Richard D. Methot

NOAA Senior Scientist for Stock Assessments

Seattle, WA

For AFS session: Fishing for A Solution in A Sea of Competing Objectives

Biological Impacts of Contrasting Economic Goals for Commercial and Recreational Marine Fisheries

Marine fisheries management is generally focused on maximizing the total weight of the annual yield while guarding against excessive depletion of the reproductive potential (spawning biomass) of the stock. In the U.S., these principles are found in national legislation, in national guidelines for implementation of the law, and in regional fishery management plans. Fisheries stock assessment science has evolved to quantify the total yield and the degree to which the spawning biomass is reduced below its unfished level. However, recreational fishers may be more interested in a maximum number of satisfactory fishing opportunities than in maximum number/weight of fish caught. In this talk, I demonstrate the consequences of fishing through simulation of a spatially structured fish population. The goal is to present a rich set of outcomes that are relevant to commercial, recreational and conservation interests and that go beyond the simple effects on total yield and spawning biomass. The same population models used to calculate yield and spawning biomass, can report mean age and size of fish, catch rates, number of fishing opportunities, etc. In particular, the simulations will explore the possibilities for maximizing commercial catch and recreational fishing opportunity in fish stocks that are sought by both sectors.