



**NORTHERN COMMITTEE  
THIRTEENTH REGULAR SESSION**  
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**Harvest Strategy for Pacific Bluefin Tuna Fisheries**

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**WCPFC-NC13-2017/DP-12**

**UNITED STATES OF AMERICA**

# **HARVEST STRATEGY FOR PACIFIC BLUEFIN TUNA FISHERIES**

**Proposal by the United States of America  
to the  
Thirteenth Regular Session of the Northern Committee  
  
Commission for the Conservation and Management of  
Highly Migratory Fish Stocks in the Western and Central Pacific Ocean**

## **Introduction and scope**

This harvest strategy has been prepared in accordance with the Commission's Conservation and Management Measure on Establishing a Harvest Strategy for Key Fisheries and Stocks in the Western and Central Pacific Ocean.

This harvest strategy applies to the stock(s) of Pacific bluefin tuna (PBF) within the Convention Area and associated fisheries. The Northern Committee may determine the boundaries of such stock(s) for the purpose of applying this harvest strategy and recommending conservation and management measures. Although the provisions of this harvest strategy are expressed in terms of a single stock, they may be applied to multiple stocks as appropriate and as determined by the Northern Committee.

## **1. Management objectives**

The management objectives are, first, to support thriving Pacific bluefin tuna fisheries across the Pacific Ocean while maintaining the stock at levels capable of producing maximum sustainable yield, and second, to maintain an equitable balance of fishing privileges among members and between the fisheries in the western and central Pacific Ocean (WCPO) and those in the eastern Pacific Ocean (EPO).

## **2. Reference points**

Because steepness in the stock-recruitment relationship is not well known but the key biological and fishery variables are reasonably well estimated,<sup>1</sup> the stock of PBF is to be treated as a Level 2 stock under the Commission's hierarchical approach for setting biological limit reference points.

- The initial rebuilding target for the PBF stock size is the median SSB estimated for the period 1952 through 2014, to be reached by 2024 with a 60% probability.

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<sup>1</sup> See the information provided by the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (WCPFC-NC9-2013/IP-03) in response to a request made by the Northern Committee at its Eighth Regular Session (Attachment F of the report of NC8).

- The second rebuilding target for the PBF stock size is  $20\%SSB_{\text{current},F=0}^2$ , to be reached by [2030], or 10 years after reaching the initial rebuilding target, whichever is earlier, with a 60% probability.
- The limit reference point for the PBF stock size (B-limit) is  $15\%SSB_{\text{current},F=0}^3$ .
- The Northern Committee may recommend a limit reference point for the PBF fishing mortality rate (F-limit).
- The Northern Committee will develop more refined management objectives, conduct or request from the ISC any necessary further analysis, such as an evaluation through MSE and specify a target reference point for the PBF stock size (B-target) and/or the exploitation rate (F-target).

### 3. Acceptable levels of risk

Until the stock is rebuilt, the Northern Committee will recommend conservation and management measures as needed to ensure rebuilding in accordance with the probabilities specified above for each of the two rebuilding targets.

Once the stock is rebuilt, in accordance with Article 6.1(a) of the Convention, the Northern Committee will recommend conservation and management measures as needed to ensure that the risk of the stock size declining below the B-limit is very low.<sup>4</sup>

### 4. Monitoring strategy

The ISC and the Scientific Committee will periodically evaluate the stock size and exploitation rate with respect to the established reference points with a target frequency of once every two years.

### 5. Decision rules

B-limit rule:<sup>5</sup> In the event that, based on information from the ISC and the Scientific Committee, the stock size is found, with at least 50 percent probability, to have declined below the B-limit at any time, the Northern Committee will, at its next regular session, or

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<sup>2</sup> Consistent with the method used by the WCPFC with respect to its limit reference points, the time period to be used for  $SSB_{\text{current},F=0}$  shall have a length of 10 years and be based on the years  $t_1=y_{\text{last}}-10$  to  $t_2=y_{\text{last}}-1$  where  $y_{\text{last}}$  is the last year used in the assessment; and the approach used for calculating the unfished biomass levels shall be based on scaled estimates of recruitment according to the stock recruitment relationship.

<sup>3</sup> See other relevant decisions of the Commission regarding the methods to be used to estimate  $SSB_{\text{current},F=0}$ .

<sup>4</sup> WCPFC13 agreed that any risk level greater than 20 percent to be inconsistent with the limit reference point related principles in UNFSA (as references in Article 6 of the Convention) including that the risk of breaching limit reference points be very low.

<sup>5</sup> At the time of adoption of this harvest strategy, the PBF stock is overfished, and management of the stock will be governed by the rebuilding targets, schedules, and probabilities until the stock is rebuilt. The decision rule adopted here is to be applied if and when the stock becomes overfished in the future, after the stock is rebuilt from its currently overfished state.

intersessionally if warranted, adopt a reasonable timeline, but no longer than 10 years, for rebuilding the stock to at least  $20\%SSB_{\text{current},F=0}$  and recommend conservation and management measures that can be expected to achieve such rebuilding within that timeline, with at least 75 percent probability.

## **6. Performance evaluation**

Until the stock is rebuilt, the Northern Committee will work with the ISC and the Scientific Committee and consult with the IATTC to identify and evaluate the performance of candidate rebuilding strategies with respect to the rebuilding targets, schedules, and probabilities.

As more refined management objectives are developed for the PBF stock and/or associated fisheries, the Northern Committee will work with the ISC and the Scientific Committee and consult with the IATTC to identify and evaluate the likely performance of candidate target reference points and harvest control rules, including, if appropriate, through a rigorous management strategy evaluation (MSE).

In evaluating the performance of candidate rebuilding strategies, target reference points, and harvest control rules, the Northern Committee, in consultation with the ISC, the Scientific Committee, and the IATTC, should consider the following criteria:

1. Probability of achieving each of the rebuilding targets within each of the rebuilding periods (if applicable).
2. Time expected to achieve each of the rebuilding targets (if applicable).
3. Expected annual yield, by fishery.
4. Expected annual fishing effort, by PBF-directed fishery.
5. Inter-annual variability in yield and fishing effort, by fishery.
6. Probabilities of SSB falling below the B-limit and the historical lowest level.
7. Probability of fishing mortality exceeding  $F_{\text{MSY}}$  or an appropriate proxy, and other relevant benchmarks.
8. Expected proportional fishery impact on SSB, by fishery and by WCPO fisheries and EPO fisheries.

The ISC is requested to perform the evaluations as part of a formal MSE. Recognizing that developing the operating model and other aspects of the MSE will take time and additional resources, and might require further dialogue between the Northern Committee, the ISC, and the IATTC, while the MSE is in development the ISC is requested to perform this work using the best means at its disposal.