

Technical report Future Conditions and Scenarios for Marine Spatial Planning and Sustainable Blue Economy Opportunities in the Western Mediterranean

marine
spatial
planning
global



United Nations
Educational, Scientific and
Cultural Organization



Intergovernmental
Oceanographic
Commission



Sustainable
Development
Goals



Co-funded by the
European Maritime and
Fisheries Fund of
the European Union

Published in 2021 by the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization.

UNESCO/IOC
7, Place de Fontenoy
F-75352 PARIS 07 SP
Paris, France



The designations employed and the presentation of material throughout this publication do not imply the expression of any opinion whatsoever on the part of UNESCO and the European Commission concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The ideas and opinions expressed in this publication are those of the authors; they are not necessarily those of UNESCO and do not commit the Organisation.

This publication should be cited as follows: UNESCO-IOC. 2021. *Technical Report on Future Conditions and Scenarios for Marine Spatial Planning and Sustainable Blue Economy Opportunities in the Western Mediterranean*. Paris, UNESCO. (IOC Technical Series no 162)

Authors: Cristina Cervera-Núñez; Alejandro Iglesias Campos; Firdaous Halim.

Coordinator: Alejandro Iglesias Campos (UNESCO-IOC/MPR Programme Specialist)

Edition: Aya Khalil, Ingrid Pastor Reyes and Kemal Pınarbaşı (UNESCO-IOC)

Cover photo: © RudiErnst/Shutterstock.com

Graphic design: Marie Moncet

Illustrations: Cristina Cervera-Núñez, Alejandro Iglesias-Campos

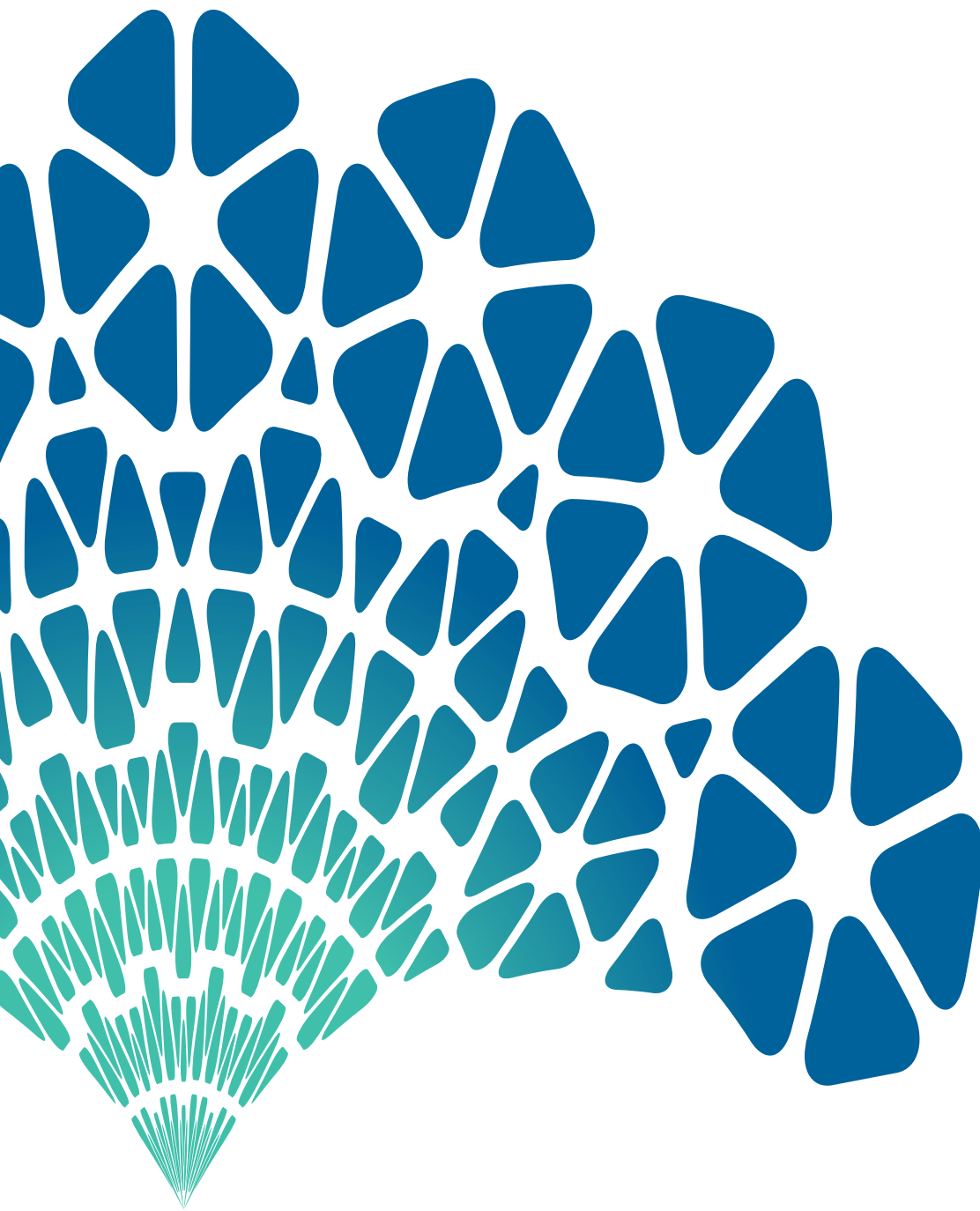
Tables/Figures: MSPglobal/UNESCO-IOC.

© UNESCO 2021

(IOC/2020/TS/162)

DISCLAIMER

This publication was produced with the financial support of the European Union. Its contents are the sole responsibility of UNESCO's Intergovernmental Oceanographic Commission and do not necessarily reflect the views of the European Union.



Technical report

**Future Conditions and Scenarios for
Marine Spatial Planning and Sustainable
Blue Economy Opportunities in the
Western Mediterranean**

TABLE OF CONTENTS

Acknowledgement	5
MSPglobal Initiative	6
I. WP2: Pilot project in the Western Mediterranean Sea basin	7
II. The context of scenarios development	7
II.1. The value of scenarios	7
II.2. Justification of scenarios	8
II.3. Preliminary considerations	10
II.4. Methodology	11
III. Trend scenario	13
III.1. Following a trend scenario in the Western Mediterranean Sea	13
III.2. The trend scenario at cross-border level	14
III.2.1. Following the trend scenario in the western part and Strait of Gibraltar	15
III.2.2. Following the trend Scenario in the central part and Gulf of Lion	16
III.2.3. Following the trend scenario in the eastern part and Strait of Sicily	17
IV. Conservationist scenario	18
IV.1. Following a conservationist scenario in the Western Mediterranean	18
IV.2. The conservationist scenario at cross-border level	20
IV.2.1. Following the conservationist scenario in the western part and Strait of Gibraltar	20
IV.2.2. Following the conservationist scenario in the central part and Gulf of Lion	21
IV.2.3. Following the conservationist scenario in the eastern part and Strait of Sicily	22
V. Integrated scenario	24
V.1. Following an integrated scenario in the Western Mediterranean Sea	24
V.2. The integrated scenario at cross-border level	26
V.2.1. Following the integrated scenario in the western part and Strait of Gibraltar	26
V.2.2. Following the integrated scenario in the central part and Gulf of Lion	27
V.2.3. Following the integrated Scenario in the eastern part and Strait of Sicily	28
VI. Suggestions for using the scenarios	29
VII. References	31
Annex 1. List of figures and tables	33
Annex 2. List of acronyms	34

Acknowledgement

The MSPglobal Initiative would like to acknowledge the support received by local, national and regional stakeholders who took part in MSPglobal engagement activities, therefore contributing to the knowledge summarised in this publication.

Special acknowledgement extends to National Focal Points and partner institutions representing the Governments of Algeria, France, Italy, Libya, Malta, Mauritania, Morocco, Portugal, Spain and Tunisia, the European Commission, the Union for the Mediterranean, the Steering Group of the WestMED Initiative and the Priority Action Programme – Regional Activity Centre of the Mediterranean Action Plan.

The project “Supporting internationally accepted maritime spatial planning guidance” – **MSPglobal** for short – is an initiative by UNESCO’s Intergovernmental Oceanographic Commission (IOC-UNESCO) and the European Commission’s Directorate-General for Maritime Affairs and Fisheries (DG MARE) to support their Joint Roadmap to Accelerate Maritime/Marine Spatial Planning processes worldwide (**MSProadmap**) (#OceanAction15346).

Launched in November 2018 for a period of three years, MSPglobal aims to support international Maritime/Marine Spatial Planning (MSP) for the sustainable development of the Blue Economy, by enhancing cross-border and transboundary cooperation where it already exists and promoting MSP processes in areas where it is yet to be put in place.

More specifically, it seeks to:

- Develop a **guidance** on cross-border and transboundary MSP;
- **Increase awareness** among governmental authorities and stakeholders about the importance of MSP;
- Initiate an **institutional coordinate dialogue** between governmental authorities at regional, national and local levels; and
- Increase **cooperation between stakeholders**.

By providing the context for active and effective participation of policy-makers, scientists, businesses, citizens and other stakeholders, MSPglobal aims to improve governance at multiple levels and achieve an ecosystem-based approach in support of the Blue Economy. Doing so will require transparent data and information, sharing of best practices and new knowledge to inform, guide and support MSP at global scale.

Two pilot projects, one in the Western Mediterranean and another in the Southeast Pacific, are facilitating concrete transboundary and cross-border activities, respectively, at different geographical levels as well as supporting the participating countries in successfully implementing MSP initiatives.

The MSPglobal Initiative is divided into five work packages (WP):

WP1: Joint EC/IOC Guidance on cross-border/transboundary MSP

WP2: Pilot project in the Western Mediterranean Sea basin

WP3: Pilot project in the Southeast Pacific region (with mapping exercise in the Historical Bay – Gulf of Guayaquil)

WP4: Participation, communication and dissemination

WP5: Project management

I. WP2: Pilot project in the Western Mediterranean Sea basin

The WP2 is being implemented in seven Western Mediterranean countries: Algeria, France, Italy, Malta, Morocco, Spain and Tunisia; other countries of the Union for the Mediterranean have also been invited to participate. The activities of this work package are in line with and contribute to existing national MSP processes, as well as potential transboundary MSP processes in the region. It has five specific objectives, which are described below:

1. Increase awareness among decision-makers and elected officials concerning the importance of MSP in the context of sustainable Blue Economy in order to foster dialogue and cooperation on cross-border MSP to enable Blue Growth in the Western Mediterranean Sea basin;
2. Wherever possible under existing mechanisms, initiate an institutional coordination dialogue between the various authorities at the national, regional and local levels building on the results of EU transboundary projects;
3. Build on work being done by the SIMWESTMED MSP project at EU level to increase cooperation with non-EU

Member States on MSP (and other on-going initiatives) by **developing an MSP pre-planning phase in the Western Mediterranean region;**

4. **Explore the links between MSP and Integrated Coastal Zone Management (ICZM)** and contribute to a better understanding of similarities and differences between the two concepts;
5. Formulate regional recommendations in line with the Initiative for the development of the Blue Economy in the Western Mediterranean (WestMED Initiative) and its Framework for Action, explore political will, and wherever possible establish the first steps leading to the **adoption of a roadmap on MSP and sustainable Blue Economy in the sea basin.**

This *Technical Report on Future Conditions and Scenarios for Marine Spatial Planning and Sustainable Blue Economy Opportunities in the Western Mediterranean* is related to the specific objective 3, and aims to support the discussions and development of the pre-planning phase of a regional transboundary MSP in the Western Mediterranean Sea basin.

II. The context of scenarios development

II.1. The value of scenarios

Marine Spatial Planning (MSP) talks inherently about the future: its potential resides in long-term strategic thinking in order to develop a future projection based on specific objectives, because

“Before we can create a desirable future, we first need to imagine it” (IOC-UNESCO, 2009).

An MSP *scenario* for a specific area will be a “picture” of this area as it may look in the future, considering that specific goals and objectives were established and measures were applied (or not) and that maritime activities and environmental values evolved accordingly. Therefore, any process that examines a scenario or scenarios involves the creation of alternative images of the future and to evaluate

them against some kind of goal or set of values (McGowan et al., 2019).

There may be as many scenarios as there are combinations of objectives and measures, but traditionally there are some particular scenarios that we should always think about. For instance, scenario 0, or “**trend scenario**”, would represent the area if current conditions continue without new management interventions and the sectors develop according to their past and present trends. However, more useful in the scope of MSP is the development of **alternative marine spatial use scenarios** in order to promote the discussion about where we want to go and which objectives, zoning and management interventions we have to establish to get to our **preferred scenario**.

II.2. Justification of scenarios

In Europe, the Integrated Maritime Policy seeks to provide a more coherent approach to maritime issues, with increased coordination between different policy areas specifically covering cross-cutting matters as Blue Growth and Marine/Maritime Spatial Planning. In parallel, the 2050 African Integrated Maritime Strategy (2050 AIM Strategy) aims among its diverse objectives to develop a sustainable “Blue Economy”; and within its strategic actions in maritime governance, MSP is identified to balance frequently competing sector-based interests (African Union, 2012).

Finally, the Contracting Parties to the Barcelona Convention recommended in December 2013 to strengthen the Mediterranean Action Plan’s (MAP) activities on MSP as part of the Integrated Coastal Zone Management (ICZM) Protocol. In this regard, in 2017 a conceptual framework for MSP in the Mediterranean was developed to facilitate the introduction of MSP under the Barcelona Convention and linked to the ICZM Protocol.

According to the Step-by-Step Approach to Ecosystem-Based MSP of IOC-UNESCO (2009), you will need to determine the period that the future conditions will cover during the pre-planning phase. In this case, considering the different phases in which countries are regarding MSP in the Western Mediterranean, an analysis of international initiatives and commitments was carried out in order to take into account their time frames.

First, at the European level we need to mention the European Green Deal, whose horizon is 2050. The objective of this ‘EU Green Deal’ is for Europe

“to have a clean economy, with zero emissions, and to protect our natural habitat to improve the well-being of people, companies and to take the lead in climate action throughout the planet.”

On the other hand, the African Integrated Maritime Strategy – whose vision is

“to promote the increase of wealth creation from the oceans and seas of Africa through the sustainable development of a prosperous blue economy in a safe and environmentally sustainable manner” – also seeks to be implemented by 2050.

However, at the regional level, we have the Mediterranean Strategy for Sustainable Development (MSSD) 2016-2025, which aims

“to harmonize the interactions between socio-economic and environmental goals, adapt international commitments to regional conditions, guide national strategies for sustainable development, and stimulate regional cooperation between stakeholders in the implementation of sustainable development.”

And finally, at the global level, the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs) have a clear interaction with MSP regarding different aspects in the Western Mediterranean:

Table 1

Relation between SDGs and MSP in the Western Mediterranean.

 SUSTAINABLE DEVELOPMENT GOALS	Relation with MSP in the Western Mediterranean	 SUSTAINABLE DEVELOPMENT GOALS	Relation with MSP in the Western Mediterranean
 1 NO POVERTY	Blue Economy	 10 REDUCED INEQUALITIES	A regional approach could help overcome inequalities among countries
 2 ZERO HUNGER	Fisheries and aquaculture	 11 SUSTAINABLE CITIES AND COMMUNITIES	The Western Mediterranean is home to important coastal cities with a historical relation to the sea, influencing and being influenced by it
 3 GOOD HEALTH AND WELL-BEING	Marine environment conservation	 12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Sustainable Blue Economy strategies should take into account circular economy strategies for the Western Mediterranean
 4 QUALITY EDUCATION	The implementation of an integrated and effective Blue Economy strategy will imply better education in ocean-related matters	 13 CLIMATE ACTION	Ocean renewable energy
 5 GENDER EQUALITY	Promoting gender equality in the development of the Blue Economy will ensure that the best assets in the region, regardless of their gender, are included in the process	 14 LIFE BELOW WATER	Marine environment conservation
 6 CLEAN WATER AND SANITATION	Marine environment conservation	 15 LIFE ON LAND	Land and sea are not isolated environments but interconnected by processes, species and activities. Life on land has to be considered as part of Land-Sea Interactions (LSI) in the Western Mediterranean
 7 AFFORDABLE AND CLEAN ENERGY	Ocean renewable energy	 16 PEACE, JUSTICE AND STRONG INSTITUTIONS	A Western Mediterranean with a sustainable and resilient Blue Economy, a preserved marine environment and collaboration at regional level will support the achievement of this goal
 8 DECENT WORK AND ECONOMIC GROWTH	Blue Economy	 17 PARTNERSHIPS FOR THE GOALS	Regional approach in the Western Mediterranean
 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	Emerging ocean sectors and Blue Economy		

In summary, considering that the Joint Roadmap to accelerate Maritime/Marine Spatial Planning processes worldwide signed by the Directorate-General of Maritime Affairs and Fisheries of the European Commission (DG MARE) and the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO) has as one of its purposes to promote the role of MSP in implementing the 2030 Agenda, this will be the selected horizon for the scenarios of the Western Mediterranean. However, in order to give visibility to the diversity of national processes and to take into account other above-mentioned initiatives, the time frame needs to be considered flexible to understand these scenarios beyond 2030.

For the Western Mediterranean, three different scenarios are proposed. The first scenario projecting **current activities trends**, the second one with a focus on **conservation**, and finally, an **integrated** scenario where conflicts are minimised and Blue Economy strategies are followed.

Scenarios may contribute to depicting how the area will look by representing the spatial consequences of implementing certain goals and objectives, and helping to decide if we want to follow them or not. They might anticipate potential conflicts or compatibilities and, in general, are important to determine the desired direction for the development of the planning area.

II.3. Preliminary considerations

Scenarios are not intended to be accurate forecasts of the future (McGowan et al., 2019) but a “not too rare potential future”. In order to be as realistic as possible, the “diagnosis” phase – in which current conditions are identified and analysed (i.e., policies, spatial data and other complementary sectoral information) – is the basis to project future conditions. However, due to data gaps and challenges faced when collecting and analysing information on current trends, scenarios presented here need to be understood with their uncertainty and limitations.

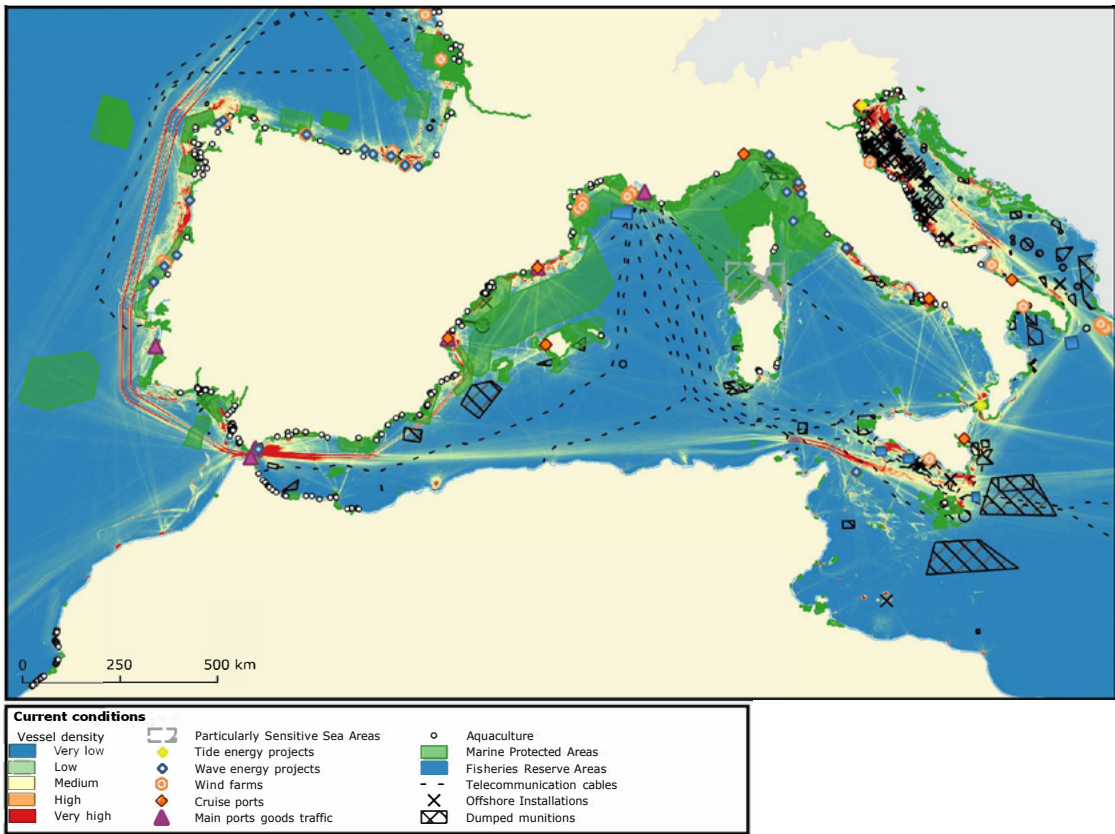


Figure 1
Current uses in the Western Mediterranean.

Figure 1 shows available data regarding current sector distribution. As already mentioned, there are some gaps regarding specific sectors in some countries. However, the main data gap corresponds to the North African countries’

jurisdictional waters; therefore, the information represented for the south of the Western Mediterranean has to be considered as incomplete.

Even so, the lack of information cannot be a reason for inaction. Scenario development is not about guessing the future but about designing different potential “futures”, discussing them, choosing a preferred scenario and establishing the management measures needed to achieve it. This process, as is the MSP process as a whole, is not an exact science and it is important to be able to deal with uncertainty.

II.4. Methodology

As indicated in previous sections, this document presents three different potential marine use scenarios for the Western Mediterranean based on data acquired for current conditions and supported by regional publications

(See reference section) on maritime sectors trends, impacts of maritime activities and Blue Economy in the Mediterranean Sea. This information was used taking into account the description of each scenario proposed (Table 2).

According to (IOC-UNESCO, 2009), “a marine space use scenario allows us to project a perspective of the future use of marine space based on a set of goals, objectives and assumptions about the future”. Therefore, for the construction of the three scenarios for the Western Mediterranean, specific assumptions, goals and objectives were identified for each scenario regarding maritime sectors, maritime policies and environmental values. These “key drivers” characterise each scenario and are presented in the following table, along with their proposed visions:

Table 2

Proposed visions of each scenario for the Western Mediterranean.

Scenarios for 2030	Key drivers
Trend	
<i>Assuming that no integrated maritime policy was in place, sectors grew based on their past trends and future projections. Conflicts are expected to arise in the busiest areas</i>	<ul style="list-style-type: none"> • Mass tourism • Cargo and cruises • Intensification of fishing
Conservationist	
<i>Conservation is the priority, ecological and biological areas are effectively protected, most impacting activities are reduced until the maximum possible extent and new activities development is based on ecological sustainability factors</i>	<ul style="list-style-type: none"> • Eco-tourism • “Green shipping” • Sustainable fisheries and aquaculture • Effective protection of key environmental values • Promotion of renewable energy
Integrated	
<i>Integrated planning and management have led to the application of sustainable Blue Economy strategies at regional level where co-location of activities is a priority led by social and sustainability objectives</i>	<ul style="list-style-type: none"> • Sustainable tourism • Sustainable maritime shipping • Co-location of activities • Precautionary principle for emerging sectors

Having in mind that the Western Mediterranean comprises an extensive region, 3 sub-areas have been defined, each of them with another focus area within, in order to better

understand each potential scenario, particularly in cross-border zones.

Table 3

Cross-border focus areas in the Western Mediterranean.

Sub-areas	Focus areas	Countries involved
Western part of the Western Mediterranean	Strait of Gibraltar	Morocco-Spain
Central part of the Western Mediterranean	Gulf of Lion	Algeria-France-Italy
Eastern part of the Western Mediterranean	Strait of Sicily	Italy-Malta-Tunisia

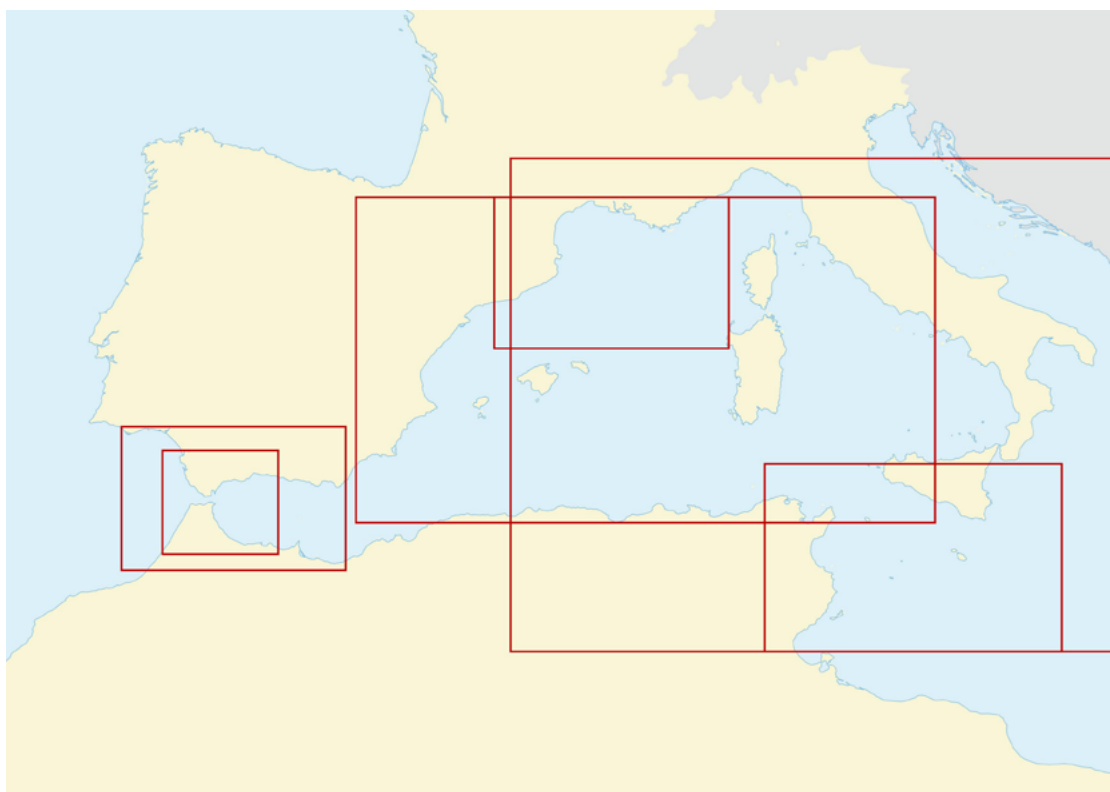


Figure 2

Western Mediterranean focus areas.

Regarding the geographical extension of maps, the priority was first given to countries part of the West Mediterranean pilot project and secondly to countries with marine regions located in the Western Mediterranean Sea basin.

In relation to scenarios mapping:

- The proposed potential areas for development of activities are based in literature until the possible extent (see references). When this was not possible, “real-life logic” was used.
- The lack of representation of an activity in one scenario means that it is not relevant at a regional level in comparison with the represented activities.
- Different ways of representing the same activity in different scenarios (size, colours) is used to show differences in intensity and importance.
- Fisheries areas are located where there is the highest concentration of the activity, although it can be developed in other areas; the same applies for maritime transport, as they are mobile activities.

III. Trend scenario

“Assuming that no integrated maritime policy was in place, sectors grew based on their past trends and future projections. Conflicts are expected to arise in the busiest areas.”

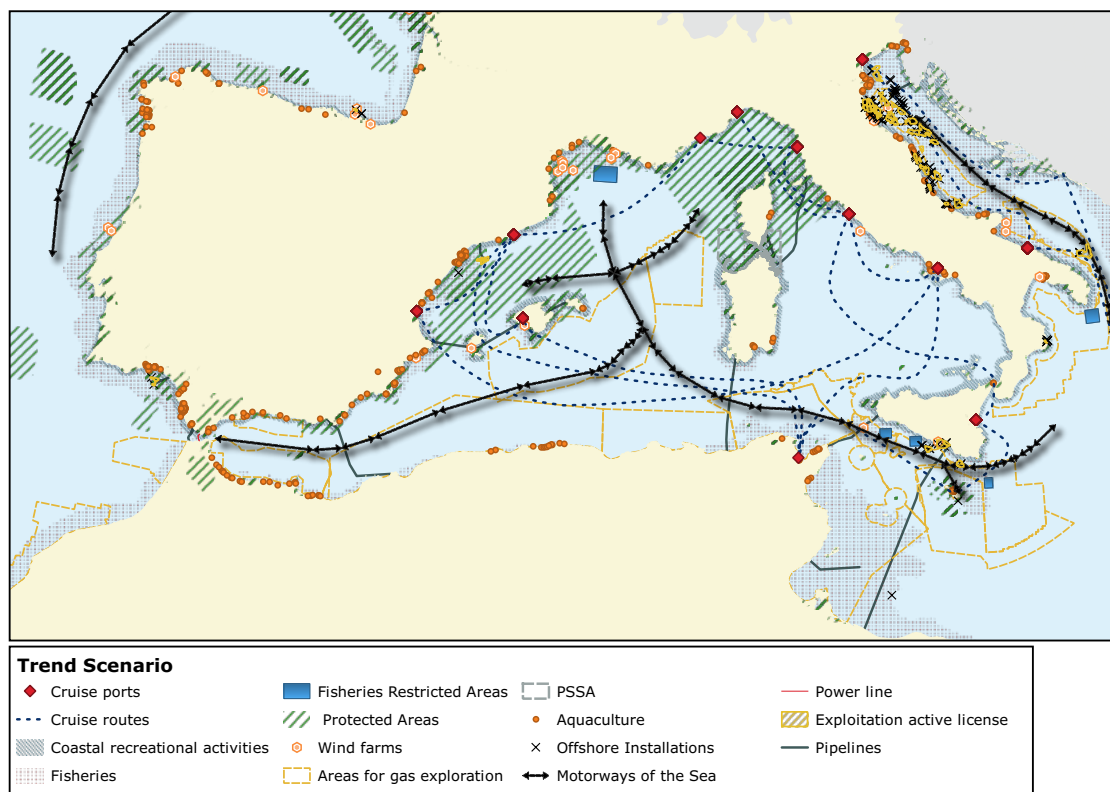


Figure 3
The trend scenario.

In this scenario, activities development followed the current and past sectorial trends without considering other sectors or the environment.

III.1. Following a trend scenario in the Western Mediterranean Sea

This scenario projects current trends of different activities already in place to the future without any integrated management intervention. Therefore, its main characteristics are **the growth of mass coastal tourism and cruises, the increase in cargo transportation and overexploited fisheries stocks.**

The Mediterranean is the world's leading destination for **coastal and maritime tourism**, attracting about one-third of all global visitors (Randone et al., 2017). The cruise sector is particularly fast-growing: in 2007 there were 8.7

million cruise passengers in the Mediterranean, by 2018 there were more than 25 million – and it keeps growing both in terms of number and size of cruise ships (Caric H. et al., 2019). This is the trend projected in this scenario for tourism, without limitations, thus including the collateral increase in coastal recreational activities such as yachting and recreational fisheries.

Maritime transport worldwide is expected to grow by about 140% by 2030 (OECD, 2016). Specifically in the Mediterranean, maritime transport including related port activities has reported significant growth over the past decades as the region registers intense maritime transport of goods, energy products and passengers (Union for the Mediterranean, 2017b). It is expected that shipping routes will continue to grow in the Mediterranean basin in the coming years, both in number and traffic intensity (Plan Bleu, 2014; Randone et al., 2019). Consequently, we consider that maritime transport is bound to grow in this scenario.

The available data on **fish stocks exploited above sustainable levels** show that the Mediterranean Sea is in a state of ecological crisis due to a long pattern of over-fishing (Plan Bleu, 2017). Consequently, catches have been decreasing since 2006 primarily due to excessive pressure on stocks over the past few decades. Approximately 80% of Mediterranean stocks are estimated to be fished at above

biologically sustainable levels (Union for the Mediterranean, 2017b). According to this and with no new management interventions put in place, in this scenario fisheries activity decreases considerably as it is not profitable anymore.

The following table specifies the assumptions and objectives that drives each activity’s status in this scenario:

Table 4
Sectors assumptions in the trend scenario.

Status of the sectors in the Trend Scenario	
Fisheries	Most studies show that fisheries production is decreasing or stagnant in the Western Mediterranean due to overexploitation of stocks. In a trend scenario, the less productive fisheries will be the first to disappear. The intensification of the activity will reduce stocks which will eventually regulate the extraction.
Aquaculture	Many studies agreed on the growth of aquaculture in the coming years. In a trend scenario, aquaculture will be developed in a way to be as productive as possible and in areas where the cost-benefit could be maximised, regardless of whether they are inside Marine Protected Areas (MPAs) or not.
Oil and gas	Development of oil and gas activities would be mostly influenced by prices. In a trend scenario, the production is expected to grow, mostly in non-EU countries.
Maritime transport and ports	Maritime transport is a very important economic activity in the region. In a trend scenario, shipping routes are expected to continue increasing in number and traffic intensity.
Wind energy	Wind energy has experienced very limited development in the Western Mediterranean to date mostly due to technical limitations. In a trend scenario, this activity will grow moderately based on the economic benefits of its development.
Cruises	The Mediterranean is critical at global level for cruises. In a trend scenario, it will continue growing until the threshold caused by overcrowded places and its impacts is met.
Coastal tourism and recreation	For the purpose of this scenario, “coastal recreational activities” include recreational fishing and boating, coastal tourism and any other associated nautical activity. The Mediterranean is the world’s leading tourist destination, as such it is considered an essential activity in the region. In a trend scenario, it will continue growing until the threshold caused by overcrowded places and its impacts is met.
Conservation	The Western Mediterranean is home to important habitats and species which also suffer from high pressures. In a trend scenario, MPAs are developed to fulfil international commitments. In this scenario, Critical Cetacean Habitats and Ecologically and Biologically Significant Marine Areas are not being protected formally.

III.2. The trend scenario at cross-border level

In order to better understand the Trend Scenario, this section presents the focus areas previously established in Table 3, explaining when necessary elements in these areas that might be of particular interest for the specific scenario.

Key drivers are: The **growth of mass coastal tourism and cruises**, the **increase in cargo transportation** and **overexploited fisheries stocks**



III.2.1. Following the trend scenario in the western part and Strait of Gibraltar

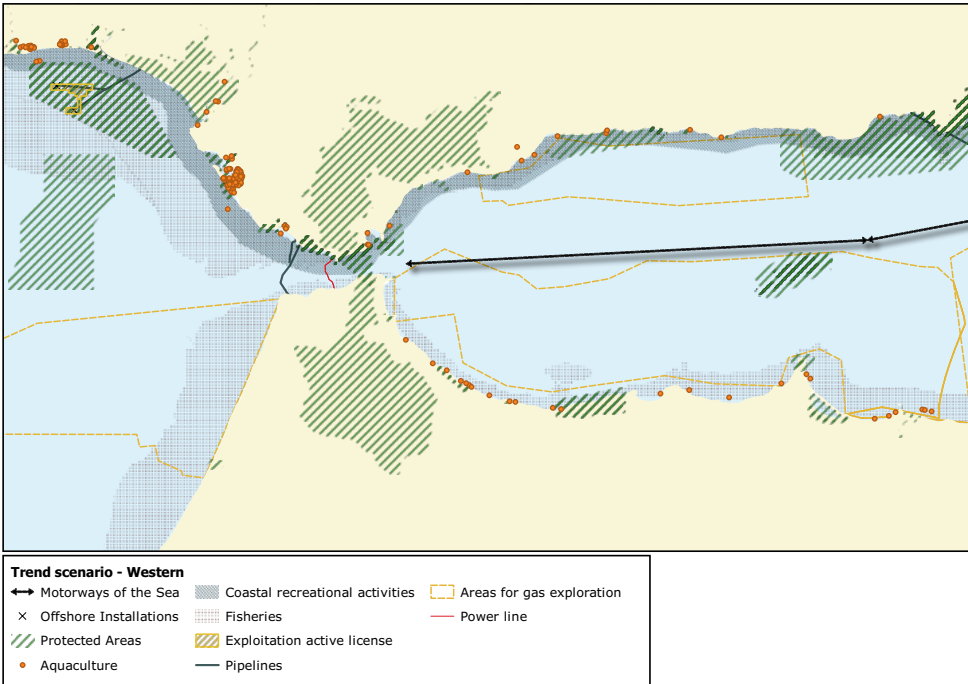


Figure 4
Following the trend scenario in the western part of the Western Mediterranean.

For this scenario, the western part of the Western Mediterranean (*Figures 4 and 5*) presents several conflicts between uses as well as between uses and environmental values. Maritime traffic routes cross a Critical Cetacean Habitat without any limitation; aquaculture and hydrocarbon exploration activities take place inside MPAs; and fisheries are not spatially regulated so they can take place in any area with

potential conflict with environmental values and other uses.

Moreover, for this scenario this sub-region presents areas for gas exploration (Piante and Ody, 2015), an activity that may enter into conflict with the conservation of environmental values.

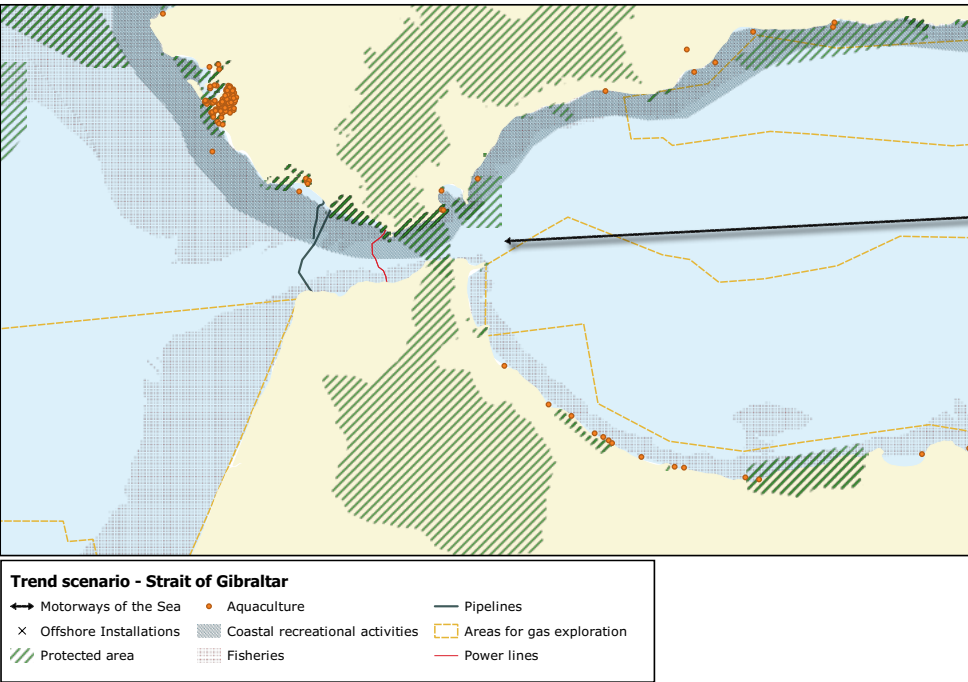


Figure 5
Following the trend scenario in the Strait of Gibraltar.

III.2.2. Following the trend Scenario in the central part and Gulf of Lion

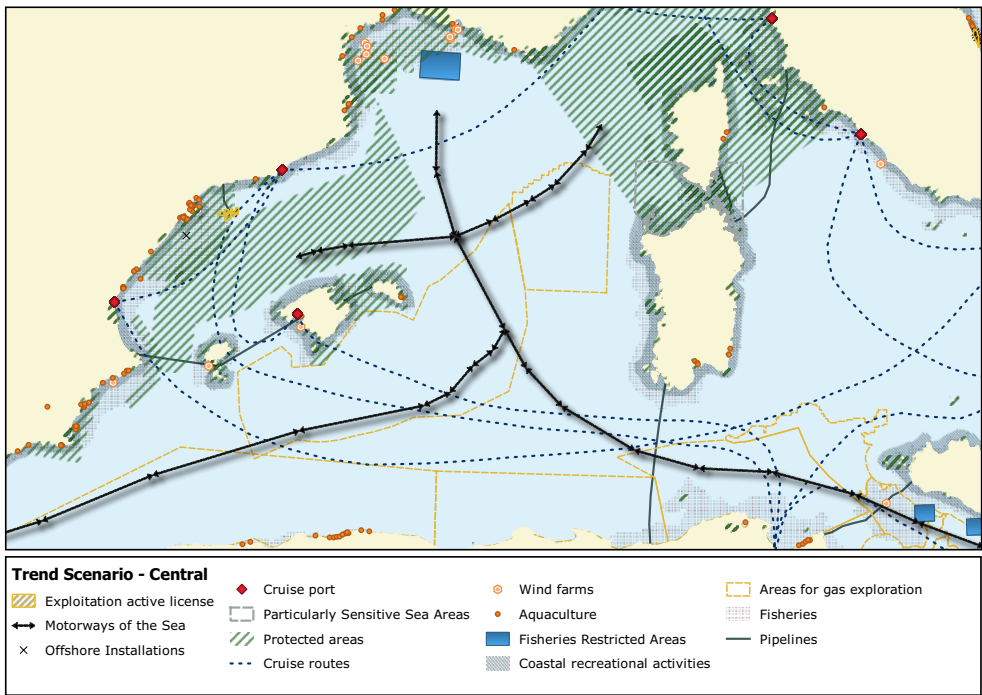


Figure 6
Following the trend scenario in the central part of the Western Mediterranean.

In the central part of the Western Mediterranean, shipping routes cross MPAs in this scenario if it is the most profitable way. Similarly, wind farms and aquaculture facilities are developed following

economic instead of ecological criteria, meaning that they might be developed inside MPAs if this is the most “suitable” place.

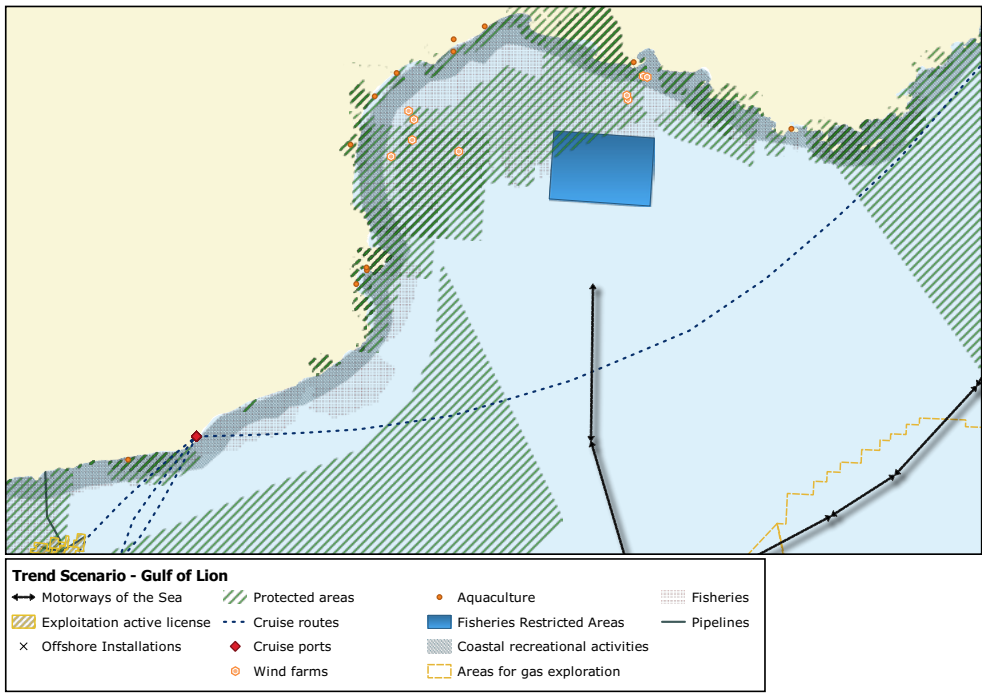


Figure 7
Following the trend scenario in the Gulf of Lion.

As can be seen in *Figure 7*, there is a concentration of activities close to the coast (aquaculture, wind farms

and coastal recreational activities) and fisheries are conducted inside MPAs in the Gulf of Lion.

III.2.3. Following the trend scenario in the eastern part and Strait of Sicily

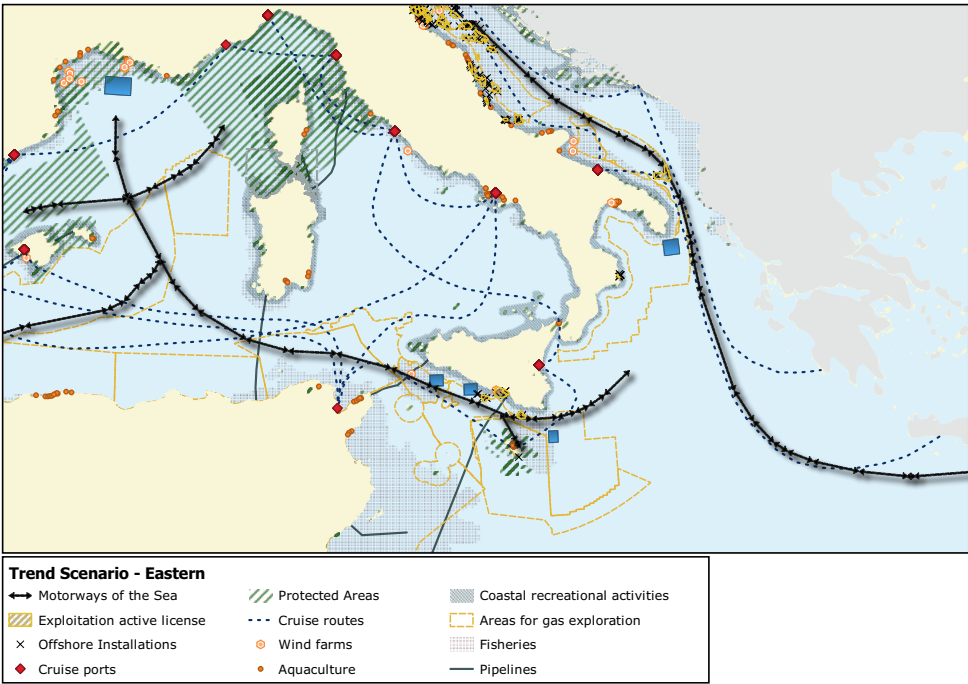


Figure 8
Following the trend scenario in the eastern part of the Western Mediterranean.

In this scenario, shipping routes cross Critical Cetacean Habitats and MPAs with pelagic environmental values in the eastern part of the Western Mediterranean.

Aquaculture is developed in places according to economic benefits (i.e., proximity to the coast), therefore they may take place inside MPAs.

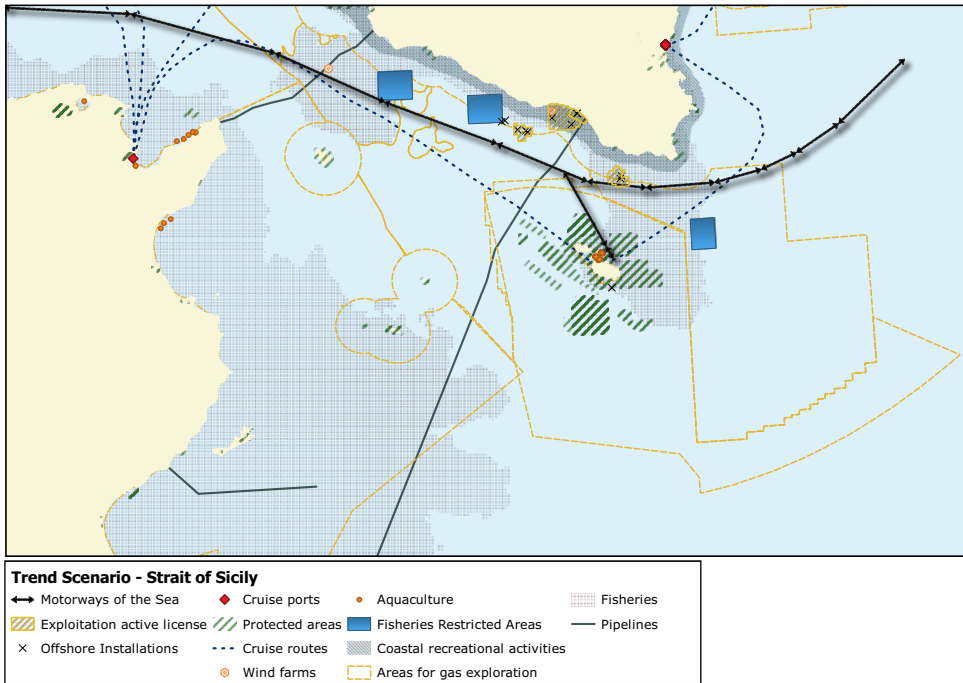


Figure 9
Following the trend scenario in the Strait of Sicily.

As can be observed in Figure 9, in this scenario areas for exploration of gas overlap with MPAs (i.e., around Malta) and shipping routes cross areas that nowadays are identified as Critical Cetacean Habitats to the south of

Sicily, because in this scenario they are not declared as MPAs (as is the case for instance in the Conservationist Scenario – see section IV).

IV. Conservationist scenario

“Conservation is the priority, ecological and biological areas are effectively protected, most impacting activities are reduced until the maximum possible extent and new activities development is based on ecological sustainability factors.”

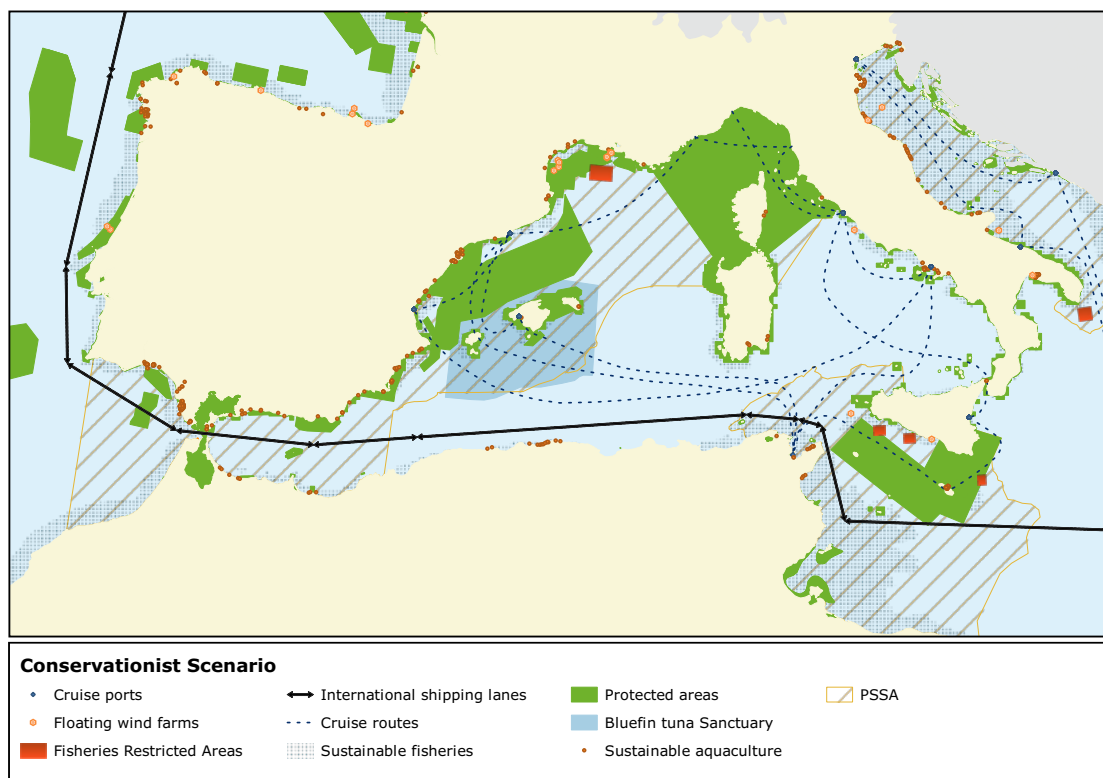


Figure 10

The conservationist scenario.

This scenario will accomplish SDG14 on life below water and contribute to achieving SDG13 regarding climate action.

IV.1. Following a conservationist scenario in the Western Mediterranean

In this scenario, a projection of the Western Mediterranean whose priority is environmental conservation is presented. The nature of the three most impacting activities needs to be changed; this is why key drivers for this scenario are **ecotourism with “green shipping”, the protection of environmental values and the promotion of sustainable fisheries and aquaculture.**

In this scenario, Critical Cetacean Habitats (CCH) to the south of Sicily and Essential Ocean Variables¹ (EOV) (i.e. life coral, macroalgae canopy and seagrass) are **effectively protected** as MPAs. On the other hand, Ecologically and Biologically Significant Marine Areas (EBSAs) are established as Particularly Sensitive Sea Areas (PSSAs) to protect their pelagic ecosystems. In PSSAs, specific measures can be used to control maritime activities such as routing measures, strict application of the International Convention for the Prevention of Pollution from Ships (MARPOL), and discharge and equipment requirements for ships (e.g., oil tankers). This is the reason why the Strait of Gibraltar, part of which is considered currently as a CCH, is a PSSA in this scenario.

1. https://www.goosocean.org/index.php?option=com_content&view=article&id=14&Itemid=114

According to forecasts for the Mediterranean, **offshore wind energy** is the most promising future source of renewable power (WWF-France, 2019). However, to date its development has been very limited. In this scenario, this sector is promoted by regional and national policies (e.g., through incentives) in order to support SDG13 on climate action and the European Green Deal.

Ecotourism is understood as an activity designed to be sustainable, responsible and community-based. Ecotourism has been successfully developed within MPAs all over the Mediterranean (Fosse and Le Tellier, 2017) but in this scenario, it goes beyond to all coastal areas in order to avoid overcrowding and too much pressure on natural resources, whether from an environmental or social point of view.

The concept of “**green shipping**” involves different initiatives, for example smart green routes which cross sensitive areas at low speeds in order to avoid collisions with marine mammals while reducing emissions by increasing transit times by a small amount (Randone et al., 2017). However, green shipping is not only

about how shipping is conducted (for instance, following International Maritime Organization (IMO) conventions) but also how ships are built (reduction of carbon emissions in shipbuilding, “green shipyards”), how they work (Liquefied Natural Gas (LNG), renewable energy) and how they are decommissioned (ship recycling – circular economy).

As stated by the Marine Stewardship Council (MSC), “**sustainable fishing** means leaving enough fish in the ocean, respecting habitats and ensuring people who depend on fishing can maintain their livelihoods”. In this scenario, fisheries and **aquaculture** will be developed according to the Code of Conduct for Responsible Fisheries and the Ecosystem Approach to Fisheries (EAF) and Aquaculture (EAA) of the Food and Agriculture Organization (FAO). Most impacting fishing gears and aquaculture methodologies are totally forbidden and both activities will always be developed outside protected areas.

The following table specifies the assumptions and objectives that drives each activity's status in this scenario:

Table 5

Sectors assumptions in the conservationist scenario.

Status of the sectors in the Conservationist Scenario	
Fisheries	Most of the studies show that fisheries production is decreasing or stagnant in the Western Mediterranean. In a conservationist scenario, industrial fisheries will be reduced in favour of sustainable artisanal fisheries (through inspection, taxes, grants).
Aqua-culture	Many studies agree on the growth of aquaculture in the coming years. Impacts of aquaculture depend mostly on its management; however, in a conservationist scenario, the precautionary principle will be the main driver. Therefore, new aquaculture facilities will be only developed outside MPAs and thus strictly managed in a sustainable and ecological way. Already established aquaculture facilities inside MPAs will be managed strictly in accordance with the MPA's objectives.
Oil and gas	Development of oil and gas activities would be mostly influenced by prices; in any case, in a conservationist scenario, no new activity in this sector will be undertaken.
Maritime transport and ports	Maritime transport is a very important economic activity in the region but it has a great impact on environmental values in different aspects. In a conservationist scenario, it will be reduced until the possible extent in some MPAs (especially in those established to protect pelagic values) and managed through Particularly Sensitive Sea Areas (PSSAs) in bigger areas. Inside PSSAs and MPAs, the application of Dynamic Ocean Management is used to avoid collisions with cetaceans. In this scenario, maritime transport has shifted totally to LNG. The Western Mediterranean is established as an Emission Control Area (ECAMED) and the Environmental Ship Index (ESI) will be required for any ship transiting the region. There is a regional agreement on sustainable maritime transport as defined by the IMO, and national authorities promote “green” ships and shipyards through fiscal incentives.
Wind energy	Wind energy facilities may have a different kind of impact on environmental values. In a conservationist scenario, wind energy facilities will be developed thanks to governmental incentives in favour of the decarbonisation of the region, always with floating anchor mechanisms, outside MPAs and far from areas with high concentration of seabirds.

Status of the sectors in the Conservationist Scenario	
Cruises	The Mediterranean is critical at the global level for cruises, but massive cruises produce bad consequences in marine and coastal environments. In a conservationist scenario, reduction of cruises will be promoted as well as environmental practices and certifications for this sector.
Coastal tourism	The Mediterranean is the world's leading tourist destination, as such it is considered an essential activity in the region, but mass tourism could cause many conflicts. In a conservationist scenario, there will be a shift from mass tourism to eco-tourism incentivised by public institutions.
Conservation	<p>The Western Mediterranean is home to important habitats and species which also suffer from high pressures. In a conservationist scenario, identified areas of high environmental values (EBSAs, CCH, EOY) will be legally protected by MPAs or other effective policy instruments (e.g., PSSAs).</p> <p>In this scenario, fisheries or any other activity are, by default, forbidden in MPAs; only practices totally compatible with the MPA's objectives will be allowed.</p>

IV.2. The conservationist scenario at cross-border level

In order to better understand the Conservationist Scenario, this section presents the focus areas previously established in *Table 3*, explaining when necessary elements in these areas that might be of particular interest for the specific scenario.

IV.2.1. Following the conservationist scenario in the western part and Strait of Gibraltar

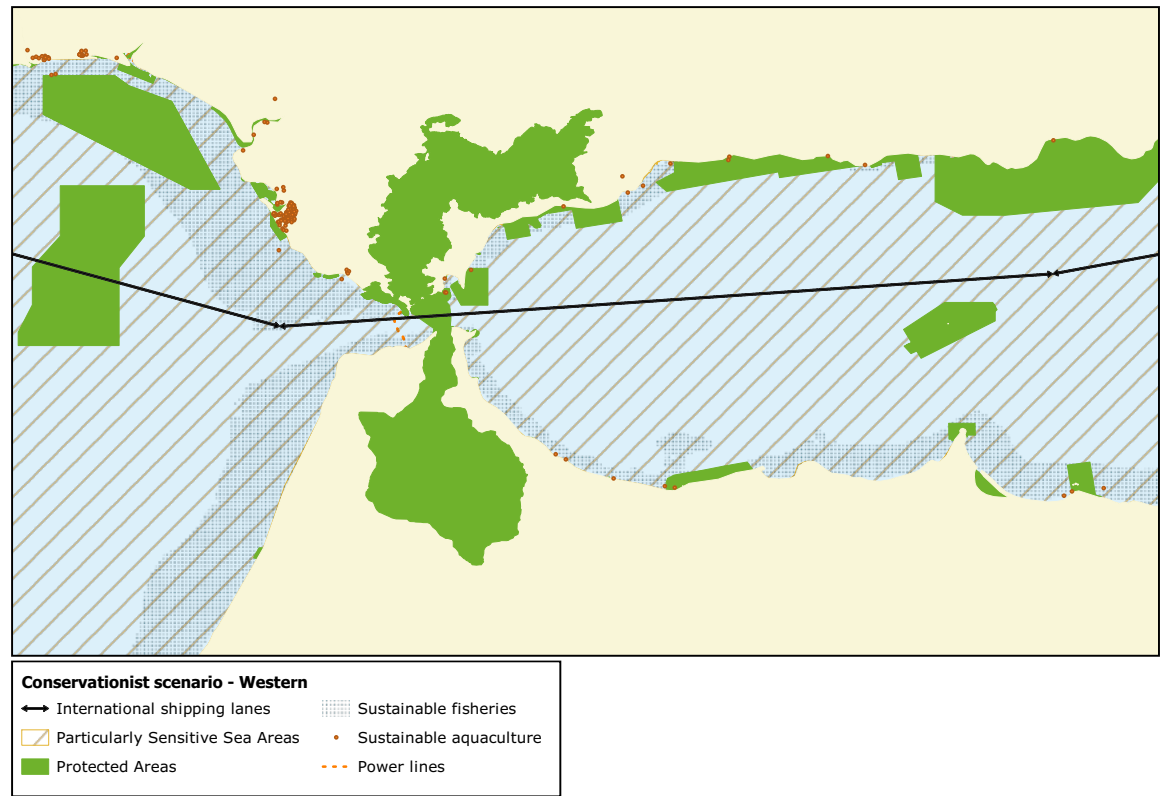


Figure 11
Following the conservationist scenario in the western part of the Western Mediterranean.

The area of the Strait of Gibraltar and the Alboran Sea (*Figure 11*) is complex in terms of high environmental values facing multiple pressures in a cross-border dimension that is strategic for maritime traffic as well as migratory routes

of pelagic animals. This is the reason why the whole area in this scenario is established as a Particularly Sensitive Sea Area (PSSA) in order to put in place measures to minimise the harmful consequences of this interaction.

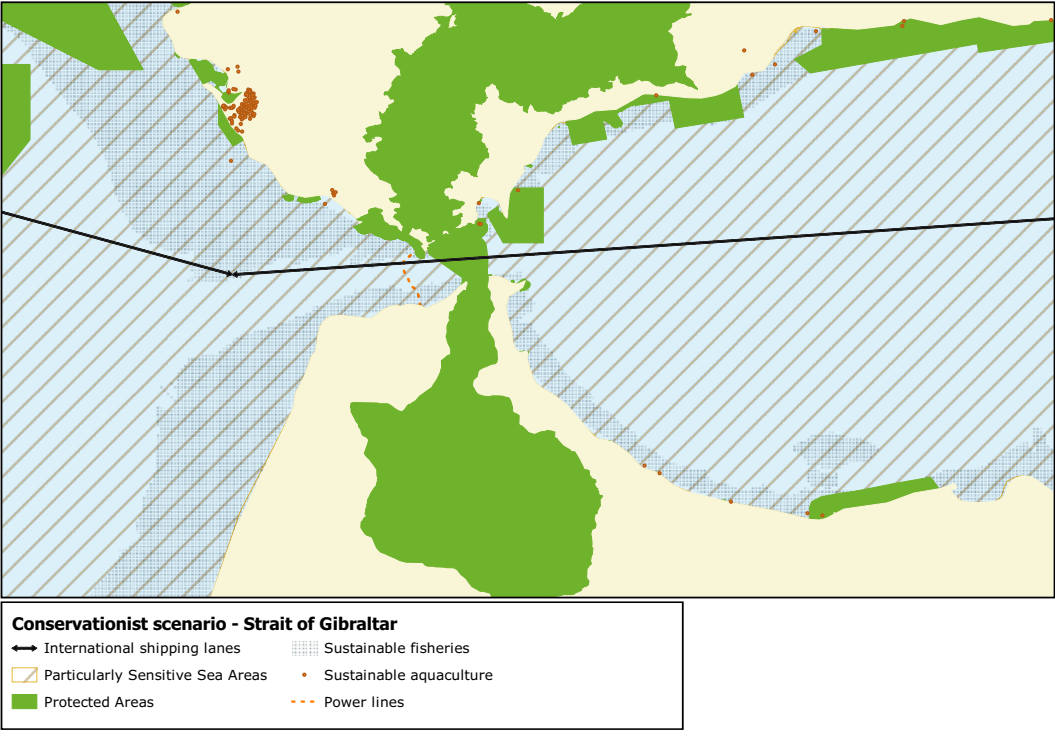


Figure 12
Following the conservationist scenario in the Strait of Gibraltar.

In this area, fisheries are located outside MPAs and, in general for this scenario, they comply with strict sustainability measures. In this regard, aquaculture facilities that were already inside MPAs are strictly managed to be compatible with the MPAs objectives and new facilities are established outside MPAs.

Traffic routes crossing the Intercontinental Biosphere Reserve of the Mediterranean: Andalusia (Spain) - Morocco (IBRM) and apply Dynamic Ocean Management techniques to avoid damage to environmental values.

IV.2.2. Following the conservationist scenario in the central part and Gulf of Lion

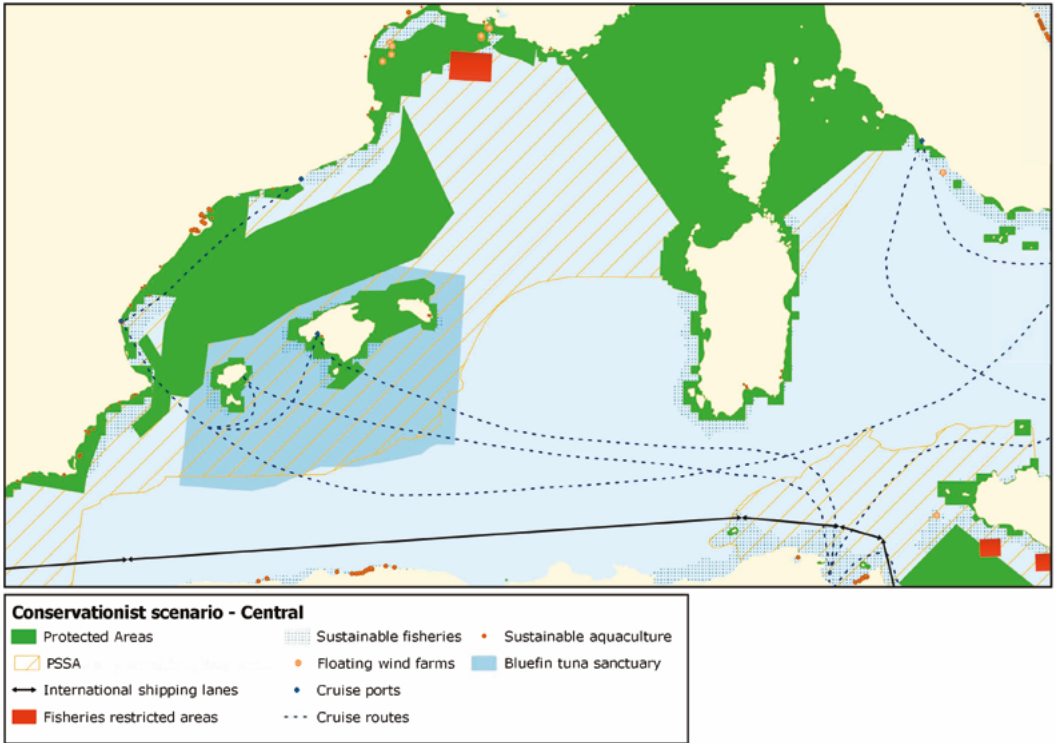


Figure 13
Following the conservationist scenario in the central part of the Western Mediterranean.

In the central part of the Western Mediterranean (Figures 13 and 14), the predominant characteristic is that cruises routes have been rerouted in order to avoid MPAs that protect pelagic environmental values (i.e., the Cetacean Mediterranean Migration Corridor). Moreover, the area currently categorised

as an Ecologically or Biologically Significant Marine Area (EBSA) because of its pelagic environment is established as a PSSA in order to preserve these values. Another aspect to highlight is that new wind farms are established outside MPAs (best seen in Figure 14).

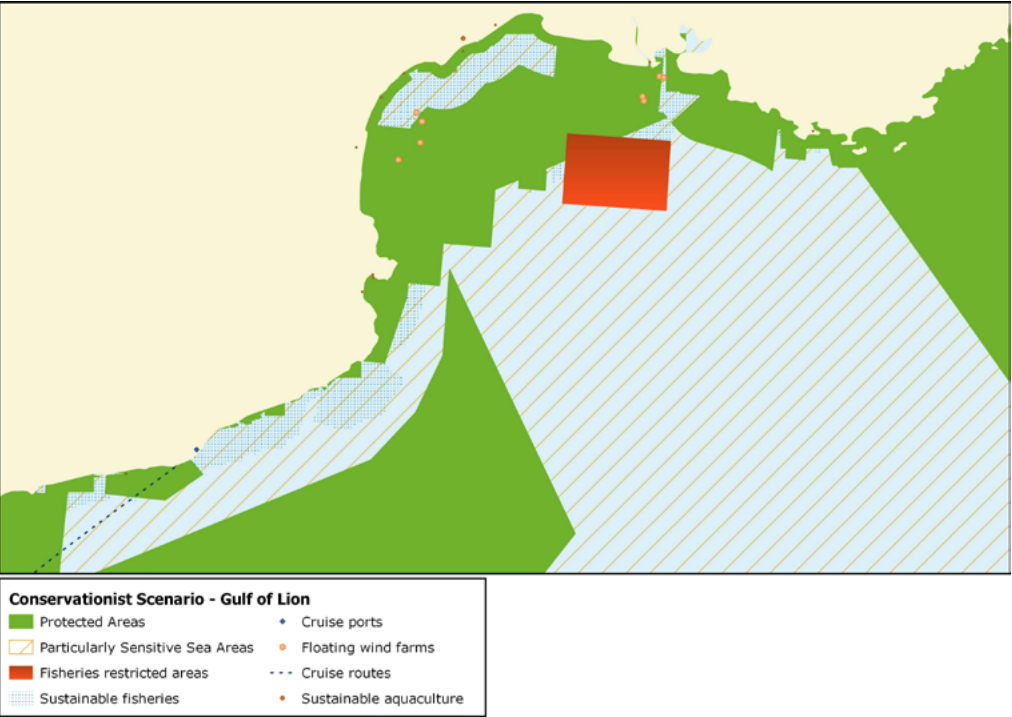


Figure 14
Following the conservationist scenario in the Gulf of Lion.

IV.2.3. Following the conservationist scenario in the eastern part and Strait of Sicily

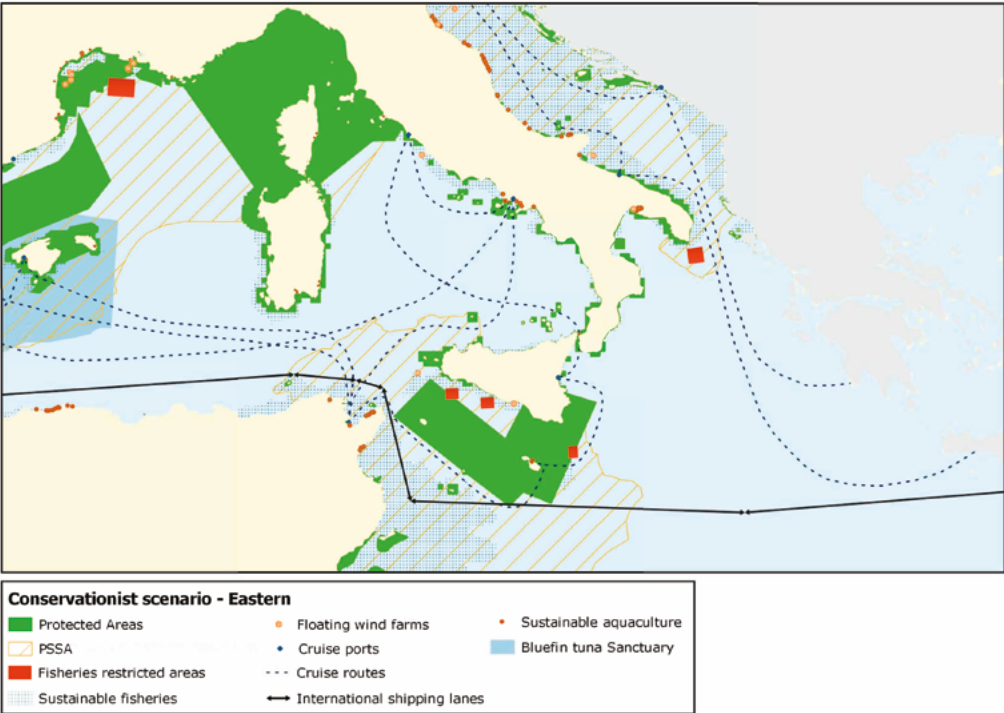


Figure 15
Following the conservationist scenario in the eastern part of the Western Mediterranean.

In these areas (*Figures 15 and 16*), cruise routes and international shipping routes have been also rerouted in order to avoid current Critical Cetacean Habitats (CCH) that in this scenario are formally protected as

MPAs to the south of Sicily. On the other hand, EBSAs are established as PSSAs to protect their pelagic environment.

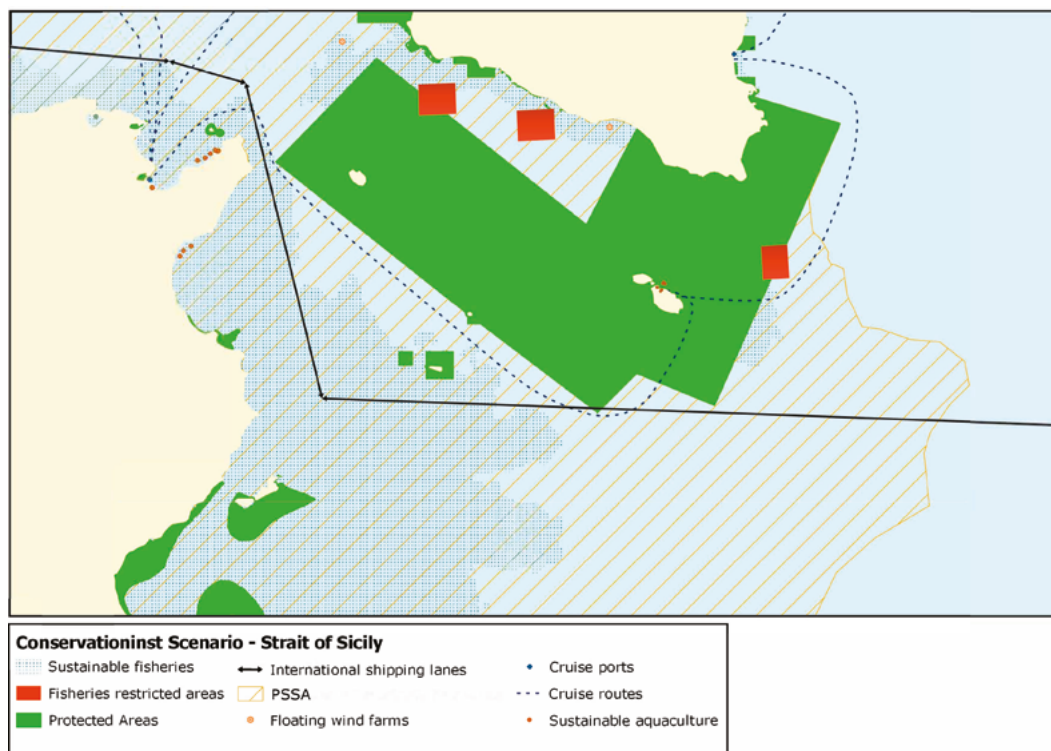


Figure 16

Following the conservationist scenario in the Strait of Sicily.

In the conservationist scenario, floating wind farms are established outside of MPAs, especially as this area presents sites with appropriate technical conditions

(WWF-France, 2019) which are also located far from congregation sites for migratory bird species.

V. Integrated scenario

“Integrated planning and management have led to the application of sustainable Blue Economy strategies at regional level where activities co-location is a priority led by social and sustainability objectives.”

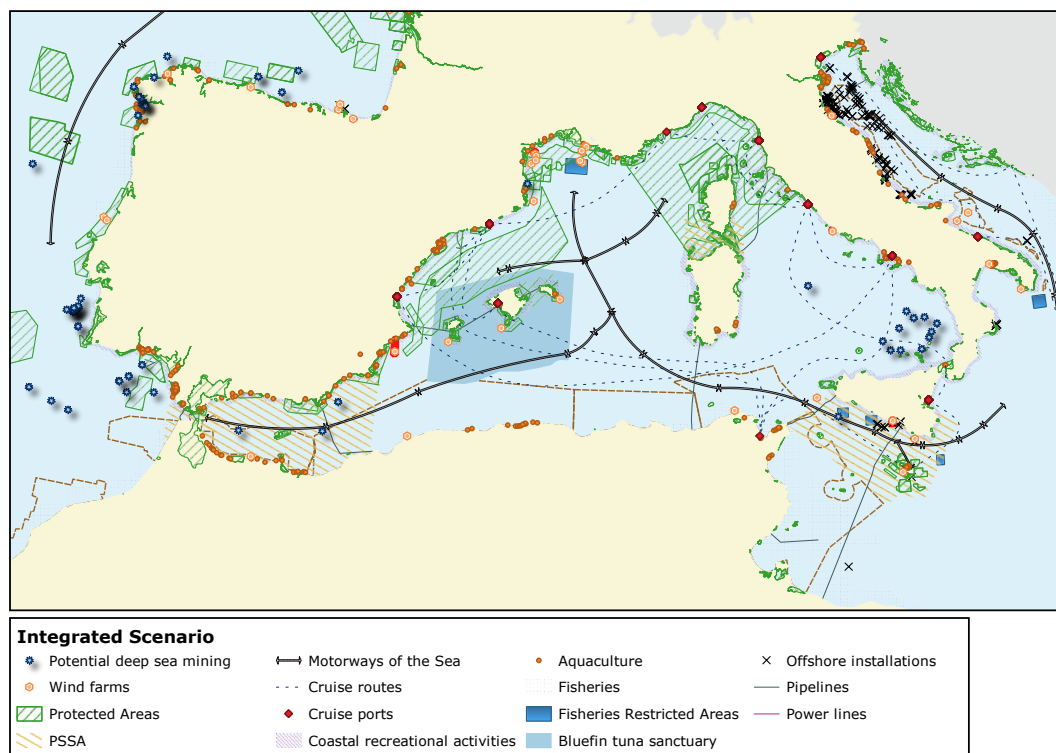


Figure 17
The integrated scenario.

An integrated scenario assumes that recommendations from the Blue Economy policy paper from Plan Bleu on sustainability, exploitation of synergies between sectors and cooperation are followed, allowing a regional development of a sustainable Blue Economy.

Therefore, the main objective of this scenario is to reduce conflicts between uses on the one hand, and between uses and the environment on the other, and to promote synergies allowing co-location, for instance between aquaculture and wind energy.

V.1. Following an integrated scenario in the Western Mediterranean Sea

This scenario represents the development of the region if marine integrated management was set at transboundary level considering that MSP is developed in each country and that it is coherent along the sea basin, following sustainable

goals. For this reason, its key drivers are **sustainable tourism, sustainable maritime transport, co-location of activities and the precautionary principle**.

Sustainable tourism in this scenario refers to the implementation of policies to stop coastal and marine degradation caused by this sector while continuing to develop coastal areas from an economic and social perspective. According to the World Tourism Organization (UNWTO), this kind of tourism “takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities”. In this scenario, sustainable tourism guidelines developed by this organism are followed.

According to the Union for the Mediterranean, “more **integrated and efficient maritime transport**, trade and logistics are major drivers for job creation, sustainable development and regional stability”. Developing sustainable

maritime transport in the Mediterranean is also essential for the **Mediterranean Strategy for Sustainable Development's (MSSD)** objective 4 (Addressing climate change as a priority issue for the Mediterranean), as well as objective 5 (Transition towards a green and blue economy) (Union for the Mediterranean, 2017a). Thus, in this scenario this strategy will be followed, as well as the concept of "Sustainable Maritime Transportation System"² developed by the International Maritime Organization (IMO).

There is an increasing demand for ocean space for the development of activities, especially in coastal areas. The need to study the possibility of **co-location** of activities in order to avoid conflicts and to exploit synergies between different activities is becoming more evident. Co-location in this scenario has been proposed between wind farms and aquaculture facilities as their compatibility has been tested

in diverse studies (MUSES project and di Tullio et al., 2018).

According to the European Parliament, the **precautionary principle** enables decision-makers to adopt precautionary measures when scientific evidence about an environmental or human health hazard is uncertain and the stakes are high. Translating this into ecosystem-based MSP will imply that if the environmental impact of an activity is unknown, this activity should not take place. This might be the case, for instance, of some new activities as deep-sea mining or bioprospecting. In this case, the precautionary approach should be applied whenever there are uncertainties regarding potential environmental and social impacts.

The following table specifies the assumptions and objectives that drive each activity's status in this scenario:

Table 6

Sectors assumptions in the integrated scenario.

Status of the sectors in the Integrated Scenario	
Fisheries	Most studies show that fisheries production is decreasing or stagnant in the Western Mediterranean due to overexploitation of stocks. In an integrated scenario, fisheries are sustainable and synergies with tourism are exploited. High impact fisheries would be gradually removed, maintaining only sustainable fisheries.
Aquaculture	Many studies agree on the growth of aquaculture in the coming years. In an integrated scenario, aquaculture will be developed in suitable places regarding technical and ecological limitations as well as far from touristic areas in order to avoid landscape disturbance. Co-location will be a priority when possible.
Oil and gas	Development of oil and gas activities would be mostly influenced by prices. In an integrated scenario, this development will be moderated, focused mostly in the existing Italian exploitation in the Adriatic and the exploration areas of non-EU countries. For EU countries, European and national policies regarding decarbonisation (i.e., European Green Deal) justify the lack of development of new activities in this sector.
Maritime transport and ports	Maritime transport is very important in the region. In an integrated scenario, maritime transport will be managed to reduce its impacts to the minimum. In this scenario, the IMO concept of sustainable maritime shipping is promoted and Motorways of the Sea (MoS) are rerouted in order to avoid areas of high concentration of cetaceans.
Wind energy	Wind energy has experienced very limited development in the Western Mediterranean to date mostly due to technical limitations. In an integrated scenario, floating wind turbines will be established in suitable places regarding ecological limitations and taking into account co-location priorities. They will also be located far from touristic coastal areas in order to avoid landscape disturbance.
Cruises	The Mediterranean is critical at the global level for cruises. In an integrated scenario, this activity will be managed and limited according to sustainability criteria.
Coastal tourism	The Mediterranean is the world's leading tourist destination, as such it is considered an essential activity in the region. In an integrated scenario, this activity will be managed and limited according to sustainability criteria (promotion of sustainable tourism).
Conservation	The Western Mediterranean is home to important habitats and species which also suffer from high pressures. In an integrated scenario, sustainability is a horizontal topic for all sectors, established MPAs are effectively implemented and particular areas with environmental values threatened by maritime transport are also protected by PSSAs.
Deep-sea mining	Deep-sea mining is in its infancy but there is potential in the Mediterranean with some deposits already identified. In an integrated scenario, this activity is developed following a strict precautionary principle.

2. [http://www.imo.org/en/About/Events/WorldMaritimeDay/WMD2013/Documents/CONCEPT OF SUSTAINABLE MARITIME TRANSPORT SYSTEM.pdf](http://www.imo.org/en/About/Events/WorldMaritimeDay/WMD2013/Documents/CONCEPT%20OF%20SUSTAINABLE%20MARITIME%20TRANSPORT%20SYSTEM.pdf)

V.2. The integrated scenario at cross-border level

In order to better understand the Integrated Scenario, this section presents the focus areas previously established in Table 3, explaining when necessary elements in these areas that might be of particular interest for the specific scenario.

V.2.1. Following the integrated scenario in the western part and Strait of Gibraltar

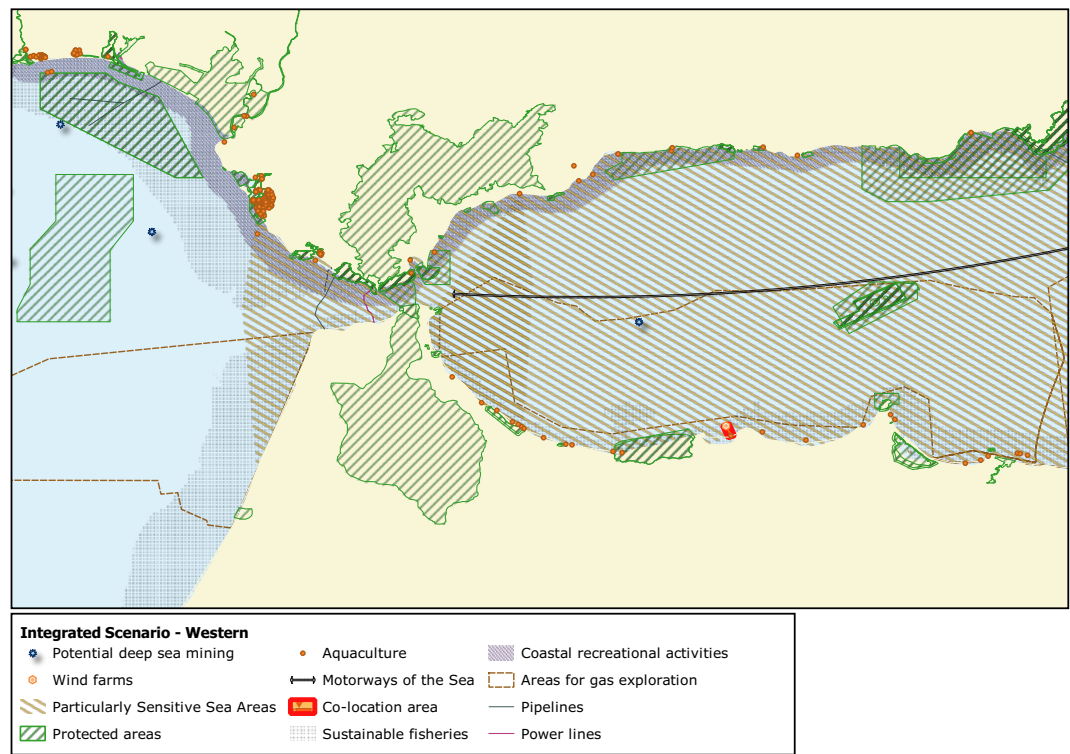


Figure 18
Following the integrated scenario in the western part of the Western Mediterranean.

In this scenario, the Critical Cetacean Habitat of the Strait of Gibraltar and Alboran Sea has been established as a PSSA for its high density of maritime traffic.

Mineral deposits have been identified as potential areas for deep-sea mining, always taking into account the precautionary principle and never inside an MPA.

A potential co-location area for aquaculture and wind energy has been identified on the Moroccan coast, best seen in the next map (Figure 19). The reason for determining this area was the already existing aquaculture facility, the suitability for wind energy development (wind power and depth) and the opportunities that co-location offers by itself.

Key drivers are:
Sustainable tourism, sustainable maritime transport, the co-location of activities and the precautionary principle.



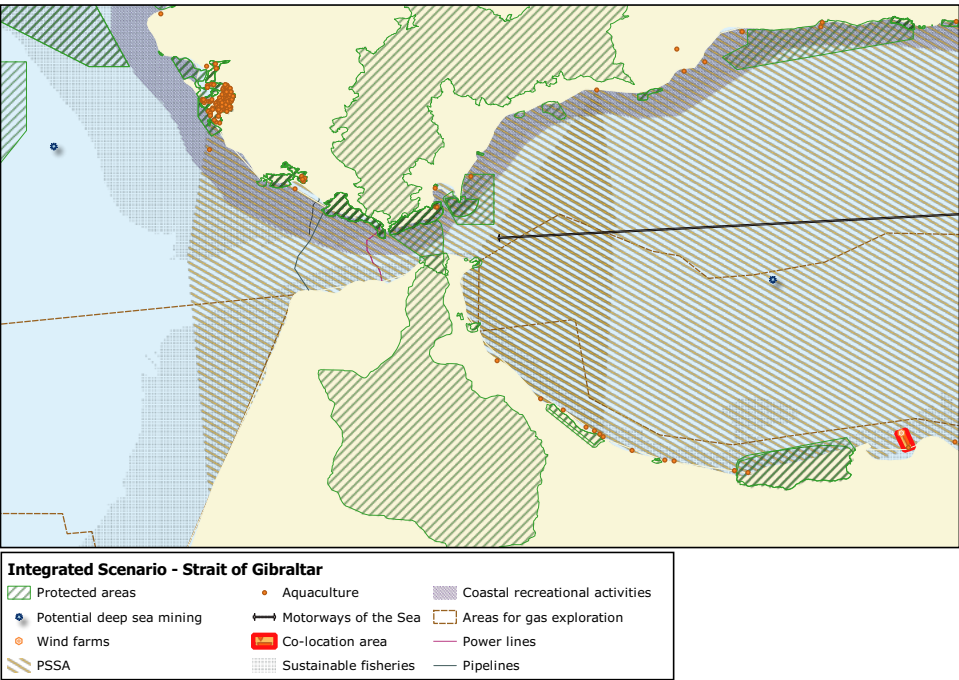


Figure 19
Following the integrated scenario in the Strait of Gibraltar.

V.2.2. Following the integrated scenario in the central part and Gulf of Lion

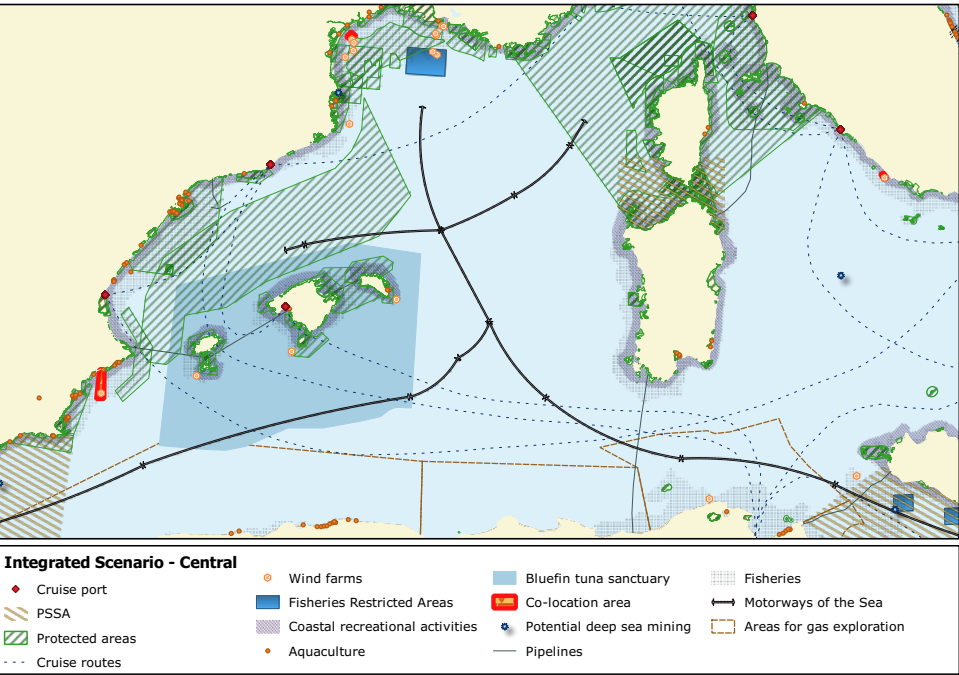


Figure 20
Following the integrated scenario in the central part of the Western Mediterranean.

New wind farms are established in suitable areas outside of MPAs and far from the most touristic coastal areas. Co-location areas with aquaculture have been identified, better seen in the next map (Figure 21).

In this scenario, a bluefin tuna sanctuary is established around the Balearic Islands to protect the species from severe overfishing, as it is an important breeding

and spawning area (The PEW Environmental Group, 2021; Piante and Ody, 2015) which is also beneficial for fisheries and conservation.

Although there are traffic routes crossing MPAs, they will have to follow strict rules in order to not enter into conflict with the conservation objectives.

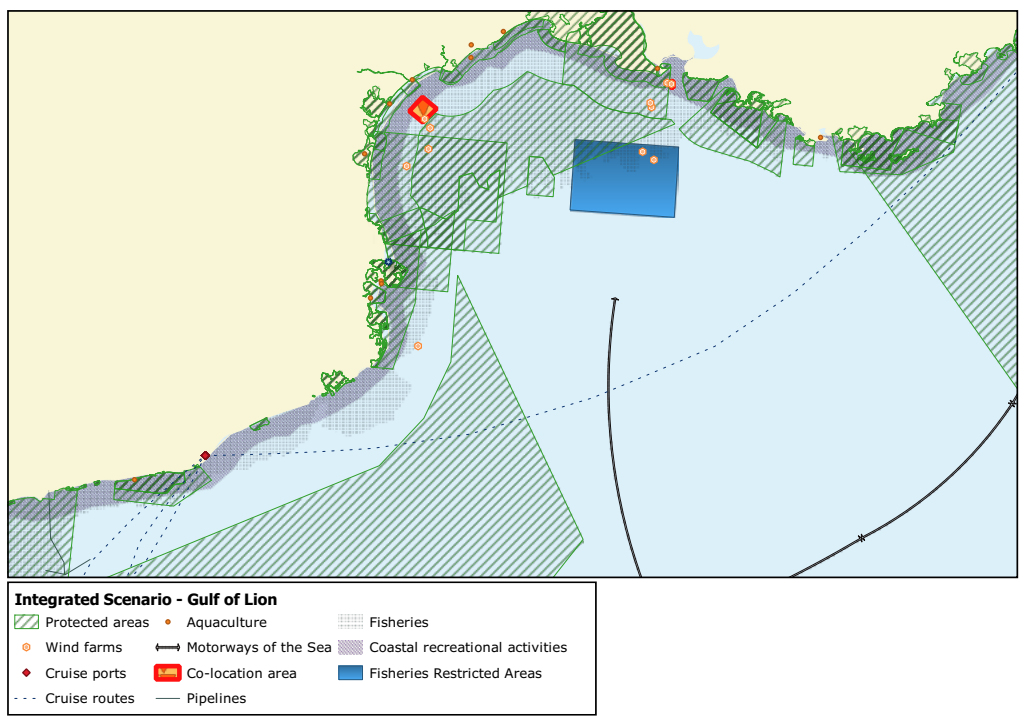


Figure 21
Following the integrated scenario in the Gulf of Lion.

In this sub-region (Figure 21), a co-location area has been identified outside an MPA and in an area close to other wind farms in order to take advantage of already established cable networks and landings. Wind farms have also been developed in the already established

Fisheries Restricted Area (FRA) in order to avoid potential conflicts with fishermen. It is important to note that the FRA was not developed for the scenario but identified in the analysis of current conditions, and as such was considered suitable for this scenario.

V.2.3. Following the integrated Scenario in the eastern part and Strait of Sicily

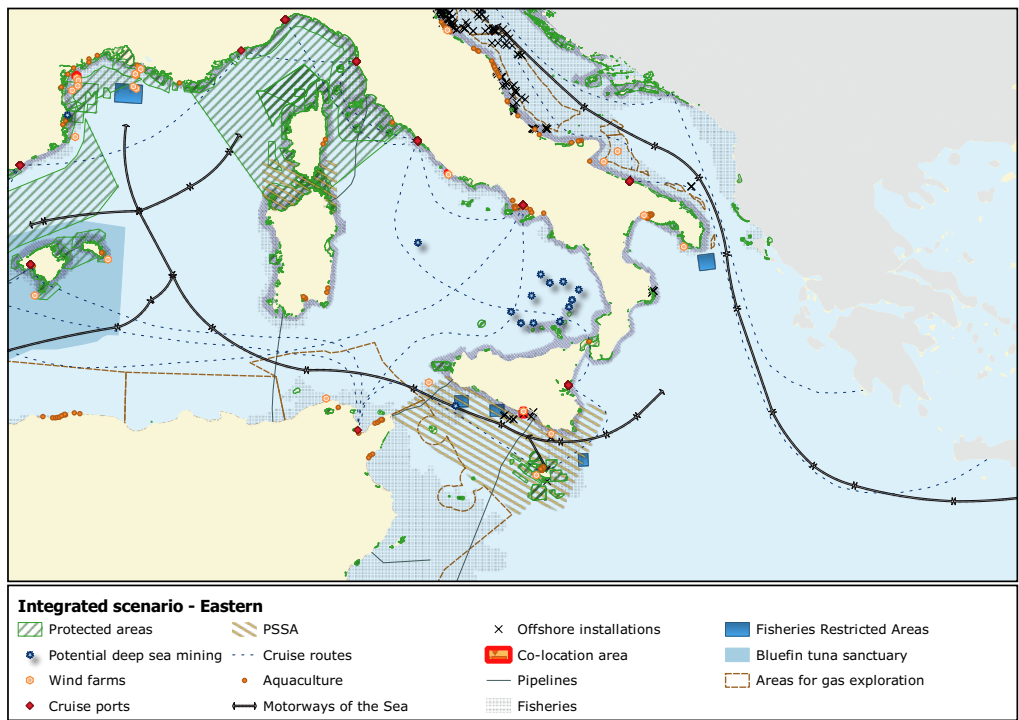


Figure 22
Following the integrated scenario in the eastern part of the Western Mediterranean.

In this scenario, the location of deep-sea mining activities is potential; it identifies the location of the resources (Piante and Ody, 2015). The decision to

exploit them or not will follow the precautionary principle.

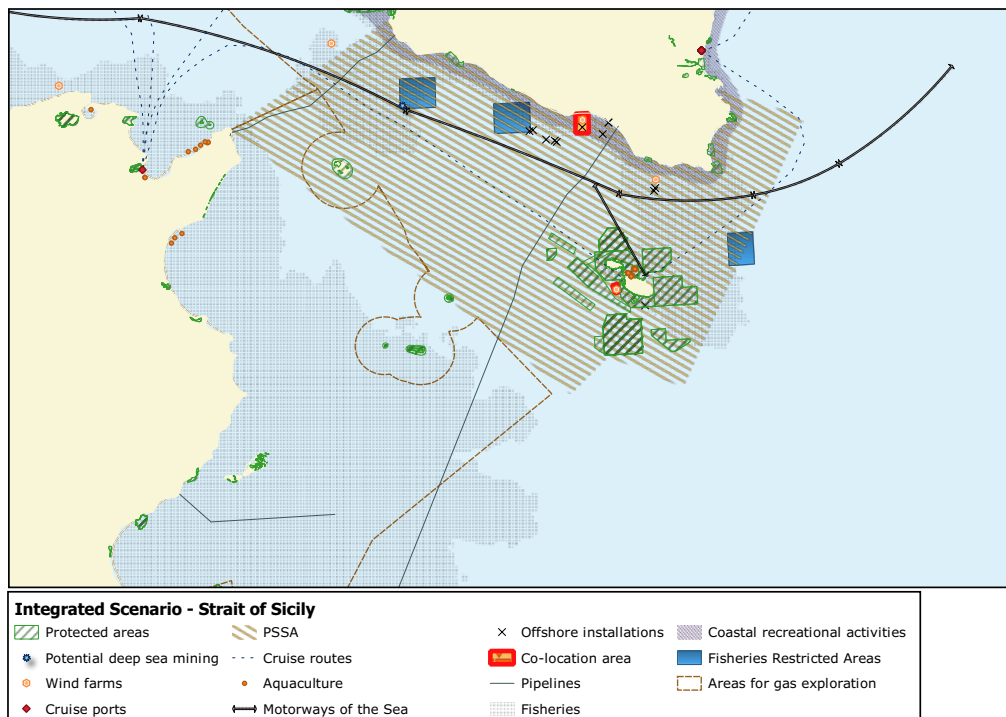


Figure 23

Following the integrated scenario in the Strait of Sicily.

Two co-location areas are identified in this focus area (Figure 23), one taking advantage of an existing offshore platform to implement wind energy on

the coast of Sicily and another for wind energy and aquaculture on the coast of Malta.

VI. Suggestions for using the scenarios

As already mentioned, the real value of MSP scenarios lays in their use as a tool to foster discussion around the following questions:

1. What is the ocean we need for the future we want?
2. What are the actions we have to take to get there? For instance:
 - a. Objectives, goals, policies, management actions, zoning
 - b. At regional level (through multilateral agreements or legal adoption of protocols in the framework of a regional coordination body) or at national level
3. What could be the consequences of this particular scenario?
 - a. Social, economic and environmental
 - b. At national or regional level

And this last question may get us back to the first question, ***is this really the future we want?***

As explained in previous sections, there are various limitations to consider when analysing scenarios (for instance, lack of data). However, these limitations do not hamper their use in combination with experienced professionals involved in MSP processes and sectoral experts of the different countries in the region. In fact, working with scenarios at the regional level may help to identify the main aspects that need to be worked on, to improve them in the future.

Apart from the general reflection on the questions proposed above, this section presents a set of questions that might guide a potential discussion among MSP authorities

from the different countries. The following methodology (Figure 24) is recommended for **regional workshops** with stakeholders involved in MSP in the Western Mediterranean;

this does not mean it cannot be done at the national level and afterwards complemented with a regional interaction, for this last case please refer to Figure 25.

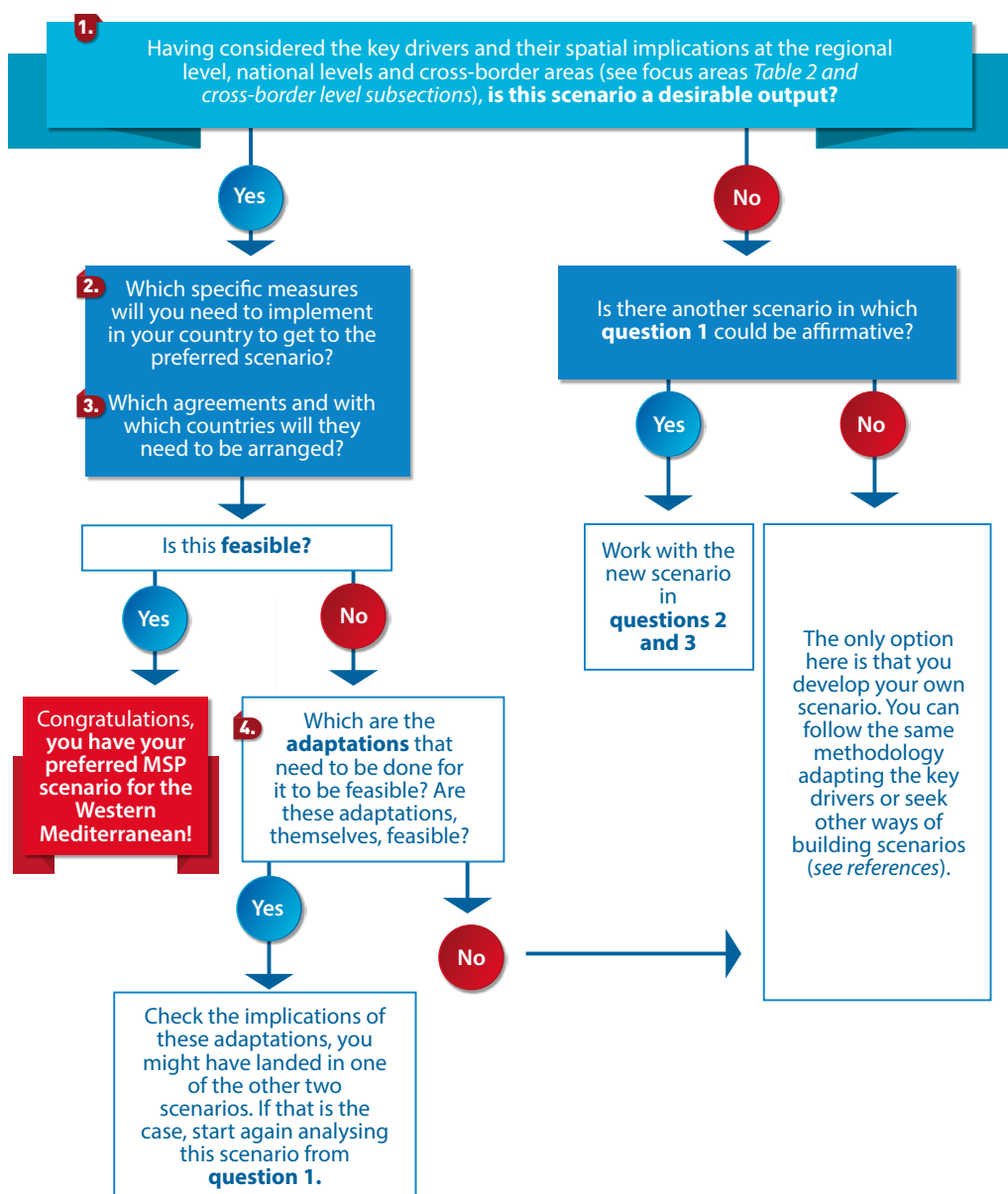


Figure 24

Proposal of set of questions to work with scenarios in the Western Mediterranean at regional scale.

Within the framework proposed in *Figure 24*, other logical questions might arise during the discussion; as such this should be understood just as a suggestion of a conceptual framework, a rationale that might be used to guide the discussion, but not the only way.

This proposed framework is designed to be used in a transboundary discussion although you can use it at national level having in mind that it will only have a regional

value when discussed with the rest of the countries of the region. In this case, the questions to answer will be the following:

Imagine that each country has decided on its preferred scenario using the framework presented in *Figure 24*. Now there are some final questions to answer in order to choose a scenario validated a regional level:

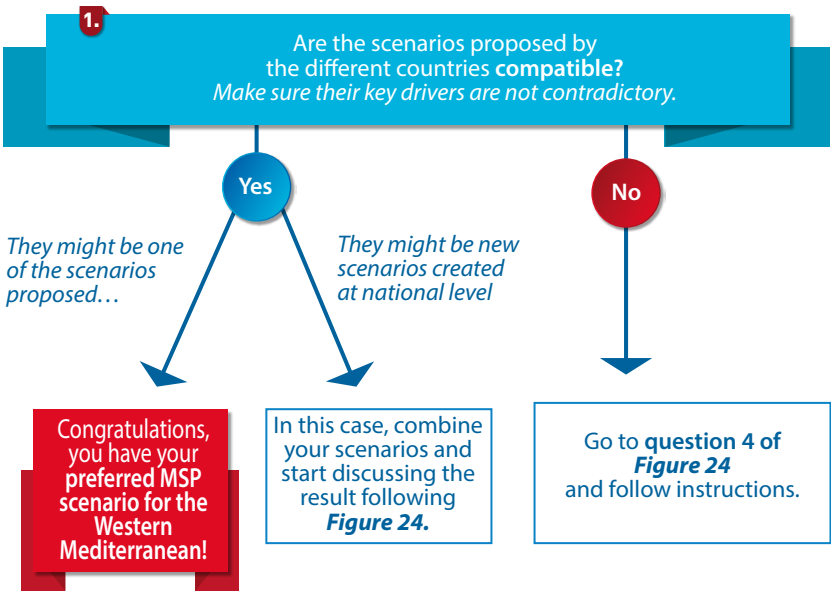


Figure 25
Proposal of set of questions to work with scenarios in the Western Mediterranean at national scale.

VII. References

- African Union, 2012. *2050 Africa's Integrated Maritime Strategy (2050 AIM Strategy)*.
- Bocci, M., Papaioannou, E., and Dubreuil, C., 2019. *Blue Economy in the MED Policy Paper*.
- Caric, H., Jakl, Z., Laurent, C., Mackelworth, P., Noon, V., Petit, S., Piante, C., and Randone, M., 2019. *Safeguarding Marine Protected Areas in the growing Mediterranean Blue Economy. Recommendations for the cruise sector. PHAROS4MPAs project*.
- Eco-Union and Plan Bleu, 2017. *Indicators for the Blue Economy in the Mediterranean*.
- Fosse, J. and Le Tellier, J., 2017. *Sustainable Tourism in the Mediterranean: State of Play and Strategic Directions. Plan Bleu. (Plan Bleu Paper, 17)*. Valbonne, France.
- IOC-UNESCO, 2009. *Marine Spatial Planning: a step-by-step approach toward ecosystem-based management. Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. IOC Manuals and guides, No. 53, ICAM Dossier No. 6*. Paris, France.
- McGowan, L., Jay, S., and Kidd, S., 2019. Scenario-building for marine spatial planning. In: *Maritime Spatial Planning: past, present, future*. Springer International Publishing, 327–351.
- OECD, 2016. *The Ocean Economy in 2030*. The Ocean Economy in 2030. Paris, France: OECD Publishing.
- Piante, C. and Ody, D., 2015. *Blue Growth in the Mediterranean Sea: the Challenge of Good Environmental Status. MedTrends Project*. WWF.
- Plan Bleu, 2014. *Economic and social analysis of the uses of the coastal and marine waters in the Mediterranean, Characterization and impacts of the Fisheries, Aquaculture, Tourism and recreational activities, Maritime transport and Offshore extraction of oil and gas sector*. Valbonne, France.
- Plan Bleu, 2017. *Towards a blue economy for a sustainable Mediterranean: Indicators and recommendations. Plan Bleu Notes #34*. Valbonne, France.
- Przedzimirska, J., Zaucha, J., Depellegrin, D., Barbanti, A., Venier, C., Kyriazi, Z., Maniopolou, M., Fernandez, J., Calado, H.M.G.P., Vergílio, M.H.D.S., Varona, M.C., Onyango, V., Papaioannou, E., Schultz-Zehden, A., Lukic, I., Kovacheva, A., Giannelos, I., Lakamp, R., Przedzimirska, J., Lazić, M., and Zaucha, J., 2018. *Multi-use concept in European Sea Basins, MUSES Project*. Edinburgh.
- Randone, M., Bocci, M., Castellani, C., and Laurent, C., 2019. *Safeguarding Marine Protected Areas in the growing Mediterranean Blue Economy. Recommendations for Maritime Transport. PHAROS4MPAs project*.
- Randone, M., Di Carlo, G., and Costantini, M., 2017. *Reviving the Economy of the Mediterranean Sea: Actions for a sustainable Future*. WWF Mediterranean Marine Initiative. Rome, Italy.
- The PEW Environmental Group, 2021. Atlantic bluefin tuna spawning sanctuaries [online]. Available from: https://www.pewtrusts.org/~media/legacy/uploadedfiles/peg/publications/fact_sheet/Atlantic20Bluefin20Spawning20Englishpdf.pdf [Accessed 3 Mar 2021].
- Di Tullio, G.R., Mariani, P., Benassai, G., Di Luccio, D., and Grieco, L., 2018. Sustainable use of marine resources through offshore wind and mussel farm co-location. *Ecological Modelling*, 367, 34–41.
- UNEP/MAP and Plan Bleu, 2016. *Tourism and sustainability in the Mediterranean: key facts and trends*. Valbonne, France.
- Union for the Mediterranean, 2017a. The maritime sector, an opportunity for development and growth in the Mediterranean [online]. Available from: <https://ufmsecretariat.org/the-maritime-sector-an-opportunity-for-development-and-growth-in-the-mediterranean/> [Accessed 3 Mar 2021].
- Union for the Mediterranean, 2017b. *Blue Economy in the Mediterranean*. Union for the Mediterranean. Barcelona, Spain.
- WWF-France, 2019. *Safeguarding marine protected areas in the growing Mediterranean blue economy. Recommendations for the offshore wind energy sector. PHAROS4MPAs project*.

Annex 1. List of figures and tables

List of figures

Figure 1	Current uses in the Western Mediterranean.....	10
Figure 2	Western Mediterranean focus areas.....	12
Figure 3	The trend scenario.	13
Figure 4	Following the trend scenario in the western part of the Western Mediterranean.....	15
Figure 5	Following the trend scenario in the Strait of Gibraltar.....	15
Figure 6	Following the trend scenario in the central part of the Western Mediterranean.....	16
Figure 7	Following the trend scenario in the Gulf of Lion.	16
Figure 8	Following the trend scenario in the eastern part of the Western Mediterranean.....	17
Figure 9	Following the trend scenario in the Strait of Sicily.....	17
Figure 10	The conservationist scenario.	18
Figure 11	Following the conservationist scenario in the western part of the Western Mediterranean.....	20
Figure 12	Following the conservationist scenario in the Strait of Gibraltar.....	21
Figure 13	Following the conservationist scenario in the central part of the Western Mediterranean.....	21
Figure 14	Following the conservationist scenario in the Gulf of Lion.....	22
Figure 15	Following the conservationist scenario in the eastern part of the Western Mediterranean.....	22
Figure 16	Following the conservationist scenario in the Strait of Sicily.....	23
Figure 17	The integrated scenario.	24
Figure 18	Following the integrated scenario in the western part of the Western Mediterranean.....	26
Figure 19	Following the integrated scenario in the Strait of Gibraltar.	27
Figure 20	Following the integrated scenario in the central part of the Western Mediterranean.....	27
Figure 21	Following the integrated scenario in the Gulf of Lion.....	28
Figure 22	Following the integrated scenario in the eastern part of the Western Mediterranean.....	28
Figure 23	Following the integrated scenario in the Strait of Sicily.....	29
Figure 24	Proposal of set of questions to work with scenarios in the Western Mediterranean at regional scale.....	30
Figure 25	Proposal of set of questions to work with scenarios in the Western Mediterranean at national scale.....	31

List of tables

Table 1	Relation between SDGs and MSP in the Western Mediterranean.	9
Table 2	Proposed visions of each scenario for the Western Mediterranean.....	11
Table 3	Cross-border focus areas in the Western Mediterranean.	11
Table 4	Sectors assumptions in the trend scenario.	14
Table 5	Sectors assumptions in the conservationist scenario.....	20
Table 6	Sectors assumptions in the integrated scenario.....	25

Annex 2. List of acronyms

AIM Strategy	African Integrated Maritime Strategy
CCH	Critical Cetacean Habitat
ECA	Emission Control Area
EAf	Ecosystem Approach to Fisheries
EBSA	Ecologically or Biologically Significant Marine Areas
EEA	Ecosystem Approach to Aquaculture
EOV	Essential Ocean Variables
ESI	Environmental Ship Index
FAO	Food and Agricultural Organization of the United Nations
FRA	Fisheries Restricted Areas
IBRM	Intercontinental Biosphere Reserve of the Mediterranean
ICZM	Integrated Coastal Zone Management
IMO	International Maritime Organization
IMP	Integrated Maritime Policy
IOC	Intergovernmental Oceanographic Commission
LNG	Liquefied Natural Gas
LSI	Land Sea Interactions
MAP	Mediterranean Action Plan
MoS	Motorways of the Sea
MPA	Marine Protected Area
MSC	Marine Stewardship Council
MSP	Marine/Maritime Spatial Planning
MSPD	Maritime Spatial Planning Directive
MSSD	Mediterranean Strategy for Sustainable Development
OECD	Organisation for Economic Co-operation and Development
PSSA	Particularly Sensitive Sea Area
SDG	Sustainable Development Goals
UfM	Union for the Mediterranean
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNWTO	World Tourism Organization



The Western Mediterranean Sea has an immense potential to be a driver for prosperity. Maritime sectors are growing rapidly and expected to generate great value-added opportunities and employment.

The development of a sustainable Blue Economy in the Western Mediterranean Sea, guided by integrated cross-border management and planning, will enhance the health and economic growth of the region and safeguard communities' well-being following the principles of social equity and inclusion.