



**SCIENTIFIC COMMITTEE
TENTH REGULAR SESSION**
Majuro, Republic of the Marshall Islands
6-14 August 2014

ISSUES ARISING FROM THE COMMISSION

WCPFC-SC10-2014/GN-WP-03

Secretariat

ISSUES ARISING FROM SC9 AND WCPFC10

Issues	References	Outputs/Comments
ISSUES ARISING FROM SC9 (Report paragraphs indicated below)		
Data gaps	<p>77d. The WCPFC Secretariat formally contact each of the CCMs identified as either i) not providing operational data, and/or ii) not providing the number of vessels for each spatial unit in their aggregate data, and request the following:</p> <ul style="list-style-type: none"> • That they provide these data to the Commission in order to meet their obligations of Scientific Data to be Provided to the Commission. • That information is provided on what constraints hinder their ability to provide operational data to the Commission, and actions being taken to address this issue. • That CCMs confirm whether their aggregate data, as provided, can be included into the WCPFC public domain data. 	The Secretariat sent a formal letter on this issue to Belize, China, Indonesia, Japan, Korea, and Chinese Taipei in late April, 2014. Both letters and their responses are attached (<i>Appendix I</i>).
Data for 2014 stock assessment	77f. As proposed in working paper SC9-ST-WP-06, stock assessments to be undertaken and presented for SC10 should use catch and effort data up to and including 2012 data only, but that the projections use data up to and including 2013.	The science services provider used data up to 2012 for 2014 stock assessments.

Project 60 (PS species composition)	<p>90. SC9 recommended that:</p> <p>a) ... SC9 requested that the scientific services provider provide to SC10 annual estimates of the purse-seine catch based on: i) logbook reported species composition, ii) observer grab samples (previous approach), and iii) observer grab samples corrected for selectivity bias from spill sampling. Catch series from any variants on these should also be included. ... The work should also include any guidance on the implications of future estimates if only grab sampling occurs, (e.g. Can the selectivity bias correction be used into the future?).</p> <p>b) the scientific services provider update the “Plan for Improvement of the Availability and Use of Purse-Seine Catch Composition Data” (presented to TCC8) ... considering the following specific work areas identified at SC9:</p> <ul style="list-style-type: none"> • Complete the analyses comparing different sources of data collected at Noro, Solomon Islands (SPC). • Undertake a comparison of unloading data from Japan with observer data (Japan and SPC). • Undertake a comparison of port sampling data collected in PNG with observer data (PNG/NFA and SPC). • Continue the simulation modeling to assess the effectiveness of different approaches to addressing biases in catch composition estimates (SPC). • Evaluate the scope for the use of pooled observer data, and the possible scope for super-sampling to address layering in brails (SPC and observer providers). 	<p>Project 60 was extended to 2014 and SPC-OFP produced two papers:</p> <p>i) SC10-ST-WP-02 (Comparison of the species composition of purse-seine catches determined from logsheet data, observer data, market data, cannery receipts and port sampling data.)</p> <p>ii) SC10-ST-IP-02 (Final Report on Project 60: Collection and evaluation of purse seine species composition)</p>
Silky shark	<p>230. The greatest impact on the stock is attributed to bycatch from the longline fishery in the tropical and subtropical areas, but there are also significant impacts from the associated purse-seine fishery that catches predominantly juvenile sharks. The Commission should consider measures directed at bycatch mitigation as well as measures directed at targeted catch, such as from shark lines, to improve the status of the silky shark population.</p>	<p>WCPFC10 adopted CMM 2013-08 (CMM for silky sharks), which requires that all silky sharks be discarded, dead or alive; but nothing yet has been done on mitigation.</p>
North Pacific blue shark	<p>261. SC9 could not reach consensus on which CPUE series best reflected changes in the relative abundance and, therefore, recommended that a revised assessment be presented to SC10.</p> <p>262. In the interim, SC9 recommended that the Commission consider this uncertainty and adopt a precautionary approach when considering any potential management measures for blue shark in the North Pacific.</p>	<p>A revised assessment will be presented: SC10-SA-WP-8 (Stock assessment of blue shark in the north Pacific Ocean).</p> <p>No measure was considered for NP blue shark at WCPFC10.</p>

South Pacific swordfish	277. Noting the inconsistencies in the Australian and Hawaii growth schedules, SC9 recommended that additional work on age, growth and age validation be undertaken.	A contract is under progress with the CSIRO on a swordfish biology research.
Time window in $20\%SB_{F=0,t1-t2}$ Value of X in $F_{X\%SPRO}$	<p>358-359. SC9 ... recommended that the time window to be used in the LRP $20\%SB_{F=0,t1-t2}$ satisfy the following criteria:</p> <ul style="list-style-type: none"> • have a length of 10 years; • be based on the years $t_1=y_{last}-10$ to $t_2=y_{last}-1$ where y_{last} is the last year used in the assessment; and • the approach used for calculating the unfished biomass levels be based on scaled estimates of recruitment according to the stock recruitment relationship. <p>360-361. Identification of the appropriate values of X for each species in the LRP $F_{X\%SPRO}$ be based on an iterative search to “match” $F_{X\%SPRO}$ with $20\%SB_{F=0,t1-t2}$ as described in the working paper (SC9-MI-WP-03), and once the level of acceptable risk that should be applied to breaching an LRP has been identified by WCPFC10, the appropriate values of X for each species in the LRP $F_{X\%SPRO}$ be calculated using the updated assessments to be presented to SC10.</p>	<p>(WCPFC10 Report)</p> <p>186. The Commission endorsed SC’s recommendation for a 10 year time window in relation to the LRP $20\%SB_{F=0,t1-t2}$ and this approach has been followed for the 2014 assessments.</p> <p>192. WCPFC10 decided to refer the LRP issues of acceptable level of risk to SC, for further clarification of the implications of accepting various alternative proposals (see next issue). SC was requested to provide its recommendations to WCPFC11 in sufficient detail and in a format easily understood by managers.</p> <p>SC10-MI-WP-01 (Evaluation of risks of exceeding limit reference points for south Pacific albacore, bigeye, yellowfin, and skipjack tunas with implications for target reference points) will be presented at SC10.</p>
Reference points and the characterization of uncertainty	<p>385. SC9 considered working paper SC9-MI-WP-04 on approaches to describe uncertainty in current and future stock status. SC9 recommended that the following hierarchical approach to describe uncertainty:</p> <ul style="list-style-type: none"> • Select a representative subset (5–10) from the structural uncertainty grid of assessment model runs to capture the extent of model uncertainty. • Apply stochastic projections across the chosen subset of models required to integrate across the key uncertainties. • Undertake the selection of the representative subset by SC after reviewing the associated stock assessment. 	<p>SC10 will consider a progress report of Project 57, SC10-MI-WP-01 [Evaluation of risks of exceeding limit reference points for south Pacific albacore, bigeye, yellowfin and skipjack tunas with implications for target reference points: a case study using south Pacific albacore]. The full report will be finalised for MOW3 (or WCPFC11).</p>

	<p>386. SC9 also recommended that:</p> <ul style="list-style-type: none"> • SC10 give further consideration to the need to assign plausibility weights for each model run, and if needed, how these weights may be developed to further assist in reducing uncertainty in the description of stock status. • The work to describe uncertainty described above should be undertaken to the extent possible by the assessment scientists, included in the assessment reports, and reviewed by SC. 	
<p>Ecosystem and Bycatch Theme recommendations</p>	<p>419, 465, 489. EB theme recommended the following items:</p> <ul style="list-style-type: none"> • Support the Bycatch Mitigation Information System (SC9 report, para. 419a); • Support ongoing development of SEAPODYM (SC9 report, para. 419b); • CCMs to provide fine-scale data for use in SEAPODYM (SC9 report, para. 419c); • Consider an external review of SEAPODYM (SC9 report para. 419d); • Develop reference points for key shark species (SC9 report para. 465a); • Develop safe release guidelines for sharks (SC9 report para. 465b); • Implement logsheets showing retained and discarded sharks (SC9 report para. 465c); • Develop an integrated and comprehensive shark CMM (SC9 report para. 465d); • Consider measures to reduce mortality on overfished sharks (SC9 report para. 465e); • Investigate the vessel length-based exclusion from seabird mitigation measures in the North Pacific (SC9 report para. 489a); • Forward the ACAP seabird identification guide to observer programmes (SC9 report para. 489b); and • Undertake a pilot project on E-monitoring in a WCPFC longline fishery (SC9 report para. 489c). 	<p>(WCPFC10 Report) 194. WCPFC10 accepted the twelve ecosystem and bycatch recommendations of SC9.</p>

ISSUES ARISING FROM WCPFC10 (Report paragraphs indicated below)

Performance review of the Commission	144. WCPFC10 agreed that the Secretariat would revise the matrix contained in <i>WCPFC10-2013/14</i> to remove all recommendations which have been addressed and completed, and present the revised matrix to WCPFC11.	A revised science section is posted: GN-WP-05 (Final Selected Recommendations from the Review of the WCPFC 2014)
Management objectives workshops	<p>151. WCPFC10 agreed that the Scientific Services Provider provide the following to MOW3 with progress reported to SC10 in 2014 with a view to informing the Commission’s consideration and adoption of a TRP and HCR at WCPFC 11:</p> <ul style="list-style-type: none"> i. Evaluate WCPO skipjack stock status against candidate target reference points of 40%, 50% and 60% of unfished spawning stock size. ii. Apply stock-wide harvest control rules such as those present in MOW2-WP/03 and examine robustness relative to the new assessment and major sources of uncertainty. iii. Include performance indicators relating to fish sizes, impacts on yellowfin tuna and bigeye tuna, and examine the acceptable magnitude of changes in fishing effort. 	Recognising the need to progress beyond an information/education workshop, The WCPFC Circular 2014-38 (WCPFC Strategy Paper - Developing MOW3, <i>Appendix 2</i>) asked Members to consider options for how best to move the process forward.
NP blue shark	217. WCPFC10 adopted the report of NC9 and asked the SC to evaluate whether North Pacific blue shark would qualify as a northern stock.	This will be discussed at SC10, under Agenda 4.3.4.1.b (Evaluation of North Pacific blue shark as a northern stock)

Formal letters sent to CCMs on data gaps



Date: 29 April 2014

Recipient:

Valerie Lanza Director of High Seas Fisheries Belize High Seas Fisheries Unit Ministry of Finance Government of Belize Suite 204, Marina Towers Newtown Barracks, Belize City Director.bhsfu@gmail.com	Mr. Liu Xiaobing Director Division of International Cooperation Bureau of Fisheries and Fisheries Law Enforcement Ministry of Agriculture, China No. 11 Nongzhanguan Nanli Beijing, China 100125 xiaobing.liu@hotmail.com	Mr. Toni Ruchimat DFRM, DGCF Ministry of Marine Affairs and Fisheries Gedung Mina Bahari II, Lantai 10, Jln. Medan Merdeka Timur No. 16, Jakarta Republic of Indonesia 10110 truchimat@yahoo.com
Mr Hisashi Endo Chief Counselor Fisheries Agency of Japan 1-2-1 Kasumigaseki, Chiyoda-ku Tokyo, Japan 100-8907 hisashi_endo@nm.maff.go.jp	Mr. Yongseok Kang Director, International Cooperation Division Ministry of Oceans and Fisheries Government Complex Sejong Bldg#5, Room 508, 94, Dasom2-ro Sejong Special Self-governing City, 339-012, Korea ykang66@korea.kr	Mr. Tzu-Yaw Tsay Deputy Director General Fisheries Agency No. 2, Chao-chow St. Taipei, Taiwan tzuyaw@mof.gov.tw

Dear [Recipient],

Greetings from Pohnpei.

As requested by the Scientific Committee (Paragraph 77.d, SC9 Summary Report) and endorsed by the Commission, I am writing to you regarding the submission of operational data:

77.d. The WCPFC Secretariat formally contact each of the CCMs identified as (i) not providing operational data and/or (ii) not providing the number of vessels for each spatial unit in their aggregate data, and request the following:

- i) That they provide these data to the Commission in order to meet their obligations of Scientific Data to be Provided to the Commission;*
- ii) That information is provided on what constraints hinder their ability to provide operational data to the Commission, and actions being taken to address this issue*
- iii) That the CCMs confirm whether their aggregate data, as provided, can be included into the WCPFC public domain data.*

On behalf of the Commission, may I request your full commitment with the obligation to submit operational data, due to its' critical importance in regional stock assessments. If there are constraints that currently prevent the provision of operational data to the Commission, can you please elaborate on these constraints and the actions taken to resolve each constraint, as per point (ii) above.

If you are currently unable to provide full operational data, I would appreciate your cooperation in providing the number of vessels for each stratum (time/area) in your aggregate data (6th paragraph of the "Scientific Data to be provided to the Commission"), reiterated in the recommendation above.

Western and Central Pacific Fisheries Commission

PO Box 2356
 Kolonia, Pohnpei 96941
 Federated States of Micronesia

TEL: +691-320-1992, 1993
 FAX: +691-320-1108
 Email: wcpfc@mail.fm



If you are currently unable to provide full operational data, please note that in accordance with 3rd paragraph in Section 4 of the “Scientific Data to be provided to the Commission”, you are required to provide Annual catch and effort estimates aggregated by areas of national jurisdiction and high seas within the WCPFC Statistical Area.

Finally, can you please respond to the item (iii) in the recommendation above.

I hope this information can be provided by 31 May 2014 to provide sufficient time for SPC to compile and include it in the SC10 paper, “Scientific Data Available to the WCPFC Commission”.

For your information, Annex 1 below summarizes the status of CCMs with operational data gaps.

Thank you very much in advance for your cooperation.

Sincerely,

[Signed]

Professor Glenn Hurry
Executive Director
WCPFC Secretariat

Annex 1. CCMs with operational data gaps.

Country name	Operational data	Number of vessels for each stratum (time/area) in their aggregate data	Annual Catch and Effort estimates by EEZ/high seas area	Not providing operational data but work with SPC on a temporary basis for stock assessment
Belize	NOT PROVIDED	YES	NO	NO
China	NOT PROVIDED	NO	NO	NO
Indonesia	NOT PROVIDED	NO	YES	NOT YET
Japan	NOT PROVIDED	YES (recent years only)	NO	YES
Republic of Korea	NOT PROVIDED	NO	NO	NOT YET CONFIRMED
Chinese Taipei	NOT PROVIDED	YES (recent years only)	NO	YES, INITIAL WORK

Western and Central Pacific Fisheries Commission

PO Box 2356
Kolonias, Pohnpei 96941
Federated States of Micronesia

TEL: +691-320-1992, 1993
FAX: +691-320-1108
Email: wcpfc@mail.fm

CCM's response on *Letter from WCPFC Executive Director: Submission of Operational Data*

Belize From: Valarie Lanza [mailto:director.bhsfu@gmail.com] Sent: Wednesday, April 30, 2014 11:34 AM To: Arlene Takesy Subject: Re: (Belize) Letter from WCPFC Executive Director: Submission of Operational Data Dear Arlene Greetings from Belize. I acknowledge receipt of your email with attachment. We will be providing a response shortly. Regards Valarie Lanza
China No response received
Indonesia No response received
Japan From: yuujirou_akatsuka@nm.maff.go.jp [mailto:yuujirou_akatsuka@nm.maff.go.jp] Sent: Tuesday, May 27, 2014 1:59 PM To: Glenn Hurry Cc: Arlene Takesy; SungKwon Soh; Mr. Takashi Koya; Hisashi Endo; Mako Iioka; Miki Ogura Subject: Letter from Japan: Submission of Operational Data Dear Glenn-san On behalf of Mr. Hisashi ENDO, I am sending his response to your letter dated on April 29, 2014 as attached. Regards, Yujiro



FISHERIES AGENCY

MINISTRY OF AGRICULTURE, FORESTRY AND FISHERIES, GOVERNMENT OF JAPAN

1-2-1, Kasumigaseki, Chiyoda-ku, Tokyo 100-8907, Japan

May 26, 2014

Professor Glenn Hurry
Executive Director
Western Central Pacific Fisheries Commission

Dear Executive Director Hurry,

In response to your letter dated on April 29, 2014, I provide you with information on constraints that prevent provision of operational data to the Commission and action taken to resolve such constraints as follows:

Constraints

Japan's domestic law, "Act of the Protection of Personal Information", prohibits government administrations to release any personal information which can be identified personal activities. Operational data is categorized as such personal information prohibited to release.

Action

Instead of providing full operational data to the Commission, Fisheries Research Agency of Japan allows SPC to use operational data through collaborative analysis at the time of stock assessment.

Further, Japan has provided the Commission 1) the number of vessels for each stratum (time/area) in our aggregate data and 2) annual catch and effort estimates aggregated by areas of national jurisdiction and high seas within the WCPFC Statistical Area on April 30, 2014.

Finally, I confirm that our aggregate data can be included into the WCPFC public domain data.

Regards,

Hisashi ENDO

Japanesc Commissioner to the WCPFC

Korea

No response received

Chinese Taipei

From: 凌啟泰 [<mailto:chitai@msl.f.a.gov.tw>]

Sent: Friday, 30 May 2014 8:56 PM

To: (WCPFC) Glenn Hurry

Cc: (WCPFC) Executive Assistant; (漁業署)蔡日耀副署長; (遠洋組)林頂榮組長; Peter Williams; WCPFC

Subject: <FAMS1>FW: (Chinese Taipei) Letter from WCPFC Executive Director: Submission of Operational Data

Dear Professor Hurry,

Please find an attachment regarding your letter sent few days ago.

It will be high appreciated that to receive your or the Secretariat's reply for confirming receipt of this.

Sincerely yours,

CiTai Ling

International Fisheries Affairs Section

Deep Sea Fisheries Division,

Fisheries Agency, Council of Agriculture No.2, Chao-chow St. Taipei, Taiwan

Tel: 886-2-3343-6086

Fax: 886-2-3343-6128

E-mail: chitai@msl.f.a.gov.tw



行政院農業委員會漁業署

FISHERIES AGENCY

Council of Agriculture, Executive Yuan

No.2, Chaozhou St., Zhongzheng Dist., Taipei, TAIWAN

TEL: 886-2-3343-6000 FAX: 886-2-3343-6097 <http://www.fa.gov.tw>

May 30, 2014

Ref: WP103-20

Professor Glenn Hurry
Executive Director
Western and Central Pacific Fisheries Commission
PO Box 2356 Kolonia
Pohnpei 96941, Federated States of Micronesia,
(P)691-3201992

Dear Professor Hurry,

This is our response to your letter dated 29th April, 2014 to our Deputy Director-General Tsay regarding the submission of operational data.

Regarding the provision of operational data, we can't provide these data due to the constraint of our domestic regulations. However, we recognize the importance of using our data for stock assessment of the Commission. Alternatively, we have decided to cooperate with the Scientific Service Provider of WCPFC(SPC) for analyzing our data under principles of confidentiality in addition to providing the aggregated data in accordance with the alternative arrangement articulated in the "Scientific Data to be provided to the Commission". And three of our scientists went to SPC headquarter in February this year to facilitate the work of analyzing our operational data with SPC scientists. We believe this cooperation will be helpful for the stock assessment.

Besides, noticing the requirements in the "Scientific Data to be provided to the Commission" for those are currently constrained to provide the operational data, we have provided the number of vessels for each stratum (time/area) in our aggregated data since 2010 right after this



行政院農業委員會漁業署

FISHERIES AGENCY

Council of Agriculture, Executive Yuan

No.2, Chaozhou St., Zhongzheng Dist., Taipei, TAIWAN

TEL: 886-2-3343-6000 FAX: 886-2-3343-6097 <http://www.fa.gov.tw>

requirement was adopted by the Commission in 2009. And starting from this year, we provided annual catch and effort estimates aggregated by areas of national jurisdiction and high seas within the WCPFC statistical area in our scientific data.

As for the inclusion of our aggregate data into the WCPFC public domain data, we would like to point out that the Rules and Procedures for the Protection, Access to, and Dissemination of Data Compiled by the Commission clearly indicates that "Data in the public domain shall not reveal the individual activities of any vessel, company or person and shall not contain private information. Catch and Effort data in the public domain shall be made up of observations from a minimum of three vessels." Thus, this item is acceptable for us, providing the abovementioned provision can be satisfied.

Sincerely yours,

Ding-Rong Lin

Director

Deep Sea Fisheries Division

Cc: Peter G. Williams,
Principal Fisheries Scientist
Oceanic Fisheries Programme
Secretariat of the Pacific Community (SPC)



**TO ALL COMMISSION MEMBERS, COOPERATING NON-MEMBERS AND
PARTICIPATING TERRITORIES**

Circular No.: 2014/38

Date: 12 May 2014

No. pages: 5

WCPFC Strategy Paper: Developing MOW 3

Dear All,

Please find attached a paper that outlines some options on how we might move forward with Management Objectives Workshop 3 and the MOW process. Could you please provide any thoughts you might have on this by the end of May, and I will then work with the Chair to find the most appropriate approach.

Best regards,



Professor Glenn Hurry
Executive Director

WCPFC Strategy Paper

Developing MOW 3

Purpose

This paper summarises decisions taken at MOW2 and WCFC10 and updates CCMs on progress and discussions that have occurred towards MOW3.

Background

1 WCPFC10 accepted the report of MOW11.

147. WCPFC10 accepted the MOW2 (WCPFC10-2013/15a) and “Strawman” (WCPFC10- 2013/15a) reports (Attachment E).

Section 10 of this report summarized views from those participating on the best method for continuing to move this process forward:

10. Development of a future work - plan for advancing the development of a management framework for the WCPFC

- *Each working group considered the way forward for the MOW process and the development of a management framework for the WCPFC. The following major points were raised, which are reflected in the future work plan in the first part of WCPFC10-2013–15a, which was developed following MOW2:*
- *The MOW process is seen as very useful, but further work needs to be integrated and proceed through Commission processes and supported properly. A two-day workshop before every Commission meeting may not necessarily be the best way to take this process forward. The process needs to be member-driven, even if it is difficult to get member feedback – these are important issues and need to be fully understood*
- *The MOW process is seen as a way of involving SIDS and keeping them fully up to speed with the development the management framework (TRP, HCRs etc.); however there is a need to move away from an awareness and education exercise to the development of a product. It was suggested that an initial action would be to develop and refine a general framework, and the NAFO general management framework was cited as useful example.*
- *The initial TORs for the Management Objectives Workshop process need to be updated in light of the progress made in the first two workshops, and this should be reflected in new TORs and work plan agreed at WCPFC10.*
- *Future activities in the process should include looking at how MSE can be applied in general and more specifically in the case of an interim provisional TRP for SKJ.*
- *Development of management rules is part of a longer process, there also needs to be a means to operationalize those rules.*
- *The current processes (SC, TCC) should be capable of dealing with the development of a management framework. SC has a Management Issues theme and could accommodate discussion of management framework components (HCRs, TRPs etc.), noting that it already deals with LRPs. The option of an additional management forum was discussed, but concern raised that it could place an untenable burden on SIDS. A third option, ad hoc workshops, was also considered.*

2 Following presentations and discussion at WCPFC 10, WCPFC made two (2) decisions designed to move this process forward:

150. WCPFC10 agreed that the Scientific Services Provider provide the following to MOW3 with progress reported to SC10 in 2014 with a view to informing the Commission's consideration and adoption of a TRP and HCR at WCPFC 11:

- i) Evaluate WCPO skipjack stock status against candidate target reference points of 40%, 50% and 60% of unfished spawning stock size.*
- ii) Apply stock-wide harvest control rules such as those present in MOW2- WP/03 and examine robustness relative to the new assessment and major sources of uncertainty.*
- iii) Include performance indicators relating to fish sizes, impacts on yellowfin tuna and bigeye tuna, and examine the acceptable magnitude of changes in fishing effort.; and*

164. WCPFC agreed to hold an additional workshop on management options (MOW3) in 2014 and to task the Executive Director with exploring external sources of funding for a second workshop in 2015, further input from the expert panel and supporting analyses by the Scientific Services Provider.

3 The meeting was advised that SPC was working on a further skipjack TRP and HCR work for PNA and subject to agreement by PNA; this should be available to MOW3.

SPC advised that it is fully committed in undertaking the new assessments for 2014 and would have little time to do much more than the following in response to the three points above:

- i) SPC can work this into the SKJ assessment, since it is only evaluating stock status against potential TRPs. SPC would compute the 2012 SB/SB0 for all model runs and see where they sit in relation to the 40, 50 and 60% levels. The task is relatively straight forward and not much additional work.
- ii) Point ii) is similar to the work planned for PNA, and as noted, this can be made available for discussion at MOW3 with the agreement of PNA.
- iii) Point (iii) has not been specifically raised by the PNA and is probably something that would need to be built into the fuller MOW work plan.

Looking forward

While the WCPFC10 decision focused on convening MOW3 to discuss the skipjack work alone, there was some interest expressed at MOW2 to also continue to look at harvest strategies (reference points, indicators and HCRs) for other species in a strategic manner, building on the work and papers developed at MOW2 or at least to discuss a plan to deal with developing a harvest strategy for albacore and doing more work on LL/PS interactions.

Based on the comments made by SPC at WCPFC 10 and in subsequent discussions, there is little time for SPC to do much this year in terms of analysis, other than that planned by SPC for PNA/FFA. However, FFA and SPC have sought funding for additional resources that would allow delivery of a relatively small number of focused inputs to another MOW. Any work undertaken by SPC would need to occur after the Scientific Committee meeting and before WCPFC11 and the MOW3.

This would be based around three key areas:

1. **Albacore:**

- Take three broad scale management objectives – e.g., MSY, MEY and a “break-even” catch rate
- Determine the SB depletion TRP that relates to each of these
- Track forward the management strategies that would achieve these (what level of catch and effort is required)
- Add on the “economics” – what would catch rates and profitability be like under each scenario
- Possibly add on consideration of bigeye and yellowfin mortality if there are some inferences to stock status that could be made as a result of the changed longline catch and effort under each.

2. **Skipjack:** almost the opposite of the trade-off paper presented at MOW2 from last year:

- Model different mixes of FAD and FAD-free effort that will achieve the $0.5SB_{F=0}$ TRP.
- Add on the economics to each scenario
- Track the implications to BET stock status and value of the LL fishery under each.

3. **Yellowfin** – likely to be far more complex than BET in the next few years – because it is important to both PS and LL and because such a large proportion of the catch is taken in archipelagic waters. Some technical work is required to at least start discussions on TRPs. Two possible approaches could be considered:

- start with the LRP that has already been agreed and look at Threshold or Trigger Reference Points that create an adequate buffer around that; or
- build YFT into paper 2, which may not give sufficient consideration to inform progress towards a TRP for yellowfin.

This analysis, along with that proposed for SPC in the paragraph 150 of the WCPFC10 report, could usefully provide the initial basis for the Commission to develop an integrated management framework. Such a process should not unduly delay initiatives by CCMs or groups of CCMs to bring forward and agree elements of harvest strategies for particular species in the short term. Going forward, the proposed analysis and any subsequent work and inputs, regardless of their origins, will be essential for the Commission to consider various management options and arrive at decisions on harvest strategies.

With this in mind the following approach would utilize the work underway, and also acknowledge the limited time for the SPC to undertake additional analysis outside of the three key stock assessments for this year, but at the same time keep the process moving forward.

Potential approach to MOW process and MOW3

WCPFC10 tasked the ED with sourcing external funding to help to continue this work. To date we have a commitment of \$20,000 USD from ISSF and potential funding from WWF, in addition to the WCPFC commitment of \$90,000 USD to help with the hosting of the MOW3 workshop. The amount of resources required to continue this work really now depends on the Commission making a firm decision on what it wants done in this space.

MOW1 and 2 contributed significantly to members' understanding of this process and provided some suggestions on elements of possible management strategies. We could go on having a range of workshops on this topic, however, for them to make an ongoing contribution the Commission needs to consider and take an informed decision on whether to formally develop and implement a harvest strategy approach to these fisheries. If it decides to follow this approach then the WCPFC will need to provide strategic direction and allocate resources and priorities to species/fisheries and a timeline for completion. If this is done then it becomes an easier process to identify potential future workshop themes and to target the SC and TCC to undertake specific work in this area.

In order for that to occur a CCM will need to bring forward a CMM for consideration at SC, TCC and WCPFC11. Australia has indicated an interest in contributing to the MOW process and suggested that it might bring forward a CMM to seek broad confirmation from members to the MOW process and to outline a strategy, timeframe and potential budget for achieving these objectives. This CMM would then provide a focus for the MOW3 meeting, where members could consider, discuss and refine to approach in advance of the main meeting.

If the CMM is brought forward by Australia, the SC could provide some input as to what would be required for a more focused discussion on the CMM at MOW3. However, if no CMM is brought forward for consideration, the utility of having MOW3 would be brought into question as the issues in 1, 2 and 3 above could be dealt with in WCPFC11. There is additional benefit in bringing the proposed CMM to WCPFC11 as it will inform the Commission on options for taking the process forward and enable the WCPO tuna "managers" to take a decision on this key issue.

Could you please consider the above approach and provide any comments that might help with the MOW debate. Once I have your comments it will help us try to plan a MOW3 for you.

Thanks for your patience as we have tried to find a way forward on this issue for you.

Glenn