

MARSP PROJECT

FINAL CONFERENCE

BOOK OF ABSTRACTS

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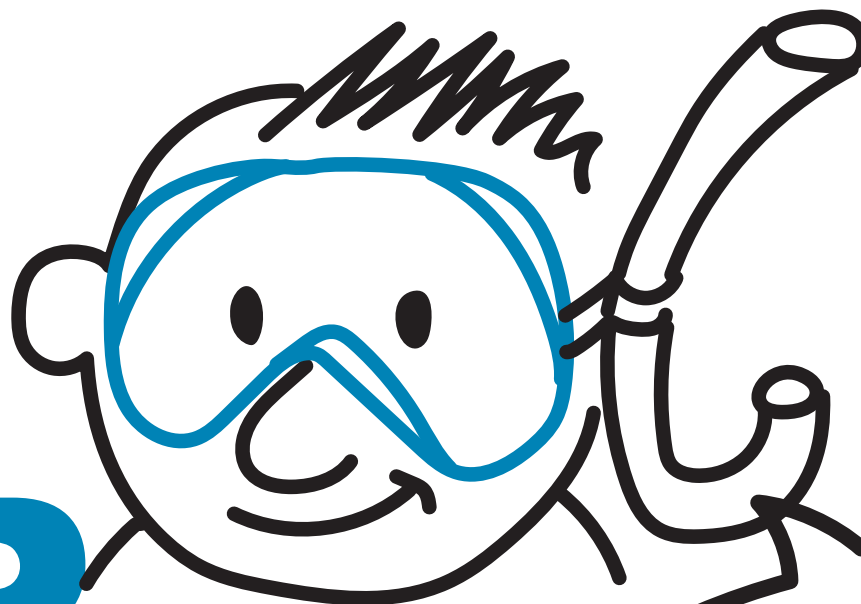
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MSP



TALKS
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01. Seabirds: sentinels towards ecosystem health on Macaronesian Region

Tânia Pipa, Carlos Silva, Elizabeth Atchoi

Seabirds are long-lived species, apex marine predators, philopatric, colonial breeders and forage in a wide variety of marine ecosystems. Macaronesian Region is a seabird hotspot where seabirds have been studied and conservation measures implemented over the last 40 years. However, the non-standardized methods and non-continuous monitoring programs difficult a correct application of the conservation measures. Since 2015 standardized methods and common methodologies have been developed and applied to achieve Good Environmental Status on Macaronesian Region using seabirds as management units. In total, 3 sub-programs were implemented, 26 seabirds' colonies monitored, corresponding to 10 species, and a new colony confirmed. The actions carried on contribute to establish baselines, fulfill knowledge gaps and apply conservation measures under Marine Strategy Framework Directive biodiversity descriptor.



SEABIRDS

MISTIC SEAS

LIFE IP AZORES

APPLY

**CONSERVATION
MEASURES**

**GES
EVALUATION**

TÂNIA PIÇA

HOW?



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02. A tool to evaluate the impact of anthropogenic activities on marine mammals

Diogo Kramel, Ana Cristina Costa

Policies, regulations and management decisions are important actions to keep human impacts under acceptable rates. However, measuring how each regulation may affect the ecosystem remains a challenge for many of the marine and terrestrial protected areas, creating difficulties for competent authorities to implement new strategies, affecting, in the end, the acceptance and success among the stakeholders. In the science realm, there are tools in different fields that aim to model the dynamics of an entire population or even the behaviour of individuals in a particular group. One example is the agent-based methods that have been developed to simulate hypothetical situations in biology and other fields by emulating the interaction among individual components of a system. The simulations are based on rules for behaviour and reproduction observed in species' patterns found in nature. Using this technique, the researcher is able to predict any significant oscillation in the population size for a predetermined period. This method may be applied through different tools and software available today, such as NetLogo and RePast.

However, the complexity of use and need for specific expertise are an obstacle that makes this approach unpopular in Maritime Spatial Planning. In face of this, this project aims to adapt the current existing methodologies to marine mammals and furthestmost to provide an easy-to-use, yet powerful, tool to explore the impact of the main human activities on cetaceans, searching for an ideal threshold in which both can coexist.



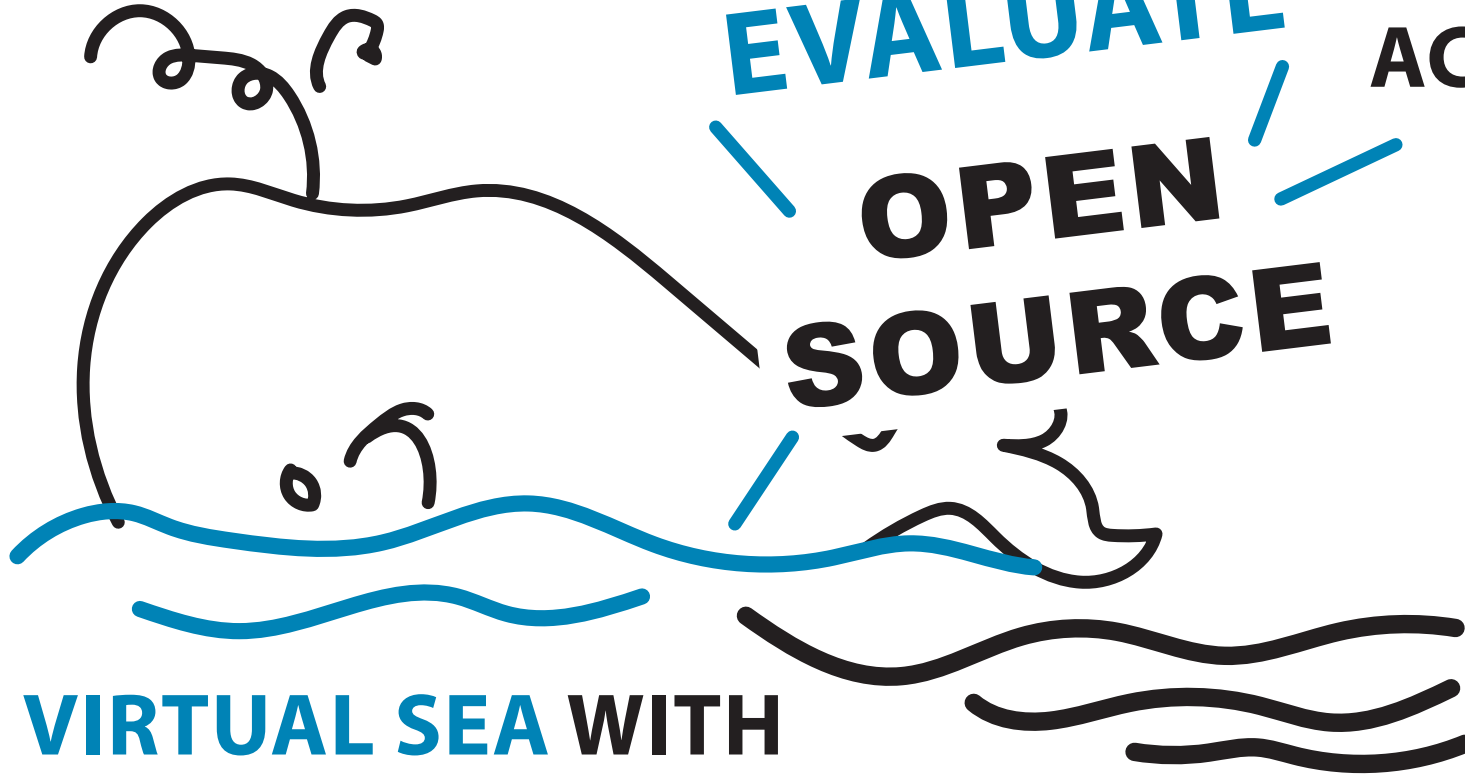
TOOL



EVALUATE

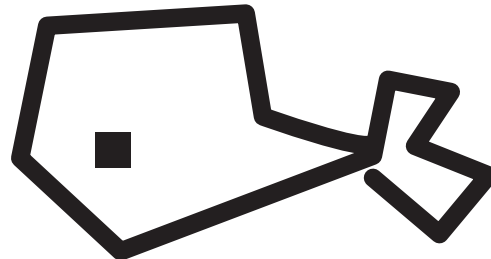
ANTHROPOGENIC ACTIVITIES ON

OPEN SOURCE



VIRTUAL SEA WITH VIRTUAL WHALES

DiOGO KRAMEL



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UNIVERSIDADE DE OUREANS
UNIVERSIDADE DE SALAMANCA
UNIVERSIDADE DE VALENCIA
UNIVERSIDADE DE ZARAGOZA

03. Impact of recreational diving on marine ecosystems, contributions to sustainable management

Cláudia Hipólito, João Gonçalves, Fernando Lopes, Helena Calado

In Portugal hundreds of interest spots for recreational diving, are known. The Azores, has become in last years a privileged diving destination. In the Azorean region, a subtropical region, the diving activity has been considered strategic for the tourism development. However, for regions with these specific characteristics there is a shortage of research in: maritime spatial planning (MSP); information and research on its characteristics; management of diving activity; and limits of acceptable change in the marine ecosystem. Thus, given an innovative contribution, this scientific work will address adapted methodologies and can in future assist in better management and understanding of the activity. Know this activity better, can inform the MSP and contribute to a more sustainable use of the sea while reducing conflicts with other sectors. The research will include analysis of the pressures of diving activity on ecosystems, acceptable limits for ecosystem change and the impact on tourist satisfaction. It represents an evolution of the traditional social carrying capacity because addresses also the ecological carrying capacity and the management resilience.



SCUBA DIVING



IDENTIFY
METHODOLOGIES

GATELINES



CLÁUDIA HIPÓLITO

SUSTAINABLE
MANAGEMENT



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04. Marxan as a decision-support tool for MSP in the Canary Islands

Andrea Zanella

In this work, the conservation planning software Marxan was used to analyse the effect of different conservation objectives and targets on the design of a network of Marine Protected Areas (MPAs). The study is applied on the Canary Islands Exclusive Economic Zone, considering maritime sectors activities. And following an Ecosystem Based Approach in line with the EU Directive on MSP (2014/89/EU). In the analysis carried out with Marxan, the cost layer, calculated combining information on the spatial distribution of current maritime activities (e.g. aquaculture, fishing activities, maritime traffic and military areas), was used as a surrogate for the spatial distribution of the non-monetary opportunity cost (e.g. the negative impact an MPA could have for aquaculture or other maritime sectors). Two different scenarios were developed. One considering the current network of Natura 2000 sites (Scenario A) and the other one considering MPAs classified by IUCN category list (Scenario B). For both scenarios was given two different targets of protection to the benthic habitats: 20% of protection to the benthic habitats included in the first 50m depth (Eco-cartographic studies) and 10% of protection to the benthic habitats beyond the 50m depth (EMODNET habitats). Conservation features (e.g. sighting of cetaceans and marine turtles) were weighted according to their biologically/ecologically relevance. Results have provided different scenarios on marine protected sites selection, that can be included in the Canary Islands MSP process.



05. Development of regional case studies to support the integration and implementation of MAES in support of MSP in Overseas Europe's

João Torres, Enrique Casas, Artur Gil

MOVE project will implement during three years, the pilot project “Mapping and assessing the state of ecosystems and their services in the outermost regions and overseas countries and territories: establishing links and pooling resources”, called by the Directorate General of Environment of the European Commission. MOVE pilot project intends to involve policymakers, researchers and the civil society in the development of methodologies for mapping and assessing the state of ecosystems and their services in Outermost (OR's) and Overseas Countries and Territories (OCT's). A coordinated and synergistic approach is advocated to turn the geographical, political and knowledge base fragmentation of these entities into assets, pooling resources and building robust participatory tools. Within MOVE's Task 4.1, 4 regional contributions focusing coastal/marine case studies are currently under development in order to address previously identified knowledge gaps and specific partners/stakeholders requests/expectations in these regions by using the multidisciplinary current state-of-the-art in MAES, the available data (including GIS, Remote Sensing and socioeconomic data), and the most advanced tools and models (e.g. InVEST, ARIES, ESTIMAP) for mapping, assessing, monitoring and valuating ecosystem services.

The local stakeholders of the selected regional case-studies are directly involved in the initial collection of core information and also in the assessment and final validation of results, with the direct support of project's local partners and MOVE' scientific board. With the advances in methodology and new cartography resulting from this work, additional quantitative data and good practices for Marine Spatial Planning are expected.



06. Cetacean Conservation and Marine Spatial Planning

Inma Herrera, Marcial Cosme, Manuel Carrillo, Ricardo Haroun

Cetaceans play an important role in the marine food chain, and their presence indicates a healthy marine environment. However, several species of cetaceans are in danger of extinction. The Canary Islands is an archipelago with an extraordinary richness and diversity of cetaceans, where up to 30 different species of the 84 described in the world can be observed. This great wealth means that some areas have been considered Special Area of Conservation (SAC) for the protection of these animals among others that make up the ecosystem. In this work we will show the results of eighteen years of whale watching in three SACs (Fuerteventura, Gran Canaria and Tenerife) of the Canary Islands, where you can see how these animals are not only abundant in the already delimited areas but we should consider the expansion of these areas for a greater protection of these animals of such value in the ecosystem, such as cetaceans.



07. Decision Support System for Maritime Spatial Planning within Blue Growth and Ecosystem-based management

Andrej Abramic, Alejandro Garcia, Yaiza Fernandez- Palacios, Deborah Shinoda, Maria Magalhães, Natacha Nogueira, Ricardo Haroun

The main challenge of PLASMAR Project is addressing the implementation of the Maritime Spatial Planning Directive 2014/89/EU within the present framework of emerging maritime activities linked to Blue Growth development and within the limits of ecosystem-based management. The main goal is to provide a pilot zoning, for the Exclusive Economic Zone of the Macaronesian Region (Azores, Madeira and Canaries archipelagoes), including aquaculture, offshore wind energy, mineral extraction, fisheries, maritime tourism and transport, based on environmental sustainability. It is with this aim that PLASMAR Project has developed a Decision Support System (DSS) based on available scientific knowledge, collection of scientific data and developed research.

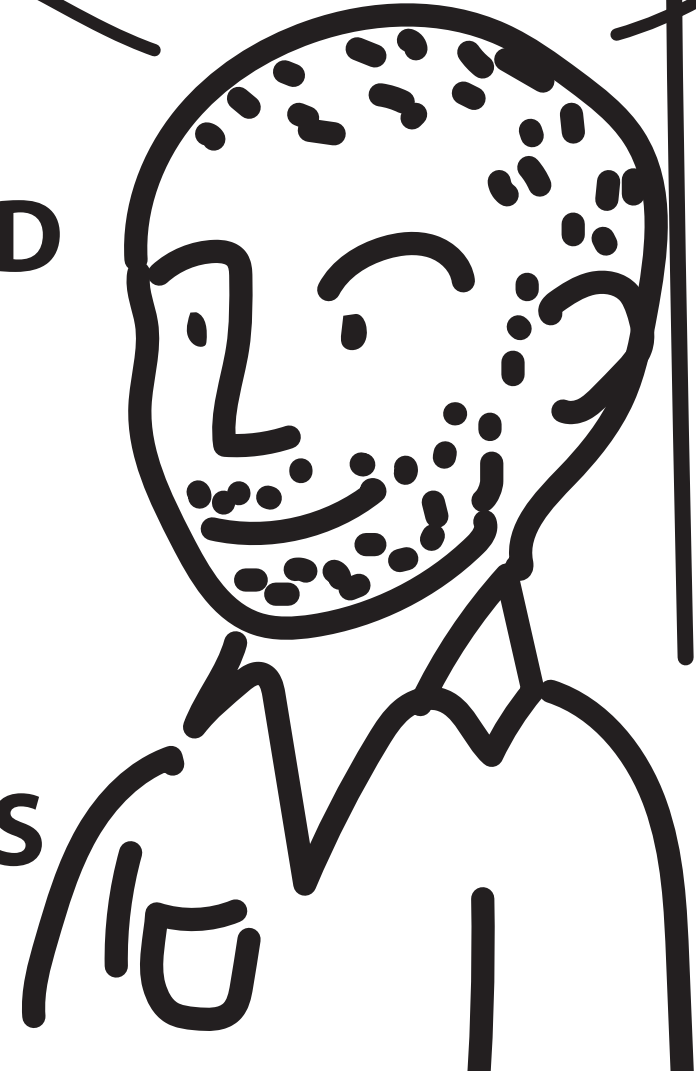


INDIMAR

PLASMAR DECISION SUPPORT SYSTEM

- ENERGY — OFFSHORE WIND ENERGY MAPS
- FISH
- AQUACULTURE
- FISHERY SENSITIVE MAPS

ANDREJ ABRAMIC



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08. MSP in the Context of Ocean Sustainability

Camila Pegorelli, Helena Calado, Catarina Frazão Santos

Maritime Spatial Planning process treats multiple aspects of the marine environment, including social/cultural, economic and ecological components. The MSP process manages these components through a holistic overview along with time and space to a more balanced and harmonious coexistence (Ehler and Douvère, 2009). Along with the preliminary results that some MSP projects have presented (Jones, Lieberknecht and Qiu, 2016), the MSP concept converges with the worldwide sustainability momentum. This work is the first approach to evaluate MSP using a composite indicator through the lens of ocean sustainability. Although some considerations and adaptation have to be taken in the process of development such index, the tool is seen as an excellent opportunity to translate into simple terms the complexity inherent in both MSP and ocean sustainability processes, mainly when it has to be communicated to a broad audience with different backgrounds. In this regard, this work is a step forward in the discussion of the use of such a tool.



MSP OCEAN SUSTAINABILITY

MARINE
ENVIRONMENT

CAMiLA PEGORELLi



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09. Potential impacts of MSP on Natura 2000: a practical approach to support decision-making

Lisa P. Sousa, Maria da Luz Fernandes, Adriano Quintela, Márcia Marques, Johnny Reis, Fátima L. Alves

The assessment of the impacts of maritime uses and activities in the marine environment has been the focus of academic research over the years. However, its actual application to national MSP processes raises several challenges, including constraints in data availability and time limitations. In the scope of the Strategic Environmental Assessment of the Portuguese MSP, a tiered methodological approach was designed in order to cope with existing limitations and constraints. It aims to support decision-makers in the anticipation of significant impacts and in the development of mitigation measures.

This pitch will show the approach used to assess possible significant effects of potential maritime uses and activities in the marine natural values of mainland Natura 2000. The major outcomes, assumptions and limitations will be also presented.



MSP IMPACTS ON NATURA 2000

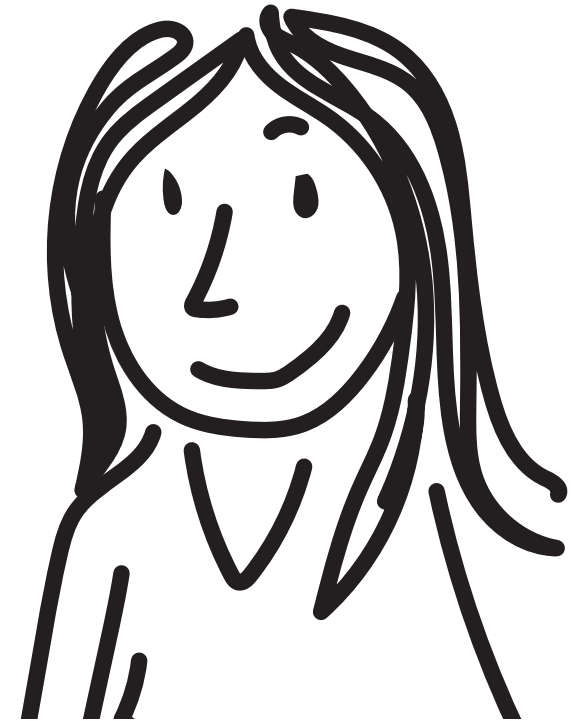
PRACTICAL APPROACH

SIGNIFICANT EFFECTS

MARITIME USES

MITIGATION MEASURES

ASSESSMENT



LISA SOUSA



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10. Bringing Better Plans - To achieve coherent national maritime spatial planning in the Baltic Sea region

Ingela Isaksson, Pan Baltic Scope Consortium

Pan Baltic Scope is a collaboration between 12 planning authorities and organisations from around the Baltic Sea. We work towards bringing better maritime spatial plans in the Baltic Sea Region. Standing on a solid base of previous maritime spatial planning-related projects in the Baltic Sea region, most notably the Baltic SCOPE project, we cooperated on 12 activities in three thematic groups:

- Cross-border collaboration to support national maritime spatial planning where planners and researchers cooperated in five activities;
- Implementation of the Ecosystem-Based Approach and Data Sharing created methods and tools to support maritime spatial planning in the Baltic Sea;
- Integration of Land-Sea interaction into maritime spatial planning connected to both themes and explored the concept of Land-Sea Interaction.

Outcomes soon to be found at our website www.panbalticscope.eu





PAN
BALTIC
SCOPE

MSP COHERENT
MECHANISMS

CROSS-BORDER
COOPERATION
FILLING THE GAPS

INGELA ISAKSSON



STAKEHOLDERS
ENGAGEMENT

ADAPT
UNDERSTAND
SHARE



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ECONOMIA

11. Planning for sustainability under a changing climate

Catarina Frazão Santos et al.

As ocean warming keeps accelerating and the vulnerability of marine organisms to thermal limits keeps increasing, the benefits provided by the ocean will keep changing and cause change in the way humans access, use and manage the ocean. Ocean planning is a vital process that has gained momentum globally due to its potential to support sustainability in ocean use, and the implementation of Sustainable Development Goals. Yet, to date it has failed to properly integrate the challenge of anthropogenic climate change. Although it is well recognized that the latter is a game changer for marine planning, only few spatial plans include climate change considerations and even fewer consider climate adaptation and mitigation. There is a pressing need for a more in-depth, thorough conversation among scientists, decision-makers and the broader society to foster the social and political recognition of this key topic, and to finding new solutions to deal with the challenges ahead.



CLIMATE CHANGE HOW MSP DEAL?

CHANGE OCEAN CONDITIONS

USE CONFLICTS

USE ENVIRONMENT

UNDERSTAND

CONTRIBUTE

CATARINA FRAZÃO

WHAT PLANS?

SCENARIOS

ADAPTATION

OCEAN PLAN



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12. MSP in the Med: past and future projects

Niccolò Bassan

During the last years, two projects were financed to develop Transboundary MSP in the Med: SUPREME and SIMWESTMED. The scope of the projects was to support the implementation of Maritime Spatial Planning (MSP) in the EU member states within their marine waters in the Eastern and Western Mediterranean sub-basins, and launch out concrete cross-border initiatives between Member States. The activities and outputs of the two projects were deepened in selected case studies, that were the opportunity of acquiring and strengthening field experience, data availability and knowledge on MSP in the Mediterranean Region. What will be the next steps?



SUPREME **SIMEDWEST**

- RECRUIT HABITATS
- TRANSBOUNDARY **MSP**
- ENVIRONMENTAL PROTECTION
- CROSSBORDER INITIATIVES
- DATA GAPS
- STAKEHOLDERS ENGAGEMENT

NICCOLÓ BASSAN



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13. Legal Framework for Marine Spatial Planning of the Canary Islands

Elena Prioetti

In the MarSP Project I've studied the legislation about all marine and maritime activities that can be developed in the Canarian waters. We are looking for the balance between economic growth and sustainability. For these reasons our mission was directed towards a tangible and facilitated development of the economic sector that, at the same time, takes into consideration the need of the environment and its restoration. In recent years, Europe has made a great effort to address the maritime spatial planning from a multisectoral and ecosystem approach. It is essential to check the current legislation and suggest possible changes to improve the condition of the healthy sea and facilitate the sustainable development of human activities. As a member of the MarSP Project legal TOTMA group, we have developed some concrete legal proposal to simplify some redundant steps, modernize obsolete laws and make the investments in Canary waters more attractive and respectful of the marine environment. The key to this long search was the combination of the joint knowledge of various and different legislation. Legally, in fact, this broad knowledge allows connections between laws of different subjects and the discovery of any errors or gaps to be solved for the next planning.



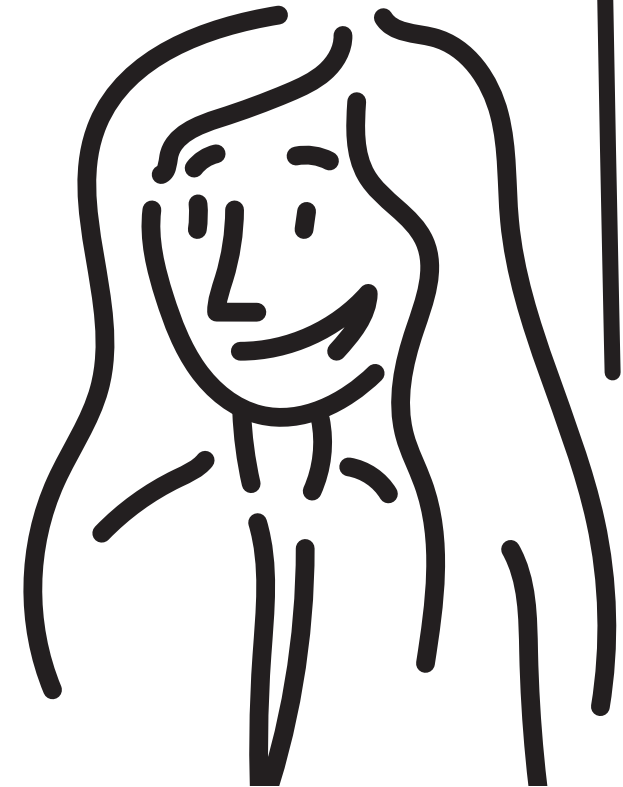
MarSP / MSP

CANARY ISLANDS



- **BALANCE ECONOMICAL/SUSTAINABILITY**
- **FUTURE SCENARIOS**
- CONSERVATION**
- TOURISM**
- WIND ENERGY**
- UNDERWATER CULTURAL HERITAGE**
- FISHING & AQUACULTURE**

ELENA PROIETTI



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14. Cross-border cooperation challenges in MSP

Víctor Cordero, Cristina Pallero, María De Andrés, Manuel Arcila, Javier G.Onetti, Javier G.Sanabria.

It has not been difficult to end up the MarSP project with more doubts than certain answers related to how cross-border cooperation in MSP will be enforced. This pitch aims not so much to clarify this point but to stress some of the insights and perceived challenges to undertake cross-border cooperation starting from creating political and social constituencies, passing through updating and improving the governance systems and ending up with increasing our awareness of our dependence on natural processes and the others welfare.



MSP CROSSBORDER



COOPERATION

CHALLENGES

ENFORCE

**CREATING POLITICAL & SOCIAL
CONSTITUENCIES – CLARIFY**

AWARENESS

–GOVERNANCE

WELFARE

SYSTEMS

VICTOR CORDERO



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