

# **Valuing ocean services in the Gulf of Maine -- New approaches for conflict resolution**

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Humans have exploited the marine resources of the Gulf of Maine and Georges Bank, from marine mammals to commercially valuable fish and shellfish, for centuries. The result, says NOAA researcher Michael Fogarty, has been dramatic changes in the structure of the ecosystem due to the direct effect of fishing and to indirect effects from an altered food web.

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Fogarty will draw on information from scientific surveys and studies conducted over the last five decades to describe recent changes in the Gulf of Maine ecosystem in his presentation "Confronting Tradeoffs in the Management of Exploited Marine Ecosystems." Six other participants from NOAA, U.S and Canadian universities, and an

environmental group will also give presentations as part of the marine seminar.

“If different aspects of the ecosystem are affected by different human activities, we must assign priorities and determine the best mix of activities to meet human needs while protecting fundamental ecosystem processes,” Fogarty said. “Tradeoffs will have to be confronted because every resource cannot be at its optimal level of abundance if interactions such as predation and competition are important.”

Fogarty will focus on Georges Bank on the edge of the Gulf of Maine, an area where fishing is the dominant human influence and where dramatic changes in the structure of the ecosystem have occurred over the past decade. High-value shellfish species like scallops and fish species like herring and mackerel have increased, while the traditional mainstays of the commercial fishery - cod, haddock and flounders - have alternated in abundance with small sharks and rays which have far lower economic value than the traditional groundfish species.

Source: NOAA Research

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