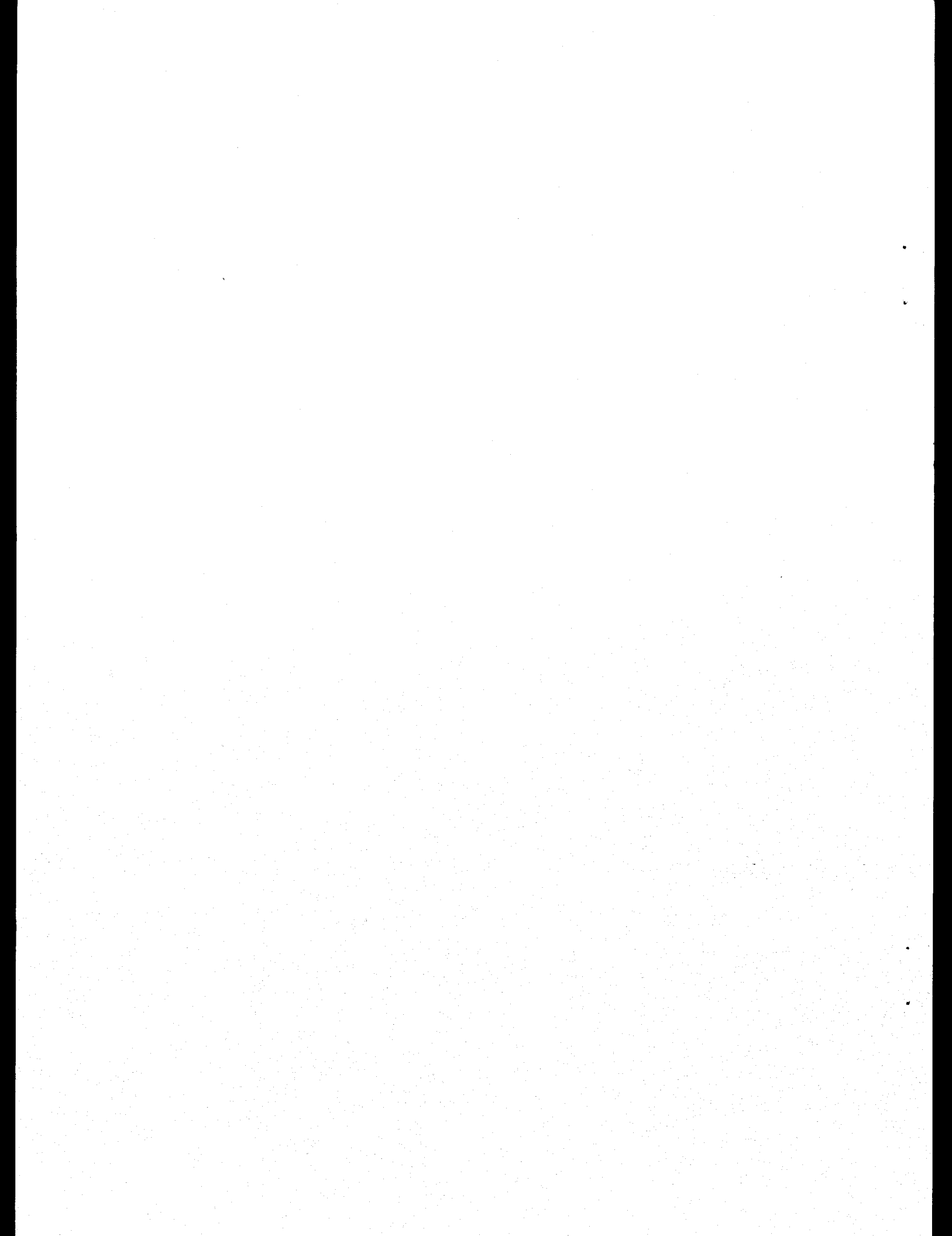


UNITED NATIONS ENVIRONMENT PROGRAMME

*Achievements and planned development  
of UNEP's Regional Seas Programme  
and comparable programmes  
sponsored by other bodies*

*UNEP Regional Seas Reports and Studies No. 1*



## PREFACE

It is now almost ten years since the United Nations Conference on the Human Environment (Stockholm, 5-16 June 1972) adopted the Action Plan for the Human Environment, including the General Principles for Assessment and Control of Marine Pollution. In the light of the results of the Stockholm Conference, the United Nations General Assembly decided to establish the United Nations Environment Programme (UNEP) to "serve as a focal point for environmental action and co-ordination within the United Nations system" (General Assembly resolution (XXVII) of 15 December 1972). The organizations of the United Nations system were invited "to adopt the measures that may be required to undertake concerted and co-ordinated programmes with regard to international environmental problems", and the "intergovernmental and non-governmental organizations that have an interest in the field of the environment" were also invited "to lend their full support and collaboration to the United Nations with a view to achieving the largest possible degree of co-operation and co-ordination". Subsequently, the Governing Council of UNEP chose "Oceans" as one of the priority areas in which it would focus efforts to fulfil its catalytic and co-ordinating role.

The Regional Seas Programme was initiated by UNEP in 1974. Since then the Governing Council of UNEP has repeatedly endorsed a regional approach to the control of marine pollution and the management of marine and coastal resources and has requested the development of regional action plans.

The Regional Seas Programme at present includes ten regions<sup>1/</sup> and has over 120 coastal States participating in it. It is conceived as an action-oriented programme having concern not only for the consequences but also for the causes of environmental degradation and encompassing a comprehensive approach to combating environmental problems through the management of marine and coastal areas. Each regional action plan is formulated according to the needs of the region as perceived by the Governments concerned. It is designed to link assessment of the quality of the marine environment and the causes of its deterioration with activities for the management and development of the marine and coastal environment. The action plans promote the parallel development of regional legal agreements and of action-oriented programme activities.

Problems related to the marine environment have not altered greatly in the past decade, but general perceptions of the main threats and corresponding solutions have markedly changed on the basis of knowledge accumulated during that period. Although there is still an interest in levels of contamination in the open ocean and in major oceanic processes, the danger of the open ocean becoming severely polluted is now considered to be less acute, and it is evident that existing problems, and the first effects of new ones, are most likely to arise in waters close to land.

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<sup>1/</sup> Mediterranean, Kuwait Action Plan Region, West and Central Africa, Wider Caribbean, East Asian Seas, South-East Pacific, South-West Pacific, Red Sea and Gulf of Aden, East Africa and South-West Atlantic.

Attention is therefore being concentrated on protecting the health of the coastal waters, especially in enclosed and semi-enclosed seas. The continued growth of human settlements along the coast, the increase in coastal recreation, the concentration of industrial development in coastal areas and the wealth of exploitable living marine resources in coastal waters, all justify the concern currently felt for the quality of the coastal marine environment and its resources.

The application of environmentally-sound management practices in coastal and maritime activities is now accepted as the key to safeguarding the marine environment. By this means, unplanned or ill-planned land-use practices and the irrational exploitation of natural resources and the pollution to which they incidentally give rise can be avoided. Emphasis on the concept of management reflects a critical change from earlier concern that the oceans had to be preserved unchanged. Management implies use: rational use. For example, when deciding on appropriate waste treatment and disposal practices, the waste receiving capacity of the sea is clearly recognized as an asset which may be used for certain types of waste.

Bearing in mind the considerable experience that has been accumulated in the protection and development of regional sea areas, the Governing Council of UNEP decided at its eighth session in May 1980 (decision 8/13 A) that the achievements and planned development of UNEP's Regional Seas Programme, as well as of comparable programmes sponsored by other bodies, should be reviewed by a government expert group. The Meeting of Government Experts on Regional Marine Programmes was convened by the Executive Director of UNEP in Nairobi, 18 - 21 January 1982, in co-operation with relevant international and intergovernmental organizations.

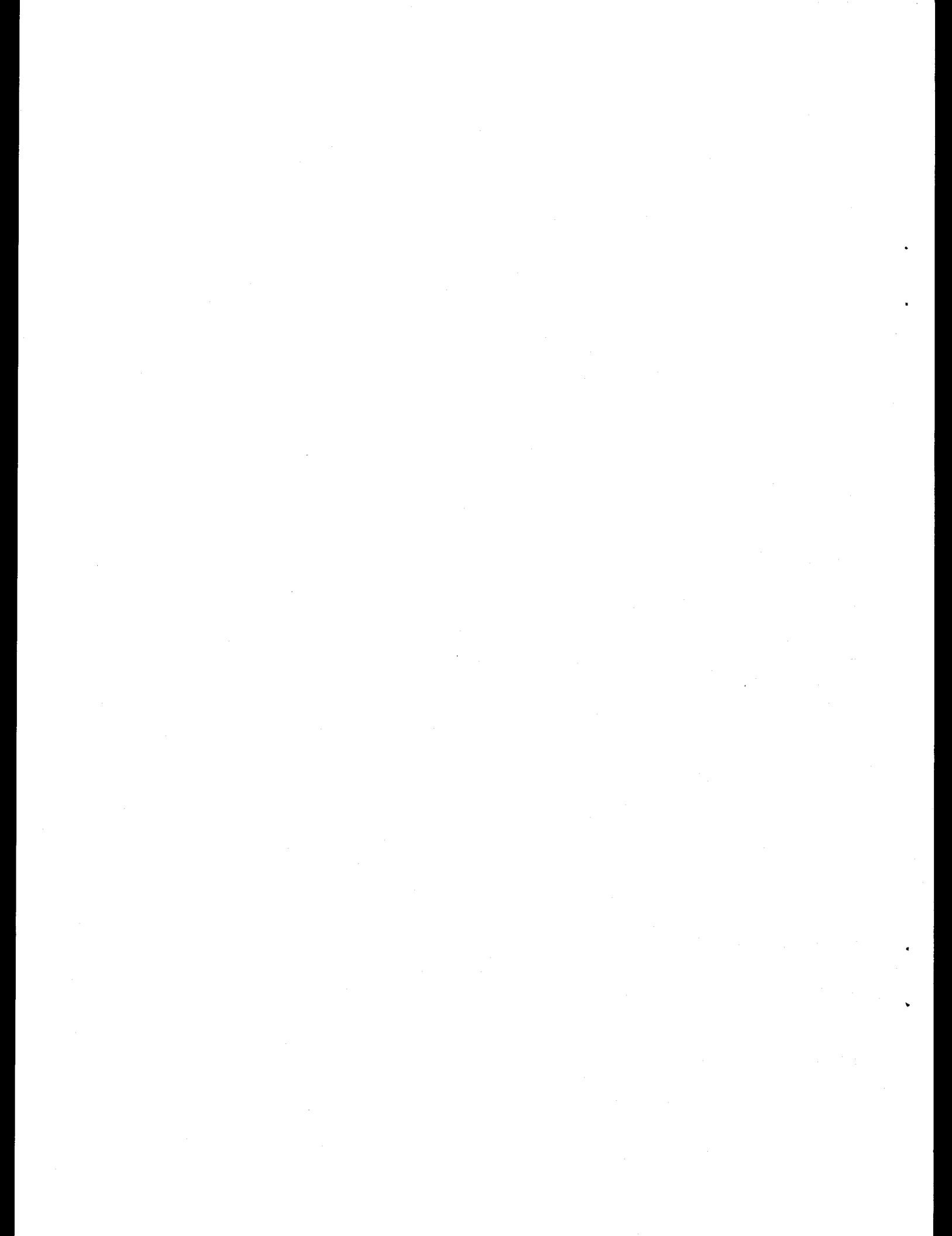
The meeting recognized that regional programmes are an effective way to protect and develop the marine environment, including coastal areas, and to provide a sound basis for global action. The meeting adopted a set of recommendations concerning the further development of UNEP's Regional Seas Programme (UNEP/WG.63/4, annex II), among them the following:

- An approach should be adopted that consists of evaluating and trying to resolve on a regional basis the environmental problems generated by the use of marine and coastal resources, since, in so far as regional co-operation exists among States, it provides an effective means of achieving global management of the marine and coastal environment ... (Recommendation No. 1).
- The network of regional action plans (including the development of related regional agreements) should be extended so as to include, as appropriate, enclosed or semi-enclosed seas as well as marine and coastal areas of regions with well-defined common problems ... (Recommendation No. 2).
- For regions where no regional action plan or regional agreement exists at present, UNEP should consider, in accordance with its central catalytic role, initiating the establishment of regional programmes. (Recommendation No. 3).
- All international and regional efforts for the protection, management and development of the marine and coastal environment should be based on the full mobilization of the national capabilities of States involved to control marine pollution at its sources and to develop rationally marine and coastal resources ... (Recommendation No. 6).
- Particular attention should be given to the need for continued provision of scientific and technical assistance in regions involving developing countries, ... (Recommendation No. 8).

- UNEP, as the focal point for environmental action and co-ordination within the United Nations system, should provide a framework for consultations and co-operation among States and the various organizations with regard to their efforts to protect and manage the marine and coastal environment. UNEP should also provide a framework for an exchange of information and a sharing of experiences between regions. (Recommendation No. 9).
- ... In implementing such co-operation, due account should be taken of the respective mandates and programmes of competent international and intergovernmental organizations. (Recommendation No. 10).
- The ways and means of co-ordination and co-operation should be directed towards measures (such as intercalibration) which will, in due course, promote the synthesis of regional activities into a global picture ... (Recommendation No. 11).

The basic document for that meeting (UNEP/WG.63/3) was prepared by UNEP with the assistance of a consultant (J. Portmann) whose contribution is gratefully acknowledged. The present publication is a revised version of that document.

Programmes which are organized on a purely national or bilateral basis are omitted from the document, even though in some cases their geographical coverage is quite large. Brief details are given of the nature and quality of the scientific data and products available through, or being yielded by, the programmes reviewed. However, it is not the purpose of this document to summarize actual data. Rather, emphasis is placed on the co-ordinating and legislative frameworks associated with, or integral to, the scientific and management programmes. Attention is also paid to the overall level of co-ordination achieved in the development and implementation of these programmes as well as the mechanisms of co-ordination between international, intergovernmental and regional organizations in the field of protection and development of the coastal and marine environment.



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## DEVELOPMENT OF THE REGIONAL APPROACH

1. The International Council for the Exploration of the Sea (ICES) is certainly the oldest (established in 1902) international organization involved in the study of the marine environment. The organization is active primarily in the North Atlantic and Baltic Sea areas. It is a purely scientific organization with no regulatory powers, although it has been accepted as a scientific advisory body by a number of Commissions with such powers. Consequently a basic characteristic of ICES is the combination under its auspices of purely scientific studies with investigations which have distinctly applied objectives, e.g. in relation to the exploitation of marine living and non-living resources.

2. As concern over the actual and potential impact of pollution grew, ICES became involved in marine pollution studies. As early as the 1960s it had a committee charged with a specific interest in marine pollution matters. Several working groups have also been established to co-ordinate and pursue marine pollution orientated investigations. The first major co-operative investigation on marine pollution initiated by ICES commenced in 1967 when a working group was established "for the purpose of assembling factual data regarding substances harmful or potentially harmful to fisheries, being discharged or likely to be discharged into the North Sea and adjacent seas." This investigation was to be followed by further regional investigations in the ICES area.

3. The idea of a regional approach is not new within the United Nations system as witnessed by the early establishment of regional commissions of the Economic and Social Council (ECOSOC) for Europe (ECE), Asia and the Pacific (ESCAP), Latin America (ECLA), Africa (ECA) and Western Asia (ECWA). Several of the United Nations bodies, such as the United Nations Industrial Development Organization (UNIDO), UNEP, the United Nations Development Programme (UNDP), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Intergovernmental Oceanographic Commission (IOC) of UNESCO and the Inter-Governmental Maritime Consultative Organization (IMCO) have regional programmes, and offices, or staff members in individual States dealing with ocean-related subjects. These arrangements provide an effective means of ensuring that their assistance meets local requirements.

4. Probably the first positive step towards a globally co-ordinated study of the quality of the marine environment was taken in 1969 when FAO, UNESCO and the World Meteorological Organization (WMO) sponsored a series of meetings which led to the development of the Long-Term Expanded Programme for Oceanic Exploration and Research (LEPOR) with the aim of extending man's knowledge of the oceans, and one of its goals is the enhanced utilization of the ocean and its resources for the benefit of man.

5. The following year, FAO organized a major Technical Conference on Marine Pollution and its Effects on Living Resources and Fishing which was preceded by a Seminar on Methods of Detection, Measurement and Monitoring of Pollutants in the Marine Environment. These meetings provided impetus to the development of field investigations into the extent of marine pollution on a collaborative basis. They were, for example, an undoubted spur to ICES baseline studies in the North Sea and Baltic Sea. Additionally, they had a considerable influence on the development and final pattern of the regional conventions on marine pollution such as the Oslo and

Paris Conventions, and later the Helsinki and the UNEP regional seas conventions (see paragraphs 16-110 below). Many of the pollutants over which concern was expressed at the FAO Conference were subsequently named in the annexes to these conventions.

6. The IOC was established in 1960 as an autonomous body within UNESCO to promote, plan and execute, through the concerted action of its member States, international co-operative marine research and monitoring programmes and to provide ocean services.

7. The LEPOR referred to above became the framework for the scientific activities of IOC. It included, as a major component, the Global Investigation of Pollution of the Marine Environment (GIPME). The IOC established an International Co-ordinating Group charged with the development of a Comprehensive Plan which was adopted by IOC in 1975. The Plan is global in scope but recognizes that from a practical standpoint pollution is concentrated in inshore areas, and that the particular type of pollution will vary from area to area. It also takes account of the fact that there are different levels of ability, histories and experience in co-operative work, as well as different interests, problems and priorities existing in various areas of the world. The Comprehensive Plan, therefore, suggests that the best way of achieving global investigations is to work on a regional basis.

8. By the time the GIPME Plan was complete (summer 1974) ICES had carried out the first of a series of marine pollution baseline studies. The IOC therefore worked jointly with ICES to produce Baseline Study Guidelines on how to start investigations on a regional basis.

9. Despite the basic soundness of the plan and the detailed guidance provided on initial implementation, GIPME has been unable to gain much direct support for the programme, except in those areas such as the North Atlantic, where investigations were already under way. However, at a recent meeting of the Working Committee for GIPME a number of countries reconfirmed their interest in GIPME. Although probably not the only reasons, major factors in this lack of support must be a failure to identify and demonstrate regional interests and concern at a level of detail which would ensure that action would be taken to promote investigations appropriate to the particular region concerned; and the severe limitations which exist in terms of the technical capacity of many countries to implement the Plan.

10. The United Nations Conference on the Human Environment (Stockholm 1972) adopted, inter alia, the principle that "the marine environment and all the living organisms which it supports are of vital importance to humanity" and recognized that "proper management is required and measures to prevent and control marine pollution must be regarded as an essential element in this management". Furthermore, the Conference recommended that Governments take early action to adopt "effective national measures for the control of all significant sources of marine pollution, including land-based sources, and concert and co-ordinate their actions regionally and where appropriate on a wider international basis" (recommendation 92).

11. The subsequent meetings of the UNEP Governing Council repeatedly endorsed the regional approach to the control of marine pollution and requested the development of regional action plans for the parts of the ocean where such plans do not yet exist. Consequently, in 1974 the Regional Seas Programme of UNEP was initiated.

12. The Regional Seas Programme at present includes ten regions and has over 120 coastal States participating in it. It was conceived as an action-oriented programme encompassing a comprehensive, transsectoral approach to marine and coastal areas and to environmental problems concerning not only the consequences but also the causes of environmental degradation. Each regional programme is shaped according to the needs

of the region concerned. All of the regional seas programmes contain elements related to environmental assessment and environmental management. Decisions on management must ideally be based on the assessment of an environmental situation so as to determine what kind of action may best be taken either to correct the situation or to forestall its deterioration. The assessment component of the United Nations Environment Programme is code-named Earthwatch, and one of its elements is GEMS which is a set of internationally co-ordinated activities for the collection and evaluation of data, the comparability of which should be assured as a basic requirement for global assessment. Data generated through the regional monitoring and research activities contribute to GEMS. The regional programmes promote the parallel development of regional legal agreements and of action-oriented programme activities as embodied in the action plans. The overall strategy to be followed was defined by UNEP's Governing Council as:

- promotion of international and regional conventions, guidelines and actions for the control of marine pollution and for the protection and management of aquatic resources,
- assessment of the state of marine pollution, of the sources and trends of this pollution, and of the impact of the pollution on human health, marine ecosystems and amenities,
- co-ordination of the efforts with regard to the environmental aspects of the protection, development and management of marine and coastal resources,
- support for education and training efforts to make possible the full participation of developing countries in the protection, development and management of marine and coastal resources.

13. Since each regional programme is aimed at benefiting the States of that region, Governments are involved from the very beginning in the formulation of the action plan. After acceptance, the implementation of the programme is carried out, under the overall authority of the Governments concerned, by national institutions nominated by their Governments.

14. Although the Regional Seas Programme is implemented predominantly by Government-nominated institutions, specialized United Nations bodies, as well as the relevant international and regional organizations, contribute to its formulation and may provide assistance to these national institutions. UNEP acts as an overall co-ordinator for the development and implementation of regional action plans although, in some cases, this role is limited to the initial phase of the activities. In the framework of UNEP a Regional Seas Programme Activity Centre has been established (1977) to co-ordinate the efforts of those involved in the Regional Seas Programme. Financial support to the regional programmes is initially provided by UNEP and other international and regional organizations. However, it is expected that, as a programme develops, the Governments of the regions will assume increasing financial responsibility for its implementation, through specific regional trust funds or other suitable mechanisms. Additional assistance continues to be made available by other bodies within the United Nations system, e.g. for technical assistance, provision of expert advice, training and technical support. These organizations are encouraged to provide this assistance as part of their normal programmes and to support them through their own funding mechanisms.

15. Since the Regional Seas Programme was initiated in 1974, action plans for the Mediterranean, Kuwait Action Plan Region, Wider Caribbean, West and Central Africa, East Asian Seas and South-East Pacific have been adopted, while action plans in four additional regions are being developed. UNEP was designated as the secretariat

(co-ordinator) for four of the adopted action plans and of the legal agreements associated with these action plans, and was entrusted with the management of regional trust funds.

## ACHIEVEMENTS AND PLANNED DEVELOPMENT OF REGIONAL PROGRAMMES

### North Sea - North Atlantic

16. As mentioned earlier, the first regionally co-ordinated investigation into marine pollution problems began in 1967 when ICES set up a working group to assemble factual data on substances which might be discharged to the North Sea and which might be harmful to fisheries interests. The group's report reviewed the extent of national controls on pollution and their legislative backing in each member country around the North Sea. The report also included information on the main sources and causes of pollution and the main types of industry discharging wastes directly or indirectly to the North Sea.

17. The report formed the basis for more detailed studies of the pollution of the area. These were planned through a series of ad hoc meetings during 1970 and 1971 and were given added impetus at the FAO Technical Conference in late 1970. A new working group was established on Studies of Pollution of the North Sea and its Effects on Living Resources and their Exploitation. This new group undertook two major tasks. Priority was given to a baseline study of the level of pollutants in fish and shellfish, but the first steps were also taken towards determining the distribution of pollutants in water and sediments. The second major undertaking was a study on the input of pollutants into the North Sea from land-based sources. Intended to be all-embracing, it actually produced data for all sources other than river inputs. The initial proposals for the baseline study included surveys of the input of petroleum, metals, chlorinated hydrocarbons such as DDT, dieldrin and PCBs and the halogenated hydrocarbons arising as waste products from the manufacture of PVC. In the event this proved to be beyond the resources then available. A baseline study was however organized with appropriate intercalibration, on the levels of metals, pesticides and PCBs in fish and on metals in sea-water.

18. While these studies were being planned and undertaken by the scientific community within ICES - and it must be emphasized that they were developed from a long history of collaborative scientific study under the auspices of that organization - political moves were under way to promote regional co-operation in the control of pollution in the North-East Atlantic. Following the wreck of the Torrey Canyon in 1967, the coastal States of the North Sea adopted the Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil (Bonn, 1969). The agreement lays down procedures for oil pollution combating measures in the case of grave and imminent danger to the coast or related interests of one or more Contracting Parties. The basic concept of this agreement has been used subsequently in the drafting of similar regional agreements (Helsinki Convention and the UNEP-sponsored Barcelona, Kuwait, Abidjan and Lima Conventions and associated protocols).

19. In 1972, the States of the North-East Atlantic adopted the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft (Oslo, 1972). The objective of the convention is to regulate the dumping into the sea of harmful substances from ships and aircraft. Dumping of materials in a "black" list is prohibited, while dumping of materials in a "grey" list is allowed in each individual case only by special permit.

20. In 1974 agreement was reached on co-operative efforts to control pollution from land-based sources when the Governments bordering the North-East Atlantic adopted the Convention for the Prevention of Marine Pollution from Land-Based Sources (Paris, 1974). The Paris Convention calls on the parties to eliminate pollution of the maritime area from land-based sources due to substances on a "black" list and to limit strictly pollution by substances on the "grey" list. Substances may only be discharged after approval has been granted by an appropriate national authority. Parties are also to endeavour to forestall any new pollution from land-based sources.

21. Under the various conventions, standing technical working groups such as the Oslo Commission's Standing Advisory Committee on Scientific Advice, the Paris Commission's Technical Working Group, and the Joint Monitoring Group of the Oslo and Paris Commissions were established to consider scientific and technical matters in order to facilitate the implementation and operation of the conventions.

22. Early contacts between ICES and the Oslo and Interim Paris Commissions developed steadily, and ICES is now accepted by both Commissions as an independent source of scientific advice on a number of topics and is the formally recognized source of scientific advice on fisheries aspects of pollution to the Oslo Commission. Both the Oslo and Paris Conventions place a monitoring obligation on their signatories and advice on how the monitoring can most effectively be conducted has been sought of ICES. Although the data are interpreted separately by the Commissions and ICES, almost all are collected according to guidelines developed by ICES. These guidelines take due account of experience gained by ICES in early baseline and monitoring studies and are continually updated as the body of experience extends.

23. Contacts with the Oslo Commission led ICES to extend its studies to cover the whole North-East Atlantic from the Barents Sea and East Greenland to Gibraltar. At the same time Canada and the United States expressed interest in participating in the studies and a new Working Group on Marine Pollution Baseline and Monitoring Studies in the North Atlantic was established. This Working Group conducted a new and extended study of inputs of pollutants and an extended baseline study for the whole North Atlantic. The Working Group has steadily extended its activities to include a wider range of pollutants and the analysis of water, sediments and living organisms. The question of whether the concentrations found are actually having any biological effects is also being examined. In those areas where the extended baseline study had identified higher than normal concentrations, monitoring is being conducted and a repeat survey of the whole area is planned for 1982/1983. Sampling and analysis techniques have been refined so as to ensure that the data produced make possible the detection of trends.

24. Projects developed under the auspices of ICES are carried out entirely at national expense. Monitoring carried out in fulfilment of obligations undertaken upon ratification of the Oslo and Paris Conventions is also funded by the countries concerned. ICES has a small secretariat based in Copenhagen and financed by its member States. The joint secretariat of the Oslo and Paris Conventions and the Bonn Agreement is based in London and is funded by the parties to the three agreements.

25. Within the first and second environment action programmes (1973 and 1977) of the European Economic Community (EEC), several directives related to the prevention and reduction of pollution of the marine environment, particularly the aquatic environment, have been adopted by the Council of Ministers. A framework directive concerning pollution caused by certain dangerous substances discharged into the aquatic environment defines for the different families and groups of dangerous substances included in the "black" list general provisions concerning limit values which the emission standards should not exceed and quality objectives. The directive also provides for programmes for the reduction of substances on the "grey" list.

26. The Council of Ministers of EEC has also adopted directives which define water quality objectives based on the usage of the water: these are related to bathing waters and areas in which shellfish are grown. A directive has further been approved which lays down minimum requirements for the discharge of wastes from the titanium dioxide industry. In 1981 another directive concerning discharges of mercury from chlor-alkali plants was approved.

27. Following the Amoco Cadiz accident, EEC adopted, in 1978, an action plan on the prevention and reduction of pollution caused by hydrocarbons discharged at sea in order to minimize the harm caused by spills and to facilitate international co-operation. The action plan also provides for a community information system concerning the prevention and combating damage caused by oil pollution.

28. Fisheries resources of the area have been managed through the International Commission for North-West Atlantic Fisheries (ICNAF) and the North-East Atlantic Fisheries Commission (NEAFC). ICNAF was replaced in 1973 by the North-West Atlantic Fisheries Organization (NAFO). ICES acts as scientific adviser to these Commissions on the status of stock, and the Commissions formulate fisheries policy on sustainable yields and total allowable catches, etc.. In the North Sea and adjacent seas, EEC has for the last six years striven to find a Common Fisheries Policy (CFP) which will serve to regulate catches of all major species in the EEC area.

29. In relation to sea-bed resources, median lines have been agreed for much of the area exploration, and exploitation of resources is carried out on a national basis. Discharges from platforms involved in offshore oil and gas exploitation are regulated through the Paris Convention. A code of practice for the exploitation of sand and gravel has been drawn up by ICES which, although not binding in the sense of a convention, is followed by most countries. It seeks to minimize the effect of such operations on the environment generally and on fisheries resources in particular.

#### Baltic Sea

30. In 1968 the concern over pollution of the Baltic Sea led ICES and the Conference of Baltic Oceanographers to establish a Working Group on Pollution of the Baltic, with terms of reference similar to those of the ICES North Sea Group established a year earlier. The Baltic Group concentrated much of its effort on collecting information on the input of pollutants to the Baltic Sea from land-based sources, and produced its report in 1969. Subsequently, contacts were established with the Scientific Committee on Oceanic Research (SCOR), and in 1971 a SCOR/ICES Working Group for the Study of Pollution of the Baltic and its Effects on Living Resources was established.

31. This new Group undertook three main tasks: an extended study of the input of pollutants to the Baltic, a baseline study of the levels of pollutants in living resources of the Baltic, and a co-ordinated scientific programme aimed at understanding the processes governing the distribution and fate of pollutants in the Baltic. The study of input, which was conducted in 1974/75, produced an improved set of data compared to that collected in 1969, but, not surprisingly, gaps remained. The baseline study, also conducted in 1974/75, made it possible to draw a number of general conclusions and represented a significant contribution to the factual knowledge of pollution in the Baltic Sea area. It also represented an important step towards international monitoring in the area.

32. While these scientific investigations were being undertaken, the Governments of the area were responding to the outcome of the 1972 Stockholm Conference. Early in 1973 the Government of Finland hosted a Government Expert Meeting which in 1974 led to the signing of the Convention on the Protection of the Marine Environment of the

Baltic Sea Area (Helsinki Convention).

33. By the time the Helsinki Convention was signed it was possible to draw on the experience gained in the North-East Atlantic, where agreements on pollution reduction and control had been developed progressively as a result of the Bonn Agreement, the Oslo and Paris Conventions and the 1973 International Convention for the Prevention of Pollution from Ships (MARPOL Convention) relating to oil and chemical discharges and spillages from ships. The Helsinki Convention thus became the first Regional Convention to embrace several sources of pollution. The Convention includes the following substantive topics: land-based sources of pollution, prevention of pollution from ships, a general prohibition of dumping with the exclusion only of dredge spoils, and an agreement to limit pollution from the exploration and exploitation of sea-bed resources. It includes an agreement on co-operation for combating marine pollution by oil and other harmful substances and provisions for the allocation of responsibility for damage and the settlement of disputes. There is also a general agreement to the effect that measures taken to avoid pollution of the Baltic Sea should not cause an increase in pollution elsewhere. The Convention entered into force in 1980 after having been ratified by all the coastal States of the Baltic Sea.

34. Between 1974 and 1980 the Interim Baltic Marine Environment Protection Commission initiated several forms of co-operation aimed at implementing the goals of the Convention, one of the most significant of these being a compilation of information on the assessment of the effects of pollution on the natural resources of the Baltic Sea. Phase one of this activity is now complete. Not all the data are comparable but it has been possible to establish that the concentrations of a few pollutants, e.g. mercury, DDT, PCBs, in the organisms of the area are beginning to decline. In 1981, the Convention's provisions concerning the discharge of oil, sewage and garbage from ships and the establishment of reception facilities for these wastes came into force. These provisions are the same as the requirements for special areas in the International Convention for the Prevention of Pollution from Ships.

35. ICES has provided assistance to the Commission in the following areas: development of the Baltic Monitoring Programme and guidelines on sampling procedures, sample preparation and analysis of contaminant levels in Baltic organisms, preparation of a biological data reporting format and species code list, and the conduct of a pre-monitoring assessment of the effects of pollution in the sea. In addition, ICES has pursued its own programme of basic scientific investigations of the processes that govern water movements and turnover in the area. These investigations have involved all the Baltic countries using eleven research vessels in extensive physical and chemical observations and biological and pollution studies. Attention is now being directed to the coastal zone and estuarine environments, where inputs of most polluting substances and the impact of man's activities are greatest; studies of dynamic processes are under way and modelling of physical, chemical and biological parameters and processes is being attempted.

36. The Helsinki Convention is serviced by a small secretariat paid for by the member States. These various activities related to the Convention are carried out at national expense.

37. A three-year investigation related to radioactive contamination of the Baltic Sea began in 1981, involving institutes in seven coastal States and the International Laboratory of Marine Radioactivity (ILMR) in Monaco. The main objectives of this programme are: studies to determine the radioactive contamination of the Baltic Sea (including intercalibration of sampling and analytical procedures); establishment of a co-ordinated monitoring programme; and improvement of the exchange of information



on the studies related to the problems of radioactive contamination in the Baltic Sea States, including data on radioactive releases into the Baltic Sea.

38. Fisheries resource management in the Baltic is undertaken through the International Baltic Sea Fisheries Commission (IBSFC), which in turn is advised on the status of the various fish stocks by ICES. It seeks to set total allowable catches (TACs) for fish stocks as necessary. As in the North Sea area, several of the countries involved in the IBSFC are members of EEC but so far EEC has not been allowed to accede to the Convention. It has, however, observed that where TACs are allocated nationally by IBSCF, it would propose to manage these as a single TAC for the whole EEC fishing zone under its Common Fisheries Policy (CFP), once that has been agreed.

39. The EEC directives on pollution control mentioned in the section on the North Sea - North Atlantic also apply to those countries bordering the Baltic Sea which are members of EEC.

#### Mediterranean

40. The International Commission for the Scientific Exploration of the Mediterranean Sea (ICSEM) was founded in 1919 on the model of ICES, in order to provide a regular forum for exchange of data between interested scientists. A committee on control of marine pollution was established by ICSEM in 1970 and since 1972 it has organized, lately in co-operation with UNEP, biennial workshops to present and discuss problems related to the pollution in the Mediterranean.

41. Concern had been expressed on numerous occasions during the late 1960s over the state of the Mediterranean Sea, and in 1972 FAO's General Fisheries Council for the Mediterranean (GFCM), in co-operation with ICSEM and IOC, prepared the first comprehensive review of the state of marine pollution in the Mediterranean.

42. 1974 proved to be an important turning-point for the Mediterranean. Two intergovernmental consultation meetings on the protection of living resources and fisheries from pollution in the Mediterranean were organized by FAO(GFCM), but by then it had become obvious that fisheries were not the only interests likely to be affected by pollution. Later in the same year, an International Workshop on Marine Pollution in the Mediterranean was held in Monaco. This workshop, organized by IOC, FAO(GFCM) and ICSEM, with the support of UNEP, reviewed major pollution problems of the area and recommended co-operative projects. At a meeting of the GFCM working party on Marine Pollution, which immediately followed this workshop, plans were drawn up for the implementation of four of these pilot projects dealing with protection of living resources and fisheries. These were subsequently included in the seven projects pursued under MEDPOL (see below).

43. In late 1974 UNEP established a "task force" of selected scientists, experts and government officials who joined with representatives of several United Nations organizations to draw up the elements of an action plan for the region. In early 1975 an Intergovernmental Meeting was convened by UNEP, in co-operation with FAO and IMCO, which was attended by 16 coastal States. The action plan was approved and plans were made for its implementation, which included four main aspects:

- integrated planning of the development and management of the resources of the Mediterranean Basin;
- co-ordinated programme for research, monitoring, and exchange of information, and assessment of the state of pollution and of protection measures (MEDPOL);

- framework convention and related protocols with their technical annexes for the protection of the Mediterranean environment; and
- institutional and financial implications of the action plan.

44. A Conference of Plenipotentiaries took place in Barcelona early in 1976 at which the 16 participating States and EEC adopted the Convention for the Protection of the Mediterranean Sea against Pollution, a Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft and a Protocol concerning co-operation in Combating Pollution of the Mediterranean Sea by Oil and other Harmful Substances in Cases of Emergency. This became known as the Barcelona Convention and entered into force in 1978. UNEP was designated as the secretariat of the action plan and the Barcelona Convention. The Convention includes articles on monitoring co-operation in emergencies, scientific and technological co-operation, and liability and compensation. In furtherance of these articles, plans were laid for a Regional Oil Combating Centre.

45. Like the Helsinki Convention, the Barcelona Convention can be regarded as an umbrella agreement. While the provisions of the Helsinki Convention are elaborated upon and implemented through the adoption of new or amended annexes and recommendations, in the case of the Barcelona Convention real implementation is achieved through ratification of the separate protocols. By ratifying a protocol, States accept more specific obligations to control pollution, e.g. from dumping, or to co-operate on certain aspects of environmental management. The Mediterranean States felt that the Barcelona Convention was too general to provide sufficient protection on its own, consequently no State may become a contracting party without also becoming a party to at least one of the protocols.

46. In 1980, in Athens, a third protocol, the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, was adopted and signed by twelve Mediterranean States and EEC. Other protocols under preparation or discussion by the coastal States of the Mediterranean region are:

- The Protocol concerning Mediterranean Specially Protected Areas (adoption expected in 1982); and
- The Protocol concerning Pollution resulting from Exploration and Exploitation of the Continental Shelf, the Sea-bed and its Subsoil (governmental experts to begin negotiations in 1983).

47. It should be noted that whilst every effort was made to avoid conflict between the Barcelona Convention and its Protocols and the obligations undertaken by contracting parties through their adoption of other conventions, some members do have to observe additional rules. In particular, this applies to the members of EEC, which are obliged to honour the same directives that were mentioned above in the context of the North Sea and North Atlantic.

48. The "Blue Plan" and a Priority Actions Programme were initiated in 1979 as parts of the integrated planning component of the Mediterranean Action Plan. The Blue Plan calls for systematic surveys of major development and environmental protection activities and for the development of action-oriented alternative development policies based on the findings of the surveys. The Priority Actions Programme focuses on the application of sound environmental practices which require immediate action in selected priority areas, e.g., protection of soil; management of water resources, and of living resources and aquaculture; development of renewable sources of energy; human settlements and tourism.

49. The pilot phase of the Co-ordinated Mediterranean Pollution Monitoring and Research Programme (MEDPOL) included several projects: baseline studies and monitoring of oil and petroleum hydrocarbons in marine waters; baseline studies and monitoring of metals, particularly mercury, in marine organisms; baseline studies and monitoring of DDT, PCBs and other chlorinated hydrocarbons in marine organisms; effects of pollutants on marine organisms and their populations; effects of pollutants on marine communities and ecosystems; problems of coastal transport of pollutants; coastal water quality control. A thorough survey of pollutants from land-based sources was prepared and was used in negotiating the Protocol of the Mediterranean Sea against Pollution from Land-Based Sources. Through the ILMR, the intercalibration of analytical methods used for organochlorine residues and metals was organized, as was the maintenance (regular and emergency services) of oceanographic and analytical equipment. Through MEDPOL, environmental quality criteria, needed for harmonized, Mediterranean-wide management of environment and pollution control, or requested by the Barcelona Convention and its protocols, are being developed. They include microbiological criteria for recreational and shellfish-growing waters and criteria on mercury in seafood. Both, as they stand today, recommend a less stringent standard than applied (theoretically) in most of the Mediterranean States.

50. The pilot phase of MEDPOL was co-ordinated by UNEP with the co-operation of ECE, UNIDO, FAO, UNESCO, IOC, WHO, WMO and IAEA. It involved more than 80 national research centres in 16 Mediterranean States and was made possible by massive financial support from UNEP. The pilot phase of MEDPOL is being completed by the end of 1981 and the evaluation of its results is expected during 1982. Training courses and workshops organized by UNESCO on subjects such as modelling marine ecosystems contributed to strengthen co-operation of Mediterranean scientists on projects requiring joint efforts in the region.

51. In 1981 the contracting parties to the Barcelona Convention endorsed a long-term (1981-1991) pollution monitoring and research programme (MEDPOL - PHASE II), covering four different and complementary monitoring activities: monitoring of sources of pollution; monitoring of coastal areas including estuaries; monitoring of offshore reference areas; monitoring of transport of pollutants through the atmosphere. Twelve research projects ranging from the development of reference methods and of environmental quality criteria to studies of basic oceanographic processes and of toxicity, carcinogenicity and epidemiology of selected pollutants of special relevance to the Mediterranean region were also approved as part of MEDPOL - PHASE II. The work will be co-ordinated by UNEP in co-operation with the relevant specialized United Nations bodies, ICSEM and the International Union for Conservation of Nature and Natural Resources (IUCN).

52. In 1976 the Regional Oil Combating Centre (ROCC) was established in Malta by UNEP and IMCO to further the objectives of the Protocol on Co-operation in Combating Pollution of the Mediterranean Sea by Oil and other Harmful Substances in Cases of Emergency. The objectives of the ROCC are to facilitate co-operation among the Mediterranean States in order to combat massive pollution by oil, to assist the States in the development of their own national capabilities, and to facilitate information exchange, technological co-operation and training. The ROCC has a small staff which is technically and administratively supported by IMCO.

53. A preliminary study was undertaken in the framework of the action plan on the feasibility of establishing a Mediterranean Inter-State Guarantee Fund on Liability and Compensation for Damage resulting from Pollution of the Marine Environment. A meeting of government experts will be convened in 1982 to begin consideration of the issues raised in the study.