SUMMARY MINUTES

Scientific and Statistical Committee

Pacific Fishery Management Council
Red Lion Hotel Sacramento
Sierra B Room
1401 Arden Way
Sacramento, CA 95815
September 11-13, 2000

Call to Order

The meeting was called to order at 8 A.M. by Chair Cynthia Thomson. Dr. Don McIsaac, Executive Director, provided some opening comments and noted for the Scientific and Statistical Committee (SSC) the key issues where the Council would look to the SSC for guidance. The first tier items included: G.4, G.5, G.6, G.7, F.1, A.5, I.1; second tier items included: A.6, D.2, E.2, A.7, A.10.

The agenda was approved.

Members in Attendance

Mr. Alan Byrne, Idaho Department of Fish and Game, Nampa, ID
Dr. Ramon Conser, National Marine Fisheries Service, La Jolla, CA
Mr. Robert Conrad, Northwest Indian Fisheries Commission, Olympia, WA
Dr. Robert Francis, University of Washington, Seattle, WA
Dr. Susan Hanna, Oregon State University, Corvallis, OR
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. Shijie Zhou, Oregon Department of Fish and Wildlife, Portland, OR
Dr. Richard Young, Crescent City, 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 comment to the Council is provided in italicized text).

Halibut

Status of Bycatch Estimate

At the June meeting, the SSC raised a number of issues concerning the definition of strata for a new estimator of Pacific halibut bycatch mortality that is being developed by the National Marine Fisheries Service (NMFS) Northwest Fisheries Science Center. In particular, the definition of latitudinal, depth, and seasonal strata boundaries was discussed, as was the association of halibut with arrowtooth flounder. As a followup to those concerns, the SSC was briefed by Ms. Cyreis Schmitt and Mr. Mark Saelens, who together described the current status of halibut bycatch estimation in Area 2A of the groundfish trawl fishery. In addition, they provided documentation of the rationale behind the use of specific boundaries to categorize the data into homogeneous strata. The SSC was in agreement that sufficient thought had gone into the analysis following their presentation. In particular, Mr. John Wallace provided a written point-by-point explanation for the various boundary selections that were used. In finalizing the analysis the SSC recommends that care be exercised in conversions between (1) round and net weight, (2) legal and sublegal fish, and (3) pounds to kilograms. The SSC looks forward to examining the final bycatch mortality estimates, which should be available at the November meeting.

Salmon Management

Preliminary Report of the Oregon Coastal Natural Coho Work Group

Mr. Sam Sharr presented a summary of the draft report of the Amendment 13 review. We did not have time to fully assimilate the information presented, but can offer several observations. The new approach is strong, because it is based on a peer-reviewed model and reflects conditions the Council has been facing in recent years. The report presents a major change in the Amendment 13 matrix, extending specification into the low end of both parental spawning escapement and marine survival. The SSC has not examined the analysis and rationale for the exploitation rate values contained in the matrix.

The matrix specifies a critical cutoff of four spawners per mile in a basin. It is appropriate to specify a critical low spawner escapement level, because extinction risks increase rapidly as spawner densities drop. Any basin with escapements in this range will likely have experienced extinctions of local populations. There is no biological justification for inducing fishing mortality on such stocks. However, it is not clear whether the value of four spawners per mile, as suggested in the review document, provides adequate protection. The SSC has requested an analysis of the risk of low levels of incidental fishing mortality when a stock is near the critical level.

Additional review is needed prior to Council action. The SSC would like to continue our review of this report at the October meeting.

Research and Data Needs

The version of draft research and data needs that appears in the briefing book reflects a number of changes suggested by the SSC and other Council advisory bodies before the Council's groundfish strategic plan became available to us. At this meeting the SSC again reviewed the draft research and data needs, largely to ensure that it reflects the recommendations contained in the strategic plan.

Many of the strategic plan recommendations - pertaining, for instance, to capacity reduction, estimation of total removals, frequency of fishery independent surveys, role of industry in data collection, improved stock assessments, evaluation of environmental effects on recruitment and productivity, evaluation and reduction of effects of gear and fishing practices on habitat - were already reflected in the research and data needs. In some cases, specific items have been edited or reprioritized to improve clarity or to make the connection to the strategic plan more explicit. In addition, several new items were added to the draft research and data needs, including a section on marine reserves and an analysis of the extent of overcapacity in the charter boat fleet. Specific SSC recommendations regarding wording changes to research and data needs are described below.

The SSC also updated the draft West Coast Fisheries Economic Data Plan. The document reflects recommendations contained in the strategic plan, with the most notable addition pertaining to evaluation of the socioeconomic effects of marine reserves. The SSC intends to provide additional wording in the document that describes other economics planning and data collection efforts that have been initiated in recent years and the relationship of the economic data plan to these other efforts.

The SSC appreciates the efforts of Mr. Jim Seger in updating the draft research and data needs and the draft economic data plan. Once the proposed changes have been made, the SSC will consider both documents to be ready for public review.

Recommended Wording Changes to Attachment F.1

Ensure the wording of the high priority recommendations provided in the Executive Summary is consistent with the body of the document.

All Fishery Management Plans

Page 2 Add “and species” after “geographic” in fourth sentence. Delete “geographic” in fifth sentence. Replace “will” with “may” in sixth sentence.

Economic Data Plan. In second sentence replace “Developing a coordinated effort” with “Continued development of a coordinated effort.”

Page 3 Add a section titled “General Analytical Needs”. Subsume “Assessment of Enforcement Effectiveness.” Add a second item: “Resources under PFMC jurisdiction respond to large shifts in ocean productivity. For instance, growth and recruitment of rockfish, ocean survival of salmon and the relative abundance of coastal pelagics responded to the major North Pacific climate shift in the late 1970s. In addition, year to year patterns in fishery production tend to show similarities across species (FMP) groups. These holistic resource responses need to be assessed and incorporated into the management process.”

Page 3 Economic and Social Data Collection and Research. Delete the last bullet.

Page 4 Add a new item under “Analysis” that reads “Analysis to evaluate extent of overcapacity in the charter vessel fleet.”

Groundfish Management Fishery Management Plan

Page 6 First bullet. Rewrite as follows: “Establish a West Coast coordinator to identify and prioritize stock assessment information needs, to track programs that fulfill those needs and to facilitate establishment of new programs to address unmet needs. This coordinator would report status of biological data collection activities to the Council, with emphasis on anticipated deficiencies identified with respect to stock assessment and management needs.” Make a similar change to the last paragraph on page 7.

Delete 2nd bullet on electronic monitoring.

Third bullet. Delete “particularly the trawl fleet.” Delete 2nd sentence. In the third sentence insert “and reducing” after “estimating” and delete “against accurate observations made by observers.” Delete 4th sentence.

Page 10 Slope Surveys. Move the last sentence of the third bullet to the first bullet.

Page 11 Environmental Data Collection. In 1st sentence, replace “Data collection” with “Collect, analyze and synthesize data.” In 4th sentence, replace “trawlers” with “vessels”.

Page 13 Stock Assessment Modeling. Add a second sentence that reads “Develop new models for species for which fishery-independent data are not available (e.g., nearshore rockfishes)."

Salmon Management Fishery Management Plan

Page 16 Indicator Stocks. Add a sentence to the end of the paragraph that reads “Escapement goals are needed for Washington and Oregon coastal fall chinook.”

Page 17 Non-Catch Fishing Mortality. Add a sentence prior to the last sentence of the paragraph that reads “Special attention needs to be paid to mid- and long-term mortality.”

Coastal Pelagic Fishery Management Plan

Page 22 First bullet. Replace “in northern and southern end of range" with “throughout its range.”

Marine Reserves

Page 26 3rd paragraph. Delete “five”.

Add a new first bullet: “Identify type and scale of information needed to conduct stock assessments after establishment of marine reserves and evaluate the feasibility and cost of collecting such information.”

Current first bullet. Insert “and structure” after “location”.

Subsume the current 2nd, 3rd, 4th and 5th bullets under an introductory sentence. “Research is needed to understand the biological effects of marine reserves and determine the extent to which ABCs would need to be modified when marine reserves are implemented, over the short and long term.”

Page 27 Stock Assessment Models. After the last sentence, add “As part of the evaluation of marine reserves relative to the status quo, the types and scale of information needed to conduct stock assessments after establishment of reserves should be identified and the feasibility and cost of collecting such information should be analyzed.”

Page 27 Social and Economic Data Needs. In second sentence, replace “are not recorded on a fine enough scale to be useful in modeling” with “are needed on a fine enough scale to model”. Replace 3rd and 4th sentences with “Information is also needed on the extent of displacement of fishing activity from the reserve and the extent to which effort is diverted to other fisheries.”

Page 29 Recreational Harvester and Site Specific Demand. In first sentence, replace “the changes in CPUE (if CPUE predictions could be made)” with “site-specific closures”.

Offsite Nonconsumptive Values. Change “bequeathal” to “bequest.” Delete 3rd sentence.

Add “Other Marine Related Industries. Inventory and assess dependence of businesses supporting commercial and recreational fisheries as well as other ocean based activities (e.g., ecotourism.)”

Groundfish Management

Rebuilding Programs for Canary Rockfish and Cowcod

Canary Rockfish

Dr. Richard Methot, NMFS, presented the results of the rebuilding analysis for canary rockfish to the SSC. The analysis addressed all SSC comments that were given to the author at the June meeting. The rebuilding analysis was based on the northern stock assessment. Rebuilding analyses were presented for the two scenarios used during the stock assessment to explain the low incidence of older females compared to older males. The rebuilding analyses were developed by resampling the recruits per spawner (R/S) from various time eras. The SSC agrees with this approach.

The results of the rebuilding analyses are very sensitive to the strength of the 1996 to 1998 year classes. The R/S for these three years were the highest recorded; however, there is uncertainty associated with these values, because they are based solely on the 1998 triennial survey. Until these strong recruitments can be confirmed by the 2001 triennial survey, the SSC agrees with the results obtained by resampling R/S values from the preferred model approved by the Stock Assessment and Review (STAR) Panel. In the northern area, the median time to rebuild, in the absence of fishing, exceeded 60 years for both scenarios. The time to rebuild ranged from 81 to 132 years when an annual catch of 13 to 40 mt was

added.

Cowcod

Mr. Tom Barnes, California Department of Fish and Game (CDFG), presented the results of the cowcod rebuilding analysis to the SSC. The analysis addressed most of the SSC comments that were given to the author at the June meeting. The rebuilding analysis was based on a surplus production model. The median time to rebuild, in the absence of fishing, ranged from 42 years when initial biomass was set at 11% of virgin biomass to 81 years if initial biomass was 4% of virgin biomass. When annual catches of 2.5 mt to 6.4 mt were added, the median time to rebuild ranged from 92 years to 277 years. It will be difficult to achieve catch targets in this range. The SSC is supportive of proposals outlined by CDFG (Exhibit G.4, Attachment 2) to reduce cowcod catch rates.

A delay difference model was used for the cowcod assessment. This model predicts a longer time to rebuild the stock compared to the surplus production model. The SSC would have preferred that the authors use the model approved by the STAR Panel; however, the difference in allowable catch levels during rebuilding would probably be negligible.

New Stock Assessments for Lingcod and Pacific Ocean Perch

The SSC met with Mr. Jim Glock to the discuss new stock assessments for lingcod, Pacific Ocean perch (POP), and widow rockfish. Lingcod and POP have been separated out for discussion, because each is managed under recently-adopted rebuilding plans, and this is the first time new assessments have been prepared for these species since the overfishing declaration. The new widow rockfish assessment indicates the biomass is at or below 25% of B_o, so the potential for an overfishing declaration exists for this species as well.

The SSC held a lengthy discussion regarding timing of new stock assessment results for rebuilding species, particularly with respect to updating current rebuilding plans and applying changes for the upcoming management season. For example, rebuilding plans for lingcod and POP have just been approved by NMFS, immediately followed by new stock assessment results for each species. The Sustainable Fisheries Act (SFA) requires re-evaluation of rebuilding plans every two years, but the groundfish fishery management plan (FMP) states that stocks will be managed based on the best available information. This leaves the Council with two options, (1) re-establish rebuilding plans according to the new benchmarks each time new data are available, or (2) carry forward current rebuilding plans as approved, applying the new information in the next review period. The SSC favors the second option.

The SSC has the following specific comments regarding the new stock assessment results:

Widow Rockfish – Although there is a fair amount of uncertainty in the preferred model estimate of widow rockfish biomass, there is a 70% probability that current biomass is less than 25% of B_o. The Groundfish Management Team (GMT) is currently developing preliminary optimum yields (OYs) based on this estimate and the assumption the stock will be declared overfished. In addition, the current assessment indicates year class strengths have been weak in recent years. The current 40-10 policy will likely be sufficient to rebuild widow rockfish within the next 10 years, and supplemental analysis, provided as an appendix in the stock assessment report, but not reviewed by the Stock Assessment Review (STAR) Panel, suggests widow rockfish biomass may be somewhat greater and not in an overfished condition. The SSC's groundfish subcommittee will review the supplemental analysis prior to the October Council meeting.

Pacific Ocean perch – The previous POP rebuilding analysis estimated 20 to 30 years to rebuild the stocks. The latest analysis indicates a much shorter rebuilding time on the order of 10 years. The data used in the new rebuilding analysis are based on the new assessment, in which B_{MSY} was estimated from parameters in the model. There are many confounding factors associated with simultaneous estimation of steepness of the stock-recruitment relationship and survey catchability. This confounding and other technical issues affect the reliability of the B_{MSY} estimate, which subsequently impacts the rebuilding plan. The SSC does not recommend superceding the currently approved rebuilding plan with the new analysis. The new analysis has not yet been reviewed, but should be considered for the process in 2001.

Lingcod – The lingcod stock is still considered to be in an overfished state, but the most recent

assessment results indicate the stock has started to rebuild. The stock assessment authors did not develop a modified rebuilding plan based on the latest results. The SSC recommends continued implementation of the recently approved rebuilding plan.

Preliminary Harvest Levels and Other Specifications for 2001

Dr. Richard Methot of the NFMS, Northwest Fisheries Science Center, discussed the report *A Preliminary Analysis of Discarding in the 1995-1999 West Coast Groundfish Fishery* with the SSC. An update of discard levels is needed as the data supporting the current estimates are 15 years old, and the current procedure for estimating discard as a fraction of the total catch of a target species is no longer applicable to today's fishery. The report uses a new model to analyze data from the Enhanced Data Collection Project (EDCP) for the Dover sole, thornyhead, sablefish (DTS) bottom trawl fishery during the 1995-1999 fishing seasons and proposes a new model for estimating DTS discards based on trip limits. The model has two important features, (1) it can be used to estimate discards from current fishery data, and (2) it can be used to predict discards for a given set of proposed trip limits.

The SSC finds the approach used to estimate discards in the DTS trawl fishery very promising. It has the potential to provide better estimates of discards than current procedures and explicitly accounts for changes in trip limits. The SSC recommends future work with the model examine the following:

1. Length frequency information from the data used to develop the model, to determine if there is evidence of high-grading and whether discards are having a significant impact on recruits to the population.
2. Associated economic data that may influence discard behavior in the fishery.
3. A tow-by-tow analysis of the data.
4. Availability of existing log book data (beyond the EDCP data) to support model development.

Although the SSC recognizes the preliminary nature of the current model, it does represent the best available science. Therefore, the SSC recommends using the proposed method for estimating discards in the DTS trawl fishery during the 2001 season. Because of the early stage of development of this model, future improvements to the model may result in changes to the DTS discard estimates and the estimation procedures. Furthermore, the proposed model is dynamic, and discard rate estimates may change annually. The SSC encourages further development of this model.

The restrictive 2000 and 2001 catch levels for many of the OY groundfish stocks will continue to create problems with bycatch in other fisheries and will adversely impact the collection of fishery-dependent data. Additional management efforts will need to be undertaken by the state agencies to reduce the bycatch in shrimp and prawn trawl fisheries and recreational fisheries to keep the catches below OY levels. In addition, fishers may become reluctant to land any catch of rockfish stocks with OY levels of just a few 100 tons to ensure landings do not exceed OY. This will likely contribute to additional unaccounted discards for rockfish stocks. The port sampling opportunity to collect biological data from commercial or recreational catches will then be jeopardized. Information on fish size and age composition is important to our efforts to evaluate the magnitude of incoming year classes and to track stock rebuilding. The lack of sufficient port samples will place more emphasis on the data from the coast-wide shelf and slope surveys.

The SSC reviewed with Dr. Jim Hastie, Chair of the Groundfish Management Team (GMT), the preliminary OY levels for a number of the stocks, particularly those judged to be overfished or near overfishing levels. The new harvest rate policy, and 40-10 reductions are being implemented as 2001 point estimates or as the lower bound of a range. Comments on OY levels for selected stocks are:

Canary rockfish – SSC supports the OY levels based on the preferred model of the Stock Assessment Review (STAR) Panel which reduced the estimates of recent recruitment levels by 50%. These result in OY ranges of 13 mt to 40 mt for the northern area. The extremely low harvests levels will severely impact shelf fisheries.

Pacific Ocean perch (POP) – With respect to the OY levels for Pacific Ocean perch there is confusion over the existing rebuilding plan, given the results of the new assessment which concluded that current biomass is above 50% of B_{MSY}. The new rebuilding analysis provided in the briefing book has not been reviewed, and the SSC cannot endorse its use in setting the 2001 OY level. We recommended to the GMT they develop a range using last year's OY (294 mt) and a yield obtained using the current harvest policy ($F_{50\%}$ with the [40-10] reduction) applied to the most recent biomass estimate. This recommendation should be in place until the status of the POP rebuilding plan is resolved. Given the sophistication and complexity of the new models being used to assess rebuilding and to derive biological reference points, the current review process is being stretched beyond its capability to provide the in-depth evaluations required to make informed, valid, and pertinent judgments to resolve conflicting model outcomes similar to those for the POP assessment.

Widow rockfish – The updated assessment concluded the current biomass for the widow rockfish stock has a 70% probability of being less than 25% of B_o, which indicates an overfished stock. However an existing analysis, which has not been reviewed or approved by the Stock Assessment Review (STAR) Panel or SSC, concludes a rebuilding plan for widow rockfish may not be required. If this is the case, the harvest rate would be based on the (40-10) policy. Prior to Council adopting OYs in October, the SSC will review the overfished status report appended to the assessment document and will provide advice on OY at that time.

Darkblotched rockfish – The OY range is based on uncertainty in the amount of darkblotched taken in the foreign rockfish fishery and initial rebuilding projections by the Stock Assessment Team (STAT) that assume the stock will be declared overfished. SSC recommends further analysis be undertaken to resolve the uncertainty of species composition in the foreign fishery. Until there is some resolution to this issue, SSC can offer no advice on any particular point estimate.

Lingcod – The lower value of the OY range is based on the existing rebuilding projections and the upper value is based on the new assessment results. The best available information is from the new assessment.

Sablefish Permit Stacking Concept

Mr. Jim Seger briefed the SSC on the Draft Analysis of Permit Stacking for the Limited Entry Fixed Gear Sablefish Fishery.

The analysis includes a placeholder in Section 1.3.3 for a discussion of the relationship between the permit stacking proposal and the goals and recommendations of the Groundfish Strategic Plan, should the plan be adopted by the Council. This is a good example of how groundfish plan amendments should be routinely related to the strategic plan. The document also contains placeholders for other portions of the analysis that have not yet been completed, including Section 2.0 (description of fishery) and portions of Section 3.3.x (safety, windfall profits, etc.). The analysis, however, was sufficiently complete to allow the SSC to evaluate the essential elements of the voluntary stacking proposal.

The SSC concurs with the following conclusions from the analysis: unless the individual quota (IQ) moratorium is lifted, voluntary permit stacking per se is not likely to increase the duration of the fixed gear sablefish season, alleviate the safety concerns and complex management decisions associated with short seasons, or result in significant capacity reduction. In order to accomplish those things, voluntary stacking will need to be followed by a properly designed IQ system (an uncertain prospect at this time, given the moratorium) or some other stringent capacity reduction mechanism. The SSC is concerned about the limited benefits that would accrue from voluntary stacking if the IQ moratorium is not lifted. However, we also realize that it is up to the Council to decide whether that risk is acceptable.

The SSC has several suggestions for clarifying and simplifying the analysis:

Section 1.3 includes nine objectives. Prioritization or elimination of some objectives may help to simplify the analysis.

Section 1.5 describes three possible future scenarios regarding the IQ moratorium: (1) moratorium expires/no new requirements constraining creation of IQS, (2) moratorium expires/some new requirements constraining creation of IQS, (3) continuation of moratorium. The SSC recommends that scenario (2) be eliminated from consideration. While it is a plausible scenario, it is not specific enough to be very useful for the analysis.

Provisions 1-9 should be distinguished in terms of whether they pertain to design features of a stacking program that the Council must decide in advance, or outcomes that are contingent on whether voluntary stacking is followed by an IQ program. For instance, the two fishing duration options presented under provision 5 (extended season vs. modified derby) represent alternative outcomes. Similarly, the two options under provision 9 (open vs. close the daily-trip-limit fishery during the primary fixed gear sablefish fishery) also represent alternative outcomes.

Coastal Pelagic Species

Amendment 9: Bycatch, Squid Maximum Sustainable Yield, Tribal Fishing Rights

The SSC reviewed the calculation of squid maximum sustainable yield (MSY) contained in amendment 9 to the coastal pelagic species fishery management plan. The approach extrapolates historic California landings to the entire West Coast based on percentages of area fished and the coastwide distribution of squid in trawl samples. We are concerned about the accuracy of this approach. On the one hand, the extrapolation method used for California may overestimate the amount of squid, because it assumes occasionally fished areas are as productive as heavily fished areas. On the other hand, this method may underestimate the amount of squid, because it assumes that no squid occurs in areas where no fishing occurs. We also do not know how well the incidental catch of squid in various trawl surveys represents the actual distribution of squid coastwide. Because of the uncertainties surrounding these extrapolations and our ongoing concern regarding the appropriateness of defining MSY for this species, we cannot recommend an MSY value at this time.

Fortunately, research being conducted on squid life history, abundance, and distribution in California is expected to provide significant new information within the next year. We recommend that the SSC work with NMFS and California Department of Fish and Game to organize a stock assessment workshop next year to integrate the ongoing squid research in California into the Council's management plan. This workshop should also address how the concept of MSY relates to a species that is short lived and whose abundance/availability is largely environmentally determined.

For near term management purposes, the SSC discussed the known characteristics of the squid fishery with members of the Coastal Pelagic Species Management Team. We made three observations about the fishery. First, it has taken place in the same areas near Monterey and in Southern California for decades. Second, catch is dramatically reduced by the occurrence of El Niños, but catches rebound rapidly from very low levels. Third, significant spawning activity takes place in areas that are not fished. Given these characteristics, we believe the resource will not be adversely affected by a delay in setting MSY until after the recommended workshop is completed.

Public Comment

There was no formal public comment.

Adjournment

The SSC adjourned at approximately 3:30 P.M., Wednesday, September 13, 2000.

PFMC
11/07/2000