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Report on the
Alfonsino scoping study

Relates to agenda item: 3.2

Working paper Info paper

Consultant's Report

Scoping Report

**Information Relevant to Future Stock Assessment of Alfonsino (*Beryx splendens*)
In the SIOFA area of the Southern Indian Ocean**

R. Shotton
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<r.shotton@hotmail.com>

Preface

The purpose of this scoping report is to document the information that exists that will support the future stock assessment of alfonsino in the SIOFA area of the Southern Indian Ocean. With scarcely more effort, information that will support and inform future management has been reviewed and included in this document.

This work has confirmed an expectation that, relative to the size of the fishery, an enormous amount of information exists. The great majority of this information has never been reviewed or used and it is, alas, become apparent that a major effort will be needed to review and correct idiosyncrasies in how this information has been recorded and/or stored. For example, the simple measure of catch weight may be recorded at least in kg, tonnes, T, etc. this requires careful inspection of the data to ensure that it will be machine-readable. Fortunately, for the most part those who have remained active in the fishery are well conversant with suitable standards, either because of flag-state requirements (Australia) or the operators have extensive experience with operations in countries with long-developed and widely accepted procedures, e.g. as in New Zealand.

The first records I have of capture of alfonsino by regional operators in the 'modern fishery begins in 1998 though Soviet, Ukraine and Japanese fishing occurred prior to this date. While their fishing data remains of great interest, it is now of tangential interest and the loss to current effective management is minor.

Two tasks are presented here. The first is to document the results of my efforts to locate, identify and note data that have been collected. In the case of the highly important catch data, that which is at present available is aggregated across the entire area and though valuable in the absence of more detailed information, is severely constrained in terms of its use.

This is also true for fishing effort. The task of identifying the changes in fishing technology that have occurred throughout the modern era of this fishery, which I take as being from 1998 until the present, remains yet to be addressed. Given the extreme importance of acoustic methods to the success of this fishery, obviously, the advances in this technology will have had a major impact upon the fishing power of the vessels involved. Acoustic technology has enabled the location and tracking fish aggregations in the case of aimed-trawling whether it be using sonar in strictly midwater fishing or positioning trawls aimed at aggregations in relation to the seafloor. The other relevant aspect of acoustic technology has been in gear mensuration. Bridge officers know to within centimeters the spread of the doors, the opening of the trawl and measures of fish passing into the net, not least to where the gear is in relation to the seafloor. Pity the skipper, who will be short-term, that had not mastered these technologies.

The other major advance that will have had an enormous impact upon fishing power is that related to the fixing of position using satellite technology. Grounds that simply could not be fished in the absence of highly

accurate position fixing became available for exploitation. This is indicated by the experience related to me by one skipper who, approaching the location where a seafloor feature was indicated shot his gear on the vessel's approach before even passing over the feature and took 60 t of orange roughy in the complete absence of any reconnaissance.

These developments mean that simple measures of fishing effort, i.e. number of vessels in the fishery, days spent at sea or fishing or tows are solely that – simple measures. The consequences for changes in fishing power remain to be teased out of the developmental record.

This note addresses four issues:

- i. The existence of data that will inform future fisheries management of alfonsino
- ii. Catch success (far more limited)
- iii. Analyses that have resulted in the estimate of population parameters commonly used in fisheries resource management and
- iv. Experiences in management of alfonsino fisheries in other areas of the world.

In the case of (iii) and (iv) extensive use has been made of the 2016 FAO Fisheries Circular No. C1084¹. With few exceptions, all citations are taken from this report and in the short term I refer the reader to this publication for the full reference details.

The results presented in this report are very much a work-in-progress. There are a number of reasons for this.

i. There has been no reply from those who might be expected to have access to information. The reply from those who have access to relevant information has been inadequate/insufficient and further probing is required. Because data have been collected over an extended period (>≈20 years) often those now with the responsibility for such information are unaware of the location, or perhaps even the collection of such data. At the request of a reviewer, an additional summary has been added to this report as Appendix I – "Interim Summary of Alfonsino Data Availability".

- ii. The right people to contact have not always been identified, (I myself, during the preparation of this report came across relevant data that had been 'lost' for 14 years, though often searched for).
- iii. Commercial operators, while having the most complete collection of data, are in the early stages of editing and entering the data into databases. As this work proceeds more comprehensive data sets will become available.

Writing a short report is often more difficult than writing a long one. Much information exists and I urge readers to use the table of contents if their interest is in a particular area of subject matter. If you have information that you are willing to make available, I will gratefully receive it. The collection of data began in 2001.²

Two reviewers have provided perceptive and thus useful comments on the first draft of this report. In a good number of instances I have been able to edit the report to respond to the comments they made. In

¹ FAO 2016. Global Review of Alfonsino (*Beryx spp.*), their fisheries, biology and management. FAO Fish. Aquat. Circ. No. C1084. 147pp.

² FAO 2001. Report of the Ad Hoc meeting on management of deepwater fisheries resources of the Southern Indian Ocean. Swakopmund, Namibia, 30 May – 1 June 2001. 61pp. I note for readers with an interest in these matters, the meeting was declared to be 'ad hoc' because it did not conform to any of the rigidly-specified list of meeting types that FAO could acknowledge.

some cases I have not agreed with comments and I attempt to justify my position in response in Appendixes I and II. Other sensible suggestions I have not taken up mainly in part because it would require restructuring of a summary report and I believe that sufficient structure exists in the report to enable effective use to be made of the document for reference purposes. If this is not the case then *mea culpa*. In a few cases I have not changed the text because I have not agreed with the comments that have been made. No matter that, the two reviewers deserve thank for the thankless task of carefully going through a text that has grown far larger than I intended.