound relationship between these two countries has been identified as an opportunity to facilitate cross-border MSP, so is the SIMNORAT project that focuses specifically transboundary aspects.

Portugal and Spain have already experience in the creation of international steering committees regarding the co-management of resources (e.g. Commission to the Application and Development of the Convention of Cooperation to the Protection and Sustainable Use of Portuguese-Spanish Watersheds).

The existing transnational platforms like OSPAR or the Atlantic Strategy could favour the creation of a bilateral forum that would be an opportunity setting the example to follow in cross-border areas with special interest for conservation and facilitating communication among all partners, updates and brainstorming possible solutions.

Spain and Portugal defined the boundaries of their case study in order to ensure connectivity between ecosystems. The scale definition was based on the pressures affecting the proposed cross-border MPA.

Regarding case study area between Spain and Portugal, knowledge is fragmented regarding connectivity processes between the three seamounts proposed to protect. In addition, the difference of knowledge between countries is quite notable, as the Spanish part is well documented. However, there is a lack of data for the Portuguese seamounts.

There is a strong will from the Portuguese authorities in the identification of the planning area to ensure the connectivity of the ecosystems. Moreover, part of the proposed area to connect both spaces comprises an overlapping of EEZ claims, which would make the joint collaborative research the most logical and suitable one.

An opportunity when defining scale and boundaries according to EBM is the availability of some data regarding geology, habitats and oceanographic variables at supranational scale (e.g. EMODNET). However, there are still gaps in some types of data and when considering the definition of the “ecological boundaries” the dynamic nature of some important ecological items (i.e. marine mammals) makes difficult to set them.

Portugal has already identified a list of potential stakeholders due to the current formal MSP process. Spain is in a very early stage of the MSP process, the method that is being used is to recover the list created by Marine District and used for the communication and dissemination of the Marine Strategy and update it. A weakness identified by the two countries is that some sectors are more organized and visible than others at administrative levels, which could go in detriment of their representation, causing imbalance between sectors.

## Analysis

Data regarding the co-existence of activities and uses, species and habitat distribution, uncertainty and changes in the ecosystems, conflicts and synergies distribution are being addressed (e.g. nautical tourism, submarine cables, fisheries, navigation).

Data collection could provide better knowledge in transboundary areas although, as mentioned before, differences in data sets present another complication. The case study might be an opportunity to highlight the need to collect more data (especially in the case of Portugal regarding the Portuguese seamounts). Due to the location of the planning area, there will be a need for reinforcing funding mechanisms for high seas research to address knowledge gaps.

Portugal highlights a high level of expertise in the process of assessment of compatibility of uses. However assumes that, although the availability of EBM tools, there are uncertainties arising from lack of scientific knowledge regarding these tools. As mentioned before, there are environmental and strong economic and social data available too. However, data standardization between countries and work with these tools is understood as a time consuming step.

## Planning

Common multiple objectives were defined in the context of this Case Study (e.g. Assess conflicts between conservation, fisheries and marine traffic, identification of main challenges in cross-border MPA planning, Identification of knowledge gaps)

Definition of specific objectives was achieved in consultation with national authorities in MSP although that does not assure a match with the political agenda. In addition, countries are in different stages in the MSP process which make difficult the cross-border approach.

When considering cross-border cooperation in order to follow the EBM in cross-border MSP between Portugal and Spain, we take into account that formal MSP and Strategic Environmental Assessment process in Portugal already considers maintenance of ecosystems services as a critical decision factor. In Spain, legislation establishes that MSP plans should be compatible with ecological objectives established in each marine strategy.

However, the lack of scientific knowledge represents a gap in the full understanding of ecosystem services within the cross-border region and the benefits that those services represent to the society. The case study can represent an opportunity to study the ecosystem services linked to offshore MPA's in particular those related to seamounts.

Low level of use and activities in the area (offshore) could ease conflicts mitigation. However, previous events of pollution affecting both countries (e.g. Prestige) highlight the need to address the environmental vulnerability through a holistic perspective, having in mind that maritime transport is one of the existing activities difficult to reallocate. In addition, some economical important sector as it is navigation or submarine cables and pipelines needs and expectations might threat the zoning process.

The case study aims to develop the methodology to create and manage a cross-border MPA that will address pressures, uncertainties and knowledge gaps. Present and potential activities and pressures were identified, which will make possible a precautionary approach of the strategic planning proposal. Addressing the uncertainties and knowledge gaps might be opportunities in future cooperation in joint scientific research missions (e.g. sharing oceanographic research efforts) but it will also need funding.



## Implementation

The offshore oceanic location of the planning area will demand for high financial resources to implement the proposed measures comparing to those located nearest to the coast. It is proposed that common measures will be drawn in a cooperative way which will be an opportunity to achieve success however they compliance is highly dependent on the institutional cooperation of resources between both countries.

## Monitoring

The cross-border common management plan would have a monitoring action plan that should be based on the monitoring plans of both jurisdictions and in line with the MSFD reports. The monitoring action plan of the formal process of MSP in Portugal, regarding ecologic and biologic issues is based on the MSFD implementation process. In Spain, the MSP process will align with MSFD.

The monitoring report would address the environmental status of the cross-border MPA, the impact of the management plan in this status and will assess the time and rate of implementation. The use of MSFD monitoring program and indicators that are common for Member States could be an advantage for coherence. However, differences in the stages of MSFD implementation might threat the monitoring report momentum.

## Stakeholder engagement

A common management plan would ensure the compliance of the legal requirements from both jurisdictions regarding the stakeholder's participation. Portugal is currently in the stage of public consultation for the national MSP process however, Spain is in a very early stage and still has not involved stakeholders in the process. Moreover, there are difficulties in financing cross-border stakeholder engagement inside the formal processes; the opportunities arise with projects like SIMNORAT.

A workshop involving stakeholders affected by the potential cross-border MPA was organized (see section 4.2). In this workshop, the question of developing a permanent forum of discussion and the best way to develop this forum could be addressed.

Despite the fact that both countries have a solid knowledge of who needs to be involved and in what capacity, some sectors may not be well organized, unbalancing sectorial representation. Another issue raised is the fact that there is a lack of implementation tools to facilitate an effective

transboundary public discussion and participation of civil society groups but SIMNORAT project might be a facilitator of a permanent cross-border forum of discussion between stakeholders.

The existence of ongoing cross-border agreements provide a good basis for cooperation in MSP between Spain and Portugal, however some of them focus on economic development increasing the environmental pressures, effects and risks to the planning area, also causing unbalance between sectors.

Due to time and resources limitation, not all the key stakeholders could be reached for interviews and/or workshops. Although, thanks to the tasks of stakeholder engagement of SIMNORAT project, identification of stakeholders has been carried out and the authorities databases have been updated.

## Communication

The involvement of Portuguese national authority in MSP (DGRM) in the proposal of the case study between Portugal and Spain can be important to disseminate the results and outputs. There are also European dissemination channels that can be used with this purpose (MSP Platform, IOC-UNESCO). An advantage between Spain and Portugal are the similar languages with the capacity to be understood in both countries, which can benefit an effective communication strategy. However, different stages in the formal MSP process might create an unbalance regarding the stakeholders and civil society knowledge on MSP.

## 4.2 Stakeholders

This task is included into C.1.3.5 Improving Stakeholder Engagement, the objective was to support good practice in stakeholder engagement within the context of transboundary working and engage stakeholders in the discussion about the cross-border dimension of MSP. In this respect, a cross-border stakeholder's workshop was held in November 28, 2018 in Vigo (Spain) in the context of the implementation of a cross-border MPA comprising the Galicia Bank-Vigo and Vasco da Gama Seamounts between Spain and Portugal.

The workshop was developed through round-tables exercises to discuss ideas between maritime sectors with potential interests in the case study area. Each round-table had a representation from

2 sectors, including always representatives from conservation and research, to identify and spatially translate the interactions, synergies, conflicts and gaps.



Figure 13. Group attendees to the Workshop (Source: CETMAR, 2018)

The workshop was held in a unique day session divided in four parts:

- 2) Exercise 1: Four round-tables were set up with 2 participants from 2 sectors and since the case study address the establishment of a MPA and research and conservation are considered crosscutting fields, they were represented in all the working groups. Moreover, together with the stakeholders from different maritime sectors, two people from SIMNORAT project (1

moderator and 1 facilitator) and a representative from CETMAR, who acted as facilitator and rapporteur, were present at each table.

The objective of this exercise was an evaluation of the information provided about each sector, so the stakeholders could complete the information and identify possible relevant agents not represented at the workshop. Then, all the participants were urged to identify possible conflicts and synergies between uses that might arise in the area, as well as gaps in knowledge that might hinder spatial planning and decision-making. These items were transferred to a panel using adhesive cards to synthesize the conclusions of each table and organized in three groups: conflicts, synergies and gaps.

Participants also had their activities (fisheries, renewal energies, etc.) mapped on transparencies, which allowed them to make notes and draw on the maps, as well as overlay the information of different sectors.

- 3) Exercise 2: Consisted in finding solutions for the identified conflicts. In addition, activity's transparencies were interchanged between tables to identify spatial requirements of interest groups not represented at a specific working group.
- 4) Plenary session: At the end of the two exercises, each working group summarized their main conclusions explained by the moderator of each round-table. Finally, a person external to the SIMNORAT project (a person from CETMAR) synthesized the conclusions of all round-tables and elaborated a unified panel of conclusions.

## Major conflicts, synergies, gaps and solutions identified by stakeholders

The outlines of the general conclusions highlighted by the different maritime sectors are synthesized below (Figure 14):

### Synergies:

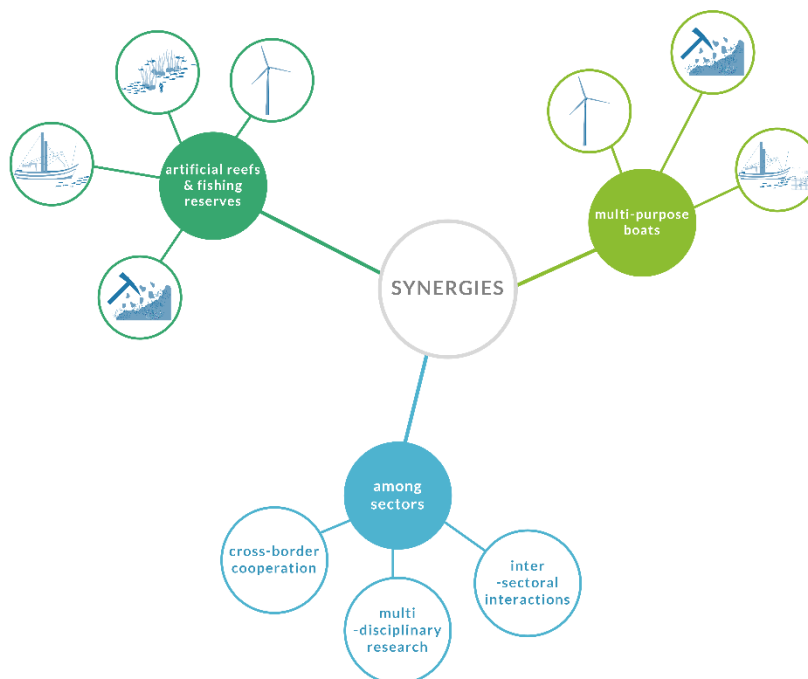


Figure 14. Synergies highlighted by the different maritime sectors.

There were found some interactions related to all sectors, it means all of them demand a cross-border cooperation, as well as, boats and platforms of opportunity for multidisciplinary research that allows collecting a greater volume of information and reusing data for multiple purposes. In addition, all sectors claims for an inter-sectoral interactions (jobs, experience, etc.).

There were found some specific interactions between sectors:

- Fisheries, conservation, energy and mineral resources and renewable energies discuss about the creation of artificial reefs and fishing reserves that may favour the abundance of certain species in adjacent areas (limited interest for fishing in the area should limit the economic repercussion).

- Fisheries, aquaculture, energy and mineral resources and renewable energies about the use of multi-purpose vessels and platforms.

#### Conflicts:

The conclusions founded for conflicts between sectors were summarised in a scheme (Figure 15).

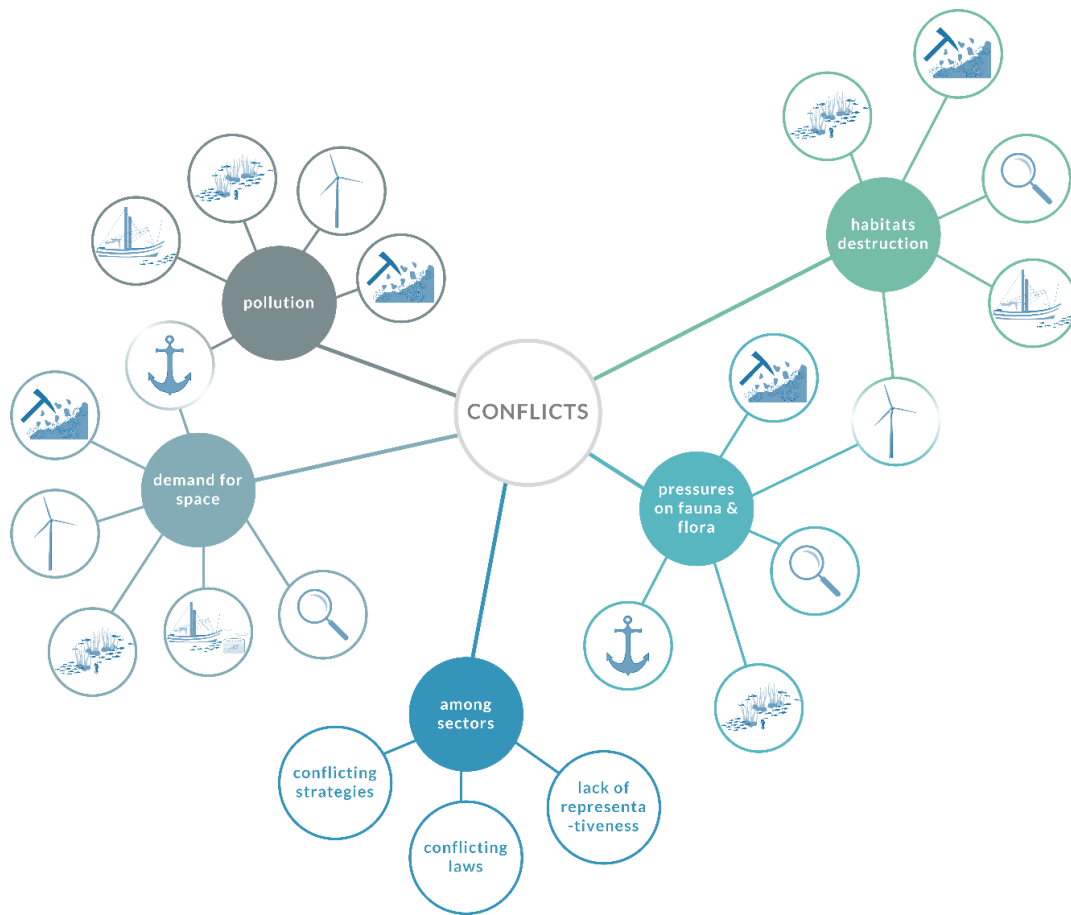


Figure 15. Major conflicts found between maritime sectors

All sectors have different strategic priorities in each country, different and sometimes conflicting laws and regulations, lack of representativeness and equitable participation of all sectors in the management process.

Some particular sectors conflict with each other due to demand for space, pollution, habitats destruction and pressure on fauna and flora.

The workshop also allowed the identification of gaps and solutions (Table 1) regarding the harmonisations between and among sector within a MSP process.

Table 1. Table of Gaps and Solutions suggested by the stakeholders

<b>Gaps</b>	<b>Solutions</b>
Lack of detailed cartography of the study area	Create a cross-border permanent intersectorial forum
Lack of information on habitats and resources abundance	Homogenize different levels of governance
Studies on the impact of navigation/prospecting of mineral resources/ army activities	Create temporary access restriction mechanisms to allow a larger compatibility between uses
Clear indicators to monitor the environmental status	Promote technological developments to increase safety and minimize the impacts of certain activities
Mechanisms for free access to data	Request maritime transport restrictions
Mechanisms to increase intersectorial dialogue	Improve surveillance and control systems
Mechanism to promote dialogue at different administrative levels	Optimize investment in research through cross-border Intersectorial and multidisciplinary collaborations
Training programs for new job opportunities	Create more interactive public consultations systems
New technologies for autonomous work on the high seas	Increase investment in R&D; Optimize and harmonize data collection
Efficient mechanisms to monitor and control the MPA	Promote "Open Access" to research results and raw data

## 5. Cross-border MPA Proposal

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According to IUCN definition, a Transboundary Protected area is a clearly defined geographical space that consists of protected areas that are ecologically connected across international boundaries and that involve some form of cooperation in management (Wells S., 2016). More specifically the cross-border conservation initiatives are specific cases of transboundary protection since they are undertaken by countries sharing a jurisdictional border.

The case study between Spain and Portugal is an exercise of a possible initiative that, based on the Ecosystem Based Approach (EBA) principle, addresses marine conservation at the ecosystem level in an area shared by both countries.

Several international instruments give the political background to cooperation in marine conservation (Vasilijević, M. et al. 2015).

However, different contextual issues need to be considered as it is geographical scale, political, cultural and economic contexts as well as the volume of marine water administrated by each country (Guerreiro et al., 2012). These differences can be overcome by a definition of common governance framework and common management goals through cooperation among responsible institutions and addressing the appropriate legal mechanism in each country.

### 5.1 Major steps towards a common proposal

To develop a cross border MPA, it is necessary to consider national governance frameworks that facilitate or constrain the cooperation between countries (Chircop A., 2010).

The main stages for a cross border conservation initiative follow specific steps according to several international examples which are: Diagnose, Design, Take Action and Evaluation (McKinney M., 2015; Vasilijević, M. et al., 2015; Erg, B. et al., 2012). These steps are closely interrelated with the ones of the MSP implementation.

The **Diagnose** phase main objective is to determine the need for a cross-border initiative, in this particular case, for a cross-border MPA. At this stage, it is fundamental to understand the context



issues assessing the enabling environment and the feasibility of transboundary conservation, as done in the Analysis step of the MSP process. It is also essential to understand the problems or opportunities at hand. Key questions like who is interested in or affected by a cross-border MPA, which decision makers are needed to implement any outcome and which stakeholders should be involved, including the identification of interactions between them and their interests, should be explored, as well as gaps of information or knowledge. At the end of this phase, it is expected to develop a joint vision and management objectives.

Presently there are some available diagnostic tools to support the planners to develop an appropriate and efficient cross border conservation process.

At the **Design** phase it is necessary to identify who will lead the initiative and mobilise the right stakeholders identified in the previous phase. It is also essential to define the geographic extent of the action.

The **Take Action** phase is a more operative where it is expected to formulate and implement actions, promote scientific and public learning, look gaps and needs and formulate joint solutions. It is the right time to develop an action plan with a strategic vision and objectives and move forward taking action to achieve the strategic objectives.

The **Evaluation phase** is a learning and adaptive step where it is expected to evaluate the outcomes and communicate the progress and build capacity to sustain the future adaptations of the process.

## 5.2 Co-governance

Graham et al. (2003) define governance as “the interactions among structures, processes and traditions that determine how power and responsibilities are exercised, how decisions are taken, and how citizens or other stakeholders have their say”.

It is worth to note that there is not a “one fits all” model for cross border conservation initiatives. Particular needs and interests of the region must be the basis to design each arrangement.

To set a shared governance approach it is essential to take into consideration the different laws and institutional frameworks, different management systems, different monitoring practices and incompatible databases, different languages cultures and religions. It is also important to consider

the political relations between countries that in this particular case is good (Vasiljević, M. et al. 2015).

The governance models can follow two different approaches: formal agreements that could be bilateral treaties (binding) or MoUs between Ministries or Declaration of intent (non-binding); or informal agreements between managers on different side of a border to promote friendly cooperation (Welss, Sue, 2016; Vasiljević, M. et al. 2015).

In this particular case study, it is proposed a formal approach involving authorities of each country responsible for making key decisions that could be the central, regional or local governments, in a possible combination with private entities and NGOs to establish a shared governance framework.

The lessons learned from the practice of transboundary conservation is that the government arrangements are more effective when are collaborative, nested and adaptative (McKinney M., 2015) which means that although the goals of a transboundary initiative may not change, it is crucial to take into account the constantly changing of natural, social and economic contexts in general and particularly related to the establishment of a transboundary conservation initiative.

Afterwards, the cross border MPA will depend on a joint committee responsible to operationalize and manage the actions to fulfil the outlined objectives. The joint committee's duty is to translate the political decisions in action being supported by national institutions and/or technical and scientific boards (Guerreiro, J. et al., 2012). It will be composed by different actors that know or use the study area at different geographic and temporal scales. Considering that some problems/disagreements could arise from the transboundary process, govern at the scale of the problem is another key message that should be taken in mind.

### 5.3 Co-management measures

Effective conservation of ecosystems and species with spatial distributions that cross international boundaries often require coordinated plans and actions at both the regional and national scales (Beger et al. 2015; Kark et al. 2015; Sandwith et al. 2001). Coordinated efforts can potentially reduce costs of protecting biodiversity and improve the efficient allocation of limited conservation resources (Dallimer & Strange 2015; Kark et al. 2009; Mazor et al. 2013; Pouzols et al. 2014; Punt et al. 2012). When countries have good relations (e.g. economically, institutionally, scientifically),

collaboration to address shared conservation issues may be easier to achieve international treaty goals (Levin et al. 2013).

Successful transboundary conservation depends on meeting ecological and biodiversity objectives and enhancing the economic ties and necessary political cooperation and will (Levin et al. 2013; Sale 2015). Building on existing between-country and institutional ties may reduce transaction costs of planning and resource management (Guerrero et al. 2013; Levin et al. 2013). Therefore, coordinated conservation is expected to be most applicable, effective and likely to take place when partners both share biodiversity features, conservation targets and have sound political and economic interactions. A first step towards assessing the potential cost–benefit of regional conservation collaboration is to evaluate the shared biodiversity, administrative structures, and political and trade relations among neighbouring countries.

In this section, the main measures to be taken into account towards a co-management are identified with a special focus on the EBM approach:

- Defining principles, goals and strategic objectives in a common/shared vision - Healthy ecosystem and delivery of ecosystem services; sustainable human uses; integrated management and governance.
- Definition of operative tools – Definition of a common system for storing, visualizing and managing geographical data.
- Planning legal framework – Identify legal and administrative supportive framework. Characterization of the governance framework and review of existing transboundary agreements and initiatives.
- Creation of a joint steering committee – Creation of an entity responsible for promote the cooperation between countries involved.
- Identification of planning area - Boundaries and scale definition, ensure connectivity between ecosystems accordingly the EBM approach.
- Identification of the Stakeholder's key sectors – Identification of the relevant stakeholders.
- Multiple specific objectives definition, specific management measures, indicators and outcomes – Identification of the key issues, specific objectives according to the planning area particular needs.

- Scenario creation – Exploring different planning options using scenarios.
- Trade-off analysis/decision making – Ensuring an operational EBM, the ecosystem should be a priority when it comes to making trade-offs between uses, the environment and maintenance of ecosystem services.
- Sustainable financing options – In this stage is important to ensure that government has allocated budget for planned actions and measures, especially those related to ensuring that the ecosystem is maintained, and the environment is preserved.
- Zoning – Zoning ensures that regulations are enforced in particular sections of the planning and management area. It also allows the minimization of conflicts between uses taking a holistic view of areas of ecological importance and environmental vulnerability
- Strategic planning proposal - Address pressure and impacts on species and habitats, uncertainty and knowledge gaps

## 5.4 Co-monitoring

The monitoring performance is an integral activity of the marine management process. It is the ongoing activity for assessing program accomplishments, particularly, progress toward pre-established goals, objectives and outcomes. In a transboundary context, the financial effort for this monitoring stage must be shared and involve institutions and researchers from both countries.

Accordingly to Vasilijević, M., et al. in 2015, the World Commission on Protected Areas (WCPA) management effectiveness evaluation framework, notes the following purposes for monitoring, being to:

- Enable and support an adaptive approach to management;
- Assist in effective resource allocation;
- Promote accountability and transparency;
- Help involve the community, build constituency and promote protected areas values.

There is thus, clear generic advice (i.e. Hockings et al., 2006; Leverington et al., 2010) on monitoring the progress, and evaluating the effectiveness of protected areas. However, there seems to be little

specific advice on doing this in Transboundary Conservation Areas (exception is e.g. McKinney and Johnson, 2009). There are though some special features of the transboundary context, which need to be considered when applying the generic advice, and following the four important steps:

- Assess progress and outcomes

The specificity of monitoring in the transboundary context is the need for monitoring systems that can work across international boundaries and the need for systems that can be applied by countries working together. It follows that both, the design and operation of monitoring and evaluation systems, will call for considerable interpersonal communication skills, as well as technical skills related to biological or socio-economic monitoring. These will be even more demanding when the subjects of the monitoring are potentially sensitive topics affecting social, economic or cultural aspects. Monitoring and evaluation relating to people can be politically charged, and in a transboundary context can be even more challenging.

- Determine if there is a need to continue

The results of the assessment may require the stakeholders to ask whether there still exists a compelling reason to continue a particular transboundary activity. Revisiting the original goals and objectives helps to answer such questions. A decision to stop an activity can be just as difficult as to start it in the first place, as some will have a stake in the *status quo*. In a transboundary situation, decisions to reverse a previously agreed position may be doubly sensitive.

- Adapt the management and action plans

Monitoring and evaluation provides an opportunity to assess the changing conditions and act accordingly by adapting relevant objectives and plans. Adaptive management seeks continuous improvement. In the transboundary context, this will require a strong on-going commitment to cooperate and share decision-making.

- Communicate progress

It is important to notify all stakeholders about the progress of a transboundary process and whether the outcomes have been met. Communicating progress serves as a way of demonstrating success and potentially obtaining further support for the work. It can also be a very effective way to engage new people, and to create new opportunities for funding. In a transboundary context, it is

important to have an integrated programme of communication so that different stakeholders of the Protected Area learn of the monitoring and evaluation outcomes at the same time.

The permanent monitoring action plan of a cross-border MPA is imperative and should be taken in account in a standardized methodology considering performance indicators with the ability to assess the state of native species and habitat diversity, population of key species, connectivity among ecological attributes and socio-economic benefits. This monitoring action plan should be built in a cross-border cooperation context and in line with the MSFD assessment descriptors and criteria. This will identify the needed strategies and actions to improve performance.

A periodically monitoring outcome report (timeframe previously agreed between countries) should be built addressing the state of the system, monitoring the performance of the plan and monitoring the time and rate of the implementation. This outcome reports must be presented and discussed with stakeholders in order to include the results in the adaptive management process, mitigate conflicts and promote the community awareness.

## 6. Conclusions

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This case study fits the specific objectives of SIMNORAT project as it is a step forward in understanding current and potential future demands relevant to transboundary conservation areas, access to data and data-specific barriers to transboundary cooperation. In addition, it considers potential options for transboundary cooperation in a context of a cross-border marine protected area including marine EBM approach.

The success of a cross border MPA can only be achieved through an effective management, supported by a shared mechanism,

MSP and conservation is a reciprocal process and when well developed, could become a “win-win” situation. The sustainability of transboundary efforts for environmental cooperation requires long-term project cycles, as well as intense planning. Trust is an important element in the success or failure of cross-border conservation initiatives (Barquet et al., 2014)

A cross-border MPA management initiative must be based on the governance structure of both countries and formulated in such way that it is possible to, directly, or via corresponding management plans in either country, lay down legally effective recommendations or regulations.

It is also essential to evaluate the political relations and the administrative structure on both countries in order to optimize the cooperation process addressing effective responsibilities for the creation and management of the cross-border MPA.

The creation of a joint steering committee is the keystone for a cooperative process working as an “engine” that promotes real action and commitment from both countries. This means further research into economic values of marine biodiversity and ecosystem services to ensure best practice planning and management of the sea resources. The knowledge, development and protection of the marine habitats, especially of those, which are home for valuable ecosystems, are basic strategic directions of action in the achievement of these goals.

Essentially marine protected areas have moved from being managed as islands of nature, to parts of regional networks becoming key elements of sea-basin conservation initiatives and management challenges. Strategic country-to-country cooperative agreements at the political level have value as a means to provide an enabling environment for bilateral collaboration, whereas informal or formal

cooperation for shared management and operational issues, often in conjunction with stakeholders.



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## Annex I

### SWOT Analysis

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## Pre-planning

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Common planning experience in land use planning which provides a basis for exchange of cooperation and practice.</li> <li>• Most of the available maritime spatial data is already in compliance with the Inspire Directive.</li> <li>• Common Member States framework requirements (e.g. Marine Strategy Framework Directive to achieve Good Environmental Status) provides the basis for cross-border working.</li> <li>• Experience in the creation of cross-border Steering Committee (e.g. Commission to the Application and Development of the Convention of Cooperation to the Protection and Sustainable Use of Portuguese-Spanish Watersheds).</li> <li>• Some information regarding the geologic, oceanographic, substrata and habitats data is available.</li> <li>• Portuguese MSP provides a list of potential stakeholders to be involved due to the current formal MSP process. The Spanish process communication and dissemination of the Marine Strategies under the MSFD, created a large database of stakeholders that is currently being updated for the MSP process.</li> </ul>	<ul style="list-style-type: none"> <li>• Banco of Galicia is already classified as a Natura 2000 area whilst Vigo and Vasco da Gama seamounts don't have yet a legal status as an <i>offshore</i> MPA</li> <li>• Possible ambiguity surrounding terminology, definitions in both jurisdictions.</li> <li>• Some data is not available for harvesting and storing in a common geoportal (e.g. maritime boundaries).</li> <li>• The differences of administrative and governance framework in both jurisdictions (e.g. regional governments) weakens the identification of the planning legal framework.</li> <li>• High complexity of legal and governance framework in the maritime space.</li> <li>• Fragmented knowledge regarding connectivity processes between the three seamounts proposed to protection.</li> <li>• Some maritime sectors are not well organized and lack of sectorial representation.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Historical background in cross-border cooperation in managing common resources (e.g. international rivers basin shared management, shared management of fishery stocks, pollution...) that can be used as examples in cross-border cooperation.</li> <li>• A common system of storing, visualizing and manage geographical data is an opportunity to deliver information that will benefit the planning process.</li> <li>• Sound relationship between both countries will be an opportunity to implement the cross-border MSP process.</li> <li>• The creation of a cross-border transnational Steering Committee will be an opportunity setting the example to follow in cross-border areas with special interest for conservation and easing communication among all partners, facilitating updates, discussing issues facing nursing homes, and brainstorming possible solutions.</li> <li>• Strong will by the Portuguese authorities in the identification of the planning area that will ensure the connectivity of the ecosystems.</li> <li>• Part of the area proposed to connect both spaces is in an overlapping of EEZ claims, which make the joint collaborative research the most suitable.</li> <li>• Previous cross-border PT/SP stakeholder workshops (TPEA) is an opportunity to continue the bonds between stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• The fact that both countries are in a very different phases of the process might be a limitation to manage and implement a sound cross border in the MSP process .</li> <li>• Different terminology and data sets can make the harmonization difficult</li> <li>• Lack of data open access might be a threat to a common system of data storing.</li> <li>• Differences of regulatory system in both jurisdictions may cause limitation in a joint decision-making.</li> <li>• The agreement on the entities represented in such a fora/arena might be difficult to achieve</li> <li>• Lack of scientific knowledge to support the need to protect Vigo and Vasco da Gama seamounts. Difference in knowledge between Portuguese and Spanish waters.</li> <li>• Equality in the access to the planning process especially civil society. Lack of representation and visibility of some maritime sectors.</li> </ul>

## Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Cross-border MSP could provide better outcomes and give both jurisdictions more knowledge of the case study.</li> <li>• High level of expertise in the process of assessment of compatibility of uses.</li> </ul>	<ul style="list-style-type: none"> <li>• Differences in the data sets from both jurisdictions can difficult the use in a coherent way.</li> <li>• Lack of biological and ecological data to support the connectivity of biological features between the areas in both jurisdictions.</li> <li>• Uncertainties arising from lack of scientific knowledge regarding EBM Tools.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• The case study might be an opportunity to highlight the need to collect more data in the area especially in the case of Portugal due to the lack of biological and ecological data regarding the Portuguese seamounts.</li> <li>• Existence of EBM tools (e.g. cumulative impact/pressures assessment) available.</li> <li>• Strong economic and social data available.</li> </ul>	<ul style="list-style-type: none"> <li>• Due to the location of the planning area there will be a need for reinforce funding mechanisms for high seas research to address knowledge gaps.</li> <li>• The early stage of cumulative effects and pressures assessments.</li> </ul>

## Planning

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• The definition of the specific objectives was achieved in collaboration with national authorities in MSP.</li> <li>• Formal MSP and SEA process in Portugal already considers maintenance of ecosystem services as a Critical Decision Factor. In Spain Marine Strategies established ecological objectives to each marine district and any activity to be conducted have to be compatible with them.</li> <li>• Low level of use and activities in the area (offshore) could benefit the conflicts mitigation.</li> <li>• The case study has already identified present and potential activities and pressures, which will make possible a precautionary approach of the strategic planning proposal.</li> </ul>	<ul style="list-style-type: none"> <li>• The fact that both countries are in a very different phases of the process might be a limitation to manage and implement a sound cross border in the MSP process .</li> <li>• The lack of scientific knowledge represent a gap in the full understanding of the ecosystem services within the cross-border region and the benefits that those services represent to society.</li> <li>• Some activities such as navigation can increase the environmental vulnerability of the area and are very difficult to relocate.</li> <li>• Due to the location of the planning area there will be a need for reinforce funding mechanisms for high seas research to address knowledge gaps.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• The case study can represent an opportunity to study the ecosystem services linked to offshore MPA's in particular those related to seamounts.</li> <li>• Previous events of pollution in the region affecting both countries (e.g. Prestige) highlight the need to regulate particular areas of the planning area in order to minimize conflicts and address the need to have a holistic perspective regarding environmental vulnerability.</li> <li>• Addressing the uncertainties and knowledge gaps might be an opportunity in future cooperation in a joint scientific research missions (e.g. sharing oceanographic research efforts).</li> <li>• Existence of projects (e.g. MESH-Atlantic) that provide some data regarding the study area.</li> </ul>	<ul style="list-style-type: none"> <li>• Different stages in the MSP process difficult the cross-border approach.</li> <li>• Low level of knowledge regarding the ecosystem services that the study area provides might be a threat to the trade-off analysis.</li> <li>• The needs and expectations of some important economic sectors such as navigation and submarine cables and pipelines might threat the zoning process.</li> <li>• High level of unbalance regarding the knowledge on species and habitats in both countries. (e.g. the project Idemares produced high amounts of data for the Spanish side however for the Portuguese side the knowledge is still scarce)</li> </ul>

## Implementation

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>Development, testing and dissemination of management measures of an oceanic cross-border MPA.</li> <li>Active NGO's can be an opportunity to pinpoint possible non-compliances of the regulations and policies.</li> </ul>	<ul style="list-style-type: none"> <li>The offshore oceanic location of the planning area will demand for high financial resources to implement the proposed measures comparing to those located nearest to the coast.</li> <li>Lack of financial resources to enforce the proposed measures due to the oceanic offshore nature of the planning area.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>Common measures will be drawn in a cooperative way, which will be an opportunity to achieve success in their implementation.</li> </ul>	<ul style="list-style-type: none"> <li>The compliance of an implementation of future plan and programs is highly dependent of the institutional cooperation of resources between both countries.</li> <li>The offshore nature of the area could increase the difficulty to enforce the measures (e.g. illegal fishing)</li> </ul>

## Monitoring

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>The monitoring action plan of the formal process of MSP regarding ecologic and biologic issues is based in the MSFD.</li> <li>The assessment of the environmental status of the marine waters and the monitoring programmes and programmes of measures under MSFD</li> </ul>	<ul style="list-style-type: none"> <li>Some pressures are difficult to assess (e.g. underwater noise and marine litter).</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>The implementation of MSFD can play an important role in the monitoring of MSP especially regarding the environmental status in a cross-border harmonization as the assessment descriptors and criteria are the same for all Member States.</li> <li>MSFD descriptors, criteria and indicators as common system of monitoring, based in the same methodology and indicators can be implemented.</li> </ul>	<ul style="list-style-type: none"> <li>Differences in the stage of MSFD implementation in both jurisdictions may be a threat for a common monitoring program.</li> <li>Differences in the stages of MSFD implementation might threat the monitoring report momentum.</li> </ul>

## Evaluation

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>Legal framework considers the evaluation step of the planning process.</li> </ul>	<ul style="list-style-type: none"> <li>Time &amp; resource consuming</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>Opportunity to adapt the Pre-planning considerations if needed.</li> <li>Opportunity to adapt the Analysis if changes occur (Uses &amp; activities and cross-border relevance of coastal and maritime issues, Governance framework, Area of common interest, Data availability and quality.</li> <li>Opportunity to adapt specific objectives and planning alternatives.</li> <li>Opportunity to adapt the methodology of implementation.</li> <li>Opportunity to adapt the monitoring methodology (e.g. indicators).</li> </ul>	

## Stakeholder engagement

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>The current stage of Portuguese MSP (public consultation).</li> <li>There is a solid knowledge of who needs to be involved and in what capacity.</li> <li>Existence of ongoing cross-border agreements.</li> <li>The status of formal MSP process in Portugal (under public consultation) is strengthened by having the key sectors identified. Thanks to the task of stakeholder engagement of SIMNORAT, identification of stakeholders has been carried out and the authority's databases updated.</li> </ul>	<ul style="list-style-type: none"> <li>Difficulties in financing the stakeholder's engagements (e.g. cross-border workshops) momentums outside the formal process. Spain is in a very different phase, a mismatch that could be a handicap for some of the steps.</li> <li>Some sectors may not be well organized unbalancing sectorial representation.</li> <li>Some cross border initiatives focus on economic development increasing the environmental pressures, effects and risks to the planning area.</li> <li>The public consultation process of the formal MSP can diverge the attention from the stakeholders away of the case study exercise.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>The stage of formal MSP process can be an opportunity regarding the knowledge of stakeholders of the process as well as their will to participate.</li> <li>SIMNORAT project (through the task of stakeholders engagement improvement) might be a facilitator of a permanent cross-border forum of discussion between Portuguese and Spanish stakeholders</li> <li>"Previous cross-border initiatives (Albufeira Convention, Lisbon Agreement, 5+5 Initiative, Operational Transboundary Cooperation Program PT-ES, INTERREG Programs, Life projects, TPEA).</li> <li>The sectors in the stakeholder engagement process are harmonized in a way that will give the opportunity to compare the views, concerns and conflicts in a cross-border approach.</li> </ul>	<ul style="list-style-type: none"> <li>Differences regarding the legal requirements on both countries can be a threat to the compliance.</li> <li>The difference in stakeholder's knowledge and awareness due to the different stage of the MSP implementation in each country.</li> <li>Lack of implementation tools to facilitate an effective public discussion</li> <li>Weak participation of civil society groups. Lack of tradition in public participation.</li> <li>The Logistic agreement signed in Elvas, April 2018 might unbalance the weight of sectorial interests (e.g. maritime transport) in the planning area.</li> <li>Some activities such as fishing represent a high-level cross-border conflicts. Some sectors are better represented than others are, therefore a misbalance could occur.</li> </ul>

## Communication

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>Portuguese National authority for MSP (DGRM) is part of the Steering Committee using their channels of communication to disseminate the results of the case study.</li> <li>The Spanish authority for MSP (DGSCM) is part of the Steering Committee using their channels to contact stakeholders to interview as well as to invite them to the workshops.</li> <li>The involvement of Portuguese national authority in MSP (DGRM) in the proposal of the case study can be important to disseminate the results and outputs.</li> </ul>	<ul style="list-style-type: none"> <li>Time &amp; resource consuming.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>SIMNORAT project provides the tools to disseminate properly the case study and the issues arising from it.</li> <li>Use of national and European dissemination channels (DGRM, DGSCM, MSP Platform, IOC- UNESCO)</li> <li>Similar languages with the capacity to be understood in both countries can benefit an effective communication strategy.</li> </ul>	<ul style="list-style-type: none"> <li>The common language chosen for the communication is English which may threat the reach to all public.</li> <li>Different stages in the formal MSP formal process might create unbalance regarding the stakeholders and civil society knowledge on MSP.</li> </ul>



## Annex II

# Stakeholder Engagement Report

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# SIMNORAT

## *Cross-Border Approach for Maritime Spatial Planning* **Transboundary MPA Galician Bank-Vigo and Vasco da Gama Seamounts**

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### REPORT

## **TRANSBOUNDARY STAKEHOLDERS WORKSHOP -VIGO (SPAIN)**

Wednesday, 28<sup>th</sup> November 2018 – 8:30 – 16:30

In the framework of SIMNORAT project, last 28<sup>th</sup> of November of 2018, a workshop was organized in Vigo (Spain) to consider the implementation of a cross-border Marine Protected Area (MPA) between Spain and Portugal. This case study aimed to establish an scenario to identify and assess the issues (synergies, conflicts and gaps) between different activities/uses carried out in the area, as a result of the potential implementation of new transboundary protection figures between Spain and Portugal, around several seamounts near the limit of the continental shelf, as the Galicia Bank, where its high productivity has been demonstrated, together with the existence of numerous ecosystems located in the bank flank which creates a hotspot of biodiversity in the open ocean, favoring the presence of different species of cetaceans, marine turtles and seabirds

The creation of MPAs implemented by management measures, is the best tool to protect and preserve the high value of the marine resources and biodiversity that this cross-border area stands. Due to the fact that these banks area located far from the main pressure focuses, the conservation status is quite high. Although the Galicia Bank is situated far from most of the human activities, normally localized closer to the coast,, the correct management of fishing, maritime traffic and the possibility of laying underwater cables is vital to prevent future impacts and pressures that could modify oceanographic conditions or threaten the biodiversity. In order to design coherent Management Plans to ensure the long-term conservation of marine biodiversity in the study area, a round-table exercise was promoted in the workshop to discuss ideas, synergies and conflicts regarding the potential cross-border MPA.

To address those issues, 32 stakeholders from both countries clustered around 6 sectors with potential interests in the study area: (1) Conservation (2) Marine Research (3) Fisheries (4) Navigation (5) Energy and Mineral Resources and (6) Renewable Energies. The workshop was structured on several round tables with 2 different sectors met between them, with always a representation from research and conservation sectors in each table, as those sectors were considered crosscutting themes in the workshop, to identify and spatially translate the interactions between their activities.

Shared conclusions from the round tables highlighted the lack of strong conflicts between activities in the area to be protected as its ecological value is well demonstrated but has little relevance for fishing, uncertain interest for mineral resources exploitation, low number of navigation routes crossing the area, and renewable energy platforms are unfeasible at that distance from the coast. There was consensus on the convenience of data/information exchange platforms to optimize research investment and knowledge progress on the available resources of the area. Finally, there was general agreement on the need of a stable communication mechanism between governments and stakeholders allowing the implementation of common governance mechanisms and management plans for this cross-border Case Study.

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## 1. Context

The European Parliament, in its Council of 23<sup>th</sup> July 2014, adopted a new Directive to establish a common framework for Maritime Spatial Planning (MSP) among Member States (Directive 2014/89 / EU). This Directive aims to meet the needs for an efficient and sustainable management of marine ecosystems and maritime activities, avoiding conflicts and promoting synergies between different uses of the sea. The Directive imposes a series of common requirements for coastal states, to make their management strategies compatible at different scales (local, regional, national, transnational). Maritime spatial planning should: reduce conflicts between different uses and activities, promote investments, strengthen administrative coordination by developing unique tools, facilitate cross-border cooperation and protect the environment by identifying the potential impacts of each activity and their cumulative impacts. The Directive urges the Member States to develop a national maritime spatial plan at the latest by 31 March 2021, with a minimum review period of 10 years<sup>5</sup>.

The European project SIMNORAT (*Supporting Implementation of Maritime Spatial Planning in the Northern European Atlantic*) aims to support the implementation of the MSP Directive in the North Atlantic and to encourage cross-border collaboration on spatial planning issues. Specifically, the project involves three countries, France, Spain and Portugal, and this general goal will be approached through the following specific objectives:

- Identify existing tools for the implementation of Maritime Spatial Planning Plans in each country.
- Analyze spatial demands (maritime activities and environment).
- Define spatial trends (maritime activities and environment).
- Analyse and improve stakeholder engagement processes.
- Promote cross-border cooperation through case studies analysis on selected pilot areas.

Two pilot areas were considered within the project creating two cross-border scenarios, one in the Bay of Biscay (between Spain and France) and another one in the Galicia Bank - Vigo and Vasco da Gama Seamounts (between Spain and Portugal, which is located one hundred miles off-shore in the NW of the Iberian Peninsula). The analysis of case studies included participatory workshops involving representative stakeholders from each country in each pilot area

The present report details the background and results of the workshop held in Vigo (Spain) on 28<sup>th</sup> November 2018, concerning the implementation of a hypothetical cross-border MPA between Spain and Portugal, comprehending the Galician Bank and the Vigo and Vasco da Gama seamounts. The workshop was held at the Technological Center of the Sea (CETMAR) and organized by the Spanish Institute of Oceanography (IEO), the University of Aveiro (UA), the Center for Experimental Studies and Public Works (CEDEX) and CETMAR.

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<sup>5</sup> [https://ec.europa.eu/maritimeaffairs/policy/maritime\\_spatial\\_planning\\_en](https://ec.europa.eu/maritimeaffairs/policy/maritime_spatial_planning_en)

## 2. Background for the case study: Galician Bank – Vigo and Vasco da Gama Seamounts.

Part of the Galicia Bank located in the Spanish Exclusive Economic Zone (EEZ) at the western boundary of the continental geological platform, is designated as a Special Protection Area (SPA) and a Site of Community Importance (SCI) (Fig.1), according to the Birds Directive and the Habitats Directive, respectively. These protection figures are mainly justified by the presence of a submarine mountain with cold water coral reefs (*Lophelia pertusa* and *Madrepora oculata*) and the abundance of bottlenose dolphin (*Tursiops truncatus*) and loggerhead turtle (*Caretta caretta*).

In the Portuguese EEZ, it is foreseen to carry out the study of the ecological values of the Vigo and Vasco da Gama Seamount located in the north of the jurisdictional area of Portugal (Fig. 1), a priori with similar characteristics as the Galicia Bank, to propose the creation of a MPA in the area.

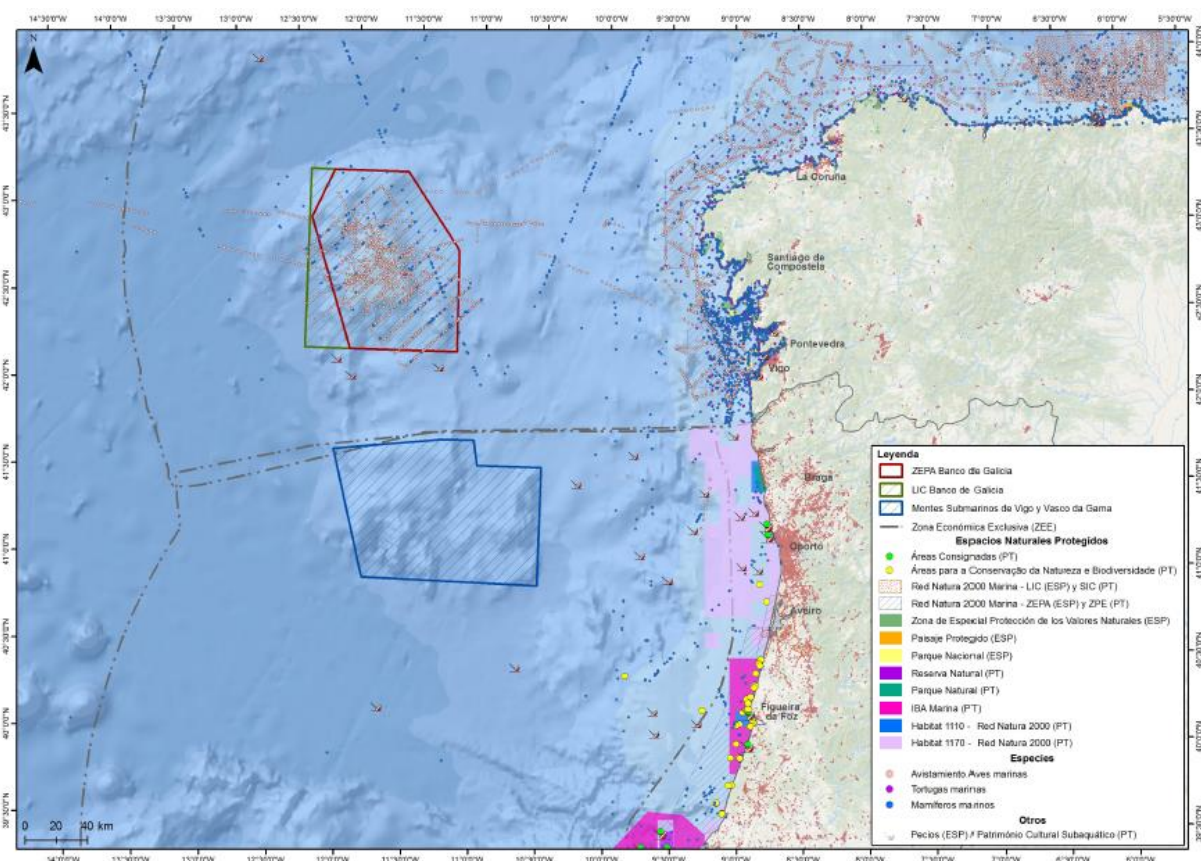


Figure 1. Geographic location of the MPAs established and proposed in Spain and Portugal.

The designation of an MPA could interfere with other activities currently taking place in the area or with potential future uses. Six special interest groups were identified (1) Conservation (2) Research (3) Fisheries (4) Navigation (5) Energy and Mineral Resources and (6) Renewable Energies, as relevant for the planning process due to the interests to carry out the development of

their main activities.

Similarities between habitats and potential connectivity pathways between the proposed areas in Spain and Portugal, raise the possibility of transboundary management mechanisms. Common governance strategies across countries will require the definition of common objectives for both areas which should not conflict with the strategic development plans of the sectors involved in each country.

### 3. Objectives of the workshop

The general objective of the workshop was focused to contribute to cross-border cooperation on maritime spatial planning through the involvement of stakeholders from different interest groups. This general objective was shaped to the case study, so potential interactions (synergies, conflicts, etc.) that could arise between activities, resulting from the hypothetical implementation of a transboundary MPA between Spain and Portugal were evaluated in small groups. In addition, were identified gaps and requirements needed to carry it out.

### 4. Methodology

The workshop brought together stakeholders from Spain and Portugal from 6 maritime sectors with potential interests in the study area:

- (1) Conservation
- (2) Research
- (3) Fisheries
- (4) Navigation
- (5) Energy and Mineral Resources
- (6) Renewable energy

For each of these uses, a summary sheet (Annex 1) about the status and distribution of the activity and its potential expansion in the future was distributed at the arrival of the event (Annex 2).

The first part of the workshop was dedicated to plenary talks which established the general background for the meeting, setting the status of the MSP processes in both countries, describing the project's objectives and methodology, as well as the role of the partners and the stakeholders invited to the workshop.

Then, four round-tables were set up with 2 participants from 2 sectors and since the case study address the establishment of a MPA and research and conservation are considered crosscutting fields, they were represented in all the working groups. Moreover, together with the stakeholders from different maritime sectors, two people from the project (1 moderator and 1 facilitator) and a representative from CETMAR, who acted as facilitator and rapporteur, were present at each table.

Representation of each country in all round-tables were assure to maintain the equitable participation of each country in each table.

Working sessions for the round tables were divided in two exercises (Annex 3). The first one consisted on an evaluation of the information provided about each sector, so the stakeholders could complete information and identify possible relevant agents not represented at the workshop (Annex 4). Then, all the participants were urged to identify possible conflicts and synergies between uses that might arise in the area, as well as gaps in knowledge that might hinder spatial planning and decision-making. These items were transferred to a panel using adhesive cards to synthesize the conclusions of each table and organized in three groups: conflicts, synergies and gaps.

The participants also had their activities (fisheries, renewal energies, etc.) mapped on transparencies, which allowed them to make notes and draw on the maps, as well as overlay the information of different sectors. In this way, each sector could represent graphically their interests in the study area and indentify synergies, conflicts and gaps.

The second exercise consisted in finding solutions for the identified conflicts. In addition, activity's transparencies were interchanged between tables to identify spatial requirements of interest groups not represented at a specific working group. For example, the round-table with the information of Energy + Marine resources + Navigation + Conservation and research interchanged their maps to the round-table of Renewable energies + Fishing + Conservation and research.

After the second exercise, a plenary session was held where each working group summarized their main conclusions explained by the moderator of each round-table. Finally, a person external to the project (CETMAR) synthesized the conclusions of all round-tables and elaborated a unified panel of conclusions.

## 5. Plenary sessions

- **Marisa Fernández (CETMAR; SP)** welcomed the participants and explained CETMAR's background and their interests on the MPS process.

- **Ana Cristina Costa (Direção Geral de Recursos Naturais, Segurança e Serviços Marítimos-DGRM; PT)** explained the state of implementation of the MSP Directive in Portugal. The legal framework of the MSP in Portugal is based on a law from 2014 ("*Lei de Base de Ordenamento do*

*Espaço Marítimo*"; Lei No. 17/2014), which prioritizes the coordination between management strategies at the main-continent and the archipelagos of Azores and Madeira. In 2015, a Decree-Law (Decreto-Lei No. 38/2015) defines a figure for the allocation of space for specific uses (*Titulos de Utilização Privativa do Espaço Marítimo*; TUPEMs). This document differentiates between activities which demand reservation of space from those which are not so clearly linked to a particular location but require a specific plan of affectation so their impact on a particular area is considered during the MSP process. Lastly, a legal dispatch from 2015 (Despacho 11494) establishes the competences for the elaboration of the Portuguese MSP ("*Plan for the Situation of the Maritime Space*"; PSOEM). The PSOEM gather the current and potential uses of the marine space and try to harmonize them with the maintenance of a good environmental status and a sustainable use of resources through the administration of TUPEMs.

Therefore, the PSOEM aims to be a mechanism for marine spatial management according to the Portuguese strategy for the ocean ("*Estrategia Nacional para o Mar*"), issuing licenses for the marine space while ensuring the maintenance of a good environmental condition in compliance with the Marine Strategy Framework Directive (MSFD Directive 2008/56/CE) and its transposition to Portuguese law

The PSOEM in Portugal consists of 6 volumes and a geoportal. The first round of public consultation (2018) received a total of 211 allegations, mostly from individuals and NGOs. At this moment, the contributions received are being integrated into a new version of the PSOEM that will pass to a second round of public consultation during 2019.

- **Sagrario Arrieta** (*Dirección General de Sostenibilidad de la Costa y el Mar*; *SP*) explained the state of implementation of MSP in Spain that is in an earlier stage than in Portugal. The European Directive for MSP was transposed into the Spanish legal system through a Royal Decree in 2017 (363/2017). Specific MSP plans should be created for each of the 5 maritime demarcations established in Spain by the Marine Strategies Law for the protection of the marine environment (Ley 41/2010 from 29<sup>th</sup> December 2010). Those specific plans should pay special attention to environmental aspects and land-sea interactions as well as the integration with other regulations. The maritime planning process should encompass the Marine Strategies Law which evaluate the impact of different activities to ensure a good environmental status, and therefore guarantee a sustainable use of the marine environment and its resources.

The competence to carry out these plans rests on the "Dirección General de Sostenibilidad de la Costa y el Mar", through the Sub-directorate of Protection of the Sea which coordinates the Working Group on Maritime Spatial Planning (MSP-WG) created under the Interministerial Commission of Marine Strategies (CIEM- for its initials in Spanish) which agglutinates representatives from the different ministries with competencies and/or interest in marine affairs. Also in the context of the Marine Strategies implementation, monitoring committees of experts for each of the 5 maritime demarcations, as coordinating bodies between the central government and the regions (Autonomous Communities), were created. The MSP-WG is now compiling present marine uses and potential expansion of activities at each maritime demarcation. One of the problems found by the MSP-WG is the lack of Strategic Development Plans for most sectors, so one of their first actions has been to identify environmental, economic and social objectives for



each maritime activity. This task has been approached by consultation to the different ministries through a questionnaire, and the results will be the basis for the Maritime Strategic Objectives document which will be approved during 2019. An inventory of present activities should be ready by March 31, 2019 and based on this information a Maritime Spatial Plan should be elaborated and approved before March 2021.

On the other hand, the background for the workshop's case study was briefly introduced, describing the Natura 2000 network and the Spanish network of protected areas that cover 12% of the jurisdictional waters. The Galicia Bank protection figures were also succinctly described. There is a Special Protection Area (SPA) and a Site of Community Importance (SCI) designated. Both figures do not coincide completely in the space, but the protected areas are very close and they have similar coverage. Currently there are no management plans in place for these protected areas. These management plans are in progress as part of the LIFE-INTEMARES project and will be submitted soon to public discussion (2019 and 2020 for SPA and SCI management plans respectively). Until those management plans are implemented, the precautionary principle is applied, which means that any activity to be developed in those areas require a specific environmental impact study.

- **María Gómez Ballesteros (IEO; ES)** explained the role of the IEO on the MSP process in Spain. IEO and CEDEX are the institutions in charge of supporting the implementation of the EU Directive for maritime spatial planning in Spain. The IEO forms part of the MSP-WG. The EU Directive is not endowed with a budget to support member states on its implementation, therefore, the EU funds projects, such SIMNORAT, to create guides of good practices that can support the implementation process of the MSP at the state level and support cross-border cooperation in spatial planning issues. The maritime spatial planning process revolves around three pillars: scientific knowledge (data); regulations and governance; and stakeholders' engagement. The project aims to address these three components by also promoting cross-border cooperation. Progress of the project to the date were also presented, highlighting the cross-border cases studies between Spain-France and Spain-Portugal, which include not only the characterization and georeferencing of the study areas in terms of biodiversity, environmental status, protected areas, uses & activities, etc., but also the creation of participatory dynamics with stakeholders at the transnational level. It also highlights the creation of a web geoserver where all the information is available following standardized formats ([data.simnorat.eu](http://data.simnorat.eu)).

- **Rosa Fernández (CETMAR)** then explained the working dynamics for the round-tables as has been described in the Methodology section and detailed in Annex 3.

## 6. Round-Tables

Round Table 1: Energy and Mineral Resources + Navigation + Research and Conservation	
<b>Moderator</b>	María Gómez Ballesteros ( <i>IEO</i> ; ES)
<b>Facilitator</b> <b>SIMNORAT</b>	Lisa Sousa ( <i>UA</i> ; PT)
<b>Facilitator</b> <b>CETMAR</b>	Marisa Fernández ( <i>CETMAR</i> ; ES)
<b>Participants</b>	José Manuel Suarez ( <i>SASEMAR</i> ; ES)
	Margarita Hernando ( <i>ACIEP</i> ; ES)
	Beatriz Nieto ( <i>WWF</i> ; ES)
	Aida Ovejero ( <i>University of Vigo</i> ; ES)
	Ana Cristina Costa ( <i>DGRM</i> ; PT)

### - SECTOR'S PERSPECTIVE -

- **Navigation:** The maritime traffic (merchant ships, cruises, etc.) crossing the study area has low intensity compared with other routes closer to the coast. Nonetheless, around 1000 vessels carrying dangerous goods cross the zone every year. A detailed study on the traffic pressure in the area based on the information collected by the Vessel Monitoring Systems (VMS) should be performed to ensure adequate protection measures. If traffic pressure justifies a modification on the maritime routes, Spain and Portugal would have to submit a proposal to the International Maritime Organization (IMO) which regulate the navigation routes. Delimiting an exclusion zone to navigation in the MPA might not be necessary except for dangerous goods transportation. Probably, setting and reflecting in the nautical charts a series of extra caution measures (lower speed limits, etc.) and restrictions (small oil spills linked to cleaning activities, etc.) should be enough.

Maritime Rescue Services can strengthen surveillance in the MPA in relation to other activities that may be restricted (fishing, etc.). In addition, there is a collaborative framework for rescue and response to pollution incidents through the "Cooperation Agreement for the protection of the coasts and waters of the North-East Atlantic against pollution" signed between Spain, France, Morocco, Portugal and the EEC in 1990 (ratification: BOE Nº 28, 1<sup>st</sup> February 2014 -7090: 7100). This document could serve as a framework for new agreements for joint management of the cross-border space.

- **Energy and Mineral Resources:** There is a lack of information on the presence of hydrocarbons or CO<sub>2</sub> deposits at the study area. Some seismic prospecting campaigns have been made in areas closer to the coast, but few wells have been detected. Off-shore storages of CO<sub>2</sub> is currently not considered because it is very expensive with the actual technology, but could be economically relevant in the future.

It was highlighted that extraction activities require an area with a small dimension, so it would not interfere with maritime traffic. It was also pointed out that offshore facilities decrease the dependence on oil supply through maritime transport and thereby reduce CO<sub>2</sub> emissions.

Stakeholders from this sector state their interest to not exclude any area from exploration and exploitation. The industry studies subsoils around the world and does not discard any zone until the pertinent investigations are carried out. It was also emphasized that all their activities are preceded by environmental impact studies and many prevention measures, such as the European Directive that regulates the safety of offshore hydrocarbons and gas operations. (Directive 2013/30 / EU).

The establishment of an MPA would prevent the exploitation of hydrocarbons or gas, but also seismic prospection or the exploration of oil wells. The lack of conclusive studies on the harmful effect of seismic prospection on cetaceans and the mitigating measures associated to this type of prospection (observers on board to stop seismic prospection when sensible animals are sighted) are enough according to stakeholders from this sector to allow prospection even in MPAs. In addition, they also pointed out that campaigns cover extensive areas but are punctual, which allows planning prospection during periods that minimizes their impact (seasons with little transit of cetaceans in the area, etc.). With regard to the case of oil explorations, drillings are of small diameter, and includes preventive and corrective measures, such as noise control and management of sludge and mud from the boreholes. The collected rubble is handled with authorized managers and analyzed at the Mining Geological Institute. In case the well is not productive, it is clogged and when hydrocarbons are found there are many engineering solutions to avoid spills.

Exploration campaigns are also viewed as an opportunity for scientific research, since they allow exploration in areas where scientific data is scarce and promote the development of technology and the elaboration of new measures for control, prevention, response and mitigation. On the other hand, it was suggested that oil/gas extraction structures could act as artificial reefs promoting accumulation of fish. The installation of extraction structures also generates an area of exclusion for fisheries acting as a refugee for some species. Similar interactions between the abundance of fish and renewable energy infrastructures were also pointed out.

- **Research and Conservation:** Emphasis was placed on the need to apply a preventive approach when scientific information is insufficient, given the high fragility of the ecosystems present in the study area. Fishermen are indicated as a possible source of empirical information on the state of resources and the pressures to which they are subjected, and can provide relevant knowledge on the impacts of human activities in the area. It was considered of vital importance to carry out planning measures to protect resources, taking into account the scarcity of conservation zones. It

was also considered essential to create tools to support decision-making and improve participatory and consultation processes. Overlapping levels of management (CCAA, central government in Spain, etc.) are considered a problem because of the lack of effective communication channels. It was also highlighted the relevance of including MPAs management plans on the MSP process to ensure consistency between management plans. Cross-border coordination was also pointed out as a key factor to avoid conflicts arising from different management strategies between states (e.g. Conservation vs. Exploitation).

### - SYNERGIES -

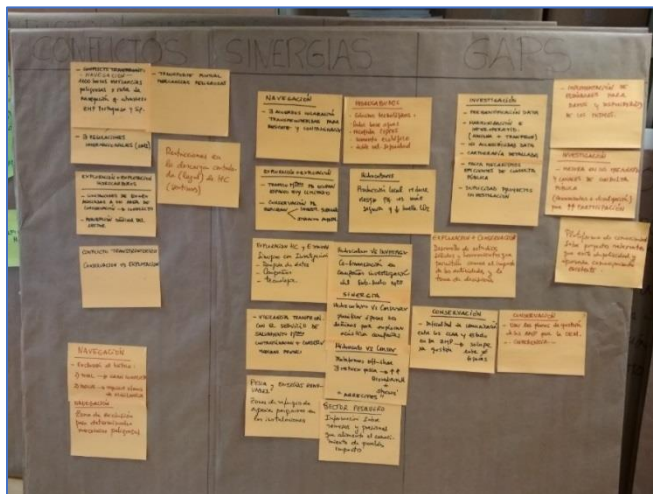
SECTOR	SINERGIES
All sectors	<b>International cooperation:</b> Optimization of resources for research, protection and surveillance in line with other agreements already established for the control of pollution and maritime rescue.
Research vs. Energy and Mineral Resources	<p><b>Shared use of infrastructures/resources:</b> Hydrocarbon exploitation campaigns is a good opportunity to collect data not only from the marine subsoil, but also from other variables (cetacean and birds sightings, etc.).</p> <p><b>Technological impulse:</b> Energy and mineral resources sector promotes technological research in various aspects (offshore technology, waste treatment, security mechanisms, etc.)</p>
Conservation vs. Energy and Mineral Resources	<b>Fisheries reserve:</b> The installation of hydrocarbon/gas exploration structures imply an area of fisheries exclusion which could act as a refugee for some species.
Conservation vs. Renewable Energy:	<b>Fisheries reserve:</b> Concessions for offshore renewable energies also restrict fishing in that area acting as a refugee for some species.
Conservation vs. Fisheries:	<b>Knowledge interchange:</b> The empirical knowledge of fishermen on the status of some resources and in general on the study area could act as an early warning system on hazards and impacts of different activities.

**- CONFLICTS -**

SECTOR	CONFLICTS	SOLUTION TO CONFLICTS
<b>Navigation vs. Conservation</b>	<p><b>Spatial conflict:</b> Protection figures might limit navigation completely or partially.</p> <p><b>Contamination risks:</b> The transport of dangerous goods in particular, as well as the controlled discharges of hydrocarbons (emptying of bilges) would be restricted in the area.</p>	<ul style="list-style-type: none"> <li>- Exclude only the transport of dangerous goods in the protected area and establish for the rest of vessels a series of caution recommendations. Those measures should be reflected in the nautical charts.</li> <li>- Restrictions in the legal discharges of hydrocarbons (bilges cleaning) marked on the nautical charts.</li> </ul>
<b>Navigation vs. Energy and Mineral Resources</b>	<p><b>Spatial conflict:</b> The establishment of oil wells implies total or partial restrictions on navigation. In any case, given the small space occupied by extractive wells, deviations in navigation routes would not be significant.</p>	<ul style="list-style-type: none"> <li>- Compensatory measures limiting the impact of extraction, exploration and prospection of hydrocarbons (external observers, adaptation of campaigns to less harmful seasons, precautionary measures, etc.) which allow to some extent those activities.</li> </ul>
<b>Conservation vs. Energy and Mineral Resources</b>	<p><b>Spatial conflict:</b> MPAs imply total restrictions on exploitation and exploration of mineral resources.</p>	-
<b>Conservation vs. Research</b>	<p><b>Risk for the protected ecosystems:</b> MPAs have a limited access and restrict the use of certain research techniques (seismic prospecting, sampling, etc.).</p>	-
<b>Investigación vs. Energía y Recursos Minerales</b>	-	<ul style="list-style-type: none"> <li>- Carry out impact studies previous to research campaign and adapt sampling techniques to the sensitivity of the habitats / species to be studied.</li> </ul>

- GAPS -

GAPS	SOLUTIONS TO GAPS
<ul style="list-style-type: none"> <li>- Guide of necessary variables to have enough scientific support to perform the maritime spatial planning.</li> <li>- Detailed cartography of the area, as well as detailed studies on ecosystems and the abundance of mineral resources.</li> <li>- Consistent studies on the impact of seismic prospecting surveys on different groups of marine species.</li> <li>- Detailed studies on the maritime traffic pressure on the study area.</li> <li>- Mechanisms to access data which increase the utilization of available information and prevent the duplicity of research studies.</li> <li>- Harmonization and interoperability of data to increase the utilization of the information at different levels of territorial organization.</li> <li>- More effective public consultation mechanisms.</li> <li>- Effective communication mechanisms between protected areas managers at different levels of governance (CCAA, central government, EU, international).</li> </ul>	<ul style="list-style-type: none"> <li>- Development of solid scientific studies to cover information gaps and create tools to integrate data and facilitate decision making.</li> <li>- Implement standards for the storage and data supply.</li> <li>- Create knowledge platforms with information about relevant projects to avoid duplication of researches and facilitate access to information.</li> <li>- Improve measures and public consultation channels to increase the dissemination of results and citizen participation.</li> <li>- Use MPA management plans in the elaboration of Maritime Spatial Planning to prioritize the coherence between different protection figures and different competent management institutions.</li> </ul>



**Figure 2.** Round-Table 1 and summary panel with synergies, conflicts, gaps and solutions.

Round Table 2: Renewable Energy + Navigation + Research and Conservation	
<b>Moderator</b>	Cristina Cervera ( <i>IEO; ES</i> )
<b>Facilitator SIMNORAT</b>	Cécile Nys ( <i>Université de Bretagne Occidentale; FR</i> )
<b>Facilitator CETMAR</b>	Belén Martín ( <i>CETMAR; ES</i> )
<b>Participants</b>	Manuel García ( <i>Marina Mercante; ES</i> )
	Mercedes Mella ( <i>INSTRAT; ES</i> )
	Rosa Nuñez ( <i>INEGA; ES</i> )
	Sandra Ramos ( <i>CIIMAR; PT</i> )
	Sagrario Arrieta ( <i>MITECO; ES</i> )

#### - SECTOR'S PERSPECTIVE -

- **Navigation:** There is not much maritime traffic in the study area, most of it runs closer to the coast (e.g. Finisterre corridor). Anyway, underwater noise might disturb some species and there is some risk of collision of vessels with mammals. Those reasons might justify a request to the IMO to deviate crossing routes or at least to designate caution measures (e.g. reduction of speed). Although due to the low volume of traffic it is unlikely to receive a positive consideration from the IMO for the diversion of routes, a joint request from Spain and Portugal might have a larger impact. With regard to the transport of hazardous substances, there are already preventive measures such as the double hull regulation.

It is also noted that the large transoceanic routes do not end in Galician or Portuguese ports, so deviation of routes would not impact them.

- **Renewable Energy:** Stakeholders from this sector agree on the lack of interest of the study area for renewable energy. The depth (1000-2000 m) would make it impossible to install wind turbines, unless they were floating structures. Anyway, both the floating wind turbines and the wave energy infrastructures, would suppose a very high cost of evacuation given the distance to the coast, which added to the maintenance costs would make this type of facilities unprofitable. The area could be suitable for pilot studies on totally autonomous prototypes, nonetheless, it is easy to find other locations closer to the coast and not subject to protection figures. Some stakeholders (INEGA) pointed out that investment is mostly focused on inland windfarms, while offshore wind turbines are still on an early developmental stage. Offshore exploitation permits

should be granted in Spain by the Ministry for the Ecological Transition (MITECO) and at the moment there are only pilot areas close to the coast.

- **Research and Conservation**: Galicia Bank MPA was designated as a SCI and SPA in response to the EU demand to increase marine protected area and because of the surveys carried out during the INDEMARES project, after the sinking of the "Prestige" oil tanker. The presence of cold-water corals is coupled with large populations of seabirds, turtles and marine mammals, all of them associated to the lower depth and high productivity of the seamounts. Although fishing activity is scarce in the area, this could be an important spawning area for some species. In addition, there are some areas with polymetallic nodules. It was highlighted that, in some cases, the most interesting areas from the point of view of biodiversity (such as the upwelling zones), also tend to have more mining and energy resources, so there is always certain conflict of uses. It was suggested that some prospecting activities might be punctually authorized even inside the SCI, for example, biotechnological surveys that could become of interest in the future and do not require a continued use of space. It was also mentioned how difficult is to enforce restrictive rules in such a remote location because the distance to the coast restricts surveillance and sanctioning might be limited by the issue of competences regarding vessels flags.

From the Portuguese research institutions, the lack of scientific information was highlighted. There were no research campaigns similar to INDEMARES in the seamounts proposed for their designation as MPA in Portugal. However, the proximity and similarities in terms of bathymetry to the Galicia Bank suggest that the ecological values will be similar. Although in Spain there is some information from the INDEMARES project, it would be interesting to study the evolution of the ecosystems described for the Galicia Bank and the presence/persistence of ecological connectivity with the Vigo and Vasco da Gama Seamounts proposed by Portugal as AMP. The bathymetry of the zone suggests high connectivity between both areas, but it would be necessary to carry out research surveys to characterize those pathways.

Stakeholders also pointed out this case study as an opportunity to create the first marine protected area jointly managed between Spain and Portugal. There is a transboundary protected area in the Minho River to accomplish Marine Strategies goals of a good environmental stage, but the rest of the examples are terrestrial protected areas. In general, the relevance of involving all the interested stakeholders in the maritime spatial planning and management process was highlighted.



**- SYNERGIES -**

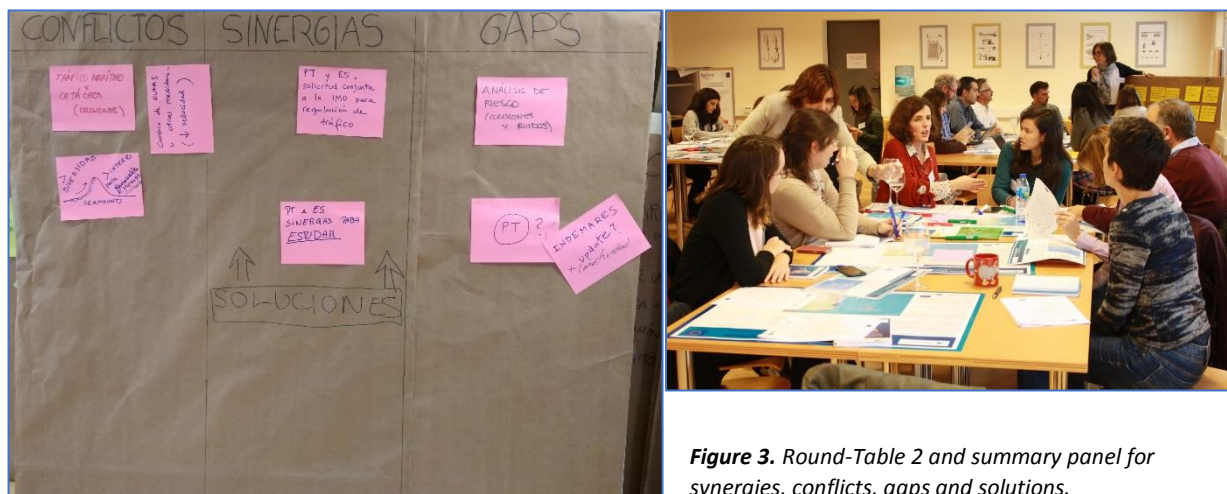
SECTOR	SINERGIES
All sectors	<b>International cooperation:</b> Optimization of resources for research, protection and surveillance in line with other agreements already established for the control of pollution and maritime rescue.

**- CONFLICTS -**

SECTOR	CONFLICTS	SOLUTIONS TO CONFLICTS
<b>Navegación vs. Conservación</b>	<p><b>Accidental collisions:</b> There is a risk of collisions of vessels with cetaceans which could justify a request for diversion of routes or at least reduction of speed in the protected area.</p> <p><b>Underwater noise:</b> Transit of large vessels could lead to acoustic contamination, altering cetaceans or other species particularly sensitive and therefore justify a request to the IMO to divert transit routes.</p>	Raise a joint request from Spain and Portugal to the IMO for the restriction of maritime traffic in the area, at least restrict the transit of dangerous goods or establish other precautionary measures.
<b>Other Activities vs. Conservation</b>	<b>Spatial conflict:</b> High productivity areas such as seamounts, are usually more interesting for different activities (lower relative depth make those locations also better for renewable energy, more interesting for fisheries, biotechnology, etc.) rising more conflicts between uses.	Address individually the implications of other activities in the marine protected area, in order to authorize or not specific prospecting activities.

**- GAPS -**

GAPS	SOLUTIONS TO GAPS
<ul style="list-style-type: none"> <li>- Studies on the navigation pressure over different species.</li> <li>- Hydrodynamic and ecological characteristics of the Vigo and Vasco da Gama Seamounts.</li> <li>- Connectivity pathways between the Galicia Bank and the Vigo and Vasco da Gama Seamounts.</li> <li>- Enforcement system to control restrictive measures in the area.</li> <li>- Stakeholders not contacted identified as relevant: Biotechnology sector (eg PharmaMar), Representatives of the OSPAR Commission, other NGOs (Oceana, SEO / BirdLife).</li> </ul>	<ul style="list-style-type: none"> <li>- Development of Spanish-Portugal scientific studies to cover gaps of information and integrate it to facilitate decision making.</li> <li>- Establishment of cross-border agreements for the control and management of MPAs.</li> </ul>



**Figure 3.** Round-Table 2 and summary panel for synergies, conflicts, gaps and solutions.

Round Table 3: Renewable Energy + Fisheries + Research and Conservation	
<b>Moderator</b>	Marcia Marques (UA; PT)
<b>Facilitator</b> <b>SIMNORAT</b>	Carla Murciano (CEDEX; ES)
<b>Facilitator</b> <b>CETMAR</b>	Laura García (CETMAR; ES)
<b>Participants</b>	Joaquín Cadilla (ORPAGU; ES)
	Manuel García (Consellería do Mar-Xunta de Galicia; ES)
	Silvia Torres (CETMAR; ES)
	Teresa Simas (WavEc; PT)
	Isabel Riveiro (IEO; ES)

#### - SECTOR'S PERSPECTIVE -

- **Renewable Energy:** Seabed material and depth are fundamental variables to determine the interests of renewable energies in the study area but those were not clearly described in the materials offered for the workshop. Anyway, it was clear that depth was larger than 200 meters deep, which is the technological limit for off-shore generators nowadays. In addition, the distance to land makes the installations of generators in the study area unprofitable (km of cable for energy exportation, installation and maintenance tasks, etc.). Therefore, the stakeholders from this sector

identified the potentialities, conflicts and synergies for the renewable energy sector in Spain and Portugal outside of the study area.

Fixed structures offshore wind turbines have a limit of 50 meters deep. These generators are incompatible with any other use of the space since security issues establish an exclusion zone around the windfarm. Because of the depth limit, the only area susceptible to host those generators in Galicia would be within the Rias where many other activities are concentrated already.

With regard to floating offshore wind turbines, this technology is still not fully mature but it would be interesting to take it into account on MSP. However, it is not likely that wind turbines will be placed more than 200 meters deep.

Tidal energy turbines have low potential either in Spain and in Portugal, because of the coastal characteristics and the technologies explored so far. Nonetheless, wave power generators could become interesting in the near future and should be taken into account for MSP. Spatial needs for wave energy turbines would be similar to those required by floating wind turbines.

The installation of any of these generators is incompatible with mining activities because it restricts the maneuvers that can be carried out around them. Oil extraction would be also restricted since it does not seem feasible nowadays to build multipurpose structures that can reconcile both activities. Another potential conflict would occur with fishing, since the installation of farms / generators parks would create an exclusion zone around the energy-farms and could limit access to certain fishing grounds. Thus, this activity could also interfere with navigation, since it might require the modification of some navigation routes. Also, the ground wires necessary to export the electricity to land, would alter the seabed and limit any activity related to it. In addition, these cables emit electromagnetic waves and their effect on fauna and flora is unknown. It was also highlighted the need for studies of viability at high spatial resolution and taking into account different uses of the space (e.g. EnergyMare Project in Galicia).

On the other hand, several synergies were also identified, as the use of multipurpose platforms and boats, shared between different activities (fishing, aquaculture, ocean observation, different renewable energy turbines), lowering operation and maintenance costs. Another synergy would be with tourism, as there is a growing interest in visiting offshore infrastructures. A possible synergy with conservation might be the effect of the turbines acting as an artificial reef which can increase the biodiversity in the area, and also acting as a fishing refugee for some species. With regard to research, renewable energies are driving the development of innovative technologies related to automation, "Internet of Things" etc., which in turn create new work opportunities and professions.

- **Fisheries:** According to the stakeholders present in this round-table, the study area has a limited interest for longline fishing, since it is not a good area for swordfish which is the main target species. This area is only used as a transit area for large vessels on its way to other fishing grounds. They usually fish for shortfin mako sharks or blue sharks. Some coastal vessels (<20 meters in length) use the area although is not very interesting for them either. Lately, fishermen are detecting bluefin tuna in that area, although due to the moratorium on that species, Spain has no fishing quota for it. If the bluefin tuna continue to recover and expanding north, it could become

relevant for the fishery in the area. Nonetheless, the bluefin tuna would be a seasonal fishery, since they just cross this area during their migrations, so it would not be very problematic to capture them outside the protected area. Currently the most active fishing in the area is the king crab, which takes place on the slopes of the submarine mountain but which is also in decline. In that area there is also some trawling, mainly dedicated to the capture of demersal sharks (nurse shark, etc.). Although this fishing is totally forbidden in Spain, it is possible that vessels from other countries, including Portugal, use this area to capture demersal sharks. Anyway, the fishing of this type of sharks is usually limited to 500 m depth (because of the fishing tackle they use), and the fishery try to avoid rocky areas to prevent damages to the fishing nets. Those limitations, substantially reduces the area susceptible to this fishery within the protected area.

It was also highlighted the lack of consistency in governance between different countries, even for the management of the same fish stock. Different regulations for neighbouring countries regarding fishing gear, days off or species that can be fished are very common.

Improvements on scientific knowledge to sustain the decision-making process and the MSP were also identified as a priority. In many cases the information exists, but it is not easily accessible. It was also detected a lack of clear indicators for monitoring environmental status and the sustainable use of resources.

In general, coastal fishing is much more important for Galicia and it is closer to the coast where most of the conflicts with other activities (aquaculture, renewable energy, etc.) would arise. Stakeholders also highlighted that is frequent that decision makers handle incomplete information i.e. in Spain, in many cases, they only have information about fisheries managed by the central government, ignoring fisheries occurring in internal waters which are managed by the autonomous government and are the most productive in the case of Galicia. In this sense, it was detected a conflict of governance within the same country, but at different institutional levels (autonomous communities vs. central government). It was also identified a lack of incorporation of fishermen in the planning processes at all levels of governance.

From the Galician government seems to be no interest in deploying aquaculture farms in the study area due to the large distance to the coast and the environmental conditions that make it unsuitable for the maintenance of structures or the cultivation of animals. Nonetheless, looking at other offshore locations, stakeholders detected a possible synergy between aquaculture and renewable energies by creating multipurpose structures energetically self-sufficient which could also reduce maintenance costs.

**- Research and Conservation:** The relevance of the study area for conservation is highlighted by the presence of cold-water corals, sponges and other benthic species of high ecological value. Those reefs concentrate a great abundance and diversity of species, and therefore also concentrates top predators such as sharks, marine mammals, turtles and birds. Polymetallic nodules were also found in some areas which might raise interest from the point of view of mining.

Environmental impact assessments need to be carried out before any activity is developed. Any activity developed in the area might interfere with its conservation since it would be coupled to an increase of maritime traffic. Activities that interfere with the seafloor are identified as the most

disturbing ones (mining prospecting/extraction, renewable energy, trawling, etc.). Deficits in scientific information were also identified for the area that would need to be addressed when designing new protection areas and developing management plans for existing ones.

Stakeholders agree on the convenience of having a joint regulation for the Galicia Bank and the Vigo and Vasco da Gama Seamounts because of their bathymetrical, oceanographic and ecological similarities. Even without a geographical continuity between both MPAs, having a joint governance could contribute to avoid habitat segmentation. Both MPAs might be important feeding areas in migratory routes for birds and marine mammals, so the joint management between Spain and Portugal could be especially relevant to establish coherent networks of protected areas. The relevance of having scientific information supporting decision-making and management of the marine space was highlighted again.

### - SYNERGIES -

SECTOR	SINERGIES
<b>Renewable Energy vs. Fisheries</b>	<p><b>Knowledge interchange:</b> Using the empirical knowledge of fishermen on the area to locate offshore energy-farms would improve the efficiency and viability of anchorages. At the same time, involving the fishing sector in the design of the parks would favour the cession of certain fishing areas and improve communication.</p> <p><b>Shared use of infrastructures-Multipurpose vessels:</b> Especially in Portugal, there is a lack of vessels for the installation and maintenance of generators. Renting fishing vessels for specific maintenance tasks would be more profitable for the renewable energy sector than having their own fleet. On the other hand, fishermen could also diversify their business having an extra income from these activities.</p> <p><b>Fisheries reserve:</b> The installation of offshore energy-farms requires an area of fisheries exclusion which could act as a refugee for some species and indirectly have a spill over effect, increasing the abundance of certain species in adjacent areas.</p>
<b>Renewable Energy vs. Renewable Energy</b>	<p><b>Shared use of infrastructures-Multipurpose platforms:</b> The installation of various types of turbines (wind, tidal, wave, etc.) in the same space would reduce installation costs, maintenance and make more profitable the energy exportation to land.</p>
<b>Renewable Energy vs. Aquaculture</b>	<p><b>Shared use of infrastructures-Multipurpose platforms:</b> The shared use of infrastructures would avoid competition for the space between those activities, as well as reduce costs derived from installation and maintenance. Multipurpose platforms still need to develop specific insurance mechanisms that define the responsibilities of each one of the activities carried out in them.</p>
<b>Renewable Energy vs. Tourism</b>	<p><b>Added value because of the infrastructure:</b> There is a potential market for people interested in visiting power generation facilities at sea, due to its size and location. In addition, these structures act as artificial reefs adding interest for recreational diving.</p>

**- CONFLICTS -**

SECTOR	CONFLICTS	SOLUTIONS TO CONFLICTS
<b>Renewable Energy vs. Fisheries</b>	<b><i>Spatial conflict:</i></b> Offshore energy-farms generate an exclusion zone to fisheries around their facilities. In addition, submarine cables for energy transfer to land also restrict trawling on their influence area, limiting fisheries in a larger area than the one properly delimited by generators.	<ul style="list-style-type: none"> <li>- Creation of compensatory measures for the use of space.</li> <li>- Involve fishermen in the renewable energy sector as investors or suppliers of infrastructures and expertise, creating new income opportunities compatible with their activity.</li> </ul>
<b>Renewable Energy vs. Conservation</b>	<p><b><i>Direct conflicts related to the infrastructure:</i></b> Especially conflictive for seabirds that can collide with wind turbines. The submarine noise generated can also affect cetaceans, fish, etc. In addition, the energy transfer cables to land emit electromagnetic fields whose effect on the marine fauna is unknown.</p> <p><b><i>Indirect conflicts related to maintenance tasks:</i></b> Maintenance tasks generate an increase in the transit of vessels to the area, and therefore the risk of accidents, oil spills, etc.</p>	
<b>Renewable energy vs. Navigation</b>	<b><i>Spatial conflict:</i></b> Offshore energy-farms generate an exclusion zone around them which might interfere with some navigation routes.	
<b>Renewable energy vs. No Renewable energy</b>	<b><i>Spatial conflict:</i></b> Both activities require exclusion zones to accomplish with security rules.	
<b>Fisheries vs. Conservation</b>	<p><b><i>Spatial conflict:</i></b> Conservation requirements might limit completely or partially fishing activities in the MPA.</p> <p><b><i>Accidental captures of high ecological value species:</i></b> In the case of partially allowed fishery, there are some conflicts related to the accidental capture of seabirds, marine turtles or marine mammals.</p>	Modifications on the fishing gear can reduce accidental capture. The modifications already implemented on the longlines used in the study area have made anecdotal the incidence of seabirds captured on fishing gear, and could be reduced even more limiting the deployment of longlines at night. In the case of turtles, although there is a higher incidence of individuals trapped in fishing gear, that usually not lead to high mortalities. Training personnel on-board in first aid for these animals would allow them to be returned to the sea in good conditions.



## - GAPS -

GAPS	SOLUTIONS TO GAPS
<ul style="list-style-type: none"> <li>- Scientific knowledge about the biological values of the area.</li> <li>- Creation of clear indicators to monitor environmental status.</li> <li>- Availability of existing information.</li> <li>- Incorporation of relevant stakeholders in the planning/management process.</li> <li>- Coordination at different levels of governance.</li> <li>- Lack of specific training for new activities at sea.</li> </ul>	<ul style="list-style-type: none"> <li>- Open interdisciplinary communication channels with stakeholder.</li> <li>- Open communication channels between different levels of governance.</li> <li>- Increase scientific studies on the study areas, but optimizing the existing economic resources (European Maritime and Fisheries Fund, etc.).</li> </ul>



**Figure 4.** Round-Table 3 and summary panel for synergies, conflicts, gaps and solutions.

Round Table 4: Energy and Mineral Resources + Fisheries + Research and Conservation	
<b>Moderator</b>	Adriano Quintela ( <i>UA; PT</i> )
<b>Facilitator SIMNORAT</b>	Mónica Campillos ( <i>IEO; ES</i> )
<b>Facilitator CETMAR</b>	Rosa Fernández ( <i>CETMAR; ES</i> )
<b>Participants</b>	Francisco Rosa ( <i>Vianapesca; PT</i> )
	Rebeca Lago ( <i>ARVI; ES</i> )
	Alejandra Lago Comesalle ( <i>Universidade de Vigo; ES</i> )
	José Martinez ( <i>CEMMA; ES</i> )
	Graham Pierce ( <i>IIM-CSIC; ES</i> )

#### - SECTOR'S PERSPECTIVE -

- **Fisheries:** The study area is not identified as strategic for the fishing sector. Nonetheless, the impact of illegal fishing is unknown and there are no exhaustive controls of the Portuguese fleet through VMS (Vessel Monitoring Systems). Bluefin tuna could become an interesting fishery in the future, although this is a seasonal fishery. It is also documented the presence of other species of commercial interest<sup>6</sup> whose future exploitation could generate a conflicts between fisheries and conservation.

In general, the fishing sector claims the need to take part in planning and management processes. They also demand the improvement of public consultation mechanisms, which should include interactive procedures to ensure the incorporation of all the stakeholders in the planning process. Dialogue between the administration and different stakeholders is not always at the same level, but biased towards sectors with larger economic influence.

- **Energy and Mineral Resources:** There are important gaps of information about the resources available in the area. The prospections were only carried out at the “Gran Burato” in the Galicia Bank, where 3 "pockmarks" indicating the presence of hydrate gases were detected. In Portugal, they want to map the hydrate gases along the Atlantic coast, although these deposits are not always of economic interest. Prospections of mineral resources involving seismic technics are always associated with a high bureaucracy due to their impacts on certain fauna (mainly

<sup>6</sup> Rafael Bañón Díaz (2016) Ictiofauna del Banco de Galicia: Composición Taxonómica y Aspectos Biogeográficos. Tesis Doctoral. Universidade de Vigo.



cetaceans). In the area of the Galicia Bank, prospecting is even more complicated, requiring specific environmental impact assessments due to the precautionary principle required by the designation of the area as an SCI.

**- Research and Conservation:** There is no information on the habitats/resources present in the Vasco and Vasco da Gama Seamounts. There is some information for the Galicia Bank from the INDEMARES project prospecting. There is a lack of seismic data and geological studies, but these types of studies are restricted due to possible impact on cetaceans. There are no specific studies on the study area analyzing the impact of seismic techniques on the stranding of cetaceans, although it has been documented in other locations. At some places, seismic studies are allowed seasonally during times of little transit of cetaceans. In any case, it is considered that access to MPAs for scientific research should be regulated in a more agile manner. In the case of geological investigations, the access would be punctual, which should be considered a facilitating element for this type of studies.

The study area is far away from land and adverse conditions are frequent, limiting the access of research campaigns to the area. For example, cetacean sightseen campaigns are only carried out during summer when weather conditions are better, so the records are incomplete. The use of fisheries vessels for research campaigns have been successful in the past, because of the expertise of fishermen to move in the study area and the adequation of their boats to the study area.

Connectivity patterns between MPAs in Spain and Portugal was highlighted as a research priority, as well as the effects of climate change on the ecosystems of the area. Army activities in the area have never been considered, so their effect on the ecosystems is unknown and should be studied. Important gaps of information were detected preventing a properly scientific based planning process for the area. It would be necessary to continue researching in the area but also address properly that information to facilitate decision making. For the decision-making process it was suggested to give special weight to the regions directly affected by the planning process. The acceptance of the management processes by the personnel directly affected by them, improves the compliance of the established measures. Therefore the link between local, regional and national decision-makers is essential. Harmonizing management mechanisms between neighboring countries was also highlighted as a priority.

#### - SYNERGIES –

SECTOR	SINERGIES
<b>Research vs. Energy and Mineral Resources</b>	<b><i>Shared use of infrastructures/resources:</i></b> Prospecting campaigns for mineral resources are a good opportunity to collect data not only from the marine seabed composition, but also from other variables (cetacean and birds sightings, etc.).
<b>Research vs. Fisheries</b>	<b><i>Shared use of infrastructures/resources:</i></b> The use of fishing vessels for research activities can reduce costs and take advantage of the experience of fishermen to apply it to research. For fishermen, research activities might be an extra income compatible with their activity.
<b>Conservation vs. Fisheries</b>	<b><i>Increase of fish abundance:</i></b> Having an area excluded from fisheries can lead to a greater accumulation of fish using that area as a refuge and also indirectly increase the amount of fish in adjacent areas. Since this area is not very

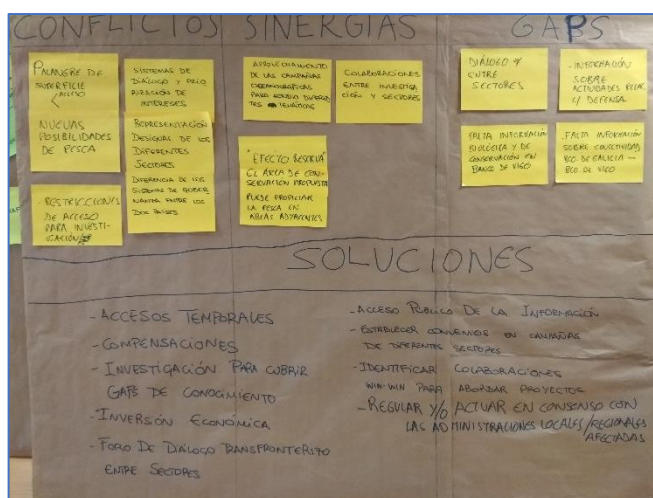
	relevant for fisheries, this was considered a weak synergy.
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**- CONFLICTS -**

SECTOR	CONFLICTS	SOLUTIONS TO CONFLICTS
<b>Different priorities on maritime strategies between neighboring countries</b>	Different priorities (i.e. conservation vs. exploitation of mineral resources) among neighboring countries can prevent common governance and management policies for the trans-boundary space.	Create a permanent forum for cross-border dialogue between stakeholders.
<b>Energy and Mineral Resources vs. Fisheries</b>	<i><b>Spatial conflict:</b></i> Fishery is restricted in mining areas.	Creation of compensation mechanisms for the use of space.
<b>Fisheries vs. Conservation</b>	<p><i><b>Spatial conflict:</b></i> MPAs might restrict fisheries activities. This could limit current longline fishing, as well as exploitation of other potential species in the future.</p> <p><i><b>Accidental captures of high ecological value species:</b></i> In the case of partially allowed fishery, there are some conflicts related to the accidental capture of seabirds, turtles or marine mammals.</p>	<ul style="list-style-type: none"> <li>- Seasonal access to fisheries to the MPA to reduce the impact on certain species.</li> <li>- Compensation mechanisms for the use of the space in case of total restrictions on fishing, or in the case of objective damage on previous uses.</li> </ul>
<b>Conservation vs. Research</b>	<i><b>Risks to protected ecosystems:</b></i> The establishment of MPAs limit access and the use of certain research techniques (seismic prospecting, sampling, etc.).	<ul style="list-style-type: none"> <li>- Allow temporal access to the MPA.</li> <li>- Flexibilize permits for scientific research (taking into account that the current administrative requirements are complex due to the application of the precautionary principle).</li> <li>- Facilitate access to information (availability of data, etc.).</li> </ul>

## - GAPS -

GAPS	SOLUTIONS TO GAPS
<ul style="list-style-type: none"> <li>- Scientific knowledge about biological values, especially at the Vigo and Vasco da Gama Seamounts, as well as on connectivity pathways with the Galicia Bank.</li> <li>- Studies on the effects of army activities on ecosystems.</li> <li>- Incorporation of relevant stakeholders in the planning process following equality principles.</li> <li>- Create mechanisms for dialogue between different sectors and in different levels.</li> <li>- Coordination at different levels of governance.</li> </ul>	<ul style="list-style-type: none"> <li>- Increase economic investment in research, prioritizing and strengthening priority fields.</li> <li>- Promote inter-institutional agreements for cooperation and coordination during research campaigns.</li> <li>- Create mechanisms for public access to the information generated.</li> <li>- Identify collaborative projects that ensure synergistic relationships between sectors.</li> <li>- Involve local or regional administrations of the areas directly affected for the planning process.</li> </ul>



**Figure 5.** Round-Table 4 and summary panel with synergies, conflicts, gaps and solutions.

## 7. General conclusions

The outline of the general conclusions highlighted by the different working groups are synthesized below regarding synergies, conflicts, gaps and proposed solutions for the implementation of a cross-border MPA in the study area.

### - SYNERGIES -

SECTOR	SINERGIES
All sectors	Cross-border cooperation on surveillance and joint management.
All sectors	Boats/platforms of opportunity for multidisciplinary research that allow collecting a greater volume of information and reusing data for multiple purposes.
Renewable energies vs. Fisheries	Multi-purpose boats and platforms.
Renewable energies vs. Aquaculture	
Energy and Mineral resources vs. Aquaculture	
All sectors	Inter-sectoral interactions (jobs, experience, etc.).
Conservation vs. Fisheries	Creation of artificial reefs and fishing reserves that may favor the abundance of certain species in adjacent areas (limited interest for fishing in the area should limit the economic repercussion).
Renewable energies vs. Fisheries	
Energy and Mineral resources vs. Fishing	

**- CONFLICTS -**

SECTOR	CONFLICTS
All sectors	Different strategic priorities between countries.
All sectors	Different/contradictorily laws for the regulation of uses of the maritime space between countries.
All sectors	Lack of representativeness and equitable participation of all sectors in the management process.
Renewable energies vs. Fisheries	Conflict over space.
Renewable energies vs. Aquaculture	
Renewable energies vs. Conservation	
Renewable energies vs. Navigation	
Renewable energies vs. Energy and Mineral resources	
Energy and Mineral resources vs. Fisheries	
Energy and Mineral resources vs. Aquaculture	
Energy and Mineral resources vs. Conservation	
Energy and Mineral resources vs. Navigation	
Navigation vs. Aquaculture	
Navigation vs. Conservation	
Aquaculture vs. Navigation	
Conservation vs. Research	
Conservation vs. Renewable energies	Pollution
Conservation vs. Energy and Mineral resources	
Conservation vs. Navigation	
Conservation vs. Fisheries	
Conservation vs. Renewable energies	Habitat destruction.
Conservation vs. Energy and	

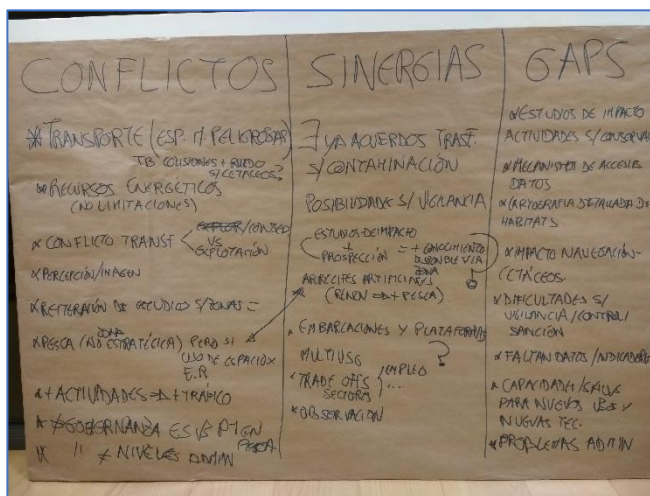
<b>Mineral resources</b>	
<b>Conservation vs. Fisheries</b>	
<b>Conservation vs. Research</b>	
<b>Conservation vs. Renewable energies</b>	Fauna and flora alteration.
<b>Conservation vs. Energy and Mineral resources</b>	
<b>Conservation vs. Fisheries</b>	
<b>Conservation vs. Research</b>	
<b>Conservation vs. Navigation</b>	

### - GAPS -

<b>GAPS</b>
<ul style="list-style-type: none"> <li>- Detailed cartography of the study area.</li> <li>- Information on habitats and resources abundance, especially in the Vigo and Vasco da Gama Seamounts.</li> <li>- Studies on the impact of navigation / prospecting of mineral resources / army activities.</li> <li>- Clear indicators to monitor the environmental status.</li> <li>- Mechanisms for free access to data.</li> <li>- Mechanisms to increase intersectoral dialogue.</li> <li>- Mechanisms to increase dialogue at different administrative levels within the same country as well as transnational dialogue.</li> <li>- Training programs for new job opportunities.</li> <li>- New technologies for autonomous work on the high seas.</li> <li>- Efficient mechanisms to monitor, control and sanction infractions around the MPA.</li> </ul>

## - SOLUTIONS FOUNDED IN THE WORKSHOP -

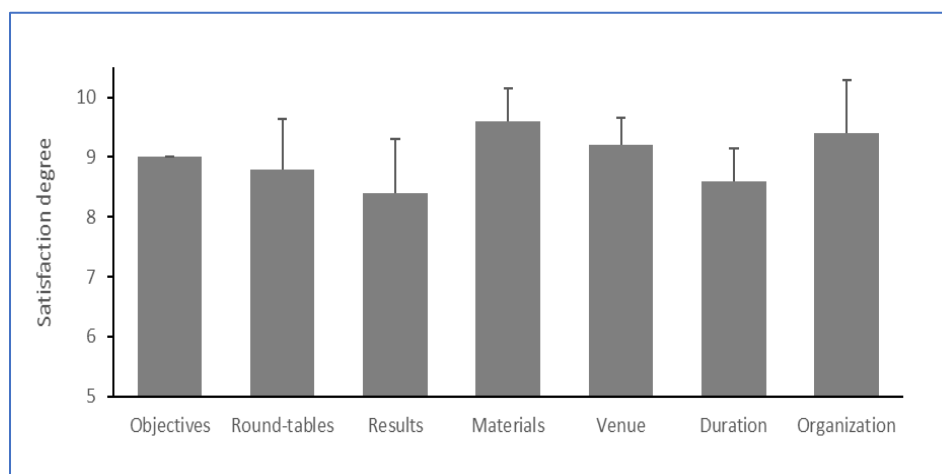
SOLUTIONS	
-	Homogenize different levels of governance.
-	Create a cross-border permanent intersectoral forum.
-	Request maritime transport restrictions jointly between Spain and Portugal for MPAs.
-	Create temporary Access/Restriction mechanisms to allow a larger compatibility between uses.
-	Promote technological developments to increase safety and minimize the impacts of certain activities, making them more compatible with other uses.
-	Create compensatory mechanisms for the use of space between incompatible activities.
-	Improve surveillance and control systems.
-	Create more interactive the public consultation systems.
-	Increase investment in research and development.
-	Optimize investment in research through cross-border, intersectoral and multidisciplinary collaborations.
-	Improve coordination and supervision systems in research.
-	Optimize and harmonize data collection.
-	Promote "Open Access" to research results and raw data.



**Figure 6.** Summary of conclusions highlighted by the different working groups.

## 8. Satisfaction surveys

A questionnaire was elaborated to evaluate the perception of the workshop by those attending it (Annex 5). Seven categories were established in which a rating of 0 to 10 was requested according to their degree of satisfaction with the workshop. All the categories obtained average scores above 8 (Figure 7). The material used, together with the organization and venue of the workshop, were the categories that obtained a better evaluation by the assistants (Figure 7).



**Figure 7.** Average and standard deviation on the satisfaction degree of the participants according to each of the evaluated categories.

The attendees had comments on the time distribution along the workshop, suggesting less dedication to the plenary sessions in order to devote more time to round-tables and discussion without extending the length of the workshop, which for some attendees should be limited to one morning. Other participants suggested to provide more information previous to the workshop to gather more specific data which could be useful during round-tables. The general assessment of the workshop was very positive, with an average of 8.8 points.





*Figure 8. Group picture of the Workshop attendees.*

ANNEX 1: Descriptive fact-sheets by sectors

## CONTEXTO GENERAL SIMNORAT Y ÁREA DE ESTUDIO



**¿Qué es SIMNORAT?**  
SIMNORAT es un proyecto co-financiado por la UE que busca apoyar a los Estados Miembros a la hora de implementar la Directiva de Ordenación del Espacio Marítimo (Directiva 2014/89/UE).

**¿Cuáles son los objetivos principales de SIMNORAT?**  
Apoyar la implementación de la Directiva de Ordenación del Espacio Marítimo  
Llevar a cabo cooperación transfronteriza concreta entre Estados Miembros en la Región del Atlántico Norte

**¿Cómo se desarrolla y ejecuta SIMNORAT?**  
Se centra en la cooperación transfronteriza entre Francia, España y Portugal a la hora de desarrollar recomendaciones y guías de buenas prácticas, desarrollando ejercicios sobre casos de estudio específicos.  
Pretende llevar a cabo una primera aproximación a las partes interesadas con la intención de evaluar su conocimiento de la directiva y de sus implicaciones, así como sus opiniones e inquietudes.

**¿Cuáles son las áreas de estudio SIMNORAT?**  
Área de estudio 1: Golfo de Vizcaya  
Área de estudio 2: Banco de Galicia y Montes Submarinos de Vigo y Vasco da Gama (objeto del presente workshop)

### ¿Quiénes son las instituciones participantes en SIMNORAT?

- Agence Française pour la Biodiversité (Fr)
- SHOM (Fr)
- Cerema (Fr)
- Universidade de Aveiro (Pt)
- Centro de Estudios y Experimentación de obras públicas - CEDEX (Sp)
- Instituto Español de Oceanografía - IEO (Sp)

### Banco de Galicia y Montes Submarinos de Vigo y Vasco da Gama

El área de estudio incluye el Área Marina Protegida del Banco de Galicia y el Monte Submarino de Vigo y Vasco da Gama, ubicados en el límite occidental de la plataforma geológica continental y en el límite norte del área jurisdiccional portuguesa. El área comprendida entre ellos y la costa también se considera para tener en cuenta el tráfico marítimo, ya que podría representar un riesgo para la conservación. Este sitio propuesto está ubicado en el sector noroeste de la Península Ibérica, e incluido en las ZEE de Portugal y España, y en la frontera de las áreas IV y V de OSPAR.

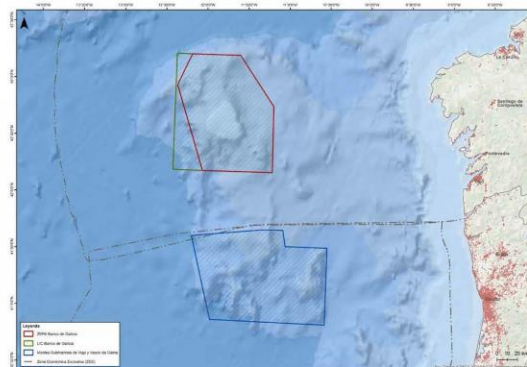
#### ¿Qué es el Banco de Galicia?

El Banco de Galicia es un Lugar de Importancia Comunitaria (LIC), de acuerdo con la Directiva de Hábitat, y una Zona de Especial Protección para las aves, de acuerdo con la Directiva de Aves. Las especies de interés comunitario por las que fue declarado el LIC son: la tortuga boba (*Caretta caretta*), el delfín mular (*Tursiops truncatus*) y los arrecifes de *Lophelia pertusa* y *Madrepora oculata*.

El conocimiento científico disponible sobre las características del Banco de Galicia fue escaso hasta el hundimiento del petroero Prestige en 2002 en el SW del banco, evento que impulsó la realización de estudios científicos sobre su geología y dinámica actual. La información sobre su biología y hábitats fue escasa hasta los proyectos ECOMARG (IEO) y LIFE+ INDEMARES.

#### ¿Qué son los Montes Submarinos de Vigo y Vasco da Gama?

El Área Marina Protegida propuesta considera los resultados obtenidos por el IEO en el proyecto LIFE+ INDEMARES y otros estudios científicos previos de sustratos marinos. En este sentido, hay una concurrencia de ecosistemas marinos vulnerables y hábitats principalmente formados por especies bentónicas y bentopelágicas, montes submarinos y fondo rocoso de la plataforma continental y sedimentos blandos incoherentes.



## CONTEXTO GERAL SIMNORAT E ÁREA DE ESTUDO 2



**¿Qué es SIMNORAT?**  
SIMNORAT é um projeto co-financiado pela UE que visa apoiar os Estados Membros na implementação da Diretiva do Ordenamento do Espaço Marítimo (Directiva 2014/89/UE).

**Quais são os principais objetivos de SIMNORAT?**  
Apoyar a implementação da Diretiva do Ordenamento do Espaço Marítimo  
Promover uma cooperação transfronteriza efetiva entre os Estados Membros na Região do Atlântico Norte Europeu

**Como se desenvolve e executa o SIMNORAT?**  
Este projeto promove a cooperação transfronteriza entre França, Espanha e Portugal no desenvolvimento de recomendações e guias de boas práticas, levando a cabo exercícios sobre casos de estudos específicos.  
Pretende realizar uma primeira abordagem às partes interessadas com a intenção de avaliar o seu conhecimento da Diretiva e as suas implicações, assim como as suas opiniões e preocupações.

**Quais são as áreas de estudo do SIMNORAT?**  
Área de estudo 1: Golfo da Biscaya  
Área de estudo 2: Banco da Galiza e Montes Submarinos de Vigo e Vasco da Gama (objeto do presente workshop)

### Quem são as instituições participantes no SIMNORAT?

- Agence Française pour la Biodiversité (Fr)
- SHOM (Fr)
- Cerema (Fr)
- Universidade de Aveiro (Pt)
- Centro de Estudos e Experimentação de obras públicas - CEDEX (Sp)
- Instituto Español de Oceanografía - IEO (Sp)

### Banco de Galicia e Montes Submarinos de Vigo e Vasco da Gama

A área de estudo inclui a Área Marina Protegida do Banco da Galiza e os montes submarinos Vigo e Vasco da Gama, localizados no limite ocidental da plataforma geológica continental e no limite norte da área de jurisdição portuguesa. A área compreendida entre eles e a costa também se considera para ter em conta o tráfico marítimo, uma vez que poderia representar um risco para a conservação. Este sítio proposto está localizado no setor noroeste da Península Ibérica, e incluindo as ZEE DE Portugal e Espanha, e na fronteira das áreas IV e V da OSPAR.

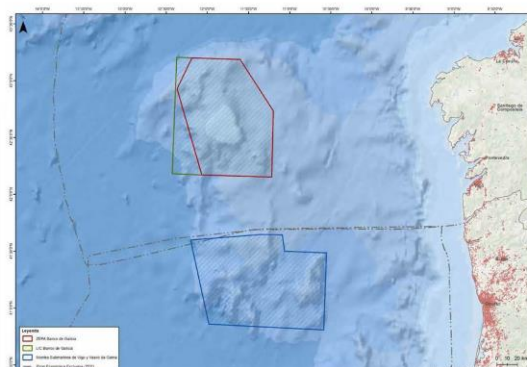
#### O que é o Banco da Galiza?

O banco da Galiza é um Sítio de Interesse Comunitário (SIC), de acordo com a Diretiva Hábitat, e uma Zona de Proteção Especial para as aves, de acordo com a Diretiva Aves. As espécies de interesse comunitário que foi declarado no SIC são a tartaruga-marinha-comum (*Caretta caretta*), o roaz (*Tursiops truncatus*) e os recifes biogénicos de *Lophelia pertusa* e *Madrepora oculata*.

O conhecimento científico disponível sobre as características do Banco da Galiza era escasso até ao naufrágio do petroleiro Prestige em 2002 a SW do banco, evento que impulsionou a realização de estudos científicos sobre a sua geologia e dinâmica atual. A informação sobre a sua biologia e hábitats foi escassa até ao desenvolvimento dos projetos ECOMARG (IEO) e LIFE+ INDEMARES.

#### O que são os Montes Submarinos de Vigo e Vasco da Gama?

A Área Marina Protegida proposta considera os resultados obtidos pelo IEO no projeto LIFE+ INDEMARES e outros estudos científicos anteriores dos substratos marinhos. Neste sentido existe uma coexistência de ecossistemas marinhos e hábitats principalmente formados por espécies bentónicas e bentopelágicas, montes submarinos e fundos rochosos da plataforma continental e sedimentos móveis.





## SUPPORTING IMPLEMENTATION of Maritime Spatial Planning in the NORTHERN ATLANTIC REGION

Apoyo a la implementación de la Ordenación Espacial Marina en el Atlántico Norte

Winter 2017-December 2018

Gómez-Ballesteros, M., Cervera, C., Campillo, M. and Aranz, L., 2018.

Materials and deliverables from Workshop 2018 Case study of the Galician Bank and the Vigo and Vasco da Gama seamount, www.simnorat.eu



Co-funded by the  
European Union

### CONSERVACIÓN E INVESTIGACIÓN

#### Investigación

PT - A investigação científica que não requeira reserva de espaço, ou que não exija a fixação temporária de plataformas de apoio à investigação, poderá ocorrer em todo o mar português, desde que autorizada nos termos das disposições legais em vigor, ou dos condicionamentos inerentes à instalação de atividades e usos em espaço marítimo nacional.

A realização de campanhas de investigação científica no espaço marítimo é uma atividade com tendência para aumentar, considerando nomeadamente a implementação da Diretiva Quadro Estratégia Marinha, que tem como objetivo a obtenção do Bom Estado Ambiental do Meio Marinho em, bem como o desenvolvimento de diferentes atividades económicas integradas na chamada economia azul.

Considerando a existência de áreas significativas com valor ambiental que urge proteger, nomeadamente a área relativa ao caso de estudo, importa assegurar que os potenciais impactos de campanhas de investigação que incluam técnicas de remoção, mesmo que pouco significativos, sejam minimizados, principalmente se as mesmas ocorrerem em zonas com habitats particularmente sensíveis e passíveis de danos irreversíveis.

ESP - El estudio del medio marino en zonas alejadas de la costa requiere una labor de investigación realizada por equipos científicos especializados, tanto humano como tecnológico, para poder analizar en detalle diferentes características del medio marino. Esto implica la realización de campañas de investigación oceanográfica que investiguen áreas profundas del medio marino con una aproximación holística, permitiendo el estudio integral del medio marino a partir de equipos científicos multidisciplinarios a fin de obtener información tanto del fondo marino como de la columna de agua y la componente biológica. De este modo, se podrá lograr un conocimiento exhaustivo de las características del fondo marino, tanto batimétricas como tipos de sedimentos, tipos de hábitat, características físico-químicas de la columna de agua, etc.

### VALORES NATURALES DE LA ZONA DE ESTUDIO

#### Banco de Galicia

El Banco de Galicia es una zona de gran biodiversidad debido a su ubicación. Se han caracterizado alrededor de 790 especies de diferentes grupos, como esponjas, moluscos, gusanos, poliquetos, corales, peces y erizos. Además, son numerosas las especies de mamíferos y aves marinas que aprovechan las condiciones productivas y la disponibilidad de alimento que existen en la columna de agua.

Fue declarado Lugar de Importancia Comunitaria (LIC), según la Directiva Hábitats, por las siguientes especies:

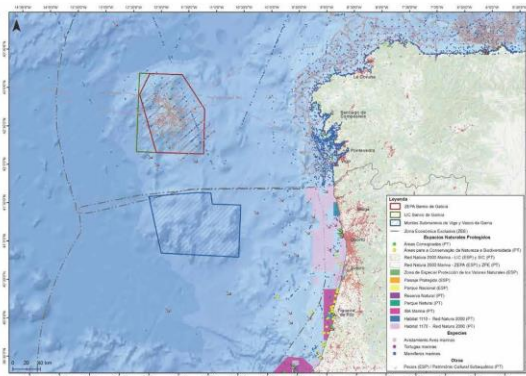
- Hábitat 1170—Arrecifes
- 1224—Tortuga boba (Caretta caretta)
- 1349—Delfín Mular (Turios truncatus)

Y declarado Zona de Especial Protección para las Aves (ZEPA) por 19 especies de gaviota, charrán o paño, entre otras.

#### Montes submarinos de Vigo y Vasco da Gama

El área portuguesa propuesta compuesta por los Montes submarinos de Vigo y Vasco da Gama, está formada principalmente por hábitats con especies bentónicas y bentopelágicas. Estos hábitats son especialmente vulnerables para determinadas actividades humanas.

Este área presenta también condiciones favorables para especies de vertebrados marinos que son migratorias y que se localizan en los ecosistemas oceánicos típicos situados en los montes submarinos del Atlántico Noroeste.



### COMENTARIOS

### OTROS STAKEHOLDERS

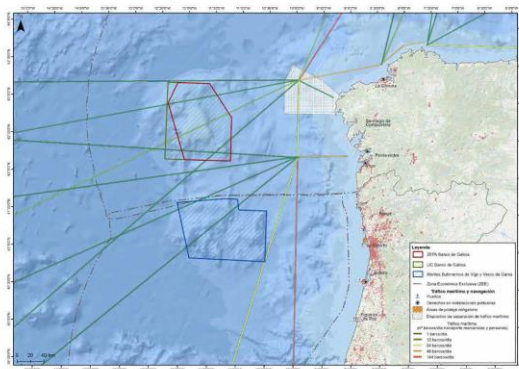


### NAVEGACIÓN

PT—Portugal localiza-se no meio das principais rotas comerciais mundiais e tem condições privilegiadas no negócio de abastecimento de gás natural liquefeito (GNL) nos seguintes segmentos: navegação comercial, turismo (navios de cruzeiro), transporte de longa e curta distância.

No continente português, os portos e as suas aproximações estabeleceram um conjunto de regras, sistemas e infraestruturas para o planeamento da navegação. Os esquemas de separação de tráfego, bem como os acessos marítimos às infraestruturas portuárias, foram devidamente identificados no Plano de Situação do Ordenamento do Espaço Marítimo (PSOEM) e não existem autorizações para usos e atividades privadas nesses locais. Em particular a segurança da navegação também deve ser assegurada durante a atividade de dragagem. De referir que próximo da zona do estudo existe o esquema de separação e tráfego Finisterra.

ESP—El medio marino en la zona noroeste de Galicia tiene una ubicación estratégica para el paso de numerosos buques. Las principales rutas marítimas que atraviesan la zona proceden del Mar del Norte y del Báltico, abarcando el Canal de La Mancha, en dirección al Mediterráneo, a través del Estrecho de Gibraltar, a África y a América. Además, en esta zona se localizan grandes puertos abiertos a un intenso tráfico internacional, por ejemplo, el Puerto de Vigo tiene un tráfico de mercancías superior a las 3.500.000 toneladas anuales y un tráfico de unos 2.000 buques mercantes al año. La Demarcación Noratlántica cuenta con un dispositivo de separación de tráfico marítimo, el de Finisterra. Este dispositivo sirve para ordenar el tráfico de tal forma que se reduzca considerablemente el riesgo y el número de accidentes por colisión en el tráfico marítimo en zonas especialmente vulnerables.



### COMENTARIOS

#### El transporte marítimo en la Zona de Estudio

Dada la ubicación alejada de costa del Banco de Galicia y la zona propuesta portuguesa de los Montes submarinos de Vigo y Vao da Gama, la presión producida por tráfico marítimo tiene menor intensidad. En concreto es una zona que es atravesada por rutas que van o vienen hacia América, y aquellas que pasan paralelas a la costa por el dispositivo de tráfico marítimo de Finisterra.



Esta distancia implica también que la contaminación acústica tenga una baja incidencia debido a la distancia a las áreas con mayor densidad de tráfico marítimo, como son las zonas costeras donde se localizan puertos de gran tránsito (Vigo u Oporto).

Hay que tener en cuenta los riesgos que pueden implicar el tráfico marítimo, como son los accidentes marítimos aislados.

### OTROS STAKEHOLDERS

### PESCA MARÍTIMA

PT—Em Portugal continental a pesca é exercida ao longo da costa e em consequência da variedade de espécies exploradas e da diversidade de artes de pesca utilizadas, é lícito afirmar que toda a faixa compreendida entre a linha de costa e a isóbata dos 400 metros é da maior relevância para a atividade de pesca comercial.

Em termos gerais, as principais áreas de pesca para a frota local, localizam-se entre a linha de costa e uma distância de até 3,5 milhas náuticas da costa, sendo mais relevantes as áreas localizadas nas proximidades dos portos de pesca (até 6 milhas náuticas para cada lado) dado que para as embarcações de menores dimensões, que operem apenas com um tripulante, esta será a área de operação permitida.

A pesca comercial é um condicionante a ter em conta na instalação de outras atividades em meio marinho, dado que se trata de uma atividade que poderá ser facilmente ameaçada pela ocupação de determinadas áreas.

A Dirección-Geral dos Recursos Naturais, Segurança e Serviços Marítimos (DGRM) é a Autoridade Nacional de Pesca, cabendo-lhe a responsabilidade de coordenar as atividades de controlo de todas as autoridades nacionais de controlo.

Profissionalmente, o sector da pesca está organizado em Associações que diferem no seu âmbito pela tipologia da tipologia pesqueira (industrial ou artesanal) de artes de pesca, associações regionais.

ESP—España es un país eminentemente marítimo en el que la actividad pesquera ha sido una actividad tradicional, habiendo desarrollado a lo largo del tiempo una de las flotas pesqueras más importantes del mundo, con un sector dinámico que contribuye de manera importante a la economía nacional.

El medio marino en la costa noroeste de la Península Ibérica se caracteriza por ser rico en recursos vivos debido a su alta productividad, esto ha generado un recurso económico importante en el sector de la pesca y la acuicultura, debido al cultivo de bivalvos en bateas y en bancos arenosos, que precisan una calidad medioambiental adecuada y aportan grandes beneficios económicos para la zona, por lo que se hace necesario un aprovechamiento sostenible de los esos recursos. Esto representan una importante fuente de ingresos para las economías locales y representan un número de empleos considerable, destacando el puerto de Vigo como el primer puerto pesquero a nivel nacional y europeo, y el primer puerto de pesca para consumo a nivel mundial.

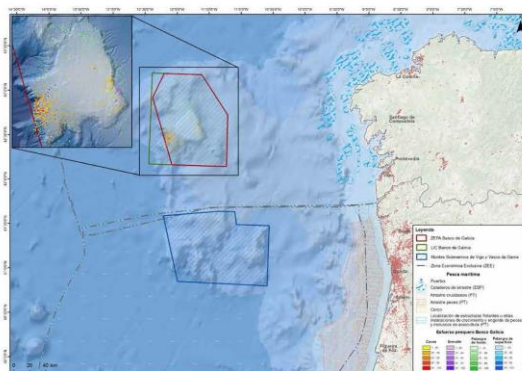
#### La pesca marítima en la Zona de Estudio

La lejanía del Banco de Galicia implica una baja afluencia de barcos pesqueros en la zona, siendo su afluencia más estacional en época de pesca del atún. Además, debido a esa lejanía, se hace una diferencia entre la tipología de las pesquerías, quedando las pesquerías artesanales para las zonas costeras, mientras que son pesquerías más industriales (con barcos de mayor eslora) los que frecuentan el Banco de Galicia.

Destacan la pesca en cacea, enmallé y palangre (fondo y superficial).

La zona portuguesa tiene localizadas las áreas pesqueras más cercanas a la costa, destacando las derivadas para la pesca de arrastre de peces y crustáceos y la pesca de cerco.

De las tipologías de pesca, la pesca de arrastre es la que genera mayor presión sobre el fondo marino de la zona de estudio, dada su afluencia sobre especies vulnerables que conforman los hábitats protegidos.



### COMENTARIOS

### OTROS STAKEHOLDERS



## MINERÍA SUBMARINA

PT-Recursos minerais metálicos: Não existe nenhuma qualquer contrato de concessão para prospeção, pesquisa ou exploração de recursos minerais metálicos no espaço marítimo nacional. Neste sentido, e atendendo também ao facto de que esta atividade (prospecção, pesquisa e exploração), a realizar em meio marinho, se encontra insuficientemente regulamentada, o Plano de Situação não estabelece eixos potenciais para o seu desenvolvimento, carecendo de qualquer iniciativa relativa à mesma de Recursos energéticos fósseis: não está previsto desenvolvimento da atividade de prospecção e exploração de recursos energéticos fósseis.

O uso privado do Espaço Marítimo Nacional requer uma permissão de uso (PUSEH) emitida pela DGRM. O procedimento para obtê-lo depende se o uso e localização estão previstos no Plano de Situação ou não. No primeiro caso, a DGRM emite o PUSEH para a exploração de petróleo e gás no Espaço Potencial. Apenas um título de uso privado do espaço foi emitido (perfuração prospectiva).

De acordo com o Plano de Situação de Ordenamento do Espaço Marítimo (PSEOM), a exploração de recursos energéticos fósseis é considerada incompatível com a aquisição, utilização e exploração do Espaço Marítimo Nacional. No entanto, a realização desta atividade poderá ser desenvolvida em plataformas móveis, depósitos de sedimentos, plataformas móveis e recifes artificiais.

ESP— Acorde a las Estrategias Marinas, de las actividades más importantes que puede provocar una afección al fondo marino destacan la extracción de sólidos, la explotación de yacimientos submarinos y la explotación y explotación de hidrocarburos. Estas actividades implican una pérdida y daño físico por modificación del perfil del fondo y/o enterramiento o sellado, modificaciones de la sedimentación y abrasión, y provocar contaminación por ruidos submarinos. En la Demarcación Marina Noratlántica, no existe ninguna explotación de hidrocarburos en el área de Galicia. Las explotaciones de otros minerales han sido realizadas por investigaciones científicas bajo algún proyecto determinado, por ejemplo, la Zona Económica Exclusiva del Margen continental gallego o el proyecto LIFE+ INDEMARÉS.

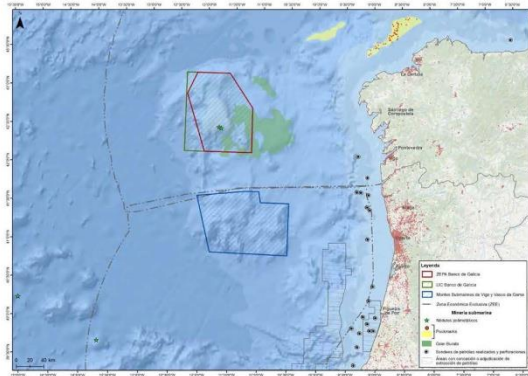
### Minería submarina en la Zona de Estudio

En el Banco de Galicia, no existe ninguna concesión minera marina o para la exploración y explotación de hidrocarburos. Sin embargo, sí existe una posible amenaza para el futuro a medio y largo plazo, dada la localización de un posible depósito de hidrocarburos situado al SE del Banco de Galicia conocido como el Gran Burato.

Además, se conoce la localización de nódulos polimetálicos que podrían resultar de interés para la minería aunque, debido a la profundidad a la que se encuentran, puede que su explotación no sea económicamente rentable.

Al noroeste de Galicia, destaca la presencia de numerosos pockmarks generados por el escape de fluidos, bien en forma líquida o o gaseosa, y que podrían ser de diferentes orígenes (biogénico, etc.).

En las zonas cercanas a la costa portuguesa, se localizan numerosos puntos de sondeos de petróleo y perforaciones. Así como la zonificación de una gran área de concesión o adjudicación de extracciones de petróleo.



## COMENTARIOS

## OTROS STAKEHOLDERS



## ENERGÍAS RENOVABLES

PT—O uso privado do Espaço Marítimo Nacional para instalação de dispositivos de energias renováveis requer um título de utilização privativa do espaço marítimo (TUPEM) emitida pela DGRM. O procedimento para obtê-lo depende se o uso e localização estão previstos no Plano de Situação. Até a data 3 TUPEM's foram emitidos com uma área de ocupação de aproximadamente 14,6 Km2 para 3 empresas diferentes (WindPlus, AWE Energy OY e EDRP). Todos os TUPEM são projetos piloto. Uma das zonas piloto designadas encontra-se ao largo de Viana do Castelo onde já está prevista a instalação da Central Eólica Offshore WindFloat Atlantic. A ocupação da zona piloto com áreas para novos aerogeradores ficará dependente da capacidade de transporte de energia elétrica do único cabo submarino que fará a ligação à terra.

A produção de energia renovável marinha é considerado incompatível com a imersão do material dragado, recursos metálicos e não metálicos e atividades recreativas náuticas. A interação com a aquicultura e plataformas multiuso, consideradas sinérgicas e consideradas possíveis com petróleo e gás, cabos submarinos, naufrágios, recifes artificiais, patrimônio cultural e natural.

O conjunto de medidas de boas práticas, previsto no PSOEM, para projetos de investigação, demonstração e exploração de energia renovável marinha que devem ser considerados, em todas as fases (conceção, licenciamento, instalação e exploração e desmantelamento). Como diretrizes, em cada uma das etapas, deve-se considerar a proteção da sustentabilidade ambiental, o custo da não-utilização de mitigação, garantir a segurança do operador ou de outras pessoas e garantir o feedback técnico e científico.

ESP—Según APPA (Asociación de Empresas de Energías Renovables), existe un alto potencial para el desarrollo de la energía marina en la costa cantábrica y atlántica. El aprovechamiento de este recurso energético está estimado en más de 20.000 MW que contribuirían a la producción eléctrica nacional. Actualmente existen diversas instalaciones experimentales, sin embargo, es preciso el establecimiento de costes reales de explotación de este tipo de energías: Cantabria, País Vasco, Galicia y Asturias, las comunidades autónomas que ya están investigando cómo obtener energía mediante diferentes proyectos para la energía maremotriz (mareas), energía undimotriz (olas), energía por gradiente de salinidad, energía eólica marina y energía mareomotrínima.

El establecimiento de un el procedimiento administrativo de autorización de instalaciones de generación eléctrica en el mar territorial está regulado por el Real Decreto 1028/2007.

### Energías renovables en la Zona de Estudio

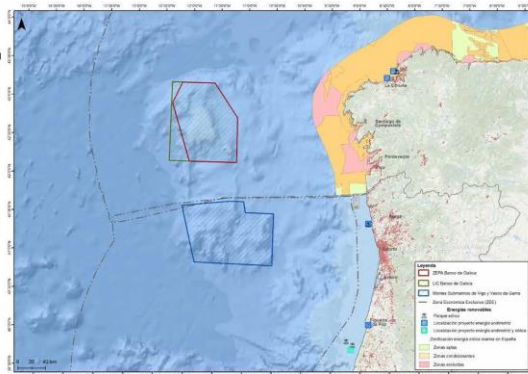
En la zona de estudio no se encuentra ninguna instalación de energía renovable marítima debido a la lejanía del Banco de Galicia y los Montes Submarinos de Vigo y Vasco da Gama.

Sin embargo, si que existen en la zona costera diferentes instalaciones en activo o proyectadas para la obtención de diferentes tipos de energías provenientes del mar:

- Energía eólica marina
- Energía undimotriz

En España, se elaboró en 2009 el Estudio Estratégico Ambiental del litoral español para la instalación de parques eólicos marinos, por el Ministerio de Industria, Turismo y Comercio, el Ministerio de Medio Ambiente, y el Ministerio de Agricultura, Pesca y Alimentación. Cuyo resultado fue la localización de zonas aptas, condicionantes o excluidas para la ubicación de parques eólicos marinos. Sin embargo, por distancia el área de estudio no se encuentra dentro de esta evaluación.

En la costa portuguesa, existen dos zonas planificadas para el uso potencial de energías renovables y otra para energías renovables ya existentes.



## COMENTARIOS

## OTROS STAKEHOLDERS

## ANNEX 2: Workshop's agenda





# SIMNORAT

*La Ordenación Espacial Marítima bajo un enfoque transfronterizo*

**Caso de estudio del Banco de Galicia y el Monte Submarino de Vigo y Vasco da Gama**

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## AGENDA

### TALLER TRANSFRONTERIZO DE AGENTES INTERESADOS Y USUARIOS MARINOS

Vigo, miércoles 28 de noviembre de 2018 – 8.30 a 17.00h

**8:30 - 9:00** – Registro y Café

**9:00 - 10:30** – Sesión Plenaria

- Bienvenida e introducción – (*CETMAR*)
- El proceso de Ordenación Espacial Marítima en Portugal - (DGRM)
- El proceso de Ordenación Espacial Marítima en España - (*MITECO, Ministerio de Transición Ecológica*)
- El Proyecto Europeo SIMNORAT - (IEO-UAV)
- Objetivos y metodología del workshop - (*CETMAR*)

**10:30 - 11:30** – Mesas Redondas: Ejercicio 1

Identificación de **CONFLICTOS** (20') - **SINERGIAS** (20') - **GAPS** (20'), entre los sectores representados en cada mesa

**11:30 - 12:00** – Pausa Café

**12:00 - 13:00** – Mesas Redondas: Ejercicio 2

Identificación de soluciones: **ACCIONES ESPECÍFICAS**

**13:00 - 14:00** – Almuerzo

**14:00 - 15:00** – Sesión Plenaria

Presentación de conclusiones de cada Ejercicio de las mesas redondas  
(15' Presentación + 5' Preguntas)

**15:15 - 15:30** – Pausa Café

**15:30 - 16:15** – Conclusiones Finales del Taller

**16:15 - 16:30** – Clausura del Taller - (*CETMAR*)



## ANNEX 3: Detailed Methodology



universidade  
de aveiro



**CETMAR**  
CENTRO TECNOLÓGICO DEL MAR



**SIMNORAT**



**Case study of the Galicia Bank and the Vigo and Vasco da Gama Seamounts**

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- **Preliminary considerations**

The attendees are informed that during the participation in the workshop, some photographs will be taken with the purpose of documenting with some graphic support the realization of the workshop and disseminating its celebration through social networks.

If any person wishes to show their desire not to appear in the photographs, is asked to communicate it to any of the members of the organization, or to the person at the registration table of attendees.

It is important to insist that the workshop is a practical exercise designed on a theoretical basis, with a merely informative purpose, which does not imply any type of decision or commitment on the planning of the activities that are carried out on the study area. Although the participants will be identified, the results report of the workshop will in no case relate the conclusions and results with the individual interventions and / or with the considerations and opinions shared during the workshop. Each participant will intervene in the workshop in relation to their current professional activity. It is not intended, in any case, that their interventions are representative of the entire sector in which they intervene, but of their particular experience and knowledge of the activity and the study area.

- **Work methodology**

- **At the reception, the signing of confirmation of presence will be requested to participants and the following material will be delivered:**

- 1- An identification card
- 2- A sheet / map with the description of the activity with which we relate to each participant.
- 3- Indication of the table number in which it should be located in the workshop room.
- 4- A notebook and a pen.

- **At the tables you will find the following material:**

- 1- The number corresponding to each table.
- 2- 1 map in paper size A1 in each sector of activity represented in each table.
- 5- 3-1 paper map of A1 size representing the relevant information on conservation and research.
- 3- Markers
- 4- Stickers-notes on which annotations are to be made.

- **In the living room**

Beside each table, panels have been set up to reflect the conclusions that each table identifies in the form of: CONFLICTS, SYNERGIES, GAPS, first (as a result of exercise 1) and SPECIFIC ACTIONS (as a result of exercise 2). Versions of all thematic maps in acetate are available to overlay with other maps.

- **Workshop development**

**After the introduction there will be a quick round of presentation of all the participants.**

After the presentations provided in the agenda, a review of the methodology will be carried out (as foreseen in this document).

The work at the tables will be developed as follows:

Each table will have designated: a **moderator**; a person **responsible for assisting the moderator** in the dynamization and one **rapporteur**.

During the first part of the work at the tables, the moderators will explain which two sectors are presented in each table, remember what is proposed in the project about the area and explain the maps that are available on the table, explaining especially what it is proposed from the conservation perspective.

Then there will be 5 minutes for a quick reading of the maps by the participants at the table.

**EXERCISE 1:** For a maximum total of 15 minutes, each participant at the table outside the project, will express their interest and / or level of specific competence on the geographical areas that are addressed in the workshop. They will be invited to make, if clearly identified, considerations about

issues / activities and / or actors that are relevant and are not being taken into account, according to the information presented to them. (This information can be reflected and added to the maps during the session).

During the next 40 minutes, participants must identify and discuss possible conflicts that arise in relation to the conservation proposal made by the project, or with the sectors with which they coincide in space or time; potential synergies / opportunities in the same context and gaps of information and / or knowledge that would be convenient and / or necessary to address in order to advance in a potential planning process.

(Coffee break)

**EXERCISE 2:** Based on the debate developed in the first exercise and using the material enabled for the participants, identification of specific actions will be requested to solve or mitigate the consequences of conflicts of interest / use; take advantage of synergies and cover the information and / or knowledge needs identified.

This exercise will be with an open debate among the participants in the tables, trying that all participants freely express their proposals of solution with the help, when it is opportune, of the team of the project to identify them or formulate them.

## **PLENARY SESSION**

The people responsible for moderating each table will present the conclusions reached. Each table will have a maximum of 15 minutes plus 5 minutes for questions / comments from the rest of the room.

During the plenary session, the person external to the project responsible for synthesizing conclusions from all the tables will try to transfer the most clear ideas and conclusions to a general summary panel that will be presented as a step prior to the closing of the meeting.

## ANNEX 5: Stakeholders notes on the fact-sheets

## CONSERVACIÓN E INVESTIGACIÓN

### Investigación

PT - A investigação científica que não requiera reserva de espaço, ou que não exija a fixação temporária de plataformas de apoio à investigação, poderá ocorrer em todo o mar português, desde que autorizada nos termos das disposições legais em vigor, ou dos condicionamentos inerentes à instalação de atividades e usos em espaço marítimo nacional.

A realização de campanhas de investigação científica no espaço marítimo é uma atividade com tendência para aumentar, considerando nomeadamente a implementação da Diretiva Quadro Estratégia Marinha, que tem como objetivo a obtenção do Bom Estado Ambiental do Meio Marinho em, bem como o desenvolvimento de diferentes atividades económicas integradas na chamada economia azul.

Considerando a existência de áreas significativas com valor ambiental que urge proteger, nomeadamente a área relativa ao caso de estudo, importa assegurar que os potenciais impactos de campanhas de investigação que impliquem técnicas de remoção, mesmo que pouco significativas, sejam minimizados, principalmente se as mesmas ocorrerem em zonas com habitats particularmente sensíveis e passíveis de danos irreversíveis.

ESP - El estudio del medio marino en zonas alejadas de la costa requiere una labor de investigación realizada por equipos científicos especializados, tanto humano como tecnológico, para poder analizar en detalle diferentes características del medio marino. Esto implica la realización de campañas de investigación oceanográfica que investiguen áreas profundas del medio marino con una aproximación holística, permitiendo el estudio integral del medio marino a partir de equipos científicos multidisciplinares e fin de obtener información tanto del fondo marino como de la columna de agua y la componente biótica. De este modo, se podrá lograr un conocimiento exhaustivo de las características del fondo marino, tanto batimétricas como tipos de sedimentos, tipos de hábitat, características físico-químicas de la columna de agua, etc.

### VALORES NATURALES DE LA ZONA DE ESTUDIO

#### Banco de Galicia

El Banco de Galicia es una zona de gran biodiversidad debido a su ubicación. Se han caracterizado alrededor de 750 especies de diferentes grupos, como esponjas, moluscos, gusanos, poliquetos, corales, peces y erizos. Además, son numerosas las especies de mamíferos y aves marinas que aprovechan las condiciones productivas y la disponibilidad de alimento que existen en la columna de agua.

Fue declarado Lugar de Importancia Comunitaria (LIC), según la Directiva Hábitats, por las siguientes especies:

- Hábitat 1170 - Arrecifes
- 1224 - Tortuga boba (Caretta caretta)
- 1343 - Delfín Marín (Turbotus truncatus)

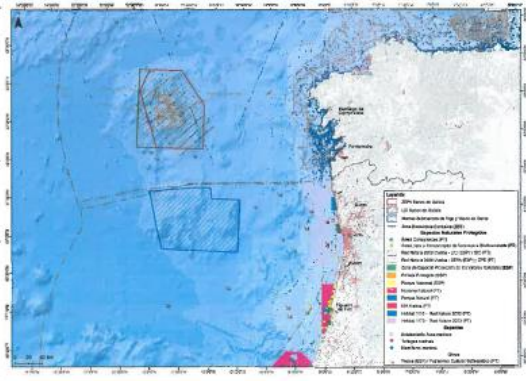
Y declarado Zona de Especial Protección para las Aves (ZEPA) por 19 especies de gaviota, charrán o pelícano, entre otras.

#### Montes submarinos de Vigo

##### y Vasco da Gama

El área portuguesa propuesta como zona de los Montes submarinos de Vigo y Vasco da Gama, está formada principalmente por hábitats con especies bentónicas y biopolíticas. Estos hábitats son especialmente vulnerables para determinadas actividades humanas.

Esta Área presenta también condiciones favorables para especies de vertebrados marinos que son migratorias y que se localizan en los ecosistemas oceánicos típicos situados en los montes submarinos del Atlántico Nordeste.



### COMENTARIOS

- En Banco de Galicia hay especies de gran importancia con Aves
- > transfronterizo con mayor
- Hábitats protegidos OSPAR
- Sería un espacio mayor al conocimiento

### OTROS STAKEHOLDERS

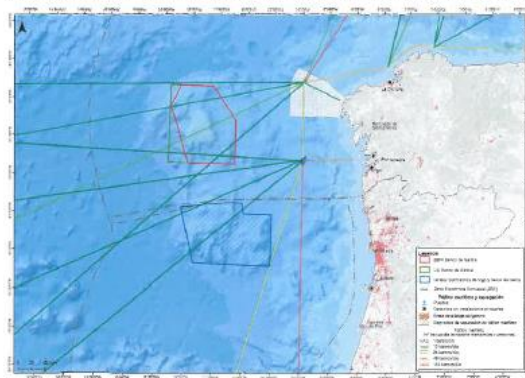
- OSPAR Convention
- PHARMARINE (por aspectos de biotecnología)
- ONGs ambientalista: SEO, OCEANA, WWF

## NAVEGACIÓN

PT - Portugal localiza-se no meio das principais rotas comerciais mundiais e tem condições privilegiadas no registo de abastecimento de gás natural liquefeito (GNL) nos seguintes segmentos: navegação comercial, turismo (navios de cruzeiro), transporte de longa e curta distância.

No continente português, os portos e as suas aproximações estabeleceram um conjunto de regras, sistemas e infraestruturas para o planeamento da navegação. Os esquemas de separação de tráfego, bem como os acessos marítimos às infraestruturas portuárias, foram devidamente identificados no Plano de situação do Ordenamento do Espaço Marítimo (POSEM) e não existem autorizações para usos e atividades privativas nestes locais. Em particular a segurança da navegação também deve ser assegurada durante a atividade de dragagem. De referir que próximo da zona do caso de estudo existe o esquema de separação e tráfego Finistère.

ESP - El medio marino en la zona noroeste de Galicia tiene una ubicación estratégica para el paso de numerosos buques. Las principales rutas marítimas que atraviesan la zona proceden del Mar del Norte y del Báltico, atravesando el Canal de La Mancha, en dirección al Mediterráneo, a través del Estrecho de Gibraltar, a África y a América. Además, en esta zona se localizan grandes puertos abiertos a un intenso tráfico internacional, por ejemplo, el Puerto de Vigo tiene un tráfico de mercancías superior a las 3.500.000 toneladas anuales y un tráfico de unos 2.000 buques mercantes al año. La Demarcación Noratlántica cuenta con un dispositivo de separación de tráfico marítimo, el de Finistère. Este dispositivo sirve para ordenar el tráfico de tal forma que se reduzca considerablemente el riesgo y el número de accidentes por colisión en el tráfico marítimo en zonas especialmente vulnerables.



### El transporte marítimo en la Zona de Estudio

Dada la ubicación alejada de costa del Banco de Galicia y la zona propuesta portuguesa de los Montes submarinos de Vigo y Vasco da Gama, la presión producida por tráfico marítimo tiene menor intensidad. En concreto es una zona que es atravesada por rutas que van o vienen hacia América, y aquellas que pasan paralelas a la costa por el dispositivo de tráfico marítimo de Finistère.

Esta distancia implica también que la contaminación acústica tenga una baja incidencia debido a la distancia a las áreas con mayor densidad de tráfico marítimo, como son las zonas costeras donde se localizan puertos de gran tránsito (Vigo u Oporto).

Hay que tener en cuenta los riesgos que pueden implicar el tráfico marítimo, como son los accidentes marítimos aliados.

### COMENTARIOS

- No hay demanda de tráfico referente que justifique la necesidad de un sistema de separación de tráfico marítimo.
- En caso de implantar medida ordenación de tráfico marítimo se requeriría la aprobación de Z.M.O.

### OTROS STAKEHOLDERS





### CONSERVACIÓN E INVESTIGACIÓN

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#### VALORES NATURALES

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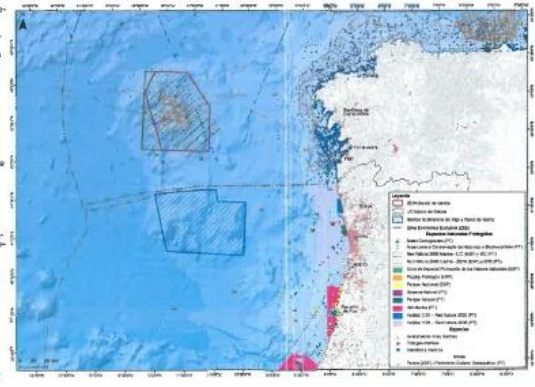
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### COMENTARIOS

1. Actividad de actividades importantes en Galicia, competencia de la CCAA hasta 2017, debería ser conjunta.
2. Necesidad del conocimiento de la biodiversidad marina y de la diversidad de los ecosistemas.
3. Conflicto conservación con actividades pesqueras, industriales y de acuicultura.
4. Necesidad de información más rica.
5. Caladeros de pesca.
6. Necesidad de solución de impactos acumulativos de proyectos.

### OTROS STAKEHOLDERS

- Colaboración de investigadores.
- Organización representativa de empresas acuicultura.

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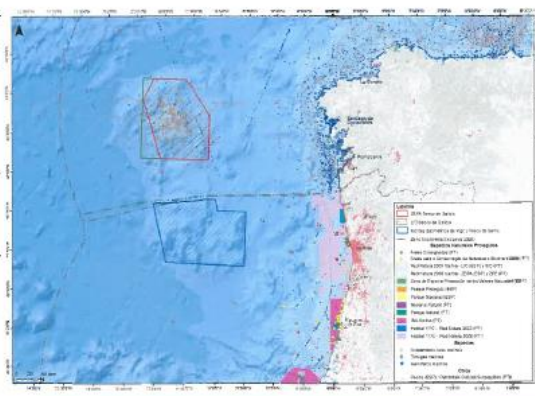
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### COMENTARIOS

- Estudios impacto instalaciones sobre fondos y ecosistemas vulnerables → puede afectar poblaciones explotadas.
- Poco información por la distancia costa → (mayor que en otros casos).
- Depurar efecto instalaciones del efecto/pesca sobre ecosistema.
- Tráfico marítimo → efecto sobre poblaciones.
- Pesca.
- Instalaciones energías renovables → mantenimiento.
- Efecto CC sobre rendimiento investigación y sobre poblaciones explotadas.
- No hay apenas interacción polariza - aves/tortugas.
- Sinergia: sistemas de monitoring ambiental (instalación zerr).

### OTROS STAKEHOLDERS



## PESCA MARÍTIMA

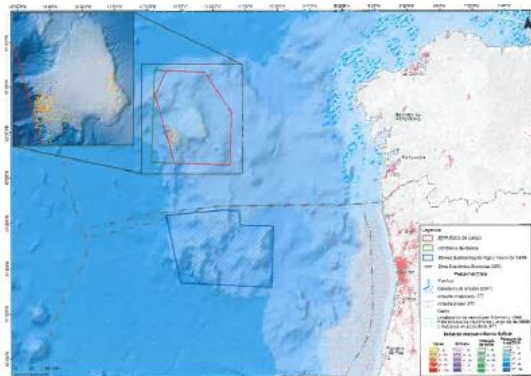
PT—Em Portugal continental a pesca é exercida ao longo da costa e em consequência da variedade de espécies exploradas e da diversidade de artes de pesca utilizadas, é lícito afirmar que toda a faixa compreendida entre a linha de costa e a isóbata dos 400 metros é de maior relevância para a atividade de pesca comercial. Em termos gerais, as principais áreas de pesca para a frota local, localizam-se entre a linha de costa e uma distância de até 3,5 milhas náuticas da costa, sendo mais relevantes as áreas localizadas nas proximidades dos portos de pesca (até 6 milhas náuticas para cada lado) dado que para as embarcações de menores dimensões, que operam apenas com um tripulante, esta será a área de operação permitida.

A pesca comercial é um condicionante a ter em conta na instalação de outras atividades em meio marítimo, dado que se trata de uma atividade que poderá ser facilmente ameaçada pela ocupação de determinadas áreas. A Direção-Geral dos Recursos Naturais, Segurança e Serviços Marítimos (DGRM) é a Autoridade Nacional de Pesca, cabendo-lhe a responsabilidade de coordenar as atividades de controlo de todas as autoridades nacionais de controlo. Profissionalmente, o setor da pesca está organizado em Associações que diferem no seu âmbito pela tipologia da tipologia pesqueira (industrial ou artesanal) de artes de pesca, Associações Regionais.

ES—España es un país eminentemente marítimo en el que la actividad pesquera ha sido una actividad tradicional, habiendo desarrollado a lo largo del tiempo una de las flotas pesqueras más importantes del mundo, con un sector dinámico que contribuye de manera importante a la economía nacional. El medio marino en la costa noreste de la Península Ibérica se caracteriza por ser rico en recursos vivos debido a su alta productividad, esto ha generado un recurso económico importante en el sector de la pesca y la acuicultura, debido al cultivo de bivalvos en bancos y en bancos arenosos, que precisan una calidad medioambiental adecuada y aportan grandes beneficios económicos para la zona, por lo que se hace necesario un aprovechamiento sostenible de los esos recursos. Esto representan una importante fuente de ingresos para las economías locales y representan un número de empleos considerable, destacando el puerto de Vigo como el primer puerto pesquero a nivel nacional y europeo, y el primer puerto de pesca para consumo a nivel mundial.

La pesca marítima  
en la Zona de Estudio

La lejanía del Banco de Galicia implica una baja afluencia de barcos pesqueros en la zona, siendo su afluencia más estacional en época de pesca del atún. Además, debido a esa lejanía, se hace una diferencia entre la tipología de los pesqueros, quedando las pesquerías artesanales para las zonas costeras, mientras que son pesquerías más industriales (con barcos de mayor eslora) los que frecuentan el Banco de Galicia. Destacan la pesca en caeca, arrastre y palangre (fondo y superficie). La zona portuguesa tiene localizadas las áreas pesqueras más cercanas a la costa, destacando las designadas para la pesca de arrastre de peces y crustáceos y la pesca de cerco. De las tipologías de pesca, la pesca de arrastre es la que genera mayor presión sobre el fondo marino de la zona de estudio, dada su flección sobre especies vulnerables que conforman los hábitats protegidos.



## COMENTARIOS

- Interacción medioambiental
- Polígrafo Superficie: Tardar, etc.
- Renovables a bordo eólica
- Planos eólicos: Vigor a ubicación del parque ejemplo en África onde existe conflicto por concurrencia en misma área distribución
- Interacción co tráfico marítimo
- Pesca del bonito?

## OTROS STAKEHOLDERS



## ENERGÍAS RENOVABLES

PT—O uso privado do Espaço Marítimo Nacional para instalação de dispositivos de energias renováveis requer um título de utilização privativa do espaço marítimo (TUPEM) emitido pela DGRM. O procedimento para obtê-lo depende se o uso e localização estão previstos no Plano de Situação. Até à data 3 TUPEM's foram emitidos com uma área de ocupação de aproximadamente 14,6 km² para 3 empresas diferentes (Windplus, AW Energy Oy e EDP). Todos os TUPEM's são projetos piloto. Uma das zonas piloto designadas encontra-se ao largo de Viana do Castelo onde já está prevista a instalação da Central Eólica Offshore Windplus Atlântico. A ocupação da zona piloto com áreas para novos aerogeradores ficaria dependente da capacidade de transporte de energia elétrica do único cabo submarino que fará a ligação à terra.

A produção de energia renovável marinha é considerado incompatível com a imersão do material dragado, recursos metálicos e não metálicos e atividades recreativas náuticas. A interação com a aquicultura e plataformas multiuso, consideradas sinérgicas e consideradas possíveis com petróleo e gás, cabos submarinos, náuticos, recifes artificiais, patrimônio cultural e natural. O conjunto de medidas de boas práticas, previsto no PSOM, para projetos de investigação, demonstração e exploração de energia renovável marinha que devem ser considerados, em todas as fases (conceção, licenciamento, instalação e exploração e desmantelamento). Como diretivas, em cada uma das etapas, deve-se considerar a proteção da sustentabilidade ambiental, o custo da não-utilização de mitigação, garantir a segurança do operador ou de outros pessoas e garantir o feedback técnico e científico.

ES—Según APPA (Asociación de Empresas de Energías Renovables), existe un alto potencial para el desarrollo de la energía marina en la costa cantábrica y atlántica. El aprovechamiento de este recurso energético está estimado en más de 20.000 MW que contribuirían a la producción eléctrica nacional. Actualmente existen diversas instalaciones experimentales, sin embargo, es preciso el establecimiento de costes reales de explotación de este tipo de energías. Cantabria, País Vasco, Galicia y Asturias, son las comunidades autónomas que ya están investigando cómo obtener energía mediante diferentes proyectos para la energía mareomotriz (mareas), energía undimotriz (olas), energía por gradiente de salinidad, energía eólica marina y energía mareomotriz.

El establecimiento de un el procedimiento administrativo de autorización de instalaciones de generación eléctrica en el mar territorial está regulado por el Real Decreto 1028/2007.

Energías renovables  
en la Zona de Estudio

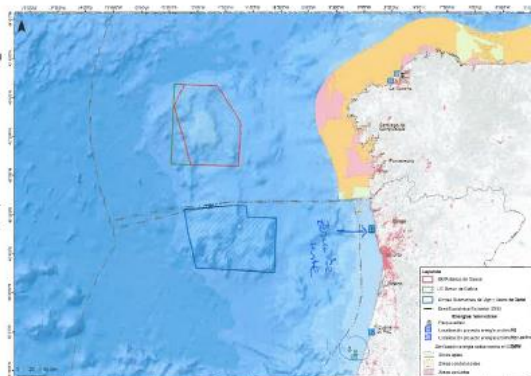
En la zona de estudio no se encuentra ninguna instalación de energía renovable marítima debido a la lejanía del Banco de Galicia y los Montes Submarinos de Vigo y Vascos de Gama.

Sin embargo, si que existen en la zona costera diferentes instalaciones en activo o proyectadas para la obtención de diferentes tipos de energías provenientes del mar.

• Energía eólica marina  
• Energía undimotriz

En España, se elaboró en 2009 el Estudio Estratégico Ambiental del litoral español para la instalación de parques eólicos marinos, por el Ministerio de Industria, Turismo y Comercio, el Ministerio de Medio Ambiente, y el Ministerio de Agricultura, Pesca y Alimentación. Cuyo resultado fue la localización de zonas aptas, condicionantes o excluidas para la ubicación de parques eólicos marinos. Sin embargo, por distancia el área de estudio no se encuentra dentro de esta evaluación.

En la costa portuguesa, existen dos zonas planificadas para el uso potencial de energías renovables y otra para energías renovables ya existentes.



## COMENTARIOS

- Falta a indicação de profundidades no mapa (esta informação é importante para estabelecer áreas pil a implementação das energias renováveis que atualmente pode ir até aos 200m)
- Falta a legenda do parque eólico em Portugal
- Sinergias: maricultura e aquicultura renováveis com atividade turística (swim diving, turismo científico) com a pesca - presença de zonas de interesse
- Conflitos: pesca; dificuldade de distribuição do espaço devido à existência de zonas de exclusão à navegação para as navios pesqueiros (devido ao risco de segurança); conflitos do c/c navegação
- Sinergias e a dissinergia
- Sinergias e a conservação dentro do zona de exclusão à navegação

## OTROS STAKEHOLDERS

que promovem a agenciación de organismos de marino áreas de reproducción de zonas para especies comunes importantes abasteciendo las pesquerías costeras.



# SUPPORTING IMPLEMENTATION of Maritime Spatial Planning in the NORTHERN ATLANTIC REGION

Apoyo a la implementación de la Ordenación Espacial Marina en el Atlántico Norte

Co-funded by the European Union

## PESCA MARÍTIMA

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**ES**— España es un país eminentemente marítimo en el que la actividad pesquera ha sido una actividad tradicional, habiendo desarrollado a lo largo del tiempo una de las flotas pesqueras más importantes del mundo, con un sector dinámico que contribuye de manera importante a la economía nacional. El medio marino en la costa noreste de la Península Ibérica se caracteriza por ser rico en recursos vivos debido a su alta productividad, esto ha generado un recurso económico importante en el sector de la pesca y la acuicultura, debido al cultivo de bivalvos en bateas y en bancos arenosos, que precisan una calidad medioambiental adecuada y aportan grandes beneficios económicos para la zona, por lo que se hace necesaria un aprovechamiento sostenible de los esos recursos. Esto representan una importante fuente de ingresos para las economías locales y representan un número de empleos considerable, destacando el puerto de Vigo como el primer puerto pesquero a nivel nacional y europeo, y el primer puerto de pesca para consumo a nivel mundial.

### COMENTARIOS

Ppal. Cangrejo Real  
Palangre < 20 m  
(Poco, Tiburon azul)  
En genl. no es estratégica  
Diferente legislación pesquera ES vs PT (GARA, etc.)

### OTROS STAKEHOLDERS

# SUPPORTING IMPLEMENTATION of Maritime Spatial Planning in the NORTHERN ATLANTIC REGION

Apoyo a la implementación de la Ordenación Espacial Marina en el Atlántico Norte

Co-funded by the European Union

## PESCA MARÍTIMA

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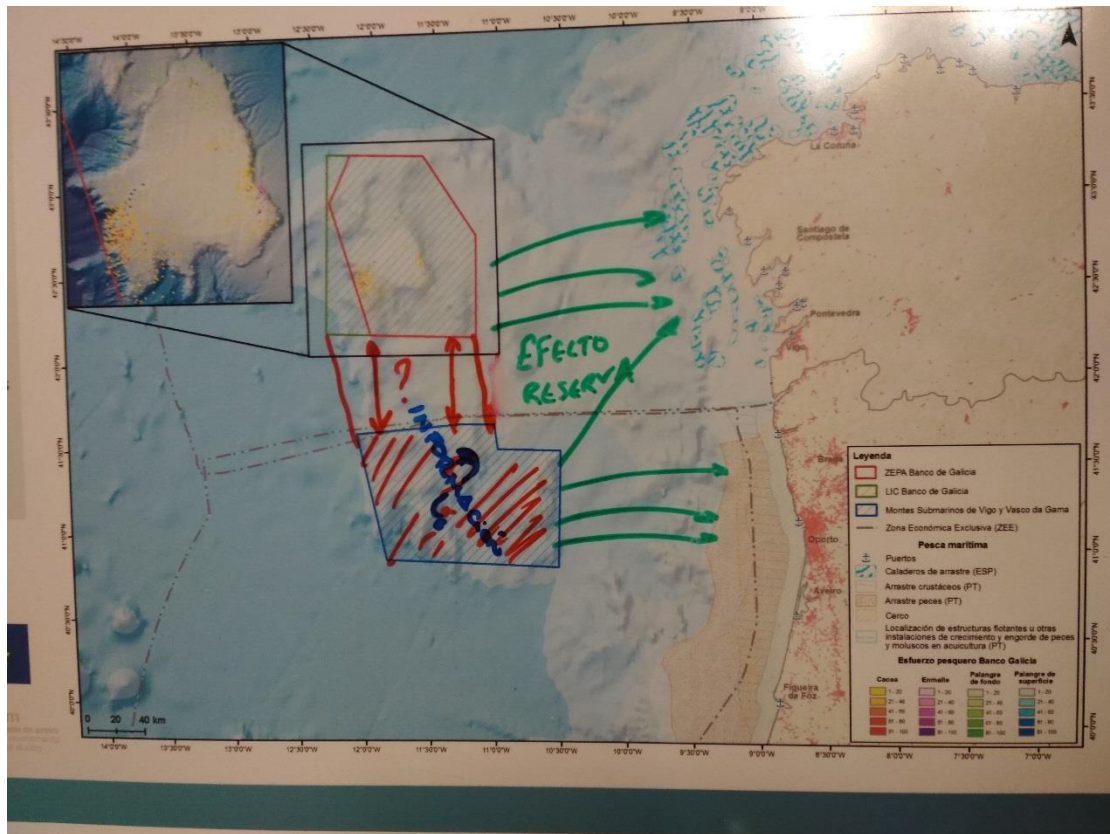
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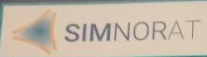
### COMENTARIOS

La pesca marítima en la Zona de Estudio  
Destacan la pesca en cacea, enmalle y palangre (fondo y superficie)  
La zona portuguesa tiene localizadas las áreas pesqueras más cercanas a la costa, destacando las definidas para la pesca de arrastre de peces y crustáceos y la pesca de cerco  
De las tipologías de pesca, la pesca de arrastre es la que genera mayor presión sobre el fondo marino de la zona de estudio, dada su afección sobre especies vulnerables que conforman los hábitats protegidos.

### OTROS STAKEHOLDERS







## SUPPORTING IMPLEMENTATION of Maritime Spatial Planning in the NORTHERN ATLANTIC REGION

Apoyo a la implementación de la Ordenación Espacial Marina en el Atlántico N

ENERO 2017-DICIEMBRE 2018

### NAVEGACIÓN

PT—Portugal localiza-se no meio das principais rotas comerciais mundiais e tem condições privilegiadas no negócio de abastecimento de gás natural liquefeito (GNL) nos seguintes segmentos: navegação comercial, turismo (navios de cruzeiro), transporte de longa e curta distância, continente português, os portos e as suas aproximações estabelecem um conjunto de regras, sistemas e infraestruturas para o planeamento da navegação.

FE—El medio marino en la zona noroeste de Galicia tiene una ubicación estratégica para el paso de numerosos buques. Las principales rutas marítimas que atraviesan la zona proceden del Mar del Norte y del Báltico, atravesando el Canal de La Mancha, en dirección al Mediterráneo, a través del Estrecho de Gibraltar, a África y a América. Además, en esta zona se localizan grandes puertos abiertos a un intenso tráfico internacional, por ejemplo, el Puerto de Vigo tiene un tráfico de mercancías superior a las 3.500.000 toneladas anuales y un tráfico de unos 2.000 buques mercantes al año. La Demarcación Nbratlántica cuenta con un dispositivo de separación de tráfico marítimo, el de Finisierre. Este dispositivo sirve para ordenar el tráfico de tal forma que se reduzca considerablemente el riesgo y el número de accidentes por colisión en el tráfico marítimo en zonas especialmente vulnerables.

### El transporte marítimo en la Zona de Estudio

Dada la ubicación alejada de costa del Banco de Galicia y la zona propuesta portuguesa de los Montes submarinos de Vigo y Vasco da Gama, la presión producida por tráfico marítimo tiene menor intensidad. En concreto es una zona que es atravesada por rutas que van o vienen hacia América, y aquellas que pasan paralelas a la costa por el dispositivo de tráfico marítimo de Finisierre.

Esta distancia implica también que la contaminación acústica tenga una baja incidencia debido a la distancia a las áreas con mayor densidad de tráfico marítimo, como son las zonas costeras donde se localizan puertos de gran tránsito (Vigo u Oporto).

Hay que tener en cuenta los riesgos que pueden implicar el tráfico marítimo, como son los accidentes

## COMENTAR

energías renovables marinas, depósitos de sedimentos, plataformas marítimas y recintos artificiales.

Las Estrategias Marinas, de las actividades más importantes que puede provocar una afección al fondo marino destacan la extracción de sólidos, la explotación submarina y la explotación de hidrocarburos. Estas actividades implican una pérdida y daño físico por modificación del perfil del fondo o sellado, modificaciones de la sedimentación y abrasión, y provocar contaminación por ruidos submarinos.

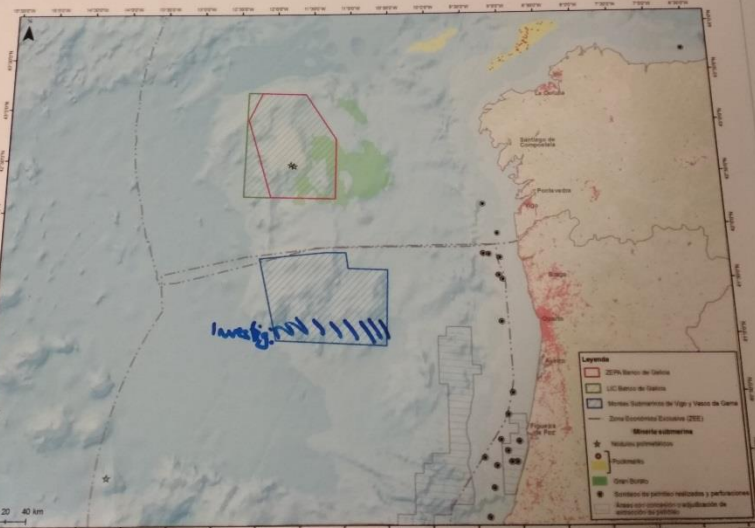
Marina Noratlántica, no existe ninguna explotación de hidrocarburos en el área de Galicia. Las explotaciones de otros minerales han sido realizadas por notificaciones bajo algún proyecto determinado, por ejemplo, la Zona Económica Exclusiva del Margen continental gallego o el proyecto LIFE+ INDEMARES.

## Estudio

localización de nódulos por-  
resultar de interés para la  
a la profundidad a la que se  
su explotación no sea econó-

destaca la presencia de numerosos poros por el escape de fluidos, gaseosa, y que podrían ser autógeno, etc.).

costa portuguesa, se lo-  
de sondeos de petróleo y  
zonificación de una gran  
cación de extracciones de



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## ENERGÍAS RENOVABLES

ritimo Nacional para instalação de dispositivos de energias renováveis requer um título de utilização privativa do espaço marítimo (TUPEM) no qual a obtenção depende se o uso e localização estão previstos no Plano de Situação. Até a data 3 TUPEMs foram emitidos com uma área de 14,6 Km<sup>2</sup> para 3 empresas diferentes (WindPlus, AW Energy OY e EDRP). Todos os TUPEM são projetos piloto. Uma das zonas piloto de Velina do Castelo onde já está prevista a instalação da Central Eólica Offshore WindFloat Atlantic. A ocupação da zona piloto com áreas para teste da capacidade de transporte de energia elétrica do único cabo submarino que fará a ligação a terra.

tarinha é considerado incompatível com a imersão do material dragado, recursos metálicos e não metálicos e atividades recreativas náuticas, plataformas multiuso, consideradas sinérgicas e consideradas possíveis com petróleo e gás, cabos submarinos, naufrágios, recifes artificiais, previsto no PSEOM, para projetos de investigação, demonstração e exploração de energia renovável marinha que devem ser consultados, licenciamento, instalação e exploração e desmantelamento). Como diretrizes, em cada uma das etapas, deve-se considerar a proteção do da não-utilização de mitigação, garantir a segurança do operador ou de outras pessoas e garantir o feedback técnico e científico.

presas de Energías Renovables), existe un alto potencial para el desarrollo de la energía marina en la costa cantábrica y atlántica. El pético está estimado en más de 20.000 MW que contribuirán a la producción eléctrica nacional. Actualmente existen diversas instalaciones que están estableciendo de costes reales de explotación de este tipo de energías. Cantabria, País Vasco, Galicia y Asturias, son las investigando cómo obtener energía mediante diferentes proyectos para la energía maremotriz (mareas), energía undimotriz (olas), energía eólica marina y energía mareomotriz.

to administrativo de autorización de instalaciones de generación eléctrica en el mar territorial está regulado por el Real Decreto



COMENTARIOS

Limitaciones:

Distance a car

• Profundidade

- Distancia a puertos

- Tipo de Fundo

Estudios a + Resolución  
En Galicia: Energy More

## OTROS STAKEHOLDERS





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CETMAR  
CENTRO TECNOLÓGICO DEL MAR

**CEDEX**  
CENTRO DE ESTUDIOS  
Y EXPERIMENTACIÓN  
DE OBRAS PÚBLICAS

## ANNEX 5: Satisfaction questionnaire

## SIMNORAT

*La Ordenación del Espacio Marítimo bajo un enfoque transfronterizo*

**Caso de estudio del Banco de Galicia y el Monte Submarino de Vigo y Vasco da Gama**

**TALLER TRANSFRONTERIZO DE AGENTES INTERESADOS Y USUARIOS MARINOS**  
**Vigo, miércoles 28 de noviembre de 2018**

### ENCUESTA DE SATISFACCIÓN

1. Indique del 1 al 10 su nivel de satisfacción general con el Taller realizado (siendo 1 un bajo nivel de satisfacción y 10 alto grado de satisfacción):

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

2. Evalúe del 1 al 10 su nivel de satisfacción en relación con los siguientes aspectos:

	1	2	3	4	5	6	7	8	9	10
Objetivos del taller										
Desarrollo de los grupos de trabajo										
Resultados obtenidos										
Material utilizado										
Lugar de celebración										
Duración del taller										
Organización del taller										

3. Indique, por favor, si mejoraría algún aspecto del taller:

4. Detalle, por favor, cualquier otro comentario que pueda resultar de interés:

**¡¡MUCHAS GRACIAS POR SU COLABORACIÓN!!**

ANNEX 6: Signatures of Attendance



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CENTRO DE ESTUDIOS Y EXPERIMENTACIÓN  
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## SIMNORAT

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**Caso de estudio del Banco de Galicia y el Monte Submarino de Vigo y Vasco da Gama**

### HOJA DE FIRMAS

APELLIDOS Y NOMBRE	ORGANIZACIÓN	FIRMA
Arrieta Algarra, Sagrario	MITECO	
Cadilla Castro, Joaquín	ORPAGU	
Campillos Llanos, Mónica	IEO	
Cervera Núñez, Cristina	IEO	
Costa, Ana Cristina	DGRM	
Fernández Cañamero, M <sup>a</sup> Luisa	CETMAR	
Fernández Otero, Rosa M <sup>a</sup>	CETMAR	
García Allut, Antonio	Fundación Lonxanet	
García García, Manuel	Marina Mercante	
García Peteiro, Laura	CETMAR	
García Tasende, Manuel	Consellería do Mar	
Gómez Ballesteros, María	IEO	
Hernando, Margarita	ACIEP	
Lago Cameselle, Alejandra	Universidad de Vigo	
Lago Garza, Rebeca	ARVI	
Marques, Marcia	UAveiro	
Martín Míguez, Belén	CETMAR	



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**Caso de estudio del Banco de Galicia y el Monte Submarino de Vigo y Vasco da Gama**

APELLIDOS Y NOMBRE	ORGANIZACIÓN	FIRMA
Martínez Cedeira, José	CEMMA	
Mella Arguerey, Mercedes	INSTRA	
Méndez, Gonzalo	Universidad de Vigo	
Murciano, Carla	CEDEX	
Nieto Novoa, Beatriz	WWF- Galicia	
Núñez, Rosa	INEGA	
Nys, Cécile	Universidad Brest	
Ovejero, Aida	Universidad de Vigo	
Pierce, Graham	IIM-CSIC	
Quintela, Adriano	UAveiro	
Ramos, Sandra	CIIMAR	
Ribeiro, Isabel	IEO Vigo	
Rosa, Francisco	Vianapesca	
Sandoval Rey, Antonio	Sociedade Galega Ornitoloxía	
Simas, Teresa	WavEC	
Sousa, Lisa	UAveiro	
Suárez Llanos, José Manuel	SASEMAR	
Torres, Silvia	CETMAR	



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