Scientific and Statistical Committee Meeting Report

Hilton Wilmington Riverside

301 North Water Street

Wilmington, NC

November 30 – December 3, 2008

SSC SEDAR 16 Summary

The SSC approved the recent SEDAR 16 King Mackerel assessment as based on the best available science and advises that management measures be formulated in accordance with the base assessment model run. The SSC supports the conclusion of the review panel that the South Atlantic king mackerel stocks were not overfished. It is uncertain, however, whether overfishing is occurring in the South Atlantic stock or not, but if it is, it is occurring at a low level.

Discussion leading to this conclusion centered on three major topics that arose from the assessment and the SEDAR Review Panel report(s). First, the SSC focused on comments by the Review Panel where they concluded that the base model run was a plausible representation of the king mackerel population; however, the review panel also requested alternative model runs that were necessary to understand more fully the underlying uncertainty of the assessment. In particular, the model was very sensitive to specific fishery-dependent and independent abundance indices and their relative weighting schemes. For example, two alternative model runs were conducted with different treatments of the indices suggested by the Review Panel and resulted in substantially reduced probability of overfishing the stock at higher yields in comparison to the base run. The SSC believed that the base run provided more realistic results with respect to overfishing probabilities, and recommends that it be used as the basis for management. Second, and related to this point, the Review Panel recommended that decision tables be prepared to capture the uncertainty under various model scenarios. The SSC reviewed these tables (prepared by the assessment team) but commented that the Review Panel provided little guidance on how to compare alternative approaches to the base case. Third, the SSC discussed the failure of the Stock Synthesis 3 model to provide management benchmarks under the spatial constraints of the terms of reference. The Review Panel agreed that the Stock Synthesis 3 formulation allows both the Gulf and South Atlantic king mackerel stocks to be modeled while allowing mixing between the stocks during the winter. However, the SS3 model was ultimately not used because it was unclear whether the model was

converging and it was not possible to estimate stock-specific benchmarks as required by the terms of reference. Hence, the assessment proceeded using VPAs to independently model Gulf and South Atlantic migratory groups under a 50:50 mixing scenario. The SSC suggests that, in the future, if the two stocks are to be modeled separately, the SS3 model or another statistical

The SSC briefly discussed research recommendations arising from the SEDAR process and found them to be well-documented. In particular, the SSC believes that stronger fishery-independent abundance indices are needed to improve future assessments. In addition, the SSC agrees that a full assessment of king mackerel would benefit from better access to catch information from the Mexican fishery.

Motion to accept King Mackerel Assessment as based on best available science, and that the base model be used for management.

Fishery Ecosystem Plan and Comprehensive Ecosystem

Presentations were postponed as the SSC will have another chance to review these documents. Therefore, we did not have any discussion or recommendations relative to these items.

Red Snapper Addendum

An addendum to the red snapper stock assessment report was generated to address two issues. First, two values of annual recreational landings were transposed in the original assessment; these values were corrected with subsequent changes to landings in those and interpolated years. Secondly, the review panel requested that F40% be used as a proxy for Fmsy. The review panel requested this change because the estimate of steepness in the base assessment was not estimated with confidence because it was hitting the upper bound. With this change, it was determined that the steepness associated with projections (h=0.68 when using F40%) differed from the base assessment leading to an abrupt change in recruitment between assessment years and projection years. Several alternatives to handle this inconsistency were provided to the SSC. These included changing all steepness in assessment and projections to 0.68, leaving them both at 0.95, and a hybrid where 0.95 was used for the assessment and 0.68 was used for projections. In accordance with previous decisions, the SSC chose to keep the estimate of steepness consistent between the model and the projections. Discussions then focused on two options for %SPR. One argued for following the suggestion from the CIE reviewers (using F40%) and cited literature and examples that showed that F40% is more appropriate and F30% is too high. The other group argued that F30% should be considered because it was approved by the council for other species (approved by the Council in the Comprehensive SFA Amendment) and that its corresponding h value is approximately 0.90 which was close to the estimated valued in the base estimation model. Although the CIE reviewers requested F40% be used as the Fmsy proxy, they did not ask that the corresponding steepness be used in projections; they pointed out that there was large uncertainty in

projections and recommended that projections only be trusted for first few years because the stock-recruit relationship was not defined .

A motion was made to use F40% as the Fmsy proxy and retain the steepness of h=0.95 for short term projection. This motion was accepted by SSC. The assessment team provided the updated base model (h=0.95 in assessment and projections) with the new recreational landings to produce new projections.

SEDAR 17 – Vermilion Snapper Assessment

In its report the Review Panel supports the estimates from the AW base model. Estimates for 2007 are given below (*see* Table 3.6 of the AW report).

Year	F	F/F_{MSY}	B (mt)	$B/B_{unfished}$	SSB/SSB_{MSY}	$SSB/MSST$
2007	0.49	1.27	2966	0.283	0.861	1.10

The SSC discussed the Review Panels conclusions and agreed that the base run was based on the BAS. As a result, the stock was not overfished, but was experiencing overfishing in 2007. However, the overfishing conclusion is highly uncertain due to a lack of robustness to key model assumptions.

The SSC noted that the Review Panel concluded that: "The methods used to characterize uncertainty were not considered entirely appropriate by the Panel. However, some guidance on the level of uncertainty can be obtained from the confidence intervals in the AW base model (Table 3.16 in the AW report) and the range of estimates from sensitivity runs (see Table 2.2.1 of this report). These results are likely to under-estimate the true level of uncertainty."

This is despite the fact the Review Panel states that they "support[s] the estimates from the AW base model" including Tables 3.17–3.22 from the Assessment Workshop which give a range of ABC depending on the level of risk management wishes to adopt (Page 10 of the Review Workshop Summary Report).

The majority of the SSC's discussion focused on the fit of the spawner-recruit curve (in particular, the estimate of steepness) and on the appropriateness of F40% versus F30% as a proxy for Fmsy. The value of the steepness parameter in the stock-recruit curve was estimated at the boundary of allowable values indicating that the parameter, and therefore the stock-recruit curve, was not estimable. The solution to this problem was to fix steepness at the value that coincides with the assumption that F40% = Fmsy. The SSC questioned whether this was the best solution to the problem and encouraged the assessment team to explore a range of alternative solutions to the problem in the future. In addition to the general approach of fixing steepness, concern was voiced over the assumption that F40% was the best proxy for

Fmsy. The consensus of the SSC was that F40% was an appropriate proxy for Fmsy based on Williams and Shertzer (2003) and scientific literature therein.

Motion: Move that the South Atlantic Vermilion snapper assessment be accepted as BAS, and supports the comments made by the review panel with regards to the large degree of uncertainty as to whether the stock is currently experiencing overfishing. (Passed)

SEDAR 17 – Spanish Mackerel Assessment

There was significant discussion about the review of the Spanish mackerel. The two major sources of uncertainty in the assessment are the historical recreational catches and the amount of mackerel bycatch in the shrimp fishery. Unfortunately, the uncertainty in these data cannot be decreased with additional research. The models must simply deal with this uncertainty. One way to assess the impact of some of this uncertainty is to conduct sensitivity runs. The point estimates for fishing mortality, biomass, Fmsy, and Bmsy were quite sensitive to the assumptions being examined via the sensitivity runs. However, the ratio of current fishing mortality to Fmsy appeared to be robust to the sensitivity runs performed in the Review Workshop and was in agreement with the results of the ASPIC biomass dynamic model. As such, it was determined that the stock was not experiencing overfishing. There was some question as to whether this robustness would hold over a wider range of sensitivity runs. The ratio of current biomass to Bmsy, however, was quite sensitive to the various runs, and as such, the model could not reliably determine whether the stock was overfished or not. There was some discussion as to the overall robustness of the ratios, but the SSC consensus was to agree with the findings of the Review Panel.

It was noted the even though the model could estimate the steepness parameter for the stock-recruit curve, the Review Panel expressed concern over its uncertainty. The SSC noted that we will likely never have precise estimates of such parameters and must make decisions despite this uncertainty.

The SSC briefly discussed research recommendations arising from the SEDAR process and found them to be well-documented. In particular, the SSC believes that stronger fishery-independent abundance indices are needed to improve future assessments.

Snapper Grouper Amendment 17

After a presentation on Amendment 17 and discussion with NMFS Regional Office staff, the SSC discussed their ability to provide ABCs with limited data. Discussion focused on whether or not we should fill in boxes for ABCs or wait for more information and guidance. If there is not enough information to give scientifically sound ABC value then management might stay status quo; the worry with this approach is that status quo might lead to overfishing. The SSC decided that it would wait until a tiered system was in place for ABCs.

The council provided the SSC with a list of questions; some of these questions (#'s 1-2) were addressed specifically while others (#'s 3-6) were addressed by a series of motions that removed the ABC recommendations from June 2008. Question 1A - For speckled hind and Warsaw grouper, the SSC clarified that the value of ABC=0 was for directed landings only, not discards. Question 1B - There was discussion on whether or not discards should be included in ABC values for other species; the SSC concluded that discards would be handled on a case by case basis. Question 2 - Given that amendment 16 will likely reduce red and black grouper landings by ~35% we felt that these existing measures will likely provide adequate protection for black and red grouper. The SSC was concerned that the ABC values proposed in June 2008 for black and red grouper might be in conflict with the recommendations being developed under the tiered system. As such, the SSC withdraws the ABC and OFL levels for black and red grouper, and for similar reasons withdraws the ABC and OFL levels for gag grouper.

The conclusion that the SSC would wait until a tiered system was in place before providing ABC values for species with limited data influenced how questions 3 to 6 were addressed. There were several motions that addressed these questions. The SSC withdraws the ABC and OFL levels for golden tilefish established at the June meeting. The SSC withdraws the ABC and OFL levels recommended at the June, 2008 meeting for snowy grouper, black sea bass and red snapper, given that those species have rebuilding plans in place. The SSC recommends that the ABC levels for snowy grouper, black sea bass and red snapper be set consistent with the rebuilding plans for those species until they can be further amended on better scientific information. The SSC withdraws the ABC and OFL levels for vermilion snapper established at the June, 2008 meeting.

Questions for SSC Consideration regarding Amendment 17 fishing level recommendations

December 2008

1. Discards. ABC was specified as 0 for speckled hind and Warsaw grouper and discards are not specifically addressed for other stocks

   (A) How are discards considered for speckled hind and Warsaw grouper, or does the ABC apply to directed landings alone?

   (B) The SSC made a general recommendation to set ABC=75% Fmsy for those stocks which have been assessed. Is it the SSC's intent that discards are included in the MSY and ABC or that discards are addressed separately.

2. ABC was specified as 95% for red grouper and 90% for black grouper.

   (A) The SSC stated in its June report "Because anecdotal evidence indicates that red are probably in a healthy state…". The SSC is asked to clarify the meaning of 'healthy state' given that both red grouper and black grouper are listed as overfishing and unknown with regard to overfished in the report to congress.

   (B) What is the scientific basis for the difference in recommendations, given that both have the same status determinations?

   (C) What is the scientific basis for providing a specific percentage of landings for ABC (and thus for preventing overfishing) given that the degree of overfishing and overfished has not been quantified, and what is the basis for establishing OFL at the average landings level given current stock status determinations?

3. There has been considerable discussion regarding the scientific basis for the recommendation of ABC at 75% Fmsy, both during and since the June meeting. There is concern that the recommendation could be considered arbitrary and without scientific basis. The SSC is asked to provide justification and clarification for this recommendation to address these concerns.

4. The Council approved a motion in September 2008 requesting that the SSC, SEFSC, & Staff evaluate a 25% (range of 10-50%) probability of overfishing when setting the ABC with respect to overfishing. This is an important part of ABC control rule development, so the committee is asked to comment to continue iterative deliberations with the Council.

   (A) What is the next appropriate step in developing risk levels and an ABC control rul.e

   (B) What should SSC be provided to provide guidance at the next meeting (in March/June)?

   (C) Provide detailed guidance and instructions to SEFSC for appropriate analyses?

5. Stocks identified as overfished are managed through a rebuilding plan, therefore a general recommendation to set ABC = 75% Fmsy may not work in these instances. The SSC is asked to clarify ABC for those stocks managed under rebuilding plans – snowy grouper, black sea bass, and red snapper. This could include reviewing existing rebuilding plans.,

6. The SSC received an assessment for vermilion snapper and updated results for red snapper. The SSC is asked to provide fishing level recommendations and ABC for these stocks in light of this new information.

Motions

MOTION 1

Move to accept the king mackerel assessment as best available science, with management to be based on the base run of the model.

MOTION 2

Move that the SSC accepts option #2 of a steepness of .95 to be used in assessment and projection estimates for red snapper in the south Atlantic.

MOTION 3

Move that the South Atlantic Vermilion snapper assessment be accepted as best available science, and supports the comments made by the review panel with regards to the large degree of uncertainty as to whether the stock is currently experiencing overfishing.

MOTION 4

Move that the SSC accepts the SEDAR 17 Spanish Mackerel stock assessment as best available science. The SSC concurs with the SEDAR 17 review panel's conclusion that the stock is not undergoing overfishing but that the model and underlying data are insufficient to make biomass-based determinations.

MOTION 5

Move that the SSC withdraw the ABC and OFL levels for black grouper, red grouper and gag established at the June meeting.

MOTION 6

MOVE that the SSC withdraw the ABC and OFL levels for golden tilefish established at the June meeting.

MOTION 7

MOVE that the SSC withdraw the ABC and OFL levels recommended at the June, 2008 meeting for snowy grouper, black sea bass and red snapper, given that those species have rebuilding plans in place.

MOTION 8

Move that the SSC recommend that the ABC levels for snowy grouper, black sea bass and red snapper be set consistent with the rebuilding plans for those species until they can be further amended on better scientific information.

MOTION 9

Move that the SSC withdraw the ABC and OFL levels for vermilion snapper established at the June, 2008 meeting.