**Under Pressure: Defining Harvest Strategies that Account for Biological, Environmental or Anthropogenic Spatiotemporal Complexity—Advancing Management Strategy Evaluation, Session 1**

**A Proposed Symposium**

**at the American Fisheries Society 147th Annual Meeting**

**Convened by:**

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In order to develop robust harvest strategies for marine fisheries, it is often necessary to consider relationships among biological populations, the greater ecosystem, and the fisheries that interact with these resources. Management strategy evaluation (MSE) is a powerful tool for simulation testing the efficacy of alternative management scenarios, because models can explicitly evaluate hypothesized interactions to better understand which management actions will best achieve objectives under different circumstances. With improved understanding of spatiotemporal population dynamics and the environmental conditions that often drive them, it has been recognized that these interacting dynamics must be better accounted for in MSE if inclusive and robust harvest strategies are to be developed. Although causal mechanisms may not be thoroughly understood for many observed interactions, the MSE framework allows examination of various theories (i.e., states of nature), while accounting for plausible levels of data, model, and management uncertainty. The objective of this symposium is to facilitate a forum for expert discussion and collaborative interaction on recent advancements in developing robust harvest strategies ranging from improved calculation of reference points, defining successful management procedures, improving the simulation methods used as the foundation of MSE or developing readily understandable performance metrics (i.e., improving the presentation of scientific results to stakeholders). Focus will be placed on methods to better account for spatial structure, ecosystem and environmental interactions, and complex fleet dynamics in the simulation of improved management strategies for marine resources. The symposium is considered a natural progression of the well-attended AFS 2014 theme session on "The Next Generation of Fish Stock Assessments" and the follow up AFS 2015 session “Space Oddity: Recent Advances Incorporating Spatial Processes in the Fishery Stock Assessment and Management Interface”, but with a refined focus on developing improved management strategies in a complex and uncertain ecosystem. The session is the first in a two part MSE mini-symposium aimed at providing a forum to identify how MSE has recently evolved, what modeling techniques are still lacking given real-world observed dynamics, and how stakeholders can be more meaningfully involved in the MSE process. The second session “Closing the loop: Stakeholder involvement in the Management Strategy Evaluation (MSE) process” will focus on how stakeholders can be better incorporated into MSE development, application, and interpretation. Sessions will be linked through interactive discussions.