

DRAFT SUMMARY MINUTES
Scientific and Statistical Committee

Pacific Fishery Management Council
Westin San Francisco Airport
Aspen Room
1 Old Bayshore Highway
Millbrae, CA 94030
April 3-4, 2009

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

The meeting was called to order at 8 a.m. on Friday, April 3, 2009. Dr. Donald McIsaac briefed the SSC on priority agenda items.

Members in Attendance

Mr. Tom Barnes, California Department of Fish and Game, La Jolla, CA
Dr. Louis Botsford, University of California, Davis, 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. 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 (Absent Monday)
Dr. Stephen Ralston, SSC Chair, National Marine Fisheries Service, Santa Cruz, CA
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
Dr. Vidar Wespestad, Research Analysts International, Seattle, WA

Scientific and Statistical Committee Comments to the Council

The following is a compilation of April 2009 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*).

Highly Migratory Species Management

D.2. Fishery Management Plan (FMP) Amendment 2 – High Seas Shallow-Set Longline

The Scientific and Statistical Committee (SSC) reviewed a preliminary draft Supplemental Environmental Impact Statement (SEIS) for a proposed high seas shallow-set longline fishery. Dr. Kit Dahl and Dr. Steve Stohs of the Highly Migratory Species Management Team and Ms. Elizabeth Petras of National Marine Fisheries Service Southwest Regional Office were available to answer questions.

With regard to sea turtle protective measures, all of the action alternatives include 100 percent observer coverage and hard bycatch caps, which will ensure that take will not exceed that allowed by subsequent Endangered Species Act consultation. A lack of available data weakens the analysis of SEIS alternatives. Full evaluation of these alternatives requires information on spatial and temporal distribution of the target and bycatch species and response of the fishery to area restrictions. However, this proposal is for a fishery in an area that has not been fished in recent years, using significantly modified gear. The language and conclusions of the SEIS need to explicitly acknowledge uncertainty and simplifying assumptions to avoid giving a false sense of precision in the evaluation of alternatives. Nonetheless, the current document is sufficient for Council decision-making, with the caveat that catch rates and take estimates are imprecise and quantitative estimates of fishery profitability are not reliable at this time.

The SSC noted some shortcomings of the economic analysis that could be addressed but probably would not alter the general evaluation of the proposed alternatives. Evaluation of fishery impacts and profits for the alternative westward boundary designations should use available spatial information on swordfish catch per unit of effort (CPUE) as well as interactions with protected species. The current analysis holds swordfish CPUE spatially constant and oversimplifies redistribution of fishing effort. Likewise, most of the economic evaluation relies on cost estimates from the Hawaii-based fishery. Predictable differences between this fishery and the west coast-based fishery, such as distance travelled to the fishing grounds, should be documented in the analysis.

The evaluation of impacts and economic benefits of alternative fleet size limits is also quite uncertain. The opportunity costs associated with the required observer coverage should be explicitly evaluated, including identification of which fisheries might lose coverage if observers must be diverted to meet the 100 percent coverage required by this fishery. Uncertainty in the magnitude of fishery interactions with protected species and resulting take estimates should also be explicitly acknowledged.

In development of future Environmental Impact Statements, the SSC encourages further discussion about the ecosystem effects of different fisheries and gear types. The Highly Migratory Species Fishery Management Plan should approach the issue of bycatch and ecosystem effects comprehensively.

SSC Notes

If the fishery is approved, an incidental take analysis and Section 7 consultation will ensue, leading to a new evaluation of potential takes and analysis of potential impacts to the populations of protected species (primarily loggerhead and leatherback sea turtles). The jeopardy evaluation should account for uncertainty in the likely number of takes and the cumulative impact of all fisheries that interact with the affected protected species. Cumulative impacts on sea turtles are assumed to be additive and fisheries are not re-assessed through time, so jeopardy evaluation for this new fishery will be in the context of existing allowable takes. The Biological Opinions are not externally peer-reviewed. The SSC is not in the position to review Biological Opinions, but is concerned about this lack of review and transparency.

If expected takes are based on averages in the Hawaiian shallow set fishery, the estimates are highly uncertain because they do not really reflect average interactions; they have changed over time due to spatial closures and shut-downs as well as changes in gear and fishing tactics in response to the bycatch caps.

Highly Migratory Species Management, continued

3. FMP Amendments to Implement Annual Catch Limit (ACL) Requirements

Dr. Alec MacCall (NMFS) briefed the Scientific and Statistical Committee (SSC) on activities of the National Marine Fisheries Service (NMFS) National Standards 1 Working Group (NS1WG). The NS1WG has focused on implementation issues associated with the new annual catch limit (ACL) requirements.

Several aspects of the Council's Highly Migratory Species Fishery Management Plan (HMS FMP) will require amendment to comply with the new ACL requirements, namely:

- The FMP's control rules need modification to establish a scientific uncertainty buffer, i.e. a reduction in F (or catch) from that associated with estimated F_{MSY} to ensure that overfishing does not occur according to a Council-specified probability.
- Additional buffers may be needed to reflect economic, social, and/or ecological considerations.
- An explicit list of the species covered by the FMP that will require ACLs needs to be developed.

The conceptual development work needed to address Items 1 and 2 has commonality with other Council FMPs, e.g. the Groundfish and Coastal Pelagics Species FMPs. The SSC is willing to be fully engaged in this process as it develops for HMS as well as for other Council FMPs.

However, Item 3 involves considerations that are unique to the HMS FMP owing to the MSA's "ACL international exception." Although there is some ambiguity in the MSA language, the exception appears to alleviate the need for Council ACLs for species managed by the international regional fishery management organizations (RFMO) of which the U.S. is a member, e.g., Inter-American Tropical Tuna Commission (IATTC) or Western and Central Pacific Fisheries Commission (WCPFC).

The HMS FMP includes 62 species or species groups – 13 are “actively managed” while the others are “monitored.” The SSC suggests the following process for dealing with Item 3, above.

- a. Start with the complete list of species included in the FMP.
- b. Eliminate those species more appropriately covered by another Council FMP or those found only in state waters and managed by a state management plan.
- c. Identify and eliminate the Ecosystem Component Species.
- d. Identify and eliminate the species that fall under the MSA’s ACL international exception.
- e. For each of the remaining species, ACLs will need to be determined.

The HMSMT – working in conjunction with Council staff, the SSC HMS Subcommittee, and perhaps the WPFMC – may be best suited for developing the list of Council ACL species (following the process outlined in the previous paragraph). Upon completion, the SSC could review this work.

The SSC notes that due to the aforementioned ambiguity in the MSA language, Step d, above, may require guidance from the Council. Some HMS are being actively assessed and managed by RFMOs (e.g. yellowfin and bigeye tunas). Other species – while clearly covered under the RFMO treaties – do not undergo regular stock assessment and are not being actively managed (e.g. several shark species). With respect to the latter group, the Council:

- f. may want to be proactive and develop ACLs for these species independent of the RFMOs; or
- g. due to workload and/or jurisdictional concerns, may want to eliminate them from the Council’s ACL species list, and request (via NMFS/State Department) that the RFMOs provide ACL-like scientific buffers directly to the Council.

Depending upon the Council’s guidance regarding the ACL international exception, the number of HMS requiring Council ACLs may be few or may be substantial. In either case, however, the species that comprise the Council ACL group (Item e, above) will most likely be “data poor” with respect to stock assessment and management. Development and evaluation of new stock assessment methods for these data-poor stocks may be necessary. The SSC expects to be fully engaged in this process.

Finally, the draft schedule for HMS FMP amendment (Agenda Item D.3.a, Attachment 5) calls for full implementation in early 2011. This should be workable if the Council’s ACL list contains only a few species, but meeting the schedule may be challenging if the list is moderate to large. Additionally, the SSC notes that for HMS that are currently subject to overfishing (yellowfin and bigeye tunas), ACLs may be required in 2010. Meeting this requirement will require close coordination with the RFMOs that conduct the assessments and actively manage these stocks.

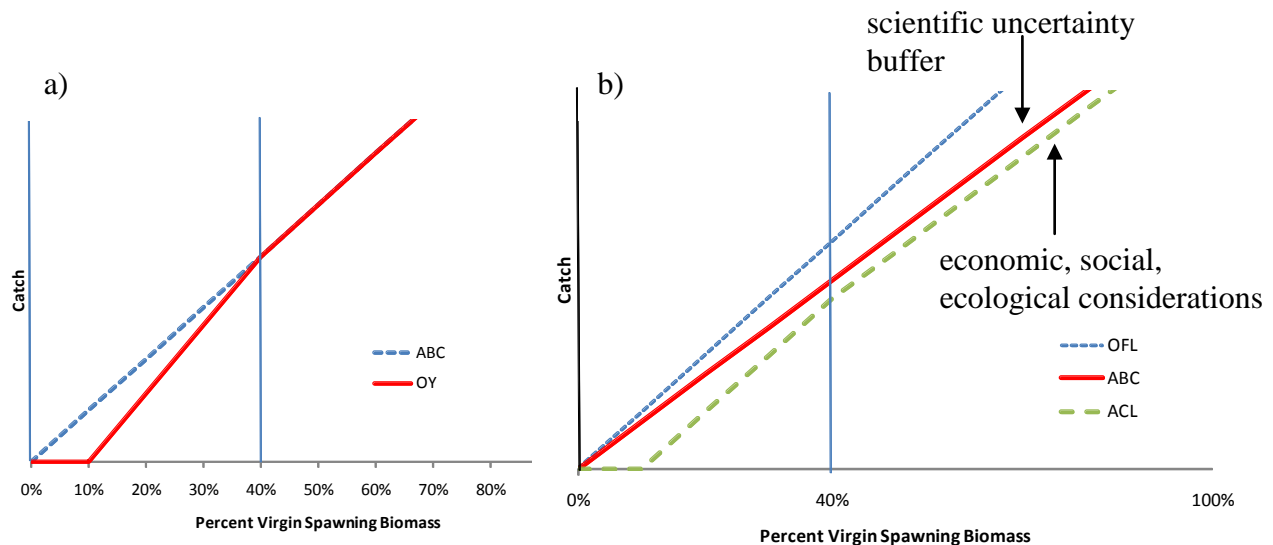
Groundfish Management

7. FMP Amendments to Implement ACL Requirements

The Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSRA) and the revised National Standard 1 (NS1) guidelines introduce new fishery management concepts to better account for scientific and management uncertainty in order to prevent overfishing. The Council's current Fishery Management Plan (FMP) for Pacific coast groundfish needs to be aligned with the NS1 guidelines, and scientific uncertainty needs to be explicitly specified and accounted for.

Dr. Alec MacCall briefed the Scientific and Statistical Committee (SSC) on the activities of the NMFS NS1 Working Group (NS1WG). The NS1WG has been working on technical issues associated with implementing the new annual catch limit (ACL) requirements.

The two figures below represent: (a) the Council's current 40-10 harvest control rule and terminology for the conservation and management of groundfish and (b) a hypothetical harvest control rule that includes scientific uncertainty as required by the MSRA.



To quantify scientific uncertainty in stock status, the SSC recommends conducting a meta-analysis to characterize variability in stock assessments over time. The Council will then have a basis with which to evaluate the trade-off between the size of the scientific uncertainty buffer and the risk of overfishing and can specify a level of risk aversion. The SSC would then review the application of the scientific uncertainty buffer based on that policy choice.

Under the NS1 guidelines, the groundfish FMP will need to specify status determination criteria so that overfishing determinations can be readily made. The FMP must describe whether a maximum fishing mortality threshold or an overfishing limit (OFL) will be used to determine overfishing status. The former is specified as a fishing mortality rate (e.g., F_{msy}) and the latter as a catch level. The SSC recommends defining overfishing as exceeding the OFL catch because it is straightforward, understandable, easily measured, and can accommodate annual accountability measures.

The SSC also recommends the following tasks be completed as soon as practicable, with Council staff coordinating these efforts. The SSC would then review the completed products.

1. Evaluate the efficacy of current in-season monitoring as an accountability measure, which should be documented in the FMP amendment.
2. Document the history of current harvest control rules to identify precautionary adjustments currently in place.
3. Review current rebuilding plans and analytical methods to ensure compliance with NS1 guidelines.
4. Categorize all FMP groundfish species as “stocks in the fishery” or “ecosystem component species”.
5. Assign vulnerability scores to all species in the FMP. A stock’s vulnerability is a combination of its productivity, which depends upon its life history characteristics, and its susceptibility to fishery. These scores could potentially be used in conjunction with the meta-analytical results to tier uncertainty buffers.

The SSC notes that there does not appear to be enough time to adequately finish these tasks under the proposed schedule. Frameworking the FMP amendment may provide flexibility in both implementation and application of MSRA ACL requirements.

Marine Protected Areas

1. Update on Olympic Coast National Marine Sanctuary (OCNMS) Management Plan Review Process

Mr. Liam Antrim, Olympic Coast National Marine Sanctuary (OCNMS), updated the Scientific and Statistical Committee (SSC) on the sanctuary management plan review process. Dr. Lisa Wooninck, Monterey Bay National Marine Sanctuary, also participated in the discussion.

The SSC found the OCNMS documentation of its management plan review process to be thorough and well organized. Communication with the Council at these early stages of Work Plan development is very helpful. The Sanctuary considers the Council as a management partner, but the Council is directly interested in only a subset of the Sanctuary activities. From the list of priority needs identified by the Sanctuary these are: (1) enhance understanding of Sanctuary ecosystems, (2) assess and reduce threats to Sanctuary resources, and (3) achieve effective collaborative and coordinated management. These represent “Priority Management Needs” 2, 4, and 6, respectively, in Agenda Item E.1.b, Attachment 6. There are opportunities for Sanctuary research to complement Council management needs, especially in the areas of research to improve stock assessments and essential fish habitat definition through seafloor and biogenic habitat mapping.

We discussed the idea of having formal SSC representation on each of the Sanctuary Research Advisory Panels and agreed this was not appropriate. However, SSC members acting in an independent capacity may act as technical advisers and assist in coordinating Sanctuary and Council-related activities

All of the Sanctuaries will now be producing Condition Reports on the same schedule. To facilitate Council review of these reports we agreed that the issues of interest to the Council would be compiled from all the Sanctuaries and presented in a single report. This should begin with the next five-year review cycle and could be facilitated by the SSC Ecosystem-based Management Subcommittee.

Groundfish Management, continued

F.4 FMP Amendment 20 – Trawl Rationalization – Community Fishery Association (CFA) and Miscellaneous Clarification Issues

The Scientific and Statistical Committee (SSC) was briefed by Mr. Merrick Burden and Ms. Heather Brandon on consideration being given to higher accumulation limits for community fishery associations (CFAs) as part of trawl rationalization. The SSC notes the need for clear goals and objectives to inform the analysis of this provision and for tightly specified qualification requirements consistent with the objectives.

Groundfish Management, continued

F.5 FMP Amendment 20 – Trawl Rationalization – Analysis Parameters for Adaptive Management Program

The Scientific and Statistical Committee (SSC) received a briefing on the analysis parameters for the adaptive management program (AMP) from Ms. Heather Brandon and Mr. Merrick Burden. Both the Council Staff White Paper and Supplemental Staff Report (Agenda Item F.5.a) highlight several important issues that need to be decided and analyzed for the program. The SSC is not able to comment on analyses until the goals and objectives of the program are determined and the design parameters and analyses are further developed.

Nevertheless, the SSC highlighted several aspects of the program that may be particularly important.

1. If the program is intended to address unintended consequences associated with rationalization, those consequences will not be fully known until after rationalization occurs. These consequences may be different in the early periods of rationalization than in later periods after the industry has adjusted to the trawl individual quota program. Therefore, flexibility may be a desirable design feature.
2. The AMP currently states that up to 10 percent of quota pounds can be reserved for the program. The Council will need goals and objectives, as well as the corresponding analysis, to determine the appropriate percentage of the quota to be used in the AMP.
3. Given that 10 percent of the quota is the maximum amount that may be allocated to an AMP, spreading this amount across too many programs could lead to diminished program results.

Salmon Management

H.2. Workgroup Report on Causes of the 2008 Salmon Failure

The Scientific and Statistical Committee (SSC) reviewed the pre-publication work group report “What caused the Sacramento River fall Chinook stock collapse?” The SSC also received a document Friday afternoon that was developed by Council staff, which suggested possible document review points for Council advisory bodies. The SSC review of the work group report considered the list of review points provided by Council staff, but did not focus its discussion on the list. The SSC suggests it is more appropriate for the report’s authors to consider the concerns detailed in the staff document and to address them in the next draft of the report, if feasible. Several members of the SSC participated in the development and writing of the work group report and recused themselves from the SSC review and critique of the document. They did provide clarification on items in the report on which SSC members had specific questions.

The organization of the report was helpful in understanding the process that the work group used for examining possible causes of the failure of the 2004 and 2005 brood years. However, because of the narrow focus of the report, i.e., concentrating on the response of only two brood years, the SSC is concerned that the report’s conclusions may not be robust. Many of the analyses summarized in the report might have been strengthened by examining a longer time series of data beyond those years adjacent to the two brood years in question. A more detailed examination of temporally expanded data sets would better define “unusual” conditions that may affect salmon survival at different life history stages.

Another SSC concern is that the data and details underpinning many of the analyses associated with the report are not presented in the report. It was difficult to critically evaluate many of the report’s conclusions because underlying analyses were not presented. For example:

- The drastic decline in breeding success of seabirds (Cassin’s auklets) was cited as evidence supporting the hypothesis that poor ocean conditions were a major contributing factor to the failure of the brood years. However, there was no seabird data presented in the document.
- The juvenile Chinook CPUE data from the Chipps Island sampling was offered as evidence that freshwater survival was not unusually poor for the two brood years. However, it was not clear whether adjustments to the raw CPUE data to account for inter-annual changes in juvenile catchability had been considered.

The SSC’s review of the report would have been facilitated if the details of many of the analyses had been presented.

The SSC generally supports the report’s conclusions that ocean conditions were an important factor contributing to the poor performance of the 2004 and 2005 brood years of Sacramento fall Chinook. As discussed in the report, there were poor returns of other west coast salmon stocks which supports the hypothesis that poor ocean environmental conditions in 2005 and 2006 contributed to the brood year failures. The report acknowledges other factors likely contributed to the failure, in particular, the long-term decline of conditions in the freshwater environment. However, the available data and analyses presented in the report do not allow full assessment of other factors which may have contributed to the

failure. The SSC supports the report's recommendation for a process to evaluate the potential benefits of increased habitat quality and quantity, and modifications to hatchery practices to improve life history diversity of the Sacramento River Chinook stock.

The SSC notes that the time frame for preparation of this document and for Council review did not lend itself to a thorough analysis and review. From the SSC's perspective, an opportunity to interact with the workgroup at some stage earlier in the report's development would have been better and more productive. This initial review might have been done by the SSC's salmon subcommittee. An earlier opportunity to review the document would also have allowed a more thorough consideration of the Council staff's review points by the SSC.

Finally, the SSC has an overriding concern that the conclusions drawn from investigations of this type, which focus on a very narrow time period, will always be questionable, especially when they occur only in response to a negative event. Potential causes will likely always be found, but these will in many cases not reflect general properties unless a broader investigation in both time and area is conducted.

Salmon Management, continued

H.5. Methodology Review Process and Preliminary Topic Selection for 2009

The Scientific and Statistical Committee (SSC) met with Dr. Robert Kope of the Salmon Technical Team (STT) and Mr. Robert Conrad of the Model Evaluation Workgroup (MEW) to identify and discuss methodology reviews for 2009. The following eight items were identified for potential SSC review this fall. The first four are high priority.

1. Update on further Chinook Fishery Regulation Assessment Model (FRAM) sensitivity analysis.
2. Review of work done to better define "low intensity" fishery guidelines for Chinook selective fisheries. The provisional recommendations for fishery-specific exploitation rates on marked stocks were used in 2008 to avoid bias in the harvest model. The SSC would like to see a characterization of model bias and recommendations to avoid or correct for overexploitation resulting from this bias.
3. September 1 maturity boundary ("birth date") for Klamath River fall Chinook and Sacramento River fall Chinook.
4. Oregon coastal natural (OCN) coho abundance predictor.
5. Review of any work done to address brood year impacts of mark-selective fisheries occurring across multiple years to important stocks in the Pacific Fishery Management Council (Council) management process (i.e., how will unobserved mark selective fishery impacts on unmarked "wild" stocks that occur across multiple years be accounted for?).
6. Review of mark selective coho fisheries in Council ocean areas and performance of FRAM model in predicting impacts.
7. Impact projections for Klamath River fall Chinook and Sacramento River fall Chinook fisheries.
8. Ocean abundance predictors for Columbia River Chinook.

Adjournment B The SSC adjourned at approximately 5:00 p.m., Saturday April 4, 2009.

SSC Subcommittee Assignments, April 2009

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

Bold denotes Subcommittee Chairperson

PFMC
08/21/09