SCIENTIFIC AND STATISTICAL REPORT ON SOUTHERN OREGON NORTHERN CALIFORNIA COAST COHO ENDANGERED SPECIES ACT CONSULTATION

Mr. Ray Beamesderfer (Fish Science Solutions) briefed the Scientific and Statistical Committee (SSC) on the Southern Oregon Northern California Coast (SONCC) coho Ad-Hoc Technical Workgroup's Fishery Harvest Control Rule Risk Assessment (Agenda Item E.1.a, SONCC Workgroup Report 1). This risk assessment framework is intended to inform the Pacific Fishery Management Council (Council) of potential impacts of proposed harvest control rules (HCRs) for SONCC coho in Council managed fisheries. Proposed HCRs are intended to allow fishing on abundant salmon stocks while not impeding the recovery of Endangered Species Act (ESA)-listed SONCC coho. HCRs could take a variety of forms (i.e., fixed vs. tiered exploitation rates or total exploitation rates vs. ocean exploitation rates) and could consider the status of subcomponents of the evolutionarily significant unit (ESU) where data availability allows. The SSC appreciates the hard work and careful thought the workgroup put into this risk assessment.

The SONCC coho ESU is composed of seven diversity strata and 40 populations. There were only sufficient wild spawning escapement data to assess six populations. Impacts in ocean fisheries are assessed based on historical coded wire tag (CWT) recoveries from one hatchery program used to inform the coho Fishery Regulation Assessment Model (FRAM). These CWT recoveries (late 1980s - early 1990s) were from prior to ESA listing and under a different fishery structure than current, which leads to increased uncertainty when applied to current conditions. Further the SSC notes that the coho FRAM has not been fully reviewed and validated for use in producing these estimates.

SONCC coho are currently managed with an ocean exploitation rate (ER) cap of 13 percent. This risk assessment proposed 12 HCRs (eight fixed ERs, three abundance based ERs, and a matrix based ER that has not yet been completed). Though some fixed ERs applied only to ocean fisheries, the risk assessment is based on total exploitation and therefore assumed a recent year average freshwater exploitation for those alternatives. An accurate forecast is required to apply an abundance based HCR. However, promising relationships were found for only 2 of 6 populations after analysis of correlations between potential predictors and abundance for 26 models. The analysis suggests abundance based HCRs provided greater overall fisheries opportunity on SONCC coho than fixed HCRs with comparable levels of predicted risk. It may be premature to pursue abundance-based HCR modeling further unless and until sufficient data have been collected to develop and validate abundance forecasts. In addition, allowable harvest of SONCC coho alone may not be an informative performance metric for mixed-stock ocean fisheries that harvest other coho and Chinook salmon stocks.

The SSC notes the lack of data for informing management decisions involving SONCC coho and the considerable uncertainty this introduces into the risk assessment. The complexity of these analyses may not be supported by the data quality or availability. However, the theoretical basis for the risk analysis remains sound, though the emphasis should be on relative rather than absolute predictions of risk. The SSC recommends adopting the proposed risk analysis framework for evaluating HCRs for consideration in informing management decisions for SONCC coho, with further attention given to combined versus disaggregated-independent implementations of

simulations involving aggregate abundance based control rules or a matrix approach if those options are considered further.

PFMC
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