

A preliminary update of the squid commercial jig CPUE indices

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The commercial jig Catch-Per-Unit-Effort (CPUE) time series is an important index of chokka squid (*Loligo reynaudii*) abundance that has been used in assessments of the squid resource since the early 2000s. Catch and effort data are collected from the fishery in logbooks at the level of fishing sessions (i.e. periods where a set number of crew are fishing on a given vessel). For each vessel, there may be one or more fishing sessions per day with varying numbers of crew fishing during each session. Effort is calculated as the maximum number of crew that fished on a given day and expressed as “person-days”, with the catch being accumulated over all session on a given day. The CPUE index is computed for two different periods of the year; January – March and April – December (to better model the resource and fishery dynamics, and particularly as regards the times at which recruits enter the fishery, which is largely during the April – December period, Roel and Butterworth, 2000). Further, the input data are restricted to a “core” set of 19 vessels that have been most active in the fleet over time and to constrained to records where $3 \leq \text{crew} \leq 20$, although the most recent assessment also considered an alternative index where a “core” set of 14 vessels were considered, with records constrained to $3 \leq \text{crew} \leq 26$ (Glazer, 2019). The total catch and effort data associated with these constraints were then accumulated over the months corresponding to each period for each year and then used to calculate the nominal CPUE per period per year.

An update of the CPUE indices (last computed in 2019, see Glazer 2019) was conducted in November 2024, using a data extract encompassing the period 1 January 2007 – 31 December 2023 (see Figure 1) Note that discrepancies between this 2024 update and the series presented by Glazer (2019) are most likely due to data errors that have been corrected subsequent to the 2019 update, as well as errors in the data that were identified and corrected in the 2019 update but not in the 2024 update. These discrepancies will be addressed prior to the next assessment update.

Acknowledgements

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References

- Glazer, J.P (2019): Updated assessment of the squid resource *Loligo reynaudii*. *Unpublished DFFE Squid Scientific Working Group document FISHERIES/2019/MAR/SWG-SQ/06*. 19 pages.
- Roel, B.A. and Butterworth, D.S. (2000): Assessment of the South African chokka squid *Loligo vulgaris reynaudii*. Is disturbance of aggregations by the recent jig fishery having a negative impact on recruitment? *Fisheries Research*. **48**: 213 - 228

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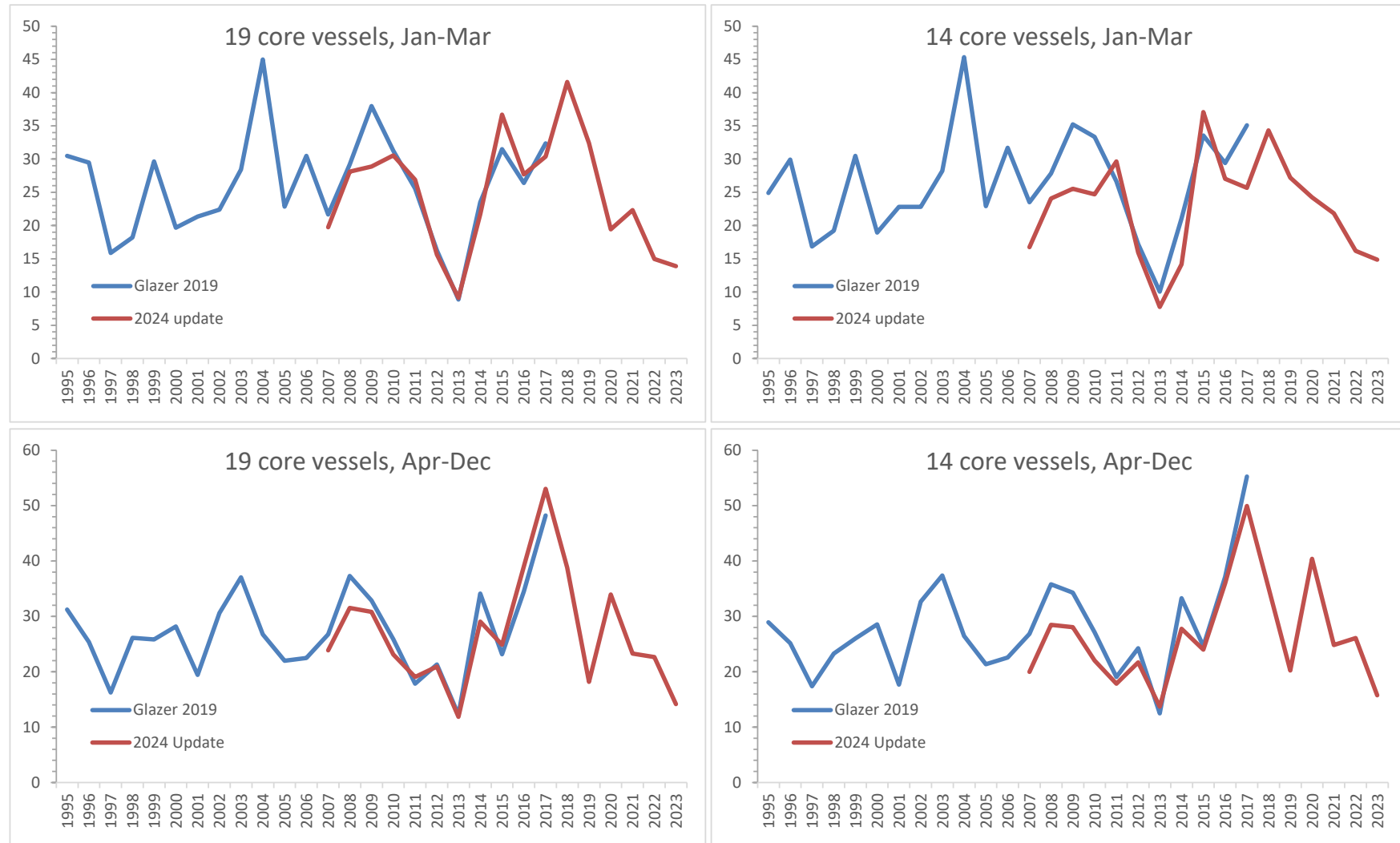


Figure 1: Updated nominal CPUE indices of chokka squid abundance derived from commercial jig catch and effort data. Note that discrepancies between the original time series (Glazer 2019) and this preliminary 2024 update over the period 2007 – 2017 are most likely a result of errors in the data that have been corrected after the 2019 update as well as errors that were not detected/accounted for in the 2024 update.