

Title: **Demonstrating the Evolution towards Ecosystem Management in Regional Fishery Management Organizations**

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Abstract: In ecosystem-based fishery management, the ecosystem comprises the natural sub-system and also human components, including user groups, institutions and the processes of management. Regional Fishery Management Organizations (RFMOs), particularly those designed to manage tunas, were not established with an ecosystem view of the pelagic environment. However, tuna RFMOs have evolved from an almost exclusive focus on tunas to a broader scope of management that includes many other oceanic resources. This paper reviews critical issues related to the management of billfish, bycatch in tuna fisheries to illustrate this evolution. The paper reviews four components of ecosystem-based fishery management: policy and planning, development, research and management. Ecosystem-based management is affected by many factors including subsidies, conflicting objectives for fishing sectors, shortcomings in catch statistics data, a need for social and economic data, coordination of transboundary resources and livelihood issues, particularly in developing countries. Based upon these factors, tuna RFMOs need to expand their management framework for ecosystem-based fishery management to be successful. Tuna RFMOs need to continue to reduce fishing mortality on species in which overfishing is occurring and also improve the resilience and adaptive capacity of fishers. It is also critical that tuna RFMOs adopt mechanisms to address the increased complexity of ecosystem-based fishery management.