MarinTrust Standard V2

By-product Fishery Assessment
Japanese Pilchard (*Sardinops sagax melanostictus*) in FAO 61

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Japanese Pilchard (*Sardinops sagax melanostictus*)
	Geographical area:	FAO 61, northwest Pacific
	Country of origin of the product:	South Africa (Flag state: Thailand)
	Stock:	Japanese pilchard in FAO 61
Date	16 March 2023	
Report Code	ZAF04	
Assessor	Matthew Jew	
Country of origin of the product - PASS	South Africa (Flag state: Thailand)	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Company Name(s): Amawandle Pelagic (South Africa) and Lucky Star Ltd (South Africa)			
Country: South Africa			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		Global Trust Certification	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Matthew Jew	Léa Lebechnech	0.5	Initial
Assessment Period	Up to March 2023		

Scope Details	
Main Species	Japanese Pilchard (*Sardinops sagax melanostictus*)
Stock	Japanese pilchard in FAO 61
Fishery Location	FAO 61, northwest Pacific
Management Authority (Country/ State)	South Africa, Thailand
Gear Type(s)	Not provided by client
Outcome of Assessment	
Peer Review Evaluation	Agree with the assessor's determination
Recommendation	APPROVED

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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. Japanese Pilchard (*Sardinops sagax melanostictus*) is not assessed on IUCN's Red List, and does not appear in CITES appendices; therefore, *Sardinops sagax melanostictus* is eligible for approval for use as Marin trust by-product raw material. There is an EU MAP for this stock for which ICES considers to be precautionary. The stock is assessed under a SAM model which uses fishery removals in the stock assessment process, and it PASSES C1.1. The stock assessment process has produced two sets of reference points that align with the MSY and precautionary approaches. The stock was benchmarked in 2020 and, subsequently, the reference points were updated in 2021. The stock is considered, in its most recent stock assessment, to have biomass **below** both MSY and limit biomass reference points, it FAILS Clause C1.2. As the stock fails category C, it was assessed under category D. Table D1 (PSA) shows that the stock as an average productivity score of 1.42 and an average susceptibility score of 2.75. The PSA risk rating results (Table D3) determined that the species passes. Therefore, Japanese pilchard in FAO 61 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 determination, who first classified the stock of Japanese Pilchard in FAO 61 under Category C, as the stock is subject to a specific management regime in place and reference points are defined. However, as the species failed under this category, the assessor correctly assessed and approved the species under category D. Therefore, Japanese Pilchard in FAO 61 is **APPROVED** for the production of fishmeal and fish oil under the current MarinTrust v 2.0 by-products standards.
Notes for On-site Auditor
Determine which flag state(s) the species is being sources from.

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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]
Japanese Pilchard	*Sardinops sagax melanostictus*	*Japanese pilchard in FAO 61*	Japan	D (Failed C)	LC	No

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

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	Japanese Pilchard (*Sardinops sagax melanostictus*)	
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.	Yes
	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.	No
		Clause outcome:	**Fail**

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.

Japanese pilchard in the Japanese Pacific Ocean, northern East China Sea, and Sea of Japan is subject to a regular stock assessment. The most recent stock assessment for each of these stocks were conducted in 2020 by the Fisheries Stock Assessment Center, Fisheries Resources Institute, Japan Fisheries Research and Education Agency. The stock assessments use catch data with life history characteristics sampled from the catch.
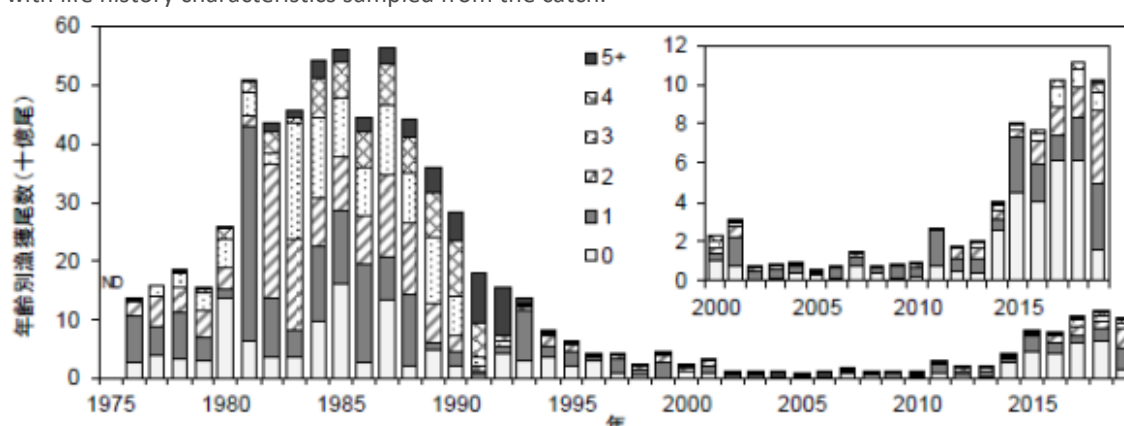

Figure 1. Long-term catch (including discards) trends for Japanese pilchard in the Japanese Pacific Ocean from 1975 to 2019. Source: FRA, 2020a.
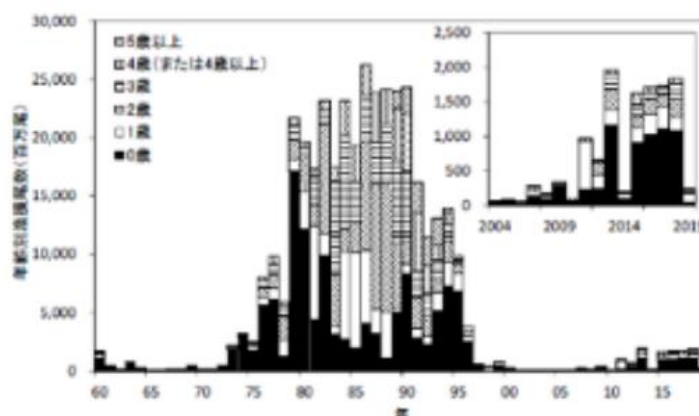

Figure 2. Long-term catch (including discards) trends for Japanese pilchard in the East China Sea and Sea of Japan from 1960 to 2019. Source: FRA, 2020b.

Therefore, fishery removals of the species in the fishery under assessment are included in the stock assessment process and therefore 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 stock assessment clearly defines MSY reference points for fishing mortality and spawning stock biomass. There have been proposed limit reference points for SSB that would be set at 60% of the SB_{MSY}. Although not officially implemented at this time, Japanese Pilchard in the Pacific Ocean is above both the proposed limit reference point and the established MSY-based target reference point (Figure 3). Japanese pilchard in the East China Sea and Sea of Japan is below both SB_{MSY} and proposed limit reference point (Figure 4).
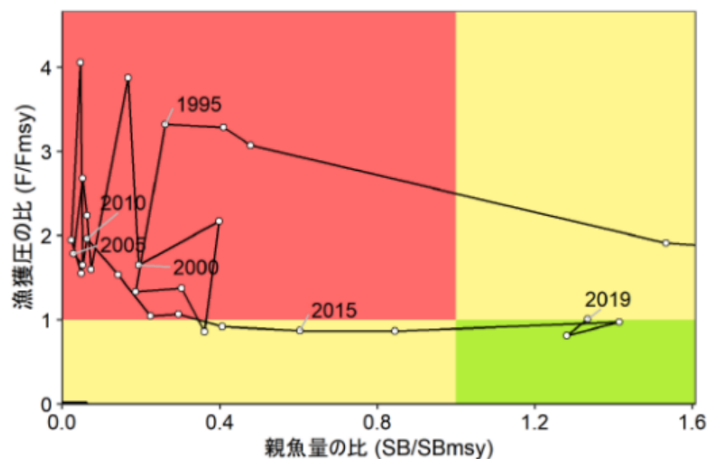

Figure 3. Kobe plot for Japanese pilchard in the Japanese Pacific Ocean displaying the relationship (past and present) between SSB and fishing mortality.
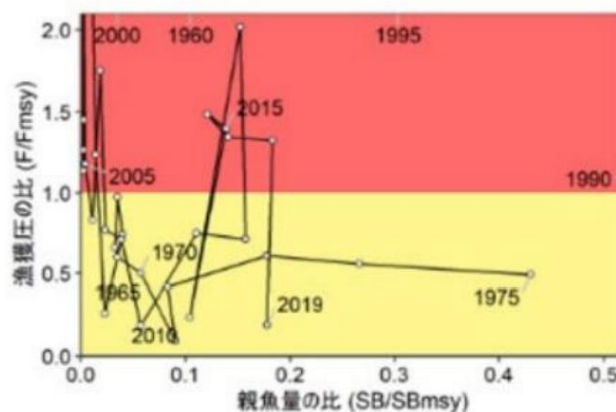Source: FRA, 2020a.

Figure 4. Kobe plot for Japanese pilchard in the East China Sea and Sea of Japan displaying the relationship (past and present) between SSB and fishing mortality.
Source: FRA, 2020b.

Therefore, the species is considered, in its most recent stock assessment, to have a biomass BELOW the biomass reference point and it FAILS clause C1.2.

The stock will be assessed under category D.

References

FRA (2020a). Stock Assessment of Japanese Sardine Pacific Stock in 2020, Japan Fisheries Research and Education Agency (FRA). http://www.fra.affrc.go.jp/shigen_hyoka/peer_review/2020/23.pdf

FRA (2020b). Stock Assessment of Japanese Sardine Tsushima Stock in 2020, Japan Fisheries Research and Education Agency (FRA). http://www.fra.affrc.go.jp/shigen_hyoka/peer_review/2020/27.pdf	
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		Japanese Pilchard (*Sardinops sagax melanostictus*)
	Productivity Attribute	**Value**	**Score**
	Average age at maturity (years)	2.2 years	1
	Average maximum age (years)	8.6 years	1
	Fecundity (eggs/spawning)	25,495	1
	Average maximum size (cm)	39.5 cm	1
	Average size at maturity (cm)	19.7 cm	1
	Reproductive strategy	Broadcast Spawn	1
	Mean trophic level	2.8	2
		Average Productivity Score	**1.14**
	Susceptibility Attribute	**Value**	**Score**
	Availability (area overlap)	10-30%	2
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)	High Encounterability	3
	Selectivity of gear type	High Selectivity	3
	Post-capture mortality	Retained	3
		Average Susceptibility Score	**2.75**
		PSA Risk Rating (From Table D3)	**PASS**
		Compliance rating	**PASS**

Further justification for susceptibility scoring (where relevant)

1. Availability: The geographic range of the species encompasses the western Pacific Ocean from norther Japan to southern Australia and New Zealand.

2. Gear types type not provide by client. Encounterability cannot be scored. Score of 3 assigned as conservative measure.
3. Gear types type not provide by client. Selectivity cannot be scored. Score of 3 assigned as conservative measure.
4. This species is retained and receives a score of 3.

References

Fishbase – *Sardinops sagax*:

https://www.fishbase.us/summary/SpeciesSummary.php?ID=1477&genusname=Sardinops&speciesname=sagax%20melanosticta

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