



## **SOUTH PACIFIC ALBACORE ROADMAP INTERSESSIONAL WORKING GROUP**

### **IWG 04**

#### **ELECTRONIC MEETING**

5 May 2023

---

#### **Further analysis to inform discussion on South Pacific albacore objectives and a potential iTRP**

---

**SPA-RM-IWG04/WP-01**

#### SPC-OFP, May 2023

WCPFC19-2022-15 presented a table of possible outcomes for South Pacific albacore under a range of different longline and troll catch levels, determined by catch scalars relative to the 2017-2019 average.

Two scenarios were presented: catches from longline and troll fisheries within the WCPFC Convention Area (WCPFC-CA) only are set by the catch scalar and the catches in the EPO held constant at recent levels (2017-19, 15,600mt; Table 1); catches from longline and troll fisheries in the WCPFC-CA and EPO are set by the catch scalar (Table 2).

In this report Tables 1 and 2 have been updated following a small change in the method used for analysis.

The method for running the projections that generate the results remains the same as used in WCPFC19-2022-15. For each catch scalar, each of the 72 models in the 2021 stock assessment grid is projected 100 times, referred to as iterations, where each iteration has different stock recruitment variability to represent uncertainty in future recruitment. A small proportion of these projections fail to complete leading to a missing iteration.

When calculating summary figures for the original tables presented in WCPFC19-2022-15, the missing iterations were excluded from the calculation of results. In the updated tables, the missing iterations are assumed to be the result of the stock crashing from being fished too hard. The stock biomass for these iterations is now set to 0 and are included in the calculation of results.

This approach is thought to be more appropriate. The result is that the projections are now slightly more pessimistic. For example, the risk of falling below the LRP is slightly higher for the higher catch scalars.

Two extra rows have been included at the top of each table, based upon discussions of the WCPFC South Pacific albacore IWG. The first shows the results of a projection that achieves a long-term average  $SB/SB_{F=0}$  equal to the 2017-2019 average. The second shows the results of a projection that

achieves a long-term average vulnerable biomass (to the longline fisheries) equal to the 2017-2019 average.

Additionally, the order of the table columns has been rearranged so that the focus is on the projected long term average  $SB/SB_{F=0}$ , upon request by the SPA-IWG.

Table 1. Outcomes under alternative future combined longline and troll fishery catch levels (scalars) applied within the WCPFC Convention Area only. Outcomes are in terms of median (weighted) stock depletion level within the WCPFC-CA, risk relative to the LRP (WCPFC-CA specific), longline vulnerable biomass relative to alternative historical periods, and risk relative to the  $F_{MSY}$  (South Pacific wide).

Depletion			Vulnerable biomass		Approximate catch			F/ $F_{MSY}$
Long-term avg SB/ $SB_{F=0}$ (WCPFC-CA)	SB/ $SB_{F=0}$ rel. 2017-2019	Risk < LRP	VB rel. 2013+8%	VB rel. 2017-2019	Catch scalar	WCPFC-CA	Remainder EPO	Risk F > $F_{MSY}$
0.49	0%	17%	-30%	-3%	0.86	62,500	15,600	12%
0.51	3%	16%	-28%	0%	0.84	60,500	15,600	12%
0.41	-17%	26%	-41%	-18%	1	72,200	15,600	17%
0.47	-4%	19%	-33%	-7%	0.9	65,000	15,600	14%
0.53	8%	14%	-25%	4%	0.8	57,800	15,600	10%
0.58	19%	8%	-18%	15%	0.7	50,500	15,600	6%
0.64	30%	4%	-10%	25%	0.6	43,300	15,600	3%
0.69	40%	1%	-3%	35%	0.5	36,100	15,600	0%

Table 2. Outcomes under alternative future combined longline and troll fishery catch levels (scalars) applied across the South Pacific (WCPFC-CA and EPO). Outcomes are in terms of median (weighted) stock depletion level within the WCPFC-CA, risk relative to the LRP (WCPFC-CA specific), longline vulnerable biomass relative to alternative historical periods, and risk relative to the  $F_{MSY}$  (South Pacific wide).

Depletion			Vulnerable biomass		Approximate catch			F/ $F_{MSY}$
Long-term avg SB/ $SB_{F=0}$ (WCPFC-CA)	SB/ $SB_{F=0}$ rel. 2017-2019	Risk < LRP	VB rel. 2013+8%	VB rel. 2017-2019	Catch scalar	WCPFC-CA	Remainder EPO	Risk F > $F_{MSY}$
0.49	0%	17%	-30%	-3%	0.88	63,900	13,800	12%
0.51	3%	16%	-28%	0%	0.86	62,200	13,400	11%
0.41	-17%	26%	-41%	-18%	1	72,200	15,600	17%
0.48	-2%	18%	-31%	-5%	0.9	65,000	14,000	13%
0.55	11%	12%	-23%	7%	0.8	57,800	12,500	8%
0.61	24%	6%	-14%	19%	0.7	50,500	10,900	4%
0.67	36%	1%	-6%	31%	0.6	43,300	9,400	1%
0.72	48%	0%	2%	43%	0.5	36,100	7,800	0%