Report on the SEDAR 13 Review Workshop for Small Coastal Sharks, Panama City, Florida, August 6-10, 2007

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CIE Reviewer

Prepared for Northern Taiga Ventures, Inc.

September 7, 2007

Executive summary of findings and recommendations

The SEDAR process is structurally sound by separating in distinct stages the choice of data, the completion of the assessments themselves, and the formulation of advice. Requesting an independent panel to write the advisory reports, based on the work of the previous two workshops, provides for greater neutrality of the advice, particularly if the panelists change from one assessment to the next as seems to be the case. This, however, could introduce inconsistencies from one advisor process to the other related to the participants involved in the review workshop rather than to the substance of the information available.

All assessments used adequate data, and the data were appropriately used. The age-structured assessment model is considered better able to reflect the life history characteristics of each individual species than the general production approach. Unfortunately, the data were not sufficient to apply the age-structured approach to Finetooth shark. The Panel was able to recommend appropriate estimates of abundance, biomass, and exploitation rates for all species considered. The methods used for deriving management benchmarks were considered appropriate given the assessment models used. Projections were only done for blacknose shark. The method used was appropriate, but it should be fully integrated in the assessment model rather than be a separate piece of software that has to be run externally. Uncertainty was characterized using standard approaches, which are likely to underestimate real uncertainty. Doing several separate model runs with consistent indices, rather than using all the indices in the same model run, would show greater uncertainty about stock status and stock trends.

The data chosen by the Data Workshops and used by the Assessment Workshops are considered adequate, appropriate and properly used. However, a different treatment of the stock size indices would likely better reflect the real uncertainties in stock status of most species. Currently, the series deemed useful as indices of stock size are used together in the assessment model(s), even though some may show contradictory trends. Making separate analyses using only consistent indices would better reflect the uncertainties in stock sizes and stock trends, but these might also help decide what trends are considered more representative of the real state of nature.

A more systematic examination of the sources of differences between successive assessments would be desirable to identify the sign and magnitude of differences due to changes in data, those due to changes in assumptions and those due to changes in methodology.

Background

SEDAR (South East Data, Assessment, and Review) 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 and advisory report prepared by the review workshop. Although SEDAR is a joint process for stock assessment and review of the South Atlantic, Gulf of Mexico, and Caribbean Fishery Management Councils; NOAA Fisheries, SEFSC and SERO; and the Atlantic and Gulf States Marine Fisheries Commissions, it was felt that this process would work for the small coastal shark complex whose fisheries are managed by the Highly Migratory Species (HMS) Division of the National Marine Fisheries Service.

SEDAR is a public process conducted by the Fishery Management Councils in the southeastern 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 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 13 review panel was composed of three CIE-appointed reviewers and a chair from the University of Louisiana. Few members of the public attended the SEDAR 13 review workshop. SEDAR 13 was tasked with assessing and reviewing four species of small coastal sharks in the Southeast Atlantic and Gulf of Mexico of the USA, the Small Coastal Shark Complex (SCS), which includes Atlantic sharpnose, finetooth, blacknose, and bonnethead sharks. The small coastal shark complex originally included seven

species of sharks: finetooth, blacknose, Atlantic sharpnose, bonnethead, smalltail, angel and Caribbean sharpnose sharks.

The small coastal shark complex category was created because some fisheries did not distinguish between species when reporting data. Also, the complex included species with somewhat similar, but not identical, life history characteristics. The original assessment of the complex was done on the aggregate data, recognizing that the status of the individual species within the complex may be different than the estimated status for the complex as a whole.

Over the years, species specific data sets have been reconstructed and individual research projects have provided species-specific information on relative abundance trends. This allowed individual analyses the four species within the small coastal shark complex. Of these four species, bonnethead and Atlantic sharpnose sharks comprise approximately 94% of the catch. Thus, the small coastal shark complex is now essentially the aggregation of those two species.

Description of the review activities

Links (URL) to relevant documents from the data and the assessment workshops were received on July 11, 2007. Relevant documents were read and analyzed prior to the Review Workshop.

The SEDAR 13 Review Workshop took place in Panama City, Florida during August 6-10, 2007 and reviewed the small coastal shark complex assessment as well as individual assessments for three of the four species in the complex, sharpnose shark, blacknose shark and bonnethead shark. Presentations of assessments methodology and results were made on Monday, August 6, to Wednesday August 8. Further discussion of additional analyses and assessment results occurred throughout the sessions. The SEDAR 13 Small Coastal Shark Review Panel Consensus Summary was posted on the SEDAR web site (http://www.sefsc.noaa.gov/sedar/Sedar_Documents.jsp?WorkshopNum=13&FolderType=Review) on September 5, 2007.

The assessment team was very responsive to requests for additional analyses and clarifying information.

Summary of findings

The SEDAR process is structurally sound by separating in distinct stages the choice of data, the completion of the assessments themselves, and the formulation of advice. Requesting an independent panel to write the advisory reports, based on the work of the previous two workshops, provides for greater neutrality of the advice, particularly if the panelists change from one assessment to the next as seems to be the case. This, however, could introduce inconsistencies from one advisory process to the other related to the

participants involved in the review workshop rather than to the substance of the information available.

All assessments used adequate data, and the data were appropriately used. The age-structured assessment model is considered better able to reflect the life history characteristics of each individual species than the general production approach. Unfortunately, the data were not sufficient to apply the age-structured approach to the finetooth shark. The Panel was able to recommend appropriate estimates of abundance, biomass, and exploitation rates for all species considered. The methods used for deriving management benchmarks were considered appropriate given the assessment models used. Projections were only done for blacknose shark. The method used was appropriate but it should be fully integrated in the assessment model rather than be a separate piece of software that has to be run externally. Uncertainty was characterized using standard approaches, which is likely to underestimate the real uncertainties in the assessments. Doing several separate model runs with consistent indices, rather than using all the indices in the same model run, would show greater uncertainty about stock status and stock trends. Model runs using increasing cpue indices would indicate that the stock is doing fine, while those using decreasing cpue indices would indicate that the stock could be in danger. Including all stock size indices in a single model run more or less lets the model choose between conflicting indices. It would be preferable not to let the model choose and explicitly show the consequences of using different subsets of stock size indices. It is important for fishery management to know the range of possible states of nature.

In this context, it seems that the age-structured assessments fit the estimated catches more closely than the stock size indices. In fact, in some cases, the fit to the catches is nearly perfect. This would be expected and desirable if the catches were relatively well known, which is not the case for the small coastal shark complex where catches have been calculated, sometimes from few observations, rather than observed directly. Future assessments could investigate the sensitivity of status determination to other likely historical catch trends.

A more systematic examination of the sources of differences between successive assessments would be desirable to identify the sign and magnitude of differences due to changes in data, those due to changes in assumptions and those due to changes in methodology.

SEDAR 13 used species-specific age-structured models for analysis, except for finetooth shark where a production model was used. The aggregate analysis of the complex is unlikely to accurately reflect the status of every individual species in the complex and therefore species specific stock assessment are to be preferred; otherwise, individual species could be at risk even if the aggregate was estimated to be doing fine. In this context, management benchmarks should be agreed for each individual species.

Although the age-structured assessments used in SEDAR 13 are likely to be an improvement over production models, there are few data on some species. A more

parsimonious approach, using 2 or 3 main life stages rather than a full age structure, could provide more stable assessments.

There are apparently a small number of vessels (between 6 and 12) involved in directed fisheries on small coastal sharks, with a good proportion of the estimated catch being by-catch in other fisheries. Close cooperation with the limited number of vessels directing their effort at the species in the small coastal shark complex could provide very valuable information.

Conclusion and Recommendations

The SEDAR process is structurally sound by separating in distinct stages the choice of data, the completion of the assessments themselves, and the formulation of advice. Requesting an independent panel to write the advisory reports, based on the work of the previous two workshops, provides for greater neutrality of the advice, particularly if the panelists change from one assessment to the next as seems to be the case.

The data chosen by the Data Workshops and used by the Assessment Workshops are considered adequate, appropriate and properly used. However, a different treatment of the stock size indices would likely better reflect the real uncertainties in stock status of most species. Currently, the series deemed useful as indices of stock size are used together in the assessment model(s), even though some may show contradictory trends. Making separate analyses using only consistent indices would better reflect the uncertainties in stock sizes and stock trends, but it might also help decide what trends are considered more representative of the real state of nature.

Users of the assessment results and ensuing advice should be aware that these assessments may have not yet stabilized. The assessment methodology, except for finetooth shark, is relatively new, and a different treatment of the stock size indices, as suggested above, could result in substantial changes in the perception of stock status and trends. Management measures should therefore be adjusted progressively until the assessments have stabilized and matured.

Management benchmarks now exist for the small coastal shark complex. Now that individual assessments are available for each species in the complex, management benchmarks should be agreed for each species.

Appendix 1 Statement of Work

Consulting Agreement between Jean-Jacques Maguire and NTVI

Statement of Work

SEDAR 13 Stock Assessment Review

Small Coastal Sharks

August 6 - 10, 2007

Panama City, Florida

SEDAR Overview:

The Small Coastal Shark Complex (SCS), Atlantic sharpnose, finetooth, blacknose, and bonnethead sharks are currently managed by the Highly Migratory Species (HMS) Division of the National Marine Fisheries Service. For the current assessment, it was recommended that the assessment follow the guidelines set forth by the South East Data, Assessment, and Review (SEDAR) process. Although SEDAR is a joint process for stock assessment and review of the South Atlantic, Gulf of Mexico, and Caribbean Fishery Management Councils; NOAA Fisheries, SEFSC and SERO; and the Atlantic and Gulf States Marine Fisheries Commissions, it was felt that this process would work for the SCS as well. 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 and assessment models 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 and advisory report prepared by the review workshop.

SEDAR is a public process. 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 13 review panel will be composed of three Center for Independent Experts (CIE)-appointed reviewers, and a chair appointed by the SEFSC director. Council staff, HMS staff, and Commission staff, may 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 13 review panel that will consider assessments of the Small Coastal Shark Complex (SCS), Atlantic sharpnose shark, finetooth shark, blacknose shark, and bonnethead shark. Reviewer tasks are listed below.

The stocks assessed through SEDAR 13 are within the jurisdiction of NOAA Fisheries Service, Highly Migratory Species Division.

The review workshop will take place at the Bay Point Marriott Resort in Panama City, Florida from 1:00 p.m. Monday, August 6, 2007 through 1:00 p.m. Friday, August 10, 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 Julie A Neer (Shark SEDAR Coordinator; 850-234-6541 ext. 240 or Julie.neer@noaa.gov) for additional details.

Hotel arrangements:

Marriott's Bay Point Resort Village
4200 Marriott Drive
Panama City, Florida 32408
Reservations: 1-800-644-2650

Group “NOAA Fisheries” Rate: $99 + tax; guaranteed through July 6, 2007.

(*NOTE: Hotel requires first night room deposit or credit card guarantee*)

SEDAR Review Workshop Panel Tasks:

The SEDAR 13 Review Workshop Panel will evaluate assessments of the Small Coastal Shark Complex, Atlantic sharpnose shark, finetooth shark, blacknose shark, and bonnethead shark. 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 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 distinct, independent analyses of the technical issues and of the SEDAR process.

SEDAR 13 Review Workshop Terms of Reference:

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 (if possible).
4. Evaluate the methods used to estimate population benchmarks and management parameters; recommend values for management benchmarks (MSY, Fmsy, Bmsy, MSST, MFMT) 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 (if possible).
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 that reported results are consistent with Review Panel recommendations.
8. Evaluate the SEDAR Process. Identify any Terms of Reference which were inadequately addressed by the Data or Assessment Workshops; identify any additional information or assistance which will improve Review Workshops; 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 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. Complete the Advisory Report summarizing key assessment results. (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.

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 Shark SEDAR Coordinator by a deadline specified. 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 Coordinator 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. However, regardless of how initial drafting is accomplished, all panelists are expected to participate in discussion of all terms of reference and 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 HMS management committees, such as its Advisory Panel, 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:

Roles and responsibilities:

1. Approximately 3 weeks prior to the meeting, the CIE 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, 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 Panel Reports. Reports shall be completed, reviewed by all 3 panelists, and comments submitted to the Chair by August 24, 2007. The Chair shall then finalize the Reports and provide them to the Shark SEDAR Coordinator by August 31, 2007[1].
4. Following the Review Panel meeting, each reviewer shall prepare an individual CIE Reviewer Report. These reports shall be submitted to the CIE no later than August 31, 2007, 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 Review Panelist shall occupy a maximum of 12 workdays; several days prior to the meeting for document review; five days at the SEDAR meeting, and several days following the meeting to ensure that final review comments on documents are provided to the Chair and to complete a CIE review report.

Workshop Final Reports:

The Shark SEDAR Coordinator will send copies of the final Review Panel Consensus Report to Mr. Manoj Shivlani at the CIE.

[1] The Chair role is outside of the CIE peer review process. The Chair was responsible for only compiling the Consensus Report, which is separate from the independent CIE reports.

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 September 14, 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:

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

Julie A. Neer, NMFS Southeast Fisheries Science Center, Panama City Laboratory, 3500 Delwood Beach Road, Panama City, Florida 32408 (email, Julie.neer@noaa.gov)

Margo Schulze-Haugen, NMFS, Highly Migratory Species Division, 1315 East-West Highway, Silver Spring, Maryland 20910 (email, margo.schulze-haugen@noaa.gov)

For Additional Information or Emergency:

Julie A. Neer, NMFS Southeast Fisheries Science Center, Panama City Laboratory, 3500 Delwood Beach Road, Panama City, Florida 32408 (email, Julie.neer@noaa.gov)

Draft Agenda

SEDAR 13: Small Coastal Sharks

Monday, August 6, 2007

1:00 p.m.	**Convene**	
1:00 p.m. – 1:30 p.m.	**Introductions and Opening Remarks** *- Agenda Review, Task Assignments*	**Neer**
1:30 p.m. – 3:00 p.m.	**Small Coastal Sharks Assessment Presentation** *Data, Methods, Results Evaluation*	**Cortés**
3:00 p.m. – 3:30 p.m.	**Break**	
3:30 p.m. – 4:30 p.m.	**Small Coastal Sharks Discussion** *- Data, Methods, Results Evaluation* *- identify additional analyses, sensitivities, corrections*	**Chair**
4:30 p.m. – 6:00 p.m.	**Finetooth Shark Assessment Presentation** *Data, Methods, Results Evaluation* *- identify additional analyses, sensitivities, corrections*	**Cortés**
6:00 p.m. – 8:00 p.m.	**Dinner Break**	
8:00 p.m. – 10:00 p.m.	**Evening session if necessary** *- Continue deliberations or work session*	**Chair**

Tuesday, August 7, 2007

8:00 a.m. – 10:00 a.m.	**Small Coastal Sharks Discussion** *- Review additional analyses, sensitivities* *- Initial recommendations and comments*	**Chair**
10:00 a.m. – 11:30 a.m.	**Finetooth Shark Discussion** *- Review additional analyses, sensitivities* *- Initial recommendations and comments*	**Chair**
11:30 a.m. – 1:00 p.m.	**Lunch Break**	
1:00 p.m. – 3:00 p.m.	**Atlantic Sharpnose Shark Assessment Presentation** *- Data, Methods, Results Evaluation* *- identify additional analyses, sensitivities, corrections*	**TBD**
3:00 p.m. – 3:30 p.m.	**Break**	
3:30 p.m. – 6:00 p.m.	**Atlantic Sharpnose Shark Discussion** *- Data, Methods, Results Evaluation* *- identify additional analyses, sensitivities, corrections*	**Chair**
6:00 p.m. – 8:00 p.m.	**Dinner Break**	

8:00 p.m. – 10:00 p.m.	**Evening session if necessary** *- Continue deliberations or work session*	**Chair**

Wednesday, August 8, 2007

8:00 a.m. – 10:00 a.m.	**Atlantic Sharpnose Shark Discussion** *- Review additional analyses, sensitivities* *- Initial recommendations and comments*	**Chair**
10:00 a.m. – 11:30 a.m.	**Blacknose Shark Assessment Presentation** *- Data, Methods, Results Evaluation* *- identify additional analyses, sensitivities, corrections*	**Siegfried**
11:30 a.m. – 1:00 p.m.	**Lunch Break**	
1:00 p.m. – 3:00 p.m.	**Blacknose Shark Discussion** *- Data, Methods, Results Evaluation* *- identify additional analyses, sensitivities, corrections*	**Chair**
3:00 p.m. – 3:30 p.m.	**Break**	
3:30 p.m. – 4:30 p.m.	**Bonnethead Shark Assessment Presentation** *- Data, Methods, Results Evaluation* *- identify additional analyses, sensitivities, corrections*	**Siegfried**
4:30 p.m. – 6:00 p.m.	**Bonnethead Shark Discussion** *- Data, Methods, Results Evaluation* *- identify additional analyses, sensitivities, corrections*	**Siegfried**
6:00 p.m. – 8:00 p.m.	**Dinner Break**	
8:00 p.m. – 10:00 p.m.	**Evening session if necessary** *- Continue deliberations or work session*	**Chair**

Thursday, August 9, 2007

8:00 a.m. – 10:00 a.m.	**Blacknose Shark Discussion** *- Review additional analyses, sensitivities* *- Initial recommendations and comments*	**Chair**
10:00 a.m. – 11:30 a.m.	**Bonnethead Shark Discussion** *- Review additional analyses, sensitivities* *- Initial recommendations and comments*	**Chair**
11:30 a.m. – 1:00 p.m.	**Lunch Break**	
1:00 p.m. – 3:00 p.m.	**Review Workshop Terms of Reference** *- Review TORs and draft consensus statements*	**Chair**
3:00 p.m. – 3:30 p.m.	**Break**	
3:30 p.m. – 6:00 p.m.	**Continue TOR review**	**Chair**
6:00 p.m. – 8:00 p.m.	**Dinner Break**	

8:00 p.m. – 10:00 p.m.	**Evening session if necessary**	**Chair**
	- Continue deliberations or work session	

Friday, August 10, 2007

8:00 a.m. – 1:00 p.m.	**Final Review of Panel Documents**	**Chair**
	- Small Coastal Sharks Consensus Summary *- Atlantic Sharpnose Shark Consensus Summary* *- Blacknose Shark Consensus Summary* *- Finetooth Shark Consensus Summary* *- Bonnethead Shark Consensus Summary*	

1:00 p.m. **ADJOURN**

Annex I. SEDAR Review Workshop Document Contents

Consensus Summary Outline

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/or recommendations.

2. The main body of the reviewer report shall consist of a background, description of review activities, summary of findings, and conclusions/recommendations. Reviewers are encouraged to elaborate on any points raised in the Consensus Summary Report that they feel might require further clarification. Reviewers are also encouraged to provide any criticisms and suggestions for improvement of the SEDAR process.

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.

Appendix 2 Material provided for review

Cortés, E. 2007. Assessment of small coastal sharks, Atlantic sharpnose, Bonnethead, Blacknose and Finetooth sharks using Surplus Production Methods. SEDAR13-AW-01.

McAllister, M., Babcock, E.A., Pikitch, E.K. 20001. Evaluating The Relative Merits Of Alternative Methods To Weight Different Time Series Of Abundance Indices In Stock Assessment. Col. Vol. Sci. Pap. ICCAT, 52: 1094-1115.

SEDAR 13. 2007a. Small Coastal Sharks Assessment Workshop Report (http://www.sefsc.noaa.gov/sedar/download/SCS_AW_Final_9July07.pdf?id=DOCUMENT)

SEDAR 13. 2007b. Small Coastal Sharks Data Workshop Report (http://www.sefsc.noaa.gov/sedar/download/SCS_DW_Final.pdf?id=DOCUMENT)

Siegfried, K.I., Cortés, E. and Brooks, E. 2007. Determining selectivities for small coastal shark species for assessment purposes. SEDAR13-AW-02.

Siegfried, K.I. and Brooks, E. 2007. Assessment of Blacknose, Bonnethead, and Atlantic Sharpnose sharks with a State-Space, Age-Structured Production Model. SEDAR13-AW-03.