

INTER-AMERICAN TROPICAL TUNA COMMISSION

SCIENTIFIC ADVISORY COMMITTEE

17<sup>TH</sup> MEETING

La Jolla, California (USA)

08-12 June 2026

DOCUMENT SAC-17-10

STAFF RECOMMENDATIONS FOR MANAGEMENT AND DATA COLLECTION, 2026

CONTENTS

A.	MANAGEMENT.....	1
1.	TUNAS.....	1
1.1.	Conservation of tropical tunas: bigeye, skipjack and yellowfin .....	1
1.1.1.	Background.....	3
1.1.2.a	Stock status.....	4
1.1.3.	Management advice .....	11
	Opportunities and challenges related to management advice .....	<b>Error! Bookmark not defined.</b>
1.1.4.	.....	<b>Error! Bookmark not defined.</b>
1.2.	Pacific bluefin tuna .....	17
1.3.	North Pacific albacore tuna .....	19
1.4.	South Pacific albacore tuna .....	21
1.5.	South Pacific swordfish.....	23

**A. MANAGEMENT**

**1. TUNAS**

**1.1. Conservation of tropical tunas: yellowfin, bigeye and skipjack**

**Summary**

In 2026, the staff developed its management advice for tropical tunas using multiple sources of scientific information, including an updated assessment for bigeye tuna ([SAC-17-03](#)), the benchmark assessments for yellowfin and skipjack tunas ([SAC-16-03](#), [SAC-16-04](#)), and recent stock status indicators for all three species ([SAC-17-02](#)). The risk analysis supporting management advice for tropical tunas in the eastern Pacific Ocean (EPO) was updated accordingly, incorporating the new results for bigeye tuna.

- The risk analysis results indicate that all three stocks are assessed to be in healthy condition, with very low (0-5%) to low (5-20%) probabilities (risks) of exceeding the target reference points.

**RISK ANALYSIS TABLE.** Stock status of yellowfin, bigeye and skipjack tunas, expressed in terms of the probabilities of exceeding the reference points specified in the current *interim* HCR (C-23-06). Risk analysis results for bigeye are based on the 2026 update assessment (SAC-17-03), whereas those for yellowfin and skipjack are based on the benchmark assessments (SAC-16-03 and SAC-16-04, respectively). For yellowfin, results are presented by stock-structure hypothesis (SAC-16-03).

Target RP	Probability (%) of exceeding RP		
	Yellowfin	Bigeye	Skipjack
$F_{cur} > F_{MSY}$	EPO: <1 SW: 7, NE: 3	<1	0
$S_{cur} < S_{MSY}$	EPO: <1 SW: 5, NE: 4	20	4
<b>Limit RP</b>			
$F_{cur} > F_{LIMIT}$	EPO: 0 SW: 0, NE: 0	0	0
$S_{cur} < S_{LIMIT}$	EPO: 0 SW: <1, NE: 0	0	<1

- Bigeye tuna remains the tropical tuna stock with the highest estimated risk relative to the biomass reference point ( $S_{MSY}$ ), although the risk remains low ( $P[S_{cur} < S_{MSY}] = 20\%$ ) and well below 50%. The probabilities of exceeding the target fishing mortality ( $F_{MSY}$ ) and both limit reference points ( $F_{LIMIT}$  and  $S_{LIMIT}$ ) are essentially zero for bigeye (<1%).
- The 2026 update assessment for bigeye indicates a greatly improved stock status, largely attributed to reduction in fishing mortality on juveniles due to the implementation of the Individual Vessel Threshold (IVT) measure to reduce bigeye catches on floating-object sets during 2022–2025.
- As a result, yellowfin tuna is now the species with the highest estimated risk among the three species of exceeding  $F_{MSY}$ , based on the SW stock-structure hypothesis ( $P[F_{cur} > F_{MSY}] = 7\%$ ). This result is not unexpected given the recent strong recovery of bigeye tuna. However, this risk remains low (<7%) across all three yellowfin stock-structure hypotheses evaluated. The estimated risks of exceeding the limit reference points for all three species are essentially zero (<1%).
- The staff has completed a Management Strategy Evaluation (MSE) for bigeye tuna (SAC-17-05). The MSE results indicate that the measures established under Resolution [C-25-01](#) for 2026 are effective in supporting the high-level management objective of the IATTC Antigua Convention: *maintaining or restoring fish stocks at levels capable of producing maximum sustainable yield (MSY)*. In practical terms, this implies maintaining spawning biomass at or above  $S_{MSY}$ .
- Accordingly, the staff concludes that the scientific pre-requisites specified in paragraph 1 of Resolution C-25-01 have been met and that the conservation measures established for 2026 could remain in force during 2027 and 2028 if the Commission decides to do so.
- In response to paragraphs 12 and 13 of Resolution C-25-01, the staff notes that the update bigeye assessment indicates that substantial reductions in the conservation measures are possible under the *interim* harvest control rule specified in Resolution [C-23-06](#). The staff does not recommend direct application of the HCR in Resolution C-25-01 in 2026. Instead, the staff recommends that, if desired by the Commission, any reductions in management measures continue to be implemented incrementally and within a Management Procedure framework (see SAC-17-06).
- Incremental reductions in management measures would allow additional data collection and scientific

research to reduce uncertainty in the stock assessments and improve future management advice.

- An incremental reduction would also provide the time needed to gain clarity on the ecosystem objectives of the Antigua Convention and to work toward achieving them through the implementation of the various workplans set out in the IATTC's Science Strategic Plan (SSP) ([103-INF-03a](#)), in particular the workplan to operationalize the Ecosystem Approach to Fisheries Management (EAFM) through the development of proper ecosystem-advice products ([EB-02-02](#)).
- For the reasons above, and taking a precautionary approach, the staff does not recommend direct application of the HCR in Resolution C-25-01 in 2026.
- The Individual Vessel Threshold (IVT) measure should be maintained to preserve incentives for the fleet to continue reducing fishing mortality on bigeye tuna.
- The staff proposes that the Integrated Port Sampling Program (IPSP, [SAC-17-04](#)) be maintained as a platform for scientific data collection to support management of the tropical tuna fishery in the EPO.

#### **1.1.1. Background**

This background section briefly reviews the key scientific and management developments that led to the current status of the tropical tuna stocks in the eastern Pacific Ocean (EPO) at the start of 2026. For a more detailed review of these issues, see Section 1.1.1 of [SAC-16-11](#).

##### **a) Tropical tuna conservation Resolution C-21-04 (2022–2024) and the impact of the Individual Vessel Threshold (IVT) measure to reduce bigeye catches on floating-object sets**

At its 98<sup>th</sup> meeting in 2021, the Commission adopted Resolution [C-21-04](#) establishing tropical tuna conservation measures for the 2022–2024 management cycle in the EPO. Based on the 2020 tropical tuna risk analysis ([SAC-11-08](#)), the three tropical tuna stocks were considered to be in healthy condition, although increasing fishing mortality on bigeye tuna associated with floating-object sets remained a concern. To maintain fishing mortality near the *status quo* conditions observed during 2017–2019 and avoid exceeding the target reference points under the harvest control rule framework, the resolution maintained the existing 72-day purse-seine closure and longline catch limits, and introduced the Individual Vessel Threshold (IVT) measure to reduce bigeye catches for purse-seine vessels fishing on floating objects.

Subsequent scientific analyses and the 2024 benchmark assessment for bigeye tuna ([SAC-15-02](#)) indicated an improvement in the stock status of bigeye tuna during the 2022–2024 management cycle. The improvement was associated with a reduction in fishing mortality on juvenile bigeye tuna, coinciding with implementation of the IVT measure. Additional analyses evaluating fleet behavior and catches ([SAC-15 INF-K](#); [SAC-16 INF-S](#)) concluded that the IVT measure contributed to meaningful reductions in bigeye catches in floating-object sets by large purse-seine vessels.

##### **b) Tropical tuna conservation Resolution C-24-01 (2025–2026)**

Resolution C-21-04 expired in 2024 and the Commission adopted Resolution [C-24-01](#) to establish tropical tuna conservation measures for 2025–2026. Although benchmark assessments available in 2024 indicated healthy stock status for bigeye and skipjack tunas, a new benchmark assessment for yellowfin tuna was not yet available. Consequently, the Commission maintained the principal management measures established under Resolution C-21-04, while also requesting additional scientific advice from the staff regarding possible updates to the conservation measures, specifically for yellowfin, and development of a candidate harvest strategy for bigeye through the Management Strategy Evaluation (MSE) process.

##### **c) Tropical tuna conservation Resolution C-25-01 (2026 and conditionally for 2027–2028)**

In 2025, based on a new benchmark assessment and risk analysis for yellowfin, the first risk analysis for skipjack, and stock status indicators, the staff concluded that all three tropical tuna stocks remained in healthy condition and that the recent improvement in the status of bigeye tuna was largely associated with implementation of the Individual Vessel Threshold (IVT) measure. The staff advised that reductions in the conservation measures were possible under the *interim* harvest control rule established in Resolution [C-23-06](#), but recommended that any reductions be implemented incrementally, with a maximum reduction of 10 days in the purse-seine closure period relative to the previous 72-day closure, in line with the staff's proposed harvest strategy ([SAC-16-06](#)).

The Commission subsequently adopted Resolution [C-25-01](#), reducing the purse-seine closure period from 72 to 64 days for 2026, while maintaining the IVT measure and the *corralito* closure. The resolution also established the Integrated Port Sampling Program (IPSP, [SAC-16-05](#)) and funded a tropical tuna tagging program during 2026–2027.

Resolution C-25-01 further established two possible pathways for scientific advice in 2026: 1) continuation of the 2026 measures into 2027–2028 if the MSE process confirms their effectiveness (paragraph 1); 2) modifying the measures if warranted by the best available science (paragraphs 12 and 13).

### 1.1.2. Rationale for staff recommendations

The technical rationale underlying the staff's recommendations for the conservation of tropical tunas in 2026 is presented below.

#### a. Stock status: results of the risk analysis for yellowfin, bigeye and skipjack tunas

The section below presents the results of the risk analysis for yellowfin, bigeye, and skipjack tunas. The risk analysis evaluates the probability of exceeding the target and limit reference points for the three species. Readers seeking background information on the major technical developments in the latest benchmark assessment for each species should consult Section 1.1.2.a of [SAC-16-01](#).

In 2026, the staff elaborated its management advice for the conservation of tropical tunas based on various sources of scientific information. For bigeye tuna, the species that had required the strictest management and, for that reason, driven management measures for all three tropical tuna species (yellowfin, bigeye and skipjack), an updated assessment was conducted ([SAC-17-03](#)). For yellowfin and skipjack tunas, the results of the benchmark assessments and risk analyses for both species were considered ([SAC-16-03](#), [SAC-16-04](#), [SAC-15-04](#)). In addition, recent trends in stock status indicators were inspected for all three species ([SAC-17-02](#)). With this, the risk analysis prepared to support management advice for all tropical tuna species in the EPO has been updated to incorporate the results of the updated assessment for bigeye tuna.

The risk analyses results indicate that all three stocks are assessed to be in healthy condition, with very low (0-5%) to low (5-20%) probabilities (risks) of exceeding the target reference points (**Table 1, Figure 1**). Historically, bigeye had been the species with the highest, although still moderate, probabilities of exceeding the target reference points among the three species. Bigeye tuna remains the stock with the highest estimated risk relative to the biomass target reference point,  $S_{MSY}$ ; however, this risk is low ( $P[S_{cur} < S_{MSY}] = 20\%$ ) and remains well below 50%. The risk of exceeding the target fishing mortality reference point ( $F_{MSY}$ ) and both limit reference points ( $F_{LIMIT}$  and  $S_{LIMIT}$ ) for bigeye is essentially zero.

According to Resolution [C-23-06](#), the scientific recommendations for establishing management measures for tropical tuna fisheries in the EPO shall seek to prevent the fishing mortality rate ( $F$ ) from exceeding  $F_{MSY}$  for the species requiring the strictest management measures. Since the yellowfin stock assessment

investigated alternative hypotheses to address uncertainty in stock-structure assumptions (see Figure S.1 in [SAC-16-03](#)), the staff applied a precautionary approach and took the yellowfin stock-structure hypothesis associated with the highest risk of exceeding  $F_{MSY}$  for comparisons with the corresponding statistics for bigeye and skipjack, in order to identify the species requiring the strictest management among the three.

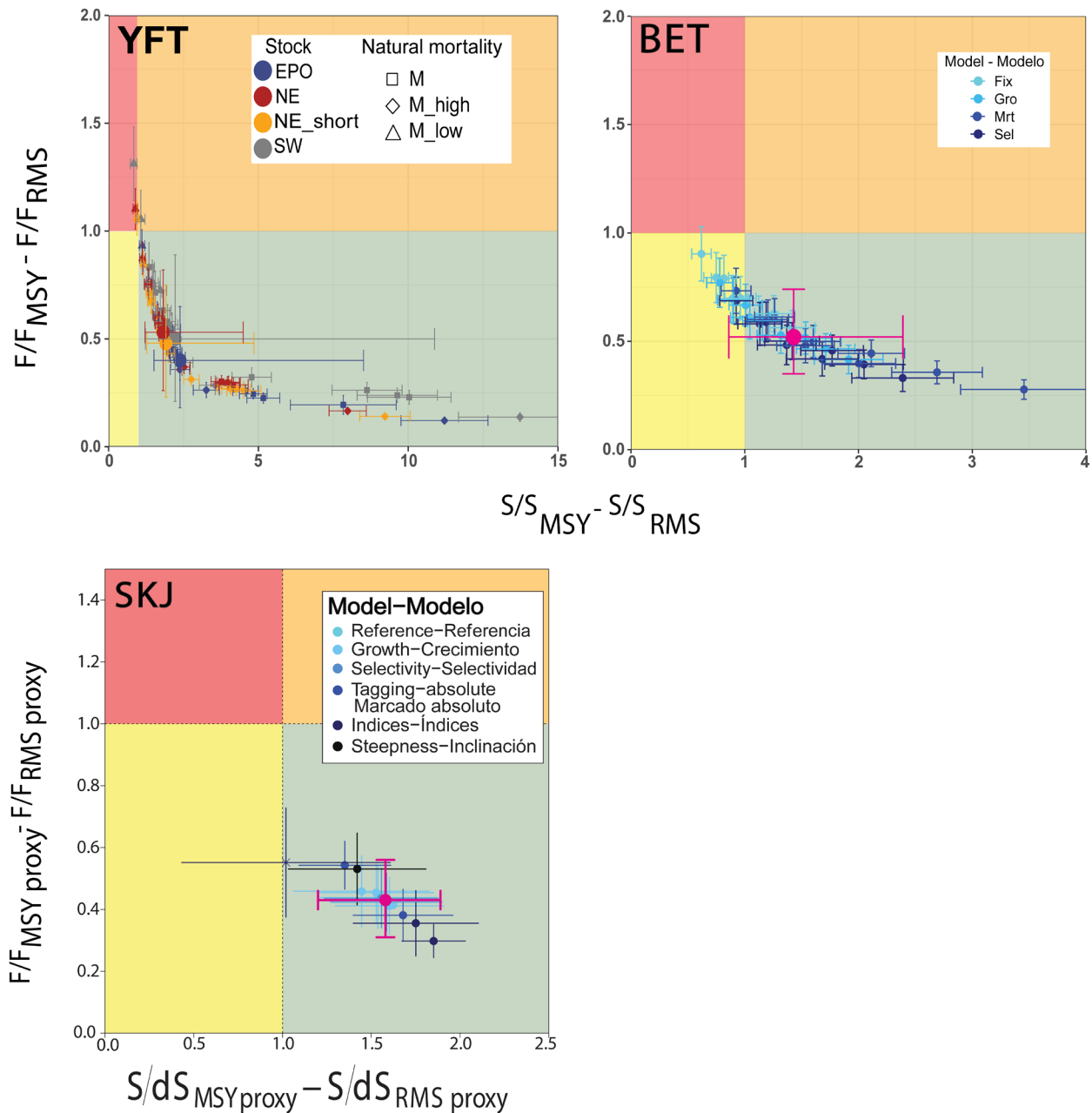
Accordingly, yellowfin tuna is now the species with the highest estimated risk among the three species of exceeding  $F_{MSY}$ , based on the SW stock-structure hypothesis ( $P[F_{cur} > F_{MSY}] = 7\%$ ). This result is not unexpected given the recent strong recovery of bigeye tuna. However, this risk remains low across all three yellowfin stock-structure hypotheses evaluated (7% for SW, 3% for NE and <1% for EPO stock-structure assumptions, respectively; **Table 1**). The estimated risks of exceeding the limit reference points for all three species are essentially zero (<1%).

The benchmark assessments and risk analysis for yellowfin and skipjack tuna used 2023 as the terminal year of data. Therefore, the assessment provides an evaluation of the stock status at the start of 2024. Considering the healthy stock status of yellowfin and skipjack at the start of 2024, and that the recent increasing trends in the indicators for these species are a consequence of strong recruitments, there is no indication that the stock status of these two species has changed substantially ([SAC-17-02](#)). An updated stock assessment for yellowfin is scheduled for 2027, and the yellowfin MSE is planned to be finalized in 2028 ([SAC-16-07](#)). An exploratory stock assessment for skipjack is planned for 2028, followed by a benchmark assessment in 2029 that will incorporate data from the IATTC-funded tagging program established under paragraph 40 of Resolution C-25-01. An MSE for skipjack is scheduled to begin in 2029 and be completed in 2030 ([SAC-16-07](#)).

**TABLE 1.** Stock status<sup>1</sup> of yellowfin, bigeye and skipjack tunas, expressed in terms of the probabilities of exceeding the reference points specified in the *interim* HCR (C-23-06). For yellowfin, results are presented by stock-structure hypothesis (SAC-16-03).

Target RP	Probability (%) of exceeding RP		
	Yellowfin	Bigeye	Skipjack
$F_{cur} > F_{MSY}$	EPO: <1 SW: 7, NE: 3	<1	0
$S_{cur} < S_{MSY}$	EPO: <1 SW: 5, NE: 4	20	4
<b>Limit RP</b>			
$F_{cur} > F_{LIMIT}$	EPO: 0 SW: 0, NE: 0	0	0
$S_{cur} < S_{LIMIT}$	EPO: 0 SW: <1, NE: 0	0	<1

<sup>1</sup> Defined as the spawning biomass ( $S$ ) at the start of 2024 (yellowfin and skipjack) and 2026 (bigeye) or the average fishing mortality ( $F$ ) during the most recent three years in the benchmark assessment (2021-2023, yellowfin and skipjack) and (2023-2025, bigeye).



**FIGURE 1.** Kobe plots of the most recent estimates of spawning biomass ( $S$ ) and fishing mortality ( $F$ ) relative to their target reference points ( $S_{MSY\_d}$  and  $F_{MSY}$  for yellowfin and bigeye,  $S_{MSY\_proxy}$  and  $F_{MSY\_proxy}$  for skipjack) from the reference models used in the benchmark assessments and risk analysis for a) yellowfin (SAC-16-03), b) bigeye (SAC-17-03), and c) skipjack tuna (SAC-16-04). Each dot is based on the average  $F$  over the most recent three years in the stock assessment: 2023-2025 for bigeye and 2021-2023 for yellowfin and skipjack tunas. The error bars represent the 80% confidence interval of that model’s estimates. The large dot and error bars represent the median and 80% confidence interval of values combined across models.

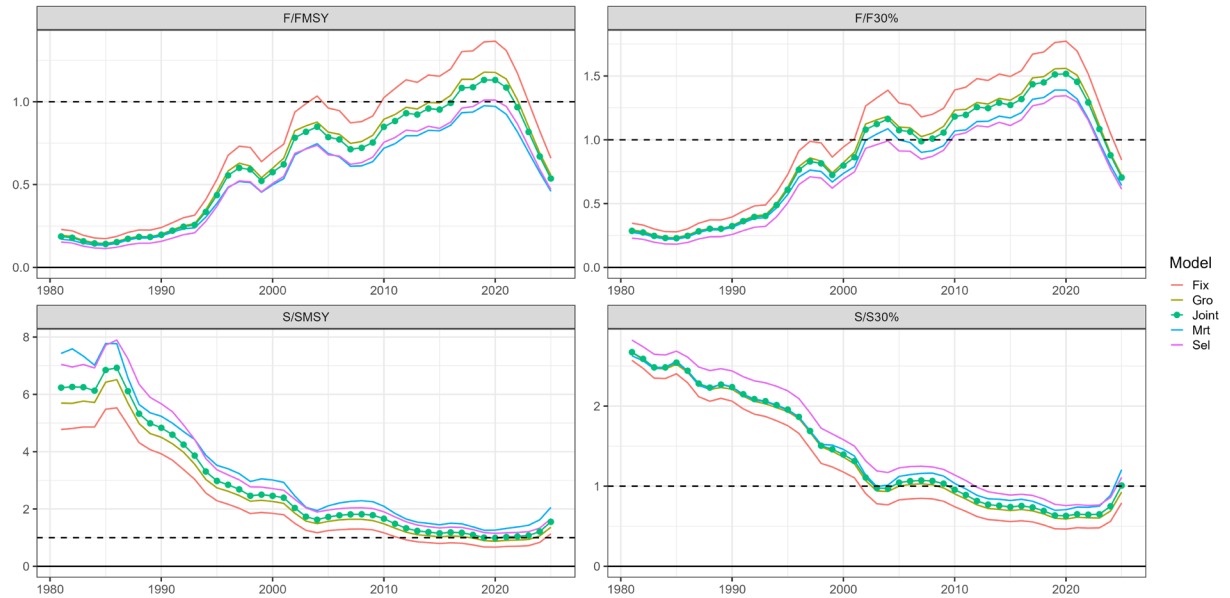
**b. Impact of the Individual Vessel Threshold (IVT) measure on bigeye**

The results of the 2026 update assessment for bigeye indicate a substantially improved stock status, largely attributed to the implementation of the IVT measure during 2022–2025. This improvement is primarily reflected in five key findings described below:

- i. **Strong reduction in fishing mortality ( $F$ ) and catches of juvenile bigeye:** The 2026 update stock assessment shows a recent strong decline in  $F$  for young bigeye (1–8 quarters of age), coinciding with the implementation of the IVT measure during 2022–2025 (see Figure 10.a in [SAC-17-03](#)) and fishing mortality has halved compared to just prior to the implementation of the IVT. As a result, bigeye catches declined by 31%, from an average of approximately 61,000 t prior to implementation of the IVT (2010-2021) to approximately 42,000 t during the IVT implementation period (2022-2025).
- ii. **Increase in spawning biomass:** As a result of the reduction in fishing mortality and catches of juvenile bigeye described above, a recent increase in bigeye spawning biomass and the spawning biomass ratio (SBR) has been observed since 2025, when juvenile bigeye that were not caught on floating-object sets due to implementation of the IVT measure in 2022 would be expected to recruit into the spawning stock (Figures 9a and 9b in [SAC-17-03](#)).
- iii. **Very low risk of exceeding the fishing mortality target reference point ( $F_{MSY}$ ) or an even more conservative TRP:** Fishing mortality declined substantially below  $F_{MSY}$  following implementation of the IVT measure in 2022 (**Figure 2**). The probability (risk) of exceeding the target reference point dropped from 64% in 2017-2019 (the *status quo* period) to essentially zero (0.3%) in 2023-2025 (**Figure 3**).

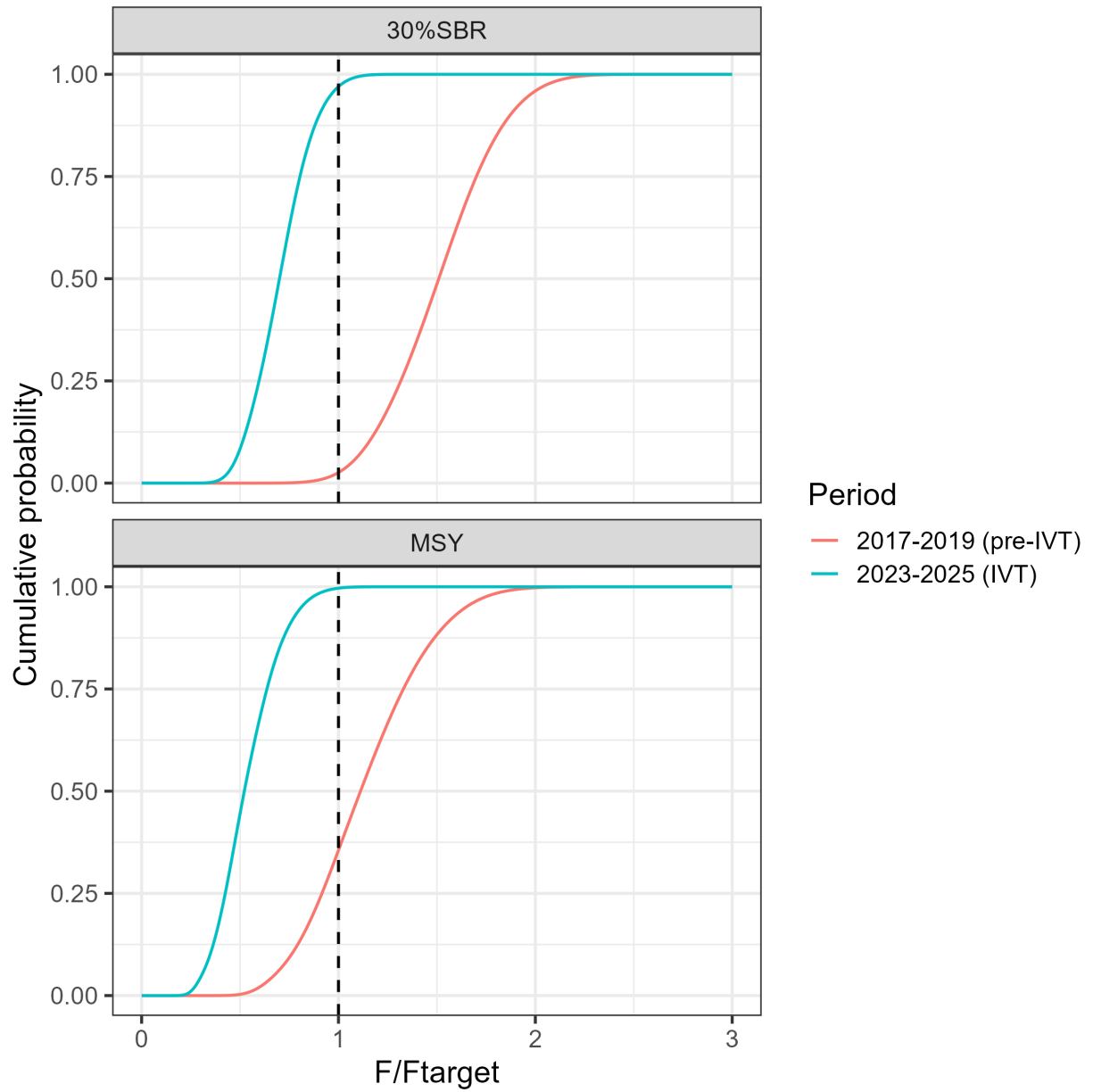
In addition, when considering a more conservative  $F_{30\%}$  target reference point proposed by the staff ([SAC-15-05](#)), the recent decline in  $F$  fell below  $F_{30\%}$  in 2023. The probability of exceeding  $F_{30\%}$  declined from 97% during 2017–2019 to 3% during 2023–2025 (**Figure 3**).

- iv. **Empirical confirmation of improvement in bigeye stock status:** Juvenile bigeye not caught during implementation of the IVT measure in 2022 would be expected to recruit into the longline fishery in 2024. Empirical support for this hypothesis is provided by increasing trends in bigeye longline CPUE in 2024 in both the Japanese and Korean fisheries (**Figure 4**). In addition, the strong bigeye recruitments observed in 2023–2024 ([SAC-17-03](#)), likely associated with strong El Niño events during those years, cannot explain the increases observed starting in 2024, as those cohorts are only expected to recruit into the longline fisheries in 2025 and beyond ([IATTC-103a INF-A](#)).



**FIGURE 2.** Time series of estimated spawning biomass ( $S$ ) and fishing mortality ( $F$ ) for bigeye relative to their MSY reference points and the staff's proposed target reference points ( $F_{30\%}$ ,  $S_{30\%}$ , [SAC-15-05](#)) for the four models considered in the level 1 hypothesis. The values for each model are weighted across the second- and third-level hypotheses, and each  $F$  is based on the average value over three years.

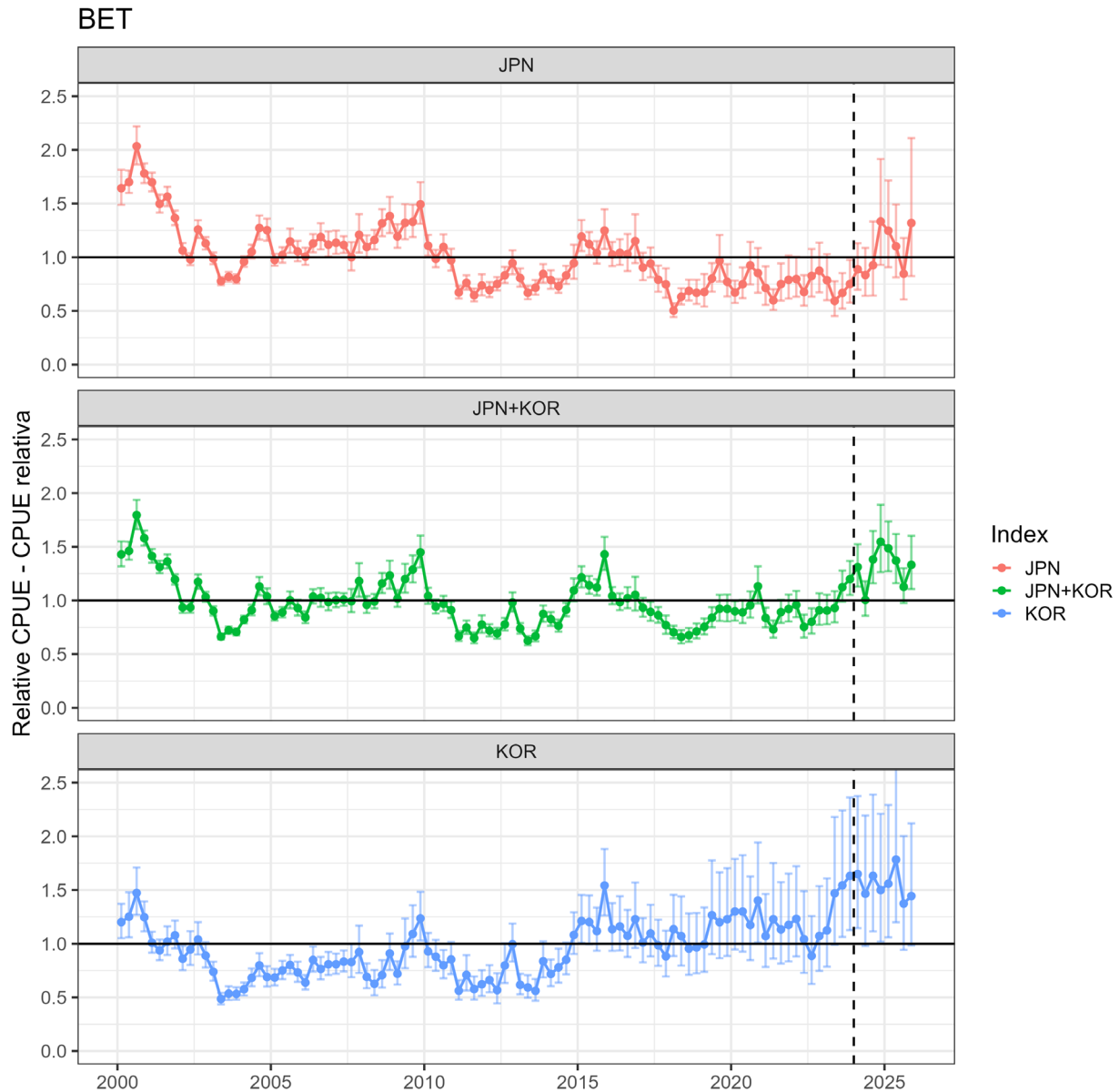
**FIGURA 2.** Series de tiempo de la biomasa reproductora ( $S$ ) y la mortalidad por pesca ( $F$ ) para patudo estimadas en relación con sus puntos de referencia de RMS y los puntos de referencia objetivo propuestos por el personal ( $F_{30\%}$ ,  $S_{30\%}$ , [SAC-15-05](#)) para los cuatro modelos considerados en la hipótesis de nivel 1. Los valores de cada modelo se ponderan entre las hipótesis de segundo y tercer nivel, y cada  $F$  se basa en el valor promedio de tres años.



**FIGURE 3.** The joint cumulative probability distribution for fishing mortality ( $F$ ) in 2017-2019 and 2023-2025 relative to their MSY reference points ( $F_{MSY}$ ) and  $F_{30\%}$ .

**FIGURA 3.** Funciones de distribución de probabilidad acumulada para la mortalidad por pesca ( $F$ ) en 2017-2019 y 2023-2025 en relación con sus puntos de referencia de RMS ( $F_{RMS}$ ) y  $F_{30\%}$ .

00



**FIGURE 4.** Quarterly indicators based on spatio-temporal modeling of Japanese (top row), Japanese + Korean (middle row), and Korean (bottom row) longline CPUE data, 2000-2025. The dashed line represents the first quarter of 2024.

**FIGURA 4.** Indicadores trimestrales basados en el modelado espaciotemporal de datos de CPUE de palangre de Japón (fila superior), Japón + Corea (fila del medio) y Japón (fila inferior), 2000-2024. Los datos de CPUE de palangre para 2025 solo están disponibles para Japón, por lo que los índices conjuntos para 2025 son menos exactos y precisos. La línea discontinua representa el primer trimestre de 2024.

### c. Impact of the IVT measure on fleet behavior

The staff also conducted a comprehensive evaluation of the impacts of the IVT measure on tropical tuna catches and fleet behavior in the EPO ([SAC-15 INF-K](#), [SAC-16 INF-S](#)). In summary, the staff estimated that the IVT caused meaningful decreases in catches of bigeye in floating-object sets by class 6 purse seine

vessels in 2022, 2023 and 2024. This change appears to have been driven largely by a decrease in catch-per-unit-effort of floating-object sets, as opposed to a decrease in the number of total sets or a shift from floating-object to unassociated sets. The estimated reduction in bigeye catches caused by the IVT takes into account the effects of underlying bigeye abundance. These results are further supported by results showing that highliner vessels<sup>2</sup> appeared to have decreased their probability of catching  $\geq 10$  t of bigeye in a floating-object set relative to other background trends in this rate. In a recent anonymous skipper survey conducted in 2024–2025, the responses provided some support for the mechanisms behind the estimated reduction in bigeye catches. A majority of respondents (60%) reported having taken steps to reduce bigeye captures since 2022. The most commonly cited measures included changes in fishing locations (~23%), modifications to FAD design (10%), and avoidance of FADs associated with bigeye presence (7%) ([SAC-16 INF-S](#)).

### 1.1.3. Management advice

Within the framework of existing Resolution [C-25-01](#), and after consideration of the best scientific information available in 2026, the staff identified three potential pathways that the Commission could consider for tropical tuna conservation measures in 2027 and beyond: 1) maintaining the current measures in 2027–2028; 2) reducing the conservation measures through application of the Harvest Control Rule (HCR) currently in place for the tropical tuna fishery in the EPO (Resolution C-23-06); or 3) adopting a Management Procedure to guide precautionary and incremental reductions in the conservation measures. A description of these pathways is provided below.

#### a. Maintaining the current measures under Resolution C-25-01 in 2027 and 2028

Resolution [C-25-01](#) establishes conservation measures for tropical tunas in the EPO during 2026. This resolution shall remain in force for 2027 and 2028, provided that the scientific advice recommended by the staff and the Scientific Advisory Committee (SAC) in 2026, through the Management Strategy Evaluation (MSE) process, confirms the effectiveness of the measures in place, as set out in paragraph 1 concerning the possible extension of its period of validity:

*These measures are applicable from 00:00 hours on 1 January 2026 and will expire on to 24:00 hours on 31 December 2026, except for the second closure period referred to in paragraph 3, which extends until 24:00 hours on 11 January 2027, unless the scientific advice provided by the staff and the Scientific Advisory Committee (SAC) in 2026 through the Management Strategy Evaluation (MSE) process confirms the effectiveness of the measures in place. In this case, the Resolution would remain in force until 24:00 hours on 31 December 2028..*

In 2026, the staff completed a Management Strategy Evaluation (MSE) for bigeye tuna ([SAC-17-05](#)). The MSE results can be used to evaluate whether the current measures under Resolution C-25-01 for 2026—particularly the reduction of the purse-seine closure from 72 to 64 days (an 8-day reduction)—can be maintained in 2027 and 2028. All eight strategies tested include reductions of up to 10 days (i.e., 2 additional reduction days beyond the 8-day reduction implemented in C-25-01). Therefore, using the MSE results to evaluate the effectiveness of the 8-day reduction is appropriate, as the tested strategies encompass less precautionary scenarios (up to a 10-day reduction), implying that outcomes under the 8-day reduction are more optimistic (i.e., result in equal or higher stock sizes).

---

<sup>2</sup> Vessels that historically caught levels of bigeye that could put them at risk of exceeding the IVT (see SAC-15 INF-K for details).

The MSE research identified three harvest control rules (HCRs)—the staff’s proposal and two alternatives—that meet the various categories of management objectives (safety, status, stability, yield, effort, and abundance) identified during the discussions held during [IATTC MSE workshops](#) (2019–2025), and meetings of the [Ad Hoc Working Group to Strengthen the Dialogue among Scientists, Managers, and other Stakeholders on MSE](#) (2025–2026). All three HCRs result in a 10-day reduction in the closure during the first three-year management cycle. Therefore, the MSE results support the conclusion that the 64-day closure adopted for 2026 is effective and could be maintained for 2027 and 2028, should the Commission wish to so. In reaching this conclusion, the staff interpreted “effective” as supporting the high-level management objective established under the IATTC Antigua Convention, *specifically to maintain or restore fish stocks at levels capable of producing maximum sustainable yield (MSY)*. In practical terms, this implies maintaining spawning biomass at or above  $S_{MSY}$ .

This conclusion is not affected by the stock status of yellowfin and skipjack tuna. Although, in 2026, yellowfin became the species requiring the strongest management measures because of the substantial improvement in the stock status of bigeye tuna (see stock status section above), the yellowfin stock remains in healthy condition, and it does not require a closure longer than 64-days under the *interim* HCR ([C-23-06](#)). Recent trends in stock status indicators for yellowfin and skipjack show no concerns ([SAC-17-02](#)). In addition, this conclusion is supported by a multi-species MSE for tropical tuna in the EPO ([SAC-17 INF-Q](#)).

**b. Modifying conservation measures based on application of the *interim* Harvest Control Rule (HCR) to results from the updated bigeye assessment**

Resolution C-25-01 also opens the possibility for modifying the conservation measures, if appropriate. Specifically, paragraph 12 tasks the staff with the following:

*In the event that the status quo conditions, as represented by the average annual catches of bigeye tuna during the three-year period 2017-2019 (66,906 t – Best Scientific Estimate [BSE]), are not offset by this measure, **or taking into consideration the results of any new stock assessments for bigeye**, the IATTC scientific staff shall propose to the Commission an update of its recommendations for these conservation measures, including, among others, an increase of the numbers of closure days.*

In addition, paragraph 13 tasks the staff in the following:

*If the implementation of this measure has positive effects that demonstrate an improvement of the status of the bigeye tuna stock, **the scientific staff shall analyze the conservation measures in force in order to submit to the Commission for consideration new measures that consider, among others, reducing the number of closure days or eliminating the “corralito.”***

The management actions outlined in Resolution C-25-01 came into effect in 2026. However, the updated bigeye tuna assessment uses data only through 2025; therefore, the effects of Resolution C-25-01 on the stock are not reflected in the data used in the assessment. Nevertheless, the updated bigeye assessment includes additional information on the impact of the IVT measure during 2022–2025, thereby improving the best available scientific information that can be used to evaluate the application of the *interim* harvest control rule (HCR).

Based on an evaluation of the best available scientific information in 2026 (Section 1.1.2), the staff concluded that the implementation of Resolutions [C-21-04](#) and, subsequently, [C-24-01](#) has had a positive effect on the status of the bigeye tuna stock. Furthermore, all tropical tuna stocks in the EPO—specifically

yellowfin, bigeye, and skipjack tuna—are currently in healthy condition. Therefore, a reduction in the current management measures is possible under the *interim* HCR specified in Resolution C-23-06.

Under the current HCR, conservation measures for all tropical tuna stocks are determined by the species requiring the strictest measures among yellowfin, bigeye and skipjack tunas. In 2026, yellowfin tuna is the species with the highest estimated risk among the three species of exceeding  $F_{MSY}$ , based on the SW stock-structure hypothesis ( $P[F_{cur} > F_{MSY}] = 7\%$ , see section 1.1.2.a). This result is not unexpected given the recent strong recovery of bigeye tuna. However, this risk remains low across all three yellowfin stock-structure hypotheses evaluated (7% for SW, 3% for NE and 0.4% for EPO stock-structure assumptions, respectively; **Table 1**).

Accordingly, to achieve the fishing mortality corresponding to the MSY for the worse case stock status scenario for yellowfin, in particular the SW stock structure hypothesis, eliminating the closure of the purse seine fishery would be possible<sup>3</sup>. However, substantial changes in the duration of the purse-seine closure based solely on  $F_{MSY}$ , including eliminating the closure, are not recommended by the staff for the following reasons:

- 1- For yellowfin and bigeye, the spawning biomass at MSY ( $S_{MSY}$ ), based on current age-specific fishing mortality and stock assessment model assumptions, is relatively low, with a median estimate ranging from 0.16 to 0.19 across the three yellowfin stock structure hypothesis, and 0.21 for bigeye ([SAC-16-03](#), [SAC-17-03](#)). Other organizations and stakeholders have considered such low levels of  $S_{MSY}/S_0$  undesirable. For example, these values are below (yellowfin) and only slightly above (bigeye) the limit reference point (LRP) of 20% used at WCPFC. Therefore, targeting this level would not align with the IATTC's consideration to move toward compatibility with the measures adopted by WCPFC, as reflected in spirit of paragraph 39 in Resolution C-25-01. A biomass target above this level might be more appropriate and also aligned with target biomass levels adopted by other tuna RFMOs ([MSE-04-01](#)). The IATTC staff has previously recommended  $S_{30\%}$  as an alternative *proxy* for the interim target reference point ([SAC-15-05](#)).
- 2- Large changes in the duration of the purse-seine closure have not been observed in the recent history and data of the tropical tuna fishery in the EPO. If desired, such large reductions in management measures should be implemented incrementally to allow for careful evaluation of their effects on the stocks and the ecosystem, minimize variability in catch and effort, and reduce the possibility in large increases in management actions when new data becomes available that reduces uncertainty in the assessments.
- 3- The Commission may wish to consider management objectives other than maximizing yield (e.g. safety, stock status, stability, effort and abundance, socio-economic as discussed during the [IATTC MSE workshops](#) (2019–2025) and recent meetings of the [Ad Hoc Working Group to Strengthen the Dialogue among Scientists, Managers, and other Stakeholders on MSE](#) (2025–2026).
- 4- Large changes in management actions, if desired, should be made incrementally within the framework of an adopted Management Procedure (see section c below).
- 5- Incremental reductions in management measures would allow additional data collection and scientific research to reduce uncertainty in the stock assessments and improve future management advice.

---

<sup>3</sup>  $Closure_{new} = 365 - (365 - Closure_{old}) * F_{target} / F_{cur} = 365 - (365 - 72) * 1.32 = -21.76$ , which equates to eliminating the closure.

- 6- Article VII(f) of the IATTC Antigua Convention provides the foundation for considering an Ecosystem Approach to Fisheries Management (EAFM). However, the Commission has not defined operational ecosystem objectives, and the staff has not evaluated the ecosystem impacts of large perturbations such as rapid and substantial reductions in the purse-seine closure. The IATTC Strategic Science Plan (2026–2030; [IATTC-103-03a](#)) sets out workplans to support both the definition of those objectives and the operationalization of EAFM (see, for example, [EB-02-02](#)). Therefore, large reductions in management measures should be implemented incrementally. An incremental approach would allow the EAFM workplan to advance — including the clarification of ecosystem objectives — and its outputs to be used to track and monitor potential ecosystem impacts. For these reasons, and taking a precautionary approach, the staff does not recommend direct application of the HCR in Resolution C-25-01 in 2026.

### c. Management Procedure for bigeye tuna in the EPO

Large reductions in the management measures, if considered by the Commission, should be planned within the Management Strategy Evaluation (MSE) framework currently underway at the IATTC. Paragraph 44 of Resolution C-25-01 tasks the staff, in consultation with the SAC, with presenting a candidate harvest strategy for bigeye tuna to the Commission in 2026:

*The IATTC shall continue efforts to develop harvest strategies for tropical tunas. The IATTC scientific staff shall prioritize and continue to establish the scientific basis, through Management Strategy Evaluation testing, to advise the Commission on initial candidate harvest strategies, starting with bigeye tuna. The staff, consulting with the ad hoc Working Group on Management Strategy Evaluation and the SAC, shall then present for the Commission’s adoption in 2026 a candidate harvest strategy for bigeye tuna, including candidate management actions to be taken under various stock conditions.*

In 2026, the staff completed a Management Strategy Evaluation (MSE) for bigeye tuna ([SAC-17-05](#)). The objective of the MSE is to evaluate how well alternative harvest strategies achieve potential management objectives related to safety, stock status, stability, yield, effort, and abundance. Although the IATTC has not yet fully specified all components of a harvest strategy for bigeye tuna (e.g., management objectives, reference points, performance metrics, and harvest control rules), the staff developed and fully tested its proposed harvest strategy together with seven alternative harvest control rules (HCRs). These were formulated based on input gathered through the discussions held during the [IATTC MSE workshops](#) (2019–2025) and the recent meetings of the [Ad Hoc Working Group to Strengthen the Dialogue among Scientists, Managers, and other Stakeholders on MSE](#) (2025–2026).

Across all candidate HCRs, the bigeye stock is projected to be rebuilt rapidly in the early years of the simulation. This response reflects both a strong recruitment in 2023 and the reduction in juvenile fishing mortality following the implementation of the individual vessel threshold (IVT) measure that began in 2022. All HCRs perform well relative to candidate limit reference points, with near-zero probabilities of breaching the interim limit reference point. Similarly, the probability of remaining in the green Kobe (MSY based) quadrant is high for all HCRs, ranging from about 90% for the less conservative HCRs to about 95% for the more conservative ones.

While performance related to safety objectives is similar across HCRs, differences arise in tradeoffs between fishery utilization and stock conservation objectives. Less conservative HCRs provide higher purse-seine catches and shorter fishery closures but result in slightly lower probabilities of meeting stock status objectives. More conservative HCRs provide improved safety and status outcomes but at the cost

of longer closures and lower purse-seine catches. These tradeoffs are central for management decision-making and illustrate the value of the MSE framework in providing transparent, quantitative comparisons across strategy options.

Several of the HCRs had undesirably high average days of closure above the 72 days that triggered the bigeye IVTs and thus viewed as undesirable. Several of the HCRs had a moderate probability of a 20-day increase in the days of closure and thus viewed as undesirable. The staff therefore identifies three HCRs that are considered to meet the proposed management objectives of safety, stock status, stability, yield, effort, and abundance: F30-S20, F35-S20, and F35-S25 (Table 1 in [SAC-17-05](#)).

All HCRs tested included a maximum 10-day reduction in the closure per 3-year management cycle. This limits how quickly fishing mortality can move toward the target fishing mortality. None of the three identified HCRs reached their target fishing mortalities within the 21-year MSE period. In addition, the 2026 updated bigeye assessment, which includes one additional year of data (2025) compared to the operational models used in the MSE, is more optimistic. Current fishing mortality is estimated to be even lower relative to the target in the update assessment. Impacts on yellowfin and skipjack can be evaluated using the multi-stock MSE framework described in [SAC-17 INF-Q](#).

In case that the Commission wishes to consider a faster trajectory toward the target fishing mortality, the staff has outlined possible options in [SAC-17-06](#).

#### **d) Maintaining the Individual Vessel Threshold (IVT) measure and the Integrated Port Sampling Program (IPSP)**

The main assumption underlying any reductions in the management measures is that the measure that greatly contributed to the recent reduction in the fishing mortality ( $F$ ) of bigeye remains in place. Specifically, that the IVT measure to reduce bigeye catches will continue to work effectively as in recent years ([SAC-15 INF-K](#), [SAC-16 INF-S](#), see section 1.1.2.b) maintaining the lower levels of fishing mortality. Eliminating the IVT and consequently the motivation for purse-seiners to avoid large catches of bigeye tuna (see sections 1.1.2.c) could result in increased bigeye catches on floating-object sets similar to those observed before the implementation of this measure (average of 61,000 during 2010-2021 versus 42,000 t during 2022-2025, a 31% decrease). As a result, this would require returning to the management regime associated with the *status quo* period (2019-2021) with a duration of the closure set back to at least 72-days. Maintaining the IVT measure is critical to preserve the incentives for the fleet to continue reducing fishing mortality on bigeye tuna.

An important component of the IVT measure is the scientific support provided by the staff through the estimation of BET catch per trip, as established in paragraph 8 of Resolution C-25-01. Between 2023 and 2025, these estimates were derived exclusively from sampling data collected from prioritized vessels under the Enhanced Monitoring Program (EMP). Beginning in 2026, and in response to the Commission's request for a more cost-efficient mechanism to maintain this support, the estimates are being generated using data collected through the IPSP ([SAC-17-04](#)).

Starting in 2026, all purse-seine port sampling activities, including the updated sampling protocol for fleet-level catch composition estimation, are being conducted under the IPSP framework. The IPSP was proposed by the staff in document [SAC-16-05](#) and approved by the Commission in paragraph 7 of [Resolution C-25-01](#). An external review conducted in 2025 ([RVSPL-01](#)) generally supported the development and implementation of the IPSP, while also recommending further methodological refinements and continued evaluation.

The IPSP serves as the IATTC operational platform that implements the collection of port-sampling data

under the improved sampling protocol for fleet-level species catch estimation, and supports other scientific needs, such as the collection of morphometric data to update the morphometric relationships necessary for stock assessment modeling. In support of the IVT measure, the IPSP provides sampling coverage of prioritized vessel trips greater than that covered by the EMP in 2025, and generates well-level data that are used to obtain BSEs of bigeye tuna catch per trip using a model of the well-level relationship between port-sampling and observer data ([SAC-16 INF-I](#), [SAC-17-04](#)).

#### **RECOMMENDATIONS:**

##### **1 - On extending the measures in Resolution C-25-01 into 2027 and 2028 (staff's response to paragraph 1):**

- The staff has completed an MSE for bigeye tuna ([SAC-17-05](#)).
- The MSE results indicate that the measures established under Resolution C-25-01 for 2026 are effective in supporting, for bigeye tuna, the high-level management objective of the IATTC Antigua Convention: *maintaining or restoring fish stocks at levels capable of producing maximum sustainable yield (MSY)*.
- Accordingly, the staff concludes that the scientific pre-requisites specified in paragraph 1 of Resolution C-25-01 have been met and that the conservation measures established for 2026 could remain in force during 2027 and 2028 if the Commission decides to do so.
- This conclusion is also valid for yellowfin and skipjack.

##### **2 – On modifying the conservation measures (staff's response to paragraphs 12 and 13 of Resolution C-25-01):**

- An update assessment has been conducted for bigeye tuna ([SAC-17-03](#)).
- The staff notes that substantial reductions in the conservation measures are possible under the *interim* harvest control rule specified in Resolution C-23-06.
- The staff recommends that, if desired by the Commission, any reductions in management measures continue to be implemented incrementally and be included within a Management Procedure framework (see option 3).

##### **3 – On the adoption of a Management Procedure for bigeye tuna:**

- A Management Strategy Evaluation (MSE) has been conducted for bigeye tuna ([SAC-17-05](#)).
- Three of the tested harvest control rules (HCRs) have been identified to have met the proposed management objectives discussed during the IATTC MSE workshops (2019–2025) and meetings of the *Ad Hoc Working Group to Strengthen the Dialogue among Scientists, Managers, and other Stakeholders on MSE (2025–2026)*.
- The HCRs evaluated in the MSE included a maximum 10-day closure reduction per 3-year management cycle. The updated bigeye assessment is more optimistic than the previous benchmark assessment. Therefore, the Commission could consider more rapid reductions in the purse-seine closure, providing a faster trajectory toward the target fishing mortality ([SAC-17-06](#)).

##### **4 - Maintain the Individual Vessel Threshold (IVT) measure to preserve incentives for the fleet to continue reducing fishing mortality on bigeye tuna.**

#### **5 - On additional actions accompanying any management measures:**

- The staff proposes maintaining the Integrated Port Sampling Program (IPSP) as a platform for scientific data collection to support management of the tropical tuna fishery in the EPO.

#### **6 – On continuing the development of harvest strategies for tropical tuna in the EPO**

- In coordination with the *Ad Hoc Working Group to Strengthen the Dialogue among Scientists, Managers and other Stakeholders on MSE*, the staff recommends continuing the development and implementation of Management Procedures (harvest strategies) for tropical tuna stocks in the EPO, including further refinement of management objectives, performance indicators, harvest control rules, and monitoring strategies.

## **1.2. Pacific bluefin tuna**

### **Stock status**

The Pacific Bluefin Tuna Working Group (PBFWG) of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) completed a benchmark stock assessment for Pacific bluefin tuna (PBF) in 2024 ([SAC-15 INF-N](#)). The stock achieved the second rebuilding target of 20%SSB<sub>F=0</sub> in 2021, 13 years ahead of the original schedule, and spawning stock biomass has continued to increase since that time. The next benchmark assessment is scheduled for 2027, with a peer review in 2026.

### **Current management**

IATTC Resolution [C-24-02](#) establishes management of Pacific bluefin tuna in the EPO for the period 2025–2026, defining total commercial catches and biennial catch limits for each CPC. This resolution expires at the end of 2026. The Joint IATTC and WCPFC-NC Working Group on the Management of Pacific Bluefin Tuna (PBFJWG) is expected to recommend a long-term harvest strategy for implementation in 2027, which would be reflected in new management measures by both Commissions.

### **Management Strategy Evaluation and long-term harvest strategy**

The ISC PBFWG completed the Management Strategy Evaluation (MSE) for Pacific bluefin tuna in 2025 ([SAC-17 INF-H.a](#)). The MSE examined the performance of 16 candidate harvest control rules (HCRs) using a closed-loop simulation framework that accounts for uncertainty in observations, stock assessment models, and implementation. Performance was evaluated across four categories: safety (probability of stock falling below the limit reference point), status (probability of maintaining fishing mortality at or below the target level), stability (limiting changes in catch limits between management periods), and yield (maintaining an equitable balance in fishery impact between the WCPO and EPO while maximizing yield over the medium and long terms).

The MSE results reveal clear tradeoffs between safety and yield objectives: HCRs with higher target reference points provide greater safety margins and perform better under low-recruitment scenarios, but result in lower yields. All HCRs except HCRs 6 and 14 maintain less than 20% probability of the spawning stock biomass (SSB) falling below the second rebuilding target of 20%SSB<sub>F=0</sub>. Robustness tests indicate that HCRs with higher target reference points are more resilient to scenarios of declining recruitment, which was identified as a key concern given the stock's history.

The PBFJWG considered the MSE results at its 10th session (JWG-10, Toyama, July 2025) and at its third

intersessional meeting ([JWGI-03](#), Newport Beach, March 2026). At JWGI-03, the PBFJWG reached broad agreement to eliminate HCRs 3, 6, 11, and 14 from further consideration, and developed a compromise proposal—referred to here as the Newport Beach proposal—with the following harvest strategy elements (Attachment C of the JWGI-03 report):

- **F-target:**  $F_{SPR27.5\%}$
- **Control Point 1 (threshold reference point, ThRP):**  $20\%SSB_{F=0}$
- **Control Point 2:**  $7.7\%SSB_{F=0}$
- **$F_{min}$ :** SPR70%
- **Management cycle:** 2-year cycles, with review after 6 years (3 cycles)

The only element not yet resolved is the allocation of fishery impact between the WCPO and EPO fleet segments (i.e., the WCPO:EPO impact ratio), which determines the split of the total allowable catch (TAC) between the two convention areas. Two variants of the Newport Beach proposal were therefore submitted to the ISC for TAC calculation: HCR 17 (based on the status quo 80:20 WCPO:EPO impact ratio) and HCR 18 (based on a 70:30 WCPO:EPO impact ratio). The ISC calculated  $TAC_1$  for 2026–2028 under both HCRs ([SAC-17 INF-H.b](#)): approximately 26,642 metric tons total under HCR 17 (of which approximately 6,983 metric tons in the EPO), and approximately 28,388 metric tons total under HCR 18 (of which approximately 9,476 metric tons in the EPO). The ISC noted that the performance of HCRs 17 and 18 should generally fall between those of HCRs 7 and 8 (HCR 17) and HCRs 15 and 16 (HCR 18) from the original MSE evaluation, with the 2-year management cycle providing more responsive adjustments to changes in stock biomass compared to the 3-year cycle used in the original HCRs.

The PBFJWG is scheduled to hold its 11th session (JWG-11) in July 2026 in Japan, where it aims to finalize the long-term harvest strategy for recommendation to both Commissions.

### Exceptional circumstances

At JWG-10, the PBFJWG tasked the ISC to develop criteria for identifying exceptional circumstances that would trigger suspension or modification of the adopted management procedure. In response, the ISC PBFWG developed a draft framework modeled on the exceptional circumstances criteria established for North Pacific albacore tuna ([SAC-17 INF-H.b](#)). The framework identifies three general elements for evaluation: (i) stock and fleet dynamics (including depletion of stock biomass, fishing intensity, longline CPUE, changes in fleet dynamics or selectivity, biological parameters, and recruitment trends); (ii) application (whether the estimation model or stock assessment remains producible and reliable); and (iii) implementation (whether actual removals differ substantially from those prescribed by the management procedure). The ISC PBFWG concluded that the updated recruitment index through 2025 shows no indication of serious recruitment decline in recent years, providing reassurance regarding near-term stock trajectory.

### Reference points

Formal target and limit reference points have not yet been adopted for Pacific bluefin tuna. The harvest strategy elements agreed in the Newport Beach proposal incorporate reference points de facto—specifically, a target fishing mortality of  $F_{SPR27.5\%}$ , a threshold reference point of  $20\%SSB_{F=0}$ , and a second control point of  $7.7\%SSB_{F=0}$ —but these have not been formally adopted as reference points by either Commission. The staff reiterates that the formal adoption of target and limit reference points would strengthen the harvest strategy framework and facilitate evaluation of management performance. As proposed in [SAC-14 INF-O](#) and [SAC-15-05](#), a proxy target reference point of  $30\%SSB_{F=0}$  (dynamic) and the interim limit reference point of  $7.7\%SSB_0$  (equilibrium) currently used for tropical tunas in the EPO under Resolution [C-](#)

[23-06](#) provide a suitable basis for consideration.

## **RECOMMENDATIONS:**

### **1. Reference points**

The staff recommends the adoption of reference points for Pacific bluefin tuna, taking into consideration those proposed in [SAC-14 INF-O](#), noting that the harvest strategy elements reflected in the Newport Beach proposal are broadly consistent with that framework.

### **2. Long-term harvest strategy and implementation measures**

The staff considers that the agreement reached at JWGI-03 on the core elements of a long-term harvest strategy (reflected in the Newport Beach proposal), together with the ISC's evaluation of HCRs 17 and 18 ([SAC-17 INF-H.b](#)) and the draft exceptional circumstances criteria, provide a sufficient scientific basis for the PBFJWG and both Commissions to agree on a long-term harvest strategy and corresponding implementation measures. Thus the staff recommends the finalization of the long-term harvest strategy at JWG-11 in July 2026, for subsequent approval by both commissions, and with implementation beginning in 2027.

### **3. Continuation of current measures if long-term harvest strategy is not finalized in 2026**

In the event that the PBFJWG is unable to reach consensus on a long-term harvest strategy in time for implementation in 2027, the staff recommends the continuation of the current conservation and management measures under Resolution [C-24-02](#) for an additional period of one to two years, in order to maintain management continuity and provide the time necessary to conclude negotiations on a long-term harvest strategy.

### **4. Recruitment monitoring and exceptional circumstances**

The staff recommends continued monitoring of PBF recruitment and the further development and eventual adoption of the exceptional circumstances criteria developed by the ISC PBFWG ([SAC-17 INF-H.b](#)). The harvest strategy should include provisions for triggering additional analyses and/or management actions if several consecutive years of low recruitment are observed or other exceptional circumstances are identified.

### **5. Improving harvest control rules**

The staff recommends that future work continue to focus on improving harvest control rules to ensure they are robust to potentially low recruitment scenarios and other sources of uncertainty, including through the use of estimation models that incorporate recruitment data, basing implemented fishing mortality values and resulting catch levels on estimates of biomass for young individuals, or using a more inclusive measure of biomass than spawning stock biomass alone.

## **1.3. North Pacific albacore tuna**

The North Pacific albacore tuna is assessed routinely by the Albacore Working Group (ALBWG) of the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC). The ALBWG completed a benchmark stock assessment in 2026. The assessment results indicate that:

1. The spawning biomass in 2024 (60% of  $SSB_{current, F=0}$ <sup>4</sup>) was higher than the threshold and limit reference points (30%  $SSB_{current, F=0}$  and 14%  $SSB_{current, F=0}$ , respectively).
2. The average fishing mortality during 2021-2023 ( $F_{66\%SPR}$ ; the fishing intensity that results in the stock producing a SPR<sup>5</sup> of 66%) was below the target reference point ( $F_{45\%SPR}$ ; the fishing intensity that results in the stock producing a SPR of 45%).
3. The Working Group concluded that the north Pacific albacore stock is likely not overfished relative to the threshold and limit reference points adopted by the WCPFC and IATTC and is likely not experiencing overfishing relative to the target reference point.

In 2023, the Commission adopted a harvest control rule with elements specified in Resolution [C-23-02](#). The harvest control rule parameters define the relationship between stock status and fishing intensity.

The ALBWG, in collaboration with the staff, has developed criteria for identifying exceptional circumstances for north Pacific albacore tuna that would result in suspending or modifying the application of the adopted harvest strategy, and potentially may require updated Management Strategy Evaluation simulation work ([SAC-15 INF-S](#)). Three general elements will be considered when evaluating possible exceptional circumstances for north Pacific albacore: stock and fleet dynamics, application, and implementation. In 2025, one minor change was made from the previous version of the exceptional circumstances per ISC25 plenary's request.

The ALBWG has also provided scientific advice on interpreting the fishing intensity metric from the harvest strategies in terms of catch and effort management measures ([SAC-15 INF-T](#)). The ALBWG recommends that the change in fishing intensity required by the harvest strategy can potentially be translated into catch reductions for all fleet groups, and effort reductions for surface fleet groups and two Japanese longline fleets that likely target north Pacific albacore. Effort management is less precise than catch management in terms of changing the fishing intensity for surface fleet groups.

In order for the recommendation to be implemented, the ALBWG recently (based on the 2026 benchmark assessment) provided estimates of the historical impact of each fleet group on the North Pacific albacore tuna stock expressed in terms of fishing intensity ([SAC-17-INF-U](#)). These estimates were calculated for two historical reference periods per the Western and Central Pacific Fisheries Commission Northern Committee's request: 2002–2004 and 1999–2015. If the stock declines below the threshold reference point in the future, this information can be used to support potential fleet-specific allocation of reductions in fishing intensity and to inform harvest strategy implementation discussions.

**RECOMMENDATIONS:**

1. Based on the adopted harvest control rule ([C-23-02](#)) and the 2026 assessment result that there is more than 50% probability that  $SSB_{current}/SSB_{current, F=0}$  is above the threshold reference point, fishing intensity should be maintained at or below the target fishing mortality reference point.
2. The change in fishing intensity required by the harvest strategy is potentially translated into catch and effort measures according to the relationships described in [SAC-15 INF-T](#).
3. CPCs should consider the criteria developed by the ALBWG for identifying exceptional circumstances for north Pacific albacore tuna ([SAC-15 INF-S](#)).

<sup>4</sup> Dynamic spawning biomass in 2024 under no fishing.

<sup>5</sup> Spawning potential ratio is the female spawning biomass per recruit relative to the female spawning biomass per recruit under no fishing. The fishing intensity can be measured as 1-SPR.

## 1.4. South Pacific albacore tuna

### Stock status

SPC, in collaboration with IATTC, conducted a benchmark stock assessment for South Pacific albacore tuna in 2024, using a spatially-explicit, South Pacific-wide modelling framework that includes the IATTC Convention Area as a distinct model region. The assessment results indicate that the stock is in a healthy condition. Based on the model ensemble, the median spawning biomass depletion for the recent period ( $SB_{2019-2022}/SB_{F=0}$ ) is 0.48, with a 10<sup>th</sup> to 90<sup>th</sup> percentile interval of 0.36 to 0.62, and all models in the ensemble estimate depletion above 0.20, the limit reference point adopted by the WCPFC for key tuna stocks, and therefore 0.077, the interim limit reference point used for tropical tunas in the EPO. The median recent spawning biomass is well above the MSY level (median  $SB_{2019-2022}/SB_{MSY} = 3.02$ ), and recent fishing mortality is substantially below  $F_{MSY}$  (median  $F_{2019-2022}/F_{MSY} = 0.18$ ). For the south EPO specifically, the spawning biomass ratio in 2022 is estimated to be slightly below 0.5 (Figure 5).

Total South Pacific albacore catches in 2024 were approximately 95,000 metric tons, of which 34,509 and 10,944 metric tons were taken in the IATTC Convention Area and the IATTC-WCPFC overlap area, respectively. The next benchmark assessment is planned for 2027 and will incorporate data through 2025.

### Proposed interim reference points

Resolution C-24-04 mandates that the Commission consider, at its 2026 annual meeting, reference points for South Pacific albacore tuna compatible with the work of the WCPFC, as recommended by the scientific staff in consultation with the SAC. The staff presents the following proposal for SAC consideration.

South Pacific albacore shares the biological characteristics common to highly productive, highly fecund pelagic spawners for which MSY-based reference points may be difficult to estimate reliably from available data and can vary depending on the size of fish caught by the fleet. Under these circumstances, the staff has previously proposed a framework of interim reference points applicable to tuna, billfish, and other highly productive fishes in the EPO for which stock-specific MSY-based reference points have not been adopted ([SAC-14 INF-O](#)). That framework defines reference points based on a conservative assumption for the steepness of the Beverton-Holt stock-recruitment relationship ( $h = 0.75$ ), with a minimum floor applied to the target reference point to avoid reference points that correspond to excessively depleted biomass levels, which may occur due to the size of fish caught.

Consistent with this framework, and pending the derivation of species-specific reference points from future stock assessments, the staff proposes the following interim reference points for South Pacific albacore tuna in the IATTC Convention Area:

- **Interim target reference point (TRP):** a spawning biomass depletion of  $S/S_0 = 0.30$ , defined as the larger of (i) 0.30 of the dynamic unfished spawning biomass, or (ii) the spawning biomass that maximizes yield under current age-specific fishing mortality assuming  $h = 0.75$ . Given the current assessment results, the operative value is  $S/S_0 = 0.30$ .
- **Interim limit reference point (LRP):** a spawning biomass depletion of  $S/S_0 = 0.077$ , defined as the spawning biomass that produces 50% of virgin recruitment ( $R_0$ ) when the stock-recruitment relationship follows the Beverton-Holt function with  $h = 0.75$ . This is the same limit reference point currently adopted for tropical tunas in the EPO under Resolution C-16-02.

The proposed interim TRP of  $S/S_0 = 0.30$  is inconsistent with the approach taken by the WCPFC, whose interim target reference point for South Pacific albacore ( $S/S_0 = 0.50$ ) corresponds to a much less depleted

level. The proposed TRP is a precautionary implementation of maintaining the stock at a level that would support MSY as defined in the IATTC convention. Less depleted TRP levels, as that adopted by the WCPFC, maintain the biomass at levels with the potential to obtain MSY if fishing mortality is increased in the future, while supporting other objectives such as maintaining higher catch rates.

The 2024 benchmark assessment estimates median recent depletion at approximately 0.48, well above the proposed TRP, indicating that the stock is currently in a healthy condition relative to both proposed reference points. These interim reference points would remain in effect until stock-specific reference points are calculated or alternative management objectives are derived.

### **Joint IATTC-WCPFC Working Group on South Pacific Albacore Tuna (SPAJWG)**

The establishment of the SPAJWG reflects the increasing importance attached by both Commissions to closer cooperation on the management of South Pacific albacore across its full geographic range.

The first meeting of the SPAJWG (SPAJWG-01) was held virtually on 18–19 March 2026. The meeting addressed stock status, current management approaches of both Commissions, the WCPFC Management Procedure for South Pacific albacore adopted at WCPFC-22, and the development of compatible management measures. Key outcomes and priorities identified at SPAJWG-01 include the following:

- **2027 stock assessment:** The SPAJWG agreed that the 2027 assessment should be conducted on a South Pacific-wide basis, consistent with the 2024 benchmark, while also exploring alternative spatial structures—including separate assessments for the WCPFC Convention Area and the IATTC Convention Area, and alternative treatments of the overlap area—as sensitivity analyses. Close coordination between SPC and IATTC scientists on assessment inputs, CPUE standardization, and modelling approaches will be essential.
- **Data improvement:** The SPAJWG identified limitations in operational-level data from the IATTC Convention Area—including gaps in catch composition and effort data—as a key constraint on stock assessment and broader scientific work. Improving the availability, quality, and harmonizations of data across both Convention Areas was identified as a priority, and SPC and IATTC scientists were tasked with collaborating on the preparation of additional information on catch composition and data availability for the next meeting.
- **Scientific cooperation:** The SPAJWG agreed to strengthen intersessional scientific collaboration, including through the development of a joint scientific research plan with an indicative budget. The SPAJWG also noted the importance of additional biological and genetic sampling in the IATTC Convention Area to support future investigations of stock structure and connectivity.
- **Overlap area:** The SPAJWG identified the overlap area as a priority issue, noting challenges related to the attribution and reporting of catch in that area and the implications for both stock assessment and the effective operation of management measures. The Co-Chairs and Secretariats were tasked with further developing intersessional work on this issue.

## RECOMMENDATIONS:

### 1 – Define IATTC management objectives for South Pacific albacore tuna

That the Commission, with input from the SAC and IATTC staff, develop and define management objectives for SPA, taking into account the management procedure adopted by WCPFC in 2025 and the mandate for harmonization and compatibility called for in Article XXIV, paragraph 3.

### 2- Proposed interim reference points for South Pacific albacore tuna (staff response to paragraph 1 of Resolution C-24-04)

Consistent with the framework for interim reference points proposed in SAC-14 INF-O and the mandate in paragraph 1 of Resolution C-24-04, the staff recommends for consideration by the Commission at its 2026 annual meeting, the following interim reference points for South Pacific albacore tuna in the IATTC Convention Area: (i) an interim target reference point of  $S/S_0 = 0.30$ ; and (ii) an interim limit reference point of  $S/S_0 = 0.077$ . These reference points are incompatible with the approach adopted by the WCPFC but are consistent with the interim reference points proposed for other highly productive fish stocks in the EPO ([SAC-14 INF-O](#)). Harmonizing reference points between the WCPFC and the IATTC requires first harmonizing management objectives.

### 3 – Stock monitoring and preparation of the 2027 stock assessment

Continued collaboration between the IATTC scientific staff and SPC toward the preparation of the 2027 South Pacific-wide benchmark assessment, including coordination on assessment inputs, CPUE standardization, and modelling approaches consistent with the taskings agreed at SPAJWG-01. The staff further recommends continued monitoring of stock status using available indicators in the intervening period.

### 4 – Data improvement in the IATTC Convention Area

That CPCs to improve the collection and submission of operational-level catch and effort data, biological samples, and catch composition data for South Pacific albacore in the IATTC Convention Area, consistent with the data requirements identified at SPAJWG-01 and the provisions of Resolution C-24-04- preferably through the process of updating and amending Resolution C-03-05.

### 5 – Support for the SPAJWG and compatible management measures

That the ongoing work of the SPAJWG, including the development of compatible management measures and a joint scientific research plan be supported, and note the priority areas for intersessional work identified at SPAJWG-01, including stock structure, and data harmonization.

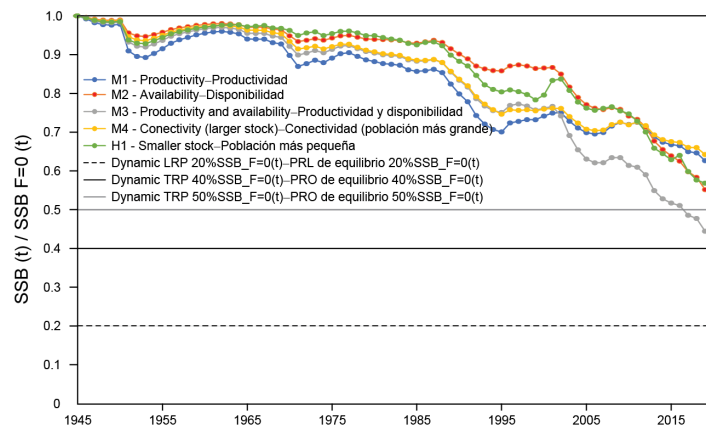
## 1.5. South EPO swordfish

The IATTC staff have finalized the benchmark assessment for south EPO swordfish ([SAC-14-15](#)), which was possible due to the collaboration with several CPCs, national scientists and other colleagues ([SWO-01-REP](#)). Data up to 2019 was included. There is uncertainty in the stock structure, and three hypotheses were proposed: 1) only the catches in the EPO south of 5°S are part of the south EPO stock, which was the 2011 assessment stock structure assumption, 2) all catches in the EPO south of 10°N are part of the south EPO stock, as there was support for connectivity between equatorial area and the area south of 5°S and effort expanded to that area in the last 20 years, and 3) the stock extends to 170°W and 10°N, including the area of high catches

in the central Pacific Ocean.

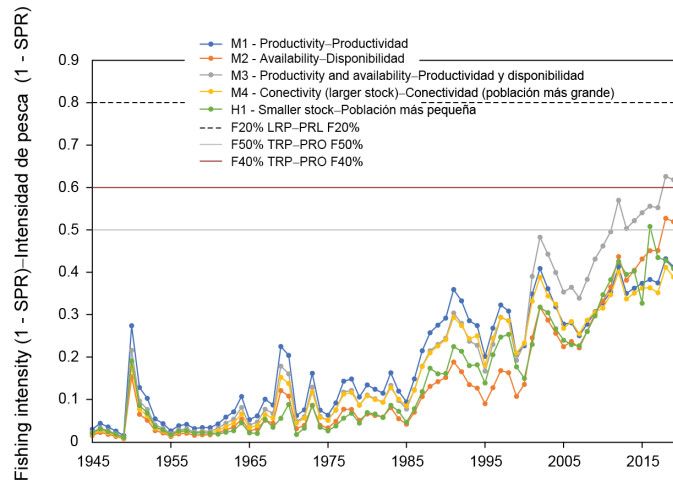
The catch data compiled for the 2023 assessment in the area the EPO south of 10°N showed a dramatic increase since the mid-2000s. The average catch per year from 2000 to 2009 was about 15,000 tons, while the average catch per year for 2010 to 2019 almost doubled to about 29,000 tons. In the last three years of the compilation (2017 - 2019) the average catch was about 34,000 tons a year. The fleets that are currently the most important are the Spanish longline fleet, which catches about 30% of the total catches in weight, followed by the Chilean gillnet fleet with 22%, and the Ecuadorian longline fleet with 20%.

Associated with the increase in catches, there was a clear increase in the indices of abundances, which was a continuation of the trends already apparent in the 2011 assessment. To examine the possibility that the increasing trend was an artifact of bias in a particular index (for example because of changes in target), several indices were constructed using catch and effort data from different longline fleets and from gillnets. No index was considered ideal to represent the stock due to a range of limitations of each one, but all shared the increasing trend in the last 20 years. Four hypotheses were proposed to explain the simultaneous increase of catches and indices of abundance, which included both the possibilities that the increase is either real or not (increase in availability). Dynamic reference points, used only for illustrative purposes, as reference points are yet to be adopted for this stock, indicated that the stock is approaching the hypothetical biomass TRP (of 40% unfished biomass) for one of the hypotheses, and stock size is larger ( $SSB_{current}/SSB_{F=0} > 0.5$ ) for the other hypotheses. In all cases, the stock is not approaching the hypothetical limit reference point (20% unfished biomass), which is also only to illustrate the stock status (Figure S1), nor the IATTC limit reference point adopted for tropical tunas ( $7.7\%S_0$ ). All models estimate a strong increase in fishing mortality since the start of the fishery in the 1950's. The fishing intensity is slightly above the illustrative fishing intensity target reference point for one of the hypotheses and below for the other models (Figure S2).



**FIGURE 5.** Ratio of the estimated spawning stock biomass and spawning stock biomass with no fishing (dynamic) for the models corresponding to the four hypotheses that explain the simultaneous increase in indices of abundance and catches and the model corresponding to the stock structure hypothesis H1 (north boundary at 5°S). Note that M4 corresponds to the stock structure hypothesis H3 (western boundary at 170°W).

**FIGURA 5.** Relación entre la biomasa estimada de la población reproductora y la biomasa de la población reproductora sin pesca (dinámica) para los modelos correspondientes a las cuatro hipótesis que explican el aumento simultáneo de los índices de abundancia y capturas, y el modelo correspondiente a la hipótesis de estructura de la población H1 (límite norte en 5°S). Nótese que M4 corresponde a la hipótesis de estructura de la población H3 (límite occidental en 170°O).



**FIGURE 6.** Fishing intensity (1-SPR) for the models corresponding to the four hypotheses that explain the simultaneous increase in indices of abundance and catches and the model corresponding to the stock structure hypothesis H1 (north boundary at 5°S). Note that M4 corresponds to the stock structure hypothesis H3 (western boundary at 170°W). Fishing intensity is a proxy for fishing mortality, based on SPR (proportion of the spawning biomass produced by each recruit with fishing relative to biomass per recruit in the unfished condition). Large SPR are indicative of low fishing mortality, thus a proxy for fishing mortality is 1-SPR.

**FIGURA 6.** Intensidad de pesca (1-SPR) para los modelos correspondientes a las cuatro hipótesis que explican el aumento simultáneo de los índices de abundancia y capturas, y el modelo correspondiente a la hipótesis de estructura de la población H1 (límite norte en 5°S). Cabe señalar que M4 corresponde a la hipótesis de estructura de la población H3 (límite occidental en 170°O). La intensidad de la pesca es un indicador de la mortalidad por pesca, basado en el SPR (proporción de la biomasa reproductora producida por cada recluta con pesca en relación con la biomasa por recluta en condiciones sin pesca). Un SPR elevado indica una baja mortalidad por pesca, por lo que un indicador de la mortalidad por pesca es 1-SPR

The stock needs to be monitored due to the simultaneous increase in catches and fisheries CPUE-derived indices of abundance. Several hypotheses may explain this pattern; it is not clear which is more likely. In recent years, there is anecdotal evidence that some longline fleets have been using ring traps in addition to hooks, which is an innovation that substantially increases the catchability of swordfish. There is uncertainty about how many boats are using this innovation, and when it was initiated. This new information highlights the challenges of using fisheries data to build indices of abundance for swordfish. The effect of this innovation on the indices of abundance of swordfish is unknown and alternative methods to obtain indices of abundance should be explored.

During the 15th Meeting of the Scientific Advisory Committee of the IATTC, the delegations of Chile, Ecuador and the European Union agreed on the need to strengthen capacities in data collection to improve the monitoring of the swordfish fishery and to generate joint research, in collaboration with other scientists, to

decrease uncertainty and contribute to the strengthening the stock assessments carried out by the IATTC stock assessment program. A regional workshop supported by the IATTC staff took place in 2025 ([SAC-17-INF-V](#)) which identified information gaps, proposed harmonization mechanisms, and strengthened scientific and technical cooperation. The participants identified key international cooperation strategic themes and research questions/projects to strengthen the stock assessment and support the management of swordfish fisheries in the south EPO.

Due to the uncertainties in stock structure, representativeness of indices of abundance, and the effect of fishing on the stock, the staff recommends that a research and management plan be developed for the stock that takes into account the guidelines in [SAC-17 INF-V](#). The stock should be closely monitored through indicators and assessment. CPCs should continue to report to IATTC operational level (set-by-set) catch and effort data, size and age composition, as well as other pertinent data towards this end. Future research should focus on information that could help discriminate among stock structure hypotheses and accurately estimate abundance trend, such as genomic/genomics data paired with electronic tagging, close-kin mark-recapture studies, research into habitat changes, and investigating changes in fishing strategies. Finally, the staff recommends that as a first step, interim reference points be adopted for the stock, for example those suggested in [SAC-14-INF-O](#), in harmony with those adopted for other swordfish stocks in the Pacific Ocean due to uncertainty in stock structure.

**RECOMMENDATIONS:**

1. Continue to monitor the stock (e.g., using stock status indicators and conducting assessments).
2. Support the implementation of the international cooperation strategy laid out in [SAC-17 INF-V](#).
3. Adopt *interim* reference points for the stock taking into consideration those proposed in [SAC-14 INF-O](#).

**1.6. Dorado**

Dorado (*Coryphaena hippurus*) is bycatch in industrial longline and purse-seine fisheries in the EPO, while supporting thriving artisanal and recreational fisheries in several coastal countries that target the species. Research on dorado in the IATTC started in 2012. A series of regional workshops were organized by IATTC staff at the request of several EPO coastal Member States ([DOR-01](#), [DOR-02](#), [DOR-03](#)). The first exploratory assessment was done 2016 focusing on the southern region, which has the largest catches ([SAC-07-06a\(i\)](#)). Preliminary work on Management Strategy Evaluation (MSE) also took place ([SAC-07-06a\(ii\)](#)). In 2021, Ecuador and Peru proposed a joint research project ([SAC-12 INF-D](#)), in which the SAC recommended the Commission encourage members to contribute and participate ([SAC-12-REP](#)). The IATTC renewed its interest in dorado in 2023 requesting a new stock assessment (resolution [C-23-09](#)), and in 2025 created the Dorado Working Group (resolution [C-25-05](#)).

In 2026, the Fourth Technical Meeting on Dorado ([DOR-04](#)) was held in Costa Rica, with main objectives to update the conceptual model for dorado in the EPO, review data availability, establish a work plan for the next stock assessment, discuss strategies to improve data collection and conduct research to reduce uncertainty. . The meeting highlighted marked regional variability in data quality and monitoring systems. A substantial discrepancy was identified between the catch data held by the IATTC and catch estimates based on alternative data (such as FAO catch, import/export data sets), suggesting that catches should be revised. An emerging consensus suggested that dorado in the EPO functions as a dynamic meta-population, strongly influenced by marine currents, sea surface temperature, and climate events (El Niño/La Niña). Preliminary genomic studies and tagging work indicate that while regional differentiations exist, there is potential connectivity. The results discussed in the meeting highlighted the need for an assessment model that can consider both the hypothesis of stock separation and north-south connectivity, in addition to seasonal and interannual habitat variability.

The assessment work plan is i) submission of data (CPUE, sizes, catches) by CPCs to IATTC on first semester of 2026, ii) showing preliminary results in a pre-assessment workshop (Second semester) and iii) presenting the final assessment document at the SAC meeting in 2027.

**RECOMMENDATIONS:**

1. Continue the collaborative work within the Working Group on Dorado considering the discussions in [DOR-04](#)
2. Implement the workplan for the benchmark assessment of dorado outlined in [SAC-17-INF-J](#).
3. Adopt interim reference points for the stock, taking into consideration those proposed in [SAC-14 INF-O](#).