

Abstract

Indicators for ecosystem based management: methods and applications

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Indicators are essential tools for policy making, public communication and the provision of scientific advice. In the fisheries realm indicators have been increasingly used to advise on fish and shelfish stock management, especially since the precautionary approach to fisheries management was developed. They are now becoming a cornerstone of the wider ecosystem approach to the management of all human activities. In this presentation we will provide an overview of the methods developed at Ifremer for selecting, validating and calculating indicators, combining suites of indicators and interpreting their changes in terms of ecosystem states and suitable management (response) actions. Establishing the causal link between single or multiple pressure indicators and state or impact indicators is at the heart of our approach. Indicators for socio-economic impacts of ecosystem state and management responses are also presented. We present examples for pressure indicators and ecological indicators derived from different types of information (scientific survey data, commercial fisheries data) for a range of ecosystems, covering pelagic, demersal and deep-water systems.