

SALMON TECHNICAL TEAM REPORT ON 2017 METHODOLOGY REVIEW

The Salmon Technical Team (STT) and the Salmon Subcommittee of the Science and Statistical Committee (SSC) held a webinar on October 17, 2017 to review methodology changes for 2018. The only item on the agenda was an issue with the harvest management matrix for Oregon coastal natural (OCN) coho. The matrix prescribes maximum allowable exploitation rates based on brood year spawning escapement levels and a marine survival index. Data is derived from jack returns to six life-cycle monitoring sites, and the baseline data is updated annually. Due to funding limitations, Oregon Department of Fish and Wildlife (ODFW) has discontinued use of the northernmost life-cycle monitoring site in the Nehalem basin, which leaves five sites in operation.

Erik Suring of ODFW presented an analysis of three alternatives for use beginning in 2018 given the change. The three alternatives included:

1. Using the current model without annual updates to baseline data (fixed model method),
2. Using the current model with a reduced data set relying on the five remaining life-cycle monitoring sites (reduced index method), and
3. Reverting to the Oregon Production Index (OPI) hatchery jack/smolt survival index used prior to 2013 (OPIH jacks method).

Marine survival calculated from the reduced data set (five sites) is highly correlated with marine survival calculated from the full data set of six sites, with slightly larger prediction intervals and no apparent bias. Both the fixed model method and the reduced index method would have produced the same exploitation rate ceilings in the years from 1999 through 2016, and both methods outperformed the OPIH jacks method in retrospective comparisons. While the fixed model method has slightly higher precision than the model with reduced survival data, it would not be responsive to future changes in marine survival rates.

ODFW recommends adopting the reduced index method for use in 2018 and beyond. The STT concurs with this recommendation.