NORTHERN COMMITTEE
SIXTH REGULAR SESSION
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SUMMARY REPORT OF THE SIXTH REGULAR SESSION OF THE SCIENTIFIC COMMITTEE

WCPFC-NC6/WP-02
31 August 2010

INTRODUCTION

1. The Sixth Regular Session of the Scientific Committee was held in Nuku'alofa, Tonga, from 10-19 August 2010. Twenty-seven CCMs and nine Observers attended the meeting.

2. The new nine day structure for the SC was trialed at SC6. SC agenda items were considered under the following Theme Groups: Fish Biology (BI), Ecosystem and Bycatch Mitigation (EB), Fishing Technology (FT), Management Issues (MI), Methods (ME), Data and Statistics (ST), and Stock Status (SA).

3. The main issues considered by SC are as follows:

a) a review of the fisheries in the western and central Pacific Ocean (WCPO) and the eastern Pacific Ocean (EPO);
b) a review of the status of stocks of bigeye tuna and skipjack tuna in the WCPO;
c) a summary of the most recent information and assessments for tuna and billfish stocks in the North Pacific;
d) by-catch mitigation issues associated with seabirds, sea turtles, sharks, and recommendations from Kobe II workshops;
e) requests from WCPFC6;
f) issues associated with the data available to the Commission and initiatives to address data gaps,
g) the status of the West Pacific East Asia Oceanic Fisheries Management (WPEA OFM) Project, the Japan Trust Fund (JTF) and the Pacific Tuna Tagging Project (PTTP);
h) relations with other organizations; and
i) administrative matters associated with the functioning and structure of the SC meetings, streamlining the operations of the SC, and reviewing the Commission's Strategic Research Plan.

REVIEW OF FISHERIES

4. The provisional total WCP–Convention Area (CA) tuna catch for 2009 was estimated at 2.46 million mt. During 2009, the purse seine fishery accounted for an estimated 1.89 million mt (77% of the

total catch), the sixth consecutive record catch for this fishery. Pole-and-line catch accounted for an estimated 165,814 mt (7%), the longline fishery an estimated 223,792 mt (9%), and the remainder (7%) taken by troll gear and a variety of artisanal gears, mostly in eastern Indonesia and the Philippines. The WCP–CA tuna catch (2.47 million mt) for 2009 represented 81% of the total Pacific Ocean catch of 3.04 million mt, and 58% of the global tuna catch (the provisional estimate for 2009 is 4.22 million mt).

5. The 2009 WCP–CA catch of skipjack (1.79 million mt – 73% of the total catch) was clearly the highest recorded and nearly 120,000 mt more than the previous record catch of 2007 (1.67 million mt). The WCP–CA yellowfin catch for 2009 (433,788 mt – 18%) was 115,000 mt (21%) lower than the record catch taken in 2008 (547,985 mt). The WCP–CA bigeye catch for 2009 (118,657 mt – 5%) was the lowest since 2003, mainly due to a drop in 2009 provisional estimates for the longline fishery. The 2009 WCP–CA albacore catch (125,479 mt - 5%) was the second highest on record, with very good catches from the longline fishery.

6. The 2009 purse-seine skipjack catch was 1.58 million mt (84% of the total catch) higher than both the 2008 catch (by 190,000 mt) and the record catch in 2007 (by 140,000 mt). The purse-seine skipjack catch has now increased by nearly 700,000 mt (or 79%) since 2001 (890,605 mt), at an average of about 88,000 mt per year. The 2009 purse-seine catch of yellowfin tuna (264,787 mt – 14%) was a significant reduction (124,000 mt) on the record catch taken in 2008 (386,293 mt) but still the fourth highest on record. The provisional catch estimate for bigeye tuna for 2009 (43,580 mt) was the second highest on record (only 900 mt (2%) less than the 2008 record catch).

7. The 2009 pole-and-line catch (165,814 mt) was the lowest annual catch for this fishery since the mid-1960s. The Japanese distant-water and offshore (104,232 mt in 2009) fleets, and the Indonesian fleets (60,415 mt in 2007), account for most of the WCP–CA pole-and-line catch. The catches by the Japanese distant-water and offshore fleets in recent years have been the lowest for several decades which is related to the continued reduction in vessel numbers (in 2009 reduced to only 96 vessels, the lowest on record). The Solomon Islands fleet ceased operating in 2009, with no apparent plan to resume activities in the short term.

8. The provisional WCP–CA longline catch (223,792 mt) for 2009 was slightly below the average annual catch for the period 2000–2009 and around 10% (23,000 mt) lower than the highest on record attained in 2002 (256,582 mt). The WCP-CA albacore longline catch (87,080 mt – 39%) for 2009 was only 2,000 mt lower than the highest catch on record (89,883 mt in 2002). The provisional bigeye catch (65,606 mt – 29%) for 2009 was the lowest since 1996, but may be revised upwards when revised estimates are provided. The yellowfin catch for 2009 (69,158 mt – 31%) was similar to the average catch level for this species over the period 2000-2009.

9. The 2009 troll albacore catch (2,027 mt) was the lowest since 1986, and was apparently due to poor catches experienced in the New Zealand domestic fishery. The New Zealand troll fleet (165 vessels catching 1,790 mt in 2009) and the United States troll fleet (4 vessels catching 237 mt in 2009) typically account for most of the albacore troll catch, with minor contributions coming from the Canadian, the Cook Islands and French Polynesian fleets in previous years.

10. The economic overview for these fisheries can be found in the SC6 Summary Report posted on the WCPFC website.

STOCK ASSESSMENT AND MANAGEMENT IMPLICATIONS

Bigeye tuna

11. Fishing mortality for adult and juvenile bigeye tuna is estimated to have increased continuously since the beginning of industrial tuna fishing. For all of the model runs, $F_{current}$ /F_{MSY} is considerably greater than 1. For run 3d (base) the ratio is estimated at 1.41 indicating that a 29% reduction in fishing mortality is required from the 2005–2008 level to reduce fishing mortality to F_{MSY}. If we consider historical levels of fishing mortality, a 31% reduction in fishing mortality from 2004 levels is required (consistent with the aim of CMM2008-01), and only a 20% reduction from average 2001–2004 levels. Based on these results, we conclude that overfishing is occurring in the bigeye tuna stock, but possibly at a lower level than previously estimated.

12. Current stock status compared to reference points indicate the current total and spawning biomass are higher than the associated MSY levels ($B_{current}/B_{MSY}$=1.39 and $sb_{current}/SB_{MSY}$=1.34). The likelihood profile analysis indicates a 0.5% probability that $sb_{current}/<SB_{MSY}$ which increases to 60% if a lower value of steepness is assumed. Some of the more plausible alternative models are more pessimistic as are the conclusions of the structural uncertainty analysis based on the grid. Based on these results above, and the recent trend in spawning biomass, we conclude that bigeye tuna is approaching an overfished state, if it is not already slightly overfished.

Skipjack tuna

13. Fishing mortality rates tended to be higher during the last decade than for the preceding period and fishing mortality and biomass indicators relative to MSY started to move to 1.0, although they remained substantially below the F_{MSY} level ($F_{current}/F_{MSY}$= 0.34). The stock is not in an overfished state as biomass is above the *BMSY* ($B_{current}/B_{MSY}$) = 2.42). Table SK2 compares reference points between the 2010 and 2008 assessments and the key conclusions based on MSY quantities between assessments are similar.

14. Catches in 2009 increased to a historical high of ~1.8 million mt. This is significantly above the estimated MSY of ~1.35 million mt. The assessment continues to show that the stock is currently only moderately exploited and fishing mortality levels are sustainable. [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.]

15. Fishing is having a significant impact on stock size especially in the western equatorial region and can be expected to affect catch rates. Additional purse seine effort will yield only modest gains in skipjack catches and may result in a corresponding increase in fishing mortality for bigeye and yellowfin tunas. The management of total effort in the WCPO should recognise this.

16. No assessments were carried out for south Pacific albacore, south Pacific swordfish, southwest Pacific striped marlin, and WCPO yellowfin tuna, therefore the SC reiterated the current management advice as per the most recent assessment for each of these species.

North Pacific striped marlin

17. The SC recommended that WCPFC7 further develop a measure for the conservation of North Pacific striped marlin given the high fishing mortality. With a new stock assessment scheduled for 2011, the SC recommended as a precautionary measure that the Commission consider adopting an interim measure for 2011, which would be revised pending a new striped marlin assessment.

18. If the WCPFC decides to control the fishing mortality rate on North Pacific striped marlin as advised by the ISC, it could do so through limits either on fishing effort or on catch, or through other

controls. If it decides to limit catches, it would be helpful to know the levels of catch that correspond to a range of reference fishing mortality rates. Therefore, pending a new striped marlin assessment to be conducted by the ISC, the Science Committee recommends that the WCPFC7 request the ISC to provide estimated catch levels corresponding to average fishing mortality during 2001–2003 and fishing mortality reference points including Fmsy and F at various spawning potential ratios.

19. The SC requested a clear direction on how the WCPFC Science Service Provider will work with ISC scientists on the assessment planned for 2011. The SC considers that the stock assessment report on this species must be discussed in full at SC7 like any other new stock assessments.

Northern Pacific albacore

20. Noting the next stock assessment is expected to be completed in early 2011 and the results presented at ISC11, and further noting that no assessment has been carried out for this stock since 2006, and no new information was provided at ISC10, the SC recommended that the WCPFC adopt the ISC conservation advice provided on north Pacific albacore.

Pacific bluefin tuna

21. The SC considered the updated analyses outcomes as presented by the ISC Chair. The SC noted that it would be beneficial to see further analyses in 2010 including a complete set of sensitivity analyses and stock projections using data through 2007. The SC recommended that the WCPFC adopt the ISC conservation advice provided on Pacific bluefin tuna.

North Pacific swordfish

22. The SC recommended that the WCPFC note the ISC conservation advice provided on north Pacific swordfish stocks.

Future stock assessments

23. The SC requested stock assessments in 2011 for WCPO bigeye and skipjack tuna, to be reviewed at SC7.

24. If the external peer review of yellowfin tuna assessment can be provided by December 2010, a decision will be made at WCPFC7 on the feasibility of conducting an assessment for SC7. If a yellowfin assessment is not conducted in 2011, the SC requested a stock assessment in 2012.

25. The SC recommended that the south Pacific albacore base model assessment be updated and include catch and effort data from 2009 and 2010, and be presented to SC7 with improved biological data parameters that may be available.

26. The SC recommends that a review of the data holdings relating to swordfish in the South Pacific together with the resolution of any outstanding data issues be undertaken during 2011 and reported to SC7. If the data for the assessments are deemed sufficient, SC7 can make a recommendation to conduct the swordfish assessment during 2012, with presentation to SC8.

INDEPENDENT REVIEW ISSUES

27. The SC discussed the outstanding items for consideration as presented in the paper SC6-GN-IP-03. Responses are listed in NC-WP-05, along with responses covered at SC5.

RESPONSE TO THE RECOMMENDATIONS FROM JOINT TUNA RFMO 2010 WORKSHOPS

28. The SC considered the recommendations from the four joint tuna-RFMO workshops. The SC agreed in principle or in full with most of the recommendations, noting that in several cases WCPFC was already working in line with the recommendations and was working with the tuna RFMOs to achieve greater solidarity and cooperation in the management of tuna and tuna-like stocks. In a few cases, the interpretation of the wording of the recommendation was not consistent amongst all SC participants so the SC Chair was asked to seek clarification to the intent of the wording and recommendation for further response by the SC. The SC responses and comments to the recommendation s can be found in the SC Summary Report as Attachment M. The SC recommended that Attachment M be forwarded to TCC6 and WCPFC7 for further additions in the MCS and Management areas for consideration and direction for future work priorities.

RECONCILIATION OF WCPFC AND ISC DATA HOLDINGS

29. The Secretariat presented the *Progress report on the reconciliation of WCPFC and ISC data holdings* (SC6-ST-WP-03. Rev.2) to SC6. Three main items were noted:

a) the provision of the WCPFC data inventory to the ISC Statistics Working Group and ISC10;
b) the recent recruitment of the ISC data administrator, and their work to recover historical data and produce a more complete ISC data inventory for review at the ISC-ST-WG in July 2011, and then provided to WCPFC; and
c) two options to facilitate the periodic exchange of data to address data gaps between WCPFC and ISC.

30. A preliminary comparison table of the WCPFC and ISC data holdings was provided to SPC, and ISC representatives advised that a complete analysis of their respective data holdings will be provided to SC7. The SC acknowledged the progress made to date, but reiterated the decisions made by the Commission at WCPFC6 on the process of reconciling the different data held by the WCPFC and ISC.

NEXT SC MEETING

31. The Seventh Regular Session is provisionally scheduled for 9th-17th August, 2011, in Palau.