

South Pacific Albacore MSE progress and work plan

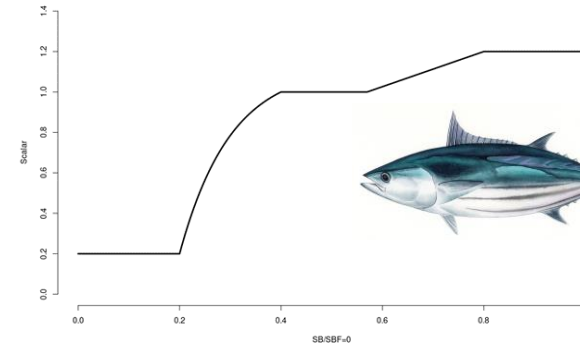
WCPFC20 – RAROTONGA COOK ISLANDS

05 – 09 DECEMBER 2023

AGENDA ITEM **10.1.c** Management Procedure

10.1.d Management Strategy Evaluation

SPC OFF



WCPFC Harvest Strategy Workplan

Stock:	SKJ	SP-ALB	BET	YFT
Key Gear:	Tropical Purse Seine	Southern Longline	Tropical Longline	
Management Objectives	Noted	Noted	Noted 2024	Noted 2024
Management Procedure	Adopted (interim)	Initial MPs	2025	2025
Performance Indicators	Identified	Identified	Identified	Identified
Mixed Fishery	Developing	Developing	Developing	Developing
Monitoring Strategy	Outlined in CMM	Developing		

	South Pacific Albacore	Skipjack	Bigeye	Yellowfin
2023	<p>Agree Target Reference Point (b). Commission agree a TRP for South Pacific albacore</p> <p>Develop management procedures (e) and Management strategy evaluation (f)</p> <ul style="list-style-type: none"> SC agree the operating models for MSE. SC provide advice on performance of candidate management procedures. SC provides advice on relevant elements of the monitoring strategy(d). <p>[Updated stock assessment considered by SC19]</p>	<p>[SC consider multispecies aspects of WCPFC harvest strategies and implications for the monitoring strategy]</p> <p>SC provide advice on relevant elements of the monitoring strategy (d).</p>	<p>Develop management procedures(e) and Management strategy evaluation (f)</p> <p>[Continue development of multispecies framework]</p> <ul style="list-style-type: none"> SC provide advice on performance of potential management procedures. Commission consider advice on progress towards management procedures. <p>[Updated stock assessment considered by SC19]</p>	<p>Develop management procedures(e) and Management strategy evaluation (f)</p> <p>[Continue development of multispecies framework]</p> <ul style="list-style-type: none"> SC provide advice on performance of potential management procedures. Commission consider advice on progress towards management procedures. <p>[Updated stock assessment considered by SC19]</p>
2024	<p>Develop management procedures (e) and Management strategy evaluation (f)</p> <ul style="list-style-type: none"> SC provide advice on performance of candidate management procedures. SC provides advice on relevant elements of the monitoring strategy(d). TCC consider the implications of candidate management procedures. <p>[Updated stock assessment considered by SC20]</p> <p>Commission review and adopt a management procedure.</p>	<p>[SC consider multispecies aspects of WCPFC harvest strategies and implications for the monitoring strategy]</p> <p>SC provides advice for the Commission's agreement of the monitoring strategy(d)</p>	<p>Develop management procedures(e) and Management strategy evaluation(f)</p> <ul style="list-style-type: none"> SC agree the operating models for MSE. SC provide advice on performance of candidate management procedures. SC provides advice on relevant elements of the monitoring strategy. Commission consider and refine a candidate set of management procedures. <p>Agree Target Reference Point (b). Commission agree a TRP for bigeye</p>	<p>Develop management procedures(e) and Management strategy evaluation(f)</p> <ul style="list-style-type: none"> SC agree the operating models for MSE. SC provide advice on performance of candidate management procedures. SC provides advice on relevant elements of the monitoring strategy. Commission consider and refine a candidate set of management procedures. <p>Agree Target Reference Point (b). Commission agree a TRP for yellowfin.</p>

WCPFC Harvest Strategy Workplan



Stock:	SKJ	SP-ALB	BET	YFT
Key Gear:	Tropical Purse Seine	Southern Longline	Tropical Longline	
Management Objectives	Noted	Noted	Noted 2024	Noted 2024
Management Procedure	Adopted (interim)	Initial MPs	2025	2025
Performance Indicators	Identified	Identified	Identified	Identified
Mixed Fishery	Developing	Developing	Developing	Developing
Monitoring Strategy	Outlined in CMM	Developing		

2023 WORK PLAN

SKIPJACK

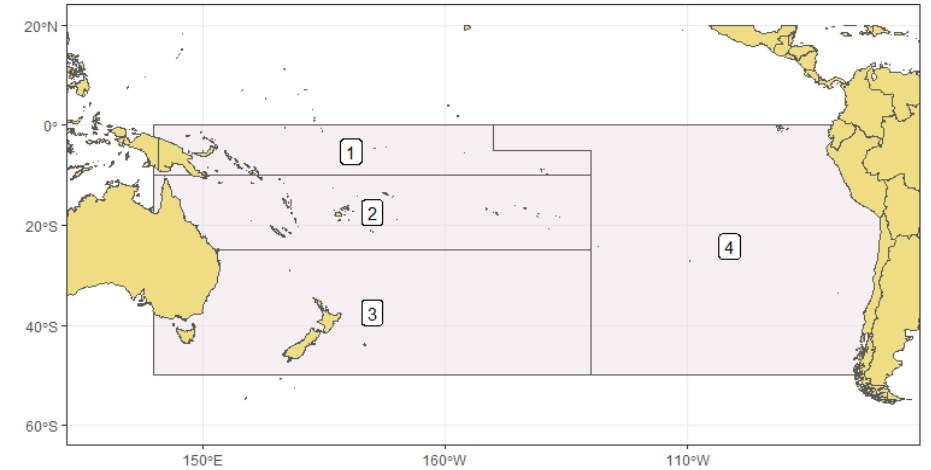
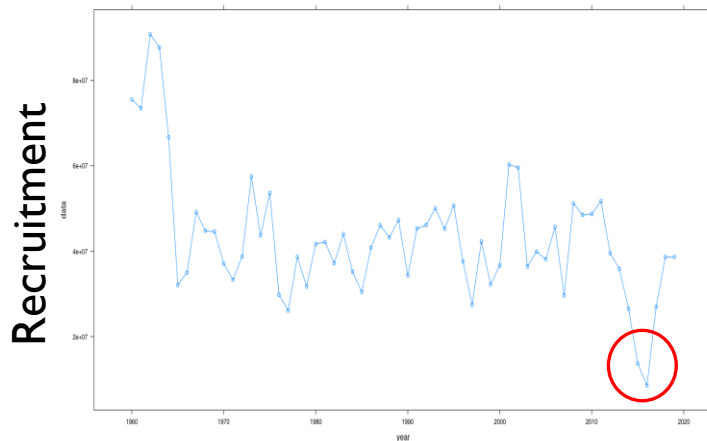
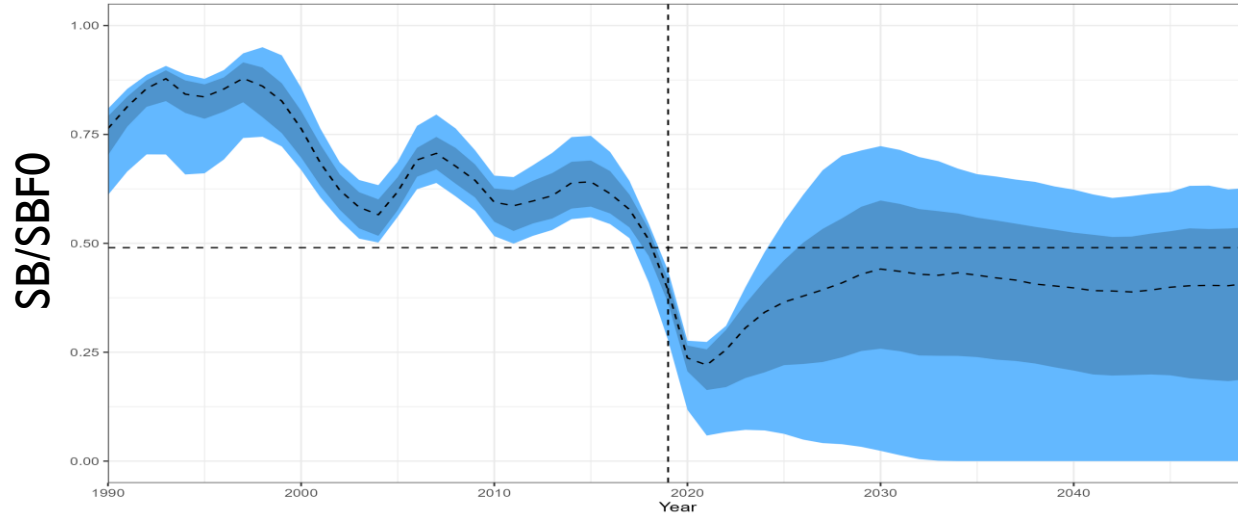
- Run WCPO Skipjack MP
- WCPO Skipjack monitoring strategy (CMM 2022-03)

SOUTH PACIFIC ALBACORE

- SPA operating models – South Pacific wide
 - Reference set (based on 2021 assessment)
 - Robustness set
- SPA management procedure
 - Estimation models
 - HCR designs
 - Preliminary evaluations and performance indicators
- SPAMPLE & OM viewer

BIGEYE & YELLOWFIN

South Pacific albacore operating model grid



South Pacific wide – includes EPO

Reference Set – 72 models (2021 assessment)

Robustness Set

- Alternative CPUE inputs ?
- Effort creep in LL fisheries
- Hyperstability in albacore CPUE ?
- Climate change scenarios

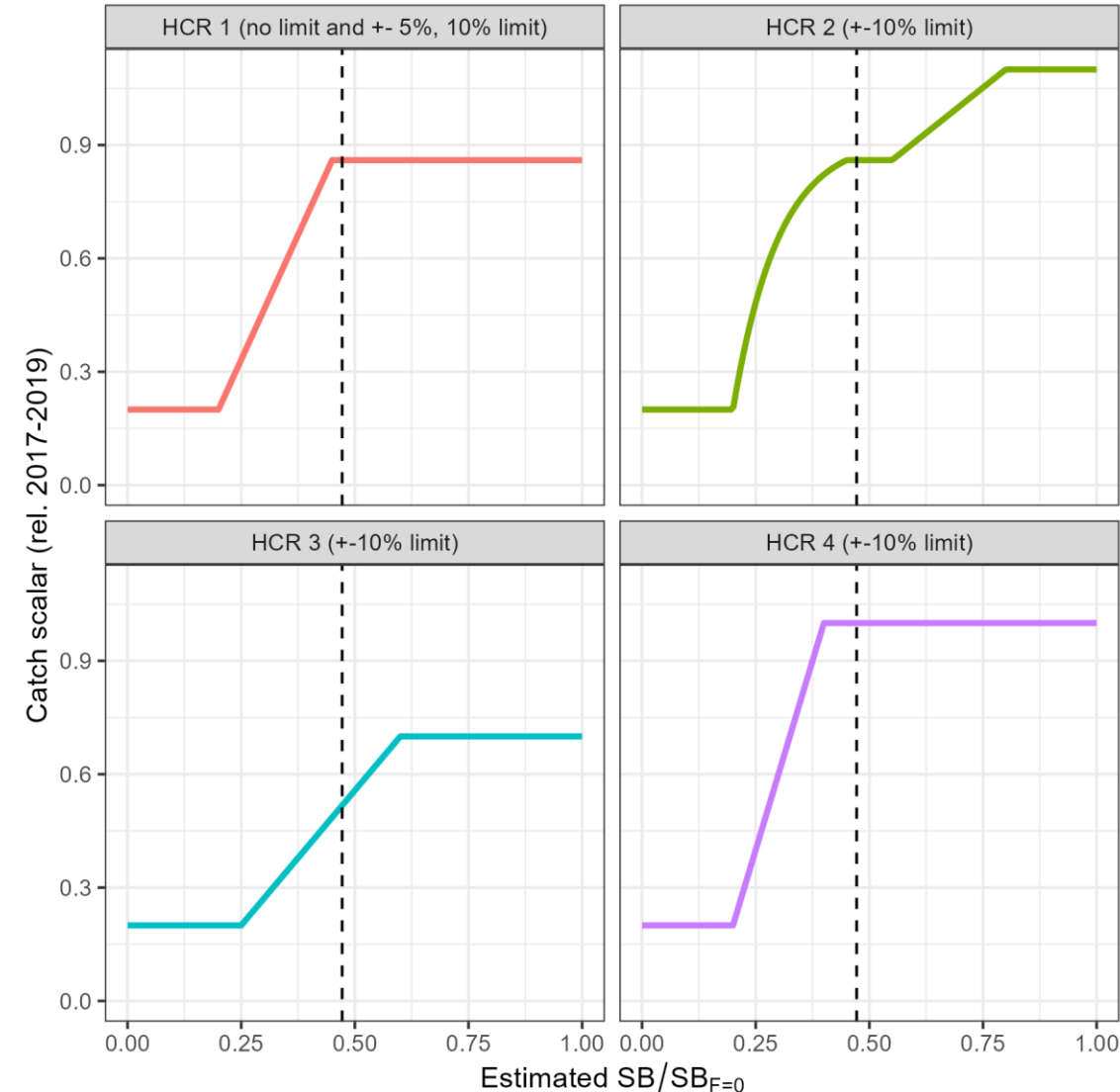
South Pacific albacore: MP considerations

- I. Management controls
 1. Catch or Effort based control
 1. **Combination – which fisheries ?**
 2. Frequency of MP (**3 years**)
2. Extent of MP
 1. Which fisheries subject to the MP
 1. **All fisheries south of the equator**
 2. Troll fishery (**explore options to separate**)
 2. EPO - compatible measures (**fixed recent**)
3. HCR design
 1. TRP (**depletion based - reference years**)
 2. Maximum change in a management period
 1. E.g. 10% maximum change in scalar

WCPFC20	TRP agreement	Dec 2023
SPA-IWG	??	??
WCPFC-SC20	New SPA assessment Updated Operating Models Candidate MPs evaluated MP dry-run	Aug 2024
WCPFC-SMD02	??	??
WCPFC21	Adopt SPA MP	Dec 2024

CANDIDATE HCRS AND CONSTRAINTS

- Six candidate MPs
- Same estimation method and data collection – compare HCRs
- All fisheries are catch controlled (numbers)
- HCR output: scalar applied to mean catches 2017-2019
- All fisheries in WCPFC-CA (regions 1-3) affected equally
- Four HCR shapes – three HCR 1 variants
- Catch constraint:
 - None (HCR 1 only)
 - +- 5% (HCR 1 only)
 - +- 10 % (all HCRs)
- HCRs 1 and 2 – designed around trying to achieve 2017-19 $SB/SB_{F=0}$ (scalar flat part from SPA TRP paper)
- HCR 2 – similar shape to SKJ interim HCR
- HCRs 3 and 4 – conservative and less conservative



Vertical dashed line: median $SB/SB_{F=0}$ 2017-19

PERFORMANCE INDICATORS

No.	Objective type	Objective description	Performance indicator
	Biological	Stock status	
1	Biological	Maintain SPA (and SWO, YFT and BET) biomass at or above levels that provide fishery sustainability throughout their range.	Probability of $SB/SB_{F=0} > 0.2$
3	Economic	Maximise economic yield from the fishery	Average expected catch (relative to 2017-2019)
4	Economic	Maintain acceptable CPUE	Average expected CPUE (relative to 2017-2019)
6	Economic	Catch stability	Average annual catch variation (presented as stability)
8	Economic	Stability and continuity of market supply	Probability of being at, and deviation from, the TRP

- Available PIs are limited by model
- PIs are also used in the monitoring strategy
- Invite suggestions for additional / alternative PIs
- Three periods: short- (2026-2034), medium- (2035-2043) and long-term (2044-2052)
- In place of TRP, median $SB/SB_{F=0}$ 2017-2019 is used as a target

RECOMMENDATIONS

Operating Models

- The Commission is invited to note that SC will further develop the reference OM set provided in Table 5 (WP14) over the next year to allow the continued progress and evaluation of candidate MPs for SPA, and SC20 will consider formally adopting the reference OM set, noting the potential for other changes in light of the 2024 SPA stock assessment.

Management Procedure and Management Strategy Evaluation

- The Commission is invited to review the current set of 6 candidate MPs for initial consideration, and provide guidance based on these exploratory MPs on features to be further developed by the SSP, including performance indicators, controlled fisheries and control mechanisms, and HCR shape and design



Pacific
Community
Communauté
du Pacifique