

**Summary of a U.S. stakeholder Meeting on Potential Catch Scenarios for a Rebuilding Analysis for Western and Central North Pacific Ocean Striped Marlin**

**Virtual**

On April 8, 2024, the Western Pacific Regional Fishery Management Council (WPFMC) with support from National Marine Fisheries Service (NMFS) Pacific Islands Regional Office (PIRO) and Pacific Islands Fisheries Science Center (PIFSC) hosted a webinar to gather U.S. stakeholder input on potential catch scenarios for the Western and Central Pacific Ocean striped marlin (WCNPO MLS) rebuilding analysis. The meeting was attended by 32 individuals and included participants from NMFS, WPFMC, Department of State, fishing industry (recreational and commercial), and NGOs. A background paper and slides presented during the webinar are included in Appendices I and II, respectively. NMFS posed several questions about the stock rebuilding plan analyses to participants. The summary below was developed from stakeholder input received during and immediately after the webinar.

WCPFC Commissioner, Roger Dang, provided opening remarks, and Dr. Michelle Sculley from PIFSC provided a brief background on management of WCNPO MLS in the WCPFC, reviewed the status of WCNPO MLS from the 2023 stock assessment, and reiterated objectives for the meeting to receive input on rebuilding scenarios to consider for the International Scientific Committee's (ISC) rebuilding analysis.

Related to the specific questions posed by NMFS, several participants expressed support for starting total allowable catch (TAC) reductions in 2025 given the long history of depletion in this stock. Some participants supported a constant catch scenario while others expressed support for phased reductions. In particular, one participant requested inclusion of a scenario with a three-phase reduction noting uncertainties in the stock assessment and catch accounting, and stated that they believed that a phased approach may allow incorporation of better information over time. This would include a gradual reduction in catch over time, with a modest reduction in the first phase. Another participant suggested that if scenarios with phased reductions were included in the analysis, then there should be a larger reduction in the first phase in relation to later phases. A participant asked if it could be possible to explore scenarios that consider impacts from gear modifications (e.g., use of circle hooks, removal of the shallowest hooks, size limits, etc.), and NMFS noted that such scenarios were possible if information was available to translate such fishing operational modifications into catch reductions. NMFS noted there is some information available in scientific literature on post-release survival of live-caught MLS particularly from recreational fleets, and that some fishery observer information on condition of longline-caught is available in the billfish research plan presented in 2023 to the Scientific Committee of the Western and Central Pacific Fisheries Commission (WCPFC).

Many participants expressed concerns with discards and the lack of understanding of discards by other fleets as compared to those reported by the United States, and requested that scenarios that account for unreported discarding be considered. NMFS had stated that the reported U.S. MLS catch data accounts for all removals, including discards and has records of release disposition.

One participant stated they want disparity in catch accounting to be considered in any rebuilding plan analyses, and include an initial phase for other WCPFC members to improve upon this. NMFS noted that some WCPFC members, such as for example Korea, claim their fleets retain all MLS and do not discard, while other members provide no information on discards. NMFS will consider how projections could address uncertainties related to discards and total mortality. One participant asked how the rebuilding analysis this year differed from the projections provided last year, and NMFS noted that projections completed last year were deterministic and included no uncertainty about future outcomes of alternative harvest patterns, meaning that future recruitment was fixed at a constant value, whereas the formal rebuilding scenario analysis in progress in 2024 incorporates variability in future recruitment to characterize the relative risk of alternative rebuilding scenarios. One participant via email asked how the results of different recruitment scenarios will be conveyed in the rebuilding analysis, as presenting them as equally plausible could be confusing for management discussions if there are different results. NMFS replied that no decisions have been made by the ISC Billfish Working Group on how the outputs from the different recruitment scenarios will be presented, but that if they were to be presented individually, some advice will be provided as to the most probable recruitment scenario. NMFS also noted that the default approach to treating alternative recruitment scenarios was to set weights for the alternative models based on out-of-sample predictive accuracy for near-term recruitment observations. This model-weighting approach produces a model-averaged mixture of recruitment scenarios for the 2024 rebuilding analyses similar to that used for the 2021 rebuilding analyses (<https://repository.library.noaa.gov/view/noaa/29537>). Two participants via email also felt that the majority of the TAC scenarios in the rebuilding analysis should be scenarios that meet the objectives of the rebuilding plan.

Although the objective of the meeting was focused on providing input on catch scenarios, participants also raised other concerns related to science, management and implementation issues for WCNPO MLS. Science-focused concerns about the stock assessment included uncertainties on stock boundaries and stock mixing, variations in life history characteristics, outcomes from the upcoming peer review of the 2023 stock assessment and catch statistics. A few participants noted that tagging work in Hawaii has demonstrated some observed mixing between the WCNPO, eastern Pacific Ocean and southwest Pacific Ocean stocks, and expressed concerns with the stock boundaries used in the assessment. One participant noted variations in spawning size for MLS around the Pacific, and NMFS noted that PIFSC recently co-authored a study that showed that female spawners around Hawaii were smaller than female spawners in the southwest Pacific with a median female size at 50% maturity of 152 cm EFL. NMFS also noted that 75-80% of catch by U.S. fishermen as well as by other WCPFC members on the whole is smaller

than the average mature female size and that the lack of observed female spawners in the long-term catch data remains concerning. Participants noted that the 2023 assessment will be undergoing a peer review, and NMFS explained that the results of this peer review will be used to provide guidance on how to improve the next assessment for WCNPO MLS in 2027. One participant asked whether live-releases of MLS from the charter fleet are accounted for in U.S. catch statistics, and NMFS noted that catch statistics from the charter fleet are derived from information provided from the Hawaii Department of Aquatic Resources, and are included in annual Stock Assessment and Fishery Evaluation (SAFE) reports produced by the Council.

Participants also discussed a number of management and implementation-related concerns related to reporting equity, effectiveness of a TAC versus consideration of complementary measures, allocation, and the ability to find agreement internationally on a revised proposal. Many participants expressed a need for greater equity across members in catch reporting, monitoring, discard accounting, and observer coverage. Participants questioned how discards might be accounted for under a TAC both before and after limits are reached, and NMFS explained that currently in its assessment any reported discards are assumed to be dead. Some participants expressed concern that managing WCNPO MLS purely through a TAC may be ineffective since WCNPO are not a target species and that there should be consideration of other management options (e.g., circle hooks, release of live MLS, size limits, removal of shallowest hooks or modifications to longline gear to increase hook depth) in addition to a TAC. Participants also asked about the U.S. contribution of catch and effort of WCNPO MLS. NMFS responded that historically, U.S. catch has represented a moderate proportion of the total catch, i.e., on the order of 15-20%, but that recently catch has been closer to 10% of total catch. Other WCPFC members that catch WCNPO MLS include Japan, Chinese Taipei, China, Vanuatu and Korea. Participants indicated skepticism that other fleets have lower CPUE of MLS compared to the Hawaii LL fleet. One participant noted that because the WCPFC has many other priorities, non-target stocks like MLS tend to receive less attention, and it is important to develop a revised measure for MLS that is sellable, implementable, enforceable and simple enough that it can be adopted at the commission level. Council staff reminded participants that the Council and its Scientific and Statistical Committee had previously recommended a three phase approach, including an initial phase that would have a 50% probability of ending overfishing relative to MSY.

NMFS thanked participants for their input, and noted that the input will be used to develop scenarios to evaluate as part of the rebuilding analysis that the ISC is undertaking, and that the report of this rebuilding analysis would be available after the ISC plenary in June. These results will also be shared with the WCPFC Scientific Committee in August. NMFS will also examine the results of the rebuilding analysis when available and noted that many of the comments from this meeting related to management and implementation would be germane to consider as it considers potential revisions to the CMM ahead of the WCPFC annual meeting in December 2024.

## **Appendix I**

# Identifying Potential Catch Scenarios for the Western and Central North Pacific Striped Marlin Rebuilding Analysis

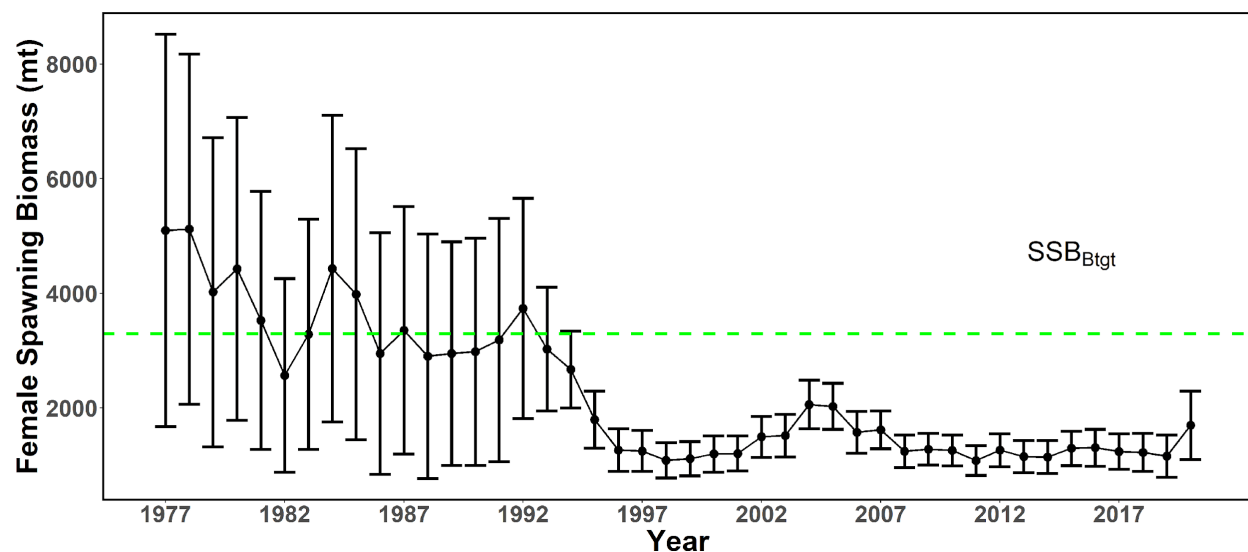
## Purpose

The purpose of this meeting is to gather U.S. stakeholder input on an international rebuilding plan for the Western and Central North Pacific Ocean striped marlin (WCNPO MLS) stock. This input will be used to inform U.S. positions and requests for analyzed options to achieve the rebuilding target.

## Background

The Western and Central Pacific Fisheries Commission (WCPFC) is responsible for international management of WCNPO MLS, and in 2010 adopted a CMM (2010-01) for North Pacific MLS, which limits members' catches of WCNPO MLS to 80% of their highest catch level from 2000-2003. Stock assessments conducted in 2011, 2015 and 2019 concluded that WCNPO MLS is overfished and experiencing overfishing. This poor stock status led the WCPFC to in 2019 adopted an interim rebuilding plan for WCNPO MLS with the objective of rebuilding the stock to 20%  $SSB_{F=0}$  with a 60% probability by 2034.

In 2023, the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Billfish Working Group (ISC BILLWG) completed a new stock assessment of WCNPO MLS. The current average spawning biomass of 1,360 mt was 63% below the rebuilding target of 20%  $SSB_{F=0}$  or 3,660 mt (**Figure 1**) and the current fishing mortality was 0.68 or 28% above the overfishing level of 0.53 ( $F_{20\%SSB(F=0)}$ ). Similar to prior assessments, this assessment indicated that under current conditions the WCNPO MLS stock was very likely overfished and was likely subject to overfishing, and has been since the 1990s. At its 20<sup>th</sup> Annual Meeting in December 2023 (WCPFC20), WCPFC acknowledged the overfished and overfishing status of NP MLS, and noted that it may consider potential revisions to CMM 2010-01 at WCPFC21.



**Figure 1.** Estimated female spawning stock biomass from 1977 to 2020 in metric tons. Dashed green line indicates the 20%SSB<sub>F=0</sub> rebuilding target of 3,660 mt. Biomass below the line indicates years in which the stock is considered overfished.

The WCPFC has asked the BILLWG to provide catch scenarios from 2021-2034 which meet the goals of the rebuilding plan. The BILLWG intends to provide the WCPFC with a suite of possible scenarios that meet the goal of 60% probability of being over 3,660 mt by 2034. As noted above, this information will be used to inform potential proposals to revise the CMM to ensure the rebuilding objective can be met for this stock.

The United States has proposed a catch and retention limit for the stock expected to be in effect for the 2024 fishing year. The proposed regulations include a new domestic catch limit of 457 mt for the United States and an accountability measure for longline fisheries. The regulations were based on recommendations made by the Western Pacific Regional Fishery Management Council in order to satisfy Magnuson-Stevens Act obligations to address international overfishing.

### Meeting Objectives

The BILLWG is soliciting input on different scenarios for evaluation in the WCNPO MLS rebuilding analysis. Table 1 describes some example scenarios that the BILLWG can run. This meeting is an opportunity for stakeholders to provide any input on scenarios the BILLWG can consider evaluating in the WCPNPO rebuilding analysis. Note that this rebuilding analysis is primarily able to evaluate catch-based scenarios, and that catch for 2021-2024 will be based on actual or estimated catch for those years, so input is being solicited for catch from 2025-2034. Effort-based projections (such as changes to gear, etc.) are possible to evaluate if they can be translated into reductions in catch. Projections may also be phased (i.e. incremental reductions) over the rebuilding horizon to optimize yield and allow fisheries to gradually adjust to reductions in catch, while still achieving the rebuilding target. Participants at this meeting will be asked to provide input to the following question:

**What 10-year total catch scenarios would you like to see as potential paths toward reaching the rebuilding target?**

**Table 1.** Example catch scenarios for the WCNPO MLS rebuilding analysis, catch in 2021-2023 are actual catch from the fishery, 2024 is estimated catch based upon 2021-2023 values, 2025 is the start of management quotas in metric tons of biomass.

Scenario	2021-2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Constant 1	Actual Catch	Estimated Catch	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Constant 2	Actual Catch	Estimated Catch	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Phased Catch 1	Actual Catch	Estimated Catch	2400	2400	2400	2400	2400	2000	2000	2000	2000	2000
Phase Catch 2	Actual Catch	Estimated Catch	2000	2000	2000	1800	1800	1800	1500	1500	1500	1500

## **Appendix II**



# Western and Central North Pacific Rebuilding Analysis U.S. Stakeholder Meeting

Michelle Sculley  
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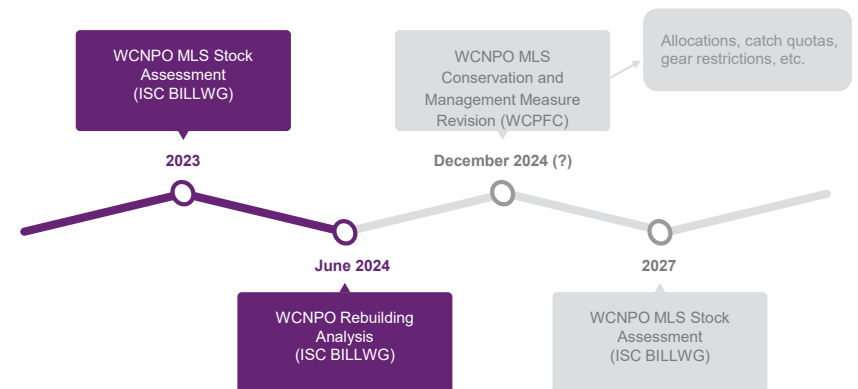
## Welcome

- Introductions
  - Dr. Michelle Sculley, PIFSC, ISC BILLWG Chair
  - Dr. Jon Brodziak, PIFSC, BILLWG member
  - Ms. Emily Crigler, PIFSC
  - Ms. Valerie Post, PIRO
  - Ms. Emily Reynolds, PIRO
  - Dr. Mark Fitchett, WPFMC



## Ground Rules

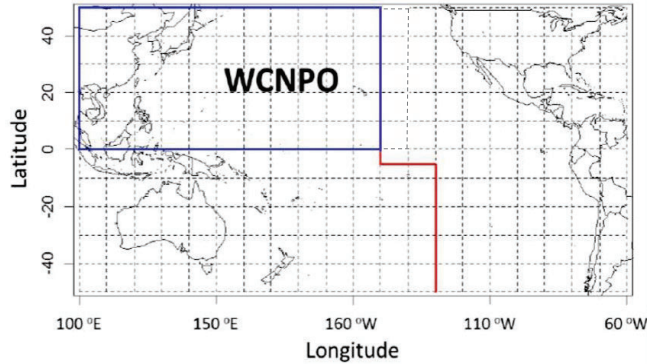
- Please be respectful and polite
- The first time you speak please tell us who you are and where you are from
- We are not here to discuss:
  - US proposed rule on MLS catch limits
  - Allocation or quota distributions between countries
  - Potential methods to meet the catch targets (i.e. gear changes, etc)
- We are here to focus on the science that would determine a catch limit(s) that would allow the stock to rebuild



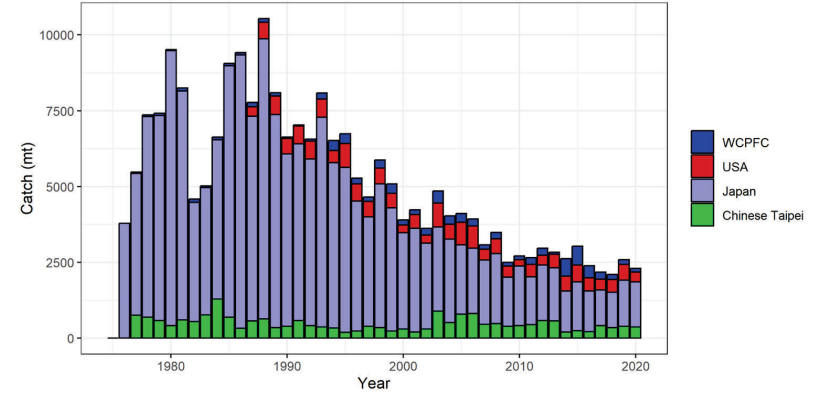


## Background

- WCNPO MLS is managed by the Western and Central Fisheries Commission
- CMM 2010-10 limits members catches to 80% of their highest catch level from 2000-2003



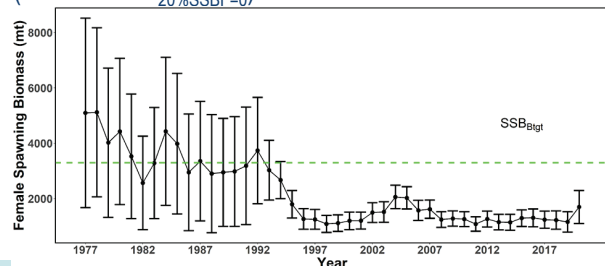
## Background



US longline catch (red) accounts for 15-20% of the total catch

## Background

- Stock assessments by the ISC Billfish Working Group in 2011, 2015, 2019, and 2023 have all indicated that the stock is overfished and overfishing is occurring.
- The 2023 stock assessment estimates that spawning stock biomass in 2020 was 1360 mt (63% below rebuilding target levels of 20%SSB<sub>F=0</sub>) and fishing mortality was 0.68 (28% above F<sub>20%SSBF=0</sub>)



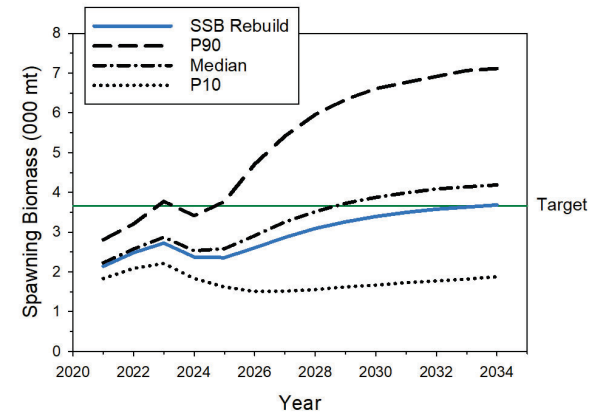
## Background

- The WCPFC at its annual meeting in 2023 indicated it may consider changes to the CMM 2010-01 for WCNPO MLS.
- In 2019, the WCPFC adopted a rebuilding plan for WCNPO MLS with the target of reaching 20%SSB<sub>F=0</sub> by 2034 with a probability of at least 60%.
- The ISC BILLWG has undertaken a rebuilding analysis to provide information on potential scenarios for reaching this target.

## Rebuilding Analysis

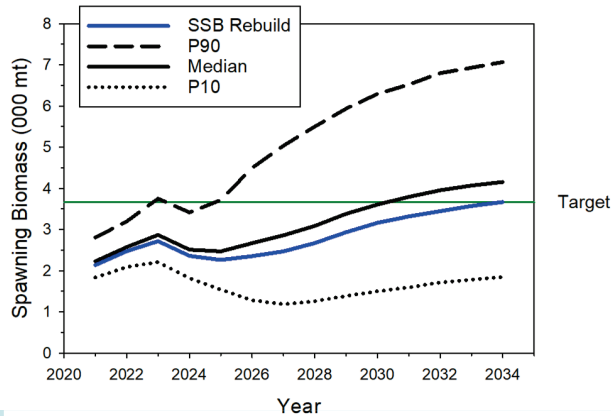
- The rebuilding analysis consists of catch projection scenarios from the final year of the assessment model (2020) to 2034.
- 2021-2024 catch is actual or estimated catch
- 2025-2034 catch reflects the management action
- Effort based scenarios are possible if they are translated into reductions in catch.

## 2025-2034 Total Catch = 2125 mt per year



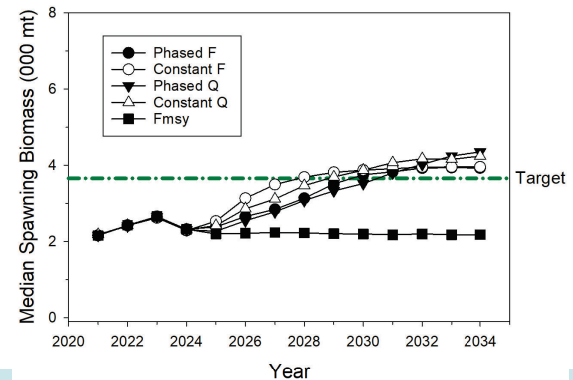
Average catch from 2018-2020: 2,428 mt  
2125 mt is a 13% reduction of catch

## 2-Phase Reduction 2025-2027 - 2400 mt, 2028-2034 - 2100 mt per year



Average catch from 2018-2020: 2,428 mt  
2400 mt is a 1% reduction of catch  
2100 mt is a 12.5% reduction of catch

Ultimately, we intend to provide WCPFC with a suite of options that meet the rebuilding plan requirements



## What 10-year total catch scenarios would you like to see as potential paths toward reaching the rebuilding target?

- Should we start management actions in 2025? Or 2026?
- Would you prefer a slow decrease in catch limit, or a larger hit initially?
- How many phases should we consider? What maximum reduction are you interested in seeing between phases?

## Next Steps

- The rebuilding analysis will be approved by the ISC in June 2024, and reviewed by the WCPFC SC in August 2024
  - The report from the rebuilding analysis will be available for public distribution after the June 2024 meeting
- WCPFC will consider a revision to CMM 2010-01 in December 2024 informed by the results of this rebuilding analysis

