Agenda Item 5.1

Details and resolution on the discrepancy of annual footprint and sum of product (SOP) of catch at age and weight at age from China, Japan, and Russia

NPFC-2025-TWG CMSA11-WP04

2025-07-15 @ Shanghai

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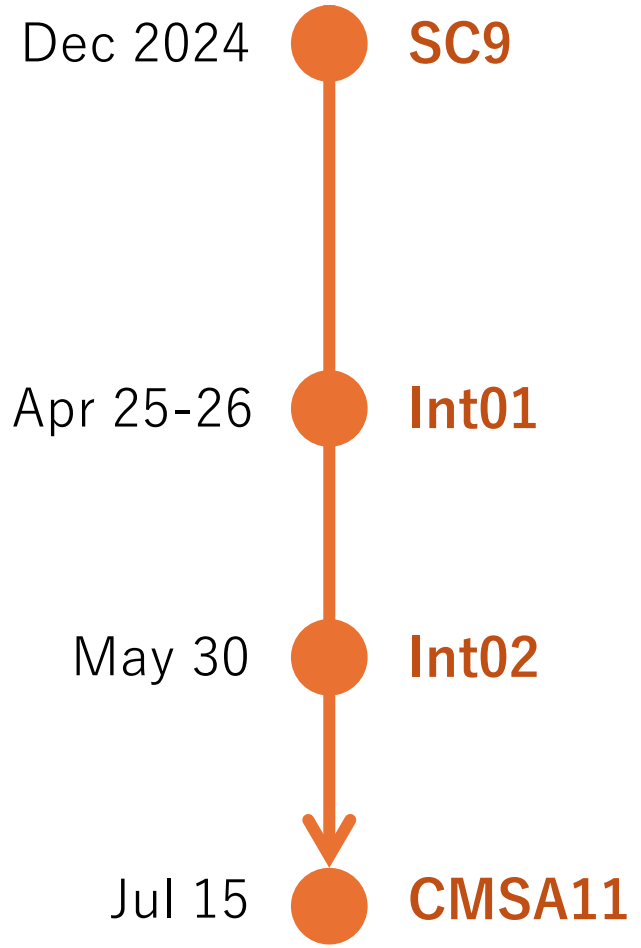
Developing a document



Dec 2024	**SC9**	Discrepancy between footprint and SOP was revealed SC tasked TWG CMSA to investigate/conduct quality assurance
Apr 25-26	**Int01**	Discussion on causes of discrepancy and solutions were proposed
May 30	**Int02**	Solved data were submitted and WP from each member were submitted
Jul 15	**CMSA11**	Input data is used for stock assessment

Causes of discrepancies

	China	Japan	Russia
Causes	**Processing error** • Misinterpretation of weight-at-age due to onboard sampling and its sample size	**Processing error** • Aggregation of prefectural data into a large data with different L-W relationship **Miscalculation** • Mistake in calculating process in CY2015	**Coverage error** • SOP only contained NW
Solution	Refine data and processing	Fix calculation	Include catches from CA and Japanese EEZ

Each member had investigated the causes and provided solutions

Result

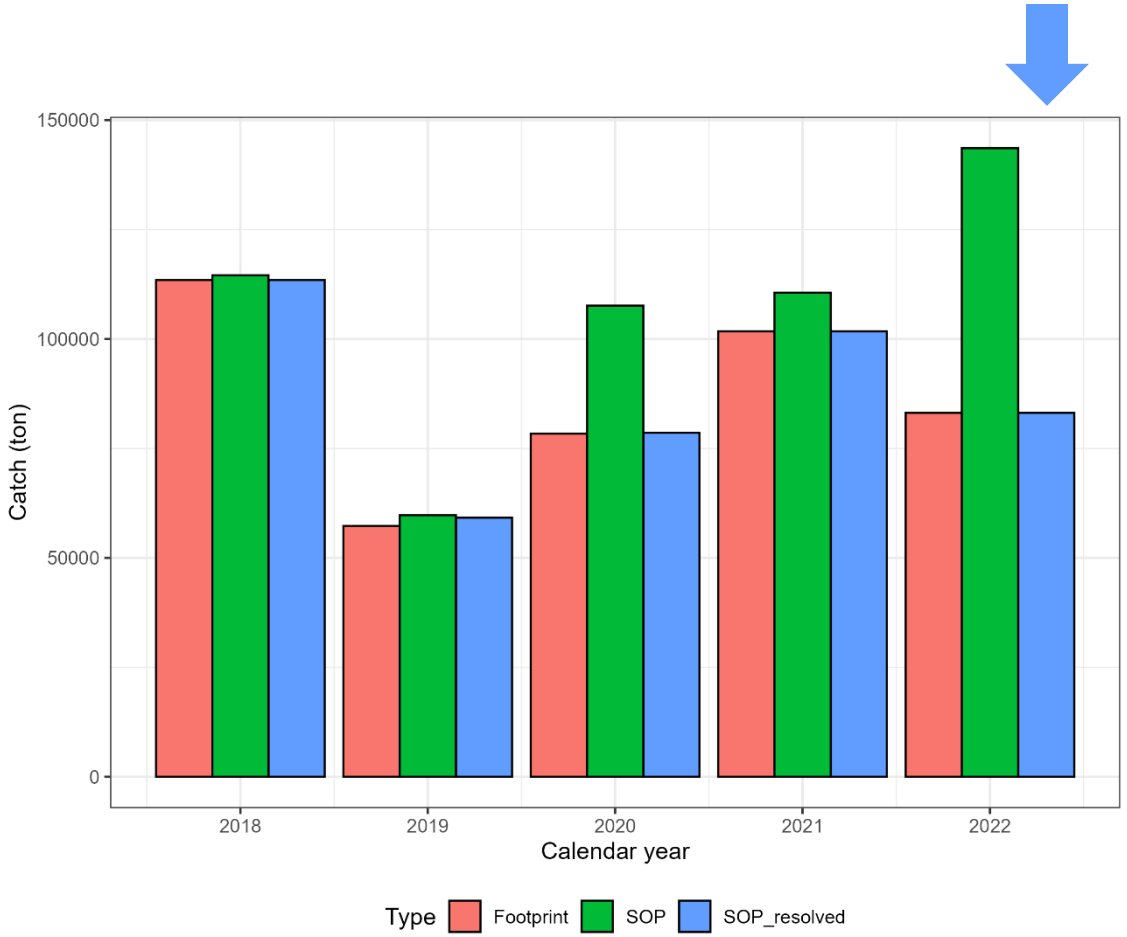
% is a level of discrepancy between SOP and footprint

Calendar year	TWG CMSA9 (former)			TWG CMSA11 (current)		
	China	Japan	Russia	China	Japan	Russia
2014		0%			0%	0%
2015		12%			0%	0%
2016		0%	29%		0%	0%
2017		0%	53%		0%	0%
2018	1%	1%	36%	0%	1%	0%
2019	4%	2%	64%	3%	2%	0%
2020	37%	0%	67%	0%	0%	0%
2021	9%	0%	58%	0%	0%	0%
2022	73%	0%	81%	0%	0%	0%
2023	0%			0%	0%	0%

Discrepancy between CAA * WAA and Annual footprint is dramatically improved

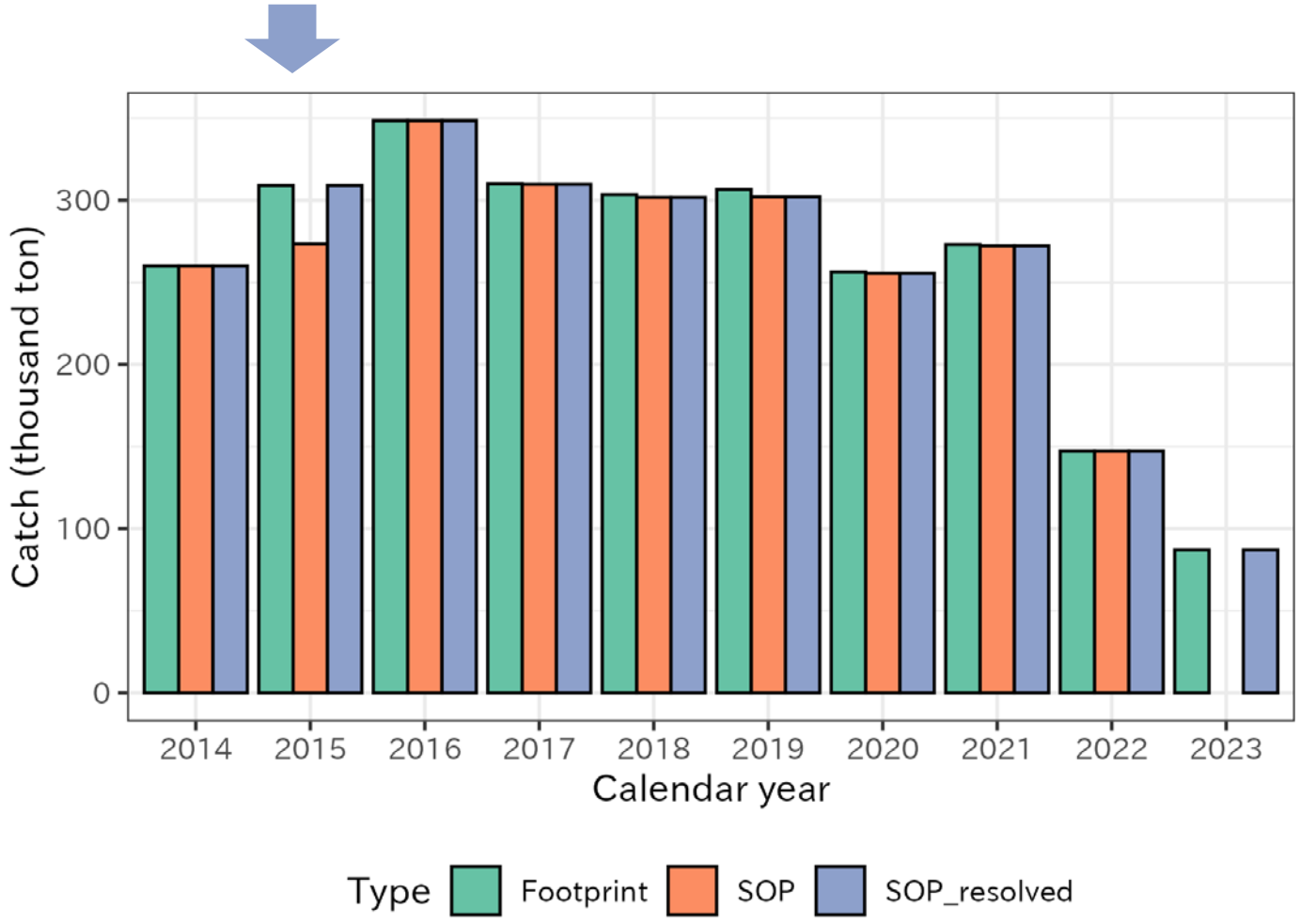
China

- Improvement in calculation dramatically improved discrepancy in **CY2022**
- Other discrepancies are fixed to acceptable level



Japan

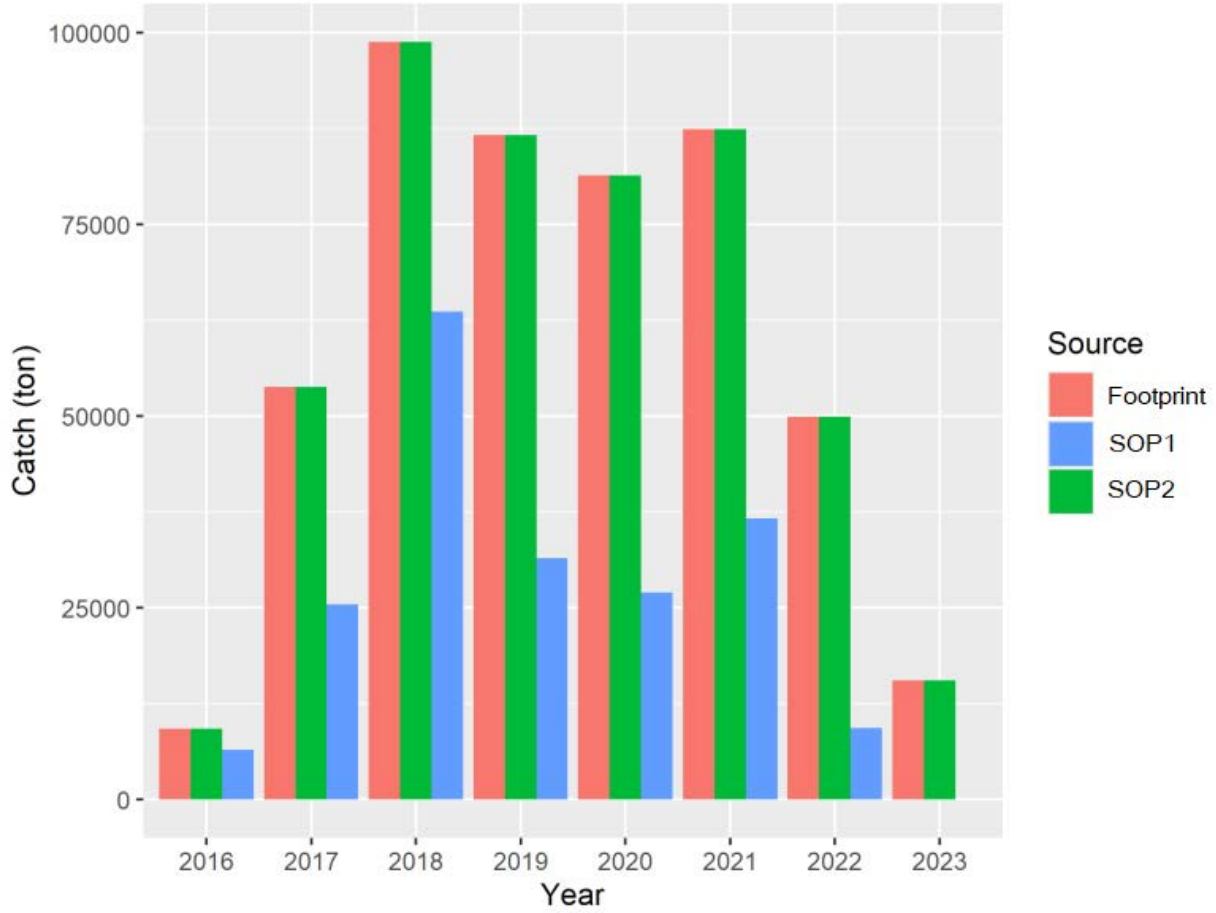
- Improvement of calculation in **CY2015** dramatically changed weight-at-age
- Minor updates in weight-at-ages
- Discrepancy is fixed to acceptable level



Russia

SOP1 : TWG CMSA9
SOP2 : TWG CMSA11

- Inclusion of catches from **CA and Japanese EEZ** lead to zero-discrepancy



Summary

- **SC tasked TWG CMSA to investigate** the source of the discrepancies and to recommend **quality assurance and quality control measures** to prevent the recurrence of similar issues in the future
- Investigated and documented by China, Japan, and Russia as co-authors (WP04)
- Solutions are implemented and quality had increased dramatically with quality control/assurance measures using R and Rmarkdown documentation.