

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
November 1-5, 1999

Call to Order

The meeting was called to order at 8:30 A.M. by Chairman, Dr. Peter Lawson. Executive Director, Mr. Lawrence D. Six reported that the most important agenda items for Scientific and Statistical Committee (SSC) comments to the Council would be: hook-and-release mortality estimates (C.2); acceptable biological catch and optimum yield estimates, especially the 5% F increase (G.3); harvest policy workshop (G.6); stock assessment process (G.5); rebuilding plans (G.2).

The agenda was approved with the following changes: omitted items E.2, Pacific Mackerel Harvest Guideline; and G.10, Strategic Planning.

After revisions, minutes from September 1999 were approved.

Members in Attendance

Mr. Robert Conrad, Northwest Indian Fisheries Commission, Olympia, WA
Dr. Ramon Conser, National Marine Fisheries Service, Newport, OR
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. Peter Lawson, National Marine Fisheries Service, Newport, OR
Dr. Stephen Ralston, National Marine Fisheries Service, Tiburon, CA
Dr. Gary Stauffer, National Marine Fisheries Service, Seattle, WA
Dr. Gilbert Sylvia, Hatfield Marine Science Center, Newport, OR
Ms. Cynthia Thomson, National Marine Fisheries Service, Santa Cruz, CA
Dr. Richard Young, Crescent City, CA

Members Absent (Monday, September 13, 1999)

Mr. Alan Byrne, Idaho Department of Fish and Game, Nampa, ID
Dr. Susan Hanna, Oregon State University, Corvallis, OR
Dr. Shijie Zhou, Oregon Department of Fish and Wildlife, Portland, OR

Scientific and Statistical Committee Comments to the Council

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

Open Discussion

The SSC discussed its role in the Council process and the perception that the SSC lacks sensitivity to the Council process and is not providing constructive criticism, e.g., some advisory groups avoid making presentations to the SSC as they believe the feedback is not constructive nor helpful. It was noted that there is a conflict between the SSC's critical review of information and support for the work of other advisory

entities. A possible solution would be for the SSC to more carefully frame their remarks to prevent misunderstandings. It was also noted that the SSC has been criticized for generating statements that are primarily "questions" rather than providing solutions. The SSC views these "questions" as means to clarify the problems and facilitate solutions. It was suggested that the SSC's role is advisory, not analytical (e.g., review analyses and comment on suitability). The SSC may want to consider developing guidance that defines/clarifies the role of the SSC and the process through which it receives information and produces advice. Additionally, the SSC may want to suggest the Council provide formal feedback (e.g., performance evaluation) to the SSC, possibly holding a discussion with the Council at the March meeting.

Salmon Management

Potential Revisions to Methodologies, Including Hook-and-Release Mortality Estimates for Recreational Fisheries

Mr. Jim Packer presented two documents to the SSC outlining changes to chinook Fishery Regulation Assessment Model (FRAM) and coho FRAM proposed for the 2000 season. There are major changes proposed for chinook FRAM to allow evaluation of selective fishery proposals. There are no changes proposed for coho FRAM for the 2000 season. Because the documents were not presented until this meeting, the SSC was unable to review them.

With the major changes being made to the FRAM models to accommodate selective fisheries, and the recent addition of six new members to the SSC, the SSC currently lacks a comprehensive understanding of the salmon management and modeling process including the FRAM models. Documentation of the models is not adequate. For these reasons, the SSC is not in a position to critically review proposed changes to these models. It would be helpful if the SSC could meet with members of the Salmon Technical Team (STT) for a day or two for an introductory overview of the process. We suggest this occur in conjunction with the June Council meeting.

Dr. Robert Kope of the STT presented an analysis of hook-and-release mortality rates for chinook and coho salmon caught in marine sport fisheries. The SSC concurs with the STT that the currently used hooking mortality rate for recreationally-caught coho and chinook salmon is too low and that higher rates are appropriate. The SSC supports the methodologies proposed by the STT to arrive at interim rates for the 2000 season. The SSC recommends the use of a median rate from mortality rate studies that have been conducted in West Coast salmon fisheries since 1984. This process involves expanding short-term (within 24 hours) mortality rates to account for delayed (after 36 hour) mortality. The SSC endorses the methods proposed by the STT to determine this expansion. The SSC requests that the current work group prepare a report for the March meeting that documents the data and methods used to arrive at the interim rates proposed.

The SSC discussed the lack of familiarity and knowledge within the SSC of the FRAM model and process. This is partially due to lack of experience within the SSC with salmonid management and the lack of documentation explaining the FRAM. These factors complicate SSC review of the salmonid management process and hinder the SSC's ability to provide advice. It may be helpful to have members of the STT "educate" the SSC on the salmon management process, possibly scheduling an extra day at the June meeting.

Selective Fishery Off Oregon in 1999

The SSC met with Mr. Sam Sharr, Oregon Department of Fish and Wildlife, who distributed a draft report summarizing data and observations collected from selective coho fisheries implemented in 1999 off Oregon. The SSC did not have an opportunity to review the report. However, Mr. Sharr did provide a useful overview of the report's contents, highlighting strengths and weaknesses of the program. The SSC commends the report authors for compiling what, at first glance, appears to be a comprehensive summary and analysis of the data. Of particular note was the calculation of variances for fishing effort, catch-per-unit-effort, and drop-off estimates. We encourage the authors to derive variances for hooking mortality rates also. The SSC was pleased to see the report includes gear profiles of the fleet and hook wound location frequencies.

Members of the SSC's salmon subcommittee will review the document by mid-January, prior to the spring management process. The SSC concurs with the authors in cautioning against using Oregon coastal natural (OCN) coho impacts described in this report for management in the 2000 season. Estimation of OCN impacts was not among the goals of the selective fishery program and should not be interpreted as final post-season estimates.

Process for Reviewing Oregon Coastal Natural Coho Salmon Management Program in 2000

Mr. Sam Sharr briefed the SSC regarding the Oregon Department of Fish and Wildlife (ODFW) proposal for reviewing the Oregon coastal natural coho salmon management program. ODFW will convene a planning and strategy session in late November 1999 to identify key biological and technical issues and will assign work groups to address these issues. A progress report will be made available to the Council family at the March 2000 meeting. The SSC supports ODFW's efforts and looks forward to receiving this report in advance of the March meeting.

Groundfish Management

Fishery Management Plan Amendment for Stock Rebuilding and Specific Rebuilding Programs for Lingcod, Bocaccio, and Pacific Ocean Perch

The SSC reviewed all briefing materials on this subject and concluded that, since the conclusion of the September Council meeting, no substantive changes have occurred to the specific rebuilding plans of lingcod, bocaccio, and Pacific ocean perch. At its last meeting the SSC made a number of general comments and recommendations about the construction of rebuilding plans, as well as the specific rebuilding projections for the three overfished stocks.

There is a requirement in the proposed framework fishery management plan (FMP) amendment that all rebuilding plans must be reviewed at least once every two years. There are certain to be instances where a full analysis of stock population dynamics that incorporates significant new sources of information will not be possible every two years. The SSC concluded that in those cases a simple review of landings in the context of rebuilding projections, along with a summarization of existing trend information, may suffice to meet the requirement of a biennial review. This type of simple review, however, will not eliminate the need for full and detailed stock assessments to be conducted on a periodic basis, with a frequency dictated by the availability of new data, the dynamics of the stock, and the needs of management.

The SSC was not presented with any proposed regulatory options designed to meet specific rebuilding targets. Nonetheless, such management measures are an integral part of stock rebuilding plans, as specified in the framework FMP amendment. Therefore, at the time the SSC reviewed these rebuilding plans they were not yet complete. The SSC also recommends that all rebuilding plans should include an explicit statement of the expected yield after rebuilding is completed, i.e., the maximum sustainable yield (MSY) of the stock.

Under the national guidelines for implementation of the Sustainable Fisheries Act, stocks are rebuilt when they recover to a biomass level equal to B_{msy} , which is the stock size that produces MSY when fished at a rate equal to F_{msy} . Under the 40-10 harvest policy currently in use by the Council, a biomass equal to 40% of the unexploited biomass is a proxy estimate of B_{MSY} . The SSC recommends that improved methods of accurately estimating B_{msy} be developed to reduce reliance on generic proxy estimates, at least in situations where the data warrant.

Final Harvest Levels for 2000

The SSC reviewed the Groundfish Management Team (GMT) final optimum yield (OY) recommendations for groundfish in 2000, with a focus on species where the GMT final OY differed from the preliminary Council OY. In most cases, the difference is due to the GMT recommendation to reduce OY's for all species except flatfish and whiting, because of revised F_{msy} proxies for these species. This change would increase the spawning potential per recruit (SPR) values used in calculating the OY's by 5% (e.g. from $F_{40\%}$ to $F_{45\%}$ for *Sebastes*). The SSC supports this recommendation, because the best available data indicate these West Coast groundfish species are less productive than previously estimated. This change should not be viewed

as a precautionary adjustment, but rather as an improvement in our understanding of West Coast groundfish productivity.

The SSC also discussed the issue of whether there has been “double” application of the precautionary principle in GMT groundfish management recommendations. The precautionary approach is evident in three areas, (1) the 40-10 policy used to reduce exploitation rates below the routine F_{msy} harvest rate when stock biomass falls below a “precautionary threshold” of $B_{40\%}$, (2) the 50% reduction which is applied to unassessed rockfish species where historical catch is used as a proxy for acceptable biological catch (ABC), and (3) the 25% reduction that is applied to rockfish when the $F=M$ approach is used to obtain ABC. The SSC does not find duplicative application of the precautionary principle by the GMT. The SSC also reaffirmed that stock assessment authors have been directed to produce assessments that are risk-neutral. This policy has been applied as a routine part of the Stock Assessment Review Team (STAT)/Stock Assessment Review (STAR) Panel process, and is an integral component of the stock assessment terms of reference.

Comments on specific species are as follows:

The SSC supports the GMT recommendation for shortbelly rockfish. Evidence of poor recruitment since 1989 supports the reduction of this OY to 13,900 mt coastwide.

The SSC supports the chilipepper OY of 2000 mt, derived from recent average landings (1992-1997). This management measure will help to reduce unintended bycatch of other groundfish, which are subject to severe reductions as part of a stock rebuilding plan.

The SSC recommends that the OY of shortspine thornyhead be established based on an SPR rate of $F_{45\%}$, rather than the GMT recommendation of $F_{40\%}$. It appears to be inconsistent to recommend higher exploitation rates for this slow growing species when the F_{msy} harvest proxy of $F_{45\%}$ has been recommended for other rockfish species.

Review of Stock Assessment Process and Stocks to be Assessed in 2000

Following the joint session on the groundfish stock assessment process, the SSC discussed issues on the process with Ms. Cyreis Schmitt from the National Marine Fisheries Service (NMFS) who coordinates annual West Coast groundfish stock assessments and reviews. Several new issues arose during this discussion. First, any stock assessment analyses commissioned by private groups must be included in the stock assessment review (STAR) process to be used by the Groundfish Management Team (GMT) and Council in establishing annual harvest specifications. In addition, it is critical that any assessment documents produced by private entities must be completed following the STAR meeting and be incorporated into the Council’s annual stock assessment and fishery evaluation (SAFE) document. The coordinator has started to update the annual assessment calendar; the final calendar will be completed once the dates for the three STAR panel meetings are final. The SSC partnership with the coordinator has worked very well. However, one improvement would be to have the coordinator convene the presentation of the stock assessment reports to the Council. In the past three years, the SSC has arranged for independent anonymous reviews of prior stock assessment reports which have not been subjected to the STAR review process. There will be no need for any anonymous reviews this coming year. For new stocks which are projected by the Stock Assessment Review Team (STAT) to fall below overfishing thresholds, the STAT teams need to be instructed to estimate the SSC’s baseline rebuilding parameters, specifically:

- Determine B_0 as the product of SPR in unfished state multiplied by the average recruitment during early years of fishery.
- Recruitment during the earliest part of the record for the stock.
- $B_{msy} = 0.4 B_0$.
- Mean generation time.
- A forward projection using recruitment based on Monte Carlo sampling from a recent time series of recruitment estimates.

We recommend that the terms of reference and the Outline for Groundfish Stock Assessment Documents for 2000 be modified to include all of the above items.

By December 1, the SSC Groundfish Subcommittee chairman will assign members to the three proposed STAR panels and notify the Council and NMFS.

The STAR process was specifically developed after a long and involved negotiation among the Council's groundfish entities, SSC, and NMFS to resolve the problem of providing independent and comprehensive review of stock assessment reports. The STAR process, as currently structured, is not designed to review rebuilding plans or monitor rebuilding progress. The Council's Ad-Hoc Groundfish Allocation Committee took the lead in initiating the preparation of the Council's three rebuilding plans. The SSC took the initiative to develop guidance and standard procedures for these plans. The Council needs to establish procedures to initiate and review rebuilding plans and monitor and report on rebuilding progress of overfished stocks.

Terms of Reference for the Harvest Policy Workshop

An estimate of the fishing mortality rate associated with maximum sustainable yield (F_{msy}) is an intrinsic element of all fishery management plans (FMP) developed under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). For the Council's groundfish FMP, a reliable F_{msy} estimate is especially important since it forms the baseline for implementation of the "40-10" harvest policy control law used to determine acceptable biological catch (ABC) levels for all species covered by the FMP.

There are significant conceptual and statistical difficulties in directly estimating an F_{msy} level for many West Coast groundfish stocks. To circumvent these difficulties, the Council has employed a proxy for F_{msy} based on spawning potential per recruit (SPR) concepts (e.g., $F_{35\%}$), which is the instantaneous fishing mortality rate that reduces lifetime reproductive output of a typical female in the population to 35% of what it would be in the absence of fishing. The primary advantage of a SPR-based proxy for F_{msy} is that it is relatively easy to calculate from the basic life history information that is commonly presented in stock assessment documents. The current Council proxies for West Coast groundfish are $F_{40\%}$ for *Sebastes* species and $F_{35\%}$ for other groundfish.

Recent scientific studies have suggested that the proxies currently used for West Coast groundfish may overestimate the true F_{msy} for these species. The SSC will convene a Harvest Rate Policy Review Workshop to address this issue. The review will be chaired by Dr. Steve Ralston of the SSC. It will be held at the National Marine Fisheries Service (NMFS) Alaska Fisheries Science Center (Seattle, Washington) during March 20-24, 2000.

The formal review panel will consist of five scientists (in addition to the Chairman): (1) two additional SSC members; (2) two external experts; and (3) one expert from within the West Coast groundfish scientific community. In addition, the Groundfish Management Team (GMT) and Groundfish Advisory Subpanel (GAP) will each designate one representative to contribute to the review, but the GMT and GAP representatives will not serve as formal panel members. The principal investigators involved in recent scientific studies on this issue will be invited to present their work to the review panel. The process will also be open for other scientists to present relevant work to the review panel (at the discretion of the Chairman). The terms of reference for the review panel are:

Review the current body of existing scientific work and any additional (relevant) work presented during the review panel meeting. All scientific contributions must be well documented with draft papers provided to the review panel well in advance of the meeting.

Evaluate the appropriateness of the current Council F_{msy} proxies (i.e., $F_{40\%}$) for *Sebastes* species and $F_{35\%}$ for other groundfish.

If the current proxies are not appropriate, suggest alternative harvest rate policies consistent with the requirements of the Magnuson-Stevens Act and the Council groundfish FMP objectives. Such alternatives may include, but are not limited to, alternative F_{msy} proxies (such as $F_{50\%}$ or some other level). Review panel suggestions on closely related management reference points are encouraged (e.g., on the direct estimation of B_{msy} or its proxy).

Suggest procedures for incorporating uncertainty, risk, and the precautionary approach in establishing harvest rate policies.

Provide a comprehensive report to the SSC and the Council that clearly documents the findings and recommendations of the review panel.

Significant funding will be required to support the Harvest Rate Policy Review. As with the Stock Assessment Review (STAR) Panel process, the Council should anticipate the need to cover travel costs for the nonfederal SSC, GMT, and GAP participants. Additional funding sources will need to be identified for the three non-SSC Review Panel members.

Groundfish Priorities and Schedules

Mr. Jim Glock reviewed the Council's groundfish priorities and schedules.

The Scientific and Statistical Committee (SSC) encourages the Council to avoid formalizing its groundfish priorities (especially for issues below the line in Attachment G.11.a.) until the Council's strategic planning process has been completed.

Capacity reduction has been a high priority issue for the SSC and other Council advisory entities for several years and should be included as a high priority issue (above the line) in the Council Work Plan (Attachment G.11.a.). The SSC Economic Subcommittee is willing to prepare a discussion paper documenting the overcapacity problem and outlining potential ways the Council may want to proceed on this issue.

Public Comment

There was no public comment.

Adjournment

The SSC adjourned at approximately 6:30 P.M., Tuesday, November 2, 1999.

Research and Data Needs (ongoing list)

1. Systematic review of salmon run-size predictors; evaluation of forecasts through hindcasts. (Resulting from March 1997 discussion on stock abundance estimates and preseason forecasts.)
2. Localized depletion of groundfish stocks, especially Dover sole and shortspine and longspine thornyheads, may occur at low abundance levels. The SSC recommends the GMT consider using area-specific harvest guidelines for these species. (From November 1997 discussion on 1998 harvest levels.)
3. It may be possible to increase harvest levels while still meeting target mortality fishing rates such as $F_{35\%}$ by deliberately managing the range of age and lengths targeted by the fishery. For example, avoiding capture of young Dover sole who have not yet realized their entire growth by shifting fishing effort in deep

water might make larger catches possible. Effects on enforcement and other species would have to be considered. (November 1997.)

4. A recruitment survey for whiting would help reduce uncertainty in the stock assessment. (The SSC agreed that a more comprehensive discussion of research needs to support groundfish stock assessments was necessary, including how to integrate social and economic analyses into the assessment and how to analyze management histories from the assessments.) (November 1997.)

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