



International Game Fish Association

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The International Game Fish Association (IGFA) is a non-profit organization that represents recreational anglers throughout the world. IGFA was established in 1939, has active members in over 100 countries and provides rules for ethical angling practices. Many of IGFA's members target the highly migratory species managed by IOTC, especially marlin, sailfish and spearfish (i.e., billfish) which are primarily caught and released, as well as other tuna and mackerel species.

Billfishes are apex predators that support economically vibrant catch and release fisheries in many regions. Of the four billfish stocks (black marlin, blue marlin, striped marlin, and sailfish) managed by the IOTC, two (blue marlin and striped marlin) are both overfished and subject to overfishing while the sailfish stock appears to be neither subject to overfishing nor overfished; however, this determination is made with considerable uncertainty. Black marlin assessments remain too uncertain to determine stock status definitively.

IGFA continues to have great concern about how highly migratory species are being managed on a global level. The lack of data and accurate reporting on billfish catch leading to highly uncertain stock estimates is of particular concern. Additionally, the lack of management action addressing the severe depletion of some billfish stocks under the IOTC is concerning for future stock health especially in regard to striped and blue marlin. As an organization that is committed to the conservation of game fishes, IGFA has deployed over 550 pop-up satellite archival tags in billfish around the world in the last twelve years, some of which have been in waters under this organization's purview and discussions have taken place to provide IOTC scientists with both the tagging data as well as billfish size data from IGFA's world record database and previous research projects. The information gained from both the extensive satellite tagging efforts, sailfish size analysis conducted by IGFA Intern Jacob Espittia, and IGFA World Record database will continue to be available to your scientific committee at no cost.

The following are IGFA's recommendations for the 27th Session of the Indian Ocean Tuna Commission:

Billfish

Striped Marlin

The extremely depleted state of this stock based on the outputs from both the JABBA and SS3 models in the 2021 assessment indicates that catch must be substantially decreased in an effort to rebuild striped marlin in the region. For the sixth assessment in a row, the stock has been indicated to be overfished and subject to overfishing, and even though 2020-2021 catches were lower than the 5-year average, there remains a very high probability that this level will continue the decline in stock health. IGFA's recommendation is to adopt a precautionary approach to striped marlin management and significantly decrease the level of allowed catch. Based on the outputs from the 2021 model runs, a TAC under 1,500t must be implemented if there is to be any hope of stock rebuilding within the next decade. When considering the high level of uncertainty of striped marlin catch reporting, a TAC closer to 900t would result in a higher probability of the stock rebuilding by 2026 as per Resolution 18/05. The IGFA also recommends implementing interim target and limit reference points as well as a decision framework for striped marlin similar to what was done for swordfish in Resolution 15/10. Although this species is mainly caught as bycatch in the gillnet and longline fisheries, the potential for a decrease in fishing mortality is possible through a movement toward releasing live fish in the longline fishery. The use of circle hooks has been proven to improve release mortality and implementation of non-offset circle hooks in the surface longline fisheries along with mandatory release of live striped marlin has the potential to significantly decrease reported and cryptic fishing mortality. Given the difficulty in decreasing the TAC to sustainable levels after decades of depletion and the bycatch nature of the fisheries, the adoption of circle hooks and longline release regulations for striped marlin could help offset sustained catch levels well above those necessary to recover the stock.

Blue Marlin

The 2022 stock assessment for blue marlin indicates the stock remains overfished and subjected to overfishing. Although catch levels from 2017 to 2021 average 7,964t which is below the MSY level of 8,740t, a further decrease in catch is required to meet IOTC's objectives by 2027. Based on the JABBA Kobe II Strategy Matrix and 2020 catch level of 7,126t, a TAC of 5,700t would result in a 69% chance of achieving the green quadrant by 2027. Based on this probability and the lack of certainty in catch reporting, the IGFA recommends implementing the precautionary approach by decreasing the TAC to a maximum of 5,700t to attempt to meet Commission objectives by 2027.

Similar to striped marlin, blue marlin fishing mortality could be decreased in longline fisheries through implementation of non-offset circle hooks and release of live fish. This could be especially important given F/F_{MSY} remains above 1 despite the recent declining trend since 2015.

Black Marlin

The lack of predictive capability identified by the 2021 stock assessment diagnostics is of major concern. Although the 2021 assessment indicated the potential that the stock is not overfished or subject to overfishing, the 2017-2021 average catch of 16,864t is substantially higher than the MSY limit indicated in Resolution 18/05 of 9,932t and has been exceeded for two consecutive years in 2020 and 2021. The IGFA recommends implementation of data collection programs to provide the capability to estimate CPUE indices from coastal longline and gillnet fleets to better inform assessment models along with a substantial reduction in TAC to the level stipulated by Resolution 18/05 of 9,932t.

Like blue and striped marlin, fishing mortality could be decreased in longline fisheries through the implementation of mandatory use of circle hooks and live release.

Sailfish

The IGFA commends the IOTC's inclusion of length-frequency data analyses in the estimation of the annual spawning potential ratio for sailfish due to lack of certainty in the 2019 assessment results stemming from the use of data poor methodologies. Although this methodology is a potential improvement to the 2019 assessment in absence of historical catch indices, the high catches seen from 2019 to 2021 (average of 31,593t) is very concerning and the IGFA recommends significant efforts be made to address the uncertainty of this assessment result especially regarding lack of information from coastal gillnet fisheries. With catch limits from Resolution 18/05 exceeded over the past two years it is clear additional management measures must be taken to limit fishing mortality in the Indian Ocean. Although the 2022 assessment concludes fishing mortality and biomass are near healthy levels, the IGFA believes this outcome should be further examined as it may represent an overly optimistic view of the current stock status and mortality level.

Tunas and Mackerels

Bigeye Tuna

The 2022 stock assessment to update the previous assessment done in 2019 now indicates the stock is both overfished and subject to overfishing with high probability. With 2021 estimates of spawning biomass being 25% of unfished levels and a fishing mortality level at 1.43, it is reassuring that the IOTC agreed to the bigeye management procedure (Resolution 22/03) that will reduce catches for 2024 and 2025. Although the suggested TAC for 2024 and 2025 remains relatively high at 80,583t, it is a step in the right direction, but only if properly implemented and enforced. The IGFA recommends maintaining a management decision making framework based on permanent reference points to ensure biomass is at or below MSY levels. In 2022, the IGFA recommended a TAC decrease to 10% of 2018 catch levels which may represent a more precautionary approach to the bigeye stock, especially in light of new evidence of declining stock health.

Yellowfin Tuna

With the high levels of uncertainty in the increasing levels of catch, low productivity estimates, and regional biomass trend inconsistencies, there is a clear need address yellowfin stock management given the overfished and subject to overfishing designations. The IGFA recommends the IOTC adopt new management measures, including permanent

reference points, to limit catch to 60% of 2020 levels as none of the previously agreed upon measures have been successful at improving the sustainability of the yellowfin stock and projections suggest this catch level provides a greater than 50% probability of increasing spawning biomass to MSY level within three years. The IGFA also recommends improvement to data collection protocol standardization and ensuring continued increases in data reporting to provide the best estimate of yellowfin catch for the assessment process. The precautionary approach to yellowfin management has become more critical as this stock continues to decline.

Longtail Tuna

The longtail tuna is both overfished and subject to overfishing with the 2021 catch level, as well as the 5-year average, in excess of estimated MSY levels. Regardless of the high uncertainty in catch implemented in the assessment methodology, this stock is highly vulnerable to exploitation compared to other tuna and mackerel species due to their fidelity to specific locales. Additionally, the implementation of data-poor techniques such as Optimised Catch-Only Methods is not preferable and the IGFA recommends the IOTC improve data collection to ensure more appropriate assessment methodologies can be employed in the future. The IGFA also recommends maintaining catch levels below MSY estimates in the absence of limit reference points for neritic tunas.

Narrow-Barred Spanish Mackerel

The high level of catch in 2021 and the 5-year average reveals an unsustainable trend for the narrow-barred Spanish mackerel stock. The stock is both overfished and subject to overfishing and although much uncertainty exists in the assessment, there is a clear need to reduce catch and improve data collection. The implementation of data poor methods in the assessment is less than ideal and effort should be made to address data gaps to allow for more traditional integrated assessment techniques. The IGFA recommends decreasing catch to below estimated MSY levels, ensuring current MSY estimates are accurate, and addressing the continued increased in narrow-barred Spanish mackerel catches seen over the last decade.

The International Game Fish Association is a nonprofit organization committed to the conservation of game fish and the promotion of responsible, ethical angling practices through science, education, rule making, record keeping and recognition of outstanding accomplishments in the field of angling.

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