MarinTrust Standard V2

By-product Fishery Assessment

ESP20- Skipjack tuna FAO 51

(Indian Ocean Skipjack)

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Skipjack tuna (*Katsuwonus pelamis*)
	Geographical area:	FAO 51
	Country of origin of the product:	Seychelles, Maldives, Mauritius, Spain, Portugal
	Stock:	Indian Ocean (IO) Skipjack
Date	June 2024	
Report Code	ESP20	
Assessor	Vineetha Aravind	
Country of origin of the product - PASS	Seychelles, Maldives, Mauritius, Spain, Portugal	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Company Name(s): Conserveros Reunidos SL (CONRESA), Arteixo			
Country: Spain			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		LRQA	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Vineetha Aravind	Sam Peacock	0.2	Surveillance 1
Assessment Period	June 2024 – June 2025		

Scope Details	
Main Species	Skipjack tuna (*Katsuwonus pelamis*)
Stock	Indian Ocean (IO) Skipjack
Fishery Location	FAO 51
Management Authority (Country/ State)	Indian Ocean Tuna Commission (IOTC)
Gear Type(s)	Longline, pole and line, purse seine
Outcome of Assessment	
Peer Review Evaluation	Agree with assessment outcome
Recommendation	PASS

Table 2. Assessment Determination

Assessment Determination
To be approved as Marin Trust raw material, the species should not appear as Endangered or Critically Endangered in the IUCN Red list and should not appear in CITES appendices. Skipjack tuna is categorised as Least Concern in the IUCN Red List and, it does not appear in CITES appendices; therefore, it is eligible for approval for use as Marin Trust by-product raw material. Indian Ocean Tuna Commission (IOTC) manages the Skipjack tuna stock of Indian ocean with reference points and therefore it is assessed under Category C. The most recent stock assessment was in 2023, using Stock Synthesis with data up to 2022. Fishery removals are considered in the stock assessment and C1.1 is met. The stock is found to be well above the adopted limit reference point and therefore, C1.2 is also met. Therefore, Skipjack tuna in the Indian Ocean meets the MarinTrust byproduct requirement and can be certified as raw material.
Fishery Assessment Peer Review Comments
The peer reviewer agrees that this species is eligible for assessment under the MarinTrust byproduct assessment methodology, and that the stock falls into Category C. The most recent stock assessment was adequate to meet the requirements of C1.1, and biomass is currently estimated to be above the target reference point level, meeting the requirements of C1.2. Overall, the peer reviewer agrees that this stock should be approved as a source of byproduct raw material for MarinTrust certified facilities.
Notes for On-site Auditor

Species Categorisation

NB: If any species is categorised as Endangered or Critically Endangered on the IUCN Red List, or if it appears in CITES Appendix 1, it **cannot** be approved for use as an MarinTrust raw material.

IUCN Red list Category

By-product material from a species listed by IUCN (the International Union for Conservation of Nature) under the Red List for the following categories shall immediately fail the assessment;

- EXTINCT (E) AND EXTINCT IN THE WILD (EW)
- CRITICALLY ENDANGERED (CR) facing an extremely high risk of extinction in the wild.
- ENDANGERED (EN) facing a very high risk of extinction in the wild.

By-product material may be used from the following categories provided that all clauses in the MarinTrust standard are passed.

- VULNERABLE (VU) facing a high risk of extinction in the wild.
- NEAR THREATENED (NT) does not qualify for above now, but is close or is likely to qualify for, a threatened category in the near future.
- LEAST CONCERN (LC) Widespread and abundant.
- DATA DEFICIENT (DD) and NOT EVALUATED (NE)

Table 3 Species Categorisation Table

Common name	Latin name	Stock	Management	Category	IUCN Red List Category[1]	CITES Appendix 1[2]
Skipjack tuna	*Katsuwonus pelamis*	Indian Ocean Skipjack	Yes	C	Least Concern[3]	No

[1] https://www.iucnredlist.org/
[2] https://cites.org/eng/app/appendices.php
[3] https://www.iucnredlist.org/species/170310/46644566

CATEGORY C SPECIES

In a by-product assessment, Category C species are those which are subject to a species-specific management regime and are usually targeted species in fisheries for human consumption.

Clause C1 should be completed for each Category C species. If there are no Category C species in the fishery under assessment, this section can be deleted. Where a species fails this Clause, it should be assessed as a Category D species instead.

Species Name		**Skipjack**	
C1	**Category C Stock Status - Minimum Requirements**		
	C1.1	Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.	PASS
	C1.2	The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.	PASS
		Clause outcome:	PASS

C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.

IOTC considers all fishery removals in the stock assessment of Skipjack tuna. A standardised grid using an integrated statistical assessment method with 36 model formulations were used for stock assessment that addressed the various plausible sources of uncertainty. As all fishery removals are accounted for C1.1 is met.

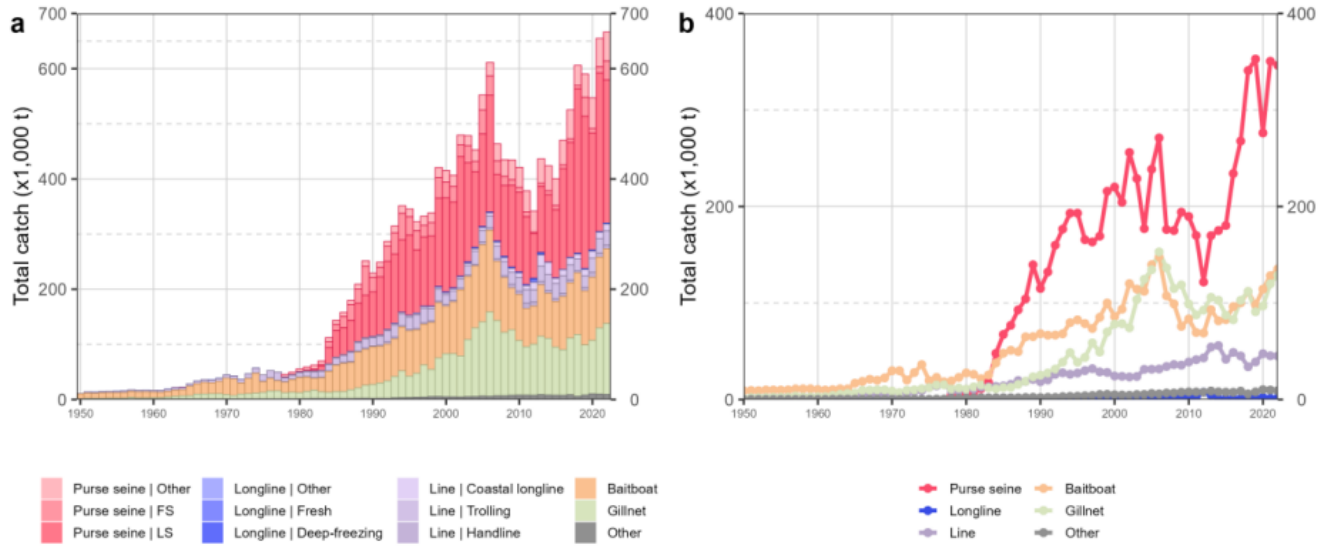

Figure 1: Annual time series of (a) cumulative nominal catches (metric tonnes; t) by fishery and (b) individual nominal catches (metric tonnes; t) by fishery group for skipjack tuna during 1950-2022. FS = free-swimming school; LS = school associated with drifting floating objects. Purse seine | Other: coastal purse seine, purse seine of unknown association type, ring net; Longline | Other: swordfish and sharks-targeted longlines; Other: all remaining fishing gears. (IOTC 2023)

C1.2 The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.

The stock assessment of skipjack tuna in 2023 was conducted by IOTC using Stock Synthesis model with data up to 2022. The outcome of the 2023 stock assessment model is more optimistic than the previous assessment (2020) despite the high catches recorded in the period 2021-2022, which exceeded the catch limits established in 2020 for this period.

The final assessment indicates that: i) The stock is above the adopted target for this stock (40%SB0) and the current exploitation rate is below the target exploitation rate with the probability of 70%. Current spawning biomass relative to unexploited levels is

estimated at 53%. ii) The spawning biomass remains above SBMSY and the fishing mortality remains below FMSY with a probability of 98.4 % iii) Over the history of the fishery, biomass has been well above the adopted limit reference point (20%SB0). Subsequently, based on the weight-of-evidence available in 2023, the skipjack tuna stock is determined to be not overfished and not subject to overfishing (IOTC 2023).

Total catches in 2022 were 30% larger than the resulting catch limit from the skipjack HCR for the period 2021-2023 (513,572 t). The increase in abundance despite catches exceeding the recommended limits was primarily driven by an increase in recent recruitment which was estimated to be well above the long-term average. Environmental conditions (such as sea surface productivity (chlorophyll)) are believed to significantly influence recruitment of skipjack tuna and can produce high variability in recruitment levels between years. The high recruitment anomaly estimated in 2022 appears to be supported by the strong increasingly positive phase of sea surface productivity which began from a below average level in 2015. Climate model predictions suggest that the positive productivity phase will end by the start of 2024 resulting in a period of lower productivity. There is also considerable uncertainty in the stock assessment models due to the potential caveats of using PL and PSLS CPUE as index of basin-level abundance and uncertainty in stock productivity parameters of skipjack tuna (e.g., steepness and growth, natural mortality).

As the current spawning biomass was above the target reference point of 40% of SB0, and above the limit reference point of 0.2*SB0, C1.2 is met.

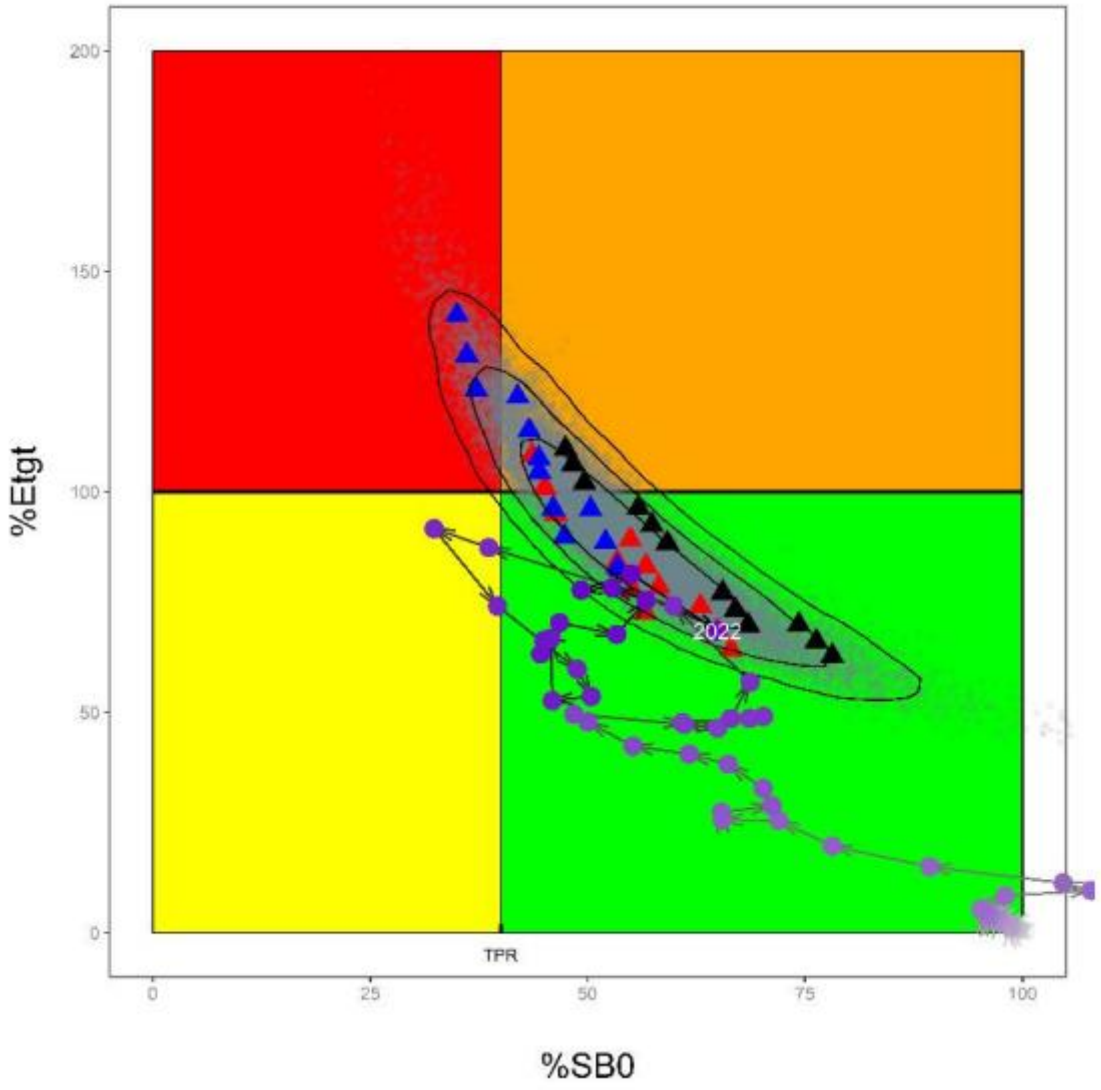

Figure 2: SS3 Aggregated Indian Ocean assessment Kobe plot of the 2023 uncertainty grid. Left - current stock status, relative to SB0 and F (x-axis) and F40%B0 (y-axis) reference points for the final model grid.. TPR indicates 40% B0; Triangles represent MPD estimates from individual models (black, models based on PL index; red, models based on PSLS index; blue, models based on and

both PSLS and ABBI index). Grey dots represent uncertainty from individual models. The arrowed line represents time series of historical stock trajectory for model PSLS. Contours represents 50, 80, and 90% confidence region (IOTC 2023)
References IOTC 2023. Appendix 3 Executive summary: skipjack tuna (2023). Indian Ocean Tuna Commission (IOTC) & Food and Agriculture Organization of the United Nations (FAO). https://iotc.org/node/3379

Links	
MarinTrust Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01

CATEGORY D SPECIES

Category D species are those which are not subject to a species-specific management regime. In the case of mixed trawl fisheries, Category D species may make up the majority of landings. The comparative lack of scientific information on the status of the population of the species means that a risk-assessment style approach must be taken.

D1	**Species Name**	**NA**	
	Productivity Attribute	**Value**	**Score**
	Average age at maturity (years)		
	Average maximum age (years)		
	Fecundity (eggs/spawning)		
	Average maximum size (cm)		
	Average size at maturity (cm)		
	Reproductive strategy		
	Mean trophic level		
		Average Productivity Score	
	Susceptibility Attribute	**Value**	**Score**
	Availability (area overlap)		
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)		
	Selectivity of gear type		
	Post-capture mortality		
		Average Susceptibility Score	
		PSA Risk Rating (From Table D3)	
		Compliance rating	
	Further justification for susceptibility scoring (where relevant) *For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision*		
References			
Standard clauses 1.3.2.2			

Table D2 - Productivity / Susceptibility attributes and scores.

Productivity attributes	High productivity (Low risk, score = 1)	Medium productivity (medium risk, score = 2)	Low productivity (high risk, score = 3)
Average age at maturity	<5 years	5-15 years	>15 years
Average maximum age	<10 years	10-25 years	>25 years
Fecundity	>20,000 eggs per year	100-20,000 eggs per year	<100 eggs per year
Average maximum size	<100 cm	100-300 cm	>300 cm
Average size at maturity	<40 cm	40-200 cm	>200 cm
Reproductive strategy	Broadcast spawner	Demersal egg layer	Live bearer
Mean Trophic Level	<2.75	2.75-3.25	>3.25

Susceptibility attributes	Low susceptibility (Low risk, score = 1)	Medium susceptibility (medium risk, score = 2)	High susceptibility (high risk, score = 3)
Areal overlap (availability) Overlap of the fishing effort with the species range	<10% overlap	10-30% overlap	>30% overlap
Encounterability The position of the stock/species within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear	Low overlap with fishing gear (low encounterability).	Medium overlap with fishing gear.	High overlap with fishing gear (high encounterability). Default score for target species
Selectivity of gear type Potential of the gear to retain species	a Individuals < size at maturity are rarely caught	a Individuals < size at maturity are regularly caught.	a Individuals < size at maturity are frequently caught
	b Individuals < size at maturity can escape or avoid gear.	b Individuals < half the size at maturity can escape or avoid gear.	b Individuals < half the size at maturity are retained by gear.
Post-capture mortality (PCM) The chance that, if captured, a species would be released and that it would be in a condition permitting subsequent survival	Evidence of majority released post-capture and survival.	Evidence of some released post-capture and survival.	Retained species or majority dead when released.

D3		Average Susceptibility Score		
		1 - 1.75	1.76 - 2.24	2.25 - 3
Average Productivity Score	1 - 1.75	PASS	PASS	PASS
	1.76 - 2.24	PASS	PASS	TABLE D4
	2.25 - 3	PASS	TABLE D4	TABLE D4

D4	Species Name		
	Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements		
	D4.1	The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.	
	D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.	
		Outcome:	

Evidence

D4.1: The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.

D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species.

References

Links	
MarinTrust Standard clause	1.3.2.2, 4.1.4
FAO CCRF	7.5.1
GSSI	D.5.01