

DRAFT SUMMARY MINUTES
Scientific and Statistical Committee

Pacific Fishery Management Council
Doubletree Hotel Boise - Riverside
2900 Chinden Boulevard, Boise, Idaho 83714

September 10-11, 2010

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

The meeting was called to order at 8 a.m. on Friday, September 10, 2010. Mr. Mike Burner briefed the SSC on priority agenda. The SSC also discussed the logistics and proposed presentations for the upcoming National SSC meeting in Charleston, South Carolina.

Members in Attendance

Mr. Robert Conrad, Northwest Indian Fisheries Commission, Olympia, WA
Dr. Ramon Conser, National Marine Fisheries Service, La Jolla, CA
Dr. Martin Dorn, SSC Chair, National Marine Fisheries Service, Seattle, WA
Dr. Carlos Garza, National Marine Fisheries Service, Santa Cruz, CA
Dr. Vladlena Gertseva, National Marine Fisheries Service, Newport, OR
Dr. Owen Hamel, SSC-Vice Chair, National Marine Fisheries Service, Seattle, WA
Dr. Selina Heppell, Oregon State University, Corvallis, OR
Mr. Tom Jagielo, Oregon Department of Fish and Wildlife
Ms. Meisha Key, California Department of Fish and Game, 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
Ms. Cindy Thomson, National Marine Fisheries Service, Santa Cruz, CA
Dr. Theresa Tsou, Washington Department of Fish and Wildlife, Olympia, WA
Dr. Vidar Wespestad, Research Analysts International, Seattle, WA

Members Absent

Dr. Louis Botsford, University of California, Davis, CA
Dr. Charles Petrosky, Idaho Department of Fish and Game, Boise, ID

SSC Recusals for the September 2010 Meeting.		
SSC Member	Issue	Reason
None		

Scientific and Statistical Committee Comments to the Council

The following is a compilation of September 2010 SSC reports to the Pacific Fishery Management Council (Council). (Related SSC discussion not included in written comment to the Council is provided in *italicized text*).

Salmon Management

C.1. Fishery Management Plan (FMP) Amendment 16 – Annual Catch Limits

The Scientific and Statistical Committee (SSC) met with Dr. Peter Dygert of the Salmon Amendment Committee (SAC) to discuss the current “Draft Environmental Assessment for Pacific Coast Salmon Plan Amendment 16: Classifying Stocks, Revising Status Determination Criteria, Establishing Annual Catch Limits and Accountability Measures and *De Minimis* Fishing Provisions”. The SSC reviewed an earlier draft of this document at the June Council meeting (Agenda Item C.1.b, Supplemental SSC Report).

The SSC commends the SAC on producing, in a relatively short amount of time, a document that covers a broad range of topics. The current draft is greatly improved and addresses most of the SSC concerns from the previous draft, including:

- The proposal should include a process for the SSC to recommend overfishing limits (OFLs) and acceptable biological catches (ABCs) to the Council based on preseason estimates: A section of the document (page 48) now specifically addresses this topic. Further discussion of this issue occurred at this meeting between the SSC and members of the SAC and Salmon Technical Team (STT). It was suggested that two tables could be provided in future versions of Pre-season Report I that are prepared by the STT. The first table would present preliminary OFLs and ABCs by stock for SSC review and approval. This table would only cover natural stocks in the fishery that are not ESA listed or covered by an international exception. A second table, similar to the current Table I-3 in Pre-season Report I, would present a status determination table for the above stocks and stocks covered by an international exception. The SSC recommends that the annual Review of Ocean Salmon Fisheries report include a table that summarizes post-season performance of the previous year's management results relative to the OFL and MSST (minimum stock size threshold).
- Alternatives were presented for single-year and three-year status determination criteria (SDC). Current overfishing criteria are based on three-year stock performance. The MSST was proposed to be one half of S_{MSY} . This is consistent with the National Standard 1 Guidelines, but the SSC requested analysis supporting use of this criterion for salmon and a comparison of using one and three year time frames for determining overfishing: Tables 4-1 and 4-2 in the draft document now provide this information. The SSC recommends the SDC be based on 3-year geometric

means as they will be less subject to random error (noise) in the estimation and evaluation process.

- The SSC was concerned that the Council adopt appropriate levels of F_{MSY} and requested documentation for the F_{MSY} proxy values used for Chinook and coho: Appendix C of the current draft provides this documentation for Chinook. The SSC notes that using mean F_{MSY} gives equal weight to each estimate of F_{MSY} . It might have been better to use a method that accounts for the variability (uncertainty) in the estimate of F_{MSY} from each source. However, the STT reported that the data are not available for such an analysis. The SSC endorses the proposed value of 0.78 as an F_{MSY} proxy for Chinook. Appendix E documents the development of reference points for Washington coastal coho stocks. In the previous draft, it was proposed that a proxy be used for F_{MSY} for these stocks. In the current draft, F_{MSY} has been explicitly estimated for each stock. This should be preferable to the use of a proxy and the SSC endorses the stock-specific values of F_{MSY} proposed in Table E-4. The SSC Council may want to reconsider the Chinook F_{MSY} proxy in the future using more recent data and recommends that the F_{MSY} for Washington coastal coho be subject to a future Methodology Review that would evaluate stock-specific-values of F_{MSY} compared to a F_{MSY} proxy for the group.
- In its June statement, the SSC requested a discussion of the rationale for the choice of 5 percent and 10 percent buffers between F_{MSY} and F_{ABC} for Tier 1 and Tier 2 stocks, respectively: This is now documented in Appendix D. The SSC notes that the choice of the size of the buffer and the probability of over-fishing is ultimately a policy decision. The Council may want to consider alternatives to buffer sizes other than those proposed. Additional analyses would be needed to evaluate other buffer choices.
- No buffers to account for management uncertainty are proposed at this time. The SAC proposes to use an adaptive management approach. If ACLs are consistently exceeded, the use of buffers would be considered and implemented as needed. In June, the SAC reported that quotas have rarely been exceeded in recent quota-managed fisheries. The SSC requested a historical comparison of preseason quotas and postseason catches to support this statement: Appendix F of the current draft provides this information.

The SSC notes that it is difficult to evaluate the long-term consequences of any of the proposed alternatives without some comparison of possible outcomes under the different alternatives. Something similar to a management strategy evaluation modeling process could have provided these comparisons. However, given the time constraints for developing this amendment it was not possible.

There is a new *de minimis* fishing section in the current draft. The choice of *de minimis* fishing alternatives is largely a policy decision. The SSC notes that Alternative 4 would allow fishing at stock abundances below levels that have been seen previously.

The SSC notes the difficulty of comparing economic effects of the alternatives in a quantitative manner. However, a qualitative discussion that clearly describes the potential consequences of increasing/decreasing annual harvest opportunities relative to effects on overfished probabilities would be helpful. The only economic effect of overfished determinations noted in the current analysis is a reduction in ex-vessel prices due to lower ratings by seafood watch programs (p. 104). The SSC notes that other factors exert greater influence on west coast salmon prices – for

instance, supply and prices of farmed salmon and Alaska wild salmon. A more relevant economic effect to consider in the context of overfished determinations is loss of harvest opportunity associated with more stringent management restrictions and potential expansion of such restrictions over a broader geographic area.

Salmon Management, Continued

C.1. 2010 Methodology Review

At the April meeting, the Council identified the following nine priority items that the Scientific and Statistical Committee (SSC) should consider for the 2010 Salmon Methodology Review.

- Examination of the potential bias in Coho and Chinook Fishery Regulation Assessment Model (FRAM) of fishery-related mortality introduced by mark-selective fisheries – Model Evaluation Workgroup.
- Continued sensitivity analysis of FRAM to key parameter – Model Evaluation Workgroup.
- Oregon coastal natural (OCN) coho abundance predictor – National Marine Fisheries Service.
- Evaluation of indicator stock tag groups for Columbia River summer Chinook for incorporation into FRAM – Salmon Technical Team.
- Incorporation of additional Chinook stocks into the FRAM for improved accounting and better overall stock representation – Salmon Technical Team.
- Revisions to Amendment 13 matrix control rules for OCN coho stocks – Oregon Department of Fish and Wildlife.
- Abundance-based management framework for Lower Columbia River tule fall Chinook – To Be Determined.
- Update and revision of natural production information in the Lower Columbia River natural coho harvest management matrix – Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife.
- Review and evaluation of mark-selective fishery reports – Salmon Technical Team.

Reports on the following three items will be ready for review at the methodology meeting:

1. Examination of potential bias and bias-correction methods for estimates of unmarked and marked fish mortalities when both mark-selective and non-selective fisheries are operating during a single FRAM time step. This analysis is focused on coho FRAM but will also have relevance to the Chinook FRAM (item 1.) – Model Evaluation Workgroup.
2. Addition of new coded-wire-tag (CWT) groups to Chinook FRAM for better representation of the upper Columbia River summer Chinook stock (Item 4.) – Model Evaluation Workgroup and Salmon Technical Team.
3. Oregon coastal natural coho salmon abundance predictor (Item 3.) – National Marine Fisheries Service and Oregon Production Index Technical Team.

A memo dated August 23, 2010 from Will Stelle, NMFS Northwest Regional Administrator to Mark Cedergreen indicated that NMFS is working to complete certain, unspecified, tasks “designed to accelerate the recovery process” for Lower Columbia River tule Chinook. NMFS will provide a progress report to the Council in November, in the hopes of having work products for implementation in 2011 fisheries. There will be no opportunity for SSC or Council review of this work prior to March 2011.

While considering Amendment 16 it became apparent that, depending on which alternative is adopted by the Council, there would be methodology and stock classification changes that will warrant review in 2011 and future years.

The SSC looks forward to reviewing reports on these topics at the November meeting. The SSC Salmon Subcommittee and Salmon Technical Team (STT) will hold a joint meeting on October 19 and 20 in Portland to review these issues. As always, the SSC requires good documentation and ample review time to make efficient use of the SSC Salmon Subcommittee's time. Materials for review should be submitted at least two weeks prior to the scheduled review. Agencies should be responsible for ensuring that materials submitted to the SSC are technically sound, comprehensive, clearly documented, and identified by author.

Salmon Management, continued

C.5. Salmon Essential Fish Habitat Review

Mr. Kerry Griffin provided the Scientific and Statistical Committee (SSC) with a situation summary and an overview of issues related to the evaluation and designation of Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (HAPCs) for Pacific Salmon. The EFH Review Oversight Panel provided two documents for SSC review; a review of Pacific Salmon EFH and a bibliography of pertinent information for the 2010 EFH update.

Mr. Griffin highlighted, and the SSC discussed, three major topics: 1) HAPCs are not currently designated for Pacific Salmon, 2) dams that are impassable generally limit the upstream extent of EFH, and 3) stock distribution maps may be out of date or inaccurate.

EFH designation is generally consistent with fish presence, but is based on imprecise science. There are many areas (e.g., coho salmon south of San Francisco) where ambiguity exists, particularly at the edge of a species' range. Clear criteria for the relationship between fish presence, current and historical, and the designation of EFH are needed, as are criteria for the importance and potential for access to habitat above dams when designating EFH.

The SSC also recommends that HAPC designation criteria be clearly defined (e.g., rarity of habitat type). This is complicated by the nature of the potential HAPCs, some of which are geographically specific (e.g., San Francisco Bay), whereas others are more generically described (e.g., complex channels). The SSC suggests that physical description of habitat and its function should be consistently included for each HAPC in the review.

The SSC generally agrees with the five types of habitat identified by the Oversight Panel as potential HAPCs, but requests better documentation of why they were included and why others were not.

The SSC highlights the value of documenting the process by which new threats to salmon EFH were added to the list in Table 4, and fisheries and gear that impact EFH were included in Table 5.

Pacific Halibut Management

D.2. Halibut Bycatch Estimates

Ms. Eliza Heery briefed the Scientific and Statistical Committee (SSC) on the methods for estimating Pacific halibut bycatch in all fishery sectors observed by the West Coast Groundfish Observer Program (WCGOP). Methods presented in this report, in general, are similar to those used in previous reports. The three main changes made in this report for estimating bycatch in the limited entry (LE) bottom trawl sector are: 1) inclusion of California data, 2) modification of the method for adjusting trawl logbook tow time, and 3) simplified stratification. Bycatch estimates for other fishery sectors were also presented. Data sources used in this analysis include the WCGOP, trawl logbook, and fish ticket data.

The SSC reviewed the methods used for estimating halibut bycatch in the LE bottom trawl, non-nearshore fixed gear, and other fishery sectors. For the LE bottom trawl sector, the SSC recommends that the diagnostics from the generalized linear model and tree-based regression model be included in future reports. Design based estimates for the WCGOP data should also be included for evaluating possible biases caused by post stratification. The SSC notes that Pacific halibut bycatch estimates for California LE bottom trawl sector have increased in recent years.

For non-nearshore fixed gear, the SSC notes estimators based on total catch may not be appropriate and recommends the development of an effort-based estimator for future reports.

The SSC recommends updating mortality rates for discarded Pacific halibut by the LE bottom trawl sector, and including area specific consideration due to temperature effect on mortality. Viability information for fixed gear sector should also be collected so that mortality rates can be estimated in a similar manner.

The SSC commends the authors on the quality and timeliness of the report, endorses the methodology, and agrees that the estimates are the best available science. The SSC notes that estimates of halibut bycatch for non-nearshore fixed gear open access sector are not available before 2007. The assessment authors at the International Pacific Halibut Commission should collaborate with WCGOP staff to develop estimates for this sector for use in future halibut assessments.

Marine Protected Areas

F.1. National System of Marine Protected Areas

The Scientific and Statistical Committee (SSC) was briefed by Mr. Kerry Griffin regarding the White Paper on the National System of Marine Protected Areas (MPAs). The SSC commends Council staff for preparing the document, which clarifies many of the questions regarding the National System raised by the Council and SSC at the September 2009 meeting.

The SSC concurs with the White Paper that the 52 sites the Council has been asked to nominate for inclusion in the System meet the criteria for inclusion specified by the MPA Center. The SSC notes that comprehensive mapping of MPAs (as intended by the National System) could serve a variety of research, data, and management needs.

While potential benefits may be gained from having a comprehensive inventory of MPA sites, the scientific value of imposing a formal process for nominating/removing MPAs from the National System and some of the requirements of that process remain unclear. For instance, according to the White Paper (Attachment 2, p. 6), “In general, the Directive gives the managing entity and Fishery Management Councils (FMCs) complete latitude to add, remove, or modify an MPA on the National System.” However, according to NMFS Policy Directive 01-114 (Attachment 7, p. 6), “Upon request of the managing entity, and based upon a supporting rationale, the MPA will be removed from the List of National System MPAs.” It is not clear why “supporting rationale” needs to be provided, who determines whether that rationale is adequate, or the basis (scientific or otherwise) for determining the adequacy of that rationale.

The MPA Center (Attachment 3, p. 4) has indicated “Identifying conservation gaps is a critical step toward achieving the conservation objectives of the national system. The gap analysis process will begin on the West Coast (California, Oregon, and Washington) in 2009-2010.” The SSC would be interested in receiving an update on the status of the West Coast gap analysis and remains willing to review scientific aspects of that analysis.

Coastal Pelagic Species Management

J.1. 2011 Assessment Cycle Terms of Reference (TOR)

The SSC reviewed two documents pertaining to Terms of Reference (TOR) for CPS review meetings: a revised TOR for CPS Stock Assessment Reviews, and new TOR for CPS Methodology Reviews.

Dr. André Punt provided an overview of the major changes made in the stock assessment review document. They included new language related to overfishing limits, acceptable biological catches and annual catch limits, and changes with respect to guidelines for peer review, selection of panelists, and how to deal with contested assessments. The SSC endorsed these changes, which closely follow the changes adopted in the groundfish TOR. Additional editorial changes to the document were discussed and recorded in the SSC minutes (in italics, below). In relation to the criteria for selection of reviewers, the SSC recommends changing “... a candidate’s familiarity with ... the ecological role of CPS in the California Current” to “Expertise in the ecological role of CPS in the California Current is desirable for reviewers.”

Concerning the new document on Methodology Reviews, the SSC discussed 1) what types of topics could be covered in such reviews (e.g. is review of the CPS control rule permissible), and 2) the proper scope for the responsibilities of the panel (e.g. should the panel make a recommendation regarding whether a particular methodology under review should be used in the next stock assessment).

The SSC agreed that Methodology Reviews should focus on candidate data sources and methods for stock assessments (including the use of alternative modeling platforms) and should not be used as a forum to address possible revisions to the CPS control rule. The SSC also concluded that panels should aim to provide explicit recommendations on whether methodologies are ready for use in the next stock assessment.

The SSC emphasizes that the methodology review process is not meant to constrain the Stock Assessment Team from making incremental changes and improvements in routine methods;

rather, it is intended to be used to address substantial and novel methodologies that require more scrutiny than can be afforded during a routine Stock Assessment Review Panel meeting. The general process envisioned is: 1) topics for Methodology Reviews will be brought to the SSC for consideration (the SSC will serve as a “first filter” to vet topics appropriate for methodology reviews), and 2) the SSC will recommend candidate topics for methodology reviews to the Council.

The SSC also noted that, in the longer term, it could be useful to craft a single document containing Terms of Reference for Methodology Reviews in general, which could apply to both CPS and groundfish. Similarly, the TOR for CPS stock assessments are quite similar to the groundfish TOR, and could potentially be combined into a single document.

Ecosystem-Based Fishery Management

H.1. 2011 Assessment Cycle Terms of Reference (TOR)

Ms. Yvonne de Reynier presented an overview of the Ecosystem Plan Development Team’s (EPDT) draft planning document (Plan), emphasizing that it is primarily policy-oriented at this stage. While the current draft contains little science for the SSC to comment on, the Scientific and Statistical Committee’s (SSC) questions and recommendations for ecosystem-based fishery management (EBFM) planning have been considered by the EPDT. The draft document provides a good review of literature on ecosystem management objectives, and examples of the application of ecosystem based management by other Councils. Several alternatives for the scope and regulatory authority of the Plan are laid out. The draft does not include a detailed analysis of the specific impacts of these alternatives on existing Council operations.

The current lack of consensus on the purpose and application of the Plan to fishery management inhibits scientific evaluation of its benefits. The EPDT needs Council guidance on the preferred Plan type and scope to develop a complete Plan. As suggested in the report, the Plan could be focused on needs that are not well represented by existing fishery management plans, to help the Council address management issues that are not directly related to assessing fish stocks and regulating fisheries. The Purpose and Needs Statement should complement the goals and objectives of the Plan.

As the primary reviewers of the science used by the Council for management, the SSC should review and evaluate the data, methods, results and recommendations generated by ecosystem-based models applied to management questions. This review already includes evaluation of environmental data used in stock assessments, and should also include ecosystem modeling efforts.

The SSC supports a recommendation by the EPDT to provide the Council and advisory bodies with regular updates of ecosystem conditions in the California Current. The reports should include potential or known impacts to fisheries under Council jurisdiction, and should be reviewed by the SSC.

The SSC identified the following next steps:

- The SSC’s Ecosystem-Based Management subcommittee should meet with the EPDT once the general format and specific goals and objectives of the Plan have been

determined. The purpose of the meeting would be to work with the Team on scientific objectives and review of available tools for EBFM.

- The Council should request NMFS to initiate development of an annual report on conditions in the California Current ecosystem. The SSC can provide guidance on the content, review and dissemination of this report.
- As a step towards integrating ecosystem factors in stock assessments, the SSC recommends that a subset of stock assessments be expanded to include ecosystem considerations. This would likely require the addition of an ecologist or ecosystem scientist to the Stock Assessment Teams (STATs) developing those assessments. The SSC's Ecosystem-Based Management subcommittee should develop guidelines for how ecosystem considerations can be included in stock assessments.
- The SSC should meet with ecosystem modelers to review ecosystem models that could be used for management purposes in the future, and to develop a plan for scientific review of those models.

Adjournment: The SSC adjourned at approximately 5:30 p.m., Saturday, September 11, 2010.

SSC Subcommittee Assignments, September 2010

Salmon	Groundfish	CPS	HMS	Economic	Ecosystem-Based Management
Robert Conrad	Vidar Wespestad	André Punt	Ray Conser	Cindy Thomson	Selina Heppell
Loo Botsford	Loo Botsford	Ray Conser	Robert Conrad	Vlada Gertseva	Ray Conser
Carlos Garza	Ray Conser	Carlos Garza	Selina Heppell	Todd Lee	Martin Dorn
Owen Hamel	Martin Dorn	Owen Hamel	Tom Jagielo	André Punt	Vlada Gertseva
Meisha Key	Vlada Gertseva	Selina Heppell	André Punt		Pete Lawson
Pete Lawson	Owen Hamel	Tom Jagielo	Vidar Wespestad		Todd Lee
Charlie Petrosky	Tom Jagielo	Meisha Key			André Punt
	André Punt				Cindy Thomson
	Theresa Tsou				Theresa Tsou

Bold denotes Subcommittee Chairperson

PFMC
10/14/10