

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON PACIFIC WHITING
HARVEST SPECIFICATIONS AND MANAGEMENT MEASURES FOR 2007

Dr. Tom Helser from the Pacific Whiting Stock Assessment Team presented the Scientific and Statistical Committee (SSC) with an overview of the stock assessment of Pacific Hake (whiting) in U.S. and Canadian Waters and responded to questions arising during the SSC discussions. Dr. Ray Conser summarized the report of the joint Canadian and U.S. Pacific Whiting Stock Assessment and Review (STAR) Panel. The Panel was conducted using the Council-approved Terms of Reference for Groundfish Stock Assessments.

As in the 2006 stock assessment, two alternative models were presented based on the value of the acoustic survey catchability coefficient (q). Both models were considered equally plausible. The SSC endorses the use of the 2007 Pacific whiting assessment for management purposes and recommends that the results from both models be combined to form the basis for management advice giving each model equal weight.

The 2007 assessment was conducted using the same stock assessment package (Stock Synthesis 2) and assumptions about natural mortality and steepness as used in the 2006 assessment. However, a new coastwide recruitment index was incorporated into the 2007 assessment and the Santa Cruz pre-recruit index for the years prior to 2001, which was used in the 2006 assessment, was excluded. The removal of the early Santa Cruz time series and inclusion of the new coastwide index has resulted in slightly higher 1999 and 2003-2004 recruitments. As a result, spawning biomass in the most recent years is slightly greater than predicted by the 2006 assessment. These changes account for the similarity in the estimates of spawning biomass and depletion between the 2006 and 2007 assessments.

The projections based on the two alternative models indicate that the stock is in the precautionary range ($0.25-0.40 SSB_0$). The spawning biomass is predicted to decline in the future for almost any level of harvest because the strong 1999 year class, which has been sustaining the stock in recent years, is now past its peak biomass. Catches of 400,000 mt or more are forecast to reduce the spawning stock below the overfished threshold in two years.

$F_{40\%}$ was selected as an F_{MSY} proxy for Pacific whiting based on the results of a meta-analysis that used stock and recruitment data for other whiting species. However, the Pacific whiting stock is predicted to fall below $25\% B_0$ if management is based on $F_{40\%}$ primarily due to the impact of the highly variable recruitment characteristic of this stock. There is therefore a lack of consistency for Pacific whiting between aiming to maximize yield on average and preventing depletion to below 25% of B_0 .

The SSC again notes that there is only one fishery independent index of abundance (the hydroacoustic survey) that can be used in tuning the assessment and this index is essentially flat, in contrast to the extensive age and size composition data that indicates the stock is in decline from very high biomass levels since the mid 1980's. Model runs in which size and age composition were downweighted still resulted in a declining trend in spawning biomass. While the absolute biomass level is very sensitive to the value assumed for q , the trend is less so.