

RECOMMENDATIONS CONCERNING THE LONG-TERM PROGRAMME FOR
POLLUTION MONITORING AND RESEARCH IN THE MEDITERRANEAN SEA
(MED POL - PHASE II)

The Contracting Parties:

1. Note with satisfaction the progress achieved in the implementation of the Long-term Programme for Pollution Monitoring and Research in the Mediterranean Sea (MED POL - PHASE II), but recommend that the Bureau examine the procedure for the establishment of monitoring agreements in order to accelerate the implementation of the assistance covered by the monitoring agreements.
2. Endorse the planned activities relevant to the evaluation and publication of results obtained during MED POL - PHASE I.
3. Recommend the MED POL National Co-ordinators to submit, without delay, the missing information on national monitoring programmes and to report on the results obtained through these programmes according to the decisions of the Second Meeting of the Working Group for Scientific and Technical Co-operation for MED POL (UNEP/WG.91/12).
4. Endorse the specific recommendations relevant to the monitoring and research activities as they appear in appendices 2 and 3 to the present recommendations.
5. Endorse the proposed programme of work related to the jelly-fish problem as it appears in appendix 4 to this annex and request the secretariat to submit to the Bureau a workplan based on proposals by Contracting Parties according to the guidelines contained in UNEP/IG.49/Inf.5. for approval.
6. Request the secretariat to convene in late 1984, a meeting of Governmental Experts to consider matters related to the technical implementation of the Land-based Sources Protocol, and in particular, the environmental quality criteria, taking into account other relevant discussions in the framework of the United Nations.
7. Endorse the specific recommendations related to the implementation of the Dumping Protocol, as they appear in appendix 5.
8. Express appreciation for the reports assessing the microbiological and mercury pollution of the Mediterranean (UNEP/WG.91/5 and UNEP/WG.91/6) prepared by the secretariat in co-operation with WHO and FAO on the basis of results reported by the national institutions, ask the secretariat to keep them updated, and take note of the conclusions contained in these documents.
9. Recommend the proposed WHO/UNEP interim environmental quality criteria for coastal recreational waters, shellfish and shellfish-growing waters, as well as the proposed FAO/WHO/UNEP interim environmental quality criteria for mercury in seafood as they appear in appendices 6 and 7, to be used as the basis for adoption of legal and/or administrative measures, particularly by those Contracting Parties not having standards in force at present.

10. Recommend that the Meeting of the Governmental Experts on the Technical Implementation of the Land-based Sources Protocol includes in its agenda the reviewing of the measures proposed in appendices 6 and 7, taking into account comments which will be sent to the secretariat by the Contracting Parties.
11. Approve the budgetary allocation for 1984-1985 contained in Section I, Chapters 3 and 4 of the MAP budget (annex VII to this report).

APPENDIX 2 (MED POL - PHASE II)

RECOMMENDATIONS CONCERNING MONITORING ACTIVITIES

On the basis of the deliberations of the Second Meeting of the Working Group for Scientific and Technical Co-operation for MED POL (Athens, 21 - 25 November 1983), the following activities are recommended to be carried out by the secretariat, in close collaboration with the Co-operating Agencies, during the period 1984-1985:

1. Convene two meetings of the Working Group for Scientific and Technical Co-operation in December 1984 and December 1985;
2. Continue close co-operation with the MED POL National Co-ordinators in order to:
 - increase contributions to MED POL - PHASE II through the national monitoring programmes;
 - facilitate contacts with national research centres which are designated as participants in the monitoring activities of MED POL - PHASE II so as to strengthen their participation in the programme;
 - provide equipment, training and fellowships to, and prepare an assessment of mid-term requirements of, national research centres;
 - continue the close collaboration with Co-operating Agencies on all relevant aspects of MED POL monitoring activities in order to benefit from their experience, expertise and contributions; and
 - organize small ad hoc meetings of scientists/experts from collaborating research centres to discuss specific problems related to their participation in the programme;
3. Continue to support the national research centres through the common maintenance service of laboratory instruments, provision of reference methods for marine pollution studies, provision of reference materials and analytical standards, and involvement in intercalibration;
4. Further the analysis of the data collected during MED POL - PHASE I, and prepare the relevant scientific publications, in particular the assessment of: (a) pollution from petroleum hydrocarbons, (b) pollution from heavy metals other than mercury and (c) pollution from halogenated hydrocarbons;

5. Strengthen the computerized MED POL data bank by processing the data reported to the secretariat and prepare periodic data profiles of specific pollutants;
6. Continue to develop and test additional reference methods for marine pollution studies, and prepare analytical standards and reference materials relevant to parameters to be monitored during MED POL - PHASE II;
7. Prepare and implement, as a result of research activity 'L', a pilot project which will provide the basis for monitoring the transport of pollutants into the Mediterranean Sea through the atmosphere;
8. Follow activities of bodies whose work is relevant to the MED POL programme, informing the National Co-ordinators, and sponsor the participation of scientists/experts in meetings organized by other bodies on subjects relevant to monitoring activities of MED POL; and
9. Co-sponsor with ICSEM and IOC, the VII ICSEM/IOC/UNEP Workshop on Pollution of the Mediterranean Sea (Lucerne, October 1984), support the participation of scientists from MED POL research centres, and contribute to the publication of the proceedings.

APPENDIX 3 (MED POL - PHASE II)RECOMMENDATIONS CONCERNING RESEARCH ACTIVITIES

On the basis of the deliberations of the second Meeting of Working Group for Scientific and Technical Co-operation for MED POL (Athens, 21 - 25 November 1983) the following general and specific procedures are recommended to be followed:

1. All research proposals should reach the secretariat, with the endorsement of the relevant MED POL National Co-ordinator, not later than 15 March of each year. Project proposals reaching the secretariat after that date would only be considered for financial support in the following year. This procedure would allow for proper planning of resources and would allow the secretariat to draw the attention of the Contracting Parties to research subjects not covered by proposals.
2. The secretariat, in collaboration with the Co-operating Agencies, would evaluate each proposal and inform officially, by the end of June of each year, the originator of the proposal and the National Co-ordinator about the acceptance or the refusal of the proposal, as well as the size of support allocated to the project.
3. Regardless of the duration of the project indicated at the beginning, funding will be ensured for a period of twelve months, with the possibility of additional funding subject to receipt of a satisfactory progress report.
4. Support provided through MED POL should continue to have a catalytic function, and most of the cost of each project should be covered by the Governments, or other sources at the disposal of the project.
5. A single project should not receive more than US\$ 10,000 over any twelve month period, without explicit approval of the Working Group.
6. When no adequate proposals have reached the secretariat for certain type of research activities approved by the Contracting Parties, the secretariat may actively solicit proposals from Mediterranean research centres, in particular on topics essential for the successful implementation of the monitoring component of MED POL.
7. Activity 'A'. Development and testing of sampling and analytical techniques for monitoring of marine pollutants

Project proposals related to development and testing of methods for mandatory monitoring parameters should have priority. Allocation for Activity 'A' could also be used in connection with the cost of the meetings (workshops) related to testing and intercalibration of sampling and analytical techniques.

8. Activity 'B' Development of reporting formats required according to the Dumping, Emergency and Land-based Sources Protocols

Activity 'C' Formulation of the scientific rationale for Mediterranean Environmental Quality Criteria

Activity 'E' Guidelines and criteria for the application of the Land-Based Sources Protocol

The commencement of these research activities and the content of their programme will be based on the progress of the work of the group responsible for the implementation of the Land-based Sources Protocol.

9. Activity 'D' Epidemiological studies related to Environmental Quality Criteria

In view of the progress made through MED POL in the evaluation of the environmental quality of bathing beaches and shellfish growing waters, as well as of the levels of mercury in sea-food, efforts should be continued and intensified to obtain the additional epidemiological knowledge needed for the full understanding and interpretation of data obtained up until now. Two small expert group meetings are planned to be convened to further research in each of these fields.

10. Activity 'F' Research on oceanographic processes

In addition to the work proposed to be carried out through project proposals, IOC will collect and analyse information on oceanographic processes relevant to the surface circulation and vertical transport in the Mediterranean.

11. Activity 'G' Research on the toxicity, persistence, bio-accumulation, carcinogenicity and mutagenicity

Activity 'I' Pollution-induced ecosystems modifications

Two small workshops are planned to be convened in 1984 and 1985 respectively to evaluate the first results of the approved projects and to discuss methodological problems related to these activities.

12. Activity 'H' Eutrophication and concomittant plankton blooms

The results of the Workshop on Jelly-fish Blooms in the Mediterranean, held in Athens from 31 October to 4 November 1983, will be used for the further development of this activity.

13. Activity 'J' Effects of thermal discharges on coastal organisms and ecosystems

The activity of GESAMP's Working Group on Biological Effects of Thermal Effluents in the Marine Environment will be closely followed and taken into account in approving project proposals in this field.

14. Activity 'K' Biogeochemical cycles of specific pollutants

A Workshop is planned to be convened in 1984 to review the biogeochemical cycle of mercury in the Mediterranean in order to provide additional information needed for the assessment of mercury pollution in the Mediterranean.

15. Activity 'L' Pollutant-transfer processes

In addition to the work proposed to be carried out through the research proposals, the activity of GESAMP's Working Group on Interchange of Pollutants between the Atmosphere and the Oceans will be used to formulate a pilot project which will provide the basis for monitoring of air-borne pollutants.

APPENDIX 4 (MED POL - PHASE II)RECOMMENDATIONS CONCERNING A JELLY-FISH PROGRAMME

1. In the framework of the monitoring activities of MED POL - PHASE II, all national monitoring programmes should include observations on the presence of jelly-fish in coastal waters and reference areas.
2. A standardized methodology for observation and data reporting should be developed by the secretariat and tested by participants in the programme.
3. Observations from other sources, such as fishermen, coast guards, ships of opportunity, etc. should be solicited and, when available, taken into account as appropriate.
4. In the framework of the research activities of MED POL - PHASE II scientists should be encouraged to present research proposals, through the agreed channels, on the following topics:
 - a) factors affecting population dynamics of jelly-fish;
 - b) biology, ecology, physiology, biochemistry, etc., of jelly-fish for the understanding of the observed distribution;
 - c) hydrodynamics of coastal and open-sea areas controlling the transport of jelly-fish swarms, and
 - d) characterization of jelly-fish poisoning and preventive and curative treatments.
5. The secretariat should prepare, in close co-operation with the relevant specialized agencies, PAP/RAC, Blue Plan/RAC, MED POL National Co-ordinators and other relevant institutions such as the International Center on Mediterranean Jellyfish of Trieste (CIMAM), and the Mediterranean Documentation Centre (Mediterra - Centre for Unusual Ecological Phenomena) of Athens.
 - a) assessment of the impact of jelly-fish blooms on human activities especially in the fields of tourism and fisheries, including aquaculture,
 - b) criteria and guidelines related to health education and protection (i.e., beach management, preventive measures and treatment of stings, preparation of information leaflets on the subject, etc.).

APPENDIX 5 (MED POL - PHASE II)

RECOMMENDATIONS CONCERNING THE
PROTOCOL FOR THE PREVENTION OF POLLUTION OF THE MEDITERRANEAN
SEA BY DUMPING FROM SHIPS AND AIRCRAFT

On the basis of the deliberations of the Second Meeting of the Working Group for Scientific and Technical Co-operation, Athens, 21-25 November 1983) the following recommendations should be carried out in order to ensure the effective implementation of the protocol:

1. All Contracting Parties should without delay designate national authorities in accordance with Article 10.
2. Issuance of general permits in accordance with Article 6 should be reported to the secretariat once a year, by the end of February.
3. The annual reports on the actual amounts of waste dumped in accordance with Articles 5, 6 and 8 should reach the secretariat by the end of February and cover the whole of the preceding calendar year. The reports should cover all dumping activities, in order to enable the secretariat to assess the pollutant load reaching the Mediterranean Sea through dumping, as well as the efficiency of control measures taken.
4. In view of the diversity of languages used by the national authorities in their correspondence with the secretariat, the secretariat should receive information in one of its working languages (English or French).
5. The members of the Working Group, in particular States where no national authorities have been designated under Article 10, should provide assistance to the secretariat in updating document UNEP/WG.91/8. This will enable the secretariat to prepare a more substantive report on the implementation of the Protocol.

APPENDIX 6 (MED POL - PHASE II)

MEASURES CONCERNING ENVIRONMENTAL QUALITY OF RECREATIONAL BATHING WATERS,
SHELLFISH AND SHELLFISH-GROWING WATERS RECOMMENDED FOR ADOPTION
BY THE CONTRACTING PARTIES

On the basis of the results of MED POL VII (including the assessment of the quality of Mediterranean recreational waters, shellfish and shellfish-growing waters) and the analysis of the present national and international regulations related to the environmental quality criteria of the Mediterranean recreational waters, shellfish and shellfish-growing waters, the following recommendations should be implemented as concrete steps towards the application of the Protocol for the protection of the Mediterranean Sea against pollution from land-based sources.

1. Adopt the following WHO/UNEP interim environmental quality criteria for coastal recreational waters, shellfish and shellfish-growing areas and apply them to the extent possible by appropriate national legal and/or administrative measures:

- a. Recreational bathing waters:

"The coastal bathing waters of the Mediterranean will be considered as satisfactory and safe for use by the general public if the concentrations of faecal coliforms (FC) and faecal streptococci (FS) in at least 10 representative water samples collected during the bathing season at intervals of not more than 14 days do not exceed 100 FC or FS per 100 ml in 50% of the samples and 1000 FC or FS per 100 ml in 90% of the samples. The concentration of FC and FS should be determined by agreed reference methods or by methods yielding comparable results, proved by intercalibration with the relevant reference methods."

- b. Shellfish for human consumption:

"Shellfish will be considered as suitable and safe for direct sale to the general public if the concentration of FC in representative shellfish flesh, sampled monthly (in winter) and fortnightly (in summer), does not exceed 2 FC per gram (soft weight) of flesh. Shellfish with concentrations of 3 - 10 FC per gram of flesh should be temporarily prohibited for direct sale until the concentration of FC is lowered to at least 2 FC per gram of flesh by adequate purification methods. Shellfish with more than 10 FC per gram of flesh should be prohibited for sale. The concentration of FC should be determined by agreed reference methods or by methods yielding comparable results, proved by intercalibration with relevant reference methods."

c. Shellfish-growing waters:

"The coastal waters of the Mediterranean will be considered as satisfactory and safe for shellfish-growing if the concentration of faecal coliforms (FC) of representative water samples, sampled monthly (in winter) and fortnightly (in summer), does not exceed 10 FC per 100 ml in 80% of the samples and 100 FC per 100 ml in any of the samples. The concentration of FC should be determined by agreed reference methods or by methods yielding comparable results, proved by intercalibration with relevant reference methods."

2. Adopt the methods developed to support the proposed interim environmental quality criteria as the reference methods to be used in connexion with these criteria:

- UNEP/WHO: Determination of faecal coliforms in seawater by the membrane filtration culture method. Reference Methods for Marine Pollution Studies No. 3, Rev.1, UNEP, 1983.

- UNEP/WHO: Determination of faecal streptococci in seawater by the membrane filtration culture method. Reference Methods for Marine Pollution Studies No. 4, Rev.1, UNEP, 1983.

- UNEP/WHO: Determination of faecal coliforms in bivalves by the multiple test-tube method. Reference Methods for Marine Pollution Studies No. 5, Rev.1, UNEP, 1983.

3. Include, to the extent possible, all public coastal recreational beaches and shellfish-growing areas in national monitoring programmes within the framework of MED POL - PHASE II.

4. Provide the secretariat to the Convention with the fullest information possible on:

- present legislation and administrative measures on existing national criteria for coastal recreational and shellfish-growing waters;

- measures taken on (a) and (c) above;

- relevant monitoring data from (c) above.

5. Continue to provide full support to the research and monitoring component of MED POL - PHASE II relevant to the assessment of the environmental quality of recreational waters, shellfish and shellfish-growing waters (see UNEP/IG.49/INF.4 paras 158, 173 and 180); in particular to:

- studies on the intercomparison of various analytical techniques for the main microbiological indicators;

- development of sampling and analytical techniques for pathogenic organisms in coastal recreational and shellfish-growing waters;

- studies on the survival of pathogenic organisms in seawater;

- expansion of the present programme of epidemiological studies to achieve the necessary information on the relationship between water quality and health effects.

APPENDIX 7 (MED POL - PHASE II)MEASURES CONCERNING MERCURY IN SEA FOOD RECOMMENDED FOR ADOPTION
BY THE CONTRACTING PARTIES

On the basis of the assessment of the quality of Mediterranean seafood with regard to its mercury content, and taking into account the general seafood consumption in the region, the general public is not considered at risk. Consequently the imposition of upper limits for mercury concentrations in seafood on a common regional basis seems not to be justified, although individual countries not already applying these could consider their introduction if national circumstances so require. In order to keep the problems of mercury pollution under control the following recommendations should be implemented as concrete steps towards the application of the Protocol on Land-based sources of pollution.

1. Adopt the following FAO/WHO/UNEP interim environmental quality criteria for mercury in Mediterranean seafood and implement them to the extent possible by appropriate national legal and/or administrative measures as the minimal common measures safeguarding the general public:

"Seafood of Mediterranean origin is considered to present no hazard for consumption by the general population, provided that the Joint FAO/WHO Expert Committee on Food Additives (JECFA) Provisional Tolerable Weekly Intake (PTWI) of 300 ug of mercury, of which not more than 200 ug should be present as methylmercury, for a person of 70 kg bodyweight is not exceeded. Compliance with this interim criterion shall be established on the basis of the concentration of mercury in relevant species of seafood sampled at quarterly (3-month) intervals and on seafood consumption patterns. The concentration of mercury should be determined by an agreed reference method, or by other methods yielding comparable results, proved by intercalibration with the relevant reference method. Consumption patterns shall be determined by agreed methods and protocols for those sectors of populations where either a high level of fish consumption is known or suspected, or where exposure to mercury from sources other than seafood is similarly known or suspected."

2. Adopt the method UNEP/FAO/IAEA: "Determination of total mercury in selected marine organisms by flameless atomic absorption spectrophotometry. (Reference Methods for Marine Pollution Studies No.8, UNEP, 1982), as the reference method to be used in connexion with these criteria.

3. Include, to the extent possible, in their national monitoring programmes within the framework of MED POL - PHASE II, the sampling and analysis of all species of seafood known to accumulate mercury.
4. Limit, to the extent possible, anthropogenic discharges of mercury into the Mediterranean Sea, pending the eventual formulation of emission standards for mercury, as a result of the entry into force of the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, and in terms of Article 5 of that Protocol, commence as early as possible, the elaboration of the necessary programmes and measures with respect to mercury.
5. Provide the secretariat to the Convention with the fullest information possible on:
 - present legislation and administrative measures on existing national criteria for levels of mercury in seafood;
 - measures taken on (1), (3) and (4) above;
 - relevant monitoring data on (3) above.
6. Continue to provide full support to the monitoring and research component of MED POL - PHASE II relevant to the assessment of the mercury content of Mediterranean seafood, and the hazards affecting all sectors of the population arising from seafood consumption (see UNEP/IG.49/Inf.4 paragraphs 101-102), in particular:
 - identification of population groups at risk;
 - surveys on seafood consumption patterns among such populations;
 - surveys on mercury levels in affected population groups;
 - epidemiological studies to obtain the necessary information on the relationship between mercury intake and health effects;
 - studies of the relationship between total mercury and methylmercury content of seafood, and the effects of cooking on such content;
 - studies on biogeochemical cycles of mercury in the Mediterranean;
 - acquisition of the data detailed in UNEP/IG.49/INF.4 paras 102 and 103.