

Figure S1. Performance of age-at-harvest abundance estimators with simulated data. In each panel, the y-axis depicts abundance, scaled by the inverse of the overall mean across the time series. Red lines correspond to ( $2.5{ }^{\text {th }}, 50^{\text {th }}$, and $97.5^{\text {th }}$ percentiles) of the true population dynamics (across stochastic simulations). Gray polygon encompasses $95 \%$ of the estimated values. Rows correspond to different estimators and columns correspond to different simulation scenarios.

