

Report to the UM Independent System for Peer Reviews

SARC31 meeting 26-30 June 2000, Woods Hole.

Submitted by Marinelle Basson, 21 July 2000

Procedural review

The meeting was well organised, both in terms of logistics and in terms of conduct of work. Panel members had excellent support from the NMFS staff with regard to logistics prior to, and during the meeting. The meeting was well chaired by Bob Mohn who worked hard to keep the meeting on track and discussions relevant to the issues at hand. This was not always a simple task, given the many comments and interjections from non-panel members on various occasions! The assessment teams were well prepared and accepted suggestions and criticism in a professional manner. Work requested during the meeting itself was carried out efficiently (this often meant assessment staff working late in the evening to have results for the following morning).

There are two potential criticisms. First, I feel we could have achieved more (and done a better review) if we had the papers and supporting documentation longer in advance. This would allow time to follow up any technical references if necessary, and time to go through documents more thoroughly. (This does not necessarily mean allowing more work-days for external reviewers, but one would be able to let facts and issues sink in over several days!) I do understand the practical difficulties, particularly for overseas participants. Electronic versions of documents can be sent so easily these days, that better use of such facilities should be considered. For example, I received my papers on Monday 19 June, and although that is enough time in theory, I had other commitments and tasks which I had to complete before leaving for the USA. At least two documents were only made available on the first day of the meeting. I brought this point up during the meeting, in the hope that attempts will be made to improve the situation.

Second, the agenda had been set out to deal with one stock on each of the first four days. The chairman (wisely, in my opinion) diverged from that to do parts of two stocks on a day, so that we would have more time to revisit issues and consider work requested during discussions. This, I believe, upset some members of the public, since they arrived on a given day to discover that some discussions on their stock of interest had already taken place. The matter was briefly discussed at the meeting, and the general feeling was that the agenda should either be called 'provisional', or only give the list of stocks with no indication of timing. I believe the panel benefited from the changed arrangement made by the chairman, and it would be a pity if there can be no changes to the timing of discussions during a SARC session.

Stock Assessment and review analysis.

Data problems

The biggest problem facing the assessment teams seems to be a lack of data, or a lack of confidence in available data. Given the shortcomings in the data, the assessment teams made excellent attempts to do the best they could with what they had. I was delighted to see ranges of different methods and new approaches being tried. One of

the most promising approaches is the use of Bayesian methods (e.g. goosefish assessment) to estimate unknown catches. The SARC encouraged the continuation of this work, and its extension to scup as a possible means of dealing with the estimation of commercial discards.

There was also a call for improved sampling of catches in general, and in particular for scup discards. My only concern is that the discarding process (for scup) may be so complex and 'patchy' in space and time, that unrealistic levels of sampling may be required to obtain an acceptable level of reliability in estimates.

Reference Points

The second issue of concern relates to reference points. There were several cases where the SARC recommended a revision or re-evaluation of current reference points. (One being the rather surprising case of summer flounder which has $F_{\text{target}}=F_{\text{threshold}}$). The problem I have is illustrated by the Scup stock. The current reference points are based on yield per recruit calculations which take an exploitation pattern at age from an 'exploratory' VPA. The previous SARC report comments on the uncertainty associated with these reference points caused by the inadequate estimates of discards that go into the VPA. The VPA has since been rejected as an assessment tool because of the uncertain discards, and also because there are currently very few age classes in the catches. Estimates of current fishing mortality (F) is now based on a range of approaches, such as Beverton-Holt and catch curve estimates of mortality. The question is: are we comparing like with like, if we compare such an F with the F reference point? The simple answer is obvious, but in practice it may, or may not matter. In the case of Scup, I don't think it matters, since all the evidence points to very high (almost certainly too high) an exploitation rate.

Nonetheless, it causes me some unease, and I can only offer the following suggestions: 1) it is important to retain text that documents the origins of reference points in current reports, and 2) it is prudent to question whether we are comparing like with like (mainly with regard to F), and whether that matters.

Stock Status

In situations where no single 'assessment' is likely to be water-proof (e.g. because of poor data), it is most important to check whether all the evidence is pointing in the same direction or whether there are contradictory signals. Although the working group reports mostly provided the building blocks for making such an evaluation, there were cases where the SARC had to request further (simple) calculations, and then synthesise results. Given the very limited time available, it would be a great help to the SARC, if the working group reports could get somewhat closer to a synthesis.

What is often missing are the very obvious checks, cross-checks, and simple estimates of total mortality. For example, are the growth parameters used in length-based estimates of total mortality compatible with the mean lengths-at-age seen in the data? Are estimates of total mortality from method 'X' and method 'Y', or dataset 'A' and dataset 'B', similar? These little tasks may seem mundane, but they're essential in putting together a convincing argument for the conclusions drawn and subsequent management advice. In particular, it is helpful to have: (a) results from as wide a range of assessment techniques (including very simple approaches), particularly in cases where the data are poor and/or where traditional methods fail, (b) summaries of

sensitivity analyses (to better determine whether advice is likely to be robust), (c) stochastic projections (or ‘what if’ scenarios), particularly where there appear to be different signals in the data, (d) a synthesis of the evidence, NOT just a comparison with existing reference points. I am by no means suggesting that the working group reports were inadequate. On the whole they were of good to excellent quality and contained these pieces of information (a-d) to varying degrees. There is, however, scope for improvement to make the SARC’s task a little easier, and the process more robust.

Other Observations

The SARC process and its outputs seem to have two objectives: providing sound advice now to management councils, and providing longer term guidance with regard to the science and research that underpins that advice. This means that quite a lot is attempted in one week! There are also therefore slightly different agendas for the different panel members. This does not necessarily lead to conflict, but it does mean that, sometimes, the immediate advice is discussed at more length compared to the longer term view and review of the underlying science. Is there any scope for doing fewer stocks (say, 3 of the 4 done at SARC31), and then spending half a day discussing some of the research issues in more detail? Or is there/should there be a different forum for this?

The use of Bayesian methods in stock assessment (Markov chain Monte Carlo, or MCMC, methods in particular) is increasing, and it is an exciting and powerful new addition to our toolbox. However, the approach is different enough from the more familiar techniques, that one requires additional knowledge and experience in order to fully evaluate and peer-review such work. This may need to be taken into account when selecting SARC panel members in future.

Finally, I would like to thank the CIE/UM for giving me the opportunity to work with such an enthusiastic, professional and friendly team. I enjoyed participating, and I hope the SARC benefited from my involvement.

STATEMENT OF TASK

Consulting Agreement between the University of Miami and Marinelle Basson

May 22, 2000

General

The Stock Assessment Review Committee (SARC) is a formal, one-week long meeting of a group of stock assessment experts who serve as a peer-review panel for several tabled stock assessments. It is part of the overall Northeast Stock Assessment Workshop (SAW) process that also includes peer assessment development (SAW Working Groups), public presentations, and document publication within a cycle that lasts six months. The panel consists of some 12-15 assessment scientists which include 4 scientists from the NEFSC; a scientist from the Northeast Regional office, staff from the NEFMC, MAFMC, and ASMFC with additional panelists from state fisheries agencies, academia (US and Canada), and other federal research institutions (US and Canada).

Designee will serve as a panelist on the 31st Stock Assessment Review Committee panel. The panel will convene at the NEFSC in Woods Hole the week of 26 June (26 - 30 June) and review assessments for Ocean quahog, Summer flounder, Goosefish (Monkfish), and Scup.

Specific

- (1) Prior to the meeting: become familiar with the working papers produced by the SAW Working Groups (total number not final; there will be at least one per stock);
- (2) During the meeting: participate, as a peer, in panel discussions on assessment validity, results, recommendations, and conclusions. Participate in the formulation of the draft SARC Advisory Report;
- (3) Review the final Draft Advisory Report and Consensus Summary Report.

A Workshop Participant's duties will occupy a total of two weeks- several days prior to the meeting for document review; the week long meeting; and several days following the meeting to ensure that the final documents are consistent with the SARC'S recommendations and advice.

No consensus opinion between two CIE reviewers is sought.

Contact persons: Dr. Terrence P. Smith, NEFSC, Woods Hole, SAW Chairman, 508-495-2230
Mary Jane Smith, NEFSC, Woods Hole, SAW Coordinator, 508-495-2370

Signed _____

Marinelle Basson

Date _____

BUDGET

1. Salary (\$600 per day for 14 days)	\$8,400
2. Plane fare	\$1,200 (estimated)
3. Lodging (6 nights)	\$600
4. Meals (\$30 per diem for 7 days)	\$210
5. Car rental (\$50 for 7 days)	\$350