SEDAR 22 YEG RW

Assessment model results V: MCMC diagnostics

February 12, 2011

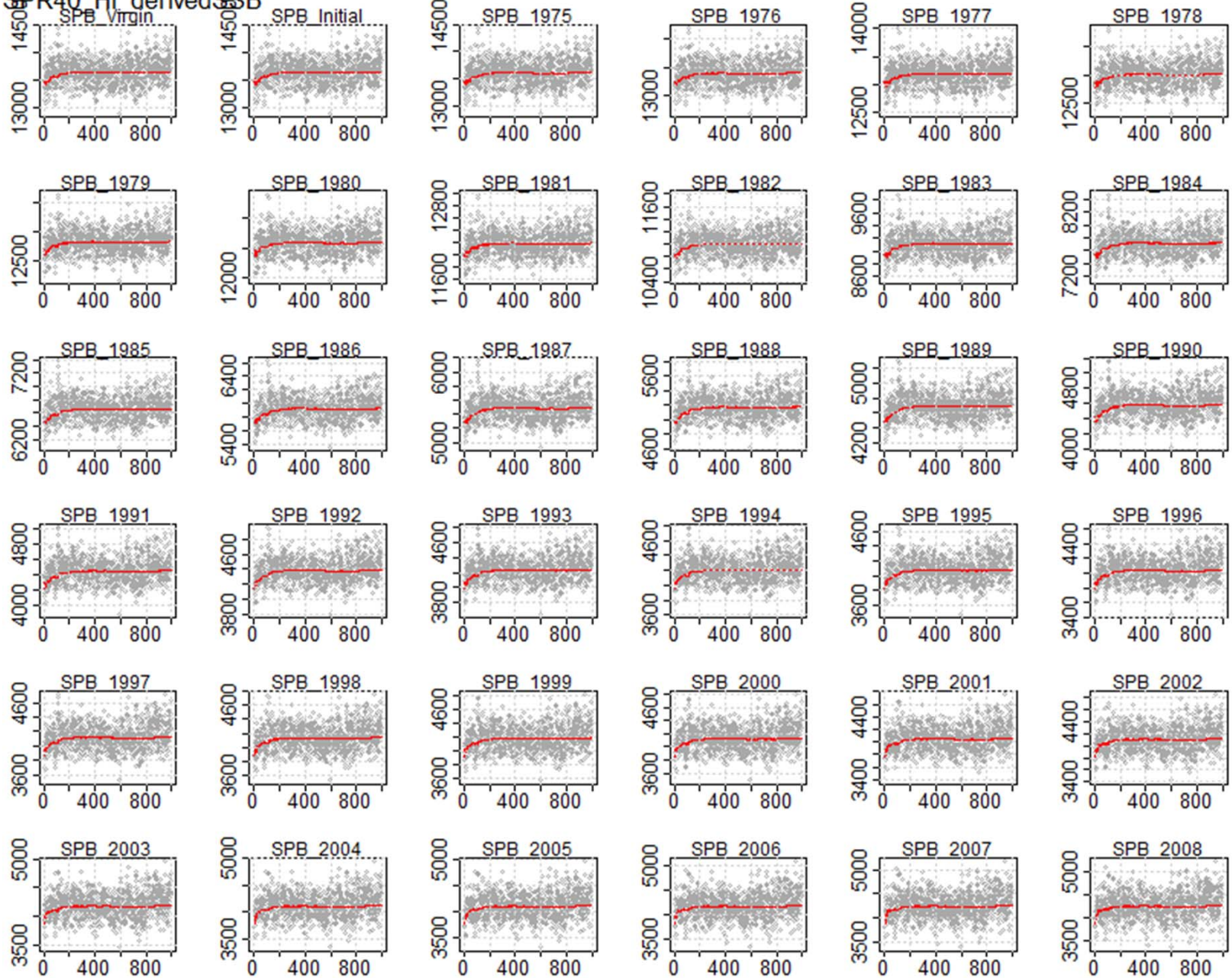
Tampa, FL

MCMC diagnostics 1 million MCMC runs

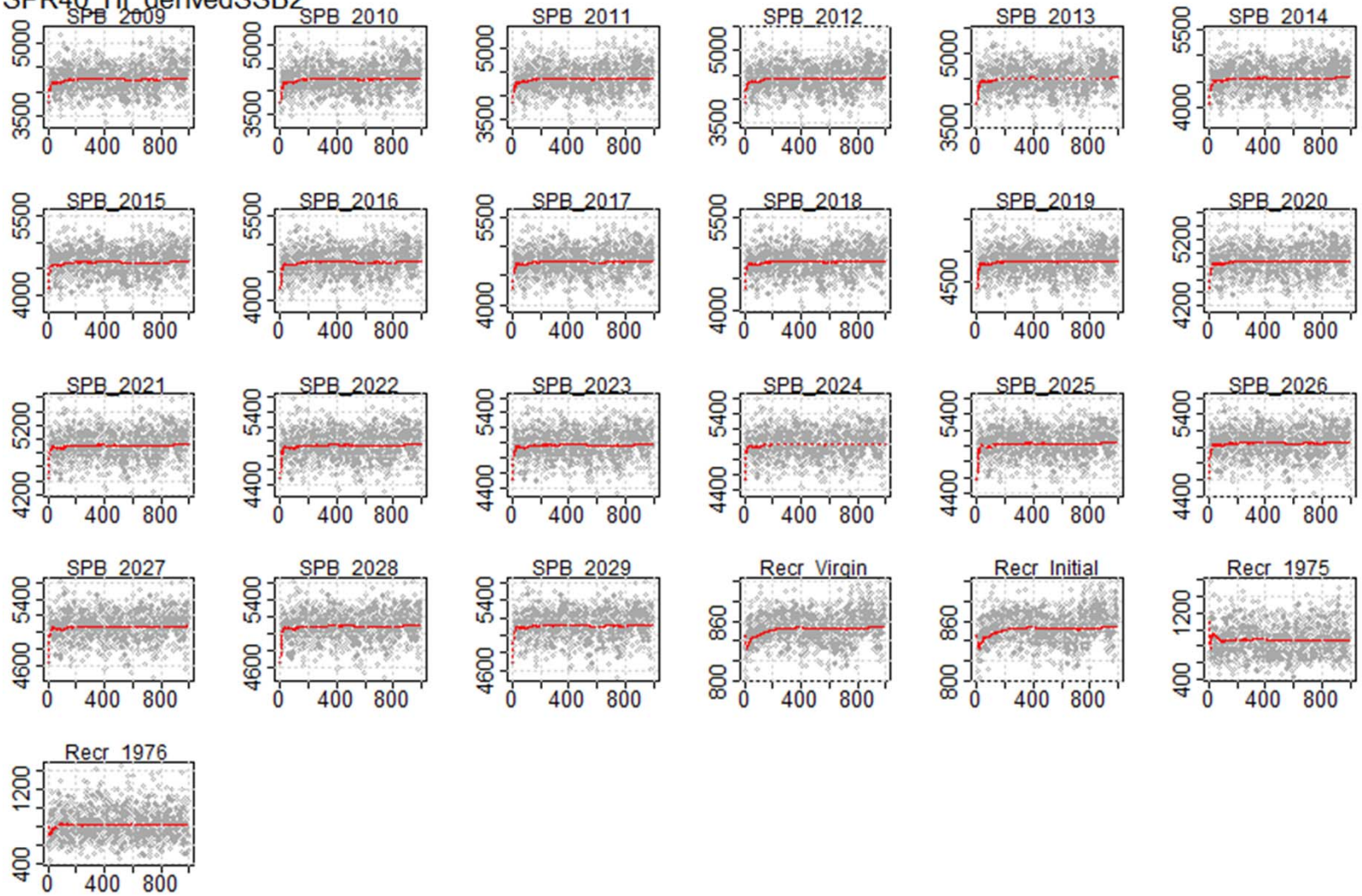
Total runs	Burn off (samp interval * 10=5000)	sampling interval (every 500)	Keep interval (every 2)
1000000	995000	1990	995

Cumulative mean of parameter posteriors

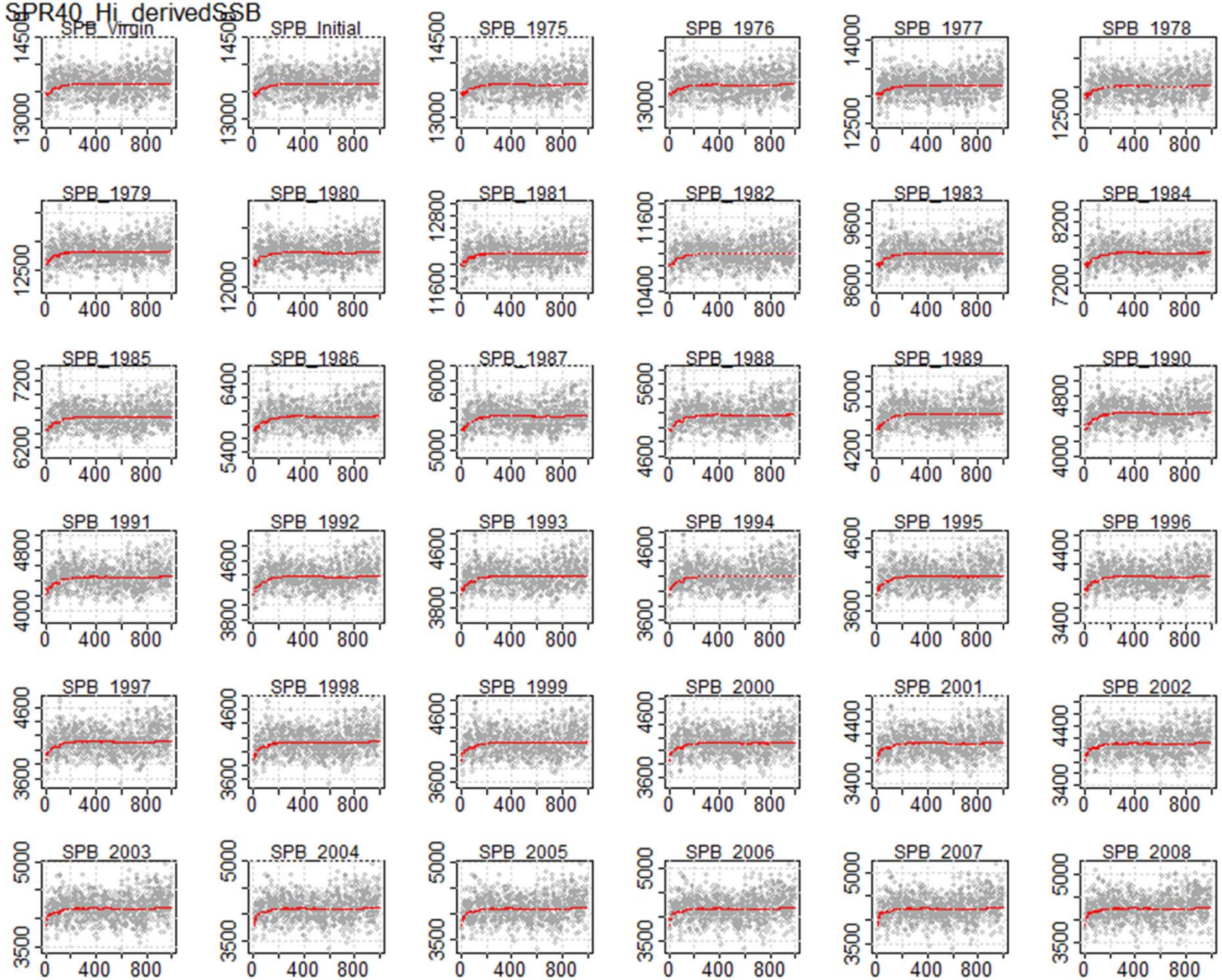
SPR40_Hi_derivedSSB



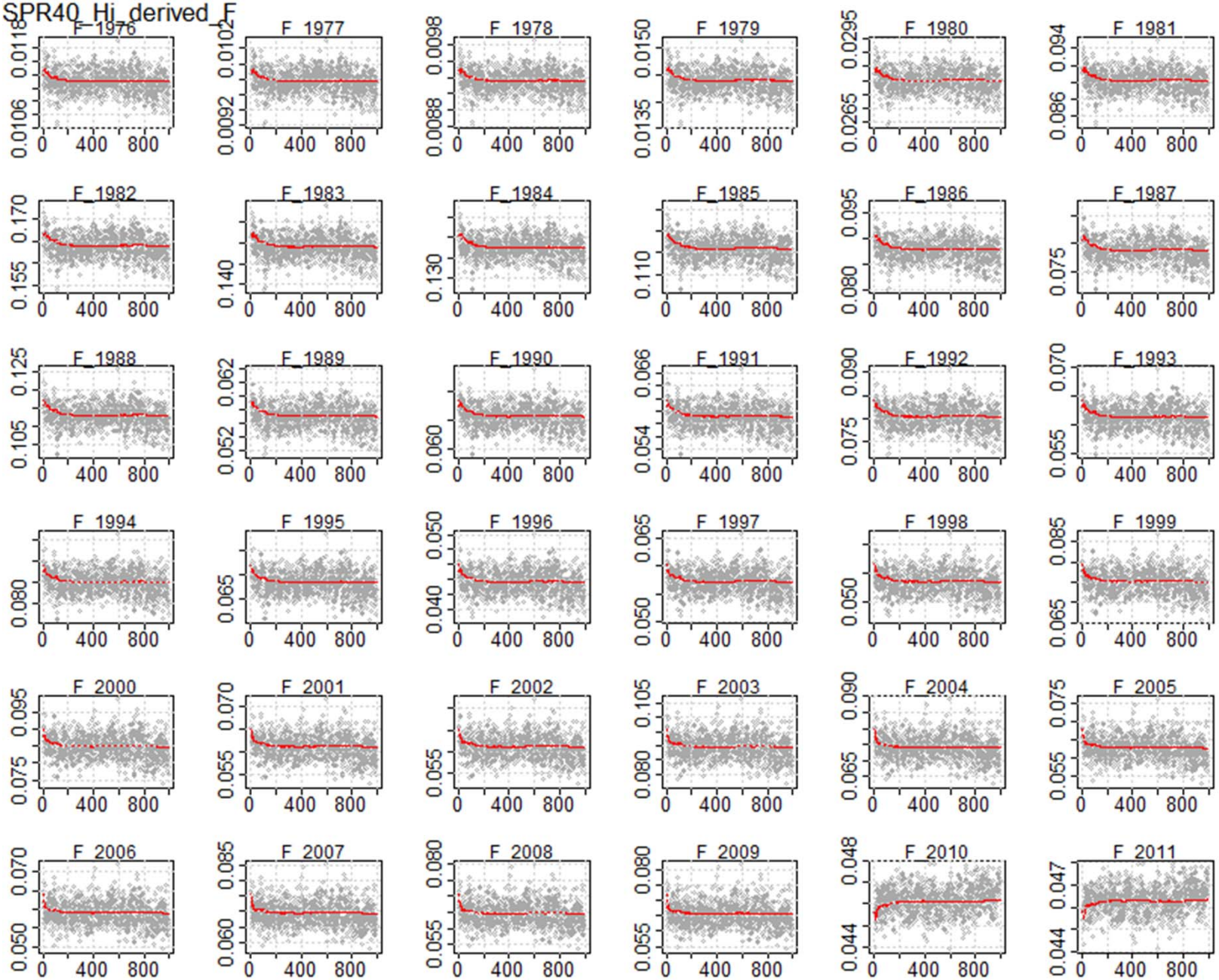
SPR40_Hi_derivedSSB2

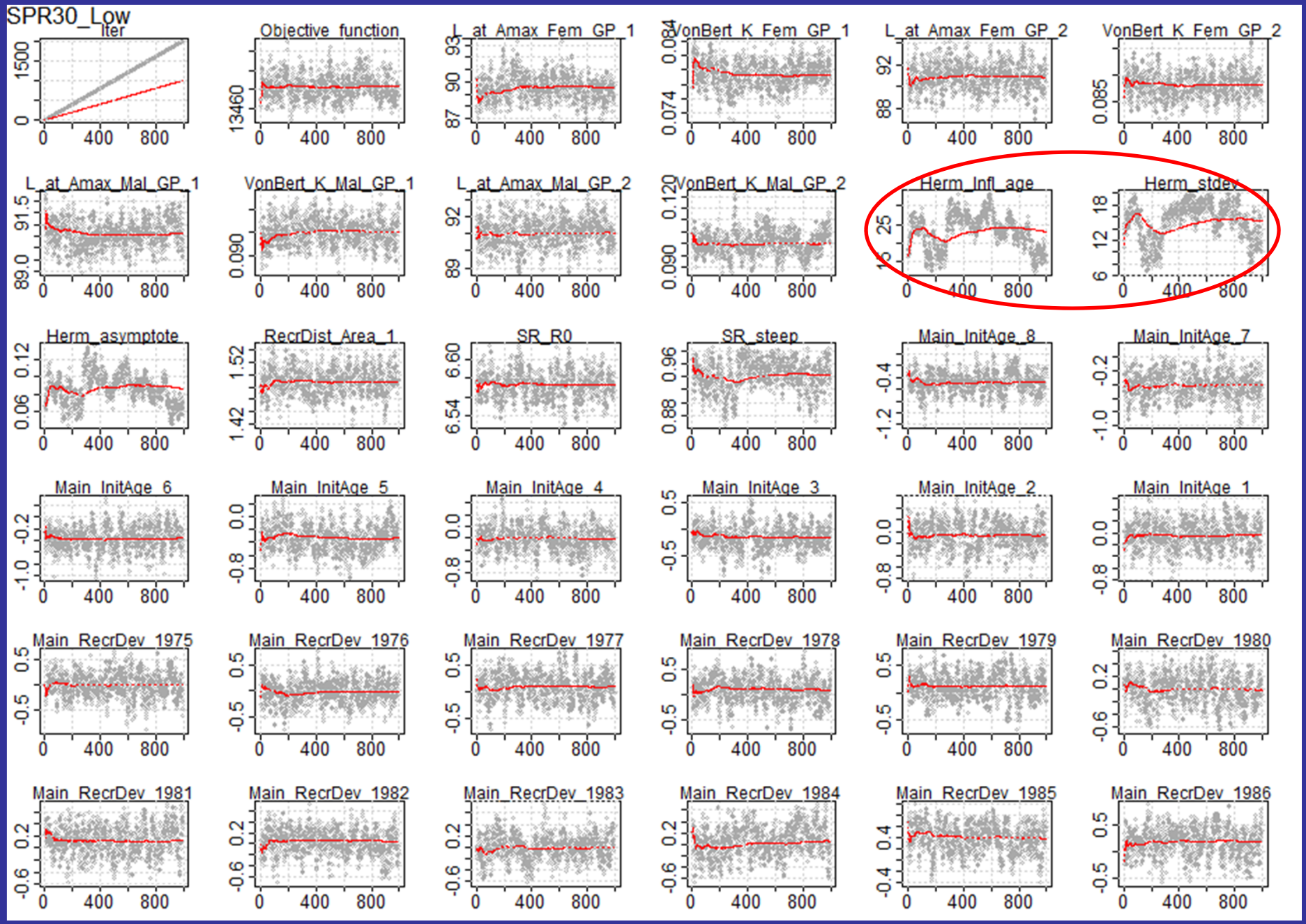


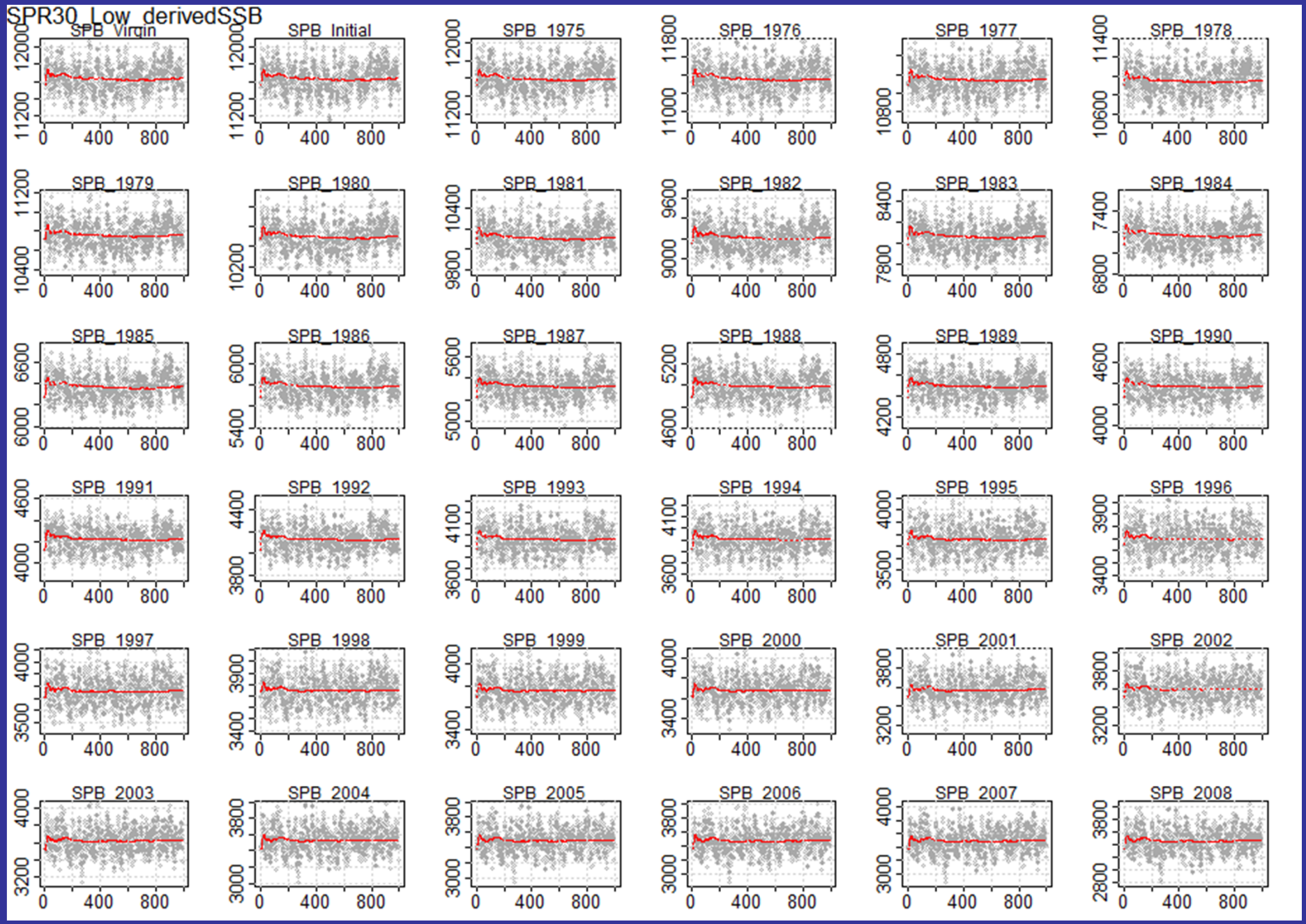
SPR40_Hi_derivedSSB



SPR40_Hi_derived_F




SPR30_Low
Iter
Objective_function
L_at_Amax_Fem_GP_1
VonBert_K_Fem_GP_1
L_at_Amax_Fem_GP_2
VonBert_K_Fem_GP_2
L_at_Amax_Mal_GP_1
VonBert_K_Mal_GP_1
L_at_Amax_Mal_GP_2
VonBert_K_Mal_GP_2
Herm_Infl_age
Herm_stdev
Herm_asymptote
RecrDist_Area_1
SR_R0
SR_steep
Main_InitAge_8
Main_InitAge_7
Main_InitAge_6
Main_InitAge_5
Main_InitAge_4
Main_InitAge_3
Main_InitAge_2
Main_InitAge_1
Main_RecrDev_1975
Main_RecrDev_1976
Main_RecrDev_1977
Main_RecrDev_1978
Main_RecrDev_1979
Main_RecrDev_1980
Main_RecrDev_1981
Main_RecrDev_1982
Main_RecrDev_1983
Main_RecrDev_1984
Main_RecrDev_1985
Main_RecrDev_1986


SPR30_Low_derivedSSB
SPB_Virgin
SPB_Initial
SPB_1975
SPB_1976
SPB_1977
SPB_1978
SPB_1979
SPB_1980
SPB_1981
SPB_1982
SPB_1983
SPB_1984
SPB_1985
SPB_1986
SPB_1987
SPB_1988
SPB_1989
SPB_1990
SPB_1991
SPB_1992
SPB_1993
SPB_1994
SPB_1995
SPB_1996
SPB_1997
SPB_1998
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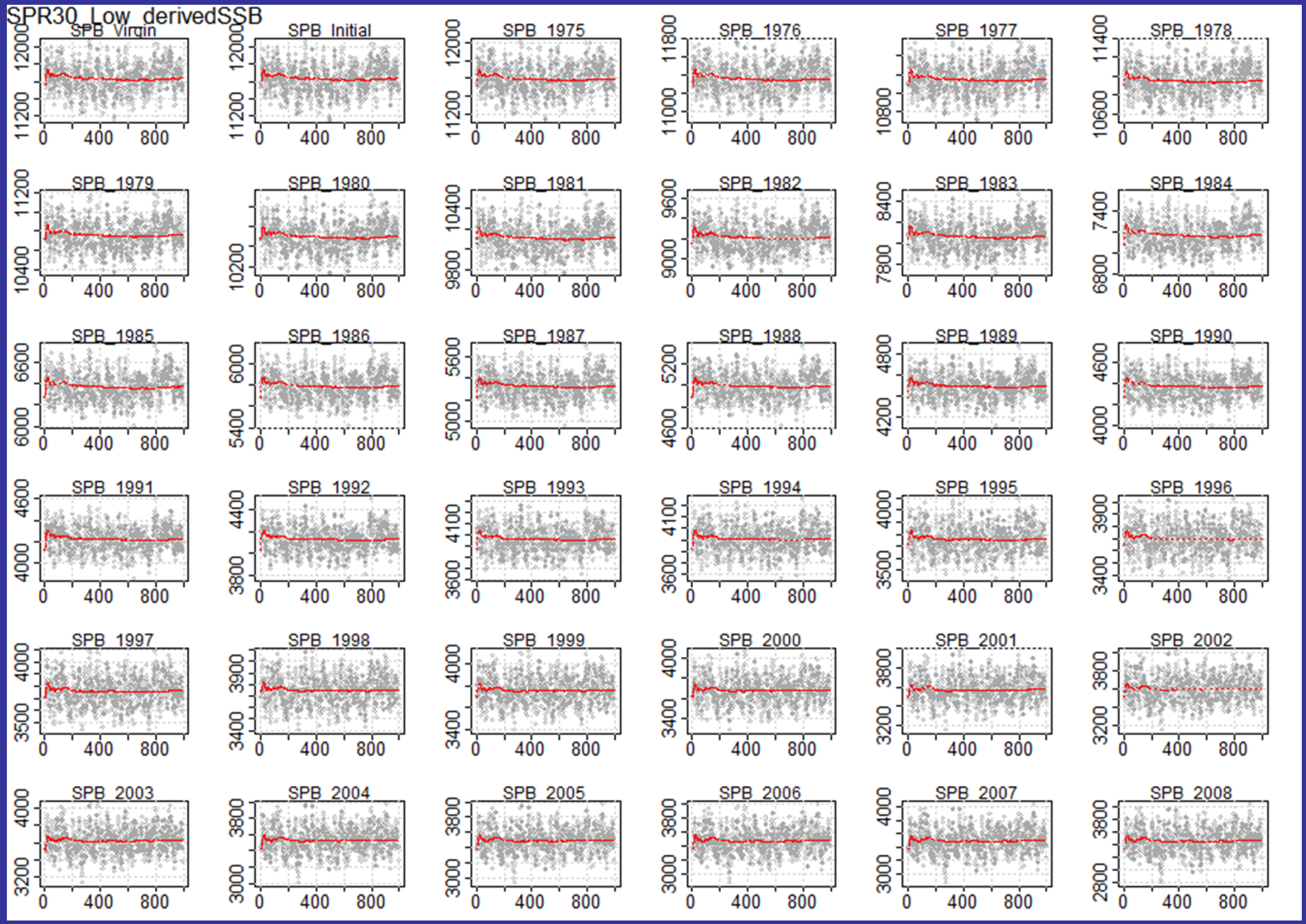
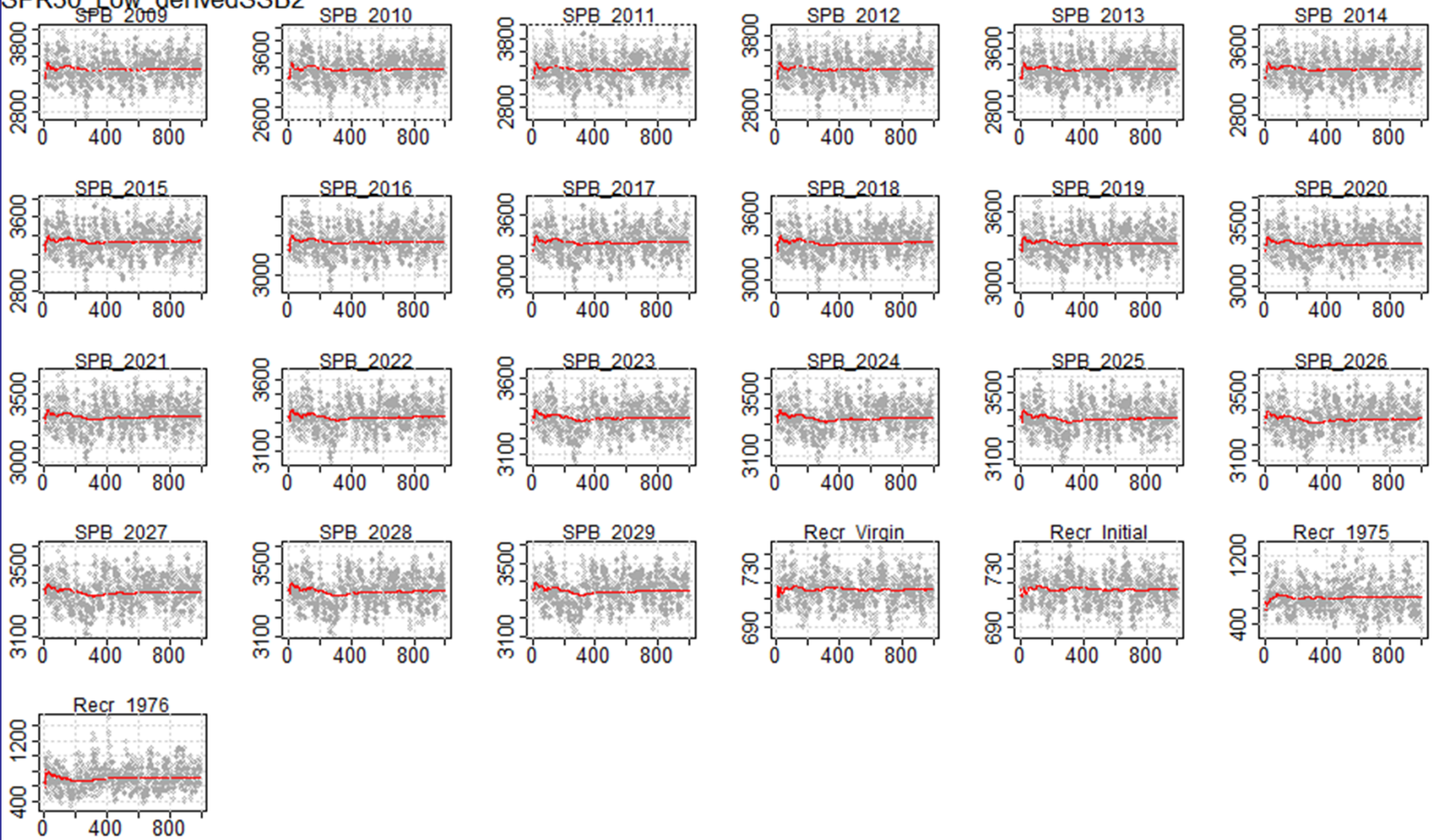
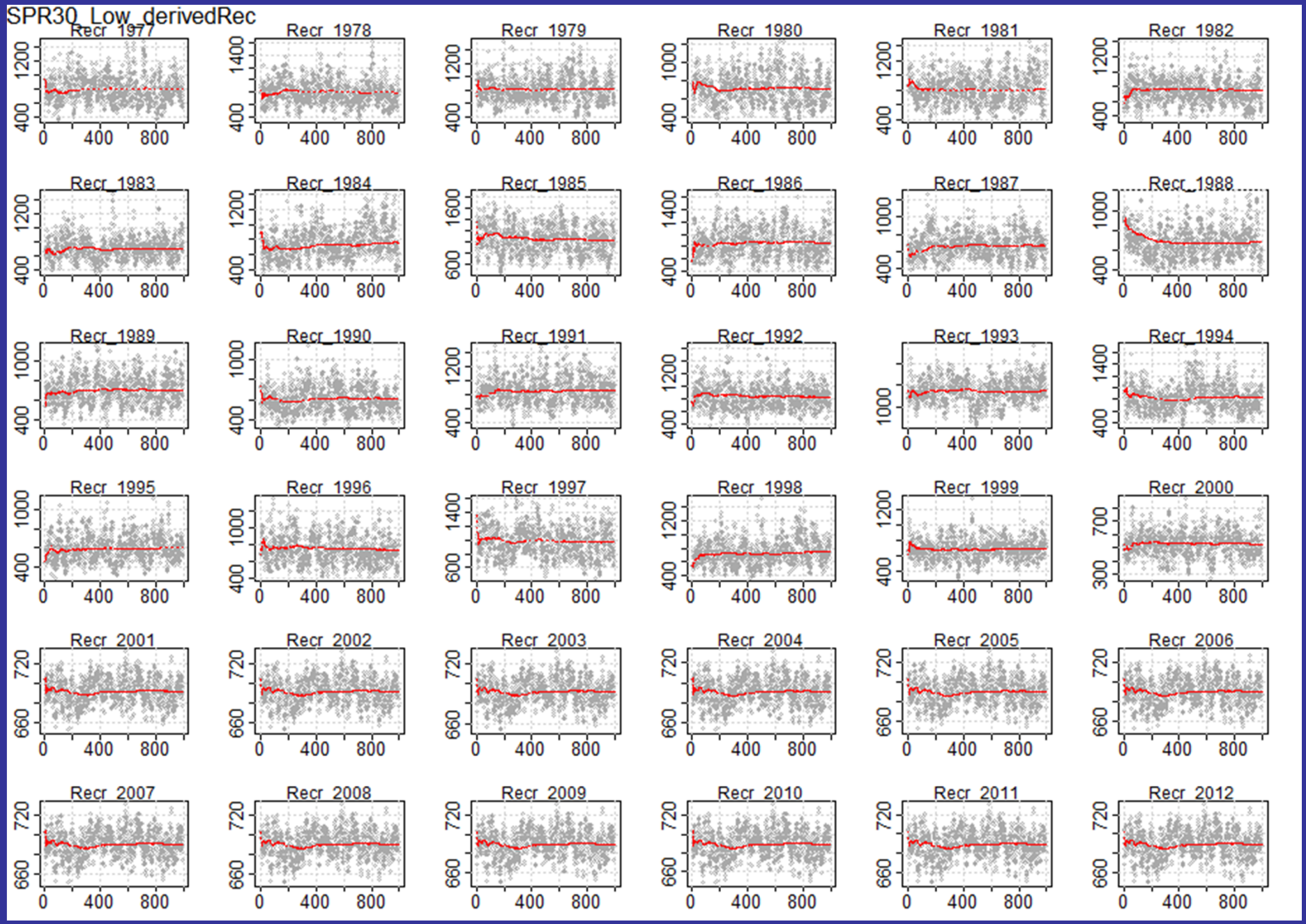
SPB_2005
SPB_2006
SPB_2007
SPB_2008


SPR30_Low_derivedSSB
SPB_Virgin
SPB_Initial
SPB_1975
SPB_1976
SPB_1977
SPB_1978
SPB_1979
SPB_1980
SPB_1981
SPB_1982
SPB_1983
SPB_1984
SPB_1985
SPB_1986
SPB_1987
SPB_1988
SPB_1989
SPB_1990
SPB_1991
SPB_1992
SPB_1993
SPB_1994
SPB_1995
SPB_1996
SPB_1997
SPB_1998
SPB_1999
SPB_2000
SPB_2001
SPB_2002
SPB_2003
SPB_2004
SPB_2005
SPB_2006
SPB_2007
SPB_2008

SPR30_Low_derivedSSB2




SPR30_Low_derivedRec
Recr_1977
Recr_1978
Recr_1979
Recr_1980
Recr_1981
Recr_1982
Recr_1983
Recr_1984
Recr_1985
Recr_1986
Recr_1987
Recr_1988
Recr_1989
Recr_1990
Recr_1991
Recr_1992
Recr_1993
Recr_1994
Recr_1995
Recr_1996
Recr_1997
Recr_1998
Recr_1999
Recr_2000
Recr_2001
Recr_2002
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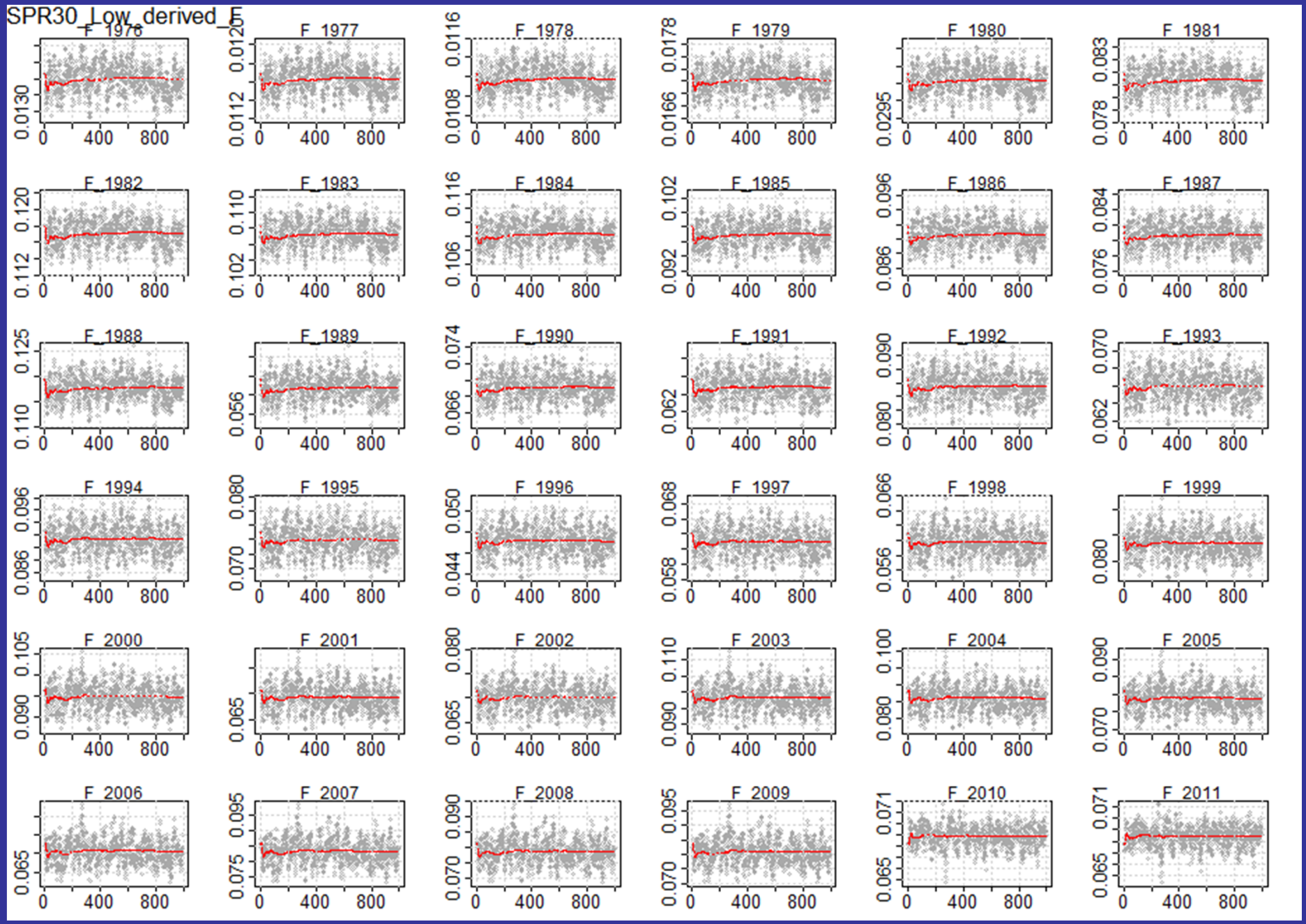
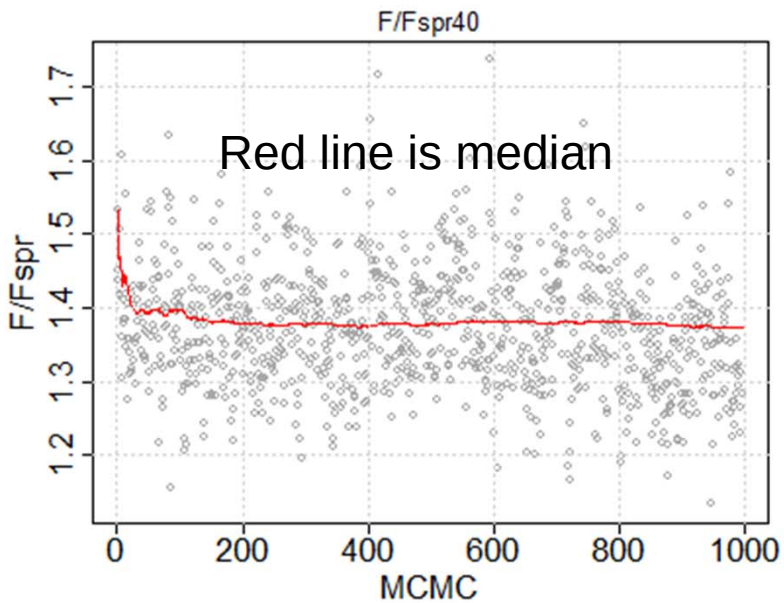
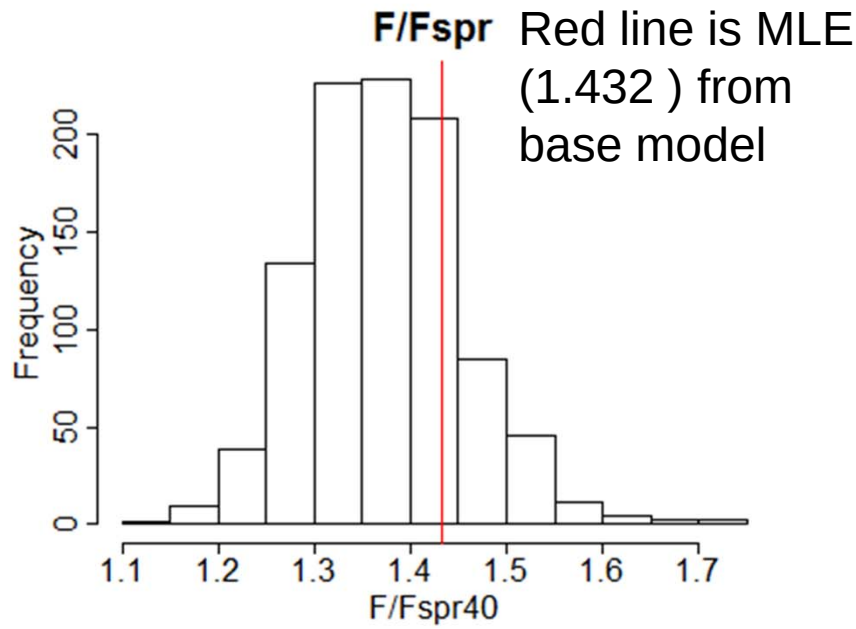
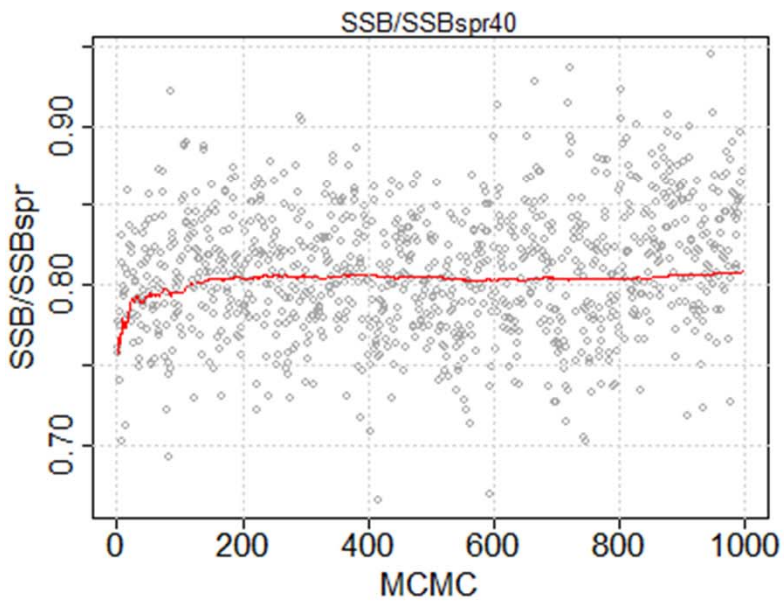
Recr_2007
Recr_2008
Recr_2009
Recr_2010
Recr_2011
Recr_2012

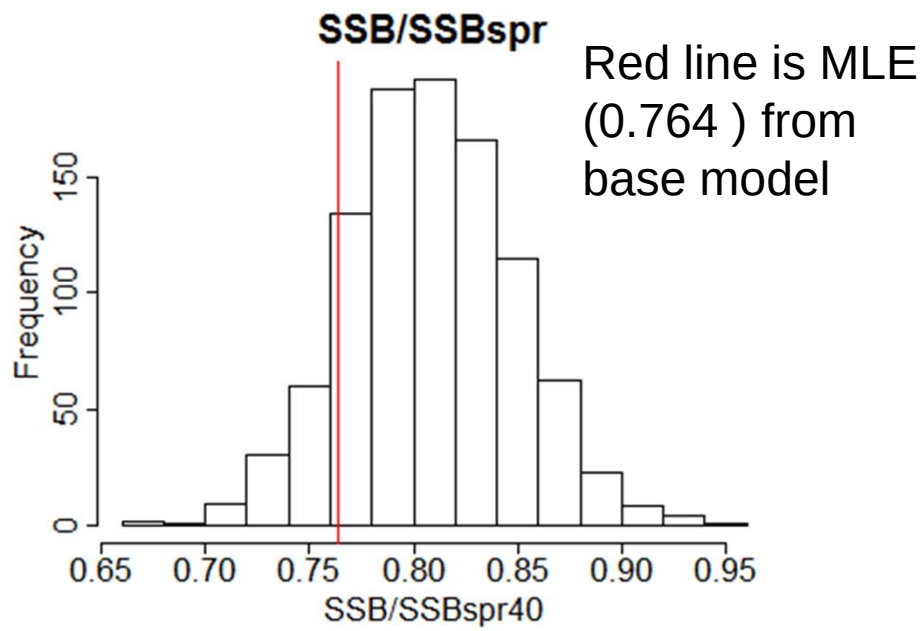

SPR30_Low_derived_F
F_1976
F_1977
F_1978
F_1979
F_1980
F_1981
F_1982
F_1983
F_1984
F_1985
F_1986
F_1987
F_1988
F_1989
F_1990
F_1991
F_1992
F_1993
F_1994
F_1995
F_1996
F_1997
F_1998
F_1999
F_2000
F_2001
F_2002
F_2003
F_2004
F_2005
F_2006
F_2007
F_2008
F_2009
F_2010
F_2011
0
400
800

Results from 1,000,000 MCMC runs









Results from 100,000 MCMC runs, originally done for AW

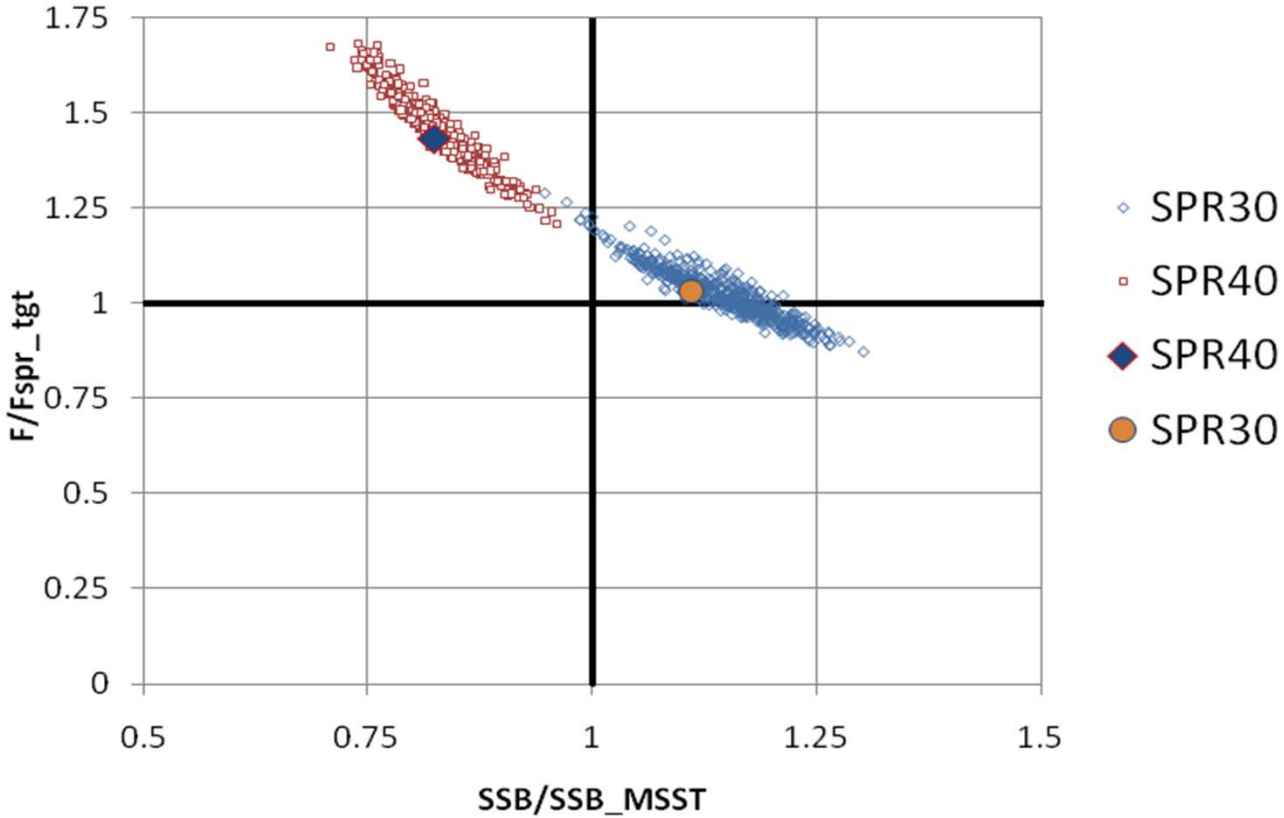
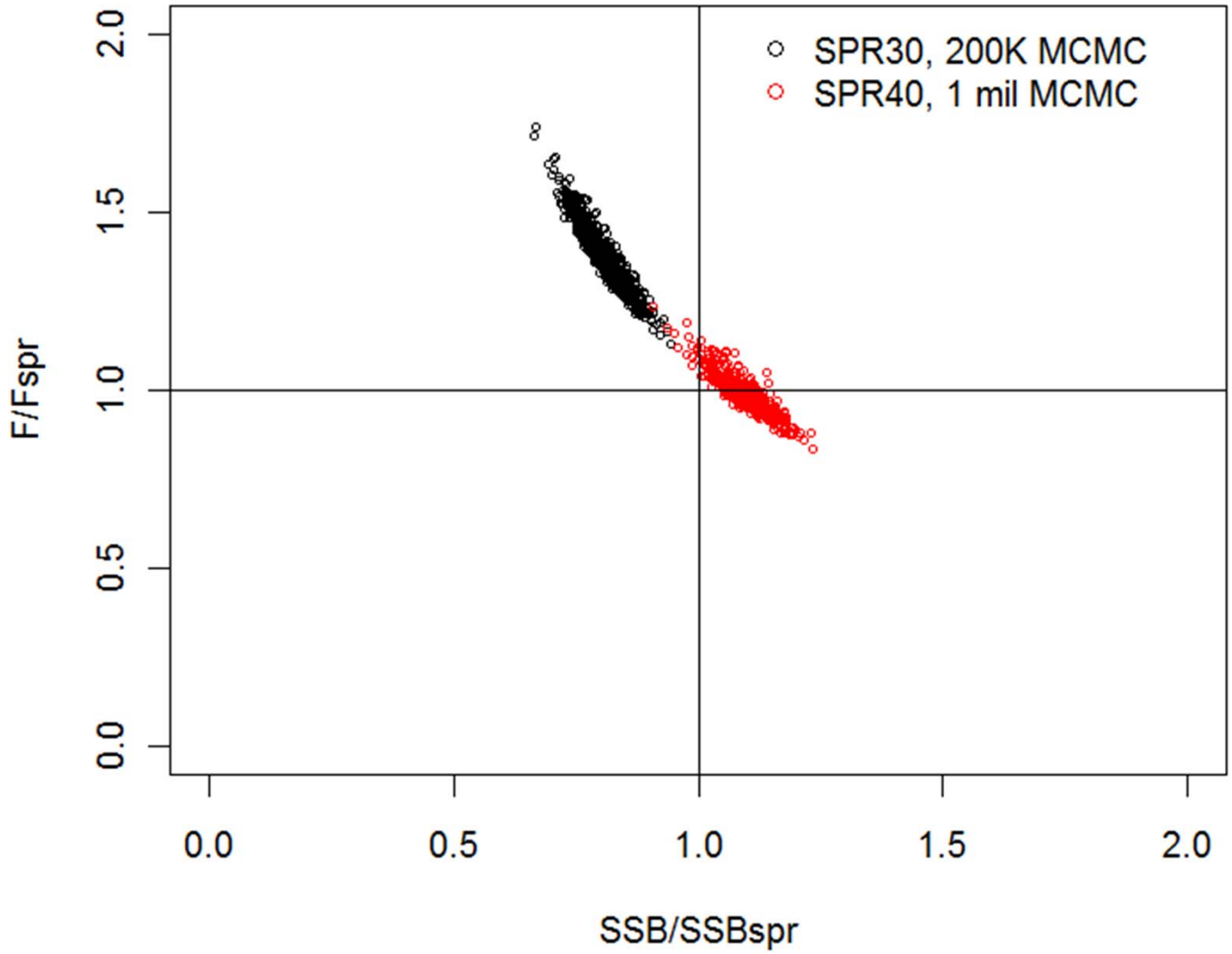


Figure 3.95. Base model uncertainty in stock status from sampled MCMC runs (495 sampled from 100000). Fishing mortality rate is calculated is the deterministic F2009/$F_{SPR30\%}$ or $F_{SPR40\%}$. SSB status is calculated as the deterministic SSB2009/SSB_MSST where SSB_MSST is (1-M)*$SSB_{SPR30\%}$ or $SSB_{SPR40\%}$ and M=0.073.


SPR30, 200K MCMC
SPR40, 1 mil MCMC
F/Fspr
SSB/SSBspr
0.0
0.5
1.0
1.5
2.0