

**JOINT IATTC AND WCPFC-NC WORKING GROUP MEETING ON  
THE MANAGEMENT OF PACIFIC BLUEFIN TUNA**  
**Report of the ISC Bluefin Working Group (PBFWG)**  
**Activities in 2018–2019 (NC15–IP03)**



**Shuya Nakatsuka**  
**ISC PBFWG**



- ❖ No assessment in 2019 (last assessment; March 2018)
- ❖ WG meeting in March 2019 in Jeju, Korea
  - Reviewed catch data in 2018
  - Prepared responses to requests from RFMOs
    - Reviewed Conservation Information from 2018
    - Conducted additional projections as requested
  - Reviewed current stock assessment to prepare for the next
  - Updated the list of reference points
  - Preparation for 2<sup>nd</sup> PBF MSE Workshop
- ❖ 2<sup>nd</sup> PBF MSE Workshop in May in San Diego

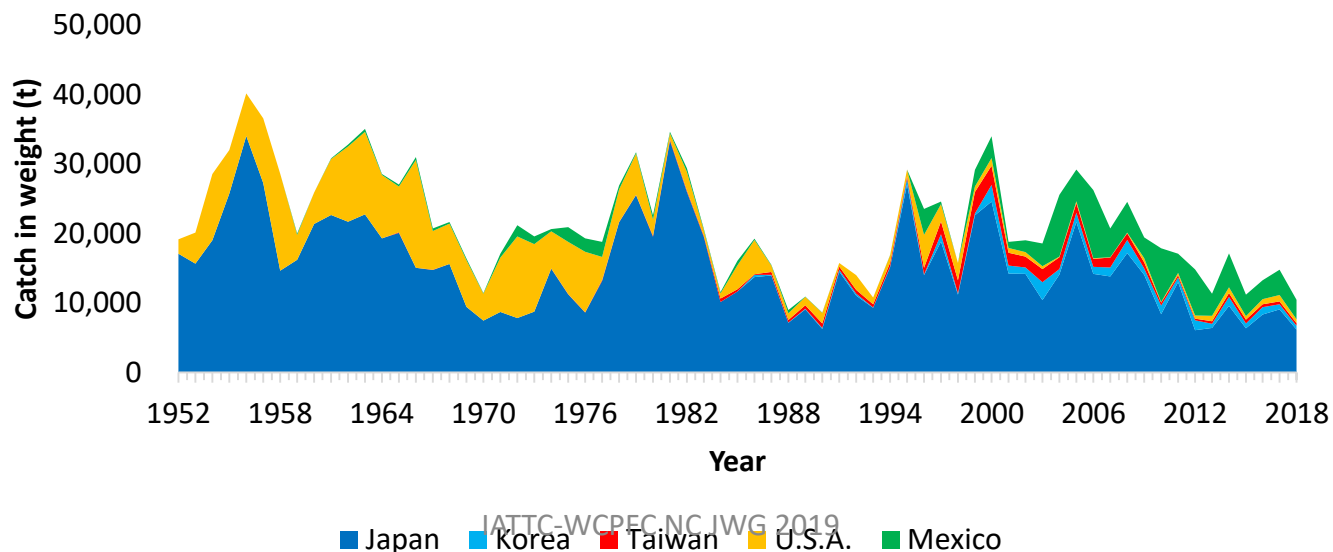


# Review of catch information

# Total catch by country (mt):

Year	Japan	Korea	Taiwan	USA	Mexico	ISC PBFWG catch
2011	12,994	684	316	343	2,732	17,069
2012	6,093	1,423	214	442	6,669	14,841
2013	6,411	605	334	820	3,154	11,324
2014	9,573	1,311	525	844	4,862	17,115
<b>2015</b>	6,357	677	578	<b>497</b>	3,082	<b>11,191</b>
<b>2016</b>	8,341	1,030	454	<b>723</b>	2,709	<b>13,257</b>
<b>2017</b>	<b>9,055</b>	743	<b>416</b>	<b>936</b>	3,643	<b>14,793</b>
<b>2018</b>	<b>6,174</b>	<b>528</b>	<b>380</b>	<b>547</b>	<b>2,840</b>	<b>10,496</b>

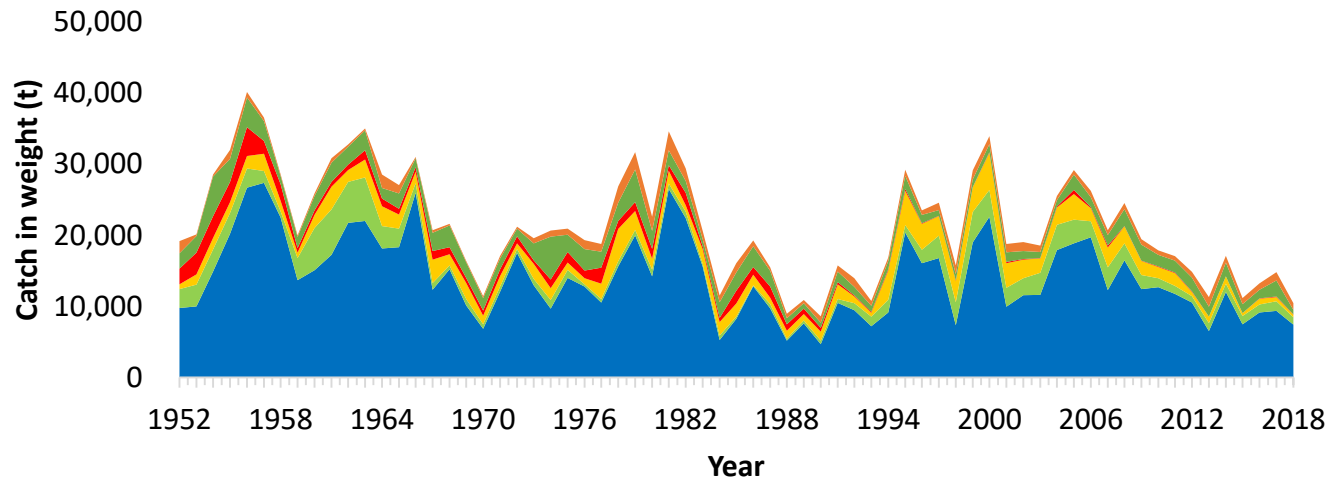
\* Catch in the latest year are provisional.



# Total catch by gear (mt):

Year	PS	LL	Troll	PL	Setnet	Others	ISC PBFWG catch
2011	11,740	1,129	1,820	63	1,667	649	17,069
2012	10,550	883	570	113	1,934	790	14,841
2013	6,529	1,116	904	8	1,418	1,349	11,324
2014	12,024	1,166	1,023	5	1,951	946	17,115
<b>2015</b>	<b>7,470</b>	<b>1,170</b>	<b>413</b>	<b>8</b>	<b>1,268</b>	<b>862</b>	<b>11,191</b>
<b>2016</b>	<b>9,144</b>	<b>1,142</b>	<b>778</b>	<b>44</b>	<b>1,230</b>	<b>918</b>	<b>13,257</b>
<b>2017</b>	<b>9,383</b>	<b>1,324</b>	<b>603</b>	<b>86</b>	<b>2,258</b>	<b>1,140</b>	<b>14,793</b>
<b>2018</b>	<b>7,425</b>	<b>1,058</b>	<b>368</b>	<b>8</b>	<b>643</b>	<b>967</b>	<b>10,496</b>

\* Catch in the latest year are provisional.



2019/9/6

# PBF Catch in 2018



- Provisional PBF catch in 2018 was lowest since 1991.
- Catches by set-net and purse seine in 2018 were below those of 2017.



# **Responses to RFMOs**

## **(see also Appendix 6 of NC15–IP03)**

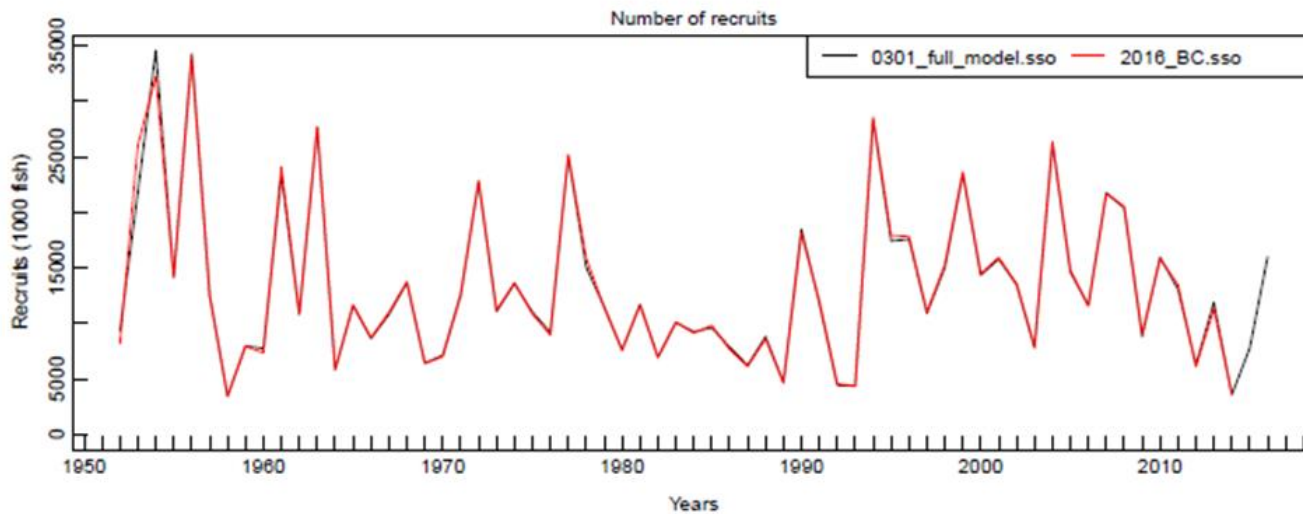
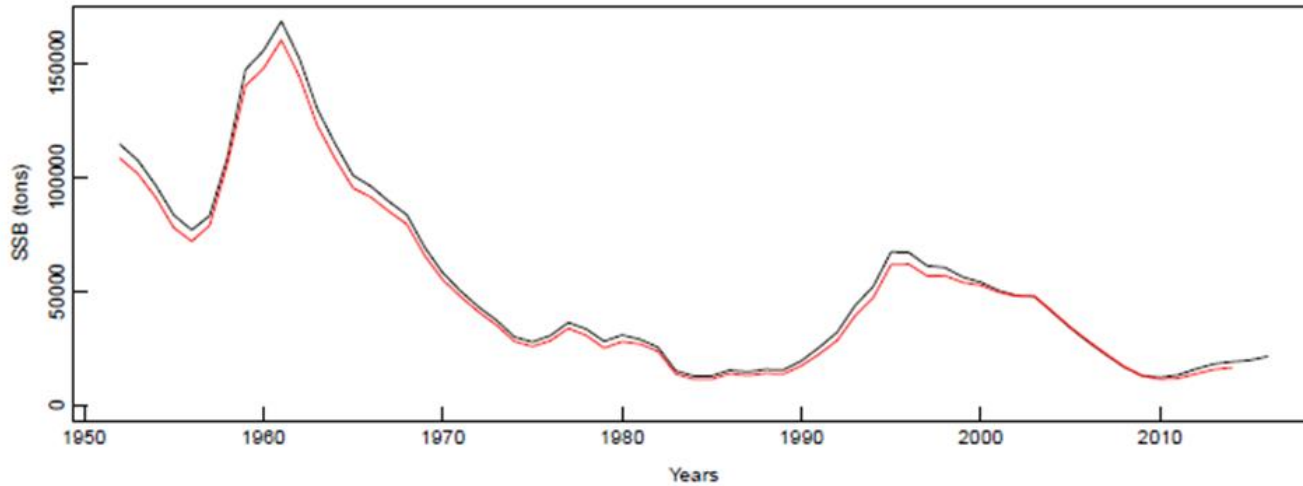
# March Meeting: Requests from RFMOs



- ❖ “Review the updated abundance indices, including recruitment index, up to 2017 to evaluate the need to change its scientific advice in 2018.”



# Conservation Information in 2018



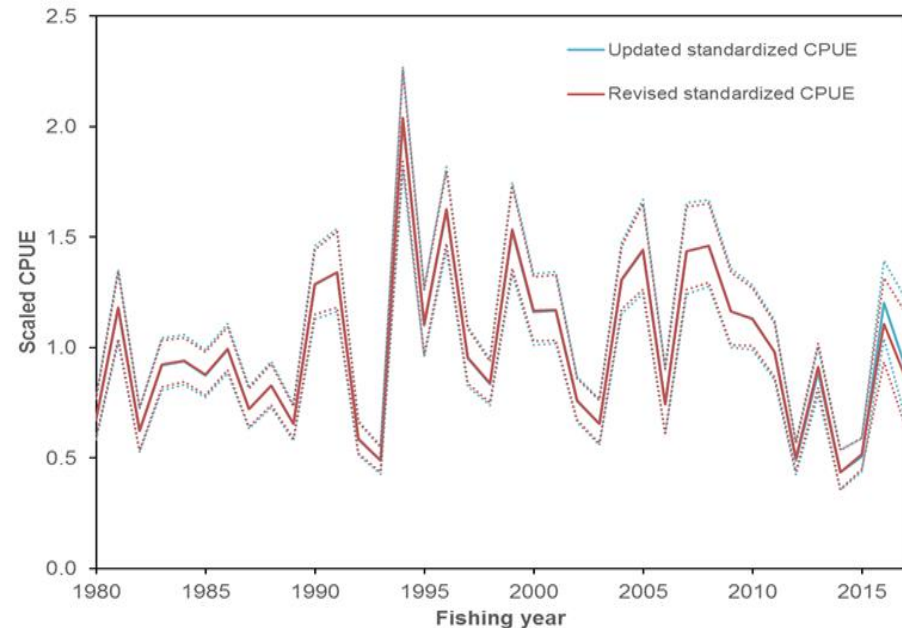
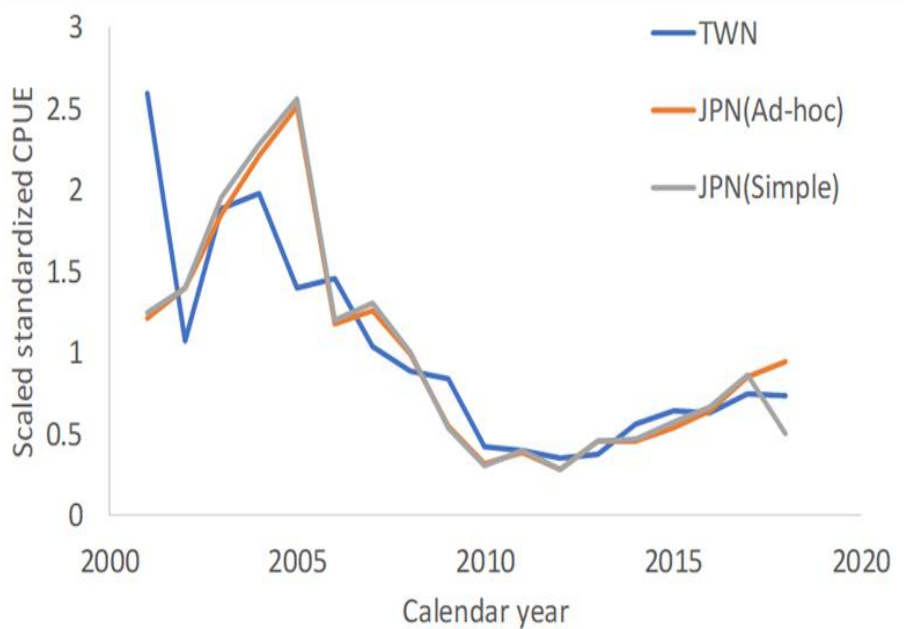
# Conservation Information in 2018

- The projection mimicking the current management measures under the low recruitment scenario resulted in an estimated 98% probability of achieving the initial rebuilding target (6.7%SSBF=0) by 2024.
- The estimated probability of achieving the second rebuilding target (20%SSBF=0) 10 years after the achievement of the initial rebuilding target or by 2034, whichever is earlier, is 96%.
- However, it should be recognized that these projection results are strongly influenced by the inclusion of the relatively high, but uncertain recruitment estimate for 2016.

# March Meeting: Requests from RFMOs



- ❖ “Review the updated abundance indices, including recruitment index, up to 2017 to evaluate the need to change its scientific advice in 2018.”

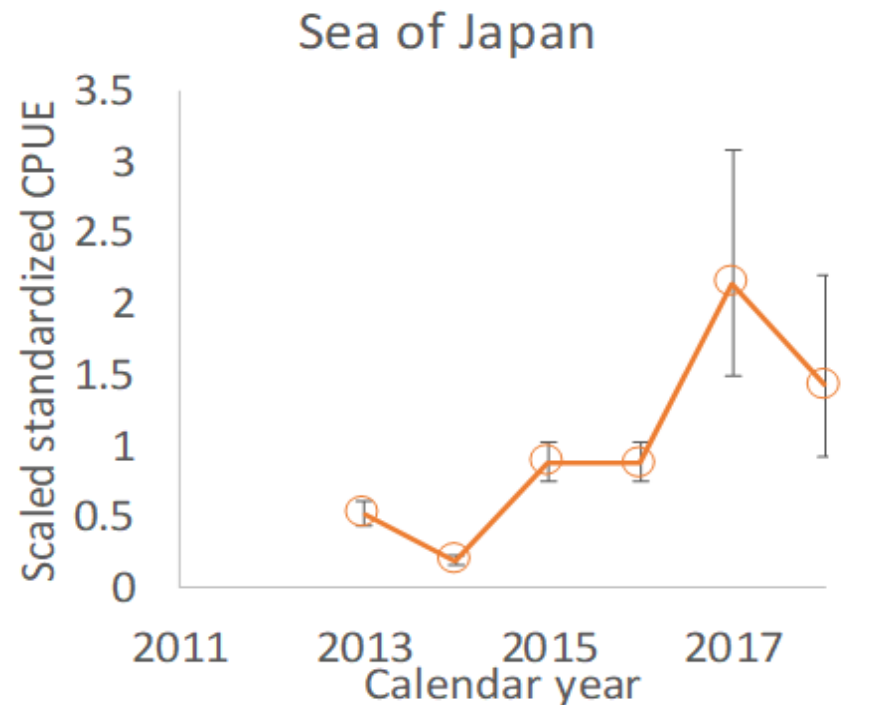
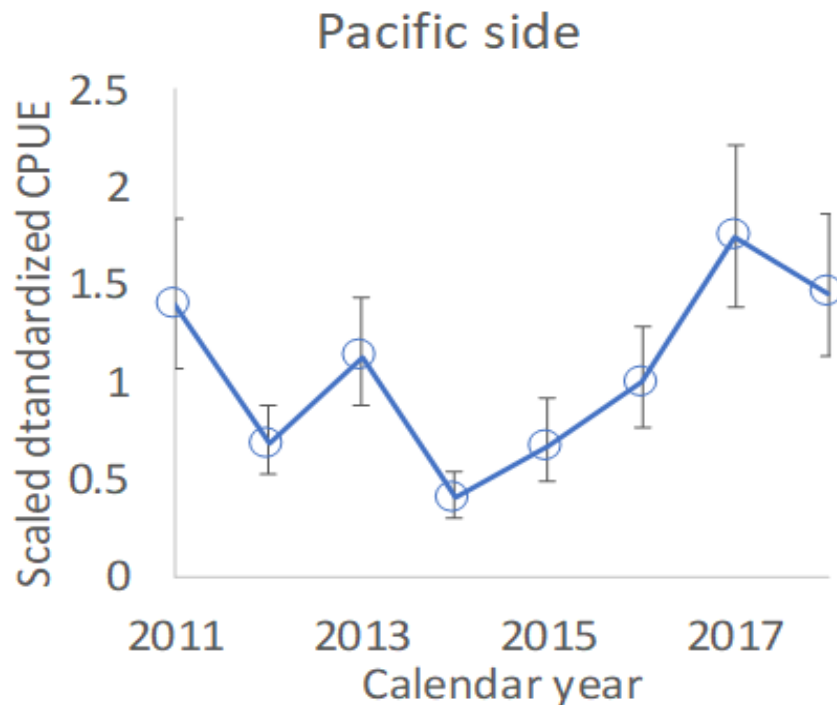


- ❖ PBFWG reviewed standardized CPUEs for adult as well as recruitment abundance.

# March Meeting: Requests from RFMOs



- ❖ “Review the updated abundance indices, including recruitment index, up to 2017 to evaluate the need to change its scientific advice in 2018.”



**PBFWG also reviewed index from Japanese recruitment monitoring.**

# March Meeting: Requests from RFMOs



- ❖ “Review the updated abundance indices, including recruitment index, up to 2017 to evaluate the need to change its scientific advice in 2018.”
- ❖ **Response from ISC PBFWG (presented to IATTC SAC as draft)**
  - ❖ **After reviewing updated CPUE indices as well as Japanese recruitment monitoring, the WG recommends to maintain the conservation advice from ISC18 (in 2018).**
  - ❖ **In addition, the WG noted that some positive signs for the PBF stock were observed after the last assessment; the Japanese troll recruitment index value estimated for 2017 is similar to its historical average (1980–2017), Japanese recruitment monitoring indices in 2017 and 2018 are higher than the 2016 value and there is anecdotal evidence that larger fish are becoming more abundant in EPO, although this information needs to be confirmed for the next stock assessment.**

# Requests from RFMOs (2)



- ❖ “Conduct projections of harvest scenarios shown below based on 2018 assessment and provide probability of achieving initial and 2nd rebuilding targets in accordance with paragraph 2.1 of HS2017-02”

West Pacific		East Pacific
Small fish	Large fish	
0	600t	400t
5%	1300t	700t
10%	1300t	700t
5%	1000t	500t
0	1650t	660t
	5%	5%
	10%	10%
	15%	15%

**Included in 2018 assessment**

# March Meeting: Requests from RFMOs



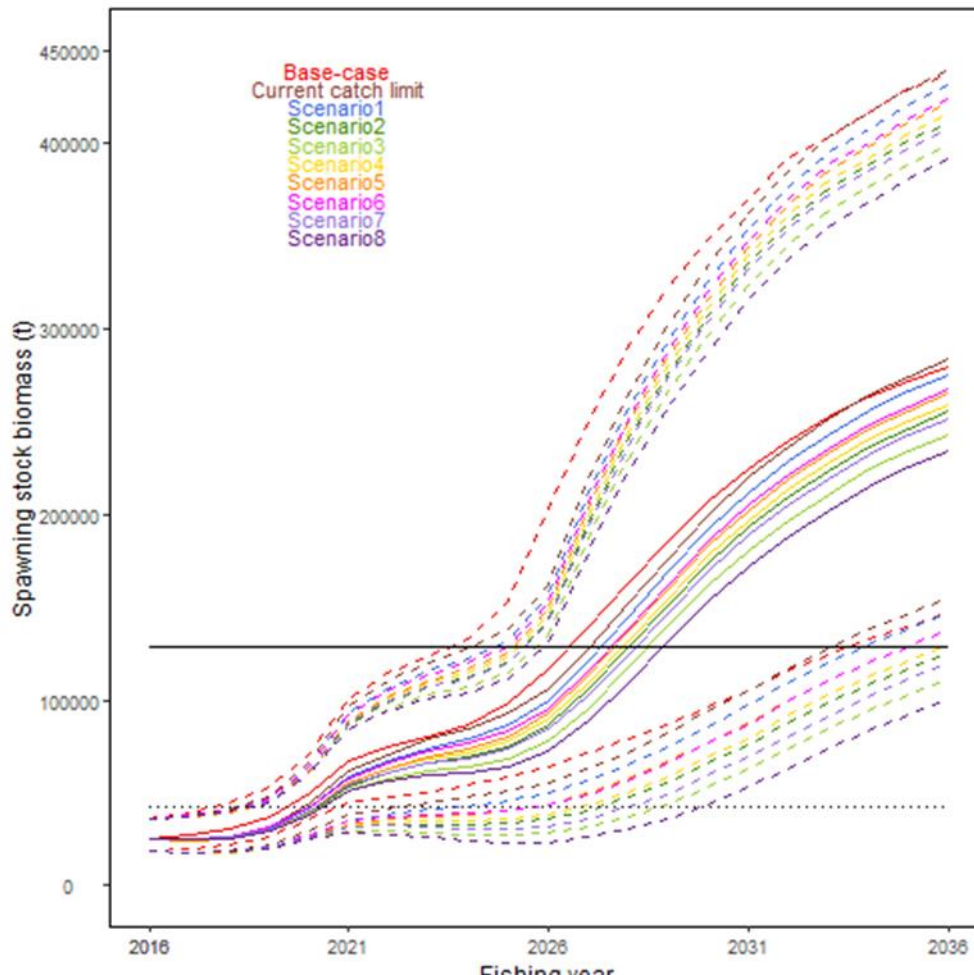
- ❖ “Conduct projections of harvest scenarios shown below based on 2018 assessment and provide probability of achieving initial and 2nd rebuilding targets in accordance with paragraph 2.1 of HS2017–02”
- ❖ Response from ISC PBFWG

Scenario #	Catch limit Increase		Initial rebuilding target			Second rebuilding target		Median SSB (mt) at 2034	
			The year expected to achieve the target with >60% probability	Probability of achieving the target at 2024	Probability of SSB is below the target at 2024 under the low recruitment	The year expected to achieve the target with >60% probability	Probability of achieving the target at 2034		
	WPO	EPO							
	Small	Large	Small	Large					
Base case		0%	2020	99%	0%	2028	96%	262,952	
Current catch limit		0%	2021	97%	0%	2028	96%	264,748	
1	0%	600	400	2021	95%	0%	2028	95%	256,252
2	5%	1300	700	2021	88%	0%	2029	91%	236,691
3	10%	1300	700	2021	81%	1%	2030	88%	224,144
4	5%	1000	500	2021	89%	0%	2029	92%	240,739
5	0%	1650	660	2021	92%	0%	2029	94%	246,593
6		5%		2021	93%	0%	2029	94%	248,757
7		10%		2021	86%	1%	2029	90%	232,426
8		15%		2021	76%	2%	2030	85%	215,385

# March Meeting: Requests from RFMOs



- ❖ “Conduct projections of harvest scenarios shown below based on 2018 assessment and provide probability of achieving initial and 2nd rebuilding targets in accordance with paragraph 2.1 of HS2017–02”





## For Info: IATTC Staff Recommendation



- ❖ The current resolution (C-16-08) is adequate and, for this reason, no additional recommendations are made.
- ❖ Increased catches based on the scenarios analyzed are possible under the harvest strategy prepared by the joint tRFMO working group. The choice of catch scenario should take into account the desired rebuilding rate and the distribution of catch between small and large bluefin.

## For Info 2: WCPFC SC recommendation



SC15 advises the Commission to note the current very low level of spawning biomass (3.3% B<sub>0</sub>), the current level of overfishing, and that the projections are strongly influenced by the inclusion of a relatively high but uncertain recruitment in 2016. While noting that additional positive signs of Pacific bluefin tuna stock were observed after the last assessment, and while noting that the agreed Harvest Control Rule could allow for catch limit increases, some of CCMs recommended a precautionary approach to the management of Pacific bluefin tuna until the rebuilding of the stock to higher biomass levels is achieved.

# March Meeting: Review of assessment model

- ❖ “Benchmark assessment” is scheduled in March 2020.
- ❖ 2019 is a year for “reflection and improvement”.
- ❖ PBFWG reviewed current model setting in March meeting and discussed possible improvements.
- ❖ Possible areas of improvements include;
  - Version up to SS version 3.3
  - Alternative M, growth, L-W, maturity
  - Application of geostatistical CPUE
  - Alternative CPUE for recruitment
  - Alternative approach for applying selectivity
  - Etc., etc,,,, (Appendix 5 of WG report)

# March Meeting: Schedule towards 2020 assessment

- ❖ “Data preparatory meeting” in La Jolla in Nov. 2019
  - ❖ Review results of preliminary work to improve assessment model.
  - ❖ Agree general framework of model settings for next assessment.
- ❖ “Assessment meeting” in Japan in March 2020
  - ❖ Finalize assessment model settings.
  - ❖ Obtain results from agreed assessment model.
  - ❖ Conduct projection.
  - ❖ Prepare draft stock status and conservation information.

# March Meeting: Update of reference points

- ❖ ISC provided lists of candidate reference points in 2010 for each species.
- ❖ In ISC18, ISC Chair requested species WGs to update the list based on the latest information.
- ❖ PBFWG updated the list of candidate reference points based on the 2018 assessment results, which is attached to the PBFWG meeting report (Appendix 4).



# 2<sup>nd</sup> PBF MSE Workshop

# 2<sup>nd</sup> PBF MSE Workshop

## Background

- ❖ WCPFC Harvest Strategy request ISC to hold 2 workshops on MSE to support development of Harvest Strategy.
- ❖ 1<sup>st</sup> ISC PBF MSE Workshop was held in Japan in May 2018.

## 2<sup>nd</sup> Workshop

- ❖ Held in May 20–21 in San Diego.
- ❖ About 70 participants
- ❖ Purpose of Workshop is to promote understanding on MSE among stakeholders, particular in EPO and to continue discussions on elements of MSE for PBF, following up the results of 1<sup>st</sup> workshop.

- ❖ Introductory presentations
- ❖ PBFWG provided comments on “Basic Structure of PBF MSE”, which stipulates the basis of PBF MSE

However,,,

Unlike NP Albacore, participants did not wish to make decisions at ISC workshops. Results will be provided to IATTC–NC joint working group meeting in September and the way forward will be discussed there.



**Thank you. Gracias.**



