

# THE 2020 FORUM of Marine Protected Areas in the Mediterranean

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**MARINE PROTECTED AREAS:  
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# DS09 - Case study 1

## Ecosystem-Based Integrated Coastal Zone Management across the Mediterranean

Nahed Msayleb – Tyre Coast Nature Reserve, Director – Lebanon  
Paolo Caroli – PROGES - Italy



### Mediterranean Forum For Applied Ecosystem-Based Management



# Financed by ENI CBC MED Programme

MED4EBM is a Regional Networking Initiative

Spreading Innovative Methods and Tools

Incorporation of Ecosystem-Based Management (EBM) into Integrated Coast Zone Management

Participatory and Evidence-Based Planning and Sustainable Development of Coastal and Marine Areas

- **Lead Applicant:** UNDP Jordan
- ❖ Technical Partner: PROGES, Italy
- ❖ Regional Forum: Amici della Terra, Italy
- **Project National Partners:**
- ❖ PROGES, **Italy**
- ❖ Amici della Terra (AdT), **Italy - Golfo di Corigliano**
- ❖ The Royal Marine Conservation Society (JREDS), **Jordan - Gulf of Aqaba**
- ❖ Tyre Coast Nature Reserve (TCNR), **Lebanon**
- ❖ Institut National Des Sciences Et Technologies De La Mer (INSTM), **Tunisia**  
**Kneiss Islands Nature Reserve**



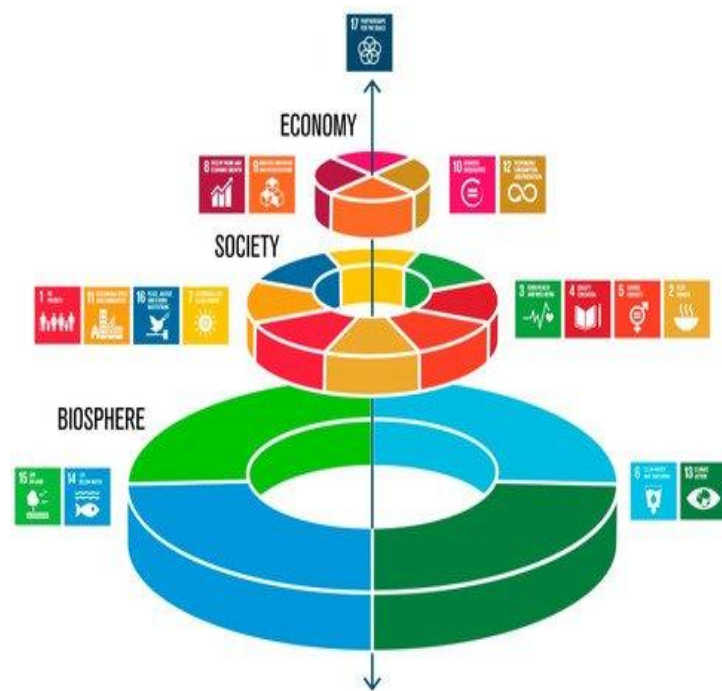
# Case study context

- Wide-ranging representativeness of Mediterranean/Red Sea contexts
- The Project focuses on four coastal areas sharing ecological significance and Socio-economic Challenges
  - 3 **wetlands**, of which 2 **Ramsar** Sites;
  - 3 characterised by the presence of fresh water **ESTUARIES**;
  - 2 important **sea turtles** nesting sites.
  - 1 globally distinguished resilient **coral reef** habitat
  - All four are **bird** migration hotspots;
- The four areas face similar socio-economic issues
  - Marine - Fresh water issues
  - Touristic and Industrial Development
  - Fisheries

# Case study context

Consistent with agenda 2030 of Sustainable Development Goals

- Managing the Biosphere to **support Society and the Economy**.....
- Without Compromising the Natural Assets**



# Actions

## Mainstreaming EBM into ICZM

- **Holistic** approach
  - From competing interests toward **cooperating objectives**
  - Building shared understanding across diverse **stakeholders**
  - Establishing strong organizational and **co-management** capacity and integrated approach
  - Introducing **effective management** tools & practices

### Recommendation 1.4

Ensure that MPA needs are taken into account and integrated in coastal and marine spatial planning to reduce conservation and development conflicts.

# Actions

## Mainstreaming EBM into ICZM

- **Dynamic** Process
  - Requiring a **multi-disciplinary** approach
  - Capable to iterate through different, **interrelated systems** and across **time**
  - Incorporating **land** and **marine** ecosystems
  - **Evidence-based** approach in planning, development and monitoring of coastal areas

### Recommendation 3.5

Improve collaboration among researchers and MPA staff to develop or update management plans and assess MPA management effectiveness, based on an interdisciplinary scientific understanding (socio-ecological systems) of the MPA and its objectives

# Actions

## Mainstreaming EBM into ICZM

- Transnational **cooperation**
  - Transnational cooperation between MPAs and coastal zone management stakeholders **sharing** lessons learned & experiences
  - Establishing a permanent **Forum** for sustaining the above and collaborative EB-ICZM

### Recommendation 3.4

Harmonize all Mediterranean initiatives related to the **standardization of social-ecological monitoring methods and management effectiveness assessment** (e.g., the Barcelona Convention IMAP and the EU directive) and encourage the countries to adopt and institutionalize them to ensure their use by MPA managers and researchers.

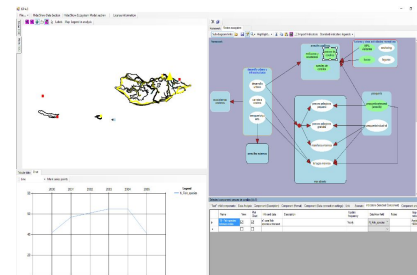
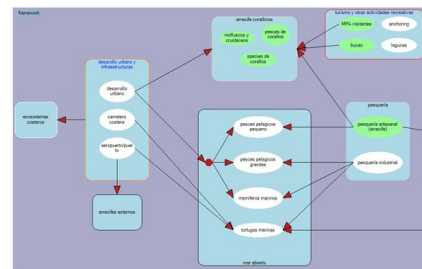
# Lesson learned

## Collective context analysis and shared management framework

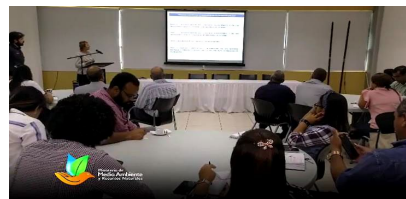
- Context identification
- Effective and open dialogue between stakeholders and concerned entities
- Stakeholders build a shared vision with a common management framework



<b>Metas:</b>	<b>Ecosistemas Marinos</b>			
<b>Metodología de estudio:</b>	análisis de los principales hábitats marinos y de las especies de interés natural y económico			
<b>Componentes:</b>	maralberto	arrecifes artificiales	arrecifes coralinos	otros
<b>Descripción de los componentes (cuantitativa y cualitativa):</b>		dos islas frente de la playa al oeste de la ciudad	arrecife coralino al este de la ciudad (250 km²)	---
<b>Sub-componentes:</b>	peces pelágicos y iburones	mamíferos marinos	tortugas marinas	No hay
<b>Descripción de los sub-componentes (cuantitativa y cualitativa):</b>	Especies más pesadas: Zorro marino, mojito azul, Falcón, Capatzen	Se encuentran 4 de las 7 especies de delfines, 30 especies de tiburones de este sector.	250 especies de corales formadores de arrecife	Comunidades principales: Cefalópodos 20%, Crustáceos 15%, Peces 20%, Moluscos 5%, Otros 40%
<b>Relaciones con otros componentes:</b>	presencia de industria pesquera artesanal, genera empleo y contribuye a la economía local (ver Mapa: Actividades Económicas)	protegen el litoral de tormentas	actividades recreativas y turísticas como buceo y pesca deportiva (ver Mapa: Actividades Económicas)	pesquería artesanal (ver Mapa: Actividades Económicas)



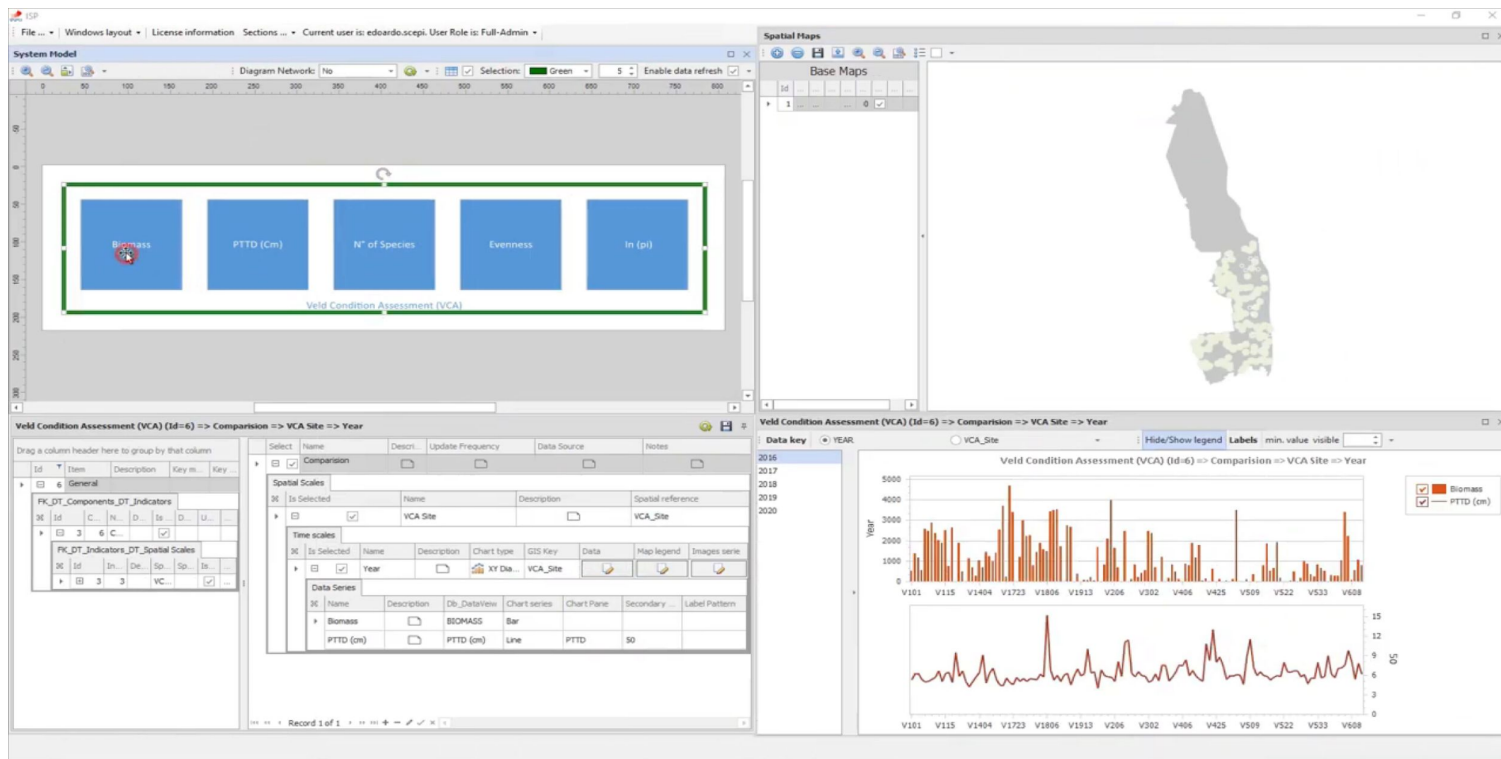
Context identification → Descriptive analysis → Qualitative analysis → Quantitative analysis



# Lesson learned

## Real Time Data Analysis for Planning and Management

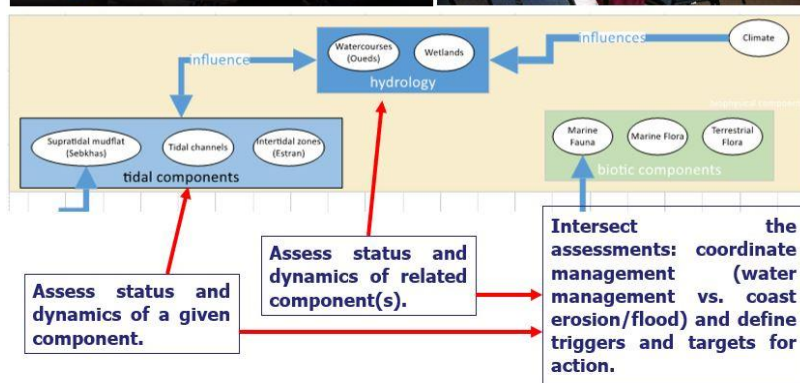
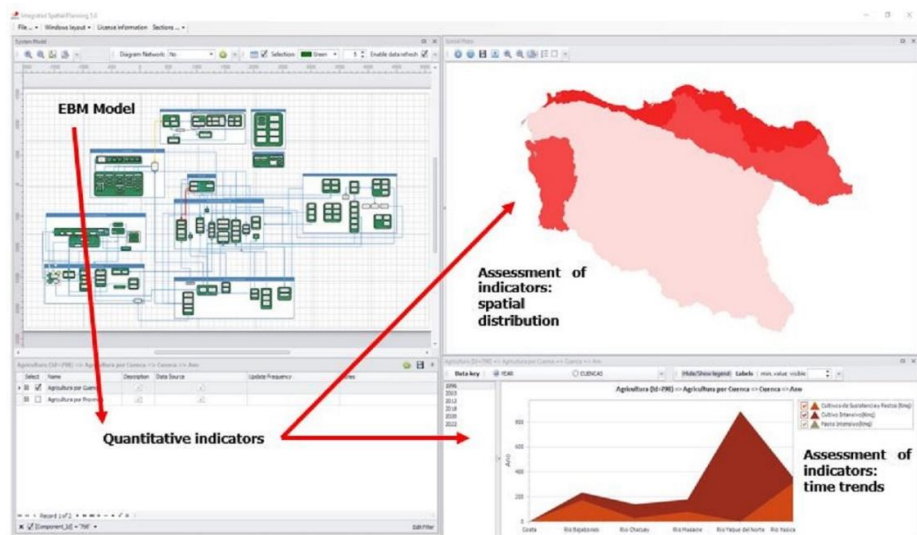
PROGES-ISP:  
Multi-screen  
software shared  
across all  
partners and  
local  
stakeholders  
through internet  
and cloud  
technologies



# Lesson learned

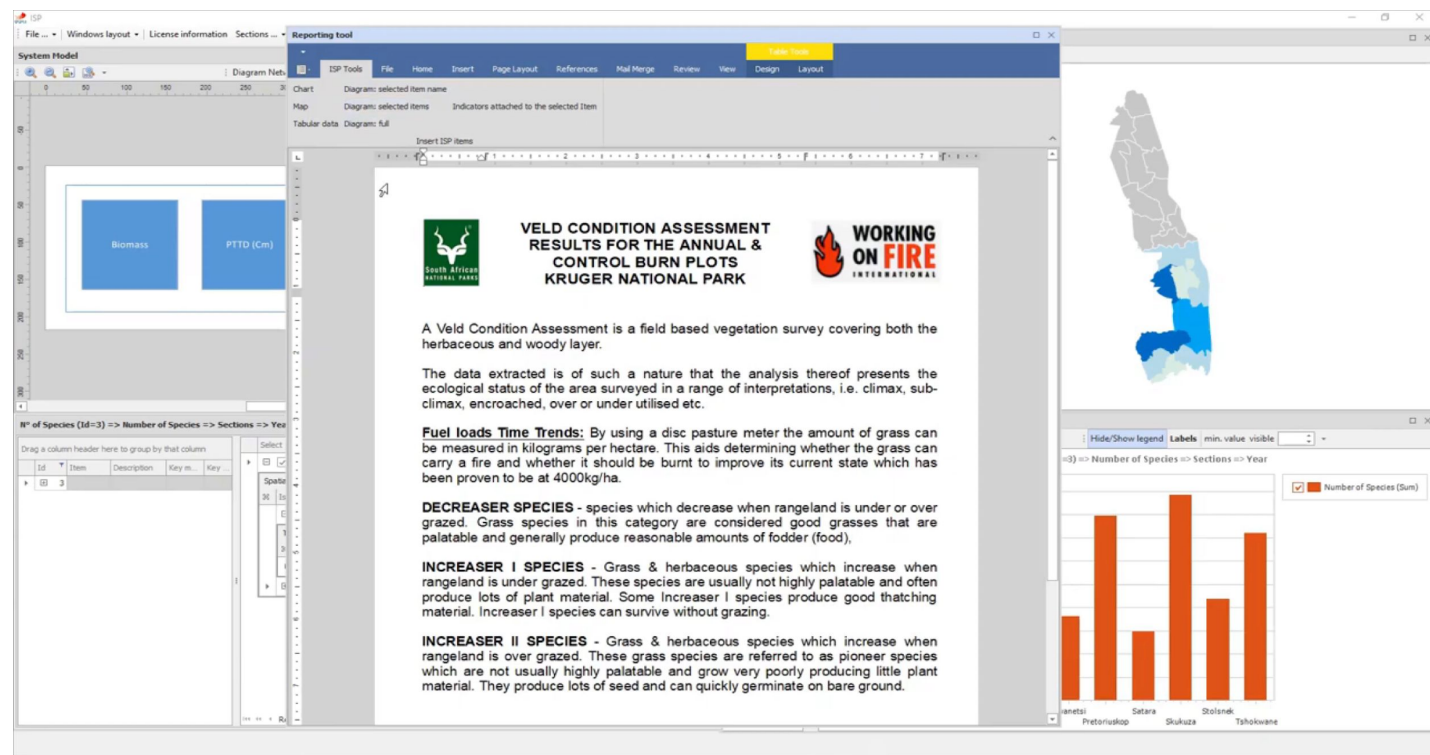
## Real time evidence based collective decision making

- Balanced: environmental, economic, social and recreational objectives
- Sharing strategic objectives and outcomes with the stakeholders



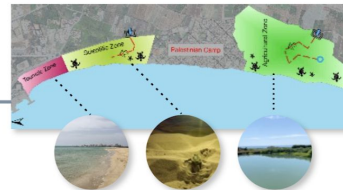
# Lesson learned

## Stakeholders decision's rationale captured into planning documents





FRAGILE FLORA ECOSYSTEM



TOURISM

# Tyre Coast Nature Reserve Lebanon

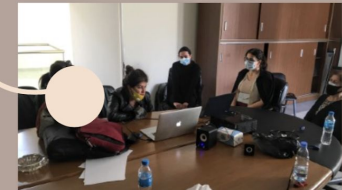
## Ecosystem-Based Integrated Coastal Zone Management Local Key Stakeholders Meeting at Tyre's Municipality

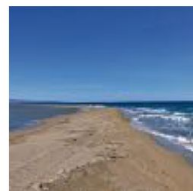
Multi-Stakeholders Working Group, First Workshop: March 19<sup>th</sup>, 2021



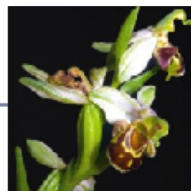
The meeting was attended by representatives from the local stakeholders: farmers community, fishermen and representatives from the tourism sector: summer beach huts, hotels and Airbnb hosts.

The participants shared data related to their practices that were defined for the EB-ICZM-DSS application.

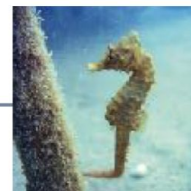




COASTAL AND MARINE  
BIOPHYSICAL SYSTEMS



FLORA / VEGETATION



FAUNA

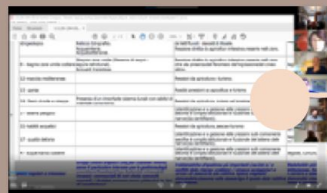
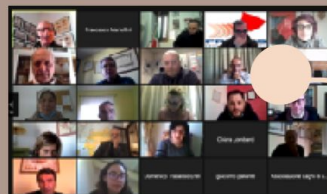


COASTAL INFRASTRUCTURES



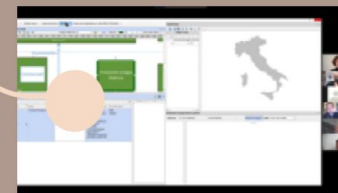
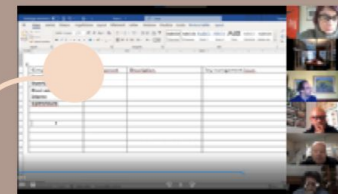
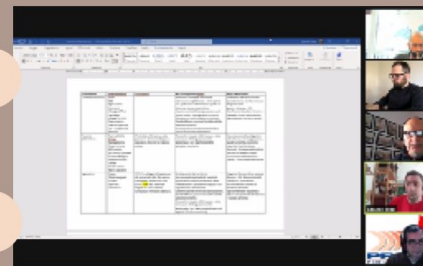
ECONOMIC ACTIVITIES

# Golfo di Corigliano Italy



Ecosystem Context Analysis: recognizing connections within and across ecological and human systems spanning across the project area

Multi-Stakeholders Working Group, First Workshop: February 25<sup>th</sup> - March 4<sup>th</sup>, 11<sup>th</sup>, 18<sup>th</sup> 2021



With the support of the tools provided by the project technical partner Proges the first workshop applied an integrated analysis and thematic scoping of the Gulf of Corigliano identifying and representing the existing key biophysical and socio-economic systems.

# Gulf of Aqaba Jordan



RESILIENCE



FISHING



TOURISM



POLLUTION



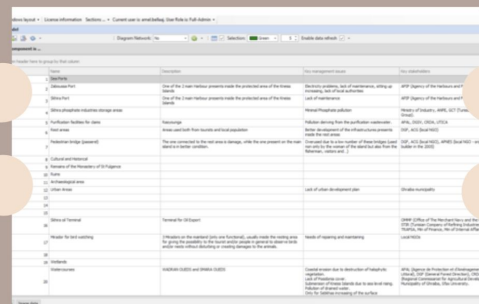
## Ecosystem-Based Integrated Coastal Zone Management Decision Support System application (EB4CZM-DSS) Multi-Stakeholders Working Group, First Workshop: March 2nd- 10th, 2021

ing has started. This meeting is being recorded. By joining, you are giving consent for this meeting to be recorded. [Privacy policy](#)

Component	Subcomponent	Description	Key management issues	Key stakeholders
Sea water				MSEA Industrial Registered Enterprises Scientific and monitoring Centres, Ben Husein Al-Hadla International Laboratories and Marine Science Station and Royal Science Society Jordan Marine Commission Private companies
	Industrial sea water	Southern area is industrial, the waters in the area are classified as industrial.	Cooling waters intake Outfalls cooling waters Desalination water intake and outfalls Incidental impacts in water quality (oil leakage waters) Liquid and solid waste from ships	
	Touristic sea water	Tourists open water and artificial tourists lagoons, included marinas.		



The participants developed the ecosystem context analysis recognizing connections, existing correlations and relationships within and across ecological and human systems spanning over the focused area. Actors, experts and stakeholders jointly identified key biophysical and socio-economic systems, assessed data availability and defined the spatial domain for the EB4CZM-DSS application.

Multi-Stakeholders Working Group, First Workshop: February 23<sup>th</sup> - 24<sup>th</sup>, 2021

The first workshop focused on the participatory thematic scoping for the EB-ICZM-DSS application in the Kneiss Islands Nature Reserve (Tunisia). Relevant actors and stakeholders jointly identify key biophysical and socio-economic systems, assess the related data availability, and define the spatial domain for the EB-ICZM-DSS application.

## Recommendation 1.4

Ensure that MPA needs are taken into account and integrated in coastal and marine spatial planning to reduce conservation and development conflicts.

# MED4EBM recommended actions

MPA planning integrating social and ecological dimension – planning involving all social sectors and private sector - from competing for resources toward cooperation

Align stakeholders understanding and define shared long term goals

Build knowledge-platforms for stakeholders to understand about impacts and shared management issues

Enhance co-management capacity where actors can contribute pro-actively

Tools & practices for sharing information, feedbacks and to understand change

## Recommendation 3.5

Improve collaboration among researchers and MPA staff to develop or update management plans and assess MPA management effectiveness, based on an interdisciplinary scientific understanding (socio-ecological systems) of the MPA and its objectives

# MED4EBM recommended actions

Establish permanent platforms for multi-disciplinary approach – blend science with management

MPAs are complex systems requiring inputs from different areas of expertise and knowledge across time – address change in time and issues

Land-ecology and marine-ecology to blend into an integrated management approach

Assess what works and disseminate – management based on results and evidence

## Recommendation 3.4

Harmonize all Mediterranean initiatives related to the standardization of social-ecological monitoring methods and management effectiveness assessment (e.g., the Barcelona Convention IMAP and the EU directive) and encourage the countries to adopt and institutionalize them to ensure their use by MPA managers and researchers.

# MED4EBM recommended actions

Cooperation between MPAs within a country and transboundary

Flow of knowledge, experiences, practices

Permanent Forums focusing on common issues and enhancing cooperation and collaboration

# Partnerships

Establishment of a permanent forum, based in Tarsia, Italy

Focus EBM for targeting information sharing / tools and methodologies for integrated management

Permanent centre for training and information about EBM

Target MPAs and the wider marine areas

Filling the gaps in EBM and ICZM in marine areas that have low or no protection schemes in place

Supporting local capacity development in applying EBM and ICZM

Helping policy makers to implement sustainable policies

Targeting local administrations, stakeholders and players involved in management of local coast



Amici della terra, Italy - [www.amicidellaterra.it](http://www.amicidellaterra.it)  
Mediterranean Forum for Ecosystem Based Management



الجمعية الملكية لحماية البيئة البحرية  
The Royal Marine Conservation Society  
JREDS

The Royal Marine Conservation Society JREDS, Jordan  
[www.jreds.org](http://www.jreds.org)



Tyre Coast Nature Reserve, Lebanon-[www.tcnr-leb.com](http://www.tcnr-leb.com)



INSTM

Institut National Des Sciences Et Technologie De La Mer, Tunis  
[www.instm.agrinet.tn](http://www.instm.agrinet.tn)



UNDP, Jordan  
[www.jo.undp.org](http://www.jo.undp.org)



PROGES, Italy  
[www.proges-sds.it](http://www.proges-sds.it)



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Project funded by the  
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REGIONE AUTONOMA DELLA SARDEGNA

MED4EBM



Mediterranean Forum for Applied Ecosystem-Based Management

Merci Thank you شكرا جزيلاً Grazie

<http://www.enicbcmmed.eu/projects/med4ebm>



محمية شاطئ  
صور الطبيعية  
Tyre Coast  
Nature Reserve

