



Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: Atlantic Menhaden Management Board
FROM: Atlantic Menhaden Technical Committee
RE: Technical Committee Report for February 2013 Board Meeting
DATE: February 1, 2013

The Atlantic Menhaden Technical Committee met by conference call on January 25, 2013 to discuss three items of relevance to the Management Board for its February 2013 meeting. These include:

1. Stock status determination relative to the new biomass reference points adopted under Amendment 2
2. Funding request for data entry of historic tagging data to be used in the 2014 benchmark stock assessment
3. Development of fixed gear abundance indices as required under Amendment 2

Stock status determination

Addendum V (November 2011) to Amendment 1 to the Fishery Management Plan (FMP) for Atlantic Menhaden redefined fishing mortality (F) reference points from values based on median recruitment (F_{rep} and $F_{rep.thresh}$) to values based on percent of maximum spawning potential ($F_{30\%MSP}$ and $F_{15\%MSP}$). Reference points for biomass were not changed through Addendum V and remained in terms of median recruitment (SSB_{rep} and $SSB_{rep.thresh}$). The Technical Committee recognized the inconsistency and recommended to the Board that F and biomass reference points should be based on consistent criteria. In December 2012, the Board passed Amendment 2 to the FMP which, among other things, redefined biomass reference points for the stock based on percent maximum spawning potential ($SSB_{30\%MSP}$ and $SSB_{15\%MSP}$). It is therefore necessary to evaluate stock status relative to the new reference point values.

The new biomass reference points, based on the 2012 stock assessment update, are $SSB_{target} = SSB_{30\%} = 61,100$ and $SSB_{threshold} = SSB_{15\%} = 30,551$ (units are billions of ova). The terminal year estimate of SSB from the 2012 stock assessment base run is approximately 44% of the SSB threshold. In addition, four sensitivity runs estimated terminal year SSB as 41 to 48% of the threshold value. However, one sensitivity run indicated that terminal year SSB was 120% of the threshold value. In other words, the base run and four sensitivity runs indicate the stock is overfished, while one sensitivity run indicates that the stock is not overfished. The Technical Committee concluded that there was not sufficient evidence to determine overfished status. There was discussion that five of six runs indicated the stock was overfished, which might provide support for this status determination. However, these five runs all employed a flat-top fishery selectivity curve, while the final run employed dome-shaped selectivity. There has been a great deal of attention surrounding the appropriate selectivity pattern recently, and without conclusive evidence regarding the shape of selectivity, the Technical Committee reached consensus that the number of runs in favor of a given status was not an indicator of its validity. The Technical Committee will investigate the effects of the selectivity curve shape during the 2014 benchmark stock assessment, but until then, the overfished status of the Atlantic menhaden stock

remains uncertain. The Technical Committee previously determined that overfishing is occurring relative to the MSP-based fishing mortality reference points.

Funding request for data entry of historic tagging data

The stock assessment subcommittee has identified a data source that will help fill data gaps on the migratory patterns of menhaden and selectivity patterns of the fishery, as well as provide information to estimate natural and fishing mortality rates. Unfortunately, the data are only available in paper format and must be key entered in the short-term if they are to be available for use in the 2014 stock assessment. Attachment 1 (SAS memo and quote) details the scope of work and funding requirements to complete this work in a timely manner. The TC stresses that this is the only known source of data that can inform Atlantic menhaden migratory patterns and fishery selectivity. It is therefore imperative that this project get funding in the very near term if the SAS is to develop a scientifically-defensible, spatially-explicit stock assessment model. A spatially-explicit model without this information is possible, but without these data the spatial component would be based on conjecture and would likely not pass peer review. The TC therefore strongly recommends that the Board approve funding for this project.

Development of adult fixed-gear indices

One of the requirements of Amendment 2 is for states to develop CPUE indices of adults from their fixed gear fisheries to supplement the current PRFC pound net index. The Technical Committee discussed the types of data necessary and the appropriate analytical methods to develop these indices. It was determined that the methodology used for the PRFC index should not be considered the “gold standard” which others should emulate. To fully evaluate this task, it was determined that states should identify all potential sources of data, both fishery dependent and fishery independent, and the TC will evaluate these and make recommendations on data collection and analysis during a meeting later this spring. The TC acknowledges the Board’s willingness to implement data requirements to enhance the development of an adult abundance index through Amendment 2 and will work to achieve that goal.