



Ecosystem-based Management of Fisheries

***Opportunities and challenges for coordination between marine
Regional Fishery Bodies and Regional Seas Conventions***

UNEP Regional Seas Reports and Studies No. 175

Prepared in cooperation with



ACOPS

Note: This publication was prepared by UNEP and FAO in cooperation with ACOPS on the basis of input provided by the Advisory Committee of ACOPS. In this endeavor we greatly appreciate the inputs provided by Regional Seas Conventions and Action Plans and Regional Fishery Bodies.

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UNEP would like to dedicate this publication to Stjepan Keckes who, in the wake of the 1972 Stockholm Conference, was the key player in the creation, development and expansion of the UNEP Regional Seas Programme. For 15 years, his careful planning, his insight into the workings of the United Nations system, and his ability to persuade nations – some in conflict – to unite for the protection of their shared marine environment gave the programme a durable framework which endures to this day. The Regional Seas Programme now involves some 140 countries and continues to attract more.

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*Front cover: photo of a crowded fishing harbour at Madras, India. FAO photo/G. Bizzarri
Back cover: map of the Regional Seas by Nikki Meith*



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FOREWORD

To effectively manage our fisheries, we need to manage fish in the context of the environment in which they exist, that is an ecosystem. This means understanding the complex ecological and socioeconomic environments in which fish and fisheries exist. It also means anticipating the effects that fishery management will have on the ecosystem and the effects that ecosystem will have on fisheries.

Practical application of a comprehensive ecosystem-based fisheries management approach is still in its early stage of development by the regional organizations concerned with fisheries and the marine and coastal environment. It is time that these organizations grasp its potential for cooperation. This awareness must be expanded and actions taken to implement this approach.

This publication has been jointly developed between UNEP and FAO, with the technical assistance of the Advisory Committee on Problems of the Sea (ACOPS) and with inputs coming from Regional Seas Conventions and Regional Fisheries Bodies.

This paper was presented at the 3rd Global Meeting of the Regional Seas Conventions (RSCs), organized by UNEP in Monaco 6-9 November 2000 and at the 2nd Meeting of Regional Fisheries Management Organizations, at FAO Headquarters, in February 2001. The publication has also benefited from the inputs of the participants to these meetings.

The purpose of this publication is to present considerations which can serve as the basis for potential cooperation between RFBs and RSCs. It describes the concept of ecosystem-based fisheries management, the relevant mandates and activities of RFBs and RFCs and the relationship and mutual relevance of their work. Possible mechanisms for cooperation, and issues for future consideration, are identified. It is anticipated that such cooperation could best be implemented on a site-specific or regional basis, after initial consideration at the global level by RFBs and RSCs.

UNEP will embark during the following years in a process of collaboration with FAO to explore the opportunities and challenges for coordinated activities on ecosystem-based management of fisheries.

– Klaus Töpfer, Executive Director,
United Nations Environment Programme

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EXECUTIVE SUMMARY

The ecosystem approach to the management of oceans and their resources was consolidated in Agenda 21. Practical application of this approach is still in early stages of development by regional organisations respectively competent for fisheries, and for the marine and coastal environment. It was seen as a platform for potential cooperation between these bodies by the Subcommittee on Ocean and Coastal Areas of the UN Administrative Committee on Coordination. To this end, this paper has been developed jointly by FAO and UNEP for presentation, if agreed, at the 3rd Global Meeting of the Regional Seas Conventions in November 2000, and the 2nd Meeting of FAO and non-FAO Regional Fishery Bodies or Arrangements in February 2001.

A brief description of marine Regional Fishery Bodies (RFBs) and Regional Seas Conventions (RSCs) is presented, noting the origins, status, geographic coverage and basis for consideration of ecosystem approach by each. Establishment of RFBs has taken place throughout the past century, and most created since adoption of the United Nations Convention on the Law of the Sea (UNCLOS) in 1982 have clear management functions. Although only a small proportion have specific ecosystem-related mandates, all have scope to consider this approach in some form. Current challenges include developing the concept, objectives, indicators, reference points and implementation mechanisms, as appropriate in a climate of cooperation with other international organisations and each other.

Establishment of RSCs began relatively recently, in 1972. The eleven major Regional Seas Conventions in force that are designed for the protection of the marine environment are mostly in the form of “comprehensive framework conventions”. Their protocols and annexes specify the concrete measures expected to be implemented by the parties, and “Action Plans” relate to all issues relevant to the development and protection of the marine environment and their resources. Periodic revisions of the Action Plans broadened their scope to emphasise issues contained in Agenda 21, such as integrated management. With a few exceptions, issues related to fisheries are among the only major issues that are not covered, or are covered only in a marginal way, by the action plans.

The development of the concept and rationale of ecosystem-based management of fisheries is described. Although broad ecosystem objectives appear in international instruments, and the approach forms part of some national laws/strategies and has been considered at global conferences, the practical application of the concept has only recently emerged as the subject of international attention. Two leading examples are the March 1999 symposium on “Ecosystem Effects of Fishing” convened by the International Council for the Exploration of the Sea (ICES), and the planned September, 2001 Reykjavik Conference on Responsible Fisheries in the Marine Ecosystem. It is considered that implementation of the ecosystem approach would prompt changes to institutional, training, capacity, information, monitoring, evaluation, governance and regulatory requirements.

General provisions of the RSCs, and structure and strategies of the action plans are covered, noting that the latter usually include five main components: environmental assessment; environmental management; environmental legislation; institutional arrangements and financial arrangements. Five RSCs are described which contribute to the goals of fisheries management by dealing with the control of land-based sources and activities that may have deleterious effects on the marine environment, including its living resources. In almost all regions intensive monitoring of the quality of the marine environment is carried out, and the data can provide good background information for fisheries management.

Activities of RFBs relating to ecosystem-based management are described. The work of three leading RFBs is profiled, and a synthesis of RFBs’ action presented. In general, the RFBs’ activities relate to: the impact of fisheries on the ecosystem; the impact of other sectors on fisheries; the impact of climate and ozone depletion on fisheries; and ecosystem monitoring.

Actions for future consideration by RFBs include defining ecosystem objectives in parallel with the current conservation objectives of fisheries management. It is suggested that the new objectives should address biodiversity, habitat productivity and marine environmental quality. Some additional needs include the definition of indicators and reference points, and new monitoring activities and data products for the indicators.

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The relationship and mutual relevance of the work carried out by RFBs and RSCs is reviewed, especially in areas relating to biodiversity of species, habitat, marine environmental quality, climate change, land-based pollution of the marine environment, and in the monitoring and assessment which applies to these areas.

It is suggested that as ecosystem considerations and indicator frameworks are increasingly factored into fisheries management, the functionalities of RFBs and RSCs will need to be adapted in a practical, cost-effective way to meet future needs. This could be done in a way that would not overburden either RFBs or RSCs, and build on current programmes. Some examples of activities which could form a basis for practical cooperation are suggested.

Taking into account current activities of RFBs and RSCs, as well as the experience gained through the cooperation already established between some RFBs and RSCs, concrete suggestions are made for options that may lead to enhanced cooperation on ecosystem-based fishery management.

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