

SUMMARY MINUTES
Scientific and Statistical Committee

Seattle Marriott Hotel Sea-Tac
Seattle Ballroom 2 and 3
3201 South 176th Street
Seattle, Washington 98188
206-241-2000

APRIL 7-8, 2008

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

The meeting was called to order at 8 a.m. Dr. Donald McIsaac briefed the SSC on priority agenda items.

Subcommittee assignments for 2008 are detailed in the table at the end of this document. Dr. Selina Heppell was elected chair of the Ecosystem Based Management Subcommittee.

Members in Attendance

Mr. Tom Barnes, California Department on Fish and Game, La Jolla, CA
Mr. Robert Conrad, Northwest Indian Fisheries Commission, Olympia, WA
Dr. Ramon Conser, National Marine Fisheries Service, La Jolla, CA
Dr. Martin Dorn, National Marine Fisheries Service, Seattle, WA
Dr. Owen Hamel, National Marine Fisheries Service, Seattle, WA
Dr. Tom Helser, SSC Vice-Chair National Marine Fisheries Service, Seattle, WA
Dr. Selina Heppell, Oregon State University, Corvallis, OR
Dr. Peter Lawson, National Marine Fisheries Service, Newport, OR
Dr. Todd Lee, National Marine Fisheries Service, Seattle, WA
Dr. Charles Petrosky, Idaho Department of Fish and Game, Boise, Idaho
Dr. André Punt, University of Washington, Seattle, WA
Dr. Stephen Ralston, SSC Chair, National Marine Fisheries Service, Santa Cruz, CA
Dr. David Sampson, Oregon State University, Newport, OR
Ms. Cindy Thomson, National Marine Fisheries Service, Santa Cruz, CA
Dr. Theresa Tsou, Washington Department of Fish and Wildlife, Olympia, WA
Dr. Shizhen Wang, Quinault Indian Nation, Mercer Island, WA

Members Absent

Dr. Vidar Wespestad, Research Analysts International, Seattle, WA

Scientific and Statistical Committee Comments to the Council

The following is a compilation of April 2008 SSC reports to the Council. (Related SSC discussion not included in written comment to the Council is provided in *italicized text*).

Groundfish Management

H.1. Harvest Specifications for 2009-2010 Fisheries

Mr. John DeVore provided an overview of the background materials associated with this agenda item, including correction of a number of editing errors in the tables (H.1.a, Attachment 2). In November 2007, the Scientific and Statistical Committee (SSC) reviewed the acceptable biological catches (ABCs) and optimum yields (OYs) for the 2009-2010 management cycle, and endorsed their use by the Council in developing management measures. Further review at this meeting did not uncover issues that would cause the SSC to amend this endorsement.

The SSC recommends that in the future, a more thorough process be developed for confirmation of the final numbers in the harvest specification tables (H.1.a, Attachment 2). The large number of species/stocks in these tables, coupled with a multiplicity of management actions/alternatives, makes it difficult for the SSC to confirm all table entries during the course of a typical, two-day SSC meeting. A brief meeting of the SSC Groundfish Subcommittee and key members of the Groundfish Management Team (GMT) and Council staff in conjunction with the November 2009 Council meeting may be a preferable process for final confirmation of the harvest specifications. Further, the process would also be greatly facilitated by providing links between the ABCs shown in the harvest specification tables and the assessment document tables on which they are based.

The SSC notes that generally the Council's ABCs are taken as the point estimates from the base case assessment results. Although decision tables capture the uncertainty in the ensuing OYs, uncertainty in the ABCs is not explicitly conveyed in the Council's current process. The upcoming Magnuson-Stevens Reauthorization Act (MSRA) implementation – particularly revision to the NS1 (National Standard) and NS2 guidelines – may require a full consideration of uncertainty when establishing ABCs. A decision rule that adjusts the ABC from the base case approach as a function of uncertainty and risk may need to be developed. Many of the Council's groundfish assessments provide estimates of uncertainty that are suitable for such an ABC decision rule. However, the risk aspects are critical and will require guidance from the Council as well as the revised NS guidelines. More specifically, the Council's current ABCs are risk-neutral in that best estimates of ABC are neither decreased nor increased in the face of uncertainty – even when uncertainty is large. The MSRA implementation may require a risk-averse approach – where ABCs are reduced as a function of the uncertainty and risk – for the Council's 2011-2012 harvest specifications.

Finally, the SSC notes three specific issues related to the 2009-2010 harvest specifications.

1. For shortbelly rockfish, the “Alt 3 OY” is greater than the ABC (Table 2-1a). This alternative should be modified or deleted since OY cannot exceed ABC.
2. For sablefish, a coastwide model was used for the assessment and consequently, the ABC and OY values (tabulated by the GMT) are with respect to entire U.S. west coast (i.e. from

the U.S.-Canada border south to the U.S.-Mexico border). However, the executive summary of the assessment document (second sentence therein) suggests to some that the assessed biomass corresponds to that north of Point Conception only. The sablefish executive summary should be modified to clarify the geographic extent of the assessed stock before the final assessment document is published.

3. As a general matter, the SSC recommends that the Council manage fisheries based on stock targets and thresholds that are defined at a level concordant with stock assessments, not based on an assemblage aggregate. However, if the Council elects to continue managing blue rockfish as part of the southern nearshore assemblage, in-season landings should be closely tracked to ensure that the blue rockfish catch does not exceed its ABC. This issue primarily applies to blue rockfish but other species may have similar concerns, e.g. longnose skate.

Groundfish Management, continued

H.5. Part I of Management Measures for 2009-2010 Fisheries

Mr. E. J. Dick presented the Groundfish Management Team report on the development of a discard mortality matrix for ocean and estuary recreational fisheries which describes estimation of discard mortality rates by species and depth. The Scientific and Statistical Committee (SSC) considers this analysis to be an improvement over current methods of estimating discard mortality (e.g., assuming 42 percent post-release mortality across species and depths in California) and finds further research to be warranted. The SSC provided a number of technical suggestions to improve the model. The SSC notes that estimates of depth and species specific mortality are necessarily highly uncertain given the sparseness of the data.

The mortality estimation procedure in the current document is incorrect due to the use of additive mortality rather than multiplicative survival. Nonetheless, the SSC agrees with the use of the current mortality estimates if practical constraints preclude the adjustment of management measures which have already been developed using these values. The SSC notes that the current estimation procedure results in overestimates of mortality which are therefore somewhat risk averse from a conservation standpoint. If the values are corrected but the management unchanged, larger buffers between expected total fishery mortality and the harvest specifications will result. In any case, the calculation method should be corrected before analysis is undertaken for the 2011-2012 management cycle. The issues and suggestions which have been identified by the SSC could have been dealt with more efficiently had this document been reviewed by the SSC in March.

Additional research should be pursued, including: 1) research on short-term (1-5 days) and long-term delayed mortality, 2) research on the effectiveness of devices that release fish at depth, which could lead to a decrease in mortality rate estimates for fish released using such a device with a concomitant potential increase in fishing opportunities, and 3) research on discard mortality rates for commercial hook-and-line fisheries.

SSC Notes

Technical recommendations include: 1) taking another look at the available data to see if mortality rates appear to vary by fishing mode (e.g., CPFV vs. Private vessel) or platform; and 2) testing dividing the analysis by guild: Statistical analysis should be undertaken to determine if guild-specific estimation of species' natural mortality at depth is an improvement over analyzing all species together. Olive rockfish is very different from yellowtail and black rockfishes, and so should probably not be included in the same guild with those species.

Water temperature may be a determinant, but a preliminary look indicated its effect was swamped by depth. The surface time effect is likewise likely small.

A significant portion of the overall mortality estimates are based on assumptions about short term and long term mortality based on very limited research and which are therefore very uncertain. Further research on delayed mortality is needed.

Council Administrative Matters

C.3. Magnuson-Stevens Act Reauthorization Implementation

The SSC and the Council cancelled this agenda item due to lack of anticipated review materials regarding provisions to prevent overfishing, NMFS guidance on National Standards, and new environmental review requirements.

Salmon Management

F.3. Pacific Salmon Commissions (PSC) Coded-Wire-Tag Workgroup Report

The Scientific and Statistical Committee (SSC) was briefed by Dr. Marianna Alexandersdottir on the Pacific Salmon Commission (PSC) Working Group's recommendations for an action plan to correct deficiencies in data collection and reporting of the Coded Wire Tag (CWT) system and to improve analysis of CWT recovery data.

The SSC endorses the PSC Working Group recommendations for an action plan to improve the CWT program. Strengths of the CWT program include long time series of age and area specific exploitation rate estimates for indicator stocks. The SSC recommends that future improvements to the CWT program should also incorporate development of Genetic Stock Identification (GSI), which has the potential to provide additional information to complement the CWT program.

F. 4. Methodology Review Process and Preliminary Topic Selection for 2008

The Scientific and Statistical Committee (SSC) met with members of the Salmon Technical Team (STT) to identify and discuss methodology reviews for 2008. The following five items were identified for potential SSC review this fall.

1. Development of the consultation standards for Lower Columbia River natural coho (NMFS NWR).
2. Sensitivity analyses of the Chinook and Coho FRAMs to major assumptions (MEW). The MEW requested from the SSC further specifications on how the sensitivity analyses should be approached. The SSC recommended that the sensitivity analyses be focused on possible error propagation in model estimation process.
3. September 1 maturity boundary for Klamath River fall Chinook (PSMFC & STT).
4. Sacramento River fall Chinook harvest model (SST).
5. Sacramento River fall Chinook abundance predictors (SST).

Groundfish management, continued

H.3. Fishery Management Plan Amendment 21: Intersector Allocation

Mr. John DeVore and Dr. Ed Waters briefed the Scientific and Statistical Committee (SSC) on the Draft Environmental Assessment (DEA) of intersector allocation alternatives. Considerable work has gone into this document to convey the complex implications of each alternative.

The DEA focuses largely on allocation of optimum yield (OY) for species involving significant or dominant utilization by groundfish trawl sectors. For alternatives 1 and 2, allocation is based on recent (2003-2005) catch history and reflects current fishing opportunities as constrained by groundfish rebuilding requirements. For alternative 3, allocation is based on a longer landings history (1995-2005) that is more reflective of historical regulations and fishing conditions.

Catch allocations for the directed non-tribal groundfish trawl sectors are estimated only after set-asides are made for tribal, incidental open access and research catches and – depending on the alternative – a buffer of 0 percent, 5 percent, 15 percent or 25 percent is applied. Comparisons of revenue by sector (Table 4-46, p. 83) largely reflect differences among the alternatives in the size of the buffer and the years used to characterize catch history, as well as differences in ex-vessel prices among sectors. To facilitate identification of sectors and ports most affected by each alternative, it would be helpful to include another version of Table 4-46 that describes relative differences in revenue among the alternatives, standardized to the status quo.

Allocation buffers (if adopted) are intended to reduce the risk of catch overages and to allow for emerging nontrawl fisheries, and should be distinguished from anticipated buffers on annual catch limits (ACLs), which are intended to minimize the risk of exceeding allowable biological catches (ABCs). Allocation buffers involve managing to the OY and may include provisions for in-season release of unused buffer to increase fishing opportunity. By contrast, ACL buffers are intended as precautionary reductions from ABC in computing OY that (by definition) would not be subject to in-season release. An allocation buffer that is set too high or released too late in the season to provide harvest opportunity effectively serves the function of an ACL buffer. ACL buffers may need to be evaluated when National Standard 1 guidelines become available, but are not the focus of this amendment.

Additional elaboration is needed regarding utilization of buffers, including decision rules regarding conditions for release of buffer and allocation of additional yield among fishery sectors. It is important that such decision rules be specified in the DEA to inform deliberations regarding buffer size.

The analysis of alternatives reflects the effects of key constraining stocks on catch and revenue in directed non-tribal groundfish sectors. It would be helpful to include a table in the DEA that describes unutilized portions of OYs under each alternative.

According to Section 4.2.2 (p. 28), the proposed alternatives are expected to have little or no impact on the marine ecosystem. Further elaboration on this conclusion is needed – e.g., the potential for notable changes (positive or negative) in bottom trawl effort.

Economic analysis of the alternatives would ideally include an analysis of net economic benefits and regional economic impacts. Limitations of available data and models – as well as lack of information regarding the specific management measures that would accompany each allocation alternative – preclude a complete economic analysis. Given these constraints, ex-vessel revenues (Table 4-46, Figures 4-1 through 4-8) are a reasonable way to convey the economic effects of the alternatives on commercial harvesters.

The SSC recommends that additional economic analysis be included in the DEA, as follows:

- (1) To help evaluate economic effects on communities, estimates of income and employment impacts should be provided for each alternative.
- (2) Table 4-41 (p. 75) describes recreational effort and catch of selected species in recent years, as well as how those catches vary among allocation alternatives. It would also be helpful to include projections of recreational effort and expenditures for each alternative. This would require converting the catch estimates to effort estimates (perhaps by assuming that catch-per-unit-effort remains unchanged under each alternative) and applying an estimate of mean expenditure per trip (e.g., from the 2000 angler expenditure survey) to the effort estimate. While simplistic, such projections may nevertheless provide some insight into the differences among the alternatives.

Marine Protected Areas

I.1. Marine Protected Area “Need Criteria” for the Monterey Bay National Marine Sanctuary (MBNMS)

The Scientific and Statistical Committee (SSC) reviewed the Briefing Book materials regarding the process established by Monterey Bay National Marine Sanctuary (the Sanctuary) to consider criteria and thresholds that would define the need for marine protected areas (MPAs) in Federal waters of the Sanctuary. The SSC was joined in its deliberations by Dr. Lisa Wooninck, a new member of the Sanctuary staff; Mr. Steve Scheiblaue, Harbormaster for Monterey, Board Member of the Alliance of Communities for Sustainable Fisheries (ACFS) and member of the Sanctuary MPA Working Group; Dr. Richard Parrish, fishery science consultant and author of the ACFS-sponsored report “A review of traditional and ecosystem-based fishery management in the Monterey Bay National Marine Sanctuary

(Agenda Item I.1.e, Attachment 6); and Dr. Ray Hilborn, from the University of Washington and co-author of the ACFS-sponsored report "Ecosystem consequences of MPAs for the Monterey Bay National Marine Sanctuary" (Agenda Item I.1.e, Attachment 7). The five reports sponsored by the ACFS will be useful once the Sanctuary staff have established evaluation criteria.

There are three stated needs for establishing MPAs in the Sanctuary (Agenda Item I.1.b, Attachment 1), two of which are amenable to science-based evaluation: (1) MPAs would restore and safeguard ecosystem structure and function and (2) MPAs would provide research areas for examining human impacts on the marine environment. Arguably, the third aspect, the "intrinsic value" of wilderness areas, is not subject to scientific evaluation. Dr. Wooninck informed the SSC that the Sanctuary staff had developed rationales to accompany the statement of need for establishing MPAs within Federal waters of the Sanctuary. The rationales will be presented later this month to the Sanctuary Advisory Council. These rationales are currently under review and were not available to the SSC.

The SSC understands that the Sanctuary would welcome input from the Council and the SSC regarding the process they are developing for evaluating MPA proposals. To facilitate information exchange between the Sanctuary and the Council, the SSC suggests that several members of the SSC be appointed as scientific advisors to work with the Sanctuary's MPA Working Group. Of particular concern to the SSC is that any Sanctuary proposals for establishing MPAs consider a sufficiently wide range of alternatives (including status quo) and use an appropriate technical basis for evaluating the alternatives relative to the stated objectives for review under the National Environmental Policy Act. The Sanctuary has apparently concluded that there is a need for MPAs, but this conclusion is premature until there has been a formal evaluation of the MPA alternatives relative to the status quo alternative.

The draft time-line for the MPA development and review process (Agenda Item I.1.b, Attachment 3) indicates no Council involvement until the final stages. Council staff should work with the Sanctuary to develop mechanisms for an earlier review of Sanctuary proposals, including the range of alternatives, by the full SSC and Council.

The SSC notes that it would be advantageous to the Council if it had an Ecosystem Fishery Management Plan (with associated authorities) that specified a process for dealing with proposals to establish specific MPAs or a broader network of MPAs.

Marine Protected Areas, continued

I.2. Olympic Coast National Marine Sanctuary (OCNMS) "Condition Report"

A request was made to the Scientific and Statistical Committee (SSC) to review the scientific merits of the Condition Report that is under development by the Olympic Coast National Marine Sanctuary (OCNMS). The Council specifically requested review of portions of the report that pertain directly to fisheries management. OCNMS Superintendent Carol Bernthal and Dr. Stephen Gittings from the Office of the National Marine Sanctuary Program gave a short presentation and asked the SSC for feedback on data resources, rating descriptions, and our thoughts on 3 of 17 status evaluation questions: sustainable fishing, key species status, and human activities affecting living resources. OCNMS is using this opportunity to establish consultation with the Council early in their process, which may eventually lead to changes in the Condition Report prior to external peer review.

Condition Reports for all Sanctuaries are a new requirement of the National Marine Sanctuary Program. They will be updated every five years to identify data gaps, prioritize monitoring needs, and evaluate progress toward meeting Sanctuary goals. The Condition Report questions, format, performance measures and scoring system to evaluate condition are established and not subject to change.

A full analysis of the content of the document was not possible due to late delivery of the document and lack of specific performance metrics. However, the SSC has comments on the process leading to the status evaluations as well as the content of condition factor number 10.

Comments on the process:

1. The report is comprehensive in scope and considers many critical aspects of Sanctuary condition.
2. Some of the available fisheries data for the region have been incorporated, although National Marine Fishery Service survey and fishery data were not fully utilized.
3. The process is not transparent. Status evaluations are based on expert opinion. Qualitative condition “scores” and general trends are ultimately determined by the OCNMS staff. It is not clear how experts were chosen or how many contributed to each status evaluation.
4. Methodology based on expert opinion, without a good sense of how data inform that opinion, is not a scientific process.
5. Workshops on particular issues such as fisheries status and impacts may improve the process of data integration and status evaluation.

Comments on report content:

The OCNMS requested SSC guidance on Question 10, “What is the status of environmentally sustainable fishing and how is it changing?” The OCNMS gives the condition and trend of sustainable fishing practices an “Undetermined” rating.

1. This is one of few condition indicators that can be quantified based on available fisheries data.
2. The term “ecosystem integrity” is not defined or quantified.
3. Trend evaluation largely depends on the baseline used for evaluation. In the past 5 years most groundfish stocks show indications of improvement and fisheries management directed at sustainability and habitat protection have clearly improved.
4. The SSC disagrees with the final statement of this section of the report (Agenda Item I.2.b, Supplemental OCNMS Draft Condition Report, page 32): “All these considerations lead to uncertainty about the long-term sustainability of groundfish fisheries as currently practiced off Washington (p. 32).”

Adjournment: The SSC adjourned at approximately 5:00 p.m., Tuesday April 8, 2008.

SSC Subcommittee Assignments, April 2008

Salmon	Groundfish	CPS	HMS	Economic	Ecosystem-Based Management
Pete Lawson	Martin Dorn	Tom Helser	Ray Conser	Cindy Thomson	Selina Heppell
Robert Conrad	Ray Conser	Tom Barnes	Tom Barnes	Todd Lee	Tom Barnes
Owen Hamel	Owen Hamel	Ray Conser	Robert Conrad	David Sampson	Martin Dorn
Charlie Petrosky	Tom Helser	André Punt	Selina Heppell		Pete Lawson
David Sampson	André Punt	Steve Ralston	André Punt		Todd Lee
Shizhen Wang	Steve Ralston		Vidar Wespestad		André Punt
	David Sampson				Steve Ralston
	Vidar Wespestad				Cindy Thomson

Bold denotes Subcommittee Chairperson

PFMC
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