SALMON TECHNICAL TEAM REPORT ON THE SALMON METHODOLOGY REVIEW

The Salmon Technical Team (STT) met with the Scientific and Statistical Committee's Salmon Subcommittee on Tuesday, October 18 at the offices of the Pacific Fishery Management Council to review progress on proposed changes in methodology. Dr. Michael O'Farrell presented progress of the Sacramento River Winter Chinook Workgroup (Workgroup) on forecasting abundance of Sacramento River winter Chinook (Winter Chinook), with the ultimate goal of developing a management strategy for winter Chinook based on anticipated abundance, as opposed to the current control rule based on a 3-year geometric mean of past abundance. While a forward-looking strategy is preferable to a backward-looking strategy, forecasting abundance of Winter Chinook is challenging because the stock is vulnerable to ocean fisheries primarily as age-3 fish, but estimates of age-2 escapement are not available until after fisheries have occurred on the same cohort. Thus, sibling relationships typically used for forecasting Chinook abundance cannot be used for Winter Chinook. Instead, the Workgroup has developed forecasts based on estimates of juvenile production and survival, incorporating the influence of environmental covariates on survival. This general approach is commonly used for forecasting coho abundance, but is unique among Chinook stocks in the Pacific Coast Salmon Fishery Management Plan.

The STT is encouraged by the Workgroup's progress to date. The forecasts developed show promise, but the time series are relatively short, limiting the evaluation of their performance. We encourage the Workgroup to continue exploring the forecast performance and to develop the framework to evaluate the performance of control rules based on them.

The STT notes that Winter Chinook forecasts will not be ready to incorporate into management in 2017. The current control rule is based on the 3-year geometric mean of spawning escapement, while the forecast is in terms of the age-3 ocean escapement in the absence of fisheries. Furthermore, the performance of alternative control rules based on forecast abundance has not been evaluated.

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