

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON PACIFIC MACKEREL HARVEST GUIDELINE FOR 2006-2007 SEASON

A Pacific Fishery Management Council-sponsored review of the Pacific Mackerel Assessment took place on May 16, 2006, at the Southwest Fisheries Science Center in La Jolla. Reviewers at the La Jolla meeting included Tom Barnes and David Sampson of the Scientific and Statistical Committee (SSC), and several members of the Coastal Pelagic Species (CPS) Management Team. Paul Crone, a member of the Stock Assessment Team (STAT), presented the data and modeling results. The reviewers and the STAT selected a Base Model that was an update of the previous assessment.

The current stock assessment model configuration for Pacific mackerel was developed in 2004, and was first used for management during the 2005-2006 fishing season. The assessment for 2006 was conducted as an update, in that the STAT adhered to the previously reviewed model configuration in deriving the Base Model results. A full Stock Assessment Review (STAR) Panel reviewed and accepted the modeling approach in 2004, and subsequently the SSC reviewed and accepted the 2005 assessment. In the 2006 assessment the principle change was the inclusion of new fishery and survey data from 2005, as well as correcting a previous error in the treatment of four “missing” years in the California Cooperative Oceanic Fisheries Investigations (CalCOFI) survey index. The STAT and the reviewers agreed on the Base Model results that estimated the 2006 biomass to be 112,700 mt. The SSC concurs that the Base Model results are the best available science and provide a suitable basis for Council management decisions.

Recommendations for the Next Assessment

Several technical issues were identified that would benefit from further exploration as part of the next full assessment, including investigation of time-varying selection to account for an absence of young fish during the early part of the time series, and examination of historical CalCOFI data, which cover a wider geographic range, to explore possible north-south shifts in distribution. These issues will be brought to the attention of the next assessment team.

Under the current Council process a single STAR panel reviews the stock assessments for Pacific mackerel and Pacific sardine, even though the fishing seasons for the two species are offset by six months. For 2007 the SSC recommends that the Council convene separate STAR panels, one during the fall for sardine and another during spring for mackerel. Each panel should consist of three reviewers with at least one being external to the Council and region. The SSC will work with the Southwest Center to facilitate the STAR Panels.

Prior to the next round of CPS stock assessments, the Terms of Reference for CPS assessments should be reviewed and revised, especially with regard to update assessments. The extant Terms of Reference do not specify what constitutes an update or the information that should be documented in an update report.

Management Issues

Several issues have been identified concerning the Pacific Mackerel Harvest Control Rule. The reviewers at the May meeting noted that the Harvest Control Rule is for age-1+ fish, but in some years a significant portion of the landings are age-0 fish. The basis of the harvest guidelines should be consistent with the age composition of the catch. Also, results from the current mackerel assessment indicate that spawning stock biomass is only about 15% of the unexploited level and that the level of steepness in the spawner-recruit curve is very low. The SSC recommends that the Harvest Control Rule be re-evaluated.

PFMC
06/13/06