

CATCH DATA AVAILABILITY, ESTIMATIONS, AND GAPS RELEVANT TO THE IOTC ALLOCATION PROCESS

*15TH MEETING OF THE TECHNICAL COMMITTEE ON ALLOCATION CRITERIA – 14-18
JULY 2025*

IOTC SECRETARIAT

PURPOSE

The overarching objective of this paper is to provide participants at the 15th session of the ([TCAC15](#)) with an overview of the workflow used to produce the catch data available to support the allocation process, including a summary of data gaps in CPC reporting and the extent to which CPC catches have been estimated over time.

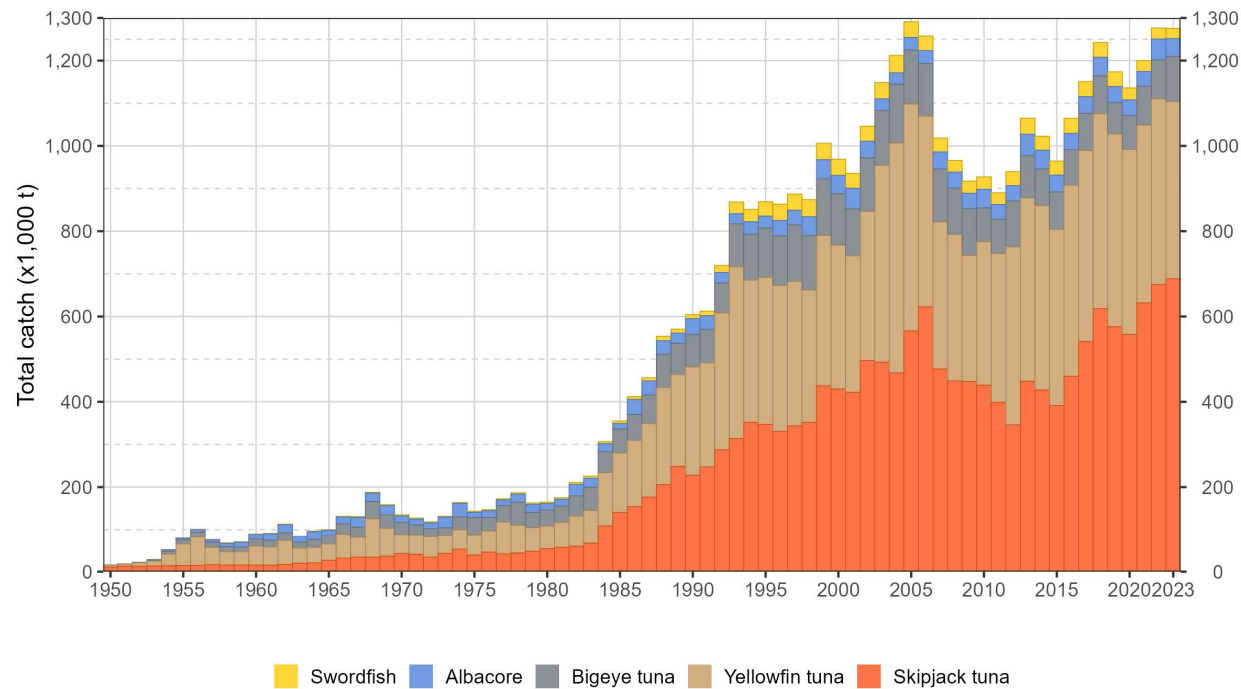
IOTC DATA MANAGEMENT

- **1992-1997:** Indo-Pacific Tuna Development and Management Programme (IPTP) – Catch data covering 1950-1996
- **1993:** Establishment of IOTC under Article XIV of the FAO Constitution
- **Sep 1997:** Agreement that the calculation of contributions should be based on the verified catch data held by the Secretariat
- **Aug 1998:** Secretariat operational – Data request for 1997-1998
- **Nov 1998:** 7th Expert Consultation on Indian Ocean Tunas – Recommendations leading to Res. 98/01 on IOTC Data Requirements

IOTC GENERAL ESTIMATION METHODOLOGY

1. Catch data collated from CPCs (IOTC CMMs and Forms)
 2. Assessment of catches (code lists and contents)
 3. Estimation of catch for:
 - CPCs with inconsistent data (endorsed by the SC)
 - Non-reporting CPCs (repeated or from ancillary sources)
 - Non-CPCs (generally from FAO Global Capture Production Database)
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TOTAL CATCHES CLOSE TO 1.3 MILLION TONNES

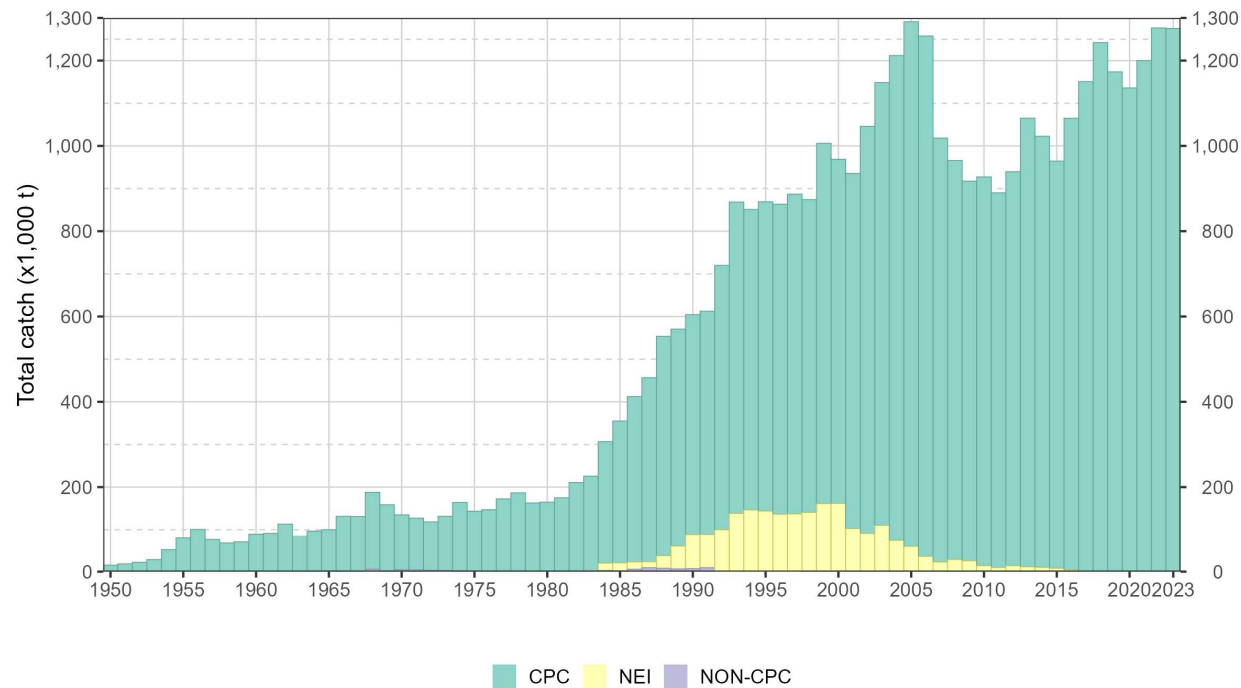


IOTC estimates of catches (t) for albacore, bigeye tuna, skipjack tuna, swordfish, and yellowfin tuna, 1950-2023

DISCARDS NOT AVAILABLE FOR MOST FISHERIES

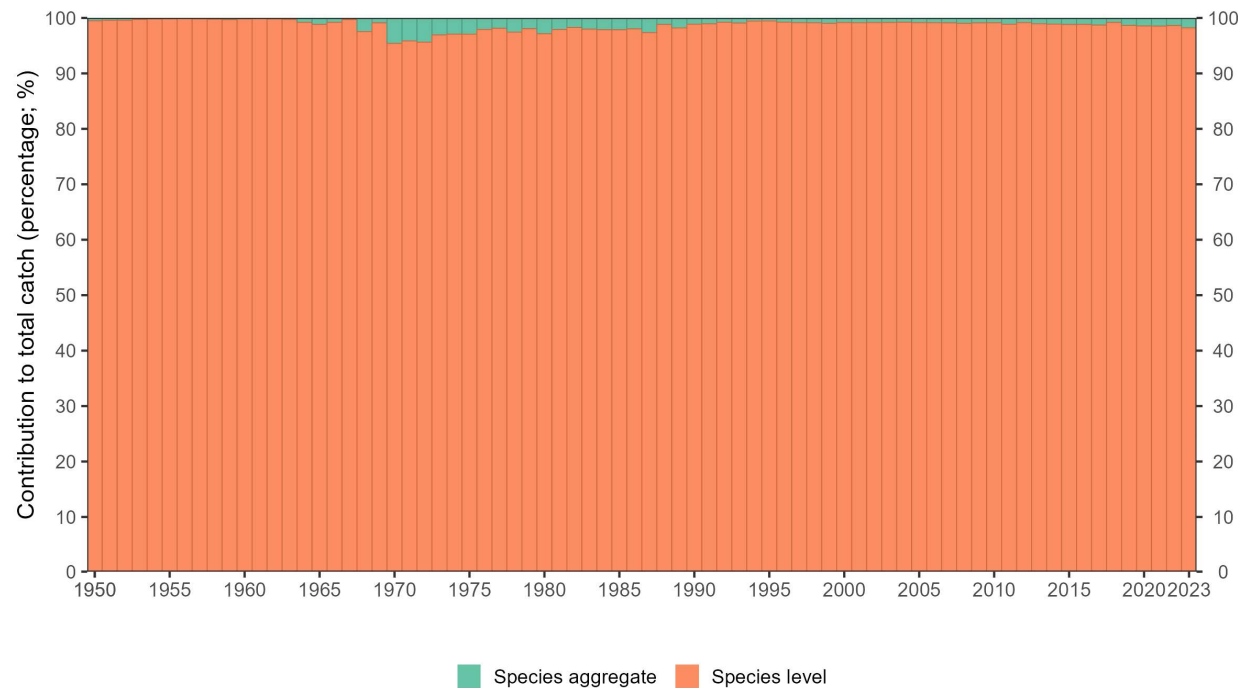
- Mandatory following para. 2 of Resolution [15/02](#)
 - Some information collected with IOTC Form [1DI](#)
 - Discards considered negligible in most coastal fisheries
 - Ban on discards in purse seine fisheries since 2014 (Resolution [13/11](#))
 - Improved reporting in recent years
 - Availability of Data from the Regional Observer Scheme
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ESTIMATES OF NON-REPORTED CATCHES



Annual time series of catches (t) of albacore, bigeye tuna, skipjack tuna, and swordfish by flag attribution status, 1950–2023

DISAGGREGATION OF CATCH BY SPECIES



Relative contribution (%) of aggregated species to the total catch of temperate tunas, tropical tunas, and billfish submitted to the IOTC, 1950–2023

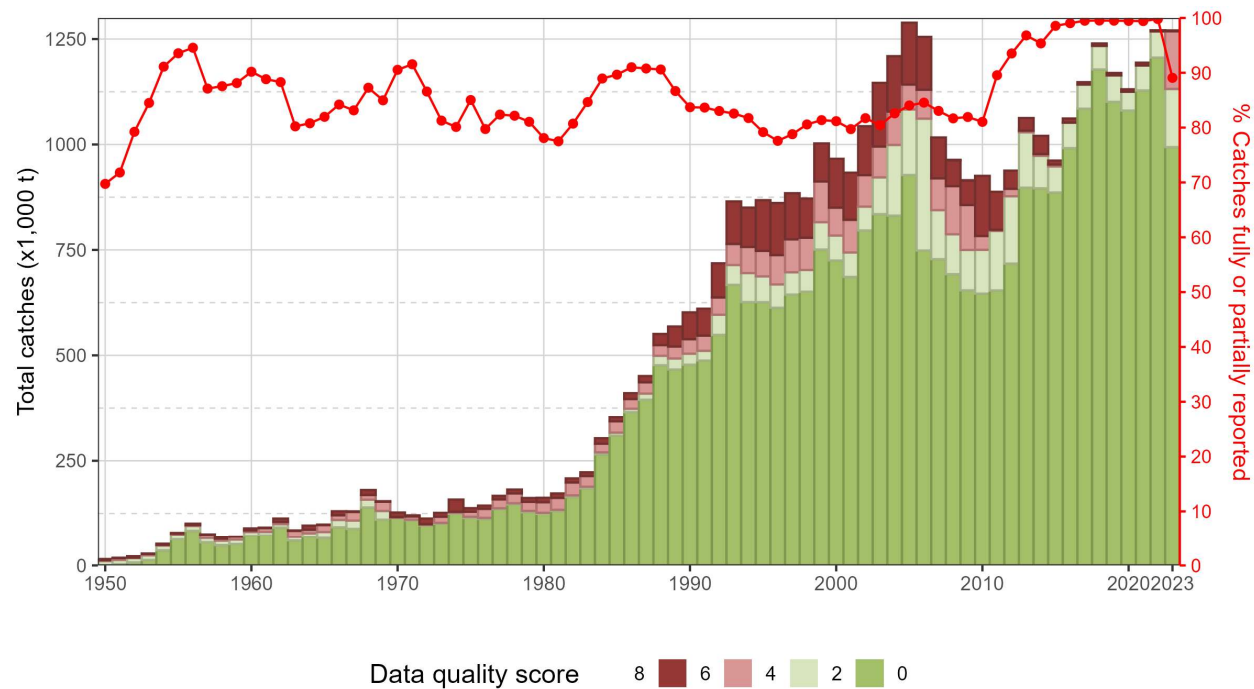
CATCH ESTIMATION FOR SELECTED COUNTRIES

- 1- Specific processing of the catch reported for some fisheries of Sri Lanka (prior to 2017), Thailand (prior to 2017), Bangladesh (prior to 2023), Malaysia (prior to 2021), and India (gear composition)
 - 2- Some major revisions conducted for Pakistan (IOTC Secretariat 2019) and Indonesia (Indonesia 2024)
 - 3- Ongoing work led by Oman for revising the time series of catch for their coastal fisheries (Stamatopoulos 2024)
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CHALLENGES OF COASTAL FISHERIES MONITORING

- Multi-gear and multi-species nature of coastal fisheries
 - Large number of small fishing vessels
 - Dispersion of landing sites, sometimes difficult to access
 - Limited resources and staffing
 - Limited or inadequate sampling design and strategies
 - Challenges in communication and data exchange between institutions
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IOTC DATA REPORTING QUALITY SCORING



Annual time series of catch (t) of albacore, bigeye tuna, skipjack tuna, swordfish, and albacore by scoring quality score, 1950-2023

ALLOCATION BETWEEN NJAs AND HIGH SEAS

- IOTC best scientific catch estimates
- Reference period: 1950-2021
- Reference spatial layers: Indian Ocean National Jurisdiction Areas, excluding disputed areas
- Methodology applied to geo-referenced catches:
 - i. Converted from numbers to weights, where required
 - ii. Raised to total annual catches
 - iii. Allocated to NJAs based on the proportion of spatial overlap between each regular grid cell and the corresponding NJA

CONCLUSIONS

- SC-endorsed methodology to estimate total catch by CPC and species
 - ~80% of catches fully or partially reported over time
 - Possible decline in IUU fishing linked to the PSM Agreement, though difficult to quantify
 - Discard reporting increasing; to be included in IOTC datasets
 - Coastal reporting improving, though major gaps remain
 - Historical catch re-estimation ongoing for some coastal States
 - Accounting for information on licencing to improve catch allocation between NJAs and High Seas
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REFERENCES

Indonesia. 2024. Final report on the review of re-estimation methodology by Indonesia. Cape Town, South Africa, 26-30 November 2024. p. 49. Available from <https://www.iotc.org/documents/WPDCS/20/16>.

IOTC Secretariat. 2019. Review of Pakistan's reconstructed catch series for tuna and tuna-like species. IOTC, Karachi, Pakistan, 27-30 November 2019. p. 17. Available from <https://www.iotc.org/documents/WPDCS/15/19>.

Stamatopoulos, C. 2024. Review of Oman's data collection system and statistics and retrospective data analysis for 2014-2023. Cape Town, South Africa, 26-30 November 2024. p. 19. Available from <https://www.iotc.org/documents/WPDCS/20/15>.