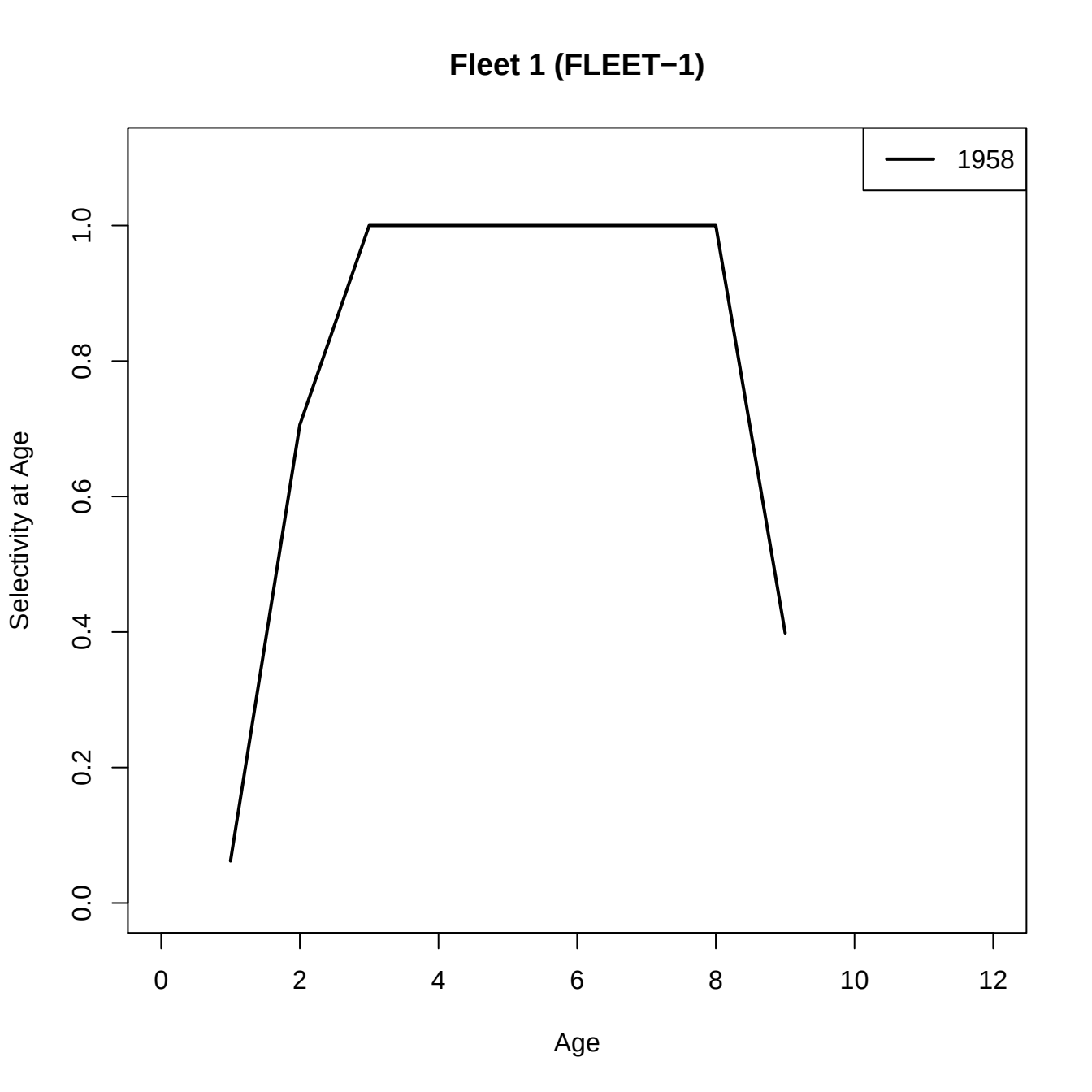
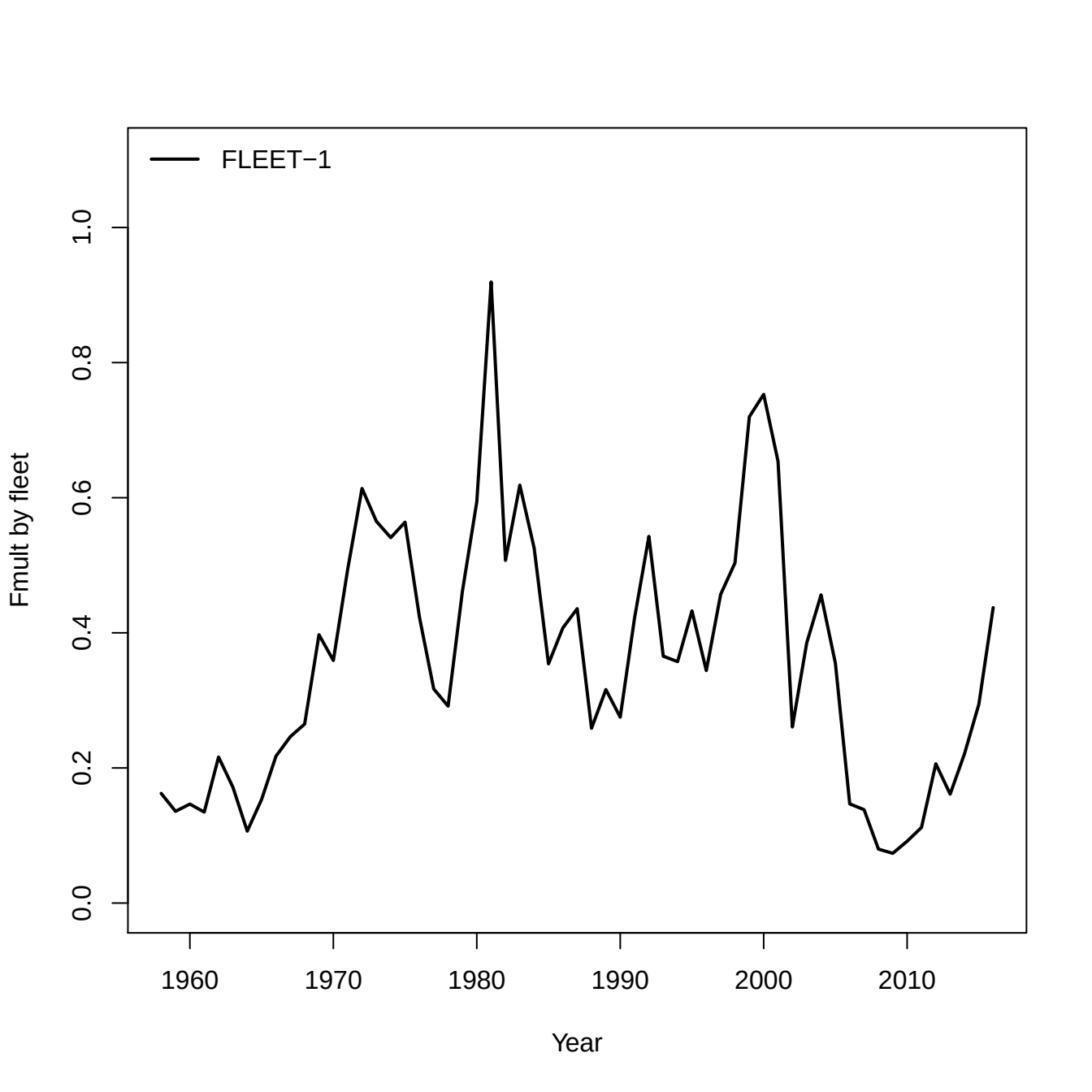
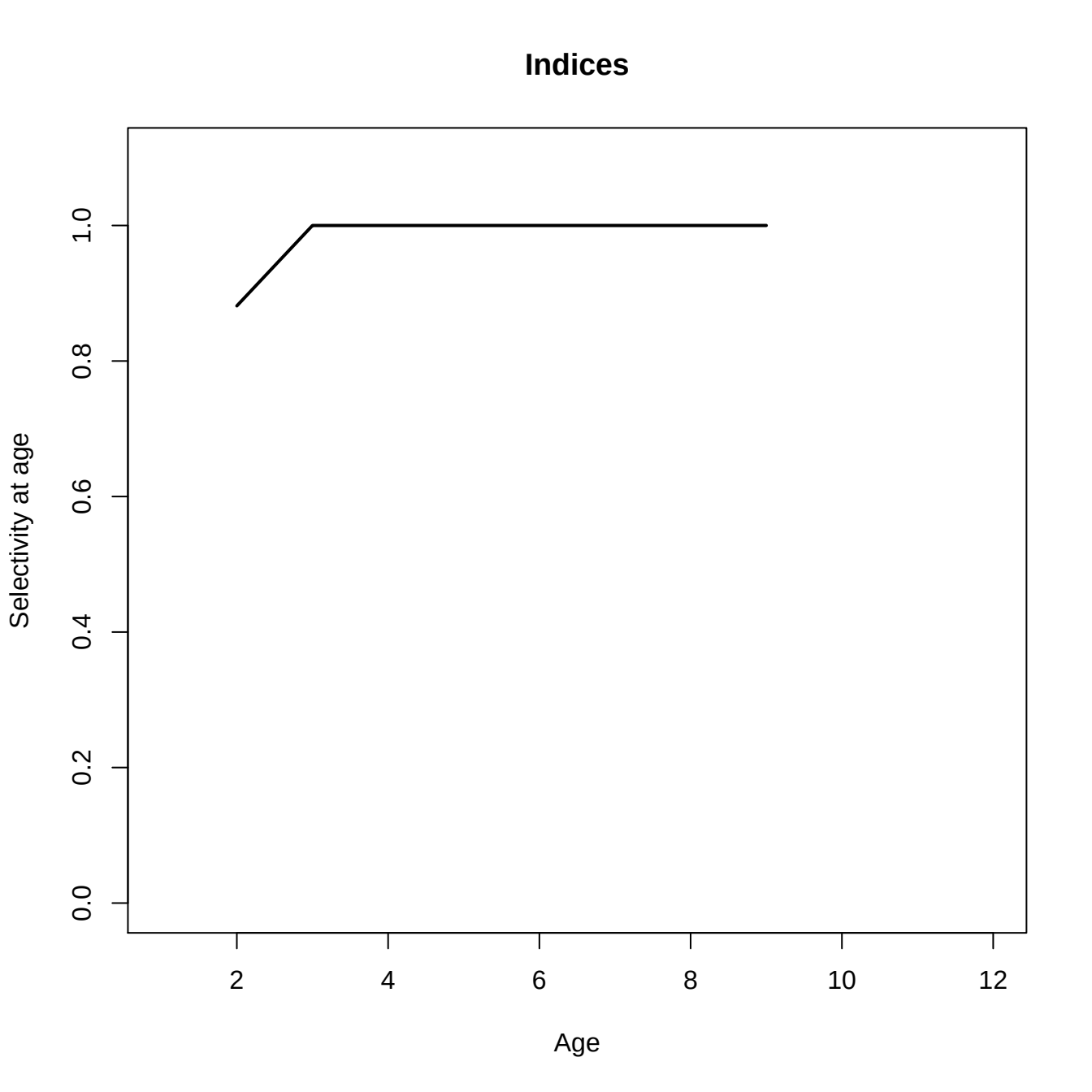
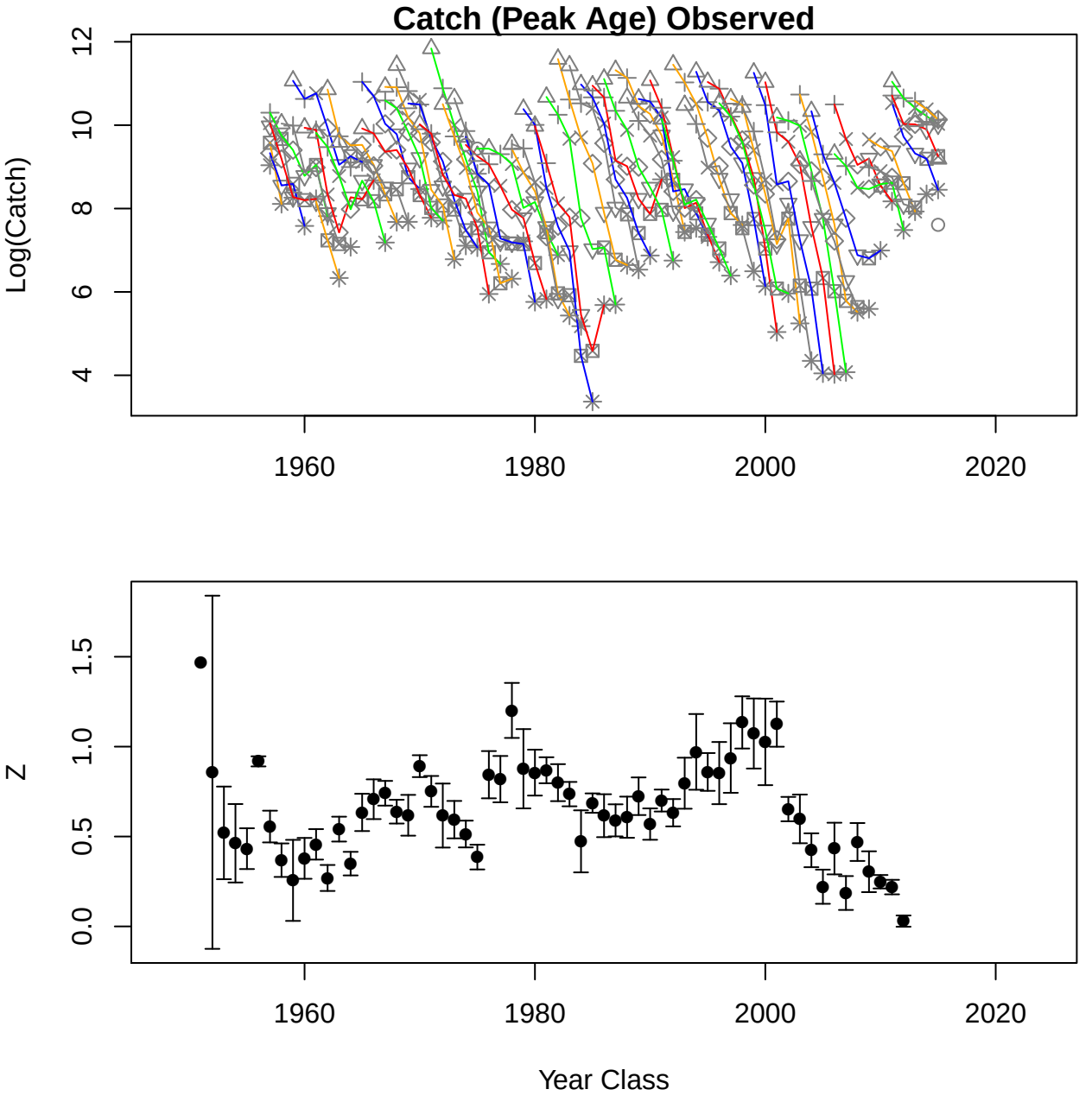
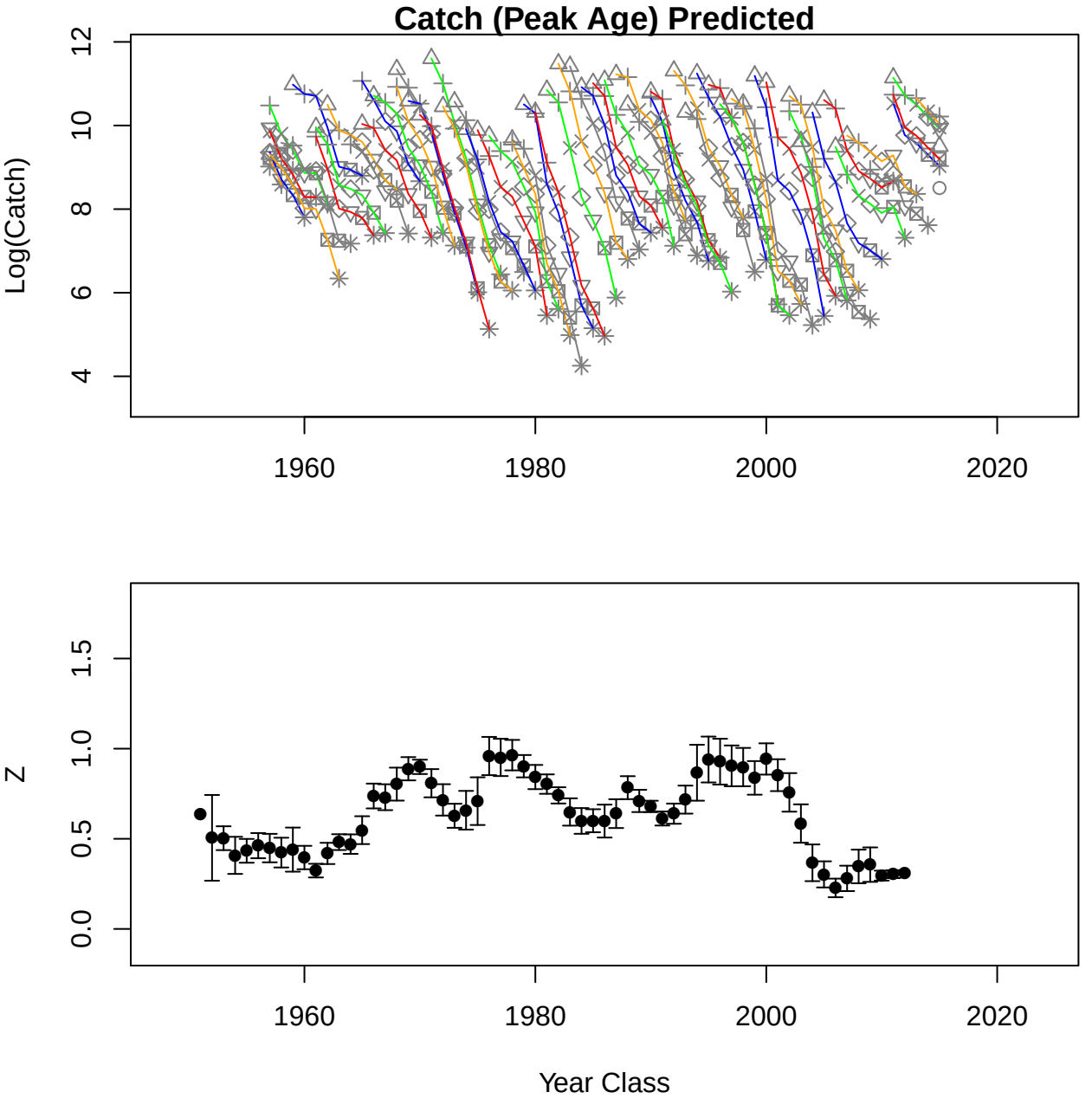
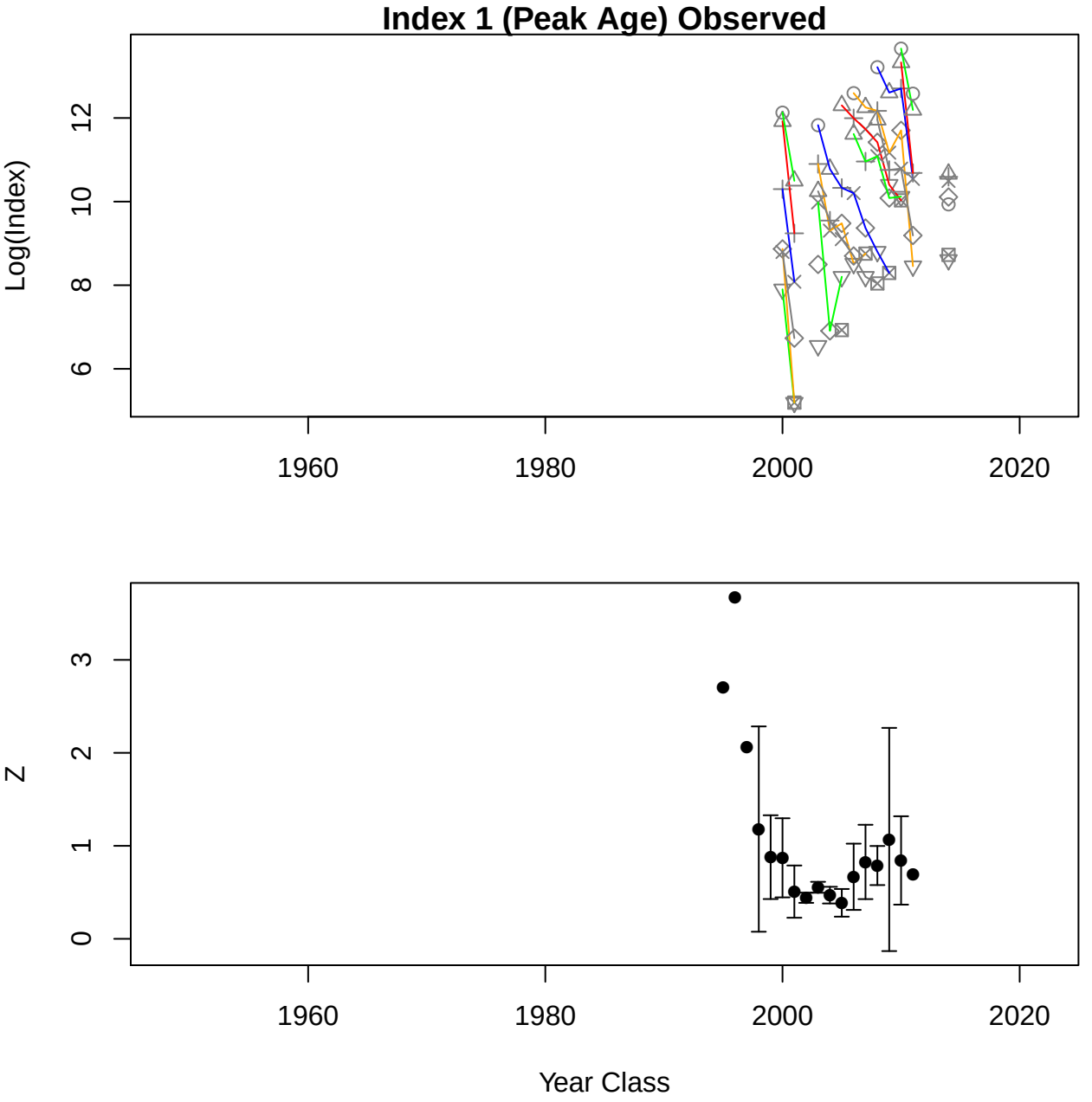

Fleet 1 (FLEET−1)
1958
Selectivity at Age
0.0
0.2
0.4
0.6
0.8
1.0
0
2
4
6
8
10
12
Age

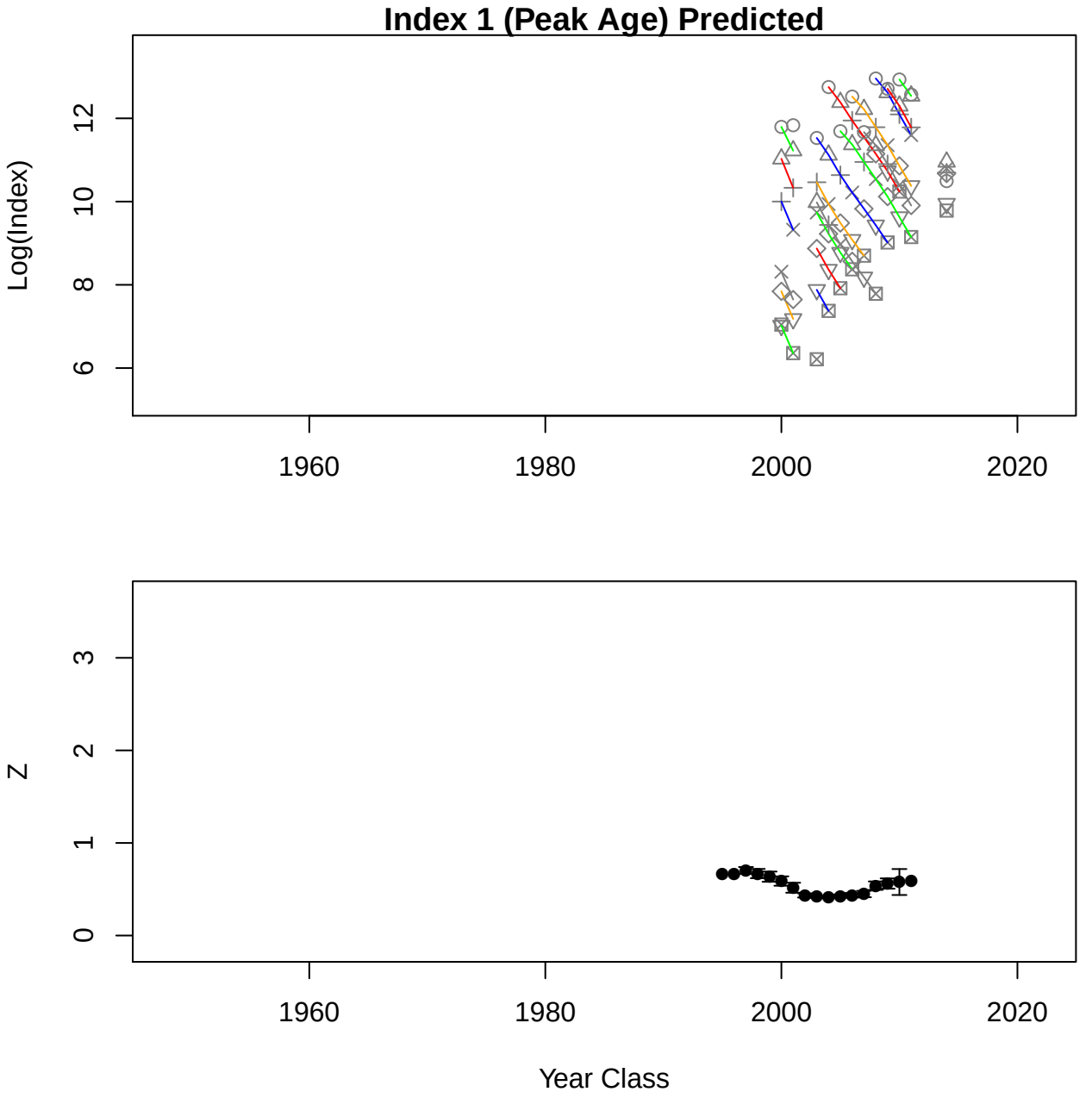

FLEET−1
Fmult by fleet
0.0
0.2
0.4
0.6
0.8
1.0
1960
1970
1980
1990
2000
2010
Year


Indices
Selectivity at age
0.0
0.2
0.4
0.6
0.8
1.0
2
4
6
8
10
12
Age

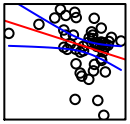
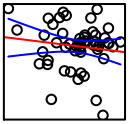
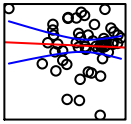
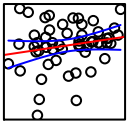
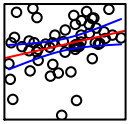
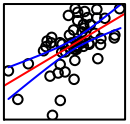
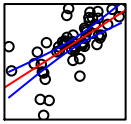
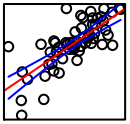

Catch (Peak Age) Observed
Log(Catch)
12
10
8
6
4
1960
1980
2000
2020
Z
1.5
1.0
0.5
0.0
1960
1980
2000
2020
Year Class

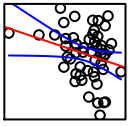
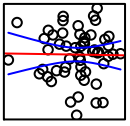
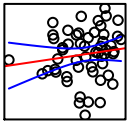
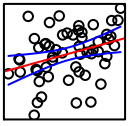
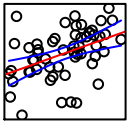
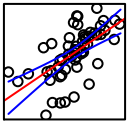
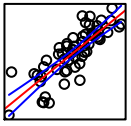

Catch (Peak Age) Predicted
Log(Catch)
12
10
8
6
4
1960
1980
2000
2020
Z
1.5
1.0
0.5
0.0
1960
1980
2000
2020
Year Class


Index 1 (Peak Age) Observed
Log(Index)
6
8
10
12
1960
1980
2000
2020
Z
0
1
2
3
1960
1980
2000
2020
Year Class

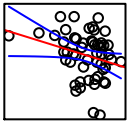
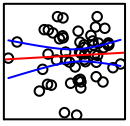
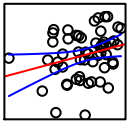
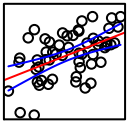
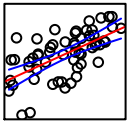
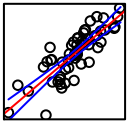

Index 1 (Peak Age) Predicted
Log(Index)
6
8
10
12
1960
1980
2000
2020
Z
0
1
2
3
1960
1980
2000
2020
Year Class

Catch Observed









age−9

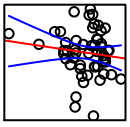
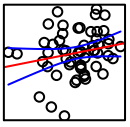
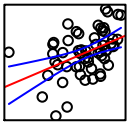
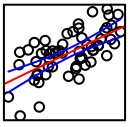
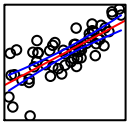







age−8

0.76







age−7

0.82

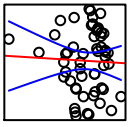
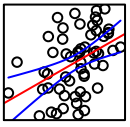
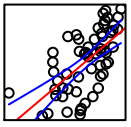
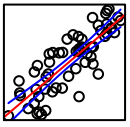
0.68






age−6

0.83

0.62

0.58

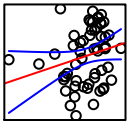
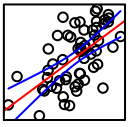
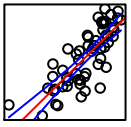




age−5

0.77

0.62

0.45

0.30




age−4

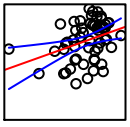
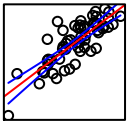
0.83

0.65

0.51

0.33

0.20



age−3

0.80

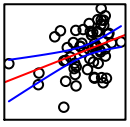
0.64

0.45

0.27

0.14

−0.05


age−2

0.82

0.61

0.44

0.21

0.06

−0.02

−0.13

age−1

0.38

0.35

0.23

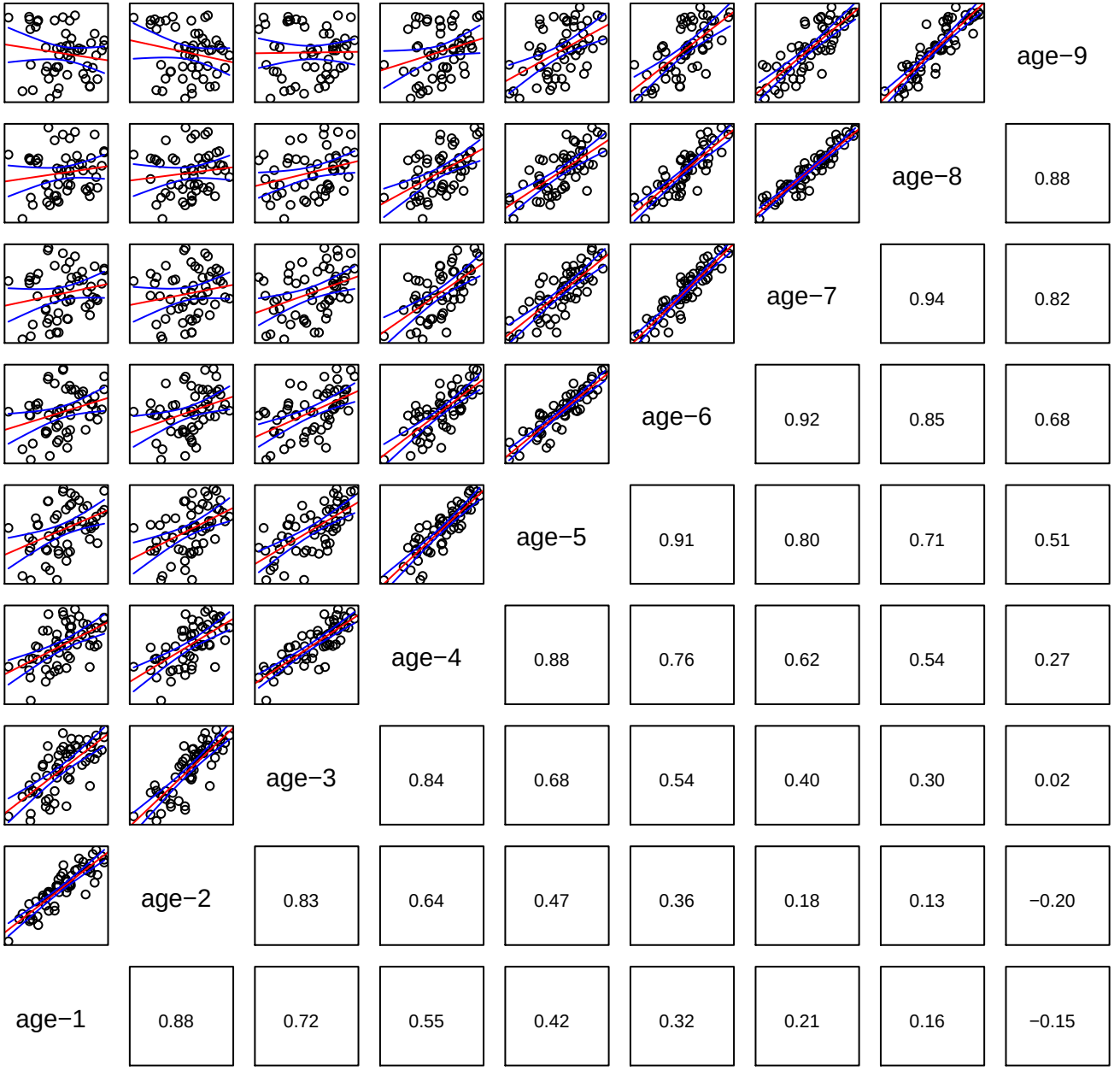
−0.04

−0.13

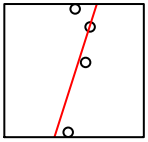
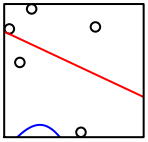
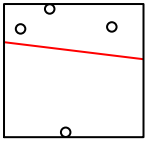
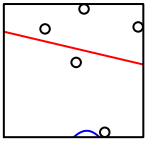
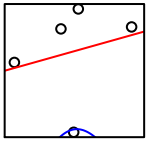
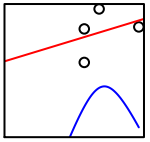
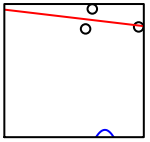
−0.27

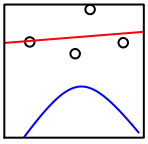
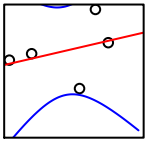
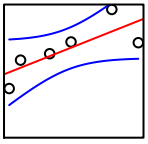
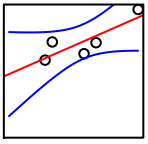
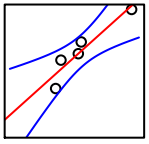
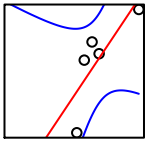
−0.27

−0.30

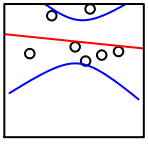
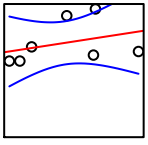
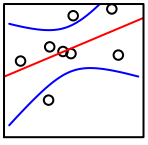
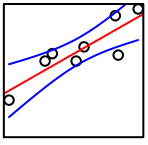
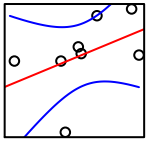

Catch Predicted
age−9
age−8
0.88
age−7
0.94
0.82
age−6
0.92
0.85
0.68
age−5
0.91
0.80
0.71
0.51
age−4
0.88
0.76
0.62
0.54
0.27
age−3
0.84
0.68
0.54
0.40
0.30
0.02
age−2
0.83
0.64
0.47
0.36
0.18
0.13
−0.20
age−1
0.88
0.72
0.55
0.42
0.32
0.21
0.16
−0.15

Index 1 Observed








age−9

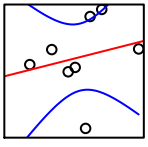
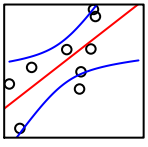
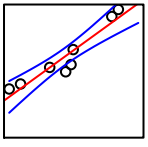
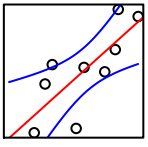






age−8

−0.31






age−7

0.80

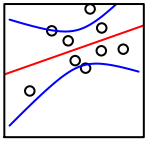
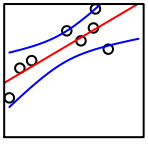
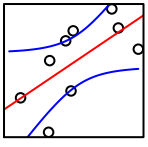
0.35





age−6

0.44

0.94

0.24

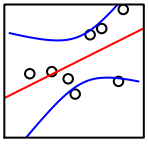
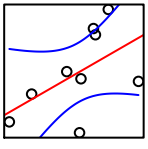



age−5

0.77

0.87

0.84

−0.17



age−4

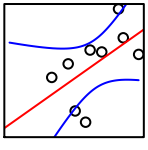
0.65

0.95

0.49

0.78

−0.08


age−3

0.54

0.81

0.71

0.34

0.34

−0.37

age−2

0.57

0.53

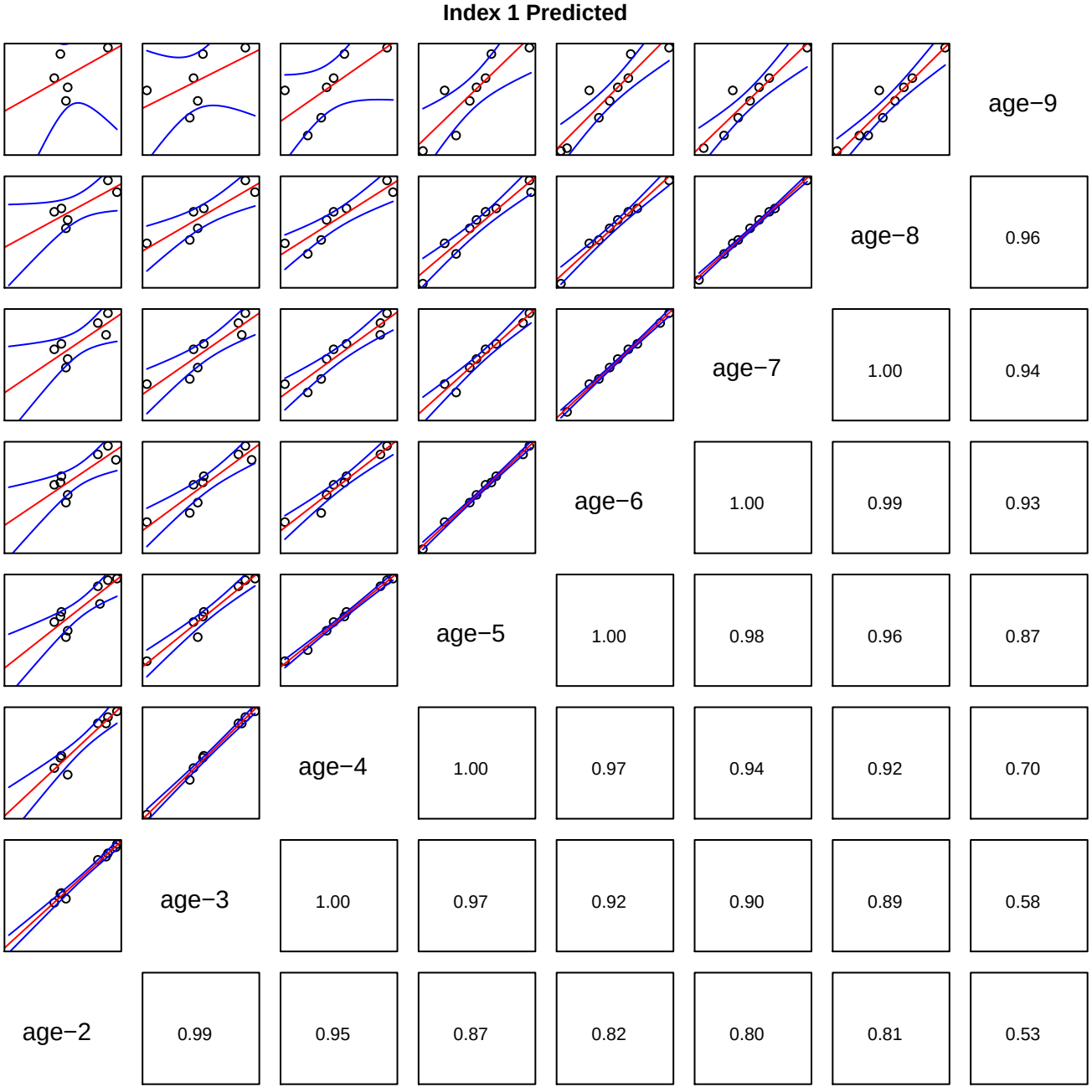
0.41

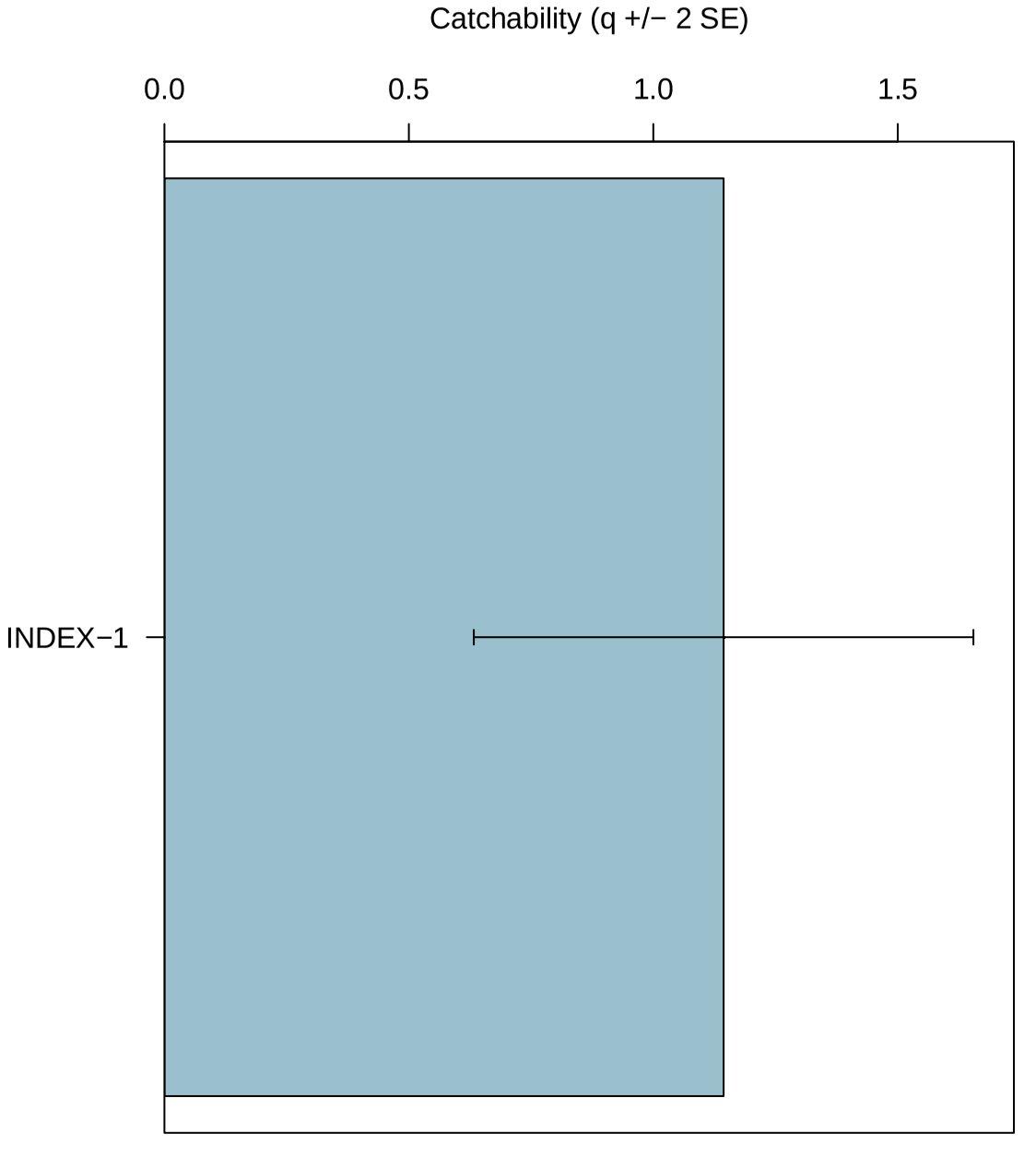
0.23

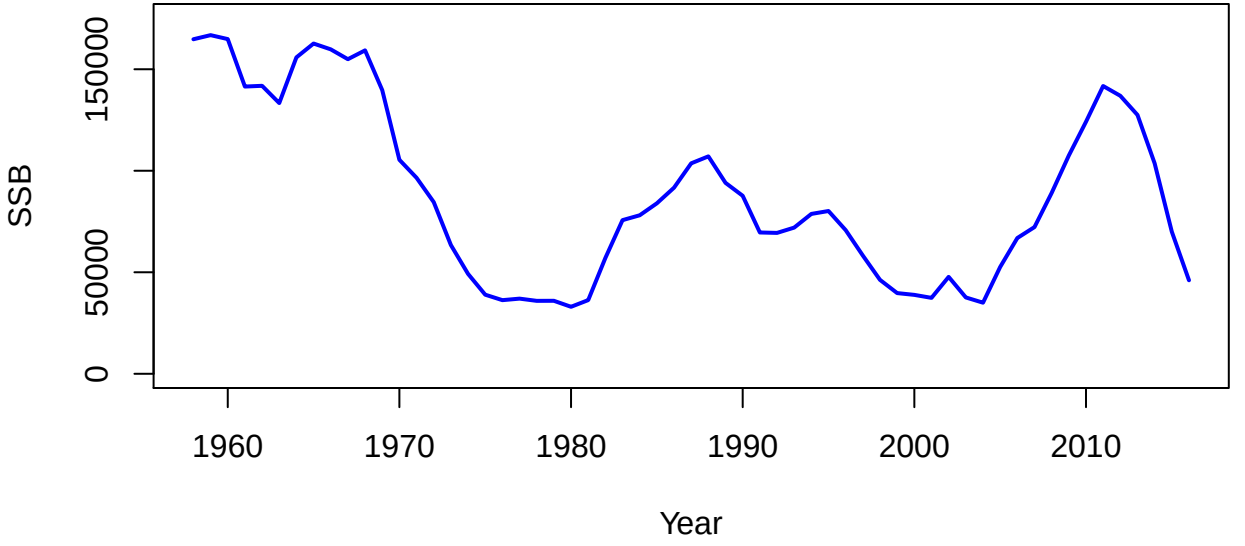
−0.15

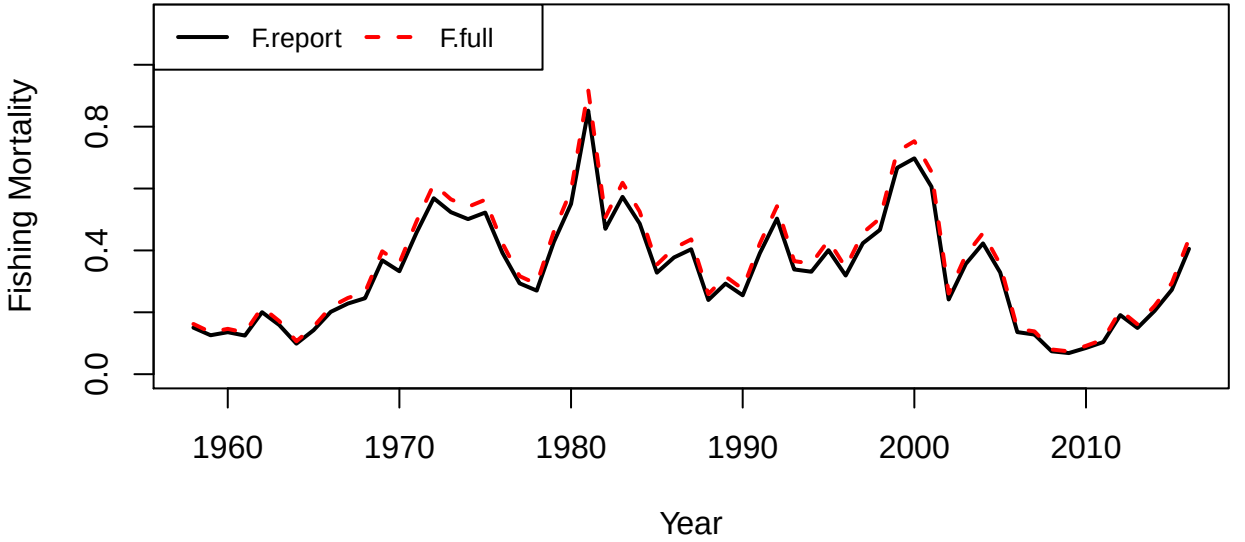
0.16

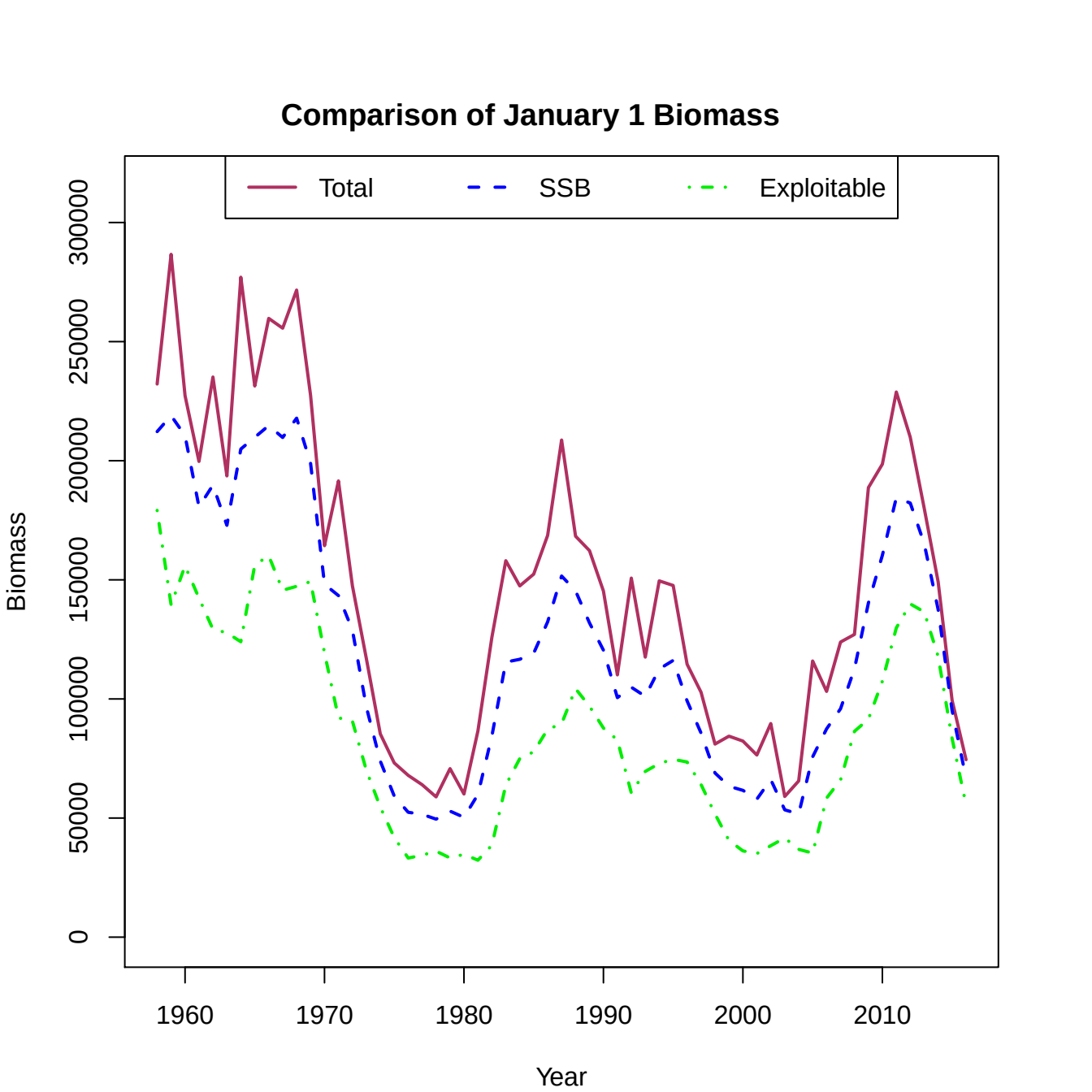
0.57

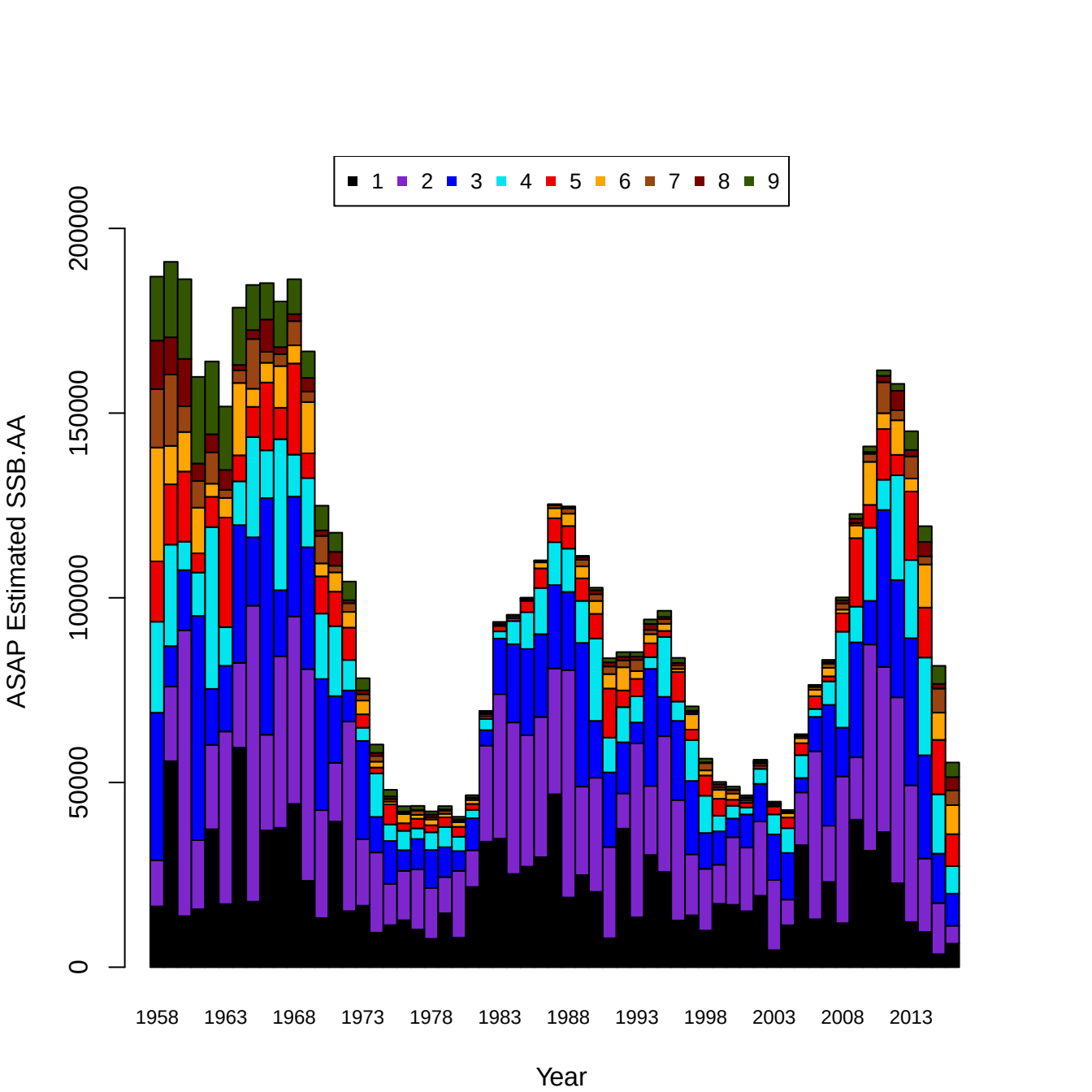

Index 1 Predicted
age−9
age−8
0.96
age−7
1.00
0.94
age−6
1.00
0.99
0.93
age−5
1.00
0.98
0.96
0.87
age−4
1.00
0.97
0.94
0.92
0.70
age−3
1.00
0.97
0.92
0.90
0.89
0.58
age−2
0.99
0.95
0.87
0.82
0.80
0.81
0.53

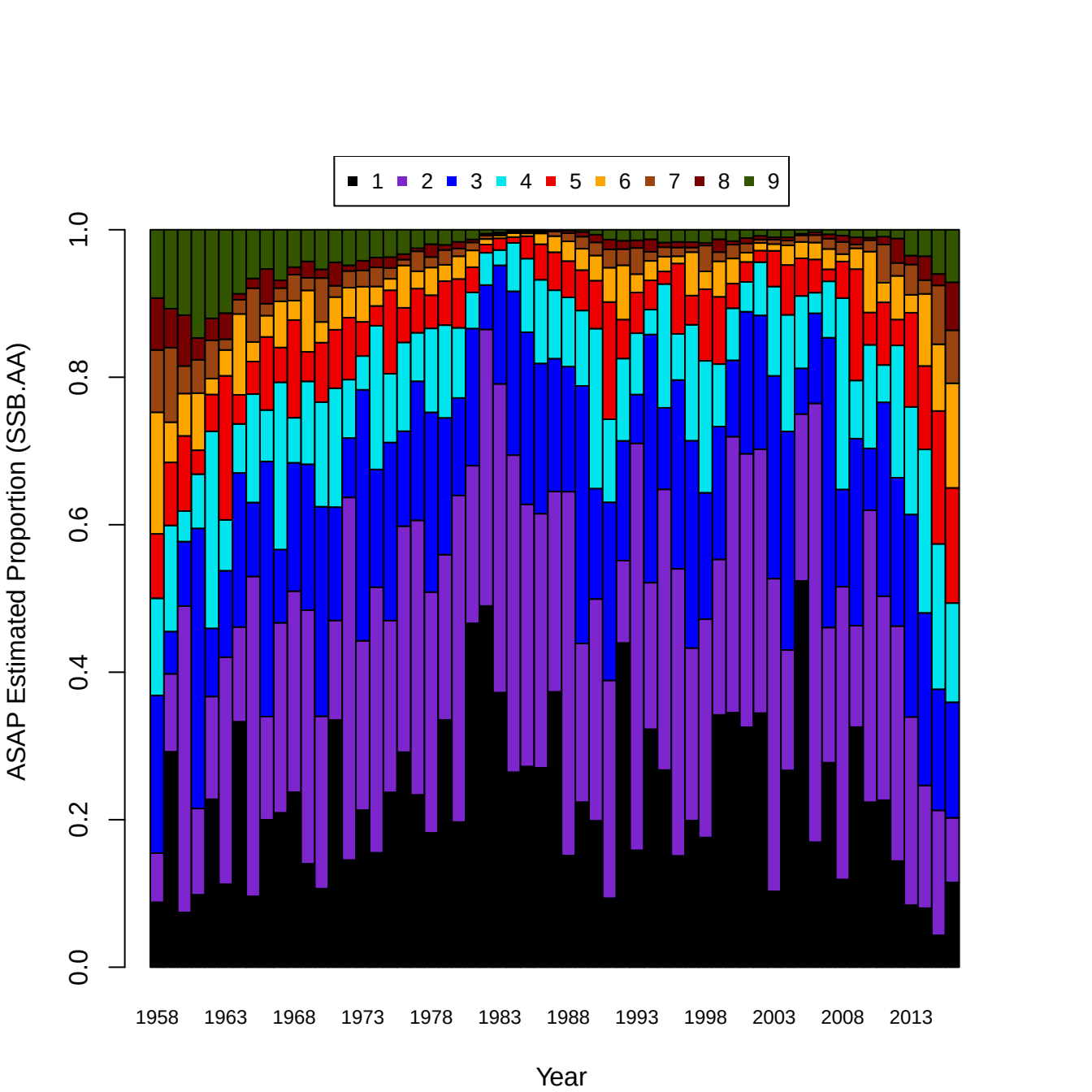

Catchability (q +/− 2 SE)
0.0
0.5
1.0
1.5
INDEX−1

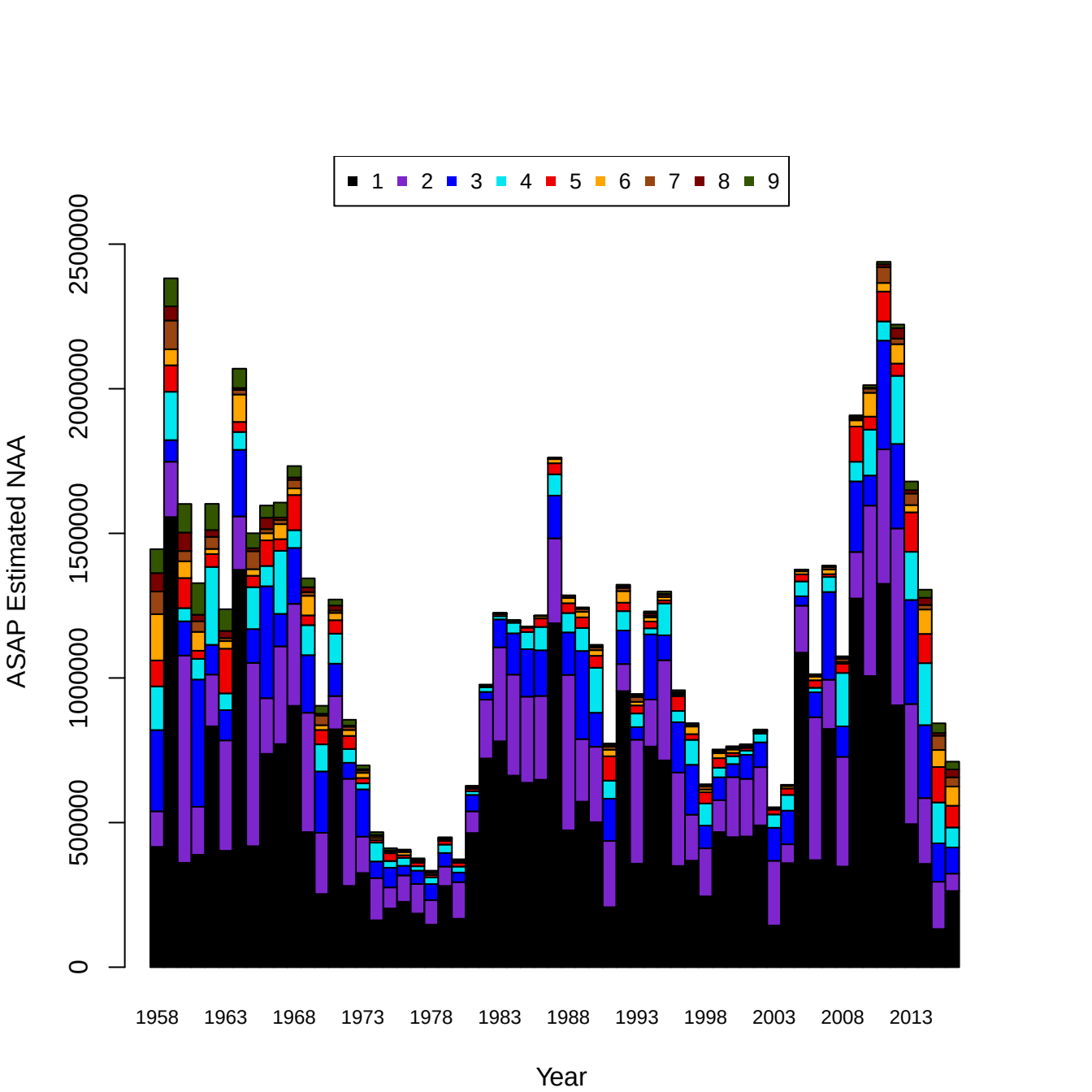

SSB
0
50000
150000
1960
1970
1980
1990
2000
2010
Year

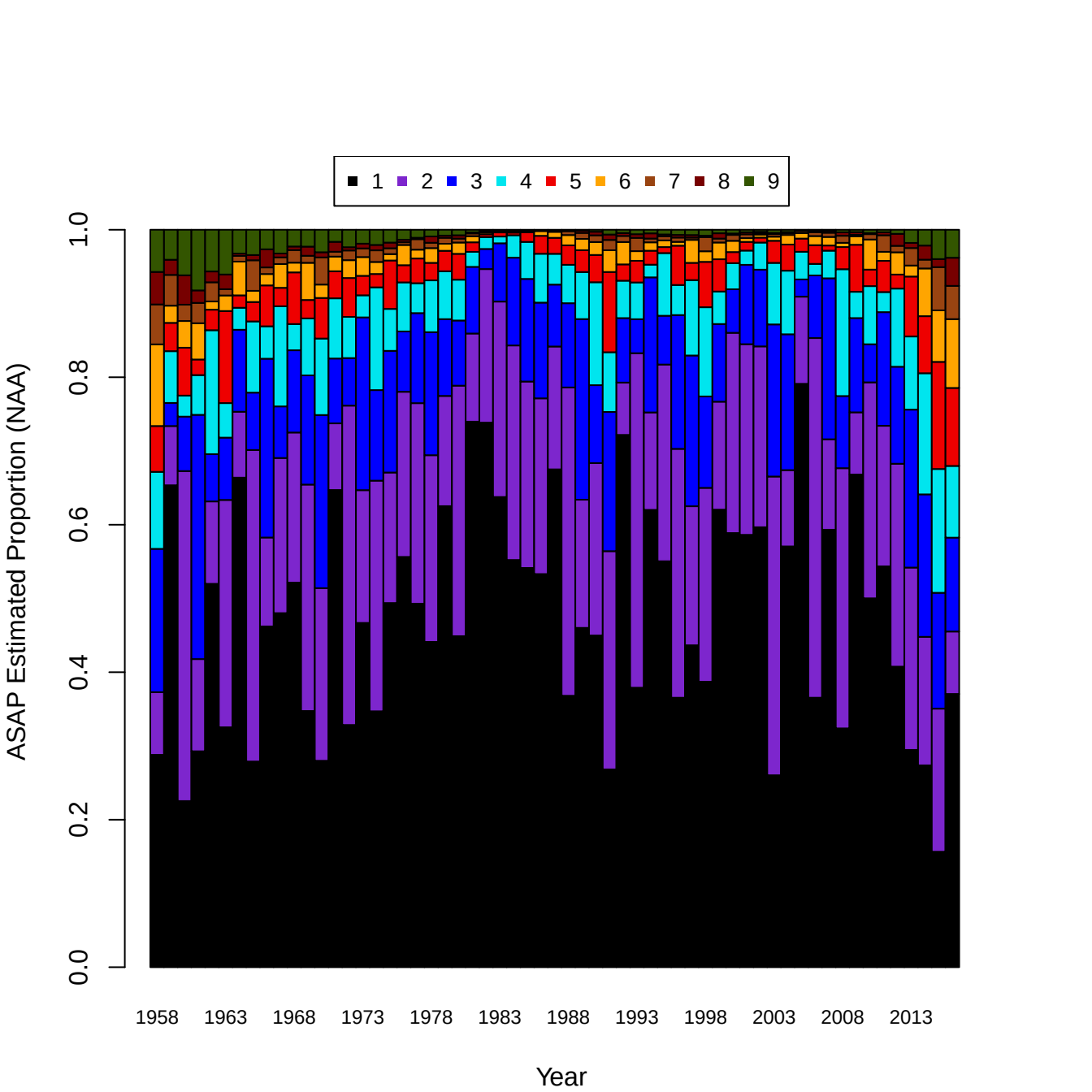

F.report
F.full
Fishing Mortality
0.0
0.4
0.8
1960
1970
1980
1990
2000
2010
Year

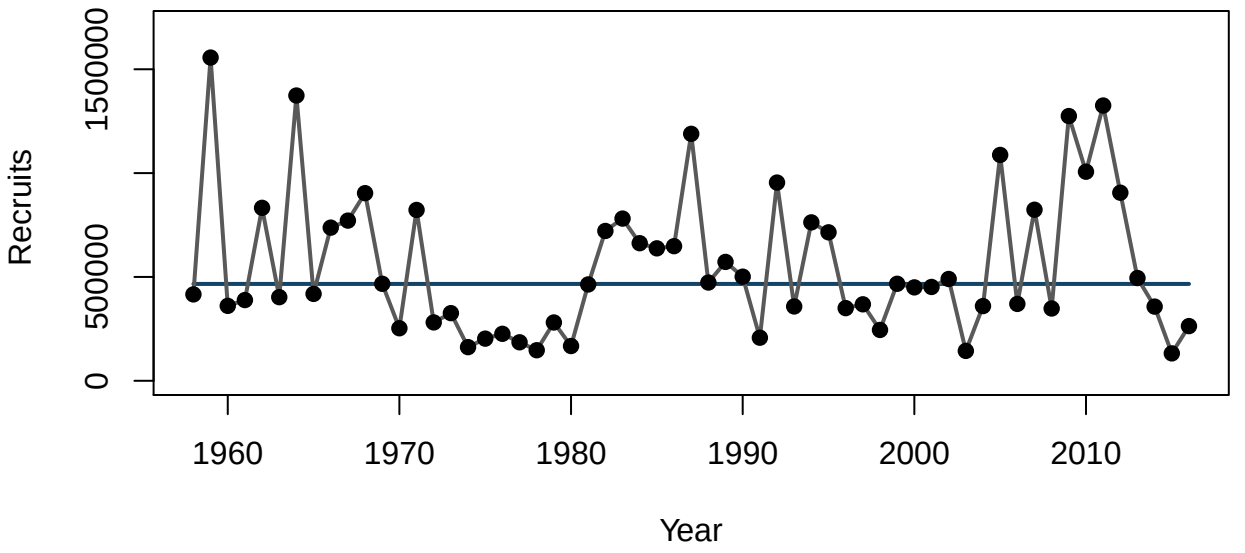

Comparison of January 1 Biomass
Total
SSB
Exploitable
Biomass
0
50000
100000
150000
200000
250000
300000
1960
1970
1980
1990
2000
2010
Year

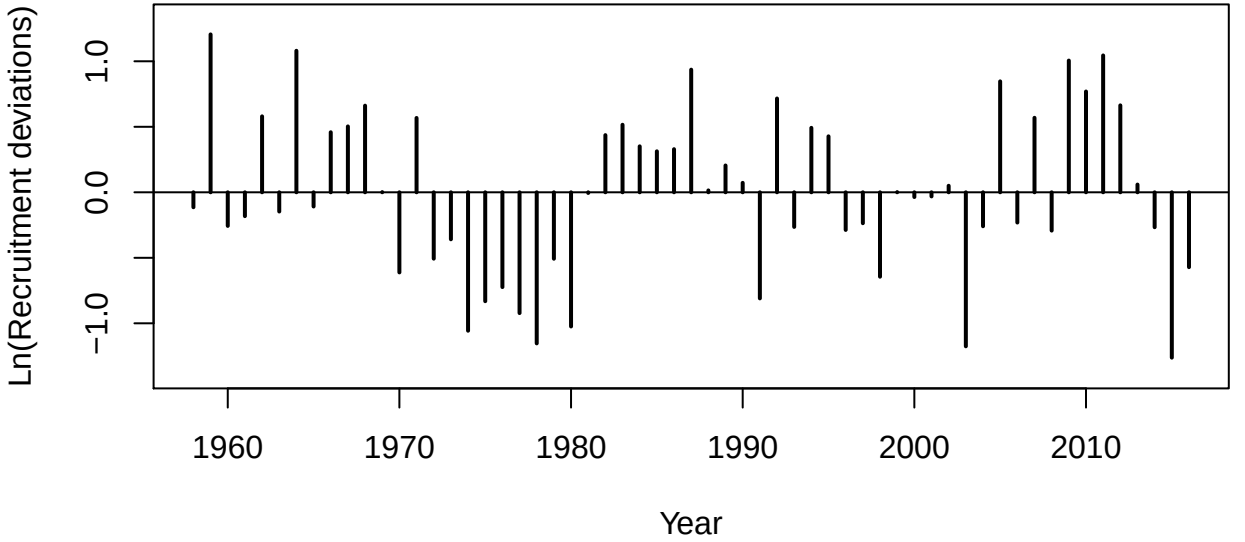

1 2 3 4 5 6 7 8 9
ASAP Estimated SSB.AA
0
50000
100000
150000
200000
1958
1963
1968
1973
1978
1983
1988
1993
1998
2003
2008
2013
Year

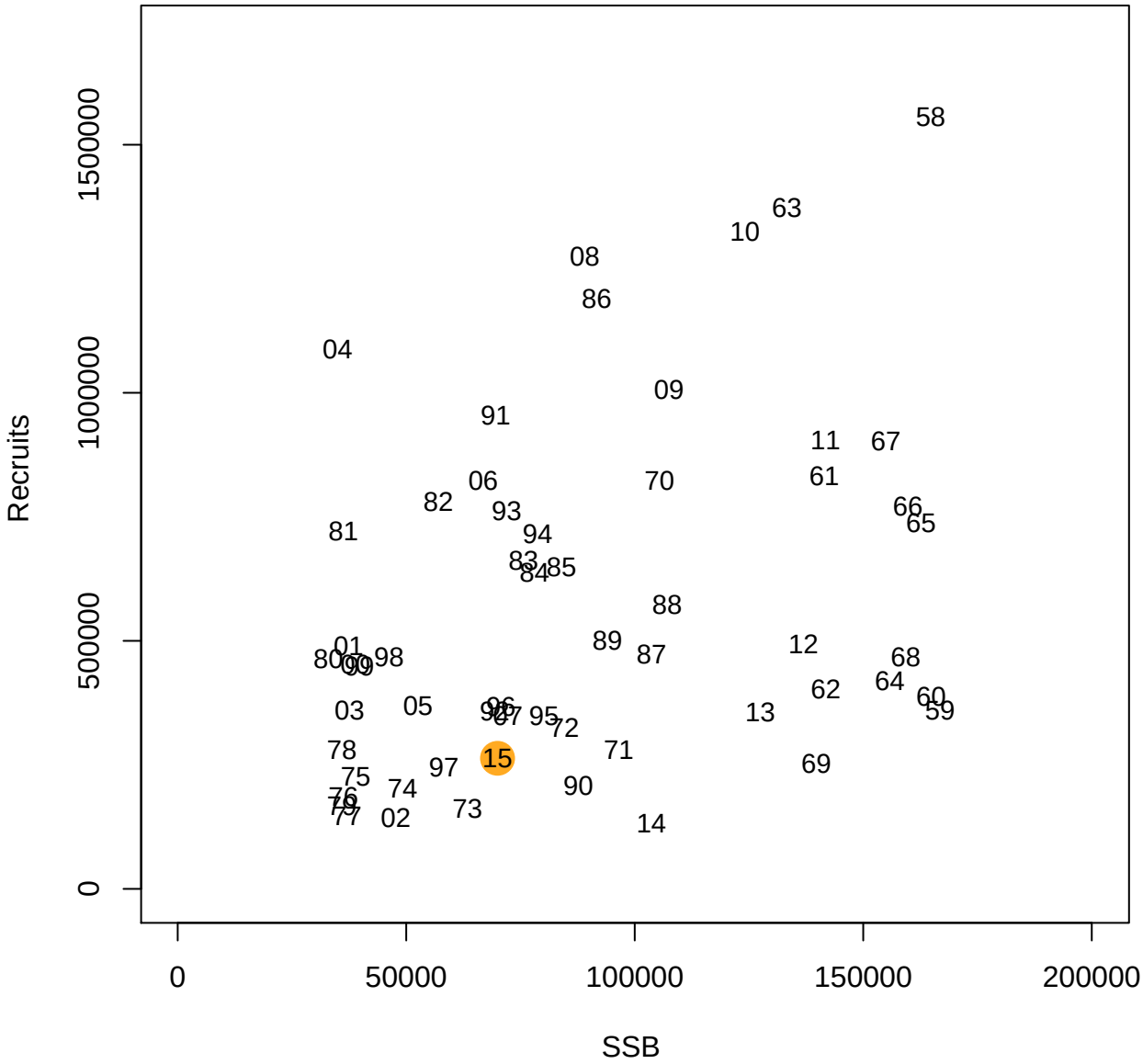

1 2 3 4 5 6 7 8 9
ASAP Estimated Proportion (SSB.AA)
0.0
0.2
0.4
0.6
0.8
1.0
1958
1963
1968
1973
1978
1983
1988
1993
1998
2003
2008
2013
Year


1 2 3 4 5 6 7 8 9
ASAP Estimated NAA
0
500000
1000000
1500000
2000000
2500000
1958
1963
1968
1973
1978
1983
1988
1993
1998
2003
2008
2013
Year

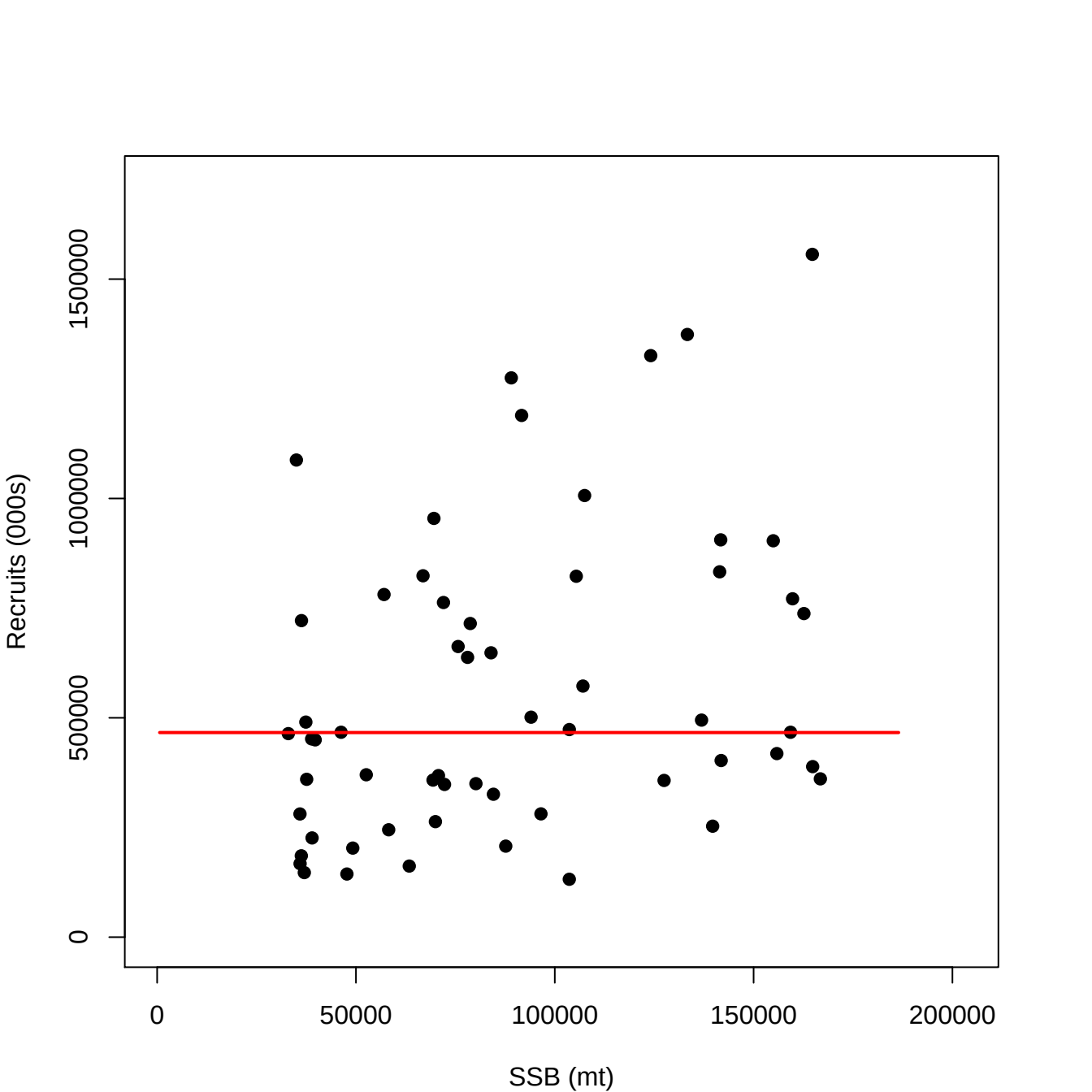

1 2 3 4 5 6 7 8 9
ASAP Estimated Proportion (NAA)
0.0
0.2
0.4
0.6
0.8
1.0
1958
1963
1968
1973
1978
1983
1988
1993
1998
2003
2008
2013
Year

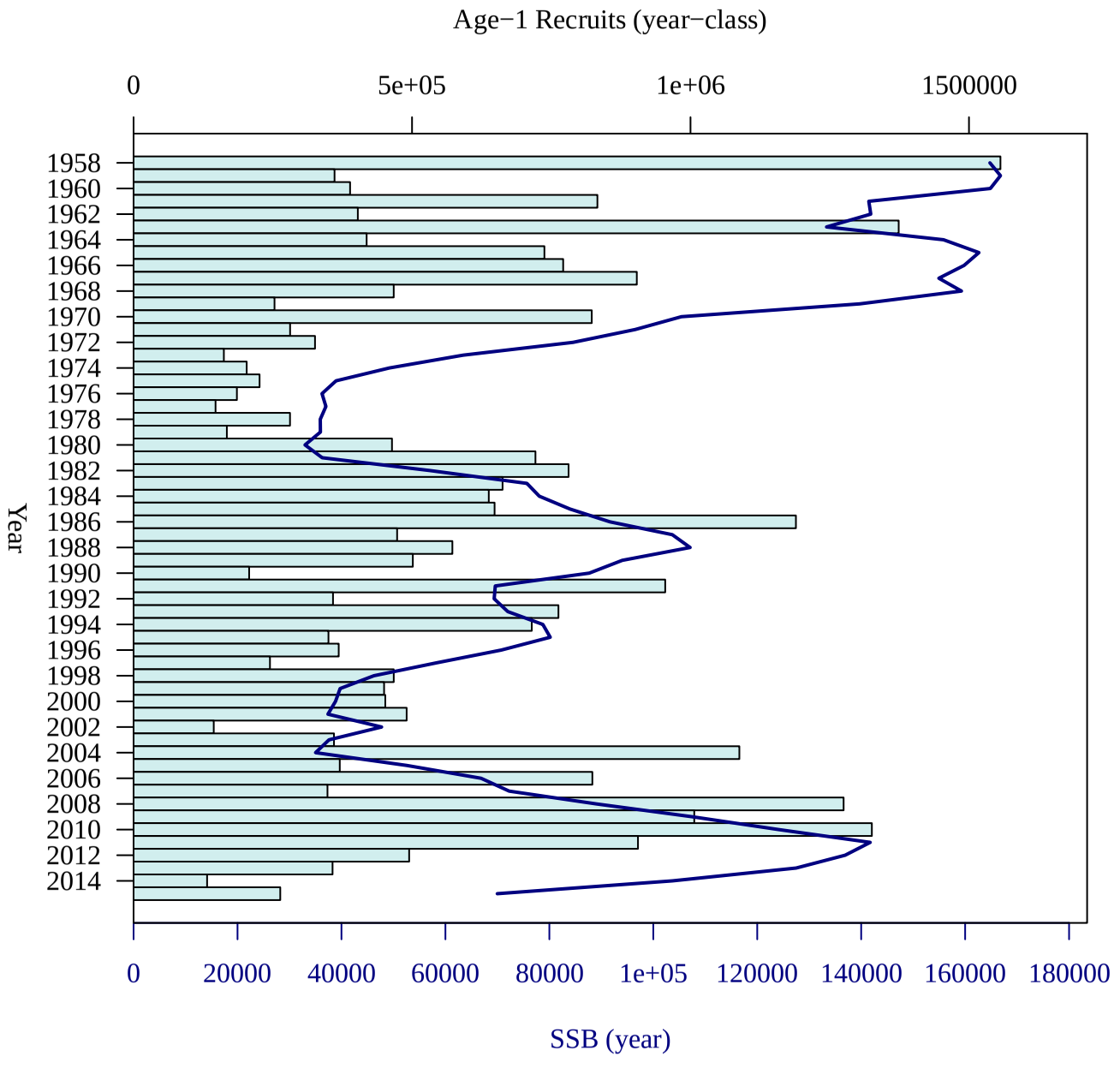

Recruits
0
500000
1500000
1960
1970
1980
1990
2000
2010
Year

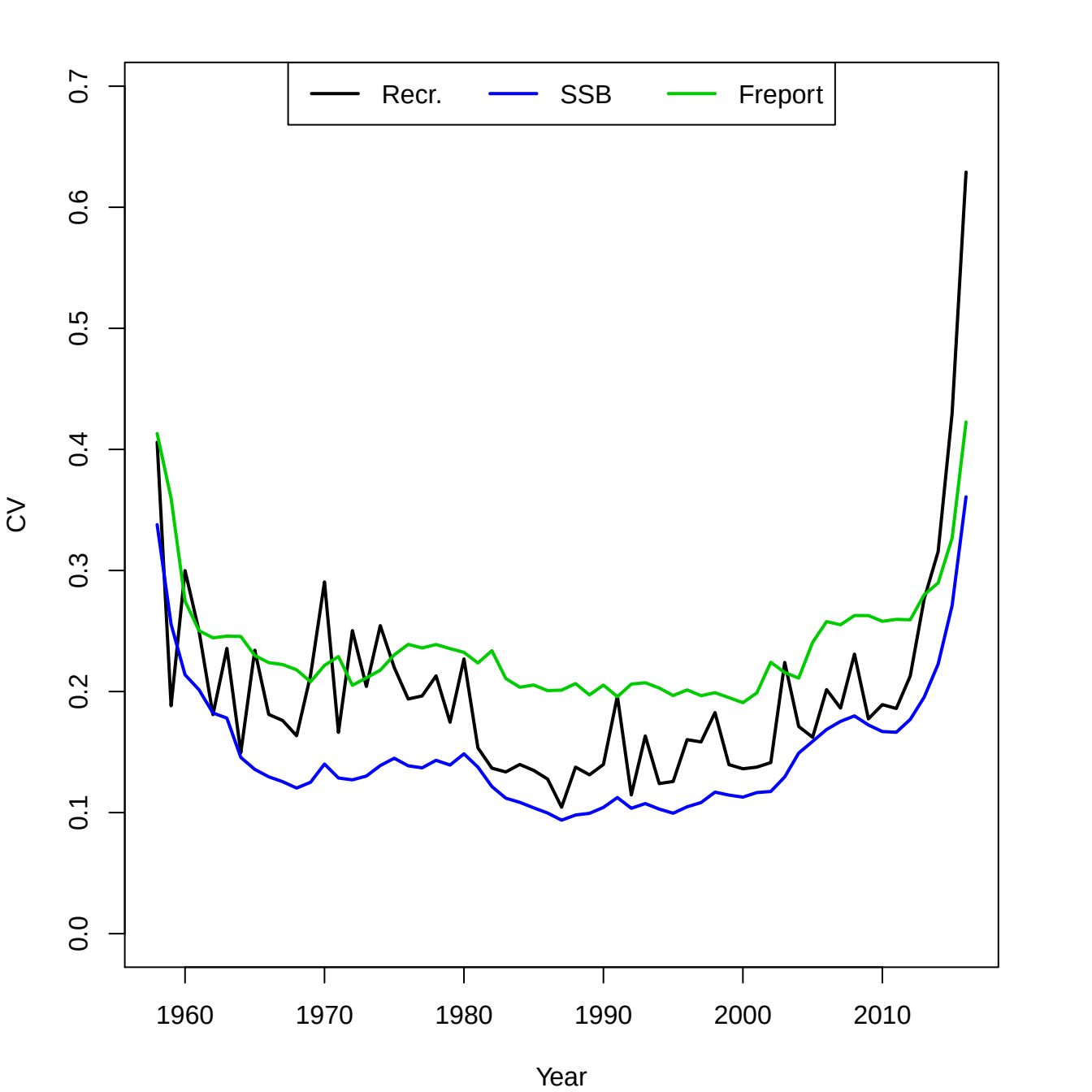

Ln(Recruitment deviations)
−1.0
0.0
1.0
1960
1970
1980
1990
2000
2010
Year



Recruits
SSB
0
500000
1000000
1500000
0
50000
100000
150000
200000
58
63
10
08
86
04
09
91
11
67
61
06
70
82
93
66
65
81
94
83
84
85
88
89
87
12
01
80
99
98
68
64
62
60
59
03
05
96
97
95
72
13
78
71
15
97
69
75
74
90
76
79
77
02
73
14


Recruits (000s)
0
500000
1000000
1500000
0
50000
100000
150000
200000
SSB (mt)


Age−1 Recruits (year−class)
0
5e+05
1e+06
1500000
Year
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
0
20000
40000
60000
80000
1e+05
120000
140000
160000
180000
SSB (year)


Recr.
SSB
Freport
CV
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
1960
1970
1980
1990
2000
2010
Year