Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **Sciaenids Management Board**

FROM: **Red Drum Technical Committee and Stock Assessment Subcommittee**

DATE: **July 28, 2025**

SUBJECT: **Considerations for New Fishing Mortality Methods Pathway Proposed in Addendum II to Amendment 2 of the Red Drum Interstate Fishery Management Plan**

The Red Drum Technical Committee (TC) met on July 8, 2025 to discuss development of Draft Addendum II to Amendment 2 of the Red Drum Interstate Fishery Management Plan. Staff provided an overview of Plan Development Team progress towards development of the addendum and the remaining timeline. The primary purpose of the call was for the TC to provide guidance to the Sciaenids Management Board (Board) on the addendum component of establishing a pathway to allow states to propose new methods to estimate fishing mortality for the evaluation of future regulation changes states may propose. This call was a continuation of the discussion from an earlier TC call on June 2, 2025, when this component was introduced.

Language provided by Board members following the 2025 Spring Commission Meeting and discussion during the June 2 TC call identified four topics for consideration behind the request for this component of the addendum:

(1) a method used for the latest stockwide assessment becoming obsolete/outdated,
(2) concern that delays to future stockwide assessments with updated information on stock status, could, in turn, delay the re-evaluation of red drum management by the states,
(3) allowing the assessment of sub-stock/localized red drum condition as opposed to stockwide condition, and
(4) using an alternative management quantity (e.g., escapement) for assessing sub-stock/localized condition and informing potential management changes (either more restrictive or liberalized from status quo).

Initial recommendations from the June 2 TC call were reviewed and included:

- **Implement a safeguard like a formal review process to ensure sub-stock/localized fishing mortality information is consistent with the stockwide information**
- **Clearly define the quantity being used as the basis of fishing mortality information (e.g., spawning potential ratio, escapement) and how it is calculated**

Staff noted the Commission does currently have processes in place that can be used as a pathway to propose new methods to estimate fishing mortality as well as to address the topics above that led to

this request. These processes are outlined in the Commission's Technical Support Group Guidance and Benchmark Stock Assessment Process document. The process for proposing new methods to estimate fishing mortality outlined in the document is as follows:

> "An alternative stock assessment for a Commission-managed species developed by external groups must be brought to the attention of the Board/Section Chair during a benchmark stock assessment process if the group would like their assessment to be considered for management use. Alternative assessments are subject to the same standards, documentation, and process as assessments developed by the Commission, including SAS, TC, and independent peer review. External groups must notify the Commission one month in advance of an assessment workshop regarding their interest in presenting an alternative assessment at the workshop. Any analyses submitted outside the benchmark process may not be considered for management until the next Commission benchmark assessment."

An existing process also allows for requests for expedited assessments to prevent delays in updated stock status information:

> "Requests for additional benchmark assessments and associated peer reviews may be made by the Board/Section to the Policy Board and are granted based on prioritization of the existing stock assessment and peer review schedule, relative workloads of assessment scientists, and available funding."

As the proposed process to provide new methods for estimating red drum fishing mortality deviates from that outlined in the guidance document, the TC discussed the following questions during the call to provide considerations to the Board on this component of the addendum:

- What impact(s), if any, would different assessments (e.g., state-specific vs. stockwide) used through time for evaluating management changes and making additional management changes have on future assessments and/or resource stock status?
- What does the Board need to consider if:
    - using assessments with different spatial structures/assessing sub-stocks independent of the full stock?
    - using model/analyses with different configurations/assumptions/data when assessing the same stock/sub-stock?
    - using different management quantities (e.g., $F_{30\%}$ and escapement) through time for evaluating management changes and making additional management changes?
- What is an appropriate timeframe for a red drum regulatory regime before evaluating its impact on stock status?

The TC noted estimates from a stockwide assessment and assessment at a different spatial scale (e.g., state-specific) would not be directly comparable. For example, fishing mortality estimates from these two analyses would differ due to different spatial scales. Complications from comparing estimates from various analyses are exacerbated by different data treatments and choices made by the different groups conducting the analyses. Two concrete examples were provided on the call. First, dealt with the treatment of catch per unit effort (CPUE) derived from MRIP data in the 2024 ASMFC stock assessment and 2020 Florida state-specific assessments. The ASMFC assessment excluded this CPUE data because it showed trends different than fishery-independent indices and there were concerns with hyperstability

in the catch rates, while the Florida assessment included these data as indices of abundance. Second, was the difference in treatment of selectivity patterns between the same regional and Florida assessment for the recreational fishery. In the regional assessment, it was assumed there was a dome-shaped selectivity pattern with declining selectivity on larger red drum. In the Florida assessment, logistic selectivity was assumed, such that all fish above approximately 50 cm were fully selected by the gear, though not retained above the slot maximum. These, and other, differences are likely to lead to differences between assessment estimates. It was also noted that spatial distribution of data can impact analysis estimates. More data rich areas may have a stronger influence on overall analysis estimates than more data-limited areas.

The primary concern identified by the TC with management actions informed by analysis at a spatial scale smaller than the stock unit is the potential for localized depletion. Localized depletion would have an adverse impact on the stock unit as a whole and impact other areas within the stock not considered in the analysis. This is particularly relevant if different methods to estimate fishing mortality at the sub-stock level are used to liberalize regulations at the sub-stock level as opposed to restricting regulations beyond a stock wide minimum, which is typically how different methods have been used previously in red drum management. It was also noted more research is needed to better understand the mechanisms behind the mixing of sub-stocks of red drum.

In addition to challenges comparing estimates of the same quantity from various analyses, there may also be differences in quantities being proposed for assessing stock status and informing regulatory changes. Management quantities considered in past assessments include spawning potential ratio (SPR) and escapement. Both have advantages and disadvantages. Spawning potential ratios include fishing mortality information on adults, but there are data limitations, particularly spatially across the stock unit, to inform these adult fishing mortality estimates. Escapement includes fishing mortality information on the more data-rich sub-adult components of the stock but does not include information on adult mortality and assumes there have been no changes to adult mortality. Adult discard mortality in trophy red drum fisheries was identified as a concern during the 2024 stock assessment. Evaluating the same population according to different quantities through time may lead to conflicting management advice.

During the 2024 stock assessment, the TC recommended the next benchmark assessment be completed in 2029. This timeline was revised through Board motion at the 2025 Spring Commission meeting to conduct the next benchmark assessment with a terminal year of 2031 (completion in 2033). Upon evaluating the management change impact on stock status, the TC believes the timeframe necessary with improvement in the stock is dependent on the intent of the regulatory change and how informative data are for reflecting the change. Different quantities are likely to show responses on different timeframes. Regulation changes targeting harvest of sub-adult fish may show immediate impacts to fishing mortality levels through assessments while impacts to reproductive potential and realized recruitment may take considerably longer (≈20+ years) to detect through assessments. Although changes in recruitment may be observed in the short term, it is difficult to decouple environmental impacts from underlying stock status during these short time frames given high variability observed in past red drum recruitment. A year or two years of improvement in one or more areas of the stock are likely not true indications of long-term stock recovery and several years of improvement are necessary to gauge management effectiveness. Generally, the TC believes at least a sub-adult generation time, similar to the five-year period recommended by the TC for the next benchmark assessment, is an appropriate minimum for assessing the impact of regulatory changes to stock status and considering new regulations.