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Floundering in the face of climate change: Can we successfully manage our recreational fisheries without all the facts?

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Abstract

Climate change is a growing concern in coastal communities dependent on fishing, as it is likely to alter the spatial and temporal availability of targeted species, and potentially the management frameworks required to maintain sustainable fishing practices. However, these impacts may not be exclusively felt by commercial fisheries and their supporting industries. Recreational fisheries provide substantial economic, subsistence, and leisure benefits to coastal areas so it is important to investigate the response of these fisheries to climate change, and identify recreational management procedures which are robust to future climate uncertainties. We used Management Strategy Evaluation to assess the spatial and temporal effects of climate change for management of the recreational summer flounder fishery in the U.S. Northeast and Mid-Atlantic regions. Simulations were carried out to investigate the efficacy of a set of varying input control management strategies and emphasis was placed on investigating how management outcomes differed depending on the flexibility of spatial governance options as summer flounder distribution changes. We evaluated management performance across ecological, societal, and economic objectives and compared this to recent management outcomes to gauge the magnitude and type of possible change in performance due to future climate change. Our results highlight the possible consequences for recreational fisheries if they are managed without considering the effects of broad scale climate change.

Keywords:
Management Strategy Evaluation, climate change, recreational fisheries

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