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Potential use of cannery receipt data for the scientific work of the WCPFC

(WCPFC-SC12-2016 / ST SWG WP-3)

DATA AND STATISTICS WORKING GROUP

SC 12, Bali, Indonesia
3-11 August 2016

Problem statement

- Accurate estimation of PS bigeye catch is a problem (non- and under-reported on logsheets, not separated onboard)
- Bias in observer 'grab' sampling and only 0.2-0.5% of catch sampled (so, uncertainty of species comp at trip level)
- Expanding coverage of observer sampling difficult (e.g. disrupts operation)
- E-monitoring has potential but would need species verification

Cannery receipts data a potential source of validation if available, as majority of industrial p/s catch is processed and since processors sort by species and size during processing; close to 100% observer coverage and good logsheet coverage for industrial fleets (cf)

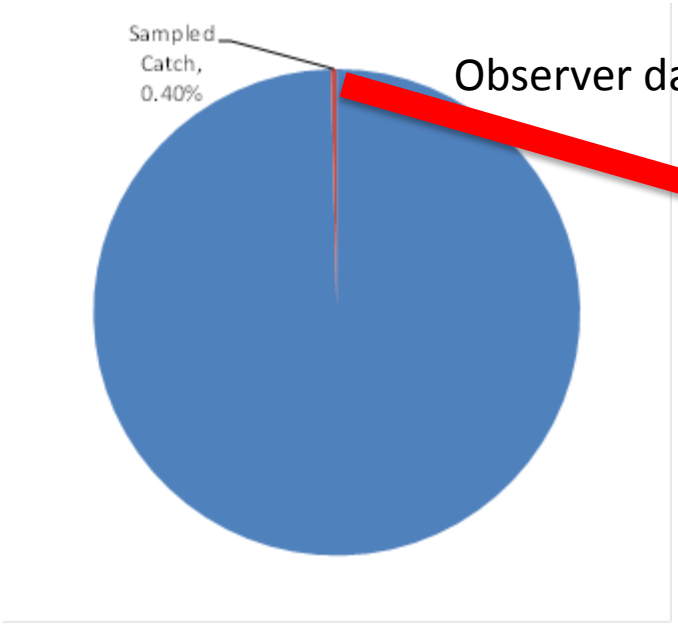
Background to the study

- Comprehensive cannery receipts data provided to WCPFC from ISSF participating companies since 2011
- This study examined the 2013/2014 cannery data

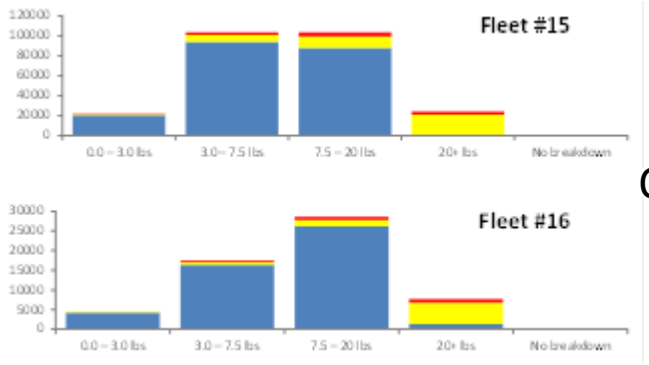
  (most complete processed data which represents about 50% of WCPO purse seine catch)
- Study attempted, *inter alia*, to compare cannery data species/size composition with observer estimates

  (database developed by SPC/OFP to do this)
- Study evaluates potential usefulness of these data, identify gaps in the data, suggest improvements, and provides recommendations for consideration of SC 12

Observer vs Cannery

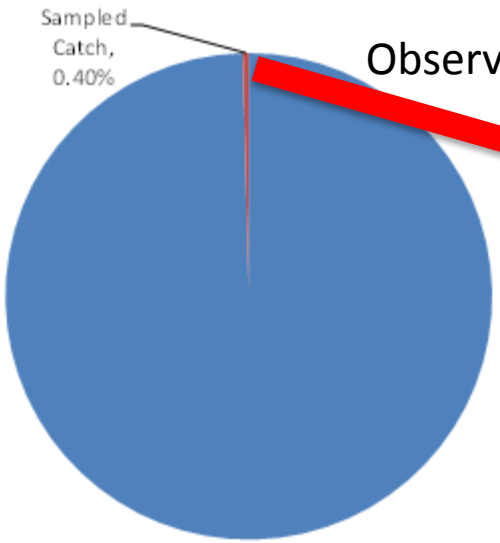


Observer data

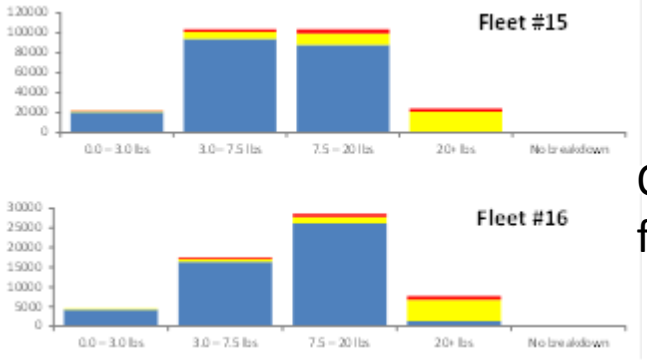


Observer estimates

Observer vs Cannery – 2014 data

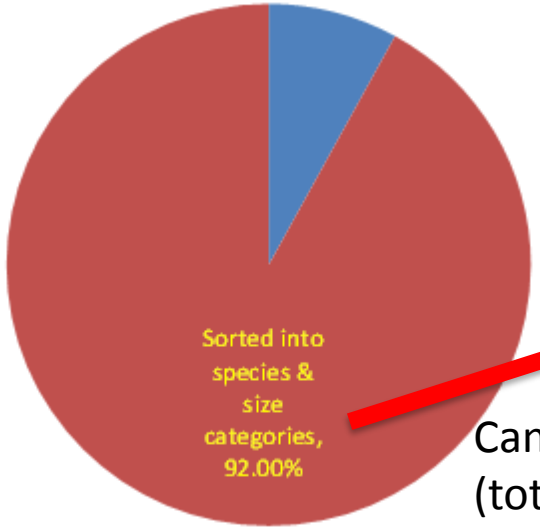


Observer data (total)

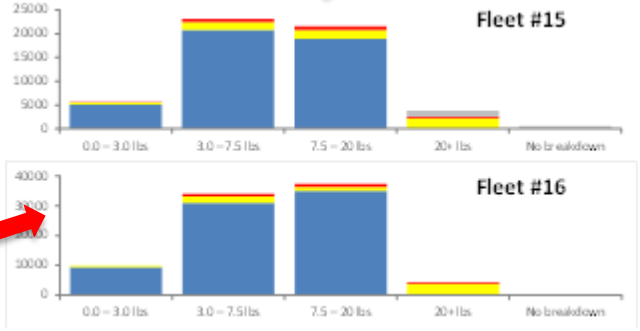


Observer estimates for two fleets

Differences in size composition

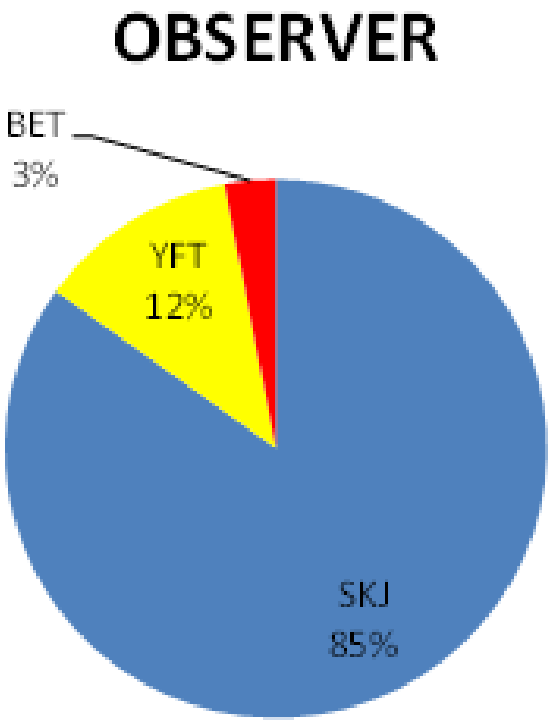


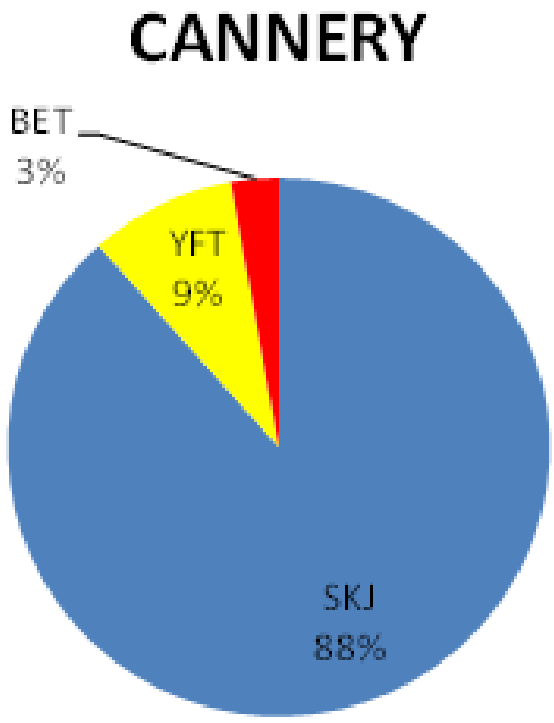
Cannery data (total)



Cannery estimates for two fleets

Species composition comparison of matched Observer and Cannery receipt data trips

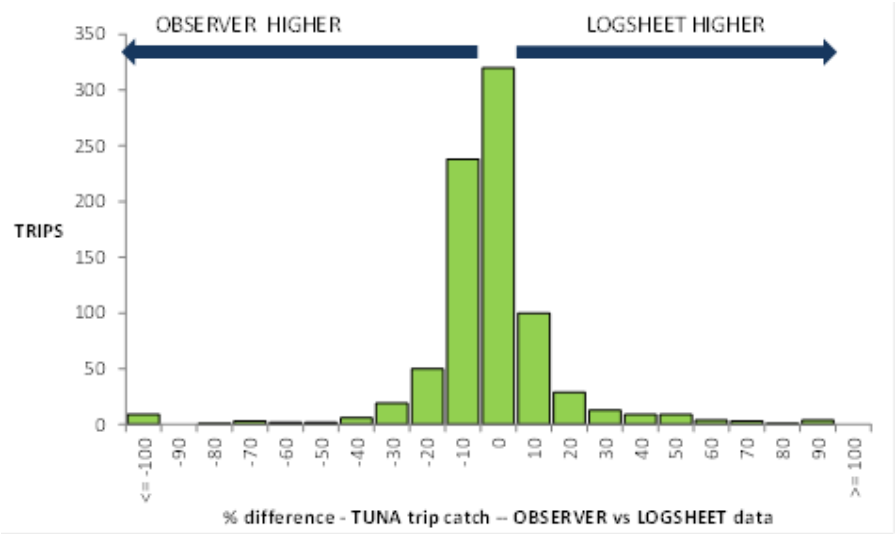




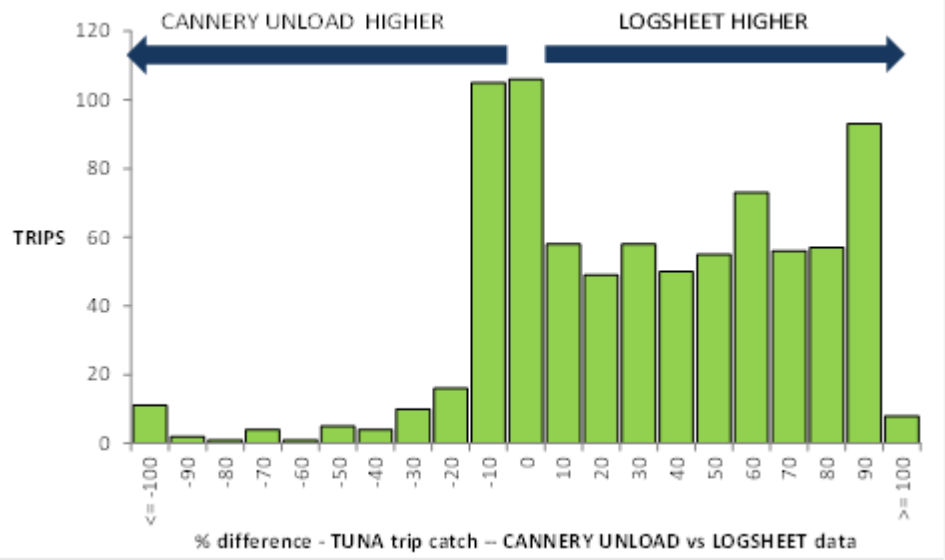
For trips where observer trip catch and cannery trip catch estimate within 5%
Good correspondence but YF % higher in observer estimate

- possibly high grading of larger YF onboard and sent to different plant

Frequency of the % difference in total TRIP tuna catch estimates



Little % difference between observer and logsheet estimates



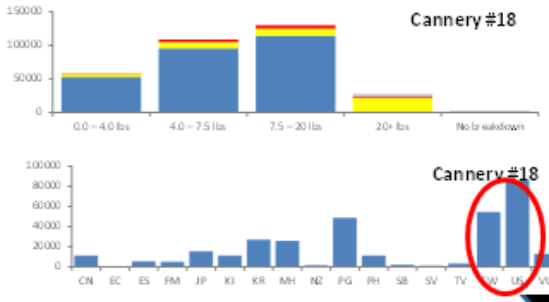
% difference between logsheet and cannery receipt estimates highly skewed ...

Not all trip catch unloaded to one cannery; also high grading

Much % difference within ± 10%

Potential use of cannery data to validate observer spp and size comp data

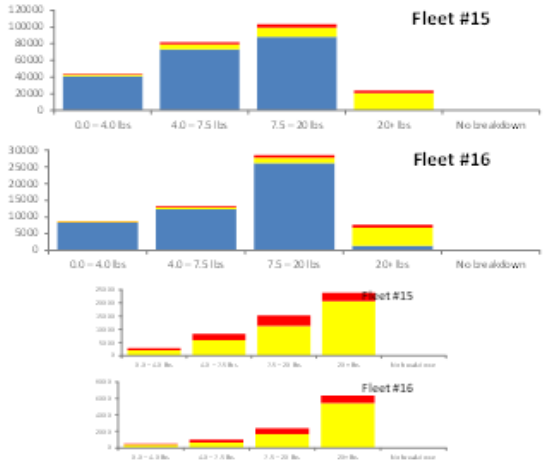
CANNERY DATA
(i) Species by size class (top) and (ii) Total tuna by FLEET (bottom)
(CANNERY #18 : 2013-2014)

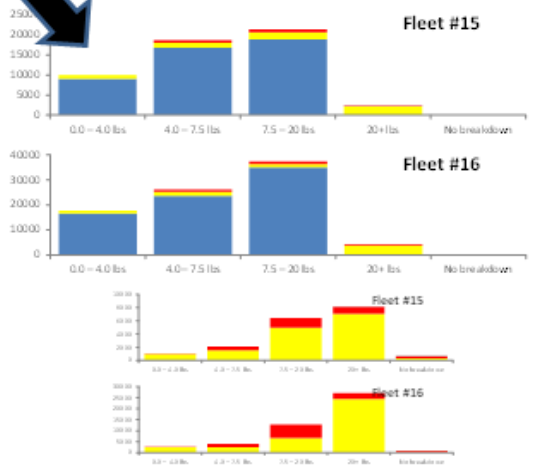


Species Catch
Blue – skipjack
Yellow – yellowfin tuna
Red – bigeye tuna

Real data – shows good potential if criteria met

Fleets #15 & #16





SPECIES and SIZE COMPOSITION VALIDATION

OBSERVER DATA
Species and Size composition of catch
(OBSERVER DATA, adjusted for size and species selectivity)
2013-2014

CANNERY DATA
Species and Size composition of catch
(Cannery #18)
2013-2014

Are the cannery data useful in providing an independent estimate of p/s catch volume and size/species composition ?

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ISSUES

- Cannery data for trip catch estimate difficult → partial unloadings
- Cannery species breakdown not complete BoL vs Q & Q and also < 3 lbs
- Small fish < 3 lbs under-represented in some canneries

HOWEVER, study showed that there is clear potential for using cannery data to validate size and species composition from observer data by fleet if…

1) total trip catch consistent between cannery and logsheet/observer data
2) species composition recorded accurately for all size categories

ONLY 5% of available data meet these requirements at present

so application currently limited – need full reporting by all WCPO canneries

The road to improvement

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All cooperating processors providing complete size and species composition data (Q & Q reconciliation)

- amendment to company instructions/protocol; steady improvement in 2016 reporting

Cannery receipts data supplied by all companies processing WCPO fish

- WCPFC study in progress to encourage voluntary provision of data; good cooperation indicated so far; ISSF coverage expanding

Complete species breakdown available for small fish (<3lbs) in all canneries

- May be difficult for smaller canneries; sub-sampling if deemed NB; overall < 8% of catch – may not be cost effective to do so

Recommendations

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SC12 is invited to consider the following:

- Does SC12 agree that cannery receipt data are potentially useful for the work of WCPFC

- Would the WCPFC be prepared to work towards developing an appropriate CMM or another mechanism for obtaining complete cannery receipt data from all processors of WCPO fish ?

  (Noting that much of the required data are already being collected as part of traceability requirements and possibly under future CDS requirements; this type of data collection/compilation is considered to be an integral component of any future proposed CDS, not a separate independent process…)