

DRAFT PROPOSED TERMS OF REFERENCE
PACIFIC FISHERY MANAGEMENT COUNCIL WORKSHOP ON
PACIFIC SARDINE DISTRIBUTION
August 17-18, 2015
Southwest Fisheries Science Center, Pacific Room
La Jolla, CA 92037

I. Purpose

A workshop to examine the Distribution parameter in the Pacific sardine harvest control rule (HCR), and to examine potential alternative means of accounting for the fact that some portion of the U.S. stock is present and subject to harvest outside U.S. waters. The workshop will review the best available scientific information on the Distribution parameter and is not intended as a review of other aspects of the HCR or Pacific sardine harvest management policy. The workshop is a requirement of the *Oceana vs Pritzker* Settlement Agreement,¹ and the workshop report will be considered by the Council at the November 2015 meeting.

The current Distribution parameter of the Pacific sardine HCR was estimated in Amendment 8 to the CPS FMP (PFMC 1998). The Distribution term was reviewed at a 2013 technical workshop that concluded that synthesis and further evaluation of existing data was an important step in evaluating whether the Distribution parameter should be revised. The Distribution term is used to account for the fact that some proportion of sardine biomass may at times not be in U.S. waters. The Pacific sardine harvest control rule is:

$$\text{HARVEST} = (\text{BIOMASS} - \text{CUTOFF}) * \text{FRACTION} * \text{DISTRIBUTION}$$

Pacific sardines exhibit annual and interannual migratory patterns, and the actual portion of sardines in U.S. waters at any given time is highly variable. Recognizing this, the Council considered a range of options for estimating the Distribution parameter, and chose a fixed factor of 0.87 as the most reasonable long term average, for use in the HCR. A primary purpose of the workshop is to consider whether new or newly-evaluated information warrants consideration of changing the Distribution parameter.

II. Objectives

The workshop participants are expected to compile the best available scientific information on the distribution of the northern subpopulation of Pacific sardines along the North American Pacific Coast, and to consider four potential alternatives for estimating or specifying the Distribution parameter of the Pacific sardine harvest control rules in the CPS FMP. These are listed on page 2 of the Settlement Agreement. The workshop participants may consider additional methods such as #5, below.

1. Setting the value for the Distribution parameter annually as part of the specifications process based on the most recent data on the actual mean distribution of the Pacific sardine stock in U.S. waters. Primary presenters: SWFSC.
2. Using landings information from Canada and Mexico to account for catch in the waters of those nations in estimating the Distribution parameter in the HCR, using work from recently published scientific studies regarding Pacific sardine management. Primary presenters: SWFSC.

¹ *Oceana, Inc. v. Penny Pritzker, et al.* (Ninth Circuit No. 13-16183; District Court No. C-11-6257 EMC (N.D. Cal.)). The Settlement Agreement requires a scientific workshop to examine the Distribution parameter of the Pacific sardine harvest control rule, including consideration that catch can occur in the U.S., Mexican, and Canadian waters. The results of the workshop are to be presented at the Council's November 2015 meeting, at which time the Council will determine whether further action regarding this item is warranted.

3. Estimating the stock biomass in U.S waters only, instead of the total sardine biomass, in the stock assessment. Primary presenters: SWFSC.
4. Using a numerical-based Distribution parameter as an alternative to the existing percent-based Distribution parameter. Primary presenter: NMFS WCR Staff.
5. Using a temperature-based model to predict the proportion of Pacific sardines in U.S. waters for a particular year. Primary presenter: TBD.

III. Outcomes

1. A workshop report, including:
 - a. A summary of the analyses of each alternative considered by the workshop participants;
 - b. Recommendations on which, if any, alternative would represent an improvement over the current term of 0.87, for use in the Pacific sardine HCR;
 - c. Recommendations on statistical or methodological shortcomings and data gaps, relative to each of the alternatives considered by the workshop participants;
 - d. Other appropriate records of the workshop.
2. The final workshop report will be submitted to the Council before the advance briefing book deadline for the November, 2015 Council meeting.

IV. Logistical Matters

1. Dates and location: August 17-18, La Jolla, California. (1pm start on August 17).
2. Workshop proceedings conducted similar to the PFMC ToR for methodology reviews.
3. In response to requests, Primary Presenters should anticipate a reasonable amount of 'homework' to be completed after adjournment of the first day, in preparation for further discussion and consideration on the second day of the workshop.
4. The Workshop Chair and Workshop Principals are responsible for developing and completing the final workshop report in a timely manner for inclusion in the November 2015 Council Meeting advance briefing book materials.
5. Workshop staff:
 - a. Mike Burner, Kerry Griffin (Council)
 - b. Joshua Lindsay (NMFS WCR)
 - c. Dale Sweetnam (SWFSC)
6. *Tentative* Workshop Principals
 - a. André Punt (Workshop Chair)
 - b. Tom Jagielo, Owen Hamel (SSC representatives)
 - c. Fisheries scientists: TBD
 - d. Kevin Hill & Paul Crone (Assessment biologists)
 - e. Geostatistician: TBD
 - f. Richard Parrish, Larry Jacobson (Original CPS FMP Amendment 8 analysts)
 - g. Conservation scientist: TBD
7. *Tentative* Invited Participants:
 - a. CPSMT representative: TBD
 - b. CPSAS representative: TBD
 - c. Diane Pleschner-Steele
 - d. Geoff Shester
 - e. Council Member: TBD
 - f. Alec McCall
 - g. Canadian and Mexican fisheries representatives
8. Documents due two weeks prior to the workshop (available at ftp site, TBD):
 - a. Documents describing the analysis supporting each proposed alternatives for addressing Distribution.
 - b. Review of CPS FMP: Genesis and Concepts (Josh Lindsay)
 - c. Proposed agenda