



MarinTrust Standard V2

By-product Fishery Assessment

ECU08

South Pacific hake (*Merluccius gayi*)

In FAO87- Pacific Southeast

MarinTrust Programme

Unit C, Printworks

22 Amelia Street

London

SE17 3BZ

E: standards@marin-trust.com

T: +44 2039 780 819

Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	South Pacific hake (<i>Merluccius gayi</i>) in FAO 87 - Pacific southeast
	Geographical area:	FAO 87 - Pacific southeast
	Country of origin of the product:	Ecuador Flag country: Ecuador
	Stock:	South Pacific hake in FAO 87 - Pacific southeast
Date	December 2024	
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): Exu SA, Fortidex SA, Manabita de Comercio SA - Mancorsacom, Tadel SA, Productos Pesqueros SA Produpes, URISA SA, Lucomercon SA			
Country: Ecuador Flag country: Ecuador			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		NSF / Global Trust Certification Ltd	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/Re-approval
Ana Elisa Almeida Ayres	Matthew Jew	0.5	Re-approval
Assessment Period		December 2024 – December 2025	

Scope Details	
Main Species	South Pacific hake (<i>Merluccius gayi</i>)
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
<p>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 (<i>Merluccius gayi</i>) is not categorised as Endangered or Critically Endangered on IUCN's Red List and does not appear in CITES appendices; therefore, south Pacific hake (<i>Merluccius gayi</i>) is eligible for approval for use as Marin Trust by-product raw material.</p> <p>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. There are some reference points used for the assessments performed for this stock, thus Category C was applied.</p> <p>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</p> <p>Therefore, south Pacific hake (<i>Merluccius gayi</i>) in FAO 87 Pacific southeast is APPROVED for the production of fishmeal and fish oil under the current MarinTrust v2.3 by-products standard.</p>
Fishery Assessment Peer Review Comments
<p>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.</p> <p>Fishery removals are considered in the stock assessment process. The most recent stock assessment shows that the stock is above limit reference point.</p> <p>Therefore, south Pacific hake (<i>Merluccius gayi</i>) in FAO 87 should be APPROVED under MarinTrust Standard v2.3.</p>
Notes for On-site Auditor
<p>N/A</p>

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 a 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	<i>Merluccius gayi</i>	South Pacific hake in FAO 87	Yes	C	DD ³	No

¹ <https://www.iucnredlist.org/>

² <https://cites.org/eng/app/appendices.php>

³ <https://www.iucnredlist.org/species/183527/8128809>

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 (<i>Merluccius gayi</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
<p>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.</p> <p>The procedure for the estimation of hake stock status is described in IMARPE (2018) and consists of the use of two methods:</p> <ul style="list-style-type: none"> - 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). <p>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.</p> <p>The stock assessment of South Pacific hake considers the existence of a single stock unit, which is distributed off the north-central coast of Peru and off the Ecuadorian coast. To do so, the hake landings recorded for both countries were considered (Figure 1), given the existence of a regulated fishery in Ecuador since 2013. Data of landings, sizes and age structure, ogives of maturity and abundance indices were used for an Extended survivor analysis – (VPA-XSA) in the last stock assessment (Table 3).</p>			

Table 3. Summary of available information used in the application of Extended Survivor Analysis (VPA-XSA)[IMARPE, 2024].

Tipo	Área	Periodo	Observaciones
Desembarques	Perú	1971 - 2023	
	Ecuador	2001 - 2023	Estimado
Estructura por tallas	Perú	1971 - 2023	
	Ecuador	2001 - 2023	Estimado
Estructura por edad	Perú	Clave talla - edad con información de Perú	
	Ecuador		
Ojivas de madurez	Perú	Ojiva de madurez estimada para Perú	
	Ecuador		
Mortalidad Natural	Perú	0.38	
	Ecuador		
Índices de abundancia	Perú	2004 - 2023	Cruceros de investigación
		2016 - 2022	Operaciones Merluza

The landings data is shown in Figure 1.

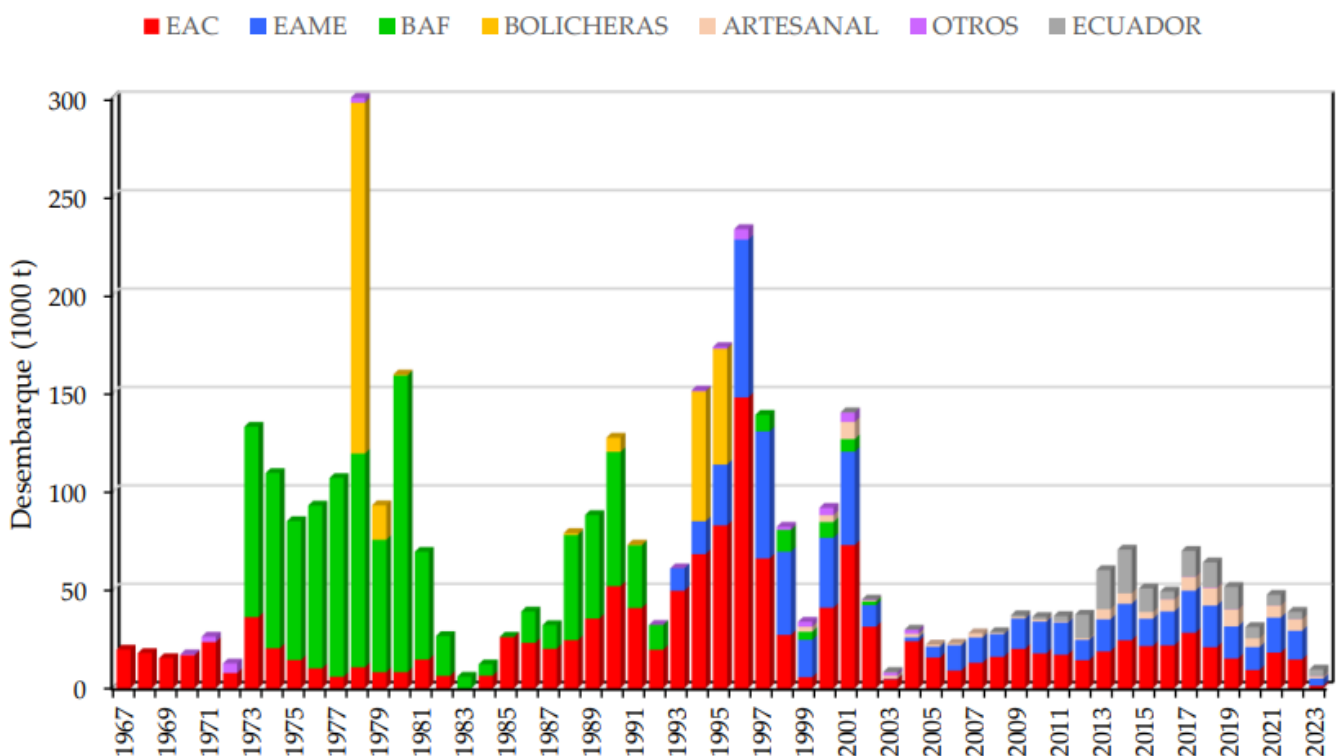


Figure 1. Landings of South Pacific hake in Peru by type of the fleet (IMARPE, 2024).

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 analysed. The mean biomass estimated by applying XSA under both calibration approaches were 325,489t and 252,370 t, of which 287,481t and 212,054t correspond to exploitable biomass (age group 2+) [Figure 2].

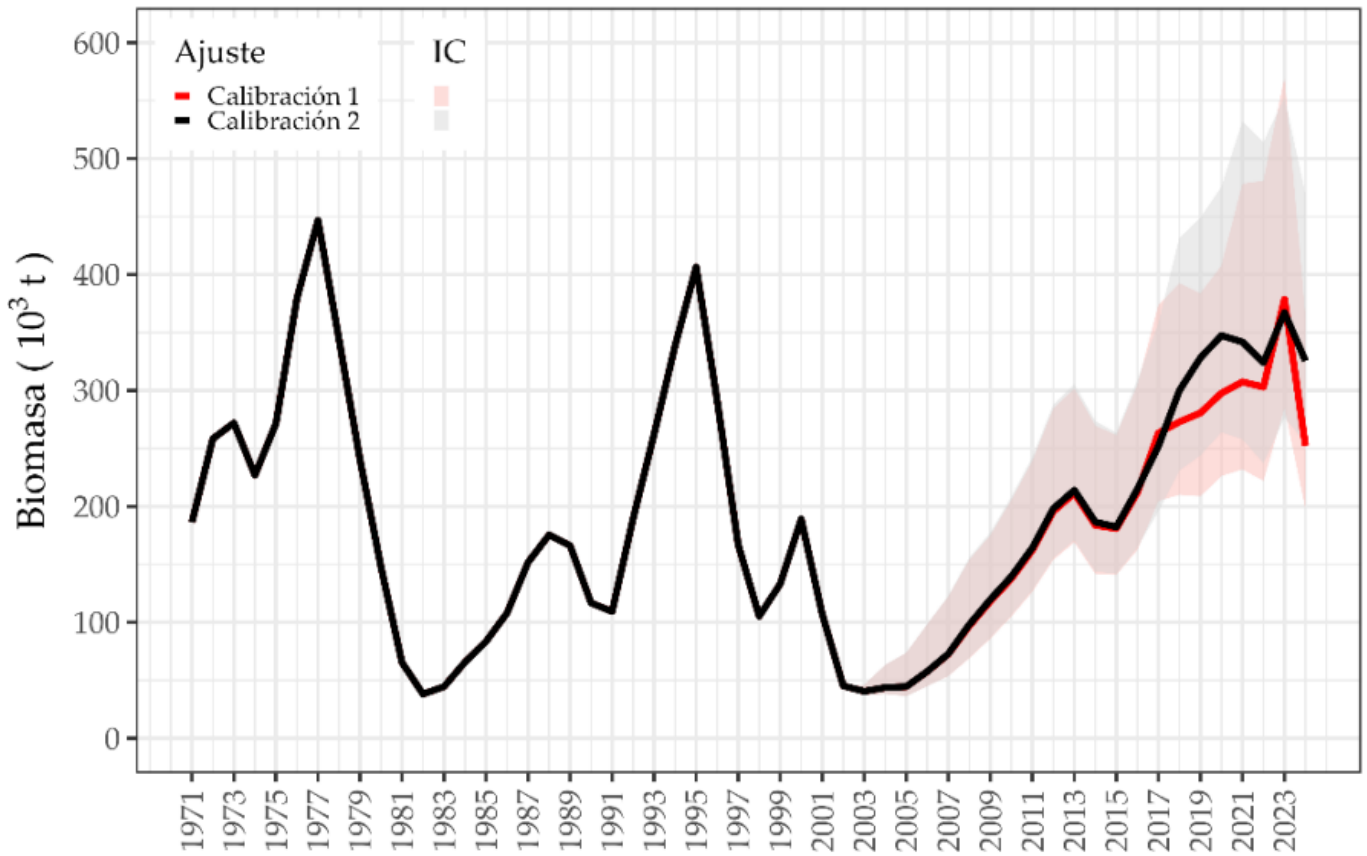


Figure 2. Mean biomass (tons) of hake estimated under the two calibration approaches (IMARPE, 2024).

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. With the recommended exploitation rate levels, stochastic recruitment projections were made (Monte Carlo method) under the two calibration approaches, which allow to project the trend of the Reproductive Biomass (SSB), observing that this strategy would allow to maintain it at levels higher than the PBR established during the International Panel of Experts in Hake Evaluation, according to IMARPE (2024).

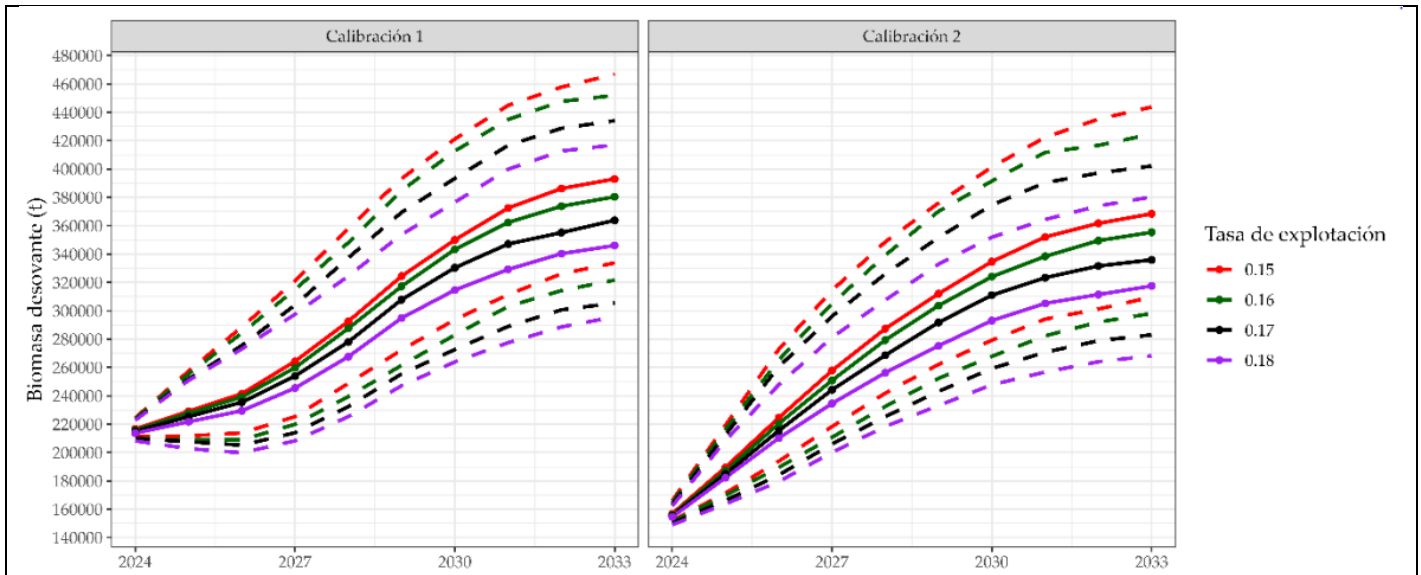


Figure 3. Medium-term stochastic projections of the spawning biomass of hake (IMARPE, 2024).

IMARPE (2024) concluded that 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 increase in biomass observed from 2005 and onwards and the medium-term stochastic projections, it is highly unlikely that the stock is near or below Blim, or in other words experiencing any impaired recruitment.

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. 2018. Protocolo: Elaboración de la tabla de sensibilidad para la estimación del Límite Máximo de Captura Total Permissible para el recurso merluza *Merluccius gayi peruanus*. 16 p.

IMARPE. 2024. 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 2024 – JUNIO 2025". <https://cdn.www.gob.pe/uploads/document/file/6769050/5866400-analisis-de-la-pesqueria-estado-poblacional-y-proyecciones-de-pesca-de-la-merluza-peruana-merluccius-gayi-peruanus.pdf?v=1723568916>

Links

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