



**Further consideration of the potential for management procedures for SBT based on fishery independent indicators - short-term options using relative indices from the aerial survey and conventional tagging**

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## Abstract

The work plan of the SAG/SC for 2009 includes the development and evaluation of MPs based on fisheries independent indicators. Members have been requested to provide papers for discussion at this SC under agenda item 10. The authors provide a very brief update on further considerations of the approach presented last year in Basson and Davies (2008), and request guidance from the SC regarding further development of an indicator-based MP.

## 1. Introduction

The work plan of the SAG/SC for 2009 includes the development and evaluation of MPs based on fisheries independent indicators. This is listed in Table 1 of last year's SC report (Anon. 2008) as follows:

Activity	Approximate Period	Resources or approximate budgetary implications <sup>3</sup>
Provide paper(s) examining the technical issues associated with the development and evaluation of MPs based on fisheries independent indicators.	Prepare report for presentation at the ESC in Sep. 09	N/A

There is an expectation that this will be discussed at this SC meeting (SC14, 5-11 September 2009) under agenda items 10.1 and 10.2 on the further development and evaluations of an MP for 2010.

## 2. Further considerations

In 2008, Basson and Davies (2008; CCSBT-ESC/0809/30) presented preliminary suggestions to the SAG/SC for an approach to use indicators as the basis for a decision rule. The paper also listed several quantities that would need to be specified and agreed in order to obtain a fully specified decision rule. During discussion of the paper, the issue of how to translate between changes in indicators and a change in total catch in a non-arbitrary fashion (particularly in the absence of testing such a decision rule) was raised (Davies pers.commn; discussion of this paper is not fully reported in Anon. 2008).

Further consideration has been given to the approach suggested in Basson and Davies (2008), with particular attention being paid to:

- i) the detail of how the aerial survey and the 1990s and 2000s tagging data can be used to inform a decision rule and
- ii) a framework to act as benchmark for translating from changes or trends in indicators to a change in total catch.

With regard to the first point, the authors consider that using the data within a simple model of relative population numbers would provide an integrated framework for the three different data sources. With regard to the second point, the authors consider that spawner-per-recruit (SPR) considerations could provide a suitable framework for providing benchmarks that could be used in constructing a decision rule. For example, an agreed target for relative SPR would imply an overall harvest rate which can then be compared with harvest rates implied by the indicators, and translated to a required change in catch.

At this point no results are yet available, but the authors intend to further develop the approach and conduct analyses. Before committing further substantial time it would, however, be helpful to obtain feedback from the SC particularly with regard to:

- preferences the SC may have for particular indicators to include (or trial) in an MP
- any preferences for empirical (i.e. along the lines suggested in Basson and Davies 2008, and not model-based and) versus model-based decision rules, along the lines indicated above
- any preferences or suggestions for frameworks to use as benchmarks for relating changes in indicators to a change in total catch

## References

- Anon. 2008. Report of the Thirteenth Meeting of the Scientific Committee, 5-12 September 2008. Rotorua, New Zealand
- Basson, M., and Davies, C. 2008. The potential use of indicators as a basis for management advice in the short term. CCSBT-ESC/0809/30.