

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON PACIFIC MACKEREL  
STOCK ASSESSMENT AND HARVEST GUIDELINE FOR 2007-2008

Dr. Emannis Dorval presented a clear and detailed overview of the Pacific mackerel stock assessment to the Scientific and Statistical Committee (SSC). The assessment was technically sound, and the modeling approach taken was not greatly different from previous assessments of this stock. The SSC endorses the Stock Assessment and Review (STAR) Panel conclusions that this assessment represents the best available science and can form the basis for Council decision-making.

Like previous versions, this stock assessment was done using the Age-structured Assessment Program (ASAP) modeling framework. An attempt was made to implement the assessment in SS2, but the Stock Assessment Team and the STAR Panel were not satisfied with the results: they could not determine why the model was unable to fit portions of the early catch history. It may be possible to resolve this issue in time to review an SS2 modeling methodology for Pacific mackerel during the September sardine STAR Panel meeting. The SS2 methodology could then be used in the future for Pacific mackerel but would not affect the current assessment or the 2007-2008 harvest guideline.

Opportunities to improve the Pacific mackerel assessment are limited due to fundamental problems – (1) lack of a cooperative agreement between Mexico and the United States and (2) lack of a reliable index of abundance. The STAR Panel report does a good job of describing these problems. The most likely remedies are to negotiate a formal agreement with Mexico to collect and share catch and abundance data and to develop a more reliable stock-wide abundance index.

All of the current abundance indices have problems that limit their usefulness for this assessment. Potential improvements could involve the use of acoustic or LIDAR surveys. If technical issues can be solved such surveys may be used to produce an abundance index over the entire range of the stock and provide data to improve the stock assessment in a relatively short time frame. It would also be desirable to combine acoustic or LIDAR surveys with an improved implementation of the egg and larval surveys. These techniques could be applied to sardine as well as mackerel.