

# INTER-AMERICAN TROPICAL TUNA COMMISSION

## 98<sup>TH</sup> MEETING

(by videoconference)

23 – 27 August 2021

### DOCUMENT IATTC-98 INF-K

#### TIMING AND USAGE OF AN UPDATE BIGEYE STOCK ASSESSMENT

##### SUMMARY

An update stock assessment for bigeye (BET) tuna before the staff's planned benchmark assessment in 2024 has been requested by some CPCs. Although this update assessment could be used to determine the status of the bigeye stock with respect to reference points and this information may be of potential immediate interest to some external organizations (e.g., sustainability scoring and ongoing fishery certification processes), such an update assessment is not strictly necessary for successful implementation of the IATTC harvest control rule. Depending on the conservation package adopted at the 98<sup>th</sup> Meeting of the IATTC, an update BET assessment may need to be conducted for the 2023 SAC to evaluate the IATTC harvest control rule with respect to action required when breaching the limit reference points under the new management measures. Finally, estimates of fishing mortality from the COVID years 2020 and 2021 cannot be used for setting future management action and, therefore, an assessment is not required until 2023; even then, the estimates will be uncertain, and it would be preferable to base management action on the benchmark assessment in 2024. Fleet behavior post COVID is unknown and precautionary management to prevent the numbers of floating-object sets and active buoys from exceeding *status quo* (2017-2019) is still needed. Any tropical tuna assessments, no matter the type or timing, would require resolving the bias caused by the lack of port sampling before it can be considered for providing scientific advice for management.

##### BACKGROUND

Several CPCs have requested an update assessment for bigeye tuna before its planned benchmark assessment is delivered by the staff in 2024. The timing and the usage of the update assessment need to be carefully considered and take into consideration important factors: the timing of the new management resolution agreed at the 98<sup>th</sup> Meeting of the IATTC, the impact caused by the COVID-19 pandemic on the fleet operation (e.g., reduced number of floating-object sets), the COVID impact on the staff's port sampling activities to estimate the catch composition (e.g., lack of sampling operations in some of the major ports where bigeye is landed). Any assessment, irrespectively of its type or timing, would require a prior investigation and correction for any biases caused by the interruptions of port sampling before it can be conducted (see [Document IATTC-98 INF-D](#)).

##### USAGE OF THE BET UPDATE ASSESSMENT

###### Status of the bigeye stock

- The update assessment can be used to determine the status of the bigeye stock.
- This includes evaluating the status against the target and limit biomass and fishing mortality reference points  $S/S_{MSY}$ ,  $S/S_{limit}$ ,  $F/F_{MSY}$ , and  $F/F_{limit}$ .
- Evaluation of the stock status may be immediately (e.g., in 2022) important to certifying and sustainability scoring organizations.
- Reduced effort in 2020 and 2021 is likely to have reduced the fishing mortality relative to  $F_{MSY}$  and may have increase the spawning biomass relative to  $S_{MSY}$ .
- An update assessment presented at the 2022 SAC would allow for an update of the stock status.

## **The harvest control rule**

### *Limit reference points*

- Exceeding limit reference points requires action to be taken to rebuild the stock or move fishing mortality to the  $F_{MSY}$  level.
- It is unlikely that, given the reduced effort due to COVID, the status of the stock would be worse than in the previous assessment, which did not exceed the limit reference points.
- An update assessment is not needed to evaluate the limit reference points until SAC 2023 after the new management has been implemented (in 2022).

### *Future management action*

- The IATTC harvest control rule involves setting the fishing mortality at  $F_{MSY}$ .
- Fishing effort in the COVID years 2020 and 2021 in relation to the days of closure was abnormal.
- Estimates of fishing mortality for the COVID years 2020 and 2021 cannot be used to determine the number of days of closure in non-COVID years.
- An updated assessment to set management action conducted for SAC 2023 would only have the most recent year's (2022) estimate of fishing mortality from a non-COVID year (assuming that is the case) to set the number of days of closure and the estimates of fishing mortality for that year would be uncertain.
- The benchmark assessment scheduled for 2024 would have estimates of fishing mortality from two non-COVID years to determine the number of days of closure.

## **Precautionary management**

The number of floating-object sets and active FAD buoys was increasing prior to the COVID-19 pandemic. The number of floating-object sets has been shown to be statistically-significantly related to BET fishing mortality and it is expected that more active FADs increase the catching efficiency, since fishermen can optimize their fishing by choosing to set on the best FAD aggregations from a larger pool of active FADs. Therefore, the increase in these two measures of fishing effort needs to be halted to keep the fishing mortality at  $F_{MSY}$  (i.e., the *status quo* in years 2017-2019). The number of floating-object sets and active FADs decreased during the COVID year 2020 and may also decrease in 2021, but it is unknown at what level they will return to post COVID. Therefore, precautionary management that limits the number of floating-object sets and the number of active FADs at the *status quo* level is still needed.