

Atlantic States Marine Fisheries Commission

Atlantic Striped Bass Technical Committee Meeting

March 24, 2010

Baltimore, Maryland

MEETING REPORT

Attendance

Technical Committee Members:

Wilson Laney (USFWS-SE)

Russ Allen (NJ DFW)

Gary Nelson (MA DMF)

Vic Crecco (CT Marine Fisheries)

Rob O'Reilly (VA MRC)

Carol Hoffman (NYS DEC)

Charlton Godwin (NC DMF)

Alexei Sharov (MD DNR)

John Lake (RI DEM, via phone)

Gary Shepherd (NMFS, via phone)

Staff: Nichola Meserve (ASMFC)

Guests: Beth Versak (MD DNR), Amy Batdorf (MD DNR), Katherine Skogen (MD DNR), Jeffrey Horne (MD DNR)

Review Agenda

Four additions were made to the agenda. Wilson added the three items under Other Business. Gary N. added a discussion of projections to the JAI agenda item.

Review Work on the Juvenile Abundance Indices Task from the Management Board

In February, the Management Board tasked the Technical Committee (TC) with completing the work plan proposed for reviewing the indices, the definition of recruitment failure, and the management plan trigger. Alexei has been serving as the leader of the responsible subcommittee, and so provided an overview of the five draft response reports on the NY, NJ, MD, VA, and NC indices. Some of the discussion points and TC conclusions include:

- Each JAI can be validated as indicative of future year class strength through correlation to survey or catch data, although some correlations are stronger. The strength of the correlation may be related to sample size for certain surveys. The individual reports would benefit from using scatter plots with r^2 values for correlating the JAIs to each age class from a survey or the catch-at-age. Rank correlation may be more suitable than Pearson's correlations for validation purpose. Other suggestions for validation tests included use of the CT trawl survey, the NY ocean haul seine survey, combination of the NJ and PA spawning stock survey data, continued work with combining MD and VA ChesMMAP data, and reconsideration of the VIMS pound net CPUE. The TC would also like to see in the future the relative contribution of each index to the coastwide CAA, as well as how many poor recruitment events lead to poor year class strength.
- The use of the 25th percentile appears appropriate for defining recruitment failure based on review of the indices. Other approaches to define poor recruitment events resulted in some index values falling into categories (e.g., normal, excellent) the TC felt were inaccurate descriptors. Including a frequency distribution plot of the JAI in each index report was suggested to demonstrate the expected lognormal distribution for recruitment and the probability of occurrence of high or low recruitment events.

- The Amendment 6 definition of the JAI management trigger as three consecutive years of recruitment failure appears appropriate based on the history of indices. Three consecutive years of index values below the 25th percentile have only occurred in those time periods the TC considers to truly represent recruitment failure. It was acknowledged that two consecutive years of recruitment failure may cause concern among constituents and that the TC may want to consider potential causes should this occur. The TC thought it would be informative to show the Board the effect on SSB if two, three, four, of five consecutive years of poor coastwide recruitment occurred. Given the current management regime, the TC thought it unlikely that recruitment failure will occur in any index. The current management regime has led to low and stable fishing mortality during the last decade, an increase in spawning stock biomass, and an expansion of the age structure well beyond age 12. Thus, at this point, the magnitude and trend in JAIs are influenced mainly by biotic and abiotic variables beyond management control. Consequently, should recruitment failure occur, additional management restrictions would not likely result in direct improvement to the JAIs.
- Shortening the indices' time series lengths can greatly affect the quartile and mean values for some data sets. The time series need to include periods of poor recruitment for reference. A time series for each data set should be selected and the quartile value for the trigger analysis fixed as the quartile for that dataset so as to not have a variable reference. Standardization of the survey methodology should be taken into consideration when selecting the initial year of the fixed time series. The following time series were selected for each index, with the resulting fixed quartile for the trigger:

<i>State, Index</i>	<i>Fixed Time Series</i>	<i>Quartile for Trigger*</i>
NY, Hudson River	1979-2009	8.60
NJ, Delaware River	1986-2009	0.89
MD, Chesapeake Bay tributaries	1957-2009	1.60
VA, Chesapeake Bay tributaries	1980-2009	3.98
NC, Roanoke River/Albemarle Sound	1955-2009	1.30

* subject to final review of 2009 data

- For the NC index, an attempt should be made to locate the original survey data back to 1955 in order to develop the geometric mean for the analysis.
- The TC compared JAI plots with 95% and 80% confidence intervals and concluded that using 80% CIs will not offer any advantages, so the use of standard 95% CIs is upheld.
- The TC agreed that while it is good to include CIs in the figures of the JAIs, only the point estimates for the quartile and terminal year index values should be used during the trigger analysis. The CIs for the poor recruitment events are generally very small and the TC considers this to be more of a qualitative trigger in which the use of CIs isn't necessary.
- The TC supports the Amendment 6 requirement that a finding of recruitment failure triggers a TC review and subsequent recommendation for action (or non-action) to the Management Board (rather than directly triggering management action). The TC review allows for consideration of the cause of the recruitment failure.
- Alexei and Wilson will write a summary of the results for the Management Board; the individual reports can be made available upon request once completed.

Additional Agenda Item: Stock Projections and Implications for JAIs

Gary N. reviewed several stock projections through 2014 based on the results of the 2009 update assessment. The projections used the 2004-2008 average recruitment and selectivity from the

age-based model and the 2008 F estimate from either the age- or tag-based model. Projections using the statistical catch-at-age model F of 0.22 result in a decline in age 8+ striped bass abundance. Projections using F estimates from the tag-models including 0.11 and 0.06, in addition to higher M estimates generated from the tag models, result in an even greater decline in age 8+ striped bass in the future. The projections indicate that under current exploitation and recruitment levels, catch will decline from 2011 to 2014. Gary N. felt that these results had not been stressed enough to the Board during the presentation of the assessment results. The TC agreed that much of the public seems to believe that management can maintain the high catches achieved in the early 2000s; however, those catches were a product of unusually high recruitment, which is now largely influenced by variables beyond management control given the low F and high SSB of the population. Vic also stressed that if natural mortality (M) has risen since 1998 on smaller (<28") striped bass from the Chesapeake, Hudson, and Delaware stocks as indicated in the tagging results, attempts to reverse the recent decline in abundance via more restrictive management regulations is unlikely to succeed under low F and increased M. The TC agreed that projections should be added to the Draft Addendum to re-emphasize expected trends, and the reasons for those expected trends, to the Board and the public should the addendum be approved for public comment.

Review Work on the Poaching Estimates Task from the Management Board

In February, the Management Board tasked the TC and Law Enforcement Committee with designing study methods that could result in estimates of poaching for use in future stock assessments. Wilson explained that a few members of the LEC and the TC had met for a conference call earlier in the week to discuss the task. The call generally resulted in more questions than answers about what data are currently collected in each state and what methods could be employed to better estimate poaching. It was agreed that the first step would be to have the LEC and TC sit down to get a clear record of exactly what data are collected and what the LEC thinks could be collected in addition. Beyond describing the assessment model needs for including poaching estimates, several TC members thought this task was outside the TC's responsibility. For the actual design of study methods it may be more effective for the Board to consider contracting an expert. One thing the TC can do for the assessment is increase the variance on the catch-at-age estimates to simulate the uncertainty surrounding the magnitude of striped bass poaching.

Review New Jersey Proposal for Alternative Management

Russ provided an overview of New Jersey's proposal to revise its recreational regulation from 2 fish at $\geq 28''$ to 1 fish $\geq 24''$ AND 1 fish $\geq 32''$. All other state striped bass rules (e.g., spawning closure, Bonus Program 1 fish $\geq 28''$ regulation) and monitoring programs would remain unchanged. The TC had several questions about the methods used that were responded to by Russ. The report and presentation demonstrated to the TC's satisfaction that the proposed regulations are conservational equivalent (as measured by %MSP) to the management plan standard. If approved by the Management Board it is unknown exactly when and if NJ will implement a regulatory change.

Review Draft Addendum II

Nichola provided an overview of the draft addendum which proposes options to increase the coastal commercial quotas for the sake of increased equality between the recreational and

commercial sectors. Gary Nelson was asked to provide some projections on the effect of increasing the coastal commercial quotas on the stock. The TC also provided some comments on the risk associated with the options. Regarding Option 2, the TC acknowledged that the resulting changes in population parameters would be slight, but stressed that the effect be considered in light of the projections for decreasing age 8+ abundance and catch in future years. Option 3 was seen as being conservation neutral, as designed. As previously stated, the TC views changing the coastal commercial quotas as primarily an allocation decision for the Management Board.

Discussion of Next Stock Assessment

Stock Assessment Schedule

The next striped bass assessment on the schedule is a benchmark assessment in 2012. The venue and time of year have not been determined but the Assessment Science Committee was due to discuss this the following day. The TC advised that it would prefer a peer review later in 2012 (such as a Nov/Dec SAW) so that 2011 data could more likely be included. The schedule will also be impacted by what type of models the SAS and TS plan to use. At a minimum, the SCA model with the improvements recommended by the 2007 SARC and the tag model preferred by the TS should be included in the assessment. Additional options include working more with SCAMTAG (either the age-independent or age-structured version), as well as designing the box model incorporating movement between the coastal and “producer” areas. A meeting/call of the SAS and TS prior to any data workshops should be held to discuss this in more detail.

Otolith-Scale Issue

A review of ages assigned to paired scale-otolith samples from Virginia has indicated that there is a bias in using scale ages for older striped bass (scales underestimate otolith ages), and that this has implications for the catch-at-age data used in stock assessments. However, the bias has not yet been confirmed using otolith and scale samples collected in other areas of the coast. It was reported that samples from MA and NY are available or could be collected this year and then aged at MA’s lab in order to confirm the scale-otolith bias in the northern and southern northeast regions. Once confirmed, scale-otolith conversion matrices for each region could be developed and then a weighted conversion matrix developed for the coast from which to convert the scale-based CAA to an otolith-based CAA. Results of using the otolith- and scale-based CAA could be compared during the assessment and one selected for use in the base run. The TC therefore recommended that the necessary otoliths and scales be collected and/or processed and aged to develop the regional conversion matrices followed by a coastwide weighted conversion matrix.

Age-Varying Natural Mortality

For the 2007 benchmark assessment, a sensitivity run was included in which the M_s at age 1, 2 and 3 were modified from the base of 0.15 to 1.0, 0.5 and 0.35, respectively, based on a NY report. The TC was interested in pursuing the use of age-varying M_s in the base run for the next benchmark assessment. Gary Nelson volunteered to develop life history based age-specific M estimates.

Time-Varying Natural Mortality

The evidence for an increase in natural mortality was discussed, without any consensus statement. To support an increase, Vic cited the tagging results, recent articles, and available data on fish condition and expressed his concern that an increase in M violates the steady state assumption of assessment models and has implications for the reference points. Some other TC

members responded that the evidence for an increase in M was not full-proof yet because a number of the studies are still in progress or have not been replicated yet and that there could be other issues (like the reporting rate) confounding the tag results. Additionally, the situation is not coastwide and the tag models suggest a different start year for a potential increase. It was suggested that weight-length data could be reviewed to study fish condition and try to build more evidence. Overall, the TC agreed that this is a very difficult issue to address, and that it requires more discussion. Additional sensitivity runs in the next benchmark assessment were suggested.

Other Business

MRFSS Bias Issue Update

Wilson briefed the TC that NMFS had provided a response to Vic's initial report on a potential MRFSS bias, and that Vic had in turn provided a response to NMFS. Vic noted his concern about the implications for management, that while he believes NMFS is working to improve or correct the survey, he is concerned about what is done in the meantime. One thing generally agreed upon by all parties was that an external review of Vic's reports would be more appropriate. It is unknown if an additional review will take place. The TC seemed to agree that Vic had not got all the state-specific data (e.g., on licenses) in his report quite right yet but was willing to assist him with that if asked.

Tagging Cruise Update

Wilson reported on the results from the 2010 tagging cruise. The cruise was later in the year than any other cruise and the number of sampling days was limited to six, consequently some routinely sampled areas were skipped over. Over 500 striped bass were tagged. Those caught in deeper waters were vented. There were roughly equal numbers of vented and unvented striped bass so the tag return data can be reviewed to examine the effect of venting. The catch of many other species was down: only one sturgeon was caught and no sciaenids. Approximately 12,000 spiny dogfish were tagged. There was additional discussion about what was going on with dogfish diet studies and reports of their predation on striped bass.

Wilson also discussed the prospects for future cruises. It seems unlikely that the Oregon II will be the vessel in future years. Its schedule for 2011 does not include the tagging cruise. With limited sea days, it does not make sense to use so much time in transit. Wilson also reported that a Section 6 application for sturgeon work was being submitted and the Cape Hatteras was interested in being contracted. It was noted that NMFS advised at the last ASMFC meeting that there be a program review involving the tagging cruise. It was still unclear exactly what is to be reviewed, whether it is just the winter tagging cruise or the entire striped bass tagging program, or if the cruise would be reviewed in relation to striped bass tagging alone or all the other work done as well, or if all research programs ASMFC is involved in might be reviewed for priority setting. It is anticipated that guidance will be sought in developing Terms of Reference for any eventual review, as appropriate.

PDT Membership

The membership of the Plan Development Team was reviewed in hopes of soliciting additional state representation. Currently three federal representatives comprise the PDT. Rob O'Reilly graciously volunteered. Approval from the Board will be sought at the next opportunity.

Adjourn