

**Atlantic States Marine Fisheries Commission
Atlantic Striped Bass Technical Committee
Report 2003 - 01**



**May 29th & 30th, 2003
Sheraton International Hotel BWI
Linthicum, Maryland**

Present:

John Carmichael (NC DMF & Technical Committee Chair), Rob O'Reilly (VMRC), Wilson Laney (USFWS), Vic Vecchio (NY DEC), Gary Nelson (MA DMF), Tom Squiers (ME DMR), Doug Grout (NH FG), Dave Miko (PA FBC), Tom Baum (NJ DFW), Desmond Kahn (DE DFW), Alexei Sharov (MD DNR & Stock Assessment Subcommittee Chair), Phil Jones (MD DNR), Najih Lazar (RI DFW) and Megan Gamble (ASMFC).

Others:

Eric Durrell (MD DNR), Beth Versak (MD DNR), Elisabeth Warner (MD DNR), Harry Hornick (MD DNR), Erik Zlokovitz (MD DNR), Joe Moran (ASMFC), Dick Brame (CCA), and Bill Windley (MSSA).

Review of Amendment 6 State Implementation Proposals

The Technical Committee discussed the criteria by which the group should evaluate the management programs. Specifically, what standard does a conservationally equivalent proposal need to meet in order to be equivalent to a two fish bag limit with a minimum size limit of 28-inches? The Technical Committee decided because Amendment 6 does not provide any specific guidance on conservation equivalency, each proposal would be review independently based on the analysis provided by the state. The Committee asked Des Kahn to develop alternatives for standard protocols to guide states in submitting proposals based on conservation equivalency in their striped bass management program. The Technical Committee will review Des's protocol. If the Technical Committee is in agreement with the protocol, the Plan Review Team will use the guidelines when evaluating proposals for the 2005 fishing year.

Maine's implementation proposal for Amendment 6 is to maintain a status quo management program. There was some discussion about whether 1 fish between 20 – 26 inches or greater than 40 inches was equivalent to 2 fish at 28 inches. The state of Maine did not provide copies of the analysis justifying this alternative management program, but the regulation was originally approved by the Technical Committee based on Dr. Vic Crecco analysis of size and slot limits. In the future, states are asked to submit all past analyses that support a current proposal so that the Technical Committee may reference the work. Vic's paper will be distributed to both the Technical Committee and the Management Board. The Technical Committee approved Maine's proposal.

Vic Vecchio clarified that currently the state of New York has a 1 fish bag limit with a minimum size of 28 inches in the coastal recreational fishery, except for charter boats (2 fish at 28 inches). The proposal indicated that New York may consider alternatives for the coastal recreational fishery and Vic explained New York would submit a new proposal at that time. Subsequent proposals will need Technical Committee approval.

The current regulations for the Hudson River recreational fishery are a 1 fish bag limit with a minimum size of 18 inches, and an open season of March 16 to November 30. New York intends to solicit advice on alternative options for the recreational fishery, and will implement a 1 fish creel limit at 28 inches, or some other alternative size limit, which meets the conservation equivalency requirements of the plan. New York requests an extension of time to March 15, 2004, to meet this element of its striped bass fishery management program. The Technical Committee felt the proposed regulation (1 fish at 28 inches) meets the standards of Amendment 6, but the request for an extension on implementing the Hudson recreational measures is a policy issue for the Management Board. The Technical Committee will need to review the any other alternatives when New York resubmits a proposal at a later date.

The Technical Committee had a lengthy discussion about the alternatives proposed for New York's coastal commercial fishery. In order to fish a slot size of 24 – 36 inches, New York reduced their

Amendment 6 quota (1,061,060) so that the regulation was conservationally equivalent to a minimum size of 28 inches. Vic used eggs per recruit as the criterion by which the alternative measure had to meet; while maintaining an upper bound of mortality at the fishing mortality target of 0.30. The technical committee approved the coastal commercial regulation. The Technical Committee reviewed and approved another proposed alternative (28 - 39 inch slot limit) that New York may use some time in the future.

New Jersey's proposal included a suite of options for the recreational fishery. The Technical Committee approved the 2 fish bag limit with a 28-inch minimum size and the bonus fishery, but could not approve the remaining options in the proposal because no analysis was provided to justify the equivalency of those options.

Pennsylvania's proposal included the current recreational regulation, 1 fish bag limit with a slot limit of 24 – 28 inches and a second fish over 28 inches, but indicated Pennsylvania may consider other alternatives based on the action taken by New Jersey and Delaware. The Technical Committee could not approve Pennsylvania's proposal because it did not provide any evidence that the proposal was equivalent to 2 fish at 28 inches. The Technical Committee will need to review a revised proposal at a later date.

The Technical Committee approved two options from Delaware's proposal (2 fish @ 28 inches, as well as 1 fish 24 – 28 inches and a second fish greater than 41 inches). The second option was acceptable based on Vic Crecco's 2000 analysis of alternative size and slot limits. The Technical Committee could not approve the remaining two options (1 fish 24 – 28 inches and 2nd fish >28" with and without seasons). The slot limit without seasonal closures will not satisfy conservation equivalency requirements. The slot limit with a seasonal closure is not adequately justified. The basis of Delaware's proposal for conservation equivalency was a comparison of numbers of fish in the catch, between 1998 when the regulation was 2 fish at 28", and since 1999 when the regulation changed to allow 1 fish 24-28". The Technical Committee does not feel that catch rates from 1998 are comparable to current expected catch rates because the abundance and size and age structure of the population have changed since 1998. Further, the Technical Committee believes appropriate standards for establishing equivalency must include preserving measures of stock productivity, such as Spawning Stock Biomass or egg production. For example, alternative selectivity patterns (i.e., size limits) evaluated for Amendment 6 are based on maintaining equivalent proportions of the spawning potential (%MSP). The Yield per Recruit at different exploitation levels, but comparable % MSP levels, is then used to estimate yield under the alternative selectivity pattern. The Technical Committee will need to review a revised analysis if this alternative is proposed.

The Technical Committee was opposed to allowing a 20-inch minimum size for striped bass caught as bycatch in the ocean shad gillnet fishery. The DE proposal does not provide any penalty for the smaller ocean size limit and the Board has not provided an exemption. The state of Delaware has allowed the 20-inch striped bass ocean bycatch for quite some time and has never taken a penalty (i.e. reduced commercial quota) for the reduced minimum size. The Technical Committee also noted that the commercial quota is over-allocated, but determined this was a policy issue for the Board as long as Delaware deducts overages from the subsequent year's quota. Des Kahn explained that the commercial quota would not be harvested if they did not over-allocated the quota, because of changes in the relative catch rates of the different fisheries from year to year.

Maryland's proposal was approved by the Technical Committee, but it was noted that, unlike Virginia and PRFC, there is no cap on the spring trophy fishery (30,000 fish cap). The Technical Committee had a lengthy discussion on Maryland's proposal for conservation equivalency in the coastal commercial fishery. The minimum size of 24 inches was approved because an equivalent maximum spawning potential was attained with the minimum size and reduced coastal commercial quota (from 131,500

pounds to 123,800 pounds). A minority of the Technical Committee felt it would be more appropriate to take a proportional reduction in quota equivalent to the percent change in target F resulting from the reduction in size limit.

The Technical Committee approved the Amendment 6 implementation proposals for New Hampshire, Massachusetts, Rhode Island, Connecticut, Potomac River Fisheries Commission, Washington DC, Virginia and North Carolina.

Striped Bass Ageing Workshop

Gary Nelson provided the Technical Committee with the recommendations on the Striped Bass Ageing Workshop held in March 2003. Prior to the ageing workshop states were sent a sample of scales and were asked to assign ages. Most of the states overestimated ages for striped bass ages 1 and 2 and were fairly close in their estimation of ages 3-7. There was some ageing discrepancies associated with the age 8 scale samples that might be attributed to quality of the samples provided. Improving the scale impressions may reduce some of the ageing error. The workshop participants recommended using the same techniques as New York (details are provided in the ageing workshop summary). Another source of error is associated with assigning the first annulus. Obtaining known aged fish may reduce this error; such as age 1 fish scales from hatchery reared fish and coded wire tagged fish.

The workshop participants also recommended July 1st as the date by which the year's annulus should be laid down on the scale. Maryland indicated that there is some annulus formation after this date and would prefer to use August 1st as the deadline. The Technical Committee suggested that recording data as straight annuli counts might reduce this confusion and allow flexibility in establishing birthdates or other cutoffs. The Technical Committee did not feel establishing a fixed date for assuming annulus formation was necessary, and that instead, the best judgment of the readers should be followed.

For striped bass age 10 and older (or 800 mm), both otoliths and scales should be collected and used for ageing. Some of the states are able to age older fish (up to age 12) with scales, but in general 800mm is a reasonable cut-off. Some of the problems associated with collecting otoliths from larger fish were additional work for the states, securing appropriate equipment to process the otoliths, costs associated with collection and processing, and sacrificing larger fish to acquire the otoliths. Both the Committee and the Workshop discussed the possibility of collecting otoliths on a regional basis so as to reduce the number of older, larger striped bass sacrificed. If states wanted to use scales to age older larger striped bass the burden of proof would be on the state to show adequate ageing precision and accuracy annually, or as needed or requested by the Technical Committee. The Workshop participants recommended that the states report on the quality and precision of ageing in the annual state compliance reports. The number of required samples was not provided by the workshop.

The hesitancy to sacrifice the older larger striped bass may be alleviated by applying a regional approach to otolith collection. Also, Coastal Conservation Association (CCA) has suggested that they may be able to help collect the necessary samples. The Committee discussed other possible avenues for collection (e.g. tackle shops).

Workshop participants also recommended the use of Steve Bobko's otolith processing technique to address the crowding of rings on the outer edge. A repository of known-aged material will be stored at ASMFC for individuals to use and evaluate their ageing precision and accuracy. Striped bass ageing workshop results will be used in the development of an ageing manual.

The Technical Committee created a subcommittee to determine the number of otoliths samples that need to be collected. Des Kahn, Alexei Sharov, Gary Nelson, and Vic Vecchio will serve on the

subcommittee. The subcommittee is charged with evaluating the catch in the 800, 900 1000 mm and above length groups; evaluating current age samples for the same length groups and for all programs; evaluate the current costs in money and time; and develop a sampling intensity guideline based on scales and otoliths. All of these should be considered on a state, regional and coastwide basis. The Subcommittee was asked to begin to work on this charge after the completion of the 2003 stock assessment. A formal charge to this subcommittee is attached

The Technical Committee agreed that, in time, these measures would improve the stock assessment. Based on an analysis during last year's stock assessment, ageing error does adversely affect VPA results because there is a sensitivity to assumptions about the maximum true age.

Pennsylvania's Proposal to Change the Spawning Survey's Sampling Design

The Commonwealth of Pennsylvania currently uses 21 index sites on the Delaware River for the striped bass spawning survey. Each site is sampled twice. All of the sites are located in the lower portion of the estuary because the area was thought to be the peak spawning location in colonial times. The proposal is to reduce the sampling effort at the 21 sites in order to determine the upstream limit of striped bass spawning activity. Pennsylvania does not have the manpower to sample the original 21 sites and explore the upstream spawning activity, so each of the original sites would be sampled once. Amendment 6 requires the Technical Committee to review and approve changes to required monitoring programs.

The state of Delaware does some sampling in the same area as Pennsylvania's original index sites. The proposal to change the sampling effort is based on evidence of higher catch rates in the upstream portion of the Delaware River. Also, by identifying upstream spawning activity, Pennsylvania will be better equipped to protect the area as critical habitat. Depending on the outcome of the upstream sampling, additional sites could become part of the spawning sites.

Some Technical Committee members expressed concern regarding the precision of the estimates from the spawning survey with fewer sampling sites. Also by reducing the sampling effort, the number of tagged fish would also be reduced; potentially affecting the precision of mortality estimates from tag returns. Pennsylvania intends to tag fish upstream as well as to continue tagging at the original 21 sites. Pennsylvania's spawning survey is not used as an index to the VPA.

The Technical Committee provisionally approved Pennsylvania's proposal to change the spawning survey, but would like to see the results of the upstream exploration at the end of 2004. Specifically, the Technical Committee would like to know what sites will be sampled in 2005, whether Pennsylvania goes back to sampling the 21 index sites twice or adds new sites in the upstream portion of the Delaware River.

Update of ASMFC's Circle Hook Activities

Megan Gamble provided the Technical Committee with an update on recent Commission activities related to circle hooks. Both the Management and Science Committee (MSC) and the Striped Bass Management Board made a request to the ISFMP Policy Board during the February 2003 meeting week to address circle hooks. The request was to create a workgroup consisting of policy, enforcement and technical personnel, hook manufacturers, knowledgeable fishermen. The workgroup was charged with developing an enforceable definition of circle hooks and providing recommendations for future public education and outreach. The group met in March 2003 to address the charge. During the June 2003 meeting week, the group's consensus recommendations will be forwarded to the MSC and Policy Board for review and action.

Proposal to Modify the MRFSS Survey

Doug Grout made presentation to the Technical Committee on modifying the MRFSS survey in effort to gather more information about the number of released striped bass associated with the use of circle hooks. The Technical Committee currently applies an 8% discard mortality rate for hook and released striped bass. There are several studies indicating a lower discard mortality rate associated with the proper use of circle hooks. In order to determine if there is any significant benefit from the use of circle hooks and to determine level of impact of our the efforts to encourage angler use of circle hooks, an avenue for this information would be a modification to the MRFSS questionnaire.

The Technical Committee requests that the Striped Bass Management Board send a letter to Bill Hogarth and Dave Van Voorhees (MRFSS program) requesting a subcommittee work to find the best way to modify the MRFSS questionnaire to gather information from the MRFSS intercepts on the percentage of striped bass released where circle hooks were used. Doug Grout volunteered to participate on this subcommittee.

To provide the Management Board with some indication of the potential impact of lower discard mortality rates, Doug and John Carmichael will work together to provide a potential number of fish saved if the discard mortality is lower when using circle hooks.

2003 Stock Assessment

Alexei Sharov presented the 36th Stock Assessment Review Committee's (SARC) comments on the 2002 Striped Bass Stock Assessment. Based on the terms of reference, the SARC provided a peer review of the methodology employed by the assessment. The plan was to use the SARC's comments to adjust the stock assessment and resubmit an updated stock assessment for the normal peer review.

The SARC recommended the use of a domed-shaped partial recruitment curve in the assessment because the closure of the offshore fishery provides a refuge for the larger fish. The Technical Committee generally agreed that the domed-shaped PR curve may be a better fit for the striped bass stock assessment, although there is not strong evidence that such a pattern is due to any refuge provided by the EEZ closure.

The SARC did not provide advice on the plus group in the VPA. The Technical Committee discussed how to proceed with this year's assessment. Alexei attempted to adjust the data with an analysis of age bias done by Steve Bobko, but generally, the Technical Committee was not comfortable with adjusting old data. There is considerable concern that Bobko's analysis may not be applicable coastwide and could introduce new errors. A subcommittee volunteered to examine methods of adjusting historic age data; no work has been completed and the subcommittee has never met. The Technical Committee discussed renewing the charge to this subcommittee, and to consider applying Bobko's analysis to adjust the historical data on coastwide basis, but decided this will remain as a research recommendation at this time.

The Technical Committee discussed the SARC's observation that mean weights at age have declined in some cohorts. It is not certain whether this is real or an artifact of the generally poor weight sampling. Gary Nelson was appointed to examine how the weight at age is derived, possibly using MRFSS data as the basis for calculating mean weights. Gary was also asked to look at the indices for the VPA and develop a criteria to judge which indices should be incorporated into the assessment.

The Technical Committee charged the Striped Bass Tagging Subcommittee with a review of the SARC's comments on the tagging aspects of the stock assessment and reporting back to the Technical Committee. The Tagging subcommittee is requested to provide tag return sums by state and by gear for developing bycatch estimates for the VPA.

For the 2003 stock assessment, states were asked to submit all of their input data and catch at age matrices in electronic form by June 15th. States should calculate the weights at age from the spreadsheet that Gary Shepherd provided last year. If states are unable to do this, then they should send their data to Gary Shepherd.

The 2003 stock assessment will be conducted with a 12, 13, 14 and 15-plus group in order to compare the results. The methods section of the stock assessment report will document the methodologies agreed upon last year to adjust for the discrepancy in the commercial and recreational tag reporting rates when calculating commercial discard estimates.

A VPA configuration including tagging data input will be considered, if the Tagging Subcommittee can develop an estimate of abundance at age (by age or aggregated) from tag return information.

Discussion on the Biological Implication of Reopening the EEZ

Upon the approval of Amendment 6 to the Striped Bass FMP, a letter was sent to the Secretary of Commerce and Bill Hogarth. The letter was to inform the Secretary that ASMFC has made the recommendation to reopen the EEZ to the commercial and recreational harvest of striped bass. While the Commission has yet to hear a response regarding the recommendation, Lew Flag, Chair of Striped Bass Management Board, requested that the Technical Committee look at the biological implications of reopening the EEZ to the harvest of striped bass.

The Technical Committee noted that most of the striped bass information in the EEZ is dated. The Technical Committee discussed MRFSS as the tool for monitoring the recreational effort and landings in the EEZ. State quotas would control commercial landings. The level of discards associated with commercial fishing in the EEZ may be lower if current discards are turned into landings. Some members felt that there would not be an effect on the fishing mortality rate. The state quotas cap commercial landings, therefore F would not increase as a result of the commercial fishery, but there may be pressure to expand the commercial fishery upon opening the EEZ. The recreational landings and effort are not capped. If F were to increase, it would likely be due to the recreational fishery. The Technical Committee agreed that there is not a good handle on striped bass in the EEZ and the issue will require further work and consideration.

Election of a Vice Chair

The Technical Committee elected Gary Nelson to replace Kim McKown as Vice Chair to the Striped Bass Technical Committee Chair. Kim is no longer working on striped bass for the State of New York and was replaced on the Striped Bass Technical Committee by Vic Vecchio. Gary's term as Chair will begin after the 2003 Annual ASMFC Meeting in December.

ATTACHMENT ONE: Striped Bass Technical Committee Charge to the Age Sampling Subcommittee

Membership: Des Kahn, Alexei Sharov, Gary Nelson, Vic Vecchio.

Timeline: Final Report by Spring 2004.

The Age Sampling Subcommittee is charged to develop guidelines for incorporating otolith sampling to improve age determination of Atlantic striped bass. The subcommittee is charged with establishing the magnitude of the catch in larger sizes to identify the scope of potential bias in age determinations. The Subcommittee is charged with evaluating the costs in time and money of the current sampling program and a range of alternative sampling programs incorporating otoliths, and estimating any additional costs incurred by changing sampling protocols. The subcommittee is charged with identifying sources of otolith samples.

The Subcommittee should answer the following questions:

1. What is the catch in numbers and the relative contribution to the total catch of the following length classes: 800 mm+, 900mm+, and 1000mm+?
2. What is the current annual coast wide (all states/jurisdictions/agencies) sampling intensity (number of structures) for the following length classes: 800 mm+, 900mm+, and 1000mm+ ?
3. What are the estimated costs, in time and dollars, of the current ageing program (all states/jurisdictions/agencies)?
4. What components of the current ageing program could be replaced by an otolith sampling program? (i.e., some age samples are collected through tagging programs that would continue to be based on scale ages regardless of a shift to otolith ages and would not be replaced)
5. What sampling intensity is necessary to accurately estimate the age composition of the striped bass catch on the Atlantic Coast, based on using scales for smaller fish and otoliths for larger fish, for 800 mm+, 900mm+, and 1000mm+ cut-offs for the maximum size to age by scales? The subcommittee should consider state, coast wide, and regional sampling approaches, and sampling strategies stratified randomly, by catch frequency, and by length categories.
6. What are the estimated costs in time and money of each otolith sampling strategy?
7. What sources are currently available to satisfy the otolith sampling requirements?
8. Do these sources provide adequate and representative samples?
9. What percentage of the large fish (by 800+, 900+, and 1000+ categories) encountered in current sampling programs would need to be sacrificed to meet the otolith sampling requirements?
10. What other sources beyond direct agency sampling of fisheries or surveys are available to provide otolith samples, and what proportion of the catch encountered by possible contributors would need to be obtained (Example sources: cooperative anglers, freezer rack collection programs, tournament sampling, tackle shop collections)

ATTACHMENT TWO

Striped Bass

		Caruso, 2000	Lukacovic, 2001	Lukacovic & Uphoff, 2002
2001 live releases from recreational fishery=	13,456,350			
release mortality est. from Diodati & Richards=	8.0%			
circle hook release mortality (mean from 3 studies)=	5.3%	3.0%	12.0%	0.8%
NH Vol. Angler Survey % bait trips (1995-2002)	50-69%			

		% released fish caught w/ circle hooks in recreational fisheries		
		2001 est.	10%	25%
total released mortality in recreational fishery	1,076,508	1,039,727	984,556	892,605
# reduction recreational release mortality		36,781	91,952	183,903
% reduction recreational release mortality		3%	9%	17%
total mortality (rec.& comm. harv.& disc.)	4,343,798	4,307,017	4,251,846	4,159,895
% reduction total mortality (rec.& comm. harv.& disc.)		1%	2%	4%

Potential 'savings' (reduced discards) are a function of circle hook discard mortality and the proportion of trips that use circle hooks. The following table illustrates the range of savings for different assumptions of circle hook discard proportions and discard mortality levels.

Savings in number of fish discarded	Discard Mortality Rate from circle hooks		
Circle Hook Discard Mortality Rate	10%	25%	50%
1%	9%	22%	44%
3%	6%	16%	31%
5%	4%	9%	19%