

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON
PACIFIC SARDINE DISTRIBUTION WORKSHOP

Dr. Owen Hamel (NWFSC) presented on a report (Agenda Item H.1.a, Pacific Sardine Distribution Workshop Report) on the Pacific Sardine Distribution Workshop that convened at the Southwest Fisheries Science Center in La Jolla, CA on August 17-19, 2015.

The Scientific and Scientific Committee (SSC) finds that the Distribution Workshop did not produce a better estimate of Distribution (operationally defined by the SSC as the long-term, seasonally-averaged proportion of the northern subpopulation present in U.S. waters) than the current fixed value of 0.87 obtained from spotter data. However, the current approach has several shortcomings. There are no comparable spotter data since 2001, data from the Pacific Northwest, nor data from high abundance years, and the approach based on spotter data does not base the estimate of Distribution on data for the northern subpopulation alone. In the near-term, some refinement may be possible by applying modern regression models and apportioning the spotter data between subpopulations. Over the longer term, the SSC finds that the most promising source of an improved estimate of Distribution would be an expanded and coordinated coastwide acoustic-trawl sampling program that includes Canadian and Mexican waters, integrates across seasons, and accumulates data over years covering the range of low to high total stock biomass.

The SSC agrees with the workshop conclusion that landings do not provide direct information on the Distribution parameter. Consideration of catch in Canada and Mexico in the Harvest Control Rule (HCR) may reduce the incidence or severity of catches exceeding 'total' or 'coastwide' harvest guidelines (HGs) and overfishing limits. However, modifying allowable U.S. harvest on the basis of projected international harvest could have significant consequences for U.S. fisheries.

The SSC agrees with the Workshop report that the analyses conducted to date are not adequate to evaluate the effects of changes in the HCR. Properly comparing the performance of alternative measures of Distribution, an assessment based on U.S. biomass only, or a HCR that depended on projected international catch would require an integrated treatment through a Management Strategy Evaluation (MSE). This involves accounting for uncertainty regarding current biomass, uncertainty in projecting international catch, and using a population model which accounts for the feedback of changes in catches due to the changed HCR upon stock dynamics. This would require a substantial investment of time and resources. Were such an analysis performed in the future, the SSC would review it at the Council's request.

The SSC endorses the research recommendations contained in the report.

The SSC agrees with the report recommendation that there would be benefit in initiating discussions with Mexico and Canada toward more coordinated research and management of this transboundary stock. The SSC also notes the importance of understanding the stock structure of Pacific sardine, and that the results of this workshop are conditional upon the current hypotheses regarding stock structure as well as the ability to allocate catches and biomass to subpopulation using environmental data.