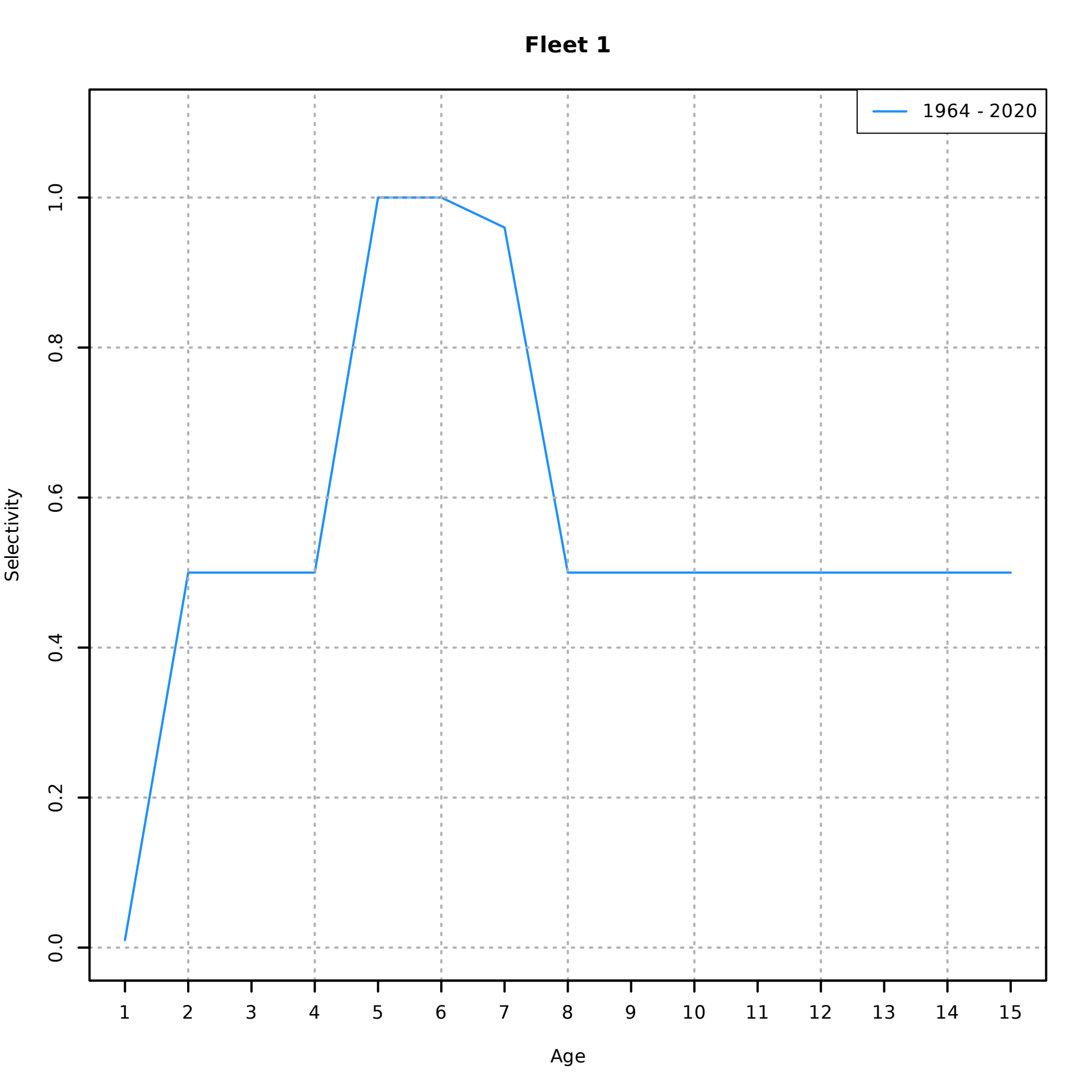
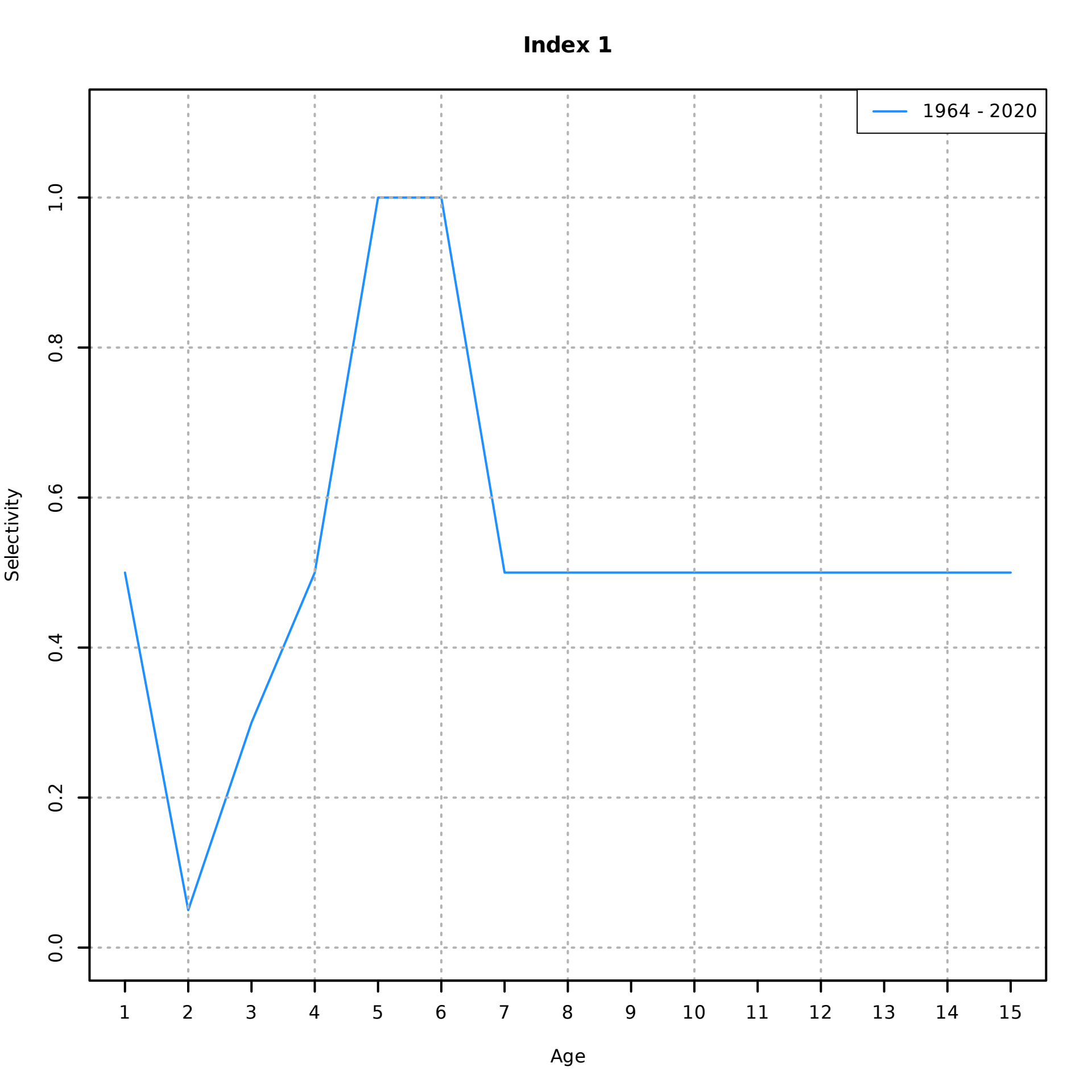
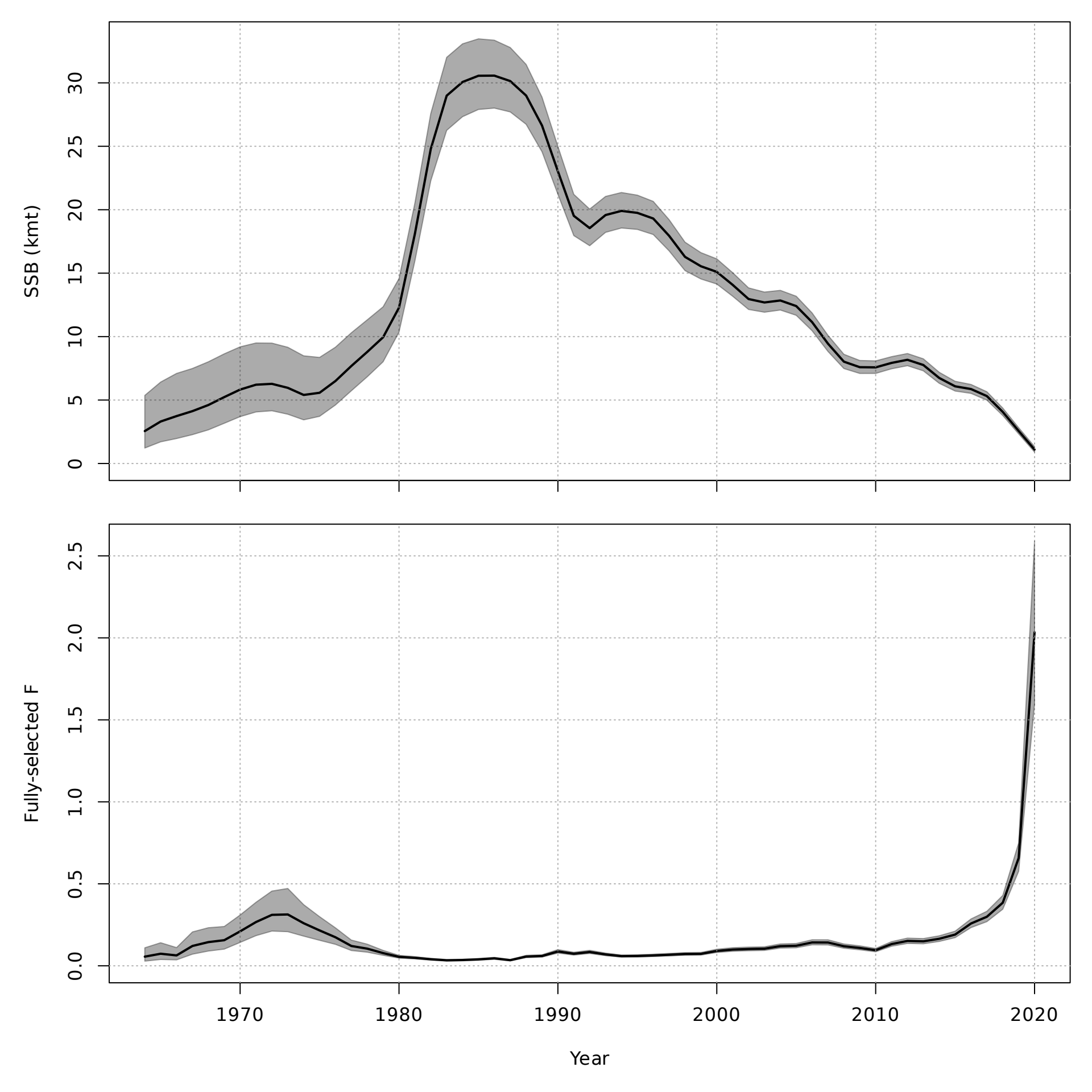
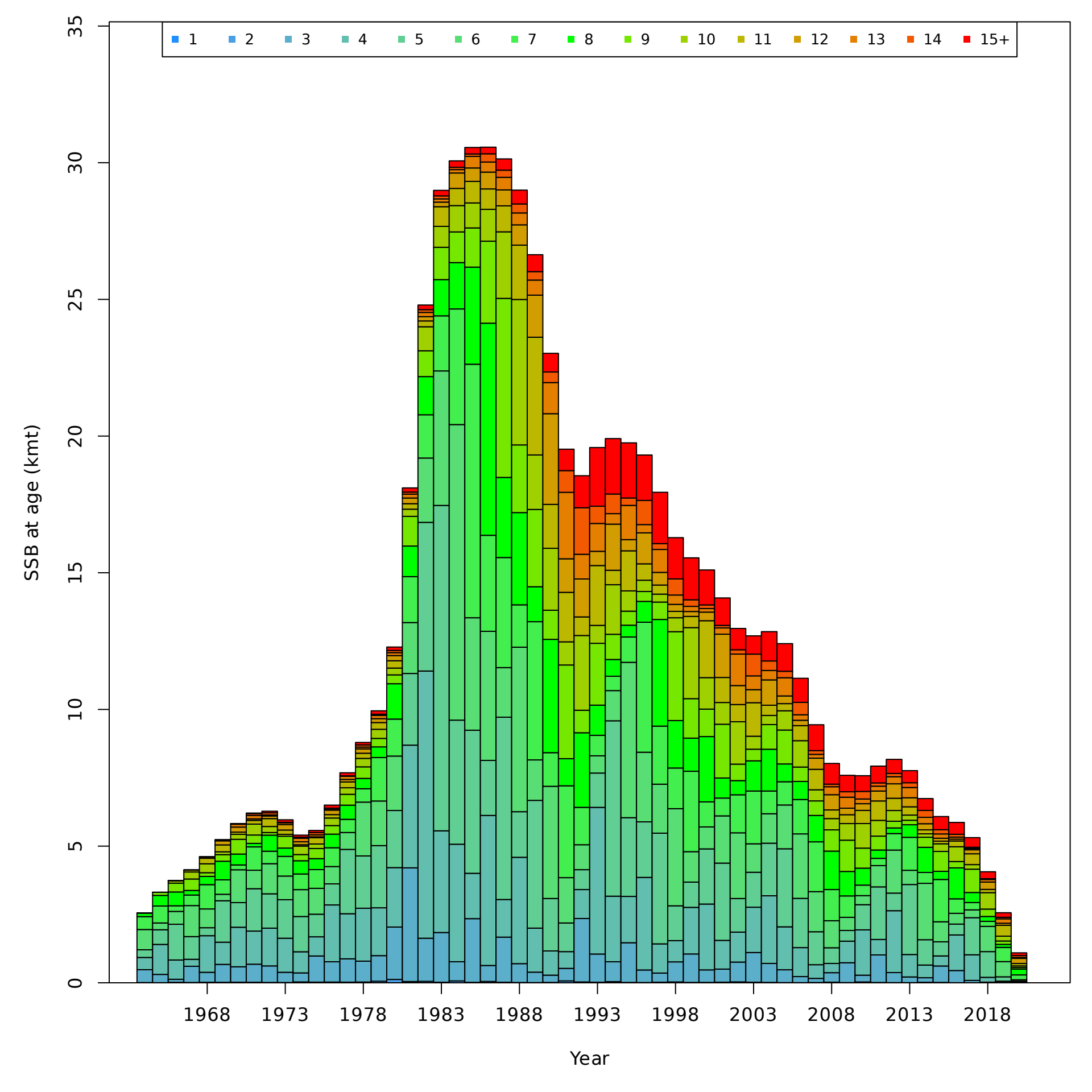
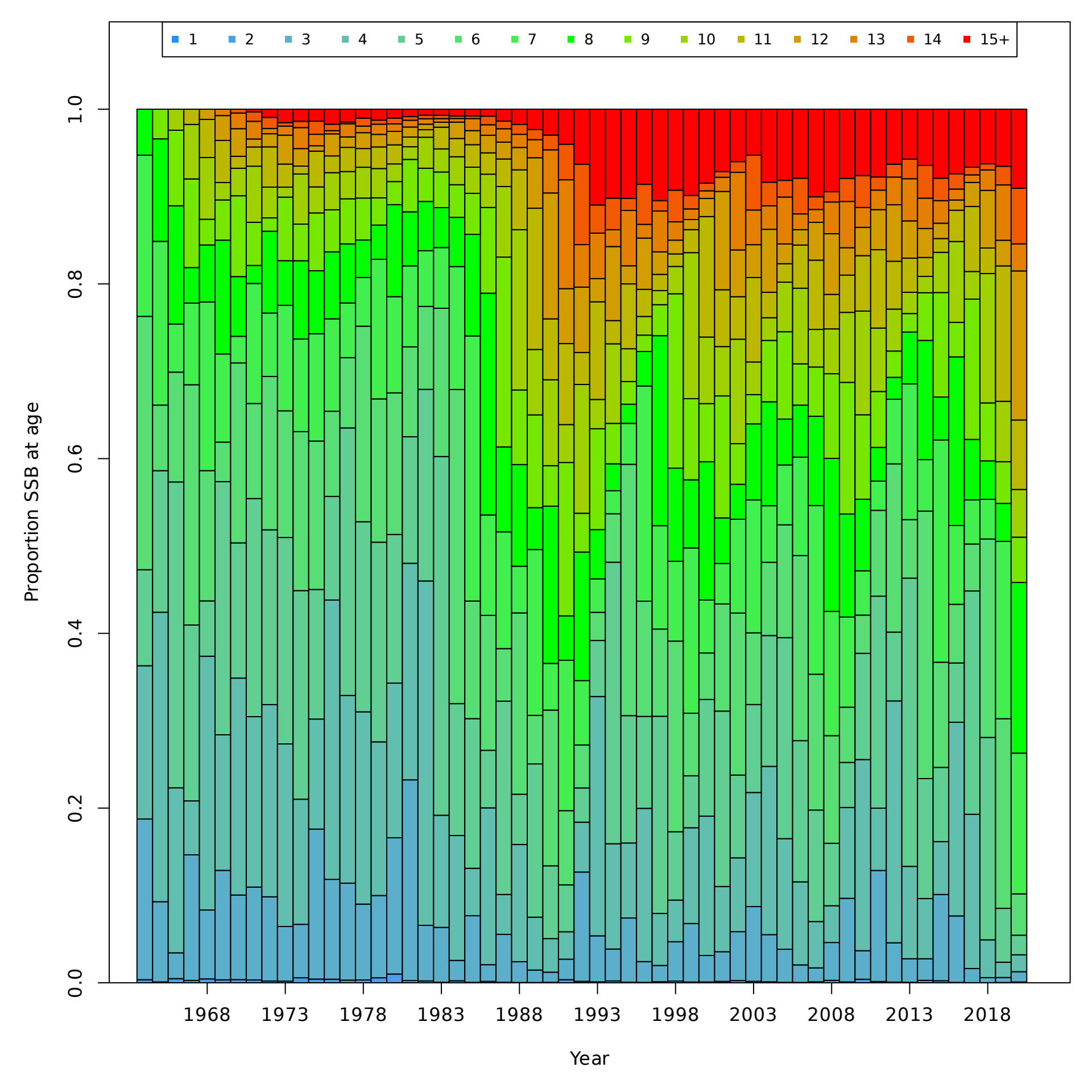
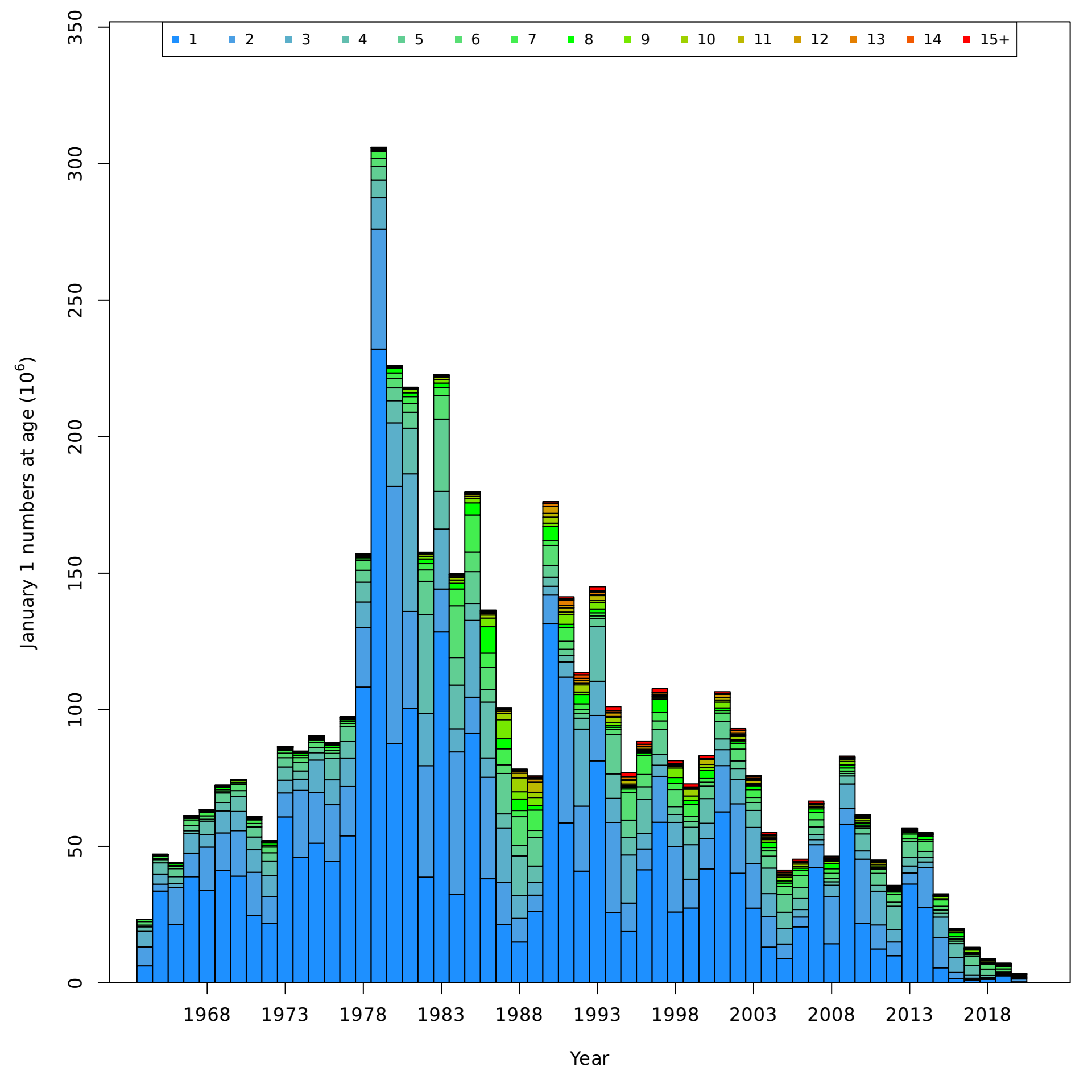

Fleet 1
1964 - 2020
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Age

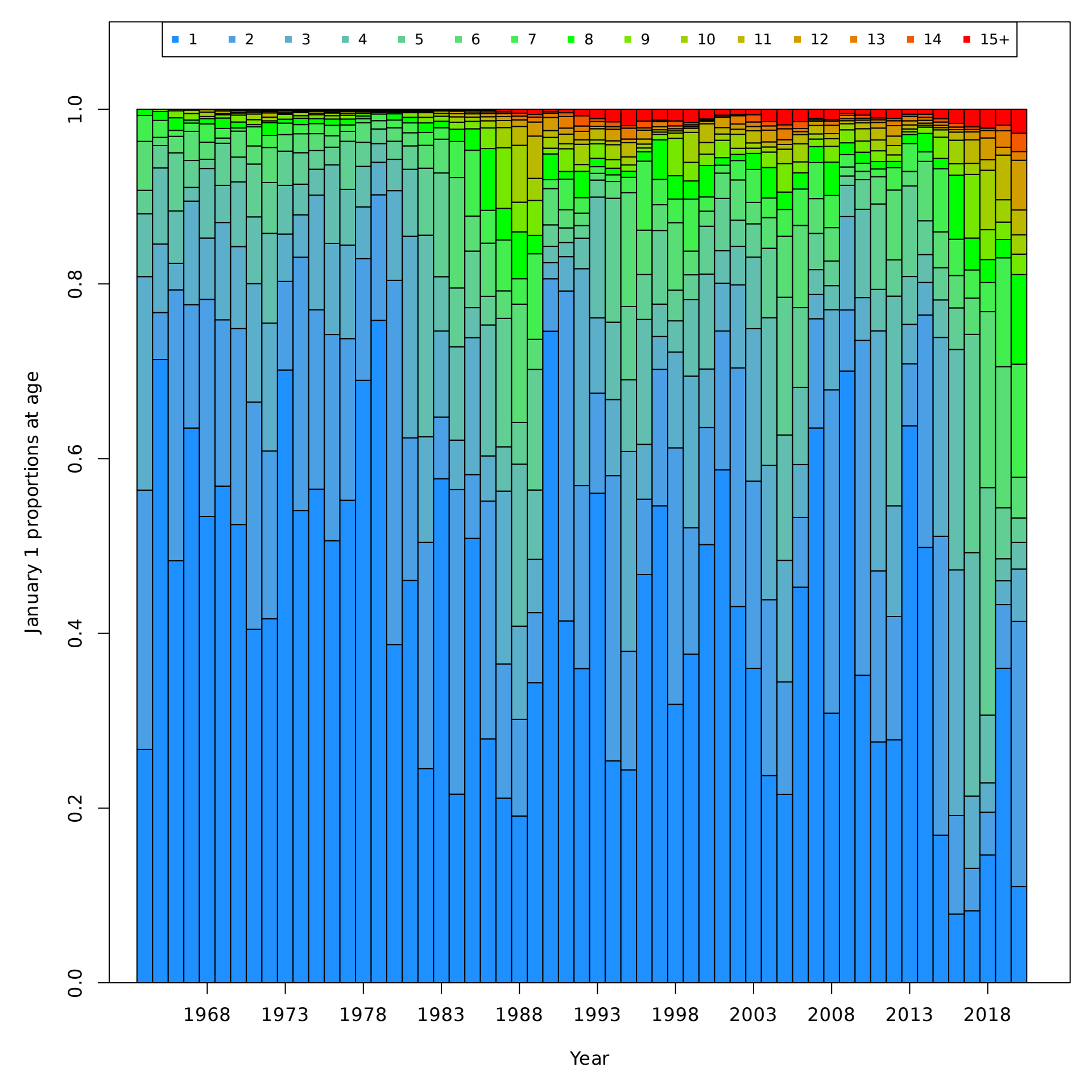

Index 1
1964 - 2020
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Age

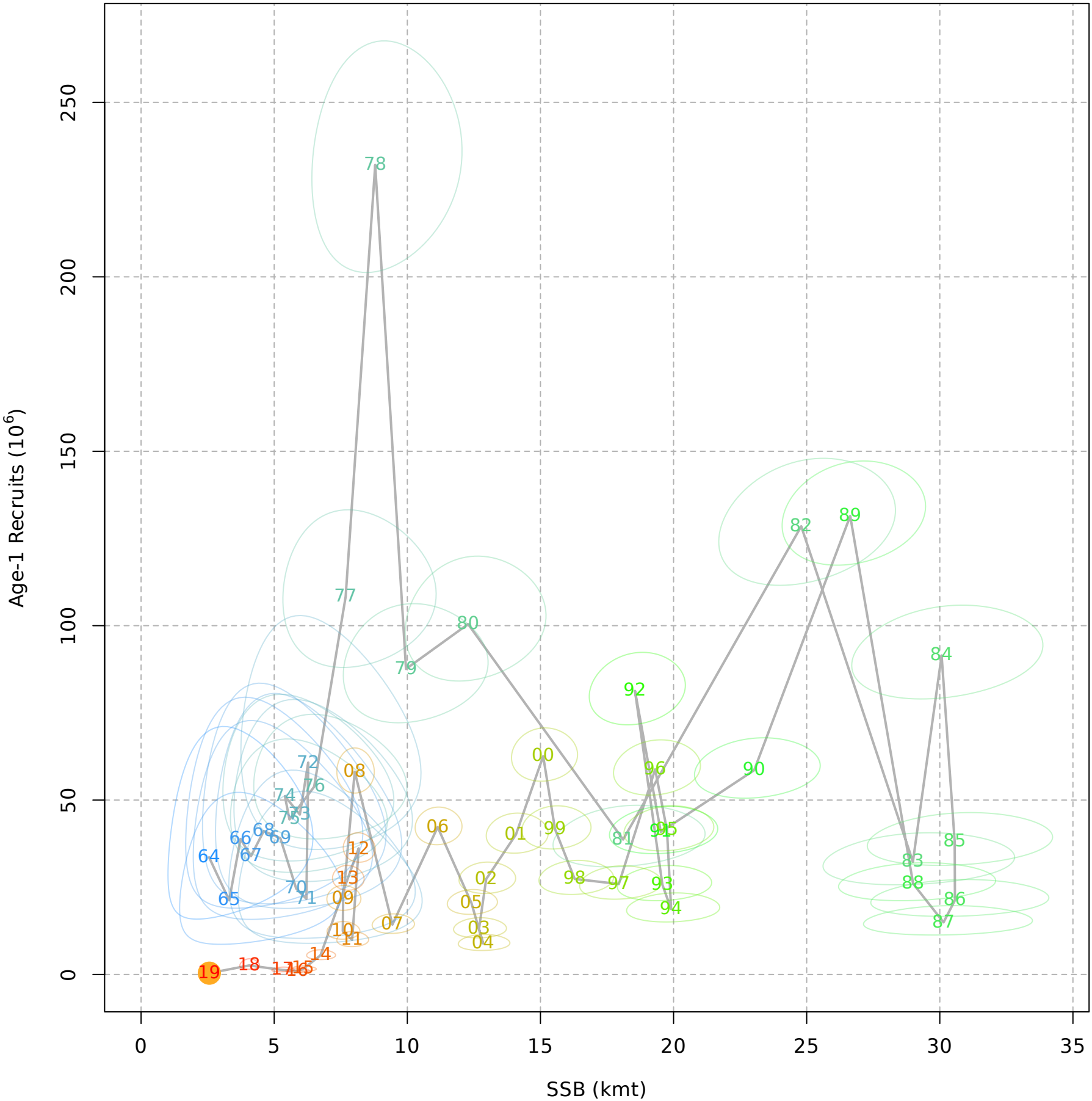

SSB (kmt)
0
5
10
15
20
25
30
Fully-selected F
0.0
0.5
1.0
1.5
2.0
2.5
1970
1980
1990
2000
2010
2020
Year


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15+
SSB at age (kmt)
0
5
10
15
20
25
30
35
1968
1973
1978
1983
1988
1993
1998
2003
2008
2013
2018
Year

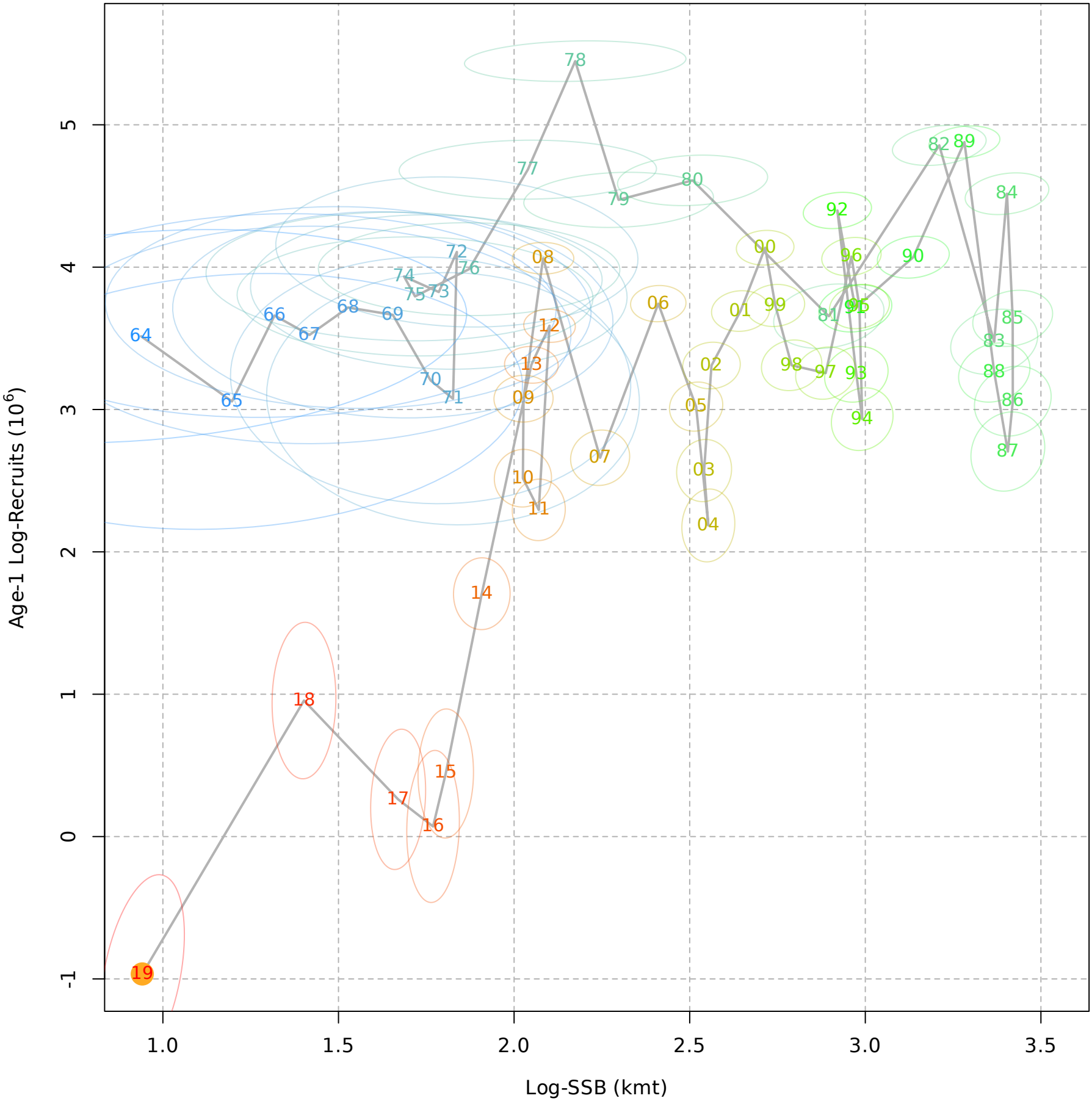

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15+
Proportion SSB at age
0.0
0.2
0.4
0.6
0.8
1.0
1968
1973
1978
1983
1988
1993
1998
2003
2008
2013
2018
Year


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15+
0
50
100
150
200
250
300
350
January 1 numbers at age (10^6)
1968
1973
1978
1983
1988
1993
1998
2003
2008
2013
2018
Year

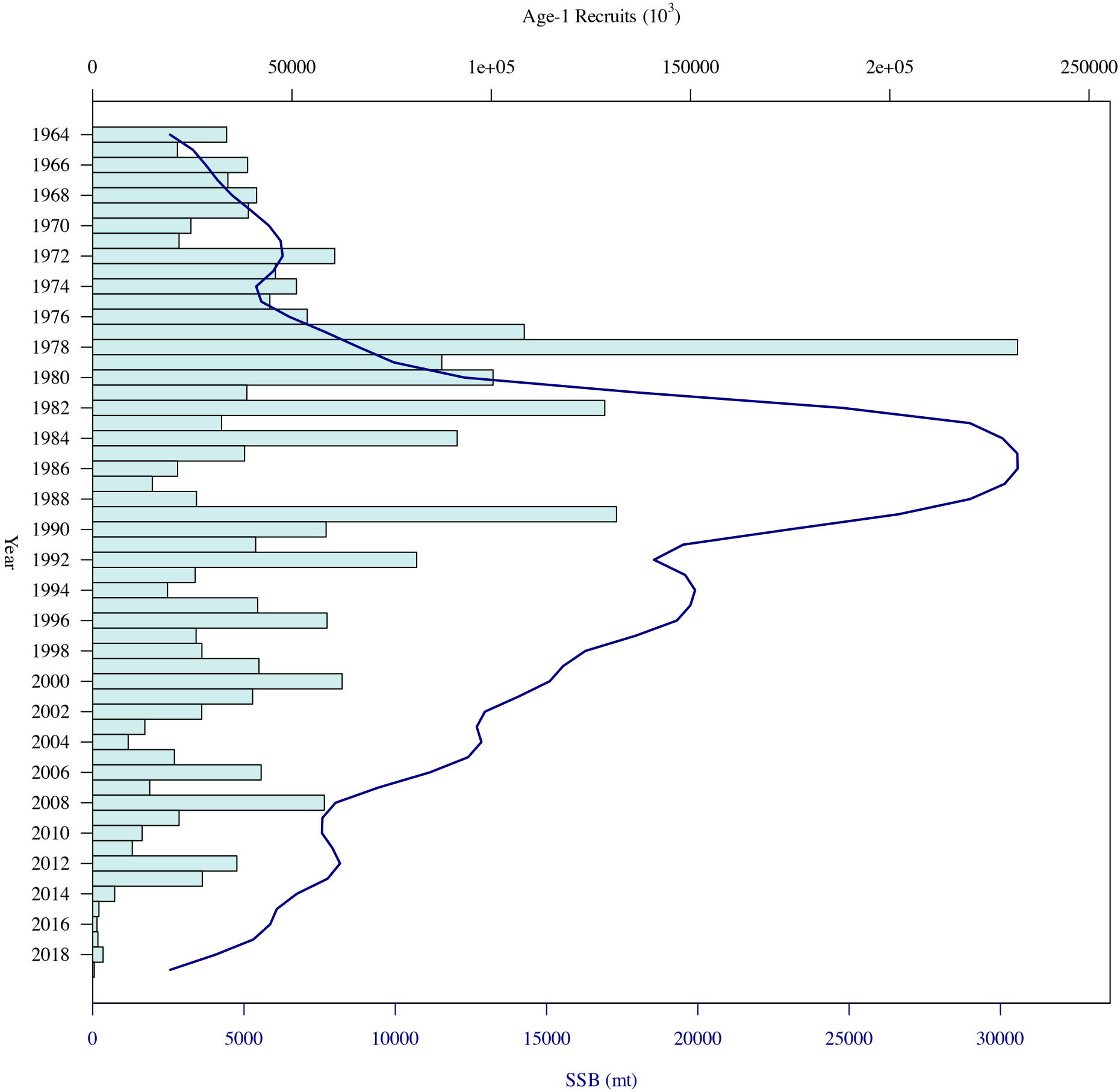

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15+
January 1 proportions at age
0.0
0.2
0.4
0.6
0.8
1.0
1968
1973
1978
1983
1988
1993
1998
2003
2008
2013
2018
Year

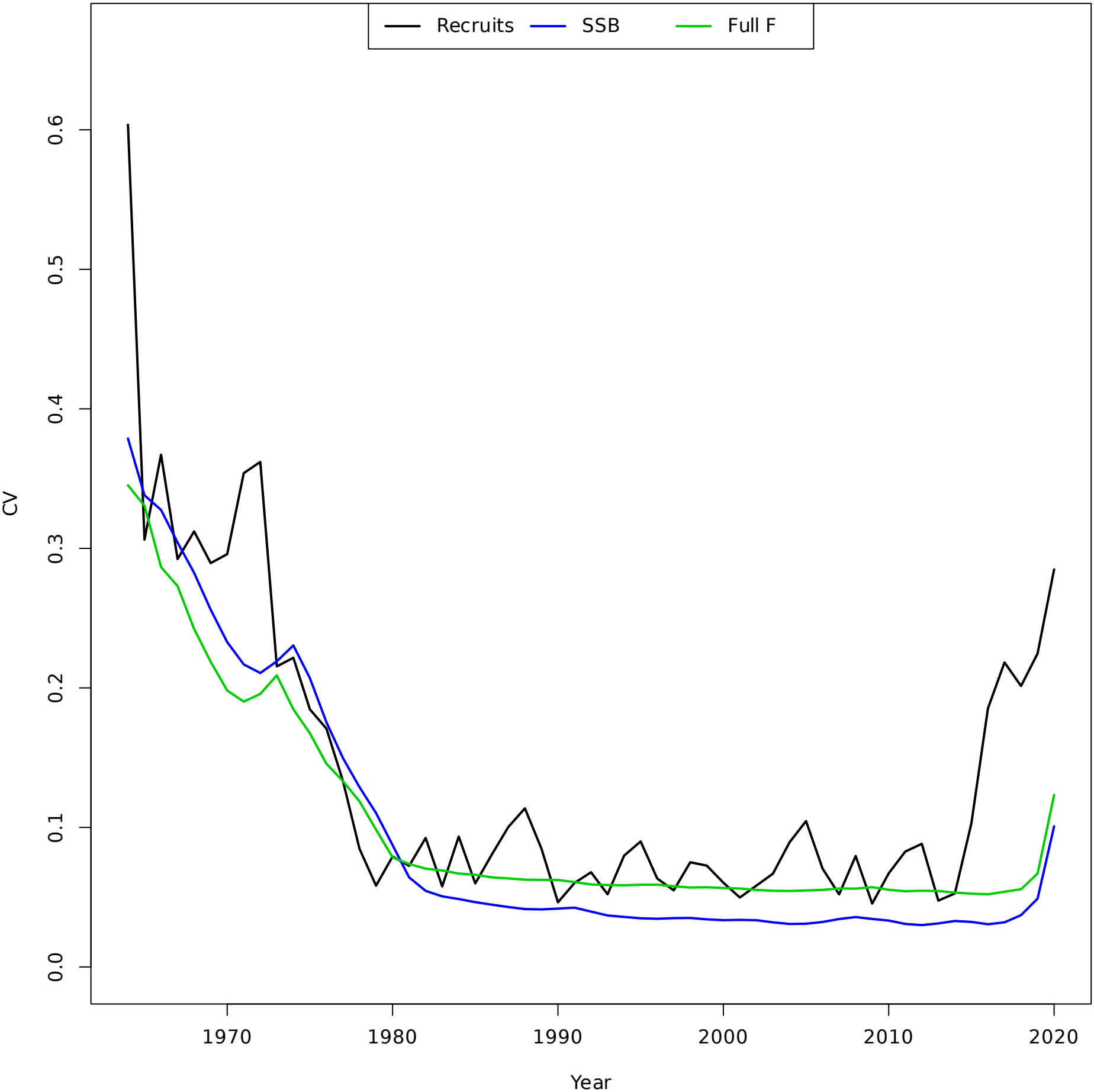


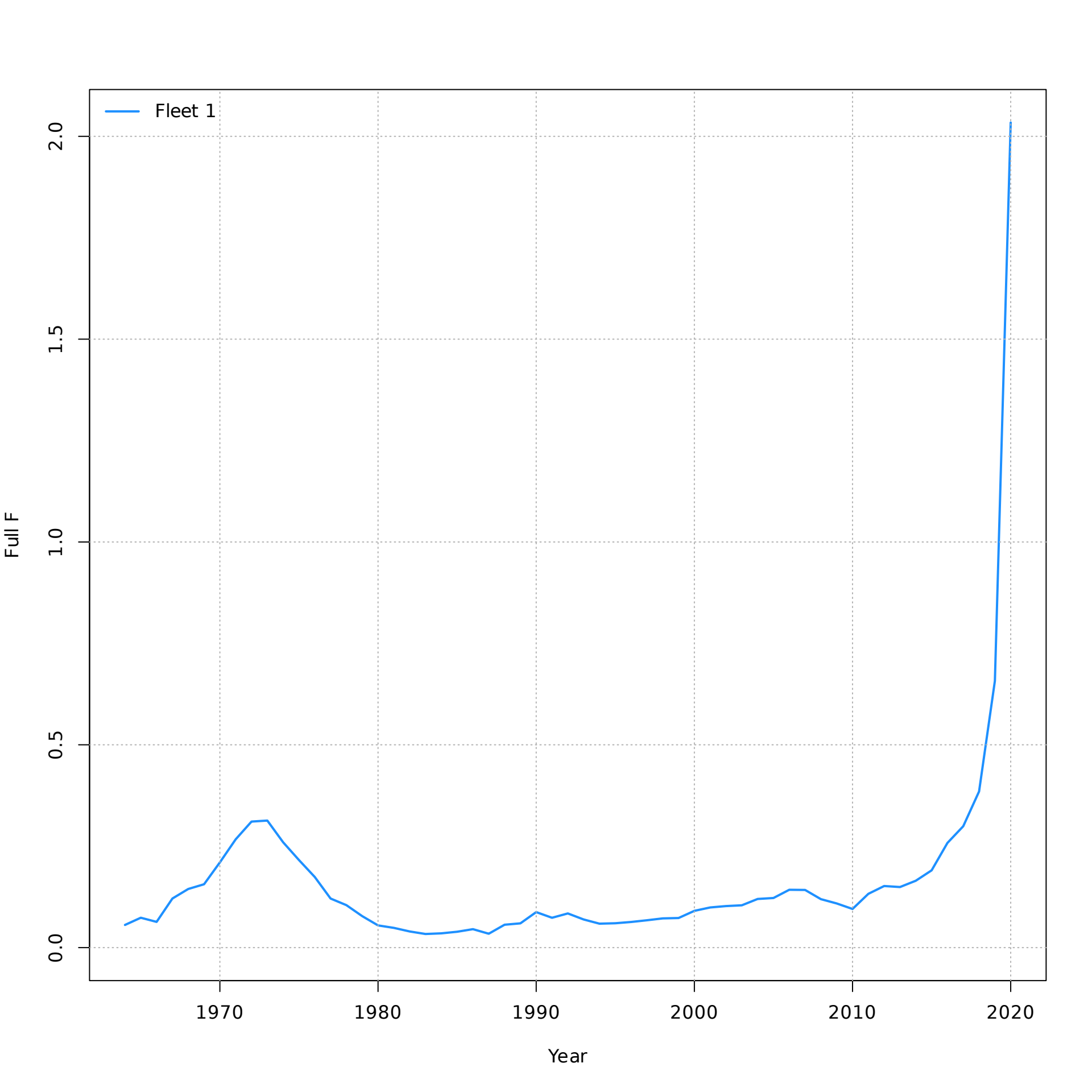
Age-1 Recruits (10^6)
SSB (kmt)
0
50
100
150
200
250
0
5
10
15
20
25
30
35

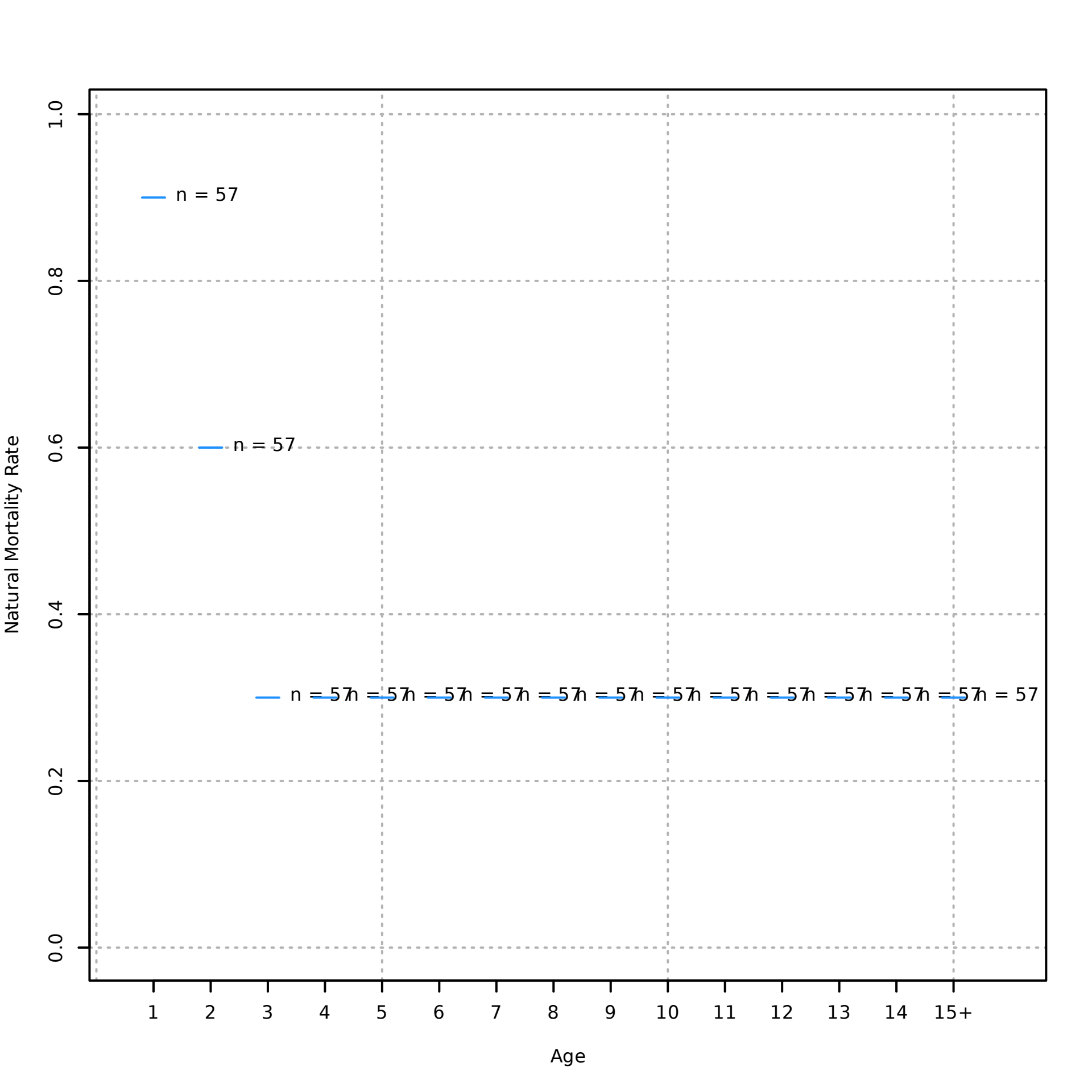


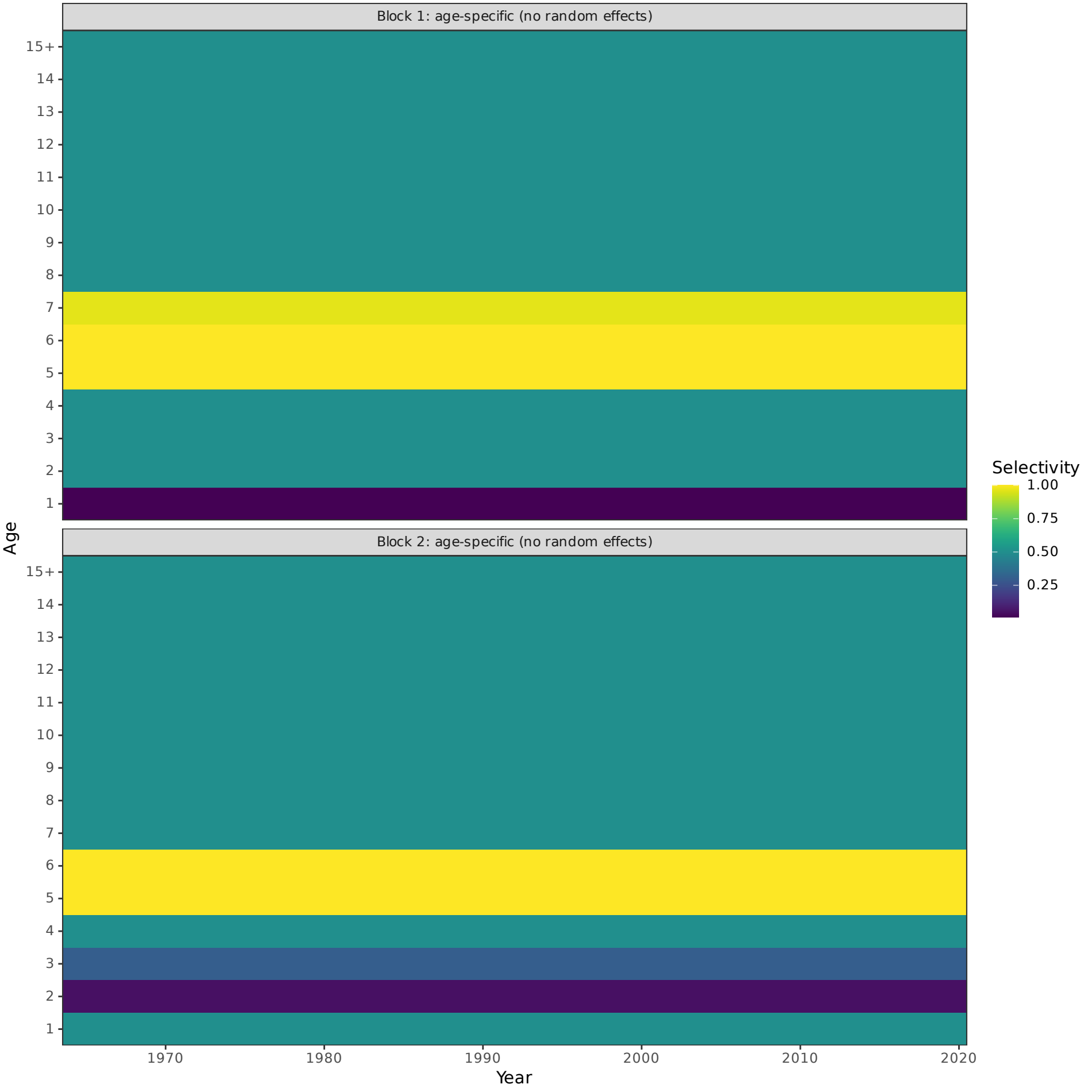
Age-1 Log-Recruits (10^6)
Log-SSB (kmt)
-1
0
1
2
3
4
5
1.0
1.5
2.0
2.5
3.0
3.5
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
92
93
94
96
97
98
99
00
01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19

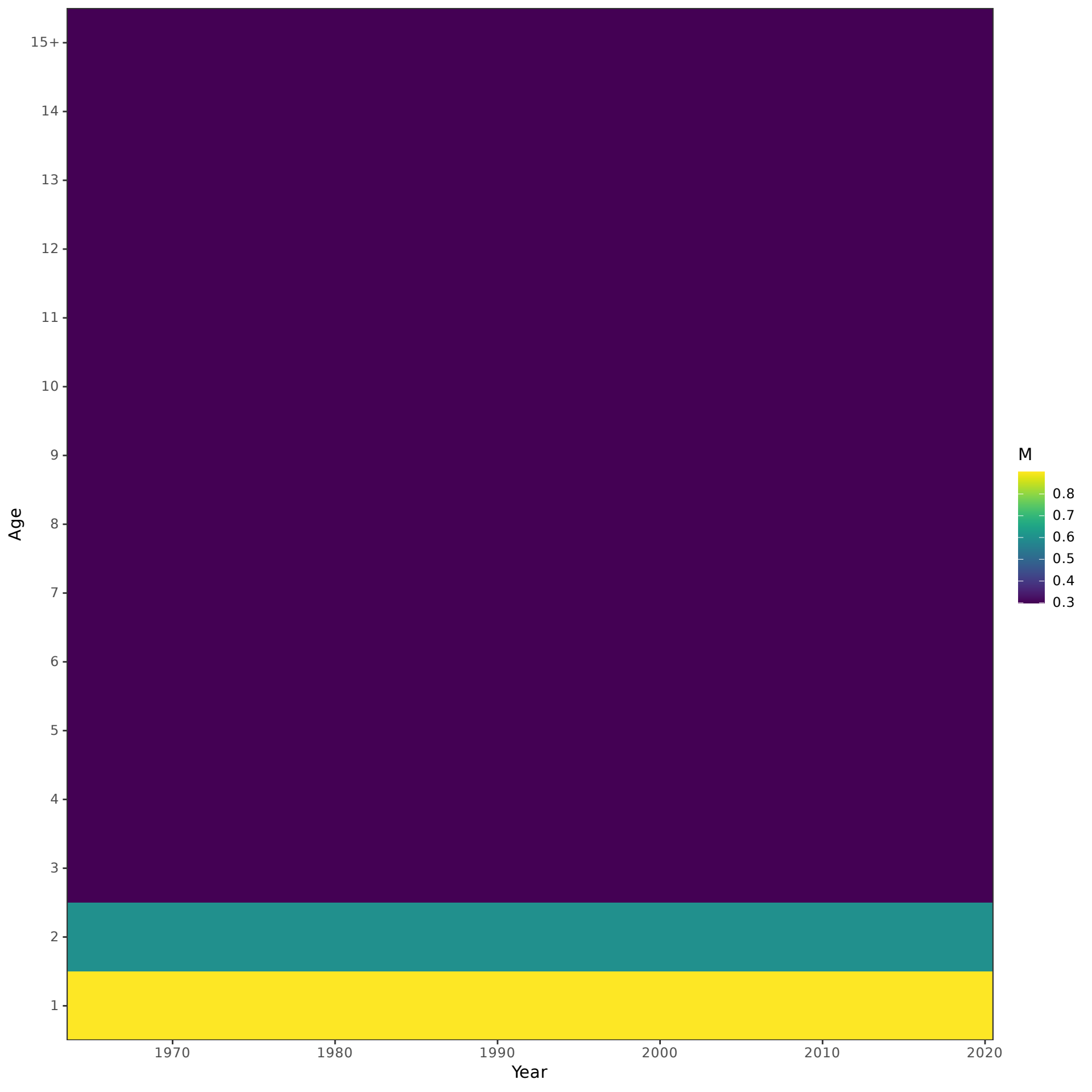

Age-1 Recruits (10^3)
0
50000
1e+05
150000
2e+05
250000
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
Year
0
5000
10000
15000
20000
25000
30000
SSB (mt)


Recruits
SSB
Full F
CV
0.0
0.1
0.2
0.3
0.4
0.5
0.6
1970
1980
1990
2000
2010
2020
Year


Fleet 1
Full F
0.0
0.5
1.0
1.5
2.0
1970
1980
1990
2000
2010
2020
Year


n = 57
n = 57
n = 57
n = 57
n = 57
n = 57
n = 57
n = 57
n = 57
n = 57
n = 57
n = 57
n = 57
n = 57
n = 57
Natural Mortality Rate
0.0
0.2
0.4
0.6
0.8
1.0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15+
Age


Block 1: age-specific (no random effects)
Block 2: age-specific (no random effects)
Age
15+
14
13
12
11
10
9
8
7
6
5
4
3
2
1
1970
1980
1990
2000
2010
2020
Year
Selectivity
1.00
0.75
0.50
0.25


15+
14
13
12
11
10
9
8
7
6
5
4
3
2
1
Age
1970
1980
1990
2000
2010
2020
Year
M
0.8
0.7
0.6
0.5
0.4
0.3