

ERRATUM

AN EVALUATION OF PRESEASON OCEAN ABUNDANCE FORECASTS FOR OREGON PRODUCTION AREA HATCHERY COHO SALMON

Cassie Leeman; Oregon Department of Fish and Wildlife

Shannon Conley, Mark Sorel, Thomas Buehrens; Washington Department of Fish and Wildlife

October 11, 2023

Since submitting “*An evaluation of preseason ocean abundance forecasts for Oregon Production Area hatchery Coho salmon*”, errors to the text have been found. It should be noted, the below errors occur only in text and not in the analysis, indicating the conclusions of the document remain valid. Below details each correction.

In this document, the equation originally presented in “Eq. 1.” was incorrect and did not appropriately reflect the equation used in the analysis. The original equation does not indicate that the jack (JackOPI and JackCR) and smolt (SmD and SmCR) variables are lagged by one year within the analysis. We have rectified this mistake through the inclusion of a one-year lag ($t-1$) within the equation. The correct equation is:

$$\text{Eq. 1. } y_t = a(\text{JackOPI}_{t-1}) + b\left(\text{JackCR}_{t-1} \cdot \left(\frac{\text{SmD}_{t-1}}{\text{SmCR}_{t-1}}\right)\right) + \varepsilon_t$$

This error affected the description of the current forecast methodology in the text of the document but did not translate to actual mathematical error within the analysis.

Additionally, the equation presented in “Eq. 9.” was also incorrect and did not appropriately reflect the equation used in the analysis. The original equation incorrectly denoted a standardization of the harmonic means, indicated through the division of the means, $\sum_i \omega_i \hat{y}_{i,t}$, by M , where M represents the 10 models with the lowest MAPE. The standardization happens in the next step in the analysis shown in “Eq.10.” within the actual analysis. We have rectified this error by taking away the standardization from “Eq.9.” so it just reflects the equation for harmonic means and the analysis as conducted. The correct equation is:

$$\text{Eq. 9. } \hat{y}_t = \sum_i \omega_i \hat{y}_{i,t}$$

This error impacted the written explanation of step four within our analysis through the inclusion of an inaccurate equation. It did not impact the analysis, however, as the analysis included the correct equation.

Lastly, the equation presented in “Eq. 9.” did not appropriately reflect the equation used in the analysis. The originally equation for MAPE does not indicate that the formula should be the absolute value of $\frac{\sum_{t=2008}^{2022} (\hat{y}_{i,t} - y_t) / y_t}{15}$. We have fixed this error through the inclusion an absolute value symbol around $\frac{\sum_{t=2008}^{2022} (\hat{y}_{i,t} - y_t) / y_t}{15}$. The error impacted only the written explanation of performance evaluation in step three and not the analysis. The correct equation is:

$$\text{Eq. 6. } MAPE_i = \left| \frac{\sum_{t=2008}^{2022} (\hat{y}_{i,t} - y_t) / y_t}{15} \right| * 100$$