



May 10, 2021

To: Randy Blankinship, HMS
Brad McHale, HMS
Craig Brown, SEFSC
John Walter, SEFSC
Matt Lauretta, SEFSC

Re: Draft Proposal for Improving Data for CPUE Calculation of Bluefin Tuna Catch in General Category

Proposal

Our proposal is aimed at improving the amount and quality of data available for bluefin tuna Catch Per Unit Effort calculations for the HMS commercial handgear (General Category) sector. In accordance with the below proposal, this alternative can be achieved at very low or no cost, does not require any change to the Large Pelagic Survey (LPS), will not increase administrative overhead and we estimate that this could be accomplished within 6-7 months from inception. We envision this as a vital step which will ultimately lead us toward a census.

Why is this a necessity?

111 "events" or records of the HMS General Category landings were recorded by the Large Pelagic Survey in 2021. The number of records has been similar in prior years. Given that the General Category lands between 4,500 and 5,000 bluefin per year, very likely requiring at least double that number if including "successful" and "unsuccessful" trips, the sampling rate has been woefully inadequate. Rather than attempting to increase LPS coverage of this fishing sector, a costly alternative, we are offering this proposal.

HMS General Category is responsible for landing approximately 90% of all U.S. commercial landings of Atlantic bluefin tuna. An index containing CPUE data for this fishery is extremely

important for stock assessments and MSE. All indices of abundance for the East Atlantic/Mediterranean and West Atlantic stocks were recently submitted to 4 tests by ICCAT's MSE contractor and the only indices that failed all four tests were the Canadian GSL index and the U.S. >177 cm index. The U.S. >177 cm index has not been used in the last two Atlantic bluefin tuna stock assessments and will not be used in the bluefin tuna MSE which is expected to receive Commission approval for commencing in 2023. Therefore, we maintain that this is an urgent matter. We are mindful that data collection under a new schema will require several years before an index containing that data can be used in a stock assessment or MSE. However, the sooner we begin, the sooner we will have an improved index.

Presently, the LPS is able to collect data on 1-2% of the total number of estimated fishing events which take place each year in this fishery. This is woefully inadequate by any measure.

Present Reporting Schemes

Currently, there are two reporting schemes:

- Dealer reporting. This is a census. However, the reporting does not contain enough information to enable the calculation of CPUE.
- Fisherman reporting. General Category participants are required to report catch and bycatch each time they catch a bluefin tuna. They can report using a smartphone app or by online entry. They are presently not required to report trips in which no fish is caught.

What is needed to improve the quantity and quality of reporting by the fishermen?

1. A minor modification to the current smartphone app and online data entry page allowing for the reporting of BFT fishing trips in which **no** fish are caught.
2. A modification to the existing catch reporting regulations requiring fishermen to report all BFT trips whether successful or not.
3. A modification to the existing reporting schema allowing for reporting of time spent fishing ("soak time", "time spent with fishing gear in the water") on a successful *or* unsuccessful fishing trip, not including time spent in transit.

Why is this necessary?

Data used for calculation of CPUE in the Atlantic bluefin tuna General Category has for many years come from limited sampling by Large Pelagic Survey intercepts at the dock. This CPUE data is used in an index of abundance, critically important in the stock assessment or MSE process. However, the most common and most easily collected source of fishery-dependent data is catch and effort information from the fishermen themselves.

In this fishery, CPUE intends to measure species density, not abundance. Why is this? It is understood that fleet distribution is a poor proxy for fish abundance with a highly migratory species. Therefore, species density on fishing grounds must be the focus.

Catch Per Unit Effort

The basic components (the formula) involve three variables: fishing effort expended, density and the fraction of the abundance that is captured by one unit of effort. The data supporting these three elements must be robust. It is worth noting that the fraction of abundance may not be a constant. It may change spatially and temporally due to changes in the composition of the fishing fleet, where fishing occurs and when fishing occurs. All three of these elements can be highly variable, having the potential for changing as frequently as annually in the bluefin fishery. This highlights a challenge to the LPS to ensure that human resources for the purpose of sampling are both temporally and spatially distributed dynamically from year to year throughout the region in order to achieve an accurate representation of overall density. And this method of data collection is expensive. It also highlights the typical problem inherent in the use of catch rate data as an index of abundance: to adjust for the impact on catch rates of changes over time of factors other than abundance requires “catch-effort standardization” on an ongoing basis.

Given that we know precisely the total annual landings from fish dealer reporting, the key unknown variable is the number of fishing trips in which fish are *not* caught e.g. the total number of successful and unsuccessful fishing trips required to achieve the number of animals landed annually. ABTA has *roughly* estimated that successful trips represents very approximately 50% of the total number of trips. In such case, if annual landings of BFT by the General Category in a given year totals 4,700 fish, the total number of successful and unsuccessful trips will be very approximately double that value, or 9,400 trips. But the truth is, nobody knows at present how many trips are needed to yield total annual landings.

It is worth keeping in mind in this discussion that for several years now, with the exception of the month of June in which retention limit is 3 fish per day, daily retention limit has been set at one fish per day/trip for all other months. The expectation is that this retention limit will continue into the foreseeable future. June is a month in which landings are particularly low, usually totaling 15-30 mt.

An Alternative to LPS data collection

The alternative to the LPS data collection schema is to establish a logbook or a schema for collecting needed data directly from the fishermen. However, we believe that by maintaining the existing LPS method for collecting this data, we are putting off the desired eventuality of direct, fisherman reporting. Importantly, the HMS Management Division has, in 2016, implemented an easy to use and inexpensive electronic system for reporting which has achieved general acceptance among the fishermen due to its ease of use, and this system can

be easily modified for the purpose intended here, thereby obviating the need to develop a new logbook system.

Do we trust the fishermen?

Do we trust the data we are collecting at the dockside? In the absence of hail in/out protocols, we are relying on the fisherman to be truthful regarding the reporting of unsuccessful fishing trips. It is just as likely that a fisherman will or will not report truthfully regarding an unsuccessful fishing trip when reporting in person to an LPS interviewer at the dock or if reporting by using the smartphone app. However, the smartphone app reporting method does have certain potential advantages over dockside reporting which can reasonably be expected to yield greater compliance, as follows:

- Reporting by smartphone is strictly confidential e.g. the fisherman does not have to state openly and verbally, as he would at the dock, that he had an unsuccessful trip.
- Present reporting compliance by smartphone of successful trips is becoming routine for approximately 70% of successful permits (see **Table 1**) and it is reasonable to assume that an additional requirement to report unsuccessful trips will benefit from this already-established routine.
- If regulations are modified to include reporting of unsuccessful trips, this reporting then becomes an obligation of the permit, benefiting from the force of regulation.

History of Data Collection

Prior to 2016, General Category fishermen were not required to maintain a logbook for BFT and were not required to report their catch to the HMS Management Division. Beginning in 2016, for the first time, those fishing under General Category regulations were required to report catch and bycatch for trips in which BFT were caught. The emphasis, however, was on collecting bycatch data.

Regulation put in place in 2016 has resulted in a new reporting protocol requiring reporting by smartphone app (iOS, Android), online or by telephone. This reporting became an obligation for all General Category permit holders as well as those Charter/Headboat permit holders with a commercial endorsement when they are fishing under General Category regulations. Fishermen are required to report every instance in which they catch a BFT and they are also required to report any bycatch as well, but are not presently required to report unsuccessful trips.

It is worth keeping in mind that for many or most HMS General Category permit holders, the HMS permit is the only permit they possess.

History of Existing Reporting Protocols

Adoption of this reporting protocol was very slow at first but it has dramatically improved more recently.

Table 1

BFT Vessel Reporting Compliance for General, Harpoon Quota Categories

Comparison of dealer & vessel BFT reports for 2020; % compliance 2017-2020 *to date*:

Quota Category	Dealer Reports		Vessel Reports		% Vessel Reporting Compliance							
	# Fish	# Fishermen	# Fish	# Fishermen	% Fish Reported				% Fishermen Reporting			
					2020	2019	2018	2017	2020	2019	2018	2017
General	1,730	539	1,206	383	70	66	61	45	71	58	52	43
Harpoon	547	23	505	18	92	93	91	96	78	100	85	75
Total	2,277	562	1,711	401	75	72	63	49	71	59	52	43

- General category (includes charter/headboat) vessel reporting compliance started low and is improving each year.
- Harpoon category compliance is generally high but variable each year.

Preliminary data through August 14, 2020

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Additional burden to fishermen

We do not consider the additional burden of reporting every fishing event to be a big “ask” for the fishermen, given the obvious benefits. The few minutes needed by a commercial fisherman to report every trip is easily justifiable when considering the resultant improved accuracy in CPUE data. Our science benefits from improved CPUE data.

Capturing Data on Releases

Although it is difficult for us to imagine why a commercial fisherman would burn fuel for the purpose of doing catch-and-release fishing, this has become a rather common event in recent years, no doubt probably due to the following:

- high levels of BFT abundance in inshore areas since 2015.
- a daily retention limit for most of the fishing season of 1 BFT per day/trip. (If a BFT is caught in the morning and the fisherman wants to continue to fish in the afternoon, he can presently elect to practice catch-and-release.)
- extended periods in which the fishery is closed due to early utilization of subquota.

- a migration of recreational permits to the General Category (“Wicked Tuna Effect”). (Catch-and-release is primarily a recreational activity.)

Outreach

The success of any regulation regarding catch reporting is dependent upon sufficient outreach. ABTA is willing to partner with NOAA on a coordinated outreach program.

Fishermen do need to understand why the data we seek is so important. Most fishermen don’t understand how CPUE is calculated and are not aware of the importance of this data for themselves, managers and scientists. A simple explanation should be a part of any outreach. Fishermen need to understand why it is in their own best interest to provide this data.

Some Considerations

1. We are assuming that the regulatory process needed for modifying regulations regarding reporting will be frameworkable.
2. The exact type and number of data elements must be reviewed and established. There are some elements in the present questionnaire that are not necessary.

ABTA appreciates your consideration of the foregoing and we look forward to further comments/discussion.

Cordially,

David Schalit, President
American Bluefin Tuna Association

cc: ABTA Board