

MINUTES

Scientific and Statistical Committee

Pacific Fishery Management Council
Hyatt Regency Orange County
Garden 4 North Tower Room
11999 Harbor Blvd.
Garden Grove, CA 92840
Telephone: 714-750-1234

June 19-20, 2014

Members in Attendance

Dr. Andrew Cooper, Simon Fraser University, Vancouver, B.C.
Dr. Martin Dorn, National Marine Fisheries Service, Seattle, WA
Dr. Owen Hamel, National Marine Fisheries Service, Seattle, WA
Dr. Daniel Huppert, University of Washington, Seattle, WA
Mr. Tom Jagielo, Seattle, WA
Dr. Galen Johnson, Northwest Indian Fisheries Commission, Olympia, WA
Ms. Meisha Key, SSC Chair, California Department of Fish and Wildlife, Santa Cruz, CA
Dr. Peter Lawson, National Marine Fisheries Service, Newport, OR
Dr. Todd Lee, National Marine Fisheries Service, Seattle, WA
Dr. André Punt, University of Washington, Seattle, WA
Dr. David Sampson, Oregon Department of Fish and Wildlife, Newport, OR
Dr. William Satterthwaite, SSC Vice-Chair, National Marine Fisheries Service, Santa Cruz, CA
Ms. Cindy Thomson, National Marine Fisheries Service, Santa Cruz, CA
Dr. Tien-Shui Tsou, Washington Department of Fish and Wildlife, Olympia, WA

Members Absent

Dr. Vladlena Gertseva, National Marine Fisheries Service, Seattle, WA

SSC Recusals for the June 2014 Meeting		
SSC Member	Issue	Reason
Dr. Todd Lee	F.6 Fixed Gear Sablefish Catch Share Program Review, Including Federal Electronic Fish Tickets for Open Access Sablefish Deliveries	Dr. Lee's staff did the socioeconomic analysis
Dr. Todd Lee	F.7 Fisheries in 2015-2016 and Beyond: Harvest Specifications, Management Measures, and Amendment 24	Dr. Lee's staff contributed to the socioeconomic analysis

A. Call to Order and Scientific and Statistical Committee (SSC) Administrative Matters

Chair Meisha Key called the meeting to order. Dr. McIsaac addressed the SSC and reviewed the agenda to identify SSC tasks.

E. Highly Migratory Species Management

1. Update on Regulatory Matters and International Activities

Mr. Mark Helvey briefed the Scientific and Statistical Committee (SSC) regarding the draft of a resolution intended for consideration by the IATTC regarding the *Framework for a Precautionary Management Approach for North Pacific Albacore* (Agenda Item E.1.b, Supplemental NMFS Report 4). The resolution tasks the IATTC scientific staff to work with the International Scientific Committee's Albacore Working Group to develop a Management Strategy Evaluation (MSE). The MSE will analyze the effects of harvest control rules under a range of reference points and evaluate the degree to which each scenario would meet performance criteria.

The SSC notes that the resolution does not mention the operating model to be used in the MSE. The operating model represents the population being managed and is one of the most important and time consuming aspects of developing an MSE. The SSC recommends the resolution describe the process by which the operating model will be developed and reviewed, including who will perform each of these tasks.

The current suite of reference points and control rules is quite prescriptive. The SSC notes that the result of an MSE with these particular reference points and control rules may fail to produce a system that satisfies the performance criteria. In addition, some of the proposed target fishing mortality reference points may be incompatible with the limit biomass reference point with which they are paired. The MSE may identify other strategies that better satisfy the performance criteria than those originally proposed.

SSC Notes:

The operating model describes how the theoretical population will operate (recruitment dynamics, natural mortality, etc.) as well as how management actions are translated into realized harvests (e.g., implementation uncertainty). For example, the operating model will produce a true biomass that is unobserved and is different from the observed biomass upon which the control rule will operate. Distinctions must be made between the biomass being estimated to be above or below the limit reference point versus the true biomass being above or below the limit reference point.

The operating model should include biomass estimation uncertainty as well as outcome uncertainty (formerly known as implementation uncertainty)

Performance criteria need to be refined.

In order to obtain MSC certification, the management system must be designed to keep the population at or above the biomass target, yet there are no biomass targets mentioned in the resolution so such an evaluation could not be performed.

Modeling Total Allowable Effort (TAE) systems can be incredibly challenging.

F. Groundfish Management

5. Final Exempted Fishing Permit (EFP) Approval for 2015-2016

Mr. Brett Wiedoff briefed the Scientific and Statistical Committee (SSC) on the revised exempted fishing permit (EFP) applications for electronic monitoring (EM) (Agenda Item F.5.a Attachments 1 – 4). The applicants were present to answer questions. The utility of the data obtained through these EFPs can be enhanced if there is consistency in data collection and reporting procedures. If the information is not collected and compiled in a consistent manner, it may result in a lost opportunity to compare results among EFPs and to compare results between EFP and non-EFP fleets. For example, economic data are valuable in evaluating cost effectiveness of EM. Collection of common data components, such as cost of equipment purchase, maintenance, and video review, should be considered by all EFP participants. The SSC encourages the EFP applicants, the Council staff, and National Marine Fisheries Service regional staff to collaborate on identifying common data components, standardizing reporting procedures, and planning for future data analyses.

The SSC found insufficient information to evaluate whether the level of observer coverage in the applications is adequate. Observer responsibilities include compliance monitoring and collecting scientific data and discard samples at sea. Since most of the EFPs are premised on maximized retention, the role of the observer on an EFP vessel will be different than on non-EFP vessels. It is not clear to the SSC how changes in observer coverage with EFPs might affect the quantity and quality of data needed for science, management, and compliance monitoring. The SSC requests that the observer program provide information regarding the data currently being collected, how they are used, and how they might be affected by reduced observer coverage.

6. Fixed Gear Sablefish Catch Share Program Review, Including Federal Electronic Fish Tickets for Open Access Sablefish Deliveries

The Scientific and Statistical Committee (SSC) discussed the Pacific Coast Groundfish Limited Entry Fixed Gear Sablefish Permit Stacking Program Review (Agenda Item F.6.a, Attachment 1) with Mr. Jim Seger. The analysis incorporates suggestions made by the SSC at the April meeting. The SSC concurs with the preliminary conclusions in Section 5.0 (Preliminary Conclusions and Questions). Periodic retrospective evaluations such as this are useful for determining the efficacy of Council management programs. The SSC recommends the Council consider including collection of permit price and fishery participant data as described in Section 4.0 (Research Needs) in Section 6.0 (Council Recommendations).

8. Initial Stock Assessment Plans and Terms of Reference (TOR) for Groundfish and Coastal Pelagic Species

The SSC reviewed the documents associated with stock assessment planning, focusing in particular on the Northwest Fisheries Science Center (NWFS) Report (Agenda Item F.8.b, NWFS Report) and the set of draft Terms of Reference documents for: the Groundfish and Coastal Pelagic Species Stock Assessment and Review Process (Agenda Item F.8.a, Attachment 2); Groundfish Rebuilding Analyses (Agenda Item F.8.a, Attachment 3); and the Methodology Review Process for Groundfish and Coastal Pelagic Species (Agenda Item F.8.a, Attachment 4).

Stock Assessment Planning

Dr. Owen Hamel (NWFSC) summarized the information in the NWFSC Report. The SSC is in general agreement with the NWFSC regarding which stocks should receive full or update assessments during 2015.

The SSC recommends the following stocks for full assessments:

- bocaccio rockfish (overfished and projected to be almost rebuilt);
- darkblotched rockfish (overfished and projected to be almost rebuilt);
- canary rockfish (overfished and not fully assessed since 2007);
- black rockfish (not fully assessed since 2007);
- widow rockfish (fully assessed in 2011 and subject to relatively high uncertainty);
- China rockfish (never fully assessed, data-moderate assessment in 2013).

Given the STAR Panel process during 2015 could accommodate reviews of eight full stock assessments, it is reasonable to consider one or two additional stocks for full assessments. Only one additional full assessment could be reviewed if black rockfish is assessed as separate northern and southern stocks by separate stock assessment teams, as occurred in 2007. Otherwise two additional full assessments could be reviewed.

The NWFSC Report identifies 10 stocks that could be considered as lower priority candidates for full stock assessments during 2015 (chilipepper, China, quillback and yelloweye rockfish, cowcod, kelp greenling, lingcod, Pacific ocean perch, petrale sole, and sablefish). The SSC did not come to a strong unified opinion regarding which of these stocks should be given highest priority for a full assessment, other than China rockfish. However, there were arguments made in support of full assessments for sablefish, roughey rockfish, yelloweye rockfish, and kelp greenling. The SSC notes that the last assessment for kelp greenling used a catch series that is now considered to be incorrect.

It is likely that a mix of methods will be needed to assess some stocks. For example, a full age-structured model could be applied to that geographic portion of a stock's range for which age-composition data are available, and a data-moderate assessment could be developed for the remaining geographic portion. Such an approach might be sensible for nearshore species such as

China rockfish or kelp greenling, for which reasonable age-composition data sets are available for Oregon and not for the other states. Species being assessed using multiple assessment methods should be reviewed at a single STAR panel.

The SSC supports the NWFSC Report recommendation that petrale sole receive an update assessment during 2015. The SSC recommends that sablefish be an update assessment during 2015 if this stock does not receive a full assessment.

The SSC also supports the NWFSC Report recommendation that the data-moderate STAR Panel should review assessments for no more than four species. It is likely that each species will require assessment models for multiple geographic regions. Furthermore, each species and region will need to be assessed using the two types of data-moderate assessment models (XDB-SRA and exSSS).

Terms of Reference Documents

The SSC reviewed the set of draft Terms of Reference documents for the 2015-16 biennial cycle, Attachments 2-4. Attachment 2 includes revisions to make the Terms of Reference consistent with new National Standard 2 Guidelines regarding standards for peer review. Other than those changes, the draft Terms of Reference documents are essentially unmodified versions of the Terms of Reference approved by the Council during 2012 for the last stock assessment cycle. A number of changes to the draft Terms of Reference documents were suggested and discussed. The SSC's Groundfish and CPS Subcommittees will work during the summer to develop a set of revised Terms of Reference documents that indicate all the suggested changes. These revised documents will be available in the September Council Briefing Book for review by the Council and its advisory bodies.

SSC Notes:

- *Dr. John Field (SWFSC) indicated that he had been monitoring changes in chilipepper rockfish and was interested in updating that assessment.*
- *The stock assessment Terms of Reference should include a new section for a type of update (a mini-update) that uses only new catch data to update the projections. An example is the arrowtooth flounder assessment, which is now quite old and for which the realized catches have been well below the ACL levels. These projection analyses would be reviewed by the Groundfish Subcommittee.*
- *CPS – have them turn in draft assessments documents 3 weeks in advance.*
- *The SSC Minutes (in Notes-to-Self) raised points regarding the stock assessment Terms of Reference.*
 - *“Because catch projections become increasingly uncertain as the length of the projection period increases, the buffer for scientific uncertainty should also increase. During the coming year the SSC will consider different approaches for revising OFL buffers for increasing scientific uncertainty through time, which will affect harvest specifications for 2017 and beyond.” (Sept. 2013)*
 - *“Issues concerning stock boundaries should be addressed early in the stock assessment process. One possibility is to strengthen the recommendations in the Stock Assessment Terms of Reference for the stock assessment team (STAT) to*

consult early in the process with the GMT and fisheries managers about spatial management issues associated with the stock being assessed. The SSC emphasizes that biological and scientific considerations must take precedence in developing stock assessments." (Nov. 2013)

- *"Prior to the next stock assessment cycle, we should modify the Terms of Reference for stock assessments and establish the rule that any assessment of a complex of species cannot be designated as a category 1 assessment unless there is good evidence that the component species have very similar life-history characteristics and similar rates of biological productivity." (Nov. 2013)*
- *It appears that the Methodology Terms of Reference were not revised to conform to the new National Standards 2 Guidelines.*
- *Appendix E to the stock assessment Terms of Reference should include categories for the CPS stocks. Consider redefining category definitions.*
- *Plan for revising the stock assessment Terms of Reference document:*
 - *By July 11th Owen and Vlada will prepare clean version of the document and circulate it to the Groundfish and CPS Subcommittees.*
 - *The members of the Groundfish and CPS Subcommittees will return their comments and suggested edits to Owen and Vlada within two weeks, with copies sent to other members of the Subcommittees.*
- *The Groundfish and CPS Subcommittees should prepare a set of guidelines for STATs regarding how certain technical aspects of assessments should be dealt with. Examples of items to cover include the following:*
 - *Make sure that assessment teams are aware of certain pitfalls associated with using RecFIN / MRFSS data.*
 - *Provide guidance on approaches to use for data-reweighting.*
 - *Provide guidance on how to assign geographic stock boundaries.*

7. Fisheries in 2015-2016 and Beyond: Harvest Specifications, Management Measures, and Amendment 24

The Scientific and Statistical Committee (SSC) reviewed various documents related to establishing harvest specifications for the 2015-2016 fisheries and for Amendment 24 to the Groundfish Fishery Management Plan. The supplemental material for this agenda item became available during the SSC meeting. Therefore, the SSC did not have time to review it.

Cowcod Overfishing Level (OFL)

The SSC recommends the updated 2016 OFL of 68 mt for cowcod (Table 1, Agenda Item F.7, Attachment 2).

Harvest Specifications Draft Environmental Impact Statement

Dr. Kit Dahl and Mr. John DeVore provided the SSC with an overview of the Draft Environmental Impact Statement (DEIS) (Agenda Item F.7 Attachment 4). The DEIS is a comprehensive evaluation of the long-term and short-term environmental and socioeconomic impacts of future catches. The short-term analyses (Sections 4.1 – 4.7) are related to the 2015-2016 fisheries while the long-term analyses (Sections 4.8 - 4.12) relate to the process of determining default harvest specifications.

Socioeconomic and Biological Analyses

Most of the short-term socioeconomic analyses are based on models which have been previously reviewed by the SSC. However, the methods used for projecting trawl catches for 2015-2016 fisheries have not been reviewed. The SSC was briefed on the methods and finds them to be reasonable. The projections of attainment are likely to be very uncertain given the fishery may still be in a transitional phase to the catch share program. The SSC has also not reviewed the approach used to evaluate the implications of trip limits for lingcod during the closed season. The SSC should review this analysis for the 2017-2018 harvest specifications process.

The projected long-term socioeconomic impacts are highly uncertain. Historical variation in ex-vessel revenue is due to many factors, such as management and changes in markets, and it is not clear how these factors will impact revenue in the future. However, the SSC agrees that the evaluation of long-term socioeconomic impacts is reasonable given the available information.

The biological analyses in the DEIS have been updated based on previous comments by the SSC. These analyses are sufficiently complete.

Atlantis Model Results

The Atlantis model is used in the DEIS to explore the long-term biological implications of the default harvest specifications. The SSC reviewed a preliminary version of the analysis based on this model in April 2014. The analysis has been updated based on the suggestions from the SSC. In particular, results are now provided to evaluate impacts on marine mammal and seabird populations. A methodology panel is scheduled (June 30 - July 2, 2014) to review the Atlantis model and report to the Council in September 2014.

The outcomes of the Atlantis model are scaled to results for a benchmark scenario in which productivity is set to base levels and catches are based on the 'recent averages' scenario. Across a broad range of catch levels, there do not appear to be large impacts of the groundfish fishery on other components of the ecosystem, although, and as expected, biomass levels for target species are lower for the higher catch scenarios.

SAFE Document

Mr. John DeVore summarized the contents of the draft groundfish SAFE document (Agenda Item F.7 Attachment 7). The draft SAFE follows the revised National Standard 2 guidelines for SAFE documents and has been developed with input from NMFS staff and stock assessment teams. It contains a considerable amount of information which will be valuable to the Council, scientists, and the public. The SSC will be involved in the review of the next version of the document through its Groundfish and Economics Subcommittees. The SSC highlights that the time needed to update this document every biennial cycle may be substantial.

SSC Notes:

- *Draft EIS*
 - *Given the scaling to the benchmark scenario, the "Ratio of target species biomass to catch" statistic is effectively relative biomass*
 - *Update the captions for tables such as 4-188 as they are currently not very clear.*

- *Consider adding the catches to the long-term biological projections once John DeVore is R-literate.*
- *Future model reviews*
 - *Retrospective analyses should be included in the documentation for any ITQ model to allow an evaluation of the performance of the model.*
- *SAFE Document*
 - *Add socioeconomic information for the recreational fishery to the SAFE.*
 - *Add information on violations to the SAFE.*
 - *Consider referring to overfished stocks as “stocks under rebuilding plans.”*
 - *Extend the proposed database of regulations so that historical information can be extracted by species.*

G. Coastal Pelagic Species Management

2. Pacific Mackerel Harvest Specifications and Management Measures for 2014-2015

The Scientific and Statistical Committee (SSC) reviewed a report prepared by the Southwest Fisheries Science Center (Agenda Item G.2.b, NMFS Report). The report provides a set of catch-only biomass projection estimates for Pacific mackerel for the purpose of deriving harvest specifications for the fishing year that begins July 1, 2014 and ends June 30, 2015.

All of the biomass projections use the same base model and other parameters in the most recent 2011 full assessment; however, they differ in their assumptions of recent recruitment. The default projection derives recruitments directly from the Beverton-Holt Spawner-Recruit curve. Three additional projections, requested by the SSC Coastal Pelagic Species subcommittee, were also reported to examine sensitivity.

The SSC discussed the biomass projections provided in the report and also reviewed the Spawner-Recruit relationship and the pattern of historical and recent recruitments as reported in the 2011 full assessment. The SSC notes that there is evidence of auto-correlation in the historical recruitment time series, which could potentially cause a bias in the default biomass projection. For this reason, the SSC concludes that using the biomass projection derived from the mean of 2008-2010 recruitment deviations (in lieu of the default projection) is a risk-neutral approach to obtain harvest specifications. This results in a biomass estimate of 157,106 mt.

The SSC recommends an overfishing limit of 32,992 mt. Since Pacific mackerel is a short-lived stock and the most recent full assessment is dated, the SSC recommends carrying forward the Category 2 sigma classification (0.72) for deriving harvest specifications in 2014-2015.

SSC Subcommittee Assignments, June 2014

Salmon	Groundfish	Coastal Pelagic Species	Highly Migratory Species	Economics	Ecosystem-Based Management
Pete Lawson	Vlada Gertseva	André Punt	André Punt	Cindy Thomson	Martin Dorn
Owen Hamel	Andrew Cooper	Owen Hamel	Andrew Cooper	Vlada Gertseva	Vlada Gertseva
Galen Johnson	Martin Dorn	Dan Huppert	David Sampson	Dan Huppert	Pete Lawson
Meisha Key	Owen Hamel	Tom Jagielo		Todd Lee	Galen Johnson
Will Satterthwaite	Tom Jagielo	Meisha Key		André Punt	Todd Lee
	Meisha Key			David Sampson	André Punt
	André Punt				Will Satterthwaite
	David Sampson				Cindy Thomson
	Tien-Shui Tsou				Tien-Shui Tsou

Bold denotes Subcommittee Chairperson

DRAFT Tentative Council and SSC Meeting Dates for 2014

Council Meeting Dates	Location	Likely SSC Mtg Dates	Major Topics
<p>March 8-13, 2014 Advisory Bodies may begin Fri, March 7 Council Session begins Sat, March 8</p>	<p>DoubleTree by Hilton Hotel Sacramento 2001 Point West Way Sacramento, CA 95815 Phone: 916-929-8855</p>	<p>Three-day SSC Session Fri, March 7 – Sun, March 9</p>	<p>IEA annual report Final CPS EFP Sardine harvest param. Review Groundfish methodology review Groundfish 2015-16 spex Rockfish barotrauma mort. rates Salmon review/Pre I CA current & IEA reports</p>
<p>April 5-10, 2014 Advisory Bodies may begin Fri, Apr 4 Council Session begins Sat, Apr 5</p>	<p>Hilton Vancouver Washington 301 W. Sixth Street Vancouver, WA 98660 USA Phone: 360-993-4500</p>	<p>Two-day SSC Session Fri, April 4 – Sat, April 5</p>	<p>Pacific sardine assess. Groundfish 2015-16 spex Groundfish electronic monitoring Salmon methodology topic selection</p>
<p>June 20-25, 2014 Advisory Bodies may begin Thu, June 19 Council Session begins Fri, June 20</p>	<p>Hyatt Regency Orange County 11999 Harbor Blvd. Garden Grove, CA 92840 Phone: 714-750-1234</p>	<p>Two-day SSC Session Thu, June 19 – Fri, June 20</p>	<p>Mackerel HG & mgt. measures Pacific sardine methodology review Groundfish 2015-16 spex Prelim. groundfish stock assess. plan & ToRs Groundfish electronic monitoring HMS mgt. measures, SDC, and ref. pts.</p>
<p>September 12-17, 2014 Advisory Bodies may begin Thu, Sept 11 Council Session begins Fri, Sept 12</p>	<p>DoubleTree by Hilton Spokane City Center 322 N. Spokane Falls Court Spokane, WA 99201 Phone: 509-455-9600</p>	<p>Two-day SSC Session Thu, Sept 11 – Fri Sept 12</p>	<p>Plan science improvements Salmon methodology topic priorities Final groundfish stock assess. plan & ToRs Groundfish EFH amendment Halibut bycatch estimate</p>
<p>November 14-19, 2014 Advisory Bodies may begin Thu, Nov 13 Council Session begins Fri, Nov 14</p>	<p>Hilton Orange County/Costa Mesa 3050 Bristol Street Costa Mesa, CA 92626 Phone: 714-540-7000</p>	<p>Two-day SSC Session Thu, Nov 13 – Fri, Nov 14</p>	<p>Prelim. CPS EFP Salmon methodology review</p>

SSC meeting dates and durations are tentative and are subject to change in response to Council meeting dates, agendas,

workload, etc.

Proposed Workshops and SSC Subcommittee Meetings for 2014

Tentative – Depended on funding, dates subject to change

☐ – Prep. Work Underway, Scheduled to Occur; ◻ – Status of Supporting Analyses Uncertain, Remains a Priority;

▨ – Setbacks exist, Questionable; ■ – Funding or Prep. Not Avail, likely to be canceled or postponed

Workshop/Meeting		Potential Dates	Sponsor/ Tentative Location	SSC Reps.	Additional Reviewers	AB Reps.	Council Staff
1	Pacific Sardine STAR Panel	March 3-5	Council La Jolla	Punt, Key	2 CIE	CPSMT/ CPSAS	Griffin
2	CPS Survey Methodology Review	April 23	Council La Jolla	Hamel	TBD	CPSMT/ CPSAS	Griffin
3	NWFSC Assessment Program Review	June 10-13	NWFSC Seattle	Cooper	Many	NA	DeVore
4	Review Atlantis model	June 30 – July 2	NWFSC/ Seattle	EBM Subcommittee	3 CIE	EAS	Dahl
5	SWFSC Assessment Program Review	July 28-August 1	SWFSC La Jolla	NA	Many	NA	DeVore
6	Improving Socioeconomic Analysis	Sept. 10 or 13	Council/ Spokane	Econ Subcommittee	TBD	GMT GAP	DeVore, Dahl
7	Salmon Methodology Review	Oct. 21-23	Council/ Portland	Salmon Subcommittee	None	STT SAS	Burner
8	Groundfish Historical Catch Reconstructions	Late 2014	TBD	GF Subcommittee	None	GMT GAP	DeVore

Proposed Workshops and SSC Subcommittee Meetings for 2014

Tentative – Depended on funding, dates subject to change

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	Workshop/Meeting	Potential Dates	Sponsor/ Tentative Location	SSC Reps.	Additional Reviewers	AB Reps.	Council Staff
9	Methods for Data Reweighting Workshop	Webinar?	NWFSC/ Council	GF & CPS Subcommittees	TBD	GMT GAP	DeVore
10	Reference Points (Bzero) Workshop II	TBD	TBD	GF Subcommittee	CIE/External 1-3:	GMT GAP	DeVore
11	Evaluation of Stock Productivity Methodological Approaches	Nov 12 or 15	Council Costa Mesa	GF Subcommittee	NA	GMT GAP	DeVore
12	Transboundary Groundfish Stocks	?	Council	2 TBD?	?	GMT GAP	DeVore