

SUMMARY MINUTES

Scientific and Statistical Committee

Pacific Fishery Management Council
Red Lion Hotel Sacramento
Sierra B Room
1401 Arden Way
Sacramento, CA 95815
(916) 922-8041
March 10-11, 2003

Call to Order

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

Mr. Jagielo noted concern about the need to ensure information for SSC review is received in advance. He noted that, given the demands on the SSC, limited amount of time for SSC meetings, and other demands on SSC member time, it is critical that materials are complete and provided in advance. These sentiments were affirmed by the SSC. Dr. McIsaac and Dr. Radtke acknowledged the SSC concerns and emphasized Council staff would endeavor to ensure materials would be provided to the SSC in advance.

Members in Attendance

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. Robert Francis, University of Washington, Seattle, WA
Dr. Kevin Hill, California Department of Fish and Game, La Jolla, CA
Mr. Tom Jagielo, Washington Department of Fish and Wildlife, Olympia, WA
Dr. Han-Lin Lai, National Marine Fisheries Service, Seattle, WA
Dr. Peter Lawson, National Marine Fisheries Service, Newport, OR
Dr. Stephen Ralston, National Marine Fisheries Service, Santa Cruz, CA
Dr. André Punt, University of Washington, Seattle, WA
Ms. Cynthia Thomson, National Marine Fisheries Service, Santa Cruz, CA
Dr. Shijie Zhou, Oregon Department of Fish and Wildlife, Portland, OR

Members Absent

None.

Scientific and Statistical Committee Comments to the Council

The following text contains SSC comments to the Council. (Related SSC discussion not included in written reports to the Council is provided in italicized text.)

A. *Administrative Matters*

Open Discussion

The SSC discussed the need to formalize procedures for ensuring materials are submitted to the SSC are complete and in advance of SSC meetings. This discussion and subsequent recommendations are encapsulated in the following report to the Council.

H.2. SSC Report on Planning Session on Improving Council Meeting Efficiency

The SSC requests the Council consider incorporating the following into its Council Operating Procedures:

The SSC requires good documentation and ample review time in order to provide the best possible advice to the Council. Agencies and review document authors should be responsible for ensuring materials submitted to the SSC are technically sound, comprehensive, clearly documented, and identified by author. If there is any uncertainty on the part of authors regarding SSC expectations, authors should clarify assignments and expectations of deliverables with the meeting Chair. In order that there be adequate time for careful review, documents and materials destined for review by the SSC or any of its subcommittees must be received at the Council office at least two weeks prior to the meeting at which they will be discussed and reviewed. The Council will then provide copies to appropriate SSC members at least five working days prior to the meeting. If this deadline cannot be met, it is the responsibility of the author to contact the meeting Chair prior to the two-week deadline, so appropriate arrangements, rescheduling, and cancellations can be made in a timely and cost-effective manner. This deadline applies to all official SSC activities and meetings.

Subcommittee Assignments

Subcommittee assignments from 2002 were reviewed. Other than deleting reference to Dr. Brian Allee, who resigned from the SSC effective January 2003, no changes were made.

Elect Chair and Vice Chair

For 2003 through March 2004, Mr. Jagielo and Dr. Hill were reconfirmed as SSC chair and vice chair, respectively.

Review Nominations for Groundfish Management Team Positions

Nominations to the Groundfish Management Team were reviewed. SSC recommendations were provided to the Council during the Council's closed session.

Review Nominations for Vacant SSC At-Large Position

No nominations were received for the vacant position. The Council is targeting social scientists to fill the position as per Council Operating Procedures.

B. Salmon Management

2. Final SSC Methodology Review Recommendations on the Chinook and Coho Fishery Regulation and Assessment Models (FRAM) for 2003 Salmon Management

Mr. Jim Packer and Mr. Larry LaVoy from the Washington Department of Fish and Wildlife (WDFW) presented a report to a joint meeting of the SSC Salmon Subcommittee and the Salmon Technical Team (STT) on proposed changes to the chinook and coho FRAM. This meeting was held on February 5, 2003 in Portland, Oregon. Major changes to the chinook FRAM were initially reviewed in November 2002. The purpose of the February meeting was to receive an update on tasks that were incomplete as of November and to review a proposed base period change to split the terminal time step of the coho FRAM.

Chinook

Terminal Area Management Modules (TAMMs) needed to be changed to accept marked and unmarked stock components. These changes have been completed. Additional material presented at this meeting supported the results reviewed in November which indicated the modified chinook FRAM is capable of duplicating the results of the previous version of the model in the absence of mark-selective fisheries. Therefore, the modified FRAM can be used to assess impacts if mark-selective fisheries are not under consideration.

At the joint meeting, the group was presented an example using chinook FRAM to evaluate the impacts of a mark-selective sport fishery in Washington Marine Areas 5 and 6 (Strait of Juan de Fuca) during July, August, and September. This example compared exploitation rates by stock projected by chinook FRAM for the final 2002 model run to those using chinook FRAM in selective fishery mode with the mark-

selective fishery described above implemented. Modeled effects were in the expected direction, but the magnitudes of these changes could not be evaluated.

The SSC cannot endorse chinook FRAM as a tool for evaluating the impacts of proposed mark-selective fisheries. Our reservations stem from assumptions about the age structure, length composition, growth, mortality rates at age, and other factors that introduce additional uncertainty into model projections in the presence of mark-selective fisheries. Given the current status of model documentation describing how mark-selective fishery impacts will be estimated by chinook FRAM, we are unable to give the model the rigorous evaluation that is needed. If mark-selective fisheries are implemented for 2003 they should be of limited magnitude and used as an opportunity to evaluate specific predictions of the selective chinook FRAM. The SSC will continue review of the model in November 2003.

Coho

The coho FRAM was modified to accommodate the Abundance-based Management agreement of the Pacific Salmon Commission. This required splitting the September-December terminal time step into September and October-December time steps. The rationale for this change was to better capture the September transitional migration period and terminal area differences in stock composition between September and October.

Mr. LaVoy and Mr. Packer presented many spreadsheets comparing exploitation rates and impacts before and after the time split. After the split of base period time strata the estimated cohort sizes changed. Although no major differences were apparent for the first three time periods, there were larger differences in the terminal area for the final two time steps, most notably for the Stillaguamish/Snohomish river runs. Changes to the FRAM time step primarily affect the terminal area fisheries for the October-December stratum, whereas the Council is primarily managing for ocean fisheries during June-August and into September.

Some concern exists for the ability of available coded-wire tag (CWT) recovery data to support further disaggregation into an additional time step. The original criterion for CWT data was to have at least five tags per time-area stratum. Reliability of exploitation rate estimates is now reduced, because of smaller numbers of CWT recoveries in the two split strata. This is particularly noticeable for the October-December period. Despite this deficiency, the assessment authors still consider the time split to be a better representation of reality for the purposes of harvest management. The SSC does not have sufficient information to evaluate this assertion.

The SSC found it difficult to evaluate the overall effects of the time-step change. Although a brief summary report and many spreadsheets were available prior to the joint meeting, documentation comparing the relative impacts was lacking. Documentation for the method of splitting fisheries into the September or October-December strata was also insufficient. The Model Evaluation Work Group (MEW), currently being formed, should help to ease the documentation and testing problems.

3. Review of 2002 Fisheries and Summary of 2003 Stock Abundance Estimates

Mr. Dell Simmons, Chair of the STT, reviewed the 2002 ocean salmon fisheries and preliminary salmon stock abundance estimates for 2003 for the SSC. All natural coho and chinook stocks that are not "exceptions" met their conservation objective in 2002. Ocean abundance forecasts of chinook and coho salmon in 2003 are high enough that all conservation objectives should be met this year.

Tables I-1 and I-2 in Preseason Report I (Stock Abundance Analysis for 2003 Ocean Salmon Fisheries) present several years of preseason predictors for coho and chinook stocks under Council management. The SSC requests the STT add postseason estimates where available. The SSC also requests the preseason abundance estimates include a statistical measure of variability such as confidence intervals or coefficients of variation when possible. Without variance estimates it is difficult to assess the likelihood of meeting management objectives and the risks to sensitive stocks of the proposed fishing seasons.

6. Status of Model Evaluation Work Group

Both the SSC and STT have been advocating the formation of a Model Evaluation Workgroup (MEW) to address issues related to the chinook and coho FRAM. The STT proposal (Exhibit B.6.b, Supplemental STT Report) differs considerably from the direction of earlier discussions that involved concepts similar to those outlined in Exhibit B.6. The SSC discussion of the two proposals was wide-ranging. However, there was not sufficient time available to reach a consensus. The SSC wants to continue these discussions and report to the Council in April. This report would:

- Summarize our view of the objectives of the MEW.
- Evaluate the two proposals currently before the Council (Exhibit B.6. and B.6.b, Supplemental STT Report).
- Suggest other potential approaches.
- Discuss the potential role of the SSC in the process.

A. Administrative Matters, continued

Bycatch Workshop Report and Report of SSC Groundfish and Economic Subcommittees Regarding Their Review of West Coast Observer Program Data

Dr. Dalton, chair of the Bycatch Workshop, presented the workshop report. A central question coming out of the workshop was how and when to incorporate data from the West Coast Observer Program into the bycatch model used by the Council. Summary recommendations from the workshop report include:

- *For inseason management in 2003, the panel recommends that the current model be used, with potential adjustment of historical vessel landings and/or bycatch rates to bring the projected inseason landings into agreement with fishticket and observer data.*
- *As soon as feasible, the panel recommends that the bycatch rates currently used in the model be replaced with rates from the Observer Program, in accordance with guidance provided by the SSC.*
- *The bycatch model is an empirical model with critical ad hoc assumptions. The only possible test of the model is how well the model predicts what actually occurs. Once the changes to the bycatch model recommended by this panel for the 2004 management cycle are made (e.g., use of 1999-2001 logbook data to assign harvest to target fisheries and estimate the depth distribution of harvest, use of fishticket-adjusted observer data rather than 1999 logbook data to estimate bycatch rates), the model should be run with the depth closures and cumulative limits in effect in 2003. Model results should be compared with actual harvest levels from the early months of 2003 and correction factors applied, as appropriate, to calibrate the model for 2004.*
- *The choice of bycatch rates is a technical, not a policy, decision. This decision should be made by the GMT, in consultation with the Groundfish Advisory Panel and subject to the approval of the SSC.*

Because of travel delays and lack of advance material, the subcommittees held an abbreviated meeting the evening of March 9, 2003. Mr. Jagielo, with the concurrence of other subcommittee members, expressed serious concern about the lack of advance materials, which resulted in the inability of the subcommittees to hold a full and effective meeting. He emphasized the critical need for cooperation and coordination from individuals and organizations presenting information to the SSC and SSC subcommittees, especially the need for effective communication and submission of complete materials in advance of meetings.

The SSC discussed with Dr. Hastie the current logbook-based bycatch model, recently available data from the Observer Program, and how observer data could be incorporated into the bycatch model. A central question was how to resolve a sparse Observer Program data set with the highly stratified logbook-based bycatch model. The SSC advised a parsimonious approach that used a lower number of strata, e.g., at minimum, 4 strata could be used – north, south, deep, and shallow; with the possible addition of a seasonal component. The question of when to begin using observer data for managing the groundfish fishery was also discussed. There appeared to be compelling reasons for using observer data

as soon as possible and to make inseason adjustments to the 2003 groundfish management regime. This sentiment is echoed in the Bycatch Workshop report.

Initial Review of Groundfish Management Team Multi-Year Management Mid-Point Review
Thresholds

Dr. Hastie provided background information and reviewed GMT consideration of this issue. He noted that when the Groundfish Multi-year Management Process (Amendment 17) was adopted, the Council directed the GMT to recommend a methodology react to survey results (or any new relevant information) in an off-year that is dramatically different from those previously considered to set OYs under multi-year management.

In their February 2003 meeting summary, the GMT noted that thresholds need to be established for adjustments for both decreasing and increasing stock sizes.

The GMT developed several threshold options for consideration:

- Only species not under rebuilding.*
- Any change (in either direction) that has significant effects- "case-by-case" basis.*
- Minimum change of 5% to 10% in OY (in either direction).*
- Maximum change of 20% in OY (in either direction) as a cap on the amount of change allowed.*
- Include potential changes in NEPA documents when two one-year OYs are adopted for analytical purposes.*

Dr. Hastie noted that the GMT preferred an automatic process rather than a discretionary process. Under multi-year management and using the mid-point review process, when management specifications are developed, an evaluation of potential mid-course corrections should be included in the management specifications environmental assessment or environmental impact statement. This would facilitate changes to the specifications, because the effects would have been analyzed previously and could possibly be treated as an inseason change.

Because of the amount of work involved, the GMT advised this process should be used prudently and only if major adjustments were needed.

The SSC agreed it would be critically important to have an automatic process where impacts and alternatives had been previously analyzed. The SSC suggested that past stock assessments be reviewed to determine how often the need for mid-course corrections could arise. The SSC also discussed their previous advice to the Council on multi-year management, "The SSC reiterates that it is most important to base management advice on results from stock assessments that use the most recent data. However, across the four biennial options considered, there is a substantial range in the timeliness of the scientific information that will be used to manage the groundfish fishery. Alternative 5 provides the most current information and is, therefore, the option preferred by the SSC" (Exhibit G.5.c, Supplemental SSC Report, November 2002). The SSC will continue to work with the GMT as the GMT develops the mid-point review process.

I. Coastal Pelagic Species Management

2. Draft Regulatory Amendment and Analysis for Changes to Sardine Allocation

Dr. Sam Herrick briefed the SSC on the alternatives for an interim Pacific sardine allocation formula and the analysis of these alternatives. A status quo and eight other alternatives were considered, based on the choice of a north/south boundary, the initial allocation between the northern and southern subareas, the date of the re-allocation of any remaining OY between these subareas, the split between these areas at the re-allocation, and the date of a coastwide allocation. The nine alternatives were reduced to four by the Coastal Pelagic Species Management Team (CPSMT) based on feasibility, equity, the full utilization of the annual OY, the estimated change in net national benefits, and the probability of one of the fishing sectors having to close prematurely.

The allocation formula being considered is only expected to be used for two years (2003 and 2004) with plans to replace it by a formula that takes fuller account of biological and economic factors. The SSC noted that analysis of a long-term allocation formula should make use of the results of the sardine surveys that are planned to start in 2003. These surveys should provide information regarding biomass levels off

Oregon and Washington relative to those off California. The analysis of future alternatives should also be based on economic data collected from designed surveys rather than voluntary information and attempt to incorporate the impacts of the seasonal variability in landings.

The SSC notes that all of the alternatives would increase harvest opportunities off Oregon and Washington. However, these alternatives are only designed to avoid the problems encountered in 2002; future analyses may identify other alternatives. The SSC, therefore, cautions that the alternatives under consideration for 2003 and 2004 should not be interpreted as a signal that the Oregon and Washington fisheries can continue to expand and suggests the current number of state permits for the Oregon/Washington-based sectors be frozen until a long-term allocation formula is selected.

3. Update on Sardine Stock Assessment Review Process

Dr. Robert Francis updated the SSC on the status of the draft terms of reference (TOR) for the planning of a Stock Assessment Review (STAR) workshop for coastal pelagic species (CPS). The draft TOR are complete, with only minor revisions expected. The SSC endorses preliminary approval of the draft TOR at this Council meeting with full approval anticipated at the April meeting.

The SSC discussion about the CPS STAR process focused on three questions:

- Would models and data for the new sardine and mackerel assessments be available in time for the STAR workshop?
- The STAR Panel will include the chair of the SSC CPS Subcommittee; would there be other SSC representatives?
- Would results from the STAR workshop be available in time to inform management decisions?

Timing of the STAR workshop faces two constraints: use of mackerel assessments at June Council meetings and use of sardine assessments at November Council meetings. The SSC considered two proposals for the timing of the STAR workshop: September 2003 and May 2004, and tentatively accepts the May proposal as being superior. Advantages of a May workshop include having results from both mackerel and sardine assessments available in time for the management process in 2004. Issues about stock status (rebuilding thresholds, for example) and funding for the workshop still need to be resolved.

D. Marine Reserves

1. Considerations for Integrating Marine Reserves with Effective Fishery Management
2. Update on Marine Reserves Activities

The SSC did not have access to all of the content of the presentations made by Drs. Lubchenco, Hixon, and Fluharty under agenda item D.1. However, the committee is pleased with the Council's efforts to engage these individuals in a discussion of the "effects of marine reserves on system productivity and yield in the presence of an effective fishery management program" (Exhibit D.1.a, Attachment 1, March 2003). As indicated in a previous SSC statement, the SSC considers it critically important that the Council's marine reserve deliberations focus on "empirical studies and theoretical models that most closely reflect conditions on the Pacific Coast, where highly restrictive management measures have been implemented" (Exhibit F.1.c, Supplemental SSC Report, November 2001). The SSC encourages an objective scientific dialogue on this important topic.

The SSC discussed the proposal by the National Fisheries Conservation Center (NFCC) to hold a workshop to improve the integration of marine reserves science and traditional fisheries management (Exhibit D.2.a, Attachment 3, March 2003). The SSC considers the questions that the NFCC intends to address at the workshop (Exhibit D.2.c, Public Comment, March 2003) to be important aspects of this issue. While the workshop will focus on these questions generically rather than in the specific context of fisheries managed by the Council, workshop output may be useful in terms of informing the Council's

discussions of marine reserves. The SSC has a number of questions regarding workshop process (e.g., types of expertise to be represented on the review panel, terms of reference, workshop products). Given the importance of process to the outcome of the workshop, the SSC would like to encourage a representative of the NFCC to make a presentation to the SSC at the next available date to clarify these process questions.

To help the Council deal with the reserve issues before it (Exhibit D.2., Situation Summary, March 2003), the SSC proposes that its Marine Reserves Subcommittee meet some time this summer to prepare a white paper on marine reserves that could be presented at the Council's September or November meeting. The objective of the white paper would be to assist the Council in setting the technical ground rules for discussion of marine reserve initiatives generated within and outside of the Council family. The white paper would focus on issues of specific relevance to the Council. These would include (1) guidance for determining what constitutes "best available science" in terms of the applicability of the marine reserves literature to use reserves as a management tool, (2) the essential role of natural and social sciences in evaluating ecosystem and fishery effects associated with reserves, and (3) implications of marine reserves for stock assessments.

Other Matters

No additional matters were discussed.

Public Comment

No public comments on topics not on the SSC agenda were provided.

Adjournment

The SSC adjourned at approximately 5:30 P.M., Tuesday, March 11, 2003.

PFMC
05/29/03

SSC Subcommittee Assignments for 2003

| Salmon | Groundfish | CPS | HMS | Economic | Marine Reserves |
|-----------------------|-------------------------|-----------------------|-------------------|--------------------------|---------------------------|
| Alan Byrne | Ray Conser | Michael Dalton | Alan Byrne | Michael Dalton, Chair | Ray Conser |
| Robert Conrad | Michael Dalton | Alan Byrne | Robert Conrad | Martin Dorn | Michael Dalton |
| Kevin Hill | Martin Dorn | Ray Conser | Ray Conser | Han-Lin Lai | Martin Dorn |
| Pete Lawson, Chair | Robert Francis | Robert Francis, Chair | Kevin Hill, Chair | Cynthia Thomson | Tom Jagielo |
| Shijie Zhou | Tom Jagielo | Tom Jagielo | Andre' Punt | | Pete Lawson |
| | Han-Lin Lai | Andre' Punt | Cynthia Thomson | | Andre' Punt |
| | Andre' Punt | Shijie Zhou | | | Steve Ralston |
| | Steve Ralston, Chair | | | | Cynthia Thomson, Chair |