MarinTrust Standard V2

By-product Fishery Assessment South Pacific hake *(Merluccius gayi)* in FAO87- Pacific Southeast

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	South Pacific hake (*Merluccius gayi)* in FAO 87 - Pacific southeast
	Geographical area:	FAO 87 - Pacific southeast
	Country of origin of the product:	Ecuador
	Stock:	South Pacific hake in FAO 87 - Pacific southeast
Date	16 November 2023	
Report Code	ECU08	
Assessor	Ana Elisa Almeida Ayres	
Country of origin of the product - PASS	Ecuador	
Country of origin of the product - FAIL	N/A	

Application details and summary of the assessment outcome			
Company Name(s): Urisa S.A.; Tadel S.A.; Productos Pesqueros S.A.; Pesquera Exu S.A.			
Country: Ecuador			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		Global Certification Trust/NSF	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Ana Elisa Almeida Ayres	Matthew Jew	0.5	Surveillance 1
Assessment Period	December 2023 – December 2024		

Scope Details	
Main Species	South Pacific hake (*Merluccius gayi*)
Stock	South Pacific hake in FAO 87 - Pacific Southeast
Fishery Location	FAO 87 - Pacific Southeast
Management Authority (Country/ State)	Vice-ministry of Aquaculture and Fisheries of Ecuador and Ministry of Production of Peru (PRODUCE)
Gear Type(s)	Purse seine and trawls
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor's recommendation
Recommendation	APPROVED

Table 2. Assessment Determination

Assessment Determination
If any species is categorised as Endangered or Critically Endangered on Union for Conservation of Nature's Red List of Threatened Species - IUCN's Red List, or if it appears in the Convention on International Trade in Endangered Species of Wild Fauna and Flora - CITES appendices, it cannot be approved for use as Marin Trust raw material. South Pacific hake (*Merluccius gayi*) is not categorised as Endangered or Critically Endangered on IUCN's Red List and does not appear in CITES appendices; therefore, south Pacific hake (*Merluccius gayi*) is eligible for approval for use as Marin Trust by-product raw material. South Pacific hake has a latitudinal distribution, extending from northern Ecuador (010N) to central Peru (140S). Instituto del Mar del Peru – IMARPE undertakes annual stock assessments which include the shared stock with Ecuador. No stock assessment for this stock was published since last MarinTust report. There are specific management measures and reference points are defined for the stock, so it has been assessed under Category C. Fishery removals of the stock is considered in the various stock assessment processes and the most recent estimated spawning stock biomass (SSB) is above Blim, so the stock PASSES Clauses C1.1 and C1.2 Therefore, south Pacific hake (*Merluccius gayi*) in FAO 87 Pacific southeast is APPROVED for the production of fishmeal and fish oil under the current MarinTrust v2.3 by-products standard.
Fishery Assessment Peer Review Comments
The assessor correctly classified south Pacific hake in FAO 87 as Category C, the stock is subject to a species specific management regime and reference points are defined. Fishery removals are considered in the stock assessment process. The most recent stock assessment shows that the stock is above limit reference point. Therefore, south Pacific hake (*Merluccius gayi*) in FAO 87 should be approved under MarinTrust Standard v2.3.
Notes for On-site Auditor
N/A

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]
South Pacific Hake	*Merluccius gayi*	South Pacific hake in FAO 87	Vice-ministry of Aquaculture and Fisheries of Ecuador and Ministry of Production of Peru (PRODUCE)	C	DD	No

[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		**South Pacific hake (*Merluccius gayi*)**	
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.	Yes
		Clause outcome:	Pass

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.

The procedure for the estimation of hake stock status is described in IMARPE (2018) and consists of the use of two methods:

- direct methods (hake and other demersal population assessment cruises, usually 2 annuals with at least two complementary surveys, with the help of trawl fleets for verification purposes), using swept area and acoustic methods;
- indirect methods (XSA - eXtended Survivor Analysis).

The application of direct methods is carried out during the autumn season, a season that corresponds to the maximum projection of the secondary jet of the Cromwell Current, when the hake population extends its distribution area to the south, presenting the necessary conditions for its evaluation off the Peruvian coast. Data on capture by age and number of individuals (by year) was used to generate abundance indices.

During 2022, some problems arose that did not allow the assessment cruise to be carried out on board a research vessel. In view of this situation, IMARPE conducted "Hake Operations" on board commercial fishing vessels, which are carried out under a work plan and guidelines given by IMARPE, with the objective of characterizing the situation of the main population and fishing indicators of the resource.

Considering the limitations and using the best scientific information available, the following activities were carried out to estimate the biomass and population structure of hake that supported the July 2022 - June 2023 fishing regime:

(a) estimation of hake abundance indices by age group from the data of Hake Operations carried out during the May - June period, in order to have indicators in conditions similar to those obtained during the assessment cruises;
b) application of eXtended Survivor Analysis (XSA) as the main hake assessment method. This procedure corresponds to the methodology used in 2018, as well as in the international assessment panels of the mentioned resource.

The Ministerial Resolution Nº 00227-2022-PRODUCE established a maximum limit of the allowed total catch – LMTCP ("*Límite Máximo de Captura Total Permisible*") of 47,287 tons for the fishing season from June 2022- June 2023, based on the results of the fishing assessment. In the end of February 2023, the catches were in 11,070.5 tons (Figure 1).

Tabla 1. Desembarque (t) de merluza por subárea al 23 de febrero de 2023
(A: Frontera norte – 04°00'S; B: 04°00'S – 05°00'S; C: 05°00'S – 06°00'S y D: 06°00'S – 07°00'S)

Mes	A	B	C	D	Total
Julio	715,8	178,6	1449,1		2343,4
Agosto	408,8	53,4	1991,6		2453,8
Setiembre	0,0	18,8	2719,2		2738,0
Octubre	546,9	52,6	650,3	12,5	1262,4
Noviembre	449,0	8,2	23,2		480,4
Diciembre	148,6	41,4	161,2		351,2
Enero	300,2	22,4	130,7		453,3
1 - 15 Febrero	578,7	0,0	25,7		604,4
16 - 23 Febrero	297,3	5,4	80,8		383,6
Total	**3448,7**	**380,8**	**7232,8**	**12,5**	**11070,5**

Figure 1. Monthly landings of South Pacific hake in Peru (IMARPE, 2023).

Therefore, fishery removals of the species in the fishery under assessment are included in the stock assessment process, so it 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 hake stock yield projection was made considering the population structure (ages) estimated by extended Survivor Analysis (XSA), under the two calibration approaches analyzed. The mean biomass estimated by applying XSA under both calibration approaches were 432,077t and 380,375 t, of which 381,736 t and 333,083 t correspond to exploitable biomass (age group 2+) [Figure 2].

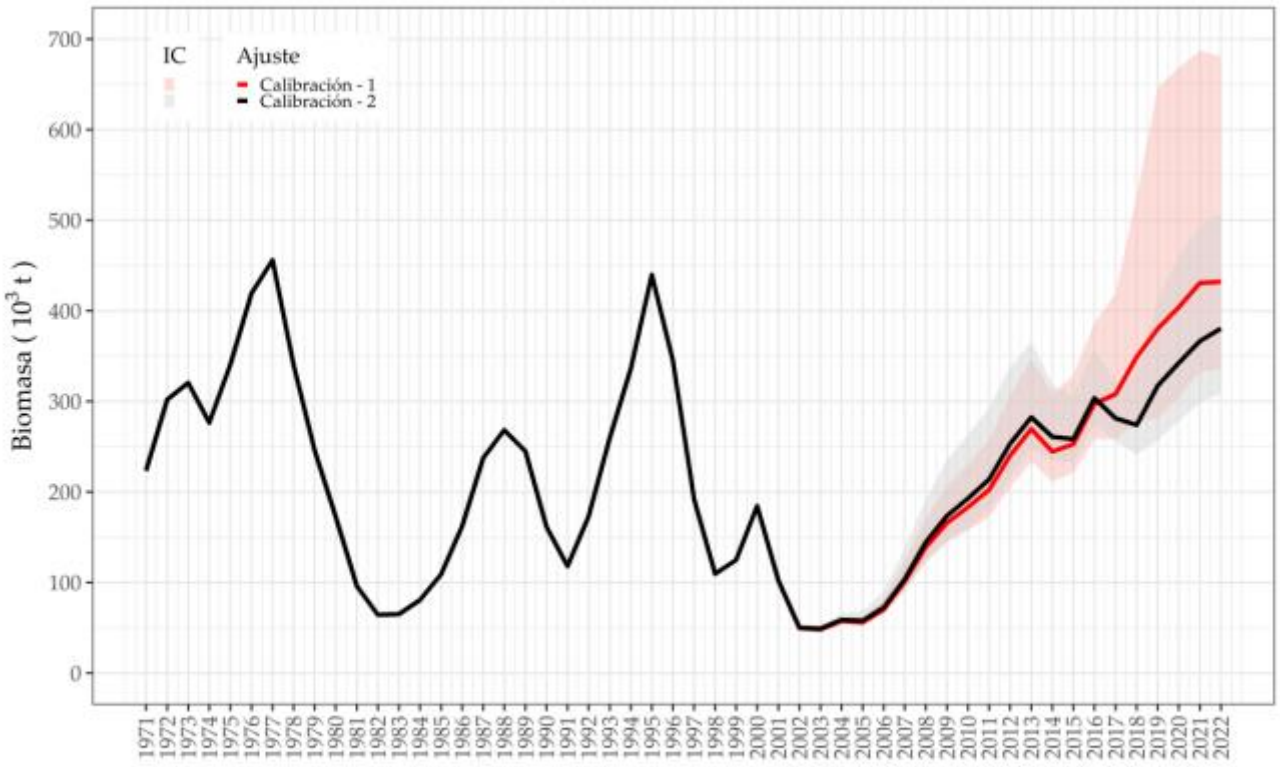

Figura 18. Biomasa media (toneladas) de merluza estimada bajo los dos enfoques de calibración

Figure 2. Mean biomass (tons) of hake estimated under the two calibration approaches (IMARPE, 2022).

Based on the conditions under which this assessment has been developed, and the biological considerations aimed at consolidating the current state of hake, the precautionary approach was applied, which recommends caution in the choice of exploitation level. In this sense, it is considered prudent that the exploitation rate continues to be set between 0.15 and 0.18.

Consequently, any Total Maximum Allowable Catch Limit (TAC) that is determined taking into consideration the range of exploitation rates mentioned above, would not affect the sustainability of the resource.

Considering the recent increase in biomass to an historical high point it is highly unlikely that the stock is near or below Blim, or in other words experiencing any impaired recruitment.

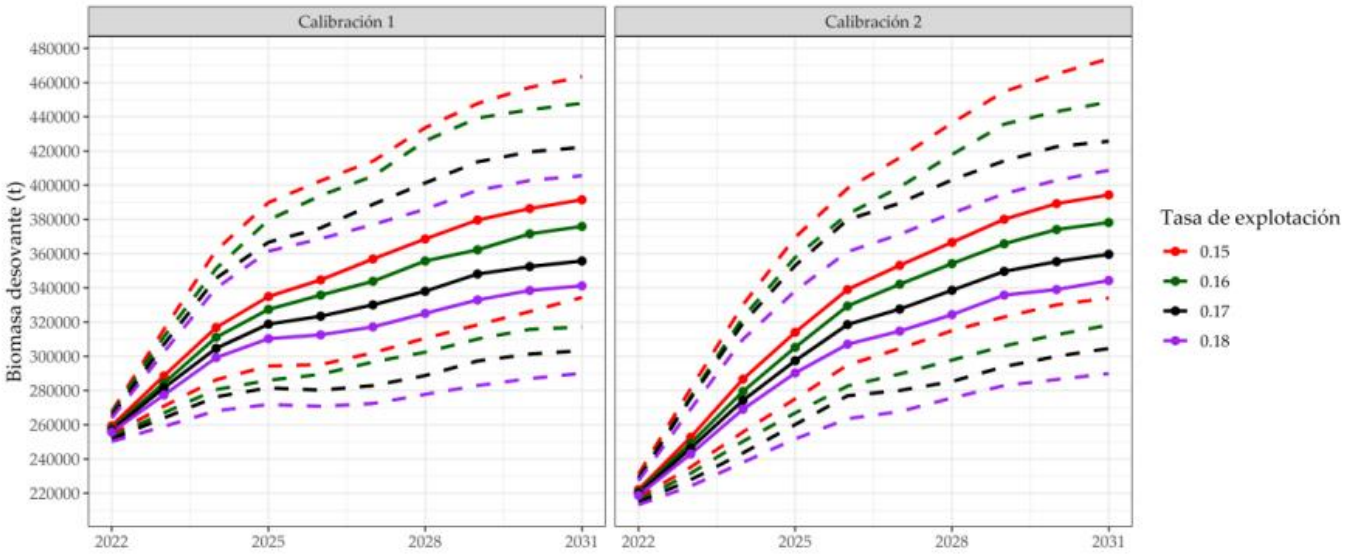

Figura 22. Proyecciones estocásticas de mediano plazo de la biomasa reproductora de merluza

Figure 3. Medium-term stochastic projections of the spawning biomass of hake (IMARPE, 2022).

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

References

IMARPE. 2022. Informe Correspondiente al Oficio N° 607-2022-IMARPE/PCD. Informe "Análisis de la Pesquería, Estado Poblacional Y Proyecciones de Pesca de la Merluza Peruana "*Merluccius gayi peruanus*" JULIO 2022 - JUNIO 2023.

IMARPE. 2023. Informe Correspondiente al Oficio N° 190-2023-IMARPE/PCD. Informe "Monitoreo del proceso reproductivo de la merluza peruana *Merluccius gayi peruanus* - Febrero 2023". https://cdn.www.gob.pe/uploads/document/file/4282572/Informe%20Proceso%20reproductivo%20merluza%20peruana%20Merluccius%20gayi%20peruanus.pdf?v=1679321125

Links	
MarinTrust Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01