



## MarinTrust Standard V2

### By-product Fishery Assessment

### *ECU20, Yellowfin Tuna in FAO Areas 77 & 87 (Eastern Pacific Ocean)*

**MarinTrust Programme**

Unit C, Printworks

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**Table 1 Application details and summary of the assessment outcome**

|                                         |                                             |                                          |
|-----------------------------------------|---------------------------------------------|------------------------------------------|
| Fishery Under Assessment                | Species:                                    | Yellowfin tuna, <i>Thunnus albacares</i> |
|                                         | Geographical area:                          | FAO Areas 77 & 87                        |
|                                         | Country of origin of the product:           | Ecuador, Spain, Nicaragua, Panama        |
|                                         | Stock:                                      | Eastern Pacific Ocean Yellowfin          |
| Date                                    | November 2023                               |                                          |
| Report Code                             | ECU20                                       |                                          |
| Assessor                                | Sam Peacock                                 |                                          |
| Country of origin of the product - PASS | Ecuador (Ecuador, Spain, Nicaragua, Panama) |                                          |
| Country of origin of the product - FAIL | n/a                                         |                                          |

| Application details and summary of the assessment outcome |                              |                 |                                      |
|-----------------------------------------------------------|------------------------------|-----------------|--------------------------------------|
| Company Name(s): NIRSA S.A.                               |                              |                 |                                      |
| Country:                                                  |                              |                 |                                      |
| Email address:                                            |                              | Applicant Code: |                                      |
| Certification Body Details                                |                              |                 |                                      |
| Name of Certification Body:                               |                              | LRQA            |                                      |
| Assessor                                                  | Peer Reviewer                | Assessment Days | Initial/Surveillance/<br>Re-approval |
| Sam Peacock                                               | Jose Peiro Crespo            | 0.2             | Initial                              |
| Assessment Period                                         | November 2023 – October 2024 |                 |                                      |

| Scope Details                         |                                                 |
|---------------------------------------|-------------------------------------------------|
| Main Species                          | Yellowfin tuna, <i>Thunnus albacares</i>        |
| Stock                                 | Eastern Pacific Ocean Yellowfin                 |
| Fishery Location                      | FAO Areas 77 & 87                               |
| Management Authority (Country/ State) | Inter-American Tropical Tuna Commission (IATTC) |
| Gear Type(s)                          | Purse seine, longline, pole & line, handline    |
| Outcome of Assessment                 |                                                 |
| Peer Review Evaluation                | Approve                                         |
| Recommendation                        | Approve byproduct                               |

**Table 2. Assessment Determination**

| Assessment Determination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Yellowfin tuna has been categorised by the IUCN as a species of Least Concern, and it does not appear in the CITES appendices. Yellowfin in the Eastern Pacific Ocean (EPO) is managed by the Inter-American Tropical Tunas Commission (IATTC) relative to Stock Status Indicators (SSIs) and using periodic full stock assessments, and was therefore assessed under Category C.</p> <p>EPO yellowfin was subjected to a new form of risk-based assessment in 2022, using multiple SSI models to estimate the likelihood that fishing mortality and stock biomass are above or below the target and limit reference points. The modelling incorporates all available data from the entire EPO. The 2023 SSI-based assessment, combined with the 2020 full stock assessment, concluded that there was a low probability that stock biomass is below the target reference point, and zero probability that the stock biomass is below the limit reference point. The byproduct meets the MT requirements and should be approved for use as a raw material.</p> |
| Fishery Assessment Peer Review Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p>The by-product fishery under assessment is Yellowfin tuna (<i>Thunnus albacares</i>) purse seine, longline, pole &amp; line, handline fisheries in FAO Areas 77 and 87 (Eastern Central and Southeast Pacific). The species is classified as LC by the IUCN. The stock is managed relative to biomass-based reference points and therefore it is first assessed as a category C species.</p> <p>The most recent risk-based assessment conducted by the IATTC in 2022 for the species indicates that the probability of the stock being below the limit reference point was very low (close to zero). Therefore, it passes category C.</p> <p>The peer review supports the auditor's recommendation to pass yellowfin tuna purse seine, longline, pole &amp; line, handline fisheries in FAO Areas 77 and 87 (Eastern Central and Southeast Pacific) under the Marin Trust IFFO RS v2.0 by-fishery standard for the production of fishmeal and fish oil.</p>                                                                                                   |
| Notes for On-site Auditor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Species Categorisation

**NB:** If any species is categorised as Endangered or Critically Endangered on the IUCN Red List, or if it appears in CITES Appendix 1, it **cannot** be approved for use as an MarinTrust raw material.

### IUCN Red list Category

By-product material from a species listed by IUCN (the International Union for Conservation of Nature) under the Red List for the following categories shall immediately fail the assessment;

- EXTINCT (E) AND EXTINCT IN THE WILD (EW)
- CRITICALLY ENDANGERED (CR) facing an extremely high risk of extinction in the wild.
- ENDANGERED (EN) facing a very high risk of extinction in the wild.

By-product material may be used from the following categories provided that all clauses in the MarinTrust standard are passed.

- VULNERABLE (VU) facing a high risk of extinction in the wild.
- NEAR THREATENED (NT) does not qualify for above now, but is close or is likely to qualify for, a threatened category in the near future.
- LEAST CONCERN (LC) Widespread and abundant.
- DATA DEFICIENT (DD) and NOT EVALUATED (NE)

## Table 3 Species Categorisation Table

| Common name    | Latin name               | Stock                           | Management | Category | IUCN Red List Category <sup>1</sup> | CITES Appendix 1 <sup>2</sup> |
|----------------|--------------------------|---------------------------------|------------|----------|-------------------------------------|-------------------------------|
| Yellowfin tuna | <i>Thunnus albacares</i> | Eastern Pacific Ocean Yellowfin | Yes        | C        | Least Concern <sup>3</sup>          | No                            |

<sup>1</sup> <https://www.iucnredlist.org/>

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

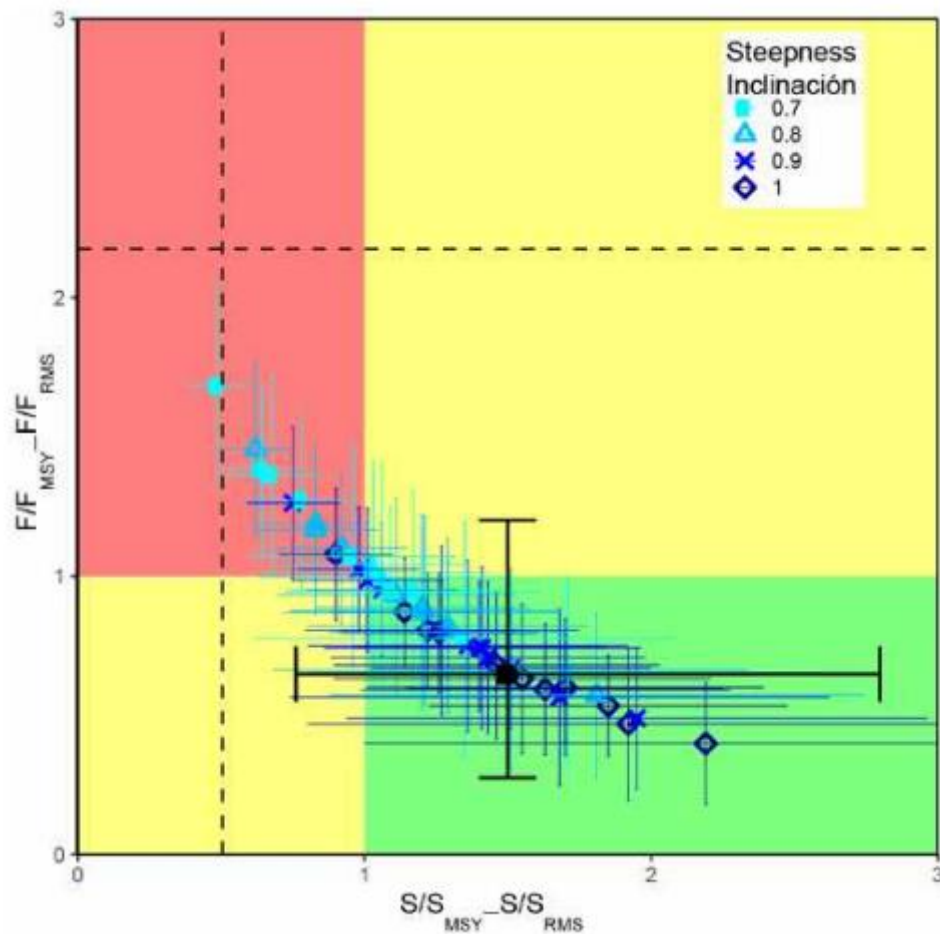
<sup>3</sup> <https://www.iucnredlist.org/species/21857/46624561>

## CATEGORY C SPECIES

In a by-product assessment, Category C species are those which are subject to a species-specific management regime and are usually targeted species in fisheries for human consumption.

Clause C1 should be completed for each Category C species. If there are no Category C species in the fishery under assessment, this section can be deleted. Where a species fails this Clause, it should be assessed as a Category D species instead.

| Species Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                | 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 Eastern Pacific Ocean (EPO) yellowfin tuna stock is managed and assessed by the Inter-American Tropical Tunas Commission (IATTC). A new risk-based approach was introduced to the management of the stock in 2022, with Stock Status Indicators (SSIs) developed using catch and other data collected from the EPO as a whole. This approach has continued in 2023 (IATTC 2023). SSIs are considered to be important alternatives to formal stock assessments, particularly where those stock assessments may be too unreliable to form the basis for management advice (IATTC 2022). Fishery removals are a key component of the modelling used to generate SSI's, and their development and use is evidence that managers have sought out alternative mechanisms where stock assessment uncertainty is high. The most recent full stock assessment was conducted in 2020. C1.1 is met.</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>In the full stock assessments for this stock, multiple reference models are utilised to create a risk-based understanding of stock status. The most recent results, from 2020, indicated that “the probability of the spawning biomass being below <math>S_{MSY\_d}</math> [i.e. the target reference point] is low (12%)” (IATTC 2023), and that the probability of the biomass being below the limit reference point <math>S_{LIMIT}</math> is zero. There was therefore a low probability that biomass is currently below the target reference point and almost no possibility it was below the limit reference point. C1.2 is met.</p>                                                                                                                                                                                                                                                       |                                                |                                                                                                                                                                                                                                      |      |



Kobe plot for yellowfin tuna in the EPO of estimates of spawning stock size (S) and fishing mortality (F). Coloured panels are separated by the target reference points  $S_{MSY}$  and  $F_{MSY}$ . Limit reference points are approximately indicated by the dashed lines, although these vary between models. The solid black circle represents all models combined (IATTC 2023).

#### References

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

IATTC (2023). Report on the tuna fishery, stocks, and ecosystem in the Eastern Pacific Ocean in 2022. [https://www.iattc.org/GetAttachment/0f48f889-2aa5-437f-8d03-648d62ecfb75/No-21-2023\\_Tunas,-stocks-and-ecosystem-in-the-eastern-Pacific-Ocean-in-2022.pdf](https://www.iattc.org/GetAttachment/0f48f889-2aa5-437f-8d03-648d62ecfb75/No-21-2023_Tunas,-stocks-and-ecosystem-in-the-eastern-Pacific-Ocean-in-2022.pdf)

#### Links

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

## CATEGORY D SPECIES

Category D species are those which are not subject to a species-specific management regime. In the case of mixed trawl fisheries, Category D species may make up the majority of landings. The comparative lack of scientific information on the status of the population of the species means that a risk-assessment style approach must be taken.

|                          |                                                                                                                                                                                                                                     |              |              |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|
| <b>D1</b>                | <b>Species Name</b>                                                                                                                                                                                                                 | n/a          |              |
|                          | <b>Productivity Attribute</b>                                                                                                                                                                                                       | <b>Value</b> | <b>Score</b> |
|                          | Average age at maturity (years)                                                                                                                                                                                                     |              |              |
|                          | Average maximum age (years)                                                                                                                                                                                                         |              |              |
|                          | Fecundity (eggs/spawning)                                                                                                                                                                                                           |              |              |
|                          | Average maximum size (cm)                                                                                                                                                                                                           |              |              |
|                          | Average size at maturity (cm)                                                                                                                                                                                                       |              |              |
|                          | Reproductive strategy                                                                                                                                                                                                               |              |              |
|                          | Mean trophic level                                                                                                                                                                                                                  |              |              |
|                          | <b>Average Productivity Score</b>                                                                                                                                                                                                   |              |              |
|                          | <b>Susceptibility Attribute</b>                                                                                                                                                                                                     | <b>Value</b> | <b>Score</b> |
|                          | Availability (area overlap)                                                                                                                                                                                                         |              |              |
|                          | Encounterability (the position of the stock/species within the water column relative to the fishing gear)                                                                                                                           |              |              |
|                          | Selectivity of gear type                                                                                                                                                                                                            |              |              |
|                          | Post-capture mortality                                                                                                                                                                                                              |              |              |
|                          | <b>Average Susceptibility Score</b>                                                                                                                                                                                                 |              |              |
|                          | <b>PSA Risk Rating (From Table D3)</b>                                                                                                                                                                                              |              |              |
|                          | <b>Compliance rating</b>                                                                                                                                                                                                            |              |              |
|                          | <b>Further justification for susceptibility scoring (where relevant)</b><br><i>For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision</i> |              |              |
|                          | <b>References</b>                                                                                                                                                                                                                   |              |              |
| Standard clauses 1.3.2.2 |                                                                                                                                                                                                                                     |              |              |



Table D2 - Productivity / Susceptibility attributes and scores.

| Productivity attributes  | High productivity<br>(Low risk, score = 1) | Medium productivity<br>(medium risk, score = 2) | Low productivity<br>(high risk, score = 3) |
|--------------------------|--------------------------------------------|-------------------------------------------------|--------------------------------------------|
| Average age at maturity  | <5 years                                   | 5-15 years                                      | >15 years                                  |
| Average maximum age      | <10 years                                  | 10-25 years                                     | >25 years                                  |
| Fecundity                | >20,000 eggs per year                      | 100-20,000 eggs per year                        | <100 eggs per year                         |
| Average maximum size     | <100 cm                                    | 100-300 cm                                      | >300 cm                                    |
| Average size at maturity | <40 cm                                     | 40-200 cm                                       | >200 cm                                    |
| Reproductive strategy    | Broadcast spawner                          | Demersal egg layer                              | Live bearer                                |
| Mean Trophic Level       | <2.75                                      | 2.75-3.25                                       | >3.25                                      |

| Susceptibility attributes                                                                                                                                                                                 | Low susceptibility<br>(Low risk, score = 1)                | Medium susceptibility<br>(medium risk, score = 2)                   | High susceptibility<br>(high risk, score = 3)                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Areal overlap (availability)<br>Overlap of the fishing effort with the species range                                                                                                                      | <10% overlap                                               | 10-30% overlap                                                      | >30% overlap                                                                                |
| Encounterability<br>The position of the stock/species within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear | Low overlap with fishing gear (low encounterability).      | Medium overlap with fishing gear.                                   | High overlap with fishing gear (high encounterability).<br>Default score for target species |
| Selectivity of gear type<br>Potential of the gear to retain species                                                                                                                                       | a Individuals < size at maturity are rarely caught         | a Individuals < size at maturity are regularly caught.              | a Individuals < size at maturity are frequently caught                                      |
|                                                                                                                                                                                                           | b Individuals < size at maturity can escape or avoid gear. | b Individuals < half the size at maturity can escape or avoid gear. | b Individuals < half the size at maturity are retained by gear.                             |
| Post-capture mortality (PCM)<br>The chance that, if captured, a species would be released and that it would be in a condition permitting subsequent survival                                              | Evidence of majority released post-capture and survival.   | Evidence of some released post-capture and survival.                | Retained species or majority dead when released.                                            |



| D3                         |             | Average Susceptibility Score |             |          |
|----------------------------|-------------|------------------------------|-------------|----------|
|                            |             | 1 - 1.75                     | 1.76 - 2.24 | 2.25 - 3 |
| Average Productivity Score | 1 - 1.75    | PASS                         | PASS        | PASS     |
|                            | 1.76 - 2.24 | PASS                         | PASS        | TABLE D4 |
|                            | 2.25 - 3    | PASS                         | TABLE D4    | TABLE D4 |

|                                                                                                                                                                       |                                                                              |                                                                                                                                                                 |                |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|
| D4                                                                                                                                                                    | Species Name                                                                 | n/a                                                                                                                                                             |                |  |
|                                                                                                                                                                       | Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements |                                                                                                                                                                 |                |  |
|                                                                                                                                                                       | D4.1                                                                         | The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts. |                |  |
|                                                                                                                                                                       | D4.2                                                                         | There is no substantial evidence that the fishery has a significant negative impact on the species.                                                             |                |  |
|                                                                                                                                                                       |                                                                              |                                                                                                                                                                 | Outcome:       |  |
| Evidence                                                                                                                                                              |                                                                              |                                                                                                                                                                 |                |  |
| D4.1: The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts. |                                                                              |                                                                                                                                                                 |                |  |
| D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species.                                                              |                                                                              |                                                                                                                                                                 |                |  |
| References                                                                                                                                                            |                                                                              |                                                                                                                                                                 |                |  |
| Links                                                                                                                                                                 |                                                                              |                                                                                                                                                                 |                |  |
| MarinTrust Standard clause                                                                                                                                            |                                                                              |                                                                                                                                                                 | 1.3.2.2, 4.1.4 |  |
| FAO CCRF                                                                                                                                                              |                                                                              |                                                                                                                                                                 | 7.5.1          |  |
| GSSI                                                                                                                                                                  |                                                                              |                                                                                                                                                                 | D.5.01         |  |