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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 Approach

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I. INTRODUCTION

The aim of the current draft initial analysis is to follow-up on the decision of the Contracting Parties at their 18th Meeting (**COP18**), to conclude a gap analysis on existing measures under the Barcelona Convention[1], relevant to achieving or maintaining good environmental status (**GES**) of the Mediterranean Sea, in line with the ecosystem approach (as set out in Decision IG 21/3[2], here in after referred to as **EcAp Decision)**.

This document, in line with the above, carries out an early state of play, initial assessment on how far existing measures, not necessarily designed with the Ecosystem Approach (**EcAp**) in mind are sufficient to reach the identified targets of EcAp, distinguishing between measures that are adopted and implemented and the ones that are adopted but not (fully) implemented yet.

The scope of this draft initial gap analysis thus is to analyse measures under the Barcelona Convention/UNEP/MAP[3] practice that follow the identified common indicators[4] relevant targets (**EcAp Targets**) and the pressures these targets relate to.

In line with the EcAp Decision, the Secretariat foresees the development of a more detailed gap analysis by mid-2015, based on (a) the guidance of the Contracting Parties on this current initial draft; and (b) on a further assessment of implementation status of the 2012-2013 submitted reports of the Contracting Parties.

According to the EcAp Decision, need for new measures or strengthened implementation can be discussed based on the draft analyses and that new measures would need to be based on a socio-economic impact analysis[5]. Thus, the more detailed gap analysis (to be developed by mid-2015) will also serve as a basis for identifying socio-economic impact analysis needs.

The current draft analysis builds on the ongoing work under the Barcelona Convention's Protocols, more specifically on and under the various UNEP/MAP Regional Plans, as well as on the Initial Assessment of the Mediterranean Sea and Coast (Second State of the Mediterranean Marine and Coastal Environment Report, so-called **SoER-MED**[6]), on the Economic and Social Analysis of the uses of the Coastal and Marine Waters in the Mediterranean draft regional report[7] and on specific assessments that were already carried out on the implementation of these measures.

The current draft initial gap analysis does not analyse ongoing monitoring related work, as the EcAp Integrated Monitoring and Assessment Programme is currently being developed, through the expert work of the Correspondence Groups on Monitoring and monitoring work does not fall under the definition of measure under this analysis (measures are more action oriented, focused on the achievement of a specific EcAp Target, as described under).

Based on the above, the main objectives of this document, while recognizing diverse conditions, capacities and needs of different Contracting Parties, are to a) analyse existing measures and assess

[1] Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention)
[2] UNEP(DEPI)/MED IG.21/9 Decision IG.21/3 on the Ecosystems Approach including adopting definitions of Good Environmental Status (GES) and targets
[3] United Nations Environment Programme/ Mediterranean Action Plan for the Barcelona Convention
[4] UNEP(DEPI)/MED WG.390/4 Report of the Integrated Correspondence Groups of GES and Targets Meeting
[5] Noting that in case Contracting Parties decide on the need to address specific gaps with new measures on a common regional basis, first their socio-economic assessment will be concluded with possible pilot cases on their implementation impacts.
[6] State of the Mediterranean Marine and Coastal Environment: http://195.97.36.231/publications/SoMMCER_Eng.pdf
[7] http://planbleu.org/sites/default/files/upload/files/analyse_eco_sociale_eaux_med_ESA_2014en.pdf

their specific links to the EcAp Targets and b) identify possible gaps based on this analysis (including implementation gaps).[8]

Definition of Measure under the EcAp measures gap analysis:

Article 4, Paragraph 4, point (a) of the Barcelona Convention states that "In implementing the Convention and the related Protocols, the Contracting Parties shall: adopt programmes and measures which contain, where appropriate, time limits for their completion.

In light of the above, in the framework of the Barcelona Convention, for the purposes of this analysis and for moving towards a Regional EcAp Programme of Measures, EcAp measures cover management measures ***undertaken on a common regional basis and where appropriate, with specific time limits for completion, with the overall aim of achieving the good environmental status of the Mediterranean coast and sea.***

This analysis thus is focusing on the existing measures taken in the past (in many cases without having agreed on using EcAp as a guiding principle yet). The focus of the analysis of these policies at this stage is at regional level, but already including where information is available implementing National Action Plans and other national measures reported by Contracting Parties as contributing to the implementation of the Barcelona Convention and its Protocols. The following initial analysis will identify in light of the above the main measures under the Barcelona Convention and in the auspices of UNEP/MAP, laying down their legislative basis, their specific links to the EcAp Targets, followed by a short analysis of their implementation status and possible gaps identified.

As stated earlier, in line with the EcAp Decision, a more detailed analysis is foreseen to be undertaken by the Secretariat by mid 2015, with a stronger focus on implementation status, also in light of the 2012-2013 country reports.

To ensure the efficient development of possible new measures, this gap analysis could then consider in more detail:

- Existing measure adopted and implemented, for which time limits for their completion have been reached;
- Existing measure adopted but not yet implemented, for which time limits for their completion have not been yet reached;
- Existing measures covering issues linked to EcAp Environmental Objective, but not going far enough for target achievement.

II. KEY ENVIRONMENTAL PRESSURES AND RISKS AFFECTING THE MEDITERRANEAN COAST AND SEA

The Second State of the Mediterranean Marine and Coastal Environment Report[9] (**SoER-MED**) underlines the existence of multiple human activities causing various environmental pressures effecting the coast and sea in their region, with sometimes conflicting interests. Based on the SoER-MED, ***key drivers*** of the **main pressures** effecting the marine and coastal environment are population growth, mass tourism, intensified industrial activities, including offshore, shipping, (over)fishing, together resulting in interlinking pressures and cumulative impacts.

Population growth and mass tourism drive pressures such as **unsustainable coastal development and sprawl**, local disruption of circulate patterns caused by human-made structures (**change in hydrographical conditions**), human mediated impact of nutrients (waste water) leading to

[8] While here are many measures relevant to EcAp in general, aim was to focus on those that relate to the established targets of the EcAp common indicators and which have a common regional basis.

[9] State of the Mediterranean Marine and Coastal Environment: http://195.97.36.231/publications/SoMMCER_Eng.pdf

eutrophication and urban pollution leading to **chemical contamination**. These drivers (population growth and mass tourism) are also implicitly linked to chemical contamination from agriculture and industry and to overfishing.

Increased land-based industrial activities drive **chemical contamination**, with major problem being hazardous substances, as well as are one of the main sources of **marine litter** in the Mediterranean. While ***agricultural activities*** lead *in addition* also to **eutrophication** and ***offshore activities*** drive pressures *in addition* such as **acute events contamination** (oil spills), **introduction of non-indigenous species**, **marine litter**, **disturbance of sea-floor integrity**.

Fishing activities drive pressures such as **over-fishing (**according to the European Environmental Agency, 88% of the assessed Mediterranean fish stocks are overexploited[10]), **disturbance of sea-floor integrity** (by bottom fishing), **eutrophication**, **chemical contamination**, **spread of non-indigenous species** (specifically linked to aquaculture) while affecting **marine food webs** (already have reduced on average of 1 trophic level in fisheries catches, increased jellyfish and reduced abundance of large predator species).

Shipping is linked to pressures such as **contamination from acute events (oil spills)**, **marine litter**, introduction of **invasive species** and **marine noise**.

The cumulative impacts of the above pressures, next to the impact of climate change are all negatively effecting biodiversity and are linked to biodiversity loss and degradation of habitats.

Specific links can be also found in between the different drivers and pressures, impacting each other. Tourism for example, while is a driver of various pressures, at the same time is affected by all the negative cumulative impacts of the pressures listed above. The loss caused by the multiple pressures negatively affecting the ecosystem of the Mediterranean Sea and coast can also be linked to degradation of ecosystem services and economic losses. Still, while it is relatively easy to determine the socio-economic impact of sectoral activities, as there is data available, due to lack of data availability and in some cases methodology to value, it is rather hard to determine the ecosystem services provided by the sea and the coast in the region.

Based on the draft Economic and Social Analysis of the Uses of the Coastal and Marine Waters in the Mediterranean (**the Socio-Economic Report**)[11], contributing to the SoER-MED, fisheries, aquaculture, tourism, marine transport and the Offshore industry are the five key sectors in the Mediterranean basin, generating **360 billion EUR** in terms of production value and **4,2 million direct jobs, approximately three times more of considering indirect** employment[12]. These sectors are all drivers of environmental pressures on the one hand, while at the same time being vulnerable to the pressures created, in an interlinked manner.

Based on the Socio-Economic Report, the most important sector in the Mediterranean, resulting in the most job-creation region-wide is ***tourism***, with ***3,3 million direct*** jobs and ***8,5 million total jobs*** in and over **250 billion EUR** generated in coastal Mediterranean areas.

Fisheries is described in the Socio-Economic Report mainly as made-up by small-scale artisan boats (80%), with ***250,000 jobs*** created, resulting due to constant growing demand for seafood in a deficit between imports and exports (***5 billion EUR deficit in 2009***). Regarding ***aquaculture***, it highlights the constant growth of the sector, in 2011 already exceeding the fishing captures sector and representing 3% of total world figures, with highest numbers of production in Egypt, Greece and Turkey, resulting in total ***2,5 billion EUR*** and ***123,000 jobs*** directly (with ***combined fishing and aquaculture*** sectors, together with indirect jobs amounting ***770,000 employment***).

[10] EEA Marine Messages, available at : http://www.eea.europa.eu/publications/marine-messages
[11] The draft Socio-Economic Report is available at : http://planbleu.org/sites/default/files/upload/files/analyse_eco_sociale_eaux_med_ESA_2014en.pdf
[12] The Socio-Economic Report did not access agriculture and specific industry impacts, but focused on the key sectors that take place on the shore or in the sea.

Maritime transport is reported to be a constantly growing sector too, with using also the Mediterranean as a major load and discharge chanter for crude oil, with increasing carrying capacity of vessels and with Mediterranean ports accounting 10% of world container throughout, generating ***70 billion EUR*** and creating more than ***550,000 jobs***.

The Socio-Economic Report finds ***offshore exploitation*** (of oil and gas) also a growing activity, with future potential focus areas of explorations in the Aegean-Levantine sea for oil and the Ionian Sea and Central Mediterranean for gas production (oil and gas production are under study or currently in process on the coasts of 10 Contracting Parties, Croatia, Cyprus, Egypt, Israel, Lebanon, The State of Libya, Malta, Spain, Tunisia and Turkey). In 2011 offshore oil and gas produced in the Mediterranean Sea amounted approximately to ***32 billion EUR***, creating ***29,000 direct jobs***, rising ***400, 000 jobs***, when considering also indirect and induced employment.

While the ecosystems of the Mediterranean coast and sea are also extremely important regarding ecosystem services, their economic values are hard to estimate on a regional level (according to the 2012 UNEP TEEB discussion paper, globally, ocean and coastal biomes may provide us as much as two-thirds of the ecosystem services that make up the planet's natural capital[13]).Conserving and enhancing the ecosystem services, in reality, is a matter of managing human actions with the marine and coastal environment, in line with EcAp without ruling out economic uses of the ocean and the coast, but with recognizing the key pressures and identifying opportunities to reduce them, while still promoting environmental and economic benefits.

In the Mediterranean, we do not need to start from scratch discussing management options, as under the auspices of UNEP/MAP/Barcelona Convention and its Protocols, Regional Plans, related National Action Plans (**NAPs**) and under the overarching frame of EcAp, the Contracting Parties have been already almost for 40 years addressing key pressures and their drivers. In addition, growing and strengthened partnerships, with key players in the region, such as International Maritime Organization **(IMO),** General Fisheries Commission for the Mediterranean **(GFCM)** and Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area **(ACCOBAMS)**[14] aim to address pressures related to shipping, fisheries and marine noise. Indeed, the Contracting Parties over the last four decades have designed a multitude of sectorial or integrated policy instruments within different frameworks, aiming to address different identified pressures, with EcAp representing a renewed emphasis on implementation and integration and understanding and addressing cumulative risks and effects as well as to better focus action on priority targets (EcAp Targets).

III. THE UNEP/MAP/BARCELONA CONVENTION SYSTEM

The main regulatory instrument to address the key environmental pressures and risks affecting the Mediterranean coastal and marine environment is the **Barcelona Convention**[15].

The Barcelona Convention's main objectives are "to prevent, abate, combat and to the fullest extent possible eliminate pollution of the Mediterranean Sea Area" and "to protect and enhance the marine environment in that area so as to contribute towards its sustainable development." Under the Barcelona Convention, protection of the marine environment is pursued "as an integral part of the development process, meeting the needs of present and future generations in an equitable manner."

[13] The Economics of Ecosystems and Biodiversity Discussion Paper : Why value the Oceans ?, UNEP TEEB publication is available at : http://www.teebweb.org/wp-content/uploads/2013/04/2013-TEEB-for-Oceans-Discussion-Paper.pdf

[14] http://accobams.org/

[15] Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols which entered into force in 2004 replacing the 1976 "Convention for the Protection of the Mediterranean Sea Against Pollution".

In applying the Barcelona Convention, the Contracting Parties are bound by (i) the precautionary principle, (ii) the polluter-pays principle, (iii) the commitment to undertake environmental impact assessment of activities likely to cause significant adverse impact on the marine environment, (iv) the obligation to promote cooperation amongst states in environmental impact assessment procedures related to activities with transboundary effects, and (v) the commitment to promote integrated management of the coastal zone.

Today all 21 countries surrounding the Mediterranean Sea, as well as the European Union, are Contracting Parties to the Barcelona Convention. It now has a total of seven associated Protocols:

- The Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea **(Dumping Protocol)** , adopted in 1976, in force 1978, amended 1995 ;
- The Protocol concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and other Harmful Substances in Cases of Emergency **(Emergency Protocol)**, adopted 1976, in force 1978, replaced by the Protocol concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea **(Prevention and Emergency Protocol)**, adopted in 2002, in force 2004 ;
- The Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-based Sources and Activities **(LBS Protocol),** adopted in 1980, in force 1983; amended 1996, in force 2008)
- The Protocol Concerning Mediterranean Specially Protected Areas (SPA/BD Protocol), adopted in 1982, in force 1986 replaced by The Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean **(SPA & Biodiversity Protocol),** adopted in 1995, in force 1999 ;
- Protocol for the Protection of the Mediterranean Sea Against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil **(Offshore Protocol)** , adopted in 1994, in force 2011;
- Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal **(Hazardous Wastes Protocol)** , adopted 1996, in force 2008;
- Protocol on Integrated Coastal Zone Management **(ICZM Protocol)**, adopted 2008, in force 2011.

In order to ensure further progress in the implementation of the major obligations under the Barcelona Convention and its Protocols p UNEP/MAP system has produced regional policy instruments such as the Strategic Action Programme to Address Pollution from Land-Based Activities (**SAP/MED in the framework of the LBS Protocol**), the Strategic Action Programme for the Conservation of Biological Diversity in the Mediterranean Region (**SAP/BIO**), Regional Plans composed of Programmes of Measures covering the areas of pollution from land based sources and litter (regional plans with concrete timeframes to phase out substances that are toxic, persistent and liable to accumulate in line with Art 15 of the LBS Protocol), Action Plan for the implementation of the ICZM Protocol and the Mediterranean Strategy on Sustainable Development (**MSSD**). As most recent Regional Plan, at COP18, the Contracting Parties agreed on a Regional Plan on Marine Litter Management, which came into force in July2014[16] .

Article 26 of the Barcelona Convention stipulates that the Contracting Parties transmit to the Secretariat reports on a) the legal, administrative and other measures taken by them for the implementation of the Convention, the Protocols, and the recommendations adopted by their meetings,

16 For the list of all relevant Regional Plans, Strategies, Action Plans, please see further in details this gap analysis.

b) the effectiveness of the measures referred to sub-paragraph a) and problems encountered in the implementation of the instruments as mentioned above.

The Reporting Info System is the infrastructure which provides tools to support the report activity, operated by the Centre for Information and Communication **(INFO/RAC)**. Reporting data is the textual and numerical data regarding the implementation of the Barcelona Convention and its Protocols and the Contracting Parties are requested to provide to the Secretariat on a biannual basis (with most recent reporting period of 2012-2013).

There is currently ongoing work, with the aim of implementing by the next Conference of the Contracting Parties **(COP19)** of an Offshore Action Plan and an Action Plan for Sustainable Consumption and Production (**SCP Action Plan**), next to the review of the MSSD.

In addition, the LBS NAPs are being currently reviewed, to ensure that they fully reflect the new relevant Regional Action Plans and EcAp targets with regards to pollution and litter ecological objectives.

The Ecosystem Approach process and its contribution to address key environmental pressures and risks affecting the Mediterranean coastal and marine environment

The Ecosystem Approach (**EcAp**) is the overarching principle of UNEP/MAP with the ultimate aim of identifying and achieving the GES of the Mediterranean Sea.

The15th Conference of the Contracting Parties (**COP15**) to the Barcelona Convention (Almeria, Spain, 2008) decided to progressively apply the ecosystem approach to the management of human activities that may affect the Mediterranean marine and coastal environment for the promotion of sustainable development.

The 17th Conference of the Contracting Parties **(COP17)** confirmed the importance given to the EcAp in the Mediterranean, by recognizing it as a guiding principle for the overall work under the Barcelona Convention.

The EcAp process key steps and state of play of deliverables are as follows:

- Agreement on vision and goals (at COP17);
- Preparation of the Integrated Assessment of the Mediterranean Ecosystem with the contribution of and subject to peer-review by the Contracting Parties (Initial Assessment undertaken, with the outcome of the SoER-MED, endorsed at COP17. Third State of Environment Assessment is foreseen by 2017);
- Adoption of 11 ecological objectives and corresponding 28 operational objectives (COP17) and an integrated list of 61 indicators and GES descriptions (COP18), ensuring synergy with the EU Marine Strategy Framework Directive(EU MSFD);
- Implementation of an Integrated Monitoring System based on the agreed indicators and targets (Integrated Monitoring and Assessment Programme to be agreed by COP19 in 2015, work ongoing);
- Socio-economic assessment to complement the Integrated Assessment of the Mediterranean Ecosystem (to be presented at EcAp Coordination Group in October 2015);
- Cyclic/periodical assessments of the marine and coastal environment to monitor the implementation of EcAp, assess GES and the effectiveness of programmes of measures (to this aim the EcAp timeline foresees the preparation of periodical quality status reports, with the next one foreseen in 2017).
- EcAp programme of measures gap analysis (to be presented to Parties in 2014, adopted in 2015 at COP19).

The EcAp-MED project funded by the European Commission was instrumental in this process. EcAp-MED in 2012-2015 had a 1,7 million EUR budget, which was matched with 440,000 EUR in 2013 by the Contracting Parties, dedicating almost forth of the activities budget of the Mediterranean Trust Fund **(MTF)** for implementing the next steps of the EcAp process in 2014-2015.***MedPartnership and its contribution to address key environmental pressures and risks affecting the Mediterranean coastal and marine environment***

The UNEP/MAP GEF Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem (**MedPartnership**) is a collective effort of leading organizations (regional, international, non-governmental, etc.) and countries sharing the Mediterranean Sea towards the protection of the marine and coastal environment of the Mediterranean. The MedPartnership is being led by UNEP/MAP and the World Bank and is financially supported by the Global Environmental Facility (**GEF**), and other donors, including the EU and all participating countries.

The MedPartnership's overarching goal is to enable a coordinated and strategic approach to catalyze the policy, legal and institutional reforms, and the investments necessary to reverse the degradation trends affecting the Mediterranean, including its coastal habitats and biodiversity. As such, it contributes to addressing almost all pressures and risks described in the previous chapter and measures undertaken under it will be also analysed in the current draft.

Moreover, the MedPartnership works through two lines of actions:

- Technical and policy support led by UNEP/MAP (Regional Project); and
- Project financing led by the World Bank (Investment Fund/Sustainable MED).

The project is being implemented in close association with other relevant regional initiatives, such as the Horizon 2020 Initiative "to de-pollute the Mediterranean, the Integrated European Maritime Policy, and the World Bank/GEF Sustainable Mediterranean Program, etc. The project also contributes to the sustainable development objectives of the Union of the Mediterranean.

The project is being carried out in the following GEF eligible countries in the region (Albania, Algeria, Bosnia and Herzegovina, Croatia, Egypt, Lebanon, The State of Libya, Morocco, Montenegro, Syria, Tunisia and Turkey, with the participation of the Palestinian Authority).[17]

IV ANALYSIS OF MEASURES AND GAPS

1 Biodiversity and non-Indigenous Species

1.1 Biodiversity

Biodiversity protection has been in the forefront in the Mediterranean from an early stage of the work of MAP, with one of the key Barcelona Convention objectives being the protection of the marine environment and its natural resources in order to contribute to the sustainable development of the area.

The Convention is enhanced by the Protocol concerning Specially Protected Areas and Biological Diversity" (**SPA/BD Protocol**) adopted in Barcelona in 1995[18]. This new Protocol, which came into effect in 1999, aims at promoting the conservation and the sustainable management of areas having a particular natural or cultural value and at promoting the conservation of the animal and plant species endangered or threatened.

[17] More information is available on the MedPartnership website at the following address: http://www.theMedPartnership.org/.

[18] It replaced the Protocol concerning Mediterranean Specially Protected Areas (SPA Protocol), adopted in Geneva in 1982

It envisages in particular dispositions relating to the creation, protection and management of Specially Protected Areas (**SPAs**), the establishment of a Specially Protected Areas of Mediterranean Importance (**SPAMI**s) list next to the general goal of protection and conservation of the species. In addition, Annex I to the SPA/BD Protocol[19] sets regionally a common criteria for the choice of protected marine and coastal areas that could be included in the SPAMI list, while Annex II to the SPA/BD Protocol[20] contains a list of endangered and threatened species in the Mediterranean (last amendment in December 2013, at COP18) and Annex III[21] lists species whose exploitation is regulated (last amendment in February 2012, during COP17).

The Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (**SPA/BD**) is thus the principal regional legal instrument available to the Contracting Parties to the Barcelona Convention, to implement, on the Mediterranean, the United Nations Convention on Biodiversity (**CBD**) and the *in situ* conservation and the sustainable use of the marine and coastal biodiversity.

The Regional Activity Centre for Specially Protected Areas (**RAC/SPA**) assists Contracting Parties to reach their engagements for this Protocol.

In addition, the Strategic Action Programme for the Conservation of Biological Diversity in the Mediterranean (**SAP/BIO**) provides a logical framework for implementing the SPA/BD Protocol for all stakeholders (Contracting Parties, International Organizations, NGOs, private sector, etc) undertaking activities for the protection and management of the marine and coastal environment in the Mediterranean.

The SAP/BIO also proposes a list of specific priority actions for Contracting Parties to undertake, such as inventorying, mapping and monitoring the Mediterranean coastal and marine biodiversity, conserving sensitive sites, species and habitats, assessing and mitigating the impact of threats to biodiversity, developing research to improve knowledge and fill in gaps regarding biodiversity and developing skills to ensure technical assistance and coordination, strengthen information sharing and participation of stakeholders and increase awareness (please see further under).

In the SAP/BIO context, 63 NAPs have been created (Please see list of SAP/BIO NAPs attached in Annex II).

In addition, in 2008-2009 an action to update the SAPBIO on climate change issues was conducted and the Secretariat, based on a COP17 mandate has carried out in 2013 an assessment, the so-called SAP/BIO implementation analysis (the **SAP/BIO Analysis**)[22], to analyse the SAP/BIO implementation status and possible update needs.

This SAP/BIO Analysis found that while the implementation of SAP/BIO has resulted in many positive outcomes for the Mediterranean biodiversity and the 50 NAPs show national ownership of the Contracting Parties, there is also a need to strengthen implementation/enforcement, as well as to update the SAP/BIO priority actions list, both in line with the Ecosystem Approach and of the Aichi targets.

The Analysis also described the key achievements in the field of SAP/BIO implementation in details and the following summary greatly builds on this SAP/BIO Analysis and follows the SAP/BIO list of

[19] http://rac-spa.org/sites/default/files/annex/annex_1_en.pdf
[20] http://rac-spa.org/sites/default/files/annex/annex_2_en_2013.pdf
[21] http://rac-spa.org/sites/default/files/annex/annex_3_en_2013.pdf
[22] SAP/BIO Implementation: the first decade and the way forward (as reviewed by the National Correspondents of SAP/BIO in July 2013), document UNEP(DEPI)/MED WG.382/5

priority actions, without touching on the first, ie on monitoring, on which work is ongoing (and which is not considered a measure in the sense of EcAp implementation).[23]

1.1.1 Analysis of SAP/BIO as a regional measure for the EcAp implementation

The following analysis builds next to the Strategic Action Programme for the conservation of Biological diversity in the Mediterranean Region (**SAP/BIO**), on the NAPs, on the 2013 SAP/BIO Analysis, next to recent updates, achievements, in the framework of EcAp in the Mediterranean region.

It follows the structure of the SAP/BIO, but does not analyse its first objective (or so-called area) related to monitoring, as it does not fall under the scope of measure under EcAp. It sees the various areas/objectives as targets in nature, the priority actions as aimed measures and analyses them accordingly.

Conservation of sensitive habitats, species and sites (SAP/BIO Objective 2)

There are five priority measures (so-called priority actions) regarding the conservation of sensitive habitats, species and sites identified in the SAP/BIO, which are (a) updating, coordinating and enforcing legislation to conserve biodiversity; (b) developing actions to conserve threatened and endangered coastal and marine Mediterranean species; (c) protecting marine and coastal sites of particular interest; (d) declaring and developing new coastal and marine protected areas including in the high seas; and (e) developing existing marine and coastal protected areas.

The SAP/BIO Analysis found that regarding updating, coordinating and enforcing legislation to conserve biodiversity and developing actions to conserve threatened and endangered coastal and marine Mediterranean species while most of the countries in the region have passed laws protecting biodiversity, implementing measures are often lacking, regardless various guidelines and tools developed by different regional bodies, such as RAC/SPA, ACCOBAMS and GFCM.

In relation to protecting marine and coastal sites of particular interest the SAP/BIO Analysis highlighted the achievements of the MedMPA[24], MedPAN South[25] and MedMPAnet[26] Projects.

Regarding declaring and developing new coastal and marine protected areas including in the high seas the SAP/BIO Analysis highlights that while, with the assistance of RAC/SPA and the International Union for Conservation of Nature (**IUCN**), most southern and eastern Mediterranean countries have introduced programmes to identify sites on which they intend to create Marine and Coastal Protected Areas and these sites were included in the national programmes to develop protected areas, the procedures to set up Protected Areas are lengthy and for marine areas outside of national jurisdiction, processes of negotiation between states make the procedure even longer.

Still, the number of Marine and Coastal Protected Areas has increased in the Mediterranean. A recent analysis done in 2012 by MedPAN and RAC/SPA showed that since 2008, 23 new Marine Protected Areas have been created in 10 Mediterranean countries, and 55 others are planned.

In addition, 11 Ecologically or Biologically Significant Areas (**EBSA**s) were identified in the Mediterranean in 2010 , and enlarged in 2014 to 17 by the CBD Mediterranean Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas (pending adoption by the upcoming Meeting of the Contracting Parties to the Convention on Biological Diversity later on this year). Moreover, a total 4 concrete areas were declared by the GFCM as Fisheries Restricted

[23] SAP/BIO Implementation: the first decade and the way forward (as reviewed by the National Correspondents of SAP/BIO in July 2013), document UNEP(DEPI)/MED WG.382/5
[24] http://medmpa.rac-spa.org/
[25] http://mediterranean.panda.org/about/marine/marine_protected_area/the_medpan_south_project/
[26] http://medmpanet.rac-spa.org/

Areas, which also cover open sea areas, added to a ban of trawling and dredging gears in the entire Mediterranean basin for areas deeper than 1000 m.

The SAP/BIO Analysis states that regarding the development of existing marine and coastal protected areas, the active assistance of RAC/SPA, World Wide Fund for Nature (**WWF**), MED POL and MEDPAN and projects executed by them, mainly with the financial support of the European Commission (**EC)**, French Global Environment Facility (**FFEM**), Spanish Agency for International Development Cooperation (**AECID**) and **MAVA Foundation**[27], enabled southern and eastern Mediterranean countries to improve the management of Marine and Coastal Protected Areas, with most of the Mediterranean countries having in place management plans for their Marine and Coastal Protected Areas.

The MedPAN network has been strengthened also and it now functions as a network between the managers of Mediterranean marine areas. It has the means to encourage exchanges between managers.

Despite these efforts and developments, however, due to lack of further adequate funding, the level of management of the Marine and Coastal Protected Areas is still not sufficient based on the SAP/BIO Analysis.

Assessing and mitigating the impact of threats on biodiversity (SAP/BIO Objective 3)

In relation to assessing and mitigating the impact of threats on biodiversity, there are twelve (12) priority actions (measures) identified by SAP/BIO, as follows:

1. Monitor of global trade and economic policies and trends from a Mediterranean perspective, to analyse their scope and probable effects on biodiversity;
2. Establish a regional monitoring programme following up the socio-economic impact of changes in biodiversity;
3. Assess the potential impact of climate change and rise in sea level on Mediterranean coastal and marine biodiversity;
4. Assess the potential impact of threats on Mediterranean coastal and marine biodiversity;
5. Mitigate the direct impact of international trade in endangered species;
6. Control and mitigate the introduction and spread of alien and invasive species;
7. Control and mitigate coastal urbanization and construction of coastal infrastructure;
8. Control and mitigate the effect of changes in land use;
9. Promote eco- and soft tourism, control and mitigate impact of recreational activities;
10. Assess and elaborate strategies to prevent the environmental impact of sources of pollution;
11. Control and regulation of aquaculture practices;
12. Assessment, control and elaboration of strategies to prevent impact of fisheries on biodiversity.

On monitoring global trade and economic policies and trends from a Mediterranean perspective, to analyse their scope and probable effects on biodiversity, and regarding establishing a regional monitoring programme following up the socio-economic impact of changes in biodiversity the SAP/BIO Analysis concluded no major achievements.

On the monitoring programme, following up socio-economic impact of changes in biodiversity, it has to be noted that Plan Bleu in 2014 concluded a Socio-Economic Analysis and that a monitoring

[27] Since 2003, three regional projects have been implemented by RAC/SPA, the WWF MED POL and MedPAN to help the countries of the southern and eastern Mediterranean improve the management of Marine and Coastal Protected Areas. These projects, which enjoyed financial support from the European Commission, the FFEM, the AECID and the MAVA Foundation, gave support for the crafting of zoning and management plans and for training managers

programme is being currently developed in the EcAp process for biodiversity, but this monitoring programme is not falling under the scope of the current EcAp Measures Gap Analysis.

In relation to assessing the potential impact of climate change and rise in sea level on Mediterranean coastal and marine biodiversity, the SAP/BIO Analysis highlights as achievements the RAC/SPA supported studies undertaken on the impact of climate change on the marine environment, the specific report series developed on it by RAC/SPA[28], as well as relevant international reports of the Intergovernmental Panel on Climate Change (**IPCC**)[29] and the fact that some countries start to monitor the variation in sea level (e.g. monitoring the sea level (for example in Italy).

In addition, it has to be noted that RAC/SPA has established a bibliographic database on climate change impacts[30], and next to the report mentioned above, RAC/SPA also developed through three sub-regional meetings sub-regional syntheses on the issue[31].

In relation to assessing the potential impact of threats on Mediterranean coastal and marine biodiversity, the SAP/BIO Analysis highlights that while most of the countries of the region have identified in their territories those marine areas that are undergoing major pollution such as hot spots (for the other types of threat, the inventory of vulnerable areas has only been made on limited parts of the coast, often as part of the coastal management programmes).

Unfortunately the SAP/BIO Analysis also notes that in relation to the 3 other regional projects recommended by SAP/BIO (UNEP/MAP RAC/SPA 2003, pg 47), no organisation has taken the initiative of developing them due to budgetary restrictions.

In relation to controlling and mitigating coastal urbanization and construction of coastal infrastructure and controlling and mitigating the effect of changes in land use, the SAP/BIO Analysis recalls as major achievement the adoption of the ICZM Protocol (for more information see part X of this document) and it also states that while the number of countries passing national laws in this area has grown, for most of the countries of the region, controlling coastal development remains a major challenge.

As additional specific achievements, the SAP/BIO Analysis recalls the PAP/RAC coordinated coastal development projects (**CDPs**). Since 2003, its CDPs have been achieved in Algeria, Cyprus, Lebanon, Malta, Montenegro, Morocco Slovenia and Spain. These CDPs can be added to those implemented before 2003 in Albania, Croatia, Egypt, Greece, Syria, Tunisia and Turkey. In addition, it states that as part of the SMAP Programme, some projects to craft integrated management plans for coastal areas have been funded since 2003.

In addition, the SAP/BIO Analysis also mentions that the European Space Agency (**ESA**) launched **GlobWetland I** (2003, completed) and **GlobWetland II** (2010, in progress) projects[32] support the implementation of the Convention on Wetlands of International Importance (so-called **Ramsar Convention**)[33].

In relation to mitigating the direct impact of international trade in endangered species the SAP/BIO Analysis found that while considerable research results have been published mostly by Northern Mediterranean countries and that most Mediterranean countries have bodies to enforce the Convention on International Trade in Endangered Species (**CITES**) measures concerning the checking of imports and exports of endangered species, the enforcement is lacking in many cases (lack of training for the

[28] http://rac-spa.org/sites/default/files/doc_climate_change/ccd_synthesis.pdf
[29] See for example: http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch5s5-3-2-4.html
[30] http://rac-spa.org/biblio
[31] http://rac-spa.org/nfp9 and and http://rac-spa.org/publications#en12
[32] http://www.globwetland.org/
[33] The GlobWetland II produces of a number of wetland related geo-information maps and indicators, over 200 coastal wetlands from the Southern and Eastern part of the Mediterranean basin, extending from Morocco to Turkey less than 100 km from the coastline (http://dup.esrin.esa.it/prjs/prjs123.php)

agents of the checking authorities at ports, airports, and other border crossing points was identified as main gap).

Regarding control and mitigation of the introduction and spread of alien and invasive species, please see later this Chapter, part B.

In relation to controlling and mitigating coastal urbanization and construction of coastal infrastructure and controlling and mitigating the effect of changes in land use, the SAP/BIO Analysis recalls as major achievement the adoption of the Integrated Coastal Zone Management (**ICZM)** Protocol (for more information (see also part IV.3.A of this document) and it also states that while the number of countries passing national laws in this area has grown, for most of the countries of the region, controlling coastal development remains a major challenge.
Regarding promoting eco- and soft tourism, controlling and mitigating impacts of recreational activities the SAP/BIO Analysis concluded that while the promotion of ecotourism is a priority in several countries of the region and many actions have been implemented over the past few years, including the revision of categories of tourist facilities by introducing ecotourism-specific categories, the introduction of labels linked to sustainable tourism and ecotourism remains limited in the Mediterranean and the strong pressure of mass tourism developed in many Mediterranean coastal areas has negative impact on the development in this area.

For specific activities undertaken on the regional level, the SAP/BIO Analysis recalls Plan Bleu lead 'Tourism' activities programme, which has organised several workshops and crafted several documents on sustainable tourism in the Mediterranean, and also the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (**REMPEC**) guidelines on pleasure boating and marinas in the Mediterranean, next to the ACCOBAMS feasibility studies for developing pilot projects of whale watching in Morocco and Tunisia with the view to develop synergies with ecotourism and pecatourism. In addition, it notes that several organisations (IUCN, WWF, MED POL, MedPAN) helps Mediterranean Protected Areas develop sustainable ecotourism activities. Furthermore, for the EU countries, it notes the achievements through the European Destinations of Excellence project **(EDEN),** which encourages development models of sustainable tourism in the European Union.

Tourism, as it has been identified as key sector in the Mediterranean region, is also one of the pilar sectors of the SCP Action Plan. The operationnal objective for Tourism in the Action Plan is to achieve that Tourism, based on an integrated and sustainable approach, is the model of tourist development in the Mediterranean, becoming a comparative advantage attracting visitors in the regionand direct contributor to the protection of the biodiversity and vulnerable habitats. To this end, the SCP Action Plan will develop a set of measures to achieve this operational objective at the region level.
In relation to assessing and elaborating strategies to prevent the environmental impact of sources of pollution please see Part IV.2.of this Document.

The SAP/BIO Analysis in addition notes here that the issue of the environmental impact of seawater desalination operations is handled in many countries through national legislation on environmental impact studies and that in relation to marine litter very few actions are mentioned at national level in the countries' National Reports and that regardless international efforts (including work of ACCOBAMS) the issue of noise at sea is not yet given sufficient attention in the Mediterranean either.

Regarding control and regulation of aquaculture practices the SAP/BIO Analysis finds that the widespread development of fish farming in the Mediterranean has not yet been accompanied in most of the countries by measures to control the harmful effects of this activity on the environment, while encouraging this sector of activity to develop (please also see part II of this document on the socio-economic impacts of aquaculture practices).

It also states that while in most of the Mediterranean countries, the setting up of fish farms is subject to an environmental impact study, only few countries have integrated the setting aside of sites for fish farming in the context of integrated spatial planning of the marine area.

In addition, under regional efforts, the SAP/BIO Analysis notes that the General Fisheries Commission for the Mediterranean (**GFCM**) has a Committee on Aquaculture that has launched several initiatives on indicators.

Regarding assessment, control and elaboration of strategies to prevent impact of fisheries on biodiversity, the SAP/BIO Analysis underlines the important role of SAP/BIO and GFCM, as well as of the EU Common Fisheries Policy and fisheries related research projects, such as Mediterranean international trawl survey programme (**MEDITS**)[34], that increased knowledge about vulnerable fish stocks. It notes as one of the gaps still not filled is the control of recreational fishing activities, stating that, recent recommendations made by GFCM and the International Commission for the Conservation of Atlantic Tunas (**ICCAT**) could soon be followed by national measures (please also see part II of this document on the socio-economic impacts of fisheries).

The SAP/BIO Analysis also underlines the strong collaboration with GFCM, from 2008 on, with aiming measures adopted to reduce the impact of fishing on biodiversity and recalls that in 2011 GFCM adopted binding recommendations to mitigate by catch of marine turtles[35], birds[36] and monk seals[37] and in in 2012 adopted a recommendation on by catch of cetaceans[38]. It also launched activities for the conservation of elasmobranch which also ended up in the adoption of a recommendation in 2012[39] that contains fisheries management measures for conservation of sharks and rays in the GFCM area.

Developing Research to complete knowledge and fill in gaps on biodiversity (SAP/BIO Objective 4/Target 3)

Under the objective of developing research to complete knowledge and fill in gaps on biodiversity, two priority actions (priority measures) were identified by the SAP/BIO, namely (a) improve and coordinate research on biodiversity; and (b) improve taxonomic expertise in the region.

Regarding the improvement and coordination of research on biodiversity, the SAP/BIO Analysis welcomed the SoER-MED, which identified specific knowledge gaps (for more on the SoER-MED please see part III of this document).

The SAP/BIO Analysis also notes that despite the scientific programmes implemented to get a better knowledge of Mediterranean biodiversity, several areas in the Mediterranean are still little studied, with the main gaps concerning the southern and eastern Mediterranean, the sizes of the populations of certain species and their distribution (for example cetaceans[40]) and the biodiversity of the deep sea areas.

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[34] http://www.sibm.it/SITO%20MEDITS/principaleprogramme.htm

[35] Recommendation GFCM/35/2011/4 on the incidental by-catch of sea turtles in fisheries in the GFCM Competence Area

[36] Recommendation GFCM/35/2011/3 on reducing incidental by-catch of seabirds in fisheries in the GFCM Competence Area

[37] Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (Monachus monachus) in the GFCM Competence Area

[38] Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

[39] Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

[40] Please note that regarding protected areas for cetaceans, despite the identification of 22 areas of special interest for cetaceans in the ACCOBAMS area, in some areas of the Mediterranean and the Black Sea, there is no data available currently. This will be addressed during the upcoming workshop on "the effectiveness of protected

Recent expert meetings in the framework of EcAp also highlighted not only the need of further improving coordination of research projects on biodiversity, but also the need of strengthening the science - policy interface. It is interesting to note in this regard that the recent Science and Technology Advancing Governance Good Environmental Status (STAGES) project[41] analyses some options how to make the interface better functioning, with highlighting that Regional Conventions could play a more active role in fostering knowledge brokering at regional/sub-regional level.

Regarding improving taxonomic expertise in the region, the SAP/BIO Analysis concludes that while some training courses on taxonomy were organised with the support of RAC/SPA and since 2003, some taxonomical works have been crafted in the Mediterranean on invertebrate and algal groups, the Masters and Doctoral programmes on taxonomy recommended by RAC/SPA have not yet been introduced and taxonomy still does not seem to attract students in the Mediterranean, with lack of Masters and Doctoral grants in this field.

It has to be noted that the recent expert meetings in the framework of EcAp also highlighted the importance of taxonomic expertise for the development of the Integrated Monitoring and Assessment Programme in the region, stating the shortage of relevant experts and the lack of awareness of the importance of taxonomy.

Capacity building, coordination and technical support (SAP/BIO Objective 4/Target 4)

In relation to the capacity building, coordination and technical support objective/target, the SAP/BIO underlines two priority actions (measures), namely (a) Achieve 'clearing-house' mechanism to focus on marine and coastal conservation activities and (b) Coordinate and develop of common tools to implement NAPs.

The SAP/BIO Analysis states that Clearing House Mechanisms (**CHM**) on biodiversity were set up in several countries, including Egypt, France, Italy, Morocco, Spain, Tunisia, Turkey and the European Union, while RAC/SPA has developed a CHM for the whole Mediterranean but the lack of financial resources still continue to be a problem in this area too, with dispersal of information on biodiversity between several administrations, research centres and other actors identified as a main gap[42].

Regarding Coordinating and developing common tools to implement the biodiversity related NAPs, the SAP/BIO Analysis concludes that this priority action has not been implemented mainly because of the non-availability of financial resources.

Information and Participation (SAP/BIO Objective 5 /Target 4)

In relation to information and participation, the SAP/BIO establishes three priority actions (measures), (a) to facilitate the access to information for managers and decision-makers, as well as stakeholders and the general public, (b) Promote public participation, within an integrated management scheme and (c) Conserve the traditional knowledge of the various actors.

The SAP/BIO Analysis concludes that while very little has been done to facilitate access to information for managers, decision-makers, stakeholders and general public and while still much remains to be done, there are some achievements in the field of promoting public participation, as in many Mediterranean countries the public has stepped up its participation in decisions concerning the environment. This has been seen in Non-Governmental Organization (**NGO**) participation in managing or decision-making on Protected Areas and in some countries public consultation is a phase in an Environmental Impact Study.

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areas containing critical habitats for cetaceans" to be held in June 2015, in collaboration with MedPAN, RAC/SPA and other relevant organizations.

[41] http://www.stagesproject.eu/

[42] Most of the Exchange Centres on biodiversity in the countries of the southern Mediterranean were set up with the support of the UNDP in the context of GEF funding.

Regarding conserving the traditional knowledge of the various actors the SAP/BIO Analysis states that while very little has been recorded since 2003 for this priority action in general, there have been achievements in relation to wetlands, thanks to the MedWet Initiative and its MedWet Culture Network which aims to enable different Mediterranean actors to exchange practices and information. In addition, the Mediterranean Institute for Culture and Anthropos is also noted as a contributor to this action, as it aims to promote cultural values that benefit both man and nature and has published in 2011 the book "Culture and wetlands in the Mediterranean: an evolving story" (http://www.med-ina.org/PUBLICATIONS.aspx).

In addition, the SAP/BIO Analysis also welcomes the 2010 Med-INA project, supported by the MAVA Foundation and the MedWet Initiative, on the potential use of cultural values in catalysing and strengthening wetland restoration efforts, through better public sensitisation and attraction of visitors.

Awareness raising (SAP/BIO Objective 6 /Target 5)

In relation to awareness raising, the SAP-BIO establishes two priority actions (measures) : (a) to develop international collaboration in order to enhance regional public awareness and (b) to organise coordinated Mediterranean-level campaigns focusing on specific regional biodiversity issues (addressed both to specific stakeholders and to the general public.

The SAP/BIO Analysis found that while unfortunately achievements in relation to both of these priority measures are still limited due to lack of funding, there is more progress in relation organizing coordinated Mediterranean campaigns focusing on specific regional biodiversity issues.

The SAP/BIO Analysis notes in relation to the latter that public awareness and environment education are some of the most implemented actions for the conservation of species, habitats and biodiversity in general with local and national NGOs are the main actors in this field, but lack of coordination between the actors and therefore a lot of duplication of effort and unbalanced distribution, next to lack of environmental education of journalists hinder awareness raising efforts.

As best practice it notes MedWet, a forum of 27 Mediterranean countries, specialized wetland centres and international environmental organizations which collaborate for the conservation of Mediterranean wetlands through local, national, regional and international collaborations. This forum is promoting and facilitating the implementation of activities which contribute to the conservation of Mediterranean wetlands, within the framework of the Ramsar Convention.

The SAP/BIO and its NAPs relate to the following EcAp Targets:

- The ratio Natural/observed distributional range tends to 1 ;
- Decrease in the main human causes of the habitat decline ;
- No human induced significant deviation of population abundance and density from reference conditions[43];
- The species composition shows a positive trends towards reference condition over an increasing proportion of the habitat (for recovering habitats);
- The distribution of Monk Seal remains stable or expanding and the species is recolonizing areas with suitable habitats;
- Human activities having the potential to exclude **marine mammals** from their natural habitat within their range area or to damage their habitat are regulated and controlled;
- Conservation measures implemented for the zones of importance for **cetaceans**[44];

[43] Natural distributional range to be defined by COP19.
[44] A specific workshop on "the effectiveness of protected areas containing critical habitats for cetaceans" will be held in June 2015, organized by ACCOBAMS in collaboration with MedPAN, RAC/SPA and other relevant organizations

- Fisheries management measures that strongly mitigate the risk of incidental taking of **monk seals and cetaceans** during fishing operations are implemented;
- No significant shrinkage in the population distribution in the Mediterranean in all indicator species (**birds**).
- And for colonial-breeding seabirds (i.e., most species in the Mediterranean): New colonies are established and the population is encouraged to spread among several alternative breeding sites (**birds**);
- **Turtle** distribution is not significantly affected by human activities;
- **Turtles** continue to nest in all known nesting sites;
- Protection of known nesting, mating, foraging, wintering and developmental **turtle sites;**
- Human activities having the potential to exclude marine turtles from their range area are regulated and controlled;
- The potential impact of climate change is assessed (**reptiles**) ;
- Populations recover toward natural levels (**marine mammals);**
- No human induced decrease in population abundance. Population recovers towards natural levels where depleted (**birds and reptiles**);
- The total number of individuals is sparse enough in different spots (**birds**) ;
- Decreasing trends in human induced mortality (**marine mammals**);
- Species populations are in good condition : Low human induced mortality, balanced sex ratio and no decline in calf production (**cetaceans**);
- Species populations are in good condition : Low human induced mortality, appropriate pupping seasonality, high annual pup production, balanced reproductive rate and sex ratio (**monk seal**) ;
- Population of all taxa particularly those with IUCN threatened status are maintained in long term following the indication of population models (**birds**);
- Incidental catch mortality is at negligible levels, particularly for species with IUCN threatened status (**birds**);
- Measures to mitigate incidental catches in **turtles** implemented;
- The number of species and abundance of IAS[45] introduced as a result of human activities is reduced;
- Improved management of the main human related pathways and vectors of NIS;
- Introduction (Mediterranean Strategy for the management of ballast waters, Aquaculture early warning systems, etc.);
- Action plans developed to address high risk NIS, should they appear in the Mediterranean;
- Abundance of NIS introduced by human activities reduced to levels giving no detectable impact.

1.1.2 Action Plans related to Biodiversity

Action Plan for the management of the Mediterranean Monk Seal[46]

As one of the oldest Action Plans in the region, the **Action Plan for the management of the Mediterranean Monk Seal**[47] lays out the measures needed for the protection of the monk seal[48], such

[45] Invasive Alien Species (IAS)
[46] http://rac-spa.org/sites/default/files/action_plans/monkap.pdf
[47] http://rac-spa.org/sites/default/files/action_plans/monkap.pdf

as information campaigns with fishermen, enforcement of regulations against illegal fishing practices, improved fishing nets, establishment of a network of marine reserves covering potential monk seal habitats, strengthen research, data and rehabilitation and other information programmes. The main aims of the Plan thus is to reduce the adverse pressures and ensure the gradual recovery of the species through the implementation of a number of immediate and long-term actions.

Within the implementation of this Action Plan, RAC/SPA has assisted countries to carry out actions for the protection of species through data collection, research and awareness. RAC/SPA, also has organized several meetings and produced a number of documents on the status of the species at different times. Recently, RAC/SPA efforts focused on improving knowledge on the status of the species, training national partners, public awareness and the identifying of potential critical habitats in low-density areas (Albania, Algeria, Cyprus, The State of Libya, Syria and Tunisia).

This Action Plan relates to the following EcAp Targets:

- The ratio Natural/observed distributional range tends to 1 ;
- Decrease in the main human causes of the habitat decline ;
- No human induced significant deviation of population abundance and density from reference conditions[49];
- The species composition shows a positive trends towards reference condition over an increasing proportion of the habitat (for recovering habitats);
- The distribution of Monk Seal remains stable or expanding and the species is recolonizing areas with suitable habitats;
- Human activities having the potential to exclude **marine mammals** from their natural habitat within their range area or to damage their habitat are regulated and controlled ;
- Populations recover toward natural levels (**marine mammals);**
- Decreasing trends in human induced mortality (**marine mammals**);
- Species populations are in good condition : Low human induced mortality, appropriate pupping seasonality, high annual pup production, balanced reproductive rate and sex ratio (**monk seal**).

Action Plan for the Conservation of Mediterranean Marine Turtle

The Mediterranean countries within the framework of the Mediterranean Action Plan, adopted in 1989 the **Action Plan for the Conservation of Mediterranean Marine Turtle**, which was updated in 2006, reflecting experience and information gained since it was first implemented in 1999. The evaluation by country, as well as report on the evaluation can be found on the website of RAC/SPA.[50]

One of the reasons for updating the Action Plan was that knowledge and dissemination of information on turtles has been increasing rapidly since the Action Plan was initially adopted in 1998, with more widespread application of up-to-date technologies in genetic research, satellite tracking as well as more work on more traditional research and conservation lines, in turtle biology and behaviour, have resulted in an unprecedented accumulation of knowledge. In addition, there has been a proliferation of activities related to turtle conservation, both on land and more recently at sea. These now cover much of the Mediterranean and focus on most aspects of conservation, monitoring.

[48] The monk seal is an endangered species. It is on the I.U.C.N. list of the twelve animal species in the world that are in greatest danger of extinction.
[49] Natural distributional range to be defined by COP19.
[50] http://rac-spa.org/marine_turtles

RAC/SPA has been holding annual capacity building programmes, to train country nominated scientists on Conservation Techniques and Beach Management. RAC/SPA also helped directly a variety of programmes for surveying, monitoring and research in several countries.

The publication by RAC/SPA of guidelines for legislation to protect turtles, setting up and improving Rescue Centres, Sea Turtle Handling by Fishermen (the Fishermen's Handbook), among others, was aimed at helping the Contracting Parties implement the Action Plan. These have been translated into different languages, according to needs.

Furthermore, in order to help with tagging issues Regional Activity Center for Specially Protected Areas (**RAC/SPA**) set up a tagging working group that met in Kemer (Antalya, Turkey) and came up with a set of tagging guidelines aimed at putting tagging issues into perspective, at recommending acceptable tagging techniques and at avoiding pointless and hazardous tagging activities. The tagging recommendations of the workshop were adopted by the MAP National Focal Point meeting and ultimately by the Contracting Parties meeting.

RAC/SPA, in order to assess again the implementation status of the Plan, sent out a Questionnaire to Contracting Parties. The answers will provide key understanding on the next steps, towards understanding the real problems that need to be solved both at the regional and at the national and local levels for effective actions.

This Action Plan relates to the following EcAp Targets:

- The ratio Natural/observed distributional range tends to 1 ;
- Decrease in the main human causes of the habitat decline ;
- No human induced significant deviation of population abundance and density from reference conditions;[51]
- The species composition shows a positive trends towards reference condition over an increasing proportion of the habitat (for recovering habitats);
- **Turtle** distribution is not significantly affected by human activities;
- **Turtles** continue to nest in all known nesting sites;
- Protection of known nesting, mating, foraging, wintering and developmental **turtle sites;**
- Human activities having the potential to exclude marine turtles from their range area are regulated and controlled;
- The potential impact of climate change is assessed (**reptiles**);
- Measures to mitigate incidental catches in **turtles** implemented.

Action Plan for the conservation of cetaceans in the Mediterranean Sea[52]

The Action Plan for the conservation of cetaceans in the Mediterranean Sea[53] was adopted by the Contracting Parties in 1991, while its further implementation needs were elaborated by the National Focal Points Meetings for Specially Protected Areas, adopting a series of additional points for the implementation of the Action Plan, which have been annexed to it and will be considered as an integral part of it. This Action Plan accordingly recommends various measures to conserve cetaceans in the Mediterranean, such as prohibition of deliberate taking; prevention and elimination of pollution; elimination of incidental catches in fishing gear; prevention of over-exploitation of fishery resources; protection of feeding, breeding and calving grounds; monitoring, research and data collection and

[51] Natural distributional range to be defined by COP19.
[52] Please note that this Action Plan is planned to be revised in 2014/2015 by ACCOBAMS and RAC/SPA
[53] http://rac-spa.org/sites/default/files/action_plans/cetaces.pdf

dissemination with regard to biology, behaviour, range and habitats of cetaceans ; educational activities aimed at the public at large and fishermen.

RAC/SPA provides technical follow-up for the implementation of the Action Plan for the Conservation of Cetaceans in the Mediterranean adopted as part of the Mediterranean Action Plan. In addition, it also acts as a sub-regional coordinating unit for ACCOBAMS.

This Action Plan relates to the following EcAp Targets:

- The ratio Natural/observed distributional range tends to 1 ;
- Decrease in the main human causes of the habitat decline ;
- No human induced significant deviation of population abundance and density from reference conditions[54] ;
- The species composition shows a positive trends towards reference condition over an increasing proportion of the habitat (for recovering habitats);
- Human activities having the potential to exclude **marine mammals** from their natural habitat within their range area or to damage their habitat are regulated and controlled;
- Conservation measures implemented for the zones of importance for **cetaceans;**
- Fisheries management measures that strongly mitigate the risk of incidental taking of **monk seals and cetaceans** during fishing operations are implemented;
- Populations recover toward natural levels (**marine mammals);**
- Decreasing trends in human induced mortality (**marine mammals**);
- Species populations are in good condition: Low human induced mortality, balanced sex ratio and no decline in calf production (**cetaceans**).

Action Plan for the conservation of marine vegetation in the Mediterranean Sea

This Action Plan is the result of a series of various initiatives at regional level which highlighted the conservation of species generally and marine vegetation in particular[55]. As a major step, in 1996, the Annexes to the SPA/BD Protocol were adopted, among them a list of endangered or threatened species, where 14 endangered or threatened marine vegetation species appeared. For these species, the Protocol provides for a set of measures such as scientific monitoring, inventory and protection notably through the control of human activities and asks for a specific Action Plan.

The Action Plan for the conservation of marine vegetation in the Mediterranean Sea[56] was adopted accordingly in 1999 and was revised in 2005 after its evaluation, which highlighted that despite considerable efforts made by a certain number of countries, delays and shortcomings were noticed at national level due to various constraints, including the lack of elaboration of an integrated planning strategy in national programmes, insufficient political backing, lack of public interest, conflicts of interest between certain departments or sectors, lack of bodies, specialists and staff working constantly on the subjects and absence of funding.

This Action Plan relates to the following EcAp Targets:

- The ratio Natural/observed distributional range tends to 1 ;
- Decrease in the main human causes of the habitat decline ;

[54] Natural distributional range to be defined by COP19.
[55] Among these initiatives we could mention the "Livre Rouge, Gerard Vuignier, des végétaux, peuplements et paysages menaces de Méditerranée" in 1990.
[56] http://rac-spa.org/sites/default/files/action_plans/ap_marine_vegetation_en_fr.pdf

- No human induced significant deviation of population abundance and density from reference conditions[57];
- The species composition shows a positive trends towards reference condition over an increasing proportion of the habitat (for recovering habitats).

Action Plan for the conservation of bird species listed in Annex II of the Protocol on Specially Protected Areas and Biological Diversity

Annex II of the SPA/BD Protocol lists the endangered or threatened species found in the Mediterranean, including 15 bird species. An "Action Plan for the conservation of bird species listed in Annex II of the Protocol on Specially Protected Areas and Biological Diversity" was elaborated for these pelagic and costal bird species and published in 2003.

The development of this Action Plan follows various initiatives taken by other organizations[58] and has the main purpose of maintaining and/or restoring the population levels of these bird species and ensuring their long-term conservation, sharing knowledge and expertise between the Mediterranean countries and co-ordinating efforts among the countries and other relevant initiatives and agreements.

It also encourages a synergic approach among the Mediterranean countries in the protection of these bird species and their habitats and encourages research to fill the many gaps in our knowledge concerning coastal and pelagic birds in the Mediterranean, particularly seabird distribution and their movements, feeding, moulting and wintering areas at sea.
For that the plan proposes many actions under the topics of (1) Protected Areas; (2) Legislation, (3) Research; (4) Advocacy, awareness raising, education and training and (5) elaboration of NAPs.

Since the adoption of the Action plan guidelines for the implementation of the actions suggested, the management and the monitoring of the populations of birds were developed and published. The Guidelines[59] suggest for the National Action Plans actions on the above 5 fields, while the Monitoring Guidelines[60] cover the development of management plan for coastal and marine important areas to birds and/or marine and coastal Protected Areas and the monitoring threatened population of marine and coastal bird species in the Mediterranean.

RAC/SPA, though its mandate to coordinate the implementation of the Action plan and to assist the contracting countries, carried out various actions, contributing mainly to the improvement of the state of knowledge of the bird species of Annex II, with the reinforcement of the capacities of the institutions in charge of the monitoring and management of bird populations and to the awareness raising among the wider public, such as Ornithological survey (Albania), Census of wintering waterbirds (The State of Libya and Tunisia) and of ringing of Lesser crested Tern breeding population (Libya), preparation of the National Action plan (NAP) for the conservation of waterbirds in Syria, training course in identification and census of waterbirds in the Mediterranean (The State of Libya).

Furthermore, latest updates, new Timetables of the Action Plans for conservation of marine turtles, birds and cartilaginous fishes can be found in UNEP(DEPI)/MED WG.382/8[61].In addition, under the **Slender-billed Curlew[62] Initiative**, RAC/SPA is participating in the international initiative for the

[57] Natural distributional range to be defined by COP19.
[58] The development of this Action Plan follows various initiatives taken by other organizations, such as BirdLife International partners in Mediterranean countries, WWF, IUCN, MedMarAvis, Tour du Valat, on the conservation of biological diversity, particularly with respect to birds, and their important sites and habitats.
[59] http://rac-spa.org/sites/default/files/doc_birds/ap_birds_gl_national_aps_en.pdf
[60] http://rac-spa.org/sites/default/files/doc_birds/guidelines_management_monitoring_en.pdf
[61] http://rac-spa.org/node/1075
[62] The Slender-billed Curlew *Numenius tenuirostris* is Europe's and the Western Palearctic's rarest bird, its population perhaps numbering less than 50 individuals. It is one of the five bird species in Europe, and 190 bird

species and has prepared the French version of the leaflet **"**A Toolkit for finding Slender-billed Curlews**"**, available on its website.

This Action Plan relates to the following EcAp Targets:

- The ratio Natural/observed distributional range tends to 1 ;
- Decrease in the main human causes of the habitat decline ;
- No human induced significant deviation of population abundance and density from reference conditions;[63]
- The species composition shows a positive trends towards reference condition over an increasing proportion of the habitat (for recovering habitats);
- No significant shrinkage in the population distribution in the Mediterranean in all indicator species (**birds**) ;
- And for colonial-breeding seabirds (i.e., most species in the Mediterranean): New colonies are established and the population is encouraged to spread among several alternative breeding sites (**birds**);
- No human induced decrease in population abundance. Population recovers towards natural levels where depleted (**birds and reptiles**);
- The total number of individuals is sparse enough in different spots (**birds**) ;
- Population of all taxa particularly those with IUCN threatened status are maintained in long term following the indication of population models (**birds**);
- Incidental catch mortality is at negligible levels, particularly for species with IUCN threatened status (**birds**).

Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean

The Action Plan for the Conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean[64] is not only following up on the SPA/BD Protocol, but also on the International Action Plan for the conservation and management of sharks (**IPOA-Sharks**), on the UN Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks and on paragraph 31 of the plan to implement the resolutions of the World Summit for Sustainable Development adopted in Johannesburg in September 2002[65].

Seen as an implementing measure for IPOA-Sharks in the Mediterranean region, the Action Plan for the Conservation of Chondrichthyans in the Mediterranean is a suggestion for setting up regional strategies, and setting out priorities and actions to be undertaken at national and regional level, for regional cooperation is necessary for ensuring that conservation methods are put into effect. Furthermore, IPOA-Sharks suggest that FAO member states develop National Action Plans when their fishing fleets catch sharks, either intentionally or accidentally. In compliance with this suggestion, in the Action Plan is strongly recommended the elaboration of National Action Plans to ensure the conservation and management of chondrichthyan resources in their environment, as well as their sustainable use. Implementing the Action Plan involves a large number of partners, and its success requires increased cooperation between the various jurisdictions, commercial fishermen,

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species in the world, most threatened with global extinction, being classified as 'critically endangered' by BirdLife International and IUCN. It is also listed in Annex II of the SPA/BD Protocol.

[63] Natural distributional range to be defined by COP19.

[64] http://rac-spa.org/sites/default/files/action_plans/elasmo.pdf

[65] Within the framework of the Barcelona Convention, some chondrichthyans are already protected, mainly the great white shark (*Carcharodon carcharias*), the basking shark (*Cetorhinus maximus*) and the Mediterranean Manta ray (*Mobula mobular*). Also, some Mediterranean countries have introduced specific protection measures for these species to strengthen their protected species status.

environmental and conservation bodies, associations of sports and recreational fishermen, scientific and research organizations, and military and administrative structures at national, regional and international level. An **updated implementation timetable** for the implementation of this Action Plan was set for the period going from 2010 to 2013[66].

This Action Plan relates to the following EcAp Targets:

- The ratio Natural/observed distributional range tends to 1 ;
- Decrease in the main human causes of the habitat decline ;
- No human induced significant deviation of population abundance and density from reference conditions[67];
- The species composition shows positive trends towards reference condition over an increasing proportion of the habitat (for recovering habitats).

Action Plan for Coralligenous and other Calcareous Bio-Concretions

This Action Plan[68] was adopted during the COP15 held in Almeria 2008. The main objectives of the Action plan are to allow the conservation of the coralligenous and others calcareous bio-concretions in the Mediterranean Sea, rising solidarity and scientific cooperation between States and increasing the knowledge concerning these assemblages, essential prerequisites in order to implement efficient management measures.

The Action Plan is devoted to coralligenous assemblages and maërl beds, except the surface bio-concretions already included in the Action Plan for the conservation of marine vegetation in the Mediterranean Sea.

This Action Plan relates to the following EcAp Targets:

- The ratio Natural/observed distributional range tends to 1 ;
- Decrease in the main human causes of the habitat decline ;
- No human induced significant deviation of population abundance and density from reference conditions[69];
- The species composition shows positive trends towards reference condition over an increasing proportion of the habitat (for recovering habitats).

1.1.3 MPAs and SPAMIs

In 2003, 52 Marine Protected Areas (**MPA**s) were inventoried, especially in the western Mediterranean. Some possess management plans that are not being implemented, or are obsolete or unsuitable, and areas of great importance, including natural monuments, remain unlisted. RAC/SPA has been entrusted with reviving the creation of MPAs and extending this network, particularly in the southern Mediterranean.

In addition a Resolution of 2013[70] by GFCM established the framework for cooperation between UNEP/MAP and GFCM when a SPAMI overlaps with an area with fisheries restrictions such as GFCM-FRAs in order to avoid possible conflicts of interests.

[66] http://rac-spa.org/sites/default/files/doc_fish/timetable_fish_2010_2013.pdf
[67] Natural distributional range to be defined by COP19.
[68] http://rac-spa.org/sites/default/files/action_plans/pacoralligene.pdf
[69] Natural distributional range to be defined by COP19.

The Parties to the Convention on Biological Diversity (**CBD**) agreed in 2004 to take action to address the under representation of marine ecosystems in the global network of protected areas. In this context, they adopted the 2012 target for MPAs that invites countries to achieve by 2012 a global network of comprehensive, representative and effectively managed national and regional protected area system.

RAC/SPA has been supporting the Mediterranean countries to achieve the CBD's 2012 target by establishing a representative network of MPAs in the Mediterranean Sea. The programme of work of Marine Protected Areas (**MPAs**) was elaborated by RAC/SPA in consultation with the International Union for the Conservation of Nature (**IUCN**) Centre for Mediterranean Cooperation, WWF-MED POL, MedPAN and ACCOBAMS. It takes into account the information on MPAs available in the databases and documentation of these organisations.

This work program was adopted in 2009 by the Contracting Parties with the following four elements:

- Element 1: To assess the representativity and effectiveness of the existing Mediterranean network of marine and coastal protected areas[71];
- 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;
- Element 3: To improve the management of the Mediterranean marine and coastal protected areas;
- Element 4: To strengthen the protected area governance systems and further adapt them to national and regional contexts.

Further to the above a roadmap to achieve in 2020 the international goals of the Convention for Biological Diversity regarding MPAs in the Mediterranean was elaborated in 2013 by RAC/SPA with key partners' contribution.

SPAMIs

The SPA/BD Protocol established the List of Specially Protected Areas of Mediterranean Importance (**SPAMI's List**) in order to promote cooperation in the management and conservation of natural areas, as well as in the protection of threatened species and their habitats. The conservation of the natural heritage is then the basic aim that must characterize the SPAMIs.

According to the provisions of the SPA/BD Protocol, SPAMIs may be established in the marine and coastal zones subject to the sovereignty or jurisdiction of the Parties and in areas situated partly or wholly on the high sea. The SPAMI's List may include sites which:

- are of importance for conserving the components of biological diversity in the Mediterranean;
- contain ecosystems specific to the Mediterranean area or the habitats of endangered species;
- are of special interest at the scientific, aesthetic, cultural or educational levels.

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[70] Res. GFCM/37/2013/1 on area based management of fisheries, including through the establishment of Fisheries Restricted Areas (FRAs) in the GFCM convention area and coordination with the UNEP/MAP initiatives on the establishment of SPAMIs.

[71] A workshop on "the effectiveness of protected areas containing critical habitats for cetaceans" to be held in June 2015, will be organized by ACCOBAMS in collaboration with MedPAN, RAC/SPA and other relevant organizations

The SPA/BD Protocol provides the criteria for the choice of protected marine and coastal areas that could be included in the SPAMI's List (Annex I of the SPA/BD Protocol) as well as the procedure and the stages to be followed with the view of including an area in the List.

According to the provisions of the SPA/BD Protocol, all the Parties to the Protocol are committed to respecting the protection and conservation measures defined in the proposal for inclusion.

Since COP18, the SPAMI List includes 33 sites, has demonstrated under, among which one encompasses an area established also on the high sea: the Pelagos Sanctuary for marine mammals.

SPAMIs in Open Seas

The aim of the Joint Management Action of the EU and UNEP/MAP, started in 2007, is to promote through the SPAMI system the establishment of a representative network of marine protected areas in the Mediterranean open seas, including the deep seas. This is a strategy to reach the Aichi 2020 target, where 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 landscapes and seascapes. This is also stated in the decisions of COP 16 in Marrakesh and COP 17 in Paris regarding the Ecologically or Biologically Significant Areas **(EBSAs)** in the Mediterranean. The action is implemented by RAC/SPA.

The second phase of the action, which was completed in 2011, aimed to facilitate the process of designating as SPAMIs certain sites in areas beyond national jurisdiction included in the priority conservation areas identified during the first phase (figure above), by supporting the establishment of agreed procedures among Parties and catalyzing working groups between neighbouring countries concerned.

The current phase, implemented as a component of the EcAp-MED project, aims to contributing to build a framework with the countries and competent organizations to facilitate the joint establishment of SPAMIs in open seas, including the deep seas, following up on the achievements of the first phase of action, where several Southern countries have shown their willingness for transboundary cooperation for the creation of SPAMIs jointly with their European Union neighbours, notably in the areas of Alboran Sea, Adriatic Sea and Sicily Channel.

Currently national and sub-regional consultation processes facilitation to countries showing interest, both on-going (Alboran Sea) and starting (Adriatic Sea, Sicily Channel), in order to support the preparation of joint SPAMI proposal in areas embracing open seas and engaging countries neighbour to EU in the process. Consultation processes are being set up through the organization of sub-regional meetings.

Pursuant to the reflections initiated with the “Approach to facilitate the preparation of joint proposals for inclusion in the SPAMI List in accordance with Article 9 of the SPA/BD Protocol”, this activity is done through a study on best practices and case studies related to the management of wide trans-boundary areas, straddle marine resources as well as marine protected areas comprising notably large extensions of ocean

An additional activity under the EcAp-MED project is the development of a joint strategy with ACCOBAMS, IUCN and GFCM in coordination with MedPAN, on how to address the issues of common interest in Alboran Sea, Adriatic Sea and Sicily Channel, including promotion and fund raising for oceanographic surveys in those areas. The short and medium term programmes and activities of the above institutions will be jointly analysed and discussed in order to search for

commonalities and future synergies favouring the conservation of pelagic and deep seas ecosystems in those areas

Note on EBSAs

Criterias for Ecologically or biologically significant marine areas (**EBSA**s), were agreed at the ninth meeting of the Conference of the Parties to the Convention on Biological Diversity (**CBD**), which was followed up by a series of regional EBSA workshops, including the latest held in the Mediterranean, in Malaga, in March 2014. The results of these subsequent workshops were discussed at the 18th Meeting of the CBD SBSTTA[72] in June 2014 and the upcoming 12th Meeting of the Contracting Parties to the CBD they will be adopted in October in 2014[73].

It has to be noted that the list of EBSAs constitute a scientific starting point for further attention of the Contracting Parties describing 17 ecologically or biologically significant areas in the Mediterranean.

1.1.4 MedPartnership activities related to biodiversity

MedPartnership is composed of 4 main components. Its third component is on the **Conservation of biological diversity and the implementation of SAP/BIO and related NAPs**. In this framework, MedPartnership has been coordinating the implementation of measures such as SAP/BIO and NAPs. In the document UNEP (DEPI)/MED WG. 389/7, some projects, their indicators as well as end of project targets are presented.

One of the main MedPartnership projects under this component relates to the **Conservation of Coastal and Marine Diversity through the Development of a Mediterranean MPA Network (RAC/SPA and WWF-MedPO)**.
The main objective and outcome of this project is to enable countries to have the capacity to conserve regionally important coastal and marine biodiversity through the creation of an ecologically representative coherent and effective MPA network in the Mediterranean region supported by a region-wide network of MPA managers. In terms of indicators and targets; it includes the participation of all key regional and national stakeholders in MPA creation process, the Management of MPA's strengthened in 5 pilot sites, including the finalization of 7 management plans, a minimum of 30 agreements implemented to apply MPA management learnt tools and methods through activities agreed during the regional training workshops, the on-the-job trained local personnel, the expansion of MedPAN network and the development and implementation of a communication strategy for MPAs.

The second project under this component of the MedPartnership focuses on the **Promotion of the sustainable use of fisheries resources in the Mediterranean through the application of the Ecosystem approach to Fisheries (FAO).** The main objective of this project is to enable countries to have the capacity to sustainably utilize coastal and high seas fisheries resources through the application of the Ecosystem Approach to Fisheries including the application of targeted interventions to reduce bycatch and unsustainable fishing. For instance, Ecosystem Approach to Fisheries (**EAF**) related priorities, by the end of the project should be identified for the four targeted countries (Croatia, Montenegro, Tunisia and Turkey) by the staff of the main fisheries institutions, in an organized process, with FAO support. It is also envisaged that Fisheries institution in at least three of the four countries have drafted plans to explicitely integrate EAF considerations into their work, the staff are able to participate in discussions on the application of EAF and explain its approach to others and also the main gaps/needs of the fisheries legal and management system relative to the application of EAF, and explain its approach to others. This project aim also at the end to identify the main gasps/needs of the fisheries legal and management system relative to the application of EAF in the four targeted

[72] Eighteenth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice of the CBD : http://www.cbd.int/doc/?meeting=sbstta-18
[73] http://www.cbd.int/doc/?meeting=cop-12

countries, to identify the main patterns of by-catch of iconic and vulnerable species and/or undersized commercial species including report elaborated and information available, to increase the level of awareness and engagement of commercial fishers regarding the importance of achieving a reduction of the bycatch of endangered/iconic species and/or undersized commercial species and ensure that at least 15% of all fishing trips in the selected MPA are monitored with fisher's participation using adequate design.

1.2 Non-Indigenous Species

1.2.1 Action Plan and Guidelines on Non-Indigenous/Invasive Species

For the Mediterranean, the introduction of marine non-native species is a phenomenon that has long been known and studied.

On the basis of the recommendation made by the Fifth Meeting of National Focal Points for SPAs, the initiatives of the Intergovernmental Oceanographic Commission **(IOC),** Food and Agriculture Organization(**FAO**), the IMO CBD, IUCN and the Council of Europe, the Action Plan on Introductions of Species and Invasive Species[74] was agreed by the focal points meeting and adopted by the Thirteenth ordinary meeting of the Contracting Parties to the Barcelona Convention in 2003.

The Action Plan on Introductions of Species and Invasive Species describes needed national and regional actions to address Non Indigenous Species (**NIS**) in the Mediterranean, with a clear timeline of implementation. Measures included in the Action Plan are related to data collection, creation of national legislative and institutional frameworks and National Action Plans related to NIS.

Regarding control and mitigation of the introduction and spread of alien and invasive species, it has to be noted that the Mediterranean was one of the first regions to undertake specific studies and prepare guidelines.

In addition, in 2008, following up on the Action Plan, RAC/SPA developed Guidelines for the Risk Analysis assessing the impacts of the introduction of non-indigenous species[75] and for controlling the vectors of introduction into the Mediterranean of non-indigenous species and invasive marine species[76].

The "Guidelines for the Risk Analysis assessing the impacts of the introduction of non-indigenous species" describes various risk assessment approaches related to NIS, such as species level, vector-based and path way risk assessments.

The "Guidelines for controlling the vectors of introduction into the Mediterranean of non-indigenous species and invasive marine species" builds on the relevant international regulatory framework related to ballast water and antifouling (IMO), as well as on implementing EU and national legislation in the Mediterranean basin. It describes key measures needed to control the introduction of vectors, in the areas of knowledge and research, awareness raising, prevention and control and eradication and control. In relation to the latter two, it highlights the importance to develop codes/guidelines, in a participatory manner, to reduce hull fouling of vessels, as well as to develop dissemination programmes, evaluate application of existing international hull cleaning and management measures as well as a rapid response toolkit.

[74] The Action Plan is available here: http://rac-spa.org/sites/default/files/action_plans/invasive.pdf
[75] http://rac-spa.org/sites/default/files/doc_alien/ld_analyse.pdf
[76] http://rac-spa.org/sites/default/files/doc_alien/ld_controle.pdf

This Action Plan relates to the following EcAp Targets:

- The number of species and abundance of IAS[77] introduced as a result of human activities is reduced;
- Improved management of the main human related pathways and vectors of NIS;
- Introduction (Mediterranean Strategy for the management of ballast waters, Aquaculture early warning systems, etc.);
- Action plans developed to address high risk NIS, should they appear in the Mediterranean;
- Abundance of NIS introduced by human activities reduced to levels giving no detectable impact.

1.2.2 Mediterranean Strategy on Ships' Ballast Water Management

The Strategy on ships' Ballast Water Management **(BWM)** (the so called **Ballast Water Strategy**, as set out in UNEP (DEPI)/MED IG 20/5)[78], adopted at the COP 17, was developed to address the increase of invasive alien species in the Mediterranean, with the general objective to establish a regional harmonized approach in the Mediterranean on ships' ballast water control and management which is consistent with the requirements and standards of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (**BWM Convention**).

The Ballast Water Strategy is composed of eight Strategic Priorities and of an Action Plan and Workplan/Timetable for its implementation with a specific Annex presenting action points with a precise timetable.

The first strategic priority of the Ballast Water Strategy is ***to support international instruments developed to minimize the introduction of invasive alien species in the Mediterranean***. In this regard, the Contracting Parties are requested to support the work for the minimization of the introduction of invasive alien species being carried out by the relevant organizations and forums, particularly the work of the IMO and are committed to take all appropriate actions towards the ratification of the BWM Convention for its entry into force as soon as possible.

The second strategic priority is to ***maintain capacity-building activities and initiatives in the Mediterranean region***. Moreover, REMPEC organized five regional capacity building activities and six national capacity building activities and another follow up event is planned this year in 2014.It stresses the need to continue efforts made in the region to enhance capacity building, knowledge transfer and training of personnel after the GloBallast Partnership Project (please see later on this project in this document), termination and to involve relevant international and regional co-operation mechanisms, non-governmental organizations and agencies for the continuation of the process initiated.

The third strategic priority is to ***develop advanced knowledge on environmental condition of the Mediterranean and ships' mediated introduction of invasive alien species*** by promoting individually or through regional cooperation, research and development programmes in the field of invasive alien species and ships' ballast water management, as means to enhance knowledge and help setting scientific grounds on which best measures on controlling the transfer of invasive species can be based.

[77] Invasive Alien Species (IAS)

[78] It is underlined that this Strategy takes into account all the relevant international, regional and sub-regional instruments and mechanisms, as well as all relevant Mediterranean action plans, policies and decisions, including Decision IG 17/6 of the Contracting Parties to the Barcelona Convention related to the implementation of the ecosystem approach adopted under the Barcelona Convention and its protocols (adopted in 2008 at the 15th Ordinary Meeting (Almeria, Spain, 15-18 January 2008).

The Contracting Parties also agree that results of such scientific work should be made available to all interested public.

The fourth strategic priority is the ***use of risk assessment as a reliable tool to assist in ballast water management decision-making and in compliance, monitoring and enforcement procedures***. In this regard, the Contracting Parties consider risk assessments at national, sub-regional or regional level, as an appropriate tool to guide on ballast water management measures and are committed to establish surveys and monitoring programmes including reporting and alert mechanisms.

The fifth strategic priority is to ***decide upon voluntary regional arrangements in the Mediterranean and ensure sub-regional and national strategies are in line with these***. Interim voluntary arrangements for the Mediterranean adopted and in force through IMO Circular Letter BWM. 02/Circ.35 issued in August 2011. Under this priority, the Contracting Parties work collaboratively to adopt regional voluntary arrangements concerning ballast water management in the Mediterranean region, consistent with the requirements and standards set in the BWM Convention.

The sixth strategic priority is to ***consider other regional seas strategies and initiatives*** such as the General Guidance on the Voluntary Interim application of the D1 Ballast Water Exchange Standard by Vessels Operating between the Mediterranean Sea and the North-East Atlantic and/or the Baltic Sea agreed to by the Barcelona Convention, OSPAR and HELCOM. The Contracting Parties are committed to enhance and maintain cooperation with the neighbouring regions of the Mediterranean Sea and with other relevant regional agreements in order to ensure that the measures adopted are consistent with other ballast water management regional arrangement.

The seventh strategic priority is about ***keeping the Strategy and Action Plan under review and assesses the implementation progress***. Under this objective, the Contracting Parties call for regular meetings with the purpose of reviewing and evaluating the ongoing relevance of the Strategy, and overall effectiveness of activities carried out under the Action Plan, and that the work accomplished in the various regional seas regarding the management of ballast water is on the agenda of meetings and forums.

The eight strategic priorities are to ***work on the identification of adequate resources to implement activities under the Strategy and Action Pla*n**. The Contracting Parties long-term objective here is to ensure the sustainability and continuity of activities from self-financing sources within the region.

In pursuance to the Regional Strategy on Ship's Ballast Water Management, The Action Plan describes 8 main measures to be taken at regional level, sub-regional or national level. In each of those actions, measures were agreed by the Contracting Parties to be undertaken.

The first action is on *the ratification of the BWM Convention* (ratified by 8 Contracting Parties as previously mentioned).

The second action is to *adopt harmonized arrangements for ballast water exchange in the Mediterranean region*.[79] In this framework, the Contracting Parties are requested to adopt harmonized voluntary arrangements for ballast water exchange in the Mediterranean region. Furthermore, the Contracting Parties have to *notify to all interested parties of the adoption of harmonized voluntary arrangements for ballast water exchange in the Mediterranean Sea through notices to shipping and instructions to surveyors*).

The third action is to establish a *solid Compliance, Monitoring and Enforcement (**CME**) system* in the Mediterranean region. In this framework, the Contracting Parties should adapt their existing Port State Control & CME systems to integrate the harmonized BWM CME procedures and to establish and

[79] These harmonized arrangements were adopted and disseminated through an IMO Circular.

maintain up to-date a regional communication system possibly within a clearing house mechanism (**CHM**), to allow exchange of experience and tracking of violations utilizing existing control.

The fourth action is to *establish a survey, biological monitoring and risk assessment system for Mediterranean ports.* In this framework, the Contracting Parties agree to develop a regionally standardized biological sampling and monitoring protocol to build the necessary biological and environmental databases and to support the IAS management objectives), to *collaborate on biological survey and monitoring activities, including to promote and ensure sharing of technical capacity, resources and results*, to *seek institutional support at the national level to conduct port biological surveys and plans for monitoring, as part of their national strategy for ballast water and IAS management*, to *adapt and use the regional CHM for sharing of data related to port surveys and ongoing biological monitoring (communication), a regional-level risk assessment should be produced as well as shipping movement and ballast water discharges databases.*

Action five relates to the enhancement of expertise; facilitate knowledge transfer and capacity building in the Mediterranean region. In this framework, the Contracting Parties are requested to *investigate the possibility of including training programmes and other capacity-building activities* in the regular programme of work of the relevant Regional Activity Centres of MAP, to disseminate protocols and tools for standardization of technical approaches that could be used to conduct regional and national activities , countries with specific expertise on ballast water management related activities help organize national, sub-regional or regional training sessions and finally to replicate such training on a national level through the establishment of a national training programme on ballast water management activities.

Action six is to *enhance public awareness on ships' ballast water and invasive alien species*. To this aim, the Contracting Parties should use IMO GloBallast Public awareness materials and translate these to local languages for dissemination at national level, to carry out national seminars and workshops to raise awareness among the various stakeholders involved (to develop local case studies that may be used effectively for awareness and leveraging support within the Mediterranean region and its sub-region.

The seventh action is on *setting up a web-based Mediterranean mechanism for exchanging information*. The Contracting Parties agree to establish a web based Regional Information System which is still under consideration.

Finally, Action eight is on the incorporation of the Action Plan evaluation within the Barcelona Convention reporting system and procedure. In this framework, the Contracting Parties mandate the REMPEC to coordinate and assist with the implementation of the Action Plan in the region, in collaboration with the Regional Activity Center for Specially Protected Areas (RAC/SPA) where relevant.

The Strategy and its Action Plan relate to the following EcAp Targets**:**

- The number of species and abundance of IAS introduced as a result of human activities is reduced;
- Improved management of the main human related pathways and vectors of NIS;
- Introduction (Mediterranean Strategy for the management of ballast waters, Aquaculture early warning systems, etc.);
- Action plans developed to address high risk NIS, should they appear in the Mediterranean;
- Abundance of NIS introduced by human activities reduced to levels giving no detectable impact.

1.2.3 GloBallast Partnerships Project in the Mediterranean Region

REMPEC (in liaison with RAC/SPA) is implementing in the Mediterranean region, a GEF/ United Nations Development Programme (**UNDP**)/IMO Project entitled "Building partnerships to assist developing countries to reduce the transfer of harmful aquatic organisms in ship's ballast water" (GloBallast Partnerships). The Project replicated at a larger scale the first IMO-GEF-UNDP Project carried out between 2000 and 2004 in pilot countries on the issue of ships' ballast water management, taking also into consideration further developments which occurred after its completion, notably the adoption in 2004 of BWM Convention.

The Project specifically aimed at vulnerable developing States, with a view to assist them in implementing sustainable, risk-based mechanisms for the management and control of ships' ballast water and sediments and subsequently minimize the adverse impacts of aquatic invasive species transferred by ships.

Under the auspices of this ongoing project, REMPEC, in collaboration with RAC/SPA, coordinated and facilitated five regional capacity-building activities, six national training courses and workshops and three Regional Task Force (**RTF**) Meetings within the GloBallast Partnerships Project. Moreover, another national Workshop is planned for last quarter of 2014.

In addition, different initiatives, projects were developed to fill gaps in knowledge about exotic species, to list invasive species, which are also important as a first step to mitigate their introduction. Existing and currently developing national, regional and international information networks and databases on indigenous and invasive species include the Mediterranean the Marine Mediterranean Invasive Alien Species (**MAMIAS**[80]) database developed for RAC/SPA with information up to 2012, the "**Andromeda**" invasive species database for the Mediterranean and Black Sea currently being developed under the Policy-oriented marine Environmental Research for the Southern European Seas (**PERSEUS**)[81] Project, to be operational by end of 2014. The Mediterranean Science Commission (**CIESM**) also prepared an Atlas of exotic species with the participation of several of the region's scientists. Four volumes of the Atlas have been produced (fishes, crustaceans, molluscs and macrophyta).

While the MAMIAS has been an important Mediterranean initiative for a regional database, unfortunately due to lack of funding it does not operate efficiently.

Furthermore, the European Alien Species Information Network (**EASIN**[82]) developed by the Joint Research Centre of the European Commission facilitates the exploration of non-indigenous species information in Europe (and the entire Mediterranean), from distributed resources through a network of interoperable web services, following internationally recognized standards and protocols.

The SAP/BIO Analysis also points out that some countries have undertaken additional initiatives at national level to elaborate guidelines to mitigate introduction and spread of alien species.

1.2.4 Key Gaps identified by the Secretariat in relation to biodiversity and non-indigenous species

Based on the previous analyses on the biodiversity and non-indigenous species related measures, the Secretariat has identified the following gaps:

[80] http://www.mamias.org
[81] http://www.perseus-net.eu
[82] http://easin.jrc.ec.europa.eu/

- implementing measures on biodiversity protection are often lacking, regardless various guidelines and tools developed by different regional bodies, next to UNEP/MAP, such as RAC/SPA, ACCOBAMS and GFCM *(gap in national implementation)*;
- While majority of the Mediterranean countries developed NAPs to implement the SAP/BIO and the provisions analysed above, unfortunately the majority of the NAPs have not been implemented due to the lack of funding *(gap in national implementation);*
- National implementation of the Action Plan and Guidelines on Non-Indigenous/Invasive Species is lacking in most of the countries (*gap in national implementation*);
- common tools to implement the biodiversity related NAPs have not been developed yet, mainly because of the non-availability of financial resources *(regional gap);*
- for marine areas outside of national jurisdiction processes of negotiation between states make the procedure very lengthy and this hinders their establishment *(national/sub-regional gap);*
- due to lack of further adequate funding, the level of management of the Marine and Coastal Protected Areas is still not sufficient *(national, sub-regional, regional gap)*
- analysis missing on monitoring global trade and economic policies and trends from a Mediterranean biodiversity perspective *(regional gap*);
- Mediterranean biodiversity hot-spots maps reflecting other threats than pollution (including climate change) is missing *(regional gap)*;
- measures concerning the checking of imports and exports of endangered species, the enforcement is lacking in many cases (lack of training for the agents of the checking authorities at ports, airports, and other border crossing points was identified as main gap and as such *national implementation gap*);
- the introduction of labels linked to sustainable tourism and ecotourism remains limited in the Mediterranean *(regional gap);*
- regardless international efforts (including work of ACCOBAMS) the issue of noise at sea is not yet given sufficient attention in the Mediterranean *(regional gap)*;
- the widespread development of fish farming in the Mediterranean has not yet been accompanied in most of the countries by measures to control the harmful effects of this activity on the environment *(regional gap)*;
- the control of recreational fishing activities, with recent recommendations made by GFCM and ICCAT to be followed up by national measures *(regional gap)*;
- main biodiversity related scientific gaps concerning the southern and eastern Mediterranean, the sizes of the populations of certain species and their distribution (for example cetaceans) and the biodiversity of the deep sea areas *(sub-regional/regional gap);*
- need to strengthen science-policy interface, ensuring that results of scientific projects in the Mediterranean benefit the EcAp process *(regional gap)*;
- lack of Masters and Doctoral grants in the field of taxonomy resulting a shortage of taxonomic expertise in the countries *(regional gap)*;
- lack of financial resources regarding CHM, with dispersal of information on biodiversity between several administrations, research centres and other actors as the main gap *(regional gap);*
- further strengthening of public participation in environmental decision-making (*national/regional gap*);
- lack of coordination between the actors in the region having biodiversity related awareness raising activities (*national/regional gap*);
- further cooperation need with other Regional Sea Conventions/Bodies in relation to biodiversity and NIS (on latter, in line with the Ballast Water Strategy's sixth strategic priority, but in relation to both *regional gap*);
- While the MAMIAS has been an important Mediterranean initiative for a regional database for NIS, unfortunately due to lack of funding it does not operate efficiently (*regional gap*).

The Secretariat has also attempted to specify the level of the gaps (ie exists all over the Mediterranean and/or best addressed on a regional level, or relates to the lack of a sub-regional or national measure and/or implementation).

The Contracting Parties are of course welcomed to discuss the adequacy of these gaps identified, as well as to prioritize between them and further address the need of possible new measures (noting that , as well as the fact that any new measure should undertake first a socio-economic assessment and that based on the Secretariat's initial analysis most of the gaps could be efficiently addressed by strengthened national implementation, specific projects targeting these gaps and/or inclusion of gap-addressing measures in already ongoing projects and in the work of UNEP/MAP).

Key suggestions of the Secretariat based on the above initial analysis are:

- Strengthen implementation of SAP/BIO and Biodiversity related Action Plans by a more detailed evaluation of the SAP/BIO implementation and/or by creation of new biodiversity related NAPs in line with the EcAp targets and support their national implementation;

- New regional-level measures to be developed in co-operation with GFCM[83] to address over-fishing and aquaculture;

- further update MAMIAS and strengthen country level implementation of the Strategy and of the Action Plan, in line with the two guidance documents.

[83] General Fisheries Commission for the Mediterranean

2. Pollution Assessment and Control and Marine Litter

Marine pollution was the initial focus of UNEP/MAP since its establishment, with the 1976 Barcelona Convention to protect the Mediterranean sea against pollution and its specific Protocols (Dumping Protocol, Prevention and Emergency Protocol, Land-based Sources and Activities Protocol, Offshore Protocol, Hazardous Wastes Protocol), and various measures aiming to implement the relevant parts of the Contention and the Protocols (Regional Plans, Strategies, NAPs) aiming elimination/and controlling/reducing pollution in the Mediterranean coast and sea.

MED POL Porgramme is the operational arm of MAP to assess and control marine pollution from land based sources of pollution. It is responsible for the follow up work related to the implementation of the pollution related part of the Barcelona Convention and of its relevant Protocols, including pollution control measures, the drafting of action plans and assisting Contracting Parties in order to eliminate pollution from land-based sources.

2.1 SAP/MED

The Strategic Action Programme to Address Pollution from Land-Based Activities in the Mediterranean Region (**SAP/MED**) is an action-oriented regional strategy identifying priority target categories of polluting substances and activities to be eliminated or controlled by the Mediterranean countries through a planned timetable (up to the year 2025) in line with concrete obligations of the LBS Protocol. The SAP/MED was developed with support from GEF and adopted by the Contracting Parties in 1997.

Moreover, this regional strategic programme is focusing on implementing integrated pollution prevention and reduction programmes of measures based on EcAp and LBS, Dumping and HW Protocols with the view to achieve good environmental status targets agreed by COP 18 on EO 5, 9 and 10. Indeed, even though mainly targeting pollution, the SAP/MED can be seen, as the first regional strategy of UNEP/MAP, building on a horizontal approach (based on the Transboundary Diagnostic Analysis and on the concept of large marine ecosystems).

The SAP/MED is composed of the following components:

- regional activities to be implemented by the Secretariat under the guidance of MED POL Focal Points (technical guidelines, capacity building workshops, tools supporting monitoring, enforcement, reporting and public participation);
- 33 regional pollution reduction targets covering a considerable number of substances and sectors in accordance with the LBS Protocol, including urban environment (municipal sewage, solid waste and air pollution); and
- requirement to develop NAPs in accordance with Article 5 of the LBS Protocol with the view to break down SAP/MED requirements into national and local actions and to identify priority policy, legal, institutional and pollution reduction measures;
- requirement to report on SAP and NAP implementation on a periodical basis (i.e. every five years) and a reporting of NAP implementation effectiveness in accordance with Article 13 of the LBS Protocol every two years.

<u>With the following SAP/MED targets:</u>

1. Phase out inputs of 9 pesticides and PCBs by 2010 (Aldrine, DDT, Dieldrine, Endrine, Chlordane, Heptachlor, Mirex, Toxaphene, PCB/PCT);
2. Reduce 50% inputs of BOD by 2010;

3. Phase out inputs of 9 pesticides and PCBs and reduce to the fullest possible extent hexachloro benzene, dioxins and furans by 2010 (Hexaclorobenzene);
4. Reduce to the fullest possible extent hexachloro benzene, dioxins and furans by 2010;
5. Phase out to the fullest possible extent inputs of PAHs by 2010;
6. Phase out to the fullest possible extent discharges and emissions and losses of heavy metals (mercury, cadmium and lead) by 2025;
7. Phase out to the fullest possible extent discharges and emissions and losses of heavy metals (mercury, cadmium and lead) by 2025;
8. Phase out to the fullest possible extent discharges and emissions and losses of organotin compounds by 2010 (Butyltin compounds);
9. Reduce discharges, emissions and losses of zinc, copper and chrome by 2010 ;
10. Reduce discharges, emissions and losses into the Mediterranean sea by 2010 (Alpha hexachlorocyclohexane, beta hexachlorocyclohexane, Chlordecone, Hexabromobiphenyl, Pentachlorobenzene, Perfluorooctane sulfonyl fluoride, Perfluorooctane sulfonic acid, its salts, Endosulfan, Lindane, Pentabromodiphenyl ether, Tetrabromodiphenyl ether, Heptabromodiphenyl ether.

SAP/MED relates to the following EcAp Targets list:

- Reference nutrients concentrations according to the local hydrological, chemical and morphological characteristics of the impacted marine region;
- Decreasing trend of nutrients concentrations in water column of human impacted areas statistically defined ;
- Reduction of BOD emissions from land based sources ;
- Reduction of nutrients emissions from land based sources ;
- Chl-a concentration in high-risk areas below thresholds ;
- Decreasing trend in chl-a concentrations in high risk areas affected by human activities ;
- Index of turbidity behind threshold in high risk areas;
- Increasing trend of transparency in areas impacted by human activities ;
- Dissolved oxygen concentrations in high-risk areas above local threshold ;
- Increasing trend in dissolved oxygen concentrations in areas impacted by human activities;
- Concentrations of specific contaminants below EACs or below reference concentrations ;
- No deterioration trend in contaminants;
- Reduction of contaminants emissions from land based sources ;
- Contaminants effects below threshold ;
- Decreasing trend in the operational releases of oil and other contaminants from coastal, maritime and off-shore activities;
- Decreasing trend in the occurrences of acute pollution events ;
- Concentrations of contaminants are within the regulatory limits set by legislation;
- Decreasing trend in the frequency of cases of seafood samples above regulatory limits for contaminants;
- Increasing trend in the percentage of intestinal enterococci concentration measurements within established standards ;
- Decreasing trend in the number/amount of marine litter (items) deposited on the coast;
- Decreasing trend in the number/amount of marine litter items in the water surface and the seafloor;

- Decreasing trend in the cases of entanglement or/and a decreasing trend in the stomach content of the sentinel species.

2.2 SAP/MED triggered national and regional measures on arrange of contaminants and sectors contributing to marine pollution

After its adoption,SAP/MED, with support from GEF, countries, have prepared an inventory and have quantified all pollution sources on the coast as well as a National Diagnostic Analyses indicating priority issues. The major deliverables were the 21 LBS NAPs to address land-based pollution, and endorsed by the Contracting Parties in 2005.

2.2.1 The NAPs

All the Contracting Parties adopted in 2003-2005 NAPs in order to implement SAP/MED in the framework of LBS Protocol. These NAPs describe the planned policies and actions that each country intends to undertake to reduce pollution, in line with SAP targets. Furthermore, they incorporate mechanisms for information exchange, technology transfer, and promotion of cleaner technology, public participation and sustainable financing. Indeed, their fundamental goal is to develop and implement concrete pollution reduction projects that (1) mobilize both stakeholders and resources, (2) become a cyclical process on which to build upon, (3) are mainstreamed into relevant institutional, budgetary and policy framework and (4) incorporate lessons learnt in the process. (Please see the list of 22 existing NAPs in Annex I).

The NAPs describe the measures that each country intended to undertake to reduce pollution, in line with SAP/MED targets. They incorporated mechanisms for information exchange, technology transfer, and promotion of cleaner technology, public participation and sustainable financing (their fundamental goal is to develop and implement concrete pollution reduction projects).

Next to the above developments, Contracting Parties also agreed to address further specific needs in priority areas, resulting in various legally binding regional measures, i.e. Regional Action Plans, as seen under (with majority of them adopted at COP17 in 2012 and the latest adopted recently during COP18 on marine litter).

Regional Plan on the reduction of inputs of Mercury in the framework of the implementation of Article 15 of the LBS Protocol

At COP17, the Contracting Parties, acknowledging the widespread concerns over the serious adverse effects of mercury on human health and on the environment, adopted the Regional Plan on the reduction of Mercury in the framework of the implementation of the Article 15 of the LBS Protocol.

This Regional Plan is divided in two parts differentiating between measures related to Chlor alkali industry and non Chlor alkali industry. In this framework, Contracting Parties shall prohibit the installation of new Chlor alkali plants using mercury cells with immediate effect, of vinyl chloride monomer production plants using mercury as a catalyst with immediate effect and that the releases of mercury from activity of Chlor alkali plants cease by 2020 at the latest.

The Parties are also in demand to reduce the total releases of mercury until their final cessation with the view not to exceed 1.0g per metric ton of installed chlorine production capacity in each plant**.** For the non Chlor alkali industry, the Parties shall adopt by 2015 and 2019 National ELVs for mercury emissions from other than Chlor alkali industry.

In addition, Parties under this Regional Plan have to take the appropriate measures to reduce the inputs of Mercury emission from other sectors and use alternatives as appropriate, take the appropriate measures to isolate and contain the mercury containing wastes to avoid potential contamination of air,

soil and water. The Parties are also obliged to take measures to improve the traceability of pollution by identifying existing sites which have been historically contaminated with mercury.

This Regional Plan relate to achievement of the following EcAp Targets:

- Concentration of specific contaminants below Environment Assessment Criteria (**EACs**) or below reference concentrations;
- No deterioration trend in contaminants concentrations in sediment and biota from human impacted areas, statistically defined;
- Reduction of contaminants from land-based sources;
- Contaminants effects below threshold;
- Concentrations of contaminants are within the regulatory limits set by legislation.

Regional Plan on the reduction of BOD5 in the food sector (adopted in 2012)

At COP 17, the Contracting Parties considered that BOD5 is an element contributing to nutrients enrichment in coastal areas of the Mediterranean thus to the occurrence of eutrophication phenomena taking into account the special hydrographical and ecological characteristics of the Mediterranean Sea area as a semi closed sea. This recalls the ecological objective 5 on eutrophication and its related EcAp Targets. In this regard, the Contracting Parties adopted this present Regional Plan in order to prevent pollution and to protect the coastal and marine environment from the adverse effects of discharges of organic load (BOD5) from food sectors.

Within this Regional Plan, Contracting Parties are requested to reduce pollution by the application of Best available Techniques **(BEP)** and Best Available Technologies **(BAT)** instruments as well as the establishment of Emission Limit Value (**ELV).**

It is also stated that all Parties shall ensure that their competent authorities or appropriate bodies shall monitor related discharges into water to verify compliance with the requirements related to the ELV.

This Regional Plan addresses the following EcAp Targets:

- No deterioration trend in contaminants;
- Reduction of contaminants from land-based sources;
- Contaminants effects below threshold;
- Reference nutrients concentrations according to the local hydrological, chemical and morphological characteristics of the non-impacted marine region;
- Decreasing trend of nutrients concentrations in water column of human impacted areas statistically defined;
- Reduction of BOD emissions from land based sources;
- Reduction of nutrients emissions from land based sources;
- Chl-a concentrations in high-risk areas below threshold;
- Decreasing trend in chl-a concentrations in high risk areas affected by human activities;
- Increasing trend of transparency in areas impacted by human activities;
- Dissolved oxygen concentrations in high-risk areas above local threshold;
- Increasing trend in dissolved oxygen concentrations in areas impacted by human activities.

Regional Plan on the phasing out of Hexabromodiphenyl ether, Hetabromodiphenyl ether, Tetrabromodiphenyl ether and Pentabromodiphenil ether in the framework of the implementation of Article 15 of the LBS Protocol

At COP 17, the Contracting Parties decided to adopt in the framework of the implementation of Article 15 of the LBS Protocol, this Regional Plan, laying out measures to prohibit and/or take legal and administrative measures necessary, to eliminate the production of specific toxic substances and the import or export of them. In this framework, the Contracting Parties are also requested to take appropriate measures so that the above mentioned chemicals are handled, collected, transported and stored in an environmentally sound manner or disposed of in such a way that the persistent organic pollutant content is destroyed or irreversibly transformed so that they do not exhibit the characteristics of persistent organic pollutants or otherwise disposed of in an environmentally sound manner when destruction or irreversible transformation does not represent the environmentally preferable option or the persistent organic content is low. Contracting Parties shall also ensure that the competent authorities or appropriate bodies monitor the implementation of the measures.

This Regional Plan relate to the achievement of the following EcAp Targets:

- Concentration of specific contaminants below EACs or below reference concentrations;
- No deterioration trend in contaminants;
- Reduction of contaminants from land-based sources;
- Contaminants effects below threshold.

Regional Plan on the on the phasing out of lindane and endosulfane in the framework of the implementation of Article 15 of the LBS Protocol

At COP 17, the Contracting Parties decided to adopt in the framework of the implementation of Article 15 of the LBS Protocol, this Regional Plan.

In this Regional Plan, the Parties are requested to prohibit and/or take legal and administrative measures necessary to eliminate the production as well as the import and export of LINDANE and ENDOSULFANE. Furthermore, the Parties have to take the necessary measures required so that

LINDANE and ENDOSULFAN waste, including products and articles upon becoming wastes are (1) handled, collected, transported and stored in an environmentally sound manner, (2) disposed of in such a way that the persistent organic pollutant content is destroyed or irreversibly transformed so that they do not exhibit the characteristics of persistent organic pollutants or otherwise disposed of in an environmentally sound manner when destruction or irreversible transformation does not represent the environmentally preferable option or the persistent organic pollutant content is low, taking into account international rules, standards, and guidelines, and relevant global and regional regimes governing the management of hazardous wastes, (3) they are not permitted to be subjected to disposal operations that may lead to recovery, recycling, reclamation, direct reuse or alternative uses of persistent organic pollutants, and (4) not transported across international boundaries without taking into account relevant international rules, standards and guidelines.

Moreover, the Contracting Parties are requested to apply the BEPs for environmentally sound management of LINDANE and ENDOSULFAN. Ultimately, the Contracting Parties should ensure that their competent authorities or appropriate bodies monitor the implementation of the measures.

This Regional Plan relate to the following EcAp Targets:

- Concentration of specific contaminants below EACs or below reference concentrations;
- No deterioration trend in contaminants;
- Reduction of contaminants from land-based sources;
- Contaminants effects below threshold.

Regional Plan on the phasing out of perfluorooctane solfonic acid , its salts and perfluorooctane sulfonyl fluoride in the framework of the implementation of Article 15 of the LBS Protocol

At COP 17, the Contracting Parties decided to adopt in the framework of the implementation of Article 15 of the LBS Protocol, this Regional Plan.

For the Parties to prohibit and/or take legal and administrative measures to eliminate the production and import and export of the above mentioned chemicals. The chemicals should be also disposed in such as way that the persistent organic pollutant content is destroyed or irreversibly transformed so that they do not exhibit the characteristics of persistent organic pollutants or otherwise disposed of in an environmentally sound manner when destruction or irreversible transformation does not represent the environmentally preferable option or the persistent organic pollutant content is low, taking into account international rules, standards, and guidelines, and relevant global and regional regimes governing the management of hazardous wastes. Parties shall also ensure that their competent authorities or appropriate bodies monitor the implementation of the measures.

This Regional Plan relates to the achievement of the following EcAp Targets:

- Concentration of specific contaminants below EACs or below reference concentrations;
- No deterioration trend in contaminants concentrations in sediment and biota from human impacted areas, statistically defined;
- Reduction of contaminants from land-based sources;
- Contaminants effects below threshold.

Regional Plan on the elimination of Alpha hexachlorocyclohexane, Betahexachlorocyclohexane, Chlordecone, Hexabromobiphenyl, Pentachlorobenzene in the framework of the implementation of Article 15 of the LBS Protocol

At COP 17, the Contracting Parties decided to adopt in the framework of the implementation of Article 15 of the LBS Protocol, this Regional Plan.

In this Regional Plan, Contracting Parties are requested to prohibit and/or take legal and administrative measures necessary to eliminate the production as well as the import and export of the chemicals above mentioned and stating that the Parties shall ensure that any export or import of the chemicals above mentioned is done for their environmentally sound disposal and for a use or a purpose which is done in accordance with the relevant international rules, standards and regulations. The Regional Plan further specifies that all Parties should take the necessary measures so that the wastes are handled, collected, transported and stored in an environmentally sound manner, disposed of in such a way that the persistent organic pollutant content is destroyed of irreversibly transformed and not transported across international boundaries without taking into account relevant international rules, standards and guidelines. It also requests the Contracting Parties to apply BAT and BEPs for environmentally sound management of the chemicals above mentioned and also requesting them to ensure that competent authorities shall monitor the implementation of the measures.

This Regional Plan relate to the achievement of the following EcAp Targets:

- Concentration of specific contaminants below EACs or below reference concentrations;
- No deterioration trend in contaminants;
- Reduction of contaminants from land-based sources;
- Contaminants effects below threshold.

Regional Plan on the Phasing Out of DDT in the framework of the implementation of Article 15 of the LBS Protocol

At COP 16, the Contracting Parties, recognizing that DDT is persistent organic pollutant that possesses toxic properties, resist degradation, bioaccumulate and are transported widely and conscious of the need of developing regional regulatory measures, adopted the Regional Plan on the phasing out of DDT in the framework of the implementation of Article 15 of the LBS Protocol.

In line with the Regional Plan, Contracting Parties should take measures in order to eliminate the production and use of DDT, the import and export of DDT and its wastes. Parties shall ensure that the management and destruction of DDT stockpiles and waste containing this chemical, will be carried out with appropriate equipment, precautions to avoid accidents and spillage and by specialized personnel in an environmentally sound manner making use of BEPs. Parties shall also ensure that their competent authorities of appropriate bodies monitor the implementation of the measures.

This Regional Plan relates to the achievement of the following EcAp Targets:

- Concentration of specific contaminants below EACs or below reference concentrations;
- No deterioration trend in contaminants;
- Reduction of contaminants from land-based sources;
- Contaminants effects below threshold.

Regional Plan on the reduction of BOD5 from urban waste water in the framework of the implementation of Article 15 of the LBS Protocol

At COP 16, the Contracting Parties adopted this regional action plan in 2009 addressing all the releases within the hydrological basin discharging directly or indirectly into the Mediterranean Sea. The objective of this Regional Plan is to protect the coastal and marine environment and health from the adverse effects of the abovementioned waste water direct and or indirect discharges, in particular regarding adverse effects on the oxygen content of the coastal and marine environment and eutrophication phenomena.

Article 3 of this Regional Plan focuses on the measures, stating that Parties shall ensure that all agglomerations collect and treat their urban waste waters before discharging them into the environment. Under this Article, the Parties shall adopt National implementation plan in the course of BOD5 ELV for urban waste waters. The Parties shall also ensure that their competent authorities or appropriate bodies shall monitor discharges from municipal wastewater treatment plant.

This Regional Plan relates to the achievement of the following EcAp Targets:

- Reference nutrients concentrations according to the local hydrological, chemical and morphological characteristics of the non-impacted marine region;
- Decreasing trend of nutrients concentrations in water column of human impacted areas statistically defined;
- Reduction of BOD emissions from land based sources;
- Reduction of nutrients emissions from land based sources;
- Chl-a concentrations in high-risk areas below thresholds;
- Decreasing trend in chl-a concentrations in high risk areas affected by human activities;
- Index of turbidity behind threshold in high risk areas;
- Increasing trend of transparency in areas impacted by human activities;
- Dissolved oxygen concentrations in high-risk areas above local threshold;
- Increasing trend in dissolved oxygen concentrations in areas impacted by human activities.

Regional Plan on the elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex and Toxaphene in the framework of the implementation of Article 15 of the LBS Protocol

At COP 17, the Contracting Parties, conscious of the need of developing regional regulatory measures for hazardous pesticides in close cooperation with other relevant international environmental agreements and recognizing the special hydrological and ecological characteristics of the Mediterranean Sea Area, adopted the Regional Plan on the elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex and Towaphene in the framework of the implementation of the Article 15 of the LBS Protocol during COP17.

Article II Measures of the Regional Plan presents measures necessary such as Parties to prohibit and/or take legal and administrative measures necessary to eliminate the production and use of chemicals and the import and export of chemicals. Furthermore, it is mentioned that the Parties should take appropriate measures so that such wastes are handled, collected, transported and stored in an environmentally sound manner. The Regional Plan also explicitly states that Parties shall ensure that their competent authorities or appropriate bodies monitor the implementation of the measures.

The measures provided for under this Regional Plan contribute to the achievement of the following EcAp Targets:

- Concentration of specific contaminants below EACs or below reference concentrations;
- No deterioration trend in contaminants;
- Reduction of contaminants from land-based sources;
- Contaminants are below threshold.

Regional Strategy for Prevention of and response to marine pollution from Ships

The Regional Strategy for prevention of and response to marine pollution from ships as laid out in UNEP/MED IG. 16/10) was adopted at the COP14, with REMPEC being responsible for the implementation of the Protocol concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea by *inter alia* the following regional measures:

(1) strengthening the capacities of the coastal States in the Mediterranean region;
(2) developing regional co-operation;
(3) assisting coastal States of the Mediterranean, which so request; and
(4) providing a framework for exchange of information. In this framework, the objectives in order to make sure the REMPEC fulfill its responsibilities.

This Strategy requests the Contracting Parties to enhance, on the basis on a national plans, the performance of their maritime administrations in accordance with the relative IMO recommendations and guidelines by 2010 and to carry out, at regular interval, a self-assessment of their capabilities and performance in giving full and complete effect to the International Convention for the Prevention of Pollution from Ships (**MARPOL**) by using the guidance set out in the relevant IMO Resolution. Point 4.3 is on strengthening the Memorandum of Understanding **(MoU)** on port State control **(PSC)** in the Mediterranean region (**Mediterranean MoU**).

Even though many Mediterranean States have ratified MARPOL, not all countries have yet established a national legal framework to effectively implement the convention. Furthermore, in some countries, there is a need to raise the level of awareness among government officials as to the importance of this issue if illegal discharges from ships are to be tackled seriously.

For this reason, the Contracting Parties are requested to ensure the existence of a national legal framework as a basis for prosecuting discharges offenders to infringements of the MARPOL Convention endeavor to adopt common rules and harmonize sanctions by 2015 with a view to ensuring even-handed treatment of discharge offenders throughout the Mediterranean region.

Furthermore, the Contracting Parties are requested to share collected data, and facilitate acceptance of the evidence gathered by other States, to ensure the successful prosecution of discharge offenders and establish areas under the jurisdiction of the States enabling the implementation of MARPOL Convention in term of prosecution of offenders, developed on a regional or sub-regional basis, in a coordinated way and in compliance with international law as defined by the United Nations Convention on the Law of the Sea.

In light of the increase of pollution generated by pleasure craft activities, the Contracting Parties were asked to prepare guidelines on the prevention of pollution from pleasure in the Mediterranean requests the Contracting Parties to identify the areas of the Mediterranean where control of maritime traffic could be improved by the establishment of regime based on the use of Automatic identification System **(AIS)** and to improve technical cooperation among Vessel Traffic Services **(VTS)** Centers of the neighboring countries according to the need, to exchange information about ships AIS system in the

common surveillance area. The identification of Particularly Sensitive Sea Areas **(PSSAs)** as well as drawing of plans to deal with ships in distress and define the modalities of the response according to its nature and to the risk occurred is also a requirement.

Another important requirement of the Strategy is to ensure that adequate emergency towing capacity is available throughout the Mediterranean to assist vessels, including tankers, in distress. In this framework, the Contracting Parties were requested to adopt by 2011, Mediterranean guidelines on emergency towing including, if appropriate, agreements on sharing towing capacity between neighboring States.

Regarding prevention of accidents in commercial ports and oil terminals, it is said that the majority of pollution incidents occur in port areas and oil terminals. In this regard, the Contracting Parties agreed to prepare and adopt, by 2015, a comprehensive Marine Pollution Safety Management System for use in commercial ports and oil terminals comprising procedures, personnel training and equipment requirements. In addition, the Contracting Parties are requested to enhance the levels of pre-positioned spill response equipment under the direct control of Mediterranean States by providing to REMPEC.

The Contracting Parties also agreed to encourage research and development, science-policy interface to increase the level of knowledge in the field of preparedness and response to accidental marine pollution by oil and other harmful substances by establishing national training programmes for response to incidents involving oil and other HNS with a view to continuous education of such personnel.

The Strategy request to facilitate international cooperation and mutual assistance within the framework of the Prevention and Emergency Protocol, aiming to strengthen the capacity of individual coastal states to respond efficiently to marine pollution incidents through development of sub-regional operational agreements and contingency plans. For this purpose, the Contracting Parties agreed to prepare national contingency plans and establishing national systems for preparedness and response by 2008 with a view to creating necessary conditions for development of sub-regional agreements**.**

This Plan relates to the following EcAp Targets:

- Decrease trend in the occurrences of acute pollution events;
- Decreasing trend in the operational releases of oil and other contaminants from coastal, maritime and off-shore activities;
- The number of species and abundance of IAS introduced as a result of human activities is reduced;
- Improved management of the main human related pathways and vectors of NIS introduction (Mediterranean Strategy for the management of ballast waters, Aquaculture early warning systems, etc.);
- Action plans developed to address high risk NIS, should they appear in the Mediterranean;
- Abundance of NIS introduced by human activities reduced to levels giving no detectable impact;
- Impacts of NIS reduced to the feasible minimum; and
- Contaminants effects below threshold.

Pollution related to Offshore Activities: The Draft Action Plan

At COP18, for the purpose of facilitating the implementation of the Offshore Protocol, a need to prepare the Offshore Protocol Action Plan was officially expressed in Decision IG. 20/12. For this

purpose the Contracting Parties requested to the Secretariat in collaboration with an ad hoc Working Group to continue the necessary work with a view to achieve the drafting of the Offshore Action Plan by the end of 2014. The Ad hoc Working Group has discussed the first draft of the Offshore Action Plan in June 2014[84] and the next discussion on the draft is to take place during the October 2014 EcAp Coordination Group.

The draft Offshore Action Plan foresees the following priority actions (measures) to be undertaken by the Contracting Parties (with further specific measures under these overall measures/objectives to be achieved):

- Specific objective 1: To ratify the Offshore Protocol[85];
- Specific objective 2: To designate Contracting Parties' Representatives to participate to the regional governing bodies;
- Specific objective 3: To establish a technical cooperation and capacity building programme;
- Specific objective 4: To establish a financial mechanism for the implementation of the Action Plan ;
- Specific objective 5: To promote access to information and public participation in decision-making ;
- Specific objective 6: To enhance the regional transfer of technology;
- Specific objective 7: To develop and adopt regional offshore standards ;
- Specific objective 8: To develop and adopt regional offshore guidelines;
- Specific objective 9: To establish regional offshore monitoring procedures and programmes (this does not constitute to be a measure under the EcAp measures gap-analysis);
- Specific objective 10: To report on the implementation of the Action Plan.

The key recommendations of this ad-hoc working group are as follows (relevant also in relation to developing future measures in this area)[86]:

- regulate the discharge and disposal of machinery oil, the treatment and discharge of sewage, the disposal and discharge of garbage, the reception facilities and the ship storage according to the requirements listed under the relevant MARPOL Convention Annexes, to regulate the transportation to shore in conformity with the international regulations on ship construction and navigation, and to apply requirements for the loading of ships offshore in conformity with the requirements for the loading of ships in shoreline installations;

- mandate the UNEP/MAP Working Group of Legal and Technical Experts established by the Contracting Parties to facilitate and assess the implementation of the Guidelines on Liability and Compensation for Damage Resulting from Pollution of the Marine Environment in the Mediterranean Sea Area, to assess the adequacy of the said Liability and Compensation Guidelines to Offshore activities taking into consideration relevant global developments;

- mandate a correspondence group composed of the seven (7) Contracting Parties to the Protocol, with the support of Contracting Parties to the Barcelona Convention which haven't yet ratified the Protocol, to propose amendments to the Protocol to be adopted by at least three-fourths of the Parties (i.e. 6 Parties);

- to ensure that the offshore monitoring programme will be based on the principles and methodologies of the Integrated Monitoring and Assessment Programme under the Ecosystem Approach, while taking into account practices of other regions; and

[84] 3rd Offshore Protocol Working Group Meeting, Attard, Malta 17-18 June 2014
[85] Please see Annex X on the ratification status of the Offshore Protocol
[86] UNEP (DEPI)/MED IG. 21/5

- to ensure that the appropriate UNEP/MAP Component governance structure is defined and approved by the Contracting Parties to support the implementation of the Offshore Protocol and its Offshore Action Plan.

Moreover the draft Offshore Action Plan also includes in its Annex a , Terms of Reference for the Barcelona Convention Offshore Oil and Gas Group (**BARCO OFOG**), presenting tasks that should be fulfilled by the Contracting Parties under support of the OFOG Group. These tasks of the following:

a. identifying priorities for preparation of guidance documents, standards and best practices in the oil and gas sector;
b. preparing, or initiating and overseeing the preparation of, guidelines on the industry best practices;
c. in the interest of sharing experience, facilitating rapid information exchange between national authorities through the appropriate information mechanism, regarding e.g. the occurrence and causes of and responses to major incidents, and events which could have led to major accidents;
d. promoting and facilitating consensus between national authorities regarding the best regulatory practice;
e. exchanging information regarding the application of national legislation and policies relevant to offshore oil and gas activities, and assisting the Secretariat in monitoring the implementation of the Offshore Protocol;
f. developing and applying common standards as per article 10 of the Protocol;
g. keeping under review the technical content of the annexes to the protocol and make relevant recommendations;
h. preparing draft measures to control the use of chemicals and oil and any other substances or sources of pollution developing appropriate guidelines for monitoring and assessment paying particular attention to ensure consistency with other related monitoring policies adopted by the Contracting Parties;
i. assisting in defining appropriate relevant targets for Offshore activities within the implementation of the Ecosystem Approach to MAP policies and strategies.

This Action Plan relates to the following EcAp Targets:

- Decreasing trend in the operational releases of oil and other contaminants from coastal, maritime and off-shore activities;
- Decreasing trend in the occurrences of acute pollution events;
- Anthropogenic impacts which may alter ecosystems' adaptive capacity are reduced;
- Marine and shore based new structures planned, constructed and operated in a way to maintain the natural wave and current pattern as much as possible;
- Planning of new structures takes into account all possible mitigation measures in order to minimize the impact on coastal and marine ecosystem and its services integrity and /historic assets. Where possible, promote ecosystem health;
- Site specific tolerable limits of key species in immediate proximity of seawater intake and outlet structures are considered while planning, constructing and operating such structure.

<u>Other regional measures</u>

- In addition to the above, the NAPs became a driving force for the Union for the Mediterranean's (**UfM**) initiative "**Horizon 2020**", with the objectives and targets of reducing and eliminating land-based pollution by the year 2020, was formally launched in close cooperation with MAP in 2005.

- The "Horizon 2020 Initiative" aims to de-pollute the Mediterranean by the year 2020 by tackling the sources of pollution that account for around 80% of the overall pollution of the Mediterranean Sea: municipal waste, urban waste water and industrial pollution.

- As such it supports the implementation of the commitments undertaken in the framework of the Barcelona Convention in relation to pollution. In addition to using EU policy tools it cooperates and tries to coordinate and synergise with all other relevant programmes and projects, including the **MedPartnership**.

- The second component of **MedPartnership**, is focusing on **Pollution from land based activities, including Persistent Organic Pollutants: implementation of SAP/MED and related NAPs**. The first action under this component aims the **Facilitation of policy and legislation reforms for pollution control with some industrial pollution pilot project by MED POL**. The project first objective is to increase capacity of basin countries to implement policies and strategies that address SAP/MED and the NAPs priorities. In this framework, the end-of-project target is to have 10 national policy documents drafted by the end of 2014 and in process of adoption approval by spring 2015. In addition, 8 NAP priorities in participating countries, implementation should be initiated as a result of project activities and pilot projects, and monitored through Barcelona Convention mechanisms.

Specific activities, achievements of this MedPartnership project/component include:

- Phosphogypsum slurry management in Tunisia including the respective demonstration sites;
- Chromium and BOD control of tanneries effluent in target countries, including the respective demonstration sites – pilot in Turkey;
- Lubricating oil recycling and regeneration in target countries, including the respective demonstration sites – pilot in Algeria;
- Lead batteries recycling in target countries, including the respective demonstration sites – pilot in Syria;
- Assessment of the magnitude of riverine inputs of nutrients into the Mediterranean Sea;
- Setting ELV in industrial effluents and EQS in all participating countries;
- Meetings among agencies responsible for permitting, inspection and enforcement;
- Training workshop to provide practical guidance and uniformity on inspecting on the most commonly polluting and industrial facilities of the country;
- National final meeting for the assessment and feedback to propose solutions for the formulation of amendments of the existing legislation.

A second action under this component focuses on the **Transfer of Environmentally Sound Technology (TEST).** This action coordinated by MedPartnership is implemented by the United Nations Industrial Development Organization (**UNIDO**). The project first objective is to increase the knowledge of countries and donors on innovative technology to reduce pollution and increased scientific knowledge, by building capacity at the national level by adopting an integrated approach to industrial environmental management and demonstration of projects having implemented TEST. The second objective is to have stress reduction measures achieved through the demonstration projects and monitored at water-body level. This includes demonstration measures and investments to reduce industrial pollution at 12 companies, increasing also water productivity by 40% and reducing pollution loads by 30%.

The third action under this component is on **Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries (MED POL).** The first objective is to implement NAP and National Implementation Plans (**NIPs**) related actions for the Environmentally Sound Management (**ESM**) of equipment, stocks and wastes contaminated with PCBs in national electricity companies of

Mediterranean countries. The end-of-project target is to strengthen 5 countries legislative and regulatory frameworks for the management of POPs, remove tons of PCBs and disposed in 5 countries in order to phase out POPs from use. For this purpose, awareness is expected to be improved on the Environmentally Sound Management (ESM) of PCBs and the technical capacity for the ESM of PCBs, by trainings, workshops and the dissemination of toolkit of PCB for owners and policy-makers, PCB awareness video and a PCB website for use by participating countries and other Mediterranean countries.

The main activities presented under this subcomponent are the following:

- Legislative/institutional framework for implementation of ESM of PCBs;
- Demonstration projects in 5 countries to improve the management and disposal programme of PCBs;
- Raising awareness of importance of ESM of PCBs equipment;
- Technical capacity building for ESM of PCBs equipment;
- Building national capacity to implement PCBs phase-out and disposal programmes.

2.2.2 Marine Litter

The Marine Litter Regional Plan was adopted at COP18, as the first Regional Plan on Marine Litter by a Regional Sea Convention (Decision IG. 21/7) and entered into force on the 8th of July 2014.

This Regional Plan presents measures and operational targets.

Its Article 6 *Coherence and integration of measures*, states that the Contracting Parties should make every effort to make sure that the measures provided in the Article 7-10 are implemented in a coherent manner to achieve good environmental status and respective targets on marine litter and also mentioning that various actors should be involved in the development and implementation of agreed measures as provided for the Article 7.

The Article 7 *Integration of marine litter measures into the LBS National Action Plans* requests the development and implementation of appropriate policy, legal instruments and institutional arrangements, including solid waste and sewer system management plans which shall incorporate marine litter prevention and reduction measures. There is also a measure required to raise awareness by the development education programmes by the Contracting Parties**.**

The Article 8 *Legal and institutional aspects* state that the Contracting Parties shall ensure institutional coordination and close coordination and collaboration between national regional and local authorities in the field of marine litter.

Furthermore, the Article 9 *Prevention of marine litter* focuses on the prevention measures for land based sources and sea-based sources. For land-based sources, specific date for the achievement of the objectives is stated.

The Regional Plan also requests the producers, manufacturer brand owners and first importers to be more responsible for the entire life-cycle of the product and also sustainable procurement policies contributing to the promotion of the consumption of recycled plastic-made products.

This Regional Plan also encourages the Contracting Parties to establish voluntary agreements with retailers and supermarkets to set an objective of reduction of plastic bags consumption as well as selling dry food or cleaning products in bulk and refill special and reusable containers. There are also some fiscal and economic instruments to promote the reduction of plastic bag consumption. Another measure described is the establishment of deposits, return and restoration system for expandable polystyrene boxes in the fishing sector and also the establishment of deposits, return and restoration

system for beverage packaging prioritizing when possible their recycling next to establishing procedures and manufacturing methodologies together with plastic industry, in order to minimize the decomposition characteristic of plastic, to reduce micro-plastic.

For sea-based sources, there is an economic incentive established by charging reasonable cost for the use of port facility or when applicable, apply No-Special-Fee system. Other measures included the implementation of the "Fishing for Litter" system - in consultation with the competent international and regional organizations in order to facilitate clean up of the floating litter and the seabed from marine litter caught incidentally and/or generated by fishing vessels in their regular activities including derelict fishing gears. There are measures further described to prevent any marine littering from dredging activities by 2020, and take enforcement measures to combat dumping in accordance with national and regional legislation including littering on the beach, illegal sewage disposal in the sea, the coastal zone and rivers in the area, the coastal zone and rivers in the area of the application of the Regional Plan.

Article 10 *Removing existing marine litter and its environmentally sound disposal* aims to identify hotspots and implement national programmes to remove disposal in a sound manner regularly. These measures include also communication, stakeholder involvement and awareness raising measures with the implementation of National Marine Litter Cleanup Campaigns and the Participation in International Cleanup Campaigns and Programmes on a regular basis. Finally, there is also a measure to enhance public participation with regard to marine litter management. The application of Adopt-a-Beach or similar practices and enhance public participation role with regard to marine litter management awareness raising .The application of Fishing for Litter practices in consultation with the competent international and regional organizations and in partnership with fishermen . Finally, the Regional Plan has another economic incentive measure by inviting the Contracting Parties to charge reasonable costs for the use of port reception facilities or, when applicable apply No-Special-Fee system, in consultation with competent international and regional organizations, when using port reception facilities.

This Regional Plan relates to the following EcAp Targets:

- Decreasing trend in the number of/amount of marine litter (items) deposited on the coast;
- Decreasing trend in the number/amount of marine litter items in the water surface and the seafloor;
- Decreasing trend in the cases of entanglement or/and a decreasing trend in the stomach content of the sentinel species.

2.3 Key Gaps identified by the Secretariat in relation to pollution and litter

Pollution related measures have a long-standing history in the Mediterranean, with the 1976 Barcelona Convention and various pollution related Protocols, the SAP/MED triggering national implementation and further regional cooperation, NAPs adopted by all Contracting Parties and Regional Plans cover to some extent specific EcAp Targets.

The LBS NAPs however, following up on the SAP/MED objectives and priorities, were prepared in 2003-2004 (formally endorsed in 2005 at COP14), which are the core of national implementation and were driving force in 2006 for the UfM H2020 initiative to de-pollute the Mediterranean by 2020, do not fully take into account yet EcAp Targets, neither the Regional Plans adopted in the framework of Article 15 of the LBS Protocol between 2009 and 2013.

After almost 10 years from their adoption the Contracting Parties mandated the Secretariat to evaluate the implementation of the NAPs and to develop guidelines for the NAP update with the view to fully streamline ECAP and Regional Plans commitments and targets.

The evaluation took place and was presented at the MED POL Focal Points Meeting in March 2014, in the document: *Mid-term evaluation of SAP/NAP implementation (UNEP (DEPI)/MED WG. 393/Inf.3)*.

The evaluation report pointed out that the NAPs adopted in 2003-2005 required update. following up on the Regional Plans and on the 11 Ecological Objectives, Common indicators and their relevant targets adopted through the EcAp process (please see the list of the existing 22 NAPs in Annex I), with the aim to enable all Mediterranean Countries to prepare NAPs covering the specific EcAp Targets related to pollution and litter.

Based on this evaluation, there is a strong need to update the current NAPS, following up on the Regional Plans and on the 11 Ecological Objectives, Common indicators and their relevant targets adopted through the EcAp process (please see the list of the existing 22 NAPs in Annex I), with the aim to enable all Mediterranean Countries to prepare NAPs covering the specific EcAp Targets related to pollution and litter.

In fact, the update of these NAPs in line with the Regional Action Plans, Strategies and the relevant EcAp Targets can be viewed as an important step towards preparing programmes of measures by all Mediterranean Countries in line with the EcAp ecological objectives and targets in relation to pollution and litter.

With the view to enable an harmonized approach of NAP update the MED POL Focal Points Meeting in March 2014 agreed on "Guidelines for Updating National Action Plans for the implementation of the LBS Protocol and its Regional Plans in the Framework of the SAP/MED to Achieve Good Environmental Status for Pollution-Related EcAp Ecological Objectives" (UNEP/ (DEPI)/MED WG. 393/4).

The guidelines aim to reflect and capture the new spirit and dimensions stemming from EcAp and the 2009-2013 developed Regional Plans. Furthermore, it provide guidance on various aspects of the NAP preparation process and content such as institutional, legal technical, follow-up and reporting, investment needs, capacity building and public participation.

As it is expected that all Mediterranean Countries will be in a position to prepare National Action Plans/Programmes of Measures covering all 11 ecological objectives in the future, the EcAp based NAP update experience will be the first step towards preparing programmes of measures in line with the EcAp ecological objectives and targets[87]. The NAP update has started in July 2014 and is planned to be endorsed at the next Conference of the Parties (COP 19).

Next to the update of the NAPs, implementation and awareness gaps exist almost in relation to all pollution and litter related measures.

In addition, it is important to note that the MED POL Focal Point meeting in June 2013 reviewed a policy paper on pollution control and prevention. This paper had several proposals on potential additional measures and actions, such as considering potential regional plans on desalination and agriculture as well as to refine and revise the list of priority contaminants in the Mediterranean. These proposals are all relevant to the achievement of GES in the Mediterranean and as such, that during their planned developments, the relevant EcAp Targets will be specifically addressed.

In addition, the need to strengthen the implementation of the Regional Strategy for Prevention of and response to marine pollution from ships can be also underlined, as well the need to adopt and implement an Offshore Action Plan in a timely manner.

[87] It is further mentioned that countries formulating relevant integrated programmes of measures for implementation of the 11 EcAp ecological objectives may submit their integrated programme of measures being the NAPs.

Based on the above and the previous analyses on the pollution and litter related measures and assessment of marine pollution, the Secretariat has identified the following gaps and gives the following suggestions regarding them:

- NAPs already in process of update in order to reflect the commitments under the Regional Plans adopted between 2009-2013 and the EcAp Targets, principles;
- Focus should be on enhancing the implementing measures to reduce and prevent pollution regardless of various activities already undertaken in this field by the Contracting Parties with support from UNEP/MAP components, through MedPartnership as well as through Horizon 2020 in cooperation with other partners *(gap in national implementation)*;
- lack of sufficient implementation of the Regional Strategy for Prevention of and response to marine pollution from ships ;
- further cooperation need with other Regional Sea Conventions/Bodies in relation to pollution and litter (*regional gap*).

The Secretariat has also attempted to specify the level of the gaps (ie exists all over the Mediterranean and/or best addressed on a regional level, or relates to the lack of a sub-regional or national measure and/or implementation).

The Contracting Parties are of course welcomed to discuss the adequacy of these gaps identified, as well as to prioritize between them and further address the need of possible new measures (noting that , as well as the fact that any new measure should undertake first a socio-economic assessment and that based on the Secretariat's initial analysis most of the gaps could be efficiently addressed by strengthened national implementation, specific projects targeting these gaps and/or inclusion of gap-addressing measures in already ongoing projects and in the work of UNEP/MAP).

3. Coast and Hydrography related measures

Coastal zones are among the most productive areas in the world, offering a wide variety of valuable habitats and ecosystems services that have always attracted humans and human activities. The beauty and richness of coastal zones have made them popular settlement areas and tourist destinations, important business zones and transit points. Currently, more than 150 million citizens live near coastlines of the Mediterranean Sea.

This intensive concentration of population and excessive exploitation of natural resources unfortunately also puts enormous pressure on our coastal ecosystems leading to biodiversity loss, habitats destruction, pollution, as well as conflicts between potential uses, and space congestion problems.

Coastal zones thus are also among the most vulnerable areas to climate change and natural hazards. Risks include flooding, erosion, sea level rise as well as extreme weather events. These impacts are far reaching and are already changing the lives and livelihoods of coastal communities.

Because the well-being of populations and the economic viability of many businesses in coastal zones depend on the environmental status of these areas, it is essential to make use of long term management tools, such as integrated coastal management, to enhance the protection of coastal resources while increasing the efficiency of their uses. A sectorial approach, lead to disconnected decisions that risk undermining each other, to inefficient use of resources and missed opportunities for more sustainable coastal development.

Integrated coastal management aims for the coordinated application of the different policies affecting the coastal zone and related to activities such as nature protection, aquaculture, fisheries, agriculture, industry, offshore wind energy, shipping, tourism, development of infrastructure and mitigation and adaptation to climate change. It will contribute to sustainable development of coastal zones by the application of an approach that respects the limits of natural resources and ecosystems, the so-called "ecosystem based approach".

Integrated coastal management covers the full cycle of information collection, planning, decision-making, management and monitoring of implementation. It is important to involve all stakeholders across the different sectors to ensure broad support for the implementation of management strategies.

The importance of conserving coastal zones was formally recognized by the adoption of the Agenda 21 at the Rio Summit in 1992. Since that time, efforts are deployed by UNEP/MAP towards ensuring healthy and sustainable coastal zones.

Hence, the Barcelona Convention was reviewed to include coastal zones and the Protocol on Integrated Coastal Zone Management (**ICZM Protocol**) was adopted in 2008 and entered into force in 2011. Furthermore, at COP17 Contracting Parties adopted an ICZM Action Plan to support the implementation of the ICZM Protocol with a clear timeframe of 2012-2019.

The ICZM Protocol, constitutes the first regional, legally binding instrument specifically aimed at coastal zone management. As such, it is broken down into seven parts (General provisions; Elements of ICZM; Instruments for ICZM; Risks affecting the coastal zone; International cooperation; Institutional provisions; Final provisions), which address four main building blocks[88], as follows:

1. The adaptation of coast-related sectoral policies and regulation of coastal activities: this may include strengthening broader environmental policies for fragile coastal ecosystems, applying more

[88] As described in the Guidance developed by PAP/RAC-MedPartnership: A contribution to the interpretation of legal aspects of the Protocol on Integrated Coastal Zone Management in the Mediterranean, available online: http://www.pap-thecoastcentre.org/regional_MedPartnership_workshop/documents/ICZM%20Protocol_Legal%20aspects.pdf

stringent norms to agriculture or building, promoting codes of good practice for aquaculture or off road driving, etc.;

2. Governance processes: institutional coordination, public participation, access to justice;

3. Spatial planning: urban, regional and marine spatial planning;

4. Regional cooperation: exchange of experiences, transboundary issues.

The Protocol sets out a framework of measures, following the above key areas, including actions such as the establishment of coastal setback zones, undertaking vulnerability and hazard assessments, anticipating coastal erosion, providing access to the sea and coastal zone, defining indicators for the development of economic activities, taking into account the sensitivity of coastal zones when carrying out environmental impact assessments for projects, regulation and restriction of certain activities, insuring inter-sectoral coordination, information-sharing, awareness raising, ensuring public participation, using strategic planning, formulating National Strategies on ICZM, establishing transboundary cooperation on training and research, on information exchange and on strategic planning.

3.1 The ICZM Action Plan

The ICZM Action Plan[89] , with the timeframe of 2012-2019, was adopted at COP17 by the Contracting Parties, aiming to:

1. support the effective implementation of the ICZM Protocol at regional, national and local levels including through a Common Regional Framework for ICZM;
2. strengthen the capacities of Contracting Parties to implement the Protocol and use in an effective manner ICZM policies, instruments, tools and processes; and
3. promote the ICZM Protocol and its implementation within the region, and promote it globally by developing synergies with relevant Conventions and Agreements.

The individual measures included in the Action Plan are structured according to these three objectives above, reflecting the nature and scope of the Action Plan, which is not meant to be prescriptive but to respond to the needs of different administrative situations across the region.

Regarding the first objective above, the Action Plan highlights the importance of ratifying and transposing the requirements of the ICZM Protocol by all parties, the support to be given by UNEP/MAP components, specially PAP/RAC to Contracting Parties for the implementation, the strengthening of ICZM governance (noting the PEGASO Project developed ICZM Platform[90]) and the need for inter-sectorial and regional cooperation (establishing a common regional framework for ICZM in the revised Mediterranean Strategy for Sustainable Development (**MSSD**).

It also underlines under this objective the importance of adopting National Strategies and Coastal Implementation Plans and Programmes and reporting on Protocol Implementation and Monitoring the State of the Mediterranean.

Under Objective 2, the Action Plan foresees the development and testing of ICZM Guidelines at national and local level, as well as the development of demonstration projects in key sectors and training/educational activities. Such demonstration projects have been undertaken already by CAMPs (please see also later in more details by the next point) and by other relevant projects such as PEGASO and MedPartnership.

[89] http://www.pap-thecoastcentre.org/razno/Decision%202%20-%20ICZM%20Action%20Plan.pdf
[90] http://www.pegasoproject.eu/iczm-platform-5

Under Objective 3, the Action Plan highlights the importance of public participation and awareness raising, with the utilization of annual Coast Day celebrations[91] and other initiatives to support ICZM awareness across the region.

In addition, the Action Plan lists key players in the region, such as UNEP/MAP, EU, MedPartnership, Union for the Mediterranean, aiming to establish cooperation on the regional level as well between these institutions/project.

This Action Plan will be subject to mid-term review and an evaluation to coincide with the end of the existing 5-year MAP programme in 2014.

To this end, PAP/RAC, supported by MedPartnership, prepared Guidelines *for the preparation of National ICZM Strategies required by the Integrated Coastal Zone Management (ICZM) Protocol for the Mediterranean*[92], explanatory reports, supported by IPA Adriatic funds, for some specific requirements of the ICZM Protocol such as Article 7 on Institutional coordination and Article 8 on the establishment of the coastal back zone in order to *inter alia* demonstrate how ICZM should implement ECAP in coastal areas. This guidance also provide an integrated planning framework in relation with key sectors in the coastal zone including: water, biodiversity, agriculture, fishery, energy, tourism sporting and recreational activities, utilization of specific natural resources, cultural values, landscape, transport and infrastructure and other economic activities that may affect the coastal zone, as well as the integration of the specificities of climate change in the coastal zone. It is further mentioned in the document that these national strategies aim to ensure a coherent "spatial planning" and an integrated connection between land and sea areas.

Key achievements of implementation of the ICZM Protocol and Action include next to the above work, also the CAMP demonstration projects integrating ICZM principles (please see further under at point 2), the Pegaso project developed ICZM process which is available at coastal wiki[93], the MEDOpen Virtual Training on ICZM available on the PAP/RAC website[94] and the annual celebration of the Coast day, which has taken place from 2007 on and created ownership for ICZM in the regional level.

The **PEGASO project** has undertaken an analysis of the legislative, policy and financial framework for ICZM governance for both the 21 states of the Barcelona Convention for the Mediterranean and the 6 states of Bucharest Convention for the Black Sea. This analysis (*Final global results of the ICZM stock-taking*) was finalized in 2013 based on a comprehensive and exhaustive ICZM Implementation Audit Questionnaire prepared by PAP/RAC.

Key findings of this ICZM stock-taking exercise include:

- 6 countries have already mechanisms for land and marine coordination and 11 countries have mechanisms "in preparation" with coordination as a key issue. Models of round tables include the "Grenelle de l'Environnement" in France and the "Colls Miralpeix" in Spain, which represents an institution created with the purpose of implementing the ICZM Protocol which acts as a coordinating body at the regional and local level. There are also horizontal and vertical coordination mechanisms created by the countries. Indeed, 8 countries declared having mechanisms for horizontal coordination and 11 were in preparation.
- As example of horizontal coordination mechanism CAMPs were identified (see more by next point) which act as a driver to the implementation of the ICZM Protocol at the local level.
- Total of 13 countries have other existing measures consistent with this Article and 5 of the ICZM Protocol and other countries have partially extended legal tools such as national

[91] http://www.coastday.org/
[92] http://www.maremed.eu/pub/agenda/232_en.pdf
[93] http://www.pegasoproject.eu/wiki/Integrated_Coastal_Zone_Management_(ICZM)
[94] http://www.medopen.org/

strategies for sustainable development. For instance, in Algeria, through the National Master Plan which sets terms of conservation, protection and enhancement of coastal zones and continental shelf, to the "Master Plan du Littoral" for coastal and marine areas setting specific requirement of conservation and recovery.

- For 15 countries, urban development is subject to statutory restrictions and five countries do not have restrictions to urban development. The restrictions are of various kinds, from limitations, mainly for the industrial and tourist sectors, to the prohibition of development in protected areas. In other cases, the limitation concerns specific activities, such as soil and underground resource exploitation. It is further added that the definition of areas of special interest where urban development is restricted depends on the national strategies and plans for specially protected areas, and for strategic economic activities of public interest. For instance, in Italy, there is a National Strategy of Adaptation to Climate Change that deals with the specificities of "hydrogeological" risk which include coastal areas and introduce "Measures of Safeguard". Moreover, in Montenegro, within the CAMP Montenegro project, an analysis of the urbanization of the Coastal Zone in Montenegro had been prepared;
- Regarding limiting the linear extension or urban development and the of new transports infratucture along the coast, only 9 countries have legal frameworks consistent with the Protocol requirements.
- Freedom of access by the public to the sea and along the shore is a widespread principle which is protected by law in 17 countries.
- Regarding restricting, where necessary, prohibiting the movement and parking of land vehicles, as well as the movement and anchoring of marine vessels, in fragile areas on land and sea, including beaches and dunes, 12 countries have relevant legislation in place (with clear guidelines for protected areas management), while 6 has it in preparation;
- Regarding marine habitats, measures concerning this requirement of the Protocol have been largely adopted (17 countries, 2 in preparation). Some countries have not only adopted laws, they also created institutions dedicated to coastal and marine protection, which help regulate planning and management in specially protected areas. For example, the Pelagos Sanctuary for Marine Mammals is an example of a large scale project for the development of specific measures ensuring the protection and conservation of marine and coastal habitats. Also, the foundations of an integrated Marine Strategy in Greece were laid down through the "Law on the National Strategy for the protection and management of Marine Environment".
- MedPAN is highlighted as international a network that brought together the managers of Mediterranean Marine Protected Areas (MPAs) in order to support then in their management activities;;
- In 14 countries, measures have been taken to involve relevant stakeholders in the processes of formulation and/or implementation of coastal and marine strategies, plans and programmes. Futhermore, 12 countries have inquiries and/or public hearings in the formulation and implementation of coastal and marine strategies. Moreover, a total of 8 countries have measures for partnerships to ensure the involvement of stakeholders;
- Nearly half of the countries reported some awareness raising, education, training and public programmes regarding ICZM at national level (for example Montenegro referred to the Mediterranean Coast Day).
- Regarding *Article 18 National Coastal Strategies, Plans and Programmes*, seven of the Mediterranean countries have an approved national strategy for the coast. However, it is mentioned that the Protocol has had little time to influence the shape of national strategies although Algeria and Montenegro are preparing their strategies based on the Protocol principles as presented bellow. Guidelines for the preparation of national strategies in conformity with the Protocol are already available from PAP/RAC "Guidelines for the preparation of the National ICZM Strategies" (NICZMS).
- In the framework of the *Article 21 Economic, Financial and Fiscal Instruments* it is said that only a minority of states (3) indicate a positive use of economic or financial instruments to support ICZM. Such measures are under consideration in a further 7 countries. The approaches are diverse ranging from mechanisms specifically designed to achieve

environmental benefits, such as the Balearic Islands' "ecotax" – a *tax de sejour* on tourists, to the adaptation of local taxes on activities, such as fisheries, designed to raise revenue for environmental purposes.

- In regard to economic, financial and/or fiscal instruments which are potentially counter to the objectives of ICZM, there is apparently a low level of narrative response to this question, and only 3 countries report instruments with potentially negative effects on ICZM.

Further, on national level implementation:

- Algeria - an operational ICZM strategy has been developed by the Algerian Ministry of Physical Planning and Environment (MATE) in 2005 and financed by the World Bank. The implementation of this strategy is underway. However, the need was felt to prepare a new National ICZM Strategy according to the Protocol principles; this strategy is being prepared based on the PAP/RAC Guidelines.
- Montenegro - began drafting the National ICZM Strategy in 2006. The Strategy was finalized in 2008 and submitted to the Government, but is not yet adopted. The Montenegrin National ICZM Strategy will be revised to conform to the ICZM Protocol.
- France – "Blue Book: a national strategy for the seas and oceans" which sets out the national strategic directions for the sea and coastline was adopted in 2009.
- Spain – the Ministry of the Environment and Rural and Marine Affairs (*Ministerio de Medio Ambiente Medio Rural y Marino*) co-ordinated in 2007 the development of the *Estrategia para la Sostenibilidad de la Costa*.
- Croatia - the Sustainable Development Strategy for Croatia proposes a national ICZM Strategy. The Croatian response points out that the EU Marine Strategy Framework Directive and ICZM Protocol, places an obligation to develop two strategies; a Marine Strategy and an ICZM Strategy. Since both strategies are connected and based on the same principles it was decided to combine these two strategies in one strategic document – the "Strategy for the Management of Marine Environment and the Coastal Zone".

The ICZM Action Plan is related to the following EcAp Targets:

- Negative impacts due to new structure and minimal with no influence on the larger scale coastal system;
- Physical disturbance to sandy coastal induced by human activities should be minimized.

3.2 CAMP demonstration projects

The implementation status of the ICZM Protocol and Action Plan has been greatly advanced by the CAMP demonstration projects[95]. CAMP is oriented at the implementation of practical coastal management projects in selected Mediterranean coastal areas, applying ICZM at the ground level.

As such, CAMPs address environmental problems on the ground in a cross-cutting manner and as such relate to various EcAp Targets, not strictly related only to ICZM EcAp Targets. CAMPs can also be seen as pioneers bringing together components and policies at a very specific areas to demonstrate how environmental/development problems should be solved and propose measures/actions for better quality of life including ecosystems and biodiversity. As such, they are a practical implementation of EcAp principles. As a conclusion something along those lines could be summarized, saying that CAMP actually deals with all EcAp indicators where relevant.

[95] http://www.pap-thecoastcentre.org/about.php?blob_id=22

In the 1990-1998 period, two cycles of the CAMP Programmes were implemented, consisting of individual projects implemented in: Albania (The Albanian coast), Croatia (The Kastela Bay), Greece (The Island of Rhodes), Syria (The Syrian Coast), Tunisia (The City of Sfax) and Turkey (The Izmir Bay). The project in Fuka, Egypt, has been completed in 1999, and the project in Israel in June 2000.

The third cycle of the Programme started in 1997 with the preparation of projects in Algeria, Lebanon, Malta, Morocco and Slovenia, in accordance with the relevant decisions of the Contracting Parties.

CAMP Malta was completed in November 2002, CAMP Lebanon in December 2004, CAMP Algeria in January 2005, CAMP Slovenia in 2007, CAMP Cyprus in 2008 and CAMP Morocco in 2010. CAMP Spain, which has been completed in 2013, entered its follow-up stage. CAMP Montenegro is in its full swing and should be completed this year, while CAMP Italy and CAMP France have just started for duration of two years.

Taking into account the importance of the ICZM Protocol as a powerful tool for the sustainable development of coastal zones, CAMPs are seen as the ICZM Protocol implementation projects at the local level, i.e. as prototype interventions to assist countries to implement the Protocol.

In addition, CAMPs in Montenegro, Italy, France and Spain are already underway / in their follow-up stage and will take into account new development contexts. The intention is to streamline and upgrade CAMPs to the requirements of the ICZM Protocol with regard to public participation, institutional arrangements and alike.

3.3 MedPartnership activities in relation to coast and hydrography

MedPartnership coordinates activities related to Coast and Hydrography in the framework of its first component on the integrated approaches for the implementation of the SAPs and NAPs: ICZM, IWRM and management coastal aquifer.

The first action undertaken under this project is the Management of Coastal Aquifer and Groundwater of which UNESCO-IHP is in charge. In order to ensure a coherent management system, the objective and expected outcome is to establish a regional legislation to strengthen aquifer management. The end of project target is to develop a Regional Action Plan on Coastal Aquifers for the next COP 15 as well as a regional plan for eco-hydrological management, land degradation and protection coastal wetlands. This project also aims to strengthen regional and national institutions for aquifer management including tools and guidelines. Also, land-management approaches are expected to be developed and applied at demonstration sites. This project also aims to find stress reduction measures that could serve as a baseline for future management of aquifers at water-body level. UNESCO, through the tools and guidelines it will develop, provides an enabling environment for the countries to implement appropriate management approaches for coastal aquifers and coastal wetlands that are dependent upon groundwater. Another objective of this project is to increase the scientific knowledge concerning the management of aquifers and groundwater through the assessment of risk and uncertainty related to Mediterranean coastal aquifers in all countries and coastal vulnerability mapping of aquifers at 3 sites in two countries and Transboundary Diagnostic Analysis (**TDA**) supplement are expected to be developed for adoption.

The second action undertaken is on ICZM of which PAP/RAC is in charge of the implementation. The first objective of this action is to establish regional legislation addressing ICZM, as mechanisms to protect the Mediterranean from biodiversity loss and pollution from land based sources. In this framework, the development of a harmonization of national legislation with ICZM Protocol for 5000 km of the coast is also expected. The Regional and National institution are also expected to be strengthened for ICZM. Indeed, ICZM Strategies and NAPs should be submitted for adoption in a minimum of two countries containing proposals for ICZM institutional framework. Furthermore, an Integrative methodological framework (IMF) is expected to be developed and tested in a minimum of two demonstration areas (Buna/bojana and Reghaia) for, after revision, their replication in other areas. The project objectives include also stress reduction measures achieved through ICZM and monitored at water-body level.

The on-going activities presented are the following:

- Support activities in preparation of National ICZM Strategies and NAPs;
    - Support to the preparation of ICZM Strategies NAPs (demonstrations in Montenegro and Algeria) Initiation in Croatia;
    - Replication Activity: National ICZM Strategy for Croatia;
    - Harmonizing national institutional arrangements and legislation with ICZM Protocol for the Mediterranean;
    - Integrative Methodological Framework (IMF) for convergence of groundwater/aquifers, water resources, biodiversity and coastal management;
    - Improved integrative planning and use of iCZM methodologies and tools to support ICZM Protocol;
- Application of ICZM approach, tools, and techniques in demonstration areas;
    - ICZM Plans to demonstrate ICZM approach, tools and techniques in selected areas: ICZM Plan in transboundary demo area of high environmental sensitivity (Montenegro and Albania);

- ICZM Plans to demonstrate ICZM approach, tools and techniques in selected areas: ICZM Plan in wetlands/marine area of high value/sensitivity with MPA identification (Algeria).

The third action undertaken is on the Integrated Water Resources Management (**IWRM**) GWP-Med. The first objective of this action is to establish a Regional strategic planning addressing IWRM as mechanism to protect the Mediterranean from biodiversity loss and pollution from land based sources. In this framework, a Strategy for Water in the Mediterranean is expected to be developed and technically facilitated and presented at the Union for the Mediterranean (**UfM**) Ministerial level with environmental considerations dully reflected. It is further added in the same document that as an objective, Regional and National institutions should be strengthened for IWRM. For this purpose, IWRM plans should be implemented *inter alia* in Egypt, Lebanon, Tunisia and Palestine. Another objective is to develop an Integrated River Basin Management (**IRBM**) in globally important river basin(s) and adjacent coastal area by establishing an IMF between ICZM and IWRM. Under this project, it is also expected that Integrated River Basin Management for one water body will be finalized by 2014, pressures will be identified and local IRBM/ICZM planning roadmap prepared as a basis for a future management plan.

Some example actions in relation to the IWRM:

- Contribute to developing the new Strategy for Water (SWM) in the Mediterranean
  - Egypt: Catalyze Action and Build capacity on National IWRM Planning;
  - Lebanon: Catalyze Action and Build capacity on National IWRM Planning;
  - Tunisia: Catalyze Action and Build capacity on National IWRM Planning;
  - Palestine: Catalyze Action and Build capacity on National IWRM Planning;
  - Develop Integrated Resources Basin Management (IRBM) in globally important river basin(s) and adjacent coastal area;
  - Replication Activity in Damour – Integrated Resources Basin Management (IRBM) in globally important river basin(s) and adjacent coastal area.

3.4 Key Gaps identified by the Secretariat in relation to coast and hydrography

While the Mediterranean region is a pioneer in relation to ICZM through its ICZM Protocol and Action Plan, the national level implementation of ICZM is still not satisfactory.

In addition, the horizontal nature of ICZM (while it is also the strength of it) may constitute additional implementation challenges, especially in relation to national coordination and ensuring coherence with other national and regional relevant activities not necessarily carried out in the auspices of UNEP/MAP.

The link with maritime spatial planning as such is not strong enough yet, ICZM could also constitute a stronger base for sub-regional strategies, such as the Adriatic-Ionian Strategy and could be stronger integrated in other horizontal work of UNEP/MAP as well.

In addition, a specific gap was identified in relation to assessment on the use of management of coast, on which only a minority of countries have comprehensive information. Unfortunately there is no common methodology currently for interpreting the nature or the undertaking of such assessments. This may provide an area for further development.

CAMPs also constitue a unique opportunity to apply ICZM and EcAp principles on the ground, but the programme could be used even more for join/common demonstration projects.

While hydrography is not covered by a separate regional instrument, the ICZM Action Plan closely relate to it and as needed measures are site specific, it could be best addressed at national level.

Gap exists here however regarding the mapping of existing national instruments relating to alteration of hydrographical conditions, as well as to addressing specifically hydrographical conditions in relation to offshore activities on a common regional basis (on the latter the draft Offshore Action Plan foresees progress).

In addition, research gap exists on climate change and alteration of hydrographiucal conditions in the Mediterranean.

4. MSSD AND SCP: Horizontal measures relevant to EcAp targets

4.1 MSSD

The Mediterranean Strategy for Sustainable Development (**MSSD**)[96] was adopted by the Contracting Parties in 2005, as a regional response to the global agenda about sustainable development. It focuses mainly on the integration of environmental concerns into the key economic development sectors, while giving due consideration to social and cultural dimensions.

Defining four priority objectives, nine challenges and 34 sub-objectives, the MSSD set clear objectives and targets associated with follow-up actions. Adopting an integrated approach to economic and social development, environmental protection, and cultural advancement, the MSSD establishes four objectives aiming at promoting progress towards sustainability in the economic, social and environmental areas and in the field of governance, as follows:

- Objective 1: Contribute to economic development by enhancing Mediterranean assets;
- Objective 2: Reduce social disparities by implementing the MDGs and strengthen cultural identities;
- Objective 3: Change unsustainable production and consumption patterns and ensure the sustainable management of natural resources; and
- Objective 4: Improve governance at the local, national and regional levels.

An Assessment on the implementation of the MSSD for the period 2005-2010[97] that took place in 2011, concluded that while for some objectives the situation is improving, for others the situation is worsening, particularly the environmental ones. The report notes data availability problems, and difficulties with measuring the implementation of some of the objectives and orientations. Nevertheless, the thematic analysis (in its Table 2) indicates that much had been achieved regarding aspects such as sanitation and access to electricity, but also that much remains to be achieved for priorities such as climate change, energy intensity, water and sustainable tourism.

The report concludes that the MSSD had not had a strong influence on National Strategies for Sustainable Development (NSSDs), particularly in EU countries which were influenced more strongly by EU policies. However it is noted that the MSSD was widely appreciated as a background document to inspire national strategies, and had proved to be influential at a strategic level.

Furthermore, it suggests that the MSSD 2.0 focuses on the areas where Mediterranean countries are furthest from the targets set in the current MSSD. The report also suggests to add new issues in the revised MSSD on health, adaptation to climate change, migration and climate change, green economy, depletion of natural resource, and to give more emphasis to participatory approaches. It is also recommended to pay more attention to the financing of sustainable development, as well as to include actions on capacity building, information exchange and education in the MSSD 2.0.

The need of revision of the MSSD has become also clear by 2013, based on international developments. At COP 18 the Contracting Parties decided to revise the MSSD, in line with the outcomes of Rio+20 (UNEP(DEPI)/MED IG.21/9)[98]. The MSSD review was formally launched in Malta, in February 2014.

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[96] http://195.97.36.231/dbases/acrobatfiles/05IG16_7_eng.pdf
[97] http://195.97.36.231/dbases/MAPmeetingDocs/11WG358_Inf3_Eng.pdf
[98] Please also see on the Rio+20 outcome document "the future we want": http://www.uncsd2012.org/thefuturewewant.html
And on the ongoing SDGs international process: http://sustainabledevelopment.un.org/owg.html

The MSSD and the future, revised, MSSD 2.0 will provide important measures that are horizontally key for the successful implementation of the Ecosystem Approach in the region.

The current MSSD 1.0 envisages '*…a "sustainable" Mediterranean that is politically stable, prosperous and peaceful … based on a proactive choice of a "win-win" scenario in which the co-development of the North and the South is promoted, while exploiting the positive synergies of efficient environmental, developmental and economic management*.'

Based on the 2013 Istanbul Declaration and the EcAp vision, the April 2014 MSSD Review consultation document presented the following draft updated vision for MSSD 2.0:

A sustainable Mediterranean region that is politically stable, prosperous and peaceful. Socioeconomic development as well as human health and wellbeing are jointly sought and depend on healthy Mediterranean marine and coastal ecosystems that are productive and biologically diverse.

Furthermore, the recent Steering Committee of the MCSD (June 2014) recommended the revised MSSD be focused on six thematic areas in line with the global process to achieve Sustainable Development Goals, the first one being Sea and Coast, towards reaching Good Environmental Status of the Marine and Coastal Mediterranean environments, thus encompassing the EcAp objectives.

These six thematic areas are as follows:

1. *Seas and coasts*; including efforts towards reaching Good Environment Status of Mediterranean marine and coastal ecosystems;

2. *Natural resources*, rural development and food; including links not only to marine and coastal, but also terrestrial habitats, and to fresh waters;

3. *Climate*; including the impacts of climate change on natural resources and socioeconomic sectors and possible responses;

4. *Sustainable cities*; including coastal urbanization and Integrated Coastal Zone Management, land transport, waste management, infrastructure, housing and energy;

5. *Transition towards a green economy*; including sustainable consumption and production, circular economy;

6. *Governance;* including financing, Aarhus Convention–related issues such as public participation, and cooperation.

4.2 SCP Action Plan

Sustainable Consumption and Production (**SCP**) is about the combined implementation of diverse measures involving policy makers, businesses and civil society to redesign the way in which goods and services are produced and consumed to drive the revitalization of the industrial and socio-economic development towards non-pollutant, resource efficient and socially inclusive economies.In the Mediterranean region, SCP has been a strategic objective for the Barcelona Convention. Indeed, the Contracting Parties to the Convention have identified SCP as a thematic pillar of the Strategic Action Programme of the UNEP/MAP (United Nations Environment Programme - Mediterranean Action Plan), and as one of the overarching objectives of the Mediterranean Strategy for Sustainable Development. For instance:

- The 14th Conference of Parties (Portoroz, November 2005) adopted the Mediterranean Strategy for Sustainable Development (MSSD), which identifies changing "unsustainable production and consumption patterns" and ensuring "the sustainable management of natural resources" as a main objective to attain sustainable development in the region;

- The 16th Conference of the Parties of the Barcelona Convention (Marrakech, November 2009) identified sustainable consumption and production as one of the six thematic priorities of MAP's Strategic Five-Year Programme 2010-2014; and
- The 17th Meeting of the Contracting Parties (Paris, February 2012) reaffirmed the commitment of the Barcelona Convention to support, at Mediterranean level, capacity building and other activities associated with green economy as means to achieve sustainable development, such as the promotion of sustainable consumption and production patterns.

Moreover, building on the financial support provided by the European Union as part of the SWITCH-Med Programme (briefly presented below), at COP18 the Contracting Parties requested the Secretariat of the UNEP/MAP - Barcelona Convention ***to prepare a Mediterranean SCP Action Plan****, including the corresponding Roadmap addressing the Region's common priorities for sustainable development,* ***(i)*** *including pollution reduction; and identifying SCP actions and tools to effectively implement the obligations under the Barcelona Convention and its Protocols, ...,* ***(ii)*** *integrating the potential of the different policy instruments and measures addressing targeted human activities which have a particular impact on the marine and coastal environment and related transversal/cross-cutting issues, ..., and* ***(iii)*** *working in synergy with and complement existing regional and national policy frameworks addressing the shift to sustainable patterns of consumption and production and in particular the MSSD.*

The SWITCH-Med programme[99] aims at facilitating the shift toward SCP in the Southern Mediterranean Region. Aiming at supporting industry, emerging green entrepreneurs, civil society, and policy makers, the programme has three main components: policy development, demonstration activities and networking. The Policy component will strengthen relevant environmental governance and policy frameworks. With broad stakeholder participation, it will develop/refine national SCP policy action plans in the beneficiary countries and develop, among others, a regional SCP action plan under the Barcelona Convention.

Next to the MSSD, the future SCP Action Plan can be seen as a future horizontal EcAp measure, which can also address gaps identified in the current list of measures under UNEP/MAP/Barcelona Convention relevant to EcAp, namely in the food sector, tourism, goods manufacturing and consumption and housing and construction.

4.3 Key Gaps identified by the Secretariat in relation to horizontal measures

The work on horizontal measures is still ongoing and as such it is of most importance both for the success of these horizontal and other EcAp measures to address specifically, as much as possible, the identified gaps and to ensure in general the consistency between the EcAp measures undertaken inside the UNEP/MAP/Barcelona Convention system.

In addition, the MSSD review constitutes a unique opportunity to link the activities, EcAp measures, undertaken by UNEP/MAP (and the Contracting Parties in its auspices) with the Sustainable Development Goals and as such to ensure consistency also in between the regional and international level. Furthermore, the SCP Action Plan could be an important horizontal tool to address short-comings of EcAp measures and as such can provide a unique opportunity to give tailor-made solutions to specific gaps through the usage of SCP. For example, Art. 5 of the ICZM Protocol identifies Food (agriculture and fishing) and tourism as key economic sectors. Likewise, the article requires the countries to implement measures for their sustainable development. To achieve that the planning and management of those sectors in the coastal areas must integrate the implementation of a range of technical, regulatory, economic and market oriented measures through which the models of consumption and production driving the development of those economic activities shift to sustainable

[99] https://www.switchmed.eu/en

patterns. The development and implementation of those tools will require the involvement of policy makers, private sector (producers), civil society and citizen (consumers). The Mediterranean SCP Action Plan as such provides a unique opportunity to define those measures and tools for the food and tourism sector and hence will become key in the implementation of the IZCM Protocol and its Action Plan objectives for the adapting the human activities associated to those mentioned sectors to the ECAP objectives

The SCP Action Plan will be also key in the implementation of the pollution reduction objectives established by the LBS and Hazardous Waste Protocols and their corresponding regional Plans, specifically addressing the reduction of pollution from the food and agriculture, and goods manufacturing. Furthermore, the SCP Action Plan provides an opportunity to integrate measures for marine litter prevention and that they are implemented

In addition, both the MSSD review and the SCP Action Plan both provide very much needed strengthened focus on public participation (the current initial gap analysis highlights many times also the need to strengthen public participation both in EcAp related decision-making and in the implementation of EcAp measures).

5. CONCLUSIONS AND SUGGESTIONS

The Mediterranean coastal and marine environment is facing interlinked pressures with cumulative impacts, as mirrored by the EcAp Ecological Objectives, with the key drivers of population growth, urban sprawl, mass tourism, intensified industrial activities, including offshore, shipping and (over)fishing.

Under the auspices of UNEP/MAP and more specifically under the legally binding Barcelona Convention and its Protocols, the Contracting Parties have been tackling these pressures and drivers during the last decades both on the regional and national level.

In addition, the ecosystem approach has been providing from 2008 on, a guiding principle for these various measures and while the EcAp process is relatively new in the history of UNEP/MAP, it has already achieved a common vision and more integration of sectorial policies.

In addition, the ongoing work on horizontal measures, such as the MSSD Review and the development of the SCP Action Plan provide opportunities to further enhance coherence between the various measures and the relevant EcAp Targets.

The current EcAp Measures Initial Gap Analysis provides an overview of existing regional measures, where available stating their national implementation status. This initial analysis however, in order to ensure a solid basis for discussions on new measures, will need to be followed up by a more detailed analysis of national implementation status, especially in those areas where already the initial analysis highlighted possible gaps.

While the outcome of this future, more detailed analysis cannot be prejudged (to be concluded by mid-2015), the current initial analysis have already identified some key gaps, based on which the Secretariat has also concluded some initial suggestions.

While the Barcelona Convention and its Protocols were followed up by various regional and national measures, which have greatly contributed to the well-being of the marine and coastal environment, and as such to the well-being of the millions of Mediterranean citizens, there are some key gaps to be further addressed in the future, which could be summarized as follows (already indicating some possible suggestions from the Secretariat, noting that all new possible measures will need to be accompanied by socio-economic assessment):

- ***National implementation gaps***: While there have been various regional measures (mainly regional plans) developed under the Barcelona Convention and its Protocols, their implementation to national measures is not sufficient. Noting that the 2012-2013 country reports are not completed yet, but based on evaluations undertaken in recent years, the need for strengthened national level implementation is clear in relation to all of the Protocols and regional measures. Contracting Parties are invited to address possible, specific ways to address the specific, identified national implementation gaps, to be possibly addressed in a tailor-made format, through specific project activities, which could include capacity-building, awareness-raising, technical support, and pilots in relation to the identified national implementation gaps. In addition, the Contracting Parties are welcomed to further address the role and importance of the Compliance Committee in strengthened implementation of existing commitments;
- ***Public participation and science-policy interface*** are two key issues which were identified horizontally which hinder implementation and efficiency of measures and these could be further strengthened in relation to all EcAp measures ;
- ***In relation to biodiversity,*** next to the gap of national level implementation in many cases (with suggestion of strengthened implementation enhancing specific projects and creation of new NAPs reflecting EcAp Targets), as a main gap fishing and aquaculture related regional

measure was mentioned (with suggestion of new regional-level measures to be developed in this field in co-operation with GFCM[100] , taking into account socio-economic analysis).

- ***In relation to non-indigenous species*** specific gaps in the MAMIAS system were highlighted (with suggestion of updating this system and making it operational), next to gaps in country level implementation of the Strategy and of the NIS Action Plan, in line with the two guidance documents (with suggestion of specific project activities enhancing country level implementation of these regional instruments).
- ***In relation to pollution*** the key gap identified is already being addressed by the update of the NAPs related to pollution, in order to reflect the EcAp targets and the relevant Regional Plans, noting that its outcome may also identify further specific gaps and need of possible new measures ; **Stricter technical guidelines and management standards or if need be other regional plans on sectors contributing to marine pollution such as agriculture, acquaculture, tanneries and desalination may also need to be considered. In addition, the SCP Action Plan can further enhance the implementation of existing pollution related EcAp targets.**
- ***In relation to marine litter,*** where the Mediterranean is a pioneer region through the first legally binding Regional Plan on the matter, the gap to address specifically marine litter in other horizontal instruments can be highlighted (with suggestion to do so in the draft SCP Action Plan) . **The focus should be on developing implementation tools and enhancing implementation of the regional plan at national level and support countries accordingly.**
- ***In relation to coast,*** the gap in national implementation can be highlighted (with possible suggestion of more capacity building, awareness raising in this field and specifically through the CAMP projects, with a possible CAMP phase III), as well as the need of further integration of ICZM horizontally both into other UNEP/MAP horizontal measures and into other regional, sub-regional measures (suggestion to have a Common Framework for ICZM integrated in the MSSD and the SCP Action Plan to have measures relevant for ICZM).
- ***In relation to hydrography***, the main gaps were identified as lack of scientific knowledge as well as information on existing national instruments (with the suggestion of a mapping of existing national instruments relating to alteration of hydrographical conditions and specific research project to be proposed on climate change and alteration of hydrographical conditions).

In light of the above, the following table aims to further, more specifically summarize key drivers, pressures and their specific links, effects to each other and their links to the specific EcAp Targets, as well as relevant existing measures aiming to address them, with stating the implementation status of these measures and where relevant, possible gaps and needs identified (for more information and description of the specific EcAp measures, please see the following Chapters).

[100] General Fisheries Commission for the Mediterranean

TABLE 1 SUMMARIZING ECAP TARGETS, RELEVANT MEASURES AND IMPLEMENTATION STATUS

ECAP TARGET (with relevant Operational Objective)	EXISTING MEASURES	GAPS (identified by the initial analysis of the Secretariat)
The ratio Natural/observed distributional range tends to 1 Decrease in the main human causes of the habitat decline *(Targets are related to operational objective 1.4 (key coastal and marine habitats are not being lost).*	As all SoER-MED pressures, drivers have the potential to negatively affect biodiversity, all measures addressing them, also listed under the following rows are also related to biodiversity, with the main, biodiversity related specific regional measures, devoted specifically to follow-up on the relevant provisions of the Barcelona Convention and the SPA/BD Protocol[101] being the Strategic Action Programme for the conservation of Biological Diversity (SAP/BIO) [102], the work on Mediterranean Protected Areas (MPAs) in line with Regional Working Programme for the Coastal and Marine Protected Areas in the Mediterranean Sea[103] and on Specially Protected Areas (**SPAMIs**). Adopted in 2003, SAP/BIO guides countries over the following fifteen years in planning and implementing biodiversity protection activities. It was followed up by 63 National Action Plans and 30 Regional Priority Actions (RPAs). Its implementation was analyzed in 2013[104], with the main findings that while some progress was achieved both thanks to commitments of the Contracting Parties and to some successful projects, such as the MedPartnership[105], the enforcement of measures and the NAPs still remains a major challenge. Regarding MPAs, the Contracting Parties target to achieve by 2012 a global network of comprehensive, representative and effectively managed national and regional protected area system was not met. Currently around 9.5 percent of the Mediterranean Sea is covered by MPAs, with more than 1,410 sites.	• National implementing measures often lack, NAPs not implemented, common tools for their implementation not developed ; • Not enough MPAs/SPAMIs/especially outside of national jurisdiction to meet Aichi target; • Management of MPAs network needs to be strengthened • analysis is needed on monitoring global trade and economic policies; • Mediterranean biodiversity hot-spots map is needed (other than pollution threats) ; • measures on checking of imports and exports of endangered species require enhanced enforcement; • introduction of labels linked to ecotourism remains limited ; • issue of noise at sea is not yet given sufficient attention ; • fish farming has no accompanying measure in regional level ; • control of recreational fishing activities not followed up by national measures ; • scientific gaps still exist, and science-policy interface is not sufficient ; • lack taxonomy experts ; lack of financial resources regarding CHM on regional level ; • not sufficient public participation and lack of coordination between stakeholders on awareness raising ; • not sufficient coordination with other RSCs • MAMIAS not operating efficiently
No human induced significant deviation of population abundance and density from reference conditions[113] The species composition shows a positive trends towards reference condition over an increasing proportion of the habitat (for recovering habitats) *(Targets above are related to operational objective 1.4.)* Monk Seal: The distribution of		

[101] Protocol concerning specially protected areas and biological diversity in the Mediterranean, available at : http://rac-spa.org/sites/default/files/protocole_aspdb/protocol_eng.pdf
[102] The SAP/BIO is available at : http://sapbio.rac-spa.org/
[103] http://rac-spa.org/sites/default/files/doc_pwmcpa/pwmcpa_en.pdf
[104] SAP/BIO Implementation: the first decade and the way forward (as reviewed by the National Correspondents of SAP/BIO in July 2013), document UNEP(DEPI)/MED WG.382/5.
[105] http://www.theMedPartnership.org/

ECAP TARGET (with relevant Operational Objective)	EXISTING MEASURES	GAPS (identified by the initial analysis of the Secretariat)
Monk Seal remains stable or expanding and the species is recolonizing areas with suitable habitats Human activities having the potential to exclude marine mammals from their natural habitat within their range area or to damage their habitat are regulated and controlled. Conservation measures implemented for the zones of importance for cetaceans Fisheries management measures that strongly mitigate the risk of incidental taking of monk seals and cetaceans during fishing operations are implemented No significant shrinkage in the population distribution in the Mediterranean in all indicator species (birds) And for colonial-breeding seabirds (i.e., most species in the Mediterranean): New	The SPA/BD Protocol sets out common principles on how SPAMIs may be established(including on high sea). The current SPAMI's List includes 33 sites. In addition, there are nine (9) Regional Action Plans targeting specific species as listed under (these Action Plans are legally non-binding). The Action Plan for the management of the Mediterranean Monk Seal[106] lays out the needed measures needed for the protection of the monk seal[107]. Within the implementation of this Action Plan, RAC/SPA has assisted countries to carry out actions for the protection of species through data collection, research and awareness. Greece, Algeria and Israel have prepared NAPs on the monk seal. No specific evaluation has taken place yet on the implementation status of the Action Plan. The Action Plan for the Conservation of Mediterranean Marine Turtles[108] (1989 adopted, 2006 updated) has contributed to greater knowledge about and awareness on marine turtles in the region. Israel, The State of Libya, Syria, Tunisia and Turkey have developed NAP on sea turtles. The **Action Plan for the conservation of bird species listed in Annex II of the Protocol on Specially Protected Areas and Biological Diversity** was adopted in 2003, covering protected areas, legislation, research, awareness raising, education and elaboration of NAPs related to birds. Guidelines, awareness raising and training followed up the Action Plan in various countries. Albania, Israel, The State of Lybia, and Montenegro have NAPs specifically devoted to birds. The **Action Plan for the conservation of cetaceans in the Mediterranean Sea** recommends various measures to conserve cetaceans in the Mediterranean. Albania, Egypt, Lebanon, Libya, Malta, Syria, Tunisia and Turkey have developed NAPs related to cetaceans. Its specific implementation was not evaluated yet. The Action **Plan for the conservation of marine vegetation in the Mediterranean Sea** (adopted 1999 and revised in 2005) resulted in NAPs developed on this topic in Algeria, Israel, Malta and Slovenia.	• **[112] to address over-fishing and aquaculture** • **further update MAMIAS and strengthen country level implementation of the Strategy and of the Action Plan, in line with the two guidances.**

[113] Natural distributional range to be defined by COP19.
[106] http://rac-spa.org/sites/default/files/action_plans/monkap.pdf
[107] The monk seal is an endangered species. It is on the I.U.C.N. list of the twelve animal species in the world that are in greatest danger of extinction.
[108] http://rac-spa.org/sites/default/files/action_plans/marine_turtles_ap_fr_en.pdf

ECAP TARGET (with relevant Operational Objective)	EXISTING MEASURES	GAPS (identified by the initial analysis of the Secretariat)
colonies are established and the population is encouraged to spread among several alternative breeding sites (birds) Turtle distribution is not significantly affected by human activities. Turtles continue to nest in all known nesting sites Protection of known nesting, mating, foraging, wintering and developmental turtle sites. Human activities having the potential to exclude marine turtles from their range area are regulated and controlled. The potential impact of climate change is assessed (reptiles). *(The above targets relate to Operational Objective 1.1., Species distribution is maintained.* Populations recover toward natural levels (marine	The **Action Plan for the Conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean** (2003) is not only following up on the SPA/BD Protocol, but also on the IPOA-Sharks[109]. Its implementation involves large number of partners, with an updated timetable 2010-2013. Malta has a specific NAP related to sharks, rays and skate. The Action Plan for Coralligenous and other Calcareous Bio-Concretions, adopted in 2008, is devoted to coralligenous assemblages and maërl beds, except the surface bio-concretions already included in the Action Plan for the conservation of marine vegetation. It has resulted in an Action Plan developed on the topic in Tunisia. The Action Plan for the conservation of Habitats and Species associated with seamounts, underwater caves and canyons, aphotic engineering benthic invertebrates and chemo-synthetic phenomena, in the Mediterranean Sea (Dark Habitats Action Plan) adopted in 2013 is advocated to the conservation of the aforementioned habitats and species The Action Plan concerning species introductions and invasive species in the Mediterranean Sea (2003) addresses the impacting topic of alien species entering into the Mediterranean (see also below)	

[112] General Fisheries Commission for the Mediterranean
[109] International Action Plan for the conservation and management of sharks

ECAP TARGET (with relevant Operational Objective)	EXISTING MEASURES	GAPS (identified by the initial analysis of the Secretariat)
mammals). No human induced decrease in population abundance. Population recovers towards natural levels where depleted (birds and reptiles). The total number of individuals is sparse enough in different spots (birds). (*the above targets relate to Operational Objective 1.2., Population size of selected species is maintained)* Decreasing trends in human induced mortality (marine mammals). <u>Cetaceans:</u> Species populations are in good condition: Low human induced mortality, balanced sex ratio and no decline in calf production. <u>Monk Seal:</u> Species populations are in good condition: Low human induced mortality, appropriate pupping seasonality, high annual pup production,	The Action Plan concerning species introductions and invasive species in the Mediterranean Sea, agreed in 2003, as a legally non-binding instrument, describes needed national and regional actions to address NIS in the Mediterranean. It was followed up by regional Guidelines for the Risk Analysis assessing the impacts of the introduction of non-indigenous species and for controlling the vectors of introduction into the Mediterranean of non-indigenous species and invasive marine species. MAMIAS[110] is the Mediterranean NIS database, unfortunately only developed due to financial concerns up to 2012. The Strategy on ships' Ballast Water Management was adopted in 2012 at COP 17, to address the increase of NIS in the Mediterranean, establishing a regional harmonized approach in the Mediterranean on ships' ballast water control and management which is consistent with the requirements and standards of the International Convention for the Control and Management of Ships' Ballast Water and Sediments. The Action Plan on ships' Ballast Water Management follows up on the above Strategy, with eight specific measures to undertake in order to address the introduction of non-indigenous species. Furthermore, currently, an Offshore Action Plan is being developed, which will also address NIS, building on EcAp principles. The GloBallast Partnership Project[111] is assisting some Mediterranean countries in implementing sustainable, risk-based mechanisms for the management and control of ships' ballast water and sediments. Israel, Slovenia, Syria and Tunisia have specific NAPs related to NIS.	

[110] the Marine Mediterranean Invasive Alien Species database
[111] http://GloBallast.imo.org/index.asp?page=GBPintro.html&menu=true

ECAP TARGET (with relevant Operational Objective)	EXISTING MEASURES	GAPS (identified by the initial analysis of the Secretariat)
balanced reproductive rate and sex ratio. Population of all taxa particularly those with IUCN threatened status are maintained in long term following the indication of population models (birds) Incidental catch mortality is at negligible levels, particularly for species with IUCN threatened status (birds). Measures to mitigate incidental catches in turtles implemented. *(the above targets relate to Operational Objective 1.3., Population condition of selected species is maintained.)*		
The number of species and abundance of IAS[114] introduced as a result of human activities is reduced. -Improved management of the main human related pathways and vectors of NIS -Introduction (Mediterranean		• National implementation of the Action Plan and Guidelines on Non-Indigenous/Invasive Species is lacking in most of the countries; • Not sufficient coordination with other RSCs • MAMIAS not operating efficiently.

[114] Invasive Alien Species (IAS)

ECAP TARGET (with relevant Operational Objective)	EXISTING MEASURES	GAPS (identified by the initial analysis of the Secretariat)
Strategy for the management of ballast waters, Aquaculture early warning systems, etc.) -Action plans developed to address high risk NIS, should they appear in the Mediterranean <u>State</u> Abundance of NIS introduced by human activities reduced to levels giving no detectable impact *(the above targets relate to Operational Objective 2.1., Invasive non-indigenous species introductions are minimized)*		
1. Reference nutrients concentrations according to the local hydrological, chemical and morphological characteristics of the unimpacted marine region 2. Decreasing trend of nutrients concentrations in water columns of human impacted areas statistically defined 1. Reduction of BOD emissions from lan-based	Eutrophication is being addressed by the SAP/MED as well as by the following regional measures : Regional Plan Reduction of BOD5 from urban wastewater(adopted in 2009); Reduction of BOD5 in the food sector (adopted in 2012); In addition Contracting Parties have adopted a legally non-binding Plan on reduction of input of BOD by 50% by 2010 from industrial sources for the Mediterranean region (COP 13, Catania, Italy, 2003).	National implementation of these Regional Plans, in line with agreed EcAp Targets need strengthening.

ECAP TARGET (with relevant Operational Objective)	EXISTING MEASURES	GAPS (identified by the initial analysis of the Secretariat)
sources 2. Reduction of nutrients emissions from land-based sources *(the above targets relate to Operational Objective 5.1.,Human introduction of nutrients in the marine environment is not conductive to eutrophication)*		
State : 1. Chl-a concentration in high-risk areas below threshold 2. Decreasing trend in chl-a concentrations in high risk areas affected by human activities State : 1. Index of turbidity behind threshold in high risk areas 2. Increasing trend of transparency in areas impacted by human activities *(the above targets relate to Operational Objective 5.2., Direct effects of nutrient over-enrichment are prevented)*		National implementation of these Regional Plans, in line with agreed EcAp Targets need strengthening.
State : Dissolved oxygen concentrations in high-risk		National implementation of these Regional Plans, in line with agreed EcAp Targets need strengthening.

ECAP TARGET (with relevant Operational Objective)	EXISTING MEASURES	GAPS (identified by the initial analysis of the Secretariat)
areas above local threshold[115] Increasing trend in dissolved oxygen concentrations in areas impacted by human activities *(the above targets relate to Operational Objective 5.3., Indirect effects of nutrient over- enrichment are prevented)*		
Planning of new structures takes into account all possible mitigation measures in order to minimize the impact on coastal and marine ecosystem and its services integrity and cultural/historic assets. Where possible, promote ecosystem health *(The above target relates to Operational Objective 7.2., Alterations due to permanent constructions on the coast and watersheds, marine installations and seafloor anchored structures are minimized)*	While the ICZM Protocol and the ICZM Action Plan do not explicitly address hydrographical conditions, but Article 23 (coastal erosion) or Art 9/2f (infrastructure, energy, ports) closely relate to hydrography..	• There is no specific instrument related just to hydrography (noting that by the nature of hydrography, measures are site specific and best can be done on national level). • Mapping of existing national instruments relating to alteration of hydrographical conditions needs to be established; • Hydrographical conditions of offshore activities not addressed yet in expert groups ; • Research gap exists on climate change and alteration of hydrographical conditions in the Mediterranean. • Knowledge on existing conditions (current state) is not sufficient.
Negative impacts of human activities (on sandy) coastal areas are minimized through appropriate management measures	The ICZM Action Plan (2012), supporting the implementation of the ICZM Protocol is the major regional based measure in relation to the minimization of negative impacts of human activities (on sandy) coastal areas through appropriate management measures.	• National implementation efforts are not sufficient in relation to the ICZM Protocol and Action Plan ;. • There is no regional data base for the current state on natural dynamics, and in particular there is no regional data available on land

[115] Thresholds to be set, subject to decision of Contracting Parties by COP19.

ECAP TARGET (with relevant Operational Objective)	EXISTING MEASURES	GAPS (identified by the initial analysis of the Secretariat)
(The above target relates to Operational Objective 8.1., The natural dynamic nature of coastlines is respected and coastal areas are in good condition)	The ICZM Action Plan[116] , with the timeframe of 2012-2019, aims to: support the effective implementation of the ICZM Protocol at regional, national and local levels including through a Common Regional Framework for ICZM; strengthen the capacities of Contracting Parties to implement the Protocol and use in an effective manner ICZM policies, instruments, tools and processes; and promote the ICZM Protocol and its implementation within the region, and promote it globally by developing synergies with relevant Conventions and Agreements. The individual measures included in the Action Plan are structured according to these three objectives above, reflecting the nature and scope of the Action Plan, which is not meant to be prescriptive but to respond to the needs of different administrative situations across the region. In addition, the CAMP, MedPartnership, Pegaso FP7, Shape IPA Adriatic and other projects listed in Annex III are important achievements in strengthening ICZM in practice.	use changes (thus no objectivity when reporting on the state of coastal areas and impacts to ecosystems and biodiversity, i.e. EcAp). • Knowledge gap exists on spatial/territorial qualities, vulnerability of coastal areas and integrity of coastal ecosystems and landscapes.
State : Concentrations of specific contaminants below EACs or below reference concentrations No deterioration trend in contaminants Pressure: Reduction of contaminants emissions from land based sources *(The above targets relate to*	The Pollution related Protocols are followed up by the SAP/MED, which is the key regional implementing measure in this area. In addition the following Regional Plans address specific pollution related issues (all legally binding) : 1.Elimination of Aldrin, Chlordane,Dieldrin,Endrin,Heptachlor,Mirex and Toxaphene (adopted in 2009); 2.Phasing out of DDT (adopted in 2009); Reduction of BOD5 from urban wastewater(adopted in 2009); Reduction of inputs of Mercury (adopted in 2012); Reduction of BOD5 in the food sector (adopted in 2012); Phasing out of Hexabromodiphenyl ether,Tetrabromodiphenyl ether and Pentabromodiphenyl ether, (adopted in 2012); Phasing out of Lindane and Endosulfan (adopted in 2012);	• National implementation in relation to the Regional Plans adopted between 2009-2014 should assessed • Detailed, technical analysis of pollution related EcAp Targets and the Regional Plans should be undertaken; • Updating the current NAPs based on the Regional Plans and on the EcAp Targets is an excellent opportunity to develop the pollution related ECAP programme of measures to meet pollution related GES targets;

[116] http://www.pap-thecoastcentre.org/razno/Decision%202%20-%20ICZM%20Action%20Plan.pdf

ECAP TARGET (with relevant Operational Objective)	EXISTING MEASURES	GAPS (identified by the initial analysis of the Secretariat)
Operational Objective 9.1., Concentration of priority[117] contaminants is kept within acceptable limits and does not increase)	Phasing out of Perfluorooctane sulfonic acids, its salts and Perfluorooctane sulfonyl fluoride (adopted in 2012); Elimination of Alpha hexachlorocyclohexane, Beta hexachlorocyclohexane, Chlordecone, Hexabromobiphenyl, Pentachlorobenzene (adopted in 2012); Management of Marine Litter in the Mediterranean (adopted in 2013). In addition Contracting Parties have adopted a number of policies and regional plans of a non-legally binding nature. as follows: Plan on reduction of input of BOD by 50% by 2010 from industrial sources for the Mediterranean region (COP 13, Catania, Italy, 2003). Plan for the reduction by 20% by 2010 of the generation of hazardous wastes from industrial installations for the Mediterranean region (COP 13, Catania, Italy, 2003). Strategic framework on marine litter management (COP 17, Paris, France, 2012). All Contracting Parties have NAPs implementing the above mentioned Protocols and SAP/MED and their update is currently ongoing, based on a Secretariat prepared guideline, to incorporate the new Regional Plans objectives and the EcAp Targets. In addition, in relation to shipping, the Regional Strategy for Prevention of and response to marine pollution from Ships acts as a regional common basis for measures related to pollution from ships.	
State : Contaminants effects below threshold Decreasing trend in the operational releases of oil and other contaminants from coastal, maritime and off-shore activities *The above targets relate to Operational Objective 9.2 Effects of released contaminants are minimized)*		
Pressure Decreasing trend in the occurrences of acute pollution events (The above target relates to Operational Objective 9.3 Acute pollution events are prevented and their impacts are minimized)		
State Concentrations of contaminants are within the		

[117] Priority contaminants as listed under the Barcelona Convention and LBS Protocol.

ECAP TARGET (with relevant Operational Objective)	EXISTING MEASURES	GAPS (identified by the initial analysis of the Secretariat)
regulatory limits set by legislation *(The above target relates to Operational Objective 9.4, Levels of known harmful contaminants in major types of seafood do not exceed established standards)*		
Increasing trends in the percentage of intestinal enterococci concentration measurement within established standards *(The above target relates to Operational Objective 9.5, Water quality in bathing waters and other recreational areas does not undermine human health)*		
Decreasing trend in the number of/amount of marine litter (items) deposited on the coast. Decreasing trend in the number/amount of marine litter items in the water surface and the seafloor *(The above targets relate to Operational Objective 10.1., The impacts related to properties and quantities of marine litter in the marine and*	The Marine Litter Regional Plan (ML Regional Plan) was adopted at COP18, as the first Regional Plan on Marine Litter by a Regional Sea Convention, following up on Art 15 of the LBS Protocol (as such, it is a legally binding Regional Plan). The objectives of the ML Regional Plan are to : Prevent Marine Litter (ML) Generation; Reduce to the minimum ML and its impacts; Remove existing ML to the extent possible; Manage ML in accordance with accepted international and regional standards and approaches; Enhance knowledge about ML sources, quantities and impacts. The ML Regional Plan foresees pollution control and prevention measures, together with SCP Measures, with specific measures to remove	• Marine litter related measures fully built on EcAp; they need to be streamlined in SCP and MSSD as appropriate; • Lack of technical capacities and knowledge regarding the implementation of the revised MARPOL Annex V (Garbage) and • Knowledge gap on sea based sources..

ECAP TARGET (with relevant Operational Objective)	EXISTING MEASURES	GAPS (identified by the initial analysis of the Secretariat)
coastal environment are minimized[118]*)*	ML, with strict timelines but flexible implementation. The reporting on fulfilling the obligations by the Contracting Parties is also foreseen, with assessing the ML status in the Mediterranean in every 6 years. A Marine Litter Regional Data Bank is to be developed by 2016 and National ML Monitoring Programmes need to be developed by the same time (2016).	
Decreasing trend in the cases of entanglement or/and a decreasing trend in the stomach content of the sentinel species *(The above target relates to Operational Objective 10.2 Impacts of litter on marine life are controlled to the maximum extent practicable)*		

[118] Baseline is needed to be developed in line with the Marine Litter Regional Plan by COP19

ANNEX I
List of National Action Plans under SAP/MED

LIST OF NATIONAL ACTION PLANS UNDER SAP/MED

The 22 NAPs are presented below:

1. Albanian National Action Plan for the Reduction of the Coastal Zone Pollution from Land Based Sources
2. Algérie : Plan d'Action National pour la réduction de la pollution marine due à des activités menées à terre.
3. Bosnia-Herzegovina: Draft National Action Plan (NAP) for Mediterranean region in B&H for prevention of pollution from land based activities
4. Croatia National Action Plan (NAP) for the Protection of the Mediterranean Sea against Pollution from Land-based Sources
5. National Action Plan for Cyprus
6. Egypt: National Action Plan; In the Framework of the Implementation of the SAP to address Pollution in the Mediterranean from Land-Based Activities
7. France : Plan d'Action National de réduction de la pollution de la Méditerranée due à des sources de pollution situées à terre (2005-2010)
8. Greece : National Action Plan
9. State of Israël ; National Action Plan for the reduction of pollution of the Mediterranean sea against land based sources
10. National Action Plan for Italy
11. Strategic Action Programme and National Action Plan for Lebanon
12. The National Action Plan for the Libyan Coastal Area
13. Malta: National Action Plan for the Protection of the Marine Environment from Land-based Activities
14. Monaco: Plan d'Action National
15. Maroc : Mandat de l'expert national chargé d'élaborer le plan d'action national dans le cadre du PAS
16. Palestinian authority: National Action Plan for Reduction of Pollution of Mediterranean from Land Based Sources
17. Serbia-Montenegro
18. National Action Plan (NAP) for Slovenia for the Protection of the Mediterranean Sea against Pollution from Land-based Sources

19. En Plan de Acción Nacional para la protección del mar Mediterráneo contra la contaminacion de origen terrestre

20. National Action Plan for Protection of the Mediterranean Marine Environment from Land-Based Activities in the Syrian Arab Republic

21. Tunisie : programme d'actions stratégiques (PAS) visant à combattre la pollution due à des activités menées à terre ; Plan d'actions national

22. National Action Plan for the land based sources for Turkey

Annex II
Implementation of the National Action Plans (NAPs)

IMPLEMENTATION OF THE NATIONAL ACTION PLANS (NAPs)

Albania

1. Action Plan for the proclamation of the Marine National Park of Karaburuni area

2. Action Plan for the rehabilitation of the Kune-Vain lagoon system

3. Action Plan for the Dalmatian pelican in Albania

4. Action Plan for building and exploitation of artificial reefs for the fisheries along

5. the Albanian coast.

Algeria

1. Action Plan for setting up a network for monitoring of *Posidonia oceanica* meadows

2. Action Plan for setting up a programme to the collect of data on the Monk seal

3. Action Plan for reducing fishing activity pressure on coastal area biodiversity hot spots

4. Action Plan for inventorying and setting up marine and coastal protected areas in Algeria

Bosnia and Herzegovina

1. Action Plan for the identification and preservation of endangered marine, freshwater and terrestrial habitats and plant communities in the Mediterranean zone of Bosnia and Herzegovina

2. Action Plan for the sustainable development of the marine and adjacent waters of Bosnia and Herzegovina: cross border co-operation issue.

Croatia

1. Action Plan for a network of Mediterranean wetlands in Croatia – management and restoration

2. Action Plan to combat negative Impact of hunting, poaching and commercial collecting on coastal zone biodiversity, including introduction of new game species on islands

3. Action Plan for mapping, assessment and protection of submerged karstic phenomena;

4. Action Plan on biodiversity conservation as a part of integral coastal zone management planning.

Egypt

1. Bio-resources assessment of Mediterranean coastal waters of Egypt, development of Mediterranean Bio-Diversity Database, and public awareness for bio-conservation

2. Development and maintenance of the Matruh Nature Conservation Sector (MNCZ)

3. Bedouin operated bio-diversity conservation and restoration programme

Israel

1. Action Plan for the conservation of marine and coastal birds in Israel

2. Action Plan for the conservation of fish along the Israeli coast of Mediterranean

Lebanon

1. Action Plan for organising awareness campaigns for the Lebanese coastal communities and the public sector;

2. Action Plan for updating of legislation and development of for marine and coastal conservation;

3. Action Plan for determining the physical parameters of the Lebanese marine environment;

4. Action Plan for establishing conservation strategies for coastal habitats;

5. Action Plan for developing monitoring strategies for coastal and marine biodiversity;

6. Action Plan for Palm Islands & Tyre Coast Nature Reserves.

The State of Libya

1. Action Plan for the conservation of marine and coastal birds in The State of Libya;

2. Action Plan on proposed new marine and coastal protected areas and national parks

3. Action Plan for the conservation of marine turtles and their habitats in The State of Libya.

Malta

1. Action Plans for the conservation of cetaceans in Maltese waters;

2. Action Plan for estimating the sustainability of grouper fishing in Malta;

3. Action Plan for the conservation of sharks, rays and skate in the Maltese Islands;

4. Action Plan for the micro-cartography, mapping and surveillance of the *Posidonia oceanica* meadows in the Maltese Islands.

Montenegro

1. Inventory and mapping of sensitive areas;

2. Action plan for the Dalmatian pelican in Montenegro;

3. Assessment – revision of the status, regime and management practice of protected areas;

4. Identification of the new protected areas needing appropriate status of protection on the coastal zone;

5. Analysis of opportunities for and formulation of an appropriate funding strategy for biodiversity conservation

Morocco

1. Action plan for mapping Morocco's Mediterranean coast;

2. Action Plan for a research programme on Morocco's Mediterranean Biodiversity;

3. Action Plan for elaborating programmes and projects on education and awareness, and elaborating a guide to Morocco's endangered species and ecosystems;

4. Action Plan for improving the national legislation;

5. Action Plan for making best use of the Mediterranean marine biodiversity;

6. Action for protecting species threatened by traditional fisheries.

Slovenia

1. Action Plan on Habitat cartography supported by the Geographic Information System with special emphasis on seagrass meadows;

2. Action Plan for biological invasions and possible effects on biodiversity;

3. Action Plan on the impact of alien populations used in aquaculture on genome of wild populations of same species;

4. Action Plan on Slovene commercial fishery by-catch;

5. Action Plan for Sensitive ecosystems – *Posidonia oceanica* meadow (ecological conditions, cartography and monitoring based on the GIS Posidonie methodology)

Syria

1. Action Plan for the conservation of sea turtles along the Syrian coast;

2. Action Plan for marine and coastal protected areas;

3. Action Plan on invasive species and their impacts on marine biodiversity;

4. Action Plan for determination of physical parameters of national marine waters.

Tunisia

1. Action Plan for the impact of fishing activity on littoral biodiversity

2. Action Plan for a pilot monitoring of Posidonia meadows

3. Action Plan for Protecting coralligenous communities

4. Action Plan for the co-ordination and training on legal and institutional aspects

5. Action Plan for studying invasive species

6. Action Plan on awareness raising and education on biodiversity

7. Action Plan for establishing Centre for the protection of sea turtles

Turkey

1. Conservation of marine turtles in Turkey

2. Creation of marine protected areas along the Turkish coasts

3. Reducing the negative impacts of detrimental fishing practices (trawl, purse seine, spear fishing, use of explosives) on sensitive ecosystems and on vulnerable species;

4. Conservation of cetacean species in the Turkish water of the Aegean Mediterranean Sea

Annex III
Initiatives / Programmes, Projects Mapped relevant to EcAp Targets

INITIATIVES/ PROGRAMMES, PROJECTS MAPPED RELEVANT TO ECAP TARGETS

BIOCLEAN 2012-2015 (Biotechnological Solutions for the Degradation of Synthetic Polymeric Materials) /Funded by the European Union

BIOCLEAN aims at mitigating the impact of plastics on marine ecosystems, through the design of robust biotechnological solutions for the degradation and detoxification of plastic waste existing landfills and plastic fragments entering waste composting and anaerobic digesters. BIOCLEAN focuses more on achieving Ecological Objective (EO) 10 and advocates for the increase in the production of bio-based biodegradable plastics in Europe, since only less than 0.3% is produced in the continent. The project's total budget is € 3.000.000. BIOCLEAN is keen on collaborating with CLEANSEA on monitoring and remediation tools and on offering its expertise to the Technical Sub-Group on Marine Litter for the implementation of MSFD requirements relating to Descriptor 10. Activities planned in the near future also involve demonstrating the effectiveness of bio-augmentation protocols in Aegean seawater and a full-scale composting facility in Chania, Crete.

CleanSea Project 2013-2015 / Funded by the European Union

The CleanSea Project provides knowledge and tools to better define and monitor the impact of marine litter on ecosystems. CleanSea also proposes remediation techniques and policy options, with the overall objective of setting up a Roadmap to Good Environmental Status for Marine Litter in 2020. CleanSea is closely related to the EcAp, and particularly to EO 10. With an overall budget of € 3.788.527 CleanSea seeks to promote its vision for a clean sea through providing key scientific knowledge and tools from multiple disciplines to support marine litter policies and action plans. More specifically CleanSea already collaborates with PERSEUS and MEDSEA projects on sampling cruises and monitoring stations.

ClimVar ICZM (Integration of climate variability and change into national strategies for the implementation of the ICZM Protocol in the Mediterranean) / Funded by the Global Environment Facility

The overall project goal is to promote the use of ICZM in the participating countries as an effective tool to deal with the impacts of climate variability and change in coastal zones by mainstreaming them into the ICZM process. Specific objectives of the project are: 1. To strengthen knowledge on regional climate variability and change and their impacts and define their specific characteristics in the Mediterranean region; 2. To strengthen partnerships, improve capacity building and establish mechanisms for exchange of data and information for integration of climate variability and change into concrete ICZM policies, plans and programmes.

CoCoNET 2012-2016 (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/ Funded by the European Union

CoCoNET aims at enhancing cooperation around and capacity building on Marine Protected Areas (MPAs), while assessing the potential for Off-shore Wind Farms (OWF) in both the Mediterranean and the Black Seas, with a view to protecting sensitive habitats. The overall objective of CoCoNET is to produce guidelines to design, manage and monitor MPAs networks and OWF installations. The budget is € 9.000.000. CoCoNET is closely linked to the EcAp and specifically to EO 1, 6 and 7. CoCoNET will host a common General Assembly with PERSEUS in Athens early 2014, which will give space to both scientific communities to meet and interconnect.

CREAM 2011-2014(Coordinating Research in Support to Application of Ecosystem Approach to Fisheries and Management Advice in the Mediterranean and Black Seas)/ Funded by the European Union

The CREAM consortium coordinates key players involved in fisheries research and management in the Mediterranean and Black seas with a view to establishing guidelines that will apply the ecosystems approach to the management of Fisheries (EAF) in the respective regions. It includes the main institutes carrying out fisheries scientific research in the EU and in third countries, as well as one international organization promoting scientific capacitation/training (CIHEAM). CREAM also has an External Advisory Committee composed by representatives of the Regional Bodies which have particular responsibility in fisheries management in the Mediterranean and Black Seas. Through its work the consortium is trying to identify the gaps and promote training and capacity-building to harmonize and coordinate fisheries data sampling and related methodologies.

DEVOTES 2012-2016 (Development Of innovative Tools for understanding marine biodiversity and assessing good Environmental Status) /Funded by the European Union

The overall goal of DEVOTES is to advance our understanding of the relationship between pressures from human activities and climate change and how this affects marine ecosystems. DEVOTES focuses on EOs 1, 4 and 6. The outcomes of the project are expected to support the ecosystem-based management of marine natural resources and contribute to achieving GES of marine waters. To meet these targets scientists participating in DEVOTES are : i) analyzing existing and developing new innovative indicators to assess marine biodiversity in a harmonized way, within the four European Regional Seas ii) developing, testing and validating innovative and integrative modeling tools and monitoring techniques, such as remote sensing, high definition multi-beams and genomics iii) implementing cost-effective indicators, monitoring and management strategies and iv) preparing to propose measures to the European Authorities, which can contribute to the sustainable use of the seas and the marine resources. DEVOTES operates under a budget of € 12.000.000.

EcAp MED 2012-2015 (The Ecosystem Approach Project in the Mediterranean)/ Funded by the European Union

EcAp MED's objective is to support UNEP/MAP in implementing the 2008 COP decisions regarding the application of the EcAp in the Mediterranean in full synergy and coherence with the implementation of the EU's MSFD. To achieve this EcAp MED assesses the state of play in the Mediterranean, fuels cooperation between the different actors involved and overall aims to assist the achievement of the EcAp Roadmap's next steps, such as establishing an Integrated Monitoring and Assessment Programme in the Mediterranean, carrying out socio-economic assessment, developing assessment fact sheets, testing EcAp indicators/targets feasibility, next to reviewing relevant measures for the implementation of the EcAp, assisting the Marine Litter Regional Plan implementation and contributing to building a framework to facilitate the joint establishment of SPAMIs in open seas. The total budget of the project is € 1.716.000.

EMBLAS/UNDP 2013-2014(Improving Environmental Monitoring in the Black Sea) Funded by European Union

This one-year project assists partner countries, namely Georgia, Russia and Ukraine in performing marine environmental monitoring along MSFD principles, focusing primarily on improving the availability and quality of data on the chemical and biological status of the Black Sea. Significant effort will be put into training and capacity building. In order to promote ownership, engagement of local experts and organizations is foreseen. Relevant results and experiences of previous and ongoing projects will be duly taken into account.

EMWIS (Euro-Mediterranean Information System on know-how in the Water sector) Funded by European Union

EMWIS provides a strategic tool for exchanging information and knowledge in the water sector between and within the Euro-Mediterranean partnership countries.

GFNMI (Global Footprint Network's Mediterranean Initiative)/ Funded by the MAVA Foundation

Launched in 2010, GFNMI aims to develop a regional approach to managing resource-dependence and biocapacity. It aims to support sustainable management of resource consumption and natural capital.

GloBallast/ Funded by the Global Environment Facility

The GEF/UNDP/IMO Global Ballast Water Management Programme (GloBallast) is assisting developing countries to; reduce the transfer of harmful aquatic organisms and pathogens in ships' ballast water, implement the IMO ballast water Guidelines and prepare for the new IMO ballast water Convention. The first phase of the project was to tackle the ballast water problem. The second phase of the Programme, Building Partnerships to Assist Developing Countries to Reduce the Transfer of Harmful Aquatic Organisms in Ships' Ballast Water referred to as GloBallast Partnership (GBP) intending to build on the progress made in the original project. Private sector has also been achieved through establishing a GloBallast Industry Alliance with partners from maritime companies. The GloBallast Partnership is now implemented in 5 high priority sub-regions (The Caribbean, Mediterranean, Red Sea and Gulf of Aden, the South East Pacific and the West Coast of Africa) and one special new region (South Pacific) through 15 Lead Partnering Countries and more than 70 Partner Countries.

Horizon 2020 Initiative/ Funded by the European Union

The initiative aims to support the implementation of the National Action Plans to combat pollution from land based sources (LBS Protocol under Barcelona Convention) mainly industrial pollution, waste water and solid waste sectors: 1. Projects to reduce the most significant pollution sources focusing on industrial emissions, municipal waste and urban waste water; 2. Capacity-building measures to help EU neighbouring countries create national environmental administrations able to develop environmental laws; 3. Using the EC's Research budget to develop and share knowledge of environmental issues relevant to the Mediterranean; 4. Developing indicators to monitor the success of Horizon 2020.

IRIS-SES 2013-2015 (Integrated Regional monitoring Implementation Strategy in the South European Seas) / Funded by the European Union

The main objective of IRIS-SES is the development of a new concept and related decision-making tools to support integrated environmental monitoring within the MSFD framework, in order to better manage human activities and their effects in EU marine waters, specifically in the Mediterranean and Black Seas. The project will use existing sampling across various disciplines (physical, chemical, biological, etc) and will scope the potential for establishing joint programs (within and between Member States). Furthermore IRIS-SES will demonstrate a practical way of using existing resources more efficiently through for example the multiple uses of existing monitoring platforms. The project will collaborate with UNEP/MED POL, General Fisheries Commission for the Mediterranean and other organizations and EU projects, such as PERSEUS and MISIS and potentially DEVOTES and STAGES, in order to achieve its goals. The budget of the project is estimated at € 1.201.986.

KILL SPILL 2013-2016/ Funded by the European Union

KILL SPILL is currently developing highly efficient, economically and environmentally viable technologies to accelerate the biodegradation of hydrocarbons in the marine environment (water

column and sediments), with filed applications in the Mediterranean Sea and the Norwegian coast. The project is mostly related to EO 9 and has a budget of € 9.000.000.

MARLISCO 2012-2015 (Marine Litter in Europe's Seas: Social Awareness and CO-Responsibility) / Funded by European Union

MARLISCO is an FP7 – Science in Society project – that raises public awareness, triggers co-responsibility across the different sectors and facilitates dialogue between the different stakeholders on both problems and potential solutions regarding marine litter. MARLISCO provides a series of mechanisms to inform, empower and engage key stakeholders and its activities extend over the 4 Regional Seas of Europe, in 15 coastal countries. Specifically MARLISCO aspires to deliver: i) a scoping study of the sources and trends regarding marine litter in each Regional Sea ii) a collection of best practices for dealing with marine litter from all partner countries iii) an international survey to evaluate the perceptions and attitudes of stakeholders regarding marine litter iv) a series of national debates in many countries, involving industry sectors, scientists and the wider public v) a European video contest for school students vi) educational activities and tools targeting youth and vii) many tailor-made national activities such as exhibitions, workshops, festivals and clean-ups. MARLISCO's total budget is € 4.119.357.

MEDESS/ cofinanced by the European Union and National Ressources of participant countries

Mediterranean Decision Support System for Marine Safety (MEDESS-4MS) is dedicated to the strengthening of maritime safety by mitigating the risks and impacts associated to oil spills. **MEDESS-4MS** capitalizes on existing pan-European frameworks and embraces recent advances and important developments in oceanography in the Mediterranean area. **MEDESS-4MS** aims to deliver an integrated operational multi model oil spill system in the Mediterranean by gathering and analyzing met-ocean data as well as data related to ship traffic, ship operations and sensitivity mapping. This data will be provided to well established oil spill monitoring and forecasting systems, thus, providing an invaluable tool regarding the early detection and efficient control of the oil spill at early stages.Therefore, **MEDESS-4MS** aims to offer a comprehensive and integrated multi-model approach regarding our response to oil spills at sea; an approach that takes into account all three important aspects related to marine pollution, that is, Prevention, Detection and Control.The beneficiary countries of **MEDESS-4MS** are Cyprus, France, Greece, Italy, Malta, Montenegro and Spain.

MED-JELLYRISK 2012-2015(Enhancing Management Approach and Mitigation Measures against Jellyfish Proliferations Impacts)/ Funded by the European Union

MED-JELLYRISK assesses the impact of jellyfish proliferation on the ecosystem and on the economy. The project promotes monitoring and implementation of countermeasures, by applying a cross-border approach in 10 selected Mediterranean coastal zones. The project operates under a budget of € 2.593.194 and focuses its efforts more on meeting EO 2.

MEDINA 2011-2014 (Marine Ecosystem Dynamics and Indicators for North Africa) / Funded by the European Union

MEDINA works towards enhancing Northern African Countries' (Morocco, Algeria, Tunisia, The State of Libya, and Egypt) capacity to monitor their coastal and marine ecosystems, and in turn implement environmental policies, conventions and protocols. The implementation of the MSFD and Integrated Coastal Zone Management (ICZM) guide MEDINA's work. E-infrastructure, compliant with Global Earth Observation System of Systems (GEOSS) on drivers, state and pressure indicators and impacts is available through MEDINA. The project, which operates under a budget of € 4.86.532, seeks to develop robust integrative methodologies to assess the status of the environment and implement the EcAp, particularly focusing on EOs 1, 2, 6, 7 and 8. To advance its work, MEDINA intends to explore the potential for cooperation, particularly with PERSEUS and MERMAID on strengthening capacities of non-European countries.

MEDISEH 2011-2013 (Mediterranean Sensitive Habitats) /Funded by the European Union

MEDISEH focuses on Mediterranean Sensitive Habitats and particularly on gathering and disseminating, through a Geographic Information System (GIS), dispersed information useful to integrate the environmental dimension into fisheries management. More specifically the project seeks to compile information on historical and current data on the locations and the status of seagrass beds, coralligenous and mäerl beds all over the Mediterranean basin and to identify and map suitable areas for *Posidonia*, coralligenous and mäerl communities by developing habitat distribution models at different spatial scales. Moreover information is compiled on existing MPAs and Fishing Restricted Areas (FRAs) in the Mediterranean, particularly in relation to the location of nursery and spawning aggregations of several small pelagic and demersal fish species. MEDISEH is mostly linked to EOs 1 and 3 and is working with a budget of € 568.341.

MedPartnership 2009-2015 (The Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem)/ Funded by the Global Environment Facility and co-financed by pariticipating countries and the EU

The Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem (MedPartnership) is a collective effort of leading environmental institutions and organizations together with countries sharing the Mediterranean Sea to address the main environmental challenges that Mediterranean marine and coastal ecosystems face. The MedPartnership catalyzes action to create an enabling environment for the necessary policy, legal and institutional reforms in the partner countries, as well as investments, to improve environmental conditions of pollution and biodiversity hotspots and other priority areas under stress; promote the sustainable use of marine and coastal resources through integrated approaches; reduce pollution from land-based sources; enhance the protection of 'critical' habitats and species; integrate climate considerations into national marine and coastal planning. The MedPartnership is led by UNEP/MAP and is financially supported by the Global Environment Facility (GEF) and other donors, including the European Commission and all participating countries. Partner countries: Albania, Algeria, Bosnia and Herzegovina, Croatia, Egypt, Lebanon, The State of Libya, Morocco, Montenegro, Palestine, Syria, Tunisia and Turkey.

MED EUWI/ Funded by the European Union

MED EUWI is a regional component of the European Union Water Initiative (EUWI). The Mediterranean Component of the EU Water Initiative (MED EUWI) aims to assist developing countries to meet the water related Millenium Development Goals and Johannesburg Targets. Launched in 2003, it constitutes as integral part and one of the four geographic components of the overall EUWI.

MedSeA 2011-2014 (Mediterranean Sea Acidification in a changing climate) / Funded by the European Union

MedSeA assesses uncertainties, risks and thresholds related to Mediterranean acidification and temperature rise at organismal, ecosystem and socio-economical scales. 'Ocean acidification' is caused primarily by the ocean uptake of atmospheric human-generated carbon dioxide (CO_2). A main aim of the project is to forecast chemical, ecological, biological, and socio-economic changes of the Mediterranean driven by increases in CO_2, while focusing on the combined impacts of acidification and warming on marine organisms, ecosystems and biogeochemical processes. MedSeA is linked to the EcAp through EOs 1, 4 and 8 and has a budget of € 6.000.000 (excluding ship time). In addition, it is aiming to develop a Mediterranean long-term monitoring platform for acidification and warming. Acquired scientific knowledge is transferred to a wider audience of reference users [Ocean Acidification - Mediterranean Reference User Group (OA-MRUG)], while suggesting policy measures for adaptation and mitigation that are responsive to the needs of the different sub-regions in the Mediterranean. Furthermore MedSeA is expanding its information outlet on Mediterranean Sea climate and environmental change into a new on-line platform containing news and output from different EU Mediterranean coordinated projects.

MERMAID 2013-2015 (Marine environmental targets linked to regional management schemes based on indicators developed for the Mediterranean) / Funded by the European Union
MERMAID is developing a-state-of-the-art methodology that will deepen knowledge on indicators and pressures for which limited data exist in the Mediterranean, set targets and link these with management measures to achieve GES in the Mediterranean. This methodology will be applied in three study areas of the Mediterranean. MERMAID is covering those EOs related to healthy fish stocks, hydrography, coastal ecosystems, contaminants and marine litter. The project's overall objective is to reinforce international cooperation particularly through transferring methodologies and assessment procedures to a non-EU country. In this regard, the potential for collaboration with PERSEUS and MEDINA has been identified. MERMAID's total budget is € 1.132.500.

MISIS 2012-2014 (MSFD Guiding Improvements in the Black Sea in Monitoring System) / Funded by the European Union

MISIS supports efforts to protect and restore the environmental quality and sustainability of the Black Sea, through: i) integrated monitoring and assessment, especially focusing on biodiversity and habitats and in line with the MSFD and the Water Framework Directive (WFD) ii) increase in the number and robustness of protected areas iii) greater stakeholder participation and public awareness on environmental issues iv) better implementation of the Bucharest Convention. In this regard, MISIS supports the use of already existing structures and platforms for databases, the organization of common trainings, workshops, stakeholder meetings, cruises and public awareness activities. The total budget of the project is € 872.066.

MYOCEAN II 2012-2014/ Funded by the European Union

MYOCEAN II operates and delivers a rigorous, robust and sustainable Ocean Monitoring and Forecasting system (in the context of the Global Monitoring for Environment and Security Marine Service) to users involved in maritime safety, marine resources, marine and coastal environment and climate, seasonal and weather forecasting. MYOCEAN II uses ocean state variables as the common-denominator, necessary for those working in the environmental and civil security policy making, assessment and implementation field. The project, which has a budget of € 6.000.000 is expected to end in 2014 and pave the way for the Copernicus Marine Service for 2014-2020.

ODEMM 2010-2014 (Options for Delivering Ecosystem-Based Marine Management)/ Funded by the European Union

ODEMM aims to deliver on the objectives of the MSFD, to identify stakeholder opinions on the creation of governance structures directed towards the implementation of the ecosystem approach, and to elaborate different scenarios for changing governance structures and legislation to facilitate a gradual transition from the current fragmented management approach towards fully integrated ecosystem-based marine management. ODEMM has developed a toolkit on Threat and Pressure Evaluations, GES risk assessment, Management strategy evaluation, cost benefit analysis and ecosystem services approaches. In its final year ODEMM has investigated decision-making processes associated with choosing and implementing management measures to support a sustainable future for European Seas. ODEMM's case-studies focused on seafloor integrity and food web descriptors and its 4 regional seas stakeholders' roadshows on ecological risk, ecosystem services and governance complexity. The total budget of the project is € 8.271.981.

PEGASO 2010-2014 (People for ecosystem based governance in assessing sustainable development of ocean and coast)/Funded by the European Union

PEGASO aims at constructing an ICZM governance platform to bridge scientist and end-user communities. The project seeks to refine and further develop efficient and easy-to-use tools for making sustainability assessments in the coastal zone, by focusing on indicators, accounting methods, models and scenarios. Furthermore PEGASO seeks to implement a Spatial Data Infrastructure (SDI) to organize and standardize spatial data and support information-sharing

through an interactive platform, in order to make this data available and disseminate all results to end users and interested parties. With a budget of € 7.000.000 PEGASO is exploring the possibility of collaborating with PERSEUS to conduct socio-economic analyses, and with MEDINA on aspects related to ICZM. Building on the above, PEGASO is contributing to the implementation of the EcAp and specifically of the EOs 1, 6 and 8.

PERSEUS 2012-2015 (Policy-oriented marine Environmental Research for the Southern European Seas)/ Funded by the European Union

PERSEUS's work involves designing an effective and innovative research governance framework to assess, in line with the MSFD, the dual, long-term impact of human activities and natural pressures on the Mediterranean and Black Seas, with an emphasis on non-European areas. The result of this assessment will inform policymakers' efforts to introduce an ecosystem-based approach to management and meet the 2020 Clean Seas objective. PERSEUS is directly linked to the EcAp, since it builds on existing or develops new monitoring and modeling capabilities, while applying a results-based approach using specific quantitative/qualitative MSFD descriptors to identify the most efficient strategy of achieving GES. PERSEUS's budget is € 17.000.000.

POSOW/Funded by the European Union

The project for Preparedness for Oil-polluted Shoreline cleanup and Oiled Wildlife interventions – POSOW, coordinated by the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC), is a two year project co-funded by the European Commission under the Civil Protection Financial Instrument, to improve the preparedness and response in marine pollution in the Mediterranean region. The project POSOW aims at establishing a regional cooperation synergy through the enhancement of knowledge and capacities of operators (professionals and volunteers) in the field of marine pollution, in European coastal countries of the Mediterranean Sea namely Croatia, Cyprus, France, Greece, Italy, Malta, Slovenia and Spain. It is implemented by REMPEC and its partners, namely the Centre of Documentation, Research and Experimentation on Accidental Water Pollution (CEDRE), the Institute for Environmental Protection and Research (ISPRA), Sea Alarm Foundation, and the Conference of Peripheral Maritime Regions of Europe (CPMR).By providing training courses and material to civil protection professionals and volunteers, in cooperation with local competent authorities with the support of CPMR, the project aims at improving the effectiveness of emergency response to shoreline pollution following an oil spill in the Mediterranean Sea.

SafeMed Project (2006-2008, 2009-2012, 2013-2016) (Euromed Co-operation on Maritime Safety and Prevention of Pollution from Ships)
The SafeMed Project is a response to the interest of the European Union (EU) to develop Euro-Mediterranean co-operation in the field of maritime safety and security, prevention of pollution from ships and marine environmental issues by providing technical advice and support to the non-EU Mediterranean countries identified in the 1995 Barcelona Process.

The objective is to get a balanced approach in the application of maritime legislation in the region between the EU Member States and the Mediterranean partner countries through promoting a coherent, effective and uniform implementation of the relevant international conventions and rules aimed at better protecting the marine environment in the Mediterranean region by preventing pollution from ships.
With the intention to tackle the problem, a first SafeMed project (SafeMed I) ran from 2006 until 2008 and a second one (SafeMed II) from 2009 to 2012, both developed in co-operation with the Euro-Mediterranean Transport Forum (EUROMED) and implemented by REMPEC.

In view of the achievements of the two previous SafeMed projects, the European Commission and the Mediterranean partner countries agreed to launch a third SafeMed project (SafeMed III), which runs

from June 2013 to June 2016 for an overall duration of 36 months. The Project is implemented by the European Maritime Safety Agency (EMSA) established by the Regulation EC 1406/2002.

The SafeMed III Project assists the Beneficiary countries (Algeria, Egypt, Israel, Jordan, Lebanon, The State of Libya, Morocco, Palestinian Authority, Syria and Tunisia) with the further implementation of the 2007 adopted Regional Transport Action Plan (RTAP) for the Mediterranean 2007-2013 by building upon the achievements of SafeMed I and SafeMed II projects.

The overall objective of SafeMed III is to improve the protection of the Mediterranean sea marine environment against the risk of accidents at sea and marine pollution, by supporting the further ratification and implementation of international maritime safety and security conventions and improving the relevant capacities of maritime administrations in the Mediterranean partner countries. SafeMed III will focus on the approximation of the national legislation of the Beneficiary countries to the relevant EU legislation and, although being a regional project, the programme will focus also on specific needs at national level of each beneficiary country.

SeaDataNet 2012-2015 (Pan-European Infrastructure for Ocean & Marine Data Management)/ Funded by the European Union

SeaDataNet Infrastructure is a pan-European infrastructure for managing marine and ocean data by connecting National Oceanographic Data Centres (NODCs) from 35 countries bordering European seas. SeaDataNet is capable of contributing to the creation of a coherent EU data policy. At the core of the second phase of SeaDataNet lies the need to upgrade the present infrastructure into an operationally robust and state-of-the-art system that provides up-to-date and high quality access to ocean and marine metadata, data and data products. The SeaDataNet standards and tools have been adopted by several EU Projects such as, Geo-Seas, Eurofleets, Jerico, and Upgrade Black Sea Network. MyOcean and SeaDataNet projects cooperate through a memorandum of understanding and the production of common product. SeaDataNet is providing a major contribution to the development process for the overarching EMODNet (European Marine Observation and Data Network) that is included in the MSFD.

STAGES 2012-2014 (Science and Technology Advancing Governance on Good Environmental Status)/Funded by the European Union

STAGES aims to bridge the science-policy gap by improving the scientific knowledge base, identifying gaps and needs for further research and developing recommendations to establish an effective science-policy platform to support GES research and implementation of the MSFD. STAGES are carrying out a comprehensive knowledge collection in order to build an inventory of MSFD-relevant research projects and their associated knowledge outputs. Through comprehensive scientific foresight targeted at MSFD knowledge gaps, STAGES is making recommendations as to where future research needs to focus, so as to address identified knowledge deficits. STAGES will develop innovative solutions to achieve effective collaboration between MSFD stakeholders. This includes developing a tailor-made proposal for an MSFD science-policy interface, which can channel the best scientific advice to the appropriate end-users, thereby underpinning implementation of the Directive in the long term. The budget of the project is € 999.733.

SWITCH-Med/ Funded by the European Union

The EU funded SWITCH-Med programme aims at facilitating the shift toward Sustainable Consumption and Production - SCP - in the Southern Mediterranean Region. The programme is about changing the way goods and services are produced and consumed, so that human development and satisfaction of human needs is decoupled from environmental degradation. It will support industry, emerging green entrepreneurs, civil society and policy makers through policy development, demonstration activities and networking. In particular, the programme will support the development of a Mediterranean SCP Action Plan as requested by the Contracting Parties of the Barcelona Convention during the COP18 in Istanbul (December 2013).

SWIM (Sustainable Water Integrated Management) / Funded by the European Union

The SWIM regional programme has been launched by EC under the European Neighbourhood and Partnership Instrument (ENPI). The overall objective of SWIM is to actively promote the extensive dissemination of sustainable water management policies and practices in the context of increasing water scarcity, combined pressure on water resources from a wide range of users, and desertification processes, in connection with climate change.

SWMDM (Sustainable Water Management and De-pollution of the Mediterranean)/ Funded by the European Union

The SWMDM programme contributes to raising awareness of water value and of the continuous depletion of water resources. It also contributes to institutional reinforcement and the development of planning and management skills, in line with the objectives of the Horizon 2020 initiative for the depollution of the Mediterranean Sea. It supports activities aligned with the four priorities of the Mediterranean Water Strategy (MWS), namely water governance, water and climate change, water financing and water demand management. A few demonstration projects promote integrated ecosystems approaches in the fields of integrated water management, coastal zone management, and in sectors covered by the Horizon 2020 initiative.

ULIXES 2011-2014 (Unraveling and Exploiting Mediterranean Sea Microbial Diversity and Ecology for xenobiotics' and pollutants' cleanup)

Funded by the European Union

ULIXES unravels, categorizes and catalogues marine microbial diversity in marine polluted sites with a view to developing bio-remediation methodologies all over Mediterranean Sea and Aqaba Gulf. ULIXES has a budget of € 3.000.00 and its work falls within the remit of EOs 1 and 9.

VECTORS 2011 – 2015 (VECTORS of Change in European Marine Ecosystems and their Environmental and Socio-Economic Impacts) Funded by the European Union

VECTORS is an integrated, multi-disciplinary project investigating the increasing and diversifying human use of the European marine environment (e.g. transportation, overfishing, climate change) and how this is leading to new and challenging changes for marine life and society. VECTORS is examining how these changes affect the range of ecosystem services provided by the oceans, the ensuing socio-economic impacts and some of the measures that could be developed to reduce or adapt to these changes. In the Mediterranean, VECTORS is particularly focused on the study of biological invasions and outbreaks including the development of large databases for alien invasive species and their vectors of introduction and the creation of a DNA/tissue data bank for populations' genetics. VECTORS is a € 16.600.000 European project supported within the Ocean of Tomorrow call of the EC FP7 Programme and covers a wide range of EOs, namely 1, 2, 3, 4, 5, 9, and 11. The understanding developed through VECTORS will contribute the information and knowledge required to inform the development and implementation of forthcoming strategies, policies of regional seas conventions, management bodies and regulations of the IOM Convention on Water Ballast Management, the MSFD and EU's Maritime Policy.

WGPAS (Water Governance Programme for Arab States) / Funded by the European Union

WGPAS aims to support regional efforts in improving the effective management and use of scarce water resources in Arab States by addressing socio-economic and environmental dimensions of water governance.