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POTENTIAL REVISIONS TO

CMM 2008-03, CONSERVATION AND MANAGEMENT MEASURE OF SEA TURTLES

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Discussion Paper by the United States of America

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Discussion Paper Prepared by the United States of America for the Fourteenth Regular Session of the Western and Central Pacific Fisheries Commission

All sea turtle species face significant threats from incidental capture in fisheries throughout the Pacific, in particular the leatherback turtle (*Dermochelys coriacea*) (1, 2, 3). The western Pacific subpopulation of leatherback turtle has declined more than 80% and the eastern Pacific subpopulation of leatherback turtle has declined by more than 97% since the 1980s (4, 5). The International Union for Conservation of Nature (IUCN) has predicted a decline of 96% for the western Pacific subpopulation and a decline of nearly 100% for the eastern Pacific subpopulation by 2040, which is only one generation from now (6).

The current sea turtle measure, CMM 2008-03, entered into effect in 2009. In 2016, CCM compliance with obligations under CMM 2008-03 was assessed under the WCPFC Compliance Monitoring Scheme. There were extensive discussions on the specific requirements of paragraph 7, particularly the meanings of the terms "fish for" and "shallow-set manner", and it was noted that consideration should be given as to whether the measure should be updated (2016 Final CMR Executive Summary, paragraph 17).

Additionally, in 2016, the WCPFC convened two workshops that were funded by the ABNJ (Common Oceans) Tuna project to analyze the effectiveness of sea turtle mitigation in Pacific longline fisheries with respect to rates of interaction and mortality. The workshops were attended by representatives from 16 countries and international IGOs and NGOs. Utilizing confidentially held fishery observer data from the Secretariat of the Pacific Community (SPC) member countries, as well as data accessed under special confidentiality arrangements with Chinese Taipei, Japan and Reunion, SPC compiled a dataset representing over 2,300 turtles caught by 34 longline fleets across the Pacific between 1989-2015. One of the findings of the workshops is that currently less than 1% of western and central Pacific Ocean (WCPO) longline effort is subject to mitigation under the WCPFC's sea turtle CMM, even though approximately 20% of the WCPO longline effort consists of shallow sets.

The ABNJ workshops focused on analyzing operational and environmental factors associated with longline fisheries interactions with leatherback, loggerhead, green and olive ridley sea turtles. The workshops relied on baseline data and modeling efforts to estimate the relative effectiveness of various mitigation measures in reducing sea turtle interactions. The workshops estimated the effectiveness of small and large circle hooks, finfish bait, and the removal of the first and/or second hooks closest to the floats to mitigate sea turtle interactions and mortalities in Pacific longline fisheries. The workshop categorized small circle hooks as having a minimum width of 4.0 cm or smaller, and large circle hooks as having a minimum width of 4.4 cm or larger. The report of the workshops was presented to SC13 (see <u>https://www.wcpfc.int/system/files/EB-WP-10%20Sea%20Turtle%20Mitigation.pdf</u>).

Given the conclusions of the workshops, as well as other recent studies that lend additional support to the effectiveness of large circle hooks and whole finfish bait in reducing sea turtle bycatch in longline fisheries (7-14), we believe that consideration should be given to establishing specific mitigation requirements for deep-set longline fisheries in addition to those currently in place for shallow-set longline fisheries.

We suggest that the Scientific Committee (SC) and Technical and Compliance Committee (TCC) be tasked to provide recommendations to the Commission on several specific matters as follows:

The Commission tasks SC14 and TCC14 to evaluate the expected effects of several potential sea turtle management scenarios, including ones in which vessels in all longline fisheries in the Convention Area are required to: (1) use either large circle hooks or whole finfish for bait; (2) use large circle hooks and whole finfish for bait; or (3) use any other combination of mitigation methods identified by the SC as being potentially effective. SC's evaluation should focus on expected effects on sea turtle interactions and mortalities and on target species catch rates. TCC's evaluation should focus on implementation and compliance implications. A large circle hook should be considered as having a minimum width of at least 4.4 centimeters. Based on the evaluations, SC14 and TCC14 will provide any appropriate advice or recommendations to WCPFC15 with respect to improving CMM 2008-03.

List of References

1. NOAA Fisheries. 2016. Species in the Spotlight Priority Actions: 2016-2020. Pacific Leatherback Turtle.

2. Wallace, B. P., R. L. Lewison, S. McDonald, R. T. McDonald, R. K. Bjorkland, S. Kelez, C. Kot, E. M. Finkbeiner, S. Helmbrecht, and L. B. Crowder. 2010 *a*. Global patterns of marine turtle bycatch in fisheries. Conservation Letters 3 : 131 – 142 .

3. Wallace, B. P. et al. 2011. Global conservation priorities for marine turtles. PLoS ONE 6 : e24510 .

4. Tapilatu, R. F., P. H. Dutton, M. Tiwari, T. Wibbels, H. V. Ferdinandus, W. G. Iwanggin, and B. H. Nugroho. 2013. Long-term decline of the western Pacific leatherback, Dermochelys coriacea, a globally important sea turtle population. Ecosphere 4(2):Article 25. 15 pages.

5. Tomillo, P. S., Veléz, E., Reina, R. D., Piedra, R., Paladino, F. V. and Spotila, J. R. 2007. Reassessment of the leatherback turtle (Dermochelys coriacea) nesting population at Parque Nacional Marino Las Baulas, Costa Rica: Effects of conservation efforts. Chelonian Conservation and Biology 6: 54-62.

6. Wallace, B. P., Tiwari, M. and Girondot, M. 2013. Dermochelys coriacea. The IUCN Red List of Threatened Species.

7. Swimmer Y., Gutierrez A., Bigelow K., Barcelò C., Schroeder B., Keene K., Shattenkirk K., and Foster D.G. 2017. Sea Turtle Bycatch Mitigation in U.S. Longline Fisheries. Frontiers in Marine Science. Vol. 4, Article 260, August 2017.

8. Gilman, E. and Huang, H.W. 2016. Review of effects of pelagic longline hook and bait type on sea turtle catch rate, anatomical hooking position and at-vessel mortality rate. Reviews in Fish Biology and Fisheries 2016: 1-10.

9. Minami, H., K. Yokota, and M. Kiyota. 2006. Effect of Circle Hooks and Feasibility of De-hooking Devices to Reduce Incidental Mortality of Sea Turtles in the Japanese Longline Fishery WCPFC-SC2-2006/EB WP-9 (https://www.wcpfc.int/system/files/SC2_EB_WP9.pdf)

10. Watson, J.W., Epperly, S. P., Shah, A. K., and Foster, D. G. (2005). Fishing methods to reduce sea turtle mortality associated with pelagic longlines. Can. J. Fish Aquat. Sci. 62, 965–81. doi: 10.1139/f05-004

11. Santos, M. N., Coelho, R., Fernandez-Carvalho, J., and Amorim, S. (2012). Effects of hook and bait on sea turtle catches in an equatorial Atlantic pelagic longline fishery. Bull. Mar. Sci. 88, 683–701. doi: 0.5343/bms.2011.1065

12. Yokota, K., Kiyota, M., and Okamura, H. (2009). Effect of bait species and color on sea turtle bycatch and fish catch in a pelagic longline fishery. Fish. Res. 97, 53–58. doi: 10.1016/j.fishres.2009.01.003

13. Serafy, J., Cooke, S.,Diaz, G., Graves, J.,Hall,M., Shivji,M., et al. (2012). Evaluating circle hooks in commercial, recreational and artisanal fisheries: research status and needs for improved conservation and management. Bull. Mar. Sci. 88, 371–91. doi: 10.5343/bms.2012.1038

14. Curran, D., and Bigelow, K. (2011). Effects of circle hooks on pelagic catches in the Hawaii-based tuna longline fishery. Fish. Res. 109, 265–275. doi: 10.1016/j.fishres.2011.02.013