BLUE MARINE FOUNDATION

Blue Marine Foundation Statement on Yellowfin Tuna at the 29th Session of the Indian Ocean Tuna Commission

April 2025

Blue Marine Foundation calls for a review of the Indian Ocean yellowfin tuna stock assessment following concerns over data inputs, transparency and independence of the new stock assessment.

The Indian Ocean yellowfin tuna stock was declared overfished by the Indian Ocean Tuna Commission (IOTC) in 2015 and, since then, efforts to reduce catches have largely failed, as catches in 2016-2022 were even higher than those recorded in 2015. The results of the 2024 yellowfin tuna stock assessment therefore surprised many CPCs and scientists when it was published last year. The assessment unexpectedly placed the stock in the Kobe green quadrant with an 89% probability, meaning that the stock is no longer overfished or subject to overfishing. Unable to accept this apparent "miracle" recovery at face value, several CPCs voiced their concern regarding this yellowfin U-turn at the IOTC Scientific Committee meeting in Cape Town in December 2024.

One of the key concerns centred around the most critical stock assessment input – the abundance index derived from catch and effort data, commonly referred to as catch per unit effort (CPUE). CPUE is "standardised" using fishery operational data – such as vessel attributes, fishing gear specifications, spatial and temporal fishing patterns, species composition, size distribution, and environmental factors – to provide a clearer signal of stock abundance over time. However, standardisation is often challenging due to data limitations and technical difficulties in making sound judgments on how best to use the available information within a robust statistical framework.

These issues were captured in the Scientific Committee report, wherein it was noted that *"strong concerns were expressed by some CPCs regarding the results of the 2024 stock assessment for yellowfin tuna, particularly highlighting the structural changes and lack of transparency in the joint CPUE used as the primary index in the assessment, as well as the sudden shift in stock status from a high probability of red to a high probability of green in the Kobe plot"*[1]. This lack of transparency was raised multiple times by numerous parties during the Scientific Committee meeting, particularly with regard to the data inputs.

CPUE data from longline fisheries has proved particularly valuable in the past due to the gear's wide operational range and significant historical harvests. For instance, before the 1970s, longline fisheries accounted for well over 70% of yellowfin tuna catches in the Indian Ocean. However, with the rise of industrial purse seine fisheries in the mid-1980s and the expansion of coastal state fisheries, the proportion of yellowfin tuna caught by longline fleets declined significantly. In recent years, longline

[1] IOTC (2024). Report of the 27th Session of the IOTC Scientific Committee. Available: https://iotc.org/sites/default/files/documents/2025/01/IOTC-2024-SC27-RE.pdf

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operations have represented just 7-10% of the total Indian Ocean yellowfin catch. Despite the reduction in catch, the longline CPUE series remains a critical assessment input.

However, there are several concerning issues with the 2024 joint longline CPUE series, including the fact that the series was submitted just one day before the IOTC Working Party on Tropical Tunas (WPTT) Data Preparatory meeting, leaving no time for participants to review the data before discussions commenced. In addition, significant methodological concerns over how data were selected, aggregated, and modelled were highlighted by Dr Simon Hoyle in his statement to the IOTC Scientific Committee meeting in December 2024. His paper also examined the significant discrepancies in the 2021 vs 2024 CPUE series[2].

Another significant issue with the yellowfin tuna assessment is the lack of independence that exists in the IOTC stock assessment process in general. Unlike some other RFMOs, responsibility is delegated to national scientists and other participants, meaning that essentially anyone can conduct a stock assessment and submit it to the IOTC WPTT for discussion and endorsement. However, due to the lengthy, expensive and highly technical nature of stock assessments, this system has resulted in a situation whereby it is primarily scientists from developed economies who are able to conduct assessments. Past yellowfin tuna assessments have been led and primarily conducted by IOTC staff or consultants, but the 2024 assessment was led and primarily conducted by national scientists.

This imbalance also extends to the chairing of scientific meetings. It is not unusual for a single person, representing their country as Head of Delegation, to also serve as Vice Chair of the Scientific Committee or Chair of the WPTT and to have to respond to technical questions, making independence of the process questionable. Indeed, the EU's Head of Delegation to the IOTC Scientific Committee meeting in December 2024 was also the Vice-Chair of the Scientific Committee, the Chair of the WPTT and one of the authors of the controversial new yellowfin tuna stock assessment.

Given the many concerns that have been raised regarding the data used and the transparency and independence of the new stock assessment, intensified by the yellowfin tuna stock's seemingly miraculous recovery after almost a decade of intense overfishing, it is essential that these issues are reviewed and resolved, and that the assessment is independently reviewed and revised accordingly.

[2] Hoyle, S.D. (2024). Longline CPUE indices for Indian Ocean yellowfin tuna: analysis methods and their implications for the indices. Available: https://iotc.org/sites/default/files/documents/2024/11/IOTC-2024-SC27-INF01_-_Longline_CPUE.pdf