# By-Product assessment report

*BP133*

*Dimolfin SA*

| Report code | BP133 | Date of issue | October 2025 |
|---|---|---|---|

| 1. Application details | | |
|---|---|---|
| **Applicant** | Dimolfin SA | |
| **Applicant country** | Ecuador | |
| **2. Certification Body details** | | |
| **Name of Certification Body (CB)** | NSF / Global Trust Certification Ltd | |
| **Contact information for CB** | Fisheries@nsf.org | |
| **Assessor name** | Matthew Jew | |
| **CB internal peer reviewer name** | Léa Lebechnech | |
| **Internal peer review evaluation** | Agree with evaluation | |
| **Number of Assessment days** | 1 | |
| **Comments on the assessment** | N/A | |
| **3. Approval validity** | Valid from 10/2025 | Valid from 10/2026 |
| **4. Assessment cycle** | Initial | |

**5. By-product assessment outcomes**

| By-product species name | Flag country(ies) | Fishing Area(s) | MarinTrust approval status |
|---|---|---|---|
| Pacific chub mackerel<br>ESP: macarela<br>(*Scomber japonicus*) | Ecuador | FAO 87 | Approved source with caution |
| Black skipjack<br>ESP: pata seca<br>(*Euthynnus lineatus*) | Ecuador | FAO 87 | Not approved |
| Pacific Thread herring<br>ESP: sardina crinuda<br>(*Ophisthonema spp*) | Ecuador | FAO 87 | Approved source with caution |
| Frigate tuna<br>ESP: melva<br>(*Auxis thazard*) | Ecuador | FAO 87 | 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 | Flag country(ies) | IUCN Red List | CITES Appendices | Step 2 risk status | Step 3 required? |
|---|---|---|---|---|---|
| Pacific chub mackerel<br>ESP: macarela<br>(*Scomber japonicus*) | Ecuador | Least concern | Not listed | High risk | Yes |
| Black skipjack<br>ESP: pata seca<br>(*Euthynnus lineatus*) | Ecuador | Least concern | Not listed | High risk | Yes |
| Pacific Thread herring<br>ESP: sardina crinuda<br>(*Ophisthonema spp*) | Ecuador | Least concern | Not listed | High risk | Yes |
| Frigate tuna<br>ESP: melva<br>(*Auxis thazard*) | 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 |
|---|---|---|---|---|---|---|
| Pacific chub mackerel<br>ESP: macarela<br>(*Scomber japonicus*) | Ecuador | FAO 87 | Ecuadorian Pacific chub mackerel | Pass | Path 2 - Yes | Risk downgraded to Medium Risk |
| Black skipjack<br>ESP: pata seca<br>(*Euthynnus lineatus*) | Ecuador | FAO 87 | Ecuadorian Black Skipjack | Fail | Path 2 - No | Remains High Risk |
| Pacific Thread herring<br>ESP: sardina crinuda<br>(*Ophisthonema spp*) | Ecuador | FAO 87 | Ecuadorian Pacific Thread herring | Pass | Path 2 - Yes | Risk downgraded to Medium Risk |
| Frigate tuna<br>ESP: melva<br>(*Auxis thazard*) | Ecuador | FAO 87 | Ecuadorian Frigate tuna | Pass | Path 2 - Yes | Risk downgraded to Medium Risk |
| **Comments on Step 3 Assessment:**<br>*No information was provided to the assessor with regard to step 3, therefore Path 2 included all coastal countries in FAO 87 (Ecuador, Chile, Colombia, Peru)* | | | | | | |

# 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 (*Scomber japonicus*)<br>ESP: macarela | |
| **Fishing area and stock** | | FAO 87 | |
| **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<br>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.**

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 (see figure below); 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).

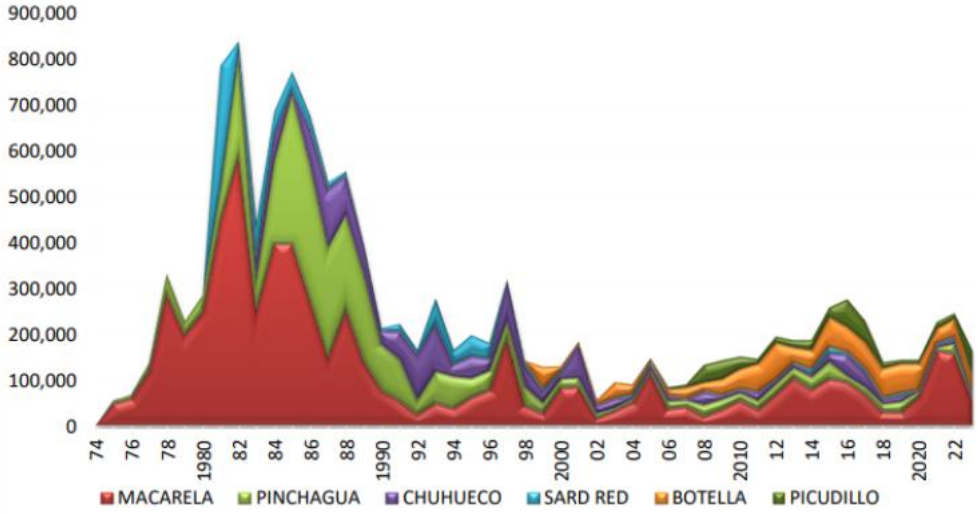


*Figure 1. Landings in the Ecuadorian small pelagic fishery, 1975 – 2023. Bullet tuna is "Botella" (orange). Source: IPIAP 2024.*

Based on all the above, **C1.1 is met.**

**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.

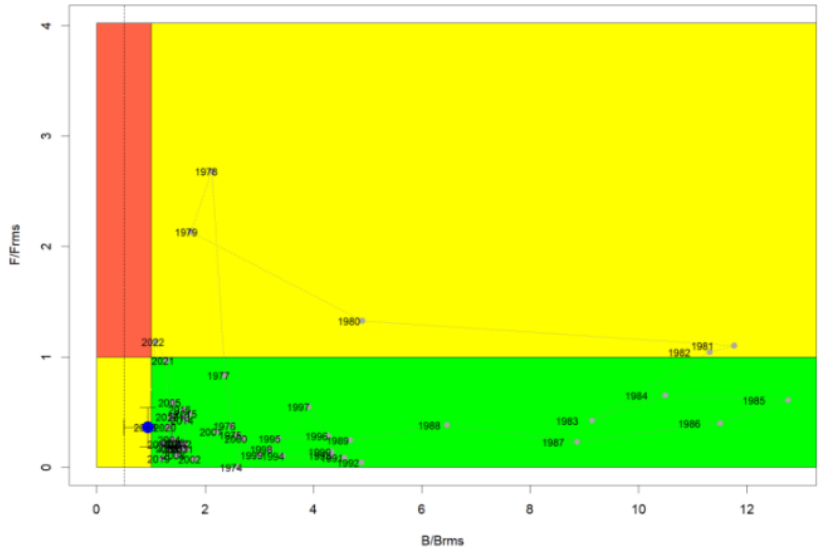


*Figure 2. Kobe chart for Pacific chub mackerel in Ecuadorian waters. The blue dot is the most recent estimate of stock status. Source: IPIAP, 2024.*

Based on all the above, **C1.2 is met.**

**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

| | | | |
|---|---|---|---|
| **Species name** | | Black skipjack (*Euthynnus lineatus*)<br>ESP: pata seca | |
| **Fishing area and stock** | | FAO 87 | |
| **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<br>are considered by scientific authorities to be negligible. | Fail |
| | **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. | Fail |
| | | **Clause outcome:** | Fail |

**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 stock structure of this species in this region is not known. No evidence of regular stock assessment was found. It is not clear whether total fishery removals of *E. lineatus* are recorded. **C1.1 is not met.**

**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 stock structure of this species is not known. Therefore, there is no evidence that any *E. lineatus* stock in the region has biomass above the limit reference point. **C1.2 is not met.**

**References**

| | | | |
|---|---|---|---|
| **Species name** | | Pacific Thread herring (*Ophisthonema spp*)<br>ESP: sardina crinuda | |
| **Fishing area and stock** | | FAO 87 | |
| **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<br>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.**

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 (see figure below); 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).

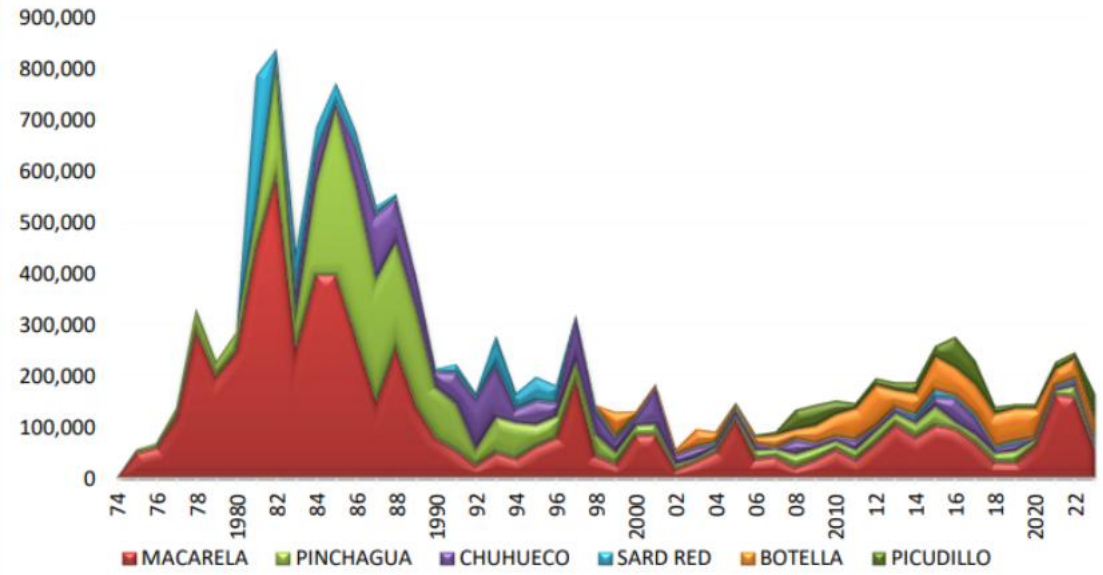


*Figure 3. Landings in the Ecuadorian small pelagic fishery, 1975 – 2023. Bullet tuna is "Botella" (orange). Source: IPIAP, 2024.*

Based on the above, **C1.1 is met.**

**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.

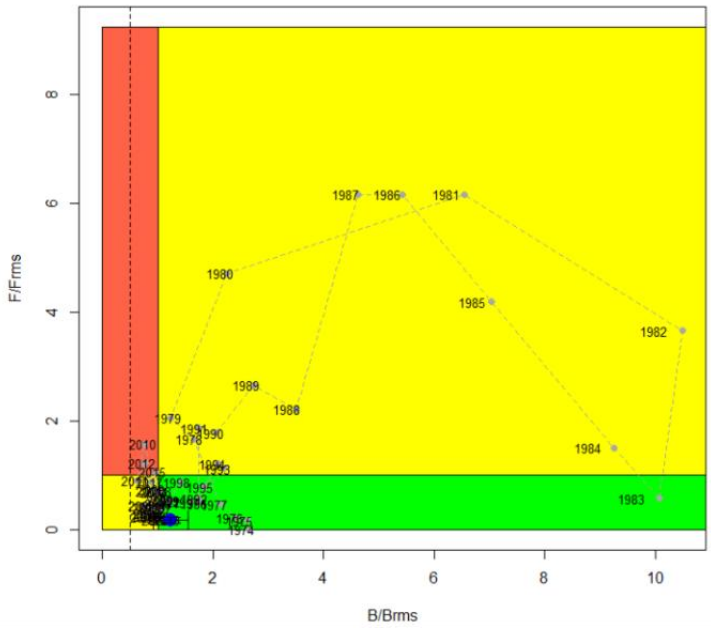


*Figure 4. Kobe chart for thread herrings in Ecuadorian waters. The blue dot is the most recent estimate of stock status. Source: IPIAP, 2024.*

Based on the above, **C1.2 is met.**

**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

| | | | |
|---|---|---|---|
| **Species name** | | Frigate tuna (*Auxis thazard*)<br>ESP: melva | |
| **Fishing area and stock** | | FAO 87 | |
| **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<br>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**.

Landings data from 1981 and onwards are available in IPIAP website and have been used for stock assessments of small pelagic fishes in Ecuador: https://institutopesca.gob.ec/peces-pelagicos-pequenos/.

Landings of *Auxis spp.* are systematically recorded through the IPIAP Observer Programme and factory databases. In the 2020–2024 authorised set dataset, *Auxis spp.* contributed 23.95% of the total catch (See Table 1, [1]). Fleet-wide landings of small pelagics, including *Auxis spp.*, are also reported in the MPCEIP/IPIAP annual series (1975–2023) [2] (see Figure 5 and Figure 6). These data sources ensure that fishery-wide removals are known.

*Table 1. Species composition of authorised fishmeal small pelagic fish sets, 2020–2024.*
*Source: IPIAP Observer Programme [1].*

| N° | Especie | Nombre común | Composición de la captura (%) |
|---|---|---|---|
| 1 | *Scomber japonicus* | Macarela, morenillo | 67.50% |
| 2 | *Auxis* spp. | Botella, melva | 23.95% |
| 3 | *Decapterus macrosoma* | Picudillo | 6.29% |
| 4 | *Cetengraulis mysticetus* | Chuhueco | 0.73% |
| 5 | *Etrumeus acuminatus* | Sardina redonda | 0.57% |
| 6 | *Prionotus stephanophrys* | Gallineta | 0.24% |
| 7 | *Peprilus medius* | Chazo | 0.15% |
| 8 | *Prionotus albirostris* | Gallineta | 0.13% |

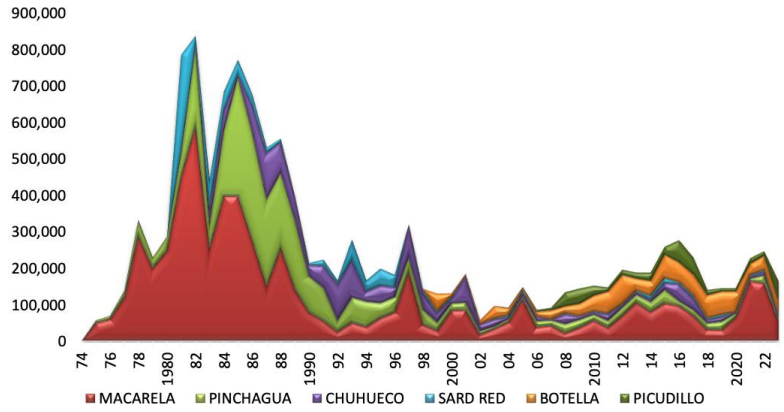


*Figure 5. Landings of the main small pelagic species in Ecuador, 1975–2023.*
*Source: Canales, C. M. & Jurado, V., 2024. IPIAP Technical Report [2].*

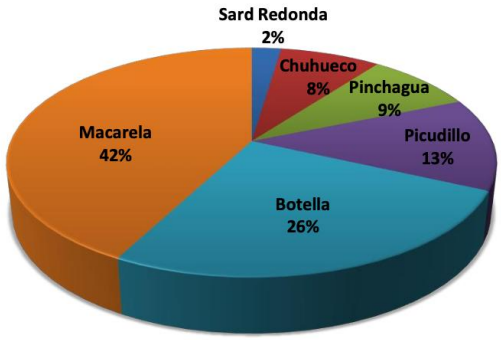


*Figure 6. Percentage share of landings of the main small pelagic species in Ecuador, 2015–2023. Scomber japonicus contributed on average 42% of total small-pelagic landings.*
*Source: Canales, C. M. & Jurado, V., 2024. IPIAP Technical Report [2].*

Based on the above, **C1.1 is met.**

**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 2024 IPIAP assessment (data through 2023) estimates B/BMSY=1.07 and F/FMSY=0.90 for *Auxis* spp., placing the 2023 status in the Kobe green quadrant—biomass at/above target and fishing mortality below target (see Figure 7 and Figure 8) [4]. The F time-series shows earlier exceedances, but the current (most recently assessed) year meets the target-based criterion. As contextual verification, the February 2025 hydroacoustic survey estimated Auxis biomass at 56,343 t (24.9% of total PPP biomass). Under the 2021–2025 Plan, if status were to deteriorate toward limits, fleet-wide closures and effort controls would be applied (*vedas de clara*, reproductive/recruitment closures, juvenile-catch triggers) [5].

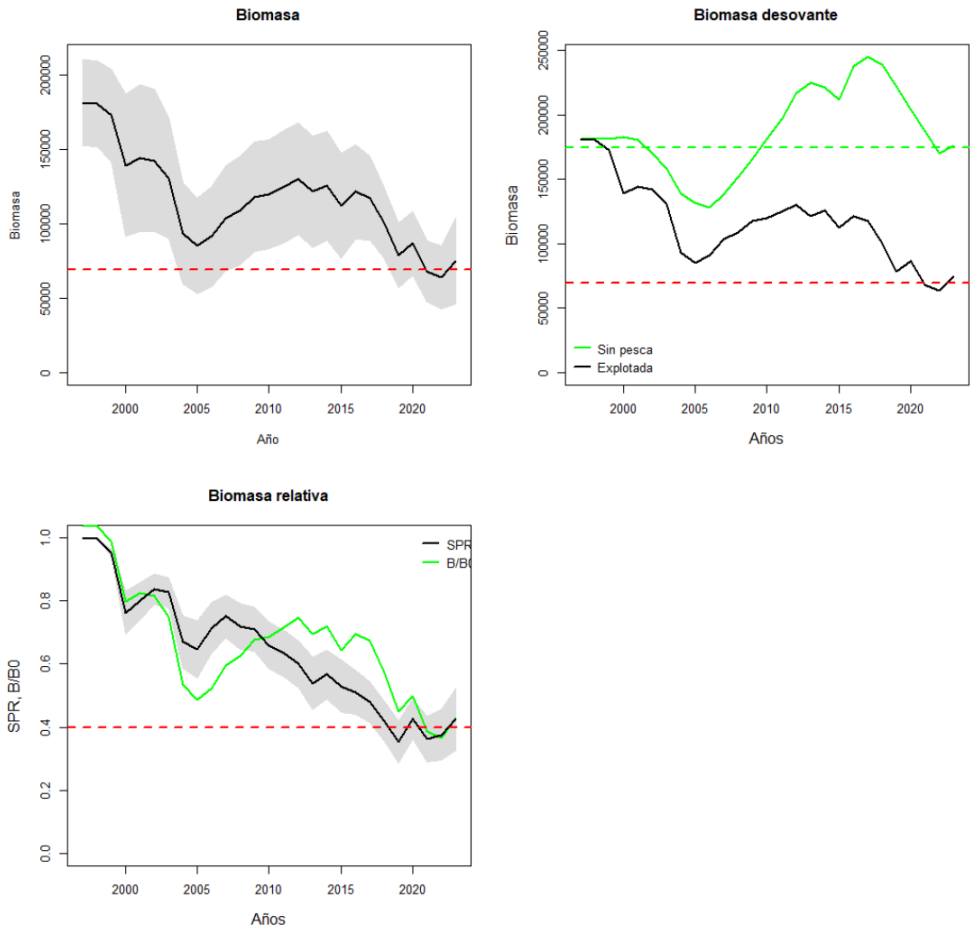


*Figure 7. Auxis spp. biomass indicators: (top left) total biomass; (top right) spawning biomass with and without fishing (green = unfished trajectory; black = exploited); (bottom left) relative metrics (SPR and B/B0). Red dashed lines denote the limit proxies used. Source: IPIAP stock assessment 2024*

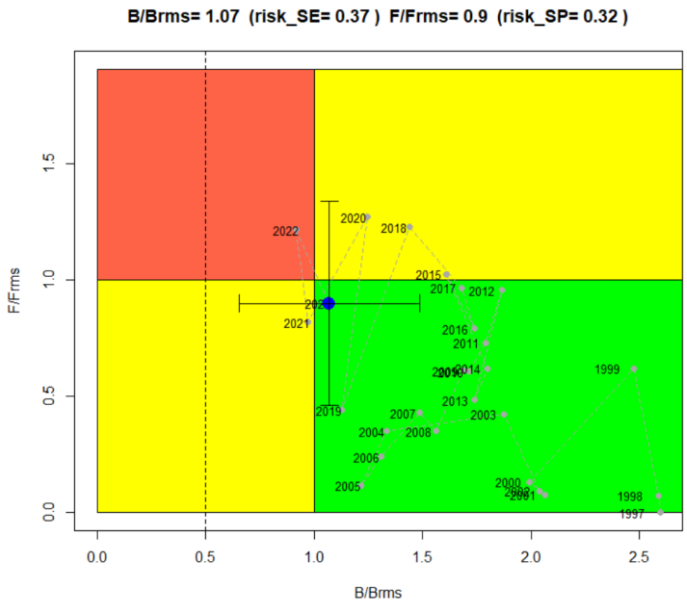


*Figure 8. Kobe diagram for Auxis spp. summarising 2023 status (blue point) with B/BMSY ≈ 1.07 and F/FMSY≈ 0.90; dotted trajectory shows previous years. Green quadrant indicates not overfished and no overfishing. Source: IPIAP stock assessment 2024*

Based on the above, **C1.2 is met.**

**References**

[1] IPIAP. *Informe de capturas PPP-MT 2020–2024 (Observer Programme; Table 10).* 2025.
[2] Canales, C. M. & Jurado, V. (2024). *Evaluación del stock de recursos pelágicos pequeños del Ecuador 2023. Informe Técnico IPIAP.* Guayaquil, May 2024, 150 p.
[3] MPCEIP-SRP. *Flota cerquera costera — Panel de desembarques de pelágicos pequeños 2021–2024, by species.*
[4] Canales & Jurado (2024) *Stock assessment update 2024*
[5] SRP (2021) National Action & Management Plan for the Small-Pelagic Fishery (2021–2025).

**Traceability information**

Information provided for Step 3 Path 1 or Path 2

| **Species name** | Pacific chub mackerel (*Scomber japonicus*) \| ESP: macarela | | | |
|---|---|---|---|---|
| **Path 1** | Yes ☐ No ☒ | | | |
| Confirm all KDEs are provided | Yes ☐ No ☒ | | | |
| **Path 2** | Yes ☒ No ☐ | | | |
| **Path 2 outcome** | **Flag country** | **Coastal score** | **Port score** | **Risk outcome** |
| | **Ecuador** | 2.69 | 2.11 | Downgraded to medium risk |
| | **Chile** | 2.13 | 2.39 | |
| | **Colombia** | 2.88 | 2.94 | |
| | **Peru** | 2.5 | 2.78 | |

| **Species name** | Black skipjack (*Euthynnus lineatus*) \| ESP: pata seca | | | |
|---|---|---|---|---|
| **Path 1** | Yes ☐ No ☒ | | | |
| Confirm all KDEs are provided | Yes ☐ No ☒ | | | |
| **Path 2** | Yes ☐ No ☒ | | | |
| **Path 2 outcome** | **Flag country** | **Coastal score** | **Port score** | **Risk outcome** |
| | **Ecuador** | 2.69 | 2.11 | Downgraded to medium risk |
| | **Chile** | 2.13 | 2.39 | |
| | **Colombia** | 2.88 | 2.94 | |
| | **Peru** | 2.5 | 2.78 | |

| **Species name** | Pacific Thread herring (*Ophisthonema spp*) \| ESP: sardina crinuda | | | |
|---|---|---|---|---|
| **Path 1** | Yes ☐ No ☒ | | | |
| Confirm all KDEs are provided | Yes ☐ No ☒ | | | |
| **Path 2** | Yes ☒ No ☐ | | | |
| **Path 2 outcome** | **Flag country** | **Coastal score** | **Port score** | **Risk outcome** |
| | **Ecuador** | 2.69 | 2.11 | Downgraded to medium risk |
| | **Chile** | 2.13 | 2.39 | |
| | **Colombia** | 2.88 | 2.94 | |
| | **Peru** | 2.5 | 2.78 | |

| **Species name** | Frigate tuna (*Auxis thazard*) \| ESP: melva | | | |
|---|---|---|---|---|
| **Path 1** | Yes ☐ No ☒ | | | |
| Confirm all KDEs are provided | Yes ☐ No ☒ | | | |
| **Path 2** | Yes ☒ No ☐ | | | |
| **Path 2 outcome** | **Flag country** | **Coastal score** | **Port score** | **Risk outcome** |
| | **Ecuador** | 2.69 | 2.11 | Downgraded to medium risk |
| | **Chile** | 2.13 | 2.39 | |
| | **Colombia** | 2.88 | 2.94 | |
| | **Peru** | 2.5 | 2.78 | |

**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.