Adapting Fisheries Management to a Changing Ecosystem
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Keynote 2

Using ecosystem information in the stock assessment and advice process.

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ABSTRACT

Around the US and in many parts of the world, ecosystem reporting is increasingly included in the fishery management process. Annual ecosystem reports have evolved to incorporate a wide range of ecosystem indicators and to respond to Council requests for increased relevance to fishery management. Stock-specific ecosystem indicators and reporting (e.g. Alaska's Ecosystem and Socioeconomic Profiles) are also in development around the US to facilitate inclusion of ecosystem information within stock assessments. While response to ecosystem reporting at both the system and stock level has been positive, the use of this information in Council or other fishery management decision making has been limited to date. Data products without clear entry points into a management process are very difficult for managers to use. To facilitate more direct use of ecosystem information in management decisions, more direct collaboration between decision makers and assessment/ecosystem teams is needed to co-develop processes and products. This talk will outline how the Mid-Atlantic Fishery Management Council (MAFMC) currently uses ecosystem information in catch recommendations and more general advice processes, and how MAFMC is working to advance the operational use of ecosystem information in tactical and strategic management decisions with a suite of ecosystem indicator data and simulation analyses. MAFMC's Scientific and Statistical Committee (SSC) determines the level of scientific uncertainty (coefficient of variation; CV) in the overfishing limit (OFL) to derive the acceptable biological catch (ABC) for each stock. This tactical decision includes an assessment of ecosystem factors, so identifying specific ecosystem factors and associated indicators that impact scientific uncertainty for individual and multiple stocks is critical to operational use of these indicators in the OFL CV decision. MAFMC's strategic ecosystem approach to fishery management (EAFM) process uses ecosystem indicators directly in a comprehensive annual ecosystem-level risk assessment, which informs conceptual modeling and management strategy evaluation. The current collaboration between stock and ecosystem assessment groups and the MAFMC SSC is intended to result in (1) an SSC decision process that makes better use of ecosystem information in determining the ABC, (2) evaluation of multiple ecosystem indicators and potential development of thresholds for use in a revised EAFM risk assessment and/or other Council processes, and (3) an increased range of opportunities for relevant ecosystem information to be considered in management decision processes.