



March 22, 2021

Southeast Fisheries Science Center
National Marine Fisheries Service
75 Virginia Beach Dr.
Key Biscayne FL 33149

Attention: Dr. Matt Lauretta

Re: Draft: *"The United States Rod and Reel Smaller Size Class Bluefin Tuna Indices of Relative Abundance; Major Revisions and Recommendations"*

Dear Dr. Lauretta,

The American Bluefin Tuna Association (ABTA) represents commercial handgear fishermen in the U.S. who target bluefin, bigeye, yellowfin and albacore tunas in U.S. Atlantic waters. Our representation extends to all relevant domestic and international fora. ABTA is committed to ensuring that HMS and ICCAT management is informed by the best available science.

ABTA appreciates the opportunity to provide feedback regarding the subject draft document.

Introduction

A review of indices of abundance currently in use for the West Atlantic bluefin tuna stock was called for by the Bluefin Working Group of the Standing Committee for Research and Statistics (SCRS), the scientific arm of the International Commission for the Conservation of Atlantic Tunas (ICCAT) in late summer 2020, during stock assessment meetings for the Western stock. We support a periodic review of these critically important indices. However, there was another reason which gave rise to this review. During the stock assessment, weakness was found in certain juvenile indices which, in turn, had a negative effect on estimates of recruitment. This weakness was disputed by the fishermen based upon compelling at-sea observations. Also, to further complicate, there were early signs that this weakness in the data was indicating a strengthening trend going forward.

These are fishery-dependent indices of abundance and the data used is derived from a sampling program. One possible contributing factor to the discrepancy between the data collected and the fishermen's view of abundance may be the fact that this survey intends to sample the data, and is therefore not a census; that data collection protocols were unable to fully capture the relevant data. There are other possible reasons or contributing factors, as well.

Therefore, the assignment with regard to a review of the juvenile indices was quite clear: Could a study of these indices reveal ways in which these indices could be made more robust pursuant to the upcoming 2021 assessment? What could be done to address the discrepancy in abundance noted by the fishermen? Would the inclusion of two years of additional juvenile CPUE data (2019 & 2020) change the calculus on the question of recruitment?

Possible changes to these indices of a more fundamental nature having to do with data collection protocols and other possible improvements is unfortunately a secondary consideration in the current exercise because of time constraints but should be considered in anticipation of the next iteration of the MSE.

Due to these time constraints, the present assignment, in the main is limited to what could reasonably be explored in the way of improvements to the juvenile indices specifically for the purpose of the 2021 stock assessment, and any such possible changes or modifications to the juvenile indices agreed to by the SCRS would also need to be included in the upcoming MSE reconditioning to take place in April 2021. The deadline for the present work is the end of March, 2021.

Estimates of recruitment for west Atlantic bluefin tuna are derived from these juvenile indices. Therefore, the accuracy of these estimates is of paramount importance to us. Any anomaly or possible inconsistency or potentially discrepant data needs to be explored and we are pleased that the SCRS has undertaken this task at this critical time. We are also grateful for the opportunity afforded fishermen to provide their observations regarding juvenile abundance.

Below are some comments regarding the draft SCRS document, "*The United States Rod and Reel Smaller Size Class Bluefin Tuna Indices of Relative Abundance; Major Revisions and Recommendations*" (SCRS Doc. N. xxxx, 2021, Laretta et al):

Following the schema in this paper, our comments will utilize the numbering sequence for the section entitled, "Methods".

1. Terminology

The U.S. uses terminology not used by ICCAT in connection with "juvenile" BFT. Juveniles are divided into "small school", "large school" and "small medium" by the U.S., relative to their size. For clarity's sake, taking into account that ICCAT does not use this terminology and to ensure that everyone, U.S. and other stakeholders, managers and scientists included, understand the present schema for the U.S. indices, we have included a table (**Table 1**) that is not dependent upon the U.S terminology.

Question of Combining Indices

Regarding the proposal to combine the index of BFT measuring 66-114 cm with the index for BFT measuring 115-144 cm: The question for us is not “how many indices should be used to achieve the purpose intended”. Rather, our consideration would be to consider the possible positive or negative effects of identifying an appropriate size range with a view toward achieving a resultant index/indices which express relative abundance for the size range of juvenile BFT most critically important to the process of estimating recruitment levels.

2. Spatio-Temporal Aspect of Species Abundance

As regards the question of the spatio-temporal dimension of the data, these data elements can most definitely be improved in the future. Present spatio-temporal methodology is rather crude. Fishermen tend to use Loran TD's for geolocation data whereas GIS software utilizes latitude and longitude. However, this question relates to further needed improvement in these indices pursuant to the next iteration of the MSE.

Why is the spatio-temporal dimension important? Juvenile BFT, as a rule, never migrate into/out of, aggregate or forage on our fishing grounds in the same exact way in two consecutive years. As an example, the juvenile fishery off New York and New Jersey is today perhaps the most active relative to catches whereas for many years, the Gulf of Maine juvenile fishery was the most active; after decades of being dormant, as of 2020, Montauk now appears to be a harbor adjacent to an area where giant BFT can be caught.

A reduction in CPUE in a given region does not necessarily indicate a lack of abundance. The present status of the juvenile fishery in the Gulf of Maine is influenced by at least four factors: present general inaccessibility to aggregations of juveniles (distance to fishing grounds) for the participants, easier access to an increased abundance of giant BFT, a migration of permits from the recreational to the commercial sector and the constantly shifting regulatory environment.

Recent knowledge of abundance - or density - of the resource, informed by spatio-temporal data, could dynamically inform resource allocation for the Large Pelagic Survey dockside intercept staff, rather than assuming that the resource is always abundant in the same geographical locations from year to year. But, again, this discussion is best reserved for the next iteration of the MSE.

Sea Surface Temperature

We question the use of sea surface temperature as a data element. Given that bluefin, bigeye, yellowfin and albacore tuna CPUE data is maintained in the same database, the theory is that one way to filter out species other than bluefin for CPUE analysis is through using sea surface temperature keyed to SST typically appropriate for BFT. However, there are other species whose preferred SST range will overlap with BFT, such

as bigeye and albacore tuna. It would be far more precise to develop a query for this database that simply removes all records not relating to BFT.

3. Catches by the General Category

Catches by the General Category commercial handgear sector (>177 cm) should not be used in the juvenile indices. Commercial and recreational fishing in the U.S are under entirely different regulator regimes. Catch of >177 BFT, the only fish allowed by the U.S. to be harvested commercially, has its own CPUE index.

“Wicked Tuna Effect”

The “Wicked Tuna Effect” (WTE) is mentioned as a recent phenomenon that could have an effect on the juvenile as well as the commercial handgear BFT fisheries in the U.S. WTE references an increase in the popularity of catching “giant” BFT (>177cm) due to the success of a cable television show with new episodes aired each year beginning in 2012 to the present. It should be noted, however, that this trend, referred to as WTE, became demonstrably noticeable during and after 2015, to the present, concurrent with a dramatic increase in species abundance.

Recreational permit holders are forbidden to catch or retain BFT of 177 cm or greater. The hypothesis is that some recreational permit holders are migrating to the General (commercial handgear) Category in order to catch giant BFT legally. This may also be occurring in the charter/headboat category but in this case the permit would remain the same, and the assumption is that there has been an increase in the number of permits in this category that have opted for a “commercial endorsement” to the charter/headboat permit, enabling these fishermen to fish under General Category regulations and target >177cm BFT when they do not have customers onboard. In order to quantify this “migration” we would be looking for an increase in General Category permits with a possible concurrent decrease in Recreational permits as well as an increase in the number of charter/headboat permits possessing the “commercial endorsement”. We most definitely do know that this migration is taking place but we have found that it is very difficult to statistically document this migration. It is important to bear in mind that the “universe” of HMS rod and reel permits includes approximately 20,000 recreational permits, approximately 3,500 charter/headboat permits and approximately 3,000 commercial handgear permits, and at least half of the permits mentioned are targeting tropical tunas or, in some cases, tropical as well as temperate tunas.

BFT Caught on Fishing Trips Targeting other species

If we intend for this juvenile index/indices to be truly reflective of species abundance (density), we should not exclude from our survey BFT caught on trips on which another species such as YFT or BET was considered the “targeted” catch. As but one example, the shark fishery off Long Island is approximately 20 miles offshore and overlaps the location of the juvenile BFT fishery. Recording BFT catch in this location represents its abundance in this location notwithstanding the possible statement by the fisherman that he was targeting shark.

High Grading and Catch-and-Release

One of the most perplexing problems at present has to do with catch-and-release. “High Grading”, or, in this case, the practice of releasing smaller juvenile BFT in favor of retaining larger juvenile BFT is a long standing practice in the recreational BFT fishery, and it’s perfectly legal. The ubiquity of this practice should be unquestioned. It is axiomatic that high grading increases in proportion to abundance. We all heard in the fishermen testimonials that, recently (2015-2020), upwards of 10, 15, 20 or 30 BFT could be caught and released by one boat in one days’ fishing. This practice is, “very common”, was the comment. Reports indicate that catch-and-release is a large element in the New York-New Jersey fishery. Therefore, if the smallest size range (66-144 cm) is the most important size range for estimates of recruitment and we know that many multiples of these small fish are being released in favor of retaining bigger fish, it may be reasonable to expect that there is a problem with selectivity and, importantly, assumed abundance based upon retained catch for these smaller BFT will be inaccurate. Simply stated, under these conditions, the catch data for the all-important smallest size range will not accurately reflect species abundance/density if it does not also include data on releases of these smaller fish. Unfortunately, data on releases is very difficult to secure, and this data must include an estimate of the length of the fish. We consider the current LPS protocols inadequate for capturing data on releases. We assume that the scientists can adjust their recruitment calculations to reflect these issues of selectivity (affecting catch data for the larger juveniles) and catch-and-release data (affecting catch data for the smaller juveniles), but how does one address these biases with any accuracy when data on releases is lacking?

One suggestion we have is to secure, going forward, a sufficient number of volunteers in each region who will commit to reporting releases as well as estimating the length of released fish.

Unit of Measurement

Straight Fork Length is a standard unit of measurement for ICCAT. Curved Fork Length is a unit of measurement used here in the U.S. However, for the purpose of estimating the length of fish intended to be released, an estimate of SFL will be easier to achieve than that of CFL. It’s important to keep in mind that BFT intended to be released must remain in the water.

Results and Discussion

Volume of Data

The data used for the survey of the juvenile fishery is most importantly used for calculation of CPUE leading to estimates of recruitment. It is also used to determine the amount of catch each year. Since data is collected by a survey and not a census, the catch data which supports the calculation of total landings should be robust in order to avoid exceeding ICCAT quota. In our view, the data typically collected for juvenile BFT is rather “thin” and therefore benefits from any efforts to increase the amount of catch

data. Increased sampling throughout the East Coast of the U.S. may also serve to ensure that typical annual variability in abundance is a lesser consideration.

Statistical Chart

A properly designed statistical chart such as the one presently in use by the MSE that is in a scale appropriate to delineate “sectors” throughout the U.S. East Coast which take typical fishing habits well into account will improve data elements related to spatial distribution. Before we look at modeling approaches, we need a good, user-friendly way for fishermen to identify where they caught fish without concern that they are giving away the location of their favorite fishing hole.

Summary

In anticipation of the SCRS agreeing to the proposed modifications to this index, would it not be appropriate to conduct a simulation exercise in the interim using the proposed data treatments together with VPA and Stock Synthesis to understand how these changes would affect the result and to observe how this data interacts with these models?

Thank you in advance for your consideration of the foregoing.

Cordially,

David Schalit, President
American Bluefin Tuna Association

cc: ABTA Board