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An update on cannery data with potential use to the WCPFC

WCPFC-SC16-2020/ST IP-03 rev. 2

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Revision 1

- Para 8. [C] improves and clarifies the text on the inclusion of small yellowfin/bigeye tuna in the logbook-reported catch of skipjack tuna.

Revision 2

- Minor revisions suggested for the voluntary guidelines in the ANNEX by PNA member countries in the SC16 online forum.

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ABSTRACT

This brief paper provides a summary of recent submissions of cannery data, and examples of how cannery data can be used in the work of the Commission with respect to the verification of estimates of the species composition of the purse seine catch. This work is ongoing and a better understanding of the representativeness of the cannery data will only improve these insights to the point where, for example, this type of information could be included in the work under Project 60, with a goal to investigate better methods for comparing cannery and observer data (see Peatman et al., 2020 and Peatman, 2020).

In responding to the SC15 recommendation related to cannery data, this paper invites SC16 to

- review the draft guidelines for voluntary submissions of processor (cannery) data to the Commission,
- where necessary, provide revisions to the guidelines,
- consider SC16 endorsement of the draft guidelines, and
- agree to forward the draft guidelines to other WCPFC processes (e.g. TCC16) for further consideration.

1. INTRODUCTION

1.   This brief paper provides an update of recent developments in the management of cannery data and an update of the data summaries of recent cannery data, consistent with those presented in previous papers related to the potential of cannery data for the scientific work of the WCPFC.

2.   This paper responds to the following SC15 recommendation in Section 4:

> **SC15 acknowledged the cannery data submissions (representing ~37% of the tropical WCPFC purse seine catch in recent years) to the WCPFC by International Seafood Sustainability Foundation (ISSF) participating companies, and the potential of cannery data for the work of the Commission, specifically Project 60.**
>
> **SC15 recommended that the WCPFC Science Service Provider (SSP) (with assistance from the WCPFC Secretariat) investigate what Commission mechanisms could be used and/or updated to facilitate the voluntary submission, and ensure an appropriate level of confidentiality, of cannery data from other processors for future Commission work (Project 60), and report the findings to SC16.**

2. BACKGROUND

3.   Comprehensive cannery receipts data from more than twenty processors [receiving WCPFC purse seine catch] have been provided to the WCPFC over the past 7–8 years as part of an initiative of the International Seafood Sustainability Foundation (ISSF) and their participating processing companies. Lewis and Williams (2016) reviewed the potential use of cannery receipt data for the work of the Western and Central Pacific Fisheries Commission (WCPFC), and in particular, providing a means of validating the estimates of the purse seine catch by species using logsheet-reported catches adjusted with observer data estimates of species and size composition. The main findings of Lewis and Williams (2016) were that there is clearly potential for using cannery receipts data to validate/compare species and size composition breakdowns by fleet determined from observer-derived estimates, provided the following applies:

- The consolidated total trip catch according to cannery data is consistent with the total trip catch from logsheets and the observer data (that is, the data from canneries covering the entire trip are collected, compiled and available), and
- The cannery is recording species composition for all relevant size categories.

4.   Unfortunately, the catch from a given trip is sold to multiple processors and if some of them are not ISSF participating companies then the data sent to SPC is partial. Lewis and Williams (2016) found that only 5% of the available cannery data satisfies the following criteria, which would be necessary to validate observer data:

(i)   Matching of trips for observer and cannery data, <u>and</u>
(ii)   Species composition was undertaken by the processing company for all size categories, <u>and</u>
(iii) The difference between estimated catch from observer and cannery data is $< 5\%$.

5.   Lewis (2017) conducted a pilot study to investigate the non-ISSF processors to specifically profile production details, evaluate the quality of available cannery receipts data and encourage the voluntary provision of the cannery data to the WCPFC. This study noted the potential of the cannery data from these processors to augment the ISSF data available for WCPFC work and provided recommendations for follow-up, including consideration of the WCPFC establishing formal arrangements for the submission of these data. The SC15 recommendation to consider establishing guidelines for the voluntary submission of cannery data is consistent with the findings and recommendations from this pilot study.

3. RECENT DEVELOPMENTS WITH CANNERY DATA SUBMISSIONS

6.   Cannery data continue to be provided, now covering years through to 2019–2020 (with thanks to respective processing plants compiling and submitting the data). The web-based system (a component of the integrated tuna fishery database system – TUFMAN 2) to enter/import/manage cannery data has been further

enhanced over the past year, through the addition of data quality control checks and better support for the automatic import of MS EXCEL files of cannery data files received from most processing plants. The cannery data are automatically linked to respective logbook and observer data at the trip level, which facilitates the comparison of total trip catch by species (noting that cannery data are only accessible to the Scientific Service Provider in this system, at this stage). These developments have made it much easier to make comparisons of cannery data with other types of data which will facilitate future analyses of these data.

7. Unfortunately, there has not been any increase in coverage of cannery data over recent years (Table 2); despite the continued excellent cooperation of the ISSF-affiliated companies in submitting data, there remain gaps in processor/unloadings data from other sources (acknowledging there is no requirement for the provision of purse seine cannery receipt/unloading data at this stage). Peatman et al. (2020) and Peatman (2020) highlight the potential of processor/unloadings data in future work under the WCPFC Project 60 (Better purse seine catch composition estimates), and SC15 recognised these requests in formulating a recommendation which is addressed in Section 4 of this paper.

8. As in past papers, summary graphs comparing the species composition from different data sources are provided in Figure 1. The following is background information and initial observations related to Figure 1:

   A. Logbook, observer and (adjusted) cannery data in Figure 1 represent only those data that can be linked at the purse seine vessel trip level and coverage has only ranged from 20–25% over the period 2013–2019. The "WCPFC Estimates" represent 100% coverage and so will differ from species composition from these other sources when the 20-25% of matched (logbook, observer and cannery trip-level) data are not representative of the entire tropical fishery. Nonetheless, the broad annual trends for all sources shown here are similar.
   B. The cannery data shown in Figure 1 have been adjusted according to the methodology in Williams (2017). The method augments the cannery data with 'missing' large yellowfin tuna catch through the comparison of logsheet and cannery unloadings at the trip level (in cases where the catch of large yellowfin tuna from a trip are destined for another processer which is not covered by the WCPFC cannery data submissions).
   C. Figure 1 shows that the species composition of the cannery data is consistent with the observer data (for matched trips). In contrast, the logbook species composition shows a consistently higher proportion of skipjack tuna and lower proportions of yellowfin and bigeye tuna than the other sources, which is consistent with the understanding of how vessels report on logbooks (e.g. small yellowfin and bigeye tuna are often included in the reported skipjack catch since it is difficult to distinguish the small yellowfin/bigeye catch in the combined catch of small oceanic tuna).
   D. The decline in the proportion of bigeye tuna species composition in the purse seine catch in 2019 is consistent for all data sources shown in Figure 1.

4. VOLUNTARY SUBMISSION OF PURSE SEINE PROCESSOR DATA TO THE WCPFC

9. Peatman et al. (2020) and Peatman (2020) reiterated the importance of cannery data for the work of the Commission, particularly related to WCPFC project 60. In responding to the SC15 recommendation provided in Section 1 of this paper, draft *Guidelines for the Voluntary Submission of Purse seine Processor data by CCMs to the Commission* have been developed and are provided in the ANNEX for SC16 review and consideration. These guidelines include a list of minimum required fields for cannery data, which are currently aligned to the data provided by the ISSF participating processing companies, and can be used as the basis for any voluntary submissions of cannery data from other processing companies that are yet to provide data.

10. This paper invites SC16 to

   – review the draft guidelines for voluntary submissions of processor (cannery) data to the Commission,
   – where necessary, provide revisions to the guidelines,
   – consider SC16 endorsement of the draft guidelines, and
   – agree to forward the draft guidelines to other WCPFC processes (e.g. TCC16) for further consideration.

5. REFERENCES

Lewis, A.D. and P.G. Williams, 2016. Potential use of cannery receipt data for the scientific work of the WCPFC. SC12 ST-WP-03. Twelfth Regular Session of the Scientific Committee of the WCPFC (SC12). Bali, Indonesia. 3–11 August 2016.

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6. TABLES

Table 1. Typical Cannery Data Size Categories

Commercial categories	Equivalent categories in KGs	Equivalent used on PS logbooks for YFT and BET
< 3lbs	(< 1.4 kgs)	SMALL < 20 lbs (~9 kgs)
3.0 - 4.0 lbs	(1.4- 1.8 kgs)	
4.0 -7.5 lbs	(1.8 – 3.4 kgs)	
7.5 - 20 lbs	(3.4 – 9.1 kgs)	
20 lbs up	(9 or 10 kgs up)	LARGE > 20 lbs (~9 kgs)

Table 2. Coverage of matched logsheet/observer/cannery trip data for the WCPFC tropical purse seine fishery (excludes Indonesia, Philippines and Vietnam domestic fisheries).

YEAR	Total Purse seine Tuna catch (MT)				
	WCPFC Estimates	Processor data	%	Matched Log / Obs / Cannery	%
2013	1,570,125	832,829	53.0%	379,374	24.2%
2014	1,737,573	844,032	48.6%	374,485	21.6%
2015	1,523,436	562,420	36.9%	320,869	21.1%
2016	1,524,193	672,869	44.1%	347,398	22.8%
2017	1,434,200	634,648	44.3%	363,247	25.3%
2018	1,636,334	764,095	46.7%	383,997	23.5%
2019	1,808,318	708,026	39.2%	359,031	19.9%

7. FIGURES
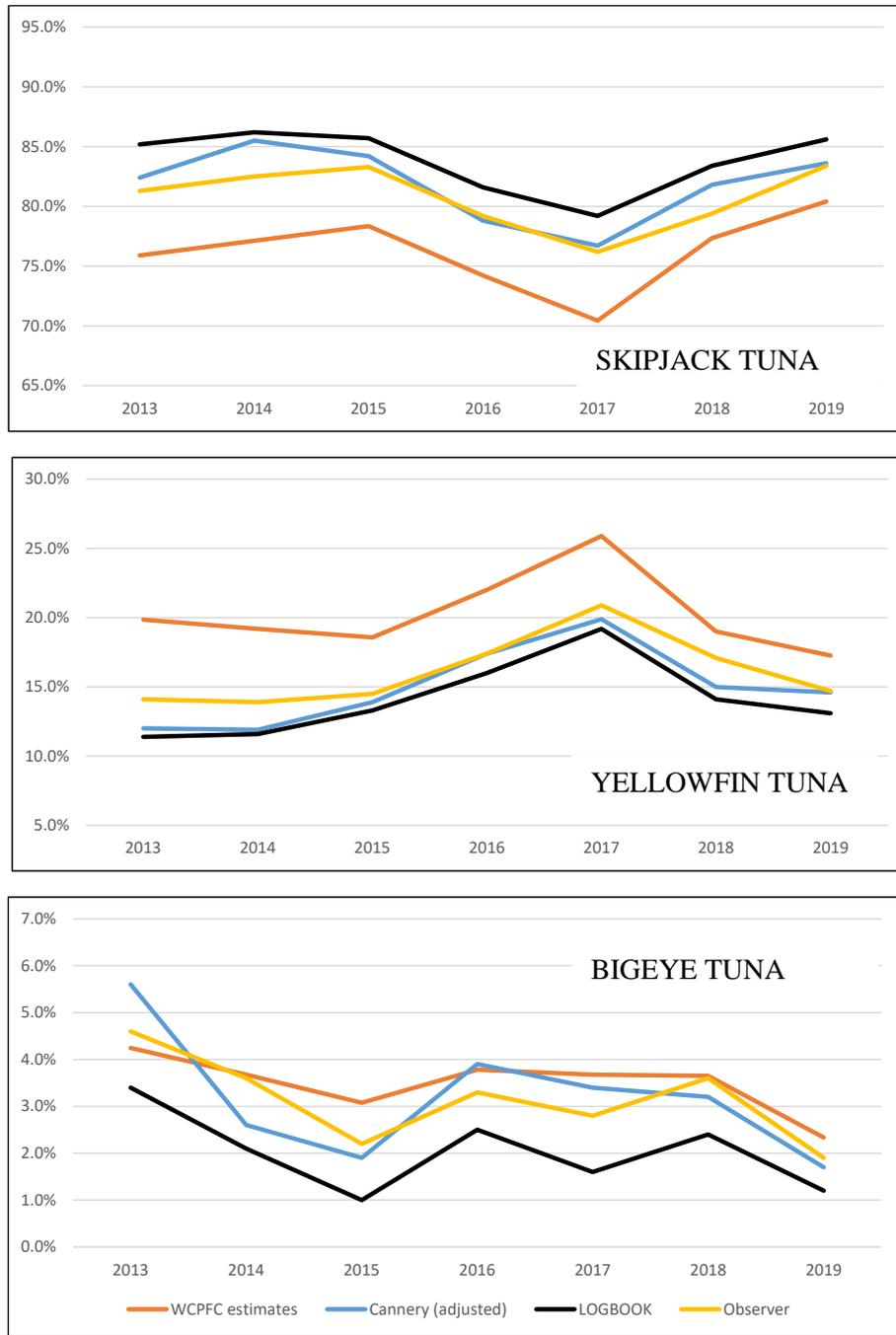
Figure 1. Purse seine tuna species composition by source of data, including <u>adjusted</u> cannery data.

WCPFC Estimates: Estimates of WCPFC tropical purse seine fishery catch, excluding Indonesia, Philippines and Vietnam domestic fisheries. Catch is estimated according to Peatman et al., 2020.
Logbook: Unadjusted logbook data for the WCPFC tropical purse seine fishery, for trips that match adjusted, complete cannery receipt data only.
Observer: Observer visual estimates, adjusted for size and species selectivity, for trips that match adjusted, complete cannery receipt data only.
Cannery (adjusted): Adjusted cannery data (see section METHODOLOGY in Williams, 2017). Trips matched to logbook trip data only.

ANNEX

**Guidelines for the Voluntary Submission of Purse seine Processor data
by CCMs to the Commission**

Draft

1. Purpose

Purse seine processor (cannery) data have been identified as ~~the only~~ a potentially important source of data to adequately verify the estimates of purse seine tuna species catch determined from observer data. While there is a requirement for 100% coverage of observers on purse seine vessels in the tropical WCPO purse seine fishery, species composition sampling is only currently possible to undertake on less than 0.2% of the catch to avoid disruptions to the fishing operation. The WCPFC Scientific Service Provider (SSP) would use these data as an invaluable means of verification of the estimates of purse seine tuna species composition obtained from the observer data in the future.

These guidelines acknowledge that processor (cannery) data have been submitted to the WCPFC by International Seafood Sustainability Foundation (ISSF) participating companies since 2013 but that higher coverage of these data is required to be of use to the work of the Commission, specifically WCPFC Project 60.

2. Data requirements

To assist the scientific work of the Commission, specifically in verifying estimates of purse seine tuna species catch estimates, CCMs are requested to voluntarily submit purse seine processor (cannery) data compiled by companies operating in their country.

The processor (cannery) data represent the measured weights of commercial categories of tuna species and size classes, data which are linked to a specific purse seine trip. Table A1 below provides a list of the required fields, which are aligned to the standard used for submissions by the ISSF-affiliated companies.

3. Provision guidelines

The provision of processor (cannery) data by CCMs is to be done entirely at their own discretion, is not compulsory or binding in any form nor is it a requirement of the Commission.

It is acknowledged that CCMs understand the usefulness of processor (cannery) data to the work of the Commission, but will be required to liaise with their processor (cannery) companies in regards to the release and compilation of these data for submission to the Commission, which may require establishing Memoranda of Understanding (MOUs) or similar agreements with the processor companies. In this respect, the WCPFC Secretariat, the WCPFC SSP and/or an agreed WCPFC Contractor will assist, to the extent possible, in establishing agreements required to maintain the security of these data.

CCMs should provide processor (cannery) data to the Commission and/or the WCPFC SSP ~~only~~, ideally on a quarterly basis.

The Commission cannot be held responsible should CCMs provide processor (cannery) data to any unapproved parties.

Any processor (cannery) data voluntarily provided by CCMs under this process should be clearly identified as being submitted under these guidelines.

4. Classification

All processor (cannery) data submitted by CCMs are consistent with "records of vessel unloading" and "raw data from catch documentation" which are considered non-public domain, as specified under the *Rules and Procedures for the Protection, Access to, and Dissemination of Data Compiled by the Commission*.

The risk classification of processor (cannery) data submitted by CCMs is acknowledged to be medium-high and may need to be specifically included in Table 1 of the *Rules and Procedures for the Protection, Access to, and Dissemination of Data Compiled by the Commission*.

5. Dissemination

Processor (cannery) data are anticipated to only be used by the WCPFC SSP, although could be considered for release under agreed Commission work according to confidentiality rules as specified in the *Rules and Procedures for the Protection, Access to, and Dissemination of Data Compiled by the Commission*, and according to any MOUs established with the sources of the processor (cannery) data (see Section 3 Provision guidelines).

6. Reporting

By the adoption of these Guidelines the Commission requests that the Secretariat provide, or arrange for the WCPFC SSP to provide, an annual report providing information on the provision and dissemination of processor (cannery) data submitted under these guidelines.

Table A1. List of minimum required fields for voluntary processor (cannery data) submissions of catch from purse seine vessels

Field no.	Data Field			Mandatory	Highly desirable
1	Country			Y	
2	Processor (cannery) company identifier (a distinct identifier which may be the name of the processor company, or an anonymous identifier, if deemed confidential)			Y	
	Carrier vessel information				
3	- Carrier vessel name			Y	
4	- Carrier vessel flag			Y	
5	- Carrier vessel IMO			Y	
6	- Carrier vessel Call sign			Y	
	Fishing vessel information				
7	- Fishing vessel name			Y	
8	- Fishing vessel flag			Y	
9	- Fishing vessel WCPFC Identification / IMO number			Y	
10	- Fishing vessel Call sign			Y	
11	- Fishing vessel gear type (PS)			Y	
12	Start of Unloading at processing plant				Y
13	End of Unloading at processing plant				Y
14	RFMO Area where catch taken (e.g. WCPFC Area)			Y	
15	Start date of fishing trip (departure from port of fishing vessel)			Y	
16	End date of fishing trip (return to port of fishing vessel)			Y	
17	Port of offloading or transshipment to Carrier vessel				Y
18	Coordinates of transshipment at sea (if relevant)				Y
19	Start date of transshipment from fishing vessel to carrier			Y	
20	End date of transshipment from fishing vessel to carrier			Y	
[Actual measured/weighed quantities (in kilograms, or metric tons to 3 decimal places) of catch received at processing plants in the commercial size categories outlined in **Table A2**]					
21	Species/size category weight unit (P = lbs/pounds or K = kilograms) – see Table A2			Y	
	Species	Size category No.			
22	SKIPJACK TUNA	1	Weight of catch received for each species/size category [kgs or metric tons to 3 decimal places] See Table A2	Y	
23	SKIPJACK TUNA	2		Y	
24	SKIPJACK TUNA	3		Y	
25	SKIPJACK TUNA	4		Y	
26	YELLOWFIN TUNA	1		Y	
27	YELLOWFIN TUNA	2		Y	
28	YELLOWFIN TUNA	3		Y	
29	YELLOWFIN TUNA	4		Y	
30	YELLOWFIN TUNA	5		Y	
31	BIGEYE TUNA	1		Y	
32	BIGEYE TUNA	2		Y	
33	BIGEYE TUNA	3		Y	
34	BIGEYE TUNA	4		Y	
35	BIGEYE TUNA	5		Y	
36	REJECTED TUNA, by SIZE CLASS and SPECIES, if possible			Y	

Table A2. Typical Cannery Data Size Categories

Size category Number	Commercial categories	Equivalent categories in KGs	Equivalent used on PS logbooks for YFT and BET
1	< 3lbs	(< 1.4 kgs)	SMALL < 20 lbs (~9 kgs)
2	3.0 - 4.0 lbs	(1.4- 1.8 kgs)	
3	4.0 -7.5 lbs	(1.8 – 3.4 kgs)	
4	7.5 - 20 lbs	(3.4 – 9.1 kgs)	
5	20 lbs up	(9 or 10 kgs up)	LARGE > 20 lbs (~9 kgs)