

# **SEDAR**

(South East Data, Assessment and Review)

## **Consensus Update Assessment Report**

on the Assessment of the Status of the Stock

of

## **Vermilion Snapper from the Southeast of the U.S.**

**South Atlantic Fishery Management Council  
Scientific and Statistical Committee (SSC) Meeting  
Key West, FL 33040  
June 10 – 13, 2007**

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# SEDAR Consensus Update Assessment Report

## Vermilion Snapper

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### Conclusion

The SSC accepted the appropriateness of the data used in the updated stock assessments for the vermilion snapper stock. Because this was an update assessment, the assessment model and methodology had not changed. The update followed the guidelines established through the terms of reference and is based on the best available science. Consistent with the benchmark, the SSC did not endorse the use of the biomass estimates for use in management because of the high degree of uncertainty in the stock-recruit relationship; however, the SSC did have confidence in the calculated  $F$  values, and as such recommended management actions be based on changes in those values. The SSC also noted there is consistency between the benchmark and the update estimates of  $F_{max}$  (0.355 in 2001 and 0.375 in 2006) and the  $F$  ratio (1.71 in 2001 and 2.05 in 2006). In general, data were handled appropriately. Based on the data from the update, the SSC was able to conclude the following about the South Atlantic vermilion stock:

- The stock is undergoing overfishing as of 2006.
- Without biomass benchmarks we cannot determine if the stock is overfished
- $F$  values continue to indicate overfishing is still occurring and at a slightly higher rate, supporting a continued shift towards overfished status.
- In order to fish at the Council's definition of  $F_{OR}$ , a calculated reduction of 61% of the total catch, which results in reducing total landings to 628,459 lbs, would be necessary.

### SSC Meeting and Roadmap Items for Vermilion Snapper

The SSC met at the Doubletree Grand Key Resort, 3990 South Roosevelt Boulevard, Key West, FL 33040, from June 10 – 13, 2007. One of the main agenda items was to review the update assessment for the vermilion snapper stock occupying waters off the southeastern coast of the U.S. Members of the SSC in attendance for the review are listed in Appendix 1.

Although the SSC does not generally operate under Terms of Reference, specific roadmap items were assigned for group discussion and included the following. The SSC response to the roadmap item follows that specific item in italicized bold type:

- A. Examine the Assessment Update and determine if each of the Terms of Reference items (**Attachment 3**) were met.

***The update followed the guidelines established through the terms of reference and is based on the best available science.***

- B. Is there a table with commercial and recreational landings and discards in pounds?

***The report contains tables for both the commercial and recreational landings that have pounds identified. The discards are accounted for in the landings and as such are not broken out separately from the landings.***

- C. Are the updates to earlier catch data sufficient to affect the outcome of the stock assessment? If so, provide a recommendation to the Council on how to proceed (e.g., request the update be redone before the SSC can develop an ABC).

***The updates to the data stream did add useable information. The SSC does not recommend the update be redone; however, the group endorses moving the benchmark assessment up in the SEDAR process..***

- D. Review the treatment of selectivity – the recreational selectivity at age changed with implementation of the first recreation size limit of 10” TL (1/1/92), the 11” TL size limit (2/24/99), and then the 12” TL size limit (10/23/06). Was this modeled correctly? Are these changes accounted for in the management advice? If not, what affect would they have on management advice?

***Selectivity was accounted for appropriately in the model. The 2006 size change has likely had little influence on the assessment results because it has only been in effect for approximately six months.***

- E. How were discards estimated and modeled? How are discards estimated for the future? What exactly is included for discards in the estimated management values from the model?

***Discards were handled the same as in the benchmark assessment. Discards were a separate data stream in the model as this would have been a modification outside of the guidelines for an update. However, discards were incorporated into the landings data used. Recreational discards were obtained from MRFSS estimates. There were no direct measurements of discards from the commercial fishery. Commercial discards were determined from the difference between the selectivity curves before and after minimum size limit regulations. Discards are estimated in the future the same way as the past – assuming current minimum size limits.***

F. Is the stock undergoing overfishing?

***The ratio of  $F$  for 2006 (0.729) to  $F_{max}$  (0.355) results in a value of 2.05 indicating the stock is undergoing overfishing. This ratio is very similar to the value produced during the benchmark assessment, which was 1.71.***

G. Is the stock overfished?

***Because of the uncertainty in the spawner-recruit relationship, the SSC did not have confidence with the calculated biomass reference points. This uncertainty posed similar problems during the benchmark assessment. As such, the overfished status could not be determined from the results of the update.***

H. Is the stock approaching an overfished status?

***This could not be determined for reasons stated above. However,  $F$  values continue to indicate overfishing is still occurring and at a slightly higher rate.***

I. Provide an Allowable Biological Catch Level to prevent overfishing. This catch level must include discards. This can be viewed as a 2-part process with the Biological Sub-Committee taking the lead on developing the ABC and the Socioeconomic Committee taking the lead on providing guidance to the Council on where between ABC and 0 the TAC should be set based on balancing the socioeconomic impacts and the need to be risk averse.

***The SSC did not feel comfortable establishing these values without guidance. However, a value of yield was calculated using the current definition of  $F_{OY}$ . In order to fish at this level, a calculated reduction of 61% of the total catch, which results in reducing total landings to 628,459 lbs, would be necessary. These calculations were based on the yield per recruit at the geometric mean of the 2004-2006 fishing mortality rates compared to that at  $0.75(F_{max})$ .***

J. Does the absence of commercial and recreational data from the Atlantic side of the Florida Keys affect the outcome of the assessment?

***The SSC could not find discussion in the report indicating how landings from the Keys were handled; therefore, we could not provide comment on the presence or absence of these data.***

K. Any SSC suggestions on how to have recreational and commercial data provided from the Atlantic side of the Florida Keys for inclusion in future assessments and

updates? (Note: this applies to most if not all of the SEDAR assessments and updates.)

*See previous comment for roadmap item J.*

L. Write the Review Report (see gag grouper example).

*The Review report will be written and submitted to Council staff one month from June 12, 2007.*

M. Write the Advisory Report (see gag grouper example).

*The Advisory report will be written and submitted to Council staff one month from June 12, 2007.*

N. See remaining items in Rick DeVictor's comments.

*The SSC did not provide comments on this item.*

O. See new material added by Gregg Waugh.

*The graph was reviewed by the SSC. The SSC did not have confidence in the biomass benchmarks, which was the issue reflected in the graphic.*

P. Biomass values seem to be unreasonable. If we can't be provided an estimate of the current biomass, is the estimate of MSY that was provided usable?

*The SSC did not recommend using the biomass estimates for management. The SSC supported using  $F_{max}$  as a proxy for  $F_{MSY}$ ; therefore, MSY would be the yield obtained from fishing at  $F_{max}$ .*

Q. Are the assessment update results useful to the Council for management or should the results be rejected and a new age-based benchmark assessment requested? For example, would you expect the 90 commercial lengths to adequately characterize the 2005 commercial hook-and-line fishery? Does the number of fish measured in 2006 (3,565) adequately characterize the fishery, particularly without any headboat samples?

*As stated previously, the SSC did not recommend the use of the biomass reference points; however, they did have confidence in the  $F$  values and as such recommended using the reduction in the  $F$  ratio to guide to Council in the necessary reduction in landings. Although length sampling was minimal in some years, the consistency of the results between the benchmark and update lend support to the  $F$  and  $F_{max}$  estimates.*

- R. Can the MSY from the original benchmark be used? Can the F rates be used? In light of the large changes to the landings data, should the Council base SFA parameters on output from the original benchmark assessment?

*The MSY from the original benchmark cannot be used due to the same problems described above. The F rates from the original benchmark and updated assessment are considered reliable. Thus, the SSC recommended the use of the F values and not the biomass values from the update.*

## **Appendix 1. Members of the SSC in Attendance for the Vermilion Update Review, Key West, June 10 – 13, 2007.**

Carolyn Belcher – chair  
Dr. Jeffrey Buckel  
Dr. Andrew Cooper  
Dr. John Dean  
Douglas Gregory  
Joseph Grist  
Dr. David Griffith  
Dr. Sherry Larkin  
Dr. Thomas Long  
Dr. Robert Muller  
Dr. Erik Williams  
Dr. John Whitehead

### **Assessment Workshop/Review Panel Support Staff:**

Dr Erik Williams, NMFS SEFSC Beaufort Lab  
Carolyn Belcher, GA DNR and SSC

### **Meeting Support Staff & Other Attendees**

Rick DeVictor, SAFMC Staff  
Gregg Waugh, SAFMC Staff