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# Research projects supporting Maritime Spatial Planning in the Strait of Sicily: NBFC-MSP4BIODIVERSITY (*Biodiversity mainstreaming in Maritime Spatial Planning*)

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## Lead Partner



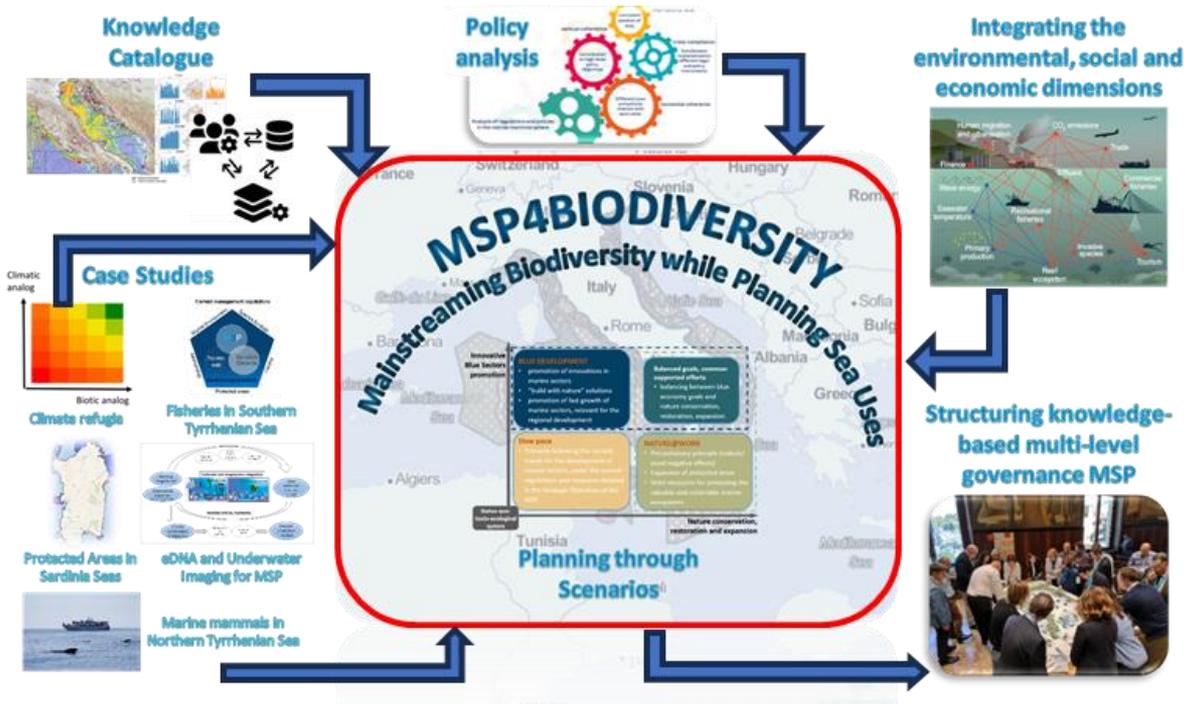
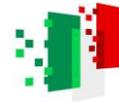
Funds: Next Generation EU, 4.3 ME  
Duration: 2023-2025

## Partners MUR



## Partners not MUR





- *MSP as a tool to mainstream biodiversity into policies and practices*
- *Applying a socio-ecological and transdisciplinary approach to planning*
- *With direct projection of the results on the ongoing Italian MSP process*
- *Structured in 6 work packages, from stocktaking and methods to planning actions to actions ensuring long-term legacy*

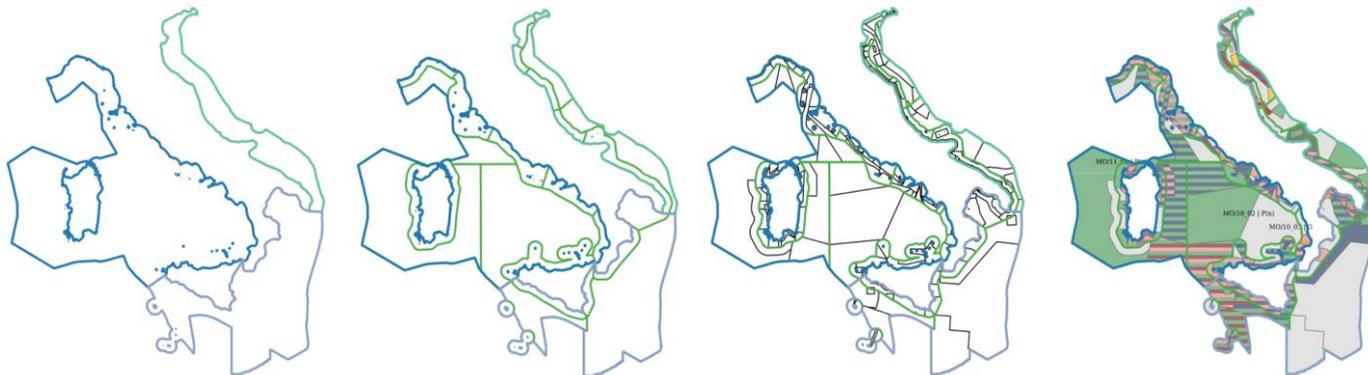
- Competent Authority:  
Ministry of Sustainable Infrastructures and Mobility
- Three parallel processes:
  - Adriatic
  - Ionian-Central Mediterranean
  - Tyrrhenian-Western Mediterranean
- Scope: strategic
- Legally binding
- Timeframe: 2024 -> 2034 (adaptive process through monitoring)

Multi-scalar co-planning process: from Central to Regional / Local administrations



Designing and implementing a multi-scalar approach to Maritime Spatial Planning: The case study of Italy

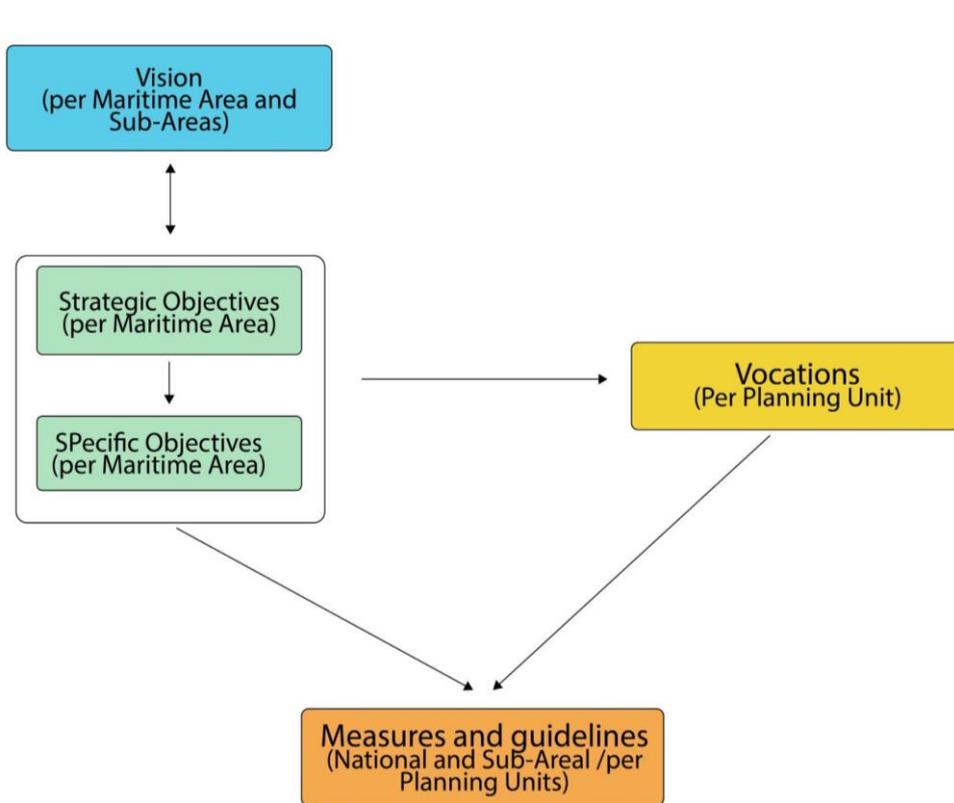
Emiliano Ramieri<sup>a,\*</sup>, Martina Bocci<sup>b</sup>, Daniele Brigolin<sup>c</sup>, Pierpaolo Camprostrini<sup>d</sup>, Fabio Carella<sup>e</sup>, Amedeo Fadini<sup>a</sup>, Giulio Farella<sup>a,h</sup>, Elena Gissi<sup>a,g</sup>, Fabrizio Madeddu<sup>e</sup>, Stefano Menegon<sup>a</sup>, Micol Roversi Monaco<sup>c</sup>, Francesco Musco<sup>c</sup>, Folco Soffietti<sup>e</sup>, Laura Barberi<sup>f</sup>, Andrea Barbanti<sup>a</sup>



Identify vocations  
Maximise coexistence  
Harmonise present conditions  
Promote future visions



# Conceptual framework



## G = Generic use

Areas in which all uses tend to be permitted, with specific and reciprocal regulation mechanisms defined or to be defined in the context of national and international standards or sector plans, in order to guarantee safety, reduce and control environmental impacts and favor coexistence between uses.



## P = Priority use

Areas for which the Plan provides indications of priority of use and development, also indicating the other uses to be guaranteed or allowed through mutual regulations and with the identified priority use.



## L = Limited use

Areas for which a prevalent use is indicated, with other uses that may be present, with or without specific limitations, if and as far as compatible with the prevalent use.

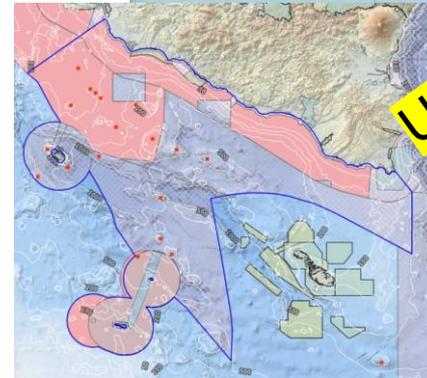
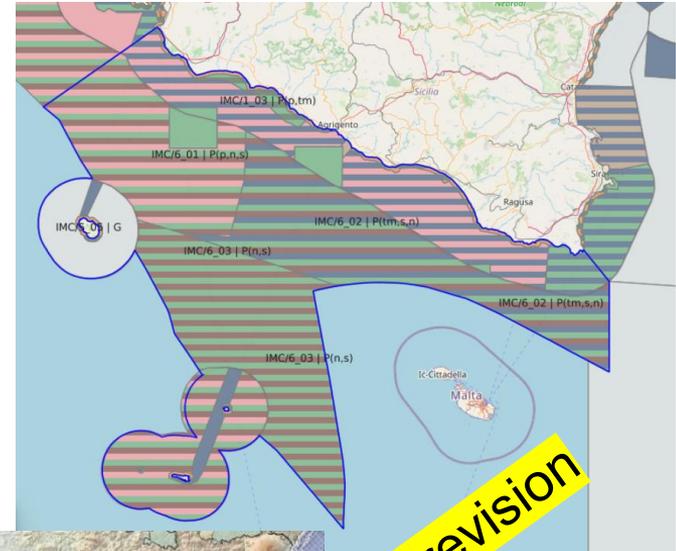


## R = Reserved

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- **Co-planning** involving MASAF and Sicily region
- 3 sub-areas and **22 (10+8+4) Planning Units (PU)**
- Fishery is present as a **priority in 4 PUs**, while the plan is not establishing new limitations compared to existing regulations and plans
- **6 Strategic Objectives** on:
  - *Sustainable development of the fisheries sector,*
  - *Implementation of European and National Multiannual Management Plans in GSAs*
  - *Promotion, development and spatial management of small-scale coastal fishery*
  - *Recovery and protection of fish stocks and protection of Essential Fish Habitats (EFH)*
  - *Cooperation among States in order to achieve concerted measures for the sustainable management of the activities of their national fisheries sectors*
  - *Monitoring and combating illegal fishing*
- **11 National measures** directly referred to fisheries, plus other measures aimed at promoting coexistence between uses

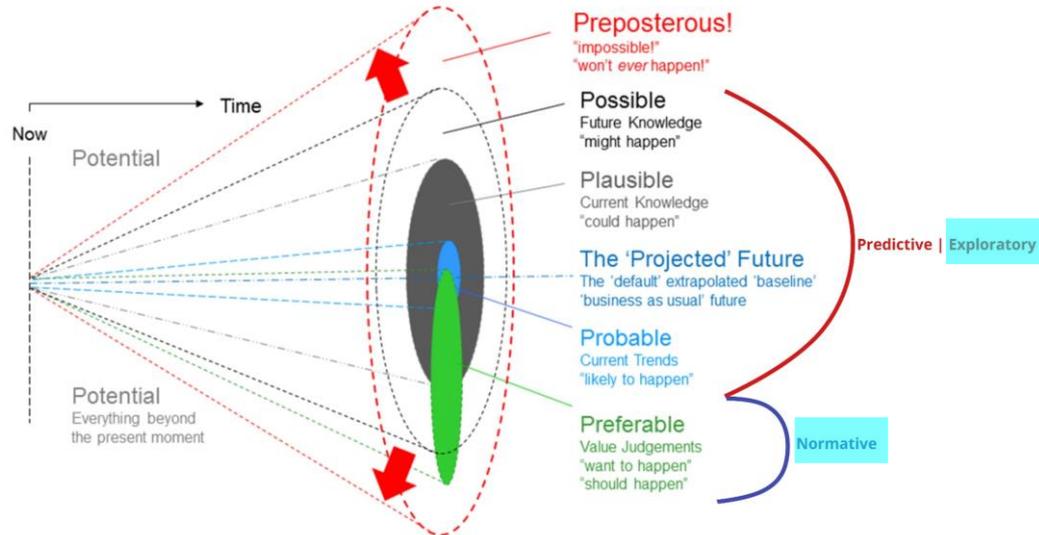


**Under revision**



## Scenario Building and Scenario Analysis as a tool to explore and implement biodiversity mainstreaming in MSP.

Integrating conservation, blue economy sectors, climate change, policies.  
Three Pilot Areas: Northern Adriatic, Northern Tyrrhenian, **Strait of Sicily**.



(Adapted from Voros, 2003)

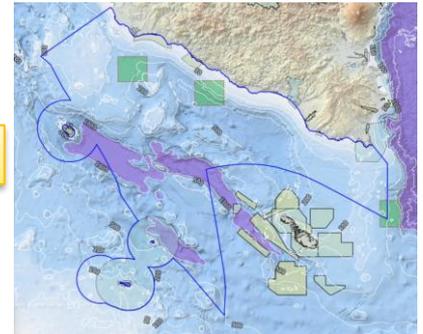
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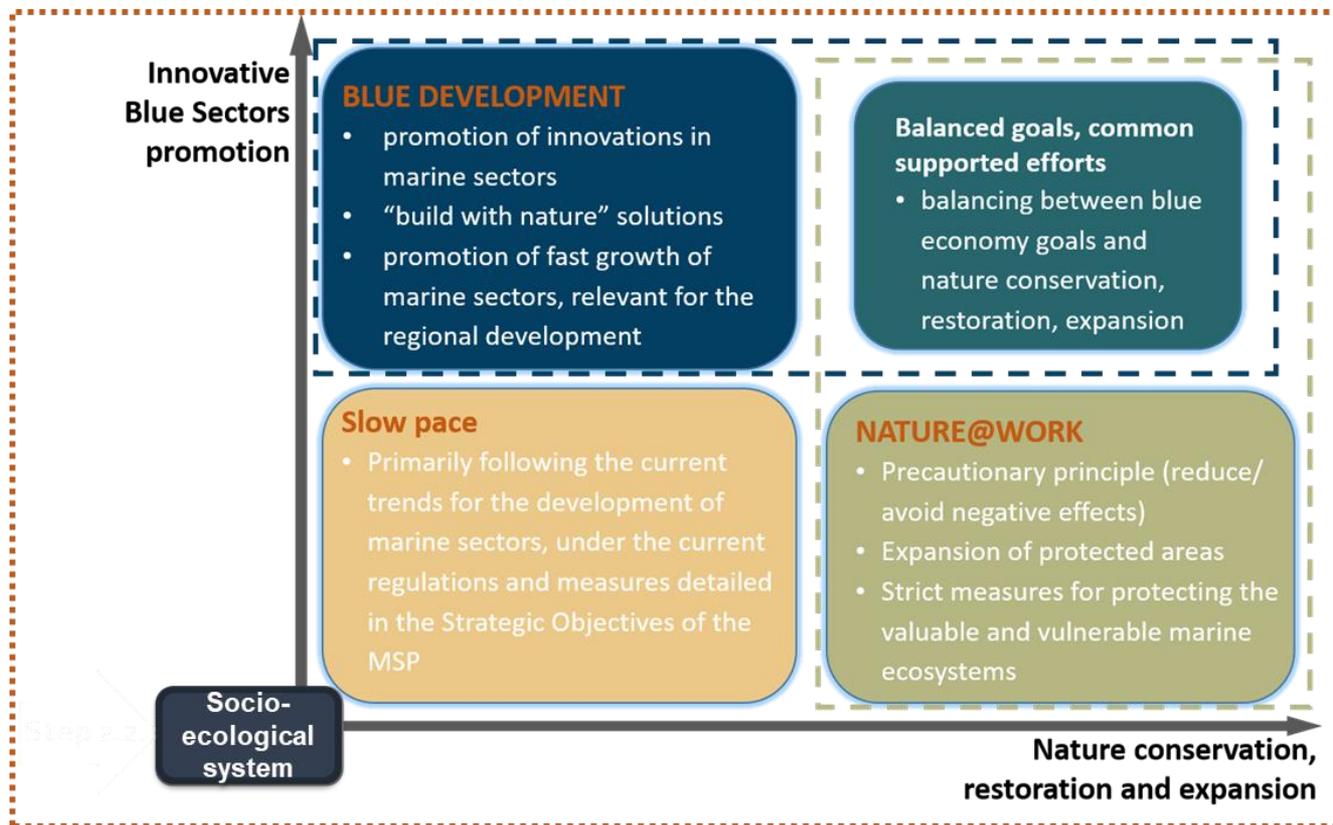


NTS



SOS



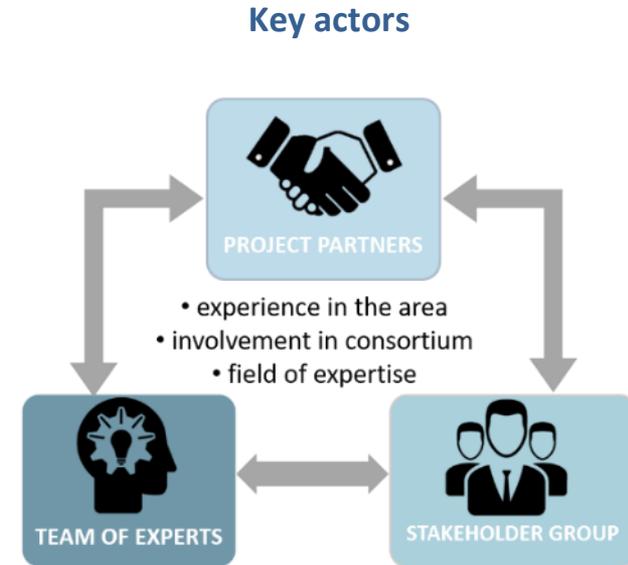
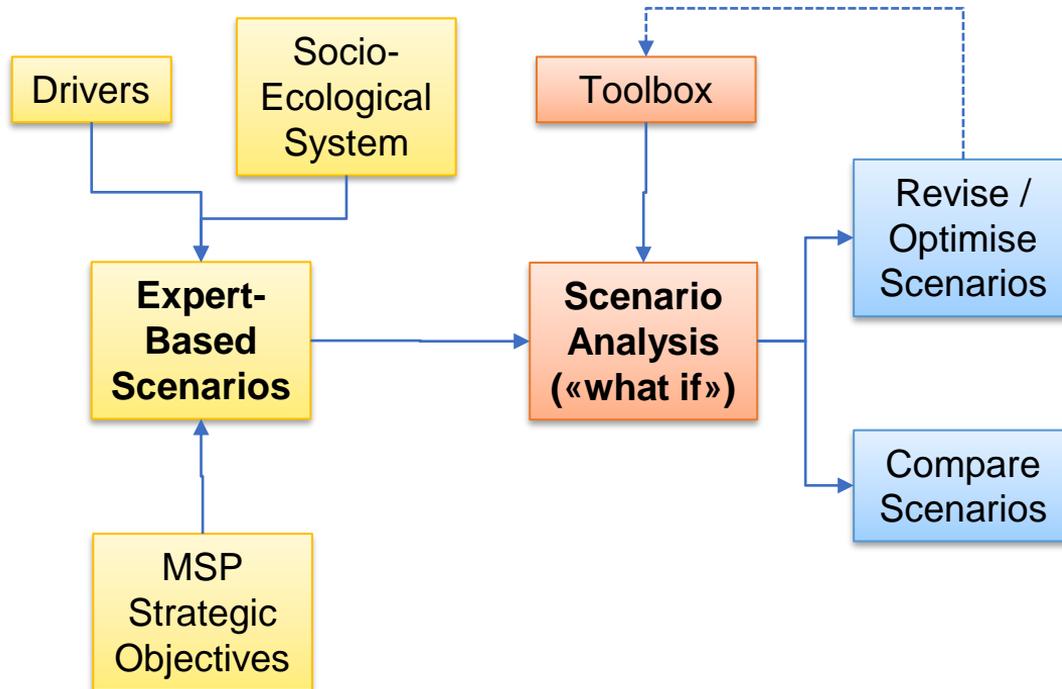


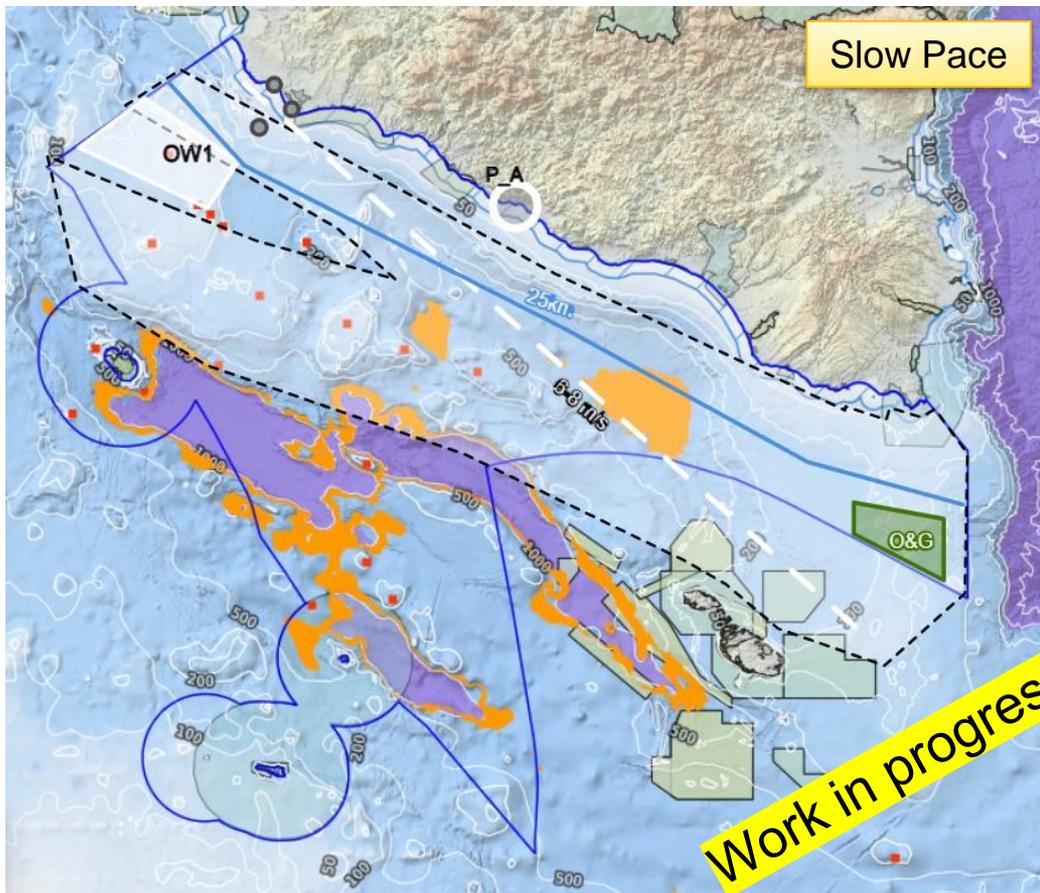
(Inspired by Calado et al., 2021, 2022 – Mar. Pol.)



## Step-wise process:

from **Drivers** to **Socio-Ecological System** to specific **Objectives** to spatially explicit **Scenarios** tested through a customised **Toolbox**.





Theme / Sector	How
Environmental Protection	New N2Ks on Seamounts, push on the implementation of measures in place
Maritime Transport	30% traffic increase, no new spatial measures
O&G	New exploitation in south-east area
Offshore Renewable Energy	1 GW OWF
Fishery	New limitations to bottom trawling (800-1000 m and new N2K). Promotion of SSF.
Cultural Heritage	Protection and valorization of UCH sites, in line with present trends and rules



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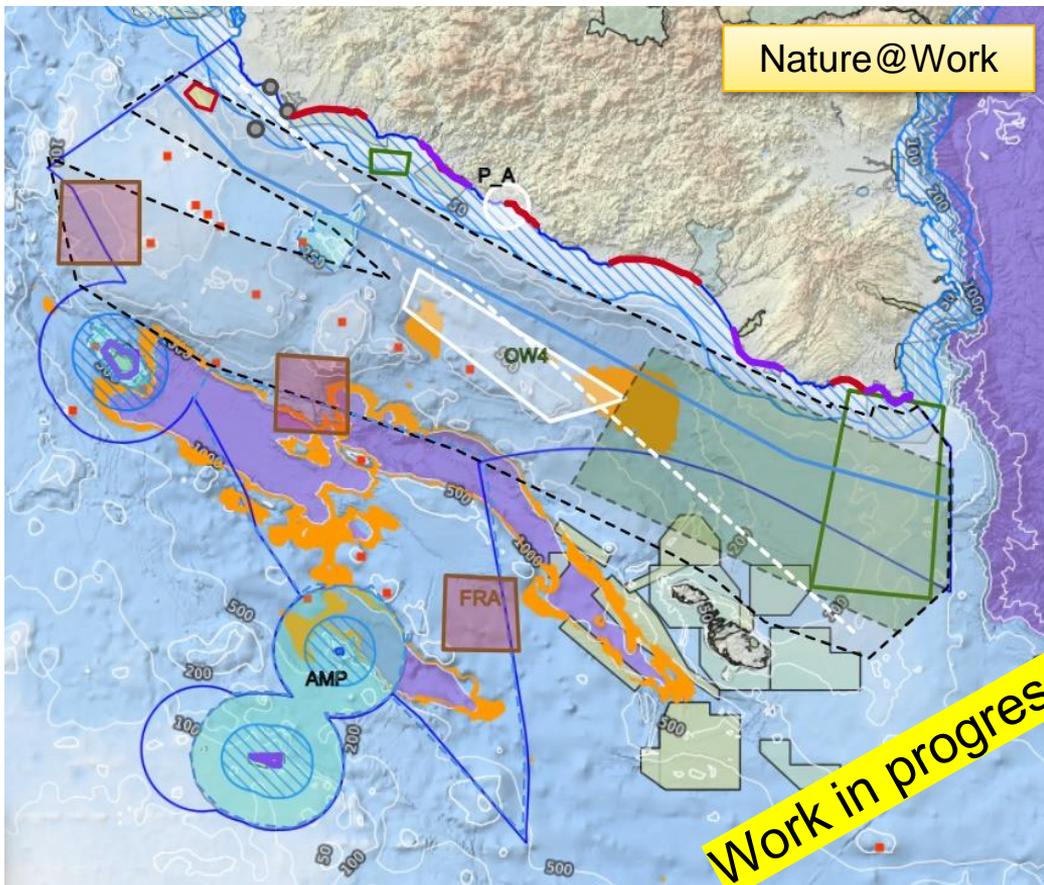
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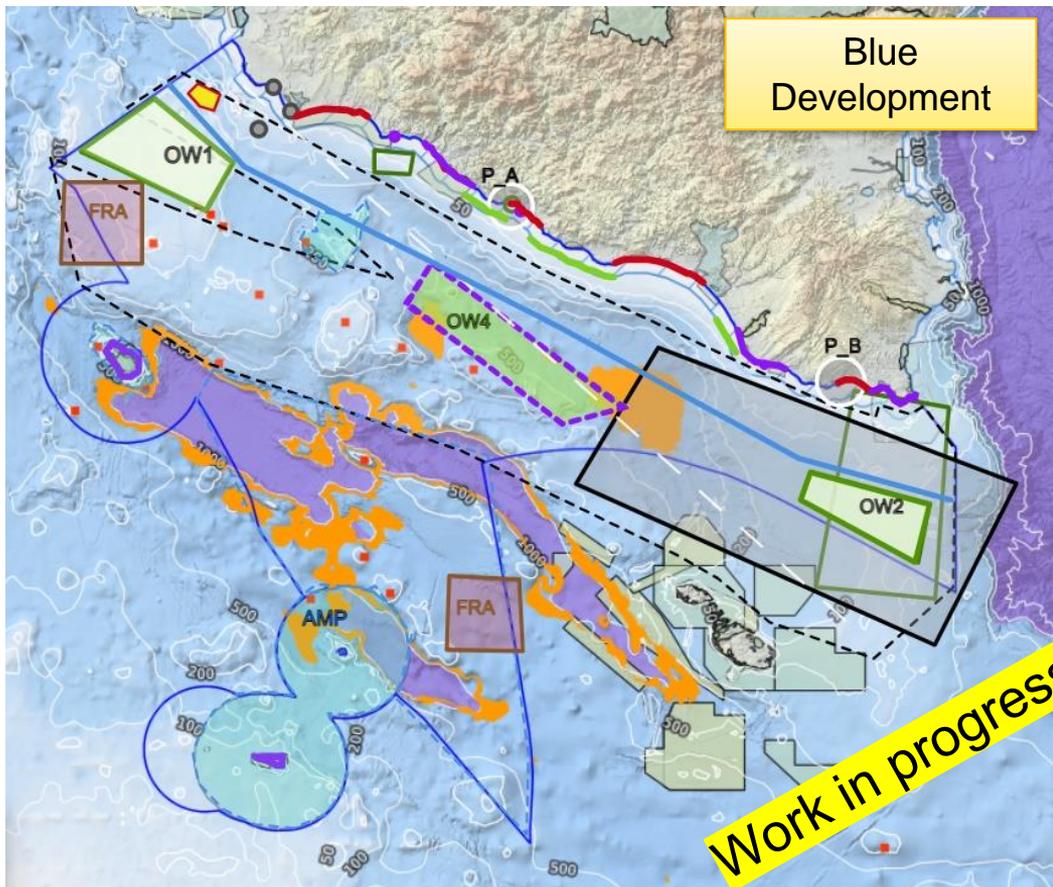
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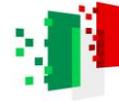
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Theme / Sector	How
Environmental Protection	New MPAs on Seamounts, Pantelleria, Banco Avventura; enlarged MPA Isole Pelagie. Transboundary MAB Unesco.
Maritime Transport	New PSSA, with speed limitation (13 kn) south-east.
Coastal defense	Strategic vision to coastal management, soft and NBS.
ORE	1 GW OWF
Fishery	New limitations to bottom trawling: 800-1000 m, new/enlarged MPAs, 0-6 nm coastal strip (seasonal), 3 new FRAs. Promotion of SSF. Better regulation of recreational fishery.
Tourism	Promotion of sustainable tourism (e.g. experiential, ecotourism).
Research & Innovation	Promote R&I, observing systems, restoration.
Cultural Heritage	Protection and valorization of UCH <sub>1</sub> sites, in general and in 2 areas.



Theme / Sector	How
Environmental Protection	New MPAs on Seamounts, Pantelleria, Banco Avventura; enlarged MPA Isole Pelagie. Transboundary MAB Unesco.
Maritime Transport	30% traffic increase; new PSSA, with speed limitation (13 kn) south-east; silent ships.
Coastal defense	Strategic vision to coastal management, soft and NBS, deep marine sands.
ORE	3 GW OWF; ORE archipelago (OW2)
Fishery	New limitations to bottom trawling: 800-1000 m, new/enlarged MPAs, 2 new FRAs. Promotion of SSF. Better regulation of recreational fishery.
Aquaculture	Coastal aquaculture focusing on new species; multi-use with OWF.
Tourism	Promotion of sustainable tourism (e.g. experiential, ecotourism, leisure boating).
Research & Innovation	Promote R&I, observing systems, restoration, renewables
Cultural Heritage	Protection and valorization of UCH sites, in general and in 2 areas; digital technologies



## Scenario Analysis and Evaluation



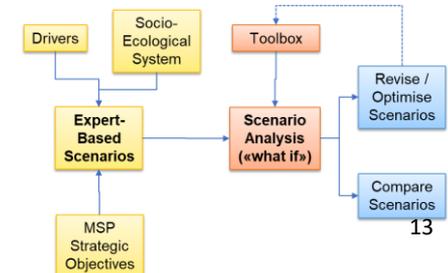
Environmental accounting / Ecosystem services model

Socio-economic model

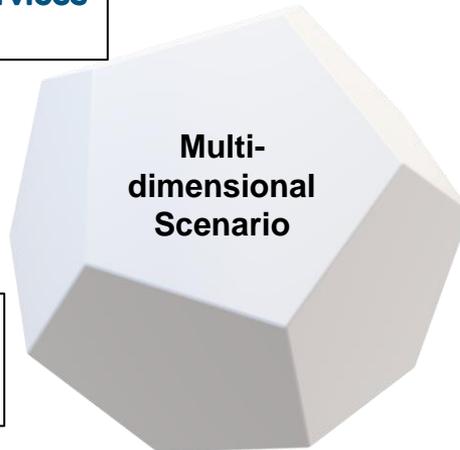
Climate refugia tool



***Strait of Sicily Customised Toolbox***  
Tools responding to research / scenario-related questions. Problem-driven and integrated application



Cumulative Effects Assessment (CEA)



Soundscape model

Prioritizr (Systematic Conservation Planning)

Hydrodynamic / dispersion / connectivity models

SMART (bio-economic model)

Biogeochemistry model



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# Thank you for your attention

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**European Maritime Day - Svendborg (Denmark) – 30-31 May 2024**