

# **Billfish landing by foreign IOTC fishing vessels at Thai fishing ports during 2020 - 2024**

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## **Abstract**

This study analyzed billfish landing data from foreign fishing vessels at the Thai designated fishing ports in 2020 - 2024. The total of 62,118 tons of fish catching in the IOTC area were landed in Thailand. Most of the catch was skipjack tuna, yellowfin tuna, and bigeye tuna, which made up 99% of all landings. Billfish were accounted for 0.63% of the total landing and only reported in three years: 2020, 2021, and 2023. The highest landing was in 2020 with 244 tons, then it decreased each year. Six billfish species were found: swordfish, Indo-Pacific sailfish, blue marlin, black marlin, striped marlin, and white marlin. Swordfish was the most common in billfish landing, followed by Indo-Pacific sailfish and blue marlin. Most billfish landing in 2020-2021 were whole fish, but they were mostly processed with gills and guts removed in 2023. The results show that billfish landings from foreign vessels have been declining over time.

Keywords: Billfish, landing, Thailand

## **Introduction**

Thailand is known as one of major seafood processors in the world. Most of the imported seafood are tunas, neritic tunas and similar species including billfishes. These are fish that highly migratory species and play important roles both ecologically and economically in the Indian Ocean. These fished are primarily processed into value-added products for export rather than domestic consumption.

As a contracting party of the Indian Ocean Tuna Commission (IOTC) and a port state, Thailand has to follow various conservation and management measures according to international standards. Thailand conducts strict vessel inspections at designated ports under IOTC Resolution 05/03 Relating to the establishment of an IOTC programme of inspection in port since 2015. There are 24 authorized fishing ports for foreign fishing vessel landing in Thailand, 6 In the Indian Ocean side and 18 in the Gulf of Thailand side. Foreign fishing vessels and carrier vessels authorized by IOTC are required to land their catch only at certified ports. Retained products are mandatorily inspected by authorized state officials before unloading or

transshipping from vessels. These officials are responsible for document verification, counting and inspecting landed aquatic products, and crosschecking with fishing logbooks or transshipment documents to ensure consistency and traceability. The inspection process and systematic data collection of landings are crucial for regional resource stock assessment, preventing Illegal, Unreported, and Unregulated (IUU) fishing, and supporting policy decisions for sustainable marine resource management. This study aims to analyze trends and species composition of billfishes from foreign fishing vessels authorized by IOTC landed at Thai ports during 2020 to 2024.

## **Methodology**

This study used landing data of the foreign IOTC fishing vessels landed tuna and tuna-like species in Thailand during 2020 – 2024, retrieved from Processing Statement and PSM Link System: PPS, the integrated fisheries reporting system, and official documents of import and export quantity of fishery products (DOF, n.d; DOF, 2023). The landing data were collected through port inspection. During inspection process, the landed vessels had to submitted its fishing logbook and/or transshipment document, and related documents to the authorized port inspectors for verification. The physical inspection was later conducted on the landed catches after document checked to verify the landing species. The physical inspection results were cross-checked with the declared documents for consistency. The inspection covered 100% of landed foreign fishing vessels at every authorized fishing ports. The data were analyzed for the trend and species proportion in landed catch.

## **Results**

### **1. Overall quantity and proportion**

During 2020-2024, there were the total of 62,118.12 tons of landing from foreign IOTC fishing vessels in Thailand. The overall annual average landing catch was 12,423.62 tons. The highest landing was in 2022 of 29,169.18 tons, followed by 2023 of 23,880.34 tons.

It was found that the landing composition had changed through time. Skipjack tuna and yellowfin tuna were majority in the landing, followed by bigeye tuna. These three species were accounted for 99% of the total landings. The rest 1% was comprised of other species i.e. albacore, kawakawa, billfish and other pelagic fishes. Among these, billfish accounted for 0.63% of the total landing (Figure 1).

There was variety of species landing in 2020 which mainly comprised skipjack tuna (46%) and yellowfin tuna (41%). The ratio had changed with lower yellowfin tuna proportion in 2021 and continued to 2023. In 2024, there were only two species landed which are skipjack tuna (99%) and yellowfin tuna (1%) (Figure 2).

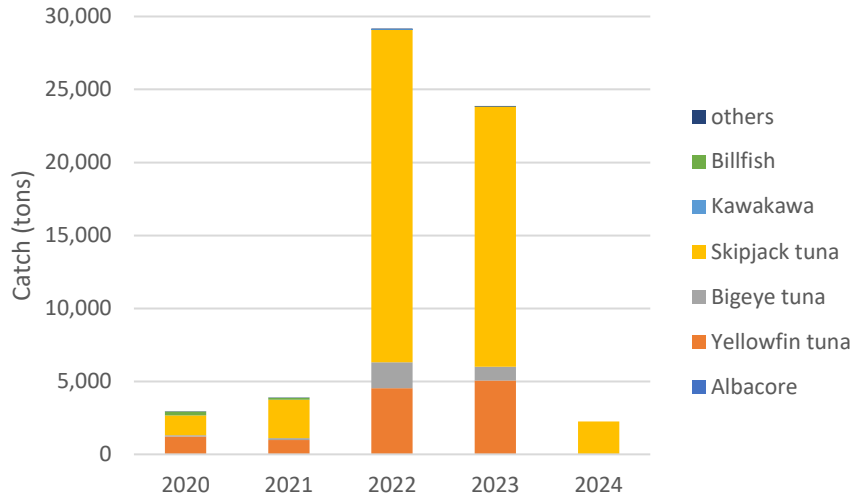


Figure 1 Annual landing quantity (tons) of the managed-IOTC species

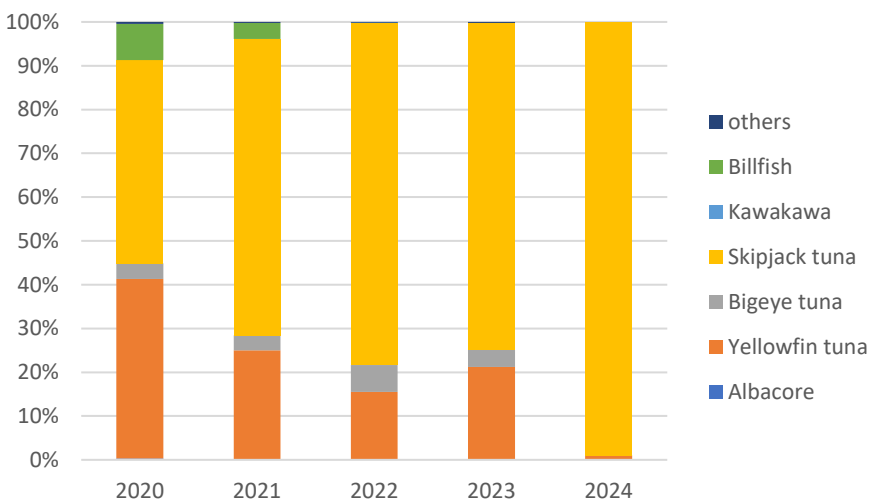


Figure 2 proportions of landed catch by species by year

## 2. Billfish landing and species proportion

Billfish were found landed in 2020, 2021 and 2023 with the total of 393.62 tons. The billfish landing trend exhibited the contrast trend with the total landing. The highest landing was in 2020 with 243.82 tons and the volume was decreased in following years. There were six (6) species of billfish landed which are swordfish, stripe marlin, blue marlin, black marlin, white marlin and Indo-Pacific sailfish. The most landed species was swordfish followed by Indo-Pacific sailfish (Table 1 and Figure 3).

Table 1 Annual quantity (tons) of landed billfish from foreign fishing vessel

year	Black marlin	Blue marlin	Indo-Pacific Sailfish	Striped marlin	Swordfish	White marlin	Total
2020	5.13	14.92	34.67	14.70	174.40		243.82
2021	1.99	15.82	8.99	7.31	105.11		139.22
2022							
2023		2.44	1.55	0.12	5.03	0.44	9.57
2024							
<b>Total</b>	<b>7.12</b>	<b>33.18</b>	<b>45.21</b>	<b>22.13</b>	<b>284.54</b>	<b>0.44</b>	<b>392.62</b>

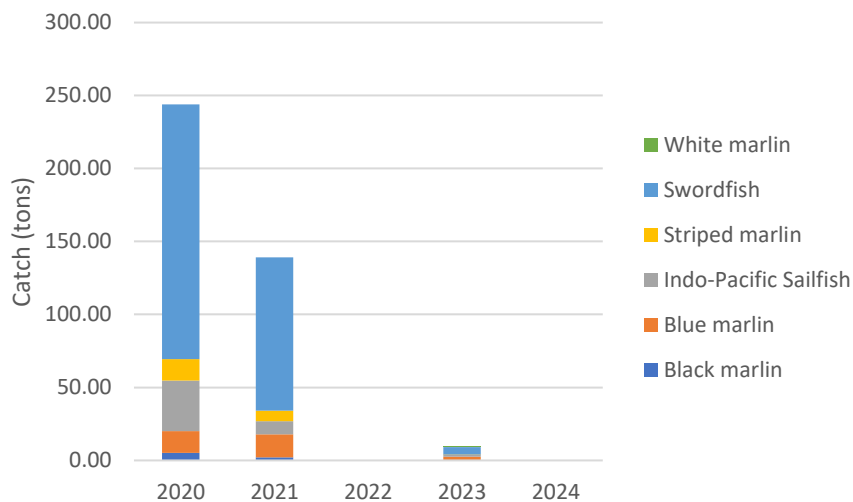


Figure 3 Annual landing quantity in tons of billfish by species

The species proportion of landed billfish was slightly changed in years. Averagely, swordfish was dominant in the accounted for 72% of the total landing, followed by Indo-Pacific sailfish (12%), blue marlin (8%) and stripe marlin (6%). The proportion was slightly changed in 2023 with higher percentage of blue marlin. However, swordfish was still dominant in the landing (Figure 4).

Additionally, almost landed billfish were unprocessed in 2020 and 2021, but most of the fish in 2023 were dressed for gill and gut outed (Figure 5).

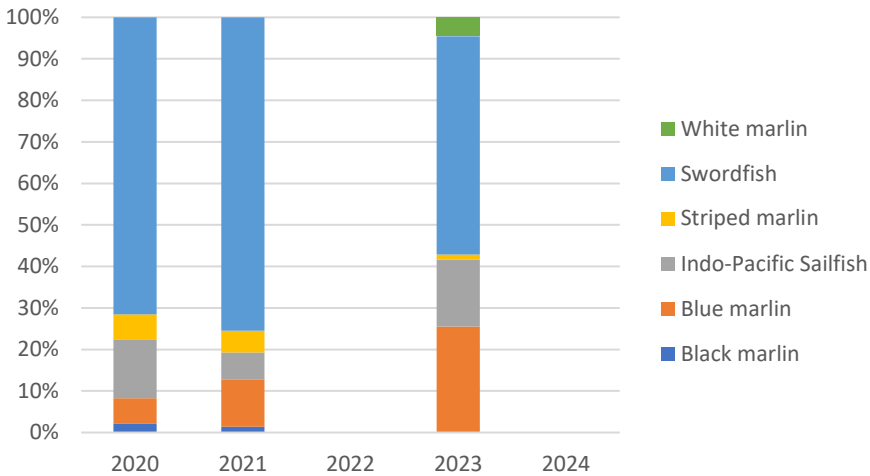


Figure 4 proportions of landed billfish by species by year

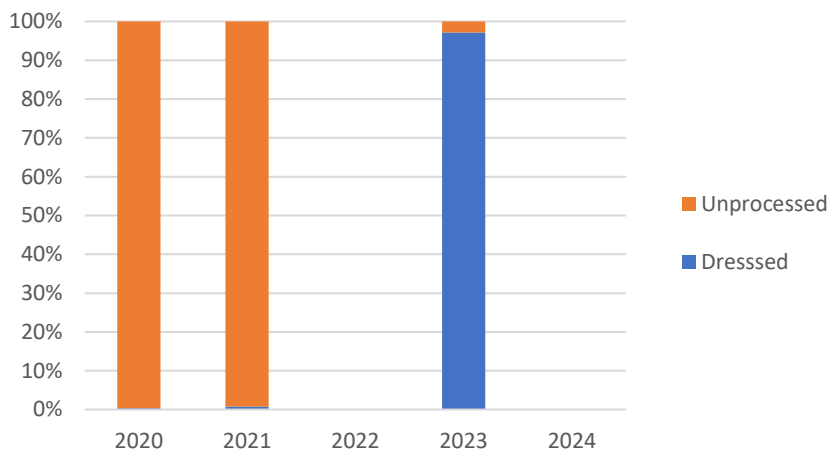


Figure 5 Proportion of processed landed billfish from foreign fishing vessel by year

## Conclusion

The study demonstrates the trend of landing billfish from the foreign IOTC fishing vessels in Thailand in 2020-2024. There were the billfish landing in 2020, 2021 and 2023 and had been decreased year by year. About 6 billfish species were reported at landing. The top three landed billfish species were swordfish, Indo-Pacific sailfish and blue marlin. The annual landing composition was consistence through the period. However, the processing type of landed billfish was changed through time. Most of the landed billfish in 2020 – 2021 were unprocessed, meanwhile landed billfish in 2023 were dressed. It is clear that billfish landings by foreigner vessels in Thailand have been declining over time.

**References**

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