SCIENTIFIC COMMITTEE
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Report from the SPC pre-assessment workshop, Noumea, April 2014

WCPFC-SC10-2014/SA-IP-07

Oceanic Fisheries Programme (OFP)
Secretariat of the Pacific Community, Noumea, New Caledonia

Report from the SPC pre-assessment workshop, Noumea, April 2014

Oceanic Fisheries Programme, Secretariat of the Pacific Community

Introduction

To assist it in undertaking its stock assessments for the WCPFC, OFP sought input from stock assessment scientists in the region. The sixth pre-assessment workshop (PAW) was held in Nouméa, New Caledonia 8-12 April 2014.

Sixteen scientists from the region participated in the workshop in addition to OFP staff: Miki Ogura, Hiroaki Okamoto, Keisuke Satoh, Hidetosi Kiyofuji, Yuji Uozumi, John Annala, Keith Bigelow, Rob Campbell, Tony Beeching, Adam Baske, Amanda Nickson, Alice McDonald, Thomas Usu, Brian Kumasi, Sheng-Ping Wang and Hung-I Liu; plus John Hampton, Sam McKechnie, Shelton Harley, Francisco Abascal, Joel Rice, Aaron Berger, Carola Kirchner, Nick Davies, Tim Lawson, Peter Williams, Simon Nicol, Joe Scutt Phillips, Alex Tidd, Steven Hare, Laura Tremblay-Boyer and Steve Brouwer.

The agenda focused on approaches for the upcoming stock assessments for the three tropical tunas, but the group also considered other items on shark mitigation, reference points and the spatial biogeography of tunas and related species. Presentations were invited from all participants, with the majority made by SPC staff. The meeting operated under the terms of reference provided in Appendix 1 and was facilitated by Steve Brouwer and Graham Pilling. Welcome remarks and meeting arrangements were provided by John Hampton and Shelton Harley.

This report briefly describes the various presentations made and reports the conclusions. This meeting was not a formal WCPFC meeting, but a technical meeting of experts who have a common interest in the stock assessment of key stocks in the WCPO. Therefore, the report does not attribute comments to countries except where the comment related to the agreement to provide data or undertake particular analyses.

The outcomes of this meeting will be reflected in the papers submitted to WCPFC-SC. Copies of the PowerPoint presentations prepared by SPC can be provided on request.

Note: immediately after the PAW it was found that some of the recommendations could not be implemented. This report indicates what we now plan to do and identifies by way of footnotes, and deviation for the approaches recommended during the PAW.

Regional structures

Aaron Berger presented the previous regional structures of the tropical tuna assessments and then introduced new proposed spatial structures and fisheries definitions.

The workshop suggested:

- That the proposed EPO region for bigeye tuna not be considered at this time;
- That 'fall-back' regional structure options be in place in case a proposed structure didn't work; and
- That a separate region be considered for the Coral Sea, to offer an alternative approach for modeling the Coral Sea tags for both bigeye and yellowfin tuna.

The proposed regional structures are provided in Figure 1 and options for model runs are outlined in Table 1 and some suggestions regarding changes to fisheries definitions provided in Table 2 and the final expanded fishery definitions in Tables 3 and 4.

Catch per unit effort indices

Longline CPUE for bigeye and yellowfin

Sam McKechnie presented the work undertaken in response to the BET review to improve the CPUE indices for targeting and spatial/temporal changes in fishing distributions. Three potential sets of indices were presented 1) "Spliced' update of the previous indices [which do not address the BET review recommendations]; 2) Operational indices that attempt to better account for targeting and use all operational data available to SPC; and 3) New aggregate indices which use all available data and spatial smoothing to minimize spatial/temporal coverage impacts.

The workshop also considered the approach used to derive the uncertainty estimates for these indices.

The workshop suggested:

- Documenting the definition of a fishing trip for the clustering;
- Cluster vessel effects and assess to see if they group by flag;
- Including SWO for Region 5 in the clustering; and
- Continuing the aggregate data analysis with spatial interpolation.

Purse seine (skipjack and yellowfin) and handline CPUE (yellowfin only) in the Philippines

Keith Bigelow presented CPUE indices developed for fisheries which operate in the Philippines.

The workshop suggested:

- Use the purse seine indices for yellowfin and skipjack in Region 7/4, and handline in Region 7 for yellowfin, but truncate YFT handline series by starting at 2006;
- Note the series developed for bigeye are uninformative and should not be included; and
- SPC to provide R-code for CV calculations.

Skipjack pole and line CPUE

H. Kiyofuji presented the updated pole and line CPUE indices that were also used in the 2011 assessment.

The workshop suggested:

- Removing the final years and rerun the model to compare the impact of improved information on vessel identifiers versus updated catch and effort data;
- The CV's should be recalculated using the canonical indices; and
- Document changes of the difference between 2011 and 2014.

Skipjack and yellowfin CPUE for purse seine fishing in Papua New Guinea

Graham Pilling presented a new series of CPUE indices generated for purse seining in Papua New Guinea to support the new regional model structure for skipjack and yellowfin tuna (region 8 for YFT and region 5 for SKJ).

The workshop suggested:

- Development of a paper to include more details about the operation of this fleet;
- Include a step plot for the addition of new factors;
- Including a plot showing the spatial distribution of effort through time;
- Assess the effect of excluding those vessels with a change in behaviour at the end of the time period;
- Include a sensitivity run that excludes the unassociated sets from the core vessel set;
- Quantify the unique set locations by year as possible indication of the number of FAD sets;
- Plot the number of ranger boats by year if such data are available; and
- Including these indices in new regional structure.

Size data

A review of Japanese size frequency data from longline fisheries

Hiroaki Okamoto presented the findings of a review of the Japanese size frequency data from longline fisheries.

The workshop suggested:

- Training vessel, length data be excluded except for Region 4 at the end of the time series.

Weighting of longline samples based on catch

Sam McKechnie presented the new approach for combining size samples taken within a MFCL model region based on catch. He described how this would be applied for the key Japanese data sets and for the other fleets.

The workshop suggested:

- Using the lower of the catch criteria examined
- Removing the rule for minimum of 20 fish per cell as the weighting takes care of this.

Other size data to be included

Francisco Abascal provided an update of other size data to be included in the assessment such as Papua New Guinea port sampling data for skipjack and the corrected purse seine size frequency data.

The workshop suggested:

- For purse seine catch raising, similar rules should apply to what was used for longline, e.g., not allowing small samples to have too much weight just because of their region; and
- Integrate the Pago Pago port sampling data.

Catch estimates

Purse seine

Tim Lawson provided an update on the methodology being used to estimate the purse seine catches.

The workshop suggested:

- Confirm whether H2 or H3 is in SBEST – H3 should be used.
- No need for a purse seine catch, sensitivity analysis.

Other gears

Peter Williams highlighted major changes in the catch data available for the current assessments compared to the 2011 versions. This included data for the Japanese coastal fleets, Indonesia and the Philippines.

The workshop suggested:

- Historical split of Japan small longline vessels – attempt to use the distribution SPC has for mid-1990s and retrospectively apply to the remaining data. The workshop sought clarifications as to when the Japan/FSM fishery began. The changes should be made through-out databases;
- Vietnamese longline catches to be included in the model; and
- Indonesia data use the catch as submitted, but consider assuming the 2011 catch for 2012.

Japanese small scale longline prior to 1994

Hiroaki Okamoto presented information on the Japanese small scale longline prior to 1994.

The workshop suggested:

- As the earlier data are similar to present, the present catch distribution can be applied to historical catch and effort of this fleet.

Tagging data

Aaron Berger provided an overview of the tagging data analysis process to clarify the different analyses that are used to create the final tagging data set.

Data filtering

Aaron Berger presented the criteria used for data selection and how release data were corrected for unusable tag returns.

The workshop suggested:

- Remove recaptures by the tagging vessel (treat as unusable); and
- Treat EPO releases as unusable.

Tagger-effects

Sam McKechnie presented the analysis of factors that relate to differential initial mortality of tagged fish and how the release data was corrected for this.

The workshop raised no alternative suggestions.

Reporting rate priors

Francisco Abascal presented the reporting rate priors for the assessments including the analyses of the tag seeding trials which informed the development of priors for the purse seine reporting rates.

The workshop raised no alternative suggestions.

Japanese tagging data

Joel Rice described the approach used to include the Japanese tagging data for skipjack tuna.

The workshop suggested:

- There is a need to apply corrections for usable recaptures and initial tagging mortality.
- Median tagger effect correction needs to be applied.
- Possible run scenarios include:
    - Using only the data post-1999 for the reference case.
    - Use all data as a sensitivity run.

Modeling the tagging data

Nick Davies discussed how the tagging data are modeled, including consideration of the tag mixing period.

The workshop suggested:

- Mixing period should relate to the size of the region – such as a shorter retention time for Region 8 which is smaller than some other regions.

Coral Sea tagging data

John Hampton discussed the proposed approach towards these data given the recommendations from the bigeye review.

The workshop suggested:

- Assessing recapture / catch ratio at 5x5 squares to determine when it flattens out as an indicator of appropriate mixing time; and
- It is unlikely that biological complexity can be effectively modelled and some sensitivity runs be included to clarify this, these include:
    - Excluding the data from the Coral Sea;
    - Extending the mixing period relating to these tags; and
    - Creating a new region for the Coral Sea

Regional weights

Shelton Harley described the 'regional weight' approach used in MULTIFAN-CL and provided some potential options that could be considered in the assessment.

The workshop suggested:

- Any substantive new work be documented in a SC paper;
- Looking at SEAPODYM as a potential for both recruitment and regional biomass – perhaps using unfished biomass for skipjack and bigeye tuna;
- Using an updated imputation approach such as that which was done for the range contraction work or CPUE clustering; and
- The regional weights be calculated over a different time period to match the CPUE inputs.

MULTIFAN-CL

Nick Davies described the important changes to MULTIFAN-CL and some default modeling options that have resulted.

The workshop raised no alternative suggestions.

Bias correction and penalties on fitting the SRR

Nick Davies presented the results of applying bias correction and weaker penalties (relating to steepness) when estimating the SRR. These were based on historical assessments and have been provided to SC previously.

The workshop raised no alternative suggestions.

Other new MULTIFAN-CL features

Nick Davies described several new features that are under development. He focused on those features that SPC plans to use in the upcoming assessments.

The workshop raised no alternative suggestions.

Preliminary model runs

The assessment team presented some preliminary model runs. These runs used the old spatial structures and did not include all updated data sources. The key purpose of the presentations was to help inform discussions on next steps.

The workshop suggested:

- Apply the assumptions from bigeye tuna assessment for the Coral Sea tagging to the yellowfin assessment.
- Remove tags that are returned immediately after tagging event and those from the tagging vessel.
- SPC is missing some JP-DW pole and line catch for 2012 which should be included if possible.
- Investigate initial conditions
    - Fix at B_0
    - Start at 1980 but note potential loss of informative Japanese weight data.

Next steps with the assessments

Development of a plan for model runs to consider

Shelton Harley facilitated a discussion around what model runs should be being undertaken for different purposes, e.g., step-wise development of reference case, key axes of uncertainty for structural sensitivity analyses, and other sensitivity analyses. This will also consider approaches for describing uncertainty in current and future stock status.

The outputs from this discussion are summarized in Table 1 that outlines the potential model runs to be undertaken for each species.

General approach for the assessments

The workshop considered key factors to include in the 2014 assessments: the bigeye review recommendation for 'one-change-at-a-time' stepwise developments and the sheer magnitude of changes (many of which are minor) in the assessments; that we are conducting three assessments at the same time (e.g. time and computational demands); and the ability of material to be presented / assimilated by the SC in the time available. Discussions included whether the 'one-change at a time' request can be adhered to or weather groups of changes would be more appropriate. Detailed explanations could be presented when something has a significant impact. Groups of changes might include new features in MFCL which will be included within reference case model.

The workshop suggested:

- Stepwise development of the reference case (noting difference between this and the 'base case' used by SC for advice in 2011);
- Developing axes of uncertainty;
- Present one-off sensitivities; and
- That 'grouped' changes in the model reporting be presented. Results from all runs will be available. Tables will note the major changes, textual identifications of runs that made little difference. Key changes – new data, new MFCL structure, will be documented.

Approaches for describing future stock status

The discussions included the use of structural uncertainty grid to decide where we are now relative to reference points and stochastic projections for future stock status. Prior to SC10 (and decisions on reference case model(s)) there would be little scope for stochastic projections – except for perhaps a base case model.

Reporting to SC

Shelton Harley presented the proposed list of working and information papers for the assessment (Table 3). SPC noted that it may be difficult to have time to present many of the supporting analyses around the assessments to the SC.

Other matters

Shark mitigation analyses

Keith Bigelow presented some ideas on how to progress shark mitigation analyses.

The workshop suggested:

- Estimating the impact of the suggested changes to operational factors may have on target fisheries such as swordfish.
- Excluding blue, mako, thresher and hammerhead sharks as these were not requested by the SC.

Reference points

Rob Campbell presented some ideas on how to progress work on limit reference points and related topics.

The workshop suggested:

- For SC10, a methodological approach is presented, including potential to demonstrate the implications for South Pacific albacore based on the 2012 assessment.

Spatial distribution of tunas, a.k.a. range contraction

Laura Tremblay-Boyer provided a presentation of her PhD research into spatial distribution of tunas in the Pacific Ocean and how that has changed over time and with changes in abundance. It considered topics such as area occupancy relationships.

BET – 9 regions (B1-B9 below)

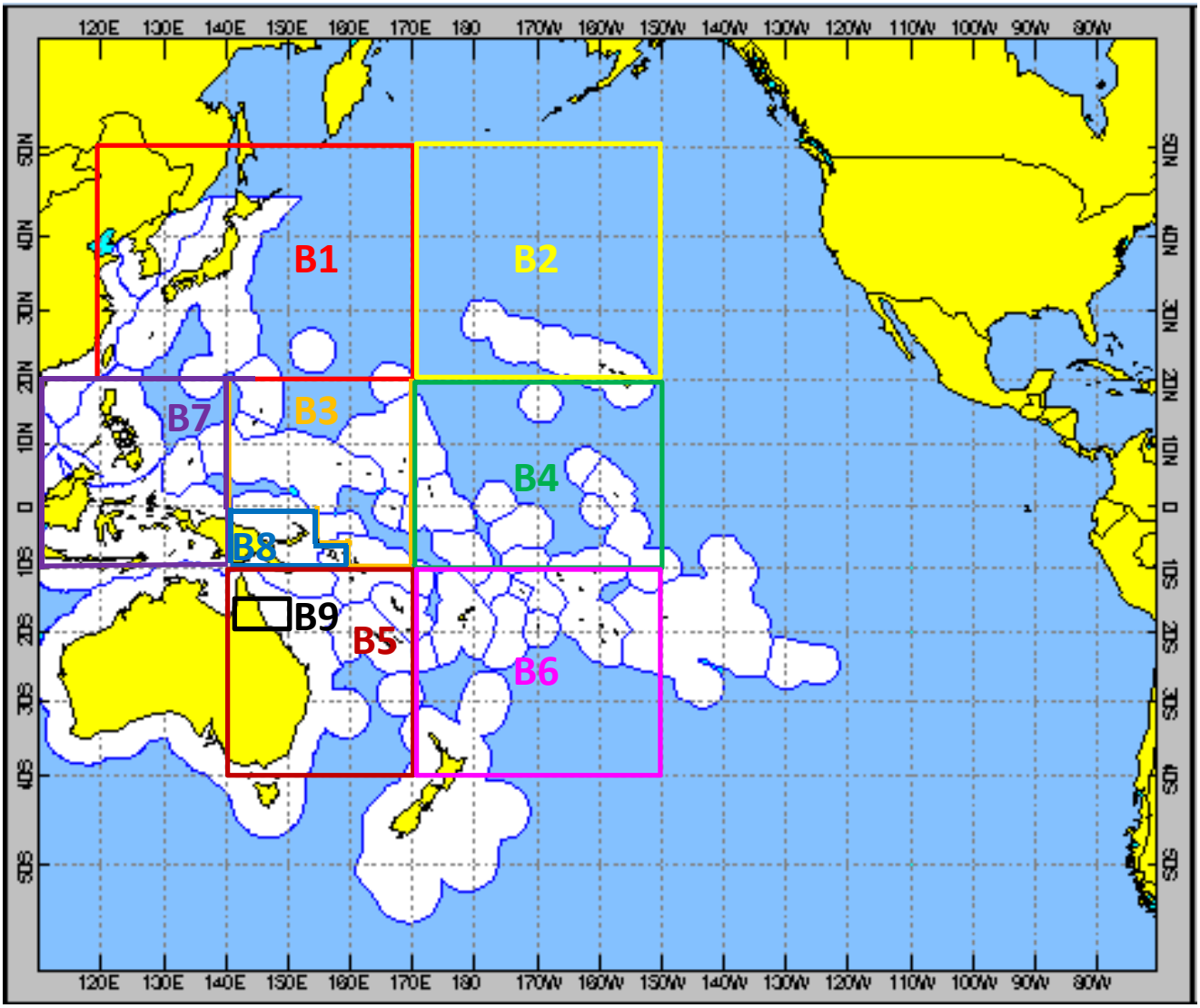
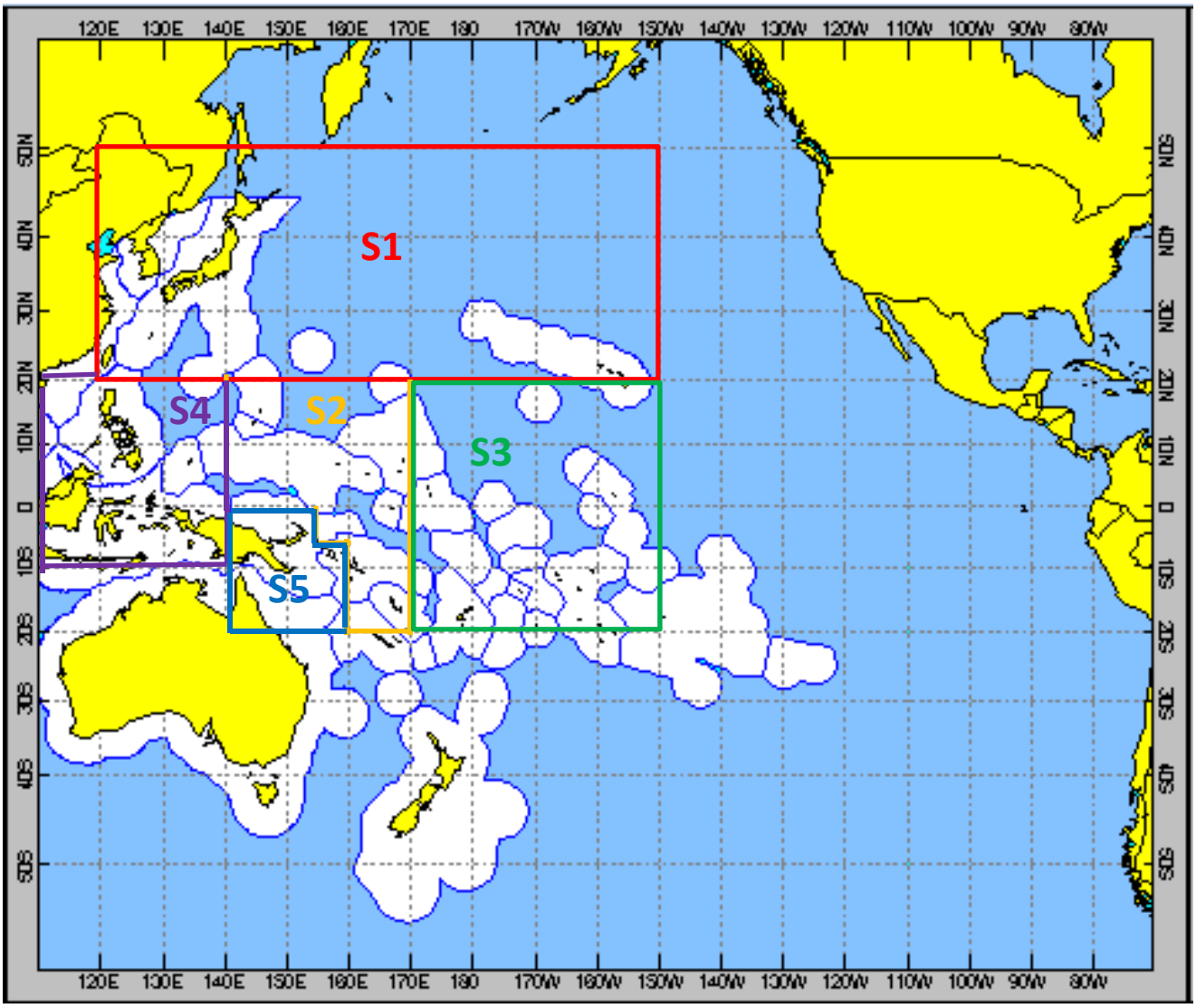


Figure 1a: Expanded spatial structure for the bigeye and yellowfin assessments.

SKJ – 5 regions (S1-S5 below)



3 regions (2011): S1, S2 (combined S2, S4, and S5), and S3

Figure 1b: Expanded spatial structure for the skipjack assessment.

Table 1: Proposed approaches for the 2014 tuna stock assessments (bigeye, yellowfin, skipjack)

Bigeye / Yellowfin

Factor	Reference 2011 model	2014 model options to consider[1]	Sensitivity analyses	Grid
Regional structure	Six region model	Six region Eight or nine region model (depending on success of Coral Sea region approach)		
Coral Sea tagging (including RTTP)	Included	Exclude Extend mixing period Make separate model region (see above)		
EPO tag recapture data [not applicable for YFT]	Included in region 4	Include in new region [if we get bored] Treat as unusable and correct release groups [preferred]		
Fisheries definitions		Same [6 region model] Revised fisheries groupings [6 region model As above plus new fisheries [8/9 region model] See Table 2 and Table 3		
Purse seine catch	Corrected	Corrected [one option]		
Purse seine size data	Corrected observer lengths	Splice together Pago Pago port sampling and Tim's observer lengths and reweight [one option]		
Catches for Indonesia and Philippines fisheries	Revised best estimates – including new fisheries definitions. Size data included.	Carry-forward 2011 Indonesia estimates to 2012 [one option]		

[1] Not all of these runs will be provided as key model runs and some (if they are not useful) may not even be provided at all. Rather this list provides the scope of things that could be considered.

LL CPUE indices	CV=0.2 with temporal effort deviates. Use operational CPUE indices	Spliced operational [2011 series]/ with three years aggregate (only with six region structure) All-flags operational DW aggregate – spatially modelled Truncate at 1980 (based on data availability) as an option	•
Philippines PS and handline CPUE (YFT only)	Not used	Model with 'tighter' constraints on catchability Keep flexible catchability to remove influence	•
PNG PS CPUE (YFT only)	Not used	Model with 'tighter' constraints on catchability Keep flexible catchability to remove influence Only to be used in new regional structure	•
Length and weight frequency data		See Table on fishery definitions Catch weight time window – default 11 quarters vs full period Two options on sample size weights NOTE: if we find strange residuals patterns we may need to consider selectivity time blocks	•
Tagging		See above regarding Coral Sea and EPO recaptures, But HW out (YFT) Note that we are using new approaches for data grooming, and correction for tagger effects	
Reporting rates	By tagging program	By tagging program [link to inclusion of Coral Sea tags to split out LL-All5 RR]	
LL Catchability trends		Applied if using aggregated series, estimates from SC6-WP02, use year-by-year numbers if possible. None, if using operational series	
Steepness:	Estimated	0.65, **0.8**, 0.95, and estimated	
Growth:	Estimated	Estimated	

Natural mortality:	Fixed	Fixed Estimated (for John to do only)
Regional recruitment spread	Expert opinion for starting values	Expert opinion for starting values (will need more of this for new regions) SEAPODYM values as either starting values or fixed (BET only)
Regional weights		Status quo (need new ones for new regional structure) SEAPODYM fished or unfished biomass (BET) Also use an updated imputation approach – either Laura or Sam's stuff
Initial conditions	Estimate initial F	Estimate initial F Force Binit=B0 if we get it to work Investigate starting model in 1980

Skipjack tuna

Factor	Reference 2011 model	2014 Reference model	Sensitivity analyses	Grid
Regional structure	Three region model	Three region Five region model		
Temporal model domain	1972- present by quarter	No change		
EPO recaptures		Treat as unusable		
Tagging data		All data (including all JP) Exclude early (1999) Japan tagging, but keep everything else		
Fisheries definitions		Same [3 region model] Revised pole and line groupings [3 region model – see Table 2 and Table 4] As above plus new fisheries [5 region model]		
Purse seine catch	Corrected	No change		
Purse seine size data		As for BET/YFT PNG port sampling data could be considered in new regional structure for region 5 fishery[2]		
Catches for Indonesia and Philippines fisheries	Revised best estimates	As for BET/YFT		
CPUE indices	Based on operational Japanese PL data Delta-lognormal indices	No change for P&L		
Philippines PS and handline CPUE	Not used	Model with 'tighter' constraints on catchability Keep flexible catchability to remove influence		•
PNG PS CPUE	Not used	Model with 'tighter' constraints on catchability Keep flexible catchability to remove influence <u>Only to be used in new regional structure</u>		•
Reporting rates	By tagging program	As for BET/YFT		
Catchability trends	None	No change		
Selectivity	Age-based	No change		
Steepness:		As for BET/YFT		
Growth:	Fixed	Fixed		

[2] These data are not in fact usable for the current assessment as set type is generally not available

		Try and estimate noting the improved size data
Natural mortality:	Estimated M at age	No change
Movement:	Estimated, constant movement at age	No change
Regional weights and recruitment distribution	None	None SEAPODYM based (also for recruitment distribution) – can be done for both regional structures

Table 2: Fishery definition suggested changes (BET/YFT)

Region from old assessment	2011	Proposed changes to 2011 fishery structure	Proposed 2014 fishery structure
1	Single longline fishery (**LL-All1**): almost all JP flagged fishing. Using JP weight and length data.	No change to fishery, but only use JP weight data and include JP coastal fishery data.	No change to fishery, but only use JP weight data and include JP coastal fishery data.
2	Longline fishery all except US (**LL-All2**): mostly Japan, but odds and sods since mid 2000s US-HW fleet (**LL-US2**): missing recent size data	No change to fishery, but only use JP weight data No change to fishery, but get more recent size data. Will use either weight or length, not both.	No change to fishery, but only use JP weight data No change to fishery, but get more recent data. Will use either weight or length, not both.
3	Longline fishery all except non-JP offshore fleets and PNG and excluding Bismarck Sea (**LL-All3**): mostly Japan. Offshore fleets (**LL-TW-CN 3**): This included CN, TW, ID and other bits like FM, PW etc. PNG longline fishery (**LL-PG3**) throughout region Longline fishing for LL-All3 fleets operating in Bismarck Sea (**LL-BMS3**)	No change to fishery, but only use JP weight data Split into two fisheries based on space (east/west). ID and Vietnam would be automatically included in the west fishery, plus other effort for fleets as data suggest. No change to this fishery No change to fishery	No change to fishery, but only use JP weight data Move western fishery to region 7. Retain eastern fishery in region 3. Move fishery to region 8, combine any region 3 fishing in LL-All fishery in region 3 Single all fleets (except PG) fishery in region 8
4	Longline fishery all except non-JP offshore fleets and US (**LL-All4**) Offshore fleets (**LL-TW-CN 4**):	Combine for all fleets except US, use JP weight up until ~2000 and then JP training vessel lengths after that. As alternative use JP training vessel lengths for entire period. Remove this fishery as most catch is actually CN-DW	Combine for all fleets except US, use JP weight up until ~2000 and then JP training vessel lengths after that Remove this fishery as most catch is actually CN-DW

	US longline fleet (**LL-US4**)	No change to fishery, but clean up weight data to split between regions 2 and 4	No change to fishery
5	All longline fleets except AU (**LL-All5**) AU longline fleet (**LL-AU 5**)	No change to this fishery, but for size data after mid-1990s, we would consider a couple of options: a) weight length samples by flag catch; b) New Cal weights. Examine data first. No change to this fishery	No change to this fishery, but for size data after mid-1990s, we would consider a couple of options: a) weight length samples by flag catch; b) New Cal weights. Examine data first. No change to this fishery
6	DW longline fleets (**LL-All6**) PICT longline fleets plus offshore (**LL-PICT6**)	Combine to a single fishery, but JP weight early (until ~1990) and all flags lengths (weighted by flag catch at the end)	Combine to a single fishery, but JP weight early and all flags lengths (weighted by flag catch at the end)
3	Indonesia and Philippines domestic purse seine fishery (PS-IDPH3)	No change	Move this fishery to region 7
4 (BET only)	Hawaiian handline fishery	No change	Remove

Table 3: Bigeye and Yellowfin revised fishery structures (note changes from PAW in footnotes)

			Region	
Fishery	**Method**	**Flag**	**Six region model**	**Nine region model**
1	L	All	1	1
2	L	All (ex. US)	2	2
3	L	US	2	2
4	L	All (ex. OS)	3	3
5	L	OS-E	3	3
6	L	OS-W	3	7
7	L	All (ex. OS)[3]	3	7
8	L	All (BS:SS)	3	8
9	L	All (ex. US)	4	4
10	L	US	4	4
11	L	AU	5	5
12	L	All (ex. AU)	5	5
13	L	All	6	6
14	S-ASS	All (ex. IDPH dom.)	3	3
15	S-UNA	All (ex. IDPH dom.)	3	3
16	S-ASS	All (ex. IDPH dom.)	4	4
17	S-UNA	All (ex. IDPH dom.)	4	4
18	Misc	PH	3	7
19	HL	ID-PH	3	7
20	S	JP	1	1
21	P	JP	1	1
22	P	All (east)	3	3
23	P	All (BS:SS)	3	8
24	Misc	ID	3	7
25	S	ID-PH	3	7
26	S-ASS	All (ex. IDPH dom.)	3	8
27	S-UNA	All (ex. IDPH dom.)	3	8
28	L	AU (CS)	5	9
29	P	All	3	7
30	L	All (ex. AU)[4]	5	9
31	S-ASS	All (ex. IDPH dom.)[5]	3	7
32	S-UNA	All (ex. IDPH dom.)	3	7
33	Misc	VN	3	7

[3] New fishery required to cover other fleets in region 7
[4] New fishery required for any non-AU longline fishing historically occurring in the area
[5] New fishery required for any large scale purse seine fishing west of 140 E

Table 4: Skipjack revised fishery structures

fishery	method	fisherynames/flag	2014 REGION	2011 Region
1	PL	PL JP 1	1	1
2	PS	PS ALL	1	1
3	LL	LL JP 1	1	1
4	PL	PL JP 2	2	2
5	PS	PS ASSOC 2	2	2
6	PS	PS UNASSOC 2	2	2
7	LL	LL JP 2	2	2
8	PL	PL ALL 5	5	(2)
9	PS	PS ASSOC 5	5	(2)
10	PS	PS UNASSOC 5	5	(2)
11	LL	LL JP 5	5	(2)
12	PL	PL 3	3	3
13	PS	PS ASSOC 3	3	3
14	PS	PS UNASSOC 3	3	3
15	LL	LL JP 3	3	3
16	Dom	Dom PH 4	4	2
17	Dom	Dom ID 4	4	2
18	PS	IDID, PHPH	4	2
19	PL	PL 4	4	(2)
20	PS	PS ASSOC 4 !(PHPH, IDID, VN)	4	(2)
21	PS	PS UNASSOC 4 !(PHPH, IDID, VN)	4	(2)
22	DOM (!L)	DOM VN	4	(2)
23	LL	LL JP 4	4	(2)

Table 5: List of potential SPC–OFP papers for the stock status theme at SC10 (italics indicates non-SPC led papers)

Title	Lead author	Institute/Country	Designation
Stock assessment of skipjack in the WCPO	J. Rice	SPC	WP
Stock assessment of bigeye in the WCPO	S. Harley	SPC	WP
Stock assessment of yellowfin in the WCPO	N. Davies	SPC	WP
Response to the BET review	S. Harley	SPC	TBC
Longline CPUE for bigeye and yellowfin	S. McKechnie	SPC	WP
Purse seine & handline skipjack and yellowfin CPUE from the Philippines	*K. Bigelow*	*PH/US*	*WP*
Skipjack pole and line CPUE	*H. Kiyofuji*	*JP*	*WP*
Purse seine CPUE for skipjack and yellowfin in the PNG region	G. Pilling	SPC	WP
A review of Japanese size frequency data from longline fisheries	*H. Okamoto*	*JP*	*IP*
Longline size data inputs for 2014 stock assessments	S. McKechnie	SPC	IP
Purse seine size data inputs for 2014 stock assessments	F. Abascal	SPC	IP
Summary of major changes in the 2014 tropical tuna assessments	J. Hampton	SPC	IP
Report from the SPC pre-assessment workshop	S. Harley	SPC	IP
Major changes to the data available for stock assessments	P. Williams	SPC	IP
Update of recent developments in MULTIFAN-CL software for stock assessment	N. Davies	SPC	IP
Development of regional structures for the stock assessments, including regional weights	S. McKechnie	SPC	IP
Analysis of tagging information for 2014 stock assessments (tagger effects, reporting rate priors; more than one paper?)	A. Berger	SPC	WP (if possible)
Project update 67: Range contraction	*L. Tremblay-Boyer*	*UBC*	*IP*

Appendix 1

SPC pre-stock assessment workshop

The Oceanic Fisheries Programme (OFP) of SPC is contracted by WCPFC to undertake stock assessments. The results of these assessments will be presented at the WCPFC Scientific Committee. In preparation for these assessments, OFP is hosting a pre-assessment workshop to discuss key issues related to the assessments. The terms of reference for this workshop are provided below.

Terms of Reference

- Review the most recent completed assessments, in particular, any concerns, suggestions and/or recommendations raised by the Scientific Committee, the Commission, research providers, individual CCMs, or any independent reviews;
- Review preliminary work undertaken by the service provider relating to the stock assessments, including any proposed:
    - revisions to biological parameters
    - revisions to historical data
    - changes to structural assumptions in the model
    - methodological issues, e.g. characterization of uncertainty
    - standardized CPUE analysis
    - incorporation of tagging data or other auxiliary data
- Provides guidance to the OFP on:
    - the suitability of any proposed changes and any suggested additional work
    - a minimum set model runs to be undertaken, in particular the range of key sensitivity analyses
    - desired model diagnostics to be presented
    - alternative modeling approaches that could be considered

The outcomes of the meeting will be documented in two ways, a report of the meeting and in the assessment working papers themselves. The report of the meeting will be distributed to workshop participants for comment within 10 working days of the meeting and revised and provided to WCPFC Scientific Committee members 30 days after the meeting. It will also be submitted to the next Scientific Committee as a Working Paper. Many of the matters discussed to the workshop will be the subject of meeting papers to the Scientific Committee.

Due to the timing of the meeting, any model runs presented will be based on previous assessment data sets, and therefore no preliminary stock assessment runs will be undertaken. Further, the workshop will occur prior to the submission of data and completion of supporting analyses (e.g. CPUE analyses). Therefore, any major changes to historical data submitted by CMM's, or new data could result in a need to consider alternative model runs or structures not considered previously. In such instances, supporting documentation will be provided to the SC via working papers to allow the SC to determine the merits of any proposed changes.

The consultation will be open to participation by all CCMs and to other experts, by invitation. CCMs will be expected to fund their participation although SIDS and participating territories may seek support from the Commission's Special Requirements Fund or other sources, as appropriate.