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**DISCUSSION OF A POSSIBLE WAY FORWARD IN THE DEVELOPMENT OF A CMM
FOR BIGEYE, YELLOWFIN AND SKIPJACK TUNA IN THE WCPFC CONVENTION
AREA**

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CMM 2011/01

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Discussion of a possible way forward in the Development of a Conservation and Management Measure for Bigeye, Yellowfin and Skipjack tuna in the WCPFC Convention Area

Part 1 INTRODUCTION

CMM 2008/01 was a management measure to reduce fishing mortality of bigeye and to restrict any further increase in fishing mortality of yellowfin tuna. This new measure CMM 2011/01 is different in that it is a management measure for bigeye, yellowfin and skipjack tuna and its provisions for skipjack will be different from the bycatch strategies for purse seining described in CMM 2008/01.

CMM 2008/01 sought to reduce the fishing mortality on bigeye tuna by 30% and stabilise fishing mortality on yellowfin tuna over a 3 year period by reducing the incidental catch of juvenile bigeye by purse seine and by reducing the longline fishery catches of bigeye tuna by 30% and not increasing the catches of yellowfin during the same period. These reductions were to be achieved by a combination of purse seine measures such as closing the high seas pockets, and implementing restrictions on the use of Fish Aggregating Devices (FADs). In the longline fishery yellowfin catches were not to increase above 2001/04 levels and bigeye catches were to reduce by 30% over a 3 year period. Compatible measures were to be adopted in the high seas by the Commission to compliment measures adopted in the Exclusive Economic Zones (EEZs).

Impact of CMM 2008/01

The assessment of the impact of catch reductions targeted through CMM 2008/01 along with the 2011 scientific analyses shows a slight improvement in the situation regarding bigeye tuna. The data for 2010 and 2011 is incomplete and it will be necessary to conduct additional analysis once the final data are received.

The reduction in reported longline catch is offset to some degree by the increase in fleet size by some members as a result of a shift of effort out of the Indian Ocean to avoid piracy and for improved fishing. The Scientific Committee (SC) noted...."Uncertainty remains over the longline catch decrease, particularly given that longline vessels were relocating to the Pacific from the Indian Ocean, while it was noted that a reduction in longline catch of 30% doesn't necessarily result in a significant reduction of F, if catch were declining due to declines in stock size".

In relation to the fish stocks covered by CMM 2011/01:

- 1 The 2011 bigeye assessment showed that F/F_{msy} for the ‘current’ period of 2006-2009 was 1.46. Therefore, the SC7 recommendation was for a 32% reduction in fishing mortality from the 2006-2009 level to bring F/F_{msy} to 1.0.
 - 2 Yellowfin tuna catch in 2010 was 470,000 tonnes on current data and the SC? assessment shows that overfishing is not occurring and the stock is not overfished. The model on current data inputs demonstrates that yellowfin tuna stock would remain at or above target reference points commonly accepted internationally if fished at this level.
 - 3 The SC provided the following advice in relation to Skipjack tuna for 2010:
 - 4 *“Catches in 2010 were roughly 1.556 million mt, the second highest recorded and below the record high catch of 1.608 million mt in 2009. Equilibrium yield at the current F is about 1.14 million mt. This is about 76% of the MSY level. The assessment continues to show that the stock is currently only moderately exploited ($F_{CUR}/F_{MSY} = 0.37$) and fishing mortality levels are sustainable. However, there is concern that high catches in the equatorial region could result in range contractions of the stock, thus reducing skipjack availability to higher latitude (e.g. Japan, Australia, New Zealand, and Hawaii) fisheries.*
- 225. If recent fishing patterns continue, catch rate levels are likely to decline and catch should decrease as stock levels are fished down to MSY levels. Due to the rapid change of the fishing mortality and biomass indicators relative to MSY in recent years, increases of fishing effort should be monitored. The Commission should consider developing limits on fishing for skipjack to limit the declines in catch rate associated with further declines in biomass.”*

HIGH LEVEL OBJECTIVES

OBJECTIVES

The objectives of CMM 2011/01 are to:

Ensure through the implementation of compatible measures for the high seas and EEZs, for all methods of fishing, that skipjack, bigeye and yellowfin tuna stocks are maintained at levels capable of meeting agreed target reference points and do not fall below their limit reference points for example maximum sustainable yield (MSY) or other agreed reference points.

- Achieve through the implementation of this measure, levels of fishing mortality and biomass that avoid limit reference points with high probability. (See Table 1 for a suggested way forward)
- Consider and adopt interim target reference point using Table 1 as a guide.

Table 1

	Limit Reference Point		Target Reference Point
Species	Fishing Mortality	Spawning Biomass	Spawning biomass

Bigeye tuna	Fspr 30%	20% SBo	40% SBo
Skipjack tuna		20% SBo	45% SBo
Yellowfin tuna	Fspr 30%	20% SBo	40% SBo

- Develop and implement by 2012 target and limit reference points and harvest control rules to ensure that these limit reference points are avoided and the targets are achieved. (see attachment A for process)
- Commencing in 2012, reduce BET fishing mortality to a level consistent with agreed interim target reference points and to restore the Spawning Biomass (SSB) to level consistent with the agreed target reference points. Noting the SPC's concern and that of Sibert et al on the impact of 2008/01, given the long time periods that may be involved.
- Ensure from 2012 onwards that there is no increase in fishing mortality for yellowfin tuna beyond levels to achieve the target reference point and maintain the spawning biomass above levels consistent with interim reference points.
- Ensure that the level of fishing mortality on skipjack tuna is at a level so that there is no overfishing on the stock and that the biomass of the stock remains at an agreed target reference point of e.g. 45% of the average unexploited spawning biomass.(SBo).

SCOPE OF APPLICATION of CMM 2011/01

This Measure applies to all forms of commercial fishing, regardless of vessel size, on the stocks of bigeye, yellowfin and skipjack tuna throughout their range within the Convention Area in accordance with Article 3, paragraph 3 of the Convention, reproduced below:

“3. This Convention applies to all stocks of highly migratory fish within the Convention Area except sauries. Conservation and management measures under this Convention shall be applied throughout the range of the stocks, or to specific areas within the Convention Area, as determined by the Commission.”¹ The principles and measures for conservation and management enumerated in article 5 shall be applied by coastal States within areas under national jurisdiction in the Convention Area in the exercise of their sovereign rights for the purpose of exploring and exploiting, conserving and managing highly migratory fish stocks.

In giving effect to CMM2009-11, the Commission shall advise non-members to the Convention wishing to acquire Co-operating Non-member (CNM) status that bigeye, yellowfin and skipjack tuna have reached the limit of fishing capacity in the WCPFC Convention Area and that any access will be granted only to vessels through the purchase of licenses and or days from a Commission member. Participatory rights for access to the high seas of the convention area will need to be tightly defined in accordance with the process established in CMM2009-11.

The Commission encourages CCMs to ensure that the effectiveness of these measures is not undermined by a transfer or increase of effort into archipelagic waters and territorial seas.

The measures established under 2011/01 will be set for three year periods. This will mean that stock assessments for these species will be conducted not less than every three years. The implementation of the measure will be reviewed annually and adjusted based on advice provided by the SC and the TCC.

Part 2 MANAGEMENT MEASURES

SKIPJACK

Reference points and indicative TAC

There are no reference points established by the Commission for skipjack tuna. At the SC meeting in August 2011 there was a discussion of potential limit reference points but none on target reference points and the use of reference points in the Commission is one of the issues to be investigated at Management Options workshop. There is a view that if stock levels are above potential target reference points, effort should be made to set target reference points that allow the stocks to continue to remain above that level and avoiding the possibility of having to rebuild the stock at a later point in time. Table 1 on page 2 provides some thoughts and ideas on what adequate target reference points might be. The SC report includes the discussion on limit reference points and again this information will be discussed at the Management options workshop. However, these will need substantial discussion within the Commission prior to final agreement.

It is suggested that if the Commission is unable to agree on target reference points that it consider Table 1 as the basis for adopting interim reference points until a Harvest Strategy is agreed.

Catch limits

The catch limits are indicative high levels catch limits only and are not to be seen as an attempt to set a Convention area TAC. The measure puts in place a combination of specific catch and effort limits that are designed to keep the catch within the overall limit. The advice from the SC in 2010 is that the current catch level of around 1.556 million tonnes per annum can be sustained in the long term. The two qualifications on this would be that oceanographic changes and temperature variations can affect stock recruitment levels and the accuracy and timeliness of the data is critical to the accuracy of the assessment.

Therefore and interim catch limit should be no more than the level of catch in 2010 for skipjack of 1.556 million tonnes

Measures

Option 1 – Effort limits PNA EEZs

- Option 1
The interim fishing effort limit for the EEZs of the members of the Commission belonging to the PNA in total will be set to the number of days reported to have been fished in 2010. By zone this will be estimated and applied as a day limit in those fisheries managed under the Vessel Day Scheme (VDS).

Non-PNAMember EEZs

- In zones where the VDS is not a management regime members will be required to advise the Commission by 10 February 2012 of the scheme of management that will be applied to manage and monitor the fishing effort in those zones.

High Seas

- The Commission was tasked in 2008/01 to develop a compatible system for the high-seas. This task is still outstanding and in the absence of a compatible measure, CCMs shall take necessary measures to ensure that the level of purse seine fishing effort in days fished by their vessels in areas of the high seas does not exceed 2010 levels. (note this will require a definition of a “day”)

Option 2 CATCH LIMITS

PNA Waters

- The catch in the EEZ's of the PNA members of the Commission will not exceed the 2010 level of 1.1 million metric tonnes..

Non PNA EEZ's

The catch of skipjack tuna in non PNA EEZs shall not exceed catches in 2010.

High Seas

- The catch of skipjack tuna taken on the high seas is not to increase above levels caught in 2010. This catch is available to all parties and as such any vessel purse seining on the high seas must report every two weeks on actual catch to their flag State so the information can be provided to the Commission. (note: if agreed this will require an action to be framed for the situation where the allocated days are used prior to the end of the season)

BIGEYE

Reference points and indicative TAC

SC7 recommended that a minimum reduction in fishing mortality of 32% from the average levels for 2006–2009 is needed to return the fishing mortality rate of bigeye tuna to F_{MSY} . This recommended level of reduction is equivalent to a minimum 39% reduction of the 2004 level in fishing mortality, and a 28% reduction of the average 2001–2004 levels.

Measures

1 FAD closure

The Commission instituted a FAD closure under CMM 2008/01. The scientific advice is that the FAD closure has been successful in reducing the amount of juvenile bigeye taken in purse seine sets. FAD usage marking, registrations are described in **CMM xxx** relating to the use of FADs in the WPFC.

(Note the PNA have announced that they will implement a further one month FAD closure for foreign fleets fishing in their EEZ's. The PNA has now moved to impose an additional 1 month closure to non-domestic boats operating in their waters.)

Satellite buoys used on FADs and all FADs must be removed prior to the commencement of the closure period and not re-set until the closure period is over.

FAD measures for 2012 onwards

Option 1

- Retain the FAD closure for a 3 month period each year. During this period there will be no fishing on FADs.

Option 2

- Implement a 3 month FAD closure across the purse seine fishery commencing 2012. The closure will apply in over two separate 3 month periods and fleets can nominate vessels against each closure period. The first period will be from xxx to xxx and the second period from xxx to xxx.

Option 3

- Implement a 3 month total closure in the purse seine fishery in the Convention Area. The closure will commence on from 0000 hours on the 1st of July each year to 2400 hours on the 30th September. During these periods no purse seine fishing will occur in the fishery. Every purse seine vessel during the year must observe the closure period.

Landings, transshipments and commercial transactions in tropical tuna species, including their products that have been positively identified as originating from purse seine fishing activities that contravene this CMM shall be prohibited.

- (Note there may be a further option here that combines the elements above)

Alternative/complimentary approach to FAD closures

2 Potential juvenile bigeye limit measures

- For the purse seine fishery the amount of juvenile tuna allowed in the purse-seine operation by flag will be 2% averaged quarterly. The catch of bigeye in purse seine operations is to be monitored by observers and verified by the production of cannery payment receipts for product at a national level.
- This arrangement on catch by flag provides industry with a direct incentive to fish away from the juvenile fish or if they are unable to then to design methods of avoiding juvenile catches of bigeye in these areas at the rates above to stop fishing.
- For any flag State that is above the allowed level at the end of each accounting period a penalty of \$2,500 per tonnes/ % of bigeye found to be in the purse seine set will be levied. The penalty will be paid to the Commission to offset the cost of research and contribute to capacity building in SIDS.

Note: This may need to be considered as future work

3 Night setting ban

During the FAD closure period to prevent any illegal activity there will be no purse seine sets during the hours from sunset to sunrise. For the purposes of this measure sunrise and sunset mean the time each shown in the nautical almanac which vessels shall carry on board.

Bigeye longline measures

The longline fisheries provisions of this measure for bigeye tuna will be applied to all longline fisheries within the Convention area.

- The total catch of bigeye tuna by longline fishing gear will be set at the levels reported for 2010.

- This measure will not apply to members and participating territories that caught less than 2,000 tonnes in 2010. Each member that caught less than 2,000 tonnes of bigeye in 2004 shall ensure that their catch does not exceed 2,000 tonnes in each of the next 3 years (2012, 2013 and 2014).
- Each member or cooperating non-Member that caught an average of more than 2,000 tonnes in 2010 of bigeye shall be subject to the following catch reductions from the reported 2010 levels for the years 2012 to 2014 inclusive:
 - 2012: xx% reduction of the catch specified in (tonnes) Attachment;
 - 2013: xx% reduction of the catch specified in (tonnes) Attachment;
 - 2014: xx% reduction of the catch specified in (tonnes) Attachment.
- The limits for bigeye tuna established above, shall not apply to Small Island developing State members and participating territories in the Convention Area undertaking responsible development of their domestic fisheries. Responsible development is considered to be Island owned business development not DWFN catch masked as domestic catch.

Fresh Fish Option

- The reductions specified in paragraph 33 of 2008/01 for 2010 and 2011 shall not apply to fleets of members with a total longline bigeye tuna catch limit as stipulated in Attachment F of less than 5,000 tonnes and landing exclusively fresh fish, provided that the details of such fleets and their operational characteristics are registered with the Commission by 31 December 2008 and that the number of licenses authorized in such fisheries does not increase from current levels. In such cases, catch limits specified in Attachment F shall continue to be applied.

Catch reporting

CCMs are to provide to the Executive Director estimated monthly catches of bigeye tuna, within 30 days of the end of each month. The Executive Director will circulate such estimated monthly catches, aggregated by flag or charter state, to all members and cooperating non-members on a quarterly basis.

YELLOWFIN

Reference points and indicative TAC

The SC advice on yellowfin tuna was that it was not over fished and that overfishing was not occurring on this species. The catch for 2010 was 470,000 metric tonnes. This catch is shown in the following table by zone.

Table xxx

2010 catch of yellow fin tuna by Zone.

Measures for 2012 to 2014.

For the management of yellowfin tuna in all fisheries for 2012 to 2014 throughout its range and fisheries the following measures will apply:

Purse seine measures

- The measure seeks to ensure that the level of purse seine effort and catch of yellowfin tuna in the waters in the convention area does not exceed 2010 levels. The specific measures to achieve this are the overall limits on purse seine effort and the FAD closure/total closure options outlined in the bigeye section.

Longline

- For longline fishing for yellowfin tuna, members will ensure that there is no increase in the catch of yellowfin tuna beyond the level caught in 2010.
- This measure will not apply to members and participating territories that caught less than 2,000 tonnes in 2010. Each member that caught less than 2,000 tonnes of yellowfin in 2010 shall ensure that their catch does not exceed 2,000 tonnes in each of the next 3 years (2012, 2013 and 2014).

ADDITIONAL MEASURES

High seas closures

Closure of the high seas pockets

The two western high seas pockets were closed as one on the package of measures in 2008/01. In addition the PNA have closed a large high seas portion to vessels operating pursuant to agreements in their EEZs under the Third implementing Agreement. The pockets were closed for two main reasons, to reduce the opportunities for IUU fishing and to remove effort from the fishery as a conservation measure.

It is hard to quantify how much purse seine activity would have increased in the pockets if they would have remained open.

Advice at the Scientific Committee indicates that although the fishing effort from the pockets has moved in zone and as such the savings are likely less, and perhaps much less, that would have been realised if the effort had not relocated into zones. Having said that,

we cannot rule out that the closures did result in some level of reduction in effort. What impact it has had on IUU fishing and in particular on misreporting is unknown at this point.

The Philippines submission states that they believe that they have been unfairly disadvantaged and forced to carry a disproportionate burden for the protection of bigeye tuna (Article 30 2 ©) with the closure of these pockets and their fishing, canning and processing industries have suffered accordingly. The Philippines estimate that their total domestically based catch is down by some 30% due in part to the closure of the western high seas pocket.

Options for Conservation and Management Measures for relating to the High Seas Pockets 2011/01

Option1:

The Commission retains the closures of the high seas pockets on the grounds that they act as a buffer against IUU fishing that occurred regularly in these pockets when they were opened. The pocket closures provide a buffer against increased unregulated fishing activity and in removing this threat contribute to the conservation of the stock.

Option 2:

The Commission retains the closure of the high seas pockets but considers allowing limited access to a small number of registered and licensed Pilipino wet boats with 100% observer coverage and VMS to fish in a specific area of the western pocket to catch a specified amount of tuna.

Option 3

The Commission retains the high seas pocket closures and extends the closure to include the waters closed by the PNA in its 3rd implementing arrangement.

Option 4

The Commission reopens the high seas pockets as a Special Management Area with strict controls on monitoring and reporting. Purse seine effort in the high seas pockets shall be managed as part of the vessel days scheme to be developed by the Commission for managing purse seine effort on the high seas (as outlined in skipjack section). Allocation of access rights to the high seas will be developed with particular consideration to the rights and aspirations of small island developing State and Territories in the Convention Area.

Other Commercial Fisheries

Other commercial fisheries mainly include pole and line fisheries for skipjack, and yellowfin tuna, and ring net fisheries. The Japanese distant water and offshore fleet and the

Indonesian fleet account for most of the pole and line caught fish. However a number of other members are interested in further developing this style of fishing activity.

Other commercial fisheries are often considered to include vessels under 24 metres in size fishing commercially for tuna. The catch of these vessels should be considered and included in catch by the main commercial fleet and not be considered under this provision.

CCMs shall take necessary measures to ensure that the total capacity of their respective other commercial tuna fisheries for skipjack, bigeye and yellowfin tuna, do not exceed levels declared for 2010. Any increase in the catch of "Other Fisheries" in the Convention area will need to be offset by a reduction in the catch in purse seine and/or longline fisheries.

Other Commercial Fisheries

- CCM's shall ensure from 2010 onwards that the catch of yellowfin tuna in other commercial fisheries does not increase above levels of declared catch in 2010. CCMs shall provide the SC with estimates of fishing effort for these other fisheries including proposals for the provision of effort data for these fisheries from 2009 and future years.

MONITORING AND REPORTING

CCMs have an obligation to provide complete and accurate data under Article 5 paragraph (i):

(i) collect and share, in a timely manner, complete and accurate data concerning fishing activities on, inter alia, vessel position, catch of target and non-target species and fishing effort, as well as information from national and international research programmes; and

For the purse seine fishery there will be 100% observer coverage on all fleets. The longline fisheries of all fleets from 2012 will have 5% observer coverage and 2014 for fresh fish vessels north of 20N .

CCMs are therefore to provide within the agreed timeframes each year, complete and accurate operational catch and effort data and size composition data for all fleets in the format required by the rules and requirements adopted by WCPFC as "Scientific Data to be provided to the Commission".

The Commission shall take into account the level of compliance by CCMs to the data reporting requirements in implementing any additional reductions in fishing mortality that may be required to give effect to the precautionary approach.

PORT CONTROLS

Each CCM shall prohibit landings, transshipments and commercial transactions in tuna and tuna products that are positively identified as originating from fishing activities that contravene any element of the Commission's CMMs.

Monitoring shall be conducted at landing and transshipping ports to assess the amount of catch by species. The outcomes shall be reported annually to the Commission.

CATCH RETENTION

All catch (tuna and non-tuna) taken in purse seine and long line fishing activities will be recorded and retained.

CAPACITY

Capacity management in all tRFMOs has been an ongoing concern for a number of years. At WCPFC 7 Japan tabled a potential conservation measure consistent with this approach. The WCPFC should consider the following options in adopting a suitable approach to capacity management.

Option 1

Kobe III participants recommend that developed fishing members freeze large-scale purse-seine capacity under their flag. Based on the status of the stocks, each tRFMO should consider a scheme for:

- Reduction of over capacity in a way that does not constrain the access to, development of, and benefit from sustainable tuna fisheries, including on the high-seas, by developing coastal States, in particular small island developing States, territories, and States with small and vulnerable economies; and
- Transfer of capacity from developed fishing members to developing coastal fishing members within its area of competence where appropriate.

Option 2 Well limits to control harvesting capacity.

The Commission considers applying IATTC style hold or well capacity limits to the purse seine and longline fleets in the Pacific as a method of stabilising capacity. In considering Well or hold based limits it should be noted that these limits may not combat effort creep in the fishery.

COMPLIANCE AND REPORTING

All CCMs have an obligation under Article 5 paragraph (j) to implement and enforce the Conservation and management measures of the Commission:

(j) implement and enforce conservation and management measures through effective monitoring, control and surveillance.

All CCMs will report to each regular session of the Technical and Compliance Committee, through their Annual Report Part 2, on the implementation of this Measure for their fishing vessels operating on the high seas and/or in waters under national jurisdiction. The Technical and Compliance Committee will prepare a template for reporting this requirement for the consideration of the Commission.

FUTURE WORK

The following initiatives should be pursued by the WCPFC as a matter of priority.

- As a matter of priority task SPC to evaluate the impact of catches of smaller sized skipjack, yellowfin and bigeye tuna taken by purse seine vessels using FADs against the increased size of fish taken by purse seine vessels when not using FADS and determine the long term utility of FAD usage in the Convention area.
- The Commission was tasked in 2008/01 to develop compatible measures for the high-seas. In the absence of a scheme being developed the measure applied by the PNA VDS should be applied to the high seas of the Convention area.
- Once high seas VDS is established members with skipjack catches in Non PNA EEZs should develop compatible management measures to the VDS for implementation in 2013. The catch limits from 2012 forward are not to exceed declared catch levels in 2010. (Article 8).
- To monitor a Total Allowable Catch or (TAC) requires real time reporting by observers and by fleets. Most member countries require their distant water and domestic fleets to report on a regular basis. The Scientific Committee and the TCC are tasked with improving catch information flow into the Commission from members to ensure more accurate and timely reporting. A report from the SC should be tabled for discussion in 2013.
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REVIEW OF MEASURES

The measures described above for the purse seine and longline fisheries shall be reviewed annually in conjunction with the advice from the Scientific and technical and Compliance Committees to measure the impact and compliance with the measure.

This review shall consider, inter alia, whether the measures are having the intended effect and the extent to which all CCMs and fishing sectors are contributing to achieving the Commission's conservation goals.

The measure shall remain in place beyond 2014 under the conditions that are in effect in 2014 until the Commission adopts alternative measures unless the Commission adopts alternative measures.

FINAL CLAUSE

This Measure replaces CMM 2008-01 and CMM xxxx.