

CIE REVIEWER REPORT

SEDAR 14 Stock Assessment Review

Caribbean yellowfin grouper, mutton snapper, and queen conch

July 23 - 27, 2007

San Juan, Puerto Rico

By Henrik Sparholt

1. Executive Summary

a. Impetus and goals for the review

There has recently been expressed concern about the sustainability of the coastal fisheries for several stocks in the Caribbean Fishery Management Council, the US Virgin Islands, and Puerto Rico jurisdictions.

NMFS-SEFSC requested the assistance of three fisheries assessment scientists from the CIE to serve as technical reviewers for the SEDAR 14 review panel. The Panel considered assessments of Caribbean yellowfin grouper, mutton snapper, and queen conch.

b. Main conclusions and recommendations

The stock assessment data available for these stocks or other stocks in the areas are very limited. Not even total landings from commercial and recreational fisheries were fully satisfactory. Basic life history parameters like growth rates and age or size at maturity were generally sparse and to some extent had to be based on data from the same species, but other Caribbean areas. Yellowfin grouper was especially data sparse. The best data available were from Puerto Rico where a database with about 2 million records (logbook data) is available, with each record representing one to several commercial fishing trips of on average 4-5 days duration. The data time series was about 2 decades long. This database was used to estimate commercial catch and CPUE series. It was also used to estimate total mortality by a Beverton&Holt mean length approach for mutton snapper.

Due to data deficiencies, very little could be determined about the present state of the stocks or the exploitation level. Only for mutton snapper could it be concluded that there were indications of an increase in F from mid-1980s to late-1990s, and thereafter a decrease. The reasons for this changed pattern could not be identified based on the data available. For instance, the number of fishermen and their effort showed no clear trend and seemed rather stable.

The recommendations focused on improving data collection. Statistical sampling in order to obtain landings figures, tagging to improve life history parameters, use of the

Internet for anglers and others to report catches, cleaning up present data sets, conducting inter-sessional workshops, and improvement and coordination of fisheries independent surveys, were among the most important recommendations developed.

- c. Interpretation of the findings with respect to conclusions and management advice

Except for indications of increases in fishing mortality in mutton snapper from the mid-1980s to late-1990s and thereafter a decrease, data did not allow for any conclusions to be drawn about the current stock status or level of fishing mortality.

2. Description of review activities

- a. Background

NMFS-SEFSC requested the assistance of three fisheries assessment scientists from the CIE to serve as technical reviewers for the SEDAR 14 review panel that considered assessments of Caribbean yellowfin grouper, mutton snapper, and queen conch.

The stocks assessed through SEDAR 14 are within the jurisdiction of the Caribbean Fishery Management Council, the US Virgin Islands, and Puerto Rico.

- b. Terms of Reference

The following terms of reference were used for the workshop and relate to the activities of the entire panel.

SEDAR 14 Review Workshop Terms of Reference (apply to each stock):

1. Evaluate the adequacy, appropriateness, and application of data used in the assessment.
2. Evaluate the adequacy, appropriateness, and application of methods used to assess the stock.
3. Recommend appropriate estimates of stock abundance, biomass, and exploitation.
4. Evaluate the methods used to estimate population benchmarks and management parameters; recommend values for management benchmarks and a range of ABC and provide declarations of stock status.
5. Evaluate the adequacy, appropriateness, and application of the methods used to project future population status; recommend appropriate estimates of future stock condition.
6. Evaluate the adequacy, appropriateness, and application of methods used to characterize uncertainty, considering input data, model fit, and model configuration. Ensure that the implications of uncertainty with regard to status determinations and management values are clearly stated.
7. Ensure that assessment results are clearly and accurately presented in the Stock Assessment Report and SEDAR Advisory Report, and that reported results are consistent with Review Panel recommendations.

8. Evaluate the SEDAR Process. Identify any Terms of Reference that were inadequately addressed by the Data or Assessment Workshops; identify any additional information or assistance that will improve Review Workshops; and suggest improvements or identify aspects requiring clarification.
9. Consider the research recommendations provided by the Data and Assessment workshops and make any additional recommendations warranted. Clearly indicate the research and monitoring needs that may appreciably improve the reliability of future assessments. Recommend an appropriate interval for the next assessment and indicate whether a benchmark or update assessment should be considered.
10. Prepare a Peer Review Consensus Summary summarizing these evaluations and addressing each Term of Reference. (Consensus Report to be drafted by the Panel during the review workshop with a final report due two weeks after the workshop ends.)

NOTES: The review panel may request additional sensitivity analyses, evaluation of alternative assumptions, and correction of errors identified in the assessments provided by the assessment workshop panel; the review panel may not request a new assessment. Additional details regarding the latitude given the review panel to deviate from assessments provided by the assessment workshop panel are provided in the *SEDAR Guidelines* and the *SEDAR Review Panel Overview and Instructions*.

The panel shall ensure that corrected estimates are provided by addenda to the assessment report in the event corrections are made in the assessment, alternative model configurations are recommended, or additional analyses are prepared as a result of review panel findings regarding the TORs above.

c. Panel membership

The panel was comprised of a NOAA chair and three reviewers selected and provided by the Center for Independent Experts (CIE). The panel members were:

Review Panel

John Butler.....	Chair/NOAA Fisheries SWFSC
Mike Armstrong	CIE/CEFAS
Michael Bell.....	CIE/
Henrik Sparholt.....	CIE/ICES

d. Date and place

The workshop took place in Hotel El Convento, San Juan, Puerto Rico, July 23 - 27, 2007.

The work was organised by holding meetings each day, from 13:00 to 18:00 on Monday July 23rd, from 9:00 to about 18:00 on Tuesday July 24th, Wednesday July 25th and Thursday July 26th, and from 8:00 to 13:00 on Friday July 26th. The draft agenda presented by the Chair at the start of the meeting was followed quite closely. Special analyses were conducted during the workshop when the discussion took place on other issues and in the evenings.

Workshop Participants

Review Panel

John Butler Chair/NOAA Fisheries SWFSC
Mike Armstrong CIE/CEFAS
Michael Bell..... CIE/
Henrik Sparholt..... CIE/ICES

Council Appointed Observers

Richard Appeldoorn..... CFMC SSC/UPR
Francisco Pagan UPR
Daniel Matos..... PR DNR

Analytical Team

Nancie Cummings..... NOAA Fisheries SEFSC
Guillermo Diaz..... NOAA Fisheries SEFSC
Todd Gedamke..... NOAA Fisheries SEFSC
Clay Porch..... NOAA Fisheries SEFSC
Steve Turner..... NOAA Fisheries SEFSC

Observers

Lynn Waterhouse VIMS
Bill Michaels NOAA Fisheries S&T

Staff

John Carmichael..... SEDAR Coordinator
Tyree Davis SEFSC
Graciela Garcia-Moliner CFMC
Rachael Lindsay SEDAR

e. Acknowledgements

The meeting was very well organised. The secretarial, IT, and scientific support during the meeting were excellent.

f. Summary of available information

The review workshop working papers and documents, which were made available earlier on a SEDAR website, were used as background material for the workshop.

The list of papers and documents is provided in the following tables:

Review Workshop Working Papers & Documents

Working Papers:

SEDAR14-RW01	Estimating mutton snapper mortality rates from mean lengths and catch rates in non-equilibrium conditions.	Gedamke and Porch
SEDAR14-RW02	SEDAR 14 Assessment Workshop Data and analytical status overview	SEDAR 14 AW Panel
SEDAR14-RW03	Standardized visual counts of mutton off the US Virgin Islands and their possible use as indices of abundance.	Gedamke and Porch
SEDAR14-AW01-1	Updated commercial catch per unit effort indices for mutton snapper line and pot fisheries in Puerto Rico, 1983-2006. Addendum 1 to SEDAR14-AW01.	Cummings, N.
SEDAR14-AW05-1	Revised estimates of mutton snapper total mortality rates from length observations. Addendum 1 to SEDAR14-AW05	Gedamke, T.

Reference Documents:

SEDAR14-RD49 US Geol. Surv., Carib. Field Station, St. John, USVI 2003	Temporal analysis of monitoring data on reef fish assemblages inside Virgin Islands National Park and around St. John, US Virgin Islands, 1988-2000	Beets, J. and A. Friedlander
SEDAR14-RD50 TAFS 135:476-487 2006	Estimating mortality from mean length data in nonequilibrium situations, with application to the assessment of goosefish.	Gedamke, T. and J. M. Hoenig
SEDAR14-RD51 Caribbean Coral Reef Institute (CCRI) 2007	Reef fish spawning aggregations of the Puerto Rican shelf. Final Report	Ojeda, E.

3. Summary of findings

a. Review of information used in the assessment

i. Stock structure

The Panel accepted the proposed stock structure for the three species. For each species there is one stock unit around Puerto Rico and Saint Thomas/Saint John (St. T/St. J) and one around Saint Croix (St.X). Bathymetric conditions, sporadic tagging data, larvae stage duration and sea current pointed to this finding; however, this issue is clearly one that requires further research.

ii. Life history data

Generally, knowledge of basic life history parameters is patchy. However, a draft document from 2007 (SEDAR14-RD51), which had not been presented for either the SEDAR14 DW or the SEDAR14 AW, contained good information on spawning areas and times around Puerto Rico, based on interviews with a large number of experienced fishers.

iii. Catch data

Recreational catch data in all areas and commercial catches in US Virgin Islands are very thin or lacking on a species level. In Puerto Rico the commercial catch data are quite good although some known errors in the database need to be corrected and there are scope for improving the data sampling especially regarding biological data.

iv. Abundance indices

There are some CPUE data for commercial fisheries in Puerto Rico. These are potentially useful. There are various habitat-based visual or trap surveys, but these are not coordinated and they are mostly sporadic. SEAMAP-C seems to be the most comprehensive of these.

v. Length/age composition

There are only length data from the commercial catch of mutton snapper in Puerto Rico, except a very few ones of yellowfin grouper. There are no age data.

vi. Effort

Total effort data were only available for the most recent years for Puerto Rico. Definition of effort by species proved difficult.

vii. Other

Ecosystem effects of fishing were not in the terms of reference for any of the SEDAR14 workshops. Nations are requested to manage fish stocks with an ecosystem approach by 2012 at the latest, according to the UN Johannesburg Summit of 2002. There are sensitive coral reef habitats in Puerto Rico that potentially can be harmed by fishing activity. It would seem relevant to consider this in the future management of these fisheries.

b. Review of the assessment results

The only results which could be obtained due to lack of data were indications of an increase in F on mutton snapper in Puerto Rico and StJ/StT stock around 1990 and a decrease again around 1996.

No biological reference points for management could be obtained. The stocks could not be assessed in relation to trends of stock size and fishing intensity over time, nor in relation to whether or not over-fishing was taking place and if the stocks have been over-fished.

i. Methods

A CPUE GLM set of analysis and a set of B&H mean length based models to estimate Z including and excluding a CPUE series were applied with some success.

ii. Abundance

Data were not sufficiently available for dealing with stock abundance.

iii. Fishing mortality

Only for mutton snapper could we determine knowledge on fishing mortality or rather total mortality. This was based on a model which used mean length, growth, and CPUE data. Various modifications of the model were run to test the robustness of the results obtained, which showed that the data were quite robust. The results determined that until about late 1980s F was moderate; then it almost doubled until the late 1990s and after that, it was moderate again. However, it was not possible to relate this to any effort variation over time. The mixed nature of the fishing makes such an analysis difficult, especially as the total effort easily could be constant while at the same directing the target at different species over time. It was neither possible to relate any of the fishing mortality levels to sustainability.

iv. Uncertainty

Various test runs of the mutton snapper model described above showed that the pattern in F over time seem to be quite robust.

v. Projections

Data were not sufficient to allow for projections.

vi. Other

The mixed nature of the fishery in the area makes a single species approach to assessment a dubious endeavour.

c. Review of scientific advice

A commitment to long-term research and data collection to address the deficiencies in data and knowledge is essential for effective management supported by robust assessments. The Review Panel strongly endorses the need to develop partnerships with local fishermen to conduct research and to collect needed data, as well as development of appropriately designed fishery-independent surveys.

Mutton snapper and yellowfin grouper are very often harvested as part of a diverse community of reef and coastal fish, and it is unlikely that such species could be

successfully managed independently of co-occurring species. The Review Panel recommended a mixed fishery approach involving the development of indicators of fishery impacts on coastal and reef fish communities with associated benchmarks, together with single-species assessments for indicator species with data that are likely to be adequate for providing reliable assessments and benchmarks. The Review Panel recommended that a workshop to develop such an approach is convened within the next 12-18 months.

For yellowfin grouper, research is needed on life history parameters. Tagging is suggested as a potential useful tool in yellowfin grouper research and monitoring. It was also suggested that the internet system could be set up which could receive reports from fishers on their catches of yellowfin grouper in order to get a larger “sample” of the total catch. Because yellowfin grouper is a large “charismatic” fish which are only caught in low numbers compared to many other commercial and recreational fish species, such an internet system is expected to be appropriate for yellowfin grouper. There are many success stories from other parts of the world with salmon catch reporting via the internet.

Regarding queen conch the Review Panel suggested that the three highest priorities for the future are: (i) to strive for increased compliance with reporting requirements to eliminate the need for expansion factors to be applied to reported landings; (ii) to estimate the recreational portion of the total catch in all future years; and (iii) to improve the spatial and habitat coverage of fishery-independent resource surveys. The Review Panel agreed with the AW recommendation that intersessional data evaluation workshops should be carried out before SEDAR level stock assessments are programmed, and suggested that the next workshop should be held in three years time.

4. Conclusions and recommendations

a. Data collection and analyses

The most crucial point is to improve the basic data collection. This relates to both the commercial and recreational catches and effort, life history parameters, and fishery independent stock abundance data. Several ideas were given by the Review Panel about how to improve the data collection, and one of these was to use the internet as an important tool.

b. Assessment methods

Until the basic data have improved significantly, it was not possible for the Review Panel to recommend any specific assessment model. It was however recommended that it potentially would be most fruitful to use a mixed species fishery approach.

c. Other

Habitat impact of fishing and by-catches of vulnerable species seem to be important aspects to take into consideration in the management of the fisheries in the area. Thus, the fishery management should be closely linked to the management of Marine Protected Areas (which might have to be extended).

d. Implications

The implication of the Review Panel recommendation is that as a first step more resources are put into the basic data collection and the data organisation.

e. Evaluation of the SEDAR process

The SEDAR process worked very fine. I have only one small point and that is related to the production of the CIE report (the present report). The guidelines on the web site referred to in the CIE Statement of Work:

<http://www.rsmas.miami.edu/groups/cie/cierevrep.htm>

These do not quite cover all the issues requested to be part of the report. For instance, the template for the table of content did not include a section on evaluation of the SEDAR process. Also the sections headed “Review of Scientific Advice” and “Recommendations” seem to overlap to some extent, except if the first one refers to advice on management, which we however specifically were instructed NOT to deal with.

Appendix 1. Bibliography of all material provided

SEDAR14-AW1 An Examination of the Mutton snapper, *Lutjanus analis*, Commercial Catch per Unit of Effort Data in Puerto Rico from 1983-2005 Available for Use in Developing Estimates of abundance Cummings, N.

SEDAR14-AW2 Habitat based analysis Mutton Jeffries, C.

SEDAR14-AW3 Habitat based analysis conch Jeffries, C.

SEDAR14-AW4 On diver catch-per-unit-effort series as measures of relative abundance of queen conch and their use in stock assessments for the islands of Puerto Rico and Saint Croix. Diaz, G.

SEDAR14-AW5 Estimation of mutton snapper total mortality rate from length observations. T. Gedamke.

SEDAR14-AW6 Revised queen conch (*Strombus gigas*) standardized catch rates for Puerto Rico and U.S. Virgin Islands commercial fisheries. McCarthy, K. J.

SEDAR14-AW7 Comments on Puerto Rico landings and biostatistical sampling Matos, D.

SEDAR 14 Caribbean Yellowfin Grouper Assessment Workshop Report

SEDAR14-SAR1-Sect. III III- 6

SEDAR14 RD09. NMFS-SEFSC-304,1992. Shallow water reef fish stock assessment for the U.S.Caribbean. Appeldoorn, R. et al.

SEDAR14-RD10 Coral reef fisheries uses in Puerto Rico and USVI. anon.

SEDAR14-RD11. SFD-02/03-184, 2002. Standardized catch rates and preliminary assessment scenarios for queen conch (*Strombus gigas*) in the U.S. Caribbean. Valle-Esquivel, M.

SEDAR14-RD12. SFD-01/02-169, 2002. U.S. Caribbean queen conch (*Strombus gigas*) data update with emphasis on the commercial landings statistics. Valle-Esquivel, M.

SEDAR14-RD13. NMFS-Pro. Paper 5. Detecting fish aggregations from reef habitats mapped with high resolution side scan sonar imagery. Rivera, J. A. et al.

SEDAR14-RD14. Bull Mar Sci 62(2), 1998. Variation In Natural Mortality. Implications For Queen Conch Stock Enhancement. Stoner, A. & R. A. Glazer.

SEDAR14-RD15. Fish Bull 96:885-899, 1998. Settlement and recruitment of queen conch, *Strombus gigas*, in seagrass meadows: associations with habitat and micropredators Stoner, A. W., M. Ray-Culp, S. M. O'Connell.

SEDAR14-RD16. Mar Ecol Prog Ser., 202:297-302, 2000. Evidence for Allee effects in an over-harvested marine gastropod: density-dependent mating and egg production. Stoner, A. W. and M. Ray-Culp.

SEDAR14-RD17. ICES Mar. Sci Symp. 199:247-258. 1995. Stock assessment of a large marine gastropod (*Strombus gigas*) using randomized and stratified towed diver censusing. Berg, C. J. Jr., and R. A. Glazer.

SEDAR14-RD18. Sociedad de Cinecias Naturales La Salle. Tomo XLVIII. Supl. No. 3. 1988. Commercial Catch Length-Frequency Data As A Tool For Fisheries Management With An Application To The Puerto Rico Trap Fishery. Dennis, G.

- SEDAR14-RD19. Mar Ecol Prog Ser. 257:275-289, 2003. What constitutes essential nursery habitat for a marine species? A case study of habitat form and function for queen conch. Stoner, A. W.
- SEDAR14-RD20. Jou. Shellfish Res. 15(2). 407-420, 1996. Larval Supply To Queen Conch Nurseries: Relationships With Recruitment Process And Population Size In Florida And The Bahamas. Stoner, A. W., R. A. Glazer, P. J. Barile.
- SEDAR14-RD21. Mar Ecol Prog Ser. 106:73-84, 1994. High-density aggregation in queen conch *Strombus gigas*: formation, patterns, and ecological significance Stoner, A. W. and J. Lally.
- SEDAR14-RD22. J. Shellfish Res. 17(4), 955-969. 1998. Mesoscale Distribution Patterns Of Queen Conch (*Strombus Gigas* Linne) In Exuma Sound, Bahamas: Links In Recruitment From Larvae To Fishery Yields. Stoner, A. W., N. Mehta, and M. Ray-Culp.
- SEDAR 14 - Caribbean Yellowfin Grouper Assessment Workshop Report. SEDAR14-SAR1-Sect. III III- 7.
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- SEDAR14-RD24. Fish Bull 94:551-565, 1996. Queen conch, *Strombus gigas*, in fished and unfished locations of the Bahamas: effects of a marine fishery reserve on adults, juveniles, and larval production. Stoner, A. W.
- SEDAR14-RD25. Fish Bull 92:171-179, 1994. Queen conch, *Strombus gigas*, reproductive stocks in the central Bahamas: distribution and probable sources. Stoner, A. W., K. C. Schwarte.
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- SEDAR14-RD33. SEFSC undated manu. Queen conch CPUE assessment in PR & USVI's : Preliminary report. Rivera, J. A.
- SEDAR14-RD34. UPR/SEAMAP-C 2005. St. Croix and St. Thomas/St. John fisheries independent trap and line survey, 1992-2002. Whiteman, E. A.
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- SEDAR14-RD36. PR Dept. of Agr., Agr. and Fish. Contr. III(1). 1975. L Pesca en Puerto Rico, 1970 Juhl, R. & J. A. Suarez Caabro.

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- SEDAR14-RD39. PR Dept. of Agr., Agr. and Fish. Contr. IV(1). 1972. Status of fisheries in Puerto Rico, 1971. Juhl, R. & J. A. Suarez Caabro.
- SEDAR14-RD40. PR Dept. of Agr., Agr. and Fish. Contr. V(3). 1973. Status of fisheries in Puerto Rico, 1972. Suarez-Caabro, J. A.
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- SEDAR14-RD42. PR Dept. of Agr., Agr. and Fish. Contr. VII(1). 1975. Status of fisheries in Puerto Rico, 1974. Rolon, M.
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- SEDAR14-RD45. CODREMAR, Fish. Res. Lab. Tech. Rpt. 1(2). 1987-1988. Status of fisheries in Puerto Rico, 1979-1982 Collazo, J. & J. A. Calderon.
- SEDAR14-RD46. NMFS/SERO State-Fed Proj. SF23. 1986. CODREMAR/NMFS Cooperative statistics program. Completion report. Garcia-Moliner, G. & J. Kimmel.
- SEDAR14-RD47. Comm. Fish. Res. and Dev. Act Pgm. 2-395- R. 1986. Puerto Rico commercial fisheries statistics for 1983 - 1986. Garcia-Moliner, G. & J. Kimmel.
- SEDAR14-RD48. PR Dept. Nat. Res; Fish. Res. Lab. Tech. Rpt. 1(1). 1994. Overview of Puerto Rico's small scale fisheries statistics, 1983 – 1987. Matos, D. and C. R. Alvarez.

Appendix 2. Statement of work

Consulting Agreement between NTVI and Dr. Henrik Sparholt

SEDAR 14 Stock Assessment Review

Caribbean yellowfin grouper, mutton snapper, and queen conch

July 23 - 27, 2007

San Juan, Puerto Rico

SEDAR Overview:

South East Data, Assessment, and Review (SEDAR) is a process for fisheries stock assessment development and review conducted by the South Atlantic, Gulf of Mexico, and Caribbean Fishery Management Councils; NOAA Fisheries Southeast Fisheries Science Center (SEFSC) and Southeast Regional Office (SERO); and the Atlantic and Gulf States Marine Fisheries Commissions. SEDAR is organized around three workshops: data, assessment, and review. Input data are compiled during the data workshop, population models are developed during the assessment workshop, and an independent peer review of the data, assessment models, and results is provided by the review workshop. SEDAR documents include working papers prepared for each workshop, supporting reference documents, and a SEDAR Stock Assessment Report. The SEDAR Stock Assessment Report consists of a data report produced by the data workshop, a stock assessment report produced by the assessment workshop, and a peer review consensus report prepared by the review workshop. Assessment findings are summarized in an Advisory Report that serves as an Executive Summary for the SEDAR Stock Assessment Report.

SEDAR is a public process conducted by the Fishery Management Councils in the Southeast US. All workshops, including the review, are open to the public and noticed in the Federal Register. All documents prepared for SEDAR are freely distributed to the public upon request and posted to the publicly accessible SEDAR website. Public comment during SEDAR workshops is taken on an 'as needed' basis; the workshop chair is allowed discretion to recognize the public and solicit comment as appropriate during panel deliberations. The names of all participants, including those on the Review Panel, are revealed.

The review workshop provides an independent peer review of SEDAR stock assessments. The term review is applied broadly, as the review panel may request additional analyses, correction of errors, and sensitivity runs of the assessment model provided by the assessment workshop. The review panel is ultimately responsible for ensuring that the best possible assessment is provided through the SEDAR process. The review panel task is specified in Terms of Reference.

The SEDAR 14 review panel will be composed of three Center for Independent Experts (CIE)-appointed reviewers, one reviewer appointed by the Caribbean Fishery Management Council, and a chair appointed by the SEFSC director. Council staff, Council members, and Council Advisory Panel and Scientific and Statistical Committee (SSC) members will attend as observers. Members of the public may attend SEDAR review workshops.

CIE Request:

NMFS-SEFSC requests the assistance of three fisheries assessment scientists from the CIE to serve as technical reviewers for the SEDAR 14 review panel that will consider assessments of Caribbean yellowfin grouper, mutton snapper, and queen conch. Reviewer tasks are listed below.

The stocks assessed through SEDAR 14 are within the jurisdiction of the Caribbean Fishery Management Council, the US Virgin Islands, and Puerto Rico.

The review workshop will take place at the Hotel El Convento in San Juan, Puerto Rico, from 1:00 p.m. Monday, July 23, 2007 through 1:00 p.m. Friday, July 27, 2007.

Meeting materials will be forwarded electronically to review panel participants and made available through the internet (<http://www.sefsc.noaa.gov/sedar/>); printed copies of any documents are available by request. The names of reviewers will be included in workshop briefing materials.

Please contact John Carmichael (SEDAR Program Manager; 843-571-4366 or John.Carmichael@safmc.net) for additional details.

Hotel arrangements:

Hotel El Convento
100 Cristo Street
Old San Juan, PR 00901
Phone: (787) 723-9036
Fax: (787) 723-0754

Group "SEDAR" Rate: \$195 + (12% tariff, 9% tax, \$3 tax, \$2 maid) = \$243.06; guaranteed through May 22, 2007.

(NOTE: Hotel will charge one night upon reservation)

SEDAR Review Workshop Panel Tasks:

The SEDAR 14 Review Workshop Panel will evaluate assessments of Caribbean yellowfin grouper, mutton snapper, and queen conch. During the evaluation the panel will consider data, assessment methods, and model results. The evaluation will be guided by Terms of Reference that are specified in advance. The Review Workshop panel will document its findings regarding each assessment in a Peer Review Consensus Summary (Annex I). The Consensus Summary is a SEDAR product, not a product of the CIE. Separate CIE reviewer reports will also be produced, as described in Annex II, to provide additional, independent analyses of the technical issues and of the SEDAR process.

SEDAR 14 Review Workshop Terms of Reference (apply to each stock):

1. Evaluate the adequacy, appropriateness, and application of data used in the assessment.
2. Evaluate the adequacy, appropriateness, and application of methods used to assess the stock.
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The panel shall ensure that corrected estimates are provided by addenda to the assessment report in the event corrections are made in the assessment, alternative model configurations are recommended, or additional analyses are prepared as a result of review panel findings regarding the TORs above.

These Terms of Reference may be modified prior to the Review Workshop. Final Terms of Reference will be provided to the Reviewers with the workshop briefing materials.

SEDAR Review Workshop Panel Supplementary Instructions

The review panel Chair is responsible for reviewing documents prior to the workshop, conducting the meeting during the workshop in an orderly fashion, compiling and editing the Peer Review Consensus Summary for each species assessed and submitting it to the SEDAR Program Manager by a deadline specified by the SEDAR Steering Committee. The Review Panel Chair will work with SEDAR staff to complete the SEDAR Advisory Report. The review panel chair may participate in panel deliberations and contribute to report preparation.

Review panel reviewers are responsible for reviewing documents prior to the workshop, participating in workshop discussions addressing the terms of reference, preparing assessment summaries and consensus reports during the workshop, and finalizing SEDAR documents within two weeks of the conclusion of the workshop. Each reviewer appointed by the CIE is responsible for preparing an additional CIE Reviewer Report as described in Annex II.

The Chair and SEDAR Program Manager will work with the appointed reviewers to assign tasks during the workshop. For example, the Chair may appoint one panelist to serve as assessment leader for each assessment covered by the review, with the leader responsible for providing an initial draft consensus report text for consideration by the panel. Reviewers may alternatively be assigned particular terms of reference to initially address. Regardless of how initial drafting is accomplished, all panelists are expected to participate in discussion of all terms of reference and contribute to all aspects of the review.

The Review Panel's primary responsibility is to ensure that assessment results are based on sound science, appropriate methods, and appropriate data. During the course of the review, the panel is allowed limited flexibility to deviate from the assessment provided by the Assessment Workshop. This flexibility may include modifying the assessment configuration and assumptions, requesting a reasonable number of sensitivity runs, requesting additional details and results of the existing assessments, or requesting correction of any errors identified. However, the allowance for flexibility is limited, and the review panel is not authorized to conduct an alternative assessment or to request an alternative assessment from the technical staff present. The Review Panel is responsible for applying its collective judgment in determining whether proposed changes and corrections to the presented assessment are sufficient to constitute an alternative assessment. The Review Panel Chair will coordinate with the technical staff present to determine which requests can be accomplished and prioritize desired analyses.

Any changes in assessment results stemming from modifications or corrections solicited by the review panel will be documented in an addendum to the assessment report. If updated estimates are not available for review by the conclusion of the workshop, the review panel shall agree to a process for reviewing the final results.

The review panel should not provide specific management advice. Such advice will be provided by existing Council Committees, such as the Science and Statistical Committee and Advisory Panels, following completion of the assessment.

If the Review Panel finds an assessment deficient to the extent that technical staff present cannot correct the deficiencies during the course of the workshop, or the Panel deems that desired modifications would result in a new assessment, then the Review Panel shall provide in writing the required remedial measures, including an appropriate approach for correcting and subsequently reviewing the assessment.

Statement of Tasks for Technical Reviewers:

1. Approximately three weeks prior to the meeting, the reviewers shall be provided with the stock assessment reports, associated supporting documents, and review workshop instructions including the Terms of Reference. Reviewers shall read these documents to gain an in-depth understanding of the stock assessment, the resources and information considered in the assessment, and their responsibilities as reviewers.
2. During the Review Panel meeting, reviewers shall participate in panel discussions on assessment methods, data, validity, results, recommendations, and conclusions as guided by the Terms of Reference. The reviewers also shall participate in the development of a Peer Review Consensus Summary report for each assessment reviewed, as described in Annex I. Reviewers may be asked to serve as an assessment leader during the review to facilitate preparing first drafts of review reports.
3. Following the Review Panel meeting, the reviewers shall work with the chair to complete and review the Peer Review Consensus Summary Reports. Reports shall be completed, reviewed by all panelists, and comments submitted to the Chair by August 10, 2007.
4. Following the Review Panel meeting, each reviewer appointed by the CIE shall prepare an individual CIE Reviewer Report. These reports shall be submitted to the CIE no later than August 17, addressed to the "University of Miami Independent System for Peer Review," and sent to Dr. David Sampson, via email to David.Sampson@oregonstate.edu, and to Mr. Manoj Shivlani, via email to mshivlani@rsmas.miami.edu. See Annex II for complete details on the report outline.

The duties of each CIE panelist shall occupy a maximum of 14 workdays; several days prior to the meeting for document review; five days at the SEDAR meeting; and several days following the meeting to ensure final review comments and document edits are provided to the Chair and to complete a CIE review report.

Workshop Final Reports:

The SEDAR Program Manager will send copies of the final Review Panel Consensus Report and the complete SEDAR Stock Assessment Report for each stock assessed to Mr. Manoj Shrivani at the CIE.

Submission and Acceptance of CIE Reports:

The CIE shall provide via e-mail the individual CIE Reviewer Reports to the COTR, Dr. Stephen Brown (stephen.k.brown@noaa.gov) for review and approval, based on compliance with this Statement of Work, by August 24, 2007. The COTR shall notify the CIE via e-mail regarding acceptance of the reports within two working days of receipt. Within two working days of the COTR's approval, the CIE shall provide the final individual CIE Reviewer Reports to the COTR in pdf format.

The COTR shall provide the final CIE Reviewer Reports to:

SEFSC Acting Director: Alex Chester, NMFS Southeast Fisheries Science Center, 75 Virginia Beach Drive, Miami, FL 33149 (email, Alex.Chester@NOAA.gov)

SEDAR Program Manager: John Carmichael, SAFMC, 4055 Faber Place Drive, Suite 201, North Charleston, SC 29405 (email, John.Carmichael@safmc.net). (SEDAR shall provide the final CIE Reviewer Reports to the SEDAR Steering Committee and Executive Directors of those Councils having jurisdiction over the included stocks)

Schedule of Deliverables:

- July 27, 2007: Review Panel completes first draft of Review Panel Consensus Reports (conclusion of Review Workshop)
- August 10, 2007: Review Panel submits final draft Review Panel Consensus Reports to Workshop Chair.
- August 17, 2007: Workshop Chair submits final Review Panel Consensus Reports and SEDAR Advisory Reports to SEDAR Program Manager.
- August 17, 2007: CIE Technical Reviewers submit individual Reviewer Reports to CIE.
- August 29, 2007: SEDAR Program Manager submits final Review Panel Consensus Reports and SEDAR Stock Assessment Reports to CIE.
- September 7, 2007: CIE submits individual CIE Reviewer Reports to the COTR.
- September 11, 2007: COTR notifies CIE regarding individual Reviewer Report acceptance.
- September 13, 2007: CIE provides final individual CIE Reviewer Reports to COTR.
- September 19, 2007: COTR provides final CIE Reviewer Reports to SEFSC Acting Director and SEDAR Program Manager.
- September 21, 2007: SEDAR submits individual CIE Reviewer Reports to the SEDAR Steering Committee and Councils.

For Additional Information or Emergency:

SEDAR contact: John Carmichael, 4055 Faber Place Drive, Suite 201, North Charleston, SC 29405. Phone: 843-571-4366; cell phone (843) 224-4559. Email: John.Carmichael@safmc.net.

Draft Agenda

SEDAR 14: Caribbean Yellowfin Grouper, Mutton Snapper, and Queen Conch July 23 - 27, 2007

Monday

1:00 p.m. 1:00 – 1:30	Convene Introductions and Opening Remarks Coordinator <i>- Agenda Review, TOR, Task Assignments</i>
1:30 – 3:30	Assessment Presentation TBD
3:30 – 4:00	Break
4:00 – 6:00	Continue Presentation/Discussion Chair

Tuesday

8:30 a.m. – 11:30 a.m.	Assessment Presentation Chair
11:30 a.m. – 1:30 p.m.	Lunch Break
1:30 p.m. – 3:30 p.m.	Panel Discussion TBD <i>- Assessment Data & Methods</i> <i>- Identify additional analyses, sensitivities, corrections</i>
3:30 p.m. – 4:00 p.m.	Break
4:00 p.m. – 6:00 p.m.	Panel Discussion Chair <i>- Continue deliberations</i> <i>- Review additional analyses</i>

Tuesday Goals: Initial presentations completed, sensitivities and modifications identified.

Wednesday

8:30 a.m. – 11:30 a.m.	Panel Discussion Chair <i>- Review additional analyses, sensitivities</i> <i>- Consensus recommendations and comments</i>
11:30 a.m. – 1:30 p.m.	Lunch Break
1:30 p.m. – 3:30 p.m.	Panel Discussion TBD
3:30 p.m. – 4:00 p.m.	Break
4:00 p.m. – 6:00 p.m.	Panel Discussion Chair

Wednesday Goals: Final sensitivities identified, Preferred models selected, Projection approaches approved, Consensus report drafts begun

Thursday

8:30 a.m. – 11:30 a.m.	Panel Discussion Chair <i>- Final sensitivities reviewed.</i> <i>- Projections reviewed.</i>
11:30 a.m. – 1:30 p.m.	Lunch Break
1:30 p.m. – 3:30 p.m.	Panel Discussion or Work Session Chair
3:30 p.m. - 4:00 p.m.	Break
4:00 p.m. - 6:00 p.m.	Panel Work Session Chair <i>- Review Consensus Reports</i>

Thursday Goals: Complete assessment work and discussions. Final results available. Draft Consensus Reports reviewed .

Friday

8:30 a.m. – 1:00 p.m.

Panel Work Session
Chair

1:00 p.m.

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Annex I. SEDAR Review Panel Consensus Summary Report Contents

I. Terms of Reference

List each Term of Reference, and include a summary of the Panel discussion regarding the particular item. Include a clear statement indicating whether or not the criteria in the Term of Reference are satisfied.

II. Further Analyses and Evaluations

Summary and findings of review panel analytical requests not previously addressed in TOR discussion above.

III. Additional Comments

Provide a summary of any additional discussions not captured in the Terms of Reference statements.

IV. Recommendations for Future Workshops

Panelists are encouraged to provide general suggestions to improve the SEDAR process.

V. Reviewer Statements

Each individual reviewer should provide a statement attesting whether or not the contents of the Consensus Report provide an accurate and complete summary of their views on the issues covered in the review. Reviewers may also make any additional individual comments or suggestions desired.

ANNEX II: Contents of CIE Reviewer Report

1. The reviewer report shall be prefaced with an executive summary of findings and recommendations.
2. The main body of the reviewer report shall consist of a background, description of review activities, summary of findings, and conclusions and recommendations. Reviewers are encouraged to elaborate on any points raised in the Consensus Summary Report that they feel might require further clarification. Reviewers are encouraged to provide any criticisms and suggestions for improvement of the SEDAR process. Reviewers are not required to repeat comments and recommendations contained in the Consensus Summary Reports.
3. The reviewer report shall include as separate appendices a copy of the CIE Statement of Work and a bibliography that includes all materials provided for review.

Please refer to the following website for additional information on report generation:
<http://www.rsmas.miami.edu/groups/cie>.