



## By-Product assessment report

*BP017*

*Galdecun SA*

<b>Report code</b>	BP017	<b>Date of issue</b>	February 2026
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1. Application details	
<b>Applicant</b>	Galdecun SA
<b>Applicant country</b>	Ecuador
2. Certification Body details	
<b>Name of Certification Body (CB)</b>	NSF / Global Trust Certification
<b>Contact information for CB</b>	Fisheries@nsf.org
<b>Assessor name</b>	Sam Peacock
<b>CB internal peer reviewer name</b>	Matthew Jew
<b>Internal peer review evaluation</b>	Agree with evaluation
<b>Number of Assessment days</b>	1
<b>Comments on the assessment</b>	This assessment covers seven byproducts, none of which originate from species which are considered ETP species according to the MT definition. All seven byproducts are sourced exclusively from Ecuadorian vessels, and so are categorised as High Risk under Step 2. All seven byproduct stocks pass the Step 3 Category C assessment. Traceability information was provided for five of the byproducts, leading to them being downgraded to Medium Risk and subsequently Approved source with caution. For the final two byproducts, traceability information was not provided, and these remain High Risk and are therefore Not Approved.
<b>3. Approval validity</b>	Valid from 02/2026      Valid until 02/2027
<b>4. Assessment cycle</b>	Initial

5. By-product assessment outcomes			
By-product species name	Flag country(ies)	Fishing Areas	MarinTrust approval status
Bullet tuna ( <i>Auxis rochei</i> )	Ecuador	FAO 87	Approved source with caution
Pacific chub mackerel/macarela ( <i>Scomber japonicus</i> )	Ecuador	FAO 87	Approved source with caution
Pacific thread herring/pinchagua ( <i>Opisthonema spp.</i> )	Ecuador	FAO 77, 87	Approved source with caution
Sardina redonda ( <i>Etrumeus acuminatus</i> )	Ecuador	FAO 87	Approved source with caution
Skipjack tuna ( <i>Katsuwonus pelamis</i> )	Ecuador	FAO 77, 87	Not approved
South Pacific hake ( <i>Merluccius gayi</i> )	Ecuador	FAO 87	Approved source with caution
Yellowfin tuna ( <i>Thunnus albacares</i> )	Ecuador	FAO 77, 87	Not approved

#### **Guidance for on-site auditor**

For the audit, the auditor will check how the facility manages by-products deemed medium risk. Any by-products downrated from high to medium risk will require additional due diligence checks.

It is important that facilities check all raw materials from and verify their suppliers especially if there is a perceived risk of sourcing from known or suspected IUU fishing activity. This requires checking supplier records or procedures in place to understand how the supplier can ensure there is no IUU in the raw material they provide. For raw materials risk rated medium, additional or more frequent checks may be required until the facility is certain that the raw materials are not from IUU fishing activity.

The audit requirements are covered in clause 2.11.3 of the MarinTrust Global Standard for Responsible Supply of Marine Ingredients (the MarinTrust Standard) and associated interpretation guidance.

#### **Approved by-products**

- No further checks are required beyond those included in the MarinTrust Standard.

#### **Additional checks of Approved Source with Caution by-products**

- Review supplier records or procedures in place.

#### **Additional checks of by-products Approved Source with Caution via Step 3 assessment**

- In addition to checks for medium risk Approved Source with Caution by-products, by-products that have had risk downgraded from high to medium at Step 3 (use **Appendix 1** to identify these by-product species), confirm that the relevant traceability information continues to be collected for this by-product. During the audit, a traceability check on any by-products downgraded from high to medium risk shall be included as part of the required traceability checks (Section 4).

#### **Guidance for the applicant/certificate holder**

The applicant/certificate holder is responsible for ensuring the relevant actions are taken to comply with the MarinTrust Standard.

The certificate holder is responsible for communicating any changes to the by-products sourced by submitting a scope extension request through the MarinTrust online Application Portal.

## Appendix 1 – assessment outcomes

### Step 2 Assessment Outcomes

By-product species name	Flag country(ies)	IUCN Red List	CITES Appendices	Step 2 risk status	Step 3 required?
Bullet tuna ( <i>Auxis rochei</i> )	Ecuador	Least concern	Not listed	High risk	Yes
Pacific chub mackerel/macarela ( <i>Scomber japonicus</i> )	Ecuador	Least concern	Not listed	High risk	Yes
Pacific thread herring/pinchagua ( <i>Opisthonema</i> spp.)	Ecuador	Multiple species, all Least Concern	Not listed	High risk	Yes
Sardina redonda ( <i>Etrumeus acuminatus</i> )	Ecuador	Least concern	Not listed	High risk	Yes
Skipjack tuna ( <i>Katsuwonus pelamis</i> )	Ecuador	Least concern	Not listed	High risk	Yes
South Pacific hake ( <i>Merluccius gayi</i> )	Ecuador	Data Deficient	Not listed	High risk	Yes
Yellowfin tuna ( <i>Thunnus albacares</i> )	Ecuador	Least concern	Not listed	High risk	Yes

### Step 3 Assessment Outcomes

By-product species name	Flag country(ies)	Fishing Area	Stock name	Category C Assessment Outcome	Traceability information	Step 3 Risk Outcome
Bullet tuna ( <i>Auxis rochei</i> )	Ecuador	FAO 87	Ecuadorian bullet tuna	Pass	Path 2 – Yes	Risk downgraded to Medium Risk
Pacific chub mackerel/macarela ( <i>Scomber japonicus</i> )	Ecuador	FAO 87	Ecuadorian macarela	Pass	Path 2 – Yes	Risk downgraded to Medium Risk
Pacific thread herring/pinchagua ( <i>Opisthonema</i> spp. )	Ecuador	FAO 77, 87	Ecuadorian thread herring	Pass	Path 2 – Yes	Risk downgraded to Medium Risk
Sardina redonda ( <i>Etrumeus acuminatus</i> )	Ecuador	FAO 87	Ecuadorian sardina redonda	Pass	Path 2 – Yes	Risk downgraded to Medium Risk
Skipjack tuna ( <i>Katsuwonus pelamis</i> )	Ecuador	FAO 77, 87	EPO Skipjack tuna	Pass	None provided	Remains High Risk
South Pacific hake ( <i>Merluccius gayi</i> )	Ecuador	FAO 87	Peruvian hake	Pass	Path 2 – Yes	Risk downgraded to Medium Risk
Yellowfin tuna ( <i>Thunnus albacares</i> )	Ecuador	FAO 77, 87	EPO Yellowfin tuna	Pass	None provided	Remains High Risk
<b>Comments on Step 3 Assessment:</b>						
Traceability information for EPO skipjack and yellowfin tunas were not provided and therefore those two stocks remain high risk.						

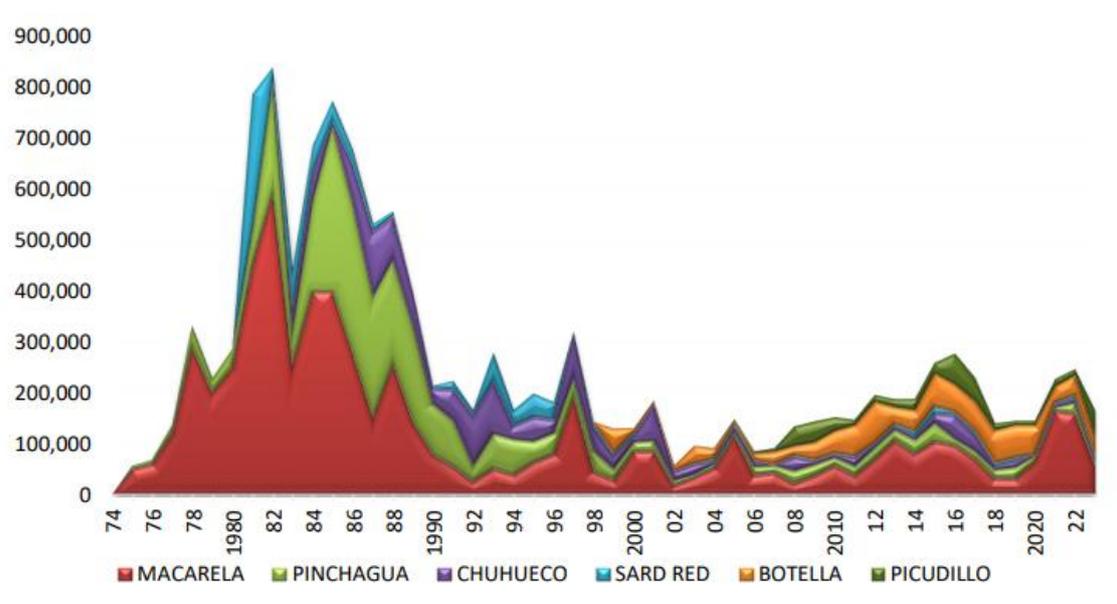
## Appendix 2 – detailed assessment outcomes (step 2 and step 3 if applicable)

### Step 2 outcomes

Flag state	Risk rating	Flag score	Port score	General score	Flag State is contracting party or cooperating non-contracting party to all relevant RFMOs	'Carded' under EU Carding system	Flag state party to PSMA	Flag state mandatory vessel tracking for commercial seagoing fleet	WGI Governance rank
Ecuador	High	2.58	2.11	2.43	1	3	1	1	35.38%

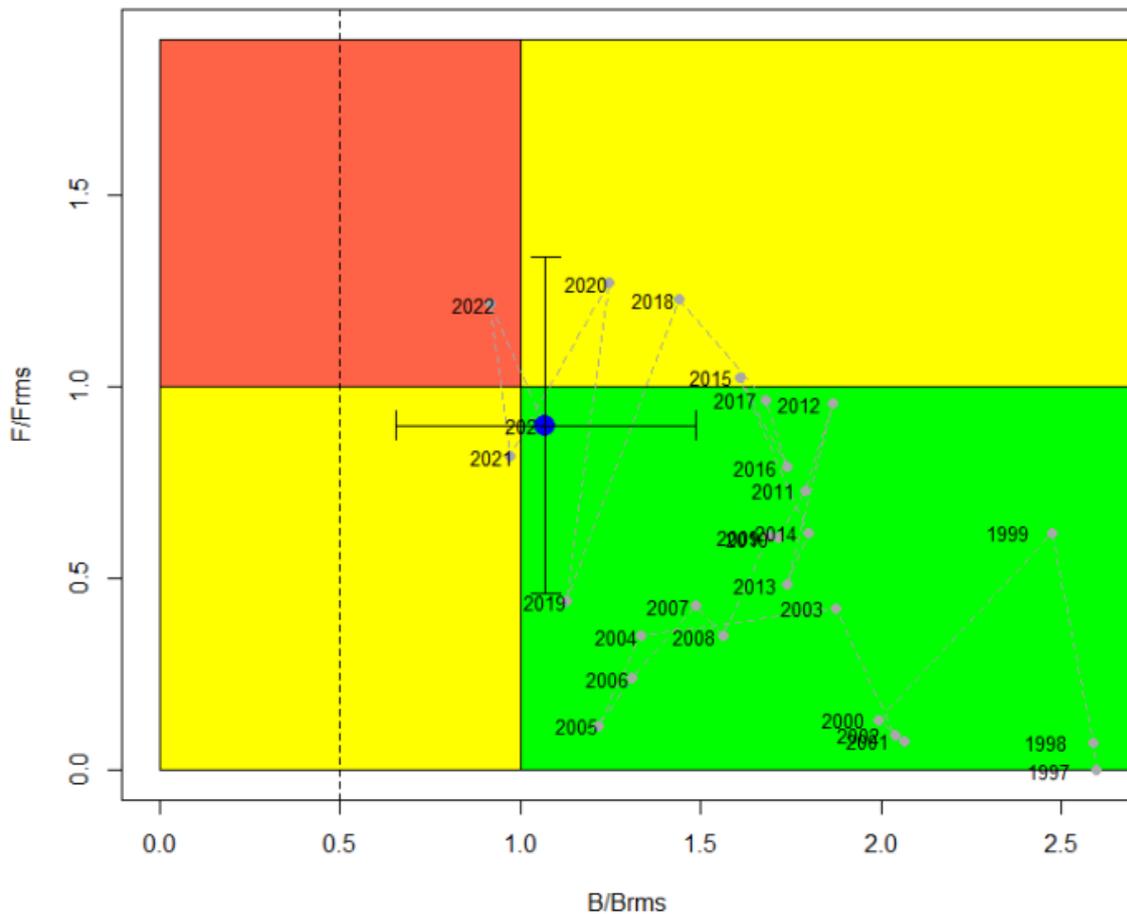
## Step 3 outcomes

### Category C assessment

<b>Species name</b>		Bullet tuna ( <i>Auxis rochei</i> )	
<b>Fishing area and stock</b>		FAO 87, Ecuadorian waters, Ecuadorian bullet tuna	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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
	<b>C1.2</b>	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
<b>Clause outcome:</b>			PASS
<b>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.</b>			
<p>Stock assessments covering all the main species caught in the Ecuadorian small pelagic fishery have been conducted annually since 2019 by the Ecuadorian Instituto Público De Investigación De Acuicultura Y Pesca (IPIAP). Data incorporated into the most recent assessment, conducted in 2024, included catch data from 1975 – 2023; fishery-dependent sampling data collected by the IPIAP, including fishing areas, catch composition, size frequency data, and environmental conditions; CPUE estimates; and the outputs of a semi-regular hydroacoustic cruise survey (IPIAP 2024). Catches are shown in the chart below. C1.1 is met.</p>			
			
Landings in the Ecuadorian small pelagic fishery, 1975 – 2023. Bullet tuna is “Botella” (orange) (IPIAP 2024)			

**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 biomass target reference point for this stock ( $B_{MSY}$ ), defined as 40% of the unfished biomass, is estimated to be 69,000t. The 2024 stock assessment concluded that biomass was approximately 74,000t, equivalent to 43% of the unfished level and above the target reference point (IPIAP 2024). Due to uncertainty in the model, the probability that the stock biomass is below  $B_{MSY}$  is estimated to be around 37%, but with a very low probability that biomass is below the limit reference point. A Kobe chart for the stock is shown below. C1.2 is met.



Kobe chart for bullet tuna in Ecuadorian waters. The blue dot is the most recent estimate of stock status (IPIAP 2024)

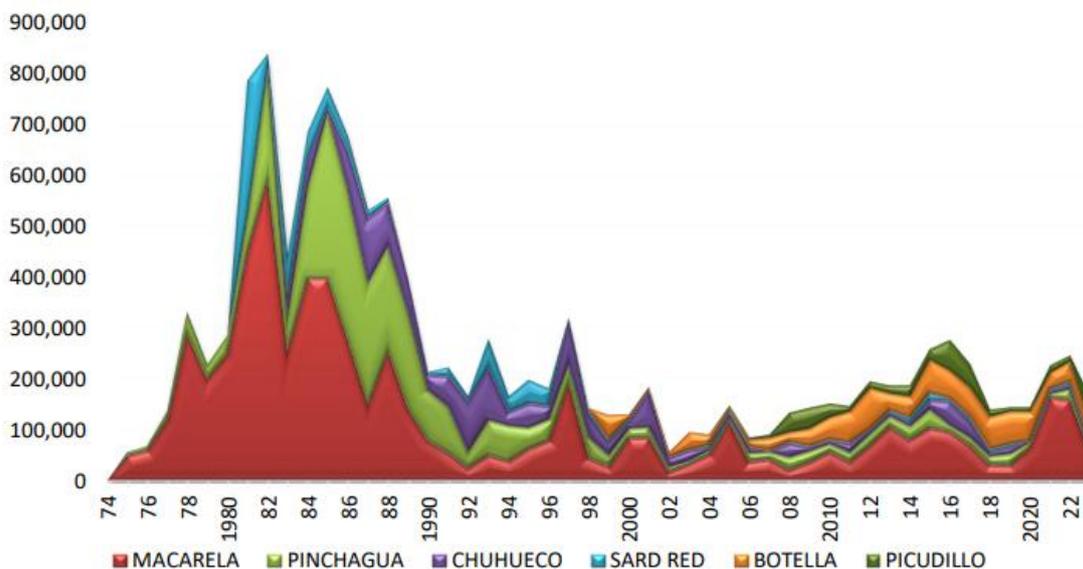
**References**

IPIAP (2024). Evaluacion Del Stock De Recursos Pelagicos Pequeños Del Ecuador 2023 (*Stock assessment of Ecuador’s small pelagic resources 2023*). [https://institutopesca.gob.ec/wp-content/uploads/2024/07/Informe\\_Evaluacion\\_2024.pdf](https://institutopesca.gob.ec/wp-content/uploads/2024/07/Informe_Evaluacion_2024.pdf)

<b>Species name</b>		Pacific chub mackerel/macarela ( <i>Scomber japonicus</i> )
<b>Fishing area and stock</b>		FAO 87, Ecuadorian waters, Ecuadorian macarela
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>	
	<b>C1.1</b>	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. <span style="float: right;">PASS</span>
	<b>C1.2</b>	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. <span style="float: right;">PASS</span>
<b>Clause outcome:</b>		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.**

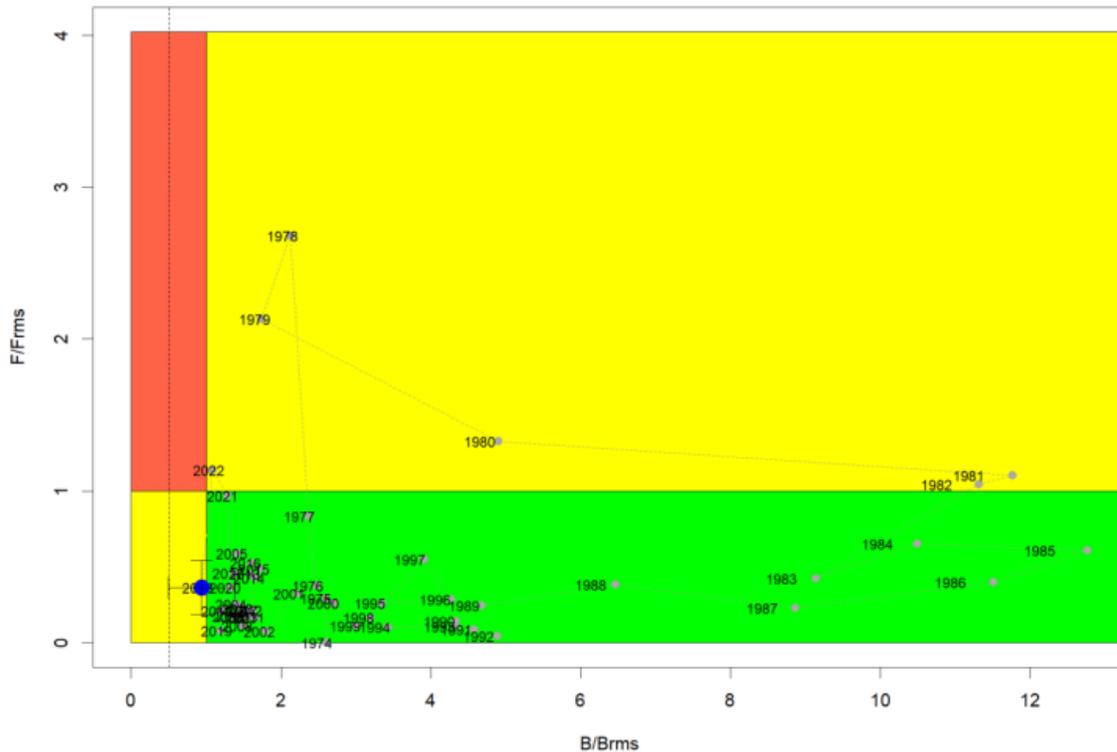
Stock assessments covering all the main species caught in the Ecuadorian small pelagic fishery have been conducted annually since 2019 by the Ecuadorian Instituto Público De Investigación De Acuicultura Y Pesca (IPIAP). Data incorporated into the most recent assessment, conducted in 2024, included catch data from 1975 – 2023; fishery-dependent sampling data collected by the IPIAP, including fishing areas, catch composition, size frequency data, and environmental conditions; CPUE estimates; and the outputs of a semi-regular hydroacoustic cruise survey (IPIAP 2024). Catches are shown in the chart below. C1.1 is met.



Landings in the Ecuadorian small pelagic fishery, 1975 – 2023. Bullet tuna is “Botella” (orange) (IPIAP 2024)

**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 biomass target reference point for this stock ( $B_{MSY}$ ), defined as 40% of the unfished biomass, is estimated to be 374,000t. The 2024 stock assessment concluded that biomass was approximately 352,000t, equivalent to 38% of the unfished level and below the target reference point (IPIAP 2024). Due to uncertainty in the model, the probability that the stock biomass is below  $B_{MSY}$  is estimated to be around 61%, but with a low probability that biomass is below the limit reference point. A Kobe chart for the stock is shown below. C1.2 is met.



Kobe chart for Pacific chub mackerel in Ecuadorian waters. The blue dot is the most recent estimate of stock status (IPIAP 2024)

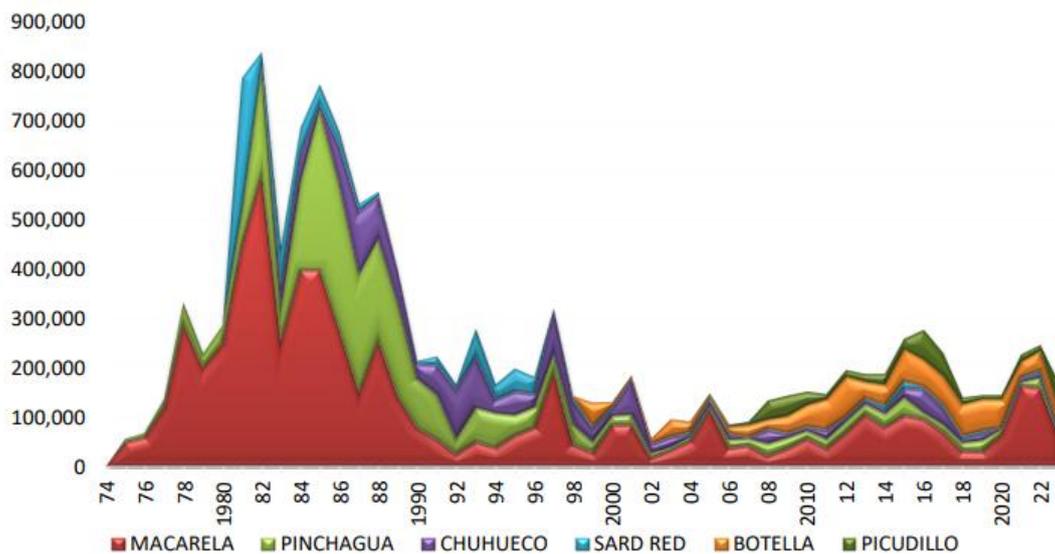
### References

IPIAP (2024). Evaluacion Del Stock De Recursos Pelagicos Pequeños Del Ecuador 2023 (*Stock assessment of Ecuador's small pelagic resources 2023*). [https://institutopesca.gob.ec/wp-content/uploads/2024/07/Informe\\_Evaluacion\\_2024.pdf](https://institutopesca.gob.ec/wp-content/uploads/2024/07/Informe_Evaluacion_2024.pdf)

<b>Species name</b>		Pacific thread herring/pinchagua ( <i>Opisthonema spp.</i> )
<b>Fishing area and stock</b>		FAO 87, Ecuadorian waters, Ecuadorian thread herring
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>	
	<b>C1.1</b>	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. <span style="float: right;">PASS</span>
	<b>C1.2</b>	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. <span style="float: right;">PASS</span>
<b>Clause outcome:</b>		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.**

Stock assessments covering all the main species caught in the Ecuadorian small pelagic fishery have been conducted annually since 2019 by the Ecuadorian Instituto Público De Investigación De Acuicultura Y Pesca (IPIAP). Data incorporated into the most recent assessment, conducted in 2024, included catch data from 1975 – 2023; fishery-dependent sampling data collected by the IPIAP, including fishing areas, catch composition, size frequency data, and environmental conditions; CPUE estimates; and the outputs of a semi-regular hydroacoustic cruise survey (IPIAP 2024). Catches are shown in the chart below. C1.1 is met.

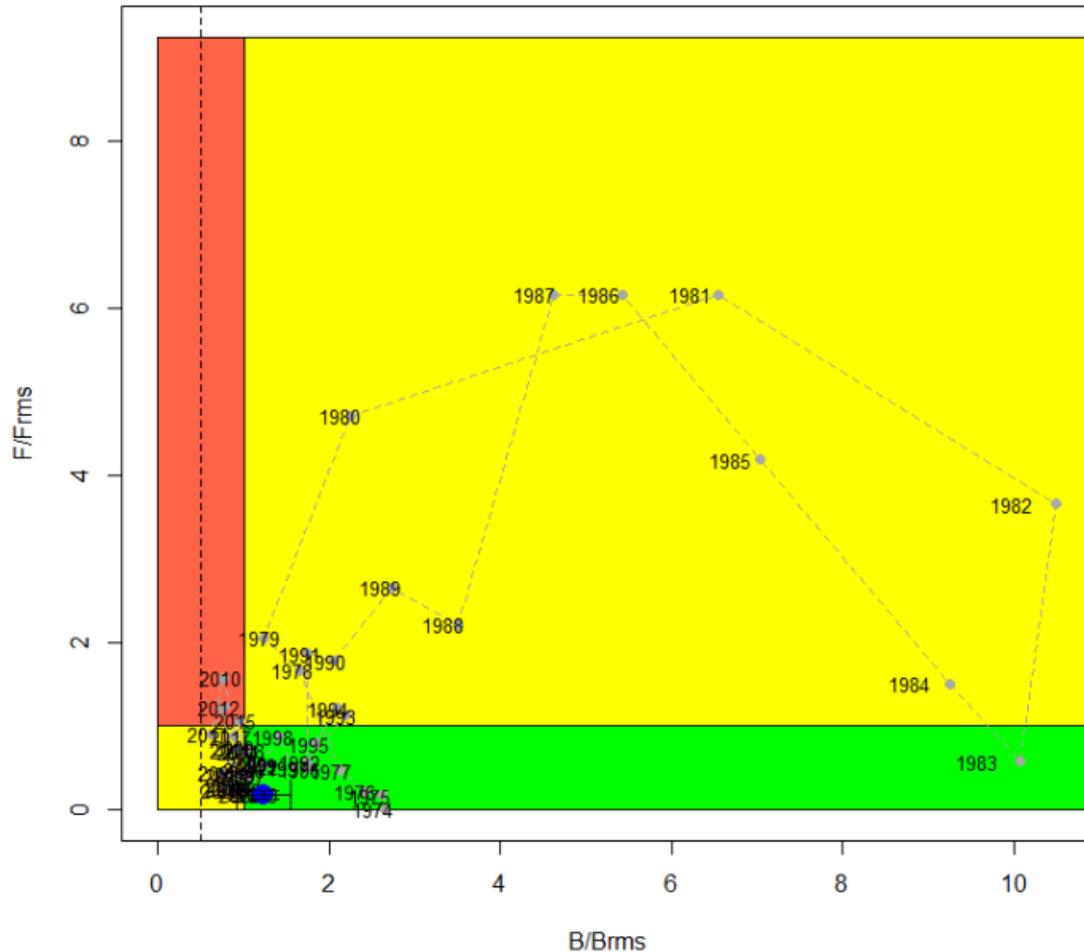


Landings in the Ecuadorian small pelagic fishery, 1975 – 2023. Bullet tuna is “Botella” (orange) (IPIAP 2024)

**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 biomass target reference point for this stock ( $B_{MSY}$ ), defined as 40% of the unfished biomass, is estimated to be 70,000t. The 2024 stock assessment concluded that biomass was approximately

86,000t, equivalent to 49% of the unfished level and above the target reference point (IPIAP 2024). The probability that the stock biomass is below  $B_{MSY}$  is estimated to be negligible, and therefore so is the probability that biomass is below the limit reference point. A Kobe plot for the stock is shown below. C1.2 is met.



Kobe chart for thread herrings in Ecuadorian waters. The blue dot is the most recent estimate of stock status (IPIAP 2024)

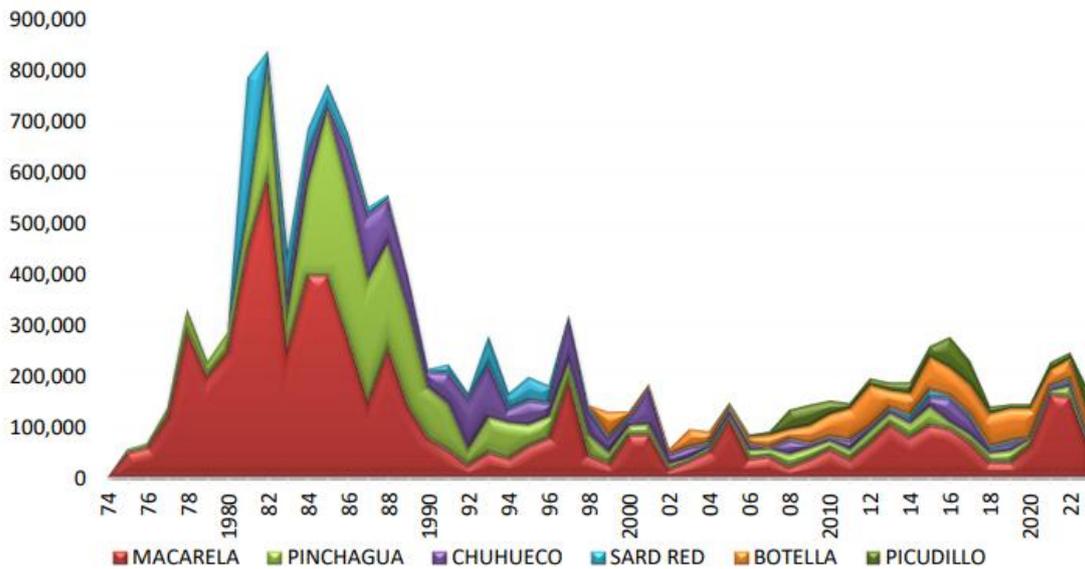
**References**

IPIAP (2024). Evaluacion Del Stock De Recursos Pelagicos Pequeños Del Ecuador 2023 (*Stock assessment of Ecuador’s small pelagic resources 2023*). [https://institutopesca.gob.ec/wp-content/uploads/2024/07/Informe\\_Evaluacion\\_2024.pdf](https://institutopesca.gob.ec/wp-content/uploads/2024/07/Informe_Evaluacion_2024.pdf)

<b>Species name</b>		Sardina redonda ( <i>Etrumeus acuminatus</i> )
<b>Fishing area and stock</b>		FAO 87, Ecuadorian waters, Ecuadorian sardina redonda
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>	
	<b>C1.1</b>	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. <span style="float: right;">PASS</span>
	<b>C1.2</b>	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. <span style="float: right;">PASS</span>
<b>Clause outcome:</b>		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.**

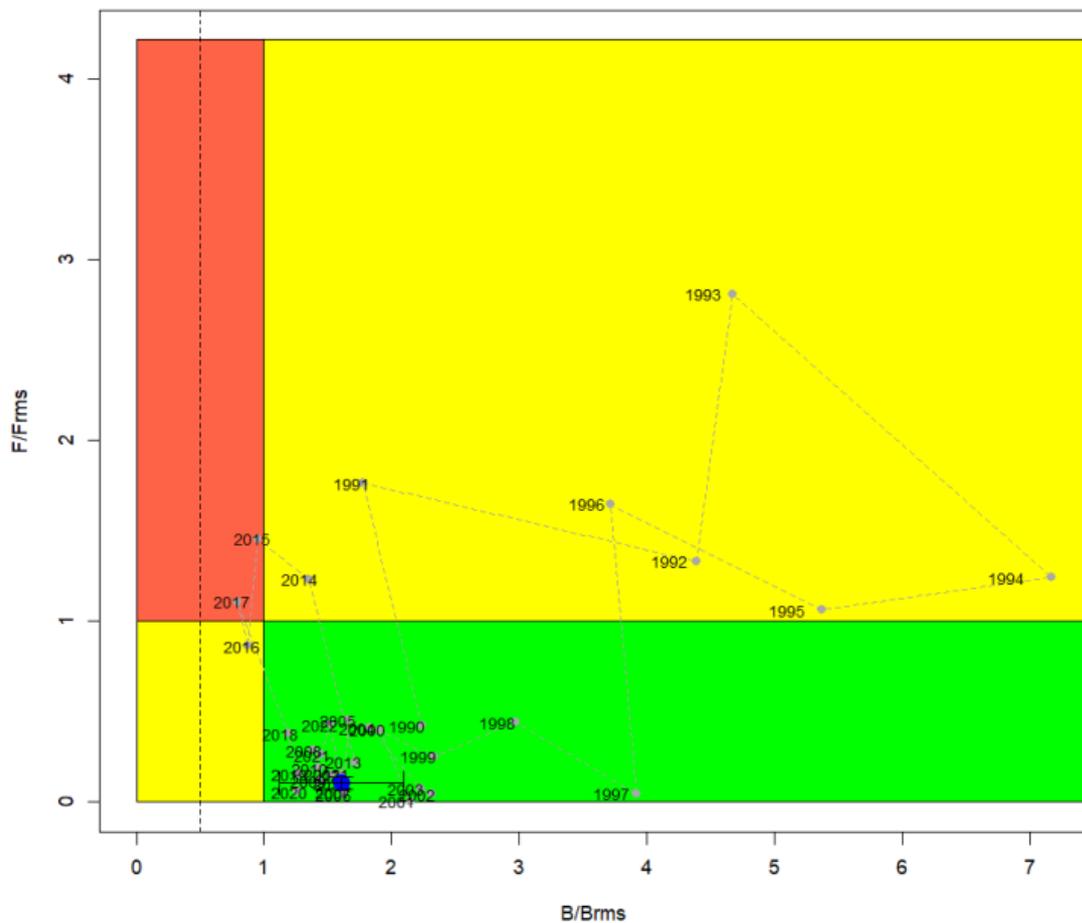
Stock assessments covering all the main species caught in the Ecuadorian small pelagic fishery have been conducted annually since 2019 by the Ecuadorian Instituto Público De Investigación De Acuicultura Y Pesca (IPIAP). Data incorporated into the most recent assessment, conducted in 2024, included catch data from 1975 – 2023; fishery-dependent sampling data collected by the IPIAP, including fishing areas, catch composition, size frequency data, and environmental conditions; CPUE estimates; and the outputs of a semi-regular hydroacoustic cruise survey (IPIAP 2024). Catches are shown in the chart below. C1.1 is met.



Landings in the Ecuadorian small pelagic fishery, 1975 – 2023. Bullet tuna is “Botella” (orange) (IPIAP 2024)

**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 biomass target reference point for this stock ( $B_{MSY}$ ), defined as 40% of the unfished biomass, is estimated to be 11,800t. The 2024 stock assessment concluded that biomass was approximately 19,000t, equivalent to 64% of the unfished level and substantially above the target reference point (IPIAP 2024). The probability that the stock biomass is below  $B_{MSY}$  is estimated to be negligible, and therefore so is the probability that biomass is below the limit reference point. A Kobe chart for the stock is shown below. C1.2 is met.



Kobe chart for sardina redonda in Ecuadorian waters. The blue dot is the most recent estimate of stock status (IPIAP 2024)

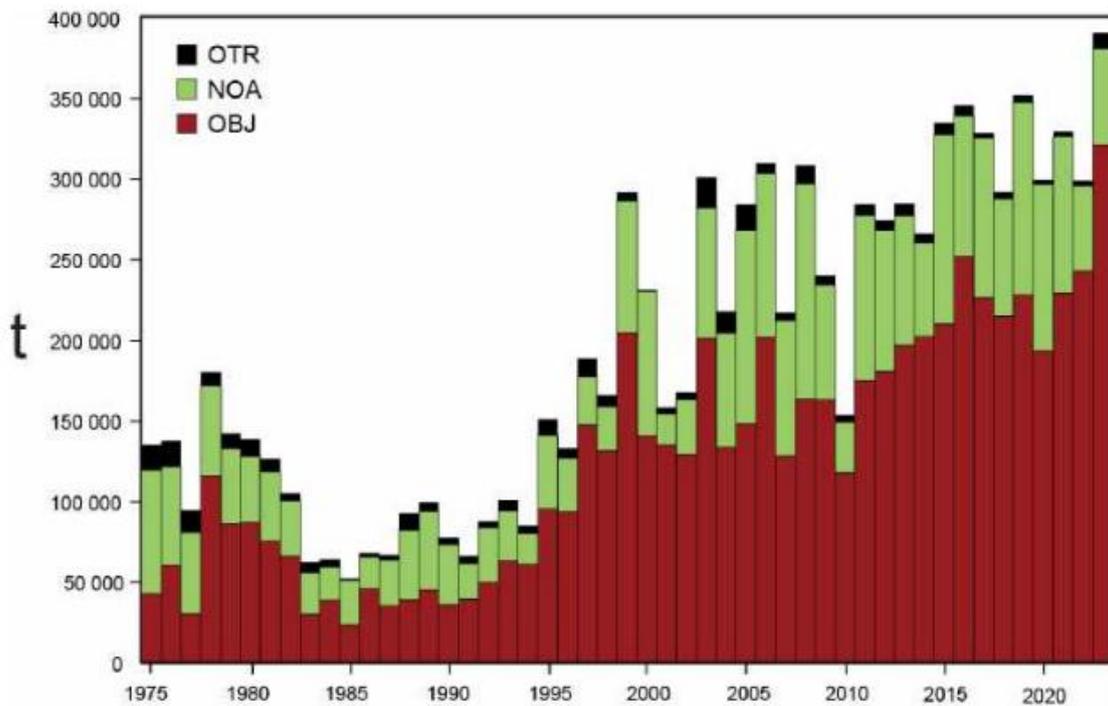
### References

IPIAP (2024). Evaluacion Del Stock De Recursos Pelagicos Pequeños Del Ecuador 2023 (*Stock assessment of Ecuador's small pelagic resources 2023*). [https://institutopesca.gob.ec/wp-content/uploads/2024/07/Informe\\_Evaluacion\\_2024.pdf](https://institutopesca.gob.ec/wp-content/uploads/2024/07/Informe_Evaluacion_2024.pdf)

<b>Species name</b>		Skipjack tuna ( <i>Katsuwonus pelamis</i> )	
<b>Fishing area and stock</b>		EPO skipjack tuna	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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
	<b>C1.2</b>	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
		<b>Clause outcome:</b> 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.**

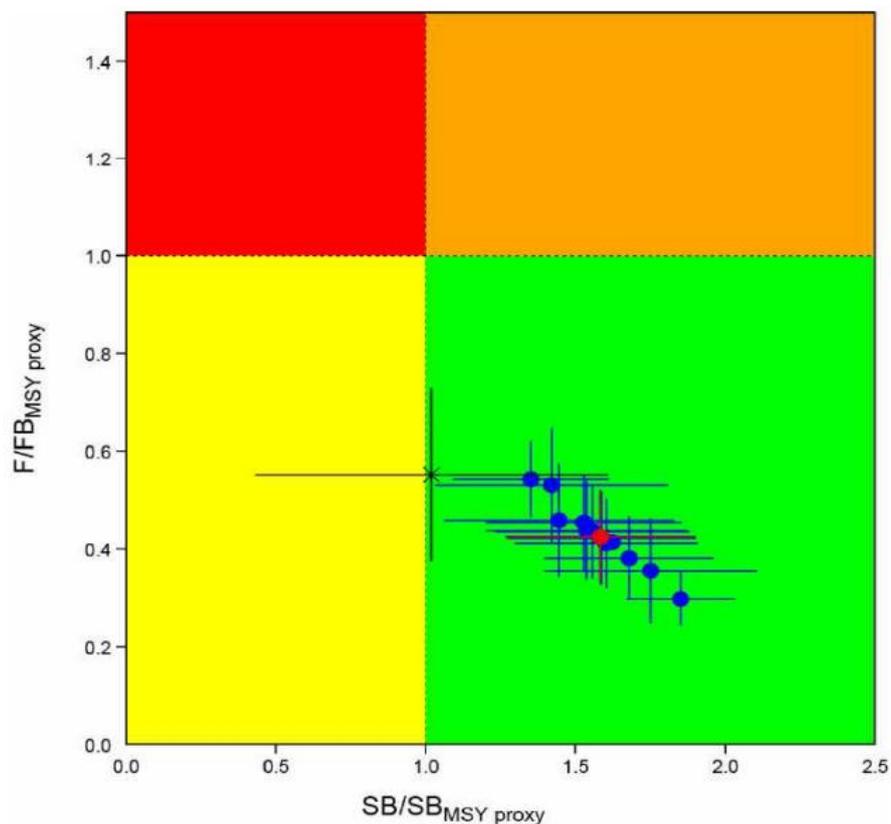
EPO skipjack has historically been subject to “interim” integrated statistical age-structured catch-at-length stock assessments carried out by the IATTC. In 2023, a benchmark stock assessment was conducted using an integrated statistical age-structured catch-at-length model in Stock Synthesis, which is considered by the IATTC to represent “a significant improvement from the initial interim assessment conducted in 2022” (IATTC 2024). The assessment incorporates all available data from across the EPO, including catch data but also size and age frequency data and other sources. Catches are shown in the chart below. C1.1 is met.



Skipjack catches (retained plus discards) in the EPO, 1975-2023 (IATTC 2024).

**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.**

MSY-based estimates and reference points cannot be estimated for EPO Skipjack due to the nature of the model used. Instead, the IATTC management process utilises a conservative proxy for target biomass of  $SBR = 0.3$ , with the fishing mortality corresponding to that target biomass used as the target reference point for fishing mortality (IATTC 2024). The reference model and most of the sensitivity analyses conducted in 2023 indicated that biomass is above the target reference point and fishing mortality is below the target level. None of the model scenarios concluded that stock biomass is below the limit reference point level. A Kobe plot for the stock is shown below. C1.2 is met.



Kobe plot for skipjack tuna in the EPO (IATTC 2024).

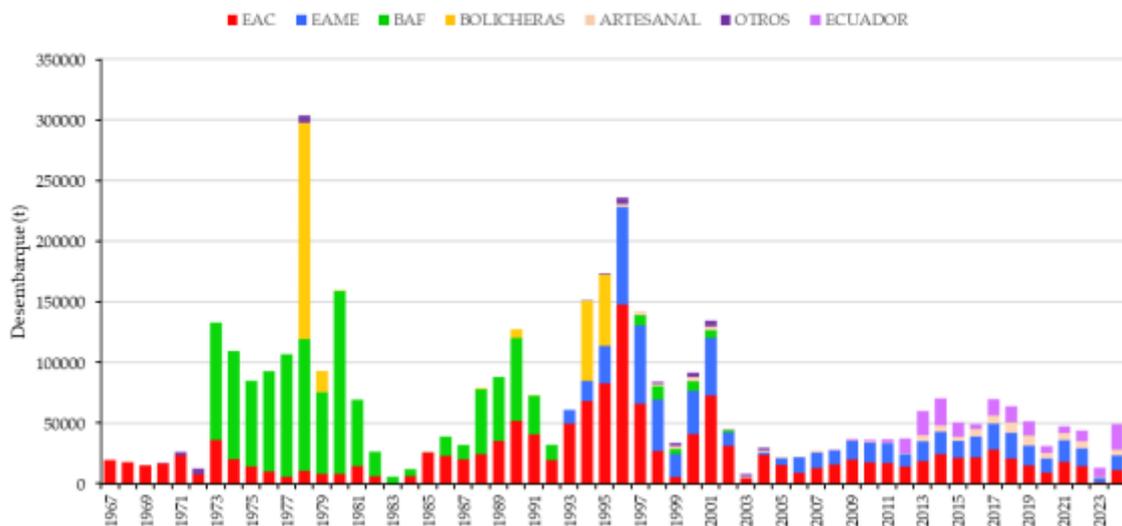
**References**

IATTC (2024). The tuna fishery in the Eastern Pacific Ocean in 2023.  
[https://www.iattc.org/GetAttachment/1ed36788-07ce-4bf4-80e4-10c6c3b2b14d/No-22-2024\\_Tunas\\_stocks\\_and\\_ecosystem\\_in\\_the\\_eastern\\_Pacific\\_Ocean\\_in\\_2023.pdf](https://www.iattc.org/GetAttachment/1ed36788-07ce-4bf4-80e4-10c6c3b2b14d/No-22-2024_Tunas_stocks_and_ecosystem_in_the_eastern_Pacific_Ocean_in_2023.pdf)

<b>Species name</b>		South Pacific hake ( <i>Merluccius gayi</i> )	
<b>Fishing area and stock</b>		FAO 87, Ecuadorian waters, Peruvian hake	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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
	<b>C1.2</b>	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
		<b>Clause outcome:</b> 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.**

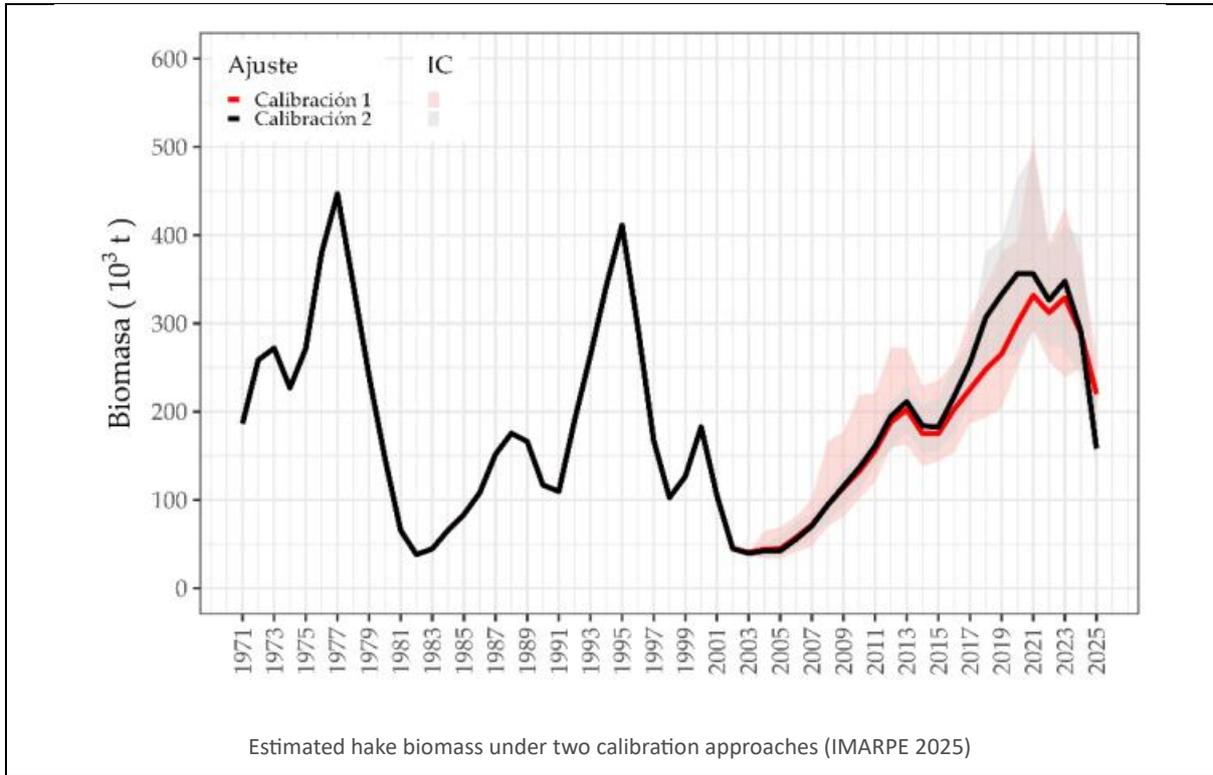
A single South Pacific hake stock is considered to extend through Ecuadorian and Peruvian waters. Regular stock assessments are conducted by the Peruvian Instituto del Mar del Perú (IMARPE). The most recent assessment was conducted in 2025, and incorporated catch data from both countries. Catches are shown in the chart below. C1.1 is met.



Hake landings by fleet type, 1971-2024. As the stock is distributed in Ecuadorian and Peruvian waters, these data include Peruvian landings (IMARPE 2025)

**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 current biomass estimates produced by the two possible model calibrations were 158,148t and 219,852t. Although the stock assessment report does not appear to indicate specific biomass target or limit reference points, “while the Peruvian hake shows a reduction in available biomass within the Peruvian Maritime Domain, it remains above biological reference points”. Estimated hake biomass over time is shown in the chart below. C1.2 is met.



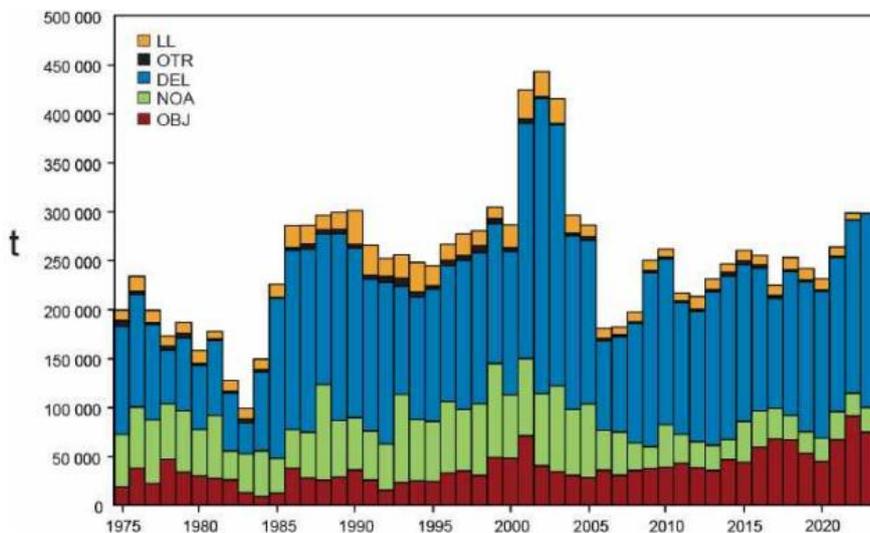
**References**

IMARPE (2025). Análisis De La Pesquería, Estado Poblacional Y Proyecciones De Pesca De La Merluza Peruana *Merluccius gayi peruanus* JULIO 2025 – JUNIO 2026 (*Fishery Analysis, Population Status, and Fishing Projections for Peruvian Hake (Merluccius gayi peruanus)*), July 2024 – June 2025). <https://cdn.www.gob.pe/uploads/document/file/8581594/7102842-informe-analisis-de-la-pesqueria-estado-poblacional-y-proyecciones-de-pesca-de-la-merluza-peruana-merluccius-gayi-peruanus.pdf>

<b>Species name</b>		Yellowfin tuna ( <i>Thunnus albacares</i> )	
<b>Fishing area and stock</b>		EPO yellowfin tuna	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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
	<b>C1.2</b>	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
		<b>Clause outcome:</b> 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.**

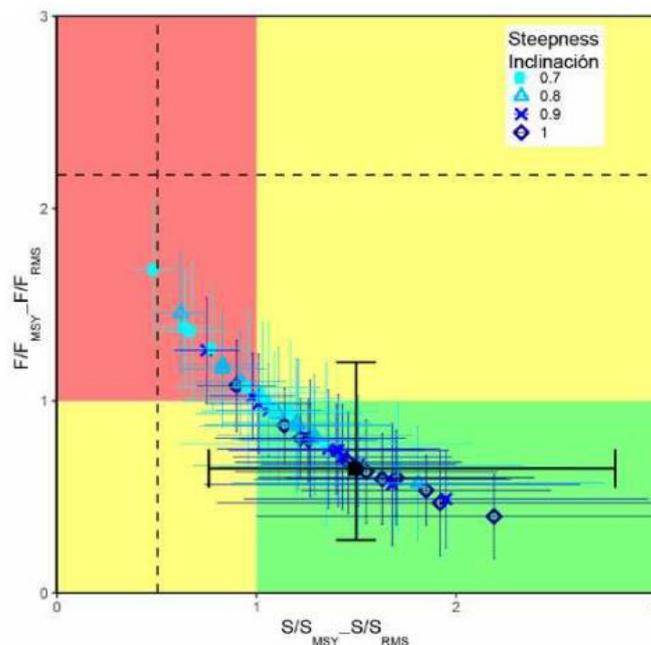
The Eastern Pacific Ocean (EPO) yellowfin tuna stock is managed and assessed by the Inter-American Tropical Tunas Commission (IATTC). A new risk-based approach was introduced to the management of the stock in 2022, with Stock Status Indicators (SSIs) developed using catch and other data collected from the EPO as a whole. This approach continued in 2023 (IATTC 2024). SSIs are considered to be important alternatives to formal stock assessments, particularly where those stock assessments may be too unreliable to form the basis for management advice (IATTC 2022). Fishery removals are a key component of the modelling used to generate SSI's, and their development and use is evidence that managers have sought out alternative mechanisms where stock assessment uncertainty is high. The most recent full stock assessment was conducted in 2020. Catches are shown in the chart below. C1.1 is met.



Total catches of yellowfin tuna in the EPO by set type (IATTC 2024)

**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.**

In the full stock assessments for this stock, multiple reference models are utilised to create a risk-based understanding of stock status. The most recent results, from 2020, indicated that “the probability of the spawning biomass being below  $S_{MSY\_d}$  [i.e. the target reference point] is low (12%)” (IATTC 2024), and that the probability of the biomass being below the limit reference point  $S_{LIMIT}$  is zero. There was therefore a low probability that biomass is currently below the target reference point and almost no possibility it was below the limit reference point. A Kobe plot for the stock is shown below. C1.2 is met.



Kobe plot for yellowfin tuna in the EPO of estimates of spawning stock size (S) and fishing mortality (F). Coloured panels are separated by the target reference points  $S_{MSY}$  and  $F_{MSY}$ . Limit reference points are approximately indicated by the dashed lines, although these vary between models. The solid black circle represents all models combined (IATTC 2024).

### References

IATTC (2022). Stock Status Indicators (SSIs) for tropical tunas in the Eastern Pacific Ocean. 13<sup>th</sup> Meeting of the IATTC Scientific Advisory Committee, Document SAC-13-06 Corr.  
[https://www.iattc.org/GetAttachment/22511b5b-ba2b-4126-9ba2-0bffee89f4d5/SAC-13-06%20-%20Stock%20status%20indicators%20\(SSIs\)%20for%20tropical%20tunas%20in%20the%20EPO](https://www.iattc.org/GetAttachment/22511b5b-ba2b-4126-9ba2-0bffee89f4d5/SAC-13-06%20-%20Stock%20status%20indicators%20(SSIs)%20for%20tropical%20tunas%20in%20the%20EPO)

IATTC (2024). The tuna fishery in the Eastern Pacific Ocean in 2023.  
[https://www.iattc.org/GetAttachment/1ed36788-07ce-4bf4-80e4-10c6c3b2b14d/No-22-2024\\_Tunas,-stocks-and-ecosystem-in-the-eastern-Pacific-Ocean-in-2023.pdf](https://www.iattc.org/GetAttachment/1ed36788-07ce-4bf4-80e4-10c6c3b2b14d/No-22-2024_Tunas,-stocks-and-ecosystem-in-the-eastern-Pacific-Ocean-in-2023.pdf)

### Traceability information

The applicant indicated that Pacific thread herring originates from FAO Areas 77 and 87, and is landed at Posorja in Ecuador; and that Pacific chub mackerel, Pacific hake, bullet tuna, and sardina redonda are caught in FAO Area 87 and also landed at Posorja in Ecuador.

No traceability information was provided for skipjack or yellowfin tuna caught by Ecuadorian vessels.

<b>Species name</b>		Bullet tuna ( <i>Auxis rochei</i> )		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>If yes for Path 2, complete the next section</i>		
<b>Path 2 outcome</b> <i>Countries may be different for Coastal State and Port State.</i>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	Ecuador	Medium risk (multiple countries, highest risk Medium)	Medium Risk (Ecuador)	Downgraded to medium risk
				Choose an item.

<b>Species name</b>		Pacific chub mackerel/macarela ( <i>Scomber japonicus</i> )		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>If yes for Path 2, complete the next section</i>		
<b>Path 2 outcome</b> <i>Countries may be different for Coastal State and Port State.</i>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	Ecuador	Medium risk (multiple countries, highest risk Medium)	Medium Risk (Ecuador)	Downgraded to medium risk
				Choose an item.

<b>Species name</b>		Pacific thread herring/pinchagua ( <i>Opisthonema spp.</i> )		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>If yes for Path 2, complete the next section</i>		
<b>Path 2 outcome</b> <i>Countries may be different for Coastal State and Port State.</i>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	Ecuador	Medium risk (multiple countries, highest risk Medium)	Medium Risk (Ecuador)	Downgraded to medium risk
				Choose an item.

<b>Species name</b>		Sardina redonda ( <i>Etrumeus acuminatus</i> )		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>If yes for Path 2, complete the next section</i>		
<b>Path 2 outcome</b> <i>Countries may be different for Coastal State and Port State.</i>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	Ecuador	Medium risk (multiple countries, highest risk Medium)	Medium Risk (Ecuador)	Downgraded to medium risk
				Choose an item.

<b>Species name</b>		EPO Skipjack tuna ( <i>Katsuwonus pelamis</i> )		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
<b>Path 2</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>		
<b>Path 2 outcome</b> <i>Countries may be different for Coastal State and Port State.</i>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
				Choose an item.
				Choose an item.

<b>Species name</b>	South Pacific hake ( <i>Merluccius gayi</i> )			
<b>Path 1</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Confirm all KDEs are provided	Yes <input type="checkbox"/> No <input type="checkbox"/>			
<b>Path 2</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>If yes for Path 2, complete the next section</i>			
<b>Path 2 outcome</b> <i>Countries may be different for Coastal State and Port State.</i>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	Ecuador	Medium risk (multiple countries, highest risk Medium)	Medium Risk (Ecuador)	Downgraded to medium risk
				Choose an item.

<b>Species name</b>	EPO Yellowfin tuna ( <i>Thunnus albacares</i> )			
<b>Path 1</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Confirm all KDEs are provided	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
<b>Path 2</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>			
<b>Path 2 outcome</b> <i>Countries may be different for Coastal State and Port State.</i>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
				Choose an item.
				Choose an item.

### **Guidance for Applicants/Certificate holders on improved traceability**

When by-product origin cannot be made more granular than major FAO Areas, or when the source fishery is taking place in the High Seas (i.e. outside of EEZs of all relevant nations), an assessor must evaluate the Coastal and Port scores for each nation that straddles that FAO Area. This may lead to higher risk outcomes for an applicant. To mitigate that risk, better practice involves securing KDEs from the source fishery of the by-products, thereby meeting Path 1 instead of Path 2.

#### **What does better practices look like?**

**Comprehensive data collection and sharing:** Collect detailed information using Key Data Elements (KDEs) including vessel identification and authorisation, species, catch areas, fishing method and dates. These are defined in the MarinTrust Standard clauses 2.11.2.2 and 3.2.5.

**Supply chain transparency:** Maintain detailed records at each step of the supply chain, from capture to final sale, to ensure traceability.

Interoperable systems and technologies to support the collection and transfer of this information.