



June 10, 2019

Mr. Phil Anderson, Chair  
Pacific Fishery Management Council  
7700 NE Ambassador Place, Suite 101  
Portland, OR 97220

**RE: Agenda Item F.2 – Stock Assessment Prioritization Process for Coastal Pelagic Species and Agenda Item F.4 – Review of Management Categories for Coastal Pelagic Species**

Dear Chair Anderson and Members of the Council:

Thank you for the opportunity to submit these comments to the Pacific Fishery Management Council (Council) on its consideration of a stock assessment prioritization process for coastal pelagic species (CPS) and its review of management categories in the CPS Fishery Management Plan (FMP). We encourage the Council to use the opportunity provided by the June 2019 meeting to continue to take the steps necessary to transition management of the CPS finfish assemblage to a framework that is more transparent, legally compliant, based on best-available science, and that meets the CPS FMP's objective to ensure adequate forage for dependent predators. Over the past several years, our organizations have called for the Council to adopt such a framework for CSNA in particular, and for Monitored CPS stocks more generally.

Consistent with these requests, we ask that the Council initiate an FMP amendment at the June 2019 meeting, for adoption in June 2020, that includes the following in its scope:

- Remove the distinction between the Monitored and Actively Managed stock categories in the CPS FMP.
- Establish a single annual specifications process for all CPS finfish stocks that are the subject of a directed fishery.
- Set or update Minimum Stock Size Thresholds (MSST) for all CPS finfish stocks, based on best available science.

We also reiterate our request that NOAA Fisheries complete an integrated stock assessment for the central subpopulation of northern anchovy (CSNA) for use in future updates and revisions to MSST, FMSY, and harvest control rules. Such a stock assessment will be helpful in ensuring future management remains robust and responsive to changes in CSNA stock structure, stock-recruit relationships, and predator-prey dynamics; however, we note that a stock assessment is not a prerequisite to complete the FMP amendment described here.

The Monitored stock category was added to the CPS FMP in 1999 as part of Amendment 8, and was described at the time as a way to focus management attention and limited Council and agency resources where they were most needed.<sup>1</sup> However, rather than assisting managers and scientists in their stewardship of CPS stocks, the Monitored category has instead created inefficiencies, generated confusion, and placed obstacles to setting science-based catch limits and other key reference points. In an effort to address some of these concerns, the Council tasked the CPS Management Team (CPSMT) last November with “developing a proposed process and timeline to modify CPS stock management categories, to provide flexibility relative to revising stock-specific management strategies, and to promote consistency with other Council FMPs.”<sup>2</sup>

We appreciate the Council’s attention to and interest in resolving these issues, and we thank the CPSMT for its Report 1 under Agenda Item F.4. In order to better reflect core Magnuson-Stevens Fishery Conservation and Management Act (MSA) responsibilities, as well as advancements in scientific information regarding CPS abundance, we recommend that the Council consider modifying its draft Purpose and Need statement from the November motion to include the following language:

*“With the availability of annual abundance estimates for all CPS finfish that are the subject of a directed fishery, the distinction between the Actively Managed and Monitored categories in the CPS FMP is no longer necessary. Therefore, the purpose of the proposed action is to 1) eliminate the Active and Monitored category terms; 2) utilize best available science and prevent overfishing by establishing an annual specifications process to set OFLs, ABCs, and ACLs informed by annual estimates of abundance; and 3) identify when stocks are overfished and demonstrate compliance with National Standard 1 guidelines by adopting Minimum Stock Size Thresholds for all CPS finfish stocks in the FMP.”*

Below, we discuss in greater detail our recommended scope for an FMP amendment.

#### **A. Remove the distinction between the Monitored and Actively Managed stock categories in the CPS FMP.**

Our organizations have long supported eliminating the Monitored stock category from the CPS FMP. The distinction between Actively Managed and Monitored is a unique feature of the CPS FMP that has no clear basis in the MSA, and can actually impede the Council’s efforts to meet its core MSA responsibilities. While we understand that the original rationale for the Monitored category was to tailor management and scientific attention to the importance of a stock to the CPS fishery, the resulting two-tiered framework has instead had the practical effect of allowing Monitored stocks – two subpopulations of northern anchovy and jack mackerel – to be managed with outdated information (or information that could easily become outdated within one to two years) that doesn’t always reflect current stock size or status. Given the availability of annual abundance data for all five CPS finfish stocks, there is no need to differentiate between Active

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<sup>1</sup> Pacific Fishery Management Council, February 2018, [Coastal Pelagic Species Fishery Management Plan](#), at 9.

<sup>2</sup> Pacific Fishery Management Council, November 2018, [November 2018 Council Meeting Decision Summary Document](#) at 2.

and Monitored management; the Council now has the ability to set annual harvest specifications for all of these stocks, using timely information that NOAA Fisheries gathers every year.

By bringing all CPS finfish stocks that are the subject of directed fisheries under a management framework that includes regular abundance estimates and an annual specifications process, the Council can greatly improve its ability to manage these stocks using the best available science and in a manner that achieves Optimum Yield and prevents overfishing, per the goals and objectives of the CPS FMP and the requirements of the MSA.<sup>3</sup>

In November 2018, several of our organizations submitted public comment to the Council that detailed our concerns with the Monitored stock category.<sup>4</sup> Here we provide a summary of those concerns:

- *Static, multi-year catch limits for highly variable stocks can lead to overfishing.* The Monitored category uses a default harvest control rule that relies on a long-term average Maximum Sustained Yield (MSY) value to determine the Overfishing Limit (OFL).<sup>5</sup> These OFLs are used to derive fixed catch limits that are set indefinitely, and are therefore not responsive to changes in stock status or abundance. Basic fisheries science has long held that applying static, long-term catch limits to highly dynamic stocks, such as northern anchovy and jack mackerel, can lead to overfishing – and, if a declining stock is subject to a constant rate of catch (as permitted by a fixed catch limit) over time, it can also lead to a population’s collapse, particularly “if the population ever happens to fluctuate below a threshold value.”<sup>6</sup> Further, static catch limits can exacerbate collapses of widely-fluctuating stocks, even if they are not the cause of the collapse.<sup>7</sup>
- *Setting long-term catch limits in the absence of regular biomass updates may fail to prevent overfishing.* Because the Monitored category calls for tracking landings against a long-term Annual Catch Limit (ACL), “without periodic stock assessments or periodic adjustments to target harvest levels,”<sup>8</sup> it becomes difficult to determine whether catch is exceeding MSY levels, especially when biomass is low. This may lead to a situation where the Council is unable to ensure the prevention of overfishing, and therefore unable to meet its obligations under the MSA.
- *Setting catch limits without regard to current stock size is contrary to the requirements of the MSA.* The MSA mandates that federal fisheries management be based on the best scientific information available (BSIA).<sup>9</sup> In a 2018 federal court decision regarding catch limits for CSNA, the court noted that the most consequential factor in determining an

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<sup>3</sup> See, e.g., 16 U.S.C. §§ 1851(a) and 1853(a).

<sup>4</sup> Pacific Fishery Management Council, November 2018, [Supplemental Public Comment under Agenda Item E.5.](#)

<sup>5</sup> CPS FMP at 40.

<sup>6</sup> May, R.M., J.R. Beddington, J.W. Horwood, and J.G. Shepherd. 1978. Exploiting natural populations in an uncertain world. *Mathematical Biosciences* 42:219-252, at 240.

<sup>7</sup> Siple, Margaret C., T.E. Essington, and E.E. Plagányi. 2018. Forage fish fisheries management requires a tailored approach to balance trade-offs. *Fish and Fisheries*. 2018;1-15.

<sup>8</sup> CPS FMP at 9.

<sup>9</sup> 16 U.S.C. § 1851(a)(2); 50 C.F.R. Part 600.315.

appropriate OFL, ABC, and ACL for a stock is the size of that stock.<sup>10</sup> The court's decision, and others before it emphasizing that NOAA Fisheries "must utilize the best scientific data *available*, not the best scientific data *possible*,"<sup>11</sup> call into question the validity of the Monitored category's reliance on default reference points and multi-year harvest specifications that can be wholly unrelated to current stock status.

- *The Monitored stock default harvest control rule's uncertainty buffer is not sufficiently protective.* The Monitored category's default harvest control rule includes a 75% reduction from OFL to ABC, a buffer that was originally intended to be precautionary by accounting for the uncertainty associated with using a long-term MSY value to determine OFL, but which did not anticipate the speed or steepness with which some CPS populations can collapse.<sup>12</sup> Given the demonstrated capacity of at least one Monitored stock, CSNA, to decline by as much as 97% in just a few years,<sup>13</sup> the default control rule's 75% buffer between OFL and ABC cannot be described as sufficiently precautionary.
- *A lack of regular biomass estimates leaves the Council without a means to assess stock status relative to OFL, ABC, and ACL.* While the CPS FMP's Monitored category doesn't preclude conducting stock assessments or regular abundance estimates for Monitored stocks, one clear legacy of the category has been a redistribution of all stock assessment resources to the two stocks that are actively managed. This general lack of scientific attention to Monitored stocks since 1999, coupled with the Monitored category's reliance on outdated information or information that may soon become outdated, leaves fishery managers without a clear way to evaluate status determination criteria and reference points. This in turn can put Monitored stocks at risk of overfishing, especially if the Council is unable to detect whether a stock has fallen below a biomass that would support MSY.
- *The Monitored category does not adequately consider the needs of dependent predators.* Fishing on a fluctuating forage stock when it is at low abundance hinders recovery and can further deprive predators of food resources.<sup>14</sup> Any level of commercial forage fish catch can be potentially biologically significant, particularly if the stock is in a collapsed or depressed state, or if fisheries are highly concentrated in an area important to central place foragers.<sup>15</sup> These impacts on predator-prey dynamics underscore the importance of managing forage species – including those currently classified as Monitored in the CPS

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<sup>10</sup> *Oceana, Inc. v. Ross*, Case No. 16-CV-06784-LHK (N.D. Cal. Jan. 18, 2018).

<sup>11</sup> *Blue Water Fishermen's Assn. v. Nat'l Marine Fisheries Serv.*, 226 F.Supp.2d 330, 338 (D. Mass. 2002) (quoting *Building Indus, Ass'n of Superior California v. Norton*, 247 F.3d 1241, 1246-47 (D.C.Cir.2001)) (emphasis in original).

<sup>12</sup> MacCall, A. D., W. J. Sydeman, P. C. Davison, J. A. Thayer. 2016. Recent collapse of northern anchovy biomass off California. *Fisheries Research*. 175:87-94.

<sup>13</sup> *Id.*

<sup>14</sup> Essington et al. 2015. Fishing amplifies forage fish population collapses. *Proceedings. Nat. Acad. Sci.* May 26; 112(21): 6648–6652.

<sup>15</sup> Bertrand et al. 2012. Local depletion by a fishery can affect seabird foraging. *Journal of Applied Ecology* 49: 1168-1177.

FMP – with up-to-date abundance data and catch limits that correspond to the status of the stock.

**B. Establish a single annual specifications process for all CPS finfish stocks that are the subject of a directed fishery.**

In addition to removing the distinction between the Active and Monitored categories, we request that the FMP amendment also establish an annual specifications process for all five stocks of CPS finfish. The availability and suitability of Acoustic Trawl (AT) survey and other data – which is newer, better, and more reflective of current stock status than the long-term average MSY values upon which existing Monitored stock OFLs and ABCs are based – provides a path forward for managing all CPS stocks under the same annual management framework. AT survey data in particular represents “the best scientific information available on an annual basis for assessing abundance of all members of the CPS assemblage (except Pacific herring).”<sup>16</sup>

In order to set annual OFLs for each of the five CPS finfish stocks, we recommend utilizing an approach similar to one identified by the Council’s Scientific and Statistical Committee (SSC) for updating CSNA’s OFL;<sup>17</sup> this would entail multiplying the most recent estimate of a stock’s U.S. biomass, derived from the AT survey, by the best estimate of that stock’s FMSY. As an example of the latter, the average  $F_{MSY}$  (0.266) included in Table 6 of NMFS’s 2016 CPS MSST Report<sup>18</sup> and the  $E_{MSY}$  values described in Punt 2019<sup>19</sup> provide readily available starting points for calculating an updated OFL for CSNA. ABCs could then be calculated using a P\* approach based on uncertainty in both the AT survey and the FMSY estimate. Finally, we suggest that ACLs be set below ABC to account for Optimum Yield considerations and to achieve the goals of the FMP, including ensuring adequate forage for dependent predators.

We note that this shift to annual management for all CPS finfish can be implemented with the suite of tools and data currently available to fishery managers. Rather than being driven by stock assessments, an annual CPS specifications process would instead be informed by annual estimates of abundance for each of the five stocks. In fact, the authors of the most recent stock assessments for Pacific sardine and Pacific mackerel recommend using survey-based biomass estimates (specifically from the AT survey), and not model-based estimates, as a basis for setting annual OFLs, ABCs, and ACLs.<sup>20</sup> We appreciate that the CPSMT discusses this

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<sup>16</sup> Pacific Fishery Management Council, June 2019, Pacific mackerel (*Scomber japonicus*) stock assessment for U.S. management in the 2019-20 and 2020-21 fishing years, [Attachment 1 Under Agenda Item F.3](#), at 2 (describing the conclusions of the [2018 Acoustic Trawl Methodology Review](#)).

<sup>17</sup> Pacific Fishery Management Council, April 2018, [Supplemental SSC Report Under Agenda Item C.4](#); Pacific Fishery Management Council, April 2019, [Supplemental SSC Report Under Agenda Item E.4](#).

<sup>18</sup> NOAA Fisheries, September 2016, *Review and Re-evaluation of Minimum Stock Size Threshold for Finfish in the Coastal Pelagic Fisheries Management Plan for the U.S.* Agenda Item E.1.a, [Supplemental NMFS Report](#).

<sup>19</sup> Punt, A.E., April 2019, *An Approach for Computing  $E_{MSY}$ ,  $B_{MSY}$  and  $MSY$  for the CSNA*, [Attachment 1 Under Agenda Item E.4](#).

<sup>20</sup> Pacific Fishery Management Council, April 2019, Assessment of the Pacific Sardine Resource in 2018 for U.S. Management in 2019-20, [Supplemental Revised Attachment 1 Under Agenda Item E.3](#), at 26; Pacific Fishery Management Council, June 2019, Pacific mackerel (*Scomber japonicus*) stock assessment for U.S. management in the 2019-20 and 2020-21 fishing years, [Attachment 1 Under Agenda Item F.3](#), at 22-23.

recommendation in its Report on Stock Assessment Prioritization Process under Agenda Item F.2.<sup>21</sup>

While frequent stock assessments are not necessary to undertake this transition to annual management, we continue to support the completion of a stock assessment for CSNA within the next two to three years, and suggest that CSNA should be “next in line” for a benchmark assessment; such an assessment will be vital to developing a long-term strategy for sustainably managing this fishery, including future development and adoption of an ecosystem-based harvest control rule and CUTOFF that reflects current biological conditions. This assessment would not need to be updated annually or even semi-annually. Instead, it could be part of a CPS stock assessment schedule that focuses on one stock per year in sequenced rotation, such that each stock is fully assessed once every five years. While annual management would be informed by survey-based abundance estimates, as described above, less frequent assessments would then be utilized to enhance understanding of stock structure, stock-recruit relationships, predator-prey dynamics, and other elements important to developing and updating ecosystem-based management frameworks.

### **C. Set or update Minimum Stock Size Thresholds for all CPS finfish stocks, based on best available science.**

Minimum Stock Size Threshold (MSST) is the fundamental tool used by NOAA Fisheries to determine whether stocks are overfished; when crossed, MSSTs also trigger the MSA’s requirement to rebuild overfished stocks. The National Standard 1 guidelines provide clear formulas to set quantitative MSSTs based on current stock size; in order to be relevant in a management context, however, MSSTs need to be compared to a current estimate of abundance. In 2016, NOAA Fisheries produced updated estimates of MSSTs for several CPS finfish stocks, based on the best available science.<sup>22</sup> However, the Council has not yet adopted those updated values. As part of the FMP amendment described here, we request that the Council establish new or updated MSSTs for all CPS finfish.

### **Conclusion**

In conclusion, we request that the Council initiate an amendment to the CPS FMP that removes the distinction between the Active and Monitored management categories, establishes an annual specifications process for all CPS finfish stocks, and sets or updates MSSTs for those same stocks. These improvements to the FMP will advance the Council’s broader efforts to ensure its management of CPS stocks prevents overfishing, uses the best available science, responds to changes in stock status, and accounts for the needs of dependent predators. We also ask that CSNA be next in line for a benchmark stock assessment, as part of a rolling assessment schedule for each of the five CPS finfish stocks.

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<sup>21</sup> Pacific Fishery Management Council, June 2019, [CPSMT Report 1 Under Agenda Item F.2.](#)

<sup>22</sup> NOAA Fisheries, September 2016, *Review and Re-evaluation of Minimum Stock Size Threshold for Finfish in the Coastal Pelagic Fisheries Management Plan for the U.S.* Agenda Item E.1.a, [Supplemental NMFS Report.](#)

Thank you for your consideration of our comments, and for your work to ensure sustainable fisheries and healthy ocean ecosystems.

Sincerely,



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