Review of the 1st Circle hook WS

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The AIMS of the 1st WS

1. To address the ecosystem-level concerns and potential trade-offs regarding the expanded use of circle hooks in longline fisheries

2. To investigate the potential impacts of gear types on various taxa

Summaries of circle hook and taxa presentations

A) Sea Turtles

Large circle hooks can significantly reduce sea turtle bycatch.
Reducing the number of bycatch is the best way to reduce injury and mortality.
Safe handling and release practices are important in increasing post-capture survivals.

B) Sharks & Rays

Elevating catch rates of sharks due to inability to bite-off line by circle hooks.
Large circle hooks were found to reduce the catch rate of pelagic stingray.

C) Seabirds

Hook shapes or sizes as conservation values to seabirds are inconclusive.

PREPARED recommendations

Recommendation WITH consensus

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.

Recommendations WITHOUT consensus

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.

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.

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.

Starting point of this WS

Recommendations WITHOUT consensus

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.

Starting point of this WS

In the last WS, we discussed the sizes of large circle hooks and positive and negative effects on the sea turtles, sharks, and seabirds.

Some questions still remain unsolved to approach for reaching consensus.

To answer the questions, it is essential for further new information.

What component of the hook is effective to reduce sea turtle bycatch?
(size, what size, shape, what shape, offset etc.)

We are looking forward to having constructive discussion.