Principle 1 Performance Indicator Score Update for Bigeye Tuna (*Thunnus obesus*) in the Atlantic Ocean

Confidential Report
Version 1.0

Prepared by

***by* Key Traceability Ltd.**

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Glossary

Acronym	Definition
CoC	Chain of Custody
FIP	Fishery Improvement Programme
ICCAT	International Commission for the Conservation of Atlantic Tunas
ISSF	International Seafood Sustainability Foundation
MSC	Marine Stewardship Council
P1	Principle 1
PI	Performance Indicators
RFMO	Regional Fisheries Management Organisation
UoA	Unit of Assessment

1. Executive Summary

This document presents the results of a Principle 1 (P1) performance indicator (PI) scoring update for Atlantic Ocean bigeye tuna (*Thunnus obesus*) against the Marine Stewardship Council (MSC) Fisheries Standard for sustainable fishing (Version 2.01).

The new stock assessment for bigeye tuna conducted by the ICCAT SCRS in 2025 demonstrated that:

1. The median estimate of the relative fishing mortality (F_{2023}/F_{MSY}) was 0.59 (0.36-0.98 CI), indicating that overfishing is not occurring.
2. The median relative spawning biomass (SSB_{2023}/SSB_{MSY}) was 1.23 (80% CI: 0.81-1.85), indicating that the stock was not in an overfished state in 2023.
3. The MSY was estimated to be 86,030 t (79,702 – 114,311 t, 80% CI)
4. The probability of the stock being in the green quadrant of the Kobe plot in 2023 is 73.8%, based on results of 200,000 trials (Figure 1).

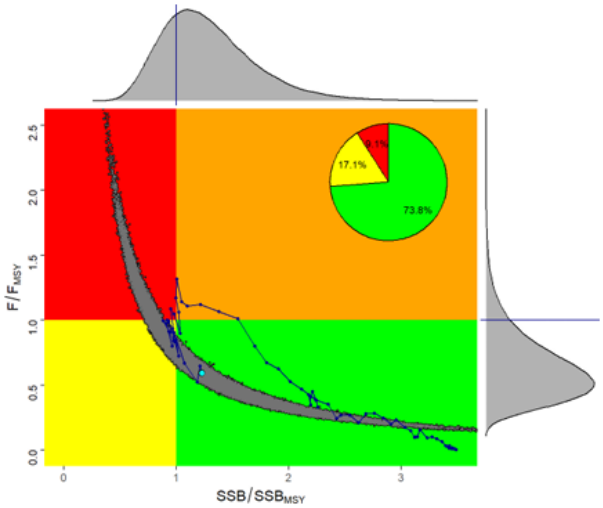

Figure 24. Kobe plot for the 2025 Atlantic bigeye tuna Stock Synthesis 18 uncertainty grid models by MVLN (20,000 iterations). The line indicates the stock status trajectory starting in 1950. The inserted pie indicates the proportion of MVLN trials within each quadrant of the Kobe plot.

Figure 1: Kobe plot for Atlantic bigeye tuna. Source: SCRS report (2025)

Therefore, Performance Indicator (PI) 1.1.1 – stock status can now meet SG80, and PI 1.1.2 need not be scored for bigeye tuna.

Report Details

1.1. The MSC Fisheries Standard

There are three principles in the MSC standard:

Principle 1 – Sustainable fish stocks, target fish stocks must be kept at a sustainable level.
Principle 2 – Minimising environmental impacts, the fishery should be managed in a way that maintains the structure, productivity, function, and diversity of the fisheries ecosystem.
Principle 3 – Effective management, the fishery must have a responsive management system in place and management must meet all local, national, and international laws.

Fisheries assessed against the MSC Fisheries Standard are evaluated against 28 Performance Indicators (PIs) within the three principles. There are six performance indicators for Principle 1, split between two components, outcome (2 PIs) and management (4 PIs). Principle 2 has 15 performance indicators split into three components (outcome, management strategy, information) for primary species, secondary species, endangered threatened and protected species, habitats, and ecosystem. Principle 3 has seven performance indicators split between two components, governance, and policy (3 PIs) and fishery specific management system (4 PIs).

PIs are scored for the fishery based on the MSC specific scoring guidelines (SGs). For a fishery to be certified, the fishery must score a minimum of 60 against all 28 PIs and an average of 80 across each of the three principles. Performance indicators that score between 60 and 79 will be given a condition to achieve a score of 80 or above within a specific timeframe. After certification, the fishery will undergo annual audits and will be re-assessed every five years.

1.2. Version Details

The report uses the MSC Fisheries Standard v2.01, the Fisheries Certification Process v2.2 and MSC pre-assessment reporting template v3.1. The default assessment tree was used without adjustments. The Risk-Based Framework (RBF) was not used.

The MSC decision rule for reaching the final recommendation is as follows:

- No PIs can score below 60.
- The aggregate score for each Principle, rounded to the nearest whole number, is 80 or above.

The aggregate score for each Principle is the sum of the weighted score of each PI within that Principle.

1.3. Principle 1 update

3.4.1 Atlantic Ocean bigeye tuna scoring update

For this update, Atlantic Ocean bigeye can receive multiple scoring updates. The updated scoring for principle 1 is reflective of the recent stock assessment conducted on Atlantic bigeye tuna by the ICCAT SCRS.

Performance Indicator	Draft scoring range	Data deficient?
1.1.1 – Stock status	**≥80**	**No**
Rationale or key points		

Scoring indicator (a): Stock status relative to recruitment impairment

The last stock assessment conducted by ICCAT in 2025 used data from 1950-2023 on bigeye catches. Several models, including Stock Synthesis (SS), JABBA production,

In 2025, the ICCAT Standing Committee Research and Statistics (SCRS) conducted a stock assessment on Atlantic bigeye tuna using Stock Synthesis (SS) version 3.30.23 (Methot and Wetzel, 2013). The Stock Synthesis (SS) model showed a declining trend in spawning biomass since the beginning of the time series until 2000, remaining relatively stable after that point and increasing for the most recent years. The trend of exploitation rate relative to maximum sustainable yield showed a consistent pattern to the 2021 Bigeye tuna stock assessment meeting.

Using the new 2025 SS, JABBA and SPiCT models (using 2023 data), the SCRS noted the improvement in stock status compared to the 2021 Bigeye tuna stock assessment (using 2019 data). To ensure that there were no discrepancies in the model, the team ran the same data from the 2021 assessment through the new model. The results demonstrated that the estimated stock status of 2019 was very similar between the 2025 stock assessment, suggesting the changing model assumptions in 2025 did not strongly affect the historic view of the stock status. Therefore, the more optimistic stock status in 2023 compared to 2019 appears to be primarily due to new data since the last assessment. This suggests that the stock has been recovering since 2019, consistent with catches below the total allowable catch (TAC) of bigeye tuna since 2005, except for 2016 to 2019.

The stock assessment results are as follow:

1. The median estimate of the relative fishing mortality (F_{2023}/F_{MSY}) was 0.59 (0.36-0.98 CI), indicating that overfishing is not occurring.
2. The median relative spawning biomass (SSB_{2023}/SSB_{MSY}) was 1.23 (80% CI: 0.81-1.85), indicating that the stock was not in an overfished state in 2023.
3. The MSY was estimated to be 86,030 t (79,702 – 114,311 t, 80% CI)
4. The probability of the stock being in the green quadrant of the Kobe plot in 2023 is 73.8%, based on results of 200,000 trials (Figure 1).

The outcomes of the models were transformed into a Kobe plot (Figure 1) delineating 73.8% probability that the stock was in the green quadrant (neither overfished nor undergoing overfishing), 17.1% probability to be in the yellow quadrant (overfished but not undergoing overfishing), and 9.1% in the red quadrant (indicating both overfished and undergoing overfishing). This is stark improvement since the 2021 stock assessment where there was 41.1% probability that the stock was in the green quadrant, 0.8% in the orange, 9.2% in the yellow and 48.9% in the red. In summary, it is likely that the stock is not overfished, and overfishing is occurring.

Since no explicit reference point indicating PRI level is provided by ICCAT, the default reference point of bigeye tuna has been described by the SCRS as the interim limit reference point (LRP) of $0.4*B_{MSY}$. These reference points are anchored in the maximum sustainable yield level of the stock, which is intricately linked to its productivity. Therefore, **SG80 is met for SIa**.

SI (b): Stock status in relation to achievement of maximum sustainable yield (MSY)

Biomass trends from the models used indicated that biomass is currently near or above BMSY and fishing mortality near or below FMSY. therefore **SG80 is met for SIb**.

1.1.2 – Stock rebuilding	**N/a**	**No**

Rationale or key points

This PI is only scored when PI 1.1.1 does not meet SG80. As described above and from the results of the stock assessment in 2025, PI 1.1.1 does meet SG80 and therefore this PI need not be scored.