WCPFC20 Agenda item 10.1b: SPA iTRP

SPF-OFP
WCFC20-2023-14
WCPFC20, Rarotonga, Dec 2023

TRP

- Represents the trade off between objectives
  - Conditions stakeholders find acceptable
  - Represent as e.g. years of the fishery/fishery conditions you found were ‘good’/met objectives
  - Translated into a depletion level (the value of which will change between assessments)
- Preferable to set in advance
- Can be modified e.g. through harvest strategy development

Work performed

- Candidate TRP conditions identified by CCMs during SPA-IWG process
- Analysed through stock projections
  - Identify future catch levels > specified objectives
  - Project stock forward under those levels for 30yrs ~ equilibrium
  - Implications for CPUE ('vulnerable biomass')
  - Implications for risk (v LRP and v F_{MSY})
  - Resulting 'equilibrium' depletion level (=TRP value) based on most recent (2021) stock assessment
- Analyses performed assuming WCPFC-CA catch controls and South Pacific-wide catch controls

Table 4 *i*TRP summary table – LL + TR catch levels (cf 2017-2019)

WCPFC-CA catch change only

Scenario	Approximate catch		
	Catch scalar	WCPFC-CA	Remainder EPO
2 x MSY	1.14	82,300	15,600
$SB/SB_{F=0}$ 2019	1.03	74,000	15,600
	1.00	72,200	15,600
	0.90	65,000	15,600
SB/SBF=0 2017-19	0.86	62,500	15,600
VB 2017-19	0.84	60,500	15,600
	0.80	57,800	15,600
$SB/SB_{F=0}$ 2015-18	0.71	51,300	15,600
	0.70	50,500	15,600
$SB/SB_{F=0}$ 2013	0.66	47,800	15,600
	0.60	43,300	15,600
	0.50	36,100	15,600

Table 4 *i*TRP summary table – catch rates

Scenario	Vulnerable biomass		Approximate catch		
	VB rel. 2013 +8%	VB rel. 2017-2019	Catch scalar	WCPFC-CA	Remainder EPO
2 x MSY	-53%	-36%	1.14	82,300	15,600
$SB/SB_{F=0}$ 2019	-43%	-21%	1.03	74,000	15,600
	-41%	-18%	1.00	72,200	15,600
	-33%	-7%	0.90	65,000	15,600
SB/SBF=0 2017-19	-30%	-3%	0.86	62,500	15,600
VB 2017-19	-28%	0%	0.84	60,500	15,600
	-25%	4%	0.80	57,800	15,600
$SB/SB_{F=0}$ 2015-18	-18%	14%	0.71	51,300	15,600
	-18%	15%	0.70	50,500	15,600
$SB/SB_{F=0}$ 2013	-15%	18%	0.66	47,800	15,600
	-10%	25%	0.60	43,300	15,600
	-3%	35%	0.50	36,100	15,600

Table 4 *i*TRP summary table - risk

		Vulnerable biomass		Approximate catch			
Scenario	Risk < LRP	VB rel. 2013 +8%	VB rel. 2017-2019	Catch scalar	WCPFC-CA	Remainder EPO	Risk F > FMSY
2 x MSY	38%	-53%	-36%	1.14	82,300	15,600	26%
$SB/SB_{F=0}$ 2019	28%	-43%	-21%	1.03	74,000	15,600	18%
	26%	-41%	-18%	1.00	72,200	15,600	17%
	19%	-33%	-7%	0.90	65,000	15,600	14%
SB/SBF=0 2017-19	17%	-30%	-3%	0.86	62,500	15,600	12%
VB 2017-19	16%	-28%	0%	0.84	60,500	15,600	12%
	14%	-25%	4%	0.80	57,800	15,600	10%
$SB/SB_{F=0}$ 2015-18	9%	-18%	14%	0.71	51,300	15,600	7%
	8%	-18%	15%	0.70	50,500	15,600	6%
$SB/SB_{F=0}$ 2013	6%	-15%	18%	0.66	47,800	15,600	5%
	4%	-10%	25%	0.60	43,300	15,600	3%
	1%	-3%	35%	0.50	36,100	15,600	0%

Table 4 *i*TRP summary table - risk

	Depletion			Vulnerable biomass		Approximate catch			
Scenario	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 > FMSY
2 x MSY	0.32	-37%	38%	-53%	-36%	1.14	82,300	15,600	26%
$SB/SB_{F=0}$ 2019	0.39	-20%	28%	-43%	-21%	1.03	74,000	15,600	18%
	0.41	-17%	26%	-41%	-18%	1.00	72,200	15,600	17%
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	0.53	8%	14%	-25%	4%	0.80	57,800	15,600	10%
$SB/SB_{F=0}$ 2015-18	0.58	18%	9%	-18%	14%	0.71	51,300	15,600	7%
	0.58	19%	8%	-18%	15%	0.70	50,500	15,600	6%
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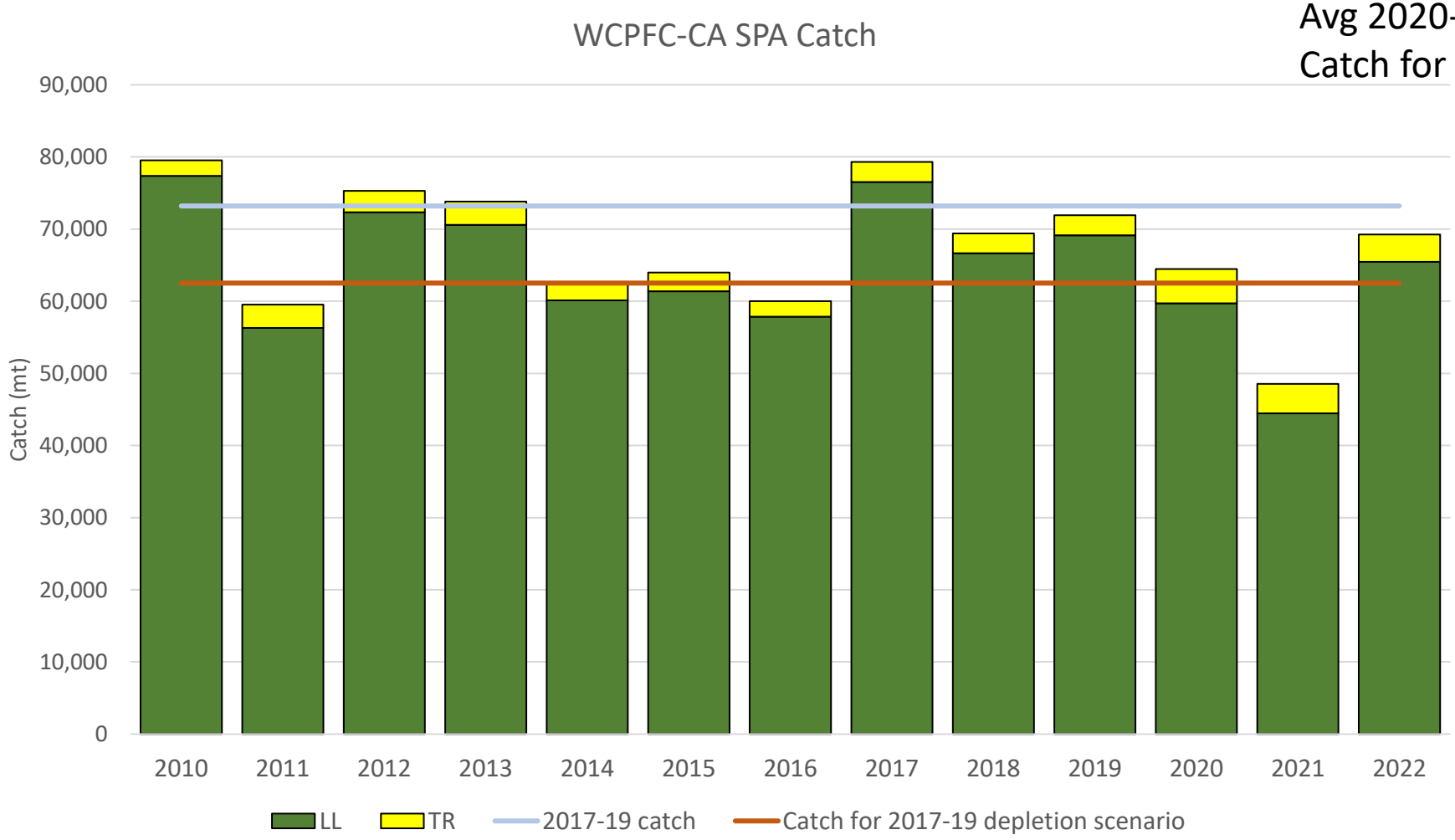
Recent catch patterns

Avg 2017-2019 ~ 72,200 mt
Avg 2020-2022 ~ 60,750 mt
Catch for 2017-19 depln ~ 62,500 mt



SC19 recommendation

- WCPFC20-2023-14, para 35:
- “The Commission is invited to review the list of candidate TRPs outlined in Table 4 and consider adopting a TRP for SP albacore tuna that is based on a set of reference years instead of a fixed value based on a biomass depletion percentage.”

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