



UNITED STATES  
National Ocean  
NATIONAL MARINE FISHERIES SERVICE  
West Coast Region  
1201 NE Lloyd Boulevard  
PORTLAND, OREGON 97232-1274

Agenda Item J.3.a  
Supplemental NMFS Report 2  
November 2018

November 2, 2018

Mr. Phil Anderson, Chairman  
Pacific Fishery Management Council  
7700 NE Ambassador Place, Suite 101  
Portland, OR 97220-1384

Dear Mr. Anderson,

This letter is to notify you that the National Marine Fisheries Service (NMFS) has determined that the Eastern Pacific Ocean (EPO) stock of yellowfin tuna (*Thunnus albacares*) is *not overfished* but is *subject to overfishing*, and that the Pacific Fishery Management Council (Council) must make recommendations within the next year to address the status of this stock as required by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

### ***Background***

Yellowfin tuna is assessed as two separate stocks in the Pacific Ocean. These include the Western Central Pacific Ocean (WCPO) stock and the EPO stock. The geographic range of the EPO stock is generally defined as Pacific Ocean waters east of 150°W. Movement rates across 150°W cannot be estimated with currently-available tagging data. Currently, the best scientific information available (BSIA) for assessing the status of this stock assumes a single stock of yellowfin tuna in the EPO. The BSIA takes into account empirical patterns indicating site fidelity in tagging studies, and geographic variation in fishery catch-per-unit effort and genetic studies.

The EPO stock is subject to both international and domestic management efforts. The portion of the EPO stock's range that exists to the east of 150°W and between 50°N and 50°S is in the Inter-American Tropical Tuna Commission (IATTC) Convention Area and is subject to the authority of the IATTC. Yellowfin tuna is also a management unit species under the Fishery Management Plan for U.S. West Coast Fisheries for Highly Migratory Species (HMS FMP). Similarly, the species is a management unit species under the Fishery Ecosystem Plan for Pacific Pelagic Fisheries of the Western Pacific Region (Pelagic FEP), developed by the Western Pacific Fishery Management Council (WPFMC). In general, fishing by U.S. vessels out of U.S. West Coast ports or in the exclusive economic zone (EEZ) off the U.S. West Coast falls under the jurisdiction of the Council.

### ***Basis for Stock Status Determination***

The HMS FMP and the Pelagic FEP set forth status determination criteria, consistent with National Standard 1 guidelines, used to determine the overfishing and overfished statuses for stocks in these plans. Both use a maximum fishing mortality threshold (MFMT) to determine an overfishing status and a minimum stock size threshold (MSST) to determine an overfished status. Under both plans,  $MSST = cB_{MSY}$  where  $c$  is 1 minus the natural mortality rate ( $M$ ) or 0.5, whichever is greater, and  $B_{MSY}$  is the biomass needed for maximum sustainable yield (MSY). Expressed as a ratio, a stock is overfished when  $B_{year}/B_{MSY} < \text{the greater of } 1-M \text{ or } 0.5$ . NMFS uses estimates of spawning biomass (SSB) in determining stock status whenever possible per NMFS' National Standard 1 guidelines at 50 CFR 600.310(e)(i)(C). Overfishing occurs when fishing mortality ( $F$ ) exceeds the fishing mortality rate that produces MSY ( $F_{MSY}$ ) for a period of one year or more. Expressed as a ratio, the MFMT for the stock is exceeded when  $F_{year}/F_{MSY} > 1.0$ .



For the purposes of considering status determination criteria for yellowfin tuna in the EPO, NMFS determined that the BSIA comes from an assessment conducted by the IATTC Scientific Staff and finalized in 2018. This assessment was an update using data through 2017 and the same model as the 2017 assessment (Stock Synthesis v 3.23b). Scientists from NMFS' Southwest Fisheries Science Center (SWFSC) participated in the review of the assessment via the IATTC's Scientific Advisory Committee (SAC). In a letter to the West Coast Region dated September 25, 2018, the SWFSC stated that the assessment used the BSIA for the purpose of judging the status of the stock.

The results of the 2018 IATTC assessment support NMFS' determination that the stock of yellowfin tuna in the EPO is *not overfished*, but is *subject to overfishing*. The assessment supports a determination that yellowfin tuna in the EPO is *subject to overfishing* because the fishing mortality rate is greater than MFMT ( $F_{\text{proxy}} = 1 - F_{2015-2017} / F_{\text{MSY}} = 1.01$ ; only the ratio was available), but is *not overfished* because stock size ( $S_{2017} = 3,925$  mt)<sup>1</sup> is greater than MSST ( $\text{MSST} = 1,817$  mt).

No permanent limit reference points have been agreed upon by the IATTC for determining the overfishing or overfished status of the yellowfin tuna stock in the EPO. While the IATTC has adopted interim limit and target reference points, how these reference points relate to the HMS FMP status determination criteria is undefined. More generally, the IATTC has a long-standing practice of referring to a stock as *overfished* if biomass is estimated to be below  $B_{\text{MSY}}$  and *subject to overfishing* if fishing mortality is estimated to be above  $F_{\text{MSY}}$ .

### ***Total Catch***

In 2015 through 2017, purse seine sets on yellowfin tuna accounted for 94.5 percent of the total catch in the EPO. Purse seine vessels generally make three types of sets, i.e., sets in association with dolphins, non-associated sets, and floating object (or fish aggregating device (FAD)) sets. Longline harvest accounted for 4.2 percent of the total catch from 2015 to 2017. The remaining catch during that time was taken with recreational gear (approximately 0.3 percent), gillnets (less than 0.1 percent), and other sources (approximately 1 percent).

Mexico, Ecuador, Venezuela, Panama, Colombia, and Nicaragua make up the majority of catch of the yellowfin tuna in the EPO. Vessels from these countries typically make purse seine sets on yellowfin tuna associated with dolphins. Sets made in association with dolphins catch the majority of yellowfin tuna.<sup>2</sup> Yellowfin tuna caught in association with dolphins are typically larger/adult fish, compared to those caught in association with FADs, which are typically juvenile fish. Compared to sets on dolphins, yellowfin tuna are caught less in association with FADs and least frequently with non-associated sets (on average).

The U.S. catch of yellowfin tuna in the EPO from 2015 through 2017 was less than 3 percent of the total catch. Purse seine vessels accounted for nearly 80 percent of the total U.S. catch of yellowfin in the EPO during this time. U.S. purse seine vessels typically make either unassociated sets or sets on FADs.<sup>3</sup> Recreational vessels accounted for nearly 14 percent of the U.S. catch of yellowfin tuna in the EPO. U.S. recreational landings for yellowfin tuna also occur in Hawaii; however, these fish are assumed to have been taken from WCPO stock area, not the EPO stock area, as Hawaii-based recreational vessels

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<sup>1</sup> S is a unitless index of spawning biomass.

<sup>2</sup> Sets in association with dolphins made up an average of 70 percent of yellowfin tuna caught on large purse seine from 2013 to 2015.

<sup>3</sup> Of the total weight of tropical tuna retained by large U.S. purse seine vessels from 2012-2016, 74 percent were caught in sets on FADs).

would not typically travel east of 150°W. Lastly, longline vessel landings accounted for slightly more than 6 percent of the total U.S. catch of yellowfin tuna in the EPO from 2015 to 2017.

### ***Management Measures in place for 2015 through 2017 and Recently Implemented Measures***

As noted above, the current stock assessment for yellowfin tuna in the EPO, and resultant determination of that yellowfin tuna in the EPO is *subject to overfishing*, is based on an estimate of fishing mortality from 2015 through 2017; however, management measures influencing fishing mortality during that time differ from what is in place now. From 2015 through 2017 and to-date, no changes have been made to management measures in place under the Magnuson-Stevens Act or to relevant regulations of the state of California. However, a number of changes occurred in the management measures agreed upon by the IATTC and implemented by NMFS under the Tuna Conventions Act.

U.S. fleets that catch yellowfin tuna in the EPO are subject to permitting and monitoring requirements, and other management measure likely to influence fishing mortality on yellowfin tuna under the Magnuson-Stevens Act, as well as through state regulations. For example, regulations prohibit fishing with deep-set longline in the EEZ, and fishing with shallow-set longline east of 150°W pursuant to the HMS FMP (i.e., with an exception that shallow-set longline vessels can fish east of 150°W, but outside the U.S. West Coast EEZ, with a Hawaii longline permit). Regulations at 50 CFR 660 Subpart K 660.721 specify filleting restrictions for tuna caught by recreational vessels fishing south of Point Conception for the purposes of identifying different species, and enforcing recreational limits on tuna species. There are no federal bag limits for yellowfin tuna; however, regulations put in place by the state of California specify a bag limit of 10 fish per day per person. While recreational gear accounted for up to 14 percent of the total U.S. catch of yellowfin in the EPO, IATTC resolutions concerning tropical tunas do not include measures for recreational fleets.

For 2015 and 2016, management measures implemented under the Tuna Conventions Act were consistent, and not significantly different than those implemented in previous years. However, in 2017, the IATTC adopted Resolution C-17-01, for one year only, and then amended that resolution with Resolution C-17-02 mid-year, such that different management measures applied for the end of the 2017 calendar year. In addition to provisions amending management measures of Resolution C-17-01, IATTC Resolution C-17-02 also included a set of management measures for 2018 through 2020. However, the level of fishing mortality under these management measures has yet to be evaluated. NMFS implemented the management measures described in these resolutions as applicable to the U.S. fleet under the Tuna Conventions Act. Key measures intended to limit fishing mortality in the fishery are described below.

Generally, under the Tuna Conventions Act, large purse seine vessels have been subject to between 31 and 72 closure days in the EPO (with an exception that vessels of size class 4 can make a single fishing trip of up to 30 days during the closure periods, provided that an observer is onboard). Vessels are also subject to 31 days of closure in an area referred to as the corralito area (i.e., the area encompassing 96°W and 110°W, and between 4°N and 3°S). In addition, vessels must practice full retention of yellowfin (and other tropical tunas), with only minor exceptions. The IATTC classifies large purse seine vessels according to the categories described in **Table 1** below. Longline vessels typically target bigeye tuna, but yellowfin and skipjack tunas may be caught as well. Until 2018, large longline vessels (i.e., those greater than 24 meters) have been subject to a 500 metric ton (mt) catch limit.

**Table 1.** Categories by which the IATTC classifies purse seine vessels.

| Class Size  | Carrying capacity (mt) | Fish Hold Volume (m <sup>3</sup> ) |
|-------------|------------------------|------------------------------------|
| 1 ('small') | <46                    | <54                                |
| 2 ('small') | 46-91                  | 54 – 107                           |
| 3 ('small') | 92-181                 | 108 – 212                          |
| 4 ('large') | 182 – 272              | 213 – 318                          |
| 5 ('large') | 273 – 363              | 319 – 425                          |
| 6 ('large') | >363                   | >425                               |

In February 2017, the IATTC adopted Resolution C-17-01, which specified conservation and management measures for tropical tunas, including yellowfin tuna, in the EPO for 2017 only. To comply with this Resolution, NMFS implemented the measures through a final rule in April of 2017 (82 FR 17382, April 11, 2017; 41562). The measures extended those of previous resolutions concerning tropical tunas including, the 500 mt bigeye catch limit for large longline vessels, a 62-day closure period for large purse seine vessels, and the corralito closure. New to the IATTC management measures were requirements for total allowable catches (TACs) for yellowfin and bigeye tuna harvested in purse seine sets by all nations on FADs (TAC = 97,711 mt), and in sets by all nations that involve chasing and encircling of dolphins (TAC = 162,182 mt). However, in response to concerns for increased fishing capacity and the TACs inciting a race-to-fish, the IATTC adopted Resolution C-17-02 in July 2017, which amended Resolution C-17-01 to remove the TACs for bigeye and yellowfin tuna in the EPO, replacing the TACs with an extension of the purse seine closure period from 62 to 72 days, with a 10-day exception for vessels with dolphin mortality limits. The dates for the corralito closure were also amended to ensure that they did not overlap with the extended purse seine closure period. NMFS prepared regulations to implement the amended Resolution C-17-01, which became effective September 29, 2017, through the end of the calendar year (82 FR September 1, 2017).

In addition to amending IATTC Resolution C-17-01, IATTC Resolution C-17-02 also specified conservation measures for tropical tunas in the EPO for 2018 through 2020. This Resolution again included the corralito closure and the 72-day time and area closures for the large purse-seine fleet. For 2018 through 2020, Resolution C-17-02 removed the 10-day exception to the large purse seine closure period for vessels with dolphin mortality limits as well as the longer-standing provision that allowed purse seine vessels of size class 4 to make a single fishing trip of up to 30-days during the closure periods, provided that an observer was onboard. The Resolution also included new provisions on purse seine fishing on FADs—notably, design standards and limits on the number of active fish aggregating devices that each purse vessel may have at any one time in the IATTC Convention Area<sup>4</sup>. Lastly, the resolution increased the U.S. bigeye catch limit for longline vessels over 24 meters by 250 mt to a total of 750 mt, and established procedures and restrictions on transfers of allowable longline catches between IATTC members (i.e., no more than 30 percent of a country's catch limit may be transferred in a single year). NMFS implemented IATTC Resolution C-17-02 through a rulemaking under the Tuna Conventions Act, which became effective July 18, 2018 (83 FR 15503, April 11, 2018).

While fishing mortality levels under management measures for 2018 through 2020 have yet to be assessed, the IATTC Scientific Staff, in the interim, made the following conservation recommendations to the IATTC based on the 2018 tropical tuna assessments:

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<sup>4</sup> These limits include up to 450 FADs for class 6 vessels with 1,200 cubic meters well volume and greater, up to 300 FADs for class 6 vessels with less than 1,200 cubic meters well volume), up to 120 FADs for class 4-5 vessels, and up to 70 FADs for class 1-3 vessels.



1.) Maintain the provisions of the current resolution (C-17-02).

2.) For the purse-seine fishery, limit the total annual number of floating-object and unassociated sets combined by Class-6 vessels in 2019 and 2020 to 15,723. Once the limit is reached, only allow dolphin-associated sets during the rest of that year, and require all vessels without a Dolphin Mortality Limit to return to port.

The IATTC did not adopt the latter recommendation of the IATTC Scientific Staff for Resolution C-17-02. The United States, its constituents, and other member countries expressed concerns about uncertainties of the bigeye tuna stock assessment and the potential to incite a race-to-fish as appeared to happen with the TACs implemented under C-17-01. Lastly, it was acknowledged that C-17-02 had not yet been in effect for a whole year, nor had fishing mortality under those measures been evaluated.

### ***Council Obligations***

Per Section 304(i) of the Magnuson-Stevens Act, the Council is obligated to respond to this determination because the overfishing of yellowfin tuna in the EPO is due largely to excessive international fishing pressure and because it has not been determined that management measures adopted by the IATTC in 2018 will end overfishing.

Consistent with Magnuson-Stevens Act section 304(i), the Council is required to:

- (1) Within one year, develop and submit recommendations to the Secretary of Commerce for domestic regulations to address the relative impact of fishing vessels of the United States on the EPO yellowfin tuna stock, and
- (2) Develop and submit recommendations to the Secretary of State and to Congress for international actions that will end overfishing on the EPO yellowfin tuna stock.

My staff in the Sustainable Fisheries Division is ready to work with the Council in its efforts to make recommendations regarding the status of yellowfin tuna in the EPO. Please contact Heidi Taylor with any questions by email ([heidi.taylor@noaa.gov](mailto:heidi.taylor@noaa.gov)) or phone (562-980-4039).

Sincerely,



Barry A. Thom  
Regional Administrator

cc: NMFS Pacific Islands Regional Office – M. Tosatto  
Western Pacific Fishery Management Council – K. Simonds  
Pacific Fishery Management Council – C. Tracy  
NOAA General Counsel, Southwest Section – J. Feder  
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