

COASTAL PELAGIC SPECIES MANAGEMENT TEAM REPORT ON REVIEW OF FISHERY MANAGEMENT PLAN MANAGEMENT CATEGORIES

At its April 2018 meeting, the Pacific Fishery Management Council (Council) directed the Scientific and Statistical Committee (SSC), the Coastal Pelagic Species Management Team (CPSMT), and the Coastal Pelagic Species Advisory Subpanel (CPSAS) to describe how scientific information is used in determining Monitored versus Active management categories, assess the workload associated with amending the CPS Fishery Management Plan (FMP) to better describe the considerations in assigning stocks to the Active versus Monitored categories, and develop recommendations on whether, how, and when such potential changes could be accomplished.

Category Assignment Considerations

The CPSMT reviewed whether and how the quantity and quality of scientific information is considered when determining whether a CPS stock should remain in the Active versus Monitored categories in conjunction with the category assignments for groundfish stocks managed under the Pacific Coast Groundfish Fishery Management Plan (Groundfish FMP).

Management unit species in the CPS FMP are classified under three management categories: Active, Monitored, and Prohibited Harvest species (krill). Amendment 8 of the CPS FMP introduced the first two categories in 1999. Managers at that time were responding to the resurgence of sardine stocks and decline in anchovy, and recognized the need to use available agency and Council resources in the most efficient and effective manner while satisfying goals and objectives of the FMP, including preventing overfishing.

All stocks in these categories are “Management Unit Species”, and have the required harvest management specifications such as overfishing limit (OFL), acceptable biological catch (ABC), and annual catch limit (ACL). Additionally, stocks in either the Active or Monitored category may be subject to management measures such as catch allocation, gear regulations, closed areas, closed seasons, or other forms of “active” management. For example, trip limits and a Federal limited entry (LE) permit program are already in place for all CPS finfish in California south of 39° N. Latitude. In addition, states may implement regulations that apply to CPS for both Active and Monitored category stocks. At the state level, California, Washington and Oregon utilize a variety of state-specific rules tailored to meet species or fishery needs, including LE license programs, trip limits, logbook programs, area and season closures, gear, bycatch and wastage restrictions, and fish ticket reporting requirements. Thus, stocks in either category are subject to substantial “active” management.

Unlike stocks in the Groundfish FMP, assignment of CPS stocks to either the Active or Monitored category is not based solely on the quantity and quality of data for stock assessments. The primary factors incorporated into the determination include socioeconomic considerations, fishery status/importance, and ecological factors. The primary reason for describing the two management categories and assigning stocks to them is the recognition that certain stocks may necessitate less intensive management, and to use available agency and Council resources in the most efficient and effective manner. This emphasis on considering which stocks warrant greater conservation and

management as well as on the collective resources for assessing and managing CPS stocks is due to their highly dynamic abundance cycles and the inability and/or the need to assess them all annually to optimize yield in a precautionary manner.

Stock assignment to either category depends on the nature of the fishery. The Active category denotes stocks and fisheries with biologically significant levels of catch, or biological or socioeconomic considerations requiring relatively intense harvest management procedures, i.e., annual stock assessments and annual harvest specifications. In contrast, the Monitored category includes stocks and fisheries for which there is limited fishing effort and/or overfishing is not a concern, here, the monitoring of landings and available abundance indices and other biological information are sufficient to sustainably manage the stock within long-term OFLs/ABCs/ACLs and prevent overfishing. This distinction enables managers and scientists to concentrate efforts on stocks and segments of the CPS fishery that need greatest attention or where the most significant benefits might be expected. For example, at the time Amendment 8 was adopted, and under the current Groundfish FMP standards, the central subpopulation of northern anchovy would have been considered a Category 1 stock since data were available to conduct quantitative stock assessments. However, it was placed in the Monitored category of the CPS FMP. This decision reflected the relative status of the sardine and anchovy fisheries at that time and corresponding need to manage sardine more intensively, because the fishery was moving away from anchovy.

As described above, the quality and quantity of scientific information to enable a stock assessment or derive OFLs/ABCs are not the sole factors considered for CPS stock categorization. However, when compared directly on this basis, the Active category is most similar to Category 1 for groundfish stocks, as both categories include stocks that are considered "data-rich." For Category 1 groundfish stocks, quantitative stock assessments are conducted based on recently collected catch-at-age, catch-at-length, or other data (Groundfish FMP, Page 21). For Active category CPS stocks, quantitative stock assessments are conducted based on similar information. CPS stocks in the Monitored category are more similar to groundfish Category 2 and/or Category 3 stocks. Category 2 groundfish stock status is based on "data-moderate" assessments, which use historical data, and one or more indices of abundance, and exclude compositional data (length or age data). Status of Category 3 groundfish stocks is informed via "data-poor" assessments, which do not use abundance indices, relying on catch and basic life history information. CPS Monitored stocks all have more information (e.g., compositional data) than just landings and thus do not fall neatly within Category 2 or 3 (Table 1).

Although CPS management categories can be aligned relatively closely with the Groundfish species categories, it is also possible under the CPS framework for a "data-rich" stock to be placed in the Monitored category as the placement of CPS stocks into either of the two categories is not driven by data quality or quantity. For example, as stated above, in 1999 the central subpopulation of northern anchovy (CSNA) was "data rich" and therefore would have aligned with a Category 1 Groundfish stock. However, the nature of assessment requirements and agency resources to meet the management needs of the two CPS categories over the past 20 years has led to Monitored stocks becoming more data limited than the Active stocks. Any future action to change a stock's assignment to either the Active or Monitored category would entail an evaluation of the quality and quantity of data available to assess stock status and manage under the framework of the Active category, but CPS management categories reflect other considerations than just these factors.

Table 1. Groundfish Species Categories and Assessment Characteristics and Corresponding CPS Management Categories and Finfish Stocks

Groundfish FMP	CPS FMP	
Species Categories	Management Categories	Finfish Stocks
Category 1 <i>Data-rich quantitative assessment</i>	Active	Pacific sardine Pacific mackerel
Category 2 <i>Data-moderate quantitative assessment</i>	Monitored	Central Substock Northern Anchovy Northern Substock Northern Anchovy Jack Mackerel
Category 3 <i>Data-poor assessment</i>		

Recommendations on CPS Management Category Names/Descriptions

The CPSMT also discussed whether the Council should consider changing the name(s) and/or descriptions of the CPS management categories, and how this might be accomplished. It is clear that the CPS management category names, and in particular “Monitored” have resulted in some confusion regarding the purpose and intent for stocks in that category. The CPSMT considered whether there is value in simply treating the issue as a semantic problem that could be addressed using alternative category names. While another name for the Monitored category might be identified, simply changing the name would not necessarily lead to a better understanding of its purpose or function. Given this uncertainty, the CPSMT does not see a strong reason to undertake the workload that an FMP amendment and corresponding revisions to regulations, the stock assessment and fishery evaluation (SAFE), Council Operating Procedures (COPs), etc., would necessitate to rename the category. The CPSMT also recognizes value in maintaining the term Monitored consistent with the historical record. On the other hand, refining the descriptions of Active and Monitored might improve clarity and could potentially be accomplished as part of an FMP housekeeping effort. The CPSMT could evaluate existing FMP language and possibly develop language that better describes what is associated with stocks in the Active and Monitored categories similar in purpose to how the Groundfish FMP describes species categories (Groundfish FMP Section 4.2).

Workload associated with revising the Active and Monitored CPS management categories

At the April 2018 meeting, the Council requested information on the workload associated with amending the CPS FMP to revise the name and/or description of the Monitored category to better describe what is currently considered in assigning stocks to the Active and Monitored categories.

The CPSMT discussed this task at its September 2018 meeting, and concluded that the two potential changes to consider would require fairly different levels of workload. The first could potentially be minor clarifications to the existing descriptions of the CPS management categories, as part of a housekeeping update. Such updates would serve to clarify and better define the CPS management categories, and could be done in a one or two meeting process. Changing the names of the categories would be a more substantial change. It would require a longer process, and the workload would be much greater because it would require an FMP amendment process and all the related documents (e.g., COPs, SAFE, and regulations) would need to be updated accordingly.

Enhancing Review of CPS Stock Category Assignments

Under the current framework, management of Monitored finfish stocks involves tracking landings against precautionary ACLs and qualitative comparison to available abundance data, or other scientific information. However, as described above, categorization as a Monitored stock does not preclude changes to either harvest specifications when new scientific information becomes available to warrant a change (CPS FMP Sections 2.1.5 and 4.6.4), or conducting stock assessments. When the CPS FMP was originally drafted, there may have been an expectation that stocks would move more frequently between categories (and thus be subject to an assessment). However, no CPS stock category assignment has been changed since the initial category assignments in Amendment 8 because the factors analyzed to justify a category switch have not changed enough for the Council and CPS advisory bodies to agree on re-assigning any particular CPS stock. For example, in June 2013, the CPSMT recommended moving Pacific mackerel from the Active to Monitored category starting in the 2014-2015 season, based on very low catches, limited additional sample information, and indications that the population's sustainability is not presently being compromised by fishing pressure. The CPSAS advised keeping mackerel in the Active category, and the Council concurred, but modified the assessment and specification cycle. To date, landings and fishing effort have remained relatively low for the finfish stocks in the Monitored category, and no other biological concern has warranted moving any stocks into the Active category.

Although category designation (Active and Monitored) primarily reflects management needs which then dictate an assessment cycle/prioritization, the CPSMT supports the continued development of approaches to regularly review the available data on Monitored stocks, including data to inform assessments or revise the current reference points. Over the last few years, the CPSMT has considered various approaches that could facilitate CPSMT and Council review of the available data on Monitored stocks on a more regular or defined basis and schedule, as well to ensure the appropriate data are being collected on all CPS stocks.

For example, at the April 2018 Council meeting the CPSMT stated that it planned to develop a standardized way of periodically reviewing the available information and current data streams for reviewing and/or revising the existing reference points (April 2018 Agenda Item C.4.a, Supplemental CPSMT Report 1). In that report the CPSMT suggested that the Council could hold a joint meeting of the CPSMT and the CPS subcommittee of the SSC at regular intervals (e.g. every four years) to review available information to adjust or revise existing reference points for Monitored stocks and or data streams and/or data that would be needed to conduct stock assessments in the future. Such a process could be formalized in a COP or in some other manner.

To meet the same need, and recognizing the costliness of such meetings, the CPSMT also explored enhancing existing Council processes such as the SAFE report.

Prepared annually, the CPS SAFE report provides information to the Council for determining annual harvest levels for each stock, documenting significant trends or changes in the resource, marine ecosystems, and fishery over time, and assessing the relative success of existing state and Federal fishery management programs. The document includes landings, prices, revenues, and economic, biological, or environmental conditions not covered elsewhere in assessments for Active category and Monitored stocks. In addition, the status of each CPS stock and any fishery management recommendations have been provided (see Section 8.0 of SAFE). Per the CPS FMP, the CPSMT is to also review all CPS stocks annually to ensure that the current category assignments for each stock ("Active" or "Monitored") are appropriate. If the CPSMT determines that conditions may warrant a change in category for a particular stock, the CPSMT should make that recommendation to the Council bodies (see example in Agenda Item I.2.c, June 2013). The Council, based on all available information and goals as outlined in the CPS FMP, can then choose to make changes to the appropriate management category for each species.

Although the SAFE includes the section on stock status and the CPSMT has reviewed categories over the years, the CPSMT recognizes that the information used and the thought process could be more transparent, and that recommendations have not been explicit in every year. Accordingly, the CPSMT proposes to add a new section to the SAFE that better collates the information already provided in the SAFE (e.g., information in Stock Status and Ecosystem Considerations chapters) and presents the CPSMT's review. The CPSMT envisions this analysis being derived from a list of questions covering topics such as fishery dynamics and biological indicators and has provided a draft example in Attachment 1 "Annual Review Questions for Monitored Stocks." The CPSMT does not view this as an explicit decision tool, but a way to be more public and transparent about the type of data/considerations the CPSMT reviews in making their recommendation. The results of this review, just like the FMP describes, could be a trigger for a more formal review of potential need to change categories.

The CPSMT expects the list of questions to evolve over time and therefore it is not something necessary for the Council to formally adopt. The CPSMT is proposing to have the analysis captured in the SAFE and presented to the Council when circumstances warrant it, e.g., notable change in landings, biological or ecosystem indicators for any CPS finfish stock, but the Council could choose to have the review questions and results routinely presented at an appropriate Council meeting.

In summary, the CPSMT offers the following recommendations for Council consideration:

1. Retain Active and Monitored as management category names.
2. Evaluate, and potentially develop and recommend improved management category descriptions in the CPS FMP as part of a "housekeeping" exercise, and in the SAFE.
3. Add a new section to the CPS SAFE as proposed above; and determine whether the information would be reported only via the SAFE document or also as a stand-alone report to the Council and its advisory bodies annually.

Attachment 1. Draft Annual Review Questions for Monitored Stocks

Annually, the CPSMT will review each stock in the Monitored category using questions similar to those below around which to structure the analysis. The CPSMT is proposing to capture the results of this review in a new section of the CPS SAFE. The CPSMT would compile the available information in response to each question. Clarifying or explanatory guidance is provided with some questions in brackets to facilitate the review process. The results of the review itself is not intended to directly precipitate a management category change; instead, the results could trigger a more formal review.

Catch

1. Did catch significantly increase from last year?
 - a. If Yes, proceed to #2
 - b. If No, continue to **Fishery** and **Ecosystem** questions. [Review will look ahead for potential changes to catch and not conclude here if catch has not increased, similarly even if catch has not changed significantly ecosystem indicators will be evaluated.]
2. Is catch at least 75% of the ACL?
 - a. If yes, proceed to #3
 - b. If no, proceed to **Abundance/Biology** questions
3. Has the catch been 75% of the ACL 3+ years in a row?
 - a. If yes, proceed to #4
 - b. If no, proceed to **Abundance/Biology** questions
4. Is recent catch trending toward or close to the default optimum yield/ABC?
 - a. If yes or no, proceed to **Abundance/Biology** questions

Abundance/Biology

1. Is information on abundance available from a recent NMFS Survey?
 - a. If yes, proceed to #2
 - b. If no, proceed to #3
2. Is recent catch large or small relative to recent survey biomass?
 - a. If yes or no, proceed to #3
3. Has there been an unexpected change in survey observations or other stock indicators (e.g., anecdotal)?
 - a. If yes, document the change and proceed to #4
 - b. If no, proceed to **Fishery** questions
4. Is the species short lived with high recruitment variability? (e.g., anchovy = yes, jack mackerel = no)
 - a. If yes or no, proceed to #5
5. Does the stock have temporal and/or spatial variability?
 - a. If yes, proceed to #6
 - b. If no, proceed to **Fishery** questions
6. Do recent surveys show a change?
 - a. If yes or no, document the changes observed and proceed to **Fishery** questions

Fishery

1. Has there been a recent change in the fishery (e.g., methods, markets) that might impact catch in the near future?
2. Has there been a recent change or changes in the other fisheries that might impact catch in the near future?
3. Have there been changes to regulations that might impact catch in the near future?

Fishery Monitoring

1. Have there been any changes to fishery monitoring programs?
2. Is there a backlog in or any other constraints to processing any of the data?

Ecosystem

1. Does the stock play a key/known role in the ecosystem? ['non-catch value', e.g., forage]
2. Is there evidence of ecosystem stress in the region of the fishery? [e.g. Physical: El Nino/warm blob; Biological: UME, nesting failures]
3. Has there been noticeable effect on stocks?

Next Steps/5-Year Review

1. Was the last assessment recent or many years ago?
2. Is the survey-based biomass considered an absolute or minimum estimate of abundance?
3. Does sufficient information exist to conduct a stock assessment with a fully-integrated population model?

PFMC

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