INTER-AMERICAN TROPICAL TUNA COMMISSION

AD HOC WORKING GROUP TO STRENGTHEN THE DIALOGUE AMONG SCIENTISTS, MANAGERS AND OTHER STAKEHOLDERS ON MANAGEMENT STRATEGY EVALUATION (WORKING GROUP ON MSE)

1st MEETING (INFORMAL)

La Jolla, California (USA)
31 May 2025

REPORT OF THE MEETING (INFORMAL) OF THE *AD HOC* WORKING GROUP ON MSE

1. Opening of the meeting

The Director of the Commission, Dr. Arnulfo Franco, opened the meeting at 9:20 am and welcomed participants both present in the room and virtually.

2. Election of co-facilitators

The participants selected Juan Carlos Quiroz (scientific area) and Shana Miller (administrative area) to serve as Co-Facilitators, noting the informal nature of the meeting format and that the eventual selection of Co-Chairs for the Working Group on MSE (WGMSE) would occur at the 103rd Meeting of the IATTC in September 2025. A participant requested that the minutes reflect that the group took note of the informal nature of this meeting, which is intended to be a preparatory meeting regarding the eventual convening of an IATTC Working Group on MSE. The staff offered to serve as the meeting's rapporteur and were thanked by the participants.

3. Adoption of agenda

The participants agreed to the proposed agenda with minor edits to reflect the designation of Co-Facilitators instead of Co-Chairs and to adjust the recommendations agenda item to instead summarize the discussions in a report.

4. Review terms of reference from Resolution C-24-08

Participants recalled that the objectives identified for the WGMSE included a broader suite of work than merely identifying and recommending candidate harvest strategies for testing. They also included improving communications among managers and scientists related to harvest strategies and MSE, developing a work plan and timeline for harvest strategies and the MSE process in the IATTC, and identifying management objectives and reference points compatible with the Antigua Convention.

The group also stressed the need, as a priority in the preparatory phase of the work of the WGMSE, to address the mandate of the Group outlined in paragraph 2(a) of Resolution C-24-08 to agree on a strategy that would "Improve communication and facilitate mutual understanding among managers and scientists regarding matters related to harvest strategies and MSE within the IATTC." This communication strategy should provide a clear understanding of the structure of the dialogue and communication that could be expected, focusing on the bigeye MSE, and a draft is needed prior to the annual meeting in September 2025. The participants instructed the Co-Facilitators to draft the strategy, aligned with the objectives set out in paragraph 2(a) of Resolution C-24-08, for consideration in advance of the next 2nd Informal Meeting tentatively planned for early August.

It was noted that the Resolution calls for the group to report to the Scientific Advisory Committee (SAC) under a permanent agenda item, so the SAC-16 agenda might need to be slightly revised to accommodate the report.

5. Discussion on management objectives and reference points for bigeye tuna

The group enjoyed a lengthy discussion and exchange of views under this agenda item, some of which were broader in scope than objectives and reference points, intermingling different but related topics, such as the usefulness and fate of the "*corralito*" and the relationship and impact of the development of a management procedure for bigeye tuna (BET) on the stocks of yellowfin (YFT) and skipjack (SKJ).

The Co-Facilitators shared a slide containing a set of strawman management objectives for BET for discussion, which were based on discussions from the five MSE workshops and captured in Document SAC-16-06. Some participants expressed the need for an additional objective regarding "effort", and also that the topics of "yield" and "abundance" should be accounted for independently, as available in Table 3 of Document WSMSE-05-01, rather than in a single objective. Additionally, participants noted that the purse-seine and longline fisheries should be treated separately (e.g., having different historical reference periods) and that it may be appropriate to consider the purse-seine fishery conducted in association with dolphins independently from the others. Another participant noted that some segment of the fleet considers BET to be a principal target species, while for other vessels, the catch of BET is more incidental in nature. It was noted that it may not be desirable to include a yield objective to maintain average purse seine catch at or above certain levels, but there was no agreement on the issue.

As the discussions evolved, edits were reflected in the Co-Facilitator's draft set of objectives, which the group agreed to include as **Appendix I** to this report. However, participants stressed the preliminary and draft nature of these management objectives for the BET MSE and that the contents should be considered to stimulate future discussion, not as foreclosing other options or specifications for consideration. There was no endorsement of or agreement to anything other than the broad categories of objectives – safety, status, stability, yield, abundance and effort. The task of negotiating a set of objectives for testing of candidate harvest control rules through MSE will occur in the context of the WGMSE after it is convened. The group noted that CPCs who are interested should seek assistance from the IATTC Scientific staff on the impacts on their fleets for various reference year options for the yield, abundance and effort management objectives.

6. Discussion on other elements of a bigeye tuna harvest strategy

The group discussed the topic of management cycle length, with a number of participants gravitating toward maintaining a 3-year management cycle. This would provide more stability and predictability for industry, as well as be consistent with recent IATTC practices. The group noted that exceptional circumstances could be triggered that would call for modifying the harvest strategy mid-cycle, for example, due to losses of data types or reliability, climate change impacts and other exceptional circumstances such as described in WSMSE-05 and SAC-16-06.

The current MSE assumes that the total allowable catches for longline fleets would be static, triggering an exceptional circumstance if exceeded. This is because the TACs have remained largely stable within the conservation and management measures adopted in the previous two decades. However, there was some interest in including longline catch limits for BET as an output of the harvest strategy, with the potential to fluctuate along with purse-seine measures. It was noted that this would require a discussion on allocation between purse seine and longline fleets, which could be challenging.

The group recognized Table 5 of the document WSMSE-05-01, which was prepared by the IATTC staff to compile input on the candidate harvest strategies for testing in the MSE. The staff presented and discussed two tables describing twenty-four candidate harvest strategies proposed by a member during WSMSE-05. Another member proposed two additional strategies (resulting in a total of 26 candidates) along with including an additional limit reference point at 50%B_{MSY} for consideration along with the current limit reference point of 7.7%B_0. The group also discussed other harvest strategy options, including the potential for alternative values for F_{min} (such as 10%F_{MSY} instead of the $F_{\mathrm{min}} = 0$ as proposed by the staff) for each candidate rather than doubling the number of candidate harvest strategies. Despite some concerns about the form of some of the candidates, the group decided that the list of candidate harvest strategies should remain comprehensive for the initial testing in the MSE, eliminating options only after preliminary MSE results show relative performance. The current table of candidate harvest strategies and a figure illustrating them are included in **Appendix II**.

One participant expressed a preference to agree on $S_{30\%}$ as the target reference point for bigeye tuna, in accordance with the IATTC staff recommendation.

7. Other considerations for a bigeye tuna harvest strategy

A participant reflected that they considered the intermingling of things like the Enhanced Monitoring Program (EMP) for BET with harvest control rules presented by the staff as inappropriate. That is, they were generally comfortable considering individual vessel thresholds (IVTs) or limits as a component of harvest control rules, but disagreed that using IVTs should be predicated on the continuation of the EMP. Another participant agreed and added that they considered that the task of monitoring catches should transition to national inspection teams and that the IATTC staff role should be to continue to help associated matters such as improving inspectors' abilities to distinguish between juvenile BET and YFT, and that the existence of a program like the EMP could not be linked to a decision to use of IVTs. A third participant said that, from a science perspective, the collection of EMP data may still be needed in the context of IVTs because of the remaining uncertainty. While the science concludes that IVTs appear to be effective, the Commission still does not know why or how they work, or whether they will continue to be effective in the future, and that the data collected under the EMP remains important in that context. That said, the group acknowledged that the MSE can only assume 1) that the current IVT program continues or 2) that it is stopped. The MSE cannot evaluate changes to the IVT, such as varying threshold levels, since the mechanisms of how the IVT works and its relationship with fishing mortality are still unknown.

The group briefly discussed the relationship between the BET MSE, yellowfin, and skipjack stocks. The IATTC staff presented a chronogram indicating the intent to conduct three separate MSEs, aiming to adopt a harvest strategy for yellowfin in 2028 and skipjack in 2030. An observer organization noted that since the stocks are all managed primarily by the purse seine closure, the BET harvest strategy could be tested for its ability to achieve management objectives for YFT and SKJ using a forward projection of the BET harvest strategy output; this could serve as an initial approach to incorporating the stocks before the full YFT and SKJ MSEs.

8. Timeline and workplan for completion of the bigeye tuna MSE

The Co-Facilitators presented a draft timeline and workplan, which was discussed. One point of consideration in the near term was a date and format for a 2nd informal meeting of the WGMSE before the annual meeting in September 2025. The Director noted that the dates in and around the 103rd Meeting were completely full at this juncture. The Co-Facilitators suggested that the 2nd meeting could occur in a virtual format sometime in the first week of August, and participants agreed. To improve communications and meeting efficiency, the group requested that circulars be sent out before future WGMSE meetings, detailing what CPCs should be prepared to discuss, without prejudice to the actions directed towards the objective contained in paragraph 2(a) of Resolution C-24-08.

The draft timeline and workplan are included in this report for further consideration by the SAC:

		Dialogue		**Technical**
		Meeting objectives	**Format**	
2025	June			Finalize EM
	July			
	Early Aug	-Review & provide input on operationalizing mgmt objectives -Amend list of HCRs for testing -Review & endorse more detailed workplan -Review & finalize communications plan for the WG, including for stakeholder engagement	WG-MSE virtual (Time TBD based on agenda)	Finalize MSE code with new EM, HCR and other specifications agreed by WG-MSE
	Sept	-Comm to consider adopting mgmt objectives and other HS elements for bigeye (data sources, EM, TRP, other elements from staff-proposed HS, etc.) -Comm to appoint co-chairs for WG-MSE	Annual meeting	
	Oct			Conduct preliminary runs with new specifications & update interactive online results display
	Nov			
	Dec			
2026	Jan	-Review & provide feedback on preliminary MSE results	WG-MSE Virtual (Time TBD based on agenda)	Conduct any changes from WG-MSE input
	Feb			
	Mar			
	Apr			
	May	-Review & provide feedback on draft final MSE results	WG-MSE 2-day in-person pre-SAC & at the SAC	
	June			Conduct any changes from SAC-17 input &

				finalize results presentation
	July	-Review and ask clarifying questions on final MSE results	WG-MSE virtual (Time TBD based on agenda)	
	Aug	Comm to consider an MSE-tested BET MP for adoption	Annual meeting	

9. Recommendations to the 16th Meeting of the Scientific Advisory Committee

Some participants reiterated that this informal group did not have a mandate to develop and agree through consensus on a set of recommendations for the SAC. Rather, the discussions, draft timeline and workplan, draft objectives contained in **Appendix I** and Harvest Strategy specifications contained in **Appendix II** should be viewed as preliminary input, reflecting some topics around which the group seems to be coalescing at this stage. In this sense, the contents of this report can serve as a starting point for future, substantive discussions and the eventual development of recommendations by the WGMSE, once co-chairs are formally appointed.

10. Other Business

No topics were discussed under other business.

11. Adjournment

The informal meeting was closed at approximately 4:30pm, with the understanding that the Co-Facilitators would draft and circulate a meeting report for the consideration of the during the SAC meeting starting on 2 June 2025.

Appendix I: Working Document on Management Objectives

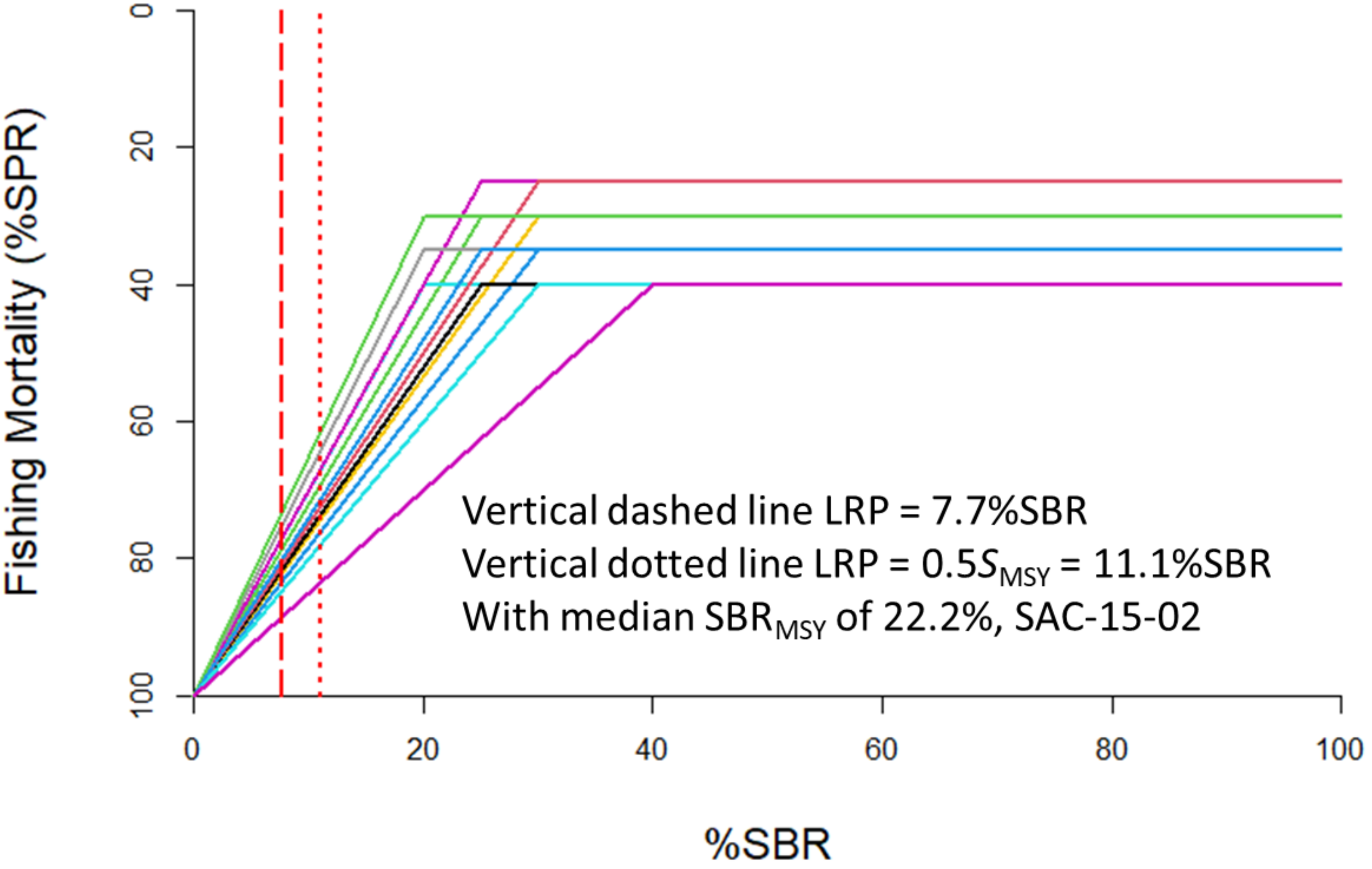
These objectives should be considered preliminary and draft in nature, serving as a starting point for future discussions but not foreclosing other options for consideration. There was no endorsement of or agreement to the text other than the broad categories of objectives – safety, status, stability, yield, abundance and effort. The brackets indicate the key text still to be agreed, but everything is open for negotiation.

BET MSE Management Objectives	**Objetivos de Ordenación para EEO de patudo**
• **Safety:** Maintain the stock above the limit reference point [7.7% S_0, $0.5SB_{MSY}$, other?] with a [X% depending on the limit] or greater probability in each of the 30 years of the projection period.	• **Seguridad:** Mantener población sobre el punto de referencia limite [7.7% S_0, $0.5B_{RMS}$ otro?] con un [X% dependiendo del límite] o mayor probabilidad en cada uno de los 30 años de periodo de proyección.
• **Status:** Maintain the stock in the green quadrant of the Kobe plot (i.e., $SB \geq dSB_{MSY}$ and $F \leq F_{MSY}$) with greater than a [, X%] probability over the 30-year projection period.	• **Condición:** Mantener población en cuadrante verde de grafica de Kobe (i.e., $SB \geq dSB_{RMS}$ and $F \leq F_{RMS}$) con probabilidad más grande que [, X%] en los 30 años de proyección.
• **Stability:** Limit average interannual changes in catch to no more than [X%] and effort to no more than [X%], over the short- (1-3 years), medium- (4-15 years), and long- (16-30 years) terms, except when $SB < SB_{Control}$, when the stability cap would be lifted.	• **Estabilidad:** Limitar cambios interanuales en captura a no más de [X%], de esfuerzo en el corto- (1-3 años), mediano (4-15 años), y largo- (16-30 años) plazo, excepto cuando $SB < SB_{Control}$, cuando el limite de cambio se remueve.
• **Yield:** Maintain average catch at or above the [X] levels for purse seine and at or above the [X] levels for longline fisheries over the short- (1-3 years), medium- (4-15 years), and long- (16-30 years) terms.	• **Captura:** Mantener captura promedio a o sobre niveles de [X] de cerco y a o sobre niveles de [X] para palangre en el corto (1-3 años), mediano- (4-15 años), y largo- (16-30 años) plazo.
• **Abundance:** Maintain average CPUE at or above the [X] levels for purse seine and at or above the [X] levels for longline fisheries over the short- (1-3 years), medium- (4-15 years), and long- (16-30 years) terms.	• **Abundancia:** Mantener CPUE promedio a o sobre niveles de [X] para cerco y a o sobre niveles de [X] para palangre en el corto (1-3 años), mediano- (4-15 años), y largo- (16-30 años) plazo.
• **Effort:** Maintain average effort at or above the [X] levels for purse seine and at or above the [X] levels for longline fisheries over the short- (1-3 years), medium- (4-15 years), and long- (16-30 years) terms.	• **Esfuerzo:** Mantener esfuerzo promedio a o sobre niveles de [X] para cerco y a o sobre niveles de [X] para palangre en el corto (1-3 años), mediano- (4-15 años), y largo- (16-30 años) plazo.

Appendix II: Working Document on Candidate Harvest Strategies for the BET MSE, as proposed during WSMSE-05 and discussed and expanded during WGMSE-01.

Component of HCR	**Staff**	**C 1**	**C 2**	**C 3**	**C 4**	**C 5**	**C 6**	**C 7**	**C 8**	**C 9**	**C 10**	**C 11**	**C 12**	**C 13**
F_{max}	$F_{30\%}$	$F_{25\%}$	$F_{30\%}$	$F_{35\%}$	$F_{40\%}$	$F_{25\%}$	$F_{30\%}$	$F_{35\%}$	$F_{40\%}$	$F_{25\%}$	$F_{30\%}$	$F_{35\%}$	$F_{40\%}$	$F_{40\%}$
S_{Control}	$S_{20\%}$	$S_{20\%}$	$S_{25\%}$	$S_{30\%}$	$S_{20\%}$	$S_{25\%}$	$S_{30\%}$	$S_{20\%}$	$S_{25\%}$	$S_{30\%}$	$S_{20\%}$	$S_{25\%}$	$S_{30\%}$	$S_{40\%}$
$S_{F=0}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S_{Fmin}	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
F_{min}	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stability	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$	10-day cap above $S_{\text{cont.}}$
LRP (exc. Circ. rebuild)	$7.7B_0$ ($P<10\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)	$7.7B_0$ ($P<10\%$) $0.5B_{\text{MSY}}$ ($P<20\%$)
EM														
Model type	ASPM-Rdev+													
Model	Base reference 2024													
Data	Catch, CPUE, LF index + LL													

Component of HCR	**Staff**	**C 14**	**C 15**	**C 16**	**C 17**	**C 18**	**C 19**	**C 20**	**C 21**	**C 22**	**C 23**	**C 24**	**C 25**	**C 26**
F_{max}	$F_{30\%}$	$F_{25\%}$	$F_{30\%}$	$F_{35\%}$	$F_{40\%}$	$F_{25\%}$	$F_{30\%}$	$F_{35\%}$	$F_{40\%}$	$F_{25\%}$	$F_{30\%}$	$F_{35\%}$	$F_{40\%}$	$F_{40\%}$
S_{Control}	$S_{20\%}$	$S_{20\%}$	$S_{25\%}$	$S_{30\%}$	$S_{20\%}$	$S_{25\%}$	$S_{30\%}$	$S_{20\%}$	$S_{25\%}$	$S_{30\%}$	$S_{20\%}$	$S_{25\%}$	$S_{30\%}$	$S_{40\%}$
$S_{\mathrm{F=0}}$	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S_{Fmin}	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
F_{min}	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stability	10-day cap above $S_{\mathrm{cont.}}$	Always	Always	Always	Always	Always	Always	Always	Always	Always	Always	Always	Always	Always
LRP (exc. Circ. rebuild)	$7.7B_0$ (P<10%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)	$7.7B_0$ (P<10%) $0.5B_{\mathrm{MSY}}$ (P<20%)
EM														
Model type	ASPM-Rdev+													
Model	Base reference 2024													
Data	Catch, CPUE, LF index + LL													



Vertical dashed line LRP = 7.7%SBR
Vertical dotted line LRP = 0.5S_{MSY} = 11.1%SBR
With median SBR$_{\mathrm{MSY}}$ of 22.2%, SAC-15-02