Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201
703.842.0740 • www.asmfc.org

CESS Fall 2024 Meeting Summary

September 3, 2024 | 12:00 PM – 2:30 PM

Committee Members in Attendance: S. Lovell, J. Montanez, M. Russell, J. Holzer, A. Scheld, B. Murphy, S. Sethi, J. Hadley, T. Guilfoos, T. Scott, S. Ebbin, E. Frimpong

Staff: J. Patel, P. Campfield

Guests: T. Burnham, R. Feeney

Risk & Uncertainty update

A risk and uncertainty tool update was provided so that the Committee could see where they stood in the process and when future input would be needed from them. So far, the red drum technical committee is still in the process of providing initial inputs to calibrate the tool for this species, so after they complete their inputs and the risk and uncertainty report is drafted, the CESS will be asked to review the report. Once management action draws closer, the CESS will be asked for additional inputs for the socioeconomic sub-scores to help add socioeconomic considerations into the final goal probability.

Reviewing Socioeconomics Criteria for R&U

A question was raised as to whether socioeconomic data should be considered at a community or state level for future iterations of the tool. At the state level, data may be lost depending on the communities considered and the amount and types of data aggregated. There is also a risk of an imbalance of data depending on the number of ports or communities aggregated by state. For example, Rhode Island has a small number of fishing communities, but New Jersey has many, so New Jersey may be better represented in the aggregate data than Rhode Island. Instead, comparing between communities is a more accurate comparison since it doesn't have to factor in how many communities are being compared and across which geographic regions. Currently, community data that has been used in decision making for risk and uncertainty is averaged across a 3-year time frame, but it is unclear exactly how those communities were chosen for each iteration of the tool. The committee advised looking into this matter and seeing if there is a standard list of communities that have socioeconomic data at a federal level. Until more clarity is provided, it is worth taking each iteration of the tool on a case-by-case basis.

Next steps: J. Patel to investigate the existence of a standard list of communities at the federal or state level.

The other question that was posed revolved around how to treat *de minimis* states when it comes to inclusion in the risk and uncertainty tool. For the current iteration of the tool,

Delaware and Maryland were excluded due to their *de minimis* status, but there is a concern for how this will change as red drum move north.

To address this, one potential solution is to look at MRIP data and see where catch rates are increasing for recreational species. Another option is to rely on current management decisions for the region and base inclusion of states based on current regulations for the species. The tool also relies on recent historic data, so there was a question of potentially adding criteria to account for species shift in Component 3 of the tool. As of now, until more iterations of the tool are created, the Committee recommended treating each species on a case-by-case basis.

Next steps: J. Patel to ask Risk and Uncertainty Tool creators the process for adding criteria into the tool for future iterations.

Review of current research

Since the Committee has broad expertise, the chairs have asked that members present on their current research to keep the Committee up to date on new projects and findings. For this meeting, B. Murphy presented on how social science can inform fishery social-ecological systems.

Two case studies were covered in the presentation. The first focused on how policy impacts behavior. The study hypothesized that regulation for striped bass fishing can redirect effort into 3 other areas of recreation—fishing for a different species, indiscriminate fishing, or leaving fishing altogether for another outdoor activity. The regulation that was tested was the restrictive slot limit (20" – 26") for striped bass. Based on the results from a modified discrete choice experiment, most participants didn't change where they allocated effort and continued to fish for striped bass; however, there was some increase in effort and some decrease. For the anglers that decreased striped bass fishing effort due to finding the restriction unfavorable, they were reallocating energy to either targeting a new species (mostly bluefish), indiscriminate fishing, or other activities. For anglers that increased effort due to finding the regulation favorable, they saw this as an opportunity to catch more, smaller fish, and their increased effort was pulled from other options. Behaviors, preferences, and motivations are complex and diverse, but important to explore since they impact long-term changes in the fishery. The study correlated these changes to consumptive orientation behaviors and found the strongest predictor of behavior was the desire to keep the actual fish they caught. Anglers who increased or decreased effort cared more about keeping the fish than about people who didn't change their behavior.

Much of current recreational motivation literature is hyper-localized by state, fishery, or temporal extent. A project related to this study is currently being designed with the goal of characterizing recreation motivations, and it is anticipated that this will expand into the recreational fishing domain. This new project should collect coast-wide data and potentially create a composite index for angler motivations for a specific fishery.

The second case study focused on complex dynamics and non-linearities in fisheries, especially in the Bering Sea pollock fishery. In this study, anglers were asked to describe the chinook salmon fishery and what factor they felt impacted their CPUE. Their responses were used to create a cognitive map with CPUE as the center. Some interesting findings include how chinook salmon PSE impacts the time fishers spend searching for pollock. This study also explored a conceptual model that asked questions like how a 10% decrease in salmon PSC impact factors like pollock recovery rates, trip length, safety, profit, etc., and found a stepped curve with an increase or decrease of 10% change in profit.

With both of these studies, the fishery itself was never the largest indicator of predictors, and interest outside of fishing was not predicted by angler participation in the fishery.

Update on socioeconomics in ASMFC Lobster Stock Assessment

UMaine's T. Burnham gave a presentation on measures of fishing effort and socioeconomic indicators in Maine's lobster fishery. The goal of this presentation was to understand the steps that have been taken so far to incorporate socioeconomics into the Commission's stock assessment for American Lobster. The outputs of this process were a result of requests by specific partners. They included: a review of spatial, temporal, and sociodemographic characteristics of the Maine lobster fishery, social indicators of resilience in Maine's lobster fishery, and exploring benefit distribution in the Maine lobster fishery. A key aspect of this process was to acquire federal funding to have access to confidential data sets that would better inform the indicators.

To review the characteristics of the fishery, effort within specific groups (spatial, age, gender, and license classes) were examined. The latency of the fishery was examined by total number of trap tags solid and the estimated total maximum number of traps in the water. Latency of number of commercial lobster licenses and active commercial lobster licenses were also explored. Although on the surface, latency appeared stable over time for these variables, breaking them down into demographic groups painted a different picture with differences between gender, age, and especially license class. Even though proportion of activity is stable between class 2 and 3 licenses, there is a decrease in both license classes overall, and overall and less latency in student licenses and class 1 licenses. There are also seasonal variations by class as expected. Greater fishing effort occurs in the summer, but class 2 and 3 licenses have more effort in the winter than students and class 1 licenses. Demographic factors can help clarify how much gear is in the water to inform larger legal issues and legislation for the fishery.

To create socioeconomic indicators of resilience in Maine, eight main indicators were chosen based on a principal access factor analysis of the data. 38 lobster fishermen were interviewed across Maine with a focus on regional differences between fishery. Fishery-independent and -dependent data sources were collected to find the socioeconomic status of the fishery. These data included licensing data, dealer data, harvester data, short-term rental data, real estate data, housing data, vehicle registration data, marine casualty data, marine resource violations data, and the risk index. These can be found in a statistical package called "gomfish". Variables were collated together to describe indicators, but there was a wide range in accessibility and

data quality. There were 2 data-rich indicators (operational efficiency and coastal accessibility), 4 data-limited (business investments, community change, risk taking, financial health), 2 data-poor (personal spending, physical and mental health). The research group working on this project is currently working to promote all of the indicators to data-rich status. From the data-rich group, in the operational efficiency indicator, cost and income were used as proxies to describe the latent construct. This construct included price per round, individual daily landings, crew aboard, total traps fished, total trips, total landings. The regions used to create this indicator were picked based on interviews. Factor score was used as regional measure to understand how the fishery was fairing overtime based on variability in these regions. For the coastal accessibility indicator, days on housing market, Maine housing affordability index, median income, and total Airbnbs were included.

To explore the benefit distribution in the Maine lobster fishery, a Gini index was created based on the distribution of fishery value across commercial license holders. This accounted for the value of license distribution across larger operations. The index showed an upward trend, indicating that differences may exist on a regional or license class scale.

Next steps for this project include adding alternative measures of effort, expanding socioeconomic indicators, further exploration of Gini indices, adding to gomfish, and expanding beyond Maine.

<u>Developing socioeconomic indicators</u>
A question was posed to the Committee of potential paths forward to develop species-specific socioeconomic indicators. The Commission's goal is to track the socioeconomic impact of their management decisions for certain species. The Committee advised that indicators should be designed in a way that they can be revisited and reliably reported on a regular basis (e.g., NOAA's state of the ecosystem reports that look at specific indicator suites). There also needs to be consistency in staffing and funding to upkeep these indicators over time.

For fishery management and socioeconomic conditions, a historical analysis could be conducted to aid in picking a potential suite of indicators. T. Burnham's work at UMaine has been doing this retroactively for lobster. A temporal analysis is also an option to actually show effect of environmental/management change in a historic context.

If conducting full-scale analysis are too heavy a lift in workload, there could be more addition of socioeconomics in FMPs. Another option is to look into reports similar to NOAA's work with ecological and socioeconomic profiles.

Next steps: J. Patel to touch base with individuals to get their thoughts on how to add socioeconomics to the existing Striped Bass FMP.