



# NOAA FISHERIES Webinar Series

Sponsored by the

## Quantitative Ecology and Socioeconomics Training (QUEST) Program

### Webinar Details:

**Date:** Wednesday, May 10, 2017

**Time:** 2 - 3 pm Eastern Time

**Space is limited. Reserve your seat at:**

<https://goo.gl/h6BiUv>

**Topic:** Management Strategy Evaluation: Ideas and Application

**Presenter:** Curry Cunningham  
Research Fishery Biologist  
NOAA Fisheries, Alaska Fisheries Science Center



**Abstract:** Efficient and sustainable management of exploited species depends upon tools for evaluating the outcome of alternative management actions, given system uncertainty and stochastic dynamics. Management strategy evaluation (MSE) methods simulate the biological, management, and harvest components of fisheries, to understand the influence of various sources of uncertainty on harvest policy outcomes. However, despite the utility of MSE in fisheries management there remains a lack of clarity regarding MSE purpose, design and best practice within the fisheries community. This seminar will describe the basic ideas behind MSE structure and function, while providing examples from multiple fisheries. Topics of discussion will include: the MSE process, considerations in operating model design, types of uncertainty typically confronted within an MSE, stakeholder involvement, and development of performance statistics. I will conclude with a recent example from my own research, a MSE of the Bristol Bay, Alaska commercial sockeye salmon fishery that evaluated management alternatives given, implementation uncertainty in the in-season management process as a result of mixed-stock harvest concerns and information delays, process variation in the form of periodic shifts between productivity regimes, and parameter uncertainty.

**Biography:** Dr. Curry Cunningham is a Research Fishery Biologist with the Alaska Fisheries Science Center's Auke Bay Labs in Juneau, Alaska. His research focuses on the development of quantitative tools for improving fisheries management and understanding the processes that drive population dynamics. Dr. Cunningham uses applied statistics, Bayesian and maximum-likelihood methods, and simulation modelling to improve understanding of, and evaluate alternative management strategies for, Alaska's marine fish and salmon. He earned his Ph.D. from the University of Washington, School of Aquatic and Fishery Sciences and an undergraduate degree from the University of British Columbia. Dr. Cunningham's previous research has encompassed a wide range of topics including: modelling spatial predator-prey relationships between bears and salmon across landscapes, developing tools for partitioning mixed-stock fishery catches based on age and genetic composition data, evaluating the evolutionary implications of natural and anthropogenic selection on salmon populations, and designing improved statistical methods for forecasting salmon run size and timing.

**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