

INTER-AMERICAN TROPICAL TUNA COMMISSION

98TH MEETING

(by videoconference)

23 – 27 August 2021

DOCUMENT IATTC-98 INF-F

A PROPOSAL FOR AN INTERIM STOCK STATUS DETERMINATION FOR SKIPJACK TUNA IN THE EPO

SUMMARY

The implementation of any management measure by IATTC focusing on bigeye alone (e.g., Individual Vessel Limit scheme on bigeye catch, limits on floating-object sets while allowing effort transfer to sets on unassociated schools) will break the interim PSA rationale currently used by the staff to evaluate stock status for skipjack. Available data could be used to evaluate the stock status of skipjack in the EPO relative to the *status quo* (2017-2019) fishing mortality conditions, which is considered as an adequate reference level to define the conservation measures in the next management cycle for the tropical tuna (2022-2024), as an interim measure until the tagging-based benchmark stock assessment is available in 2023. In addition, the benchmark assessment has been brought forward one year compared to the staff's initial proposal due to the concerns over skipjack, but this will likely delay other projects. This will ensure that management measures established are appropriate for skipjack tuna.

BACKGROUND

There is currently no conventional stock assessment for skipjack tuna in the EPO, but the staff has developed a [skipjack assessment workplan](#) which includes a spatio-temporal benchmark assessment based on tagging data. Since the IATTC's Regional Tuna Tagging Program is still underway until 2022 ([Project E.4.a](#)), this benchmark assessment is planned to be presented at the SAC in 2023. The benchmark assessment has been brought forward one year compared to the staff's initial proposal due to the concerns over skipjack, but this will likely delay other projects. Meanwhile, the staff has relied on the Productivity-Susceptibility Analysis (PSA) rationale as an interim¹ assessment procedure to infer the stock status for skipjack based on the results of the bigeye tuna assessment. Specifically, skipjack has about the same susceptibility to the fishery as bigeye but is more productive. Therefore, if the bigeye tuna stock does not breach the [established reference points at IATTC](#), then skipjack also does not exceed the reference points.

Under the PSA rationale and based on the 2020 stock assessment and overall results of the risk analysis for bigeye, the [staff's stock status inference on skipjack](#) indicated the stock to be in good health during the *status quo*² period. However, the continuing increasing number of sets in the floating-object fishery, along with some other [long-term trends in fishery indicators](#), shows that this reference level may potentially be exceeded in the near future. Therefore, the IATTC staff has recommended additional precautionary measures to keep the fishing mortality at the *status quo* level. Any management measures that focus on bigeye (e.g., Individual Vessel Limits (IVLs) for bigeye catch), or those limiting floating-object sets but allowing effort transfer to sets on unassociated schools, could break the PSA rationale. Since the skipjack benchmark tagging-based assessment will not be available until 2023, an alternative interim method is needed to determine the stock status of skipjack. Considering that the PSA rationale was used for a stock status determination corresponding to the *status quo* 2017-2019 period, the alternative interim procedure

¹ Interim assessment: A form of stock status evaluation that is applied while a conventional stock assessment is not available.

² *Status quo* period: The recent reference level for fishing mortality (*F*) based on the 3-year average for 2017-2019.

could be used to determine the status of skipjack relative to the *status quo* (i.e., to evaluate if the fishing mortality in 2022-2024 does not exceed that of the 2017-2019 *status quo*). This is possible because it does not require the estimates of absolute abundance provided by the tagging program.

STAFF'S PROPOSAL

The IATTC staff proposes to evaluate the status of skipjack tuna in the EPO relative to the *status quo* (2017-2019) using the available data for skipjack tuna. This requires estimating relative fishing mortality for skipjack starting in 2017 to establish the relative fishing mortality for the *status quo* period, which can be compared to current estimates of relative fishing mortality. The relative fishing mortality can be estimated using several sources of data. These could be analyzed separately or combined in an integrated analysis (e.g., within Stock Synthesis). The data include, but may not be limited to:

- a) Number of purse-seine sets standardized appropriately to best reflect relative fishing mortality on skipjack;
- b) Catch divided by an index of abundance based on echosounder buoy data (depending upon progress of [Project J.3.a](#));
- c) Length composition data converted into relative fishing mortality through a population dynamics model with assumptions about selectivity, growth, natural mortality, and recruitment.