ABSTRACT

Limitations in the application of fully realized statistical catch-at-age models are the rule, not the exception, when trying to inform stock management. While this is a global challenge, several advances in data-limited resource management have been developed within the United States over the past 5+ years. Most of this development was instigated by the 2008 reauthorization of the Magnuson-Stevens Fisheries Conservation and Management Act (MSA), the main piece of fisheries legislation in the US. The MSA focuses mainly on sustainable yield, thus most data-limited methods ultimately seek to provide guidance in setting levels of total stock removals in order to avoid/eliminate overfishing. Here we give an overview of the evolution of the methods, in terms of methods and application. The lessons learned guide where we go next. There is unlikely a time in the near future that these data-limited approaches will not be an essential fisheries management tool. To that end, consistent terminology, linkage of methods to control rules, and understanding how to facilitate a continuum of methods across various data-availability scenarios are important considerations for future advances.

BIOGRAPHIES

Dr. Jim Berkson leads the Recruiting, Training, and Research (RTR) Program for NMFS’ Southeast Fisheries Science Center. The RTR Program is designed to recruit outstanding undergraduate and graduate students from around the country into the field of population dynamics. Dr. Berkson’s research, and that of his graduate students’, focuses on the application of simulation modeling to fisheries management. He currently serves on the Scientific and Statistical Committees of the Caribbean and the South Atlantic Fisheries Management Councils, where using data-poor methods to develop annual catch limits has been a primary focus.

Dr. Jason Cope is a Research Fishery Biologist for the Northwest Fisheries Science Center in Seattle, WA, and has been conducting stock assessments for a decade on west coast groundfishes. He also served 4 years on the Groundfish Management Team, an advisory body to the Pacific Fishery Management Councils, during the time when annual catch limits were being established. He has spent the past several years developing and applying data-limited approaches to groundfish management, as well as in an outreach capacity to further the use of these tools both domestically and internationally.