A proposal for a way forward to deal with alternative sardine stock structure hypotheses

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A difficulty in the scheduling of the Management Procedure (MP) approach is the possibility that arguments for the inclusion of alternative data and/or structural hypotheses may arise mid-way through the extensive MP development exercise. Incorporating such changes results in "back-tracking" and can result in extensive delays in the finalisation of an OMP (for example, the first RMP for North Pacific minke whales). For this reason, the International Whaling Commission specified a strict schedule of deadlines within which no backtracking is allowed (IWC, 2005). That schedule allows for no changes to the agreed trials structure (alternative plausible hypotheses) and no new data following the first intersessional workshop (typically 6-9 months from the start of the Implementation schedule) – though trials can later be removed. A similar set of deadlines and no backtracking has also been agreed in South Africa (Butterworth, 2008).

Arguments have recently arisen in favour of the consideration of alternative stock structure hypotheses for the South African sardine and the possibility of the inclusion of a new time series of data upon which to condition the operating models (SPSWG, 2014, van der Lingen and Hendricks, 2014). The inclusion of these alternative stock structure hypotheses will result in extensive backtracking in the MP development and subsequent delay in OMP finalisation. In the meantime, if such backtracking were allowed, the management of South African sardine and anchovy would remain "in limbo" without a finalised OMP.

A proposal for a way forward is thus:

- Finalisation of OMP-14 based on Interim OMP-13v2. This allows for an update from OMP-08 to account for an update in the resource status/productivity by inclusion of data to 2011 (instead of 2006), the removal of the anchovy additional season, the inclusion of a number of new, and changes to some existing, bycatch quotas/pools, a decrease in the maximum anchovy TAC, and an increase in the anchovy Exceptional Circumstances threshold.
- It should be noted that the time constraints resulted in the choice of anchovy risk level being made by trade-off discussions within the SPSWG rather than on an objective basis due to the change in key operating model assumptions.

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- It should also be noted that the high probability of more than one sardine stock and the simulations undertaken during the development of Interim OMP-13v2 indicate that spatial management (two-area TAC) of the sardine TAC may be beneficial to the recovery of the sardine population. Current results that the recovery of the sardine population is highly dependent on recruitment from the more productive "west" stock, indicate the need for some form of spatial management to safe-guard "west" stock recruitment to be considered. However, the operating models, OMP and consultation process were not sufficiently far developed to be able to implement quantitatively based spatial management. Nevertheless, given these indications for the possible need for spatial management, sardine catch under OMP-14 should be distributed east:west of Cape Agulhas "similar to" the distribution of the sardine biomass observed during the preceding November hydroacoustic survey.
- A new MP review be initiated as soon as alternative stock structure hypotheses and new time series of data are finalised (either during 2014 taking data up to Nov 2013, or during 2015 taking data up to Nov 2014)

Points of discussion:

i) Interim OMP-13v3 (de Moor and Butterworth 2013b) differed from Interim OMP-13v2 in the provision for a conservative lower initial directed >14cm sardine TAC for the range of November hydroacoustic survey estimates of sardine biomass from 300 000t (below which Exceptional Circumstances would be declared) to 600 000t. However, the rule governing the allowance of any "top up" to the original TAC after the recruit survey was not quantitatively specified. This specification would be necessary were any simulations on this Interim OMP to be undertaken.

ii) Industry representatives have agreed to the proposal to split the 2014 >14cm directed sardine catch east:west of Cape Agulhas "similar to" the distribution of sardine biomass observed during the November 2013 survey (SPSWG, 2013). The above proposal would require extending this agreement by a few years. How much flexibility from the survey east:west proportions should be allowed – 5%, 10%, 20%? How would a lack of commitment by industry to such an agreement be penalised, especially, for example, should a sudden eastward shift be observed?

iii) This proposal would allow for a "warm-up" period, with *some* flexibility in the initial implementation of spatial management of sardine, prior to the possibly quantitative (inflexible) spatial management that may arise under the next OMP.

iv) The above proposal allows for time to consolidate and finalise hypotheses that are still under development, rather than attempting "quick tests" of some newly proposed hypotheses (those which are quicker to implement given time constraints) while ignoring others.

v) The above proposal also allows time to develop new time series of data (proportions of south stock originating from the west; a revision of the November survey biomass time series to account for winter recruitment on the south coast), which may be included in the sardine assessment.

References

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