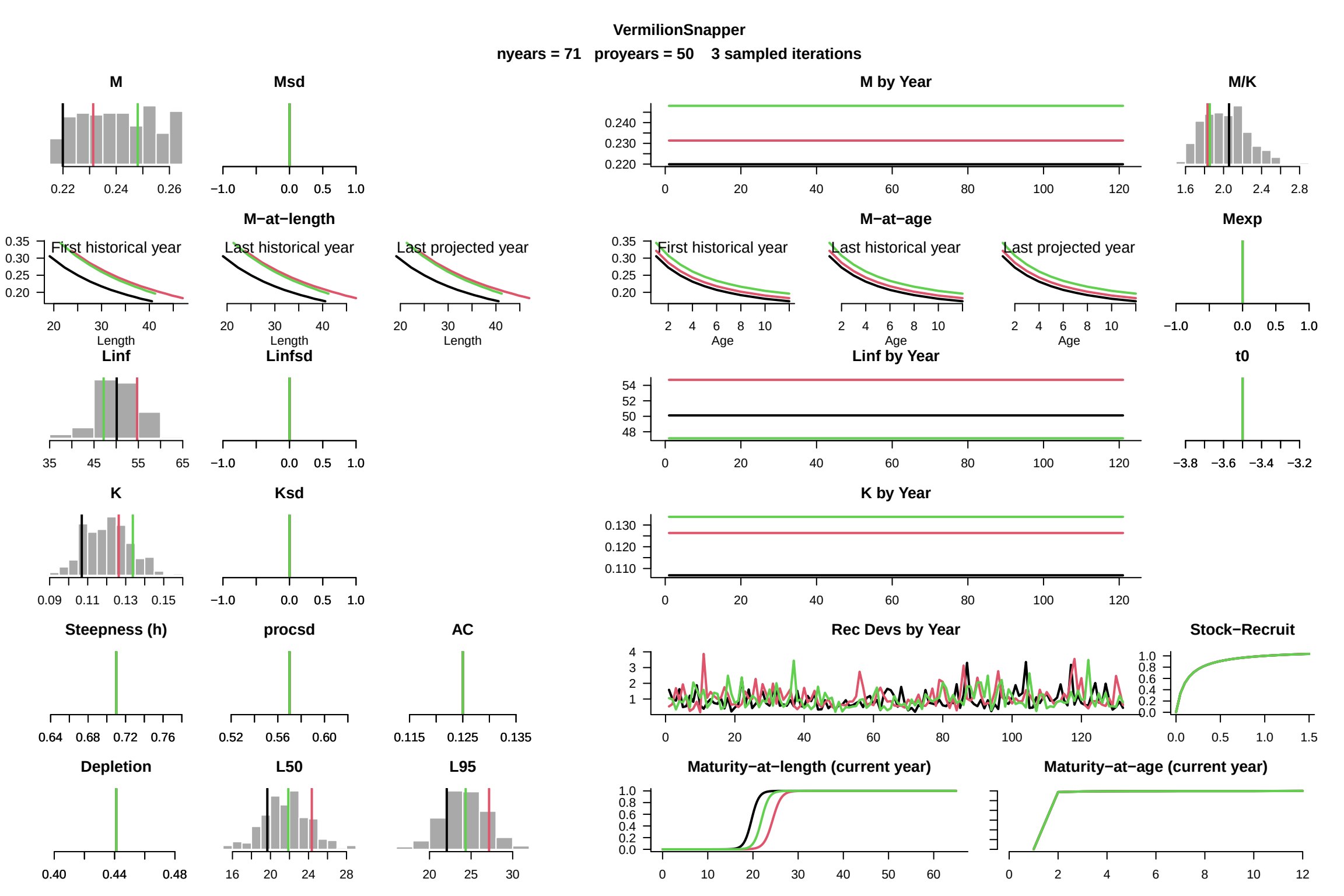
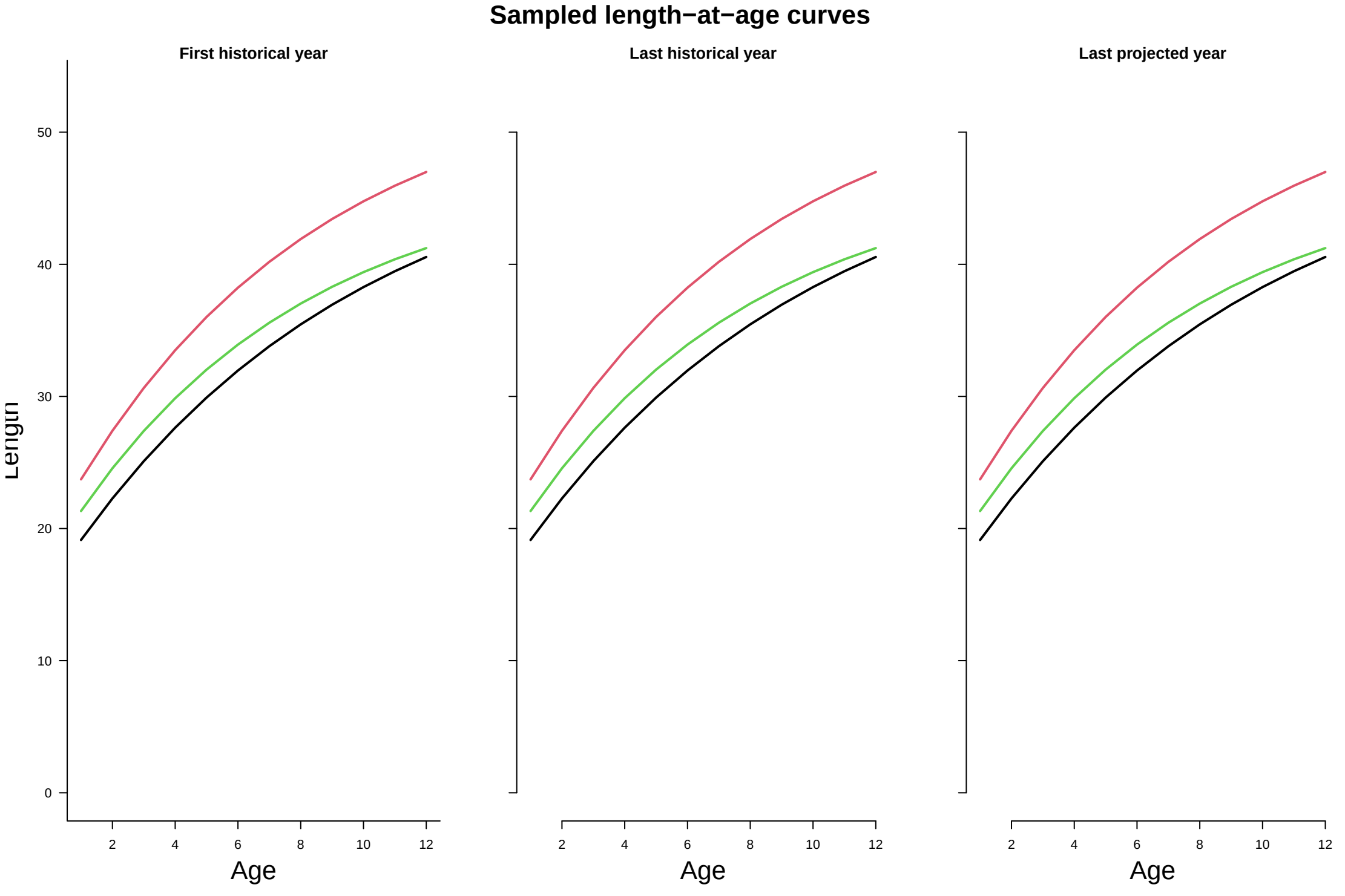
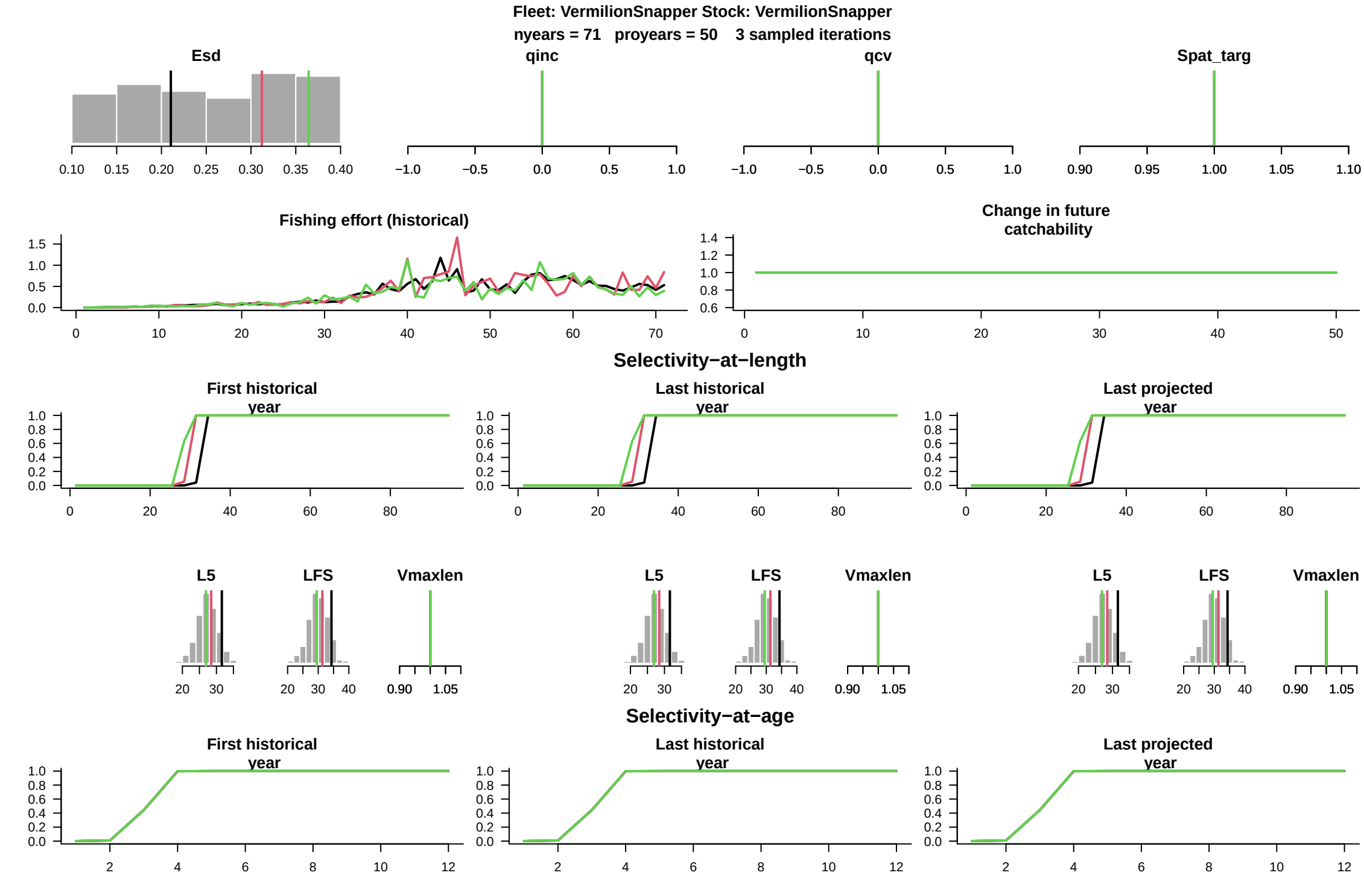
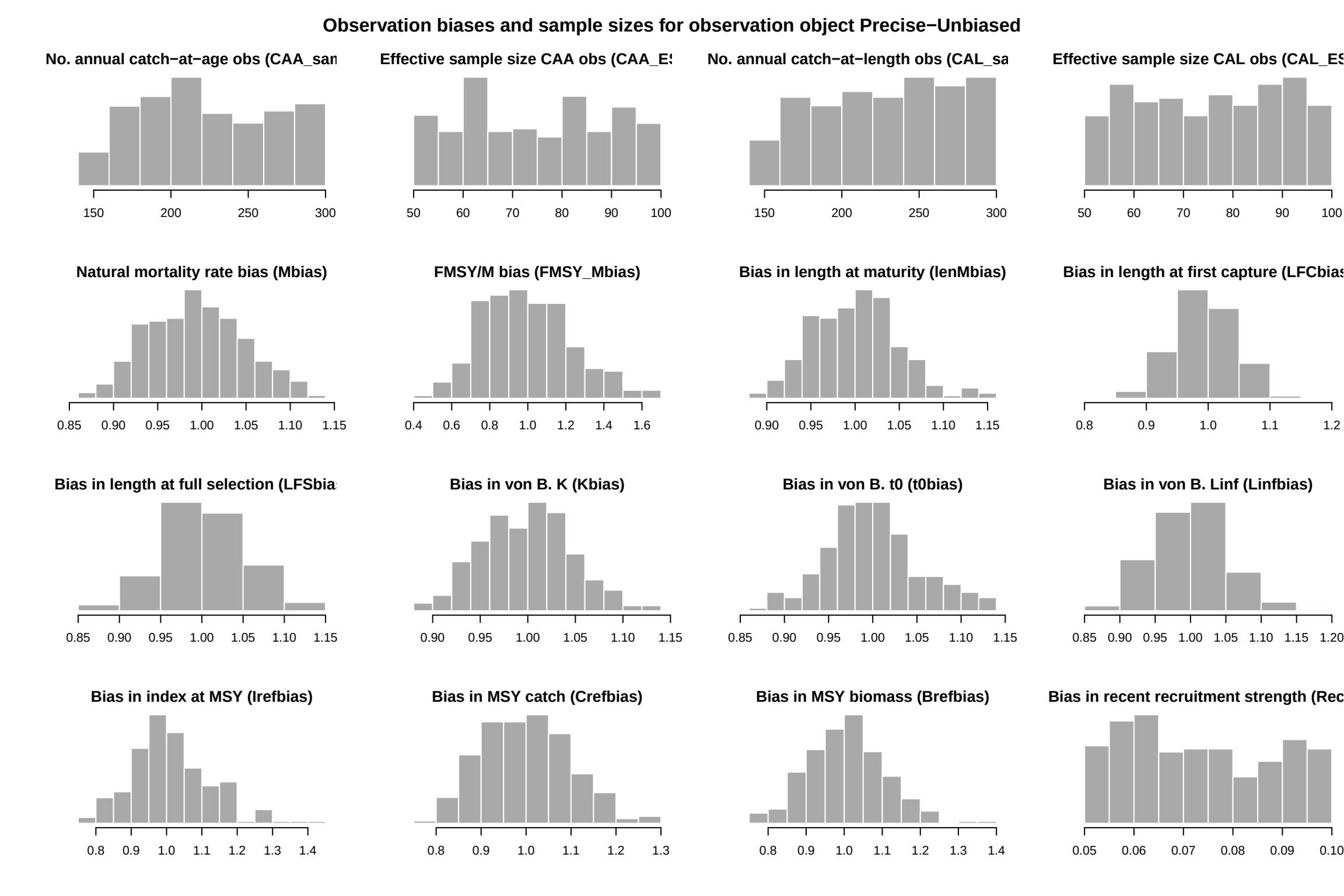
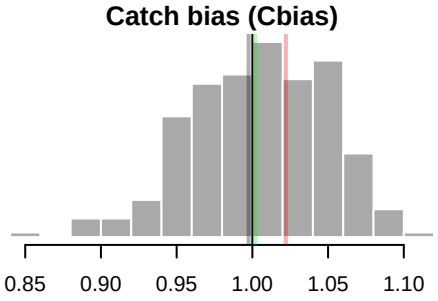

VermilionSnapper
nyears = 71 proyears = 50 3 sampled iterations
M
Msd
M by Year
M/K
M−at−length
First historical year
Last historical year
Last projected year
Length
M−at−age
Age
Mexp
Linf
Linfsd
Linf by Year
t0
K
Ksd
K by Year
Steepness (h)
procsd
AC
Rec Devs by Year
Stock−Recruit
Depletion
L50
L95
Maturity−at−length (current year)
Maturity−at−age (current year)

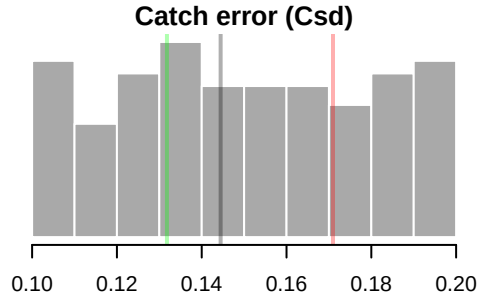

Sampled length−at−age curves
First historical year
Last historical year
Last projected year
Length
0
10
20
30
40
50
2
4
6
8
10
12
Age

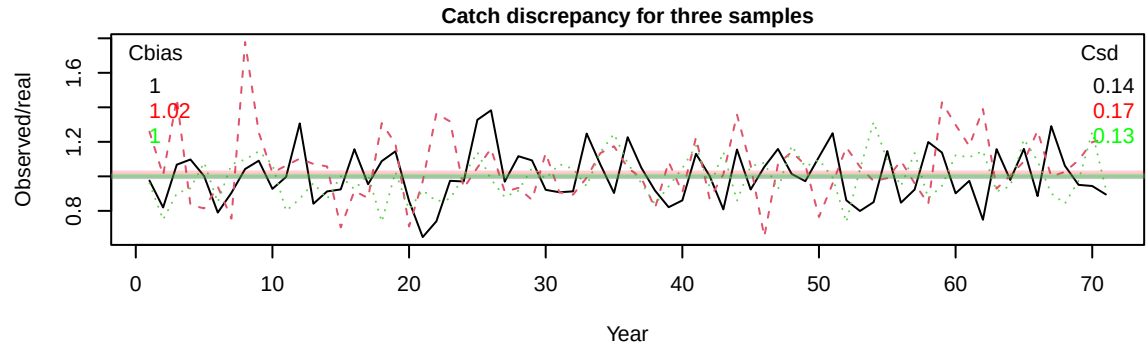

Fleet: VermilionSnapper Stock: VermilionSnapper
nyears = 71 proyears = 50 3 sampled iterations
Esd
qinc
qcv
Spat_targ
Fishing effort (historical)
Change in future catchability
Selectivity−at−length
First historical year
Last historical year
Last projected year
L5
LFS
Vmaxlen
Selectivity−at−age
First historical year
Last historical year
Last projected year

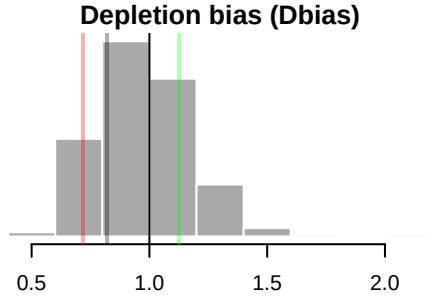

Observation biases and sample sizes for observation object Precise−Unbiased
No. annual catch−at−age obs (CAA_san
150 200 250 300
Effective sample size CAA obs (CAA_ES
50 60 70 80 90 100
No. annual catch−at−length obs (CAL_sa
150 200 250 300
Effective sample size CAL obs (CAL_ES
50 60 70 80 90 100
Natural mortality rate bias (Mbias)
0.85 0.90 0.95 1.00 1.05 1.10 1.15
FMSY/M bias (FMSY_Mbias)
0.4 0.6 0.8 1.0 1.2 1.4 1.6
Bias in length at maturity (lenMbias)
0.90 0.95 1.00 1.05 1.10 1.15
Bias in length at first capture (LFCbias
0.8 0.9 1.0 1.1 1.2
Bias in length at full selection (LFSbia
0.85 0.90 0.95 1.00 1.05 1.10 1.15
Bias in von B. K (Kbias)
0.90 0.95 1.00 1.05 1.10 1.15
Bias in von B. t0 (t0bias)
0.85 0.90 0.95 1.00 1.05 1.10 1.15
Bias in von B. Linf (Linfbias)
0.85 0.90 0.95 1.00 1.05 1.10 1.15 1.20
Bias in index at MSY (Irefbias)
0.8 0.9 1.0 1.1 1.2 1.3 1.4
Bias in MSY catch (Crefbias)
0.8 0.9 1.0 1.1 1.2 1.3
Bias in MSY biomass (Brefbias)
0.8 0.9 1.0 1.1 1.2 1.3 1.4
Bias in recent recruitment strength (Rec
0.05 0.06 0.07 0.08 0.09 0.10

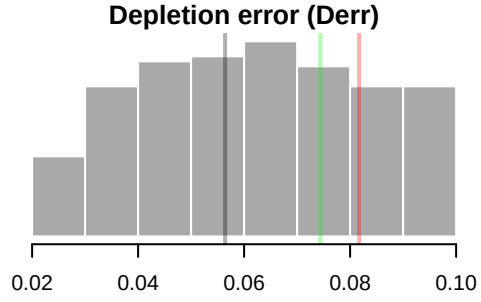
Observation time series plots for observation object Precise−Unbiased

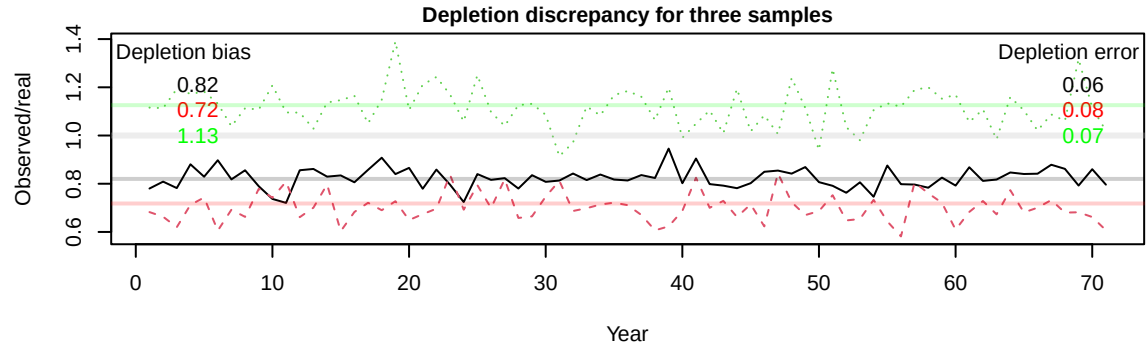


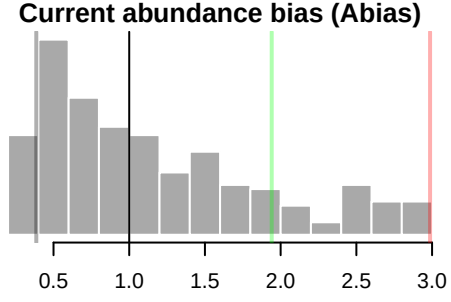


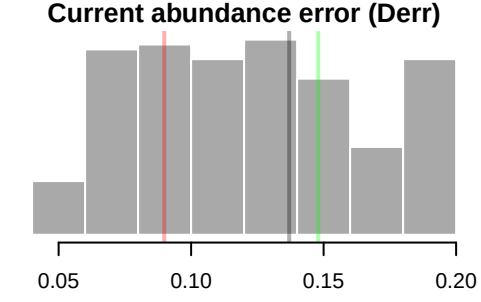


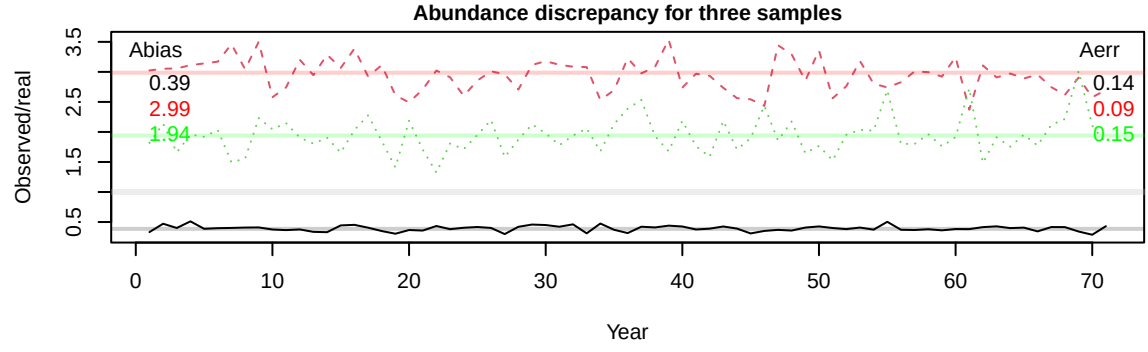


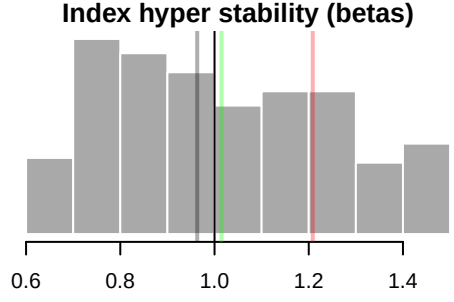


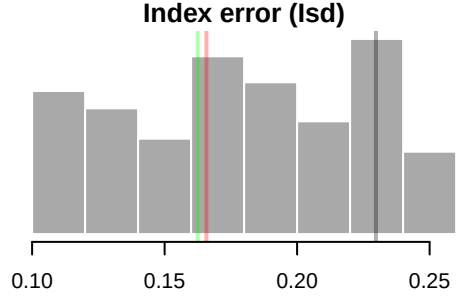


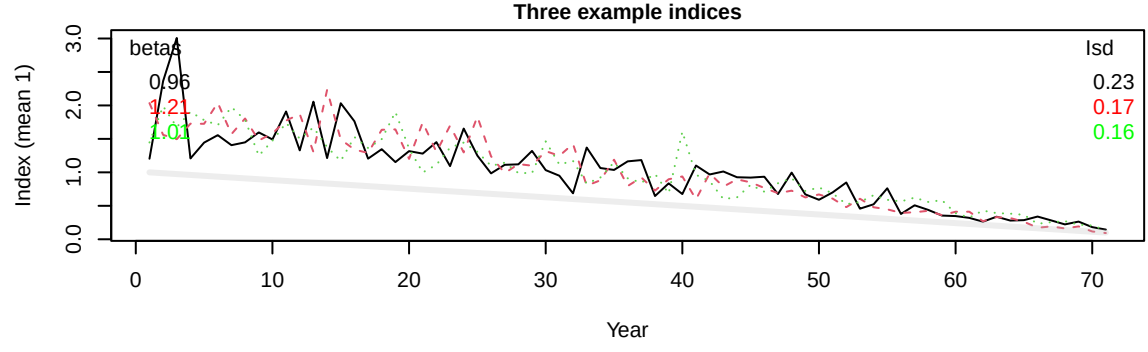




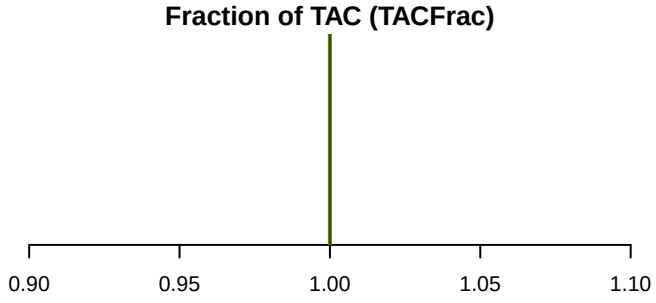


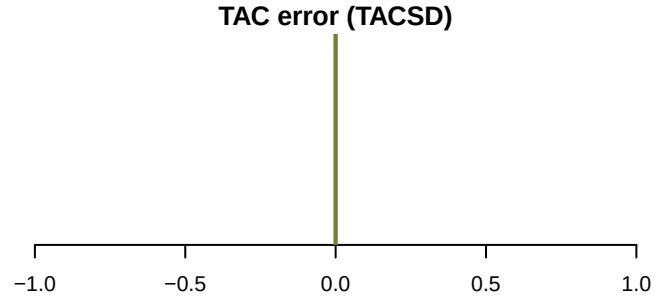


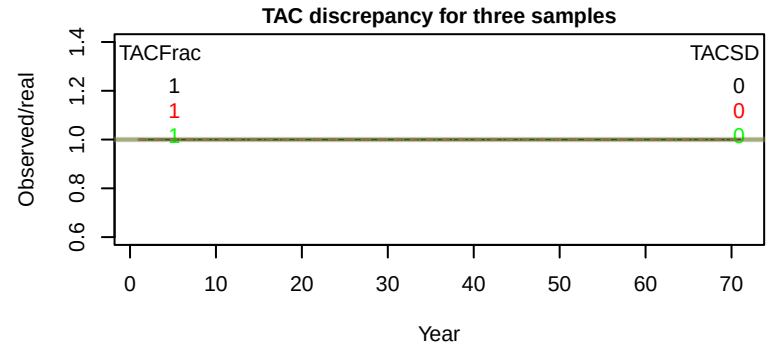


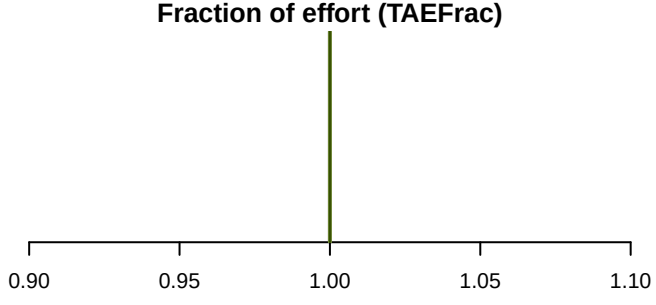


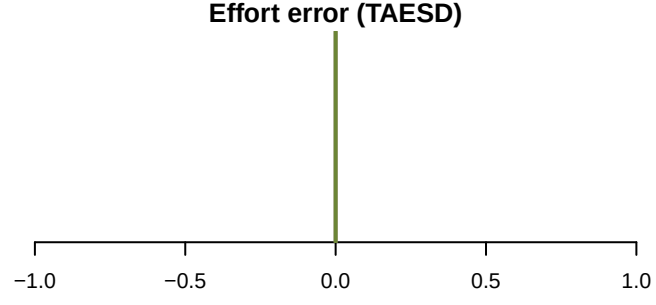
Implementation error time series plots for implementation object Perfect_Imp

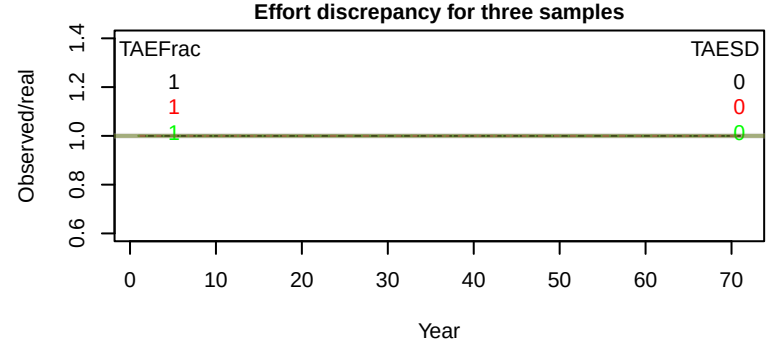


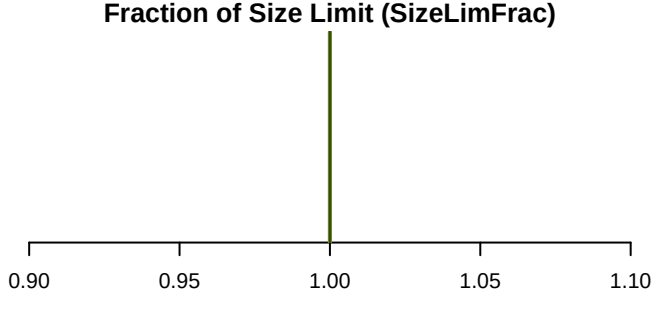


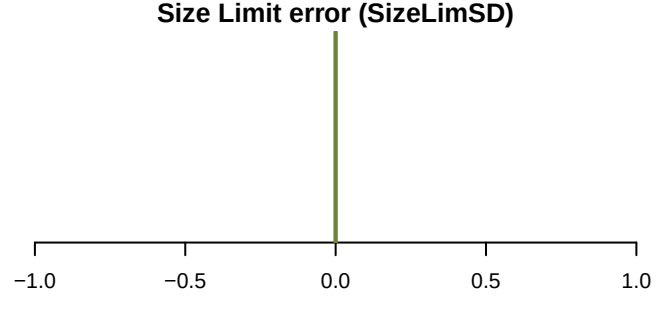


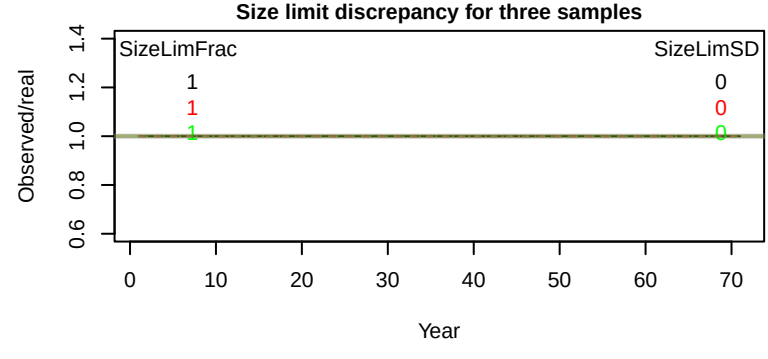


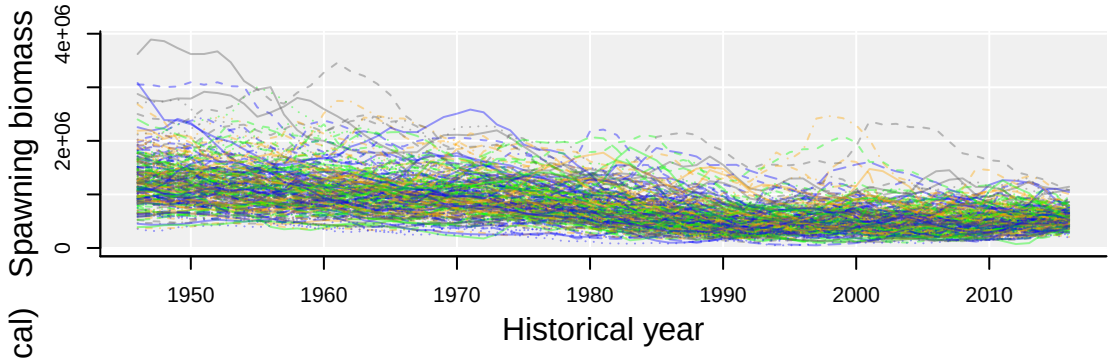


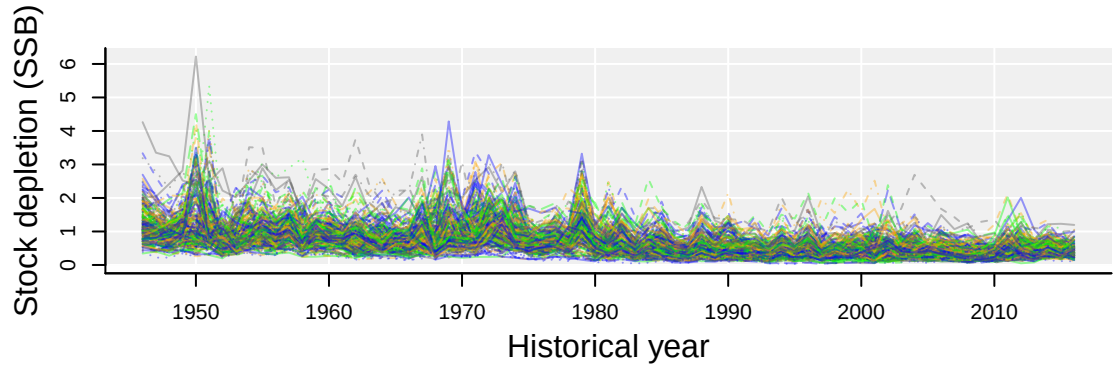


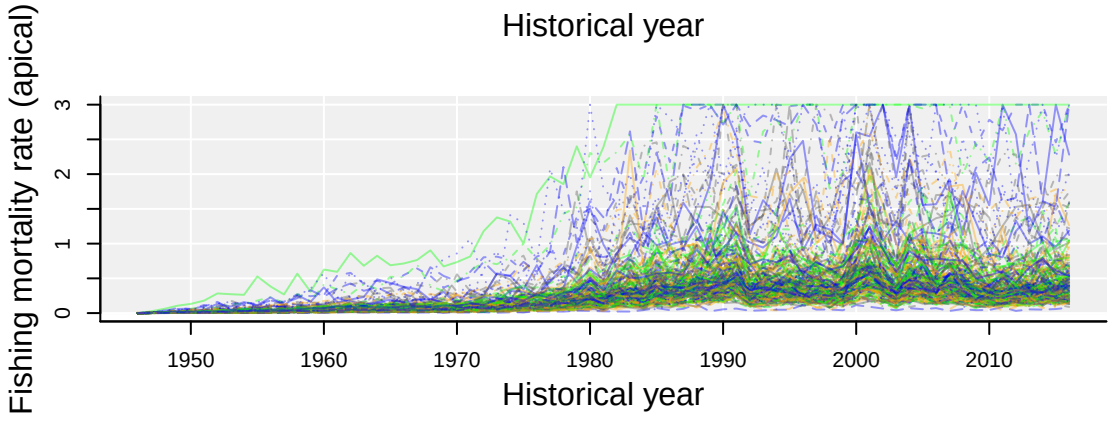


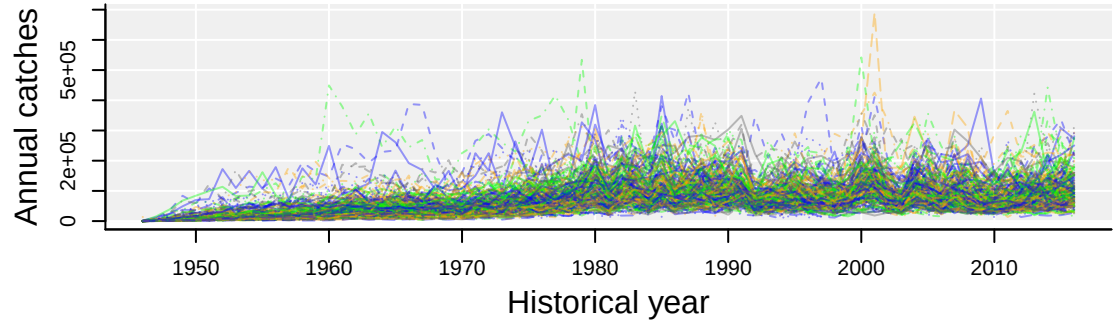


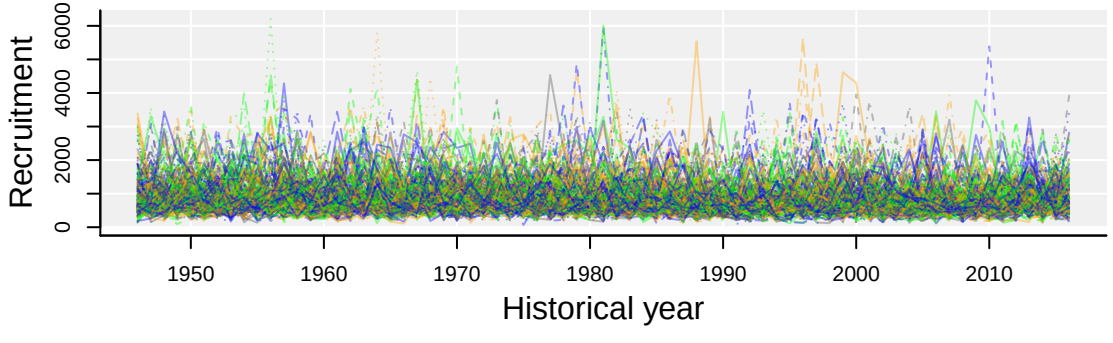


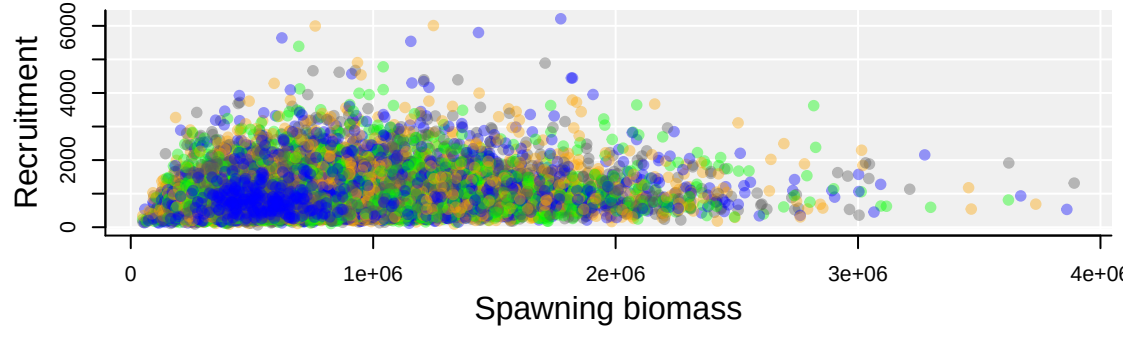

Spawning biomass
0
2e+06
4e+06
1950
1960
1970
1980
1990
2000
2010
Historical year

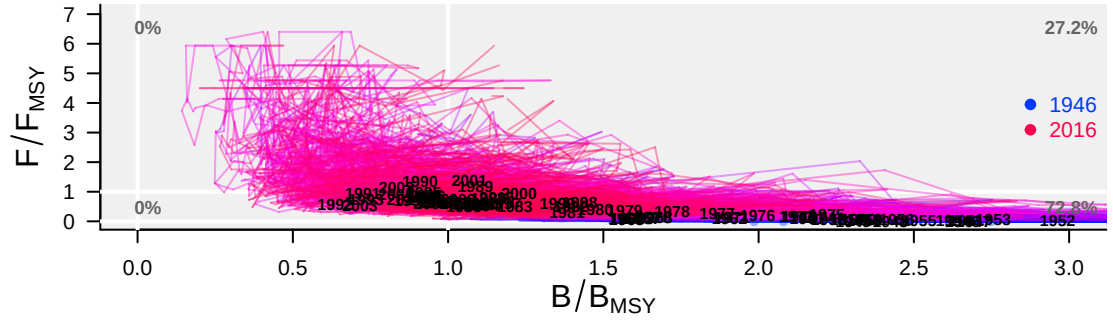

Stock depletion (SSB)
0
1
2
3
4
5
6
1950
1960
1970
1980
1990
2000
2010
Historical year

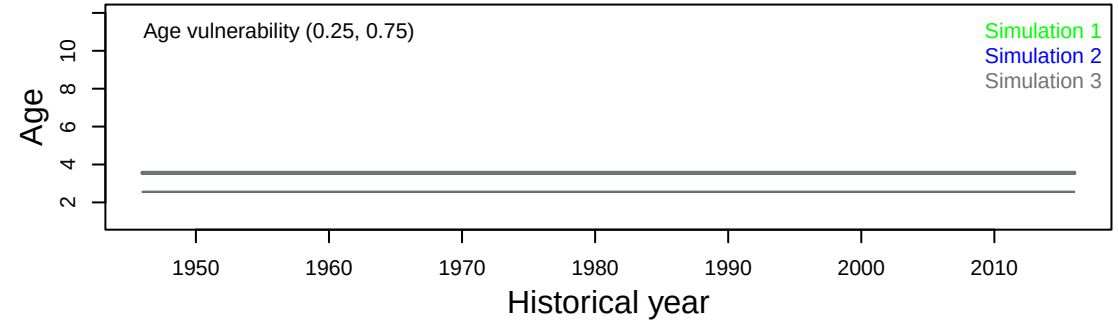

Fishing mortality rate (apical)
0
1
2
3
1950
1960
1970
1980
1990
2000
2010
Historical year


Annual catches
0
2e+05
5e+05
1950
1960
1970
1980
1990
2000
2010
Historical year


Recruitment
0
2000
4000
6000
1950
1960
1970
1980
1990
2000
2010
Historical year


Recruitment
0
2000
4000
6000
0
1e+06
2e+06
3e+06
4e+06
Spawning biomass


F/F_MSY
0
1
2
3
4
5
6
7
0.0
0.5
1.0
1.5
2.0
2.5
3.0
B/B_MSY
0%
27.2%
0%
72.8%
1946
2016


Age
2
4
6
8
10
Age vulnerability (0.25, 0.75)
Simulation 1
Simulation 2
Simulation 3
1950
1960
1970
1980
1990
2000
2010
Historical year