

# Ecosystem-based management

Markers for assessing progress



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## Foreword

The GPA is the only intergovernmental programme with a specific mandate to address the management interconnectedness between fresh water systems and coastal and marine environments. The UNEP Coordination Office of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) commissioned this expert report in recognition of the importance of promoting the links between fresh water management and the management of coastal and large marine ecosystems.

The complexity of the economic, social and environmental realities requires ecosystem-based, multi-sectoral approaches in policy and management. Actions in the context of the GPA should be embedded in integrated management programmes and frameworks in order to be sustainable. Worldwide, the practice of integrated management of river basins, coastal areas and the marine environment is growing. Many countries are overcoming the separation between the scientific and the political approaches to management of freshwater and the marine environments.

This publication should be considered a practical tool for assessing progress in integrated coastal and river basin management. It highlights the needs and benefits of integrated management, while at the same time providing guidance in establishing the management link.

The report takes a critical look at indicators and how they can be used for management purposes. A number of key questions are raised for consideration: What is progress in integrated management of river and coast? What steps are to be taken for making progress? And how to assess progress made in a practical situation?

The UNEP/GPA Coordination Office and its partners are pleased to present this report and it is our hope that the findings presented here will further support global, regional and national efforts in implementing the Global Programme of Action.

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## Abstract

This paper offers a framework for disaggregating the goal of sustainable development into a sequence of tangible levels of achievement. The focus is on outcomes rather than management processes. Sets of markers or indicators are offered that can be used to assess progress in integrated management of river basins, coasts or large marine ecosystems and in programmes that link across these systems. The markers are organized into a framework composed of four Orders of Outcomes. The First Order is achieved by assembling the enabling conditions for the sustained practice of ecosystem-based management. The First Order culminates in negotiating commitments to implement a plan of action directed at a set of priority management issues. The implementation of a plan of action is addressed in the Second Order, as changes occur in the behaviour of institutions and relevant user groups, and the programme succeeds in generating the funds required to sustain a programme over the long term. The Third Order marks the achievement of the specific societal and environmental quality goals that prompted the entire effort. In ecosystems that are much altered by human activities the achievement of a sequence of Third Order goals over long time periods typically marks the path to sustainable forms of development. This Orders of Outcomes Framework is applied to assess progress on issues that integrate across management of coasts and river basins. The paper identifies major lessons that have emerged from coastal and water resources management. It offers guidance on the design and conduct of ecosystem-based management initiatives that address both the impacts of human activities and the need to sustain or restore the goods and services that are generated by healthy ecosystems.

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## Acronyms

|           |  |
|-----------|--|
| EU        | European Union   |
| FAO       | Food and Agriculture Organization of the UN  |
| GEF       | Global Environment Facility  |
| GESAMP    | Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection<br>(IMO/FAO/UNESCO-IOC/WMO/WHO/IAEA/UN/UNEP) |
| GPA       | Global Programme of Action for the Protection of the Marine Environment from<br>Land-based Activities                            |
| GWP       | Global Water Partnership   |
| IAEA      | International Atomic Energy Agency   |
| ICARM     | Integrated Coastal Area and River Basin Management   |
| ICM       | Integrated Coastal Management  |
| IDRC      | International Development Research Institute   |
| IMO       | International Meteorological Organization  |
| IRBM      | Integrated River Basin Management  |
| IOC       | International Oceanographic Commission of UNESCO   |
| IWRM      | Integrated Water Resource Management   |
| LME       | Large Marine Ecosystem   |
| NGO       | Non-governmental organization  |
| UN        | United Nations   |
| UNCED     | United Nations Conference on Environment and Development   |
| UNDP      | United Nations Development Programme   |
| UNEP      | United Nations Environment Programme   |
| UNESCO    | United Nations Educational, Scientific and Cultural Organization   |
| UCC-Water | UNEP Collaborating Centre on Water and Environment   |
| WHO       | World Health Organization  |
| WMO       | World Meteorological Organization  |
| WSSD      | World Summit on Sustainable Development  |

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