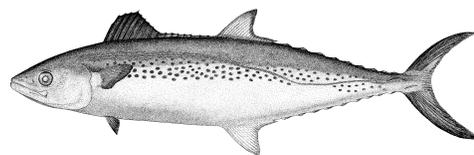


EXECUTIVE SUMMARY: INDO-PACIFIC KING MACKEREL



Indian Ocean Tuna Commission
Commission des Thons de l'Océan Indien



Status of the Indian Ocean Indo-Pacific king mackerel (GUT: *Scomberomorus guttatus*) resource

TABLE 1. Indo-Pacific king mackerel: Status of Indo-Pacific king mackerel (*Scomberomorus guttatus*) in the Indian Ocean.

Area ¹	Indicators		2016 stock status determination
Indian Ocean	Catch 2015 ² :	45,956 t	
	Average catch 2011–2015:	45,485 t	
	MSY (1,000 t) [*]:	46 [38.9–54.4]	
	F _{MSY} [*]:	0.52 [0.40–0.69]	
	B _{MSY} (1,000 t) [*]:	66.0 [45.9–107.9]	
	F ₂₀₁₄ /F _{MSY} [*]:	0.98 [0.85–1.14]	
B ₂₀₁₄ /B _{MSY} [*]:	1.10 [0.84–1.29]		
	B ₂₀₁₄ /B ₀ [*]:	0.55 [0.42–0.64]	

¹Boundaries for the Indian Ocean stock assessment are defined as the IOTC area of competence.

²Proportion of catch estimated or partially estimated by IOTC Secretariat in 2015: 41%

Nominal catches represent those estimated by the IOTC Secretariat. If these data are not reported by CPCs, the IOTC Secretariat estimates total catch from a range of sources including: partial catch and effort data; data in the FAO FishStat database; catches estimated by the IOTC from data collected through port sampling; data published through web pages or other means; data reported by other parties on the activity of vessels; and data collected through sampling at the landing place or at sea by scientific observers.

Colour key	Stock overfished ($SB_{year}/SB_{MSY} < 1$)	Stock not overfished ($SB_{year}/SB_{MSY} \geq 1$)
Stock subject to overfishing ($F_{year}/F_{MSY} > 1$)		
Stock not subject to overfishing ($F_{year}/F_{MSY} \leq 1$)		
Not assessed/Uncertain		

INDIAN OCEAN STOCK – MANAGEMENT ADVICE

Stock status. Following a first data-poor assessment in 2015, Indo-Pacific king mackerel was again assessed using SRA techniques (Catch-MSY and OCOM) in 2016. The OCOM model, considered the more robust of the two SRA models applied in terms of assumptions and treatment of priors, indicates that overfishing is not occurring and the stock is not overfished (Fig. 2; Table 1). Moreover, the average catches (c. 45,000 t) over the last 5 years have been slightly below estimated MSY of 46,000 t (Fig. 1). However, catches have increased in the last 2 years and in 2014 exceeded the MSY range. The continuing low levels of catch reporting for this species, coupled with the highly variable and uncertain estimates of growth parameters used to estimate model priors, prompted the WPNT to exercise caution in interpreting model results for king mackerel. Consequently, and similar to 2015, the WPNT considered that stock status in relation to the Commission's B_{MSY} and F_{MSY} target reference points remains **uncertain** (Table 1), indicating that a precautionary approach to the management of Indo-Pacific king mackerel should be adopted.

Outlook. Total annual catches for Indo-Pacific king mackerel increased in 2013 and 2014, likely increased pressure on the Indian Ocean stock. Catches in 2015 decreased from 2014 levels. There remains considerable uncertainty about stock structure and the total catches. Due to a lack of fishery data for several gears, only data poor assessment approaches can currently be used. Aspects of the fisheries for this species, combined with the lack of data on which to base a more formal assessment, are a cause for considerable concern. In the interim, and until more data-rich approaches can be applied, data-poor approaches will be required to assess stock status. Though data-poor methods are yet to be used to provide stock

status advice, further refinements to the SRA models and application of additional data-poor approaches may improve confidence in the results.

- **Management advice.** A precautionary approach to the management of IP king mackerel should be considered by the Commission, by ensuring that catches are reduced to levels below the current estimated range of MSY. The stock should be closely monitored. Mechanisms need to be developed by the Commission to improve current statistics by encouraging CPCs to comply with their recording and reporting requirement, so as to better inform scientific advice.

The following should be noted:

- The Maximum Sustainable Yield estimate for the whole Indian Ocean is 46,000 t, and catches in the last 3 years have been around this level.
- Data collection and reporting urgently need to be improved.
- Reconstruction of the catch history needs to occur before a reliable assessment can be attempted.
- Limit reference points: The Commission has not adopted limit reference points for any of the neritic tunas under its mandate.

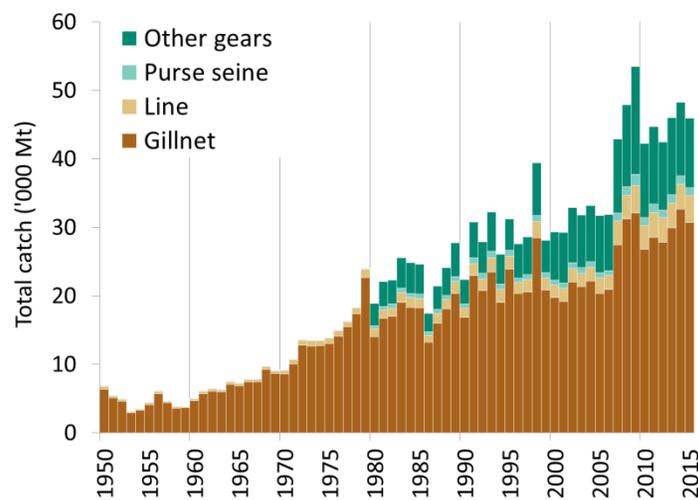


Fig. 1. Indo-Pacific king mackerel: Annual catches of Indo-Pacific king mackerel by gear recorded in the IOTC database (1950–2015) (data as of October 2016).

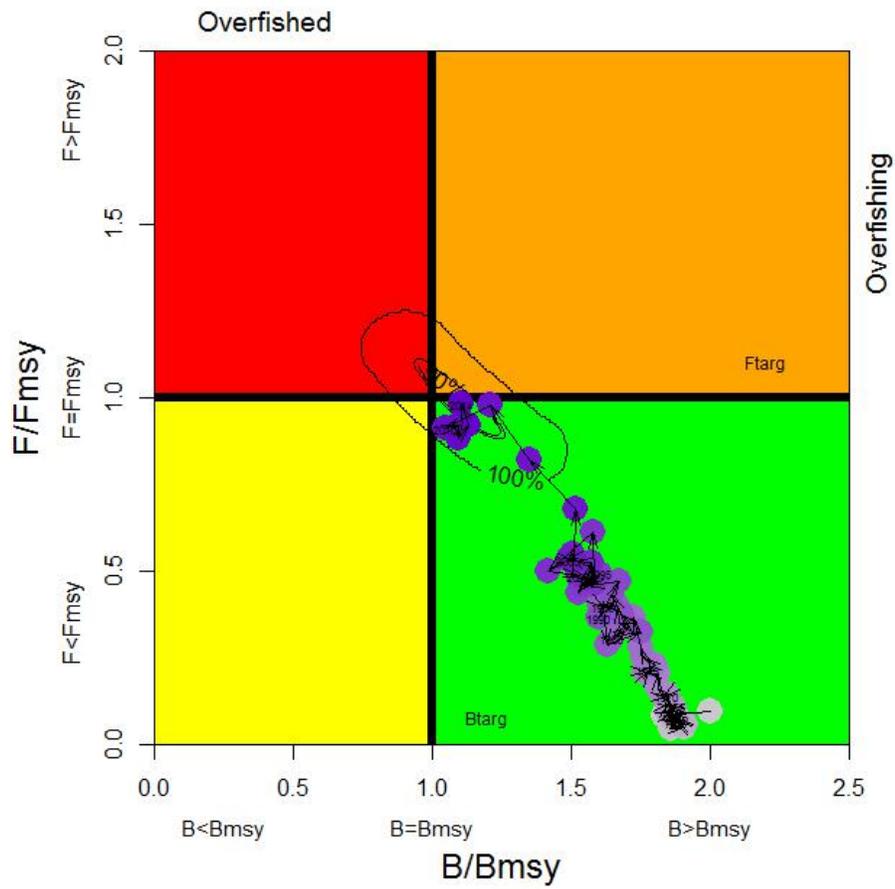


Fig. 2. Indo-Pacific king mackerel: OCOM Indian Ocean assessment Kobe plot (Plausible range shown around 2014 estimate). Blue circles indicate the trajectory of the point estimates for the SB ratio and F ratio for each year 1950–2014. Target reference points are shown (B_{MSY} and F_{MSY}).