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Smart Fishing Initiative

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9th Regular Session of the Scientific Committee (SC) of the Western Central Pacific Fisheries Commission (WCPFC): Pohnpei, Federated States of Micronesia – August 6-14, 2013

Introduction

The World Wide Fund for Nature (WWF) would like to thank the Western and Central Pacific Fisheries Commission (WCPFC) Scientific Committee (SC) for the opportunity to attend the 9th Regular Session of the SC (SC9) as an observer and to address the critically important role that it plays in the proper management of the (Western Central Pacific Ocean) WCPO fisheries. Conservation of these ecologically, sociologically, and economically important fishery resources ultimately depends on the timely and efficient collection, assessment, and analysis of fisheries data and information. Therefore, science developed through, vetted, and provided by the SC represents a critical component for the development and implementation of scientifically sound management measures. WWF remains encouraged and impressed by the transparency, integrity, and general quality and quantity of scientific advice that the SC provides to the WCPFC decision making process.

WWF would like to offer the following position and recommendations to the SC regarding significant scientific issues that WWF deems important.

Reference Points, Harvest Control Rules, and Harvest Strategies

WWF remains supportive of the work of the WCPFC and subsidiary bodies in pursuing the implementation of Reference Points (RP), Harvest Control Rules (HCR), and Harvest Strategies. At this meeting, WWF encourages SC9 to further endorse and support the adoption of explicit Limit and Target Reference Points (LRP/TRP) for all WCPO fishery stocks under WCPFC authority.

Reference points provide management decision-makers an objective tool to determine whether a fish stock size is becoming too small or fishing pressure is becoming too great. WWF notes that the WCPFC has discussed and considered RP's since 2006 and that, while the SC has made several recommendations to the WCPFC on appropriate RP's, the WCPFC

has failed to adopt formal explicit RP's. Furthermore, while stock assessments conducted by SPC use B_{MSY} and F_{MSY} as implicit LRP's and provide advice to the WCPFC, these proxies do not represent limits consistent with the recommendations of the United Nations Fish Stocks Agreement (UNFSA) and more refined RP's are justified based on the available scientific information.[1]

The SC should strongly recommend the implementation of RP's and HCR's as a priority for the sustainable management of the fishery resources in the WCPO. Existing science supports the implementation of well-defined and precautionary biologically-based LRP's and WWF generally supports the previous recommendations of the SC. Therefore, WWF supports the recommendations of SC8 that LRPs for bigeye tuna (BET), yellowfin tuna (YFT) and South Pacific albacore (ALB) be set at Level 2 with regard to the biomass-based LRP of $20\%SB_{recent,F=0}$, with the application of a sufficiently precautionary value of X% in the Level 2 fishing mortality-based LRP of $F_{x\%SPR}$. Furthermore, the SC should emphasise and recommend that LRPs are predominantly scientific in nature and may be set completely independently of and without relationship to TRPs.

At the SC8 meeting in Busan, one CCM expressed a preference for fishing mortality-based (i.e. F-based) LRP's, justified by the perception that: (1) fishing mortality is a parameter that the WCPFC controls; (2) they are more likely to be robust against changes in recruitment; and (3) they require less information about the biological responses of tunas especially at lower biomass.[2] While this may be relevant to tunas in this region which have not been fished down to very low levels, it fails to recognize inherent vulnerabilities to the application of such a measure despite perceived above-average resilience and associated %SPR values. While simply managing to a default MSY as a natural LRP may seem appealing because it results in a perceived optimum level of depletion, it also results in a potential failure of the management system to respond in a timely and effective way.

An F-based LRP is designed to control fishing capacity or, in other words, the rate at which the harvest influences the stock size. However, under the existing management regime, managing solely under an F-based model leaves too much room for delay in action and, as a result, fails to respond adequately to changes in stock size or fishing pressure. For example, there is typically two years between stock assessments in all WCPO fisheries. In that two year time period, assume that the fleet capacity, either through size or efficiency, expands substantially. Due to the timing of the stock assessments and data availability for the meetings, it could be three years or more before the WCPFC will be capable of addressing the unsustainably increased fishing mortality. This can result in a severe overshoot of mortality resulting in the need for substantial painful retractions of effort and significant rebuilding measures.

While the assumptions, uncertainties, and substantial amounts of information associated with biomass (B-based) LRPs make them a less attractive option to some stakeholders, they constitute a critical tool to ensure that stock sustainability is maintained. F-based LRP's are important and useful, but not as critical as a B-based limit because a B-based limit ensures a biological floor that the fishery cannot go below. Reference points that specify a minimum biomass level for the stock, below which the fishery is curtailed or, in the extreme case, closed, have the advantages that: (1) Biomass is more directly linked to recruitment than is the fishing mortality rate; (2) minimum biomass levels provide a guide for management of stocks that are already depleted by setting a standard for rebuilding; and (3) during periods of adverse environmental conditions, a minimum biomass level provides a seed stock for eventual recovery when conditions are more favourable.

WWF acknowledges the complexity of establishing TRPs, given the multiple factors that go into their consideration. However, while TRP's require additional consideration of socio-economic considerations, current understanding of the biological and socio-economic conditions does not prevent the implementation of sufficiently precautionary interim TRP at this time. WWF encourages the SC to recommend a precautionary interim TRP. The interim TRP would serve as an advisory benchmark under which a more refined TRP could be established. Most significantly, all the necessary information to implement such a benchmark TRP currently exists.

WWF continues to strongly urge the WCPFC and subsidiary bodies to formally endorse and adopt Limit and Target Reference Points. The adoption of explicitly determined Limit and Target Reference Points for at least the four key tuna species, namely SKJ, ALB, YFT, and BET, must be considered an absolute priority for the sustainable management of these resources in the WCPO.

WWF recommends that the SC:

- Support the designation of Limit and Target Reference Points as a priority for proper management of stocks under WCPFC authority;
- Further recommend precautionary B-based Limit Reference Points[3] (preferably based on Spawning Biomass)[4] for all WCPO fish stocks under its authority;
- Endorse adoption of precautionary F-based Limit Reference Points as an *interim* measure to attempt to control the exploitation rate for all WCPO fish stocks under its authority;[5]
- Recommend interim precautionary Target Reference Points as a benchmark for further consideration by the MOW and WCPFC in 2013; and
- Consider the probability of breaching the Limit Reference Points and limiting this to 10% or less as a precautionary measure.[6]

Tropical Tunas

In December 2012, WCPFC9 adopted CMM 2012-01 in an attempt to address continuing conservation challenges involving bigeye tuna (BET).[7] While WWF maintains that the policy choices made by WCPFC9 fail to achieve meaningful conservation of BET, we believe that there could be substantial improvements to the understanding of the impact of Fish Aggregating Devices (FADs) if the SC recommends the aggressive pursuit of improved monitoring, surveillance, and general research involving FADs. While there are ongoing efforts within the SPC and PNA to pursue greater understanding of FAD dynamics, we believe that the SC should support a strong recommendation in support of FAD research aided by monitoring and surveillance mechanisms which could, for instance, improve the understanding of the impacts on species composition resulting from:

- FAD type/size
- Geographic location
- Drift patterns and prevailing currents
- Ocean depth and depth of FAD materials
- Proximity to benthic relief/hydrogeographic features

Because a significant reduction in fishing mortality on BET remains elusive, additional measures to reduce the fishing mortality on BET must be considered. The FFA member States emphatically support the need for additional or alternative targeted measures to reduce the fishing mortality on BET.[8] While WWF supports precautionary measures to protect vulnerable stocks like BET, WWF also believes that a better understanding of FAD dynamics would help inform the "additional and alternative targeted measures" that the FFA seeks to implement.

With respect to further measure to conserve tropical tunas WWF recommends the SC:

- Endorse the further research and monitoring of FADs used in fisheries that target bigeye, yellowfin, or skipjack tuna stocks.

Silky Sharks

At SC8 in Busan, Korea, the Scientific Services Provider offered strong scientific evidence that silky sharks are currently *overfished* and subject to *overfishing*.[9] Based on a previous SC recommendation, the WCPFC subsequently executed efforts to rebuild spawning biomass of oceanic whitetip sharks by adopting CMM 2011-04. However, SC8 recommended additional analysis for silky sharks due to concerns over data conflict and potential biases in the stock assessment despite basic fishery indicators indicating substantial declines in recent years. An updated assessment of silky sharks presented to the WCPFC was slightly more optimistic than the SC8 assessment but still strongly suggested overfishing is occurring.[10] Nonetheless, the WCPFC deferred further action on silky sharks. WWF maintains that existing management measures to reduce fishing mortality have insufficiently addressed the continuing decline of silky sharks.

Science suggests that additional mitigation measures to avoid capture and mortality of silky sharks is warranted.[11] Furthermore, the revised analysis for silky sharks submitted for SC9 provides further support for additional Conservation and Management Measures for silky sharks consistent with those previously imposed for oceanic whitetip sharks.

With respect to silky sharks WWF recommends the SC:

- Endorse additional mitigation measures and maintain existing measures in an effort to improve the status of the WCPO silky shark stock including:
    - mandate bycatch best practices consistent with those found in the Compendium of Best Practice of Conservation and Management Measures (CMMs) for the of Species Bycatch in Tuna RFMOs;[12]
    - prohibit the retention, transshipment, storage, on-board sale, and landing of silky sharks in all fisheries managed by the WCPFC;
    - mandate the prompt and careful release of any captured silky sharks; and
    - require, through data collected from observer programs and other means, estimation of the number of releases of silky sharks, including the status upon release (dead or alive), and reporting of this information to the WCPFC.

- Encourage the development of reference points and management for non-target species, including silky sharks, as envisaged under Articles 5 and 10 of the WCPF Convention.¶

Blue Sharks

Like silky sharks, blue sharks remain subject to high levels of fishing mortality that current stock assessment trends suggest could be unsustainable.[13] We encourage the SC to support additional research and analysis of blue shark populations in the WCPO to ensure that the species is not being adversely impacted in the region. Furthermore, we encourage the SC to promote precautionary measures to reduce fishing mortality on blue sharks similar to those recommended for oceanic whitetip and silky sharks.

With respect to blue sharks, WWF recommends the SC:

- Encourage and endorse additional research and analysis of the WCPO blue shark stock and some precautionary mitigation measures including:
    - mandate bycatch best practices consistent with those found in the Compendium of Best Practice of Conservation and Management Measures (CMMs) for the of Species Bycatch in Tuna RFMOs;
    - discourage the retention blue sharks in all fisheries managed by the WCPFC until such time the stock can be properly assessed;
    - encourage the prompt and careful release of any captured blue sharks;
    - require, through data collected from observer programs and other means, estimation of the number of captures and releases of blue sharks, including the status upon release (dead or alive), and reporting of this information to the WCPFC; and
- Encourage the development of reference points and management for non-target species, including blue sharks, as envisaged under Articles 5 and 10 of the WCPF Convention.¶

South Pacific Albacore Tuna

The SC7 noted in 2011 that harvest levels of the exploitable biomass has increased sharply in recent years, raising concerns of potential overfishing in the near future and the need for additional restrictions of fishing mortality. WWF remains concerned about the recent rapid and uncontrolled growth in the longline fleet throughout the WCPO. WWF also believes that this growth is fostered by uncompetitive fuel subsidies in some DWFN that would make those sectors uneconomic but for their existence.[14] Particularly, this growth appears to be contributing to several adverse impacts to Southern ALB tuna and possible localised depletion of the adult stock in some areas. Additionally, verifiable increased effort south of 20^0S on the juvenile migrating stock appears to be contributing to a reduction in biomass, which is also resulting in the stock rapidly approaching MSY.

The SC8 confirmed that the WCPFC-CA ALB longline catch for 2011 was the second highest on record (96,219 mt), but represents a 6,000 mt decline from the 2010 record (102,763 mt). Meanwhile, all fleets are reportedly currently experiencing significant reductions in catch per unit effort (CPUE) in response to the increase in adult fishing mortality, thereby providing a strong indication of a drop in biomass. Therefore, the effectiveness of the WCPFC CMM

2005-02, as amended in 2010, to conserve the Southern ALB stock, remains questionable. While the current state of the Southern ALB stock remains within biological limits, the goal should be to keep it there rather than to allow a continued trend of decline in the fishery. Furthermore, WWF maintains substantial concerns that the persistent increase in ALB effort will also significantly impact other target species facing conservation concerns such as BET and YFT as well as sharks.

WWF continues to support the efforts of the Secretariat of the Pacific Community (SPC), Forum Fisheries Agency (FFA), Te Vaka Moana (TVM), the Parties to the Nauru Agreement (PNA), the Melanesian Spearhead Group (MSG), other Pacific Island Countries (PICs) with target ALB fisheries, the Pacific Islands Tuna Industry Association (PITIA) and other non-aligned parties to strengthen the management strategy for the ALB longline fishery and to address the related species interaction issues. WWF would specifically like to reemphasize the concerns expressed by the FFA at SC8 regarding the doubling of catch since 2000, declining CPUE, and increase in effort (including influx of vessels from the Indian Ocean, increase in domestic fleet size, and more high seas fishing) for South Pacific ALB..[15] WWF would also like to recognise Te Vaka Moana's impassioned plea at the WCPFC9 meeting in support of a WCPFC-CA TAC for ALB.[16] Measures aimed at introducing effective capacity limits and effort management must be urgently addressed by WCPFC and the region's domestic fisheries managers. The following recommendations are consistent with the policy paper commissioned by WWF regarding South Pacific ALB tuna that was submitted to the WCPFC in March 2012.[17]

WWF recommends that the SC:

- Determine and recommend effective capacity and effort controls for management of the South Pacific ALB stock in zone and on the high seas; and
- Encourage domestic fisheries managers to implement Tuna Management Plans that freeze licenses for ALB at current levels and seek to reduce that number to a level that achieves, at minimum, MSY, but strives to achieve MEY.

Regional Observer Program

Information collected as part of an appropriate observer programme is critically important to the proper management of a fishery. Data collected by observers plays a central role in informing fisheries scientists on everything ranging from stock assessments to non-target species impacts. Furthermore, observers play an indispensable role in monitoring and enforcing very important conservation and management measures in the WCPO. Indeed, observers represent the vanguard of fisheries management through the science and service that they provide. Consequently, observer coverage must be considered a top priority and greater support must be provided to the relevant authority to see that the capacity of the ROP is strengthened. Therefore, WWF finds recent reports that funding for Regional Observer Program activities may be declining or, potentially, coming to an end very disconcerting.[18] That said, WWF finds the WCPFC9 recommendations of prioritising electronic data entry for the ROP and that coastal States developing Information Management Systems (IMS) receive assistance to improve their ability to meet their national obligations in providing observer data as very positive steps.[19]

The WCPFC must ensure, through appropriate guidance, that national observer programmes administered under the ROP are fully resourced in terms of human and financial capital as

well as governed under appropriate administrative and management structures. Within that consideration, the SC should initiate an analysis that considers and presents not only a cost-benefit analysis of the observer programme in the context of proper management, but also different funding models that CCMs could consider for ensuring proper administration and management of the observer program at a national level. In any event, more attention must be given to the development and full funding of minimum standards that ensure a national programme can perform to ROP standards, including such efforts as annual reviews of the national programs under pre-agreed performance standards.

WWF continues to maintain significant concerns regarding the independence of onboard observers from the perspective of data integrity. The independence and the security of the observer must be paramount to ensure data integrity. Therefore, WWF recommends that any observer funding model considered must avoid even the perception of conflict of interest. This means establishing a 3rd party payment system that insulates the observer from direct payment by the vessel owner or operator, which constitutes an unequivocal financial conflict of interest. WWF suggests that the SC, on behalf of the WCPFC, carefully research funding models that ensure that observer providers can provide timely and secure payments to observers without having those payments made directly to the observer by the vessel owner or operator. Specifically, WWF believes that a "Pre-payment Model" that would require funding observer placement through an independent 3rd party agent (like an escrow account) could potentially provide the necessary insulation from undue influence by the vessel owner or operator while also ensuring that the observer is properly paid and transported to their home of record at the conclusion of their service. Thus, WWF recommends the SC consider analysis of measures to ensure the independence of observers as part of the proposed full funding model analysis.

WWF generally supports current efforts throughout the WCPO in pursuit of Electronic Monitoring (EM). Other fisheries around the world have demonstrated varying levels of success using EM in limited circumstances, depending on the goal of the observation and data collection program. Therefore, each application of EM is contextual and must be subject to thorough analysis, comprehensive testing, and careful monitoring to ensure the technology and program is functioning as designed. WWF would like to acknowledge the important role that EM could potentially play in ensuring observer coverage throughout the WCPFC CA, possibly even at a reduced cost, but noting that there will always be a need for human observers to perform certain analytical tasks that a camera, sensor, or computer simply cannot accomplish. WWF recommends that the SC develop a peer review process for the various EM programs in progress or currently planned for implementation in the WCPO.

With respect to the ROP, the WWF recommends:

- Further implementation of a binding, consistent, and consolidated set of standards for the ROP;
- Developing a analysis of the observer programme in the context of proper management, including an analysis of different funding models;
- Reconstituting the Data Consultative Committee (DCC) to address current data issues in the ROP, including consideration of:
    - Revisions of data fields for non-target species to include detailed entries for seabirds, turtles, and sharks, broken out by species, in all observer reporting submissions; and

- Developing and implementing a comprehensive analysis and design plan for spatially and temporally representative observer coverage of each fishery operating in the WCPFC CA., including thorough consideration and assessment of EM as a component of full observer coverage.

Conclusion

WWF calls on the SC9 to continue to address scientific issues in the WCPFC CA such that they ensure the quality, objectivity, utility, and integrity of information. With respect to each of the agenda items addressed at the SC9 meeting, we call on the SC members to carefully and genuinely address each issue with logic, intellectual rigor, personal integrity, and an uncompromising respect for truth.

The WCPFC shares the distinction as both the youngest RFMO and also, arguably, the most effective. However, we all must constantly guard against the complacency that leads to poor decision making resulting in a lack of management action and a risk of collapsing fish stocks occurring in other regions. Unfortunately, with some stocks in the WCPO, including bigeye tuna and oceanic whitetip sharks, we are treading dangerously down a path leading to trouble.

The WCPFC currently maintains the ability and opportunity to chart the course towards sustainable fishery resources, especially tuna, in the WCPO. Science plays an irreplaceable role in the WCPFC process by representing the foundation of all decision making by the WCPFC. The WCPFC and its subsidiary bodies must continually promote and adopt strong and effective conservation and management action to maintain and rebuild tuna stocks, implement appropriate monitoring and enforcement measures, promote a viable tuna industry, and support vibrant coastal communities throughout the South Pacific.

Our Smart Fishing Vision and Goals:

Vision: The world's oceans are healthy, well-managed and full of life, providing valuable resources for the welfare of humanity.

2020 Goals: The responsible management and trade of four key fishery populations results in recovering and resilient marine eco-systems, improved livelihoods for coastal communities and strengthened food security for the Planet.

For more information

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[1] United Nations Fish Stocks Agreement, 34 ILM 1542 (1995); 2167 UNTS 88. (The fishing mortality rate which generates maximum sustainable yield should be regarded as a minimum standard for limit reference points. (Annex II UNFSA 1995)).
[2] WCPFC Scientific Committee. (2012). Summary Report of the Eighth Regular Session of the Scientific Committee (Adopted version) – 21 August 2012, WCPFC-SC, Busan, Korea, 7-15 August 2012. p.11.
[3] Norris, W. (2009). The Application of Reference Point Management in WCPO Tuna Fisheries: An Introduction to Theory and Concepts. WCPFC-SC5-2005/ME-WP-01. (Biomass (B) represents the weight of all fish in the water.)
[4] *Id*. (Spawning biomass (SB or SSB) is the weight of all mature [reproductive and generally female] fish in the water, or [preferably] the reproductive potential of the population. Gives a better indication than B of the reproductive capacity of the stock, and tends to be more stable.)
[5] *Id*. (Fishing Mortality (F) relates to the proportional impact of fishing on the total deaths in a stock during a given period.)
[6] United Nations Fish Stocks Agreement, 34 ILM 1542 (1995); 2167 UNTS 88. (Fishery management strategies shall ensure that the risk of exceeding limit reference points is very low. If a stock falls below a limit reference point or is at risk of falling below such a reference point, conservation and management action should be initiated to facilitate stock recovery. Fishery management strategies shall ensure that target reference points are not exceeded on average. (Annex II UNFSA 1995)).
[7] WCPFC (2012) Summary Report of the Ninth Regular Session of the Western Central Pacific Fisheries Commission (Adopted version) – 04 March 2013, WCPFC, Manila, Philippines, 2-6 December 2012. Attachment E. pp. 35.
[8] WCPFC Scientific Committee. (2012). Summary Report of the Eighth Regular Session of the Scientific Committee (Adopted version) – 21 August 2012, WCPFC-SC, Busan, Korea, 7-15 August 2012. p.18.
[9] WCPFC Scientific Committee. (2012). Summary Report of the Eighth Regular Session of the Scientific Committee (Adopted version) – 21 August 2012, WCPFC-SC, Busan, Korea, 7-15 August 2012. pp. 53-60.
[10] (WCPFC9-2012/IP-13)
[11] *Id* at 60.
[12] WWF. A Compendium of Conservation and Management Measures to Address the Impacts of Species Bycatch in Tuna RFMOs. (2011). Retrieved from http://www.hsi.org/assets/pdfs/joint_fisheries_bycatch_2011.pdf.
[13] Shelley C. Clarke , Shelton J. Harley, Simon D. Hoyle, Joel S. Rice. 2013. Population Trends in Pacific Oceanic Sharks and the Utility of Regulations on Shark Finning. Conservation Biology, Volume 27, Issue , pages 197–209, February.
[14] "The Harsh Reality of Fuel Subsidies." Pacific Islands Tuna Industry Association. June 2013. Retrieved from http://www.pitia.org/uploads/7/1/1/6/7116608/the_harsh_reality_of_subsidies_2013-6.pdf
[15] WCPFC Scientific Committee. (2012). Summary Report of the Eighth Regular Session of the Scientific Committee (Adopted version) at 11.
[16] WCPFC (2012) Summary Report of the Ninth Regular Session of the Western Central Pacific Fisheries Commission (Adopted version) – 11 February 2013, WCPFC, Manila, Philippines, 2-6 December 2012. Appendix O.
[17] Banks, R., *et al*. South West Pacific Albacore: Going, Going, Gone?. (2012). WCPFC8-2011-OP-10.
[18] "Tuna observer programme under funding threat." Islands Business online, March 6, 2013. Retrieved from http://www.islandsbusiness.com/news/new-caledonia/530/tuna-observer-programme-under-funding-threat/ .
[19] WCPFC (2012) Summary Report of the Ninth Regular Session of the Western Central Pacific Fisheries Commission (Adopted version) – 11 February 2013, WCPFC, Manila, Philippines, 2-6 December 2012. Appendix N.