By-Product assessment report

BP072 – NIRSA S.A. , Ecuador

Document TEM-003 (prev. FISH-1) - Version 3.1

Issued April 2025 – Effective April 2025

Report code	BP072	Date of issue	September 2025

1. Application details		
Applicant	NIRSA S.A.	
Applicant country	Ecuador	
2. Certification Body details		
Name of Certification Body (CB)	LRQA	
Contact information for CB	mt-ca@lrqa.com	
Assessor name	Blanca Gonzalez	
CB internal peer reviewer name	Sam Peacock	
Internal peer review evaluation	Agree with evaluation	
Number of Assessment days	0.5	
Comments on the assessment	The four byproduct species listed in this report are not considered ETP species according to the Marin Trust definition, fulfilling this requirement for the assessment. All the species required a step 3 assessment evaluation due to a high-risk flag state. The client provided information about the FAO fishing areas and traceability, which was necessary for completing step 3. All species pass the Category C and the traceability assessment. This allowed all species to be downgraded to medium risk; therefore, all byproducts were approved, but they should be sourced with caution.	
3. Approval validity	Valid from 09/2025	Valid until 09/2026
4. Assessment cycle	Initial	

5. By-product assessment outcomes			
By-product species name *Common and Latin names*	**Flag country(ies)**	**Fishing Areas** *Only applicable to Step 3 assessed species*	**MarinTrust approval status**
Pacific chub mackerel/Macarela - *Scomber japonicus*	Ecuador	FAO 87 - Southeast Pacific	Approved source with caution
Shortfin scad/Picudillo – *Decapterus macrosoma*	Ecuador	FAO 87 - Southeast Pacific	Approved source with caution
Frigate tuna / Botella – *Auxis spp.*	Ecuador	FAO 87 - Southeast Pacific	Approved source with caution
Pacific thread herring/Pinchagua - *Opisthonema liberate*	Ecuador	FAO 87 - Southeast Pacific	Approved source with caution

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 *Common and Latin names*	**Flag country(ies)**	**IUCN Red List** *Select IUCN red list category from dropdown*	**CITES Appendices** *Select CITES appendix status from dropdown*	**Step 2 risk status** *Low risk/ Medium risk/ High risk*	**Step 3 required** *Yes / No*
Pacific chub mackerel / Macarela - *Scomber japonicus*	Ecuador	Least concern	Not listed	High risk	Yes
Shortfin scad / Picudillo – *Decapterus macrosoma*	Ecuador	Least concern	Not listed	High risk	Yes
Frigate tuna / Botella – *Auxis spp.*	Ecuador	Least concern	Not listed	High risk	Yes
Pacific thread herring / Pinchagua - *Opisthonema liberate*	Ecuador	Least concern	Not listed	High risk	Yes

Step 3 Assessment Outcomes

By-product species name *Common and Latin names*	Flag country(ies)	Fishing Area	Stock name *(If applicable e.g. Eastern Pacific stock)*	Category C Assessment Outcome *Pass/Fail*	Traceability information *Path 1 – Yes OR* *Path 2 – Yes/No OR* *MT Approved Whole Fish*	Step 3 Risk Outcome *Risk downgraded to Medium Risk/ Remains High Risk*
Pacific chub mackerel/Macarela - *Scomber japonicus*	Ecuador	FAO 87 - Southeast Pacific	Ecuador EEZ	Pass	Path 2 -Yes	Downgraded to medium risk
Shortfin scad/Picudillo – *Decapterus macrosoma*	Ecuador	FAO 87 - Southeast Pacific	Ecuador EEZ	Pass	Path 2 -Yes	Downgraded to medium risk
Frigate tuna / Botella – *Auxis spp.*	Ecuador	FAO 87 - Southeast Pacific	Ecuador EEZ	Pass	Path 2 -Yes	Downgraded to medium risk

Pacific thread herring/Pinchagua - *Opisthonema liberate*	Ecuador	FAO 87 - Southeast Pacific	Ecuador EEZ	Pass	Path 2 -Yes	Downgraded to medium risk
Comments on Step 3 Assessment: The client did not provide the traceability information to complete the assessment; therefore, all species remain high risk and failed the assessment. The Common dolphinfish (*Coryphaena hippurus*) has undergone a harmonisation process, in which Marin Trust concluded that this species fails.						

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

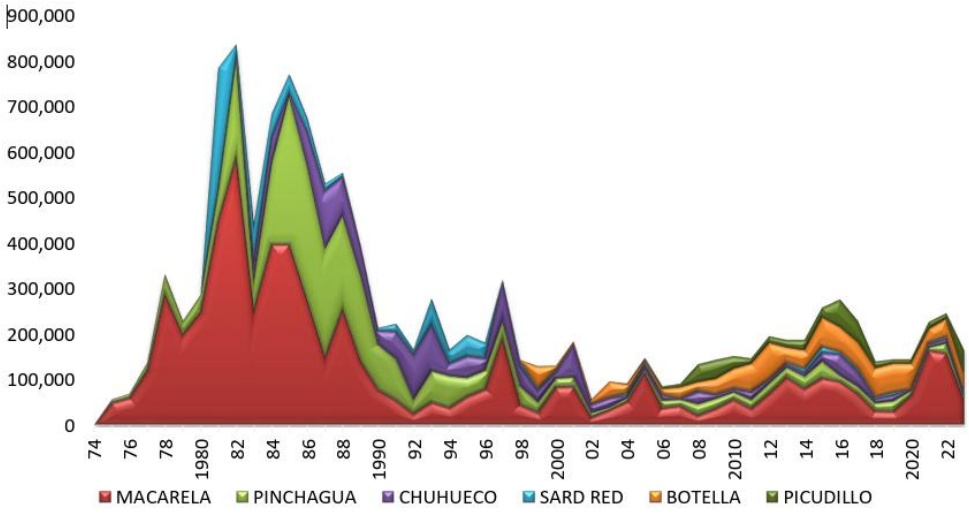
Category C assessment

Species name		**Pacific chub mackerel / Macarela - *Scomber japonicus***	
Fishing area and stock		**FAO 87 - Southeast Pacific** **Ecuador EEZ**	
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

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.

Clause is met considering that:

The Ecuadorian Instituto Público De Investigación De Acuicultura Y Pesca (IPIAP) assesses all the main species stocks caught in the Ecuadorian small pelagic fishery annually since 2019. The last stock assessment report was published in May 2024, where analysis used 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 semiregular hydroacoustic cruise survey (IPIAP 2024).

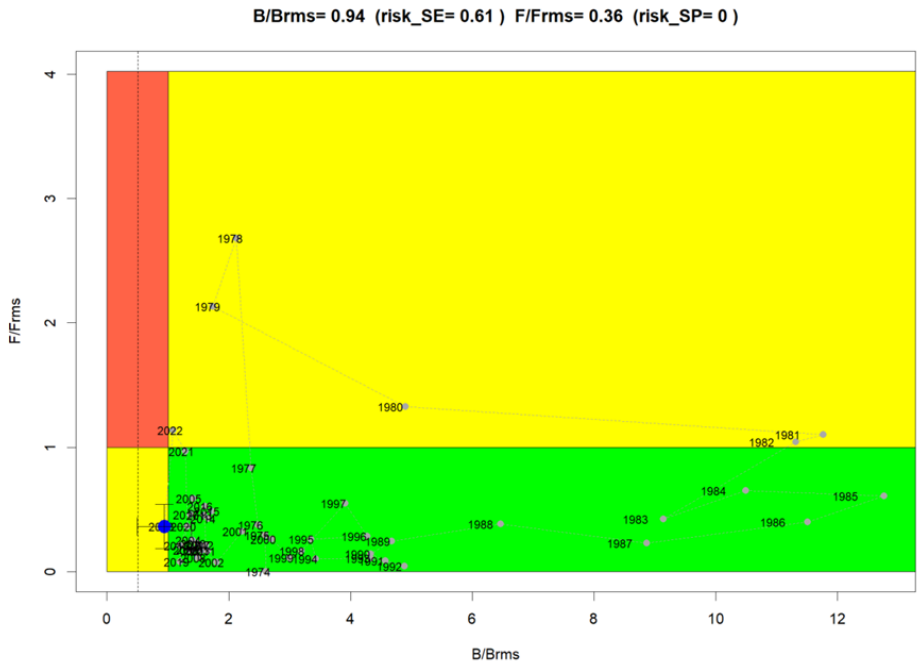


Landings of Ecuador's main small pelagic species during 1975-2023. In red, the macarela or Pacific chub mackerel (IPIAP 2024).

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.

Clause is met considering that:

The BMSY for this stock is set at a precautionary level of 40% of the unfished adult biomass. A spawning biomass of 374,000 t and an MSY of 220,000 t were estimated as proxies for BMSY and MSY, respectively. Stock analysis results indicate that the adult biomass is approximately 352,000 t, about 38% of the unfished biomass, slightly below the target level. Average fishing mortality is estimated to be 64% lower than the FMSY. In conclusion, the Kobe plot and associated uncertainty measures suggest no risk of overfishing; however, the risk of overexploitation is estimated at 61% (IPIAP 2024).



Kobe plot for the macarela or Pacific chub mackerel (IPIAP 2024).

References

IPIAP (2024). Evaluación Del Stock De Recursos Pelágicos Pequeños Del Ecuador 2023. https://institutopesca.gob.ec/wpcontent/uploads/2024/07/Informe_Evaluacion_2024.pdf

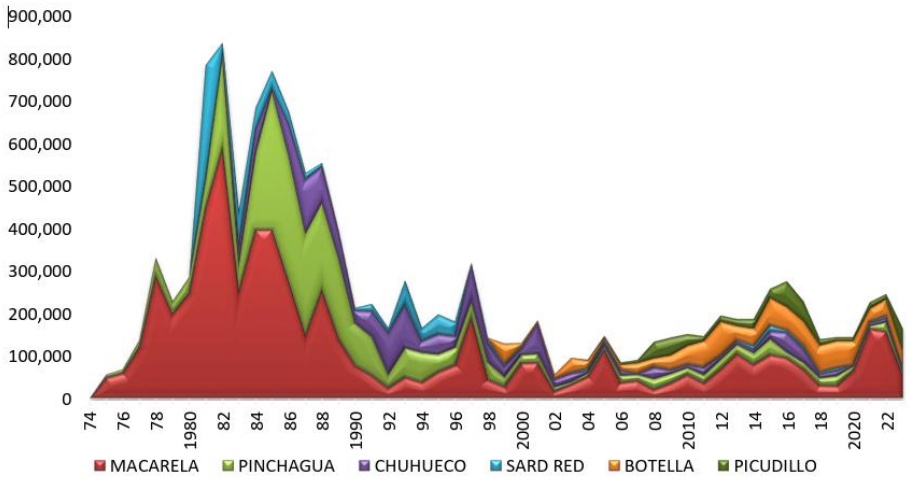
Species name	**Shortfin scad / Picudillo – *Decapterus macrosoma***
Fishing area and stock	**FAO 87 - Southeast Pacific** **Ecuador EEZ**

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

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.

Clause is met considering that:

The Ecuadorian Instituto Público De Investigación De Acuicultura Y Pesca (IPIAP) assesses all the main species stocks caught in the Ecuadorian small pelagic fishery annually since 2019. The last stock assessment report was published in May 2024, where analysis used 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 semiregular hydroacoustic cruise survey (IPIAP 2024).



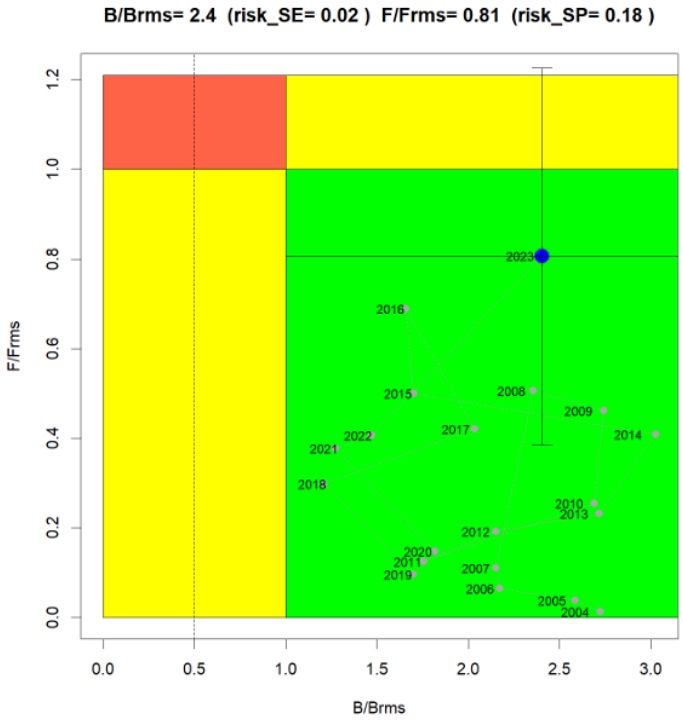
Landings of Ecuador's main small pelagic species during 1975-2023. In dark green, the picudillo or shortfin scad (IPIAP 2024).

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.

Clause is met considering that:

The biomass target reference point for this stock is set at 40% of the unfished adult biomass, as a precautionary measure. A spawning biomass of 24,000 tons (BMSY) and a Maximum Sustainable Yield (MSY) of 30,000 tons have been estimated as proxies for sustainable management. The

corresponding fishing mortality rate (FMSY) is estimated at 1.79. Current estimates indicate that the adult biomass averages around 52,000 tons, representing approximately 87% of the unfished biomass, while average fishing mortality is about 19% below the FMSY reference point. According to the Kobe diagram and associated uncertainty analyses, the risk of overfishing is low, estimated at 3%, while the risk of overexploitation stands at 18% (IPIAP 2024).



Kobe plot for the picudillo or shortfin scad (IPIAP 2024).

References

IPIAP (2024). Evaluación Del Stock De Recursos Pelágicos Pequeños Del Ecuador 2023. https://institutopesca.gob.ec/wpcontent/uploads/2024/07/Informe_Evaluacion_2024.pdf

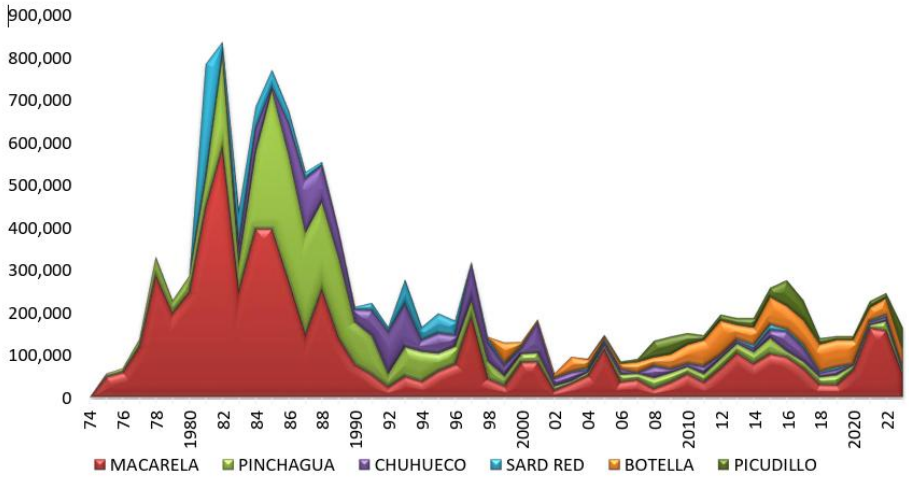
Species name		**Frigate tuna / Botella – *Auxis spp.***	
Fishing area and stock		**FAO 87 - Southeast Pacific Ecuador EEZ**	
C1	**Category C Stock Status - Minimum Requirements**		
	C1.1	Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are 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

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.

Clause is met considering that:

The Ecuadorian Instituto Público De Investigación De Acuicultura Y Pesca (IPIAP) assesses all the main species stocks caught in the Ecuadorian small pelagic fishery annually since 2019. The last stock assessment report was published in May 2024, where analysis used 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 semiregular hydroacoustic cruise survey. The assessment is carried out for *Auxis spp*. (Botella is the common name for this genus in Ecuador), which includes two species: frigate tuna (*Auxis thazard)* and Bullet tuna (*Auxis rochei)* (IPIAP 2024).



Landings of Ecuador's main small pelagic species during 1975-2023. In orange the Botella or *Auxis spp.* (IPIAP 2024).

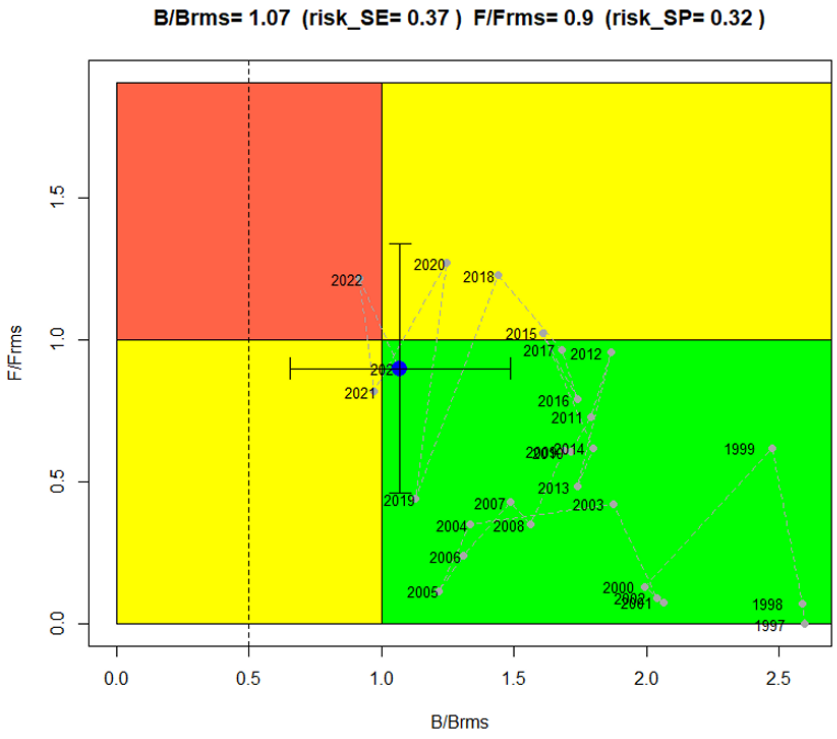
C1.2 The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.

Clause is met considering that:

The biomass target reference point for this stock (BMSY) is established to precautionary retention of 40% of the unfished adult biomass. Biological reference points for botella were estimated by projecting the long-term biomass annually across different average annual fishing mortality rates.

A spawning biomass of 69,000 tons (BMSY) and a Maximum Sustainable Yield (MSY) of 41,000 tons have been estimated as proxies for sustainable harvest levels. The fishing mortality rate that supports this objective (FMSY) is estimated at 0.70. Based on these reference points, the current

adult biomass is estimated to average 74,000 tons, equivalent to 43% of the unfished biomass., while average fishing mortality is approximately 10% below the FMSY level. The Kobe diagram and associated uncertainty analysis suggest moderate risk levels, with a 32% probability of overfishing and a 37% probability of overexploitation (IPIAP 2024).



Kobe plot for the Botella or *Auxis spp.* (IPIAP 2024).

References

IPIAP (2024). Evaluación Del Stock De Recursos Pelágicos Pequeños Del Ecuador 2023. https://institutopesca.gob.ec/wpcontent/uploads/2024/07/Informe_Evaluacion_2024.pdf

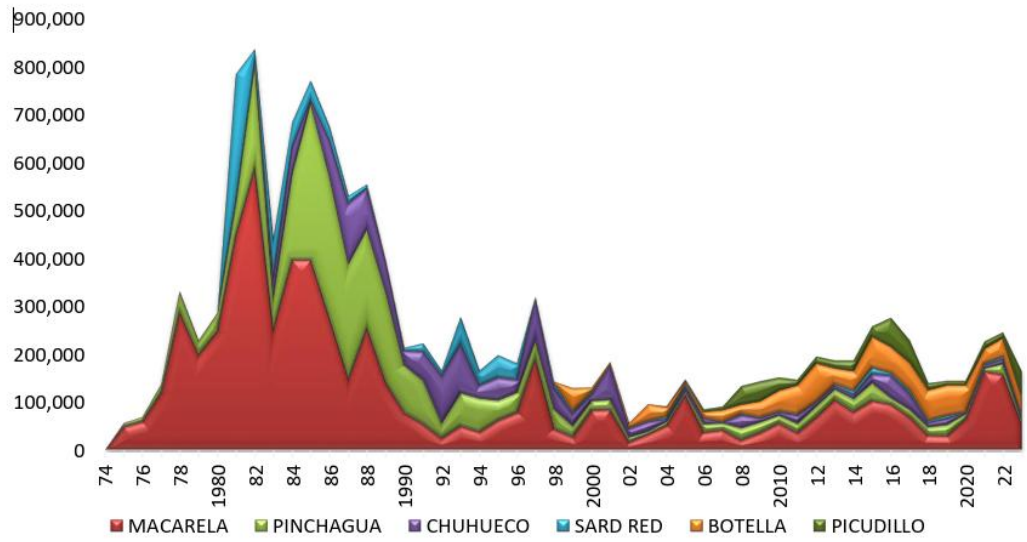
Species name		**Pacific thread herring / Pinchagua - *Opisthonema liberate***	
Fishing area and stock		**FAO 87 - Southeast Pacific** **Ecuador EEZ**	
C1	**Category C Stock Status - Minimum Requirements**		
	C1.1	Fishery removals of the species in the fishery under assessment are included in the stock 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	Pass

		removals by the fishery under assessment are considered by scientific authorities to be negligible.	
			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.

Clause is met considering that:

The Ecuadorian Instituto Público De Investigación De Acuicultura Y Pesca (IPIAP) assesses all the main species stocks caught in the Ecuadorian small pelagic fishery annually since 2019. The last stock assessment report was published in May 2024, where analysis used 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. The stock assessment for the Pacific thread herring (Pinchagua) is done at a genus level as *Opisthonema spp.* (IPIAP 2024).



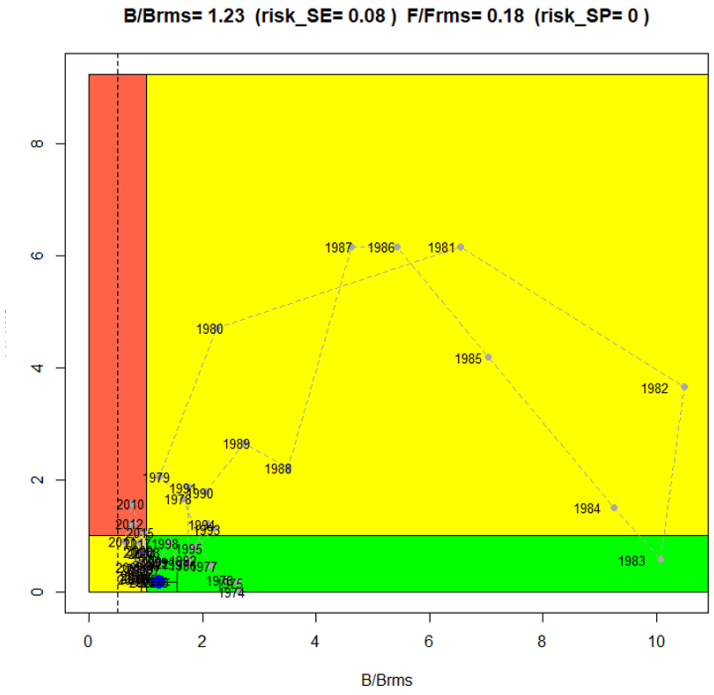
Landings of Ecuador's main small pelagic species during 1975-2023. In green, the pinchagua or Pacific thread herring (IPIAP 2024).

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.

Clause is met considering that:

The biomass target reference point for this stock (BMSY) is established to precautionary retention of 40% of the unfished adult biomass. Biological reference points for pinchagua were estimated by projecting the long-term biomass annually across different average annual fishing mortality rates. Results indicate that the adult biomass is estimated at around 86,000 tons, equivalent to 49% of the unfished biomass, and the average fishing mortality levels are estimated to be 82% below the FMSY

reference fishing mortality; therefore, there are practically no risks of overfishing or overexploitation (IPIAP 2024).



Kobe plot for the pinchagua or Pacific thread herring (IPIAP 2024).

References

IPIAP (2024). Evaluación Del Stock De Recursos Pelágicos Pequeños Del Ecuador 2023. https://institutopesca.gob.ec/wpcontent/uploads/2024/07/Informe_Evaluacion_2024.pdf

Traceability information

Information provided for Step 3 Path 1 or Path 2

Species name	Pacific chub mackerel / Macarela - *Scomber japonicus*			
Path 1	Yes ☐ No ☒			
Confirm all KDEs are provided	Yes ☐ No ☐			
Path 2	Yes ☒ No ☐ *If yes for Path 2, complete the next section*			
Path 2 outcome	**Flag country**	**Coastal score**	**Port score**	**Risk outcome**
	Ecuador	Ecuador 2.69	Ecuador 2.11	Downgraded to medium risk

Countries may be different for Coastal State and Port State.				

Species name	Shortfin scad / Picudillo – *Decapterus macrosoma*			
Path 1	Yes ☐ No ☒			
Confirm all KDEs are provided	Yes ☐ No ☐			
Path 2	Yes ☒ No ☐ *If yes for Path 2, complete the next section*			
Path 2 outcome *Countries may be different for Coastal State and Port State.*	**Flag country**	**Coastal score**	**Port score**	**Risk outcome**
	Ecuador	Ecuador 2.69	Ecuador 2.11	Downgraded to medium risk

Species name	Frigate tuna / Botella– *Auxis spp.*			
Path 1	Yes ☐ No ☒			
Confirm all KDEs are provided	Yes ☐ No ☐			
Path 2	Yes ☒ No ☐ *If yes for Path 2, complete the next section*			
Path 2 outcome *Countries may be different for Coastal State and Port State.*	**Flag country**	**Coastal score**	**Port score**	**Risk outcome**
	Ecuador	Ecuador 2.69	Ecuador 2.11	Downgraded to medium risk

Species name	Pacific thread herring / Pinchagua - *Opisthonema liberate*			
Path 1	Yes ☐ No ☒			
Confirm all KDEs are provided	Yes ☐ No ☐			
Path 2	Yes ☒ No ☐ *If yes for Path 2, complete the next section*			
Path 2 outcome *Countries may be different for Coastal State and Port State.*	**Flag country**	**Coastal score**	**Port score**	**Risk outcome**
	Ecuador	Ecuador 2.69	Ecuador 2.11	Downgraded to medium risk