

Theme Session G

Practical advice for implementing marine policy: combining ecosystem and societal indicators in stock and ecosystem assessments

Conveners: Gavin Fay, USA (gavin.fay@noaa.gov), Eva-Lotta Sundblad, Sweden (eva-lotta.sundblad@havsmiljoinstitutet.se), Scott Large, USA (scott.large@noaa.gov), and David Goldsborough, The Netherlands (david.goldsborough@wur.nl)

Adopting ecosystem approaches for managing the sea and its living marine resources requires practical methods to translate information on environmental, ecological, and societal processes into the tools used to provide scientific advice for management. The use of ecosystem indicators to describe both the status of marine ecosystems and the pressures imposed by human activities on these ecosystems has received much attention. Recent empirical and theoretical work has made progress in establishing ecosystem reference points based on the responses of indicators to fishing and environmental pressures. Legislation such as Europe's Marine Strategy Framework Directive (MSFD) highlights the need for including economic and social assessments in governance, and warrants better development of methods and indicators for including this information in an ecosystem-based management context. Similarly, the inclusion of environmental and other auxiliary information in stock assessments is an active area of research, with particular emphasis being placed on exploring the consequences of whether to adjust fisheries policy advice in the face of global environmental change. These two areas of research are often considered separately, but lie along a spectrum of approaches and share common goals. There is a need to better understand how this diversity of methods and indicators can be combined and applied to provide advice that has an integrated perspective across socio-economic and conservation management objectives, and for what situations certain approaches for including societal and ecosystem indicators in governance and policy are most appropriate.

Across a range of marine ecosystems, we welcome papers on the following topics:

- Methods for including environmental, ecological, and societal information in stock and ecosystem assessments.
- Performance of ecosystem indicator-based control rules and reference points.
- Comparison of indicator-based assessments with traditional stock assessment approaches.
- Defining management-relevant societal indicators of human activities and their drivers that cause pressures on the state of the marine environment.
- Using information from socio-economic indicators to inform policy and scientific advice for fisheries and ecosystem-based management.
- The role of different types of information in the policy process and the information needed to prioritize among management actions.