



Pacific
Community
Communauté
du Pacifique

Additional TTMW4 analysis requests

SPF-OFP

WCFC20-2023-16_REV1

WCPFC20, Rarotonga, Dec 2023

Content

- WCPFC20-2023-16_REV1 includes all analyses performed by SSP arising through requests by TTMW3 and TTMW4
- Here, concentrating on additional analyses requested by TTMW4
 - Key assumptions to be aware of
 - Only specific analyses covered here
 - Details are provided in the paper
- Based upon the results in the updated ‘nuclear grid’
 - YFT effort-based assumption for majority of ‘Region 2’ domestic fisheries

TTMW4 requests



- 7 requests of SPC

#	Request to SPC	CCM/Observer
1	Update of data summaries as in SC18-MI-IP-08 – LL catch and PS/PL effort by area (AW, EEZ, HSP, other HS) and HS v flag	EU
2	Updated figures 9 and 10 of SC18-MI-IP08 with PS effort in waters under national jurisdiction (EEZs and AWs), in the HS by CCMs in table 2 of CMM, in the HS by the Philippines, in the HS by Pacific Island fleets fishing in high seas adjacent to their home waters during the HS closures, in the HS by CCMs not listed in Table 2 (not including the effort already included in the previous item).	EU
3	<ol style="list-style-type: none"> 1. The provision of estimates of additional longline yields alongside the estimates of foregone purse seine catch from the FAD closure set out in Table 11 of Working Paper 4. 2. A table showing the adjustments to the longline bigeye catch limits for each CCM over time since 2008. This is basically an extension of the table from China back to 2008 3. An estimate of the potential impact of extending footnote 1 to cover all SIDS including American Samoa. 	PNA+
4	An objective of a new tropical tuna measure may be to balance the impacts or depletion to bigeye and yellowfin between fishery sectors. In the WCPO, associated purse seine and miscellaneous sectors have the largest impacts on the two stocks. From the most recent assessment documents presented to SC19, the impact is not balanced. The US requests annual fishery sector impact estimates from 2000-2021 for WCPO bigeye and yellowfin contained in Figure 70 from the bigeye assessment and Figure 66 from yellowfin tuna assessment.	US
5	Future projection of depletion rate of BET, YFT and SKJ respectively with an assumption that catches in region 2/5 increase or decrease by 10%, 20%, 30%.	Japan

Request 3a: longline yields

- Estimate additional longline yields v estimates of foregone PS catch from the FAD closure
- Challenging in time available given catch-based projections for LL
 - (projection on numbers of fish)
- Calculation based on equilibrium gains in estimated catch weight due to FAD closure
 - LL scalar = 1
 - Gains likely underestimated

	Estimated total purse seine catch (mt) in absence of FAD closure	Estimated longline bigeye catch (mt) gained	
		Recent recruitment	Long term recruitment
2009	108,507	300	490
2010	75,243	420	680
2011	98,753	500	710
2012	111,823	420	660

Request 3c: Footnote 1 expansion

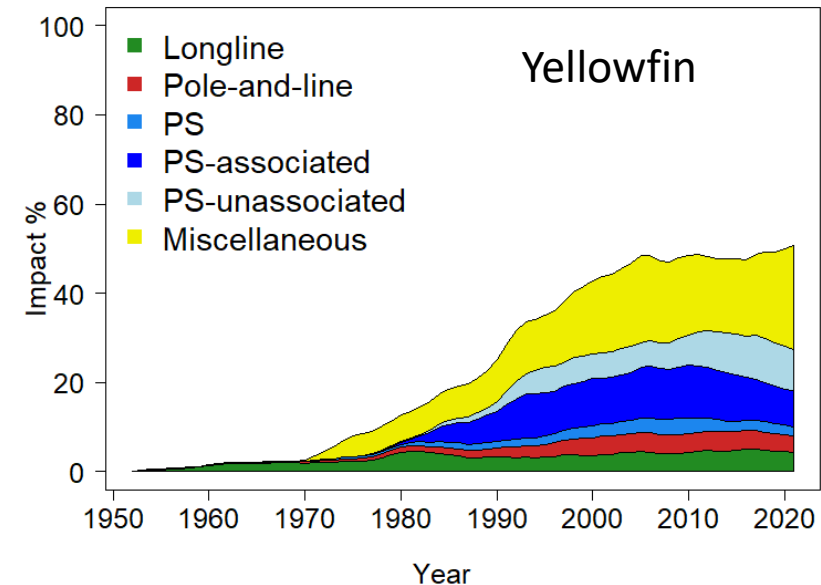
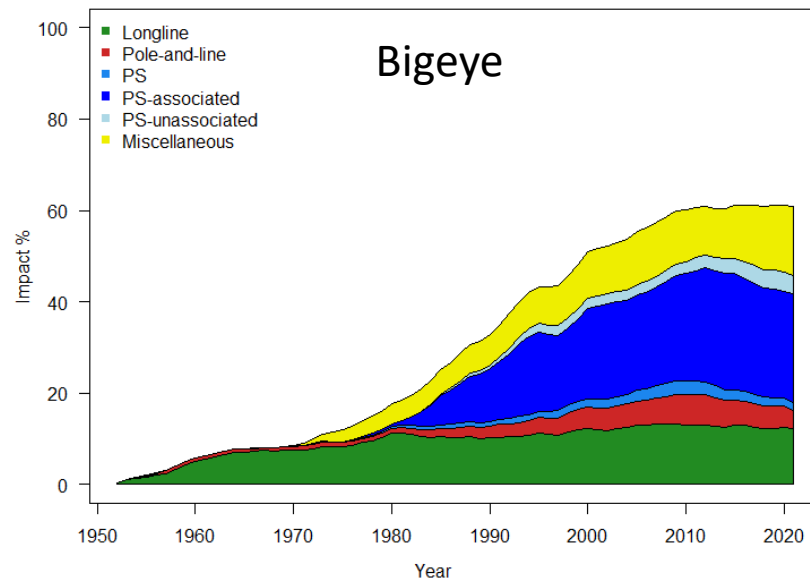
- Estimate potential impact of extending footnote 1 to cover all SIDS incl. American Samoa
- Assume different patterns of FAD fishing in 3mth closure in key SIDS
 - AVG FAD sets per month outside closure taken during closure period
 - MAX FAD sets per month outside closure taken during closure period
- Calculate resulting scalar off each year
- Assumes additional effort would not occur in absence of closure

Year	FAD set scalar	
	Scenario 1 (Avg)	Scenario 2 (max)
2019	1.01	1.03
2020	1.01	1.02
2021	1.00	1.01
2022	1.00	1.01

Request 4: Impact plot values



- ‘Impact plots’ indicate gear-specific depletion outcomes over assessment model period
- ‘Turn off’ all fisheries but one, one-by-one, to identify impact of each gear
- Note totals are approximately equal to overall depletion, but not exact



Request 5: Western tropical region catch



- Fishing level changes in ‘WPEA’ assessment region
 - Changes in catch (SKJ and BET) or effort (YFT)
 - Long term impacts on stocks
 - Resulting table of depletion levels:

Change in ‘WPEA region’ fisheries	Bigeye		Yellowfin	Skipjack
	Recent recruitment	Long term recruitment		
+30%	0.43	0.42	0.38	0.48
+20%	0.44	0.42	0.39	0.49
+10%	0.45	0.43	0.40	0.49
0%	0.46	0.44	0.40	0.50
-10%	0.48	0.45	0.42	0.50
-20%	0.50	0.47	0.43	0.51
-30%	0.51	0.49	0.45	0.52

Thanks
Peter Williams



- Thanks for listening