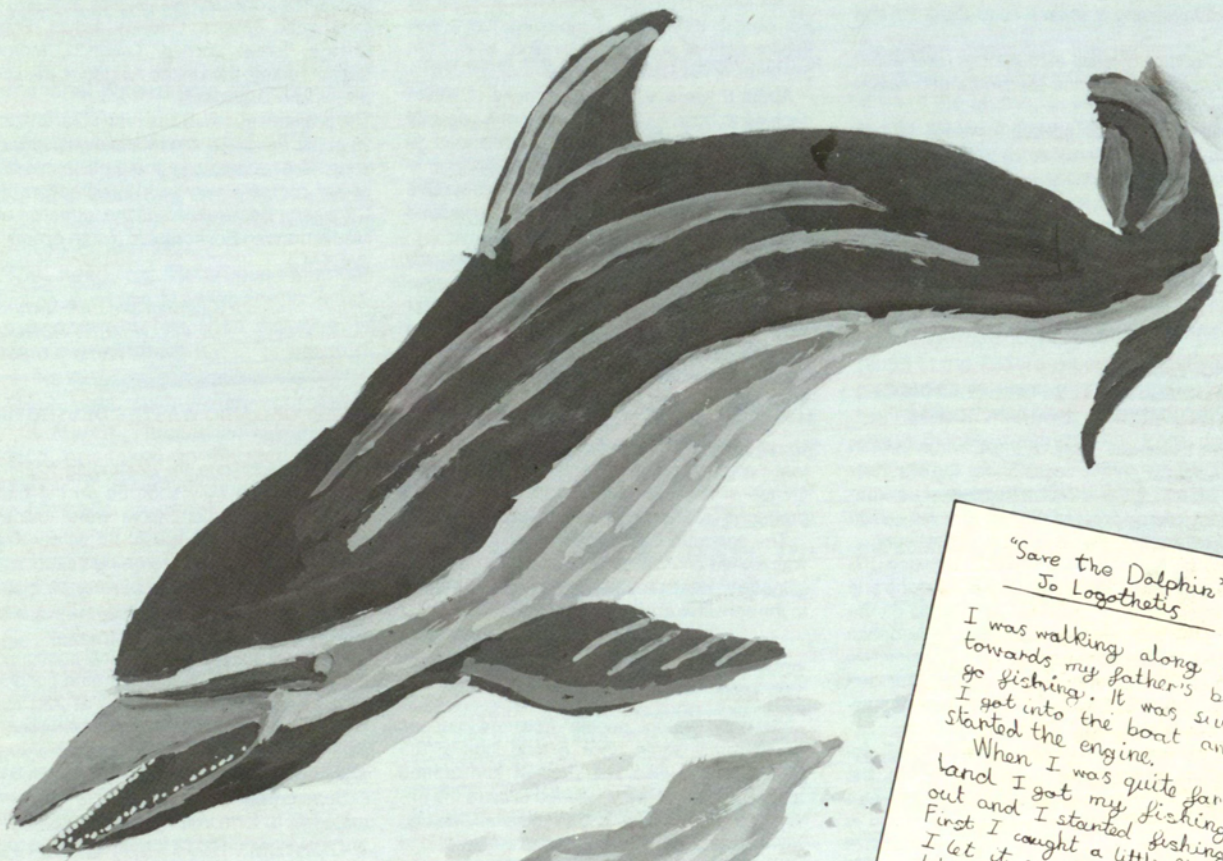


ENGLISH EDITION

MEDWAVES

MAP CO-ORDINATING UNIT • NEWS BULLETIN PUBLISHED IN ENGLISH AND FRENCH • APRIL- JUNE 1986 • ISSUE No 5



"Save the Dolphin" To Logothetis

Story
of me
and a dol-
phin

I was walking along the sand towards my father's boat to go fishing. It was summer. I got into the boat and started the engine.

When I was quite far from land I got my fishing line out and I started fishing. First I caught a little fish and I let it go, then I caught a bigger fish and let that go too - you see, when I go fishing I never keep the fish I catch - and this went on for a long time. I looked up and I saw something moving in the distance. I turned the engine on and went towards it. There, strangling in a fishing net, was a dolphin, all tied up. I just stared at it and thought that if I didn't do anything that dolphin would die. So I took my knife out of my pocket and started cutting the dolphin's rope. After long time the dolphin was free and it started to swim away.

SOS
SAVE OUR SEA

ORIGINAL PAINTING BY JO LOGOTHETIS

THE MAP EXHIBITION IN ALGERIA

An information week on the Mediterranean Action Plan was organized in Algiers between the 20th and the 26th of March 1986.

This cultural and scientific happening consisted of

- a) the original 35-panel MAP exhibition, enlarged by a number of information boards describing and illustrating the Algerian Action Plan for the Protection of the Environment as well as Algeria's contribution to MAP.
- b) a presentation of scientific and technical material and documentation on the prevention and combating of pollution
- c) the screening of several films about the sea and
- d) a number of daily conferences, one about each component of the Mediterranean Action Plan.

There have been special tours for school-children that arrived, in organized school groups, in the afternoon.

As an Algerian journalist pointed out, the exhibition gave them the opportunity to satisfy their thirst for more information about their "mère méditerranéenne" ("Mediterranean mother").

EUROPEAN PARLIAMENT CALLS FOR FREEDOM OF ENVIRONMENTAL INFORMATION ACT

The European Year of the Environment in 1987 should be the occasion for the introduction of an EEC Directive on freedom of environmental information, according to a resolution by the European Parliament on 18 February.

Drafted by the Environment Committee, the resolution denounces the EEC institutions and Member States for their failure to head off the "worsening environmental crisis". European Year of the Environment, it says, should not be allowed to turn into a year of declarations and pronouncements but should be a year of positive decision-making.

Steps which need to be taken in 1987, according to Parliament, should include the proper integration of environmental interests into other EEC policies. A plan of action is needed to ensure the proper implementation of the Community's environmental legislation. A Directive on freedom of environmental information - which may feature in the European Commission's proposals for the fourth Environment Action Programme would ensure that decisions taken by public authorities are open to general scrutiny.

ENDS Report No 133 February 1986

PRIZE FOR A DOCTORAL THESIS ON THE MEDITERRANEAN

The Province of Agrigento and the Agrigento Chapter of the Italian Naval League offer two prizes (of Lire 3,000,000 and Lire 2,000,000) for a doctoral thesis related to the sea (fauna, flora, ports, ecology, archeology, engineering, health, hygiene, pollution, law) presented to a university of a Mediterranean Coastal State in the academic years 1984-85 and 1985-86.

Papers to be submitted by 30 July 1986 to Delegazione della Lega Navale Italiana, via Diodoro Siculo 1, 92100 Agrigento, Italy. The winner will be announced at the 5th International seminar on "Sea and Territory" in October 1986 in Agrigento.

We should point out that this is the first time such a prize goes beyond national borders and is offered to a thesis presented to any University within the Mediterranean Area.

AN EXPERIENCE IN CO-OPERATION IN YUGOSLAVIA

The bay of Mali Ston is situated at about 60 Km west of Dubrovnik, Yugoslavia. It is a well known area of shellfish cultivation, even from the times of the Roman Empire.

About 8 years ago, the commune of Neum decided to build a chain of hotels of a capacity of 2,000 beds, that was later extended to 15,000 proposing to discharge the sewage in the middle of the Mali Ston Bay. The commune of Dubrovnik opposed the plan, having in mind to promote shellfish cultivation.

A joint committee was formed, which finally decided to substitute the original plan for sewage disposal (cost US\$ 1.5 mil) for a longer pipeline (cost US\$ 5 mil) that will transport the sewage waters over 17 km away, across the peninsula and, after treating them, discharge them into the open Adriatic Sea.

This compromise will allow the commune of Neum to build some hotels (only not to the extent it originally planned), and will enable the increase of shellfish cultivation to the planned production of about 40,000 ton/year.

The agreement between the two communes was signed on April 9, 1986 and was hailed by Yugoslav authorities as "a possible approach to the sensitive environment".

SEVENTY YOUTHS SCRUTINIZE THE MED

Seventy young people from 14 nations which rarely agree, took a long look at the Mediterranean Sea last summer and agreed that drastic steps were needed to save the environment. After viewing polluted sites, hearing from experts, and considering alternatives, the young people laid out a blueprint for concerted action by schools, governments, news media, and industry to attack the problems. One recommended measure would make environmental courses a part of school curricula from elementary school through university.

Rallying around the theme "With Cooperation, Nothing is Impossible", the assembled youths issued the Cartagena Declaration. This document lists pollution and overexploitation of natural resources as the world's two most critical environmental problems, and spells out practical ways to deal with them.

These actions took place at the landmark Mediterranean Youth Environment Conference 1-8 September in Cartagena, Spain.

It was endorsed by the United Nations Environment Programme (UNEP) and the International Youth Year Secretariat. The conference was sponsored by the "LEGACY International Youth Program", a private non-profit organiza-

tion which annually conducts summer training programmes for youths in Bedford, Virginia, USA. LEGACY is a programme of the Institute for Practical Idealism, a non-governmental organization of the UN's Department of Public Information.

The youths, nearly all from nations bordering the Mediterranean, heard a grim warning from Aldo Manos, Coordinator of the Mediterranean Action Plan of UNEP, that "by using the ocean as a dump, we are actually mortgaging our future..."

Attending the conference along with the 70 youths (ages 15 to 26) were 30 staff members and senior professionals. Participants and staff came from Algeria, Canada, Egypt, France, Greece, Israel, Jordan, Lebanon, Morocco, Spain, Turkey, the United Kingdom, the United States and Yugoslavia.

The project's success has drawn the support of 25 public agencies and multinational organizations. Most importantly, the participants began to act co-operatively with the creation of the Cartagena Declaration and the formation of the Mediterranean Environment Youth Action Club (MEYAC).

*Ira Kaufman and Emil Michael Aun
"DEVELOPMENT FORUM"
January-February 1986*

A NEW ORGANIC WASTES DESTROYING TECHNIQUE

A new technique for destroying hazardous organic wastes may soon be on the market. The process, super-critical water oxidation, has recently been taken to demonstration scale in the USA and promising destruction efficiencies have been achieved in trials on chemical and biological wastes by a leading pharmaceuticals firm.

The process relies on a radical change in the properties of water under extreme conditions. When heated to over 350° C at 220 atmospheres pressure, it becomes an excellent solvent for organic substances but inorganic materials become only sparingly soluble in it.

Supercritical water also reacts with organic materials to form volatile organic liquids which are rapidly oxidised to form harmless products such as carbon dioxide in the presence of air or oxygen.

These properties have been exploited by a scientist at the Massachusetts Institute of Technology, Michael Modell, in his patented MODAR process.

A demonstration unit treating 1,000 gallons of waste per day has now been installed at a landfill site near Niagara Falls to treat leachate and contaminated soil.

The new method's appeal is several-fold. Because wastes are destroyed in a closed system the process will not be subject to the questions about hazardous emissions to air which are causing trouble for the incineration business around the world. Residues for disposal to landfill will be minimal and quite probably will not be subject to the restrictions applied to hazardous waste.

ENDS Report No 133, February 1986.

A PAINFUL PROCESS WITH VALUABLE RESULTS

*The International Laboratory of Marine Radioactivity
co-ordinates, since 1984, the development of Reference
Methods on behalf of UNEP*

RESearch and monitoring carried out by laboratories on a transnational basis, within the framework of regional or international agreements on cooperation or organizations introduce a major problem: Are the results comparable?

To solve that problem one has to choose and test some specific methods, compare their results and then use them as Reference Methods.

The need for Reference Methods in the case of the Mediterranean Action Plan is obvious. The Plan includes 17 countries, at different levels of development.

Since 1984 the International Laboratory of Marine Radioactivity (ILMR) at Monaco, has taken on the technical co-ordination of the development of Reference Methods on behalf of UNEP. The ILMR operates under a tripartite agreement between the International Atomic Energy Agency (IAEA), the Government of Monaco and the Principality's Oceanographic Institute. The Laboratory develops, drafts, revises and tests Reference Methods to be used by the Regional Seas Programme. Today there are eleven regional sea areas where action plans are operative or under development.

DEFINING THE "BEST" METHOD

TO BE of genuine practical use the Reference Methods developed by ILMR have to reflect the realities of today's world. That is why, as Dr Simon Aston, head of the Marine Environmental Studies Laboratory, expresses it, "the 'best' method, in this context, is *not* necessarily the most sophisticated, accurate or precise technique".

The most obvious reason for this is that the method in question has to be applicable throughout the world, regardless of the stage of development a certain country is at, or else results from that country won't be either available, or credible or comparable. This means that the method has to make use of easily available and serviceable equipment, so it must

not be too sophisticated. So the most important factor determining the "best" method is the availability of instrumentation.

On the other hand the method has to be reliable. If it doesn't produce reasonably accurate, precise and reproducible results it is of no use. What scientists mean by "reasonably" accurate is that the data should be of sufficient accuracy and precision to allow meaningful interpretation, that is not to lead the experts to false conclusions – or to no conclusions at all.

The best method is not necessarily the most sophisticated but one that can be applicable on a worldwide basis, including many developing countries.

Another reason backing this statement is that the Methods must be used in conjunction with appropriate mandatory quality control which is achieved only through standards available on an international basis. Since national authorities have a tendency of being conservative when it comes to adopting standards, the Methods have to be in line with a, so to speak, lowest common denominator.

One has to bear in mind that the Methods, of course, are not adopted once and for all. As the techniques evolve and the instrumentation improves and becomes more widely available, Reference Methods are revised and retested.

This is a very difficult and painful process since the Methods are frequently incorporated in relevant national legislations as mandatory standard methods. If the Reference Methods are improved, national legislative bodies are often pressed to conform national legislation to the new methods.

HOW THE METHODS ARE ADOPTED

Dr Aston describes the process of the adoption of a Method: "Normally, a first draft of the Method is written by an expert in the relevant field. The draft is widely distributed to selected institutes, usually though not exclusively to those participating in the Regional Seas Programme, with a request to test the Method. The results of the tests are then reviewed by expert group meetings and the draft is afterwards turned into a regular issue which is recommended to be used by all participants in the Programme. After further experience is gained with the application of the method it may be revised, again as a result of recommendations from an expert group meeting. Reference Methods which have been thoroughly tested and found to satisfy the legal requirements of the countries participating in the Regional Seas Programme are recommended to be used in the context of specific Regional Seas Action Plans and Conventions".

The Reference Methods are useful in yet another way: In case of an accident or a pollution incident that occurs in one country but has effects across its borders, Reference Methods help the Governments involved to clarify their disputes (which is not by itself a solution to problems since another standard required in such cases, namely common pollution limits of vigilance or alert, does not fall into this category).

TOWARD A GLOBAL SYSTEM

THE UNEP Reference Methods are developed and tested through inter-agency co-operation (WHO, FAO, WMO, IOC, Unesco, IAEA) with the assistance of consultants, research institutes and individual scientists.

The goal is to make the results of the regional research and monitoring programmes comparable on the regional and inter-regional level, and consequently contribute to UNEP's Global Environment Monitoring System (GEMS).



MENDING THE ERRORS OF THE PAST

The rehabilitation projects help secure that the traditional identity of historic sites is maintained

THE Mediterranean Basin proved, over the centuries, to be the contact point of a great number of civilizations. Inevitably wars burst out, whole regions were destroyed, economies rumbled and fell. People though tend to stay bound to their homes. They prefer, in general, to stay there, poor as they may be, instead of uprooting themselves trying to find a better future. Only the most courageous, the explorers, the poorest or the most hunted do otherwise.

So people remained in the same places, towns and villages that were inseminated by conquerors, voyagers, merchants or immigrants.

As times went by and economic structures changed, towns expanded, new building materials were used, new facilities were incorporated into the new houses and, inevitably, old city quarters declined, villages were deserted in favour of towns and cities and historic settlements, depopulated, entered a period of abandonment.

Only after World War II, while humanity was ushered violently into a new economic, technological and cultural era, did the people acknowledge the existence of the historic settlements, rediscovering the strings that attached them to their own pasts.

The preservation and rehabilitation of those settlements far from being an emergency subject for Governments, slowly climbed up the scale of priority actions to be taken and enjoys, today, a relatively high respect among economists, sociologists, architects and environmentalists alike.

The Priority Actions Programme of the Mediterranean Action Plan, launched in 1984 a project entitled "Rehabilitation and Reconstruction of Historic Settlements in the Mediterranean Area".

The objective and purpose of the project, one of the 10 projects of PAP, is the exchange of information and experience and the transfer of knowledge on re-

search, reconstruction and rehabilitation of Mediterranean historic settlements, using the knowledge gained in individual countries in professional institutions and by experts; and the improvement of the methods and techniques used for the protection of architectural heritage, this being a vital factor of the contemporary life and the development of historic settlements.

Fourteen Mediterranean countries are participating, today, in this project.

THE FIRST PHASE

IN order to evaluate the existing, at that time, state of knowledge of the participa-

Historic areas are not only an extremely important cultural property but also a decisive socio-economic factor of urban development.



ting countries, the Regional Activity Centre on PAP based in Split, asked the national experts to prepare national reports, containing information about (among other subjects) the basic characteristics and values of their historic towns and architectural heritage and the typical problems encountered by historic settlements that imperil not only their architectural heritage but their socio-economic status and their development as well. The contents of the reports also included information about scientific organizations dealing with conservation problems, professional institutions, central and regional institutes etc. Each country's experiences, particularly the ones relative to research methodologies, evaluation, urban planning, architectural design, inspection and maintenance, were likewise mentioned.

The next step was to organize a seminar on reconstruction and rehabilitation. It was held in Split (May 22-24, 1985), and 12 countries participated (Algeria, Cyprus, France, Greece, Israel, Italy, Morocco, Spain, Syria, Tunisia, Turkey and Yugoslavia). The seminar was attended by representatives of ICCROM (the International Centre for the study of Conservation in Rome).

The recommendations of the first seminar included the preparation of demonstration (or case) studies, in order to point out characteristic types of Mediterranean towns.

THE CASE STUDIES

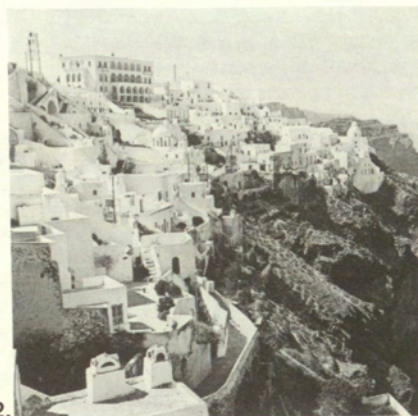
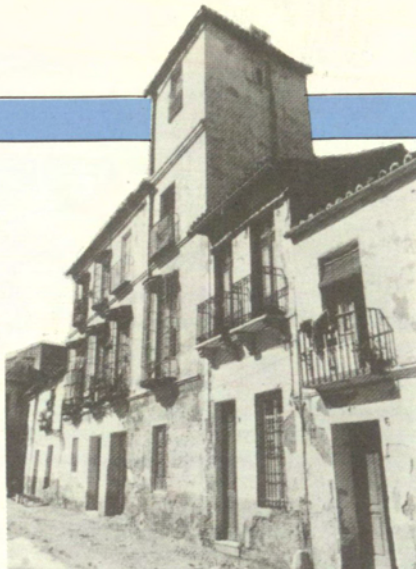
THUS selected were six types of settlements:

- a. whole towns that could illustrate the problems their historic cores are facing, towns of European, Islamic or mixed cultures such as Genoa (Italy), Fes (Morocco), Split (Yugoslavia) and Nicosia (Cyprus);
- b. characteristic historic town quarters of different culture physiognomy such as Le Panier (Marseille), Hafsia (Tunis),

1. Trinidad –
Perchel (Spain)

2. Santorini (Greece)

3. Split (Yugoslavia)



1.

2.

Lalrhun (Algiers) and Trinidad – Perchel (Malaga).

- c. small historic towns recognized for their historic environmental value such as Safranbolu (Turkey);
- d. historic traditional villages such as the settlements on the island of Santorini (Greece);
- e. architectural sites such as Basra (Syria); and
- f. historic settlements which face an accentuated problem of human environment (that is, a conflict between the historic, traditional, architectural etc. values and the developed industry or other intense uses and activities in the area) such as Yaffo (Israel).

Eight studies, out of the total of eleven that were commissioned were presented and discussed in the second "Seminar on the Experiences in the Protection and Rehabilitation of Selected Mediterranean Historic Settlements" that was convened in Split (April 16-19, 1986). These were the studies prepared by Israel, France, Italy, Spain, Tunisia, Cyprus, Morocco and Yugoslavia (in order of their presentation). Turkey, Greece and Syria presented papers outlining the experience and explaining the problems related to the conservation of the corresponding settlements selected as subjects of case studies.

"The debate that followed", states the Report of the seminar, "highlighted the most important common problems stated in the case studies stemming from:

- a. conflicts of responsibility on various levels of authority;
- b. lack of co-ordination between authorities concerned on the national, regional and local level;
- c. lack of precision in the definition of the national policies;
- d. insufficient information of decision-makers and local authorities regarding the problems of historic settlements;
- e. lack of financial resources even for initial activities and interventions;

- f. lack of an interlink between socio-economic and technical studies.

WHAT REMAINS TO BE DONE

AN awful lot of things. To begin with, the second seminar in Split stressed the need to strengthen *public participation*. This is, of course, a resolution of capital importance if the project is to transcend the stage of studies and declarations of good will. The people living in the settlements, but the general public as well, must take active part in the project since it is *their* habitat the whole project is about. The stimulation of public interest can be obtained through publicity campaigns, including video presentations, animated cartoons, pamphlets etc.

Another step that must be taken relates to the documents and material prepared in PAP and on national level. The seminar recommended that it should be processed by PAP/RAC and adjusted for use by decision makers.

The immediate objectives are to complete the work with the 3 remaining commissioned case studies and to organize a

workshop on architectural survey. The workshop, to be held in November, will try to propose ways of improving architectural surveying, this being the basis for preparing documentation on the existing state and other aspects of the analysis of architectural heritage.

Another workshop is being prepared for early next year, on the illustration and presentation of the physical (spatial) development of historic towns. The workshop will compare the different proposals and will jointly decide which are the best, in order to recommend them to the Mediterranean States.

The Genoa Declaration called for the identification and protection of at least 100 historic sites of common Mediterranean interest. The first step toward this ambitious goal will be to prepare criteria for the selection of these settlements. Proposals as to how to approach the criteria and how to identify them will be made by PAP/RAC in consultation with ICCROM, ICOMOS (International Council for Monuments and Sites) and, of course, Unesco.



3.



BLUE PLAN DATA BASE (Second Version) Bilingual English-French Edition, 1986.

This volume of statistical data is the second, updated version of the Blue Plan Data Base, developed in Sophia-Antipolis during the Blue Plan's first phase. In its 291 pages the volume contains 87 tables and 23 figures (graphical presentations) concerning the following eleven general subjects: General Parameters, Population, Environment, Socio-cultural, Macroeconomy, Food and Agriculture, Industry, Energy, Oil, Transport and Tourism.

One should note that some sections included in the first version have been removed either because of the difficulty of updating them or because they can be found now in the second B.P. Economical Data Base (to be combined with this volume later on). Furthermore a new chapter with sections referring to the Mediterranean Environment has been added.

As Michel Grenon, Scientific Director of the B.P., notes "this chapter is still very incomplete, because valuable environmental data, and especially historical series covering the whole Mediterranean Basin are dramatically scarce. We hope that the third version of this Data Base, which will complement the final report on Mediterranean scenarios by the end of 1987, will be efficiently enriched with the many data presently being collected".

"OVERVIEW OF THE MEDITERRANEAN BASIN (Development and Environment)" Mediterranean Action Plan, Blue Plan first phase, Marseille, France, 1986.

A most interesting brochure for use by scientists, journalists and the general public alike.

It provides basic statistics on the Mediterranean peoples, their mobility and their ways of life, it outlines the activities in the region (agricultural as well as industrial) giving valuable statistics on several subjects (economy, energy, transportation, tourism etc) and depicts the mediterranean areas, their ecology and the sources of pollution in the region. The final fourth part discusses some probable long-term trends.

The brochure summarizes some 4,000 pages, contained in 12 expert studies and gives an outline of the basis upon which the forthcoming national scenarios (as well as the synthesis scenario) will be founded. These scenarios, commissioned to all Mediterranean countries, are supposed to be ready by the end of 1987, when the second phase of Blue Plan is due to end.

"OIL IN THE SEA, INPUTS, FATES AND EFFECTS" National Academy Press, Washington D.C., 1985.

"The 1975 National Research Council (NRC) report, *Petroleum in the Marine Environment*, has proven to be an extremely important document. It has been used as a primary source by individuals and groups ranging from scientific investigators to concerned laymen. However, in mid-1980 it became clear that an update of the 1975 report was necessary. Much of the published material used as a basis for the ear-

lier report predates a workshop held in 1973 that provided most of the background for the 1975 report. Since then, significant new data and information have been published. Thus, the U.S. Coast Guard requested that the Ocean Sciences Board (OSB) (now the Board on Ocean Sciences and Policy) undertake a new examination of this subject". [Excerpt from the preface].

The steering committee organized public meetings and workshops invited experts from the USA and 7 other countries to prepare papers.

In February 1982 the steering committee began the task of preparing the new report, based on the input, ideas and comments obtained by the previous steps. The writing process involved several review steps. Drafts from these iterations were carefully reviewed at several meetings of the entire steering committee. The review process was completed in November 1984.

This massive (600 pages) volume contains valuable detailed information and consists of the following chapters:

Chemical composition of Petroleum Hydrocarbon sources, Inputs, Chemical and Biological Methods, Fates and Effects. An Appendix on Spill Case Histories concludes this major work.

THE MAP BROCHURE



The brochure giving a short history of the Mediterranean Action Plan and describing its history and implementation, has been published in Italian, Arabic and French.

THE PAP/RAC BULLETIN IN ARABIC

The information bulletin of the Priorities Action Programme's Regional Activity Centre is now being published in Arabic. The first issue

appearing in this language is Vol. 5 No 1, January-March 1986.

A MAP OF MAP

A highly informative colour map of the Mediterranean Basin showing the limits of the Barcelona Convention and depicting the Coordinating Unit and the Regional Activity Centres, has been published.

This detailed map, produced by HALVAG AG, appeared in 5,000 copies.

The map also contains information about MAP and its components in English, French, Arabic and Spanish.

MAP TECHNICAL SERIES

The first three issues of the Mediterranean Action Plan's Technical Series have been published.

This Series will collect and disseminate selected scientific reports obtained through the implementation of the various MAP components: Pollution Monitoring and Research Programme (MED POL), Blue Plan, Priority Actions Programme, Specially Protected Areas and Regional Oil Combating Centre.

The first eight issues will refer to the MED POL I to VIII pilot projects. The already published issues are the following:

UNEP/IOC/WMO: Baseline studies and monitoring of oil and petroleum hydrocarbons in marine waters. (MED POL I). MAP Technical Reports Series No 1, Athens 1986.

UNEP/FAO: Baseline Studies and Monitoring of Metals, particularly Mercury and Cadmium, in Marine Organisms (MED POL II) MAP Technical Reports Series No 2. UNEP, Athens 1986.

UNEP/FAO: Baseline Studies and Monitoring of DDT, PCBs and Other Chlorinated Hydrocarbons in Marine Organisms (MED POL III). MAP Technical Reports Series No 3. UNEP, Athens 1986.

VARIOUS PUBLICATIONS

FAO/PNUE/OMS/AIEA, Rapport de la réunion FAO/PNUE/OMS/AIEA sur le cycle biogéochimique du mercure en Méditerranée. Sienne, Italie, 27-31 août 1984. *FAO Rapp. Pêches*, (325): 17 p., 1986.

FAO/UNEP/WHO/IOC/IAEA, Papers presented at the FAO/UNEP/WHO/IOC/IAEA Meeting on the biogeochemical cycle of mercury in the Mediterranean. Siena, Italy, 27-31 August 1984. *FAO Fish. Rep.*, (325)Suppl.: 187 p., 1986.

FAO/PNUE, Rapport de la réunion FAO/PNUE sur la toxicité et la bioaccumulation de certaines substances dans les organismes marins. Rovinj, Yougoslavie, 5-9 novembre 1984. *FAO Rapp. Pêches*, (334): 22 p., 1986.

FAO/UNEP, FAO-PNUE, Report of the FAO/UNEP Meeting on the effects of pollution on marine ecosystems. Blanes, Spain, 7-11 October 1985. Rapport de la réunion FAO/PNUE sur les effets de la pollution sur les écosystèmes marins. Blanes, Espagne, 7-11 octobre 1985. *FAO Fish. Rep./FAO Rapp. Pêches*, (352): 20 p., 1986. Bilingual French-English Edition.

CHERNOBYL AS A TURNING POINT

Big accidents, resulting in environmental catastrophes, are, of course, distressing events. But they do have a positive side, inasmuch as they demonstrate in the most obvious way that there is no such thing as an environmentally "clean" technology (a technology that does not pollute the environment) or an accident-proof controlling technique.

They also prove, in the most dramatic way, that environmental disasters transcend national borders. The same can be said about lesser events (lesser in magnitude or dramatic effect but not the least lesser as far as the polluting results are concerned, especially when we refer to cases with accumulative effects).

There is a third thing that is paramountly manifested by environmental catastrophes of international dimensions (in this case the Chernobyl disaster): that the only way to deal with such events is international co-operation.

This is why transnational initiatives like the Mediterranean Action Plan, based on (not just good intentions but) exchange of information, active co-operation and assistance to the lesser developed countries, is one of the few ways we have in order to confront such unfortunate occurrences.

Our planet has become, as the saying goes, a Global Village.

The Chernobyl incident must become a turning point, inciting Governments toward closer co-operation, just as it has already sensitized the peoples of the Earth in environmental protection.

The Editor



THE MAP CALENDAR OF MEETINGS

APRIL - DECEMBER 1986

Meeting of the Working Group on Scientific and Technical Co-operation	16-20 June Athens
National Seminar on Marine Oil Pollution	21 June-1 July Alexandria
Seminar on Integrated Planning and management of Mediterranean coastal zones	25-27 June Athens
Study Group on Mediterranean scenarios	30 June-1 July Sophia Antipolis
Meeting of experts to review the methodology and guidelines for Environmental Impact Assessment (EIA)	7-9 July Split
Practical training Course on combating oil pollution on sea shore MEDEXPOL 86	8-12 Sept. Brest
Consultation Meeting on health hazards from methylmercury in the Mediterranean area	15-19 Sept. Athens
Meeting of Bureau (BUR 27)	2nd week Sept. Rabat
Seminar on Earthquake zones (case studies and the project proposal)	16-18 Sept. Genoa
Seminar on Water resources management practices in small Mediterranean islands	24-26 Sept. Palma de Mallorca
Seminar on soil protection (soil erosion)	1-3 Oct. Split (tentative)
Meetings of experts on codes of practice for solid and liquid waste	13-16 Oct. Split
VIII ICSEM/IOC/UNEP Workshop on Pollution of the Mediterranean	20-25 Oct. Palma de Mallorca
Sixth meeting of Steering Committee of BP	21-22 Oct. Roma
Intercalibration exercise for reference methods dealing with Petroleum Hydrocarbons	Oct. Barcelona (tentative)
Workshop on architectural survey of historic settlements	3-5 Nov. Split (tentative)
Determination of Mercury, Lead and Cadmium in Sediments and Organisms	3-7 Nov. Monaco
Experts Consultation on guidelines for Specially Protected Areas	Nov. Athens (tentative)
Meeting on appropriate methods for eutrophication assessment and identification of markedly eutrophied area	Nov. Bologna (tentative)
Meeting of experts on offshore Protocol (Technical)	Nov. Athens (tentative)
Meeting of experts on water resources management practices in large Mediterranean islands	10-12 Dec. Malta
Seminar on Mediterranean tourism harmonized with the environment	15-17 Dec. Split (tentative)
ROCC Review Meeting	2nd week of December Malta

SEMINAR ON AQUACULTURE AND ENVIRONMENT

A regional seminar on "Aquaculture and Environment" was held in the city of Patras, Greece, between the 21st and the 30th of April, 1986.

The seminar was organized by the Mediterranean Regional Aquaculture Project of FAO. PAP/RAC of MAP contributed by sponsoring three of the lecturers.

The meeting was attended by more than 20 participants from Algeria, Cyprus, Egypt, Greece, Malta, Morocco, Portugal, Tunisia and Yugoslavia.

Lecturers included scientists from several Mediterranean countries as well as Norway, Japan and the United Kingdom.

The meeting had three objectives:

- to determine the knowledge of the environments selected;
- to draw up the inventory of the existing reports on the relations between the environment and the different aquaculture activities under development; and
- to define a methodological approach for the development of Mediterranean aquaculture.

The essential characteristics of the structure and function of coastal ecosystems were taken into consideration. The works to be undertaken were discussed after some fundamental points, still quite ignored, were brought to the fore.

The lecturers also related to the aquaculture potentialities of different environments and to the impact of aquaculture on ecosystems.

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If you would like to propose an article on a subject related to marine science, please address to: Spyros Vretos, Editor, MEDWAVES, Co-ordinating Unit of the Mediterranean Action Plan, 48 Vas. Konstantinou Ave., 116 35 Athens Greece. Tel. (00301) 7236.586, Telex 222 611 MEDU-GR

PELAGIA NOCTILUCA: AN UNWANTED STAR OF THE SEA

Scientists agree on the fact that jellyfish are a nuisance rather than a health hazard

JELLYFISH do not seem to represent a serious health hazard but may disrupt, as we all know, recreational activities such as bathing and fishing. This is the basic conclusion of a review meeting of experts on the MED POL Jellyfish Programme, held in Trieste, Italy, between the 27th and the 29th of January, 1986.

Mediterranean governments being aware of the phenomenon and its implications on tourism in coastal areas and suspecting a possible adverse health effect of jellyfish sting, decided in the third Meeting of the Contacting Parties in Dubrovnik, in 1983, to study the jellyfish problem within the framework of MED POL-Phase II.

As a result a workshop on the subject was organized in Athens later that year and the participating countries decided to extend their national monitoring programmes in order to include observations on jellyfish.

The Trieste meeting had the task to review these national activities, identify possible problems that occurred and propose recommendations for the future of the programme. National experts from all the participating countries but one, attended the meeting. The countries represented were France, Greece, Italy, Malta, Turkey and Yugoslavia. Spain did not participate.

The study of the countries' reports proves that much more information is now available on the physiology, reproduction, histology, chemistry, development, behavioural responses, biochemical components as well as temporal and spatial distribution of *Pelagia Noctiluca*, even though the two year research period was insufficient in producing enough information to be able to achieve all the objectives of the programme.

Various suggested methodologies were applied in the several monitoring projects carried out over a large geographical coastal area including the French and Ligurian coasts, the Central

Mediterranean, Greek waters and the Adriatic. Various species of medusae which may give rise to aggregations were investigated, especially *Pelagia noctiluca* and *Aurelia aurita*.

The case of *Pelagia Noctiluca*

DETAILED information on *pelagia* indicates that fluctuations in populations of that specific species occur since at least 200 years and that the pattern of the formation of aggregations is essentially that of abundance for several successive years, with little inter-year variations, followed by a period of absence or very low population densities.

The two-year project indicated that fluctuations exist since at least 200 years. The monitoring and research activities must continue in order to enhance our basic knowledge on the problem of mass occurrences of jellyfish and its causes in order to devise remedies.

More specifically, the coastal aggregations of *Pelagia noctiluca* first recorded after the launch of the programme in 1977, reached maximum intensity and the largest geographical extent in the 1980-1983 period.

Pelagia is essentially an offshore species and coastal swarms have been in some cases interpreted as passive aggregations of moribund individuals at the end of their biological cycle, driven into coastal waters under the action of water movements, while active aggregations may be more frequently found in offshore areas. The vertical distribution migration of such species is at present not fully understood and the possibility

that the occurrence of such species is being determined by movements of intermediate waters has been suggested.

It has been proved that the Mediterranean *Pelagia noctiluca* reproduces all year round, and that temperature is a major environmental factor affecting the population densities of the species.

Impact Assessment

THERE are indications that *Pelagia* does not really represent a serious health hazard since only a few cases of stinging led to severe medical complications, although the problem of sensitization (due to repeated stinging) has not been significantly investigated. However, the mass occurrence of jellyfish may disrupt recreational activities as holidaymakers may averse to bathe in the sea for fear of being stung. The most significant impact is now thought to be on the general pelagic ecosystem. Physiological data on *Pelagia noctiluca* indicate that the presence of enormous numbers of this species might exert a significant impact on the nutrient regeneration mechanisms of the ecosystem and on other members of the pelagic community. These may well lead to important implications on the marine food resources and the natural stability of such pelagic ecosystems.

Defining the causes

WHAT are the causes leading to the phenomenon? The Report of the Meeting states four:

- a. an increase in productivity, either due to natural fluctuations or to organic pollution, resulting in an increased food availability to the jellyfish;
- b. changes in the number of predators/competitors of *Pelagia* leading to a decrease in the normal factors controlling its population density;
- c. major displacement of water masses to explain the appearance of *Pelagia* in areas previously unrecorded;
- d. major hydroclimatic changes affecting the factors normally controlling *Pelagia's* population.