

DRAFT SUMMARY MINUTES
Scientific and Statistical Committee

Pacific Fishery Management Council
Doubletree Hotel
California Salon 2
2001 Point West Way
Sacramento, CA 95815
916-929-8855
March 7-8, 2005

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

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

Dr. Kevin Hill was reelected chair and Mr. Robert Conrad was reelected vice-chair. They will serve as officers for the April 2005 through March 2006 term.

The SSC reviewed subcommittee assignments. Dr. Steven Ralston resigned his position as chair of the groundfish subcommittee after a five year term. Dr. Martin Dorn was elected chair of the groundfish subcommittee.

Subcommittee assignments for 2005 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. 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. 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. Han-Lin Lai, National Marine Fisheries Service, Seattle, WA
Dr. André Punt, University of Washington, Seattle, WA (Monday only)
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

Mr. Alan Byrne, Idaho Department of Fish and Game, Nampa, ID
Dr. Michael Dalton, California State University, Monterey Bay, CA

Scientific and Statistical Committee Comments to the Council

The following is a compilation of March 2005 SSC reports to the Council. (Related SSC discussion not included in written comment to the Council is provided in italicized text).

Council Administrative Matters

B.2. Initial Consideration of April Council Meeting Agenda

The Scientific and Statistical Committee (SSC) reviewed information provided by Dr. Alec MacCall summarizing previously unavailable 1970's California commercial passenger fishing vessel size composition data for vermilion rockfish. Dr MacCall reported that these new data now make a conventional length-based assessment of vermilion rockfish feasible and recommended that a full stock assessment be pursued. The SSC recommends the Council consider this as an April agenda item.

Salmon Management

C.1. Review of 2004 Fisheries and Summary of 2005 Stock Abundance Estimates

Mr. Dell Simmons and Mr. Allen Grover summarized aspects of the Review of 2004 Ocean Salmon Fisheries and Preseason Report I for the Scientific and Statistical Committee (SSC). Discussion centered around Klamath fall chinook. The Klamath Ocean Harvest Model (KOHM) predicted a 15% age-4 exploitation rate for 2004. The postseason exploitation rate was 52.4%. The SSC was told this was because Klamath contact rates were much higher than previously observed, although contact rates for other chinook stocks were not unusual. In addition to high harvest in 2004, warm water has caused mortality of both adults and outmigrating juveniles in the past few years. The Council should consider the possible effects of poor Klamath inriver conditions on recruitment of future runs in order to anticipate possible continuing constraints on the coastwide chinook fishery.

A chronic problem for the SSC in reviewing salmon management issues is the lack of lead time and opportunity to identify issues and prepare documentation during the preseason process. Issues, such as this year's low Klamath abundance and its likely affect on fisheries, often emerge only in the weeks before the March Council meeting – too late for effective SSC review. An examination of the contact rate and catch projection portions of the KOHM would be appropriate for a salmon methodology review in 2005.

Groundfish Management

F.3. Terms of Reference for Groundfish Rebuilding Plan Review

There is a need to revise the “Scientific and Statistical Committee (SSC) Terms of Reference for Groundfish Rebuilding Analyses” (see Agenda Item F.3.a, Attachment 1) to fully document current practice. The existing document is now four years old and pre-dates the development of software by Dr. Andre Punt, that has been used to conduct virtually all groundfish rebuilding analyses thus far. The SSC groundfish subcommittee agreed to complete a revision of the document as soon as possible, including an evaluation of compatibility with National Standard 1 Guidelines, when they become available. However, due to the March 16th deadline for the April meeting briefing book, the revision will not be ready until the June meeting. The delay is not anticipated to hamper the stock assessment process.

Discussion by the SSC under this agenda item ranged more broadly to include the operational definitions for determining whether a stock is overfished. Amendment 11 to the fishery management plan established B25% (i.e., 25% of virgin stock size) as the overfished threshold for groundfish stocks. However, interpretation of results from analytical methods that produce a distribution of values as opposed to a single point estimate could lead to confusion in the application of this criterion. The SSC groundfish subcommittee agreed to address this topic and to recommend a standard approach to status determination, which will be included in the revision at the June meeting.

The SSC also discussed the issue of how to evaluate progress of overfished stocks towards meeting rebuilding targets and the development of a set of policy options that the Council could use to track progress and to implement revisions to rebuilding plans when needed (see Agenda Item F.3.a, Attachments 2 and 3, and Agenda Item F.3.b, Attachments 1 and 2). Substantial progress has been achieved on this topic in the form of developing a Management Strategy Evaluation (MSE) simulation protocol developed by an ad hoc working group of SSC, NMFS, and academic scientists. Given an operating model of stock dynamics and a method of assessment, the MSE simulation evaluates the success of a policy option (set by the Council) in achieving a set of objectives. Thus far a range of operating models has been devised and some plausible policy options described. It would also be useful to consider an assessment model with more complexity and to ensure that policies are consistent with National Standard 1 Guidelines.

At this point in the process it is important for the Council to provide guidance back to the SSC to frame the range of policy options that could be evaluated within the context of the MSE. In addition, a discussion and prioritization of management goals and objectives is needed to help define and evaluate management success. For example, high yields, low catch variability, stability of the management regime, and rebuilding certainty are all desirable attributes of a policy, but they often work in opposition to one another. Also, it was noted that a single policy on revisions might not be appropriate for all stocks (e.g., constraining stocks may have different criteria adopted for revisions than non-constraining stocks). To begin to work through these complex issues the SSC recommends that a joint session involving the Council, SSC, Groundfish Management Team, and Groundfish Advisory Subpanel be held on Monday of the April meeting.

F.6. Pacific Whiting Management

Mr. Tom Jagielo from the Scientific and Statistical Committee (SSC), and Chair of the Joint Canadian and U.S. Stock Assessment and Review (STAR) Panel for Pacific whiting, presented the SSC with an overview of the STAR Panel report. Dr. Thomas Helser, lead author of the Stock Assessment Team report, responded to questions arising during the SSC discussions.

The new stock assessment is an update of the 2004 assessment that includes additional data for catch, catch-at-age, and juvenile pre-recruit abundance in 2004, but otherwise uses the same model structure and configuration. As in the previous assessment the major source of uncertainty in the updated assessment is the value of the catchability coefficient (q) for the acoustic survey. Both the 2004 assessment and the 2005 update developed stock size estimates and catch projections based on assumed values for the acoustic survey q . The SSC concurs with the views of the STAT Team and STAR Panel that the two alternative models ($q = 1.0$ versus $q = 0.6$) are equally likely and provide plausible lower and upper bounds on stock status.

The age-3+ stock biomass in 2004 was estimated to range from 2.5 to 4.0 million metric tons, with the 2004 fishery supported primarily by the very strong 1999 year-class. Although spawning biomass was estimated to be 50% to 59% of the unfished level in 2004, it is projected to decline after 2005 because of relatively weak year-classes in 2000-2002. Optimum yield (OY) is projected to decline in 2006 relative to 2005, with further declines in 2007.

The SSC recommends that the decision table (Table 14 in the stock assessment document, Agenda Item F.6.a, Attachment 1) be used to evaluate the alternative OY options for 2005. This table shows the consequences for stock biomass when OYs are taken based either on the $q = 1.0$ or $q = 0.6$ model, given that the true situation is consistent with one or the other model. The entries in the lower left and upper right boxes show the “penalties” for using the incorrect model. If the OY is incorrectly based on the $q = 0.6$ model, greater harvests could accrue (1.4 million tons during 2005-2007), but there is a 50:50 chance that the stock would be reduced to 20% of the unfished biomass in 2007 and declared overfished. If the OY is incorrectly based on the $q = 1.0$ model, there is much less of a chance the stock would be declared overfished, but smaller harvests would accrue (0.87 million tons during 2005-2007).

The SSC also received a brief verbal report from Dr. Vidar Wespestad, Chief Scientist of the Pacific Whiting Conservation Cooperative (PWCC). Since 2001 the PWCC, in conjunction with the NMFS Northwest Fisheries Science Center (NWFSC), has conducted surveys of juvenile Pacific whiting and rockfish off Oregon and California using gear and survey protocols that are comparable to the pre-recruit survey conducted by the Southwest Fisheries Science Center (SWFSC) Santa Cruz Laboratory. Pacific whiting assessments since 2001 have used the SWFSC pre-recruit survey results as a recruitment index. The PWCC survey, which may in the future be incorporated into the whiting assessment, has broader geographic coverage than the SWFSC survey and could provide information on year-class strength that would supplement the SWFSC survey and improve model projections. The 2005 coastwide acoustic survey will measure the strength of the 2002 and 2003 year-classes and corroborate the relative accuracy of the two surveys.

The SSC commends the work by Martell and Taylor (Appendix A to the stock assessment document)

that evaluated the ability of the Pacific whiting stock assessment to reliably estimate age-varying natural mortality (M) given dome-shaped selection curves in all fisheries and surveys. The SSC recommends that comparable analyses be conducted prior to the next whiting assessment to evaluate whether the stock assessment can reliably estimate the acoustic survey catchability coefficient and to investigate whether alternative harvest control rules would be more robust to the highly variable recruitment that dominates the Pacific whiting harvest projections. Similar analyses that use simulated data to evaluate the model's ability to reliably estimate parameters could be usefully applied in assessments of other stocks.

During the review of the Research Recommendations in the STAR Panel Report, there was discussion of whether bias corrections should be included in the likelihood components for log-normal indices such as survey biomass series (2004 STAR recommendation 3a). If the survey variability is constant, the bias would be absorbed in the estimate of survey q, but otherwise could result in bias in stock size estimates. The issue warrants further investigation as it could apply in general with stock assessments based on Stock Synthesis or similar models.

SSC Administrative Matters

Groundfish Essential Fish Habitat Environmental Impact Statement

The SSC heard an update from Mr. Steve Copps (NMFS) on recent progress in preparing the groundfish EIS for EFH. He noted that the present draft of the EIS is substantially changed and addresses many of the concerns expressed previously by the SSC. This document will be distributed at the March Council meeting for consideration at the April Council meeting.

The SSC also reviewed the Oceana Methodology for determining groundfish EFH and listened to presentations by Jim Ayers and Jon Warrenchuck (Oceana), and Geoff Shester (Stanford). Oceana's stated objective for EFH is to protect habitat while maintaining vibrant fisheries. The Oceana alternative is included as one of the alternatives in the draft EIS. The council included the Oceana alternative as preliminary preferred Alternative number 12.

The Oceana approach considers coral and sponge habitats to be of particular importance to groundfish. Oceana asserts that, based on the EFH final rule, a causal link is not required for the Council to take action on habitat protection, and the Council should interpret fish-habitat information in a risk adverse fashion to ensure adequate areas are protected for EFH. While associations have been observed, at present, a definitive statement can not be made linking groundfish production to biogenic structure.

One Oceana alternative seeks to establish an open trawling area by subtracting the area to be protected from the total fishing area, effectively freezing the bottom trawl footprint. Trawl logbook data from 2000-2003 were used to establish the proposed bottom trawl footprint. Areas within the proposed bottom trawl footprint were identified as priority EFH based on 5 criteria. Observer data were not explicitly used to identify biogenic habitat, rather they were used to corroborate determinations from other sources. Approximately 14,000 km² of 90,000 km² within the bottom trawl footprint were identified as priority EFH.

A considerable amount of discussion focused on what criteria were used to define areas to be closed, vs. areas presumed to be closed (i.e. not part of the bottom trawl footprint). Trawl survey data are not considered to be adequate to formulate a comprehensive model of coral and sponge distribution; rather, a large number of observations are available to provide an empirical distribution. A GIS point density analysis of trawl survey habitat forming invertebrate CPUE data were used to create polygons of invertebrate distribution and density. The SSC noted that the analysis, because it is an analysis of positive tows only, is probably not the best metric of habitat forming invertebrate distribution; a presence/absence analysis may be more robust.

Observer data from bottom trawl fishing vessels, aggregated in blocks, were also analyzed as a secondary data source. Oceana asserted that these data corroborated the trawl survey analysis. The SSC recommends that this comparison should be made on a coastwide basis. Oceana recommended increased observer coverage to document invertebrate distribution.

The SSC recommends new, scientifically designed surveys be developed to explicitly assess EFH. Such surveys could employ new technologies utilizing undersea quantitative video deployed on Autonomous Underwater Vehicles (AUV's), Remote Operated Vehicles (ROV's), and manned submersibles.

The SSC noted that ideally, an economic cost benefit analysis should be conducted. The present analysis is limited to a displaced revenue analysis. However, the cost of collecting the needed data and conducting a proper cost benefit analysis may be prohibitive.

Oceana indicated its expectation that the Council would provide an analysis of long-term economic benefits of their alternative in the Draft EFH EIS. The SSC notes that such analysis is not feasible without more definitive information on long-term effects of habitat protection on fishery yield.

Public Comment

None.

Adjournment B The SSC adjourned at approximately 4 p.m., Tuesday, March 8, 2005.

PFMC
03/21/05

SSC Subcommittee Assignments for 2005

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