1-step Forecasts (a) mean (b) AR(1) 2.0e+09 2.0e+09 Recruitment Recruitment 1.5e+09 1.5e+09 1.0e+09 1.0e+09 5.0e+08 5.0e+08 1980 2000 2010 2020 1980 1990 2000 2010 1990 2020 Year Year (c) Beverton-Holt (d) simplex 2.0e+09 2.0e+09 Recruitment Recruitment 1.5e+09 1.5e+09 1.0e+09 1.0e+09 5.0e+08 5.0e+08 1980 2000 2010 1990 2000 2010 1990 2020 1980 2020 Year Year (e) PELT (f) HMM 2.0e+09 5e+09 4e+09 Recruitment Recruitment 1.5e+09 3e+09 1.0e+09 2e+09 5.0e+08 1e+09

0e+00

1980

1990

2000

Year

2010

2020

1980

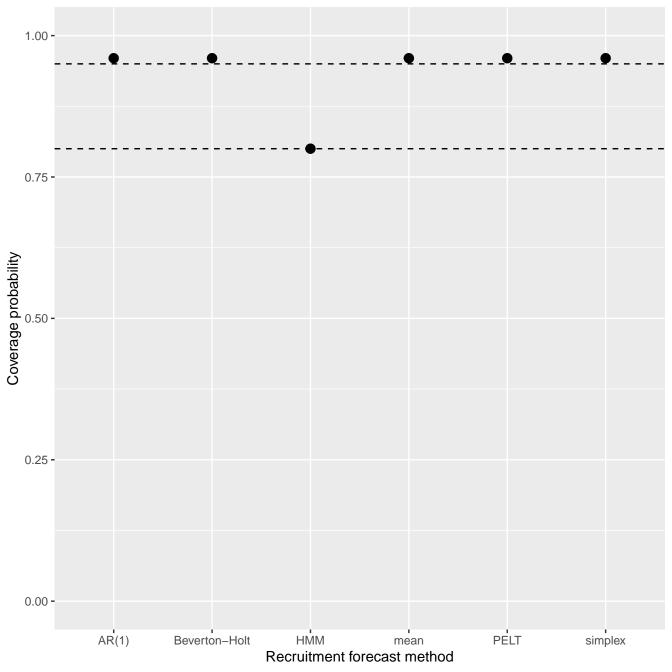
1990

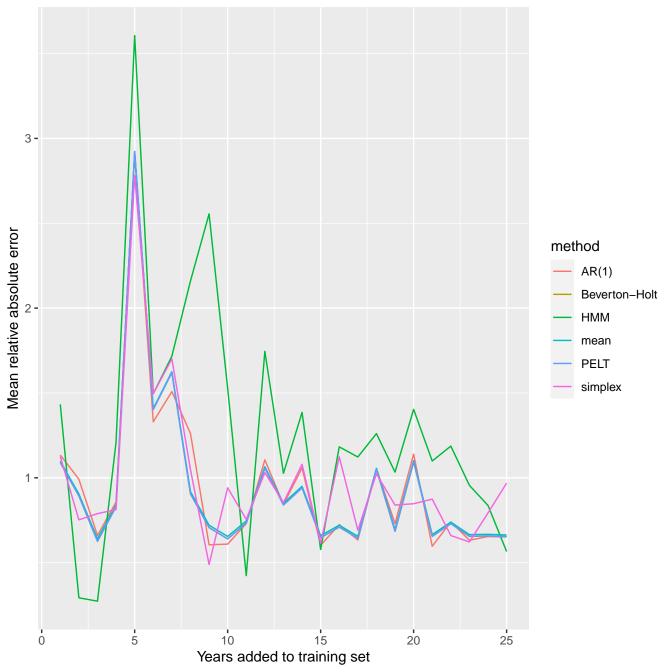
2000

Year

2010

2020





(a) mean (b) AR(1) 2.0e+09 2.0e+09 Recruitment Recruitment 1.5e+09 1.5e+09 1.0e+09 1.0e+09 5.0e+08 5.0e+08 1980 2000 2010 2020 1980 1990 2000 1990 2010 2020 Year Year (c) Beverton-Holt (d) simplex 2.5e+09 2.0e+09 2.0e+09 Recruitment Recruitment 1.5e+09 1.5e+09 1.0e+09 1.0e+09 5.0e+08 5.0e+08 0.0e+00 1980 2000 2010 1980 1990 2000 2010 2020 1990 2020

5-step Forecasts

