



Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201
703.842.0740 • 703.842.0741 (fax) • www.asmfmc.org

MEMORANDUM

TO: American Lobster Management Board
FROM: American Lobster Plan Development Team
DATE: October 5, 2021
SUBJECT: Update on Development of Draft Addendum XXVII and Request for Board Feedback

Background

At the February 2021 meeting, the Board reinitiated work on Draft Addendum XXVII on Gulf of Maine/Georges Bank (GOM/GBK) Resiliency with the following motion:

“Move to re-initiate PDT and TC work on the Gulf of Maine resiliency addendum. The addendum should focus 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.”

Addendum XXVII was originally initiated in 2017 to proactively increase resilience of the GOM/GBK stock by standardizing measures across Lobster Conservation and Management Areas (LCMAs) within the stock, but stalled due to the prioritization of Atlantic right whale conservation issues and the stock assessment. In October 2020, the Board reviewed the results and recommendations from the 2020 Benchmark Stock Assessment for American lobster, and determined that while the GOM/GBK stock is near time-series high abundance and not experiencing overfishing, there is a need to proactively address stock resiliency given recent declines in young-of-year indicators.

The Plan Development Team (PDT) and Technical Committee (TC) have been meeting since February to develop analyses and management options for Draft Addendum XXVII. The Board’s guidance to the PDT included (1) prioritizing options to increase the biological resiliency of the stock over standardization, and (2) considering a tiered trigger mechanism with multiple trigger levels that include relatively proactive trigger levels. The PDT was directed to not consider trigger levels that may already have been surpassed. The TC and PDT developed a trigger mechanism in which an annual trigger index would trigger management if it surpasses a certain magnitude of decline from its 2017 value (see TC memo dated September 10, 2021, enclosed).

The trigger index will be calculated as the average of survey-specific running three year average recruit indices (71-80 mm carapace length) from (1) the combined ME/NH and MA DMF spring trawl surveys, (2) the combined ME/NH and MA DMF fall trawl surveys, and (3) the combined Gulf of Maine Ventless Trap Survey that are scaled to their 2015-2017 values. There is an expected one year lag between the recruit indices and recruitment to the stock assessment reference abundance used for stock status determination, so the recruit index years 2015-2017 are indicative of recruitment to the reference abundance during years used for the stock status determination in the 2020 stock assessment (2016-2018). Scaling each survey-specific index to their 2015-2017 averages puts each of these indices on comparable scales that represent percent change from these reference years and can, therefore, be combined into the trigger index. The trigger index would trigger management action when it falls below the selected trigger level(s).

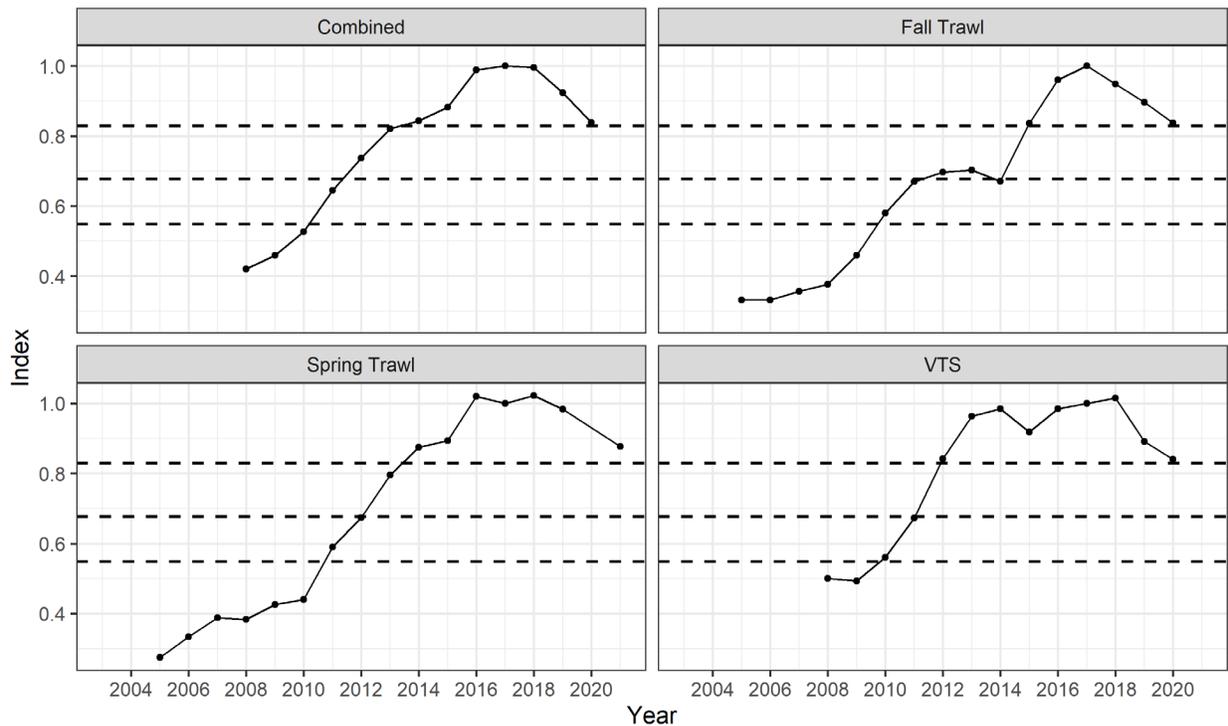
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Update on Draft Addendum XXVII Development

The PDT has struggled to develop appropriate options for Draft Addendum XXVII given the conflicting nature of some of the guidance received from the Board and advice from the TC. In its September 10, 2021 memo to the PDT, the TC defined biological resiliency “the ability of the stock to recover from a disturbance,” and their recommendations on the appropriate range of trigger levels and management measures to increase biological resiliency were based on the understanding that the Board is interested in adding an additional biological buffer to the stock through the protection of spawning stock biomass (SSB) across LCMAs. The TC suggested that immediate action to increase minimum gauge size while stock conditions are favorable would be a more effective approach to address growth overfishing and increase the proportion of females that reach maturity prior to the gauge, compared to waiting for declines in abundance to trigger a management change.

Additionally, the TC provided the PDT with a calculation of the proposed trigger index with data through 2020 (Figure 1). All three indices used for the (combined) trigger index show a declining trend since 2018. The calculation of the trigger index for 2020 is 0.84, which equates to a 16% decline in the index from the reference period.

Figure 1. Scaled survey-specific indices and combined trigger index compared to three proposed trigger levels (0.83 which equates to a 17% decline to the Fishery/Industry Target, 0.68 which equates to a 32% decline to the Moderate/High Abundance Regime Shift Level, and 0.55 which equates to a 45% decline to the Abundance Limit) identified from potential reference abundance declines (dashed lines).



Given this information, members of the PDT have concerns that the Board’s motion to consider a trigger approach to modifying the management measures is inconsistent with the stated objective of increasing the biological resiliency of the stock. To address this issue, the Board could consider modifying the goal of the addendum in light of the latest trends in the recruit indices for the GOM/GBK stock. As there have already been observed declines in recruit indices since the 2020 stock assessment, the PDT has suggested it may be clearer to frame the action as responding to these trends, rather than proactively

boosting stock resiliency in anticipation of future declines. As such, the PDT proposed the following objective statement for the Board to consider:

Given persistent low settlement indices and recent decreases in recruit indices, the addendum should consider a trigger mechanism such that, upon reaching the trigger, measures would be automatically implemented to increase the overall protection of spawning stock biomass of the GOM/GBK stock.

Proposed Management Options and Requested Board Feedback

The draft management options the PDT has developed based on the Board's guidance and the TC analysis are included below. The PDT is looking for additional feedback from the Board on the trigger levels and management measures that should be considered for public comment. With additional input from the Board, the PDT and TC expect to provide a Draft Addendum document for consideration for public comment at the ASMFC Winter meeting.

The PDT proposes the management options in the Draft Addendum be organized into three issues:

1. Standardizing some measures for implementation upon final approval of addendum
2. Establishing management triggers to automatically implement measures to increase spawning stock biomass
3. Spatial implementation of management measures in LCMA 3

Issue 1: Standardizing some measures for implementation upon approval of addendum

This issue considers options to modify some management measures when the Addendum is considered for final approval. If the Board selects an option to modify the management measures, the states would be required to implement the measures selected for the fishing year defined by the Board.

Option 1: Status Quo

- Maintain current management measures (standardization of measures would not be addressed at this time).

Option 2: Standardized measures to be implemented upon final approval of addendum (*can be combined with other options; can select multiple sub-options*)

- **Sub-option 2A:** Upon approval of the addendum (not dependent on a trigger), implement standardized measures within each LCMA to the most conservative measure where there are inconsistencies between state and federal regulations within GOM/GBK stock LCMAs. This would result in Outer Cape Cod (OCC) maximum gauge being standardized to 6-3/4" for state and federal permit holders, and the V-notch definition being standardized to 1/8" with or w/out setal hairs.
- **Sub-option 2B:** Upon approval of the addendum, implement a standard V-notch requirement across all GOM/GBK stock LCMAs. This would result in mandatory V-notching for all eggers in LCMAs 1, 3, and OCC.
- **Sub-option 2C:** Upon final approval of the addendum, standardize regulations across GOM/GBK stock LCMAs to limit the issuance of trap tags to equal the harvester trap tag allocation. This would mean no surplus trap tags would be automatically issued until trap losses occur and are documented.

Issue 2: Establishing management triggers to automatically implement measures to protect spawning stock biomass

This issue considers establishing a trigger mechanism, such that pre-determined measures for each LCMA would be implemented when a trigger is reached. Each trigger is defined by a certain level of decline in the indices from an established reference period. The reference value for each index is calculated as the average of the recruit index values from 2015-2017. These percent declines in the recruit indices are expected to approximate comparable declines in reference abundance from the stock assessment model. The proposed mechanism is described in detail in the September 10, 2021 TC memo.

The PDT developed several draft options for packages of trigger levels and the management measures that would be implemented as a result of each trigger level being reached. Of the measures the Board was considering, the TC advised gauge size changes were the most likely to have a positive impact on the stock, therefore, the PDT focused on management options that consider gauge size changes.

The TC advised that immediate action to increase minimum gauge size while stock conditions are favorable would be a more effective approach to address growth overfishing and increase the proportion of females that reach maturity prior to the gauge, compared to waiting for greater declines in abundance to trigger a management change. After reviewing the 2020 trigger index, the TC noted that the 2020 value was approaching the 17% decline trigger level and will likely continue declining in 2021 to surpass a 17% decline. Therefore, the PDT felt the 17% decline trigger was likely to be equivalent to immediate action if and when this addendum is implemented.

Considering the TC advice, the PDT developed options that focused on increasing the minimum gauge size in LCMA 1 by a small increment as a more immediate action, which is expected to significantly benefit the protection of spawning stock biomass (Table 1). The PDT does recommend preventing back-to-back changes in regulations, which could have socioeconomic impacts to the industry while they are facing regulation changes from the Atlantic Large Whale Take Reduction Plan Rule. Please note that while the first two options in the set do rely on an index-based trigger mechanism, the third was proposed as an alternative approach that would not utilize a trigger but rather implement scheduled changes to the management gauge sizes over several years.

Table 1. Draft Management Options

	LCMA 1	LCMA 3	OCC
Option 1			
Trigger 1 (17% decline)	Min: 3-5/16 (84 mm) Max: status quo, 5"	Min: status quo, 3-17/32" (90 mm) Max: status quo, 6 3/4" (171mm)	Min: status quo, 3 3/8" (86 mm) Max: status quo, 6 3/4" (171mm)
Trigger 2 (32% decline)	Min: 3-3/8 (86 mm) Max: status quo	Min: status quo Max: 6 or 6.5"	Min: status quo Max: 6 or 6.5"
Option 2			
Trigger 1 (17% decline; initiate gradual change in increments of 1/16")	Min: 3-3/8" or 3-15/32" (88 mm) Max: status quo	Min: status quo Max: 6 or 6.5"	Min: status quo or 3-15/32" (88 mm) Max: 6 or 6.5"
Option 3 (no trigger and LCMA 1 only)			
Immediate action: 2023 measures	Min: 3-5/16 (84 mm) Max: status quo	Min: status quo Max: status quo	Min: status quo Max: status quo
2025 measures	Min: 3-3/8 (86 mm) Max: status quo	Min: status quo Max: status quo	Min: status quo Max: status quo

** Note that the PDT did not finalize the trigger level or management measures for some of the options because there was disagreement among members, and thus the PDT is seeking guidance from the Board on these aspects, which are identified in bold italics in the table.*

Issue 3: Implementation of Management Measures in LCMA 3

The following management options are intended to determine where in LCMA 3 the management measures selected in this addendum will apply. See Section 2.8 Stock Boundaries for additional information.

Option A: Maintain LCMA 3 as a Single Area (Status Quo)

Under this option, the current boundaries of LCMA 3 would be maintained. Management measures in this document would apply to all LCMA 3 permit holders, including those that fish in the SNE stock.

Option B: Split LCMA 3 along the 70°W Longitude Line with an Overlap Area

Under this option, LCMA 3 would be split along the 70°W longitude line to create an eastern section and a western section in LCMA 3 with an overlap area of 30' on either side of the 70°W longitude line. The eastern boundary of the LCMA 3 overlap would be comprised of the area west of the 69° 30' W longitude line. The western boundary of the overlap would be comprised of the area east of 70° 30' W longitude line. Within this overlap area, permit holders who declare fishing activity in either the eastern or western portions of LCMA 3 would be allowed to fish for lobster or Jonah crab regardless of their LCMA 3 sub-area declaration. The western portion of LCMA 3 would be comprised of areas west of the 70° 30' W longitude line which are currently a part of the SNE stock. The eastern portion of LCMA 3 would be comprised of areas east of the 69° 30' W longitude line which are currently a part of the GOM/GBK stock.

Board Guidance for Development of Options

The PDT is seeking additional guidance from the Board related to the proposed management measures that should be considered for public comment in Draft Addendum XXVII. Specific questions are listed below:

- Is the Board interested in including sub-option 2B, option being included in the Draft Addendum for public comment? The PDT has some concerns that it would be challenging to estimate the impacts on SSB of this option given available data and the issue of enforceability of V-notching.
- On the issue of V-notching, is the Board interested in considering an option to standardize the V-notch definition to 1/8" across all areas in the stock? And furthermore, is the Board interested in standardizing the minimum depth of the V-notch and shape when it is cut?
- Does the Board prefer to address the options under Issue 1 separately from the trigger mechanism, or as part of the management measures that would be implemented upon reaching defined triggers?
- The TC has advised that increasing the minimum gauge size in LCMA 1 is likely to have the largest impact on protection of overall SSB. Would the Board be willing to consider options that would increase the minimum size in LCMA 1 to 3-3/8" (86 mm) or 3-15/32" (88 mm)? The current minimum size in LCMA 1 is 3 ¼" (83mm).
- The TC agreed that compared to increasing the minimum size in LCMA 1, decreasing the maximum gauge size in LCMA 3 and OCC to 6" or above has great uncertainty surrounding the impact, but is likely to have a relatively small positive impact on SSB with minimal, but permanent impacts to the Area 3 industry. Is the Board willing to consider any decreases to the maximum gauge size in these areas? If so, what would be the lowest maximum size that the Board would consider? 6 ½"? 6-1/4"? 6"?