SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON METHODOLOGY REVIEW RESULTS

The Scientific and Statistical Committee (SSC) received a brief summary of the SSC-Salmon Subcommittee (SSC-SSC) report on the 2025 Salmon Methodology Review from Galen Johnson (SSC-SSC Chair) and a summary of the Salmon Technical Team (STT) conclusions on the Methodology Review from Cassie Leeman (Oregon Department of Fish and Wildlife, STT). The SSC then discussed the two Methodology Review items, "Modification to the Oregon Production Index Hatchery (OPI-H) coho salmon forecast methodology" (Agenda Item G.3, Attachment 1) and "2025 Technical Revision to the Marine Survival Forecast of the Oregon Coast Natural (OCN) Coho Work Group Harvest Matrix" (Agenda Item G.3, Attachment 2).

The SSC notes that Council Operating Procedure 15 (COP 15) governs the conduct of Salmon Methodology Reviews, and currently makes a distinction between methodology changes and data changes, with the latter not requiring methodology review. Both of the items for review demonstrate that this distinction is not always clear, and that data changes can have implications that merit scientific review. The SSC recommends revisiting COP 15 to, at minimum, set clear bounds on when a data change is small enough to not require review (e.g., truncating a dataset to just the single most recent observation would likely not be acceptable). There may be a need to remove the data change exemption entirely, because data are an important part of the scientific process and data sets are considered scientific information in National Standard 2.

Oregon Production Index Hatchery Forecast Modification

The proposed modified OPI-H forecast uses the same model algorithms as the approach reviewed and adopted in 2023, but used a data-weighting method in the selection of the model ensemble components and component-averaging stage. The change in data-weighting was motivated by under-forecast in 2024, concern about a recent divergence between the Pacific Decadal Oscillations and sea surface temperatures, a record low predicted jack to adult ratio, and a record low predicted hatchery to natural origin adult ratio. In the modified approach, when performing component comparison and weighting, input years are given weights that decay with age $[(1-\alpha)^t]$. Across a range of different α values, performance was optimized with $\alpha = 0.25$, that is: if the most recent year is given a weight of 1.0 (0.75^0), the second most recent year is given a weight of 0.75 (0.75^1), the third year is given a weight of 0.56 (0.75^2), and so on. An older year has less than half the influence of the most recent year after three years, and less than a tenth of the influence after nine years. This approach sacrifices statistical precision, with the hope of reflecting conditions that are changing directionally. The SSC expressed concerns as to how long this exponential decay relationship might be expected to hold.

The modification yields a slight improvement in forecasting the composite OPI-H (30.6 percent mean average percentage error for the 2023 method, 29.4 percent for the proposed method), but it is not clear whether this corresponds to improved forecasts of the component stocks making up the OPI-H and which are actually managed. Individual stocks will make varying contributions to the composite OPI-H over time, and rare stocks will make little contribution to the total; thus, performance forecasting for individual stocks may be unrelated to performance forecasting for aggregate stocks. The SSC noted that the documentation is unclear as to how this approach addresses the divergence of Pacific Decadal Oscillation (PDO) from sea surface temperatures, or whether it resolved any of the concerns motivating the modification. The SSC supports use of the modified data as consistent with COP 15, but a best scientific information available (BSIA) determination would require more information on how the OPI-H forecast is disaggregated into the quantities used in management, as well as clarification on the points raised above.

Oregon Coastal Natural Coho Marine Survival Index

The two southernmost Life Cycle Monitoring sites used to parameterize the marine survival model predictions that inform the OCN Coho allowable exploitation rate matrix will be closed due to budget cuts, and the analysts explored four approaches for dealing with this closure.

The SSC agrees with the conclusions of the analysts that the interpolation method is the preferred approach given both its performance and its flexibility if the defunded life cycle monitoring sites come back into use. The SSC endorses the use of the interpolation method going forward as best scientific information available in light of the reduction in monitoring. The SSC strongly recommends that the method be re-examined after several years of use, as underlying relationships among sites may change over time.

PFMC
11/15/25