DRAFT SUMMARY MINUTES
Scientific and Statistical Committee

Pacific Fishery Management Council
Embassy Suites Portland Airport
Firs I
7900 NE 82nd Avenue
Portland, OR 97220
503-460-3000
November 1-2, 2004

Call to Order

The meeting was called to order at 8 a.m. Dr. Don McIsaac briefed the Scientific and Statistical Committee (SSC) on priority agenda items.

Subcommittee assignments for 2004 are detailed in the table at the end of this document.

Members in Attendance

Mr. Tom Barnes, California Department on Fish and Game, La Jolla, CA
Mr. Steve Berkeley, University of California, Santa Cruz, CA
Mr. Alan Byrne, Idaho Department of Fish and Game, Nampa, ID
Mr. Robert Conrad, Northwest Indian Fisheries Commission, Olympia, WA
Dr. Ramon Conser, National Marine Fisheries Service, La Jolla, CA
Dr. Michael Dalton, California State University, Monterey Bay, CA
Dr. Martin Dorn, National Marine Fisheries Service, Seattle, WA
Dr. Kevin Hill, National Marine Fisheries Service, La Jolla, CA
Mr. Tom Jagielo, Washington Department of Fish and Wildlife, Olympia, WA
Dr. Peter Lawson, National Marine Fisheries Service, Newport, OR
Dr. André Punt, University of Washington, Seattle, WA
Dr. Hans Radtke, Yachats, OR
Dr. Stephen Ralston, National Marine Fisheries Service, Santa Cruz, CA
Dr. David Sampson, Oregon State University, Newport, OR
Ms. Cynthia Thomson, National Marine Fisheries Service, Santa Cruz, CA

Members Absent

Dr. Han-Lin Lai, National Marine Fisheries Service, Seattle, WA

Scientific and Statistical Committee Comments to the Council

The following is a compilation of November 2004 SSC reports to the Council.

Salmon Management

D.2. Salmon Methodology Review

Typically there is a joint meeting of the SSC and the Salmon Technical Team (STT) in October to review new salmon methodologies or proposed changes to existing methodologies. However, there were no methodologies that were ready for review this fall. Instead, the SSC and STT were given a brief presentation by Mr. Larrie LaVoy of the Washington Department of Fish and Wildlife about a two-year (2003 and 2004) pilot project involving mark-selective fisheries for chinook in Washington Marine Catch Areas 5 and 6 in the Strait of Juan de Fuca. He compared projections from the chinook Fishery Regulation Assessment Model (FRAM) with results of a creel survey and test fishery data collection program conducted during the fisheries. Although the comparison provided some indication of FRAM performance, a number of problems were identified with evaluating the model against results from a creel survey. There are many parameters and outputs from FRAM that can be compared to analogous creel survey estimates. A comprehensive set of comparisons is needed along with estimates of the uncertainty associated with the creel survey.

The SSC is concerned that proposals for mark-selective fisheries for both chinook and coho will increase in the future. It is important that sufficient resources be dedicated to the information and analytical challenges presented by these fisheries, including both preseason projections of impacts (FRAM) and postseason estimates of stock specific impacts. Continued validation of model performance is needed. While this has not been required in the past, the additional complexity of modeling mark-selective fisheries for chinook, with their multiple year life history, increases the opportunity for the model to fail which increases the risks to the stocks. If more extensive selective fisheries are proposed for chinook, this additional risk should be recognized. Proposals for more extensive selective fisheries should require that fishery monitoring be conducted to continue and extend the evaluation of model performance. These fisheries should be designed so that the mortalities in the proposed selective fishery do not exceed those from a currently existing non-selective fishery that is more limited in duration, or alternatively, that the total estimated impacts for a specific wild stock of concern are not greater than some specified amount.

The SSC had hoped the results from this comparison would help validate the mark-selective version of chinook FRAM. Overall results indicated that FRAM produced reasonably good predictions for encounter rates. However, the fisheries were too small and the data too variable to reach any firm conclusions about stock-specific predictions of impacts. Also, it is not possible to assess model predictions of non-landed mortalities with this comparison. The SSC is no closer to being able to recommend adoption of the mark-selective version of chinook FRAM for use in evaluating Council fisheries than it was two years ago. One missing element continues to be the detailed model documentation that we anticipate the Model Evaluation Workgroup will produce.

Groundfish Management

E.1. National Marine Fisheries Service Report

National Marine Fisheries Service (NMFS) Cost/Earning Survey

Dr. Carl Lian (NMFS Northwest Fisheries Science Center [NWFSC]) gave an oral report to the SSC on a planned survey of 2003 cost and earnings by the limited entry trawl fleet. The survey, which will be administered during the first quarter of 2005, will provide a snapshot of annual cost and earnings by the limited-entry trawl fleet prior to the trawl buyback program. Previous attempts to collect cost information have not been very successful. To improve the response rate compared to the most recent previous survey, conducted in 1999, the new survey will have a simpler questionnaire and will be administered by means of a personal interview. It is anticipated that the survey will be repeated at three-year intervals. SSC members noted that the simplified questionnaire would not allow the survey to distinguish West Coast fishing activities from those conducted elsewhere and would not measure such costs as debt-financing or other measures of vessel value.

Off-Year Science Activities:

Recreational Catch Per Unit Effort (CPUE) Workshop Report

The SSC received a written report and an oral summary by Dr. Steve Ralston on the Recreational CPUE Statistics Workshop that was held in Santa Cruz, California during June 2004. The report makes suggestions that are relevant for several of the assessments that will be developed during 2005 for several West Coast groundfish stocks, including approaches for CPUE data analyses and bag-limit adjustments. The SSC endorses the report and its recommendations, particularly the recommendation that the Recreational Fishery Information Network (RecFIN) develop a vessel-level database to facilitate recovering CPUE data by trip. The SSC Groundfish Subcommittee chair will work with the RecFIN Technical Committee to facilitate producing the new database.

Stock Assessment Data Workshop Report

Ms. Stacey Miller (NWFSC) distributed a written report on the Stock Assessment Data Workshop that was held in Seattle, Washington during July 2004. The draft report will be circulated to all participants of the workshop and finalized soon. The SSC will review the written report of the workshop at the March 2005 Council meeting.

Stock Assessment Modeling Workshop

Ms. Stacey Miller (NWFSC) gave an oral report to the SSC on the Stock Assessment Modeling Workshop that was held in Seattle, Washington during the last week of October 2004. A written report on the workshop will be included in the Briefing Book for the March 2005 Council meeting. The SSC suggests that the summary recommendations from the workshop should be circulated soon to all workshop participants and the teams that will develop the 2005 stock assessments.

Reviewers from the Center for Independent Experts (CIE) attended both the Recreational CPUE

Statistics Workshop and the Stock Assessment Modeling Workshop. The SSC again requests that the reports from the CIE reviewers be included in the public record of the workshops, as has been done with CIE review reports elsewhere in the country.

The SSC commends staff at the NWFSC for organizing and facilitating the suite of successful stock assessment workshops that occurred during 2004. At some future meeting the Council and its advisory committees may wish to formally review the off-year science activities and provide guidance concerning the process for planning such activities for 2006.

Vermillion Rockfish Stock Assessment in 2005

Dr. Alec MacCall presented a brief summary of the data currently available for conducting a stock assessment of vermillion rockfish. Patterns evident in the available size-composition data suggest that any stock assessment model consistent with these data would require considerable complexity or would be based on tenuous assumptions. The SSC concurs with Dr. MacCall's opinion that considerable resources would be required to explore additional data sources and to carry out the analysis, but the likelihood is small that an assessment suitable for management advice would result. The SSC recommends that Dr. MacCall compile the available information, including the southern California commercial passenger fishing vessel observer data and the California set gillnet logbook data, and develop an informational report for review during 2005 by a Stock Assessment Review Panel and inclusion in the 2005 Stock Assessment and Fishery Evaluation document. The SSC anticipates that an assessment for vermillion rockfish may be developed during the 2007 stock assessment cycle.

E.2. Terms of Reference for Groundfish Rebuilding Plan

The SSC primarily considered the Terms of Reference (TOR) for stock assessment review (STAR) panels under this agendum. To a limited degree, review of groundfish rebuilding plans was also discussed.

The SSC recognizes that 2005 will be an exceptional year due to the large number of stocks being assessed in support of the new, multi-year stock assessment and management process. Modifications to the Council's long-standing STAR TOR were discussed in light of these changes. The SSC recommends that:

1. The principal process and document content recommendations from the Recreational Catch Per Unit Effort (CPUE) Workshop (June 2004) and Stock Assessment Modeling Workshop (October 2004) be incorporated into the TOR.

2. A minimum of four reviewers should serve on each STAR panel. For panels that review more than three stock assessments, the number of reviewers assigned to a STAR panel should, if at all possible, follow an "n+1" rule of thumb, where n is the number of stock assessments under review by the panel.

3. For reasons of continuity and efficiency, the SSC representatives on STAR panels should also typically serve as STAR panel chairs. SSC representatives on STAR panels should continue to convey STAR panel findings to the Council.

Otherwise, aside from updating text, references, etc., the SSC recommends the TOR with the above revisions should be used for this assessment cycle. However, immediately after completion of the first multi-year management cycle, experiences from the new process should be evaluated. The SSC is willing to initiate this evaluation by organizing an informal evening session in conjunction with the November 2005 Council meeting; and then to follow-up with further SSC deliberations on the TOR.

Notwithstanding these recommendations, the SSC considered the Groundfish Management Team's (GMT's) suggestions for TOR modifications regarding the (i) evaluation of regional stock differences and (ii) inclusion of rebuilding parameters in the executive summary of stock assessment documents (*cf.* Supplemental GMT Report C.8, September 2004). The SSC agrees that (i) would be desirable for some stocks, but adding it to the TOR – applicable to all stocks – would be overly burdensome for both stock assessment authors and the assessment review process. Instead, the SSC suggests the GMT request such evaluations from assessment authors on a case-by-case basis, as required for GMT deliberations.

With regard to GMT suggestion (ii), the SSC continues to recommend that the STAR process and the process for reviewing rebuilding plans should be separate, sequential steps in the Council's management cycle. As such, many stock-specific rebuilding parameters will not be available for inclusion in documents prepared for the STAR process. However, these parameters could be delineated in the executive summary of the SSC-proposed rebuilding analysis document in order to meet the GMT's needs.

Regarding the TOR for groundfish rebuilding plan review, the SSC recognizes the Council has been requested by the National Marine Fisheries Service to establish a process to monitor and respond to rebuilding progress. The SSC will work with the Council to develop a set of guidelines and tools for evaluating rebuilding status. Such guidelines should be available for review and consideration by April 2005.

E.6. Trawl Individual Quotas (TIQ)

Mr. Jim Seger briefed the SSC on the process for developing alternatives for trawl individual quotas (TIQs) on the West Coast. Currently, description of the TIQ process is contained in several documents, including reports by the Ad Hoc TIQ Analytical Team and Ad Hoc TIQ Independent Experts Panel (IEP). The TIQ process is now addressing several preliminary issues including defining goals and objectives, development of tools to achieve objectives, and description of data needed to define a baseline for comparing alternatives. The SSC agrees with the IEP that clarification and refinement of goals and objectives is necessary so that measurable criteria may be specified. These criteria will aid formulation and analysis of alternatives and facilitate future evaluation of the TIQ program. The TIQ Analytical Team and IEP's statements of TIQ goals and objectives are given in the Decision Step Summary (E.6.a, Attachment 3). Two overarching objectives of the TIQ program appear to be: (1) efficiency gains in the trawl sector, and (2) reduction of discard mortality.

As described in the reference materials, TIQs could provide efficiency gains to the groundfish fishery. Typically, efficiency gains from IQ programs are associated with more efficient fishing operations (i.e., those with lower unit costs) purchasing quota from less efficient operations, thus, providing an equitable means of capacity reduction. The extent of these gains can be affected by

several factors including the trawl buyback program, degree of fleet heterogeneity, and other regulations. The trawl sector is one component of a multi-sector, multi-species fishery, which raises important issues of quota transferability between sectors.

The reference materials explain how IQ-based management tools can have unintended consequences. These include increased economic discards (i.e., high-grading), and changes in the balance of market power among vessel crew, vessel owners, and processors. In addition, the establishment of IQs can create barriers to entry and changes in the distribution of fishing effort, catch, and landings. In some well-known cases, IQs have redistributed landings from rural fishing communities to urban areas where processing facilities are located.

By providing economic incentives to avoid bycatch, an IQ program could be a cost-effective means of reducing discard mortality. Some elements of the British Columbia groundfish IQ program could provide a reasonable case study. In this regard, a framework to analyze effects of management alternatives on economic incentives would be useful. At the Council's direction, the SSC would be willing to consult with the TIQ Analytical Team and IEP on developing this framework. As a starting point, the SSC refers to sections on IQs in the *SSC Report on Overcapitalization in the West Coast Groundfish Fishery* (March 2000) and the *Groundfish Strategic Plan* (June 2000).

E.7. Groundfish Essential Fish Habitat – Preferred Alternatives

The SSC discussed the Draft Environmental Impact Statement (DEIS) for Essential Fish Habitat. Mr. Steve Copps (NMFS-Northwest Region) and analysts from Oceana were present for discussions and responded to SSC questions. The DEIS for Essential Fish Habitat (EFH) is a complex and lengthy document, with alternatives for EFH designation, Habitat Areas of Particular Concern (HAPC) designation, and mitigation of adverse impacts.

Comparison of alternatives is the core of an EIS, and it is important the criteria by which alternatives are ranked be carefully defined and clearly articulated. EFH designation alternatives were evaluated with respect to geographic resolution and scientific uncertainty with scores ranging from environmentally positive to negative (E+ + + to E-). It was not clear to the SSC how to interpret these scores, nor how the different alternatives were scored. A similar lack of clarity is present in the scoring of HAPC alternatives and mitigation alternatives.

The main body of the EIS lacks any discussion of the link between impacts on EFH and the productivity of Council-managed groundfish, and does not address why impact mitigation measures are needed. While definitive proof would be difficult to demonstrate, the EIS should make a reasoned argument that fishing impacts on habitat are more than minimal and not temporary in nature, and thus require mitigation measures. Some of this rationale may be available in the Comprehensive Risk Assessment, and could be brought forward in the main EIS document.

A document describing a mitigation alternative developed by Oceana was distributed during the meeting, so the SSC was unable to conduct a comprehensive review of the analytical approach. However, the Oceana proposal is the only one to contain an alternative that deals explicitly with protection of habitat-forming invertebrates, such as deep-water corals and sponges. The introduction to the Oceana proposal lists five categories of management measures, including

closed areas, catch restrictions, gear restrictions, and enhanced monitoring and research. Only measures relating to closed areas are developed and analyzed in the document, so at this point the alternative cannot be considered fully developed.

Economic impacts of mitigation alternatives involving spatial closures were evaluated using "revenue at risk" derived from logbook data by 10-minute blocks. Different methods were used for the Oceana alternative and other alternatives. The Oceana alternative assigned revenue to a closed area proportionately according to the fraction of the 10-minute block inside the closed area, while other alternatives used the entire revenue associated with the block. For the comparisons across alternatives to be meaningful, the same methods need to be used for all alternatives. Using the revenue for the entire block gives an upper bound on the potential revenue at risk, but the Oceana approach is likely to be more accurate. It is not clear whether the Oceana approach would tend to underestimate or overestimate revenue at risk, as fishing could be concentrated in, or avoid, the area proposed for closure.

The SSC notes that the research and monitoring alternatives deal primarily with collection of new data on spatially-explicit fishing impacts. Notwithstanding previous SSC criticism of particular fishing impact models, the SSC encourages further work on developing spatial models for fishing impacts, as these issues are ongoing, and a suitable modeling tool would be extremely valuable.

The SSC highlights its previous recommendation for a logbook program for nontrawl fisheries. The SSC suggests the alternatives for research and monitoring should include increased observer coverage. Research reserves would be needed to determine the effects of fishing gear on habitat. However, establishment of such reserves would be a major undertaking and would require that areas be left open for several years to establish a baseline. The SSC's white paper on marine reserves discusses design considerations for research reserves.

Coastal Pelagic Species Management

G.2. Pacific Sardine 2005 Stock Assessment and Harvest Guideline

Dr. Ray Conser (Southwest Fisheries Science Center) presented the 2005 stock assessment of Pacific sardine to the SSC. Previous assessments of Pacific sardine were conducted using the catch-at-age analysis for sardine – two area model (CAMSAR-TAM). The 2005 assessment is the first based on the age-structured assessment program (ASAP) model. The use of this model for assessments of Pacific sardine and Pacific mackerel was reviewed by a stock assessment review (STAR) Panel in June 2004. The SSC recommended this model be used for the 2005 assessment at its September 2004 meeting.

The biomass time-series from the new assessment for the years prior to 2004 is higher from the 2005 assessment than that from the 2004 assessment, while biomass estimates for the most recent year are approximately the same. There are, however, major differences in the data used in the 2004 and 2005 assessments, as well as changes to the structure of the model. Unlike the 2004 assessment, the 2005 assessment suggests the biomass may have now stabilized.

The assessment presented by Dr. Conser represents the best available science regarding the status of the Pacific sardine resource. The SSC endorses the use of the harvest guideline (136,179 mt) estimated using the fishery management plan control rule and the biomass estimate of 1.2 million mt for management of the Pacific sardine fishery for 2005. This harvest guideline is 11% larger than the 2004 harvest guideline. The SSC notes that the 2004 recruitment is the largest in the time-series. However, this estimate is based on only a very limited amount of data (primarily the number of age-0 fish caught during 2004) and is hence highly uncertain. The SSC recommends the next assessment allow for differences among areas in weight-at-age in the fisheries and examine further the possibility of changes over time in the weight-at-age used when calculating spawning stock biomass.

The 2005 stock assessment was a "full" stock assessment and involved a review of the assessment methodology and data by a STAR Panel. The SSC recommends the harvest guideline for 2006 be based on the use of the ASAP model. The 2006 assessment will largely be an update to the 2005 assessment, so the SSC currently sees no need for a STAR Panel to review the assessment methodology during 2005. Rather, as has been the case in past, the SSC will review the 2006 assessment during its November meeting.

Other Matters

Public Comment

None.

Adjournment – The SSC adjourned at approximately 5 p.m., Tuesday, November 2, 2004.

PFMC
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SSC Subcommittee Assignments for 2004

Salmon	Groundfish	CPS	HMS	Economic	Marine Reserves
Alan Byrne	Steve Berkeley	**Tom Barnes**	Tom Barnes	**Michael Dalton**	Tom Barnes
Robert Conrad	Ray Conser	Alan Byrne	Steve Berkeley	Han-Lin Lai	Steve Berkeley
Kevin Hill	Michael Dalton	Michael Dalton	Alan Byrne	Hans Radtke	Michael Dalton
Pete Lawson	Martin Dorn	Ray Conser	Robert Conrad	Cynthia Thomson	Martin Dorn
Hans Radtke	Tom Jagielo	Tom Jagielo	**Ray Conser**	David Sampson	Tom Jagielo
David Sampson	Han-Lin Lai	André Punt	Kevin Hill		Pete Lawson
	André Punt		André Punt		André Punt
	Steve Ralston		Hans Radtke		Steve Ralston
	David Sampson				**Cynthia Thomson**

Bold denotes Subcommittee Chairperson