



Status Update on the Bottomfish Management Unit Species Territorial Revision

Working Groups of the Archipelagic Fishery Ecosystem Plan Team:

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Introduction

The species composition of the Bottomfish Management Unit Species (BMUS) stock complexes in each of the territories of the U.S. Pacific Islands are reflective of what was landed at the time the Western Pacific Regional Fishery Management Council (the Council) developed the Bottomfish Fishery Management Plan (FMP). The Council refined the BMUS lists as a part of the Ecosystem Component Species FEP Amendment, during which the Council re-determined species that are in need of conservation and management. The bottomfish fisheries in the territories have evolved over time with the rise and fall of the participation of large vessels, the export of deep water snapper species, and a series of fisheries development projects. There is a need to revisit the designated BMUS to determine whether the current species composition of the stock complexes remain representative of the current fisheries. There is also a need to determine if managing the BMUS complex as individual species or in smaller subgroups with similar life history characteristics would be preferable to managing the complex as a single unit with diverse species that have disparate life histories. The purpose of this action is to refine the BMUS complexes to reflect the current state of the bottomfish fisheries in American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands (CNMI).

At the 190th Council meeting, the Council recommended that staff convene the five Magnuson-Stevens Fishery Conservation and Management Act (MSA) Component Working Groups to provide information in support of the potential BMUS revision amendment. Council staff convened all working groups, and final reports of the working groups will be presented at the 146th Scientific and Statistical Committee (SSC) and 193rd Council meeting. To date, each working group has begun drafting reports on their respective topic as it relates to the revision of the BMUS list in each territory, and status updates are provided below.

Status Determination Criteria (SDC)

Fisheries in the territories are currently considered data-limited, making the use of proxies the most appropriate approach for establishing SDC. The suitability of these proxies depends on how closely a chosen stock or stock complex's characteristics aligns with the underlying stock and fishery characteristics used to derive the proxies. The current Fishery Ecosystem Plan (FEP) sections on the maximum sustainable yield (MSY) based reference points will not change aside

from the addition of a new section that describes the data-limited situation and the flexibility provision of National Standard 1 (NS1). As stated under NS1, “When data are not available to specify SDCs based on MSY or MSY proxies, alternative types of SDCs that promote sustainability of the stock or stock complex can be used.” Moreover, if alternative types of SDCs are used, the Council should explain how the approach will promote sustainability of the stock or stock complex on a long-term basis. The Council should consider a process that allows SDCs to be quickly updated to reflect the best scientific information available (BSIA).

In recent years, the most commonly used data-limited methods are those related to size composition. Such methods use a snapshot or time series of biological compositions (i.e., abundance at length) and life history parameters to estimate the fishing rate that produced the observed composition. The size composition methods are based on a concept termed “catch curve analysis.”

The overfishing SDC (i.e., the Maximum Fishing Mortality Threshold, or MFFT) for composition-based data-limited methods is the same as presented for dynamic age-based assessments. Both are based on the selected % Spawning Potential Ratio (SPR) proxy for that stock or collection of stocks in an FMP. The SDC units can be in terms of the %SPR itself, say SPR45%, or in terms of the F that would produce that SPR level. It is preferable to keep it in terms of the %SPR, which allows the F associated with it to be updated as life history information is updated with new assessments. The overfishing status determination is then made with no special modifications for it being from a data limited method.

Previously, the National Marine Fisheries Service (NMFS) has not supported use of SPR-based measurements to support overfished SDC. However, the 2022 NS1G version recognizes the need for alternative SDC when conventional approaches cannot be applied, including consideration of rate-based alternatives to Annual Catch Limits (ACLs). As the length composition data do directly relate to the degree to which the relative abundance of older fish has been reduced below a reference level. This is sufficient to develop an alternative MSST. If the current stock and fishery have been relatively stable for at least a generation time, then the recently obtained measure of SPR has probably been the SPR for several years. So, this SPR is both a measure of the recent fishing mortality (F) that created this stock condition and a measure of the current condition of the stock relative to what the stock would have been if unfished. The MSST can be translated into units of SPR to enable comparison to the current measure of SPR. If the stock’s current SPR has fallen below this rate-based MSST, then there is a high probability that it is overfished.

Annual Catch Limits/Accountability Measures/(h)(2) Provision

ACLs have been effective management tools for preventing overfishing in many fisheries. However, ACL-based management can be difficult for certain data-limited fisheries, including those that lack information on stock biomass and those in which there is limited ability to monitor and enforce fishery removals. In 2016, to address these concerns, NMFS amended the NS1 guidelines to clarify that for certain stocks, including those for which data are not available either to set reference points or manage stocks based on MSY or proxies, “alternative approaches” for satisfying statutory requirements other than those set forth in the NS1 guidelines

can apply. NMFS is developing additional guidance to assist with the implementation of alternative approaches, which is summarized below.

An alternative approach that may be practicable in the Pacific Islands Region (PIR) is to use a “rate-based” approach. The key difference between the weight/numbers-based ACLs and a rate-based ACL is the metric being monitored and used for triggering accountability measures (i.e., rate versus an amount of fish). In the rate-based approach, a metric in the data set, such as the mean size of fish, is used to estimate F and the MFMT. A lower mean size of fish is generally associated with a higher F , and a higher mean size is associated with a lower F . The mean size is also biologically relevant as an indicator of percent mature fish and the SPR.

The use of a particular metric will be closely related to the SDC reference points for that stock or stock complex. The control rules for SDC will also be amended to allow for the use of results of new stock assessments. Once a reference point is established, a control rule can express what change in fishing effort is needed to maintain the stock status indicator near the reference point. Such a control rule is conceptually the same as rules currently used to modify standard (i.e., MSY-based) catch limits, and the control rule should be predetermined and agreed upon in order to maintain the integrity of the rule.

The decision to use a rate-based ACL for a data-limited stock should be based on whether:

1. The stock qualifies for use of the (h)(2) flexibilities for data-limited stocks;
2. There are sufficient data to estimate the current average fishing mortality rate, or a proxy for F , at MFMT;
3. It is feasible to manage with/enforce a rate-based approach.

If these conditions are met, then the Council could consider a rate-based ACL as an alternative to the standard approach (i.e. weight/number-based ACL). Such a recommendation would need to be proposed as an FEP amendment with robust documentation of the rationale for the proposed approach and its consistency with the MSA and other applicable law.

Monitoring and Bycatch

The American Samoa and Mariana Archipelago FEPs describe bycatch monitoring in the territories. The amount of bycatch is estimated from data collected through the creel surveys. The methods for collecting, recording, and reporting bycatch data are comprehensively described in the Standardized Bycatch Reporting Methodology (SBRM) created collaboratively by the Council and NMFS. The amount of bycatch in the territorial bottomfish fisheries are described in the annual Stock Assessment and Fisheries Evaluation (SAFE) Reports.

The BMUS revision action does not affect how the fisheries are conducted, nor should it influence the bycatch rates since the target bottomfish species would remain the same. Currently, the deep water bottomfish species are preferred targets that are kept for commercial and non-commercial purposes, while the shallower bottomfish fisheries have lower catch rates.

The Monitoring and Bycatch APT Working Group recommends the following changes to the data collection methodology (Note: No action on these recommendations is needed at this

meeting. These recommendations are informative only and will be taken up by the Council through amendment development in early 2023):

1. Augment the length-based monitoring of catch from bottom fishing trips by ensuring species in the new BMUS lists are properly identified and measured for length (and weight if possible);
2. Encourage the territorial agencies' data collection staff to collect length information, prioritizing the revised BMUS;
3. Develop technological solutions to support length-based monitoring through the use of mobile devices equipped with image recognition technology to identify and optically measure fish-length. This would apply to creel surveys and Commercial Purchase Reporting System;
4. Conduct training sessions for data collectors on fish identification for the new BMUS, and develop methodologies to ensure a random selection of subsamples for length measurements.

Essential Fish Habitat (EFH)

The BMUS revision does not affect the designation of EFH, nor should it negatively affect bottom habitats. However, EFH for species added to the BMUS need to be described for all life stages: eggs/larvae, juvenile, and adult. Through the BMUS revision action, only two species would be added for Guam and the CNMI, and seven species would be added for American Samoa.

Fishing Communities

The BMUS revision action would not be likely to affect the fishing communities, with the exception of more accurately reflecting the species that bottom fishers target and catch. The fishing communities that prosecute bottomfish in each territory, as well as the (limited) anticipated changes in the socioeconomics as a result of the BMUS revision, will be fully described in the working group report. Additionally, fisher observations that reflect the revised BMUS list will also be incorporated into the working group report.

Next Steps

The SSC and Council shall provide comments on the BMUS revision status update, offer guidance related to the approaches of each working group, and provide direction for community engagement, which is scheduled to be conducted in December in the Mariana Archipelago and in February in American Samoa.

September 2022 Present a status update on the BMUS revision at the 145th SSC and 192nd Council meeting to receive input on community and stakeholder engagement.

December 2022 Present the different sections of the MSA components for the BMUS revision action at the 146th SSC and 193rd Council meeting. The Council may direct staff to develop an action team

December 2022	Guam/CNMI Community Stakeholder Engagement; extensive outreach for the BMUS revision action
Jan. / Feb. 2023	Intercessional Archipelagic Plan Team meeting to review WG reports and make recommendations to the Council through development of one final APT MSA component report.
February 2023	American Samoa Community Stakeholder Engagement; extensive outreach for the BMUS revision action
March 2023	Present the MSA component report (i.e., options paper) for the BMUS revision action at the AP and FIAC meetings, as well as the 147 th SSC and 194 th Council meeting. The Council may direct staff to develop the draft amendment based on the MSA component WG reports (Possible Initial Action).