Introduction
The Atlantic States Marine Fisheries Commission’s (ASMFC or Commission) Northern Shrimp Section (section) and Advisory Panel (AP) met separately to review the 2016 Stock Status Report for Gulf of Maine (GOM) Northern Shrimp and set specifications for the 2017 fishing season. The AP met in the morning (10:00-11:30 a.m.) to review the report and Technical Committee (TC) recommendations, and formulate recommendations to the section. The section met in the afternoon (1:00-3:00 p.m.) to review the report and the AP’s and TC’s recommendations, and set specifications for the 2017 fishing season.

The Section recognized Commissioner Bill Adler for his outstanding contributions to northern shrimp management over the past 21 years as this was his last meeting as Massachusetts Governors Appointee. We thank him for all he has done as a member of the Section.

TC Chair, Robert Eckert (NH), presented the 2016 stock status report for GOM northern shrimp to the AP and the section at their respective meetings. Results of the report indicate abundance and biomass indices for 2012-2016 are the lowest on record for the 32-year time series. The stock has experienced failed or poor recruitment for five consecutive years, including the three smallest year classes on record. As a result, the indices of fishable biomass from 2012-2015 are the lowest on record. The population appears to be comprised almost entirely of the 2013 and 2015 year classes, with only the 2013 year class being of harvestable size (i.e., 4-year old shrimp in 2017) and the primary contributors to the spawning biomass for the next 2 years. Recruitment of the 2015 year class was well below average, but the highest observed since 2011. Additionally, unfavorable environmental conditions for northern shrimp are expected to continue for the foreseeable future. Based on these results, the TC considers the GOM northern shrimp stock collapsed, and recommended extending the moratorium on fishing to the 2017 season. Additionally, the TC recommended a research set-aside (RSA) and sampling program for 2017. The purpose of the program is to continue the time series of biological samples from the GOM northern shrimp population during the winter. The recommendation included a sampling proposal of four trawl vessels and two trap vessels to be selected by random draw. The TC recommended a RSA quota of 13.6 metric tons in order to provide selected vessels with necessary means to offset the costs of fishing (i.e., sales from the catch).

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Advisory Panel Meeting Summary
Following review of the 2016 stock status report, the AP expressed concerns regarding the quality of the data that the TC uses to determine stock status. More specifically, the AP feels the ASMFC summer shrimp survey, the primary fishery-independent data source utilized in stock assessment for northern shrimp in the GOM, does not effectively catch shrimp due to current gear limitations and crew experience. TC members noted that aside from routine maintenance on the net and vessel, the survey methodology has gone unchanged for 33-years, and has produced both good and bad indices for northern shrimp during that time, without trend. It was noted the vessel’s trawl doors and wenches are expected to be replaced prior to the 2017 survey, which provided some reassurance to the AP regarding the use of the data in the future.

The AP also expressed concerns regarding the use of catch data from the RSA program in recent years as one of the indicators to determine stock status. The TC commented that while catch and catch rates from the RSA program (and from the commercial fishery prior to 2014) provide good information to help characterize the fishery, this information is rarely used as an index of biomass when reliable fishery-independent biomass indices are available such as the summer survey.

Following discussion on the stock status report, the AP discussed their recommendations to the section for the 2017 fishing season. The AP discussed the social and economic hardships industry has endured due to the moratorium, noting that not only does industry need the work, but the public (e.g., restaurants) needs access to the resource. The AP deliberated on a recommendation that reflects an expanded RSA proposal (i.e., more vessels and a larger RSA quota) versus specifications for a full commercial fishing season with a modest total allowable catch (TAC). Ultimately, the AP formulated the following recommendations to the Section:

- 500 metric ton TAC
- February 1st start date through end of February; 2-3 days/week
- Section to determine other fishery specifications (e.g., trip limits and trap limits)
- Participation based on lottery system; 30-40 vessels
- Landings prior to June 7, 2011 control date would be a requirement
- Must have a size sorting grate (e.g., compound or double-Nordmore grate)
- Encourage Maine to use swipe card system
- Fishermen have to go through a licensed/permitted dealer
- Press the section for consensus decision making; recommend to the policy board

Section Meeting Summary
Commission staff, Max Appelman, provided a brief update on Draft Amendment 3 for Public Comment. Max noted the Plan Development Team (PDT) has made considerable progress drafting the amendment since receiving direction from the Section. The AP will meet via conference call in mid-January to review the options in the draft and provide additional direction and feedback to the PDT and Section. Under the current timeline, the section will
approve the draft amendment for public comment in mid-February. The section further directed the PDT to include language in the draft amendment that maintains the sections flexibility to set a TAC without jeopardizing the new objective regarding climate change. Specifically, if it is determined in the future that the stock is unable to recover due to climate change, the section would like to be able to take that into account and still be able to consider small levels of harvest on the spawning stock biomass.

The TC Chair presented the 2016 stock status report. After reviewing the report, and the TC’s and AP’s recommendations for the 2017 fishing season, the Section discussed a motion to implement a small commercial fishing season in 2017 with specific terms and conditions (see motions below). Among the terms and conditions was a 200 metric ton TAC, which is 1/3 less than that harvested in 2013 just prior to stock collapse in 2014; industry conducted test tows in order to initiate the season at some agreed upon level of egg hatch; limited participation via a lottery system, and daily reporting requirements. The motion reflects the consideration of adapting fisheries management in the face of climate change, and the notion to improve industry confidence in the science.

Section members suggested there could be a spring season targeting senescent 5-year old shrimp which would not harm the stock. There seemed to be agreement regarding this comment, however it was acknowledged that there is no evidence that fishermen can effectively target 5-year old shrimp without catching 4-year old shrimp, and that 5-year old shrimp are practically nonexistent in the current population. This led to other section members corroborating with the TC’s findings and recommendations, that results of the stock status report indicate biomass and recruitment indices are still very poor; the stock is benefiting from the moratorium (i.e., protecting the 2013 year class); and the future of the stock depends on the continued protection of the 2013 year class. The section further considered the motion by reviewing the level of harvest that occurred just prior to stock collapse in 2014 (i.e., 345.5 metric tons in 2013). Based on the stage/length-frequency data from the 2012 summer survey, the 2013 harvest was from a population with a much more viable size and stage distribution. It was also noted that water temperatures in 2015 were cooler leading to the higher survival of the 2015 year class, but temperatures were again at near record highs in 2016 which may provide some insight to the anticipated level of recruitment of the 2016 year class. Section members further noted approving a 200 metric ton TAC is a huge risk on the premise that the data collected from the ASMFC summer shrimp survey is not accurate, which was not the consensus of the section. A motion to substitute the main motion was made “to maintain a harvest moratorium through 2017.” The motion passed and became the main motion, and then passed as the main the motion.

The section then discussed a motion to approve a RSA for 2017 (see motions below). Included in the motion was a 53 metric ton quota; participation from 15 vessels (eight trawlers from Maine, one trawler from Massachusetts, one trawler from New Hampshire, and five trappers); trip and trap limits; and that preference would be given to individuals in the lottery with double grates (i.e., compound or double-Nordmore grates) and having landings history prior to the June 7, 2011 control date. The motion passed unanimously.
While there was still concern a 53 MT quota was too high, the motion balanced the needs of the TC to collect biological information (i.e., egg hatch-timing and length/stage-frequency) from the stock during the winter, and the needs of industry that have endured substantial social and economic hardship during the moratorium. Although the RSA quota is bigger than last year's, it is unlikely that the entire quota will be harvested (e.g., only 60% of the 22 metric ton RSA quota was harvested in 2016).

Northern Shrimp Section Motions

Main Motion
Move to implement a commercial fishing season for 2017 with the following specifications and conditions:

- 200mt quota for 2017
- 30 participants = 14,686 lbs total allowable catch per vessel
- January test tows prior to fishing – compensation 1000 lbs per day
- Staggered 6 week season based on egg hatch and to avoid fishing on males.
- Limited fishing days per week
- Mandatory daily reporting using swipe card system
- Mandatory daily log book with trip level data as requested by the TC
- No peddling – must be sold to dealers with swipe card designation
- Participants to be selected by lottery. Applicants with enforcement violations will not be considered.
- No financial compensation from ASMFC or State of Maine

Motion by Mr. Stockwell and seconded by Mr. White. Motion substituted.

Motion to Substitute
Move to substitute to maintain a harvest moratorium through 2017.
Motion by Mr. Grout and seconded by Mr. Armstrong. Motion carries.

Main Motion as Substituted
Move to maintain a harvest moratorium through 2017.
Motion by Mr. Grout and seconded by Mr. Armstrong. Motion carries.

Move to approve a Research Set-Aside (RSA) for 2017 with a cap at 53 metric tons. The RSA would have 8 trawlers fishing from Maine and one trawler fishing from MA and one trawler fishing from NH for 8 weeks and 1200 lbs per trip, Mid-January to mid-March 1 trip per week, and 5 trappers fishing 8 weeks at 500 lbs per week. 40 traps per vessel limit. Preference will be given to individuals in the lottery with double grates and having history prior to the June 7, 2011 control date.
Motion by Mr. Stockwell and seconded by Mr. Adler. Motion carries unanimously.