Mid-Atlantic Fishery Management Council
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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: 2 April 2015

TO: Richard M. Robins, Jr., MAFMC Chairman

FROM: John Boreman, Ph.D., Chair, MAFMC Scientific and Statistical Committee

SUBJECT: Report of the March 2015 Meeting of the MAFMC SSC

The SSC met in Baltimore, MD, on 18-19 March 2015 for the main purpose of reviewing the ABC recommendations made previously for Golden Tilefish. The SSC also reviewed the current ABC control rule language, received an update on the ABC control rule management strategy evaluation and an update on the rumble strip approach for setting multi-year ABCs, received a short summary of the recently-held National SSC workshop, discussed the latest draft of the MAFMC white paper on climate change, discussed alternative approaches to setting ABCs for Level 4 species, renewed and revised SSC species lead assignments, and discussed plans for improving coordination of MAFMC research planning. The meeting agenda is attached (Attachment 1).

A total of 15 SSC members were in attendance during the discussion of the Golden Tilefish ABC (Attachment 2), which constituted a quorum. Also in attendance were staff from the NMFS Northeast Fisheries Science Center, Council members and staff, ASMFC staff, and representatives from the fishing industry and general public.

Documents cited in this report are attached or can be accessed via the MAFMC SSC website (http://www.mafmc.org/ssc-meetings/2015/march-18-19).

Golden Tilefish

The SSC reviewed the following information relevant to the status of Golden Tilefish (GTF):

- 2015 Tilefish Fishery Performance Report
- Golden Tilefish Data Update Through 2014 - NEFSC
- 2015 Golden Tilefish Advisory Panel Information Document
- Staff Memo on 2016 Golden Tilefish Specifications

José Montañez (MAFMC staff) and Paul Nitschke (NEFSC staff) provided the SSC with updates on GTF commercial landings, catch-per-unit-effort (CPUE), market category, and size composition. José also reviewed the fishery performance report prepared by the Golden Tilefish Advisory Panel.

Updated data through 2014 showed continuation of the declining trend in commercial CPUE, while the catch still contains a wide size distribution. The decline in CPUE has been expected because of the past influence of a strong year class. Evidence is also emerging of another strong year class entering the fishery in 2013 and 2014. Discards in the trawl and longline fishery appear to be a minor component of the catch. Recreational catches have also appeared to be low, but with an increasing trend in recent years, and were not included as a component of the removals in the assessment model.

Based on the updated information presented, the SSC saw no compelling evidence to change its recommendation of **ABC = 861 mt** for 2016.

Paul Nitschke was asked if there was any evaluation of the utility of the NEFSC trawl survey data to track golden tilefish (GTF) abundance. The trawl survey catches very few GTF (roughly 50 GFT were taken over the entire time series used in the assessment), so previous assessments concluded the trawl data has no utility for tracking abundance. The majority of landings are coming from two statistical areas and the catches reflect stock conditions in those two areas only. Yet, the stock is distributed over a much broader area – which implies that there might be potential for a much larger fishery. The only available information to infer abundance is from commercial CPUE. It was noted that collaboration with the GTF industry (both commercial and party/charter) via an RSA project might provide useful information. Paul was also asked if age and growth analyses are still ongoing for GTF. He noted that age structures are being collected on a continuing basis, but the fish have not been aged (which will likely not occur until the next assessment update or benchmark).

Recently, both GTF and Blueline Tilefish (BLT) have been collected for age and growth analysis via deepwater sampling off Virginia by Cynthia Jones and her students at Old Dominion University. During those collections there have been many observations of small BLT, but very few small GTF in the Norfolk Canyon area.

The SSC again discussed the appropriateness of the current OFL (which is $F_{25\%}$), given the life history of GTF, but generally felt that this reference point is likely to be valid since the realized F is operating over a narrow range of age classes given the dome-shaped selectivity curve. It is unlikely that the $F_{25\%}$ reference point would be appropriate if that level of fishing mortality was applied more broadly across the entire age structure of the stock.

The SSC requested that the description of catch by area be broken down into smaller areas if possible. If not, the figures in the assessment describing catch by area should be updated as part of the annual data update.

In determining population status and trends for this stock, it is critical that the age structure of the stock be evaluated periodically – the recent history of the stock and fishery appear to be driven by periodic pulses in recruitment. It is possible that a decade could transpire without significant recruitment, which would be of major concern. In addition, the recreational component of the fishery is continuing to expand, so it may be informative to include the recreational age and size compositions in the next assessment update – perhaps in the next operational update. It was noted that very little information (basically none) is being collected in the recreational GTF fishery and would probably require a special data collection program, perhaps in conjunction with the NMFS Highly Migratory Species survey.

The last topic discussed related to GTF was when the next operational assessment update should be conducted. It was noted that the MSE work being conducted by Weidemann *et al.* would be informative as to how often the GTF assessment should be updated. The Council should consider requesting an

operational update for GTF in 2016 and, if recreational catch increases to the 5-10 % range or beyond, the recreational catch should be included in the updated assessment model. Inclusion of recreational catch might trigger the need for a benchmark assessment, but one major benefit of a benchmark assessment would be that the current biological reference points would be re-evaluated.

Blueline Tilefish

Following the SSC discussion of Golden Tilefish (GTF), MAFMC Chairman Robins briefed the SSC on the current issues facing management of Blueline Tilefish (BLT) along the Atlantic coast. Recently, commercial landings of BLT have unexpectedly and rapidly increased in the Mid-Atlantic region, primarily due to landings in New Jersey. Landings from Virginia and farther north increased from approximately an 11,000-pound average (2005-2013) to about 217,000 pounds in 2014. Most of these fish were caught in statistical areas off the coast of Delmarva. Also, Northeast vessel trip reports (VTRs) for party/charter vessels indicate a recent unexpected increase from an average of about 2,400 fish per year (2002-2011) to between 10,000 and 16,000 fish per year in 2012-2014. Party/charter increases in the last two years were mostly from statistical area 622, which is accessible from Delaware and New Jersey – two states currently without regulations. The MAFMC has requested emergency action to control the catch of BLT in the Mid-Atlantic region, and the South Atlantic Council has recently done likewise, although with more draconian measures than those requested by the MAFMC.

One outstanding question is the applicability of the SEDAR 32 stock assessment of BLT to the portion of the stock inhabiting the region north of North Carolina. Given the paucity of catch data in the northern part of the species range used in the assessment, and the recent catch data from New Jersey, the SAFMC has requested its SSC to review the SEDAR 32 BLT assessment and determine if it is still applicable to the stock along the entire Atlantic coast. The SAFMC has invited the MAFMC to send SSC representatives to the upcoming SAFMC SSC meeting (28-30 April), where the request will be addressed. The SAFMC has also invited Cynthia Jones (member of the MAFMC SSC) to the meeting to discuss her recent study findings pertaining to growth and age distributions of BLT off the Virginia coast. Since MAFMC SSC members John Boreman and Doug Vaughan are also members of the SAFMC SSC and are planning to attend, a total of three representatives of the MAFMC SSC will be in attendance at the SAFMC SSC meeting.

Chairman Robins also mentioned that the Council is interested in receiving the SSC's recommendations for BLT research and monitoring priorities in the Mid-Atlantic region. A working group was formed, consisting of Doug Vaughan (chair), Cynthia Jones, David Tomberlin, and John Boreman (*ex officio*) to draft a list for review by the SSC.

MAFMC ABC Control Rules

Management Strategy Evaluation

Mike Wilberg provided an update on the Management Strategy Evaluation (MSE) projects to characterize the performance of several methods of P* control rules under a range of life histories and fishing histories, and to compare performance of management systems with different levels of assessment frequency and data-management lag (DML; time between the terminal year of data in the assessment and when management is implemented). Eight control rules were explored in this analysis, seven of which utilized a buffer when setting the ABC. The other seven control rules applied different buffer sizes, with one doing so by setting the target F at 75% of F_{lim}. Six control rules were variations of the P* approach, in which the distribution for the OFL was assumed to follow a lognormal distribution

with different coefficients of variation (CVs). The seventh control rule was used as a baseline to test the effect of using no buffer when setting the ABC (ABC = OFL).

Three variations of the P* approach were explored, with a fixed target P* (i.e., P* was independent of biomass) of 0.4 for CVs of 0.38, 0.7, and 1.0, and three variations with the same CVs but with the target P* declining as biomass falls below the B_{msy} proxy level. The control rules that achieved the lowest probabilities of overfishing explored in this analysis utilized the biomass-dependent target P* with the high CVs for the OFL distribution, although the fixed P* control rules with a CV of 0.7 and 1.0, and 75% of F_{lim} were also generally achieved P_{OF} at or below 0.3 for many of the scenarios. The long-term yields were similar across the different control rules, but not having a buffer often resulted in lower yield. Using a fixed P* of 0.4 with CVs $\geq$ 0.38 or the approach using 75% of F_{lim} as the target F were also effective control rules for limiting overfishing, but often resulted in slightly lower long-term average yield than the biomass-based control rules.

Alternative management models, described by combinations of stock assessment interval (assessments every one, two, three, five, seven, and ten years) and DML (of one, two, and three years), were tested under a factorial design of scenarios that considered alternative assumptions about data quality, stock-recruitment variability, exploitation history, and life history. Increases in DML and assessment interval resulted in decreases in both the median catch and biomass. Increases in DML caused larger changes than increases in assessment intervals, on average, for all performance metrics except the probability of overfishing. The effects of DML and assessment interval on the performance metrics varied among the life history and data quality scenarios.

Update on the Rumble Strip Approach

The SSC has continued to discuss ways to further develop the rumble strip approach for reviewing ABCs in years without stock assessments. Several cases have been identified where the rumble strip approach currently does not work well: 1) when there is no historical testing information; 2) when there are expected trends in stock size; and 3) when the historical stock status determinations are not reflected by the rumble strip analyses. The SSC determined that, to improve the rumble strip approach, additional resources (beyond the SSC) will be necessary. Specifically, from six months to one year of a person's time will be necessary to complete the additional development and testing work. The SSC discussed a number of sources of potential funding for this project, including the NMFS Stock Assessment Improvement funds, MAFMC, SEDAR, or STAR, or an interested NGO such as NRDC.

Clarification of Control Rule Language

The SSC continued its discussion of the ABC control rules and how well the language in the rules reflects actual practice. The SSC acknowledges that clarification of the assessment level language in the rules might be useful, and suggests the following substitute nomenclature be considered for the four assessment levels:

Level 1 becomes: Analytically derived OFL probability distribution
Characteristics:

- Assessment OFL acceptable
- Assessment uncertainty acceptable

Level 2 becomes: Assessment team-modified OFL probability distribution
Characteristics:

- Assessment OFL acceptable

- SSC accepts assessment team's modifications to analytical uncertainty results

Level 3 becomes: SSC-modified OFL probability distribution
Characteristics:

- Assessment OFL acceptable
- SSC determines appropriate uncertainty for OFL based on meta-analysis and other considerations

Level 4 becomes: OFL cannot be specified given current state of knowledge.

The SSC also decided to continue discussions of other potential modifications of the assessment level system, such as combining or expanding levels, at a future meeting. In addition, while the suggested clarification to assessment level nomenclature would clarify the stated intent of the Council's ABC/ACL Omnibus Amendment, it will be important to continue dialogue with the Northeast Fisheries Science Center regarding how assessments integrate consideration of the Council's assessment level system, whether as modified above or if further changed in the future.

Review of MAFMC Climate White Paper

Rich Seagraves gave an overview of the draft Climate Science White Paper developed in cooperation with members of the Council's EAFM Working Group, NOAA scientists, and outside experts on climate science and fisheries. The paper is intended to provide the background information necessary for the Council to develop and implement management approaches and measures that take climate change and variability into account over a broad range of levels, from climate science to management policy development, within the Council's EAFM Guidance Document.

In 2014, the Council hosted a series of workshops to evaluate the current state of climate science, the expected range of climate impacts on fish stock distribution and productivity, and the potential impacts of these changes on fisheries management given the existing governance structure along the Atlantic Coast. The first workshop examined the current state of climate science and understanding of the impacts of climate change and variability on marine fish populations and the fisheries they support. The overall goal of the workshop was to examine where and when in the assessment-management continuum climate considerations need to be addressed, and how these considerations should be integrated into the existing fishery stock assessment and management processes. The white paper focuses primarily on the science-related aspects of the climate change problem and (in general terms) outlines the following priorities for Council consideration: conduct assessment of risk/vulnerability to climate change by species; include climate effects/drivers in single species stock assessments (with progression/transition to multispecies assessments); incorporate climate effects on habitat and EFH considerations; evaluate potential impacts on fleet dynamics (to include social and economic analyses); and evaluate climate change impacts at the ecosystem level.

In addition, the Council should work proactively with its science and management partners to develop a Management Strategy Evaluation (MSE) capacity within the region to evaluate climate-ready management strategies, starting with single-species ABC and then advancing to more complex full ecosystem models (e.g., Atlantis). The Council will require tools for tracking climate (physical drivers), species distribution and productivity, and changes in species/fisheries interactions. Most, if not all of the scientific issues identified in the white paper can be addressed through the stock assessment and status determination processes, but some aspects of the problem may require changes to the Council's current

risk policy.

The second workshop examined the management and governance implications of climate change and variability for Atlantic Coast marine fisheries. The workshop provided a forum for Atlantic Coast fishery managers to discuss management challenges in the face of climate change and potential solutions. A key finding of the workshop was that climate change and variability are already challenging the efficacy of existing static management measures implemented by the Council that were based on historical fishery performance, including allocations (by sector, area and season, trip limits, closed areas, etc.). Participants agreed that management programs need to be made more adaptive to respond to future oceanographic changes, and that a more dynamic environment will demand a management framework that strikes a balance between responding quickly to changing conditions while not chasing noise. There was general agreement among workshop participants on the following challenges relative to Atlantic Coast fishery management and governance: 1) the governance structure is complex and currently defined by geopolitical boundaries, not ecological ones; 2) permanent or periodic shifts in distribution of stocks are causing gaps in representation and management (misalignment problem); and 3) the Federal management structure is relatively inflexible and slow to change. Overall, the primary concern identified was the potential disconnect between distribution of the fishery, stakeholder access to the resource, and representation in the management process.

Workshop participants discussed a number of possible solutions to these challenges ranging from keeping the current management system intact (but modified to address climate issues) to consolidation of existing management bodies. Since the latter would require significant legislative change, staff recommended that the Council focus initial discussion on changes to the current process achievable under existing federal law. To that end, staff recommended that the Council consider forming a Climate Committee or Working Group whose charge would be to develop protocols that address the climate related governance and management challenges identified above. The EAFM Guidance document will include a general framework to help guide the Committee or Working Group in the development of specific management protocols and/or regulatory mechanisms to address deficiencies or disconnects in the current management system resulting from climate-driven oceanographic change.

The SSC discussion of the Climate paper highlighted a number of areas of uncertainty about the impact of future climate states on fish populations and fisheries in general. Tom Miller noted that the Council should not be given the impression that climate change and ecosystem response will always be a slow, gradual process. While the physical changes in the environment may be linear and/or gradual, ecosystem shifts in response to those changes may be sudden and abrupt. Dave Secor noted a recent paper by Schindler and Hilborn in which they advocated monitoring of the environment as a primary research tool to track climate change and its impact on ecosystems. They noted that future ecosystem states in the face of climate change are very difficult to predict based on current models. It may be more prudent to invest research dollars in monitoring ecosystems rather than focusing solely on modeling future ecosystem states, given the great deal of uncertainty about the future states of nature and our limited ability to predict them and the associated ecosystem responses. Olaf Jensen noted that additional buffers in the OFL/ABC framework might be necessary, especially for stocks that are particularly sensitive to climate change. There was general agreement among the SSC members that healthy fish stocks are more resilient in the face of climate change, especially with respect to age structure. It was noted that future changes in productivity of individual fish stocks are inevitable and these changes will have cascading effects on biological reference points and, for overfished stocks, rebuilding programs. For example, stocks that experience decreases in productivity will produce lower yields and, if overfished, may never rebuild to previous reference levels, even in the absence of fishing. Two of the most critical aspects of maximizing climate resiliency of fish stocks are maintenance of stock biomass and rebuilding age structure to help compensate for adverse effects of climate change.

National SSC V Workshop

John Boreman stepped the SSC through the final agenda for the national SSC workshop that was recently held in Hawaii (Attachment 3). The major theme of the workshop was "Providing Scientific Advice in the Face of Uncertainty: From Data to Climate and Ecosystems." The meeting organizers have not yet circulated a draft report of the workshop findings, so discussion of the findings and their implications for the Mid-Atlantic region was postponed until the next SSC meeting.

Species and Topic Lead Assignments

The SSC reviewed and updated assignments of members to serve as biology/assessment and socioeconomics leads for each species. In addition, two topics were added (ecosystems and deep water corals) for which leads are needed (Attachment 4). The role of a lead is to be the point person on the SSC for that particular species or topic, and is expected to participate in SAW/SARC workshops, advisory panel meetings and webinars, research planning exercises, and other activities involving that species or topic, depending on availability. The biology/assessment lead for a species is also expected to be the discussion leader at the SSC meeting and lead the SSC through the terms of reference during development of ABCs for that species.

Data Poor Methods Analysis

Jason McNamee, chair of the ASMFC Technical Committee responsible for Summer Flounder, Scup, and Black Sea Bass, provided the SSC with an update on the analysis that he, John Maniscalco, and Jeff Brust have been undertaking to find alternative ways to develop ABCs for species that do not have a specified OFL (Level 4 under the current ABC control rules). They utilized the Data Limited Methodologies (DLM) Toolkit developed with the support of the Natural Resources Defense Council to examine and evaluate alternative approaches. Black Sea Bass was used as a test case, although they fully recognized that the species is not data poor *per se*, but rather is "assessment challenged." Their conclusion was that the DLM toolkit seems to be a promising tool for use in data or assessment limited situations; it allows for an objective choice of procedures most appropriate for the stock being examined. Use of the toolkit may provide a more rigorous way for the SSC to deal with data limited and assessment-challenged species, such as the Level 4 species under the purview of the MAFMC (Atlantic Mackerel, the squids, quahogs, and Black Sea Bass).

The SSC discussed the importance of modifying the toolkit to accommodate the life history and population dynamics of Mid-Atlantic species, and evaluating the appropriateness of the underlying assumptions for the DLM methodologies being contemplated. Simple averaging of the broad range of outcomes was not recommended. The SSC was also interested in the use of the DLM toolkit in the evaluation of ABC alternatives in data poor situations for an ensemble of species.

The SSC encouraged the Technical Committee to continue development of the DLM Toolkit approach, using a subgroup of the SSC as advisors (Mike Wilberg, Olaf Jensen, Doug Vaughan, Tom Miller, and John Boreman). The goal is to have a methodology available to the full SSC by its July meeting.

MAFMC Research Plan Development

Rich Seagraves gave an update on the research prioritization plan being developed for the Council. The development of an actionable and prioritized science and research plan was identified as a major goal during the Council's Visioning Project and is an action item in the current Council Strategic Plan. Additionally, the Magnuson Stevens Act requires that each Council, with the assistance of its SSC, develop a five-year research priority plan; the existing MAFMC five-year research plan includes a list of general and species/FMP-specific research needs, but lacks prioritization. The Council has also identified research and management information needs as part of its RSA program and within individual FMPs. Most recently, the Council developed a list of research priorities as a part of its Visioning Project based on broad based interactions with its stakeholders. One of the challenges of this exercise is to consolidate all the existing research needs identified by the Council into one document.

Staff has been working with an SSC working group (Mark Holliday and Brian Rothschild) to address this issue. Initial discussion of the group focused on the need to link research needs and priorities to accomplishment of management goals. The Council's Visioning Document and Strategic Plan present the most recent articulation of the Council's management goals and objectives overall, while individual FMPs goals and objectives also need to be examined. Evaluation of the goals and objectives from these sources will form the basis for identification and prioritization of research needs within the MAFMC Research Plan.

Given the long list of research needs and apparent lack of progress in addressing them, Staff is proposing a new approach to addressing this problem. Staff is recommending that the Council pursue a "bottom-up" approach, which engages Council members and industry and scientific advisors to reach agreement on a common list of research needs. This will be accomplished through the existing Council committee process and will require the participation of the SSC species/topics leads for biology/assessments and socioeconomics in these deliberations.

The SSC was generally receptive to this recommended approach and agreed to participate in the new research planning process. Rich Seagraves will present the approach to the Council at its April Council meeting and, if the Council adopts it, will begin work immediately (probably at upcoming meetings with industry advisors during specification setting). Once a consolidated set of research needs has been developed, various qualitative and quantitative approaches will be evaluated to prioritize the overall list of needs (with target of December 2015 for project completion). The Council will, working with its management partners, develop an action plan to address research needs identified in order of priority.

cc: SSC Members, Lee Anderson, Chris Moore, Rich Seagraves, Jason Didden, Paul Nitschke, José Montañez

Mid-Atlantic Fishery Management Council
Scientific and Statistical Committee Meeting
18-19 March 2015
Final Agenda

Wednesday 18 March 2015

0900 National SSC V Report (Boreman)

0930 Review Tilefish Data Update and Fishery Performance Report (Montanez/Nitschke)

1030 MAFMC ABC Control Rules and Rumble Strip Approach (Didden/Wilberg)

1230 Lunch

1330 ABC Control Rules (cont.)

1600 Review of MAFMC Climate White Paper and EAFM Update (Seagraves/Gaichas)

1700 SSC Species Lead Assignments for 2015

1730 Adjourn

Thursday 19 March 2015

0830 Data Poor Methods Analysis for Black Sea Bass ABC Specification (McNamee/Seagraves)

1030 Development of MAFMC Research Plan

1100 Adjourn

Attachment 2

MAFMC Scientific and Statistical Committee
17-18 September 2014 Meeting
Baltimore, MD

Name	Affiliation
SSC Members in Attendance:	
John Boreman (SSC Chairman)	North Carolina State University
Tom Miller (SSC Vice-Chair) (3/18 only)	University of Maryland - CBL
Mike Wilberg	University of Maryland - CBL
Doug Lipton	NMFS
Ed Houde	University of Maryland – CBL
David Secor	University of Maryland – CBL
Rob Latour	VIMS
David Tomberlin	NMFS Office of Science and Technology
Mark Holliday	NMFS (Retired)
Doug Vaughan	NMFS (Retired)
Olaf Jensen	Rutgers
Bonnie McCay	Rutgers
Cynthia Jones (3/18 only)	Old Dominion University
Sarah Gaichas	NMFS Northeast Fisheries Science Center
Sunny Jardine	University of Delaware
Others in attendance:	
Rich Seagraves	MAFMC staff
José Montañez (3/18 only)	MAFMC staff
Kiley Dancy	MAFMC staff
Jason Didden (3/18 only)	MAFMC staff
Julia Beaty	MAFMC staff
Paul Nitschke (by phone, 3/18 only)	NMFS Northeast Fisheries Science Center
Rick Robins	MAFMC Chair
Lee Anderson	MAFMC Vice-chair
Jason McNamee	RIDFW
Toni Kerns (3/19 only)	ASMFC staff
Aaron Kornbluth (3/18 only)	Pew Charitable Trust
Victor Hartley (3/19 only)	Fisherman

2015 National Scientific and Statistical Committee Workshop - V

Ala Moana Hotel, Honolulu, HI
February 23 – 25, 2015

Draft Agenda

"Providing Scientific Advice in the Face of Uncertainty: from Data to Climate and Ecosystems"

22-February 2015 (Sunday)

Time:		**Speaker/Leader**
TBD	EARLY REGISTRATION	

23-February 2015 (Monday)

0730	REGISTRATION	
0830	1) Welcome remarks 2) Introductions	Kitty Simonds Charles Daxboeck
	3) <u>SUBTHEME 1.a: ABC Specification for Data-Limited and Model-Resistant Stocks</u>	
0850	A. *Keynote Presentation: Managing data-poor fisheries down under* Speaker: Malcolm Haddon, Commonwealth Scientific and Industrial Research Organization (CSIRO)	
0935	B. *Keynote presentation: Progress and roadblocks in the estimation of stock status and catch limits for global fisheries* Speaker: James Thorson, NMFS – Northwest Fisheries Science Center	
	C. Round Robin Session: Setting ABCs for data-limited / model-resistant stocks (with emphasis on problems in the specification process for stocks with limited to no data or with data but not useable for existing modeling framework)	
1010	NPFMC	Farron Wallace
1020	WPFMC	Robert Skillman
1030	Morning Break	
1050	PFMC	Meisha Key
1100	GMFMC	William Patterson
1110	CFMC	Richard Appeldoorn
1120	SAFMC	Luiz Barbieri

1130	MAFMC	John Boreman
1140	NEFMC	Jacob Kritzer
1150	NMFS – "Stock assessment prioritization tool"	Rick Methot

1200 D. Preliminary Q&A to the presenters

1220 Lunch Break

1330 E. *Plenary Discussion: ABC specification for data-limited and model-resistant stocks*
Terms of Reference 1.a. and Trigger Question Set 1.a.
Session Facilitator: Samuel Pooley
Rapporteurs: Joshua DeMello, WPFMC; John DeVore, PFMC

4) SUBTHEME 1.b: Implementation of National Standard 2 in the Face of Uncertainty

1430 A. *Keynote Presentation: National Standard 2 in determining best scientific information available*
Speaker: Rick Methot, NMFS – Office of Science and Technology

1515 Afternoon Break

1530 B. *Plenary Discussion: Implementation of National Standard 2 in the face of uncertainties*
Terms of Reference 1.b and Trigger Question Set 1.b
Session Facilitator: Jacob Kritzer, SSC Chair NEFMC
Rapporteurs: Paul Dalzell, WPFMC; Graciela Garcia-Moliner (CFMC)

1630 5) Develop specific recommendation to the CCC for subtheme 1

1730 Adjourn for the day

24-February 2015 (Tuesday)

6) SUBTHEME 2: Evaluating existing ABC control rules: issues, challenges and solutions

0830 A. *Keynote Presentation: Addressing uncertainties in stock assessment in a variable environment*
Speaker: Eric Schwaab, National Aquarium

0900 B. *Keynote Presentation: Use of Management Strategy Evaluation to assess performance of harvest control rules*
Speaker: André Punt, School of Aquatic and Fishery Sciences, University of Washington

0930 C. *Keynote Presentation: Comparing Performance among Alternative ABC Control Rules*
Speaker: Michael Wilberg, Center for Environmental Science, University of Maryland

1000	Morning Break	
	D. Round Robin Session: Evaluation of the current ABC control rules (with emphasis on how each council monitors the performance of the control rules, issues, challenges, and solutions)	
1020	NPFMC	Farron Wallace
1030	WPFMC	Robert Skillman
1040	PFMC	Meisha Key
1050	GMFMC	William Patterson
1100	CFMC	Richard Appeldoorn
1110	SAFMC	Luiz Barbieri
1120	MAFMC	John Boreman
1130	NEFMC	Jacob Kritzer
1140	E. Preliminary Q&A to the presenters	
1200	Lunch Break	
1300	F. *Plenary Discussion: Evaluating existing ABC control rules: issues, challenges and solutions* Terms of Reference 2 and Trigger Question Set 2 Session Facilitator: John Boreman, SSC Chair MAFMC Rapporteurs: John Froeschke, GMFMC; Mike Errigo, SAFMC	
1400	7) Develop specific recommendation to the CCC for subtheme 2	
	8) <u>SUBTHEME 3.a: Incorporating ecological, environmental, and climate variability in stock assessment and ecosystem based fishery management</u>	
1445	A. *Keynote Presentation: Incorporating ecological, environmental, and climate considerations in stock assessments and ecosystem-based fishery management (45 min)* Speaker: Jeffrey Polovina, NMFS – Pacific Island Fisheries Science Center	
1530	B. *Plenary Discussion: Incorporating ecological, environmental, and climate variability in stock assessment and ecosystem based fishery management* Terms of Reference 3.a (Part 1) and Trigger Question Set 3.a (Part 1) Session Facilitator: Samuel Pooley Rapporteurs: Paul Dalzell, WPFMC; Richard Seagraves, MAFMC	
1630	Adjourn for the day	

25-February 2015 (Wednesday)

0830	D. *Keynote presentation: Projecting climate change impacts on fish and fisheries* Speaker: Anne Hollowed, NMFS – Alaska Fisheries Science Center

0915 E. *Keynote presentation: Shifting species distribution with climate change*
Speaker: Jonathan Hare, NMFS – Northeast Fisheries Science Center

1000 Morning Break

1020 F. *Plenary Discussion: Incorporating ecological, environmental, and climatic variability in stock assessments and ecosystem based fishery management*
Terms of Reference 3.a (Part 2) and Trigger Question Set 3.a (Part 2)
Session Facilitator: Samuel Pooley
Rapporteurs: Eric Kingma, WPFMC; Chris Kellogg, NEFMC

1120 9) Develop specific recommendation to the CCC for subtheme 3.a

1220 Lunch break

10) SUBTHEME 3.b: Building habitat condition in the stock assessment process and fishery management strategies

1320 A. *Keynote Presentation: The Habitat Assessment Improvement Plan: Habitat data to enhance stock assessment*
Speaker: Thomas Noji, NMFS – Northeast Fisheries Science Center

1405 B. *Plenary Discussion: Building habitat condition in the stock assessment process and fishery management strategies*
Terms of Reference 3.b (Part 1) and Trigger Question Set 3.b (Part 1)
Session Facilitator: Meisha Key, SSC Chair PFMC
Rapporteurs: Becky Walker, WPFMC; Dave Witherell, NPFMC

1505 Afternoon break

1410 C. *Keynote Presentation: Aspects of Habitat of Particular Concern for fish population dynamics and fishery management*
Speaker: John Manderson, NMFS – Northeast Fisheries Science Center

1455 D. *Plenary Discussion: Building habitat condition in the stock assessment process and fishery management strategies*
Terms of Reference 3.b (Part 2) and Trigger Question Set 3.b (Part 2)
Session Facilitator: Samuel Pooley
Rapporteurs: Chris Hawkins, WPFMC; Steven Atran, GMFMC

1555 11) Develop specific recommendation to the CCC for subtheme 3.b

1655 Closing remarks Charles Daxboeck

1700 Adjourn

Attachment 4

Species and Topic Leads for MAFMC SSC Members

Species/Topic	Biology/Assessment Lead	Socio-economics Lead
Atlantic Mackerel	Dave Secor	Mark Holliday
Atlantic Surfclam	Wendy Gabriel	Bonnie McCay
Ocean Quahog	Ed Houde	Bonnie McCay
Spiny Dogfish	Yan Jiao	David Tomberlin
Bluefish	Cynthia Jones	Doug Lipton
Butterfish	Rob Latour	Mark Holliday
Black Sea Bass	Tom Miller/Olaf Jensen	Marty Smith
Golden Tilefish	Doug Vaughan	Marty Smith
Scup	Wendy Gabriel	Mark Holliday
Summer Flounder	Mike Wilberg	Doug Lipton
Long-finned Squid	Mike Frisk	Sunny Jardine
Short-finned Squid	Tom Miller	Sunny Jardine
Ecosystems	Ed Houde	Doug Lipton
Deep Sea Corals	John Boreman	Bonnie McCay
Blueline Tilefish	Sarah Gaichas	David Tomberlin