SOUTH ATLANTIC FISHERY MANAGMENT COUNCIL

SCIENTIFIC AND STATISTICAL COMMITTEE

SSC Meeting Overview

April 29 - May 1, 2014

Crowne Plaza
North Charleston, SC

FINAL VERSION
Revised 6/10/14
SSC Report

8. WRECKFISH ASSESSMENT REVIEW

8.1. Documents

Attachment 12. Wreckfish benchmark assessment report
Attachment 13. Wreckfish Peer Review report
Attachment 14. Wreckfish Proposal and AW background

8.2. Overview

An assessment of wreckfish was recently completed and reviewed through the SAFMC peer review process. The SSC is asked to review the assessment and provide fishing level recommendations.

8.3. Presentation

Assessment Overview: Doug Butterworth (via webinar)

8.4. Action

- Review wreckfish benchmark assessment and consider whether it represents Best Scientific Information Available.
- Identify and discuss assessment uncertainties
- Provide fishing level recommendations

SSC RECOMMENDATION:

The SSC reviewed the wreckfish assessment presented by Dr. Doug Butterworth. In general, the Committee found this assessment to be an improvement over the DCAC analysis conducted the last time around but noticed that this is still a relatively data poor assessment. More specific comments and discussion points brought up during the SSC meeting included:

- *Both the SSC and the review panel expressed concerns about the difference in results between using a Beverton-Holt (B-H) vs. a Ricker Stock-Recruitment (S-R) function. However, there is no evidence of wreckfish having a Ricker S-R relationship and there is some support for B-H in the form of the estimate of steepness (h) lining up very well with the input of h for the base run.*
- *The question of where recruitment is coming from is critical to this assessment, but there is circumstantial evidence suggesting that the local spawning stock is producing the recruits that are entering the South Atlantic fishery. Juveniles are not commonly seen in the South Atlantic. Mostly are seen in the Eastern Atlantic and some off the northeast US. It is very likely that juveniles in the Eastern Atlantic are undergoing fishing mortality but levels are unknown.*
- *The SSC acknowledged and echoes the RP's remarks that this assessment should be viewed as what it is, a data limited assessment. However, the SSC concluded that the assessment package as a whole (i.e., base run plus sensitivities) provides the best scientific information available as opposed to just the base case or a single sensitivity. The sensitivities capture important uncertainties not addressed in the base run.*
- *Another large point of uncertainty is the fact that 33% of the landings were confidential. However, an alternative run was done with a trend from the actual data and the model was insensitive to these changes.*
- *Members of the Committee expressed concern that the assessment's estimate of MSY was heavily influenced by landings history. Wreckfish CPUE has been extremely consistent through the history of the ITQ despite wide fluctuations in landings and research indicates that the magnitude of landings has been driven almost exclusively by economic rather than biological factors. If fisheries-dependent stock assessment models assume MSY and MEY (maximum economic yield) are equivalent, then resulting estimates may significantly underestimate MSY, particularly for transient stocks.*

After much discussion the SSC accepted this benchmark assessment as representing the best available scientific information on the current status of wreckfish in South Atlantic waters and considers it appropriate for SAFMC management decisions.

Since this assessment falls under Tier 1 of our ABC control rule, ABC was obtained according to a P value. The SSC recommends that projections be developed from the base run but use sensitivities to help inform the P* process.*

A summary of results from applying the ABC control rule is presented below:

1. *Assessment Information: Tier 2 (-2.5%): since steepness parameter was fixed (instead of estimated by the model)*
2. *Uncertainty: medium (-7.5%): since not all uncertainties were carried forward into projections. Also, major uncertainties not characterized explicitly in the model and projections (i.e., not in the PDF's for the major benchmark estimates)*
3. *Stock Status: Not Overfished and Overfishing not occurring (-2.5%): although there is a lot of uncertainty most sensitivities show no overfishing and not overfished.*
4. *Productivity-Susceptibility Analysis: High Risk (-10%)*

In total, these results provide for an adjustment score of 22.5% and a P of 27.5%.*

Table 2. wreckfish recommendations

Criteria	**Deterministic**	**Probabilistic**
Overfished evaluation	No (SSB/75%SSBmsy=2.11)	
Overfishing evaluation	No (F/Fmsy=0.583	
MFMT	0.065	
SSBmsy (unit)	1,809 tons (3,988 klb)	
MSST (75%)	1,357 tons (2,992 klb)	
MSST (1-M)	1,743 tons (3,843 klb)	
MSY (1000 lb)	279	
Y at 75% Fmsy (1000 lb)		
ABC Control Rule Adjustment		22.5%
P-Star		27.5%
OFL (1000 lb)	Projections at F=Fmsy	
ABC RECOMMENDATIONS: Projections at P*, 5 years		

ABC Projections (P*=27.5%)	
Year	**Landings (1000 Lbs)**
2014	443.8
2015	433.0
2016	423.7
2017	414.2
2018	406.3
2019	396.8
2020	389.1

OFL Projections		
Year	**Yield at Fmsy (1000 lbs)**	
	Deterministic	**Probabilistic (P*=50%)**
2014	439.7	571.5
2015	429.4	553.3
2016	419.7	536.7
2017	410.6	521.9
2018	402.0	507.3
2019	394.0	493.7
2020	386.6	481.2

Deterministic Projections at F=75%Fmsy	
Year	**Yield at 75%Fmsy (1000 lbs)**
2014	329.7
2015	326.7
2016	323.7
2017	320.8
2018	318.1
2019	315.5
2020	313.1