



Atlantic States Marine Fisheries Commission

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American Lobster Technical Committee

Meeting Summary

Webinar

Thursday, March 25, 2021

TC Members: Kathleen Reardon (Chair, ME), Josh Carloni (NH), Tracy Pugh (MA), Corinne Truesdale (RI), Kim McKown (NY), Chad Power (NJ), Craig Weedon (MD), Somers Smott (VA), Burton Shank (NEFSC), Caitlin Starks (ASMFC), Jeff Kipp (ASMFC)

Additional Attendees: Conor McManus (RI), Megan Ware (ME), Toni Kerns (ASMFC)

The Technical Committee (TC) met on Thursday, March 25th, 2021 to discuss and provide input to the Plan Development Team (PDT) on the development of Draft Addendum XXVII on resiliency in the Gulf of Maine/Georges Bank stock (GOM/GBK). Staff reviewed background information on the addendum, PDT discussion, and outlined objectives for the TC discussion. The addendum was originally initiated in 2017 as a proactive measure to improve the resiliency of the GOM/GBK stock in response to signs of reduced settlement and the combination of the GOM and GBK stocks following the 2015 Stock Assessment. The focus of the addendum at that time was standardizing management measures across the Lobster Conservation and Management Areas (LCMAs) within the GOM/GBK stock. In February 2021, the Board re-initiated PDT and TC work on the addendum focusing on a trigger mechanism such that, upon reaching of the trigger, measures would be automatically implemented to improve the biological resiliency of the GOM/GBK stock.

Staff reviewed the abundance reference points established following the 2020 assessment, as well as PDT discussion on the draft addendum since the February Board meeting. The PDT discussed which metrics should be used to establish a trigger mechanism, what level or levels would be appropriate to trigger standardized management measures or measures to increase stock resiliency, and which types of management measures should be considered to increase stock resiliency. As a result of this discussion the PDT determined a need for TC guidance on three issues: 1) identifying the most appropriate index or indices that should be used to establish a management trigger, 2) identifying appropriate trigger levels at which measures would be automatically implemented, and 3) Identifying management measures that should be considered to increase biological resiliency of the stock. The TC guidance provided on each of these issues is summarized below, followed by additional considerations and next steps.

Indices for Establishing Triggers

The TC discussed the pros and cons of various survey indices that could be used to establish triggers. Conor stated that he understood the PDT's concern about the Ventless Trap Survey (VTS) index related to it being more biased for inshore areas, but believes it is still a valuable indicator that should be considered. He also noted that if the goal of resiliency is maintaining or increasing spawning stock biomass (SSB), then perhaps female abundance indices should be used. Tracy added that both sexes should be considered rather than just females. The group agreed that there should be a focus on recruits or pre-recruits because looking at sub-legal sizes can provide a

forewarning for future trends in SSB. Conor also suggested consideration of an oceanographic index such as bottom temperatures, since temperature can be a driver of changing stock conditions.

Jeff suggested that the indices used to set the triggers should be those that the stock assessment subcommittee recommended for use in the annual data update process: the trawl survey indicators, including recruit abundance (71-80 mm lobsters) and survey encounter rate), and ventless trap survey sex-specific model-based abundances indices (53mm+). Burton expressed some concerns with basing short term decisions on the federal trawl survey due to annual variation and low sample sizes, but suggested that the ME/NH trawl survey and MA trawl survey could be combined into one index. He suggested that the index should be based on the trawl survey and VTS abundance of pre-recruits during the current abundance regime (since 2011). The TC discussed whether the offshore stock dynamics would be adequately reflected in the inshore surveys, but agreed that there is not a better index to use for GBK, because GBK recruit trends are not indicative of overall population trends. The TC supported further analysis of the ME/NH and MA trawl indices to determine how they can best be used for establishing a trigger mechanism. Kim noted that correlation analysis for modeled abundance and the trawl indices was conducted for the stock assessment, which adds to the rationale for using these indices. Jeff agreed to run the trawl survey function from the assessment to combine the ME/NH and MA trawl survey data into one index constrained to 2011 forward for the TC to review.

Appropriate Triggers to Implement Measures

The TC considered the PDT suggestion that a trigger level correlated with the Fishery/Industry Target abundance reference point may be of interest, given the addendum is meant to proactively increase stock resiliency. The Fishery/Industry target is a higher level of abundance than the abundance limit, so establishing a trigger at that level would be a more conservative approach than using the abundance limit. The TC agreed that the trigger levels should be related to model outputs and reference points. They also discussed the potential to set multiple triggers that could automatically implement the same set of measures. For example, one trigger could be based on abundance indices, and another could be based assessment results, and whichever trigger is met first would result in the measures being implemented. This way there would be a backstop in case there are unforeseen delays in the assessment timeline.

Burton suggested an empirical trigger where the terminal three years of the index data are compared to previous years. For example, if the trigger were based on the spring and fall trawl index and VTS index for pre-recruits since 2011, perhaps the trigger could be a certain percent decline in the index over a certain amount of time. Jeff suggested looking into the data from the SNE indices around the time the SNE stock collapsed as a way to approximate what rate of decline should trigger management action for GOM/GBK. Additionally, the group discussed that different rates of decline could trigger different management reactions; if the decline is more rapid that could require a more severe management response. The group agreed that an additional trigger could be based on a number of consecutive years of decline in the index, such as three consecutive years of decline.

Management Measures to Increase Biological Resiliency

The TC discussed the types of management measures that could increase the biological resiliency of the stock. Past TC analysis has focused on minimum gauge size as the measure that is expected to have the largest impact, even for relatively small changes in the minimum size. The TC agreed that this still holds true. Tracy noted that based on new maturity data, the gauge size is currently set closer to the size at which half of the population can reproduce, at least in western GOM. Thus, increasing it could have a fairly big positive impact on keeping individuals in the population so that they can reproduce. Also, changing the minimum size only delays harvest so lobsters are caught at a large size but are not removed from harvestable population. The TC agreed that minimum size limit has the most certainty of increasing the reproductive capacity of the stock and is also the easiest to enforce, which means compliance should be higher.

In addition to minimum gauge size, the TC noted that vent size selectivity could have impacts on abundance. Conor noted that in the sensitivity analyses performed for the assessment, vent size had notable impacts on reference abundance. The group agreed that vent size should be considered along with gauge size, but that changing vent size only may not be as transparent.

With regard to the maximum gauge size, the TC noted that minor decreases would be less effective due to the size structure of the population. Conor noted that projected impacts are more uncertain because current survey tools do not adequately monitor larger lobsters offshore. Kim and Tracy noted that in the inshore fishery where most of the GOM landings are from, the size structure is truncated and there are not many large lobsters, so small increases to the maximum gauge size would not have much impact. Burton mentioned that the Commercial Fisheries Research Foundation offshore fleet length composition data could provide a sense of what changes to maximum gauge size would have an impact for that fishery.

Trap reductions, v-notching, season closures, and quotas were also discussed, but the TC noted various challenges and sources of uncertainty of the effectiveness of these measures for increasing stock resiliency and the ability to estimate the impact. The group agreed that the impacts of trap reductions on the stock are difficult to estimate due to uncertainty in how harvesters will react to them (e.g. increasing effort) and latent effort. Tracy noted that season closures would be difficult to time appropriately because of the lag between molting and spawning for mature females; Burton added that based on updated information on the lobster reproductive cycle, past analysis was likely flawed and overestimated the benefits of the effects of season closures. The TC discussed quotas as a means of controlling the number of lobsters removed from the population, but noted that it would be challenging to determine an appropriate quota level because there is less certainty in the magnitude of abundance estimates from the assessment than the trends in abundance.

The TC generally is in favor of standardizing measures within and across areas from a stock resiliency perspective, but noted that the industry in some areas will be more impacted than others.

Next Steps

The next steps for the TC are to schedule a second meeting for mid-April to continue discussing trigger indices and levels. Burton and Jeff agreed to combine the MA and ME/NH trawl data into a single index for the TC to review. Conor agreed to put together the VTS indices from the

assessment since 2010 to look at the slopes, and send to the TC. Kim provided the TC with correlation analysis for reference abundance and trawl indices. TC members were encouraged to seek feedback from their state Commissioners on the trigger mechanisms.