

## EXECUTIVE SUMMARY: INDO-PACIFIC SAILFISH



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

Status of the Indian Ocean Indo-Pacific sailfish (SFA: *Istiophorus platypterus*) resourceTABLE 1. Indo-Pacific sailfish: Status of Indo-Pacific sailfish (*Istiophorus platypterus*) in the Indian Ocean.

| Area <sup>1</sup>                                | Indicators                                       |                      | 2017 stock status determination |
|--|--|----------------------|---------------------------------|
| Indian Ocean                                     | Catch 2016 <sup>2</sup> :                        | 27,975 t             |                                 |
|  | Average catch 2012-2016:                         | 28,498 t             |                                 |
|  | MSY (1,000 t) (80% CI):                          | 25.00 (16.18–35.17)  |                                 |
|  | F <sub>MSY</sub> (80% CI):                       | 0.26 (0.15–0.39)     |                                 |
|  | B <sub>MSY</sub> (1,000 t) (80% CI):             | 87.52 (56.30–121.02) |                                 |
|  | F <sub>current</sub> /F <sub>MSY</sub> (80% CI): | 1.05 (0.63–1.63)     |                                 |
| B <sub>current</sub> /B <sub>MSY</sub> (80% CI): | 1.13 (0.87–1.37)                                 |                      |                                 |
| B <sub>current</sub> /B <sub>0</sub> (80% CI):   | 0.56 (0.44–0.67)                                 |                      |                                 |

<sup>1</sup> Boundaries for the Indian Ocean = IOTC area of competence.

<sup>2</sup> Proportion of catch estimated or partially estimated by IOTC Secretariat in 2016: 57%

| Colour key   | Stock overfished (B <sub>year</sub> /B <sub>MSY</sub> < 1) | Stock not overfished (B <sub>year</sub> /B <sub>MSY</sub> ≥ 1) |
|--|--|--|
| Stock subject to overfishing (F <sub>year</sub> /F <sub>MSY</sub> > 1)     |  |  |
| Stock not subject to overfishing (F <sub>year</sub> /F <sub>MSY</sub> ≤ 1) |  |  |
| Not assessed/Uncertain   |  |  |

## INDIAN OCEAN STOCK – MANAGEMENT ADVICE

**Stock status.** In 2015, data poor methods for stock assessment using Stock reduction analysis (SRA) techniques indicate that the stock is not yet overfished, but is subject to overfishing (Table 1). In addition, a Bayesian Surplus Production Model indicated that the stock could be severely overfished so this is a less pessimistic outlook on the stock status. The stock appears to show a continued increase in catch which is a cause of concern (**Fig. 1**), indicating that fishing mortality levels may be becoming too high (**Fig. 2**). Aspects of the biology, productivity and fisheries for this species combined with the data poor status on which to base a more formal assessment are a cause for concern. Research emphasis on further developing possible CPUE indicators from gillnet fisheries, and further exploration of stock assessment approaches for data poor fisheries are warranted. Given the limited data being reported for coastal gillnet fisheries, and the importance of sports fisheries for this species, efforts must be made to rectify these information gaps. The lack of catch records in the Persian Gulf should also be examined to evaluate the degree of localised depletion in Indian Ocean coastal areas. On the weight-of-evidence available in 2016, the stock is determined to be still **not overfished** but **subject to overfishing**.

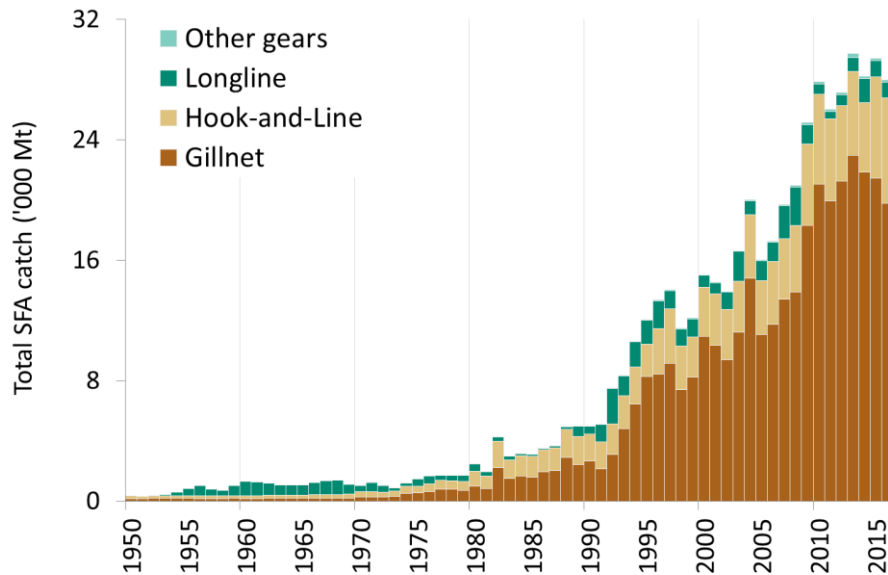
**Outlook.** The estimated increase in coastal gillnet catch and effort in recent years is a substantial cause for concern for the Indian Ocean stock, however there is not sufficient information to evaluate the effect this will have on the resource.

**Management advice.** The same management advice for 2017 (catches below a MSY of 25,000 t) is kept for the next year (2018).

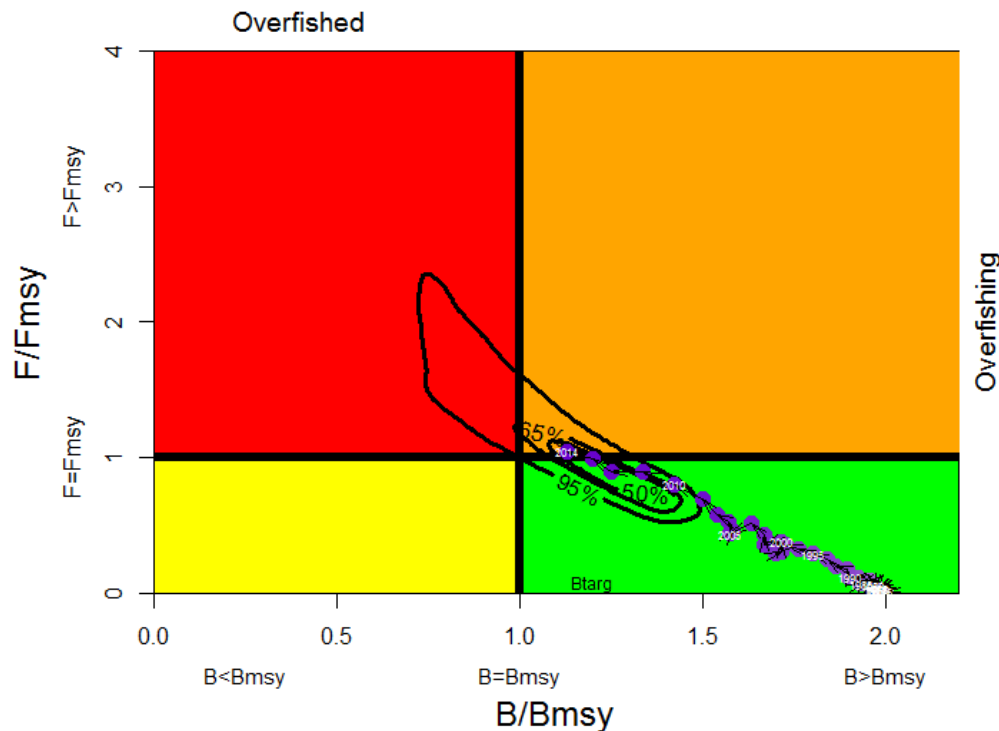
The following key points should also be noted:

- **Maximum Sustainable Yield (MSY):** estimate for the Indian Ocean stock is 25,000 t.
- **Provisional reference points:** Although the Commission adopted reference points for swordfish in Resolution 15/10 *on target and limit reference points and a decision framework*, no such interim reference points have been established for I.P. sailfish.

- **Main fishing gear (average catches 2012–16):** Gillnets account for around 75% of total catches of Indo-Pacific sailfish in the Indian Ocean, followed by troll and hand lines (20%), with remaining catches recorded under longlines and other gears (Fig. 1).
- **Main fleets (average catches 2012-16):** Three quarters of the total catches of Indo-Pacific sailfish are accounted for by four countries situated in the Arabian Sea: Iran: 30%; Pakistan: 18%; India: 18%; and Sri Lanka: 9%.



**Fig. 1.** Indo-Pacific sailfish: catches by gear and year recorded in the IOTC Database (1950–2016)<sup>1</sup>.



<sup>1</sup> **Definition of fisheries:** Longline; Gillnet; Hook-and-Line (includes handline, trolling, baitboat, and sport fisheries); Other gears (includes coastal purse seine, Danish purse seine, beach seine, and purse seine).

**Fig. 2.** Indo-Pacific sailfish: Stock reduction analysis (Catch MSY Method) of aggregated Indian Ocean assessment Kobe plot (contours are the 50, 65 and 90 percentiles of the 2014 estimate). Black lines indicate the trajectory of the point estimates (blue circles) for the B ratio and F ratio for each year 1950–2014.

**Table 2.** Indo-Pacific sailfish: Indian Ocean stock reduction analysis Kobe II Strategy Matrix. Probability (percentage) of violating the MSY-based reference points for nine constant catch projections (average catch level from 2012–2014 (29,164 t),  $\pm 10\%$ ,  $\pm 20\%$ ,  $\pm 30\%$   $\pm 40\%$ ) projected for 3 and 10 years.

| Reference point and projection timeframe | Alternative catch projections (relative to the average catch level from 2012–14, 29,164 t) and probability (%) of violating MSY-based reference points |          |          |          |          |          |          |          |          |
|--|--|----------|----------|----------|----------|----------|----------|----------|----------|
|  | 60%  | 70%      | 80%      | 90%      | 100%     | 110%     | 120%     | 130%     | 140%     |
|  | 17,498 t   | 20,415 t | 23,331 t | 26,248 t | 29,164 t | 32,080 t | 34,997 t | 37,913 t | 40,830 t |
| $B_{2017} < B_{MSY}$                     | 10   | 15       | 20       | 25       | 30       | 35       | 41       | 47       | 53       |
| $F_{2017} > F_{MSY}$                     | 16   | 27       | 38       | 49       | 61       | 72       | 83       | 94       | 99       |
| $B_{2024} < B_{MSY}$                     | 6  | 16       | 28       | 41       | 55       | 68       | 81       | 91       | 97       |
| $F_{2024} > F_{MSY}$                     | 12   | 23       | 36       | 52       | 68       | 84       | 97       | 100      | 100      |