IFFO RS V2.0

FISHERY ASSESSMENT METHODOLOGY AND TEMPLATE REPORT

Fishery Under Assessment	Blue Mackerel *S. australasicus* FAO 61 Northwest Pacific
Date	December 2018
Assessor	Jim Daly

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Application details and summary of the assessment outcome				
Name: Golden Prize Canning				
Address:				
Country: Thailand		**Zip:**		
Tel. No.		**Fax. No.**		
Email address:		**Applicant Code**		
Key Contact:		**Title:**		
Certification Body Details				
Name of Certification Body:		**SAI Global Ireland**		
Assessor Name	**Peer Reviewer**	**Assessment Days**	**Initial/Surveillance/ Re-approval**	**Whole fish / By-product**
Jim Daly	Virginia Polonio	0.5	Initial	By-product
Assessment Period		2017-2018		
Scope Details				
Management Authority (Country/State)		Thailand Department of Fisheries		
Main Species		Blue mackerel (*S.australasicus*)		
Fishery Location		Pacific Northwest FAO 61		
Gear Type(s)		Pelagic gears		
Outcome of Assessment				
Overall Outcome		PASS		
Clauses Failed		NONE		
Peer Review Evaluation		APPROVE		
Recommendation		APPROVE		

Assessment Determination

This byproduct is imported into Thailand from vessels fishing mainly in the Pacific Northwest FAO area 61. There is a fishery management framework at the national level (Thailand) although this is not applied specifically to Blue mackerel. Fisheries management in general is supported by data collection and stock assessment, but species-specific research is extremely limited. There is no evidence of any species-specific management measures for Blue mackerel in FAO 61.

Further research is needed on the factors determining population fluctuations and recruitment levels, and to determine if localised or regional removals are occurring. This would enable improved prediction of population dynamics, allowing for more effective stock management.   Without regulation, fishing effort could exceed sustainable levels and become a major threat to the population.

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. The fishery is assessed using the risk-based Productivity Susceptibility Analysis (PSA) as per IFFO-RS v 2.0 procedures for Category D species.

S.australasicus has been assessed as a species of least concern on the current IUCN Red List of threatened species and is currently not listed on the current CITES appendices of endangered species.

The assessment team recommends the approval of this byproduct material against the IFFO RS standard v 2.0 for the production of fishmeal and fish oil.

Peer Review Comments

Notes for On-site Auditor

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Species-Specific Results

Category	Species	% landings	Outcome (Pass/Fail)	
Category A			A1	
			A2	
			A3	
			A4	
Category B				
Category C				
Category D	Blue mackerel *S.australasicus*	N/A	PASS	

[List all Category A and B species. List approximate total %age of landings which are Category C and D species; these do not need to be individually named here]

HOW TO COMPLETE THIS ASSESSMENT REPORT
This assessment template uses a modular approach to assessing fisheries against the IFFO RS standard.

By-products
The process for completing the template for **by-product raw material** is as follows:

1. ALL ASSESSMENTS: Complete the Species Characterisation table with the names of the by-product species and stocks under assessment. The '% landings' column can be left empty; all by-products are considered as Category C and D.

2. IF THERE ARE CATEGORY C BYPRODUCTS UNDER ASSESSMENT: Complete clause C1 for **each** Category C by-product.

3. IF THERE ARE CATEGORY D BYPRODUCTS UNDER ASSESSMENT: Complete Section D.

4. ALL OTHER SECTIONS CAN BE DELETED. Clauses M1 - M3, F1 - F3, and Sections A and B do not need to be completed for a by-product assessment.

By-product approval is awarded on a species-by-species basis. Each by-product species scoring a pass under the appropriate section may be approved against the IFFO RS Standard.

SPECIES CATEGORISATION

The following table should be completed as fully as the available information permits. All species regularly* caught in the fishery should be listed along with an estimate of the proportion of the catch each species represents. The species should then be divided into Type 1 and Type 2. **Type 1 species must represent 95% of the total catch. Type 2 species may represent a maximum of 5% of the catch (see Appendix B)**.

*Species which make up less than 0.1% of landings do not need to be listed (NOTE: ETP species are considered separately). The table should be extended if more space is needed. Discarded species should be included when known.

The 'stock' column should be used to differentiate when there are multiple biological or management stocks of one species captured by the fishery. The 'management' column should be used to indicate whether there is an adequate management regime specifically aimed at the individual species/stock. In some cases it will be immediately clear whether there is a species-specific management regime in place (for example, if there is an annual TAC). In less clear circumstances, the rule of thumb should be that if the species meets the minimum requirements of clauses A1-A4, an adequate species-specific management regime is in place.

NOTE: If any species is categorised as Endangered or Critically Endangered on the IUCN Red List, or if it appears in the CITES appendices, it **cannot** be approved for use as an IFFO RS raw material. This applied to whole fish as well as by-products.

TYPE 1 SPECIES (Representing 95% of the catch or more)

Category A: Species-specific management regime in place.

Category B: No species-specific management regime in place.

TYPE 2 SPECIES (Representing 5% OF THE CATCH OR LESS)

Category C: Species-specific management regime in place.

Category D: No species-specific management regime in place.

Common name	Latin name	Stock	% of landings	Management	Category
Blue mackerel	*S.australasicus*	FAO 61	N/A	Thailand	D

Category A species are assessed through an examination of the data collection, stock assessment, management measures, and stock status relating to the species. Category B species are assessed using a risk-based assessment covering similar areas. Category C species are assessed on stock status only. Category D species are assessed using a PSA analysis as described in the relevant section of this document.

CATEGORY D SPECIES

In a whole fish assessment, Category D species are those which make up less than 5% of landings and 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. In a by-product assessment, Category D species are those which are not subject to a species-specific management regime. In both cases, 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.

The process for assessing Category D species involves the use of a Productivity-Susceptibility Analysis (PSA) to further subdivide the species into 'Critical Risk', 'Major Risk' and 'Minor Risk' groups. If there are no Category D species in the fishery under assessment, this section can be deleted.

Productivity and susceptibility ratings are calculated using a process derived from the APFIC document "Regional Guidelines for the Management of Tropical Trawl Fisheries, which in turn was derived from papers by Patrick *et al* (2009) and Hobday *et al* (2007). Table D1 should be completed for each Category D species as follows:

- Firstly, the best available information should be used to fill in values for each productivity and susceptibility attribute.

- Table D2 should be used to convert each attribute value into a score between 1 and 3.

- The average score for productivity attributes and the average for susceptibility attributes should be calculated.

- Table D3 should be used to determine whether the species is required to meet the requirements of Table D4. A species which does not need to meet the requirements of D4 is automatically awarded a pass.

- Table D4 should be used to assess those species indicated by Table D3 to determine a pass/fail rating.

- Any Category D species which has been categorised by the IUCN Red List as Endangered or Critically Endangered, or which appears in the CITES appendices, automatically results in a fail.

D1	Species Name		Blue mackerel S.australasicus	
	Productivity Attribute		**Value**	**Score**
	Average age at maturity (years)		2	2
	Average maximum age (years)		7	1
	Fecundity (eggs/spawning)		No data	
	Average maximum size (cm)		30	1
	Average size at maturity (cm)		23	1
	Reproductive strategy		Broadcast spawners	1
	Mean trophic level		4.2	3
		Average Productivity Score		**1.5**
	Susceptibility Attribute		**Value**	**Score**
	Overlap of adult species range with fishery		50%	2
	Distribution		N/A	
	Habitat		Epipelagic, neritic	1
	Depth range		90-300m	3
	Selectivity		Up to 4m length	3
	Post-capture mortality		Released alive, short tows	1
		Average Susceptibility Score		**2.0**
		PSA Risk Rating (From Table D3)		**PASS**
		Compliance rating		**PASS**

References
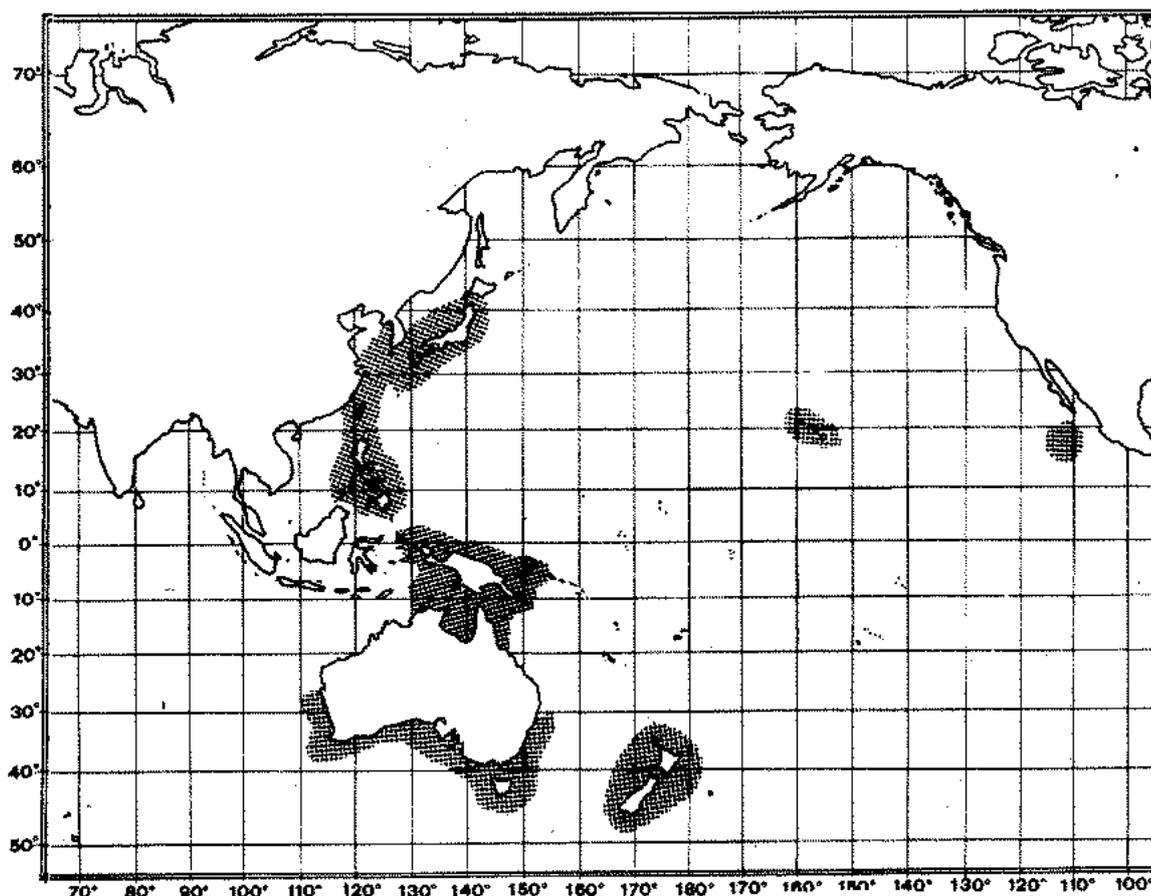
Figure 1 FAO Scombroids of the World Distribution of Blue mackerel **R1**

R1 FAO: Scombroids of the World

http://www.fao.org/docrep/pdf/009/ac478e/ac478e08.pdf

R2 Marine Fisheries Management Plan of Thailand (2016) ppt 26pp

R3 Fishbase: Blue mackerel

http://www.fishbase.org/Summary/SpeciesSummary.php?ID=116&AT=BLUE+MACKEREL

R4: John Stewart & Douglas J. Ferrell (2001 Age, growth, and commercial landings of yellowtail scad (*T. novaezelandiae*) and blue mackerel (*S.australasicus*) off the coast of New South Wales, Australia Journal of Marine and Freshwater Research, 35:3, 541-551

R5 Fishsource: Blue mackerel https://www.fishsource.org/stock_page/1084

R6 IUCN Red List http://www.iucnredlist.org/details/154989/0

R7 CITES list threatened species: http://checklist.cites.org/#/en

Standard clauses 1.3.2.1 - 1.3.2.4

Table D2 - Productivity / Susceptibility attributes and scores.

Productivity attributes	Low productivity/ High risk — Score 3	Medium productivity/ Medium risk — Score 2	High productivity/ Low risk — Score 1
Average age at maturity (years)	>4	2 to 4	<2
Average maximum age (years)	>30	10 to 30	<10
Fecundity (eggs/spawning)	<1 000	1 000 to 10 000	>10 000
Average maximum size (cm)	>150	60 to 150	<60
Average size at maturity (cm)	>150	30 to 150	<30
Reproductive strategy	Live bearer, mouth brooder or significant parental investment	Demersal spawner "berried"	Broadcast spawner
Mean trophic level	>3.25	2.5–3.25	<2.5

Susceptibility attributes		High susceptibility/ High risk — Score 3	Medium susceptibility/ Medium risk — Score 2	Low susceptibility/ Low risk — Score 1
Availability	1) Overlap of adult species range with fishery	>50% of stock occurs in the area fished	Between 25% and 50% of the stock occurs in the area fished	<25% of stock occurs in the area fished
	2) Distribution	Only in the country/ fishery	Limited range in the region	Throughout region/ global distribution
Encounterability	1) Habitat	Habitat preference of species make it highly likely to encounter trawl gear (e.g. demersal, muddy/sandy bottom)	Habitat preference of species make it moderately likely to encounter trawl gear (e.g. rocky bottom/reefs)	Depth or distribution of species make it unlikely to encounter trawl gear (e.g. epi-pelagic or meso-pelagic)
	2) Depth range	High overlap with trawl fishing gear (20 to 60 m depth)	Medium overlap with trawl fishing gear (10 to 20 m depth)	Low overlap with trawl fishing gear (0 to 10 m, >70 m depth)
Selectivity		Species >2 times mesh size or up to 4 m length	Species 1 to 2 times mesh size or 4 to 5 m length	Species <mesh size or >5 m length
Post capture mortality		Most dead or retained Trawl tow >3 hours	Alive after net hauled Trawl tow 0.5 to 3 hours	Released alive Trawl tow <0.5 hours

Note: Availability 2 is only used when there is no information for Availability 1; the most conservative score between Encounterability 1 and 2 is used.

D3		Average Susceptibility Score		
		1.00 – 1.75	1.76 – 2.24	2.25 – 3.00
Average Productivity Score	1.00 – 1.75	PASS	PASS	PASS
	1.76 – 2.24	PASS	PASS	TABLE D4
	2.25 – 3.00	PASS	TABLE D4	TABLE D4

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