

GROUND FISH ADVISORY SUBPANEL REPORT ON PACIFIC WHITING HARVEST SPECIFICATIONS AND MANAGEMENT MEASURES FOR 2009

The Groundfish Advisory Subpanel (GAP) is astounded by the troubling decline in harvest and stock trend produced by the post-Stock Assessment Review (STAR) model. It is unfortunate that time is not available to fully investigate why the model is producing such a dramatic change from the 2008 assessment. Catch data from the 2008 fishery is the only new data in the 2009 assessment. The 2008 fishery data appears to confirm the strong presence of the 2005 year class seen in the 2007 acoustic survey and fishery. Structurally, the 2009 assessment is similar to the 2008 model. The major influence changing stock status appears to be the estimate of acoustic survey selectivity, q . In addition, the untested correction for age-reading bias also influenced the model results.

The effect of q is not a surprise. Survey q has been and continues to be the major axis of uncertainty in the whiting assessment. Nonetheless, the wild swings in stock status produced by minor changes in q can produce large variability in stock status. The assessment authors state that the acoustic survey data is not informative enough to accurately estimate q . Prior to 2008, this problem was addressed by fixing q at two equally plausible values to capture the uncertainty. In an effort to let the model directly deal with uncertainty in q , the 2008 model freely estimated q , producing a value of about 0.46. The 2008 model produced results consistent with previous years (for example, in 2008, female spawning biomass was estimated at 1.1M mt and depletion at 38 percent; in 2007, female spawning biomass was estimated to range between 1.1M mt ($q = 1.0$) and 1.65M mt ($q = 0.75$) and depletions of 32 percent and 40 percent, respectively). In sharp contrast, the 2009 assessment estimates q to be 0.85, a female spawning biomass of 0.40M mt and depletion of 32 percent (or 29 percent based on the MCMC runs). Most critical are the conflicting depletion trends produced by the 2008 assessment and 2009 assessment. The 2008 assessment showed an increasing population trend (driven by the 2005 year class), the 2009 assessment projects decreasing abundance.

The whiting fishery produced estimated economic impacts of \$140 million and \$145 million in 2007 and 2008, respectively*. It is becoming increasingly difficult to rely on the whiting assessment process to provide a stable basis for business planning for this fishery – a fishery of critical importance to the west coast. The GAP believes there is an urgent need to fully evaluate the underlying model influences that drive trends in stock abundance. The GAP also recommends a Management Strategy Evaluation to investigate the appropriateness of the current groundfish management framework for whiting because of its high recruitment variability.

The GAP is very concerned about the ability of the current model to inform management, especially given its projected depletion trend, which is directly contrary to the 2008 stock assessment. However, the GAP believes it is important to provide advice on harvest levels. Therefore, with all of these uncertainties in mind, a clear majority of the GAP recommends a coastwide 2009 optimum yield of 215,000 mt, which the Scientific and Statistical Committee regards as the best estimate of a 2009 harvest level based on the harvest control rule (i.e., the 40-10 policy).

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* The Research Group, February 20, 2009