SOUTH ATLANTIC FISHERY MANAGMENT COUNCIL

SCIENTIFIC AND STATISTICAL COMMITTEE

SSC ORCS WORKSHOP REPORT

August 1-3, 2012

Crowne Plaza
North Charleston, SC

PURPOSE

This workshop was convened to:

- Apply the ORCS approach to unassessed SAFMC stocks

CONTENTS

1. Introduction

1.1. Documents

Agenda

1.2. Action

Introductions
Review and Approve Agenda

The ORCS meeting was called to order at 3:00 pm, as scheduled. The agenda was adopted without change. Workshop participants (*see Section 3 below*) were introduced and their affiliations noted for the administrative record. The Chair reviewed the agenda and outlined meeting format and process.

2. Workshop Terms of Reference

The SSC ORCS sub-Committee developed Terms of Reference to guide the workshop.

1. Review and update the ORCS Table of Stock Attributes (Table 4 in the ORCS report) to better suit SAFMC-managed stocks.
2. Develop a scoring method for assigning stocks to exploitation categories (develop criteria for addressing missing values, weighting, range of scores for exploitation categories etc.). Consider developing a new exploitation category for 'special case' stocks or stocks with no reliable catch data. Assign stocks to exploitation categories.
3. Determine the appropriate catch statistic for OFL (e.g., mean, median, maximum, minimum, percentile, etc.). Identify the proper OFL scalar range to be applied to different exploitation categories.
4. Recommend a range of scalar values (to apply to OFL) that captures the Council's risk tolerance level for assigning ABC values for low risk (high productivity), moderate risk (moderate productivity), and high risk (low productivity) stocks.
5. Create a report to summarize and document work group findings.

3. Apply the ORCS Approach

3.1. Action

Address Workshop Terms of Reference

WORKSHOP MEETING SUMMARY:

To better address the Terms of Reference workshop participants were assigned to 3 breakout groups:

Life History and Ecology:
Jim Berkson (leader)
Eric Johnson (rapporteur)
Churchill Grimes
George Sedberry
Jeffrey Buckel
Luiz Barbieri
David Cupka (Chair, SAFMC)
John Jolley (member, SAFMC)

Fisheries Landings and Surveys:
Marcel Reichert (leader)
Chip Collier (rapporteur)
Carolyn Belcher
Yan Jiao
Doug Vaughan
Michelle Duval (member, SAFMC)

Fishery Characteristics:
Steve Cadrin (leader)
Anne Lange (rapporteur)
Sherry Larkin
Robert Johnson (Chair, Snapper-Grouper AP)
David Harter (Chair, Dolphin-Wahoo AP)
Bob Pelosi (Chair, Mackerel AP)
Ben Hartig (Vice Chair, SAFMC)
Charlie Philips (Member, SAFMC)

The first Term of Reference dealt with customizing the ORCS Table of Attributes to better suit SAFMC stocks. Points addressed by the 3 breakout groups and further discussed during plenary included:

- Levels for attributes reflect the risk of overfishing, not the exploitation level of the stock. Change 'Stock Status' heading to 'Risk of Over-Exploitation'. Also, sub-headings were changed to reflect above modification: Low, Medium, and High.
- It may be advisable to combine attribute 2 (managed refugia) with effectiveness of fishery regulations.

- Consensus was to keep attribute 4 (morphology), contrary to the Life History and Ecology group's suggestion, because this attribute reflects capture probability and therefore, as suggested by the Fishery Characteristics group, has information value.
- The 'Discard Mortality' attribute was modified to read discard mortality instead of discard mortality rate so that the attribute encompasses the mortality rate plus the magnitude of discards. Categories were modified to read Low, Medium, and High. , which could include some catchability issues (e.g. changes in technology).
- Habitat loss or alteration should stay as is. The time period applicable for this attribute should be based on the period of landings being considered.
- Concerning the effectiveness of regulations attribute, the working group felt that other ways should be developed to incorporate this attribute into the table since it affects several of the other criteria. The suggestion was made to modify this attribute to read 'Impacts of Regulations' in order to capture regulations that impact a species even though they were meant to regulate a different species.
- The working group felt that consideration should be given to modification of the fleet stability attribute to fleet productivity to capture some economic issues such as some catchability issues (e.g. changes in technology) as well as fishing efficiency. This attribute also needs to reflect changes in effort. Some of this information can be captured in the 'targeted fishery or bycatch' criteria.

According to the comments and suggestions discussed above the following table of attributes was produced:

Attribute	Risk of Overexploitation		
	Low (1)	**Moderate (2)**	**High (3)**
Overall fishery exploitation based on assessed stocks	All known stocks are either moderately or lightly exploited. No overfished stocks.	Most stocks are moderately exploited. No more than a few overfished stocks.	Many stocks are overfished.
Presence of natural or managed refugia	Less than 50% of habitat is accessible to fishing	50%-75% of habitat is accessible to fishing	>75% of habitat is accessible to fishing
Schooling, aggregation, or other behavior responses affecting capture	Low susceptibility to capture (specific behaviors depend on gear type)	Average susceptibility to capture (specific behaviors depend on gear type)	High susceptibility to capture (specific behaviors depend on gear type)
Morphological characteristics affecting capture	Low susceptibility to capture (specific characteristics depend on gear type)	Average susceptibility to capture (specific characteristics depend on gear type)	High susceptibility to capture (specific characteristics depend on gear type)
Discard mortality rate	Low	Medium	High
Bycatch or actively targeted by the fishery	No targeted fishery	Occasionally targeted, but occurs in a mix with other species in catches	Actively sought after
Natural mortality compared to dominant species in the fishery	Natural mortality higher or approximately equal to dominant species ($M \geq \overline{M}$)	Natural mortality higher or equal to dominant species ($M \approx \overline{M}$)	Natural mortality less than dominant species ($M < \overline{M}$)
Rarity	Sporadic occurrence in catch	Not uncommon, mostly pure catches are possible with targeting	Frequent occurrence in catch
Value or desirability	Low value, often not retained (<$1/lb)	Moderate value, usually retained ($1-$2.25/lb)	Very valuable or desirable (trophy fish or >$2.25/lb)
Trend in catches (use only when effort is stable)	Catch trend increasing or stable (assign score of 1.5)	Catches trend increasing or stable (assign score of 1.5)	Decreasing catches
Loss or alteration of habitat	No loss or alteration of habitat, or habitat is increasing	Habitat is being lost or altered and the rate is declining or staying constant	Habitat is being lost or altered and the rate is increasing
Fleet stability	Fleet/# of trips/effort decreasing	Fleet/# of trips/effort stable	Fleet/# of trips/effort increasing
Fishery Independent CPUE	Increasing in most recent years	stable in most recent years,	Decreasing in most recent years.
Effectiveness of regulations (other than ACLs) to limit exploitation	Most of the resource is protected from harvest (closed areas, size limits, seasons)	Considerable portions of the resource are protected	The resource is fully vulnerable to the fishery

In addressing Term of Reference #2 workshop participants came to the following consensus decisions:

- The ORCS table of attributes will be scored with equal weights.
- Missing values (i.e., unscored attributes) will be left as 'blanks' and not used in calculating the stock's final mean score.
- Stocks with no reliable catch data, i.e., stocks with very low landings that show very high variability in catch estimates (mostly caused by the high degree of uncertainty in recreational landings estimates), or stocks that have species identification issues that may cause unreliable landings estimates, will be removed from this exercise and moved to a new ABC control rule Tier 5 (unassessed stocks that do not qualify as ORCS). The table below lists SAFMC stocks removed from this ORCS application exercise. Table headings indicate the reason for considering these stocks as not having reliable catch.

Variability	Landings or Data Collection issues	Species ID
Black Snapper	Black Snapper	Almaco Jack
	Blackfin Snapper	Lesser Amberjack
	Sand Tilefish	Sailor's Choice
	Mahogany	Banded Rudderfish
	Dog Snapper	Yellowmouth Grouper
	Misty Grouper	Scup
	Sailor's Choice	Saucereye Porgy
	Coney	Jolthead Porgy
	Graysby	Knobbed Porgy
	Saucereye Porgy	Whitebone Porgy
	Scup	
	Queen Snapper	
	Warsaw grouper	
	Speckled hind	

Application of the revised and upgraded ORCS table of attributes to remaining stocks (i.e., after the non-ORCS stocks were removed from the analysis) resulted in the assignment of all stocks to the 'Moderate' risk of exploitation category.

To refine the analysis and achieve better resolution in assigning stocks to risk of exploitation categories (i.e., to better differentiate between risk levels for different stocks) workshop participants reviewed individual criteria and attributes discussed by the 3 breakout groups (Life History and Ecology, Landings and Surveys, and Fishery Characteristics). Then, based on group consensus and expert judgment the group assigned each stock to a final risk of exploitation category. Results are summarized on the table below (Qualitative Categorization column).

Species	MEAN	Exploitation Category	Life History	Fishery Characteristics	Fishery Surveys and Trends	Qualitative Categorization
bar jack	1.50	Moderate	Moderate	Low	Low	Low
margate	1.65	Moderate	Moderate	Low	Moderate	Moderate
rock hind	1.65	Moderate	Moderate	Low	Moderate	Mod High
red hind	1.73	Moderate	Moderate	Low	Moderate	Moderate
cubera snapper	1.79	Moderate	Moderate	Moderate	Low	Moderate
wahoo	1.80	Moderate	Low	Moderate	Moderate	Moderate
tomtate	1.83	Moderate	Low	Moderate	High	Mod High
blue runner	1.88	Moderate	Moderate	Moderate	Moderate	Moderate
yellowedge grouper	2.05	Moderate	Moderate	Moderate	Moderate	Moderate
hogfish	2.03	Moderate	High*	Moderate	Moderate	Mod High
blueline tilefish	1.94	Moderate	Moderate	Moderate	High	Moderate
silk snapper	2.00	Moderate	Moderate	Moderate	Moderate	Moderate
white grunt north			Moderate	Moderate	High	Mod High
white grunt south	2.08	Moderate	Moderate	Moderate	High	Moderate
atlantic spadefish	2.09	Moderate	Moderate	Moderate	Moderate	Moderate
gray snapper	2.10	Moderate	High	Moderate	Moderate	Moderate
dolphin	2.10	Moderate	Low*	High	Moderate	Mod Low
lane snapper	2.06	Moderate	High	Moderate	Low	Moderate
scamp	2.16	Moderate	Moderate	Moderate	Moderate	Mod High
gray triggerfish	2.25	Moderate	Moderate	Moderate (High)	Moderate (High)	Mod High

Unfortunately, we ran out of time and were not able to address Terms of Reference 3-5 at this workshop. The workgroup recommended meeting again in the spring of 2013 to complete application of the ORCS approach and finalize the report.

The group discussed the fact that several of the stocks included in this analysis (e.g., gray snapper, dolphin, white grunt) should have enough data to have stock assessments based on more traditional quantitative assessment methods—i.e., based on the data available they likely fall under higher tiers of our ABC control rule (the ORCS approach is tier 4). The SSC will discuss this issue in more detail at its October meeting.

Workshop adjourned.