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Meeting on compliance and control (MEDPOL)	16-18 March 1999, Athens (Greece)
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Meeting on MAP Information Strategy	1-2 April 1999, Athens (Greece)
National Training Course for Waste Water Treatment Plant Operators	2-5 April 1999 Alexandria (Egypt)
Meeting of Experts for the Elaboration of an Action Plan for the Conservation of Marine Vegetation	9-10 April 1999, Tunis (Tunisia)
Meeting of Focal Points for SPA/RAC	12-14 April 1999, Tunis (Tunisia)
Regional Training Course for Wastewater Treatment Plant Operators	19-22 April 1999, Sophia Antipolis (France)
Meeting of the Bureau of the Contracting Parties	29-30 April 1999, Athens (Greece)- tentative
Meeting of MEDPOL Coordinators/LBS-SAP Experts	3-7 May 1999, Calabria (Italy)
Second Meeting of Experts to amend the Emergency Protocol	June 1999, Sicily (Italy)
Fifth Meeting of the MCSD	1-3 July 1999, Rome (Italy)
Meeting of MAP Focal Points	6-9 September 1999, Athens (Greece)

WHAT IS MAP?

The Mediterranean Action Plan (MAP) is dedicated to the protection of the environment and the development of the Mediterranean Basin. It was adopted in Barcelona (Spain) in 1976 by the Mediterranean States and the EC, under the auspices of the United Nations Environment Programme (UNEP). Its legal framework is made up of the Barcelona Convention (1976, revised in 1995), and six Protocols on specific aspects of environmental protection. It is composed of a Coordinating Unit based in Athens, six Regional Activity Centres scattered throughout the Mediterranean, and a MED POL programme for monitoring and controlling pollution. The Mediterranean countries and the EU meet every two years to decide on MAP's budget and programme.

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PAPER

**AN URGENT APPEAL FROM THE BUREAU
TO RATIFY
MAP' S LEGAL INSTRUMENTS**

After two special editions (36-37 and 38) dealing respectively with the Tenth Ordinary Meeting of the Contracting Parties- including an environmental overview of Tunisia- and with Ocean 98, MEDWAVES is now getting back to cruising speed, providing a run-down of a term of activity within MAP which has been marked by some important MEDPOL meetings, the fourth meeting of the MCSD in Monaco, examination of the implementation of the «Marine Turtles» and «Marine Mammals» Action Plans in Arta, and the Bureau Meeting in Tripoli.

The Bureau was anxious to launch an urgent appeal to all those Contracting Parties which have not yet done so **to immediately ratify the new or updated legal instruments which have been adopted since 1995**. Without ratification the instruments cannot come into force, and effectively MAP does not have the legal basis which is needed if the new principles and concepts which have been added to the texts to reflect the latest approach on the environment and sustainable development are to take full effect within the different areas of MAP and the Regional Activity Centres- extending the scope of provisions, the precautionary principle, biodiversity, best available techniques and best environmental practices, clean production, hazardous waste, the public's right of access to information, and involvement in decision-taking, etc.

In less than nine months' time, the Contracting Parties to the Barcelona Convention will be meeting in Malta for their Eleventh Ordinary Meeting, where they will adopt the draft budget for the first two year term of the next millennium (2000-2001), with important decisions needing to be taken in all fields. For the sake of the credibility of the Barcelona Convention, it is essential that ratification should take place before the summer so that the new provisions can come into force as soon as possible, and in any event before the Malta meeting.

MEDWAVES

SEAFOOD SAFETY: THE STATE OF LEGISLATION IN THE MEDITERRANEAN AND COMPLIANCE THEREWITH

In conjunction with FAO and the WHO, a Consultation was held on this question in Larnaca (Cyprus), from 24-26 June 1998

Apart from microbiological agents (bacteria, viruses), which usually originate from domestic wastewater, a host of chemical contaminants-pesticides, organochlorides, persistent organic pollutants (POPs), heavy metals and their compounds- which are found in the marine environment also create a risk for human health if fish or shellfish containing high levels are eaten.

In the Mediterranean, the MED POL Programme started in 1976 during its Phase I to identify the main pollutants, and to draw up «assessment documents» for each of them.

These gave rise to some proposed measures. So it is for mercury, where there was concern at the high levels recorded in the Mediterranean during the seventies. In 1985, the Contracting Parties to the Barcelona Convention agreed that for this metal they would take a provisional admissible FAO/WHO level as a reference for establishing their national maximal concentrations for seafood and, in 1987, they adopted a limit value for effluent discharges.

For all pollutants, however, legislation and rules and regulations differ from one country to another, depending on their own specific context, and more particularly, their institutional and technical capacity in terms of monitoring and inspection.

This was why, meeting at the

invitation of the Ministry of Health of Cyprus, the experts designated by 15 Mediterranean governments spent three days discussing the health-related aspects of seafood. As Mr. Gabrielides, MAP Senior Programme Officer, recalled on opening the meeting, under Phase III of MED POL the Contracting Parties to the Barcelona Convention had approved two types of monitoring, namely of compliance with established standards, and of concentration trends.

Participants were being called upon to look more specifically at the monitoring of chemical contaminants in seafood. Each expert introduced his/her country report, assessing the situation in this field: legislation, rules and regulations, applicable standards, bodies responsible for checking, what seafood was inspected, monitoring and sampling programmes.

On the basis of these reports three groups of countries were distinguished, according to whether their monitoring provisions were: effective, simple but badly implemented or non-existent. The Larnaca meeting provided the Mediterranean experts with an opportunity to exchange views and information, and to strengthen cooperation in this field.

The FAO representative presented the Joint FAO/WHO Food Standards Programme, stressing the guidelines and codes of practice on fish and other fisheries

products in the Codex Alimentarius. He also recalled the activities undertaken by the Codex to incorporate the principles of the so-called HACCP system (Hazard Analysis and Critical Control Points) in codes of practice with the aim of reducing the risks associated with food hygiene that could not be adequately controlled using the classical approach of sampling and inspecting fresh products.

The meeting then turned its attention to a report entitled «Fish and shellfish safety: Standards, guidelines, monitoring systems, sampling plans and analysis». Finally, for the purpose of drawing up conclusions and recommendations, the experts set up a drafting group, which particularly invited the Secretariat to prepare a synthesis of international and regional food regulations.

The group recommended that the Contracting Parties should make every effort to put in place legal provisions for the protection of human health from the hazards related to seafood consumption and, to that end, to identify external sources of funding to assist developing countries.

Finally, the experts asked national authorities and laboratories responsible for monitoring programmes to transmit their most recent data on the contamination of fish and shellfish to the Secretariat.

(Cf. Report UNEP(OCA)/MED WG. 144/2, MAP Unit, Athens). ■

MED POL PROGRAMME - Phase III:

MATERIAL DREDGED FROM PORT AREAS: MANAGEMENT AND DISPOSAL

At a meeting held in Malta from 30 November-2 December 1998, the finishing touches were put to guidelines on the management of such material, adapted to the Mediterranean context.

What happens to material collected during port dredging operations raises serious problems for the environment due to the large quantities involved, and their potential pollutant content. Offshore dumping of such material must therefore be governed by very strict rules. Dredging is carried out by excavation machines, using scoops, suction dredgers or buckets, and consists of removing the excess sand, gravel and silt from the seabed.

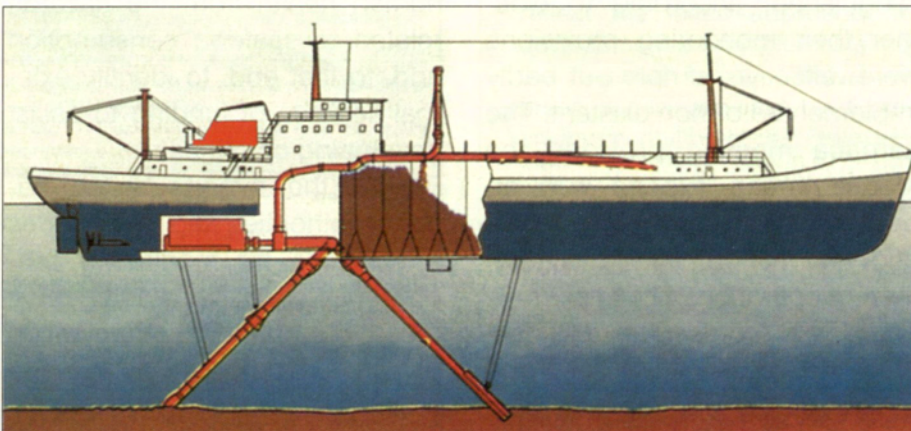
This is usually done for navigational purposes, to widen or deepen channels and ports, for purposes of pipe-laying, etc., or for the maintenance of existing infrastructure. In accordance with the Barcelona Convention's «Dumping» Protocol, even though the dumping of waste and other matter is banned, the dumping of dredging material may derogate from this rule as long as the competent national authorities have issued a permit in advance. The Protocol also provides that the Contracting Parties shall draw up the criteria, guidelines and relevant procedures in order to abate and eliminate pollution.

Hosted by the government of Malta in Sliema, from 30 November- 2 December 1998, the experts from 17 Mediter-

ranean countries, UNIDO and REMPEC thus revised and finalized the draft guidelines which were drawn up and initially examined in Valencia (Spain) in 1996, then amended by Mr. Massin, MAP consultant, and are intended to go to the Contracting Parties for adoption. The interest of this project lies in the fact that it is adapted to the Mediterranean context.

The experts decided that their revised draft should only deal with the offshore dumping of material, any other disposal alternative (which should still be the preferred solution) being covered in a separate section or annex. Nor did they want to include more technical type details in the text (such as dredging methods, which in themselves can harm the marine environment, especially when dredging takes place near sensitive areas used for aquaculture or leisure activities). Here, the Secretariat was invited to prepare a technical guide to assist the Contracting Parties in implementing the guidelines once they have been officially adopted. The UNIDO representative at the Sliema meeting offered his organisation's assistance in preparing this guide.

(Cf. Report UNEP(OCA)MED WG, MAP Unit, Athens, e-mail: unepmedu@unepmap.gr ■



Dredgers which clear the bottoms of ports can collect huge quantities of material, which are tricky to manage and dispose of.

THE MAP/METAP PARTNERSHIP

«DEMONSTRATING» THE COASTAL

In June 1998, a workshop held in plans for integrated coastal implemented for 10 years within the

Nowadays, ecologically rational development should be the only basis for any intervention on the Mediterranean coastline: but although the States themselves accept and advocate this approach, the gap between theory and practice is huge, and in the majority of countries the coastal strip is still being developed in a way which belies any proclaimed good intentions. However, faced with the threats which are hanging over the coastline and the marine environment and thus also over the viability of development, and thanks also to heightened awareness on the part of the local authorities and national leaders, and the vigilance of the associations, mentalities are changing: the idea of «sustainability» is making headway. Over the past few years a tool for giving shape to this concept has been coming more and more into its own: Integrated Coastal Area Management (ICAM, see inset).

For the past decade, either in conjunction or separately, METAP and MAP have been running pilot activities with the express aim of «demonstrating» ICAM. METAP put 2.8 million dollars into its projects under phase I (1990-1992), and a sum of 2.6 million during phase II (1992-1993). MAP, for its part, has spent more than 2.5 million dollars since 1989 on the 7 projects which have either been completed or are now nearing completion. These are the so-called Coastal Areas Management Programmes (CAMPs), which are one of the major components in the programme which tackles individual, partial or complete stretches of the coast of several riparian states. But these figures mean nothing when taken in isolation. How did these activities work? What remains once they have

NEED FOR RATIONAL PLANNING

Cairo reviewed the assessment of the management which have been framework of the two programmes.

been completed? What lessons can be learned for the future of coastal planning in the Mediterranean? These were the questions which the workshop held in Cairo on 2 and 3 June 1998 was invited to answer on the basis of the assessment drawn up by a group of experts under the aegis of the Split-based PAP/RAC, entitled «Assessment of Integrated Coastal Area Management Initiatives in the Mediterranean: Experiences from METAP and MAP (1988-1996)» *. On the basis of this assessment, participants were able to highlight the successes and comparative loopholes of the ICAM operations under the two programmes, as well as the lessons to be learned from other work carried out at national level on the Mediterranean coastline of several riparian states (Israel, France, Slovenia, Tunisia) or at European Union level (integrated coastal planning demonstration programme).

Sometimes METAP and MAP have worked in tandem on the same area of coast (Albania, see p.6). On other occasions they have succeeded one another (Rhodes/Greece where METAP took over from MAP for phase III; Al Hoceima/Morocco where METAP worked on the national park, whilst MAP is preparing a CAMP). Having been given a run-down of the various national experiences with ICAM, the participants in the workshop studied a set of recommendations for future activities and tasks, which was then adopted during the final session. The representative of the European Commission used the opportunity to provide detailed information on the Short and Medium Term Priority Environmental Action Programme (SMAP), adopted at the Helsinki conference in November 1997, which is being implemented

WHAT IS INTEGRATED COASTAL AREA MANAGEMENT?

Towards greater participation by all players in the planning field

Integrated coastal area management (ICAM) is an approach which strives to link the problem areas which, for the sake of convenience, decision-makers tend to tackle on a sectoral, piecemeal, juxtaposed basis (water, waste, industry, agriculture, energy, protected areas, etc.). It is both a concept and a tool of coordination for the various planning-related sectors. It is an on-going, long-term process which aims at solving the conflict between the many different people who use coastal resources. Its aim is to identify the optimal combination of uses with an eye to sustainable development.

It integrates modern principles of decision-taking within the planning and management of natural resources, interdisciplinary approaches, established instruments such as the Geographical Information System (GIS), the environmental impact assessment (EIA), the assessment of tourist carrying capacity, and the use of complete data bases. Integrated coastal area management is not a substitute for sectoral planning methods already in existence, but rather a pooling of activities carried out within these different methods with the aim of reaching clear and, where possible, quantified objectives within a specific time-span within the public's purview (the decade is frequently chosen). It should be used to achieve a greater degree of coordination and compatibility between planned activities, and to encourage the main players, businesses, local authorities and populations to become involved, thus meeting one of the main objectives of the planning process.

It is not usually possible for all the potential uses of a coastal zone to co-exist: coastal housing, tourism and leisure infrastructure on the one hand, industrial and mining installations on the other, tend to be mutually exclusive, particularly where the coastal strip is relatively narrow.

Controlling coastal development therefore almost always means that painful social and political choices have to be made. A successful outcome therefore hangs greatly on the support of the various partners and the population. (Cf. In particular «*Guidelines for integrated management of coastal and marine areas*», UNEP Regional Seas Reports and Studies, no. 161, and *Report of the MAP/METAP Workshop*, June 1998, MAP/METAP/W.1/1, Split, fax +385 21 36 16 77, e-mail: pap@gradst.hr ■

under the Euromediterranean partnership, and which has taken ICAM as one of its five major priorities. She gave a reminder of which countries were eligible, and the financial provisions and conditions for eligibility, particularly through the MEDA instrument. ■

* Apart from the representatives of the two programmes, 32 experts from 12 riparian states took part in the workshop alongside delegates from the EC, the World Bank, the Arab Office for Youth and the Environment (AOYE), the Centre for the Environment and the Development of the Arab Region and Europe (CEDARE), the League of Arab States, and MEDCOAST.

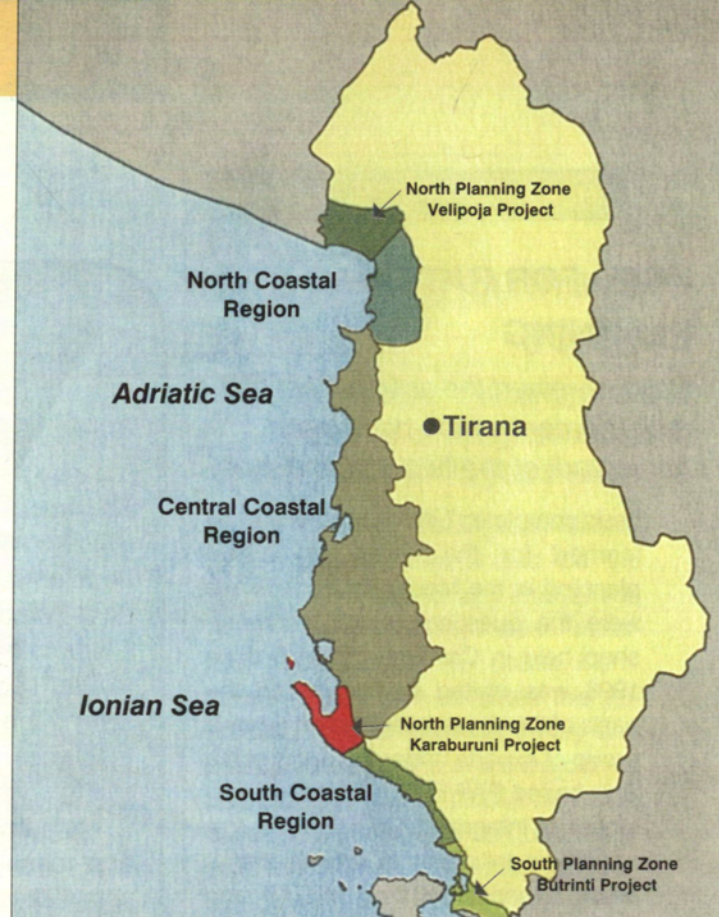
THE METAP/MAP DUO ON THE ALBANIAN COAST

ALBANIA:

The advantage of limited development

Albania was obviously a prime site for international organisations to apply integrated coastal management. Completely cut-off until very recently, following a policy of economic self-sufficiency based on mining and agriculture, with little industry or energy production, since opening up to Europe and the world (joining MAP was one of the first signs of this in 1990), the country has found itself in a unique position in many respects. Primary activity using obsolete technology has seriously damaged certain watercourses and coastal sites (e.g. mercury pollution in the bay of Vlore), and the country's backwardness has caused pollution in the handful of larger towns, with non-treated sewage being discharged into the sea, the build-up of solid waste on the beaches and unsupervised tips. However, it seems fair to say that, overall, the low levels of production and consumption forced upon the country for decades, coupled with the virtual non-existence of tourism and major infrastructure,

and the ban on public enterprise, have avoided the devastation caused over the same period by uncontrolled urbanisation and rapid tourist development around much of the Mediterranean coast. So the country is still relatively well preserved, its natural heritage has not been undermined, and, as its political and social forces are traversing a delicate stage of transition from a centralised to a market economy with the recurring instability and shake-ups of which we are all too well aware, it nonetheless still retains a major asset: **because of these special circumstances, Albania has the historic possibility of not repeating the development mistakes made elsewhere.** It was with this essential point in mind that MAP and METAP accepted the re-



Division of the Albanian coast: the southern and northern regions were covered by METAP, the central region by MAP.

quest from the Albanian authorities to help them draw up an environmentally-friendly development strategy for their coast.

METAP's work covered the northern coastal region between the town of Durrës and the Yugoslavian border, and the southern coastal region between Vlore and the Greek border, whilst **MAP-** with its so-called «Coastal Areas Management Programme (CAMP) Albania»- covered the whole of the Albanian coastline, planning to implement 14 activities under the programme's various regional activity centres.

In actual fact, the CAMP basically concentrated on drawing up a management plan for the Vlore-Durrës central coastal area, thus respecting complementarity with METAP and avoiding overlapping and repetition of activities.

After a diagnostic preparatory stage (1992-1993), a programme drafting stage (1993-1994) and a stage for finalising and presenting the results (1995-1996), the two programmes have now completed their work. According to the assessment made at the Cairo workshop it can be



Given the vulnerability of this stretch of the Albanian coast in terms of the ability of its ecosystem to cope with rapid, uncontrolled development, it seemed essential to draw up a plan for integrated management before both local and foreign investors alike flood in and pounce on an area which, its natural beauty still intact, is bound to become a regional and international ranking tourist destination.

MCS D

THE MEDITERRANEAN COMMISSION FOR SUSTAINABLE DEVELOPMENT HELD ITS FOURTH MEETING

The MCS D, at full strength for the first time, met in Monaco from 20 to 22 October 1998, in order to study six medium term priority themes and consider its working methods.

viewed as a success, since an overall framework was developed for the management of the Albanian coast, in spite of the fact that the national environmental management system in Albania is still on the drawing-board (some documents- «Environmental Strategy» and «National Plan for the Environment»- have been written).

The project has helped to **build institutional capacity** through the training of local experts. On the coast, 19 sites have been listed and proposed as candidates for protected status for their biodiversity and their landscape and cultural value. A marine pollution monitoring programme has been set up. Certain projects deemed to be hazardous for the environment have been checked or modified. Others, however, are still pending, and the battle for sustainable development is still far from having got underway. Everything will now depend on the will and ability of local leaders to really impose relevant legislation, particularly for the large scale tourist development projects in the hands of foreign investors, some of which, if given the go-ahead, would undermine the sustainability of coastal planning.

The leaders are aware of what is at stake, but if the will to face these challenges is to become actual policy, they will need a peaceful regional context- which, at the present moment, is not the case - the internal stability which is a consequence thereof, and, of course, sufficient financial support. On that point, it is likely that METAP's work will be continued thanks to funding under Phase III. MAP and METAP's coastal management plans must go before the Albanian National Council for Land Planning for adoption. ■

The MCS D, set up in Rabat in December 1996 as an advisory forum for the Mediterranean countries, has completed its work on the first two priority themes and, as it now moves onto the medium term themes, is entering a maturing phase during which it will have to give some thought to its efficiency, the innovative nature of its ideas, the relevance of its working method and its timetable, and its links with bodies of the same ilk- starting with the United Nations Commission for Sustainable Development. This, basically, was the «menu» for the fourth meeting, opened by the President of the outgoing Bureau of the MCS D, Mr. Ahmed Iraqui, Moroccan Secretary of State for the Environment. He provided a first assessment of the Commission's work and asked for follow-up committees to be set up for the first two large sets of recommendations adopted by the Contracting Parties to the Barcelona

Convention during their Tunis meeting on the questions of water demand management and integrated coastal management. In his opening speech, HSH the Hereditary Prince Albert of Monaco recalled the active role played by the Principality at international level at the major watersheds of environmental protection: the setting up of the ICSEM in 1910, the Rio summit in 1992, the assessment of Agenda 21 and the RAMOGE and ACCOBAMS agreements. Then, having established Tunisia at the head of their Steering Committee- the former Bureau-, the participants heard Mr. Mlika, the Tunisian Minister for the Environment, calling for eight action plans to be launched, which would correspond to the first eight themes dealt with by the Commission. Closing the opening session on behalf of MAP, Mr. L. Chabason, Coordinator, and Mr. A. Hoballah, Deputy Coordinator, pointed out that upstream thinking had been improved



The podium at the Monaco meeting: from left to right, Mr. M. Mlika, Tunisian Minister of the Environment, Mr. A. Iraqui, Moroccan State Secretary for the Environment, HSH the Hereditary Prince Albert of Monaco, Mr. L. Chabason, MAP Coordinator, and Mr. A. Hoballah, Deputy Coordinator of MAP.

by involving recognised experts in the work of the thematic groups, particularly during workshops hosted by Lebanon, Tunisia, Turkey, and Italy.

The Commission was meeting for the first time at full strength, the four remaining members having been appointed (two for the «Local Authorities» category, and two for «Socio-economic Actors»).

The joint managers of the working groups, two per theme, took it in turns to present their activities and the initial results on the medium term themes: indicators, tourism, information and awareness, free trade, industry and urban/rural development in their links with the environment, and from the point of view of sustainable development.

«By setting up this Commission, Mediterranean countries were taking up the challenge of involving other players from the development field in a process which was initially reserved for Governments. I feel that the wager has been almost won because, apart from the non-governmental organisations which have long been cooperating with the Mediterranean Action Plan, the involvement of new partners, be they local authorities or representatives of socio-economic organisations, has proved its worth.»

(The Hereditary Prince Albert of Monaco, in his opening speech at the Monaco meeting)

Work in the different groups has advanced to varying degrees, which is easily explained using just two examples: a theme such as «tourism» has already been widely studied, and now primarily needs an effort of synthesis throughout the basin; «Free trade», however, is innovative enough to require some basic «spadework» and far-reaching exploration, and is co-

mplicated by the fact that it involves interaction with the on-going globalisation process, and the future Euro-Mediterranean partnership, as well as the free trade area which will come in its wake in the long term.

The Commission held an in-depth discussion concerning its working method: the role of the task managers and the Support Centres, rationalisation of work, drafting in of experts, the North-South balance to be respected, the range of themes to be dealt with, the importance of new communication technologies- such as the Internet- in facilitating data exchange and contact, the follow-up of recommendations all issues on which depend the yield and quality of results, and for which several proposals have been put forward. The MCSD finally invited the Secretariat to prepare a list of options to be reviewed by the Steering Committee before going before the next MCSD meeting (Rome, July 1999), and the Contracting Parties (Malta, October 1999).

Finally, the question of MCSD cooperation with the United Nations Commission for Sustainable Development (UN-CSD) took up the last part of the discussions. It was proposed for them to organise a joint meeting on national strategies for sustainable development in the Mediterranean region.

Other types of cooperation with international organisations (METAP, IOC, UNIDO, the CITES Convention, ICSEM, etc.) were also contemplated, with participants pointing out that they could involve cost-sharing, and the exchange of information, data and experience- as with the indicator theme. At the close, the members of the MCSD set the date for their fifth meeting for June 1999, to be hosted by the City of Rome, at which the recommendations from several thematic groups would be reviewed and finalised, in order to be adopted four months later by the Eleventh Ordinary meeting of Contracting Parties in Malta. ■

The Antalya workshop highlighted the

Tourism is a vitally important sector to leading tourist destination, for which activity and hard currency. The limited to «ecotourism», before being

subsequently to «tourism and sustainable twice on this theme- in May 1997 in Palma Sophia Antipolis, on the fringes of the The meetings were led by two joint Chambers of Commerce for the Development restricted group then held three meetings 17-19 November 1998 brought together states, one NGO, three United Nations organisations and four tour operators- a significant presence). The discussions in Antalya were based on an assessment drawn up by the Blue Plan, the theme's logistical and scientific Support Centre, and on ten case studies (examples of tourist destinations). The participants looked in particular at the following aspects:

● **An unavoidable sector of the Mediterranean economy:**

Mediterranean tourism represents 30% of international tourism. The 130-140 million international and domestic tourists visiting the banks of the Mediterranean each year could well have risen to between 235 and 250 by the year 2025. No Mediterranean country can do without this sector. For certain less favoured areas, tourism offers an opportunity to develop and improve infrastructures in the future.

● **Growing awareness of the negative impact** although other industries are more highly pollution is seen as a major source of negative impact coastal landscapes and natural areas, problems the fauna and flora, an often rapid trend towards **Balearic islands** which created a crisis situation that they had to control development and imposing drastic property legislation).

● **Helped by time and experience, international (in Europe) are becoming increasingly dependent on environment, which is therefore becoming a**



TOURISM AND SUSTAINABLE DEVELOPMENT

exceptional position and vocation of tourism in the region, and the ensuing challenges.

For the Mediterranean region, the world's largest and most diverse source of economic activity. The study was initially limited to «tourism and sustainable development». The working group met in Majorca, and in October 1997 in response to Commission meetings.

managers- Spain and the Group of Mediterranean States (EOAEN). A workshop was held in Antalya, from which more than 60 experts (from 18 riparian

countries) participated. Market forces can therefore act as a powerful vector for development towards sustainable tourism, although there is still no real interplay between players (professionals, the public, and the local population).

● There is **great disparity** of tourist development (between countries on the northern and southern rims, or within one country between the coast and the hinterland), but there is a great potential for tourist development on the southern and eastern shores (in less than 10 years, Turkey has seen its numbers of visitors rise from 1.5 to almost 10 million). There are also «tourist vacuums» due to present circumstances (Albania, Lebanon, Libya, the countries of ex-Yugoslavia), but these could change very quickly if the geopolitical situation were to be eased, especially as some of them have experienced major tourist development in the past (Lebanon, ex-Yugoslavia).

● **Economic pressure is such that examples of successfully channeled development, largely the result of local political will, are few and far between** (Parc du Luberon in France, Cres-Losinj archipelago in Croatia). If a fair compromise is to be struck between development and protection, strict land planning measures must be adopted (France has started by creating a Coastal Conservatory, the aim of which is to acquire 25% of the coast in order to protect its patrimonial value; Tunisia and Algeria are gravitating in this direction).

● **Island tourism is particularly vulnerable** because it is often the only economic activity and is highly seasonal (apart from a handful of destinations, such as Rhodes and the Balearic Islands). It must, therefore, be diversified to embrace alternative forms of tourism and involve the rehabili-



Impact of tourism on the environment: More than the tourist industry, tourism has a significant impact on the environment (deterioration of ecosystems with waste and water, damage to landscapes towards monoactivity (typical case of the Mediterranean before the local population realised the need to restore the quality of the destination by

environmental tourists (particularly from Northern Europe) demanding about the quality of the environment as a determining factor in their choice, and

tation of traditional activities, such as craft.

Participants drew on this varied assessment to draw up **proposals for action and recommendations** with several main thrusts: training and awareness; financing the improved quality of destinations; setting up a network of pilot tourist areas (with the awarding of an «ecolabel»); capacity building; involvement of local populations; tackling the problems specifically related to island tourism.

(The synthesis report from the Antalya workshop was published under the aegis of BP/RAC and with the assistance of PAP/RAC and the Turkish Ministries for the Environment and Tourism: «Tourism and Sustainable Development in the Mediterranean Region», BP/RAC, Sophia Antipolis, 06560 France, fax: +33 4 92 38 71 31, e-mail: planbleu@planbleu.org).

THREATENED SPECIES IN THE MEDITERRANEAN

THE ARTA (GREECE) MEETINGS ON THE «MARINE TURTLES», «MONK SEAL» AND «CETACEANS» ACTION PLANS IN THE MEDITERRANEAN

Over a week, from 16-31 October 1998, under the guidance of SPA/RAC from Tunis, not far from the Amvrakikos Gulf wetlands (Greece), around one hundred experts discussed the respective implementation of the three action plans and issued recommendations to boost their effectiveness.

Certain Mediterranean plant and animal populations are amongst the most endangered in the world. This explains why the Mediterranean countries added the words «**biological diversity**» to the title of the new protocol on specially protected areas, which was adopted in 1995, committing themselves to guaranteeing maximum possible protection for species which are dying out or threatened, as well as their restoration.

The mosaics which have come down to us from Antiquity are a reminder of the wealth and abundance of genetic diversity in the region back then, enabling us to weigh up exactly how much has been lost. Protecting biodiversity is therefore not just a pious wish, but rather a fervent and compelling obligation for the equilibrium of the region's ecosystems. It is also a new responsibility for the Tunis Centre for protected areas which, with the backing of organisations such as the IUCN, must take on the coordination and implementation of activities of this nature at regional level.

The recent decision to develop and launch a Programme of strategic actions in this field (SAP-biodiversity) demonstrates the importa-

nance which this question has assumed within MAP.

The Arta meetings were convened within this context, in application of a decision taken by the Tenth Ordinary meeting in Tunis (November 1998), and at the invitation of the Greek government. Over six days, around one hundred experts representing 19 Mediterranean countries and some thirty intergovernmental and non-governmental organisations examined in succession how effectively the first three action plans had been implemented, these being, respectively, for the preservation of marine turtles (1989), the monk seal (1988), and cetaceans (1991).

Apart from Mr. Theodoros Koliopoulos, the Greek Deputy Minister for the Environment, the presence and speeches of leaders of the local authorities from the Epirus region and the district of Arta at the opening sessions demonstrated their interest in these questions. *

Marine turtles

The first three days, from 27-29

October, the experts took it in turns to present the situation in their own countries, dealing with the following points: legal protection, protection and management of breeding areas, measures taken to reduce incidental catches to a minimum, education and awareness programmes, research and monitoring. Generally speaking, although major progress has been made with legislation aiming at protecting marine turtles in the Mediterranean, its application still leaves a lot to be desired due to the pressure of local interests (property promoters) and mass tourism, and in spite of the mobilisation of NGOs in the field. The participants agreed on the modifications to be made to the corresponding Action Plan, and to forwarding this amended version to the Eleventh Meeting of Contracting Parties (Malta, October 1999) for adoption.

A further two documents from the Tunis centre were also on the table: «*Review and analysis of the available knowledge of marine turtle nesting and population dynamics in the Mediterranean*» and «*Interaction of marine turtles with fisheries in the Mediterranean*». However, at the end of a lengthy exchange of views, the meeting realised that time was short and proposed «convening a further advisory meeting at which the main stakeholders and the conservation experts could study the question in more detail, in order to submit a list of recommended priorities to the next meeting of the Contracting Par-



October, were devoted to sea turtles. Following a plan which would be repeated for the monk seal and

* The local NGO ETANAM (Organisation for the Development of the Amvrakikos Gulf) was actively involved in the organisation of the sessions.

THREATENED SPECIES IN THE MEDITERRANEAN

THE MONK SEAL IN DANGER

The Mediterranean monk seal (Monachus monachus) is, according to species conservation experts, a European marine mammal in danger of disappearing forever in the near future, and the IUCN counts it amongst the ten species in the world at greatest risk of extinction. In this chronicle of a disappearance foretold, the finger must basically be pointed at human activity. In spite of the action plan which was adopted in 1988, and measures and initiatives taken in the countries most directly involved, there are apparently only between 250 and 350 individuals left in the Mediterranean today, according to the sources, as compared with 600 to 700 in the seventies. The slide therefore seems unstoppable, and when asked what can be done, and whether it is not already too late, scientists and political leaders seem somewhat at a loss to answer.



Photo ©: P. Dendrinos / MOrn

ties». As this meeting was not foreseen in the budget the question was put to the Bureau meeting in Tripoli, at which Tunisia proposed to act as host.

Marine Mammals

The last three days, from 29-31 October, dealt with marine mammals (cetaceans and the monk seal). Many country representatives mentioned cases showing the impact of fishing activities on cetacean populations, with incidental catches causing injury and death. The effectiveness of measures taken to reduce the numbers of such catches has varied according to the regions. As an overture to the meeting, a workshop on cetacean strandings was held. A set of recommendations on this subject was put to the meeting, which was adopted after amendment. Finally, the matter of the ACCOBAMS (Black Sea/Mediterranean/Atlantic Agreement on Cetaceans) concluded in Monaco in November 1996 was raised. This agreement envisaged the setting up of two sub-regional units- one for the Black Sea, the other for the Mediterranean. Participants were by and large in favour of the latter unit being entrusted to SPA/RAC in Tunis, given the complementary nature of the two plans, and pending an examination of the legal implications of this solution. The experts then moved on to the specific issue of the monk seal, whose situation is worsening year by year. With two countries possessing far and away the only major populations of this species in the Mediterranean, discussions centred on the measures which they have adopted, and more generally on those aspects of the Action Plan where implementation has been most wanting. It is the unanimous view that the monk seal represents the most critical case in the Mediterranean today (see article opposite). ■

The monk seal is a familiar animal in our imagination. It was very widespread in the Ancient World, and at the turn of this century was to be found from the Black Sea coast to the Atlantic around Madeira, the Canaries and the north-west coast of Africa. A solitary animal, preferring coastal waters to the open sea, it reproduces slowly, with a gestation period of 9-10 months, and usually no more than 1 or 2 pups per female. It consumes about one tenth of its body weight per day, in other words

around 30 kilos of fish. Its numbers have plummeted over the last four decades.

The causes of the monk seal's decline were clearly identified more than twenty years ago, and have been confirmed by the major meetings of experts regularly held on this question within the framework of the Council of Europe, IUCN, UNEP/MAP: Rhodes/1978, La Rochelle/1984, Strasbourg/1986, Athens/1988, Texel/1990, Rabat/1994. The Arta meeting stated them once again. They boil down to THREE main points:

● **Fishing**

Many fishermen deliberately slaughter the seals which they see as competitors which eat their catches, often damaging their nets in the process; they also catch them incidentally in their gear where the animals become entangled and are injured, often fatally;

● **Other human activities**

Tourism, industrial and demographic growth, coastal urbanisation, shipping, with all that they entail (pollution, noise disturbance), **are increasingly disrupting the monk seals' habitat** (caves) which is essential to its life and breeding;

● **Deterioration in the health of the species** which is suffering from pathological illnesses caused by pollution (heavy metals, organochlorides) and can no longer find the food it requires as a result of **over-fishing**. Recently a new threat appeared with the massive die-off which in 1997 affected the largest colony of the species outside the Mediterranean.

This occurred at Cabo Blanco (the west coast of North Africa) and was blamed either on a morbilli virus or on poisoning by dinoflagellates (unicellular algae) secreting a PSP toxin. Whatever the case, the vulnerability of the species as a result of the weakening of its immunological defenses means that it is now more exposed to this illness than in the past. If a similar incident were to occur in the Mediterranean the consequences would no doubt be fatal.

Nowadays the species is basically to be found in two countries in the Mediterranean: Greece and Turkey, where there are approximately between 200-280 and 45-55 individuals respectively. In other countries in the region where there have been sightings of the monk seal over recent years (Cyprus, Libya, Tunisia, Algeria, Morocco and Spain), in each case there were no more than 3-4 isolated individuals.

It should not be forgotten that at the end of the Second World War according to convincing evidence from local archives and voyagers' accounts, there were still substantial colonies in Yugoslavia, Albania, Syria, Egypt, Sicily, Sardinia, Corsica and the Balearic Islands.

Theoretically speaking, recolonisation could still occur on the southern rim of the Mediterranean, on the condition that the present rate of coastal urbanisation does not continue.

On the northern rim of the western basin and the adjoining islands, however, urbanisation and coastal development along with over-exploitation of marine resources have completely destroyed the habitat, thus ruling out this possibility, despite the fact that legal instruments protecting the species exist across the board.

Which leaves the two large surviving populations. In **Turkey**, a large proportion of the habitat used by the seals has been modified or destroyed by rapid urban and tourist development. In the Aegean, however, the Foça area pilot project (north of Izmir) protects the seals from fishermen, divers and tourism, and several caves are regularly used by the species. The Mordogan and Karaburun areas are similarly well protected, but the present trend towards breakneck development of the Turkish coast does not augur well for the future.

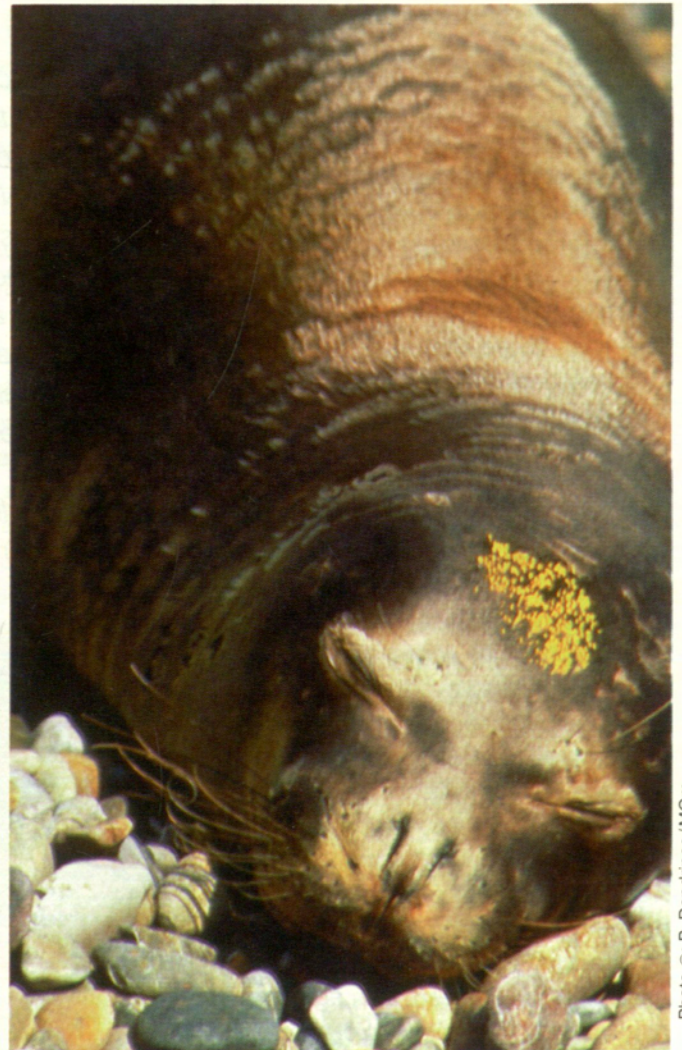


Photo ©: P. Dendrinos/MOM

In **Greece**, the creation of the Marine Park of the Northern Sporades has apparently led to an increase in breeding thanks to a systematic information and awareness-raising programme aimed at fishermen, to prevent the deliberate slaughtering which had become common practice.

An on-going EU/LIFE project covers other Aegean islands (Milos, Karpachos, Kassos, Samos, Ikaria and Fourni), as well as Zakynthos in the Ionian. Despite these measures, the population is still shrinking, doubtless due to infant mortality caused by inadequate habitats and, in the case of adult animals, clashes with man. Although the experiment in the Northern Sporades park has borne fruit, it is the only example thus far. The species still faces major difficulties in Zakynthos, and the scattered

pattern on several Aegean islands, with sightings of a few individuals in previously unknown habitats proves that we are still far from having a clear picture of the status of the species.

The priority measures for safeguarding the species have been shaped in the light of what is happening in the following areas: effective implementation of legislation banning the hunting, harassing and slaughtering of the animals; exploration, identification and monitoring of surviving or potential habitats; the implementation of programmes to inform and raise the awareness of the public and of target groups (fishermen); rescue and rehabilitation of wounded, stranded or orphaned seals (there is already a programme along these lines in Greece), providing that this is done by highly qualified staff and according to strict procedures. In Arta experts stressed the importance of developing nets which could not be damaged by seals, in order to lessen conflict with fishermen.

Need it be stressed, however, that the same conclusions were drawn at the Rabat meeting back in 1994, but have remained a dead letter since. Generally speaking, there is a lack of coordination at international and regional

level, which sometimes gives rise to highly controversial initiatives, such as an experiment in captive breeding (with subsequent release) carried out in France and since suspended, or a Spanish project on translocation (moving) for reintroduction to another habitat. Such experiments, which are often driven by the best possible intentions, can actually prove counter-productive for the species (reproductive incompatibility, disease transmission, incorrect handling, inadaptation).

There is now a consensus within the scientific community concerning the major obstacles and factors of decline, and the least that can be said is that it is not particularly optimistic. But the dynamism and commitment of the NGOs who have for years been fighting for the survival of the species, particularly in the two countries most affected, cannot be left without comment: faced with the indifference and sluggishness of administrations, the hostility of property promoters and local leaders caught up in the whirl of mass tourism, they will have made every effort to avoid the worst, and if there were ever to be a glimmer of hope in the fate of this species, we owe it first and foremost to them. ■

THE LATEST ON CAULERPA TAXIFOLIA:

*genetic analysis proves
the aquarium origin
of the alga.*

The publication in the «*Marine Ecology Progress Series*» of an article entitled «*Molecular evidence of the aquarium origin of the green alga *Caulerpa Taxifolia* introduced to the Mediterranean Sea*» in September 1998 was a major scientific event, widely reported in the press, since Olivier Jousson, a Swiss genetician from Geneva University's Department of zoology and animal biology proves in the article that the alga which has spread at an exponential rate (viz. The *Caulerpa* dossier, *Medwaves* no. 35) since 1984 really did originate in an aquarium (along a route starting from aquaria in Northern Europe and ending up in Mediterranean ones, at a time when the import, circulation and marketing of the species was unrestricted in all countries).

The article thus finally dispels the press-based controversy about the origin of the alga, and should henceforth unite all scientists regarding the alga's potential threat to the Mediterranean ecosystem and the need for political leaders to apply the precautionary principle as quickly as possible. The first tangible evidence of this came at the meeting organised by MAP in Heraklion (Crete) in March 1998. The European Union's LIFE instrument is at the present moment financing 50% of the total cost of a major multinational project on the detection and monitoring of new patches of the alga, the demonstration or eradication techniques, the identification of products which break down caulerpyne and, finally, raising the awareness of the public and of decision-takers. ■

(For more information: cf. the document drawn up by an SPA/RAC consultant for the Arta meeting «**Present status of monk seal populations**», Tunis, fax +216 1 797 349, e-mail: car.asp@rac.spa.org.tu; **The Mediterranean Monk Seal: Conservation Guidelines**, Multilingual edition, in English, Spanish, French, Greek and Turkish, William M. Johnson, David M. Lavigne, International Marine Mammal Association, 1474 Gordon Street, Guelf, Ontario, Canada, N1L 1C8, <http://w.w.w.imma.org>. **Report of the Rabat meeting in 1994** (UNEP(OCA)/MED WG 87/4/Rev.1), MAP Unit in Athens, fax: +30 1 7253 196-7, e-mail: unepmedu@unepmap.gr

We would like to thank the Hellenic Society for the Study and Protection of the Monk Seal (MOM) for providing us with the photos to illustrate this dossier. Given the importance of Greece-and Turkey-in protecting this species in the Mediterranean, the highly active involvement of the MOM team in the Northern Sporades (Marine Park of the island of Alonissos) and the other islands in the EU/LIFE project of which it is part is worthy of note. MOM publishes an information bulletin in English: MOM Newsletter (e-mail: mom@eexi.gr).

THE MEETING OF THE BUREAU OF THE CONTRACTING PARTIES

(Tripoli, Libya, 16-17 November 1998)

The meeting, chaired by Mr. Mohamed Mehdi Mlika, Minister of the Environment for Tunisia, was attended by the Vice-Presidents of the Bureau, representing respectively the Libyan Arab Jamahiriya, Greece, Croatia, Turkey, and the rapporteur representing Monaco. The Ambassadors of the Mediterranean countries, Burkina Faso, and Austria as well as the representatives of the United Nations organisations accredited to Libya also took part in the opening session.

Following Mr. Mlika's preliminary speech, Mr. Mubarek Elshamekh, Secretary of Housing and Utilities for Libya welcomed participants to his country. He recalled the Jamahiriya's active participation in MAP and mentioned some of the environmental and public health problems being faced by his country as a result of the embargo imposed upon it, submitting a motion on this issue to be transmitted to the other Mediterranean countries and to UNEP.

Presenting his progress report on activities carried out since the last meeting of the Bureau (March-November 1998), Mr. L. Chabason, MAP Coordinator pointed out that links with other programmes (EU, METAP, GEF, RAMOGE) had been intensified, stressed the main meetings held within the MAP framework, particularly the MCSD meeting in Monaco, and described the general outline of two reports which were before the meeting on "MAP Information Strategy" and "MAP/NGO cooperation".

The Coordinators' report was accompanied by a set of recommendations which were approved by

the Bureau after careful review and amendment:

- To give flexibility to the Secretariat to attract outside funds for projects financed by another donor but which also require MAP counterpart funds which are not in the two year budgetary programme;

- To organise, within the framework of the next biennial programme and budget (2000-2001), an intensive training programme (information management, Internet, Web page, etc) for nationals of developing Mediterranean countries;

- To urge the Contracting Parties once again to speed up ratification of the amendments to the Barcelona Convention, its protocols and the new protocols;

- To convene a meeting of information experts representing the countries in the Bureau in order to thoroughly review the "MAP Information Strategy" document, make the necessary modifications, and present it to the forthcoming meeting of the Contracting Parties;

- To request the Secretariat to submit the set of recommendations on MAP/NGO cooperation to the Eleventh Meeting of the Contracting Parties for final approval.

Before concluding, the Bureau agreed to convene its next meeting at the premises of the Coordinating Unit in Athens at the end of March 1999.

- In the framework of its cooperation with the European Environment Agency (EEA), MAP is contributing to the preparation of a report on the Mediterranean entitled: «Environmental State and Pressures» The first draft has been distributed to all Mediterranean governments and the final report is expected to be published in early 1999.

- The appointment of the three new RAC directors (Mr. Mohamed Adel Hentati at the Tunis Centre, Mr. Roberto Patrino at REMPEC and Mr. Trumbic in Split) has been undertaken in consultation between MAP and the national authorities concerned.

- A regional training course was run in Athens from 4-9 May 1998 for wastewater treatment plant operators. The purpose of the course was to enable the 17 participating experts from all Mediterranean countries to organise similar training courses in their respective countries.

- On 27 and 28 August the MAP Secretariat visited the Division for Sustainable Development in UN-DESA (New York) in order to consider the means for cooperation between the Mediterranean Commission for Sustainable Development and the United Nations Committee for Sustainable Development. This issue was dealt with at the MCSD meeting in Monaco. (see p.8)

- GEF/SAP Project: in September 1998 an advisory meeting was held in Athens with representatives of the World Bank, METAP, GEF/UNEP and the French GEF (FFEM) to discuss the operational aspects of SAP. Particular emphasis was laid on the «hot spots» component, and it was decided that a Technical Committee would be established to coordinate all the relevant activities, within which METAP would be responsible for the technical follow-up to the implementation of the pre-investment studies carried out by the countries.

- SAP/Biodiversity: at a MAP/FAO/SPA/RAC meeting in Rome in July 1998, it was agreed to establish a Technical Advisory Group composed of relevant IGOs and NGOs (WWF, IUCN, FAO, MAP) to follow up the project and advise on regional priorities. The overall coordination of the project was entrusted to the Tunis Centre.

- SPA/RAC (Tunis) organised and coordinated a field mission aimed at assessing marine turtle nesting in Libya, with the assistance of two Libyan Technical Centres, WWF International, and MEDASSET. The mission was aimed at completing surveys undertaken since 1996.

- From 23 May to 1 June 1998 SPA/RAC

supported by the Italian research institute Tethys also organised a research-training cruise on cetaceans in the waters between Sicily, Tunisia and Malta. Nine trainees from 5 Mediterranean countries (Algeria, Egypt, Libya, Malta, Tunisia) took part. The cruise was preceded by a training workshop on methods and techniques for the monitoring of cetacean populations.

■ National Environment and Development Observatories: The Blue Plan (Sophia Antipolis) has got its collaboration with the Tunisian Observatory up and running, has involved the Moroccan Observatory in the activities of the METAP Programme, and has supervised a preliminary study for setting up a Syrian Observatory. As for the Lebanese Observatory, the project submitted to the European Commission has obtained backing from the LIFE programme.

■ The Blue Plan is putting the finishing touches to the Algerian, Syrian and Lebanese profiles, to be published in the near future. The older Tunisian profile is being completely updated and rewritten, and the new version will become the framework for future Country Profiles.

■ PAP/RAC (Split) has published and distributed a set of guidelines on the following subjects: soil erosion with FAO (in French); integrated water resources management (in French); tourism (in French); historic settlements (in English and French). The Centre has also assisted the MAP Focal Point in drawing up the document entitled «Coastal Management in Croatia» (in English, French and Croatian).

■ On the occasion of the final presentation of the Coastal Areas Management Programme (CAMP) for Sfax (Tunisia), held in Sfax on 15-16 December 1998, the Environmental Remote Sensing Centre (ERS/RAC) in Palermo introduced its activities concerning this project since 1994 on the application of sea circulation as well as pollutant dispersion models off Sfax. The results obtained show how much decisions and plans for sound ecological coastal management can benefit from the use of these models-for which input such as satellite data on sea temperature, wind strength and direction, tides and currents- is used to assess the possible return towards the coasts of pollutants originating from landbased sources.

■ The Palermo centre has published the document «Modelisation de la circulation cotiere et de la distribution des rejets cotiers dans le chenal de Sfax» ('Model of coastal circulation and the distribution of coastal waste in the Sfax channel'). Copies may be obtained from ctm.ersrac@ctmnet.it

THE Vth ENVIRONMENTAL FORUM ON THE MEDITERRANEAN

Barcelona, Spain, 19-20 november 1998

The **MED Forum** network, which brings together around 80 NGOs working in the Mediterranean and has ramifications in 23 countries, organised this event on 19-20 November 1998 in Barcelona (Spain). Representatives of DG VIII and DGXI from the EU, the European Parliament, the EEA, METAP and MAP also took part. Each priority action of an «Agenda MED Forum 2000» was presented by representatives from two NGOs and then discussed. Participants felt that some of these would require the drawing up and adoption of new protocols to the Barcelona Convention. The Forum also urged countries to ratify the Convention and the revised Protocols so that they could come into force.

The convening of this meeting showed that the priority issues chosen by the NGOs are very similar to those of the MAP, METAP and SMAP programmes (SMAP=EU Mediterranean Programme adopted at the Helsinki Conference): integrated water management, combating desertification, protecting biodiversity, sustainable tourism, etc. But the NGOs critical activism and their closer ties with influential sectors of opinion and the local authorities sometimes prove to be a crucial source of additional support for achieving common objectives.

The MED Forum network regularly organises meetings and workshops on specific subjects for its NGO members. It also works through contracts with consultants. In a drive towards decentralisation it delegates the responsibility for some of its activities to NGOs around the Mediterranean (the Lebanese NGO LINE, for example, was put in charge of «Education»). MED forum, based in Barcelona, is a MAP partner network.

It should be recalled that, at the meeting of a working party convened

in application of a decision taken by the Tenth Ordinary Meeting in Tunis, the experts drew up several recommendations on the NGO networks which were then taken on board by the Tripoli Bureau.

The NGOs are invited to create and build up national and regional networks in the Mediterranean, with broader representation; the networks are encouraged to attend MAP meetings, sending along competent experts, and they must commit themselves to acting as liaison centres between the various NGOs they represent. (*MED Forum Secretariat: EcoMediterranea, Gran Via de Les Cortes Catalanes 643, 08010 Barcelona, Spain, e-mail: MEDforum@pangen.org*)

For its part, the **MIO-ECSDE**, another network of NGOs which are active in the Mediterranean, organised a workshop on 18-19 December 1998 in Athens, in the National Mortgage Bank's training centre. Its subject was «**The Promotion of Education and Public Awareness of the Environment and Sustainability in the Mediterranean**», with keynote speeches by Mr. John Smith, Maryse Clary and Paul Pace. An interactive multimedia CD Rom of the 1997 Thessaloniki International Conference on the same subject was presented. This workshop focused particularly on education on the environment and sustainability in schools. The MIO-ECSDE is one of the joint task managers for the MCSD's «information and public participation» theme. The latest edition of its newsletter «*Sustainable Mediterranean*» contains an interesting article on the International Year of the Oceans (*MIO-ECSDE, Tripodon 28, Athens 10558, fax +30 1 32 25 240*)

MAP series of technical reports

Atmospheric input of mercury to the Mediterranean Sea: This report is the work of two teams of researchers, one from EMEP (Meteorological Synthesizing Centre-East), based in Moscow, and the other from the Geneva-based World Meteorological Organisation (WMO). This document has the merit of providing an analysis of a highly difficult subject area, that of atmospheric input into the Mediterranean of pollutants which are a function of the prevailing meteorological conditions and wind systems in the sea. Study methods developed over recent years have led to better 'scanning' of the distribution of this heavy metal, and an assessment of its impact. The report runs through the various stages of the global mercury cycle, from the sources in the environment, transport and behaviour in the atmosphere, through to final deposition in the sea. An important chapter deals with the modelling of these processes. In its conclusion the report looks at possible ways of reducing the mercury load in the sea, and at measures already adopted by certain countries (mercury is one of the heavy metals which can seriously affect human health through the food chain). (*MAP Technical Reports Series No. 122, 68 pages, Athens, December 1998, only in English*).

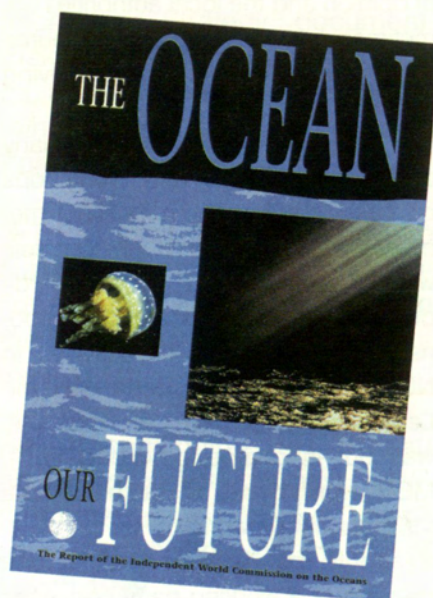
MAP B+H Info

In November 1998 the Office of the MAP National Coordinator for **Bosnia - Herzegovina** published the first edition of this newsletter which describes the country's position in MAP, and reports on the progressive establishment at national and local level of various institutions and programmes in order to meet the requirements of the Barcelona Convention and the Strategic Actions Programme adopted in Tunis. The newsletter also looks at the prospects of participation in the European Union's LIFE-third country with a project on

«Institutional Strengthening of the MAP Office for Bosnia - Herzegovina» which has been accepted. This is a useful source of information about a recently troubled country in which reconstruction must take account of environmental constraints and those pertaining to sustainable development.

The Ocean, our future

In this report which was presented at the Lisbon Conference, around forty experts from 35 countries launch an appeal for better management of the oceans and coastal areas. They propose in particular the setting-up of a World Ocean Observatory and the convening of a United Nations Conference on ocean-related issues. By the **Independent World Commission on the Oceans (IWCO)** the report advocates equity in the oceans, the effective implementation of the International Convention of the Law of the Sea, and the development of scientific and technological research within the framework of UNESCO's IOC. The report comes highly recommended as a follow-up to the Ocean 98 Year to which our last edition was dedicated. (*L'Océan notre avenir-IWCO, Ed. A. Pedone, Paris/The Ocean our future-IWCO-Cambridge University Press, GB, 1998*).

**THE PASSING OF JOAQUIN ROS VICENT**

The accidental death of Joaquin Ros Vicent in September 1998 has particularly saddened the MAP family, within which he had played a leading role for many years. A chemistry graduate of Valencia University, with a doctorate in marine science from the University of Paris, Joaquin Ros took part in the first United Nations conference on the Environment in 1972 as a member of the Spanish delegation. He was involved in the drafting of the Barcelona Convention's Protocol on Pollution from Land-Based Sources, signed in 1980. In 1985 he was appointed head of studies and assessment in the general Directorate for environmental policy in Spain, before becoming deputy Director General of the same Directorate's service for Institutional Relations in 1992. It was he who headed his country's delegation at most of the meetings of the Contracting Parties to the Barcelona Convention which have marked MAP's course. With his ever constructive criticism made with such Mediterranean style, his open-mindedness and ability to brighten up a whole room, to enliven, lead and bring to a successful conclusion discussions which, but for his watchful eye, could well have got bogged down, he was a familiar and respected figure at the intergovernmental conferences where the fate of Mediterranean protection was at stake. He was one of the leading minds and architects behind the 1995 reform of the Barcelona system. Over two years he devoted all his energy as MAP consultant to developing the MAP/GEF Strategic Actions Programme which was adopted at the Tunis meeting in December 1997, and contributed to the Guidelines on Dredged Material which were finalised in Malta last December. In losing him MAP has lost a «soul-mate», in the political and emotional meaning of the term: someone who, in all loyalty, can take the necessary distance and speak his mind when he deems it essential to the success of the common task. The members of the Coordinating Unit, the Regional Activity Centres and Medwaves extend their deepest sympathy to his family and friends.