Atlantic States Marine Fisheries Commission

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MEMORANDUM

September 18, 2018

To: **Tautog Management Board**

From: **Tautog Technical Committee**

RE: **Recommendations for Biological Sampling**

Technical Committee Members: Sydney Alhale (VA), Lindy Barry (Chair, NJ), Coly Ares (Vice Chair, RI), Tiffany Vidal Cunningham (MA), Sandra Dumais (NY), Craig Weedon (MD), Scott Newlin* (DE), Deb Pacileo* (CT); *not present on conference calls

ASMFC Staff: Caitlin Starks, Katie Drew, Jessica Kuesel

At the October 2017 meeting, the Tautog Management Board (Board) tasked the Technical Committee (TC) to investigate the biological sampling needs to support continued regional stock assessments for tautog, and recommend any revisions to the biological sampling requirements. This task resulted from a Plan Review Team concern that in recent years several states were unable to meet the minimum requirement of 200 samples. On June 1 and September 7, 2018 the Tautog TC convened via conference call to address this task. A summary of the TC discussions and recommendations are provided below.

Evaluation of Biological Sampling Requirements

The TC discussed the current sampling requirements and potential improvements. Specifically, they considered the potential for a regional versus state requirement, the challenges states are facing with sampling, and geographic differences along the coast. Though the TC recognized that a regional sampling requirement would align with the stock structure used in the assessment, they were also concerned that it could reduce the quantity of samples and negatively impact the assessment and some states being consistently undersampled.

After analyzing the effect of sample size on the precision of length-at-age estimates, the TC recommended maintaining state-level sampling requirements as the best way to ensure adequate sampling throughout the managed regions. The TC also agreed that the minimum number of samples should be maintained at 200 per state in order to support the stock assessment. State samples would continue to be pooled to develop regional age-length keys. Reducing the number of required samples per state could increase existing gaps in the age-length distribution. These gaps should be addressed using fishery-independent samples and/or obtaining biological samples through non-lethal methods, such as collecting pelvic spines for ageing. Further studies could also aim to determine if there are differing age-length structures between regions that would requires a greater or smaller number of samples than the current requirement.

The TC noted that if a region is consistently undersampled, the sampling requirements should be reevaluated. States should also document their sampling efforts to demonstrate intent to comply with the requirements.

Pelvic Spines as an Ageing Structure

The TC also discussed alternative sampling sources and ageing structures that could be used to augment biological sampling. Because of stock status, lethal sampling from fishery-independent surveys is not preferable for some regions, but several TC members suggested using pelvic spines to age fish as a non-lethal alternative. TC was generally interested in pursuing the feasibility of this option, as adding this structure could help states reach the minimum number of samples, especially when opercula are unavailable from the commercial fishery due to the prevalence of the live tautog market.

Before offering full support for using pelvic spines as a supplemental ageing structure, the TC agreed they should fully evaluate the age information to ensure it is comparable to those structures currently used in the stock assessment. They expressed interest in collecting paired samples of pelvic spines and opercula and if the comparison yielded positive results, performing an ageing exchange. However, several members expressed concerns that some states would not have sufficient budgeting or staff to collect and analyze both types of samples, especially as the pelvic spines require additional analysis and expertise.

At this time, the TC is considering the spines only for the purposes of gathering paired samples for comparative studies, and to supplement age sample sizes when the preferred structures are limited. If pelvic spines are confirmed to be equivalent to opercula and otoliths, then each state could determine which ageing structure they prefer to collect.

As a first step, the TC recommended the states determine their ability to participate in a paired exchange, as well as their interest level. If a state is consistently able to meet the required number of samples using opercula and/or otoliths, then it may not be logical for them to devote resources to investigating the use of an additional ageing structure. There was no final conclusion on the appropriate number of spines to collect per state for the paired exchange.