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## INTRODUCTION

The aim of this paper is to induce discussion among MED POL Focal Points on the future orientation that the Programme should embrace in relation to pollution reduction and prevention policies and measures in the Mediterranean region. The importance of this discussion stems from the need to further enhance the measures implementing pollution related Protocols of the Barcelona convention in coherence with ecosystem approach and in synergy with EU MSFD.

For this purpose, this issue paper reviews the major achievements and outcomes of UNEP/MAP work with regards to pollution assessment and control (MED POL Programme); new challenges and emerging issues at global and regional levels including development of ecosystem approach within the MAP system and its outcomes; and proposes recommendations for consideration and discussion by the MED POL focal points at their meeting in June 2013. The outcome of such a discussion will serve as guidance for elaborating the new/revised four/six-year programme of work of MAP during the next biennium with regards to pollution control, reduction and prevention.

This issue paper has been elaborated by the Secretariat with support from a team of policy and technical experts Mr. Mohamad Kayyal and Ms. Susanna Casanovas who undertook a thorough review of NAP/SAP implementation presented in document UNEP/(DEPI) MED WG 397/6. The paper is formatted in six chapters:

- i. Progression of the mandates of the MED POL Programme from its inception to date.
- ii. Implementation of the ecosystem approach by UNEP/MAP;
- iii. Achievements and challenges in the implementation of the Strategic Action Programme and the National Action Plans;
- iv. Update of the current global and regional contexts in relation to pollution control and prevention;
- v. Challenges facing the MED POL Programme; and
- vi. Proposed and recommendations to respond to these challenges.

## EVOLUTION OF THE MED POL PROGRAMME

In 1975, the Mediterranean Countries recognized the importance of protecting the Mediterranean Sea from pollution and adopted the Mediterranean Action Plan (MAP). Concurrently, a Programme for the Assessment and Control of Pollution (MED POL) was established as the first operational programme of MAP to contribute to the elimination of land-based pollution of the Mediterranean. The four-phase mandate of MED POL from the time of its inception in 1975 to date is presented in Annex I.

MED POL's mandate, which has evolved from emphasis on pollution monitoring and assessment to focus on measures for pollution reduction and control supported and guided by the findings of assessments of sources and trends of marine pollution through monitoring and other tools.<sup>1</sup> The deliverables of UNEP/MAP through the MED POL programme expanded over the years in scope and number with the view to better serve the needs of the Parties. These cover important outputs related to:

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<sup>1</sup> The MED POL – Phase IV Programme (2006-2013). 14<sup>th</sup> Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its protocols. Portoroz (Slovenia), 8-11 November 2005: precautionary principles, polluters pay principle, the principle of common but differentiated responsibility, the principle of assistance, cooperation and partnership, and the ecosystem and participatory approaches.

- a) Provision of substantive support to developing regional law (4 Protocols);
- b) Provision of substantive support to developing regional policy on pollution control (SAP/MED) and several other regional policies presented in Annex II;
- c) Design of specific pollution control/reduction/prevention measures (6 Regional Plans);
- d) Implementation of capacity building to various stakeholders from public sector and monitoring and scientific institutions;
- e) Coordination of marine pollution monitoring in the Mediterranean;
- f) Provision of laboratory services and monitoring equipments;
- g) Regular assessments of marine pollution levels and sources; including sectoral assessments
- h) Elaboration and support for implementation of a considerable number of technical guidelines; and
- i) Support to Parties to undertake actions on the ground to reduce and eliminate pollution.

## **IMPLEMENTATION OF THE ECOSYSTEM APPROACH BY UNEP/MAP**

The Contracting Parties to the Barcelona Convention, decided in their 15<sup>th</sup> meeting held in January 2008 in Almeria, Spain (Decision IG 17/6), that UNEP/MAP should gradually implement the ecosystem approach. Moreover, the UNEP/MAP - Barcelona Convention Five-Year Programme of Work adopted at the Contracting Parties' meeting in Marrakesh in 2009, considers the ecosystem approach as its overarching priority cutting across its six thematic areas.

The Contracting Countries further decided in their 15<sup>th</sup> meeting a roadmap for the ecosystem approach consisting of seven steps.<sup>2</sup> In the 17<sup>th</sup> Meeting (Decision IG 20/4), the Contracting Parties adopted, based on Article 18 of the Barcelona Convention, the Mediterranean Ecological Objectives associated with Operational Objectives and Indicators. This decision requested from the Secretariat to:

- *prepare an integrated monitoring programme based on the agreed ecosystem approach indicators;*
- *work on the determination of Mediterranean Good Environmental Status (GES) and targets during the next biennium; and*
- *ensure that MAP/Barcelona Convention regional policies become coherent with the ecosystem approach progress and outcome.*

GES and targets for Ecological Objective 5 on eutrophication, Ecological Objective 9 on pollution, Ecological Objective 10 on marine litter are under elaboration for which a concrete

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<sup>2</sup> The roadmap comprises: 1) establishing the vision for an ecosystem approach throughout the Mediterranean; 2) elaborating three strategic goals to achieve this vision; 3) undertaking an initial assessment to determine priority issues, information availability as well as gaps that need to be filled; 4) deciding on ecological objectives; 5) determining operational objectives and associated indicators and identifying targets or thresholds for those indicators; 6) developing a monitoring strategy; and 7) elaborating specific management plans and actions that will ensure that ecological objectives and strategic goals are met. To date, step 1 or the vision and step 2 or the three strategic goals of the ECAP roadmap have been completed. Step 3 consisting of the Initial Integrated Assessment of the Mediterranean Sea was completed in 2012 and approved.<sup>2</sup> Steps 4 and 5 consisting of the development of Ecological Objectives, Operational Objectives, relative Indicators to be used, and the targets for the Good Environmental Status (GES) in the different water bodies are either in progress or have been approved.

proposal will be submitted to COP 18 for consideration and approval.<sup>3</sup> The proposed targets for GES are designed as trends and every effort is being made to suggest, based on data availability, baseline values and or quantifiable GES target point values.

## **EMERGING GLOBAL AND REGIONAL DEVELOPMENT OF MAP RELEVANT WITH REGARD TO POLLUTION ASSESSMENT, CONTROL AND PREVENTION**

This chapter is a brief effort to review the most recent advances of global development including the Regional Seas Programme and Action Plans, and to bring to the attention of MED POL focal points issues of relevance.

The international community has become increasingly concerned about many issues involving oceans and coastlines as evidenced in the **Rio+20** Outcome Document "The Future We Want". In this document, immediate actions are called for on issues several issues related to oceans including pollution and marine litter.

The **Manila Declaration of the Global Programme of Action** for the Protection of the Marine Environment from Land-based Activities (UNEP/GPA), which was adopted in 2012 at the Third Intergovernmental Review Meeting (IGR-3), reaffirmed the commitment to develop policies to reduce and control wastewater, marine litter, and pollution from fertilizers.

In the **Fifth International Marine Debris Conference** that took place from 20 to 25 March 2011 in Honolulu, conference participants refined and endorsed by acclamation the Honolulu Commitment, which outlines 12 actions to reduce marine debris. They also worked to revise the Honolulu Strategy, which sets forth a results-oriented framework of action with the overarching goal to reduce impacts of marine debris over the next 10 years.

The **Regional Seas Programme** has set strategic directions for 2013-2016 with the aim of strengthening and increasing their effectiveness and outreach through inter alia:

- *Endeavor to effectively apply an ecosystem approach in the management of the marine and coastal environment;*
- *Contribute to the implementation of the GPA Manila Declaration especially in the core partnership areas of wastewater management, nutrients and marine litter;*
- *Strengthen coordination and build necessary capacities at the regional and national levels to improve global knowledge and trends on the status of the marine environment, contributing to the World Oceans Assessment (Regular Process); and*
- *Strengthen collaboration mechanisms to address common regional objectives, partnerships and coordinated regional implementation of relevant Multilateral Environmental Agreements, global and regional initiatives by United Nations Agencies.*

The **UNEP Governing Council** in its last meeting urged the contracting parties of regional seas convention to utilize the conventions and action plans as platforms for the regional implementation of multilateral environmental agreements and global programmes and initiatives. It has to be noted that with regards to chemicals and waste, efforts are being made by UNEP at a global level to establish, through an existing institution, a special programme, funded by voluntary contributions, to support institutional strengthening at the national level for implementation of the Basel, Rotterdam and Stockholm Conventions, the future Minamata Convention and SAICM, noting that each respective governing body would have to determine

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<sup>3</sup> UNEP(DEOU)/MED WG.372/4. Report of the Meeting of the Correspondence Group on Good Environmental Status (GES) and Targets – Pollution and Litter Cluster. Sarajevo (Bosnia and Herzegovina), 29-30 October 2012.

the participation of its entity in the special programme. Such developments bring to a different level the need for establishing efficient cooperation and partnerships.

During the 11<sup>th</sup> COP meeting of the **Basel Convention**, which took place from 28 April to 10 May 2013, the technical expert group submitted the "Draft framework for the environmentally sound management of hazardous wastes and other wastes" as a follow-up to the Indonesian-Swiss country-led initiative to improve the effectiveness of the Basel Convention. The framework for **Environmentally Sound Management of Hazardous Wastes (ESM)** and other wastes was developed as a practical guide for all stakeholders participating in the management of such wastes. The framework:

- a) Establishes a common understanding of what ESM encompasses;
- b) Identifies tools to support and promote the implementation of ESM; and
- c) Identifies strategies to implement ESM.

It should be noted that all Contracting Parties to the Barcelona Convention are also Party to the Basel Convention. In spite of some differences between the Hazardous Waste Protocol of the Barcelona Convention and the Basel Convention, there is room to enhance synergies and maximize results. Therefore, there is a need for a careful follow-up of the Basel Convention developments in particular with regard to the implementation of Basel Convention strategic plan, Implementation of ESM framework for HW and combating HW illegal traffic.

In the fourth and fifth meetings of the **Stockholm Convention** on Persistent Organic Pollutants, held in 2009 and 2011, the Conference of the Parties adopted amendments to Annexes A, B and C to the Stockholm Convention and listed ten new persistent organic pollutants. Currently, other chemicals are under review: CP/RAC and MED POL have carefully followed up the Stockholm convention work by ensuring full alignment and even introduced stricter measures for adoption by the Parties through the two regional plans on POPs adopted in 2009 and 2012.

Under the "**London Dumping Protocol**" all dumping is prohibited, except for possibly acceptable wastes on the so-called "reverse list". The Protocol has been amended to address carbon sequestration and has put in place several tools to enhance implementation at the national level, reporting, and inter regional cooperation. The Mediterranean Dumping Protocol provides for stricter measures than the respective London Dumping global instrument. Since 2007 up to now, the London Dumping Protocol has updated recently a considerable number of guidelines and developed a guidance to facilitate the national implementation. In that respect, it should be noted that the most recent respective guidelines adopted in the framework of the Dumping Protocol of the Barcelona Convention date to 2003 and 2005.

In January 2013, governments agreed to open the process for adopting and signing a global, legally-binding treaty to prevent emissions and releases on mercury. The **Minamata Convention** on Mercury, which will be open for signature at the Diplomatic Conference to be held from 7 to 11 October 2013 in Japan, provides for:

- *Controlling and reducing across a range of products, processes and industries where mercury is used, released or emitted;*
- *Banning of production, export and import of certain mercury containing products by 2020;*
- *Installing the Best Available Technologies on new power plants and facilities with plans to be drawn up to bring emissions down from existing ones; and*
- *Developing implementation plans and periodic reporting on the measures taken and on their effectiveness and the possible challenges in meeting the objectives of the Convention.*

The aim of the **Convention on Long-range Transboundary Air Pollution** (in force since 1979) is to ensure that Parties shall endeavor to limit and, as far as possible, gradually reduce and



prevent air pollution including long-range transboundary air pollution within the UNECE region. The Convention has been extended by eight protocols that address specific measures to be taken by the Parties to cut their emissions of air pollutants. Currently, the Convention's priority activities include review and possible revision of its most recent protocols, implementation of the Convention and its protocols across the entire UNECE region and sharing its knowledge and information with other regions of the world.

The Regional Seas Conventions in Europe (**Ospar, Helcom and Black sea**) are committed to implement the ecosystem approach. Within this framework, they have developed several thematic strategies out of which four address pollution priorities: Eutrophication, Hazardous substances, Offshore Oil and Gas Industry, and Radioactive substances.

## **ACHIEVEMENTS AND CHALLENGES OF THE SAP/NAP IMPLEMENTATION**

To support implementation of the regional and national policies stipulated in the Barcelona Convention, and in particular the LBS Protocol, the Contracting Parties adopted in 1997 the Strategic Action Programme to address Pollution from Land-Based Activities (SAP-MED).<sup>4</sup>

Establishment of priorities for action are based on the reports on pollution "hot spots", "critical habitats" and "sensitive areas" (areas of concern), in addition to a transboundary diagnostic analysis of relative importance of sources of pollution and causes of transboundary 'waters' problems, leading to identification of potential preventive and remedial actions.<sup>5</sup>

The Strategic Action Plan (SAP) consists of 33 targets covering the sectors of urban environment (municipal sewage, solid waste and air pollution), industrial development and physical alterations and destruction of habitats. Substances targeted in the SAP include toxic, persistent and liable to bioaccumulate, heavy metals, organohalogens, radioactive substances, nutrients and suspended solids, and hazardous wastes. Targets and activities are of national or regional, and of legal, institutional or technical nature.

The Contracting Parties at their 12<sup>th</sup> meeting held in Monaco in 2001 decided to apply the 'flat rate' for all Mediterranean countries as their strategy for the implementation of the SAP-MED pollution targets. The approach included an internal flexibility measure for which each country would reduce by X% its aggregate releases of targeted pollutant per year with a baseline budget of emissions and releases for each targeted pollutant as reference. In order to apply this approach it was agreed that:

- a) Each party would set up its own national baseline budget of pollution releases (2003);
- b) The national baseline budget for a SAP targeted pollutant should be the sum of the individual releases; and
- c) Any Party may transfer internally release reduction target between different activities generating the same targeted pollutants according to the socio economic and environmental priorities prevailing in the country.

The major SAP implementation achievements are:

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<sup>4</sup> UNEP/MAP (1998). Strategic Action Programme to Address Pollution from Land-Based Activities. MAP Technical Reports Series No. 119.

<sup>5</sup> Transboundary Diagnostic Analysis for the Mediterranean Sea (TDA/GEF). UNEP/MAP, 2005.

**National action plans:** In 2005-2006, the Contracting Parties to the Barcelona Convention elaborated 21 National Action Plans (NAP).<sup>6</sup> Measures included legal, institutional and technical targets and investments to be accomplished by 2010 and 2015. The categories of targeted substances cover activities carried out within the urban environment or as part of activities related to industrial development. MED POL's Secretariat summarized the main actions that the Parties have committed as described in their National Action Plans,<sup>7</sup> and analyzed the NAPs by sector of activity or substance.<sup>8</sup> It was demonstrated that if NAPs are fully implemented, the midterm targets of the SAP will be achieved. The adopted NAPs presented a very significant investment portfolio for the Mediterranean Countries in six sectors<sup>9</sup> with clear investment needs for the period up to 2010 and in some cases to 2015 with general indication for 2025.

**Legally binding measures:** Six legally binding measures (regional plans) were elaborated and adopted in the framework of the implementation of Articles 5 and 15 of the LBS Protocol. The origin of these measures can be traced back to the year 2008 when MED POL Focal Points agreed to establish a List of 'action' priority substances.<sup>10</sup> In principle, it was agreed that in order to propose measures, the substance:

- a) is covered by regional and/or international instruments regulating its use, release or phasing out;
- b) should have an Emission Limit Value (ELV) or its ELV is under development either at national or at regional levels;
- c) and/or its high input could represent a risk to the marine environment or human health; and
- d) the parties may propose additional substances at the Contracting Parties meeting.

Based on this process, the following Regional Plans were prepared and adopted in 2009 and 2012:

- *Reduction of BOD<sub>5</sub> from urban wastewater (Decision IG.19/7).*
- *Elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex and Toxaphene (Decision IG.19/8).*
- *Phasing out of DDT (Decision IG.19/9).*
- *Reduction of inputs of Mercury, BOD<sub>5</sub> (from food industries) and ten POPs (Decision IG.20/8.1).*
- *Reduction of BOD from food sector (Decision IG.20/8.2).*
- *Elimination of and phasing out new POPs of the Stockholm Convention (Decision IG.20/8.3).*

Most of the regional plans call on the Contracting Party to adopt national emission level values for the relevant pollutants within agreed timetables. Deadlines are set for meeting the targets emission level values (where applicable). The Decisions also address the issue of monitoring discharges, implementing the necessary enforcement measures and reporting.

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<sup>6</sup> NAPs were approved by the Mediterranean countries and endorsed in 2006 by the 14th Contracting Parties meeting in Slovenia.

<sup>7</sup> UNEP/MAP (2006). Implementation of the Strategic Action Programme to Address Pollution from Land-Based Activities. National Action Plans - Synopsis. UNEP(DEPI)/MED WG289/Inf.3.

<sup>8</sup> UNEP/MAP (2006). Regional Review of NAPS by Sector of Activity/Substance. UNEP(DEPI)/MED WG289/Inf.4.

<sup>9</sup> (i) municipal sewage, (ii) urban solid waste, (iii) air pollution from mobile sources, (iv) reduction and control of pollution by heavy metals, mercury, cadmium and lead, (v) reduction and control of pollution by organohalogen compounds, and (vi) sound management of wastewater and solid waste from industrial installations.

<sup>10</sup> The 'action' priority substances consist of Nutrients, Metals, Organic metallic compounds, Polychlorinated Biphenyls (PCBs), Polychlorinated dibenzodioxins (PCDDs), Polychlorinated dibenzofurans (PCDFs), Total Suspended Particulates, Total Volatile Organic Compounds, Nitrogen Oxides, NH<sub>3</sub>, Sulfur Oxide, and POPs.

Another Regional Plan on Marine Litter Management is in process of preparation and expected to be submitted to COP 18, 3-6 December 2013, Istanbul, Turkey.

**Other regional policies and plans:** MED POL has prepared a number of other policies and regional plans. Some of these plans were formally adopted by the different meetings of the Contracting Parties. These include:

- *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).*
- *Plan for the management of hazardous waste, including inventory of hazardous waste in the Mediterranean region (COP 13, Catania, Italy, 2003).*
- *Plan for the management PCBs waste and nine pesticides for the Mediterranean Region (COP 13, Catania, Italy, 2003).*
- *Strategic framework on marine litter management (COP 17, Paris, France, 2012).*

**Technical guidelines** were prepared in cooperation with other agencies mainly WHO in the framework of the LBS, Hazardous Waste and Dumping Protocols. A summary list of these guidelines is included in Annex II.<sup>11</sup>

Technical guidelines were developed in various areas such as management and reuse of municipal and industrial wastewater, pollution monitoring and inspection, management of coastal litter, dredged materials, seawater desalination, guidelines on Best Available Techniques (BATs) and Best Available Practices (BEPs), etc., in addition to a considerable number of reference methods and standards related to marine pollution and quality.

**Monitoring:** Starting with MED POL Phase I Programme (and Phase II), focus was on monitoring of the quality of the marine environment. MED POL's Phase III monitoring activities focused on the monitoring of contaminants at Mediterranean hot spots and coastal waters to attain site-specific temporal trends with appropriate and consistent monitoring strategy. Presently, MED POL Phase IV is following-up the implementation of national monitoring programmes consisting of state and trend monitoring, compliance monitoring, biological effects monitoring, and eutrophication monitoring. The Contracting Parties with active monitoring programmes prepare and submit to MED POL yearly national monitoring reports.<sup>12</sup>

The first evaluation of the data collected in the MED POL database was made in 2003 to identify the sampling and analytical variances underlying each monitoring practice. In 2005 a second attempt was made mainly to identify the weakest parts of the adopted sampling strategy. In 2009, when the 10 years benchmark was reached a detailed analysis of variances and trends – where possible - for each monitoring site were performed. It should be noted that MED POL Phase IV monitoring programme is already generating data for most of the indicators of EO5 (eutrophication) and EO9 (pollution), while no monitoring data exist on EO10 (marine litter) and EO11 (noise).

**Pollution assessment:** The MED POL programme undertook a number of specific assessments on the state of marine and coastal environment. A summary list of these assessments is included in Annex II. Assessments addressed issues such as wastewater reuse practices, microbiological pollution, eutrophication, marine litter, persistent organic pollutants, persistent synthetic materials, heavy metals, organohalogen, organophosphorus and organotin compounds, petroleum hydrocarbons, anionic detergents and radioactive substances.

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<sup>11</sup> Detailed information can be found in the document on "Assessment of the SAP Regional Activities".

<sup>12</sup> Details of analysis are included in the document "Achievements of the SAP MED targets and most representative contaminants based on NBB (2003 and 2008) analysis".

In addition to the above, the MED POL Programme undertook in 2005 a regionally prepared transboundary diagnostic analysis that represents a regional synthesis of actions regarding the protection of the marine environment from land-based activities. MED POL also conducted assessments of the state of the Mediterranean marine environment in 2005, 2009 and 2012. And recently, as part of the Initial Integrated Assessment of the Mediterranean Sea,<sup>13</sup> four sub-regional reports containing information on ecology, status, and pressures affecting coastal and marine ecosystems throughout the four sub-regions of the Mediterranean were completed.<sup>14</sup>

**Reporting:** Two national baseline budgets of pollutants (NBB) were reported by the Contracting Parties in 2003 and 2008 in order to track reduction trends and to identify actions needed to resolve each transboundary priority problem.<sup>15</sup> Analyses of findings revealed that some of the target substances, e.g. some POPs, could not be assessed due to the lack of data. Where data were available, some substances such as PAH, Mercury, Cadmium, Lead, Zinc and Chromium showed a significant reduction into the Mediterranean Sea; thereby SAP targets were achieved. For other substances such as BOD<sub>5</sub>, PCB/PCT, Hexachlorobenzene, PCDD/PCDDF, Butyltin compounds and Copper, SAP targets could not be achieved as levels of substances showed a significant increase. Still in most cases, it was difficult to assess the extent to which discharges have been phased out and whether further efforts must be made.

**Capacity building:** A large capacity building and training programme was organized in cooperation with the World Health Organization (WHO). The purpose of this programme was for building capacities and competencies of representatives from public agencies involved in the protection of the Mediterranean Sea from pollution. In total over 35 training courses were conducted in the period from 1998 to 2012. Workshops topics covered pollution monitoring and inspection, wastewater treatment, water reclamation and reuse, inspection for bathing waters quality, in addition to inter-calibration exercises. Training targeted personnel with responsibilities for operation and maintenance of municipal wastewater treatment plants. Additional courses were also developed for management personnel in topics such as water demand management, sludge treatment and disposal, and sustainable development of coastal areas. Training also was conducted for laboratory technicians in cooperation with the IAEA for testing levels of priority pollutants in the marine environment. A summary list of the workshops is included in Annex II.

Capacity building was also undertaken to assist public agencies in their task for identification and prioritization of hot spots based on a ranking system which was developed to show the severity of each of the effects on the identified hot spots. The scope of training included assistance for estimating costs for rehabilitation activities taking into account the transboundary effects on the environment and human health.

## **CHALLENGES TO RESPOND TO NEW CONTEXTS**

A careful examination of the contextual framework that would influence future orientations of the MED POL Programme reveals two aspects:

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<sup>13</sup> UNEP/MAP (2012). Initial Integrated Assessment of the Mediterranean Sea: Fulfilling Step 3 of the Ecosystem Approach Process. UNEP(DEPI)/MED IG/Inf.8.

<sup>14</sup> The four sub-regions of the Mediterranean, as defined by the Contracting Parties for practical reasons and the unique purpose of the initial assessment, present a conglomerate of linked coastal and marine ecosystems, with many shared resources, species and common approaches to both environmental monitoring and management. The four sub-regions are the Western Mediterranean; the Central Mediterranean and Ionian; the Adriatic Sea; and the Eastern Mediterranean.

<sup>15</sup> The operational strategy for implementation of the SAP states that the Mediterranean countries are expected to prepare and update every 5 years a Baseline Budget (BB) of emissions/releases for the SAP targeted pollutants covering all the substantial Land Based Sources or sectors.

1. Achieved outputs from ongoing activities and commitments which should be built upon; and
2. Newly introduced issues that should pave the way for future activities.

**Outputs related to ongoing activities/commitments include:**

- Focus on implementing the adopted Regional Plans (legally binding measures) for pollution reduction and control including prevention.
- Further implementing the National Action Plans adopted by the Contracting Parties.
- Focus on eliminating hot spots.
- Focus on SAP targets achievements.
- Update, revision and formulation of emerging legally binding measures, regional plans and the list of priority substances.
- Further consolidation of national pollution monitoring programmes on levels and trends
- Establishment of NAP/measure effectiveness system.
- Enhancement of data quality assurance.
- Improvement of reporting on pollutant loads.

**New issues that pave the way for future activities include:**

- Adoption of GES and point value targets in the framework of ecosystem approach for Ecological Objectives 5, 9, 10 and 11.
- Extension of the regional and national monitoring programmes beyond pollution monitoring and coastal zone as appropriate.
- Enhancement of harmonization and synergies with relevant pollution related global/regional conventions, initiatives and programmes, to reflect global agenda according to the Mediterranean specificities.
- Future outcomes of the ECAP timeframe including the need for harmonization among regional seas in the framework of implementing the ecosystem approach.
- New emerging issues and pollutants affecting marine and coastal environments.

**Ongoing outputs and new issues** define the breadth of the new challenges to be dealt with; namely how to streamline future activities by building upon past outputs with the aim of supporting the implementation of the ecosystem approach in the field of pollution reduction and control.

**PROPOSED RECOMMENDATIONS FOR CONSIDERATION FOR SAP/NAPS IMPLEMENTATION**

The response actions to the identified challenges are seen to vary according to the timeline for implementation of the ecosystem approach (ECAP).

In the short to medium terms, the focus should be on advancing current initiatives while streamlining the implementation of the ecosystem approach. Actions on the strategic and operational levels are required. In the medium to long terms, MED POL should develop the means by which the SAP/NAP process can streamline the implementation of the ecosystem approach for the remaining ECAP roadmap steps.

The MED POL focal points may consider the following general recommendations:

**Strategic actions in the short to medium terms:**

- Based on the new priority issues identified in the Integrated Initial Assessment and sectoral sub-regional reports on pollution;<sup>16</sup> the pressures and impacts identified in the sub-regional reports on pollution;<sup>17</sup> the socioeconomic analysis; obligations and commitments adopted under the regional plans; the new monitoring requirements stemming from the integrated monitoring programme; and the need to identify a clear investment Portfolio for the period 2015-2025, ***it is recommended to revise and update the National Action Plans (NAPs) during the next biennium***, taking into consideration that the investment component of the NAPs present clear financial commitments for the period up to 2010 and in some cases to 2015 and some of them with general indication for 2025.
- Based on the current level of achievement of the SAP targets; their long term implementation timetable; and lack of data to enable using no longer the regional flat target approach, and the work still required to set point/quantifiable values for all GES and targets (EO 5, 9 and 10) in the framework of ecosystem approach, ***it is recommended to consider revising the SAP MED and its targets by the end of the implementation timetable of the Regional Plans (2015-2017) coinciding with the assessment cycle set in the framework of the ecosystem approach (6-year cycle)***.
- *It is imperative that work further proceeds to ensure coverage of the entire list of agreed ECAP indicators*, as appropriate, with a view to have clear point/quantifiable values in line with Article 7 of the LBS Protocol on marine environment quality for Ecological Objectives 5, 9 and 10.
- Based on recent assessments on the state of the environment and on achievements of SAP targets, *it is recommended to address the significant threats influencing quality of the marine environment on a priority basis*. Special attention should be given to elimination of hot spots and hazardous substances such as heavy metals, POPs, petroleum hydrocarbons, butyltin compounds and nutrients. The 'List of Priority Substances' should be subjected to regular follow-up and updating through a standardized procedure to be agreed upon by the MED POL Focal points.

**Operational actions in the short to medium terms:**

**Implementation of the ecosystem approach**

- *Work should continue towards elaborating specific standards for the indicators under Ecological Objective 5 on eutrophication, Ecological Objective 9 on pollution, and Ecological Objective 10 on marine litter, including their specific standards and reference methods for monitoring purposes.*
- *The scope of monitoring activities should be extended along the lines of the ecological objectives thereby covering a wider spectrum of issues and focusing both on coastal and open sea waters, where appropriate.*
- *There is a need to revisit the existing measures at regional and national levels to support the achievement of the operational objectives established in the ecosystem approach and to link them to defined targets.*

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<sup>16</sup> New priority issues include water quality, hazardous substances, desalination, aquaculture, eutrophication, invasive species and pathogen releases, and increased conflicts over reduced access and availability of space for other uses.

<sup>17</sup> Pressures and impacts in the four sub-regions include contamination by hazardous substances, dumping activities, nutrients and organic matter enrichment, biological and physical disturbance, effects of underwater noise and marine litter, climatic change effects and deep sea modifications.

### **Preparing and implementing new pollution reduction/control/prevention measures**

- *Additional efforts should be exercised to address pollution causing eutrophication in agriculture by promoting rational use of fertilizers and reduction of nutrient loss based on application of BEPs and BATs.*
- *Additional efforts should be exercised to address pollution from urban wastewater treatment plants and desalination plants in urban coastal areas, and for sludge disposal by introducing BEPs and BATs. Application of SCP tools strongly recommended.*
- *Priority should be given to addressing pollution **from land-based sources situated in designated hot spot and sensitive areas.***

### **Increasing the scope of the monitoring programmes in line with the ECAP requirements**

- *Threats from land based sources as well as from other sources should be monitored, and the interaction among the threats should be recognized.*
- *Synergies should be built with the regular monitoring processes of relevant UN agencies.*
- *Synergies should be built with the EU Marine Strategy Framework Directive (MSFD) and other monitoring programmes implemented in the region with a view to sharing data and enhancing the effectiveness of environmental monitoring in the Mediterranean on the regional and national levels.*
- *Cumulative and combined effects of pollution and other types of pressures (e.g. fisheries) should be taken into consideration when elaborating a monitoring programme.*
- *Countries should be given continuous support for implementation of the integrated monitoring programme. In this respect, quality assurance processes should be strengthened and be fully incorporated into national monitoring processes.*

### **Enhancing breadth of the reporting system as a valid instrument to monitor the achievement of objectives and targets set in the ECAP**

- *The NBB should be further developed as an on line reporting system.*
- *The NBB should be reported annually and extended to cover priority pollutants and sectors according to the objectives and targets set within the framework of the Ecosystem Approach.*
- *The NBB should be supported by PRTR/e-PRTR establishment in all countries. Relevant guidelines should be adopted by the MED POL Focal Points.*
- *The NBB/PRTR and H2020 reporting systems should be aligned (for a restricted list of indicators) in order to avoid double reporting.*
- *The Secretariat should publish the assessment of NBB data on the web along with other related tools.*

### **Using the Regional Seas Conventions and Protocols as a platform to implement global conventions and enhancing regional cooperation**

- *UNEP/GPA Manila declaration with regards to reduction and control of wastewater, marine litter and pollution from fertilizers. It is recommended to join the established global partnerships on nutrient and marine litter to contribute and benefit projects.*
- *The Basel Convention with regards to the implementation of framework for the environmentally sound management of hazardous wastes and illegal traffic.*
- *As the Barcelona Convention Dumping Protocol amendments are expected to enter into force soon, it is very important that collaboration and synergy is achieved with London Dumping Protocol with regards to different aspects of implementation including the technical waste related guidelines and facilitating implementation at national level.*

- *Other regional sea convention (OSPAR, HELCOM) with regards to environmental quality objectives, measures implementation, and monitoring protocols.*
- *Substantive follow up of MSFD work on measures and Ecological Objectives 5, 9, 10 and 11 monitoring protocols.*
- *LRTAP Convention for the exchange of information and technologies with regards to transfer of air pollution and make use as appropriate of methodologies and tools developed.*

**Strategic actions in the medium to long terms:**

- *Consider SAP Revision to fully streamline ECAP GES targets, operational targets and measures*
- *Streamlining the process steps for formulating the updated NAPs based on the SAP such as to align this process with the roadmap for implementation of the ecosystem approach. A proposed concept for aligning the two process steps is presented in annex III.*
- *Developing a methodology and guidance document for regularly updating the NAPs based on ECAP.<sup>18</sup>*

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<sup>18</sup> Recommend updating the document UNEP/MAP (2004). Guidelines for preparation of National Action Plans for the reduction of pollution of the Mediterranean from Land-Based Sources. UNEP(DEC)/MED/GEF WG.245/3.



## ANNEX I

Evolution of the MED POL Programme from inception in 1975 to date can be described based on the following information:

<b>MED POL Programme Phase</b>	<b>Mandates of the MED POL Programme</b>
<i>Phase I (1975-1981)</i>	<ul style="list-style-type: none"> <li>● <i>Focus on pollution monitoring and assessment.</i></li> <li>● <i>Substantive support to research institutions; training and capacity building regarding pollution monitoring programmes.</i></li> <li>● <i>Support and facilitation of negotiations for the Convention and the Dumping Protocol.</i></li> <li>● <i>Provision of laboratory services and instrumentation.</i></li> </ul>
<i>Phase II (1982-1995)</i>	<ul style="list-style-type: none"> <li>● <i>Support and facilitation of negotiations for the LBS and Offshore Protocols, and amendments of the Dumping Protocol.</i></li> <li>● <i>Continued support for research and monitoring.</i></li> <li>● <i>Streamlined activities with the Barcelona Convention and its Protocols.</i></li> <li>● <i>Continued support and provision of laboratory services and instrumentation.</i></li> </ul>
<i>Phase III (1996-2005)</i>	<ul style="list-style-type: none"> <li>● <i>Support for the process for amending the LBS Protocol.</i></li> <li>● <i>Enhanced focus on pollution control policies and measures.</i></li> <li>● <i>Continued support to national monitoring programmes.</i></li> <li>● <i>Provision of laboratory services and instrumentation.</i></li> <li>● <i>Provision of technical support to national institutions.</i></li> <li>● <i>Support for elaboration, implementation and follow-up of the Strategic Action Programme (SAP), the National Action Plans (NAP) and related regional activities.</i></li> </ul>
<i>Phase IV (2006-2013)</i>	<ul style="list-style-type: none"> <li>● <i>Assistance to the Contracting Parties for implementation of the LBS, Dumping and Hazardous Waste Protocols.</i></li> <li>● <i>Assistance to the Countries for implementation of the SAP and the National Action Plans.</i></li> <li>● <i>Evaluation of the status and trends of pollution in the Mediterranean eco-regions.</i></li> <li>● <i>Support for elaboration and implementation of legally binding measures and regional plans under Articles 5 and 15 of the LBS Protocol.</i></li> <li>● <i>Preparation of several policy documents and guidelines related to pollution control from land-based sources and activities.</i></li> </ul>

## ANNEX II

This annex contains summary information on prepared technical guidelines, pollution assessment reports, and capacity building training and workshops undertaken by the MED POL Programme.

**Technical guidelines:** Following is a summary list of technical guidelines undertaken by MED POL, and divided by subject inter alia:<sup>19</sup>

- Six guidelines on municipal sewage and sludge treatment and disposal.
- Two guidelines for the safe management of industrial wastewater for the Mediterranean region.
- Two guidelines on wastewater use in irrigation.
- Guidelines for river pollution monitoring programme for the Mediterranean Region.
- Guidelines on safe management of coastal litter for the Mediterranean Region.
- Two guidelines for the application of Best Available Techniques (BATs) and Best Available Practices (BEPs) in industrial sources of BOD, nutrients and suspended solids and for rational use of fertilizers and the reduction of nutrient loss from agriculture for the Mediterranean region.
- Guidelines for the management of dredged materials.
- Guidelines for the management of artificial reefs.
- Guidelines for the management of inert decontaminated materials.
- Sea water desalination in the Mediterranean: Assessment and Guidelines.
- Guidelines on environmental inspection systems for the Mediterranean region.
- A considerable number of reference methods regarding monitoring of marine pollution including pollution from rivers.
- Common standards related to marine quality in accordance with Article 7 of the LBS Protocol.
- Potential priority substances to be regionally addressed through a differentiation mechanism based on Emission Limit Values.

**Pollution assessment:** Following is a summary list of assessments undertaken by MED POL, inter alia:<sup>19</sup>

- State of the Marine and Coastal Environment.
- Assessment of Wastewater Reuse Practices.
- Assessment of the state of microbiological pollution.
- Assessment of the state of eutrophication.
- Assessment of the Status of Marine Litter.
- Assessments of the state of pollution of the Mediterranean Sea by persistent synthetic materials, which may float, sink or remain in suspension.
- Assessment of the state of pollution of the Mediterranean Sea by cadmium and cadmium compounds.
- Assessment of the state of pollution of the Mediterranean Sea by mercury and mercury compounds. UNEP/MAP: Athens, 1987.
- Assessment of the state of pollution of the Mediterranean Sea by Zinc, Copper and their Compounds.
- Assessment of airborne pollution of the Mediterranean Sea by Sulphur and Nitrogen Compounds and Heavy Metals.
- Assessment of organotin compounds.
- Assessment of the state of pollution of the Mediterranean Sea by organohalogen compounds.

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<sup>19</sup> Detailed information can be found in the document on “Assessment of the SAP Regional Activities”.

- Assessment of the state of pollution of the Mediterranean Sea by organophosphorus compounds.
- Assessment of the state of pollution of the Mediterranean Sea by Radioactive Substances.
- Assessment of the state of pollution in the Mediterranean Sea by Carcinogenic, Mutagenic and Teratogenic Substances.
- Assessment of the state of pollution of the Mediterranean Sea by petroleum hydrocarbons.
- Assessment of the state of pollution of the Mediterranean Sea by anionic detergents.
- Transboundary diagnostic analysis (T.D.A.) for the Mediterranean Sea (2005).
- Diagnosis of the New POPs in the Mediterranean.
- Diagnosis of Mercury in the Mediterranean.
- Identification of priority hot spots and sensitive areas in the Mediterranean (1999).

**Capacity building:** Following is a summary list of capacity building and training workshops undertaken by MED POL, inter alia: <sup>19</sup>

- Fourteen training courses on Municipal Wastewater Treatment Plants Operation and Maintenance.
- Three training courses on water reclamation and reuse.
- Four training courses for operators and managers of wastewater treatment plants.
- Seven training courses on pollution monitoring and inspection.
- Two workshops on sustainable development of Mediterranean coastal areas.
- One training course on water demand management and policies.
- Four training courses organized in Monaco by MESL-IAEA on the determination of chlorinated pesticides and PCBs and on the determination of heavy metals.

### ANNEX III

The following table compares steps for development of the NAPs based on the SAP and the ecosystem approaches. As can be seen from the side-by-side comparison, the Initial Integrated Assessment with its priority issues and the developed Ecological and Operational Objectives, targets and indicators are synonymous to the findings of the transboundary diagnostic analysis along with its identified polluting sectors and the LBS priority pollutants. The monitoring strategy and the management plans are synonymous with the SAP process for development of the NAPs.

<b>Stage in process</b>	<b>Preparation of NAP based on the SAP</b>	<b>Preparation of NAP based on the ecosystem approach<sup>20</sup></b>	<b>Status of implementation and recommended actions</b>
<b>LBS Protocol and the Strategic Action Programme (regional level)</b>	<i>Preparing regional transboundary diagnostic analysis of the Mediterranean Sea Identifying sectors on a regional level Identifying priority list of pollutants on a regional level</i>	<i>Establishing the vision for an ecosystem approach</i>	<i>Completed or in final stages (undertaken on a regional level)</i>
		<i>Elaborating three strategic goals to achieve the vision on a regional level</i>	
		<i>Undertaking an initial assessment on a regional level to determine priority issues, information availability as wells as gaps the need to be filled</i>	
		<i>Deciding on ecological objectives</i>	
		<i>Determining operational objectives and associated indicators (GES) and identifying targets or thresholds for those indicators on a regional level</i>	
<b>National Action Plan (NAP) (national level)</b>	<i>Conducting NDA and NBB on a national level</i>	<i>Establishing a baseline on state of environment where appropriate and develop a monitoring strategy</i>	<i>In progress (undertaken on a national level)</i>
	<i>Developing an issue/impact matrix on the national/administrative region(s)</i>	<i>Elaborating specific management plans and actions that will ensure that the ecological objectives and strategic goals are met</i>	<i>Not initiated yet Recommend preparation of a guidance document titled: "Guidelines for updating the NAPs for reduction of pollution of the Mediterranean Sea based on the Ecosystem Approach"</i>
	<i>Preparing administrative regional plans</i>		
	<i>Setting-up national sectoral plans</i>		
	<i>Developing national action plan</i>		
	<i>Establishing a national list of priority actions</i>		

<sup>20</sup> UNEP/MAP (2012). Support to the Barcelona Convention for the Implementation of the Ecosystem Approach, including the Establishment of MPAs in open seas areas, including deep sea. UNEP(DEPI)/MED WG.372/4.