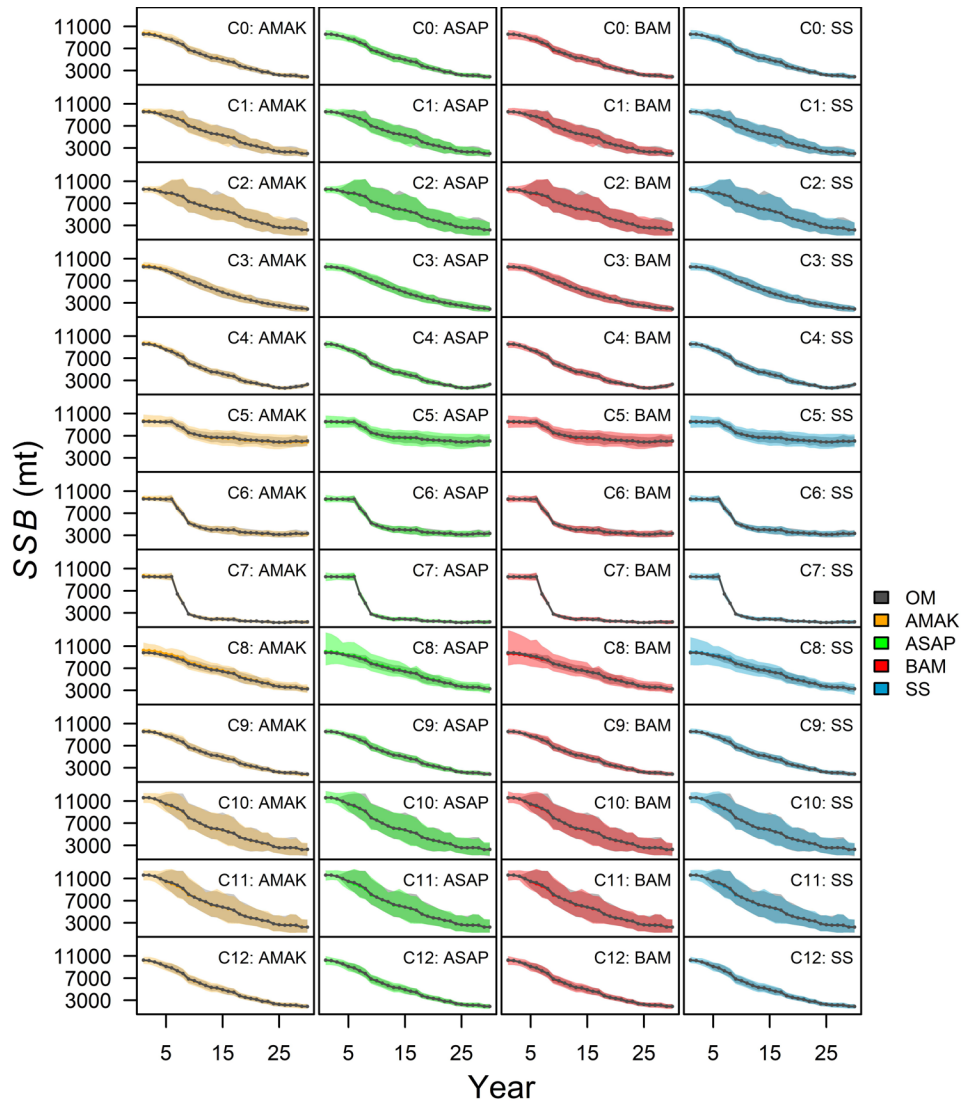
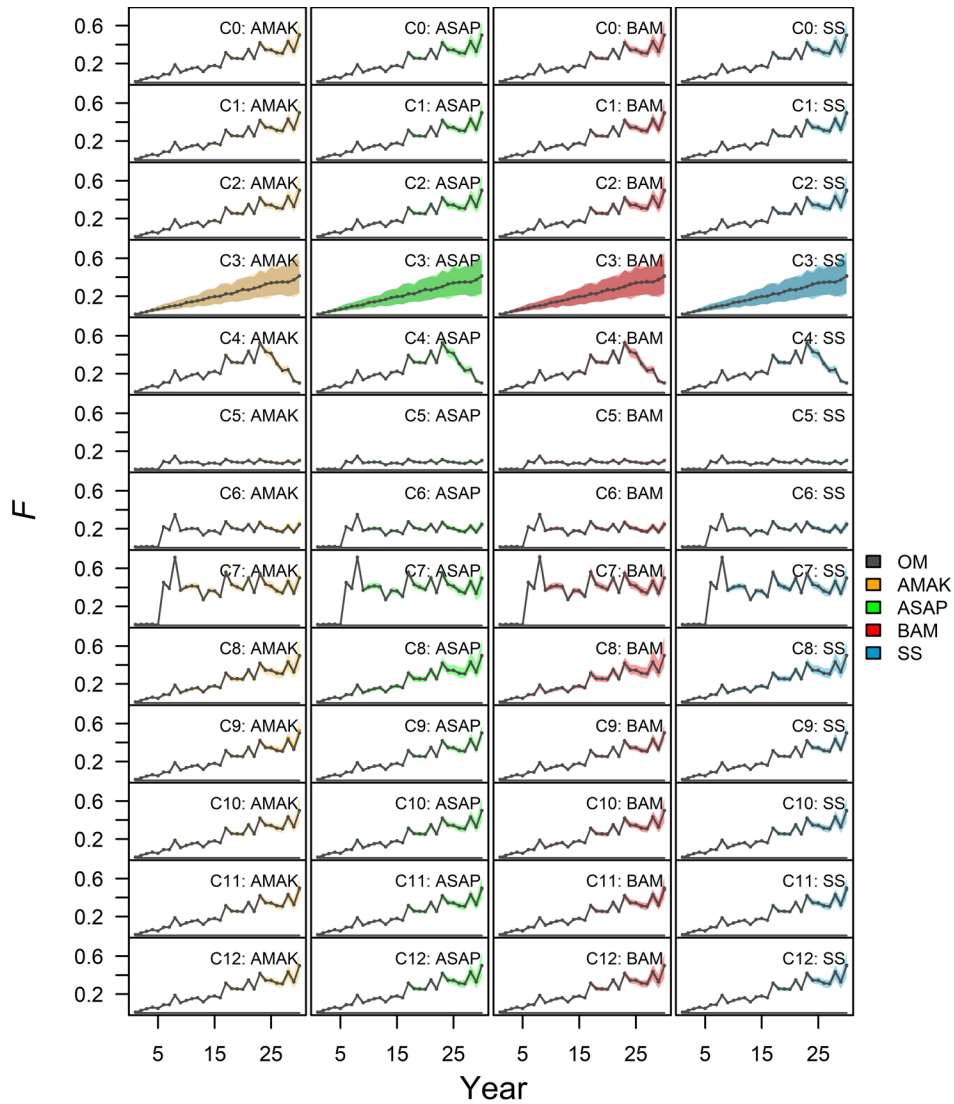


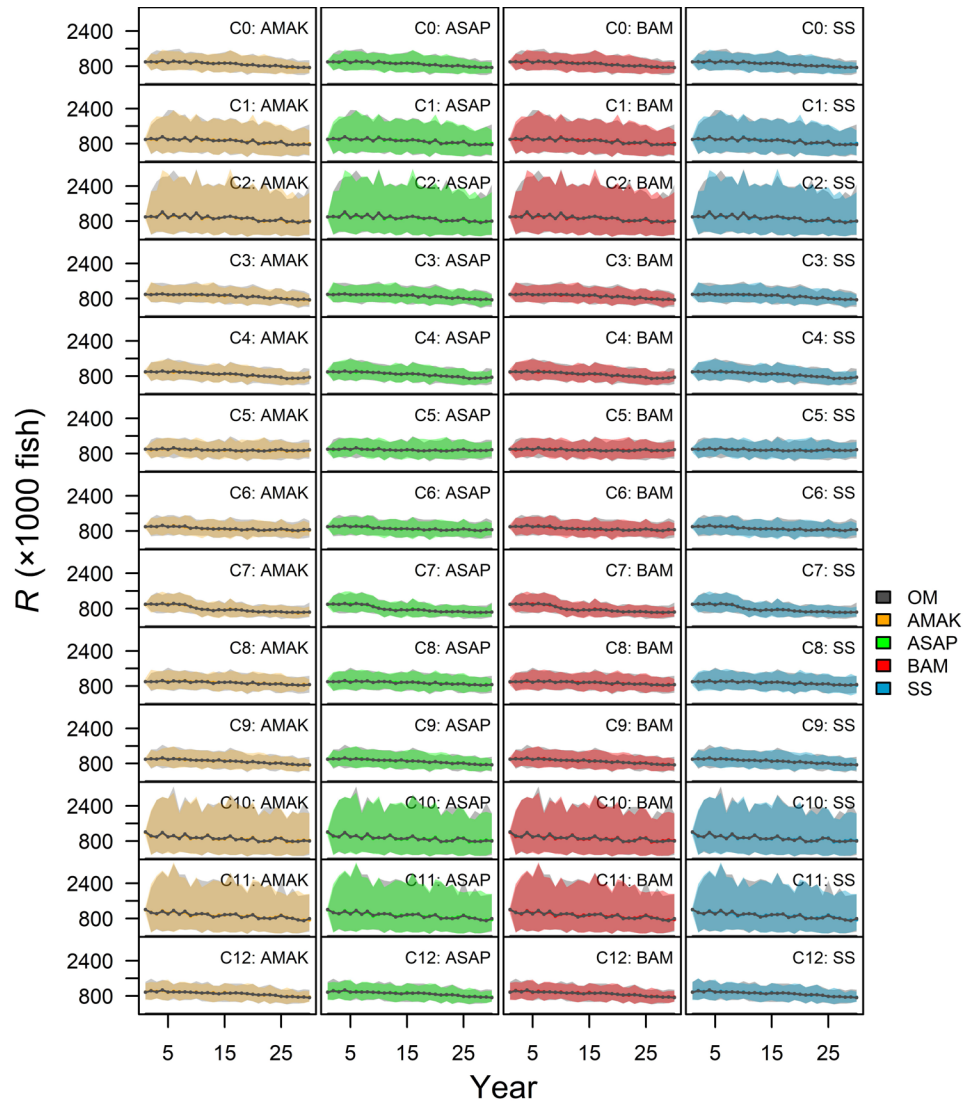
Supplementary Figure 3. Simple-logistic selectivity curve used in the operating model (OM) and median estimated selectivity at age over 100 iterations from the 4 estimation models (EMs) under case 0 (C0; A and B). Double-logistic selectivity curve used in the OM and median estimated selectivity over 100 iterations from the four EMs under case 8 (C8; C and D). It is difficult to distinguish individual lines because the estimated selectivity at age values overlay the true values from the OM. The models, evaluated in this study for use in stock assessments, include the assessment model for Alaska (AMAK), the age-structured assessment program (ASAP), the Beaufort Assessment Model (BAM), and Stock Synthesis (SS).



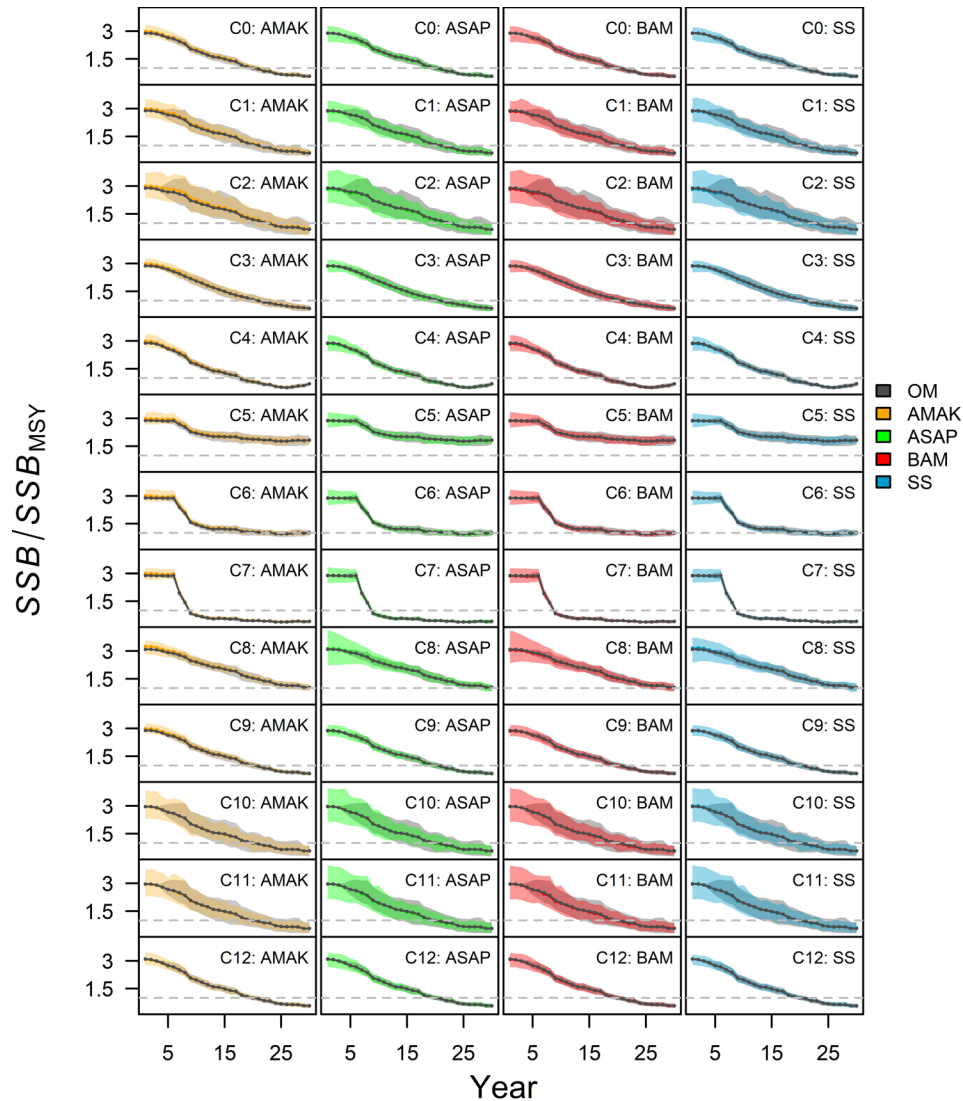
Supplementary Figure 4. Spawning stock biomass (*SSB*) over time from the operating model (OM) and the 4 estimation models. The polygon is equivalent to the whisker of a box plot. The solid lines in the center represent median *SSB*. It is difficult to distinguish individual lines because the estimated median values overlay the true median values from the OM. The models, evaluated in this study for use in stock assessments, include the assessment model for Alaska (AMAK), the age-structured assessment program (ASAP), the Beaufort Assessment Model (BAM), and Stock Synthesis (SS).



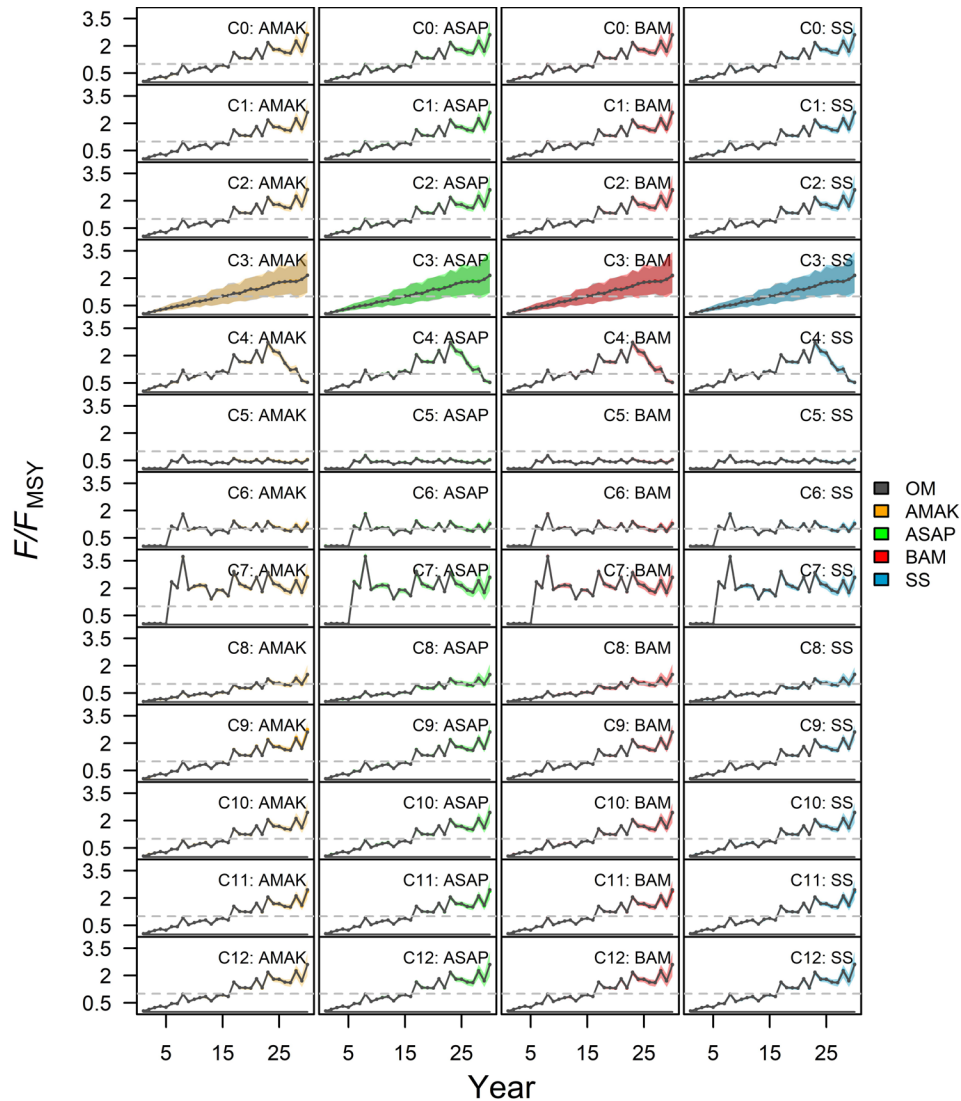
Supplementary Figure 5. Fishing mortality rate (F) over time from the operating model (OM) and the 4 estimation models (EMs). The polygon is equivalent to the whisker of a box plot. The solid lines in the center represent median F . It is difficult to distinguish individual lines because the estimated median values overlay the true median values from the OM. The models, evaluated in this study for use in stock assessments, include the assessment model for Alaska (AMAK), the age-structured assessment program (ASAP), the Beaufort Assessment Model (BAM), and Stock Synthesis (SS).



Supplementary Figure 6. Recruitment (R) over time from the operating model (OM) and the 4 estimation models (EMs). The polygon is equivalent to the whisker of a box plot. The solid lines in the center represent median R . It is difficult to distinguish individual lines because the estimated median values overlay the true median values from the OM. The models, evaluated in this study for use in stock assessments, include the assessment model for Alaska (AMAK), the age-structured assessment program (ASAP), the Beaufort Assessment Model (BAM), and Stock Synthesis (SS).



Supplementary Figure 7. Spawning stock biomass over spawning stock biomass at MSY (SSB/SSB_{MSY}) over time from the operating model (OM) and the 4 estimation models (EMs). The polygon is equivalent to the whisker of a box plot. The solid lines in the center represent median SSB/SSB_{MSY} . It is difficult to distinguish individual lines because the estimated median values overlay the true median values from the OM. The horizontal dashed lines represent $SSB/SSB_{MSY} = 1$. The models, evaluated in this study for use in stock assessments, include the assessment model for Alaska (AMAK), the age-structured assessment program (ASAP), the Beaufort Assessment Model (BAM), and Stock Synthesis (SS).



Supplementary Figure 8. Fishing mortality rate over fishing mortality rate at MSY (F/F_{MSY}) over time from the operating model (OM) and the 4 estimation models (EMs). The polygon is equivalent to the whisker of a box plot. The solid lines in the center represent median F/F_{MSY} . It is difficult to distinguish individual lines because the estimated median values overlay the true median values from the OM. The horizontal dashed lines represent $F/F_{MSY} = 1$. The models, evaluated in this study for use in stock assessments, include the assessment model for Alaska (AMAK), the age-structured assessment program (ASAP), the Beaufort Assessment Model (BAM), and Stock Synthesis (SS).