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REBUILDING PLAN FOR PACIFIC BLUEFIN TUNA

WCPFC-NC11-2015/DP-03

UNITED STATES OF AMERICA

REBUILDING PLAN FOR PACIFIC BLUEFIN TUNA

Proposal by the United States of America
to the
Eleventh Regular Session of the Northern Committee

Commission for the Conservation and Management of
Highly Migratory Fish Stocks in the Western and Central Pacific Ocean

Explanatory Note

This proposal would establish objectives and a strategy for rebuilding Pacific bluefin tuna (PBF).

Rebuilding objectives:

The primary objective in any rebuilding plan is to rebuild the stock to a specified level ("rebuilding target") in a specified time ("rebuilding period"). This proposal recognizes the initial rebuilding target adopted in 2014, and would establish a more ambitious target to be reached by 2030.

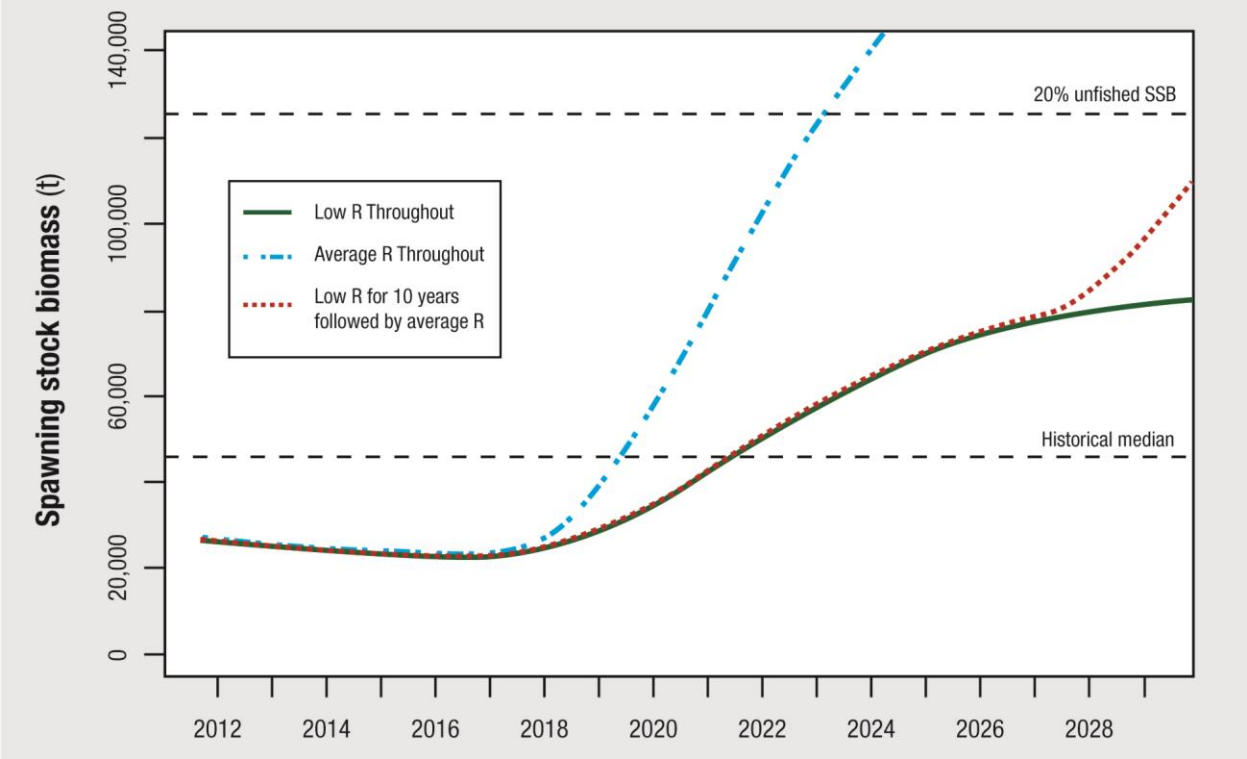
Given the WCPFC's hierarchical approach for setting reference points, and that the stock-recruitment relationship for Pacific bluefin tuna is not well known (in the latest stock assessment steepness was fixed at 0.999, and the ISC Pacific Bluefin Tuna Working Group noted that the estimate was highly uncertain), we firmly believe that the rebuilding target should be expressed in terms relative to the estimated unfished spawning stock size. A rebuilding target related to historical stock sizes (e.g., the initial target of median historical SSB), is not an appropriate application of the precautionary approach for fisheries management, particularly since the latest stock assessment indicates that the Pacific bluefin tuna spawning biomass has been substantially depleted throughout much of the stock assessment period.

With respect to the specific proportion of the unfished spawning stock size that should be the rebuilding target, we note that Article 6.1 of the WCPF Convention, by reference to Annex II of the UN Fish Stocks Agreement, provides that "For overfished stocks, the biomass which would produce maximum sustainable yield [B_{MSY}] can serve as a rebuilding target." Twenty percent of the unfished spawning stock size has been recommended as a reasonable proxy for B_{MSY} for stocks with at least average resilience,[1] and it has been used as a reference point in place of B_{MSY} in various fisheries. It is being used by the Commission for the Conservation of Southern Bluefin Tuna as an interim rebuilding target (to be achieved by 2035). The International Commission for the Conservation of Atlantic Tunas is using B_{MSY} as the rebuilding target for stocks of Atlantic bluefin tuna. The WCPFC has adopted $20\%SSB_{current,F=0}$ as the limit reference point—as a proxy for B_{MSY}—for the three tropical tuna stocks and for North Pacific and South Pacific albacore.

[1] For example: Mace P.M. 1994. Relationships between common biological reference points used as thresholds and targets of fisheries management strategies. Can. J. Fish. Aquat. Sci. 51:110-122.

Figure 1 shows expected rebuilding—under three recruitment assumptions—for the most restrictive harvest scenario (#6) considered by the ISC, which approximates the management measures currently in place in the WCPO and EPO. Also indicated in Figure 1 is the initial rebuilding target (historical median SSB, estimated in the last assessment to be 43,000 mt) and the ultimate rebuilding target proposed here (20% of the unfished SSB, estimated in the last assessment to be 124,000 mt). In 2015 the ISC revisited these projections given recent CPUE in Japan's troll fisheries and advised that the expected outcomes are not substantially different (see the report of ISC15).

Figure 1. Expected Pacific bluefin tuna rebuilding trajectories under NC9's harvest scenario #6 and three alternative recruitment conditions (adapted from Figures A-C of ISC/14/PLENARY/10; see those figures for uncertainty and additional information).



In addition to the primary objective of rebuilding the PBF stock, this proposal includes secondary objectives related to fishing opportunities during the rebuilding period and equitability in the conservation burden.

Rebuilding strategy:

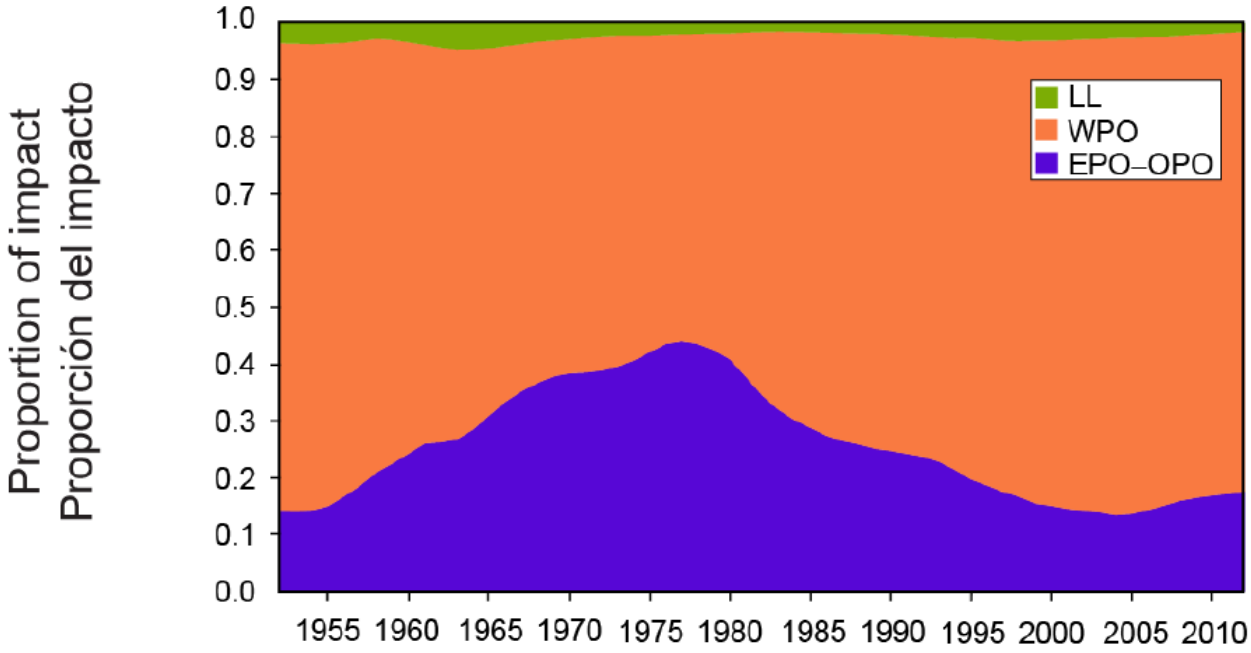
This proposal would establish a process for evaluating the performance of alternative harvest scenarios with respect to the rebuilding objectives. The ISC is requested to conduct the evaluation using whatever tools are at its disposal, but the proposal envisions that ultimately a formal management strategy evaluation (MSE) would be developed and implemented.

Coordination between the WCPFC and IATTC:

Although the decisions of the WCPFC and IATTC reflect their commitment to work together to rebuild the PBF stock, coordination has been challenging. This situation is a result of logistical reasons (e.g., the respective timing of their meetings) and the challenge in finding a balance in conservation actions on both sides of the ocean that is perceived to be equitable by both organizations. This challenge is exacerbated by the two organizations choosing different management strategies (effort and catch limits in the WCPO; catch limits in the EPO), and the fisheries on each side having very different histories. This proposal seeks to resolve these difficulties by reaching an understanding in balancing conservation actions.

We propose to express that balance in terms of the proportion of total fishery impact to the SSB of the respective fisheries in both sides of the ocean. We believe this is an objective and appropriate measure. After examining the history of the relative impacts of the fisheries on the two sides of the ocean, as shown in Figure 2, we suggest that a balance of 75% impact in WCPO fisheries and 25% impact in EPO fisheries would be appropriate. It can be seen in Figure 2 that from 1950 to 2013 the proportional impacts of the WCPO:EPO fisheries have ranged from approximately 87:13 to 55:45, and the breakdown in 2012 was approximately 82:18.

Figure 2. Impacts of longline fisheries, WCPO non-longline fisheries, and EPO purse seine and sport fisheries on the SSB of PBF (Figure 19 in IATTC Document SAC-05-10a).



Conservation and Management Measure to
Establish a Rebuilding Plan for Pacific Bluefin Tuna

The Western and Central Pacific Fisheries Commission (WCPFC):

Recognizing that the latest stock assessment of Pacific bluefin tuna (PBF), completed by the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) in 2014, indicates that the stock is in a severely depleted condition, with the spawning stock biomass (SSB) in 2012 estimated to be less than six percent of the unfished size;

Noting that the ISC has advised that stock projections under the strictest harvest scenario considered to date indicate a likely increase in SSB under the low-recruitment scenario that was considered.

Understanding that PBF is a Pacific-wide stock that should be managed jointly by the WCPFC and IATTC.

Adopts, in accordance with Article 10 of the WCPFC Convention, the following rebuilding plan for PBF:

1. Rebuilding Objectives

1.1. The primary objective is to rebuild the PBF stock as follows:

- The initial rebuilding target is the median SSB estimated for the period 1952 through 2011, to be reached by 2024;
- The ultimate rebuilding target is 20%$SSB_{current,F=0}$,[2] to be reached by 2030.

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1.2. During the rebuilding period, secondary management objectives are to:

- Minimize short-term risks to the stock;
- Maintain or enhance fishing opportunities in all existing PBF-directed fisheries to the extent compatible with the primary objective;
- Maintain an equitable balance of conservation burden among members and between the western and central Pacific Ocean (WCPO) and eastern Pacific Ocean (EPO).

2. Rebuilding Strategy

2.1. Based on the recommendations of the Northern Committee, which will consider management needs on a regular basis, the WCPFC will adopt conservation and management measures that—together with the decisions of the IATTC—have a reasonably high probability of achieving the rebuilding targets within the rebuilding periods and that achieve the secondary objectives to the extent possible.

[2] See other relevant decisions of the Commission regarding the methods to be used to estimate $SSB_{current,F=0}$.

2.2. In support of the preceding paragraph, the ISC is requested to evaluate the expected performance of candidate harvest scenarios, as described below. The ISC is invited to evaluate additional candidate harvest scenarios and/or performance criteria, including any requested by the IATTC.

- **Candidate harvest scenarios:** The following scenarios should be evaluated under an appropriate range of assumptions regarding future recruitment and biological parameters, particularly with respect to the stock-recruitment relationship.

    1. 2002-04 fishing effort in all WCPO PBF-directed fisheries; 50% of 2002-04 catches of <30kg PBF in all WCPO fisheries; 2002-04 catches of ≥30kg PBF in all WCPO fisheries; and 3,300 mt/yr in EPO commercial PBF fisheries (i.e., current management measures in WCPO and EPO).[3]
    2. 2002-04 fishing effort in all WCPO PBF-directed fisheries; 50% of 2002-04 catches in all WCPO fisheries; 3,300 mt/yr in EPO commercial PBF fisheries (i.e., current management with additional reduction for large fish in WCPO).[3]
    3. 50% of 2010-2012 catches (all fish sizes) in all EPO and WCPO fisheries.
    4. 30% reduction in catches from:
        a. Harvest scenario 1
        b. Harvest scenario 2
        c. Harvest scenario 3
    5. 50% reduction in catches from:
        a. Harvest scenario 1
        b. Harvest scenario 2
        c. Harvest scenario 3
    6. A harvest control rule in which catches in each fishery are limited, and reset every three years in concert with the latest stock assessment such that: (1) the rebuilding target is achieved in the rebuilding period on an approximately linear trajectory, and (2) the limits are distributed among fisheries such that the distribution of the fishery impact on SSB is:
        a. As would be expected under harvest scenario 1
        b. WCPO fisheries accounting for [75%] and EPO fisheries accounting for [25%]
    7. A harvest control rule in which catches in each fishery that takes PBF of less than 30kg are limited, and reset every year in concert with the latest value of a recruitment index based on catch per unit effort in one or more of the most appropriate of Japan's inshore fisheries, lagged appropriately. The harvest control rule shall also be set such that it achieves the rebuilding targets on schedule, with the catch limits distributed among fisheries such that the distribution of fishery impact on SSB is
        a. As would be expected under harvest scenario 1
        b. WCPO fisheries accounting for [75%] and EPO fisheries accounting for [25%]

[3] For the fisheries in which *F* is not explicitly limited, the projections should be run such that F in the fishery is not allowed to exceed ten times the 2010-2012 average level in that fishery.

- **Performance measures:**

    1. Probability of achieving each of the rebuilding targets within each of the rebuilding periods.
    2. For scenarios 1 to 5, the time expected to achieve each of the rebuilding targets.
    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. Probability of SSB falling below the historical lowest level.
    7. For scenarios 1-5, expected proportional fishery impact on SSB of WCPO fisheries and of EPO fisheries.

- **Management strategy evaluation:** The ISC is encouraged to perform the evaluations as part of a formal management strategy evaluation (MSE). Recognizing that developing the operating model and other aspects of the MSE will take time and might require further dialogue between the Northern Committee and the ISC, while the MSE is in development the ISC is requested to perform this work using the best means at its disposal.

3. Management after Rebuilding

3.1. Once the WCPFC and IATTC determine that the rebuilding targets have likely been achieved, management of the stock will be guided by a long-term management plan or harvest strategy, and this conservation and management measure will no longer apply.

4. Coordination with the IATTC

4.1. The WCPFC believes that an equitable balance of conservation action between the WCPO and the EPO is one in which WCPO fisheries account for [75 percent] of the total fishery impact on the spawning stock biomass, and EPO fisheries account for [25 percent].

4.2. After consultation with counterparts in the IATTC, the Executive Director will develop and implement a course of action—such as one involving one or more joint meetings of the two organizations or a joint working group—to seek understanding with the IATTC on rebuilding plans, allocation of conservation action, such as expressed in the preceding paragraph, and long-term management of PBF.