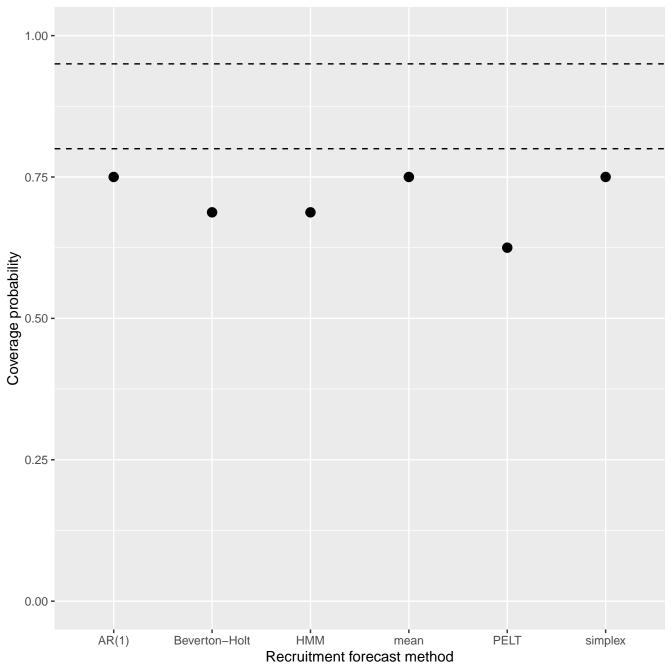
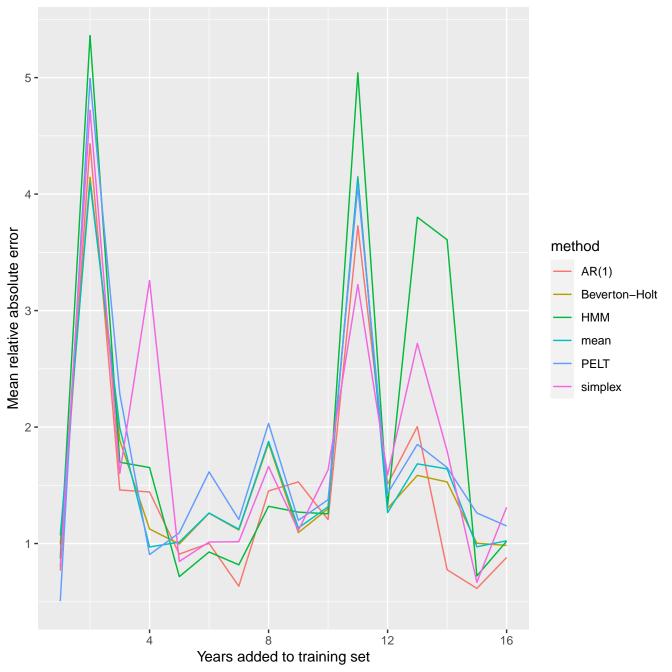
1-step Forecasts (a) mean (b) AR(1) 5000 -3000 -4000 -Recruitment Recruitment 3000 -2000 -2000 -1000 -1000 -0 -0 -1980 1980 1990 2000 2010 1990 2000 2010 Year Year (c) Beverton-Holt (d) simplex 6000 -3000 -Recruitment Recruitment 4000 -2000 -2000 -1000 -0 -0 2000 2000 1990 2010 1990 2010 1980 1980 Year Year (e) HMM (f) PELT 4000 -Recruitment 2000 - 2000 - 1000 -Recruitment 4000 -2000 -0 -0 -2000 1980 1980 1990 2000 2010 1990 2010 Year Year





5-step Forecasts (a) mean (b) AR(1) 3000 -3000 -Recruitment Recruitment 2000 -2000 -1000 -1000 0 -1990 2000 2010 1990 2000 2010 1980 1980 Year Year (c) Beverton-Holt (d) simplex 4000 -5000 -Recruitment 3000 - 2000 - 1000 -3000 -Recruitment 2000 -1000 1000 -0 -0 2000 2010 1990 2000 1990 2010 1980 1980 Year Year (e) HMM (f) PELT 4000 -5000 -4000 -Secruitment 2000 2000 1000 Recruitment 3000 -3000 -2000 -2000 -1000 -0 -0 2000 1980 1990 2010 1990 2000 2010 1980 Year Year

