



## By-Product assessment report

BP108

*URISA S.A*

|                    |       |                      |           |
|--------------------|-------|----------------------|-----------|
| <b>Report code</b> | BP108 | <b>Date of issue</b> | June 2026 |
|--------------------|-------|----------------------|-----------|

| 1. Application details          |  |                                                                                                                                                                                                                                                                                                                                                                                             |                     |
|---------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Applicant                       |  | URISA S.A.                                                                                                                                                                                                                                                                                                                                                                                  |                     |
| Applicant country               |  | Ecuador                                                                                                                                                                                                                                                                                                                                                                                     |                     |
| 2. Certification Body details   |  |                                                                                                                                                                                                                                                                                                                                                                                             |                     |
| Name of Certification Body (CB) |  | NSF / Global Trust Certification Ltd                                                                                                                                                                                                                                                                                                                                                        |                     |
| Contact information for CB      |  | <a href="mailto:Fisheries@nsf.org">Fisheries@nsf.org</a>                                                                                                                                                                                                                                                                                                                                    |                     |
| Assessor name                   |  | Ana Ayres                                                                                                                                                                                                                                                                                                                                                                                   |                     |
| CB internal peer reviewer name  |  | Matthew Jew                                                                                                                                                                                                                                                                                                                                                                                 |                     |
| Internal peer review evaluation |  | Agree with evaluation                                                                                                                                                                                                                                                                                                                                                                       |                     |
| Number of Assessment days       |  | 2                                                                                                                                                                                                                                                                                                                                                                                           |                     |
| Comments on the assessment      |  | This assessment covers 7 byproduct species, all exclusively caught by Ecuadorian vessels within Ecuadorian waters, and landed at Ecuadorian ports. Ecuador is a High Risk flag state, and so all species were subjected to Step 3 assessment. All species passed the Step 3 risk assessment via Path 2 and passed the Category C assessment, being scored as Approved, Source with Caution. |                     |
| 3. Approval validity            |  | Valid from 06/2026                                                                                                                                                                                                                                                                                                                                                                          | Valid until 06/2027 |
| 4. Assessment cycle             |  | Re-Approval                                                                                                                                                                                                                                                                                                                                                                                 |                     |

| 5. By-product assessment outcomes                          |                   |               |                              |
|------------------------------------------------------------|-------------------|---------------|------------------------------|
| By-product species name                                    | Flag country(ies) | Fishing Areas | MarinTrust approval status   |
| <i>Thunnus albacares</i> - Yellowfin tuna                  | Ecuador           | FAO 87        | Approved source with caution |
| <i>Katsuwonus pelamis</i> - Skipjack tuna                  | Ecuador           | FAO 87        | Approved source with caution |
| <i>Opisthonema</i> spp. - Pacific thread herring/pinchagua | Ecuador           | FAO 87        | Approved source with caution |
| <i>Scomber japonicus</i> - Pacific chub mackerel/macarela  | Ecuador           | FAO 87        | Approved source with caution |
| <i>Etrumeus acuminatus</i> - Sardina redonda               | Ecuador           | FAO 87        | Approved source with caution |
| <i>Merluccius gayi</i> - South Pacific hake                | Ecuador           | FAO 87        | Approved source with caution |
| <i>Auxis rochei</i> - Bullet tuna                          | 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? |
|------------------------------------------------------------|-------------------|----------------|------------------|--------------------|------------------|
| <i>Thunnus albacares</i> - Yellowfin tuna                  | Ecuador           | Least concern  | Not listed       | High risk          | Yes              |
| <i>Katsuwonus pelamis</i> - Skipjack tuna                  | Ecuador           | Least concern  | Not listed       | High risk          | Yes              |
| <i>Opisthonema</i> spp. - Pacific thread herring/pinchagua | Ecuador           | Least concern  | Not listed       | High risk          | Yes              |
| <i>Scomber japonicus</i> - Pacific chub mackerel/macarela  | Ecuador           | Least concern  | Not listed       | High risk          | Yes              |
| <i>Etrumeus acuminatus</i> - Sardina redonda               | Ecuador           | Least concern  | Not listed       | High risk          | Yes              |
| <i>Merluccius gayi</i> - South Pacific hake                | Ecuador           | Data deficient | Not listed       | High risk          | Yes              |
| <i>Auxis rochei</i> - Bullet tuna                          | 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       |
|------------------------------------------------------------|-------------------|--------------|--------------------------------------------|-------------------------------|--------------------------|---------------------------|
| <i>Thunnus albacares</i> - Yellowfin tuna                  | Ecuador           | FAO 87       | Eastern Pacific Ocean (EPO) yellowfin tuna | Pass                          | Path 2- Yes              | Downgraded to Medium risk |
| <i>Katsuwonus pelamis</i> - Skipjack tuna                  | Ecuador           | FAO 87       | Eastern Pacific Ocean (EPO) skipjack tuna  | Pass                          | Path 2- Yes              | Downgraded to Medium risk |
| <i>Opisthonema</i> spp. - Pacific thread herring/pinchagua | Ecuador           | FAO 87       | Ecuadorian thread herring                  | Pass                          | Path 2- Yes              | Downgraded to Medium risk |
| <i>Scomber japonicus</i> - Pacific chub mackerel/macarela  | Ecuador           | FAO 87       | Ecuadorian macarela                        | Pass                          | Path 2- Yes              | Downgraded to Medium risk |
| <i>Etrumeus acuminatus</i> - Sardina redonda               | Ecuador           | FAO 87       | Ecuadorian sardina redonda                 | Pass                          | Path 2- Yes              | Downgraded to Medium risk |
| <i>Merluccius gayi</i> - South Pacific hake                | Ecuador           | FAO 87       | Peruvian hake                              | Pass                          | Path 2- Yes              | Downgraded to Medium risk |
| <i>Auxis rochei</i> - Bullet tuna                          | Ecuador           | FAO 87       | Ecuadorian bullet tuna                     | Pass                          | Path 2- Yes              | Downgraded to Medium risk |
| <b>Comments on Step 3 Assessment:</b> N/A                  |                   |              |                                            |                               |                          |                           |

## 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                | Yellowfin tuna ( <i>Thunnus albacares</i> )                                                                                                                                                                                          |      |
| Fishing area and stock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                | FAO 87 (Eastern Pacific Ocean – EPO yellowfin tuna)                                                                                                                                                                                  |      |
| 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 |
| <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>The assessment and management of the Eastern Pacific Ocean (EPO) yellowfin tuna stock fall under the responsibility of the Inter-American Tropical Tuna Commission (IATTC). The scientific staff reported the results of a new benchmark stock assessment and risk analysis for yellowfin tuna (Minte-Vera et al 2025). The 2025 benchmark assessment builds on IATTC’s risk analysis framework (SAC-16-03), which explicitly incorporates uncertainty into stock status evaluation and management advice. The approach considers alternative hypotheses regarding the spatial structure of the stock across the eastern Pacific Ocean and its northeastern and southwestern regions, as well as biological uncertainties related to growth and natural mortality. In addition, a gradual increase in catchability over time, represented as a 1% annual effort creep, is included, along with different assumptions about the steepness of the stock–recruitment relationship. Together, these elements generate a total of 72 reference models. The assessment also introduces important methodological advances, including improved spatial modelling based on new cluster analyses of length composition data that define northeastern and southwestern regions with limited movement between them, leading to the use of separate regional models. Biological parameters such as growth, natural mortality, and reproductive dynamics were updated using information from otoliths, tagging studies, and spawning data, and effort creep was incorporated to better reflect increasing fishing efficiency over time (Minte-Vera et al, 2025).</p> |                                                |                                                                                                                                                                                                                                      |      |
| Updated catches of yellowfin tuna are provided in Figure 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                |                                                                                                                                                                                                                                      |      |

|      | YFT     |         |           | SKJ     |           |           | BET     |         |         | Total   |           |           |
|------|---------|---------|-----------|---------|-----------|-----------|---------|---------|---------|---------|-----------|-----------|
|      | EPO     | WCPO    | Total     | EPO     | WCPO      | Total     | EPO     | WCPO    | Total   | EPO     | WCPO      | Total     |
| 1995 | 244,639 | 442,805 | 687,444   | 150,661 | 977,478   | 1,128,139 | 108,210 | 110,385 | 218,595 | 503,510 | 1,530,668 | 2,034,178 |
| 1996 | 266,928 | 425,669 | 692,597   | 132,335 | 999,701   | 1,132,036 | 114,706 | 107,168 | 221,874 | 513,969 | 1,532,538 | 2,046,507 |
| 1997 | 277,575 | 481,019 | 758,594   | 188,285 | 939,497   | 1,127,782 | 122,274 | 133,495 | 255,769 | 588,134 | 1,554,011 | 2,142,145 |
| 1998 | 280,606 | 536,845 | 817,451   | 165,489 | 1,244,132 | 1,409,621 | 93,954  | 152,415 | 246,369 | 540,049 | 1,933,392 | 2,473,441 |
| 1999 | 304,638 | 474,648 | 779,286   | 291,249 | 1,070,280 | 1,361,529 | 93,078  | 162,524 | 255,602 | 688,965 | 1,707,452 | 2,396,417 |
| 2000 | 286,863 | 506,028 | 792,891   | 230,479 | 1,194,139 | 1,424,618 | 148,557 | 148,094 | 296,651 | 665,899 | 1,848,261 | 2,514,160 |
| 2001 | 425,008 | 504,501 | 929,509   | 157,676 | 1,100,714 | 1,258,390 | 130,546 | 134,459 | 265,005 | 713,230 | 1,739,674 | 2,452,904 |
| 2002 | 443,458 | 489,995 | 933,453   | 167,048 | 1,253,634 | 1,420,682 | 132,806 | 157,958 | 290,764 | 743,312 | 1,901,587 | 2,644,899 |
| 2003 | 415,933 | 563,926 | 979,859   | 300,470 | 1,245,155 | 1,545,625 | 115,175 | 143,471 | 258,646 | 831,578 | 1,952,552 | 2,784,130 |
| 2004 | 296,847 | 595,888 | 892,735   | 217,249 | 1,354,765 | 1,572,014 | 110,722 | 182,599 | 293,321 | 624,818 | 2,133,252 | 2,758,070 |
| 2005 | 286,492 | 551,822 | 838,314   | 283,453 | 1,418,105 | 1,701,558 | 110,514 | 154,748 | 265,262 | 680,459 | 2,124,675 | 2,805,134 |
| 2006 | 180,519 | 537,076 | 717,595   | 309,090 | 1,479,366 | 1,788,456 | 117,328 | 165,386 | 282,714 | 606,937 | 2,181,828 | 2,788,765 |
| 2007 | 182,141 | 565,930 | 748,071   | 216,324 | 1,663,353 | 1,879,677 | 94,260  | 165,365 | 259,625 | 492,725 | 2,394,648 | 2,887,373 |
| 2008 | 197,328 | 644,365 | 841,693   | 307,699 | 1,649,067 | 1,956,766 | 103,350 | 171,317 | 274,667 | 608,377 | 2,464,749 | 3,073,126 |
| 2009 | 250,413 | 558,914 | 809,327   | 239,408 | 1,761,272 | 2,000,680 | 109,255 | 169,294 | 278,549 | 599,076 | 2,489,480 | 3,088,556 |
| 2010 | 261,871 | 564,607 | 826,478   | 153,092 | 1,680,215 | 1,833,307 | 95,408  | 139,796 | 235,204 | 510,371 | 2,384,618 | 2,894,989 |
| 2011 | 216,720 | 530,946 | 747,666   | 283,509 | 1,536,806 | 1,820,315 | 89,460  | 168,119 | 257,579 | 589,689 | 2,235,871 | 2,825,560 |
| 2012 | 213,310 | 625,697 | 839,007   | 273,519 | 1,731,944 | 2,005,463 | 102,687 | 167,245 | 269,932 | 589,516 | 2,524,886 | 3,114,402 |
| 2013 | 231,170 | 578,467 | 809,637   | 284,043 | 1,831,413 | 2,115,456 | 86,029  | 154,783 | 240,812 | 601,242 | 2,564,663 | 3,165,905 |
| 2014 | 246,784 | 618,262 | 865,046   | 265,490 | 1,985,110 | 2,250,600 | 96,054  | 169,046 | 265,100 | 608,328 | 2,772,418 | 3,380,746 |
| 2015 | 260,265 | 589,128 | 849,393   | 334,049 | 1,788,545 | 2,122,594 | 104,820 | 145,709 | 250,529 | 699,134 | 2,523,382 | 3,222,516 |
| 2016 | 255,465 | 660,291 | 915,756   | 345,163 | 1,788,760 | 2,133,923 | 92,952  | 156,656 | 249,608 | 693,580 | 2,605,707 | 3,299,287 |
| 2017 | 224,800 | 710,202 | 935,002   | 327,629 | 1,609,970 | 1,937,599 | 102,860 | 130,595 | 233,455 | 655,289 | 2,450,767 | 3,106,056 |
| 2018 | 253,305 | 696,706 | 950,011   | 291,352 | 1,843,398 | 2,134,750 | 94,479  | 154,404 | 248,883 | 639,136 | 2,694,508 | 3,333,644 |
| 2019 | 242,248 | 682,704 | 924,952   | 350,992 | 2,044,477 | 2,395,469 | 97,145  | 131,808 | 228,953 | 690,385 | 2,858,989 | 3,549,374 |
| 2020 | 231,603 | 726,403 | 958,006   | 298,583 | 1,721,476 | 2,020,059 | 104,893 | 146,497 | 251,390 | 635,079 | 2,594,376 | 3,229,455 |
| 2021 | 263,755 | 747,354 | 1,011,109 | 328,616 | 1,684,029 | 2,012,645 | 79,953  | 132,915 | 212,868 | 672,324 | 2,564,298 | 3,236,622 |
| 2022 | 298,897 | 689,051 | 987,948   | 298,136 | 1,715,934 | 2,014,070 | 68,217  | 140,838 | 209,055 | 665,250 | 2,545,823 | 3,211,073 |
| 2023 | 306,170 | 739,277 | 1,045,447 | 390,549 | 1,631,322 | 2,021,871 | 67,233  | 140,673 | 207,906 | 763,952 | 2,511,272 | 3,275,224 |
| 2024 | 294,493 | *       | 294,493   | 645,260 | *         | 645,260   | 51,936  | *       | 51,936  | 991,689 | *         | 991,689   |

Figure 1. Total annual catches (t) of yellowfin, skipjack, and bigeye tunas, by all types of gear combined, in the Pacific Ocean. The EPO totals for 1995-2024 include discards from purse-seine vessels with carrying capacities greater than 363 t. (IATCC, 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.**

Across all spatial hypothesis, yellowfin tuna spawning biomass has consistently remained well above the limit reference point (Minte-Vera et al 2025). The likelihood of the stock being below the target spawning biomass is close to zero in nearly all risk assessment scenarios and spawning stock abundance exceeds the limit reference point in every scenario, with an estimated probability of falling below the limit equal to zero in all cases. Fishing mortality is well below MSY and limit reference points. These outcomes are graphically represented in Figure 2.

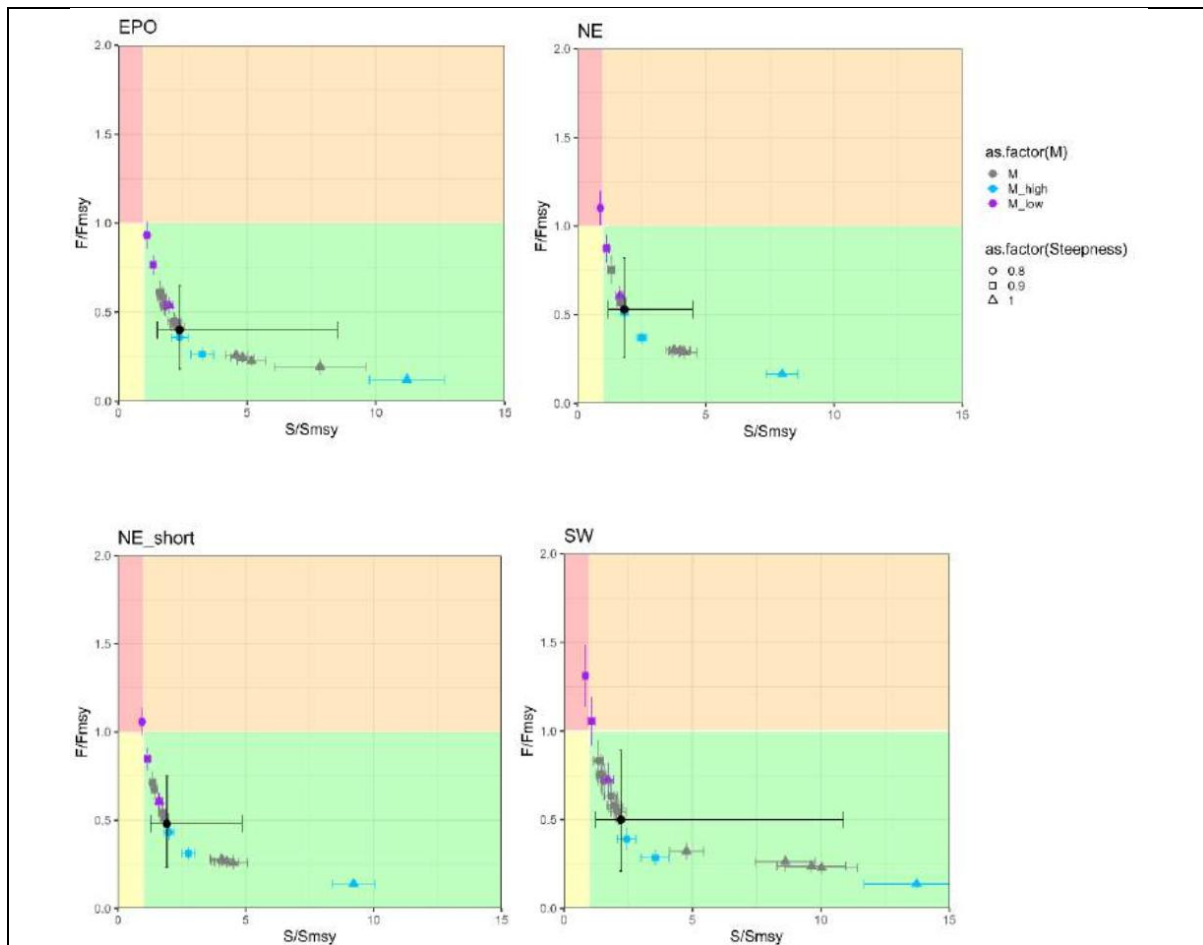


Figure 2. Kobe plots showing the most recent stock assessment status of yellowfin tuna in the Eastern Pacific Ocean and subregions relative to the dynamic level producing MSY and fishing mortality relative to the level producing the same biomass dynamic level associated with MSY. Each dot is based on the average  $F$  over the most recent three years, 2021-2023, and the  $S$  for the first quarter of 2024 and the error bars represent the 80% confidence interval of model estimates. The black dot and error bars represent the medium and 80% confidence interval of combined values, respectively. Minte-Vera et al. (2025).

## References

Minte-Vera, C., M.N. Maunder, H. Xu and R. Bi. 2025. Stock assessment of yellowfin tuna in the Eastern Pacific Ocean: 2025. Document SAC-16-03 of the Scientific Advisory Committee, 16th Meeting of the Inter-American Tropical Tuna Commission. La Jolla, California (USA). 02-06 June 2025. 108 pp. [SAC-16-03 Yellowfin-benchmark-assessment---2025.pdf](#)

IATTC. 2025. The Tuna Fishery in the Eastern Pacific Ocean in 2024. Document SAC-16-01 CORR of the Scientific Advisory Committee, 16th meeting. Inter-American Tropical Tuna Commission. La Jolla, California (USA). 02-06 June 2005. 48 pp. [SAC-16-01 The-tuna-fishery-in-the-Eastern-Pacific-Ocean-in-2024.pdf](#)

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Species name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                | Katsuwonus pelamis - Skipjack tuna                                                                                                                                                                                                   |      |
| Fishing area and stock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                | FAO 87 (Eastern Pacific Ocean – EPO skipjack tuna)                                                                                                                                                                                   |      |
| 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:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                |                                                                                                                                                                                                                                      |      |
| 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>One stock of skipjack is defined in the eastern Pacific Ocean (EPO). Catch data is available and it is used by the IATTC to assess the stock status of skipjack tuna in the EPO. In 2024, a benchmark stock assessment was conducted using an integrated statistical age-structured catch-at-length model in Stock Synthesis. Several data sources were used to fit the model, including data from sixteen defined fisheries and five “surveys”. The fisheries are classified by gear type (purse-seine, longline) and purse-seine set. The "surveys" data included: a) catch-per-set indices for purse-seine sets, by set type (OBJ, NOA), where the relationship between catch-per-set and abundance remains uncertain; b) an index based on recently developed echosounder buoy data; c) absolute biomass from a spatiotemporal Petersen-type model applied to tag-recapture data; and d) an index of relative biomass from a tagging biomass model that uses a flexible effort assumption. A reference model was developed based on the most plausible assumptions and sensitivity analyses were conducted by changing the assumptions of the reference model (IATCC, 2024).</p> <p>Catches of this stock are shown in Figure 1 above.</p> <p><b>Fishery removals of the species in the fishery under assessment are included in the stock assessment process, C1.1 is met.</b></p> <p><b>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.</b></p> <p>According to the reference model, current fishing mortality remains below the threshold associated with the MSY proxy, while the spawning biomass exceeds the dynamic level linked to the same benchmark (Figure 3). Furthermore, there is less than a 10% chance that the spawning biomass surpasses the established limit reference point. This conclusion holds true across all sensitivity models as well.</p> |                                                |                                                                                                                                                                                                                                      |      |

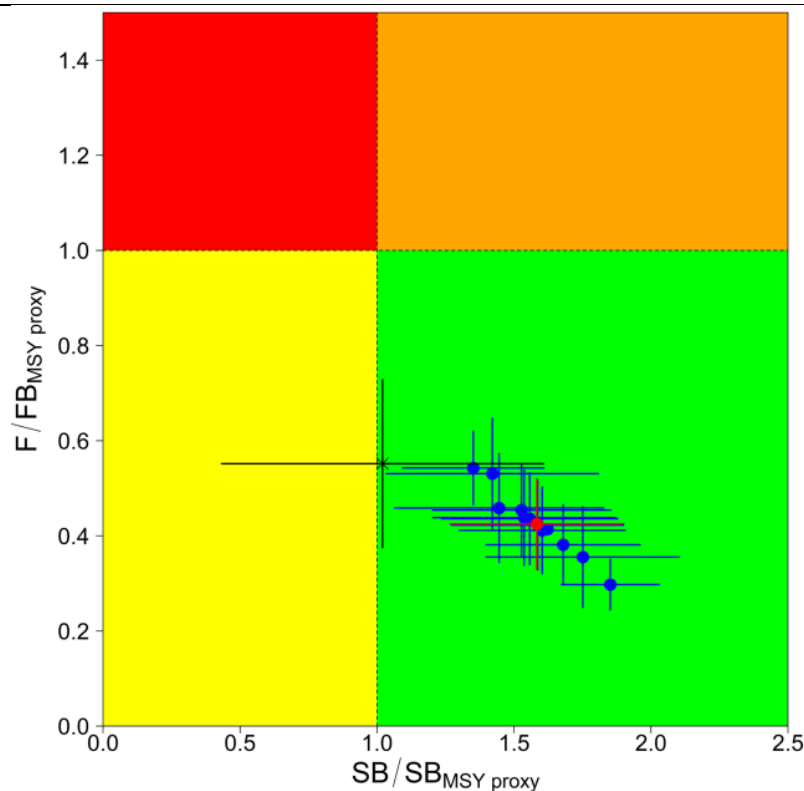


Figure 3. Kobe plot showing the most recent stock status estimates from all the models for skipjack tuna. The x-axis is  $SB_{current}/0.3 \times \text{dynamic } SB_0$ . Each dot is based on the average  $F$  over the most recent three years, 2021-2023, and the error bars represent the 80% confidence intervals of model estimates. The red dot and error bars represent the estimates from the reference model. The black cross and error bars represent the estimates from the model that removed the ECHO index (IATCC, 2024).

**The species is considered, in its most recent stock assessment, to have a biomass above the limit reference points (or proxy), C1.2 is met.**

#### References

- IATCC. (2024). DOCUMENT SAC-15-04 REV STOCK ASSESSMENT OF SKIPJACK TUNA IN THE EASTERN PACIFIC OCEAN: 2024 BENCHMARK ASSESSMENT. [https://www.iattc.org/GetAttachment/f57dece1-81ba-4771-8fa8-3362320a368a/SAC-15-04\\_Skipjack-tuna-benchmark-assessment-2024.pdf](https://www.iattc.org/GetAttachment/f57dece1-81ba-4771-8fa8-3362320a368a/SAC-15-04_Skipjack-tuna-benchmark-assessment-2024.pdf)
- IATCC (2025). The tuna fishery in the Eastern Pacific Ocean in 2024. [https://www.iattc.org/GetAttachment/0f3c1e8c-0ae6-41f3-a3a9-5d5891b5cc4e/SAC-16-01\\_The-tuna-fishery-in-the-Eastern-Pacific-Ocean-in-2024.pdf](https://www.iattc.org/GetAttachment/0f3c1e8c-0ae6-41f3-a3a9-5d5891b5cc4e/SAC-16-01_The-tuna-fishery-in-the-Eastern-Pacific-Ocean-in-2024.pdf)

|                                                                                                                                                                                                                                                                                                                  |                                                |                                                                                                                                                                                                                                      |         |         |         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Species name                                                                                                                                                                                                                                                                                                     |                                                | Opisthonema spp. - Pacific thread herring/pinchagua                                                                                                                                                                                  |         |         |         |
| 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 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.                                                                                                                                 |                                                |                                                                                                                                                                                                                                      |         |         |         |
| Fishery removals are not negligible, and removals (landings data) corresponding to the period 1975 – 2023 are included in the latest stock assessment (ref. 3.2 Datos e información (3.2 Data and information) – a) Estadísticas de desembarques (a) Landing statistics) in Canales and Jurado, 2024) (Table 1). |                                                |                                                                                                                                                                                                                                      |         |         |         |
| Table 1. Small pelagic landings in Ecuador in tons (2021-2024)(IPIAP 2025).                                                                                                                                                                                                                                      |                                                |                                                                                                                                                                                                                                      |         |         |         |
| ESPECIES                                                                                                                                                                                                                                                                                                         |                                                | 2021                                                                                                                                                                                                                                 | 2022    | 2023    | 2024    |
| MACARELA                                                                                                                                                                                                                                                                                                         |                                                | 164.707                                                                                                                                                                                                                              | 158.121 | 54.931  | 29.496  |
| BOTELLA                                                                                                                                                                                                                                                                                                          |                                                | 30.972                                                                                                                                                                                                                               | 40.133  | 40.108  | 76.188  |
| PICUDILLO                                                                                                                                                                                                                                                                                                        |                                                | 15.587                                                                                                                                                                                                                               | 12.348  | 52.403  | 9.558   |
| PINCHAGUA                                                                                                                                                                                                                                                                                                        |                                                | 7.127                                                                                                                                                                                                                                | 22.064  | 7.742   | 32.657  |
| ANCHOVETA                                                                                                                                                                                                                                                                                                        |                                                | 13                                                                                                                                                                                                                                   | 55      | 24.126  |         |
| CHUHUECO                                                                                                                                                                                                                                                                                                         |                                                | 6.184                                                                                                                                                                                                                                | 9.250   | 8.210   | 294     |
| SARDINA REDONDA                                                                                                                                                                                                                                                                                                  |                                                | 2.679                                                                                                                                                                                                                                | 4.906   | 1.192   | 359     |
| ROLLIZO                                                                                                                                                                                                                                                                                                          |                                                | 164                                                                                                                                                                                                                                  | 66      | 1.332   | 119     |
| SARDINA DEL SUR                                                                                                                                                                                                                                                                                                  |                                                |                                                                                                                                                                                                                                      | 119     |         |         |
| JUREL                                                                                                                                                                                                                                                                                                            |                                                | 1                                                                                                                                                                                                                                    | 27      | 6       | 84      |
| ANCHOA                                                                                                                                                                                                                                                                                                           |                                                | 3                                                                                                                                                                                                                                    | 5       | 49      | 0       |
| Total                                                                                                                                                                                                                                                                                                            |                                                | 227.436                                                                                                                                                                                                                              | 247.096 | 190.098 | 148.753 |
| Fishery removals of the species in the fishery under assessment are included in the stock assessment process, 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 most recent assessment of the status of the stock (Canales and Jurado, 2024) concluded that the adult biomass is estimated on average around 86 thousand tons equivalent to 49% of the virgin biomass against a management objective equivalent to safeguarding 40% of the virgin adult biomass (Figure 4). Stock status is summarised in the below Kobe diagram BELOW together with the uncertainty measures, highlighting practically no risk of overfishing or overexploitation.

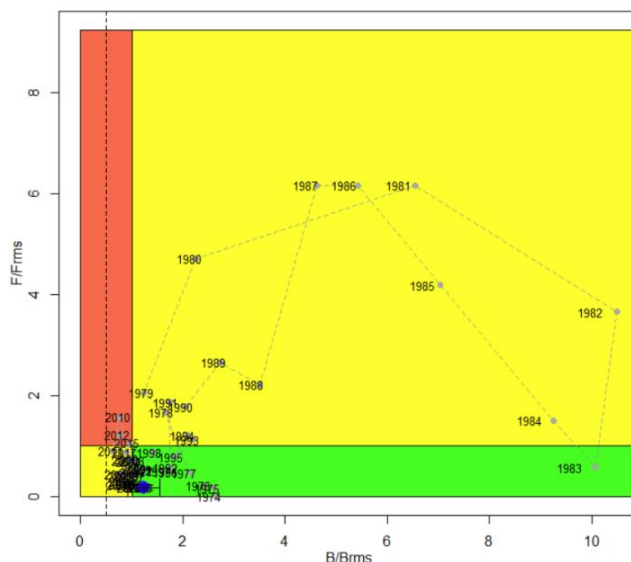


Figure 4. Kobe diagram for the stock ( $B/B_{MSY} = 1.23$  ( $Risk_{SE} = 0.08$ );  $F/F_{MSY} = 0.18$  ( $Risk_{SP} = 0$ )) (Canales and Jurado, 2024).

**The species is considered, in its most recent stock assessment, to have a biomass above the limit reference points (or proxy), C1.2 is met.**

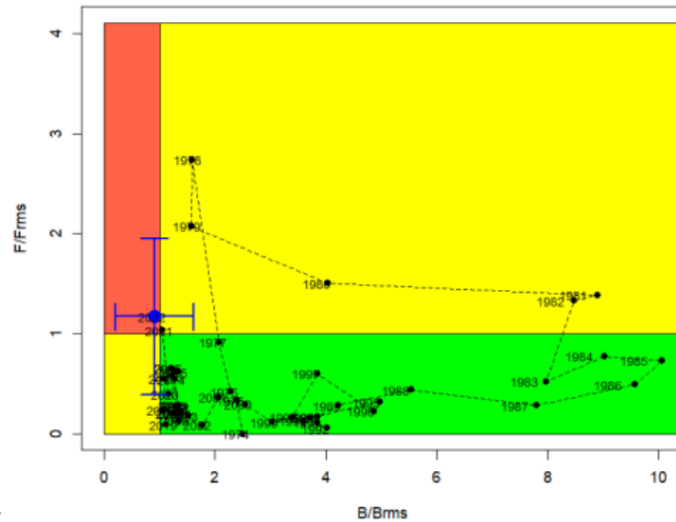
## References

- Canales C. M. and Jurado, V. 2024. Evaluation of Ecuador's Small Pelagic Resource Stock 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)
- IPIAP. 2025. Desembarques de pelágicos pequeños Toneladas (2021-2024). <https://institutopesca.gob.ec/wp-content/uploads/2025/05/Panel-desembarques-FLOTA-CERQUERA-2021-2024.pdf>

|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                |                                                                                                                                                                                                                                      |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Species name                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                | <i>Scomber japonicus</i> - Pacific chub mackerel/ <i>macarela</i>                                                                                                                                                                    |      |
| 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 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 |
| <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>                                                                                                                                                                                                                                                                       |                                                |                                                                                                                                                                                                                                      |      |
| Data on size composition, landings, hydroacoustic cruises, and CPUE data were analysed using a statistical catch-at-age model in the last stock assessment provided by Canales & Jurado (2024). The stock assessment report discusses potential sources of uncertainty and includes recommendations for further study to reduce uncertainty in future. However, overall, the assessor considers the results to provide a reliable indication of stock status. |                                                |                                                                                                                                                                                                                                      |      |
| Recent catches of Pacific chub mackerel/ <i>macarela</i> are shown in Table 1 above.                                                                                                                                                                                                                                                                                                                                                                          |                                                |                                                                                                                                                                                                                                      |      |
| <b>Fishery removals of the species in the fishery under assessment are included in the stock assessment process, C1.1 is met.</b>                                                                                                                                                                                                                                                                                                                             |                                                |                                                                                                                                                                                                                                      |      |
| <b>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.</b>                                                                                                                                                                                                              |                                                |                                                                                                                                                                                                                                      |      |
| The biomass target reference point for this stock (BMSY), 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 (Canales & Jurado, 2024) (Figure 5). Due to uncertainty in the model, the probability that the stock biomass is                                                      |                                                |                                                                                                                                                                                                                                      |      |

below BMSY is estimated to be around 61%, but with a low probability that biomass is below the

$B/B_{ms} = 0.91$   $F/F_{ms} = 1.17$



limit reference point

Figure 5. Kobe plot for Pacific chub mackerel in the Ecuadorian small pelagic fishery. Blue dot is the current estimated status (Canales & Jurado 2024).

The species is considered, in its most recent stock assessment, to have a biomass above the limit reference points (or proxy), C1.2 is met.

#### References

Canales C. M., Jurado V. (2024). Evaluación del stock de recursos pelágicos pequeños del Ecuador 2023. Informe Técnico. Guayaquil, Marzo 2023. 154 pp. <https://institutopesca.gob.ec/wp-content/uploads/2023/05/Informe-Evaluacio%CC%81n2023final.pdf>

IPIAP. 2025. Desembarques de pelágicos pequeños Toneladas (2021-2024). <https://institutopesca.gob.ec/wp-content/uploads/2025/05/Panel-desembarques-FLOTA-CERQUERA-2021-2024.pdf>

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                |                                                                                                                                                                                                                                      |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Species name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                | Etrumeus acuminatus - Sardina redonda                                                                                                                                                                                                |      |
| Fishing area and stock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                | FAO 87, Ecuadorian waters, Ecuadorian sardina redonda                                                                                                                                                                                |      |
| 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 |
| <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>                                                                                                                                                                                                                                                                                                                                                                                                                |                                                |                                                                                                                                                                                                                                      |      |
| 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 semiregular hydroacoustic cruise survey (Canales & Jurado, 2024). |                                                |                                                                                                                                                                                                                                      |      |
| Catches are shown in Table 1 above.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                |                                                                                                                                                                                                                                      |      |
| <b>Fishery removals of the species in the fishery under assessment are included in the stock assessment process. C1.1 is met.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                |                                                                                                                                                                                                                                      |      |
| <b>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.</b>                                                                                                                                                                                                                                                                                                                                                      |                                                |                                                                                                                                                                                                                                      |      |
| The biomass target reference point for this stock (BMSY), 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)(Figure 6). The probability that the stock biomass is below BMSY is estimated to be negligible, and therefore so is the probability that biomass is below the limit reference point.                                                                                                 |                                                |                                                                                                                                                                                                                                      |      |

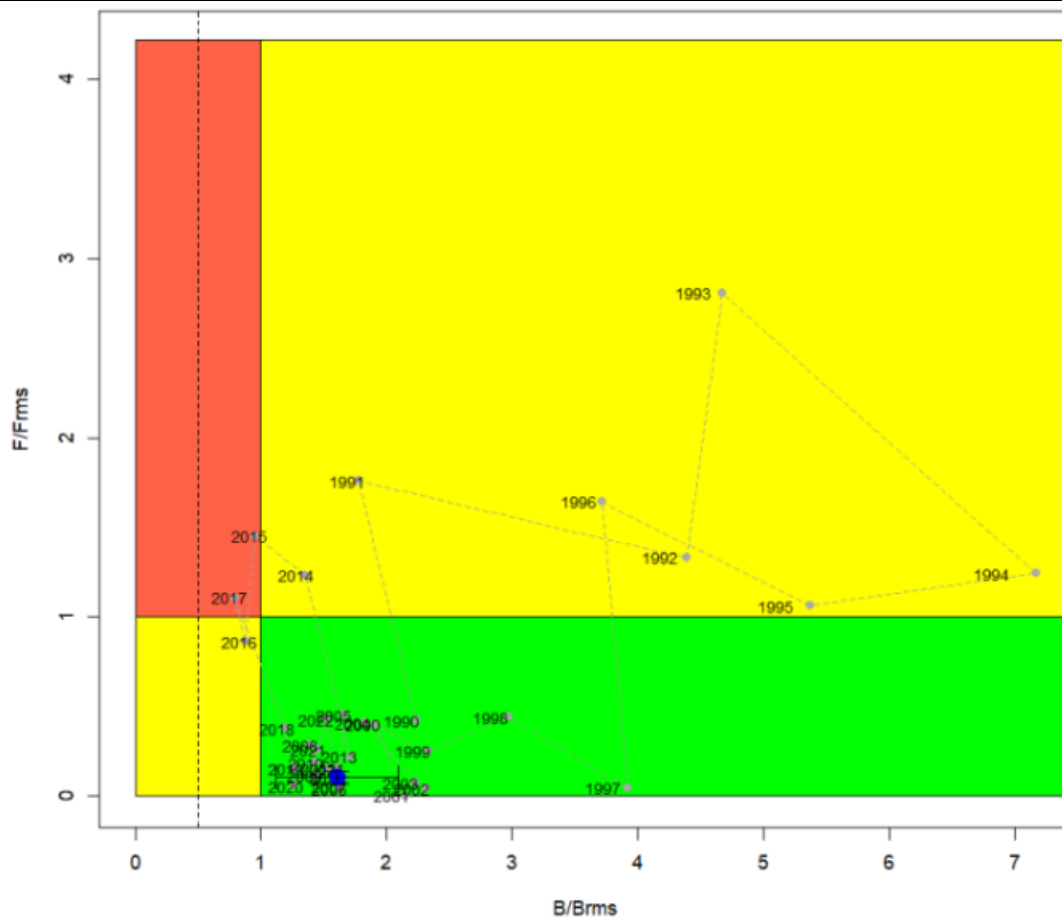


Figure 6. Kobe chart for sardina redonda in Ecuadorian waters. The blue dot is the most recent estimate of stock status (Canales & Jurado, 2024).

## References

Canales C. M., Jurado V. (2024). Evaluación del stock de recursos pelágicos pequeños del Ecuador 2023. Informe Técnico. Guayaquil, Marzo 2023. 154 pp. <https://institutopesca.gob.ec/wp-content/uploads/2023/05/Informe-Evaluacio%CC%81n2023final.pdf>

IPIAP. 2025. Desembarques de pelágicos pequeños Toneladas (2021-2024). <https://institutopesca.gob.ec/wp-content/uploads/2025/05/Panel-desembarques-FLOTA-CERQUERA-2021-2024.pdf>

|                        |                                                |                                                                                                                                                                                                                                           |
|------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Species name           |                                                | <i>Merluccius gayi</i> - South Pacific hake                                                                                                                                                                                               |
| 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 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.**

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 (Figure 7).

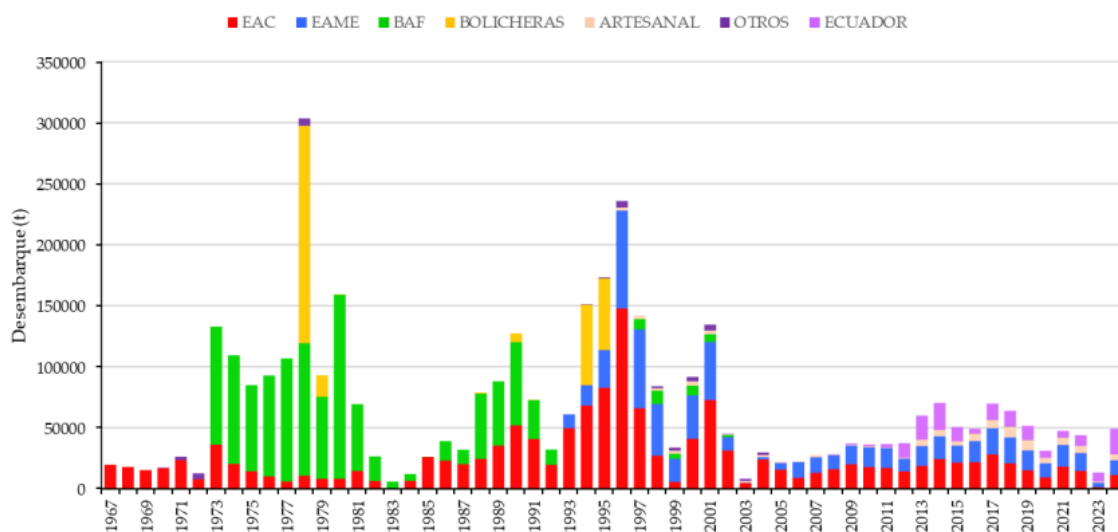


Figure 7. Hake landings by fleet type, 1971-2023. As the stock is distributed in Ecuadorian and Peruvian waters, these data include Peruvian landings (IMARPE 2025).

**Fishery removals of the species in the fishery under assessment are included in the stock assessment process, 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 2025 biomass estimates produced by the two possible model calibrations were 158 148 and 219 852 t (Figure 8). Although the stock assessment report does not appear to indicate specific biomass target or limit reference points, it states: “According to the results of the assessment model, the Peruvian hake (*Merluccius gayi peruanus*), while showing a reduction in available biomass in the Peruvian Maritime Domain, remains above the biological reference points.”

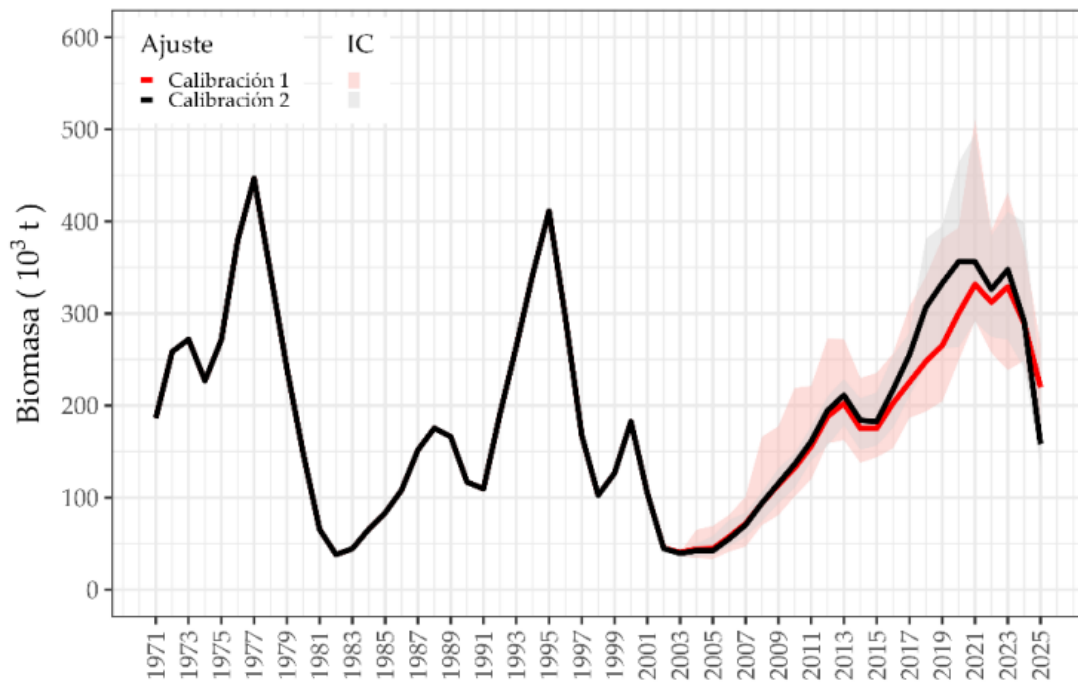


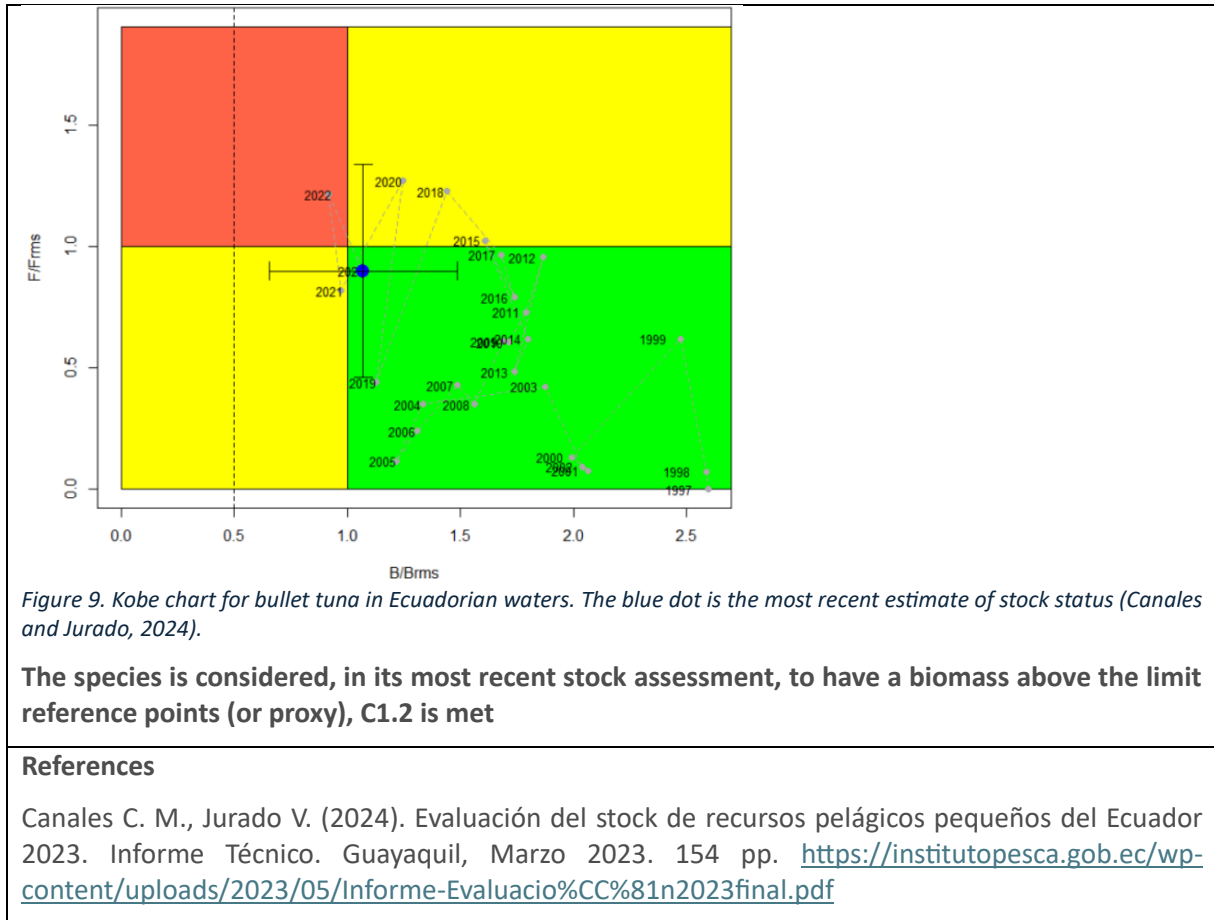
Figure 8. Estimated hake biomass under two calibration approaches (IMARPE 2025).

The species is considered, in its most recent stock assessment, to have a biomass above the limit reference points (or proxy), C1.2 is met

#### References

IMARPE (2025). Análisis De La Pesquería, Estado Poblacional Y Proyecciones De Pesca De La Merluza Peruana, Julio 2025 – Junio 2026  
<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?v=1756761306>

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                |                                                                                                                                                                                                                                      |      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Species name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                | Auxis rochei - Bullet tuna/botella                                                                                                                                                                                                   |      |
| 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 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 |
| <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 <i>Instituto Público De Investigación De Acuicultura Y Pesca</i> (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 (Canales and Jurado, 2024).</p> <p>Updated catches of Bullet tuna/<i>botella</i> are shown in Table 1 above.</p> <p><b>Fishery removals of the species in the fishery under assessment are included in the stock assessment process, C1.1 is met.</b></p> |                                                |                                                                                                                                                                                                                                      |      |
| <b>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.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                |                                                                                                                                                                                                                                      |      |
| <p>The biomass target reference point for this stock (BMSY), 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 (Canales and Jurado, 2024) (<i>Figure 9</i>). Due to uncertainty in the model, the probability that the stock biomass is below BMSY is estimated to be around 37%, but with a very low probability that biomass is below the limit reference point.</p>                                                                                                                                                                                                                                                                                                |                                                |                                                                                                                                                                                                                                      |      |



## Traceability information

Information provided for Step 3 Path 1 or Path 2

|                               |                                                                     |                                                                     |                   |                           |
|-------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|-------------------|---------------------------|
| <b>Species name</b>           |                                                                     | All listed byproduct species                                        |                   |                           |
| <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"/> |                                                                     |                   |                           |
| <b>Path 2 outcome</b>         | <b>Flag country</b>                                                 | <b>Coastal score</b>                                                | <b>Port score</b> | <b>Risk outcome</b>       |
|                               | Ecuador                                                             | 2.69                                                                | 2.11              | Downgraded to medium risk |

### 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.