

## Session: Recreational Fishing

*Scott Steinback*

The overarching goal of the NEFSC Social Sciences Branch (SSB) recreational economics program is to provide policy-relevant information and products to support the current and emerging needs of the New England and Mid-Atlantic Fishery Management Councils, the Greater Atlantic Regional Fisheries Office, and other stakeholder organizations (e.g., industry organizations, state fishery management agencies, the recreational fishing public, etc.). The SSB also seeks to align their research projects with the six guiding principles identified in NMFS' National Saltwater Recreational Fisheries Policy, published in 2015. The 2016-2017 Greater Atlantic Regional Implementation Plan provides specific detail on how NMFS is applying those six guiding principles to activities within the Northeast region – many of which have been initiated by the SSB.

Development of consistent and defensible recreational fishing data and models requires significant expenditures in terms of funding and research time, and necessitates the need for a “core” data collection system in the Northeast region and across the US. To meet these needs, the SSB collaborates with the NMFS Office of Science and Technology (S&T) in developing and implementing data collection surveys for the Northeast and the Nation. While no NEFSC discretionary funds are allocated for collection of recreational fishing data or for analysis and modeling, dedicated programmatic funding has been provided by S&T to collect angler expenditure data on a routine basis in the Northeast and across the US (every 3 to 5 years) since 1998. The SSB assists with the survey design and analysis of these data, which are used to evaluate temporal changes in state-level estimates of angler expenditures and the contributions of those expenditures to each coastal state's economy. These data are essential for conducting regulatory assessments of proposed recreational fishing management actions in the Northeast. Apart from the angler expenditure data, the SSB is generally reliant on task-specific funding from S&T, through that office's annual internal competition, to win resources for the collection of all other angler valuation and for-hire data collection/analyses.

During the past six years, the SSB was awarded project-specific S&T research funding to:

- 1) Conduct a stated preference choice experiment survey of marine anglers fishing for cod and haddock in the Gulf of Maine;
- 2) Design and administer a recreational fishing for-hire cost and earnings survey in the Northeast;
- 3) Implement a dichotomous choice field experiment to measure the economic value of saltwater recreational fishing licenses in Massachusetts;
- 4) Initiate development of a cell phone application (FishRules) that provides on-the-water spatial and temporal information on current saltwater recreational fishing regulations in the Northeast; and
- 5) Develop a stated preference choice experiment survey of marine anglers fishing for Atlantic striped bass in Northeast.

These studies were motivated by the emerging needs of fisheries managers and SSB's commitment to develop regional performance metrics. For instance, data collected from the stated preference choice experiment of marine anglers in the Gulf of Maine were used to update the economic sub-model contained in an integrated bio-economic model developed by the SSB. Since 2013, the New England Fishery Management Council and the Greater Atlantic Regional Fisheries Office has relied on this bio-economic model to develop the recreational fishing management measures needed to meet annual conservation objectives for both Gulf of Maine cod and haddock. The recreational fishing for-hire survey was designed to fill a gap in our knowledge of the business structure and costs of the industry operating in the Northeast. Survey data were used to identify the overall financial condition of for-hire businesses in the Northeast and to estimate the economic activity that the industry contributes to the Northeast's economy as measured by total employment, labor income, GDP, and sales. These data have also been used in regulatory evaluations of proposed recreational fishing management actions for summer flounder, black sea bass, scup, Atlantic cod, and haddock.

In addition to research initiated by the SSB, support is provided for other national research initiatives developed by NMFS and for regional economic analysis of management actions. To help address the research agenda in NOAA's Next Generation Strategic Plan as it relates to a specific suite of ecosystem-dependent human activities - ocean recreation – the SSB and another NMFS economist from the SWFSC are close to completing a national study to gauge the relative importance of a broad range of ocean recreation activities from scuba diving to beach going and whale watching. NMFS currently collects this type of information for saltwater recreational fishing, but has never collected this information for other ocean recreation activities. At the request of the Mid-Atlantic Council, the SSB also recently provided economic assessments of two separate rules proposed to implement special management zones (SMZs) designed to reduce user conflicts between recreational and commercial fishing on artificial reefs off the coast of Delaware and New Jersey. The approach developed by the SSB for evaluating the annual economic impact of proposed SMZs on both commercial and recreational for-hire fishing will be followed for future SMZ designation requests by coastal states in the Northeast region.

In the future, the SSB plans to continue to request S&T research funding as emerging recreational fishing management and stakeholder needs develop. However, given the reliance on this internal source of research funds, it is critical that additional funding sources external to NOAA are explored in more depth. Towards this end, the SSB has recently made a concerted effort to develop better partnerships with academic researchers that have established recreational fisheries economics research programs. It is our hope that we can bolster funding opportunities and improve our ability to meet emerging management needs through improved collaboration and connections with informed academic researchers.