INTER-AMERICAN TROPICAL TUNA COMMISSION

1st CIRCLE HOOK WORKSHOP

(by videoconference)
7-8 March 2022

CHAIR'S REPORT

AGENDA

1. Opening of the workshop
2. Summaries of Circle Hook and Taxa Presentations
    A) Sea Turtles
    B) Sharks & Rays
    C) Seabirds
3. Other Presentations
    A) Japan
    B) USA
    C) EcoPacific Plus
    D) Others
4. Conclusions and Recommendations

    …"provide a recommendation to the Commission for a minimum hook size as well as a schedule for implementing this recommended minimum hook size through a revision to this resolution" per Resolution C-19-04, paragraph 4 c.

5. Adjournment

1. OPENING OF THE WORKSHOP

The meeting was opened by Amb. Jean-François Pulvenis, Director *ad interim*, and Dr. Alexandre Aires-da-Silva, Coordinator of Scientific Research, at the IATTC. The workshop was held virtually over Zoom on 7 & 8 March 2022 from 1500-1800 PST. The goals for the workshop were introduced, as were the Co-chairs, Dr. Yonat Swimmer (USA) and MSc. Manuel Correia (Venezuela). The organizers of the meeting reiterated the shared commitment of all the participants to work towards sustainable, ecosystem-based fishing practices, including this workshop that aims to achieve these goals.

In their introductory remarks, the Chairs emphasized as the aim of the Workshop was to make progress toward satisfying the obligations set in Resolution C-19-04. They reminded participants that the origin of the workshop is to be found in the recommendations adopted by the Scientific Advisory Committee (SAC) at its 12th meeting in May 2021. The SAC recommended then that the IATTC staff host a virtual workshop prior to analyzing scientific information regarding different circle hooks sizes and their effectiveness at mitigating bycatch and target species with the specific goal of defining the characteristics of an adequate hook for the purpose of mitigating bycatch of sea turtles in accordance with Resolution C-19-04. The Chairs noted that the Workshop aimed to address the ecosystem-level concerns and potential trade-offs regarding the expanded use of

circle hooks in longline fisheries, as well as to investigate the potential impacts of gear types on various taxa.

2. SUMMARIES OF CIRCLE HOOK AND TAXA PRESENTATIONS

A) Sea Turtles

Dr. Bryan Wallace (IAC) referenced the MOU between IATTC and IAC (Inter-American Convention on Sea Turtles) and summarized recent research and literature regarding the effectiveness of circle hooks on mitigating sea turtle bycatch and the objective of the meeting to identify an adequate hook size to complete the sea turtle resolution C-19-04. He presented "Background information on effects of circle hook size on sea turtle bycatch" where evidence for higher and lower catch rates for sea turtles was summarized based on the hook type and size**.**

Dr. Mariluz Parga (SUBMON) presented "Hooks and sea turtles: a veterinary perspective". Dr. Parga asserted that injuries from any hook-type can be quite damaging to a sea turtle; however larger circle hooks (specifically 18/0) can greatly reduce the number of sea turtle interactions, and that reducing the number of hookings overall is the best way to reduce injury and mortality in sea turtles. Dr. Parga also highlighted the importance of safe handling and release practices in increasing post-capture survival and the need to implement those by capacity-building workshops with stakeholders, and fishers in particular. Dr. Parga mentioned a large circle hook as sizes 18/0 or 16/0.

B) Sharks & Rays

Dr. Bryan Keller (NOAA Office of International Affairs) presented a "Review of the Effects of Circle Hooks on Elasmobranchs". Dr. Keller clarified the potential for "bite offs"[1] to artificially elevate catch rates of sharks as this may be due to inability of sharks to bite off line when they are hooked in the mouth or jaw as circle hooks are known to do at a greater frequency than gut hooking, which more frequently occurs with J or tuna hooks. Dr. Keller reported that relatively large circle hooks were found to reduce the rate of pelagic stingray capture and there were inconclusive data regarding mobulids and hook shapes or sizes.

C) Seabirds

Dr. Joan Browder and Annette Henry (NOAA Fisheries) presented updates on the influence of circle hooks on seabird capture and mortality. The data are inconclusive to comment on any conservation value of circle hooks over other hook shapes or sizes to seabirds given a lack of empirical studies.

[1] A bite-off is when the terminal tackle of the branchline (hook and section of branchline) was missing upon gear haulback.

3. OTHER PRESENTATIONS

A) Japan

Dr. Kei Okamoto presented "Review of studies on catch rates of commercial and bycatch species by hook type using in pelagic tuna longline fisheries". More information is needed on sea turtle bycatch in deep-set fisheries.

B) USA

Barbara Schroeder presented "Sea Turtle Bycatch Reduction: Regulation Efficacy of Circle Hooks in the US Hawaii-based Shallow Set Longline Fishery". 18/0 circle hooks required in Hawaii's shallow set fishery were found to effectively reduce sea turtle captures and maintain a viable swordfish fishery.

C) EcoPacific Plus

Sandra Andraka, Liliana Rendón, Lucas Pacheco and Takahisa Mituhasi gave a number of presentations regarding sea turtle bycatch in the ETP and the role of hook type, hook size, and the importance of hooking location to determine turtles' probability of capture and post-release survival for artisanal or semi-artisanal mixed fisheries. Presentations include "Anzuelos circulares ¿Cómo pueden mejorar las pesquerías? Experiencias en Panamá".

D) Industry

Robert Nunes, a dorado/mahi-mahi fisherman from Costa Rica expressed that a large hook, such as a circle 18/0, would likely cause an economic collapse of small scale local fisheries in the ETP.

4. CONCLUSIONS AND RECOMMENDATIONS

The following includes a summary of information presented and discussed during the workshop. Additionally, the Co-chairs presented the tables (below) in an attempt to characterize the summary of information and discussion at the workshop, as well as stimulate a discussion on potential recommendations from participants. Some Members expressed concern that the table did not reflect real outcomes, but appeared rather be a summary of information that had been presented during the workshop.

Regarding the recommendations table, the only "recommendations" for discussion prepared by IATTC staff and Co-chairs that received consensus as a recommendation from participants was regarding the importance of sea turtle safe handling. It was decided that this report would form the basis for additional conversation at the IATTC Bycatch Working Group on May 10 and 11, 2022.

Outcomes of the workshop

The workshop participants gladly accepted the affirmation of the Co-chairs and organizers of the commitment of the IATTC to holistic, ecosystem-based approach to fisheries management for EPO tuna fisheries, in conformity with	Los participantes en el taller acogieron con beneplácito la reafirmación por los Copresidentes y los organizadores del mismo del compromiso de la CIAT con un enfoque holístico y ecosistémico para la ordenación de las pesquerías de atún del OPO, de conformidad a lo dispuesto en la Convención de Antigua.

the provisions of the Antigua Convention.	
For sea turtles, use of circle hooks confirmed to reduce catch rates and mortality in longline fisheries, with larger hook sizes identified to be more effective to both reduce catch rates and minimize post-release mortality. In addition, it is necessary to encourage crews to be trained in good practices for handling and releasing sea turtles.	En el caso de las tortugas marinas, se ha confirmado que el uso de anzuelos circulares reduce las tasas de captura y la mortalidad en las pesquerías de palangre, y que los anzuelos de mayor tamaño son más eficaces tanto para reducir las tasas de captura como para minimizar la mortalidad posterior a la liberación. Como complemento es necesario fomentar que las tripulaciones estén capacitadas en buenas prácticas de manipulación y liberación de tortugas marinas.
For sharks, inconclusive findings regarding differences in catch rates on circle hooks, yet reported higher at haul-back survival and reduced injuries on sharks caught on circle hooks, presuming higher probability of post-release survival on circle hooks.	En el caso de los tiburones, los resultados no son concluyentes en lo que respecta a las diferencias en las tasas de captura con anzuelos circulares, aunque se ha informado de una mayor supervivencia al recoger el arte y una reducción de las lesiones en los tiburones capturados con anzuelos circulares, lo que supone una mayor probabilidad de supervivencia tras la liberación con anzuelos circulares.
For seabirds, there are no clear advantages (or disadvantages) for use of circle hooks, though it has been suggested that larger circle hooks may reduce interactions.	En el caso de las aves marinas, no existen ventajas (o desventajas) claras para el uso de anzuelos circulares, aunque se ha sugerido que los anzuelos circulares más grandes pueden reducir las interacciones.
Use of best practices and trainings with industry should be encouraged and supported. For all vulnerable species, use of best handling practices is critical to increase an animal's probability of survival after a fisheries interaction. In particular, safely removing hooks, and where hook removal is not possible, removing as much of the line as practical, are important to reduce severity of injury and improve animal's likelihood of survival.	Debe fomentarse y apoyarse el uso de las mejores prácticas y la capacitación de la industria. En el caso de todas las especies vulnerables, el uso de las mejores prácticas de manipulación es fundamental para aumentar la probabilidad de supervivencia de un animal tras una interacción con la pesca. En particular, la retirada segura de los anzuelos y, cuando no sea posible, cortar la línea del anzuelo/reinal como sea práctico es importante para reducir la gravedad de las lesiones y mejorar la probabilidad de supervivencia del animal.

Conservation measures should seek to strike a balance between the objective of protecting sea turtles, seabirds and sharks and the socioeconomic needs of the fishing industry. For example, larger hook sizes may impede the effective capture of target species in certain fisheries (e.g., dorado/mahi mahi), for which a more targeted or differentiated approach to management would be appropriate.	Las medidas de conservación deben lograr un equilibrio entre el objetivo de proteger las tortugas marinas, aves marinas y tiburones y las necesidades socioeconómicas de la industria pesquera. Por ejemplo, los anzuelos de mayor tamaño pueden impedir la captura efectiva de las especies objetivo en ciertas pesquerías (por ejemplo, dorado/mahi mahi), para las cuales un enfoque más específico o diferenciado de la ordenación sería apropiado.

5. ADJOURNMENT

The workshop was adjourned on 8 March 2022.