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Global Standard for Responsible Supply of Marine Ingredients

Fishery Assessment Methodology and Template Report V2.0

Fishery Under Assessment	**Japanese scad (*Decapterus Maruadsi*) Thailand FAO areas 57 (Indian Ocean), 71 (Pacific Western Central)**
Date	**November 2018**
Assessor	**Jim Daly**

Application details and summary of the assessment outcome				
Name: TC Union Agrotech				
Address:				
Country:		**Zip:**		
Tel. No.:		**Fax. No.:**		
Email address:		**Applicant Code**		
Key Contact:		**Title:**		
Certification Body Details				
Name of Certification Body:		**SAI Global**		
Assessor Name	**Peer Reviewer**	**Assessment Days**	**Initial/Surveillance/Re-approval**	**Whole fish/ By-product**
Jim Daly	Virginia Polonio	0.5	Surveillance Yr. 2	By-product
Assessment Period	2017-2018			

Scope Details	
Management Authority (Country/State)	Thailand Department of Fisheries
Main Species	Japanese scad (*Decapterus Maruadsi*)
Fishery Location	Gulf of Thailand FAO 57 71
Gear Type(s)	Mixed pelagic
Outcome of Assessment	
Overall Outcome	PASS
Clauses Failed	CATEGORY D None
Peer Review Evaluation	Stock structure of Japanese scad is not yet clear and further studies should to be conducted within both South China and Andaman Seas to have a clear idea of the situation of the stock.
Recommendation	APPROVE

Assessment Determination
There is a fishery management framework at the national level, although this is not applied specifically to Japanese scad. Fisheries management in general in Thailand is supported by data collection and stock assessment, but species-specific research on Japanese scad is extremely limited. The stock structure of Japanese scad is not clear and further studies should to be conducted within both South China and Andaman Seas. Stock assessments have not been carried out since 2010 (Thai Andaman Sea stock (Boonsuk et al., 2010). The species fails Category C as the species is not subject to a species-specific management regime and biological reference points (including B_{lim} biomass limit reference point) have not yet been determined. The comparative lack of scientific information on the status of the population means that a risk-assessment style approach must be taken. The species is assessed as a Category D species and passes. This species has not been assessed by the IUCN Red List and currently does not appear in the CITES appendices of endangered species (websites accessed 29.11.18). 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

Note: This table should be completed for whole fish assessments only.

Species-Specific Results

Category	Species	% landings	Outcome (Pass/Fail)	
Category A			A1	
			A2	
			A3	
			A4	
Category B				
Category C				
Category D	Japanese scad (*Decapterus Maruadsi*)	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.

Whole Fish

The process for completing the template for a **whole fish** assessment is as follows:

1. ALL ASSESSMENTS: Complete the Species Characterisation table, to determine which categories of species are present in the fishery.
2. ALL ASSESSMENTS: Complete clauses M1, M2, M3: Management.
3. IF THERE ARE CATEGORY A SPECIES IN THE FISHERY: Complete clauses A1, A2, A3, A4 for **each** Category A species.
4. IF THERE ARE CATEGORY B SPECIES IN THE FISHERY: Complete the Section B risk assessment for **each** Category B species.
5. IF THERE ARE CATEGORY C SPECIES IN THE FISHERY: Complete clause C1 for **each** Category C species.
6. IF THERE ARE CATEGORY D SPECIES IN THE FISHERY: Complete Section D.
7. ALL ASSESSMENTS: Complete clauses F1, F2, F3: Further Impacts.

A fishery must score a pass in **all applicable clauses** before approval may be recommended. To achieve a pass in a clause, the fishery/species must meet **all** of the minimum requirements.

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.

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:**	Japanese scad (*Decapterus Maruadsi*)	
	Productivity Attribute	**Value**	**Score**
	Average age at maturity (years)	0.8	1
	Average maximum age (years)	3	1
	Fecundity (eggs/spawning)	Not known	-
	Average maximum size (cm)	25cm	1
	Average size at maturity (cm)	15.8	1
	Reproductive strategy	Broadcast spawner	1
	Mean trophic level	3.4	3
		Average Productivity Score	**1.33**
	Susceptibility Attribute	**Value**	**Score**
	Overlap of adult species range with fishery	25 -50 %	2
	Distribution	Throughout region	1
	Habitat	Sublittoral zone	2
	Depth range	0-20	2
	Selectivity	1-2 times mesh size	2
	Post-capture mortality	Most dead or retained	3
		Average Susceptibility Score	**2**
		PSA Risk Rating (From Table D3)	**PASS**
		Compliance rating	**PASS**
References			

R1 Boonsuk, S., Jaiyen, T., Sumontha, M., Nontapun, T., 2010Stock Assessment of Round Scad Decapterus maruadsi(Temminck & Schlegel, 1843) along the Andaman Sea Coast of Thailand. Technical Paper No. 5/2010, 35pp http://satunmarine.com/Stock%20assesment%20of%20round%20scad.pdf
R2 FAO Country Profile Thailand: http://www.fao.org/fishery/facp/THA/en
R3 Thailand Department of Fisheries**:** Management Plan (2016) pdf ppt d26pp
R4 Yingyuad, W., Chanrachkij, I., 2010. Purse Seine Fisheries of Thailand. Training Department Southeast Asian Fisheries Development Center. June 2010. 72pp.
http://www.seafdec.or.th/library/public/downloads/2010/Purse%20Seine%20Fisheries%20of%20Thailand.pdf
R5 Fishsource Japanese Scad: https://www.fishsource.org/stock_page/1085
R6 IUCN Redlist: http://oldredlist.iucnredlist.org/search (accessed 29.11.18)
R7 Fishbase Japanese scad (*Decapterus Maruadsi*): http://www.fishbase.org/summary/Decapterus-maruadsi.html (accessed 29.11.18)
R8 CITES Checklist: http://checklist.cites.org/#/en/=JAPANESE+SCAD (accessed 29.11.18)

Standard clauses 1.3.2.2

Table D2 - Productivity / Susceptibility attributes and scores.

Productivity attributes	Low productivity/ High risk	Medium productivity/ Medium risk	High productivity/ Low risk
	Score 3	Score 2	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	Medium susceptibility/ Medium risk	Low susceptibility/ Low risk
		Score 3	Score 2	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.