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Global Standard for Responsible Supply of Marine Ingredients

Fishery Assessment Methodology and Template Report V2.0

Fishery Under Assessment	**Argentine hake (*Merluccius hubbsi*) FAO Zone South of 41ºS**
Date	**October 2019**
Assessor	**Jim Daly**

Application details and summary of the assessment outcome				
Name: Augustiner S.A, Coomarpes Ltd				
Address:				
Country: Argentina		**Zip:**		
Tel. No.:		**Fax. No.:**		
Email address:		**Applicant Code**		
Key Contact:		**Title:**		
Certification Body Details				
Name of Certification Body:		**SAI Global Ltd**		
Assessor Name	**Peer Reviewer**	**Assessment Days**	**Initial/Surveillance/Re-approval**	**Whole fish/ By-product**
Jim Daly	Vito Romito	0.5	Surveillance 2	By-product
Assessment Period	2018-2019			

Scope Details	
Management Authority (Country/State)	Federal Fisheries Council Consejo Federal Pesquero (CFP) Argentina
Main Species	Argentine hake (*Merluccius hubbsi)*
Fishery Location	Mar del Plata, FAO Zone South of 41ºS Argentina
Gear Type(s)	Demersal trawl
Outcome of Assessment	
Overall Outcome	PASS
Clauses Failed	NONE
Peer Review Evaluation	Approve
Recommendation	**Pass**

Assessment Determination
The Federal Fisheries Council (Consejo Federal Pesquero CFP) is the State body that defines the country's fisheries policy and is the main regulator of maritime fishing activity at the national level. INIDEP (Instituto Nacional de Investigación y Desarrollo Pesquero) advise Government on the rational use of sustainable fishery resources and conduct stock assessments. Data has been compiled from landings of Argentine hake (1990-2016). Catch-at-age evaluations of the stock are carried out annually by Argentina's INIDEP (Instituto Nacional de Investigación y Desarrollo Pesquero). A mathematical model (APV-XSA) is applied to obtain estimates of recruitment and age-related fishing mortality. A statistical model of catch-at-age on the ADMB platform (ECE) was also applied. Calibration indices used included catch per unit of effort (CPUE) and age-related abundance indices obtained from research cruises. Fishery removals of the species in the fishery under assessment are included in the stock assessment process. Total catch of this stock (South of 41^{o}S) in 2017 amounted to 420, 946t. The objective of the current management plan is to allow spawning stock biomass (SSB) to recover to 600,000t. Models currently show SSB at below this target reference point B_{trp} but above B_{lim}. A biologically acceptable catch (BAC), with a 90% probability of meeting B_{trp} for the 2019 fishery not exceeding 290,000t was proposed. The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy). Argentine hake has not yet been assessed for the IUCN Red List and is not on the current list of CITES endangered species (websites accessed 08.10.19). Argentine hake is approved by the assessment team for the production of fishmeal and fish oil under the IFFO-RS v 2.0 standard for by-products.
Peer Review Comments
Abundance indices for Argentine Hake derived from the 2018 juvenile surveys showed a 7% increase on data obtained from the previous year's surveys. The objective of the current management plan is to allow spawning stock biomass (SSB) to recover to 600,000t. In line with this plan and considering estimates of both discards and level of under-declaration in previous years (87,000t) and a projected by-catch of 40,000t a biologically acceptable catch (BAC), with a 90% probability of reaching SSB of 600,000t (Btrp) of 280,000t was proposed. Objectives of the current management plan have still not been achieved as models show SSB at below target reference point B_{trp} but above $B_{lim.}$ The Peer Reviewer agrees that Argentine hake should be approved for the production of fishmeal and fish oil under the IFFO-RS v 2.0 standard for by-products.
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	Argentine hake *Merluccius hubbsi*	N/A	PASS	
Category D				

[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.

SPECIES CATEGORISATION

The following table should be completed as fully as the available information permits. Any species representing more than 0.1% of the annual catch 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 as follows:

- **Type 1 Species** can be considered the 'target' or 'main' species in the fishery. They make up the bulk of annual landings and are subjected to a detailed assessment.
- **Type 2 Species** can be considered the 'bycatch' or 'minor' species in the fishery. They make up a small proportion of the annual landings and are subjected to relatively high-level assessment.

Type 1 Species must represent 95% of the total annual catch. Type 2 Species may represent a maximum of 5% of the annual 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
Argentine hake	*Merluccius hubbsi*	Mar del Plata	N/A	Federal Fisheries Council: Consejo Federal Pesquero (CFP)	C

CATEGORY C SPECIES

In a whole fish assessment, Category C species are those which make up less than 5% of landings, but which are subject to a species-specific management regime. In most cases this will be because they are a commercial target in a fishery other than the one under assessment. 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. A Category C species does not meet the minimum requirements of clause C1 should be re-assessed as a Category D species.

Species Name		Argentine Hake *Merluccius hubbsi*	
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**

Evidence

C1.1:

Data has been compiled from landings of Argentine hake (1990-2016). Catch-at-age evaluations of the stock are carried out annually by Argentina's INIDEP (Instituto Nacional de Investigación y Desarrollo Pesquero). A mathematical model (APV-XSA) is applied to obtain estimates of recruitment and age-related fishing mortality. A statistical model of catch-at-age on the ADMB platform (ECE) was also applied. Calibration indices used included catch per unit of effort (CPUE) and age-related abundance indices obtained from research cruises.

Estimation of the biologically acceptable catch (BAC) for 2019 was undertaken using a risk analysis derived from models and catch data from the 2018 fishery. Bycatch data from the fleet targeting Patagonian prawns and data from the on-board observer programme (both fleets) were also used. Third Country data (including Uruguay fleet catches) on Argentine hake landings were provided by FAO; discard estimates were also included in order to obtain catch-at-age estimates.

Fishery removals of the species in the fishery under assessment are included in the stock assessment process. The species passes Clause C1.1.

C1.2:

Abundance indices derived from the 2018 juvenile surveys showed, over the same area covered, a 7% increase on data obtained from the previous year's surveys. The objective of the current management plan is to allow spawning stock biomass (SSB) to recover to 600,000t. In line with this plan and considering estimates of both discards and level of under-declaration in previous years (87,000t) and a projected by-catch of 40,000t a biologically acceptable catch (BAC), with a 90% probability of reaching SSB of 600,000t (Btrp) of 280,000t was proposed.

Objectives of the current management plan have still not been achieved as models show SSB at below target reference point B_{trp} but above $B_{lim.}$

The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy). The species passes Clause C1.2.

References

R1 Federal Fisheries Council, Argentina http://cfp.gob.ar/institucional

R2 Instituto Nacional de Investigación y Desarrollo Pesquero (INIDEP) https://www.argentina.gob.ar/inidep

R3 SANTOS, Betina Andrea; VILLARINO, Maria Fernanda Informe INIDEP Tecnico Oficial N^{O} 044. Nov 2018. 43pp Evaluación del estado de explotación del efectivo sur de 41^{O} s de merluza (*Merluccius hubbsi*) y estimación de la captura biológicamente aceptable para 2019. 43pp

https://www.inidep.edu.ar/solicitud-de-informes-catalogo/ito-2018.html **R4** Fishsource Argentine Hake (Patagonian): https://www.fishsource.org/stock_page/1136 **R5** IUCN Red List Argentine hake https://www.iucnredlist.org/ **R6** Argentine Hake CITES Checklist http://checklist.cites.org/#/en
Standard clauses 1.3.2.2