

HIGHLY MIGRATORY SPECIES MANAGEMENT TEAM REPORT ON BIENNIAL HARVEST SPECIFICATIONS AND MANAGEMENT MEASURES

This report focuses on the following aspects of the Biennial Specification process, and items related to the process. The first point refers specifically to the changes to Chapter 4 of the Fishery Management Plan for U.S. West Coast Fisheries for Highly Migratory Species (HMS FMP) as alluded to in Agenda Item J.3.a:

1. Clarifying and specifying biological reference points (BRPs)
 - 1.1. Describing maximum sustainable yield (MSY) and optimum yield (OY)
 - 1.2. Considering status determination criteria (SDC) and a process to develop MSY proxies to inform SDC
 - 1.3. Coordinating and prioritizing specification of reference points, including proxies for SDCs
2. Responding to components of the Center for Biological Diversity (CBD) petition for a rulemaking on Pacific bluefin tuna
3. Peer-review of the common thresher shark stock assessment to establish best scientific information available (BSIA) for stock management

1. Clarifying BRPs

During the June 2016 Pacific Fishery Management Council (Council) meeting, the Council tasked the Highly Migratory Species Management Team (HMSMT) with clarifying MSY, OY, and SDC for management unit species (MUS) in the HMS FMP. As part of that task, the Council asked the HMSMT to consider publishing up-to-date values for these reference points in the HMS SAFE report. The Council also asked the HMSMT to consider ways to align that workload with the Council's regularly scheduled biennial management cycle and NMFS' procedures for making stock status determinations, including notifying the Council of stock status findings that trigger action under Magnuson-Stevens Conservation and Management Act (MSA) sections 304(e) and 304(i) (describing Council obligations relative to overfishing and overfished determinations).

National Standard (NS) 1 Guidelines discuss requirements for specification of BRPs, including MSY and OY which are used to inform SDCs (i.e., minimum stock size threshold (MSST), maximum fishing mortality threshold (MFMT), and overfishing limits (OFL)), allowable biological catch (ABC), and annual catch limits (ACLs). The guidelines include an international exception to specification of several reference points for MUS stocks or stock complexes subject to management under an international agreement that relates to fishing, and to which the United States is a party; however, despite an existing international fishery agreement, MSY and SDCs are still required for these stocks (see 50 CFR 600.310(h)(2)(ii) and (f)(3)).

The HMS FMP was amended in 2011 (Amendment 2, approved by NMFS June 2011) to address revised NS 1 Guidelines (50 CFR 600.310). The HMS FMP presents descriptions of MSY, OY, SDCs, and other reference points, and allows for the use of BRP proxies when applicable. Additionally, the HMS FMP includes numerical estimates for some reference points, which have become out-of-date since the time of HMS FMP adoption. The original FMP/EIS published in

August 2003 contained such specifications in Table 3-5 in Chapter 3, page 31. This information has been retained through subsequent amendment revisions as Table 4-3 in Chapter 4. Because NMFS and the Council have relied on international assessments for the best scientific information available (BSIA) for determining the status of the stocks included in the HMS FMP, updates to BRPs or their proxies via NMFS status determinations occur on the assessment cycles of regional fishery management organizations (RFMO). It also should be noted that HMS stock assessments have improved substantially since the HMS FMP was adopted, allowing more reliable estimates of BRPs, another reason the estimates in Table 4-3 are out of date.

1.1 Describing MSY and OY

The HMSMT discussed the issue of specifying OY for a stock caught by international fleets. Since the OY concept was principally conceived as a tool for domestic management, it does not apply easily for transboundary stocks caught by many nations. Specification of OY is unlikely to have much practical application in most HMS FMP MUS.

1.2 Considering status determination criteria (SDC) and a process to develop MSY proxies to inform SDC

The HMS FMP establishes the following SDCs:

- MFMT equals FMSY.
- When $M \leq 0.5$ MSST is $(1-M)BMSY$ and when $M > 0.5$ MSST is $0.5BMSY$.

The HMS FMP also describes three stock categories relative to specifying MSY:

1. Category 1 covers regularly assessed stocks where a deterministic estimate of MSY is produced. However, even for most regularly assessed HMS, MSY may not be estimable because of the lack of a clear stock-recruit relationship.
2. Category 2 covers unassessed stocks for which catch history and information on relative abundance/stock productivity are available. An MSY proxy may be based on this information.
3. Category 3 covers unassessed stock with catch history but no information on relative abundance/productivity. For these stocks catch-based data poor assessment methods or stable catch history may be used to identify an MSY proxy.

Clarifying the SDCs described in the HMS FMP, which are defined consistently with those in the PFEP, could further complicate the Secretarial approval process for stock status determinations as there can only be one domestic status determination for each stock.

As stated earlier, there are often inconsistencies between domestic SDCs and the BRPs used by the scientific providers to the RFMOs. Often science providers do not estimate the numerical quantities needed to calculate the SDCs defined in the HMS FMP (e.g., B_{MSY}). In such instances, proxy reference points must be selected from the assessment. The process of specifying BRP proxies to inform SDCs has not always been transparent, except when an explanation is included in the letters NMFS sends to the Council regarding its MSA 304(i) responsibilities for MUS stocks subject to overfishing or overfished. Additionally, the current framework in the FMP regarding

stock categories relative to specifying MSY is not specific enough to ensure consistent and reproducible outcomes when multiple analysts are tasked with selecting the most appropriate BRP proxies for the same stock (e.g., for determining MSST or MFMT).

The HMSMT proposes to continue coordinating with NMFS on requesting that the RFMO science providers report the information needed to inform the SDC defined in the HMS FMP. In instances in which information to calculate SDC has not been or cannot be generated in international assessments, it would be useful to have more specific guidance from the Council regarding the identification of appropriate proxies. In considering how the Council might approach clarifying how proxies may be selected for SDC, the HMSMT discussed several options which deviate from the framework established in the HMS FMP.

- Option 1: The Council could defer to NMFS for a review of international assessments and the selection of applicable proxies for SDCs. The HMSMT could provide this information in the SAFE report. Further, removing text in Chapter 4 of the HMS FMP regarding stock categories relative to specifying MSY (see page 3 of this report) could allow greater flexibility to select from a suite of alternative limit reference points and to account for weaknesses in individual assessments.
 - Pros: This approach may serve the interests of the public and the Council by making the information used to determine stock status of MUS in the HMS FMP available in the SAFE, and could minimize the workload of the HMSMT and the Council with respect to evaluating SDCs and/or the use of proxies for each stock.
 - Cons: This approach would also minimize the Council’s role in evaluating SDCs and/or the use of proxies for each stock in the HMS FMP.
- Option 2: The HMSMT could generate a range of alternatives for the Council to consider for refining the current framework in the HMS FMP for selecting proxies for SDCs. One example is the three-tier “hierarchical approach” that the WCPFC adopted for specifying reference points (see [SC7-MI-WP-03](#)), which is based on the ability to estimate the steepness parameter for the stock recruit relationship and the availability of life history parameters. It is somewhat akin to the three categories described in the HMS FMP for estimating MSY (see page 3 of this report).
 - Pros: Employing a “hierarchical approach” that is tailored to the information produced by the science providers to the RFMOs could reduce the likelihood of discrepancies in the selection of particular proxies for SDCs either among entities involved in status determinations or across assessments or both.
 - Cons: There are outstanding questions about the application of a “hierarchical approach” to selecting proxies from assessments produced by a variety of science providers. For example, could the WCPFC’s approach be used to derive proxies from assessments produced by the IATTC Scientific Staff?
- Option 3: The HMSMT could work with NMFS to facilitate the Council’s consideration of proxies for each MUS for which the latest assessment does not include the information

necessary for calculating SDCs on a “case-by-case” basis.¹ Under this option, the HMSMT would present to the Council the pros and cons of various proxies for SDCs. This would allow the Council to consider on a stock-by-stock basis the choice of proxies for SDCs.

- Pros: This would be flexible for decision-making and could account for nuances of different assessments while increasing the Council’s involvement in evaluating SDCs and/or the use of proxies for MUS in the HMS FMP. Council decisions on such matters could be useful to generating U.S. positions towards the adoption of reference points by the Pacific RFMOs.
- Cons: It would present a considerable workload. Rather than attempt to tackle this workload for all MUS in the HMS FMP in this biennial management cycle, the HMSMT has discussed the potential to report such considerations in the SAFE Report as new assessments become available and stock status determinations are considered. For example, in contrast to Option 1, the HMSMT could report a suite of proxies for SDC, as well as pros and cons for those proxies and/or other potential proxies. The Council could consider this information and determine whether to take up the issue of amending SDCs for any particular stock in the next biennial management cycle.

1.3 Coordinating between the Councils and prioritizing specification of proxies for SDC’s

MSA Section 304(i) notes that the “appropriate Council” shall make recommendations for internationally managed stocks that NMFS determines are subject to overfishing or are overfished.² Since all HMS FMP MUS are also MUS in the WPFMC’s Pelagics FEP, this provision of 304(i) is pertinent. For the purposes of Section MSA 304(i) a council could recommend to NMFS which stocks it considers itself to be an “appropriate council.” A council could consider both its overall interest in providing recommendations on the stock and the degree to which fisheries managed under the HMS FMP catch the stock or are likely to catch the stock. NS 1 guidelines and Section 3.2 in the HMS FMP state that “Councils should choose which FMP will be the primary FMP in which management objectives and reference points” for MUS occurring in more than FMP. It makes sense that if a council recommends it be considered “appropriate” for the purpose of making recommendations pursuant to Section 304(i) it would also have an interest in the SDCs, and therefore proxies, used to evaluate the status of the stock. This formulation can also be used as a mechanism for councils to prioritize which stocks they want to work on as far as identifying proxies. However, establishing itself as an appropriate council for certain species would not preclude the Council from weighing in on other stocks.

¹ Like with Option 1, removing text in Chapter 4 of the HMS FMP regarding stock categories relative to specifying MSY (see page 3 of this report) could allow greater flexibility to select from a suite of alternative proxies and to account for weaknesses in individual assessments.

² These include both recommendations for domestic regulations to address the relative impact of fishing vessels of the United States on the stock and international actions that will end overfishing in the fishery and rebuild the affected stocks.

Currently, and without an agreement between the Council and WPFMC regarding which FMP is the primary FMP for shared HMS stocks, NMFS has been notifying both Council's of their responsibilities under MSA 304(i) for the MUS species in both FMPs. This practice has caused some confusion about the need for the Council to make recommendations for stocks that the U.S. West Coast fleets do not appear to be catching, as well as some consternation as to whether the Council's time is best spent making recommendations for such stocks. The letter from NMFS to the Council regarding the Western and Central North Pacific Ocean (WCNPO) stock of striped marlin (Agenda Item. J.3 Attachment 2) is one such example.

A decision by the Council to identify itself as an "appropriate Council" for making 304(i) recommendations for the various stocks in the HMS FMP would not preclude the WPFMC from also making recommendations or vice versa. Rather, such decisions could be used to inform the stock status determination process. For example, if the Council did not consider itself the "appropriate Council" for making MSA 304(i) recommendations for WCNPO striped marlin at this time, then the HMSMT and SWFSC and WCR of NMFS could defer to the PFEP team and PIFSC and PIRO when specifying reference points for that stock in the SAFE Report, and consider the Western Pacific Council's recommendations under 304(i) to be the sole domestic recommendations for that stock. In satisfying 304(i), Council recommendations must take NS 3 into account, which requires that individual stocks of fish be managed throughout their range. Therefore, recommendations by either the Pacific or Western Pacific Council should cover the range of the stock. In instances in which both Councils are making recommendations, the recommendations should be consistent. Clarity as to whether the Council considers itself the "appropriate Council" for making such recommendations could help illuminate coordination needs between the two Councils.

2. Responding to components of the Center for Biological Diversity (CBD) petition for a rulemaking on Pacific bluefin tuna (PBF).

The CBD petitioned NMFS for a rulemaking under the MSA. In its response ([Agenda Item J.3, Attachment 1](#)), NMFS referred the decisions on two components of the petition to the Council because of the Council's role in the rulemakings pertaining to changes to the HMS FMP. These two components are: (1) include PBF on the list of prohibited species, or, alternatively establish annual catch limits and minimum size requirements to protect age classes 0-2, and (2) identify specific values to be used as reference points to determine overfishing or overfished state. Notably, NMFS encouraged the Council to consider the adequacy of adopting specific values for reference points in light of the biennial management cycle. The HMSMT does not believe it is necessary for the Council to provide a response at this September 2016 meeting.

Regarding the first component (i.e., retention prohibition and alternative), the HMSMT concurs with NMFS that prohibiting U.S. West Coast vessels from fishing for PBF would neither end overfishing nor have a consequential impact on ending overfishing. Furthermore, as noted by NMFS and evidenced by public comment, the HMSMT believes a prohibition on retention would have significant economic impacts and disproportionate burden on the U.S. West Coast fishing industry, and hence would not be in the best interest of the nation. Lastly, the U.S. has already implemented management measures (recreational and commercial) to address the relatively limited impact of the U.S. fleet on the PBF stock. Regarding the second request (i.e., specifying

values to be used as reference points), and considering the statement above regarding clarifying SDCs, the HMSMT is currently evaluating reference points for management unit species in the HMS FMP.

During its meeting in October 2016, the IATTC is expected to adopt a new resolution on the conservation and management of PBF. The HMSMT believes it would be more appropriate to address the bluefin petition after the IATTC meeting. Specifically, regarding the reference points request, the HMSMT believes it would be appropriate to resolve questions raised in this report before responding to the petitioner's request.

3. Peer-review of the common thresher shark stock assessment to establish BSIA for stock management.

A stock assessment for the common thresher shark was published in March 2016 ([NOAA-TM-NMFS-SWFSC-557](#)). This MUS occurs along the west coast of both the USA and Mexico and the assessment was conducted as a collaboration between the SWFSC and Mexican scientists at CICESE. Assessment results indicate that the stock is not overfished nor subject to overfishing and that catch levels in recent years have not approached the 340 metric ton harvest guideline for common thresher stock in the HMS FMP. Because the common thresher shark assessment involved international collaboration and was conducted outside of the regular Council or ISC assessment cycle, it falls outside the scope of the normal Council peer-review process (e.g., STAR panel). As noted in the NMFS statement (J.3 NMFS Report) under this agenda item, the Center for Independent Experts (CIE) will be contracted to conduct a peer-review of the assessment to determine if it constitutes BSIA.

HMSMT RECOMMENDATIONS

1. Clarifying and specifying biological reference points (BRPs)
 - 1.1. Describing maximum sustainable yield (MSY) and optimum yield (OY)
HMSMT Recommendation: Remove outdated estimates of MSY and OY from the HMS FMP, and provide numerical estimates (when available) in the SAFE report.
 - 1.2. Considering status determination criteria (SDC) and a process to develop MSY proxies to inform SDC
HMSMT Recommendation: Consider SDCs and proxies for MUS on a case-by-case basis (Option 3). In doing so, the HMSMT could work with NMFS to align the workload of updating stock status with NMFS status determination process, taking into consideration the Council's biennial management cycle. Further, working towards alignment of NMFS status determination process with the Council's biennial management cycle would help streamline the process for specifying reference points by incorporating this information in the SAFE report in future years.
 - 1.3. Coordinating and prioritizing specification of reference points, including proxies, between the Council and the WPFMC

HMSMT Recommendation: Coordinate between councils on MUS species which overlap with their PFEP. At the direction of the Council, the HMSMT will develop a list of MUS stocks from which the Council could decide if it is the “appropriate” council.

2. Responding to components of the Center for Biological Diversity (CBD) petition for a rulemaking on Pacific bluefin tuna

HMSMT Recommendation: Withhold response to relevant components of the CBD bluefin petition until after the IATTC’s 90th meeting in October 2016 and questions about BRPs raised in this report are resolved.

3. Peer-review of the common thresher shark stock assessment to establish best scientific information available (BSIA) for stock management

HMSMT Recommendation: Request SSC input on the appropriate peer review process for the common thresher shark stock assessment.

PFMC
09/19/16