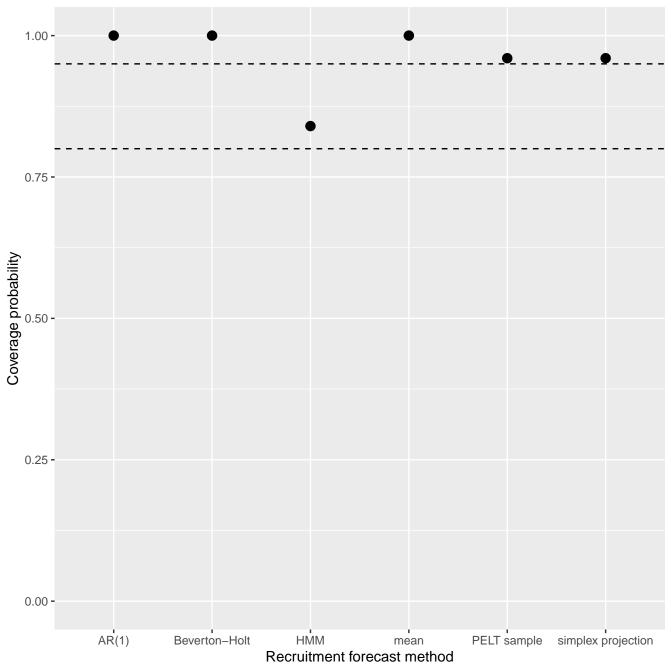
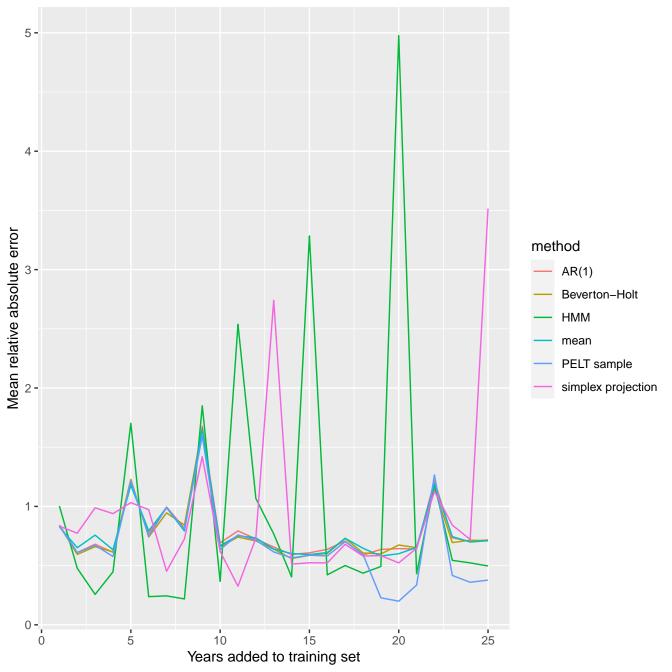
1-step Forecasts (a) Mean (b) AR(1) 600 -600 -500 -500 -Recruitment Recruitment 400 -400 -300 -300 -200 200 100 -100 -1980 202 1990 2010 2010 1980 2020 1990 2000 2000 Year Year (c) Beverton-Holt (d) Simplex projection 600 -500 -900 -Recruitment Recruitment 400 -600 -300 -200 -300 -100 -0 -2000 2010 1980 1990 2010 202 1990 202 1980 2000 Year Year (f) PELT sample (e) HMM 600 -2000 -500 -Recruitment Recruitment 400 -1500 -300 -1000 -200 -500 -100 -0 -1980 2010 1990 1990 2000 1980 2010 202 2000 202 Year Year





5-step Forecasts (a) Mean (b) AR(1) 600 -600 -500 -500 -Recruitment Recruitment 400 -400 -300 -300 -200 200 100 -100 -1980 202 1990 2010 2010 1980 2020 1990 2000 2000 Year Year (c) Beverton-Holt (d) Simplex projection 600 -500 -900 -Recruitment Recruitment 400 -600 -300 -200 300 -100 -0 -1980 1990 2000 2010 202 1990 2010 202 1980 2000 Year Year (f) PELT sample (e) HMM 600 -2500 -500 -2000 -Recruitment Recruitment 400 -1500 -300 -1000 -200 -500 -100 -0 -1980 2010 1990 1990 2000 1980 2000 2010 202 202 Year Year

