Atlantic States Marine Fisheries Commission

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MEMORANDUM

July 31, 2018

To: **South Atlantic State/Federal Fisheries Management Board**

From: **Atlantic Croaker and Spot Plan Development Team**

Subject: **Recommendations for Management Response to Triggers from Updated Traffic Light Analyses**

At the May 2018 meeting, the South Atlantic State/Federal Fisheries Management Board (Board) tasked the Atlantic Croaker and Spot Plan Development Team (PDT) with exploring potential responses to management triggers that would result from incorporation of TC-recommended updates to the annual Traffic Light Analyses (TLA) for Atlantic croaker and spot. The Board provided guidance on a goal of management measures that would achieve a red level of 35% or less within a two-year timeframe. This goal would only apply to the abundance metric, as the harvest metric would need to be re-evaluated under a new management regime.

The PDT met twice via conference call to address this task. Abundance of Atlantic croaker is strongly associated with environmental variables (Hare and Able 2007, Norcross and Austin 1981), historically expressed through a cyclical pattern in commercial landings. Additionally, the impetus for revision to the TLA was a lack of correlation between current harvest and abundance metrics. Thus, a reduction in harvest would not necessarily be expected to result in a proportional increase in abundance. Atlantic croaker are currently in a low period for commercial harvest, similar to what was previously observed during the early 1980s and followed by an increase into a high period in the late 1990s to early 2000s. Relationships between spot abundance or harvest and environmental variables are not as well-studied as Atlantic croaker, and spot do not exhibit a similar cyclical landings pattern.

Therefore, rather than focusing on a specific numeric goal for percentage red that may not be realistically attainable through management alone, the PDT recommends an alternative goal of initially establishing management measures for both the Atlantic croaker and spot fisheries, which currently have no coastwide management requirements in their respective Fishery Management Plans (FMP). These measures would ideally be suited for long-term management of these species, with the ability for them to be altered in reaction to management triggers from the TLAs. If management action is triggered, as is the case for both species in the Mid-Atlantic region under the updated TLAs, the PDT recommends that measures put in place be re-evaluated as defined in Addendum II to the Atlantic Croaker FMP (after 3 years) and Addendum I to the Spot FMP (after 2 years) to determine if they are eliciting the desired response and evaluate if adjustments should be made. For both Atlantic croaker and spot, the PDT recommends commercial and recreational

management measures in the form of seasons and trip limits (vessel or bag). Given the close association of Atlantic croaker and spot fisheries, management through an aggregate bag or vessel limit could also be considered. State-level minimum size limits are currently used for commercial and recreational Atlantic croaker fisheries in Delaware and Maryland. Size limits can be a more reliable way to restrict harvest than seasons or an aggregate bag limit due to annual variations in migration timing and masked changes in aggregate bag composition. Determination of whether a coastwide minimum size limit would be useful and an appropriate minimum size would require further discussion and evaluation of size selectivity by gears used for Atlantic croaker throughout the management unit relative to biological information on growth and maturity. Minimum size limits have not been applied to spot at the state level, and may be less useful due to the species' fast growth and early maturity.

The PDT also reviewed literature on movement and connectivity of Atlantic croaker and spot between regions specified by the updated TLA as Mid-Atlantic (New Jersey-Virginia) and South Atlantic (North Carolina-Florida). Although movement literature was sparse, genetic and life history studies, as well as commercial landings trends, suggest connectivity across the VA-NC border. The PDT recognizes that Mid- and South Atlantic regions were designated in the TC's recommendations due to the incorporation of regional abundance indices – such as indices from the Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAP), the South Carolina Department of Natural Resources Trammel Net Survey, and North Carolina Division of Marine Fisheries Program 195 survey – rather than any stock distinction between these regions. Additionally, the 2010 (ASMFC 2010) and 2017 (unpublished) stock assessments for Atlantic croaker and the 2017 (unpublished) stock assessment for spot were conducted for single, coastwide stocks spanning the entire management units (both New Jersey-Florida). Given the connectivity of fish north and south of the VA-NC border, the PDT recommends that any management response to the updated, regional TLA triggers be executed on a coastwide basis. This could be accomplished through an equal response throughout the management unit, or through a form of apportioned response in which all states take on restricted measures, but states of the triggering region enact stricter measures than those of the non-triggering region. For example, if the whole coast were to implement a 100-pound trip limit and the Mid-Atlantic TLA triggers under that management regime, a response could be an 80-pound trip limit in the Mid-Atlantic and a 90-pound trip limit in the South Atlantic.

To summarize, in response to management triggers from the TC-recommended TLA updates, the PDT recommends that long-term commercial and recreational coastwide management measures be established for each species in the form of seasons and/or trip (vessel or bag/possession) limits. These measures should be re-evaluated in three years for Atlantic croaker and two years for spot to determine if they are eliciting the desired response and evaluate if any adjustments should be made. Use of coastwide or area- or gear-specific minimum size limits for Atlantic croaker could be further evaluated if deemed potentially useful from a management perspective.

References

ASMFC. 2010. Atlantic Croaker 2010 Benchmark Stock Assessment. Washington (DC): ASMFC. 366 p.

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