The Scientific and Statistical Committee (SSC) reviewed possible topics for off-year workshops related to improving groundfish stock assessments for the 2015-16 management cycle based on recommendations from 2011 Stock Assessment Review (STAR) panels (Agenda Item G.10, Attachment 1), and suggestions to the SSC from Dr. Jim Hastie (Northwest Fisheries Science Center, NWFSC) and Dr. Russ Vetter (Southwest Fisheries Science Center, SWFSC). The SSC notes that many important recommendations for data collection and work to be conducted were made during the STAR panel meetings. However, most of these issues are best dealt with through individual research projects and not Council-sponsored workshops. They will be included in the next version of the Council’s research and data needs document as appropriate.

Workshops related to stock assessments (in priority order):

1. **A ‘post-mortem’ workshop on the 2011 assessment process.** A post-mortem workshop was held following the 2007 assessment round to discuss how the process could be modified to overcome concerns identified by participants and the Committee of Independent Experts reviewer who attended all the panels. No such workshop took place following the 2009 assessment round. A number of general issues emerged during the STAR panels, such as the use of age data and priors, which should ideally be discussed during a workshop, with the aim of modifying the Terms of Reference for groundfish stock assessments to reflect best practices. Such a workshop should take place early in 2012.

2. **A workshop to continue development of data-poor assessment methods.** The panel which took place during April 2011 made considerable progress towards identifying assessment methods for data-poor species, and made a number of recommendations. A follow-up workshop would review progress implementing the recommendations of the April 2011 workshop, review trial applications of the methods, and further discuss how data-poor assessments should be reviewed. This workshop would also provide an opportunity to further evaluate methods for determining sigma for stocks in each of the three categories of stock assessment uncertainty.

3. **A workshop to review historical landings time series.** A major effort to reconstruct historical landings was initiated in 2008 in response to the Council’s call to compile the best estimates of catch history early in the development of Pacific coast groundfish fisheries. Currently, this effort has produced published estimates for California fisheries, and more recently, estimates for Oregon fisheries, but landings are still being compiled for Washington. An off-year science workshop would review reconstructions of all landings comprehensively, ideally when the Washington information is available. This review would need to be structured differently than the other proposed workshops, since the most expertise is to be found among current and former employees of state agencies. Estimation of the extent of uncertainty of the historical catch estimates due, for example, to uncertainty in estimates of landings species compositions, would also be a focus of this workshop. A future research project, but not a focus of the proposed workshop, would be to determine how uncertainty in catches can be integrated into stock assessments.

4. **A workshop on \( B_0 \) and harvest control rules.** The Council’s harvest control rules depend on estimates of stock size relative to \( B_0 \). Changes in stock assessment methods or
data inputs can lead to large changes in estimated $B_0$ (e.g. Pacific ocean perch and Dover sole this year) and in some cases to marked changes in depletion levels, overfishing limits, acceptable biological catches, or rebuilding times. This workshop would review alternative control rules (e.g., control rules based on “Dynamic $B_0$” or on direct estimates of $B_{MSY}$) and compare their performance with current approaches using management strategy evaluation (MSE). The workshop would build on the last $B_0$ workshop, but would be more focused on the performance of control rules. It would also include review of stock status for a range of stocks when stock status determinations are based on “Dynamic $B_0$.”

5. A workshop to evaluate an acoustic-ROV (remotely operated vehicle) survey for rockfishes. There is a need for estimates of abundance for areas which are currently unsurveyed (e.g. the Cowcod Conservation Area, CCA). This workshop would evaluate a proposal for a combined acoustic-ROV sampling technique whereby acoustic methods are used to determine biomass, and ROVs (or autonomous underwater vehicles, AUVs) are used to estimate species- and length-compositions. Although the workshop would focus on the work in the CCA for cowcod and boccacio, the terms of reference for the workshop would include evaluating the extent to which the recommendations and suggestions of the workshop panel could be applied generally along the west coast. The SWFSC will be sponsoring an independent review of this approach irrespective of Council involvement, but Council involvement will help to facilitate use of the results of this methodology in Council stock assessments.

6. A workshop on transboundary stocks. Several Council stocks are shared with Mexico and/or Canada. This workshop would consider the implications of assessing and managing only a component of a stock. Ideally, Canadian and Mexican scientists would be invited to participate in the workshop, with a view towards conducting assessments which cover the full range of Council-managed stocks.

Review activities that could take place outside of a workshop:

The SSC also discussed the value of a workshop on discard estimation and discard reconstruction. The SSC considers review of West Coast Groundfish Observer Program (WCGOP) methods for estimating discard rates as a high priority issue. Such a review could be accomplished during an SSC meeting rather than as part of a workshop. Review of discard reconstructions could only occur once sufficient preparatory work has been undertaken.

The SSC will conduct a review of information on productivity for teleosts and elasmobranches with a view to making recommendations regarding an $F_{MSY}$ proxy for elasmobranches once appropriate information becomes available.

Workshops related to socio-economics:

In relation to socio-economics, the top priority is a workshop to further review the models that contribute to the socio-economic analysis of groundfish harvest specifications. It is not feasible to review all of the models used in socio-economic analyses, so it is necessary prioritize the review process. Based on discussions with some Groundfish Management Team (GMT) members, four models with the highest priority for review over the next two years have been identified: the California recreational model, the nearshore fixed gear model, the non-nearshore fixed gear model, and revisions to the IO-PAC model. Future model reviews would cover other models: (a) the Oregon recreational model; (b) the Washington
recreational model; (c) the limited entry fixed gear sablefish daily trip limit model north of 36° N. latitude (d) the open access daily trip limit (DTL) sablefish north and south of 36° N. latitude; (e) the commercial harvest projections to port regions; (f) the trawl rationalization model (which will be developed this year by the GMT); (g) the community vulnerability analysis; (h) the NWFSC’s new vessel financial profile model; and (i) the economic data collection program for catch shares.

The SSC was advised of a motion during the June 2011 Council meeting that the GMT was requested to prepare a list of questions related to clarification on the conservation performance of the Council’s rebuilding plans. The SSC, through its Groundfish and Economics subcommittees, is willing to work with the GMT on identifying these questions. Should a list be developed, a workshop or a joint meeting of the SSC Groundfish and Economics subcommittees may be an ideal way to assemble the responses to the questions.

**Logistics**
The SSC is willing to help organize the workshops by developing terms of reference and objectives, and nominating members of its Groundfish and Economics subcommittees to participate as reviewers and chairs of the meetings. The SSC notes that the success of any workshop depends on appropriate background work being conducted. The SSC is willing to work with the science centers regarding work plans, but recognizes that the ability of the science centers to conduct all of the desired work will be limited by available resources and conflicting commitments.

PFMC
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