SUMMARY MINUTES

Scientific and Statistical Committee

Pacific Fishery Management Council
Via Webinar
November 12 and 13, 2020

Members in Attendance

Dr. John Budrick, California Department of Fish and Wildlife, Belmont, CA
Mr. Alan Byrne, Idaho Department of Fish and Game, Boise, ID
Dr. Fabio Caltabellotta, Oregon State University, Corvallis, OR
Dr. John Field, National Marine Fisheries Service Southwest Fisheries Science Center, Santa Cruz, CA
Dr. Marisol Garcia-Reyes, Farallon Institute, Petaluma, CA
Dr. Melissa Haltuch, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA
Dr. Owen Hamel, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA
Dr. Michael Harte, Oregon State University, Corvallis, OR
Dr. Dan Holland, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA
Dr. Galen Johnson, SSC Chair, Northwest Indian Fisheries Commission, Olympia, WA
Dr. Kristin Marshall, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA
Dr. André Punt, University of Washington, Seattle, WA
Dr. William Satterthwaite, National Marine Fisheries Service Southwest Fisheries Science Center, Santa Cruz, CA
Dr. Jason Schaffler, Muckelshoot Indian Tribe, Auburn, WA
Dr. Ole Shelton, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA
Dr. Cameron Speir, National Marine Fisheries Service Southwest Fisheries Science Center, Santa Cruz, CA
Dr. Tien-Shui Tsou, Washington Department of Fish and Wildlife, Olympia, WA
Dr. Will White, Oregon State University, Corvallis, Oregon

Members Absent

None.

SSC Recusals for the November 2020 Meeting		
SSC Member	**Issue**	**Reason**
Dr. Melissa Haltuch	G.4 Sablefish Management Strategy Evaluation Update	Dr. Haltuch contributed to the Sablefish MSE analysis.
Dr. Owen Hamel	G.5 Assessment Methodology Review – Final Action	Dr. Hamel supervises Dr. Jason Cope, one of the proponents of new length-based assessment methods.
Dr. André Punt	G.4 Sablefish Management Strategy Evaluation Update	Dr. Punt is Ms. Kapur's major professor.

A. Call to Order

Dr. Galen Johnson called the meeting to order at 0800. Mr. Chuck Tracy briefed the Scientific and Statistical Committee (SSC) on the meeting and the Pacific Fishery Management Council's (Council's or PFMC's) expectations for the items on the SSC agenda.

Dr. Fabio Caltabellotta volunteered to serve on the SSC's Groundfish and Highly Migratory Species subcommittees. Dr. Will White volunteered to serve on the SSC's Coastal Pelagic Species Subcommittee.

G. Groundfish Management

4. Sablefish Management Strategy Evaluation Update

Ms. Maia Kapur (University of Washington) and Dr. Melissa Haltuch (Northwest Fisheries Science Center) briefed the Scientific and Statistical Committee (SSC) on progress for a management strategy evaluation (MSE) for Northeast Pacific sablefish that includes a spatially explicit operating model, which is currently in development by the Pacific Sablefish Transboundary Assessment Team (PSTAT). The MSE tool focuses on the demographic structure of fish stocks and how northeast Pacific sablefish are managed regionally. This model could explore the current and future biological consequences of catch allocations north and south of the 36° N. lat. management line. The SSC appreciates the research and collaboration underway to develop a transboundary operating model for use in a management strategy evaluation across the Northeast Pacific.

The SSC supports the decisions made by the analysts to date in developing the spatial operating model. The spatial dynamics and structure of the model are supported by research on spatially varying growth and widespread movement observed in sablefish. This operating model addresses previous SSC recommendations that a population model consistent with the understanding of sablefish stock structure be developed (Agenda Item F.3.a, Supplemental SSC Report 1, March 2018). The SSC reviewed the documentation supporting the operating model and could review a conditioned operating model at a later stage, if desired by the Council.

The SSC affirms the scope of this operating model is appropriate, given recent research on the genetic stock structure of sablefish, latitudinal patterns of growth, and an analysis of tagging data. If the Council or stakeholders wanted to use the MSE to investigate questions beyond the consequences of spatial stock structure on the ability of harvest control rules to achieve management objectives, the operating model would need to be further developed, which would require additional resources.

The SSC recognizes that MSE processes are iterative and discussed several areas of potential development of the operating model. For example, the operating model could be expanded to include more economic considerations or an economic submodel that could explore other aspects of fishing fleet dynamics relevant to sablefish. Future work could also explore the potential consequences of environmentally-driven or time-varying recruitment, growth, or movement, particularly considering previous work on environmentally-driven sablefish recruitment on the west coast.

The SSC supports the development of a process for the Council to engage with the PSTAT. Recent MSE efforts in other regions and best practices summarized in the 2018 Council Coordination Committee Scientific Coordination Subcommittee meeting report have highlighted that stakeholder engagement is a critical component of an MSE process. The SSC recommends that the Council and analysts follow best practices identified and used in these other efforts. In particular, the SSC recommends the Council engage in discussions about management objectives and performance metrics as soon as practicable to ensure those inputs may be incorporated into the model, and that performance metrics used to evaluate alternative management strategies reflect the interests and objectives of the Council. The SSC recommends the scheduling of a workshop for stakeholders to contribute to the development of management objectives and performance metrics.

SSC Notes:

There is some possibility that differences in estimates of growth between the two areas in the California Current could be influenced by differences in targeting of the fleets in those two areas; however, projections from the 2011 and 2019 assessment models suggest that total catch is more influential than which gear type is used.

Recent publications supporting stakeholder best practices that the analysts or Council may want to consider include the Atlantic Herring MSE, Atlantic menhaden MSE, Mike Jones' work on walleye in the Great Lakes (summarized in the report of the 2018 National SSC Meeting), and recent publications on stakeholder best practices by Miller et al. and Feeney et al.

Analysts may also want to consider efforts supported by the NEFMC to summarize outputs from the Atlantic Herring MSE, and other best practices on summarizing the copious outputs associated with MSEs.

The current structure of the OM necessarily limits the potential scope of this iteration of the sablefish MSE. Communicating what is outside the scope of this effort may help the analysts to efficiently solicit input from stakeholders and managers (e.g., sablefish depredation would not be within scope at this time).

The PSTAT plans to add discard dynamics to the model over the next year. This will be a useful addition to capture more realism in total mortality and how fish are retained.

The current operating model structure allows investigation of changes to allocations among sectors within the California Current, if that was of interest to explore. Furthermore, the spatial structure of the OM aligns with the 36 degree management line so future catch distribution north and south of this line could be explored.

There is a sablefish fishery in SE Alaska run by the state that is not currently included in the operating model. However, it is unlikely to be influential because it represents less than 1% of total catches.

Spatial models can exhibit tradeoffs between reduced bias and lower precision. Investing in spatial dynamics and movement could obscure the shared patterns of decline among the stocks.

Recent examples of MSEs that have provided advice in a timely fashion in the Council process include sardine harvest control rule, flatfish reference points, Sacramento Winter Chinook, rebuilding analyses for rockfish, programmatic spex in 2015 that supported Groundfish Amendment 24 used the California Current Atlantis Model.

5. Assessment Methodology Review – Final Action

H. Coastal Pelagic Species Management

1. Preliminary Review of New Exempted Fishing Permits for 2021

The Scientific and Statistical Committee (SSC) received three preliminary exempted fishing permit (EFP) proposals. Two of these proposals have been previously reviewed (Agenda Item H.1, Attachments 1 and 2). A third EFP proposal that had not been previously reviewed (Agenda Item H.1, Attachment 3) was reviewed by the SSC at this meeting.

Diane Pleschner-Steele (California Wetfish Producers Association) presented a short summary of their EFP proposal for collecting biological samples from a limited directed Pacific sardine fishery to the SSC. The impetus for this proposal was the lack of age information for use in the stock assessment of Pacific sardine following the closure of the directed sardine fishery in 2015 as highlighted in the 2020 Pacific Sardine Stock Assessment Review Panel report. This EFP was designed after consultation with the analysts who conducted the last sardine stock assessment and sampling from each landing will be conducted by California Department of Fish and Wildlife personnel. Total landings will be limited to 620 mt across two areas (Monterey and Southern California). Landings will be further stratified with a goal of 20 mt per month for each area during 2021.

The SSC agreed that continuation of the collection of age-composition data was useful and the EFP should be supported.

The SSC noted there was inconsistency across the Council's fishery management plans (FMPs) in its role in review of EFPs under the respective Council Operating Procedures (COPs). The Coastal Pelagic Species, Highly Migratory Species (HMS), and Groundfish COPs all have identified a two-meeting process, but the role of the SSC differs according to the FMP. The process identified in the HMS FMP that tasks the SSC with review of selected EFPs during the second meeting, after the HMS Management Team identifies a significant scientific component that would benefit from SSC review during the first meeting, is the SSC's preferred approach.

SSC Notes:

The 2020 sardine assessment estimated annual selectivities which means that new age composition data would provide limited information about year-class strengths.

Collecting biological samples from a limited fishery with strong collaboration between the industry and state/federal agencies will prevent long data gaps such as those for the CSNA.

I. Highly Migratory Species Management

3. Biennial Harvest Specifications and Management Measures

The Council tasked the Scientific and Statistical Committee (SSC) with reviewing proxy values selected by the National Marine Fisheries Service (NMFS) to make best scientific information available (BSIA) status determinations for Eastern Pacific Ocean (EPO) bigeye and yellowfin tuna. However, due to the timing of the Inter-American Tropical Tuna Commission (IATTC) Scientific Advisory Committee, the SSC Highly Migratory Species (HMS) Subcommittee was unable to meet subsequent to the BSIA determination but before the November Council meeting.

Ms. Amber Rhodes (NMFS West Coast Region, WCR) and Ms. Sarah Shoffler (NMFS Southwest Fisheries Science Center, SWFSC) presented information about the challenges for identifying status determination criteria for these stocks. These stock assessments do not follow a standard template for reporting information and do not always report all the information needed to evaluate status based on the status determination criteria (SDC) in the HMS Fishery Management Plan (FMP). In particular, the two 2020 IATTC assessments (yellowfin and bigeye tuna) present outputs that are especially difficult to translate into existing proxies for SDC under the HMS FMP. The SSC anticipates other international organizations will use similar stock assessments in the future and so this problem with translation will likely recur in the future.

As the process for extracting SDC from these assessments can be complicated, the SSC suggests that the SWFSC and WCR develop standardized methods for dealing with these stock assessments. In the short term, during the winter of 2020-21 the SSC HMS Subcommittee will review proposed proxies developed by SWFSC and WCR for review by the full SSC during the March 2021 Council meeting. In the longer term, a workshop during 2021 or 2022 may be an appropriate venue to identify and formalize methods for extracting and translating relevant information from these stock assessments into the FMP. Both short- and long-term activities should be conducted in consultation with IATTC staff. The SSC is willing to advise on and review the methods developed by the SWFSC and WCR.

SSC Notes:

The HMS subcommittee was not convened on this topic because of the timing of the scientific review of the stock assessments (October 2020).

There is agreement that the stock assessments provide BSIA.

Due to the variety of assessments employed by the three organizations, it is unlikely that a single method would be universally applicable to all stock assessments.

Given that the MFMT is reported by these stock assessments, it appears to be a likely near term proxy that can be used as SDC.

Another option for dealing with SDC is to amend the FMP to more closely match the stock assessment methods used by the IATTC, ISC, or SPC.

There will be higher level NMFS discussions about how to approach the probabilistic frameworks used in the tuna stock assessments.

SSC Administrative Matters (continued)

6. Determining Best Scientific Information Available

The Scientific and Statistical Committee (SSC) received a presentation from Dr. Sarah Shoffler (National Marine Fisheries Service - Southwest Fisheries Science Center)and Dr. James Hastie (National Marine Fisheries Service - Northwest Fisheries Science Center) on Developing a Regional Best Scientific Information Available (BSIA) Framework. The presentation described motivation for developing a BSIA framework, the elements of the framework and the process and timing of developing and adopting the framework which must be completed by May 2022.

The framework is intended to clarify and increase transparency in how BSIA determinations, consistent with National Standard 2, are made for stock status determinations and catch specifications. The framework will spell out the current processes for establishing BSIA for products that contribute to status determinations and catch specifications, e.g., stock assessments and other science products including the roles of the Council, Science Centers, and Regional Office. The framework must be completed and publicly available by May 2022.

The framework developers will be looking for informal feedback while drafting framework. A draft will be presented to the Council in Spring 2021 and a final framework will be presented in fall 2021. The framework will not be public until Spring 2022.

There is some question about the role of the NMFS representative to the SSC and whether there is a conflict of interest for NMFS employees on the SSC, in making determinations that might conflict with assertions made by the agency. The SSC needs to clarify recusal rules for potential situations where a high level NMFS employee is the representative from NMFS to the SSC on BSIA determinations (e.g., division or deputy director) since many NMFS employees on the SSC would be subordinate to the NMFS representative.

The question was raised whether there are terms of reference for HMS assessments to be used in BSIA determinations? It is not clear that there are or whether these would be done at the National or Regional level.

It will be important to have procedures for getting expeditious BSIA determinations when Council decision must be made quickly, particularly for salmon where the determination is needed almost immediately.

C. Administrative Matters (continued)

8. Future Council Meeting Agenda and Workload Planning

The Scientific and Statistical Committee (SSC) met November 12 and 13, 2020 and discussed future Council meeting agenda items and workload planning.

A subgroup of the SSC and Mr. John DeVore have been working on a database design for Research and Data Needs, and the SSC finds this topic ready for review by other advisory bodies and the Council in March 2021. An informational report on this project is available in the November briefing book (Informational Report 3).

Work on predicting gear-switching behavior in the sablefish fishery should be ready for review by the SSC Economics and Groundfish Subcommittees before the March 2021 Council meetings and the SSC recommends this review.

At the request of the California Current Integrated Ecosystem Assessment (CCIEA) team, the SSC proposes a meeting of the CCIEA team and the SSC Ecosystem Subcommittee in January 2021 to discuss portions of the annual Ecosystem Status Report for which data collection and processing were impacted by COVID-19 precautions.

For Groundfish and Coastal Pelagic Species (CPS), the attached table shows the proposed schedule for the 2021 Stock Assessment Review (STAR) panels, as well as SSC Groundfish Subcommittee reviews of data-moderate and data-limited assessments, and the post-assessment review process at the end of the year.

The SSC supports the Sablefish Management Evaluation Strategy (MSE) team's proposal to engage with Council stakeholders in a workshop in Spring of 2021.

The SSC recommends an SSC Highly Migratory Species (HMS) Subcommittee meeting before the March 2021 Council meeting to review proposed proxies for status determination criteria to inform domestic management of bigeye and yellowfin tunas.

Finally, Agenda Item F.1, Attachment 1 states that the STT's *Preseason Report I* will be available in early March 2021. The SSC is currently scheduled to meet the first week of March 2021 and, if these two occurrences happen as scheduled, there will be insufficient time for the SSC to review and approve the contents of *Preseason Report I* for the March meeting, especially if there are changes to forecast and/or exploitation rate calculation methodologies due to sampling disruptions resulting from COVID-19 precautions.

SSC Notes:

For salmon forecasts and exploitation rate calculations, suggested options are to not have SSC approval of Pre I, to approve what we have not carefully reviewed, or to put off review until the April meeting.

Proposed Workshops and SSC Subcommittee Meetings for 2020 and 2021							
	Workshop/Meeting	**Potential Dates**	**Sponsor/ Tentative Location**	**SSC Reps.**	**Additional Reviewers**	**AB Reps.**	**Council Staff**
1	SSC Economics and Groundfish Subcommittees	Winter 2020/2021	Council/Webinar	Economics and Groundfish Subcommittee Members	NA	GMT GAP	DeVore Seger
2	SSC Highly Migratory Species Subcommittee	Winter 2020/2021	Council/Webinar	HMS Subcommittee Members	NA	HMSMT HMSAS	DeVore Dahl
3	SSC Ecosystem Subcommittee	January 2021	Council/Webinar	Ecosystem Subcommittee Members	CCIEA Team Members	NA	DeVore Dahl
4	Sablefish MSE Workshop?	Spring 2021?	Council/Webinar	TBD	TBD	GMT GAP	DeVore
5	Pacific Sardine Update Assessment Review (unless a catch-only projection is provided as recommended by the SSC, in which case the full SSC would review).	Spring 2021?	Council/Webinar	CPS Subcommittee Members	NA	CPSMT CPSAS	Griffin DeVore
6	Groundfish STAR Panel 1 Dover Sole & Data-Moderate Assessment of Spiny Dogfish	May 3-7, 2021	Council/Webinar	Tsou (Chair) Caltabellotta	2 CIE	GMT GAP	DeVore
7	SSC Groundfish Subcommittee Review of Sablefish Update & and Data Moderate Assessments of Copper Rockfish, Quillback Rockfish, & Squarespot Rockfish	2 days in June, 2021	Council/ Webinar	Groundfish Subcommittee Members (Marshall and Haltuch - Chairs)	NA	GMT GAP	DeVore

8	Groundfish STAR Panel 2 Lingcod	July 12-16, 2021	Council/TBD	Field (Chair) White	2 CIE	GMT GAP	DeVore
9	Groundfish STAR Panel 3 Vermilion & Sunset Rockfishes	July 26-30, 2021	Council/TBD	Budrick (Chair) TBD	2 CIE	GMT GAP	DeVore
10	7th National Meeting of the Scientific Coordination Subcommittee of the Council Coordination Committee	2021?	NPFMC/ Sitka, AK	4 TBD	NA	NA	DeVore
11	SSC Ecosystem Subcommittee	September, 2021	Council/ Spokane, WA	SSC Ecosystem Subcommittee Members	CCIEA Team	EWG EAS	DeVore Dahl
12	Groundfish mop-up STAR Panel, if needed	September 27- October 1, 2021	Council/TBD	TBD	2 CIE	GMT GAP	DeVore
13	Salmon Methodology Review	October 2021	Council/TBD	Salmon Subcommittee members	NA	STT MEW	Ehlke
14	CSNA STAR Panel	Nov. 30 – Dec. 3, 2021	Council/TBD	CPS Subcommittee Members TBD	2 CIE	CPSMT CPSAS	Griffin DeVore
15	Proposed Workshop for Conducting Nearshore ROV Surveys	Fall/Winter 2021 After Assessment Cycle, TBD	Council/TBD	TBD	TBD	GMT GAP	DeVore
16	Post-mortem Review of the Groundfish Assessment Process	Fall/Winter 2021 After Assessment Cycle, TBD	Council/TBD	Groundfish Subcommittee Members	TBD	GMT GAP	DeVore

SSC Administrative Matters (continued)

7. Planning the Research and Data Needs Database

Mr. John DeVore briefed the SSC on progress made in planning and developing the Pacific Council's Research and Data Needs (RDN) database. He went through Informational Report 3 developed by the RDN Development Team. The SSC agreed with the planning effort and concluded progress was sufficient to recommend the Council and Council advisory bodies begin reviewing the database in March 2021. A fundamental decision for the Council is whether they would like to solicit RDN priorities from advisory bodies through the database or in a separate Council process.

SSC Subcommittee Assignments, November 2020

Salmon	Groundfish	Coastal Pelagic Species	Highly Migratory Species	Economics	Ecosystem-Based Management
Alan Byrne	**John Budrick**	**André Punt**	**Michael Harte**	**Cameron Speir**	**Kristin Marshall**
John Budrick	Fabio Caltabellotta	John Budrick	Fabio Caltabellotta	Michael Harte	John Field
Owen Hamel	John Field	Alan Byrne	John Field	Dan Holland	Marisol Garcia-Reyes
Michael Harte	Melissa Haltuch	John Field	Marisol Garcia-Reyes	André Punt	Melissa Haltuch
Galen Johnson	Owen Hamel	Marisol Garcia-Reyes	Dan Holland		Michael Harte
Will Satterthwaite	Kristin Marshall	Owen Hamel	Kristin Marshall		Dan Holland
Jason Schaffler	André Punt	Will Satterthwaite	André Punt		Galen Johnson
Ole Shelton	Jason Schaffler	Tien-Shui Tsou			André Punt
Cameron Speir	Tien-Shui Tsou	Will White			Will Satterthwaite
Tien-Shui Tsou	Will White				Ole Shelton
					Cameron Speir

Bold denotes Subcommittee Chairperson

ADJOURN