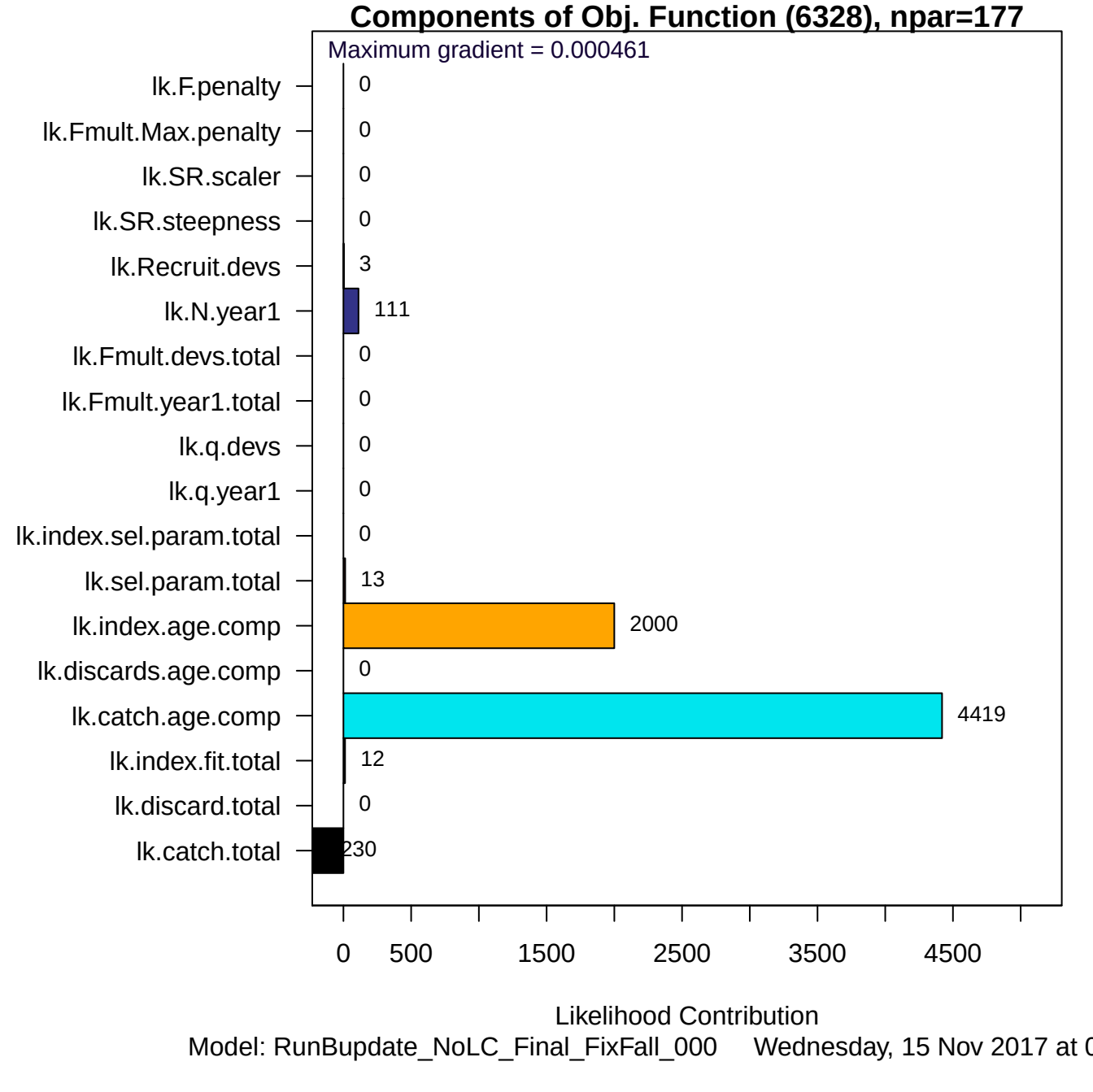
File = RunBupdate_NoLC_Final_FixFall_000.dat

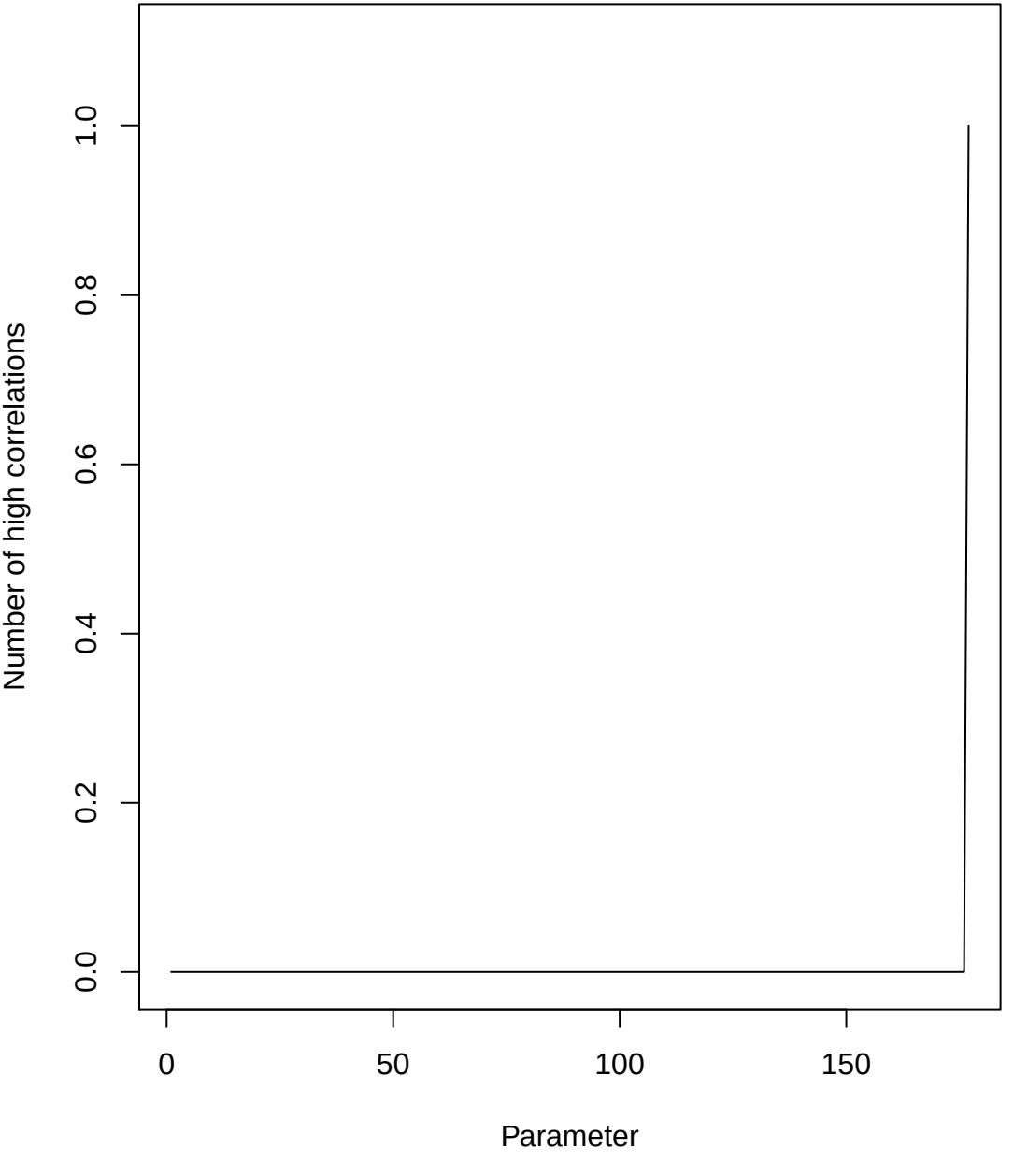
ASAP3 run on Wednesday, 15 Nov 2017 at 09:34:09

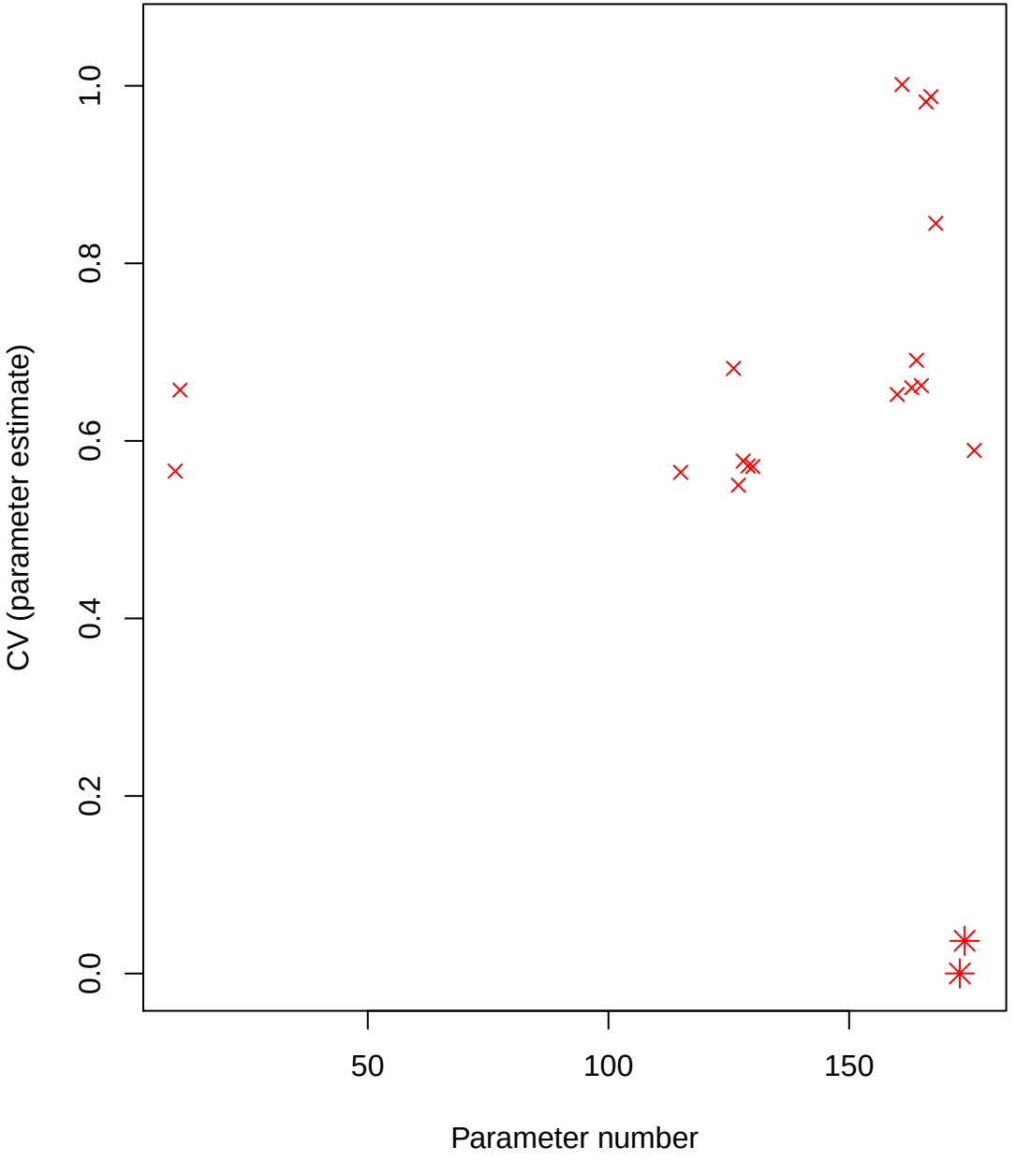
Methods WG\2017MeetingWoodsHoleNov13−17\Project1−RetroStateSpaceTra

ASAPplots version = 0.1.10

npar = 177, maximum gradient = 0.000461447

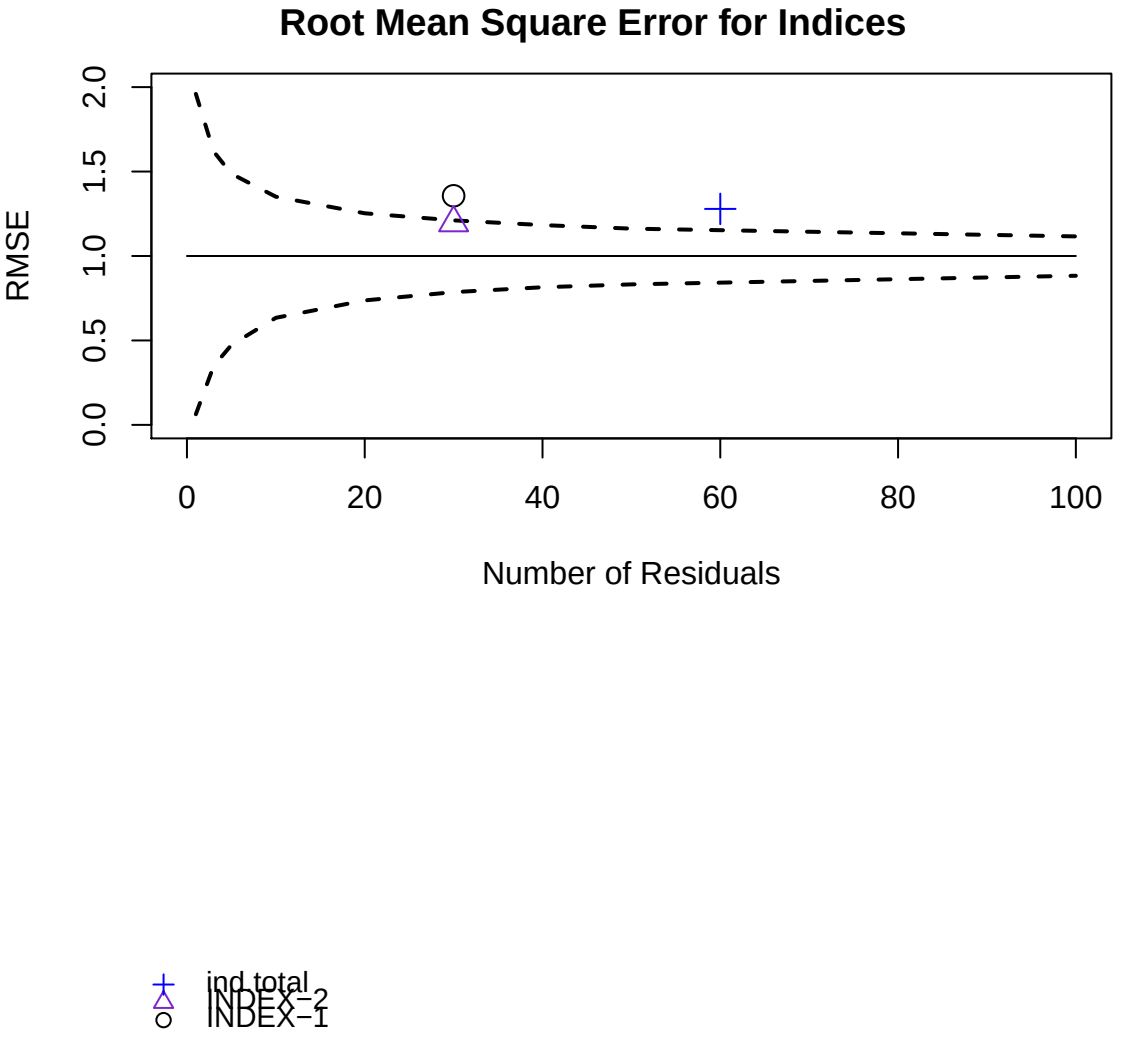

Components of Obj. Function (6328), npar=177
Maximum gradient = 0.000461
lk.F.penalty
lk.Fmult.Max.penalty
lk.SR.scaler
lk.SR.steepness
lk.Recruit.devs
lk.N.year1
lk.Fmult.devs.total
lk.Fmult.year1.total
lk.q.devs
lk.q.year1
lk.index.sel.param.total
lk.sel.param.total
lk.index.age.comp
lk.discards.age.comp
lk.catch.age.comp
lk.index.fit.total
lk.discard.total
lk.catch.total
0
0
0
0
3
111
0
0
0
0
0
13
2000
0
4419
12
0
230
0
500
1500
2500
3500
4500
Likelihood Contribution
Model: RunBupdate_NoLC_Final_FixFall_000 Wednesday, 15 Nov 2017 at 0

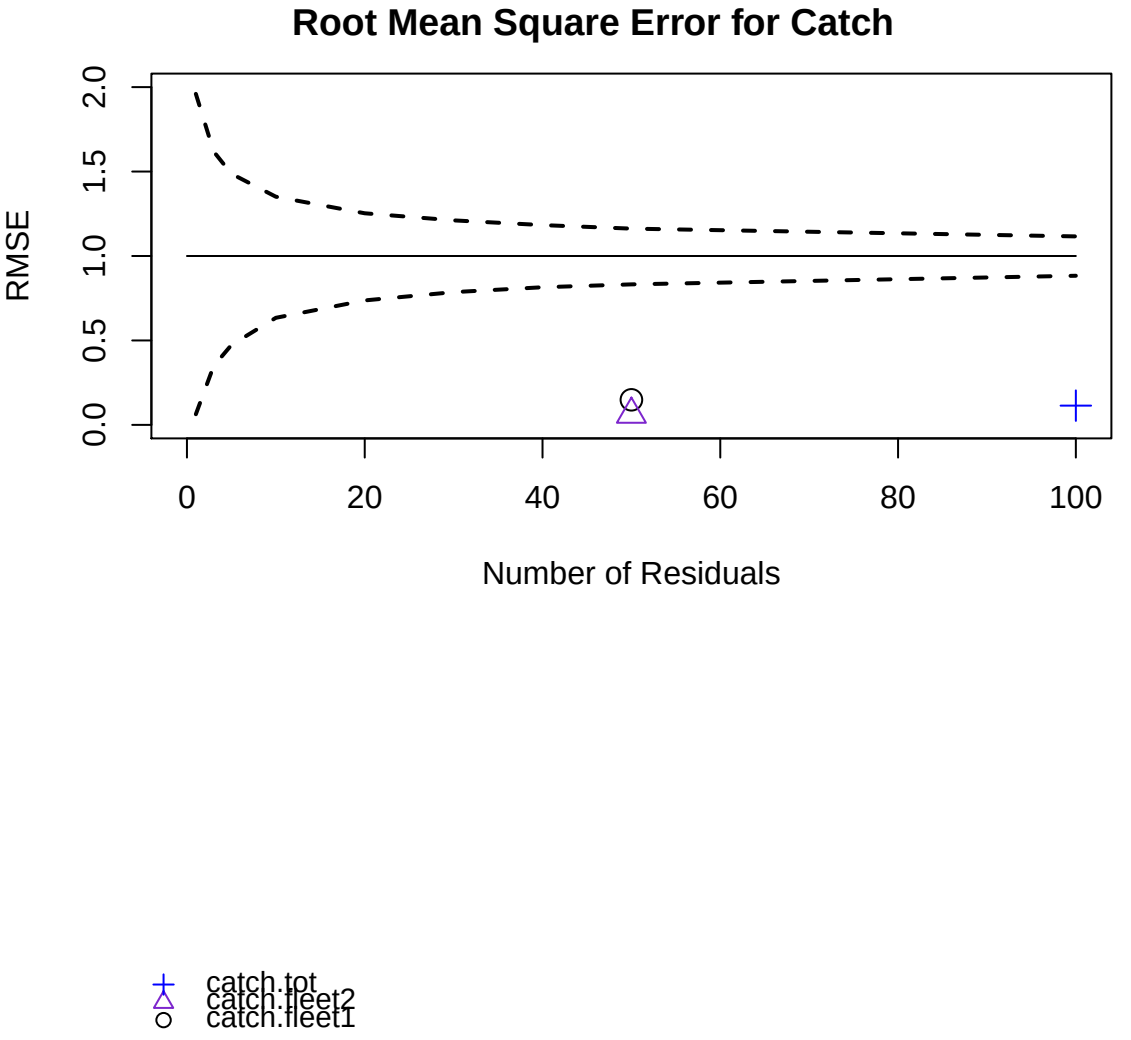

Number of high correlations
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
Parameter


CV (parameter estimate)
0.0
0.2
0.4
0.6
0.8
1.0
50
100
150
Parameter number

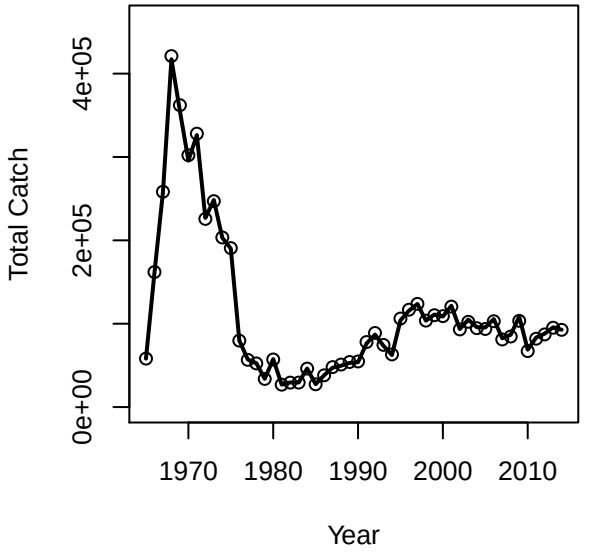
Root Mean Square Error computed from Standardized Residuals

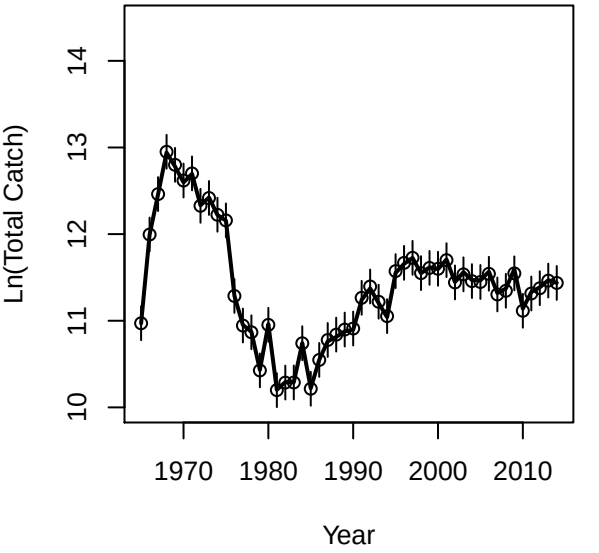
Component	# resids	RMSE
catch.fleet1	50	0.149
catch.fleet2	50	0.0623
catch.tot	100	0.114
discard.fleet1	0	0
discard.fleet2	0	0
discard.tot	0	0
ind01	30	1.36
ind02	30	1.2
ind.total	60	1.28
N.year1	7	0.546
Fmult.year1	0	0
Fmult.devs.fleet1	0	0
Fmult.devs.fleet2	0	0
Fmult.devs.total	0	0
recruit.devs	50	0.695
fleet.sel.params	8	1.91
index.sel.params	0	0
q.year1	0	0
q.devs	0	0
SR.steepness	0	0
SR.scaler	0	0

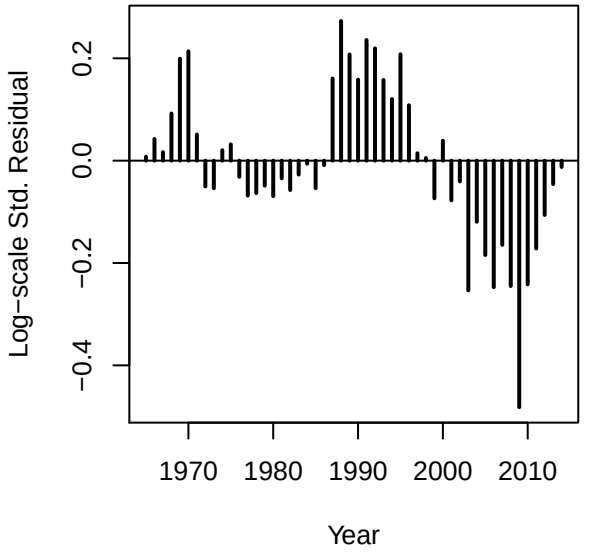

Root Mean Square Error for Indices
RMSE
0.0
0.5
1.0
1.5
2.0
0
20
40
60
80
100
Number of Residuals
ind total
INDEX−2
INDEX−1

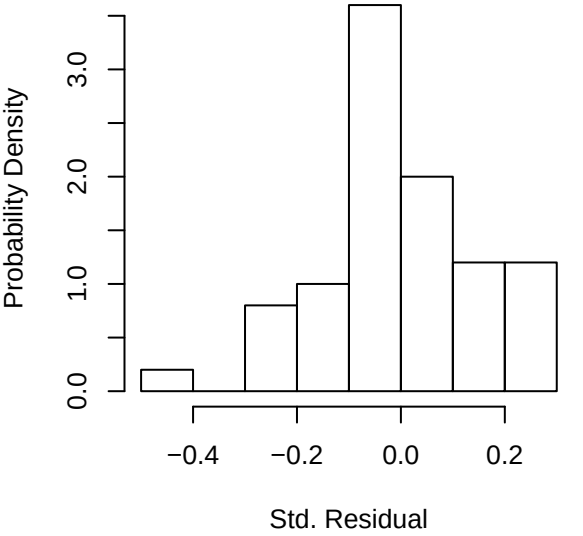

Root Mean Square Error for Catch
RMSE
0.0
0.5
1.0
1.5
2.0
0
20
40
60
80
100
Number of Residuals
catch.tot
catch.fleet2
catch.fleet1

Fleet 1 Catch (FLEET−1)

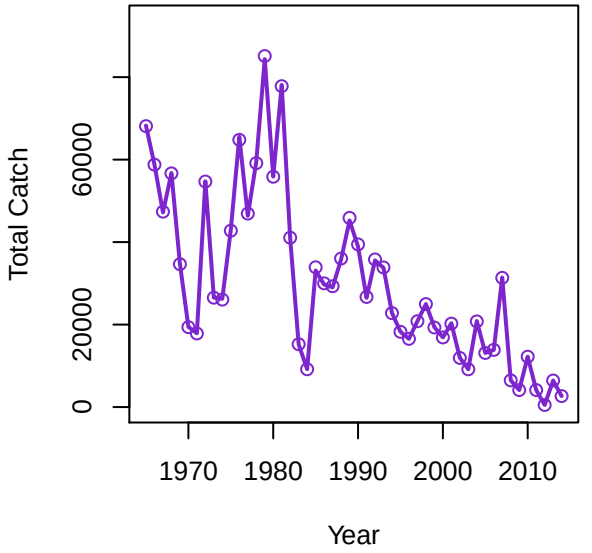


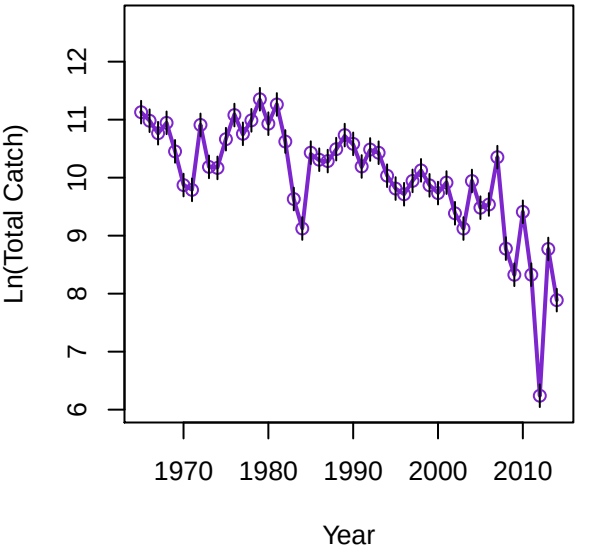


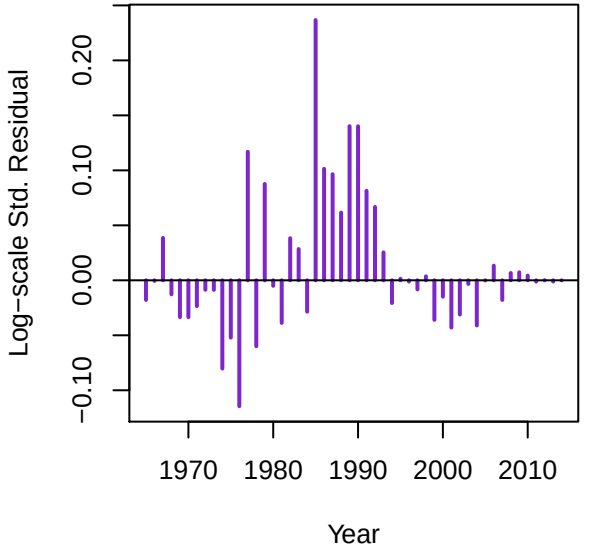


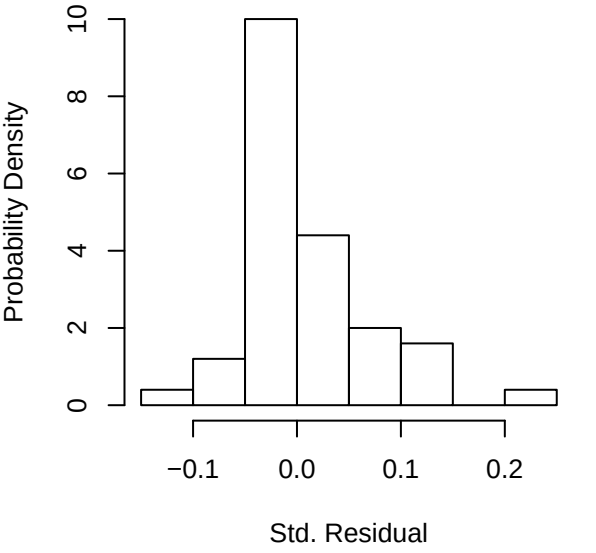


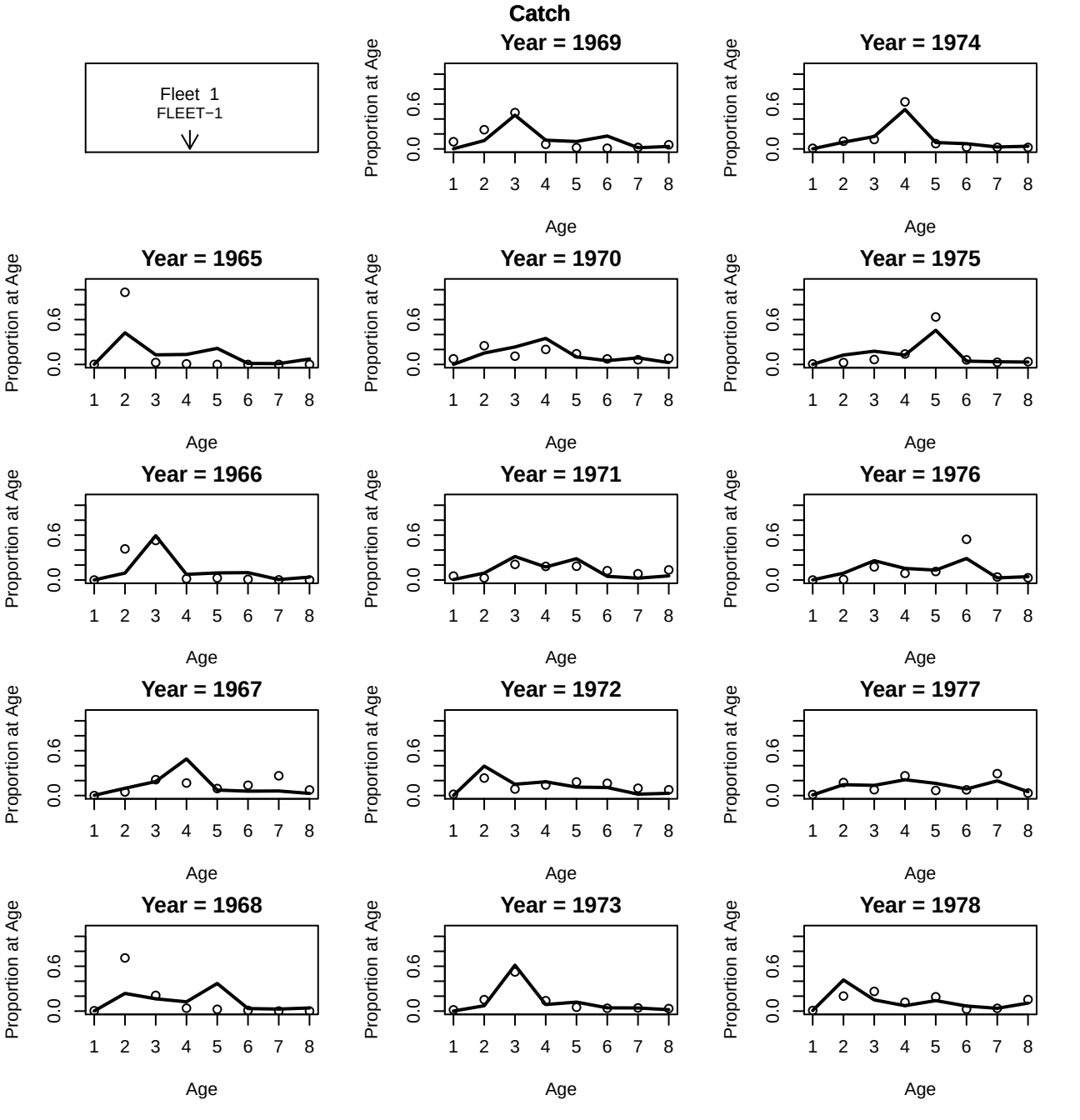
Fleet 2 Catch (FLEET−2)

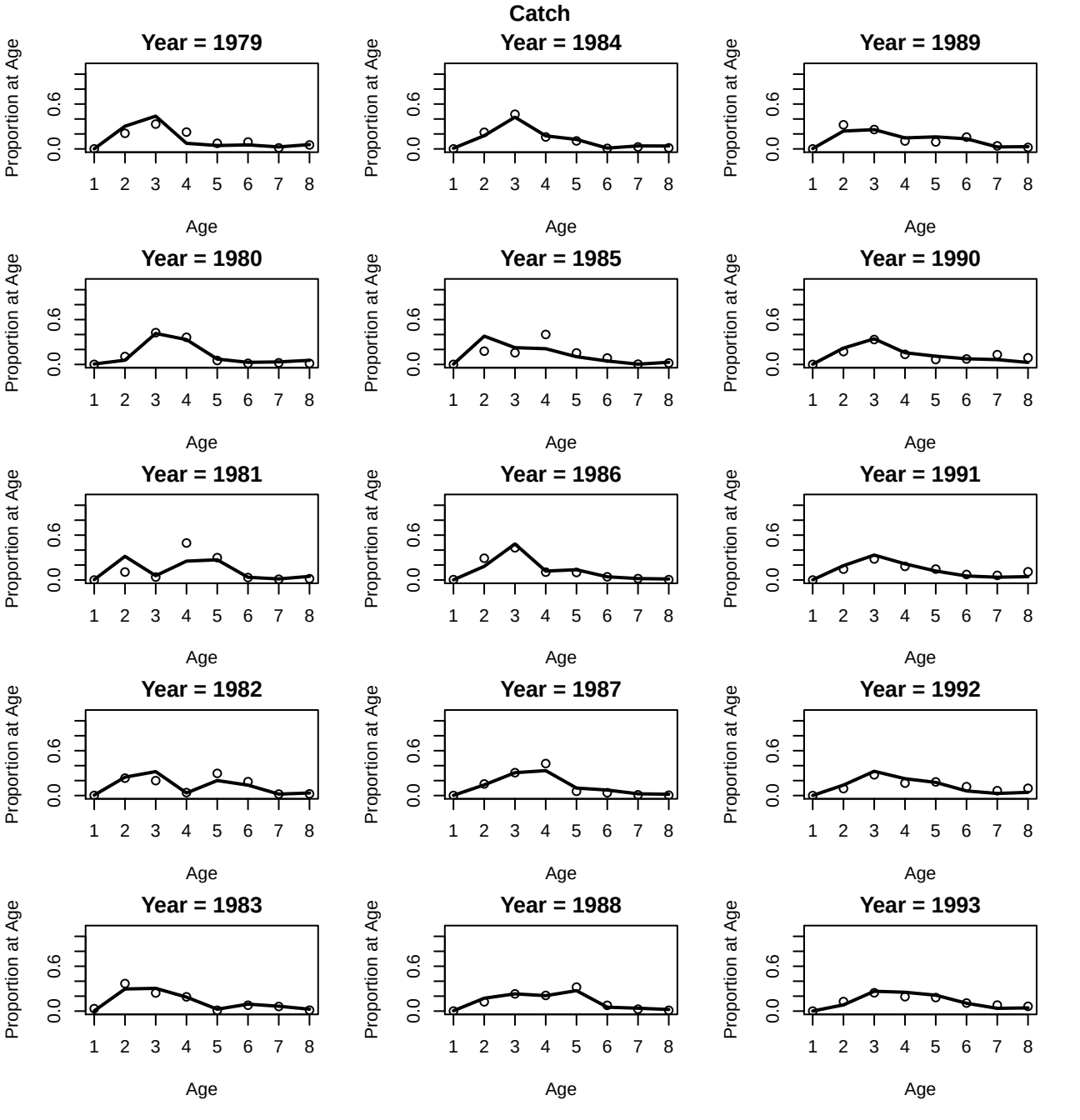


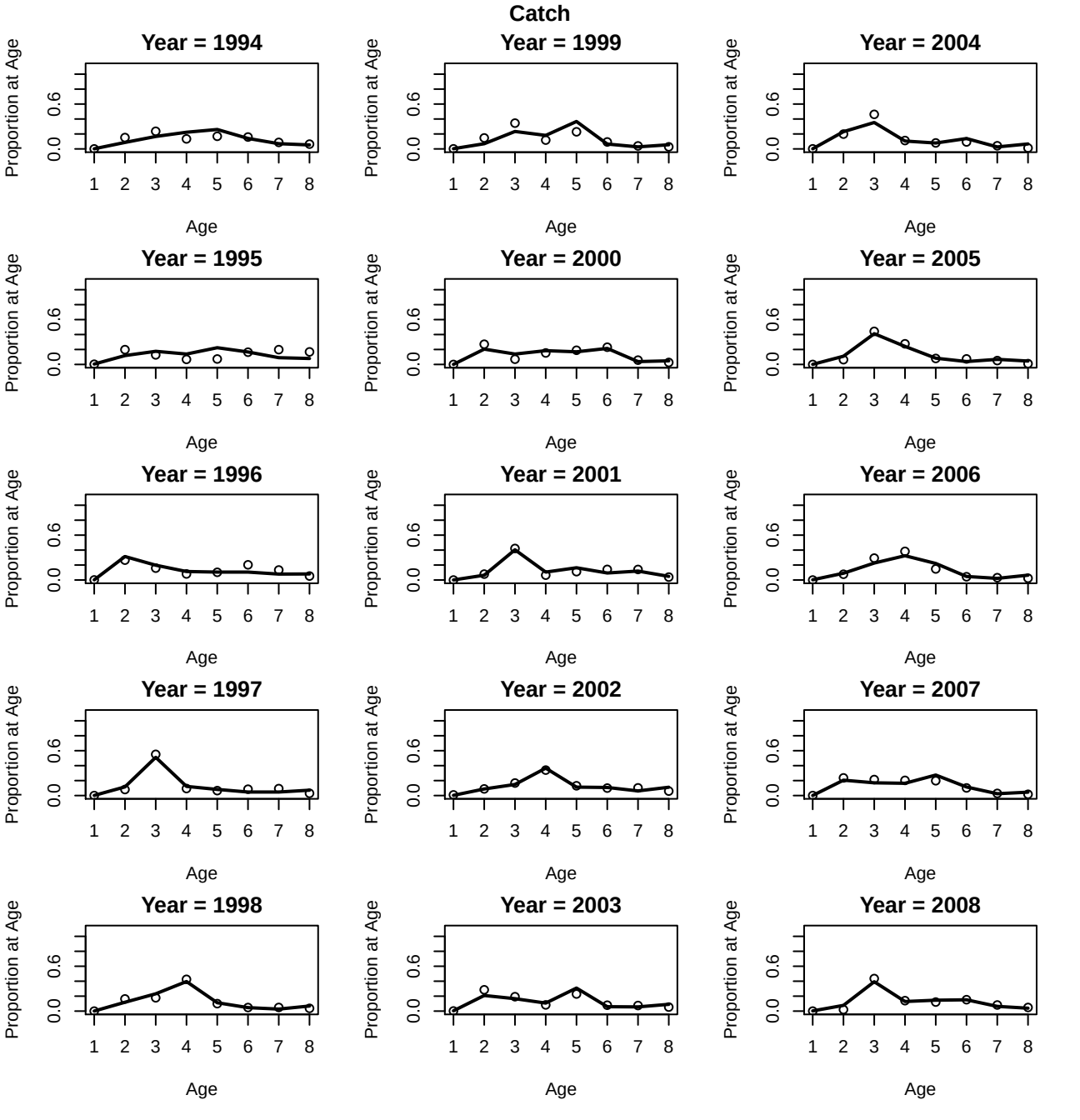


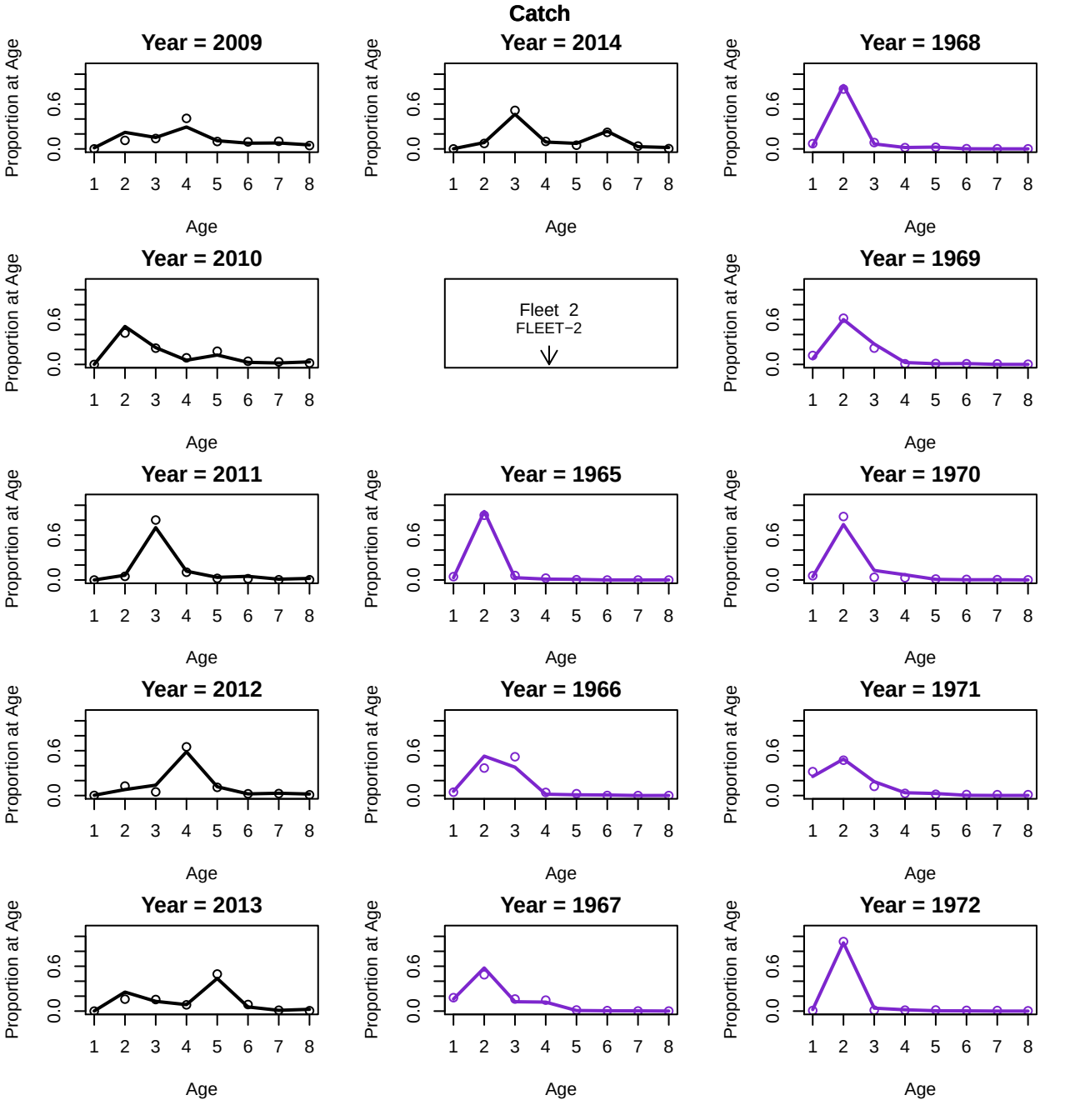


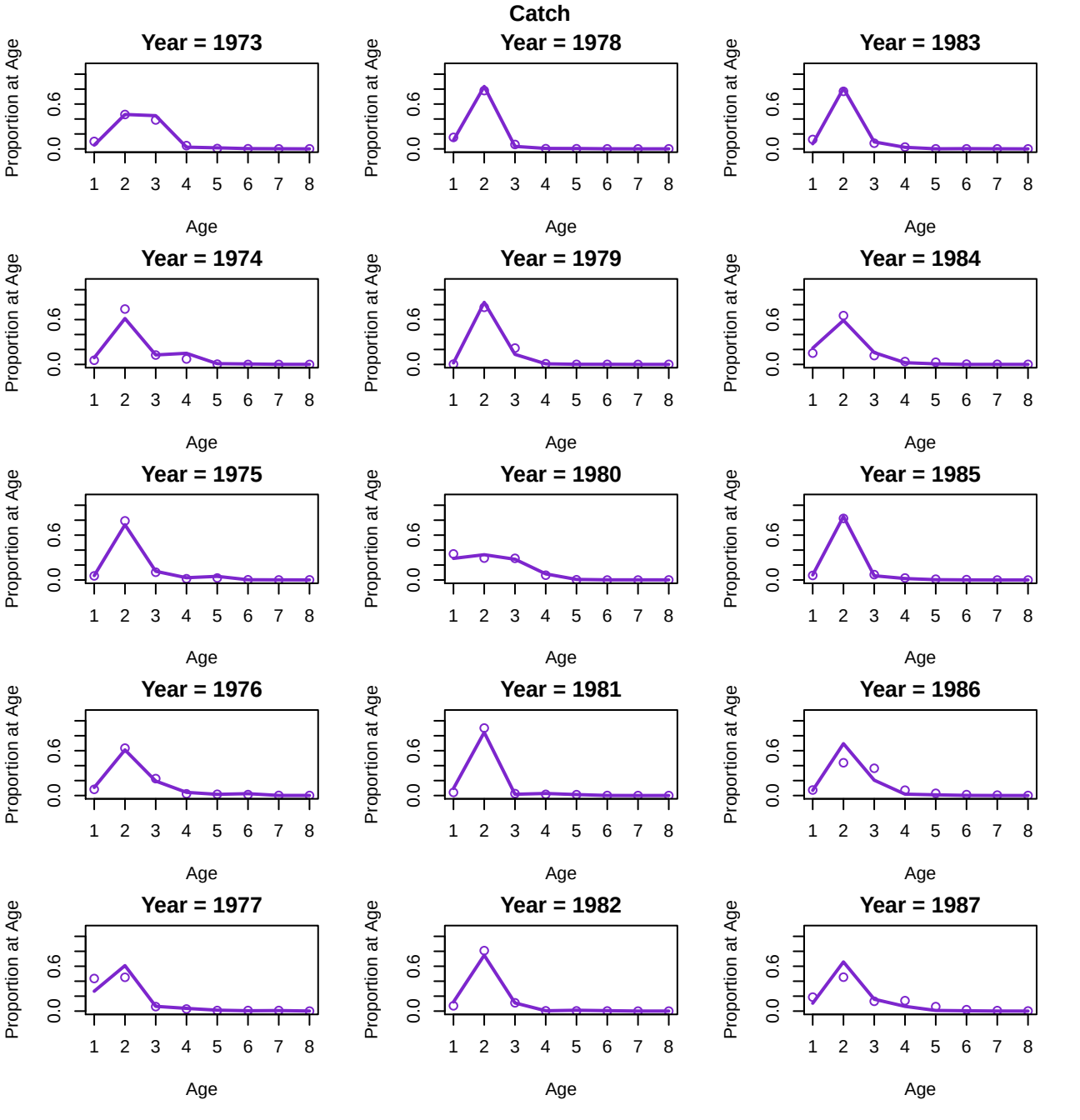


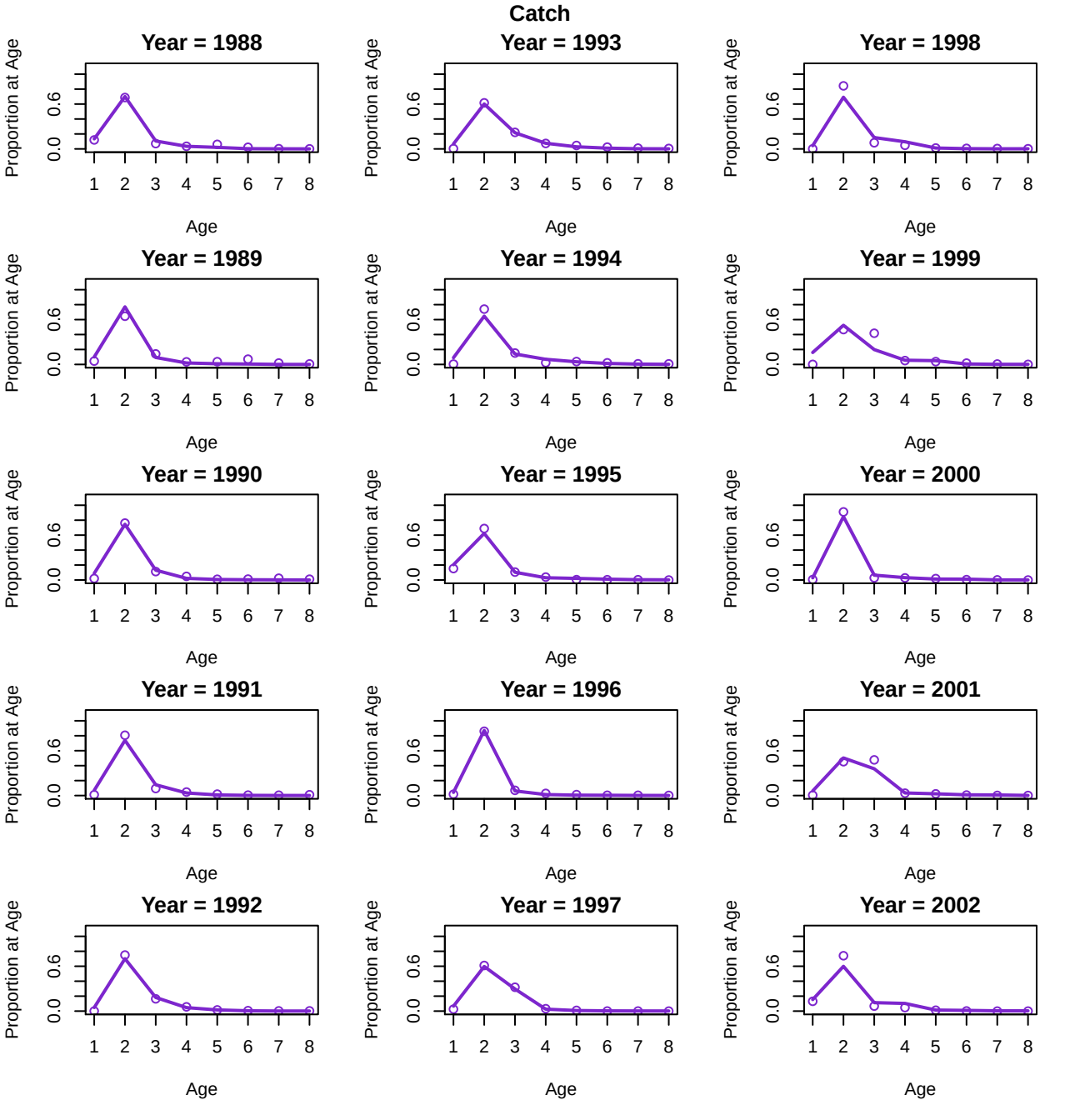

Catch
Fleet 1
FLEET−1
Year = 1969
Year = 1974
Year = 1965
Year = 1970
Year = 1975
Year = 1966
Year = 1971
Year = 1976
Year = 1967
Year = 1972
Year = 1977
Year = 1968
Year = 1973
Year = 1978
Proportion at Age
Age
0.0
0.6
1 2 3 4 5 6 7 8

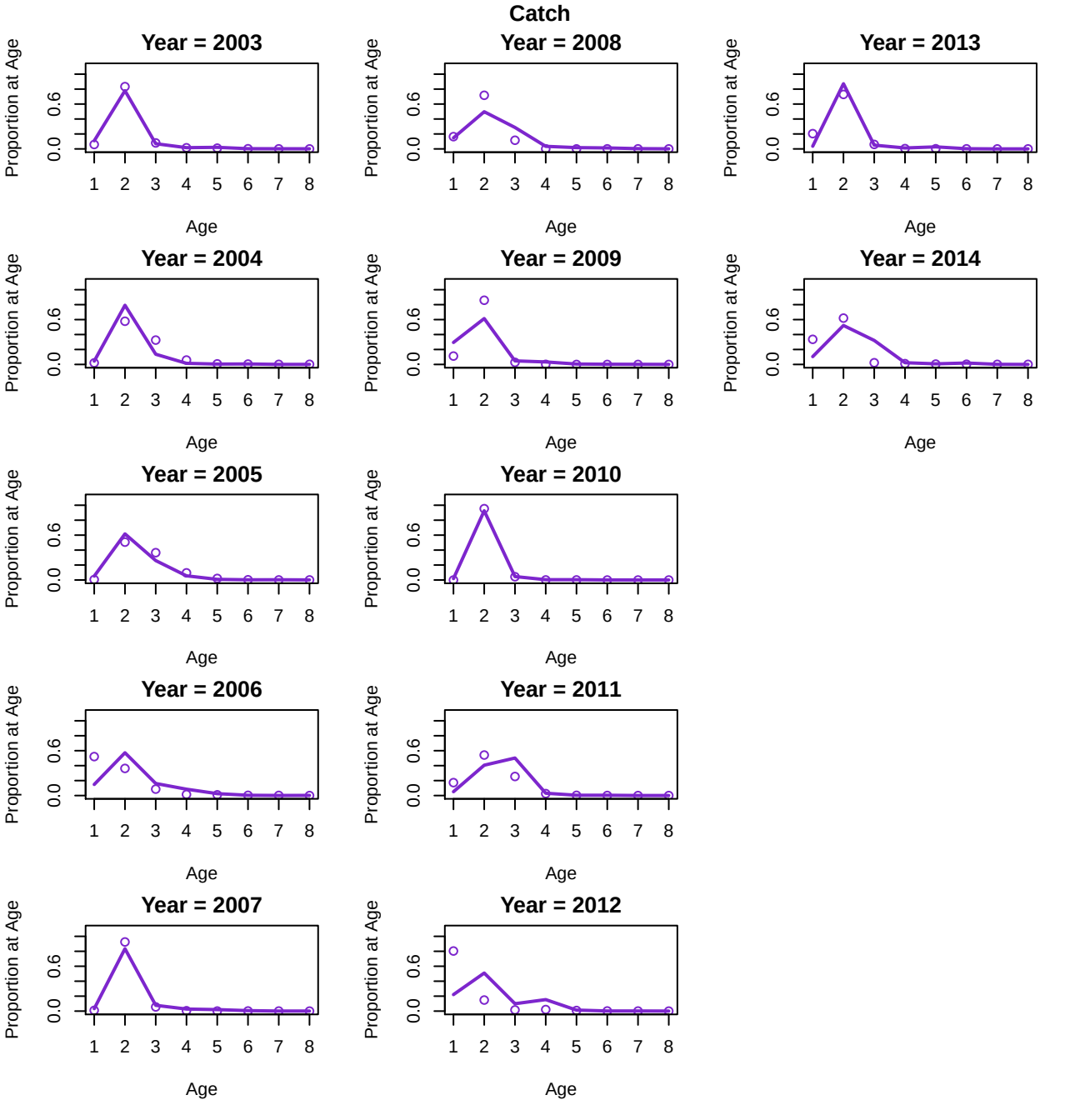

Catch
Year = 1979
Year = 1984
Year = 1989
Year = 1980
Year = 1985
Year = 1990
Year = 1981
Year = 1986
Year = 1991
Year = 1982
Year = 1987
Year = 1992
Year = 1983
Year = 1988
Year = 1993
Proportion at Age
Age
0.0
0.6
1 2 3 4 5 6 7 8

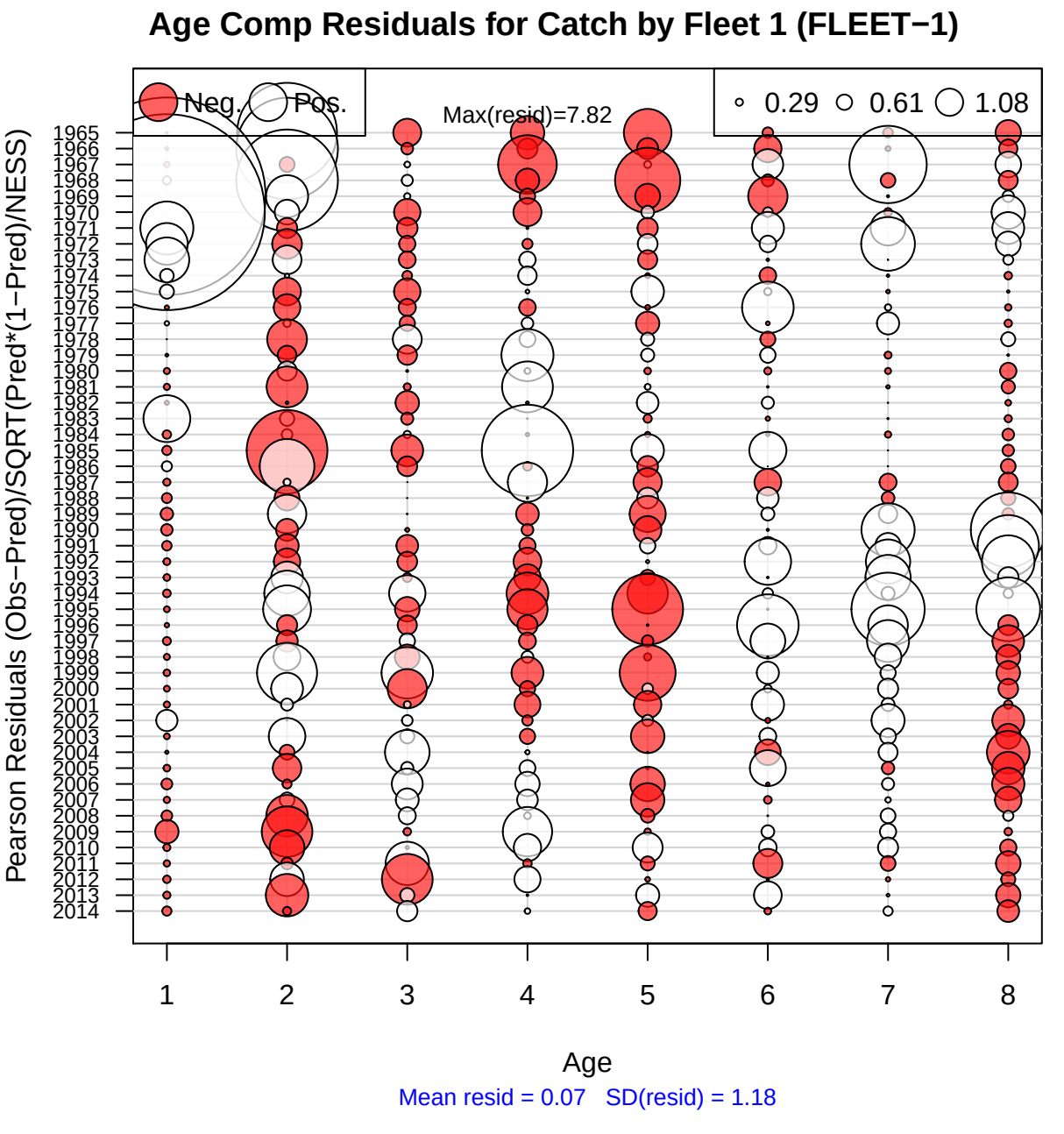

Catch
Year = 1994
Year = 1999
Year = 2004
Year = 1995
Year = 2000
Year = 2005
Year = 1996
Year = 2001
Year = 2006
Year = 1997
Year = 2002
Year = 2007
Year = 1998
Year = 2003
Year = 2008
Proportion at Age
0.0
0.6
1 2 3 4 5 6 7 8
Age

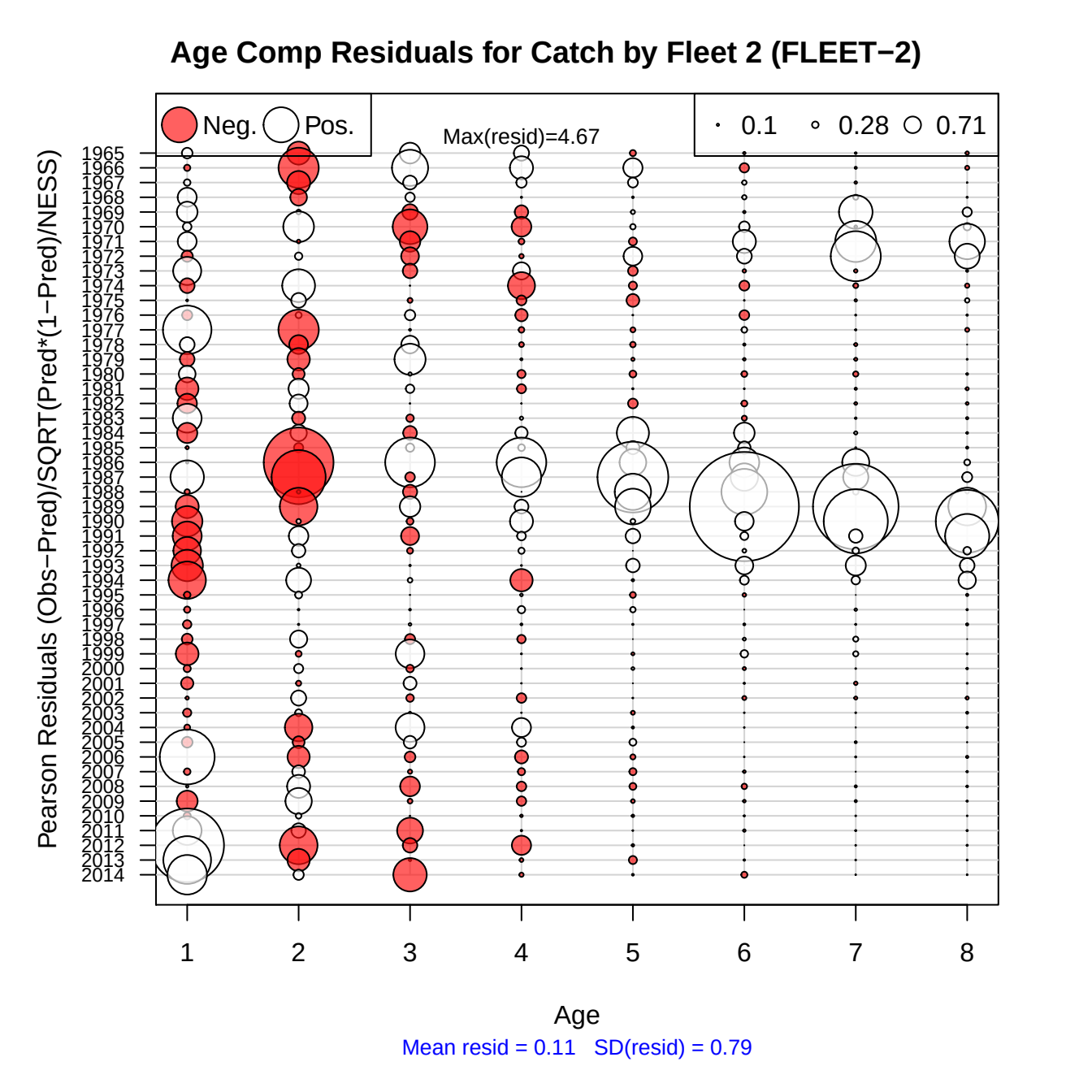

Catch
Year = 2009
Year = 2014
Year = 1968
Year = 2010
Fleet 2
FLEET−2
Year = 1969
Year = 2011
Year = 1965
Year = 1970
Year = 2012
Year = 1966
Year = 1971
Year = 2013
Year = 1967
Year = 1972
Proportion at Age
Age
0.0
0.6
1 2 3 4 5 6 7 8

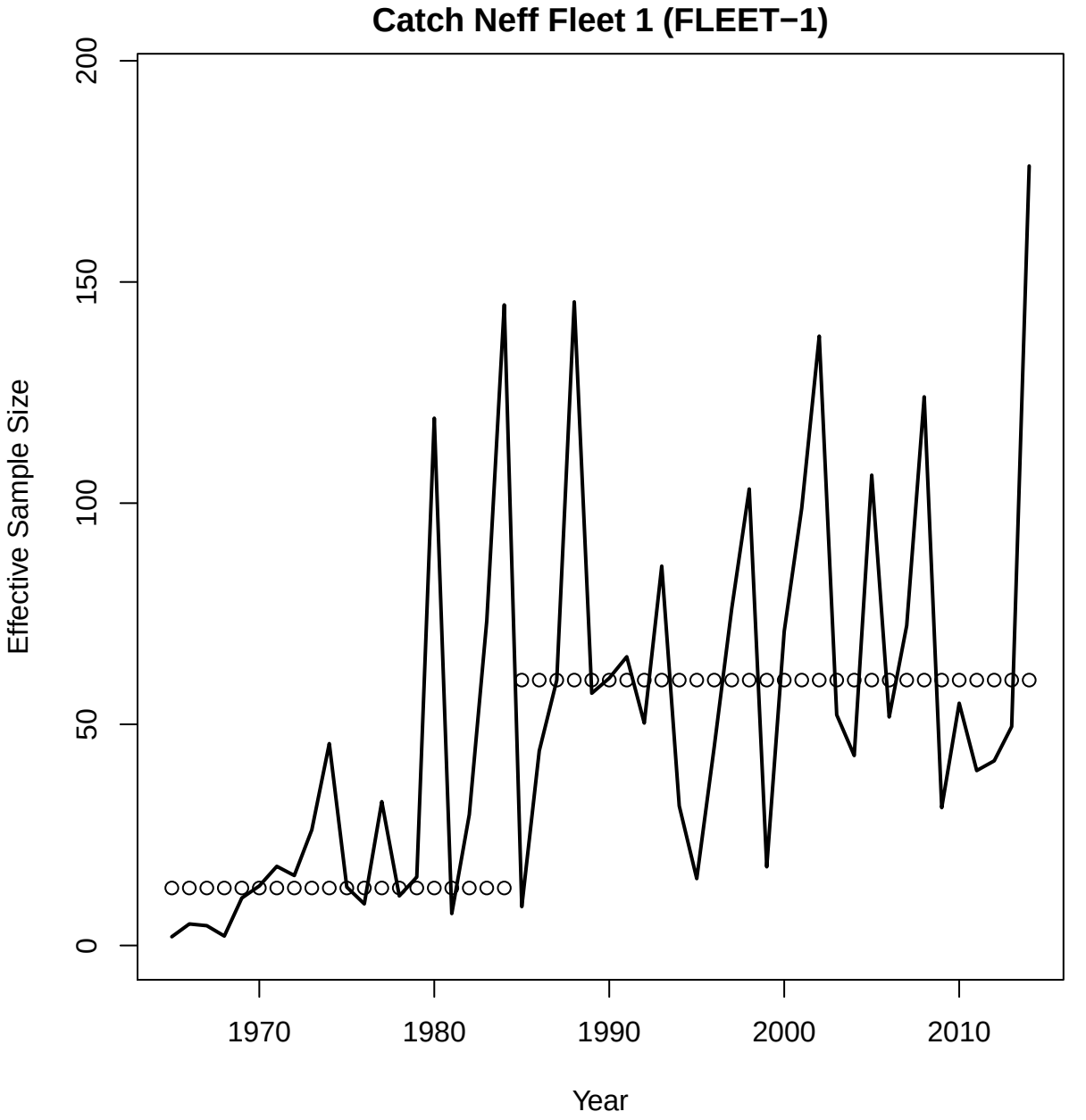

Catch
Year = 1973
Year = 1978
Year = 1983
Year = 1974
Year = 1979
Year = 1984
Year = 1975
Year = 1980
Year = 1985
Year = 1976
Year = 1981
Year = 1986
Year = 1977
Year = 1982
Year = 1987
Proportion at Age
Age
0.0
0.6
1
2
3
4
5
6
7
8

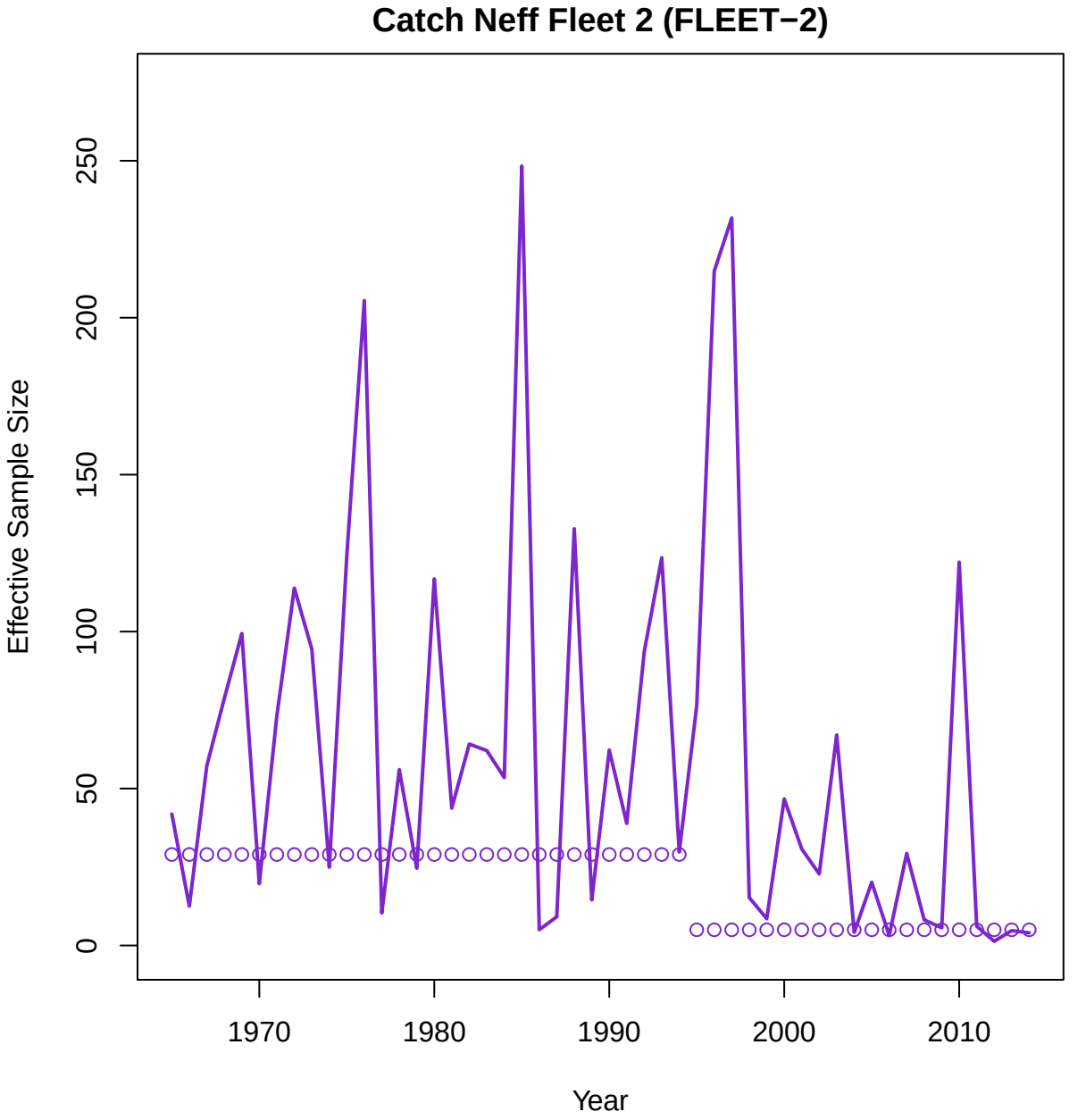

Catch
Year = 1988
Year = 1993
Year = 1998
Year = 1989
Year = 1994
Year = 1999
Year = 1990
Year = 1995
Year = 2000
Year = 1991
Year = 1996
Year = 2001
Year = 1992
Year = 1997
Year = 2002
Proportion at Age
Age
0.0
0.6
1
2
3
4
5
6
7
8

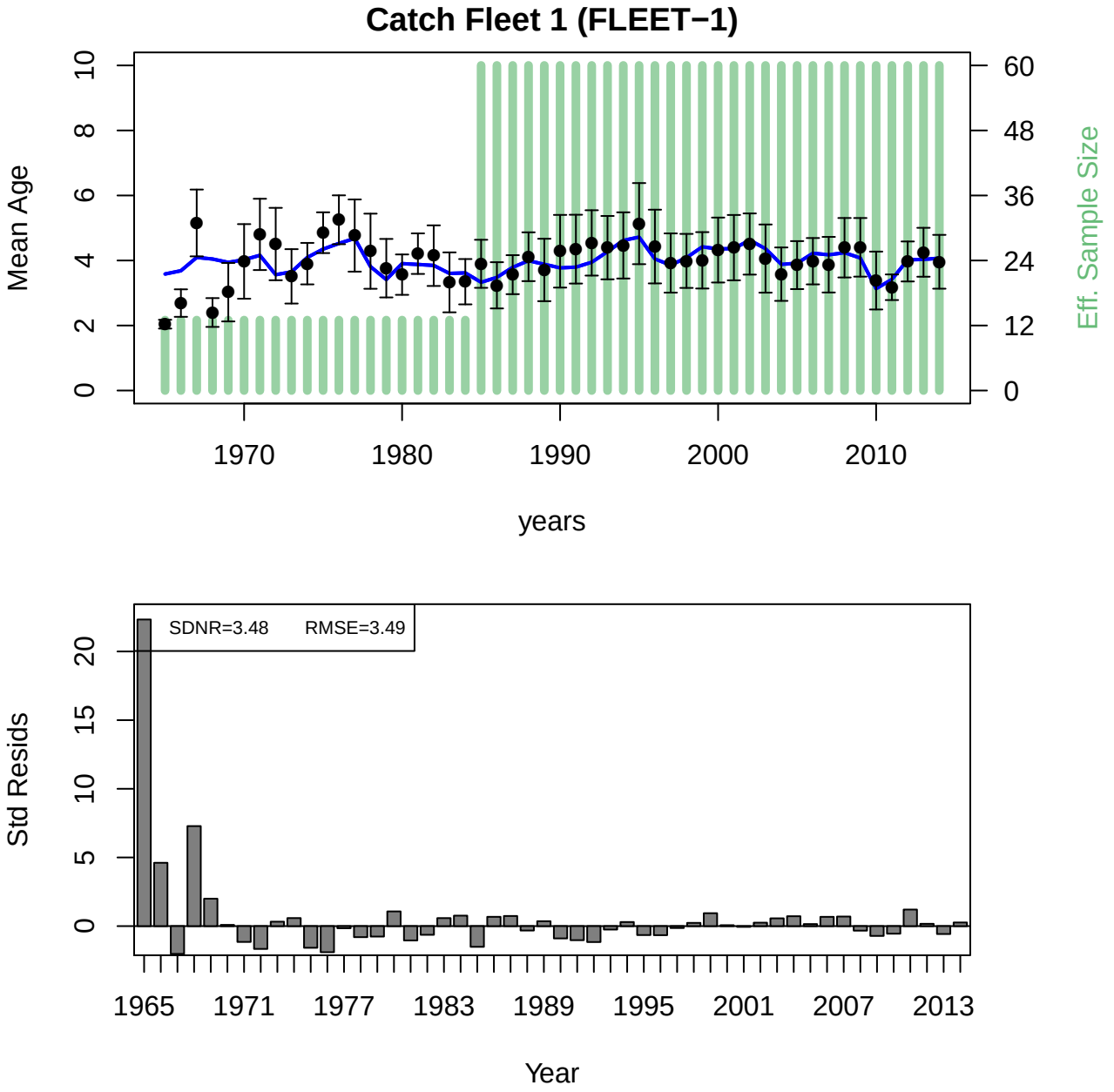

Catch
Year = 2003
Year = 2008
Year = 2013
Year = 2004
Year = 2009
Year = 2014
Year = 2005
Year = 2010
Year = 2006
Year = 2011
Year = 2007
Year = 2012
Proportion at Age
0.0
0.6
1 2 3 4 5 6 7 8
Age

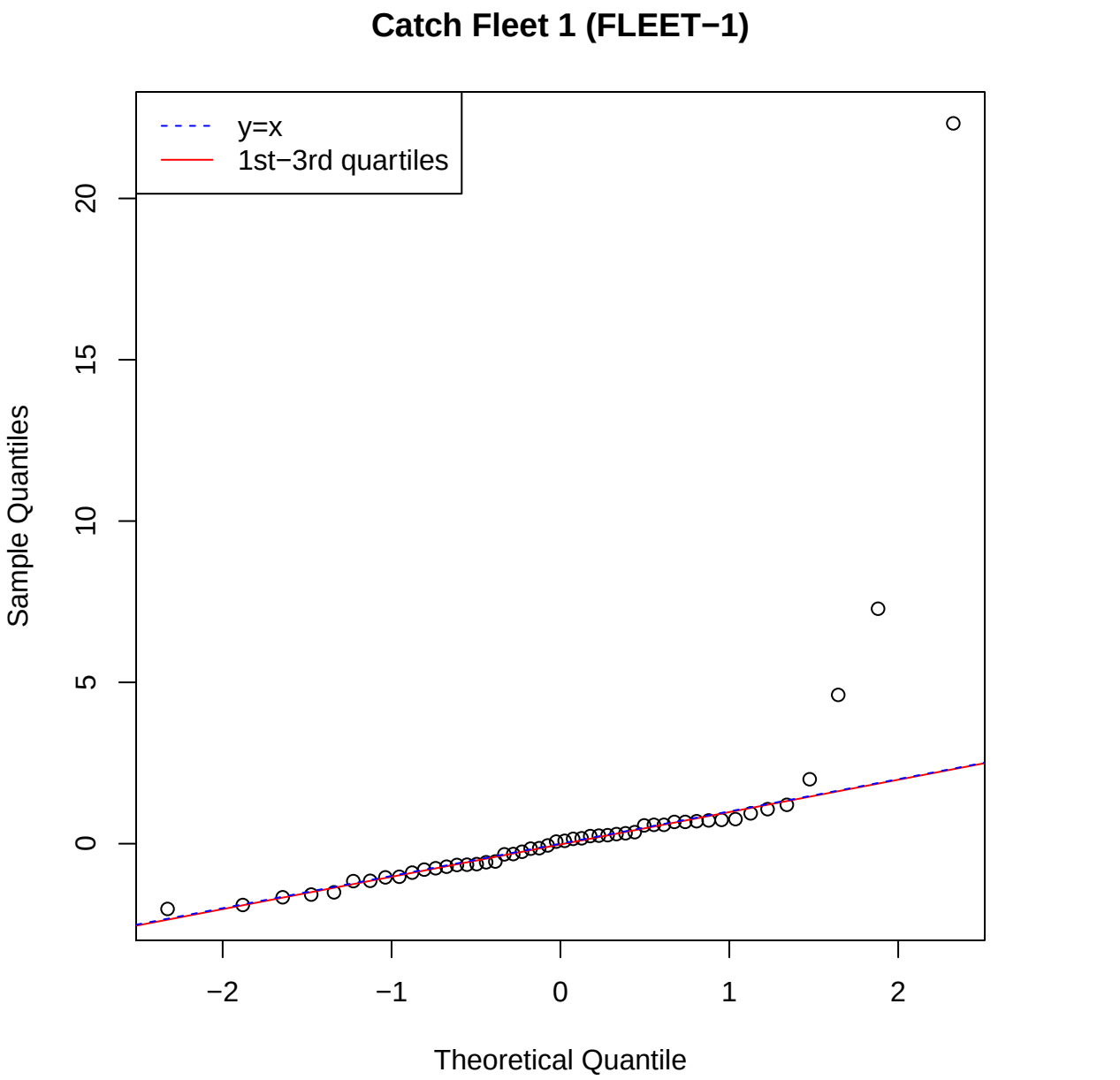

Age Comp Residuals for Catch by Fleet 1 (FLEET−1)
Neg.
Pos.
Max(resid)=7.82
0.29
0.61
1.08
Pearson Residuals (Obs−Pred)/SQRT(Pred*(1−Pred)/NESS)
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
1
2
3
4
5
6
7
8
Age
Mean resid = 0.07 SD(resid) = 1.18

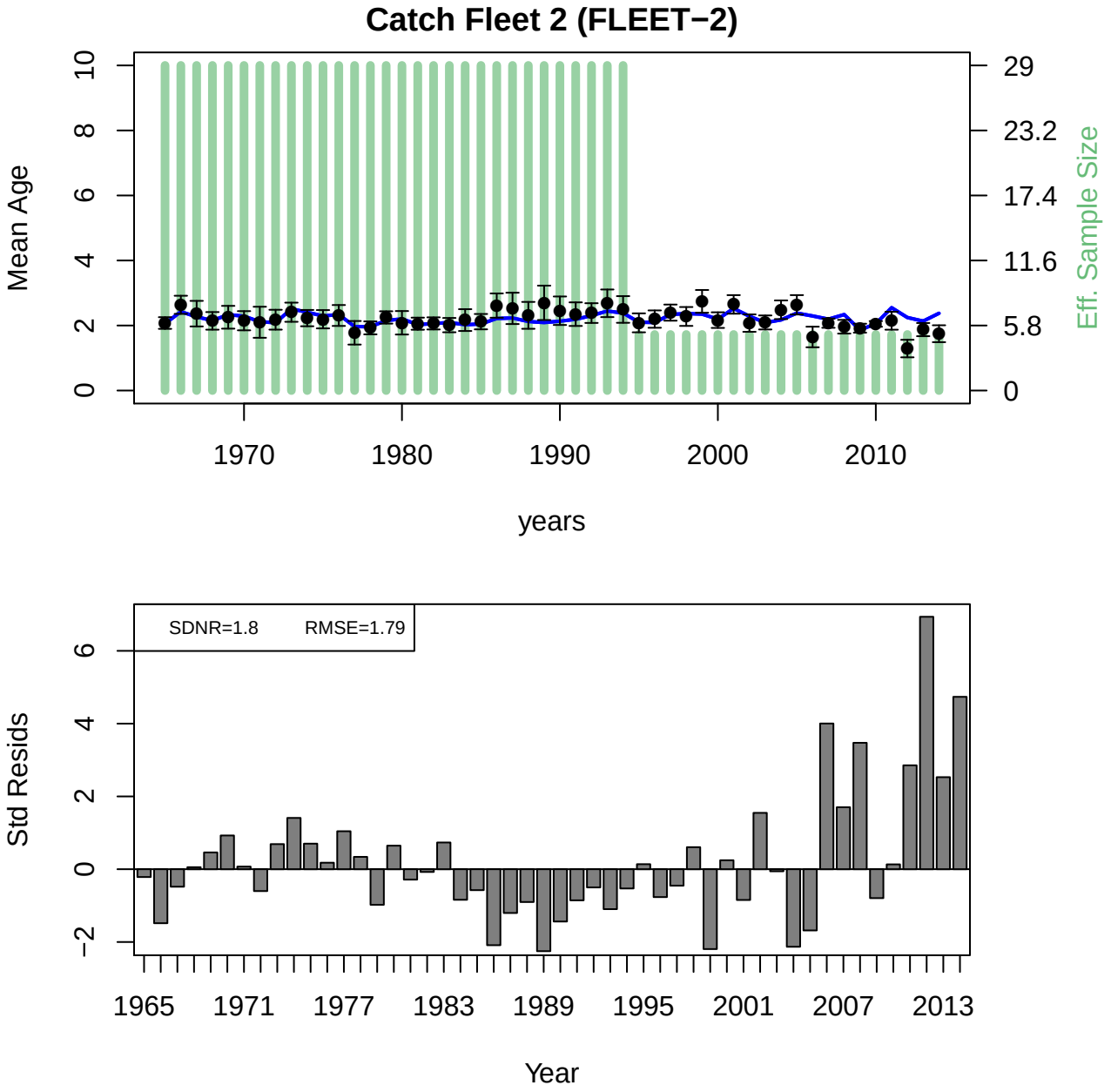

Age Comp Residuals for Catch by Fleet 2 (FLEET−2)
Neg.
Pos.
Max(resid)=4.67
0.1
0.28
0.71
Pearson Residuals (Obs−Pred)/SQRT(Pred*(1−Pred)/NESS)
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
1
2
3
4
5
6
7
8
Age
Mean resid = 0.11 SD(resid) = 0.79

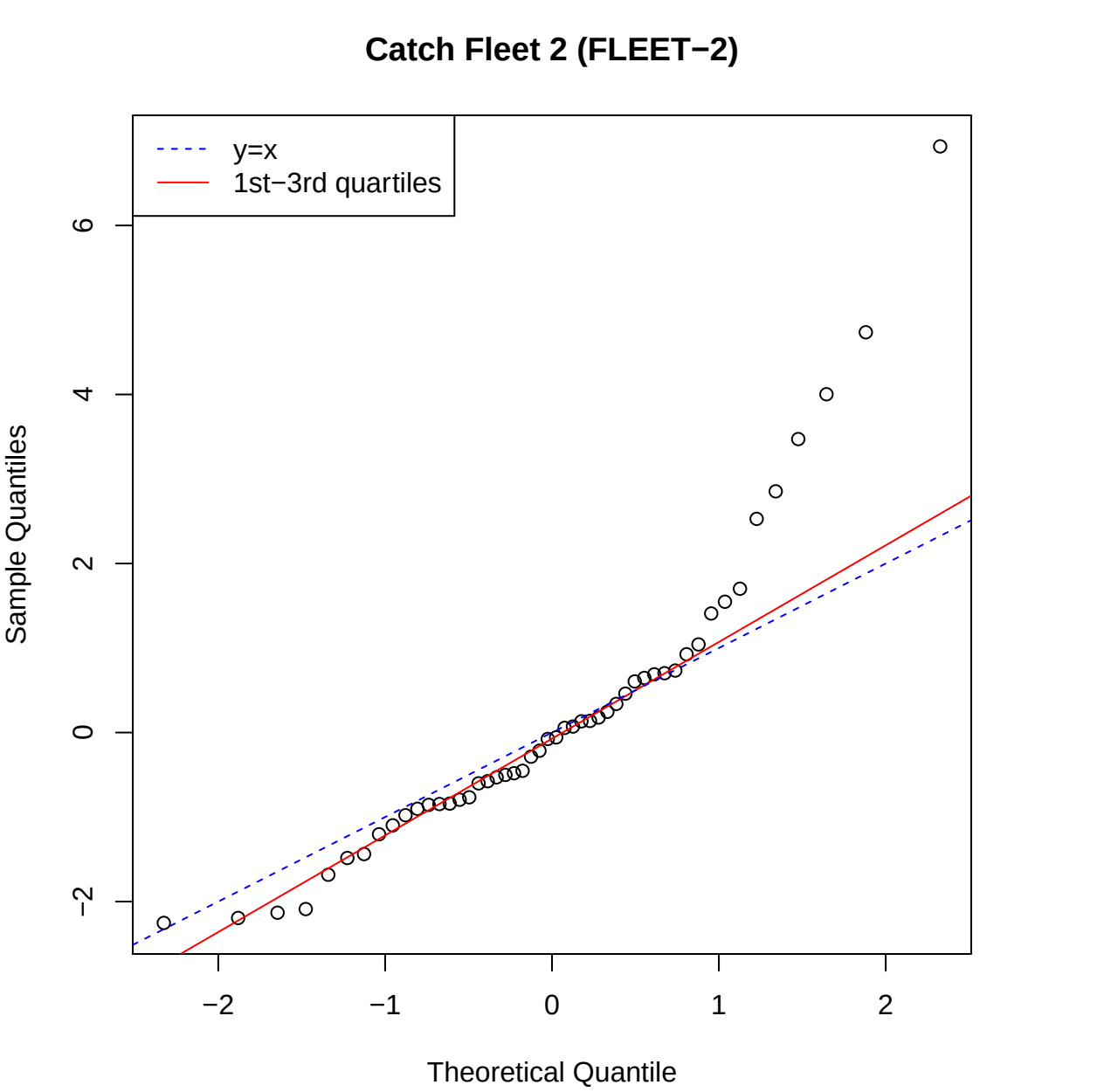

Catch Neff Fleet 1 (FLEET−1)
Effective Sample Size
0
50
100
150
200
1970
1980
1990
2000
2010
Year

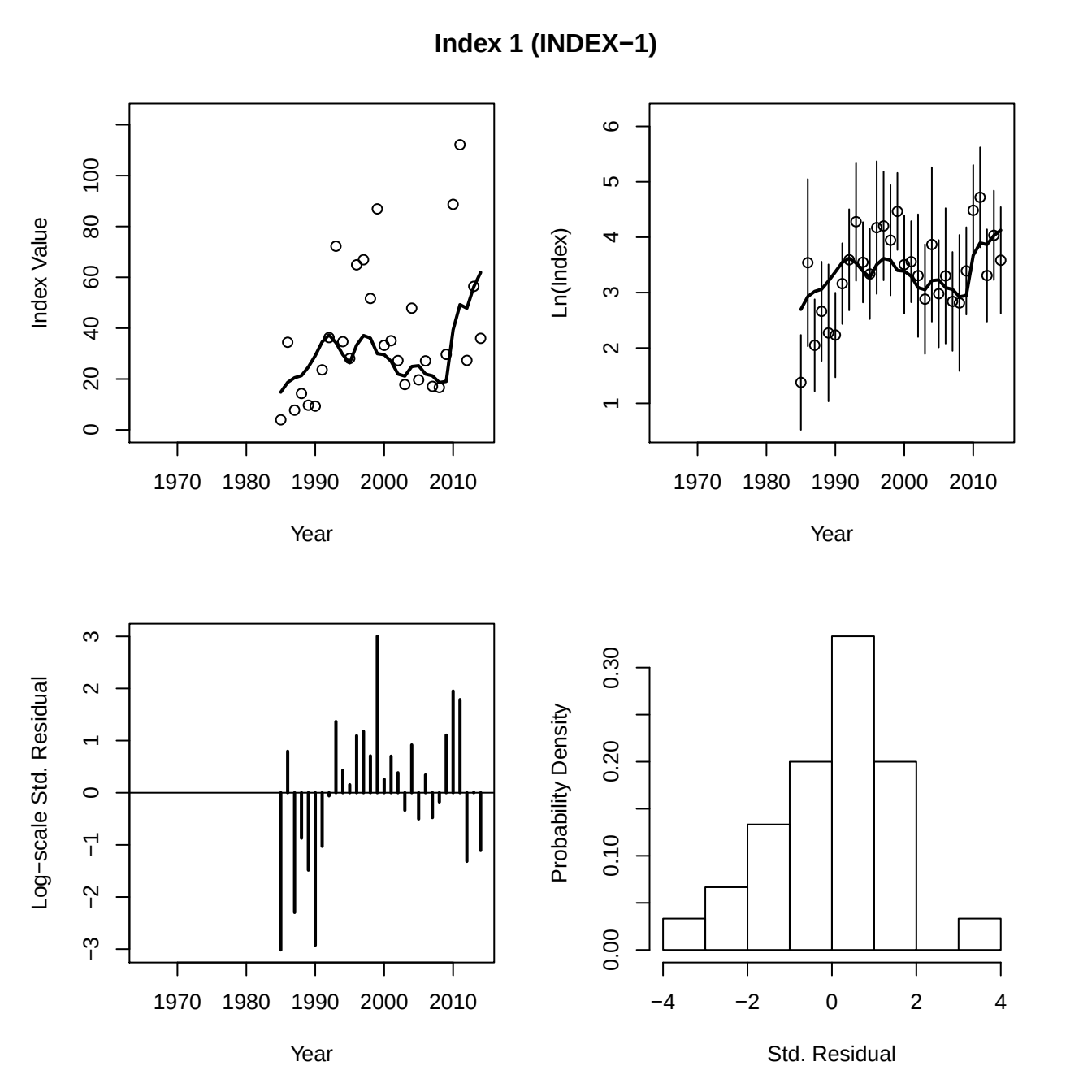

Catch Neff Fleet 2 (FLEET−2)
Effective Sample Size
0
50
100
150
200
250
1970
1980
1990
2000
2010
Year


Catch Fleet 1 (FLEET−1)
Mean Age
Eff. Sample Size
years
SDNR=3.48
RMSE=3.49
Std Resids
Year

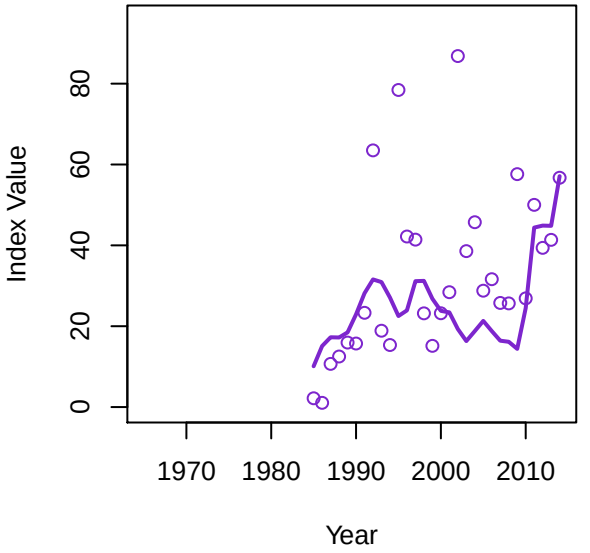

Catch Fleet 1 (FLEET−1)
y=x
1st−3rd quartiles
Sample Quantiles
0
5
10
15
20
−2
−1
0
1
2
Theoretical Quantile

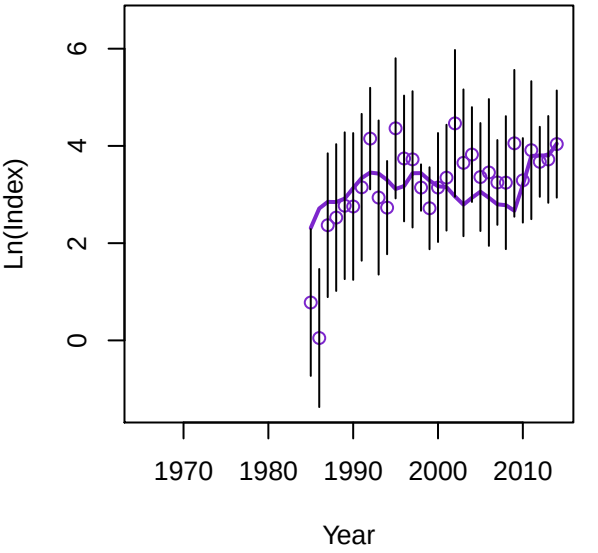

Catch Fleet 2 (FLEET−2)
Mean Age
Eff. Sample Size
0
2
4
6
8
10
29
23.2
17.4
11.6
5.8
0
1970
1980
1990
2000
2010
years
SDNR=1.8
RMSE=1.79
Std Resids
−2
0
2
4
6
1965
1971
1977
1983
1989
1995
2001
2007
2013
Year

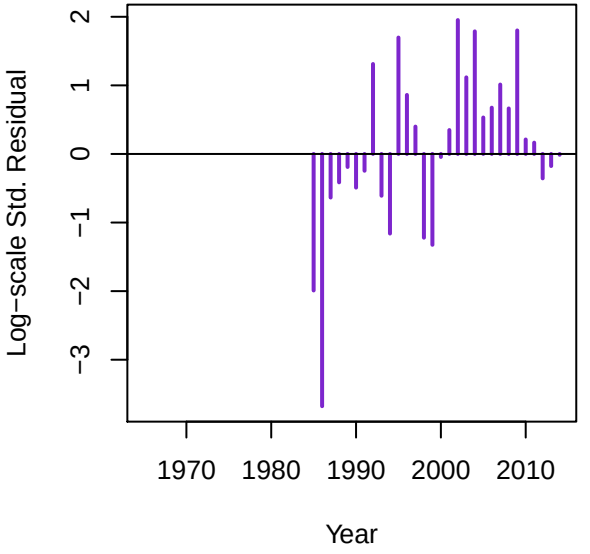

Catch Fleet 2 (FLEET−2)
y=x
1st−3rd quartiles
Sample Quantiles
Theoretical Quantile
−2
0
2
4
6
−2
−1
0
1
2

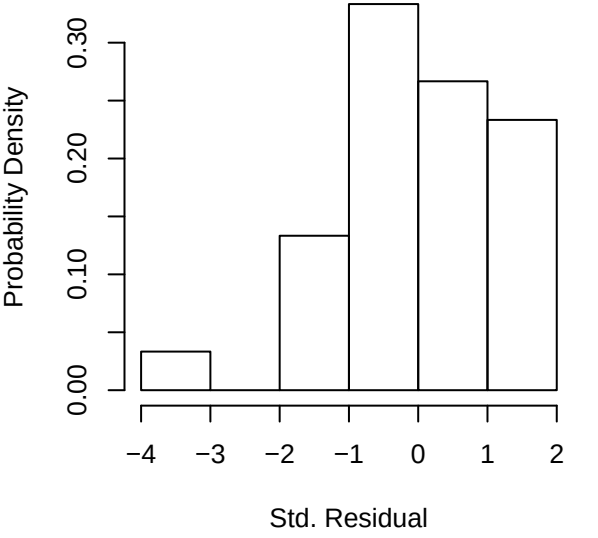

Index 1 (INDEX−1)
Index Value
0
20
40
60
80
100
1970
1980
1990
2000
2010
Year
Ln(Index)
1
2
3
4
5
6
1970
1980
1990
2000
2010
Year
Log−scale Std. Residual
−3
−2
−1
0
1
2
3
1970
1980
1990
2000
2010
Year
Probability Density
0.00
0.10
0.20
0.30
−4
−2
0
2
4
Std. Residual

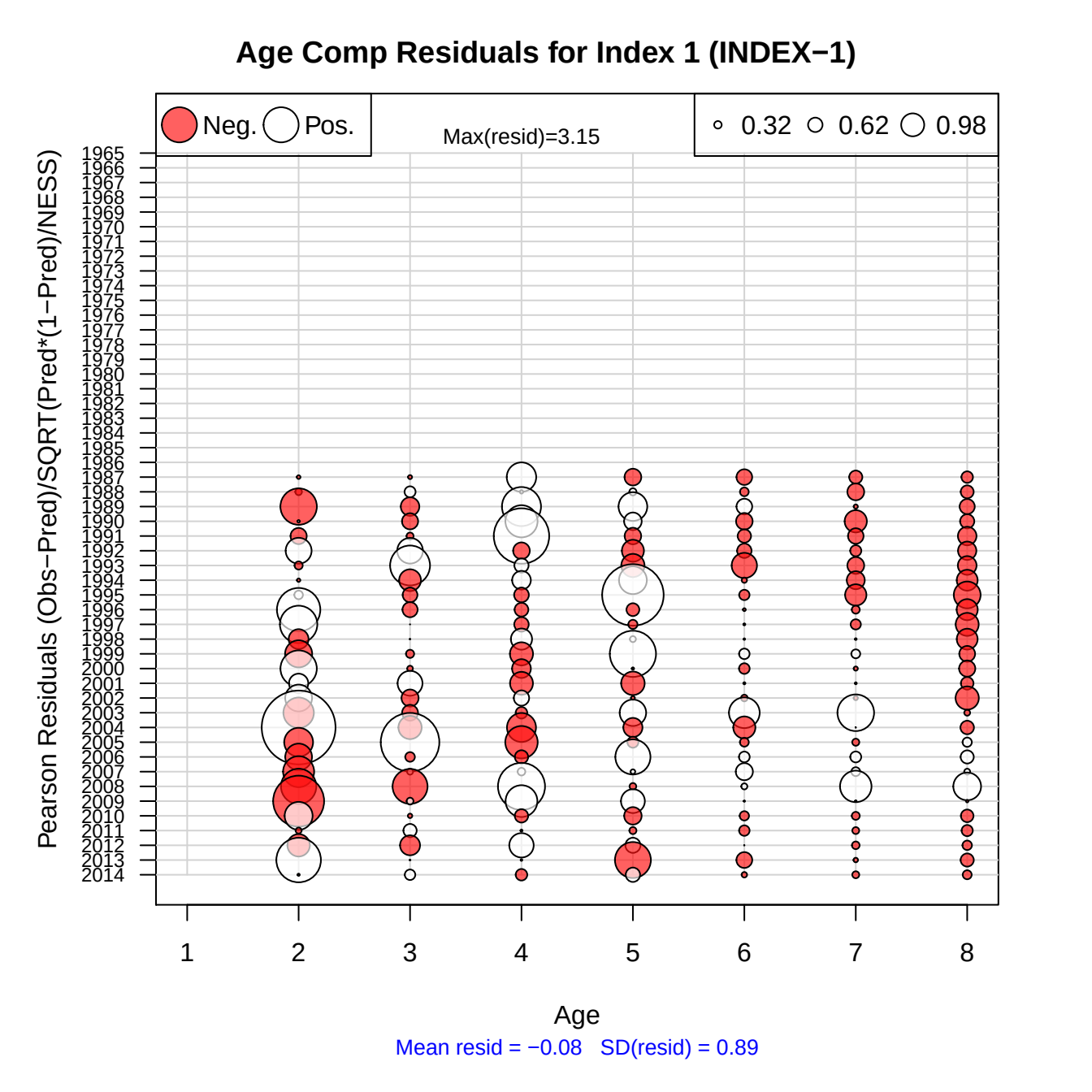
Index 2 (INDEX−2)

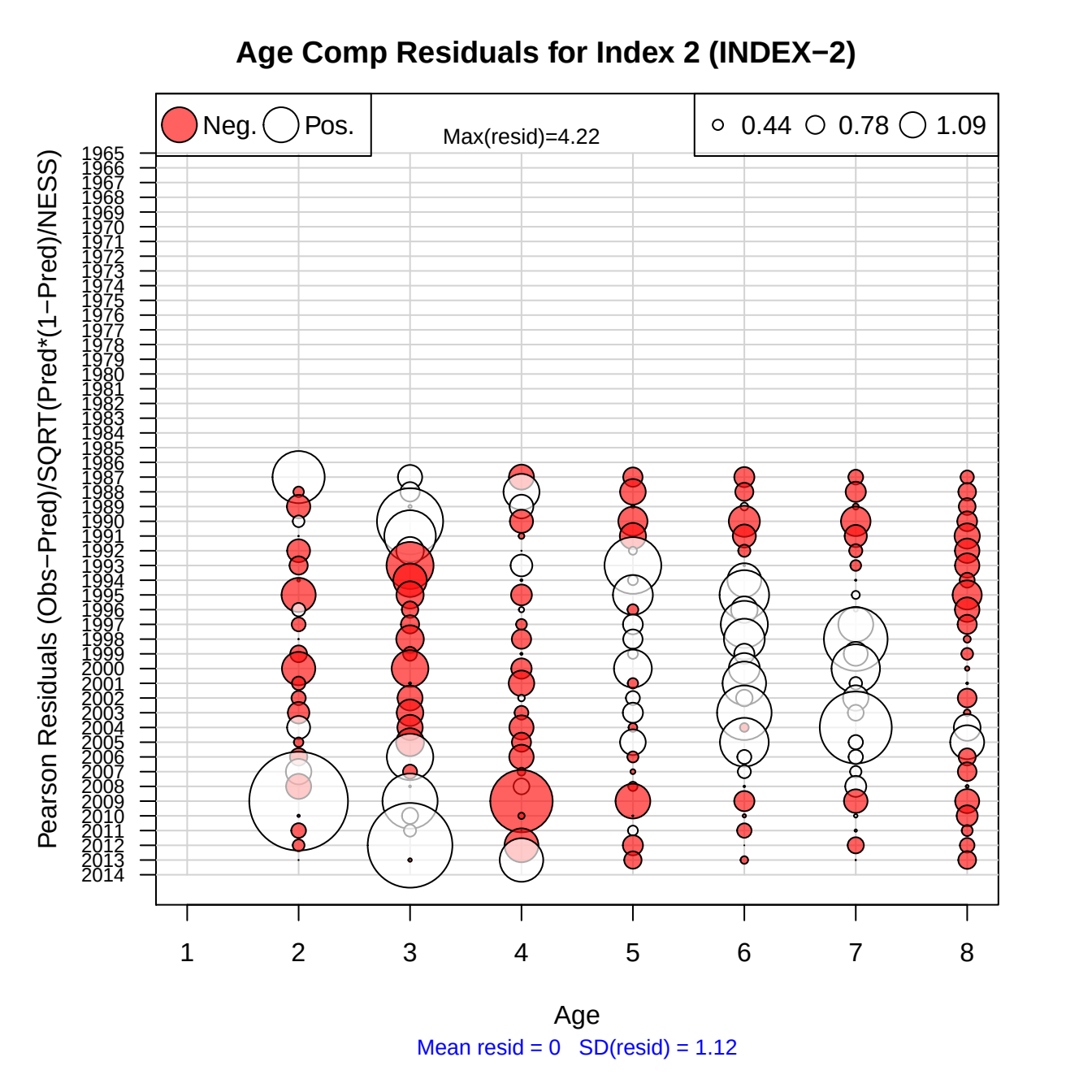


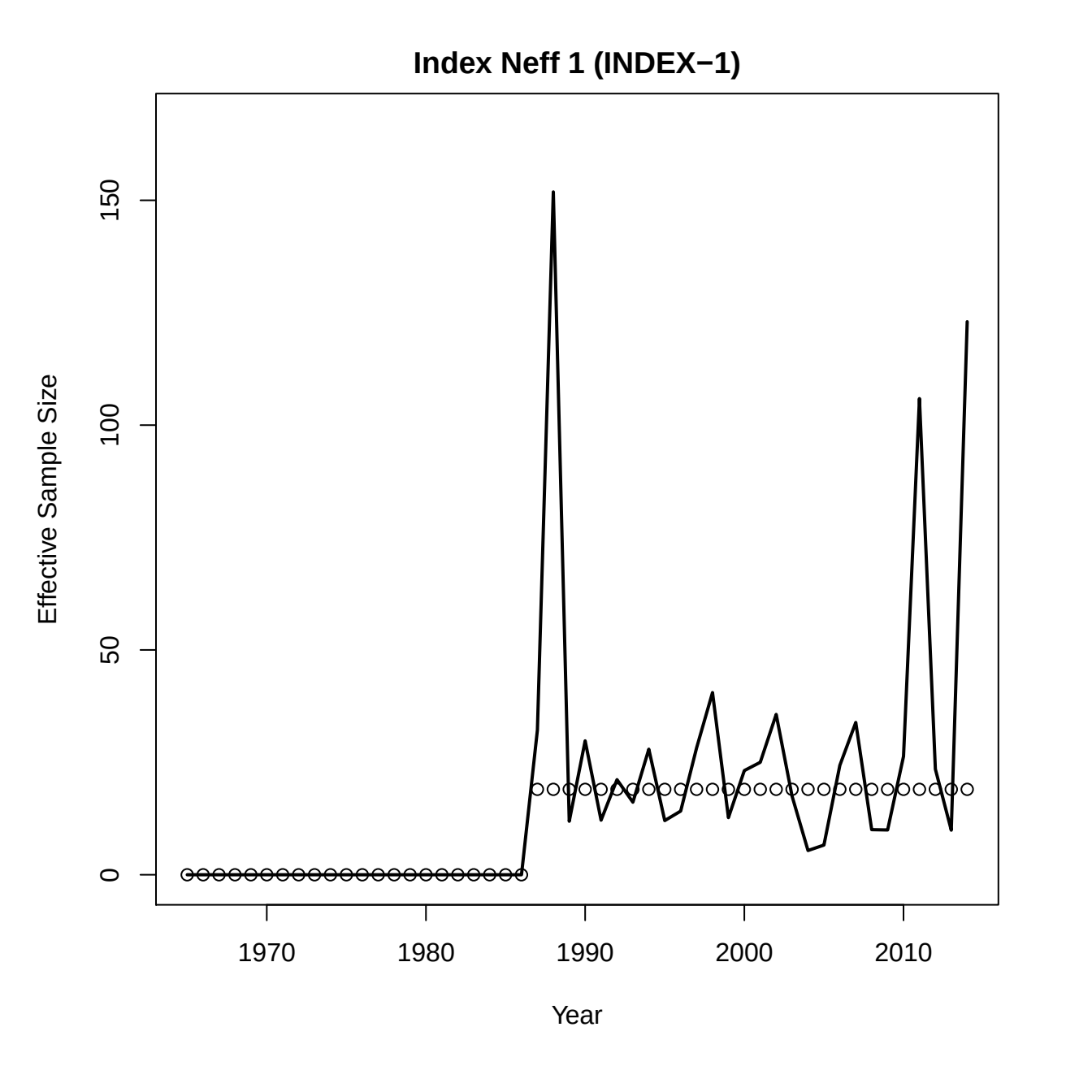


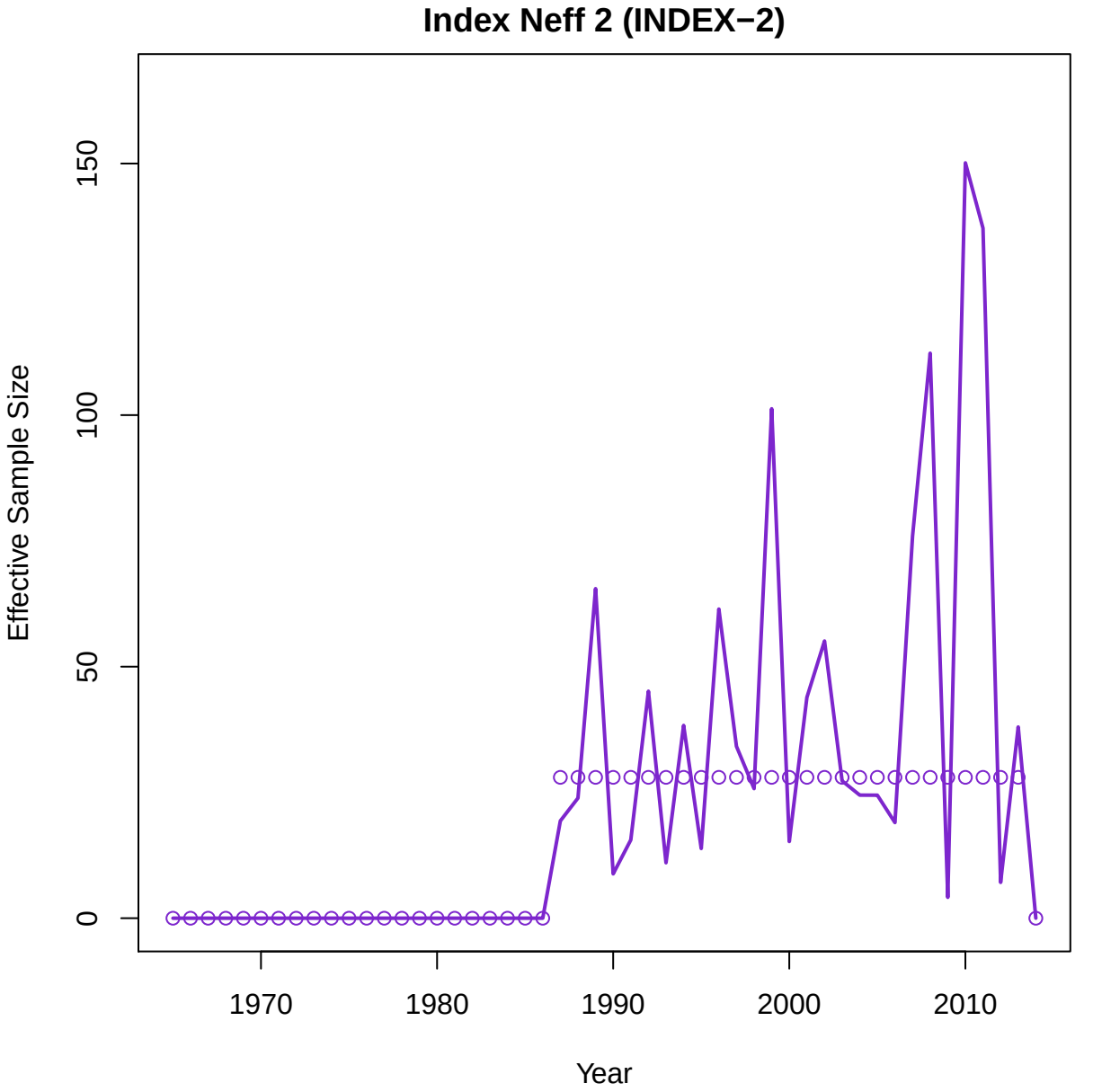


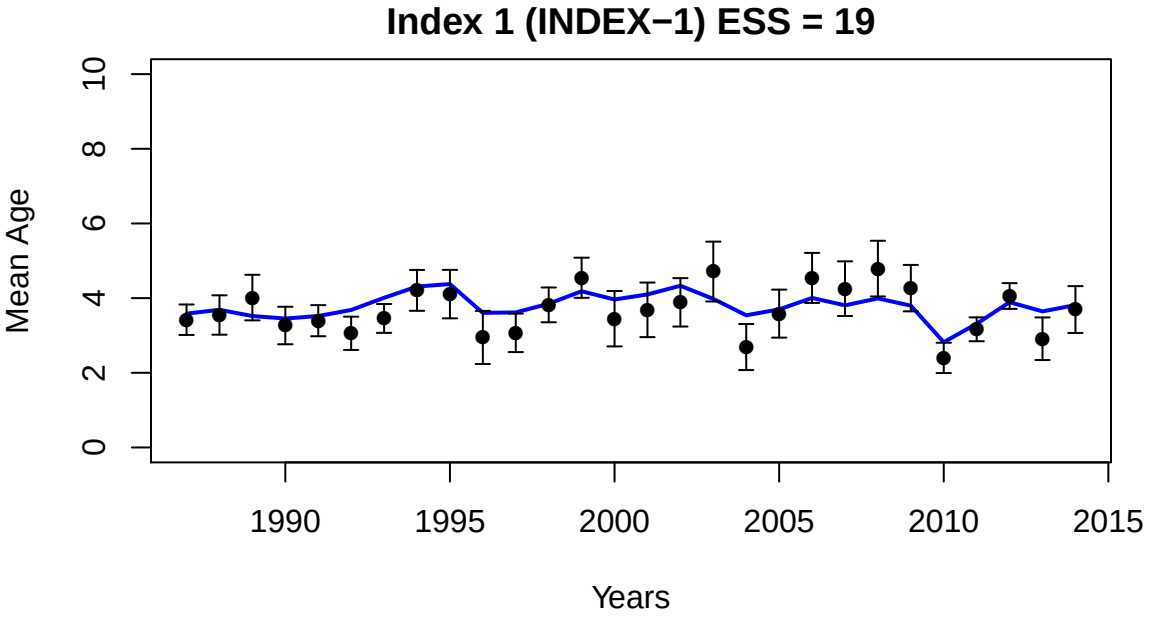


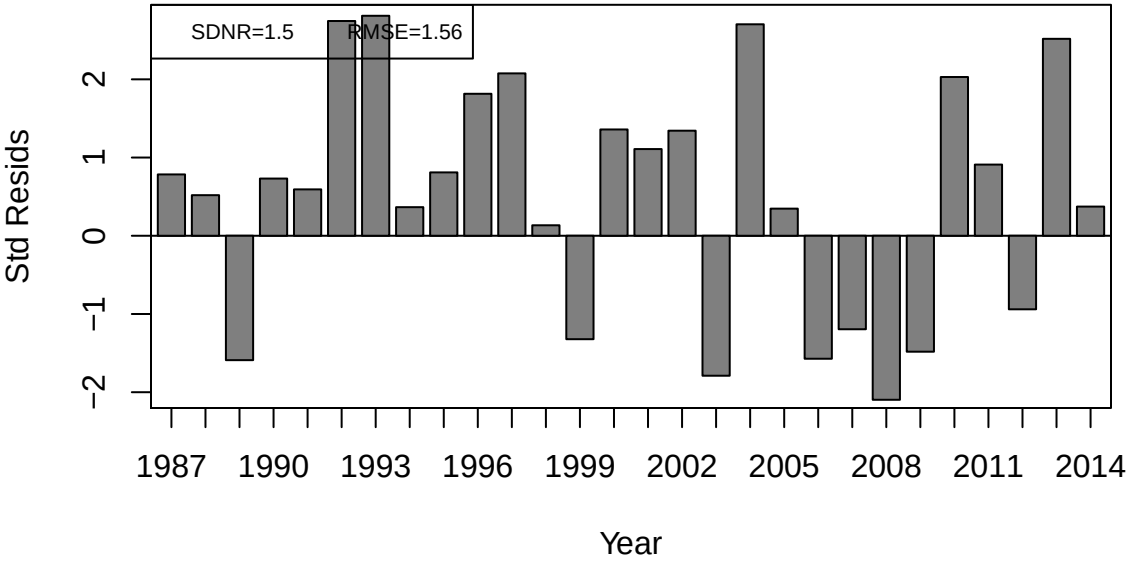

Age Comp Residuals for Index 1 (INDEX−1)
Neg.
Pos.
Max(resid)=3.15
0.32
0.62
0.98
Pearson Residuals (Obs−Pred)/SQRT(Pred*(1−Pred)/NESS)
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
1
2
3
4
5
6
7
8
Age
Mean resid = −0.08 SD(resid) = 0.89

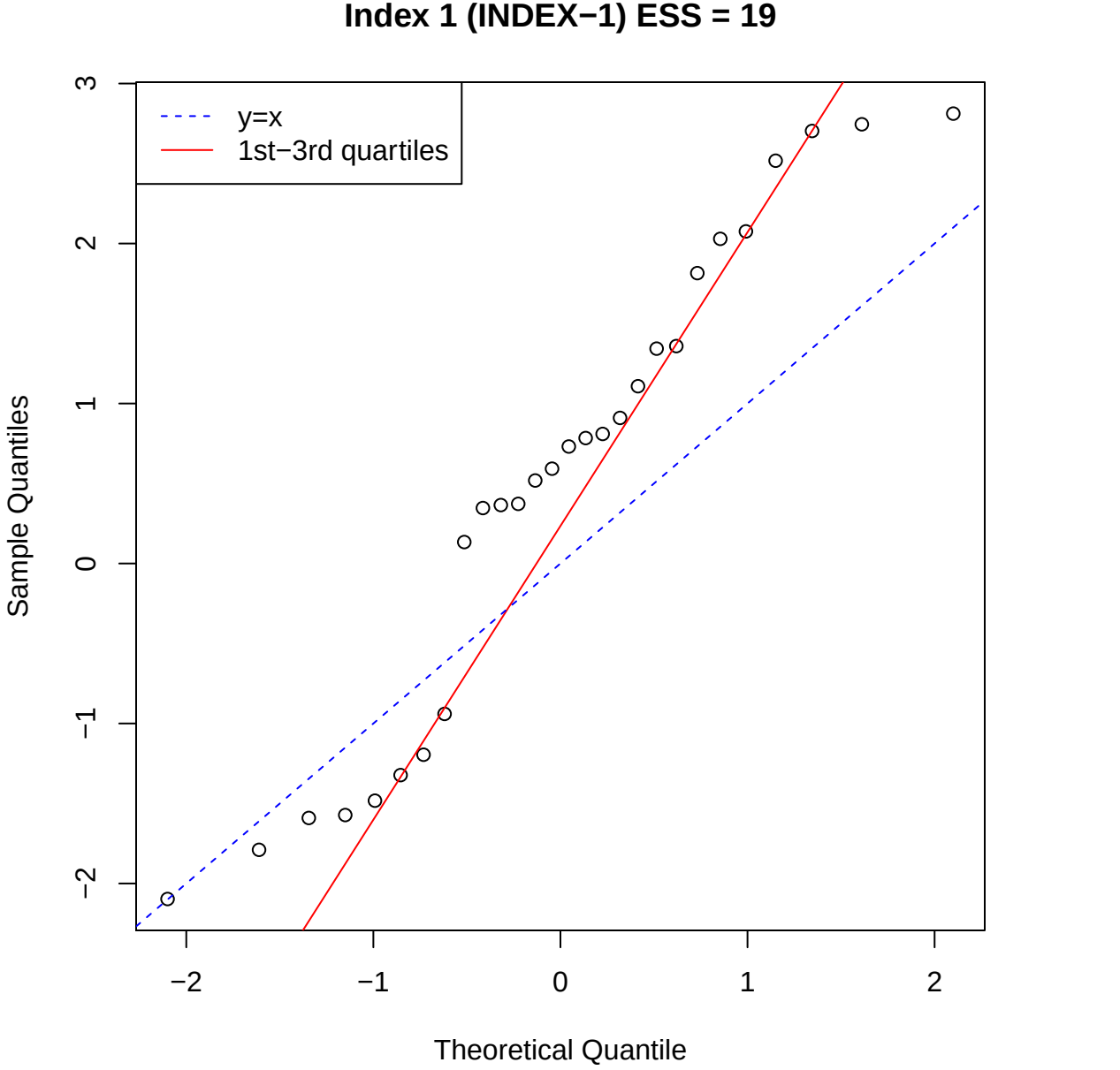

Age Comp Residuals for Index 2 (INDEX−2)
Neg.
Pos.
Max(resid)=4.22
0.44
0.78
1.09
Pearson Residuals (Obs−Pred)/SQRT(Pred*(1−Pred)/NESS)
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
1
2
3
4
5
6
7
8
Age
Mean resid = 0 SD(resid) = 1.12

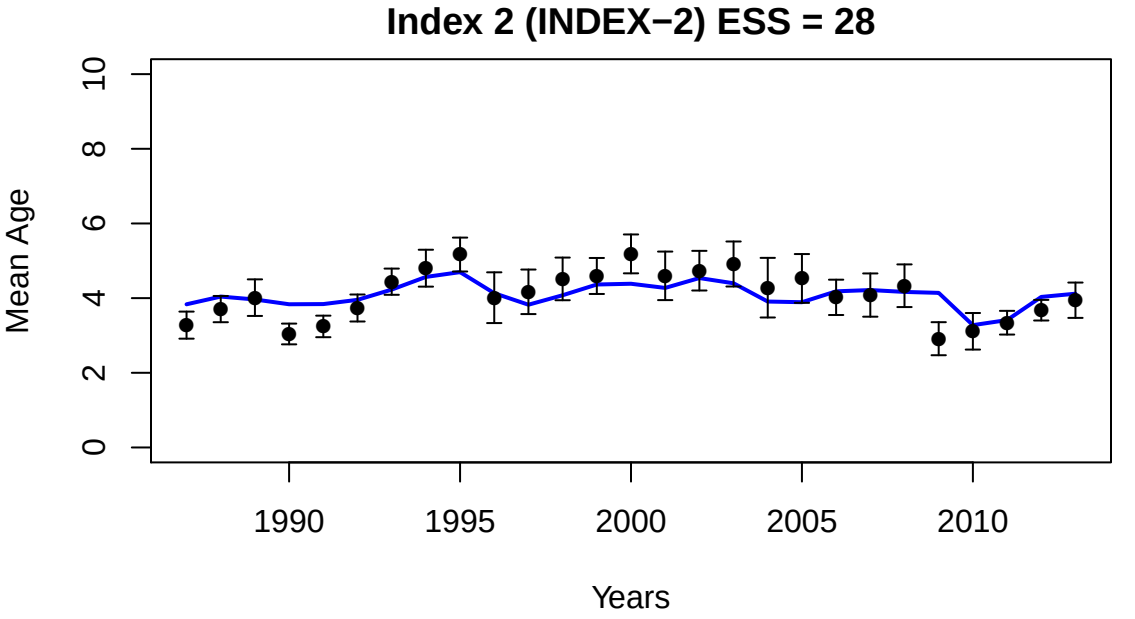

Index Neff 1 (INDEX−1)
Effective Sample Size
0
50
100
150
1970
1980
1990
2000
2010
Year

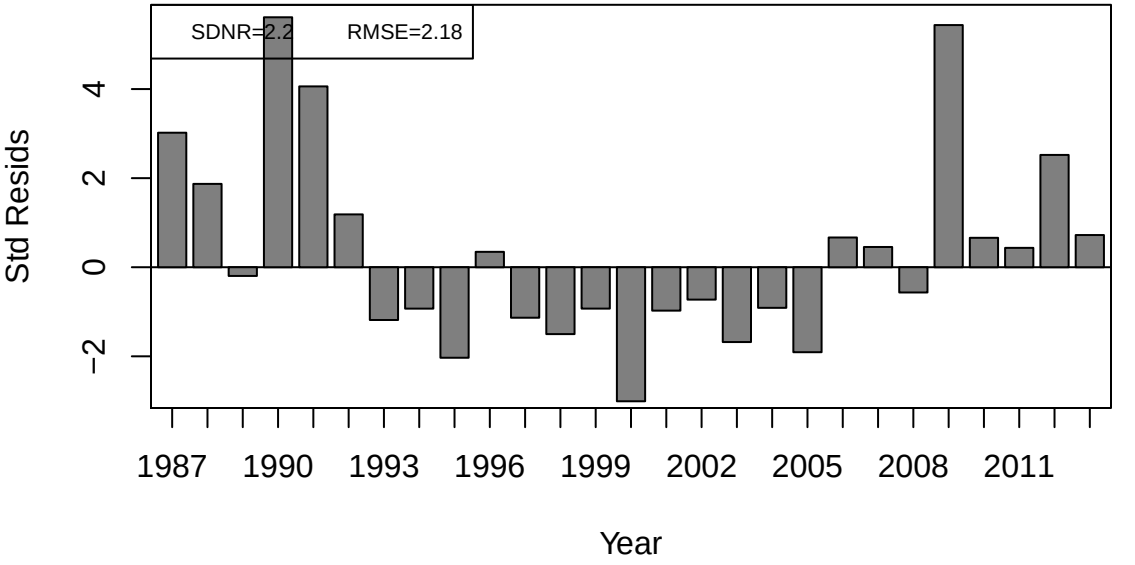

Index Neff 2 (INDEX−2)
Effective Sample Size
0
50
100
150
1970
1980
1990
2000
2010
Year

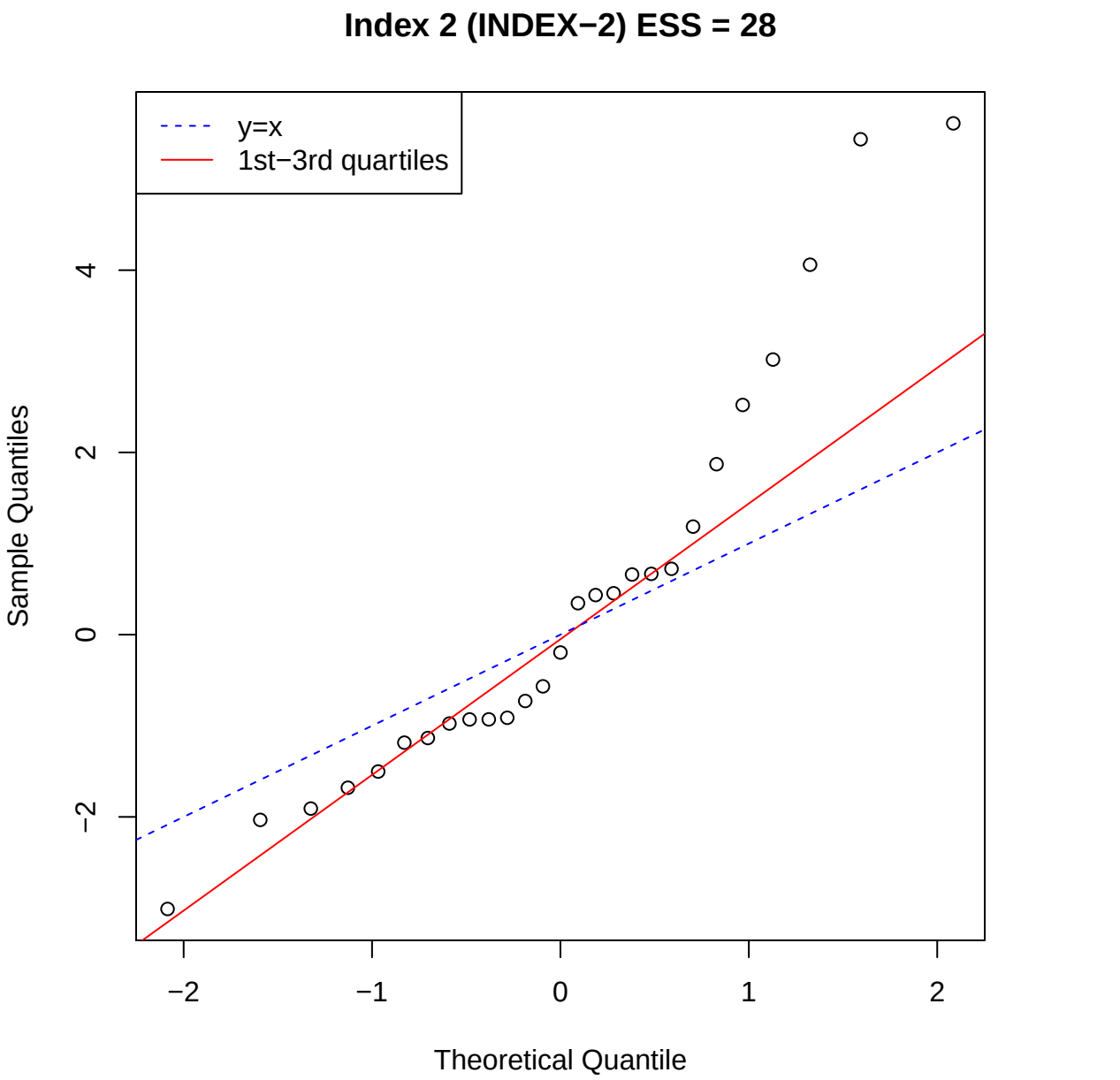

Index 1 (INDEX−1) ESS = 19
Mean Age
0
2
4
6
8
10
1990
1995
2000
2005
2010
2015
Years


SDNR=1.5
RMSE=1.56
Std Resids
−2
−1
0
1
2
1987
1990
1993
1996
1999
2002
2005
2008
2011
2014
Year


Index 1 (INDEX−1) ESS = 19
y=x
1st−3rd quartiles
Sample Quantiles
Theoretical Quantile
3
2
1
0
−1
−2
−2
−1
0
1
2


Index 2 (INDEX−2) ESS = 28
Mean Age
0
2
4
6
8
10
1990
1995
2000
2005
2010
Years


SDNR=2.2
RMSE=2.18
Std Resids
−2
0
2
4
1987
1990
1993
1996
1999
2002
2005
2008
2011
Year


Index 2 (INDEX−2) ESS = 28
y=x
1st−3rd quartiles
Sample Quantiles
Theoretical Quantile
−2
0
2
4
−2
−1
0
1
2