

COASTAL PELAGIC SPECIES ADVISORY SUBPANEL REPORT ON THE SARDINE REBUILDING PLAN

The Coastal Pelagic Species Advisory Subpanel (CPSAS) reviewed the CPS Management Team (CPSMT) Report (Agenda Item G.1.a, CPSMT Report 1) and met via webinar on June 10-11 to discuss the report and make recommendations on the rebuilding plan for Pacific sardine. The CPSAS thanks the CPSMT for its work to provide a thoughtful overview of the issues.

The CPSMT Report 1 provided two alternatives as bookends for analysis in developing a rebuilding plan: Alternative 1 is “status quo” management, and Alternative 2 is zero harvest. Recognizing that many of the restrictions to reduce fishing at low stock size have already been implemented, the CPSMT did not anticipate more than a small number of alternatives.

Responding to the Council Action items for this meeting, the CPSAS offers the following thoughts and recommendations:

1. Consider Range of Alternatives

We suggest that the three following alternatives be considered for analysis:

Modified Alternative 1, i.e. “Status Quo-plus” – For the Rebuilder model, this could be done by analyzing a catch rate at the acceptable biological catch (ABC) level.

Alternative 1 – Status Quo management is the harvest control rule (HCR) with current management measures, with analysis at the annual catch target (ACT) level. We understand that “status quo” has management flexibility to adopt harvest levels at or below the ABC. Because recent management has applied an ACT below ABC/annual catch limit (ACL) levels, the CPSAS recommends analyzing recent management at the ACT level.

Modified Alternative 2 (in lieu of CPSMT Alternative 2) – an analysis of a five percent harvest rate of estimated age 1+ biomass.

These alternatives would provide a range of analyses both slightly above and below actual recent management.

There is wide recognition that sardine abundance is driven primarily by environmental forcing, fishing allowed under the current HCR policy has a negligible impact on the stock, and the current HCR may be considered as a de facto rebuilding plan. The CPSMT Report noted: *“It is impossible to develop a rebuilding program that would be guaranteed to restore a stock to the MSY level in ten years because CPS stocks may remain at low biomass levels for more than ten years even with no fishing.”*

We point out that the “zero harvest” alternative is unrealistic, and further, would precipitate catastrophic socio-economic impacts across many fisheries and fishing communities. We recommend its removal from consideration as an alternative.

2. Consider Analytical Approaches and Socio-Economic Factors

Listening in on the Scientific and Statistical Committee (SSC) webinar where Dr. Kevin Hill presented his initial rebuilding analysis plans, CPSAS members were concerned with the uncertainty in how the rebuilding model will be developed, what it will contain, and how that will impact the sardine fishery.

The CPSAS supports the suggestion for the SSC's CPS Subcommittee to meet with the modelers and the CPSMT prior to the September Council meeting to review draft modeling outcomes. We request that this meeting also include a representative from the CPSAS as well as independent sardine modeling expertise, for example, Dr. Richard Parrish, who has more than 50 years of experience in modeling sardine dynamics.

We also note that the recent exempted fishing permit (EFP) for 'directed' sardine fishing is producing fishery age data and evidence of recruitment. This information is essential and should be included in the stock assessment model, which should improve the accuracy of the rebuilding model predictions.

Regarding socio-economic factors to consider, the CPSMT Report correctly noted that sardines are and have been historically important to multiple fisheries. While the report provided important information focused on the live bait fishery and recreational angling it supports in California, it aggregated the value of commercial fisheries across the west coast. We recommend that commercial fishery socio-economic impacts be analyzed state by state, and include a broad range of years, extending back at least to 2007, the last year before the sardine fishery began experiencing premature in-season closures.

We also recommend that the socio-economic analysis include the value of and impact to fisheries in which sardines are caught incidentally, in addition to the value and economic importance of the directed fisheries.

3. Provide guidance on a Range of Alternatives (ROA)

The increase and decrease of sardines have gone on for centuries, long before fishing pressure. Best available science, *Baumgartner et al.: History of Pacific Sardine and Northern Anchovy Populations* (CalCOFI Rep., Vol. 33,1992), shows the high variability of the sardine stock in the absence of fishing. If this process arrives at the point where other lucrative fisheries are curtailed or stopped, that would be a huge, unnecessary, and disastrous economic loss.

From the fishermen's perspective, reducing the ACT or ACL by a few thousand tons will not build sardines back up any sooner than the environment allows. A few thousand tons will not greatly affect the health of this biomass, but it matters greatly to allow fishing to continue for other species, and to continue the small but economically important directed catches in the live bait fishery. The Council has closed the directed fishery; Mother Nature has to do the rest.

The CPSMT Report also stated: "*Under the current sardine HCR, fishing is unlikely to have a substantial effect on the overall population.*"

4. Identify a Preliminary Preferred Alternative, as Appropriate.

For all the reasons expressed above, if the Council opts to select a Preliminary Preferred Alternative (PPA) at this time, a majority of the CPSAS recommends that the Council select Modified Alternative 1, status quo-plus, or the CPSMT Report's Alternative 1, status quo.

The Magnuson-Stevens Act's National Standard 1 (NS1) guidelines provide flexibility in developing rebuilding plans for species with "unusual life history characteristics" (like sardines).¹ Rebuilding plans also must consider the needs of fishing communities as well as the biology of the stock. The Council has latitude in approving a rebuilding plan and ending "overfishing." We encourage the Council to be creative in developing a rebuilding plan that fits the needs of the stock as well as fishing communities.

Minority statement:

A minority of the CPSAS recommends that the Council select Modified Alternative 2 above as its PPA. A five percent harvest rate or ACL, based on estimated age 1+ biomass, would more closely represent the low end of the Fraction fishing rate parameter from the CPS FMP; it is also most reflective of the low productivity state that currently characterizes the northern subpopulation of sardine, according to recent stock assessments.

The entire CPSAS appreciates the efforts of the CPSMT in identifying an appropriate ROA for consideration and appreciates the Council's consideration of these recommendations.

PFMC
06/15/20

¹ Flexibility in application of NS1 guidelines. There are limited circumstances that may not fit the standard approaches to specification of reference points and management measures set forth in these guidelines. These include, among other things, conservation and management of Endangered Species Act listed species, harvests from aquaculture operations, stocks with unusual life history characteristics...