

DRAFT MINUTES  
**Groundfish Stock Assessment Review Workshop**

Pacific Fishery Management Council  
Sheraton Portland Airport Hotel  
Mt. Adams Room  
8235 NE Airport Way  
Portland, OR 97220  
503-281-2500

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**Participants:**

Dr. André Punt, School of Aquatic and Fishery Sciences, University of Washington, Seattle, WA  
Dr. Elizabeth Clarke, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA  
Dr. Owen Hamel, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA  
Dr. Jim Hastie, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA  
Ms. Stacey Miller, National Marine Fisheries Service Northwest Fisheries Science Center, Newport, OR  
Mr. Tom Jagielo, Washington Department of Fish and Wildlife, Olympia, WA  
Dr. John Field, National Marine Fisheries Service Southwest Fisheries Science Center, Santa Cruz, CA  
Dr. Steve Ralston, National Marine Fisheries Service Southwest Fisheries Science Center, Santa Cruz, CA  
Mr. E.J. Dick, National Marine Fisheries Service Southwest Fisheries Science Center, Santa Cruz, CA  
Dr. Tom Helser, National Marine Fisheries Service Northwest Fisheries Science Center, Seattle, WA  
Dr. Martin Dorn, National Marine Fisheries Service Alaska Fisheries Science Center, Seattle, WA  
Ms. Meisha Key, California Department of Fish and Game, Santa Cruz, CA  
Dr. David Sampson, Oregon State University, Corvallis, OR  
Mr. Rod Moore, West Coast Seafood Processors Association, Portland, OR  
Mr. Corey Niles, Washington Department of Fish and Wildlife, Montesano, WA  
Mr. Farron Wallace, Washington Department of Fish and Wildlife, Montesano, WA  
Dr. Theresa Tsou, Washington Department of Fish and Wildlife, Olympia, WA  
Dr. Yong-Woo Lee, Washington Department of Fish and Wildlife, Olympia, WA  
Dr. Yuk Wing Cheng, Washington Department of Fish and Wildlife, Olympia, WA  
Dr. Donald McIsaac, Pacific Fishery Management Council, Portland. OR  
Mr. Mike Burner, Pacific Fishery Management Council, Portland. OR  
Mr. John DeVore, Pacific Fishery Management Council, Portland. OR

## ***A. Administrative Matters***

### 1. Roll Call, Introductions, Announcements, etc.

Dr. McIsaac thanked all the participants for attending the workshop and a round of introductions was made. Dr. McIsaac thanked the Scientific and Statistical Committee (SSC) for their continuous resolution of small problems that resulted in a process that was an improvement over the last cycle. Dr. McIsaac expressed appreciation for the coordination and oversight role of the Northwest Fisheries Science Center and particularly the efforts of Ms. Stacey Miller. Although the 2007 process went better than the last process, there are areas for improvement. He asked participants to be frank and share their thoughts and to avoid personal remarks.

### 2. Opening Remarks and Agenda Overview

Mr. DeVore reviewed the proposed agenda and the materials prepared for today's workshop. Dr. Punt thought it would be useful to include some of the concepts discussed today in the stock assessment processes for the other Council Fishery Management Plans (FMPs). Dr. Punt also noted he has been working on updating the rebuilding forecasting program and will continue to do so over the winter and incorporate any appropriate changes discussed today.

## ***B. General Perspectives on the 2007 Stock Assessment Process***

### 1. Groundfish Management Team (GMT) Perspective

Dr. Field explained the bocaccio assessment issue caught a lot of people by surprise. The Groundfish Management Team, like many others in the process, was expecting a full assessment rather than an updated assessment. He also noted the process for re-constructing groundfish catch histories is of great interest to the GMT.

Dr. Field explained that some assessment results and asymmetric results in decision tables caused some confusion in the GMT when discussing proposed harvest levels. Dr. Helser noted that the decision tables are not often completed during the stock assessment review (STAR) panel meeting. Mr. DeVore said decision tables need to better focus on informing management needs and used the sablefish decision table as an example of a table that was accurate yet did not address sablefish management needs north and south of 36° N latitude. Mr. Moore noted decision tables are very useful to Council members and the Groundfish Advisory Subpanel (GAP) as well and can really hamper the management process to the degree to which they are difficult to locate or decipher. We should not move away from a model where the decision tables are reviewed at a STAR Panel. Mr. Jagielo observed the reauthorized Magnuson-Stevens Act and its call for Annual Catch Limits (ACL) will increase the importance of good decision tables. We are currently working on a two-year cycle, but decision tables project impacts over several two-year cycles. A constant catch scenario in a low state of nature situation will likely look much more dire than would occur over the course of a ten-year period in which the Council is revising management every two years. Dr. Punt recommended improvements for decision tables such as having more than three states of nature and examining the assumption of constant future catches by including the effects of future assessments on catch streams. Dr. Clarke recommended the structure of decision tables should be codified in the Terms of Reference.

There should be more standardization in decision tables to make them less complicated. Mr. Jagielo agreed and added the SSC should decide the structure and elements of decision tables. Mr. Moore was unsure how the required outputs in decision tables could be structured better given our two-year management cycle. He wondered if ten-year projections were appropriate given the uncertainty of data and the biennial management cycle. Mr. DeVore said longer term projections are needed to determine appropriate harvest specifications in the absence of a new assessment.

Mr. DeVore noted that the timing of the mop-up panel and final SSC review of rebuilding analyses made it difficult for the SSC to review and the GMT to interpret the results in time for Council consideration at the November meeting. He recommended advancing the schedule earlier in the year so that assessment reviews are completed by the September Council meeting.

## 2. GAP Perspective

No GAP members were present at the workshop. The group began the discussion with a review of the written comments submitted by Mr. Pete Leipzig, who represented the GAP at many 2007 STAR panels:

*1) There were numerous suggestions at panels to have a once and (hopefully) for all, construction of historical data. The past several rounds of assessments have been trying to go back in time with historical catch. Everyone is doing something different and there is a great chance of double counting. A workshop/conference needs to address the issue and someone tasked to do the work of constructing a historical database.*

*2) Ian Stewart produced graphical information which displayed the time shift in the triennial surveys during the Canary review. I think we all were aware that there was some different start and finish times, but the stuff Ian showed was compelling enough that the panel requested the time series be broken into two segments. Running the model with this change alone resulted in an increase of the percent depletion of something like 4%. For overfished species that is huge. I think future assessments should treat this data similarly.*

*3) There needs to be a "bottom-line" for when an assessment will be reviewed or not. There were assessments that had essentially no time series. No surveys and catch was fabricated. Aging was suspect and therefore growth was not known. I think it is important for the STAR panel to "call BS". When all of the important parameters are guesses, then don't move forward.*

Dr. Sampson largely agreed with point number three but felt there needs to be more guidance on what the criteria or tiers for data quality are when dismissing an assessment. Many times removing a data source will have profound effects on the results or even the ability to complete the assessment and the decision cannot be made lightly. Dr. Clarke stated that new requirements under the Magnuson-Stevens Act will put the issue of data-poor stock assessments under greater scrutiny. The national tier system for data quality would be a good model to review and build from. Mr. DeVore noted that the

data/modeling workshop would be a good early point in the process for addressing poor data sources.

### 3. SSC Perspective

Dr. Dorn said the time commitment for SSC members in this process is daunting. There is a general sense that the review process cannot adequately review assessments that are not done in Stock Synthesis 2 (SS2). This limits creativity and perhaps other modeling platforms should be considered. Limiting STAR Panels to two species was very helpful. The better balance between outside independent reviewers and scientists with local expertise and knowledge in STAR panels was also helpful. The SSC was generally pleased with the updated assessment review process and may recommend more updates in the future. The SSC will also look more carefully at the structure and elements of decision tables. In general, the SSC will try to achieve better standardization in assessments. For instance, consistent treatment of steepness, natural mortality, and the use of the pre-recruit index across assessments made the review process go more smoothly this year. The use of two catchability periods for the shelf trawl survey was a new element in the canary rockfish assessment and should be looked at more carefully. Because of the potential implications for other assessment, perhaps the STAR panel should have flagged the potential problem for consideration in future assessments.

The SSC wants to achieve a better balance between reviewers and stock assessment teams (STATs). STAR panel meetings were conducted more as workshops with active participation by both the STAR panel and the STAT, which was exacerbated because some assessments were incomplete. There was also concern of added text and analyses in draft assessment documents produced after STAR panels that were not properly vetted by STAR panel members. Tracking of final assessment documents was not done as thoroughly as should be done. Final versions were sent to Council staff before review by the STAR panel chair.

Mr. Jagielo agreed with Dr. Dorn's perspectives and emphasized the need for standardization and better separation of the role of STAR panel reviewers and STATs. STAR panels should not impose values for some assessment parameters, but they were attempting to fully evaluate uncertainty. All such imbalance would be rectified with more fully informed assessments delivered on time to STAR panels. Dr. Sampson said it would be bad if STAR panels rejected assessments because the assessments were not quite complete. Sometimes, new issues are uncovered in STAR panel reviews and we need to accommodate such changes.

Mr. Moore provided a historical perspective and said some of these issues between STAR panels and STATs have been brought up since the first STAR panels in 1998. Many changes to the Terms of Reference were made to fix this problem since some past STAR panels have imposed their collective will on STATs. There have been significant improvements but these reoccurring issues are clearly problems that are not easily solved, and rewriting the Terms of Reference may not solve these problems.

Dr. Helser stressed the importance of STAR panel members limiting their actions to a technical review versus providing a professional opinion. In other words, they should review the merits of a STAT treatment of a particular parameter rather than impose their preferred methodologies.

#### 4. Northwest Fisheries Science Center (NWFSC) Perspective

Dr. Clarke recommended a review workshop like this one should be done for evaluating Highly Migratory Species and Coastal Pelagic Species assessment review processes as well. She recommended reviewers think about accountability of their reviews since incomplete or rejected assessments cannot all go to the mop-up STAR panel. It will be important to think about sideboards when preparing STAR panel recommendations. STAR panels should be evaluating critical flaws in assessments and resist the urge to pursue scientific curiosities that may not be significant to the assessment result. This appears to occur when STAR panels act more like workshops in re-structuring assessments. Try not to limit creativity when attempting to standardize assessments. Council staff should be at all STAR panels to ensure continuity and adherence to the Terms of Reference. She agreed with Dr. Dorn to increase the use of updated assessments, which should be strategically decided. We are at the tipping point in workload associated with reviewing full assessments.

Mr. Jagielo thought STAR panels should apply limited criteria for recommending assessments for the mop-up panel. Dr. Clarke thought the SSC should emphasize the need for timely delivery of complete assessments. Dr. Hastie said the workload for preparing assessments for STAR panel reviews is substantial. For instance, the canary assessment was thorough and complete before being delivered to the STAR panel. Nevertheless, the STAR panel had 26 requests for the STAT, most of which did not substantially affect the assessment result. This was exhaustive for the STAT and STAR panel members. He recommended the STAR panel exercise more discipline in their reviews and only requests runs that are critical. Dr. Punt thought a meta-analysis of STAR panel requests would be useful. Explore STAR panel requests to determine which ones were useful in providing important changes to the assessment. Dr. Clarke said the change to limit STAR panels to reviewing two full assessments did allow more thorough review and did turn STAR panels into functional workshops. The SSC should provide the critical advice and request the structure of assessments that go through this process. Give the SSC authority to make more demands of STAR panels.

#### 5. Council Perspective

Dr. McIsaac said the Council generally thought the quality of many of the assessments was better. They did state that late delivery of assessments was a concern and caused some confusion. There is a perception that the SSC extended professional courtesy that contributed to late delivery of their recommendation due to the lateness of the blue rockfish assessment. The Council was concerned about functional independence of STAR panels, which Dr. McIsaac stated he would address later in the meeting. There needs to be better enforcement of the Terms of Reference at STAR panels. He acknowledged that Ms. Miller did a good job reminding STATs about the Terms of Reference and deadlines, but he thought Council staff at STAR panels to enforce the Terms of Reference was a good idea. The Council wants a stronger Terms of Reference that will not limit creativity, but better enforces deadlines. Even with this, there should be a way to allow an exception if someone misses a deadline due to illness or for some other valid reason. There needs to be a limit on the number of assessments that are recommended for the mop-up STAR panel.

Mr. Jagielo asked for clarification on STAR panel member independence on STAR panels. We need to define independence and conflict of interest of STAR panel members in the Terms of Reference.

Mr. Moore shared his perspective. He thought having one Center of Independent Experts (CIE) reviewer at all STAR panels was positive and he thought the public distribution of the CIE report was an improvement. He thought greater discipline in how assessments and STAR panel recommendations are disseminated to the public is needed. He will provide more detailed recommendations on this later in the meeting. He agreed with Dr. Hastie on the need for greater discipline in making STAR panel requests to STATs. Clear scientific advice to the Council is paramount in this process. He brought up the example of rumors emanating from the bocaccio assessment review which confused the public. He also stated the need for more standardized executive summaries and decision tables. However, he acknowledged that there was improvement in how assessment results were provided in executive summaries.

Dr. Punt asked if specific SSC recommendations on base models were helpful and Mr. Moore said yes. The Council needs to know which model was considered the most plausible and most scientifically sound. Dr. McIsaac agreed and said the Council fully respects and needs specific SSC advice. There needs to be a clear line between the SSC delivering scientific advice and not policy recommendations and he thought the SSC has consistently followed a clear delineation between providing scientific versus policy advice.

Mr. Burner stated he thought there should be more consideration of SSC workload when planning the final SSC assessment review since their agendas were overloaded to accommodate assessment reviews.

### ***C. Current 2008-2009 Council Schedule of Relevant Activities***

Mr. DeVore displayed a table depicting the proposed Council schedule for groundfish assessment activities in 2008 and 2009. The Council will decide the next suite of assessments as well as the Terms of Reference for assessments and assessment reviews at their March and April meetings next year. Following the same schedule as this cycle, the SSC would review and the Council would adopt recommended assessments during their June, September, and November meetings in 2009.

Further, the Council would decide the Terms of Reference for rebuilding analyses in March and April next year. However, while new National Standard 1 guidelines are still being decided and in the absence of a court ruling on rebuilding plans that are the subject of litigation, Mr. DeVore did not believe these new Terms of Reference could be decided by April of next year. He recommended waiting until 2009 to resolve the Terms of Reference for rebuilding analyses. Rebuilding analyses are developed, reviewed and adopted after the assessments are adopted, which allows more time for deciding that Terms of Reference. The participants agreed with that recommendation.

#### ***D. Improving the Stock Assessment Process***

1. Pre-Assessment Planning
  - a. What Worked and What Didn't in 2007
  - b. Recommended Improvements for 2008-2009

Dr. Clarke reviewed the current process for planning the next suite of assessments. She noted that NMFS policy guidance is to conduct assessments every five years to remain up to date. There may be vulnerabilities if the Council does not adhere to the “five year policy”. She suspects this may become part of new National Standard 1 guidelines. She displayed a draft assessment planning spreadsheet of assessments considered in the next three assessment cycles (i.e., 2009, 2011, and 2013). Once this plan is more widely vetted, a more complete draft planning list will be provided for the March Council meeting next year. She did not recommend the Council reconsidering the plan after April of next year. For example, a late change of the plan last cycle delayed delivery of the blue rockfish assessment. The Council should be more disciplined in setting the plan. She also recommended the two-meeting planning process be vetted in March and June of next year, not March and April as is currently planned. There needs to be more time to vet the initial plan decided in March. Two more reasons for delaying the final assessment planning decision until June is the April briefing book deadline is three days after the March Council meeting and there may be more agency budget certainty by June, which makes it easier for NMFS scientists to commit to an assessment. Some of the communication problems observed in this past assessment cycle (i.e., learning late that the bocaccio assessment was going to be an update rather than a full assessment as planned) may be averted. When an assessment plan is changed or someone declares an intent to diverge from the planned assessment, then that needs to be clearly communicated to the Council so a contingency plan can be considered. This process should be explicit in the Terms of Reference.

Ms. Key asked how the STAR panel schedule was developed and Ms. Miller said this was done during an SSC meeting in 2006. Dr. Clarke suggested that part of the plan might benefit from a two-meeting process as well. Dr. Hastie said a lot of coordination and thought goes into developing a STAR panel schedule. For instance, if a scientist is tasked with a full and an update assessment, then the full assessment cannot be reviewed prior to June since that time will be needed for conducting the update assessment, which is reviewed by the SSC in June. Scheduling the final assessment plan decision later than June of next year is not recommended because it compromises data collection and scheduling pre-assessment data and modeling workshops.

The process for deciding the priority stocks to be assessed needs to consider richness of data, potential risks to the stock from the current or foreseeable management regime, and a sense of stock trends from a fishery-independent survey. Dr. Dorn observed that the planning process seemed designed to select stocks for full SS2 assessments, and thought that useful but simpler assessments could be done for a greater variety of stocks with local or ecological significance. The group thought that the planning process should give greater consideration to basic assessments for data-poor species and/or an assessment for a complex of species. Dr. Punt thought there should be a test analysis of a relatively data-rich species using simpler assessment methodology to understand whether these assessments can provide acceptable management advice. Some new methodology should be considered since any new species for assessment are likely to be relatively data-poor.

## 2. Full Stock Assessment Reviews at STAR Panels

- a. What Worked and What Didn't in 2007
- b. Recommended Improvements for 2008-2009

Mr. Patrick Cordue was connected to the workshop through a long distance teleconference line. He offered general comments. He characterized his experience in the 2007 STAR panel process as very positive, professional, and educational. He spoke to the PowerPoint presentation he provided for the workshop which he suggested was the appropriate way to discuss his impressions and recommendations for improvement. In general, he thought STAR panels were under-resourced. More help and resources for STATs to do requested model runs at STAR panels would be helpful. There is also a need for centralized and standardized databases for assessments. Mr. Moore asked for a clarification on that point and Mr. Cordue said many of the assessments used ad hoc data sources to inform the assessment. For example, the cowcod assessment used ad hoc data sources not readily available to the STAT, STAR panel members, or the interested public.

Mr. Cordue reviewed the general structure of assessments provided at STAR panels where most approved assessments were done in SS2 with some Bayesian analysis. He noted it was common that final assessments recommended by STAR panels were drastically altered from the draft assessments originally provided to the panels. He believed having one CIE reviewer at all STAR panels and limiting the review to two full assessments at each STAR panel was a dramatic improvement relative to the 2005 process.

Mr. Cordue then went over procedural problems encountered in the 2007 STAR panel process. There was a problem with the dual role of STAR chairs (i.e., running the meeting and conducting the review), which slowed progress. Also, assigning the rapporteur duties to a reviewer inhibited their review role. The Terms of Reference need to be more explicit on the tasks at STAR panels. There needs to be more SSC feedback to STAR panels when problems are encountered. Additionally, some STAR panel reports were modified and distributed before full STAR panel review, which was problematic. The mop-up panel was also problematic for receiving thorough review. Dr. McIsaac asked for an explanation of the comment that STAR reports were distributed prior to full STAR panel review and Mr. Cordue explained there were instances when STAR panel reports were delivered to the SSC and the Council prior to a final review by STAR panel members.

Mr. Cordue then addressed structural problems with assessments. Often, incomplete assessments were provided to STAR panels with the expectation that the STAR panel was going to recommend changes anyway. This led to STAR panels that became functional workshops. Dr. Sampson asked how assessment reviews in other regions were done with respect to the quality of assessments presented to review panels. Mr. Cordue explained some review processes simply accept or reject assessments without an attempt to overhaul the assessment. In some cases, only limited adjustments are made at these review panels. He recommended consideration of a better intermediate process with more fully developed assessments provided to STAR panels and allowance of some changes to the assessment during the review process.

Other structural problems included dramatic changes to assessments at the final SSC review. Also, assessments using current technologies do not allow the use of full Bayesian methods. Dr. Punt recommended more thorough review of STAR-recommended assessments by STAR panel chairs before they are provided to the SSC and after SSC review before they are finalized and distributed to the public. This final review process should be codified in the Terms of Reference.

Mr. Cordue recommended dedicated chairs at STAR panels to more efficiently run the meetings. He was not sure if detailed minutes are needed for STAR panels. If they are needed, then someone other than a reviewer should take those minutes. He recommended a re-working of mop-up panels. His opinion is full assessments should not be done at mop-up panels, only slight modifications should be considered at mop-up panels. He recommended a working group development of the assessment, with STAR panels simply accepting or rejecting the draft assessment. One possible structure would be to assign STAR panels to develop the assessment as a working group and then use the SSC and CIE reviewers to do the review. Mr. Moore asked if CIE reviewers should be part of the working group at STAR panels and Mr. Cordue thought independent outside help in developing the assessment would be helpful. However, separate CIE reviewers should do the review (i.e., the same CIE reviewer should not help develop and review an assessment). Dr. Clarke asked if it would be acceptable to have the SSC act alone to review the assessment. Dr. Sampson said at times SSC members are part of a STAT and charged with reviewing assessments. We must be careful at maintaining independence. Dr. Clarke asked if one CIE reviewer should be part of the working group charged with developing the assessment and another CIE reviewer charged with reviewing the assessment in cooperation with the SSC. Mr. Cordue agreed that CIE independence of that sort should be designed in the process. Dr. Clarke envisioned a process similar to what is done in Alaska where the STAT solicits members to the working group, usually within the agency, and the Council assigns the review duties to independent experts. Dr. Hastie said it would be difficult to find enough independent experts to develop and review assessments. There may not be enough bodies to do this well and independently. Dr. Punt said drawing the line defining STAT and reviewer independence needs careful consideration. Mr. Jagielo said the working group developing the assessment should not come from within one agency since we benefit from the varied experts in different agencies. Ms. Key thought there should be more collaboration between scientists in the Southwest and Northwest Science Centers. Dr. Hastie said a working group design for developing assessments such as is done in the Southeast Data, Assessment, and Review (SEDAR) process would require an almost continuous assessment development process. Mr. Cordue thought a working group process for developing assessments does not necessarily require public meetings, an email interchange of ideas could be considered. Dr. McIsaac noted Federal Advisory Committee Act (FACA) rules limit how much of the process can be done outside the public arena.

Dr. Ralston asked for clarification on Mr. Cordue's mop-up panel recommendation. Mr. Cordue said his concern was that at various times in this year's mop-up panel, there was an inconsistent number of reviewers working (from 2-5) to critically review the assessment.

Mr. Cordue signed off from the workshop at this point after the participants thanked him for his work at the 2007 STAR panels and his comments today at the workshop.

[Lunch break]

The workshop reconvened to discuss recommendations from the above discussion with Mr. Cordue. Mr. Jagielo said it would cost more and require more resources to change STAR panel roles to that of developing assessments in a working group. Dr. Clarke thought more vetting of assessments at data and modeling workshops prior to developing draft assessments may achieve the same goal. This early collaboration occurs with assessments produced at the NWFSC and those done with Dr. Punt's group at the University of Washington. Dr. Ralston likened Mr. Cordue's recommendation of group collaboration to the process for reviewing scientific journal publications. Editorial review affects the publication, but does not dramatically change the product. He agreed with Mr. Cordue's point that STAR panels have worked more as working groups that have dramatically changed assessments. He thought STAR panels should be doing more pure review work such as editorial review boards do for journal publications. Dr. Dorn thought a few paragraphs in the Terms of Reference could better define the review role of STAR panels and the STAR chairs need to exercise that discipline. More fully vetted assessments might then be provided to STAR panels that will lessen the probability of STAR panels becoming actively involved in developing the assessment model. Dr. Clarke said timely provision of assessments with all the required elements will be critical to effect a disciplined review process. She thought the Terms of Reference should "encourage" STATs to develop assessments with a working group of experts rather than making it a mandate. With future budget uncertainty, a mandate to vet and develop assessments in a workshop environment may not be possible. Dr. McIsaac said the other needed clarification in the Terms of Reference should be to define the STAR panel role as being one of pure review. Mr. Moore added that we should be careful in designing the roles of STATs versus STAR panels. Any Council activity in a data and modeling workshop needs to be a public process given FACA rules. Dr. Sampson said in doing this, there should still be some flexibility to allow improvements in assessments during STAR panel reviews.

We should carefully consider the required elements in assessments drafted for STAR panel reviews. Dr. Clarke said there has been a wide range of completeness and quality of assessments provided to STAR panels. We should define the critical elements required for any assessment provided to STAR panels to ensure at least a minimal level of quality and completeness. Mr. Jagielo questioned whether the STAR panel chair is the appropriate judge on the quality and completeness of a draft assessment. He thought the STAT should at least provide a base model in a draft assessment provided to a STAR panel that they are willing to defend. The group agreed a judgment on the quality and completeness of a draft assessment needs to be done in advance of the STAR panel meeting, highlighting the need to deliver draft assessments at least two weeks in advance of the STAR panel meeting. Dr. Clarke asked who should pass judgment on the quality and completeness of a draft assessment. Dr. McIsaac thought perhaps Council staff and Dr. Ralston recommended this should be the purview of the SSC Groundfish Subcommittee chair.

Many in the group believed there needs to be firm criteria in the Terms of Reference to pass judgment. Ms. Miller said contingency plans should be put in place if a draft assessment is rejected; the mop-up panel should not be the default. Dr. Punt said, if the draft assessment is fundamentally flawed, it should be rejected and not considered during that cycle. Dr. McIsaac said there should be separate recourse if an assessment is short in quality versus being delivered late to the STAR panel. Dr. Clarke thought it possible to write a clear minimal quality standard in the Terms of Reference. It also needs to be made clear whether the recourse is to take up the assessment in the mop-up panel versus deferring it to a future cycle. Dr. Ralston said there are

many reasons for an assessment being delivered late or falling short in quality. There were cases where the modeling platform, SS2, was being re-written as a draft assessment was being finalized for a mop-up panel. There should be exemptions from any rule establishing a quality or delivery deadline standard. Dr. Clarke recommended there should be no more than three full assessments recommended for a week-long mop-up panel. Dr. Ralston recommended that review of rebuilding analyses and two full assessments is the limit that should be considered for the mop-up panel. Perhaps the Council should decide which assessments go to the mop-up panel based on management need. Mr. Moore cautioned that may bring an element of politics to the decision. He preferred defining the standards and the recourse if those standards are not met explicitly in the Terms of Reference.

Dr. McIsaac noted another recommendation from Mr. Cordue is that the STAR chair should be dedicated to running the meeting and not to reviewing the assessment. The group did not agree with this and thought loss of the chair in the review process was a waste of resources and talent.

Dr. McIsaac asked how many assessments should be assigned to a STAR panel and how long should that review be. The group thought no more than two full assessments should be assigned to a STAR panel and the panel should plan on four days of work. Dr. Dorn noted some STAR panels worked until late Friday to resolve an assessment. He cautioned the duration limit should be more flexible. Others thought if the assessment was fully developed with a base model and all the required elements, the STAR review could proceed more efficiently.

The group went back to trying to resolve who judges the quality of a draft assessment. Most of the group was comfortable with a committee of Council staff, the NWFSC stock assessment coordinator (Ms. Miller) and the SSC Groundfish Subcommittee as the arbiters.

Dr. McIsaac asked how the group felt about independence criteria for STAR panel members and especially STAR panel chairs. Dr. Clarke said someone who is supervising a STAT member or who has contributed significantly to the assessment should not serve on that STAR panel. She emphasized that any conflict of interest needs to pass a public perception test. Ms. Miller said there are Office of Management and Budget (OMB) guidelines on reviewing influential science, which could serve as a good template. The group generally thought supervisors or persons having a direct or collaborative role in developing an assessment should not review that assessment. The group asked about CIE reviewer conflict of interest guidelines and Dr. Clarke said there are strict CIE guidelines.

3. SSC Reviews of Full Assessments
  - a. What Worked and What Didn't in 2007
  - b. Recommended Improvements for 2008-2009

Dr. Dorn remarked that many of the SSC points and concerns for full assessments have already been addressed. He recommended continuing a final SSC review of full assessments after STAR panel review with the STAT lead attending the SSC review. There were cases in 2007 where STATs did not agree with the recommendations of the STAR panel and asked the SSC to resolve these issues. Several STAT teams prepared documents supporting their position, which were then distributed to the SSC. Dr. Dorn expressed concern that this tactic did not allow the STAR panel to develop a rebuttal to the STAT, and that the SSC may have received one-sided information to arbitrate the dispute. Explicit procedures may be needed in the Terms of

Reference to deal with situations where the STAT disagrees with STAR panel report. When asked if the SSC had adequate time to resolve some of these issues, there was a general sense that the SSC was not rushed in their reviews.

Dr. Dorn did recommend a change in process to mandate STAR chair review of post-STAR draft assessments before they go to the SSC and the Council. In some cases, there is not enough time to allow thorough or any review of post-STAR drafts. It was recommended that the review step be accommodated to the extent possible to ensure the STAR panel agrees with the results and advice in the post-STAR draft.

4. SSC Review of Updated Assessments
  - a. What Worked and What Didn't in 2007
  - b. Recommended Improvements for 2008-2009

Dr. Dorn thought the update review process proceeded smoothly and problems were resolved with little process disruption. One recommended addition to the Terms of Reference is the need for a biomass time series in the executive summary of update assessments.

5. Information Presentation to the Council and Public
  - a. What Worked and What Didn't in 2007
  - b. Recommended Improvements for 2008-2009

Dr. McIsaac thought the information presentation to the Council and public was relatively positive. Some thought the level of the presentation was too technical, while others did not. One recommended improvement is to characterize the soundness of the science in the assessment. Mr. Moore generally liked the brevity of presentations and the ability for folks to ask STATs and the SSC questions regarding the assessment. He believed, with one exception, the level of technical discussion in these presentations was reasonable. He generally thought the right balance was achieved.

One recommendation is to provide the Council primer on assessments in the briefing book to give laypeople and Council members an advance guide on "assessment speak". Another suggestion is to standardize the presentations (i.e., provide a presentation template). It was also recommended that an explanation of the use of decision tables be provided in any Council primer on groundfish stock assessments.

## *E. Terms of Reference*

1. Review the “Terms of Reference for Groundfish Stock Assessment and Review Process for 2007-2008” and Provide Recommended Edits

Dr. Ralston explained how the Terms of Reference is developed by the SSC. Dr. Hastie recommended a mandate for new reference points in the Terms of Reference addressing biomass projections under proxy harvest rates and conversely, the harvest rate to bring the stock to equilibrium at Bmsy or the proxy thereof. This will allow an understanding of any discrepancy in these two reference points (i.e., B40% target vs. F50% proxy harvest rate outcomes for rockfish). The group returned to the need for more standardized decision tables and decision tables that better inform management risks. Some decision tables ranged harvests across an unreasonably broad range. Mr. Moore also requested adherence to the mandate to provide all critical management reference points in executive summaries. In some cases, some of the updated assessments did not have all the required elements in the executive summary. The group believed projected depletion rates need to be at least one element in decision tables. Dr. Yuk Wing Cheng recommended a process of “data mining” to statistically determine which model parameters should represent the axis of uncertainty in decision tables.

Another recommendation is to capture the time series of regulations in a standard format. One idea is to report annual regulations in an appendix in the specifications environmental analysis. The workshop participants agreed with that idea and recommended incorporation of the regulations in future environmental analyses and/or publications of the Groundfish Stock Assessment and Fishery Evaluation (SAFE) document.

The group thought the Terms of Reference needs to explicitly address how dissenting opinions of STAT members, STAR panel members, and/or CIE reviewers are reported. The best place to address dissenting opinions are within STAR panels. Dr. Punt thought the Terms of Reference needs to set a deadline for when STAT members inform the STAR that they will express a dissenting opinion.

Mr. DeVore said he would capture all the recommendations brought up today for the Terms of Reference in a bullet list in these draft minutes. These will be reviewed by workshop participants to ensure all the recommendations were appropriately captured. Dr. Ralston, Dr. Dorn, and Council staff will develop a draft Terms of Reference with recommended changes from this workshop for Council consideration next March. Ms. Miller said the NWFSC has some specific detailed recommendations for the Terms of Reference that she will forward to the group developing the draft Terms of Reference. Dr. Ralston reminded the group of the biomass time series recommendation for executive summaries of updated assessments. This will be added to the draft Terms of Reference.

The group addressed some of the specific comments made by Mr. Cordue. There was general disagreement that there are no full Bayesian assessments in our process given the limitations of SS2. For instance, recent hake assessments presented Markov Chain Monte Carlo outputs in SS2. Further, there was general disagreement that full Bayesian assessments would be essential in providing management advice.

The group recommended the Terms of Reference not require minutes of STAR panels but a summary report.

2. Review the “Terms of Reference for Groundfish Rebuilding Analyses” and Provide Recommended Edits

This Terms of Reference is out of date. How to generate recruitment in projections is not up to date. Further, the rebuilding run requests of this year that were responsive to last year’s Ninth Circuit ruling on rebuilding plans need to be incorporated. There was general thought that this document needs to be developed from scratch. The group was charged with developing this new Terms of Reference in the two-meeting process next year. Drs. Punt and Ralston volunteered to draft the new Terms of Reference.

***F. Other Items?***

Mr. DeVore explained he would send out these draft minutes for review by January 4 and that the minutes would be provided in the March briefing book.

The meeting was adjourned at 5 p.m. after everyone was thanked for attending this workshop.

ADJOURN

PFMC  
12/17/07

## **Recommendations from the December 2007 Groundfish Stock Assessment Review Workshop**

- A standardized structure of stock assessment decision tables should be developed and codified in the Stock Assessment Terms of Reference
- Consider reviewing the national tier system for data quality as a template for judging the quality of assessment data
- Address assessment data quality issues early in the process at pre-assessment data/modeling workshops
- Evaluate the use of two survey catchability periods in assessments using the triennial trawl survey index as was done in the 2007 canary rockfish assessment
- Standardize and separate the roles of stock assessment review (STAR) panel reviewers and stock assessment teams (STATs) in the Stock Assessment Terms of Reference
- Require timely delivery of more fully informed assessments to STAR panels in the Stock Assessment Terms of Reference
- Consider review workshops like this one for evaluating highly migratory species and coastal pelagic species assessment review processes
- Council staff should attend all STAR panels to ensure continuity and adherence to the Stock Assessment Terms of Reference
- Increase the use of updated assessments and strategically decide which assessments are updates
- STAR panels need to exercise more discipline in their reviews and only request model runs that are critical
- Do a meta-analysis of past STAR panel requests to STATs
- The SSC should provide critical advice to STAR panels and STATs and request the structure of assessments that go through the review process
- Limit the number of assessments that are recommended to the mop-up STAR panel to two full assessments (plus review of rebuilding analyses)
- Define independence and conflict of interest of STAR panel members in the Stock Assessment Terms of Reference
- Require more standardized executive summaries of assessments in the Stock Assessment Terms of Reference
- Wait until National Standard 1 guidelines are revised to develop a new Terms of Reference for rebuilding analyses (in 2009?)
- The two-meeting process for deciding the next suite of stock assessments and the next Stock Assessment Terms of Reference should occur in March and June of 2008, not March and April as is currently planned
- Establish an explicit process in the Stock Assessment Terms of Reference to communicate to the Council any divergence from a planned assessment so a contingency plan can be decided
- Final assessment plans need to be decided by June of 2008
- Deciding the priority stocks to be assessed needs to consider richness of data, potential risks to the stock from the current or foreseeable management regime, and a sense of stock trends from a fishery-independent survey
- Consider using a simpler assessment methodology for a greater variety of stocks with local or ecological significance

- Give greater consideration to basic (i.e., simpler) assessments for data-poor species and/or an assessment for a complex of species
- The SSC needs to give more feedback to STAR panels when problems are encountered
- Allow more time for STAR chairs to review post-STAR assessments before they are distributed to the SSC and, after SSC review, before they are finalized and distributed to the public (codify in the Stock Assessment Terms of Reference)
- Define critical elements required for any assessment provided to STAR panels in the Stock Assessment Terms of Reference to ensure at least a minimal level of quality and completeness (i.e., a defined base model and profiling over key population dynamic parameters)
- Judgment on the quality and completeness of a draft assessment needs to be done in advance of the STAR panel meeting, which highlights the importance of providing draft assessments at least two weeks in advance of the STAR panel meeting (however, there should be exemptions from any rule establishing quality or delivery deadline standards)
- A committee of Council staff, the Northwest Fisheries Science Center (NWFSC) stock assessment coordinator and the SSC Groundfish Subcommittee should judge the quality of draft assessments before they are presented to a STAR panel
- Office of Management and Budget (OMB) guidelines on reviewing influential science would be a good template for deciding assessment quality standards
- No more than two full assessments should be reviewed at a STAR panel meeting and four days of work should be planned for STAR panels
- Conflict of interest guidelines for STAR panel members that are codified in the Stock Assessment Terms of Reference should prohibit STAT supervisors and those having a direct or collaborative role in developing the assessment from reviewing the assessment in a STAR panel
- STAT leads should attend the final SSC review of post-STAR panel assessments
- Develop explicit procedures in the Stock Assessment Terms of Reference for resolving conflicts and disagreements between STAR panel members and STATs (include a deadline for informing STAR panel members that STATs intend to provide dissenting opinions)
- Require provision of a biomass time series in assessment executive summaries
- Provide the Council primer on groundfish stock assessments in the briefing book to give laypeople and Council members an advance guide on “assessment speak”
- Explain the use of decision tables in the Council primer on groundfish stock assessments
- Standardize public presentations of assessment results to the public and Council members by providing a presentation template
- Require provision of biomass projections under proxy harvest rates and conversely, the harvest rate to bring the stock to equilibrium at  $B_{msy}$  or the proxy thereof (codify in the Stock Assessment Terms of Reference)
- The Stock Assessment Terms of Reference should not require minutes from a STAR panel meeting, but a summary report