**SUMMARY MINUTES**

# Scientific and Statistical Committee

Pacific Fishery Management Council
Red Lion Hotel Vancouver at the Quay
West River II Room
100 Columbia Street
Vancouver, WA 98660
(360) 694-8341
April 7-8, 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.

**Members in Attendance**

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, California Department of Fish and Game, La Jolla, CA
Mr. Tom Jagielo, Washington Department of Fish and Wildlife, Olympia, 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
Dr. Shijie Zhou, Oregon Department of Fish and Wildlife, Portland, OR

**Members Absent**

Mr. Alan Byrne, Idaho Department of Fish and Game, Nampa, ID
Dr. Robert Francis, University of Washington, Seattle, WA
Ms. Cynthia Thomson, National Marine Fisheries Service, Santa Cruz, CA

**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.)

Open Discussion

*The SSC queried staff about the recent letter sent by the Council to NMFS-Office of Sustainable Fisheries pertaining to review of National Standard-1 guidelines. The SSC was curious if the Council had received a response to the letter, particularly the request for consideration of regional councils (notably, SSCs) as full and formal participants in the review process. It was noted for the Council's information that NMFS was scheduled to convene a "NMFS-wide workshop on National Standard 1 guidelines." Staff stated he would inquire about a response, including information on coordination, schedules, roles and responsibilities, and points-of-contact.*
*[May 2003 – the Council received a response from NMFS stating regional council comments would be considered during the NMFS workshop. Specific information as requested by the SSC was not provided. Staff will continue to monitor this issue and inform the SSC as events warrant.]*

***C. Salmon Management***

2. Identification of Stocks Not Meeting Escapement Goals for Three Consecutive Years

Mr. Dell Simmons of the Salmon Technical Team (STT) reviewed the escapements of natural salmon stocks for the SSC. All stocks, except one, met their escapement goals in 2002. The Grays Harbor fall chinook stock did not meet its escapement goal. The estimated escapement of this stock in 2002 was 11,300, while the escapement goal is 14,000. This is the fifth consecutive year this stock failed to meet the goal, although the escapement exhibited an increasing trend for the last three years. This stock is an exception to the overfishing criteria, because Council fisheries have limited impacts on this stock (about 1.5% as reported by Mr. Simmons). For the last several years the inriver harvest rate has been greater than 30%, which is one of the factors keeping the escapement below the goal. The SSC recommends the co-managers examine inriver harvest rates and other factors potentially affecting escapements.

As of 2002 the Queets River spring/summer chinook had not achieved its escapement goal for five consecutive years. However, in 2002 the escapement estimate was 738 fish; 38 fish above the goal. This stock is also an exception to the overfishing criteria, because of limited impacts by Council fisheries.

3. Establish Salmon Model Documentation and Evaluation Process

After considering several recommendations for forming a Model Evaluation Work Group (MEW), the SSC recommends the formation of a new Council advisory body to fulfill this function. Given the critical importance of the coho and chinook Fishery Regulation Assessment Models (FRAMs) to the Council salmon management process, it is appropriate that the MEW be a standing committee of the Council and receive support associated with this status. The initial focus of the MEW should be placed on the chinook and coho FRAMs.

In addition to members representing the management agencies that currently are most familiar with the development, data requirements, and usage of the FRAMs, the MEW membership should include members of existing advisory bodies such as the STT and SSC. Given that Canadian stocks are incorporated into coho and chinook FRAM, and that coho FRAM is being extended for use by the Pacific Salmon Commission (PSC), Canadian participation in the MEW should be encouraged.

The SSC recommends that the initial tasks of the MEW focus on the following four prioritized items:

1. Document the model structure and algorithms used in the model. We suggest that this task be the foremost priority of the MEW with a goal of completing it, so it can be reviewed by the SSC prior to the November meeting of the Council.

2. Document the data used as inputs to the model and model parameter estimating procedures. This should include an assessment of data quality and adequacy for use in the models, as well as the source of the data (agency and individual supplying the data), and a timetable for data requests. The SSC would like the Council to consider convening a workshop for sometime in 2004 to help address this item. If the Council decides to convene a workshop, the SSC would like to participate in drafting the Terms of Reference for the workshop.

3. Write a Programmer's Guide to the FRAMs. This is needed to facilitate maintenance of the model code.

4. Write a User's Guide to the FRAMs. This is needed to enable more people to use the FRAMs. The User's Guide should include information relating to, (a) input data requirements and data sources; (b) annual model calibration procedures; (c) operating instructions; and (d) interpretation of model results.

We recommend that Items 1 and 2 receive the immediate attention of the MEW, and these tasks should be considered when identifying the initial membership of the MEW. For the MEW to be successful, it is critical that interested agencies commit adequate resources to this effort. Membership in the Work Group may change as its immediate tasks change. Members with specific areas of expertise should be appointed as required on an as-needed basis.

4. Methodology Review Process for 2003

The SSC met with Mr. Dell Simmons of the STT to identify and prioritize potential methodology review issues for the coming year. Current issues include unresolved items from 2002 and one new item. The SSC has identified the following list of methodology review issues for 2003/2004 and places highest priority on the first three items:

Chinook and coho FRAM documentation: documentation of the chinook and coho FRAMs will be one of the first tasks of the new MEW. Review of this documentation will greatly facilitate review of Items 2 and 3.

Chinook FRAM for mark-selective fisheries: the Washington Department of Fish and Wildlife modified the chinook FRAM to accommodate mark-selective fisheries. The SSC could not endorse chinook FRAM as a tool for mark-selective fisheries in 2003, but application of the model to estimate mark-selective fishery impacts should be reviewed if such a fishery is planned for 2004 and beyond. The SSC views this as a high priority.

Coho FRAM fisheries for Canadian stocks: the Coho Technical Committee of the PSC is modifying the coho FRAM to add fishery and stock strata for Canadian management. The PSC has requested SSC review of these changes before they are implemented in 2004.

Columbia River Fall chinook ocean abundance predictors: there has been some preliminary work on producing ocean run-size predictors for these stocks. The SSC will review these predictors when they have been fully developed and documented.

Oregon Department of Fish and Wildlife management plan for Lower Columbia River coho salmon: the draft plan needs data cleanup and method improvements. The SSC anticipates a document will be presented for review in October 2003.

Oregon Coastal Natural (OCN) coho salmon prediction methodology: new predictors are in development. The SSC will review any proposals for change as requested.

As always, the SSC requires good documentation and ample review time to make efficient use of the SSC Salmon Subcommittee's time. Agencies should be responsible for ensuring materials submitted to the SSC are technically sound, comprehensive, clearly documented, and identified by author.

### *E. Groundfish Management*

2. Report on the Bycatch Workshop and Observer Data Update – Joint meeting with GMT and GAP

Dr. Michael Dalton (panel chair) presented the review panel report on the bycatch model. The SSC commends the review panel for a thorough and careful review of the bycatch model and data inputs. The panel report includes a number of recommendations for improving the bycatch model. These include both short-term recommendations for 2003 and 2004 and longer term recommendations for model development. The SSC fully endorses the panel recommendations. A key panel recommendation was that "as soon as feasible, the bycatch rates currently used in the model be replaced with rates from the observer program, in accordance with guidance by the SSC."

Dr. Jim Hastie presented observer estimates of bycatch rates from the first year of the observer program (bi-monthly periods 5 and 6 of 2001 and bi-monthly periods 1 through 4 of 2002). To estimate bycatch rates, hail weights of retained catch were adjusted by fishtickets. Adjusted logbook data are not yet available to estimate retained catch. To calculate bycatch rates for use in the bycatch model, observer data can potentially be post-stratified by target fishery, period, area, and depth zone. Dr. Hastie presented tables of bycatch ratios (total bycatch/total landings) for various levels of stratification. As expected, there is a clear tradeoff between the level of stratification and precision of the estimated bycatch ratio. Lower coefficients of variation (CV) are obtained when fewer strata are used.

The SSC considers the example of a four-cell stratification (north-south, shallow-deep) as just one of several possible stratifications of the observer bycatch data. It is important to have a good stratification scheme, one which takes into account both the tradeoff between the number of strata and precision of the

bycatch estimates and the utility of the model to evaluate complex management alternatives. Formal model selection criteria, such as AIC (Akaike Information Criterion), may be one possible approach to determine the appropriate level of stratification.

Comparison of bycatch projections for 2003 between observer-based bycatch rates and bycatch rates used previously indicates higher catch projections (in some cases much higher) for all overfished groundfish stocks with the exception of widow rockfish.

Bycatch projections using observer bycatch rates with alternative stratifications indicate sensitivity to the level of stratification, particularly whether or not a target fishery strata is defined. The SSC notes that with only a year of observer sampling available, the data are too sparse to support fully stratified bycatch estimates (i.e., by target fishery, bi-monthly period, area, and depth zone), particularly in the southern area. Additional work is needed to (1) characterize uncertainty in bycatch projections, and (2) further evaluate the sensitivity of bycatch projections to alternative levels of stratification.

The SSC considers the bycatch rates based on observer data to be the best available scientific data for use in the bycatch model. Notwithstanding the unresolved issues regarding stratification, the SSC recommends bycatch rates based on observer data be used for evaluating management alternatives for 2004 and for inseason management in 2003. The SSC urges the Council to move quickly to use the new bycatch rates for inseason management, as delay could severely restrict the range of potential management alternatives later in the year. For this meeting, the SSC recommends the Groundfish Management Team omit the target fishery strata and consider only bycatch rates stratified by area, depth zone, and perhaps season. Target fisheries were defined on the basis of historical fishing patterns, and there is little evidence these targeting strategies still exist under the current management policies.

9. Status of the Groundfish Essential Fish Habitat (EFH) Environmental Impact Statement

*This item was deleted from the SSC agenda.*

5. Groundfish Fishery Management Plan (FMP) Amendment 16 - Rebuilding Plans

Dr. Kit Dahl provided an overview of Draft Amendment 16-1 to the groundfish fishery management plan (FMP) (Exhibit E.5, Attachment 2) with emphasis on modifications that have been incorporated since the last SSC review of the draft amendment (November 2002). The SSC focused on three of the issues delineated in Section. 2.1 of the Draft Amendment, namely:

Issue 1: The form and required elements of rebuilding plans.
Issue 2: The process for periodically reviewing rebuilding plans.
Issue 3: Defining events or standards that would trigger revision of a rebuilding plan.

In previous statements (September 2002 and November 2002), the SSC has emphasized that the Council should expect numerical details of rebuilding plans (e.g., $B_{MSY}$ or $B_0$) to change over time – whether due to improved estimates of these parameters from updated stock assessments, the development of new models, or due to technical errors that were not discovered in the previous stock assessment review. The SSC recommended that the use of hard numbers in the rebuilding amendment be minimized and that revisions to rebuilding plans be tied more closely to the stock assessment cycle. In general, the preferred options in the current draft of the amendment are now closely aligned with the SSC recommendations.

The remaining point that could be clarified is the specification of control rules in the FMP amendment. In the current draft, it is not clear whether future harvest guidelines (for stocks under rebuilding) will be based on constant-F strategies or whether, in some cases, constant catch strategies will be acceptable. The SSC suggests that constant-F strategies be used in all cases, and this should be clearly stated in the amendment.

Mr. John DeVore reviewed Draft Amendment 16-2, Parts I through V (Exhibit E.5, Attachments 3 through 7). The remaining sections of Amendment 16-2 – Environmental Review (Part VI) and Combined and Cumulative Effects (Part VII) – were not available for SSC review. However, Mr. DeVore provided a status report on Part VII. The subsequent SSC discussion focused primarily on the newly incorporated

"mixed stock exception" option (MSE) that will be incorporated into the draft amendment and, in particular, the Part VII "cumulative effects analysis" that will support it. Under the MSE option, bocaccio, canary, yelloweye, and widow rockfish rebuilding plans would be exempted from the usual rebuilding guidelines (e.g., there would be no requirement for rebuilding to $B_{MSY}$ within $T_{MAX}$ years). Prior to consideration of the MSE option, the SSC recommends:

1. Clearly defined criteria should be established for species to be exempted.
2. Widow rockfish should be removed from the candidate list unless future harvest of widow constrains the catch of other species.
3. The "cumulative effects analysis" should include the full suite of biological effects and economic benefits under the MSE option. As currently envisioned, stock size changes for groundfish stocks that are not in the overfished category are not incorporated into the analysis. Benefit tradeoffs, such as in exvessel revenue, are likely to be dominated by the non-overfished stocks.

These recommendations are of utmost importance should the Council desire to use the MSE option as its preferred option in finalizing the amendment at the June 2003 Council meeting. Further, the Council should note that the SSC will not be able to review the "cumulative effects analysis" prior to the June Council meeting.

7. Standards and Criteria for Approving Exempted Fishing Permits (EFPs)

The Council's groundfish FMP provides for the issuance of EFPs by NMFS to promote the increased use of underutilized species, to realize the expansion potential of the domestic groundfish fishery, and to increase the harvest efficiency of the fishery consistent with the Magnuson-Stevens Act and the goals of the groundfish FMP. The GMT has developed a draft set of protocols for EFP applications that is being considered for adoption as part of the Council's Operating Procedures (Exhibit E.7, Supplemental Revised Attachment 2, April 2003). Previously, the SSC had indicated a willingness to assist the GMT in evaluating scientific issues associated with EFP applications (Exhibit G.6.c, Supplemental SSC Report, November 2002).

The SSC discussed how it could be of greatest assistance to the GMT in evaluating EFP applications, considering that many submissions are designed to address a policy or management objective, and have little or no identifiable scientific purpose. Following that discussion the SSC concluded the following:

1. All EFP applications should first be evaluated by the GMT for consistency with the goals and objectives of the groundfish FMP and the Council's strategic plan for groundfish.

2. When a proposal is submitted that includes a significant scientific component that would benefit from SSC review, the GMT can refer the application to the SSC's groundfish subcommittee for comment.

3. In such instances, the groundfish subcommittee will evaluate the scientific merits of the application and will specifically evaluate the application's (a) problem statement, (b) data collection methodology, (c) proposed analytical and statistical treatment of the data, and (d) the generality of the inferences that could be drawn by the study.

***A. Administrative***

*6. National Fisheries Conservation Center Presentation*

*The SSC was briefed by Mr. Brock Bernstein regarding a workshop being planned by National Fisheries Conservation Center (NFCC) to evaluate the current state of science regarding integration of marine reserves with fishery management. The workshop will be modeled on the National Institutes of Health (NIH) State of the Science workshops, which are designed to facilitate resolution of conflicting scientific evidence regarding treatment for medical conditions. NFCC proposes a 2 day meeting, slightly shorter than the standard 2.5 day meeting used by the NIH, but reasonable enough to accomodate the scope of the workshop.*

*The workshop will involve two committees, (1) a planning committee to identify relevant papers from the*

*marine reserve literature (whose purpose will be to develop questions to be addressed by the review panel and select the review panel), and (2) a review panel to evaluate the literature, hear presentations from experts, evaluate and synthesize the written and oral material, and prepare a final report.*

*Workshop funding will come from the Packard Foundation, Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), Aquarium of the Pacific in Long Beach, fishermen's groups, and others.*

*The workshop will take place in an auditorium that holds about 175 people. The workshop will be open to the public, but no public comment will be allowed. The NFCC plans to videotape the proceedings for distribution.*

*While the workshop will likely involve discussion of West Coast marine reserve issues, the NFCC also wants to include experts from the East and Southeast United States., as well as international experts. Workshop recommendations will not be specific to a given geographic area, but will be broadly relevant to the issue of marine reserves.*

*Highlights of the SSC discussion regarding the NFCC workshop are as follows:*

*The composition of the planning committee will be critical to the success of the workshop. In response to SSC questions regarding how the committee would be chosen, Mr. Bernstein indicated that NFCC has broad representation from the conservation and fishing communities. The NFCC would have to be trusted to put together an appropriate planning committee, who would then select an appropriate review panel.*

*The NIH guidelines limit the material to be considered by the panel to peer-reviewed publications. The SSC noted that there is a considerable "gray" fishery management literature that would need to be considered as well.*

*In material provided to the SSC at the March 2003 Council meeting, NFCC indicated its intention to have a "preeminent ecologist" chair the review panel. The SSC emphasized the need to ensure that a broad range of expertise is represented on the panel (e.g., fishery managers as well as academic ecologists). A diverse panel will be essential for clarifying areas of convergence and divergence in the viewpoints of managers and ecologists and the currencies in which they evaluate outcomes.*

*Mr. Bernstein mentioned numbers of fish as a possible common currency for the discussion. The SSC indicated that fishery managers are concerned with yield, sustainable fisheries, essential fish habitat, ecosystem management, and various socioeconomic indicators. Mr. Bernstein indicated that it would not be realistic to include socioeconomics in the scope of the workshop. The SSC indicated that socioeconomics could not be ignored. Fishery management is fundamentally management of people, not fish. It is not possible to evaluate effects of fishery regulations (including marine reserves) on fish stocks without considering how regulations affect people and how people in turn respond to regulations. Moreover, it was not clear to the SSC how the NFCC could fulfill its stated intention to address "congestion externalities" without considering socioeconomics. The SSC felt strongly that socioeconomics was an important key to bringing managers and academics together.*

*According to Mr. Bernstein, the NFCC will attempt to select panel members who do not have vested interests in marine reserve issues. If that is not possible, they will attempt to "balance" the panel with individuals with various types of biases. The panel may also include individuals who have expertise on terrestrial (rather than marine) areas set aside in reserves. Given the time frame of the workshop, the uncertain composition of the panel, and the apparent intention to exclude socioeconomics from panel consideration, the SSC questioned whether the panel would be able to get to the level of detailed discussion needed to substantively address the issues associated with integrating reserves and fishery management.*

*In response to Mr. Bernstein's request for SSC advice regarding how to keep the workshop on track, the SSC noted the importance of clear and comprehensive Terms of Reference and submission of presentation material to the review panel well in advance of the workshop date.*

*The NFCC requests SSC endorsement and participation. They are not seeking funding or any up-front commitment to abide by the findings of the workshop.*

*The SSC endorses the concept of having a workshop to identify the types of planning and research needed to integrate marine reserves with fishery management. A particularly useful outcome of such a*

*workshop would be a list of collaborative activities that could be undertaken thereafter to facilitate planning, discussion, and research on integrating marine reserves with fishery management. The SSC encourages the organizers to include consideration of socioeconomic issues. Once the workshop proceedings become available, the SSC is willing to review the proceedings for the Council.*

***G. Coastal Pelagic Species Management***

2. Approve Final Regulatory Amendment and Analysis for Changes to the Sardine Allocation

*No new technical information or issues were included in the final draft regulatory amendment. The SSC discussed and commented on this item in March 2003.*

3. CPS Stock Assessment Terms of Reference

Dr. Ray Conser updated the SSC on the Stock Assessment Review (STAR) workshop for coastal pelagic species (CPS). The SSC agrees the workshop should be scheduled during May 2004.

The Draft Terms of Reference (ToR), given preliminary approval at the March 2003 Council meeting, require a minor revision. Section 5 in Appendix A on rebuilding parameters is unnecessary for CPS species and should be replaced by a section that gives:

1. A full description of the harvest control rules in place for CPS species.

2. Current harvest rates based on the harvest control rules.

3. Harvest guidelines for the next fishing season.

The SSC expects that Council staff will complete this revision, and otherwise considers the ToR final and complete.

***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, April 8, 2003.

PFMC
05/28/03

SSC Subcommittee Assignments for 2003

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