



**NORTHERN COMMITTEE
FOURTEENTH REGULAR SESSION**
Fukuoka, Japan
4 – 7 September 2018

SC14 Summary Report to NC14

WCPFC-NC14-2018/IP-02

Secretariat

REVIEW OF WCPO FISHERIES

1. The provisional total WCP-CA tuna catch for 2017 was estimated at 2,539,950 mt (the lowest catch for six years), which is 78% of the total Pacific Ocean catch of 3,239,704 mt, and 54% of the global tuna catch (the provisional estimate for 2017 is 4,715,836 mt).

Species	Catch (mt)	%
Skipjack	1,624,162	64
Yellowfin	670,890	26
Bigeye	126,929	5
Albacore	117,969 (NP: 25,678; SP: 92,291)	5

Gear	Catch (mt)	%
purse seine	1,812,474	71
pole-and-line	151,232	6
longline	240,387	10
SP troll albacore	2,508	0.1
remainder	333,349	13

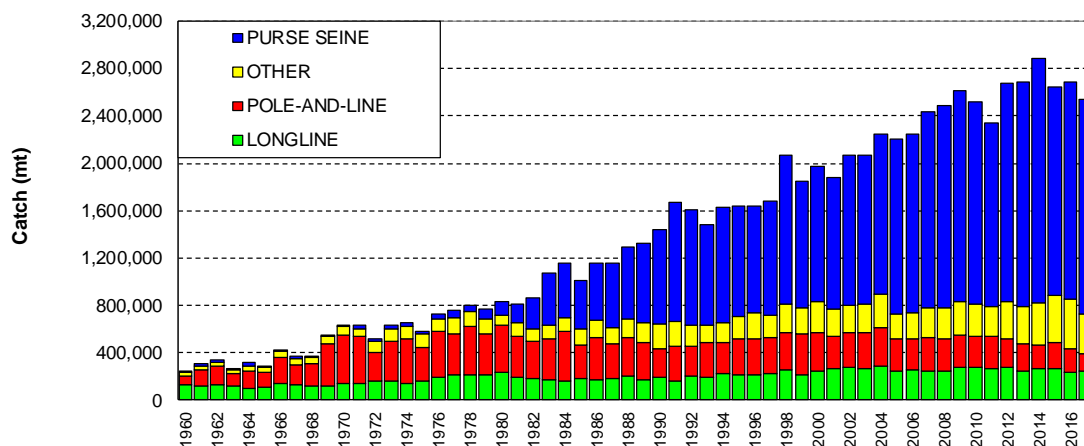


Figure 1. Catch (mt) of albacore, bigeye, skipjack and yellowfin in the WCP-CA, by longline, pole-and-line, purse seine and other gear types

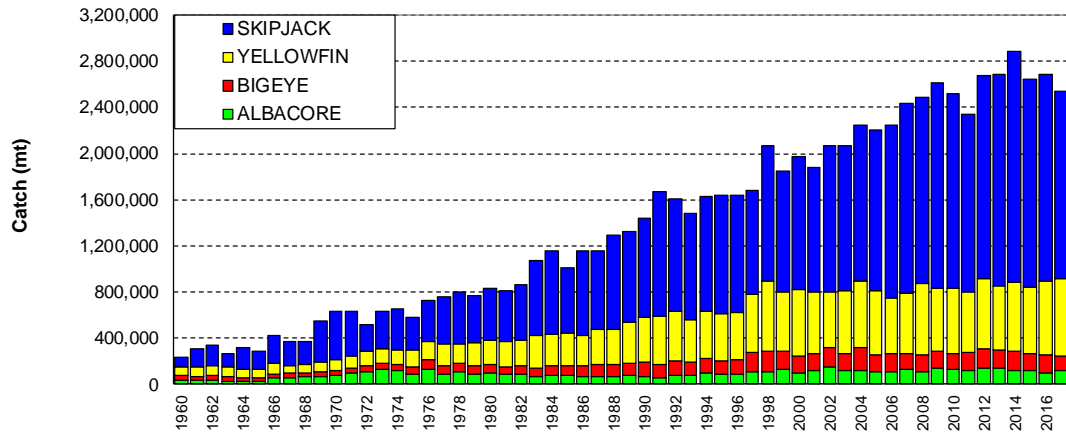


Figure 2. Catch (mt) of albacore, bigeye, skipjack and yellowfin in the WCP-CA

STOCK STATUS AND MANAGEMENT RECOMMENDATIONS

2. The following matrix summarizes management advices from stock assessments and other assessments related to Northern Committee issues. For the details, participants will refer to the Summary Report in the near future.

Tunas	
Bigeye tuna	<p>a) Based on the uncertainty grid adopted by SC14, the WCPO bigeye tuna spawning biomass is above the biomass LRP and recent F is very likely below F_{MSY}. The stock is not experiencing overfishing (94% probability $F < F_{MSY}$) and it is not in an overfished condition (0% probability $SB/SB_{F=0} < LRP$).</p> <p>b) SC14 recommends that</p> <ul style="list-style-type: none"> • WCPFC15 could continue to consider measures to reduce fishing mortality from fisheries that take juveniles, with the goal to increase bigeye fishery yields and reduce any further impacts on the spawning biomass for this stock in the tropical regions; and • as a precautionary approach that the fishing mortality on bigeye tuna stock should not be increased from the recent average (2011-2014) level to maintain spawning biomass at or above the 2012-2015 average, until the Commission can articulate the management objectives and agree on an appropriate TRP for bigeye. <p>c) SC14 noted that the acceptance of the new growth model for bigeye tuna raises a number of issues in relation to patterns of growth and stock structure of bigeye tuna across the Pacific Ocean and recommended that several research issues in Paragraphs 36 and 37 of the Outcomes Document need to be addressed.</p>
South Pacific albacore tuna	<p>a) Based on the uncertainty grid adopted by SC14, the WCPO albacore tuna spawning biomass is very likely to be above the biomass LRP and recent F is very likely below F_{MSY}, and therefore the stock is not experiencing overfishing (100% probability $F < F_{MSY}$) and is not in an overfished condition (100% probability $SB_{recent} > LRP$).</p> <p>b) SC14 recalled its previous advice from SC11, SC12, and SC13 that longline fishing mortality and longline catch be reduced to avoid decline in the vulnerable</p>

	biomass so that economically viable catch rates can be maintained, especially for longline catch of adult albacore. SC14 recommends that this advice be taken into consideration when the TRP for South Pacific albacore is discussed at WCPFC15.
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Northern stocks	
North Pacific albacore	SC14 noted that no management advice has been provided since SC13. Therefore, the advice from SC13 should be maintained.
Pacific bluefin tuna	SC14 advises the Commission to note the current very low level of spawning biomass (3.3% B_0), the current level of overfishing, and that the projections are strongly influenced by the inclusion of a relatively high but uncertain recruitment in 2016. The majority of CCMs recommended a precautionary approach to the management of Pacific Bluefin tuna, especially in relation to the timing of increasing catch levels, until the rebuilding of the stock to higher biomass levels is achieved.
North Pacific swordfish	ISC provided the following information on the status of the WCNPO swordfish stock: <ol style="list-style-type: none"> 1. The WCNPO swordfish stock has produced annual yields of around 10,200 t per year since 2012, or about 2/3 of the MSY catch amount. 2. There is no evidence of excess fishing mortality above F_{MSY} ($F_{2013-2015}$ is 45% of F_{MSY}) or substantial depletion of spawning potential (SSB_{2016} is 87% above SSB_{MSY}). 3. Overall, the WCNPO swordfish stock is not likely overfished and is not likely experiencing overfishing relative to MSY-based or 20% of unfished spawning biomass-based reference points.

Sharks	
Silky shark	<ol style="list-style-type: none"> a) SC14 concludes that on the basis of the best available science, and pending the availability of less uncertain stock status indicators, the stock is being overfished. b) SC14 recommends, given that the WCPO silky shark stock continues to be overfished, that CMM 2013-08 be maintained as a precautionary measure.
North Pacific shortfin mako shark	SC14 noted that ISC provided the following conclusions: <ol style="list-style-type: none"> 1) Target and limit reference points have not been established for pelagic sharks in the Pacific Ocean. 2) The stock assessment results from the base case model show that, relative to MSY, the North Pacific shortfin mako stock is likely (>50%) not in an overfished condition and overfishing is likely (>50%) not occurring relative to MSY-based abundance and fishing intensity reference points.
Whale shark	Based on ABNJ-supported risk assessment: <ol style="list-style-type: none"> 1) SC14 considers there is a low probability that the Indo-Pacific whale shark is at risk from Pacific purse seine fisheries. 2) SC14 recommends that the WCPFC initiate concerted efforts to identify and promote best practice safe release methods for whale sharks. 3) SC14 recommends that research be undertaken to quantify post-release mortality rates under a variety of release scenarios.
North Pacific striped marlin	To emphasize the importance of developing a stock rebuilding plan for North Pacific striped marlin, SC14 reiterated the ISC15 stock status and management advice from SC11.

3. Regarding the issue of the designation of North Pacific blue shark as a Northern Stock (WCPFC14 Report, Para 378), SC14 provides the following recommendations:
- 1) SC14 recommends that the Commission clarify and quantify what is meant by “*mostly north of 20 degrees N*”.
 - 2) In relation to paragraph 1, SC14 recommends that a check-list of benchmark scientific information for North Pacific blue shark be developed to support the Commission’s deliberations in determining the designation of a northern stock. As such, the following draft checklist is forwarded for the Commission’s consideration.

No	Criteria	Response	Comments
1	What proportion of the total estimated stock biomass occurs on average north of 20°N?	Unknown	Current assessment model does not include population spatial structure. Nominal CPUE may be biased and could be overestimated in the north unless the effects of fishing time, depth and depth distribution of blue sharks are accounted for.
2	Does all of the breeding/spawning area(s) occur north of 20°N?	No	Breeding area is mainly north of 20°N but may overlap areas south of 20°N
3	Does all of the nursery area(s) occur north of 20°N?	Yes	Mostly in the area 30-40°N
4	Do any other important life history stages occur south of 20°N?	Yes	Pregnant females are commonly found south of 20°N
5	What proportion of the total annual estimated catch occurs north of 20°N?	0.88 on average	Based on raised, aggregated (5x5 degree) longline data 2014-2017 submitted to WCPFC (Operational data would provide better resolution than aggregated data)
6	Is fishery catch-per-unit-effort demonstrably higher north of 20°N for comparable fisheries?	(i) Similar CPUE observed north and south of 20°N in Chinese Taipei LSTLL fishery and Hawaii deep-set LL fishery (ii) CPUE higher north of 20°N in Japan shallow set research survey	CPUE comparisons may be biased by different depth distribution of blue shark north and south of 20°N.
7	Is there sufficient information about fish movement between the areas north and south of 20°N?	Yes	Conventional tagging data shows that the maximum range of movements suggests at least northern and southern sub-populations of blue shark, as demarked by the equator.

4. Regarding the issue of the designation of North Pacific striped marlin as a Northern Stock (WCPFC14 Report, Para 378), SC14 provides the following recommendations:
- 1) SC14 recommends that the Commission clarify and quantify what is meant by “*mostly north of 20 degrees N*”.

- 2) In relation to paragraph 1, SC14 recommends that a check-list of benchmark scientific information for North Pacific striped marlin be developed to support the Commission's deliberations in determining the designation of a northern stock. As such, the following table is forwarded for the Commission's consideration.

No	Criteria	Response	Comments
1	What proportion of the total estimated stock biomass occurs on average north of 20°N?	*Proportion of biomass above 20°N is 2-4 times larger than the proportion of biomass south of 20°N in the North Pacific	SC14-SA-IP-011 This value was estimated by stock assessment result in 2007.
2	Does all of the breeding/spawning area(s) occur north of 20°N?	Unknown	
3	Does all of the nursery area(s) occur north of 20°N?	Unknown	
4	Do any other important life history stages occur south of 20°N?	Unknown	
5	What proportion of the total estimated catch occurs north of 20°N?	**Range of annual percentages of 66%-96% above 20°N. During the 2000s the average percentage was 73% above 20°N	SC14-SA-IP-11 These values were estimated from stock assessment results in 2007, but were not endorsed by SC3.
6	Is fishery catch-per-unit-effort demonstrably higher north of 20°N for comparable fisheries?	Unknown	
7	Is there sufficient information about fish movement between north and south of 20°N?	No	

*Proportion of biomass was calculated in 1964 and 1969 that is near the initial condition.

**The average proportion of the total catch in numbers was calculated by decade (1950's-2000's).

MANAGEMENT ISSUES THEME

5. Regarding the Paragraph 215 of the WCPFC14 Summary Report on the need for a Science-Management Dialogue, SC14 recommended that:
- i) WCPFC15 take the necessary steps to establish such a Dialogue in 2019; and
 - ii) the Commission define the appropriate format for this group to possess authority to enable them to make the appropriate recommendations to the Commission.

FUTURE WORK PROGRAMME AND BUDGET

6. SC14 adopted the proposed budget and forwarded it to the WCPFC15 FAC meeting. SC14 agreed that SPC will conduct stock assessments for skipjack tuna and South Pacific striped marlin in 2019.

Project title	Priority rank	2019	2020	2021
SPC Oceanic Fisheries Programme Budget	High 1	906,396	924,524	943,015
SPC – Additional resourcing for harvest strategy evaluation, including stock assessments¹ (Rob Scott)	High 1	164,832	166,480	168,145
Project 35b. Maintenance and enhancement of the WCPFC Tissue Bank	High 1	97,200	99,195	101,180
Project 42 Pacific Tuna Tagging Program (PTTP) Other: Approx. \$170,000 from Korea	High 1	645,000	645,000	730,000
Project 60: Improving purse seine species composition * SPC will utilise funding from other sources in 2019		*	40,000	40,000
Project 68. Estimation of seabird mortality across the WCPO Convention area	High 2	17,500		
Project 82. Yellowfin tuna age and growth	High 1	85,000		
Project 83. Investigating the potential for a WCPFC tag vessel (Co-funded to be sought)	High 2	95,000		
Project 88. Acoustic FAD analyses			120,000	72,000
Project 90. Better data on fish weights and lengths for scientific analyses	High 2	60,000	30,000	20,000
Project 92. Testing the performance of alternative stock assessments approaches for oceanic whitetip shark.	High 2	75,000		
Project 94. Workshop on yellowfin and bigeye tuna age and growth	High 1	15,000		
Unobligated (Contingency) Budget Note: Any science-related projects requested by the Commission with no budget allocation			83,000	83,000
SC14 TOTAL BUDGET		2,160,928	2,025,200	2,074,340

ADMINISTRATION ISSUES

7. SC14 confirmed that SC15 would be held in Pohnpei, Federated States of Micronesia during 7-15 August 2019. Samoa offered to host for 2020.

¹ Revised terms of reference for this resourcing includes:

- further development of MULTIFAN-CL to support the Management Strategy Evaluation and the Harvest Strategy development process;
- further enhancement of MULTIFAN-CL and its use in stock assessment to implement SC recommendations;
- maintenance and further development of the MULTIFAN-CL website to facilitate access to software and support; and
- implementation of a formal framework for management of MULTIFAN-CL code updates, testing of new developments, and updating of the users' guide.