

**MINUTES**  
**Scientific and Statistical Committee**

Pacific Fishery Management Council  
Doubletree by Hilton Spokane City Center  
Suite C & D  
322 North Spokane Falls Court  
Spokane, WA 99201  
Telephone 509-455-9600

**September 11-12, 2014**

**Members in Attendance**

Mr. Alan Byrne, Idaho Department of Fish and Game, Boise, ID  
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. Todd Lee, National Marine Fisheries Service, 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  
Dr. Peter Lawson, National Marine Fisheries Service, Newport, OR  
Dr. André Punt, University of Washington, Seattle, WA

<b>SSC Recusals for the September 2014 Meeting</b>		
<b>SSC Member</b>	<b>Issue</b>	<b>Reason</b>
None.		

***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.

Dr. David Sampson volunteered to be the Groundfish Subcommittee chair. Mr. Alan Byrne volunteered to be on the Salmon and CPS Subcommittees.

Dr. Tsou explained that WDFW has contracted with Dr. Ray Conser to do the Washington historical catch reconstruction. If the intended workshop to review catch reconstructions includes the Washington effort, she recommended the workshop be scheduled for late January or early February.

The following meetings were discussed in SSC workload planning. Groundfish Subcommittee meeting on November 12 in Costa Mesa to review some new assessment methodologies. Ecosystem Subcommittee meeting on December 15-16 in Seattle on IEA ecosystem indicators. SSC members who expressed interest in attending the February 2015 National SSC meeting: Meisha Key, Owen Hamel, Martin Dorn (he expressed interest in presenting an overview of PFMC assessment methods and the management framework), and Will Satterthwaite.

### ***Informational Reports***

1. Draft of the West Coast Region Regional Electronic Technologies Implementation Plan

*SSC Notes:*

*The SSC reviewed the informational report “Regional electronic technologies implementation plan for marine fisheries in the West Coast region”. Dr. Steve Freese (NMFS) was available to answer questions.*

*The SSC raised the following points for consideration in the Implementation Plan.*

- *The plan should discuss the importance of providing data in support of stock assessments. The potential ability for electronic technologies to provide fishery dependent data that are spatially explicit could be transformative for stock assessments.*
- *Confidentiality issues will need to be addressed to reap the full benefits of enhanced data collection. How will the data be reported? Who will have access to the data and in what form (e.g., raw versus aggregated)?*
- *Increased electronic data collection will also require increased staffing for management and analysis of the new data. This is particularly true if timeliness of the data is a primary goal for implementing electronic technologies.*
- *Partner agencies currently collect much of the fishery dependent data that are used for fishery monitoring and stock assessment. These partner agencies need to be fully considered in the plan to implement electronic technologies to lessen the chances that redundant data are collected and that gaps do not develop in existing time series.*

*The implementation plan needs to consider how fishery dependent data are currently used or the transition to electronic monitoring may have undesirable consequences.*

### ***J. Groundfish Management***

Review 2014 Stock Assessment and Fishery Evaluation Document

This agenda item was cancelled.

## ***G. Highly Migratory Species Management***

### **3. Preliminary Approval of Exempted Fishing Permits for 2015 Fisheries**

The Scientific and Statistical Committee (SSC) reviewed a preliminary exempted fishing permit (EFP) application for testing alternative gears to drift gillnets (DGN) for catching swordfish or for testing alternative approaches to current DGN fishery management practices (Agenda Item G.3.a, Attachment 4). The primary research question identified in the application was whether alternative fishing gears would reduce the bycatch of protected species (i.e., leatherback turtles) and other species. A secondary question is whether these alternative gears are commercially viable fishing techniques. A general approach was identified for addressing these questions, but there are too few details in the preliminary proposal for the SSC to evaluate the scientific validity of the approach.

There are a number of obstacles to using a controlled experimental design to evaluate bycatch rates for different gears. First, the bycatch of leatherback turtles is a very rare event, so sample sizes of gear deployments will need to be very large in order to detect differences between gears. A second obstacle is that fisheries using different gears will be conducted in a way that gives the best catch rates for the gear, which may be at different times and areas for each gear. Therefore even side-by-side comparison of gears would not necessarily provide information on differences for fleets using different gears.

The SSC recommends that the Council consider carefully whether a controlled experimental design is the best way to proceed in evaluating the performance of very different gear types to replace drift gillnets. An EFP could simply allow alternative gears to be deployed subject to appropriate monitoring under existing bycatch restrictions. These bycatch restrictions would provide an incentive for EFP holders to devise effective bycatch avoidance strategies suited to their gear type. Such a program would allow alternative gears to be evaluated and would eventually generate the necessary information on bycatch for any gear that proves to be viable from an economic perspective.

Finally, the SSC recommends that EFP applicants consult with a scientific advisor for experimental design if the Council wishes EFPs to be designed to answer specific questions in a scientific manner. The SSC would also like to note an excerpt from COP 20 regarding SSC review of EFPs: “All EFP applications should first be evaluated by the HMSMT for consistency with the goals and objectives of the HMS FMP. When a proposal is submitted to the HMSMT that includes a significant scientific component that would benefit from SSC review, the HMSMT can refer the application to the SSC for comment.” The process would be much more efficient if these operating procedures were followed.

## ***C. Coastal Pelagic Species Management***

### **1. Pacific Sardine Harvest Fraction**

Ms. Lorna Wargo of the Coastal Pelagic Species Management Team (CPSMT) presented the preliminary draft of the Environmental Assessment (EA) and additional analyses conducted by the CPSMT. Mr. Josh Lindsay was present for the discussion as well.

The Scientific and Statistical Committee (SSC) supports the change to using the 3-year moving average of the CalCOFI temperature index for the harvest guideline (HG), as was done for the overfishing limit (OFL) control rule adopted by the Council in March 2014. In order to fully evaluate the impact of this change and the Alternatives presented, however, Table 1 in the EA should include a column for Alternative 1 (the No Action Alternative). To produce this column, a simulation needs to be conducted using the current harvest control rules (including OFL, acceptable biological catch [ABC] and HG rules), including the temperature data from Scripps Institute of Oceanography (for the HG) as well as that from CalCOFI (for the OFL, ABC, and to drive the biological simulation) for the same time period used as the basis for simulations of the other Alternatives. The SSC expects that the results of this analysis will be generally similar to Scenario New8 (=Variant 22) in the "Revised Analyses Related to Sardine Harvest Parameters" (Agenda Item I.1.b, Revised Analyses, March 2014).

The analyses in the EA are based upon a single combination of  $P^*$  and  $\sigma$ . Alternative values of these parameters should be considered to expand the range of ABC control rules that are analyzed. For example, a  $P^*$  of 0.25 with a  $\sigma$  of 0.72 could be considered. The table of species listed as endangered or threatened under the ESA should be revised. For example, the eastern distinct population segment of Steller sea lions is no longer listed as threatened under the ESA; and yelloweye rockfish is listed only in Puget Sound.

#### ***D. Salmon Management***

##### **2. Lower Columbia River Coho Harvest Matrix**

The Scientific and Statistical Committee (SSC) reviewed the document "Review of allowable fishery impacts to Lower Columbia River natural coho, Lower Columbia Natural Coho Workgroup Report, Working Draft Analyses" (Agenda Item D.2.a, Attachment 1). Mr. Chris Kern of the Oregon Department of Fish and Wildlife was available to answer questions.

The Workgroup Report provides little methodological detail, however much can be inferred from the "Harvest strategy risk assessment for Lower Columbia natural coho" document from the November 2013 Council meeting (Item C.2.a, Attachment 2). The SSC previously noted that "numerical estimates of extinction risk from the model should be considered as index values only, and in no way represent actual probabilities of extinction." Thus, while rankings of different management scenarios in terms of population risk are likely to be relatively robust, there is substantial uncertainty in the baseline magnitude of risk, and also the amount of change in risk among alternatives.

The SSC identified multiple arguments for retaining at least some parental seeding categories in the harvest matrix. Although the Workgroup Report states that low seeding levels were rarely observed in the past, the time series for many populations span only a few years, and even the longest time series are inadequate to characterize the probability of occurrence of rare events. Simulated population dynamics should not be considered a reliable quantitative prediction of the frequency of low seeding levels in the future. In addition, seeding levels are determined from data on wild populations, while the current marine survival index is derived from a hatchery proxy.

Lack of clarity on methodological details, as well as apparent inconsistencies among tables,

figures, and text in the report hindered thorough review, and the SSC requests that future workgroup reports identify a point of contact for technical clarifications.

The SSC supports re-assessing the suitability of the harvest matrix periodically as additional information on population capacity and productivity becomes available.

#### 1. Salmon Methodology Review

Mr. Mike Burner briefed the Scientific and Statistical Committee (SSC) on the current list of proposed topics for the 2014 Salmon Methodology Review to be held October 21-23 in Portland, Oregon. The following items were identified for potential review this fall, and the lead entity for each work product is identified at the end of each item.

1. Conservation objectives, annual catch limits, and status determination criteria for Willapa Bay natural coho (STT and WDFW).
2. Conservation objectives for southern Oregon coastal Chinook (ODFW).
3. Standardized method to calculate Chinook age-2 FRAM stock recruit scalars (MEW).
4. Progress Report: new Chinook FRAM base period (MEW).
5. Escapement goal for Grays Harbor Chinook (WDFW and Quinault Indian Nation).
6. Review of fishery impact estimation methodology relative to the Cape Flattery Control Zone (WDFW).
7. Method to update non-local Chinook stock impacts in terminal fisheries in Chinook FRAM (MEW).

Materials to be reviewed should be submitted at least two weeks prior to the Methodology Review. Agencies should ensure that materials submitted to the SSC are technically sound, comprehensive, clearly documented, and identified by author. The SSC plans to review reports on these topics at the November meeting.

### ***J. Groundfish Management***

#### 2. Stock Assessment Planning

The Scientific and Statistical Committee (SSC) reviewed three Terms of Reference (ToR) documents that will be used to guide the stock assessment process for 2015. These documents include the ToR for groundfish and coastal pelagic species (CPS) stock assessment (Agenda Item J.2.a, Attachment 1), the ToR for rebuilding analysis (Agenda Item J.2.a, Attachment 2), and the ToR for methodology reviews (Agenda Item J.2.a, Attachment 3). The documents have been updated to be consistent with the revised National Standard Two Guidelines issued by the National Marine Fisheries Service (NMFS) in 2013. Except for the following recommended changes, the SSC considers these documents ready to be used in the 2015 assessment cycle.

In the Terms of Reference for the Groundfish and CPS Stock Assessment Review Process for 2015-2016:

- p. 8. *“The Council also directed that annual harvest measures for Pacific sardine and Pacific mackerel be implemented on a biennial basis beginning with the 2015-2016 fishing*

year.” Delete “*Pacific sardine and*” because annual harvest measures are not implemented on a biennial basis for sardine.

- p. 12. Replace “*If a recommendation on whether to send the assessment to the mop-up panel meeting is needed before the full SSC is able to review the STAR panel report, the SSC Chair, Vice Chair, and Groundfish Subcommittee Chair will make a preliminary decision.*” with “*Soon after completion of all STAR panels, a meeting of the SSC groundfish subcommittee will be held to recommend which assessments, if any, will be sent to the mop-up panel and to prioritize further analyses.*” This change is intended to manage workload for the mop-up panel, and to handle situations when there are more assessments recommended for mop-up than can be reviewed at the meeting.
- p. 24. Replace “*Catch-only projections are reviewed by the relevant SSC subcommittee, via email or conference call, and the full SSC.*” with “*Catch-only projections are initially reviewed by the relevant SSC subcommittee with public notice, and subsequently reviewed by the full SSC.*” This change is intended to ensure that advance notice is provided to all interested parties of the SSC subcommittee review of catch-only projections. Sometimes the results of catch-only projections are unexpected, particularly if default assumptions are not used.

The SSC also discussed the Council’s initial list of stocks to be assessed in 2015. Dr. Owen Hamel from the Northwest Fishery Science Center was present for the discussion to provide a NMFS perspective.

The Council’s initial list included cowcod as a full assessment. The 2012 remotely-operated vehicle ROV survey for cowcod is potentially a critical data point that could verify the amount of rebuilding that has occurred since the last ROV survey in 2002. If new methods were used in the ROV survey, the SSC recommends these methods be reviewed before the results are used in the stock assessment.

Since ROV surveys only cover a proportion of cowcod habitat, biomass from the survey area is expanded to the population level for use in the assessment model. The expansion method should also be reviewed. A review of the ROV survey is unlikely to be completed in time for a cowcod assessment in 2015, suggesting that this assessment should be delayed until the next assessment cycle.

The SSC supports update assessments for petrale sole and sablefish, given that these assessments have been carefully and thoroughly reviewed in previous Stock Assessment Review panels. The SSC would be able to review an update assessment of chilipepper rockfish if an assessment were to be conducted.

Arrowtooth flounder was last assessed in 2007. This stock could be assessed in the next cycle by either a data-moderate assessment or a catch-only projection. There are a number of issues that need to be addressed for data-moderate assessments. If the decision is made to go forward with a data-moderate assessment for arrowtooth flounder, the SSC recommends that the Extended Simple Stock Synthesis method be used, and that input trend information be limited to bottom trawl surveys. This approach would avoid some of the issues associated with data-moderate assessments, and would make it feasible for the assessment to be reviewed by the SSC groundfish subcommittee during the June meeting. Both a data-moderate assessment and a catch-only

projection should be done for arrowtooth flounder to provide a useful contrast. If additional data-moderate assessments are added to the list, a fifth STAR panel should be added to the proposed schedule for data-moderate assessments.

Making an informed decision about whether it is possible to conduct an assessment in an area requires going through the initial steps of stock assessment. These steps include soliciting and assembling data sets, gathering information about fishing practices and management history, and evaluating potential stock assessment boundaries based on biology, data availability, data quality, and management history. The SSC considers it unwise to a priori restrict the assessment of kelp greenling to the state of Oregon, and recommends that a similar process be used for kelp greenling, China rockfish, and black rockfish, and any other nearshore species considered for assessment.

The SSC recognizes that there are a number of alternative points of view related to stock assessment boundaries for nearshore species. Since these issues are important for a number of species that will be assessed in 2015, it will be important to discuss these issues and develop agreed-upon approaches prior to the assessment cycle. The SSC groundfish subcommittee is willing to take the lead in planning a meeting to address these issues, and will discuss a possible process during the November Council meeting.

One lesson that perhaps can be garnered from the last assessment cycle is the importance of communication between stock assessment scientists and those closer to sources of fishery information, such as state data stewards and managers. Data stewards have the responsibility to inform stock assessment scientists about the limitations and appropriate use of data for stock assessment. Stock assessment scientists should communicate initial decisions on stock structure, fishery modeling, and priors used in the assessment. For nearshore species where state agencies are the primary source of assessment information, this communication could be fostered by including state agency biologists on stock assessment teams. Holding pre-assessment workshops well in advance of the STAR panels is another excellent approach for ensuring that this critical two-way communication occurs.

#### Overview of Data Collected by the West Coast Groundfish Observer Program and How Those Data are Used in Stock Assessments

*SSC Notes:*

*Jon McVeigh (NMFS NWFSC) presented an overview of the data collected and products produced by the West Coast Groundfish and At-Sea Hake Observer Programs. Owen Hamel (NMFS NWFSC) presented an overview of how observer data are used in stock assessments.*

*It is expected that there will still be some observer coverage (similar to pre-ITQ) even with electronic monitoring (EM), except for whiting catcher vessels delivering to motherships. Observer coverage will be reduced from 100% in the ITQ fleets if they have EM, but boats without EM will still have 100% coverage. The level of reduction has not been determined and regulations have not been drafted.*

*The observer program collects data on retained catch, bycatch, and interactions w/ protected species (marine mammals, sea birds, sea turtles).*

*For fleets that do not have 100% observer coverage, vessels who land above a threshold amount are subject to sampling, but the timing of the sampling is random.*

*When observer coverage was increased to 100% for IFQ fleets, coverage of other fleets has decreased due to limited resources / budget. Vessels that traditionally fished in the limited-entry fixed-gear fishery, but now participate in the IFQ fishery, are subject to 100% observer coverage while in the trawl fishery.*

### Clarifying Groundfish Management Team Questions on Next Review of Impact Projection Models

*SSC Notes:*

*The SSC met with the GMT to discuss impact model projections and socioeconomic analyses for the next groundfish specification cycle. The SSC received a paper from the GMT titled “The Groundfish Management Team’s Updates on Ongoing Discussions with the SSC’s Economic and Groundfish Subcommittees Regarding the Socioeconomic Analyses and catch Projection Models.” The SSC also received a presentation from Ms. Heather Reed that summarized the key points of the paper. The purpose of the meeting was to help the SSC better understand the GMT’s needs regarding these models, and to establish agreed upon next steps to move the process forward.*

*The SSC and GMT agreed to have a conference call at a time TBD in October. Council staff will organize the call, and the participants will be the SSC and GMT chairs and vice-chairs, the SSC Economic and Groundfish Subcommittee chairs, and the Council’s SSC and GMT staff officers. The agenda for the call is to develop a draft plan for model improvements that can be implemented by September 2015. Particular topics include:*

- Develop a draft list of priority projection models for review by the SSC.*
- Discuss the process for determining when projection models need to be reviewed or re-reviewed. This includes coordinating this with any revisions to the Council’s Operating Procedures.*
- Discuss/develop a coordination plan for GMT involvement in future SSC reviews of economic/socioeconomic models and data collection (e.g., IO-PAC and EDC)*
- Develop a draft priority list of additional or new economic/socioeconomic models.*

*Some factors that were discussed that should be considered during the call are:*

- The tradeoff between resources dedicated to reviewing existing models versus developing new models;*
- Coordination with the Southwest and Northwest Fishery Science Centers if their assistance is to be requested;*
- Whether new data collections are needed for the improvement of models;*



- *The competing needs for resources for other analyses (e.g., 5-year review of the trawl catch share program).*

*The draft plan developed from the call will be sent to the SSC Economic and Groundfish subcommittees for comment and input. The full SSC may be asked for comments.*

### SSC Subcommittee Assignments, September 2014

<b>Salmon</b>	<b>Groundfish</b>	<b>Coastal Pelagic Species</b>	<b>Highly Migratory Species</b>	<b>Economics</b>	<b>Ecosystem-Based Management</b>
<b>Pete Lawson</b>	<b>Vlada Gertseva</b>	<b>André Punt</b>	<b>André Punt</b>	<b>Cindy Thomson</b>	<b>Martin Dorn</b>
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 2015

Council Meeting Dates	Location	Likely SSC Mtg Dates	Major Topics
<p><b>March 7-12, 2015</b>                      Advisory Bodies may begin Fri, March 6                      Council Session begins Sat, March 7</p>	<p><a href="#">Hilton Vancouver Washington</a>                      301 W. Sixth Street                      Vancouver, WA 98660 USA                      Phone: 360-993-4500</p>	<p>One-day CPS Subcm Session  <b>Thu, March 5</b>                      Two-day SSC Session  <b>Fri, March 6 – Sun, March 7</b></p>	<p>IEA annual report                      Final CPS EFP                      Pacific mackerel set-aside                      Final CPS methodology review                      Salmon review/Pre I                      CA current &amp; IEA reports                      Unmanaged forage fish FPA</p>
<p><b>April 11-16, 2015</b>                      Advisory Bodies may begin Fri, Apr 10                      Council Session begins Sat, Apr 11</p>	<p><a href="#">DoubleTree by Hilton Sonoma</a>                      One Doubletree Drive                      Rohnert Park, CA 94928                      Telephone: 707-584-5466</p>	<p>Two-day SSC Session  <b>Fri, April 10 – Sat, April 11</b></p>	<p>Pacific sardine assess.                      Groundfish methodology review                      COP – final                      Salmon methodology topic selection                      NS1 guidelines comments</p>
<p><b>June 12-17, 2015</b>                      Advisory Bodies may begin Thu, June 11                      Council Session begins Fri, June 12</p>	<p><a href="#">DoubleTree by Hilton Spokane City Center</a>                      322 N. Spokane Falls Court                      Spokane, WA 99201                      Phone: 509-455-9600</p>	<p>One-day GF Subcm Session  <b>Wed, June 10</b>                      Two-day SSC Session  <b>Thu, June 11 – Fri, June 12</b>                      One-day GF/Econ Subcms Session  <b>Sat, June 13</b></p>	<p>Mackerel assess. &amp; mgt. measures                      Anchovy update                      Groundfish stock assess.                      Groundfish spex process and schedule</p>
<p><b>September 11-16, 2015</b>                      Advisory Bodies may begin Thu, Sept 10                      Council Session begins Fri, Sept 11</p>	<p><a href="#">DoubleTree by Hilton Hotel Sacramento</a>                      2001 Point West Way                      Sacramento, CA 95815                      Phone: 916-929-8855</p>	<p>Two-day SSC Session  <b>Thu, Sept 10 – Fri Sept 11</b></p>	<p>Plan science improvements                      Salmon methodology topic priorities                      Tule control rule review                      Groundfish stock assess.                      Groundfish EFH amendment</p>
<p><b>November 14-19, 2015</b>                      Advisory Bodies may begin Fri, Nov 13                      Council Session begins Sat, Nov 14</p>	<p><a href="#">Hyatt Regency Orange County</a>                      11999 Harbor Blvd.                      Garden Grove, CA 92840                      Phone: 714-750-1234</p>	<p>Two-day SSC Session  <b>Fri, Nov 13 – Sat, Nov 14</b></p>	<p>CPS methodology topic selection                      Groundfish stock assess, and reb. anal.                      Groundfish biennial spex                      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 Workshop	April 23	Council La Jolla	Hamel	NA	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	Council/ Spokane	Econ Subcommittee	NA	GMT GAP	DeVore
7	Salmon Methodology Review	Oct. 21-23	Council/ Portland	Salmon Subcommittee	None	STT SAS MEW	Burner
8	Evaluation of Groundfish Assessment Methodological Approaches	Nov. 12	Council Costa Mesa	GF Subcommittee	NA	GMT GAP	DeVore

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	Workshop/Meeting	Potential Dates	Sponsor/ Tentative Location	SSC Reps.	Additional Reviewers	AB Reps.	Council Staff
9	Review of the Annual Integrated Ecosystem Assessment Report	Dec. 15-16	Council Seattle	Ecosystem Subcommittee	NA	NA	Dahl

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	Workshop/Meeting	Potential Dates	Sponsor/ Tentative Location	SSC Reps.	Additional Reviewers	AB Reps.	Council Staff
1	Groundfish Historical Catch Reconstructions	Late Jan. or Early Feb.?	TBD	GF Subcommittee	TBD	GMT GAP	DeVore
2	National SSC Meeting	Feb. 23 - 25	WPFMC/ Honolulu	Key, Dorn, Sampson, Satterthwaite	TBD	NA	NA
3	Pacific Sardine Update Review	Mar. 5	Council/ Vancouver, WA	CPS Subcommittee	None	CPSMT CPSAS	Griffin
4	Canary/Darkblotched STAR	Apr 27 – May 1	Council/ Seattle	TBD	2 CIE + 1	GMT GAP	DeVore

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5	Pacific Mackerel STAR	Week of Apr 27	Council/ La Jolla	Punt, TBD	2 CIE + 1	CPSMT CPSAS	Griffin
6	Review Sablefish Update, Arrowtooth Data-Moderate Assessment, and Catch Reports	June 10	Council/ Spokane	GF Subcommittee	None	GMT GAP	DeVore
7	Review Trawl IFQ Model	June 13?	Council/ Spokane	GF & Econ Subcommittees	None	GMT GAP	DeVore
8	Bocaccio/China STAR	July 6-10	Council/ Santa Cruz	TBD	2 CIE + 1	GMT GAP	DeVore
9	Black RF STAR	July 20-24	Council/ Newport, OR	TBD	2 CIE + 1	GMT GAP	DeVore
10	Kelp Greenling/Widow STAR	July 27-31	Council/ Newport, OR	TBD	2 CIE + 1	GMT GAP	DeVore
11	Mop-up STAR	Late Sept.?	Council/ TBD	TBD	TBD	GMT GAP	DeVore
12	Salmon Methodology Review	Late Oct.?	Council/ Portland	Salmon Subcommittee	None	STT SAS MEW	Burner

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