

### **ANNEX 3 - OUTLOOK OF DOCUMENTAL RESOURCES**

<b>I.</b>	<b>Related to the Roadmap and to MedPAN</b>	<b>2</b>
<b>II.</b>	<b>Barcelona Convention and UNEP/MAP</b>	<b>5</b>
<b>III.</b>	<b>Convention on Biological Diversity</b>	<b>19</b>
<b>IV.</b>	<b>High Seas - Areas Beyond National Jurisdiction</b>	<b>23</b>
<b>V.</b>	<b>United Nations system</b>	<b>29</b>
<b>VI.</b>	<b>European Union</b>	<b>39</b>
<b>VII.</b>	<b>Other Regional Seas</b>	<b>45</b>
<b>VIII.</b>	<b>IUCN</b>	<b>55</b>
<b>IX.</b>	<b>Regional and international NGOs</b>	<b>60</b>
<b>X.</b>	<b>Climate change</b>	<b>66</b>
<b>XI.</b>	<b>Other relevant contributions</b>	<b>75</b>

## I. ROADMAP AND MedPAN RELATED:

### 1. 2012 Roadmap and Antalya Declaration: <http://www.medpan.org/en/the-roadmap-for-2020>

**Strategic Objective 3 – Develop a territorially and sectorially integrated governance of Med. MPAs while promoting the sharing of environmental and socio-economic benefits**

*(In Barcon Roadmap 2016: “Promote the sharing of environmental and socio-economic benefits of Mediterranean MPAs, and the MPAs integration into the broader context of sustainable use of the marine environment and the implementation of the ecosystem and marine spatial planning approaches”).*

MPA governance should be directed towards further involvement of stakeholders and further integration of MPAs into their surrounding territory. Also integrate other public policies using integrated ecosystem-based management and territorial planning (National, European and international policies levels).

Thus, institutional and operational synergies with other sectors (especially fisheries, river basin management, sea patrolling, taxation, tourism) should be developed on local, national or international levels, while highlighting the benefits for local communities (in particular those linked to the traditional activities of artisanal fishing and ecotourism). MPA co-management based on zoning should be systematically reinforced

The Economics of Ecosystems and Biodiversity approaches (TEEB) on marine issues and MPAs will support countries in implementing integrative approaches to MPA co-management. Institutions should regularly develop evaluations of ecosystem services and their value on a local, national and regional level. This information integrated into statistical systems, national and regional databases (MAPAMED) to help with a mapping of ecosystem services.

Mediterranean countries and European and international institutions should regularly identify and progressively replace subsidies which may be detrimental to marine and coastal environments. Test innovative "green" policies and procurement procedures, relevant to marine conservation and a "blue economy".

- Further involvement of stakeholders and integration into surrounding territory, and of other public policies using integrated ecosystem-based management and territorial planning (National, European and international policies levels).
- Removing barriers to the proper institutional functioning of MPAs.
- Institutional and operational synergies with other sectors (fisheries, river basin management, sea patrolling, taxation, tourism) on local, national or int'l levels
- Highlight the benefits for local communities (e.g. traditional fishing and ecotourism).
- MPA co-management based on zoning to be systematically reinforced.
- The Economics of Ecosystems and Biodiversity approaches (TEEB) on marine issues and MPAs will support countries in MPA co-management.
- Countries, European and international institutions should regularly identify and progressively replace subsidies which may be detrimental to marine and coastal environments.
- Test innovative "green" policies and procurement procedures, relevant to marine conservation and a "blue economy".

## Strategic Objective 4 - Increase the allocation of financial resources to establish and maintain an ecological network of effectively managed MPAs

*(In Barcon Roadmap 2016: "Ensure the stability of the system of Mediterranean MPAs by enhancing their financial sustainability").*

- The identification and analysis of MPAs financial needs/gaps.
  - A regular evaluation of funding schemes to improve the funding and diversification of financial resources.
  - New sustainable financial mechanisms (trust funds, pay for ecosystem services, earmarked taxes, etc.) to be tested and developed on a local, national and regional level (Initiative aiming at the contribution to the creation of a trust fund for Mediterranean MPAs was launched in 2013 by the Governments of France, Monaco and Tunisia).
  - The status of national and regional financing of MPAs should be regularly presented to the parties of the BarCon as an indicator of their compliance to the Aichi Target 20. Donors to be invited to support long term sustainable finance mechanisms. New donors should be identified and mobilised to support MPAs.
2. **MAPAMED:** An updated version will be provided to the consultant (the 2012 version is available at: <http://www.mapamed.org/>): *"Specific attributes: detailed information about the conservation area (governance, management, staff, budget, regulations, habitats and species...). These information are gathered using an online survey which has been sent last summer to MPA managers. You will find attached a Word copy of this survey so that you can have a detailed view of what information you are likely to find in the dataset as it is today. However, I draw your attention on the fact that among the 190 MPAs which have been contacted, only 80 have replied so far,"*
3. **MPA Status Reports 2012 & 2016:** <http://www.medpan.org/en/mediterranean-mpa-status> (Chloë, Marta and Bruno). This report will address:
- Legal framework (national, regional and international) regarding MPAs, and potential "strength" of the various protection status,
  - MPA coverage (% per country, per ecoregion, within/ beyond the 12 n.m. zone... and according to each type of designation),
  - Ecological coherence of the MPA system (representativity, proximity and connectivity mainly),
  - MPA management (capacity and "effectiveness").
4. **Financing.** Binet, T., Diazabakana, A., Hernandez, S. 2016. *Sustainable financing of Marine Protected Areas in the Mediterranean: a financial analysis*. Vertigo Lab, MedPAN, RAC/SPA, WWF Mediterranean. 114 pp.  
<http://www.medpan.org/documents/10180/0/Study+on+the+sustainable+financing+of+Mediterranean+MPAs/422b548e-3a2d-4b7d-95a3-c4b98c2132cd>  
 The study showed variability in the funding structure according to the level of development of MPAs. In the pioneer phase, MPAs are more dependent on national budgets than in the autonomous phase. For the latter, there is an increase in financial sources, in particular from the private sector. The study demonstrated the importance of human resources in the operating costs of MPAs at the local level. This may be even greater as voluntary contribution has hardly ever been estimated by MPAs and scientific support was often associated with project costs. MPA marine surface area has been identified as the main factor affecting human resource consumption and costs. The findings on resource mobilisation show an important role for Official Development Assistance (bilateral and multilateral ODA) in assisting countries in the establishment of a coherent and efficient framework

for an MPA network. EU funds play a predominant role for EU Member States. Cross-cutting issues (good practices in fisheries, activities aiming to fight invasive alien species, to reduce or avoid pollution, or implementing participative management plans and conservation agreements at the local level) are predominantly targeted by international cooperation (ODA bilateral and multilateral). The findings show high dependency on grants from international cooperation. Data from 14 countries studied show that total available resources for MPA systems in the region of nearly €52.8M per year. In the framework of the Optimal management scenario, show a total financing gap of €458M per year in the EU (investment costs included); the financing gap for the non-EU countries assessed under the optimal management scenario is estimated to be €17M in 2014 (needs (excluding investment) are covered at 15% by current revenues in these countries).

An effective MPA system is known to ensure the provision of market (fisheries, tourism & recreation, education, biodiversity) and non-market (regulation of coastal erosion, water quality, carbon sequestration, regulation of submersion, etc.) marine ecosystem services. It is thus key to consider the required investments to cover the financing gap to achieve the targets in the light of the benefits of such investments provided in terms of employment, preservation of Mediterranean natural assets for tourism, provision of ecological functions (such as water quality and reduction of coastal erosion) and the overall contribution to climate change mitigation (through the protection of seagrass beds) and adaptation (through increased resilience of coastal systems).

- Countries need to consolidate their public funding with a view to upgrading MPAs to the autonomous phase.
- Each international source of financing has formalized its own process of allocating financial resources, and such diversity requires a strong national capacity to respond to the specific requirements
- Marine Protected Areas have increased their financial resources by taking advantage of a drive toward climate change mitigation and adaptation in available funds. From current observation of ODA and the GEF, the nexus between climate change and biodiversity is causing an upward trend in total biodiversity-related aid.
- In view of the current situation, financing needs could be partly covered by local mechanisms, including local public support. In addition, innovative financing mechanisms should be developed: entrance and users fees, earmarking of charges collectable under the occupation of public land, etc.
- Regional cooperation should be strengthened to achieve more complementary and joint management, optimising the consumption of resources.
- National government budget decision-makers have no clear data on the needs, benefits, and cost-effectiveness of increasing MPA system investment.
- Assessment of Mediterranean MPA benefits should be pursued to justify investments. The contribution of Marine Protected Areas to the economy is still both poorly documented and poorly understood and, therefore, undervalued by decision makers. MPA management is thus viewed as a cost, rather than an investment.

## II. BARCELONA CONVENTION:

5. **The Barcelona Convention COP 19 final report** (including the Roadmap Decision) : [http://195.97.36.231/dbases/MEETING\\_DOCUMENTS/16IG22\\_28\\_ENG.pdf](http://195.97.36.231/dbases/MEETING_DOCUMENTS/16IG22_28_ENG.pdf)

The Barcelona Convention **COP 19 “Roadmap for a Comprehensive Coherent Network of Well-Managed MPAs to Achieve Aichi Target 11 in the Mediterranean”**.

Includes recommended actions that are fully in line with the orientations set in the main strategic documents of the MAP system, in particular the Mid-Term Strategy (MTS), the SAP BIO, the Ecosystem Approach (EcAp) process and the Mediterranean Strategy on Sustainable Development (MSSD). Furthermore, the biennial Programme of Work for 2016- 2017 fully takes into account the actions proposed in the Roadmap.

It welcomes:

- Resolution 69/292 related to the “Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction”, adopted by the UN General Assembly, on 19 June 2015.
- An initiative aiming at the contribution to the creation of a trust fund to contribute to enhancing Mediterranean MPAs launched in 2013 by the Governments of France, Monaco and Tunisia. This initiative was welcomed by Ministerial Message conveyed by the Ajaccio High-level Policy meeting organized in the framework of the IMPAC 3.

In preparing the draft Roadmap, SPA/RAC considered first the results of the 2012 Forum of Marine Protected Areas in the Mediterranean (Antalya, Turkey, 25-28 November 2012) and in particular the roadmap approved by the participants to the Forum, whose elaboration was based on a consultation process involving a wide range of stakeholders: MPA managers, scientists, decision- makers, IGOs, civil society, donors, etc. The Roadmap also takes into account the outcomes of relevant initiatives at global and regional levels, in particular the decisions adopted by international (e.g. CBD, Ramsar, UNCLOS, UNESCO) and regional (e.g. ACCOBAMS, GFCM) fora.

RAC/SPA also considered the results of three particularly relevant events: - The International Marine Protected Areas Congress (IMPAC 3, Marseilles and Ajaccio, France, October 2013); - The Mediterranean Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant marine Areas (EBSAs) (Malaga, Spain, April 2014); - The 6th IUCN World Parks Congress (Sidney, Australia, November 2014).

In addition, SPA/RAC took due account of the recommendations of the UNEP/MAP Secretariat’s Initial Gap Analysis on existing measures under the Barcelona Convention relevant to achieving or maintaining good environmental status of the Mediterranean Sea, in line with the Ecosystem targets, and of the recommendations of the UNEP/MAP Approach (UNEP(DEPI)/MED WG.401/5), which highlight the need for strengthened and more coordinated implementation efforts, to achieve the agreed regional EcAp targets.

- Objective 1: Strengthen networks of protected areas at national and Mediterranean levels, including in the high seas and in ABNJ, as a contribution to the relevant globally agreed goals and targets. In particular:
  - a) extension through the designation of new In order to meet Aichi Target 11, Mediterranean MPAs network or other effective area- areas, the expansion of existing areas, and the incorporation of areas benefiting from other types of protection measures; b) ecological representativity, through the selection of marine protected areas based on scientific information, which are to be identified within all marine areas, including within ABNJ; c) ecological connectivity, with the new areas strategically located to ensure that they are spatially distributed in an ecologically meaningful way; and d) geographical balance.
- Objective 2: Improve management. the network of Mediterranean MPAs through effective and equitable
- Objective 3: Promote the sharing of environmental and socio-economic benefits of Mediterranean MPAs, and the MPAs integration into the broader context of sustainable use of the marine environment and the implementation of the ecosystem and marine spatial planning approaches.
- Objective 4: Ensure the stability of the network of Mediterranean MPAs by enhancing their financial sustainability.

**Obj.1 Strengthen networks of protected areas at national and Mediterranean levels, including in the high seas and in ABNJ, as a contribution to the relevant globally agreed goals and targets.**

**NATIONAL Actions**

- |                         |  |
|-------------------------|--|
| 1.1. <b>Gap</b>         | Undertake, at national level, gap analysis to identify the ecosystems and other components of marine biodiversity that are under-represented in the existing MPA system.   |
| 1.2. <b>New MPAs</b>    | Identify and propose area-based conservation/management measures or candidate MPAs for listing in the regionally and globally recognized area-based management classifications, including, in particular, SPAMIs, GFCM's Fishery Restricted Areas (FRAs), UNESCO's Biosphere Reserves and World Heritage Sites. Make use amongst other sources, of the scientific information regarding the description of areas meeting EBSA criteria including the information in the EBSA repository and information-sharing mechanism for the implementation of this Road map. |
| 1.3. <b>EBSAs</b>       | Establish and implement national plans to formally designate and/or extend, as appropriate, MPAs and other area-based marine management measures to address under-representation identified by the gap analysis,   |
| 1.4. <b>Nat'l Plans</b> |  |

**REGIONAL Actions**

- |                            |  |
|----------------------------|--|
| 1.5. <b>Assist Gap</b>     | Disseminate technical tools for gap analysis and MPA system planning and facilitate exchange of experiences and best practices, and where necessary, provide assistance to national authorities on these issues              |
| 1.6. <b>Assist New MPA</b> | Offer assistance to national authorities and, where needed, facilitate the multilateral processes for the identification of potential MPA sites including in ABNJ, and where appropriate facilitating bilateral initiatives. |
| 1.7. <b>data base</b>      | Ensure the continued functioning, updating and improvement of a regional database of protected areas, including regional inventories of sites of conservation interest.  |
| 1.8. <b>Monitor</b>        | Facilitate the application of the existing compliance mechanisms to monitor the implementation of the MPA related measures adopted to meet the commitments taken by Mediterranean Governments.                               |

- Undertake by the end of 2019 an assessment of the status of the Mediterranean network of MPAs with the view of evaluating the progress made by the Mediterranean countries towards achieving the Aichi Target 11 (encouraging countries to notify the designation to the regional database MAPAMED )
- 1.9. [Assess 2019](#)

## **Obj.2 Improve the network of Mediterranean MPAs through effective and equitable management.**

### **NATIONAL**

- Review, and where necessary amend, existing institutional and legal systems applicable to MPAs. It is particularly important to (i) break down governance barriers that impede the adequate functioning of institutions and other bodies in charge of MPA management, (ii) establish institutional arrangements that ensure efficient surveillance and enforcement of legal measures, and (iii) promote participatory management in particular through the creation of consultation mechanisms at national and local level.
- 2.1. [Gov.& institut](#)
- Assess the effectiveness of the existing governance and management system for each MPA
- 2.2. [Assess effect](#)
- Ensure that for each MPA clear objectives and concrete measures, based on the best available knowledge and with appropriate stakeholder involvement, are prepared, adopted, implemented and revised when necessary (inclusive of measures such as zoning, monitoring, enforcement, research), and that all MPAs have adequate management teams in terms of skills and staff number.
- 2.3. [Good Mgmt](#)
- with neighbouring Contracting Parties in the development of joint mechanisms for the management of networks of MPAs, and MPAs extending over multiple jurisdictions and/or into ABNJ, also taking advantage from lessons learned in similar previous experiences
- 2.4. [ABNJ](#)

### **REGIONAL**

- Provide assistance to the relevant Contracting Parties in conducting evaluation of the effectiveness of MPA management.
- 2.5. [Assess effect](#)
- Strengthen the existing capacity building mechanisms for MPA managers, and promote their coordination into a regional capacity building system,
- 2.6. [Cap.Build](#)
- Facilitate the elaboration of management approaches for MPAs that promote harmonization and complementarities between MPAs.
- 2.7. [?](#)
- In order to ensure the effective management of transboundary MPAs, or MPAs extending into ABNJ, offer assistance to Contracting Parties to facilitate the needed multilateral processes, without prejudice to the rights, the present and future claims or legal views of any State relating to the United Nations Convention on the Law of the Sea (UNCLOS).
- 2.8. [ABNJ](#)

## **Promote the sharing of environmental and socio-economic benefits of Mediterranean MPAs, and the MPAs integration into the broader context of sustainable use of the marine environment and the**

## **Obj 3 implementation of the ecosystem and marine spatial planning approaches**

### **NATIONAL**

- Ensure conciliation between the conservation objectives and the requirements for the local economic and social development by establishing and implementing adequate measures, such as zoning systems
- 3.1. [Zoning](#)
- Promote cross-sectorial policies and mechanisms for integrating the MPA national strategies and policies with other human activity sectors, in particular fisheries and tourism, through the development of appropriate governance frameworks, including the related legal and institutional arrangements.
- 3.2. [Cross-sectors](#)
- Develop systems enabling civil society to engage effectively in MPA management
- 3.3. [Participation](#)

- Local** encourage the equitable sharing of social and economic benefits deriving from
- 3.4. **development** MPAs, including for poverty alleviation
- REGIONAL** development of guidelines and promoting exchange of experiences, in promoting the sharing of environmental and socio-economic benefits of Mediterranean MPAs
- 3.5. **EcAp, MSP** Facilitate, through technical and financial support, stakeholder networking initiatives at national and regional level
- 3.6. **Networking** Provide assistance to Mediterranean countries in integrating MPAs as key reference areas within the application of the Ecosystem Approach under the Barcelona Convention.
- 3.7. **EcAp, MSP**

**Obj 4 Ensure the stability of the network of Mediterranean MPAs by enhancing their financial sustainability.**

**NATIONAL**

- Review, and where necessary, amend existing relevant legal and institutional frameworks with the view of improving the governance of existing MPAs and boosting the creation of new MPAs to urgently increase, in the Mediterranean, the marine surface area that is protected and effectively managed.
- 4.1. **More MPAs** Assess the financial needs and gaps for MPAs and develop funding strategies, making use as appropriate of innovative funding approaches and ensuring a proper marketing of the services and benefits generated by MPAs.
- 4.2. **Assess \$ needs** Secure the financial resources necessary to the establishment of MPAs during their initial years;
- 4.3. **Finance new MPAs** Assist MPA managers in enhancing their fundraising capacities, in particular through the development of their business plans, by removing possible legal impediments discouraging or prohibiting autonomous fundraising by MPAs, establish national environmental funds and/or other mechanisms for supporting conservation actions and particularly MPAs creation and management
- 4.4. **Business plans**
- 4.5. **Trust Funds**

**REGIONAL**

- Assist countries to build national capacities for fundraising for MPAs through training activities, promoting exchange of experience and dissemination of information about best practices and innovative funding success in MPAs.
- 4.6. **Fundraise capacity** Invite funding agencies and donors to consider increasing up to appropriate levels the funding for MPAs in the five coming years (2016-2020)
- 4.7. **Donors** Facilitate, through coordination and technical assistance, fundraising for joint scientific surveys in Mediterranean high sea zones with the view of providing data for the establishment of SPAMIs, FRAs or the implementation of other relevant area-based conservation measures.
- 4.8. **ABNJ** Assist national authorities/MPA managers in carrying out specific (pilot) monitoring activities, in line with Integrated Monitoring and Assessment Programme, in order to assess the status of the MPAs.
- 4.9. **Monitoring**

6. **Reporting System**, Barcelona Convention: <http://bcrs.info-rac.org/infomap/bcrs/en> Login and Password provided by Rac/Spa. Few details here; most of the selected reports are textually included in the following Evaluation (see reference 7):



7. **Evaluation of the 2009 Regional Working Programme** for the Coastal and Marine Protected Areas in the Mediterranean Sea including the High Sea. Twelfth Meeting of Focal Points for Specially Protected Areas (Athens 2015). UNEP(DEPI)/MED WG.408/Inf.26. Chedly Rais and G. Notarbartolo (2015): [http://rac-spa.org/nfp12/documents/information/wg.408\\_inf26\\_eng.pdf](http://rac-spa.org/nfp12/documents/information/wg.408_inf26_eng.pdf).

In 2009, RAC/SPA prepared in consultation with the IUCN Centre for Mediterranean Cooperation, WWF-MedPo, MedPAN and ACCOBAMS the "Regional Working Programme for the Coastal and Marine Protected Areas in the Mediterranean Sea including the High Sea" (PoW). After its review by the Focal Points for SPA (Malta, June 2009), the Regional Working Programme was adopted by the Parties to the Barcelona Convention. The PoW included principles and approaches for "Designing Ecological Networks of MPAs in the Mediterranean Sea" and a series of activities proposed under the following four Elements: To assess the representativity and effectiveness of the existing Mediterranean network of marine and coastal protected areas / To make the Mediterranean network of marine and coastal protected areas more comprehensive and more representative of the ecological features of the region. / To improve the management of the Med coastal and MPAs / To strengthen the protected area governance systems and further adapt them to national and regional contexts. Most of the proposed activities were to be implemented at national level by the Contracting Parties to the Barcelona Convention. However the PoW included also activities to be implemented at regional level by the relevant International/Regional organisations.

As per the Implementation of the activities at national level, although the information is not available for all Mediterranean countries and for all the topics addressed by the PoW, the following general conclusions were drawn about the implementation of the four Elements of the PoW.

- Element 1: To assess the representativity and effectiveness of the existing Mediterranean network of marine and coastal protected areas;
- Element 2: To make the Mediterranean network of marine and coastal protected areas more comprehensive and more representative of the ecological features of the region: mencionan N2000, y las SPAMI en High Seas.
- Element 3: To improve the management of the Mediterranean marine and coastal protected areas: poca cosa; solo MedPAN with financial support from donor organizations, some MPs and some training initiatives.
- Element 4: To strengthen the protected area governance systems and further adapt them to national and regional contexts.

Most of the proposed activities were to be implemented at national level by the Contracting Parties to the Barcelona Convention. However the PoW included also activities to be implemented at regional level by the relevant International/Regional organisations.

The Report includes many annexes with the actual texts of the online reports by the BarCon Parties; based on these and in the MedPAN MPA Status 2012, this Report is not much detailed and presents general conclusions (based on the online reporting system to the BarCon: many countries enacted new regulations regarding protected areas providing a clear improvement; however, the involvement of local communities in the process of managing the protected areas remains very low or inexistent in many countries).

8. **Linkages between the 2016 BarCon Roadmap and the 2009 Regional Working Programme:**

[http://195.97.36.231/dbases/MembersArea/16IG22\\_COP19/InformationDocuments/English/IG22\\_Inf\\_20%20Evolution%20RWP.MCPA-RM.MPA\\_EN.pdf](http://195.97.36.231/dbases/MembersArea/16IG22_COP19/InformationDocuments/English/IG22_Inf_20%20Evolution%20RWP.MCPA-RM.MPA_EN.pdf)

*“Evolution and linkages between the “Regional Working Programme for the Coastal and Marine Protected Areas in the Mediterranean Sea including the High Sea” (2009) and the draft “Roadmap for a Comprehensive Coherent Network of Well-Managed MPAs to Achieve Aichi Target 11 in the Mediterranean” (2016) - UNEP(DEPI)/MED IG.22/Inf.20 - 19th Ordinary Meeting of the Contracting Parties to the BarCon, Athens, January 2016.*

<b>Regional Working Programme for the Coastal and Marine Protected Areas in the Mediterranean Sea including the High Sea (2009)</b>	<b>Roadmap for a Comprehensive Coherent Network of Well-Managed MPAs to Achieve Aichi Target 11 in the Mediterranean</b>	<b>COMMENTS</b>
Proposed activity 2.2: Strengthening of the Mediterranean network of marine and coastal protected areas through the creation of new protected areas, and where appropriate the extension of existing ones, in accordance with the results of the Activity 2.1 (Identification of priority conservation areas).	Suggested action 1.4) Establish and implement national plans to formally designate and/or extend, as appropriate, MPAs and other area-based marine management measures to address under-representation identified by the gap analysis, taking into account the engagement from Aichi Target 11. The elaboration of the national plans ...	the available evaluations...show that an important effort is still Mediterranean network of more representative of the ecological featur region....
Proposed activity 4.1: Evaluate the existing protected area governance types in the Mediterranean countries. Expected results: The protected areas governance systems analysed (strengths, weaknesses, lessons learned) and options for their improvement/strengthening evaluated. (Reg. & Intl. Org., CPs)	Suggested action 4.1) Review, and where necessary, amend existing relevant legal and institutional frameworks with the view of improving the governance of existing MPAs and boosting the creation of new MPAs to urgently increase, in the Mediterranean, the marine surface area that is protected and effectively managed. (CPs)	According to the information provided through the online reporting system to the Barcelona Convention and its Protocols, many countries enacted new regulations regarding protected areas providing a clear improvement in the MPAs governance systems. However, the activities recommended under the Regional Working Programme Element 4 regarding the evaluation of existing governance types of protected areas was not implemented. Furthermore, many countries (38%) have reported...

Includes comments about progress on each of the “Activities” with some more detail than the previous but uses almost the same phrases. Following the table, it includes the *“Added value in terms of scope and content: the Aichi Biodiversity Target 11”*, the *“Added value in terms of progress monitoring and timeline*

extension towards 2020” and the “Added value in terms of ensuring the stability of the system of Mediterranean MPAs by enhancing their financial sustainability”. It underlines improvements because the Roadmap (BarCon) includes the Aichi, e.g. Target 11 includes 4 novel concepts that are important to highlight:

- The addition of the areas of particular importance for ecosystem services (EBSAs-SPAMIs)
- The notion of equity;
- The notion of “other effective area-based conservation measures”; and
- The notion of “integration into the wider landscapes and seascapes”.

Also presents some conclusions; no recommendations.

#### **9. ICZM Protocol.** Mid-term Evaluation of the Action Plan for the Implementation of the ICZM Protocol for the Mediterranean (2012-2019). **Conclusion:**

PAP/RAC and the entire UNEP/MAP. In order to advance with it, PAP/RAC had to invest a lot of effort to mobilise external resources due to the scarcity of the MTF funds that all UNEP/MAP components have to cope with and the economic crisis that almost all CPs have been facing over the last couple of years. Without these external resources and without efficient partnership forged with other Mediterranean actors, these results could not have been possible. Not to forget the crucial role of NFPs – the more they are dynamic and responsive, the more PAP/RAC can be successful not only in their countries but in the regional endeavours as well. 111. remain a challenge for the future. To fill the gaps and to keep alive its actual activities PAP/RAC will continue to closely collaborate with the CPs and to assist them in mobilising external resources for the implementation of ICZM. Two project proposals are currently being processed: a joint Plan Bleu, PAP/RAC and SCP/RAC project proposal on Blue Economy recently submitted to the MAVA Foundation; and a Medium-Size Project Proposal for the Adriatic Area to be soon submitted for GEF funding. Let’s hope for the best! 112. countries will be eligible. This could be a new project for the GEF eligible countries, or some of the EU funding instruments for the Member-States or the cross-border co-operation. To be fully prepared for these opportunities and to be able to react quickly, we invite you to share with us your priorities and preferences for action with regard to ICZM activities they would like to implement in the remaining period covered by the Action Plan. However, according to our experience and feedbacks from the first half of the Action Plan implementation period, we can already make same suggestions:

1. The implementation of the Action Plan has been and remains quite a challenge for all: CPs, As shown in the previous chapters, good progress has been made. What could not be done will Let’s also hope that new opportunities will appear soon to prepare proposals in which other We hope that this document can be a source of inspiration for the CPs while considering the An additional effort would be needed by the CPs to reach the objective of the full ratification of the ICZM Protocol. In this, we invite them to ask for assistance with technical explanations, or to simply use the documents already produced. This practice has already yielded results in some countries.
2. In this document, only the activities led within UNEP/MAP are reported; we shall report on the others once we officially learn about them from the operational part of the reporting format for ICZM, e.g. when it becomes the obligation for the CPs. Regular reporting on the ICZM Protocol is crucial to know the progress made with regard to its implementation but it is also a valuable source of information for PAP/RAC and UNEP/MAP on the gaps to be filled-in and the needs of the CPs.
3. Given the proven usefulness of CAMPs and the interest of the countries for this kind of activity, CAMPs and similar ICZM demonstration projects will remain a core instrument for the implementation of the Action Plan, i.e. the mainstreaming of the ICZM principles and the improvement of the coastal management practice.

4. The ever growing competition for the use of the marine space makes it necessary to design the future CAMP and other ICZM projects in a way to include a strong sea-use planning component and in particular to explore the land and sea interactions including in terms of uses.
5. Owing to the projects implemented at the local level, the ICZM has reached its maturity and it is time now to systematically scale it up as the strategic option. Therefore, and with the objective of fulfilling the relative Action Plan objective, the CPs are invited to adopt national strategies for ICZM reflecting the provisions of the Protocol. PAP/RAC will try and mobilise human and financial resources to accompany them in this endeavor if the interest and political will are ensured and clearly stated.
6. ICZM strategies can be an excellent management instrument for reaching sustainability in coastal zones. Therefore, they find their place within or in close relation with the strategies for sustainable development. This is to be ensured first at the Mediterranean level through the MSSD 2.0 and then to be reflected at the national level. The responsibility for both lies on the CPs but PAP/RAC and UNEP/MAP are aware of their important role in providing the support needed.
7. ICZM finds its place and role in two other major UNEP/MAP processes, namely EcAp and Regional Climate Change Adaptation Framework. With its integrative methods and tools, it offers the most operational management mechanism for implementing and reaching the objectives of both.
8. The Mediterranean governance on ICZM is crucial for its success. A combination of elements developed in previous or on-going projects (PEGASO, "MedPartnership" and "ClimVar & ICZM") and the initiative promoted mainly by the recent CAMPs towards the establishment of an official network can make an important step forward in boosting the regional governance mechanism.

We are optimistic that even in the future the positive trend in the implementation of the Action Plan will continue. The critical mass of people, knowledge and experience is constantly growing and, if economic and political situation is to improve, we believe that the CPs will have more resources and energy to dedicate to the enhancement of the management of the precious coastal and marine space.

## 10. UNEP/MAP Mid-Term Strategy 2016-2021

**Vision:** *"A healthy Mediterranean with marine and coastal ecosystems that are productive and biologically diverse contributing to sustainable development for the benefit of present and future generations".*

**Objectives:** the following seven Objectives are set out for governance:

1. To strengthen the regional and national governance mechanisms;
2. To mobilize resources
3. To strengthen capacity for the implementation of and compliance with the Barcelona Convention, its Protocols and the adopted Strategies and Action Plans;
4. To strengthen synergies, complementarities, and collaboration among international and regional partners and organizations active in the Mediterranean region;
5. To enhance stakeholders' participation and outreach;
6. To deliver knowledge-based assessments of the Mediterranean environment and scenario development for informed decision-making and stakeholder work; and
7. To ensure the visibility of the MAP/Barcelona Convention, its role and achievements.

The MTS "Biodiversity and Ecosystems" core theme will focus on supporting their implementation, respectively of (selection of points):

- The "Regional Working Programme for the Coastal and Marine Protected Areas in the Mediterranean Sea including the High Sea", and the supporting "Roadmap for a Comprehensive,

Coherent Network of Well-Managed MPAs to Achieve Aichi Target 11 in the Mediterranean" in close collaboration with competent regional and national organisations as well as NGOs and relevant stakeholders';

- Develop and implement, as a high priority, in a coordinated manner, and where appropriate jointly, their national monitoring programme to assess progress towards GES with regard to MAP EcAp-based ecological objectives related to biodiversity, non-indigenous species and food webs closely interlinked with the relevant work under the Regional Action Plans for the conservation of Mediterranean threatened and endangered species and key habitats adopted in the framework of the Barcelona Convention's SPA/BD Protocol; and
- Implement the "Strategic Action Programme for the Conservation of Biological Biodiversity in the Mediterranean Region" (SAP BIO) regional and national Priority Actions for the period 2014-2020, as well as the SAP BIO related National Action Plans (NAPs).
- To protect, preserve and manage in a sustainable and environmentally sound way areas of particular natural or cultural value notably by the establishment of specially protected areas;
- To provide innovative services and products contributing to the conservation and sustainable management of biodiversity and ecosystems (SCP); 4. To strengthen technical capacities of businesses, entrepreneurs, financing agents, and civil society organizations to implement SCP solutions contributing to the conservation of biodiversity and ecosystems (SCP).

The indicative list of potential Partners for and Indicative Key Outputs could include: CBD, FAO, CMS, IMO, UNESCO, CITES, AEWA, ICCAT, Ramsar Convention, WCMC, EU, UfM, ACCOBAMS, GFCM, Bern Convention, OSPAR, HELCOM, EEA, MedWet, Tour du Valat, IUCN, WWF, BirdLife, MedPAN, MEDASSET, MedMarAvis, Global Ocean Forum, ICES, CIESM, Conservatoire du Littoral, The Economics of Ecosystems and Biodiversity (TEEB), Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), "Partners" and "Associates" to the Action Plans for the conservation of threatened and endangered species and key habitats, Research institutes and universities. the implementation of the above Strategic Outcomes.

- 3.4.1. Monitoring programmes for key species and habitats as invasive species, as provided for and implemented, including on the effectiveness coastal protected areas, and on climate change impacts.
- 3.4.3 EcAp common indicators on biodiversity and non-indigenous species monitored through IMAP in MPAs and SPAMIs, and relevant data sets established.
- 3.4.4 Inventory of vulnerable and fragile coastal and marine ecosystems and assessment of sensitivity and adaptive capacities of coastal and marine ecosystems to changes in sea conditions as well as of the role of services they provide developed.
- 3.5.1 Capacity management of marine and coastal protected areas, to the conservation and monitoring of endangered and threatened coastal and marine species and key habitats, and to monitoring issues dealing with climate change and biodiversity developed and implemented, including pilots MPA/SPAMI establishment and implementation.
- 3.5.2 Training and awareness-raising programmes on SCP solutions contributing to the conservation of the ecosystems and biodiversity delivered to businesses, entrepreneurs, financial institutions and civil society.
- 3.6.1 Joint strategies ecosystem conservation developed, by taking into account NAPs in cooperation with relevant partner global and regional levels.
- 3.6.2 Business networks to disseminate SCP solutions contributing to biodiversity and ecosystems conservation coordinated through adequate mechanisms.
- 3.7.1. Coordination with the ongoing process of an Implementing Agreement on BBNJ marine genetic resources, marine protected areas BNJ, and SIA).
- 3.4 Monitoring, inventory and assessment of biodiversity with focus on endangered and threatened species, non- indigenous species and key habitats.

**11. IMAP 2015** - Draft Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP) - Is a key step of EcAp (**Ecosystem Approach**) **NO** Draft IMAP builds on:

- Barcelona Convention and its Protocols Monitoring obligations
- EcAp-based Ecological Objectives of UNEP/MAP (COP17)
- Decision IG. 21/3 (COP 18 EcAp Decision);
- Ongoing monitoring and assessment practice of CPs;
- Delivered in full consultation with CPs (CORMON groups, Component FPs, EcAp CG and online expert groups),
- Best practices of other RSCs; regional and international bodies, including MSFD CIS.

First meeting of the Regional Seas Indicators Working Group. Istanbul, 23 October 2015. Has developed indicators for some of its integrated Good Environmental Status and Targets indicators are organized according to EcAp EO – Ecological Objectives, but not yet for the EO 8 *“Coastal ecosystems and landscapes The natural dynamics of coastal areas are maintained and coastal ecosystems and landscapes are preserved”*.

**12. Mediterranean Strategy for Sustainable Development 2016-2025 - Investing in environmental sustainability to achieve social and economic development.**

MSSD - 2016-2025 Sustainable Development Strategy for the Mediterranean in line with the adaptation of Sustainable Development Goals (SDGs) in the Mediterranean region - The MSSD 2016-2025 is the result of two years of intense collaboration within the MAP system; it was adopted by the Contracting Parties to the Barcelona Convention, at the 19th meeting (COP19) held in Athens (Greece) from 9 to 12 February 2016.

**Vision:** *“A prosperous and peaceful Mediterranean region in which people enjoy a high quality of life and where sustainable development takes place within the carrying capacity of healthy ecosystems. This is achieved through common objectives, strong involvement of all stakeholders, cooperation, solidarity, equity and participatory governance”*.

Objectives:

1. Ensuring sustainable development in marine and coastal areas;
2. Promoting resource management, food production and food security through sustainable forms of rural development;
3. Planning and managing sustainable Mediterranean cities.
4. Addressing climate change as a priority issue for the Mediterranean;
5. Transition towards a green and blue economy;
6. Improving governance in support of sustainable development. Addressing climate change as a priority issue for the Mediterranean;

**Climate Change:** Objective 4: Addressing climate change as a priority issue for the Mediterranean Climate variability and change is evident in the Mediterranean; the consequences of climate change are expected to worsen already critical situations present in the region. The Strategy calls for progress towards a green, low-carbon and climate-resilient Mediterranean region, promoting complementary strategic directions, as follows: Increase scientific knowledge, raise awareness, and develop technical capacities to deal with climate change and ensure informed decision-making at all levels, recognising and protecting the climate adaptation and mitigation services of natural ecosystems; Accelerate the uptake of climate smart and climate resilient responses; Leverage existing and emerging climate finance mechanisms, including international and domestic instruments, and enhance the engagement of the private and finance sectors; Encourage



institutional, policy and legal reforms for the effective mainstreaming of climate change responses into national and local development frameworks, particularly in the energy sector. The Strategy is complemented by the UNEP/MAP Regional Climate Change Adaptation Framework.

**Institutional:** Putting in place adequate institutional structures is a key priority in providing for effective implementation of the Strategy. The Strategy in this area rests on two pillars: Put in place or strengthen structures for sustainable development implementation at national and regional scale, and ensuring their adequate resourcing; and, Establish regional processes for the implementation and monitoring of the Strategy.

**Governance:** Objective 6. Improving governance in support of sustainable development Governance is a crosscutting objective and concerns the inclusion of non-state actors in decision-making processes, using new forms of cooperation arrangements. Regional challenges for environmental governance include fragmentation of responsibility, uncoordinated and non-results-based planning and implementation, as well as weak human and financial resources in the public sector, particularly at the local level. The Strategy for improving environmental governance in the Mediterranean rests on five pillars: Enhance international dialogue and cooperation, including on emergency-preparedness; Promote stakeholder engagement to secure inclusive processes and integrity in decision-making; Promote implementation and compliance with environmental obligations and agreements, including through policy coherence based on inter-ministerial coordination; Promote education and research; and, Enhance regional capabilities for information management.

**Monitoring:** A comprehensive monitoring system and relevant indicators are necessary for the implementation of the Strategy. Two forms of monitoring are required, both the follow-up of the implementation of the actions recommended in the Strategy, such as the number of countries implementing an action, and the progress of the wider sustainable development issues, such as the reduction of greenhouse gas emissions, for instance. While both are relevant for monitoring the implementation of the Strategy, the indicators and approaches are different. Therefore, the regular monitoring of the Strategy will be developed through the establishment of a dashboard of sustainability indicators populated for the Mediterranean.

### 13. BarCon Decision IG.22/6 Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas

#### Recalling:

- The 19 Meeting of the Contracting Parties Environment and the Coastal Region of the Mediterranean, hereinafter referred to as the Barcelona Convention, th to the Convention for the Protection of the Marine especially its provisions on the protection of the coastal zone, of related economic activities and of specific coastal ecosystems, on the prevention, response to natural hazards and on the prevention and mitigation and adaptation measures to address the effects of climate change, in particular on natural disasters, land-sea interactions and coastal erosion;
- Recalling the Protocol on Integrated Coastal Zone Management in the Mediterranean and priority field of Action relating to the adaptation to the effects of climate change;
- Recalling the Mediterranean Strategy for Sustainable Development (MSSD) and especially in Cairo (2009) encouraged “the development of an action oriented regional approach for adaptation” and called on Contracting Parties “to implement adaptation measures on an urgent basis with the view to strengthening the resilience of the Mediterranean region in the face of climate change”;

- Recalling that the 13 Meeting of the Mediterranean Commission on Sustainable Development (Cairo, 2009) encouraged “the development of an action oriented regional approach for adaptation” and called on Contracting Parties “to implement adaptation measures on an urgent basis with the view to strengthening the resilience of the Mediterranean region in the face of climate change”;
- Recalling the Marrakesh Declaration (Marrakesh, Morocco, November 2009) which recognized the need to “Promote Mediterranean cooperation to combat the effects of climate change in the region and enhance the institutional mechanisms” and to “Implement effective coordination to ensure the integration of climate change issues into development policies with the aim of achieving the Millennium Development Goals and the objectives of the MSSD, and ensure the strengthening of cooperation for the sharing of experience in the field of surveillance (early-warning systems) and the development and implementation of adaptation and risk-management strategies”;
- Recalling the UNEP/MAP Mid-Term Strategy 2016-2021, which makes climate change adaptation a cross-cutting theme;
- Recognising the importance of developing appropriate and integrated plans for coastal zone management as set out in Article 4, paragraph 1(e), of the United Nations Framework Convention on Climate Change;
- Concerned about the findings of the Assessment Report of the Intergovernmental Panel on climate change;
- Recalling the support expressed to the development of the Regional Climate Change Adaptation Framework by the Union for the Mediterranean (UfM) through the Ministerial Declarations taken at their Meeting on Environment and Climate Change (Athens, Greece, May 2014) and on Blue Economy (Brussels, Belgium, 17 November 2015) respectively, and the conclusions of the three UfM Climate Change Expert Group Meetings; Having considered the report of the 16 Meeting of the MCSD (Marrakesh, Morocco, June 2015), which acknowledged the quality and the relevance of the draft Regional Climate Change Adaptation Framework, and recognized its importance and the need for such an instrument.

#### Climate change: **Background** –

The Mediterranean Changing Climate Climate change poses significant challenges to the Mediterranean countries and is expected to worsen already acute situations present in the region. Essential resources like fresh water, soil, agricultural production and fish provisions may become endangered while coastal communities, ecosystems and infrastructure will be challenged by increased physical risks. More importantly, human lives may become endangered, health risks increased and even stability compromised in a changing climate. A Mediterranean-wide response to these risks should reduce the vulnerability and exposure of the region’s society, economy and ecosystems to climate-related hazards, and increase the overall resilience of the Mediterranean marine and coastal areas.

#### The Region’s climate is already changing

Climate variability and change is becoming increasingly evident in the Mediterranean. According to observations and studies referenced in the recent IPCC Fifth Assessment Report (AR5) and in IPCC’s SREX Report, in recent decades, summer heat waves’ intensity, number, and length have increased alongside extreme precipitation events and soil dryness. Major increases have been observed in warm temperature extremes. The shallow waters of the Mediterranean Sea have already warmed by almost 1°C since the 1980s. Trends of decreasing precipitation and discharge indicate a trend toward increased freshwater deficits. The Mediterranean also exhibits variability regarding the observed sea level rise. According to the latest EEA indicators assessment Mediterranean Sea there are areas with increases of more than 6 mm/year, and with decreases of more than -4 mm/year. 8 9 , in the 10



### Projections for the future

The IPCC AR5 considers the Mediterranean Region as “highly vulnerable to climate change” and states that it “will suffer multiple stresses and systemic failures due to climate changes”. Different sub-regions of the Mediterranean will witness different changes to their climate. On average however for the whole Region, estimates mentioned in the IPCC AR5 for the medium-low emissions scenario (RCP 4.5) and for the period 2081-2100 compared to 1986-2005 include an increase in surface mean air temperature of 2-4 C, 10-20% decreases in mean annual precipitation, increased risk of desertification, soil degradation, an increase in duration and intensity of droughts, summer heat-waves and heavy precipitation events, changes in species composition, increase of alien species, habitat losses and agricultural and forests production losses.

Sea level rise in the Mediterranean Sea involves local as well as global contributions. Thus multi-decadal regional projections involve larger uncertainties than those for the global ocean. A rise of 0.4-0.5m is projected for most of the Mediterranean under IPCC AR5's medium-low emission scenario RCP 4.5. The effect of sea level rise due to global warming is more important in most of the Mediterranean Sea where, due to the small tidal range, coastal infrastructure and coastal communities are located closer to mean sea level. In addition, vertical land movements caused by tectonic as well as other causes pose additional risks for such areas

### Overview of expected climate change-related risks

13. Climate change is expected to apply additional stresses on ecosystems and socioeconomic sectors and systems by modifying land degradation rates and the recurrence of droughts, floods and other extreme climate events, as well as through changes in temperatures, in the precipitation regime and in the level as well as the acidity of the sea.

14. Natural and managed resources and systems: The Mediterranean region is among the richest in biodiversity of global importance. However, many of its ecosystems have already been weakened by pollution, overexploitation, fragmentation of habitats, and biological invasions. Such stresses are expected to be amplified under climate change. The composition of most of the present marine and coastal ecosystems will probably change and there will be a greater risk of extinction of species, especially those with a restricted climatic distribution, those that need highly specific habitats and/or those small populations which are naturally more vulnerable to modifications in their habitats. Climate change is also expected to amplify biological invasions and proliferation of pathogens and diseases, fostered by the rise in temperature of the marine waters time, sea acidification is currently occurring at an unprecedented rate, subjecting some marine organisms to an additional, and worsening, environmental stress already subject to various interacting pressures such as rapid population growth, urbanization, tourism, alongside environmental degradation. These stresses would be multiplied under climate change because of projected declines in precipitation and runoff, and depletion of groundwater resources. Agriculture in the coastal zones will be affected by increased temperatures and land degradation, and reduced water availability, with significant decreases in some crop yields which could reach alarming levels under high emissions scenarios, threatening food security especially for poor communities. Changes in the geographical distribution of wild fish stocks can lead to possible decreased catch potential for some species. Climate change can also influence where aquaculture is possible, which species are raised, and the efficiency of the production. The coastal zones, which face high risks due to sea-level rise, host most of one third of the world tourism that visit Mediterranean countries. The region's coastal systems and low-lying areas would be subject to submergence and erosion due to increased sea-level rise and sea flood surges. Coastal aquifers, already overexploited, would become increasingly threatened by salt water.

Strategic Objective 1: Appropriate institutional and policy frameworks, increased awareness and stakeholder engagement, and enhanced capacity building and cooperation

- 1.1: Enhancing awareness and engagement of key stakeholders on climate adaptation
- 1.2: Promoting adequate institutional and policy frameworks
- 1.4: Improving implementation and effectiveness of adaptation policies through monitoring and reviewing progress
- 1.5: Integrating climate adaptation into local plans for the protection and management of areas of special interest

Strategic Objective 2: Development of best practices (including low regret measures) for effective and sustainable adaptation to climate change impacts

- 2.1: Identifying adaptation needs and best practices
- 2.2: Mainstreaming, exchanging and adopting best practices

Strategic Objective 3: Access to existing and emerging finance mechanisms relevant to climate change adaptation, including international and domestic instruments

- 3.1: Prioritizing public spending relative to climate adaptation and mobilizing national sources of climate finance
- 3.2: Accessing international financing
- 3.3: Building alliances with the banking and insurance sectors

Strategic Objective 4: Better informed decision-making through research and scientific cooperation and availability and use of reliable data, information and tools

- 4.1: Understanding of the vulnerability of natural and socioeconomic systems and sectors and of possible impacts
- 4.2: Building capacities for and promoting the use of vulnerability and risk assessment at regional to local levels
- 4.3: Strengthening science-policy interface and accessibility of related knowledge
- 4.4: Developing regional climate information at a resolution suitable for adaptation planning

Recommendations (useful for MPAs):

- Development of best practices (including low regret measures) for effective and sustainable adaptation to climate change impacts:
- Identifying adaptation needs and best practices
- Mainstreaming, exchanging and adopting best practices
- Access to existing and emerging finance mechanisms relevant to climate change adaptation, including international and domestic instruments:
  - 3.1. Prioritizing public spending relative to climate adaptation and mobilizing national sources of climate finance
  - 3.2. Accessing international financing
  - 3.3. Building alliances with the banking and insurance sectors
- 4. Better informed decision-making through research and scientific cooperation and availability and use of reliable data, information and tools:
  - 4.1. Understanding of the vulnerability of natural and socioeconomic systems and sectors
  - 4.2. Building capacities for and promoting the use of vulnerability and risk assessment at regional to local levels
  - 4.3. Strengthening Science-policy interface and accessibility of related knowledge
  - 4.4. Developing Regional climate information at a resolution suitable for adaptation planning

### III. CONVENTION ON BIOLOGICAL DIVERSITY

#### 14. The Aichi Target 11:

Parties to the Convention on Biological Diversity agreed in 2010 on a number of biodiversity targets, the most relevant of which in the field of protected areas is Aichi Target 11: “By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape.” At the moment – exactly in mid way between 2010 and 2020 - areas subjected to formal protection cover a mere 4.56% of the Mediterranean (this figure would be reduced to 1.08% without the Pelagos Sanctuary). However, it cannot be argued that such 4.56% surface is entirely “effectively and equitably managed” (from Rais and Nottabartolo 2015).

*“By 2020, 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are to be conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures.”*

15. **CBD Aichi Indicators** for the strategic plan for biodiversity 2011-2020; UNEP/CBD/SBSTTA/19/5 Nov2015. <https://www.cbd.int/sp/indicators/> list of over 100 indicators for the 20 BD targets of Aichi 2020. Those relevant for the Med Sea and the RoadMap (in Target 11):

- % marine and coastal areas covered by protected areas;
- Coverage of protected areas (marine and coastal) (proposed indicator for SDG target 14.5)
- Protected area coverage of Key Biodiversity Areas (including Important Bird and Biodiversity Areas, Alliance for Zero Extinction sites)
- Protected Area Representativeness Index
- Management effectiveness of protected areas
- Trends in protected area funding
- Protected Area Connectedness Index

#### 16. Sustainable Ocean Initiative (SOI) - CBD Action Plan 2015-2020:

<https://www.cbd.int/doc/meetings/mar/soiom-2014-02/official/soiom-2014-02-actionplan-en.pdf>

Based in CBD COP 10, aims at creating partnerships, exchanges, training, and coordinate donors. The *Sustainable Ocean Initiative (SOI)* was born at the margins of COP 10, through the leadership of Japan, COP 10 Presidency, and in collaboration with various partners who were willing to provide the necessary expertise, technical and financial resources.

*The Sustainable Ocean Initiative* aims to provide a global platform to build partnerships and enhance capacity to achieve the Aichi Biodiversity Targets related to marine and coastal biodiversity in a holistic manner by:

- Facilitating the sharing and exchange of knowledge, information, experiences and practices;
- Creating partnerships that can provide targeted capacity-building and technical assistance in support of on-the-ground implementation priorities;
- Enhancing interactive communication among global policy, science and local stakeholders;
- Monitoring progress on Aichi Biodiversity Targets related to marine and coastal biodiversity;
- Developing partnerships among different sectors and stakeholders at local, regional and global scales;
- Working together to achieve a balance between the conservation and sustainable use of marine biodiversity, and promoting flexible and diverse approaches towards this end.

17. **SBSTTA 19 Recommendation XIX/3** (2/5 November 2015 - Montreal, Canada). Tools to evaluate the effectiveness of policy instruments for the implementation of the Strategic Plan for Biodiversity 2011-2020 - *Recommends* that the Conference of the Parties at its thirteenth meeting:

- (a) Encourage Parties to undertake evaluations of the effectiveness of measures undertaken to implement the Strategic Plan for Biodiversity 2011-2020, to document this experience, including the methodologies applied, to identify lessons learned, and to provide this information to the Executive Secretary, including through their sixth national report.

<https://www.cbd.int/kb/record/recommendation/13423?RecordType=recommendation>

18. **Ecologically or Biologically Significant Areas EBSAs:**

<https://www.cbd.int/doc/?meeting=EBSAWS-2014-03>

In 2006, in response to the Johannesburg Plan of Implementation call to establish protected areas globally, the Convention on Biological Diversity (CBD) started to develop and apply criteria to describe and designate Ecologically or Biologically Significant Marine Areas (EBSAs) in the world's oceans, which will, inter alia, support the nations' 2010 commitment to achieve the Aichi Biodiversity Targets by 2020 (see 1.b, below). EBSAs are special marine areas that serve important purposes, to support the healthy functioning of oceans and the many services that they provide. EBSAs are determined on the basis of seven Site Identification scientific criteria (annex I, decision IX/20)

1. Uniqueness or Rarity
2. Special importance for life history stages of species
3. Importance for threatened, endangered or declining species and/or habitats
4. Vulnerability, Fragility, Sensitivity, or Slow recovery
5. Biological Productivity
6. Biological Diversity
7. Naturalness

At its latest Conference of Parties (CoP12, Korea, October 2014), the CBD formally adopted 15 EBSAs in the Mediterranean region, based on the recommendations by a workshop organised by CBD in Malaga, Spain, in March 2014 (in which 17 EBSAs were recommended). Important Marine Mammal Areas (IMMAs), "discrete portions of habitat, important for one or more marine mammal species, which have the potential to be delineated and managed for conservation", are a recent initiative under the aegis of the IUCN Marine Mammal Protected Areas Task Force, intended to support the CBD EBSA process by facilitating the inclusion of the marine mammal element in conservation considerations.

The CBD COP 10 encouraged Parties, other Governments and competent intergovernmental organizations to cooperate collectively or on a regional or subregional basis, to identify and adopt appropriate measures for conservation and sustainable use in relation to EBSAs, including by establishing representative networks of marine protected areas in accordance with international law, including the United Nations Convention on the Law of the Sea, and based on best scientific information available, and to inform the relevant processes within the UNGA.

- The decision emphasized that the identification of EBSAs should use the best available scientific and technical information and, as appropriate, integrate the traditional scientific, technical, and technological knowledge of indigenous and local communities,
- In this decision, CBD COP 10 also called for capacity building to support the application of the EBSA criteria. In this regard, the COP invited the Global Environment Facility and other donors and funding agencies to extend support for capacity-building to developing countries... in order to identify EBSAs, and develop appropriate protection measures in these areas (paragraph 38).

19. **EBSAs in SBSTTA 20** –Marine and coastal biodiversity: ecologically or biologically significant marine areas UNEP/CBD/SBSTTA/20/REC/XX/3. Canada. April 2016.

Improving data compilation and synthesis and application of the EBSA criteria, encourages Parties to Coordinating with experts, relevant scientific institutions and regional organizations, e.g. through EBSA preparatory meetings, to provide scientific input to EBSA regional or subregional workshops and/or national exercises on the description of EBSAs; facilitating EBSA training opportunities, at least two to three months prior to the regional workshops; Engaging relevant United Nations/international organizations, regional seas organizations, regional fisheries bodies, large marine ecosystem programmes, or other relevant regional initiatives, and international networks of scientific institutions; Undertaking a gap analysis; Facilitating relevant training opportunities; Applying cartographic methods to better visualize the information associated with the respective areas meeting the EBSA criteria on the map.  
<https://www.cbd.int/recommendations/sbstta/?m=sbstta-20>

20. **Mediterranean EBSAs:**

- In 2012, the Barcelona Convention COP17 (Conference of Parties) endorsed a preliminary EBSA Map, featuring 11 priority areas in the Mediterranean Sea, according to the CBD criteria. At the 18th Meeting of the Contracting Parties to the Barcelona Convention, held in December 2013 in Istanbul, Contracting Parties adopted decision IG.21/5, *"Identification and Conservation of sites of particular ecological interest in the Mediterranean"*, which requested the Secretariat of the Barcelona Convention/Mediterranean Action Plan (UNEP/MAP), with the assistance of the Regional Activity Center for Specially Protected Areas, to cooperate with the CBD Secretariat in organizing during 2014 a Mediterranean regional workshop on EBSAs. Pursuant to the request by COP 10, the Executive Secretary has convened a series of regional workshops in several regions: **7 - 11 April 2014 - Málaga, Spain**, <https://www.cbd.int/doc/?meeting=EBSAWS-2014-03>
- **How to protect Mediterranean Biodiversity beyond national jurisdiction.** The Convention on Biological Diversity (CBD) and the Mediterranean Action Plan (UNEP-MAP) organised, from 7-11 April in Malaga (Spain), a Mediterranean regional workshop to facilitate the description of ecologically or biologically significant marine areas. According to the CBD, the EBSA process facilitates collaboration between scientists and governments, enhancing the current knowledge on marine biodiversity in open-ocean and deep-sea habitats beyond national jurisdiction. It is also an important starting point for a future long-term continuous assessment as further scientific information becomes available. Furthermore, EBSAs are also a tool to support the

creation of a network of marine protected areas, contributing to a more effective protection of marine biodiversity in the Mediterranean. For assessment of potential areas meeting the EBSA criteria, the participants were split into four groups, for the Eastern, the western, and the central part of the Mediterranean, with a subgroup on the Adriatic Sea. Experts on migratory species participated in and assisted all of the groups. The 33 Specially Protected Areas of Mediterranean Importance (SPAMIs) make a particular input although only one, the Pelagos Sanctuary in the Ligurian Sea, includes the pelagic domain. The region meets almost all of the EBSA criteria: uniqueness, naturalness, vulnerability, fragility and sensitivity, which can be found at many scales throughout the Mediterranean. The final report <https://www.cbd.int/doc/meetings/mar/ebsaws-2014-03/official/ebsaws-2014-03-04-en.pdf> and all the documents submitted can be found at: <http://www.cbd.int/doc/?meeting=5362>

21. **More needs to be done** to halt global biodiversity loss and meet Aichi targets: [http://ec.europa.eu/environment/integration/research/newsalert/pdf/Aichi\\_biodiversity\\_targets\\_unlikely\\_to\\_be\\_met\\_by\\_2020\\_401na5\\_en.pdf](http://ec.europa.eu/environment/integration/research/newsalert/pdf/Aichi_biodiversity_targets_unlikely_to_be_met_by_2020_401na5_en.pdf) This is a critical paper. Although there have been improvements in responses to the biodiversity crisis, the analysis revealed no significant improvement in reducing the pressures on biodiversity. This suggests that, overall, the 20 Aichi targets are unlikely to be achieved by 2020 ... Among the positive responses were strong trends for the increasing coverage of freshwater, marine and land protected areas which contribute towards Aichi target 11 (related to protected areas).... Nevertheless, indicator trends in many areas also revealed increasing pressures on global biodiversity. These included rising trends in production and consumption, evident from the ecological and water footprint indicators (affecting target 4 — sustainable production and consumption) and increased bottom trawling (affecting target 6 — covering sustainable management and harvest of fish stocks).... researchers say that the Aichi 2020 targets are unlikely to be reached if current damaging trends continue,... The results of the fourth Global Biodiversity Outlook, to which this study contributes, suggest that the pressures on biodiversity must be addressed if the CBD's objectives are to be met. This would require changes in society, such as more efficient use of land, water, energy and materials, plus a major rethink of consumption habits and food production systems.

#### IV. HIGH SEAS - AREAS BEYOND NATIONAL JURISDICTION

22. **Biodiversity Beyond National Jurisdictions (BBNJ)** implementing agreement under the UN Convention on the Law of the Sea should be adopted by the UN General Assembly in 2018: [http://www.un.org/depts/los/biodiversityworkinggroup/webpage\\_legal%20and%20policy.pdf](http://www.un.org/depts/los/biodiversityworkinggroup/webpage_legal%20and%20policy.pdf) including the CBD and the FAO, .. the ecosystem approach, the elimination of destructive fishing practices, the establishment of marine protected areas consistent with international law and based on scientific information, and will promote the role of MPA networks within the framework of UNCLOS. The conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction, will be subject of a decision on the development of an international instrument under UNCLOS, and will decide to establish a process within the Working Group to prepare for such action.

The UN General Assembly has expressed its concern at the adverse impacts on the marine environment and biodiversity, in particular on vulnerable marine ecosystems, of a number of human activities, such as over-utilization of living marine resources, the use of destructive practices, physical impacts by ships, the introduction of alien invasive species and marine pollution from all sources, including from land-based sources and vessels. The Assembly has also reaffirmed its role relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, noted the work of States and relevant complementary intergovernmental organizations and bodies on those issues, including the CBD and the FAO, and invited them to contribute to its consideration of these issues within the areas of their respective competence...developing and facilitating the use of diverse approaches and tools, including the ecosystem approach, the elimination of destructive fishing practices, the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks by 2012 and time/area closures for the protection of nursery grounds and periods, proper coastal and land use and watershed planning, and the integration of marine and coastal areas management into key sectors.

Considering ways to integrate and improve, on a scientific basis, the management of risks to marine biodiversity of seamounts, cold water corals and hydrothermal vents and certain other underwater features within the framework of UNCLOS;... enhancing scientific activity to better understand the effects of climate change on the marine environment and marine biodiversity and develop ways and means of adaptation, taking into account, as appropriate, the precautionary approach and ecosystem approaches;... taking action immediately, individually and through regional fisheries management organizations and arrangements (RFMO/As), and consistent with 7 the precautionary approach and ecosystem approaches, to implement the 2008 FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas in order to sustainably manage fish stocks and protect vulnerable marine ecosystems, including seamounts, hydrothermal vents and cold water corals, from destructive fishing practices, recognizing the immense importance and value of deep sea ecosystems and the biodiversity they contain.

23. **UNEP/WCMC – Working toward High Seas Marine Protected Areas** (Corrigan, C. & Kershaw, F. 2008. *Working Toward High Seas Marine Protected Areas: An Assessment of Progress Made and Recommendations for Collaboration*. UNEPWCMC, Cambridge, UK).

The areas of the ocean that lie beyond national jurisdiction limits, also called the high seas, are vulnerable to human activities and currently underrepresented when compared to terrestrial and nearshore marine environments under protection. **In 2002 the World Summit on Sustainable**

**Development set the goal for establishing representative networks of marine protected areas (MPAs) by 2012.** Only 0.51% of the area outside national waters is actually under legal protection (UNEP-WCMC 2008a). Because this area covers nearly 50% of the earth's Surface and accounts for 90% of the planet's biomass, it should be a priority for marine conservation efforts that aim to protect representative areas of the marine environment. New issues such as climate change impacts and emerging uses (i.e., bioprospecting, ocean fertilization, floating energy facilities) widen the gap in existing, dated policies that can significantly delay the creation of MPAs on the high seas. There is currently no international governance framework for regulating and coordinating high seas MPAs (HSMPAs) despite the scientific duty in the United Nations Law of the Sea Convention (UNCLOS) to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life (Hart 2008). Protecting large areas of the ocean in such a vast, dynamic and fluid environment comes with numerous challenges for science and governance. New issues such as climate change impacts and emerging uses (i.e., bioprospecting, ocean fertilization, floating energy facilities) widen the gap in existing, dated policies that can significantly delay the creation of MPAs on the high seas. In addition, knowledge about the biological features of high seas areas, including some habitats and species, is still relatively recent and patchy. Implementing marine protected areas in the high seas will require addressing a suite of unprecedented marine management and enforcement challenges; thus, a coordinated effort among a number of institutions to find solutions is essential.

A set of scientific criteria for identifying ecologically and biologically significant areas and guidelines for developing networks of MPAs was adopted by the Convention on Biological Diversity's Ninth Conference of Parties in May 2008 (CBD 2008e): *uniqueness or rarity; special importance for life history stages of species; importance for threatened, endangered or declining species and/or habitats; vulnerability, fragility, sensitivity or slow recovery; biological productivity; biological diversity; and naturalness*. Another 5 scientific criteria exist for representative **networks** of marine protected areas that include open ocean waters and deep-sea habitats: *ecologically and biologically significant areas; representativity; connectivity; replicated ecological features; and adequate and viable sites*. This development provides a landmark opportunity to begin the process of planning and implementing HSMPAs. In addition, ten principles for high seas governance were released at the 2008 World Conservation Congress, raising consensus on the importance of ecosystem and precautionary approaches as well as the need for international cooperation, transparent decisionmaking, and public availability of information.

It is important that pilot studies or demonstration areas are established in the high seas realm. This is key for two reasons: (1) to secure protection for priority high biodiversity areas as an initial contribution to the global marine protected areas network and (2) to start learning from practical experience how HSMPAs can be managed and compliance secured. At the same time, there exists an urgent need to increase political support of high seas protected areas, to continue widespread and coordinated research on the biophysical aspects of these important ocean areas, to reduce governance gaps, and to identify a legal mechanism supported by sustainable funding sources that will ensure protection will be implemented and enforced. This mechanism may be upheld in a number of ways, including strong participation and peer agreements by and among flag states, the fishing community, private sector, and international bodies that already oversee these processes. In the end, moving toward HSMPAs will require a balance of two things: (1) increased scientific rigour when proposing and evaluating MPA proposals for the high seas and (2) precautionary action regarding human activities on the open ocean where their environmental impacts are yet unknown.

One of the 9 areas recommended is in the Mediterranean: **Central Mediterranean Sea** – off the Tunisian and Maltese coasts. It has been proposed by ACCOBAMS (2004; 2006): - Area of special importance for the common dolphin and other cetaceans: waters surrounding the island of Malta and



Southeastern Sicily. Also as Area of special importance and diversity for various cetacean species: the Strait of Sicily. Also Greenpeace Marine Reserves for the Mediterranean Sea (2006): The Sicilian Channel and the Maltese Slope.

## 24. Do we need Marine Protected Areas on the High Seas? (2013)

*“Analysis of the legal implications of the establishment of Protected Areas on the High Seas. LLM in Natural Resources Law and International Environmental Law - Pétur Dam Leifsson - Lagadeild/Viðskiptadeild Félagsvísindasvið Háskóla Íslands Október 2013”*

The high seas are open to all States, who enjoy, freedom of navigation, fishing and scientific research as stated in UNCLOS. So far, the conservation of marine habitats in areas beyond national control, has been dealt through fisheries-type organizations and the International Maritime Organization. Nevertheless, conservation of marine habitats can be achieved through some tools, such as the settlement of closed seasons, closed areas, regulations of gear and management bodies among others. For instance, the International Maritime Organization has the ability to create Special Areas or Particular Sensitive Areas for the conservation of certain habitats species and species.

The BarCon Protocol applies to all the maritime waters of the Mediterranean, irrespective of their legal condition (be they maritime internal waters, historical waters, territorial seas, exclusive economic zones, fishing zones, ecological zones, high seas), to the seabed and its subsoil and to the terrestrial coastal areas designated by each of the Parties. On the one hand, the establishment of intergovernmental cooperation in the field of the marine environment shall not prejudice all the legal questions which have a different nature; but, on the other hand, the very existence of such legal questions (whose settlement is not likely to be achieved in the short term) should not jeopardize or delay the adoption of measures necessary for the preservation of the ecological balance of the Mediterranean. As regards to the areas located partly or wholly on the high seas, the proposal must be made "by two or more neighbouring parties concerned" and the decision to include the area in the SPAMI List is taken by consensus by the contracting parties during their periodical meetings. Once the areas are included in the SPAMI List, all the parties agree "to recognize the particular importance of these areas for the Mediterranean" and "to comply with the measures applicable to the SPAMIs and not to authorize nor undertake any activities that might be contrary to the objectives for which the SPAMIs were established" (Art. 8, para. 3). Lastly, it is important to mention that in 2005, the General Fisheries Commission for the Mediterranean (GFCM) adopted recommendations requiring members to prohibit the use of towed dredges and trawl net fisheries at depths greater than 1000 metres. More recently, in 2006, three specific areas have been declared fisheries restricted areas to protect corals, cold hydrocarbon seeps and seamounts.

In Pelagos, as regards the crucial question of driftnet fishing, the parties undertake laying down technical measures for the conservation of fishery resources, which prohibits the use of driftnets to comply with the relevant international and European Community regimes. The parties undertake to exchange their views with the objective to regulate and, if appropriate, prohibit high-speed offshore races in the sanctuary (Art. 9). The parties will also regulate whale watching activities for purposes of tourism (Art. 8). As the Parties have so far been reluctant to establish exclusive economic zones, the high seas in the sanctuary area begins just beyond the 12-mile limit of the territorial sea. Had exclusive economic zones been established, the measures provided for in the Sanctuary Agreement would fall under Art. 65 of the UNCLOS, which allows coastal States to prohibit, limit or regulate the exploitation of marine mammals within their exclusive economic zones and calls them to international cooperation with a view to the conservation of the species in question.

There are also matters of overlapping concern, such as preventing overfishing and controlling illegal, unreported and unregulated fishing (IUU fishing). In theory, the existing and emerging rules on compliance related schemes all appear promising. However, these are all hampered by the option for States not to join conservation initiatives and remaining as non-Parties to the commitments that other countries adopt, despite the conservation impacts that such choices may have. The problem of non signatories parties must be considered when evaluating the effectiveness of the implementation and enforcement of MPAs. The key to avoid this situation is perhaps the creation of an international community of self-interests in the protection of the resource. For this reason, it is vital that codes of behaviour in management plans are supported by legislation and adequate human and technical resources to achieve effective enforcement. Therefore working with all relevant sectors involved is key to a successful management of resources and as marine conservation.

In this context, the high seas are open to all States, who enjoy freedom of navigation, fishing and scientific research as stated in UNCLOS. The effectiveness of any regulatory measure on the high seas is contingent on the cooperation of all States because, with the exception of certain activities such as piracy, States cannot exercise jurisdiction action against non-flag vessels. There is a discussion on the need of crafting a new agreement to implement and develop the conservation provisions of UNCLOS, as the FSA did for the sustainable management of fisheries. But how to get the effectiveness in the implementation of MPAs on the high seas and more precisely in its surveillance and enforcement instead of enacting more agreements?

**UNCLOS** provides the general framework for establishment of conservation and management measures in the high seas, but is not exhaustive in terms of elaborating the mechanisms or tools for conservation. It does, however, provide that coastal states and states that engage in fishing in the high seas must seek “to agree on the measures necessary to coordinate and ensure the conservation and development of such stocks”. Moreover, it also envisages the protection of “rare or fragile ecosystems”, and where living marine resources are “depleted, threatened or endangered”, their habitats are to be protected. In this way, it is our belief that UNCLOS, complemented by the FSA provides more than enough provisions and the legal basis for the establishment of MPAs on the High Seas.

Here is relevant also the **Convention on Biological Diversity** to the high seas regulation, then it stipulates *in situ* protection of marine biodiversity. The scope of the convention includes marine areas within areas of national jurisdiction and beyond, in relation to its areas of competence. Where stocks straddle the EEZ of two or more States, the Convention exhorts States to cooperate to ensure the conservation of these stocks. Where stocks straddle the EEZ and high seas, coastal States and States fishing such stocks shall agree necessary conservation measures, where appropriate through regional fisheries organisations. Similar arrangements exist for highly migratory species. Fishing on the high seas remains subject to a general freedom.

The **FSA Agreement** sets out a detailed conservation and management framework for high seas fish stocks. These rules include: the use of the best available scientific evidence, the duty to apply the precautionary approach; a duty to assess and minimise adverse fishing impacts on target and ecologically related species and to adopt, where necessary, measures to protect the same; it means in general a duty to minimise pollution. The Agreement is explicit in its commitment to responsible fisheries and the conservation of biodiversity.

**IMO** is mandated to establish a regulatory framework for international shipping that includes environmental concerns. It provides an existing, globally accepted international mechanism for the establishment of protected areas in relation to shipping activities. It has two types of spatial management tools: ‘special areas’ and ‘particularly sensitive sea areas’. Special areas include specific restrictions on discharges and pollution from shipping. Particularly sensitive areas are a slightly broader tool and require specific prohibitions, restrictions and application of measures, such as strict restrictions on discharge. To date, IMO

had recognized 12 PSSAs, including the Great Barrier Reef in Australia and the Baltic Sea. No PSSAs have yet been declared in the high seas, though the tool does allow for use in areas beyond national jurisdiction.

At the same time, many **RFMOs** are working to strengthen governance through performance reviews, promotion of transparency, enhancement of MCS measures and implementation of the precautionary principle. They might be in a better position to manage MPAs on the high seas, because they have a better capacity building, experience on fishing and at the same more incentives in preserving migratory fish stocks

## **25. Marine biological diversity beyond areas of national jurisdiction. *Legal and policy framework. 2016.*** ***Division for Oceans affairs and the Law of the Sea***

UNCLOS - The United Nations Convention on the Law of the Sea (UNCLOS) provides the legal framework within which all activities in the oceans and seas must be carried out, including for the conservation and sustainable use of marine biodiversity beyond areas of national jurisdiction. It is complemented by two implementing agreements, namely the Agreement relating to Part XI of UNCLOS, which addresses matters related to the Area, and the Agreement for the Implementation of the Provisions of UNCLOS relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.

At the regional level, relevant measures include those adopted by regional fisheries management organizations and arrangements (RFMO/As) and by regional seas organizations having competence beyond areas of national jurisdiction.

Non-binding instruments also provide policy guidance of relevance to marine biodiversity, including beyond areas of national jurisdiction. These include the Rio Declaration and Chapter 17 of Agenda 21 adopted at the 1992 United Nations Conference on Environment and Development, the Johannesburg Plan of Implementation (in particular its paragraphs 30-36) adopted in 2002 at the World Summit on Sustainable Development, the outcome document of the 2012 United Nations Conference on Sustainable Development, i.e. *The future we want* (in particular its paragraphs 158-177), and the resolutions of the General Assembly on oceans and the law of the sea and on sustainable fisheries.

In the last decade, questions have been raised whether the current framework sufficiently addresses the conservation and sustainable use of marine biodiversity beyond areas of national jurisdiction. In 2004, the General Assembly established the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction. In its 6th Meeting (2013) they reaffirm the commitment made by States in “The future we want” to address, on an urgent basis, building on the work of the Working Group and before the end of the sixty-ninth session of the General Assembly, the issue of the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction, including by taking a decision on the development of an international instrument under UNCLOS. Over the years, the General Assembly has called for a number of specific measures such as:

- developing national, regional and international programmes for halting the loss of marine biodiversity, in particular fragile ecosystems;
- strengthening, in a manner consistent with international law, in particular UNCLOS, the conservation and management of marine biodiversity and ecosystems and national policies in relation to marine protected areas
- developing and facilitating the use of diverse approaches and tools, including the ecosystem approach, the elimination of destructive fishing practices, the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks by 2012 and time/area closures for the protection of nursery grounds and periods, proper

coastal and land use and watershed planning, and the integration of marine and coastal areas management into key sectors

- enhancing scientific activity to better understand the effects of climate change on the marine environment and marine biodiversity and develop ways and means of adaptation, taking into account, as appropriate, the precautionary approach and ecosystem approaches;
- building capacity in the field of marine scientific research taking into account the need to create greater taxonomic capabilities;
- enhancing cooperation, coordination and collaboration relating to the conservation and sustainable use of marine biodiversity beyond areas of national jurisdiction.

## 26. IUCN The World Ocean Assessment (First Global Integrated Marine Assessment) April 2016.

Summary: [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/70/112](http://www.un.org/ga/search/view_doc.asp?symbol=A/70/112)

Is the first and most comprehensive assessment ever undertaken on the world's ocean. Throughout the 55-chapter Assessment, numerous experts from various specialties examine the complex and interrelated issues affecting the ocean's overall health. This Assessment incorporates the most current knowledge on the biological, chemical, economic, physical, and social aspects of the ocean, provided by scientific experts who have researched the ocean, their flora and fauna, the ways in which humans are benefiting from, and impacting on the ocean. The Assessment's exploration of marine ecosystems and marine biodiversity in relation to the myriad of impacts examined throughout, which include but are not limited to: climate change, ocean acidification, changing sea ice, storm frequency, land-based activities, marine debris, unsustainable fishing practices, shipping, and invasive species, provides crucial insight into understanding the ocean's looming future.

In response to mounting concerns about declines in ocean health, States at the United Nations (UN) delivered some good news lately. The first of four two-week UN Preparatory Committee sessions concluded on a positive note on Friday April 8, 2016 by identifying key elements for a new treaty to better protect and sustain the marine environment and marine life in the two thirds of the ocean beyond national boundaries and adopted a roadmap for the path ahead. The next session will be convened from 26 August to 9 September 2016.

Kristina M Gjerde, Senior High Seas Advisor to IUCN's Global Marine and Polar Programme. *"These included the need for precautionary action to sustain the health of species and ecosystems through networks of marine protected areas; the need to review the impacts of human activities prior to approving them so that measures can be taken to avoid significant adverse harm; and the need to build capacity and share technologies to ensure effective implementation of the agreement."*

Recommendations for draft elements for a new agreement under the 1982 UN Convention on the Law of the Sea are to be delivered to the UN General Assembly by the end of 2107. Though many tough challenges remain, it is widely hoped that a decision to launch formal negotiations to draft the text of a new treaty based on the PrepCom's recommendations will be taken by 2018.

At stake is no less that the future health of the global ocean and its role in sustaining and nourishing life on this planet. As revealed in the recent First World Ocean Assessment, released by the UN in January 2016, the **ocean has already absorbed more than 93% of heat generated by increasing CO<sub>2</sub> emissions**, buffering impacts on land. In the process, however, is it becoming warmer, more acidic and less oxygenated. Such impacts are decreasing the ability of many marine species to find food, reproduce and tolerate the many additional stresses inflicted by overfishing, pollution and habitat degradation. Combined, these changes may threaten ocean productivity, biodiversity and food supplies. That is why a robust new treaty is essential. "Saving the high seas and international seabed Area is beyond the capacity of any one nation: international cooperation is essential".

## V. UNITED NATIONS SYSTEM:

27. **The United Nations Conference on Sustainable Development** and the new global development agenda for the period 2015-2030 adopted in New York on 26 September 2015 "Transforming our World: The 2030 Agenda for Sustainable Development": <https://sustainabledevelopment.un.org/post2015/transformingourworld>

"We resolve, between now and 2030..... Climate change is one of the greatest challenges ..... .. ODA providers reaffirm their respective commitments, 0.7% of ODA/GNI

- *We resolve, between now and 2030,.... and to ensure the lasting protection of the planet and its natural resources.... A world in which consumption and production patterns and use of all natural resources – from air to land, from rivers, lakes and aquifers to oceans and seas - are sustainable... One in which development and the application of technology are climate-sensitive, respect biodiversity and are resilient. One in which humanity lives in harmony with nature and in which wildlife and other living species are protected.*
- *Climate change is one of the greatest challenges of our time and its adverse impacts undermine the ability of all countries to achieve sustainable development. Increases in global temperature, sea level rise, ocean acidification and other climate change impacts are seriously affecting coastal areas and low-lying coastal countries, including many least developed countries and small island developing States. The survival of many societies, and of the biological support systems of the planet, is at risk.... We are announcing today 17 Sustainable Development Goals with 169 associated targets which are integrated and indivisible....Governments, international organizations, the business sector and other non-state actors and individuals must contribute to changing unsustainable consumption and production patterns, including through the mobilization, from all sources, of financial and technical assistance to strengthen developing countries' scientific, technological and innovative capacities to move towards more sustainable patterns of consumption and production.... We are therefore determined to conserve and sustainably use oceans and seas, freshwater resources, as well as forests, mountains and drylands and to protect biodiversity, ecosystems and wildlife... ODA providers reaffirm their respective commitments, including the commitment by many developed countries to achieve the target of 0.7% of ODA/GNI to developing countries and 0.15% to 0.2% of ODA/GNI to least developed countries... Indicators are being developed to assist this work. Quality, accessible, timely and reliable data will be needed to help with the measurement of progress...*
- **Goal 13. Take urgent action to combat climate change and its impacts\***
  - 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
  - 13.2 Integrate climate change measures into national policies, strategies and planning
  - 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
  - 13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible
  - 13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
- **Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development**
  - 14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution
  - 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse

*impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans*

*14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels*

*14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics*

*14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information*

*14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation*

*14.7 By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism*

*14.a Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries*

*14.b Provide access for small-scale artisanal fishers to marine resources and markets*

*14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want*

- **Capacity-building**

*17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation*

*81. Recognizing the importance of building on existing follow-up and review mechanisms at the regional level and allowing adequate policy space, we encourage all member states to identify the most suitable regional forum in which to engage. UN regional commissions are encouraged to continue supporting member states in this regard.*

## **28. UN Sustainable Development Goal on the Oceans (Sustainable Development Goal N°14):**

<http://www.un.org/sustainabledevelopment/oceans/>

- By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution
- By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans



- Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels
- By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based MPs, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics
- By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information
- By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation
- By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism
- Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries
- Provide access for small-scale artisanal fishers to marine resources and markets
- Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development .... By 2020, sustainably manage and protect marine and coastal ecosystems .....develop research capacity and transfer marine technology.....14.b Provide access for small-scale artisanal fishers to marine resources and markets ....14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources.... effective and targeted capacity-building.

29. **Proposal of Indicators for the SDG Goal 14.** UN Economic and Social Council - 08/11 March 2016. E/CN.3/2016/2/Rev.1 – <http://unstats.un.org/unsd/statcom/47th-session/documents/2016-2-SDGs-Rev1-E.pdf>

The proposed indicators of follow-up for SDG 14, include the Aichi 10% target and other indicators relevant for the Roadmap such as those pertaining the EcAp, resilience, subsidies, artisanal fisheries.

Roadmap-related Objectives in SDG 14	Proposed indicators – UN Economic and Social Council - E/CN.3/2016/2/Rev.1 – 08/11 March 2016
14.2. By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans	14.2.1* Percentage of coastal and marine development with formulated or implemented integrated coastal management/maritime spatial planning plans (that are harmonized where applicable), based on an ecosystem approach, that builds resilient human communities and ecosystems and provides for equitable benefit sharing and decent work
14.4 By 2020, effectively regulate harvesting and end	

overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics	
14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information	14.5.1 Coverage of protected areas in relation to marine areas
14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation	14.6.1* Dollar value of negative fishery subsidies against 2015 baseline
14.b Provide access for small-scale artisanal fishers to marine resources and markets	14.b.1* Proportion of national fishery production by country that are catches by small-medium fishery businesses
14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of "The future we want"	14.c.1* Number of countries implementing either legally or programmatically the provisions set out in regional seas protocols and ratification and implementation of the ILO maritime and fisheries conventions

## SDG 14 Related

30. **UN monitoring framework** to track SD Goals progress at the global level  
<http://unstats.un.org/sdgs/files/metadata-compilation/Metadata-Goal-14.pdf>

Target 14.5 *"By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information"*. The Indicator 14.5.1: *"Coverage of protected areas in relation to marine areas"*. However, such percentage area coverage statistics do not recognise the extreme variation of biodiversity importance over space, and so risk generating perverse outcomes through the protection of areas which are large at the expense of those which require protection. It can be disaggregated according to different protected area management categories (categories I–VI) to reflect differing specific management objectives of protected areas.

The indicator does not measure the effectiveness of protected areas in reducing biodiversity loss, which ultimately depends on a range of management and enforcement factors not covered by the indicator. A number of initiatives are underway to address this limitation. Most notably, numerous mechanisms have been developed for assessment of protected area management effectiveness, which can be synthesised into an indicator of management effectiveness. This is used by the Biodiversity Indicators Partnership as a complementary indicator of progress towards Aichi



Biodiversity Target 11 (<http://www.bipindicators.net/pamanagement>). Regarding important sites, the biggest limitation is that site identification to date has focused on specific subsets of biodiversity, for example birds (for IBAs).

Protected area data are compiled by ministries of environment and other ministries responsible for the designation and maintenance of protected areas. They are compiled globally into the World Database on Protected Areas (WDPA) by the UNEP World Conservation Monitoring Centre (UNEP-WCMC). They are disseminated through the Protected Planet knowledge product <http://www.protectedplanet.net/>, which is jointly managed by UNEP-WCMC and IUCN and its World Commission on Protected Areas (WCPA). UNEP-WCMC produces the UN List of Protected Areas every 5-10 years, based on information provided by national ministries/agencies. In the intervening period between compilations of UN Lists, UNEP-WCMC works closely with national ministries/agencies and NGOs responsible for the designation and maintenance of protected areas, continually updating the WDPA as new data become available.

**31. 2016 Postdam Ocean Governance Workshop** - Background Session 1 – *“The 2030 Agenda and the ocean-Options for follow-up and review in practice”*. By Stefanie Schmidt and Sebastian Unger (IASS) with Rémi Parmentier and Inés de Agueda (Varda Group) and Alexander Müller (UNEP-TEEB)

Focused on the follow-up and review process (FU&R) and its applicability to the ocean in the 2030 Agenda, to identify and address challenges with regard to the place of the ocean in the 2030 Agenda and to develop recommendations on how the revision can monitor and advance ocean policy implementation. Multiple reports and assessments may also provide insights on issues, challenges and progress required toward SDG14 implementation, including for instance the First Global Integrated Marine 6 Assessment, also known as the “First World Ocean Assessment,” the report of the German 7 Advisory Council on Governing the Marine Heritage (2013), the two reports of the Global Ocean 8 9 Commission (2014 and 2016) or WWF-International’s “Reviving the Ocean Economy” (2015).

*SDG14 would be on the agenda of High Level Political Forum (HLPF) in 2017, together with SDG2 (Zero 4 Hunger), SDG13 (Climate), SDG15 (Land ecosystems) and SDG17 (Partnerships), under the theme “Ensuring food security on a safe planet by 2030.” Other proposals also under consideration suggest having instead a full review of all SDGs at each HLPF meeting; whereas proponents of this approach highlight the need for integrated and comprehensive review, others raise practical concerns and fear of drowning in data for all 169 targets. Some observers were prompt in pointing out that most SDG14 targets were not new. Target 14.5 on marine protected areas echoes commitments made as long ago as 2002 at the World Summit on Sustainable Development (WSSD) in Johannesburg and again more recently in Nagoya in 2010 under the auspices of the Convention on Biological Diversity (Aichi Target 11). Harmful fishing subsidies (Target 14.6) have been discussed for many years within the World Trade Organization (WTO) and other fora. And countries have already entered into legally- binding commitments to reduce, prevent and abate marine pollution (Target 14.1), some dating back to the 1970s. However, in the authors’ opinion this does not mean that SDG14 has no role. On the contrary, SDG14’s main value is to bring a set of key ocean issues under one single umbrella, and – by giving them visibility as a package -- to increase their role, visibility and space in the wider 10 sustainable development policy arena.*

*Member States have the primary responsibility for the implementation of the 2030 Agenda at national and, to a certain extent, at regional level. They are due to report, on a voluntary basis, on National progress to the HLPF. Still, the large number of UN and other agencies involved both across different sectors and different geographical scales require new forms of coordination, the ocean and*

*seas marine resources and ecosystems also relate to several other SDGs, for instance to SDG1: No Poverty, SDG2: Zero Hunger and Food Security, SDG3: Health, SDG6: Clean water and Sanitation, SDG12: Sustainable Consumption, SDG13: Climate Action and SDG15: Land Ecosystems and biodiversity. Moreover, ocean, coasts and small islands are part of the broader global sustainability agenda, and as such they are also essential elements for partnerships development (SDG17).*

*Foreseen High Level UN Conference on Ocean and Seas, in Fiji on 5-9 June 2017; but the ocean is followed up by at least 6 UN bodies, significantly UNCLOS, UNEP, and FAO. SDG14 lacks a natural central institutional home within the UN system.*

*Data will be produced by the national statistical systems and the information will then be aggregated at the sub-regional, regional and global levels by 18 specialized agencies, principally from within the UN system (UNEP, FAO, IUCN).*

- 32. 2016 Postdam Ocean Governance Workshop** - Background Session 1- *“The SD Goal for oceans, seas and marine resources – Coordinated implementation through regional governance”* by Julien Rochette (IDDRI), Sebastian Unger (IASS), Glen Wright (IDDRI).

Reflects about what is going on and how can civil society influence.

“In light of the transboundary nature of the marine environment, the authors of this paper are convinced that the implementation of the Ocean SDG will fall short of the transformative ambition of the Agenda 2030 without an effective coordination at the regional level. The United Nations General Assembly (UNGA) Resolution A/RES/70/1 (General Assembly, 2015) adopted on 25 September 2015 acknowledges “the importance of the regional and subregional dimensions (...) in sustainable development” and draws attention to the regional level with regard to the follow-up and review process. Regional organisations have already developed instruments and activities aimed at addressing some of the SDG 14 targets. For instance, this 2030 Agenda is the first time that challenges with regard to the marine environment are integrated into an overarching sustainability agenda, allowing trade-offs and possible synergies with other policies and targets to be identified. In some regions (e.g. Mediterranean, Caribbean, Western Indian Ocean), the institutional landscape is particularly crowded, with many regional organisations, mechanisms and ad hoc initiatives dedicated to the conservation and sustainable use of the marine environment. Many non-governmental organisations (NGOs) and research centres revolve around regional organisations. As regional mechanisms include participatory and inclusive processes, they are often considered as “partners” and are associated to regional programmes of work. The adoption of the 2030 Agenda has impacted activities conducted by NGOs and research centres, and some of them have put the implementation of the Ocean SDG on the top of their agenda.

How regional assessments could be brought together to inform and review the Ocean SDG implementation? How to facilitate the coordination of regional management measures or plans of actions across different regional organizations and sectors to meet the SDGs for the ocean? Monitoring and assessing the state of the marine and coastal environment is part of the activities conducted by many regional organisations. First, as part of their legal obligations, member States often have to report on environmental data and activities to regional organisations’ secretariats. Much of this information is regularly reported e.g. by regional seas conventions, as assessment reports on the marine environmental status. As highlighted by the 2015 UNGA (General Assembly) Resolution, follow up and review at the regional level can therefore “provide useful opportunities for peer learning, including through voluntary reviews, sharing of best practices and discussion on shared 9 targets”. That is why the UNGA has encouraged Member States to “identify the most suitable 10 regional forum in which to engage”

33. **FAO/GFCM** - The General Fisheries Commission for the Mediterranean (GFCM) is the Mediterranean Regional Fisheries Management Organization (RFMO), operating in the Mediterranean and the Black Sea, established under the umbrella of the U.N. Food and Agriculture Organization (FAO) in 1949. GFCM is the competent regional body for recommending, adopting, and implementing, as necessary, measures to achieve sustainability of fisheries and aquaculture activities while taking into account negative impacts on marine ecosystems. In addition and prior to the creation of FRAs, in 2005, GFCM had prohibited all type of towed gears beyond 1000 m depth in the Mediterranean and black seas by Recommendation GFCM/2005/1 (FAOGFCM 2005). Under Recommendation 31/2007/2, the GFCM Secretariat is requested to cooperate with the Pelagos Sanctuary Secretariat on the exchange of data (UNEP-MPA-RAC/SPA 2011). In 2013, Resolution GFCM/37/2013/1 established that FRAs would be designated by GFCM, including where they overlap with the UNEP-MAP SPAMI designation and prompts to both organizations to cooperate and coordinate and, as necessary, with other competent regional organizations. To this end, and at the request of its members, the GFCM created a specific technical working group on MPAs that meets annually since 2014 (GFCM 2014) in collaboration with other partner organizations (Rais and Nottarbartolo 2015 - UNEP(DEPI)/MED WG.408/Inf.26).
34. **GFCM (strategies)** - The main objective of the GFCM is to promote the development, conservation, rational management and best utilization of living marine resources as well as the sustainable development of aquaculture in the Mediterranean, the Black Sea and connecting waters. The GFCM is currently composed of 24 members (23 member countries and the European Union). In particular, its measures can relate for instance to the regulation of fishing methods, fishing gear and minimum landing size, the establishment of open and closed fishing seasons and areas and fishing effort control. It closely cooperates with other international organizations in matters of mutual interest.

**Vision:** In order to promote the development, conservation, rational management and best use of living marine resources, as well as the sustainable development of aquaculture in the Mediterranean and the Black Sea, the GFCM:

**Objectives:**

- formulates and recommends appropriate measures for the conservation and rational management of living marine resources and ensures these recommendations are implemented;
  - constantly reviews the economic and social aspects of the fishing industry, recommending specific measures in connection with its development;
  - promotes and carries out training, research and development activities, in addition to cooperation and technical assistance in fisheries-related fields;
  - collects, publishes and disseminates information on exploitable living marine resources and on fisheries exploiting these resources;
  - promotes programmes for marine and brackish water aquaculture and coastal fisheries enhancement.
35. **GFCM and MPAs (2015):** UNEP-RAC/SPA, the GFCM-FAO, and ACCOBAMS discussed about spatial base management measures for marine conservation and sustainable development, in particular Marine Protected Areas (MPA), Tunis (9/12 June 2015). The conservation and management of the Mediterranean areas beyond national jurisdiction was discussed and experts agreed that this issue requires the involvement of all relevant organisations. The meeting agreed to promote fisheries restricted areas (FRAs) at the national and international level as one of the most appropriate tools, especially for the high seas, where to anchor additional protection layers such as MPAs or international recognized labelling such as Special Protected Areas of Mediterranean Importance (SPAMIs). In light of the discussions, the working group recommended the General Fisheries

Commission for the Mediterranean (GFCM) to i) eventually adopt the decision to establish a three-month closure to trawling activities in GSA 14; ii) define monitoring, control and surveillance mechanisms to enforce the effectiveness of the GFCM FRAs; and iii) define fishery encounters protocol for Vulnerable Marine Ecosystems (VMEs). The meeting also convened that the perception of MPAs by small-scale fishers had changed from a limiting tool that banned activities towards an instrument that, if well managed, could help to increase their revenues by rebuilding stocks. In this context, a joint strategy is under preparation between the UNEP/MAP, ACCOBAMS, FAO-GFCM Secretariats, with the collaboration of IUCN and MedPAN, that will be presented to the Barcelona Convention for consideration, revision and eventually adoption early 2016.

**36. GFCM-FRAs:** Particularly notable are the GFCM efforts on setting up spatial based measures that ban the activity of certain fishing gears in delimited areas. These measures are called Fisheries Restricted Areas (FRAs), as recommended by the FAO Code of Conduct for Responsible Fisheries (Maiorano et al. 2008). In 2006, three FRAs were created with the main objective to protect the deep sea sensitive habitats. Recommendation 30/2006/3 prohibits fishing with towed dredges and bottom trawl nets within “Lophelia reef off Capo Santa Maria di Leuca”, “The Nile delta area cold hydrocarbon seeps” and “The Eratosthenes Seamount” (FAO-GFCM 2006). Recommendation 33/2009/1 aimed at freezing the fishing effort at the level of 2008 in order to avoid further expansion of a fishery that was starting to operate in an important nursery area for fishes and other species off in the Gulf of Lions” (FAO-GFCM 2009) (taken from Rais and Nottarbartolo 2015).

**37. FRAs and SPAMI, 2013.** Resolution GFCM/37/2013/1. FAO recalls:

- Their Code of Conduct for Responsible Fisheries and the related International Plans of Action (IPOAs), Strategies and Guidelines which promote responsible fishing and fisheries activities,
- Their commitment to promote the development, conservation, rational management and best utilization of living marine resources,
- UNDERLYING that area-based management of fisheries is recognized to be an area-based management tool contributing to the maintenance and/or recovery of marine living resources to healthy state and the conservation of marine biodiversity important for the sustainable exploitation within an ecosystem approach to fisheries management, and that the GFCM has already taken action in this regard through the setting up of Fisheries Restricted Areas (FRAs);
- WELCOMING the cooperation established, through Recommendation GFCM/31/2007/2, between the GFCM Secretariat and the Pelagos Secretariat on the exchange of data related to the Pelagos Sanctuary for the Conservation of Marine Mammals, recognized as a Specially Protected Area of Mediterranean Importance (SPAMI), and the collaboration with ACCOBAMS
- TAKING INTO ACCOUNT the definition of Fisheries Restricted Area as endorsed by the GFCM on the basis of a SAC formulation which stipulates that a FRA is a geographically defined area in which all or certain fishing activities are temporarily or permanently banned or restricted
- DEEMING the memorandum of understanding adopted by FAO/GFCM and UNEP-Mediterranean Action Plan (MAP) as the instrument that aims at promoting cooperation between these two organizations, within their respective mandates, including in harmonizing existing respective criteria to identify FRAs and SPAMIs for the cases where their location may be coincident, in particular those located partially or wholly on the Areas Beyond National Jurisdiction (ABNJ);
- RESOLVES that:
  - The designation of Fisheries Restricted Areas (FRAs) for the conservation and management of fisheries resources within an ecosystem approach to fisheries management, including for

the cases where their location may be totally or partially coincident with that of SPAMIs shall be done by GFCM in particular for areas in the High Seas

- The designation of a FRA by the GFCM shall be based on sound scientific and technical identification by the Scientific Advisory Committee (SAC), based inter-alia on proposals by Cooperative Non-Contracting Party (hereinafter collectively referred to as CPCs), Party Organizations, scientific institutions and observers, with a view to maintain and/or recovery of marine living resources to an healthy state while ensuring the conservation of marine biodiversity for the sustainable exploitation.

**38. FAO-VMES** (Vulnerable Marine Ecosystems) and the General Fisheries Commission of the Mediterranean (GFCM) (by Jessica Sanders, FAO, 2015, UNEP/CBD/EBSA/WS/2014/3/4).

Discussed the work of the FAO on Vulnerable Marine Ecosystems (VMES) and complementarities with the work on EBSAs, as well as relevant efforts of the General Fisheries Commission of the Mediterranean (GFCM). She provided background on the Vulnerable Marine Ecosystem criteria, which are a central part of the FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas. Adopted in August 2008, these guidelines aim to facilitate and encourage the efforts of States and Regional Fisheries Management Organizations/Agreements towards sustainable use of marine living resources, and the prevention of significant adverse impacts on deep-sea. She outlined the **strong complementarities between the VME criteria and the EBSA criteria**. She also pointed out some key differences in the application of these two set of criteria. The VME criteria are designed to be used specifically in the context of fisheries management, for the deep seas and are assessed directly in response to potential threats. The VME criteria are also different, in that they are embedded in a management process, while the application of EBSA criteria is a scientific and technical exercise without prescriptive management implications. The similarities between the scientific and technical knowledge required for both the EBSA and VME processes has led to increased collaboration between the FAO and the CBD Secretariat on deep sea issues. EBSA and VME regional workshops have been held back-to-back where possible to facilitate exchange of knowledge and expertise between the two processes. This work, as well as the existing suite of FAO projects in the Mediterranean, such as CopeMed II, MedSudMed, AdriaMed, and the Med LME project, which provide a robust set of data and information and platforms through which to cooperate on biodiversity issues.

**39. UNESCO** - The United Nations Educational, Scientific and Cultural Organization (UNESCO) is involved in Mediterranean marine conservation through its World Heritage Programme and its Man and the Biosphere programme (taken from - (Rais and Nottarbartolo 2015) - UNEP(DEPI)/MED WG.408/Inf.26

World Heritage Sites. In the Mediterranean Sea there are three World Heritage sites that include marine areas. The Ichkeul National Park in Tunisia was inscribed as a World Heritage Site in 1980 and consists of a lake-salt marsh system, which (especially the ensePotamogeton beds) supports huge populations of a few species of marine and brackish water invertebrates. The Gulf of Porto: Calanche of Piana, Gulf of Girolata, Scandola Reserve (Corsica, France) was declared a World Heritage Site in 1983. Seagulls, cormorants and sea eagles can be found there. The clear waters, with their islets and inaccessible caves, host a rich marine life, including considerable numbers of spiny lobster and a wide range of littoral and sublittoral invertebrates and fishes. In 1999, Ibiza Island (Spain) Biodiversity and culture, was also inscribed. The evolution of Ibiza's shoreline is one of the best examples of the influence of the seagrass Posidonia on the interaction of coastal and marine ecosystems. The well-preserved Posidonia seagrass beds, threatened in most Western Mediterranean locations, contain and support a diversity of marine life (Micheli et al. 2013, Suppl. Material).



The "International Centre on Mediterranean Biosphere Reserves, Two Coastlines United by their Culture and Nature", located within the premises of the Abertis Foundation in Castellet I la Gornal, Kingdom of Spain, was established in November 2013 and officially inaugurated in April 2014. This first Centre of the MAB Programme under UNESCO auspices serves as a model for scientific cooperation between the two shores of the Mediterranean and provide an excellent platform of information exchange and sharing on all issues related to biosphere reserves and their sustainable development. The Centre acts as a platform for training and transferring advanced knowledge on environmental and societal issues between developed and developing countries in the Mediterranean basin and it will facilitate joint programmes between biospheres reserves. The primary objectives of the Centre will be to collect, structure, synthesize and disseminate the experience acquired in all the biosphere reserves in the Mediterranean area, starting from the 45 biosphere reserves in Spain, in order to contribute to advancing scientific knowledge within the World Network of Biosphere Reserves. The Centre will also act as a laboratory to devise tools for improving the dissemination of scientific data, informative and training activities within the Network.

40. **The Ocean Sanctuary Alliance:** <http://www.oceansanctuaryalliance.org/> The OSA is a partnership of UN Member States and leaders from across disciplines. Its mission is to restore and sustain the world's ocean by securing national commitments to establish science-based marine sanctuaries. They seek to accomplish the UN's Sustainable Development Goal 14, Target 5: By 2020, conserve at least 10 percent of coastal and marine seas, consistent with national and international law and based on best available scientific information. At the UN's Sustainable Development Summit on September, 25, 2015, world leaders adopted the 2030 Agenda for Sustainable Development which contained 17 Sustainable Development Goals (SDGs), among them SDG 14: Conserve and sustainably use the oceans, seas and marine resources. The Ocean Sanctuary Alliance (OSA) has been instrumental in calling for a "stand alone" oceans SDG and the target to protect at least 10 percent of marine areas within national jurisdiction by the year 2020. This is the only numerical goal in SDG14. OSA's short-term objective is to aid in the creation of scientifically based-marine sanctuaries and then help oversee a rigorous multi-year program to effectively implement the plan. Italy sponsored a conclave of prominent marine scientists and diplomats from around the world in Rome March 7-9 2016 to take the first steps in making a science-based marine sanctuary network a global reality. The coalition is growing, and OSA country supporters to date include the Republic of Italy, the Republic of Poland, The Bahamas, The Netherlands, Monaco, Papua New Guinea, The Republic of Maldives, European Union, Israel, Iceland, Sweden, Australia, Nauru, Republic of Palau and Marshall Islands.

## VI. EUROPEAN UNION

### 41. EU mid-term review of the biodiversity strategy to 2020:

[http://ec.europa.eu/environment/nature/biodiversity/strategy/index\\_en.htm](http://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm) report on species, habitats, alien species, impact drivers on BD. E.g. Currently most of the assessed commercial stocks in European waters (58%) are not in good environmental status (GES), with 19% of stocks exploited sustainably, 11% with their reproductive capacity intact, and only 12% considered in GES.

42. **The Marine Strategy Framework Directive** (2008/56/EC) is the central component of the Union's maritime policy. The principal goal of the MSFD is to achieve a Good Environmental Status at a regional level by 2020. It contributes to the implementation of existing obligations, commitments and initiatives of the EU Member States in the sphere of environmental protection in marine waters: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52012DC0662>. The MSFD requires Member States to develop strategies for their marine water, as well as to cooperate with other Member States and non-EU countries within a marine region, specifically calling, amongst other things, for the establishment of a network of MPAs in European waters (de Juan et al 2012). It assesses some relations with Regional Seas Conventions: The MSFD ensures that international agreements are taken into account at all stages of the development of marine strategies, obligations to prevent and eliminate pollution from sea-based and land-based sources, explicit commitments to adopt or follow an ecosystem-based approach and to conserve marine resources. It has important/interesting links to the UN Framework Convention on Climate Change (UNFCCC), in search of the GES improves knowledge of climate impacts on the marine environment, requires Member States to consider various climate-related factors: changes in sea temperature and ice cover and ocean acidification, mitigation role, as carbon sinks, and also address adaptation to climate change.

43. **Blue Growth strategy.** [http://ec.europa.eu/maritimeaffairs/policy/blue\\_growth/index\\_en.htm](http://ec.europa.eu/maritimeaffairs/policy/blue_growth/index_en.htm)

Blue Growth is a long term strategy for unlocking the potential of Europe's seas and coastal areas. It covers such topics as blue energy, aquaculture, maritime, coastal and cruise tourism, maritime mineral resources and blue biotechnology. The Blue Growth pillar will promote innovative maritime and marine growth in the Adriatic and Ionian Region; it will do by promoting sustainable economic development and job creation as well as business opportunities. The Blue Growth pillar will focus on three topics: • Blue technologies. • Fisheries and aquaculture. • Maritime and marine governance and services • ensure a good environmental and ecological status of the marine and coastal environment by 2020; • help halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020; Climate Change .... Exchanging best practices among managing authorities of MPA Building on the work of the Adriatic Protected Areas Network (AdriaPAN), creating a network of managing authorities of Marine Protected Areas of the Adriatic

### 44. European Commission Integrated Maritime Policy

([http://ec.europa.eu/maritimeaffairs/policy/index\\_en.htm](http://ec.europa.eu/maritimeaffairs/policy/index_en.htm))

The Integrated Maritime Policy seeks to provide a more coherent approach to maritime issues, with increased coordination between different policy areas. It focuses on:

- Issues that do not fall under a single sector-based policy e.g. "blue growth" (economic growth based on different maritime sectors).
- Issues that require the coordination of different sectors and actors e.g. marine knowledge.

Specifically it covers these cross-cutting policies: Blue Growth / Marine data and knowledge / Maritime Spatial Planning / Integrated maritime surveillance / Sea basin strategies  
MPAs seem may apply to any of these fields!

Its aims are: To take account of the inter-connectedness of industries and human activities centred on the sea / To save time and money by encouraging authorities to share data across policy fields and to cooperate rather than working separately on different aspects of the same problem / To build up close cooperation between decision-makers in the different sectors at all levels of government – national maritime authorities, regional and local authorities, and international authorities, both inside and outside Europe.

As funding opportunities, the EU provides for the political priorities for the Integrated Maritime Policy expressed by the Commission, the Council and the European Parliament under Regulation 508/2014. The funding is implemented through:

- Annual work programmes with a total budget of EUR 259 million for the 2014-2020 period, which has a budget of EUR 29 million to be spent mainly on calls for tender and calls for proposals
- EUR 71 million for the 2014-2020 period within the framework of the EMFF operational programmes. The EMFF is the fund for the EU's maritime and fisheries policies for 2014-2020, and is accessible through the Fisheries authorities in each Member State.

#### 45. EU Strategy for the Adriatic and Ionian Region, 2012:

[http://ec.europa.eu/regional\\_policy/en/policy/cooperation/macro-regional-strategies/adriatic-ionian/](http://ec.europa.eu/regional_policy/en/policy/cooperation/macro-regional-strategies/adriatic-ionian/)

The 'blue' economy represents roughly 5.4 million jobs and generates a gross added value of almost €500 billion a year. However, further growth is possible in a number of areas which are highlighted within the strategy. Developing **sub-regional strategies** to exploit the strengths and address the weaknesses of particular maritime regions, e.g. the new EU Strategy for the Adriatic and Ionian region and its action plan.

The countries in the Adriatic and Ionian Region have differing administrative and political structures, government and governance systems. Training and better coordination of planning activities is needed for better marine and maritime governance and services. This will be achieved through data sharing, joint planning and the coordinated management of resources.

Environmental quality is essential for ensuring the economic and social well-being of the Region's inhabitants. This pillar will address environmental quality through cooperation at regional level. Specifically it will:

- ensure a good environmental and ecological status of the marine and coastal environment by 2020;
- help halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020;
- improve waste management by reducing waste and nutrient flows to the sea and rivers. The focus will be on three topics for achieving these goals:
  - The marine environment. There is a general lack of information on small scale fisheries, illegal fishing gear is not uncommon, and monitoring and enforcement are insufficient. Ecosystem-based coordination of activities is needed to ensure the sustainable use of resources. This will be achieved by:
    - increasing marine knowledge on maritime spatial planning, integrated coastal management and implementation of the marine framework strategy Directive;
    - enhancing the trans-border, open-water network of marine protected areas;
    - exchanging best practices among managing authorities of marine protected areas;
    - implementing maritime spatial planning and integrated coastal management.



Each year, the **Mediterranean Coast Guard Functions Forum** – a voluntary, independent and non-political body - brings together administrations, institutions and agencies working on coast guard issues from all Mediterranean countries. The forums are funded by the Commission's Directorate-General for Maritime Affairs and Fisheries. EU-funded marine and maritime projects fall into a variety of policy areas. As an example, it underlines the “Developing a Mediterranean marine & coastal protected areas network (MedPAN South Project).

PROJECT EXAMPLE Exchanging best practices among managing authorities of marine protected areas Building on the work of the Adriatic Protected Areas Network (AdriaPAN), creating a network of managing authorities of Marine Protected Areas of the Adriatic and Ionian to exchange best practice and work on measures to improve the ecological status of the seas

- Pollution of the sea.
- Transnational terrestrial habitats and biodiversity
- Climate change is expected to impact the natural habitats and biodiversity of the Adriatic and Ionian Region more severely than elsewhere in the EU. The risks of climate change to biodiversity can be reduced by bolstering the resilience of ecosystems, thereby increasing their ability to adapt to its effects. Cooperation will also focus on the protection and preservation of terrestrial ecosystems, in particular transnational habitats and landscape elements of central importance for migratory bird species and large carnivores. Specific actions include:
  - developing joint management plans for cross-border habitats and ecosystems;
  - joint population level management plans for large carnivores, and awareness raising activities;
  - harmonisation and enforcement of national laws with EU legislation.

#### 46. **Project Adriplan** (<http://adriplan.eu/>)

It is specifically dedicated to provide the guidelines for concrete application of MSP in two focal areas of the Macro Adriatic Region. In Adriplan several workshops have been organized (<http://adriplan.eu/index.php/sample-pages/past-events/331-stakeholder-workshop-5e>) with the main objective of performing a real “planning exercise”, in which the participants will build a “possible” maritime spatial plan in the Southern Adriatic and Northern Ionian Sea. Stakeholders with knowledge and expertise in different maritime sectors have identified the possible planning options and elaborate a spatial allocation (zoning) draft in a proposed area. Taking into account the peculiarities of the area, as well as the strategic needs and objectives emerged from the ADRIPLAN Initial Assessment and the previous stakeholder consultations, three themes have been selected for playing a pivotal role in the planning exercise: Fishery Aquaculture Energy Around each pivotal theme, ALL the other sectoral themes have also considered, in order to compose a comprehensive and coherent plan for ALL marine and maritime activities, including TOURISM, which represents an economic priority in all the Adriatic Ionian Region. In addition, the potential of improving present interactions between the different human uses and the protection of the marine environment (e.g. MPAs) have been considered a priority in the general discussion. Specific issues tackled during the workshop, taking into account their cross-border relevance, the local problems, the conflicts between different uses of other sectors/activities and the threats to the environment.

**47. Directive establishing a framework for Maritime Spatial Planning:**

[http://ec.europa.eu/maritimeaffairs/policy/maritime\\_spatial\\_planning/index\\_en.htm](http://ec.europa.eu/maritimeaffairs/policy/maritime_spatial_planning/index_en.htm)

Sustainable management of marine regions depends on the condition of the respective ecosystem, so the ecosystem approach is an overarching principle for MSP. Although activities on land may have a direct impact on sea regions, MSP manages only maritime activities and activities in coastal waters.

In order to achieve broad acceptance, ownership and support for implementation, it is equally important to involve all stakeholders, including coastal regions, at the earliest possible stage in the planning process. Stakeholder participation is also a source of knowledge that can significantly raise the quality of MSP.

MSP operates within three dimensions, addressing activities (a) on the sea bed; (b) in the water column; and (c) on the surface. This allows the same space to be used by different purposes. Time should also be taken into account as a fourth dimension, as the compatibility of uses and the “management need” of a particular maritime region might vary over time. MSP does not replicate terrestrial planning at sea, given its tri-dimensionality and the fact that the same sea area can host several uses provided they are compatible. However, in the same way that terrestrial planning set up a legally binding framework for the management of land, MSP should be legally binding if it is to be effective. This might also raise the issue of the appropriate administrative framework for MSP.

The Habitats Directive requires an assessment of plans or projects that may significantly impact a NATURA 2000 site. The Strategic Environment Assessment (SEA) Directive requires an environmental assessment of certain plans and programmes, consultation provisions (including cross-border), assessment of alternatives, and measures to prevent and/or mitigate adverse effects. The Environmental Impact Assessment Directive establishes similar requirements for projects.

Cooperation across borders is necessary to ensure coherence of plans across ecosystems. It will lead to the development of common standards and processes and raise the overall quality of MSP. Some organisations such as HELCOM have already started this work. It mentions the Mediterranean as the first region to adopt a Management Plan (Mediterranean Action Plan — MAP) in 1975, under the UN Environment Programme. The Barcelona Convention adopted ICZM Protocol requires contracting parties to establish a common framework for integrated management of the Mediterranean coastal zones.

**48. Union for the Mediterranean Ministerial Conference on Blue Economy – Declaration:**  
[http://ec.europa.eu/maritimeaffairs/policy/blue\\_growth/documents/2015-11-17-declaration-on-blue-economy\\_en.pdf](http://ec.europa.eu/maritimeaffairs/policy/blue_growth/documents/2015-11-17-declaration-on-blue-economy_en.pdf) almost matching, the MSFD requires that the networks of MPAs are coherent and representative, expressly beyond Natura 2000 and possible measures under the Common Fisheries Policy (CFP).

The blue economy is growing. It is expected to play a significant role within the central EU policy of promoting jobs and growth, with the Blue Growth Strategy identifying five key target sectors. At a global level, 'The Economics of Ecosystems and Biodiversity' (TEEB) initiative has had a major impact with regards to assessing the value of ecosystems and their associated services. At the level of the EU, the Mapping and Assessment of Ecosystems and their Services (MAES) is an essential component of the EU Biodiversity Strategy. The Commission is currently connecting the MAES methodology with

MSFD indicators (so that the good status of marine ecosystems would also be measured in terms of their capacity to produce resources/deliver services). The MAES initiative will also be relevant for several EU policies, including:

- Blue Growth by linking ecosystems to our "natural capital", to account for them in the maritime economy, and ideally putting a number on their value;
- Maritime Spatial Planning (MSP)
- To inform decisions relating to potentially competing uses of marine areas;
- The global governance of the oceans, by informing decisions in relation to the sustainable and equitable exploitation of marine resources.

#### 49. **Natura2000:**

A 2011 report from the European Commission on financing Natura 2000 estimated that the cost of network management investment based on a Europe with 27 members, was at least 5.8 billion euros per year. This figure is dwarfed by ongoing research suggesting that benefits generated by the Natura 2000 network are of the order of 200 to 300 billion euros per year minimum. The European Commission requests to better define the Natura 2000 Network financial needs, to look for innovative financing sources and to develop Natura 2000 financing, using additional tools and European budgets. The European Union recognizes the vital importance of this network in reaching the Aichi objective 11, and is dedicated to make this project as effective as possible; they also suggest alternative and complementary sources of funding, such trust funds, profits from tourists, donations and private funds. They could also capture a portion of the, with entry fees, or ecological tax transfer to municipalities associated with specific activities. The European Commission contributed to the publication of a guide exploring the means to finance the Natura 2000 network between 2014 and 2020.

#### 50. 2015 **Natura 2000 Kick-off seminar for marine biogeographical regions** - Saint-Malo, France

The seminar was the first biogeographic seminar with an exclusive focus on the management of marine Natura 2000 sites, bringing together representatives from Member States and stakeholder groups working on marine Natura 2000 to discuss issues of common concern and interest in relation to the conservation and management of marine Natura 2000 sites.

The main EU mechanisms used to support marine Natura 2000 were identified as being LIFE, INTERREG and Horizon 2020. Scope to use the EMFF was comparatively recent so this has still to be taken up to any great extent.

Common weaknesses identified are availability of data, difficulties in assessing conservation measures and effective management. Sharing experience and flexibility to integrate the new methods and tools are some of the useful ways of addressing such issues. Member States are at different stages in the application of fisheries management measures within Natura 2000 sites or to support Natura 2000. It is also the case that a great variety of measures exist. In the Mediterranean a meaningful start with development of fisheries measures in MPAs has still to be made. There would be benefits from a funding programme to support Member States' cooperation with non-EU countries, e.g. with the southern Mediterranean countries (Africa, Middle East), in achieving the objectives of marine Natura 2000. Funding for cross-border/regional cooperation, to enable existing platforms e.g. Regional Sea Conventions, EU MEG/N2000 seminars, NGO workshops, Web-platforms to maintain/improve their excellence and interconnect for improved synergies and to avoid duplication of work.

## 51. Emerald Network.

The Emerald network is an ecological network to conserve wild flora and fauna and their natural habitats of Europe, which was launched in 1998 by the Council of Europe as part of its work under the Convention on the Conservation of European Wildlife and Natural Habitats or Bern Convention that came into force on 1 June 1982. The Emerald Network is based on the same principles as Natura 2000, and represents its de facto extension to non-EU countries. Areas of Special Conservation Interest (ASCIs) are established in Europe and North Africa, set up by the contracting parties to the Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats). The aim of the ASCIs is to ensure the conservation and protection of those habitats and species listed under Appendices I and II of the Bern Convention. Its development in Africa has started with the implementation of pilot projects in Morocco, and is likely to be also launched in Tunisia, at the request of the national authorities. Thirty-nine marine habitats are listed under Annex I (1996, adopted 2010) and numerous plant and animal species important to the Mediterranean are listed as “species requiring specific habitat conservation measures” (Micheli et al. 2013, Suppl. Material).

## 52. EU's financial instruments from 2014 to 2020: (Binet et al 2016, ref 4)

In 2014, Europe adopting a multiannual financial framework for 2014 to 2020 expenditures. Unfortunately, the EU budget share that is allocated to the conservation of natural resources will decline, although Europe remains very involved in this area through various financial tools:

- **Horizon 2020** is a program for research and innovation whose three main points are scientific excellence, industrial leadership and societal challenges. This program is based on an annual call for proposals open to companies, universities, institutions etc... and provides substantial funding.
- The **LIFE** program involves funding for projects and scholarships for two sub-programs focused on environment and climate change. Between 2014 and 2020, the LIFE Program will distribute 3.06 billion euros.
- The **MED** program is a transnational cooperation program funded by the EU. Its priorities are innovation, environment, territory accessibility and balanced development. To date, 144 projects have been planned and financed by the European Regional Development Fund (ERDF) up to 85%. The North MedPAN project is one of them, it helps financing the MPA via its call for small projects.
- **EUROPEAID** is a European program for development and cooperation that is dedicated to the environment and sustainable management of natural resources (including energy). Between 2007 and 2010, EUROPEAID has allocated 470 million euros.
- The EU provides for the political priorities for the Integrated Maritime Policy (ref.44) expressed by the Commission, the Council and the European Parliament under Regulation 508/2014. The funding is implemented through:
  - Annual work programmes with a total budget of EUR 259 million for the 2014-2020 period, which has a budget of EUR 29 million to be spent mainly on calls for tender and calls for proposals
  - EUR 71 million for the 2014-2020 period within the framework of the EMFF operational programmes. The EMFF is the fund for the EU's maritime and fisheries policies for 2014-2020, and is accesible through the Fisheries authorities in each Member State. In particular, the project on integrated maritime policy for the Mediterranean (**IMP -MED**) is funded by the ENPI South, and aims to provide opportunities to South of the Mediterranean neighboring countries to engage in the development of integrated approaches for maritime affairs.

## VII. OTHER REGIONAL SEAS

### 53. OSPAR Convention (European Atlantic):

- The OSPAR Convention adopted a Roadmap 2010-2020, not for MPAs but for the implementation of the EU Marine Strategy Framework Directive within the OSPAR Convention. It has some similarities to the MPA Mediterranean Roadmap: as in the EU Directive, the OSPAR Strategy includes an overarching concept of delivering the ecosystem approach to management of human activities for the protection of the marine environment. It takes into account environmental and socio-economic considerations and is implemented through adaptive management. If regularly updated, the roadmap will serve as an effective tool within OSPAR and help countries to meet the EU requirements for cooperation and coordination in the marine region of the North-East Atlantic. <http://www.ospar.org/documents?v=7239>
- Concerning MPAs (IMPAC3), in 1998 the Contracting Parties ministers envisaged the MPAs, and with the HELCOM ministers jointly agreed to establish an ecologically coherent and well managed MPA network by 2003. This opened a long lead-in time towards the acceptance of the MPA network within the Parties, supported by a toolbox of guidelines and collaborative actions. The progress in OSPAR has been significant with a network of 333 sites (in 2014) collectively covering approximately 700, 500km<sup>2</sup> of the North-East Atlantic, representing 5.2% coverage of the entire Maritime Area. However, OSPAR is working to improve its database as data shortcomings are still an issue. In 2010 and 2012 OSPAR advanced in establishing High Seas MPAs; with support of the scientific community, potential EBSAs (Ecologically or Biologically Significant Areas) have been described, although not yet submitted to the relevant CBD Committees. Further efforts are in hand to assess management effectiveness.

### 54. HELCOM Convention (Baltic Sea):

- HELCOM adopted a Roadmap 2015-2020, not for MPAs but for Ecosystem Approach. It shows some similarities to the MPA Mediterranean Roadmap, including action on monitoring, streamlined data management, and indicators, but mainly focused on eutrophication and other water quality pressures. It also includes the development of Assessments (on hazardous substances and on climate change, and 20 specific programmes, mostly on sewage, aquaculture, navigation, noise, and some recommendations on species and habitats. They have a particular “Regional Action Plan for Marine Litter” (planning for implementation) in collaboration with the Barcelona Convention ([http://www.helcom.fi/Documents/HELCOM%20at%20work/Roadmap/Roadmap%20bar%20chart\\_17Feb2015.pdf](http://www.helcom.fi/Documents/HELCOM%20at%20work/Roadmap/Roadmap%20bar%20chart_17Feb2015.pdf) )
- As related to MPAs (IMPAC3), ministerial commitments by HELCOM Contracting Parties, the overall MPA network coverage is of 11.7% (in mid 2013). Whilst exceeding the 10% target, this hides differences in national efforts as well as an imbalance in favour of nearshore areas when compared to EEZs, so new efforts to address this have focused on marine areas away from coasts and islands. HELCOM recognize there is also a complementary overlap with the aims of EU Natura 2000. Representativity is considered in terms of size and coverage of MPAs in different sub-basins. Ecological coherence has been evaluated against accepted metrics (i.e. adequacy/viability,

representativeness, replication, connectivity). Ecological coherence is yet to be achieved. For example, the life strategies, dispersal modes and distribution of species are not adequately accounted for. HELCOM have also judged their network in terms of potentially harmful human activities. For example, fishing is still allowed in some MPAs and, whilst 65% of MPAs have management plans in place, 9% currently have no plan. Eutrophication is also a pressure on biodiversity in all areas of the Baltic Sea except for the northernmost sub-basin. Next steps will be to reassess developments since 2010, considering the level of protection the network is providing to red list species and habitats. To that end HELCOM is developing a pragmatic biotope classification and implementing the ecosystem approach to the management of human activities at a regional level.

## 55. BLACK SEA CONVENTION (Bucharest Convention):

This Convention (1992) originally against pollution in the Black Sea, adopted a Black Sea Biodiversity and Landscape Conservation Protocol (CBD Protocol, 2002), whose purpose is *“to maintain the Black Sea ecosystem in the good ecological state and its landscape in the favourable conditions, to protect, to preserve and to sustainably manage the biological and landscape diversity of the Black Sea in order to enrich the biological resources”*.

The Contracting Parties are deemed to adopt strategies, national plans and/or programmes for the conservation of biological diversity and the sustainable use of marine and coastal resources and to integrate them into their national sectoral and intersectoral policies; they are asked to produce and commonly agree on a Strategic Action Plan for the Black Sea Biodiversity and Landscape Conservation Protocol; they will give appropriate publicity to the MPA establishment and regulations, while co-operating in scientific research.

The Protocol has an Annex on Protected Areas, by which the Contracting Parties shall produce criteria/guidelines for identifying areas, compile a list of sites that meet their criteria/guidelines, endeavour to establish protected areas, and take all necessary steps for harmonisation of environmental protection measures in MPAs, including management of transboundary protected areas, co-ordinated research and monitoring programs. Similar to the Mediterranean Roadmap, such measures should include for each MPA:

- the development and adoption of management plans
- a comprehensive integrated regional monitoring programme
- the active involvement of local communities in both planning and implementation,
- adoption of appropriate financial mechanisms
- the regulation of activities including the issuing of permits
- training of staff as well as the development of appropriate infrastructure.

Within their Strategic Action Plan (Black SAP, 2009) the most related Objectives are *“to halt losses of currently known threatened species and destruction of their habitats by 2010”, “to increase, where appropriate, protected areas and improve conservation of species, ecosystems and habitats, with particular attention to marine protected area, and manage them in a sustainable and environmentally sound way” and “to introduce sustainable practices and eliminate harmful practices promoting ecosystem approach to all human activities in the area of the Protocol in particular in exploitation of living marine resources”*. The Convention developed the Plan for Protection and Recovery the Black Sea Cetaceans in close cooperation with ACCOBAMS and initiated its implementation by the year 2007, involving the recuperation of cetaceans, included guidelines for stranded individuals and enlarging where appropriate the networks of Black Sea Reserves taking into



consideration the most important breeding, feeding and wintering grounds and migration routes of fish and marine mammals and birds.

It introduces and promotes the use of economic incentives for management of human activities allowed in protected area and adjacent territories; integrate the system of protected landscapes, Biosphere Reserves, National Parks and other types of protected areas with existing international initiatives aiming at establishing a Pan-European Ecological Network ("the PEEN") under the auspices of the Pan-European Biological and Landscape Diversity Strategy ("the PEBLDS") and complimenting existing national initiatives on ecological networks. No recent progress reports have been found, however, notes from mid term results suggest that only small progress has been achieved.

#### ○ **MPAs in the Black Sea.**

Specifically about MPAs in the Black Sea (Begun *et al* 2012). [www.misisproject.eu](http://www.misisproject.eu): *"The process of designing protected areas has been carried out mostly in the frame of Natura 2000 in Bulgaria and Romania and Emerald Network and RAMSAR Convention in Turkey. Bulgaria already has 15 marine protected areas, and Romania has 2 marine protected areas, the greatest being the marine part of Danube Delta Biosphere, plus 9 N2000 sites. Turkey proposed 6 RAMSAR sites and deltas on the coast of Black Sea. Incorporating all these protected areas into national law and policy remains a challenge. The gaps identified include deficiencies regarding law enforcement and implementation of management plans, and areas where legislation and policy are missing. Furthermore, the mismatches between the written law/policy and what is being applied in practice by local people are relevant. It is demonstrated that compliance with acting law and policy requires better control and development of economic incentives"*.

In summary, the Black Sea Convention has adopted many of the Specific Objectives of the Mediterranean MPA Roadmap, but as umbrella biodiversity considerations rather than as a concrete MPA strategy; there is not an analogous Roadmap and at the same time, the field progress (creation of MPAs, integration in national policies, MPA management, capacity, and funding) seem to be much delayed as compared to the Mediterranean Sea.

## 56. **Natura 2000 and regional seas networks**

There is real added value from regional networks to help achieve marine Natura 2000 objectives, for example through a common approach for the management of MPAs for regional seas or for parts of their respective areas (North Sea, the Channel, Adriatic Sea, and Aegean Sea) to help achieve their objectives. Natura 2000 could benefit from what already exists at the regional level. For example, tools, networks, experts, experience sharing, capacity building, specific governance model and communication strategies. Common objectives of the different Regional Sea Conventions and networks include effective management of MPAs with regard to their conservation objectives and ensuring coherence across the network through exchange of experience and implementation of tools for assessment, monitoring, scientific knowledge, capacity building, and awareness raising. There would be benefits from a funding programme to support Member States' cooperation with non-EU countries, e.g. with the southern Mediterranean countries (Africa, Middle East), in achieving the objectives of marine Natura 2000. Funding for cross-border/regional cooperation, to enable existing platforms e.g. Regional Sea Conventions, EU MEG/N2000 seminars, NGO workshops, Web-platforms to maintain/improve their excellence and interconnect for improved synergies and to avoid duplication of work.



## 57. CaMPAM, Wider Caribbean:

Similar to MedPAN, the CaMPAM Caribbean Marine Protected Area Network and Forum is a partnership among managers, educators, NGOs, GOs, and other users of MPAs in the Gulf of Mexico and Caribbean región, 38 countries and territories that are part of the Wider Caribbean or Tropical Northwestern Atlantic and Guianan Marine Biogeographic Provinces. CaMPAM was created in 1997 under the framework of the [Caribbean Environment Program of the UN Environment Programme \(UNEP-CEP\)](#) and the Specially Protected Area and Wildlife (SPA) Protocol of the [Cartagena Convention](#) activities. CaMPAM is dedicated to building the capacity of MPAs, and some of its activities include a Training of Trainers course, an Internet distribution list, annual scientific and management technical sessions at GCFI, a Small Grants program, and a regional MPA database.

UNEP-CEP supports the “Caribbean Challenge, Phase II” whose objectives are close to those of the Mediterranean MPA Roadmap, but not restricted to MPAs. [http://www.caribbeanchallengeinitiative.org/index.php?option=com\\_content&view=article&id=408&Itemid=253#.V1xUpruLTcs](http://www.caribbeanchallengeinitiative.org/index.php?option=com_content&view=article&id=408&Itemid=253#.V1xUpruLTcs)

Its Mission is *“To support livelihoods and the economic and social future of the countries and territories of the Caribbean, the second phase of the Caribbean Challenge Initiative will accelerate and expand efforts to safeguard the region's marine and coastal environment.”*

Objective is:

- **'20 by 20': To effectively conserve and manage at least 20 percent of the marine and coastal environment by 2020.** Being one of the most relevant actions to **“Expand and strengthen the [Caribbean Marine Protected Area Management Network and Forum \(CaMPAM\)](#)”**

This '20 by 20' Goal requires actions to address a range of threats and ensure that MPAs and their surrounding buffer zones are effectively managed.

- Establish and effectively manage marine and coastal protected areas
- Restore marine and coastal resources, including coral reefs, mangroves and other marine habitats of importance
- Promote sustainable coastal tourism
- Promote a sustainable fisheries sector
- Promote and implement ecosystem-based adaptation actions (climate change)
- Reduce major sources of pollution impacting the marine environment
- Establish national / territory conservation trust funds (CTFs) and develop sustainable finance mechanisms to help capitalize the Trust funds..... which will be legally established and operationalized in order to begin grant-making programs.

In reference to MPAs, the project *“Regional support for the Caribbean Challenge Initiative: Networking, consolidation and regional coordination of MPA management”* has been taking place since and the main activities include the following:

- Helping countries to develop their national MPA networks and supporting, when conditions allow, the creation of biologically-representative networks and/or sub-regional and cross-border corridors

- Improving capacities for a more efficient MPA management, notably through targeted training courses, guidance and onsite visits looking at the needs and problems common to all MPAs in the Caribbean (including, if need be, sites in other regions included in GLISPA objectives)
- Organising coordination meetings in order to agree on common approaches to adopt for MPA elaboration and management, including those concerning MPA networks
- Setting up a regular regional liaison system, including communication and publication tools
- Harmonising monitoring as well as ecological and socioeconomic MPA efficiency indicators (taking into account international initiatives such as GLISPA)

These activities will be executed through longstanding, existing and valuable mechanisms of CaMPAM, in particular:

- The Small Grants Programme (SGP)
- The Training of Trainers Programme (ToT)
- Exchanges and other relevant mechanisms for sharing lessons learned
- The MPA regional database
- Coordination and technical meetings
- An email list (CAMPAM-L) for information dissemination and discussion

#### 58. **MAIA network** of MPAs in the Atlantic arc of Europe.

MAIA is a European cooperation project with the aim of creating a network of MPA managers and stakeholders. Spearheading initiative in MPA designation, governance and management on an international scale, this technical group works to develop a recognized, coordinated, effective and representative network of marine protected areas in the Atlantic. The MAIA Goal is to enhance and share the partners' wealth and differences to facilitate mutual understanding and Foster the development of an efficient, coordinated and recognized network of marine protected areas in the Atlantic arc. Its Objectives are to:

- Promote and structure the sharing of experience and approaches;
- Elaborate common methodologies;
- Contribute to the emergence of a network of MPA managers.

Through a series of collaborative biannual work plans, and through technical workshops, the main technical work packages of the project consist of:

- Involving the stakeholders in MPA designation and management processes;
- Defining and implementing management plans;
- Establishing indicators in the MPAs and monitoring strategies.

#### 59. **Eastern Tropical Pacific Corridor (CMAR):**

Regional cooperation and action planning CMAR is a joint initiative by the governments of Costa Rica, Columbia Ecuador and Panama. The Eastern Tropical Pacific Seascape project formally established the Marine Conservation Corridor a wide maritime zone between the island MPAs of Cocos, Galapagos, Malpelo, Gorgona and Coiba. It is a region of high ecological interconnectivity with complex oceanographic characteristics. Migratory species including turtles and sharks are particularly important resulting in interest from and partnership with CMS. Since 2005, when a Regional Action Plan was established, the initiative has become an example of cooperation between governments, productive sectors and civil society. The network

has prompted joint management informed by a Technical Committee. This has included strengthening of biodiversity and marine resources management; gathering biological, socioeconomic, environmental and legal information about the resources of the corridor and creation of five Working Groups (tourism, science, marine protected areas, fishing and communication).

#### 60. RAMP AO - West African Network of MPAs:

In October 2015 RAMP AO adopted [http://www.rampao.org/IMG/pdf/rapport\\_rampao\\_en.pdf](http://www.rampao.org/IMG/pdf/rapport_rampao_en.pdf) a Roadmap for a Transition Phase of 2 years in order to:

- Conduct of legal studies pertaining to the autonomous entity;
- Ensuring funding for MPA pilot activities;
- Furtherance of RAMP AO communication and training activities;
- Mobilising Member States (Government and Parliament) to register MPA funding in their national budgets.

These include: (i) The detailed analysis of the advantages and disadvantages of the different legal statuses adapted to RAMP AO ; (ii) The drafting of documents related to RAMP AO operating structure and adapted to the chosen status (Charter, Statutes, By-laws) ; (iii) The participatory development of **a five-year programme (2017/2022) of technical actions with MPA managers**, in collaboration with line institutions; 6th RAMP AO General Assembly 15 (iv) The preparation of documents related to the Network's communication strategy; (v) The design of a business plan addressing the operation of the Network (GA, Secretariat) and its activities of support to members.

The Scientific Board also recommended:

- To position on issues related to climate changes, and mitigation measures. In this prospect, it is important to take local communities into account when devising mitigation measures;
- Consider the exploitation and management of fishery resources in the development of fishing grounds.

#### 61. Ramsar Convention and MedWet

The Convention on Wetlands of 1971, called the "Ramsar Convention", is an intergovernmental treaty that embodies the commitments of its member countries to maintain the ecological character of their Wetlands of International Importance and to plan for the "wise use", or sustainable use, of all of the wetlands in their territories. In the Mediterranean, there are currently more than 100 Ramsar sites that include coastal areas (Micheli et al. 2013, Suppl. Material).

#### 62. ACCOBAMS

The Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea, and Contiguous Atlantic Area (ACCOBAMS), a special Agreement of the CMS Family, directs Parties in its Article II, Paragraph 1 to "cooperate to create and maintain a network of specially protected areas to conserve cetaceans". Furthermore, the Conservation Plan (Annex 2 to the Agreement) requires that the Parties will endeavour to establish and manage specially protected areas corresponding to the areas, which serve as habitats of cetaceans. However, it should be noted that ACCOBAMS is not a treaty that is specifically directed at the legal requirements for MPAs. It states clearly that developing protected areas for cetaceans should be done within the framework of the Regional Seas Conventions (OSPAR, Barcelona and Bucharest Conventions), or within the framework of other appropriate instruments. Accordingly, and on

the basis of several recommendations from its Scientific Committee, 22 areas of special interest for cetaceans are identified in the ACCOBAMS area. Parties are encouraged to formally promote the national implementation of these areas and to ensure their effective management. A Meeting on Marine Areas of Protection will be organized in Tunisia (9 – 12 June 2015) in collaboration with RAC/SPA, GFCM and MedPAN. In December 2015, ACCOBAMS supported, in collaboration with the French Agency of Marine Protected Area and GIS3M, a workshop for scientists and managers of MPAs about “Study and conservation of the bottlenose dolphin in the north-western Mediterranean Sea” which will be also addressing MPAs network and effectiveness.

The Pelagos Sanctuary for the Conservation of Mediterranean Marine Mammals, a SPAMI and the largest Mediterranean MPA, was established by an agreement amongst France, Italy and Monaco signed in Rome in November 1999 and entered into force in 2002. Pelagos extends over >87,000 km<sup>2</sup> encompassing the waters of the three nations which established it. When it came into force, the Pelagos Agreement concerned to a large extent (53%) areas beyond national jurisdiction (ABNJ), and this was possible in virtue of a special provision of the SPA/BD Protocol. Today, however, with the declaration by France of its Mediterranean EEZ, and by Italy of its Ecological Protection Zone, ABNJ have disappeared from the Pelagos Sanctuary

63. **Areas of special importance for Mediterranean marine mammals** (UNEP/CBD/EBSA/WS/2014/3/4 Page 17 /...by Giuseppe Notarbartolo Di Sciara, Global Ocean Biodiversity Initiative) In his presentation, Mr. Notarbartolo discussed general status and trends of marine mammals in the region, noting that marine mammals are represented in the Mediterranean by two taxa: cetaceans and pinnipeds. He noted that, based on IUCN Red List assessments, all of the species under these two taxa in the Mediterranean can be classified as either “vulnerable”, “endangered”, or “critically endangered”, with the exception of 3 species that are data deficient. This means that there are no species that are in a non-threatened condition (i.e., “near threatened” or “least concern”). Cetaceans are represented by populations of fin whales, sperm whales, Cuvier’s beaked whales, orcas, long-finned pilot whales, Risso’s dolphins, rough-toothed dolphins, common bottlenose dolphins, striped dolphins, short-beaked common dolphins, and Black Sea harbour porpoises. Reproductive groups of the only pinniped, the “critically endangered” Mediterranean monk seal, are limited to sites in the eastern Mediterranean. However, occasional sightings throughout most of the region indicate the potential ability of the seal to recolonize former habitat, if adequately protected. He stressed that although knowledge has been significantly improved in this area in the past 2-3 decades, much information relevant to conservation, such as movements of certain species with the Mediterranean, is still unavailable. Quantitative ecological information, however, is being progressively acquired through an increasing number of projects applying line-transect surveys, long-term observations of discrete population supported by photo-identification techniques, telemetry, and spatial modelling.

64. **IMPAC3, Blue Ribbon Panel (WB) Recommendations:**

“Regional initiatives: a platform for delivering conservation at scale within and across regions, regional strategies can create opportunities for generating and sharing knowledge on ecological, social and economic processes as well building implementation platforms capable of taking account of the connectiveness and political, social and economic complexity. In general terms, the regional approach allows for a consolidation of knowledge and acceleration of dissemination processes (e.g. best practices, strengthened influence on policy). Working at the regional and sub-regional scale can enable the development of policy consistency and complementary management across jurisdictions. Local initiatives in isolation are not well equipped to address the breadth and the scale of marine

conservation challenges and in particular the multiple threats and pressures faced by the oceans. Therefore, in complement to local initiatives, we need to seek larger-scale, integrated solutions that will operate in a multi-dimensional, nonsectoral manner.

Stakeholders: Effective solutions will require a range of stakeholders from the public and private sectors to share responsibilities and rights in using and protecting ocean resources. In order to achieve this integration, involving all stakeholders - including local communities, governments, NGOs, industry, philanthropy, scientific institutions - at an early stage and building long-term trust and engagement is essential.

Leveraging regional strategies: In order to be successful, there needs to be an understanding and integration between political feasibility and ecological coherence at the regional scale. This is especially true when it comes to efforts to integrate environment and development objectives. An environmental agenda *sensu stricto* has little chance to be adopted if it is not relevant to national and regional development aspirations and needs. Food security, health, economic growth and political stability are at the forefront of national agendas, especially in developing countries. Conservation strategies failing to demonstrate the relevance of the protection of marine ecosystems to the development agenda will result in governments at best agreeing on environmental policies but probably doing little to effectively implement them.

Relevant MPA networks: In order to make MPA networks relevant to the political reality, their socio-economic impacts in particular need to be assessed and discussed with all stakeholders from the early stages of the initiatives, to create a shared regional vision. This vision – based on extensive consultation and dialogue – will then need to be translated into political decisions based on a clear strategy from the local to the international levels. As experts from the World Bank Blue Ribbon Panel put it: *“The range, complexity, and extent of threats to ocean resources are very significant. Consequently, the Panel believes that potential solutions can and must be scaled to drive meaningful change. To create ocean solutions that are sustainable over the long term, we must recognize that the well-being of communities, viability of economies, and sustainability of ecosystems are intricately linked. Solutions need to 1) consider all components of the socio-ecological and economic systems, 2) be integrated across all sectors and 3) be viewed as beneficial to stakeholders. Approaches that are sectoral and do not take into account social, political, and ecological interrelationships can only deliver incremental and fragmented solutions.”*

From words to action: the responsibility of all: NGOs and scientific institutions have a key role in informing decision makers on governance options for a sustainable and equitable management of marine resources. As a first step, gathering the necessary knowledge – including both physical sciences and socio-economical analysis incorporating the valuation of ecosystem goods and services – is crucial. Facilitating exchange of information through social networks (experts, local communities, MPA managers), capacity building and raising public awareness are essential elements of successful regional initiatives. Building, formalizing and activating these platforms will help create positive political buy-in, which is essential for the development of MPA networks as part of integrated ocean management frameworks. Furthermore, NGOs, as well as the private and public sector and institutions, have a responsibility in engaging in these regional initiatives, leveraging resources and ensuring effective and equitable investments. According to the Blue Ribbon Panel recommendations, well-structured public-private partnerships (P3) can provide for a solution that would apply well at the sub-regional and regional level.

## 65. **IMPAC3, workshop on “Regional MPA networks: Their contribution to achieving the Aichi Target”**

“Linking Mediterranean Experiences with Other Regional Seas” organized by MedPAN with partners: CBD, RAC/SPA, IUCN Med, Adriapan, WWF, Conservatoire du Littoral, APAL, French MPA Agency, Union for the Mediterranean, Blue Plan, Center for Mediterranean Integration, ACCOBAMS, GFCM. The questions under consideration included: • How does the current state of the MPA system in the Mediterranean and in other regional seas compare with the 10% CBD objective? • How is “effective management” actually implemented in existing MPAs? Participants will share positive experiences in networking and capacity building at national and regional levels. • In the years to come, what challenges will MPAs face and what new issues do they need to address?

To facilitate the development of ecological MPA networks, national, bilateral, regional and international marine conservation scientists and practitioners should:

- Develop regional agreements that commit countries to develop national programs to - establish ecologically effective marine managed areas individually and in systems.
- Use those programs to attract strengthening financial of the national marine and human resources that can support the managed - areas systems and eventually the coordination of actions of ecologically connected areas and countries that share coastal and marine resources, as well as threats.
- Compile existing data and encourage the implementation of similar monitoring protocols to - assess the status of habitats and species and support the analysis on the representativity and connectivity of networks in the marine ecoregions of the world (Mediterranean, in West Africa, Atlantic, Baltic Sea...) as a tool for MPA planning and management.
- Assist national MPA management authorities and international programs to develop and - maintain user-friendly, data-rich websites and databases, and ensure that they are integrated in the world database of protected areas (WDPA).
- The databases should integrate:
  - o Standardized information and indicators on habitats and species:
  - o Standardized information and indicators on habitats and species
  - o Information on MPA management, governance, financing, budgets and environmental services
  - o International standards used for MPA data
  - o Maps of MPA sites and country boundaries
- Disseminate technical tools for MPA planning considering marine spatial planning and ICZM - and facilitate the exchanges of experiences and best practices intra- and inter-regionally, while providing assistance to national authorities

To enhance the management effectiveness of existing MPAs, scientists and practitioners must:

- Facilitate the involvement of national and local stakeholders, facilitate cooperation at the - site and national level to reduce institutional barriers and build synergy.
- Ensure the sustainability and efficiency of regional capacity building mechanisms that:
  - o Are grounded in existing or ongoing capacity building activities and training programmes,
  - o Ensure that training activities address the needs of the MPAs and their managers and stakeholders,
  - o Incorporate exchange visits in small groups to facilitate peer - to - peer knowledge transfer and share lessons and best practices.

- o Create networks of experts and MPA senior managers that can mentor junior officers for a long term and assist regional training programs.
- o Implement a wide range of training approaches ( i.e. targeted training courses focusing on current issues, field-based training, on-the-job training, online training modules, exchange visits, study tours, comprehensive training of trainers, exchanges of experience, etc.).
- o Provide incentives - economic, professional or otherwise - to facilitate dissemination and multiplication of skills and knowledge.
- Raise funds to facilitate the participation of MPAs in regional cooperation and exchanges, - including shadowing.
- Provide assistance to the relevant national authorities when they conduct MPA management - effectiveness evaluations by supporting the development and implementation of national harmonized measures associated to management assessment (indicators, dashboards, ...)
- Compile and disseminate information on MPA management (by providing links and access to - existing reports and compilations on best practices), including success and failure stories (capitalisation, exchanges of experience).

To Contribute to a larger-scale coastal and marine planning and management scheme by:

- Promoting the implementation and development of tools, better policies, guidelines as well - as exchanges of experience and information linked to the integration of policies
- Supporting improved co - management at the local, national and transnational levels - (associated with marine spatial planning, ecosystem based management and integrated coastal zone management),
- Enhancing the establishment of alliances and synergies between economic activities (e.g. - fisheries, tourism, shipment...) and "MPA" governance systems, ecosystem management, integration of MPAs in spatial planning policies, clarification of legal and institutional frameworks, etc.
- Developing more strategic, constructive, creative and robust partnerships with the private - sector (tourism, communications, insurance, banking, ...) that can allow the promotion of sustainable economic activities associated with marine managed areas, to reduce pressure over the marine ecosystems services.
- Assisting in the simplification of governance and administrative frameworks, including - integrating policies, build institutional bridges and clarify governance frameworks between sector-specific policies and policies relevant to MPAs on every geographic level. This action deals specifically with the synergies and agreements to develop surveillance, fee/tax and finance.



## VIII. The world conservation union - IUCN

### 66. **IUCN. International Union for the Conservation of Nature** (taken from Rais and Nottarbartolo 2015) - UNEP(DEPI)/MED WG.408/Inf.26

At the global level, IUCN is involved in multiple activities related to Protected Areas (and in particular Marine Protected Areas - MPAs), based on the work of the World Commission on Protected Areas (WCPA and its sub-commission on MPAs) which is a network of experts, gathering data in the World Database on Protected Areas (WDPA), supporting the development of international instruments on environmental conservation, revising at the national level the legislation and institutional mechanisms related to environment and to protected areas. The main role of IUCN is, based on existing reliable scientific information, to influence decisions makers at all levels for supporting the conservation and sustainable use of natural resources. For defining management categories of PAs and MPAs, IUCN has recently (2012) updated the existing guidelines.

Key Biodiversity Areas (KBAs) are currently developed by IUCN. Key biodiversity areas are places of international importance for the conservation of biodiversity through protected areas and other governance mechanisms. They are identified nationally using quantitative (threshold) criteria, based on their importance in maintaining species and populations. As the building blocks for designing the ecosystem approach and maintaining effective ecological networks, KBAs can be considered a starting point for conservation planning at landscape level. Governments, intergovernmental organizations, NGOs, the private sector, and other stakeholders can use key biodiversity areas as a tool for identifying national networks of internationally important sites for conservation.

As far as the Mediterranean region is concerned, IUCN operates a centre for Mediterranean Cooperation in Malaga, Spain (see below, under “Initiatives at the regional or sub-regional level”).

### 67. **The IUCN Centre for Mediterranean Cooperation** (taken from Rais and Nottarbartolo 2015)

Has a similar mandate for the Mediterranean region and countries in term of MPAs identification, selection, declaration and management. In collaboration with all Mediterranean partners involved in MPAs, activities in the past 10 years have been orientated to the definition of coherent and representative networks, to the analysis and assessment of the MPAs legal and institutional network, on the proper definition of MPAs criteria and on new governance models for the official recognition of existing areas and the development of the existing network. More precisely, hereafter are listed activities developed with different partners.

- With RAC/SPA, two main activities have been developed, within the framework of MedOpen Seas, the participation to the Alboran Sea, Siculo-Tunisian channel and Adriatic seas processes, and within the MedMPAnet project, the legal and institutional assessment for MPAs in Adriatic countries (Albania, Croatia, Bosnia and Herzegovina and Montenegro)
- With ACCOBAMS, the permanent involvement in the scientific committee and the assistance in the preparation of a Mediterranean survey definition and feasibility.
- With GFCM, the participation to the scientific Adv. Committee and to the Working Group on MPAs
- With MedPAN, the review of the conservation efforts of the non-European Mediterranean countries based on the declaration of all kind of marine conservation areas (using categories and labels) and the enrichment of the existing database of existing and potential sites

- With Oceana, the identification of funding for a deep sea cruise in Lebanon for scientific justification of deep sea areas that could be declared as MPAs.
- On different projects developed in the recent years, legal and institutional reviews concerning MPAs have been conducted in North Africa countries (Morocco, Algeria, Tunisia and Egypt) or eastern Mediterranean (Turkey). North Africa countries monitoring systems for the marine environment have also been analyzed in order to identify potential sources of data for management of the marine environment. At the regional level, an application has been developed for divers and sea users for the signalization of exotic or invasive species in and around MPAs. For Libya, the identification of potential sites for being declared as MPAs has been realised. For Lebanon, a national strategy for MPAs has been prepared with the government with the supporting GIS system allowing integration of data, development of information campaigns and training of national staffs.

#### 68. **Agenda 2020 – IMAPANA - International Marine Protected Areas Network**

To build and strengthen the global marine protected areas network for and beyond 2020: The purpose of this initiative is to build and strengthen current work on the global marine protected areas network for 2020 and beyond. This is in order to assist governments and agencies in facilitating and completing the establishment of coherent and efficient networks of marine protected areas and marine conservation measures at all scales, be they national, regional and global scales.

The “cornerstone” is *“To develop a five year marine protected areas operational program (2015-2020) at global, regional and national levels, capitalizing the Ocean+ IMPAC3 outcomes and results, implementing the ministerial Ajaccio Message, and teaming up with, inter alia, the Action Plan of the Sustainable Ocean Initiative\* (SOI) of the Secretariat of the Convention of Biological Diversity to generate or federate marine protected areas initiatives and projects.”*

The IMPANA Agenda will engage decisions makers, stakeholders and all relevant Marine Protected Areas operational actors on the needs to better achieve the global effective marine protected areas network by enhancing efforts around:

- Communication tools, cultural awareness and blue society outreach ;
- Policy commitment, legal frame and political willingness ;
- Sciences, knowledge, evaluation, data and mapping as tools ;
- Marine spatial planning process, governance and partnership with the fishing sector;
- Mobilizing stakeholders, involving local communities and the wider society ;
- Capacity building and training to management efficiency, monitoring-based ;
- Indicators and certification standards
- Facing the climate change and others external alterations;
- Resources and sustainable financing mechanism, payment for ecosystem services ;
- International cooperation and regional networking.

Details of the IMAPANA initiative are summarized in two points:

##### a) Facilitating progresses (inform inspire influence)

- Develop communication tools, awareness and cultural outreach, to promote the socio-economic services of marine protected areas for bio diversity, human well being and livelihoods
- Encourage sharing scientific and traditional knowledge, data, using miscellaneous maps and new technologies, defining protection measures for ecological and biological significant areas

- Influence policy makers at all levels to commit MPAs strategies and others effective areas- based conservation measures integrating marine spatial planning processes in the framework of national and regional seas policies
- Achieve a regularized, freely and widely accessible, and highly visible reporting process on designation progress against the Aichi target 11 with MPA data and information freely accessible through IT routes thus enabling much more analysis and use of the WDPA information
- Celebrating hope spots and building a community engaged, highly visible and forward-looking agenda of what needs to be protected, not just a focus what has been protected thus far

b) Supporting effective management (involve improve implement)

- Encourage local stakeholders involvement in management, develop governance systems , cross-sectoral dialogue and partnerships with sea users and sea industries at different scales
- Provide expertise, skills, know how, training, know-how, technical cooperation, certification and professionalization to ensure management capacity and efficiency and to face changes by teaming up marine to initiatives such as IUCN's Green List
- Setting up a tool for assessing the achievement of the international targets at the regional and sub-regional levels
- Promote innovative sustainable financing mechanisms, incentives and taxes, payment for ecosystem services, and synergies for funding (e.g trust Fund).

The development of this Agenda is being coordinated by the IUCN Global Marine and Polar Programme (GMPP), with contributions from the IUCN WCPA and other IUCN Commissions. Partner organizations are:

- UN Institutional Organizations
- International and national NGOs
- IUCN membership
- Marine Protected Areas national Agencies
- Private sector

Actions above described will be implemented in the frame of regional, sub regional or national operational projects or initiatives to be dedicated to the protection of large key marine ecosystem areas, e.g. Coral Sea in Oceania ; Mozambique Channel in the West Indian Ocean ; Coastal areas of South East Pacific Ocean ; Coastal areas of West Africa. It does not mention the Mediterranean Roadmap.

*"IMPANA is the roadmap for marine protected areas that we are using in the Global Marine and Polar Programme of IUCN"* says Carl Gustav Lundin, Global Marine and Polar Program Director of IUCN.

*"The Agenda 2020 is the missing link to capitalize on country commitments such as those made at the last International marine protected areas Congress. IMPAC3 had a catalyst effect. IMPANA must operate as an accelerator to achieve the international objectives."* Says Olivier Laroussinie French Marine Protected Areas Agency Director.

Contact is [christophe.lefebvre@aires-marines.fr](mailto:christophe.lefebvre@aires-marines.fr) .

#### 69. Promise of Sydney:

[http://cmsdata.iucn.org/downloads/promise\\_of\\_sydney\\_theme\\_marine.pdf](http://cmsdata.iucn.org/downloads/promise_of_sydney_theme_marine.pdf)

Urgent designation and effective management of MPAs are needed. These areas must reflect indigenous, local community and other stakeholder needs, aspirations and knowledge. They must be complemented by regulatory measures, partnerships, governance, technologies, community empowerment and capacity building to ensure sustainable use of ocean resources outside protected areas, including a new international agreement for the effective governance and management of the high seas.

Participants in the Marine Cross-cutting Theme at the 6th IUCN World Parks Congress in Sydney, Australia (Nov 12-19), make the following recommendations.

- Urgently increase the ocean area that is effectively and equitably managed in ecologically representative and well-connected systems of MPAs... targeting protection of both biodiversity and ecosystem services and should include at least 30% of each marine habitat. The ultimate aim is to create a fully sustainable ocean, at least 30% of which has no-extractive activities.
- Renew and expand our commitment to management effectiveness of all MPAs, based on best available scientific and partnerships with stakeholders....
- Integrate marine protected areas into the broader large-scale marine management initiatives which strengthen networks of marine protected areas, tackle threats that emerge from outside...
- Include MPAs in the UN Framework Convention on Climate Change and the UN International Strategy for Disaster Reduction Post Hyogo framework, recognising them as cost-effective solutions for climate change adaptation, mitigation and disaster risk reduction.
- Protect and manage biodiversity in the high seas, including the seabed, by developing, adopting and bringing into force an international instrument under the UNCLOS through regional efforts in Antarctica, the Arctic, the Sargasso Sea and elsewhere.
- Within the post-2015 UN development agenda, include smart ocean targets under the proposed Sustainable Development Goals such as food security, poverty alleviation, sustainable consumption and production and climate.
- Detect and prevent illegal fishing and other illegal activities at sea... and support collaborative learning among fisheries and MPA managers.
- Design and manage MPAs for human as well as ecological benefits....
- Scale up marine conservation through inspiring solutions undertaken by resource user groups and using new technology, social media and learning networks to reach new audiences.
- Develop innovative partnerships to accelerate and secure new long-term funding... apply and improve environmental standards and transparency in supply chains that influence the oceans... harness the unique skill set of the business and private sector to help tackle marine conservation challenges (e.g. technology, facilities, business skills, engineering, marketing, and communications)" and (d) facilitate the sharing of data.

At the congress in Sydney, a roadmap was launched to accelerate the creation of genuine marine reserves in international waters, where only 0.25% is protected. F. Simard (IUCN) put it this way: *"There is now an open process in the United Nations to reach agreements that allow us to create protected areas in international waters. It took three years to reach the decision that the negotiations were opened and experts estimate that these will last another 10 years"... "Seldom was so true the old environmental slogan: without money over the table, conservation is only conversation"*.

#### 70. Key Biodiversity Areas ([www.keybiodiversityareas.org](http://www.keybiodiversityareas.org)).

KBA are *"sites that contribute significantly to the overall persistence of biodiversity"*:

- A. Biodiversity threatened
- B. Biodiversity geographically restricted
- C. Ecological Integrity
- D. Biological processes and,
- E. irreplaceability by quantitative analysis.

As IUCN announced after its WCC in Hawai (2016) *"This work is based on over 40 years of experience in identifying sites for different taxonomic, ecological or thematic subsets of biodiversity, particularly at important sites for the conservation of birds and biodiversity, but also in sites for the Alliance for Zero Extinction and Key Biodiversity Areas identified using previously published criteria. To date, more than 18,000 KBA have been identified in terrestrial, marine and freshwater environments worldwide."*

Collaboration has emerged during this process and as a result, 11 world leader conservation organizations have committed to support the identification, mapping, monitoring and safeguarding the KBA through a Partnership for KBA. This Collaboration will support countries and decision makers through the mobilization of experience, knowledge and resources of partner organizations for:

- Identification, mapping and documenting thousands of Key Biodiversity Areas worldwide
- Promoting conservation actions directed Calves Biodiversity Areas; and
- Informing and influence decision-making in public policy and the private sector.

Collaborators for KBA are: Amphibian Survival Alliance, BirdLife International, Conservation International, Critical Ecosystem Partnership Fund, Global Environment Facility, Global Wildlife Conservation, IUCN, Natureserve, RSPB, Wildlife Conservation Society and World Wildlife Fund International.

#### 71. **Blue Solutions project** - <http://bluesolutions.info/>

The Blue Solutions Project provides a global platform to collate, share and generate knowledge and capacity for sustainable management and equitable governance of the blue planet. It synthesizes lessons learnt and best practice in marine and coastal management – innovative concepts and practical approaches that inspire action towards healthy ecosystems that sustain biodiversity and human well-being. Those are what they call “Blue Solutions”. Blue Solutions works on five subject areas, through a partnership of four organizations, with IUCN’s Global Protected Areas Programme and Global Marine and Polar Programme focusing on the topic of Coastal and Marine Protected Areas (MPAs); documenting, promoting and sharing experiences from MPAs around the world, highlighting different governance models and community based approaches, successful application of the IUCN Protected Area Management Categories, and the role of MPAs in enhancing resilience and disaster risk reduction. Through these, Blue Solutions aims to enhance the evidence base of MPAs addressing both human needs and conserving nature. By providing a platform for sharing and exchange, Blue Solutions aims at making a contribution towards supporting decision makers and MPA practitioners in applying “solutions” and achieving the Marine and Coastal Aichi Targets. Blue Solutions works in the marine and coastal realm on the topics: Coastal & Marine Management / Protected Areas / Integrating Ecosystem Services / Climate Change / Sustainable Financing. It is a web tool providing links and information between interested managers and experts.

#### 72. **Panorama project** - <http://panorama.solutions>

The Panorama is an effort to collate protected area case studies that showcase how protected areas provide solutions to some of the world’s challenges. The Panorama *“allows practitioners to share their stories and to learn about how others have tackled problems related to Protected Areas across the globe”*. The goal is to transform the way that solutions are seen: not as fixed, context-specific proof-points, but instead, as successes that can be leveraged to inspire and catalyse progress that transcends geography, issue, and scale. The initial portfolio of solution case studies was launched at the IUCN World Parks Congress (WPC) in Sydney, together with the first prototype of an online Protected Area solutions platform. The case studies are being documented using a standard format and published on the web platform.

#### 73. **Establishing Resilient Marine Protected Area Networks** — Making It Happen

[https://cmsdata.iucn.org/downloads/mpanetworksmakingithappen\\_en.pdf](https://cmsdata.iucn.org/downloads/mpanetworksmakingithappen_en.pdf) Considers best practices for regional MPA networks, and recommends five Ecological Guidelines for Designing Resilient MPA Networks

- Include the full range of biodiversity present in the biogeographic region
- Ensure ecologically significant areas are incorporated
- Maintain long-term protection, and
- Ensure maximum contribution of individual MPAs to the network.

## IX. REGIONAL AND INTERNATIONAL NGOS

74. **MedPAN** is the Network of Marine Protected Areas managers in the Mediterranean (Summary taken from Rais and Nottarbartolo 2015) - UNEP(DEPI)/MED WG.408/Inf.26

The network exists since the 1990s and since 2010 it is run by the MedPAN organization, a permanent structure with dedicated funds established in late 2008. The network brings together Mediterranean MPA managers and supports them in their management activities; it includes over 60 members - mainly management entities of Marine Protected Areas - and 39 partners willing to contribute to the creation and management of MPAs in 18 countries. These actors manage more than 100 Marine Protected Areas.

The 2013-2017 MedPAN strategy is built around 3 strategic axes:

1. Be a network for knowledge, information, anticipation and synthesis
2. Reinforce the vitality of the network, the exchanges between its members and their capacity to effectively manage their MPAs together with local stakeholders
3. Reinforce the sustainability, prominence, governance and resources of the MedPAN network

MedPAN works with its members and partners as well as with local, national, regional and international governmental and non-governmental organisations to develop its activities.

- The MedPAN mission is to promote, through a partnership approach, the sustainability and operation of a network of Marine Protected Areas in the Mediterranean, which are ecologically representative, connected and effectively managed to help reduce the current rate of marine biodiversity loss.
- MedPAN works with its members and partners as well as with governmental and nongovernmental organizations on a local, national, regional and international level. The activities carried out by the network are the result of a strong coordination between its components so as to ensure effectiveness and reach.
- Key players in the Mediterranean such as UNEP/MAP-RAC/SPA, WWF, the Conservatoire du Littoral, IUCN Mediterranean, the French Agency for Marine Protected Areas, ACCOBAMS and GFCM are partners of the network and are working together to synchronize their activities. The MedPAN organization, which coordinates the MedPAN network has a unifying and dissemination role and also has its own activities on certain themes. Some actions in which MedPAN has a key role are:
  - MAPAMED, the Mediterranean MPA database
  - Mediterranean MPA Status Report, published every four years
  - Exchange of experiences between managers
  - Call for Small Projects
  - Newsletter and website
  - MPA Forum held in Antalya (Turkey, 2012) and new ones organized every four years
  - Mediterranean Roadmap for MPAs towards 2020 approved in Antalya (2012)
  - Network representation in European, Mediterranean and international conferences.



**75. WWF Mediterranean Marine Programme.** (Summary taken from Rais and Nottarbartolo 2015) - UNEP(DEPI)/MED WG.408/Inf.26

WWF has been active in the Mediterranean region for over 20 years, operating in over 18 countries, engaging more than 20,000 people. WWF has brought together, through the Mediterranean Initiative, all 6 WWF Offices present in the region to work towards common conservation targets, with a strong focus on fisheries policy, MPA management effectiveness and capacity building. WWF was also a key player in the establishment and launching of the MedPAN network and the MedArtNet Network.

One of the goals of WWF is to achieve, by 2020, a network of coastal and marine protected areas, where their communities, and economic actors will develop innovative methods of protecting biodiversity to secure benefits through blue/green economies. This is in line with the CBD Aichi Target 11. For this reason, WWF has followed closely and contributed to the implementation of the SPA Protocol, in collaboration with UNEP-MAP and its Regional Activity Center. Over the last 5 years, WWF made significant investment in advancing several MPAs from the status of “paper-parks” to effectively managed MPAs, specifically in Croatia, Turkey, Albania, Algeria and Italy. WWF promotes a multi-stakeholder approach to MPA management and has catalyzed the development of new management plans, which stakeholders and community contributed to elaborate. The success of WWF has been the integrated regional-scale approach, bringing together practitioners from several areas of the Mediterranean to exchange, discuss and dialogue to find common solutions to MPA problems. WWF coupled its work on MPA management effectiveness with a strong capacity building program, probably the widest in the region. Through this program, managers begun to understand the need of a participatory approach and the opportunity for MPAs to deliver social, economic and ecological benefits. WWF supported MPA managers in Spain, Greece, Turkey, France, Libya and several other countries to identify and establish new MPAs and to engage fishermen and tourism operators towards sustainable management.

WWF works in close collaboration with UNEP-MAP and its activity centers, the GFCM, IUCN and it is member of the MedPAN board and currently holds the Vice-Presidency of the EU - Mediterranean Advisory Council for Fisheries. WWF conducted the first regional analysis of key maritime activities, highlighting the most likely integrated scenarios of marine economic growth at a transnational level in Med-EU countries for the next 20 years. The potential cumulative impacts of human activities at sea was assessed and put into the perspective of the 10% marine protected areas target set for the Mediterranean

**76. WWF Living Blue Planet Report: Species, Habitats and Human Well-being**  
([http://d2ouvy59p0dg6k.cloudfront.net/downloads/living\\_blue\\_planet\\_report.pdf](http://d2ouvy59p0dg6k.cloudfront.net/downloads/living_blue_planet_report.pdf)).

This report provides the most accurate picture of the state of the ocean--and the results are not good. We have lost half the fish populations that we rely on in less than half a century. The findings spell trouble for all nations, but will especially impact people in the developing world who rely on seafood for their daily diets and economic livelihoods.

**77. WWF Reviving the Ocean Economy: The case for action – 2015**

This campaign underlines how the value of the ocean’s riches rivals the size of the world’s leading economies, but its resources are rapidly eroding. The report analyses the ocean’s role as an economic powerhouse and outlines the threats that are moving it toward collapse. But it is not too late to reverse the troubling trends and ensure a healthy ocean that benefits people, business and nature. This report presents



an eight-point action plan that would restore ocean resources to their full potential. Executive summary: <http://wwfintcampaigns.s3.amazonaws.com/ocean/media/RevivingOceanEconomy-SUMMARY-lowres.pdf>

It focuses on 8 Objectives (here called Actions):

1. Ensure ocean recovery features strongly in the UN Post-2015 Agenda, including the Sustainable Development Goals (SDGs). Goal 14 of the SDGs focuses specifically on the ocean, namely to *“conserve and sustainably use the oceans, seas and marine resources for sustainable development.”* Indicators under this goal must address issues such as habitat destruction, overfishing, illegal fishing and marine pollution, and solutions must be crafted in an equitable and participatory way.
2. Address the problems of ocean warming and acidification.
3. Countries should deliver against the agreed target for at least 10 per cent of coastal and marine areas to be protected and effectively managed by 2020, with an increase to 30 per cent by 2030. This is not just about the extent of area protected; it is about establishing representative networks of marine protected areas that are most important for delivering outcomes for biodiversity, food security and livelihoods.
4. With 61.3 per cent of the world’s fisheries now fully exploited, and 28.8 per cent over-exploited, depleted or recovering from depletion, there is an urgent need to revise policies to ensure that the over-exploitation and destruction of fisheries does not continue, and to deal with the problem of illegal fishing.
5. We need appropriate international mechanisms for negotiation and collaboration, a “Blue Alliance” of concerned maritime countries will provide leadership and build the case for a rapid and comprehensive set of actions on behalf of the ocean, a coalition to build international will and foster the shared global responsibility and informed decision-making that are important when it comes to ocean resources. It will also be important to establish a global fund to support countries that have fewer resources and are more vulnerable to the impacts of ocean degradation.
6. Appropriately structured public-private partnerships that take into account the well-being of communities, ecosystems and business.
7. Communities and countries must develop complete, transparent and public accounting of the benefits, goods and services that the ocean provides.
8. Develop an international platform to support and share ocean knowledge and solutions through which problems can be understood, and solutions and methodologies evaluated and applied.

#### 78. **WWF Global reports**

Where sound arguments are provided to make the case for the establishment of an ecological and coherent network of effective MPAs. Recommendations can be used to assess the current situation in the Mediterranean.

79. **WWF, MedPAN and others.** Study on the level of engagement of fishermen in the success of MPAs – particularly relevant cases in Côte Bleue, in Gökova, and in Torre Guacetto for stakeholder involvement <http://www.medpan.org/documents/10180/0/Fishermen+engagement+in+Mediterranean+MPAs/5dcd49a5-2fc8-4211-83ab-0956bcc80a48>

#### 80. **Birdlife**

Using seabird data to describe EBSAs (by Ben Lascelles, BirdLife International) highlighted the presence of BirdLife International in the region. BirdLife has 18 partners working in the

Mediterranean, some being very active in marine research (e.g., Spain, France, Malta, and Greece) and developing new science to support seabird conservation, while others currently lack the capacity to engage fully in marine issues. BirdLife's Important Bird Area (IBA) programme uses standardized criteria and thresholds to define key sites for nature conservation and has been underway for more than 30 years. Comprehensive IBA inventories of the key sites for seabird conservation have been completed for a number of countries in the Mediterranean over the last few years. Many of these inventories have combined multiple data sources on seabird distribution (e.g. tracking, at-sea surveys, habitat suitability models, foraging predictions, coastal counts etc.) to identify sites that meet IBA criteria and thresholds. Information on the IBAs in the Mediterranean was made available for the workshop discussions. The paper also discusses the "Tracking Ocean Wanderers: the global seabird tracking database," which is managed by BirdLife on behalf of the seabird research community. Twenty seabird tracking data sets were made available by research institutes and analyzed to support the workshop discussions.

#### 81. **Birdlife Mediterranean Flyway:**

In the first-ever assessment of the scope and scale of illegal killing in the Mediterranean by BirdLife International, it was found that 12-36 million birds per year, mainly songbirds, may be killed illegally by shooters and trappers. Birdlife is developing a growing **network** of people and organisations (Croatia, Lebanon, Malta, Macedonia, Montenegro, Morocco, Tunisia, Turkey) that can share expertise and coordinate Mediterranean-wide initiatives to look after avian Mediterranean migratory guests. The **Capacity Development for Flyway Conservation in the Mediterranean**, funded by the MAVA Foundation, is establishing a Mediterranean Flyway Conservation Network involving over 20 NGOs. In its **second phase** (2015-2017), also funded by MAVA, the is strengthening a dynamic NGO network to work with local people, governments, and the international community. BirdLife International includes its Middle East office and the BirdLife Partners DOPPS/BirdLife Slovenia and LPO - Ligue pour la Protection des Oiseaux/BirdLife France, is also providing the *Regional Implementation Team* (RIT) for the Critical Ecosystem Partnership Fund (CEPF) in the Mediterranean Hotspot.

#### 82. **Birdlife Mediterranean marine birds:**

The BirdLife Partnership is also working with national governments and international bodies to create a network of Marine Protected Areas. The BirdLife Strategy 2013-2020 is linked to and fully supportive of the CBD Strategic Plan for Biodiversity. BirdLife has been working with the CBD for many years and we have a Memorandum of Understanding with the Convention as a platform for coordinating activities in support of achieving the Aichi Targets. Primarily focused on supporting the CBD's push to identify Ecologically or Biologically Significant marine Areas (EBSAs) in need of protection and management, this has involved extensive data compilation and analysis for all expert workshops convened to date. The International Plan of Action for reducing incidental catch of seabirds in longline fisheries (IPOA-Seabirds) was developed by the UN Food and Agriculture Organization (FAO) in 1998. Countries are encouraged by the FAO to implement National Plans of Action (NPOAs). BirdLife works nationally to support the development of effective NPOAs. BirdLife also supported the development of the FAO's **Best Practice Technical Guidelines** to guide effective NPOAs and to expand the IPOA to all fisheries. To support seabird conservation efforts and sound decision making, they manage a range of databases, including the global e-atlas of marine **Important Bird Areas** (around coasts, in territorial waters and on the high seas). BirdLife Partners, national experts and the scientific community with whom they develop the marine Important Bird Area network; and fishers and fisheries managers, with whom they have conducted seabird bycatch workshops to **identify gear changes** that can make fishing less hazardous to seabirds. The BirdLife

Partnership is also working to protect seabird nesting sites on land, especially by **eradicating invasive species**.

83. **CoCoNet** (<http://www.coconet-fp7.eu/index.php/about-coconet>)

“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). The coastal focus will be widened to off-shore and deep sea habitats, comprising them in MPAs Networks. It aims at developing a timely holistic approach and integrating the Mediterranean and Black Seas scientific communities through intense collective activities and a strong communication line with stakeholders and the public at large. The project will produce the guidelines to design, manage and monitor network of MPAs, and an enriched wind atlas for both the Mediterranean and the Black Seas, creating a permanent network of excellent researchers.

The topics under working commissions are: Management; habitat mapping, state of knowledge and data integration; Species assemblages, dispersal and connectivity; Scenarios of environmental change (natural and human induced), role and response of the MPAs; Offshore windfarms and marine protected areas; Information dissemination and outreach; training and capacity building; Data management and synthesis; and Pilot Projects (for the Black Sea and for the Mediterranean).

84. **Critical Ecosystem Partnership Fund (CEPF):**

The CEPF created in 2000, provides grants to civil society stakeholders in order to protect naturally rich but threatened ecosystems. CEPF investments in the Mediterranean Basin focus on six priority biodiversity conservation corridors with 50 of the highest priority key biodiversity areas. The six corridors are:

- Southwest Balkans • Mountains, Plateaus and Wetlands of Algerian Tell and Tunisia • Atlas Mountains • Taurus Mountains • Cyrenaican Peninsula • Orontes Valley and Lebanon Mountains.

Twenty more key biodiversity areas that represent highly irreplaceable and vulnerable sites in five other corridors will be the focus of site-level investments. A number of these sites contain some of the last remaining pristine coastlines in the Mediterranean Basin. Their STRATEGIC DIRECTION INVESTMENT PRIORITIES (1) is to Promote civil society involvement in Integrated Coastal Zone Management **to minimize the negative effects of coastal development in three priority corridors (Southwest Balkans; Cyrenaican Peninsula; and Mountains, Plateaus and Wetlands of Algerian Tell and Tunisia), and 20 coastal and marine priority key biodiversity areas in other corridors.**

In total, 15 countries will be eligible to receive CEPF funds. CEPF's niche will be to work with all actors engaged in conservation and development activities in Mediterranean Basin countries to foster partnerships in priority corridors and sites..... investment in the south presents an important opportunity to ensure that areas with high biodiversity and high levels of threat, yet not as large of an ecological footprint, can be effectively protected.

*“CEPF thanks the Prince Albert II of Monaco Foundation and the MAVA Foundation for their support for the development of the Mediterranean Basin Ecosystem Profile.”*

There is an Interactive map of conservation projects supported by CEPF in the Mediterranean: <http://birdlife.maps.arcgis.com/apps/MapJournal/index.html?appid=0370696a3e124396bf4954f5fefb09c> It may be under construction, I could not operate it online; I do not see anything relevant (for the time being); maps unfinished, although with protected area polygons.

**85. Macro regional strategies CRPM:**

[http://www.medmaritimeprojects.eu/download/MyTemplate/Pdf/Road\\_Map\\_Macro-Regional\\_Strategies.pdf](http://www.medmaritimeprojects.eu/download/MyTemplate/Pdf/Road_Map_Macro-Regional_Strategies.pdf)

Europe's shoreline brings both advantages and specific difficulties, about 150 Regions have come together to form the Conference of Peripheral Maritime Regions of Europe (CPMR). This is a bit fuzzy melting of regions and sub-strategies, but they have:

- A global Integrated Macro-Regional Mediterranean Strategy to be developed in the mid-long term perspective - EUSMED (Global draft action plan by 2017 during the Maltese presidency, to be updated every 3 years starting from 2020) that should include three interconnected strategies:
  - o the Adriatic-Ionian Strategy - EUSAIR (ongoing pilot. Action plan by 2014),
  - o the Western Mediterranean – EUSWEST Med (Action plan by 2016),
  - o the Eastern Mediterranean – EUSEAST Med (Action plan by 2020).

The EUSAIR – built on the solid base of the Maritime Strategy for the Adriatic and Ionian (2012) - could work as a first pilot at a governance level.

**86. Oceana MedNet:**

MPA Network Proposal for the Mediterranean Sea. Biological and geomorphological data were compiled through GIS generating a complex of 385 priority sites. Out of this information 159 sites were initially selected and after an analysis of each site, the different locations were put into groups based on proximity. The final result was 100 priority areas, constituting Oceana's proposal for a network of Mediterranean MPAs. Recently, out of these 100 sites, Oceana proposed 30 sites as priority areas which were selected according to the above mentioned criteria (Micheli et al. 2013).

**87. Greenpeace**

The Greenpeace proposal for a regional network of marine reserves in the Mediterranean was based on the determination of areas of high ecological importance based on spatial data relating to the region's biological diversity and physical oceanography. Data layers used in mapping the network included distribution of species, important areas for marine species, important habitats, sites previously identified as priorities for protection, such as SPAMI and Natura 2000 sites (Micheli et al. 2013).

**88. MedReAct**

Its main focus is to contribute to the health of the Mediterranean Sea by fostering the recovery of fish stocks and conservation of critical habitats. For more information: [www.medreact.org](http://www.medreact.org) Domitilla Senni. They promote initiatives to increase public and institutional awareness on the dire state of commercial fish stocks in the Med, on the plague of illegal and destructive fishing. *"Our efforts are also directed at promoting conservation measures such as Fisheries Reserves and no-take areas with stakeholders, fisheries managers, scientists and media".*

## X. CLIMATE CHANGE:

### 89. UNEP/MAP Mid-Term Strategy 2016-2021 - MTS and Climate Change:

**CROSS-CUTTING THEME 3: CLIMATE CHANGE ADAPTATION** This theme corresponds to the 4th MSSD objective and partly to SDG 13. It also aims at assisting the Contracting Parties in their efforts to implement the ICZM Protocol of the Barcelona Convention (Articles 22 and 23). The Mediterranean has long been identified as a "climate change hotspot" impacts in the region are becoming increasingly evident: observations over the last decades show that temperatures have risen faster than the global average and that dry spells are becoming frequent. All model projections agree on the region's future warming and drying with potential huge risks and costs to the region's economy, population centers and biodiversity. The Mediterranean Region is considered as "high vulnerable to climate change" and it suffer multiple stresses and systemic failures due to climate changes" (IPCC Fifth Assessment Report (AR5, 2014). The projected impacts (2081-2100 compared to 1986-2005) mentioned in the Report include an increase of 4-7°C in surface mean air temperature in the worst case scenario (RCP 8.5), 10-20% decreases in mean annual precipitation, increased risk of desertification, soil degradation, an increase in duration and intensity of droughts, changes in species composition, increase of alien species, habitat losses, agricultural and forests production losses. The EU funded "Climate Change and Impact Research: the Mediterranean Environment" (CIRCE) project leads to similar conclusions.

UNEP/MAP has been working on the issue of climate change impacts on the marine and coastal zone as far back as in the 1990's. Aimed to further work on that, the 'Strategic Action Programme for the Conservation of Biological Diversity in the Mediterranean Region' (SAP BIO) was updated on climate change issues, and a related Synthesis Document giving an overview on priority national needs and urgent actions related to vulnerability and impacts of climate change on biodiversity in marine and coastal areas was issued in 2009. At the 16th Meeting of the Contracting Parties to the Barcelona Convention in 2009, the "Marrakesh Declaration" agreed to "Implement effective coordination to ensure the integration of climate change issues into development policies with the aim of achieving the Millennium Development Goals and the objectives of the MSSD, and ensure the strengthening of cooperation for the sharing of experience in the field of surveillance (early-warning systems) and the development and implementation of adaptation and risk-management strategies ". There are several regional adaptation framework for the Mediterranean coast and marine environment, with which cooperation will be necessary. The MTS cross-cutting theme "Climate Change" takes into account the Regional Climate Change Adaptation Framework and sets out two Strategic Objectives on this topic:

- To strengthen the resilience of the Mediterranean natural and socioeconomic systems to climate change by promoting integrated adaptation approaches and better understanding of impacts
- To reduce anthropogenic pressure on coastal and marine to maintain their contribution to climate change adaptation.

For the period 2016-2021, there are five mentioned Strategic Objectives. They focus on regional implementation, new action plans and programmes, strengthening national implementation, monitoring/assessment, and capacity building. Among the Indicative Key Outputs, one can point out related regional strategies, methodological tools, action plans, programmes, awareness raising, and emerging issues.

- Climate Change Adaptation main activities identified and mainstreamed into the implementation of existing regional strategies, regional action plans and measures.
- Selected actions of the SCP Regional Action Plan directly contributing to address climate change in the marine and coastal areas of the Mediterranean implemented.

- Climate Change Adaptation, including related vulnerabilities and risks, key activities mainstreamed into the development of new/updated regional strategies, regional action plans and measures addressing biodiversity, pollution and land and sea interaction.
- Climate Change-related vulnerabilities and risks considered in the development and implementation of biodiversity, pollution and land and sea interaction related regional strategies, action plans and measures through the EcAp.
- Promote integration of ecosystem-based responses in National Climate Change Adaptation Strategies. Climate change adaptation priority fields identified and mainstreamed into the relevant MAP policies, as appropriate.
- Climate Change vulnerability issues considered in exist monitoring programmes.
- Awareness and engagement of key stakeholders change adaptation and on its links with the core themes enhanced.

ALSO SEE **reference 13 - BarCon Decision IG.22/6 Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas**

90. **The Ministerial Meeting** on Environment and Climate Change 13 May 2014, Athens – Union for the Mediterranean. DECLARATION: As regards other environmental issues, Ministers:

- reaffirm the fundamental value of biological diversity, in particular the marine and coastal ecosystems that provide goods and services essential for sustaining the livelihoods of people across the Mediterranean region;
- in this context, reaffirm their commitment to achieve the Aichi Targets of the Convention on Biological Diversity and the commitments under the Barcelona Convention, in particular relating to marine protected areas, the ecosystem approach, and the action plan on ICZM. In this context, Ministers welcome the creation by Monaco, France and Tunisia of a Trust Fund for Marine Protected Areas in the Mediterranean, open to all parties;

91. **MedPAN Training Workshop on Climate Change 2014** (Cap de Creus & Medes) The summary report: [http://195.97.36.231/dbases/MAPlibraryHoldings/Medpartnership/FINAL%20REPORTS/Sub-Comp%203.1%20MPAs/3.1.3%20Improved%20management/3.1.3.2%20Tech%20assistance%20&%20twinning/Climate%20Change%20in%20Mediterranean%20MPAs%20training%20workshop\\_Summary%20report\\_FINAL.pdf](http://195.97.36.231/dbases/MAPlibraryHoldings/Medpartnership/FINAL%20REPORTS/Sub-Comp%203.1%20MPAs/3.1.3%20Improved%20management/3.1.3.2%20Tech%20assistance%20&%20twinning/Climate%20Change%20in%20Mediterranean%20MPAs%20training%20workshop_Summary%20report_FINAL.pdf)

**Marine reserves cannot fully or directly protect against these environmental problems:** Invasive species - Global warming - Impacts from the watershed / runoff - Impacts from the coastal zone

- **Global Climate Change Effects:** Increase in average sea surface temperature - Increase in sea level - Changes in ocean currents and upwelling - Changes in patterns of runoff from land - Changes in evaporation rates. *The Sea level has risen 10-25 cm in the past century. Extreme events cause acute stress, resulting in disease in death, particularly to sessile species. Heat stress a main factor in triggering disease mostly affecting: sponges, cnidaria, bryozoa, mollusks and tunicates*

Steps for strengthening a regional Observatory network on climate change, including MPA collected data, was explored in order to contribute to the international ocean conservation community. To reach this objective, the process of creation of a Task Force for further assistance to MPA managers willing to integrate climate change monitoring in their monitoring practice was initiated. This



initiative falls under one of the objectives of the MedPAN network at large Strategy 2013-2017 where the Climate Change Strategy led by IUCN Med - RAC/SPA) has been developed and to which MedPAN and its partners will contribute to facilitate and coordinate. Following this workshop, a number of participants will implement some of the monitoring tools presented during the working sessions. MedPAN announced that limited funding was available to support MPAs that do not have the budget yet are ready to contribute to this regional effort (funded by the Total Foundation).

92. **Otero, M., Garrabou, J., Vargas, M. 2013.** Mediterranean Marine Protected Areas and climate change: A guide to regional monitoring and adaptation opportunities. Malaga, Spain: IUCN. 52 pages. *IUCN-Med in the framework of the past European MedPAN North project (2010-2013) in cooperation with the Regional Activity Centre for Specially Protected Areas (RAC/SPA) and MedPAN, has focused part of its work to give some guidance to MPA managers on how to measure the impact of climate change on the marine biodiversity of protected areas and how to improve the planning for the mitigation of this important threat - IUCN elaborated guide provides a suite of key indicators that can facilitate monitoring in MPAs and lead to an understanding of the impact of climate change on their biodiversity.*
93. **Report of the ACCOBAMS** expert workshop on the impact of climate change on Cetaceans of the Mediterranean and Black Seas; ACCOBAMS-WCC/2014/Doc 02 : [http://www.accobams.org/index.php?option=com\\_content&view=article&id=1187:accobams-expert-workshop-on-the-impact-of-climate-change-on-cetaceans-of-the-mediterranean-and-black-seas&catid=53:workshops&Itemid=67](http://www.accobams.org/index.php?option=com_content&view=article&id=1187:accobams-expert-workshop-on-the-impact-of-climate-change-on-cetaceans-of-the-mediterranean-and-black-seas&catid=53:workshops&Itemid=67)
94. **The T-MedNet project:** [www.t-mednet.org/](http://www.t-mednet.org/)

Is a network of MPAs initially in France, Italy and Turkey for monitoring systems and the early detection of CC changes

[http://www.medpan.org/en/ennews/-/blogs/new-t-mednet-verticals-installed-in-the-mediterranean?\\_33\\_redirect=http%3A%2F%2Fwww.medpan.org%2Fen%2Fennews%3Fp\\_id%3D33%26p\\_p\\_lifecycle%3D0%26p\\_p\\_state%3Dnormal%26p\\_p\\_mode%3Dview%26p\\_p\\_col\\_id%3Dcolumn-2%26p\\_p\\_col\\_count%3D2%26\\_33\\_groupId%3D18747%26\\_33\\_keywords%3DT-MedNet%26\\_33\\_page%3D1%26\\_33\\_struts\\_action%3D%252Fblogs%252Fsearch%26\\_33\\_redirect%3Dhttp%253A%252F%252Fwww.medpan.org%252Fen%252Fennews%253Fp\\_id%253D33%2526p\\_p\\_lifecycle%253D0%2526p\\_p\\_state%253Dnormal%2526p\\_p\\_mode%253Dview%2526p\\_p\\_col\\_id%253Dcolumn-2%2526p\\_p\\_col\\_count%253D2%26\\_33\\_formDate%3D1463748947618](http://www.medpan.org/en/ennews/-/blogs/new-t-mednet-verticals-installed-in-the-mediterranean?_33_redirect=http%3A%2F%2Fwww.medpan.org%2Fen%2Fennews%3Fp_id%3D33%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-2%26p_p_col_count%3D2%26_33_groupId%3D18747%26_33_keywords%3DT-MedNet%26_33_page%3D1%26_33_struts_action%3D%252Fblogs%252Fsearch%26_33_redirect%3Dhttp%253A%252F%252Fwww.medpan.org%252Fen%252Fennews%253Fp_id%253D33%2526p_p_lifecycle%253D0%2526p_p_state%253Dnormal%2526p_p_mode%253Dview%2526p_p_col_id%253Dcolumn-2%2526p_p_col_count%253D2%26_33_formDate%3D1463748947618)

Set up in situ sea water temperature and other low cost monitoring recording device at different MPAs to record high resolution data in their coastal waters - these high-resolution temperature series are collected by different teams at 21 sites across the Mediterranean. Most of these sites are MPAs and some of their managers are actively involved in collecting temperature data (namely the Cerbère-Banyuls Marine Nature Reserve, Cap d'Agde, Côte Bleue Marine Park, Port Cros National Park and Scandola Nature Reserve in France). The managers learnt to set up the logging stations, calibrate the sensors and upload the data files for their sites through training sessions and contact with scientists. These data series have been crucial for the detection and characterization of positive temperature anomalies related to recent mass-mortality events. A [MedPAN small project](#) supported development of this monitoring.

95. **IUCN 2016 «Revised guide to supporting coastal wetland programs** and projects using climate finance and other financial mechanisms» (see [report](#)):



Recently, coastal wetlands have been recognized for their carbon storage and sequestration value, and conversely the emissions released when these ecosystems are degraded or destroyed, opening the door for wetland managers to explore funding sources directed towards climate mitigating efforts. This report addresses specific coastal wetland issues for example in the context of Marine Spatial Planning (MSP) and Integrated Coastal Zone Management (ICZM).

#### 96. The **Monaco Blue Initiative**:

Dealing with CC and the oceans, and especially the role of MPAs with relevant recommendations to review the roadmap according to climate change challenges. UNFCCC COP21 has brought the oceans to the first line in climate change mitigation and adaptation. Monaco, France and Chile launched the "Because the Ocean" initiative, supported by more than 20 signatory countries. It focuses on the ocean as a relevant climate regulator and on the critical role it will play in the implementation of the Paris Agreement on climate change, and has already brought a lot of momentum to the strategy and policy debate.

MPAs are crucial to the recovery of ecosystems, services and fisheries. As such, MPA creation should be acknowledged as a significant national effort in the global response to climate change. Christophe Lefebvre of France's Marine Protected Areas Agency said that while MPAs can't halt climate change, they can help greatly with adaptation. As Article 7 of the COP21 accord says, countries must enhance adaptive strategies, strengthen resilience and reduce vulnerability to climate change. MPAs are a nature-based solution for preserving marine ecosystems that help with climate change. In the future, we should include the climate change issue as a component of all MPA management plans, which today mainly focus on biodiversity. We must also integrate climate change and resilience into national, regional and global strategies, and MPA networks; An important challenge for the scientific community is to establish a methodology for conducting an inventory of ecosystem areas key to preserving the ocean's climate change machinery, Lefebvre said.

Climate-change issues must be integrated into MPA design and management, and in management of MPA networks, for greater coherence and efficiency; this could incorporate the possibility of moving MPAs as conditions change.

MPAs as refugia: MPAs are efficient management tools for ameliorating human impact on coastal and marine ecosystems. By increasing ecosystem stability, they promote resilience and faster recovery from disturbance. Adaptation to climate change consists mainly in monitoring the changes originated by climate change, forecasting its effects.

MPAs as sentinels of climate change: where the effects of climate change can be studied and management strategies can be developed to adapt to such negative effects; long-term datasets will result in a greater understanding of the natural variability in the way MPA environments respond to climate change stressors

MPAs as guardians: MPAs have more healthy ecosystems and more viable populations of many species than non-protected sites. These elements can be crucial for the regeneration of surrounding areas where the impacts of climate change have been more important. To build resilience in social and ecological aspects, MPAs develop adaptive management plans that are essential elements for adjusting to the rapidly changing sea. Several of the best examples brought here are related to tropical marine ecosystems, and to coastal planning and adaptation.

MPAs as schools: to increase awareness and understanding about climate change impacts and the vulnerability of marine biodiversity. As an example, seabed photo points are an inexpensive and very effective technique for monitoring changes in benthic marine communities, in which photographs are taken from fixed points at intervals over a period of time. The technique is being used, for example, in Estrecho Natural Park (Andalusia, Spain) in the Gibraltar Strait, where a photographic monitoring programme has been set up in rocky habitats with the help of local diving clubs, nature lovers and university researchers.

MPAs as governance examples: Only through strong cooperation and willingness can social and ecological adaptation be achieved. MPAs are best place to create consensus and awareness that the issue of climate change is a complex one that requires the involvement of all stakeholders (fishermen, tourism operators, divers...).

MPAs and Blue Carbon: MPAs help reduce and avoid carbon emissions from blue carbon ecosystems. And when the MPAs involve active ecosystem restoration - such as of mangroves, saltmarshes, and seagrasses - they also help increase carbon sequestration. effective management of existing MPAs or creation of new MPAs can be financially supported through Blue Carbon financing mechanisms. “The goal of coastal blue carbon efforts is to incentivize better management of these systems using a variety of climate change policies and financial incentives” (Dorothee Herr, IUCN). These approaches include the [UN's Reducing Emissions from Deforestation and Forest Degradation \(REDD+\) program](#), (see ahead) which creates a financial value for the carbon stored in forests, and offers financial incentives for developing nations to foster conservation and enhancement of their forest carbon stocks.

Some examples are:

- EBM Toolbox for measuring Blue Carbon: <https://meam.openchannels.org/news/meam/ebm-toolbox-tools-and-resources-measuring-blue-carbon>
- IUCN [report](#) in January 2016 on using climate finance and other financial mechanisms to support coastal wetland programs and projects.
- MedPAN small project led by [MedCEM in Montenegro](#): economic benefits of sustainable development and potential blue carbon value of the future Katic MPA, Montenegro
- [LIFE Blue Natura](#) – this project represents an ambitious and innovative initiative to quantify blue carbon and protect coastal habitats in **Andalusia**

## 97. Blue Carbon International Initiative

Is a global program working to mitigate climate change through the restoration and sustainable use of coastal and marine ecosystems. The Initiative currently focuses on mangroves, tidal marshes and seagrasses. The Blue Carbon Initiative brings together governments, research institutions, non-governmental organizations and communities from around the world. The Initiative is coordinated by Conservation International (CI), the International Union for Conservation of Nature (IUCN), the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific, and Cultural Organization (IOC-UNESCO), UNEP, and supported by GEF-5.

It is focused on mitigating climate change through the conservation and restoration of coastal and marine ecosystems. Because 83% of the global carbon cycle is circulated through the ocean. Coastal habitats cover less than 20% of the total ocean area, but account for approximately half of the total carbon sequestered in ocean sediments. These ecosystems sequester and store large quantities of blue carbon in both the plants and the sediment below. For example, over 95% of the carbon in seagrass meadows is stored in the soils

Blue Carbon “*focuses on the development of Methodologies, national policies, inform the scientific community and also the actors with economic interest on water ecosystems as carbon sinks such as mangroves, wetlands and seagrasses*”... “*It can incentivize and support the effective management of existing MPAs or creation of new MPAs, and support them financially to incentivize better management of these systems using a variety of climate change policies and financial incentives*”. There are different activities, such as :

- Project contributing to a baseline for advancing blue carbon
- Initiatives, working groups and multi-party efforts dedicated to blue carbón
- Project focused on mangrove ecosystems; it is by far the most numerous one (26 projects)

- Project focused on multiple blue carbon ecosystems
- Project focused on seagrass or on salty marsh ecosystems

The Blue Carbon Initiative has formed Science and Policy working groups:

- The International Blue Carbon Scientific Working Group identifies priority research areas, synthesizes current and emerging blue carbon research and provides the scientific basis for coastal carbon conservation, management and assessment.
- The International Blue Carbon Policy Working Group supports efforts to integrate blue carbon in existing international policy frameworks such as the United Nations Framework Convention on Climate Change (UNFCCC), and the Convention on Biological Diversity (CBD) among others.
- Members of both working groups routinely collaborate to ensure that qualified science forms the basis of sound policy. Each Working Group convenes several times a year.

Significantly, no project has been launched in the Mediterranean basin; certainly, the large seagrass meadows in some parts of the Mediterranean (Gabes, Balearic isl..) should apply. An EBM Toolbox for measuring Blue Carbon can be found in: <https://meam.openchannels.org/news/meam/ebm-toolbox-tools-and-resources-measuring-blue-carbon>. The blog: <http://bluecarbonportal.org/>.

UNEP's Blue Carbon Initiative aims to develop global partnerships to advance the sound management of these coastal ecosystems in order to ensure that their carbon benefits are maintained, greenhouse gas emissions are avoided, and the full range of ecosystem services and functions is maintained and utilized for human benefits. This includes the development of management tools that maintain carbon benefits and ecosystem services, and working towards the incorporation of ecosystem-based management of coastal ecosystems within global, regional and national climate change mitigation and adaptation discussions and financing schemes.

GEF-5 Programme - Outcome On -the -ground modest actions implemented in water quality, quantity, fisheries, and coastal habitat demonstrations for "blue forests" to protect carbon. Output Demo -scale local action implemented, to restore/protect coastal "blue forests". Executing Partners – UNEP -WCMC, UNEP/GRID -Arendal, CI, IUCN, WWF,... for 4,5 M\$ 2013-2016

98. The **UN REDD+** [UN's Reducing Emissions from Deforestation and Forest Degradation \(REDD+\) program](#),

Creates a financial value for the carbon stored in forests, and offers financial incentives for developing nations to foster conservation and enhancement of their forest carbon stocks; it may have marine application specially considering the seagrass meadows.

99. **Other "Blue" initiatives:**

Mediterranean experiences such as *Blue4Good* Sustaining seagrass protection through blue carbon financing in marine protected areas (Vertigo Lab), the *LIFEBlue Natura* in Andalusia, the *MedBioNet* campaign with the Conservatoire du Littoral, the MedPAN small project in Montenegro. Also see numbers 19, 22 and 25 in this same List.

100. **2016. Climate change in the seas of Spain.** (Kersting DK (2016) Cambio climático en el medio marino español: impactos, vulnerabilidad y adaptación. Oficina Española de Cambio Climático, Ministerio de Agricultura, Alimentación y Medio Ambiente. Madrid, 166 pág).

[http://www.magrama.gob.es/es/cambio-](http://www.magrama.gob.es/es/cambio-climatico/publicaciones/publicaciones/kersting_2016_cambio_climatico_medio_marino_tcm7-416481.pdf)

[climatico/publicaciones/publicaciones/kersting\\_2016\\_cambio\\_climatico\\_medio\\_marino\\_tcm7-416481.pdf](http://www.magrama.gob.es/es/cambio-climatico/publicaciones/publicaciones/kersting_2016_cambio_climatico_medio_marino_tcm7-416481.pdf)

Diego Kersting (author) based on the “sentinel” the Columbretes MPA, with Jordi Salat (ICM-CSIC), Joaquim Garrabou (ICM-CSIC), José Carlos Hernández (Universidad de la Laguna), Rosa Viejo (Universidad Juan Carlos I) and Luís Valdés (IEO). - **CONCLUSIONS:**

#### **Physicochemical indicators of climate change in the marine environment**

- In general terms, sea surface temperature shows warming rates between 0.2 and 0.7 °C decade<sup>-1</sup>, depending on the region and time period studied. Warming rates decrease with depth.
- Salinity changes in surface waters show high spatio-temporal variability. However, there is a general increasing trend in salinity in intermediate and deep waters.
- During the last century ocean pH has decreased ~0.1 units and acidification is more noticeable in surface waters in direct contact with the atmosphere.
- In the Mediterranean Sea, sea level changes had variable trends, from negative ones from the sixties to the nineties, to notable increases (2 - 10 mm year<sup>-1</sup>) from then on.
- Increased stratification in surface waters seems to be a widespread process with negative influence on nutrients, except in upwelling regions

#### **Climate change impacts on marine ecosystems**

- Sea warming has triggered recurrent mass mortality events in the Mediterranean during the past 15 years, affecting a high number of benthic invertebrates over hundreds of kilometres of coast.
- Warming has increased mortality rates of *Posidonia oceanica* in some Mediterranean insular sites, causing widespread changes in species distribution and may have favoured some invasive species.
- A reduction in primary production has been detected in some regions due to increased stratification and decreased upwelling intensity.
- Gelatinous plankton blooms have increased in frequency in the Mediterranean. However, the diverse factors that influence these blooms makes unequivocal associations to climate change difficult.
- Seasonality in phytoplankton cycles has been altered. Spring and autumn blooms occur earlier and later in the year, respectively.
- The phenology of many species has suffered alterations, from changes in reproductive migrations of some tuna species, to the flowering intensity in *Posidonia oceánica*
- Climate change is affecting many processes in marine organisms (e.g., growth, reproduction, survival of early life stages) which may compromise the viability of their populations.
- No significant effects on marine organisms have been detected in relation to the current decrease in pH in Mediterranean waters.
- All of these effects and changes cause important loss of biodiversity and genetic diversity.

- Interactions and synergies among stressors (related to climate change, as well as other ones) may arise, amplifying their effects on organisms.

#### **Species and habitats vulnerable to climate change**

- The Mediterranean endemic coral *Cladocora caespitosa* and its reefs, which have been greatly impacted by warming during the last 15 years.
- Mediterranean coralligenous communities, widely affected by mass mortalities related to warming.
- *Posidonia oceanica* meadows, potentially exposed to water warming.
- *Zostera noltii* and *Z. marina* meadows in the Mediterranean coasts, threatened by the rise in temperature and sea level.
- Reefs by the vermetid *Dendropoma petraeum*, highly vulnerable to sea level rise.
- Maërl and rhodolith beds, potentially threatened by ocean acidification.

#### **Projections based on physicochemical variables**

- Sea warming is expected to continue through this century in the Mediterranean Sea at a rate of 0.2 - 0.3 °C decade<sup>-1</sup>.
- Sea temperature rise will cause an intensification in water column stratification, with negative effects on nutrient availability.
- It is highly probable that salinity will increase in the Mediterranean Sea, both in surface and deeper waters. This will also cause changes to the salinity of Atlantic intermediate waters. D. K. Kersting 2016 10
- Sea level rise will continue throughout this century at a rate of 2 - 5 mm year<sup>-1</sup>.
- Models predict an intensification in the Northwest Iberian upwelling.
- Wave height will slightly decrease in the Mediterranean Sea.
- Thermohaline circulation may slow down in the Mediterranean and, under the worst scenarios, would lead to a decrease in deep water formation in the Gulf of Lion.

#### **Projections based on biological variables**

- Mass mortalities in the Mediterranean are expected to continue into the future.
- The projected 21st century pH decrease could cause important shifts in marine communities dominated by calcifying organisms, like maërl beds and Mediterranean coralligenous assemblages.
- Changes in upwelling intensity, increased stratification and potential changes in marine thermohaline circulation, could significantly affect primary production and the capability of the ocean to export organic carbon by sedimentation.
- Physicochemical changes in the Mediterranean Sea, together with a decrease in primary production, could have negative effects on species of commercial interest, such as *Engraulis encrasicolus*.
- Although much information on many species and processes is still lacking, all the evidence points to the future impoverishment of our seas and a reduction in their capacity to absorb CO<sub>2</sub>.

#### **Adaptation measures**

- Protection and conservation of species and habitats vulnerable to climate change through protection lists.

- Creation and maintenance of Marine Protected Areas, with the objective of increasing resilience to climate change.
- Adopting an ecosystem approach to fisheries management in order to increase resilience.
- Direct restoration measures, which could be useful in some specific cases.
- Promoting scientific monitoring and ensuring the continuity of current programmes.
- Using vulnerability assessments for the development of adaptation measures.
- Sensitization and divulgation actions, important to highlight the increasing evidence of climate change and its effects on the marine environment.

## XI. OTHER relevant documents

**101. The Science of Marine Reserves – the Mediterranean version** This booklet provides the most updated review and description of documented and peer reviewed examples of effective MPAs. It should be used as reference document to assess the improvement related to the improvement of MPA effectiveness (Strategic Obj 2). The booklet should be ready after summer, but both WWF MedPO (Marina and Giuseppe) and MedPAN (Chloe) are contributing authors and can provide a draft copy.

### 102. Principles for a Sustainable Blue Economy

The ocean provides food, is an immense biodiversity source, regulates the global climate and has great potential for the development of new economic and social opportunities -- what many call the blue economy. However the question arises if the current management of these multiple services and the state of the existing governance systems does not allow or support an integrated and comprehensive implementation of the SDGs.  
[http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf\\_marine\\_briefing\\_principles\\_blue\\_economy.pdf](http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_marine_briefing_principles_blue_economy.pdf)

**103. Chassanite A., Marinesque S., Claudet J. (2012).** Etats des lieux des programmes de suivis multidisciplinaires visant les AMP de Méditerranée. MedPAN . 64p. + annexes

Extracted from the Conclusions: *“Quatre pays européens drainent la majeure partie des monitoring activities. Un grand nombre de processus écologiques ont des temps très long, en particulier la réponse à la protection (de l'ordre de la décennie), et il est parfois très difficile d'étudier ces processus dans le temps court des cycles de financement (généralement de l'ordre de deux à trois ans). Recommendations: Support the best systems in order to learn; efforts considérables doivent être fait pour communiquer (1) sur la nature même des programmes et (2) sur les implications en terme de gestion des résultats obtenus; sensibilisation du grand public. Très peu de programmes présentent des actions en ce sens; support both programmes nationaux (ou sous-régionaux sans un trop grand nombre de partenaires) nécessaires à la réalisation de suivis à long terme, and programmes collaboratifs à plus grande échelle (sous-régionaux ou régionaux) afin de proposer des scénarios de gestion à l'échelle du bassin méditerranéen”.*

### 104. Brossard. J, Jeudy de Grissac. A, 2015.

*Les instruments juridiques internationaux, régionaux et européens de labellisation des sites marins applicables en Méditerranée.* Málaga, Espagne, UICN Centre de Coopération pour la Méditerranée. Série technique n°1, 74 pages

- **Les labels internationaux applicables aux aires marines protégées en Méditerranée reposent pour la plupart sur du « soft law ».**

Ce sont les États qui, de leur plein gré, vont effectuer des demandes pour que certaines de leurs aires protégées, et en ce qui nous concerne, leurs aires marines protégées, fassent partie d'un instrument international de protection environnementale de telles aires. Ainsi, ils n'ont pas de véritables obligations, ils sont incités à agir. Ce n'est que lors de la présentation des résultats des éventuelles évaluations aux membres, qu'un État se sentira obligé d'agir si ses résultats sont insuffisants.



- **En revanche, concernant les zones de pêche de la CGPM (GFCM) et de l'Union européenne**, il est envisageable de les admettre comme des aires marines protégées appartenant à la catégorie IV ou VI des aires protégées de l'UICN, si celles-ci répondent bien à un objectif de conservation d'une ressource et protègent un écosystème.

D'où l'importance d'ajouter un « et » dans la définition, ce qui permettra de cumuler ces deux exigences et de faire admettre plus facilement les zones de pêche à accès réglementé (ZPAR ou FRA de la CGPM-FAO) et les zones de pêche protégées (ZPP de l'UE) comme étant des AMP.

D'autant qu'il faut souligner les atouts de ces réserves de pêche, c'est le seul instrument étudié ici qui dispose d'une véritable force juridique contraignante, car les recommandations de la CGPM et les règlements de l'UE sont obligatoires<sup>1</sup>, les États ne sont pas incités à agir, ils doivent agir. De plus, les recommandations de la CGPM faisant l'objet d'une transposition dans le droit de l'Union par des règlements, cela renforce considérablement leur valeur juridique.
- **Les deux instruments les plus pertinents semblent être les réserves de biosphère et les sites du patrimoine mondial de l'UNESCO.** Ils permettraient d'offrir la protection la plus forte d'une aire marine protégée.

Pour les réserves de biosphère, la division en trois zones permet d'avoir une protection et une gestion crescendo de la zone, donc plus pertinente et efficace. La création de zones tampons autour de l'aire centrale et de couloirs écologiques entre les différentes aires sont un aspect pertinent et à généraliser, cela favoriserait la création d'un réseau d'aires marines protégées en Méditerranée. De plus, il faudrait intégrer aux autres labels internationaux applicables en Méditerranée l'objectif de développement durable. Cette approche intégrée dans les réserves de biosphère permettrait une meilleure gestion de l'aire et donc une meilleure protection de celle-ci.

Enfin, les réserves de biosphère reposent sur des mécanismes d'évaluation solides. Un modèle très pertinent à reproduire pour d'autres labels.

Concernant les sites du patrimoine mondial, comme pour les réserves de biosphère, ce système va plus loin que la simple protection de la nature, il y intègre l'homme, car c'est lui qui agit positivement ou négativement sur l'aire. Ils offrent un mécanisme de protection plus large, le patrimoine culturel et naturel. De plus, si la notion de patrimoine mondial possède une véritable valeur juridique, cela serait tout à fait novateur en droit de l'environnement et renforcerait la valeur des sites du patrimoine mondial de l'UNESCO. Enfin, ses autres aspects novateurs sont : la création d'un fonds et de mesures d'assistance internationale. Nous ne nous situons plus dans le schéma classique où l'on énonce à l'État ce qui ne fonctionne pas et ce qu'il devrait faire, les autres États l'aident à améliorer sa situation. Les États Parties participent à la protection de leurs sites, mais également à ceux des États en leur fournissant les moyens nécessaires.
- **Les zones marines particulièrement vulnérables (ZMPV) sont également un instrument pertinent applicable en Méditerranée.**

En effet, cet outil permet de réglementer un aspect peu, voire non traité, par les autres instruments internationaux ou régionaux applicables en Méditerranée, le trafic maritime. De plus, les critères à respecter et la complexité de la procédure témoignent de la crédibilité de cet instrument juridique. Enfin, nous pouvons supposer que cet outil, en régulant l'impact du trafic maritime, peut être utilisé en Méditerranée afin de protéger les cétacés ou des milieux très sensibles dans lesquels circulent des navires transportant des substances risquant d'endommager gravement la zone en cas d'accident (des navires pétroliers, par exemple). Ainsi, la désignation d'une aire marine protégée en PSSA permet de répondre à un besoin particulier de l'aire, lorsque celle-ci est soumise aux risques du trafic maritime. Par exemple, le Sanctuaire Pelagos relatif à la protection des cétacés, actuellement inscrit sur la liste des ASPIM, devrait bénéficier d'une protection supplémentaire par sa désignation en ZMPV, la procédure pour son inscription ayant été enclenchée.

<sup>1</sup> Bien que les FRA résultent de négociations en amont par les États Parties.

105. **Font, T. and J. Lloret. 2015.** *Improving the efficiency of MPAs as fisheries management tools and benefits from involving the small scale fisheries sector.* MedPAN Background Report for Panel 3, FAO/GFCM Regional Conference for Building a Future for Small Scale Fisheries in the Mediterranean and Black Seas (Algers, Algeria). MedPAN/GFCM.

Mediterranean represent a relatively small proportion, around 12% of total EU landings. About 80% of Mediterranean boats are small-scale boats. Coastal fisheries are not studied with the same rigor as industrial or large scale fisheries. As such, they are often poorly managed or not managed at all. Artisanal fishing is of great cultural value, due to the social and cultural characteristics, and knowledge and information passing from generation to generation (Gómez et al., 2006). In spite of its relatively low volume of catches and economic importance compared to large-scale industrial fishery, artisanal fishing is socially important and an integral part of the Mediterranean coastal zone (Di Franco et al., 2014). To reduce the negative impacts of artisanal fishing on marine ecosystems, and to consider the socioeconomic challenges these fisheries face, marine protected areas (MPAs) have been implemented as part of an ecosystem-based approach to coastal management. MPAs are an essential tool for protecting overexploited populations and threatened species and their habitats as well as to implement sound management actions. Due to the complexity of the activity, very few studies quantified effort and catch (Merino et al., 2008; Maynou et al., 2011), particularly in relation to the effect of protection (MPA). Furthermore, few studies have quantified the economic benefits to small scale fishermen that are provided praise to a well-managed MPA, despite many testimonies (e.g. MedPAN; WWF). Yet, contribution to the sustainability of adjacent and 'in-house' fisheries is often an explicit management goal for MPAs (Leleu et al., 2014).

Other than the Roadmap, Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines; FAO) are being developed and represent both a crucial step towards sustainable small scale fisheries and the first internationally agreed instrument dedicated entirely to the highly important small-scale fisheries sector. Recommendations (between other): establishing more no-take zones (NTZ) – is needed; MPAs may favour integration at Inter- & Intra-Ministerial levels. SSF management plans incorporating Traditional Ecological Knowledge (TEK) strongly contribute to effectiveness. Plus many other management recommendations.

106. **Fishermen engagement.** Di Franco A., Bodilis P., Piante C., Di Carlo G., Thiriet P., Francour P., Guidetti P. 2014. Fishermen engagement, a key element to the success of artisanal fisheries management in Mediterranean marine protected areas. MedPAN North Project. WWF France. 135 pp

They found that "fishermen engagement in artisanal fishing management at each MPA' is the most important attribute to secure effective management. Knowledge of and data on the ecological status of fish resources (as part of fish assemblages), catches, revenues, feets, fishing effort and many social aspects of artisanal fishing are limited. Particularly scant are studies concerning social and economic aspects of fishing management. A marked geographic imbalance is evident with a significant number of MPAs belonging to Italy, Spain and France. This reflects the fact that these countries accommodate 54% of the total number of Mediterranean MPAs. Currently, no "real" co-management is in place in Mediterranean MPAs. This is primarily due to: (i) the legal framework of MPAs that generally does not allow fishermen to have any formal decision-making power. We should consider that participatory management needs participatory roots (Borrini-Feyerabend et al. 2004), with effective dialogue, discussion of issues and participatory democracy. From this perspective, participatory research could be part of the participatory roots. Our investigation revealed that more than 40% of the 26 MPAs we investigated do not currently have any fisheries management plan. Small no-take zones are more easily

enforced and patrolled, and can thus provide more benefits to external fished areas (i.e. spillover, larval export) than large no-take zones.

- Considering the above issues (and other) and our findings, the relevance of combining different incentives emerges (e.g. stakeholder engagement, scientific research on multidisciplinary themes, adaptive management, enhancement of eco-labeling practices and fish-tourism, etc.) to build sound artisanal fishing management in the MPA context.
- This recommendation is directed mainly at MPA managers. Their role is crucial in bridging relationships with fishermen and constantly interacting with them. Our results show that the more fishermen are involved in management, the higher the success of artisanal fishing management. We therefore recommend promoting examples of how to involve fishermen in the management of an MPA among MPA planners and managers.
- A handbook specific to MPA managers on how to study ecological and socio-economic aspects of artisanal fisheries in MPAs and how to develop and adapt an effective fisheries management strategy would be particularly useful in the Mediterranean. Future comparisons between studies and between MPAs would then be much more effective and simple.
- Fishermen are underrepresented compared to the total number of members of the MPA Board of Directors and from this perspective their influence on final decisions is quite limited. This can be seen as a first legal step that needs to be further improved to provide fishermen with more decision power.
- Young MPAs should receive support in implementing fisheries management plans. The fisheries management plan should take into account recreational fisheries, the impacts they generate on resources and ecosystems, and the conflicts arising with professional fisheries.
- Because MPAs may decrease the previously accessible fishing area (e.g. via creation of no-take areas) or reduce access to already overfished resources, some solutions could include 1) fishermen autonomy in trading catches directly to consumers, by adopting food safety rules and in accordance with EU law on the traceability of fishery products (EU Reg. 2065/2001); 2) promotion of MPA-labeled fish products. MPAs could help to achieve these or other similar targets which, besides allowing fishermen to increase their revenues, could further legitimate the MPA's role.

107. **CIESM** - International Commission for the Scientific Exploration of the Mediterranean Sea. Held a workshop in Syracuse in November 2010 to define for conservation marine "peace parks", straddling both open sea and coastal waters, in order to effectively preserve Mediterranean biodiversity and the essential services it provides, through the creation of cross-border marine parks. Based on the criteria set, eight large marine areas characterized by key hydrodynamic, biological and geological features were selected.

108. **Representativity** (as demanded by Aichi 11). Following Tuanmu, M-N, G. Amatulli, and W. Jetz (2015). *Environmental and biodiversity representativeness of global protected area network*. The authors developed four indices of environmental representativeness as measures of the environmental (dis)similarity between a protected area and its surrounding region using remotely sensed global environmental variables, including land cover, topography, land surface temperature, solar radiation and cloud cover, and then tested it in ~500 protected areas, measured by the percentage of regional vertebrate species protected. Among the four indices, the pixel-level environmental distance (ED) shows the highest correlation with the biodiversity representativeness, followed by the Sorensen similarity (SS) calculated based on the environmental classes. The models built with combinations of the four indices effectively predicted the probability that a species in the regional pool occurs within a protected area and estimated its biodiversity representativeness.