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**SUPPLEMENTAL DRAFT RECOMMENDATION BY ICCAT ON THE BY-CATCH OF SEA TURTLES
CAUGHT IN ASSOCIATION WITH ICCAT FISHERIES**

(new proposal, previously discussed (PA4-809B/17) but not adopted)

Proposal submitted by the United States and Panama

Explanatory Note

The Commission, in *Recommendations 10-09* and *13-11*, recognized that ICCAT fisheries can adversely affect sea turtles and that there is a need to implement measures to mitigate those effects. In light of this, the Commission requested the SCRS to assess the impact of ICCAT fisheries on sea turtles and advise on approaches to mitigate such incidental captures. Paragraph 2 of Rec. 13-11 states, moreover, that “upon receipt of advice from the SCRS, the Commission shall consider additional measures to mitigate sea turtle by-catch in ICCAT fisheries.”

In response to the Commission’s request, the SCRS worked for several years to apply a robust methodology to estimate the number of sea turtle interactions with ICCAT longline fisheries and to develop advice on how to mitigate these impacts. In 2017, the SCRS estimated that tens of thousands of sea turtles are caught every year by ICCAT longline fisheries. The SCRS also acknowledged in its 2017 report that large circle hooks and whole finfish bait are proven to be effective in reducing sea turtle by-catch and may increase post-release survival. In addition, the SCRS stated in its 2018 report that declines in leatherback and loggerhead interaction rates in the northwest Atlantic since 2004 are consistent with the implementation of gear changes (large circle hook and the use of whole finfish bait) designed to reduce incidental captures.

Further, a 2018 report by the Wider Caribbean Sea Turtle Conservation Network,¹ which is composed of scientists from 19 countries (including these ICCAT CPCs – United States, Canada, Venezuela, UK/British Virgin Islands, and Trinidad and Tobago) found that regional, abundance-weighted trends for Northwest Atlantic leatherback turtles showed population declines across temporal scenarios despite a previous (2013) IUCN Red List assessment indicating that the population was abundant with stable and even increasing trends. Threats from fisheries have been well-documented for leatherback turtles throughout their range, including the high seas, coastal foraging areas, and off key nesting beaches. A recent study found that capture probabilities for leatherback turtles in the Atlantic are lower using circle hooks compared to J-hooks, and using finfish bait compared to squid bait.²

Taking into consideration the above scientific information, and that most sea turtle by-catch occurs on shallow longline sets, the SCRS recommended that the Commission consider adopting for longline fisheries targeting swordfish and sharks at least one of the following mitigation measures to reduce sea turtle interactions and by-catch: (1) use of large circle hooks; (2) use of finfish bait; (3) other measures considered effective by the SCRS.

Notably, the independent Panel that conducted the Second ICCAT Performance Review supported previous SCRS advice that the Commission adopt measures on the use of circle hooks to mitigate sea turtle by-catch, which would also have the effect of reducing mortality of released blue marlin and white marlin, ICCAT stocks that are overfished. The SCRS noted in its 2018 report that recent research has demonstrated that in some longline fisheries the use of circle hooks resulted in a reduction of billfish mortality.

Some concern has been expressed that circle hooks may increase shark catch rates. Studies have shown, however, that while circle hooks may increase catch rates of some sharks, using circle hooks can, in fact, reduce mortality of sharks at the vessel and after release. Results of a meta-analysis on the effects of circle hooks on sharks indicated that the use of circle hooks on longlines revealed varied results; overall it showed that use of circle hooks does not have a statistically significant effect on catch rates of all species of sharks

¹ Northwest Atlantic Leatherback Working Group. 2018. Northwest Atlantic Leatherback Turtle (*Dermochelys coriacea*) Status Assessment (Bryan Wallace and Karen Eckert, Compilers and Editors). Conservation Science Partners and the Wider Caribbean Sea Turtle Conservation Network (WIDECAST). WIDECAST Technical Report No. 16. Godfrey, Illinois. 36 pp.

² Swimmer, Y., A. Gutierrez, K. Bigelow, C. Barcelo, B. Schroeder, K. Keene, K. Shattenkirk, and D.G. Foster. 2017. Sea turtle by-catch mitigation in U.S. longline fisheries. *Frontiers in Marine Science* 4:1-19.

while it does have a significant effect on reducing at-vessel mortality of all shark species combined (including blue and shortfin mako sharks) compared to J-hooks. Most studies included in the review found that a higher percentage of sharks are hooked externally (i.e., in the mouth or jaw) on circle hooks as opposed to J-hooks, which usually lodge internally (i.e., in the throat, esophagus, or gut), leading to higher survival when circle hooks are used.³ More recent studies have shown that at-vessel mortality rates for sharks (including oceanic whitetip, scalloped hammerhead, and shortfin mako sharks) are significantly lower on circle hooks, although catch rates of sharks can be higher on circle hooks.^{4,5}

In summary, the Commission has been provided with information that illustrates the extent of the bycatch of sea turtles in ICCAT longline fisheries. The Commission asked the SCRS to provide more information on this matter as early as 2010, and that scientific advice became available in 2017 along with advice on how to help mitigate these impacts. In response to this advice from the SCRS, the Commission should take immediate action on this matter.

³ Godin, A.C., J.K. Carlson, and V. Burgener. 2012. The effect of circle hooks on shark catchability and at-vessel mortality rates in longlines fisheries. *Bulletin of Marine Science* 88(3):469-483.

⁴ Reinhardt, J.F., J. Weaver, P.J. Latham, A. Dell'Apa, J.E. Serafy, J.A. Browder, M. Christman, D.G. Foster, and D.R. Blankinship. 2018. Catch rate and at-vessel mortality of circle hooks versus J-hooks in pelagic longline fisheries: A global meta-analysis. *Fish and Fisheries* 19:413-430.

⁵ Gilman, E., M. Chaloupka, Y. Swimmer, and S. Piovano. 2016. A cross-taxa assessment of pelagic longline by-catch mitigation measures: conflicts and mutual benefits to elasmobranchs. *Fish and Fisheries* 17:748-784.

**DRAFT SUPPLEMENTAL RECOMMENDATION BY ICCAT ON THE
BY-CATCH OF SEA TURTLES CAUGHT IN ASSOCIATION WITH ICCAT FISHERIES**
(new proposal, previously discussed (PA4-809B/17) but not adopted)

Proposal submitted by the United States and Panama

RECALLING that in the *Recommendation by ICCAT on the By-catch of Sea Turtles in ICCAT Fisheries* [Rec. 10-09] the Commission asked the SCRS to estimate the impact of ICCAT fisheries on sea turtle populations;

ACKNOWLEDGING that the *Recommendation by ICCAT Amending Recommendation 10-09 on the By-catch of Sea Turtles in ICCAT Fisheries* [Rec. 13-11] stated that upon receipt of advice from the SCRS, the Commission shall consider additional measures to mitigate sea turtle by-catch in ICCAT fisheries;

RECOGNIZING that the SCRS in 2017 estimated that tens of thousands of sea turtles are caught every year by ICCAT longline fisheries and recommended mitigation options to reduce the impact of ICCAT fisheries on sea turtles;

FURTHER RECALLING the recommendation from the second independent performance review in 2016 that the Commission consider the adoption of measures to reduce sea turtle by-catch such as the mandatory use of circle hooks;

TAKING INTO ACCOUNT the by-catch reporting obligations under the *Recommendation by ICCAT on Information Collection and Harmonization of Data on By-catch and Discards in ICCAT Fisheries* [Rec. 11-10] and the *Recommendation by ICCAT to Establish Minimum Standards for Fishing Vessel Scientific Observer Programs* [Rec. 16-14] of CPCs to report the number of interactions of their fisheries with sea turtles and all other required information using the statistical form developed by the SCRS;

NOTING the *Resolution by ICCAT Concerning the Application of an Ecosystem Approach to Fisheries Management* [Res. 15-11];

CONSISTENT with the call to minimize waste, discards, catch of non-target species (both fish and non-fish species), and impacts on associated or dependent species, in particular endangered species, in the FAO Code of Conduct for Responsible Fisheries and U.N. Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks;

THE INTERNATIONAL COMMISSION FOR THE CONSERVATION OF
ATLANTIC TUNAS (ICCAT) RECOMMENDS THAT:

1. CPCs shall require that their vessels employ at least one of the following mitigation measures in their surface longline* fisheries (i.e., longlines set at less than 100 m depth):
 - (a) Use of large circle hooks, which are fishing hooks originally designed and manufactured so that the point is turned perpendicularly back to the shank to form a generally circular, or oval, shape, and which, if offset, have an offset that does not exceed 10 degrees; or
 - (b) Use of only whole finfish bait; or
 - (c) Other measures considered effective by the SCRS and approved by the Commission in the future.
2. In addition to the by-catch reporting obligations under Recs. 11-10 and 16-14, CPCs should report to ICCAT where possible: the nature of the hooking or entanglement interaction (including interactions with Fish Aggregating Devices (FADs)); bait type; hook size and type; and other relevant information about the interactions. This information should be reported in the notes of the national observer program statistical form developed by the SCRS.

* As described in Chapter 3.1.2, Section 2, of the ICCAT Manual.

3. The SCRS shall continue to review relevant information on the by-catch of sea turtles and advise the Commission on the effectiveness of these mitigation measures and the impacts of any such mitigation measures on other species, as appropriate, by 2022. To support this work, CPCs should provide to the SCRS estimates of sea turtle by-catch rates that take into consideration: gear characteristics; time (i.e. month or season), and location of capture; targeted species during bycatch; and disposition status (i.e., discarded dead or released alive).
4. In their Annual Reports to ICCAT, CPCs shall report on the implementation of paragraphs 1, 2, and 3 of this Recommendation.
5. Paragraphs 1-4 shall not apply to CPCs whose fishing vessels operate only north of 55 degrees N or south of 40 degrees S latitude (i.e., outside the geographic range of Atlantic sea turtles). CPCs claiming this exemption shall indicate this in their Annual Report.
6. This recommendation supplements the *Recommendation by ICCAT on the By-catch of Sea Turtles in ICCAT Fisheries* [Rec. 10-09] and the *Recommendation by ICCAT Amending Recommendation 10- 09 on the By-catch of Sea Turtles in ICCAT Fisheries* [Rec. 13-11].