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FACTSHEET

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Smart Fishing Initiative (SFI): species overview

SKIPJACK TUNA *(Katsuwonus pelamis)*

Region: Indian Ocean
IOTC status 2014: not subject to overfishing[1]

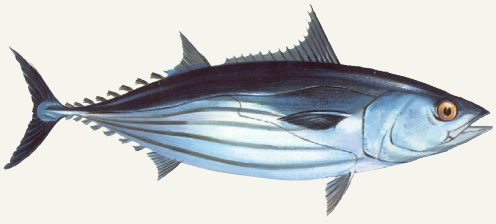


IMAGE SOURCE: WIKIPEDIA[2]

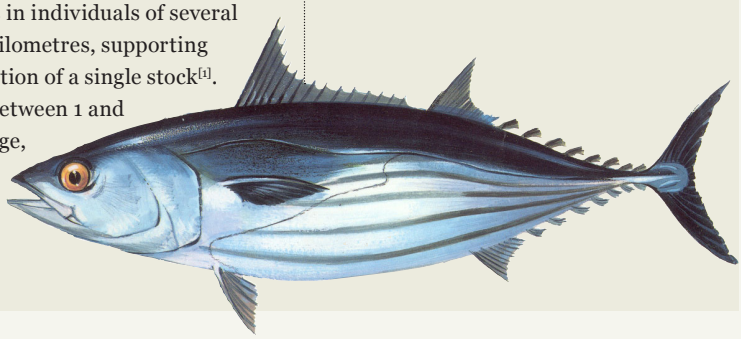
Accounting for nearly half of global tuna production[4], *Katsuwonus pelamis* (skipjack tuna) are the most abundant and fast-growing of the commercial tuna species, common in tropical waters throughout the world where it inhabits surface waters in large shoals[1]. Caught mainly using purse seine nets, gill nets or bait boats, over 90% of skipjack catches are destined for canning[4]. Though current catch data is not available, 2012 numbers provided by the Indian Ocean Tuna Commission (IOTC) indicated that skipjack stocks are not currently overfished in the Indian Ocean[1].

Appearance & size

The back and lateral line of skipjack are a dark, almost purplish blue, while their lower sides and belly are silver with 4 to 6 dark longitudinal lines (may appear as dark blotches in live fish). The fusiform body is elongated, rounded and scaleless except for the corselet and lateral line. Skipjack are typified by two dorsal fins separated by a short interspace (the first with 14-16 spines, the second followed by 7-9 finlets), anal fins followed by 7-9 finlets, and a strong keel on each side of the caudal fin base between two smaller keels[3]. Rapid-growing, individual skipjack with a fork length of 80 cm and a weight of 8-10 kg are common, while maximum fork length is 110 cm and weight is 35.5 kg[1].

Habitat, distribution & reproduction

Found in offshore subtropical and tropical areas of the Indian, Atlantic and Pacific Oceans, skipjack tuna are a highly migratory species forming large schools in surface waters in association with juvenile yellowfin and bigeye tuna. Adults live in surface temperatures ranging from 15-30°C at depths of 0-260 m during the day, but limit themselves to surface waters at night[3]. They avoid shallow coastal shelves (ocean depths less than about 50 m) due to their need for access to warmer and cooler water, and range seasonally to 40°N and 40°S, roughly corresponding to the 15°C surface isotherm[4]. In the Indian Ocean, tagging has revealed rapid, long-distance movements in individuals of several thousand kilometres, supporting the assumption of a single stock[1]. Maturing between 1 and 2 years of age, skipjack spawn in batches under favourable conditions throughout the year in the whole inter-equatorial Indian Ocean (north of 20°S, with surface temperatures greater than 24°C [1].



Regional Fisheries Management Organisations (RFMO)

There are four global commercial skipjack tuna stocks assessed and managed by a relevant RFMO. The scientific committee of each RFMO assesses available scientific data and information, and provides scientific advice to the Commission of the RFMO to inform their management decisions.

- **Indian Ocean skipjack:** managed by the Indian Ocean Tuna Commission (IOTC)
- **Western Pacific Ocean skipjack:** managed by the Western and Central Pacific Fisheries Commission (WCPFC)
- **Eastern Pacific Ocean skipjack:** managed by the Inter-American Tropical Tuna Commission (IATTC)
- **Atlantic Ocean skipjack:** managed by the International Commission for the Conservation of Atlantic Tunas (ICCAT)

Fig. 1. Regional fisheries management organisations (RFMO) for skipjack tuna *(Katsuwonus pelamis)*

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39% of skipjack tuna are caught in the Indian Ocean using purse seine nets.

Average weights of skipjack exploited in the Indian Ocean ranges from **3.0 kg** for purse seine, **2.8 kg** for the Maldivian bait boats and **4–5 kg** for gillnets.

Indian Ocean fisheries

One of the most important commercial species in the Indian Ocean, annual catches of skipjack peaked at 600,000 t in 2006 (Fig. 2), declining to a recent low of 340,000 t in 2012, before rising again to 424,000 t in 2013 based on projected data. The average weight of skipjack exploited in the Indian Ocean ranges from 3.0 kg for purse seine, 2.8 kg for the Maldivian bait boats and 4–5 kg for gillnets. Most skipjack have already reproduced by the time they are captured in the Indian Ocean[1].

The majority of skipjack catches originate in the western Indian Ocean, however catches in this region have dropped considerably since 2007, especially off Somalia, Kenya, Tanzania and around the Maldives. This reduction in fishing effort may be partially explained by the effects of piracy in the region, as well as a decrease in effort by Maldivian baitboats following the introduction of handlines targeting *Thunnus albacares* (yellowfin tuna)[1].

The countries with the largest catches in 2013 (Fig. 3) were Maldives (74,000 t), Sri Lanka (68,000 t) and EU/Spain (64,000 t)[1].

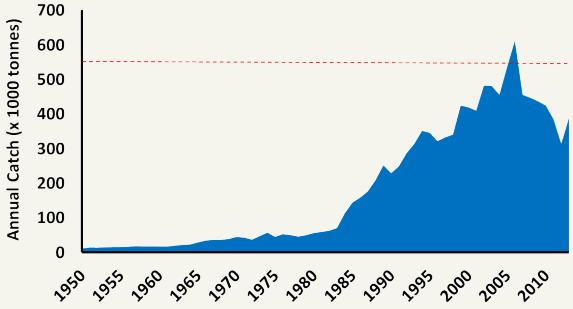

Fig. 2. Annual catches of skipjack tuna in the Indian Ocean (1950-2013). Red line indicates recommended catch level to sustain catches at maximum sustainable yield (MSY) long-term (550,000 t)[1].

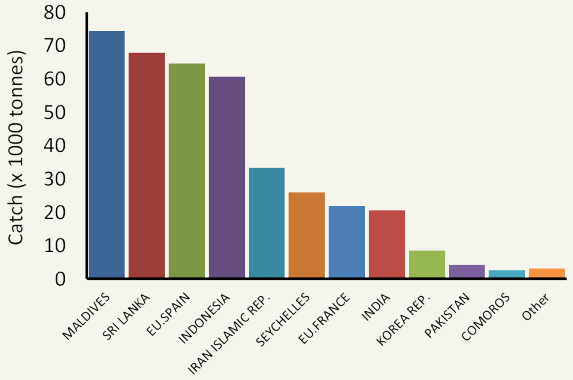

Fig. 3. Skipjack tuna catches by country in the Indian Ocean (2013)[1].

Approximately half of total skipjack catches are by 'non-industrial' fishing gears, many of which are mechanized, large-scale driftnet (Iran and Pakistan) and multi-day gillnet vessels (Sri Lanka), classified as 'semi-industrial'[4]. There are four main skipjack fishery types operating in the Indian Ocean:

- Pole & line (Maldivian pole-and-line fleet, also Indian Minicoy)
- FAD-associated purse seiners from the European Union (EU)/ Seychelles fleets
- Unassociated (or free) purse seiners from EU/Seychelles fleets
- 'Others', including purse seiners from other nations, and all other fleets (primarily gillnet fleets from Sri Lanka, Iran, Oman, Pakistan and Indonesia)[4]

Most of the recent catch increases are the result of gillnet fisheries in Sri Lanka, Indonesia, Iran and Pakistan extending beyond their historic coastal fishing grounds into international waters. Vessels from Iran and Sri Lanka have also been using drifting gillnets on the high seas in recent years, reaching as far as the Mozambique Channel.

Small-scale artisanal fisheries in the Indian Ocean include boats that use trolling gear, and various other fishing equipment such as hand lines/hook and line, ring nets, pole-and-line, trolling, and traditional methods, especially in coastal or gulf parts of the Indian Ocean[4].

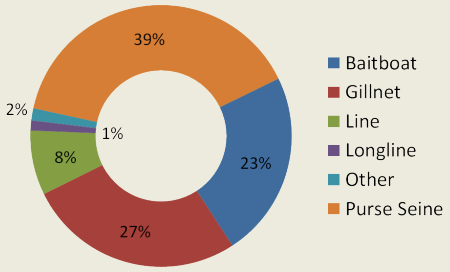

Fig. 4. Percentage of skipjack tuna catches by gear in the Indian Ocean (2013)[1].

the percentage of skipjack catches destined for canning[4].


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7 YEARS

maximum expected lifespan of skipjack, though most do not live beyond 3 to 4 years[1].

Projected outlook


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49%

of all tuna caught in the Indian Ocean are skipjack[4].

Skipjack stock in the Indian Ocean appears to be in no short-term danger of breaching lower safe limits, considering the average catch level of 401,000 tonnes[1]. The stock size is predicted to increase in the short-term, and even increasing the catch to 425,000 t has a low probability of endangering the stock over the next 10 years.

Stock status

Based on the recent 2014 stock assessment and other indicators presented at the 17th session of the IOTC Scientific Committee in December 2014, it appears that skipjack tuna are not currently overfished in the Indian Ocean[1]. Catches in 2014 were below that recommended by the Scientific Committee in relation to maximum sustainable yield (MSY), howeve it is recommended that annual catches of skipjack tuna should not exceed 550,000 t (Fig. 2) in order to ensure that stock biomass levels are able to sustain catches at the desired MSY level in the long-term.

Stock management

Skipjack tuna stocks in the Indian Ocean are not currently managed to best practice. The fishery does not operate under a defined harvest strategy and lacks any harvest control rules which could prevent overfishing of the stocks. No reference points have been adopted by the Commission for use in the management of the stock. Although the members of the IOTC have taken positive steps in recent months by actively discussing and moving toward addressing some of the identified management shortfalls, this fishery, like other Indian Ocean tuna fisheries, remains vulnerable to overfishing until stronger stock management measures are formally adopted through IOTC Resolution.

Stock management challenges

The key challenge facing skipjack tuna in the Indian Ocean is the lack of effective management of the stock. This is compounded by general low levels of compliance by IOTC members with existing conservation and management measures with no penalties in place to address them. There is no quota for skipjack. Accurate stock assessments can be difficult due to lack of data from artisanal fisheries where catches are not being reported and there are uncertainties about the catches from some significant fleets including the Sri Lankan coastal fisheries. Additionally no data is available from important coastal fisheries using hand and/or troll lines, in particular Indonesia, India and Madagascar.

WWF recommendations for skipjack tuna

- WWF recommends the development of effective Harvest Control Rules for Indian Ocean tuna fisheries be given the highest priority, and fully supports the IOTC in these efforts, including the facilitation of regional capacity building activities to improve the dialogue among scientists, managers and other stakeholders.
- Improving the quality of data collection and reporting for Coastal and/or Artisanal Tuna Fisheries in the Indian Ocean region. To address this serious issue WWF is working with a number of IOTC members to improve the quality and provision of data to IOTC scientists.
- IOTC members have adopted many highly desirable and necessary Conservation Management Measures. Unfortunately, compliance with a large proportion of these has been low. WWF encourages all IOTC members to work toward strengthening national and regional compliance with the adopted IOTC Conservation and Management Measures.
- A number of skipjack fisheries require the use of small baitfish, often caught from nearby vulnerable reef ecosystems. WWF recommends and SUPPORTS implementation of effective baitfish management programs to ensure sustainable use of this resource and minimise the impact on those ecosystems.

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References:

1. Indian Ocean Tuna Commission (IOTC) 2014, Draft: Executive Summary: Skipjack Tuna (Katsuwonis pelamis). IOTC, Seychelles. Available from http://iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc. [31 March 2015].
2. Skipjack tuna, 2015. Available from: http://en.wikipedia.org/wiki/Skipjack_tuna [31 March 2015].
3. Fisheries and Aquaculture Department, Species Fact Sheets: Katsuwonis pelamis, Food and Agriculture Organization of the United Nations (FAO). Available from: http://www.fao.org/fishery/species/2494/en [31 March 2015].
4. Skipjack tuna, 2015. Available from: http://www.asiapacfish.org/index.php/species/item/5-skipjack-tuna#quick-facts

WWF's Smart Fishing Initiative (SFI)

Vision: The world's oceans are healthy, well-managed and full of life, providing valuable resources for the welfare of humanity.

2020 Goals: The responsible management and trade of four key fishery populations resulting in recovering and resilient marine ecosystems, improved livelihoods for coastal communities and strengthened food security for the Planet.

For more information

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