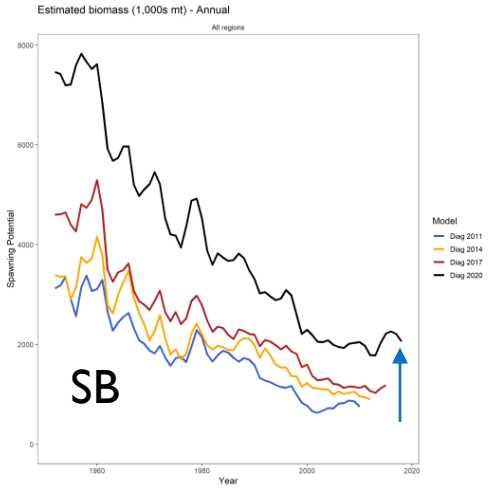
Pacific Community
Communauté du Pacifique

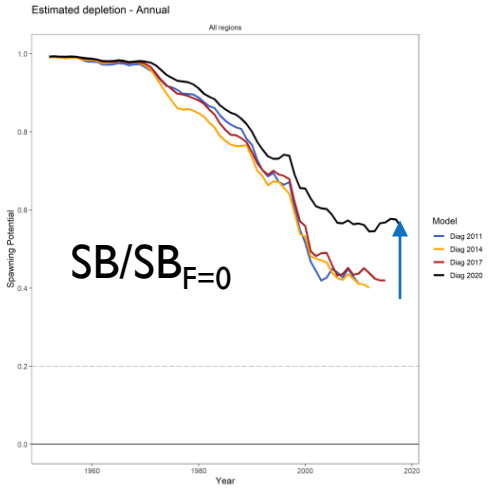
Background

- Blah blah blah

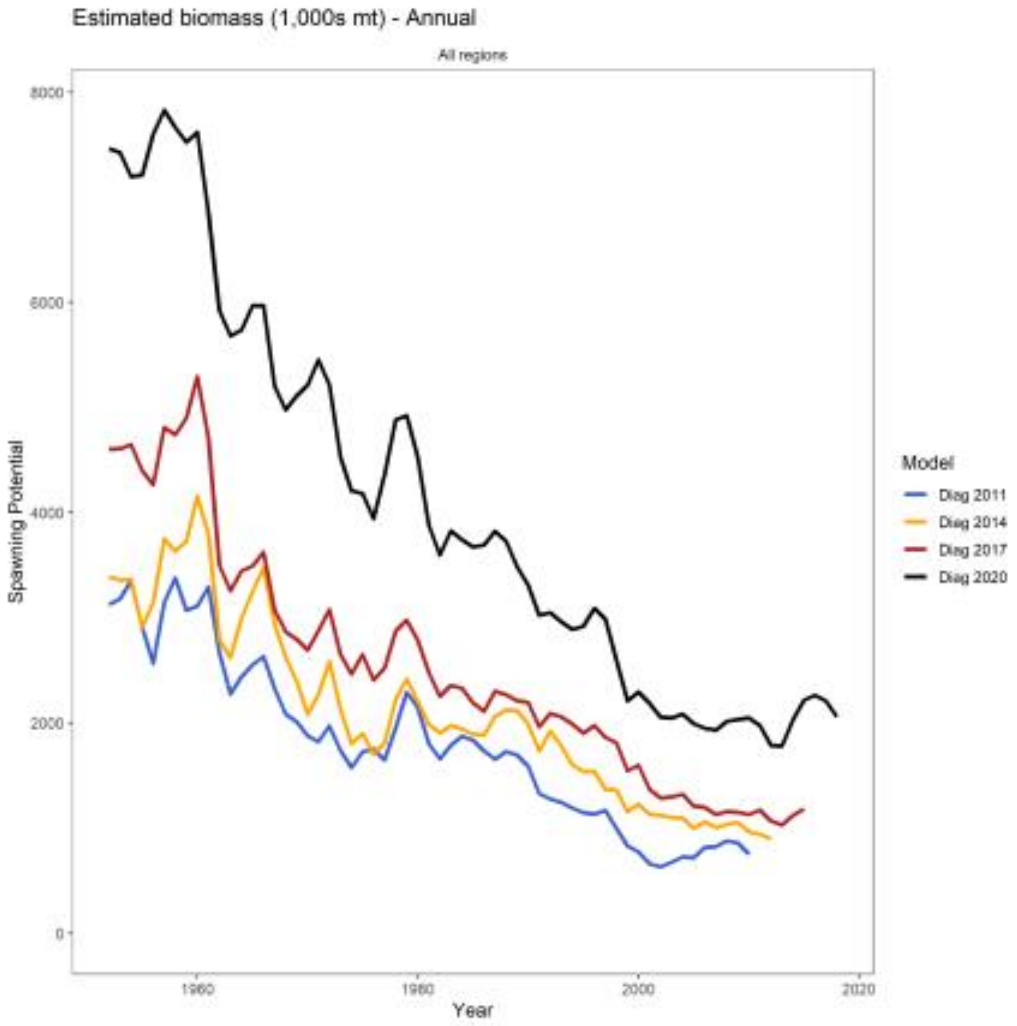
(a) Spawning Potential



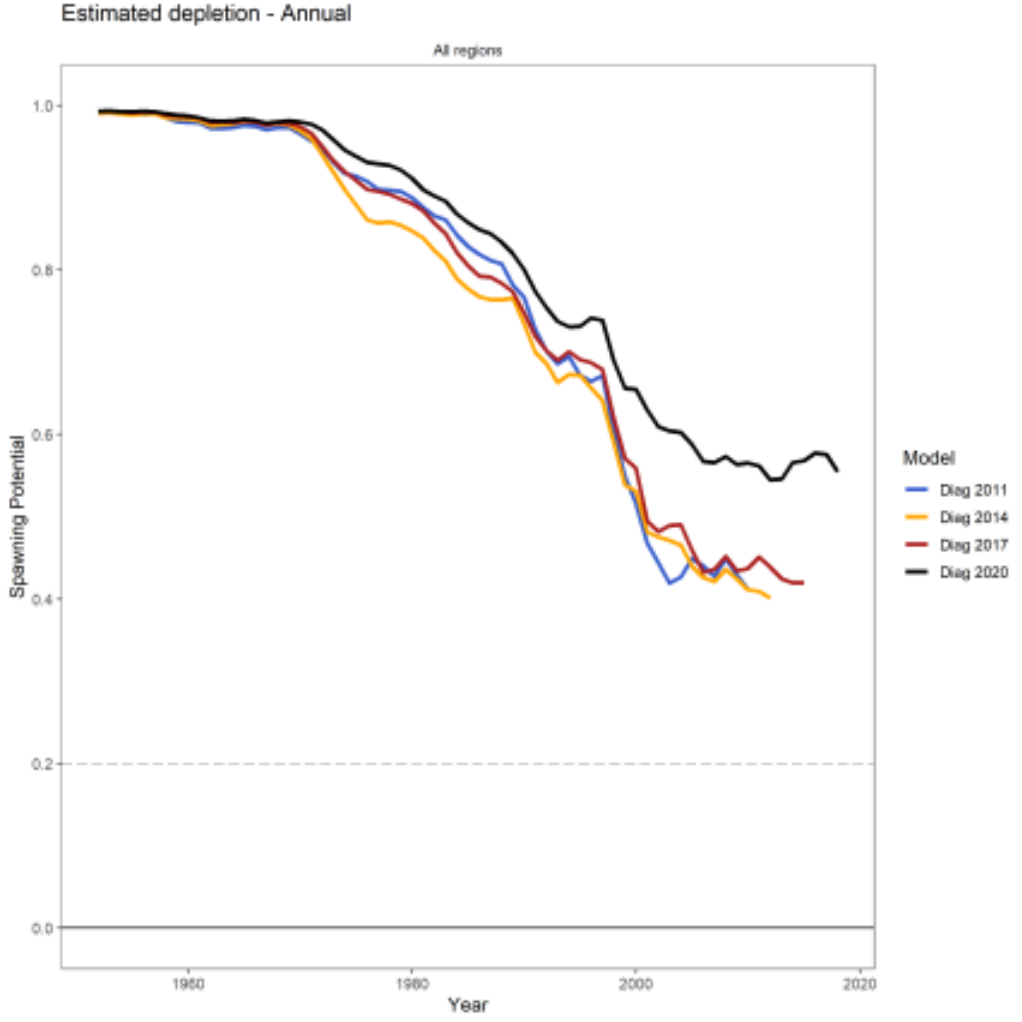
(b) Depletion



(a) Spawning Potential



(b) Depletion



DYNAMIC STOCK STATUS

Depletion (Stock status) = $SB_{recent}/SB_{F=0}$

SB_{recent} averaged over last 4 years (e.g. 2014-2018) Spawning biomass

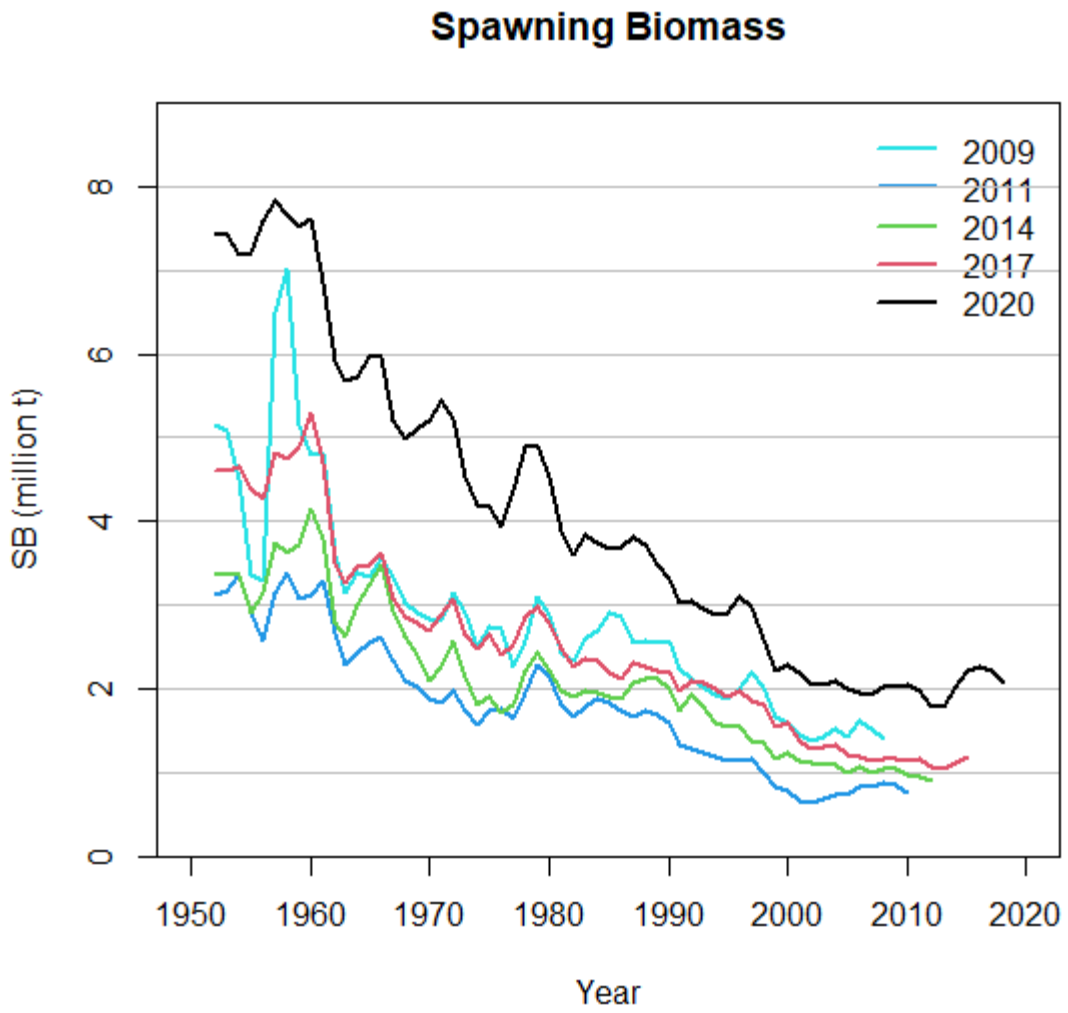
$SB_{F=0}$ averaged over recent10 years (e.g. 2008-2017) Unfished biomass (dynamic)

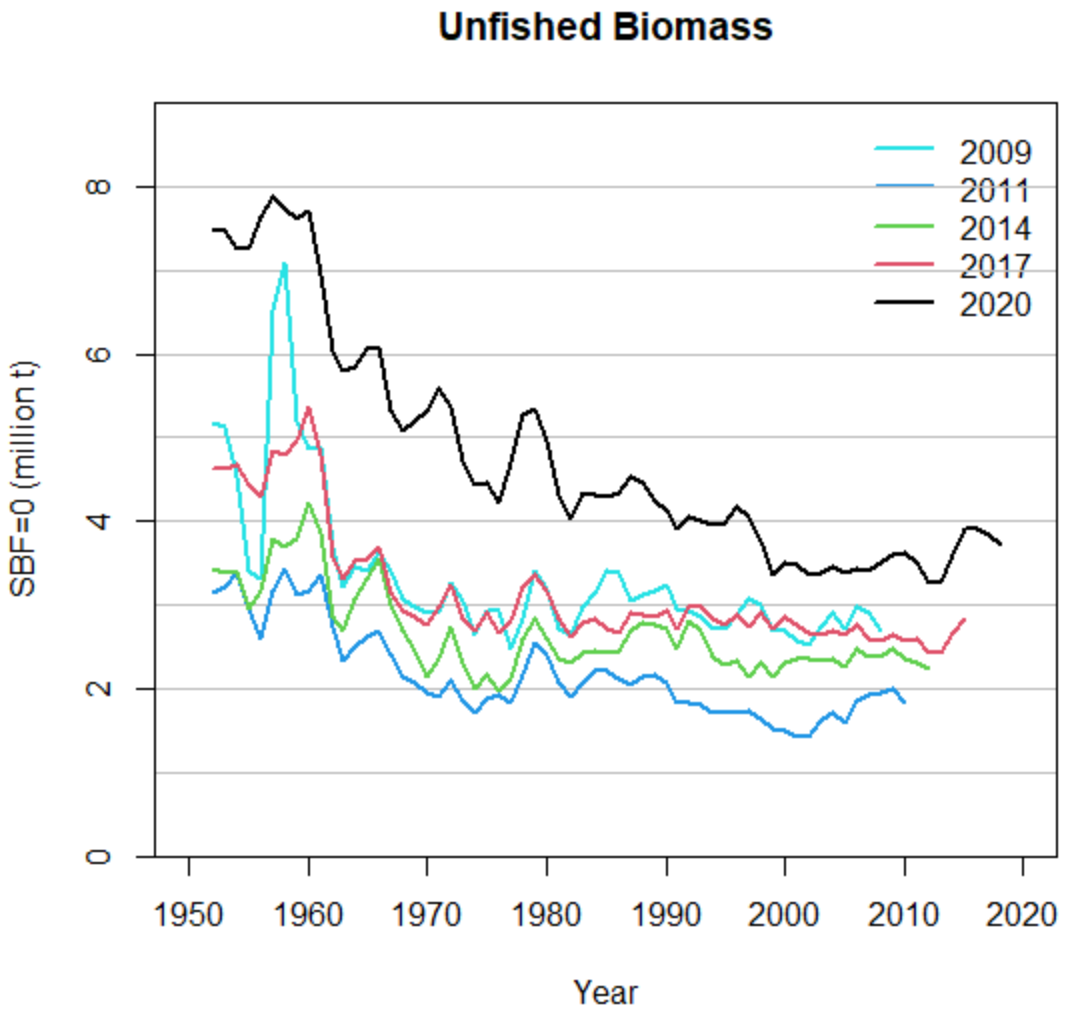
Averaged depletion: applied to the median of the uncertainty grid for management

Instantaneous (dynamic) depletion: traditionally plotted for the diagnostic cases

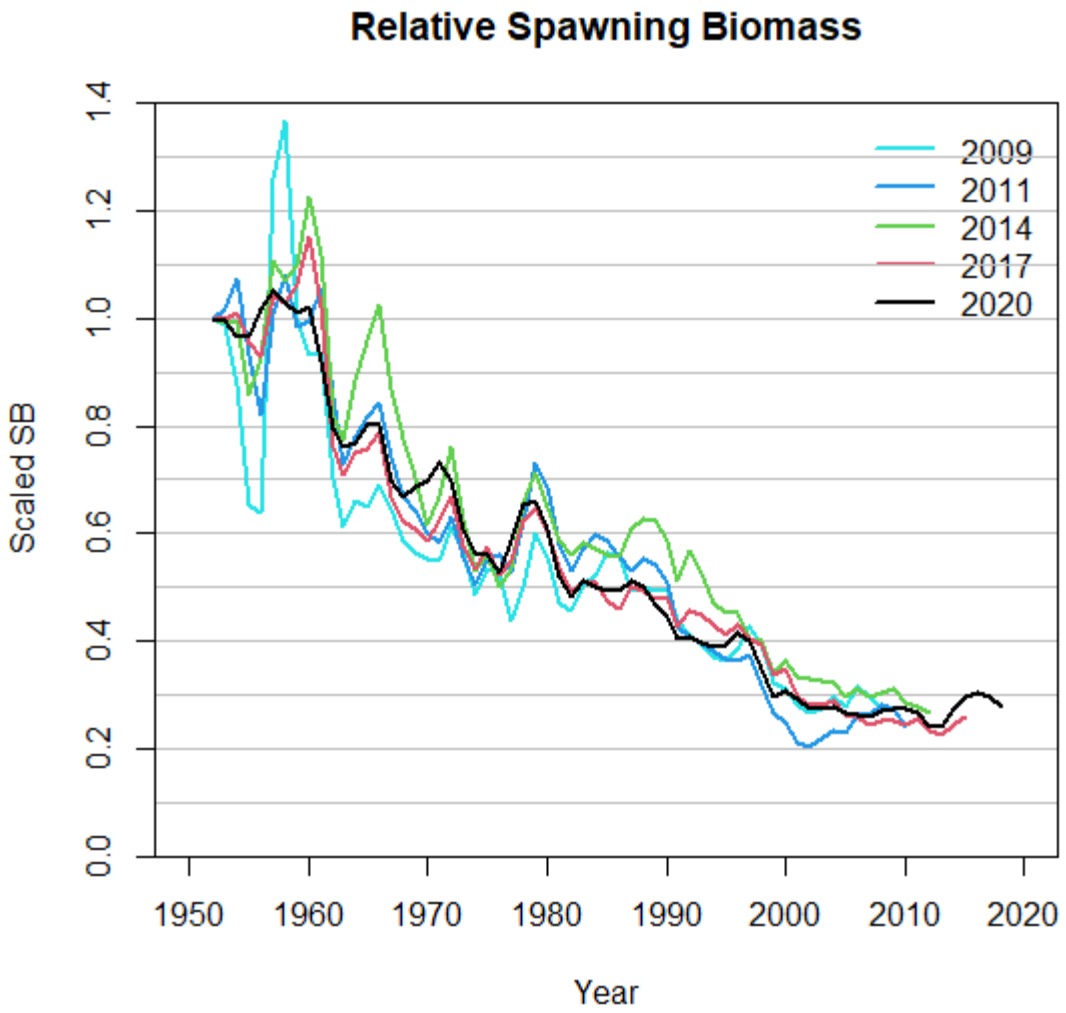
Why? Historical precedent

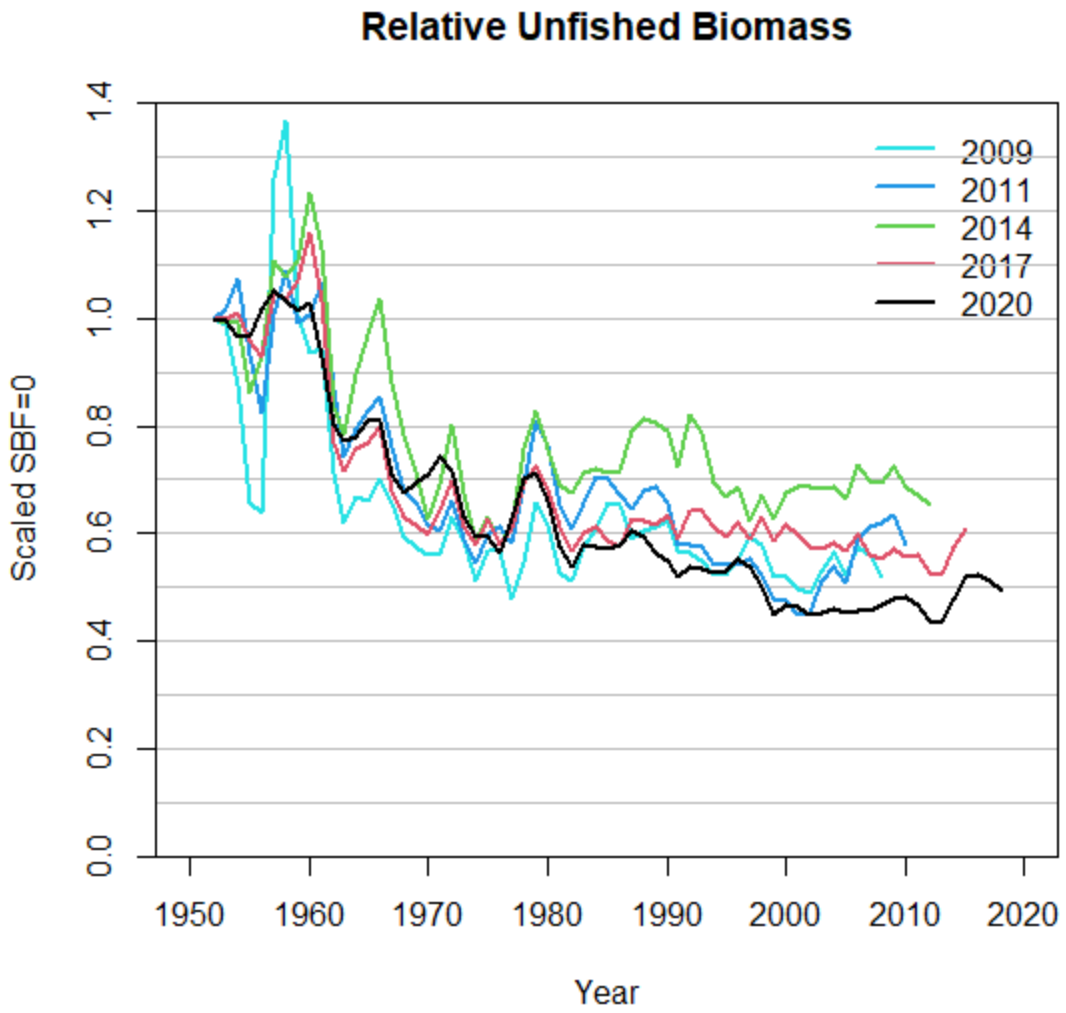
EXPLOITED VS UNEXPLOITED



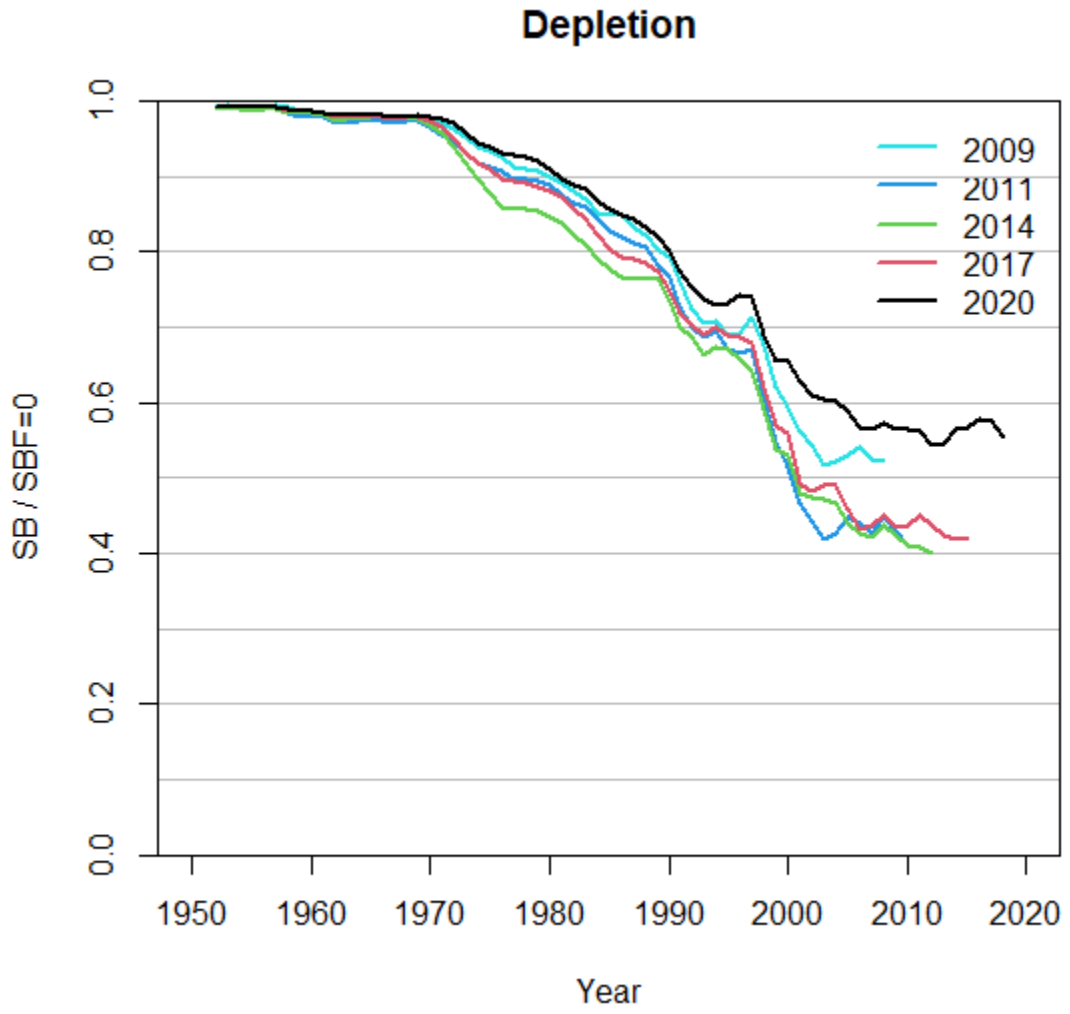


EXPLOITED VS UNEXPLOITED (NORMALISED TO 1952)

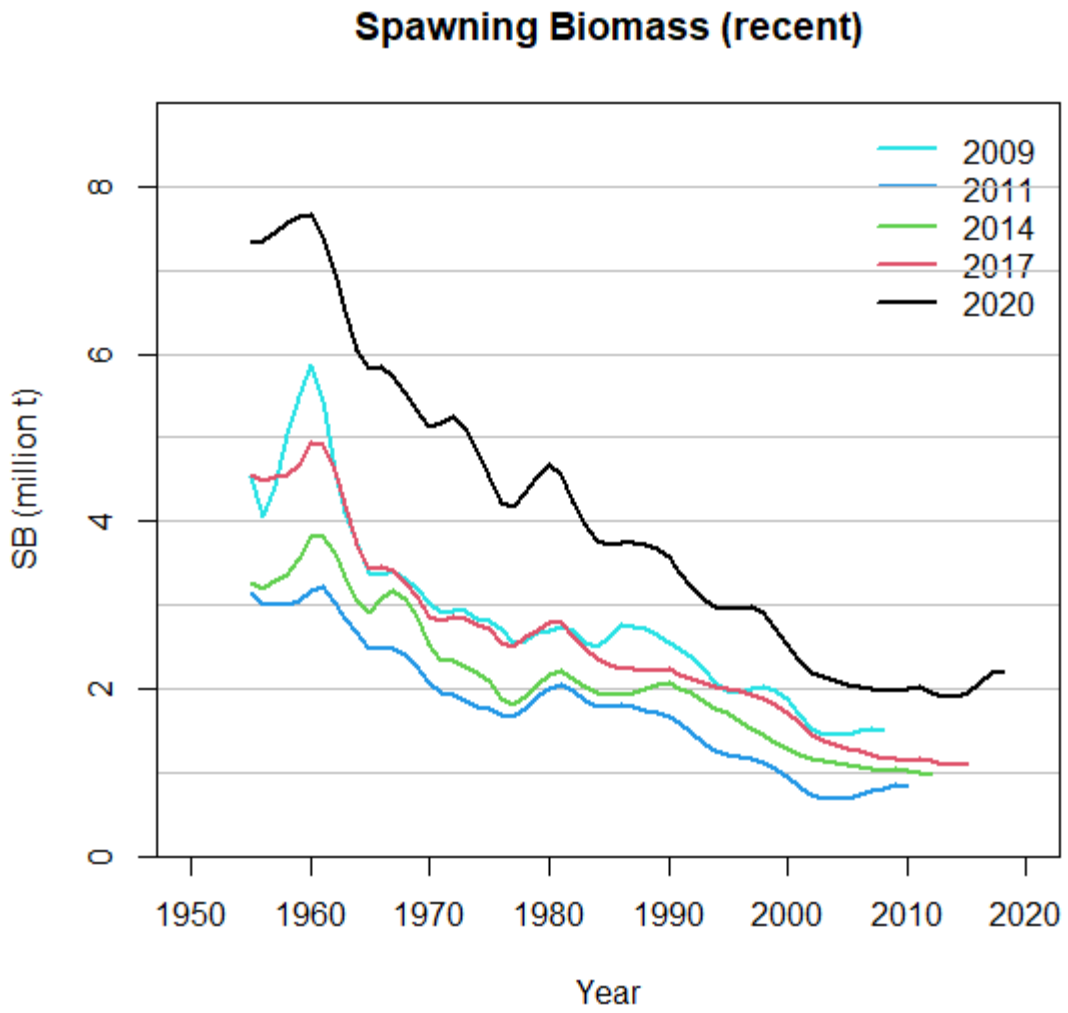


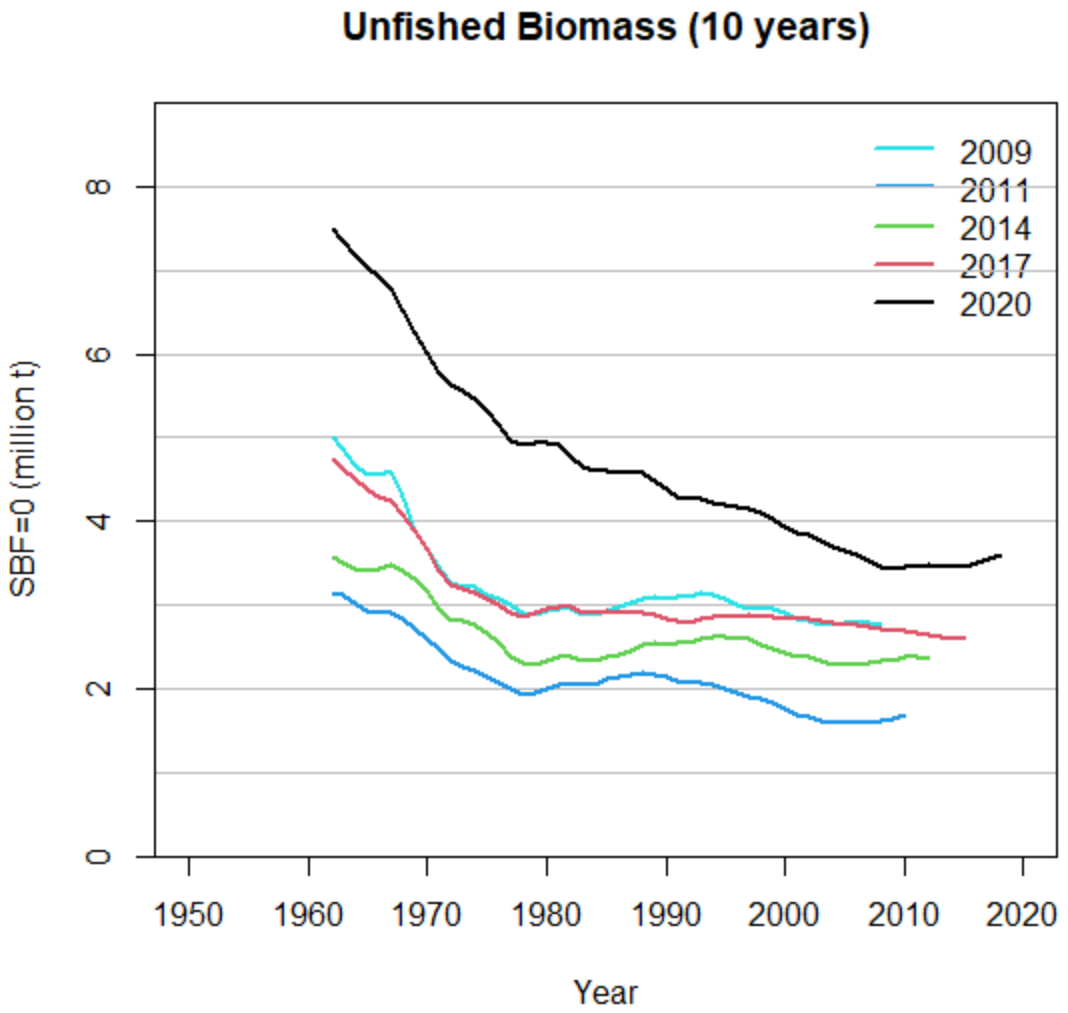


STOCK STATUS (ASSESSMENTS 2009-2020, INSTANTANEOUS)

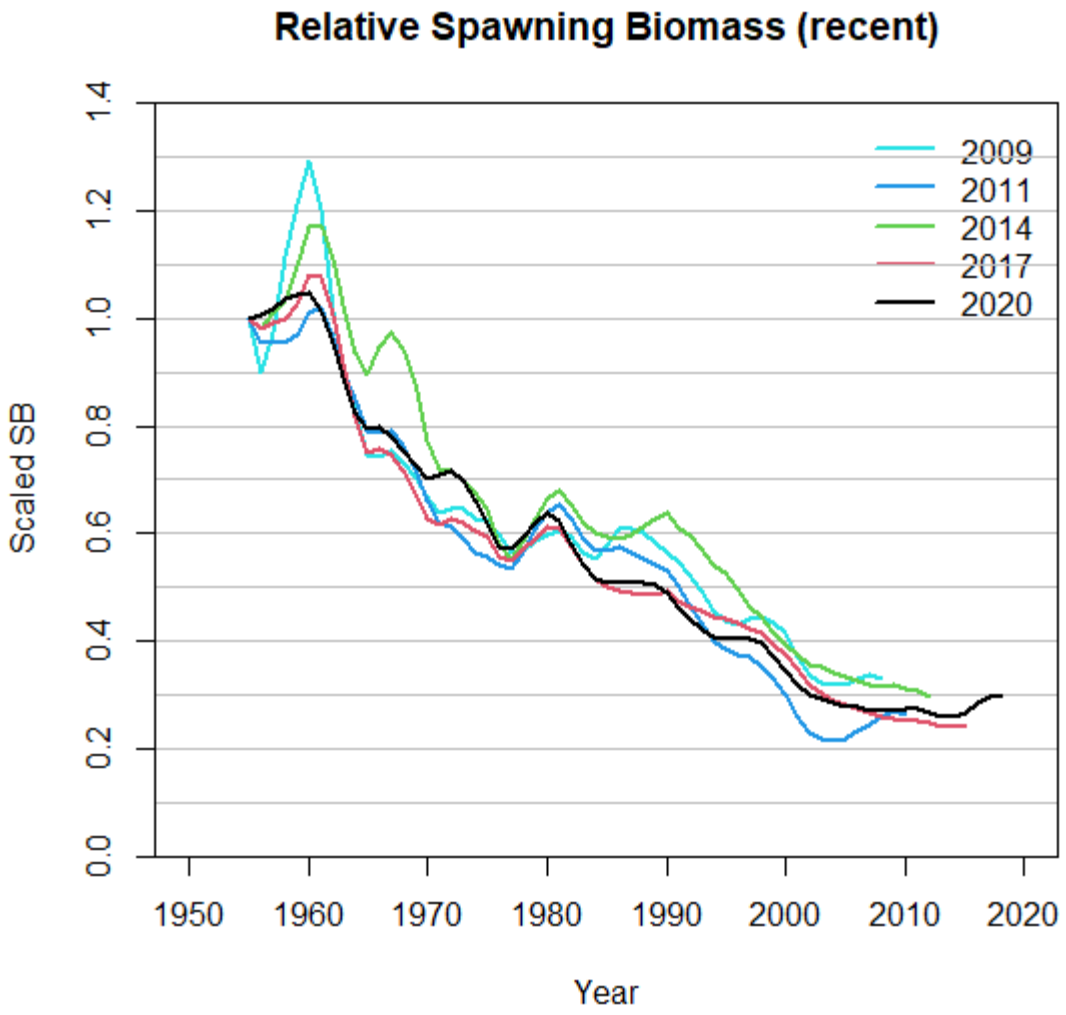


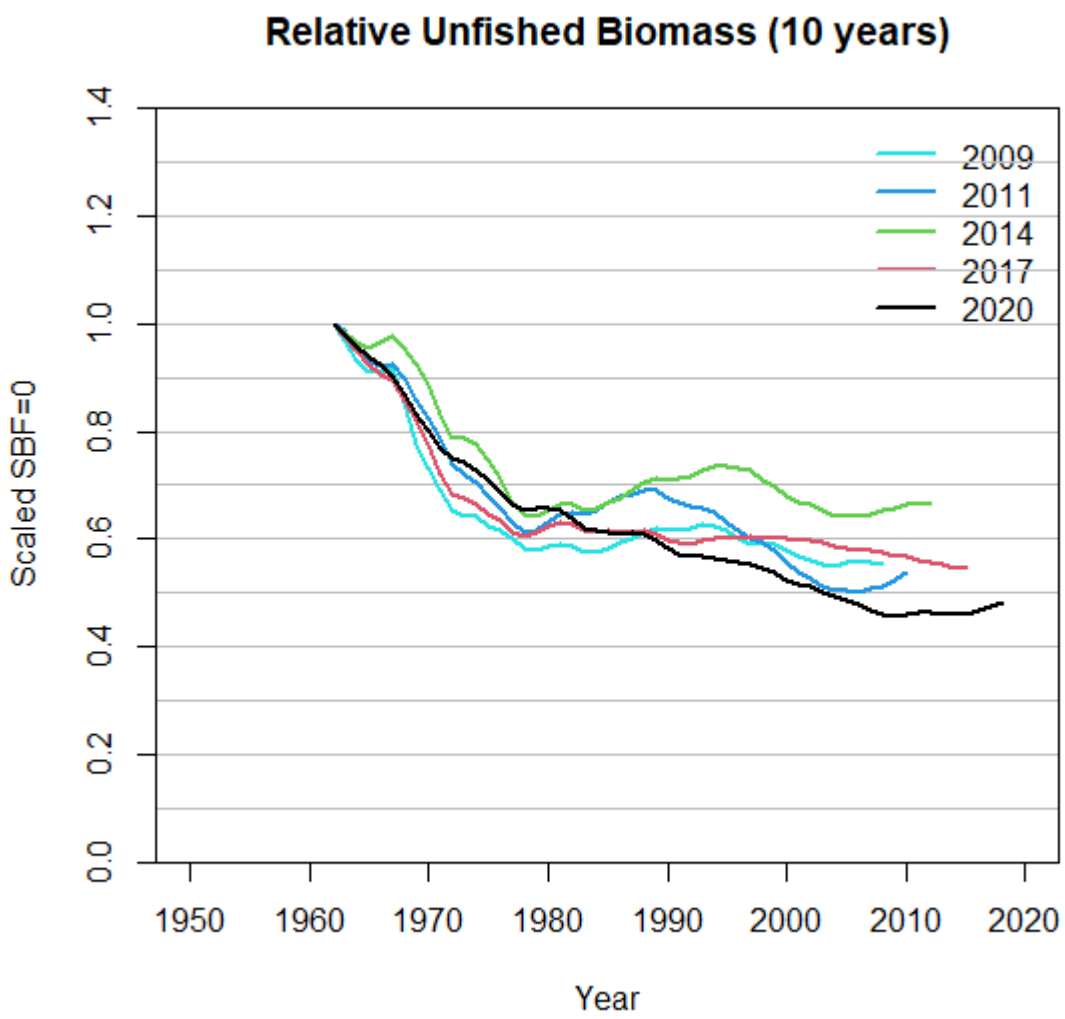
EXPLOITED VS UNEXPLOITED (AVERAGED)



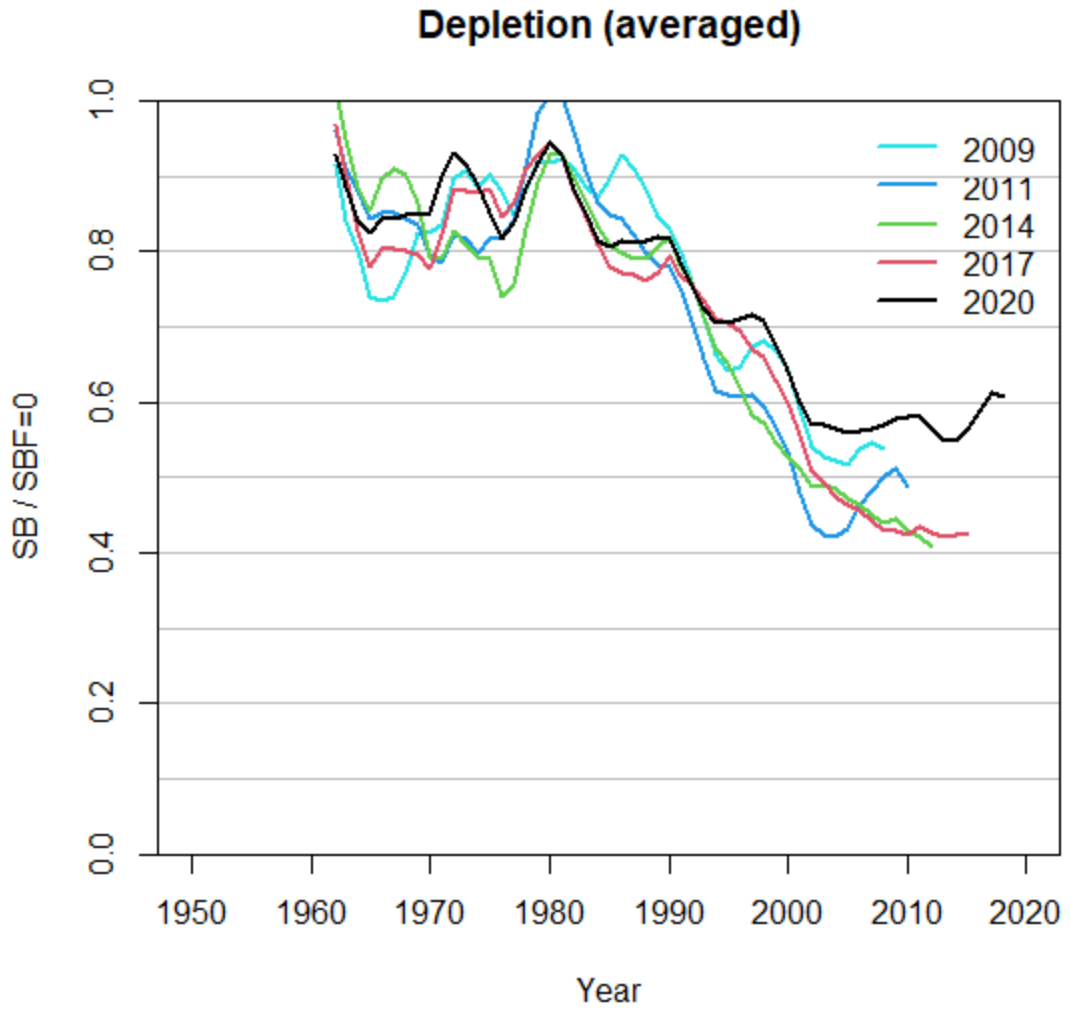


EXPLOITED VS UNEXPLOITED (AVERAGED AND NORMALISED)

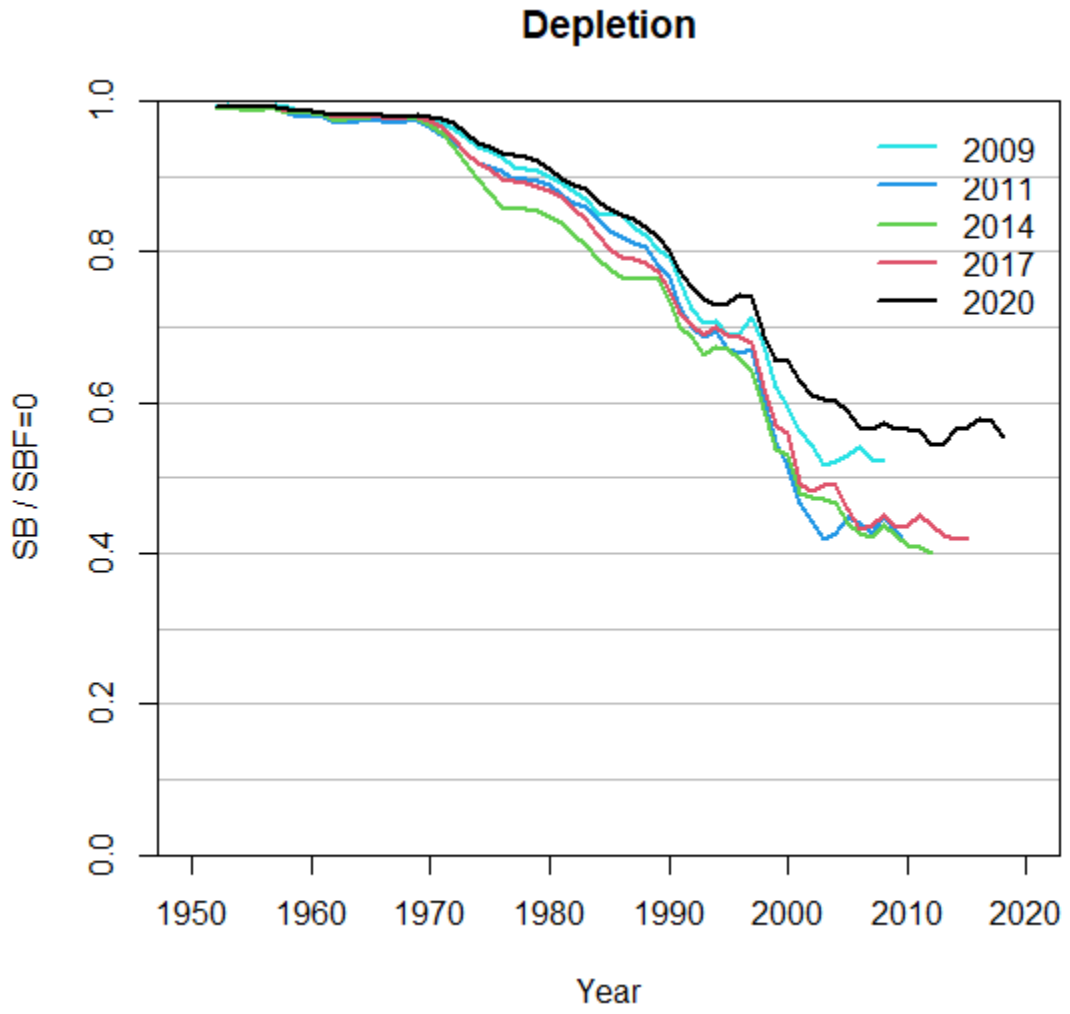




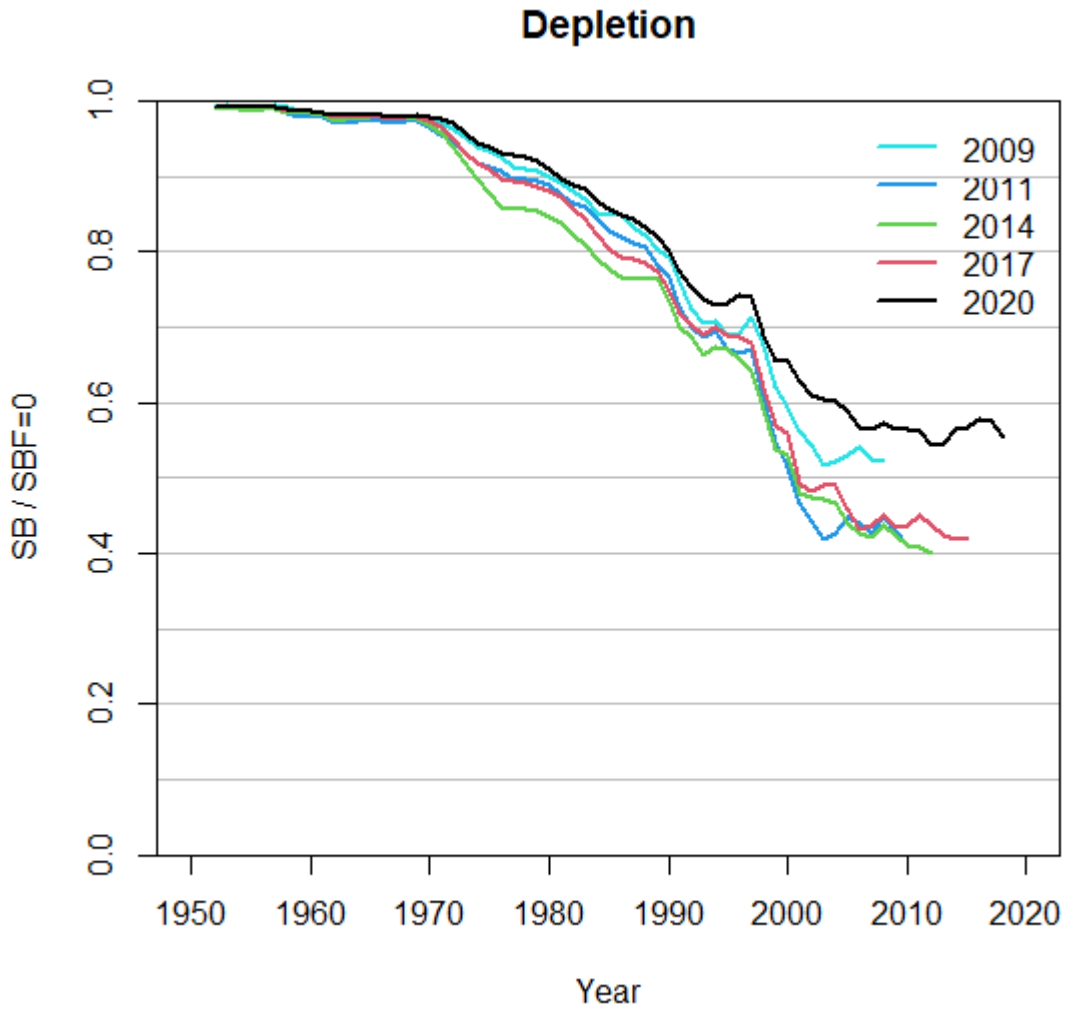
STOCK STATUS (ASSESSMENTS 2009-2020, AVERAGE)

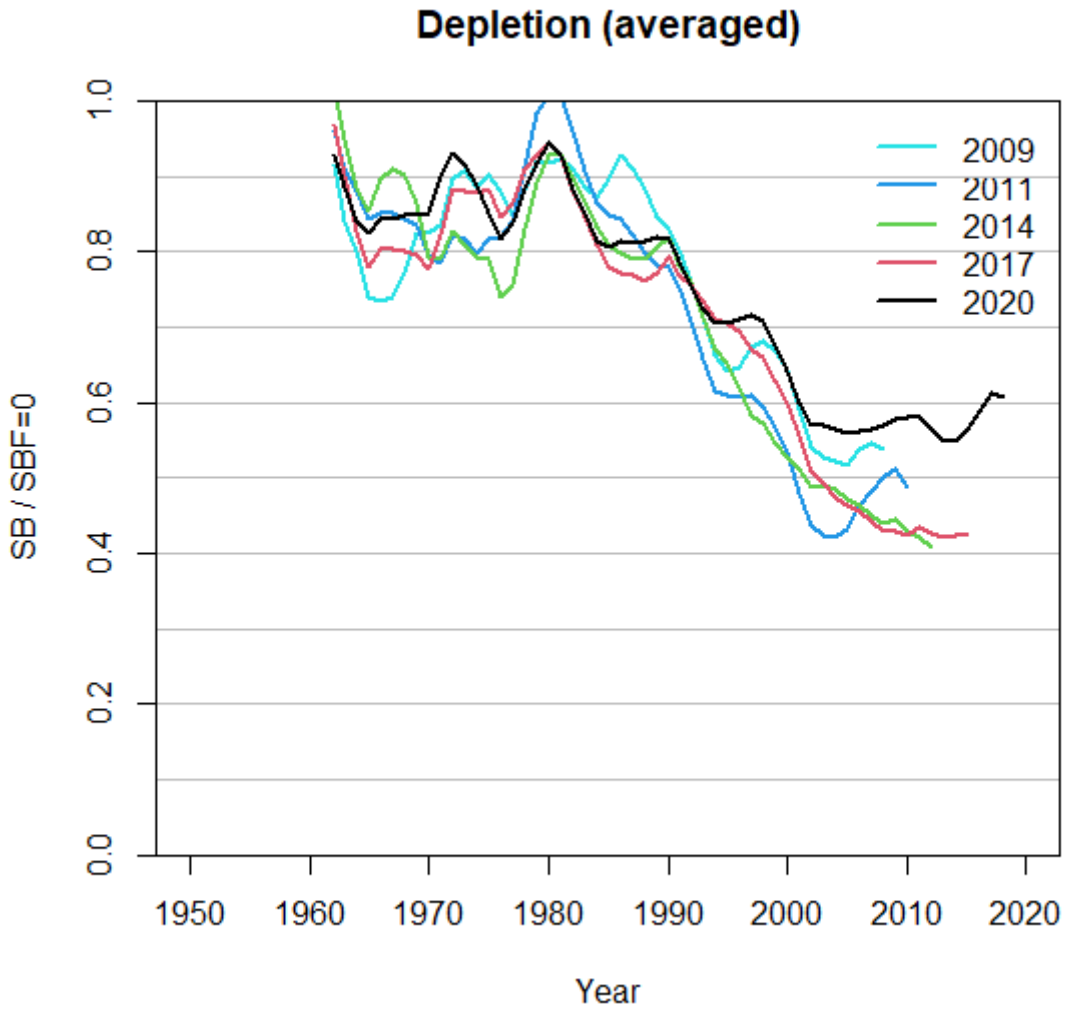


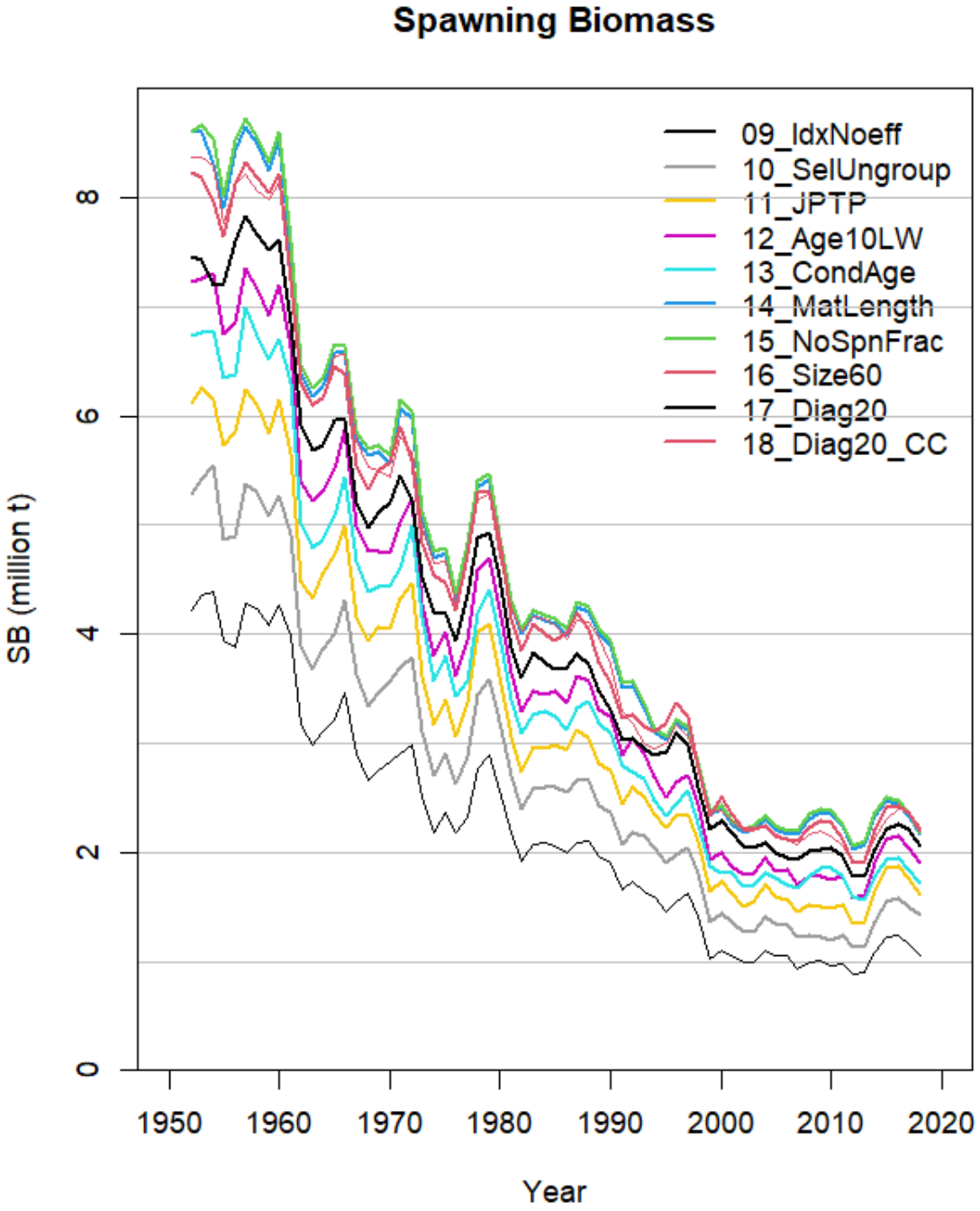
STOCK STATUS (ASSESSMENTS 2009-2020, INSTANTANEOUS)

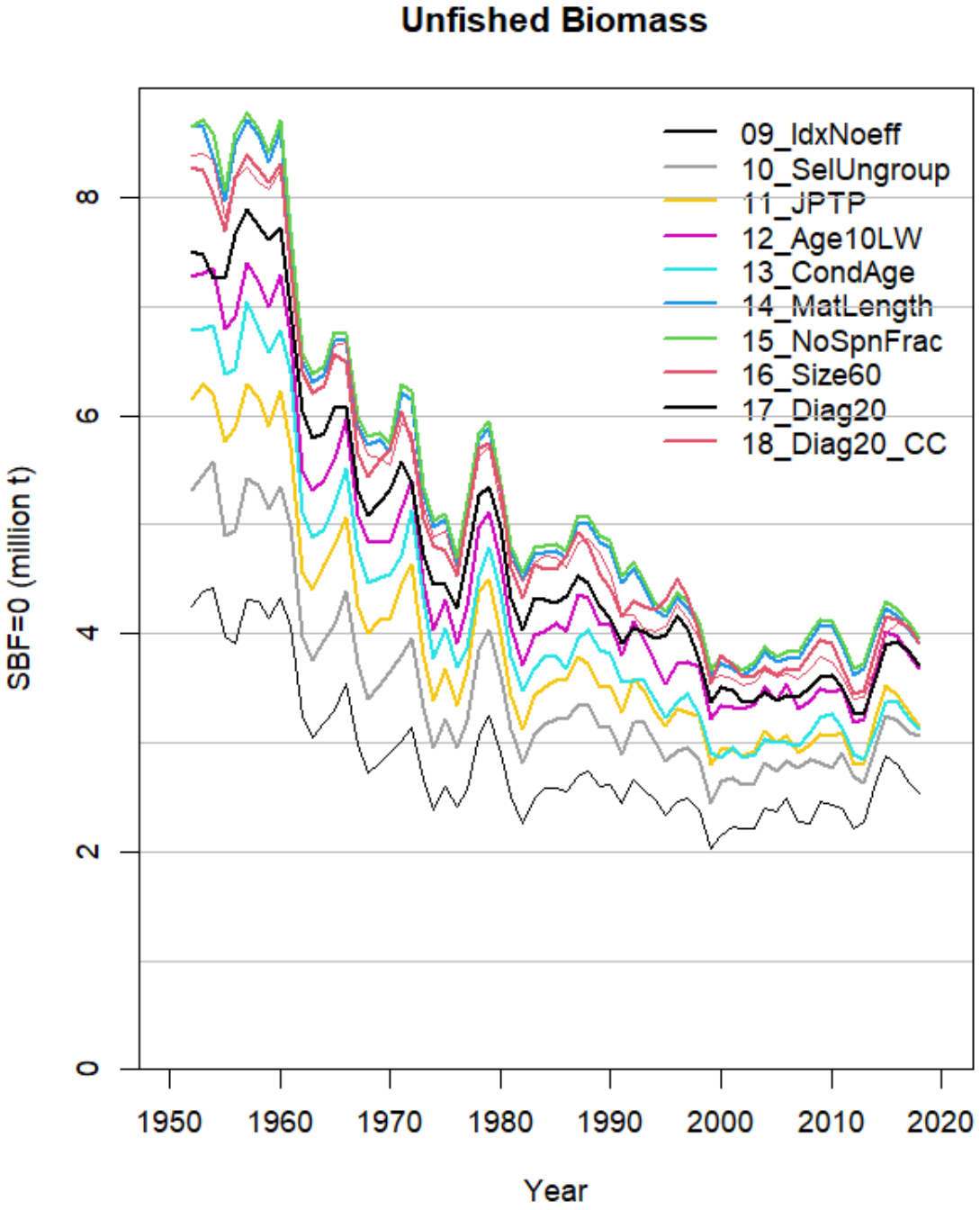


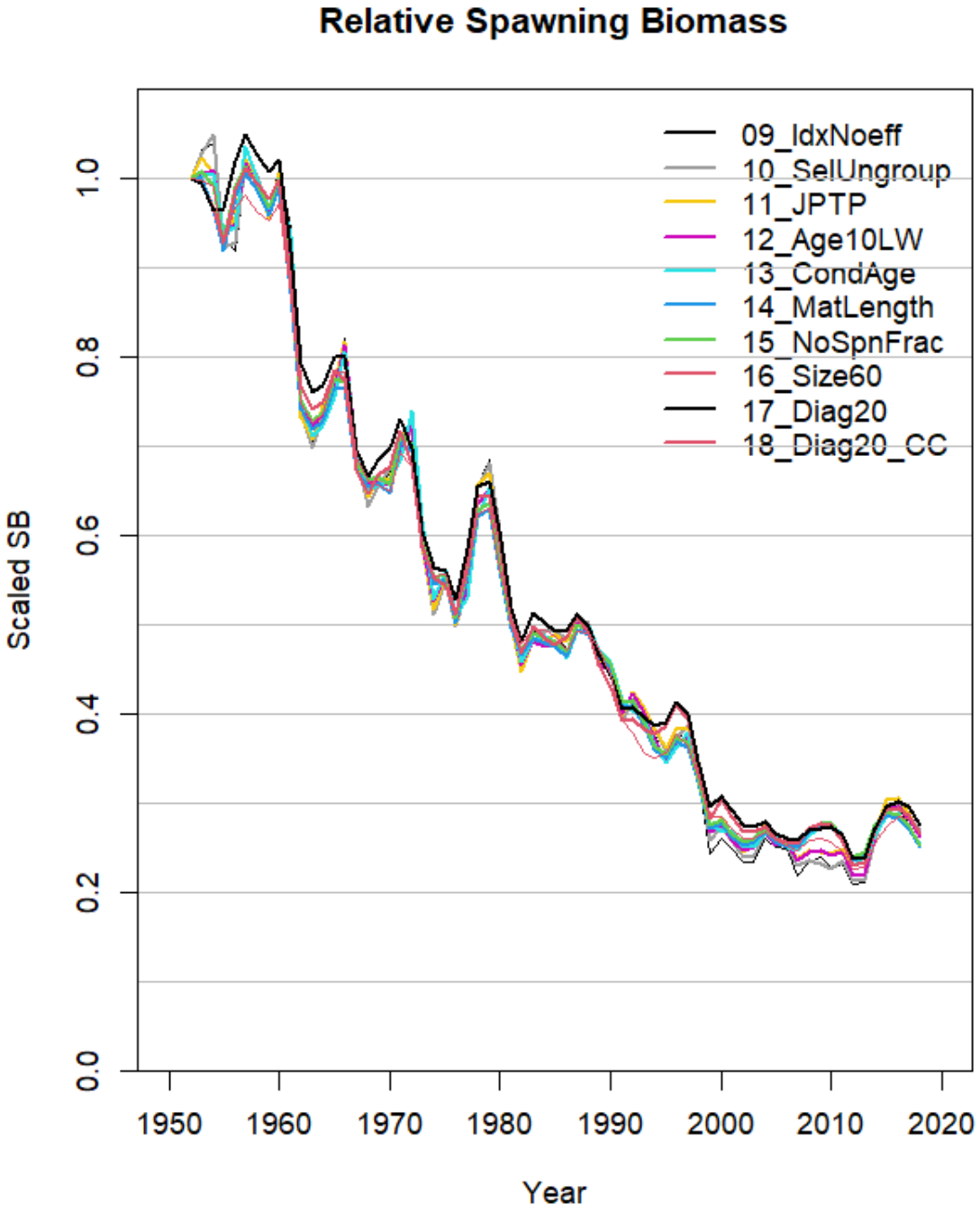
STOCK STATUS (ASSESSMENTS 2009-2020, INSTANTANEOUS)

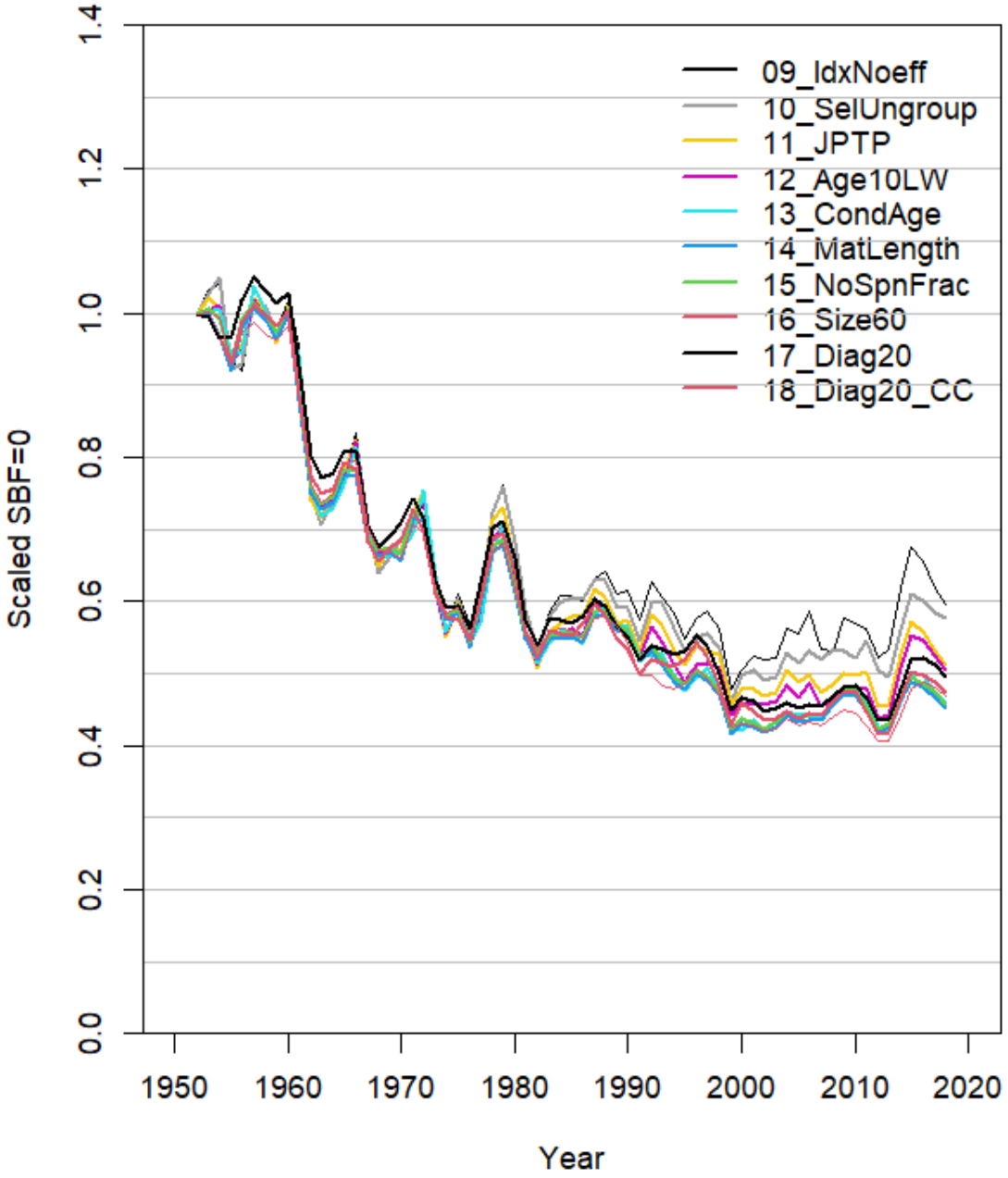


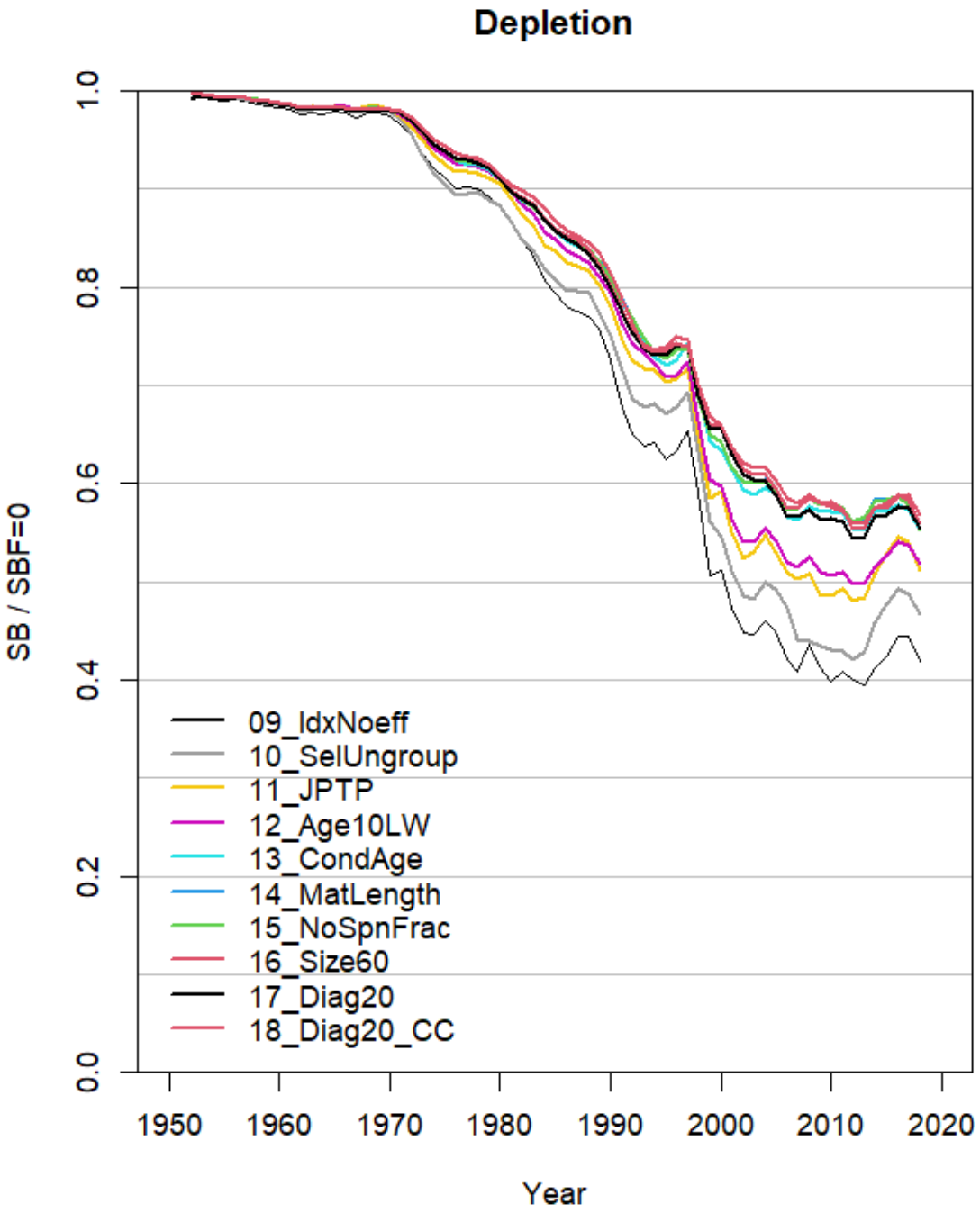


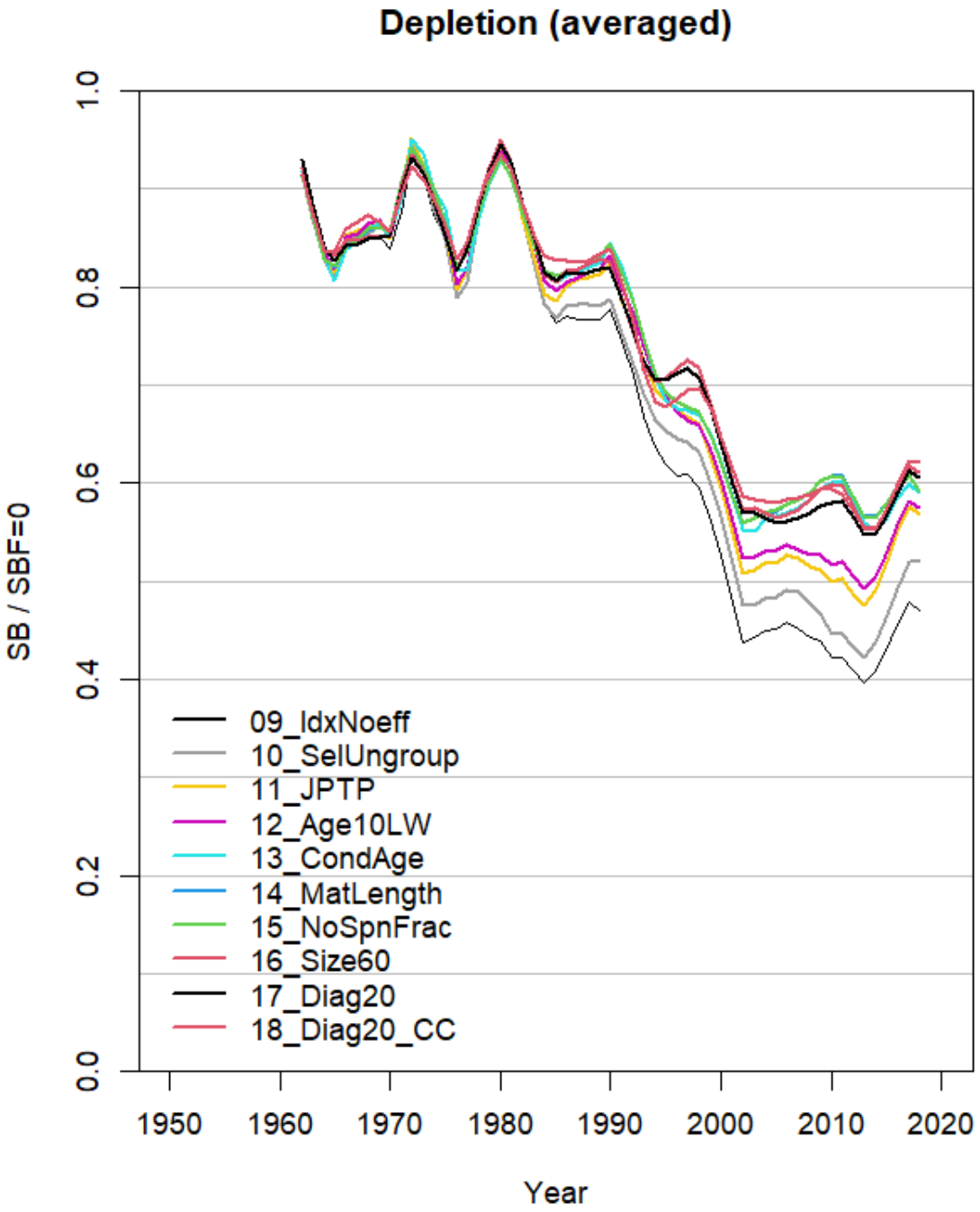

Spawning Biomass
SB (million t)
0
2
4
6
8
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC

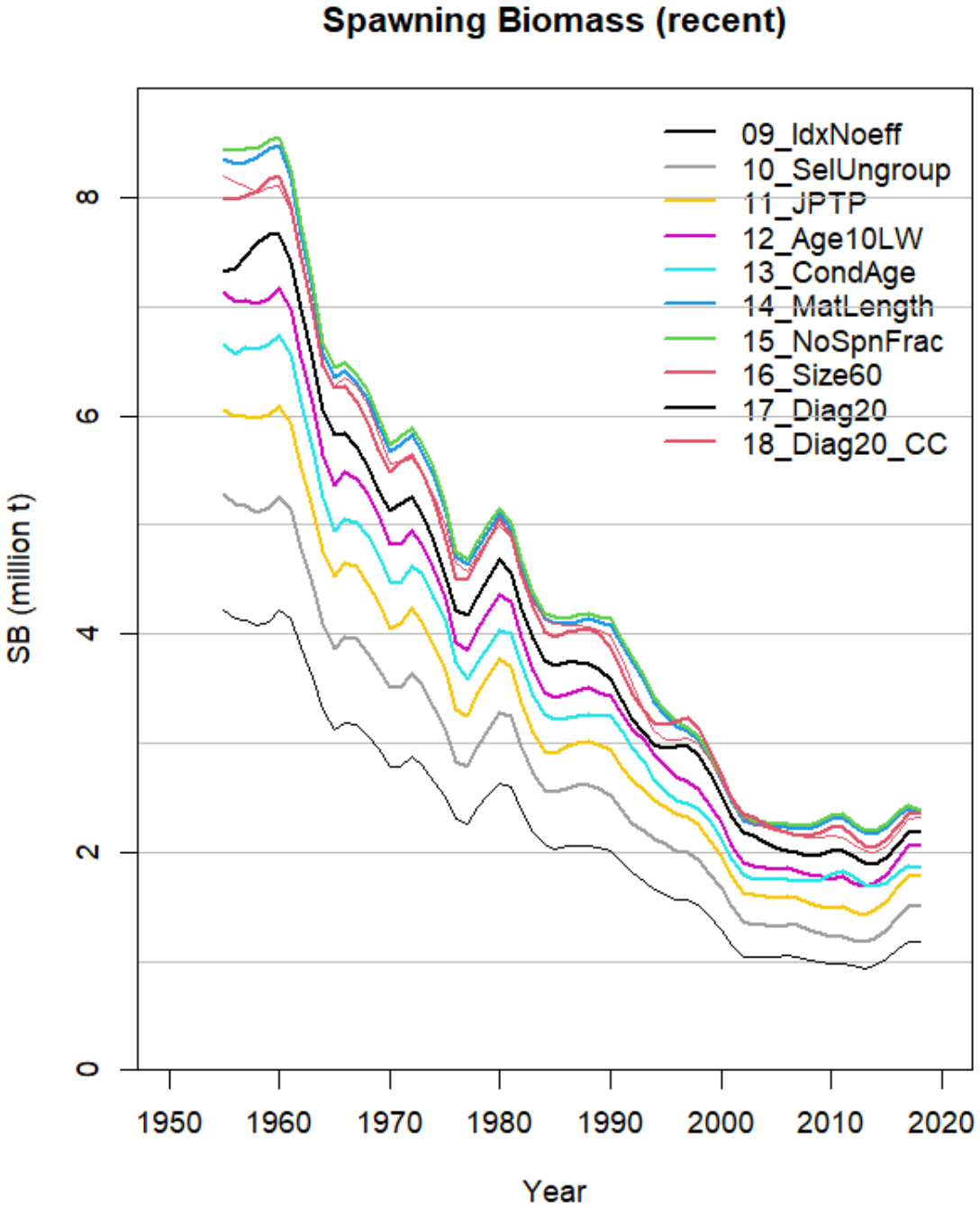

Unfished Biomass
SBF=0 (million t)
0
2
4
6
8
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC

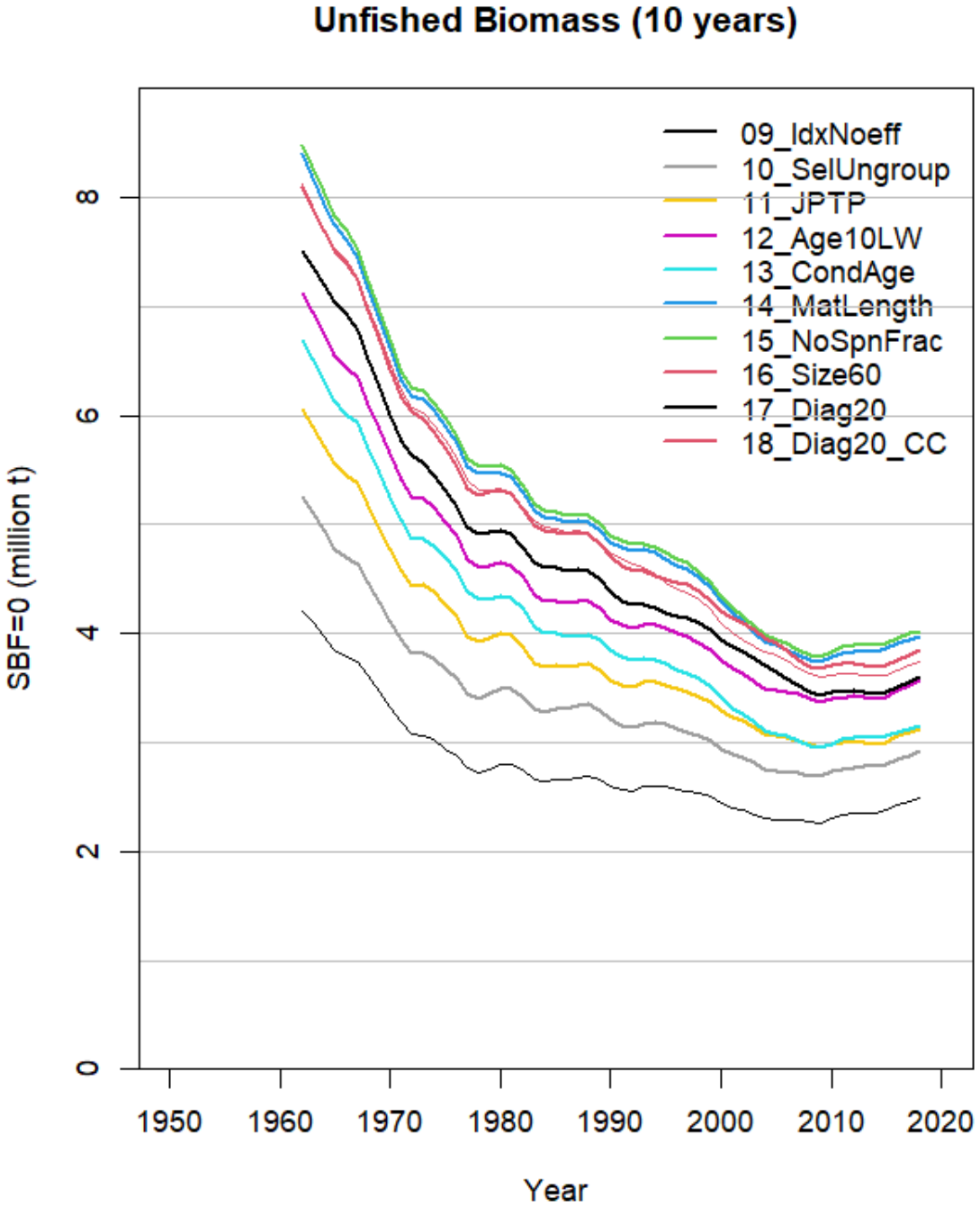

Relative Spawning Biomass
Scaled SB
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC
0.0
0.2
0.4
0.6
0.8
1.0
1950
1960
1970
1980
1990
2000
2010
2020

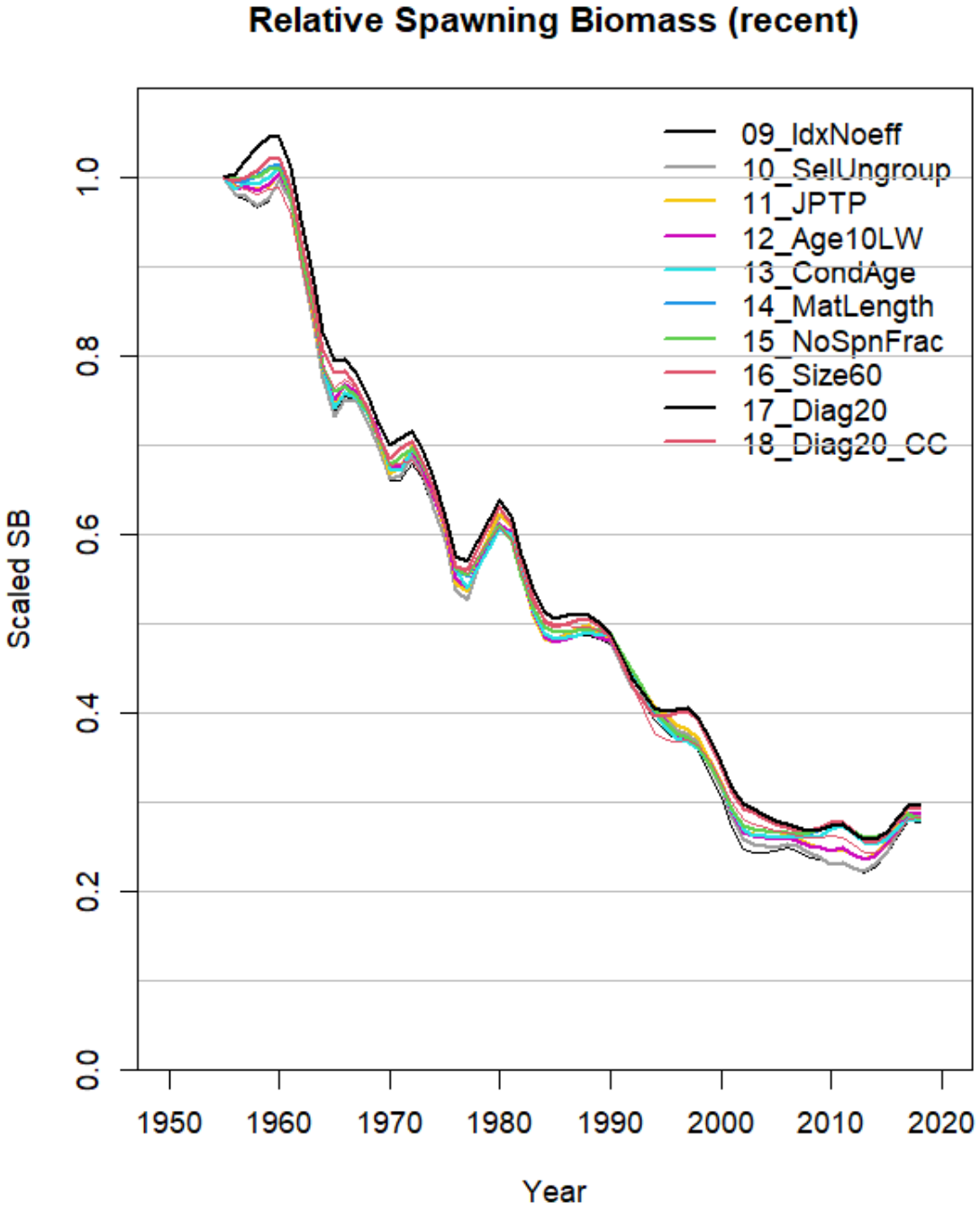

Relative Unfished Biomass
Scaled SBF=0
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1950
1960
1970
1980
1990
2000
2010
2020

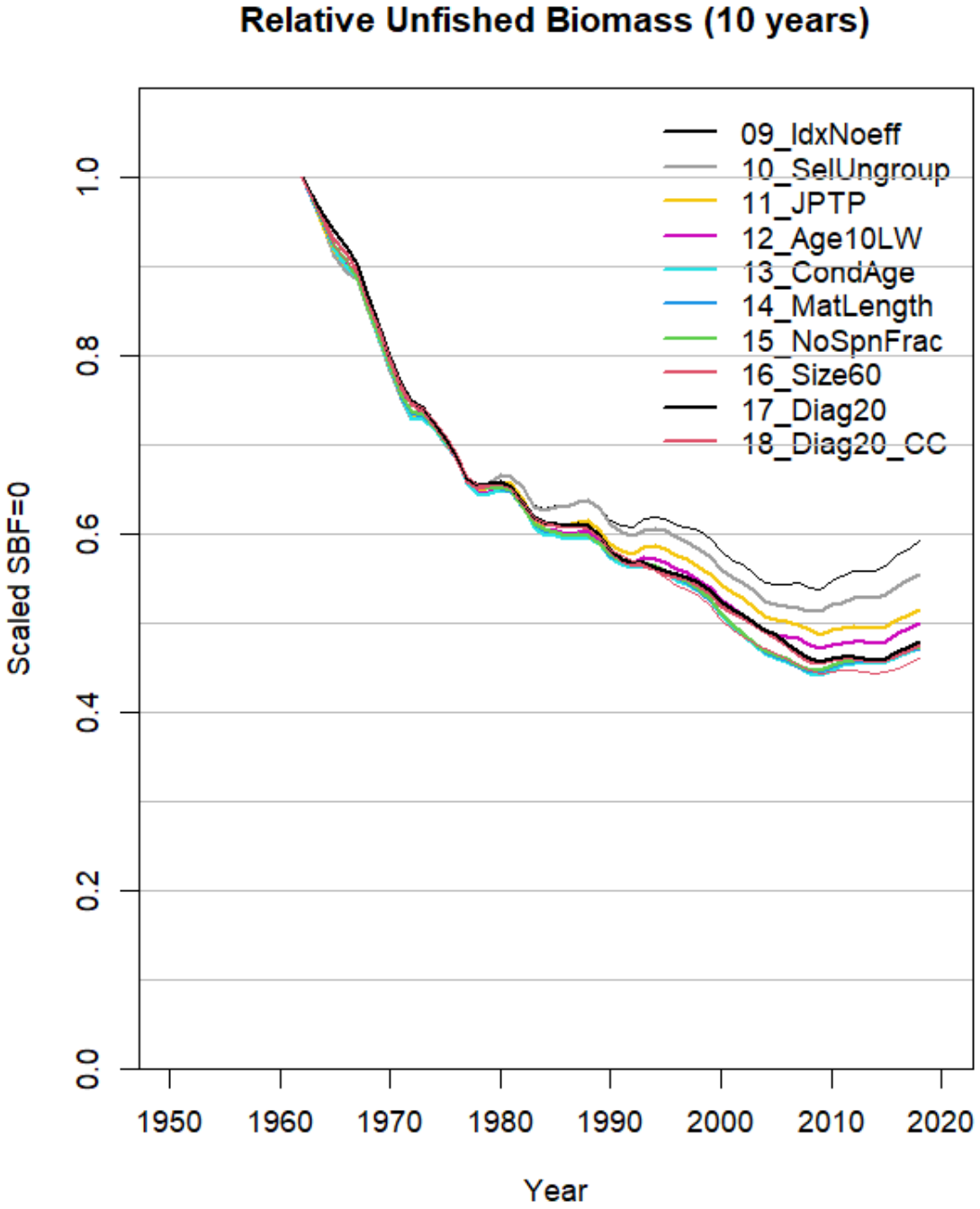

Depletion
SB / SBF=0
1.0
0.8
0.6
0.4
0.2
0.0
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC

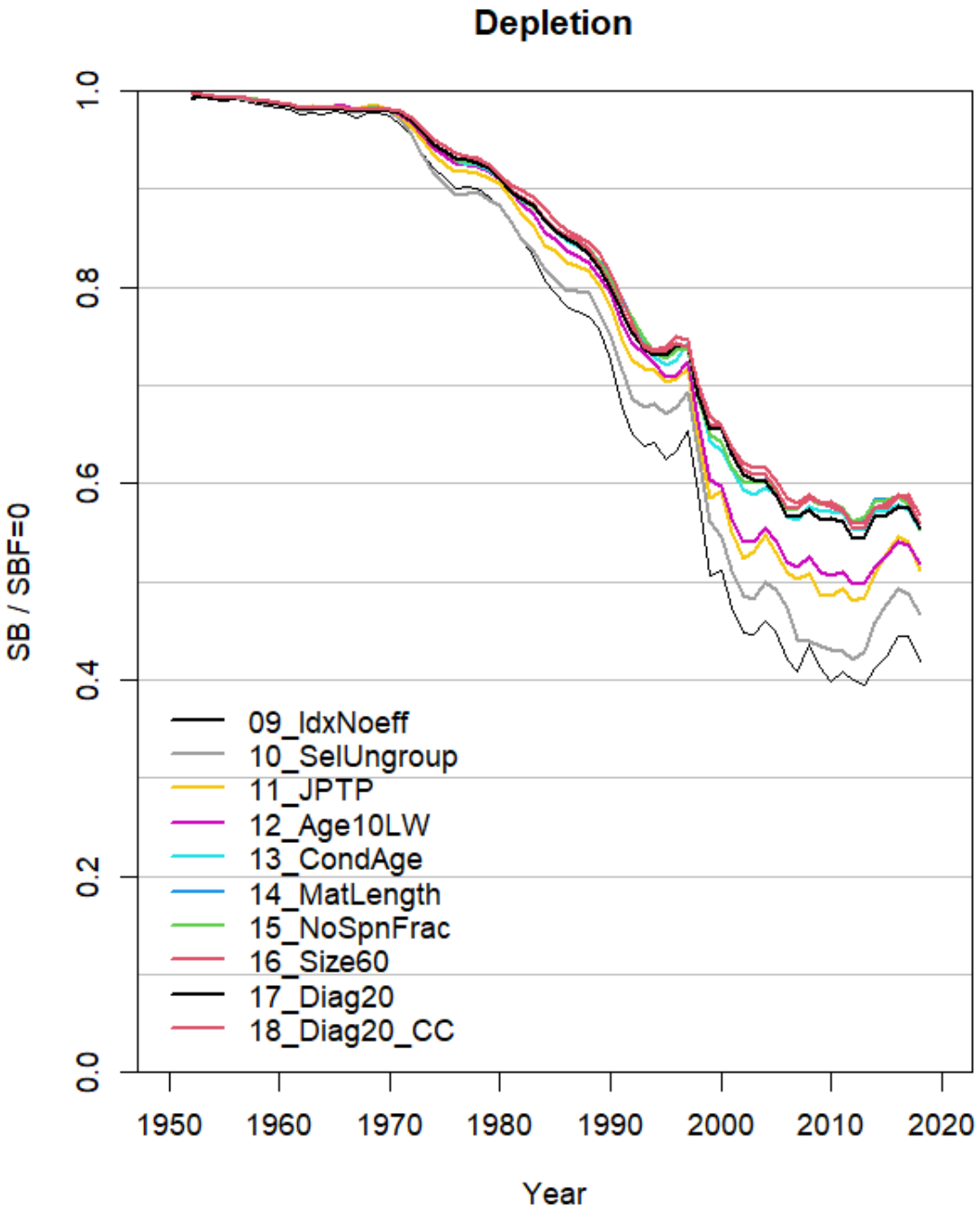

Depletion (averaged)
SB / SBF=0
1.0
0.8
0.6
0.4
0.2
0.0
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC

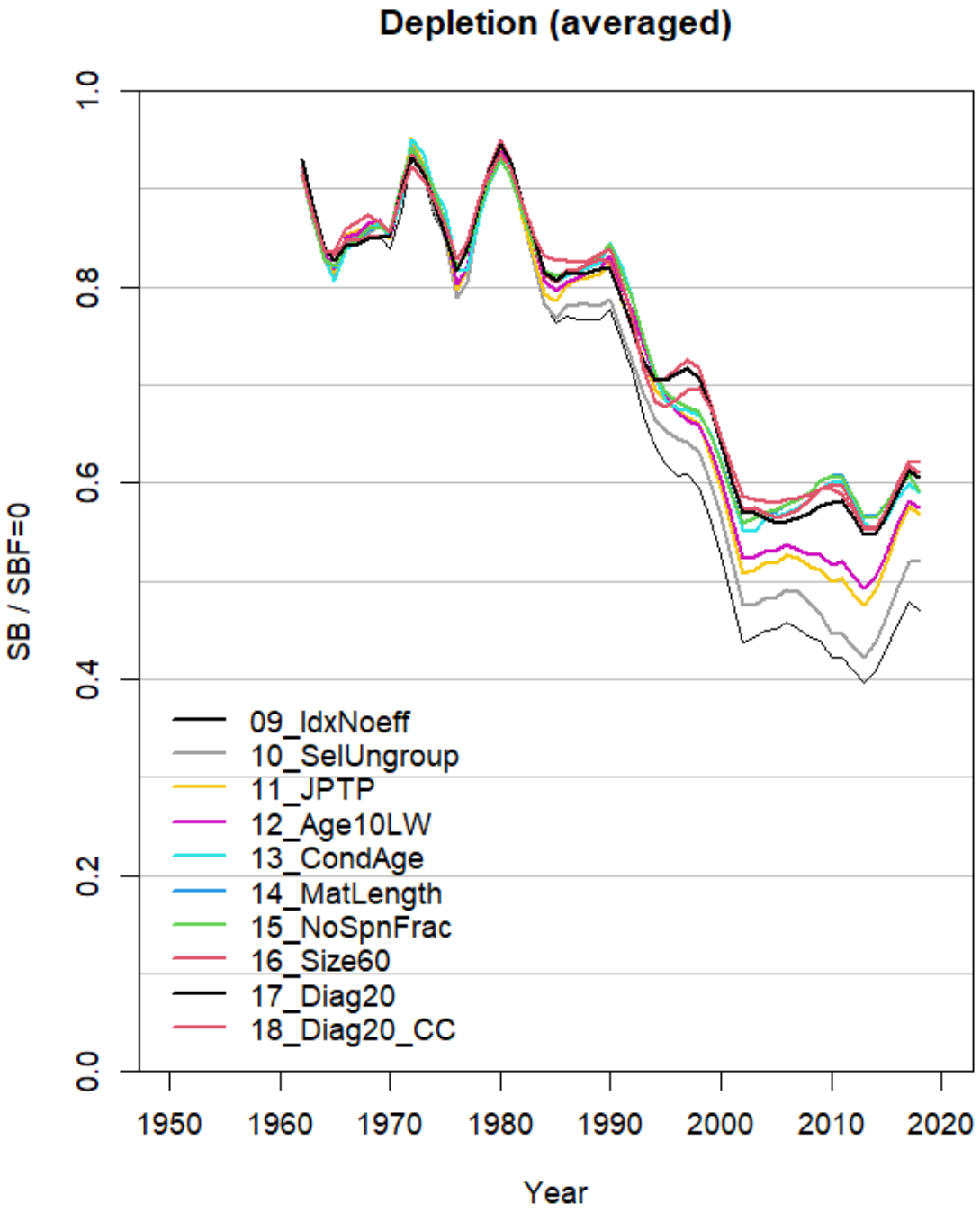

Spawning Biomass (recent)
SB (million t)
0
2
4
6
8
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC


Unfished Biomass (10 years)
SBF=0 (million t)
0
2
4
6
8
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC

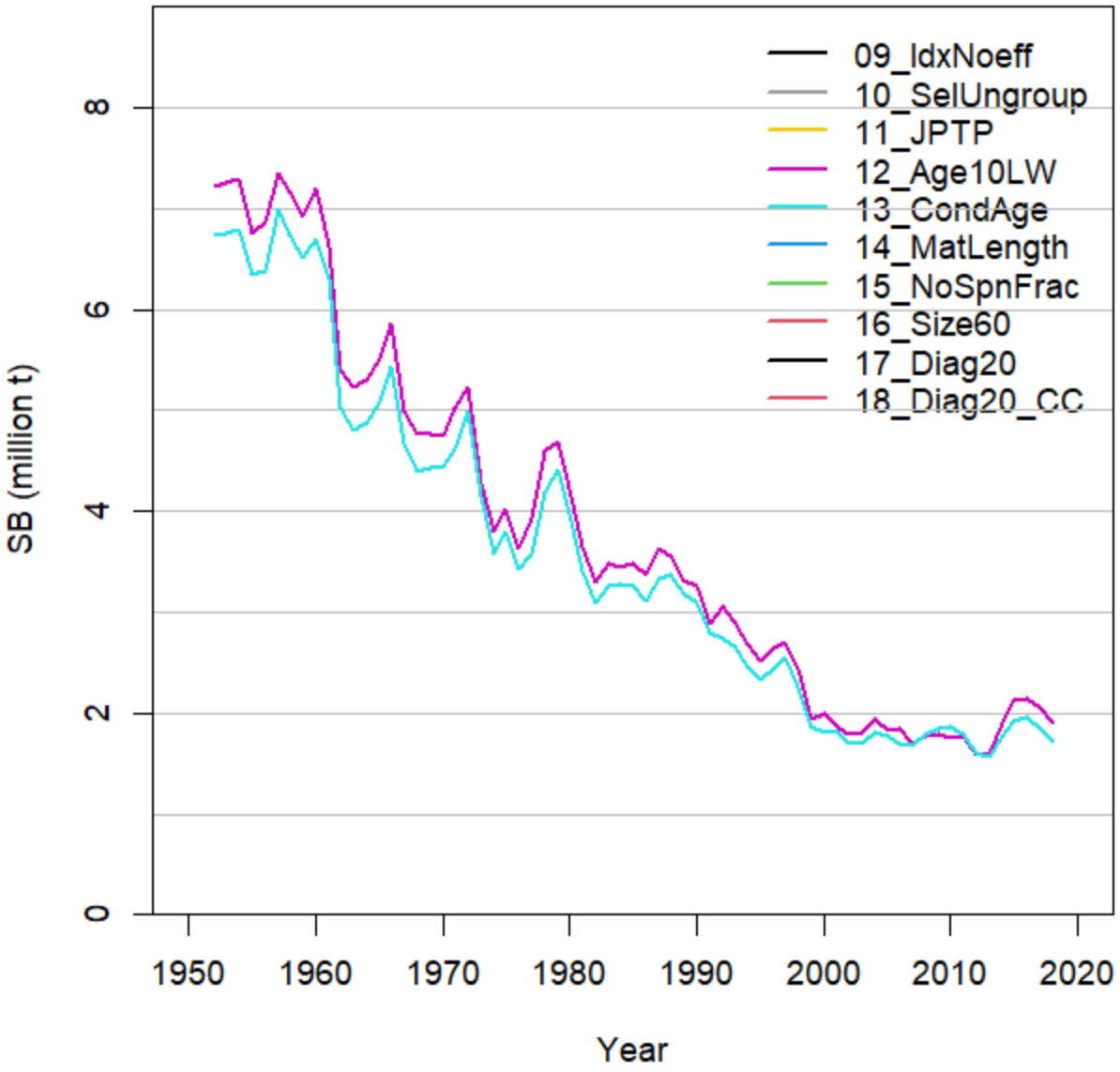

Relative Spawning Biomass (recent)
Scaled SB
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC
0.0
0.2
0.4
0.6
0.8
1.0
1950
1960
1970
1980
1990
2000
2010
2020


Relative Unfished Biomass (10 years)
Scaled SBF=0
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC
0.0
0.2
0.4
0.6
0.8
1.0
1950
1960
1970
1980
1990
2000
2010
2020

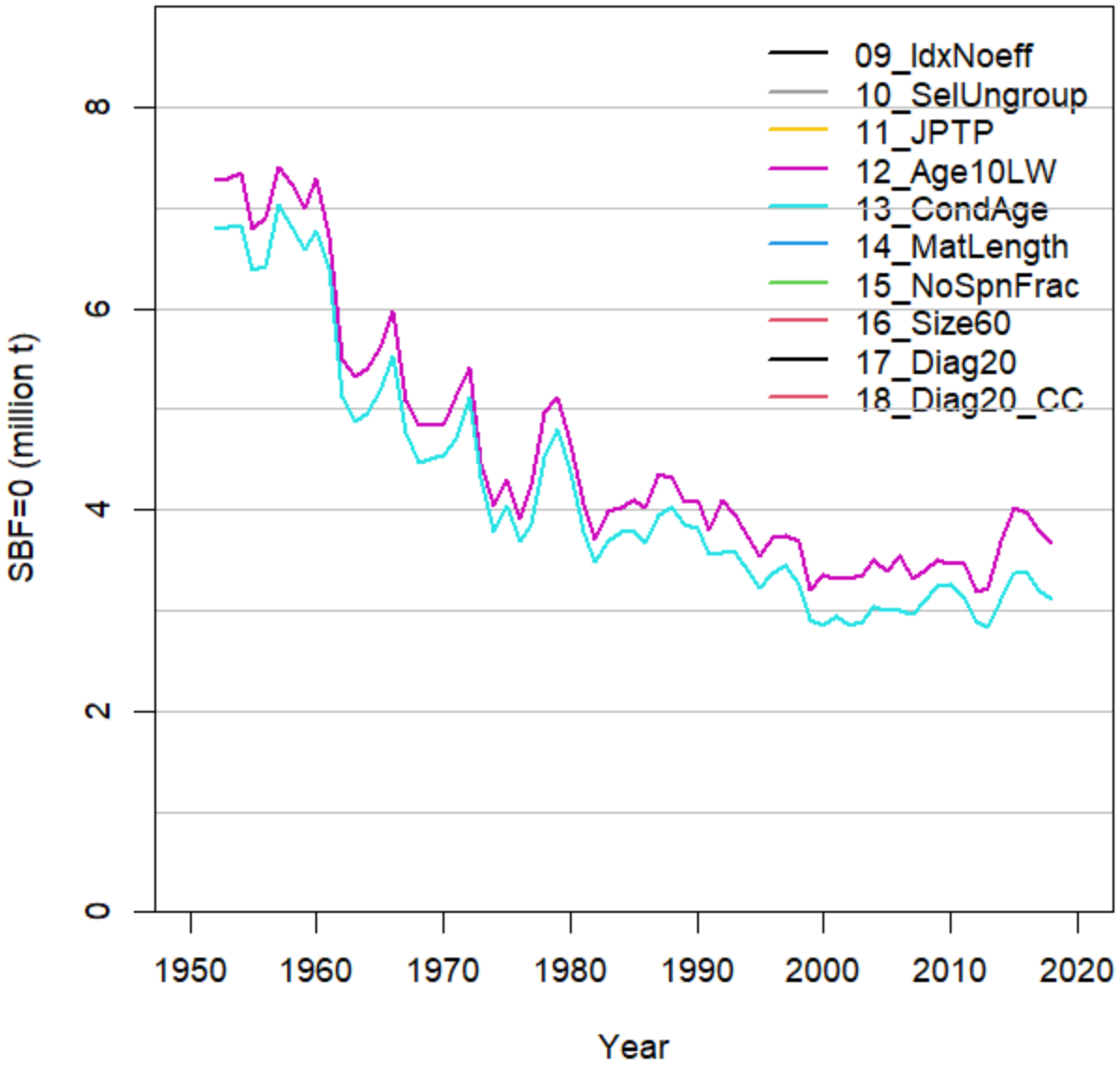

Depletion
SB / SBF=0
1.0
0.8
0.6
0.4
0.2
0.0
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC

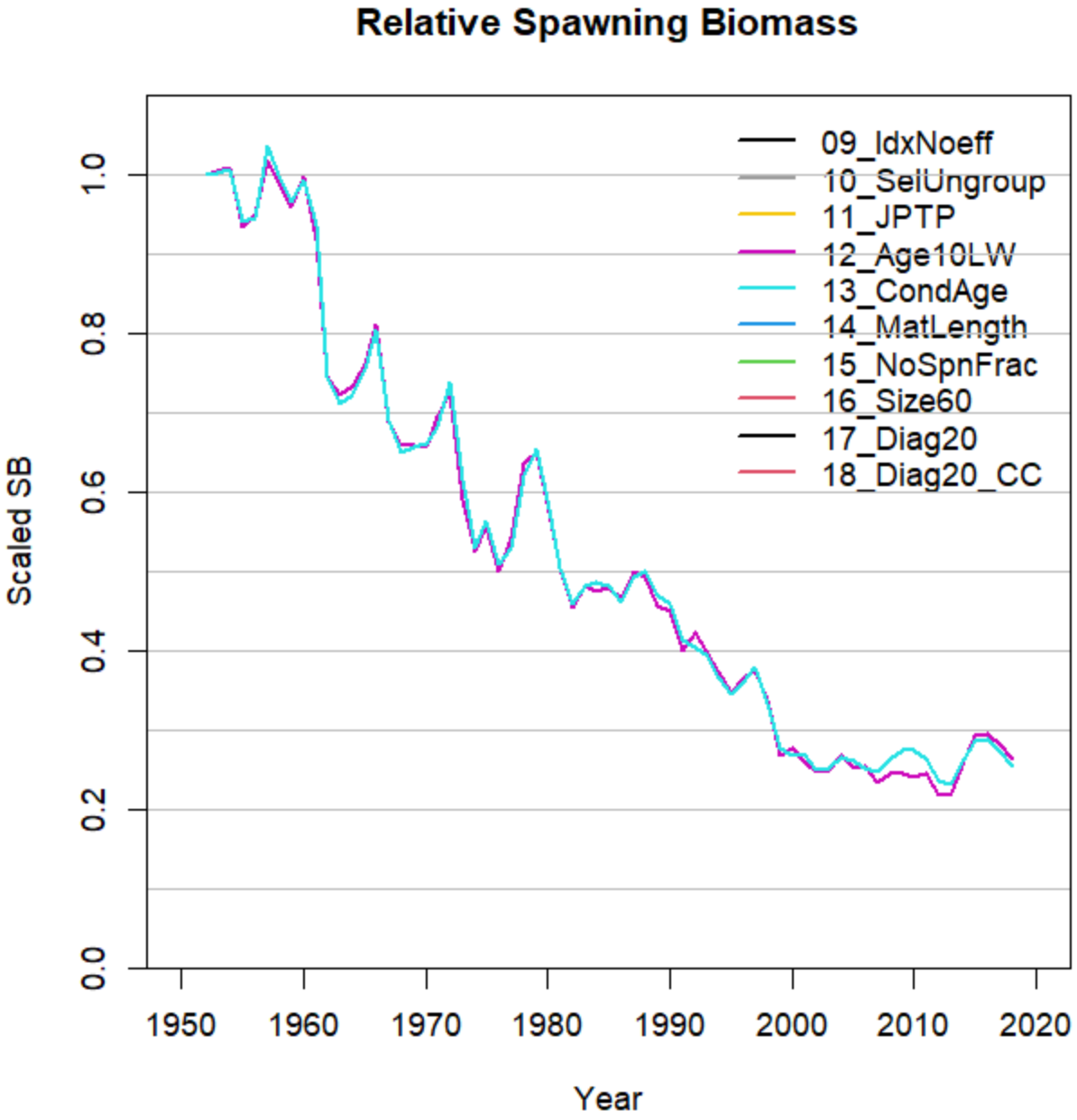

Depletion (averaged)
SB / SBF=0
1.0
0.8
0.6
0.4
0.2
0.0
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC

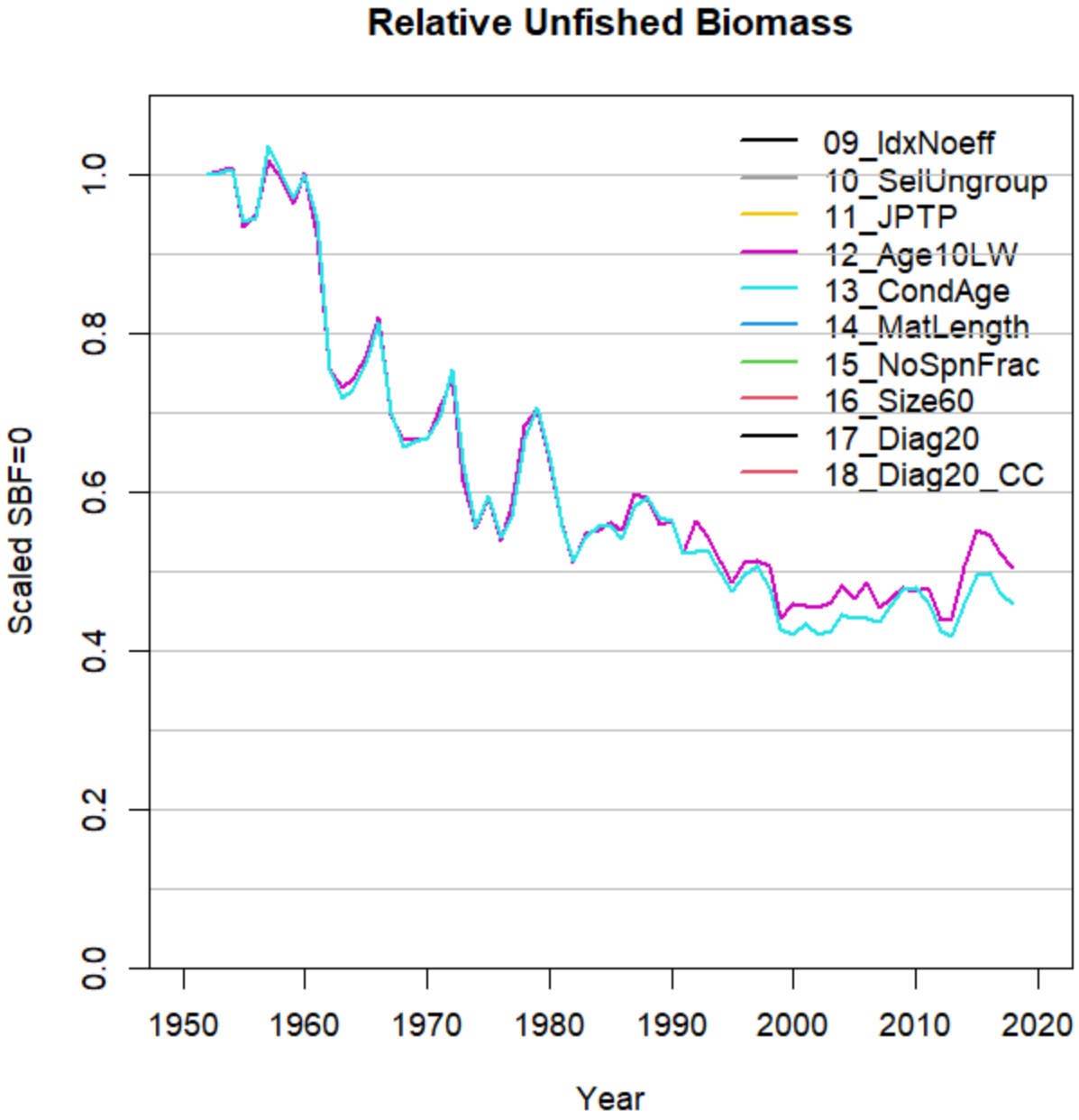
Spawning Biomass

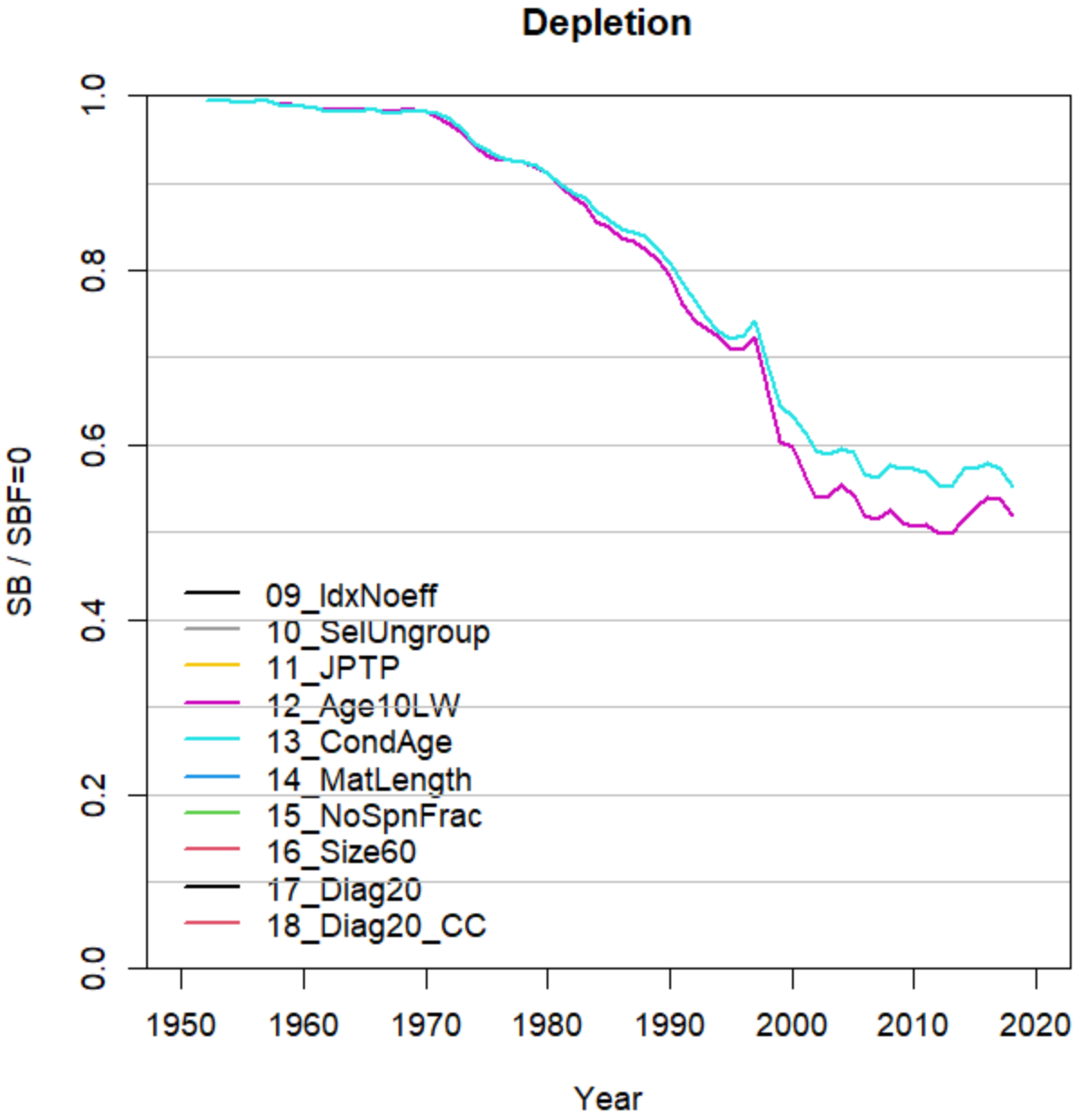


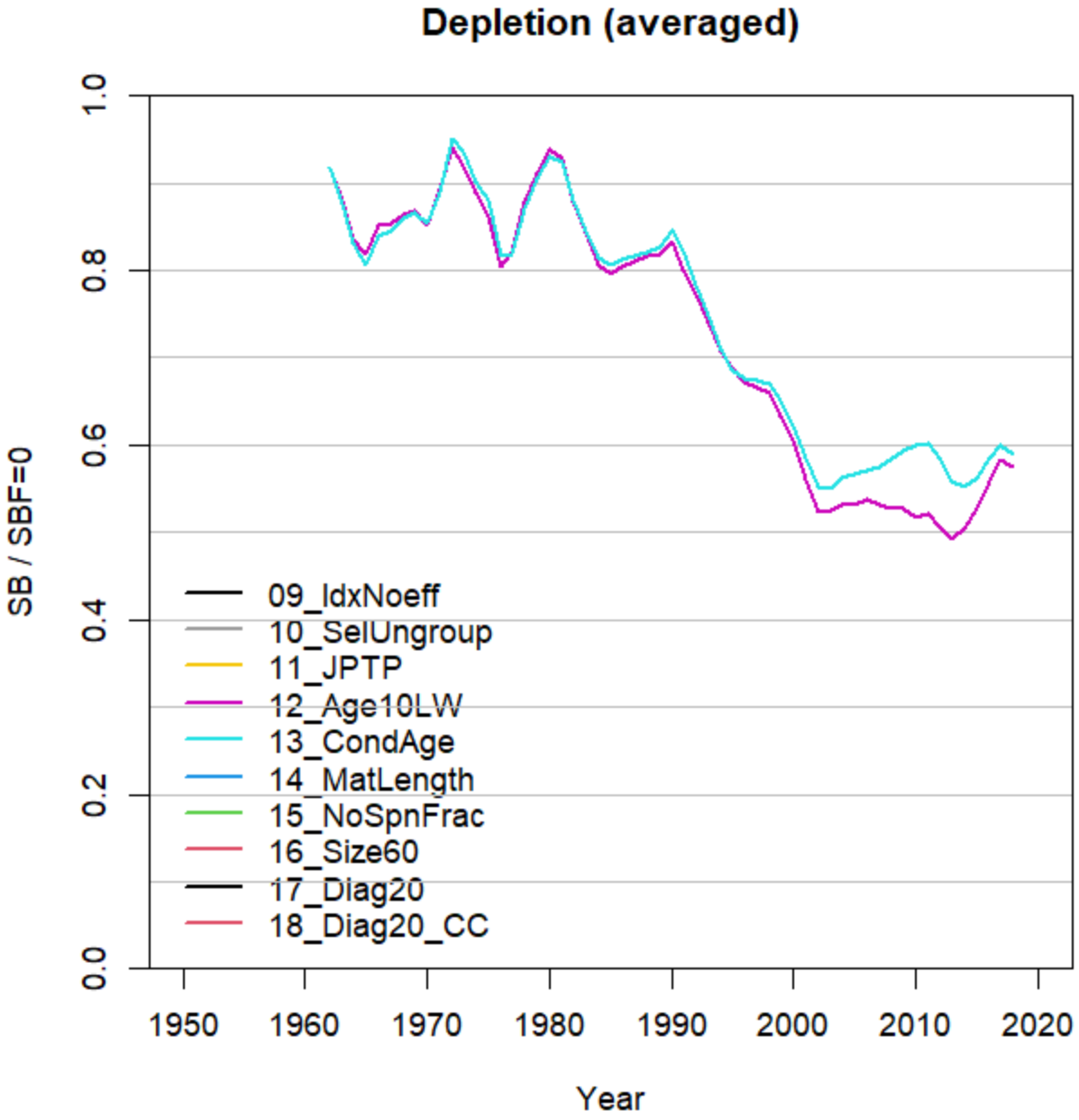
Unfished Biomass



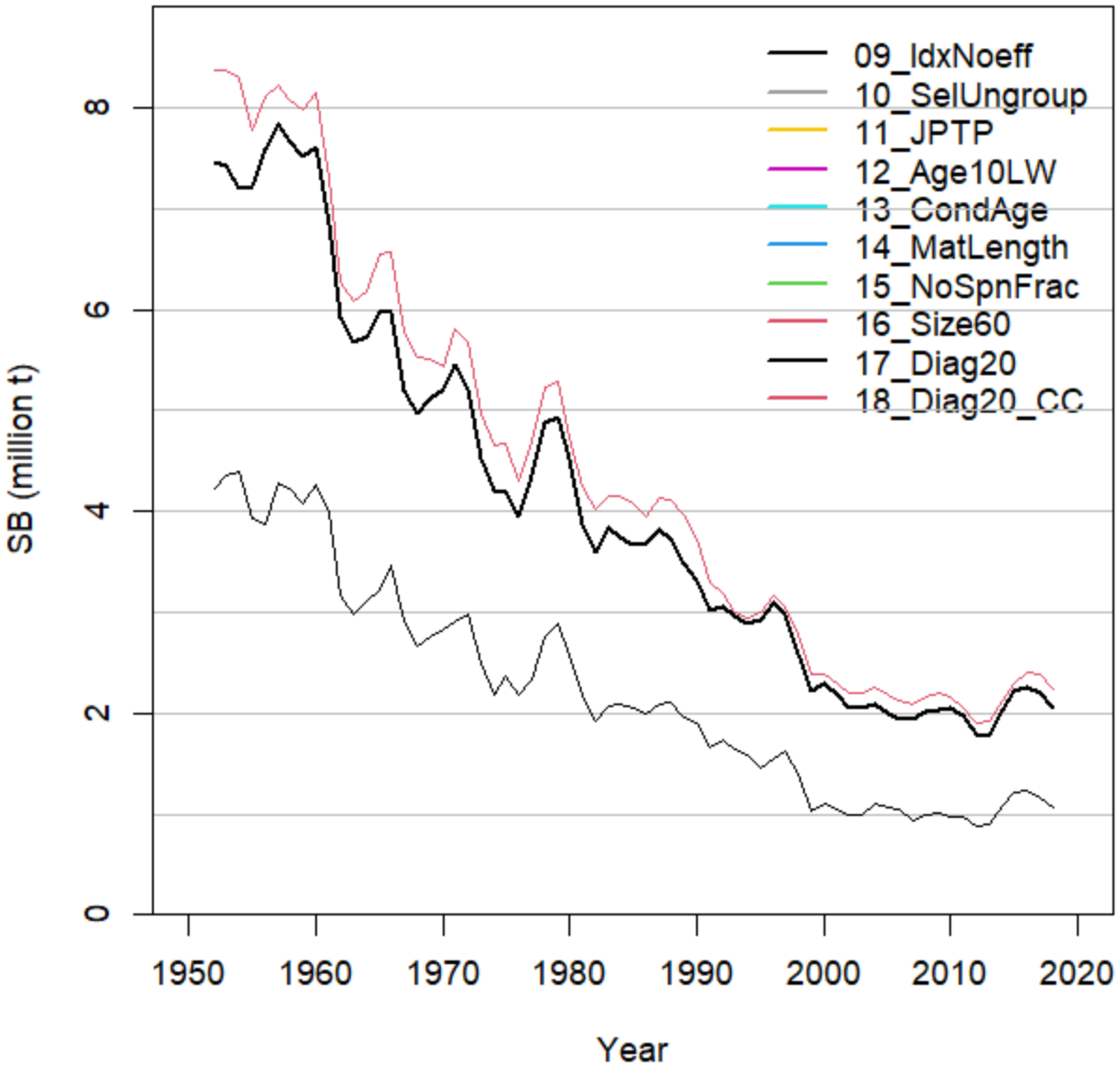

Relative Spawning Biomass
Scaled SB
0.0
0.2
0.4
0.6
0.8
1.0
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC


Relative Unfished Biomass
Scaled SBF=0
0.0
0.2
0.4
0.6
0.8
1.0
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC

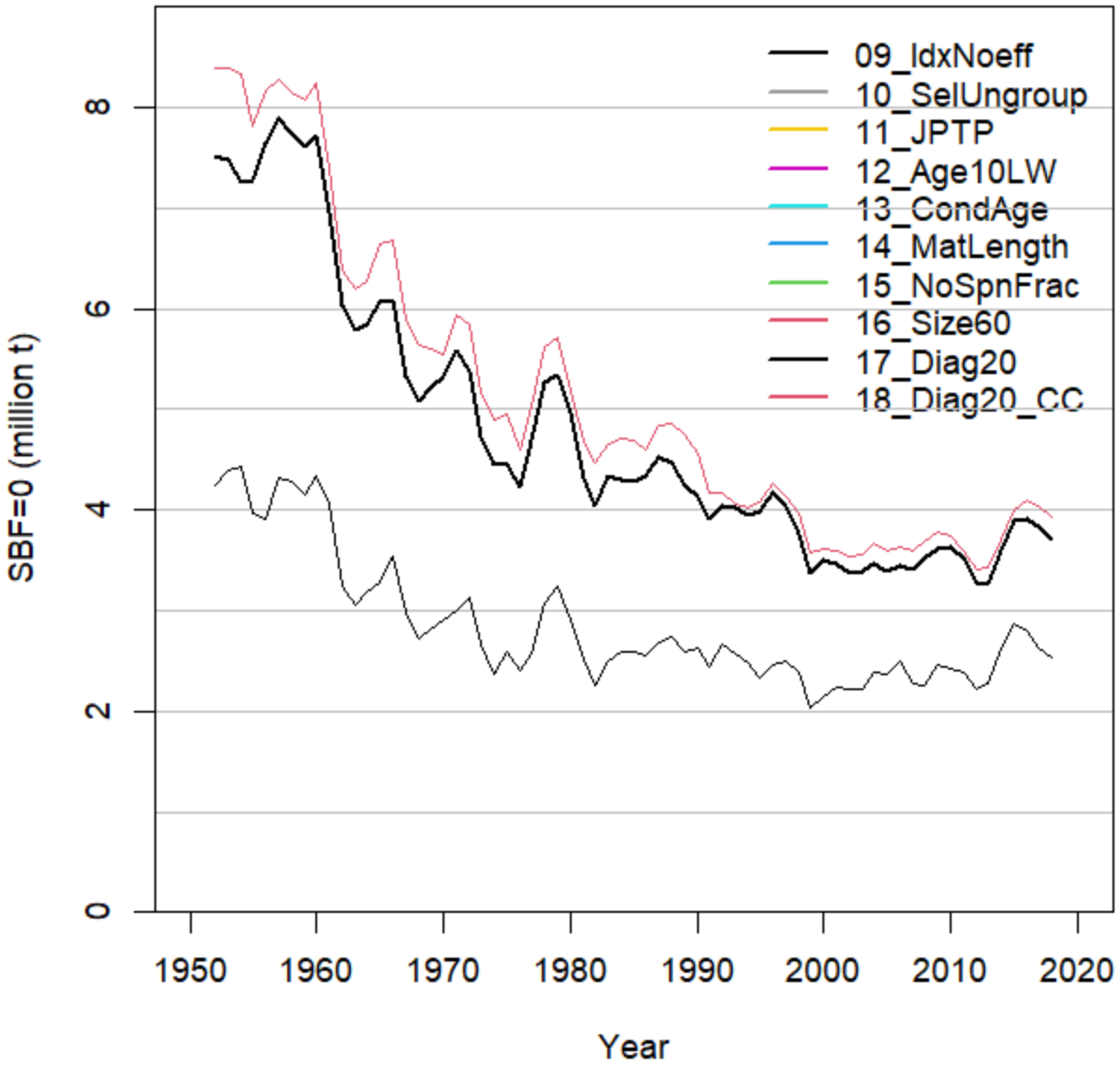

Depletion
SB / SBF=0
1.0
0.8
0.6
0.4
0.2
0.0
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC

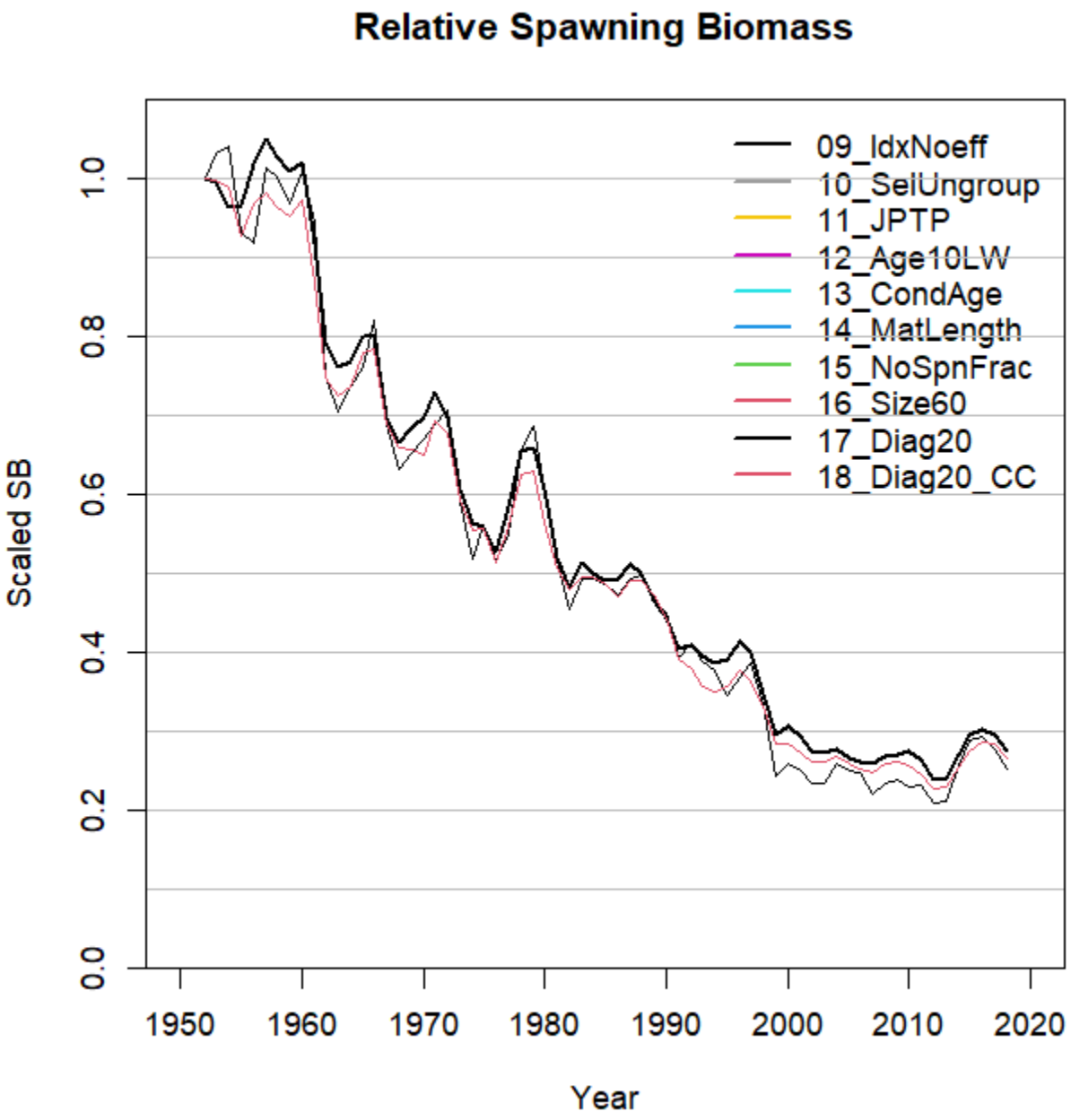

Depletion (averaged)
SB / SBF=0
1.0
0.8
0.6
0.4
0.2
0.0
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC

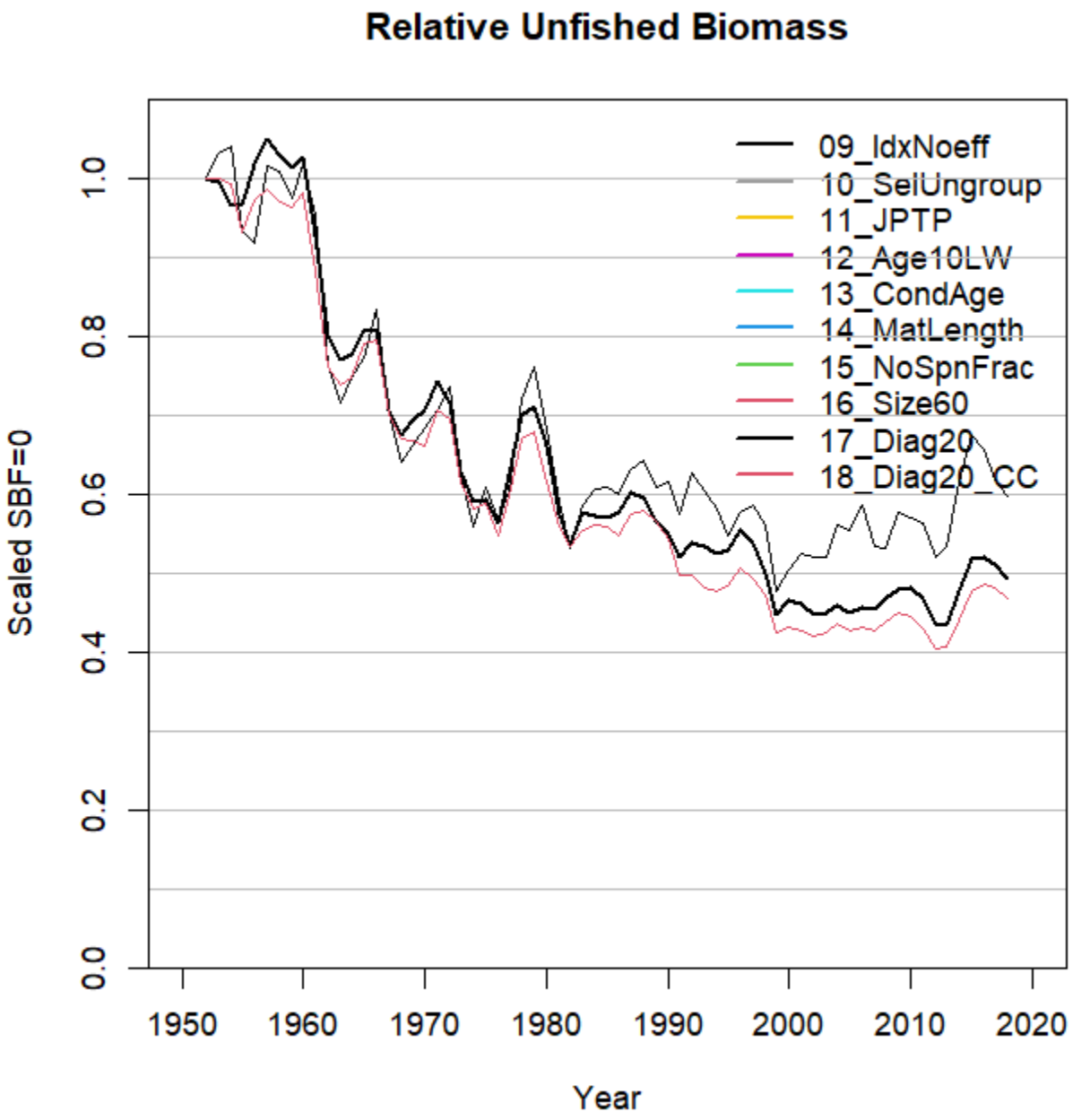
Spawning Biomass

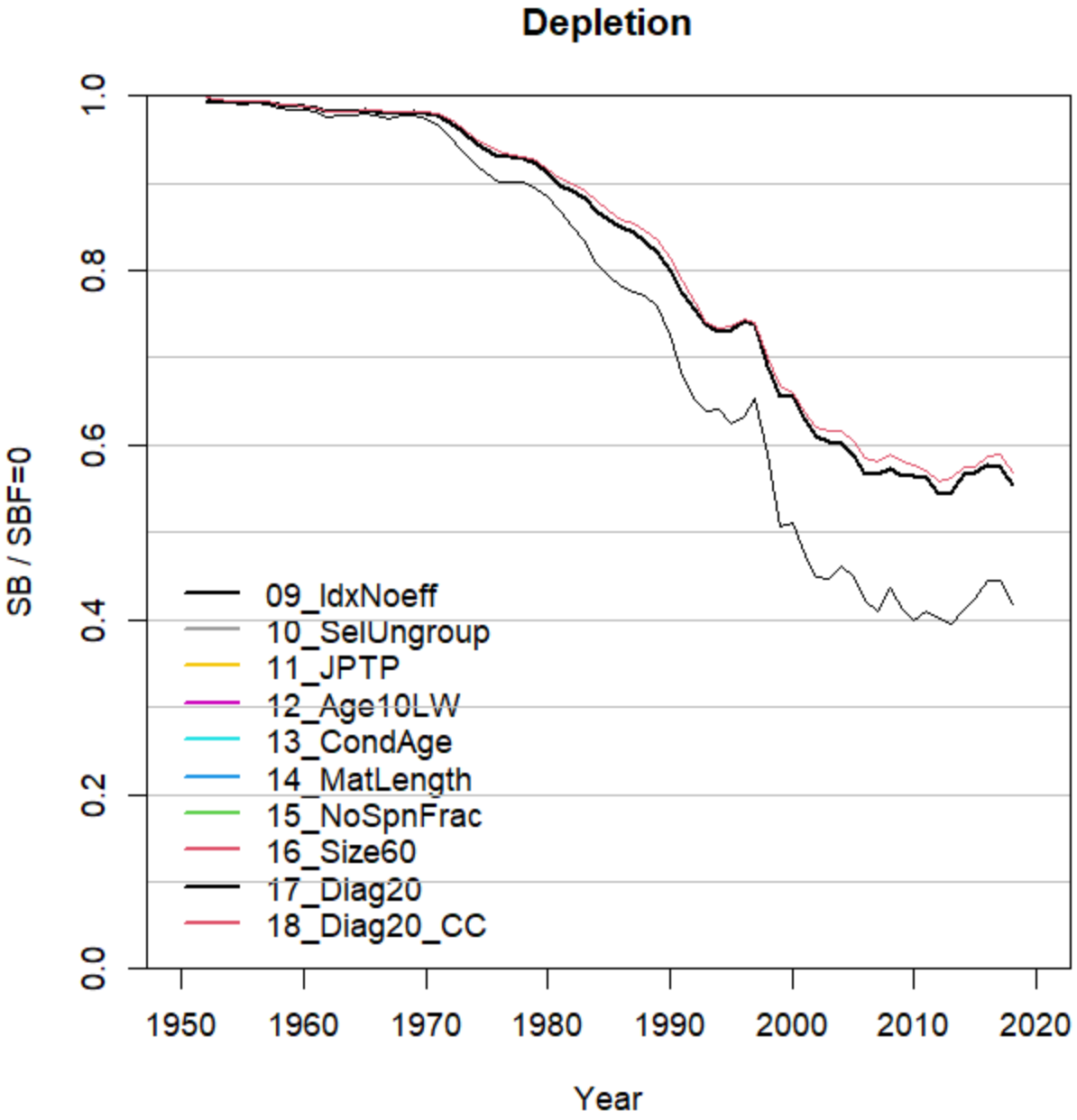


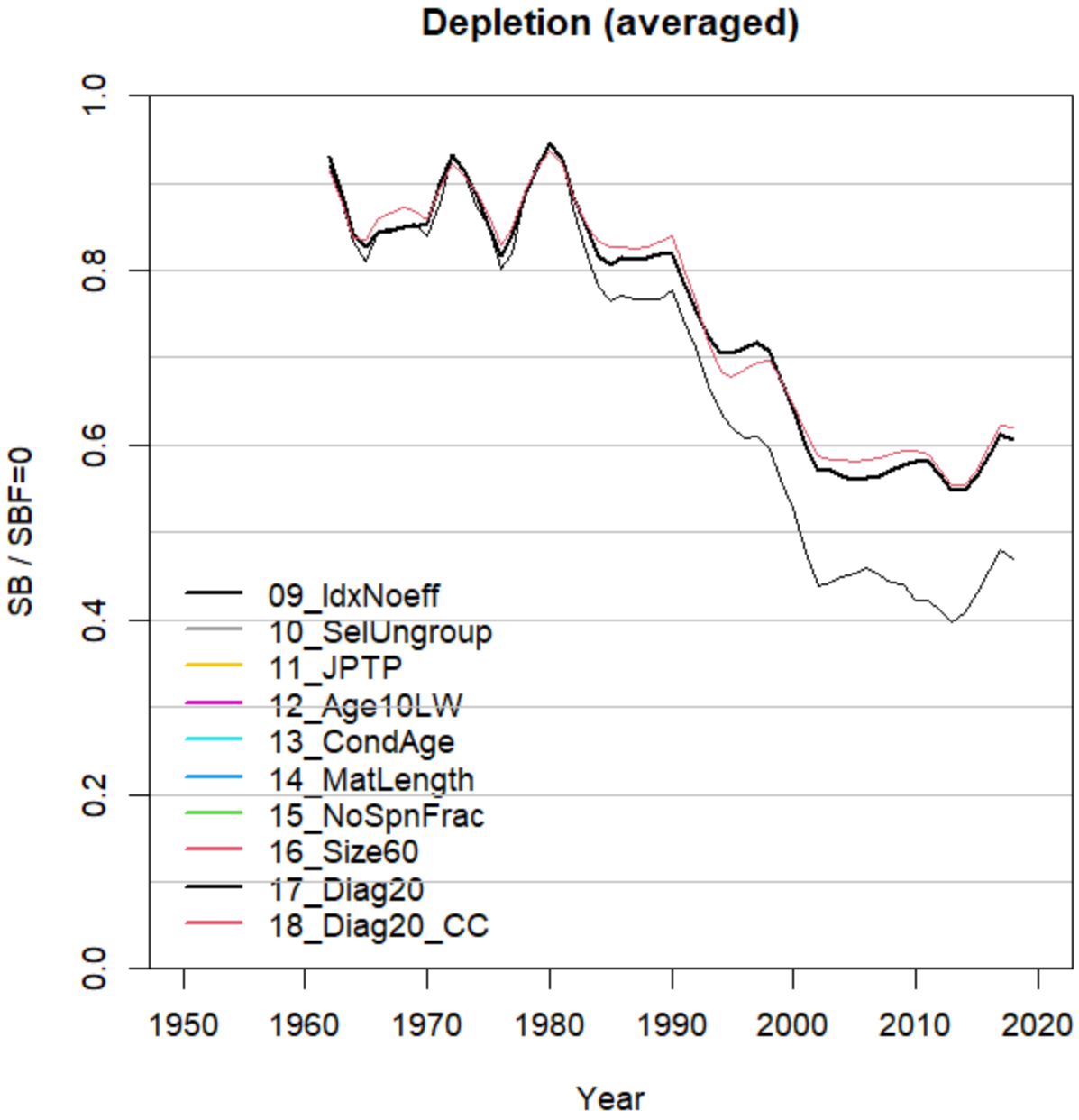
Unfished Biomass




Relative Spawning Biomass
Scaled SB
0.0
0.2
0.4
0.6
0.8
1.0
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC


Relative Unfished Biomass
Scaled SBF=0
0.0
0.2
0.4
0.6
0.8
1.0
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC


Depletion
SB / SBF=0
0.0
0.2
0.4
0.6
0.8
1.0
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC


Depletion (averaged)
SB / SBF=0
0.0
0.2
0.4
0.6
0.8
1.0
1950
1960
1970
1980
1990
2000
2010
2020
Year
09_IdxNoeff
10_SelUngroup
11_JPTP
12_Age10LW
13_CondAge
14_MatLength
15_NoSpnFrac
16_Size60
17_Diag20
18_Diag20_CC