

BACKGROUND

The MED POL Programme, designed initially as the environmental assessment component of the Mediterranean Action Plan, has been operational since 1975. Its first phase (MED POL-Phase I) was implemented from 1975 until 1980 and it comprised seven basic baseline studies covering the major marine pollution problems in the Mediterranean. In 1981, the Contracting Parties to the Barcelona Convention approved a new ten-year long-term programme (MED POL-Phase II, 1981-1990) which included two main components, monitoring and research. In 1991, the Contracting Parties decided to extend MED POL-Phase II until 1995.

The MED POL-phase III Programme (1996-2005) was adopted by the Extraordinary Meeting of the Contracting Parties to the Barcelona Convention held in Montpellier from 1 to 4 July 1996. The Programme, as approved, included three main components: assessment of pollution; pollution control; and supporting measures. Monitoring was recognised as a fundamental tool for the implementation of the Programme.

OBJECTIVES OF MED POL-PHASE III (1996-2005)

The objectives of MED POL-Phase III were formulated taking into consideration the experience gained during MED POL-Phases I and II, as well as the documents adopted by the 9th Ordinary Meeting of the Contracting Parties (Barcelona, 5-8 June 1995), namely, MAP-Phase II, the Barcelona Resolution, the Priority Fields of Activities (1996-2005) and the amended Barcelona Convention and Protocols. MED POL Phase III was also one of the responses of MAP to the new principles adopted at the 1992 Rio Summit and earlier to the UNEP Global Programme of Action (GPA).

The ultimate and overall objective of MED POL-Phase III is the elimination of pollution of the Mediterranean Sea from all activities that cause such pollution, in particular land-based activities, through the full implementation of the LBS Protocol. MED POL-Phase III provides the basis for action related to assessment, prevention and elimination of marine pollution and relates such action to other components of MAP-Phase II in the perspective of sustainable development.

In view of the broad cross-sectoral mandate of MED POL with heavy emphasis on pollution control from all sources, in particular from land-based sources and activities, and taking into account the fact that the control of marine pollution is one of the central issues to be resolved, in order to enable the sustainable development of the Mediterranean region, the MED POL has required intensified interaction between MED POL and practically all other components of MAP.

In addition to reflecting the links between MED POL-Phase III and the other components of MAP-Phase II, the Programme was also prepared with due regard for the concepts and recommendations contained in Agenda 21 as they bear on activities relevant to MED POL, specifically those contained in Chapter 17 of Agenda 21.

A COMMON STRATEGY TO ADDRESS LAND-BASED POLLUTION

One of the major breakthroughs in the Mediterranean countries' efforts to combat land-based pollution, which was prompted by the signature of the revised LBS Protocol, is the

preparation and adoption by the Contracting Parties of a Strategic Action Programme (SAP) of regional and national activities to address land-based pollution.

The SAP is an action-oriented MED POL initiative identifying priority target categories of substances and activities to be eliminated or controlled by the Mediterranean countries through a planned timetable for the implementation of specific control measures and interventions. The SAP is the basis for the implementation of the Land-based Sources Protocol by the Mediterranean countries over the next 25 years. In addition, the SAP represents the regional adaptation of the principles and aims of the Global Programme of Action (GPA) to address pollution from land-based activities, adopted in Washington in 1995.

The key land-based activities addressed in the SAP are linked to the urban environment, (particularly municipal wastewater treatment and disposal, urban solid waste disposal and activities contributing to air pollution from mobile sources) and to industrial activities, targeting those responsible for the release of toxic, persistent and bioaccumulative substances into the marine environment, giving special attention to persistent organic pollutants (POPs).

Also addressed are the release of harmful concentrations of nutrients into the marine environment, the storage, transportation and disposal of radioactive and hazardous wastes and activities that contribute to the destruction of the coastline and coastal habitats.

The Contracting Parties adopted the SAP in 1997 and are expected to bring it up to date and review some aspects of its operation in the course of its implementation.

The SAP has built-in scope for the review of detailed operational timetables at two to three-year intervals and a detailed work-plan and time-schedule for 2002-2003 was prepared by the Secretariat, approved by the countries and implemented. The activities of the biennium were expected to create the infrastructure for the implementation of the SAP and are essential in order to equip all the countries with the necessary tools (regional guidelines, strategies, plans and programmes for sharing technical information and advice, priority capacity-building and preparatory public participation activities) that will allow them eventually to fulfill their priority objectives under the SAP.

The adoption of the SAP and the initiation of activities for its implementation, even before the entry into force of the amended LBS Protocol, is a clear indication of the determination of the countries to take concrete action to combat land-based pollution and at the same time contribute to maintaining and restoring marine biodiversity, safeguarding human health and promoting the sustainable use of marine living resources.

THE FUTURE OF MED POL: WHERE TO GO?

During the implementation of MED POL-Phase III, and in particular after the launching of the SAP activities, the need was felt to bring the MED POL Programme towards the adoption of an holistic management approach that could consolidate and modernize its activities, orientations and strategies and that could be in line with the state-of-the-art environmental sustainable management. The opportunity for conceptualizing and implementing the changes comes from the fact that MED POL Phase III is formally ending in 2005 when a new Phase has to be proposed to the Contracting Parties for adoption.

As a result, during 2004-2005 the Secretariat will have to work with countries' experts and officials to prepare a draft programme (2006-2013) and find consensus on its content. The elements to be possibly taken into account and the steps proposed for the implementation of the process include:

- an analysis of the need of the region in terms of water pollution control (coastal and marine areas and river basins) as a tool for sustainable development, taking into accounts the long-term targets of the SAP;
- an analysis of achievements and failures of the present Phase of MED POL;
- a review of the recent developments at the regional and international levels (e.g. larger number of EU countries in the region with specific obligations, the Johannesburg Action Plan, trends in other Conventions and Programmes including the application of the river basin and the ecosystem approaches);
- consideration of the new coverage of the LBS (to include the hydrologic basin);
- the need to fully integrate an economic dimension in the formulation of the programme;
- the need to formulate a programme with clear scientific characteristics in order to maintain contact with the scientific community but also with concrete managerial elements for decision makers.

Some of the above elements are of special importance, in particular:

- the Barcelona Convention system as a whole with its ultimate objective to protect the Mediterranean Marine ecosystem;
 - Art.1 of Barcelona Convention that states that "the application of the Convention may be extended to coastal areas as defined by each Contracting Party within its own territory";
 - Art 3. (b) of Land Based Sources (LBS) Protocol that states that "the area to which Protocol applies shall be the hydrological basin of the Mediterranean Sea area";
 - Art 4. (1a) of LBS Protocol that states that "this Protocol shall apply to discharges from LBS point and diffuse sources and activities within the territories of the Contracting Parties that may affect directly or indirectly the Mediterranean Sea area. These discharges shall include those which reach the Mediterranean Area, as defined in article 3(a), (c) and (d) of this protocol, through coastal disposals, rivers, outfalls, canals, or other watercourses, including ground water flow, or through run-off and disposal under the seabed with access from land".

In addition, in order to ensure consistency with the deliberations of the 2002 World Summit on Sustainable Development (WSSD), the following has to be taken into account:

- (i) to encourage the application by 2010 of the ecosystem approach for the sustainable development of the oceans;
 - (ii) to develop and facilitate the use of diverse approaches and tools, including the ecosystem approach, the elimination of destructive fishing practices, the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks by 2012;
- (ii) to achieve by 2010 a significant reduction in the current rate of loss of biological diversity.

In this context, two are the possible management options:

- 1- the river basin (water shed) management adopted by EU under the provisions of the Water Framework directives; and
- 2- the ecosystem approach adopted by EU under the provisions of the proposed EU Marine Strategy, OSPAR and HELCOM conventions for the protection of the North Atlantic and Baltic Seas.

1 - The River Basin Management

One of the underpinning principles which MED POL could adopt is that of integrated river basin management (IRBM).

The elements of River basin management approach could be as follows:

1. River Basin District

The IRBM encompasses the identification River Basin Districts based on hydrological catchments, with coastal and ground waters being assigned to the most appropriate District.

2. River Basin Management Plans

As Competent Authority should produce a River Basin Management Plan (RBMP) for that basin. This is the main mechanism of achieving environmental objectives under MED POL provisions such as:

- Characteristics of the River Basin;
- Environmental monitoring data;
- Details of the impacts of human activity (e.g. point / diffuse pollution, abstractions, flood de-fence works);
- Analysis of the economic usage of water;
- Strategic plan for the achievement of objectives.

Analysis of Basin Characteristics

The determination of the factors influencing both water quality and water quantity. These analyses would include an assessment of the inherent natural characteristics of each basin, the impact of human activity and the economic usage of water within the basin including point and diffuse source sources of pollution, abstractions and other human interventions such as flood defense.

The first part of the basin analysis is to identify the location and boundaries of the surface water bodies, and then to categorize them into rivers, lakes, transitional waters (estuaries) or coastal waters.

Furthermore a decision must also be made as to which water bodies are to be defined as artificial or heavily modified.

Having characterized the surface water bodies into rivers, lakes, transitional waters or coastal waters, the next requirement is to discriminate the water bodies into "types". This essentially means dividing the water bodies on the basis of the physical and chemical factors that determine their characteristics, e.g. geology, climate/rainfall, and hence the biological population and structure.

Having derived a series of water body "types" it is then necessary to determine what the reference condition is for sites at high ecological status in all of these "types". This will then

provide a reference against which to judge good ecological status for all other water bodies within the “type”.

As well as characterizing the surface waters within a RBD, a similar task needs to be carried out for ground waters. The main elements of such a characterization are as follows:

- The location and boundaries of the groundwater bodies;
- Identification of the pressure to which they are subject;
- General characterization of the overlying strata from which the groundwater receives its discharge;
- Identification of directly dependant surface water systems;
- More detailed information for those ground waters at risk of failing to meet their environmental objectives, e.g. rates of exchange between the groundwater body and the associated surface water systems.

Impact of Human Activities

Having characterized the RBD the next task in the planning cycle is to carry out an analysis of the impact of human activity on the water bodies within that district, and in particular the identification of the pressures that such activities might be causing. This analysis would need to include the impact of point source pollution.

On the basis of the characterization of the river basin, and the analysis of human impact outlined above, the competent authorities are then required to establish the environmental objectives for each water body.

Having derived the environmental objective for each water body, the next task for Competent Authorities is to identify those water bodies at risk of failing to meet these objectives. Since this analysis has to take place before monitoring programmes are put in place, it is essentially to be carried out on a risk analysis basis, such analysis should consider many bodies characteristics such as natural variability in biological populations and the natural vulnerability of a water body, e.g. groundwater vulnerability maps or information on areas of low flow.

After the analysis of those water bodies at risk of failing to meet their environmental objectives has been completed the information is then to be used to design the monitoring programmes.

Monitoring

The main objectives of water bodies monitoring programmes are as follows:

- To provide a coherent and comprehensive overview of ecological and chemical status;
- To permit the classification of water bodies into five classes; high, good, moderate, poor and bad;
- To be based upon the characterization and impact assessment carried out for the RBD;
- To cover parameters which are indicative of the status of each relevant quality element.

Programme of Measures

Having carried out monitoring to determine the status of the water bodies within a RBD, an integrated programme of measures to meet the environmental objectives should be considered.

The programme of measures and other detailed information regarding the river basin shall be packaged and presented in a document called River Basin Management Plan. This plan will be subject to a period of public consultation.

2 - The Ecosystem Approach

The term ecosystem approach can be technically defined as “the comprehensive integrated management of human activities based on best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity” or “Integrated management of human activities based on the knowledge of ecosystem dynamics to achieve sustainable use of ecosystem goods and services and maintenance of ecosystem integrity”. In its broadest sense, ecosystem management involves social, economic, environmental, political and other interests.

1. The overarching objective will require an integrated approach to address all human threats and a careful assessment of their impact on marine environment.
2. The application of an ecosystem-based approach in management will necessitate taking into account sub-regional diversities in relation to ecological characteristics as well as pressures and threats, status and socio-economic situations in different sub-regions.
3. Application of an ecosystem-based approach will influence to a large degree the monitoring and assessment programmes as well as the choice of indicators to follow the performance.
4. Basic principles:
 - maintaining the natural structure and function of marine ecosystems, including the biodiversity and productivity of natural systems and important species;
 - sustainable human use and values of ecosystem should be central to establishing objectives and benchmarks for use and management of natural resources;
 - ecosystem are dynamic; their attributes and boundaries are constantly changing and consequently interactions with human uses are also dynamic;
 - quality status as well as the dynamic functions of the ecosystem should be addressed in assessments and setting of benchmarks;
 - management should be based on shared visions and development of objectives and benchmarks amongst stakeholders;
 - adoption of objectives and targets should be based on a political choice being aware of the responsibility for the protection of the marine environment;
 - to be successful, management must be adaptive, risk adverse and based on scientific knowledge, continued learning and indicator-based monitoring and assessment.
5. A process to deliver the ecosystem approach
 - At the simplest level the following steps should be made in delivering an ecosystem approach:
 - Establish fundamental principles and strategic goals
 - Set objectives, involving:
 - A conceptual inventory of the classes of properties sought ecologically, socially and economically

- Choosing specific properties in each class
 - Choosing reliable indicators for each property
 - Setting reference points and targets
 - Making management work, involving:
 - Identifying the tools available
 - Testing the effectiveness relative to affecting properties
 - Agreeing on management actions
 - Assessing and monitoring, including evaluating and prescribing actions, acting and adapting, and research and learning
6. In order to implement an ecosystem approach there is the need to identify and take action on issues which are critical to the health of the Mediterranean:
- Development of general and operational environment goals (SAP-SAP Bio), Barcelona Convention and Protocols;
 - Best use of available scientific and technical knowledge about the structure and functions of the ecosystem;
 - Coordinated and integrated monitoring;
 - Involvement of stakeholders;
 - Policy decisions and control and enforcement.

