

Expert Panel Review of the Project Examining Allocations in the Scup Fishery

Introduction and Rationale for Review

The Mid-Atlantic Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS) implemented a scup stock rebuilding plan in 1999 (Amendment 12 to the Fishery Management Plan). In an effort to rebuild the scup fishery, the Council and NMFS implemented several regulations that included: a maximum total allowable catch (TAC) that is split between the commercial and recreational fishing sectors, closures when the commercial quota is reached, recreational fishing measures (i.e., minimum size limit, bag size limits, seasonal closures), commercial seasonal allocations (i.e., three fishing periods), and a rollover of scup quota between winter fishing periods.

The most recent stock status information indicated that the stock was not overfished and overfishing was not occurring in the most recent year (2009). After a decade of management under the rebuilding plan, scup was declared rebuilt in 2009. The most recent stock assessment indicates that the 2011 spawning stock size is about 207% of the biomass goal.

Due to the recovery trend, recreational and commercial harvesters have encouraged fishery managers to reassess current scup allocations. More specifically, recreational anglers would like to see an increase to the recreational sector, and some commercial fishermen would like to see a redistribution of the commercial quota among fishing periods. Currently, the scup TAC is split between the recreational (22%) and commercial (78%) sectors. Before the allowable harvest of scup was significantly increased in 2009, for the most part, the recreational sector frequently exceeded their harvest limit and more restrictive regulations were needed to bring recreational harvest within allowable levels. At the same time, the commercial sector experienced catch levels that were less than the commercial quota. Therefore, many stakeholders have argued that that transferring scup allocation from the commercial sector to the recreational sector would be justifiable.

The commercial quota for scup is divided among three fishing periods, with 45.11% allocated to the Winter I (January through April), 38.95% to the summer (May through October), and the remainder 15.94% to the Winter II (November through December). Any unused allocation from Winter I rolls over into Winter II. The seasonal commercial scup allocation was developed to distribute catch among different types of vessels and fishing gear types catching scup at different times of the year. Some commercial stakeholders have argued that redistributing scup allocation among periods (e.g., from the Winter period to the Summer period) could be beneficial as scup summer prices tend to be higher and often the bulk of the summer allocation is harvested.

The Council contracted Gentner Consulting Group (GCG) in order to examine the economic efficiency of the current allocation system. The scup allocation analysis conducted by GCG contains four modules 1) commercial valuation, 2) consumer valuation, 3) for-hire producer surplus, and 4) recreational angler surplus that have been used to simulate marginal willingness to pay for scup catch in the recreational and commercial fisheries. GCG developed the first 3

modules and the recreational angler surplus module (module #4) was developed by the NEFSC's Social Science Branch.

The overall analytical framework used by GCG is innovative and has no precedent in the peer review literature or elsewhere in terms of informing regulatory actions for fisheries with both commercial and recreational components. The expert panel will review three of the four modules contained in the scup allocation analysis and the utility of the overall modeling approach for informing the management process. The recreational angler surplus module (module #4) does not require a review because it is based on a bioeconomic model developed by the NEFSC's Social Branch to analyze the biological and economic effects of recreational measures for Gulf of Maine cod, and a formal peer review of this decision support tool was conducted in September 2012. The peer review found that the recreational modeling approach developed by the NEFSC is "technically sound and represents a substantive improvement over prior methods used to estimate impacts of management measures on recreational anglers." While the recreational model provides economic and biological outputs that may be used to inform management decisions, the review panel noted that the model is based on a number of assumptions that should be noted when presenting results. The review panel provided suggestions and comments that could potentially improve future modeling simulations and it is advisable that any recommended changes be incorporated into future recreational fishing scup simulations. [Note: Several of you requested the background information for this review be provided and Staff has met request.]

Terms of reference (listed below) have been developed to guide the review of the scup allocation analysis conducted by GCG. It is expected that the review panelists will address both the terms of reference and if and how the framework should be modified to help inform management decisions, i.e. evaluate alternative allocation schemes. The Council is considering an amendment to address scup allocations and they need a tool to help in their decision making process. Other important issues that the panel may choose to address not contained under the terms of reference will be incorporated in the final report under a special comment section.

The terms of reference (TORs) for the review are:

1. Were the theoretical and statistical model specifications for the commercial valuation module done in a manner consistent with professional standards?
 - a. Are the statistical methods themselves compliant with theory?
 - b. Are the statistical methods appropriate for the problem being addressed?
 - c. How appropriate were the data to the analysis? Are the data sufficient to estimate the model? What are the implications of the lack of cost data from the pot and trap fishery in the seasonal allocation analysis? Do missing data pose a risk of biasing the parameter estimates or the model results? Are appropriate reasons listed for not including specific data sets? Where proxy data are used and was it the most appropriate data to use?
 - d. Were alternative model specifications investigated and tested? Were assumptions underlying the statistical analysis of the models clearly stated?
2. Were the theoretical and statistical model specifications for the consumer valuation module done in a manner consistent with professional standards?

- a. Are the statistical methods themselves compliant with theory?
 - b. Are the statistical methods appropriate for the problem being addressed?
 - c. How appropriate were the data to the analysis? Are the data sufficient to estimate the model? Do missing data pose a risk of biasing the parameter estimates or the model results? Are appropriate reasons listed for not including specific data sets? Where proxy data are used and was it the most appropriate data to use?
 - d. Were alternative model specifications investigated and tested? Were assumptions underlying the statistical analysis of the models clearly stated?
3. Were the theoretical and statistical model specifications for the for-hire producer surplus module done in a manner consistent with professional standards?
- a. Are the statistical methods themselves compliant with theory?
 - b. Are the statistical methods appropriate for the problem being addressed?
 - c. How appropriate were the data to the analysis? Are the data sufficient to estimate the model? Do missing data pose a risk of biasing the parameter estimates or the model results? Are appropriate reasons listed for not including specific data sets? Where proxy data are used and was it the most appropriate data to use?
 - d. Were alternative model specifications investigated and tested? Were assumptions underlying the statistical analysis of the models clearly stated?
4. The analysis was based on a suite of established allocation changes (e.g., +6% commercial/-6% recreational, +3% commercial/-3% recreational, status quo, -3% commercial/+3% recreational, -6% commercial/+6% recreational and -9% commercial/+9% recreational) rather than an optimal allocation. Were the results of the analysis clearly interpreted? Could the model be used to map out a benefit curve given changes in allocation across commercial and recreational fisheries to reach an optimal solution? Can the model be used to consider allocation alternatives that were not specifically analyzed? Can the model be used to map out a benefit curve given changes in allocation across commercial and recreational fisheries and can the results be used for management purposes? Is it possible to make modifications to the current model that would allow for the measurement of benefits (both total and marginal) in situations where allocations are not binding?
5. Was the link between the commercial valuation, consumer valuation, and for-hire producer surplus modules done in a manner consistent with professional standards?
6. Was the link between the commercial and recreational models done in a manner consistent with professional standards?
7. The Recreational Angler Surplus module is based on a bioeconomic recreational fishing simulation model developed by the NEFSC's Social Branch to analyze the biological and economic effects of recreational measures for Gulf of Maine cod. However, a full bioeconomic model was not developed due to lack of time. What are the implications of this shortcoming?

AGENDA

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**DoubleTree Baltimore-BWI Airport
890 Elkridge Landing Rd., Linthicum Heights, MD 21090
410-859-8400.**

**1 August 2013
9:00 AM to 5:00 PM**

9:00- 9:30*	Introductions, Meeting Objectives, and Organization
9:30 - 10:30	Presentation on project to evaluate scup allocation Brad Gentner - Gentner Consulting Group
10:30 - 10:45	Break
10:45 - 12:00	Continue 9:30 Agenda Item - Q & A
12:00 - 1:00	Working Lunch Q & A / Discussion of TOR 1
1:00 - 3:45	Q & A/Discussion of TORs 1-7
3:45 - 4:00	Break
4:00 - 5:00	Wrap-up and Discussion of TORs 1-7
5:00	Adjourn

* The meeting will be treated as a working meeting. The agenda reflects approximate times. Questions from the review panel may be entertained at any time during presentations.