

Mexico Baja California Pacific Bluefin Tuna - Purse Seine

Pre-Assessment Report

Consultants	Assessed by PhD. Antonio Gomez Gomez Reviewed by PhD. Pablo Álvarez Morales
Fishery client	Mexico Baja California Pacific Bluefin Tuna - Purse Seine
Assessment type	Pre-assessment
Date	February 2025

1. Contents

[1. Contents](#)

[2. Glossary](#)

[3. Executive summary](#)

[4. Report details](#)

[4.1. Aims and constraints of the pre-assessment](#)

[4.2. Version details](#)

[5. Unit\(s\) of Assessment and Unit\(s\) of Certification](#)

[5.1. Unit of Assessment](#)

[5.2. Unit of Certification](#)

[5.3. Vessels list\(s\) \(optional\)](#)

[6. Confirmation of scope](#)

[7. Traceability](#)

[7.1. Traceability - initial review and planning](#)

[7.2. Traceability within the fishery](#)

[7.3. Traceability risks and mitigations](#)

[8. Pre-assessment results](#)

[8.1. Pre-assessment results overview](#)

[8.1.1. Overview](#)

[8.1.2. Recommendations](#)

[8.2. Summary of potential conditions by Principle](#)

[8.3. Summary of Performance Indicator level scores](#)

[8.4. Principle 1](#)

[8.4.1. Principle 1 background](#)

[8.4.1.1. Stock Identification and Distribution](#)

[8.4.1.2. Data and Assessment](#)

[8.4.1.3. Stock Status and Conservation Information](#)

[8.4.1.3.1. Stock Status](#)

[8.4.1.3.2. Conservation Advice](#)

[8.4.2. Catch profiles](#)

[8.4.3. Total Allowable Catch \(TAC\) and catch data](#)

[8.4.4. Principle 1 Performance Indicator scores and rationales](#)

[PI 1.1.1 – Stock status](#)

[PI 1.1.2 – Stock rebuilding](#)

[PI 1.2.1 – Harvest strategy](#)

[PI 1.2.2 – Harvest control rules and tools](#)

[PI 1.2.3 – Information and monitoring](#)

[PI 1.2.4 – Assessment of stock status](#)

[8.5. Principle 2](#)

[8.5.1. Principle 2 background](#)

[In-scope, ETP/OOS species](#)

[Agreements and legislation relevant to ETP/OOS species in Mexico](#)

[International agreements](#)

[National legislation](#)

[Habitats](#)

[Ecosystem](#)

[8.5.1.1. Scoring elements P2](#)

[8.5.2. Principle 2 Performance Indicator scores and rationales](#)

[PI 2.1.1 – In-scope species outcome](#)

[PI 2.1.2 – In-scope species management strategy](#)

[PI 2.1.3 – In-scope species information](#)

[PI 2.2.1 – ETP/OOS species outcome](#)
[PI 2.2.2 – ETP/OOS species management strategy](#)
[PI 2.2.3 – ETP/OOS species information](#)
[PI 2.3.1 – Habitats outcome](#)
[PI 2.3.2 – Habitats management strategy](#)
[PI 2.3.3 – Habitats information](#)
[PI 2.4.1 – Ecosystem outcome](#)
[PI 2.4.2 – Ecosystem management strategy](#)
[PI 2.4.3 – Ecosystem information](#)

[8.6. Principle 3](#)

[8.6.1. Principle 3 background](#)

[Relevant Fishery Jurisdiction \(International and National\)](#)

[Specific Fishery Management](#)

[Management Objectives](#)

[Monitoring and Compliance Systems](#)

[8.6.2. Principle 3 Performance Indicator scores and rationales](#)

[PI 3.1.1 – Legal and/or customary framework](#)

[PI 3.1.2 – Consultation, roles, and responsibilities](#)

[PI 3.1.3 – Long term objectives](#)

[PI 3.2.1 – Fishery-specific objectives](#)

[PI 3.2.2 – Decision-making processes](#)

[PI 3.2.3 – Compliance and enforcement](#)

[PI 3.2.4 – Monitoring and management performance evaluation](#)

[9. Appendices](#)

[9.1. Evaluation processes and techniques](#)

[9.1.1. Site visits](#)

[9.2. References \(Bibliography\)](#)

[10. Template information and copyright](#)

2. Glossary

AIDCP, Agreement on the International Dolphin Conservation Program

CKMR, close kin mark-recapture

CONAPESCA, Comisión Nacional de Acuacultura y Pesca

CMMs, conservation and management measures.

CEPA, Consejos Estatales de Pesca y Acuacultura

CNPA, Consejo Nacional de Pesca y Acuacultura

CPCs, Contracting Party to the Convention

CPUE, catch-per-unit of effort.

EPO, eastern North Pacific Ocean.

F, fishing mortality.

FIDEMAR, Fideicomiso de Investigación para el aprovechamiento del atún y protección del delfín.

FY, fishing year.

HCRs, harvest control rules and tools.

HS, harvest strategy.

IATTC, Inter-American Tropical Tuna Commission.

ICJ, International Court of Justice

IMIPAS, Instituto Mexicano de Investigación en Pesca y Acuicultura Sustentables

ISC, International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean.

ISSF, International Seafood Sustainability Foundation

LGPAS, Ley General de Pesca y Acuicultura Sustentables

MSC, Marine Stewardship Council

MSE, management strategy evaluation.

MSY, maximum sustainable yield

NOM, Norma Oficial Mexicana

NGOs, Non-governmental organizations

PBF, Pacific bluefin tuna.

PBFWG, Pacific Bluefin Tuna Working Group.

PI, Performance Indicator

PRI, Point where recruitment is impaired

POBC, Pacific Ocean of Baja California Peninsula.

RFMOs, Regional Fisheries Management Organizations.

SADER, Secretaría de Agricultura y Desarrollo Rural.

SCS, Scientific Certification Systems

SI, Scoring Issue

SPR, spawning potential ratio.

SS, stock synthesis

SSB, spawning stock biomass.

SSTs, sea surface temperatures.

TAC, Total Allowable Catch

UoA, Unit of Assessment

UoC, Unit of Certification

US, United States of America

WCPFC, West Central Pacific Fisheries Commission.

WPO, western North Pacific Ocean.

3. Executive summary

This report presents the Marine Stewardship Council (MSC) preassessment of the purse seine fishery for Pacific Bluefin Tuna (*Thunnus orientalis*) operating in the Pacific Ocean of the Baja California Peninsula, Mexico. The pre-assessment was conducted by PhD Antonio Gómez Gómez and reviewed by PhD Pablo Álvarez Moreles, both MSC Associate Technical Consultants working as independent experts. The assessment was completed in

accordance with MSC Principles and Criteria for sustainable fishing, as outlined in MSC Certification Requirements v3.1 (July 2024) and related guidance. The fishery was evaluated using the Default Assessment Tree.

Baja Aqua Farms operates a commercial fishing fleet consisting of several industrial purse seine vessels that land their catch in Ensenada, Baja California, Mexico. These vessels exclusively target Pacific Bluefin Tuna within Mexico's Exclusive Economic Zone (EEZ). The Unit of Certification (UoC) comprises only the Baja Aqua Farms fleet assessed in this report, meaning the Unit of Assessment (UoA) is identical to the UoC, with no additional eligible fishers.

UoC	Description
Target Stock	The majority of commercial Pacific Bluefin Tuna (PBF) catch in the Eastern Pacific Ocean (EPO) is taken by purse seine vessels, primarily operating west of Baja California, within approximately 100 nautical miles of the coast, between 23°N and the U.S. international border.
Geographical area	FAO Major Fishing Area 77: Pacific, Eastern Central EEZ waters of Mexico, in the Pacific Ocean off the Baja California peninsula
Fishing gear	Purse seine
Client group	Baja Aqua Farms

The preassessment of the Pacific Bluefin Tuna (PBF) fishery under the MSC standard highlights notable progress in stock recovery but identifies areas requiring further development in management, environmental data collection, and governance transparency.

- **Principle 1 (Sustainable fish stocks):** The assessment indicates a significant increase in spawning stock biomass over the past 12 years, reaching 23.2% of the unfished level ($SSBF=0$). Recovery targets were achieved ahead of schedule, first in 2017 and again in 2021. However, the harvest strategy has not undergone a full evaluation, and while harvest control rules (HCRs) exist, they remain unformalized and insufficiently assessed. Additionally, uncertainties persist regarding unwanted catches and discards.
- **Principle 2 (Environmental impact of fishing):** The assessment did not identify (interacción considered negligible) any in-scope species being incidentally caught, and interactions with endangered, threatened, or protected (ETP/OOS) species are considered minimal. As purse seine fishing occurs in pelagic waters, the risk of irreversible habitat damage is low. However, more comprehensive data is needed to assess ecosystem impacts, particularly regarding the role of Pacific Bluefin Tuna biomass extraction on marine ecosystem structure and dynamics.
- **Principle 3 (Effective management):** The fishery operates within established legal frameworks and international agreements, including those set by the Inter-American Tropical Tuna Commission (IATTC), the Western and Central Pacific Fisheries Commission (WCPFC), and Mexican fisheries regulations. While consultation and decision-making processes are clearly defined, stakeholder participation at the national level remains inconsistent. Mexico's fisheries management objectives align with MSC principles but have not been fully articulated for Principle 2. Additionally, information on compliance monitoring, enforcement actions, and overall fisheries management performance is limited, preventing a comprehensive regulatory compliance assessment.

The pre-assessment underscores significant advancements in stock recovery for Pacific Bluefin Tuna but highlights key challenges related to the formalization and evaluation of harvest strategies, the collection of environmental data, and the transparency of governance and regulatory compliance. Addressing these issues will be crucial for the fishery to progress toward MSC certification.

4. Report details

4.1. Aims and constraints of the pre-assessment

It is important to highlight that the pre-assessment does not attempt to duplicate a full assessment against the MSC Fisheries Standard. A full assessment involves a group of assessment team members and public consultation stages that are not included in a pre-assessment. A pre-assessment provides a provisional assessment based on a limited set of information provided by the client.

This report presents the results of a pre-assessment of the Mexico Baja California Pacific Bluefin Tuna - Purse Seine fishery against the Marine Stewardship Council (MSC) Principles and Criteria for Sustainable Fishing. The purpose of this analysis is to evaluate the fishing fleet of Baja Aqua Farms (UoC), which targets Pacific Bluefin Tuna (*Thunnus orientalis*) using purse seines in the Mexican waters of the Baja California Peninsula. The pre-assessment was conducted by PhD. Antonio Gómez Gómez and reviewed by PhD. Pablo Álvarez Morales.

The objectives of this report are to:

- Assess the current status of the fishery in relation to the MSC standard as a foundation for initiating a Fishery Improvement Project (FIP).
- Identify potential challenges in meeting the MSC standard for future certification.

Limitations when performing the pre-assessment:

- Information related to management and catches of the fleet is missing to better understand whether the HS and HCRs are in place and fully implemented at UoC level.
- There has been an important gap regarding information to evaluate Principle 3, in particular related with monitoring, control and surveillance.
- Information gap on the ecosystems indicators in Principle 2.
- No interviews with fisheries management agencies.

4.2. Version details

Table 1: Fisheries program documents versions

Document/Assessment Tree	Version number/Type
MSC Fisheries Certification Process	Version 3.1
MSC Fisheries Standard	Version 3.1
Assessment tree	Default
MSC General Certification Requirements	Version 2.5
MSC Pre-Assessment Reporting Template	Version 4.2

5. Unit(s) of Assessment and Unit(s) of Certification

5.1. Unit of Assessment

Table 2: Unit of Assessment (UoA)

UoA	Description
Target Stock	Pacific bluefin tuna (PBF) (<i>Thunnus orientalis</i>) has a single Pacific-wide stock found throughout the North Pacific Ocean. Spawning grounds are recognized only in the western North Pacific Ocean (WPO). A portion of each cohort makes trans-Pacific migrations from the WPO to the eastern North Pacific Ocean (EPO),

	spending up to several years of its juvenile life stage in the EPO before returning to the WPO (ISC, 2020; ISC, 2022; ISC, 2024).
Geographical area	FAO Major Fishing Area 77: Pacific, Eastern Central EEZ waters of Mexico, in the Pacific Ocean off the Baja California peninsula
Fishing gear	Purse seine
Client group	Baja Aqua Farms
Other eligible fishers	No other eligible fishers

5.2. Unit of Certification

Table 3: Unit of Certification (UoC)

UoC	Description
Target Stock	The majority of commercial Pacific Bluefin Tuna (PBF) catch in the Eastern Pacific Ocean (EPO) is taken by purse seine vessels, primarily operating west of Baja California, within approximately 100 nautical miles of the coast, between 23°N and the U.S. international border.
Geographical area	FAO Major Fishing Area 77: Pacific, Eastern Central EEZ waters of Mexico, in the Pacific Ocean off the Baja California peninsula
Fishing gear	Purse seine
Client group	Baja Aqua Farms

6. Confirmation of scope

According to MSC definitions of the scope requirements, the consultant confirmed, through information gathering and preparatory mechanisms, that this fishery is within scope for MSC fisheries certification, as evidenced by the following determinations:

1. The fishery does not target any of the following taxa:
 - Amphibians
 - Reptiles
 - Birds
 - Mammals
2. The fishery do not use poison or explosives
3. The fishery is not enhanced (Note: the fishery ends following capture (*aviso de arribo*) by purse seines and does not include towing or grow out in net pens)
4. The fishery does not target introduced species
5. The fishery does not include any vessel that has been implicated in a conviction for a serious crime listed in Table 3 of the MSC Fisheries Standard v3.0 in the last 2 years
6. The fishery does not include any vessel/entity (v3.0) that has been implicated in a conviction for a shark finning violation in the last 2 years?

7. Traceability

7.1. Traceability - initial review and planning

Reference(s): FCP v3.1 7.8.2 I-n

Table 3: Traceability initial planning

The proposed point of change of ownership of product to any party not covered by the fishery assessment
For the purposes of traceability, it is confirmed that the fishery assessment does not cover the proposed first sale to any party and that any trading between client group members may have happened before.
The proposed point from which subsequent Chain of Custody (CoC) is required
Chain of custody cannot occur for any sold fish. The MSC preassessment ends once fishes are transferred to the tow vessels.
The plan for reviewing traceability at the initial assessment site visit
Review logbooks Review transfer tapes. Review Client records to verify transfer tapes and logbooks.

7.2. Traceability within the fishery

The CAB may include in the report a description of the tracking, tracing and segregation systems within the fishery and how these systems will allow any products intended to be sold as certified in future, to be traced back to the Unit(s) of Assessment.

This section requests information relating to the fishery’s ability to segregate and identify catch by gear type, species and catch area.

The CAB may include in the report an evaluation of the robustness of the management systems related to traceability.

The CAB may include in the report any traceability references, including hyperlinks to publicly-available documents.

Reference(s): FCP v3.1 7.17.1 and 7.17.6.a-d

Table 4: Traceability within the fishery

Statement on fishery’s ability to track and trace to each Unit of Assessment
The Unit of Certification has a traceability system capable of identifying each individual fish down to the date of capture and vessel. This pre-assessment concludes once the fish are transferred to the tow vessels (and subsequently to the holding pens of the aquaculture farm). The MSC Chain of Custody certificate would not allow this type of fishery to be included within its scope.
Movement of fish and fish product between harvest and landing <i>An illustration of movement of product between harvest and landing. Include when any of the following happen: Harvesting, At-Sea processing, Translocation, Transshipment, Offloading, Landing.</i>
<i>Fishing vessel → Tow net (Landing) → Aquaculture</i>
Movement of fish and fish products between landing and the proposed start of the CoC if relevant <i>An illustration of movement of product between landing and the proposed start of CoC. Include when any of the following is happening: Transport, Storage, Sorting/ Grading, Packing, Auction.</i>
N/A

Description of any processing and sorting/ grading prior to change of ownership	
None	
For the critical tracking events (i.e. where in the product flow this data needs to be transferred) of all fish and fish product handling and sale not covered by the proposed CoC describe:	
<ul style="list-style-type: none"> - Process of segregating to each Unit of Assessment - Key data elements (i.e. the data or documents to identify the UoA such as species, catch area, gear) 	
N/A	
Where there are IPI stock(s) within the scope of certification, describe the verification of traceability systems	
N/A	
Other relevant information on the systems to track and trace to each UoA	
N/A	
Do systems allow the fishery client to trace any fish or fish products back to the individual UoA? If yes, describe	Yes <i>The Unit of Certification has a traceability system capable of identifying each individual fish down to the date of capture and vessel.</i>
Do systems allow the fishery client to trace any fish or fish products back to the individual UoA and how do they do this? If yes, describe	Yes <i>See above</i>
Does transshipment occur within the fishery?	No
What is the type of transshipment and what the systems to track and trace to UoA? (high seas/in port/ other) If yes: <ul style="list-style-type: none"> • How and when does this occur? • What systems allow to track and trace to UoA? 	N/A
For high seas transshipment are the systems to support tracking and tracing to UoA verified independent from the certificate holder? If yes, describe	N/A
For high seas transshipment do the systems to verify tracking and tracing to UoA cover both fishing and receiving vessels?	N/A

If yes, describe	<i>Detail</i>
For high seas transshipment do the systems to track and trace to UoA apply to 100% of transshipment events? If yes, describe	N/A

7.3. Traceability risks and mitigations

The CAB may include in the report a description of the factors that may lead to risks of non-certified seafood being mixed with UoA seafood using the table below. For each risk factor, there should be a description of whether the risk factor is relevant for the fishery and, if so, a description of the relevant mitigation measures or traceability systems in place.

Reference(s): FCP v3.1 7.5.10 a-d, 7.17.1.3

Table 5: Traceability risks and mitigation within the fishery

Factor	Description of the traceability risk factors and details of the risk mitigation and management <i>Include in each description:</i> <ul style="list-style-type: none"> ● Whether each factor occurs ● When it occurs and how frequently (e.g. regularly, seasonally, rarely) ● How any potential traceability risks are mitigated and any risk management ● If covered by information provided elsewhere in the pre-assessment report, cross reference as needed.
Will the fishery use gears that are not part of the UoA? If yes, include in the description: <ul style="list-style-type: none"> ● If this may occur on the same trip, on the same vessels, or during the same season; ● How any risks are mitigated. 	No
Will vessels in the UoA also fish outside the UoA geographic area? If yes, include in the description: <ul style="list-style-type: none"> ● If this may occur on the same trip; ● How any risks are mitigated. 	No
Do client group members ever handle certified and non-certified products during any of the activities covered by the UoA? This refers to both at-sea activities and on-land activities and should reflect those listed in product movement in Table 4. It includes: <ul style="list-style-type: none"> ● Translocation 	No

8. Pre-assessment results

8.1. Pre-assessment results overview

8.1.1. Overview

The preassessment of the Pacific Bluefin Tuna (PBF) fishery in Mexico under the Marine Stewardship Council (MSC) standard highlights significant progress in stock recovery but also identifies areas requiring further strengthening and clarity in management and environmental information.

About Principle 1, the results indicate that the spawning stock biomass has increased significantly over the past 12 years, reaching 23.2% of the unfished level (SSBF=0). This increase has allowed the fishery to achieve its recovery targets earlier than expected—first in 2017 and then in 2021. Despite these achievements, the harvest strategy has not been fully evaluated, and while harvest control rules (HCRs) exist, they have not been formalized or thoroughly assessed. Additionally, uncertainties remain regarding unwanted catches and discards.

In Principle 2, the pre-assessment did not identify any in-scope species being incidentally caught, and interactions with in-scope and ETP/OOS species are considered insignificant. Purse seine fishing occurs in pelagic waters, reducing the likelihood of causing irreversible damage to marine habitats. However, the need for more detailed information on habitats and ecosystems in the fishery's operating area was identified. In particular, a better understanding of the impact of Pacific Bluefin Tuna biomass extraction on the structure and dynamics of the marine ecosystem is required.

In Principle 3, the pre-assessment acknowledges the existence of functional legal frameworks and international agreements, such as those established by the IATTC, WCPFC, and Mexican fisheries regulations. While roles in consultation and decision-making are clearly defined, stakeholder participation is not always effective, particularly at the national level. Mexico's fisheries management objectives align with MSC principles, but they have not been fully articulated for Principle 2. Furthermore, information on the evaluation and monitoring of fisheries management performance is limited, and details on compliance systems and enforcement actions by government agencies are lacking. The absence of this information prevented a complete assessment of regulatory compliance.

In summary, the pre-assessment indicates that the Pacific Bluefin Tuna fishery has made significant progress in stock recovery but still faces challenges related to the formalization and evaluation of harvest strategies, environmental data collection, and improving transparency in governance and regulatory compliance.

8.1.2. Recommendations

The following recommendations to the client for future assessments may be considered:

- **Data Collection and Sharing:** The client should gather and share comprehensive data and information about the fleet, including catch records, detailed reports from the onboard observer program, habitat and ecosystem research, and compliance and enforcement data. This will ensure a thorough and well-rounded assessment.
- **Bycatch and Unwanted Catch:** It is recommended that more comprehensive data on bycatch, unwanted catch, and interactions with endangered, threatened, or protected (ETP) species, as well as other species of concern, be gathered to strengthen the sustainability assessment.
- **Habitat Information:** Additional information is needed regarding the types of habitats within the fishery's operational area. It is particularly important to identify the locations where the fishery operates (e.g., using Vessel Monitoring System (VMS) data) to determine where fishing sets occur and confirm the absence of interactions with sensitive habitats.
- **Ecosystem Information:** Additional information is required regarding the types of ecosystems within the fishery's operational area. Studies on the removal of the target species biomass should also be considered to better understand ecosystem impacts.
- **Fishery Performance and Management Actions:** More information is needed on the fishery's performance and management actions, such as updates on the implementation of the fishery management plan. Any information regarding legal disputes within the fishery should also be provided.
- **Internal Management Review Processes:** Further details are needed on the internal processes for reviewing and improving fishery management practices.
- **Compliance and Sanctions:** more information should be provided about any sanctions, compliance within the fishery.
- **Stakeholder Communication:** It is essential to engage with relevant management agencies (CONAPESCA and IMIPAS), supply chain partners, conservation organizations, and other key stakeholders to explain the Marine Stewardship Council (MSC) assessment process, including its costs and benefits.

- Communication of Key Information: The client should clearly communicate the timing, location, and format of any announcements made during the full assessment process.
- MSC Training Consideration: The client should consider offering optional MSC training to relevant personnel involved in the assessment process to increase understanding and engagement

8.2. Summary of potential conditions by Principle

Table 6: Summary of Principle level scores

Principle of the Fisheries Standard	Number of PIs with draft scoring ranges <60
Principle 1 – Stock status	1
Principle 2 – Minimising environmental impacts	0
Principle 3 – Effective management	1

8.3. Summary of Performance Indicator level scores

In the next table, the following key is used to evaluate each Performance indicator:

- Information suggests fishery is not likely to meet the SG60 for any scoring issue (Fail <60, red).
- Information suggests fishery will reach SG60 but may not meet all scoring issues at SG80, a condition may be needed (Pass with condition 60 – 79, yellow).
- Information suggests fishery is likely to exceed SG80 resulting in an unconditional pass for this Performance Indicator. Fishery may meet one or more scoring issues at SG100 level (Pass ≥80, green).

Table 7: Summary of Performance Indicator level scores

Performance Indicator	Draft scoring range	Data deficient?
1.1.1 – Stock status	60 – 79	No
Rationale or key points		
<p>-The spawning stock biomass (SSB) of Pacific Bluefin Tuna has increased significantly over the past 12 years.</p> <p>-No biomass-based reference points have been explicitly adopted for this species, but it is not overfished relative to 20%SSB_{F=0}, a value adopted for other tuna species by the IATTC and WCPFC.</p> <p>-The stock assessment does not estimate MSY-based reference points, and no biomass-based limit or target reference points have been adopted.</p>		
Performance Indicator	Draft scoring range	Data deficient?
1.1.2 – Stock rebuilding	≥80	No
Rationale or key points		
<p>-The stock met its first rebuilding target in 2017 (6.7%B₀), seven years earlier than expected.</p> <p>-The second rebuilding target was reached in 2021 (21.2%SSB_{F=0}) (less than one generation time).</p> <p>-The stock is assessed every two years (alternating between benchmark and update assessments).</p> <p>-Assessments estimate SSB relative to rebuilding targets and project probabilities of achieving them.</p> <p>-The stock has already rebuilt to both interim rebuilding targets (2022 and 2024 assessments).</p>		
Performance Indicator	Draft scoring range	Data deficient?
1.2.1 – Harvest Strategy	<60	No
Rationale or key points		
<p>-WCPFC and IATTC have a harvest strategy outlining rebuilding objectives, timeline, and measurement criteria. It includes objectives, monitoring, stock assessment, harvest control rules (HCRs), and management actions and it has been effective in achieving rebuilding targets.</p> <p>-The strategy achieved the two interim rebuilding targets on time but has not been fully evaluated.</p> <p>-Stock assessment occurs every two years (benchmark and update), and CPCs regularly submit monitoring data sufficient for an age-structured assessment.</p>		

<p>-Harvest strategy is periodically reviewed.</p> <p>-(Sif) There is no evidence that at some point there has been a review of alternative measures to minimise UoA-related mortality of unwanted catch (discards) of the target stock.</p>		
Performance Indicator	Draft scoring range	Data deficient?
1.2.2 – Harvest control rules and tools	60 – 79	No
Rationale or key points		
<p>-Harvest Control Rules (HCRs) in place, with MSY as ultimate goal, but not yet formally in HCR; MSE process is ongoing.</p> <p>-It is not clear whether the HCRs take account the wide range of uncertainties and the HCRs are robust to the main uncertainties.</p>		
Performance Indicator	Draft scoring range	Data deficient?
1.2.3 – Information and monitoring	60 – 79	No
Rationale or key points		
<p>-A comprehensive range of information is available, with ongoing updates using seasonal fishery data (catch, discards, size composition), extensive research on stock productivity and long-term fisheries data available.</p> <p>-Stock abundance and removals are well monitored, with annual dataset updates before ISC plenary.</p> <p>-Biennial stock assessments support the harvest control rule (HCR).</p> <p>-There is greater uncertainty regarding discards than other fishery impacts because the impact of discarding is not based on observed data. Due to the lack of information (data) regarding discards, SG80 is not met.</p>		
Performance Indicator	Draft scoring range	Data deficient?
1.2.4 – Assessment of stock status	≥80	No
Rationale or key points		
<p>-The 2024 benchmark assessment improved the model, ensuring reliable stock status estimates and projections.</p> <p>-Estimates stock status relative to reference points, including interim rebuilding targets.</p> <p>-Identifies major uncertainties and uses probabilistic methods for projections.</p> <p>-The 2024 model was tested, validated, and found to be internally consistent and reliable.</p> <p>-Internally reviewed by PBFWG and ISC, but no external peer review was conducted.</p>		
Performance Indicator	Draft scoring range	Data deficient?
2.1.1 – In-scope species outcome	≥80	No
Rationale or key points		
<p>-No main or minor in scope species, it can be considered negligible.</p>		
Performance Indicator	Draft scoring range	Data deficient?
2.1.2 – In-scope species management strategy	≥80	No
Rationale or key points		
<p>-No main bycatch species are retained, and no additional measures are needed, but no formal strategy exists.</p> <p>-There is a high degree of certainty that shark finning is not taking place (Prohibited in Mexico, with onboard observer programs ensuring compliance).</p> <p>-Measures prevent gear loss, but no full strategy exists for lost gear.</p>		
Performance Indicator	Draft scoring range	Data deficient?
2.1.3 – In-scope species information	≥80	No
Rationale or key points		
<p>-Observer programs and logbooks provide adequate data.</p> <p>-Observer data is sufficient to estimate the impact on minor in-scope species with high accuracy.</p> <p>-More comprehensive data about catches in scope species should be provided to support assessing this score in full assessment.</p>		
Performance Indicator	Draft scoring range	Data deficient?
2.2.1 – ETP/OOS species outcome	≥80	No
Rationale or key points		

-The interaction with ETP/OOS is considered negligible.		
Performance Indicator	Draft scoring range	Data deficient?
2.2.2 – ETP/OOS species management strategy	≥80	No
Rationale or key points		
-No ETP/OOS incidental catches occur, so no additional measures are needed, but no comprehensive strategy exists. -Mortality is negligible, Mexico complies with IATTC resolutions, and required release protocols are in place.		
Performance Indicator	Draft scoring range	Data deficient?
2.2.3 – ETP/OOS species information	60 – 79	No
Rationale or key points		
-Observer data and logbooks provide a high-accuracy estimate, but lack of comprehensive data prevents better ratings. -Available data supports impact management but is too limited in time to evaluate trends or measure effectiveness.		
Performance Indicator	Draft scoring range	Data deficient?
2.3.1 – Habitats outcome	≥80	No
Rationale or key points		
-Purse seining occurs in deep pelagic waters with no significant habitat interaction, making serious or irreversible harm highly unlikely. -No sensitive habitats exist in the fishing area, but further information is needed for full assessment.		
Performance Indicator	Draft scoring range	Data deficient?
2.3.2 – Habitats management strategy	≥80	No
Rationale or key points		
-No significant habitat interaction occurs, and VMS, logbooks, and observer coverage support monitoring, but no formal strategy is in place. -No evidence of adverse habitat impact, but lack of direct evidence on the UoA prevents achieving SG100. -Measures prevent gear loss, but no full strategy exists for handling lost gear. -More information is needed on the types of habitats in the fishery's operating area. It is also important to highlight the specific locations where the fishery operates, to determine where sets occur and to verify the absence of interaction with sensitive habitats		
Performance Indicator	Draft scoring range	Data deficient?
2.3.3 – Habitats information	60 – 79	No
Rationale or key points		
-The general habitat distribution is understood, but it is unknown if detailed studies exist for the UoC area. -Observer data suggest minimal impact, but no habitat-specific studies confirm this with high accuracy. -While VMS and observer coverage track fishing activity, habitat monitoring data is outdated.		
Performance Indicator	Draft scoring range	Data deficient?
2.4.1 – Ecosystem outcome	60 – 79	No
Rationale or key points		
-The purse seine fishery is selective, with minimal bycatch and habitat interaction, making serious harm unlikely, but more regional data is needed for a higher score.		
Performance Indicator	Draft scoring range	Data deficient?
2.4.2 – Ecosystem management strategy	≥80	No
Rationale or key points		
-The Fishery is managed under ecological sustainability principles, with quotas, monitoring, and voluntary industry practices, but no full ecosystem strategy exists. -Measures are effective, as the target species is recovering and unwanted catch impacts are minimal, but more data is needed for full assessment about ecosystems in the fishing operation area.		
Performance Indicator	Draft scoring range	Data deficient?

2.4.3 – Ecosystem information	60 – 79	No
Rationale or key points		
<ul style="list-style-type: none"> -Available information allows the identification of key ecosystem elements but not a broad understanding of them. -The main impacts of the UoA can be inferred, although they have not been investigated in detail. -There is no evidence that the main functions of the ecosystem components are known. -Some data is collected, but it is not sufficient to detect increases in risk or to support the development of effective management strategies. 		
Performance Indicator	Draft scoring range	Data deficient?
3.1.1 – Legal and/or customary framework	≥80	No
Rationale or key points		
<ul style="list-style-type: none"> -Mexico and international RFMOs (IATTC, WCPFC) provide a functional legal system and cooperation framework, but not all agreements are binding. -Mechanisms exist at both national and international levels, but their effectiveness in practice is not fully demonstrated. -Legal rights for subsistence and indigenous fishers are recognized. 		
Performance Indicator	Draft scoring range	Data deficient?
3.1.2 – Consultation, roles, and responsibilities	≥80	No
Rationale or key points		
<ul style="list-style-type: none"> -WCPFC, IATTC, and Mexico have clearly defined roles and responsibilities, but not for all areas of interaction. -Regular consultations incorporate relevant information, but not all decisions are fully justified or transparently explained. -Stakeholders have structured opportunities for engagement, but full and effective participation is not consistently demonstrated 		
Performance Indicator	Draft scoring range	Data deficient?
3.1.3 – Long term objectives	≥80	No
Rationale or key points		
<ul style="list-style-type: none"> -WCPFC, IATTC, and Mexico have explicit long-term objectives aligned with the MSC Fisheries Standard and the precautionary approach, ensuring sustainable management and ecosystem protection. 		
Performance Indicator	Draft scoring range	Data deficient?
3.2.1 – Fishery-specific objectives	60 – 79	No
Rationale or key points		
<ul style="list-style-type: none"> -Mexico have fishery-specific objectives aligned with MSC Principles 1 and 2, but they are not explicit for principle 2. 		
Performance Indicator	Draft scoring range	Data deficient?
3.2.2 – Decision-making processes	60 – 79	No
Rationale or key points		
<ul style="list-style-type: none"> - IATTC and Mexico have established decision-making processes based on scientific advice, transparency, and legal frameworks. -The system addresses serious issues, but it is unclear whether other important issues identified through independent research and monitoring outside the IATTC framework are addressed transparently and in a timely manner. Further evidence is needed to meet higher scores. -Both IATTC and Mexico apply the precautionary approach, ensuring decisions are based on the best available science. - Some fishery performance data is generally available upon request at national level, but more evidence is needed to achieve a higher score. -No ongoing legal violations, but there is insufficient evidence that disputes are proactively prevented or resolved in a timely manner. 		
Performance Indicator	Draft scoring range	Data deficient?
3.2.3 – Compliance and enforcement	60 – 79	Yes
Rationale or key points		
<ul style="list-style-type: none"> -An MCS system exists in the UoA, including VMS use, vessel inspections, and onboard fisheries officers. 		

<p>-Legal sanctions to address non-compliance are in place, but no evidence of their effective application was provided.</p> <p>-Available information allows for a general understanding of compliance within the UoA, though it is focused on the UoC and does not cover the entire fishery, limiting accuracy.</p> <p>-There is no evidence of systematic non-compliance, but the lack of comprehensive evidence across the fishery prevents to consider a higher score.</p>		
Performance Indicator	Draft scoring range	Data deficient?
3.2.4 – Monitoring and management performance evaluation	<60	No
Rationale or key points		
<p>-IATTC has mechanisms to evaluate management, but national-level evaluations are limited, and key parts are not consistently reviewed.</p> <p>-IATTC undergoes internal and occasional external reviews, but there is no evidence of regular internal reviews of Mexico’s PBF Fishery Management Plan.</p>		

8.4. Principle 1

8.4.1. Principle 1 background

8.4.1.1. Stock Identification and Distribution

Pacific bluefin tuna (PBF) (*Thunnus orientalis*) has a single Pacific-wide stock managed by both the Western and Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Commission (IATTC). Although found throughout the North Pacific Ocean, spawning grounds are recognized only in the western North Pacific Ocean (WPO). A portion of each cohort makes trans-Pacific migrations from the WPO to the eastern North Pacific Ocean (EPO), spending up to several years of its juvenile life stage in the EPO before returning to the WPO (ISC, 2020; ISC, 2022; ISC, 2024).

Most of the commercial catch of PBF in the EPO is by purse seine vessels. Almost all of the purse seine catch is taken west of Baja California and California, within about 100 nautical miles of the coast, between approximately 23°N and 35°N. An estimated 90% of the catch is between 60 and 100 cm in length, representing primarily fish between 1 and 3 years of age. PBF aquaculture facilities were established in Mexico in 1999, and some Mexican purse seiners began to shift their efforts toward PBF during that year. In recent years, most of the catch has been transported to cages, where the fish are held for fattening and later sold to the sashimi market. Smaller quantities of PBF are taken by recreational gear, gillnets, and longlines. PBF has been caught in the EPO during all months of the year, but the majority of the catch is made between May and October (IATTC, 2020).

The Japanese troll fishery catches age-0 fish, about 15 to 30 cm in length, during July–October south of Shikoku Island and southern Shizuoka Prefecture. During November–April, age-0 fish, about 35 to 60 cm in length, are caught in troll fisheries south and west of Kyushu Island. Age-1 and older fish are caught by purse seine, mainly during May–September, between about 30°–42°N and 140°–152°E. Chinese Taipei’s small-scale longline fishery, which has expanded since 1996, catches PBF larger than 180 cm in length from late April to June, when they congregate to spawn in waters east of the northern Philippines and Taiwan (IATTC, 2020).

PBF larger than about 50 cm in length are most frequently found in waters with sea surface temperatures (SSTs) between 17° and 23°C. In the western Pacific, fish between 15 and 31 cm in length are found in waters with SSTs between 24 and 29 °C. Survival of larval and early juvenile PBF is undoubtedly strongly affected by the environment. Conditions in the western Pacific likely affect recruitment, and therefore the portions of juvenile fish in that area that migrate to the EPO, as well as when these migrations occur. Similarly, conditions in the EPO likely affect when juvenile fish return to the western Pacific (IATTC, 2020).

8.4.1.2. Data and Assessment

In 2024, the Pacific Bluefin Tuna Working Group (PBFWG) conducted a benchmark stock assessment. The PBFWG critically reviewed all aspects of the model, and some modifications were made to improve the model. A total of 26 fleets were defined for use in the stock assessment model based on country/gear/season/region stratification until the end of the fishing year 2022 (June 2023). Quarterly observations of catch and size compositions, when available, were used as inputs to the model to describe the removal processes. Annual estimates of standardized catch-per-unit of effort (CPUE) from the Japanese distant water, off-shore, and coastal longline, the Chinese Taipei longline, and the Japanese troll fleets were used as measures of the relative abundance of the population (ISC, 2024).

Population dynamics were estimated using a fully integrated age-structured model (Stock Synthesis (SS) v3.30) fitted to catch (retained and discarded), size-composition, and CPUE based abundance index data from 1983 to 2023, provided by Members of ISC, PBFWG and non-ISC countries obtained from the WCPFC official statistics. Life history parameters included a length-at-age relationship from otolith-derived ages and natural mortality estimates from a tag-recapture study and empirical-life history methods (ISC, 2020; ISC, 2022; ISC, 2024).

The assessment model was fitted to the input data in a likelihood-based statistical framework. Maximum likelihood estimates of model parameters, derived outputs, and their variances were used to characterize stock status and to develop stock projections. One of the major changes made in this assessment is that the PBFWG decided to shorten the stock assessment model by starting in 1983 instead of 1952. This adjustment was implemented because more reliable data are available after 1983. Additionally, the adoption of a shorter model period enhances flexibility and can accommodate diverse productivity assumptions. This flexibility is an important feature as this model will be used in the upcoming PBF management strategy evaluation (MSE). The PBFWG confirmed that the results and management quantities of the longer period model and the shorter period model are consistent and that the change in the duration of the assessment model does not affect the management advice. A simple update of the 2022 stock assessment with new data estimated slightly higher relative biomass after 2011, reflecting an underestimating tendency of the past model. Other changes include refined parameterization of selectivity to reduce model residuals and shortening of the recruitment index from 1983-2016 to 1983-2010. The PBFWG therefore concluded that the model is appropriate for generating management advice. Due to those changes, recent relative biomass was scaled up to some extent as the retrospective bias was reduced (ISC, 2024).

After conducting thorough reviews and implementing necessary modifications, the PBFWG found that the 2024 base-case model is consistent with the previous assessment results, that it fits the data well, that the results are internally consistent among most of the data sources, and that the model has improved overall by addressing the issues previously identified. The model diagnostics have confirmed that the base-case model captures the production function of PBF well, thus its estimated biomass scale is reliable, and that the model has good predictability. Based on these findings, the PBFWG concluded that the 2024 assessment model reliably represents the population dynamics and provides the best available scientific information for the PBF stock (ISC, 2024).

8.4.1.3. Stock Status and Conservation Information

The base-case model results show that: (1) spawning stock biomass (SSB) fluctuated throughout the assessment period (fishing years 1983-2022); (2) the SSB steadily declined from 1996 to 2010; (3) the SSB has rapidly increased since 2011; (4) fishing mortality ($F_{\%SPR}$) decreased from a level producing about 1% of spawning potential ratio (SPR) in 2004-2009 to a level producing 23.6% of SPR in 2020-2022; and (5) SSB in 2022 increased to 23.2% of $SSB_{F=0}$, achieving the second rebuilding target by WCPFC and IATTC in 2021. Based on the model diagnostics, the estimated biomass trend throughout the assessment period is considered robust. The SSB in 2022 was estimated to be 144,483t (Table 8 and Figure 1), more than 10 times of its historical low in 2010. An increase in immature fish (0-3 years old) is observed in 2016-2019 (Figure 2), likely resulting from reduced fishing mortality in this age group. This led to a substantial increase in SSB after 2019. The method to estimate confidence interval was changed from bootstrapping in the previous assessments to normal approximation of the Hessian matrix (ISC, 2024).

Table 8. Total biomass, spawning stock biomass, recruitment, spawning potential ratio, and depletion ratio of Pacific bluefin tuna (*Thunnus orientalis*) estimated by the base-case model, for the fishing years 1983-2022. Taken from ISC, 2024.

Year	Total Biomass (mt)	Spawning Stock Biomass (mt)	Recruitment (x1000 fish)	Spawning Potential Ratio	Relative biomass over SSB _{F=0}
1983	31,993	15,429	11,827	3.7%	2.5%
1984	34,852	13,898	8,176	7.1%	2.2%
1985	38,514	14,280	9,207	4.6%	2.3%
1986	38,713	15,925	8,094	1.8%	2.6%
1987	36,385	16,934	6,956	10.4%	2.7%
1988	40,630	19,967	8,977	16.4%	3.2%
1989	47,141	20,590	4,187	18.1%	3.3%
1990	57,723	26,079	21,138	22.1%	4.2%
1991	75,302	34,208	7,400	13.2%	5.5%
1992	84,406	43,037	4,375	16.8%	6.9%
1993	93,667	55,854	3,985	19.0%	9.0%
1994	103,163	64,267	30,951	12.0%	10.3%
1995	116,349	79,269	15,247	7.3%	12.7%
1996	109,419	75,121	17,967	9.2%	12.1%
1997	108,955	68,311	11,344	7.5%	11.0%
1998	104,534	66,696	15,469	5.2%	10.7%
1999	100,748	60,915	21,993	5.6%	9.8%
2000	94,830	57,366	13,910	1.9%	9.2%
2001	82,675	54,907	16,944	9.6%	8.8%
2002	83,931	51,822	13,375	6.3%	8.3%
2003	79,217	49,650	6,748	2.3%	8.0%
2004	70,699	41,296	27,619	1.3%	6.6%
2005	65,488	33,668	15,323	0.6%	5.4%
2006	51,886	26,737	13,854	1.1%	4.3%
2007	45,705	20,791	23,619	0.5%	3.3%
2008	44,337	16,082	21,038	1.0%	2.6%
2009	39,232	12,526	7,983	1.7%	2.0%
2010	37,537	12,275	17,593	2.8%	2.0%
2011	39,632	14,236	13,822	5.8%	2.3%
2012	43,506	17,447	7,663	9.6%	2.8%
2013	48,901	19,711	14,239	7.6%	3.2%
2014	54,166	22,690	4,882	15.9%	3.6%
2015	62,945	28,019	13,367	20.9%	4.5%
2016	77,523	37,762	16,040	21.5%	6.1%
2017	94,213	44,541	11,417	31.4%	7.2%
2018	118,007	56,986	9,991	37.1%	9.2%
2019	146,407	74,734	7,485	29.5%	12.0%
2020	168,571	104,243	6,828	28.4%	16.8%
2021	182,567	131,729	8,275	20.5%	21.2%
2022	186,632	144,483	11,467	21.9%	23.2%
Median (1983-2022)	73,000	35,985	11,647	8.4%	5.8%
Average (1983-2022)	78,528	44,112	12,769	11.5%	7.1%
Unfished (Equilibrium)	785,281	622,254	13,261	100%	100%

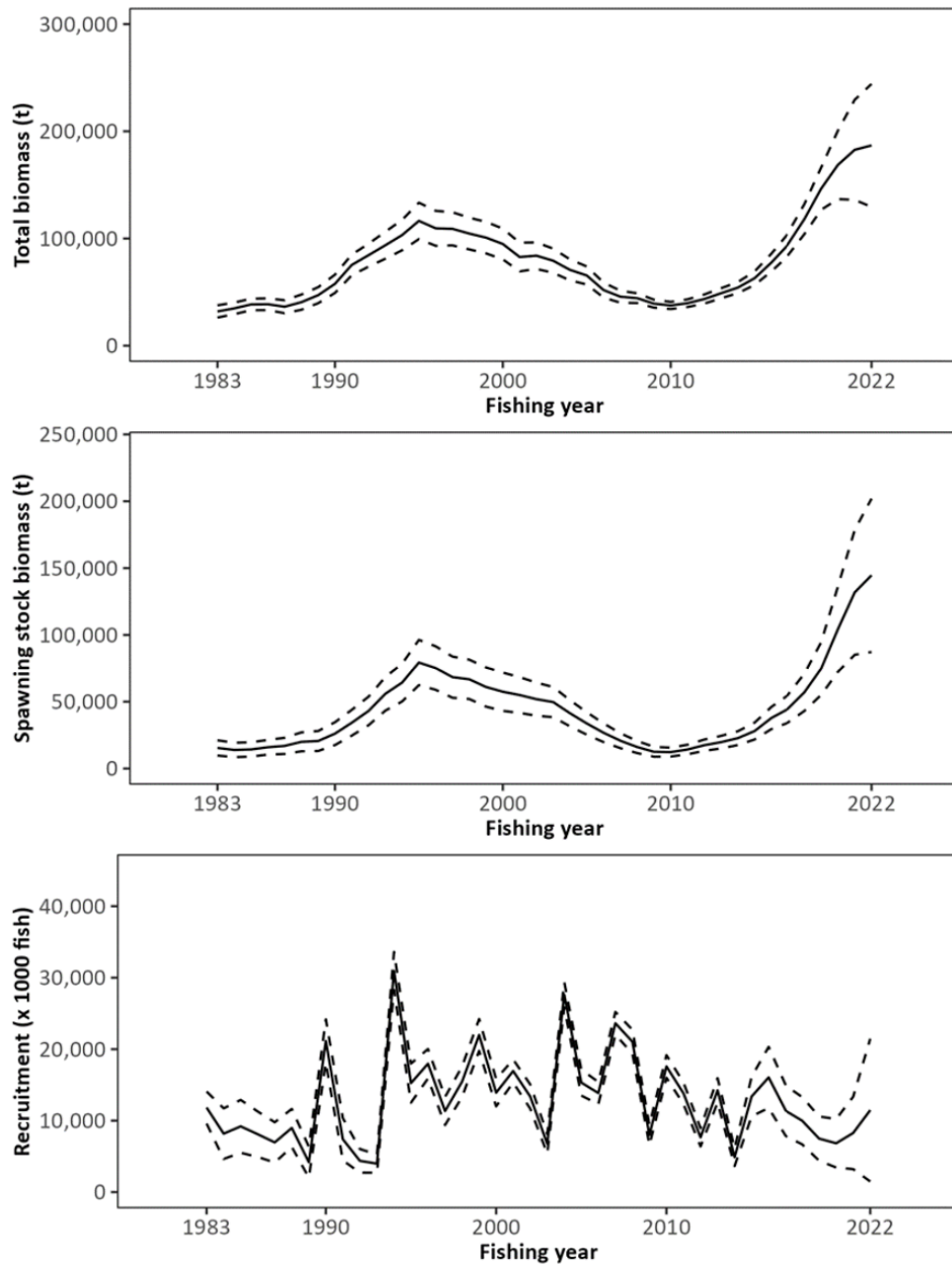


Figure 1. Trajectory of total stock biomass (top), spawning stock biomass (middle), and recruitment (bottom) of Pacific bluefin tuna (*Thunnus orientalis*) (1983-2022) estimated from the base-case model. The solid line is the point estimate, and dashed lines delineate the 90% confidence interval. Taken from ISC, 2024.

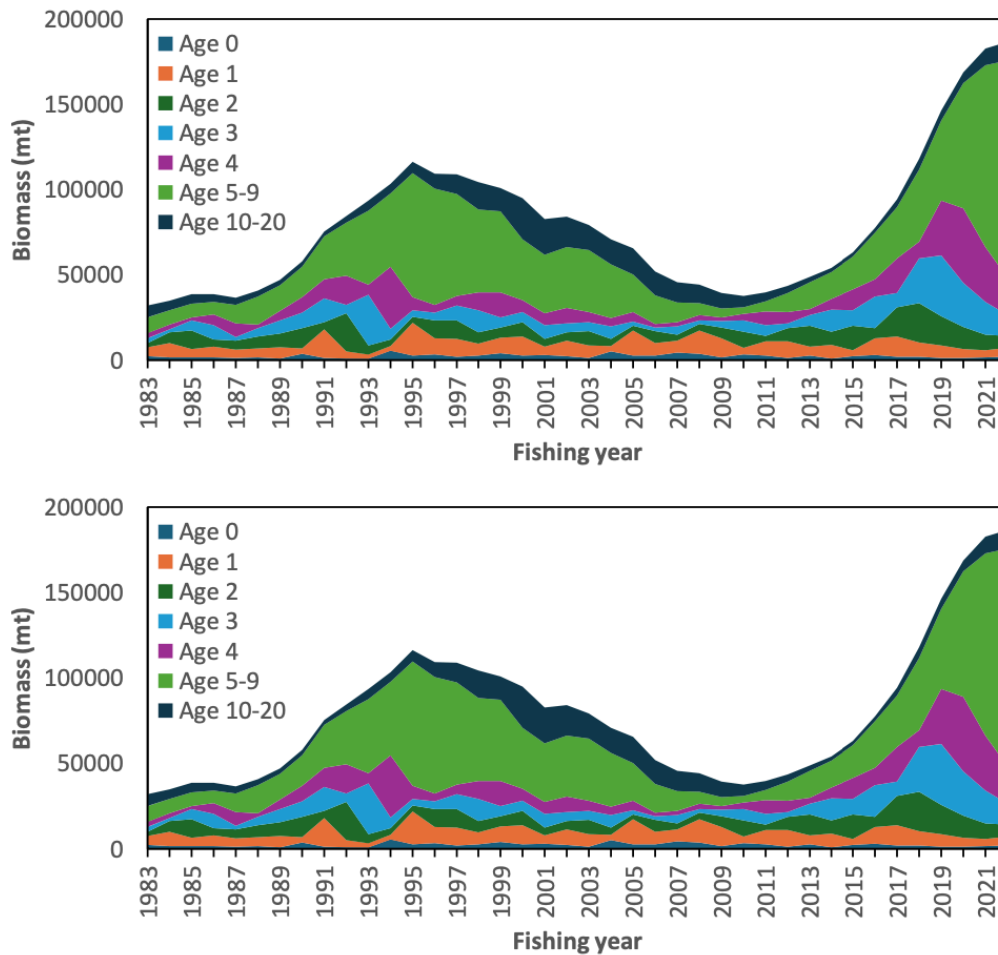


Figure 2. Total biomass (tons) by age of Pacific bluefin tuna (*Thunnus orientalis*) estimated from the base-case model (1983-2022). Note that the recruitment estimates for 2019-2022 are more uncertain than for other years. Taken from ISC, 2024.

Historical recruitment estimates have fluctuated since 1983 without an apparent trend (Figure 1). Currently, stock projections assume that future recruitment will fluctuate around the historical (1983-2020 FY) average recruitment level. Previously, no significant autocorrelation was found in recruitment estimates, supporting the use in the projections of recruitment sampled at random from the historical time series. In addition, now that SSB has recovered to 23.2%SSB_{F=0}, the PBFWG considers the assumption that the future recruitment will fluctuate within the historical range to be reasonable. The PBFWG also confirmed that the distributions of historical recruitment from the updated long-term model (1952-2022) and the present base-case model (1983-2022) are comparable (ISC, 2024).

Estimated age-specific fishing mortalities (F) on the stock during the periods of 2012-2014 and 2020-2022, compared with 2002-2004 estimates (the reference period for the WCPFC Conservation and Management Measure), are presented in Figure 3.

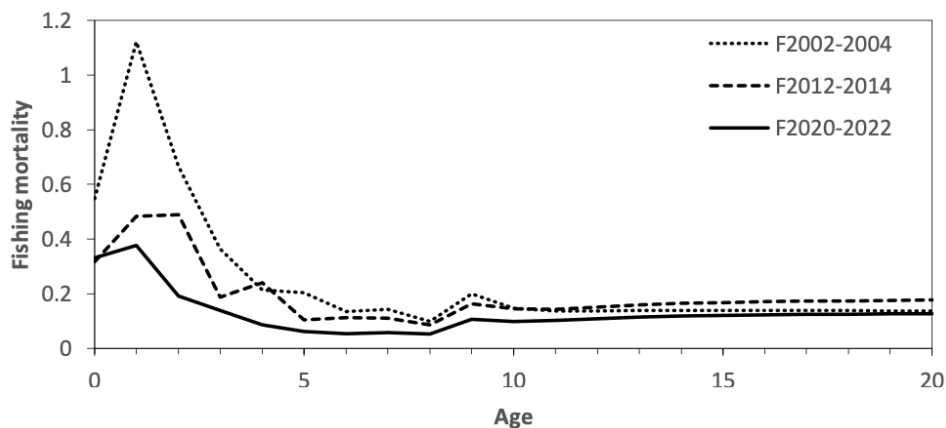


Figure 3. Geometric means of annual age-specific fishing mortalities (F) of Pacific bluefin tuna (*Thunnus orientalis*) for 2002-2004 (dotted line), 2012-2014 (dashed line), and 2020-2022 (solid line). Taken from ISC, 2024.

The WCPFC and IATTC adopted an initial rebuilding biomass target (the median SSB estimated for the period from 1952 through 2014) and a second rebuilding biomass target (20%SSB_{F=0} under average recruitment) but not a fishing mortality reference level. The previous (2022) assessment estimated the initial rebuilding biomass target (SSB_{MED1952-2014}) to be 6.3%SSB_{F=0} and the corresponding fishing mortality expressed as SPR of F_{6.3%SPR} (Table 9). The Kobe plot shows that the point estimate of the SSB₂₀₂₂ was 23.2%SSB_{F=0} and that the recent (2020-2022) fishing mortality corresponds to F_{23.6%SPR} (Table 8 and Figure 4). The apparent increase in F in the terminal period compared to the historical low in 2018 (F_{37.1%SPR}) is a result of low recruitment in this period. As noted, the recruitment estimates in recent years are more uncertain and this result needs to be interpreted with caution (ISC,2024).

Table 9. Ratios of the estimated fishing mortalities (Fs and 1-SPRs for 2002-04, 2012-14, 2020- 2022) relative to potential fishing mortality-based reference points, and terminal year SSB (t) for each reference period, and depletion ratios for the terminal year of the reference period for Pacific bluefin tuna (*Thunnus orientalis*) from the base-case model. F_{max}: Fishing mortality (F) that maximizes equilibrium yield per recruit (Y/R). F_{xx%SPR}: F that produces a given % of the unfished spawning potential (biomass) under equilibrium conditions. Taken from ISC, 2024.

Reference Period	F _{max}	(1-SPR)/(1-SPR _{xx%})				Estimated SSB for terminal year of each period (ton)	Depletion rate for terminal year of each period (%)
		SPR _{20%}	SPR _{25%}	SPR _{30%}	SPR _{40%}		
2002-2004	1.88	1.21	1.29	1.38	1.61	41,296	6.6%
2012-2014	1.24	1.11	1.19	1.27	1.48	22,690	3.6%
2020-2022	0.84	0.95	1.02	1.09	1.27	144,483	23.2%

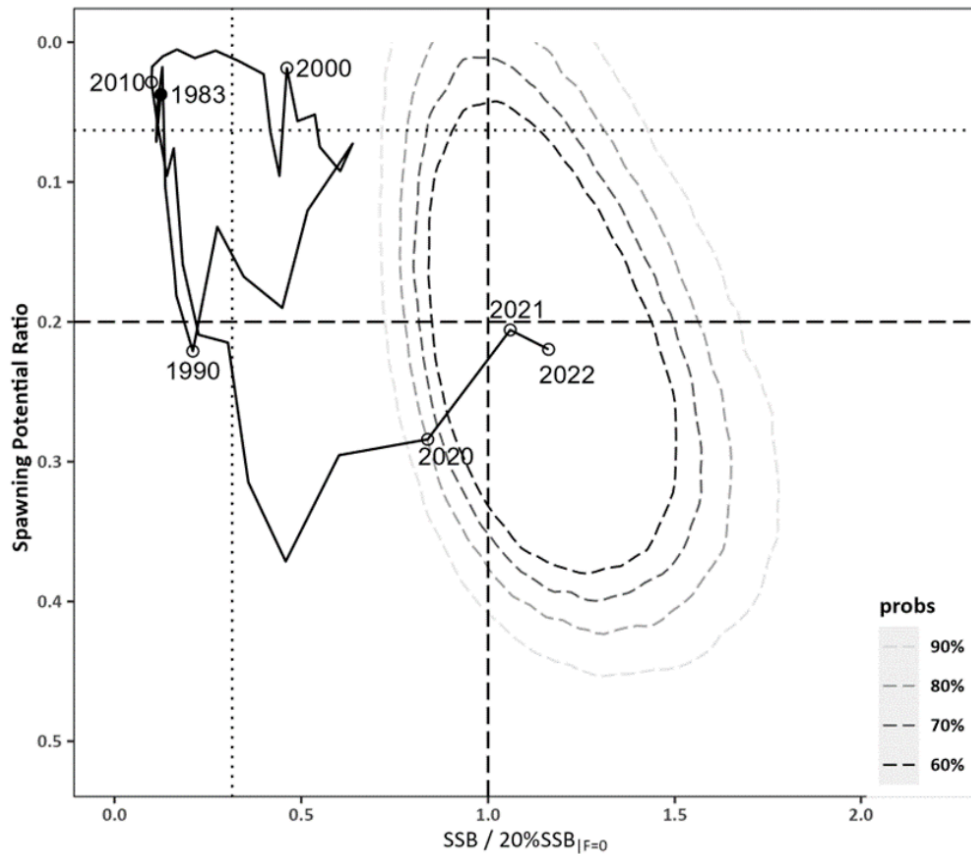


Figure 4. Kobe plot for Pacific bluefin tuna (*Thunnus orientalis*) estimated from the base-case model from 1983 to 2022. The X-axis shows the annual SSB relative to 20%SSB_{F=0} and the Y-axis shows the spawning potential ratio (SPR) as a measure of fishing mortality. Vertical and horizontal dashed lines show 20%SSB_{F=0} (which corresponds to the second biomass rebuilding target) and the corresponding fishing mortality that produces SPR, respectively. Vertical and horizontal dotted lines show the initial biomass rebuilding target (SSB_{MED} = 6.3%SSB_{F=0}) and the corresponding fishing mortality that produces SPR, respectively. SSB_{MED} is calculated as the median of estimated SSB over 1952-2014 from the 2022 assessment. The apparent increase of F in the terminal period is a result of low recruitment in this period. As noted, the recruitment estimates in recent years are more uncertain and this result needs to be interpreted with caution. Contour plots represent 60% to 90% of two probability density distributions in SSB and SPR for 2022. The method used to estimate the confidence interval was changed from bootstrapping in the previous assessments to resampling from the multi-variate log-normal distribution. The probability distribution for the area where SPR is below zero is not shown as such SPR values are not biologically possible. Taken from ISC, 2024.

Figure 5 depicts the historical impacts of the harvest by the fleets on the PBF stock, showing the estimated biomass when fishing mortality from the respective fleets is zero. Note that trends in fishery impact back to 1970 were computed using the base-case model extended to 1952. Historically, the WPO coastal fisheries group has had the greatest impact on the PBF stock, but since about the early 1990s the WPO purse seine fishery group targeting small fish (ages 0-1) has had a greater impact and the effect of this group in 2022 was greater than any of the other fishery groups. The impact of the EPO fisheries group was large before the mid-1980s, decreasing significantly thereafter. The WPO longline fisheries group has had a limited effect on the stock throughout the analysis period because the impact of a fishery on a stock depends on both the number and size of the fish caught by each fleet; i.e., catching a high number of smaller juvenile fish can have a greater impact on future spawning stock biomass than catching the same weight of larger mature fish. In 2022, the estimated cumulative impact proportion between WPO and EPO fisheries is about 83% and 17%, respectively. There is greater uncertainty regarding discards than other fishery impacts because the impact of discarding is not based on observed data. Currently, the amount of discard is assumed to be 6% of the reported release in EPO and 5% of the catch in WPO, lacking reliable data.

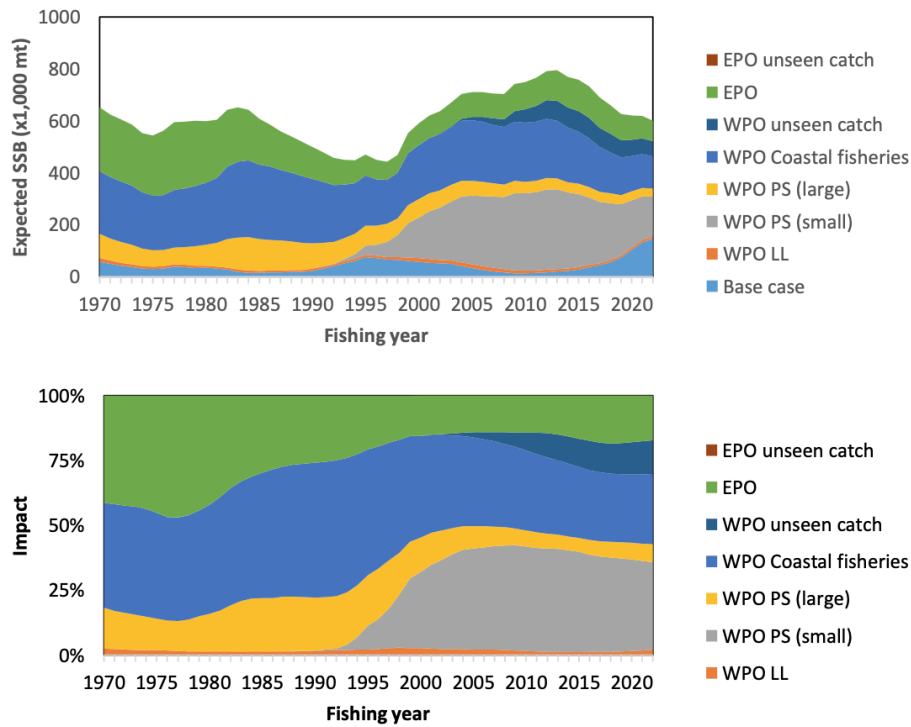


Figure 5. The trajectory of the spawning stock biomass of a simulated population of Pacific bluefin tuna (*Thunnus orientalis*) when zero fishing mortality is assumed, estimated by the base-case long-term model. (top: absolute SSB, bottom: relative SSB). In 2022, the estimated cumulative impact proportion between WPO and EPO fisheries is about 83% and 17%, respectively. Fisheries group definition: WPO longline fisheries: F1-4. WPO purse seine fisheries for large fish: F5-7. WPO purse seine fisheries for small fish: F8-11. WPO coastal fisheries: F12-19. EPO fisheries: F20-23. WPO unaccounted fisheries: F24, 25. EPO unaccounted fisheries: F26. For exact fleet definitions, please see the 2024 PBF stock assessment report. Although larger PBF have been caught by the Korean offshore large-scale purse seine in recent years, this fleet is included in “WPO PS (small)” because of their historical selectivity. Taken from ISC, 2024.

8.4.1.3.1. Stock Status

PBF spawning stock biomass (SSB) has increased substantially in the last 12 years. These biomass increases coincide with a decline in fishing mortality, particularly for fish aged 0 to 3, over the last decade. The latest (2022) SSB is estimated to be 23.2% of $SSB_{F=0}$ and the probability that it is above $20\%SSB_{F=0}$ is 75.9%. Based on these findings, the following information on the status of the Pacific bluefin tuna stock is provided:

1. No biomass-based limit or target reference points have been adopted for PBF, but the PBF stock is not overfished relative to $20\%SSB_{F=0}$, which has been adopted as a biomass-based reference point for some other tuna species by the IATTC and WCPFC. SSB of PBF reached its initial rebuilding target ($SSB_{MED} = 6.3\%SSB_{F=0}$) in 2017, 7 years earlier than originally anticipated by the RFMOs, and its second rebuilding target ($20\%SSB_{F=0}$) in 2021; and
2. No fishing mortality-based reference points have been adopted for PBF by the IATTC and WCPFC. The recent (2020-2022) $F\%SPR$ is estimated to be 23.6% and thus the PBF stock is not subject to overfishing relative to some of F-based reference points proposed for tuna species (Table 9), including $F20\%SPR$.

8.4.1.3.2. Conservation Advice

After the steady decline in SSB from 1996 to the historically low level in 2010, the PBF stock has started recovering, and recovery has been more rapid in recent years, coinciding with the implementation of stringent management measures. The 2022 SSB was 10 times higher than the historical low and is above the second rebuilding target adopted by the WCPFC and IATTC, which was achieved in 2021. The stock has recovered at a faster rate than anticipated when the Harvest Strategy to foster rebuilding (WCPFC HS 2017-02) was implemented in 2014. The

fishing mortality (F%SPR) in 2020-2022 is at a level producing 23.6%SPR. According to the requests from WCPFC and IATTC, future projections under various scenarios were conducted. The figure of projection results, “future Kobe plot”, and “future impact plot” are provided as Figures 6, 7, and 8, respectively.

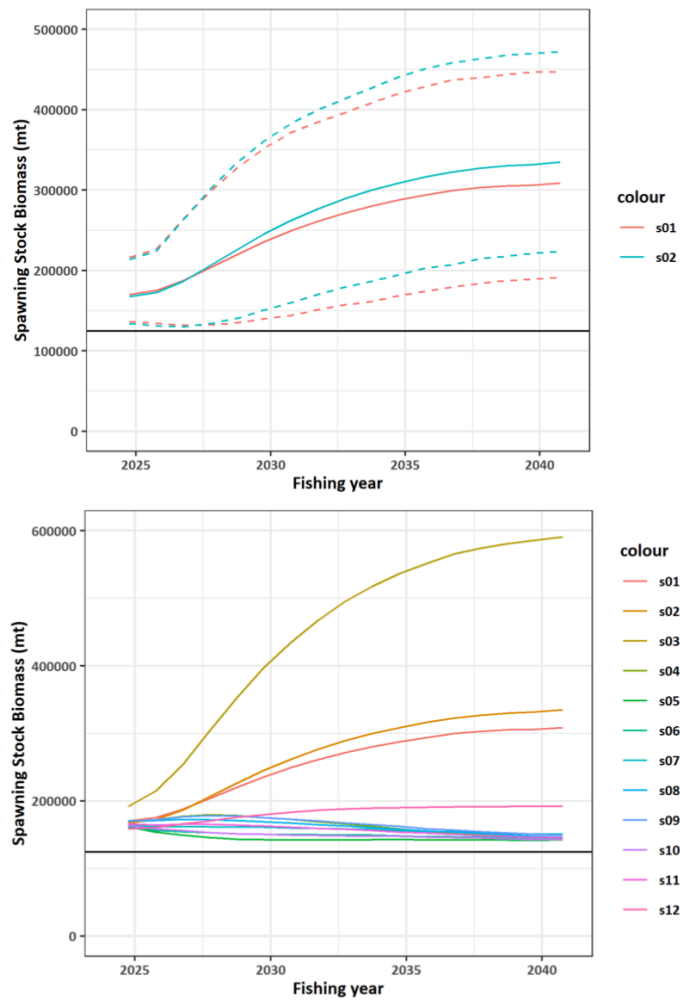


Figure 6. Comparisons of various projection results for Pacific bluefin tuna (*Thunnus orientalis*) obtained from projection results. (Top) Median of scenarios 1 and 2 (solid lines) and their 90% confidence intervals (dotted lines). (Bottom) Median of 12 harvest scenarios examined. The horizontal line represents the second rebuilding target. Taken from ISC, 2024.

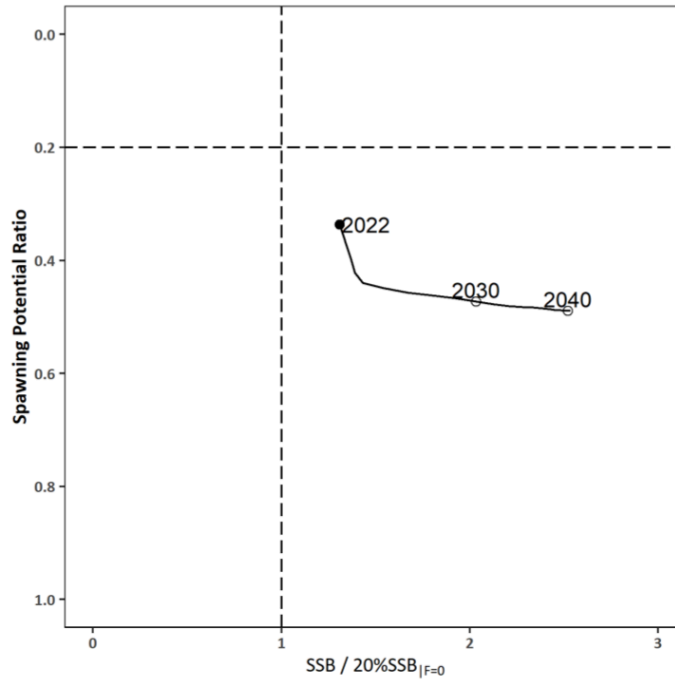


Figure 7. “Future Kobe Plot” of projection results for Pacific bluefin tuna (*Thunnus orientalis*) from Scenario 1 in figure 6. Vertical and horizontal dashed lines show 20%SSB_{F=0} (which corresponds to the second biomass rebuilding target) and the corresponding fishing mortality that produces SPR, respectively. Taken from ISC, 2024.

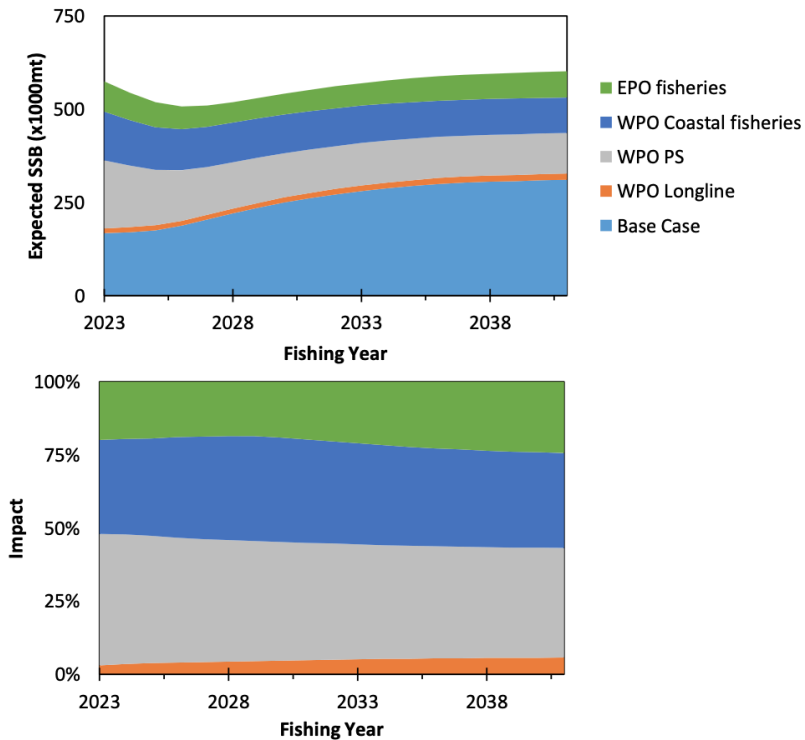


Figure 8. “Future impact plot” from projection results for Pacific bluefin tuna (*Thunnus orientalis*) from Scenario 1. The top figure shows absolute biomass and the bottom figure shows relative impacts. The impact is calculated based on the expected increase of SSB in the absence of the respective group of fisheries. Taken from ISC, 2024.

Based on these findings, the following information on the conservation of the Pacific bluefin tuna stock is provided:

1. The PBF stock is recovering from the historically low biomass in 2010 and has exceeded the second rebuilding target ($20\%SSB_{F=0}$). The risk of SSB falling below $7.7\%SSB_{F=0}$ (interim LRP for tropical tunas in IATTC) at least once in 10 years is negligible;
2. The projection results show that increases in catches are possible. However, the risk of falling below the second rebuilding target will increase with larger increases in catch;
3. The projection results assume that the CMMs are fully implemented and are based on certain biological and other assumptions. For example, these future projection results do not contain assumptions about discard mortality. Discard mortality may need to be considered as part of future increases in catch; and
4. Given the uncertainty in future recruitment and the influence of recruitment on stock biomass as well as the impact of changes in fishing operations due to the management, monitoring recruitment and SSB should continue. Research on a recruitment index for the stock assessment should be pursued, and maintenance of a reliable adult abundance index should be ensured. In addition, accurate catch information is the foundation of good stock assessment.

8.4.2. Catch profiles

While there are few PBF catch records prior to 1952, PBF landing records are available dating back to 1804 from coastal Japan and to the early 1900s for U.S. fisheries operating in the EPO. Based on these landing records, PBF catch is estimated to be high from 1929 to 1940, with a peak catch of approximately 47,635 t (36,217 t in the WPO and 11,418 t in the EPO) in 1935; thereafter catches of PBF dropped precipitously due to World War II. PBF catches increased significantly in 1949 as Japanese fishing activities expanded across the North Pacific Ocean. By 1952, a more consistent catch reporting process was adopted by most fishing nations and estimated annual catches of PBF fluctuated widely from 1952-2022 (Figure 9). During this period reported catches peaked at 40,383 t in 1956 and reached a low of 8,653 t in 1990. The reported catch in 2021 and 2022 was 15,107 t and 17,458 t, respectively, including non-member countries of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC). Management measures were implemented by Regional Fisheries Management Organizations (RFMOs) beginning in 2011 (WCPFC in 2011 and IATTC in 2012) and became stricter in 2015. While a suite of fishing gears have been used to catch PBF, the majority of the catch is currently made by purse seine fisheries (Figure 10). Catches during 1952-2022 were predominantly composed of juvenile PBF; the catch of age 0 PBF has increased significantly since the early 1990s but declined as the total catch in weight declined since the mid-2000s and due to stricter control of juvenile catch (Figures 9 and 11) (ISC, 2020; ISC, 2022; ISC, 2024).

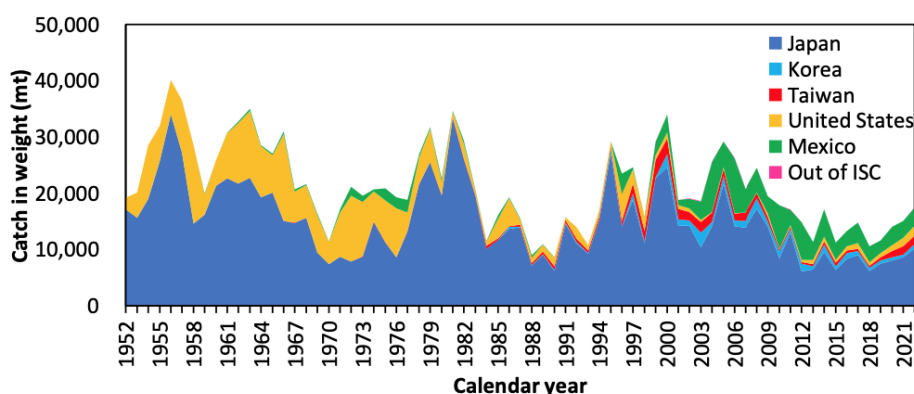


Figure 9. Annual catch (tons) of Pacific bluefin tuna (*Thunnus orientalis*) by ISC member countries from 1952 through 2022 (calendar year) based on ISC official statistics. Taken from ISC, 2024.

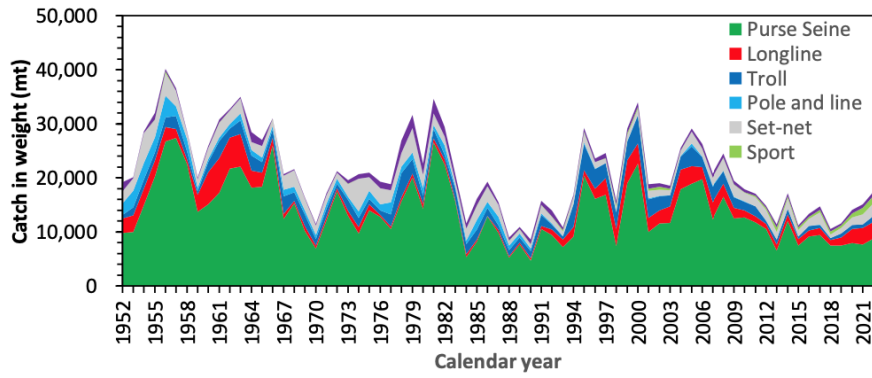


Figure 10. Annual catch (tons) of Pacific bluefin tuna (*Thunnus orientalis*) by gear type by ISC member countries from 1952 through 2022 (calendar year) based on ISC official statistics. Taken from ISC, 2024.

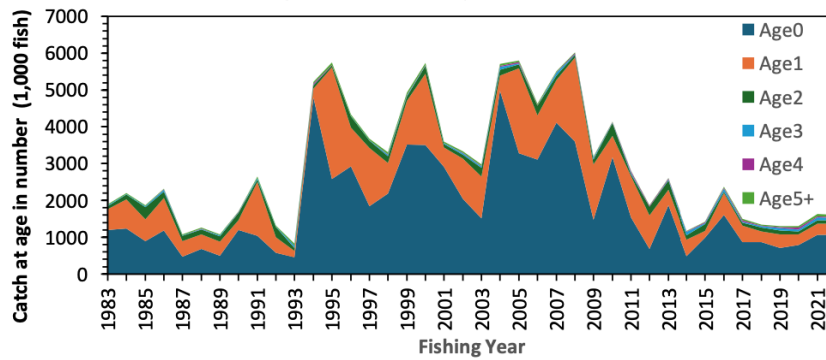


Figure 11. Estimated annual catch-at-age (number of fish) of Pacific bluefin tuna (*Thunnus orientalis*) by fishing year estimated by the base-case model (1983-2022). Taken from ISC, 2024.

8.4.3. Total Allowable Catch (TAC) and catch data

Table 8: Total Allowable Catch (TAC) and catch data

TAC / Catch Data	Year	Amount
TAC	2025-2026	12,585 t
UoA share of TAC	2023	9,464 t
Total catch by UoA (most recent year)	2022	8,748 t
Total catch by UoA (second most recent year)	2021	7,690 t

8.4.4. Principle 1 Performance Indicator scores and rationales

PI 1.1.1 – Stock status

PI 1.1.1		The stock is at a level that maintains high productivity and has a low probability of recruitment overfishing		
Scoring issue		SG 60	SG 80	SG 100
a	Stock status relative to recruitment impairment			
	Guidepost	It is likely that the stock is above the point of recruitment impairment (PRI).	It is highly likely that the stock is above the PRI.	There is a high degree of certainty that the stock is above the PRI.
	Met?	Yes	No	No
Rationale		<p>The latest stock assessment indicates that the Pacifica Bluefin Tuna (PBF) spawning stock biomass (SSB) has increased substantially in the last 12 years. These biomass increases coincide with a decline in fishing mortality over the last decade. The latest (2022) SSB is estimated to be 23.2% of $SSB_{F=0}$ and the probability that it is above 20%$SSB_{F=0}$ is 75.9%. Although no biomass-based limit or target reference points have been adopted for PBF, the PBF stock is not overfished relative to 20%$SSB_{F=0}$, which has been adopted as a biomass-based reference point for some other tuna species by the IATTC and WCPFC, the Regional Fisheries Management Organizations (RFMOs) in charge of the management of this fishery. SSB of PBF reached its initial rebuilding target ($SSB_{MED} = 6.3\%SSB_{F=0}$) in 2017, 7 years earlier than originally anticipated by the RFMOs, and its second rebuilding target (20%$SSB_{F=0}$) in 2021; and no fishing mortality-based reference points have been adopted for PBF by the IATTC and WCPFC. The recent (2020-2022) F%SPR is estimated to be 23.6% and thus the PBF stock is not subject to overfishing relative to some of F-based reference points proposed for tuna species, including F20%SPR (ISC, 2024). SG60 is met.</p>		
b	Stock status in relation to achievement of maximum sustainable yield (MSY)			
	Guidepost		The stock is at or fluctuating around a level consistent with MSY.	There is a high degree of certainty that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?		No	No
Rationale		<p>The stock assessment does not estimate MSY reference points, and no biomass-based limit or target reference points have been adopted for this stock. In this case MSC proposes using 40%B_0 as a precautionary proxy for B_{MSY} (ISSF, 2024a). Although SSB increased by 13% from the 2022 assessment estimated SSB_{2020} at 10.2%$SSB_{F=0}$ to the 2024 assessment estimated SSB_{2022} at 23.2%$SSB_{F=0}$ is still below any estimate of B_{MSY}, as well as below the MSC default proxy (ISC, 2024; ISSF, 2024a). Therefore, SG80 is not met.</p>		

Stock status relative to reference points			
	Type of reference point	Value of reference point	Current stock status relative to reference point
Reference point used in scoring stock relative to PRI (S1a)	$SSB_{F=0}$	20%	23.2%
Reference point used in scoring stock relative to MSY (S1b)	B_0	40%	23.2%

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

Data-deficient? (Risk-Based Framework needed)	No
---	----

PI 1.1.2 – Stock rebuilding

PI 1.1.2		Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe		
Scoring issue		SG 60	SG 80	SG 100
a	Rebuilding timeframes			
	Guide post	A rebuilding timeframe is specified for the stock that is the shorter of 20 years or 2 times its generation time . For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.		The shortest practicable rebuilding timeframe is specified that does not exceed 1 generation time for the stock.
	Met?	Yes		Yes
Rationale		This PI is activated due to the score for 1.1.1 (stock status) is less than 80, indicating that the stock is either not regarded as 'fluctuating around' MSY or is less than highly likely (i.e. 80th percentile) to be above the PRI (MSC, 2023). The harvest strategy states in the preamble that the long-term stock objective is a level consistent with MSY, although it does not specify a timeframe for achieving this long-term objective, however The WCPFC and IATTC adopted an initial rebuilding biomass target (the median SSB estimated for the period from 1952 through 2014 = 6.3%SSB _{F=0}) to be achieved with 60% probability by 2024 under a precautionary recruitment scenario; and a second rebuilding biomass target (20%SSB _{F=0} under average recruitment scenario) but not a fishing mortality reference level, with at least 60% probability, to be achieved by 2034 or 10 years after the first target, whichever comes first, assuming that the generation time of PBF is greater than 10 years, under SG60 rebuilding to a level consistent with MSY should be required within 20 years. SSB of PBF reached its initial rebuilding target in 2017, this level is estimated to be 6.7%B ₀ under the 2020 benchmark stock assessment base-case model, 7 years earlier than originally anticipated by the RFMOs; and its second rebuilding target in 2021 (21.2%SSB _{F=0}) (ISC, 2022; ISC, 2024; ISSF, 2024a). SG100 is met.		
b	Rebuilding evaluation			
	Guide post	Monitoring is in place to determine whether the rebuilding strategies are effective in rebuilding the stock within the specified timeframe.	There is evidence that the rebuilding strategies are rebuilding stocks, or it is likely based on simulation modelling, exploitation rates, or previous performance that they will be able to rebuild the stock within the specified timeframe .	There is strong evidence that the rebuilding strategies are rebuilding stocks, or it is highly likely based on simulation modelling, exploitation rates, or previous performance that they will be able to rebuild the stock within the specified timeframe .
	Met?	Yes	Yes	Yes
Rationale		The stock is monitored via a stock assessment every two years (alternate benchmark and update). The stock assessment estimates SSB relative to the biomass levels specified as interim rebuilding targets in the harvest strategies, and uses projections to estimate the probability that they will be achieved in the specified timeframe (ISSF, 2024a). The stock has rebuilt to the two interim rebuilding targets already, according to the 2022 and 2024 stock assessments (ISC, 2022; ISC, 2024; ISSF, 2024a). Also, The 2024 base-case model results show that the SSB has rapidly increased since 2011; fishing mortality (F%SPR) decreased from a level producing about 1% of SPR in 2004-2009 to a level producing 23.6% of SPR in 2020-2022; based on the model diagnostics, the estimated biomass trend throughout the assessment period is considered robust; the SSB in 2022 was estimated to be 144,483 t, more than 10 times of its historical low in 2010; an increase in immature fish (0-3 years old) is observed in 2016-2019, likely resulting from reduced fishing mortality on this age group; this led to a substantial increase in SSB after 2019 (ISC, 2024). Based on this it is highly likely that the harvest strategy was able to rebuild the stock within the specified timeframe with the current program. SG100 is met.		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

PI 1.2.1 – Harvest strategy

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring issue		SG 60	SG 80	SG 100
a	Harvest strategy design			
	Guide post	The harvest strategy is expected to achieve stock management objectives reflected in PI 1.1.1/PI 1.1.1A SG80.	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1/PI 1.1.1A SG80.	The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in PI 1.1.1/PI 1.1.1A SG80.
	Met?	Yes	Yes	Yes
Rationale		<p>WCPCFC and IATTC have had a harvest strategy in place which set out the rebuilding objectives and timeline and how they should be measured. The harvest strategy has consisted of a combination of objectives, monitoring, stock assessment, harvest control rules and management actions. A stock assessment process is in place via ISC. The harvest strategy sets out ‘decision rules’ which form an HCR. These are as follows:</p> <ul style="list-style-type: none"> • If the probability of reaching the first interim rebuilding target by 2024 is <60%, management measures should be modified to increase it to at least 60%; • If the probability is >75%, the catch may be increased as long as the probability remains at least 70%; • The second rebuilding target for the PBF stock size is 20%SSB₀, to be reached by 2034, or 10 years after reaching the initial rebuilding target, whichever is earlier, with at least 60% probability. <p>The HCR is implemented via specific management measures. The controls aimed to reduce and maintain catches at required levels to rebuild, and improve selectivity by a significant reduction in catches of individual fish weighing less than 30kg. The harvest strategy was expected to achieve the stock management objectives in the required timeframe regarding rebuilding stock as they were fully achieved in 2021. The harvest strategy has been responsive to the state of the stock, with the elements demonstrably working together, so the stock assessment matches parameters and objectives, and implemented via co-operating CPCs. The harvest strategy states MSY as the ultimate objective. Also regarding responsiveness, based on the findings of 2024 stock assessments, The risk of SSB falling below 7.7%SSB_{F=0} (interim LRP for tropical tunas in IATTC) at least once in 10 years is negligible; The projection results show that increases in catches are possible. However, the risk of falling below the second rebuilding target will increase with larger increases in catch; The projection results assume that the CMMs are fully implemented and are based on certain biological and other assumptions. For example, these future projection results do not contain assumptions about discard mortality. Discard mortality may need to be considered as part of future increases in catch; and given the uncertainty in future recruitment and the influence of recruitment on stock biomass as well as the impact of changes in fishing operations due to the management, monitoring recruitment and SSB should continue. Research on a recruitment index for the stock assessment should be pursued, and maintenance of a reliable adult abundance index should be ensured. In addition, accurate catch information is the foundation of good stock assessment. Since the targets were met and although there is also no formal strategy designed to move beyond the second interim target of 20%SSB₀, which is still not demonstrably consistent with MSY, from 2021 which the stock has achieved this second rebuilding target, a long-term harvest strategy based on an MSE process has slowly implemented to maintain the SSB above the LRP (20%SSB₀) with a probability of 60% (ISC, 2024; ISSF, 2024a; ISSF, 2024b).</p> <p>Thus, SG100 is met.</p>		
b	Harvest strategy evaluation			
	Guide post	The harvest strategy is likely to work based on prior	The harvest strategy has been tested and is expected to meet the objectives reflected	The performance of the harvest strategy has been evaluated and evidence

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
		experience or plausible argument.	in PI 1.1.1/ PI 1.1.1A SG80 or there is evidence that the harvest strategy is achieving its objectives reflected in PI 1.1.1/ PI 1.1.1A SG80.	exists to show that it is achieving the objectives reflected in PI 1.1.1/ PI 1.1.1A SG80, including being clearly able to maintain stocks at target levels.
	Met?	Yes	Yes	No
Rationale		The evidence suggests that the harvest strategy has achieved the two interim rebuilding targets within the required timeframe. However, the harvest strategy has not been fully evaluated, since in 2021 a MSE development process started (ISC, 2024; ISSF, 2024a; ISSF, 2024b). SG80 is met.		
		Harvest strategy monitoring		
c	Guide post	Monitoring is in place that is expected to determine whether the harvest strategy is working.		
	Met?	Yes		
Rationale		The monitoring is in place in the stock of the fishery through a stock assessment which takes place every 2 years (alternate benchmark and update). CPCs submit monitoring data regularly and these are sufficient for the age structured stock assessment. Members of ISC, Pacific Bluefin Tuna Working Group (PBFWG) and non-ISC countries obtained from the WCPFC official statistics have provided data from 1983 to 2023. Life history parameters included a length-at-age relationship from otolith-derived ages and natural mortality estimates from a tag-recapture study and empirical-life history methods. A total of 26 fleets were defined for use in the 2024 stock assessment model based on country/gear/season/region stratification until the end of the fishing year 2022 (June 2023). Quarterly observations of catch and size compositions, when available, were used as inputs to the model to describe the removal processes. Annual estimates of standardized CPUE from the Japanese distant water, off-shore, and coastal longline, the Chinese Taipei longline, and the Japanese troll fleets were used as measures of the relative abundance of the population. Summarising, the assessment uses newly available seasonal fishery data (i.e., catch, discards, size composition data) and annual abundance index through the calendar year (ISC, 2020; ISC, 2022; ISC, 2024; ISSF, 2024a). Thus, SG60 is met.		
		Harvest strategy review		
d	Guide post			The harvest strategy is periodically reviewed and improved as necessary.
	Met?			Yes
Rationale		The formal harvest strategy dates from 2017 and has not been subject to formal revision as of 2021, when it started the PBF MSE. Progress on stock rebuilding relative to targets was being reviewed by ISC using stock assessments and stock projections, and the harvest strategy appears to be working, based on rebuilding targets accomplished, trends and projections (ISC, 2024; ISSF, 2024a). SG100 is met.		
		Shark finning		
e	Guide post	There is a high degree of certainty that shark finning is not taking place.		
	Met?	NA		
Rationale		NA		
f	Review of alternative measures			

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
	Guide post	There has been a review of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.	There is a review every 5 years of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate.	There is a review that happens every 2 years of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock, and they are implemented, as appropriate.
	Met?	No	No	No
Rationale		<p>There is greater uncertainty regarding discards than other fishery impacts because the impact of discarding is not based on observed data. Currently, the amount of discard is assumed to be 6% of the reported release in EPO and 5% of the catch in WPO, lacking reliable data. Japan, Korea, and the U.S. provided discard information in response to PBFWG recommendations. Mexico, where the UoC is located, indicated no reported discard or post-release mortality from the IATTC/AIDCP onboard observers with a 100% coverage rate. Taiwan also stated no sign of releasing PBF from their fishery, with a sufficient margin in their fishing quota. The projection results in the 2024 stock assessment assume that the CMMs are fully implemented and are based on certain biological and other assumptions, however these results do not contain assumptions about discard mortality. Discard mortality may need to be considered as part of future increases in catch. And a CMM is that members are also required to reduce juvenile (less than 30 kg) catches 50% of the 2002-2004 average annual catch levels (ISC, 2024; ISSF, 2024b), being a possible source of discard. Despite all this information, there is no evidence that at some point there has been a review of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.</p> <p>Thus, SG60 is not met.</p>		

Draft scoring range	<60
Information gap indicator	Information sufficient to score PI

PI 1.2.2 – Harvest control rules and tools

PI 1.2.2		There are well-defined and effective HCRs in place		
Scoring issue		SG 60	SG 80	SG 100
a	HCRs design and application			
	Guide post	HCRs are expected to reduce the exploitation rate as the PRI is approached and are either generally understood and in place , or available .	Well-defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, and are expected to keep the stock fluctuating around a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.	The HCRs are expected to keep the stock fluctuating at or above a target level consistent with MSY, or another more appropriate level taking into account the ecological role of the stock, most of the time .
	Met?	Yes	Yes	No

Rationale	<p>As states in PI 1.2.1 rationale, The harvest strategies (WCPFC 2017-02 and IATTC Resolution C-23-01) set out 'decision rules' which constitute an HCR:</p> <ul style="list-style-type: none"> • If the probability of reaching the first interim rebuilding target by 2024 is <60%, management measures should be modified to increase it to at least 60%; • If the probability is >75%, the catch may be increased as long as the probability remains at least 70%. • The second rebuilding target for the PBF stock size is 20%B₀, to be reached by 2034, or 10 years after reaching the initial rebuilding target, whichever is earlier, with at least 60% probability. <p>Therefore, a HCR is well-defined and in place to achieve rebuilding targets. Although MSY is stated to be the ultimate target by both WCPFC and IATTC, a target consistent with MSY has not been formally incorporated into the HCR, but it is under development through a MSE process. So, there is a clear intent to rebuild to MSY, so the expectation is that the exploitation rate will be maintained at lower levels while the stock remains below MSY. Also, an overall combined total commercial catch limit of 12,585 tonnes during 2025-2026 was set by IATTC in Resolution C-24-02. IATTC Resolution C-23-01 describes the objectives of both rebuilding periods and establishes HCRs for the second rebuilding period and the period after the second objective is met, sets over- and under-harvest limits and calls the Commission to collaborate with the WCPFC Northern Committee to develop candidate reference points and HCRs. In this sense, in the 2024 stock assessment the scenario 12 projected the stock and fishery with a constant fishing mortality of F30%SPR, which is listed in the HCRs for the PBF MSE as one of the candidate target reference points (ISC, 2024; ISSF, 2024a; ISSF, 2024b).</p> <p>This, SG80 is met.</p>			
b	The robustness of HCRs to uncertainty			
	Guide post		The HCRs are likely to be robust to the main uncertainties.	The HCRs take account of a wide range of uncertainties including the ecological role of the stock, and there is evidence that the HCRs are robust to the main uncertainties.
	Met?		No	No
Rationale	<p>Although the main uncertainties are identified, such as those associated with recruitment estimates, future recruitment, and discards, and future projections under various scenarios were conducted, according to the requests from WCPFC and IATTC (ISC, 2024); it is not clear whether the HCRs take account the wide range of uncertainties and the HCRs are robust to the main uncertainties.</p> <p>Thus, SG80 is not met.</p>			
c	Evaluation of HCRs			
	Guide post	There is some evidence that tools used or available to implement HCRs are appropriate and effective in controlling exploitation.	Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the HCRs.
	Met?	Yes	Yes	No

Rationale	<p>The main management tools to achieve the required exploitation level are CMM to regulate the total catch and the juvenile (<30kg) catch. The trend in catch is associated with RFMOs' management efforts. In 2011, the WCPFC started the conservation and management measures to regulate catches of small PBF (<30 kg in body weight) within its convention area (WCPFC CMM 2010-04). The catch limit was further reduced in 2014 (WCPFC CMM 2013-09) and 2015 (WCPFC CMM 2014-04) to ensure that the catches of small PBF remained below 50% of the 2002-2004 average level, and the catches of large PBF (>30 kg in body weight) remained below the 2002-2004 average level. In the IATTC area, conservation and management measures were introduced in 2012 (IATTC resolution C-12-09) to regulate the catches for all size ranges of PBF within its convention area. Additional reductions in catch limits were established in 2015 to ensure that total commercial catches remained below 6,200 tons. In 2021, both the WCPFC and IATTC adopted the new conservation and management measures for PBF to be implemented for 2022-2024, allowing for an increase in the catch upper limits to catch large PBF. The current measures (WCPFC CMM 2023- 02 and IATTC resolution C-23-01) limit the catch in WCPFC and IATTC convention areas to less than 12,334 tons annually and 7,990 tons biannually, respectively. After the steady decline in SSB from 1996 to the historically low level in 2010, the PBF stock has started recovering, and recovery has been more rapid in recent years, coinciding with the implementation of stringent management measures. The stock has recovered at a faster rate than anticipated when the Harvest Strategy to foster rebuilding (WCPFC HS 2017-02) was implemented in 2014. The projection results in the 2024 stock assessment, assume that the CMMs are fully implemented and are based on certain biological and other assumptions. Evidence shows that the HCRs are in place to manage PBF exploitation by both RFMOs and are effective in controlling exploitation as two rebuilding targets have been addressed within timeframes (ISC, 2024).</p> <p>During the pre-assessment, a 50% juvenile catch limit (under 30 kg) was initially identified as a management measure. However, stakeholder consultations clarified that this is a recommendation rather than a formal regulation, and it is not currently enforced.</p> <p>This, SG80 is met.</p>
-----------	---

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

PI 1.2.3 – Information and monitoring

PI 1.2.3		Relevant information is collected to support the harvest strategy		
Scoring issue	SG 60	SG 80	SG 100	
a	Range of information			
	Guide post	Some relevant information related to stock structure, stock productivity, and fleet composition is available to support the harvest strategy.	Sufficient relevant information related to stock structure, stock productivity, fleet composition, and other data are available to support the harvest strategy.	A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, UoA removals, and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.
	Met?	Yes	Yes	Yes

Rationale	<p>A comprehensive range of information is available. The assessment uses newly available seasonal fishery data on a continuing basis (i.e., catch, discards, size composition data). In terms of stock productivity, there has been extensive work on age and growth, as well as research into reproductive biology (size and age at maturity, fecundity at size, spawning frequency). There has also been work on how best to estimate natural mortality at age (considering different types of tagging data and comparing with the other bluefin species). There is available genetic and tagging information. In terms of fisheries, there is consistent catch data from the main countries which fish Pacific bluefin back to 1952 (the starting year for the stock assessment) but also some records as far back as 1804. Catch is characterised by gear and location, and catch size composition data are also available. There is clearly sufficient data to support an age structured stock assessment. The stock assessment model can be used as an input to projections which are able to estimate the reference points and associated probabilities as required by the harvest strategy. Discard mortality data may need to be considered as part of future increases in catch. In terms of a wider range of information not directly relevant to the harvest strategy, ISC is working on collecting the data required for CKMR analysis, and there is also significant environmental information available for the North Pacific (ISC, 2020; ISC, 2022; ISC, 2024; ISSF, 2024a).</p> <p>SG100 is met.</p>			
b	Monitoring			
	Guide post	Stock abundance and UoA removals are monitored and at least 1 indicator is available and monitored with sufficient frequency to support the harvest strategy.	Stock abundance and UoA removals are regularly monitored at a level of accuracy and coverage consistent with the harvest strategy , and 1 or more indicators are available and monitored with sufficient frequency to support the harvest strategy.	All information required by the harvest strategy is monitored with high frequency and a high degree of certainty, and there is a good understanding of the inherent uncertainties in the information (data) and the robustness of assessment and management in dealing with this uncertainty.
	Met?	Yes	Yes	No
Rationale	<p>ISC reports catch data from all the main fisheries going back to 1952. There is also catch at size data going back to the 1960s for the Japanese fleet. The stock assessment defines a total of 26 fleets based on country/gear/season/region stratification until the end of the fishing year 2022 (June 2023), and has used CPUE-based abundance/recruitment indices in the base case model (and one further recruitment index in a sensitivity run). Stock abundance and removals are well monitored. In addition, datasets are updated annually by ISC prior to plenary, sufficient for a biennial stock assessment to support the HCR. The scientific working group flagged some unresolved uncertainties in data, around the abundance indices (changes in catchability due to recent changes in regulation) and the potential for discarding due to increased recruitment combined with tighter regulation. While uncertainties are broadly understood, it is not clear that the assessment and management are robust to these uncertainties (ISC, 2020; ISC, 2022; ISC, 2024; ISSF, 2024a).</p> <p>SG80 is met.</p>			
c	Comprehensiveness of information			
	Guide post		There is good information on all other fishery removals from the stock.	
	Met?		No	

Rationale	<p>In the 2024 stock assessment, population dynamics were estimated using a fully integrated age-structured model (Stock Synthesis (SS) v3.30) fitted to catch retained and discarded. However, there is greater uncertainty regarding discards than other fishery impacts because the impact of discarding is not based on observed data. Currently, the amount of discard is assumed to be 6% of the reported release in EPO and 5% of the catch in WPO, lacking reliable data. And the 2022 stock assessment did note that under greater catch restrictions and with juvenile catches, possible discarding may increase uncertainty, and discard mortality may need to be considered as part of future increases in catch. It seems unreported catch is not an issue, neither captures of the target stock by other fleets, and some recreational fishing is incorporated (ISC, 2022; ISC, 2024; ISSF, 2024a). C-24-03 highlights the reporting requirements for fisheries, including target, incidental, and discarded catch, in line with Resolution C-03-05 on data provision. However, during the pre-assessment, it was not possible to review specific data related to discards.</p> <p>Due to the lack of information (data) regarding discards, SG80 is not met.</p>
-----------	---

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

PI 1.2.4 – Assessment of stock status

PI 1.2.4		There is an assessment of the stock status		
Scoring issue		SG 60	SG 80	SG 100
a	Appropriateness of assessment to stock under consideration			
	Guide post		The assessment is appropriate for the stock and for the harvest strategy.	The assessment takes into account the major features relevant to the biology of the species and the nature of the UoA.
	Met?		Yes	Yes

Rationale		<p>The 2020, 2022 and 2024 stock assessments have been taking into account the major features relevant to the biology of the species (e.g., age-based growth, maturity and natural mortality schedules based on research) and the nature of the fishery (abundance indices are specific to particular fisheries with flag, gear, area, (sometimes) season and selectivity characteristics). Particularly, in 2024, the PBFWG conducted a benchmark stock assessment and the PBFWG critically reviewed all aspects of the model, and some modifications were made to improve the model. The assessment model was fitted to the input data in a likelihood-based statistical framework. Maximum likelihood estimates of model parameters, derived outputs, and their variances were used to characterize stock status and to develop stock projections. One of the major changes made in this assessment is that the PBFWG decided to shorten the stock assessment model by starting in 1983 instead of 1952. This adjustment was implemented because more reliable data are available after 1983. Additionally, the adoption of a shorter model period enhances flexibility and can accommodate diverse productivity assumptions. This flexibility is an important feature as this model will be used in the upcoming PBF management strategy evaluation (MSE).</p> <p>The PBFWG confirmed that the results and management quantities of the longer period model and the shorter period model are consistent and that the change in the duration of the assessment model does not affect the management advice. A simple update of the 2022 stock assessment with new data estimated slightly higher relative biomass after 2011, reflecting an underestimating tendency of the past model (Figure 4). Other changes include refined parameterization of selectivity to reduce model residuals and shortening of the recruitment index from 1983-2016 to 1983-2010. The PBFWG therefore concluded that the model is appropriate for generating management advice. Due to those changes, recent relative biomass was scaled up to some extent as the retrospective bias was reduced. After conducting thorough reviews and implementing necessary modifications, the PBFWG found that the 2024 base-case model is consistent with the previous assessment results, that it fits the data well, that the results are internally consistent among most of the data sources, and that the model has improved overall by addressing the issues previously identified. The model diagnostics have confirmed that the base-case model captures the production function of PBF well, thus its estimated biomass scale is reliable, and that the model has good predictability. Based on these findings, the PBFWG concluded that the 2024 assessment model reliably represents the population dynamics and provides the best available scientific information for the PBF stock. The stock assessment has been appropriate for the stock and HCR and it provides a basis for stock projections which inform the application of the HCR (ISC, 2020; ISC, 2022; ISC, 2024; ISSF, 2024a).</p> <p>SG100 is met.</p>		
b	Assessment approach			
	Guide post	The assessment estimates stock status relative to generic reference points appropriate to the species category.	The assessment estimates stock status relative to reference points that are appropriate to the stock and can be estimated.	
	Met?	Yes	Yes	
Rationale		<p>The WCPFC and IATTC adopted an initial rebuilding biomass target (the median SSB estimated for the period from 1952 through 2014) and a second rebuilding biomass target (20%SSBF=0 under average recruitment). These two interim rebuilding targets established are treated by the stock assessment as reference points (first and second biomass rebuilding target reference points), and these are estimated, along with the probability of them being achieved by the specified timeframes. The stock assessment also estimates stock status relative to a range of commonly used reference points based on yield and spawning biomass per recruit (ISC, 2020; ISC, 2022; ISC, 2024; ISSF, 2024a; ISSF, 2024b).</p> <p>SG80 is met.</p>		
c	Uncertainty in the assessment			
	Guide post	The assessment identifies major sources of uncertainty.	The assessment takes uncertainty into account.	The assessment evaluates stock status relative to reference points in a probabilistic way.
	Met?	Yes	Yes	Yes

Rationale	<p>The assessments estimate the probability of reaching the interim rebuilding targets in the specified timeframe, according to the harvest strategy. As part of these results, the 2024 stock assessment states the recruitment estimates in recent years are more uncertain and this result needs to be interpreted with caution, showing 60% to 90% of two probability density distributions in SSB and SPR for 2022. The assessment model was fitted to the input data in a likelihood-based statistical framework. Maximum likelihood estimates of model parameters, derived outputs, and their variances were used to characterize stock status and to develop stock projections. Also, projections based on the assessment estimates the probability of reaching different scenarios (sensitivities), and uncertainties in these projections are discussed and highlighted. For this they use the base case model with projections run externally to the model framework, but they also report projection results from other models that were evaluated, and the management advice is robust to these alternative assumptions (ISC, 2020; ISC, 2022; ISC, 2024; ISSF, 2024a; ISSF, 2024b).</p> <p>SG100 is met.</p>		
d	Evaluation of assessment		
	Guide post		The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.
	Met?		Yes
Rationale	<p>As stated in SI 1.2.4a the evidence shows that the 2024 assessment has been tested and shown to be robust and alternative hypotheses and assessment approaches have been rigorously explored. As part of the conclusions of this process the model is appropriate for generating management advice; the 2024 base-case model is consistent with the previous assessment results, that it fits the data well, that the results are internally consistent among most of the data sources, and that the model has improved overall by addressing the issues previously identified; the model diagnostics have confirmed that the base-case model captures the production function of PBF well, thus its estimated biomass scale is reliable, and that the model has good predictability; and the 2024 assessment model reliably represents the population dynamics and provides the best available scientific information for the PBF stock (ISC, 2024; ISSF, 2024a).</p> <p>SG100 is met.</p>		
e	Peer review of assessment		
	Guide post	The assessment of stock status is subject to peer review.	The assessment has been internally and externally peer reviewed.
	Met?	Yes	No
Rationale	<p>In the 2024 stock assessment all aspects of the model were critically reviewed as an internal peer review process, and some modifications were made to improve the model. The PBFWG included scientists from the main bluefin fishing countries, carries out working group meetings to present, discuss and evaluate datasets and other scientific information, as well as different model options; then the ISC reviews the reports of each Working Group, including the PBFWG, at plenary. Also, the results of the stocks assessments are submitted to the two Pacific tuna RFMOs, WCPFC and IATTC, for review and serve as the basis for management actions (the Conservation and Management Measures (CMMs) of WCPFC and IATTC resolutions) (ISC, 2024; ISSF, 2024a; ISSF, 2024b).</p> <p>SG80 is met.</p>		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

8.5. Principle 2

8.5.1. Principle 2 background

Under Principle Two, the impacts of the Unit of Assessment (UoA) on ecosystem components and overall ecosystem health are evaluated against the Marine Stewardship Council (MSC) standard.

The Mexican Pacific bluefin tuna fishery primarily operates beyond the 5-nautical-mile limit off the Pacific coast of Baja California, within Mexico's Exclusive Economic Zone (EEZ). This region of the Pacific Ocean hosts a rich diversity of marine ecosystems, shaped by dynamic ocean currents, variable temperatures, and exceptional biological productivity. These waters are part of the California Current, a nutrient-rich cold current that enhances biological productivity and supports complex food webs. The area is home to key fisheries for species such as sardines, jumbo squid, and red lobster, which are critical to the regional economy and require sustainable management. Additionally, the region serves as a migratory route for iconic species, including the gray whale and leatherback turtle, which depend on these ecosystems for feeding and reproduction.

The fishery uses the purse seine fishing method, which targets fish aggregations and is highly selective, minimizing bycatch of non-target species and encounters with Endangered, Threatened, and Protected (ETP) species. Furthermore, this method rarely interacts with benthic habitats. Consequently, the primary ecosystem impact of the UoA is associated with potential changes in trophic structure due to the removal of Pacific bluefin tuna biomass. This species plays a vital role in the marine food web, preying on sardines, anchovies, squid, hake, and certain crabs (Collette and Nauen, 1983).

The Inter-American Tropical Tuna Commission (IATTC) mandates 100% observer coverage for large purse seiners (Class 6, >363 metric tons) (Griffiths et al., 2022). In compliance, the Pacific bluefin tuna fishery in Mexico employs commercial purse seiners monitored by IATTC and FIDEMAR observers, achieving 100% observer coverage (DOF, 2021).

In-scope, ETP/OOS species

Observer data from the past five years of the Mexican fleet for the FIDEMAR observer program, encompassing 36 fishing trips, showed that no main bycatch species are captured in this fishery, and there are no interactions with ETP/OOS species (see Table 9). Interactions with minor species are considered negligible (MSC, 2024), with only 54 organisms recorded (during the last 5 years) as bycatch compared to an annual Pacific bluefin tuna harvest exceeding 6,000 metric tons annually.

Table 9. Bycatch and ETP/OOS species interaction reported by the IATTC and FIDEMAR observer program for the Pacific bluefin tuna in Mexican water in the last 5 years (date of report 25/1/25)

Total	Nombre Común	Nombre Científico
2	Tiburón, nep	Euselachii
9	Pez sol	Mola mola
6	Tiburón, nep	Euselachii
21	Tiburón azul	Prionace glauca
1	Aguja, marlín, pez vela, nep	Istiophoridae, Xiphiidae
10	Marlín, nep	Makaira, Tetrapturus
2	Pez sol	Mola spp.
3	Luvar	Luvarus imperialis

The interacción with in-scope and ETP/OOS species are considered negligible (MSC, 2024), as the UoA mortalities represent less than 2% of total UoA catch (MSC, 2024), or less than 10 individuals per year.

In addition, Baja Aqua Farms holds a Dolphin Safe certification, with an external review of fishing operations assessing interactions with marine mammals. Over four years of monitoring, only one interaction was detected, involving a California sea lion (*Zalophus californianus*), which was released unharmed.

The consultant team was not provided with catch or observer data for the Preliminary Assessment Report, just a table with final results of the FIDEMAR observer program for the last 5 years. Data to support the lack of bycatch species, ETP/OOS interaction and discards is required for full MSC assessment.

ETP species are those classified as endangered, threatened, or protected under international, national, or regional laws and agreements. OOS, out of Scope species, are those which are not eligible for MSC certification. This includes species listed under:

- Appendix I of the Convention on International Trade in Endangered Species (CITES), unless it can be demonstrated that the particular stock of the CITES-listed species impacted by the Unit of Assessment (UoA) is not endangered.
- The IUCN Red List as Vulnerable (VU), Endangered (EN), or Critically Endangered (CR).
- National laws that grant special protection to certain species.
- Out of Scope (OOS) species, which are not eligible for MSC certification, such as amphibians, reptiles, birds, and mammals.

Agreements and legislation relevant to ETP/OOS species in Mexico

International agreements

- Convention on International Trade in Endangered Species (CITES): Regulates the trade of protected marine species, including certain sharks and rays.
- Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC): Promotes measures to mitigate the incidental capture of sea turtles.
- Inter-American Tropical Tuna Commission (IATTC):
 - Agreement on the International Dolphin Conservation Program (AIDCP): Protects dolphins in the purse seine tuna fishery.
 - Resolution C-04-07: Reduces incidental sea turtle bycatch.
 - Resolution C-24-05: Establishes conservation measures for sharks.
 - Resolution C-04-05: the requirement to release, as soon as possible and unharmed, to the extent practicable, non-target species.
 - Resolution C-11-02: Implements measures to mitigate impacts on seabirds.
- Convention on the Conservation of Migratory Species of Wild Animals (CMS): Protects species such as migratory sharks and marine mammals.

National legislation

- General Wildlife Law (LGVS): Protects threatened marine species in Mexican waters.
- General Law of Sustainable Fisheries and Aquaculture (LGPAS): Establishes measures to minimize impacts on non-target species.
- Official Mexican Standard NOM-059-SEMARNAT-2010 (DOF 2010b): Lists protected species in Mexico, including sea turtles and marine mammals.
- NOM-002-SAG/PESC-2013: Regulates purse seine tuna fishing and establishes impact mitigation measures.
- NOM-029-PESC-2006: Protects sharks and rays through regulations on incidental catch.

Habitats

Purse seining for PBF occurs in pelagic waters, beyond the 5-nautical-mile limit off the Pacific coast of Baja California, within Mexico's Exclusive Economic Zone (EEZ). The water depth in the areas fished by the Mexican PBF fleet is generally very deep, while the gear extends to no more than 230 meters depth (DOF, 2021). The pelagic habitats in the POBC eco-region are considered the common, less sensitive habitat.

Fishing operations occur in deep offshore waters, with no significant interaction with benthic habitats. This suggests minimal habitat impacts; however, no specific studies have been found to corroborate this.

Additionally, the fishery operates in proximity to protected areas, such as the Isla Guadalupe Biosphere Reserve (DOF, 2023b) and the Pacific Islands Biosphere Reserve of the Baja California Peninsula (DOF, 2016), which restrict industrial fishing activities in the surrounding waters.

The fishery is subject to continuous monitoring through satellite observation systems (VMS) and onboard observers, who record set coordinates, allowing for the evaluation of overlap with critical habitats. However, the most recent available data cover the period from 2009 to 2017, highlighting the need for updated information (Figure 12).

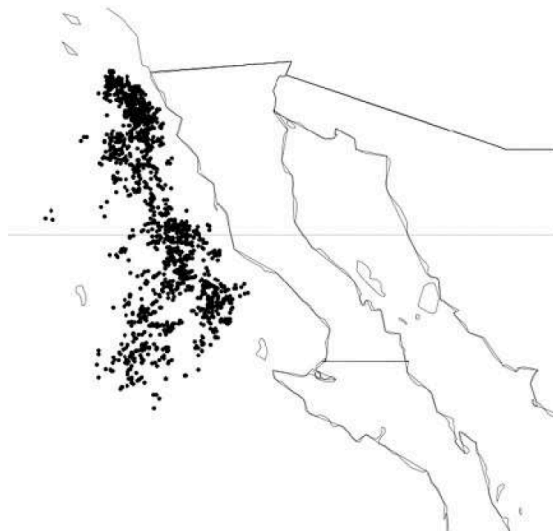


Figure 12. Fishing set positions for Pacific Bluefin Tuna (2009-2017) (DOF 2021).

Ecosystem

The Pacific Ocean off the coast of Baja California, hosts a rich diversity of marine ecosystems shaped by a combination of ocean currents, variable temperatures, and unique biological wealth. These waters are part of the California Current, a cold current that transports nutrients from the north, fostering high biological productivity and supporting complex food webs. The interplay of oceanographic factors, such as coastal upwelling and the seasonal variability of currents, adds to the complexity of these ecosystems.

These waters also support important fisheries for finfish, crustaceans, and mollusks, including sardines, jumbo squid, and red lobster, whose sustainable management is vital for the regional economy. Additionally, the region is part of the migratory route of iconic species like the gray whale and leatherback turtle, which rely on these ecosystems for feeding and reproduction.

The purse seine fishing method, which targets fish aggregations, is highly selective, with minimal bycatch of non-target species or ETPs. Additionally, this method rarely interacts with benthic habitats. Therefore, the potential impacts of the UoA on the broader ecosystem are mainly limited to possible changes in trophic structure resulting from the removal of Pacific Bluefin Tuna (PBF) biomass.

In addition to management strategies implemented to minimize the main risks non-target species, ETP species, and habitats, specific measures exist to prevent localized overexploitation of Pacific Bluefin Tuna and its potential effects on ecosystem structure. These management measures include (CNP, 2023):

- Establishment of catch quotas (TAC) based on scientific recommendations from the Inter-American Tropical Tuna Commission (IATTC), with a limited licensing system.

- A monitoring system for interactions with ETP species, whose evaluations have not indicated the need for additional corrective actions.

- Voluntary industry practices, such as implementing exclusion measures for sensitive species and incidental catch-release techniques (net lowering).

The consultant team was not provided with ecosystem information for the Unit of Assessment's area of operation, beyond what is included in the previous sections of Principle 2. Although the fishery's impact on the ecosystem appears to be minimal, it is recommended that information on the pelagic ecosystem in the fishing area be made available. This would allow for a better understanding of the potential effects of removing bluefin tuna from the ecosystem.

8.5.1.1. Scoring elements P2

Table 10. Scoring elements

Component/Stock	Scoring elements	Designation	Data-deficient
<i>In-scope</i>	<i>Prionace glauca</i>	<i>negligible</i>	<i>No</i>
<i>In-scope</i>	<i>Makaira</i>	<i>negligible</i>	<i>No</i>
<i>In-scope</i>	<i>Mola mola</i>	<i>negligible</i>	<i>No</i>
<i>In-scope</i>	<i>Euselachii</i>	<i>negligible</i>	<i>No</i>
<i>In-scope</i>	<i>Luvarus imparialis</i>	<i>negligible</i>	<i>No</i>
<i>ETP/OOS</i>	<i>Zalophus californianus</i>	<i>negligible</i>	<i>No</i>
<i>Habitats</i>	<i>Pelagic habitats</i>	<i>Main</i>	<i>No</i>

8.5.2. Principle 2 Performance Indicator scores and rationales

PI 2.1.1 – In-scope species outcome

PI 2.1.1		The UoA aims to maintain in-scope species above the PRI and does not hinder recovery of in-scope species if they are below the PRI		
Scoring issue		SG 60	SG 80	SG 100
a	Main in-scope species stock status			
	Guide post	<p>Main in-scope species are likely to be above the PRI.</p> <p>or</p> <p>If the species is below the PRI, it is likely that the UoA does not hinder recovery and rebuilding.</p>	<p>Main in-scope species are highly likely to be above the PRI.</p> <p>or</p> <p>If the species is below the PRI, there is evidence of recovery, or it is highly likely that the UoA does not hinder recovery and rebuilding.</p>	<p>There is a high degree of certainty that main in-scope species are fluctuating around a level consistent with MSY.</p>
	Met?	Yes	Yes	Yes
Rationale		<p>Observer data from the past five years of the Mexican fleet for the observer programs, encompassing 36 fishing trips, showed that no main bycatch species are captured in this fishery, and there are no interactions with ETP/OOS species (see Table 9). Interactions with minor species are considered negligible (MSC, 2024), with only 54 organisms recorded (during the last 5 years) as bycatch compared to an annual Pacific bluefin tuna harvest exceeding 6,000 metric tons annually.</p> <p>There is not “main species”, SG100 is met by default (MSC, 2024).</p> <p>SG 100 is met.</p>		
b	Minor in-scope species stock status			
	Guide post			<p>Minor in-scope species are highly likely to be above the PRI.</p> <p>or</p> <p>If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor in-scope species.</p>
	Met?			Yes
Rationale		<p>There are no “minor species” scoring elements, the team shall award a score of SG100 for scoring issue (b) (MSC, 2024)</p> <p>SG 100 is met.</p>		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Data-deficient? (Risk-Based Framework needed)	No

PI 2.1.2 – In-scope species management strategy

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of in-scope species		
Scoring issue	SG 60	SG 80	SG 100	
a	Management strategy in place			
	Guide post	There are measures in place for the UoA, if necessary , that are expected to maintain or to not hinder rebuilding of the main in-scope species at/to the in-scope species outcome SG60 level.	There is a partial strategy in place for the UoA, if necessary , that is expected to maintain or to not hinder rebuilding of the main in-scope species at/to the in-scope species outcome SG80 level. or Where in-scope species outcome fails to meet the SG80, a demonstrably effective strategy is in place between all MSC UoAs that categorise this species as main in-scope to ensure that they collectively do not hinder recovery and rebuilding.	There is a strategy in place for the UoA for managing main and minor in-scope species at the in-scope species outcome SG80 level.
	Met?	Yes	Yes	No
Rationale	<p>There are no main bycatch species in this fishery, and the SG80 scoring is met by default (MSC, 2024).</p> <p>This is a highly selective fishery that does not retain main bycatch species, meaning that no additional measures are needed to ensure that main species remain above the SG80 level. However, it cannot be considered that there is a "strategy in place" since the management system does not account for bycatch due to its negligible occurrence.</p> <p>Thus, SG 100 is not met.</p>			
b	Management strategy effectiveness			
	Guide post	The measures, if necessary , are considered likely to work for the main in-scope species, based on plausible argument.	There is some evidence that the measures/partial strategy, if necessary , is achieving the objectives for main in-scope species set out in scoring issue (a), based on some information directly about the UoA and/or species involved.	There is evidence that the partial strategy/strategy is achieving the objectives set out in scoring issue (a), based on information directly about the UoA and/or species involved.
	Met?	Yes	Yes	No
Rationale	<p>There are no main bycatch species in this fishery, and the SG80 scoring is met by default (MSC, 2024).</p> <p>Since a partial strategy cannot be considered under criterion (a), there is no evidence that strategy is achieving the objectives.</p> <p>Thus, SG 100 is not met.</p>			
c	Review of alternative measures			
	Guide post	There is a review of alternative measures to minimise UoA-related mortality of unwanted catch of main in-scope species	There is a review at least once every 5 years of alternative measures to minimise UoA-related mortality of unwanted catch of main in-scope species and	There is a review that happens every 2 years of alternative measures to minimise UoA-related mortality of unwanted catch of all in-scope species, and
	Met?	Yes	Yes	No

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of in-scope species		
			they are implemented, as appropriate.	they are implemented, as appropriate.
	Met?	NA	NA	NA
Rationale		NA The interacción with in-scope and ETP/OOS species are considered negligible (MSC, 2024), so, we consider the unwanted catch to be negligible.		
Shark finning				
d	Guide post	There is a high degree of certainty that shark finning is not taking place.		
	Met?	Yes		
Rationale		It can be determined with a high degree of certainty that shark finning is not occurring. This is due to the fact that shark finning is prohibited in Mexico (DOP 2007), and there are onboard observer programs that record bycatch species. The observer programs are considered to mitigate most potential sources of bias. SG 60 is met.		
Ghost gear management strategy				
e	Guide post	There are measures in place for the UoA, if necessary , that are expected to minimise ghost gear and its impact on all in-scope species.	There is a partial strategy in place for the UoA, if necessary , that is expected to minimise ghost gear and its impact on all in-scope species.	There is a strategy in place for the UoA, if necessary , that is expected to minimise ghost gear and its impact on all in-scope species.
	Met?	Yes	Yes	No
Rationale		The net is a key component of the fishing operation, equipped with floats and GPS and always connected to the main vessel. The company Baja Aqua Farm periodically repairs the nets to ensure they remain in perfect condition. If necessary, parts of the net are replaced and managed as waste. The likelihood of gear loss is very low. It can be considered that there is a partial strategy in place to minimize the impacts of ghost gear, preventing the loss of the gear. However, it cannot be classified as a full strategy since it focuses solely on preventing gear loss and does not include measures to address situations where the gear is lost or partially lost. Thus, SG 100 is not met.		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

PI 2.1.3 – In-scope species information

PI 2.1.3		Information is adequate to determine the impact of the UoA on in-scope species and the effectiveness of management measures or strategies in place		
Scoring issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impact on main in-scope species			
	Guide post	Information is adequate to broadly understand the impact of the UoA on the stock status of main in-scope species.	Information is adequate to estimate the impact of the UoA on the stock status of main in-scope species with a high degree of accuracy .	Information is adequate to estimate the impact of the UoA on the stock status of main in-scope species with a very high degree of accuracy .
	Met?	Yes	Yes	No
Rationale		<p>All UoA vessels have observers on board (DOP 2021), and logbooks and observer information catches are probably available and adequate to estimate the impact of the UoA on the in-scope species and the effectiveness of management measures or strategies in place. The observer program is considered to mitigate most potential sources of bias and to be a source of independent observation.</p> <p>There are no main species in the fishery.</p> <p>Although a summary of the bycatch during the last 5 years was presented, no quantitative information about the session catches was provided. So, it can not be considered the information to reach a very high degree of accuracy.</p> <p>So, SG 100 is not met.</p> <p><u>More comprehensive data about catches in-scope species should be provided to support assessing this score in full assessment.</u></p>		
b	Information adequacy for assessment of impact on minor in-scope species			
	Guide post			Information is adequate to estimate the impact of the UoA on the stock status of minor in-scope species with a high degree of accuracy .
	Met?			Yes
Rationale		<p>All UoA vessels have observers on board (DOP 2021), and logbooks and observer information catches are probably available to estimate the impact of the UoA on the in-scope species, including minor species with a high degree of accuracy.</p> <p>The observer program is considered to mitigate most potential sources of bias and to be a source of independent observation.</p> <p>SG 100 is met.</p> <p><u>More comprehensive data about catches in-scope species should be provided to support assessing this score in full assessment.</u></p>		
c	Information adequacy for management strategy			
	Guide post	Information is adequate to support measures to manage main in-scope species.	Information is adequate to support a partial strategy to manage main in-scope species.	Information is adequate to support a strategy to manage all in-scope species and evaluate with a high degree of certainty whether the strategy is achieving its objective.
	Met?	Yes	Yes	No
Rationale		<p>All UoA vessels have observers on board (DOP 2021), and logbooks and observer information catches with a high degree of accuracy, adequate to support any partial strategy to manage in-scope species.</p>		

PI 2.1.3	Information is adequate to determine the impact of the UoA on in-scope species and the effectiveness of management measures or strategies in place
	<p>Although a summary of the bycatch during the last 5 years was presented, no quantitative information about the session catches was provided (no season reports). So, it can not be considered the information to reach a very high degree of accuracy.</p> <p>Thus, SG 100 is not met.</p> <p><u>More comprehensive data about catches in-scope species should be provided to support assessing this score in full assessment.</u></p>

Draft scoring range	≥80
Information gap indicator	<p>Information sufficient to score PI</p> <p>More comprehensive data about catches in-scope species should be provided to support assessing this score in full assessment.</p> <p>To score higher in SIs "<i>high degree of certainty criterion</i>", there should be evidence of the information generated by the both observer programs, not just the summary of interactions with other species over the past 5 years.</p>

PI 2.2.1 – ETP/OOS species outcome

PI 2.2.1		The direct effects of the UoA do not hinder recovery of the ETP/OOS unit to favourable conservation status		
Scoring issue		SG 60	SG 80	SG 100
a	Direct effects			
	Guide post	The direct effects of the UoA are unlikely to hinder recovery of the ETP/OOS unit to favourable conservation status.	The direct effects of the UoA are highly unlikely to hinder recovery of the ETP/OOS unit to favourable conservation status.	There is a high degree of certainty that the direct effects of the UoA do not hinder recovery of the ETP/OOS unit to favourable conservation status.
	Met?	Yes	Yes	Yes
Rationale		<p>The observer programs and the cameras system on board did not detect any interaction within the UoC. So, The interacción with ETP/OOS species are considered negligible (MSC, 2024).</p> <p>There are no “ETP/OOS” scoring elements.</p> <p>SG100 is met by default (MSC, 2024).</p>		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Data-deficient? (Risk-Based Framework needed)	No

PI 2.2.2 – ETP/OOS species management strategy

PI 2.2.2		<p>The UoA has precautionary management strategies in place designed to:</p> <ul style="list-style-type: none"> • Ensure that incidental catches of the ETP/OOS unit are minimised and where possible eliminated • Ensure that the UoA does not hinder recovery to Favourable Conservation Status. 		
Scoring issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are measures in place, if necessary , that are expected to minimise the UoA-related mortality of the ETP/OOS unit and achieve the ETP/OOS outcome SG80 level of performance.	There is a strategy in place, if necessary , that is expected to minimise the UoA-related mortality of the ETP/OOS unit and achieve the ETP/OOS outcome SG80 level of performance.	There is a comprehensive strategy in place that is expected to minimise the UoA-related mortality of the ETP/OOS unit and achieve the ETP outcome SG80 level of performance.
	Met?	Yes	Yes	No
Rationale		<p>There are no ETP/OOS species incidental catches in this fishery, and the SG80 scoring is met by default (MSC, 2024). This highly selective fishery does not retain other species; the interacción with ETP/OOS species is considered negligible (MSC, 2024), meaning that no additional measures/strategy is needed to minimize the UoA-related mortality.</p> <p>However, it cannot be considered that there is a "comprehensive strategy in place" since the management system does not account for minimizing UoA-related mortality due to its negligible occurrence.</p> <p>Thus, SG 100 is not met.</p>		
b	Management strategy effectiveness			
	Guide post		Evidence indicates that the measures, strategy or comprehensive strategy have reduced or minimised the mortality of the ETP/OOS unit.	
	Met?		Yes	
Rationale		<p>The mortality of ETP/OOS species is considered negligible, according to information provided from the observer programs.</p> <p>Additionally, Mexico has complied with all IATTC resolutions aimed at reducing unwanted catch. Specifically, in the fishery, if unwanted species with any protected status are encircled, they are required to be released as soon as possible and without harm (IATTC 2006), including lowering the net to facilitate their release.</p> <p>The fact that mortality has remained negligible over the past five years is considered evidence to achieve SG 80.</p>		
c	Review of alternative measures to minimise mortality of the ETP/OOS unit			
	Guide post		There is a review at least once every 5 years of the alternative measures to minimise UoA-related mortality of the ETP/OOS unit and they are implemented as appropriate for the ETP/OOS unit.	There is a review that happens every 2 years of alternative measures to minimise UoA- related mortality of the ETP/OOS unit, and they are implemented, as appropriate for the ETP/OOS unit.
	Met?		NA	NA
Rationale		This SI should not be scored if there are no ETP/OOS scoring elements (MSC, 2024).		
d	Shark finning			

PI 2.2.2		The UoA has precautionary management strategies in place designed to: <ul style="list-style-type: none"> • Ensure that incidental catches of the ETP/OOS unit are minimised and where possible eliminated • Ensure that the UoA does not hinder recovery to Favourable Conservation Status. 		
	Guide post	There is a high degree of certainty that shark finning is not taking place.		
	Met?	NA		
Rationale		There is no ETP species as shark, no need to score the SI (MSC, 2024)		
e	Ghost gear management strategy			
	Guide post	There are measures in place, if necessary , for the UoA that are expected to minimise ghost gear and its impact on the ETP/OOS unit.	There is a partial strategy in place for the UoA, if necessary , that is expected to minimise ghost gear and its impact on the ETP/OOS unit.	There is a strategy in place for the UoA, if necessary , that is expected to minimise ghost gear and its impact on the ETP/OOS unit.
	Met?	NA	NA	NA
Rationale		This SI shall only be scored when there are ETP/OOS scoring elements (MSC, 2024).		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

PI 2.2.3 – ETP/OOS species information

PI 2.2.3		Information is adequate to determine the impact of the UoA on the ETP/OOS unit and the effectiveness of management measures or strategies in place		
Scoring issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impacts			
	Guide post	Information is adequate to broadly understand the impact of the UoA on the ETP/OOS unit.	Information is adequate to estimate the impact of the UoA on the ETP/OOS unit, and to estimate whether the UoA may be a threat to its recovery, with a high degree of accuracy .	Information is adequate to estimate the impact of the UoA on the ETP/OOS unit, and to estimate whether the UoA may be a threat to its recovery, with a very high degree of accuracy .
	Met?	Yes	Yes	No
Rationale		<p>All UoA vessels have observers on board (DOP 2021), and logbooks and observer information catches are probably available and adequate to estimate the impact of the UoA on the ETP/OOS species and estimate whether the UoA may be a threat to its recovery, with a high degree of accuracy.</p> <p>The observer programs are considered to mitigate most potential sources of bias and to be a source of independent observation.</p> <p>There are no ETP/OOS according to the summary of the last 5 years of the observer programs and the camera analysis for interaction with marine mammals.</p> <p>Although a summary of the bycatch during the last 5 years was presented, no quantitative information about the session interaction was provided. So, it can not be considered the information to reach a very high degree of accuracy.</p> <p>So, SG 100 is not met.</p> <p><u>More comprehensive data about ETP/OOS species should be provided to support assessing this score in full assessment.</u></p>		
b	Information adequacy for management strategy			
	Guide post	Information is adequate to support measures to manage impacts on the ETP/OOS unit.	Information is adequate to support a strategy to manage impacts on the ETP/OOS unit, and to measure trends to evaluate the effectiveness of the measures to minimise mortality.	Information is adequate to support a comprehensive strategy to manage impacts on the ETP/OOS unit, and to evaluate the effectiveness of the measures to minimise mortality with a high degree of certainty .
	Met?	Yes	No	No
Rationale		<p>A summary of unwanted catches from the past five years was accessed through the observer programs. Additionally, reports from camera analysis for Dolphin Safe certification have been reviewed to monitor interactions with marine mammals since December 2021 (covering three seasons).</p> <p>The information presented is adequate to support measures for managing impacts on the ETP/OOS unit. However, this information is limited in time and is not sufficient to measure trends or evaluate the effectiveness of the measures for most ETP/OOS species.</p> <p>Therefore, SG 80 is not met.</p>		

Draft scoring range	60-79
Information gap indicator	<p>Information sufficient to score PI</p> <p>More comprehensive data about ETP/OOS species should be provided to support assessing this score during the full assessment. Not just the summary of interactions with other species over the past 5 years.</p>

	Gather information from the IATTC observer program and FIDEMAR to review all information generated for both programs.
--	---

PI 2.3.1 – Habitats outcome

PI 2.3.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(ies) responsible for fisheries management in the area(s) where the UoA operates		
Scoring issue		SG 60	SG 80	SG 100
a	Less sensitive habitats			
	Guide post	The UoA is unlikely to reduce structure and function of less sensitive habitats to a point where there would be serious or irreversible harm .	The UoA is highly unlikely to reduce structure and function of less sensitive habitats to a point where there would be serious or irreversible harm .	There is evidence that the UoA is highly unlikely to reduce structure and function of less sensitive habitats to a point where there would be serious or irreversible harm .
	Met?	Yes	Yes	No
Rationale		<p>Purse seining for PBF occurs in pelagic waters. The water depth in the areas fished by the fleet is generally deep, while the gear extends to no more than 240 m depth. There is no evidence that there is any potential for significant adverse interaction between the gear deployed and the habitat.</p> <p>For the habitat component, a “serious or irreversible harm”, as reductions in habitat structure and function, such that the habitat would be unable to recover at least 80% of its hypothetical climax state within 20 years if fishing on the habitat were to cease entirely (MSC, 2024), is highly unlikely to happen due the nature of the fishing gear.</p> <p>So, SI met SG 80.</p>		
b	More sensitive habitats			
	Guide post	The UoA is unlikely to reduce structure and function of more sensitive habitats to a point where there would be serious or irreversible harm .	The UoA is highly unlikely to reduce structure and function of more sensitive habitats to a point where there would be serious or irreversible harm .	There is evidence that the UoA is highly unlikely to reduce structure and function of more sensitive habitats to a point where there would be serious or irreversible harm .
	Met?	NA	NA	NA
Rationale		<p>There are no "more sensitive habitats" within the fishing operation area.</p> <p>The Scoring Issue does not need to be scored if there are no "more sensitive habitats" (MSC, 2024).</p> <p><u>More information is needed to demonstrate that no "more sensitive habitats" exist within the UoA area during full assessment.</u></p>		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Data-deficient? (Risk-Based Framework needed)	No

PI 2.3.2 – Habitats management strategy

PI 2.3.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats		
Scoring issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are measures in place, if necessary , that are expected to achieve the habitat outcome SG80 level.	There is a partial strategy in place, if necessary , that is expected to achieve the habitat outcome SG80 level or above.	There is a strategy in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats.
	Met?	Yes	Yes	No
Rationale		<p>Purse seining for PBF occurs in pelagic waters. The water depth in the areas fished by the fleet is generally deep, while the gear extends to no more than 240 m depth. There is no evidence that there is any potential for significant adverse interaction between the gear deployed and the habitat.</p> <p>The lack of interaction with habitats, it is not necessary other measures, SG 80 is met (MSC, 2024).</p> <p>Additionally, the mandatory use of VMS, logbook reporting requirements, and observer coverage in the UoA allow Baja Aqua Farm to collect reliable information on fishing location, effort, and catch composition. The fishery operates more than 5 nautical miles from the coast, where interaction with the seabed does not occur.</p> <p>Furthermore, the fishing operating area includes two biosphere reserves with restrictions on industrial fishing in their adjacent waters.</p> <p>Although there are some measures in place, it cannot be considered that there is a "strategy in place" since the management system does not account for habitat interaction due to its negligible occurrence.</p> <p>Thus, SG 100 is not met.</p>		
b	Management strategy effectiveness			
	Guide post	The measures, if necessary , are considered likely to work, based on plausible argument .	There is some evidence that the measures/partial strategy, if necessary , is achieving the objectives set out in SI (a), based on information directly about the UoA and/or habitats involved.	There is evidence that the partial strategy/strategy is achieving the objectives set out in SI (a), based on information directly about the UoA and/or habitats involved.
	Met?	Yes	Yes	No
Rationale		<p>Purse seining for PBF occurs in pelagic waters. The water depth in the areas fished by the fleet is generally deep, while the gear extends to no more than 240 m depth. There is no evidence that there is any potential for significant adverse interaction between the gear deployed and the habitat.</p> <p>The lack of interaction with habitats, it is not necessary other measures, SG 80 is met (MSC, 2024).</p> <p>Lack of direct evidence about the UoC prevents achieving the SG 100.</p> <p>Thus, SG 100 is not met.</p>		
c	Compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect more sensitive habitats			
	Guide post	Information is adequate to broadly understand compliance in the UoA with management requirements to	Information is adequate to determine , with a high degree of accuracy , compliance in the UoA with	Information is adequate to determine , with a very high degree of accuracy , compliance in the UoA with

PI 2.3.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats		
		protect more sensitive habitats.	both its management requirements and protection measures afforded to more sensitive habitats by other MSC UoAs/non-MSC fisheries, where relevant .	both its management requirements and with protection measures afforded to more sensitive habitats by other MSC UoAs/ non-MSC fisheries, where relevant .
	Met?	NA	NA	NA
Rationale		There are no impacts on more sensitive habitats within the fishery operation area, this SI should not be assessed (MSC, 2024).		
Ghost gear management strategy				
d	Guide post	There are measures in place, if necessary , for the UoA that are expected to minimise ghost gear and its impact on all habitats.	There is a partial strategy in place for the UoA, if necessary , that is expected to minimise ghost gear and its impact on all habitats.	There is a strategy in place for the UoA, if necessary , that is expected to minimise ghost gear and its impact on all habitats.
	Met?	Yes	Yes	No
Rationale		<p>The net is a key component of the fishing operation, equipped with floats and GPS and always connected to the main vessel. The company Baja Aqua Farm periodically repairs the nets to ensure they remain in perfect condition. If necessary, parts of the net are replaced and managed as waste.</p> <p>The likelihood of gear loss is very low.</p> <p>It can be considered that there is a partial strategy in place to minimize the impacts of ghost gear, preventing the loss of the gear. However, it cannot be classified as a full strategy since it focuses solely on preventing gear loss and does not include measures to address situations where the gear is lost or partially lost.</p> <p>Thus, SG 100 is not met.</p>		

Draft scoring range	≥80
Information gap indicator	<p>More information sought</p> <p>More information is needed on the types of habitats in the fishery's operating area. It is also important specific information where the fishery operates to determine where sets occur and to verify the absence of interaction with sensitive habitats.</p>

PI 2.3.3 – Habitats information

PI 2.3.3		Information is adequate to determine the impact of the UoA on habitats, including changes in the risk posed by the UoA over time		
Scoring issue		SG 60	SG 80	SG 100
a	Information quality			
	Guide post	The types and distribution of habitats are broadly understood .	The nature, distribution, and vulnerability of habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA.	The distribution of habitats is known over their range, with particular attention given to the occurrence of vulnerable habitats.
	Met?	Yes	No	No
Rationale		<p>The Mexican Pacific coast is a well-studied area where different habitats have been identified, particularly in coastal zones and around seamounts.</p> <p>The fishery operates far from the coast, where the dominant habitats are pelagic and open water, with minimal direct interaction with the seabed. No studies on the habitats in the fishery's operating area were presented, but the fishing gear's nature suggests minimal impact.</p> <p>The available information is sufficient to make a general inference about the fishery's possible interaction with habitats. However, some evidence within the UoA is needed to reduce uncertainty.</p> <p>SG 60 is met.</p>		
b	Information adequacy for assessment of impacts			
	Guide post	Information is adequate to broadly understand the impacts of gear use on habitats.	Information is adequate to estimate the impacts of the UoA on habitats with a high degree of accuracy .	Information is adequate to estimate the impacts of the UoA on habitats with a very high degree of accuracy .
	Met?	Yes	No	No
Rationale		<p>All vessels have observers on board who report non-target species, including potential benthic species. Additionally, the probability of the fishing gear impacting the seabed is low due to the nature of the gear.</p> <p>However, a high degree of certainty cannot be affirmed, as no studies on the habitats in the fishing operation area were presented. Therefore, SG 80 is not met.</p> <p>The information is reliable since it comes from an independent observer program with 100% coverage, and the vessels are equipped with VMS.</p> <p>SG 60 is met.</p>		
c	Monitoring			
	Guide post		Adequate information continues to be collected to detect any increase in risk to habitats.	Changes in habitat distributions over time are measured.
	Met?		No	No
Rationale		<p>All Baja Aqua Farms vessels are tracked by VMS, and 100% of the observers' coverage is required. These data sources allow fishing activity to be overlaid on habitats and monitored for spatial and temporal closure compliance. However, this information is not current (e.g.:2009-17, DOF2021), so it can not be considered adequate.</p> <p>Thus, SG80 is not met.</p>		

Draft scoring range	60-79
Information gap indicator	More information sought

	<p>More information is needed on the types of habitats in the fishery's operating area. It is also important specific information where the fishery operates to determine where sets occur and to verify the absence of interaction with sensitive habitats.</p>
--	--

PI 2.4.1 – Ecosystem outcome

PI 2.4.1		The UoA does not cause serious or irreversible harm to the key elements underlying ecosystem structure and function		
Scoring issue		SG 60	SG 80	SG 100
a	Ecosystem status			
	Guide post	The UoA is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be serious or irreversible harm.	The UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be serious or irreversible harm.	There is evidence that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be serious or irreversible harm.
	Met?	Yes	No	No
Rationale		<p>The Pacific Ocean off the coast of Baja California, hosts a rich diversity of marine ecosystems shaped by a combination of ocean currents, variable temperatures, and unique biological wealth. These waters are part of the California Current, a cold current that transports nutrients from the north, fostering high biological productivity and supporting complex food webs. The interplay of oceanographic factors, such as coastal upwelling and the seasonal variability of currents, adds to the complexity of these ecosystems.</p> <p>These waters also support important fisheries for finfish, crustaceans, and mollusks, including sardines, jumbo squid, and red lobster, whose sustainable management is vital for the regional economy. Additionally, the region is part of the migratory route of iconic species like the gray whale and leatherback turtle, which rely on these ecosystems for feeding and reproduction.</p> <p>The purse seine fishing method, which targets fish aggregations, is highly selective, with minimal bycatch of non-target species or ETPs. Additionally, this method rarely interacts with benthic habitats. Therefore, the potential impacts of the UoA on the broader ecosystem are mainly limited to possible changes in trophic structure resulting from the removal of Pacific Bluefin Tuna (PBF) biomass.</p> <p>Due to the nature of the fishing gear and the control over PBF catches, it is unlikely that the UoA (which represents only a part of the activity in Mexico) could harm key elements of the ecosystems. However, more information about the region is needed to justify a higher score.</p> <p>SG 60 is met.</p>		

Draft scoring range	60-79
Information gap indicator	More information sought Information on the region's trophic network and the impacts of fishing—particularly on tuna species— should be made available.
Data-deficient? (Risk-Based Framework needed)	No

PI 2.4.2 – Ecosystem management strategy

PI 2.4.2		There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function		
Scoring issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are measures in place, if necessary , which considers the potential impacts of the UoA on the key elements underlying ecosystem structure and function.	There is a partial strategy in place, if necessary , that is expected to achieve the Ecosystem outcome SG80 level.	There is a strategy in place for managing the impact of the UoA on the key elements underlying ecosystem structure and function.
	Met?	Yes	Yes	No
Rationale		<p>CONAPESCA and INAPESCA manage fisheries in Mexico, applying the principles of ecological sustainability and the precautionary approach following the General Law of Sustainable Fisheries and Aquaculture (DOF, 2007) and international agreements to which Mexico is a party, particularly the IATTC resolutions, to ensure the long-term sustainability of marine ecosystem elements.</p> <p>Monitoring and data collection in the fishery are carried out through a comprehensive system that includes catch and unwanted catch records (fishing logbooks, and onboard observers), fishing effort tracking (VMS satellite monitoring), and interactions with protected species (observer program).</p> <p>In addition to management strategies implemented to minimize the main risks to target and non-target species, ETP species, and habitats, specific measures exist to prevent localized overexploitation of Pacific Bluefin Tuna and its potential effects on ecosystem structure. These management measures include (CNP, 2023):</p> <ul style="list-style-type: none"> -Establishment of catch quotas (TAC) based on scientific recommendations from the Inter-American Tropical Tuna Commission (IATTC), with a limited licensing system. -A monitoring system for interactions with ETP species, whose evaluations have not indicated the need for additional corrective actions. -Voluntary industry practices, such as implementing exclusion measures for sensitive species and incidental catch-release techniques (net lowering). <p>The fishery's management strategy includes a plan with specific measures to address key impacts and ensure long-term ecological sustainability.</p> <p>All together can be considered a partial strategy.</p> <p>SG 80 is met.</p>		
b	Management strategy effectiveness			
	Guide post	The measures, if necessary , are considered likely to work, based on plausible argument.	There is some evidence that the measures/partial strategy, if necessary , is achieving the objectives set out in scoring issue (a), based on some information directly about the UoA and/or the ecosystem involved.	There is evidence that the partial strategy/strategy is achieving the objectives set out in scoring issue (a) based on information directly about the UoA and/or ecosystem involved.
	Met?	Yes	Yes	No
Rationale		<p>The measures are considered to be effective, as the target species is recovering, and the impacts on unwanted catch within the Unit of Assessment (UoA) are negligible, to our knowledge.</p> <p><u>It is recommended to gather more comprehensive information on the UoA's impacts for the full assessment to better corroborate these points.</u></p> <p>SG 80 is met.</p>		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

PI 2.4.3 – Ecosystem information

PI 2.4.3		There is adequate knowledge of the ecosystem and the main impacts of the UoA on key ecosystem elements		
Scoring issue		SG 60	SG 80	SG 100
a	Information quality			
	Guide post	Information is adequate to identify the key elements of the ecosystem.	Information is adequate to broadly understand the key elements of the ecosystem.	
	Met?	Yes	No	
Rationale		The information generated by the fishery itself, as seen in previous sections, is adequate to identify the key elements of the ecosystem. However, this information alone is not enough to broadly understand the key elements of the ecosystems. SG 60 is met		
b	Investigation of UoA impacts			
	Guide post	Main impacts of the UoA on the key ecosystem elements can be inferred from existing information	Main impacts of the UoA on the key elements of the ecosystem have been investigated in detail.	Main interactions between the UoA and the key ecosystem elements have been investigated in detail.
	Met?	Yes	No	No
Rationale		The information generated by the fishery itself, as seen in previous sections, allows for inferences about the impacts on key ecosystem elements. It is unknown whether some elements have been studied in detail. SG 60 is met		
c	Understanding of component functions			
	Guide post		The main functions of the components in the ecosystem are known.	The impacts of the UoA on the components are identified and the main functions of these components in the ecosystem are understood.
	Met?		No	No
Rationale		During the pre-assessment, no evidence related to this scoring issue was presented. Therefore, to our knowledge, it is unknown whether the main functions of the ecosystem components are known. So, SG 80 is not met.		
d	Monitoring			
	Guide post		Adequate data continue to be collected to detect any increase in risk level.	Information is adequate to support the development of strategies to manage ecosystem impacts.
	Met?		No	Yes / No
Rationale		Although some information is continuously collected on certain ecosystem components (e.g., in-scope and out-of-scope species) that could be suitable for detecting any increase in risk, the lack of understanding of ecosystem functions and the absence of detailed information on habitats and the broader ecosystem make it difficult to determine whether this information is adequate to detect any increase in impact level. So, SG 80 is not met.		

Draft scoring range	60-79
---------------------	--------------

Information gap indicator	More information sought / Information sufficient to score PI Information on the region's ecosystems, trophic networks and the impacts of fishing—particularly on tuna species— should be made available for review during a full assessment.
---------------------------	--

8.6. Principle 3

8.6.1. Principle 3 background

Principle 3 of the MSC standard evaluates whether the governance and management system of the fishery is effective, transparent, and based on the best available scientific information. The Pacific Bluefin Tuna (PBF) fishery in Mexico is subject to international and national regulations.

Relevant Fishery Jurisdiction (International and National)

Due to the international nature of the Pacific Bluefin Tuna (PBF) fishery in terms of stock dynamics, fleet composition, and markets, its management has been the subject of international agreements for many years. The PBF stock is unique and is managed through two regional fisheries management organizations (RFMOs):

-Western and Central Pacific Fisheries Commission (WCPFC), under the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean.

-Inter-American Tropical Tuna Commission (IATTC), governed by the Antigua Convention (2003).

Both organizations establish conservation and management measures for the fishery in high seas and within the national jurisdiction of member countries. While WCPFC resolutions can be binding by majority, IATTC decision-making is consensus-based, which may affect the effectiveness of some measures.

At the national level, the legal and regulatory framework for the fishery in Mexico is set out in the General Law of Sustainable Fisheries and Aquaculture (LGPAS), which provides guidelines for regulating fishing activity. The National Aquaculture and Fisheries Commission (CONAPESCA) is the authority responsible for implementing regulations, while the Mexican Institute of Fisheries and Aquaculture Research (IMIPAS, formerly INAPESCA) handles research and fishery assessments. In 2021, a specific Fishery Management Plan for Pacific Bluefin Tuna was published.

Specific Fishery Management

The management system for the Pacific Bluefin Tuna (PBF) fishery in Mexico includes both national regulations and international measures adopted by the IATTC and WCPFC. The key management strategies include:

-Catch limits and quotas established by the IATTC and adopted in national regulations.

-Fishing effort regulations, such as vessel restrictions and fishing seasons.

-Mandatory monitoring and reporting, with observers onboard 100% of the purse seine fleet's trips.

-Protection of endangered, threatened, and protected (ETP) species through the immediate release of incidentally caught species.

Mexico has implemented these measures through official standards such as NOM-001-SAG/PESC-2013, which regulates responsible tuna fishing and establishes management criteria aligned with MSC sustainability principles. The fishery has a specific management plan (DOF 2021).

Management Objectives

The management objectives for the Pacific Bluefin Tuna (PBF) fishery align with international conventions and national regulations, aiming to ensure the conservation of the stock and the sustainability of the fishery. The main objectives include:

-Ensuring the sustainable exploitation of the resource through catch limits and effort control.

-Applying a precautionary approach to stock management and fisheries regulation.

-Reducing impacts on non-target species and the ecosystem.

These objectives are reflected in the 2021 Fishery Management Plan, which outlines specific strategies for controlling and monitoring fishing activity in Mexico.

Monitoring and Compliance Systems

To ensure compliance with regulations and the sustainability of the fishery, several monitoring and enforcement systems have been implemented:

-100% observer coverage onboard the purse seine fleet, as required by the IATTC.

-Mandatory Satellite Monitoring System (VMS) for all vessels.

-Port inspections to verify the legality of catches and compliance with quotas.

8.6.2. Principle 3 Performance Indicator scores and rationales

PI 3.1.1 – Legal and/or customary framework

PI 3.1.1		<p>The management system exists within an appropriate and effective legal and/or customary framework which ensures that it:</p> <ul style="list-style-type: none"> • Is capable of delivering sustainability in the UoA(s); • Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and • Incorporates an appropriate dispute resolution framework 		
Scoring issue		SG 60	SG 80	SG 100
a	Compatibility of laws or standards with effective management			
	Guide post	There is an effective national legal system and a framework for cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an effective national legal system and organised and effective cooperation with other parties , where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an effective national legal system and binding procedures governing cooperation with other parties that deliver management outcomes consistent with MSC Principles 1 and 2.
	Met?	Yes	Yes	No
Rationale		<p>Because of the international nature of PBF fishery in terms of stock dynamics, fleet composition and markets, fisheries management has been the subject of international agreements for many years. For the PBF stock which is shared between jurisdictions, straddling, highly migratory or those on the high seas, there is a clear requirement for international cooperation in management (MSC, 2023). PBF has a single Pacific-wide stock managed by both the Western and Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Commission (IATTC) (ISC, 2020; ISC, 2022; ISC, 2024). Regarding WCPFC, fishing for tuna and tuna like species, both on the high seas and in zones of national jurisdiction, is governed by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPF Convention). It provides a system for effective co-operation among the parties and procedures can apply binding measures, so co-operation among parties to be enforced with a majority. In the case of IATTC, fishing for tuna and tuna like species, both on the high seas and in zones of national jurisdiction, is governed by the Antigua Convention of 2003, entered into force on 27 August 2010. The Convention provides an effective framework for co-operation among the parties. However, the procedures are only binding to the extent that they can be agreed among the parties (ISSF, 2024a).</p> <p>At the national level, the legal system and framework for cooperation starts with the fisheries law (LGPAS), the specific instrument for Mexican fisheries management that provides guidelines for the regulation of fisheries. Linked to this enabling law are fisheries regulations and NOMs that define management measures (SCS, 2015). The institution in charge to put this in place is the national fisheries commission (CONAPESCA) and there is a technical institution in charge to research and assess the fisheries (IMIPAS, former INAPESCA). And there is a management plan for the Mexican PBF fishery published in 2021.</p> <p>So, SG 80 is met at national and international levels.</p>		
b	Resolution of disputes			

PI 3.1.1		<p>The management system exists within an appropriate and effective legal and/or customary framework which ensures that it:</p> <ul style="list-style-type: none"> • Is capable of delivering sustainability in the UoA(s); • Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and • Incorporates an appropriate dispute resolution framework 		
	Guide post	The management system incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system.	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the UoA.	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes, which is appropriate to the context of the fishery and has been tested and proven to be effective .
	Met?	Yes	Yes	No
Rationale		<p>There are three mechanisms for dealing with legal disputes at the international level. Firstly, disputes can be dealt with at the WCPFC and IATTC annual meetings of the members through consultation and conciliation. Secondly, disputes might be resolved by an appropriately composed review panel. Thirdly, disputes might be resolved through either the International Court of Justice (ICJ) or the International Tribunal for the Law of the Sea. The first two mechanisms are arguably the main overall purpose of all RFMOs including WCPFC. Both RFMOs have a dispute resolution procedure and it is reasonably prescriptive. While encouraging resolution of disputes among its members, it provides for an appropriate review panel to be convened should it be necessary. Any application is required to state the grounds for the dispute. In addition, the mechanism also allows for disputes between fishing entities to be submitted to final and binding arbitration through a Permanent Court of Arbitration (The Hague) at the request of either party. RFMOs members and observers can have representatives at meetings. The Commissions hold a regular meeting every year. Negotiations on these occur both at technical and political levels. This system is transparent in that it makes sure that all members are fully informed of the issues under consideration and are able to participate in informed discussion. This is addressed in detail in the Rules of Procedure. Independent observers, including NGO and IGOs, are present at such meetings and would observe any resolutions and justifications that are presented. Such organizations shall be given timely access to pertinent information subject to the rules and procedures which the Commissions may adopt. In the case of IATTC the system cannot be considered fully effective with a consensus decision-making process, and the lack of a formal dispute mechanism should the consensus system fail (ISSF, 2024a).</p> <p>At the national level, the Federal Law of Administrative Procedure (Ley Federal de Procedimiento Administrativo) (DOF 1994) provides the legal framework for dispute resolution in cases of non-compliance with fisheries regulations. Within the fisheries sector, the General Law of Sustainable Fisheries and Aquaculture (LGPAS) establishes specific appeal mechanisms to ensure due process in legal proceedings. Articles 127-130 of the LGPAS outline the procedures for fisheries officers to submit cases to the Public Ministry, an independent body responsible for investigating infractions and enforcing sanctions when necessary. Additionally, the General Law for Ecological Equilibrium and Environmental Protection (DOF 1988) defines legal mechanisms for addressing disputes related to the environmental impacts of fishing activities. Sections IV, V, and VI specify the administrative and judicial procedures applicable when an infraction is identified, ensuring that environmental concerns are addressed within the broader legal framework.</p> <p>There is evidence that these mechanisms operate transparently and are appropriate to the fishery context, meeting SG 80 requirements. As outlined in Chapters 1-3 of the LGPAS (Articles 6-16), the division of responsibilities at the federal, state, and municipal levels provides a structured and functional approach to dispute resolution. However, there is no clear evidence that these mechanisms have been tested in practice for this fishery, or that their effectiveness has been formally evaluated. As a result, SG 100 is not met.</p> <p>So, SG 80 is met at national and international levels.</p>		
		Respect for rights		
c	Guide post	The management system has a mechanism to generally	The management system has a mechanism to observe the	The management system has a mechanism to formally

PI 3.1.1		The management system exists within an appropriate and effective legal and/or customary framework which ensures that it:		
		<ul style="list-style-type: none"> • Is capable of delivering sustainability in the UoA(s); • Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and • Incorporates an appropriate dispute resolution framework 		
		respect the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	commit to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
	Met?	Yes	Yes	No
Rationale		<p>At international level Legal rights of people dependent on fishing for food or livelihood are protected through national interests of Parties to the Conventions. The Conventions deal with the rights of a State's access to resources and, in this case, explicitly protects access for subsistence and traditional resource use. WCPFC and IATTC have an intention and have a management system that observes the legal rights created explicitly or established by custom for people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. In both RFMOs such mechanisms are not formal commitments (ISSF, 2024a).</p> <p>At national level, Article 72 of the LGPAS allows subsistence fishing without a permit by people living along the coastline and prohibits selling the catch for profit. Article 2 Section V of the LGPAS secures that within the scope of this Law, the access, use and preferential benefit of aquatic and fishery resources is given to indigenous communities and people. It seems there is evidence that indicates the fisheries management system in Mexico has mechanisms to formally commit to the legal rights of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2 (SCS, 2015).</p> <p>SO, SG 80 is met.</p>		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

PI 3.1.2 – Consultation, roles, and responsibilities

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties. The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties		
Scoring issue		SG 60	SG 80	SG 100
a	Roles and responsibilities			
	Guide post	Organisations and individuals involved in the management process have been identified. Functions, roles, and responsibilities are generally understood .	Organisations and individuals involved in the management process have been identified. Functions, roles, and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.	Organisations and individuals involved in the management process have been identified. Functions, roles, and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction.
	Met?	Yes	Yes	No
Rationale		<p>WCPFC and IATTC are themselves organisations set up to define roles and responsibilities for its contracting parties and co-operating non-contracting parties. Functions, roles and responsibilities are explicitly defined and well understood for key areas. Also, both Conventions explicitly define decision making processes and the roles of the Commission. In addition, there are shared responsibilities between WCPFC and IATTC, which recognize the need to cooperate with one another to achieve conservation and management of stocks. There is a Memorandum of Understanding which clearly lays out the type and level of co-operation. With respect to implementing management controls, providing monitoring data and scientific research, tasks are allocated, co-ordinated and monitored through each RFMO and its annual meetings (SCS, 2015; ISSF, 2024a).</p> <p>At national level, roles and responsibilities of organizations within the Mexican governance framework relevant to fisheries are well defined and understood for key areas (SCS, 2015).</p> <p>Thus, SG80 is met.</p>		
b	Consultation processes			
	Guide post	The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge , to inform the management system.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge . The management system demonstrates consideration of the information obtained.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge . The management system demonstrates consideration of the information and explains how it is used or not used .
	Met?	Yes	Yes	No
Rationale		<p>WCPFC and IATCC hold a meeting every year, and specialist working groups (comprising scientists from the contracting parties) convene technical meetings on an annual basis. There are extensive formal and informal consultation processes that regularly seek and accept information from members and cooperating non-members pertaining to relevant fisheries, including compliance information from CCMs. Information derived from the CPCs and the inputs from the specialist working groups is used by decision-makers and such consideration forms the basis of the management advice. “Local knowledge” at the international level is assumed to refer to national information and experience. IATTC allows for participation by non-members and observers, including NGOs and ensures they have timely access to relevant information. The management system demonstrates consideration of the information obtained. The scientific reports state exactly what information is being used, how it is used, and justification is provided for all information which is rejected. However, information used by management other than the scientific information is not so clearly reported (ISSF, 2024a).</p> <p>At national level, formalized consultative procedures exist for the development of Official Mexican Standards (NOMs), as established in Article 44 of the Federal Law on Metrology and Standardization (<i>Ley Federal sobre Metrología y Normalización</i>, DOF 1992). These processes</p>		

PI 3.1.2	The management system has effective consultation processes that are open to interested and affected parties. The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties		
	<p>involve National Consulting Normalization Committees, which include representatives from government agencies, industry, and academia. For fisheries, the Comité Consultivo Nacional de Normalización de Pesca Responsable plays a key role in discussing and integrating regulatory measures into NOMs. Additionally, other national normalization organizations may submit proposals for consideration.</p> <p>Beyond fishery-specific consultations, broader consultation mechanisms exist through the National Council for Fisheries and Aquaculture (Consejo Nacional de Pesca y Acuicultura, CNPA) and the State Councils for Fisheries and Aquaculture (Consejos Estatales de Pesca y Acuicultura, CEPA). The CNPA, chaired by SADER, is an inter-sectoral forum supporting fisheries management decision-making by incorporating input from federal regulatory bodies, the social sector, and fisheries stakeholders. Similarly, state councils (CEPA) define management objectives integrated into Fisheries Management Plans.</p> <p>There is clear evidence that these consultative processes regularly seek, accept, and consider relevant information, including local knowledge, thereby meeting SG 80 requirements. However, it is not evident in all cases that all available information is fully considered or that explanations are consistently provided for decisions made. As a result, SG 100 is not met.</p> <p>SG 80 is met.</p>		
c	Participation		
	Guide post		<p>The consultation process provides opportunity for all interested and affected parties to be involved.</p> <p>The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement.</p>
	Met?	Yes	No
Rationale	<p>At international level, the opportunities for consultation occur at several levels within the management system. Consultation is formalised, and there are well-developed mechanisms for the seeking and using of appropriate information. The opportunity to become Member or Co-operating Non-member to RFMOs (WCPFC and IATTC) is open to all. The membership of relevant nations is high and there is a high level of participation. The Commissions may be joined by any government or international organization that can also be a signatory to the United Nations Convention on the Law of the Sea (1982) and that has a fishing interest in the area. Interested NGOs have an opportunity to observe at meetings, with requirements that are not overly onerous. There is a memoranda of understanding (MOU) that governs the co-operation between these RFMOs. The MOUs establish and maintain consultation, cooperation and collaboration in respect of matters of common interest including the exchange of data and information, scientific research (including Pacific-wide stock assessments) and conservation and management measures for fleets, stocks and species of mutual interest. The Secretariats often have representatives at each other's meetings, as well as specific consultative meetings where appropriate (ISSF, 2024a). SG100 would be met.</p> <p>However at national level, Mexico has established formal consultation mechanisms to ensure stakeholder participation in fisheries management. The National Council for Fisheries and Aquaculture (CNPA) and the State Councils for Fisheries and Aquaculture (CEPA) serve as inter-institutional forums that bring together representatives from government agencies, industry, and academia. These councils propose and advise IMIPAS on objectives to be included in fishery-specific Management Plans. During the development of these plans, IMIPAS organizes Public Consultation Meetings, providing a structured platform for stakeholders to contribute to the decision-making process and ensuring transparency in fisheries management.</p> <p>Additionally, the Sub-Committee of Responsible Fishing allows stakeholders—including government representatives, industry, academia, NGOs, and civil society—to participate in the development of fisheries regulations. This committee facilitates the proposal, review, approval, and publication of Official Mexican Standards (NOMs) related to fisheries. These consultative processes promote inclusive governance and responsible fisheries management, meeting SG 80 requirements. However, further evidence is needed to confirm the full and effective engagement of all stakeholders, preventing the achievement of SG 100.</p>		

PI 3.1.2	The management system has effective consultation processes that are open to interested and affected parties. The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties
	So, SG 80 is met.

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

PI 3.1.3 – Long term objectives

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with the MSC Fisheries Standard, and incorporates the precautionary approach		
Scoring issue		SG 60	SG 80	SG 100
a	Objectives			
	Guide post	Long-term objectives to guide decision-making, consistent with the MSC Fisheries Standard and the precautionary approach , are implicit within management policy .	Clear long-term objectives that guide decision-making, consistent with the MSC Fisheries Standard and the precautionary approach , are explicit within management policy .	Clear long-term objectives that guide decision-making, consistent with the MSC Fisheries Standard and the precautionary approach , are explicit within and required by management policy.
	Met?	Yes	Yes	Yes
Rationale		<p>The WCPFC and IATTC Conventions state that the objective is to ensure, through effective management, the long-term conservation and sustainable use of fish stocks. The Conventions also state that effective management and conservation require the application of the precautionary approach and the best scientific information available. The Conventions provide clear, long-term objectives that guide decision making under Principle 1. The long-term objectives are clear enough that the science-based advice and management of these stocks can be evaluated. The Conventions have an explicit provision regarding the precautionary approach and ecosystem-based management which forms part of the MSC Principles and Criteria. Protection for all resources within the same ecosystem is provided for, consistent with Principle 2. This includes measures to protect all species belonging to the same ecosystem as the target stocks, to reduce bycatch, develop more “environmentally safe” fishing gears and apply the precautionary approach, all of which meet requirements under Principle 2. The members are required to apply the precautionary approach.</p> <p>At national level, the LGPAS (DOF 1995; DOF 2023) states clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach. LGPAS (DOF 1995; DOF 2023) defines one of its prime objectives as: Establishing the basis for the ordination, conservation, protection, repopulation and sustainable utilization of fisheries and aquaculture resources, as well as the protection and rehabilitation of the supporting ecosystems; the precautionary approach is explicit. Mexico’s implementation of actions against objectives in relation to this fishery are guided principally by IATTC outcomes (SCS, 2015). The recently introduced Mexican management plan for PBF outlines a number of objectives (sections 7 and 8) consistent with MSC Fisheries Standard (DOF, 2021).</p> <p>Thus, SG100 is met.</p>		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

PI 3.2.1 – Fishery-specific objectives

PI 3.2.1		The fishery-specific management system has clear, specific objectives designed to achieve the outcomes expressed by MSC Principles 1 and 2		
Scoring issue		SG 60	SG 80	SG 100
a	Objectives			
	Guide post	Objectives , which are broadly consistent with achieving the outcomes expressed by MSC Principles 1 and 2, are implicit within the fishery-specific management system.	Short and long-term objectives , which are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, are explicit within the fishery-specific management system.	Well-defined and measurable short- and long-term objectives , which are demonstrably consistent with achieving the outcomes expressed by MSC Principles 1 and 2, are explicit within the fishery-specific management system.
	Met?	Yes	Partial	No
Rationale		<p>The IATTC Convention provides foundational guidance and principles for developing management plans. These principles include objectives that address not only target fish stocks but also broader ecosystem considerations. However, these objectives are broadly defined and consolidated under PI 3.1.3. While they have informed scientific advice, their generality limits specificity in implementation.</p> <p>A long-term management plan is in place to restrict fishing capacity to sustainable levels. For purse seine fisheries, objectives are clearly articulated and measurable. The establishment of a closed vessel registry by the IATTC is a critical step toward preventing increases in fishing capacity, though active reduction remains a challenge.</p> <p>Scientific advice aligns with MSC Principles 1 and 2 (sustainable fish stocks and minimal ecosystem impact), as these objectives are implicitly integrated into stock management frameworks, meeting Scoring Guideline (SG) 60. Explicit objectives are further outlined in resolutions and recommendations that define the purpose of conservation measures, meeting SG 80.</p> <p>At national level, Mexico's participation in the IATTC requires adherence to all fishery-specific objectives adopted by the Commission. Article IV of the 2010 Decree ratifying Mexico's accession to the IATTC Convention (DOF 2010) mandates the application of the precautionary principle by member states.</p> <p>National regulations for responsible tuna fishing by Mexican-flagged vessels are codified in NOM-001-SAG/PESC-2013 (DOF 2014). The Standard's preamble explicitly outlines its objectives, associated regulations, and alignment with MSC Principles 1 and 2. NOM-001-SAG/PESC-2013 enables the implementation of targeted measures such as seasonal closures, catch quotas, and other instruments that operationalize broader sustainability goals.</p> <p>A national fisheries management plan (DOF 2021) details objectives primarily focused on target stock status. However, explicit objectives consistent with MSC Principle 2 (ecosystem health) are absent, resulting in non-compliance with SG80.</p> <p>This PI does not fully meet the criteria for SG80.</p> <p>So, SG 60 is met.</p>		

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

PI 3.2.2 – Decision-making processes

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery		
Scoring issue		SG 60	SG 80	SG 100
a	Decision-making processes			
	Guide post	There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.	
	Met?	Yes	Yes	
Rationale		<p>Regional decision-making processes are outlined in Article IX of the Antigua Convention (IATTC 2010). These processes prioritize scientific advice, responsiveness, and transparency. All documentation and data informing decisions are published and accessible on the IATTC website. Decisions are adopted by consensus, with no formal objection or opt-out procedures. While resolutions are legally binding, recommendations remain non-binding. All management measures apply uniformly within member states' Exclusive Economic Zones (EEZs) and on the high seas. Member states are responsible for enforcing these measures within their respective EEZs.</p> <p>Cooperating non-members are excluded from voting participation. A notable critique of the consensus-based system is that individual parties can block the adoption of resolutions. However, there is no evidence that a lack of consensus has hindered the timely implementation of management measures. This framework meets SG80 requirements.</p> <p>At national level, the decision-making is defined in LGPAS (DOF 1995; DOF 2023), which includes the respective roles of the different institutions and the preparation of the CNP. Decisions regarding the Mexican PBF fishery are primarily driven by IATTC outcomes, with the implementation of resolutions undertaken by fisheries authorities and their scientific staff and then flowing to Congress for approval and publication as a document that acts as law. SG 80 requirements are met at the national level.</p> <p>Thus, SG 80 is met.</p>		
b	Responsiveness of decision-making processes			
	Guide post	Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation, and consultation, in a transparent, timely and adaptive manner, and take some account of the wider implications of decisions.	Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation, and consultation, in a transparent, timely, and adaptive manner, and take account of the wider implications of decisions.	Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation, and consultation, in a transparent, timely, and adaptive manner, and take account of the wider implications of decisions.
	Met?	Yes	No	No
Rationale		<p>At the international level, the IATTC follows a transparent decision-making process, with outcomes published as resolutions from annual meetings. Technical reports and proposals from member states provide the basis for decision-making, ensuring that scientific and technical information informs management actions. However, while decisions are evaluated through specialist meetings and feedback is incorporated, the exact reasoning behind some decisions is not always explicit. Additionally, the requirement for consensus-based decision-making may delay responses to contentious issues. Despite these challenges, there is evidence that the IATTC effectively addresses serious and important issues, meeting SG 60 and SG 80 requirements, though not all identified issues are consistently addressed.</p> <p>At the national level, Mexico has a well-established decision-making process that aligns with IATTC resolutions. Once adopted, IATTC decisions flow to fisheries authorities, scientific staff, and Congress, where they are reviewed and published as legally binding regulations. For domestic regulations, including Management Plans and Official Mexican Standards (NOMs), proposals are first reviewed by IMIPAS before being forwarded to CONAPESCA. If approved,</p>		

PI 3.2.2	The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery			
	<p>the Federal Commission for Regulatory Improvement verifies legal consistency before the final approval and publication in the Official Gazette (Diario Oficial de la Federación). However, while Mexico's fisheries legislation provides formal consultation processes, it is unclear whether issues identified through independent research and monitoring outside the IATTC framework are addressed transparently and in a timely manner (SCS, 2015). As a result, SG 60 requirements are met, but further evidence is needed to meet SG 80.</p> <p>So, SG 60 is met.</p>			
c	Use of precautionary approach			
	Guide post		Decision-making processes use the precautionary approach and are based on best available information.	
	Met?		Yes	
Rationale	<p>The Antigua Convention mandates that the IATTC and its members apply the precautionary approach, ensuring greater caution when information is uncertain or incomplete. It also requires that decisions be based on the best scientific information available to support the long-term conservation and sustainable use of fish stocks. The IATTC consistently implements this requirement, as evidenced by extensive scientific assessments, reports, and meetings that inform management decisions. Mexico actively participates in these processes and incorporates IATTC recommendations into its fisheries management, meeting SG 80 requirements.</p> <p>At the national level, Mexico's fisheries legislation also mandates a precautionary approach, aligning with the principles of the Antigua Convention. IMIPAS plays a key role in reviewing the technical aspects of management measures to ensure that decisions are based on the best available scientific information. Additionally, information from IATTC stock assessments and recommendations is fundamental to Mexico's fisheries management, further ensuring compliance with SG 80.</p> <p>Thus, SG 80 is met.</p>			
d	Accountability and transparency of management system and decision-making process			
	Guide post	Some information on the fishery's performance and management action is generally available on request to stakeholders.	Information on the fishery's performance and management action is available on request , and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation, and review activity.	Formal reporting to all interested stakeholders provides comprehensive information on the fishery's performance and management actions and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation, and review activity.
	Met?	Yes	No	No
Rationale	<p>Information on fishery performance and management actions is made available upon request, with reports from IATTC plenary sessions and recommendations resulting from research, monitoring, evaluation, and performance reviews being publicly accessible. Although the information used in decision-making is published, the explicit connection between the data and the resulting decisions is not always clear, and detailed explanations linking the findings to specific actions (or lack thereof) are not consistently provided. Despite this, the available information allows stakeholders, including NGOs, scientists, and other parties, to independently assess the decisions. Regular feedback from these stakeholders also contributes to the transparency of the process.</p>			

PI 3.2.2	The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery			
	<p>While there is comprehensive public reporting of decisions and the information that informs them, the lack of clear, formal explanations linking the findings to decisions means that SG 80 is met, but SG 100 is not fully achieved.</p> <p>At a national level, some information on fishery performance and management actions is available to stakeholders upon request, but limited. More evidence and information about the fishery performance is needed to consider higher scores. So, at national level SG 60 is met.</p> <p>SG 60 is met</p>			
e	Approach to disputes			
	Guide post	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability of the fishery.	The management system or UoA is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or UoA acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.
	Met?	Yes	No	
Rationale	<p>The IATTC has not been subject to any court challenges, and there is no evidence of ongoing violations or defiance of the law, except for specific fishing companies and vessels listed on the IUU fishing list (SCS, 2015). Therefore, SG 60 requirements are met. Disputes within IATTC are generally resolved through its meetings, with members agreeing to abide by its provisions, indicating a proactive approach to avoiding legal conflicts. There are no outstanding judicial disputes, and CPCs have refrained from using international law to settle disagreements. This demonstrates compliance with SG 80, though SG 100 is only partially met.</p> <p>At the national level, there are no ongoing legal challenges in Mexico's fishery, to our knowledge. Other evaluations, in similar fisheries (SCS 2015, PAST 2022) also indicated that the management authority or the fishery has not been involved in repeated violations of laws or regulations essential to the sustainability of the fishery. While the fishery may face occasional legal disputes, there is no evidence suggesting disrespect or defiance of the law. This shows that the fishery's management system is generally compliant with legal frameworks. However, no evidence was provided to review if the UoA management system complies in a timely manner. Thus, SG 60 is met.</p> <p>So, SG 60 is met.</p>			

Draft scoring range	60-79
Information gap indicator	<p>More information sought</p> <p><i>More Information is needed on the fishery's performance and management action (e.g., reports from observer programs, updates on the status of the fishery management plan actions, etc.). In addition to some information about legal disputes within the fishery.</i></p>

PI 3.2.3 – Compliance and enforcement

PI 3.2.3		Monitoring, control, and surveillance (MCS) mechanisms ensure the management measures in the UoA are enforced and complied with		
Scoring issue		SG 60	SG 80	SG 100
a	MCS system			
	Guide post	MCS mechanisms exist within the UoA.	An MCS system exists within the UoA.	A comprehensive MCS system is well-established within the UoA.
	Met?	Yes	Yes	No
Rationale		<p>The Mexican Government plays a key role in implementing Monitoring, Control, and Surveillance (MCS) measures in line with its IATTC commitments and national fisheries legislation. NOM-062-PESC-2007 mandates the use of Vessel Monitoring Systems (VMS), enabling CONAPESCA to track fishing vessels through sophisticated monitoring systems. Additionally, CONAPESCA conducts vessel inspections, as documented in <i>actas de inspección</i>, which indicate that vessels comply with regulations. The use of VMS ensures continuous monitoring of fishing activities, contributing to effective control and enforcement within the fishery.</p> <p>Additionally, since 2019, an agreement between the fishing industry and the government has required that a fisheries officer be present onboard during each BFT fishing trip to verify compliance with all established regulations (Oficios DGIV). These officers are also authorized to halt fishing sets if the established quota has been reached.</p> <p>All together can be considered an MCS system.</p> <p>So, SG 80 is met.</p>		
b	Sanctions			
	Guide post	Sanctions to address non-compliance exist within the UoA.	Sanctions to deal with non-compliance exist, that are appropriate to the UoA, and are applied.	Comprehensive sanctions to address non-compliance exist, that are appropriate to the UoA, and are consistently applied.
	Met?	Yes	No	No
Rationale		<p>Chapters I, II, III and IV of Fourteenth Title of the LGPAS include specifications on infractions, administrative sanctions, responsibilities and review processes, respectively (DOF 1995; DOF 2023).</p> <p>No evidence of non-compliance has been provided, so it is unknown whether the measures are being applied.</p> <p>Thus, SG 60 is met.</p>		
c	Compliance (information)			
	Guide post	Information is adequate to broadly understand compliance in the UoA.	Information is adequate to estimate compliance in the UoA with a high degree of accuracy .	Information is adequate to estimate compliance in the UoA with a very high degree of accuracy .
	Met?	Yes	No	No
Rationale		<p>The information reviewed, as described in SIs a and b, was focused on the UoC (which represents over 50% of total catches in Mexico) rather than the entire UoA. The MCS measures apply to the entire fishery, so the information can be considered adequate to broadly understand compliance within the UoA. However, the lack of evidence covering the full scope of the fishery prevents it from being considered higher scores.</p> <p>Thus, SG 60 is met.</p>		
d	Compliance (outcome)			
	Guide post	Systematic non-compliance of regulations specific to	Majority of regulations, including all regulations	Majority of regulations, including all regulations

PI 3.2.3		Monitoring, control, and surveillance (MCS) mechanisms ensure the management measures in the UoA are enforced and complied with		
		governing sustainable fishing practices on the water is not evident within the UoA.	specific to governing sustainable fishing practices on the water, are likely to be complied with.	specific to governing sustainable fishing practices on the water, are consistently complied with.
	Met?	Yes	No	No
Rationale		<p>The MCS mechanisms likely help prevent systematic non-compliance. However, there is a lack of comprehensive evidence on compliance across the entire fishery. The information provided focused specifically on the UoC, including official communications regarding quota compliance, vessel inspections, and agreements for onboard fisheries officers. Notably, there is a record of catch releases when the quota was exceeded (personal communication), but no evidence was available to assess compliance at the broader fishery level. However, the lack of evidence covering the full scope of the fishery prevents it from being considered higher scores.</p> <p>Thus, SG 60 is met.</p>		

Draft scoring range	60-79
Information gap indicator	<p>More information sought</p> <p><i>More information sought regarding sanctions and compliance of regulations for all the fishery.</i></p>

PI 3.2.4 – Monitoring and management performance evaluation

PI 3.2.4		There is a system for monitoring and evaluating the performance of the fishery-specific management system against its objectives. There is effective and timely review of the fishery-specific management system		
Scoring issue		SG 60	SG 80	SG 100
a	Evaluation coverage			
	Guide post	There are mechanisms in place to evaluate some parts of the fishery-specific management system.	There are mechanisms in place to evaluate key parts of the fishery-specific management system.	There are mechanisms in place to evaluate all parts of the fishery-specific management system.
	Met?	Yes	No	No
Rationale		<p>IATTC has extensive mechanisms to evaluate the management system, as demonstrated by the various committees and working groups that meet regularly and report their findings to the Commission. In addition to the annual Commission meetings, regular meetings include those for the Scientific Advisory Committee, the Committee for the Review of Implementation Measures, and the International Review Panel. Reports from meetings of the various groups are available on the IATTC website, meeting the SG 80.</p> <p>At a national level, the role of the municipal, state and Federal (CONAPESCA) agencies in updating the National Fisheries Charter (Carta Nacional Pesquera) can be seen as a mechanism to evaluate key parts of the management system. In addition, The catch quota is updated in relation to IATTC resolutions.</p> <p>On the other hand, the Bluefin Tuna (BFT) Fishery Management Plan states that it should be reviewed every three years. Although there is not evidence about it.</p> <p>There are some mechanisms in place to evaluate some parts of the fishery management system, but it can not be considered to evaluate key parts.</p> <p>SG 60 is met.</p>		
b	Internal and/or external review			
	Guide post	The fishery-specific management system is subject to occasional internal review.	The fishery-specific management system is subject to regular internal and occasional external review .	The fishery-specific management system is subject to regular internal and external review.
	Met?	No	No	No
Rationale		<p>The IATTC undergoes regular internal review through its committees and working groups, which convene routinely and submit findings to the Commission. Key mechanisms include:</p> <ul style="list-style-type: none"> -Scientific Advisory Committee: Mandated under Article XI of the Antigua Convention, it conducts comprehensive reviews of scientific functions and responsibilities. -Implementation Review Committee: Established under Article XVIII (Annex 3 of the Antigua Convention), it oversees compliance with conservation measures. -External Peer Reviews: The Commission periodically engages independent experts to assess the validity of its scientific advice and data. <p>Meetings and operational processes are transparent, with annual sessions ensuring conservation objectives remain subject to public scrutiny and political accountability. In 2016, the IATTC participated in a joint performance review with four other tuna Regional Fisheries Management Organizations (RFMOs), as agreed at the inaugural 2007 Kobe Meeting. This demonstrates alignment with SG80 requirements for occasional external evaluation (ISSF 2024a).</p> <p>Mexico</p> <p>At the national level, the Bluefin Tuna (PBF) Fishery Management Plan states that it should be reviewed every three years. As of today, there is no evidence that any components of the management plan have been reviewed. So, there is no evidence that the fishery specific management has occasional internal reviews. SG60 is not met.</p> <p>SG60 is not met.</p>		

Draft scoring range	<60
Information gap indicator	<p>More information sought</p> <p><i>Need to know at the Mexican level which parts of the fishery management plan are being revised/updated, or any part of the management system.</i></p>

9. Appendices

9.1. Evaluation processes and techniques

9.1.1. Site visits

- *No site visits have occurred. The Client has provided the assessor with all the information.*

9.2. References (Bibliography)

AIDCP, Agreement on the International Dolphin Conservation Program, 1999.

<https://www.iattc.org/en-US/AIDCP/About-AIDCP>

CITES, Convention on International Trade in endangered species of wild fauna and flora.

<https://cites.org/sites/default/files/eng/app/2021/E-Appendices-2021-02-14.pdf>

Collette, B. & Nauen, C. 1983. FAO Species Catalogue. Volume: Scrombids of the World. An annotated and illustrated catalogue of tunas, mackerels, bonitos and related species known to date. Italia. Food and Agriculture Organization of the United Nations.

DOF 1988. Ley General del Equilibrio Ecológico y la Protección al Ambiente. Diario de la Federación (DOF) 1988.

<https://www.diputados.gob.mx/LeyesBiblio/pdf/LGEEPA.pdf>

DOF 1992. Ley Federal sobre Metrología y Normalización. Diario de la Federación (DOF) 1992.

<https://www.gob.mx/cms/uploads/attachment/file/107522/LEYFEDERALSOBREMETROLOGIAYNORMALIZACION.pdf>

DOF 1994. Ley Federal de Procedimiento Administrativo. Diario de la Federación (DOF) 1994.

https://www.diputados.gob.mx/LeyesBiblio/pdf/112_180518.pdf

DOF 1995. Para regular las actividades de pesca deportivo recreativa en las aguas de jurisdicción federal de los Estados Unidos Mexicanos. NORMA Oficial Mexicana NOM-017-PESC-1994. Diario Oficial de la Federación (DOF) 09/05/1995

https://dof.gob.mx/nota_detalle.php?codigo=4873647&fecha=09%2F05%2F1995&fbclid=IwAR3WXHiXG1NS5TjHAMIKp8WYAoRMzKUsULUmlR4CG0cwuHrt7Dfu5pDoFsU#gsc.tab=0

DOF 2007. Pesca responsable de tiburones y rayas. Especificaciones para su aprovechamiento, NORMA Oficial Mexicana NOM-029-PESC-2006. Diario de la Federación (DOF) 14/02/2007

https://www.dof.gob.mx/nota_detalle.php?codigo=4962277&fecha=14/02/2007#gsc.tab=0

DOF 2010. Promulgatorio de la Convención para el Fortalecimiento de la Comisión Interamericana del Atún Tropical, establecida por la Convención de 1949 entre los Estados Unidos de América y la República de Costa Rica (Convención de Antigua). Decreto. Diario Oficial de la Federación (DOF) 27/08/2010.

https://dof.gob.mx/nota_detalle.php?codigo=5156960&fecha=27/08/2010#gsc.tab=0

DOF 2010b. Protección ambiental-Especies nativas de México de flora y fauna silvestres-Categorías de riesgo y especificaciones para su inclusión, exclusión o cambio-Lista de especies en riesgo. NORMA Oficial Mexicana NOM-059-SEMARNAT-2010. 2010. <https://www.dof.gob.mx/normasOficiales/4254/semarnat/semarnat.htm>

DOF 2014. Pesca responsable de túnidos. Especificaciones para las operaciones de pesca con red de cerco. NORMA Oficial Mexicana NOM-001-SAG/PESC-2013. Diario Oficial de la Federación (DOF) 16/01/2014.

DOF 2016. DECRETO por el que se declara Área Natural Protegida, con el carácter de reserva de la biosfera, la región conocida como Islas del Pacífico de la Península de Baja California. Diario Oficial de la Federación (DOF) 07/12/2016. https://www.dof.gob.mx/nota_detalle.php?codigo=5464451&fecha=07/12/2016#gsc.tab=0

DOF 2021. Plan de Manejo para la pesquería de Atún Aleta Azul (*Thunnus orientalis*, Temminck y Schlegel 1844) en el Pacífico Oriental. Diario de la Federación (DOF) 07/04/2021. https://www.dof.gob.mx/nota_detalle.php?codigo=5615334&fecha=07/04/2021#gsc.tab=0

DOF 2023. DECRETO por el que se reforman diversas disposiciones de la Ley General de Pesca y Acuicultura Sustentables. Diario de la Federación (DOF) 04/12/2023 https://www.dof.gob.mx/nota_detalle.php?codigo=5710272&fecha=04/12/2023#gsc.tab=0

DOF2023b. Programa de Manejo de la Reserva de la Biosfera Isla Guadalupe. Diario de la Federación (DOF) 2023. https://simec.conanp.gob.mx/pdf_pcy/m/124_DOF.pdf

IAC, Inter-American Convention for the Protection and Conservation of Sea Turtles, 1996. <https://www.fisheries.noaa.gov/national/endangered-species-conservation/inter-american-convention-protection-and-conservation-sea>

IATTC, 2003. Resolución sobre provisión de datos. Comisión Interamericana del Atún Tropical 70ª Reunión. Resolución C-03-05. https://www.iattc.org/GetAttachment/8c157419-5400-4d21-a72e-3428398c8713/C-03-05-Active_Provision-de-datos.pdf

IATTC, 2004. Resolución Consolidada sobre la captura incidental. Resolución C-04-05, 2006. https://www.iattc.org/GetAttachment/a9197c2d-9661-48f6-8731-982974a12687/C-04-05-REV-Jun-2006-Active_Resolucion-consolidada-sobre-captura-incidental.pdf

IATTC 2006, Resolución C-04-07, Resolución sobre el un programa de tres años para mitigar el impacto de la pesca atunera sobre tortugas marinas. https://www.iattc.org/GetAttachment/77a5be03-b465-4e00-91d6-1d00cb4a8e4e/C-04-07-Active_Conservacion-de-tortugas-marinas.pdf

IATTC 2010. The Antigua Convention. <https://www.iattc.org/en-US/About/Antigua-Convention>

IATTC, 2011. Resolución para mitigar el impacto sobre las aves marinas de la pesca de especies abarcadas por la CIAT, Resolución C-11-02, 2011. https://www.iattc.org/GetAttachment/e02a8ca1-2ae5-40c6-923c-a0e2b28b3218/C-11-02-Active_Aves-marinas.pdf

IATTC, 2020. Informe sobre la Pesquería Atunera, las Poblaciones, y el Ecosistema en el Océano Pacífico Oriental en 2019. Comisión Interamericana del Atún Tropical 95ª Reunión (Por videoconferencia) 30 de noviembre a 4 de diciembre de 2020. Documento IATTC-95-05.

IATTC, 2024. Resolución sobre medidas de monitoreo y control de la pesquería de atún aleta azul en el OPO. Comisión Interamericana del Atún Tropical 102ª Reunión. Resolución C-24-03. [https://www.iattc.org/GetAttachment/ce62f0a7-67b1-45a8-a1de-8c090326bc9a/C-24-03_Atun-aleta-azul-\(monitoreo-y-control\).pdf](https://www.iattc.org/GetAttachment/ce62f0a7-67b1-45a8-a1de-8c090326bc9a/C-24-03_Atun-aleta-azul-(monitoreo-y-control).pdf)

ISC, 2020. Stock Assessment of Pacific Bluefin Tuna in The Pacific Ocean in 2020. International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean. 20th Meeting of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean Held Virtually July 15-20, 2020. Annex 11.

ISC, 2022. Stock Assessment of Pacific Bluefin Tuna in The Pacific Ocean in 2022. International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean. 22nd Meeting of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean Kona, Hawai'i July 12-18, 2022. Annex 13.

ISC, 2024. Stock Assessment of Pacific Bluefin Tuna in The Pacific Ocean in 2024. International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean. 24th Meeting of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean Victoria, Canada June 19-24, 2024. Annex 13.

ISSF 2024a. An Evaluation of the sustainability of Global Tuna Stocks Relative to Marine Stewardship Council Criteria: Principles 1 and 3. International Seafood Sustainability Foundation. May 2024

ISSF. 2024b. Status of the world fisheries for tuna. Nov. 2024. ISSF Technical Report 2024-07. International Seafood Sustainability Foundation, Pittsburgh, PA, USA

IUCN. 2024. The IUCN Red List of Threatened Species. Version 2024-2. <https://www.iucnredlist.org>

MSC, 2023. Working towards MSC certification: A practical guide for fisheries improving to sustainability. Marine Stewardship Council.

MSC 2024, MSC Fisheries Standard, versión 3.1. 2024.

PAST 2022. The Northeastern Tropical Pacific Purse Seine Yellowfin and Skipjack Tuna Fishery. MSC Announcement Comment Draft Report. Pacific Alliance for Sustainable Tuna. Control Union Limited.

SCS, 2015. The Northeastern Tropical Pacific Purse Seine Yellowfin and Skipjack Tuna Fishery. MSC Full-Assessment Public Certification Report. SCS Global Services.

SCS, 2022. Southern Gulf of California Thread Herring Fishery, Sinaloa & Nayarit, Mexico. MSC Full-Assessment Public Certification Report. SCS Global Services.

Shane Griffiths, S., Fuller, L., Potts, J., and Simon Nicol 2022. Vulnerability assessment of sharks caught in eastern Pacific ocean pelagic fisheries using the EASI-fish approach. Inter-American Tropical Tuna Commission, Document sac-13-11, Scientific Advisory Committee, 13th meeting (by videoconference), 16-20 may 2022. Accessed 4/12/23 from

https://www.iattc.org/GetAttachment/57b58325-ecdd-4133-acd0-84f0959f332b/SAC-13-11_Vulnerability-status-for-sharks-in-the-EPO-EASI-fish-assessment.pdf

10. Template information and copyright

The Marine Stewardship Council's 'MSC Pre-Assessment Reporting Template v4.2' and its content is copyright of "Marine Stewardship Council" - © "Marine Stewardship Council" 2024. All rights reserved.

A controlled document list of MSC program documents is available on the MSC website (<https://www.msc.org/for-business/certification-bodies/supporting-documents>).

Marine Stewardship Council

Marine House

1 Snow Hill

London EC1A 2DH

United Kingdom

Phone: + 44 (0) 20 7246 8900

Fax: + 44 (0) 20 7246 8901

Email: standards@msc.org