



# Blue Growth in the Mediterranean: the challenge of Good Environmental Status

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WWF Mediterranean Initiative  
Athens - March 10, 2016

The MedTrends project was funded by







## Agenda

1. The MedTrends Project
2. Results
3. Impacts on Good Environmental Status (GES)
4. WWF recommendations for sustainable maritime transportation and ports
5. Take-away messages







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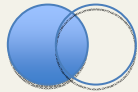




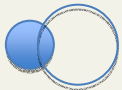


## Relative sizes of sectors and their expected growth to 2030

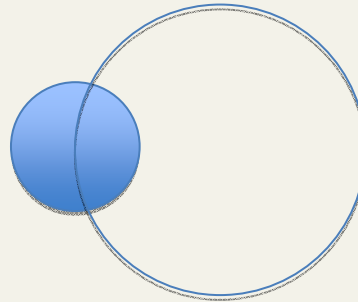
**Wild-catch fisheries**



**Aquaculture**



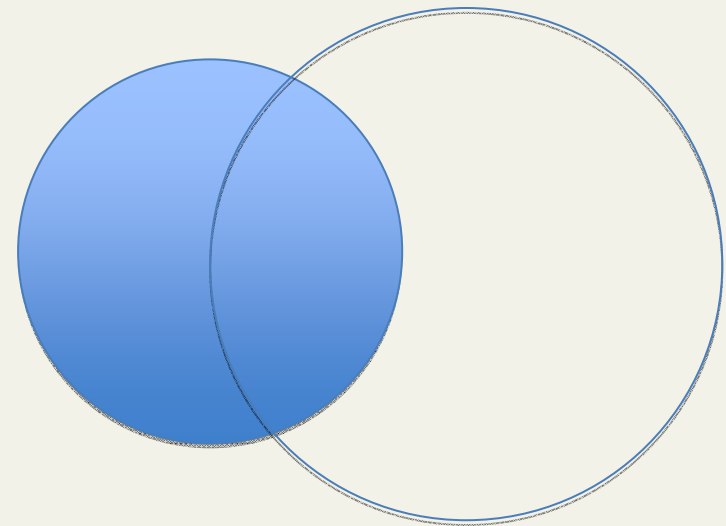
**Shipping**



**Seabed Mining**



**Tourism**



**Relative size today (GDP)**



**Expected size 2030 compared to today**



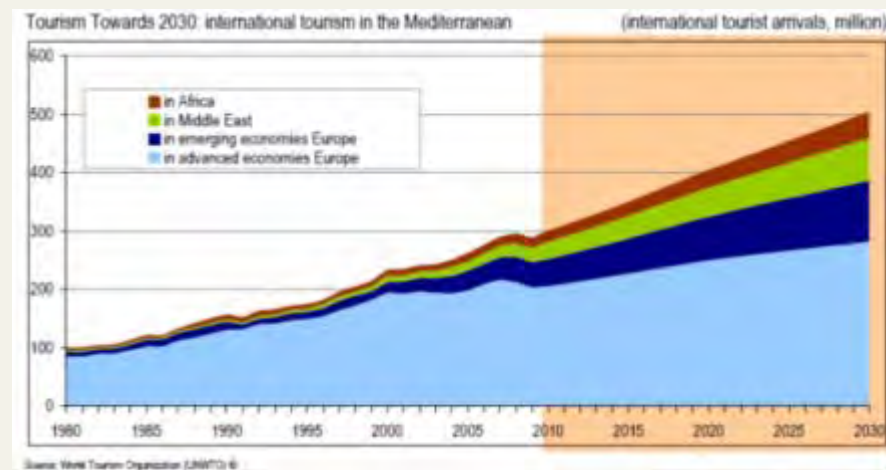


# The MedTrends Project

## AIMS

The MedTrends Project aimed at:

- Investigating and mapping the **most probable integrated scenarios of maritime economic growth** to 2030 in Med EU countries
- Putting the findings in perspective with **Good Environmental Status objectives** and with the targets of the Convention on Biological Diversity







# The MedTrends Project

## PARTNERS

### Lead partner

- WWF-France

### Partners

- WWF-Mediterranean
- WWF-Greece
- WWF-Spain
- WWF-Italy
- Nature Trust Malta

### Associate partners

- WWF Baltic Programme
- Blue Plan
- MedPAN Association

### Countries

- France
- Italy
- Spain
- Croatia
- Slovenia
- Greece
- Cyprus
- Malta



**Duration: 1 year**

**Budget: 550,000 Euro**







# Methodology

## SECTORS CONSIDERED AT THE REGIONAL SCALE

Extraction of living resources	<b>Professional fisheries (trawling, other industrial fishing, small scale fishing)</b>
	<b>Recreational fisheries</b>
	<b>Marine aquaculture</b>
Extraction of non-living resources	<b>Marine mining</b>
Energy production	<b>Marine renewable energy</b>
	<b>Oil and gas exploration and extraction</b>
Land-based activities	<b>Land-based pollution sources</b>
	<b>Coastal development</b>
Transport	<b>Maritime transport and ports (freight and passenger transport)</b>
Tourism	<b>Tourism (coastal tourism, recreational boating, cruise tourism)</b>





## Methodology

- **Analysis per sector:** to assess the current status and future trends of the economic sector, and the potential impacts on the marine environment by linking the pressures exerted by the sectors and the impacts on the Marine Strategy Framework Directive (MSFD) descriptors.
- **Cross-cutting analyses:**
  - An analysis of **the risk of growing conflicts between sectors;**
  - An analysis of the compatibility between the sectors trends and the **10% Marine Protected Areas objective (Aichi target)** to be reached in 2020;
  - An analysis of cumulated impacts of economic sectors to assess **the issues of reaching the MSFD objectives.**





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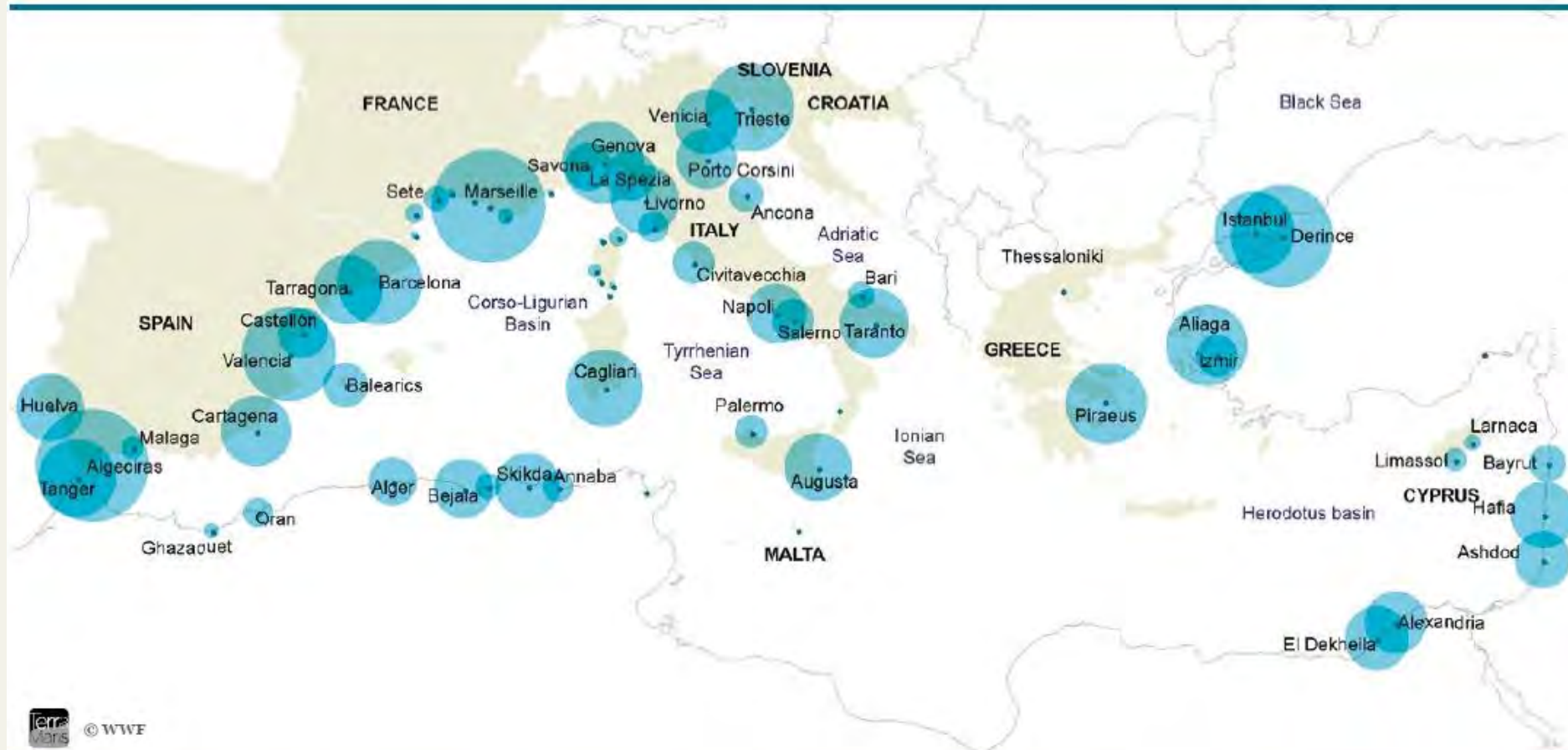
# Maritime traffic







# Ports



0 250 500 750  
km

MEDITERRANEAN EU COUNTRY

40

## GOODS TRAFFIC IN 2013 (MILLION TONS)

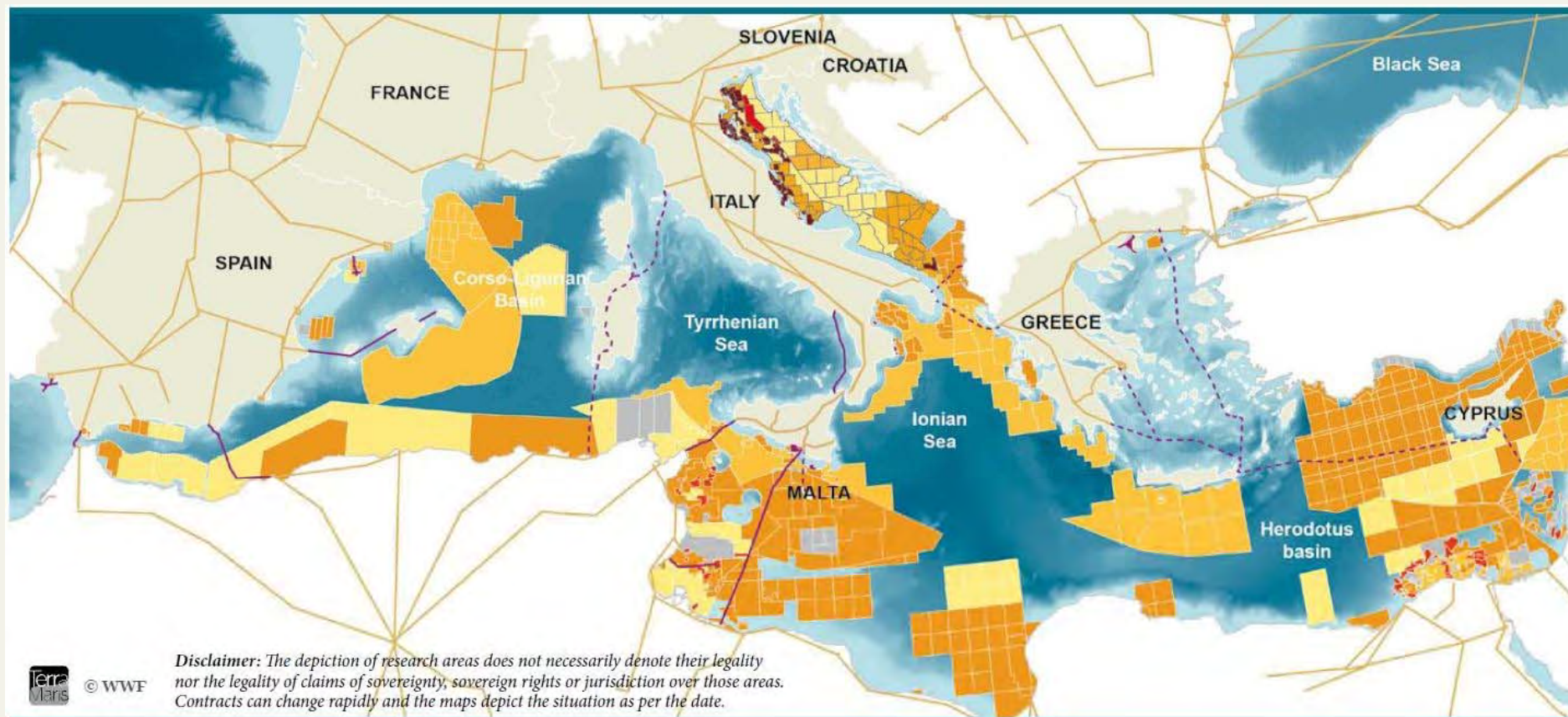
INCLUDES LIQUID BULK, DRY BULK, LARGE CONTAINERS, RO-RO MOBILE UNITS, OTHER CARGO

Sources: Eurostat (Top 20 cargo ports in 2013) /  
Ports authorities (from Atlas 2015 des enjeux maritimes - Le Marin)  
(n.d. = no data available)





# Offshore oil & gas: exploration contracts (April 2015)



0 250 500 750  
km

MEDITERRANEAN EU COUNTRY

## OIL AND GAS CONTRACTS

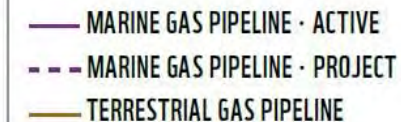


Sources: DrillingInfo (april 2015)

National sources collected by WWF (2015)



## NATURAL GAS INFRASTRUCTURES



Source: WorldMap (2014)





# Renewable energy



0 250 500 750  
km

MEDITERRANEAN EU COUNTRY

## POTENTIAL LOCATIONS FOR OFFSHORE WIND FARM

The points are characterized by annual wind speeds greater than 5m/sec at 80 m height above sea level.

WATER DEPTHS ■ <50M ■ 50 TO 200M

Source: FP7 Collaborative project - Towards COast to COast NETWORKs of marine protected areas (from the shore to the high and deep sea), coupled with sea-based wind energy potential (CoCoNET 2015)

## WIND FARMS PROJECTS

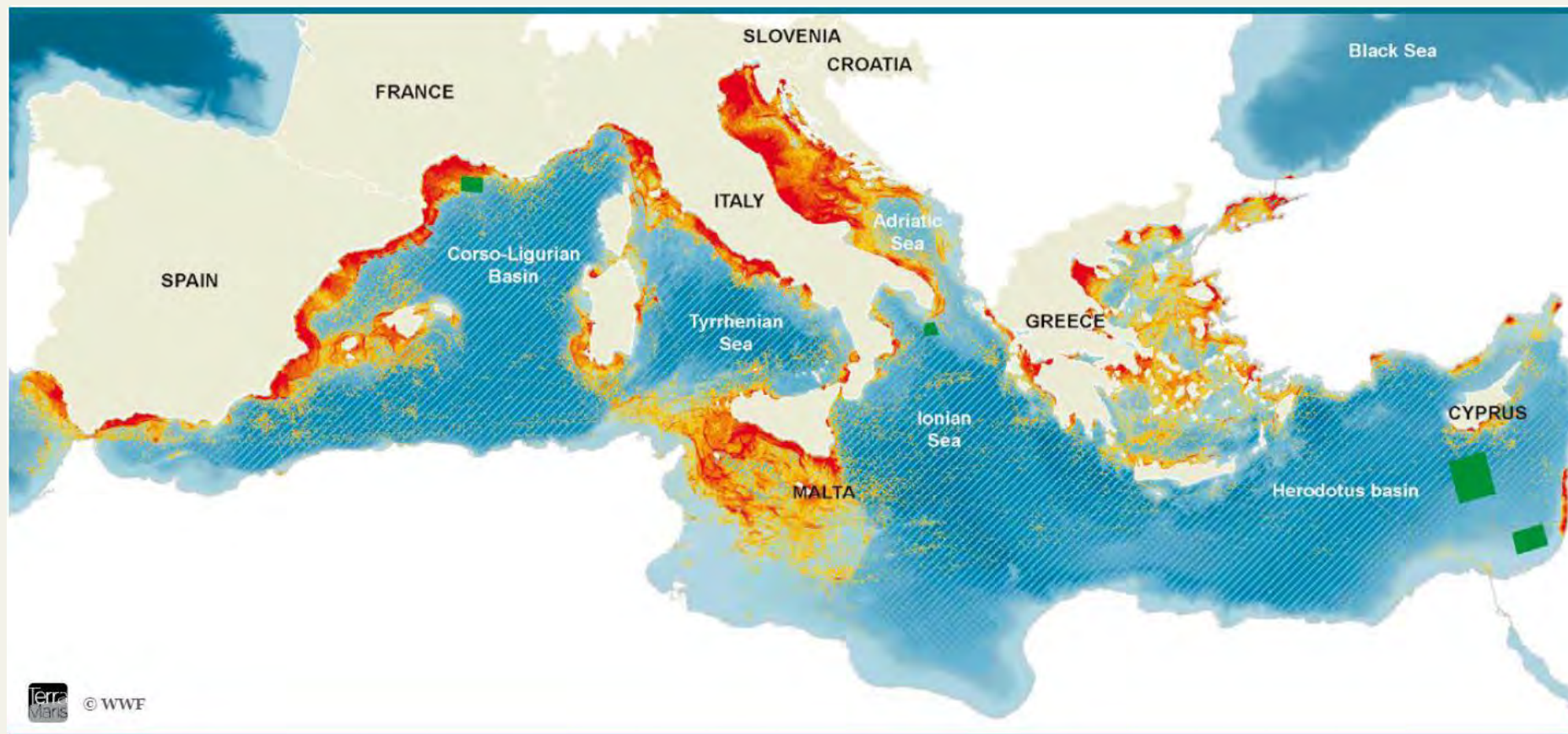
- ⚡ CONCEPT/EARLY PLANNING
- ⚡ CONSENT APPLICATION SUBMITTED
- ⚡ CONSENT AUTHORISED
- ⚡ PARTIAL GENERATION/UNDER CONSTRUCTION

Source: Offshore4C (2014)





# Fisheries



0 250 500 750  
km

MEDITERRANEAN EU COUNTRY

## MEDITERRANEAN AIS-EQUIPPED FISHING VESSELS

DENSITY OF AIS SIGNALS - 2014 TOTAL OF VESSELS INVOLVED: 4580  
NO Interpolation / Log scaling

HIGH LOW

MAX = 102,6673\* MEDIAN = 328\* MIN = 1\*

\* In 1 pixel of 1x1 km

Source: AIS density maps by **navama** technology for nature

## GFCM REGIONAL SPATIAL REGULATIONS

FISHERIES RESTRICTED AREA (FRA)

TRAWLING BAN ZONE (ISOBATH > 1000 M)

Source: GFCM\* (2005,2006,2009)

\*General Fisheries Commission for the Mediterranean





















## Summary of the trends

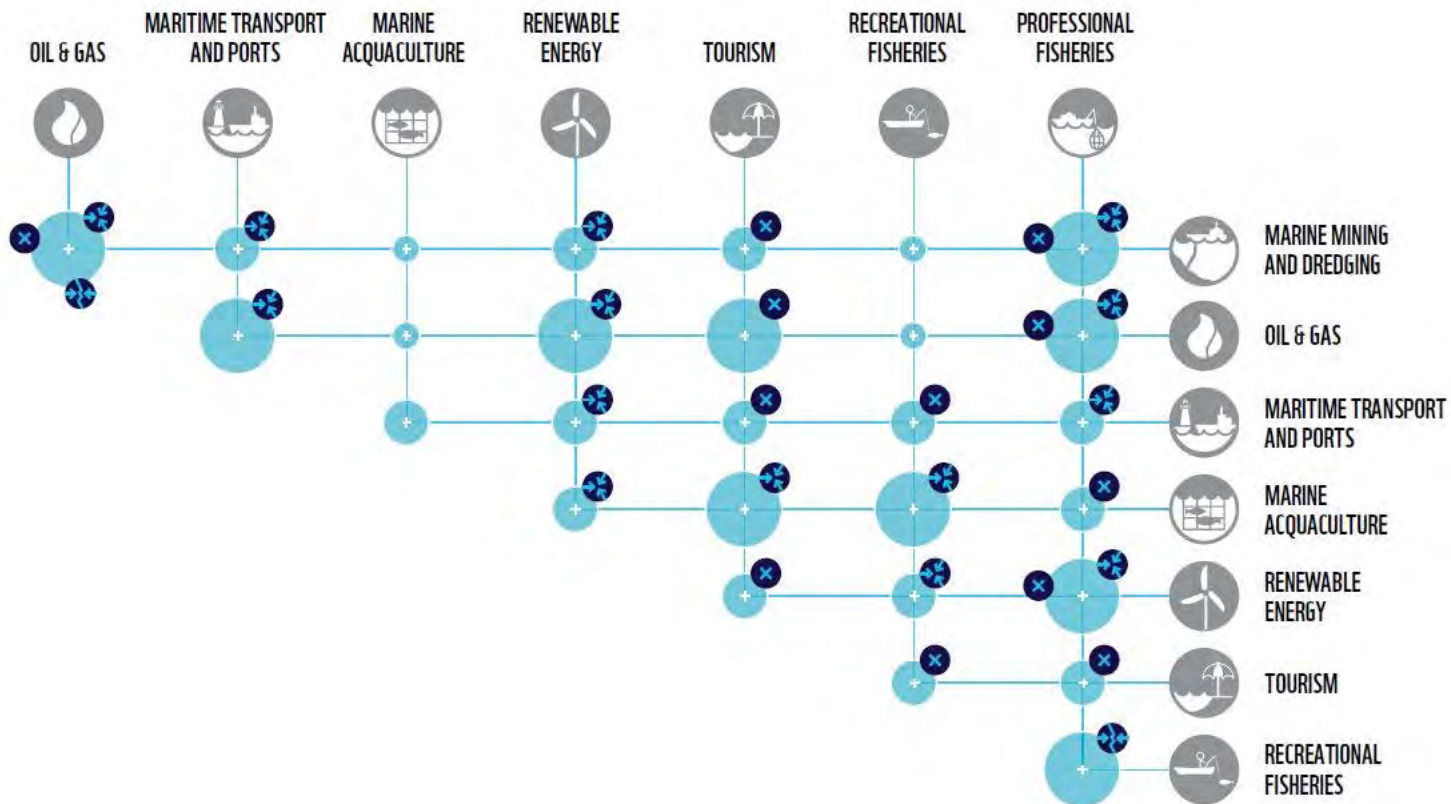
Sector	Trend
 Oil and gas	
 Maritime transport	
 Professional Fisheries	
 Recreational fisheries	
 Marine Aquaculture	

Sector	Trend
 Tourism	
 Renewable energy	
 Marine mining	
 Coastal development	
 Land based pollution	 





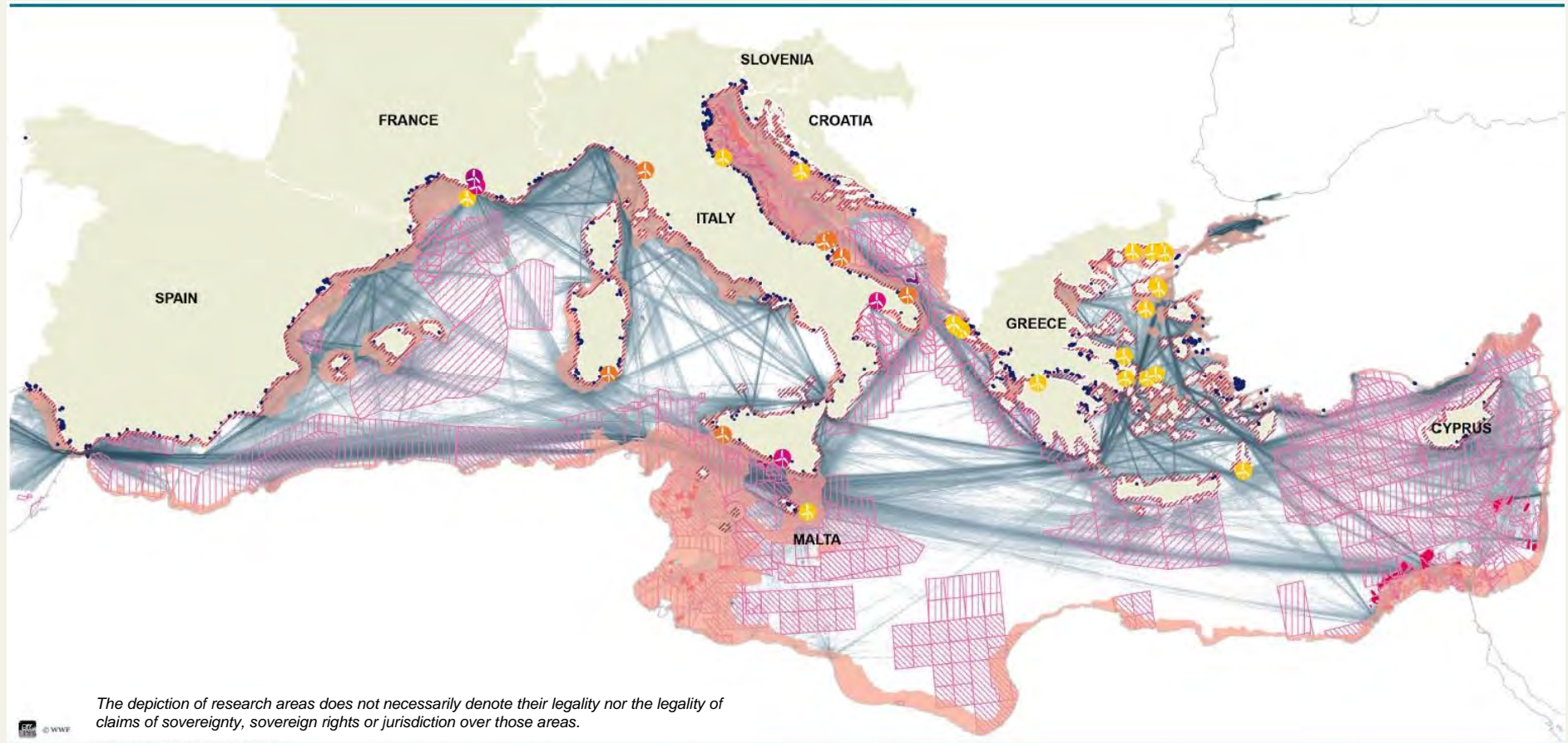
# Interactions between sectors



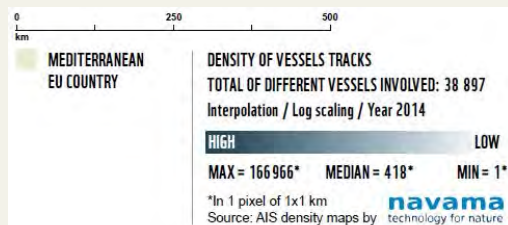




# Interactions between sectors



The depiction of research areas does not necessarily denote their legality nor the legality of claims of sovereignty, sovereign rights or jurisdiction over those areas.

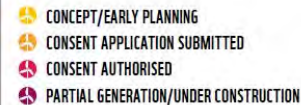


## OIL AND GAS CONTRACTS



Sources: DrillingInfo (april 2015)  
National sources collected by WWF (2015) **drillinginfo** better. faster. decisions.

## WIND FARMS PROJECTS



Source: Offshore4C (2014)

## EXPLOITATION OF LIVING RESSOURCES

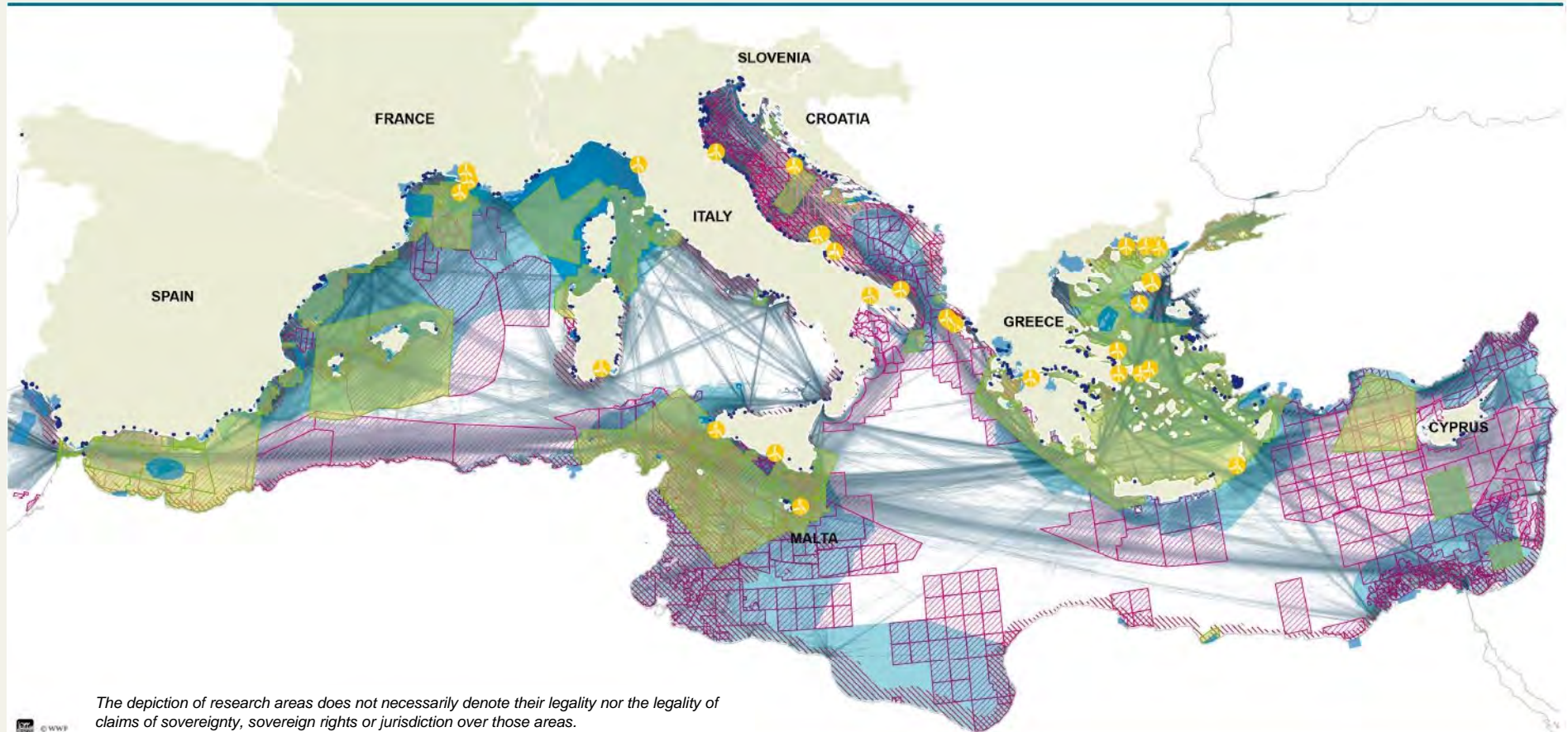


Sources: WWF (2015) JRC-ISPRA (2012),  
national sources collected by WWF  
Note: Data available only for EU countries





# Interactions between sectors and areas of conservation interest



The depiction of research areas does not necessarily denote their legality nor the legality of claims of sovereignty, sovereign rights or jurisdiction over those areas.

0 250 500  
km  
MEDITERRANEAN EU COUNTRY

TRANSPORT - DENSITY OF VESSELS TRACKS  
TOTAL OF DIFFERENT VESSELS INVOLVED: 38 897  
Interpolation / Log scaling / Year 2014  
HIGH LOW  
MAX = 166 966\* MEDIAN = 418\* MIN = 1\*  
\*In 1 pixel of 1x1 km / Source: **navama**  
technology for nature

ENERGY SECTORS  
WINDFARM PROJECTS  
OIL AND GAS CONTRACT  
Sources: DrillingInfo (2015) / Offshore4C (2014)  
drillinginfo  
National sources collected by WWF (2015)

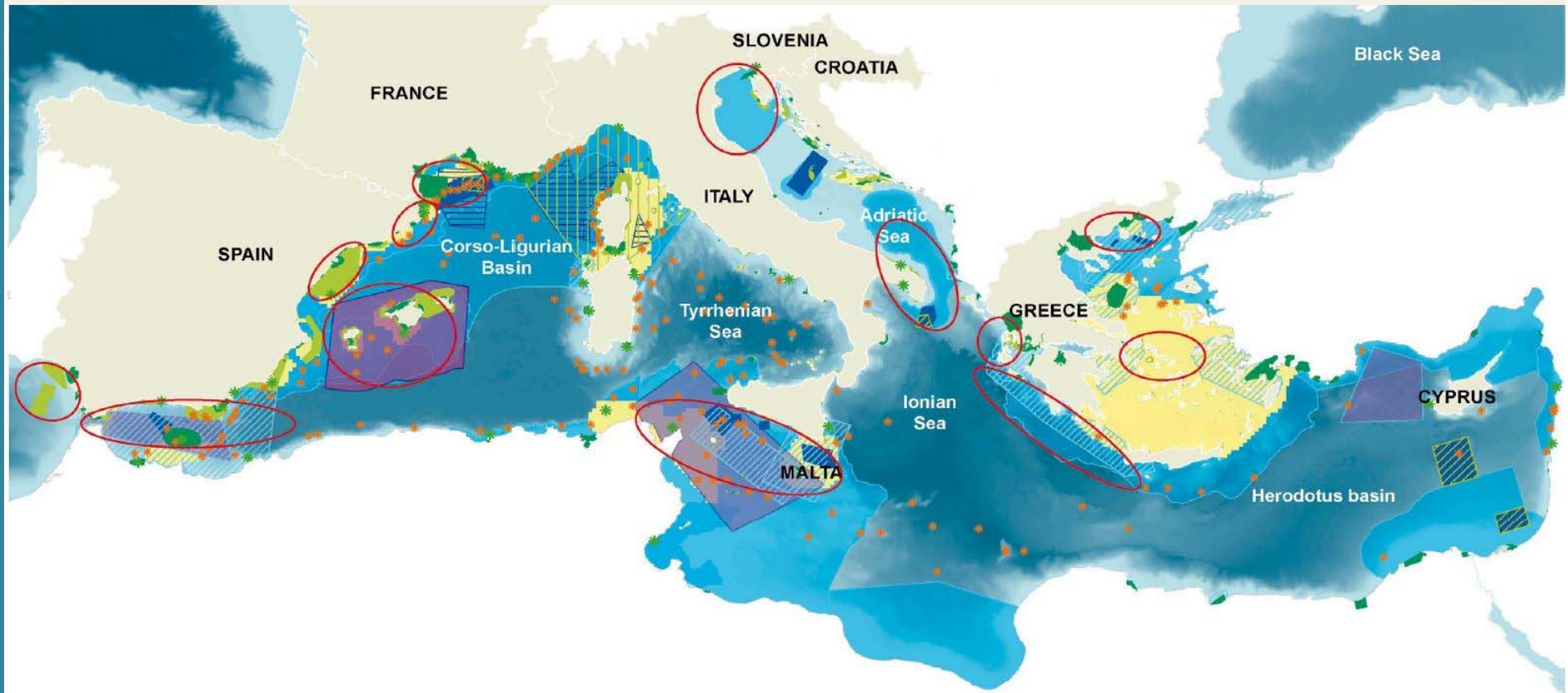
EXPLOITATION OF LIVING RESSOURCES  
AQUACULTURE FARM LOCATION\*  
POTENTIAL EU RECREATIONAL FISHING ZONE\*\*  
Sources: WWF (2015) JRC-ISPRA (2012)  
\*Data available only for EU countries / \*\*Created from continental plateau up to the 200m isobath and AIS density map by Navama (2014)

SITES OF CONSERVATION INTEREST  
DESIGNATED CONSERVATION AREA  
PRIORITY AREA FOR CONSERVATION  
ECOLOGICALLY AND BIOLOGICALLY SIGNIFICANT AREAS (EBSA)  
Sources: MAPAMED (2014) / UNEP RAC/SPA (2010 - 2014) / ACCOBAMS (2010) / IHO-IOC GEBCO / GFCM (2006 - 2015)





# Planning hotspots







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# Risks of not achieving GES in 2020

GES DESCRIPTORS	RISKS OF NOT ACHIEVING GES	MAIN SECTORS AT THE ORIGIN OF THE RISK (MEDTRENDS ANALYSIS)
D1 Biodiversity	Moderate	
D2 Non-indigenous species	High	
D3 Commercial species	High	
D4 Foodwebs	High	
D5 Eutrophication	Moderate	
D6 Sea-floor integrity	High	
D7 Hydrographical conditions	Not assessed	
D8 Contaminants	High	
D9 Contaminants in seafood	Moderate	
D10 Marine litter	High	
D11 Energy (underwater noise)	High	
Marine and coastal landscape	High	





# Risks of not achieving GES in 2020 (Maritime Transport and Ports)

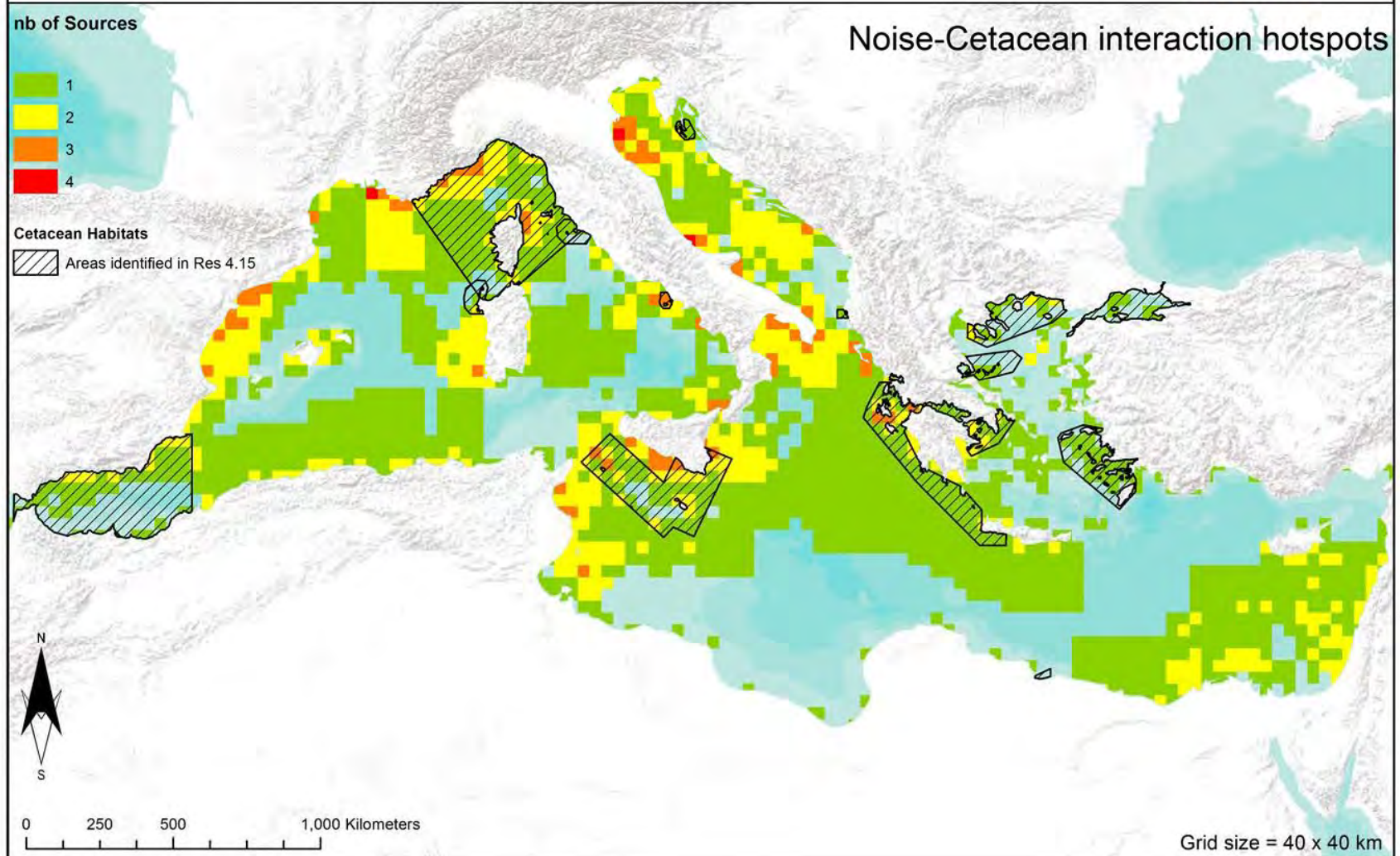
MSFD Descriptor	Impacts on GES	Future trends
<b>D1</b> Biodiversity	Collisions with marine mammals and turtles, antifouling biocide effects on marine fauna, oil/pollutant toxic effects on marine organisms/top predators, effects of litter in marine organisms	
<b>D2</b> Non-indigenous species	Ballast waters, fouling	
<b>D3</b> Commercial species		
<b>D4</b> Foodwebs		
<b>D5</b> Eutrophication	Sewage discharge (non-treated used water)	
<b>D6</b> Sea-floor integrity	Direct physical effects of vessels on benthic habitats and species, abrasion	
<b>D7</b> Hydrographical conditions		
<b>D8</b> Contaminants	Oil pollution (releases/discharges), eventual or chronic, shipping-derived antifouling biocides	
<b>D9</b> Contaminants in seafood		
<b>D10</b> Marine litter	Littering, waste discharge	
<b>D11</b> Energy	Shipping noise (damage, disturbance to/of marine mammals and fish)	





# Shipping noise map

## Overview of the noise hotspots in the ACCOBAMS area







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## WWF Recommendations (Maritime Transport)

- Better **flag state control** and responsibility;
- **Improve preparedness** towards increasing traffic particularly for hazardous substances;
- Improve **ballast water control** (all Med states should ratify the Ballast Water Convention);
- Adhere to the **IMO guidelines for biofouling**;
- Support the designation of the **Pelagos Sanctuary** as a Particularly Sensitive Area, specific measures in Sicily and Gibraltar Straights and the Aegean Sea;
- WWF supports the designation of the Mediterranean as a **Sulphur Emissions Control Area**.





## WWF Recommendations (Maritime Transport)

- The regulation of maritime traffic in the **Aegean Sea**, a hotspot for ship accidents, **should be given special consideration in the future**
- The development of maritime sectors in the Adriatic Sea suggests that maritime traffic authorities should **seek to foresee increased risks** associated with maritime traffic and act accordingly
- A significant share of traffic **overlaps with priority areas of conservation**, particularly in areas with marine mammals. Interactions between the sector and conservation issues should be more thoroughly assessed and addressed at IMO level.





## WWF Recommendations (Ports)

- Introduce strict limitations of the spatial development and optimization of existing infrastructures
- Provide shore side electricity for ships to reduce emissions
- Promote Mediterranean cooperation and specification instead of competing multimode harbors
- Improve port waste facilities.





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## Take-away conclusions from the MedTrends project (1)

- Except for professional fisheries, **all traditional sectors of Mediterranean maritime economy are expected to keep growing during the coming 15 years**, and new or emerging sectors are expected to grow even faster.
- The likely future developments in key sectors and their resulting pressures can generate **significant conflicts between sectors that rely strongly on marine ecosystem services** (marine and coastal tourism, fisheries, aquaculture) **and offshore extractive industries or maritime traffic**.
- **Professional fisheries will be the sector most impacted by Blue Growth.**





## Take-away conclusions from the MedTrends project (2)

- The risk of failing to achieve **GES** in 2020 for **7 out of 11 of the descriptors** of the MSFD is high.
- Similarly the risk of **failing to meet the CBD's 10% target** of Mediterranean waters within MPAs or other effective area-based management measures by 2020 is very high.
- **Cumulative impacts** are still insufficiently known however we need to **act NOW** and implement **integrated ocean measurements measures**.
- **Planning hotspots** have been identified during the analysis and particular attention should be given to them in future MSP planning in the region.





## Recommendations

- **Need for a prospective approach**
- **Need for cooperation among sectors and countries**
- **Need for a cross-cutting approach to sectors and maritime policies**
- **Need for Maritime Spatial Planning**
- **Need to anticipate the increase of environmental impacts**
- **Take into account ecosystem services**
- **Protect sensitive or highly impacted ecosystems, focusing on EBSAs**





## MedTrends reports ([www.medtrends.org](http://www.medtrends.org))







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