



Atlantic States Marine Fisheries Commission

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MEMORANDUM

February 13, 2013

To: Summer Flounder, Scup, and Black Sea Bass Board
From: Massachusetts to New York Technical Committee Members
RE: Analysis for 2013 Recreational Scup Management Options in the Northern Region

Background:

For 2013 the Northern Region (NR) states of Massachusetts, Rhode Island, Connecticut, and New York will have a recreational scup target of 6,781,019 fish. The region is allowed to liberalize harvest in the recreational fishery by 88%, the difference between the 2012 estimated scup recreational harvest (3,609,489 fish) and the 2013 harvest target. The 2012 harvest was estimate using the MRIP wave 1 – 5 harvest plus a projected wave 6 harvest. The percent standard error associated with the 2012 NR MRIP estimate was taken in to account when developing the proposal and is presented in the final section of this report. Even with this added consideration, the most liberalized set of explored option did not come close to the allowed liberalization, therefore any of the proposed options as set forth on the conference call by the NR state commissioners are not expected to result in a harvest that would exceed the 2013 target. However, given the assumptions in the analysis, the quality and quantity of the underlying data and the historically volatile nature of scup harvest estimates in the past some caution is warranted in liberalization.

Action:

Regional measures based on conservation equivalency were adopted by the Atlantic States Marine Fisheries Commission (ASMFC) and Mid-Atlantic Fisheries Management Council (MAFMC) in lieu of a coastwide option for scup in 2013. Therefore, the NR is allowed to develop a regional management plan which includes management measures (i.e. possession limits, size limits, and seasons) to achieve no more than the recreational harvest target of 6,781,019 scup.

Method:

Size Limits, Bag Limits, and Seasonal Adjustments

The Technical Committee reviewed the data sources that were available to conduct the analysis. It is important to note that despite the regional approach, there is a significant level of customization that has occurred with the scup regulations in the NR, which creates the need to make broad assumptions about the applicability of the data across the region and across modes and this makes analysis difficult. Thus a level of caution should be exercised when reviewing the quantified option liberalizations. The main sources of data used for these analyses were Vessel Trip Reports (VTR) from the federally permitted Party and Charter vessels in NY and RI, and MA DMF data from MRIP party vessel sampling. The Party boat data were used primarily to calculate the effects of bag limits and minimum size changes to the fishery. In addition to the VTR data, MRIP data were used, primarily to calculate changes in harvest.

The estimated percent increases to harvests based on the analyses from the different data sources under different options are presented below (Table 1). The NR commissioners outlined multiple options for review during their recent conference call. To be most efficient, the TC analyzed the most liberal option first. It was found that even under the most liberal scenario chosen for review by the Commissioners, the percent increase in harvest was below the allowed liberalization level. Given this finding, the commissioners can conclude that any less liberal option would also be well within the allowed level.

Based on a recommendation from the TC during their call to review the NR options, another scenario was analyzed, called the “simplified” management option. The commissioners did not explicitly ask for this option, but the TC felt that it may come up during the commissioner’s discussion and therefore wanted to provide the information so it was available for review. This option is described below and is also contained in Table 1.

One important note is how the estimate for wave 6 harvest was conducted. As of the writing of this report wave 6 estimates were not available from MRIP. No scup harvest in the NR states was captured by MRIP in wave 6 of 2011 even though RI, CT, and NY had extended seasons. For analysis, it was assumed that harvest in wave 6 was equal to the lowest landings occurring during waves 3-5 by mode and state. MA is assumed to land no scup during wave 6 (pers. comm. Paul Caruso). This is the same method that was applied to 2011 landings while liberalizing regulations for 2012. This method results in 6.7% of the estimated regional harvest occurring during wave 6. This is likely to be an overestimate of wave 6 harvest activity; especially since 83% of wave 6 landings are attributed to the private boat mode, particularly from NY.

A final note on methodology is how the shore mode harvest effect was calculated. The analysis utilized the shore mode harvest from MA, RI, and CT in 2001, which is the only year where the minimum size was 9”. The analysis then added 2013 projected wave 3 shore harvest for all states (because the 2001 season started July 1), and finally added 2013 projected shore harvest for NY at 10” for waves 4-6. This estimate of shore mode harvest at the reduced 9” minimum size for the applicable states was greater than an alternative analysis that was conducted; therefore it was used in an effort to add some precaution to the analysis, given the normally poor quality of the harvest estimates from that mode.

Proposed Management Strategies for 2013

The following are the NR’s proposed 2013 recreational scup management options (Table 1). By way of description, the first option is the most liberal configuration as outlined on the NR commissioner conference call. The option elements are as follows:

- Party and Charter Bonus Season – all NR states with a bag limit of 45 fish for a full Wave (61 days).
- 10" minimum size for all anglers
- 9" minimum size for shore mode in MA, RI, & CT
- All anglers outside of Party and Charter Bonus Season have a 30 fish bag limit
- Season remains May 1-Dec 31

As mentioned previously a “simplified option” was also analyzed. The option elements are as follows:

- 10" minimum size for all anglers
- All anglers have a 40 fish bag limit
- Season remains May 1-Dec 31
- Maintains existing CT shore mode fishery at 9”

Given that the most liberal option as outlined by the NR commissioners for analysis fell below the 2013 target, it can be assumed that any options more conservative than this would also meet the criteria, so only the most liberal options were analyzed for this presentation.

Table 1 – Northern region options

	Mode	Open Season	Bag Limit	Min Size Limit	Total % Liberalization
Most Liberal Option	Party and Charter Private Boat	5/1 – 12/31	-30 fish -45 fish for 1 wave	10”	
	Shore (MA, RI, CT)	5/1 – 12/31	30 fish	10”	35.5
	All Modes	5/1 – 12/31	30 fish	9”	
Simplified Option	All Modes	5/1 – 12/31	40 fish	10”	29.5

Additional notes of caution

The TC built some risk adverse calculations in to their analysis. However, the TC wanted to provide the management board with additional information on which to base their determinations. This includes some thoughts on the percent standard errors (PSE) of the harvest estimates, the declining recreational harvest limits (RHL) over the coming 3 years, and the new MRIP methodology.

PSEs for the harvest estimates used for this liberalization range from 26.5 – 113 percent. Due to the option requests by state managers, the TC had to utilize estimates at the State, Wave, and Mode level. This break down of information is counter to the original goal of regional analysis, which has been done in the past to meet thresholds of PSE as required in the fishery management plan for scup.

The scup RHL will decline from 7.56 million lbs in 2013 to 6.6 million lbs in 2015. Assuming an average harvested scup weight of 1.08 lbs, this equates to a NR allocation of 6,781,019 scup in 2013 declining to 5,927,778 scup in 2015. Utilizing the 2013 target affords the NR a liberalization of 88%, whereas the 2015 RHL would allow the region to liberalize by 64%. The

options developed could be framed in light of the 2015 liberalization value (64%) to provide the region with stable recreational scup regulations for the 3 year period. In addition, if the upper bound of the harvest estimate were used for the calculation, the 2015 harvest target would only allow for a 24.5% liberalization. This is one way to gain even further perspective on how variability in the harvest estimates can affect the analyses.

Harvest estimates may change significantly, in an unpredictable manner, especially as the new MRIP methodology is fully implemented (night sampling, no alternate site selection, effort survey changes) over the next couple of years, therefore the assumption of stability in harvest estimates from year to year may be flawed given this changing methodology.

Black sea bass Addendum XXIII Public Hearing

Narragansett, RI

February 1, 2013

6 Attendees

Meeting Staff: Jason McNamee (RI DFW)

Meeting Participants: see sign in sheet

Issue 1: Management Options

Two of the meeting participants indicated support for the two region option with identical regulations through the region, option 3. The comments in support of this were due to some level of distrust in the harvest estimates at the state level, they felt it was better to group the harvest estimates over a larger area, as well as the feeling that consistent regulations in neighboring states would be a positive development.

Another member indicated support for the state by state option, option 2. He felt this was best given the magnitude of our neighboring states and the possibility of an overage in one of those states overwhelming the RI fishery. He went on to support a bonus season for NY and NJ during wave 1, he felt this would be a benefit to those states.

Issue 2: Addendum timeframe

Three of the meeting participants favored status quo for the timeframe issue, option 1. They felt this should be revisited prior to the start of next year's season, as this was the safest approach given uncertainty in the harvest estimates.

General comments

A final comment was made about the wave 1 fishery in NY. He felt this was unfair, either everyone should have had an open fishery or everyone should have been closed, but the way it happened this year created inequity amongst the states, and he felt this should be avoided in the future. He also felt that the black sea bass fishery could get away from the very high bag limits, he did not think it was necessary.

Memorandum

01. 22. 2013

To: Bob Beal, Executive Director ASMFC

From: Alexei Sharov, Maryland Department of Natural Resources

Subject: Black Sea Bass Recreational Measures in 2013

Dear Bob,

I would like to bring to your attention a serious methodological issue identified during the MAFMC and ASMFC discussion of black sea bass stock status and recreational management measures for 2013. According to the Council Memo dated November 15, 2012, the 2012 recreational catch in waves 1-4 has already exceeded the 2012 annual catch limit. Although the introduction of accountability measures required by the Magnusson – Stevens Act are delayed by the NMFS Regional Office until 2014, there is an expectation of further ACL reduction of up to 49% to account for the presumed 2012 overage. However, this overage is likely to be overstated and is primarily a result of inappropriate data treatment and issues in assessment and management methodology.

The core problem in the current management of the black sea bass fishery is inappropriate use of the recreational harvest estimates. This is a common problem that applies to any species where recreational harvest is a significant portion of the total catch. In the current process employed by both the Council and the Commission, a point estimate from the survey is treated as the true value of actual catch. Failure to treat recreational harvest as a statistical estimate incorporating measures of uncertainty is likely to lead to wrong conclusions about the level of removals and erroneous management actions. While stock assessment models routinely address uncertainty in absolute abundance and fishing mortality rates in the form of probability distribution or a likelihood of F being over threshold, the uncertainty in recreational catch estimates is totally ignored in the current process of fishery performance evaluation, specifically when the estimated catch is compared with the annual quota. As you well know, the MRFSS/ MPRIP survey produces an estimate of annual harvest with the corresponding measure of error in the estimate in the form of proportional standard error or PSE. Even a moderate PSE can lead to the event that simply by chance our estimate of catch per angler trip in any wave, mode or area could be well above or below the true value and result in very large inter-annual variability. Abundant examples of such estimates that were considered questionable were brought to the attention of the Council, ASMFC and state agencies by many stakeholders.

MRIP staff responded to stakeholders critique with a clear statement about the nature of a survey estimate: “For an estimate to have any real-world meaning, both of these numbers (point estimate and margin of error) have to be taken into account. That's

because if there is a high PSE, then we are less certain that the point estimate reflects the true value, a fact that has to be accounted for when using the data.”

As you can see, MRIP explicitly warns about a proper use of the estimate and advises caution when PSEs exceed 50%. While this is clearly understood and loudly voiced by our constituency, surprisingly, this advice is currently being completely ignored by the assessment scientists and managers in the current management process.

A proper use of statistical theory would be to generate a confidence limit interval at the selected level of confidence using sample point estimates and a measure of error. Such an interval is a true measure of our knowledge of the size of the catch. It is important to note that any point within the specified interval is equally likely to be a true value.

In addition to the issue of survey precision, there is still a possibility of bias in total effort and catch estimates due to the reliance of current survey on random digital dialing to landline phones only. This was indicated in several reports to the ASMFC by Dr Crecco from CT DEP. His concerns about potential bias (overestimation of catch) were never fully addressed, while the new effort assessment methodology based on saltwater angler registry has not yet been implemented and tested..

While there is no immediate simple solution to the problem, there are several steps that could be recommended to the Council and the ASMFC to address this problem.

1. The inappropriateness of the use of single point estimates in management should be acknowledged by the Council’s SSC and the ASMFC Technical Committees.
2. The Council and the ASMFC should stop using point estimates of recreational harvest in a quota based management system.
3. The SSC and appropriate Technical Committees should initiate a discussion and develop alternatives to current treatment of recreational harvest estimates.

Potential interim options may include using a three year running average for recreational harvest estimates or other types of smoothers and use of trend analysis. Since the ultimate goal of the Act is to avoid overfishing, the monitoring data indicating population status (changes in size and age structure through the range of the species at sea as well as fishery dependent and independent CPUE measures) should be regularly considered when developing management advice and quota setting rather than relying solely on catch estimates in the absence of regular stock assessment updates. Whenever estimates of catch seemed to be particularly high or low, the Monitoring Committee or another appropriate group should review the MRIP data with great detail to identify sources leading to the outlier estimate and provide expert judgment on believability and applicability of the estimate to be considered in the development of management advice. Applicability of alternative ad hoc methods (i.e. Bayesian modeling) should be investigated as well. Lastly, these comments are applicable to a number of other recreationally important species managed by both ASMFC and the Council.

This letter represents a summary of my personal perspective on problems in current assessment and management process. I hope you will find these comments useful and forward this letter to the appropriate Technical Committee(s) for further consideration. I

am confident that collectively we should be able to improve substantially our management methodology.

Sincerely

Alexei Sharov, Ph.D.
Stock Assessment and Analysis Program
Fisheries Service
Maryland Department of Natural Resources