

Reply prepared by the Advisory Panel and Independent Chairs to questions from the CCSBT Secretariat regarding our opinions and advice on the implications, workload scheduling and budgetary implications that might result from any CCSBT request for additional advice from the SC in response to the outcomes of the planned reviews of SBT market data from Japanese markets and the Australian farming operation at Port Lincoln.

Dear Brian,

In reply to your 28 November 2005 e-mail request for our opinions and advice on the above issues, we respond to each of your questions (shown in *italics*) individually as follows:

- *Implications for SBT management advice should the catch review agree that there has been no past under-reporting of catches.*

As stated by the SC Chair at the 12th CCSBT Commission meeting in Taipei in October 2005, the Panel, SAG and SC are unlikely to change any of their advice, as emanating from the SC10 meeting, if there has been no past under-reporting of catches, unless the 2006 regular review of fisheries indicators indicates that advice provided in 2005 is no longer appropriate. In particular, our advice on the level of the required initial TAC reduction in 2007, choice of an MP, tuning and implementation of the MP would not change.

- *Exactly what work would have to be done in response to an Extended Commission request to evaluate the implications of past under-reporting of catches, under the circumstances where:*
 - *the catch review determines that past catches had been under -reported, and agrees on the amount of under-reporting.*
 - *the catch review agrees that past catches have been under-reported, but cannot agree on the level of under-reporting.*
- *In the latter scenario, if the Extended Commission proposes alternative under-reporting scenarios to use in sensitivity analyses, how much work will result from having to conduct these and how long would this be expected to take?*

Should there be any agreement by the Commission that past catches have been significantly under-reported, the following tasks will need to be conducted:

- Information about the catch under-reporting rates by the different fleets and the consequent effects on estimated CPUE trends and size composition of the catches made available after the completion of the catch reviews will need to be used to calculate new time series of input data for conditioning the operating model. Agreement on catches and CPUE are both needed. Revisions in the CPUE trends and size frequency data will be needed if these are considered to have been biased by past under-reporting of catches.
- The operating model will need to be re-conditioned using the revised historic data series. New data for recent years should also be incorporated, for 2004 at least if the operating model is to be re-conditioned. Even if minimum changes to the model are made (only the changes needed to accommodate the new data), this process will require exploratory analyses and re-evaluation of model diagnostics conducted by member scientists as well as by the consultant to the Panel. A period of no less than a month should be allowed. This will also require the Secretariat and members to conduct the usual data preparations and analyses.

- There will need to be a small technical working group meeting (like the February 2005 Seattle meeting) to critically review the results of this re-conditioning, to ensure that no anomalies or undesirable model behaviour have resulted from incorporation of the new data. This meeting will also need to agree on a new reference set and robustness scenarios to use as a basis to provide advice on TAC reductions and MP tuning levels. This will be particularly important if the SC is requested to consider more than one alternative historic catch and CPUE series.
- Once a revised reference set has been agreed, the need for an initial TAC reduction to arrest further stock declines below 2004 should be re-evaluated and the selected MP re-tuned. This may take as little as 2 weeks, if the MP does not behave unexpectedly in response to the new operating model. However, it may take up to 1 month if a range of re-tuning options need to be considered to ensure desirable MP performance in projections. If necessary, advice on only the initial TAC reduction required to address short-term risks could be provided before MP re-tuning is completed.
- With regard to MP re-tuning, two tuning levels were discussed at the CCSBT12 meeting: 10% chance of $B_{2014} < B_{2004}$ (the SC recommended tuning level), and an alternative 20% chance of $B_{2014} < B_{2004}$. Various preferences were expressed by members for one of these, but the Commission did not finally agree on an MP tuning level to address these short-term risks (to 2014). We would appreciate further consideration of this at the 2006 Special Meeting. The Special Meeting might then also want to give further consideration to specific median SB recovery level tunings to address longer-term risks (to 2022).
- Once the revised reference set is available, member scientists can conduct further robustness evaluations and possibly retrospective analyses. This process can occur in parallel with the MP re-tuning.
- The results of all these analyses will be critically reviewed, and used as the basis for revised management advice, at the 2006 SAG / SC meetings.

It must be noted that the amount of work involved in the above tasks will increase substantially if the SC is requested to evaluate more than one option for any past-under-reporting of catches and CPUE trends. We would strongly urge the Commission to make every effort to reach agreement on a single, most-likely catch series as well as on the implications of any catch under-reporting on CPUE trends.

A summary of the possible work schedule and budgetary implications to complete these tasks is shown in the table below.

- *What the implications would be of under-reporting of catch only, or catch and effort, what biases this might introduce in the CPUE series, and what implications this would have for the operating model's performance and management advice.*

It is unclear how current estimates of effort may have been affected by under-reporting of catch, potentially introducing systematic bias in the CPUE series. To be able to determine this we will need to know if catch underreporting resulted from (a) unreported trips or (b) unreported catch from reported trips. We cannot understate the importance of addressing this problem. Longline CPUE trends are a critical component of the operating model, and of the proposed MP. Had the CPUE been affected by under-reporting of catch, revised series should be developed to replace the existing series. To the extent possible, evaluation of whether past effort has or has not been under-reported should also form part of the terms of reference of the independent Panels being established to evaluate possible past under-reporting of catch.

- *What interim feedback would be useful from the catch review process before it concludes (possibly as late as end June 2006), to allow preparation for likely work.*

We are of the view that the Panel, SAG and SC would have no mandate or basis upon which to commence any additional work to evaluate the implications of past under-reporting, until the Commission has reached formal agreement on their conclusions from the market / catch reviews at their Special Meeting proposed for mid-2006. For that reason, we urge the Commission to finalise their review process rapidly and, if possible, hold the Special Commission Meeting before July (see summary of possible work schedules below).

- *What are the implications for the proposed SRP Review and CPUE Modelling work, if a substantial part of the operating model conditioning and management procedure tuning and evaluation work has to be re-done.*

Any Commission request for revision (re-conditioning) of the operating model to incorporate revised catch and CPUE data, subsequent re-tuning of the MP and evaluation of future stock projections, will essentially involve a similar amount of MP development and evaluation work as conducted in 2004 and 2005. In that case, it is likely that the entire SAG/SC meeting will have to be devoted to reviewing and summarising the results of these re-evaluations, with very little time left for other scientific business. This leaves the proposed SRP review and the CPUE Modelling work in doubt for 2006. With regard to the CPUE Modelling work, further analyses will not be possible until the impact of possible under-reporting of catches or effort are evaluated. This will leave very little time for analyses prior to SAG/SC 2006 and consequently we propose that CPUE Modelling work is postponed until SAG/SC 2007 whatever the outcome of the catch review. If as a result of the catch review the Commission concludes that no changes of any consequence need be made to the existing (SC 2005) advice, then the SRP Review could still be conducted as planned in 2006 but in all other circumstances it should be postponed until the 2007 SAG / SC meetings.

- *If a revised catch data series is provided by the Extended Commission, can a retrospective analyses be conducted to compare what could have been expected (under the operating model) to occur to SBT stock status following the 1989 quota cuts, under situations where under-reporting had, or had not occurred. Who could conduct such analyses?*

We are of the view that, as with SBT assessments, such analyses lie within the competency and responsibility of the CCSBT member scientists. The Panel has always functioned in a coordinating, advisory and review capacity, and we believe this to be the correct role of the Panel. Once the operating model has been re-conditioned to reflect any revisions in past catch data, the CCSBT member scientists could use it to conduct retrospective analyses to investigate the implications of past under-reporting. The Panel will certainly participate actively in a full consideration and review of any such analyses at the 2006 SAG/SC meetings. However, it must be noted that reliable, updated advice on initial TAC reductions and MP tunings can be provided without any such retrospective analyses.

- *If the panel is to coordinate some of the potential extra work prior to the 2006 SAG/SC meetings, what would be a possible approach and what would be the budgetary implications?*

A summary of possible work scheduling to complete the work outlined above is presented below, together with time and budgetary implications. The proposed process involves further analyses by the consultant under Panel supervision, and by member scientists, and a small technical meeting to jointly evaluate the results of such analyses and to agree on a choice of a new reference set and possibly robustness scenarios.

Summary of Possible Work Schedule

A possible work schedule resulting from consideration of any revised historic series agreed by the Commission is presented below. In preparing this table we assumed that the CCSBT 13 meeting would take place on 9-13 October and worked backwards from that date. In order to complete the tasks, the revision of the operating model would need to start no later than the end of June, after adequate time has been allowed for the secretariat and member scientists to complete revisions of all data inputs as per instructions by the Commission. The proposed timeframe is very tight, and it is subject to availability of the necessary people to conduct each task and attend the small technical meeting.

To prevent any possible delays in the CCSBT13 meeting into November 2006, and to reduce time pressure on this work schedule, it is therefore strongly recommended that the Commission attempts to complete the catch/market data review process in April 2006, and to hold the Special Commission Meeting in May 2006 so that the OM/MP revision process could commence by the end of June.

Task	Done By	Duration & Budget	When
Agreement on revised historic catch and CPUE series to be used in re-conditioning the OM and re-projecting the MP. Provision of advice on preferred MP tuning level/s.	Special Commission Meeting		
Preparation of data for re-conditioning of the OM	CCSBT secretariat, member scientists	To be estimated by CCSBT secretariat	May-June 2006
Re-conditioning of the OM with the new historic catch/CPUE series (one or more series) and incorporation of new data for recent years (at least 2004).	Member scientists and Panel-consultant	1 month Budget: 5 days for A. Parma - Coordinator, 18 days for consultant)	July 2006
Small Technical Working Group meeting to critically review the results of the OM re-conditioning and to agree on a final reference set and robustness tests to use in the revised OM (similar to the meeting held in Seattle in February 2005).	Advisory Panel, Consultant and key member scientists	4 days (Budget: similar to the Seattle meeting)	Early August 2006
Re-evaluation of initial TAC cuts and re-tuning of the proposed MP, using the agreed, re-conditioned OM.	MP developer and Panel consultant	1 month (Budget: 7 days for MP developer)	August-Sep 2006
Exploratory analyses using the re-conditioned OM, including robustness trials, and possibly retrospective analyses to evaluate the effects of possible past under-reporting.	Member scientists	1 month	August-Sep 2006
Advisory Panel and member scientist evaluation of papers on all analyses done using the re-conditioned OM and re-tuned MP, and development of new management advice in the light of these new analyses.	SAG / SC Meetings	10 days	Early - Mid September 2006
Consideration of new management recommendations by the SAG / SC.	CCSBT13 Meeting	5 days	9-13 October

Prepared by, and submitted on behalf of:

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