

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON THE DRAFT PACIFIC
SALMON PLAN AMENDMENT 15 – *DE MINIMIS* FISHERIES

Ray Beamesderfer presented the analytical framework for evaluating the effects of the various alternatives for *de minimis* fisheries on Klamath River fall Chinook salmon. The general analysis approach will be to define a range of options and then simulate the outcome of these management measures. Another approach to arriving at a preferred alternative would be to define the goals of management in terms of performance and then search for a set of rules that achieves those goals.

The base model presented was equivalent to Model 1 of the “Klamath River Fall Chinook Stock-Recruitment Analysis” report (Agenda Item G.1.b, STT Report, September 2005). The Scientific and Statistical Committee (SSC) concluded previously that Model 2 better captures the variability and S_{MSY} level and should be considered for simulation. Random changes and trends in in-river survivorship should be included in simulations using Model 2, which will allow for making different assumptions about future changes in the state of the Klamath River basin.

The SSC suggests including parameter uncertainty in the stock-recruit relationship as well as implementation and process errors, and notes further that the down-turn of the descending limb of the Ricker curve at high stock size in Model 1 may be due largely to the in-river environmental effects, rather than density-dependent effects. Sensitivities to different representations of stock recruitment variance about the stock-recruitment curve may have large effects. These issues should be considered in the analysis.

It is important to adequately model the difference between management action and implementation, i.e. target F and actual F . In recent years these two quantities have been quite dissimilar. One approach to address the impacts of this difference and minimize the need for *de minimis* fisheries is a precautionary buffer above the 35,000 spawner “reference point”. The SSC further notes that the target 35,000 spawner escapement level is irrespective of spawner age, despite the difference in fecundity with age.

The SSC notes that the modeling exercise used to analyze the alternatives cannot capture all the important issues. For example, the Klamath fall Chinook stock consists of several smaller populations, and low composite spawning escapement could lead to localized extinction and damage to long-term productivity. The stock-recruitment model assumes relatively high productivity at low stock size and may underestimate threats to the stock at low stock size. Inclusion of a depensatory parameter can partially address these concerns. The SSC notes, despite the above concerns, that the proposed analysis approach is useful for comparison of the various alternatives, although the absolute numbers arrived at will be highly dependent upon the model assumptions.