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The International Game Fish Association (IGFA) is a nonprofit 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.

IGFA has great concern about how highly migratory species are being managed on a global level for recreational anglers. The lack of data and accurate reporting on billfish catch is of particular concern. As an organization that is committed to the conservation of game fishes, IGFA has deployed over 400 pop-up satellite archival tags in billfish around the world in the last eight years, some of which have been in waters under this organization's purview. The information gained from this exercise is available to your scientific committee.

The following are IGFA's recommendations for the 23rd Session of the Indian Ocean Tuna Commission.

# <u>Billfish</u>

Billfishes are apex predators that support economically vibrant catch and release fisheries in many regions. Unfortunately, globally most billfish stocks that have stock assessments available are either overfished, experiencing overfishing or subject to both conditions simultaneously<sup>i</sup>. With the exception of black marlin (which should be interpreted with caution), all other billfish stocks managed by the IOTC are currently experiencing overfishing or in an overfished state.

# **Black Marlin**

The 2015 assessment on black marlin indicates that there is at least an 80% probability of this stock being overfished and experiencing overfishing. However, the 2018 assessment has indicated that the stock is not currently overfished or experiencing overfishing. That said, the IOTC Scientific Committee has voiced concern about the high degree of uncertainty of the 2018 assessment and concluded that the results should be interpreted with caution citing sharp increases in total catches from 15,000 t in 2014 to over 20,000 t since 2016. Current catches of more than 20,000 t are higher than the MSY target of 12,930t, which would indicate that the change in stock status from the red zone to the green zone of the Kobe plot is an unlikely scenario without any rebuilding trend. In addition, the uncertainty of the new assessment has precluded managers from producing stock predictions for this species.

The IGFA recommends that the Commission revisit the results of this stock assessment in order to generate stock projections and immediately reduce the total catch to a level below that of MSY to account for uncertainties in the assessment.

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.

### **Blue Marlin**

No new assessment was conducted in 2018 but the stock is still experiencing overfishing. The IOTC Scientific Committee also noted uncertainties with catch data, which need to be addressed. The Committee also noted that current catches are exceeding the limit imposed by Resolution 18/05.

The IGFA recommends that the Commission lower total catch of blue marlin to no more than 10,780 t, as current catches are exceeding management recommendations. In addition, the next IOTC stock assessment for blue marlin is scheduled for this year. The IGFA further recommends that the Scientific Committee work to resolve uncertainties in catch data and CPUE indices and provide stock projections and advice to the Commission to lower fishing mortality in order to move this stock to the green zone of the Kobe plot.

# **Striped Marlin**

The IGFA has great concern over the status of the Indian Ocean striped marlin stock. Preliminary research suggests that striped marlin comprise a single stock in the Indian Ocean that is distinct from Pacific Ocean fish, indicating little to no contribution of biomass from other areas<sup>ii</sup> Results from the 2018 assessment indicate that striped marlin are still severely depleted state from two decades of overfishing and is experiencing fishing mortality nearly double than what would produce MSY.

Given this stock's long history of being overfished, the IGFA recommends a significant reduction in overall catch not to exceed 1,500 t annually. Doing so is projected to give the stock a 70% chance of rebuilding by 2024. Any less reduction in catch is unacceptable for a stock that has been overfished for this long a period.

### Sailfish

No new assessment was conducted in 2018 and stock status is still determined by the 2015 assessment that incorporated data-poor methods. Sailfish are still determined to be subject to overfishing, though not considered to be overfished. In addition, catches are still higher than the recommended 25,000 t.

The IGFA recommends that the Commission adopt a total catch not to exceed 20,415 t to provide a high degree of probability that overfishing is ended.

# Tunas and Mackerels

Several species of tuna and mackerel managed by the IOTC are also highly prized by recreational anglers in this region. The IGFA has concerns over the status of yellowfin tuna, longtail tuna and narrow-barred Spanish mackerel.

### Yellowfin Tuna

The 2018 yellowfin stock assessment reported that the stock is both overfished and experiencing overfishing. Increased catch in recent years has increased fishing mortality above the level necessary to achieve MSY.

In order to give the stock a greater than 50% of rebuilding by 2027, the IGFA recommends that the Commission adopt a total catch limit of no more than 327,645 t.

## Longtail Tuna

The longtail tuna stock is currently overfished and experiencing overfishing. In addition, uncertainties about stock structure and fidelity to specific areas raise concerns over the potential for localized depletion.

The IGFA support the recommendation of the Scientific Committee to reduce total catch and suggests a reduction of catch to no more than 123,479 t to provide a high probability of ending overfishing and rebuilding the stock by 2025.

### Narrow-barred Spanish mackerel

The narrow-barred Spanish mackerel stock is also currently overfished and experiencing overfishing. As is the case with longtail tuna, there are also concerns that regional fidelity may lead to localized depletion

To provide a high degree of certainty of ending overfishing and rebuilding the stock, the IGFA recommends that the total catch should be reduced to 70% of the 2015 catch (107,924 t).

<sup>&</sup>lt;sup>i</sup> Pons, Maite, et al. "Effects of biological, economic and management factors on tuna and billfish stock status." *Fish and Fisheries* 18.1 (2017): 1-21.

<sup>&</sup>lt;sup>ii</sup> Mamoozadeh, Nadya R., Jan R. McDowell, and John E. Graves. "Preliminary results from an assessment of genetic population structure for striped marlin (Tetrapturus audax) in the Pacific and Indian oceans." 15th session of the IOTC Working Party on Billfish, San Sebastián, Spain (2017): 10-14.