

## MarinTrust Standard V2

## By-product Fishery Assessment Skipjack tuna (Katsuwonus pelamis) in FAO 51: Western Indian Ocean

MarinTrust Programme Unit C, Printworks 22 Amelia Street London SE17 3BZ E: <u>standards@marin-trust.com</u> T: +44 2039 780 819

**NSF** Confidential



# Table 1 Application details and summary of the assessment outcome

	Species:	Skipjack tuna (Katsuwonus pelamis)	
	Geographical area:	FAO 51 Indian Ocean, Western	
Fishery Under Assessment	Country of origin of the product:	Flag country not supplied by client	
	Stock:	Skipjack tuna from FAO 51 Western Indian Ocean	
Date	4 August 2022		
Report Code	VNM15		
Assessor	Matthew Jew		
Country of origin of the product - PASS	Flag County not supplie	ed	
Country of origin of the product - FAIL	NA		

Application details and	d summary of the asses	sment outcome	2			
Company Name(s): T.	C. Union Vietnam Co					
Country: Vietnam						
Email address:	Email address: Applicant Code:					
Certification Body Det	ails					
Name of Certification	ame of Certification Body: Global Trust Certification					
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval			
Matthew Jew	Léa Lebechnech 0.5 Surveillance 1		Surveillance 1			
Assessment Period	Up to August 2022					

Scope Details	
Main Species	Skipjack Tuna (Katsuwonus pelamis)
Stock	Skipjack Tuna from FAO 51 Western Indian Ocean
Fishery Location	FAO 51 Western Indian Ocean
Management Authority	Indian Ocean Tuna Commission (IOTC)
(Country/ State)	
Gear Type(s)	Purse seine, longline, gillnet, baitboat
Outcome of Assessment	
Peer Review Evaluation	Agree with the assessor's recommendation of approval.
Recommendation	APPROVED

Marine Ingredients Certifications Ltd (09357209) | Doc FISH1- Issued January 2022 – Version 2.2 | Approved by Libby Woodhatch Controlled Copy- No unauthorised copying or alteration permitted

### Table 2. Assessment Determination

#### **Assessment Determination**

If any species is categorised as Endangered or Critically Endangered on IUCN's Red List, or if it appears in the CITES appendices, it cannot be approved for use as Marin trust raw material. Skipjack Tuna (*Katsuwonus pelamis*) do not appear as Endangered or Critically Endangered on IUCN's Red List, nor do they appear in CITES appendices; therefore, *Katsuwonus pelamis* is eligible for approval for use as Marin trust by-product raw material.

Skipjack Tuna in the Indian Ocean are considered to comprise a single stock for assessment and management purposes; therefore, this assessment covers that stock. Resolution 16/02 is the harvest control rule (HCR) that was agreed upon by the Indian Ocean Tuna Commission (IOTC). Resolution 16/02 establishes target and limit biomass reference points. Thus, the stock is subject to a specific management regime and reference points are defined, therefore it was assessed under Category C.

Fishery removals are included in the stock assessment and it PASSES Clause C1.1. The stock is considered, in its most recent stock assessment, to have biomass above the limit reference point, it PASSES Clause C1.2.

Therefore, Skipjack Tuna in Subarea 51 (Western Indian Ocean) is **APPROVED** for the production of fishmeal and fish oil under the current MarinTrust v2.0 by-products.

Fishery Assessment Peer Review Comments

The internal peer reviewer agrees with the assessor's assessment, who correctly classified Western Indian Ocean Skipjack Tuna under category C, as reference points are defined to assess status of the stocks relative to.

Fishery removals are included in the stock assessment process so the stock PASSES Clause C1.1. The Indian Ocean Skipjack Tuna stock is considered, in its most recent stock assessment, to have a biomass above the limit reference point. Therefore, it PASSES Clause C1.2.

Therefore, Skipjack Tuna from FAO 51, Western Indian Ocean, is APPROVED.

Notes for On-site Auditor

Determine which flag state(s) the plant is sourcing its Skipjack Tuna from.



## **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 <sup>1</sup>	CITES Appendix 1 <sup>2</sup>
Skipjack Tuna	Katsuwonus	Skipjack Tuna in FAO		С	LC	No
	pelamis	51 Western Indian Ocean	Commission (IOTC)			

<sup>&</sup>lt;sup>1</sup> <u>https://www.iucnredlist.org/</u>

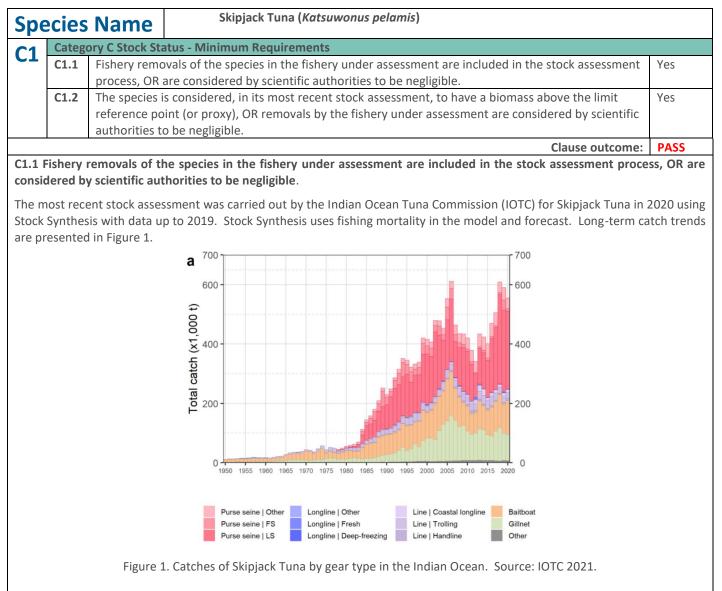
<sup>&</sup>lt;sup>2</sup> https://cites.org/eng/app/appendices.php

Marine Ingredients Certifications Ltd (09357209) | Doc FISH1- Issued January 2022 – Version 2.2 | Approved by Libby Woodhatch Controlled Copy- No unauthorised copying or alteration permitted

## 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.



Therefore, fishery removals of the stock, including from the fishery under assessment, are included in the stock assessment process. **The stock passes Clause C1.1.** 

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 current spawning biomass was considered to be above the target reference point of 40% of SB<sub>0</sub>, and above the limit reference point of 0.2\*SB<sub>0</sub> as per Resolution 16/02. Resolution 16/02 was agreed upon by the IOTC in 2016 to be the harvest control rules for Skipjack Tuna in the IOTC area of competence.

Catch in 2020 (t) <sup>2</sup> 555,211         Average catch 2016-2020 (t)       546,095         Causar (Causar (80% Cl)       535,964 (461,995,674,536)         Causar (Causar (80% Cl)       0.535,964 (461,995,674,536)         Earnson * (80% Cl)       0.92 (0.67-1.21)         Banson (1) (80% Cl)       0.92 (0.67-1.21)         SB <sub>01</sub> (1) (80% Cl)       1.992,089 (1.691,710-2,547,087)         Indian Ocean       SB <sub>010</sub> (1) (80% Cl)         SB <sub>010</sub> (1) (80% Cl)       794,310 (672,825-1,019,056)         SB <sub>0100</sub> (1) (80% Cl)       397,155 (336,412-509,528)         SB <sub>01015</sub> / SB <sub>01060</sub> (60% Cl)       0.45 (0.38-0.5)         SB <sub>01015</sub> / SB <sub>01060</sub> (60% Cl)       1.11 (0.95-1.29)         SB <sub>01015</sub> / SB <sub>01060</sub> (60% Cl)       0.48 (0.35-0.81)         **stormater for the Indian Ocean stock assessment are defined at the IOTC area of competence       *         **foreportion of 2020 actch fully or partially estimated by 007 Secretariat: 4.5%       *         *The status refers to the most recent yeary' data used in the assessment conducted in 2020 data bases of the expective pascidated with the courter stock at status         **exploited in area escluted with the current stock atsus         **timated probability that the stock is in the respective quadrant of the kobe plot (shown below), derived from the confidence intervals associated with the current stock status         Complete control cause associated with th		Area <sup>1</sup>	Indicator	Value	Status <sup>23</sup>	•
Average catch 2016-2020 (t) 546,095 Censes (t) (80% Cl) 535,964 (461,995-674,536) Conv / Censes (80% Cl) 1.02 (0.81-1.8) Exense (80% Cl) 0.59 (0.53-0.66) Extra / Exense (80% Cl) 0.92 (0.67-1.21) SB <sub>0</sub> (t) (80% Cl) 1.992,089 (1,691,710-2,547,087) Indian Ocean SB <sub>2015</sub> (t) (80% Cl) 794,310 (672,825-1.019,056) SB <sub>2015</sub> / SB <sub>20150</sub> (t) 80% Cl) 1.992,089 (1,691,710-2,547,087) SB <sub>20150</sub> / SB <sub>20150</sub> (t) 80% Cl) 1.993,105 (672,825-1.019,056) SB <sub>20157</sub> / SB <sub>20150</sub> (t) 80% Cl) 0.45 (0.38-0.5) SB <sub>20157</sub> / SB <sub>20159</sub> /			Catch in 2020 (t) <sup>2</sup>	555,211		
Cances (t) (80% Cl)       535,964 (461,995-674,536)         Cances (t) (80% Cl)       1.02 (0.81-1.18)         Earnes (texase (80% Cl)       0.59 (0.53-0.66)         Earnes (texase (80% Cl)       0.92 (0.67-1.21)         Sb (t) (80% Cl)       1.992,089 (1.691,710-2.547,087)         Indian Ocean       Sb 2015 (t) (80% Cl)       870,461 (60,41-1.253,181)       60.4% <sup>4</sup> Sb 2015 (t) (80% Cl)       1.992,089 (1.691,710-2.547,087)       60.4% <sup>4</sup> Sb 2015 (t) (80% Cl)       377,155 (336,412-509,528)       50.4% <sup>4</sup> Sb 2015 (t) (80% Cl)       0.45 (0.38-0.5)       50.2005 (t) (1.059,129)         Sb 2015 (t) (80% Cl)       0.45 (0.38-0.5)       50.2013 (t) (1.059,129)         Sb 2015 (t) (80% Cl)       0.411 (1.05-1.29)       50.2013 (t) (1.050,121,1-67,012)         Earne J Examp Feters to the most recent year' data used in the assessment conducted in operations       7.800,021,123,221 <sup>13</sup> Boundaries for the indian Ocean stock assessment are defined as the IOTC area of competence <sup>13</sup> Proportion of 202 cach fully or paratilay estimated viol (the stock at Baar, and is a key control parameter in the skipick harves control rule as applated in net secolat Bill <sup>13</sup> Cl, 201 (t), 20						
Costs / Costs / Costs (80% CI)         1.02 (0.81–1.18)           Exerction / Books         Exerction / Books           SBo (CI)         0.59 (0.53–0.66)           Exerction / Exerction / Exerction (0.67–1.21)         0.992 (0.67–1.21)           SBo (CI)         1.992,089 (1,691,710–2.547,087)           Indian Ocean         SBooks (CI)         1.992,089 (1,691,710–2.547,087)           Indian Ocean         SBooks (CI)         1.992,089 (1,691,710–2.547,087)           SBooks (CI)         80,0461 (660,411–1.253,181)         60.4%*           SBooks (CI)         0.45 (0.63,41–2.503,528)         SBooks (CI)         397,155 (336,412–509,528)           SBooks (S0% CI)         0.45 (0.38–0.51)         SBooks (S0% CI)         1.11 (0.95–1.29)           SBooks (S0% CI)         0.48 (0.35–0.81)         Exolog / Exolog / Exolog (S0% CI)         1.99 (1.47–2.63)           MSY (t) (80% CI)         601,088 (500,013–76,70.22)         Exolog / Exolog / Exolog S0% (S0% CI)         1.99 (1.47–2.63)           MSY (t) (80% CI)         0.48 (0.35–0.81)         Exolog / Exolog / Exolog / Exolog (S0% CI)         1.99 (1.47–2.63)           MSY (t) (80% CI)         0.48 (0.35–0.81)         Exolog / Exolog / Exolog (S0% CI)         0.48 (0.35–0.81)           *Exolog is the exploitation and Exolog (S0% CI)         0.48 (0.35–0.81)         Exolog (S0% CI)         Exolog (S0% CI)			<b>č</b>			
Excesses <sup>4</sup> (80% CI)       0.59 (0.53-0.66)         Excesses <sup>6</sup> (80% CI)       0.92 (0.67-1.21)         SB, (1) (80% CI)       1.992,089 (1,691,710-2,547,087)         Indian Ocean       SB <sub>2050</sub> (1) (80% CI)       870,461 (660,411-1,253,181)         SB <sub>2050000</sub> (1) (80% CI)       397,155 (336,412-509,528)         SB <sub>2050000</sub> (1) (80% CI)       0.45 (0.38-0.5)         SB <sub>20500000</sub> (1) (80% CI)       0.45 (0.38-0.5)         SB <sub>20500000000000000000000000000000000000</sub>						
Except / Excession (80% Cl)       0.92 (0.67-1.21)         SB <sub>0</sub> (t) (80% Cl)       1,992,089 (1,691,710-2,547,087)         Indian Ocean       SB <sub>20150</sub> (t) (80% Cl)       870,461 (660,411-1,253,181)       60.4%*         SB <sub>20150</sub> (t) (80% Cl)       794,310 (672,825-1,019,056)       50       50         SB <sub>20150</sub> (t) (80% Cl)       397,155 (336,412-509,528)       50       50         SB <sub>20150</sub> / SB <sub>20150</sub> / SB <sub>20160</sub> (S0% Cl)       0.45 (0.38-0.5)       50       50         SB <sub>20150</sub> / SB <sub>20160</sub> (S0% Cl)       0.45 (0.38-0.5)       50       50       50         SB <sub>20150</sub> / SB <sub>20160</sub> (S0% Cl)       0.45 (0.38-0.5)       50 </td <td></td> <td></td> <td>,</td> <td></td> <td></td> <td></td>			,			
Indian Ocean SB <sub>2019</sub> (1) (80% CI) 870,461 (660,411–1,253,181) 60.4% <sup>*</sup> SB <sub>400580</sub> (1) (80% CI) 794,310 (672,825–1,019,056) SB <sub>2019</sub> /SB <sub>400580</sub> (1) 397,155 (336,412–509,528) SB <sub>2019</sub> /SB <sub>400580</sub> (80% CI) 0.45 (0.38-0.5) SB <sub>2019</sub> /SB <sub>400580</sub> (80% CI) 1.99 (1.47-2.63) MSY (1) (80% CI) 601,088 (500,131–767,012) E <sub>2019</sub> /SB <sub>2019</sub> /SB <sub>4005</sub> (80% CI) 0.48 (0.35-0.81) <sup>3</sup> Poportion of 2202 citch fluidly or partially escretariat: 14.5% <sup>3</sup> The status refers to the most recent years' data used in the assessment are defined as the IOTC area of competence <sup>3</sup> Proportion of 2202 citch fluidly or partially escretariat: 14.5% <sup>3</sup> The status refers to the most recent years' data used in the assessment conducted in 2020, i.e., 2019 <sup>4</sup> (Eacous) is the equilibrium annual exploitation rate (Etrag) associated with the stock at Brarg and is a key control parameter in the skiptic harvest control rule as stipulated in Kesolution 15/02. Note that Resolution 15/02 did not specify the exploitation rate associated with the current stock status Therefore, the stock is considered, in its most recent stock assessment, to have biomass above the limit reference poil stock passes Clause C1.2. <b>References</b> IOTC. 2021. Executive Summary: Skipjack Tuna. Food and Agriculture Organization of the United N https://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species- impacted-iotc Links MarinTrust Standard clause 1.3.2.2			E2019 / E40%SB0 (80% CI)	0.92 (0.67-1.21)		
SB <sub>400500</sub> (1) (80% CI) 794,310 (672,825–1,019,056) SB <sub>200580</sub> (1) (80% CI) 397,155 (336,412–509,528) SB <sub>2019</sub> / SB <sub>405500</sub> (20% CI) 0.45 (0.38-0.5) SB <sub>2019</sub> / SB <sub>405500</sub> (20% CI) 1.11 (0.95-1.29) SB <sub>2019</sub> / SB <sub>405500</sub> (20% CI) 1.99 (1.47-2.63) MSY (t) (80% CI) 0.488 (500,131–767,012) E <sub>5019</sub> / E <sub>50050</sub> (20% CI) 0.488 (500,131–767,012) E <sub>5019</sub> / E <sub>50050</sub> (20% CI) 0.488 (500,131–767,012) The status refers to the modian Ocean stock assessment are defined as the IOTC area of competence <sup>13</sup> Proportion of 2020 catch fully or partially estimated by IOTC Secretaria: 143% <sup>14</sup> The status refers to the modian Ocean stock assessment conducted in 2020, i.e., 2019 <sup>15</sup> E <sub>600500</sub> is the equilibrium annual exploitation rate (Etarg) associated with the stock at Btarg, and is a key control parameter in the skipk charvest control rule as stipulated in Resolution 15/02. Note that Resolution 15/02 if on specify the exploitation rate associated with the stock is at Bilm <sup>15</sup> Estimated probability that the stock is in the stock at at Bilm <sup>15</sup> Estimated probability that the stock is in the stock at status Therefore, the stock is considered, in its most recent stock assessment, to have biomass above the limit reference poi stock passes Clause C1.2. References IOTC. 2021. Executive Summary: Skipjack Tuna. Food and Agriculture Organization of the United N https://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species- impacted-iotc Links MarinTrust Standard clause 1.3.2.2			SB <sub>0</sub> (t) (80% CI)	1,992,089 (1,691,710-2,547,087)		
SB <sub>2005800</sub> (t) (80% Cl)       397,155 (336,412–509,528)         SB <sub>2019</sub> / SB <sub>0</sub> (80% Cl)       0.45 (0.38-0.5)         SB <sub>2019</sub> / SB <sub>005800</sub> (80% Cl)       1.11 (0.95-1.29)         SB <sub>2019</sub> / SB <sub>005800</sub> (80% Cl)       1.99 (1.47-2.63)         MSY (t) (80% Cl)       0.48 (0.35-0.81) <sup>13</sup> Boundaries for the hidin Ocean stock assessment are defined as the IOTC area of competence <sup>2</sup> Proportion of 2020 catch fully or partially estimated by IOTC Secretariat: 14.5% <sup>14</sup> Exams at the equilibrium annual exploitation rate (Etrag associated with the stock at Btarg, and is a key control parameter in the skipjack harvest control rule as stipulated in Resolution 15/02. Note that Resolution 16/02 did not specify the exploitation rate associated with the stock at Blim <sup>15</sup> Extinct d probability that the stock is in the respective quadrant of the Kobe plot (shown below), derived from the confidence intervals associated with the stock at Blim <sup>16</sup> Extinct as considered, in its most recent stock assessment, to have biomass above the limit reference poi stock passes Clause C1.2.         References         IOTC. 2021. Executive Summary: Skipjack Tuna. Food and Agriculture Organization of the United N         https://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc         Links       1.3.2.2		Indian Ocean	SB2019 (t) (80% CI)	870,461 (660,411–1,253,181)	60.4%*	
SB2019 /			SB <sub>40%SB0</sub> (t) (80% CI)	794,310 (672,825–1,019,056)		
SB <sub>2019</sub> / SB <sub>20580</sub> (80% Cl)       1.11 (0.95-1.29)         SB <sub>2019</sub> / SB <sub>2059</sub> / SB <sub>2059</sub> (80% Cl)       1.99 (1.47-2.63)         MSY (t) (80% Cl)       601,088 (500,131-767,012)         E <sub>2015</sub> / E <sub>MSY</sub> (80% Cl)       0.48 (0.35-0.81) <sup>19</sup> Boundaries for the Indian Ocean stock assessment are defined as the IOTC area of competence <sup>2</sup> Proportion of 2020 catch fully or partially estimated by IOTC Secretaria: 1.45% <sup>19</sup> Boundaries for the Indian Ocean stock assessment are defined as the IOTC area of competence <sup>2</sup> Proportion of 2020 catch fully or partially estimated by IOTC Secretaria: 1.45% <sup>19</sup> The status refers to the most recent years' data used in the assessment conducted in 2020, i.e., 2019 <sup>4</sup> Eurose is the equilibrium annual exploitation rate (Earg) associated with the stock at Bara, and is a key control parameter in the skipalck harves control rule as stipulated in Resolution 16/02 did not specify the exploitation rate associated with the stock at Blim <sup>19</sup> The status refers to the most recent stock assessment, to have biomass above the limit reference poistock passes Clause C1.2.         References         IOTC. 2021. Executive Summary: Skipjack Tuna. Food and Agriculture Organization of the United N         https://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc         Links         MarinTrust Standard clause			SB <sub>20%SB0</sub> (t) (80% CI)	397,155 (336,412–509,528)		
SB <sub>2019</sub> / SB <sub>MSY</sub> (80% Cl)       1.99 (1.47-2.63)         MSY (t) (80% Cl)       601,088 (500,131-767,012)         E <sub>2019</sub> / E <sub>MSY</sub> (80% Cl)       0.48 (0.35-0.81) <sup>13</sup> Boundaries for the Indian Ocean stock assessment are defined as the IOTC area of competence <sup>2</sup> Proportion of 2020 catch fully or partially estimated by IOTC Secretariat: 14.5% <sup>14</sup> The status refers to the most recent years' data used in the assessment conducted in 2020, i.e., 2019 <sup>4</sup> Earceae is the equilibrium annual exploitation rate (Etrag) associated with the stock at Btarg, and is a key control parameter in exploitation rate associated with the stock at Blim <sup>15</sup> Earceae is the equilibrium annual exploitation rate (Etrag) associated with the stock at Blim <sup>15</sup> Earceae is the equilibrium annual exploitation rate (Etrag) associated with the stock at Blim <sup>15</sup> Earceae intervals associated with the current stock status <sup>16</sup> Kobe plot (shown below), derived from the confidence intervals associated with the current stock status         Therefore, the stock is considered, in its most recent stock assessment, to have biomass above the limit reference poi stock passes Clause C1.2.         References       IOTC. 2021. Executive Summary: Skipjack Tuna. Food and Agriculture Organization of the United N https://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc         Links       1.3.2.2			SB2019 / SB0 (80% CI)	0.45 (0.38-0.5)		
MSY (t) (80% Cl)       601,088 (500,131-767,012)         L2019 / EMSV (80% Cl)       0.48 (0.35-0.81) <sup>13</sup> Boundaries for the Indian Ocean stock assessment are defined as the IOTC area of competence <sup>2</sup> Proportion of 2020 catch fully or partially estimated by IOTC Secretaria: 14.5% <sup>13</sup> The status refers to the most recent years' data used in the assessment conducted in 2020, i.e., 2019 <sup>4</sup> Econsenis the equilibrium annual exploitation rate (Earg) associated with the stock at Barg, and is a key control parameter in the skiplack harvest control rule as stipulated in Resolution 16/02. Note that Resolution 16/02 did not specify the exploitation rate (Earg) associated with the stock at Blim <sup>12</sup> Estimated probability that the stock is in the respective quadrant of the Kobe plot (shown below), derived from the confidence intervals associated with the current stock status         Therefore, the stock is considered, in its most recent stock assessment, to have biomass above the limit reference poistock passes Clause C1.2.         References         IOTC. 2021. Executive Summary: Skipjack Tuna. Food and Agriculture Organization of the United N https://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc         Links       1.3.2.2			SB2019 / SB40%SB0 (80% CI)	1.11 (0.95-1.29)		
E2019 / Extrs/ (80% Cl)       0.48 (0.35-0.81) <sup>13</sup> Boundaries for the Indian Ocean stock assessment are defined as the IOTC area of competence <sup>2</sup> Proportion of 2020 catch fully or partially estimated by IOTC Secretariat: 14.5% <sup>13</sup> Boundaries for the Indian Ocean stock assessment are defined as the IOTC area of competence <sup>2</sup> Proportion of 2020 catch fully or partially estimated by IOTC Secretariat: 14.5% <sup>13</sup> The status refers to the most recent years' data used in the assessment conducted in 2020, i.e., 2019 <sup>4</sup> Exonseo is the equilibrium annual exploitation rate (Etarg) associated with the stock at Btarg, and is a key control parameter in the skipack harvest control rule as stipulated in Resolution 16/02. Note that Resolution 16/02 did not specify the exploitation rate associated with the stock at Blim <sup>4</sup> Exonseo is the equilibrium annual exploitation rate (Etarg) associated with the stock at Blim <sup>4</sup> Exonseo is stock is considered, in its most recent stock assessment, to have biomass above the limit reference poi stock passes Clause C1.2.         References         IOTC. 2021. Executive Summary: Skipjack Tuna. Food and Agriculture Organization of the United N https://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc         Links         MarinTrust Standard clause       1.3.2.2			SB <sub>2019</sub> / SB <sub>MSY</sub> (80% CI)	1.99 (1.47-2.63)		
<sup>1</sup> Boundaries for the Indian Ocean stock assessment are defined as the IOTC area of competence <sup>2</sup> Proportion of 2020 catch fully or partially estimated by DITC Secretariat: 14.5% <sup>3</sup> The status refers to the most recent years' data used in the assessment conducted in 2020, i.e., 2019 <sup>4</sup> Eaossai is the equilibrium annual exploitation rate (Etarg) associated with the stock at Btarg, and is a key control parameter in the skipjack harvest control rule as stipulated in Resolution 16/02. Note that Resolution 16/02 did not specify the exploitation rate associated with the stock at Blim <sup>1</sup> Estimated probability that the stock assessment, to have biomass above the limit reference poi stock passes Clause C1.2.         References         IOTC. 2021. Executive Summary: Skipjack Tuna. Food and Agriculture Organization of the United N https://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc         Links         MarinTrust Standard clause       1.3.2.2			MSY (t) (80% CI)	601,088 (500,131–767,012)		
<ul> <li><sup>2</sup> Proportion of 2020 catch fully or partially estimated by IOTC Secretariat: 14.5%</li> <li><sup>3</sup> The status refers to the most recent years' data used in the assessment conducted in 2020, i.e., 2019</li> <li><sup>4</sup> Encode is the equilibrium annual exploitation rate (Etarg) associated with the stock at Btarg, and is a key control parameter in the skipjack harvest control rule as stipulated in Resolution 16/02. Note that Resolution 16/02 did not specify the exploitation rate associated with the stock at Blim</li> <li><sup>5</sup> Estimated probability that the stock at Blim</li> <li><sup>6</sup> Testimated probability that the stock at Blim</li> <li><sup>7</sup> Estimated probability that the stock is associated with the current stock status</li> </ul> Therefore, the stock is considered, in its most recent stock assessment, to have biomass above the limit reference poi stock passes Clause C1.2. References IOTC. 2021. Executive Summary: Skipjack Tuna. Food and Agriculture Organization of the United N https://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc Links MarinTrust Standard clause 1.3.2.2			E <sub>2019</sub> / E <sub>MSY</sub> (80% CI)	0.48 (0.35-0.81)		
IOTC. 2021. Executive Summary: Skipjack Tuna. Food and Agriculture Organization of the United N https://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species- impacted-iotc Links MarinTrust Standard clause 1.3.2.2		<sup>3</sup> The status refers to <sup>4</sup> E <sub>40%SB0</sub> is the equili in the skipjack harve exploitation rate ass "Estimated probabil confidence intervals considered, in	the most recent years' data used in the ass brium annual exploitation rate (Etarg) assoc ist control rule as stipulated in Resolution 11 ociated with the stock at Blim ty that the stock is in the respective quadra associated with the current stock status	essment conducted in 2020, i.e., 2019 iated with the stock at Btarg, and is a key contr 6/02. Note that Resolution 16/02 did not specif nt of the Kobe plot (shown below), derived fror	y the m the	imit reference poir
https://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species- impacted-iotc Links MarinTrust Standard clause 1.3.2.2	References					
MarinTrust Standard clause 1.3.2.2						
	Links					
<b>FAO CCRF</b> 7.5.3	MarinTrust Standard cla	ause		1.3.2.2		
	FAO CCRF			7.5.3		

Table 1. Status of Skipjack Tuna (Katsuwonus pelamis) in the Indian Ocean.

Marine Ingredients Certifications Ltd (09357209) | Doc FISH1- Issued January 2022 - Version 2.2 | Approved by Libby Woodhatch Controlled Copy- No unauthorised copying or alteration permitted

D.3.04, D5.01

GSSI