

REVISED ROADMAP FOR THE ICCAT MSE PROCESSES ADOPTED BY THE COMMISSION IN 2022

*Document adopted during the 2021 Commission meeting and revised by the SCRS in 2022 for
Northern Albacore and Tropical Tunas
(changes are underlined compared to the 2021 adopted version)*

This schedule is intended to guide the development of harvest strategies for priority stocks identified in Rec. 15-07 (North Atlantic albacore, North Atlantic swordfish, eastern and western Atlantic bluefin tuna, and tropical tunas). It builds on the initial roadmap that was appended to the 2016 Annual Meeting report. It provides an aspirational timeline that is subject to revision and should be considered in conjunction with the stock assessment schedule that is revised annually by the SCRS.* Due to the amount of cross-disciplinary dialogue that may be needed, intersessional Panel meetings and/or meetings of the Standing Working Group to Enhance Dialogue between Fisheries Scientists and Managers (SWGSM) will be necessary. However, the exact timeline for delivery is contingent on funding, prioritization, and other work of the Commission and SCRS. Tasks are divided into four categories: Commission intersessionally, SCRS development, SCRS implementation, and Commission at Annual Meeting.

* For 2022, the roadmap reflects progress to-date in some detail. For 2023 onward, more general steps for the SCRS and Commission are anticipated pending outcomes of the 2023 Annual Meeting.

		<i>Northern Albacore</i>	<i>Bluefin Tuna</i>	<i>Northern Swordfish</i>	<i>Tropical Tunas</i>
[...]		[...]	[...]	[...]	[...]
[...]		[...]	[...]	[...]	[...]
[...]		[...]	[...]	[...]	[...]
2022		[...]			
	<u>Commission intersessionally</u>		<p>COMM (PA2) <u>met intersessionally (March, May, July, October)</u> to:</p> <ul style="list-style-type: none"> - recommend final operational management objectives and identify performance indicators - consider final <u>CMPs</u> <p><u>Ambassadors workshops held in February and October</u></p>	[...] [...]	

		<i>Northern Albacore</i>	<i>Bluefin Tuna</i>	<i>Northern Swordfish</i>	<i>Tropical Tunas</i>
2022	<u>SCRS development</u>	<p>SCRS worked on a new SS model for NALB that will be used for future development of a new MSE reference grid</p> <p><u>Per Rec. 21-04, the SCRS tested alternatives to the adopted MP, as well as determined the number of CPUE series and the level of underreporting that would trigger the occurrence of exceptional circumstances</u></p>	<p>SCRS <u>conducted stock assessment</u> for EBFT (based on work conducted by subgroups on models and indices)</p> <p>SCRS <u>completed MSE</u>, incorporating feedback from COMM provided at dialogue meetings with PA2</p> <p>[...]</p>	<p>SCRS <u>conducted</u> stock assessment (North and South Atlantic)</p> <p>SCRS <u>reconditioned</u> OMs considering new information from the stock assessment and finalized OM grid</p> <p>SCRS <u>continued</u> work on criteria for determining exceptional circumstances</p>	<p>SCRS <u>conducted</u> SKJ stock assessments</p> <p><u>W-SKJ:</u> - SCRS <u>reconditioned OMs in light of new assessment</u> -SCRS <u>initiated development and testing of CMPs</u></p> <p><u>Multi-stock MSE:</u> -SCRS <u>conducted preliminary conditioning of single-stock BET and YFT OMs</u> SCRS to agree on major sources of uncertainty to be considered in the MSE and candidate performance indicators for tropical tuna MSEs</p> <p>[...]</p>
	<u>SCRS implementation</u>	<p>SCRS evaluated existence of exceptional circumstances</p>			

		<i>Northern Albacore</i>	<i>Bluefin Tuna</i>	<i>Northern Swordfish</i>	<i>Tropical Tunas</i>	
2022	Commission at Annual Meeting		<p>COMM adopted an MP at the Annual Meeting, including TAC</p> <p>[...]</p>	[...]	<p>COMM to <u>adopted initial management objectives for W-SKJ</u></p>	
2023*	Commission intersessionally		<p>[...]</p> <p><u>COMM (PA2) to develop guidance on range of appropriate management responses should exceptional circumstances be found to occur</u></p>	<p><u>COMM (PA4) to meet intersessionally (March, June, October), with SCRS participation, to:</u></p> <ul style="list-style-type: none"> - <u>discuss CMPs, operational management objectives, and performance indicators</u> - <u>refine CMP(s)</u> - <u>recommend final operational management objectives and identify performance indicators</u> <p><u>Ambassadors meetings to be held</u></p>	<p><u>COMM (PA1) dialogue with SCRS on management objectives and performance indicators to be used for tropical tunas MSE</u></p>	
	SCRS development	<u>SCRS to initiate independent peer review of MSE process</u>				
		<p>SCRS will finalize a grid of reference and robustness OMs based on Stock Synthesis as part of a new MSE, after reconsidering the main axes of uncertainty.</p>	<p>SCRS to provide final advice to COMM on criteria for determining exceptional circumstances <u>for inclusion in the exceptional circumstances protocol to be developed by Panel 2</u></p>	<p>SCRS to <u>complete</u> MSE, incorporating feedback from COMM through <u>PA4</u></p>	<p><u>W-SKJ:</u></p> <ul style="list-style-type: none"> - <u>SCRS to complete MSE, incorporating feedback from COMM through PA1</u> <p><u>Multi-stock:</u></p> <ul style="list-style-type: none"> - SCRS to agree on major sources of uncertainty to be considered in the MSE and candidate performance indicators for tropical tuna MSEs 	

		<i>Northern Albacore</i>	<i>Bluefin Tuna</i>	<i>Northern Swordfish</i>	<i>Tropical Tunas</i>
2023*	SCRS implementation	<p>SCRS will <u>conduct assessment</u> to ensure that the conditions considered in MP testing are still applicable to the <u>stock</u>.</p> <p>SCRS to evaluate existence of exceptional circumstances</p>	<p>SCRS to evaluate existence of exceptional circumstances</p>		
	Commission at Annual Meeting	<p>COMM to continue use of the MP to set <u>2024-2026 TAC</u> at the Annual Meeting, on the predetermined timescale for MP setting</p> <p><u>Per Rec. 21-04, COMM to review the MP, taking SCRS analyses into account</u></p>	<p><u>COMM to adopt exceptional circumstances protocol as new Annex in MP (Rec. 22-09)</u></p>	<p>COMM <u>to adopt</u> an interim <u>MP</u>, including the TAC</p> <p>[...]</p>	<p>COMM to consider final evaluation of W-SKJ MPs and adopt an interim W-SKJ MP at the Annual Meeting</p>
2024*	Commission intersessionally			<p>COMM <u>(PA4)</u> to <u>develop</u> guidance on a range of appropriate management responses should exceptional circumstances be found to occur.</p>	<p>COMM <u>(PA1)</u> to consider final evaluation of MPs for multi-stock MSE</p>

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2024*	<u>SCRS development</u>	<p>SCRS to improve Observation Error Model by incorporating statistical properties of CPUE residuals</p> <p>SCRS to test the available (i.e. production model) and alternative candidate MPs (e.g. based on Jabba, or empirical)</p>		<p><u>SCRS to provide final advice to COMM on criteria for determining exceptional circumstances</u></p>	<p>SCRS to conduct yellowfin assessment</p> <p><u>Multi-stock:</u> -SCRS to test final set of MP candidates for multi-stock MSE - SCRS to deliver multi-stock MSE, including fully conditioned operating models and candidate management procedures to COMM</p>
	<u>SCRS implementation</u>	<p>SCRS to evaluate existence of exceptional circumstances</p>	<p><u>SCRS to evaluate existence of exceptional circumstances</u></p>	<p><u>SCRS to evaluate existence of exceptional circumstances</u></p>	<p><u>W-SKJ:</u> SCRS to provide advice on exceptional circumstances for the implementation of the MP</p>
	<u>Commission at Annual Meeting</u>			<p><u>COMM to adopt exceptional circumstances protocol as new Annex in MP</u></p>	<p>COMM to:</p> <ul style="list-style-type: none"> - review and endorse guidance on management responses in the case of exceptional circumstances, and - consider adopting interim MP(s) for BET, YFT and eastern SKJ

		<i>Northern Albacore</i>	<i>Bluefin Tuna</i>	<i>Northern Swordfish</i>	<i>Tropical Tunas</i>
2025 and beyond*	<u>Commission intersessionally</u>				
	<u>SCRS development</u>	<u>SCRS to complete new MSE in 2026</u>	<u>SCRS to review the MP in 2027-2028. In most cases such reviews could implement index revisions or relatively minor improvements to the operating models or MPs and conditioning to fit to current data. Wholesale revision to the operating model structure and substantial changes to the MP, are possible but only should that need arise.</u>		

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2025 and beyond*	<u>SCRS implementation</u>	<p>According to the frequency outlined in the exceptional circumstances protocol, SCRS to evaluate existence of exceptional circumstances</p> <p>SCRS to conduct periodic assessments to ensure that the conditions considered in MP testing are still applicable to the stock</p>	<p>According to the frequency outlined in the exceptional circumstances protocol, SCRS to evaluate existence of exceptional circumstances</p> <p><u>SCRS to conduct periodic assessments</u> to ensure that the conditions considered in MP testing are still applicable to the stock</p>	<p><u>According to the frequency outlined in the exceptional circumstances protocol</u>, SCRS to evaluate existence of exceptional circumstances</p> <p>SCRS to conduct <u>periodic assessments</u> to ensure that the conditions considered in MP testing are still applicable to the stock</p>	<p><u>According to the frequency outlined in the exceptional circumstances protocol</u>, SCRS to evaluate existence of exceptional circumstances</p> <p><u>SCRS to conduct periodic assessments</u> to ensure that the conditions considered in MP testing are still applicable to the stocks</p>
	<u>Commission at Annual Meeting</u>	<p>COMM to continue use of the MP to set management measures on the predetermined timescale defined in the MP setting</p> <p><u>Per Rec. 21-04, COMM to consider adoption of new MP in 2026</u></p>	<p>COMM to continue use of the MP to set <u>TAC</u> on the predetermined timescale <u>defined in the MP setting</u></p> <p><u>COMM to review the MP in 2028</u></p>	<p>COMM to continue <u>use of the MP to set TAC</u> on the predetermined timescale for MP setting</p>	<p>COMM to continue use of the MP_s to set management measures on the predetermined timescale defined in the MP settings</p>

*Assumes that the workplan is accomplished as described.

LIST OF ACRONYMS:

BET = Bigeye tuna

BFT = Bluefin tuna

BFT SG = SCRS Bluefin Tuna Species Group

COMM=Commission

CMP = Candidate Management Procedure

HCR = Harvest Control Rule

MP = Management Procedure

MSE = Management Strategy Evaluation

OM = Operating Model

SCRS = Standing Committee on Research and Statistics

SWGSM = Standing Working Group to Enhance Dialogue between Fisheries Scientists and Managers

TAC = Total Allowable Catch

TRO = Tropical tunas