



NOAA FISHERIES Webinar Series

Sponsored by the

Quantitative Ecology and Socioeconomics Training (QUEST) Program

Webinar Details:

Date: Wednesday, May 14, 2014

Time: 1:30 PM - 3:30 PM EDT

Space is limited. Reserve your seat at:

<https://www1.gotomeeting.com/register/557154833>

Topic: What Can Ecosystem Models Add to the Stock Assessment Process?

Presenter: Dr. Cameron Ainsworth
Assistant Professor, College of Marine Science
University of South Florida



Abstract: Ecosystem and multispecies models account for a variety of factors not typically modeled in single species stock assessment. These include trophic and behavioral interactions between species and potentially also habitat effects, climate variation and directional climate change, and interactions with various marine-use industries. Dr. Ainsworth will highlight recent case studies from the United States, Mexico, Indonesia and Australia where ecosystem models were used to supplement single-species management. Typical applications of ecosystem models include producing time series of natural mortality for use in single species models, development of equilibrium catch and biomass curves that account for species interactions (modifying optimal fishing mortality rate (F_{opt}) and MSY), producing multi-species yield per recruit plots for help in gear specifications and setting basket quotas, quantifying ecosystem services provided by one fishery target species to another, and use of management strategy evaluation – a closed loop simulation-based procedure for optimizing harvest control rules. Dr. Ainsworth will discuss obstacles in achieving broader use of ecosystem models in fisheries management and conclude with new directions for NOAA's Integrated Ecosystem Assessment program such as the use of a model ensemble approach.

Biography: Dr. Ainsworth's research is focused on understanding how human activities and climate influence the structure and functioning of marine communities and developing new tools and methodologies to support ecosystem-based management. As part of this research, Dr. Ainsworth and his students employ a variety of statistical and numerical simulation models to characterize trophic linkages in marine ecosystems, habitat use by fish and invertebrates, and the influence of physical oceanography on the distribution of marine life. His ongoing studies include a management strategy evaluation (MSE) of Gulf of Mexico marine protected area design. The MSE approach is a type of closed-loop policy analysis that simulates each part of Holling's adaptive management cycle (stock assessment, implementation of harvest rules, and policy evaluation). Key to this approach is recognizing feedbacks from the ecosystem that occur in response to management actions and evaluating tradeoffs with respect to socioeconomic and ecological policy objectives. This work is being done in collaboration with NOAA as part of their Integrated Ecosystem Assessment for the Gulf of Mexico, and other Gulf-area agencies. Another major project ongoing in the Ainsworth lab is the evaluation of the Deepwater Horizon oil spill. This study focuses on the short and long-term impacts of oil toxicity in the ecosystem, as well as the impacts of mediation actions like the use of dispersants and fishery closures.

For more information, contact:
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Webinar System Requirements:
PC: Windows® 8, 7, Vista, XP or 2003 Server **Mac:** Mac OS® X 10.6 or newer