

Proposal for an interim initial anchovy TAC for 2020

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As only part of the small pelagic hydroacoustic survey has been analysed thus far, an interim initial anchovy TAC is proposed to enable the 2020 anchovy fishing season to begin timeously.

Introduction

The Operational Management Procedure (OMP) for South African sardine and anchovy (OMP-18, de Moor 2018), requires the hydroacoustic survey estimate of anchovy (and sardine) biomass up to Port Alfred as a key input to the Harvest Control Rule (HCR) formula. Once this annual survey estimate is available, an initial anchovy Total Allowable Catch (TAC) can be recommended according to OMP-18. As the survey was undertaken later than usual this year, only data up to Mossel Bay have been analysed to date (Shabangu *et al.* 2018). The implications of this are noted below and a proposal is made for an interim initial anchovy TAC for 2020.

Potential anchovy TACs under OMP-18

- The anchovy TAC for 2019 was 350 000t. OMP-18 has a constraint on the amount by which the TAC can be reduced inter-annually. Due to this constraint, the initial anchovy TAC for 2020 would be 247 500t for all survey estimates below about 630 000t.
- The initial anchovy TAC for 2020 would increase from 247 500t to the maximum of 350 000t as the anchovy survey biomass increased from about 630 000t to about 2 250 000t (and above).
- OMP-18 was simulation tested using an Operating Model of anchovy biomass which predicted the anchovy biomass would have an 80% probability of being between 1 603 400t and 9 307 800t in 2019, and a 90% probability of being between 1 281 100t and 13 200 500t (Table C1 of de Moor 2018). Survey estimates outside this range could indicate the need to declare Exceptional Circumstances and require setting the OMP-recommended anchovy catch limits aside.

Possible final survey estimates of anchovy biomass

- If the survey estimate of biomass west of Mossel Bay is only 46% (minimum % of past 10 years) of the total survey area biomass, then the final survey estimate of anchovy biomass will be 1 518 327t.
- If the survey estimate of biomass west of Mossel Bay is 89% (maximum % of past 10 years) of the total survey area biomass, then the final survey estimate of anchovy biomass will be 782 456t.
- If the survey estimate of biomass west of Mossel Bay is 71% (average of past 10 years) of the total survey area, then the final survey estimate of anchovy biomass will be 984 245t.
- It is therefore possible that the final survey estimate of anchovy biomass for 2019 will be below the 2019 range for which OMP-18 was simulation tested.

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Proposal for interim initial anchovy TAC

- In the light of the possibility that Exceptional Circumstances might be declared for anchovy, it would be irresponsible to give an initial anchovy TAC of 247 500t.
- A final November 2019 survey estimate of anchovy biomass should be available by the end of January 2020. The initial anchovy TAC could then be finalised at the same time if the biomass is sufficiently high to use OMP-18 to recommend a TAC. Alternatively, if Exceptional Circumstances are declared for anchovy, the initial anchovy TAC will only be finalised later.
- In the most recent 10 years (2009-2018), the anchovy catch has ranged from about 79 000t to 307 000t, averaging 210 000t.
- In the most recent 10 years (2010-2019), the total catch of anchovy over the first three months of the year has ranged between about 3 500t and 71 500t, with an average of 31 400t
- The anchovy fishery is highly dependent on the incoming recruitment. If the biomass is below the range over which OMP-18 was simulation tested, any initial TAC set prior to knowing the strength of the incoming recruitment must be precautionary.
- Any interim initial anchovy TAC cannot be decreased once permits have been issued.
- In order to enable the 2020 anchovy fishery to begin timeously, it is proposed that an interim initial anchovy TAC of between 40 000t – 50 000t be recommended, pending the finalisation of the survey estimate of anchovy biomass.

References

- de Moor CL. 2018. The 2018 Operational Management Procedure for the South African sardine and anchovy resources. DAFF: Branch Fisheries Document FISHERIES/2018/DEC/SWG-PEL/37.
- Shabangu FW, Philips M, Merkle D, Mhlongo NM, Geja, Y and Coetzee JC. Results of the 2019 acoustic biomass survey up to Mossel Bay. FISHERIES/2019/DEC/SWG-PEL/41.

Table 1. The hydroacoustic survey estimate of anchovy biomass to Mossel Bay and Port Alfred since 2009. The proportion of biomass surveyed west of Mossel Bay is given, with three *example proportions* and corresponding resultant total *example biomasses* for 2019.

	Anchovy biomass to Mossel Bay	Anchovy biomass to Port Alfred	Proportion of anchovy biomass west of Mossel Bay
2009	2 969 733	3 792 547	0.78
2010	1 257 157	2 077 035	0.61
2011	347 782	754 124	0.46
2012	2 479 706	3 187 964	0.78
2013	2 404 694	3 819 666	0.63
2014	2 658 504	2 970 760	0.89
2015	1 477 488	1 944 258	0.76
2016	1 507 986	1 733 040	0.87
2017	1 267 322	1 568 398	0.81
2018	817 775	1 559 620	0.52
2019	700 212	1 518 327	0.46
		984 245	0.71
		782 456	0.89

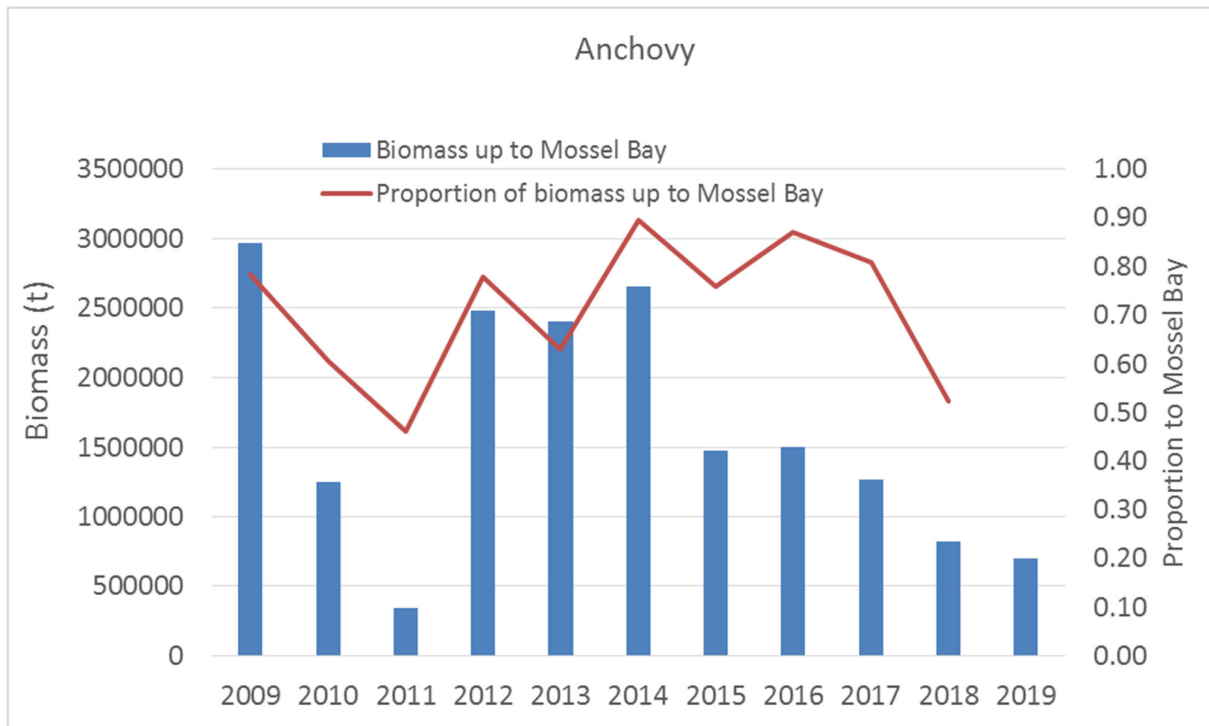


Figure 1. The hydroacoustic survey estimate of anchovy biomass up to Mossel Bay, and the proportion of total (up to Port Alfred) anchovy biomass found distributed west of Mossel Bay from 2010 to 2019.