



RESPONSIBLE
SUPPLY

IFFO RS
Global Standard for Responsible Supply
of Marine Ingredients

IFFO RS Limited

T: +44 (0) 2030 539 195
E: Standards@iffors.com
W: www.iffors.com

Unit C, Printworks | 22 Amelia Street
London, SE17 3BZ | United Kingdom



Global Standard for Responsible Supply of Marine Ingredients Fishery Assessment Methodology and Template Report V2.0



RESPONSIBLE
SUPPLY

IFFO RS
Global Standard for Responsible Supply
of Marine Ingredients



Fishery Under Assessment	Argentine hake (<i>Merluccius hubbsi</i>) FAO Zone South of 41°S
Date	January 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		
Assessor Name	Peer Reviewer	Assessment Days	Initial/Surveillance/Re-approval	Whole fish/ By-product
Jim Daly	Vito Romito	0.5	Surveillance 1	By-product
Assessment Period	2018			

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

Assessment Determination
<p>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.</p> <p>Total catch of this stock (South of 41°S) in 2016 amounted to 400,823t (5% increase from 2015). In 2016 an evaluation of the entire stock was undertaken in order to accurately estimate population structure; in 2017 recruitment indices were also calculated. These data have increased the accuracy of assessment models used in 2017 to estimate a biologically acceptable catch (BAC) for 2018.</p> <p>The objective of the current management plan is to allow spawning stock biomass (SSB) to recover to 600,000t. This has still not been achieved as 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 2018 fishery not exceeding 290,000t was proposed.</p> <p>Impacts of the fishery on the ecosystem are poorly known or informed. Technical measures in place should contribute to protecting spawning stock and juveniles in the fishery. This should be confirmed during future assessments of the fishery for IFFO-RS approval.</p> <p>Fishery removals of the species in the fishery under assessment are included in the stock assessment process; the species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy).</p> <p>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 17.01.19)</p> <p>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.</p>

Peer Review Comments
<p>Estimation of the biologically acceptable catch (BAC) for 2018 was undertaken using a risk analysis derived from both models and from catch data derived from the 2017 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 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.</p> <p>The objective of the current management plan is to allow spawning stock biomass (SSB) to recover to 600,000t. This has still not been achieved as the models 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 the objective of reaching SSB of 600,000t (B_{trp}) for 2018 was proposed. Estimates were obtained after deducting amounts for species misreporting; discards and bycatch. The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point.</p> <p>The Peer Reviewer is in agreement with the Assessor's determination to approve Argentine hake for the production of fishmeal and fish oil under the IFFO-RS v 2.0 standard for by-products.</p>
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 <i>Merluccius hubbsi</i>	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	<i>Merluccius hubbsi</i>	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 <i>Merluccius hubbsi</i>	
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:			
<p>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. It was created by the federal Fisheries regime (Law No. 24,922) by a body consisting of five provincial Representatives, one for each province with a maritime coastline, and five Representatives of the national State. INIDEP (Instituto Nacional de Investigación y Desarrollo Pesquero) advise Government on the rational use of sustainable resources in order to preserve the marine ecosystem for future generations.</p> <p>Based on data from landings of Argentine hake (<i>Merluccius hubbsi</i>, 1990-2016) and catch-at-age estimates an evaluation of the stock (South of 41°S) was carried out in 2017. The mathematical model (APV-XSA) was 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 were catch per unit of effort (CPUE) and age related abundance indices obtained from research cruises.</p> <p>Estimation of the biologically acceptable catch (BAC) for 2018 was undertaken using a risk analysis derived from both models and from catch data derived from the 2017 fishery. Bycatch data from the fleet targeting</p>			

Patagonian prawns and data from the on board observer programme (both fleets) were also used. Third Country data (including Uruguay) on Argentine hake landings were provided by FAO; discard estimates were also included in order to obtain catch-at-age estimates.

Total catch in 2016 amounted to 400,823t (5% increase from 2015). In 2016 an evaluation of the entire Argentine hake stock was undertaken in order to estimate population structure; in 2017 recruitment indices were also calculated. These data have increased the accuracy of the assessment models used in 2017 to estimate a biologically acceptable catch (BAC) for 2018. Stock biomass increased (2012, 2013) and then declined in 2016 while discards, bycatch and third country catches have increased steadily since 2013.

Fishery removals of the species in the fishery under assessment are included in the stock assessment process

R1-R3

C1.2:

Total biomass (Jan 2016) was estimated at 796,634t according to the model APV-XSA, whereas with the ECE model this figure was either 14% (C2) or 19% (C1) higher. Spawning stock (2016) was estimated at 484,000t for one model and between 580,000t-610,000t with the other model. Recruitment estimates for 2016 were lower than the average, however there is some degree of uncertainty on these data. Model projections gave a proposed range of 232,000t - 293,000t for the 2018 BAC.

Fishing mortality was stable for the 3-6 year cohort (2014-2016); while for the age 3 cohort this had increased by 2016. Within the fishery there is a permanent area of no fishing to protect juvenile hake.

The objective of the current management plan is to allow spawning stock biomass (SSB) to recover to 600,000t. This has still not been achieved as the models 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 the objective of reaching SSB of 600,000t (B_{trp}) for 2018 was proposed. Estimates were obtained after deducting amounts for species misreporting; discards and bycatch.

Recommendations for 2018 were that captures should not exceed 290,000t in order to meet medium term objectives. This amount includes third country catches. Impacts of the fishery on the ecosystem are poorly known or informed.

Technical measures in place should also contribute to protecting spawning stock and juveniles in the fishery:

- Protected area for juveniles (Patagonian area). An electronic Vessel Monitoring System aids enforcement of closed zones.
- Use of selective fishing gear and devices to mitigate capture of juveniles: a minimum mesh size of 120 mm is in force.
- Discard reduction techniques; a minimum landing size is in force.
- Increased controls on catch reporting.
- Increased controls on the Patagonian prawn fleet during hake spawning season (October-April).
- Continued presence of Observers on both fleets to improve data collection.

The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy). Total biomass (Jan 2016) was estimated at 796,634t according to the model APV-XSA, whereas

with the ECE model this figure was either was 14% or 19% higher. Spawning stock (2016) was estimated at 484,000t for one model and between 580,000t-610,000t with the other model.

R3

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 INIDEP (2017) Informe Tecnico Oficial N° 41. 11/12/2017. 46 p. Evaluación del estado de explotación del efectivo sur de 41° S de merluza (*Merluccius hubbsi*) y estimación de la captura biológicamente aceptable para 2018 <https://www.inidep.edu.ar/component/k2/240.html?Itemid=354>

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