

Plots created using the 'r4ss' package in R

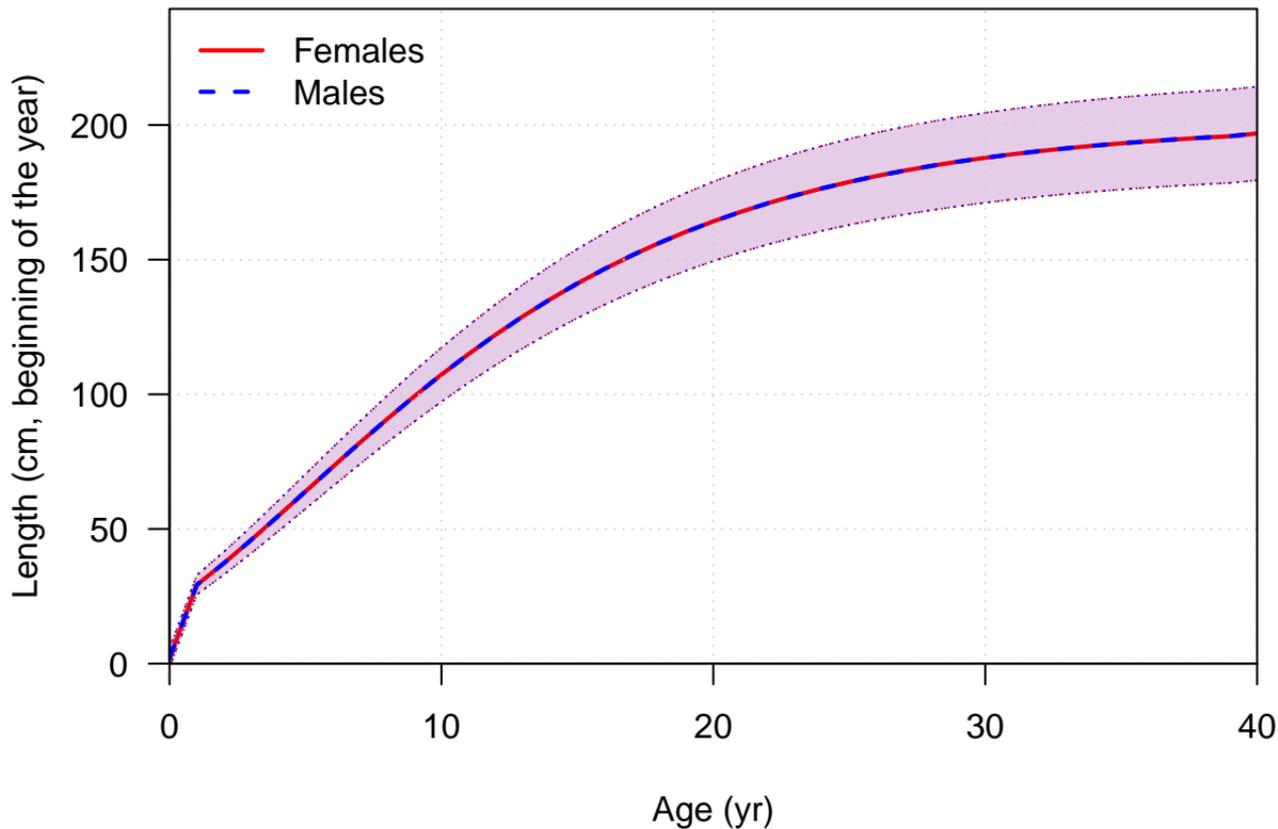
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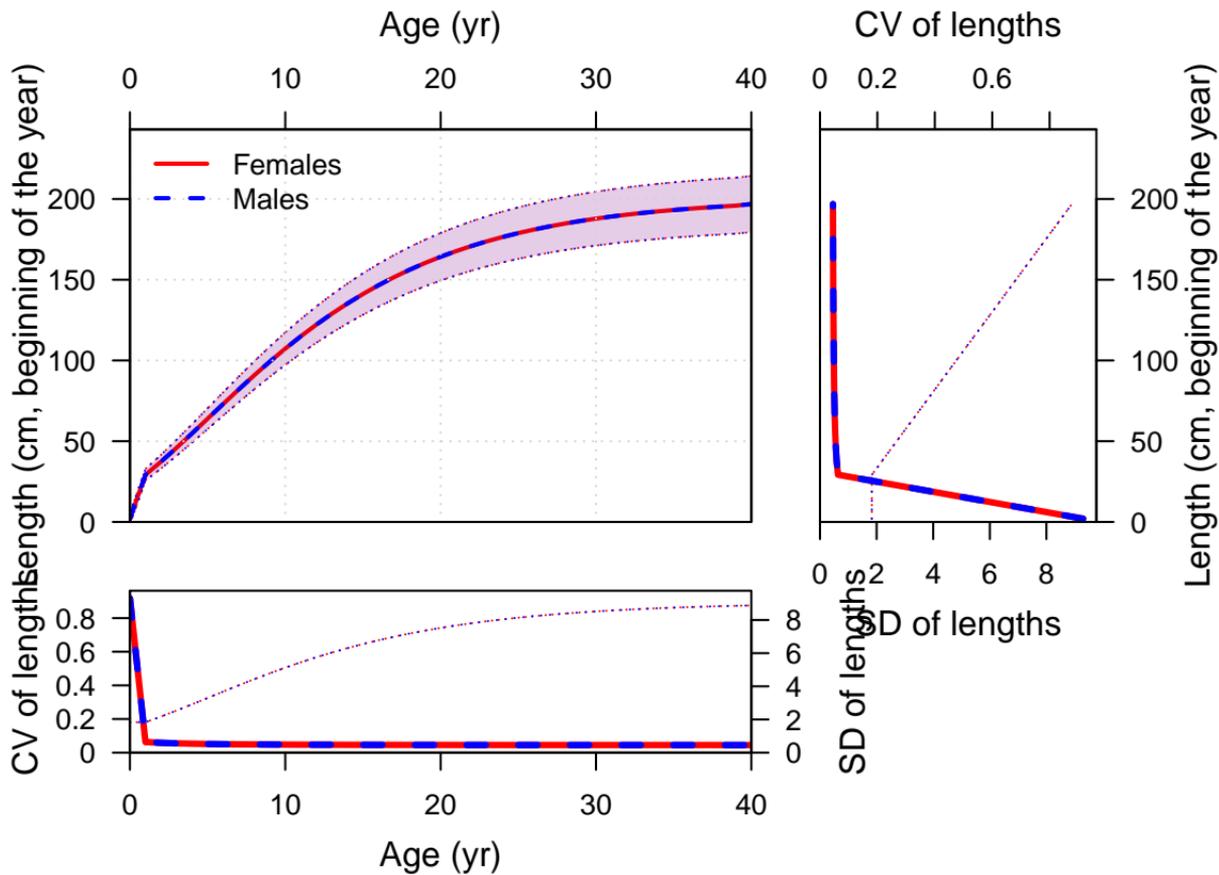
StartTime: Mon Apr 16 09:26:06 2018

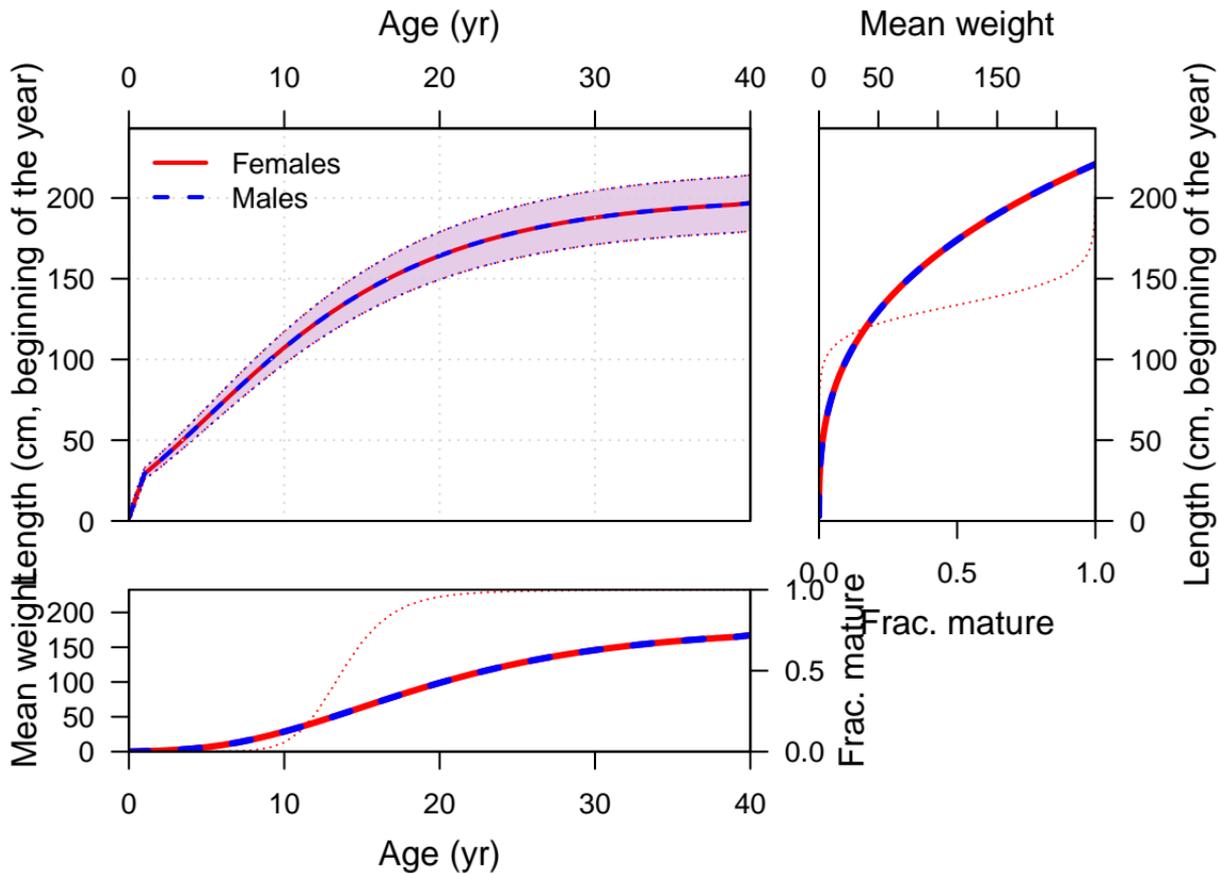
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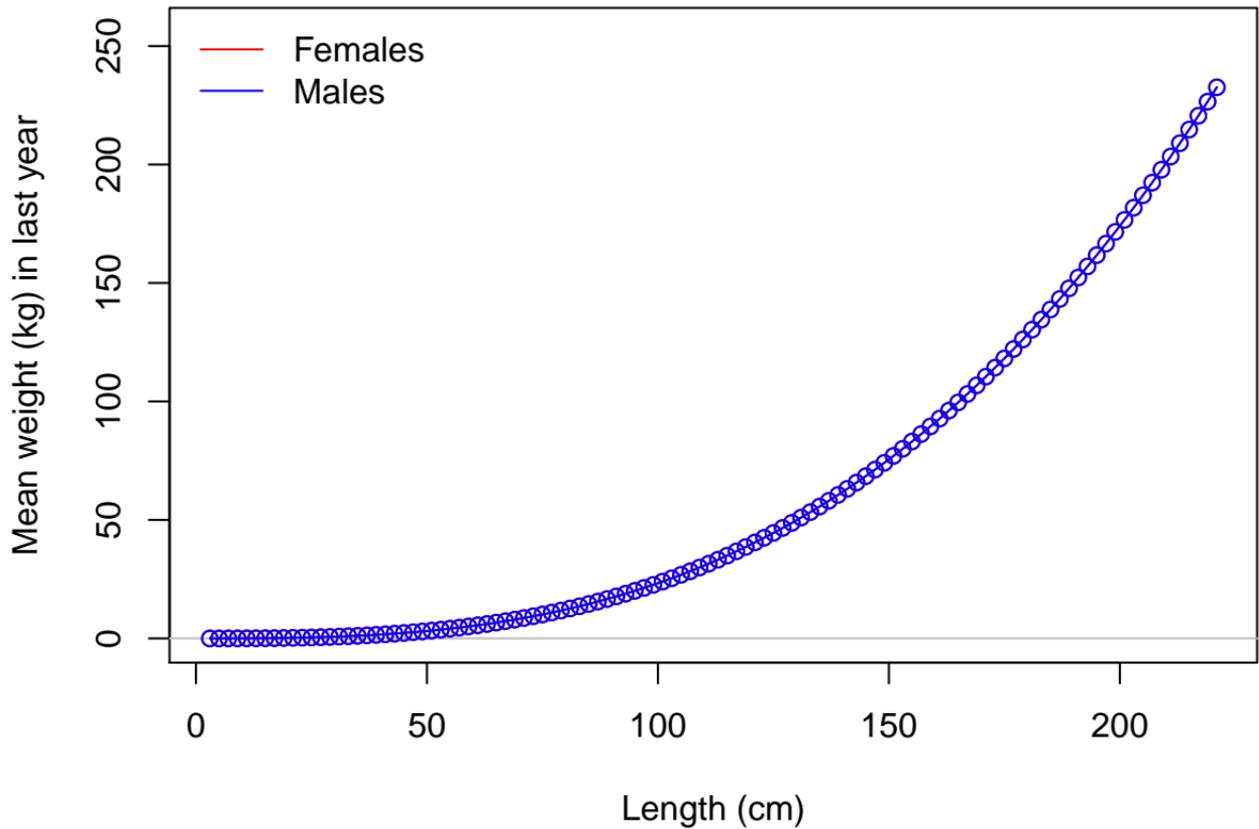
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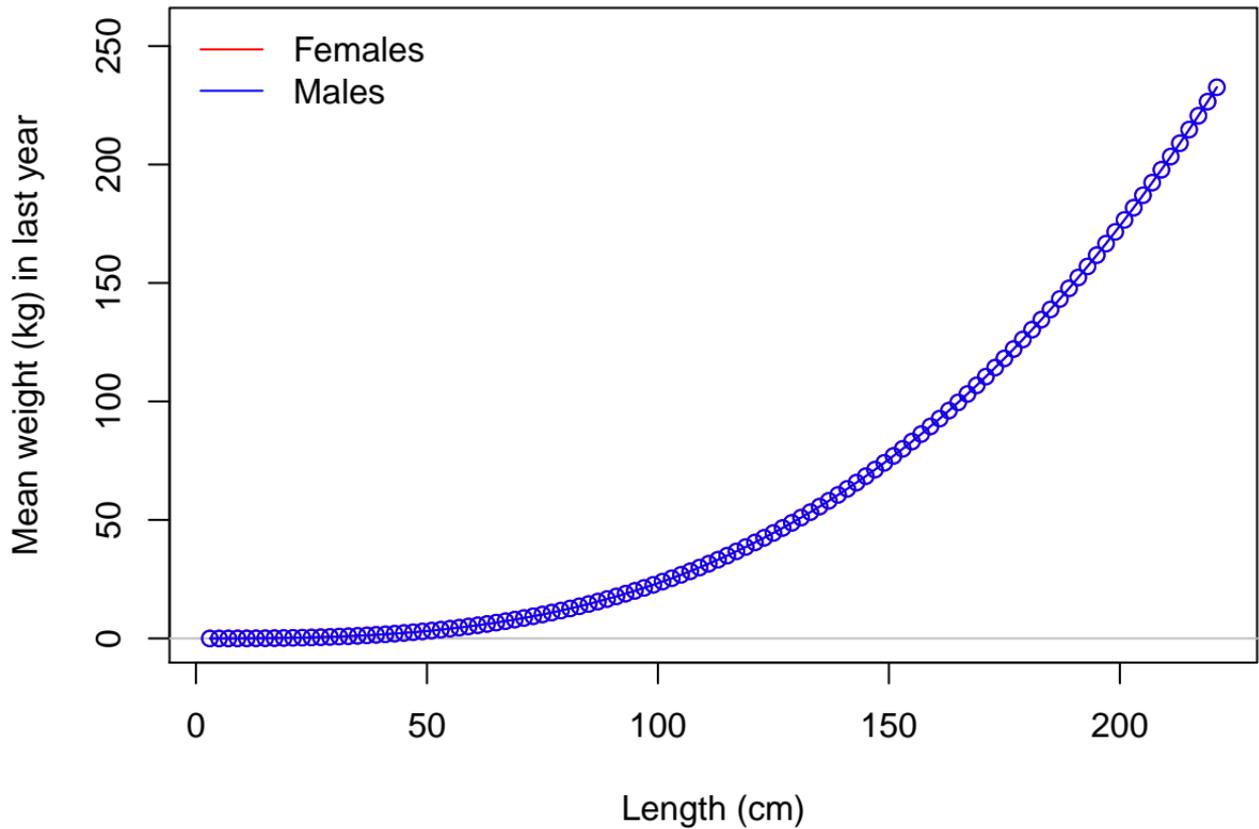
Ending year expected growth (with 95% intervals)

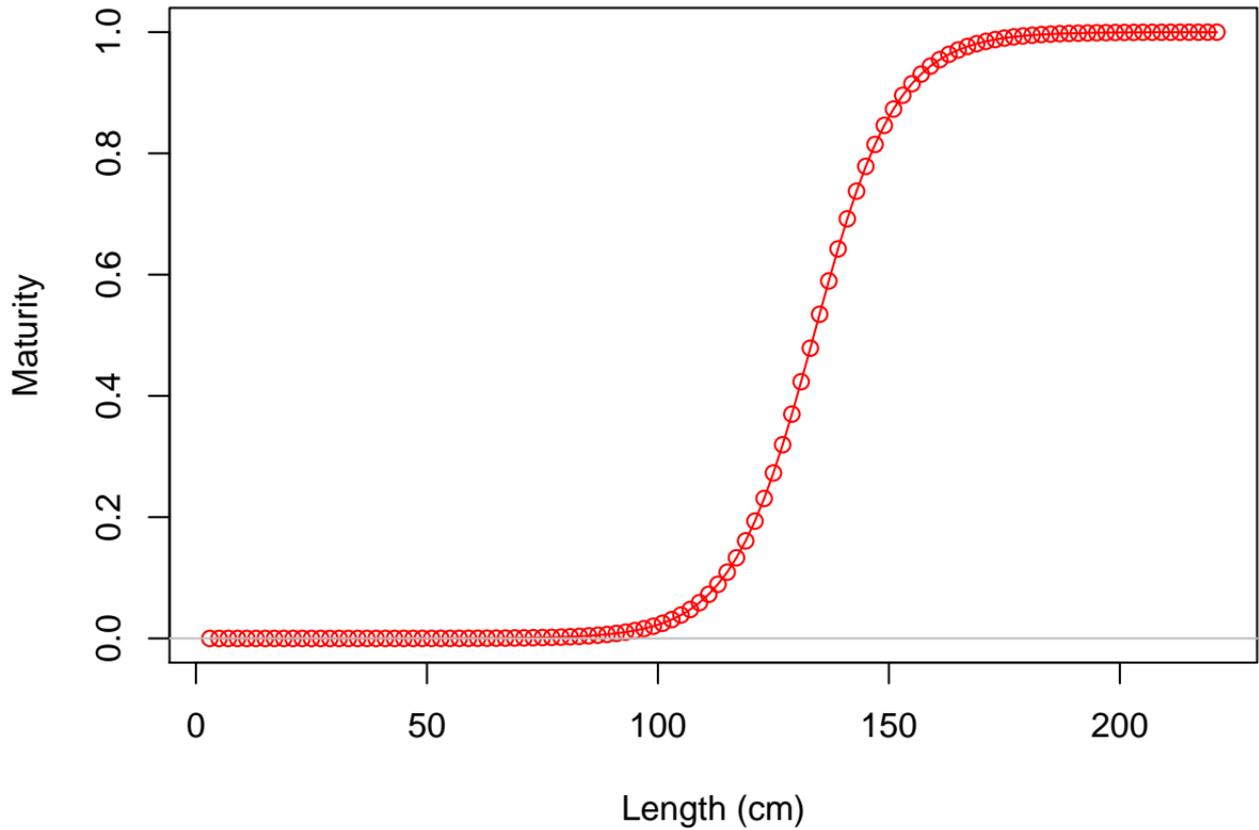


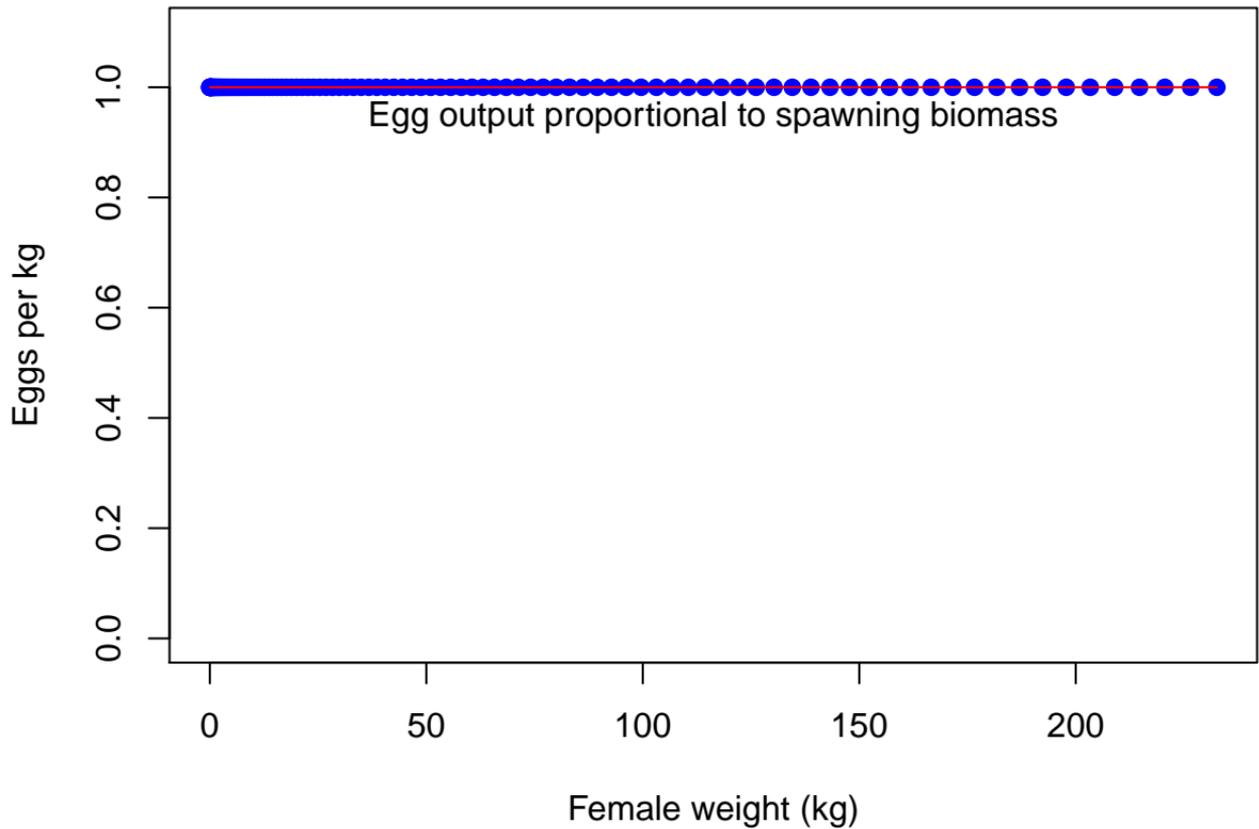


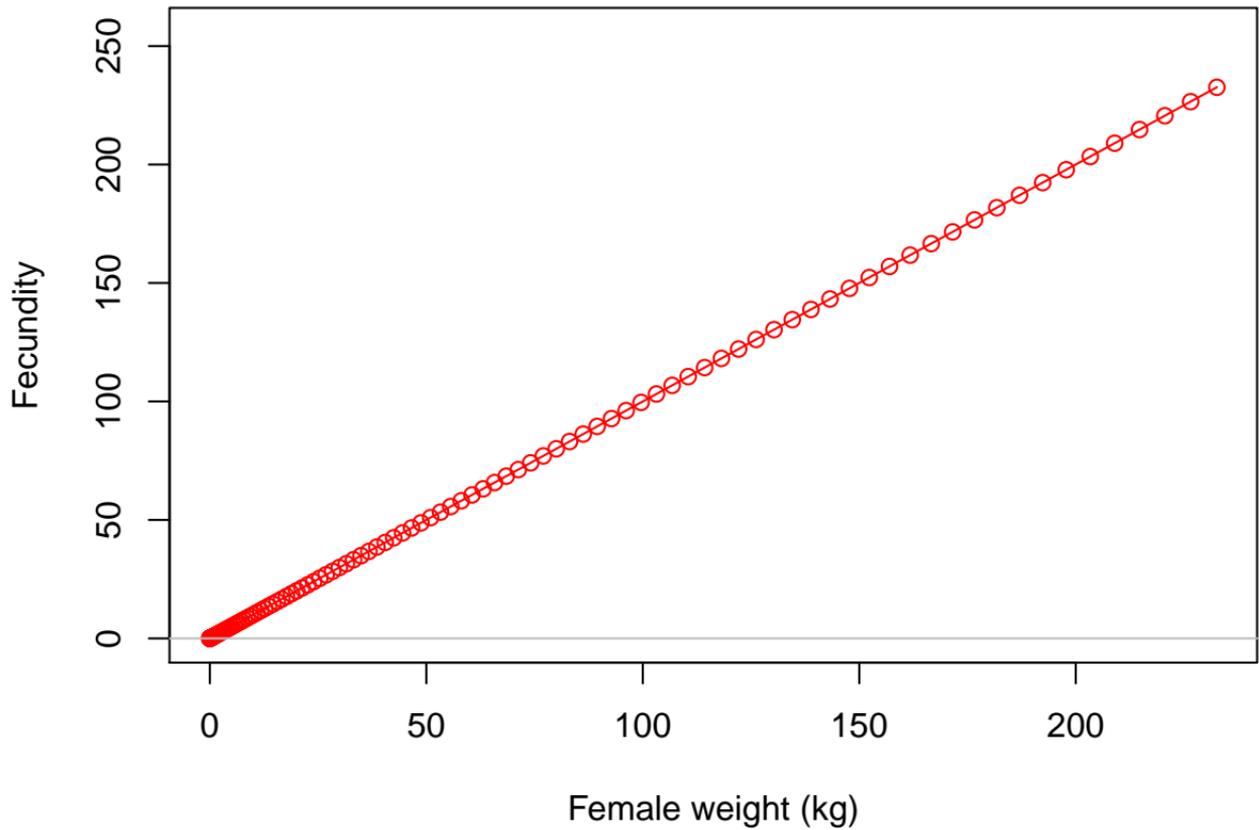


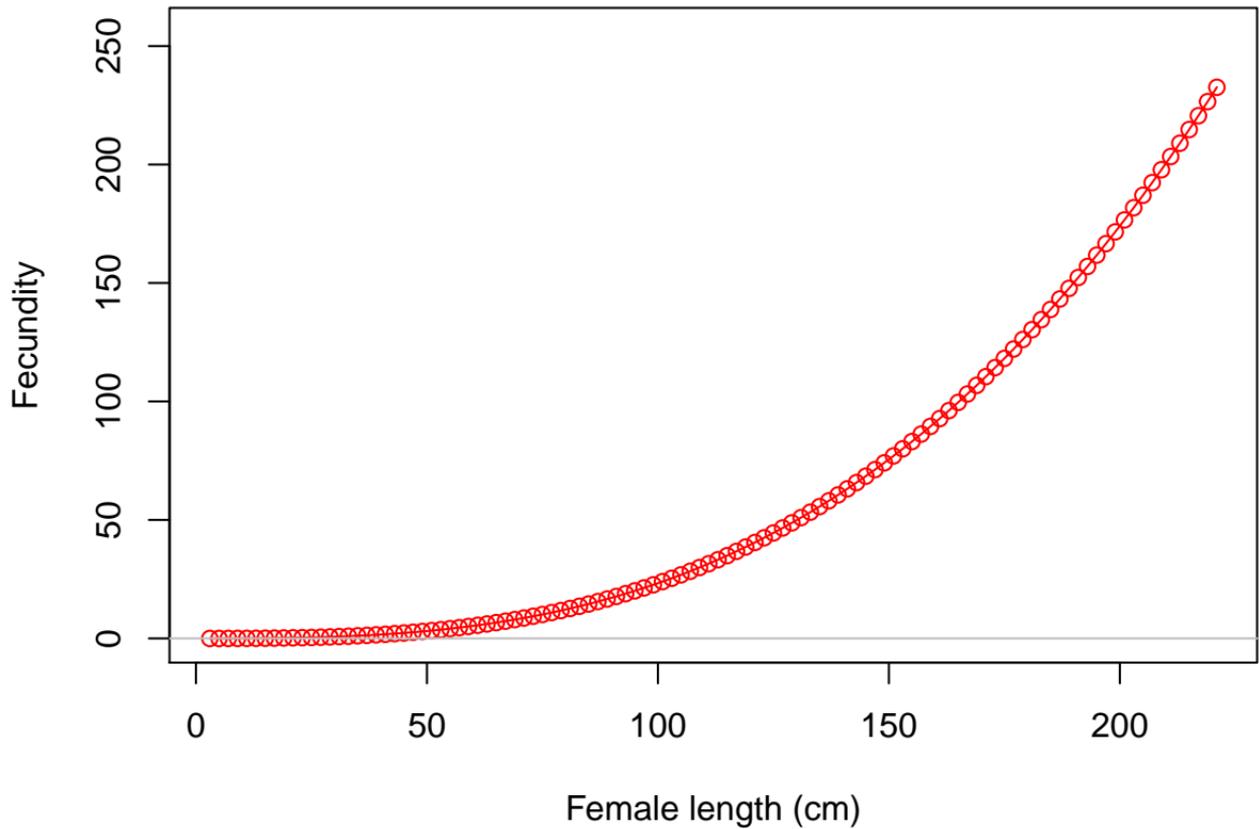


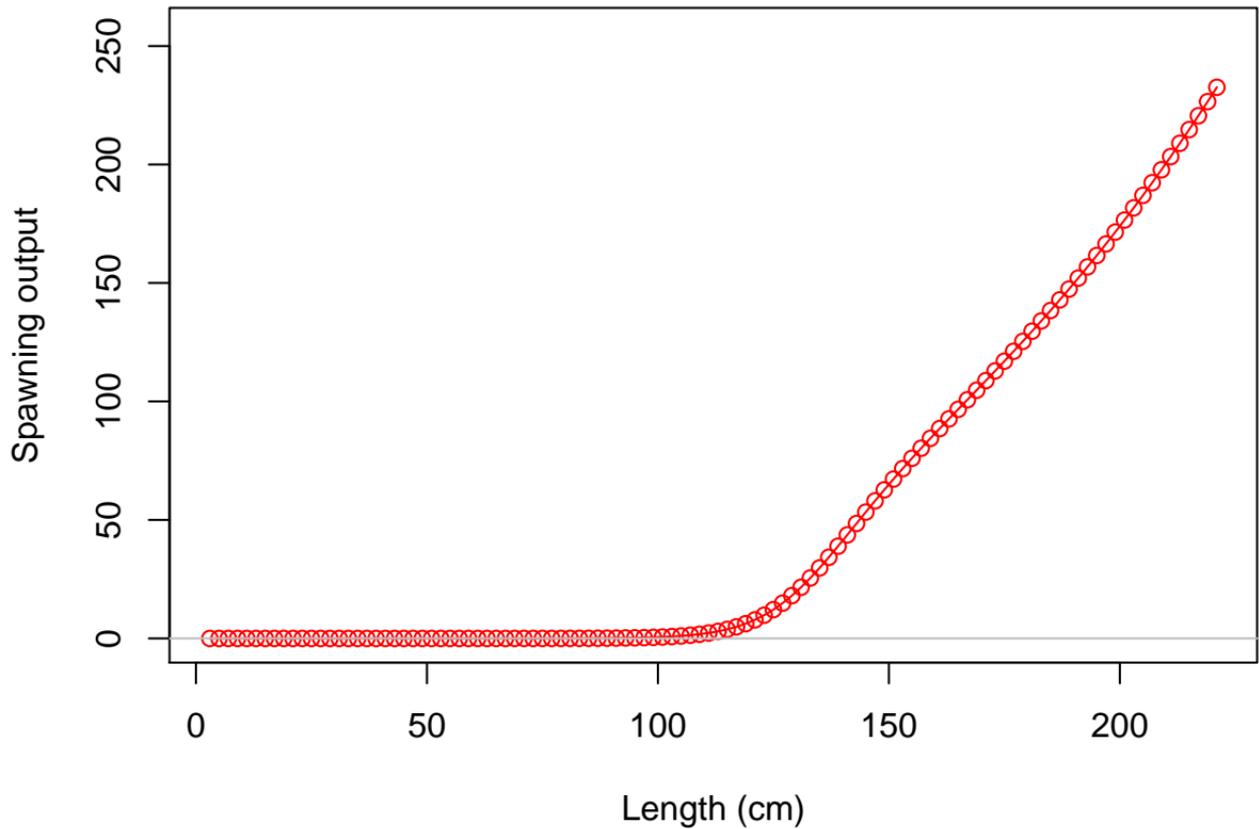


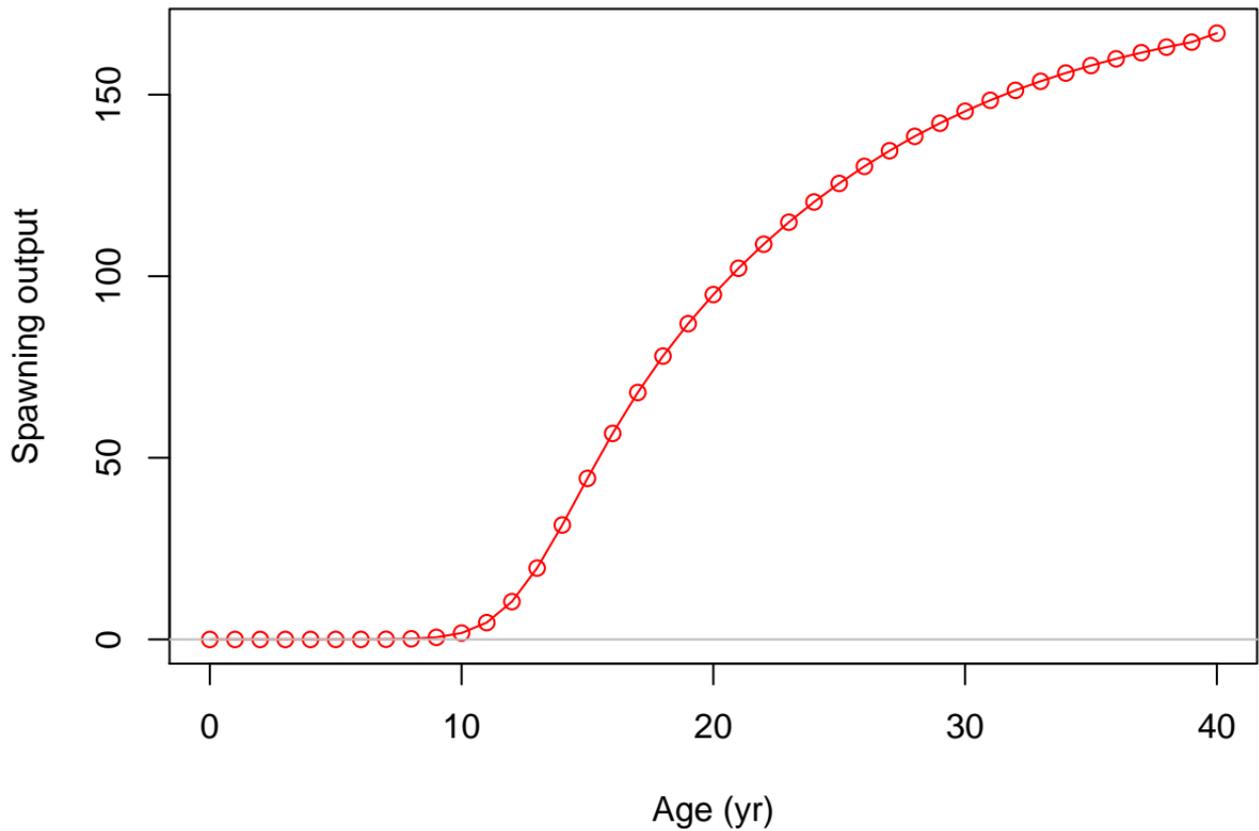




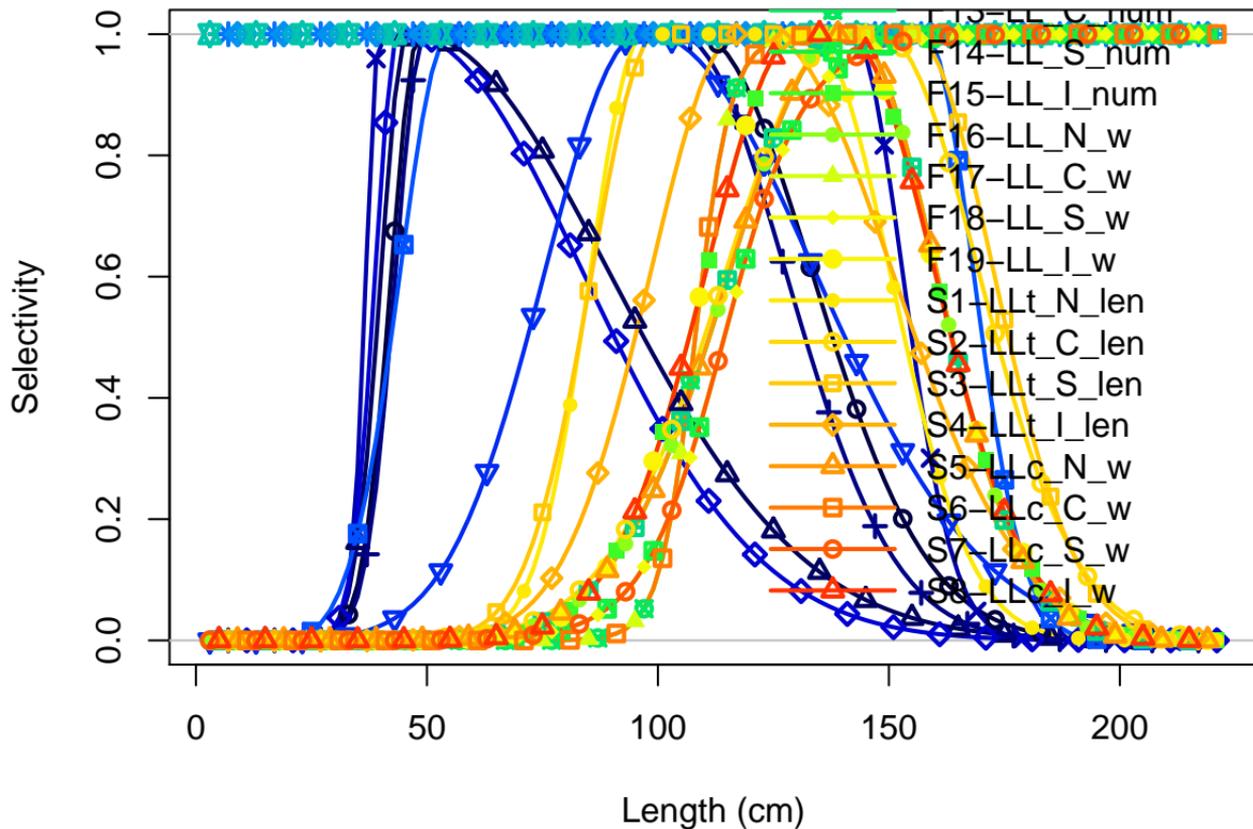




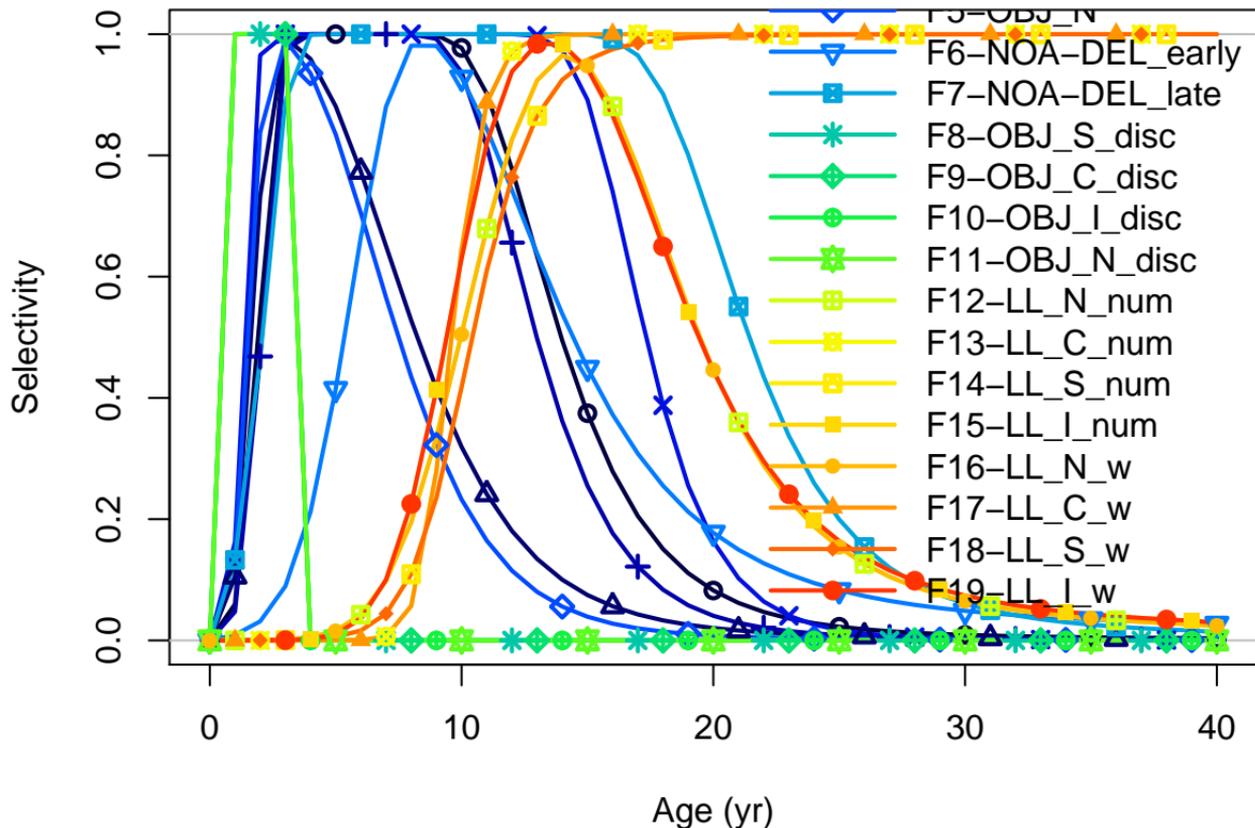




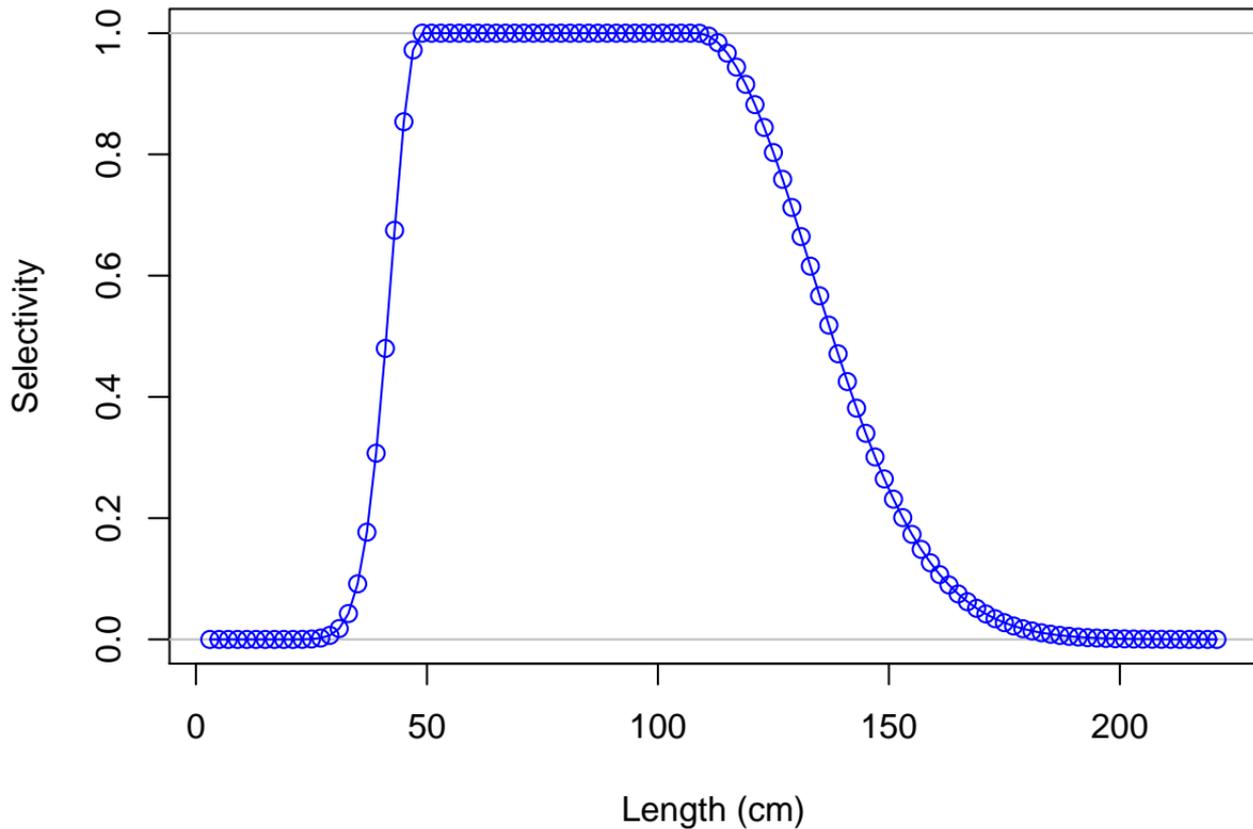
Length-based selectivity by fleet in 172



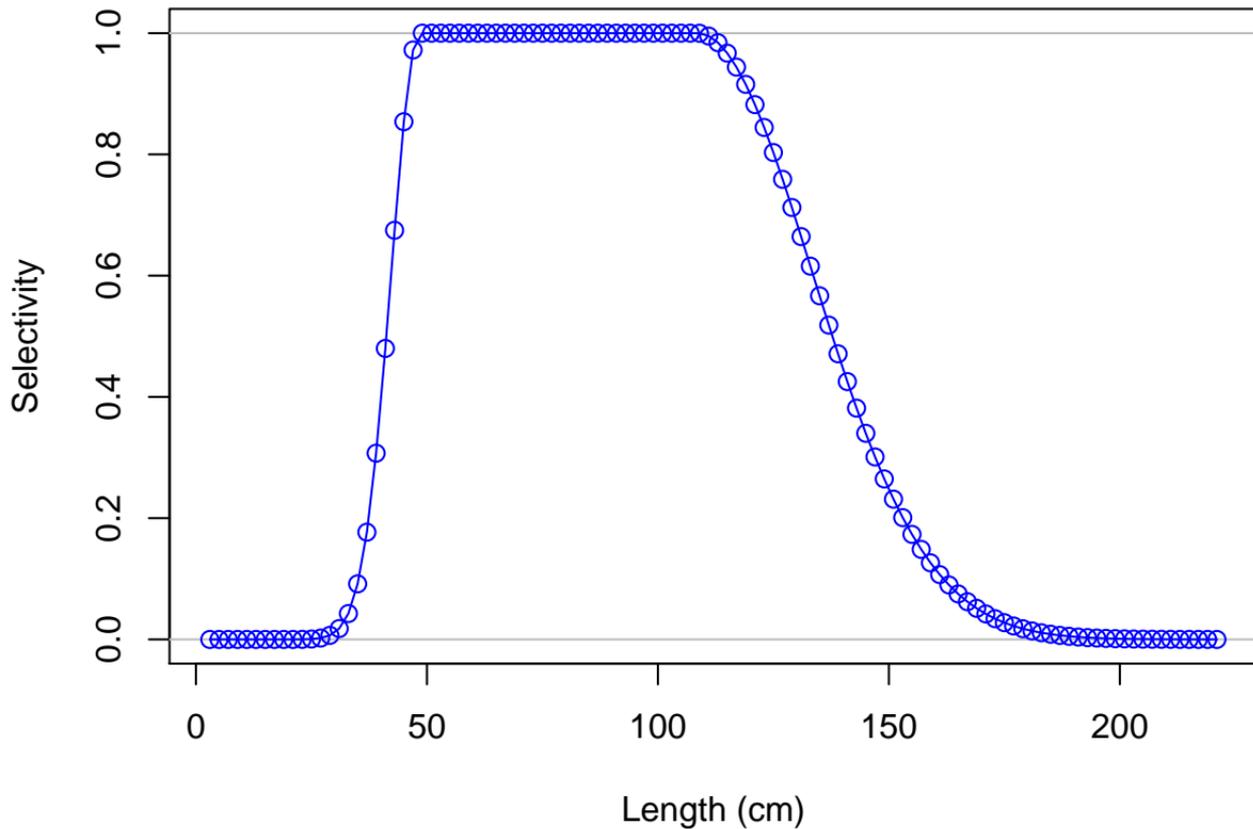
Derived age-based from length-based selectivity by fleet in 172



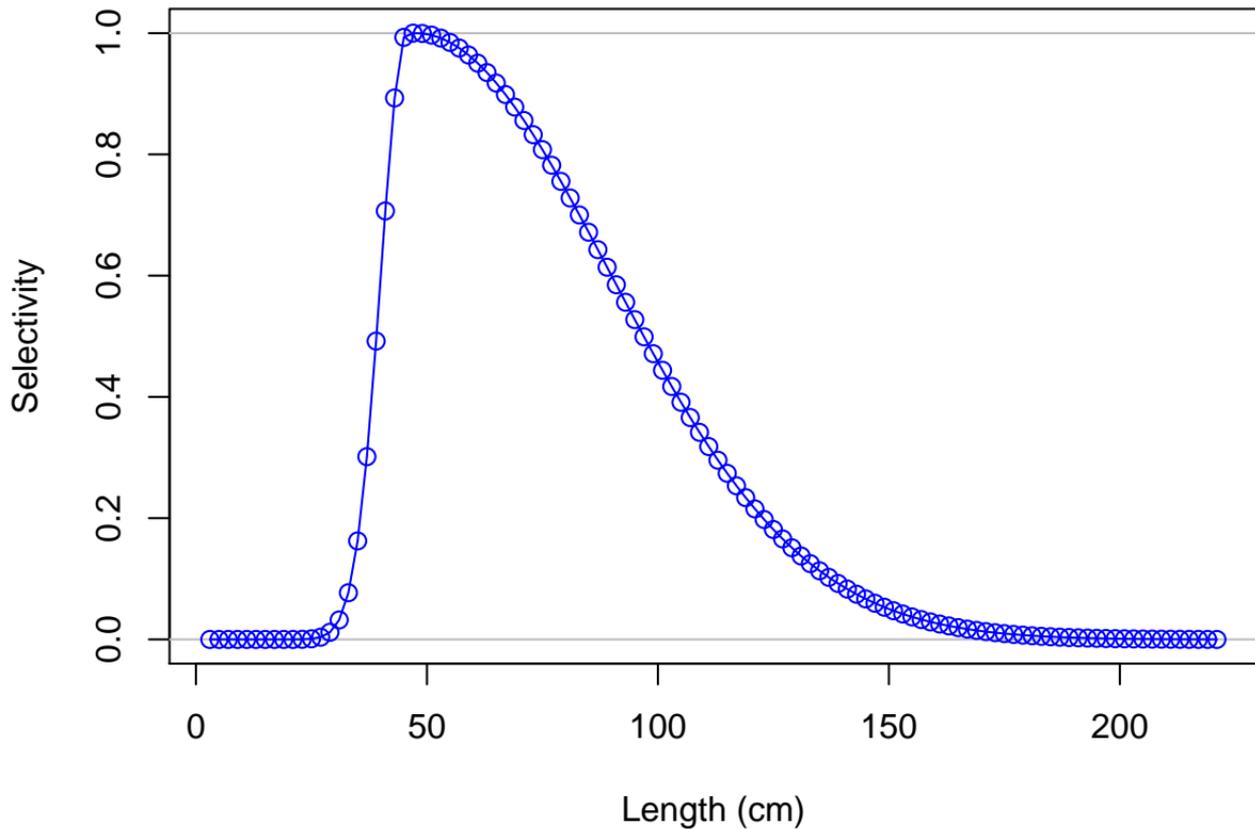
Female ending year selectivity for F1-OBJ_early



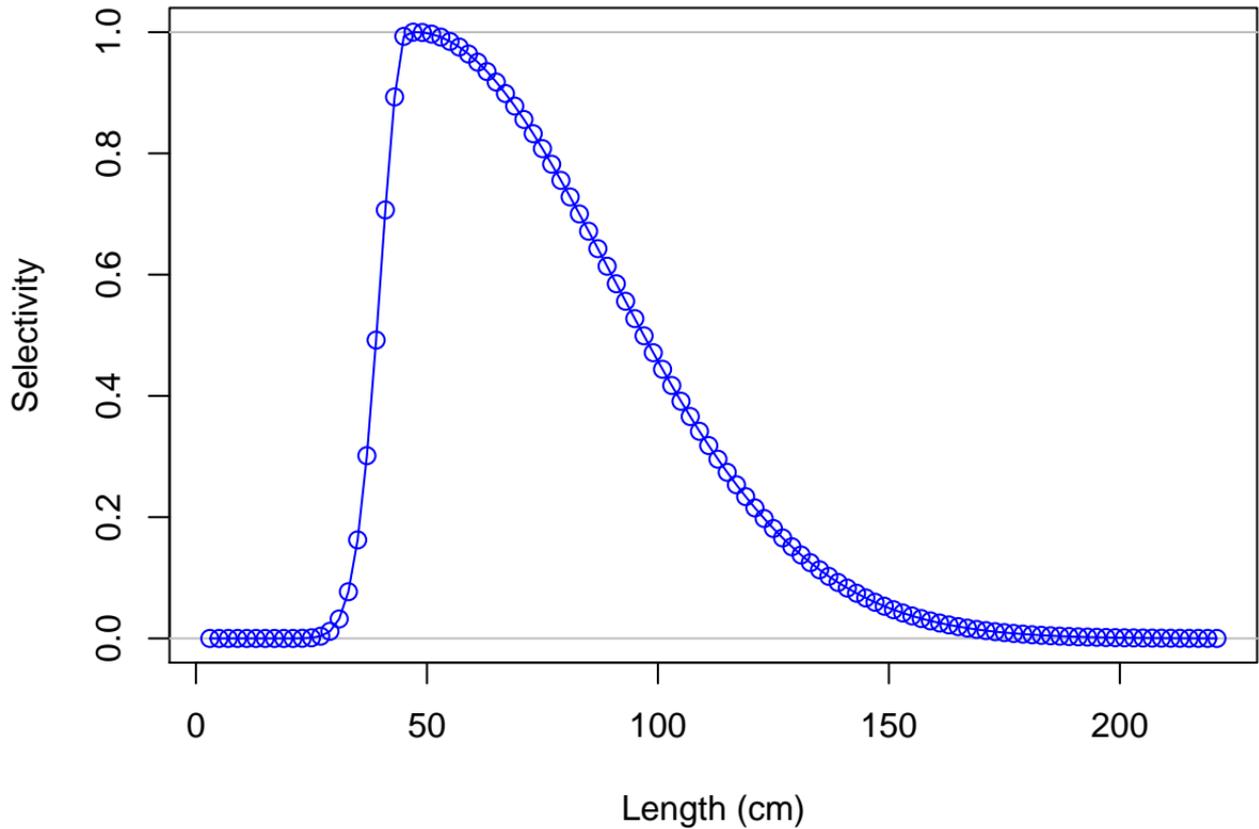
Male ending year selectivity for F1-OBJ_early



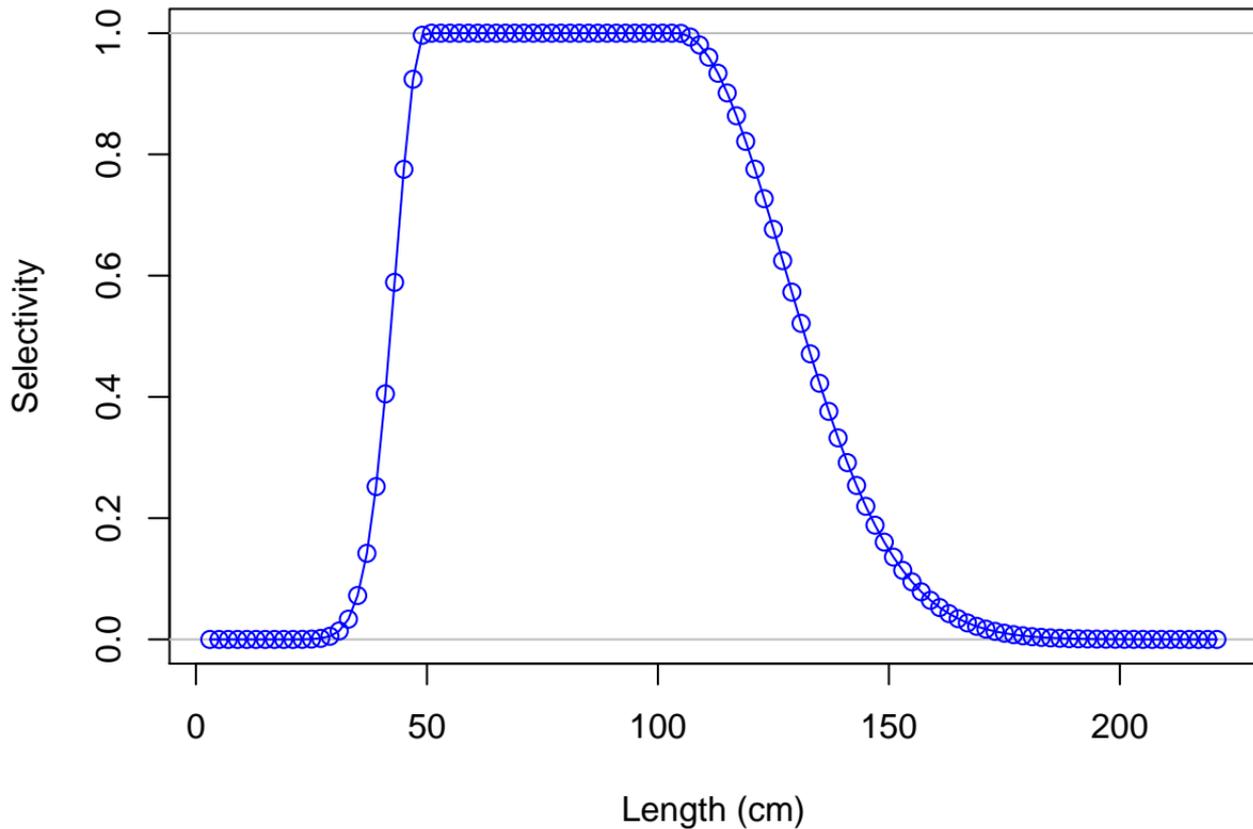
Female ending year selectivity for F2-OBJ_S



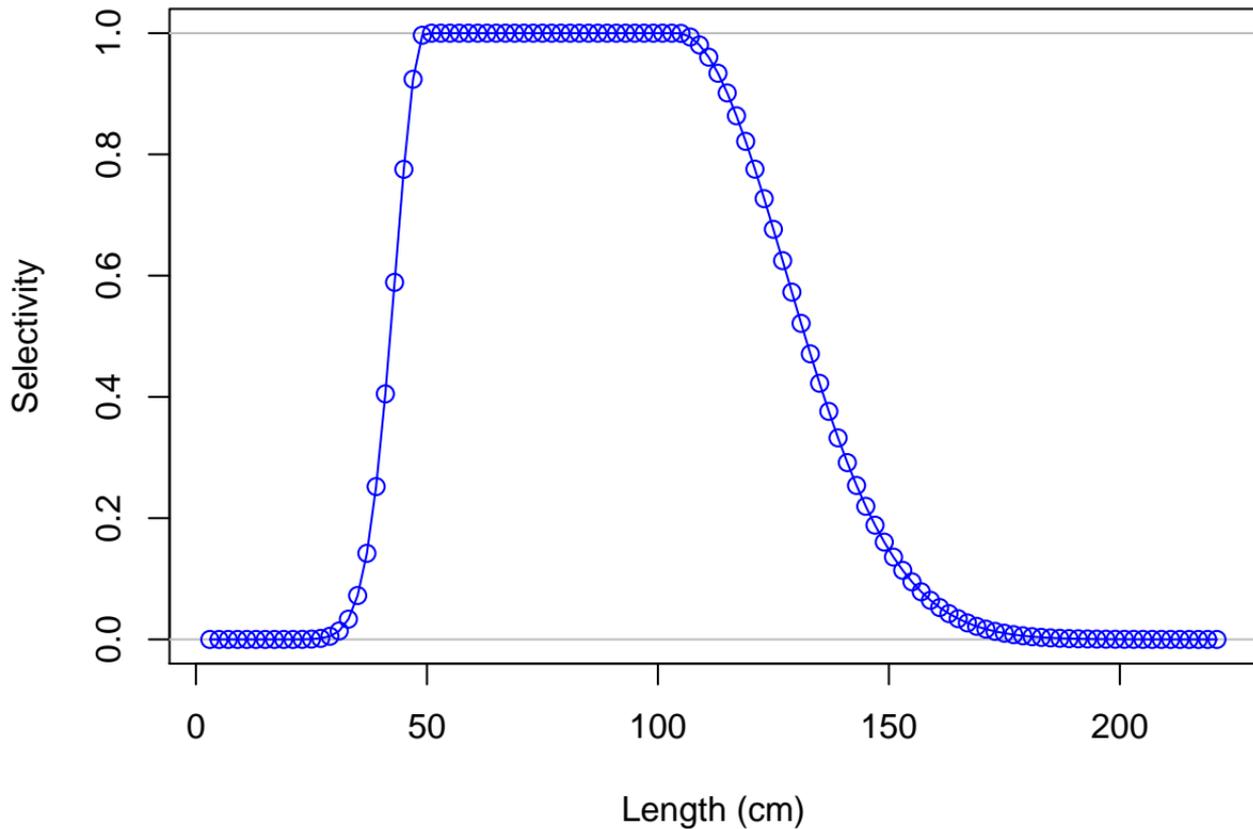
Male ending year selectivity for F2-OBJ_S



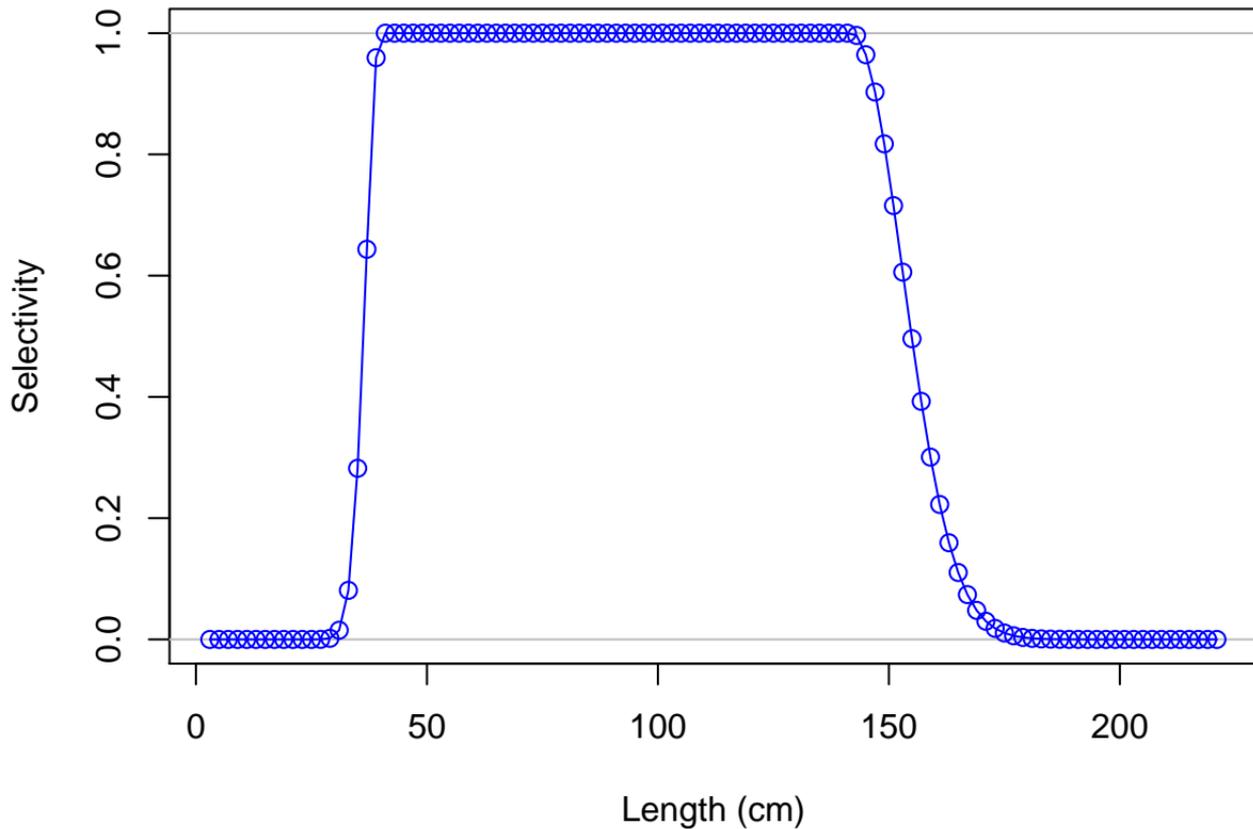
Female ending year selectivity for F3-OBJ_C



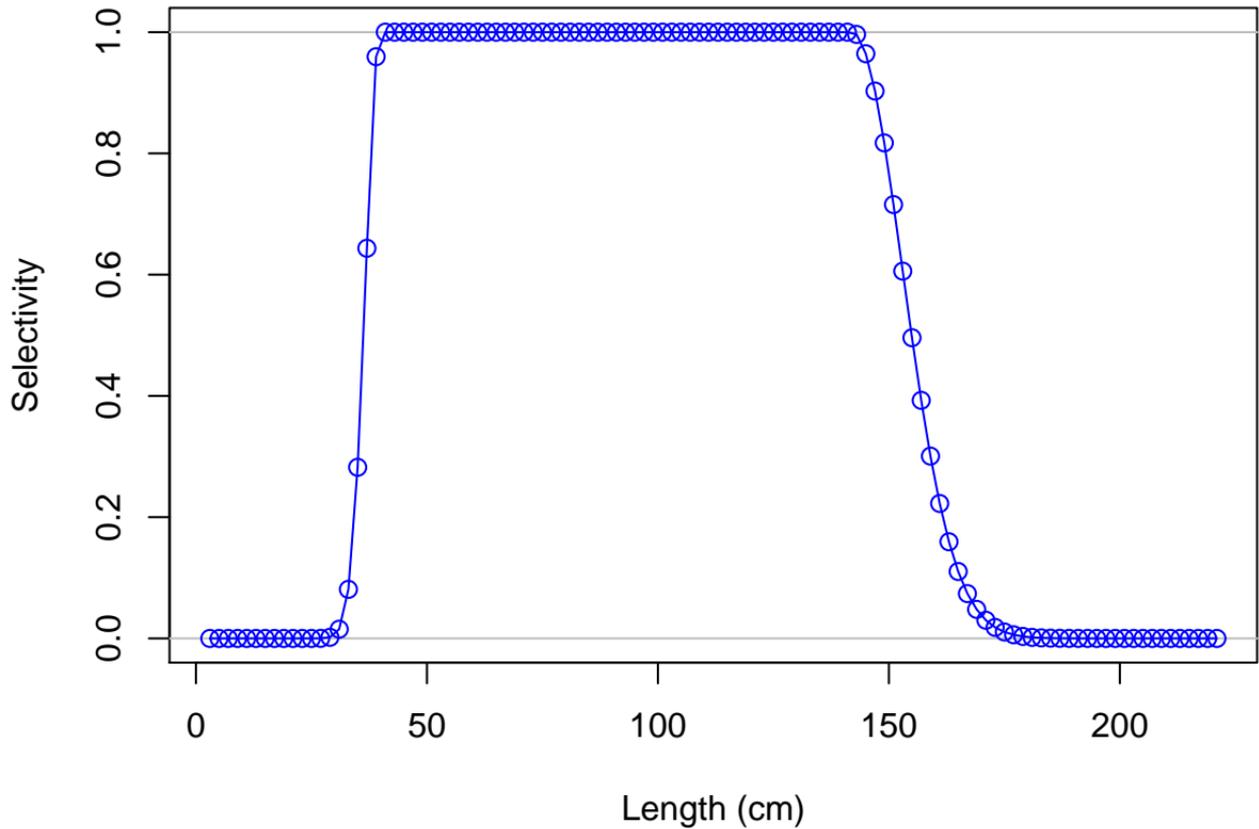
Male ending year selectivity for F3-OBJ_C



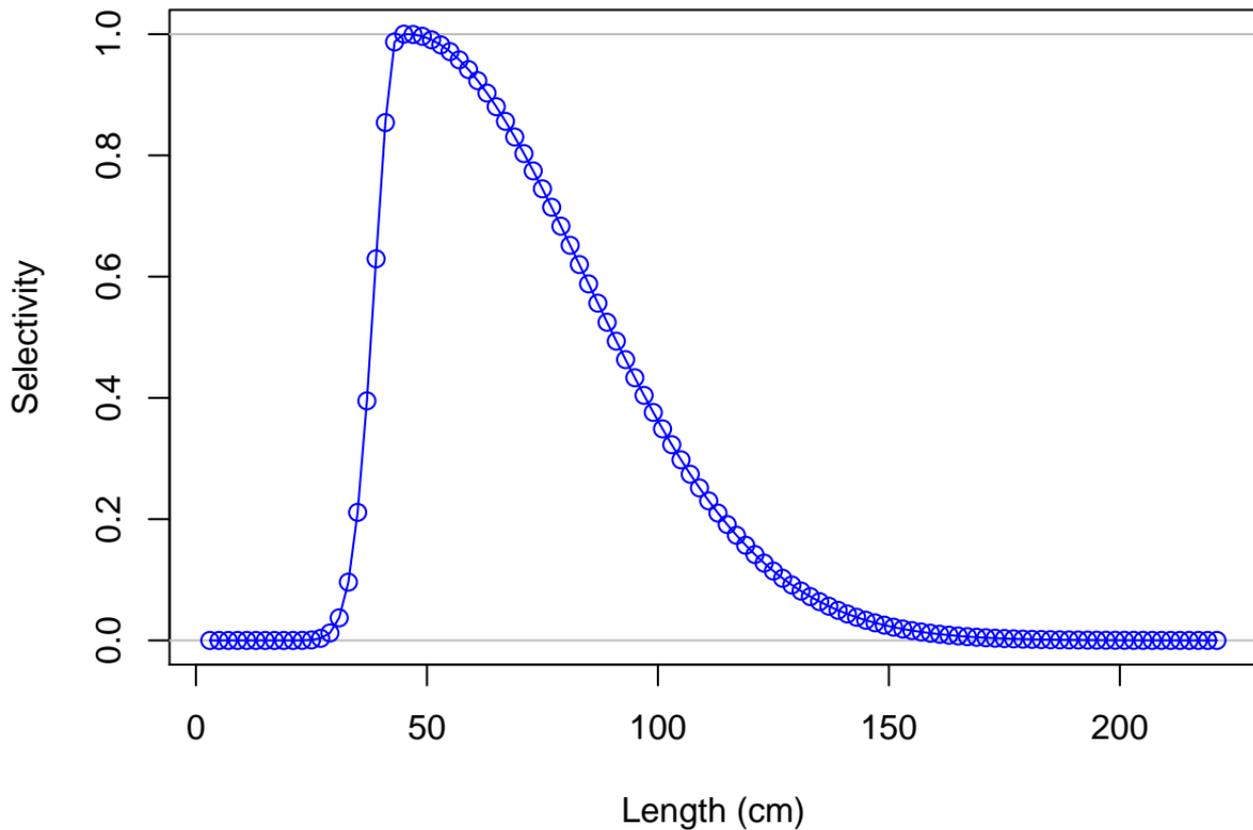
Female ending year selectivity for F4-OBJ_I



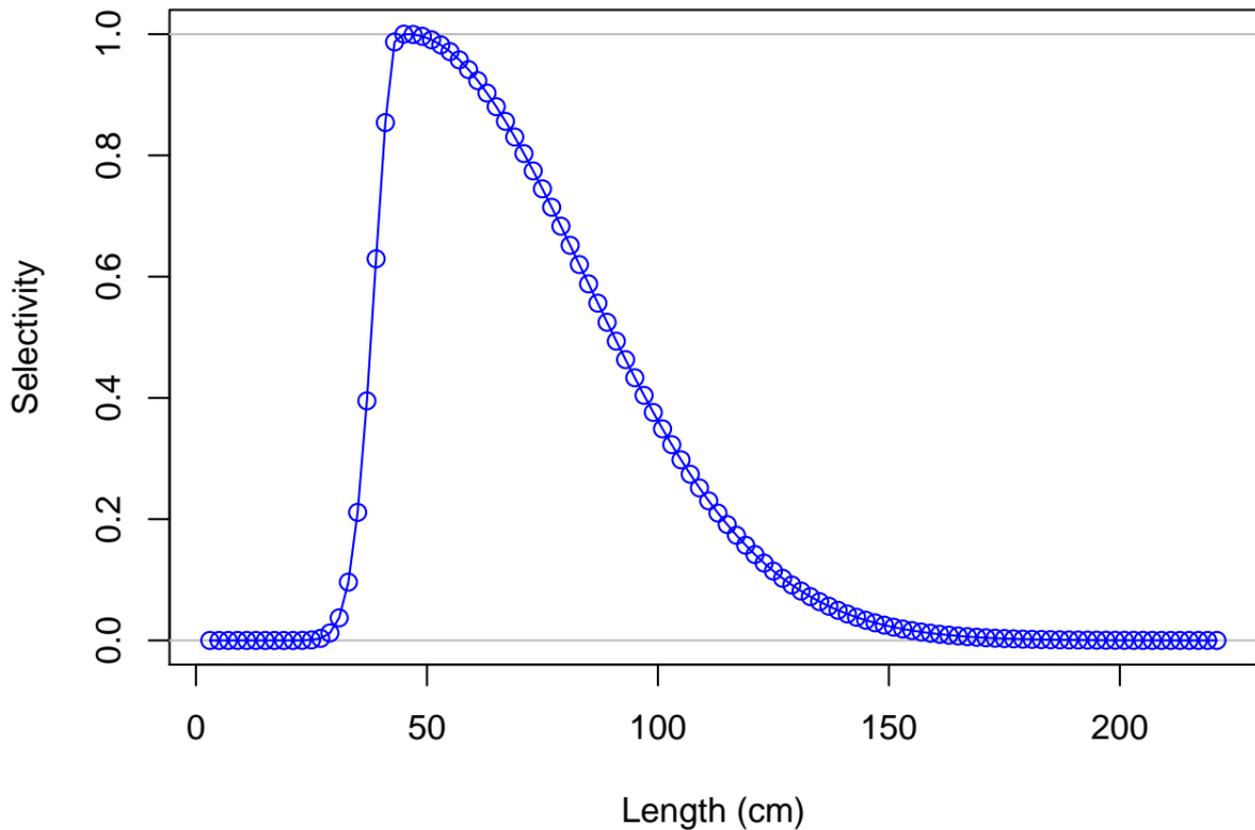
Male ending year selectivity for F4-OBJ_I



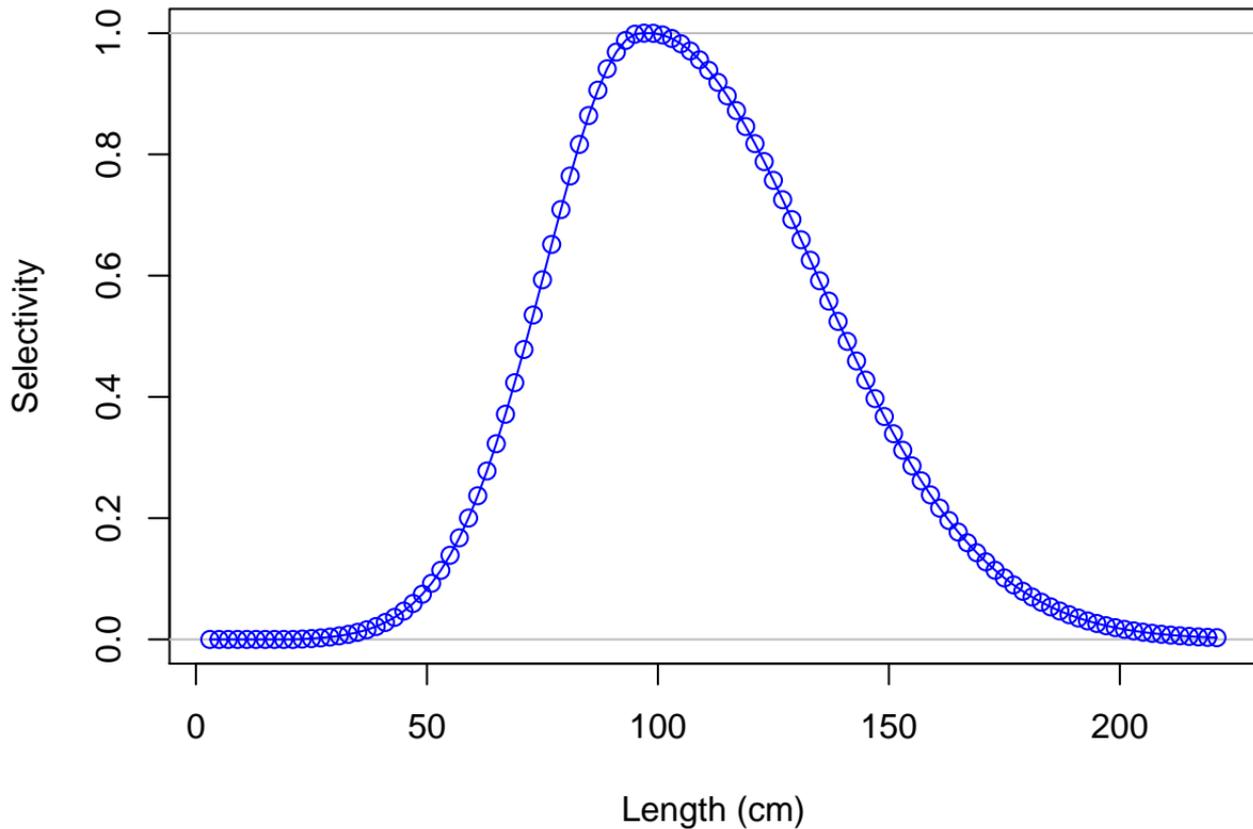
Female ending year selectivity for F5-OBJ_N



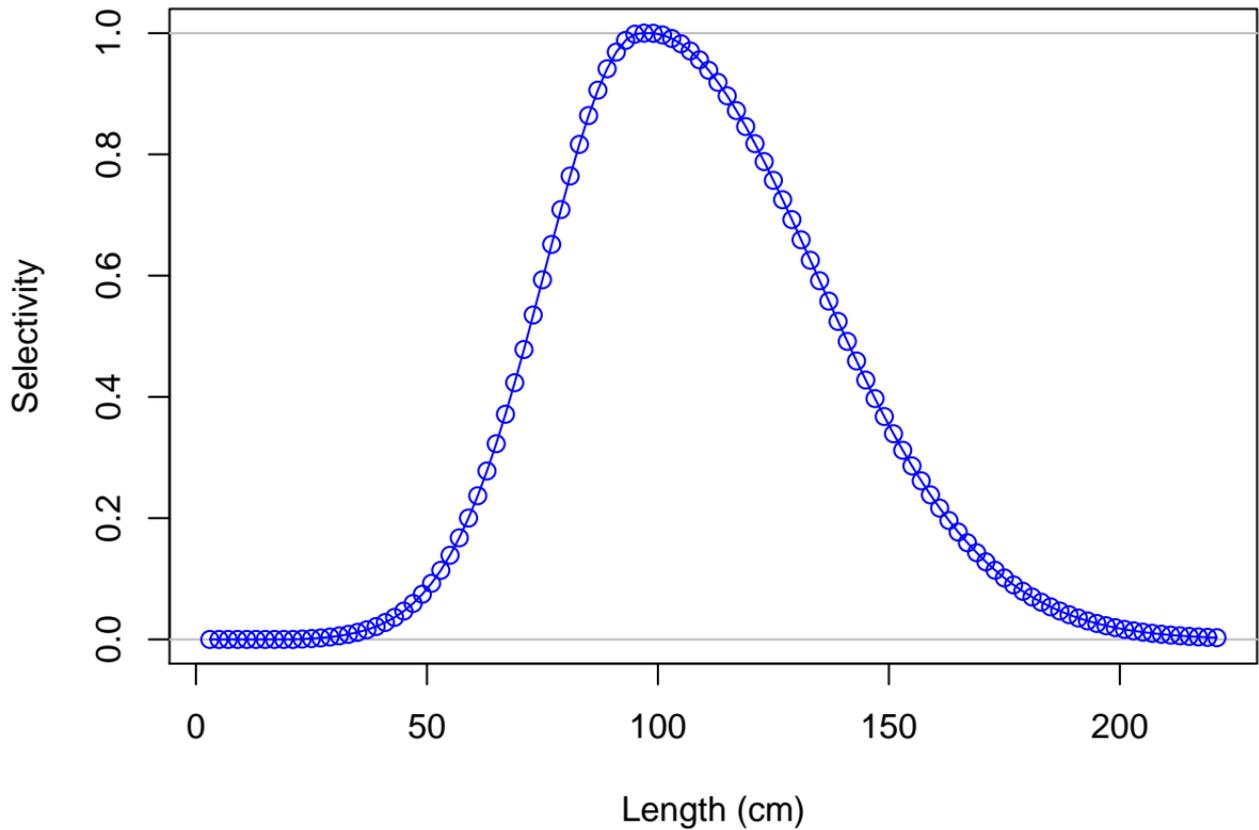
Male ending year selectivity for F5-OBJ_N



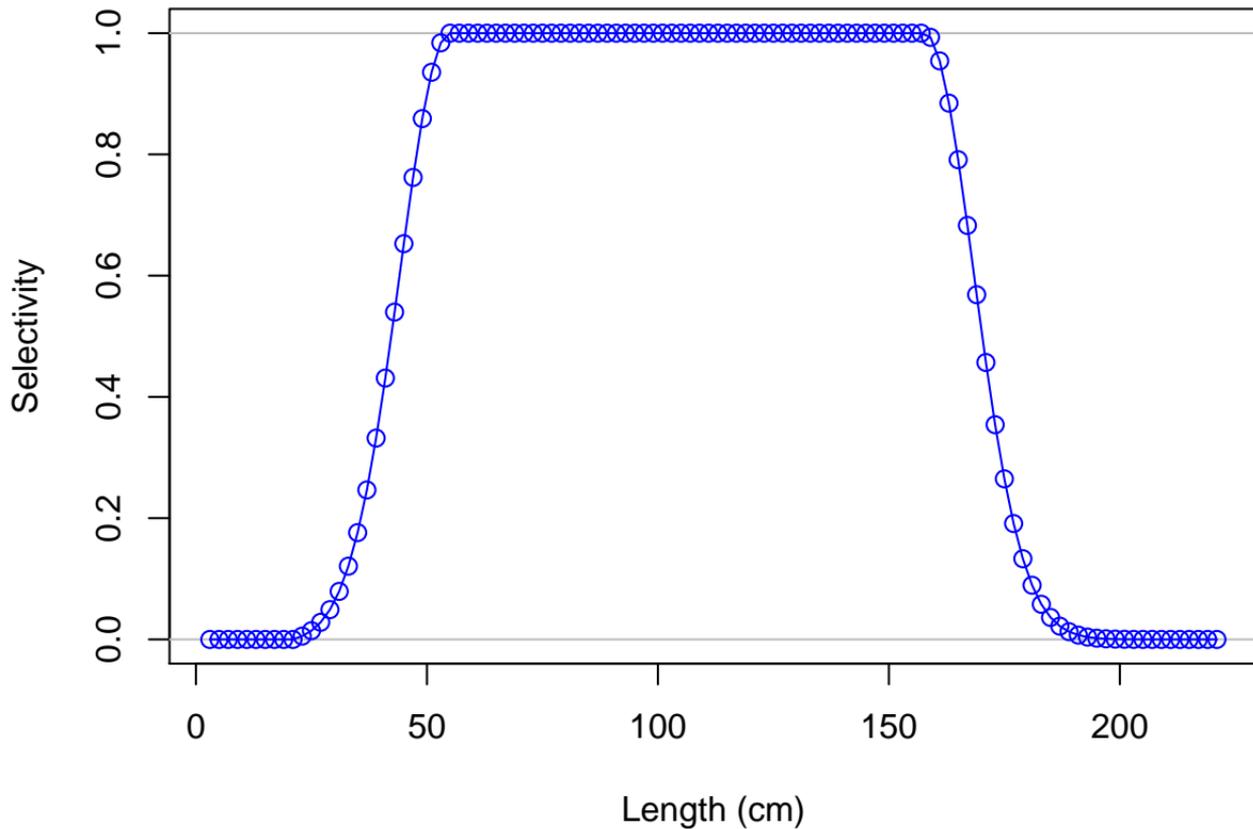
Female ending year selectivity for F6-NOA-DEL_early



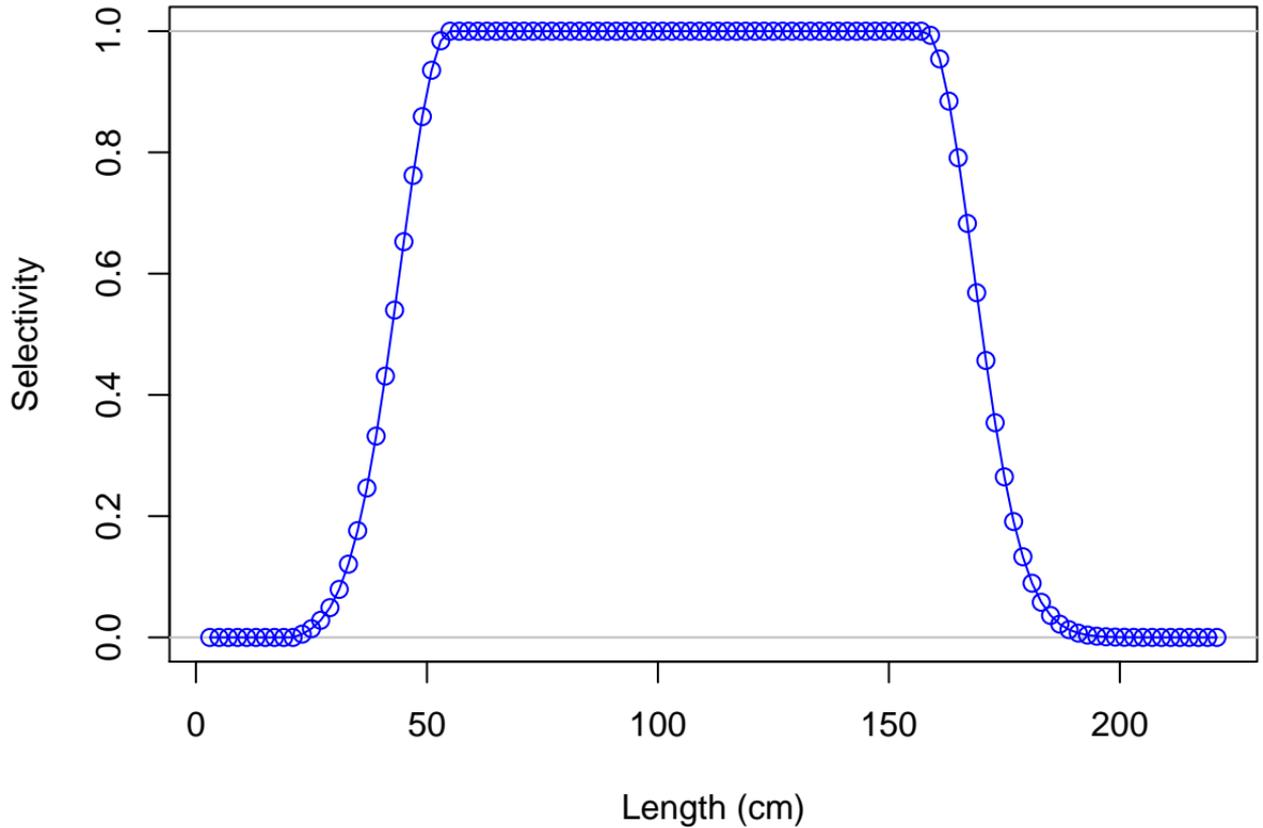
Male ending year selectivity for F6-NOA-DEL_early



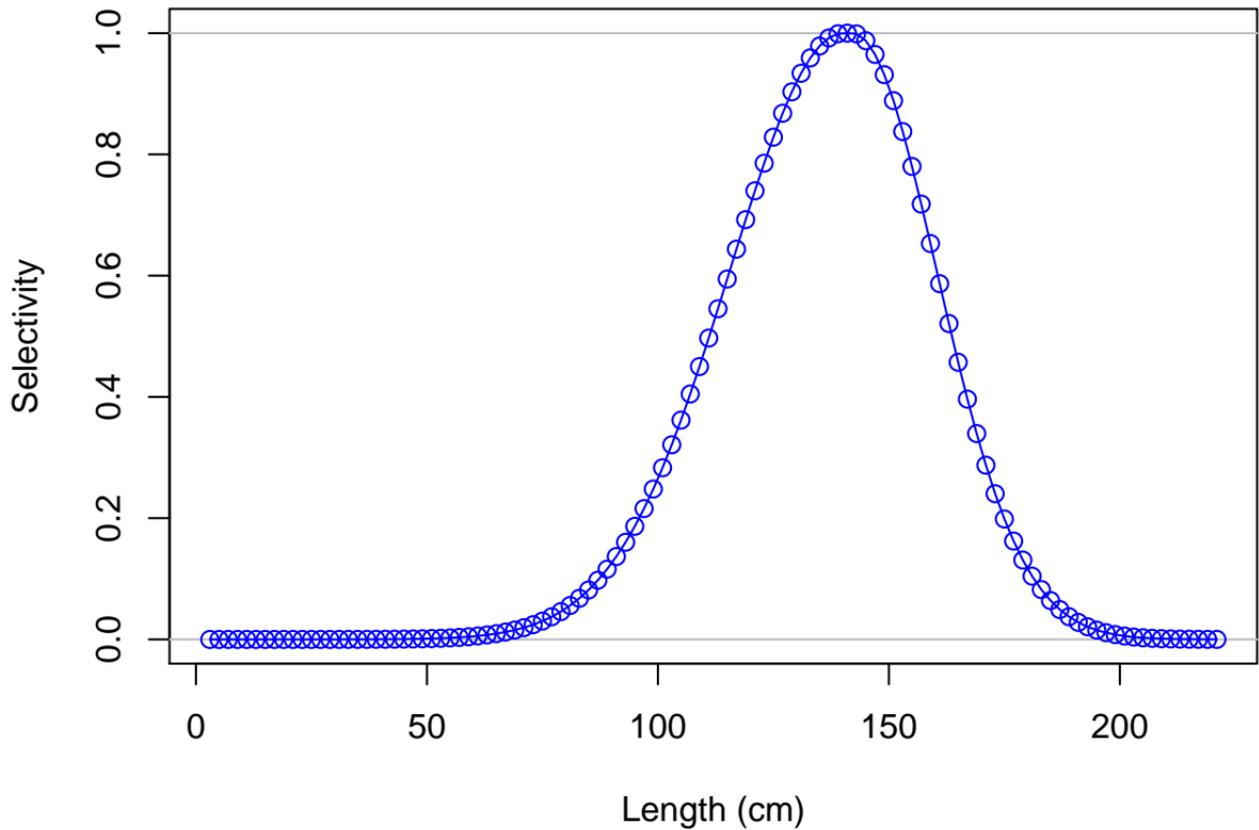
Female ending year selectivity for F7-NOA-DEL_late



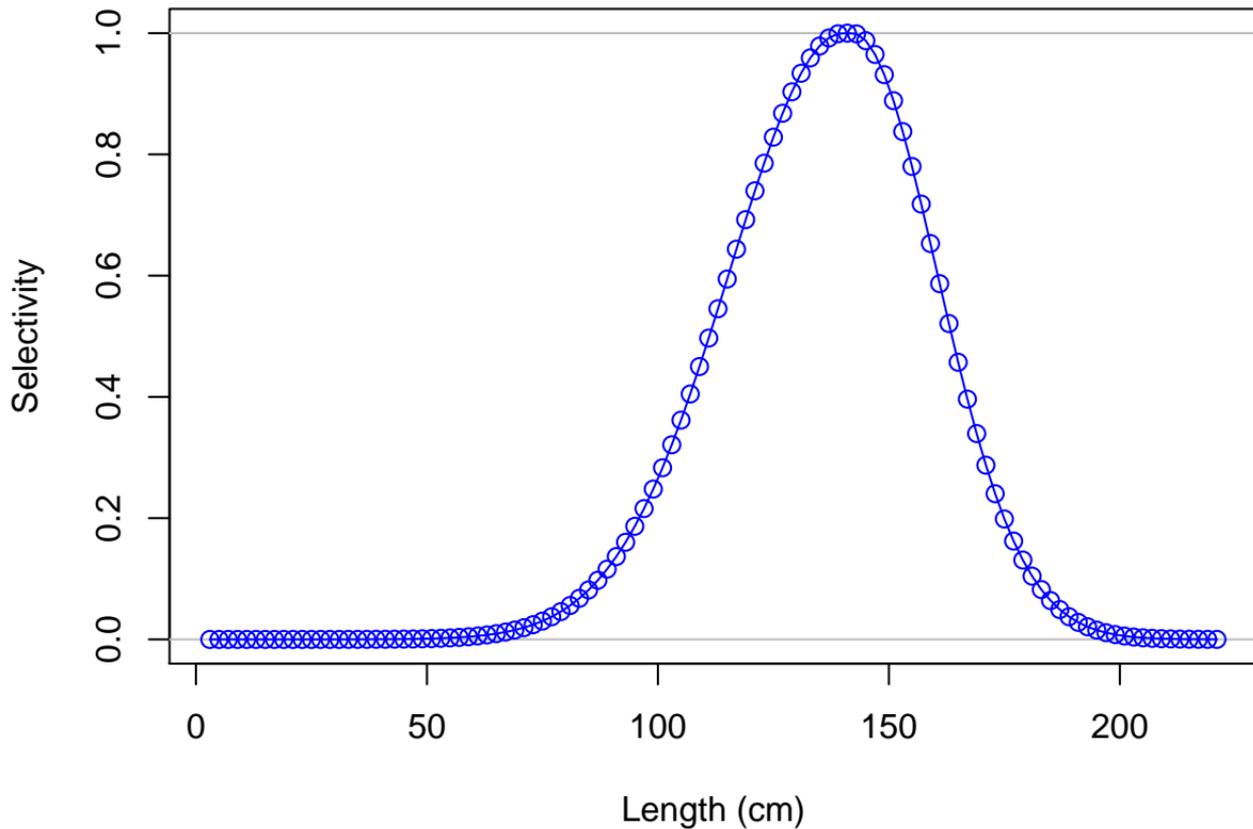
Male ending year selectivity for F7-NOA-DEL_late



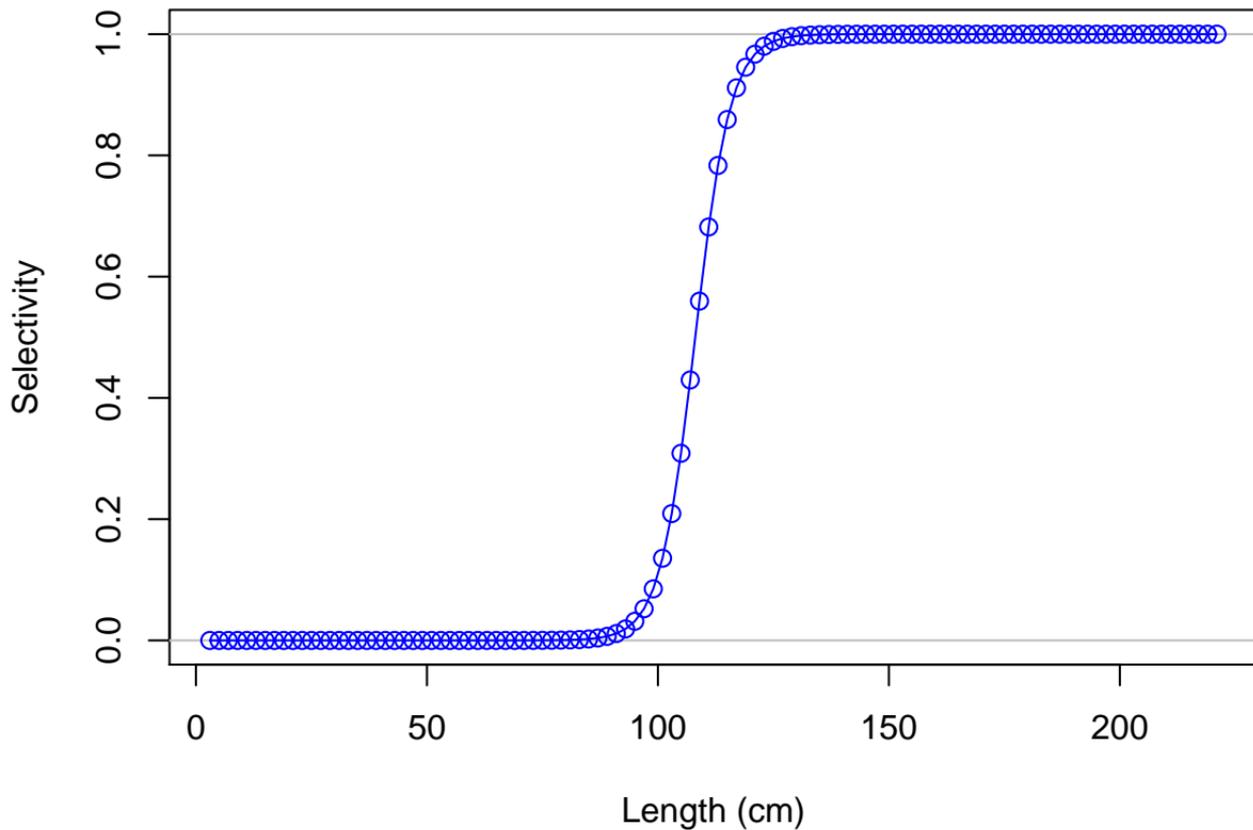
Female ending year selectivity for F12-LL_N_num



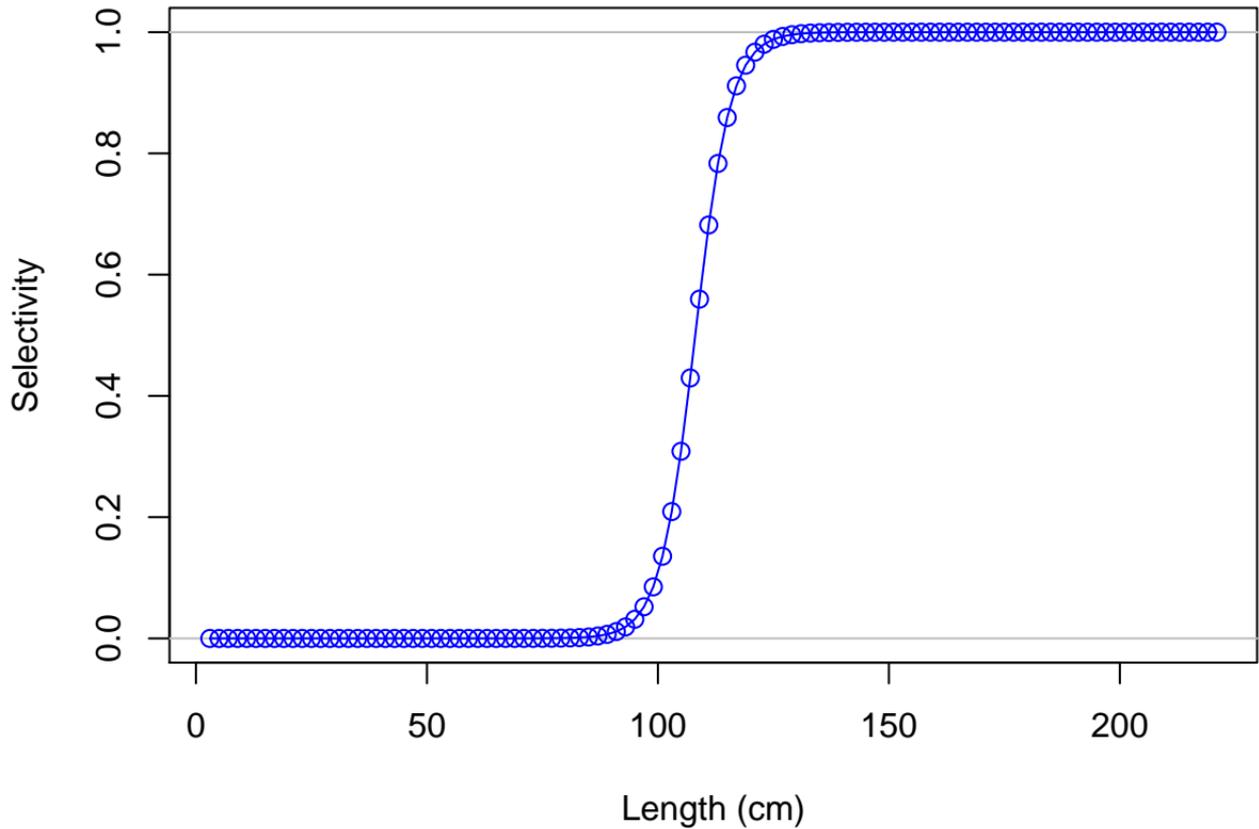
Male ending year selectivity for F12-LL_N_num



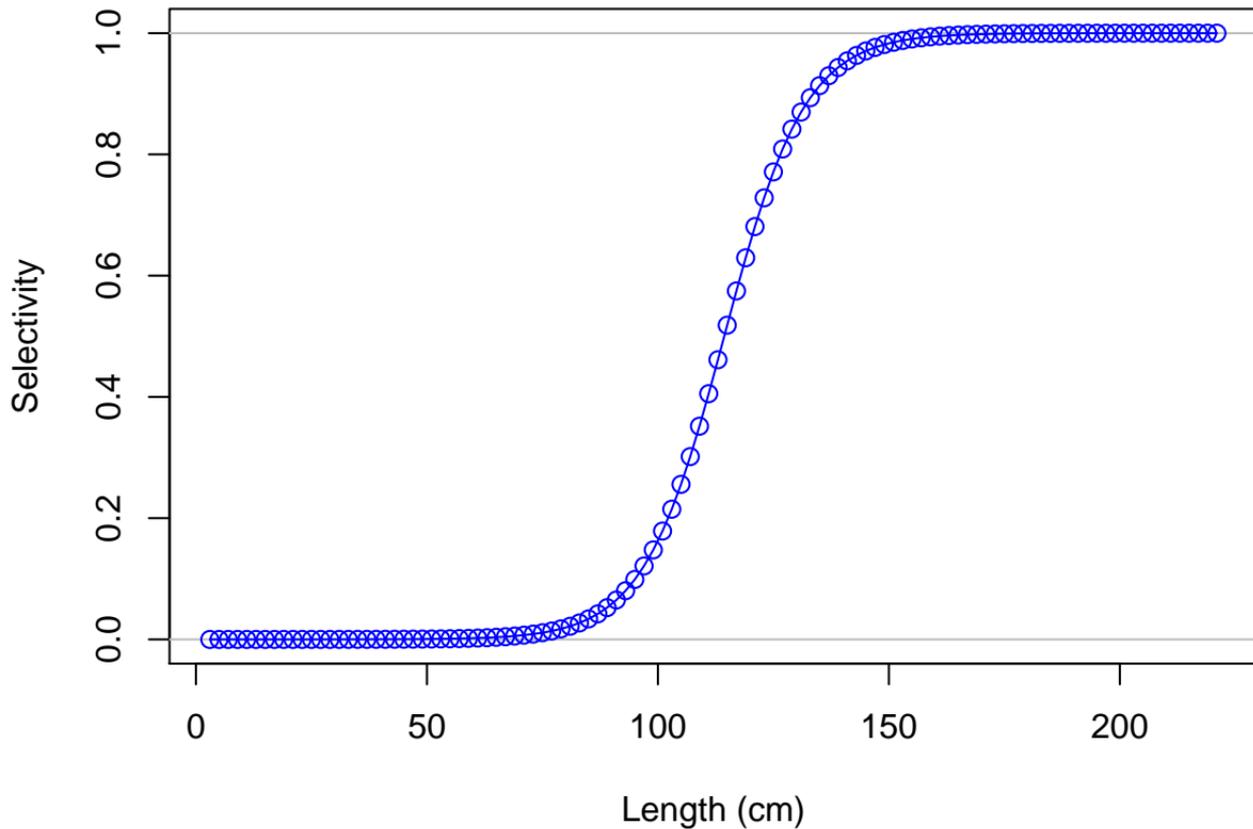
Female ending year selectivity for F13-LL_C_num



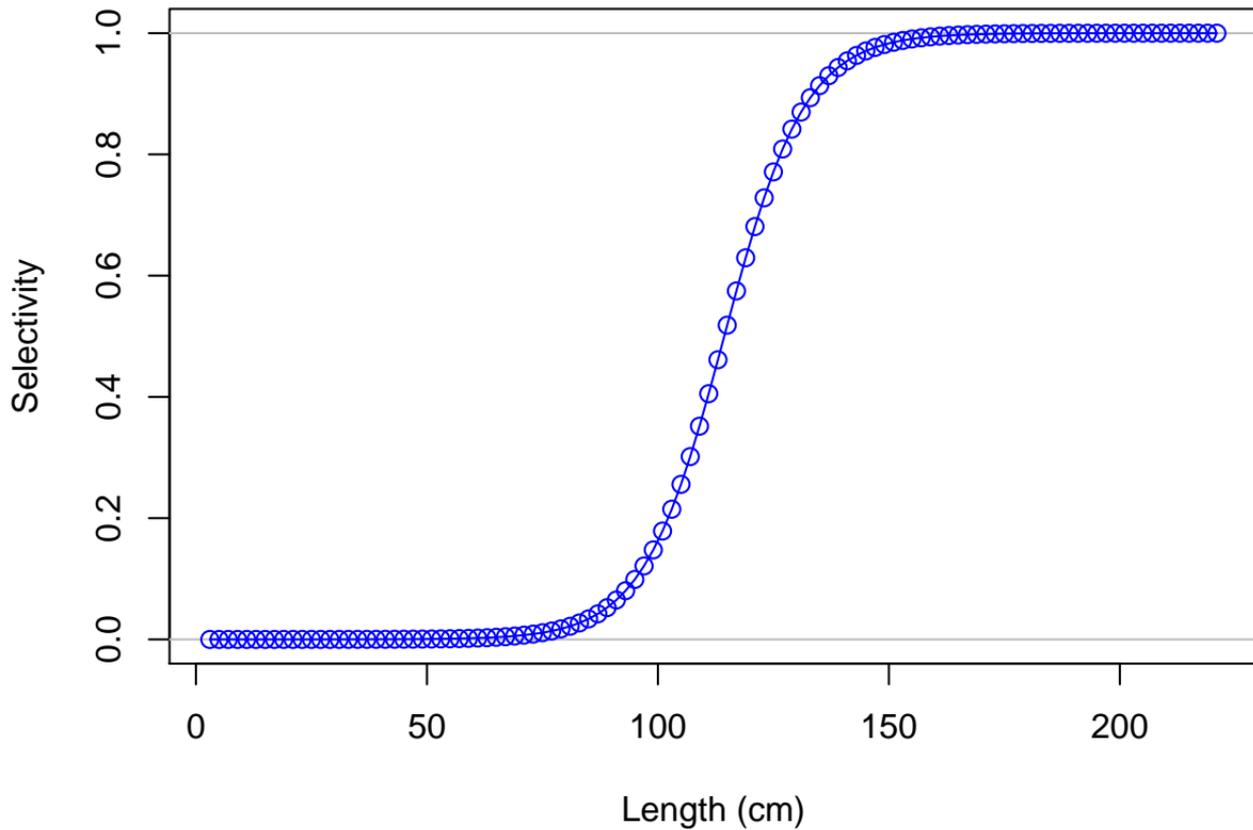
Male ending year selectivity for F13-LL_C_num



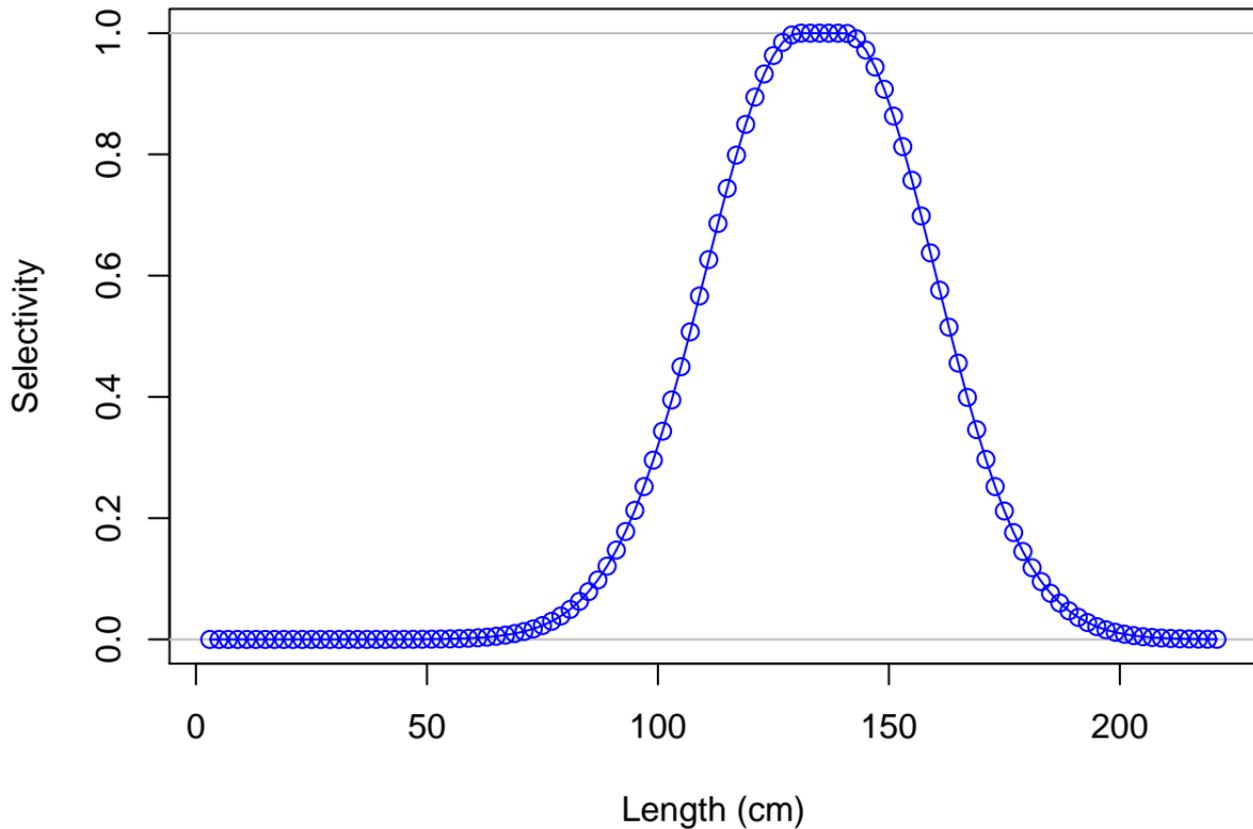
Female ending year selectivity for F14-LL_S_num



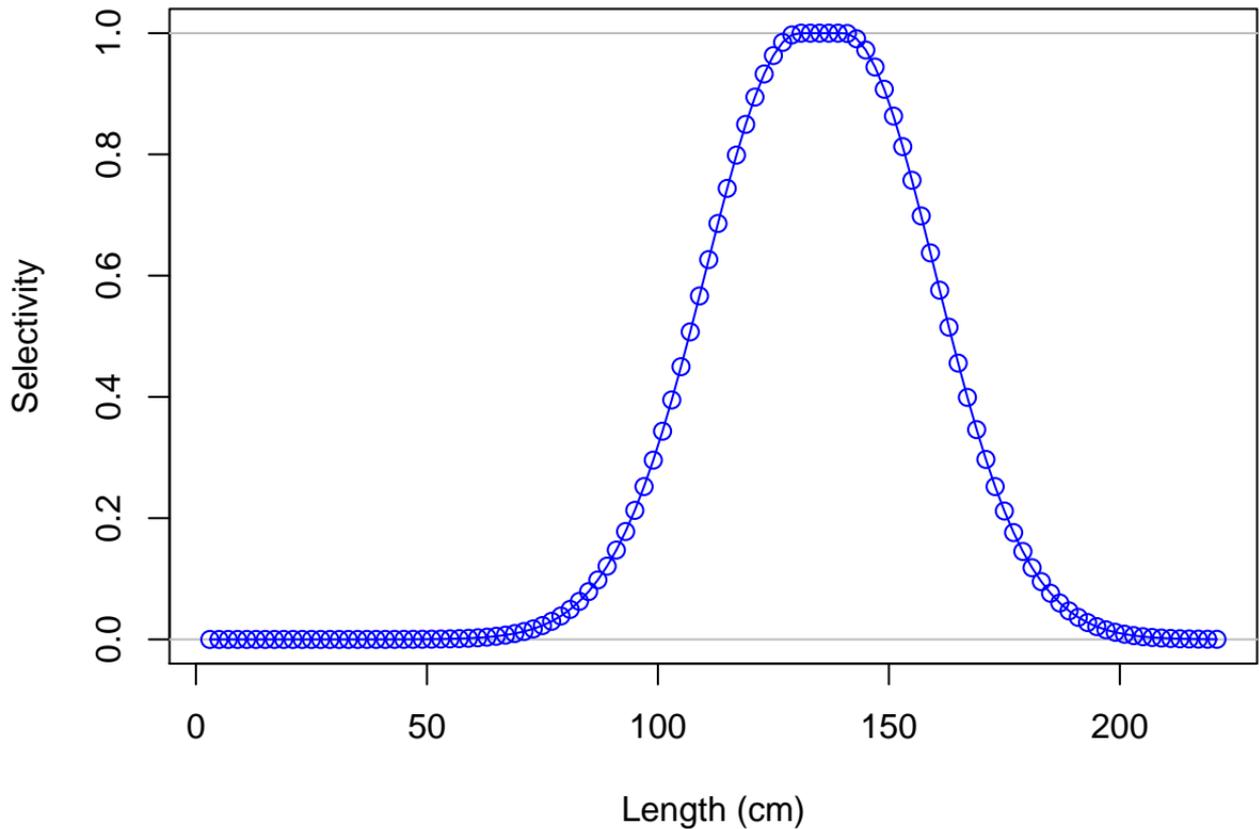
Male ending year selectivity for F14-LL_S_num



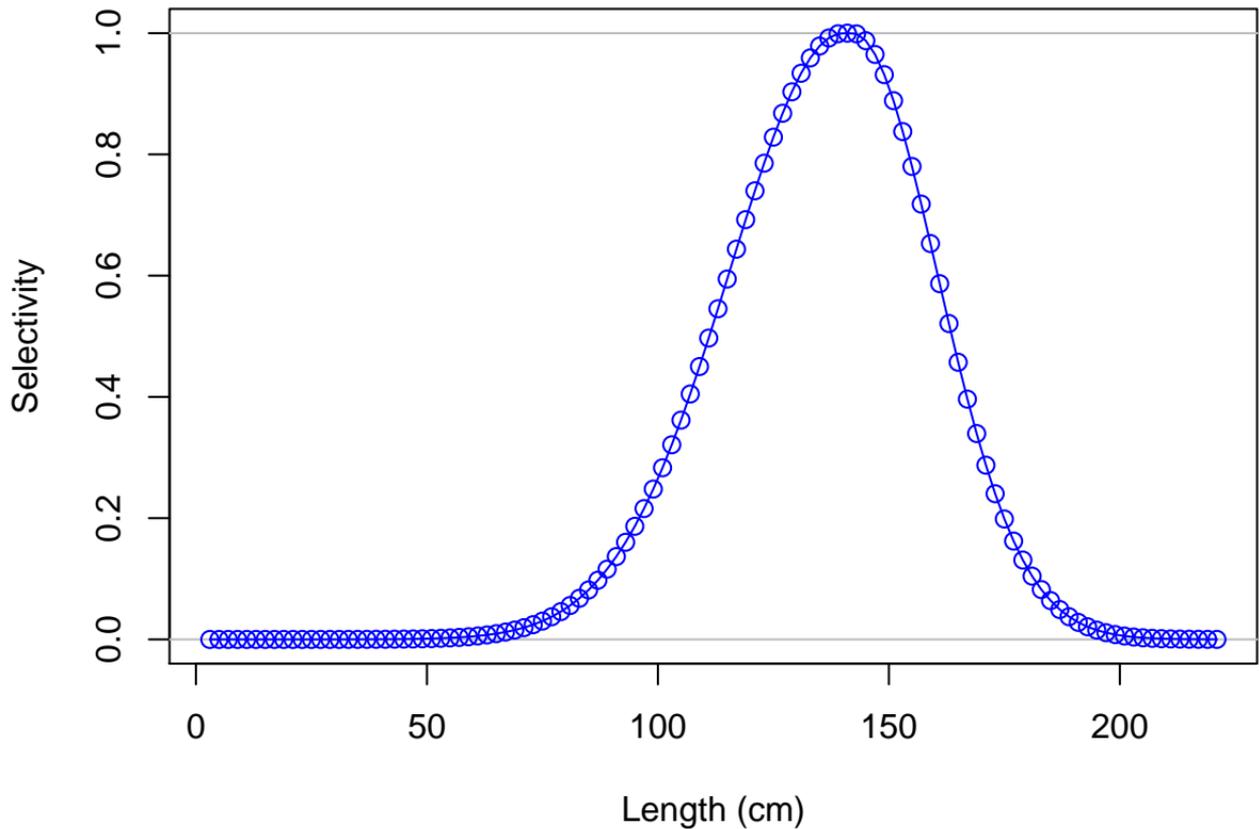
Female ending year selectivity for F15-LL_I_num



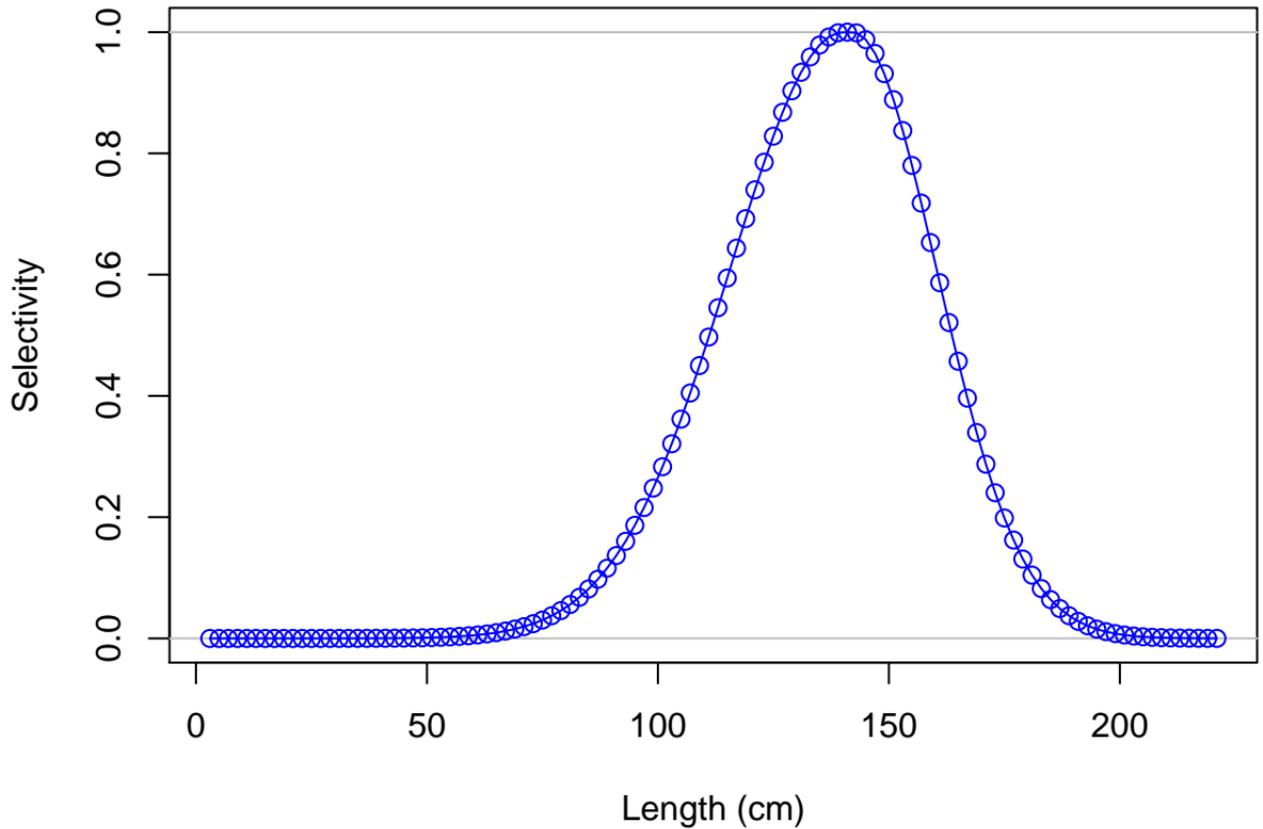
Male ending year selectivity for F15-LL_I_num



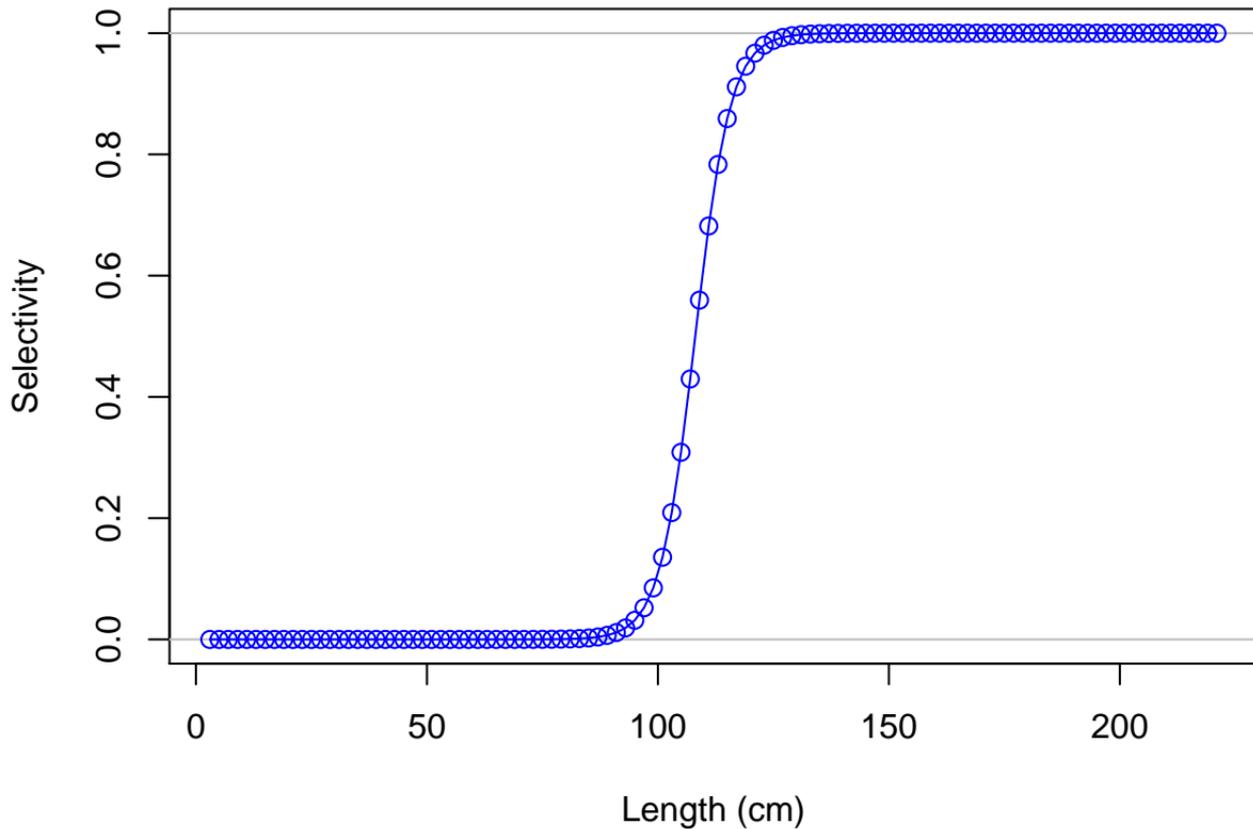
Female ending year selectivity for F16-LL_N_w



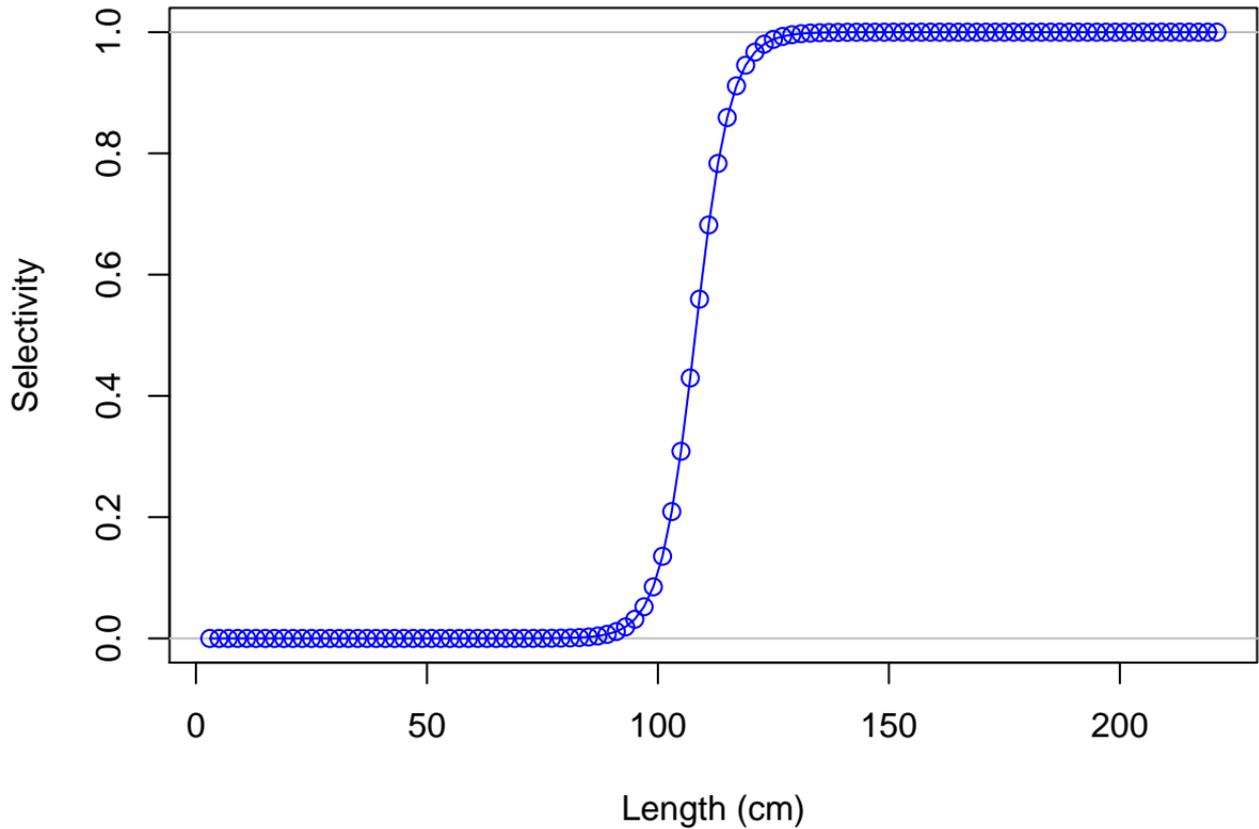
Male ending year selectivity for F16-LL_N_w



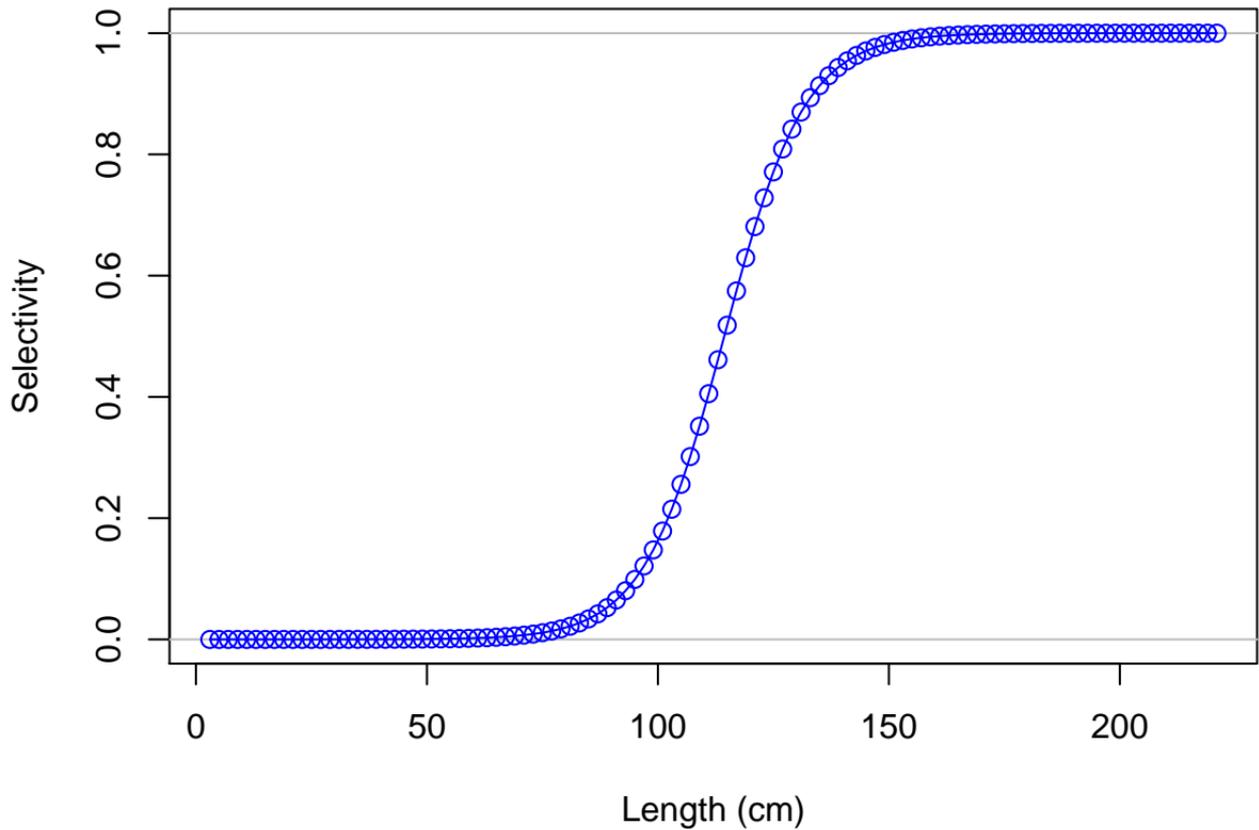
Female ending year selectivity for F17-LL_C_w



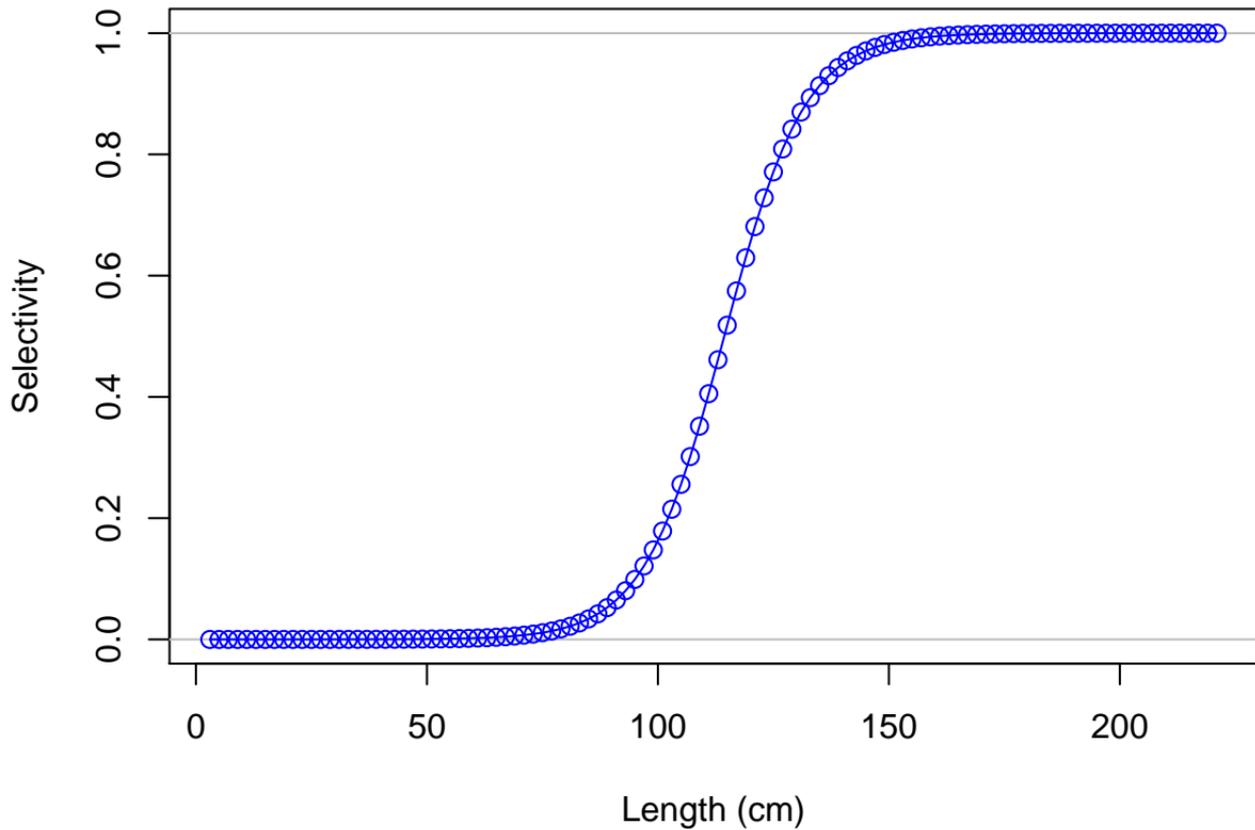
Male ending year selectivity for F17-LL_C_w



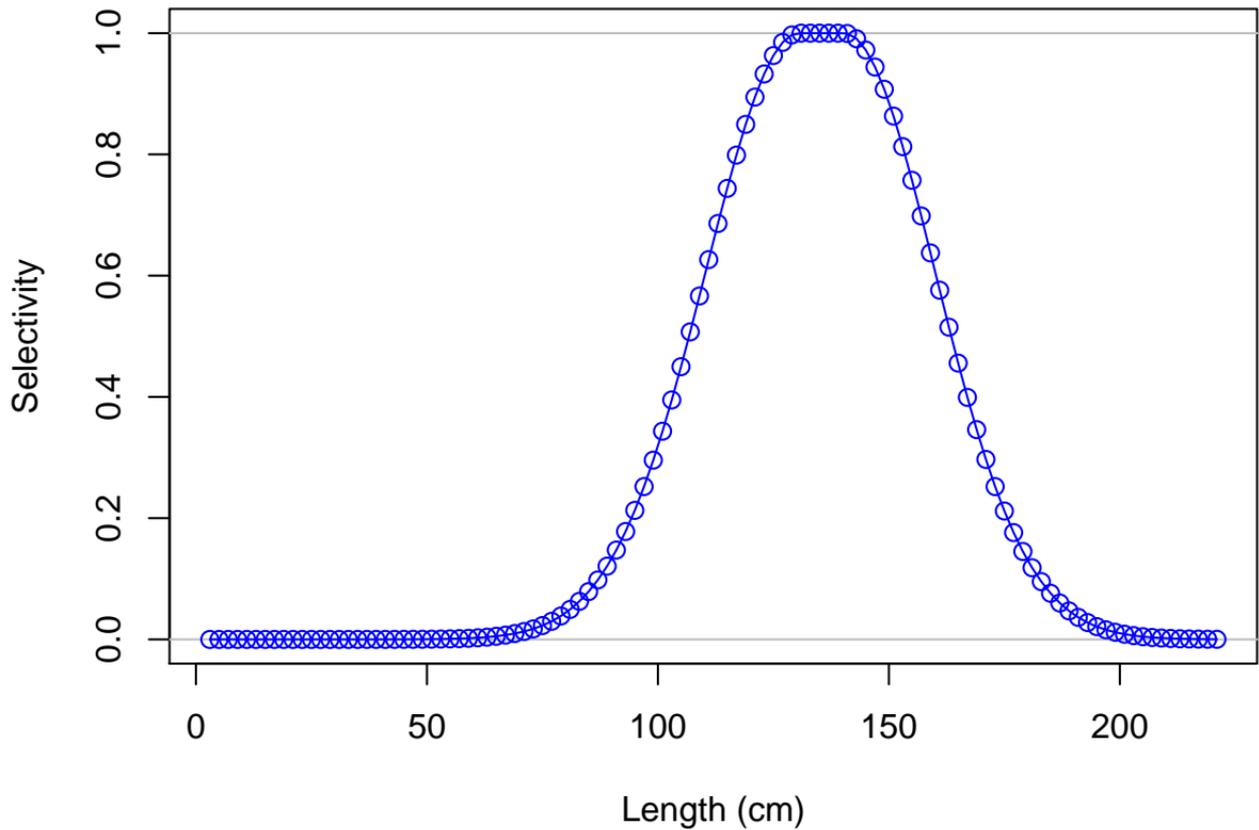
Female ending year selectivity for F18-LL_S_w



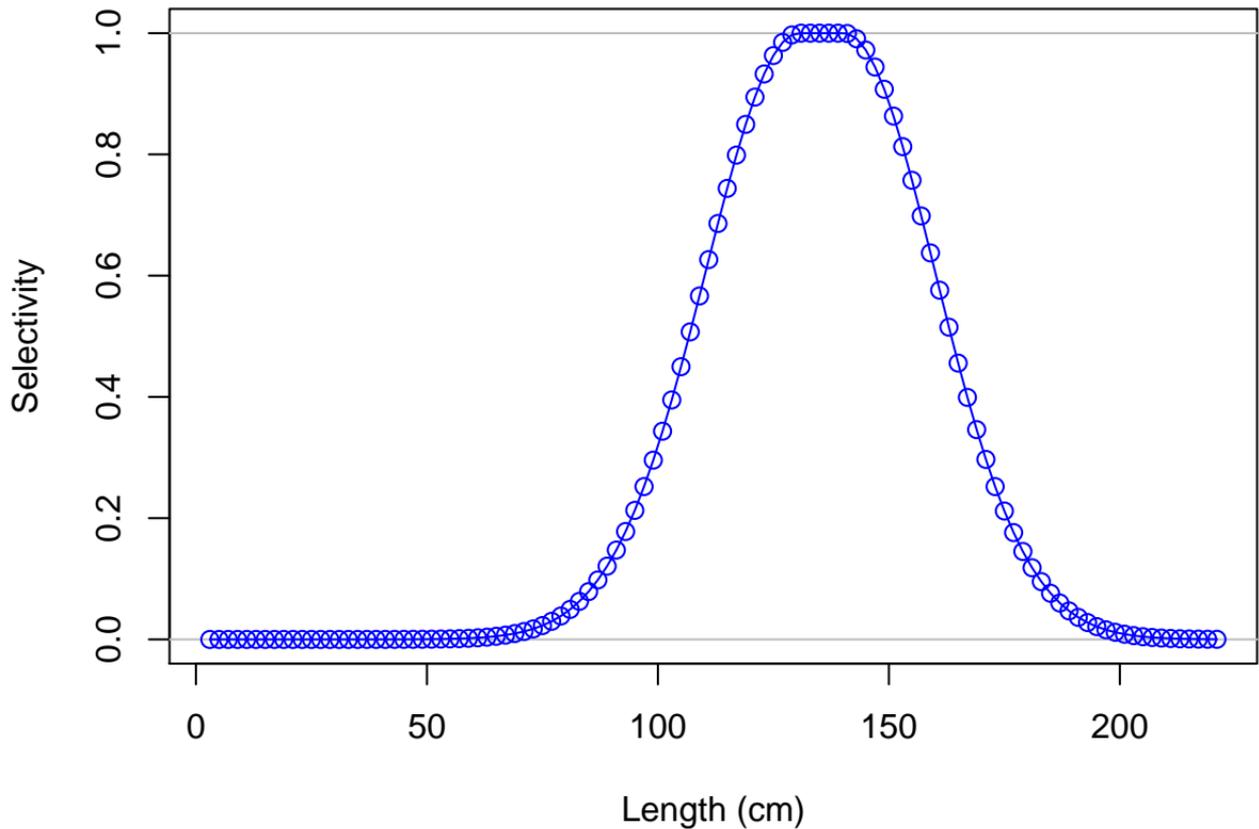
Male ending year selectivity for F18-LL_S_w



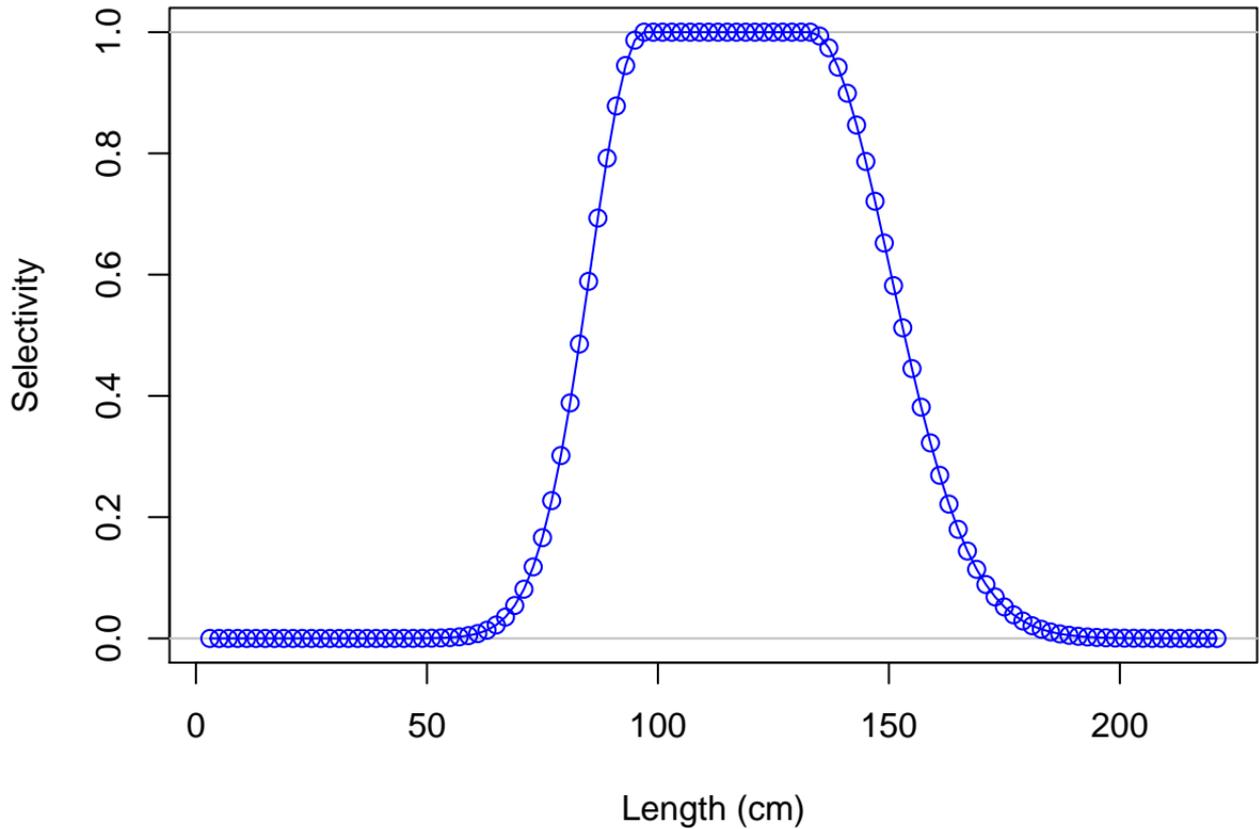
Female ending year selectivity for F19-LL_I_w



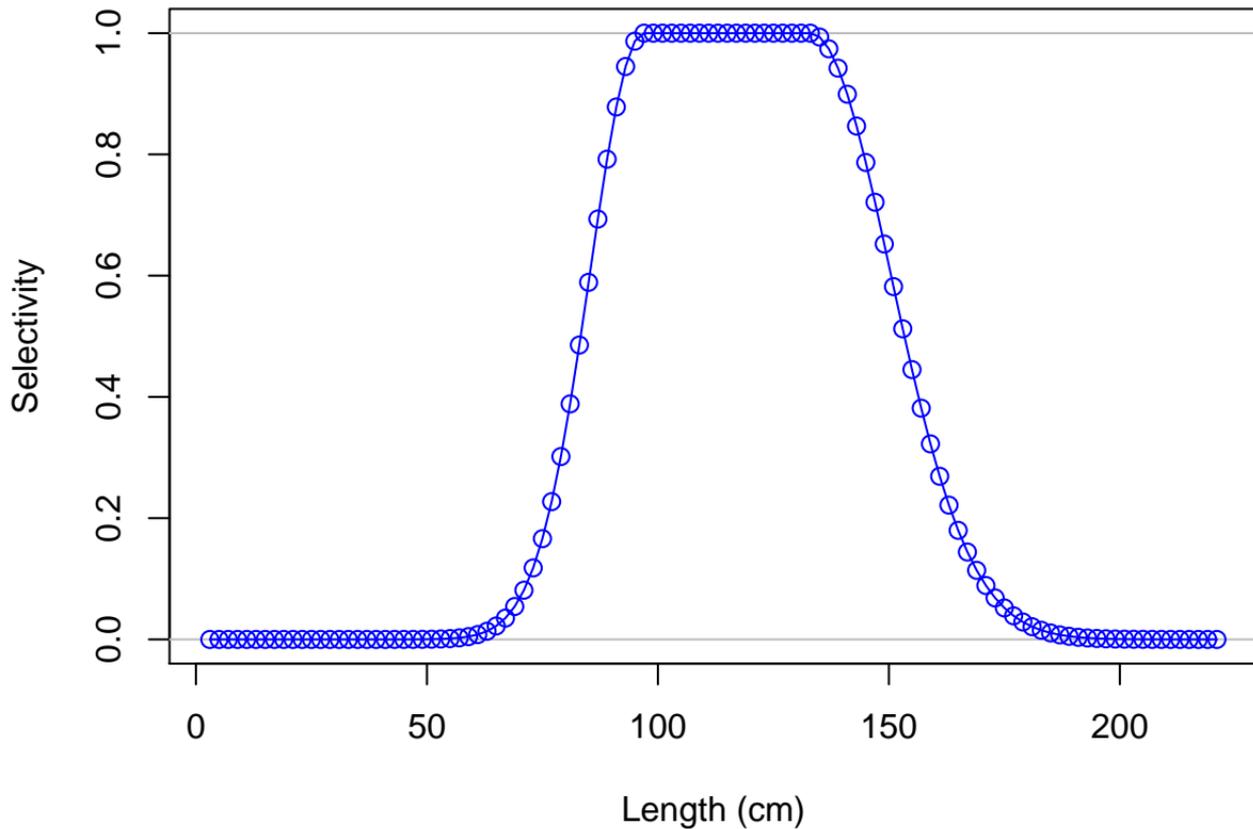
Male ending year selectivity for F19-LL_I_w



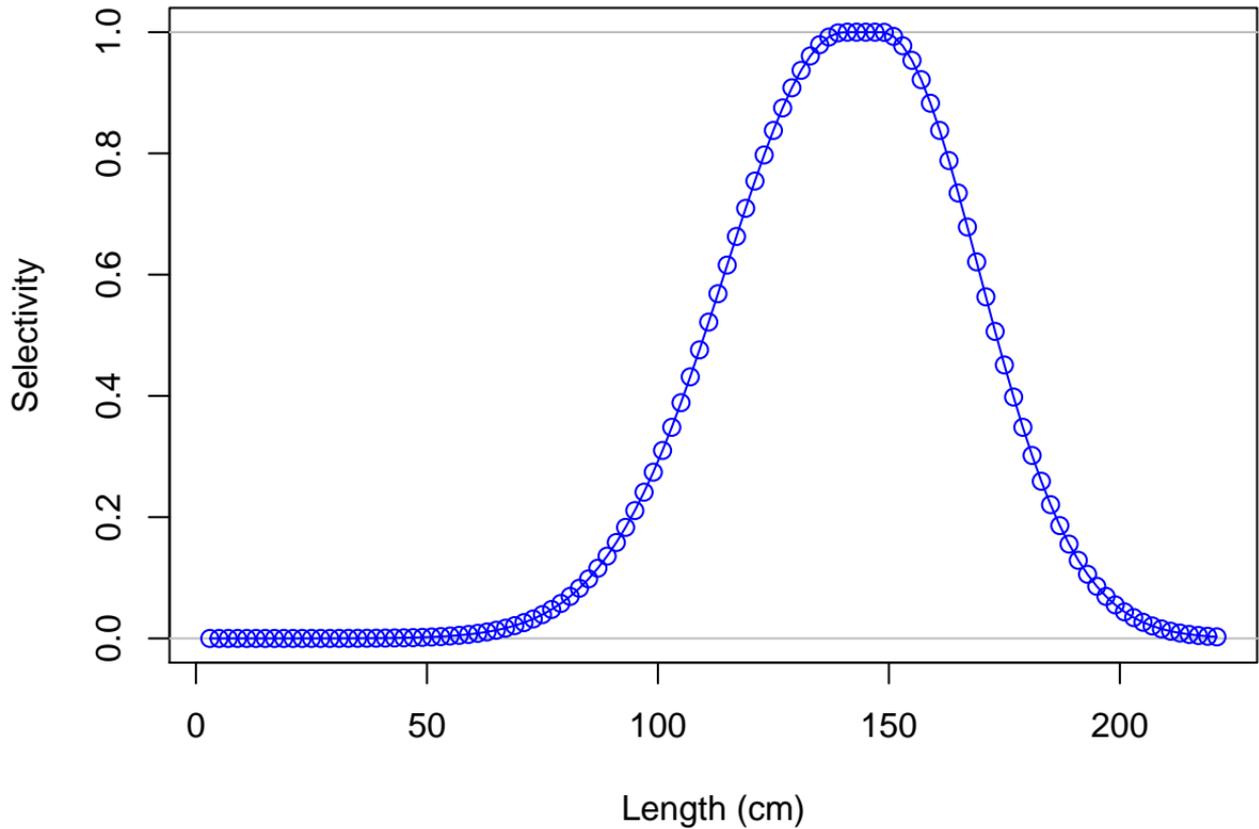
Female ending year selectivity for S1-LLt_N_len



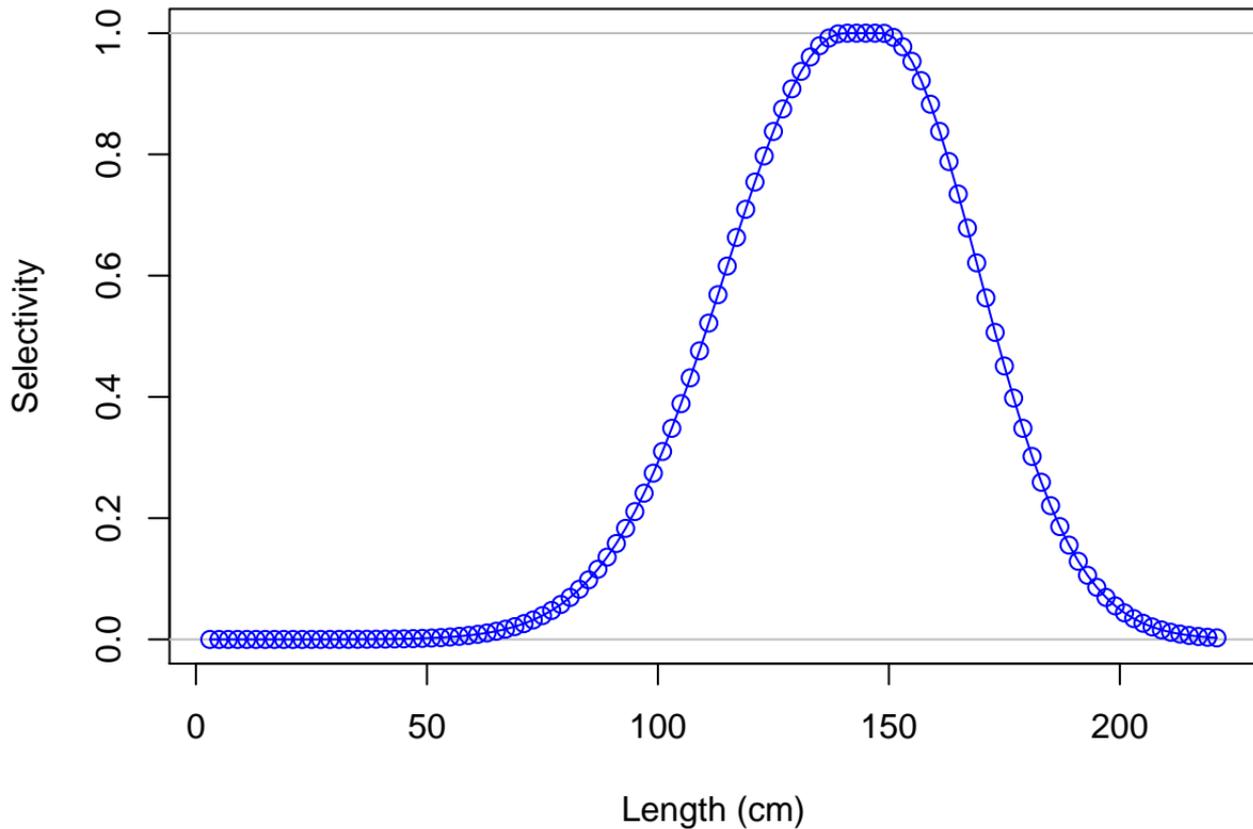
Male ending year selectivity for S1-LLt_N_len



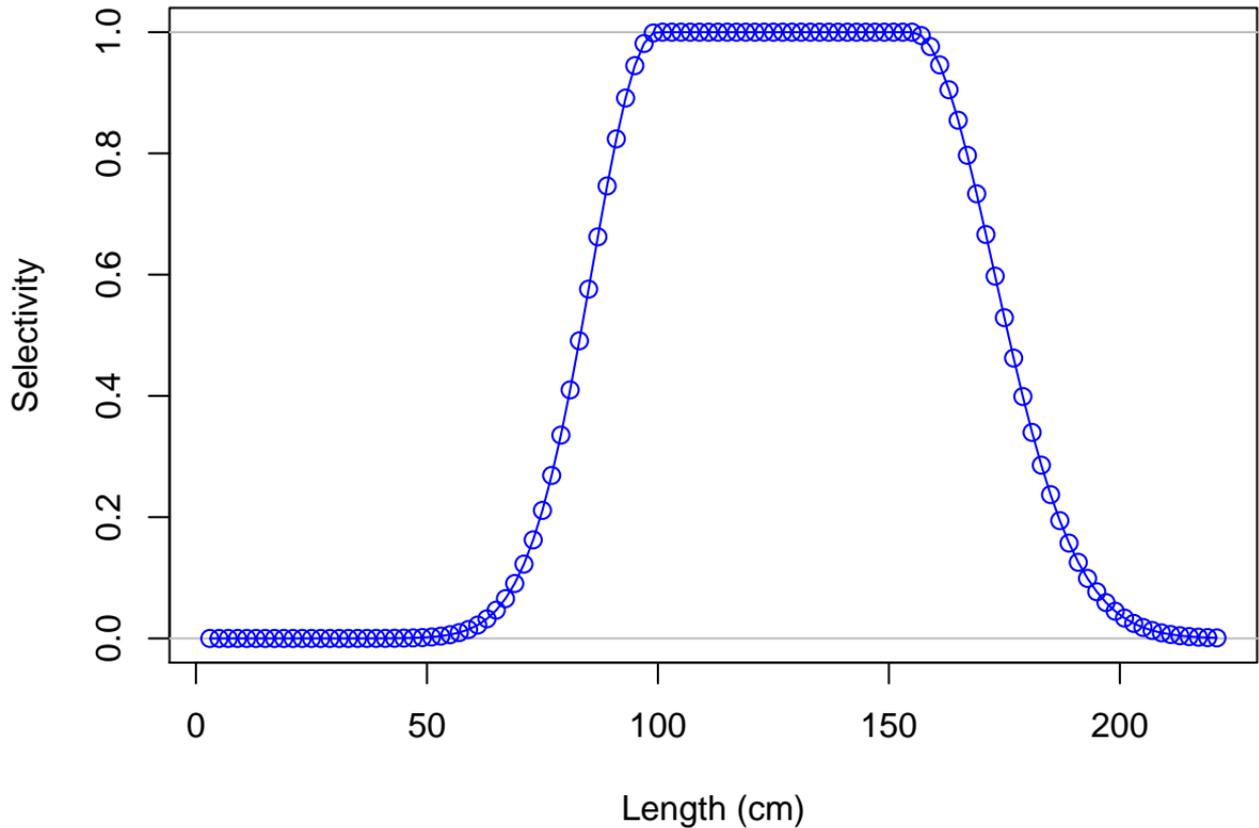
Female ending year selectivity for S2-LLt_C_len



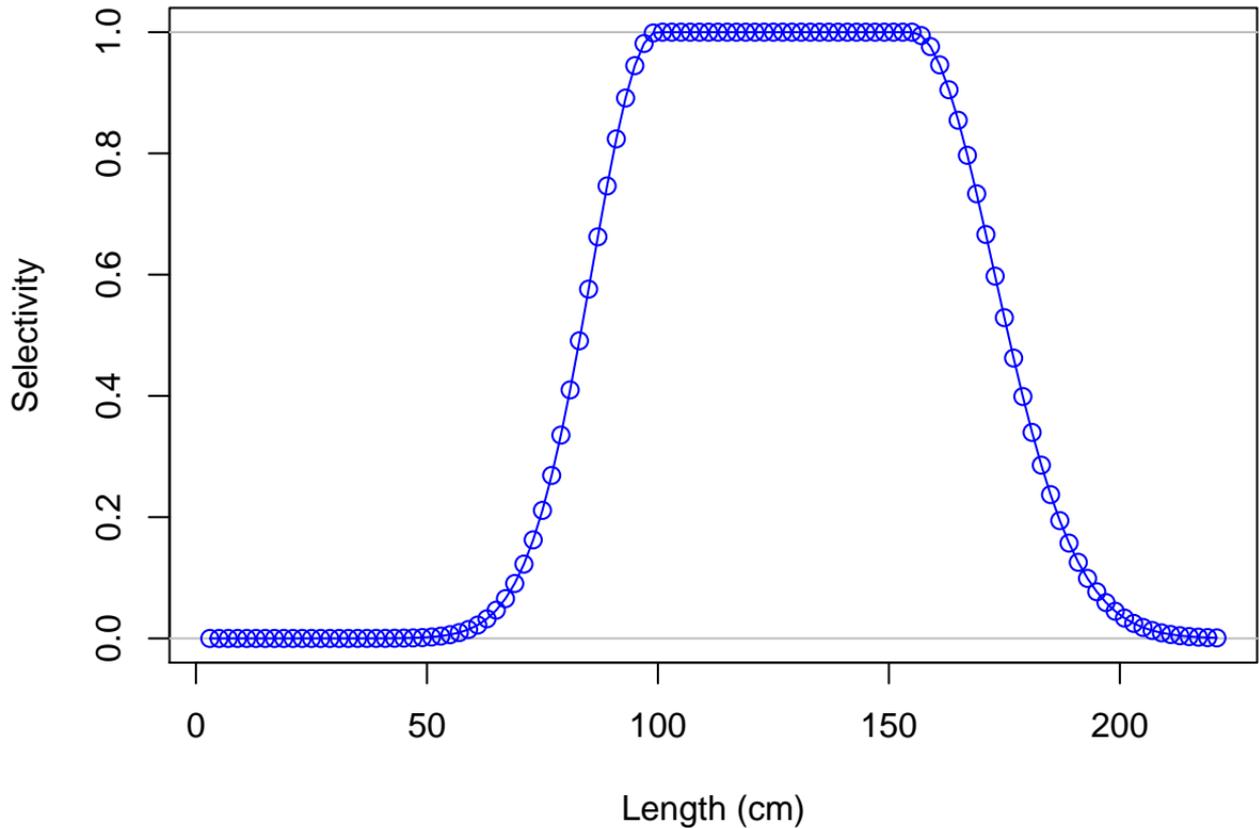
Male ending year selectivity for S2-LLt_C_len



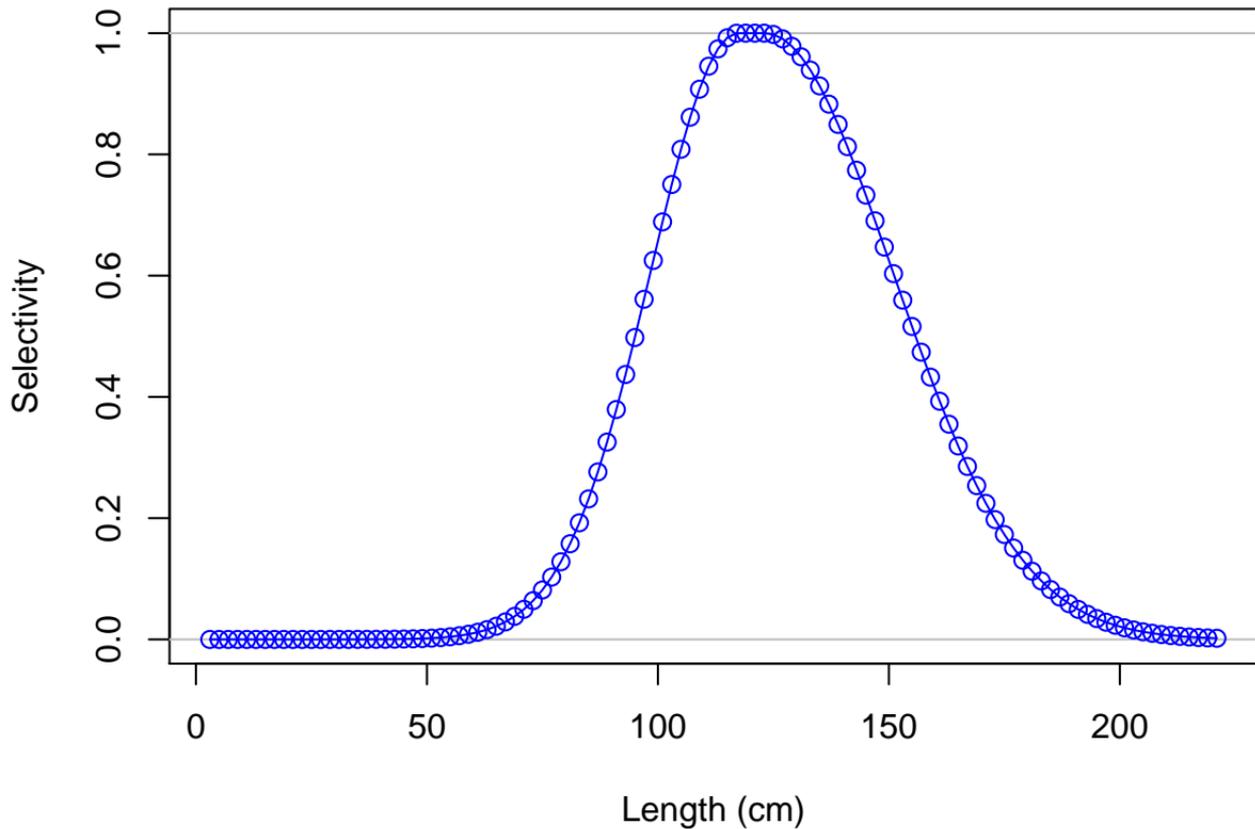
Female ending year selectivity for S3-LLt_S_len



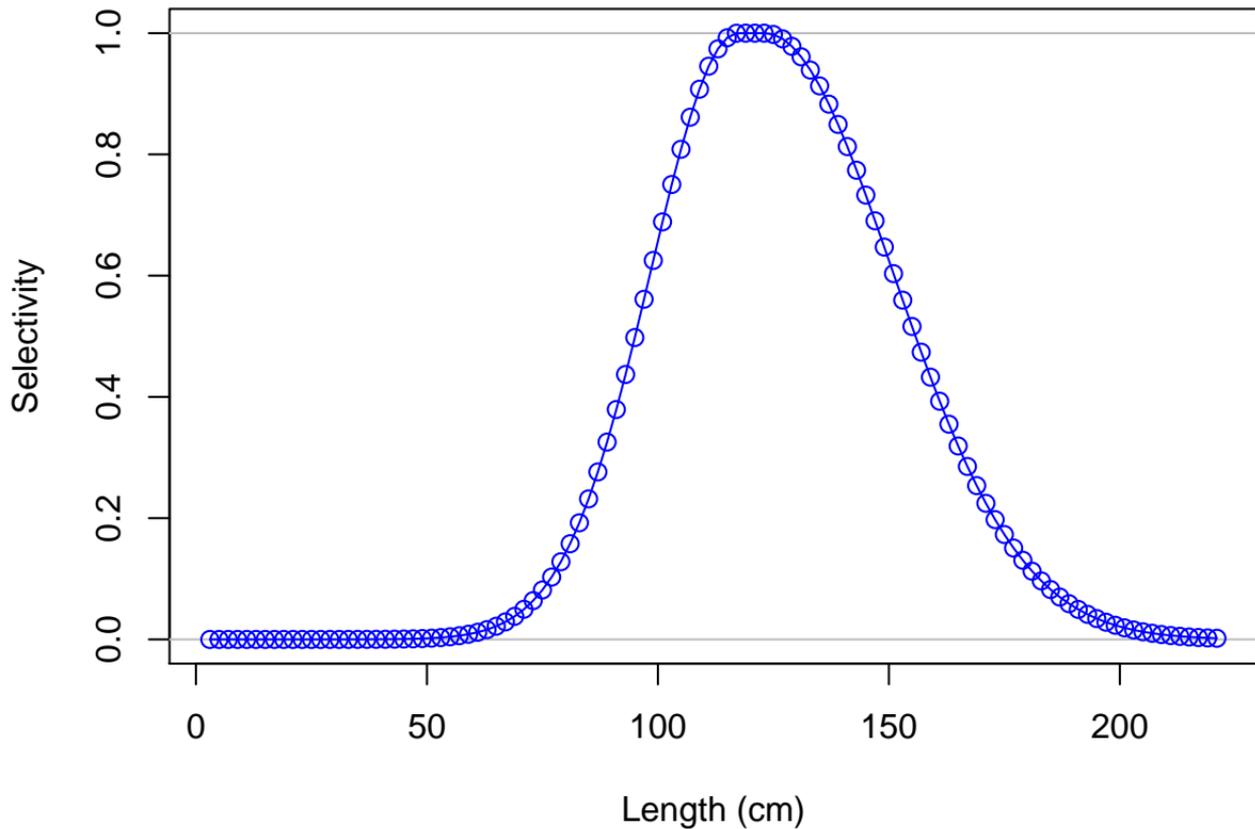
Male ending year selectivity for S3-LLt_S_len



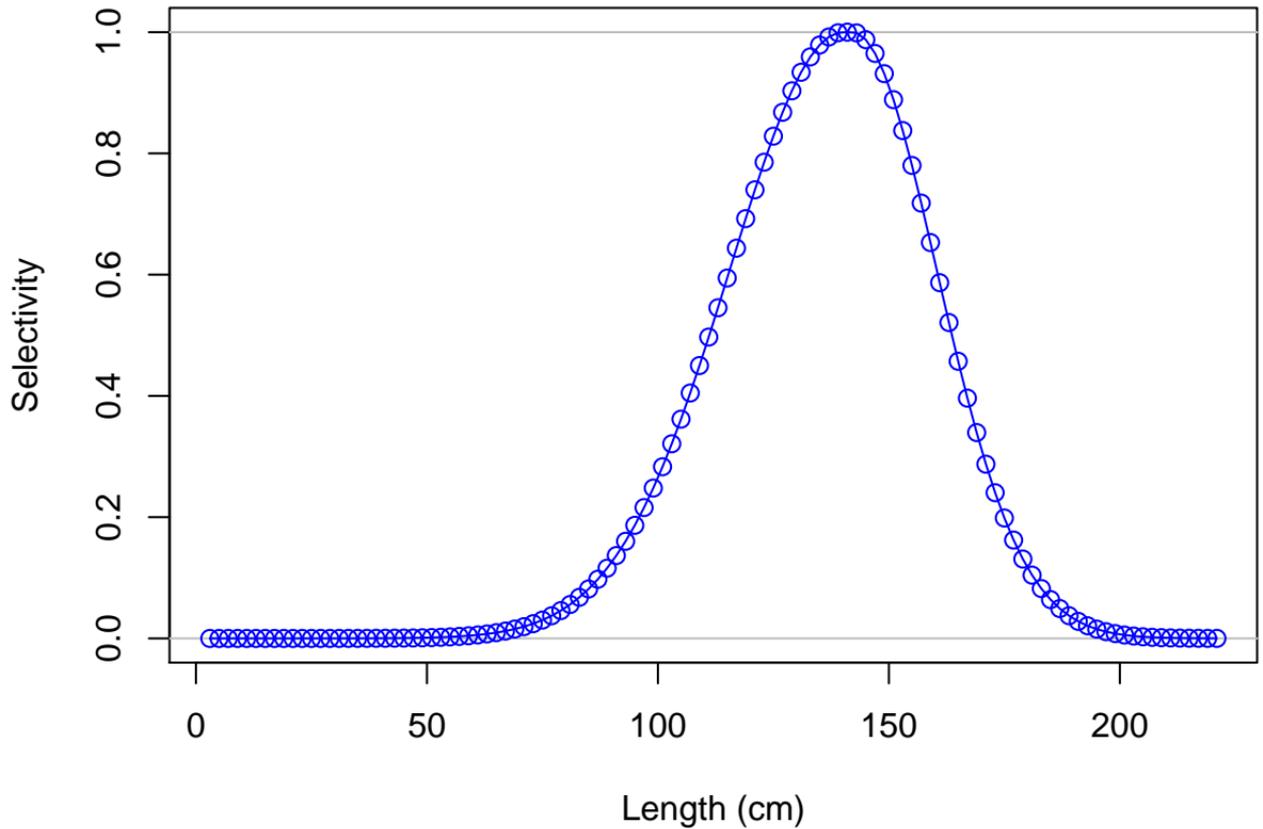
Female ending year selectivity for S4-LLt_I_len



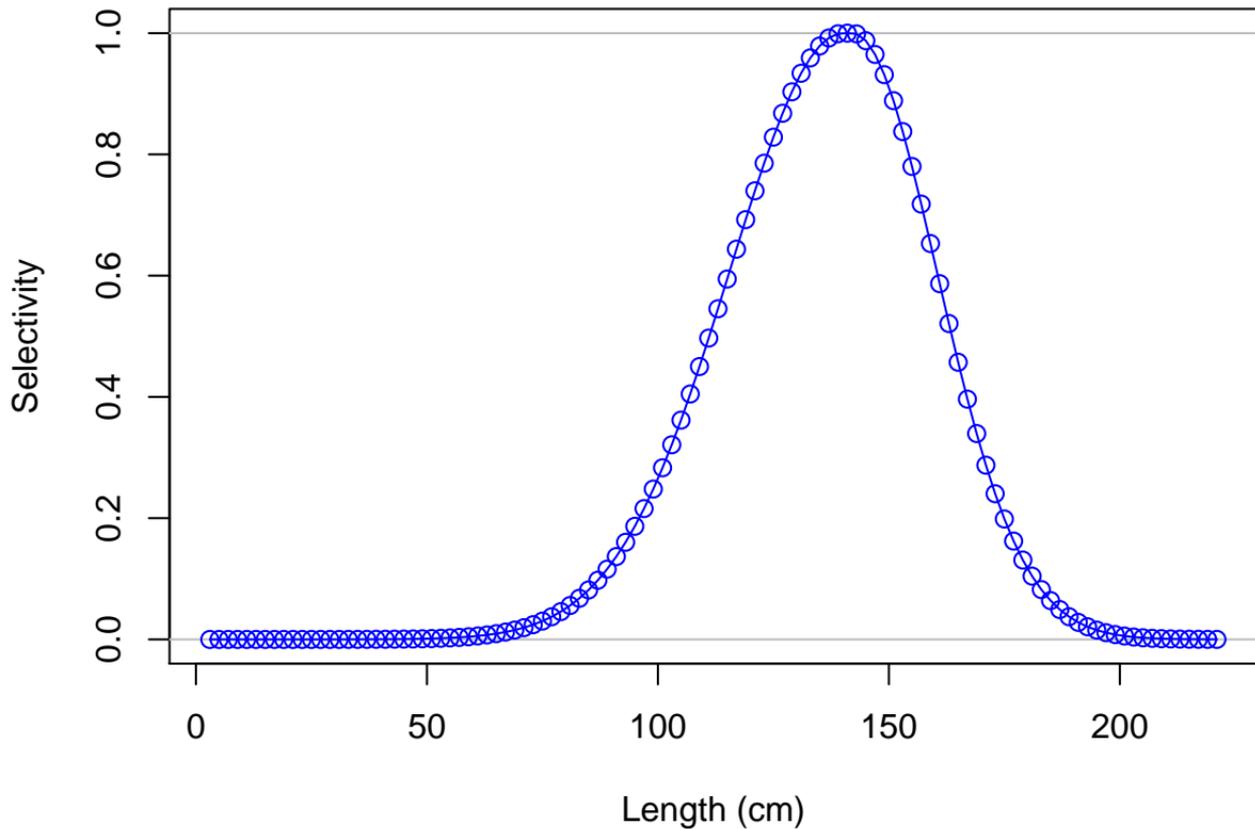
Male ending year selectivity for S4-LLt_I_len



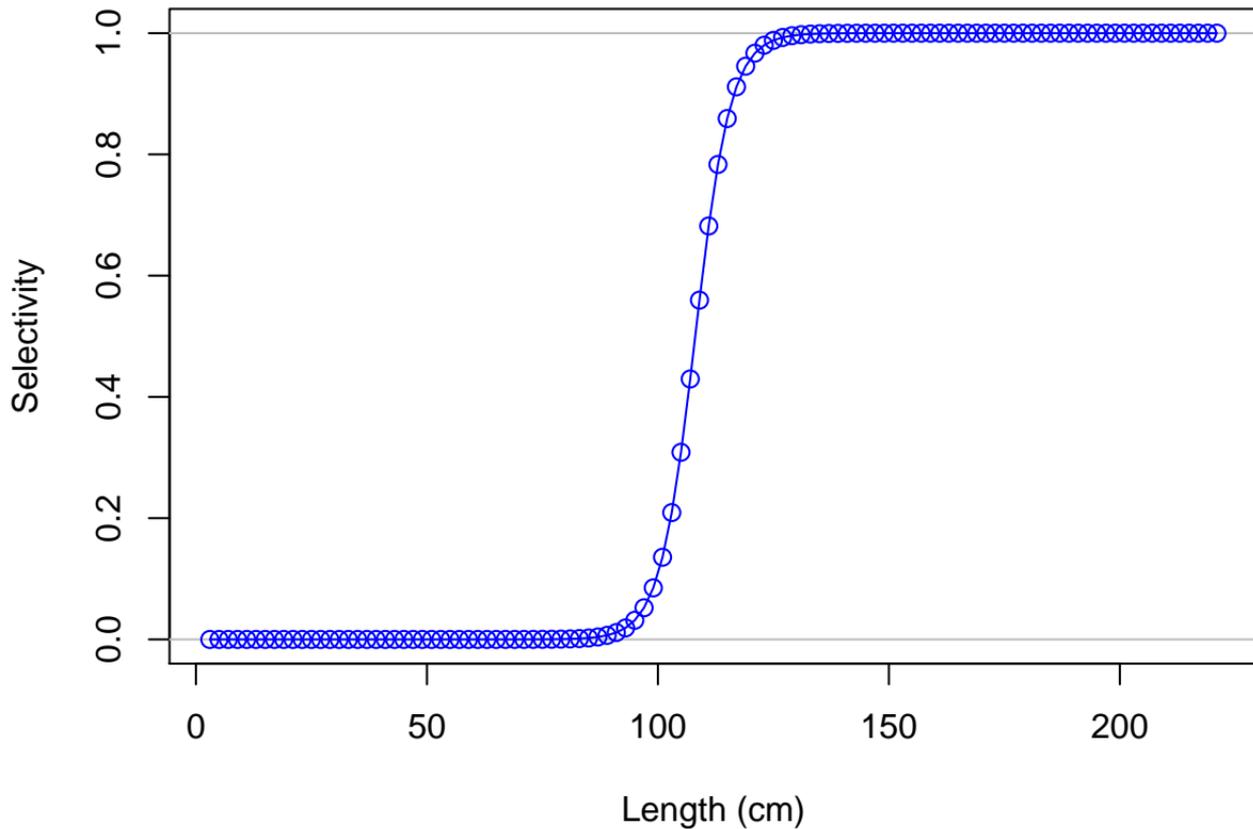
Female ending year selectivity for S5-LLc_N_w



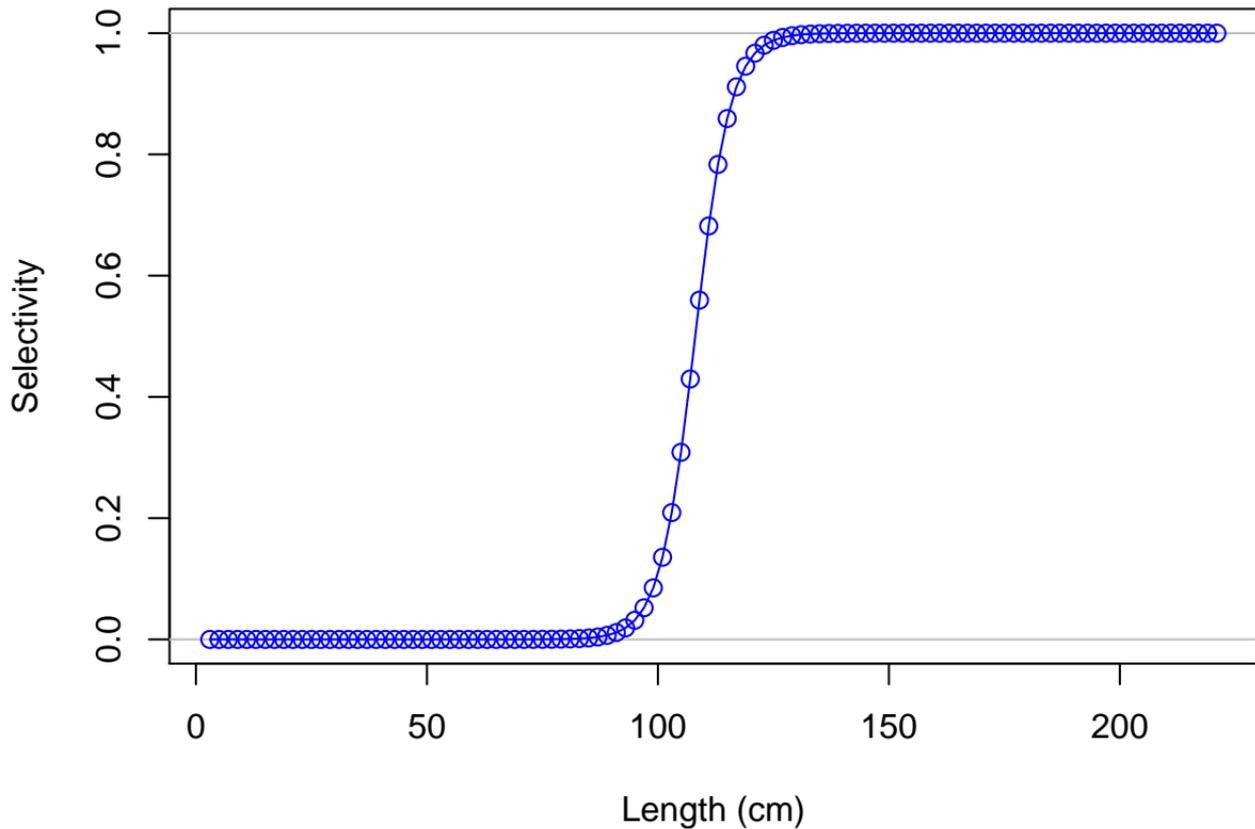
Male ending year selectivity for S5-LLc_N_w



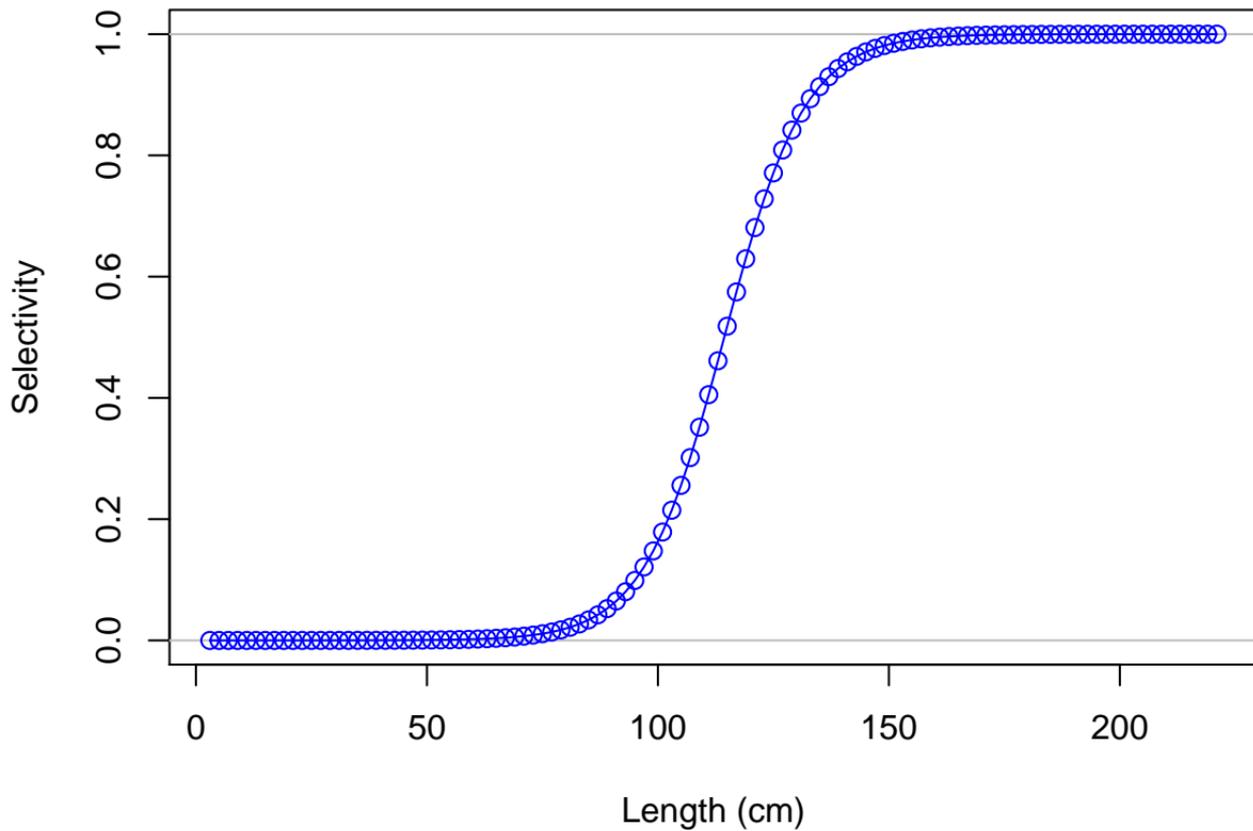
Female ending year selectivity for S6-LLc_C_w



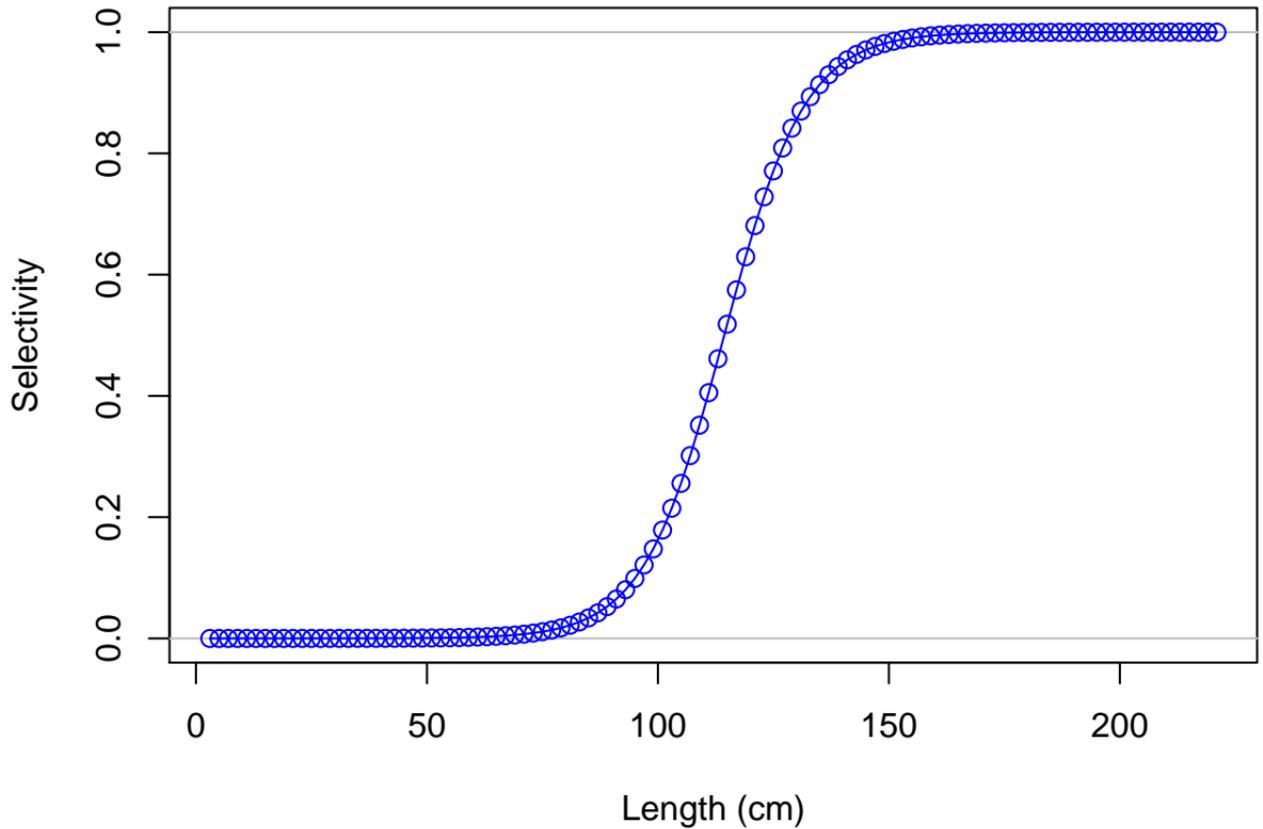
Male ending year selectivity for S6-LLc_C_w



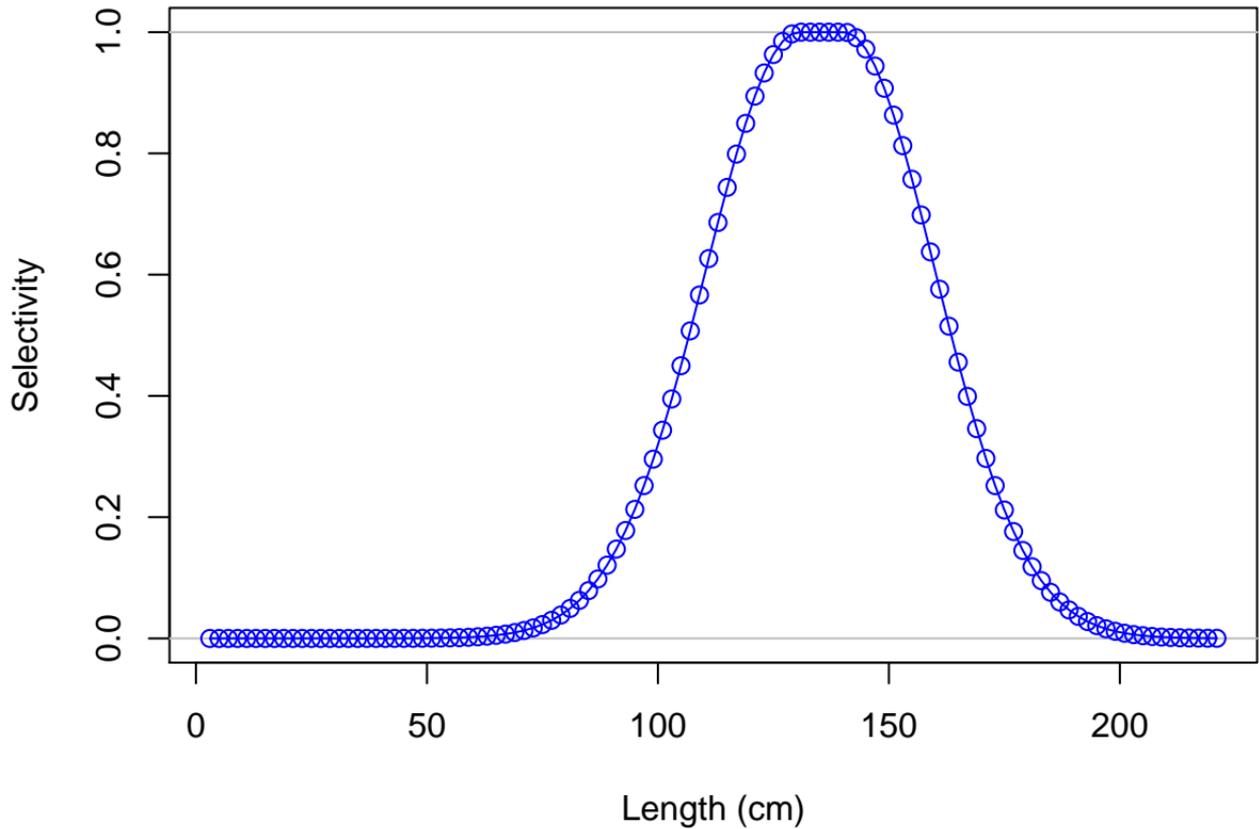
Female ending year selectivity for S7-LLc_S_w



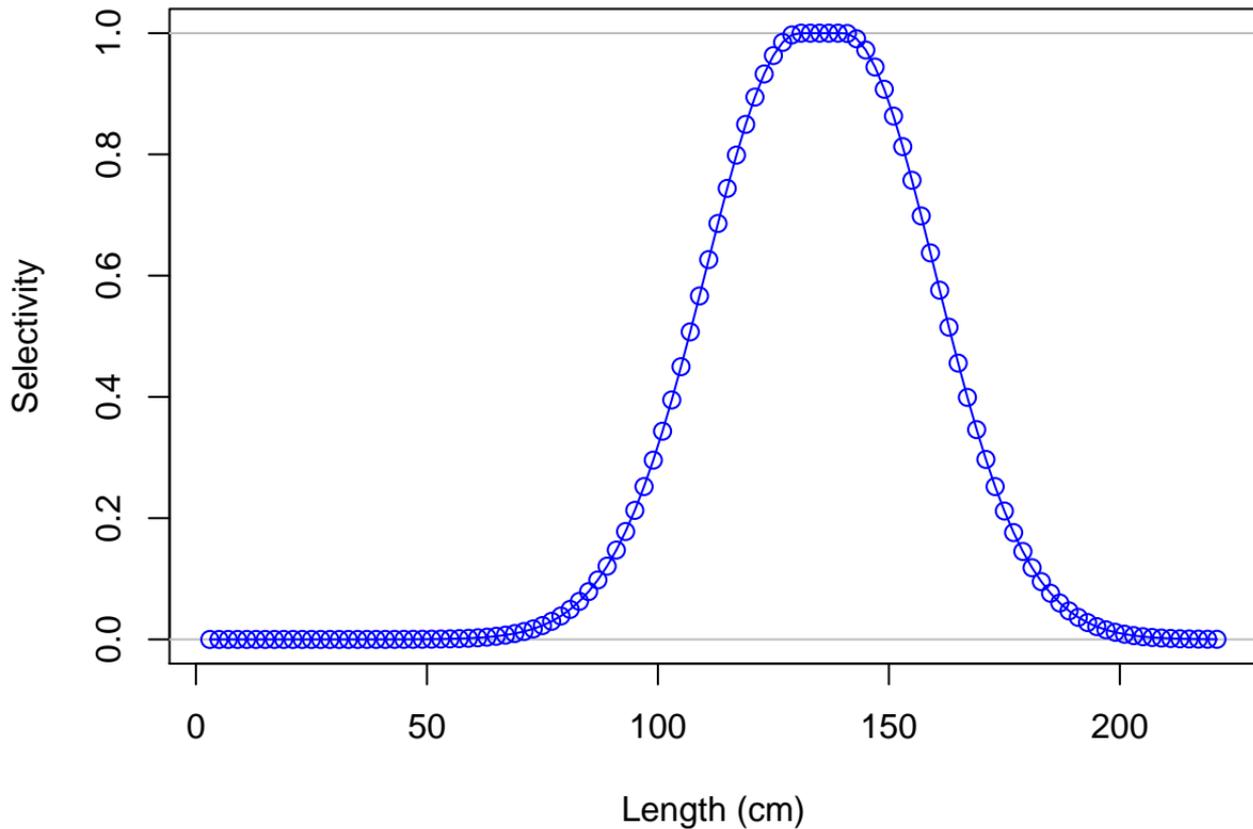
Male ending year selectivity for S7-LLc_S_w



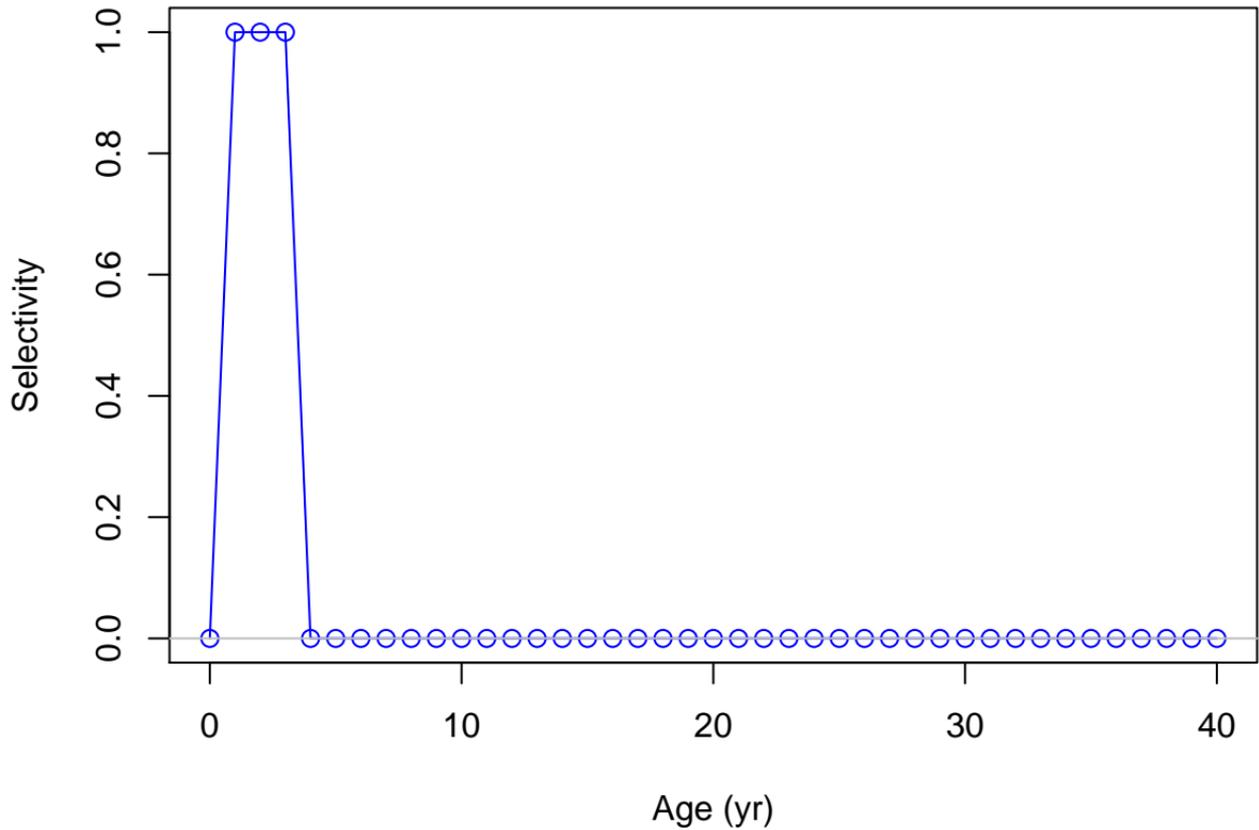
Female ending year selectivity for S8-LLc_I_w



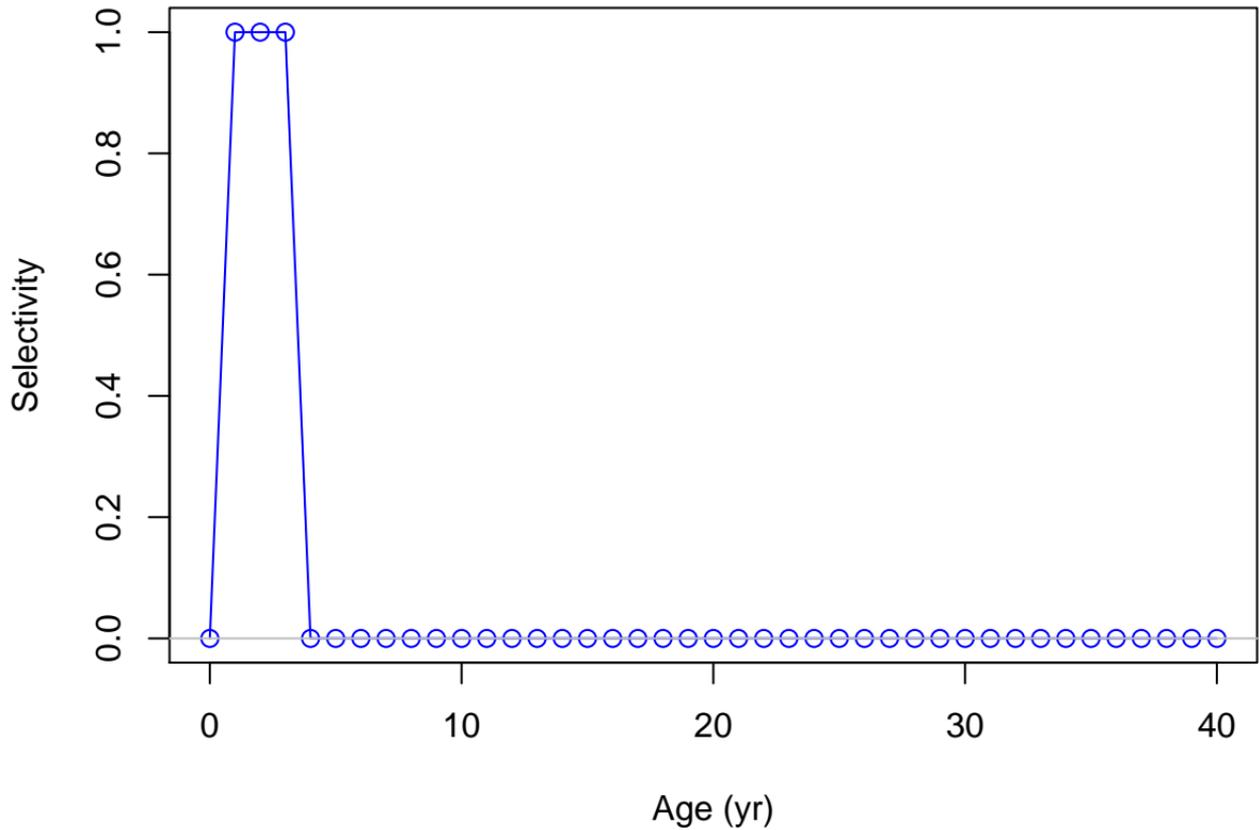
Male ending year selectivity for S8-LLc_I_w



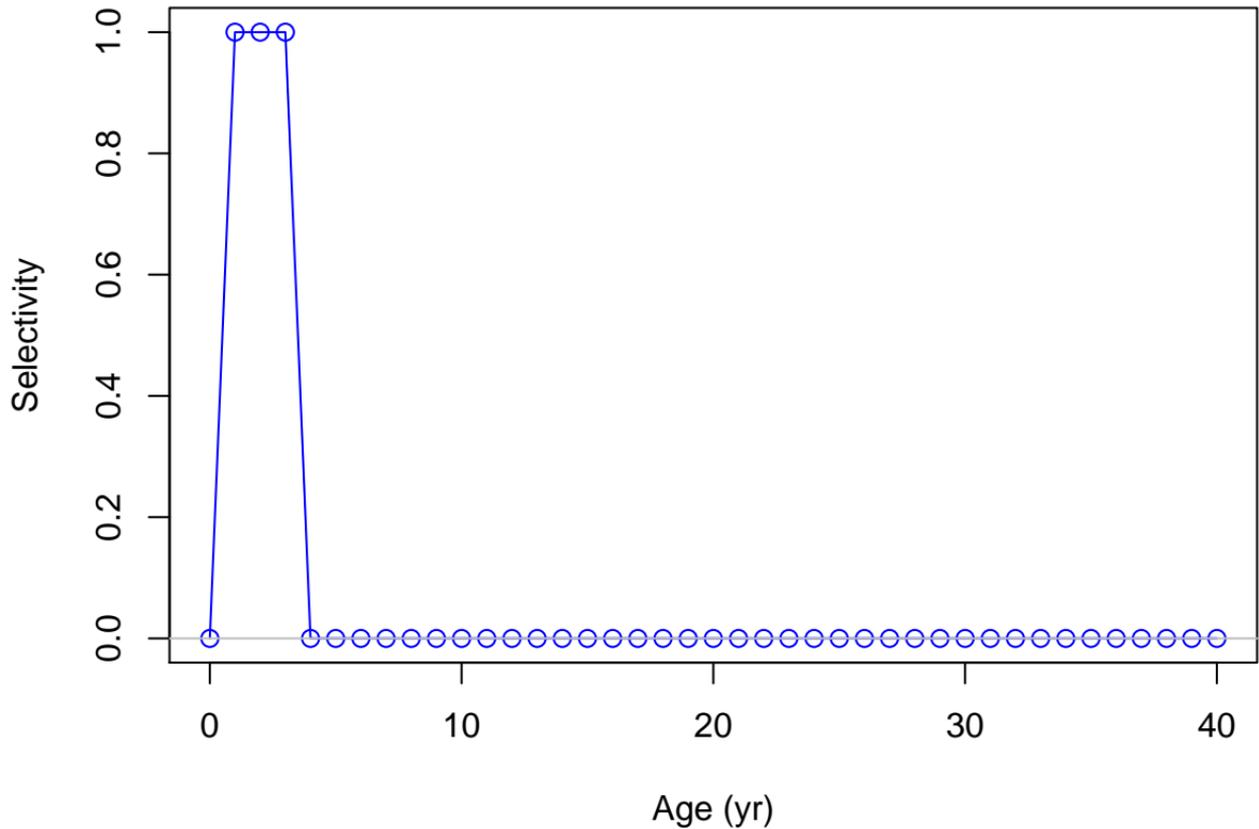
Female ending year selectivity for F8-OBJ_S_disc



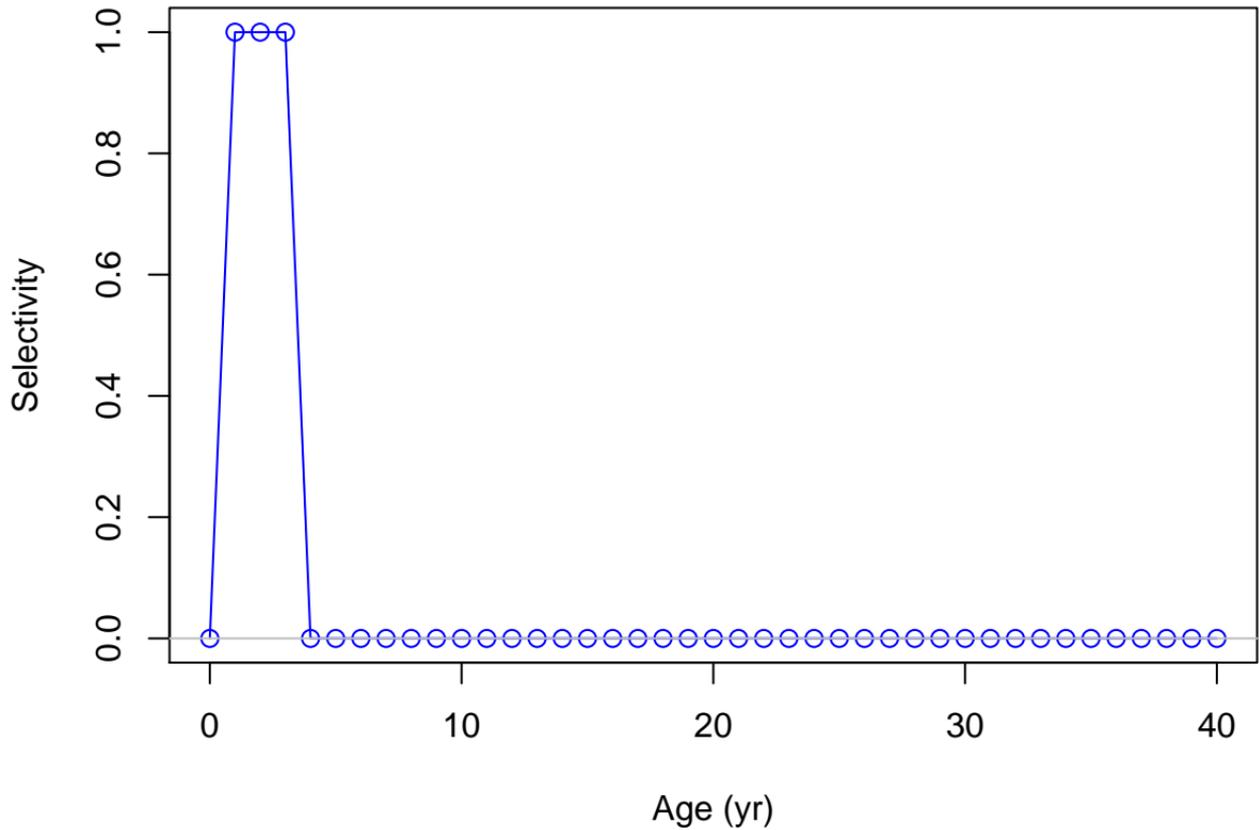
Male ending year selectivity for F8-OBJ_S_disc



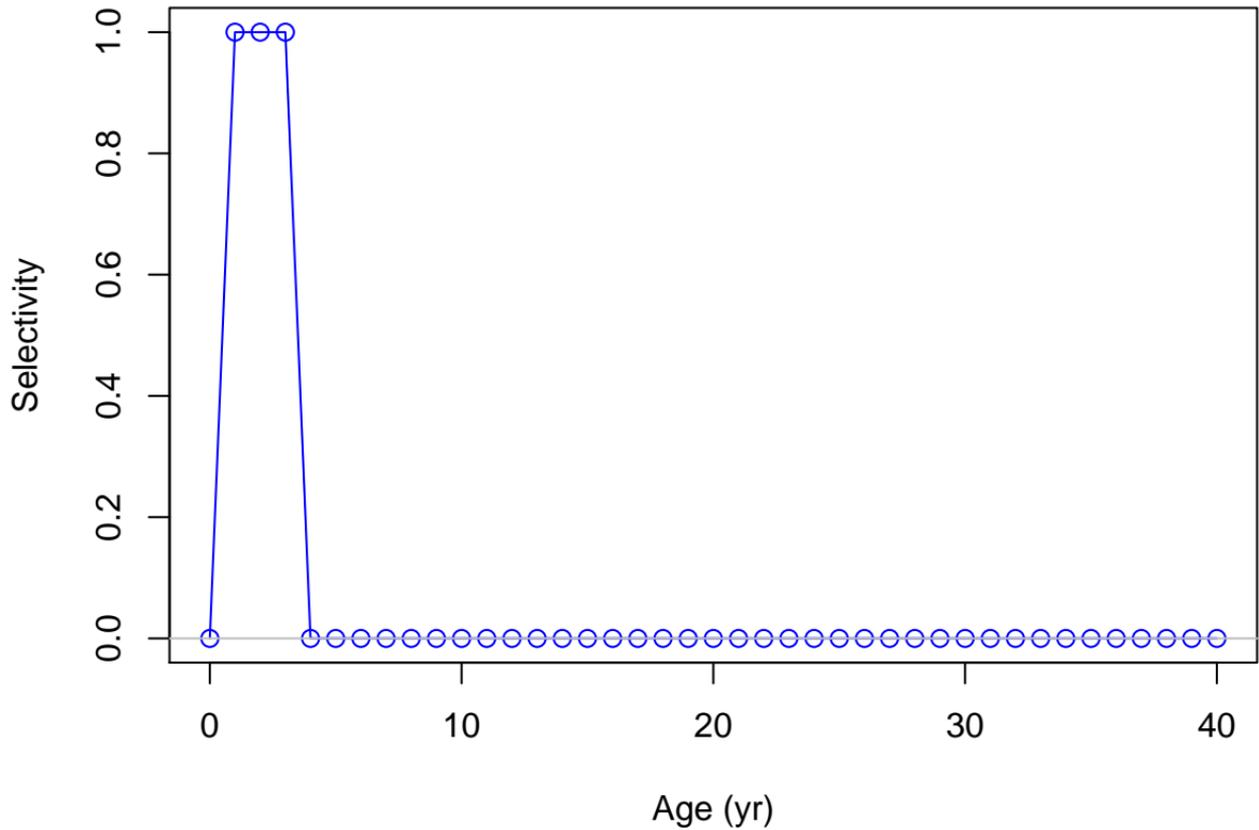
Female ending year selectivity for F9-OBJ_C_disc



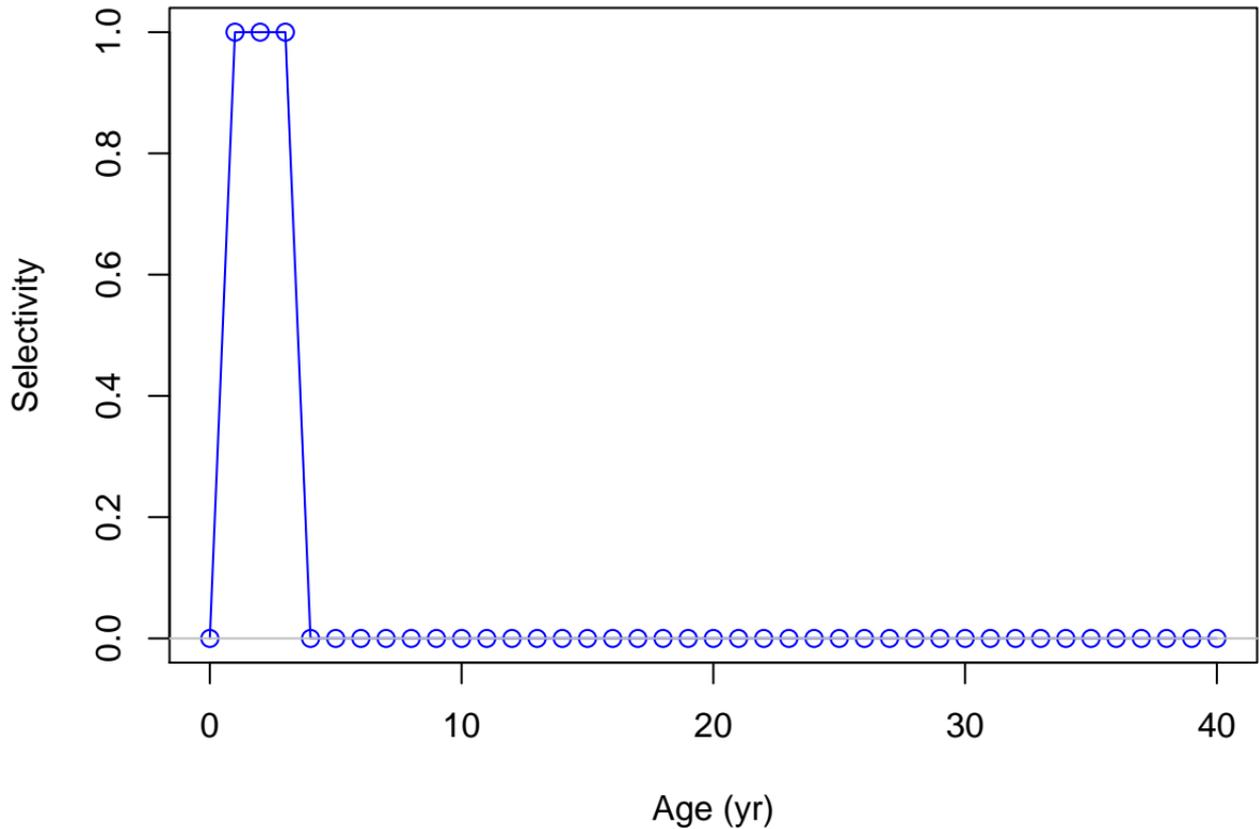
Male ending year selectivity for F9-OBJ_C_disc



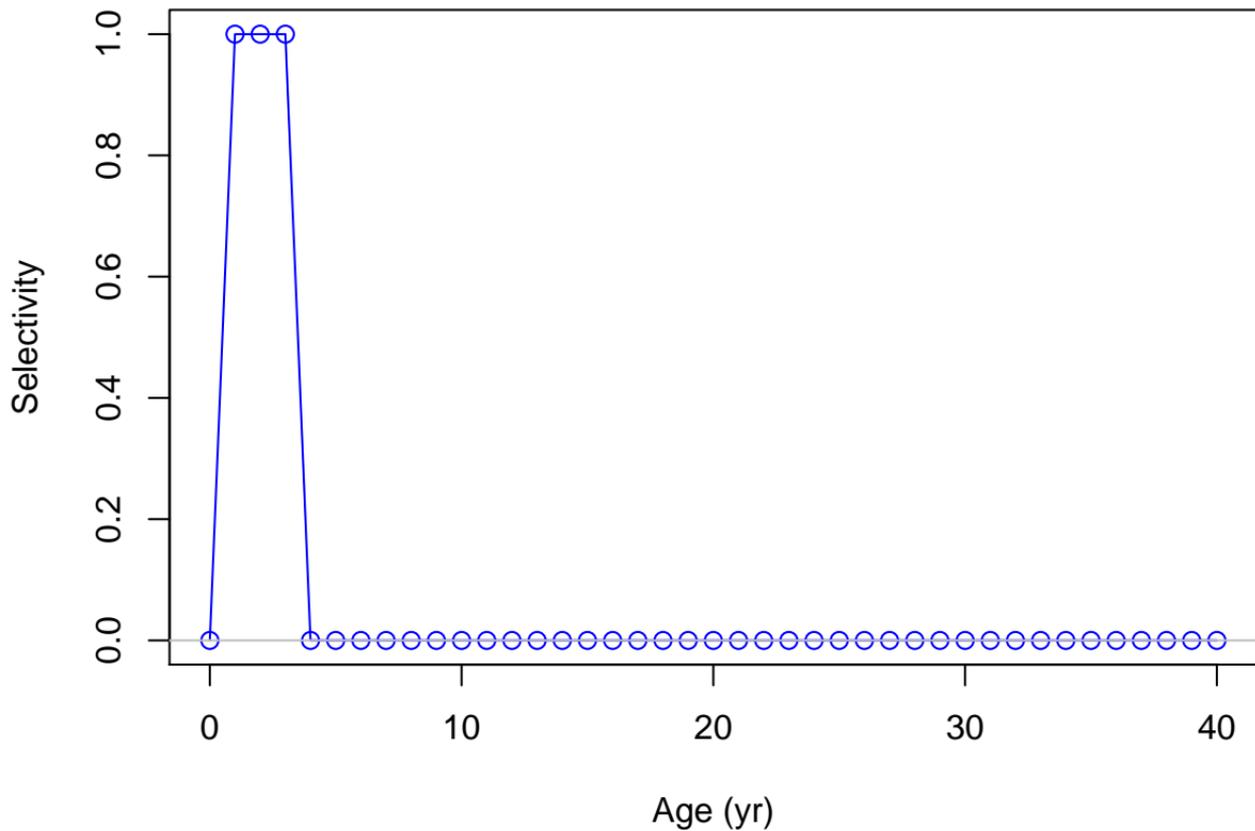
Female ending year selectivity for F10-OBJ_I_disc



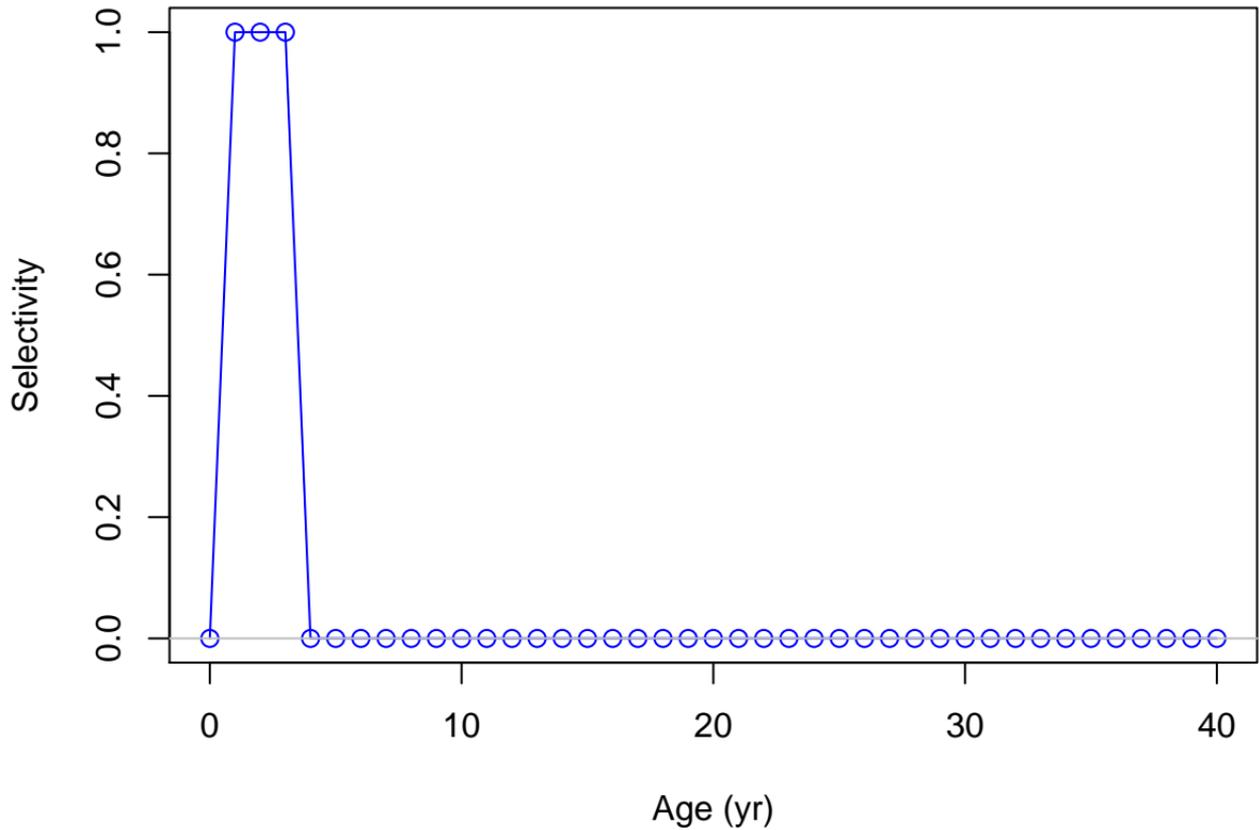
Male ending year selectivity for F10-OBJ_I_disc



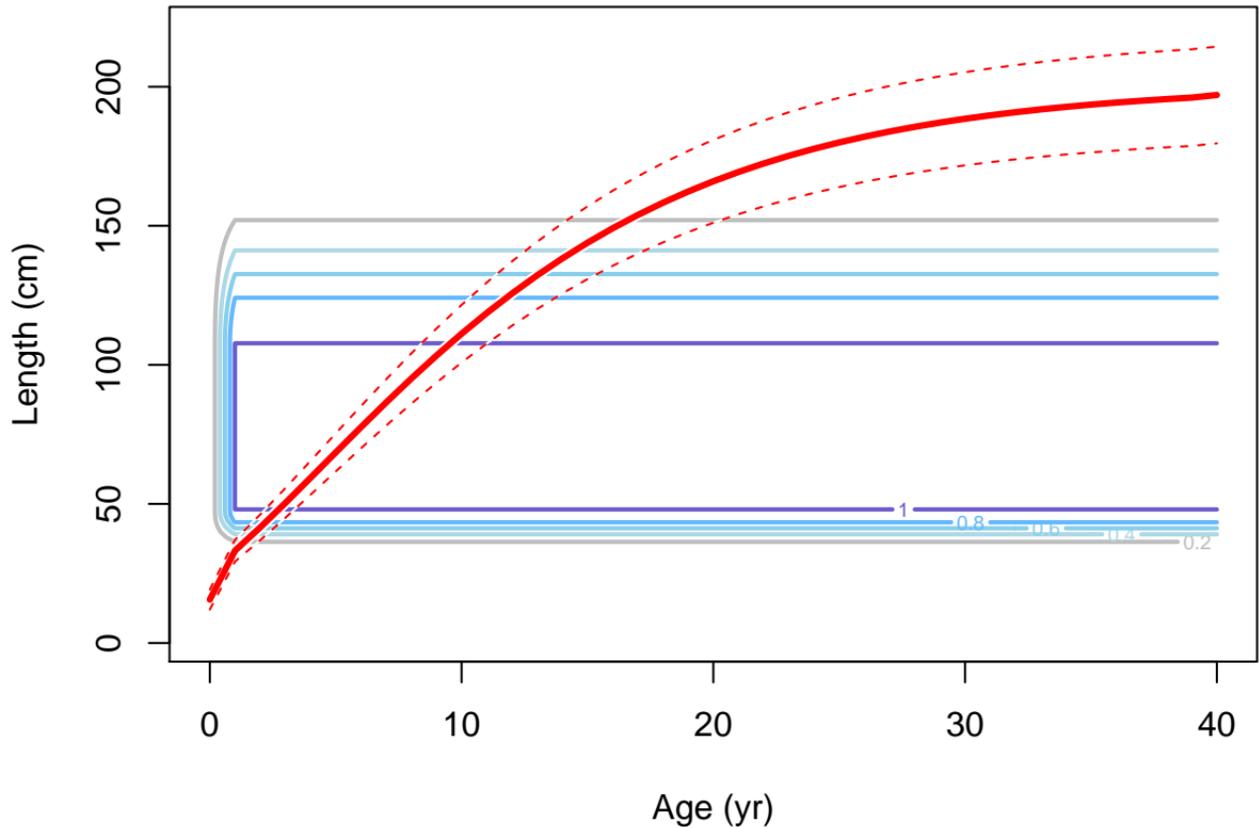
Female ending year selectivity for F11-OBJ_N_disc



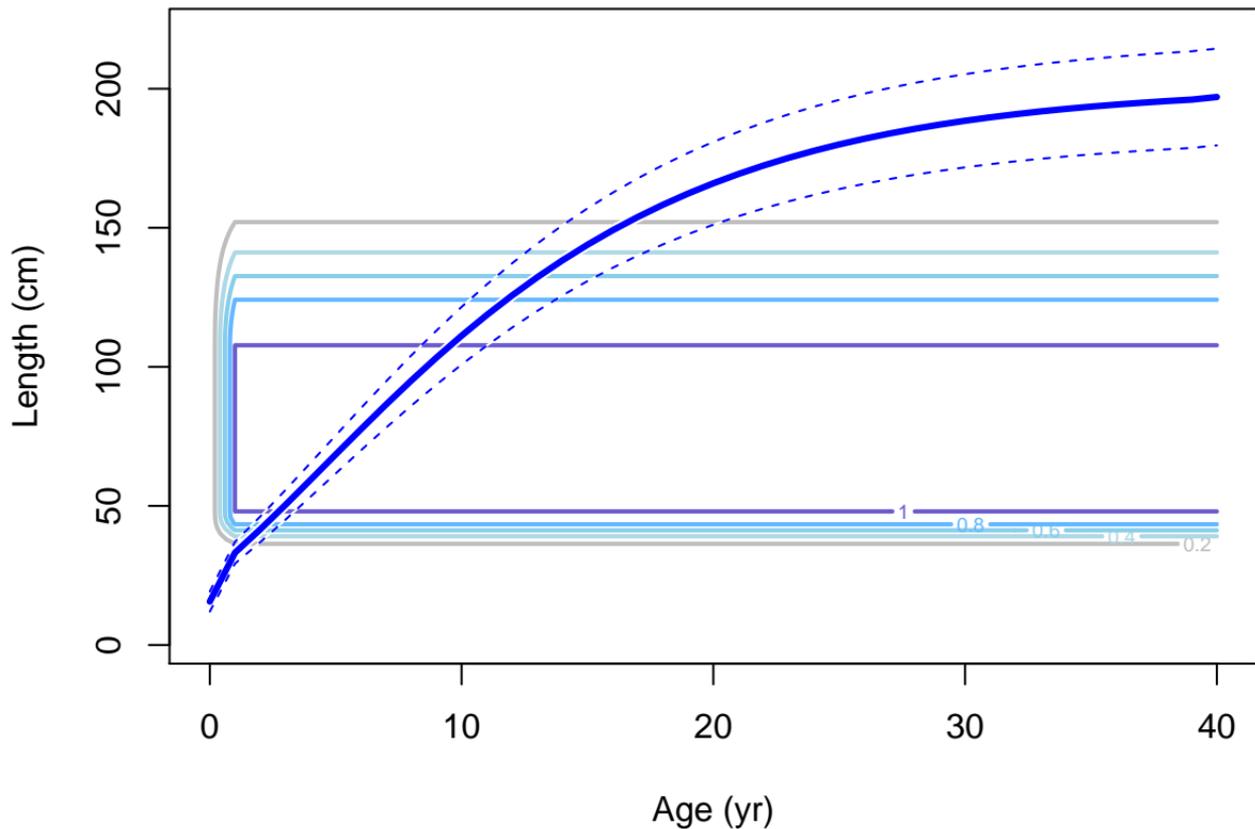
Male ending year selectivity for F11-OBJ_N_disc



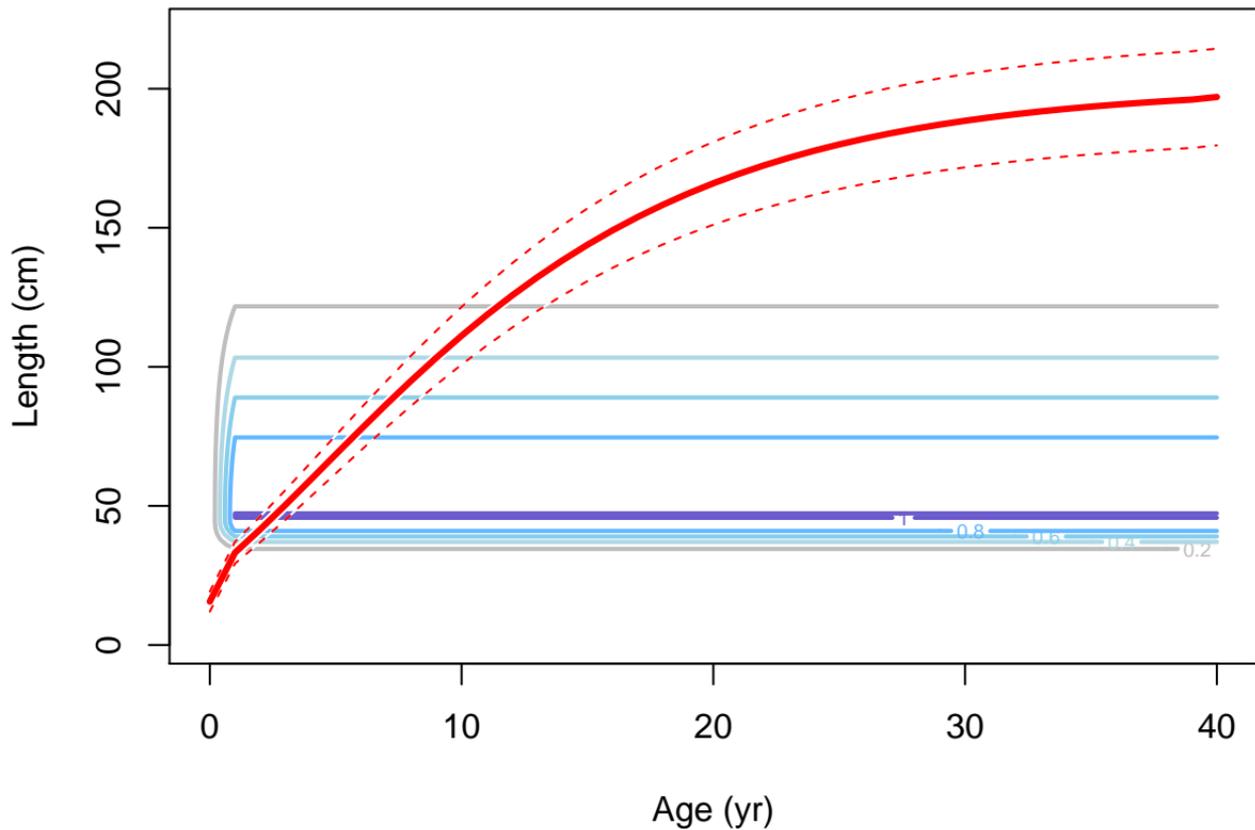
Female ending year selectivity and growth for F1-Obj_early



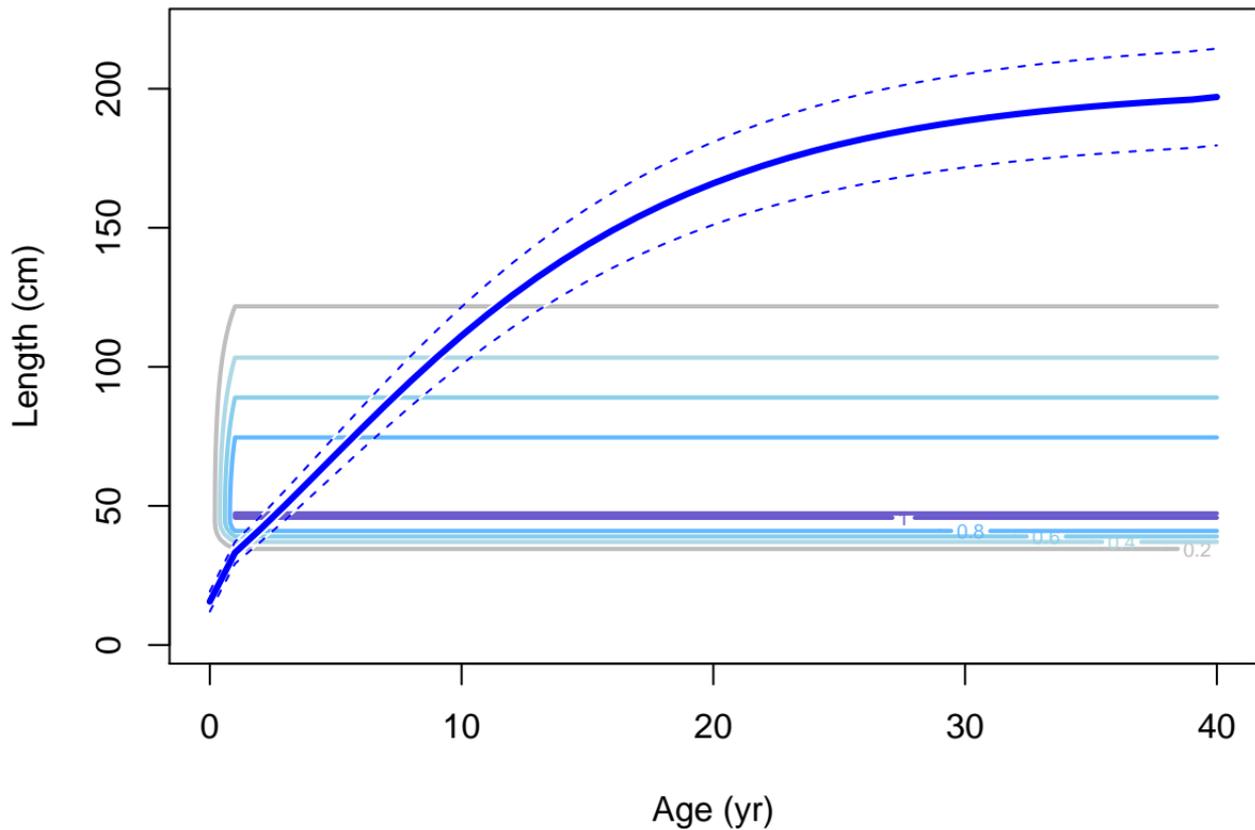
Male ending year selectivity and growth for F1-OBJ_early



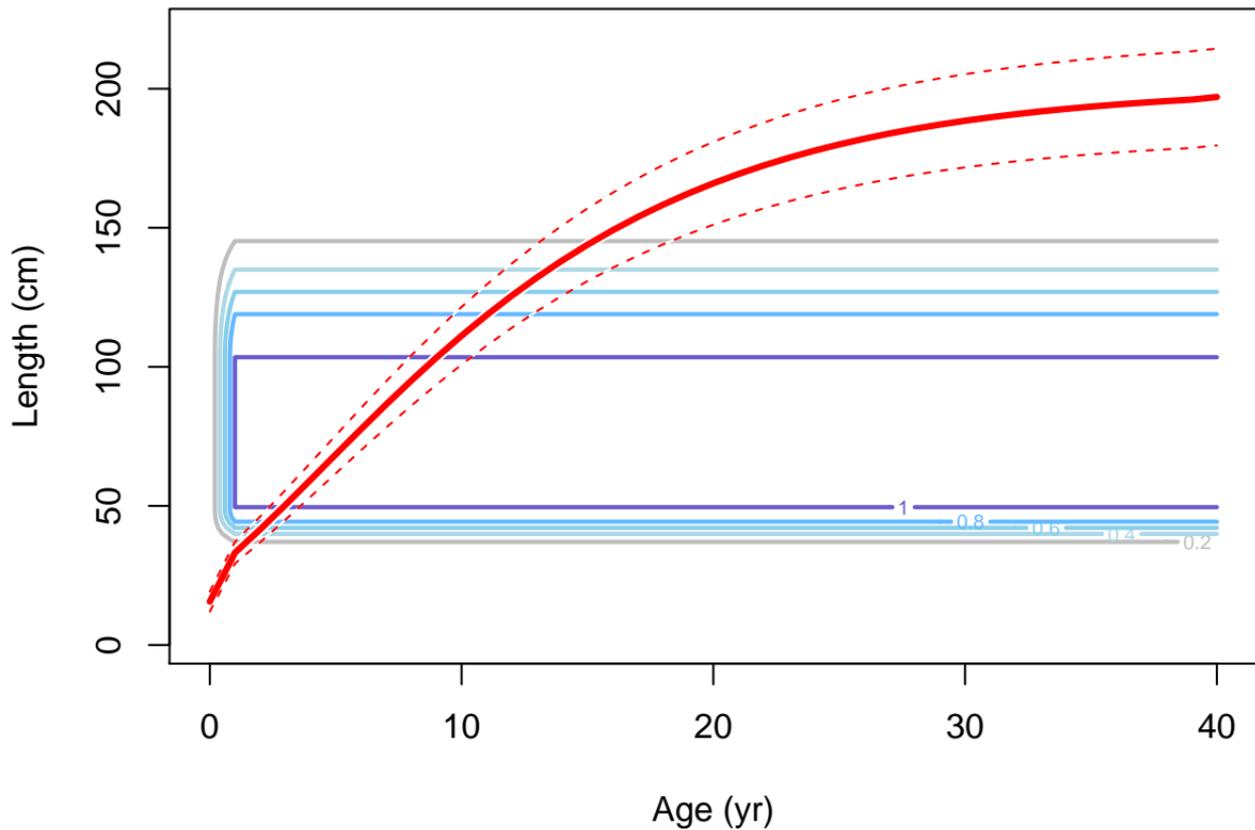
Female ending year selectivity and growth for F2-Obj_S



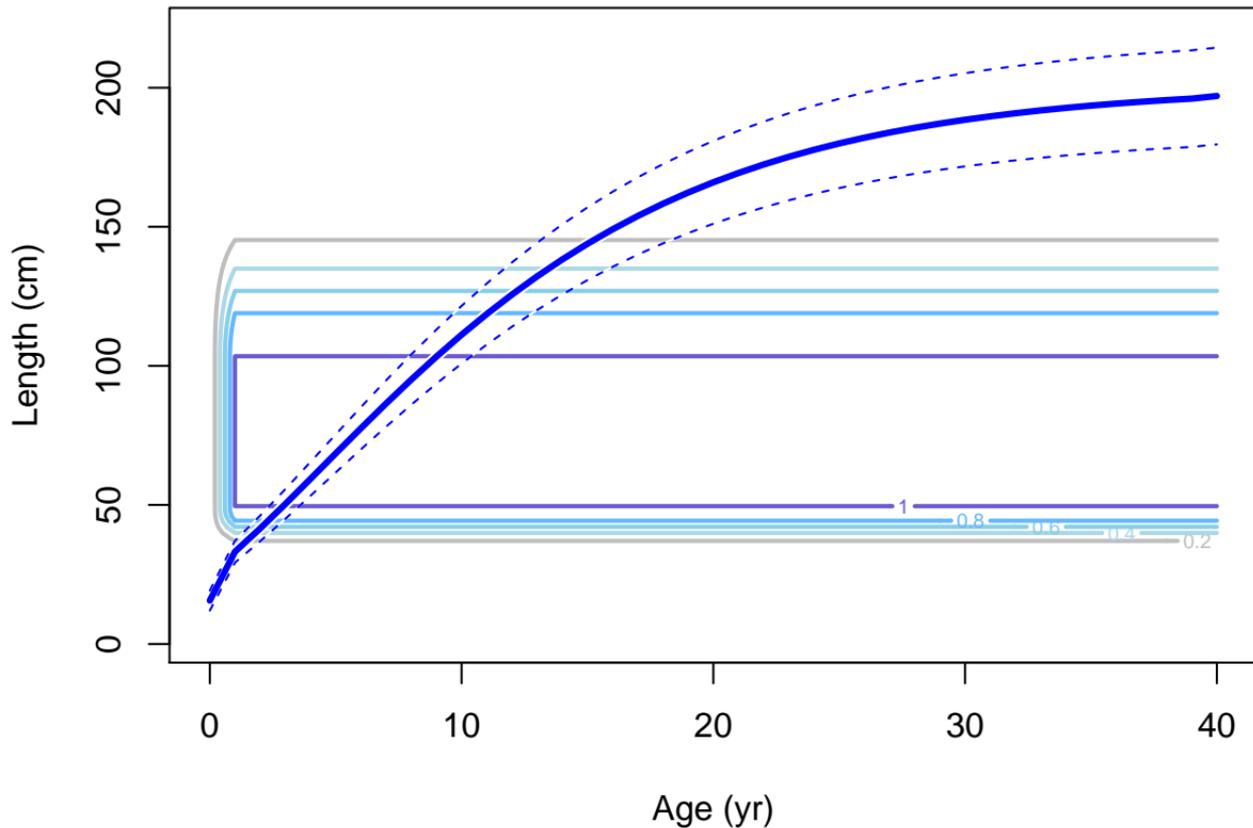
Male ending year selectivity and growth for F2-OBJ_S



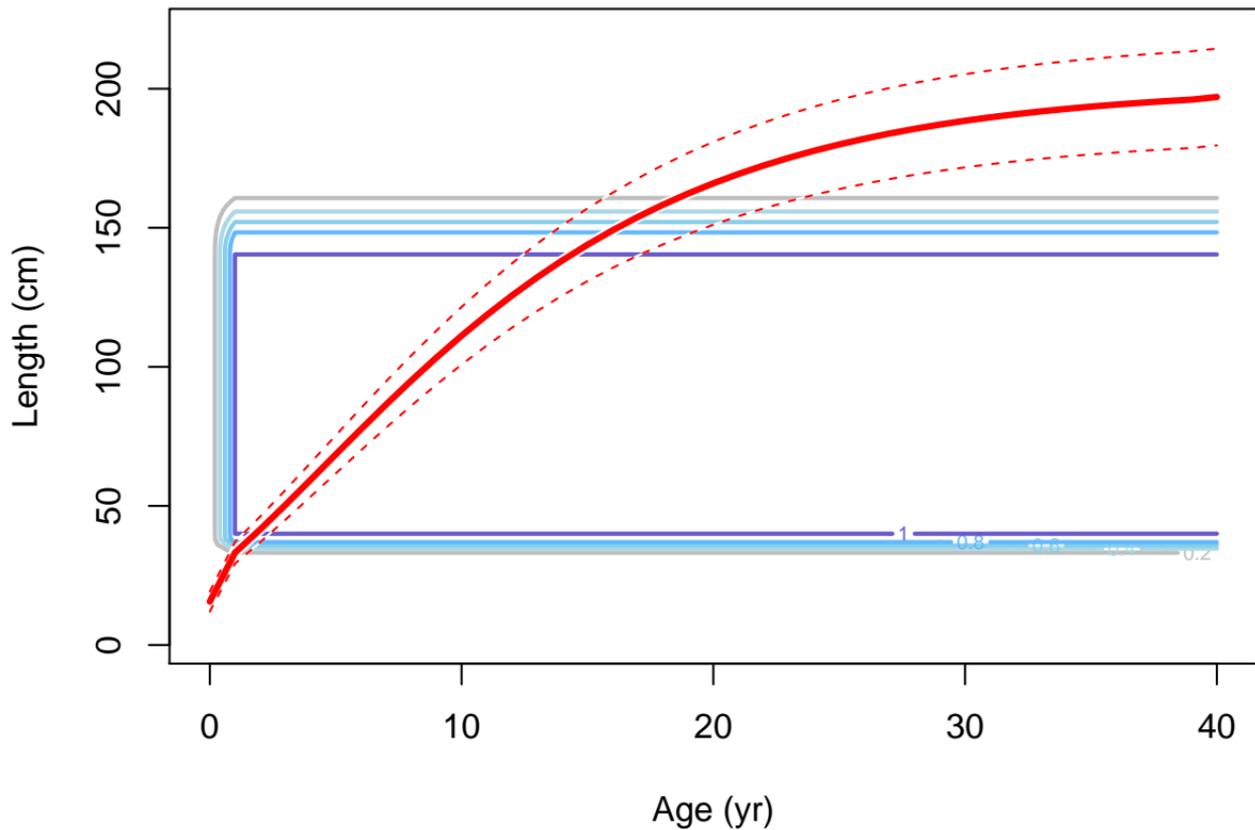
Female ending year selectivity and growth for F3-OBJ_C



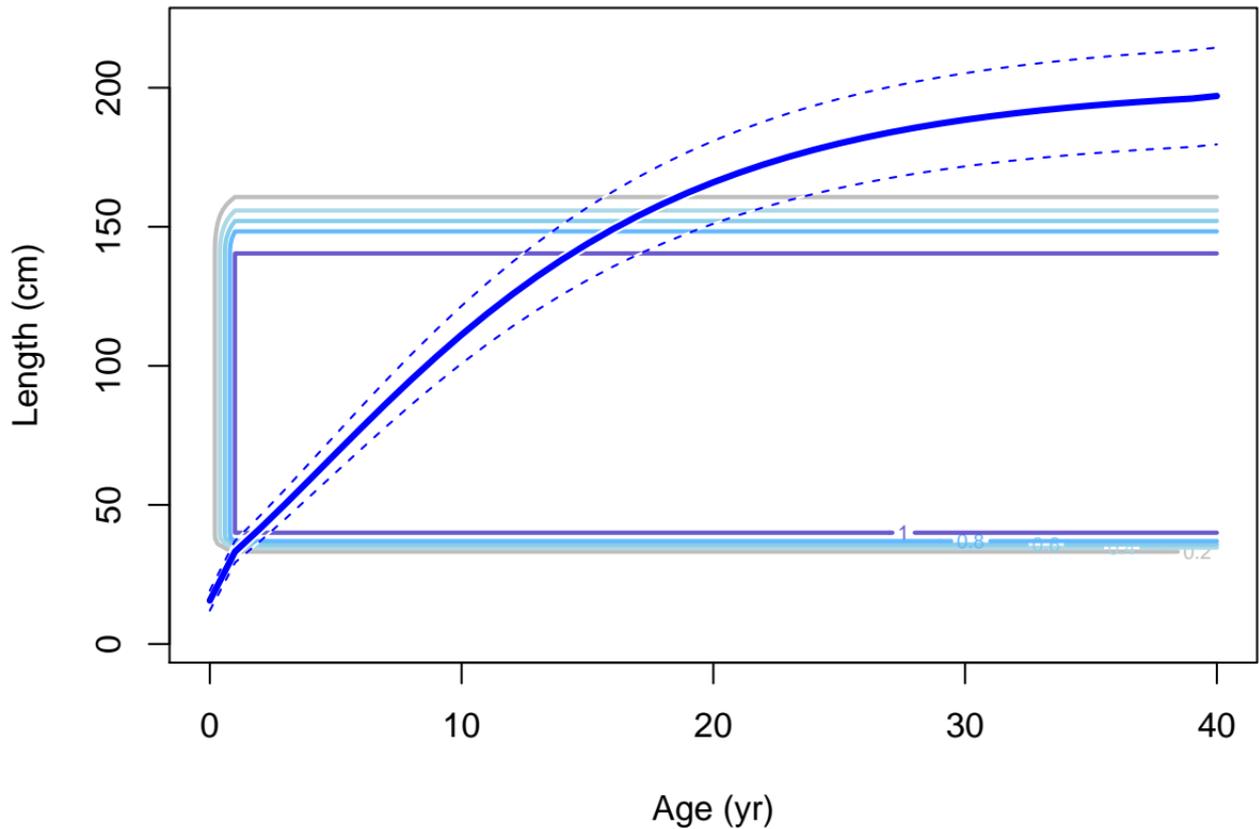
Male ending year selectivity and growth for F3-OBJ_C



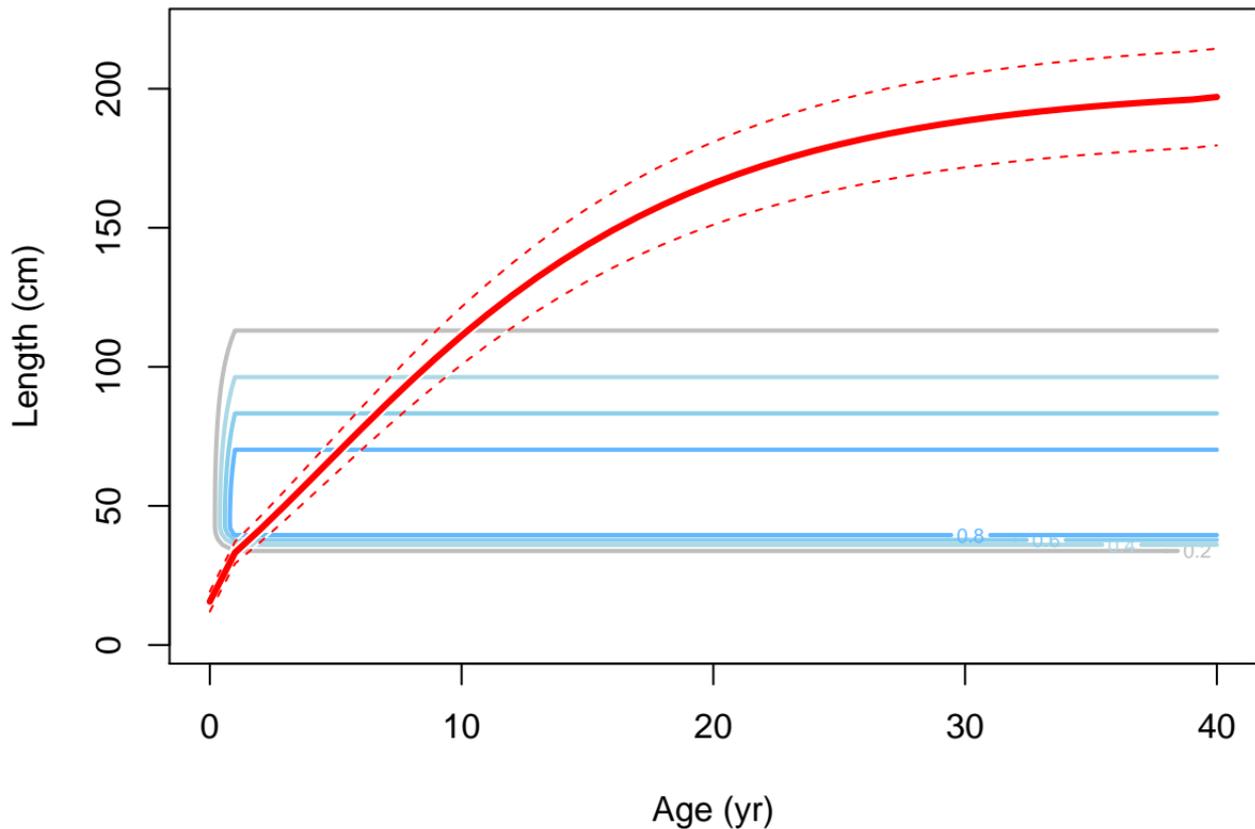
Female ending year selectivity and growth for F4-OBJ_I



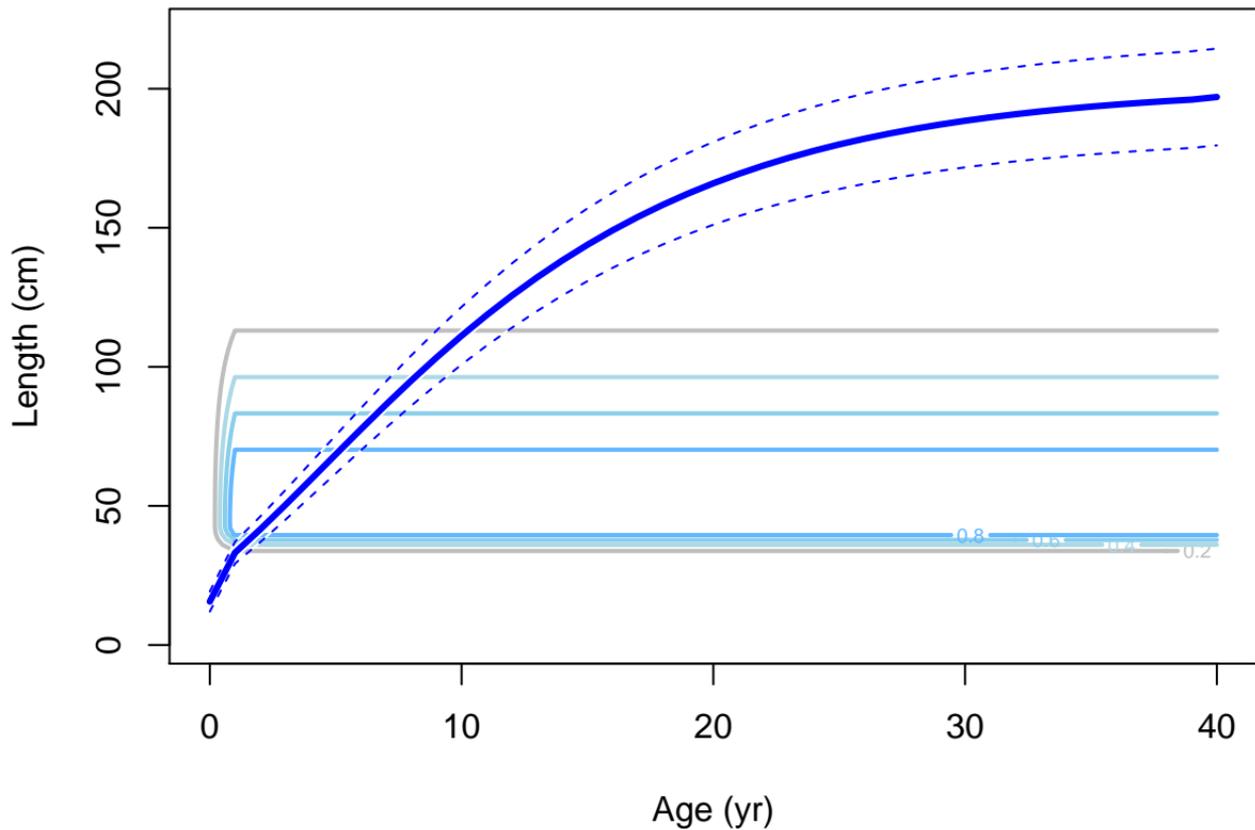
Male ending year selectivity and growth for F4-OBJ_I



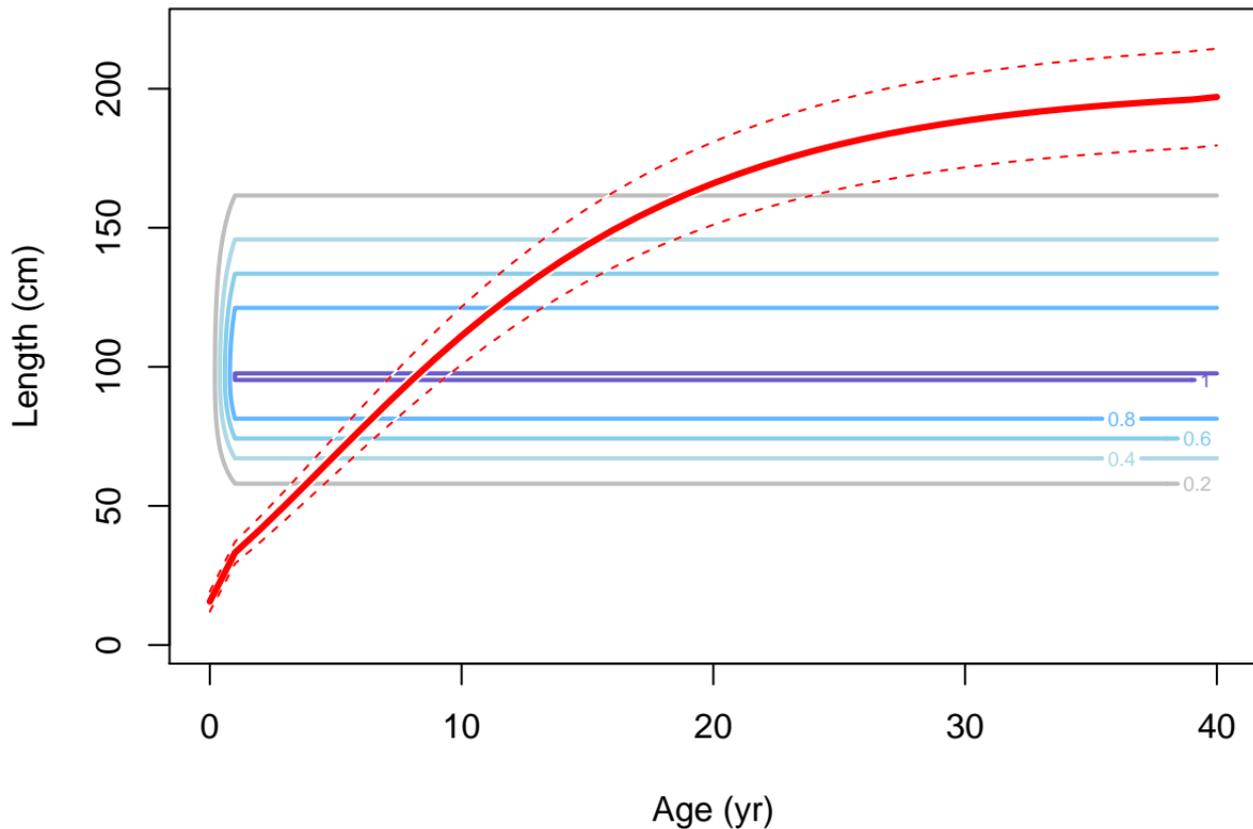
Female ending year selectivity and growth for F5-OBJ_N



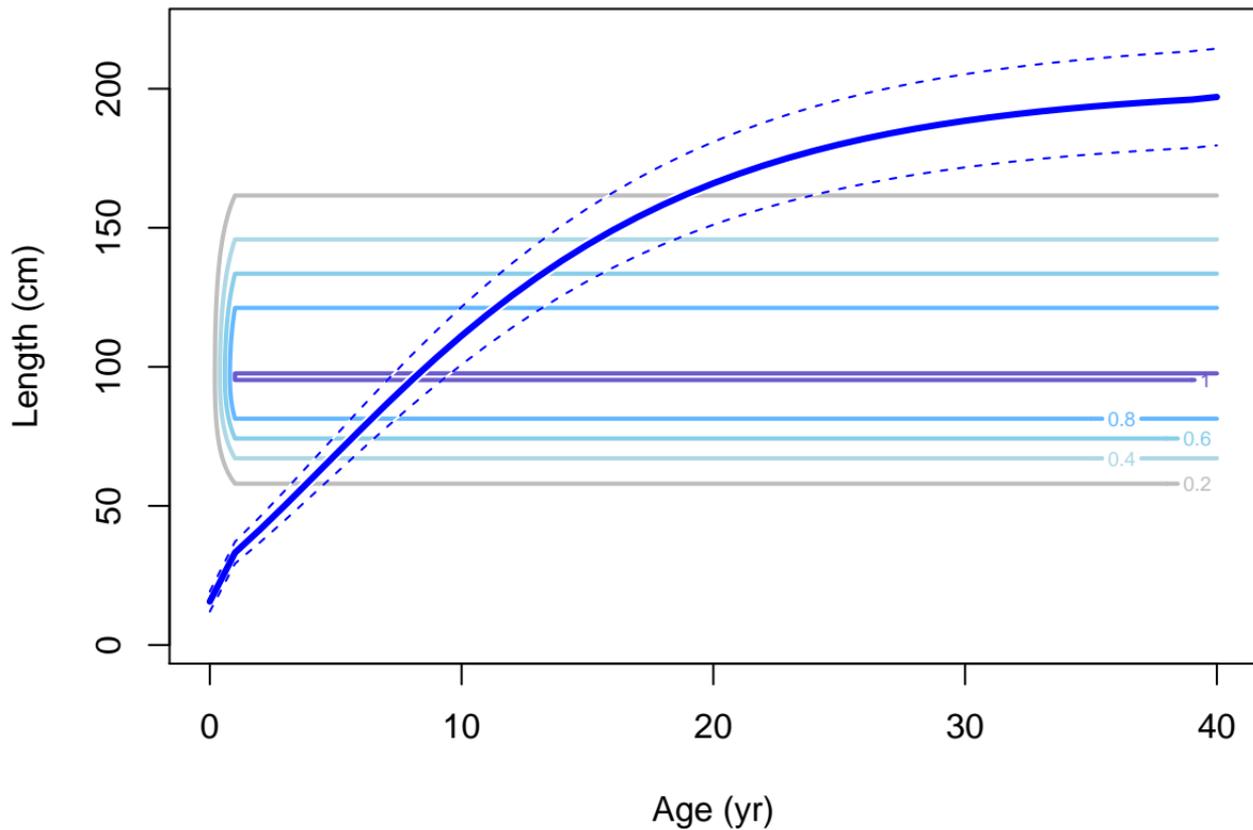
Male ending year selectivity and growth for F5-OBJ_N



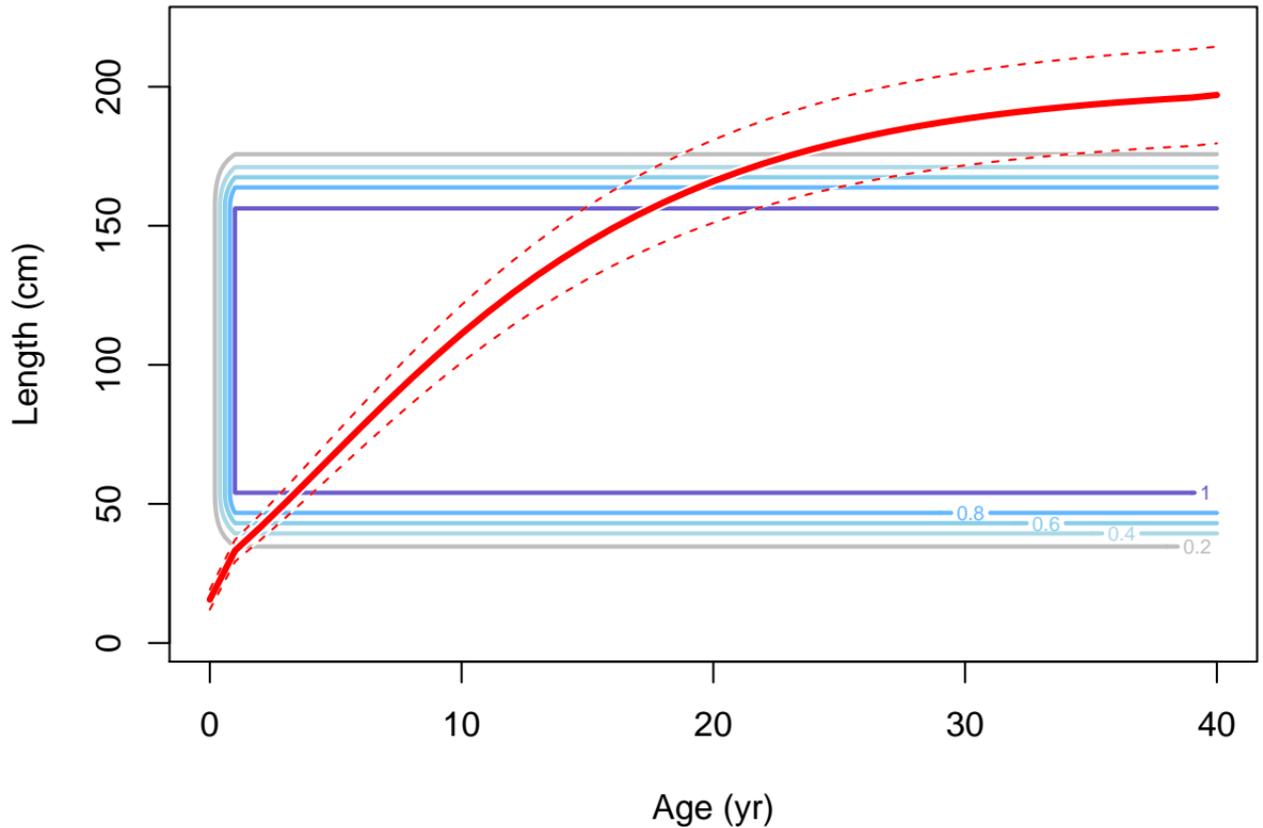
Female ending year selectivity and growth for F6-NOA-DEL_early



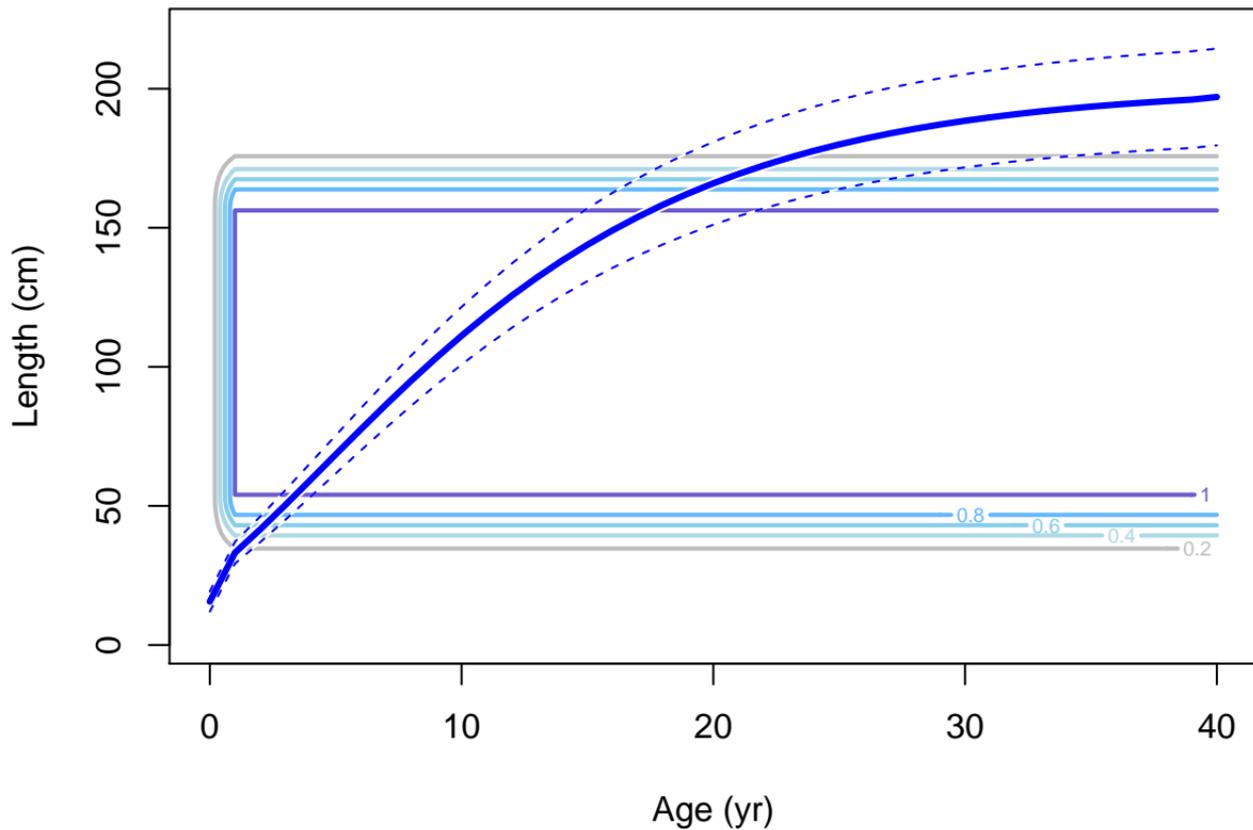
Male ending year selectivity and growth for F6-NOA-DEL_early



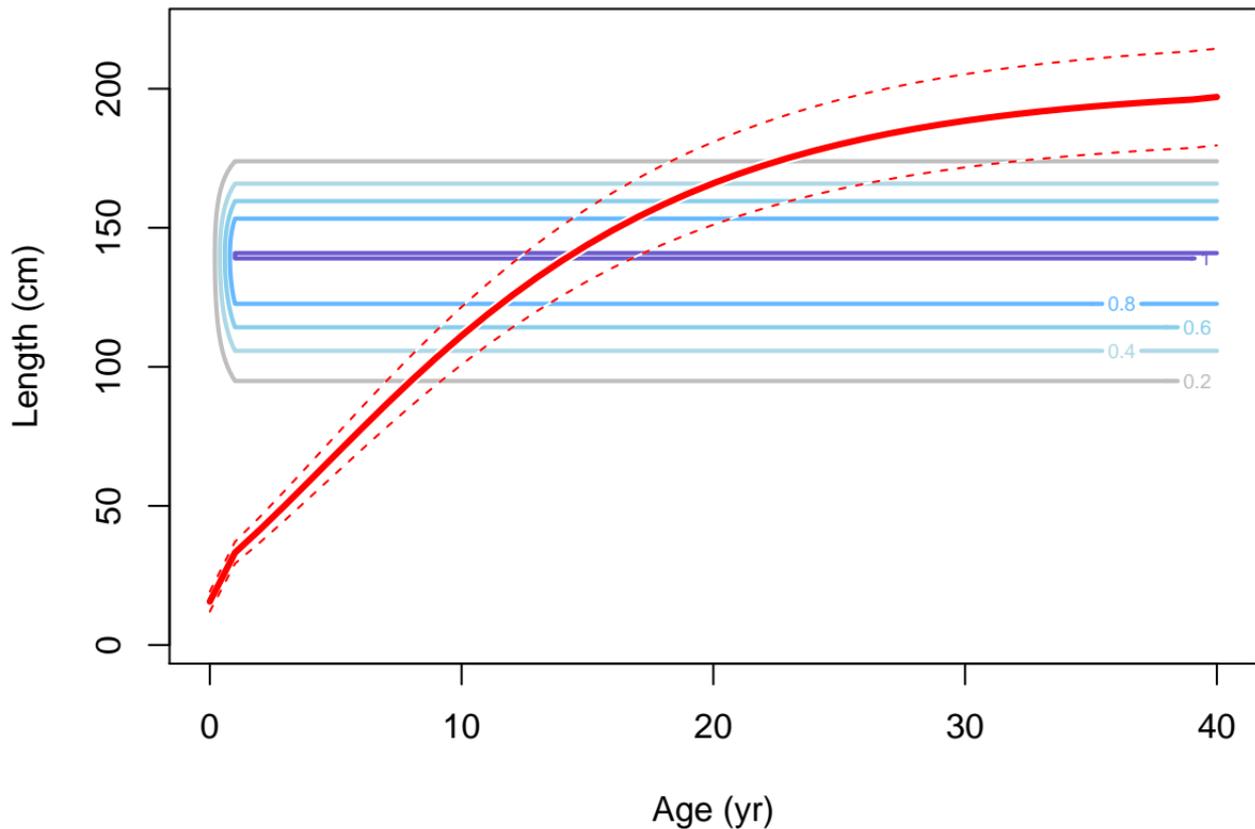
Female ending year selectivity and growth for F7-NOA-DEL_late



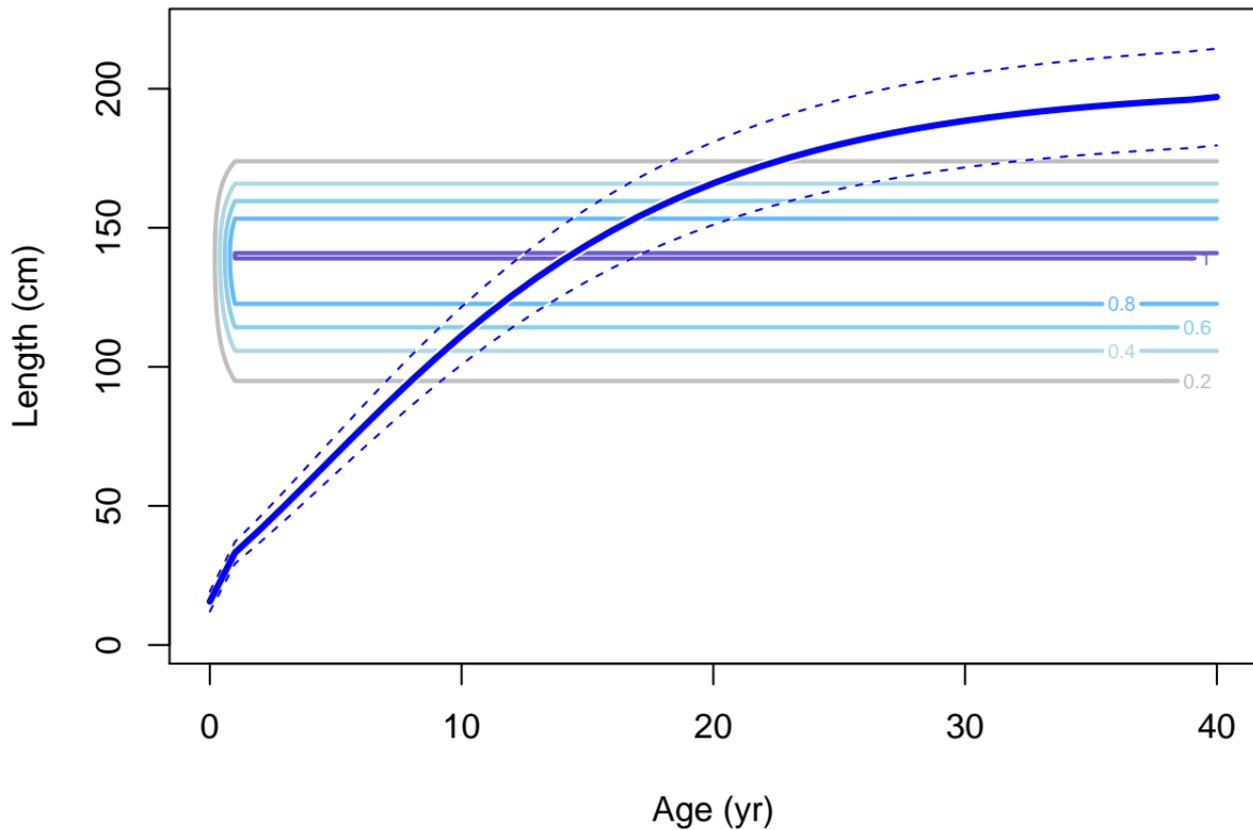
Male ending year selectivity and growth for F7-NOA-DEL_late



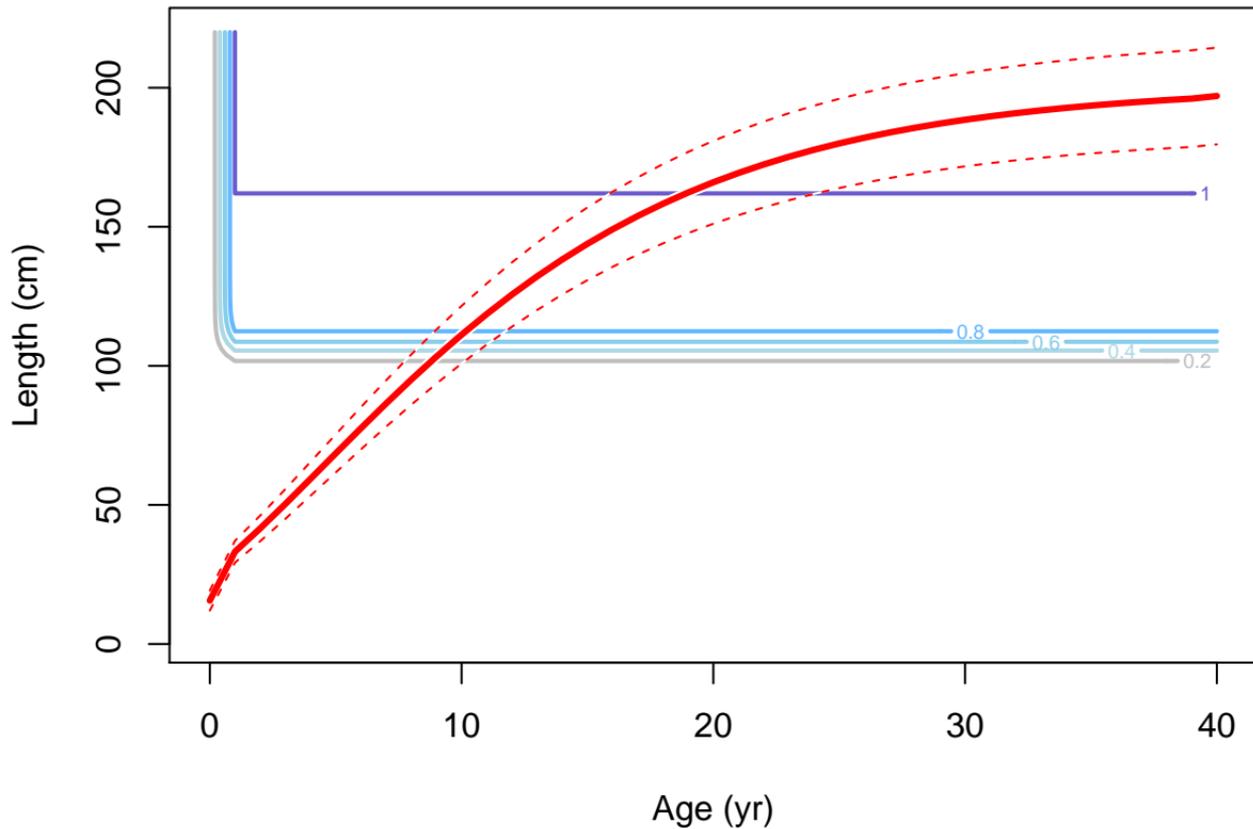
Female ending year selectivity and growth for F12-LL_N_num



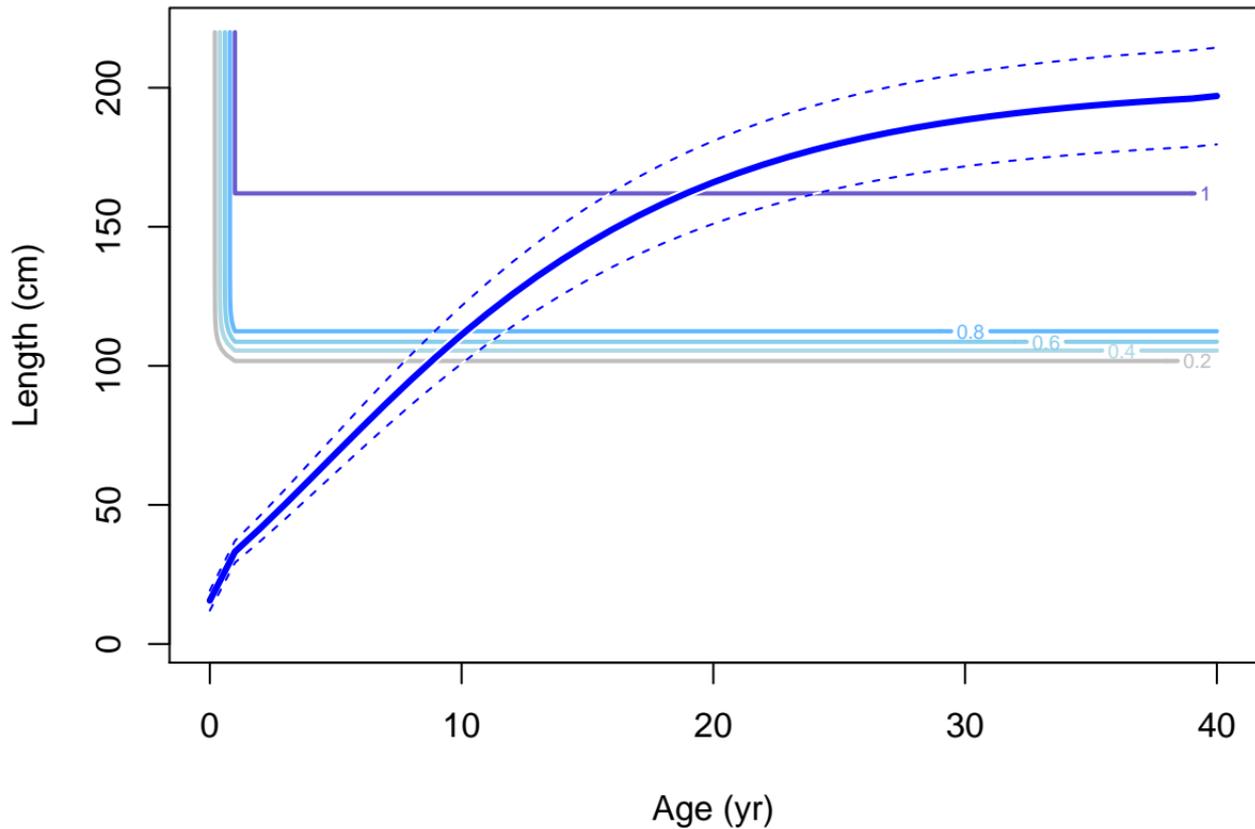
Male ending year selectivity and growth for F12-LL_N_num



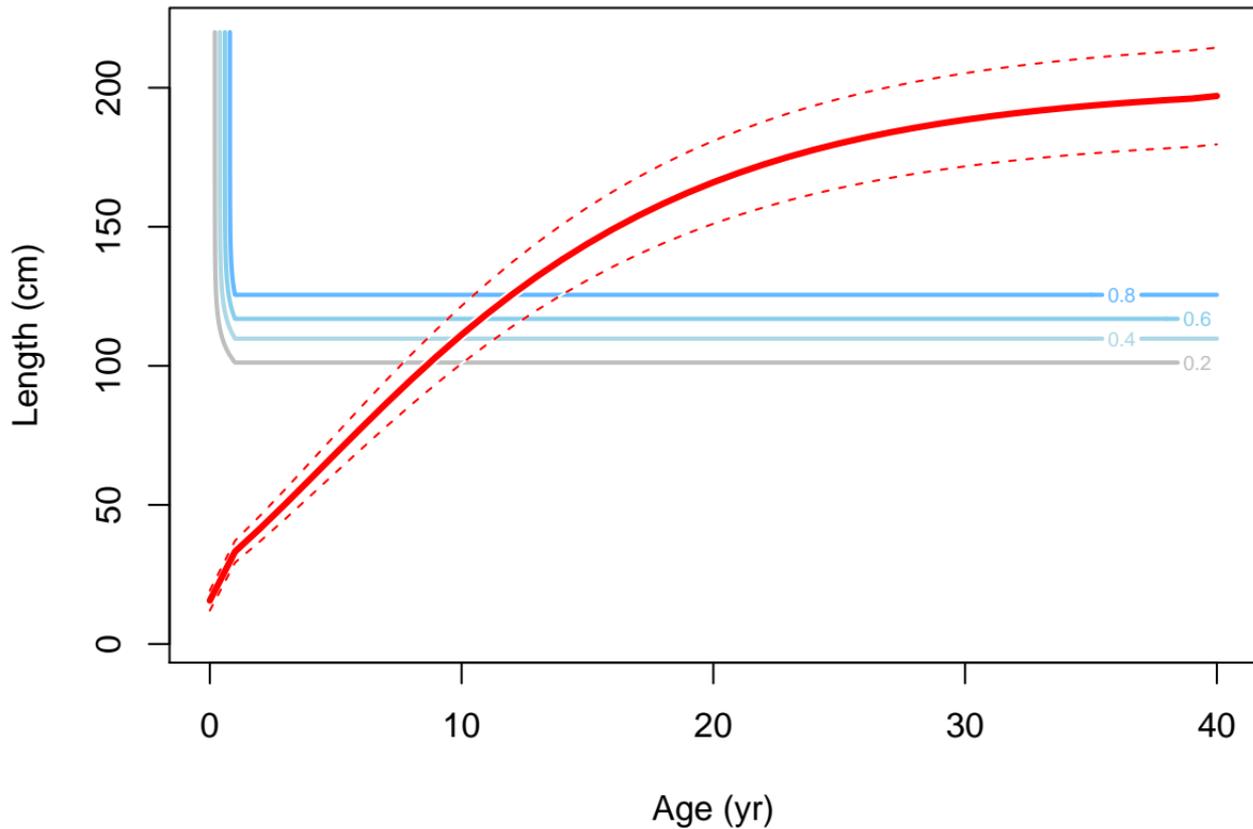
Female ending year selectivity and growth for F13-LL_C_num



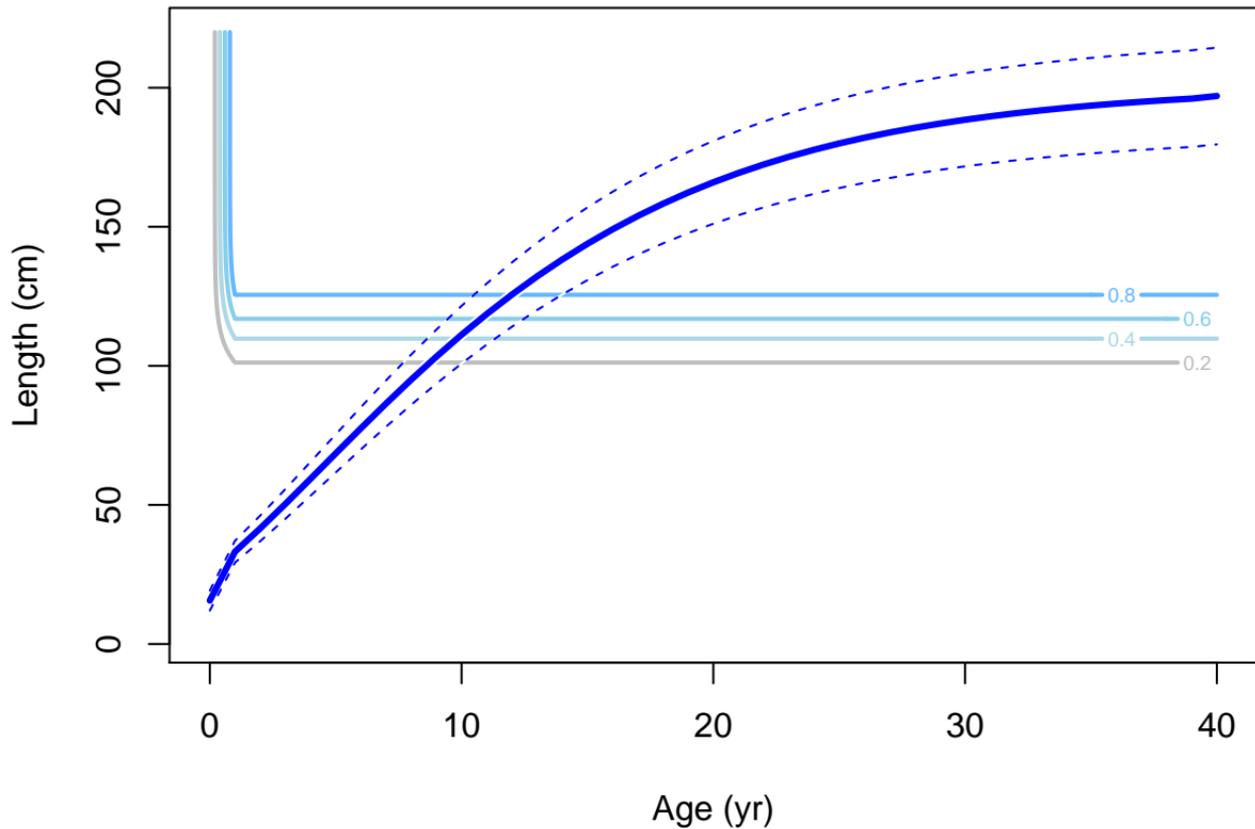
Male ending year selectivity and growth for F13-LL_C_num



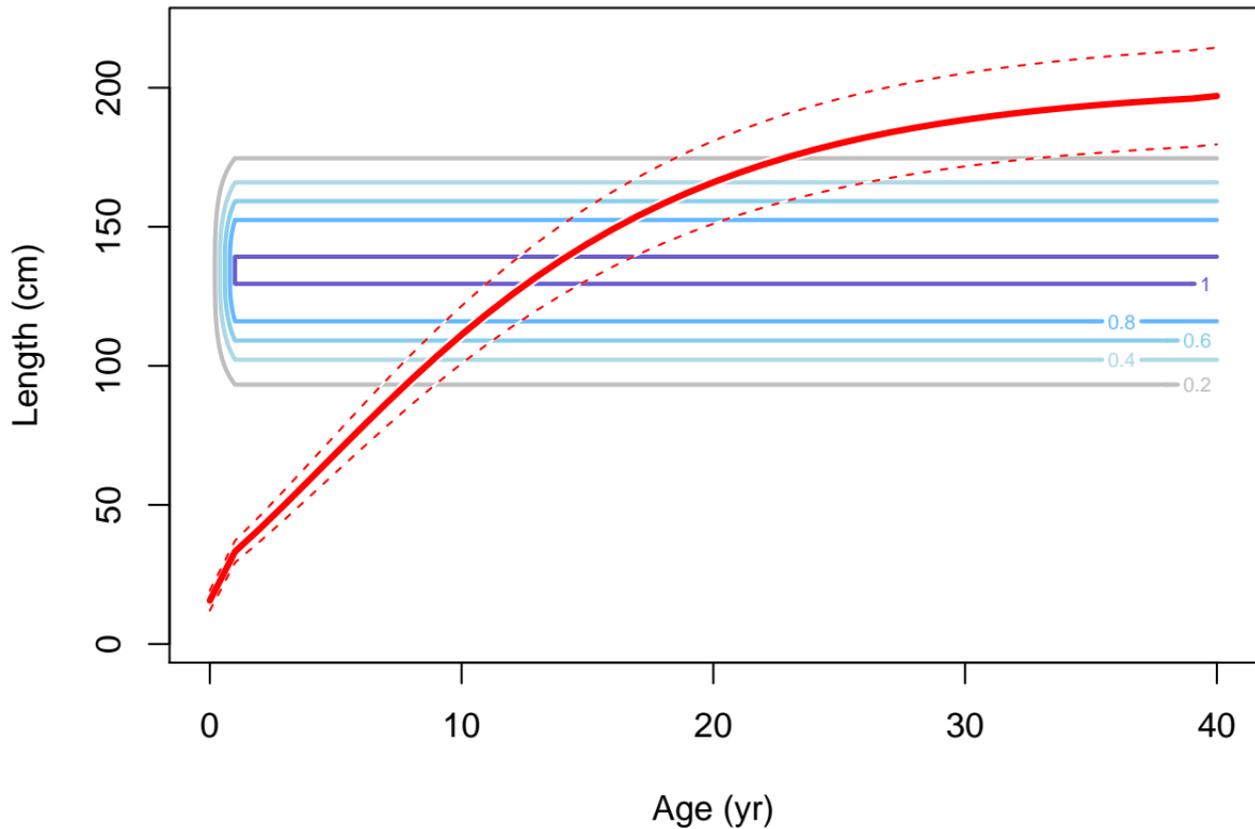
Female ending year selectivity and growth for F14-LL_S_num



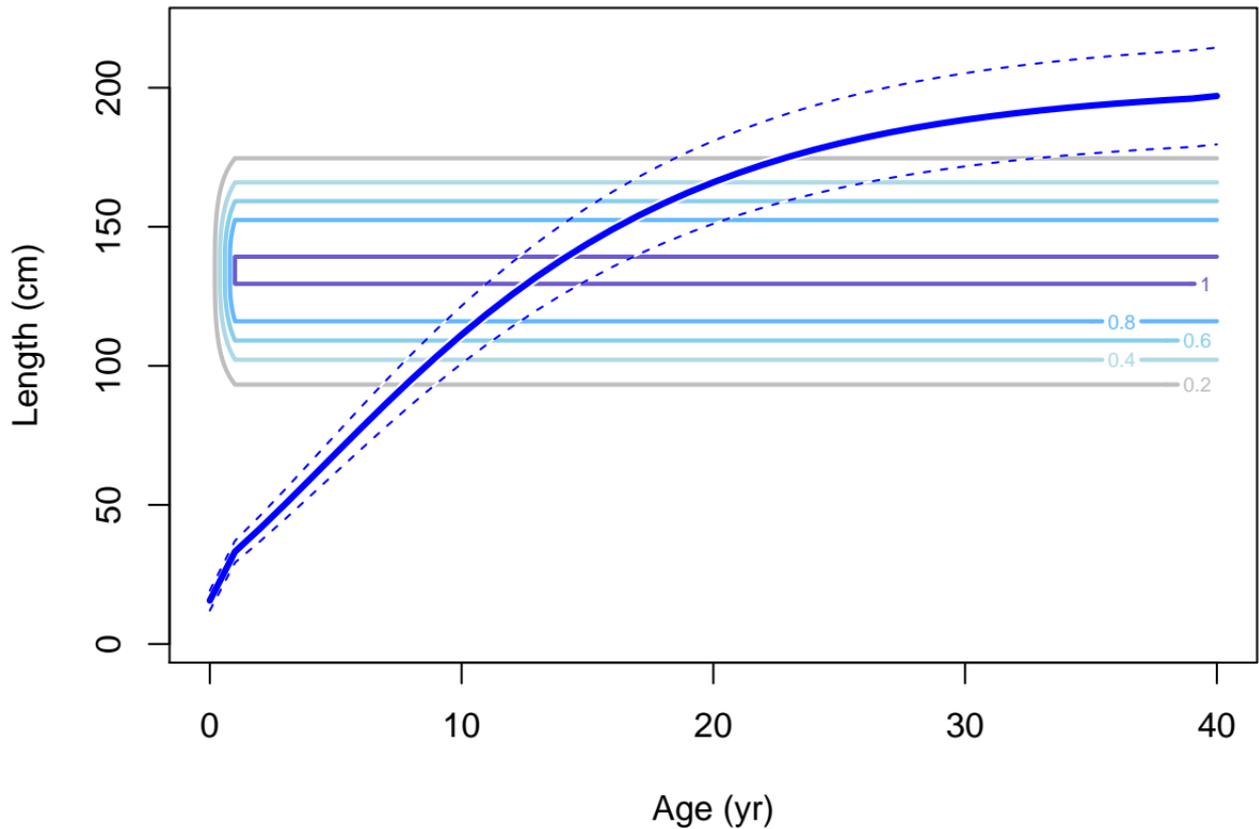
Male ending year selectivity and growth for F14-LL_S_num



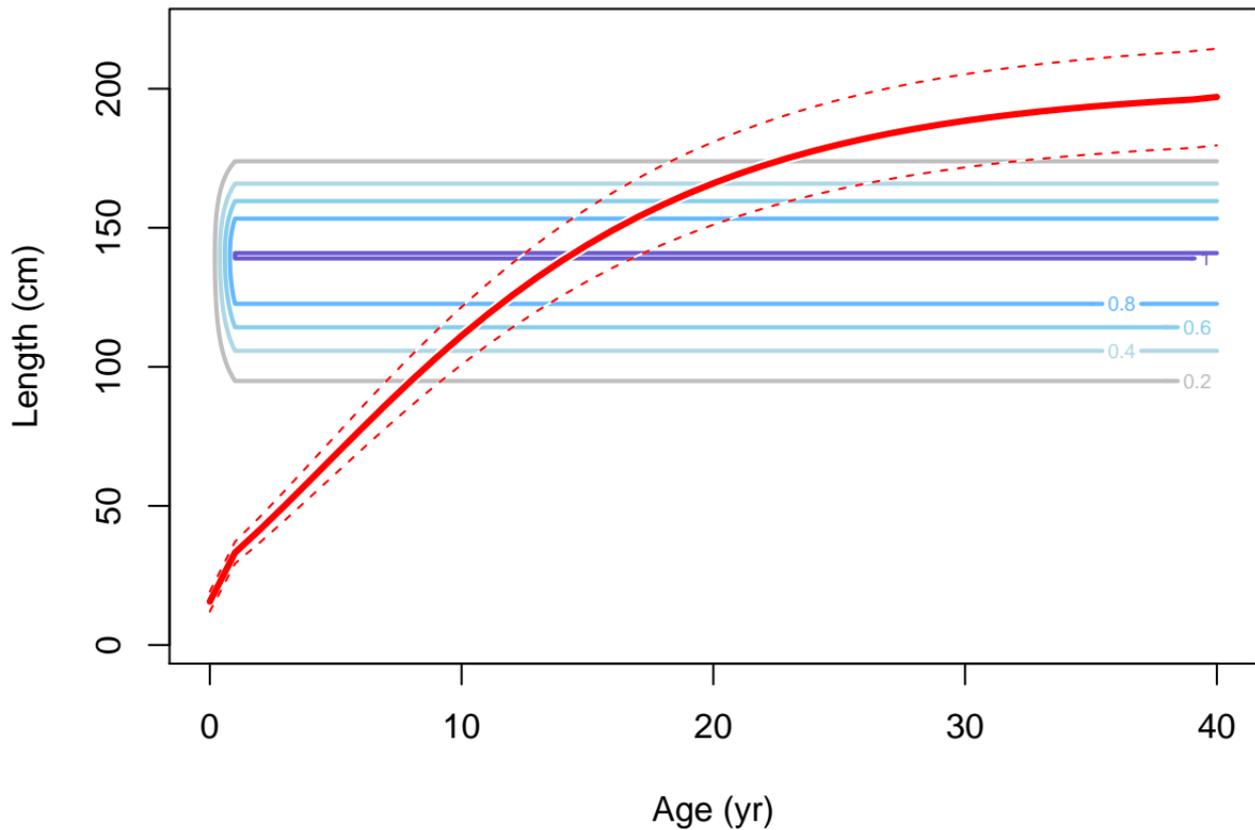
Female ending year selectivity and growth for F15-LL_I_num



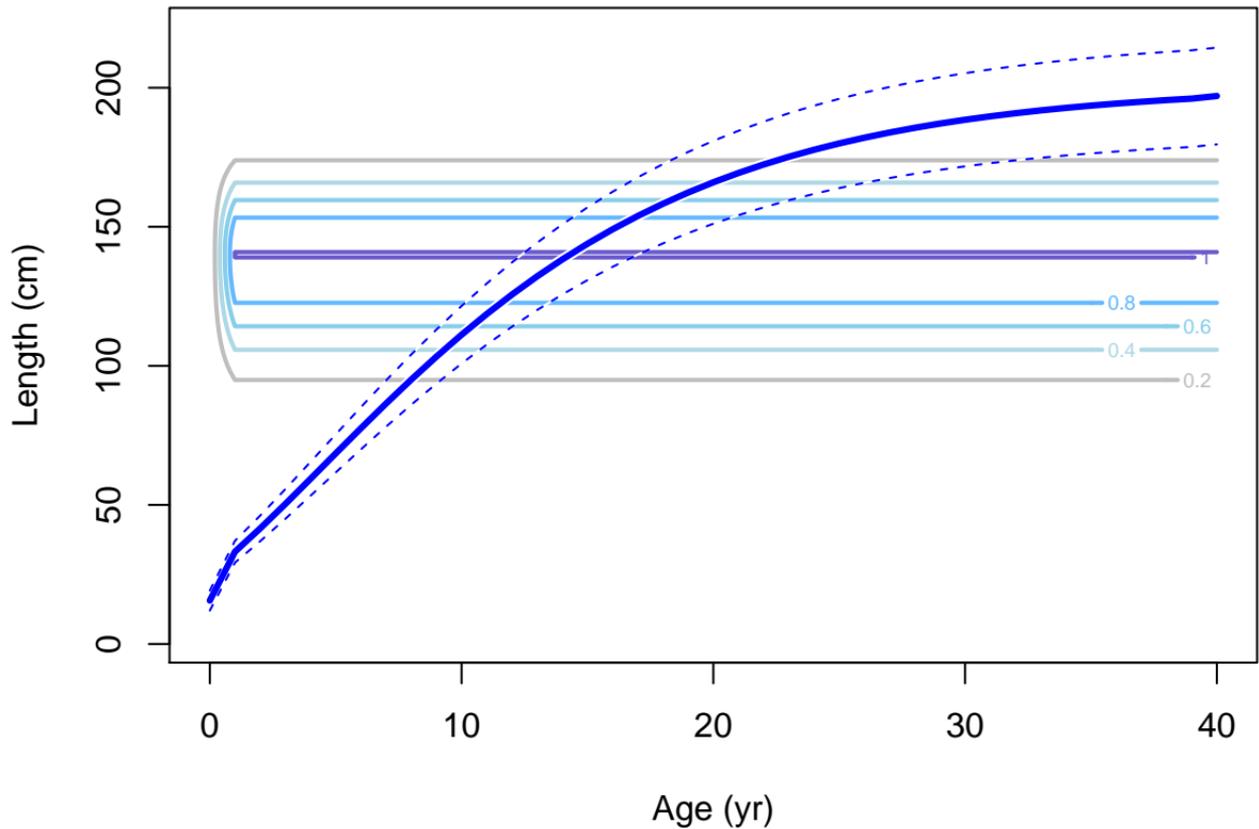
Male ending year selectivity and growth for F15-LL_I_num



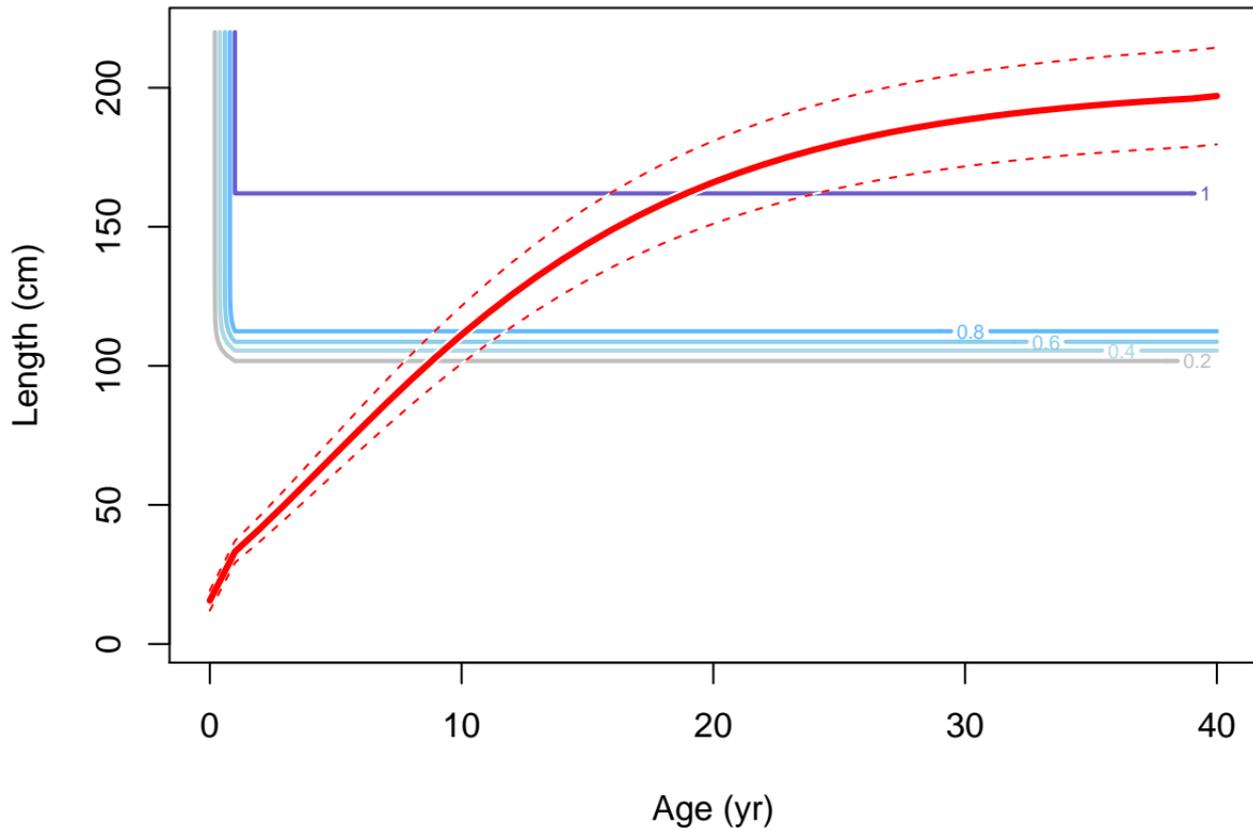
Female ending year selectivity and growth for F16-LL_N_w



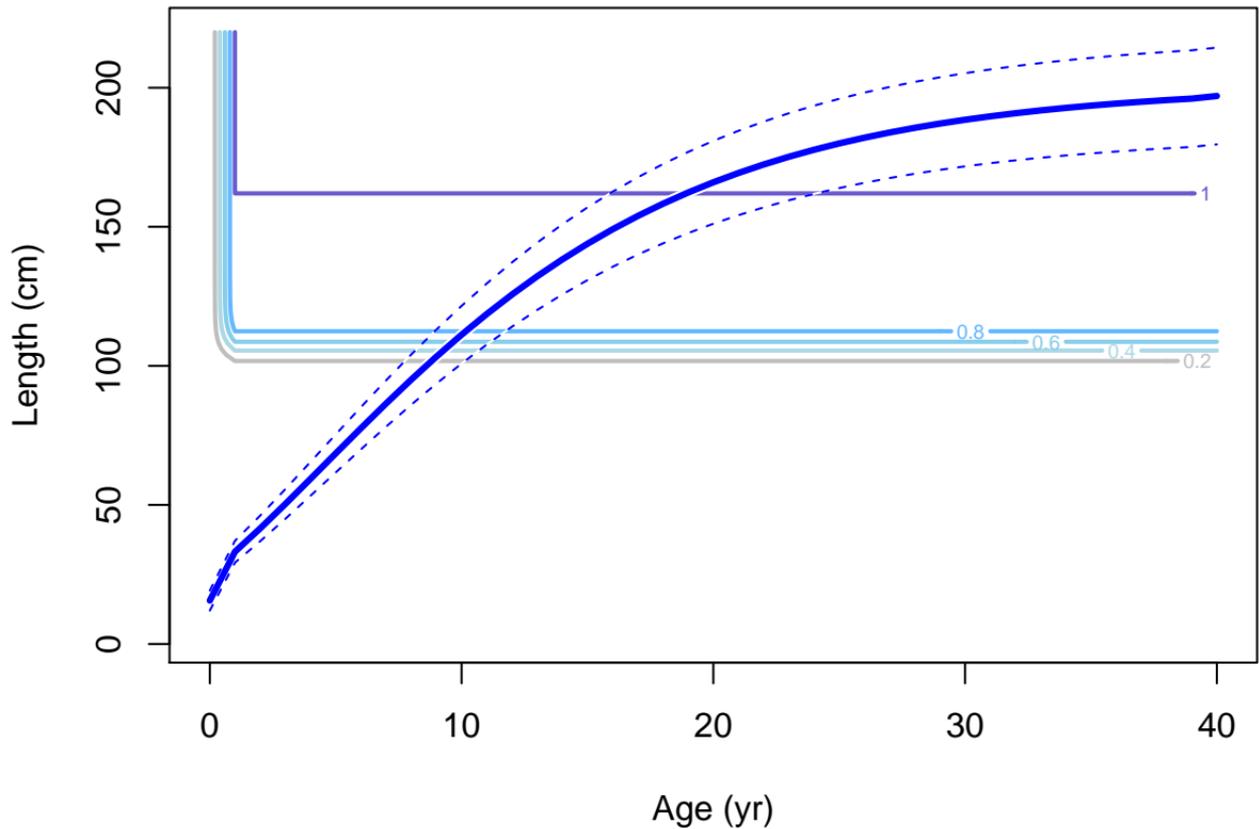
Male ending year selectivity and growth for F16-LL_N_w



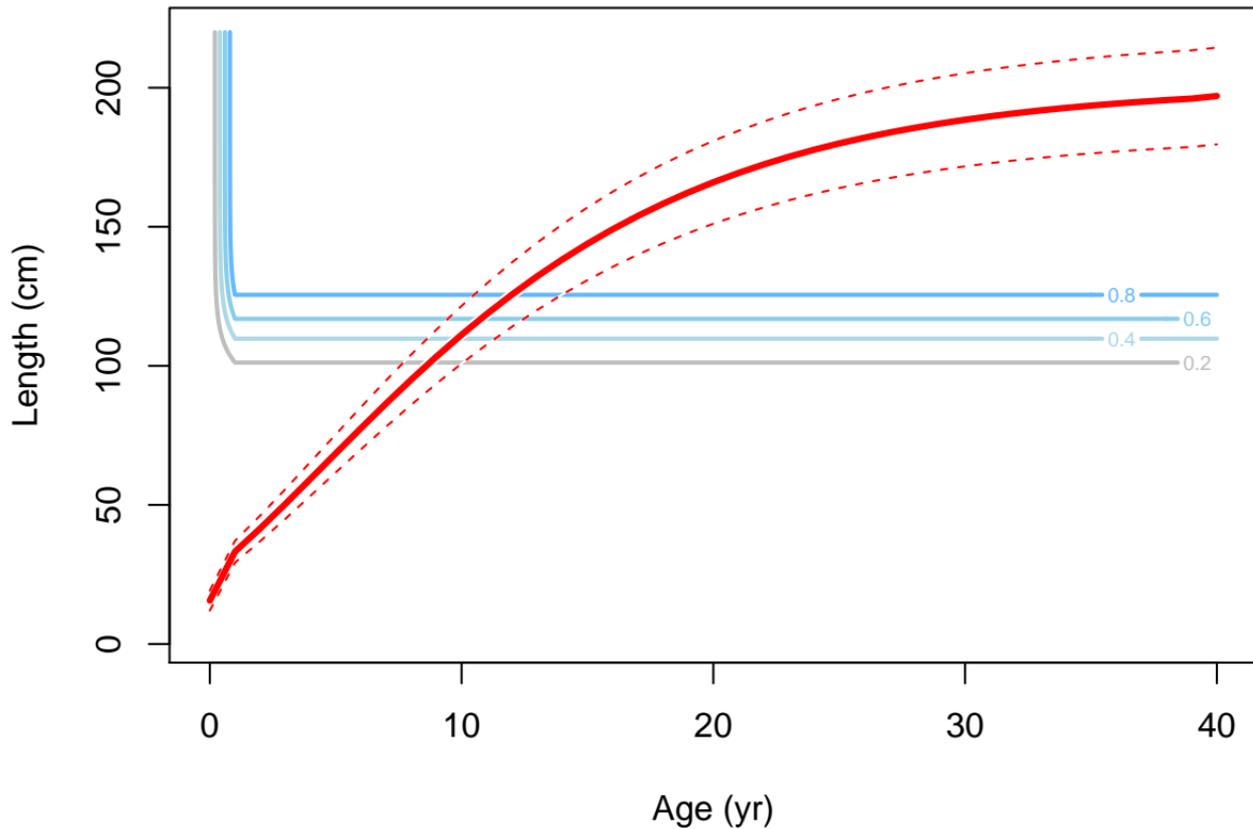
Female ending year selectivity and growth for F17-LL_C_w



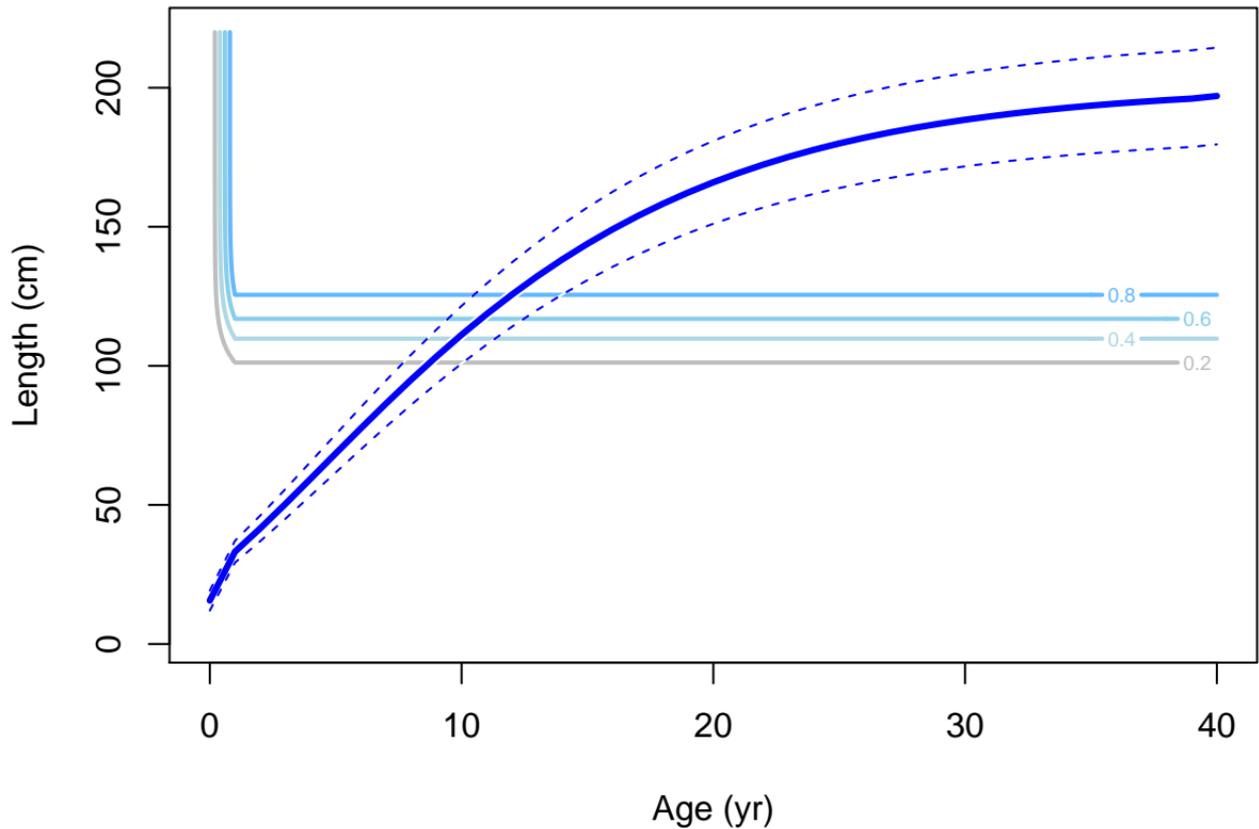
Male ending year selectivity and growth for F17-LL_C_w



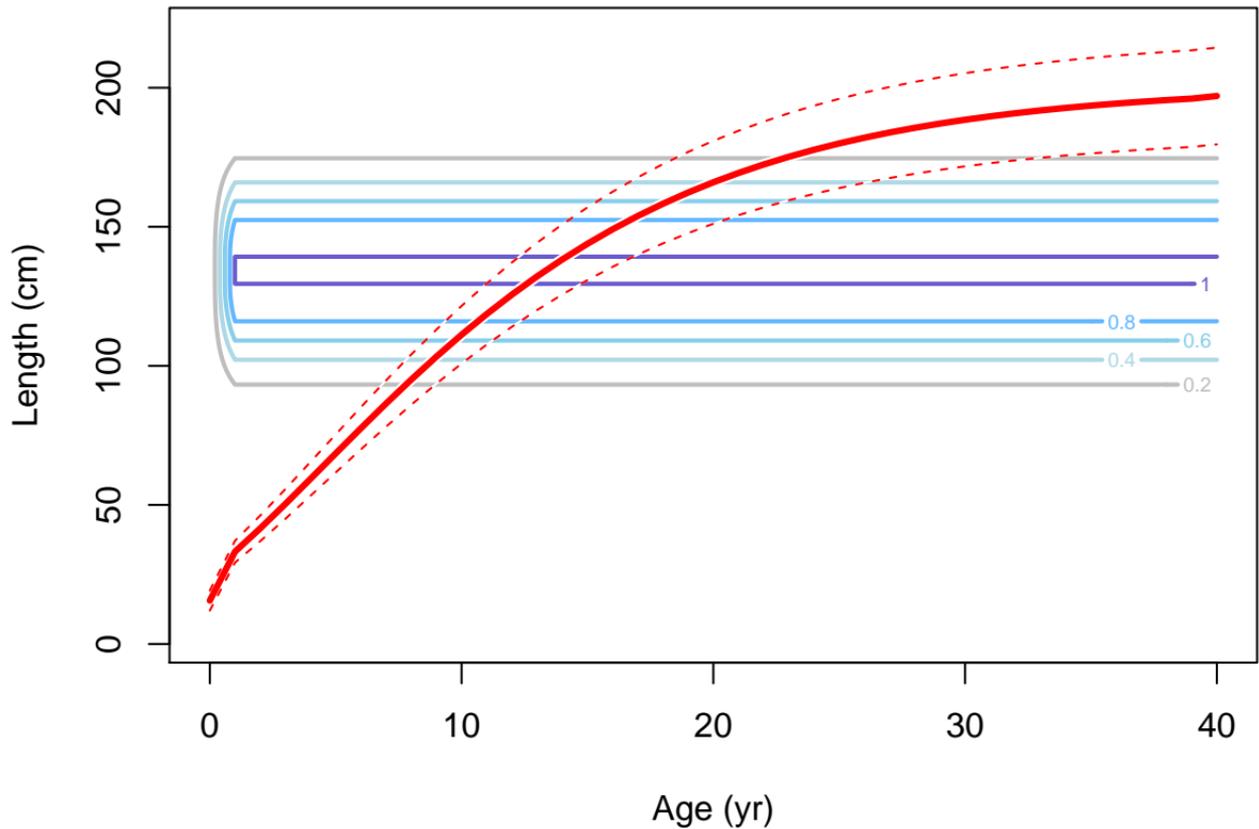
Female ending year selectivity and growth for F18-LL_S_w



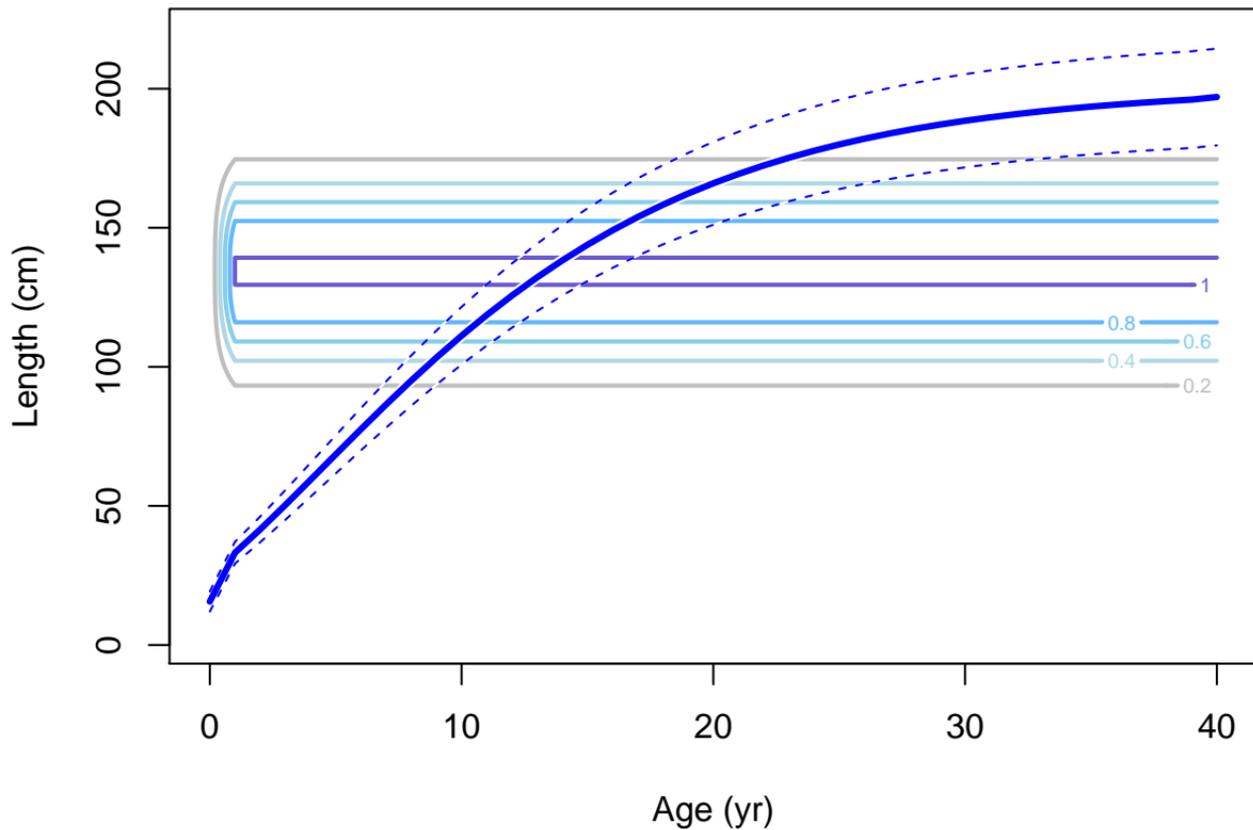
Male ending year selectivity and growth for F18-LL_S_w



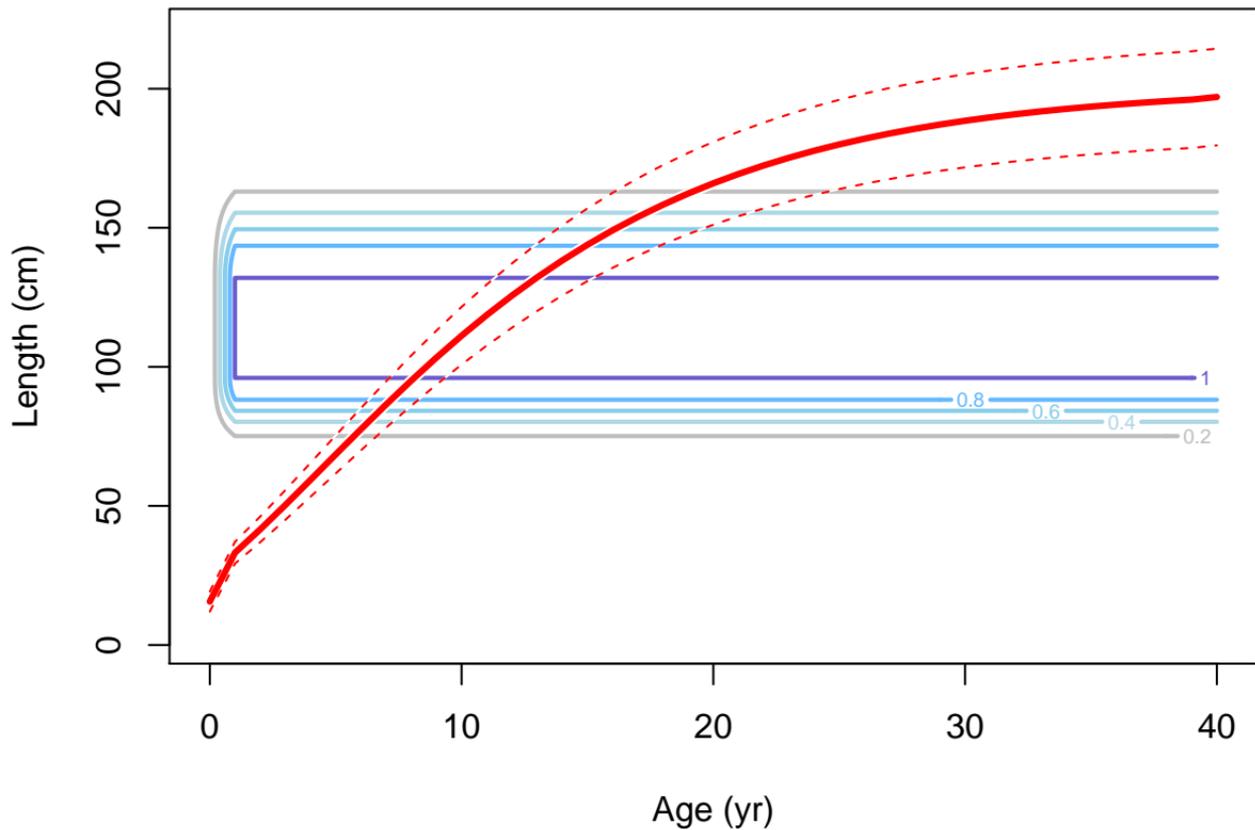
Female ending year selectivity and growth for F19-LL_I_w



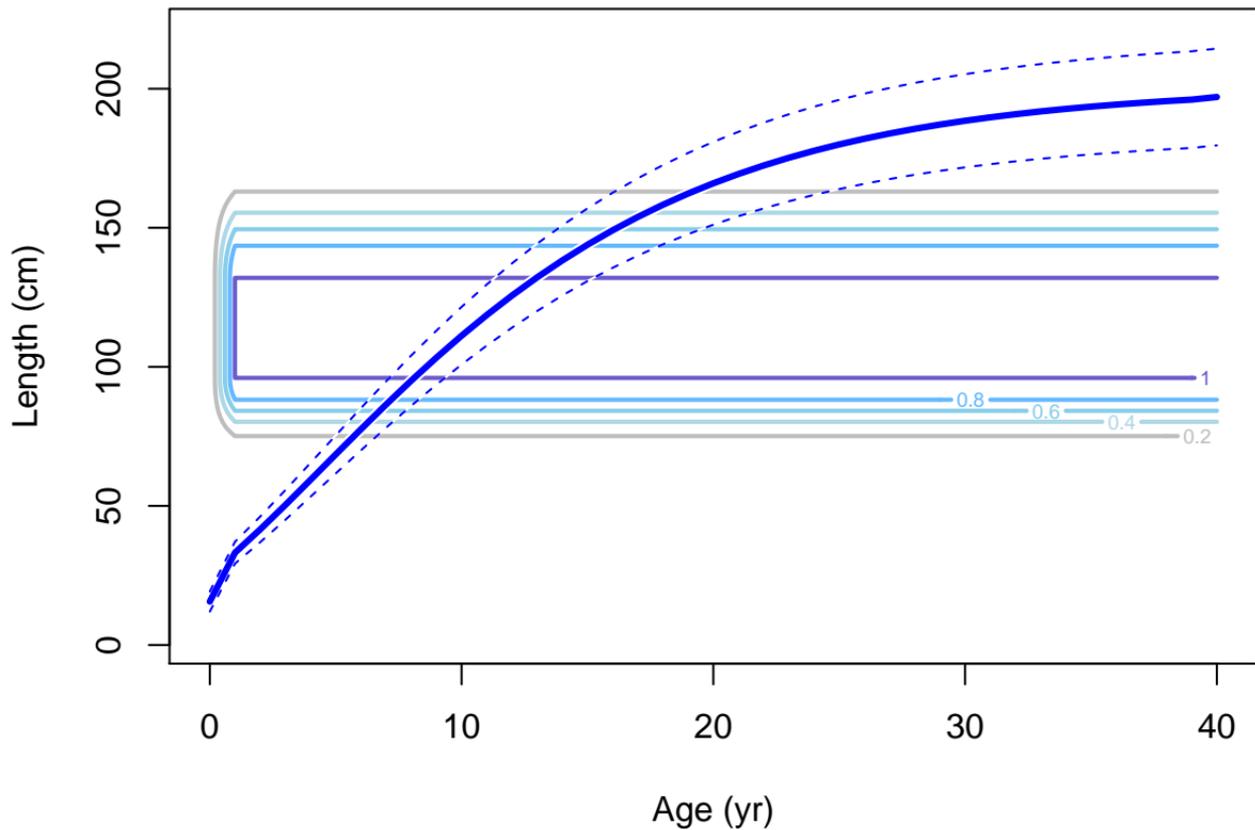
Male ending year selectivity and growth for F19-LL_I_w



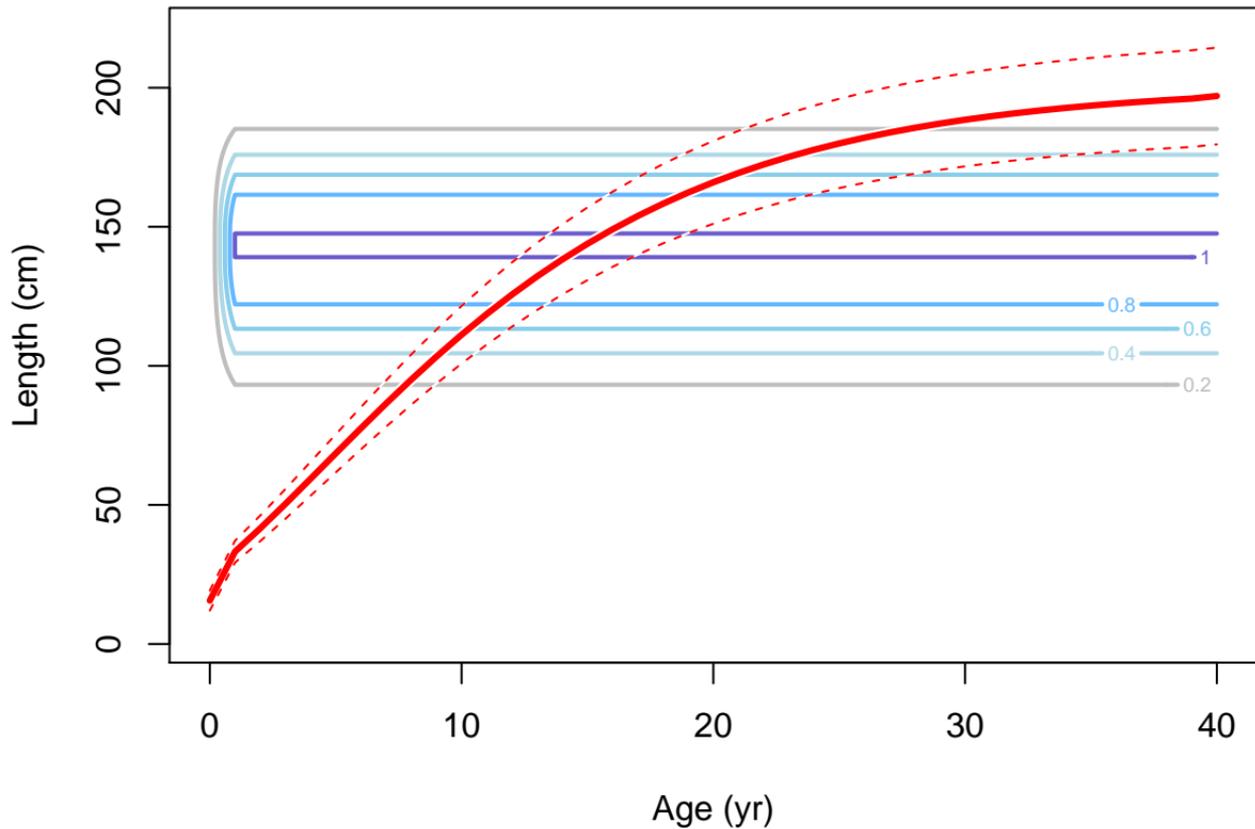
Female ending year selectivity and growth for S1-LLt_N_len



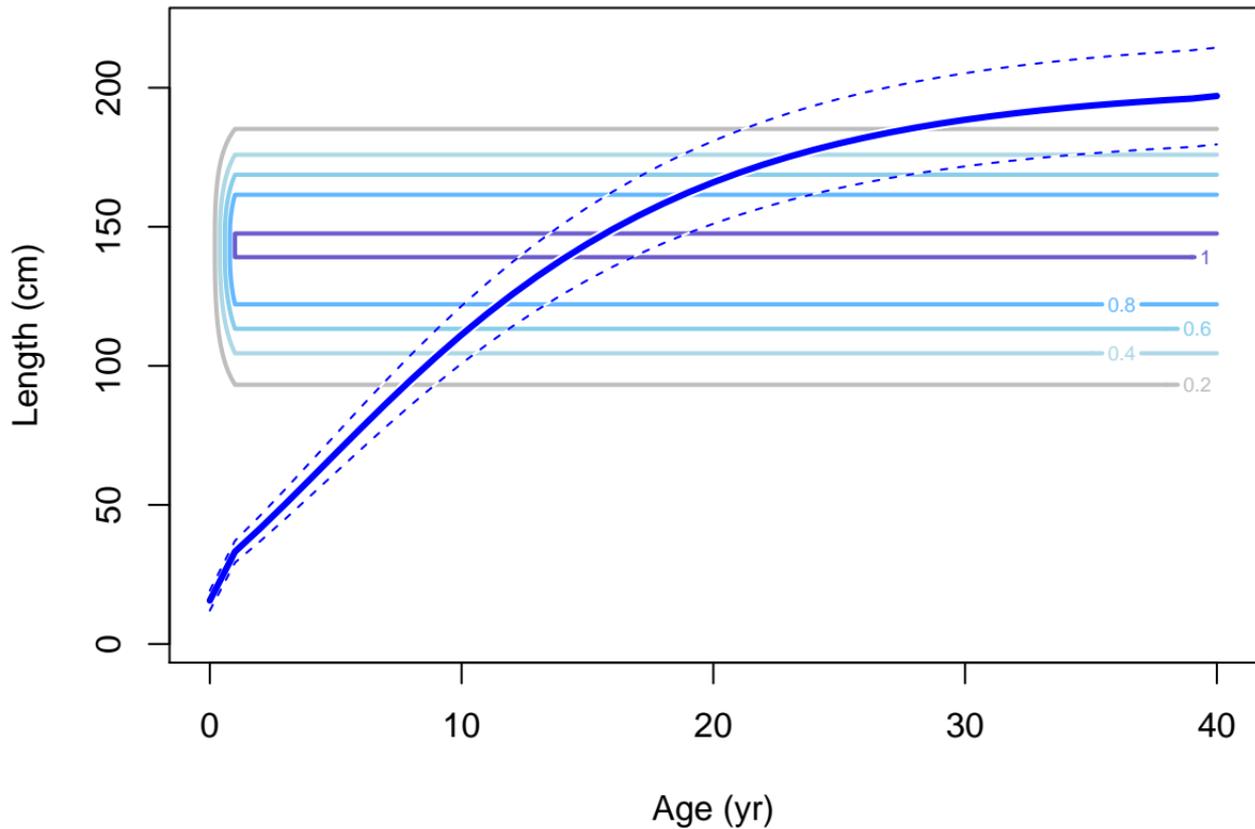
Male ending year selectivity and growth for S1-LLt_N_len



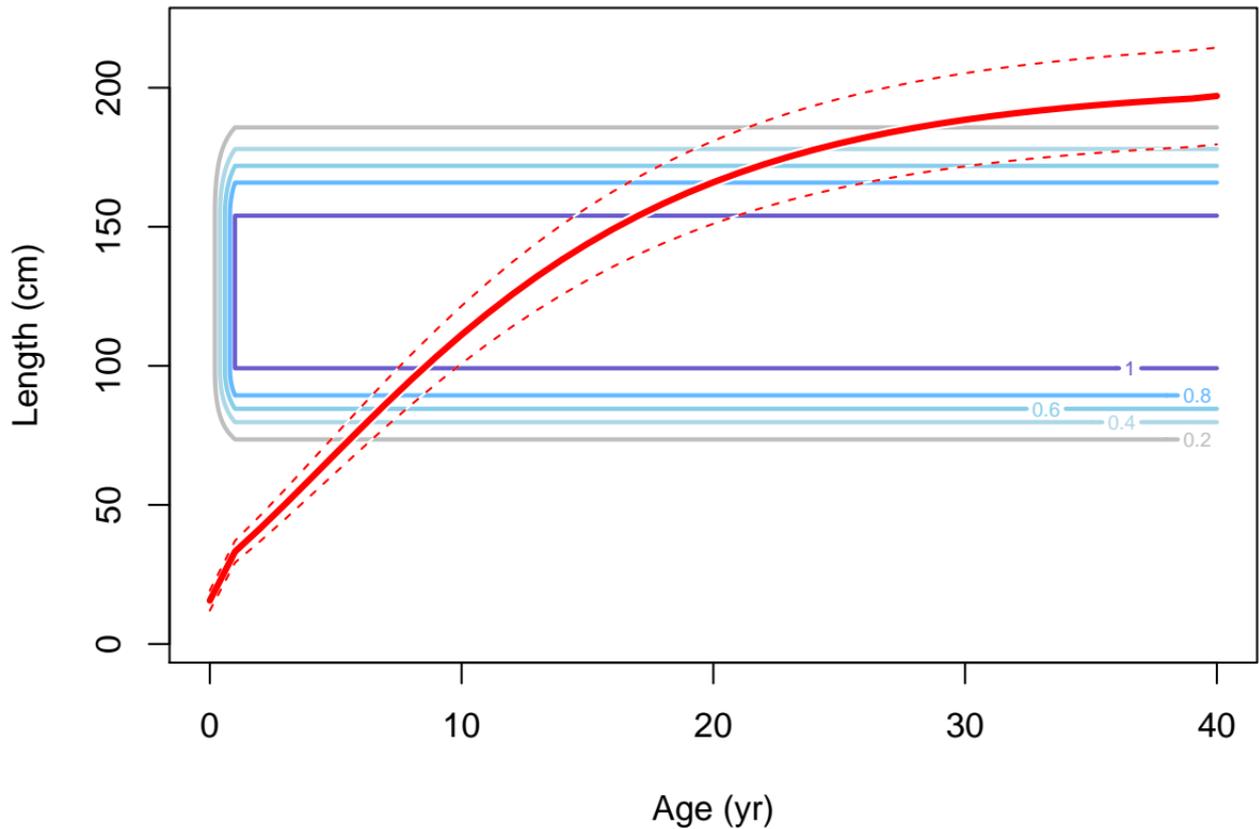
Female ending year selectivity and growth for S2-LLt_C_len



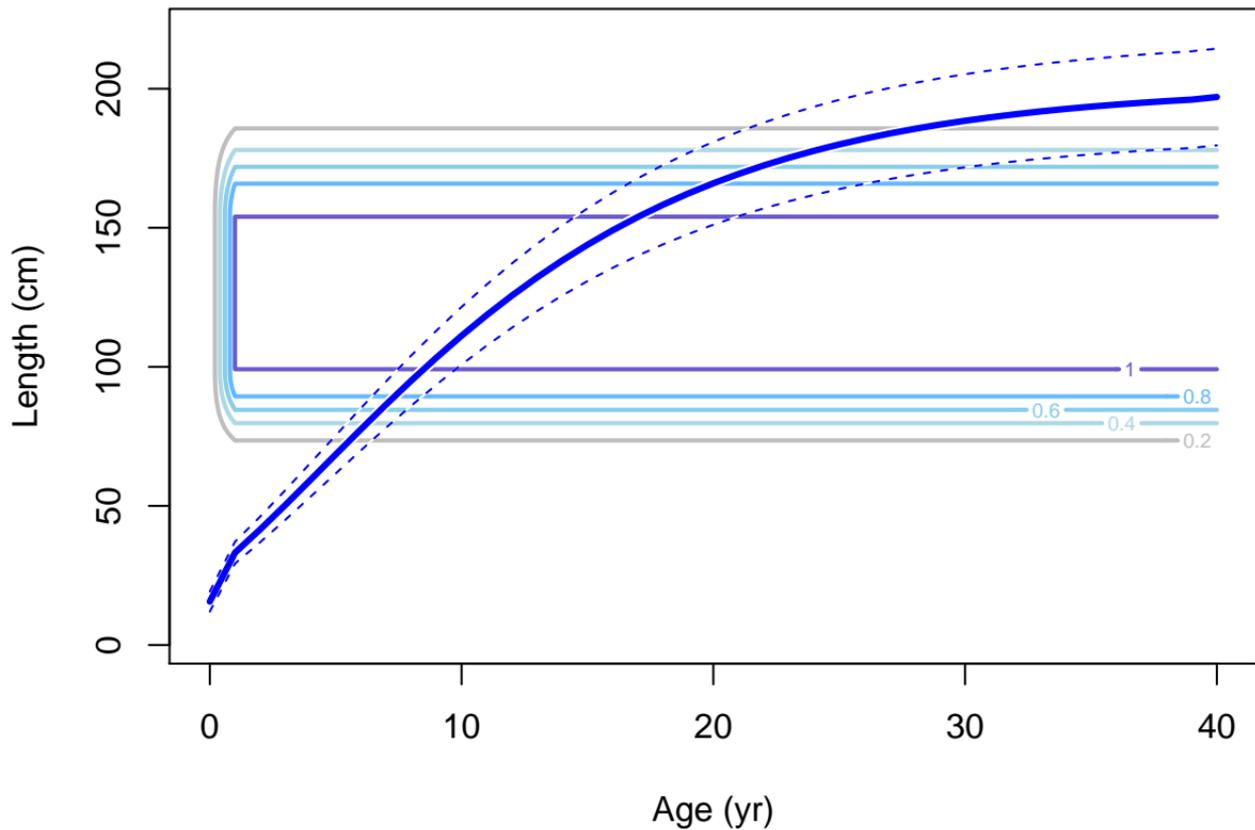
Male ending year selectivity and growth for S2-LLt_C_len



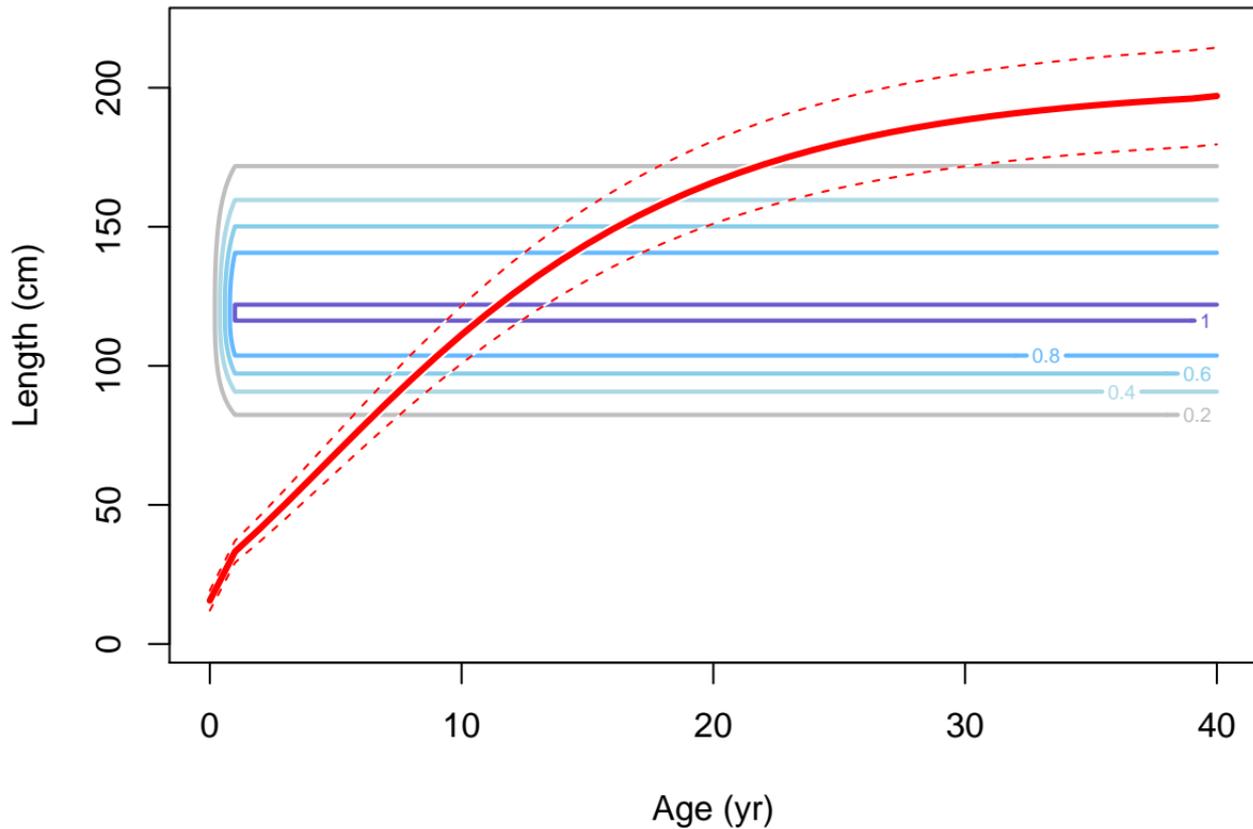
Female ending year selectivity and growth for S3-LLt_S_len



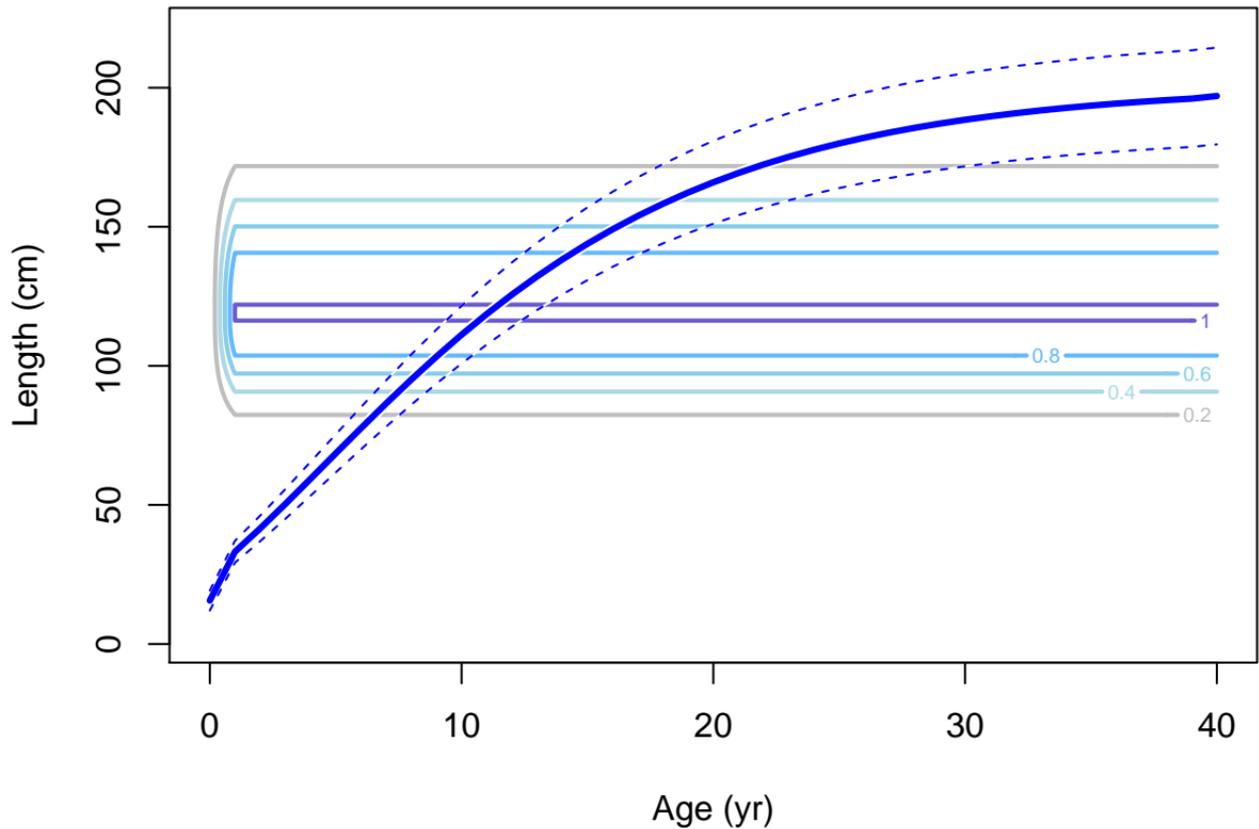
Male ending year selectivity and growth for S3-LLt_S_len



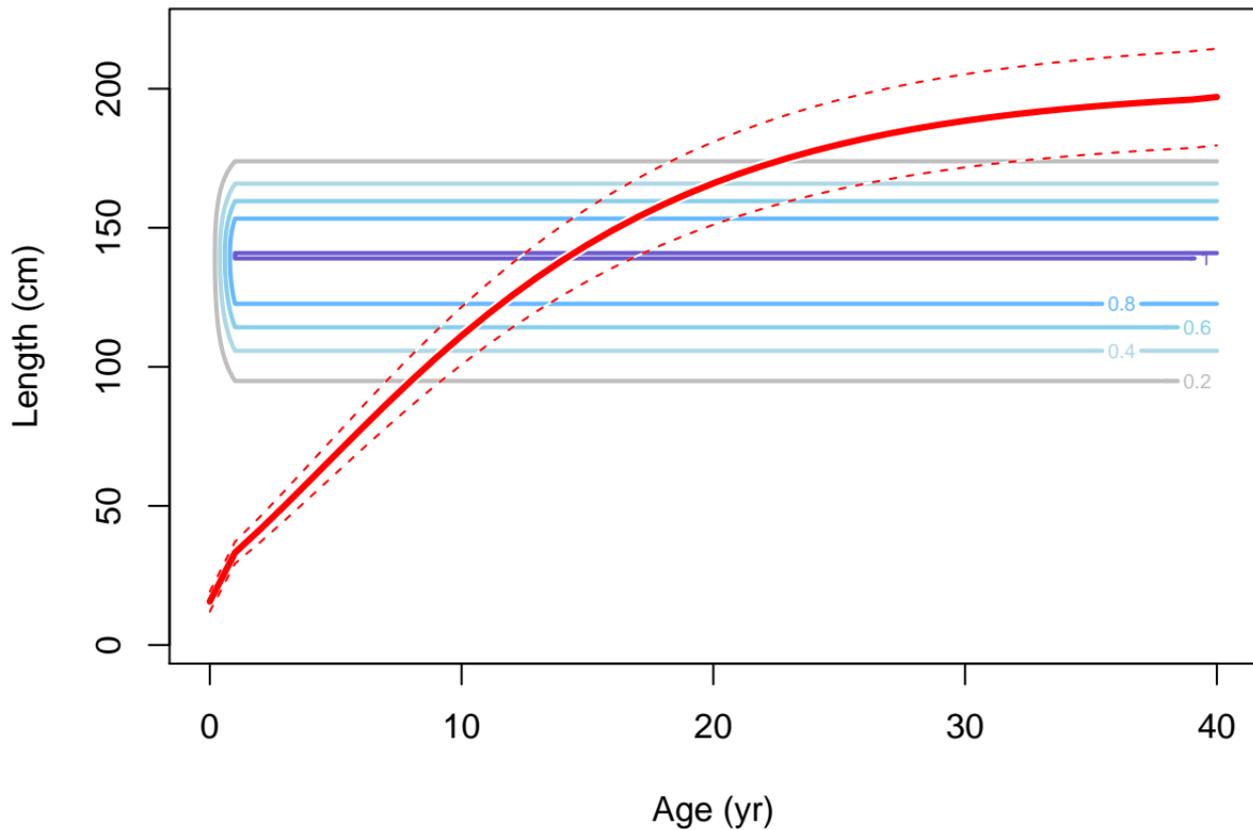
Female ending year selectivity and growth for S4-LLt_I_len



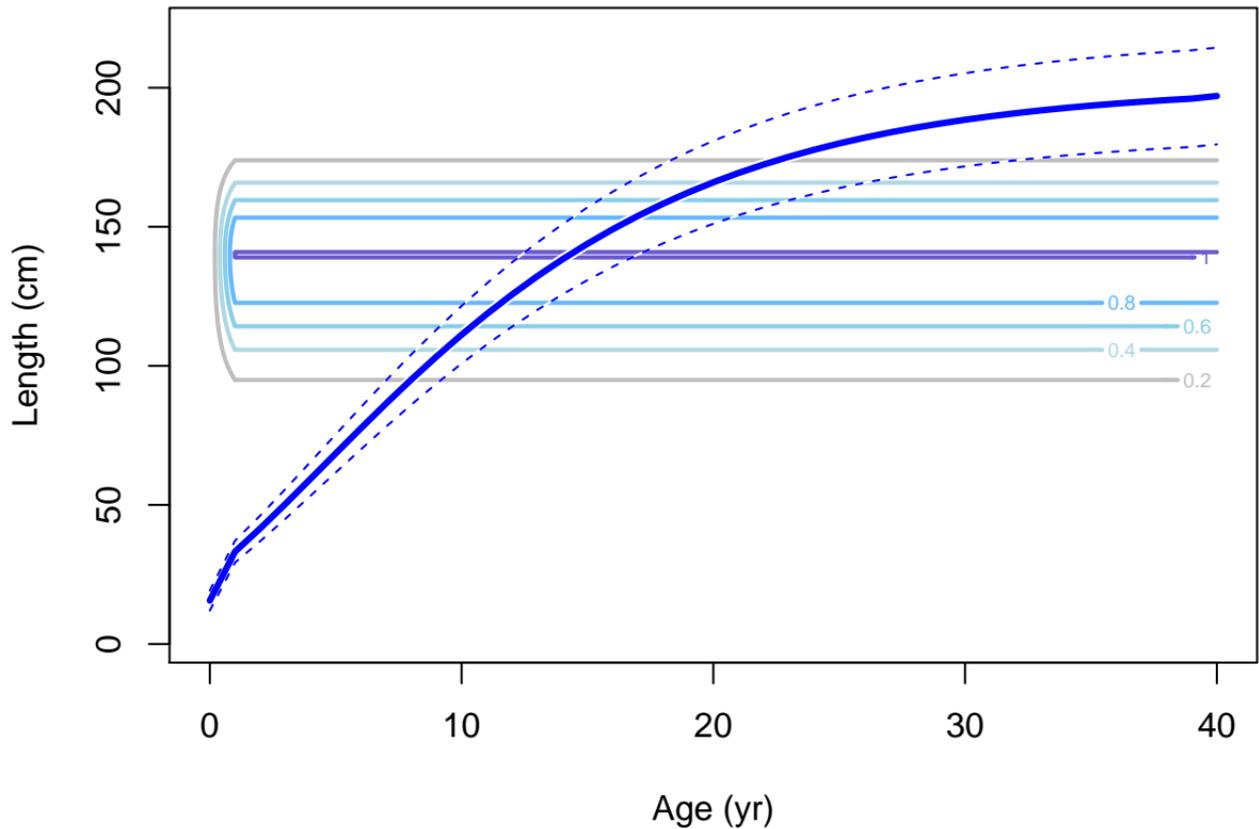
Male ending year selectivity and growth for S4-LLt_I_len



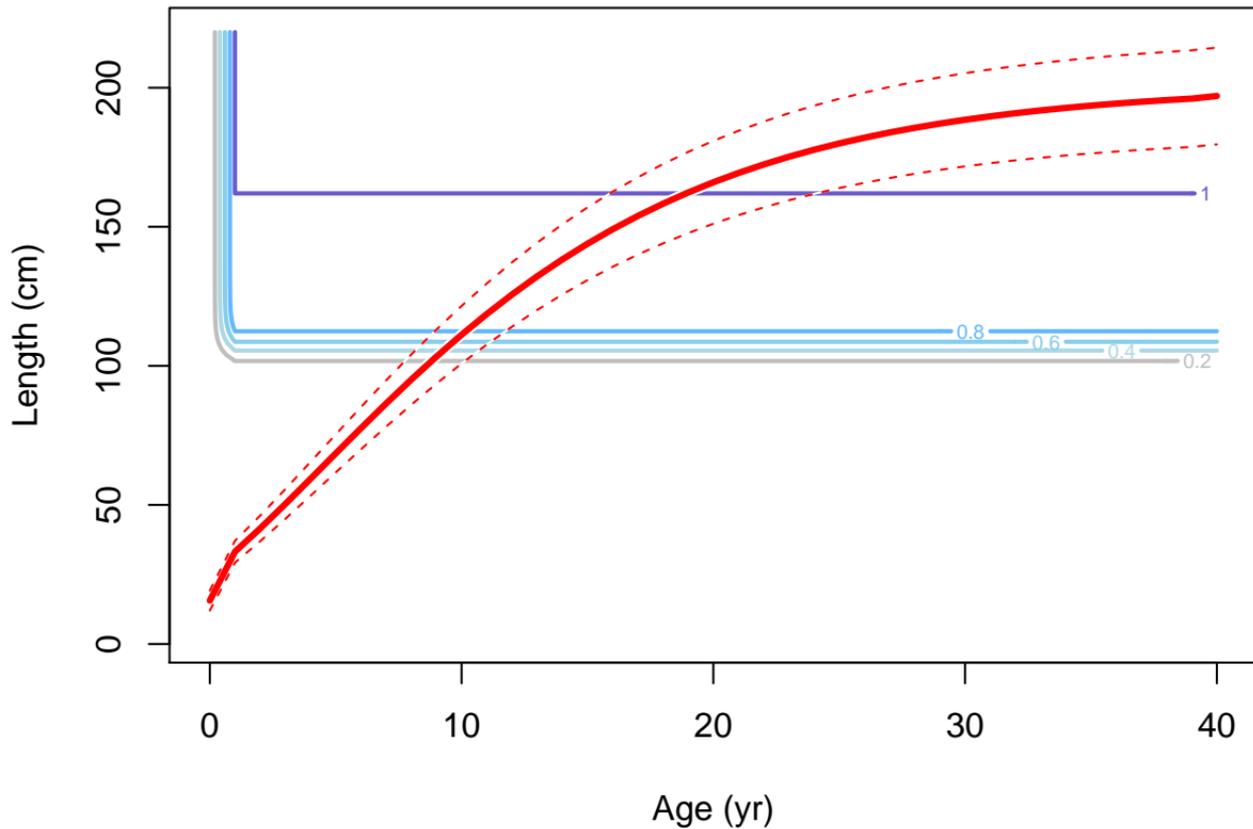
Female ending year selectivity and growth for S5-LLc_N_w



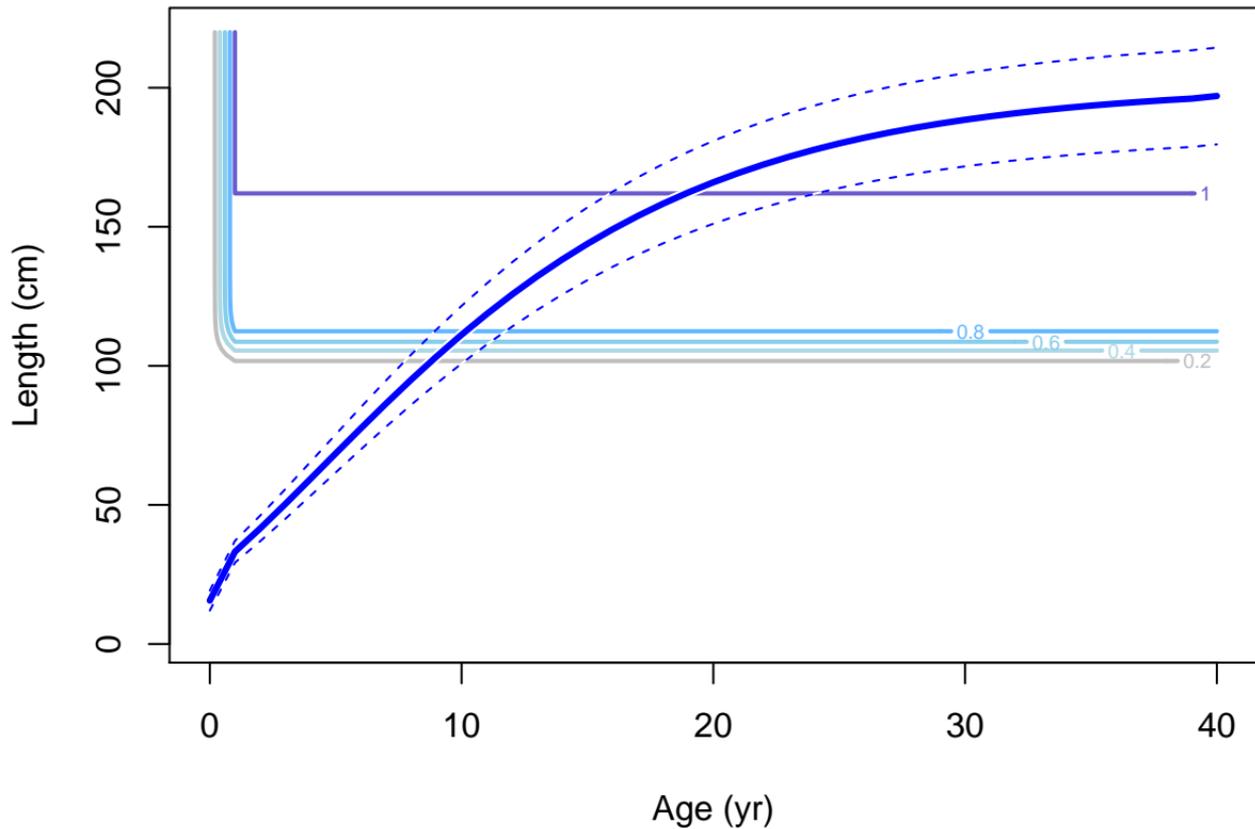
Male ending year selectivity and growth for S5-LLc_N_w



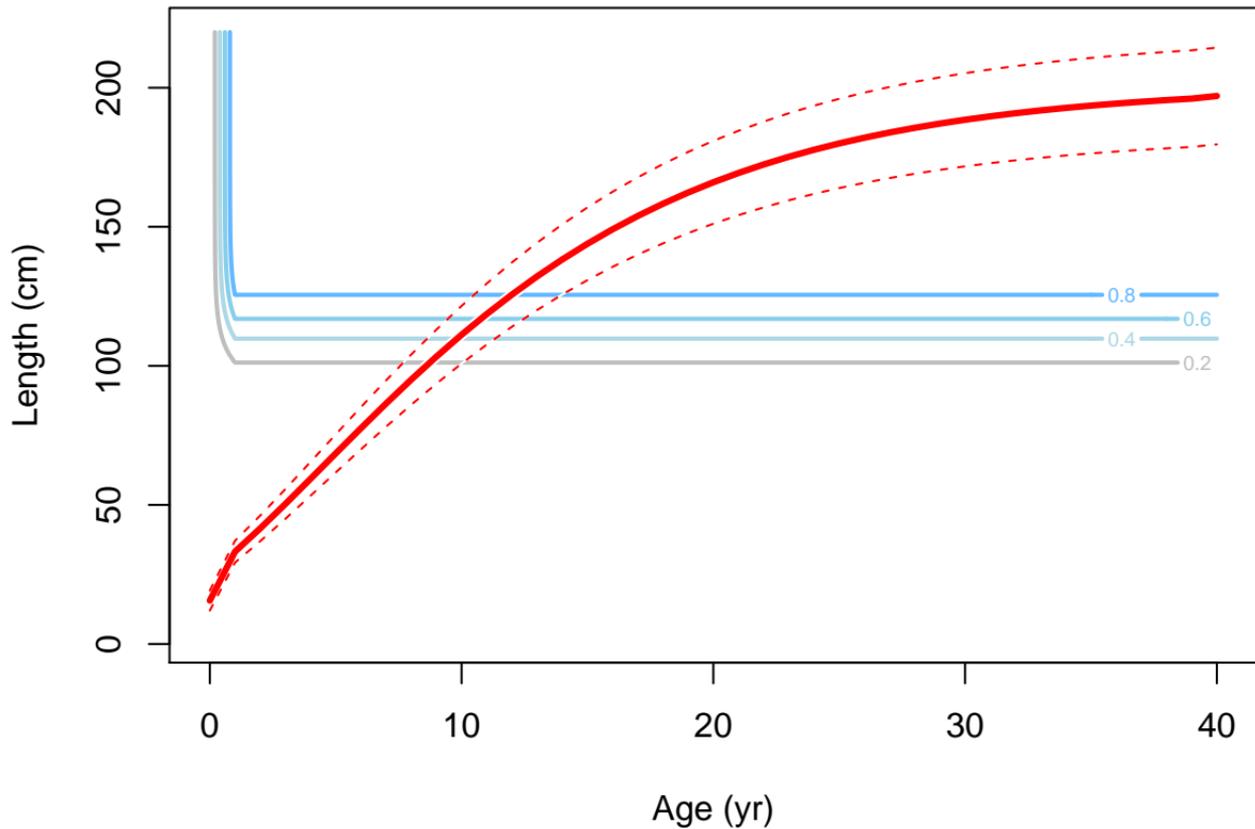
Female ending year selectivity and growth for S6-LLc_C_w



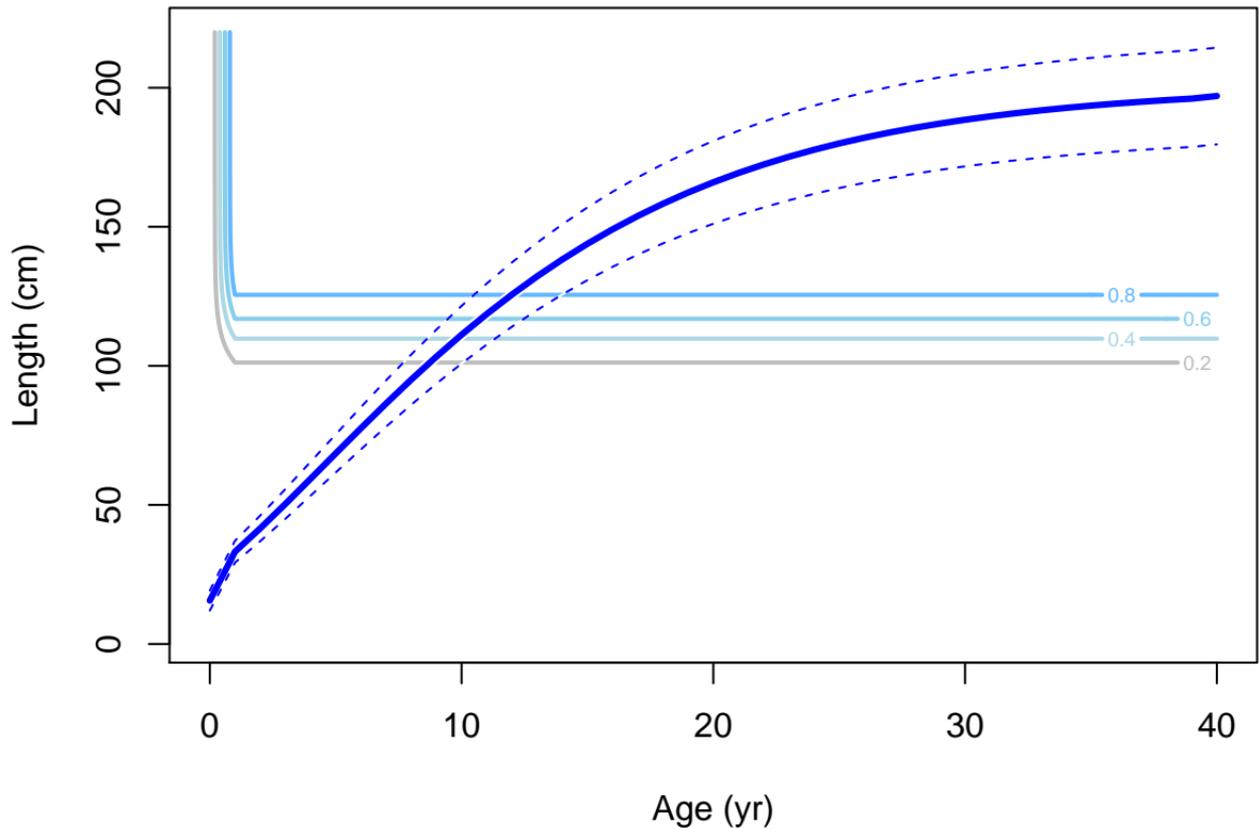
Male ending year selectivity and growth for S6-LLc_C_w



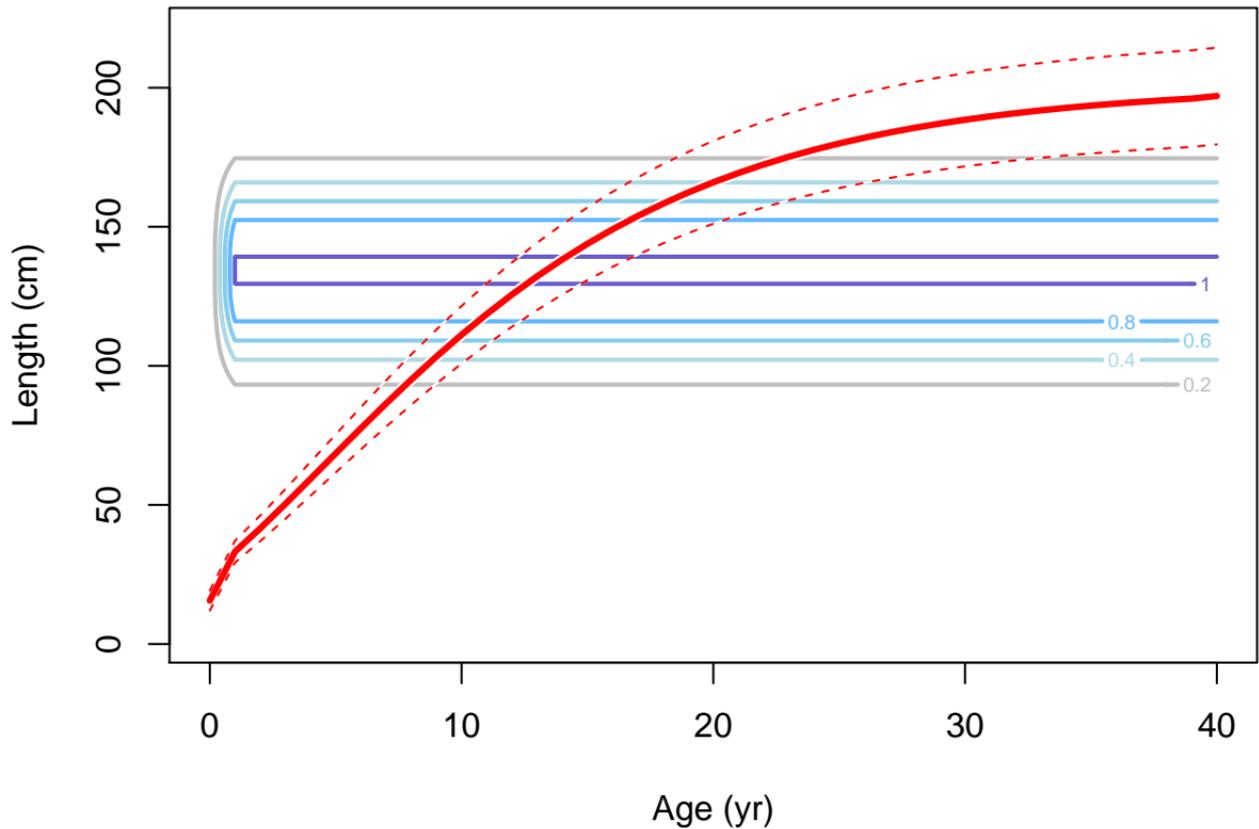
Female ending year selectivity and growth for S7-LLc_S_w



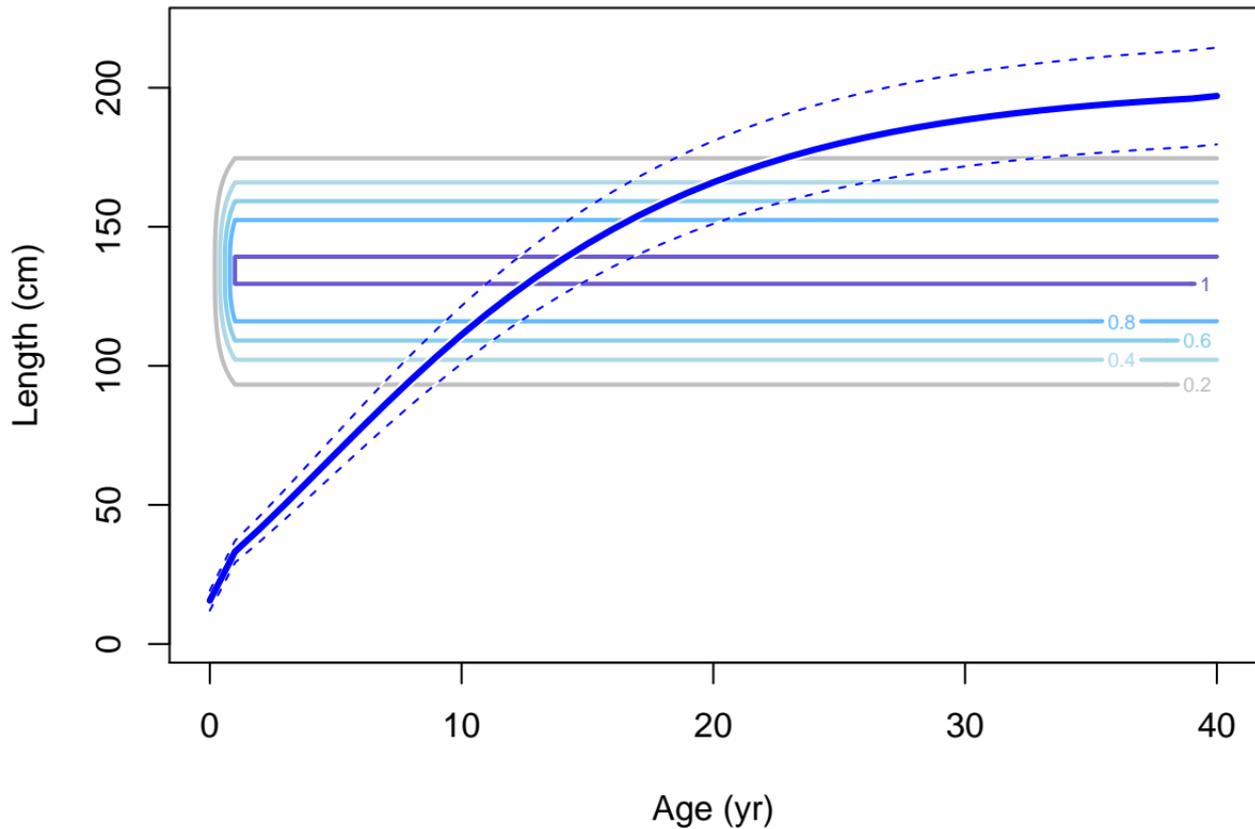
Male ending year selectivity and growth for S7-LLc_S_w



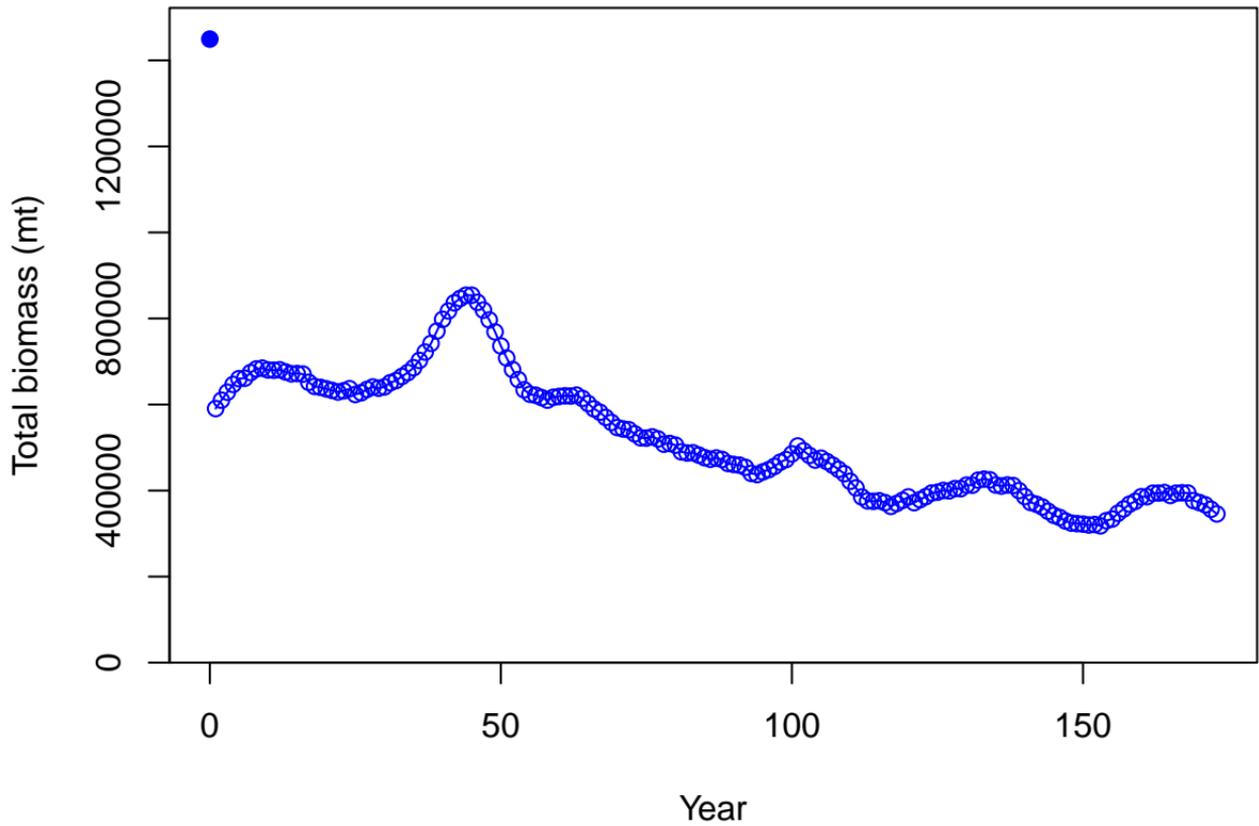
Female ending year selectivity and growth for S8-LLc_I_w



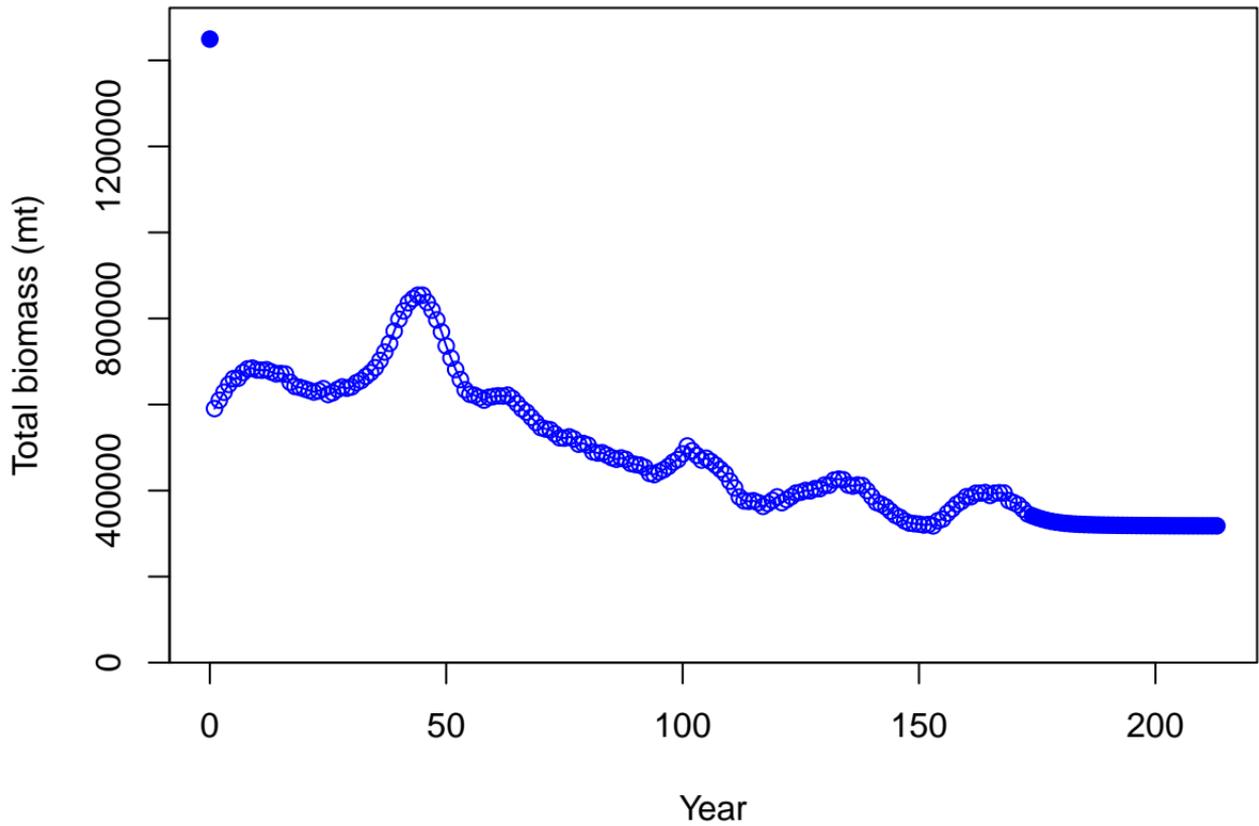
Male ending year selectivity and growth for S8-LLc_I_w



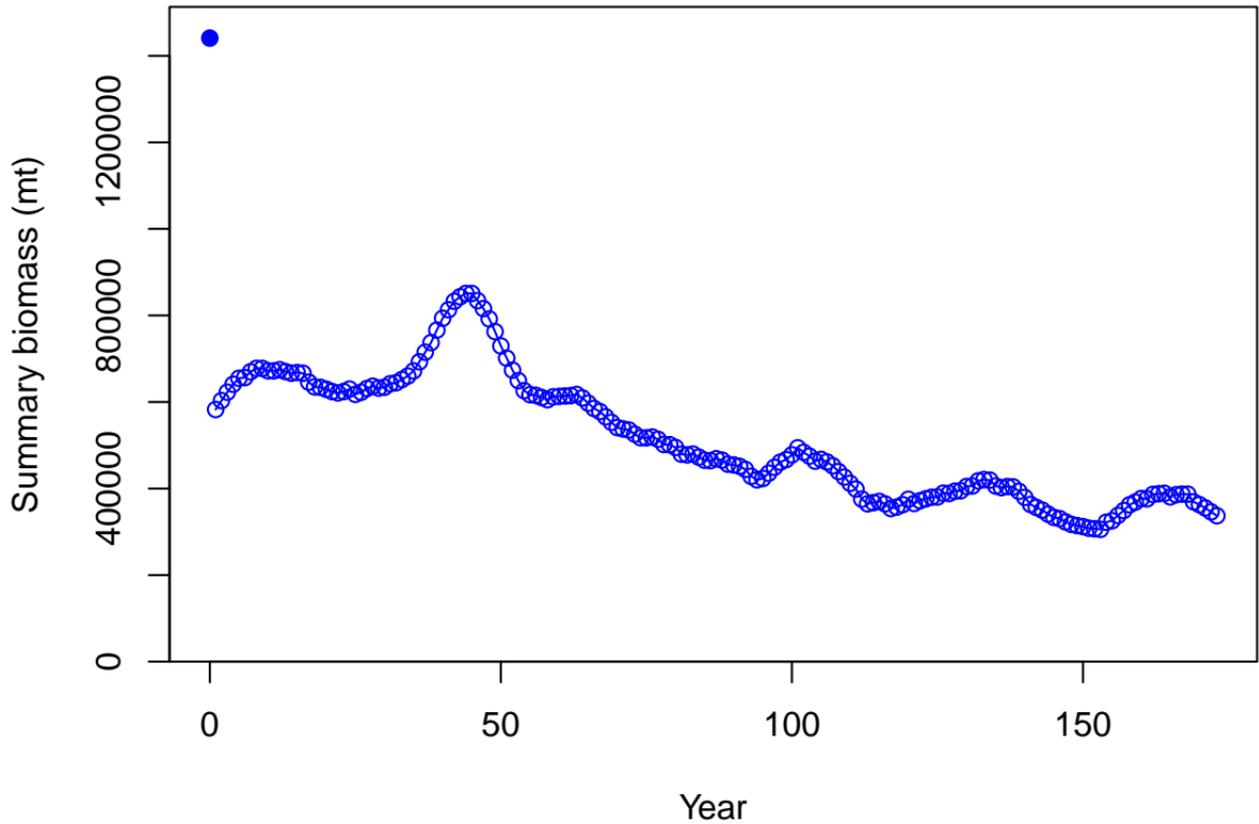
Total biomass (mt)



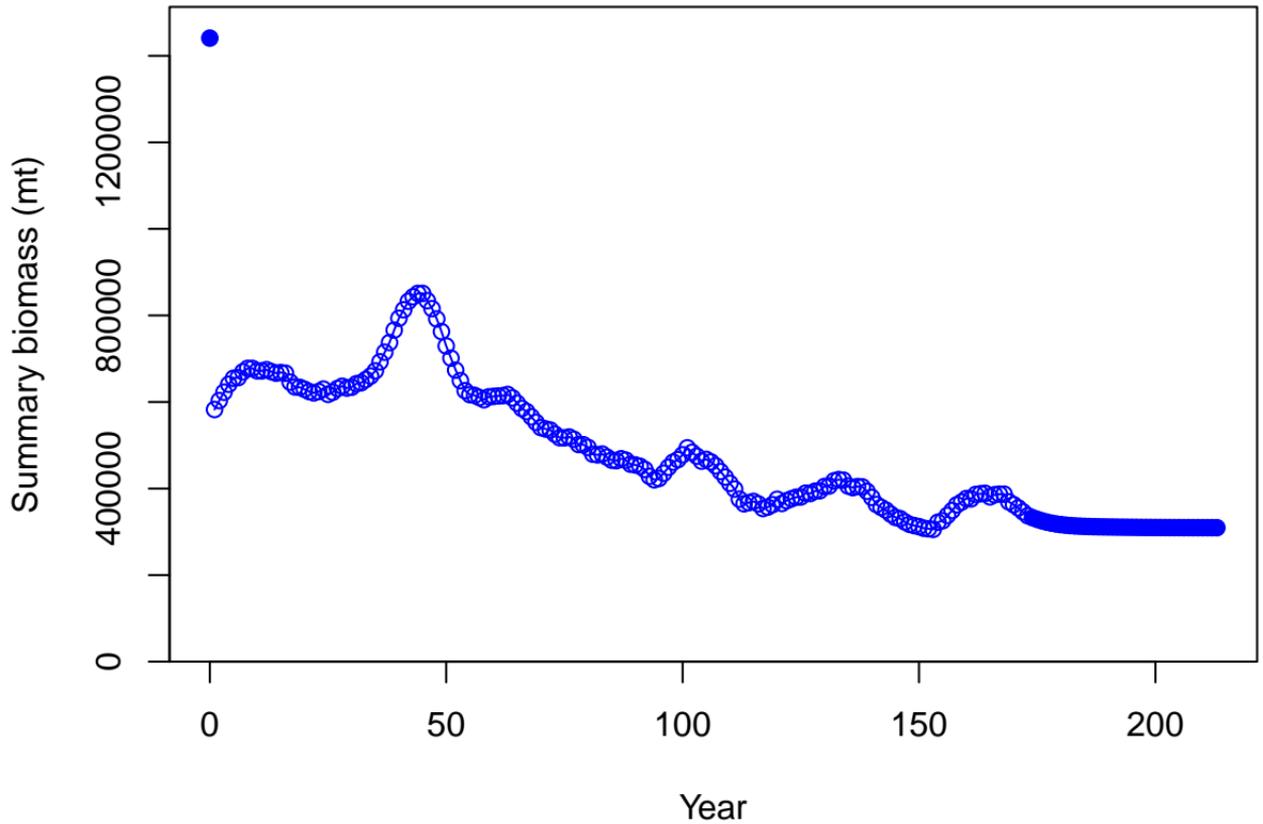
Total biomass (mt) with forecast



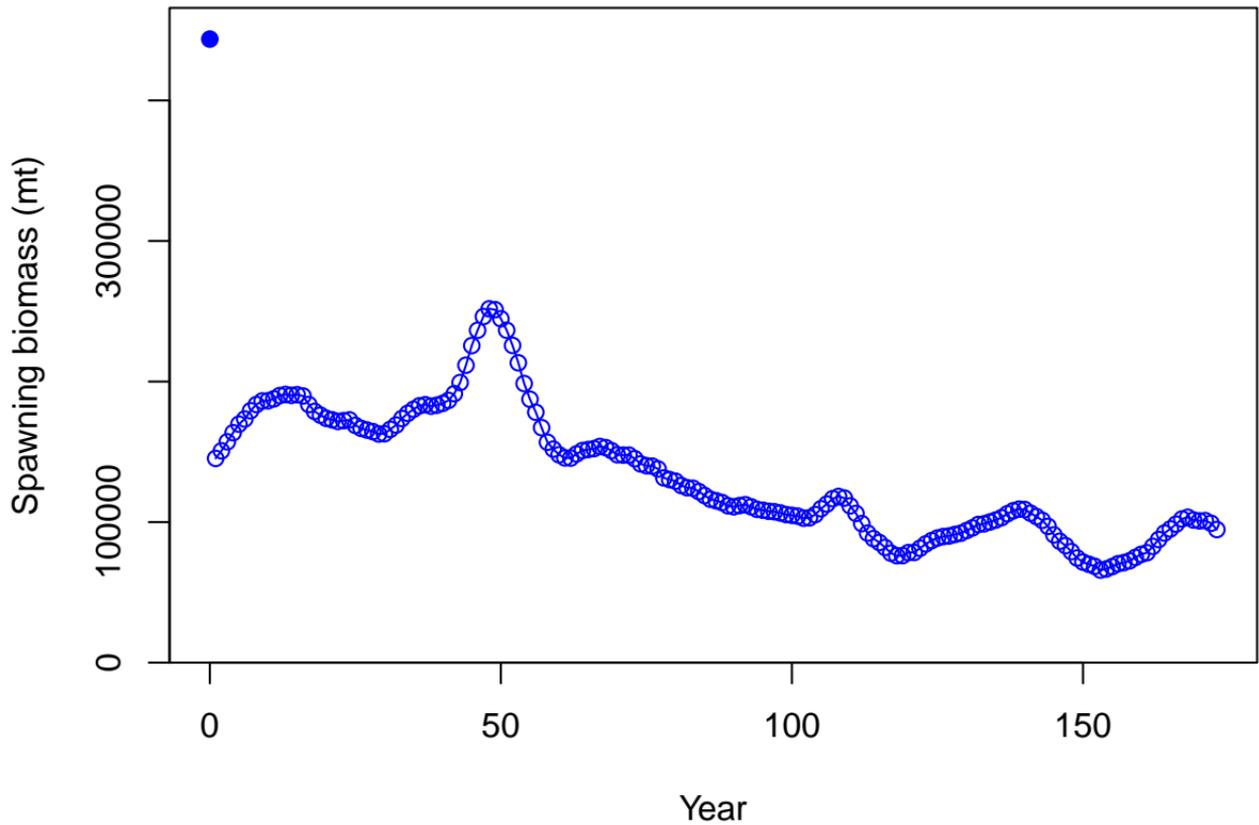
Summary biomass (mt)



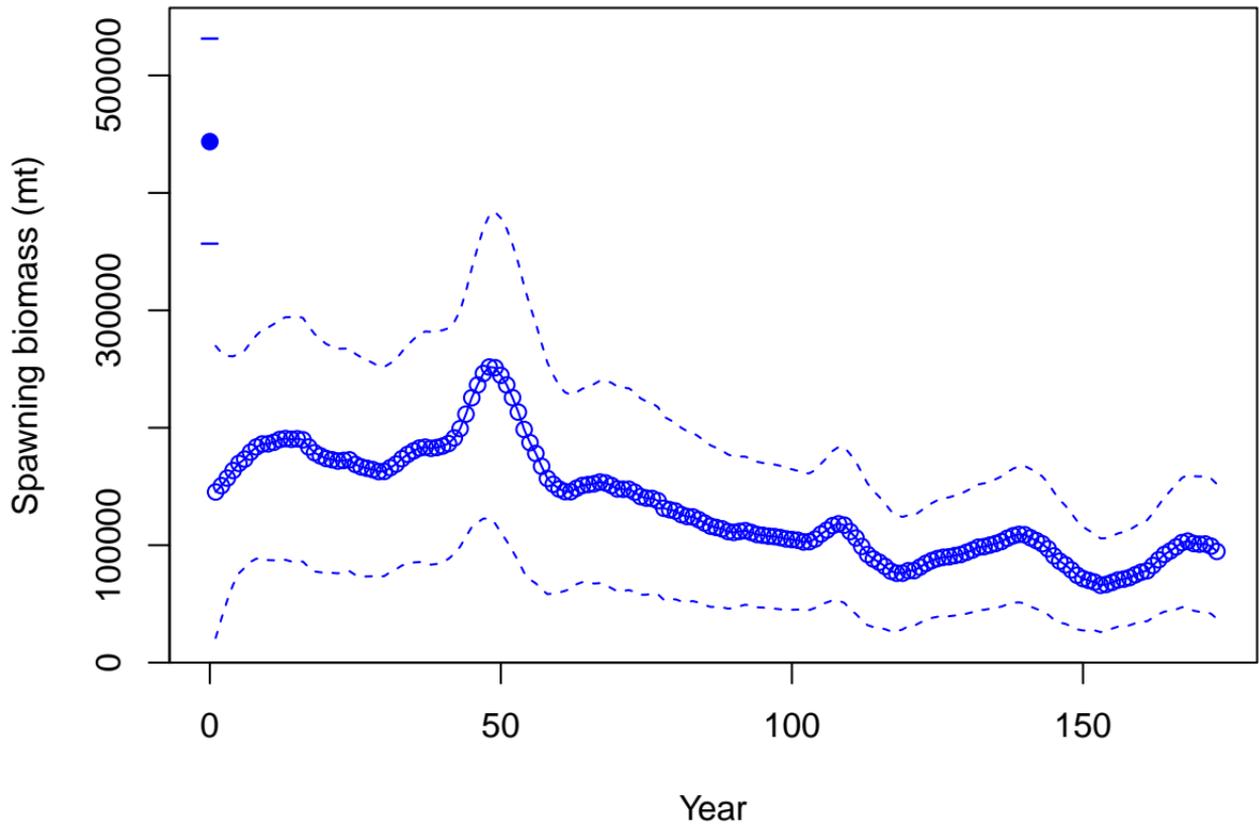
Summary biomass (mt) with forecast



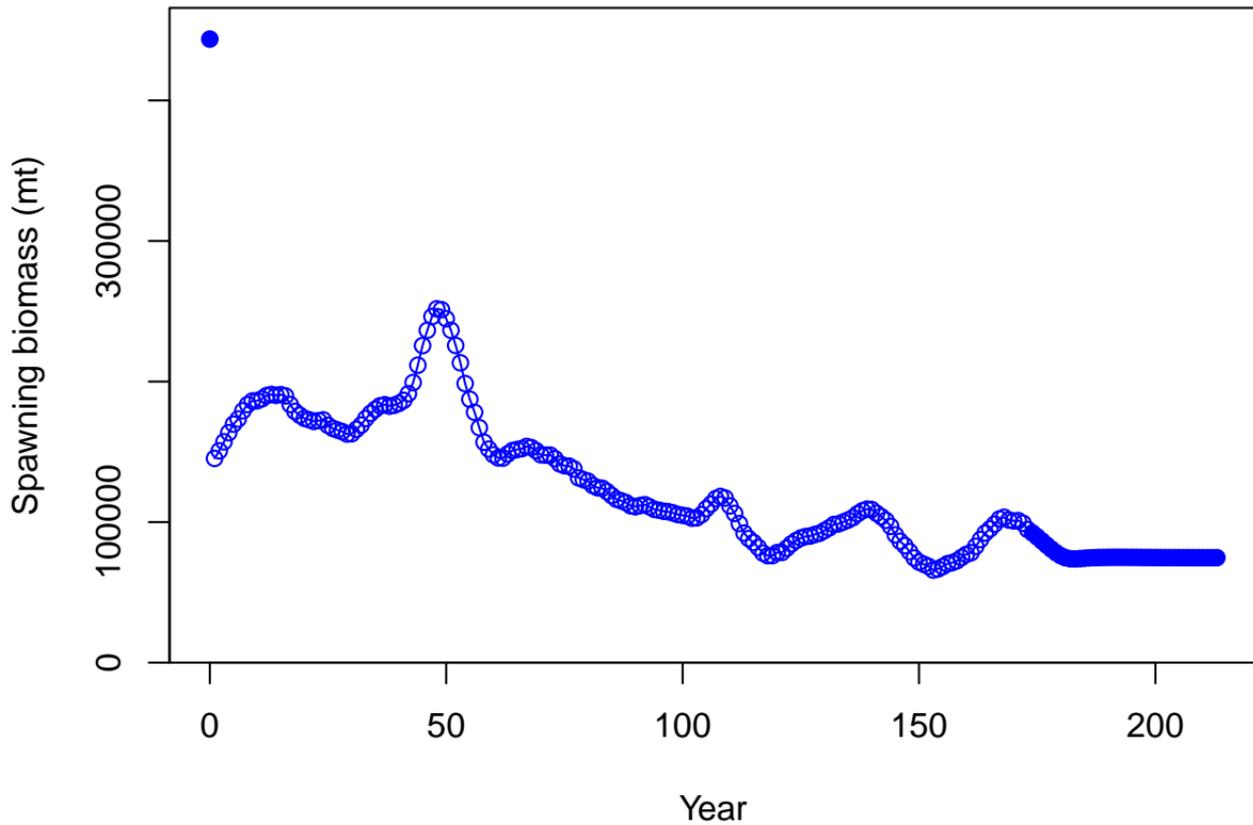
Spawning biomass (mt)



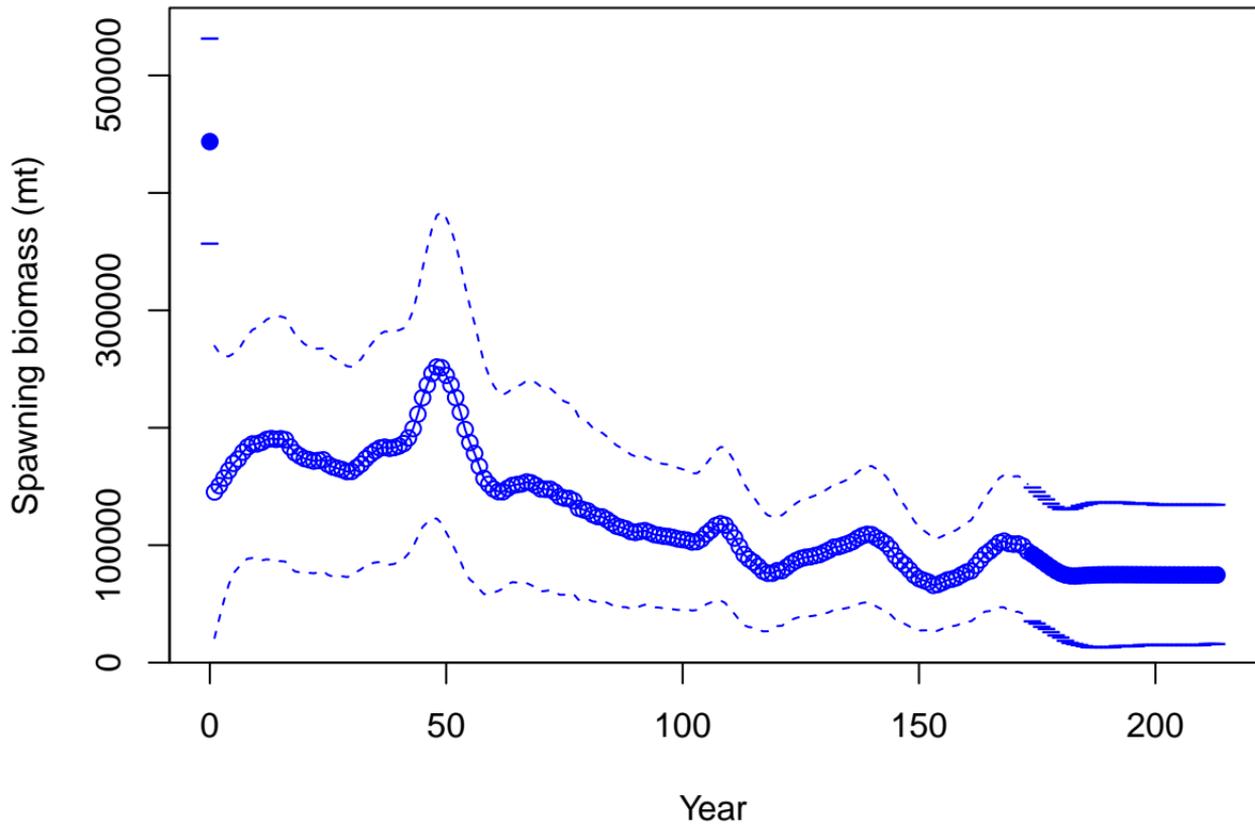
Spawning biomass (mt) with ~95% asymptotic intervals



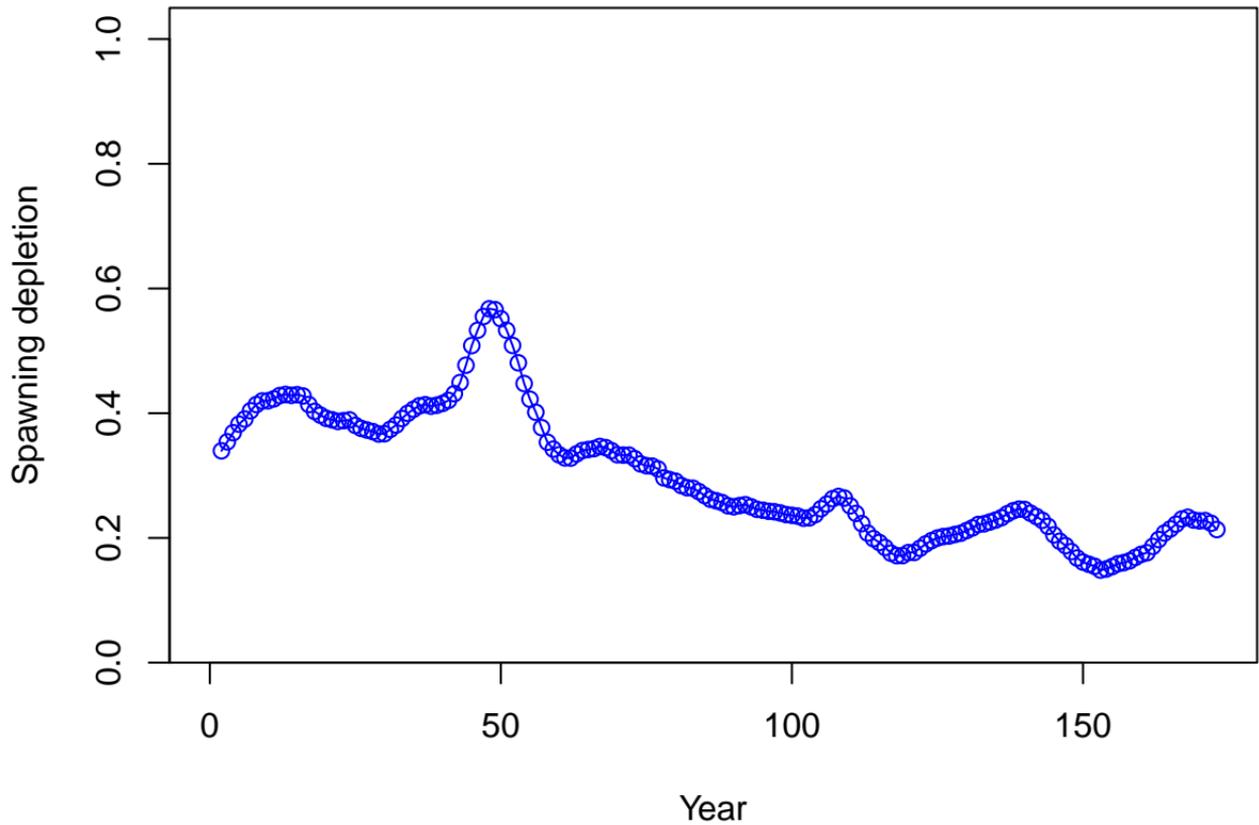
Spawning biomass (mt) with forecast



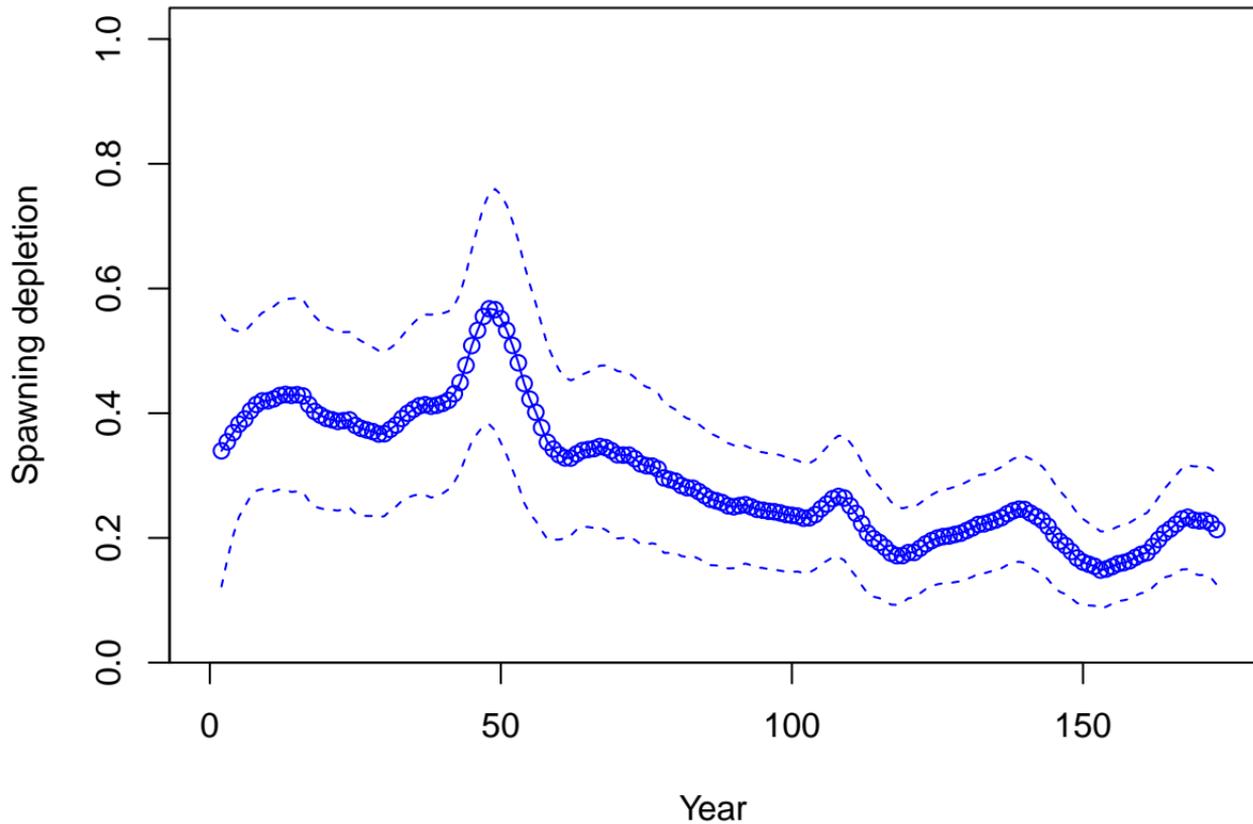
Spawning biomass (mt) with forecast with ~95% asymptotic intervals



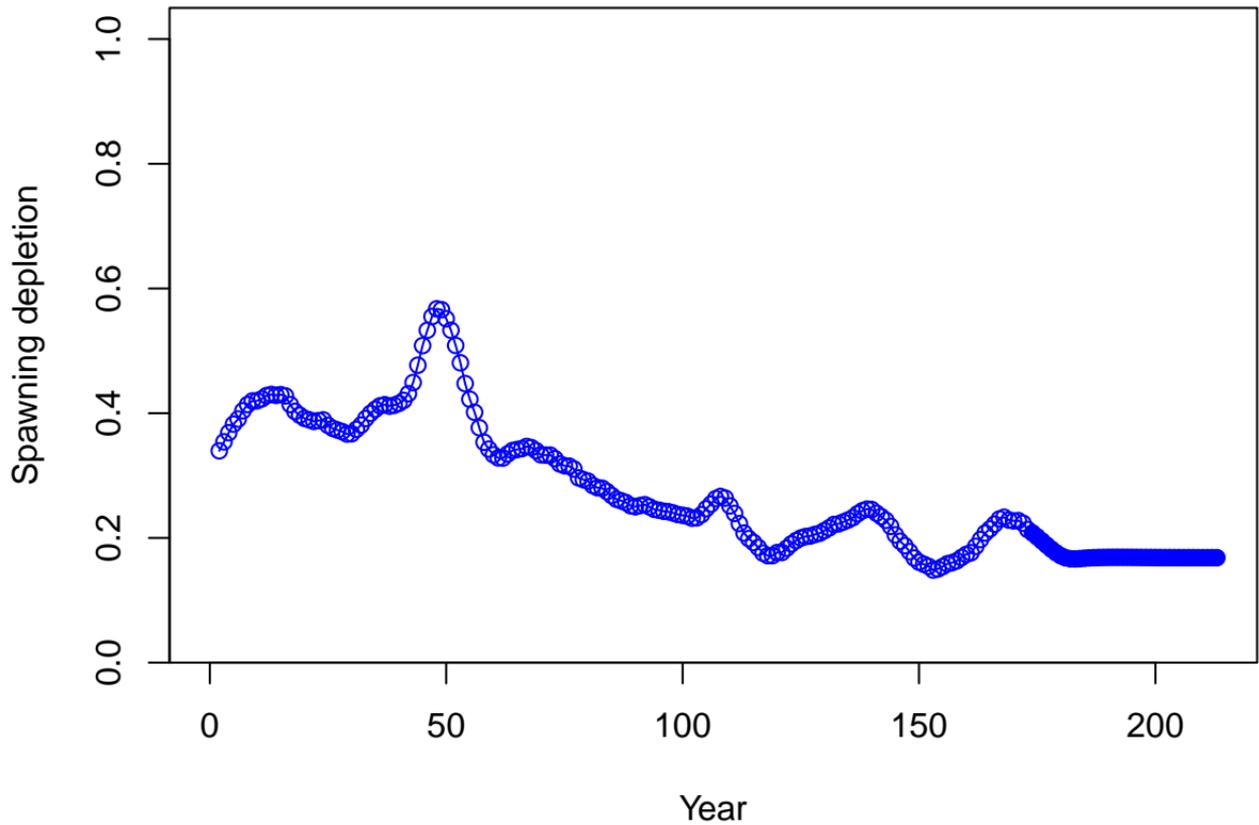
Spawning depletion



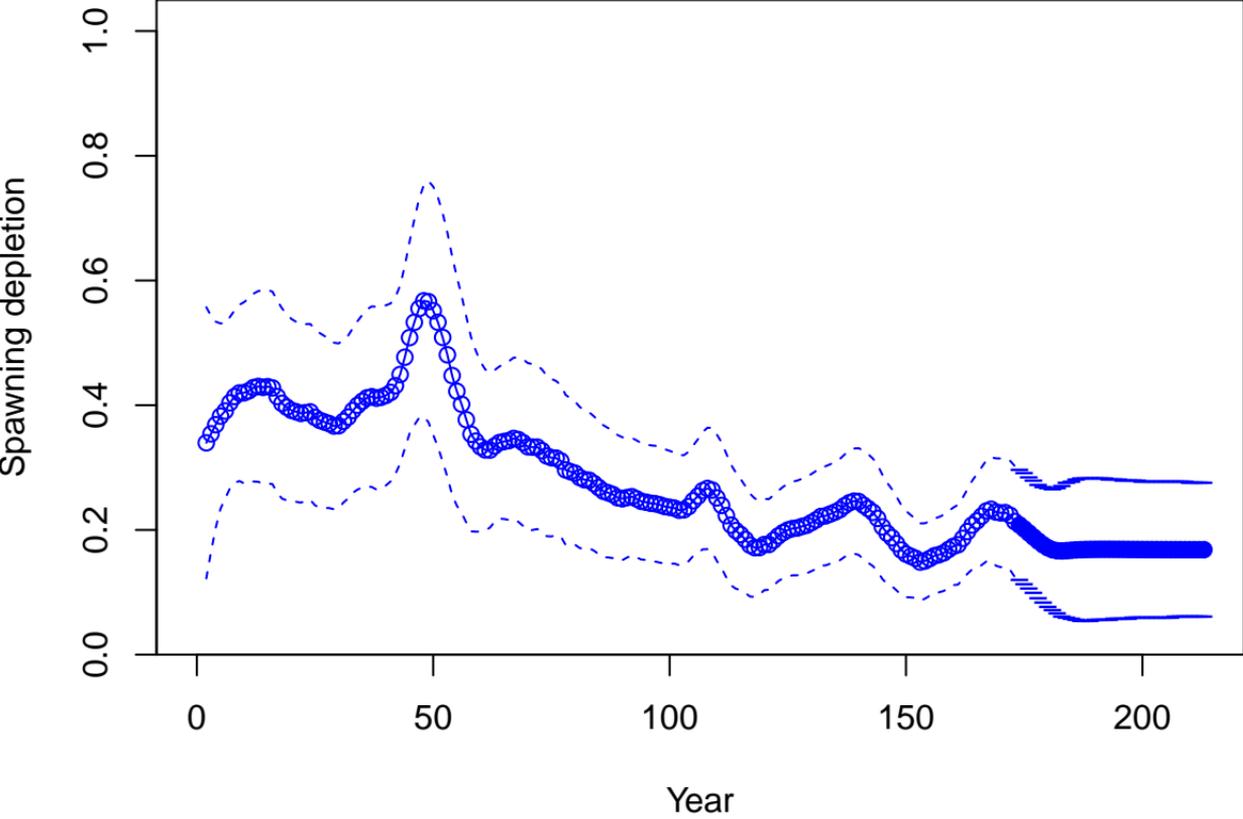
Spawning depletion with ~95% asymptotic intervals



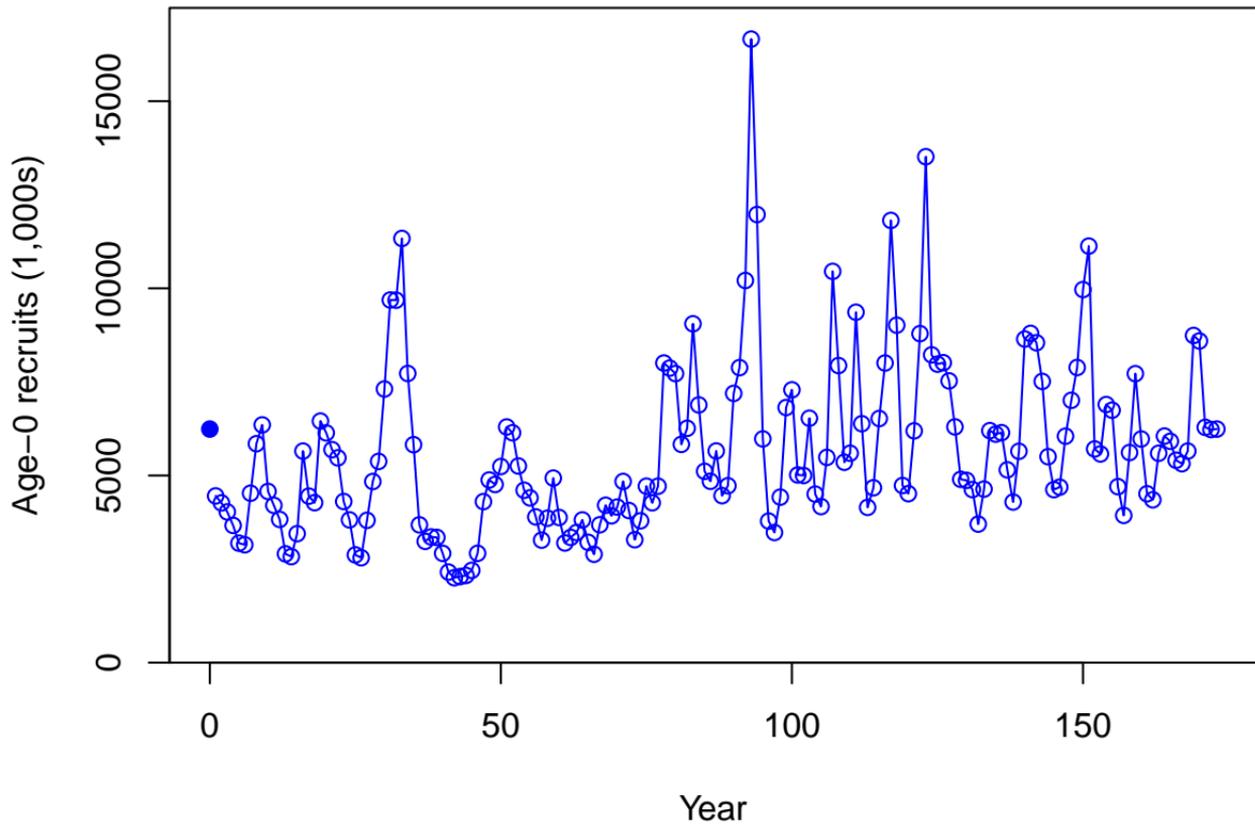
Spawning depletion with forecast



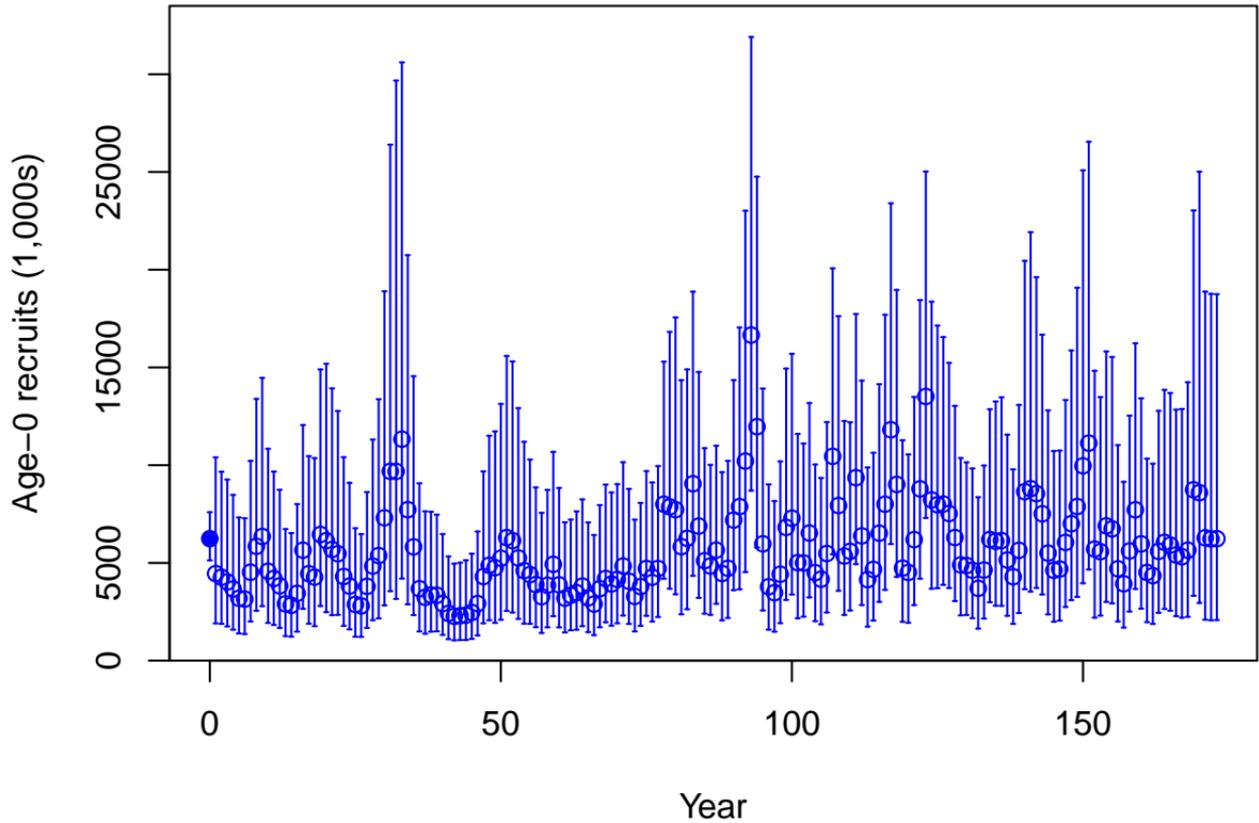
Spawning depletion with forecast with ~95% asymptotic intervals



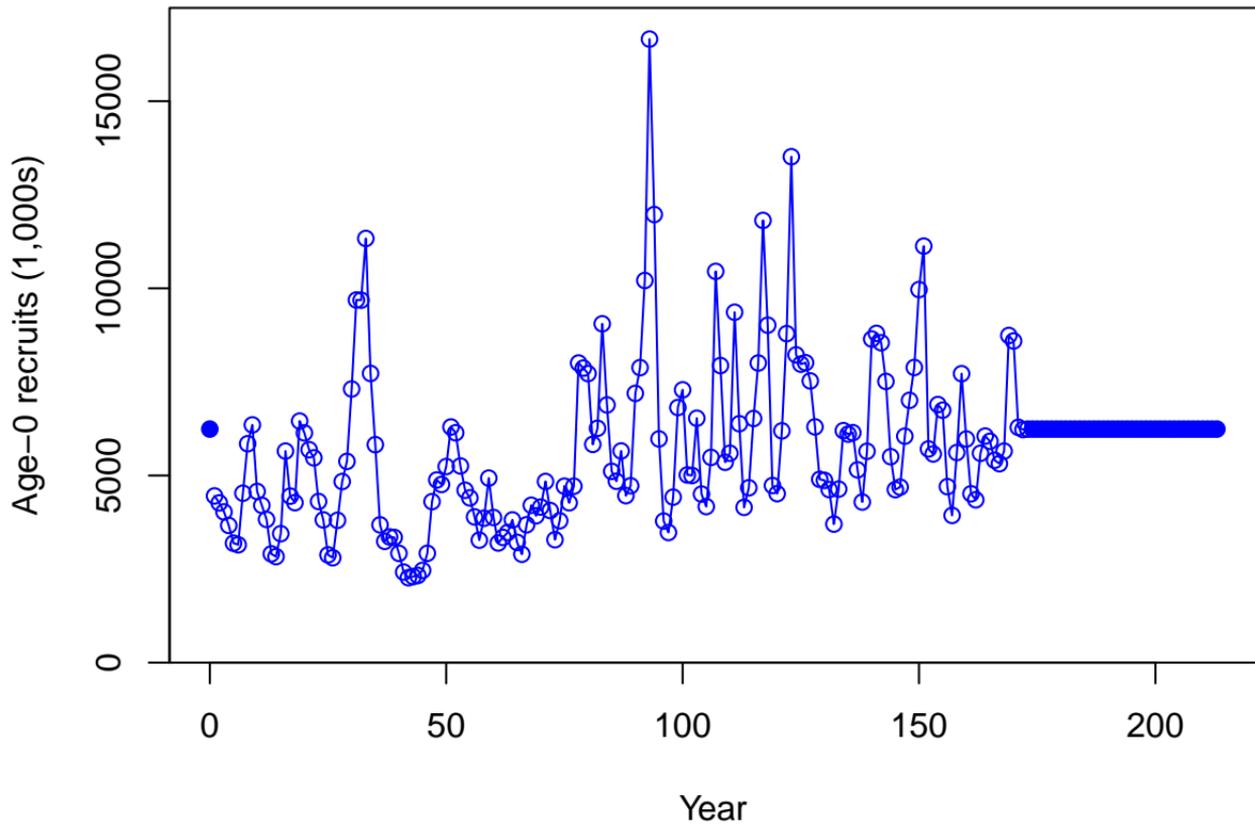
Age-0 recruits (1,000s)



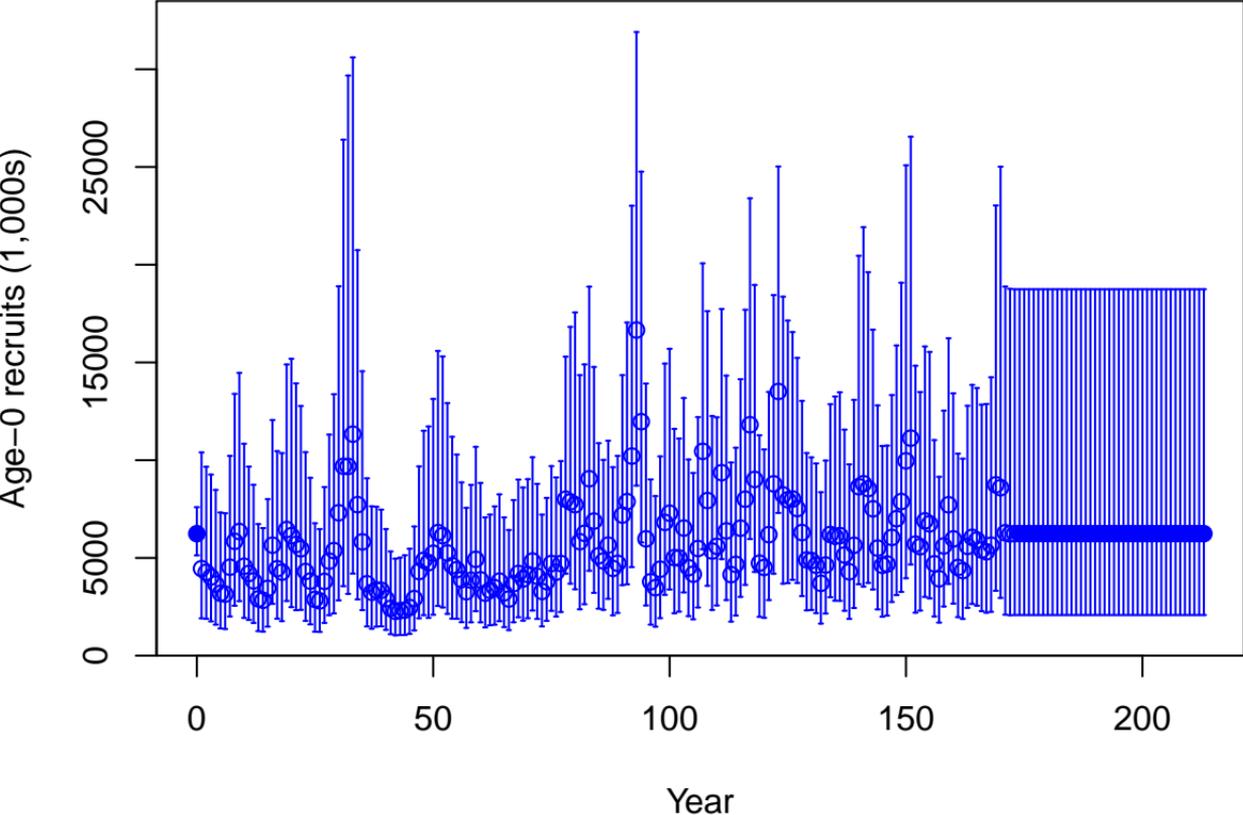
Age-0 recruits (1,000s) with ~95% asymptotic intervals



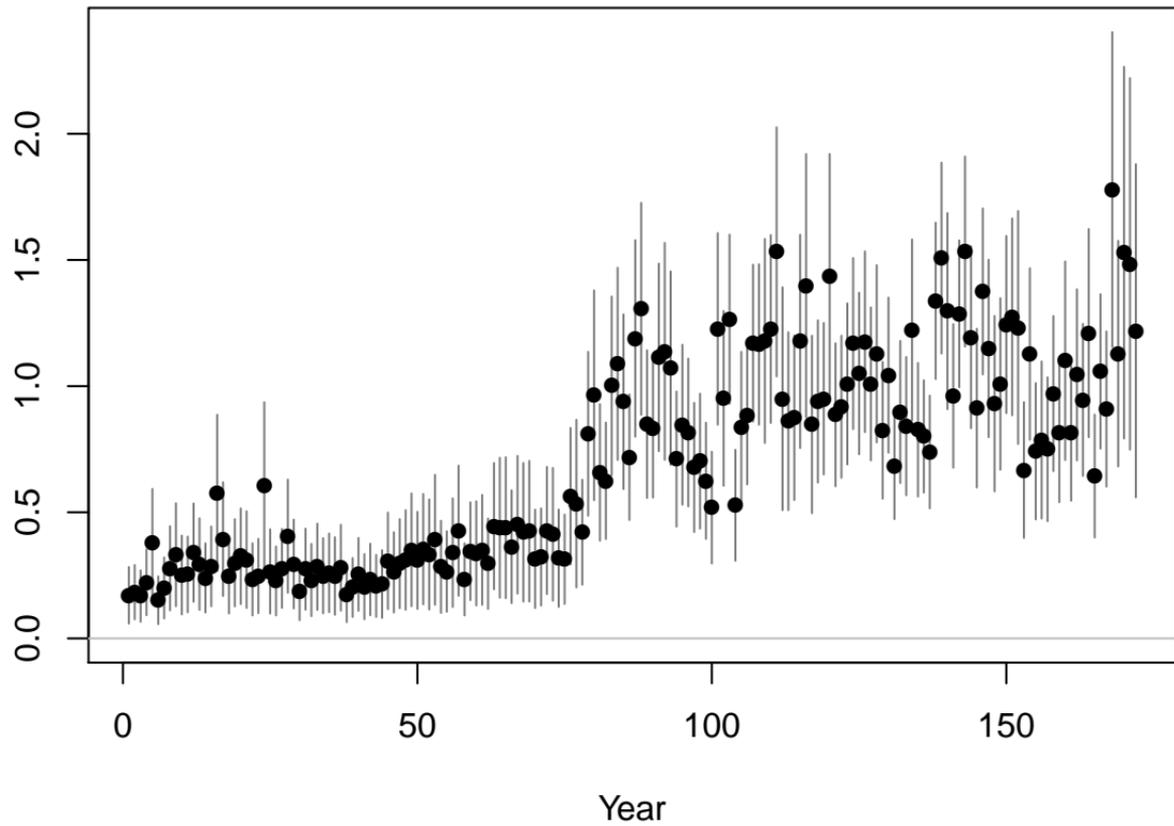
Age-0 recruits (1,000s) with forecast

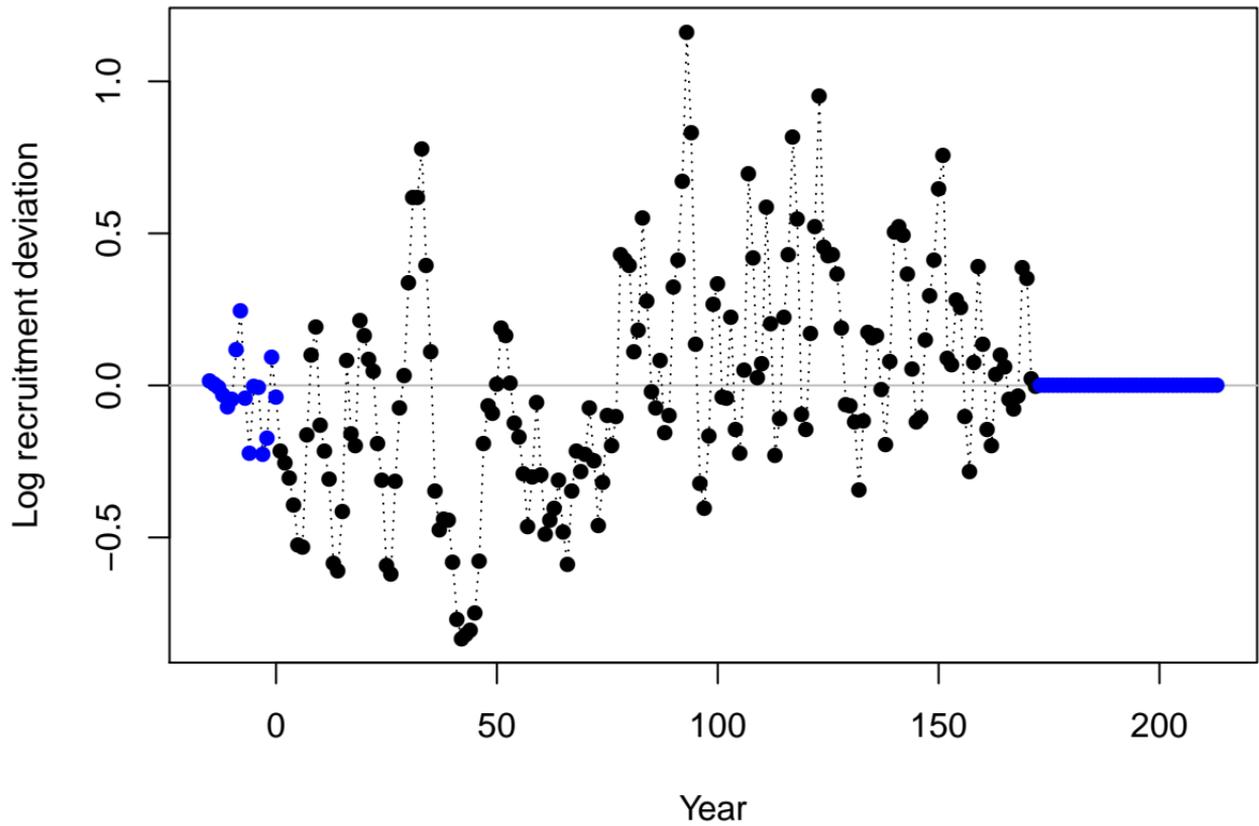


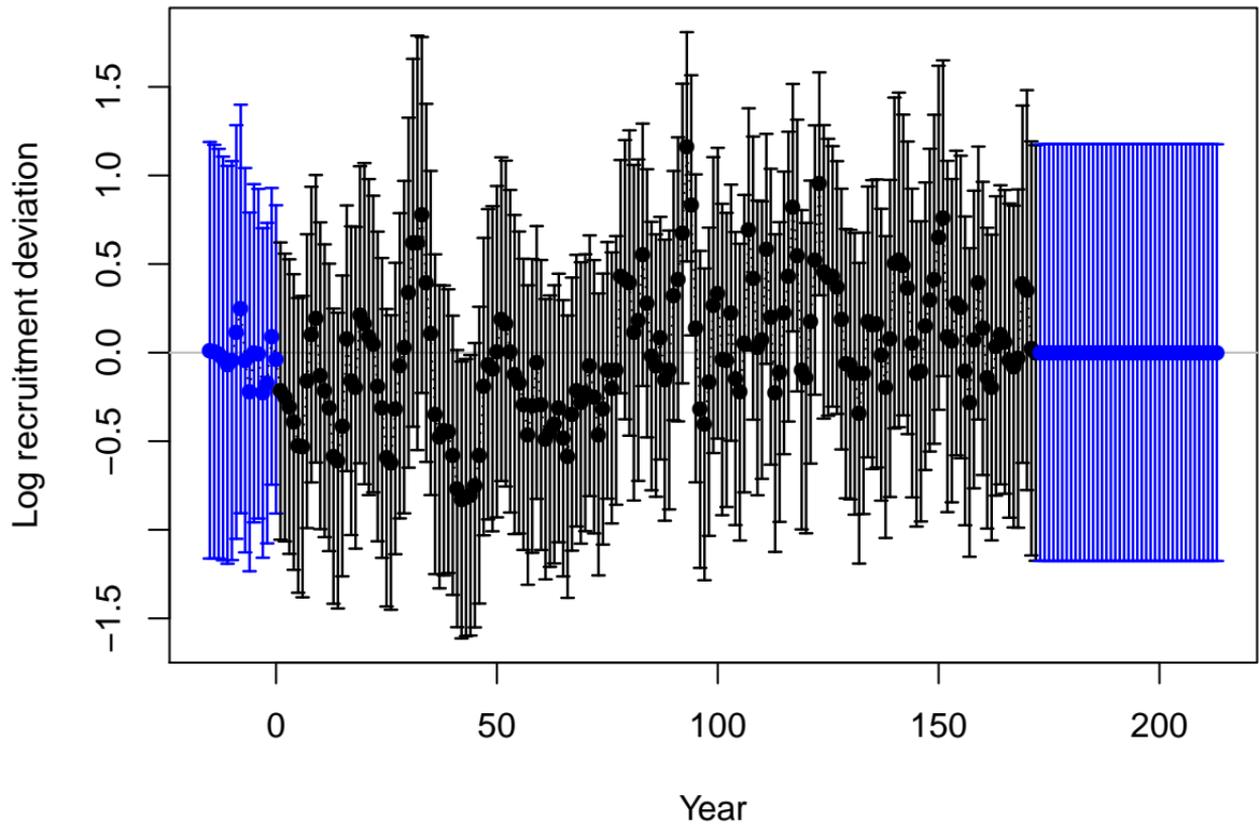
Age-0 recruits (1,000s) with forecast with ~95% asymptotic intervals



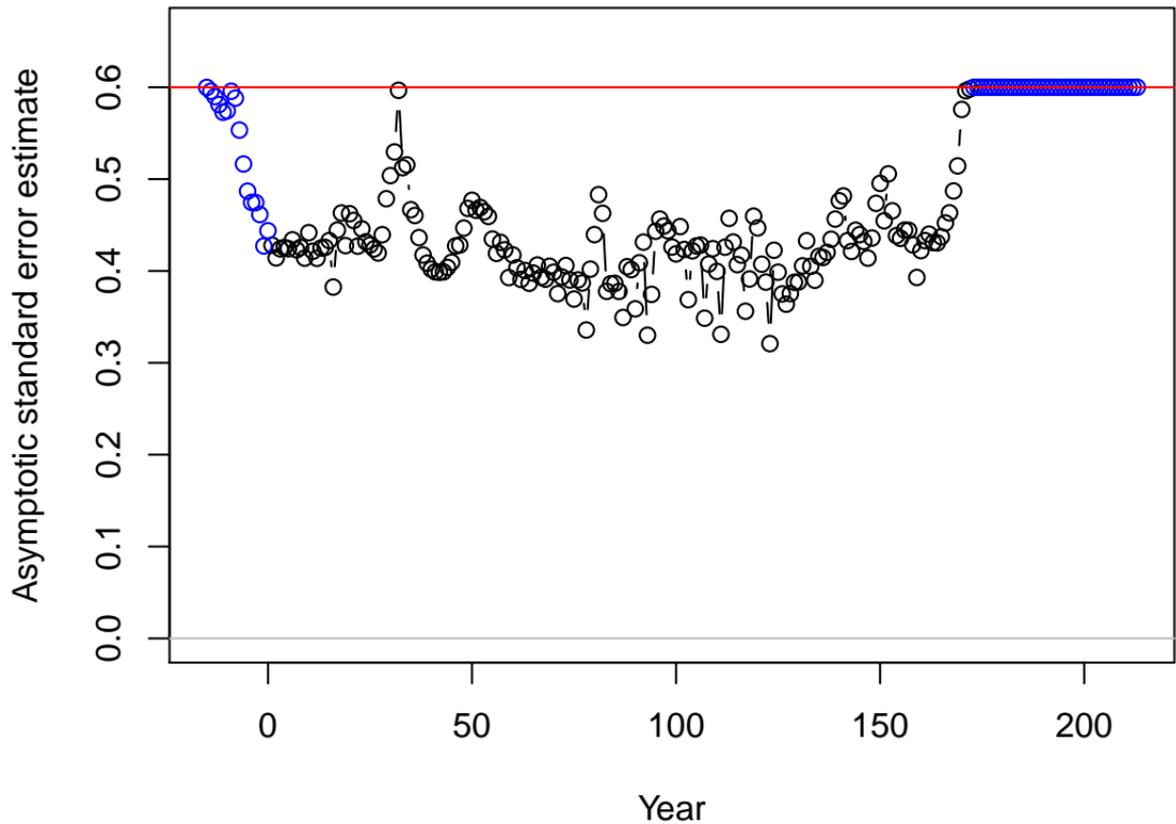
Summary Fishing Mortality

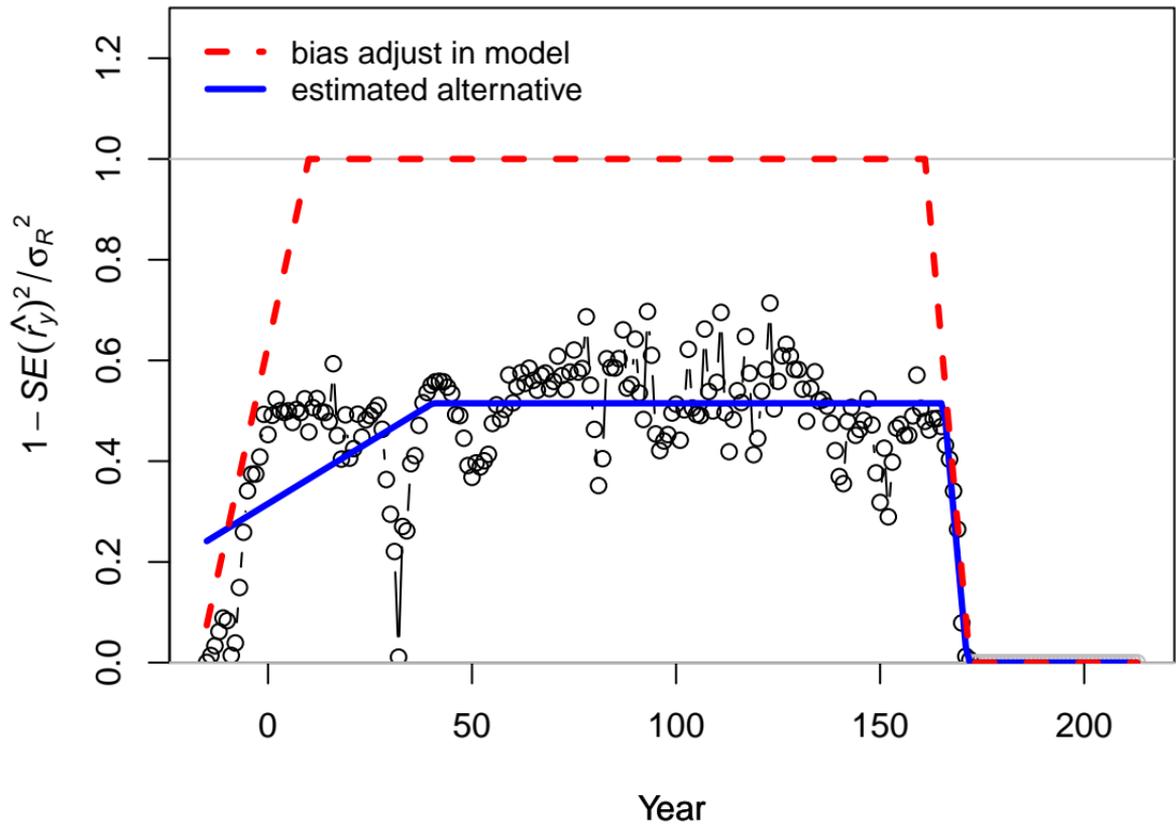


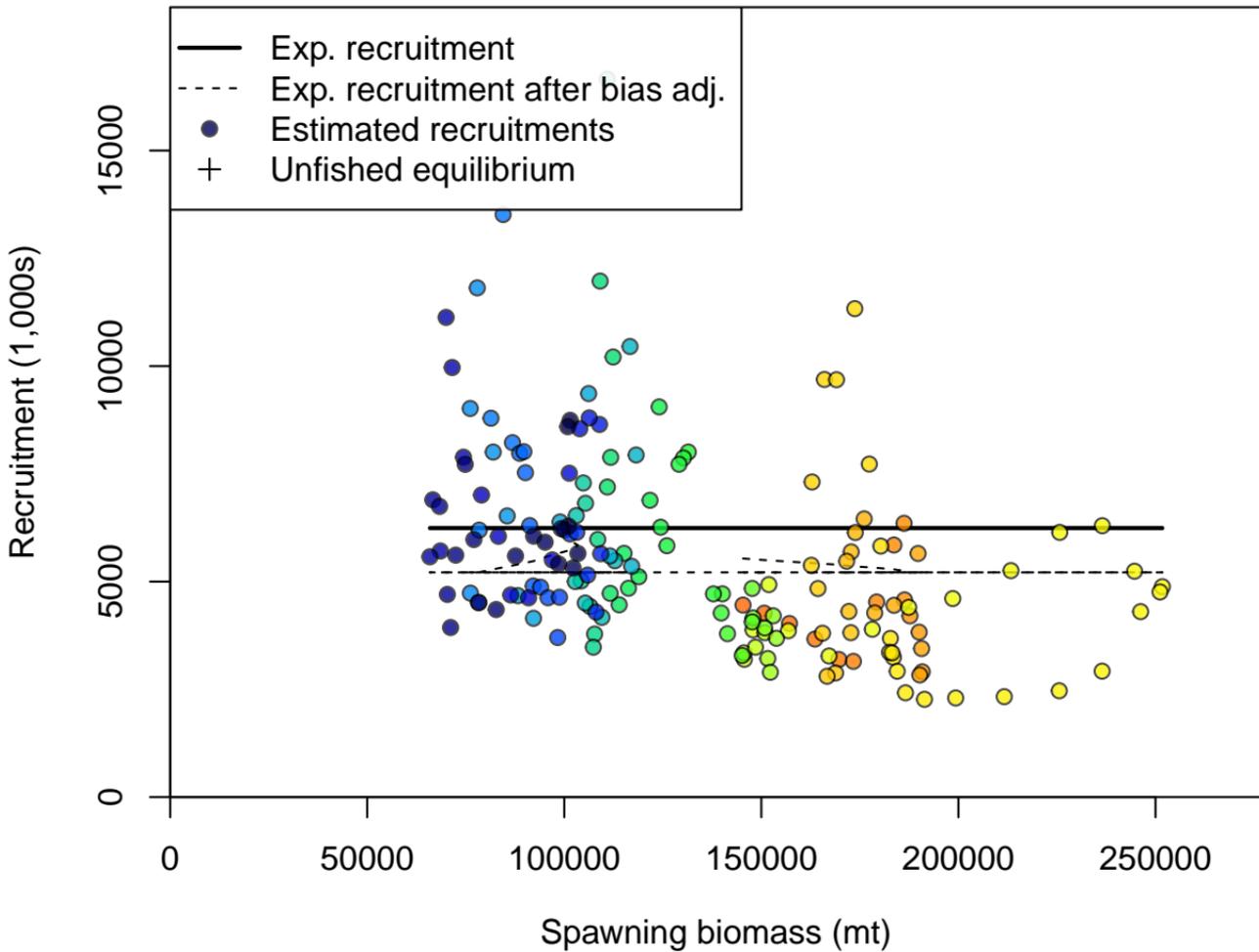


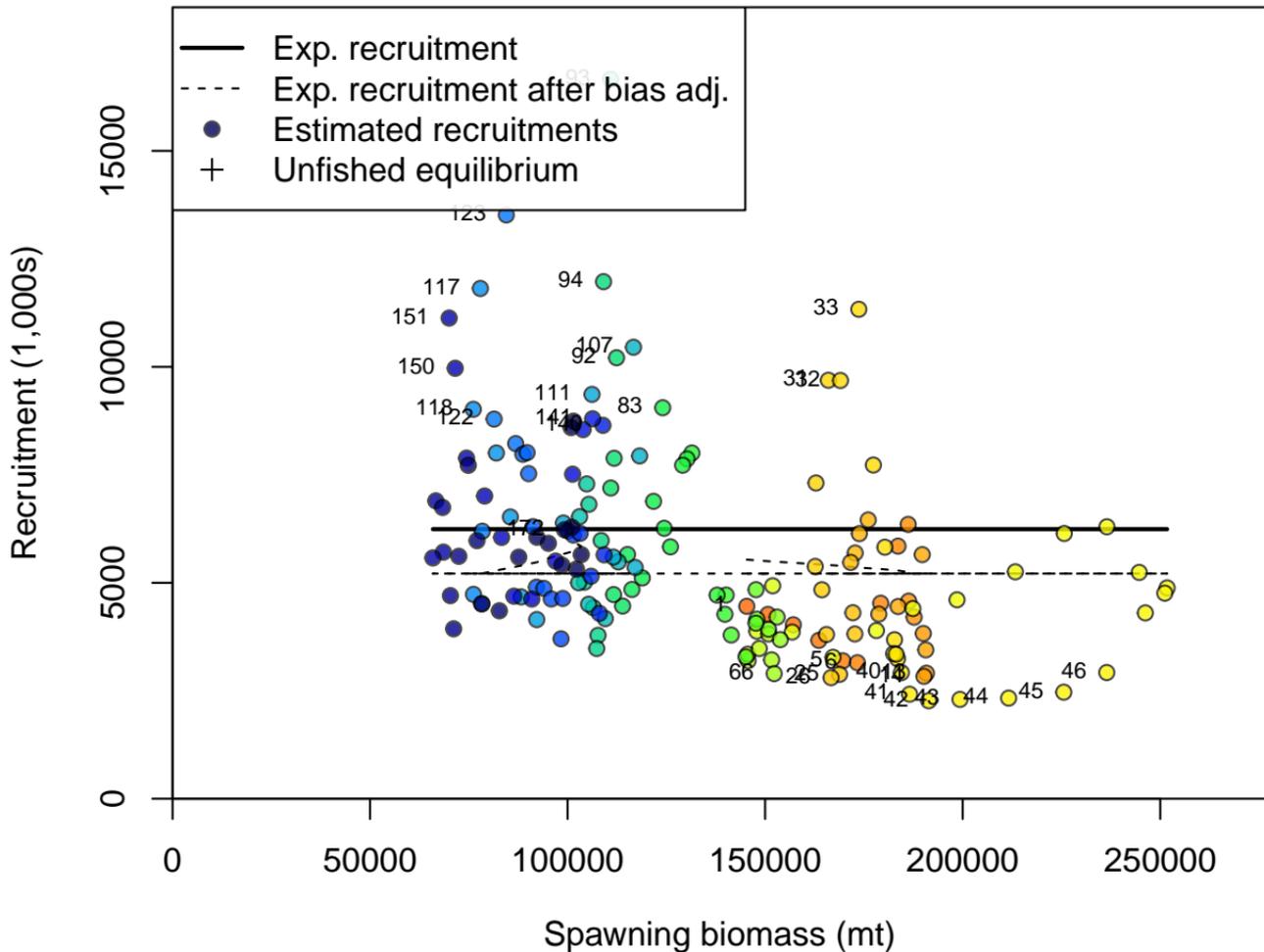


Recruitment deviation variance

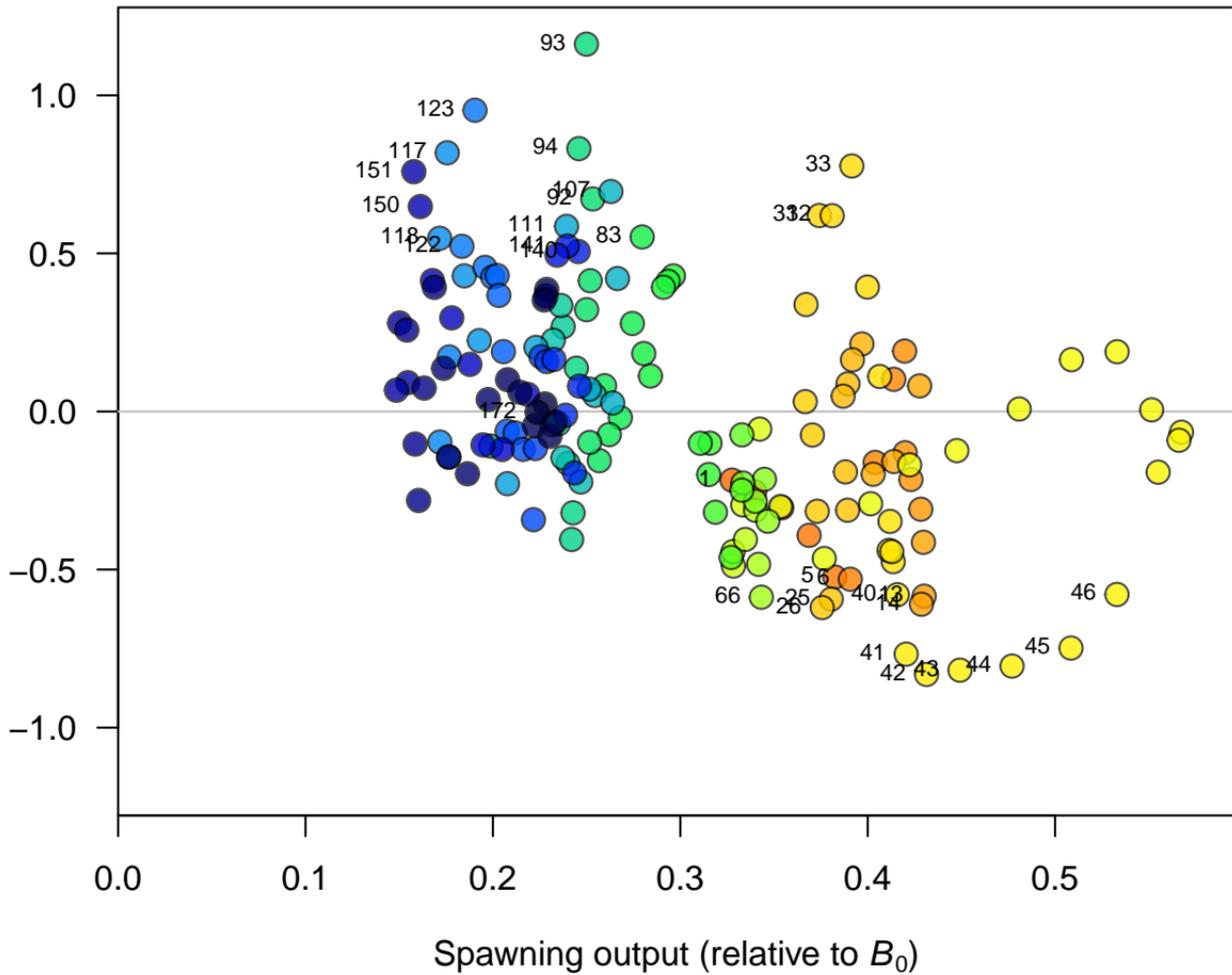


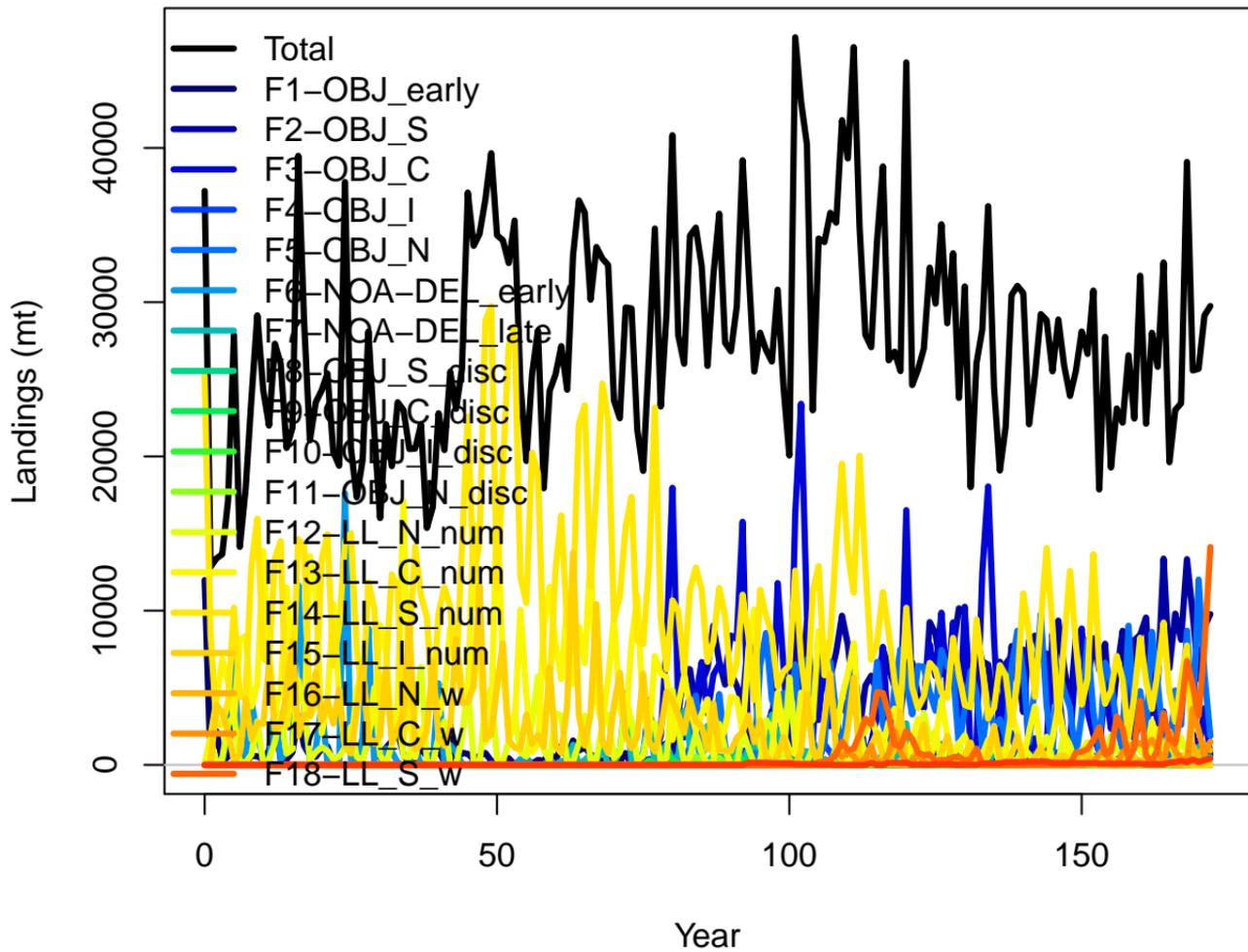


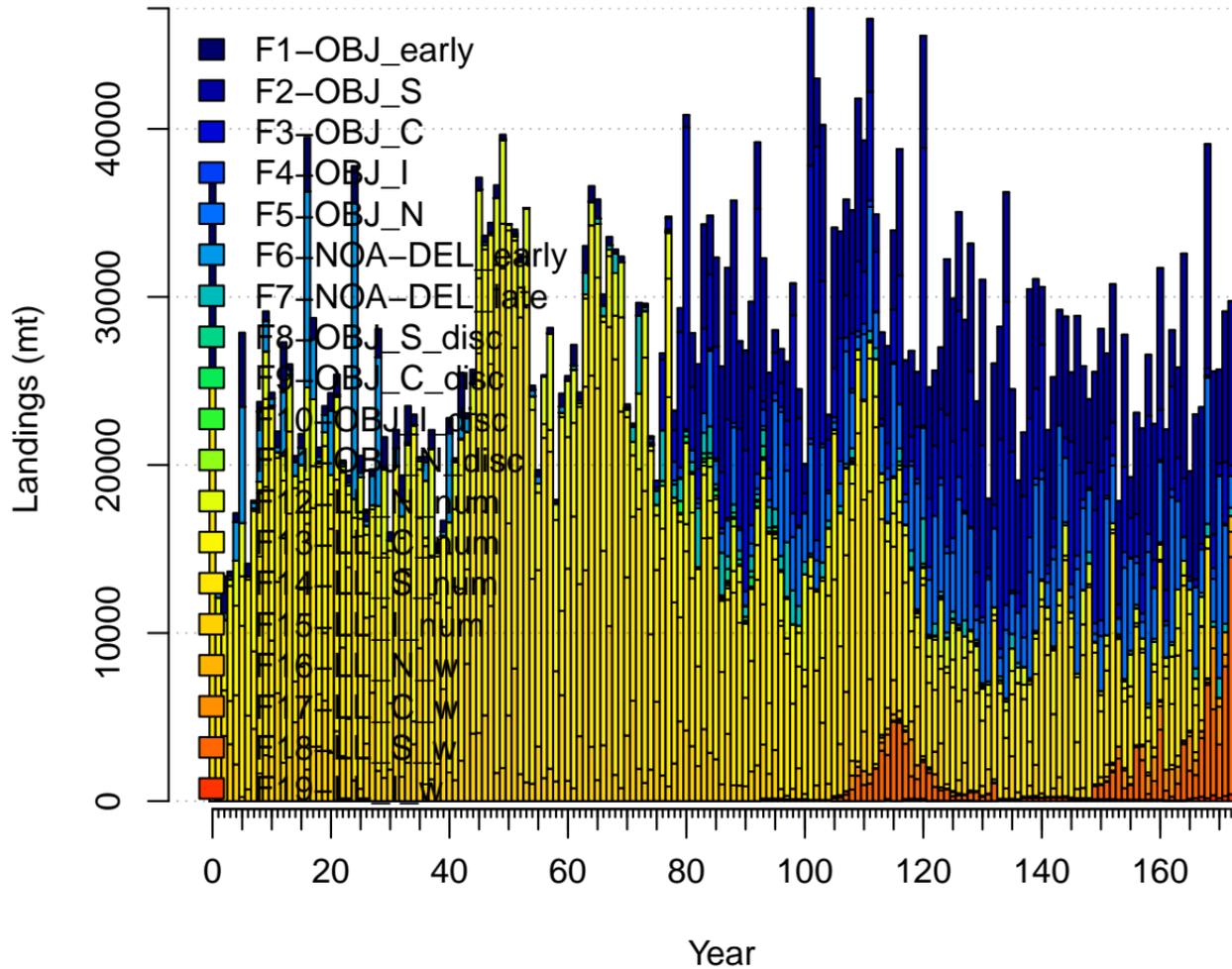




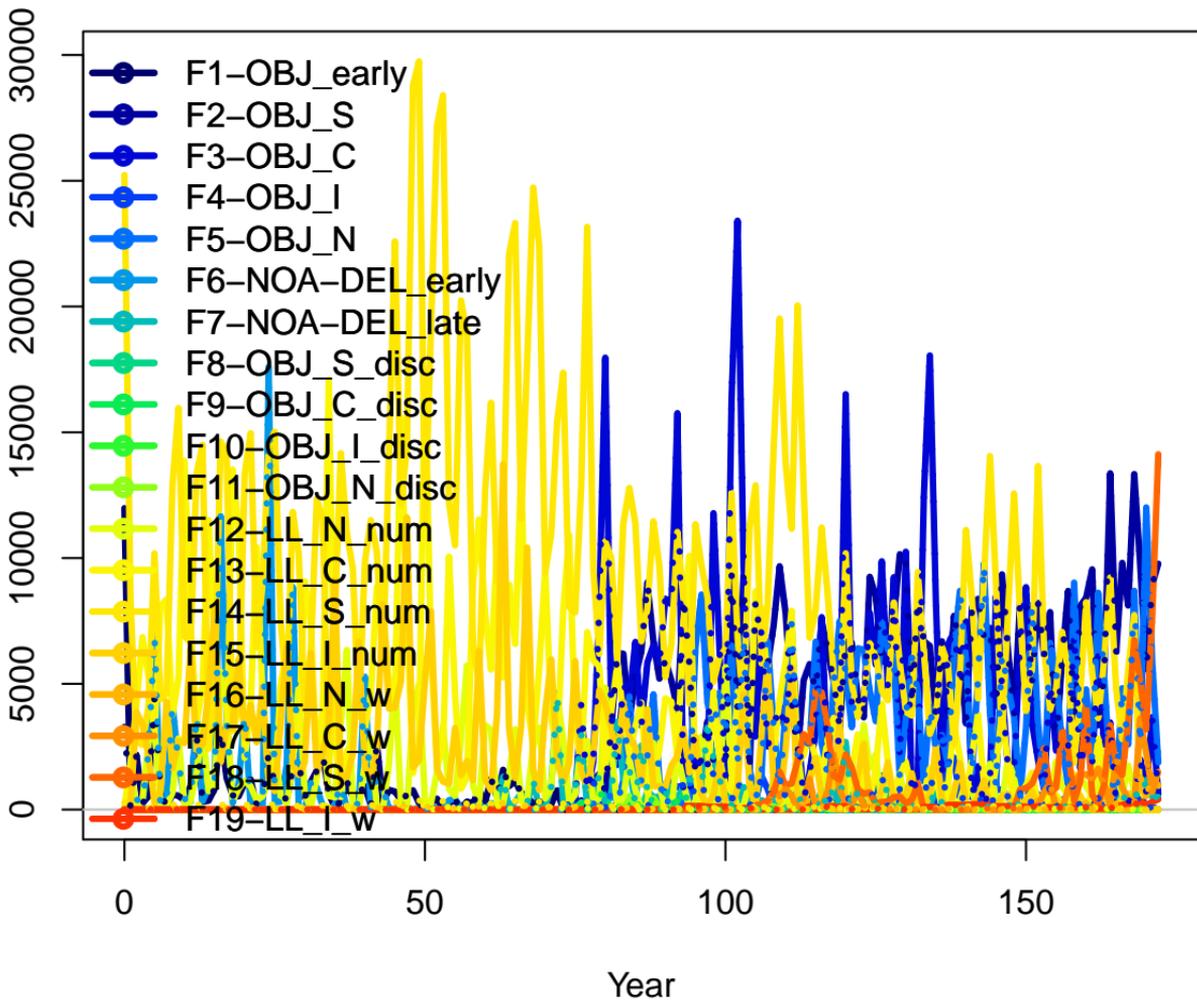
Log recruitment deviation



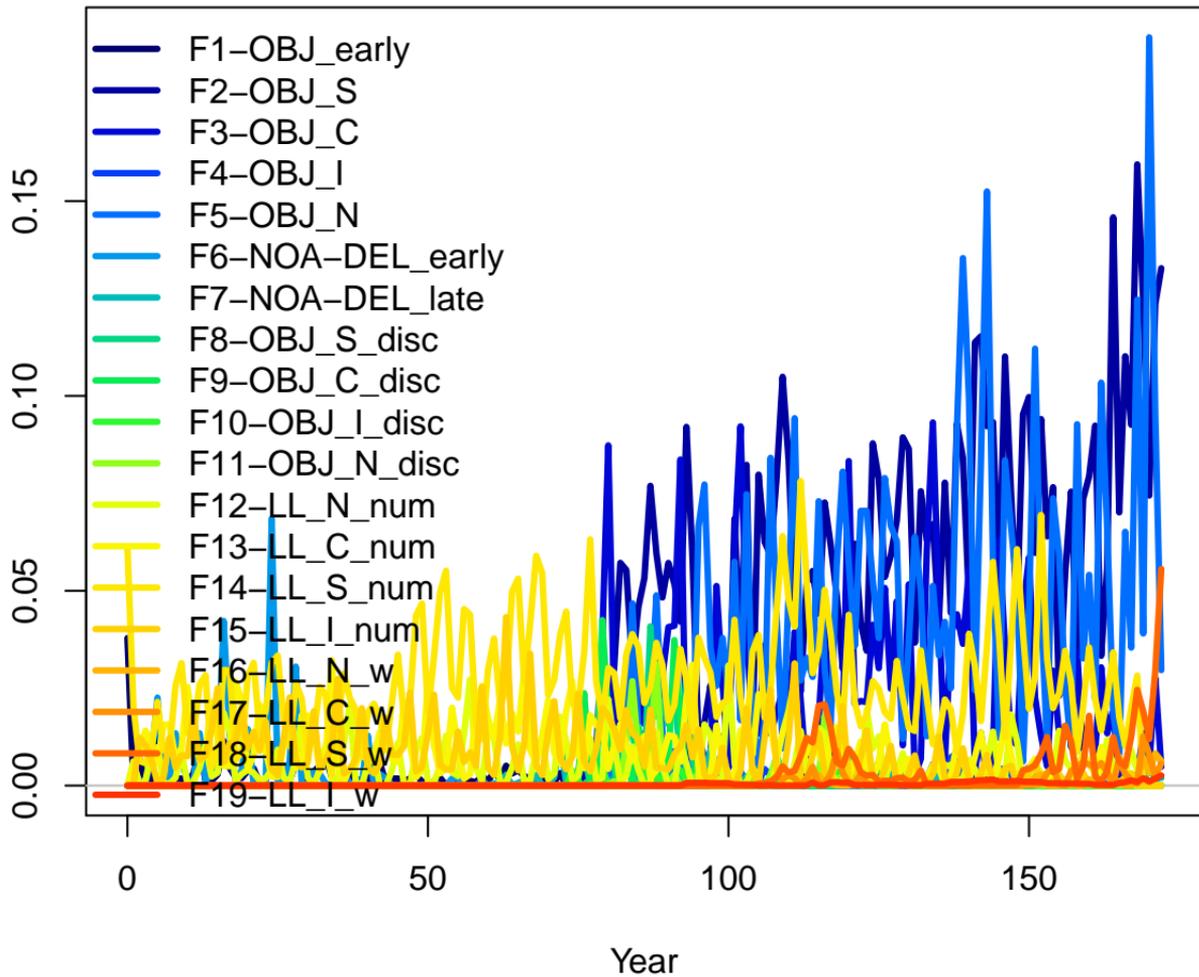




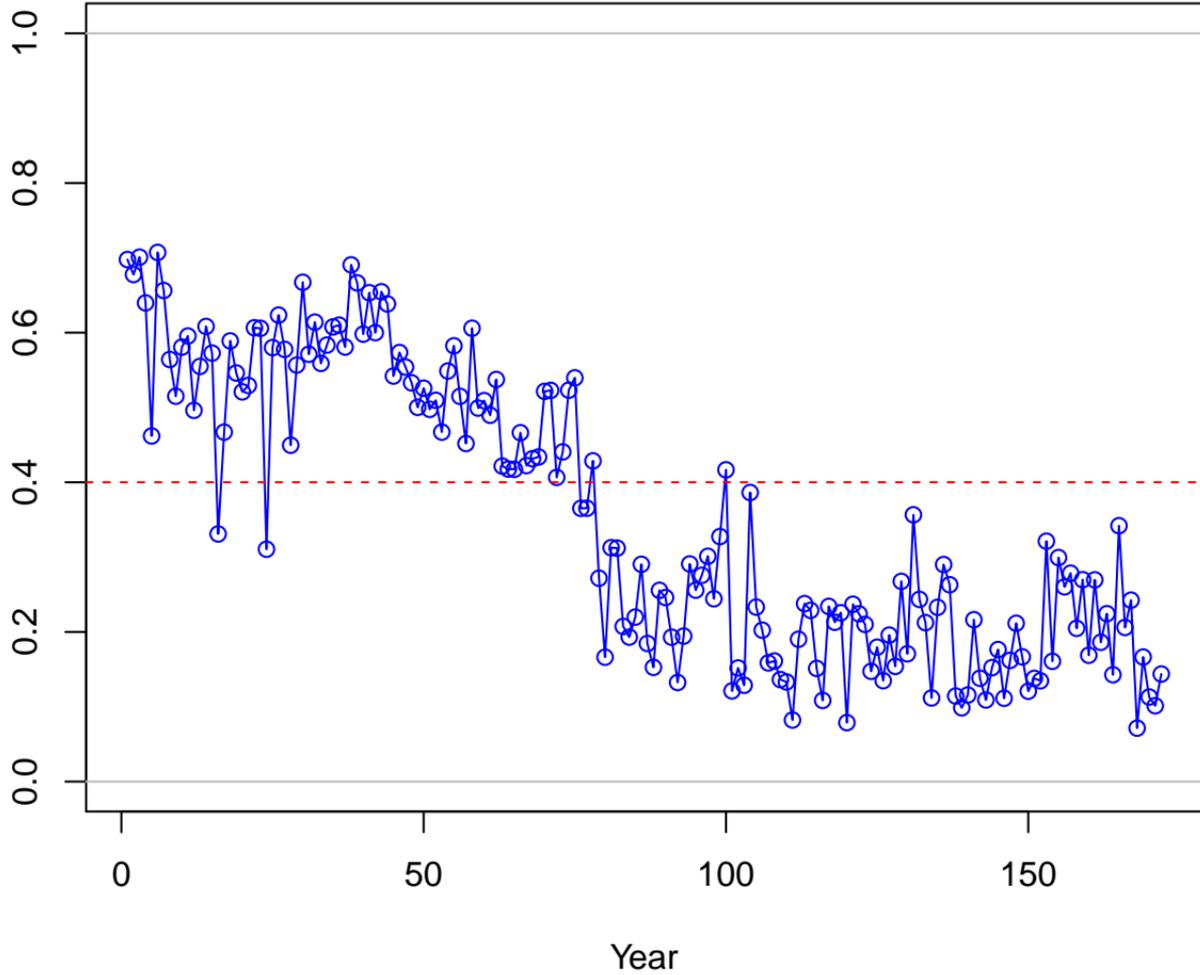
Observed and expected Landings (mt)



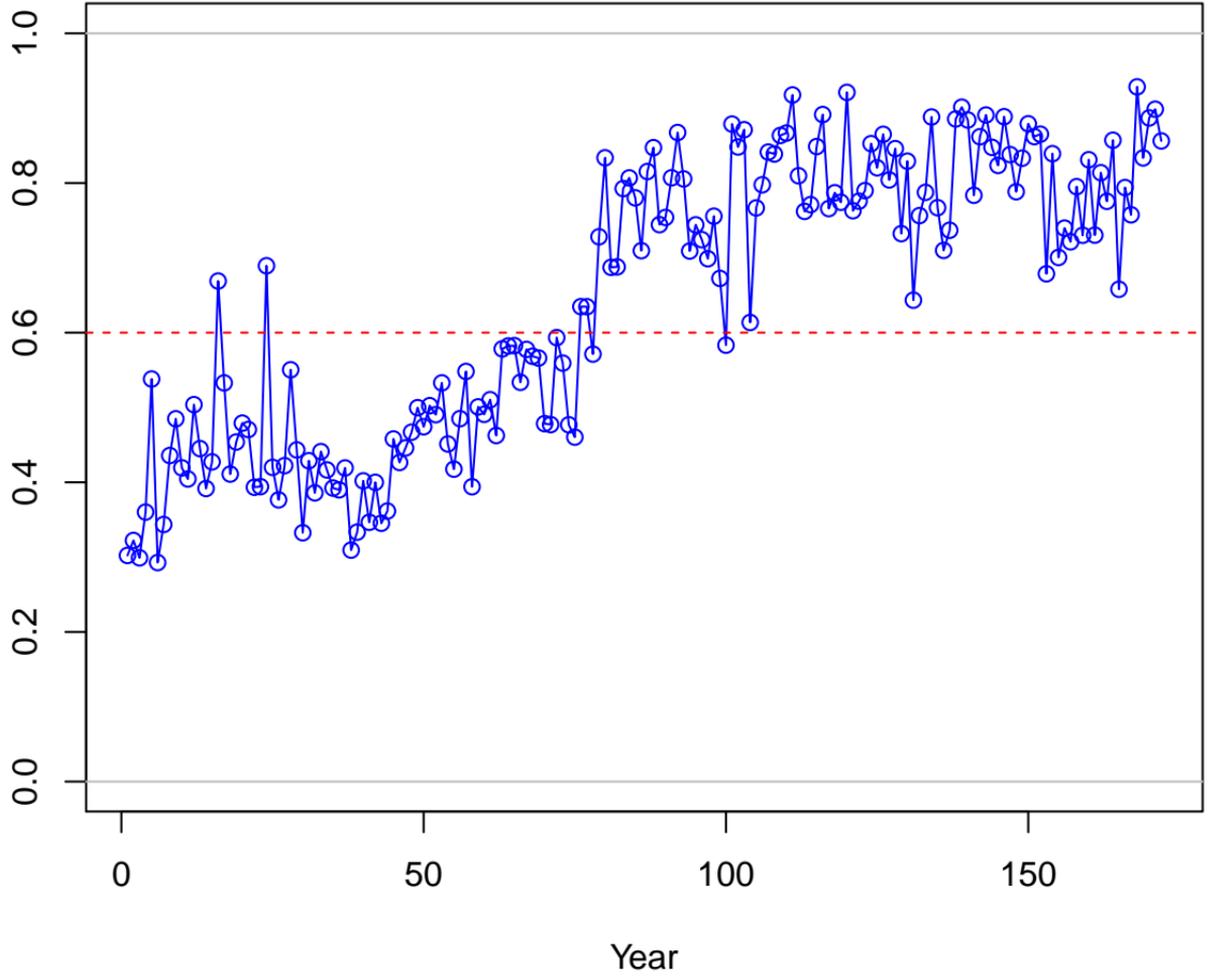
Continuous F

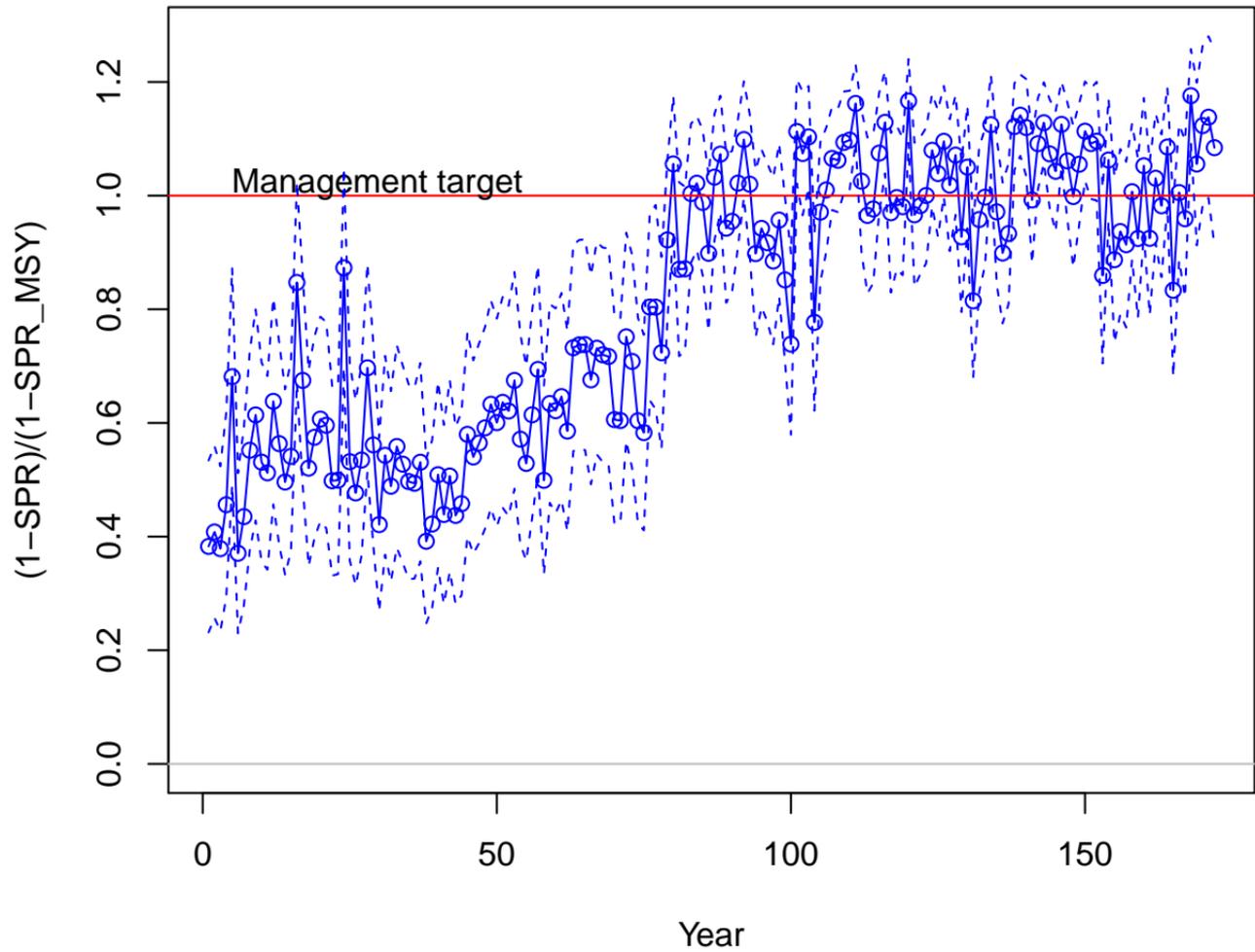


SPR

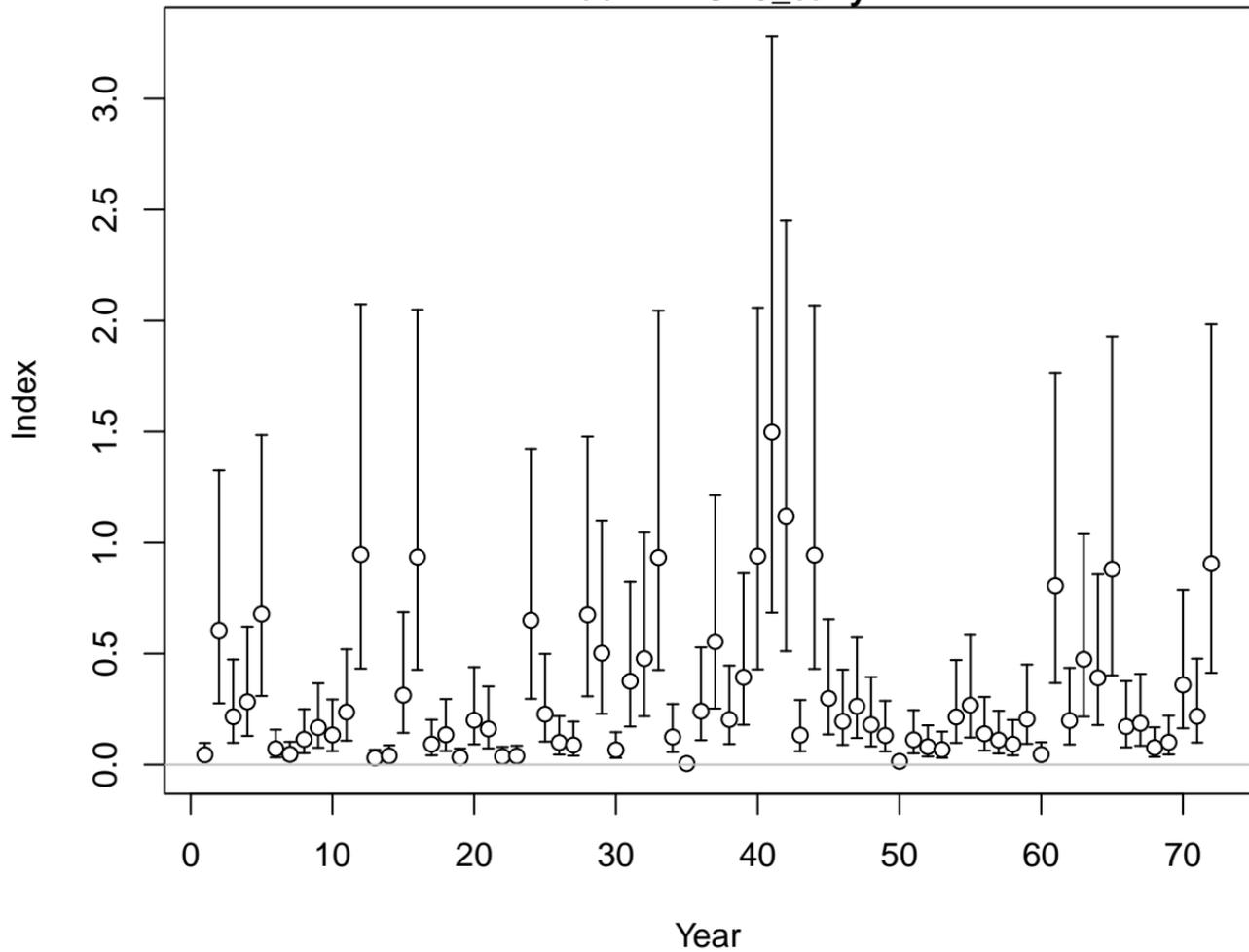


1-SPR

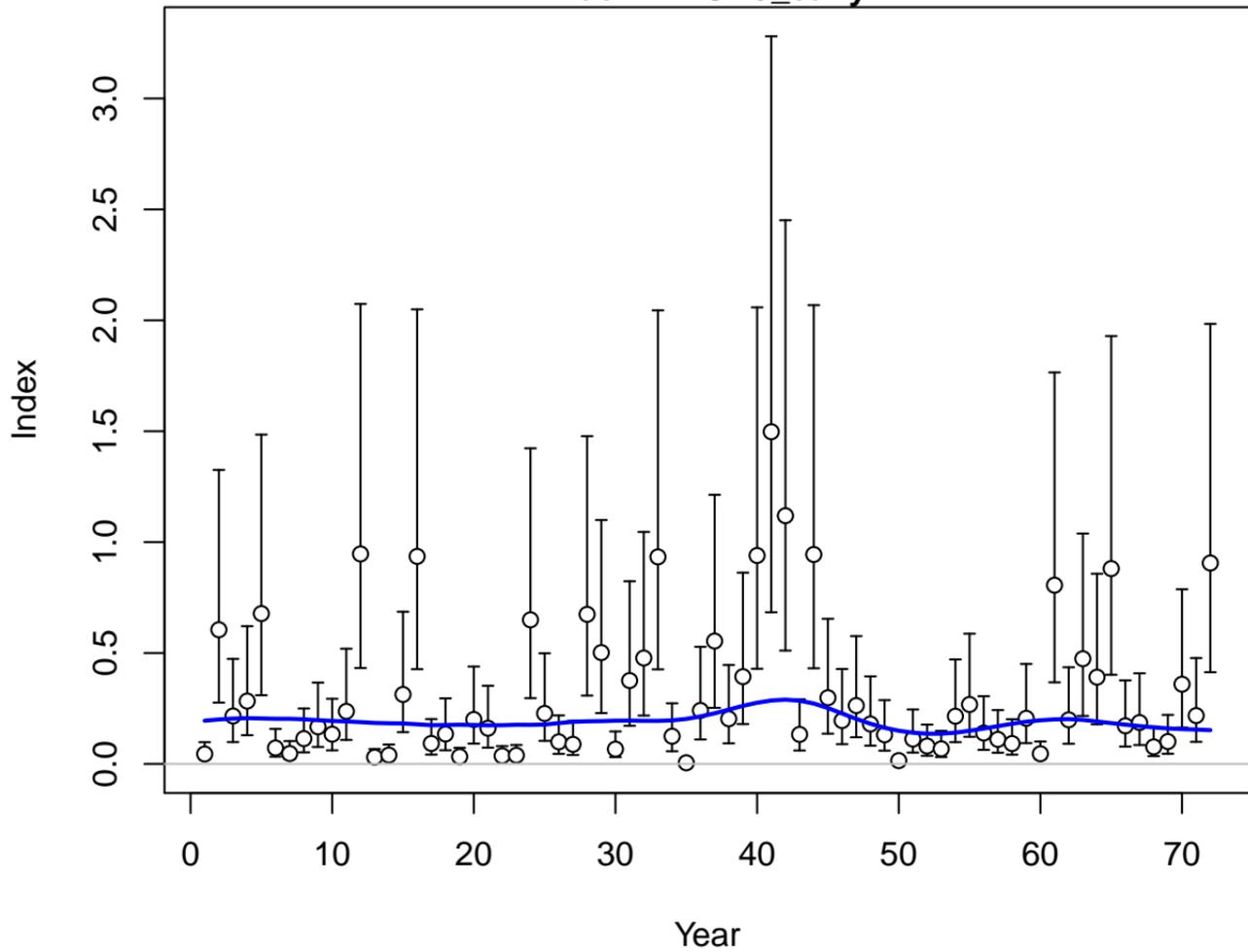




Index F1-OBJ_early

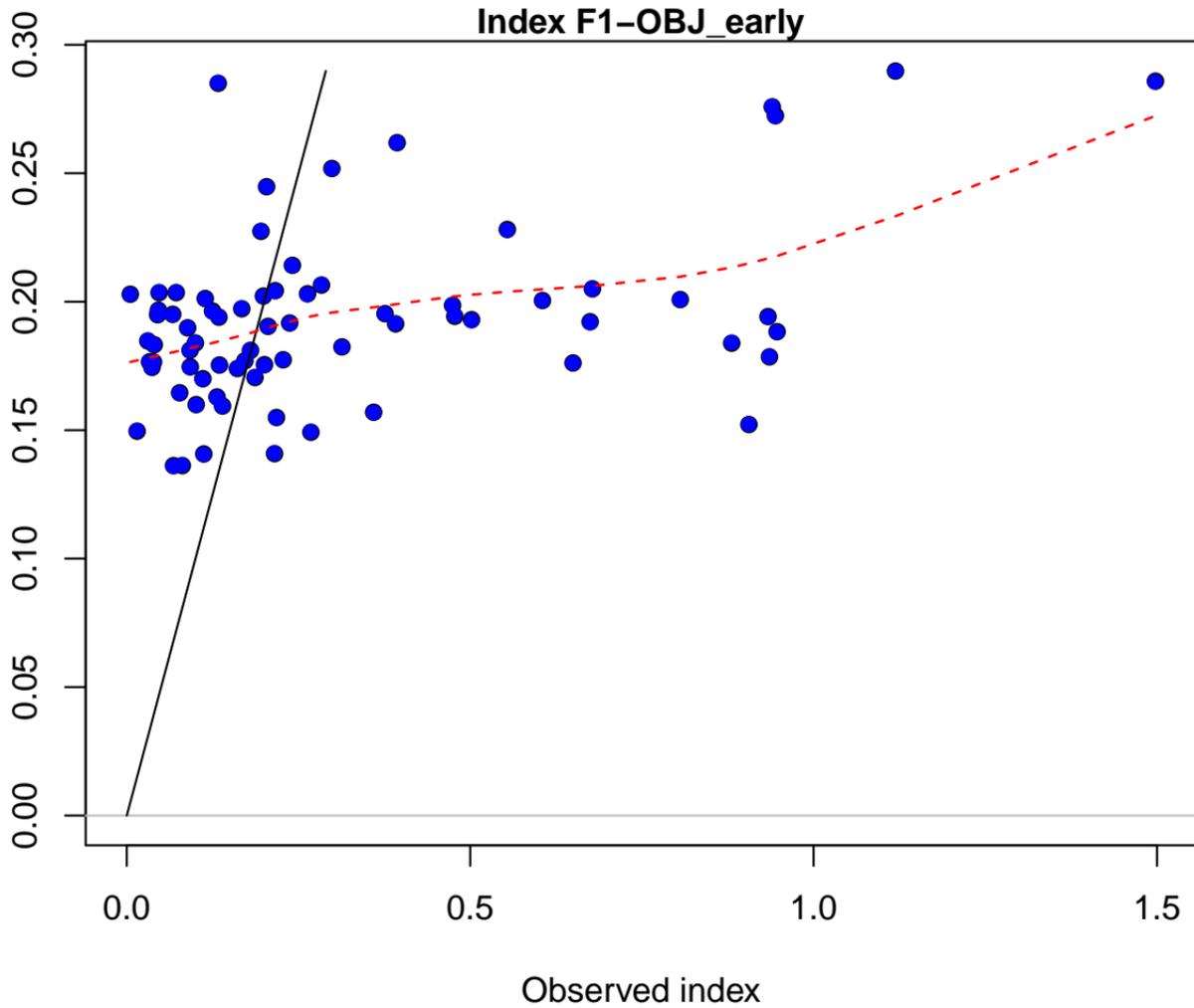


Index F1-OBJ_early



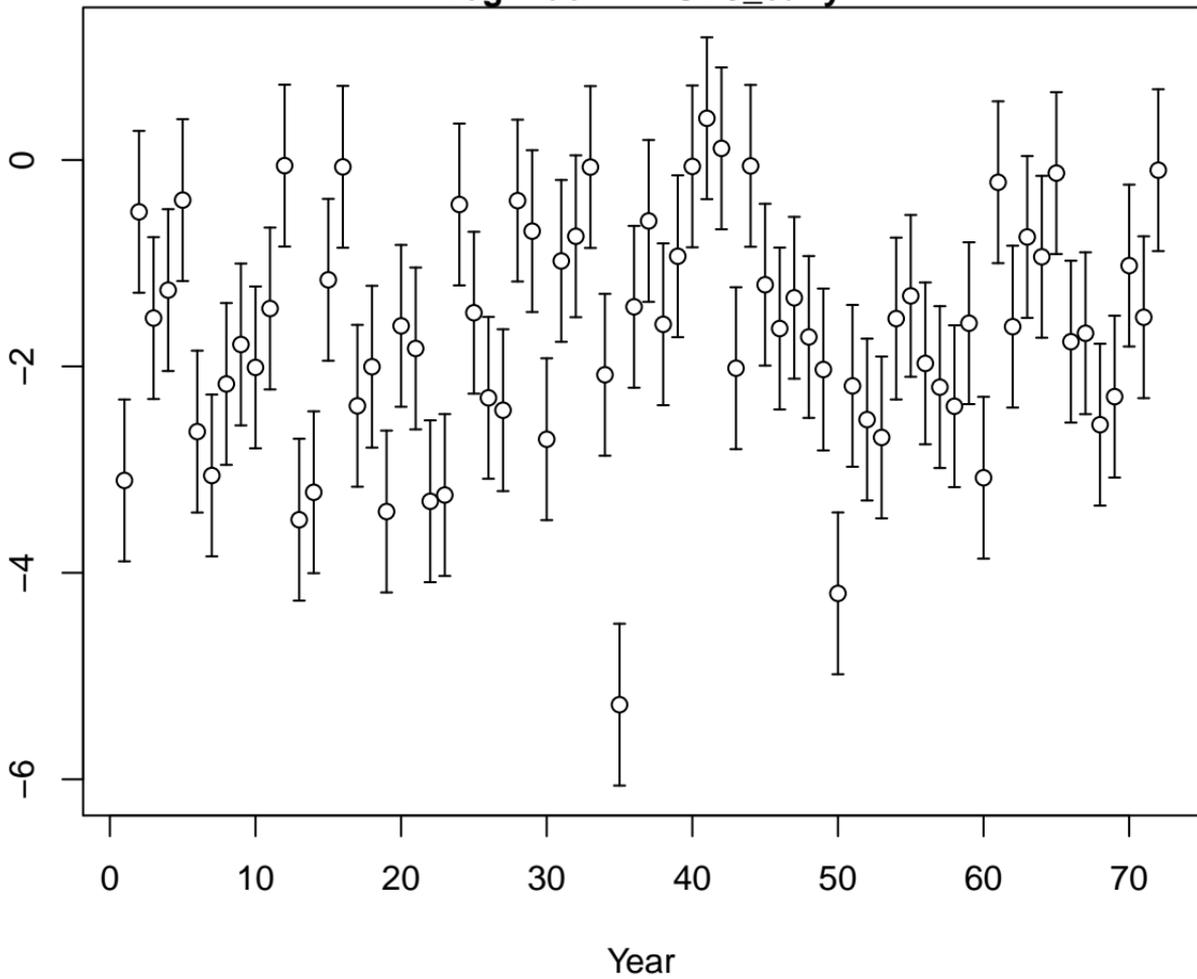
Index F1-Obj_early

Expected index



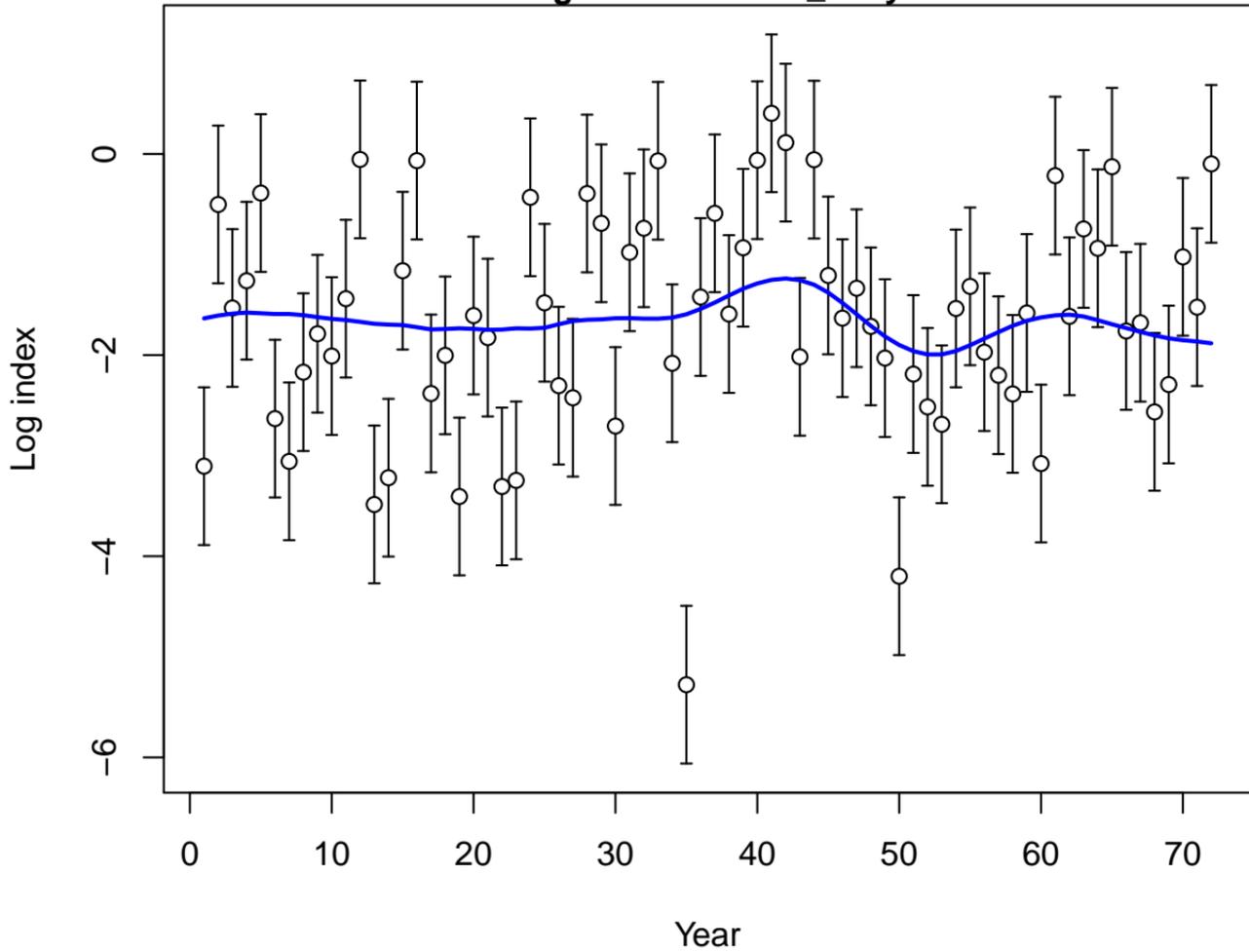
Log index F1-OBJ_early

Log index

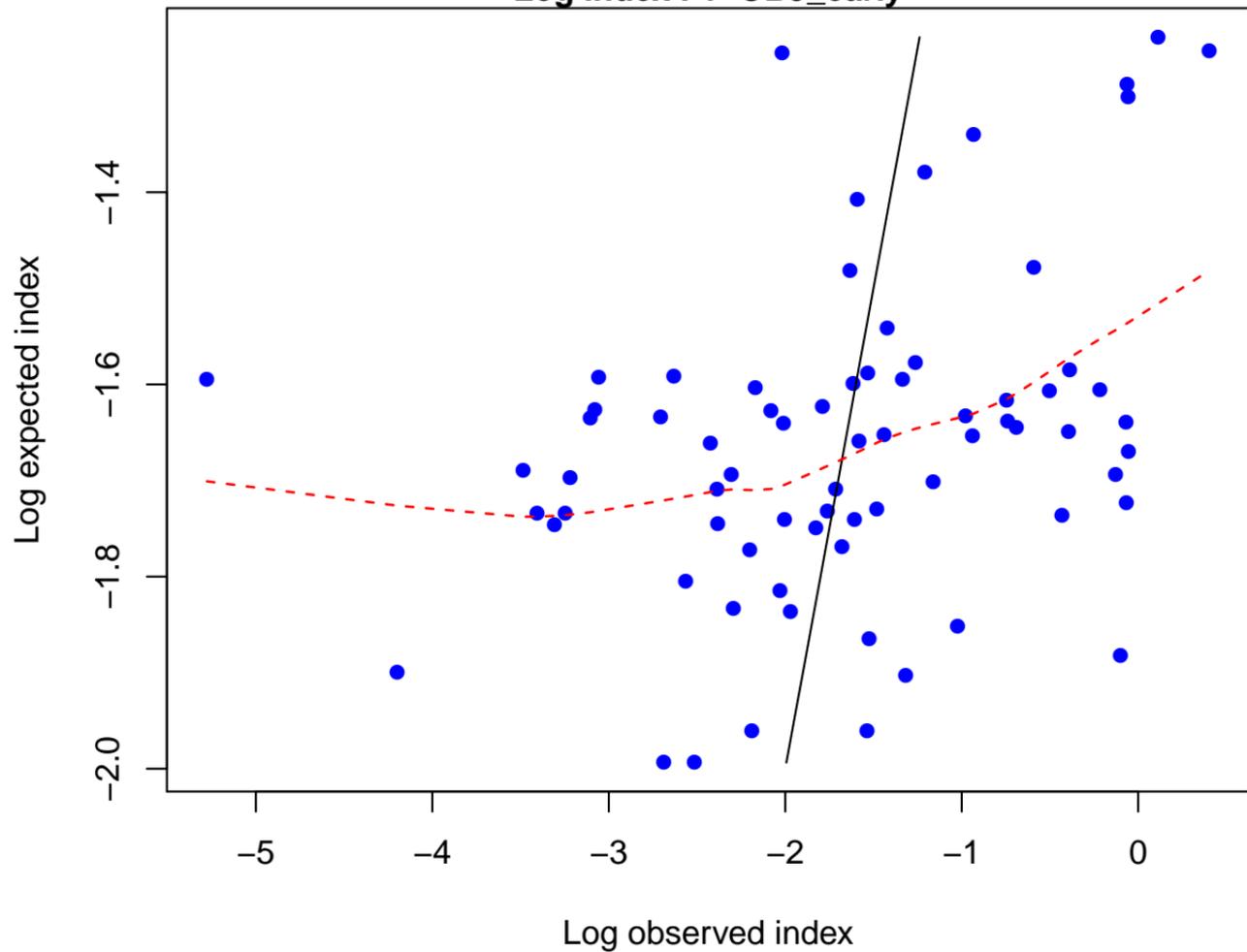


Year

Log index F1-OBJ_early



Log index F1-OBJ_early



Index F2-OBJ_S

Index

40
30
20
10
0

80

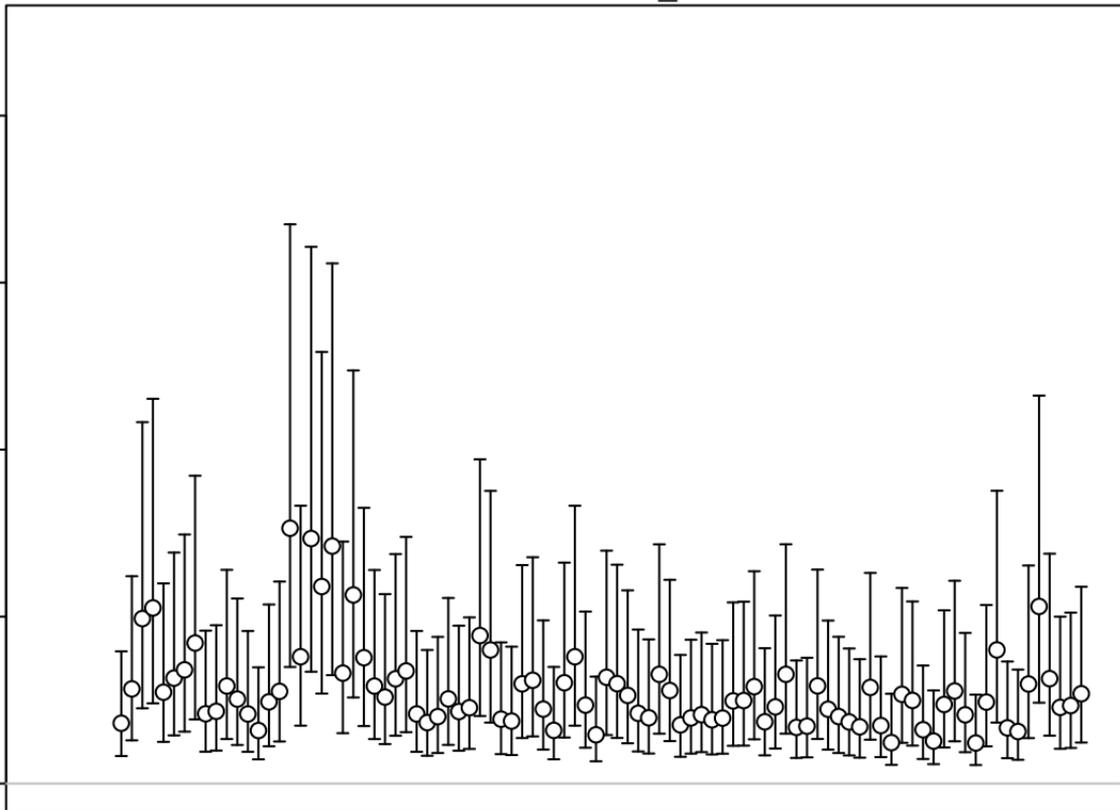
100

120

140

160

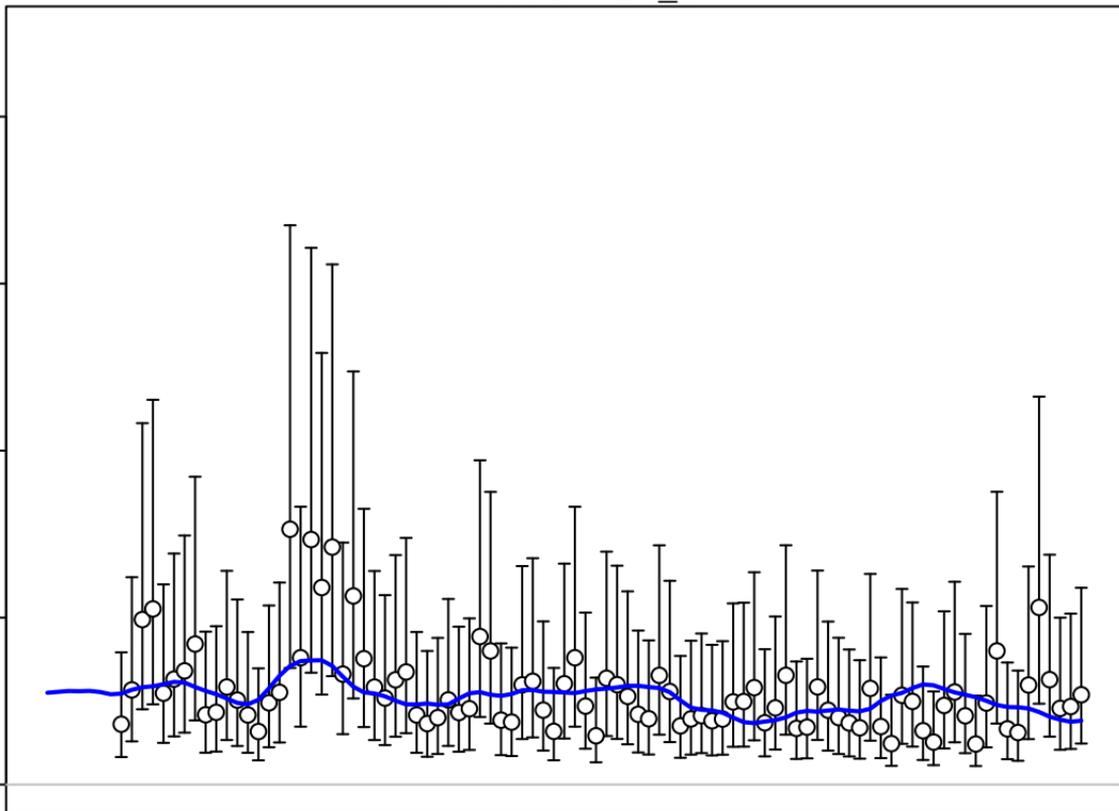
Year



Index F2-OBJ_S

Index

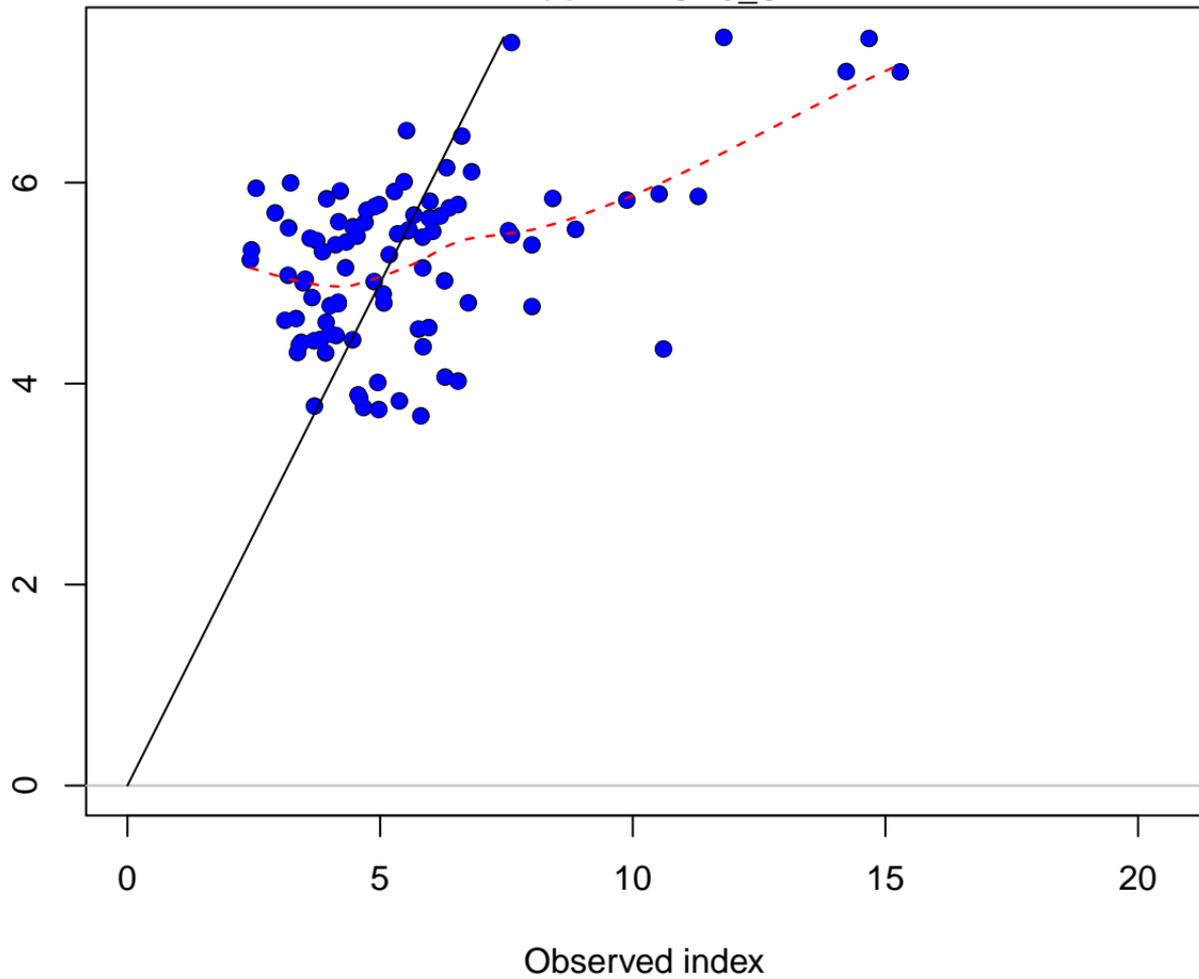
40
30
20
10
0



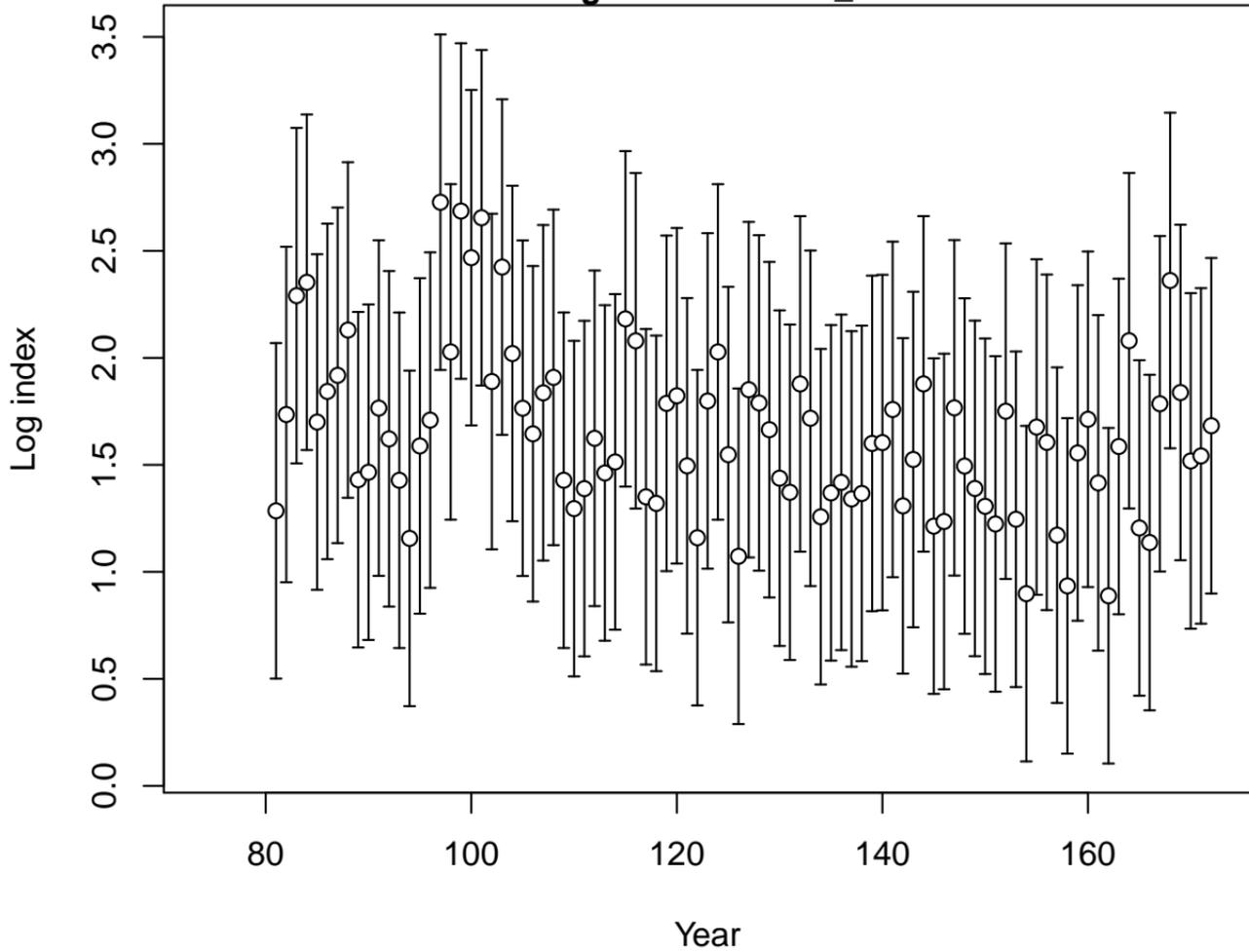
Year

Index F2-Obj_S

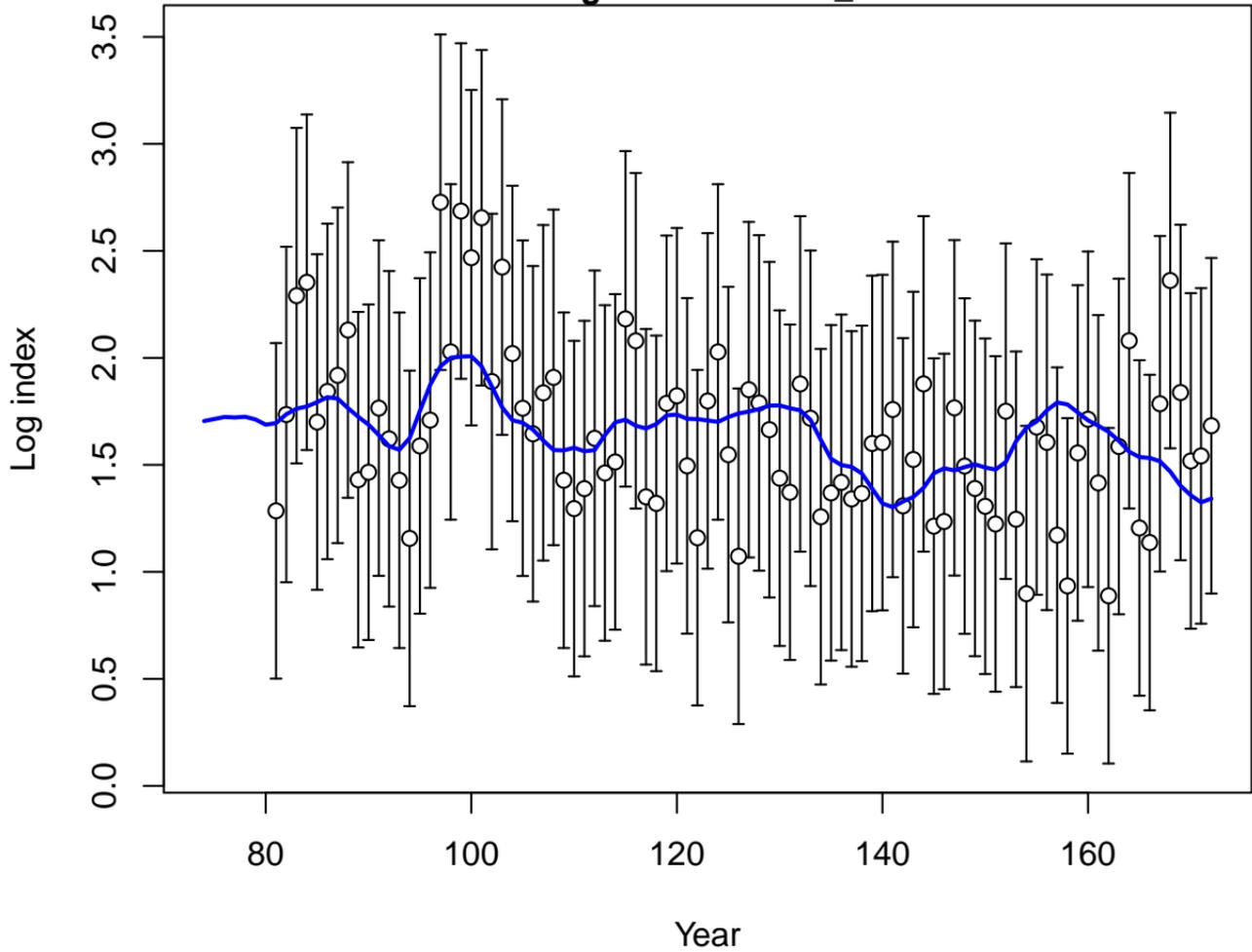
Expected index



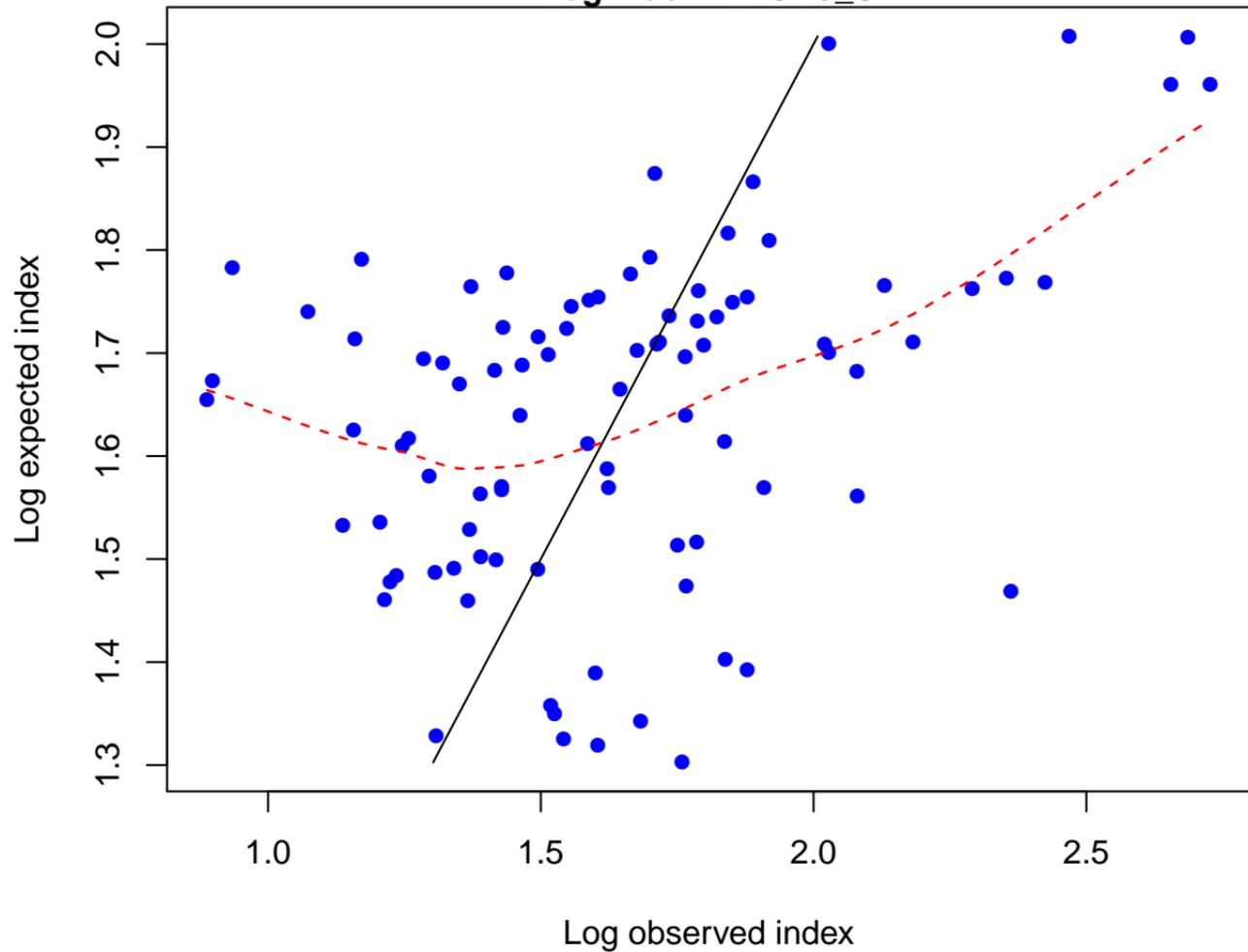
Log index F2-OBJ_S



Log index F2-OBJ_S



Log index F2-OBJ_S



Index F3-OBJ_C

Index

25
20
15
10
5
0

80

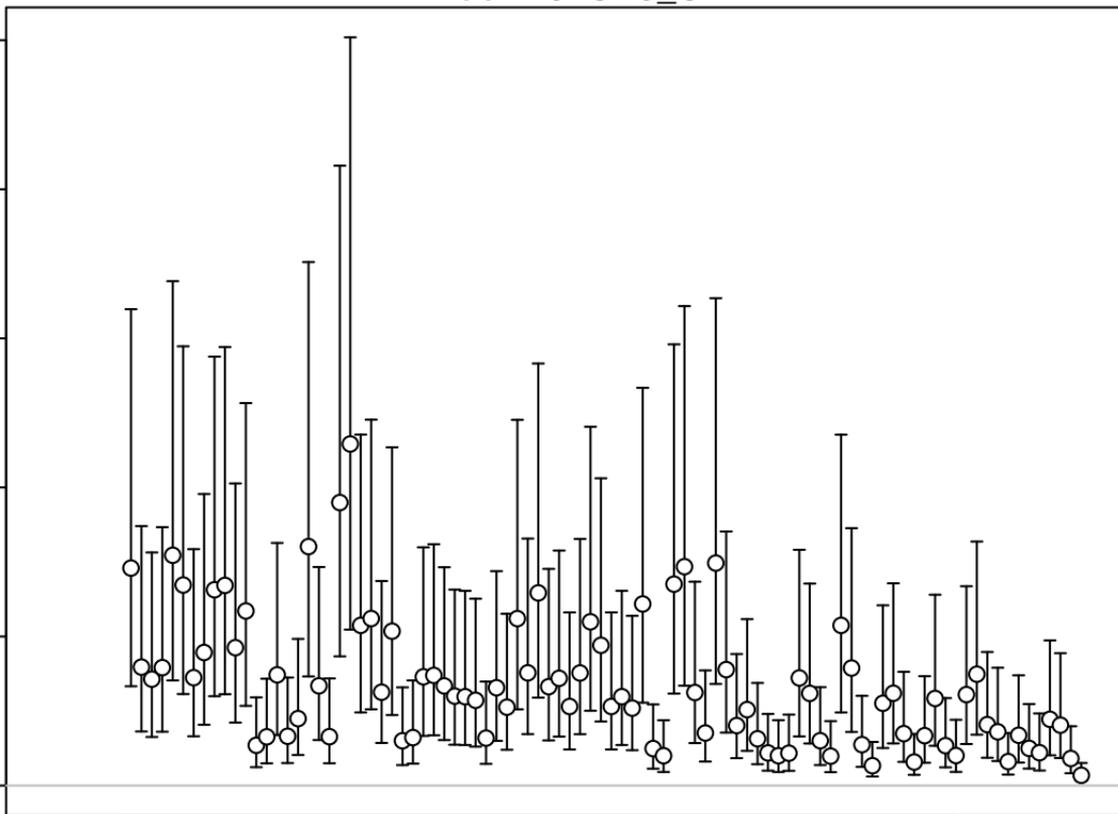
100

120

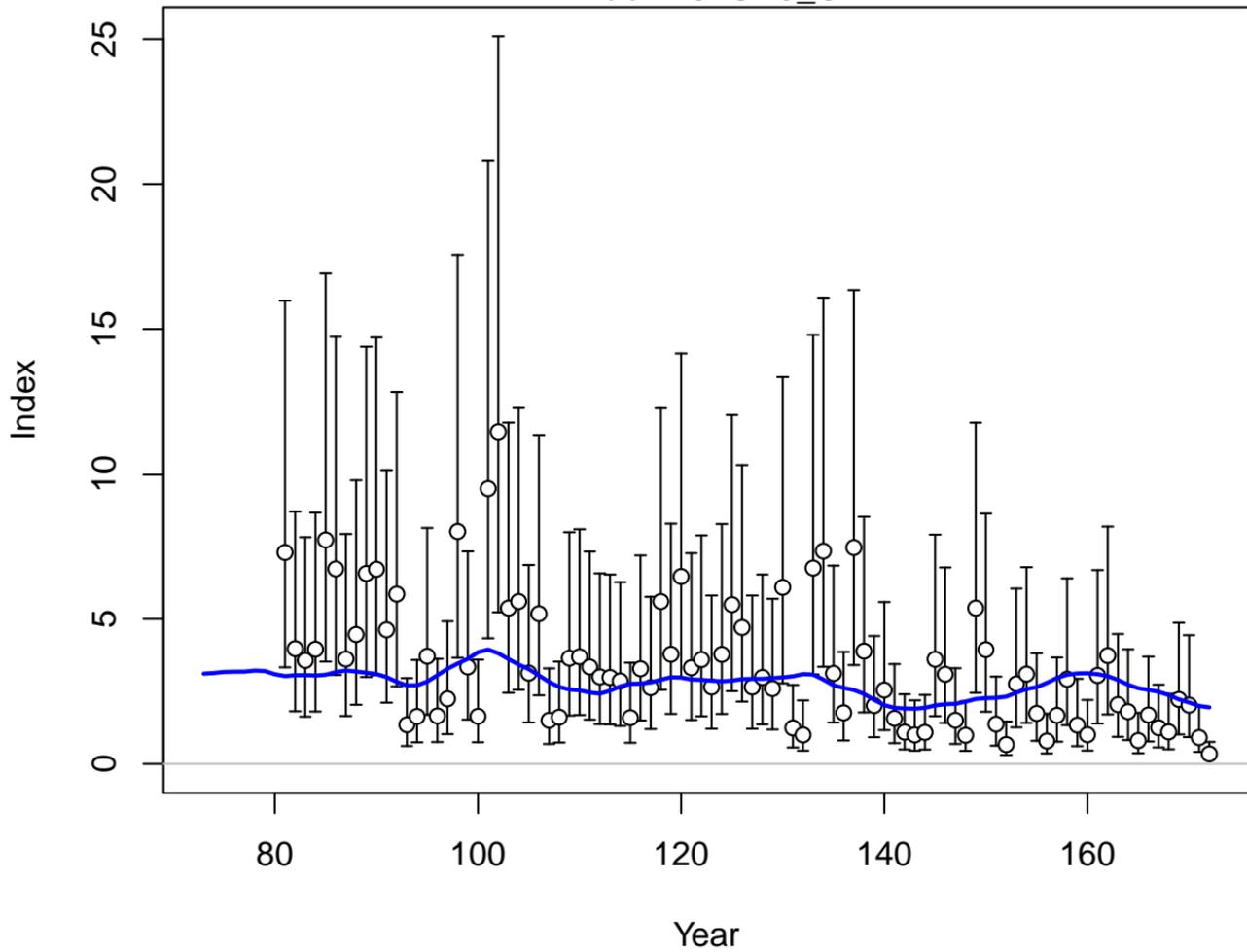
140

160

Year

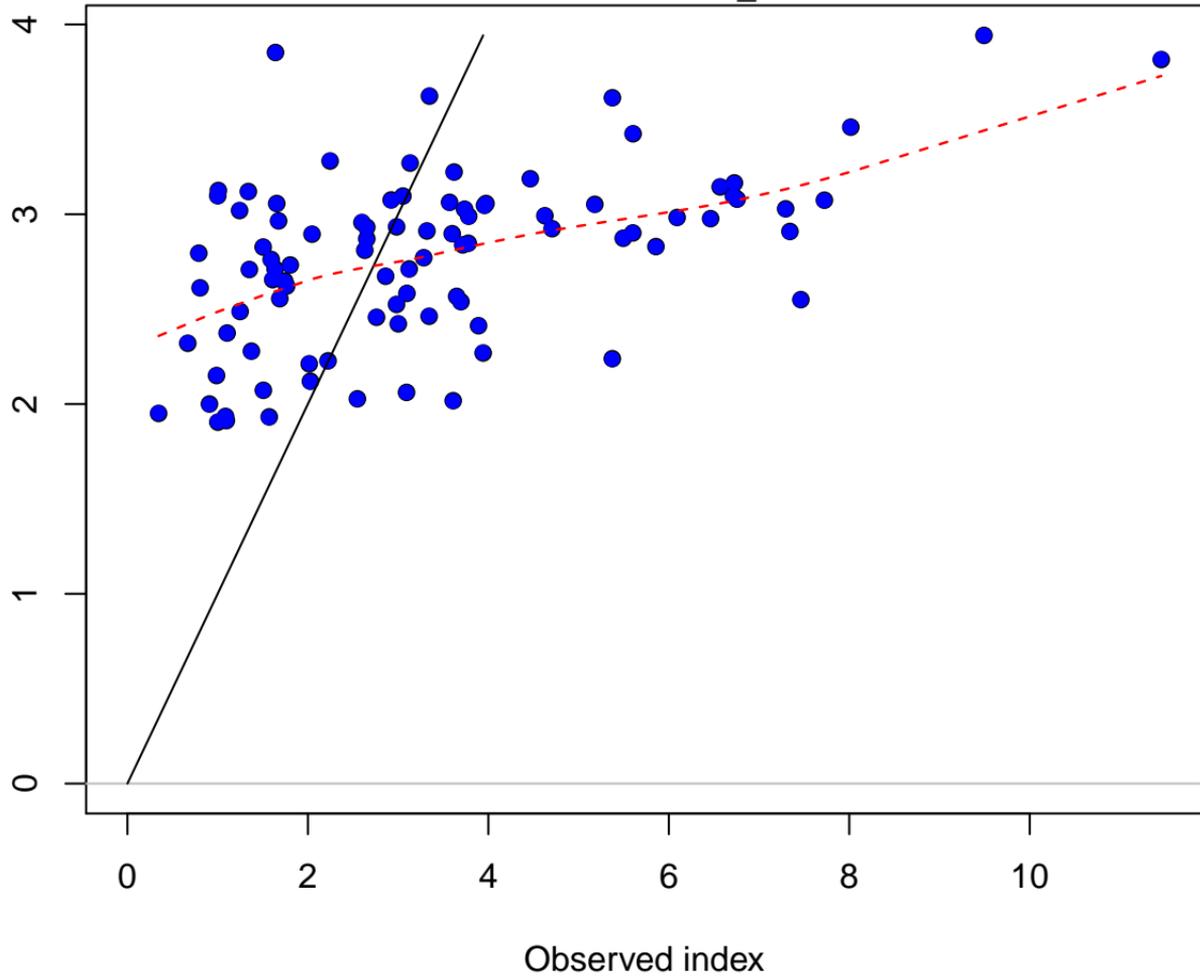


Index F3-OBJ_C

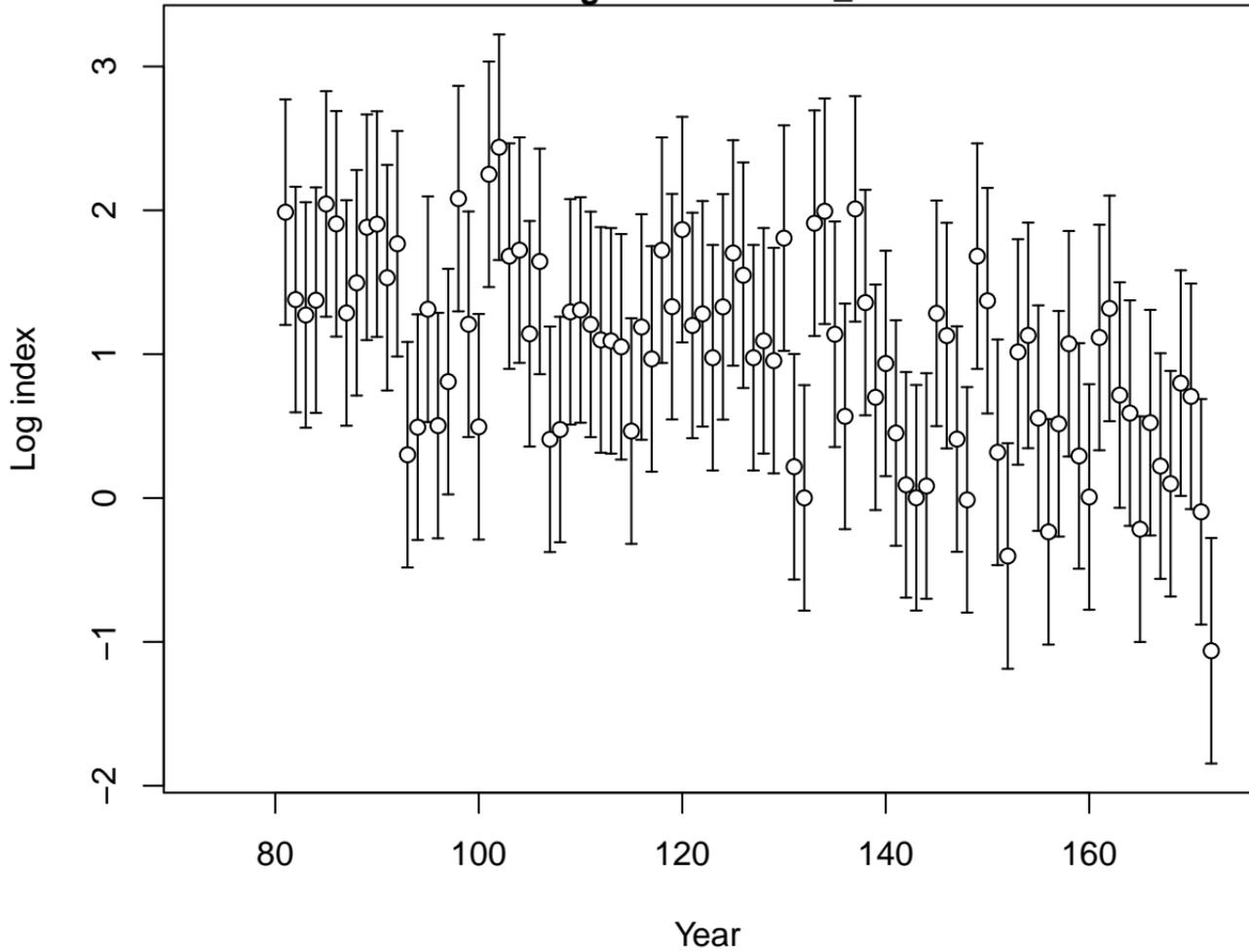


Index F3-Obj_C

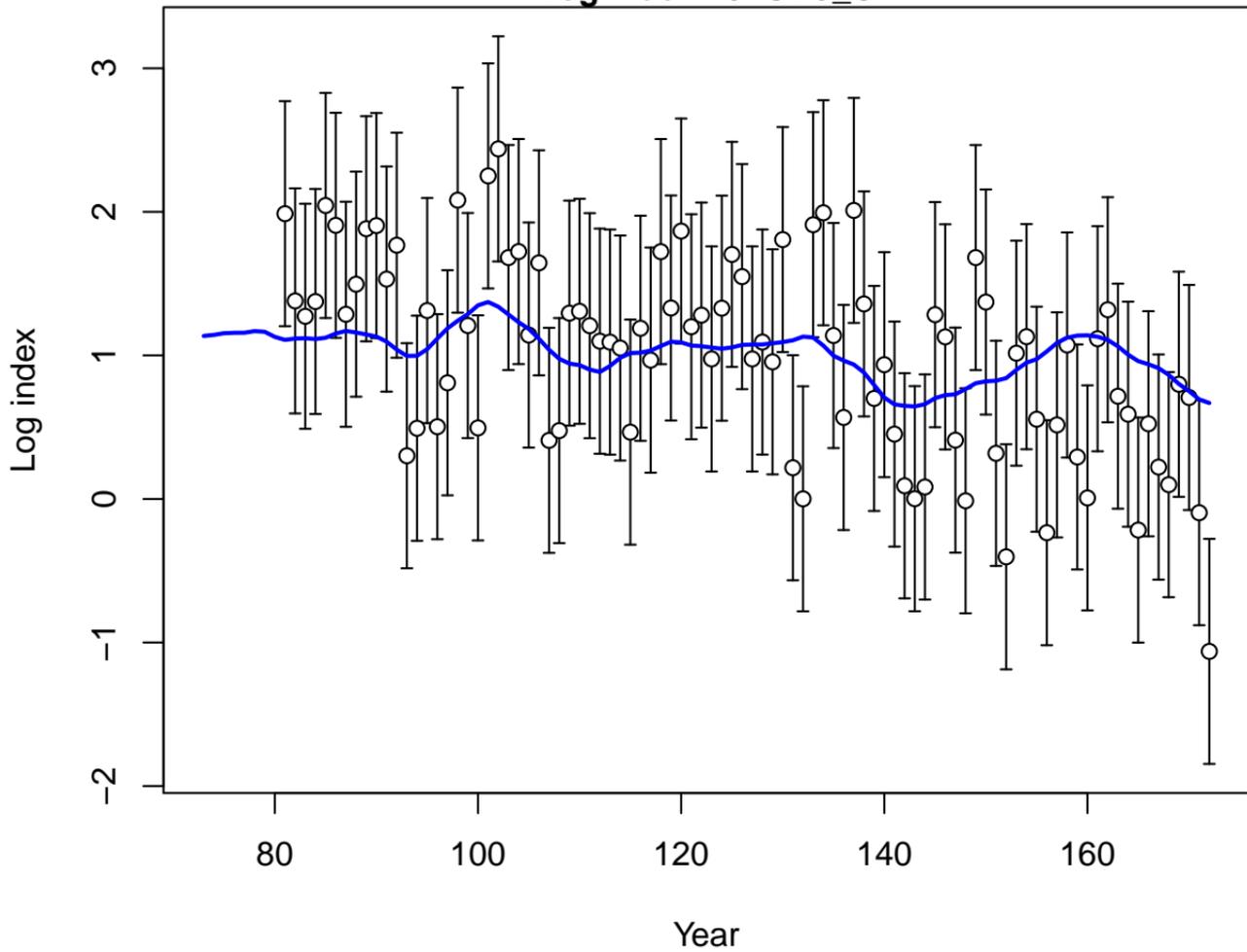
Expected index



Log index F3-OBJ_C

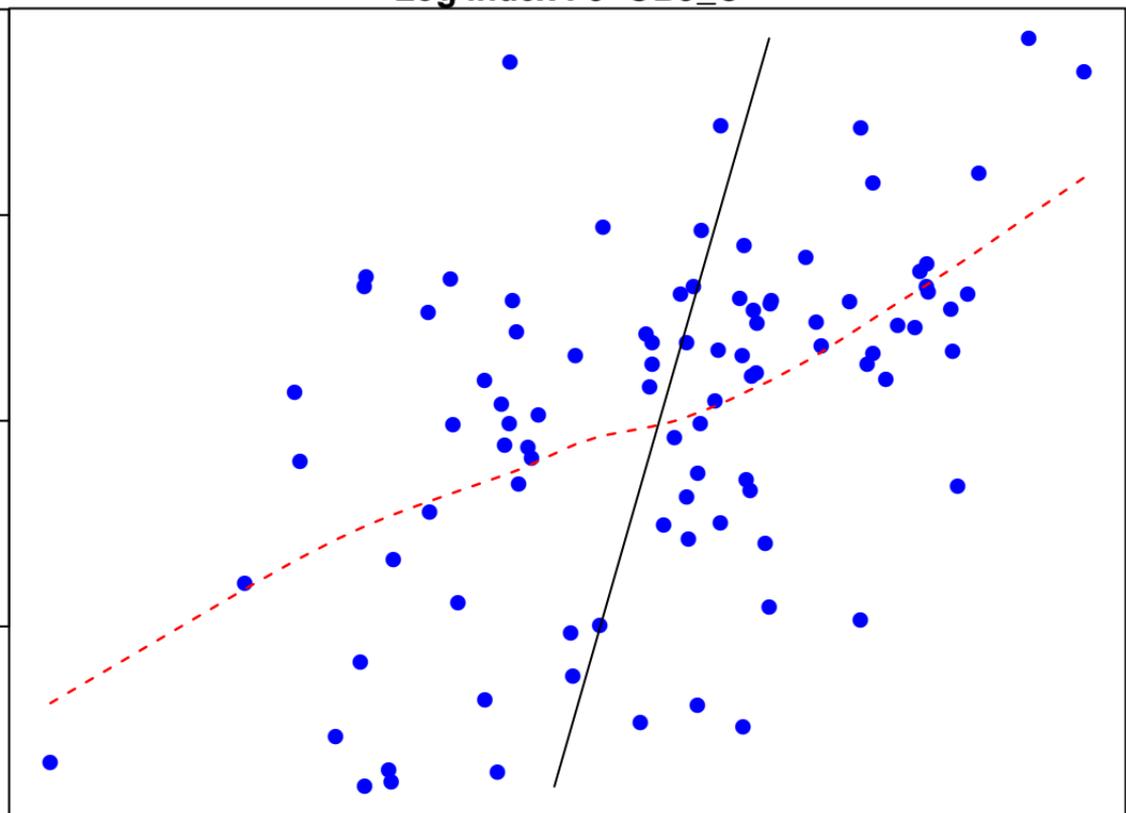


Log index F3-OBJ_C



Log index F3-OBJ_C

Log expected index

1.4
1.2
1.0
0.8

-1.0 -0.5 0.0 0.5 1.0 1.5 2.0 2.5

Log observed index

Index F4-OBJ_I

Index

3

2

1

0

80

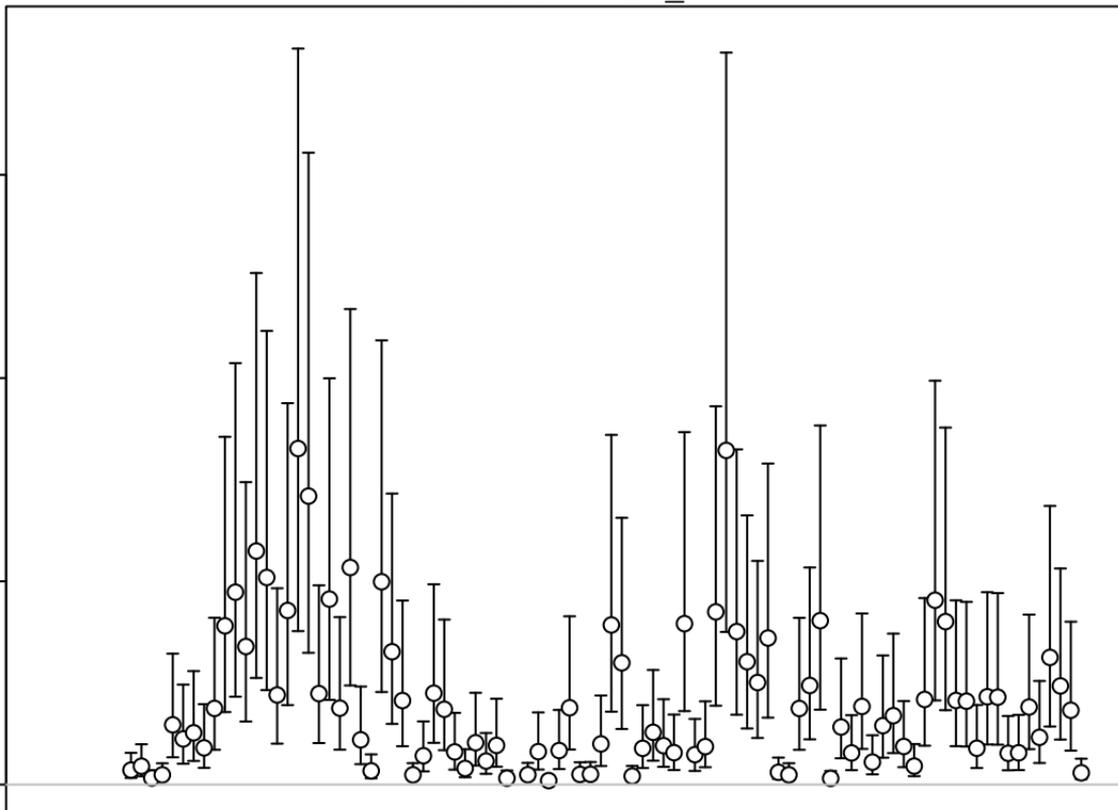
100

120

140

160

Year



Index F4-OBJ_I

Index

3

2

1

0

80

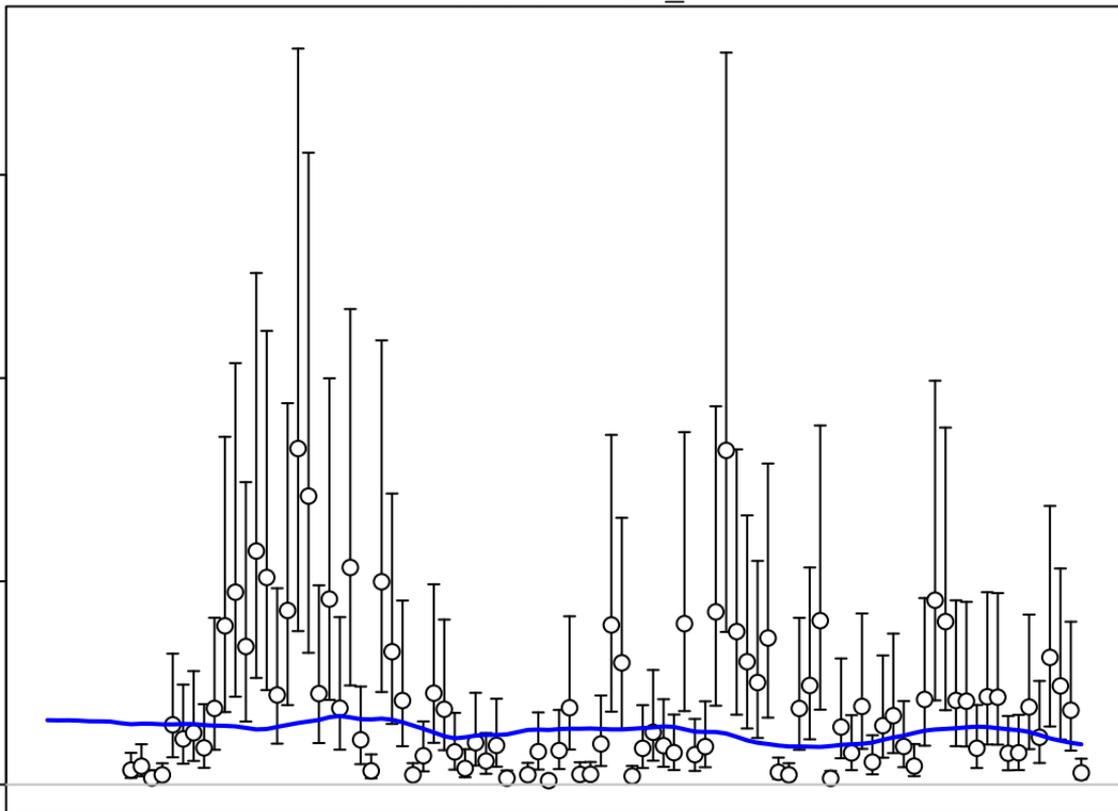
100

120

140

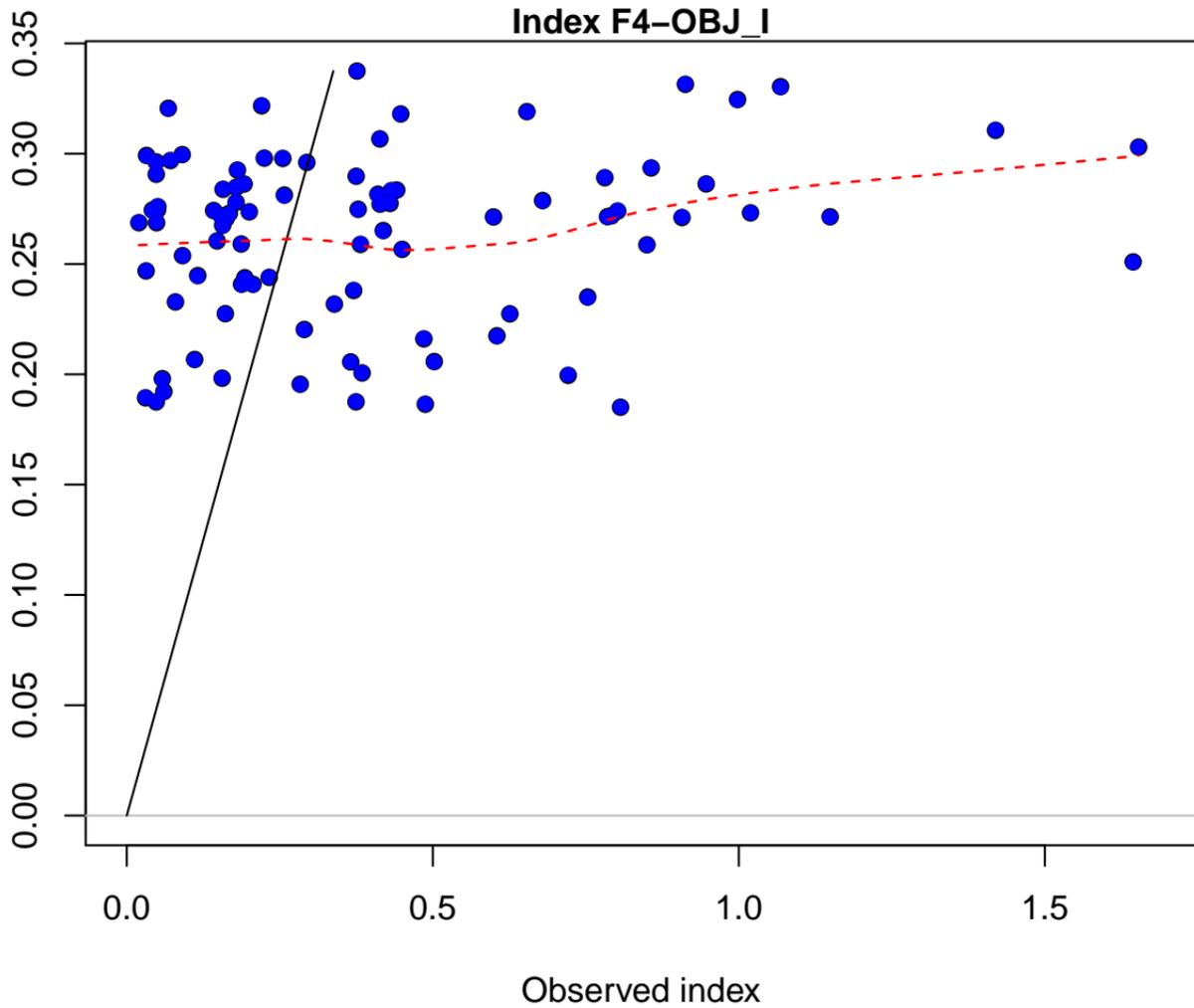
160

Year



Index F4-OBJ_I

Expected index



Log index F4-OBJ_I

Log index

1
0
-1
-2
-3
-4

80

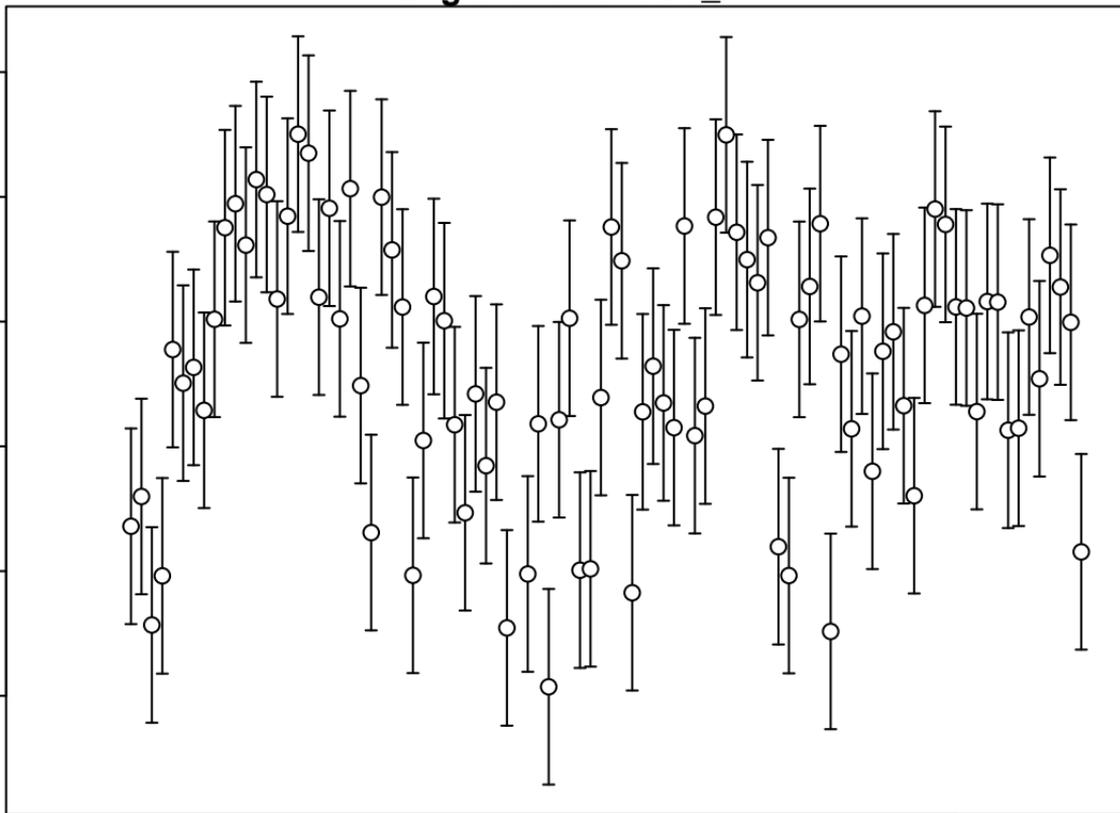
100

120

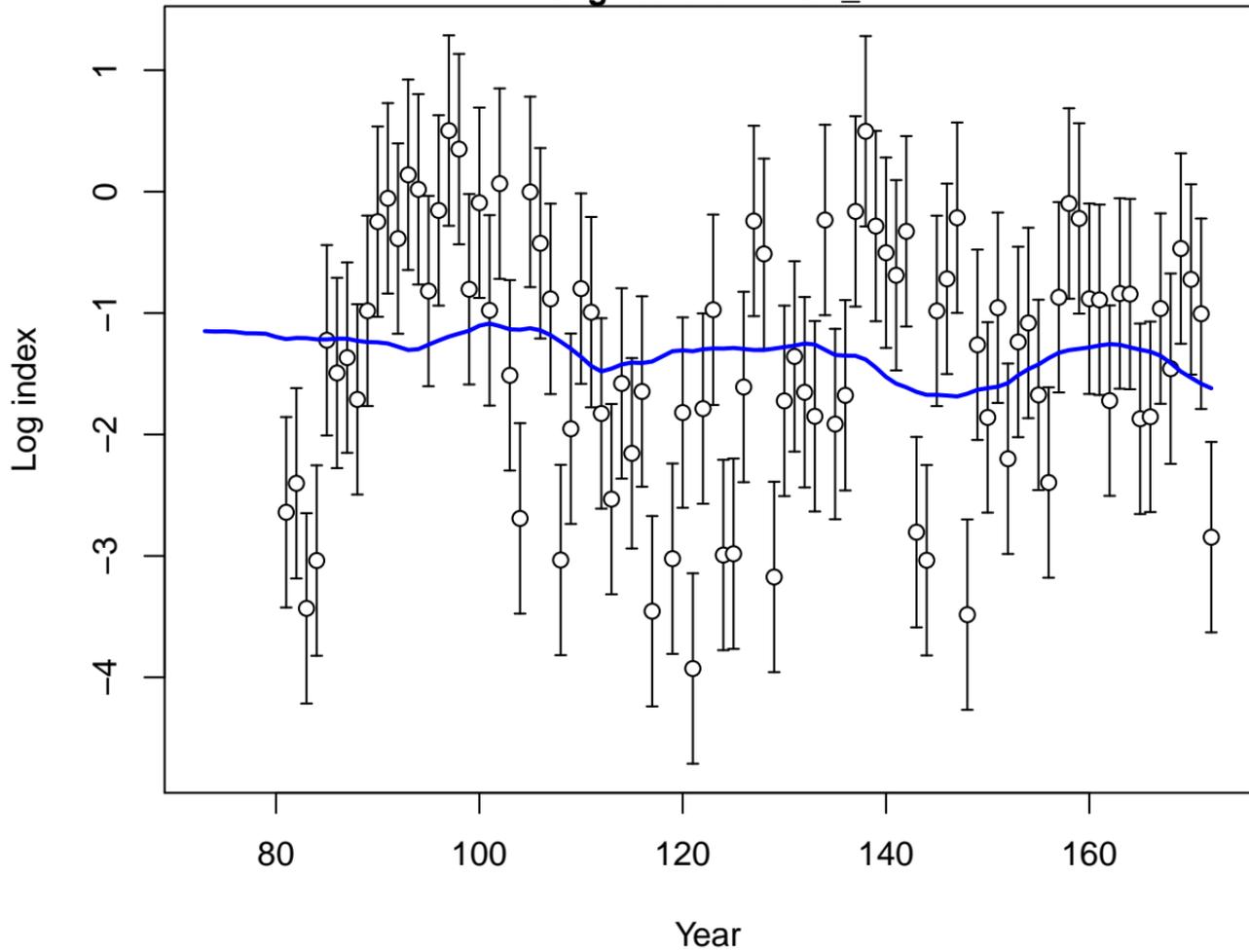
140

160

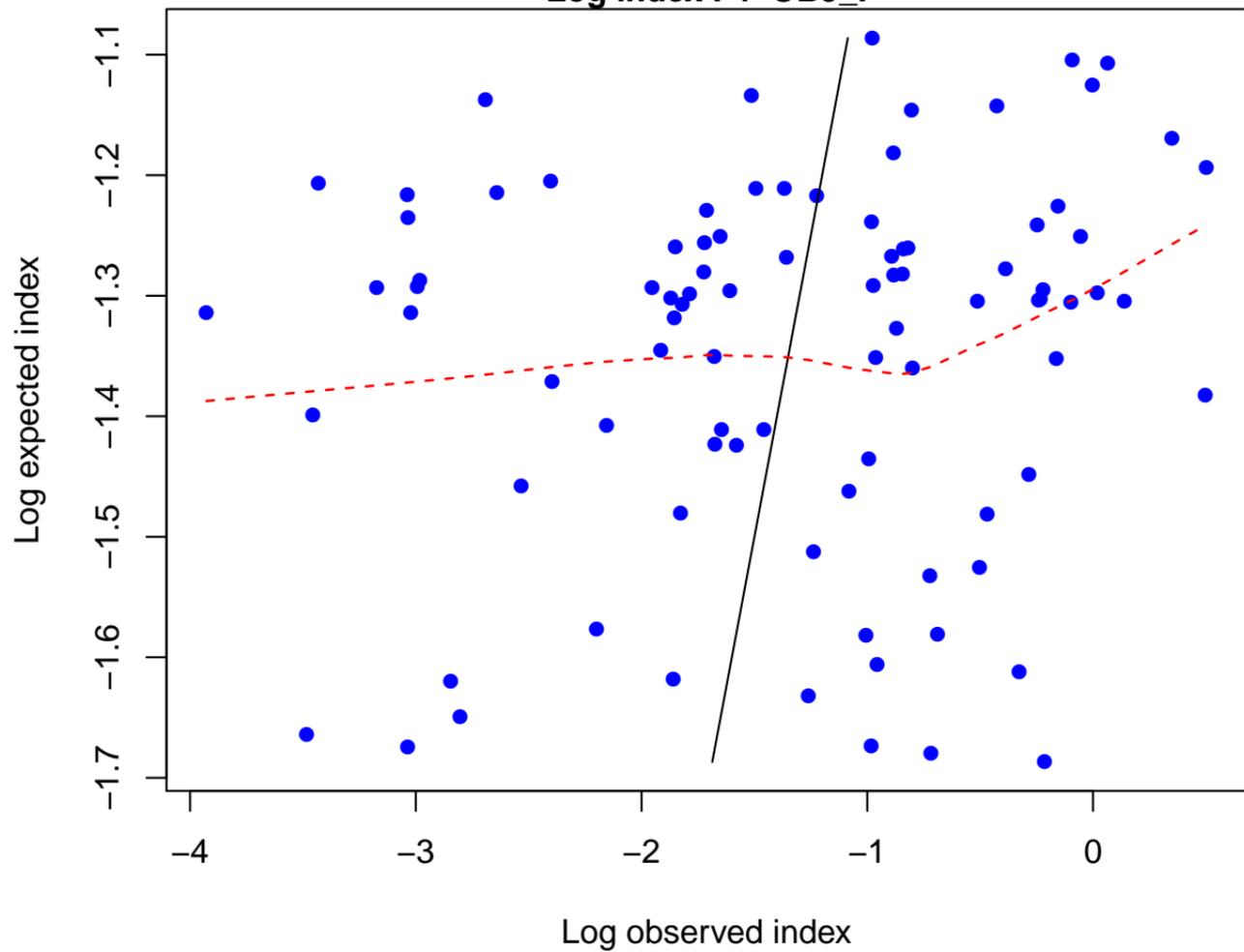
Year



Log index F4-OBJ_I

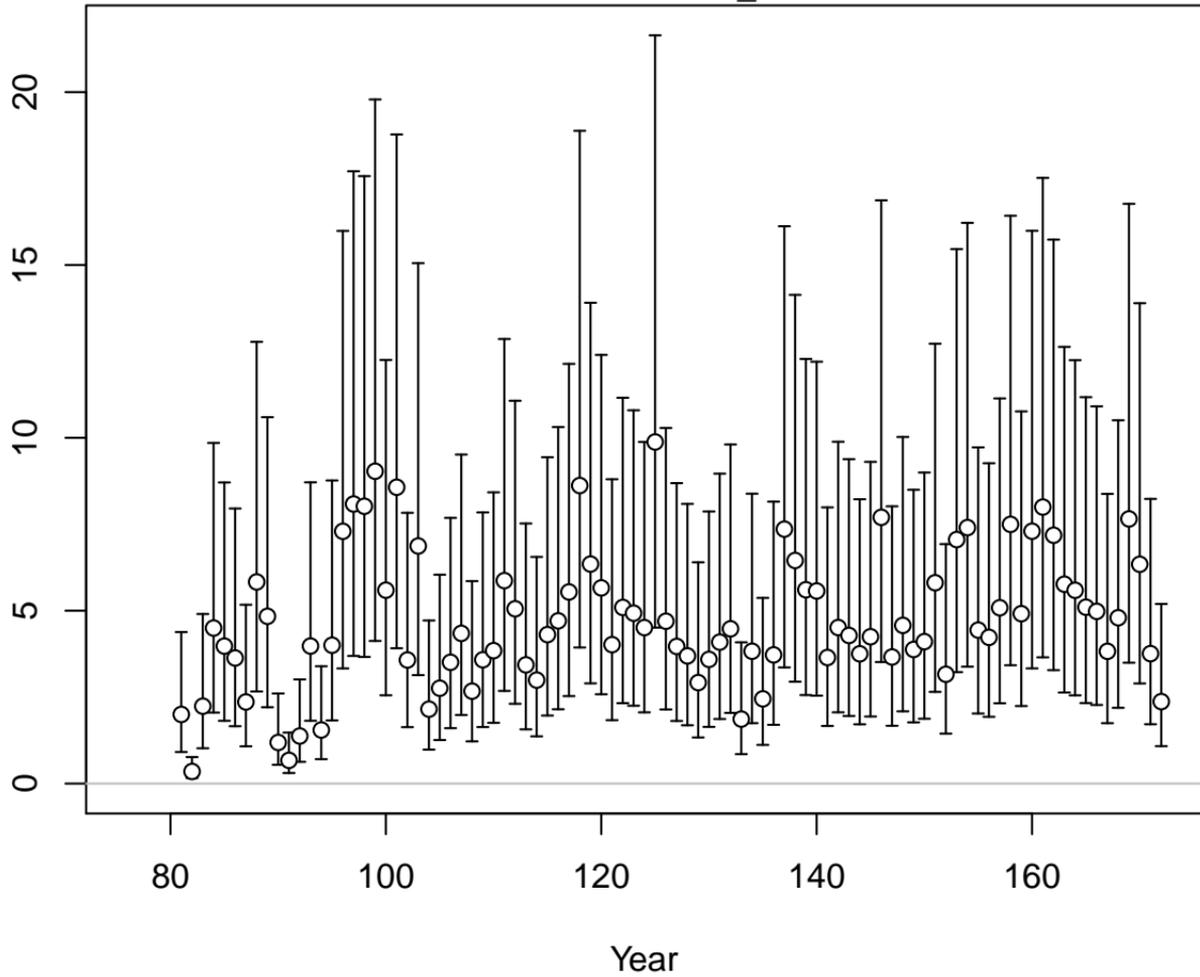


Log index F4-OBJ_I

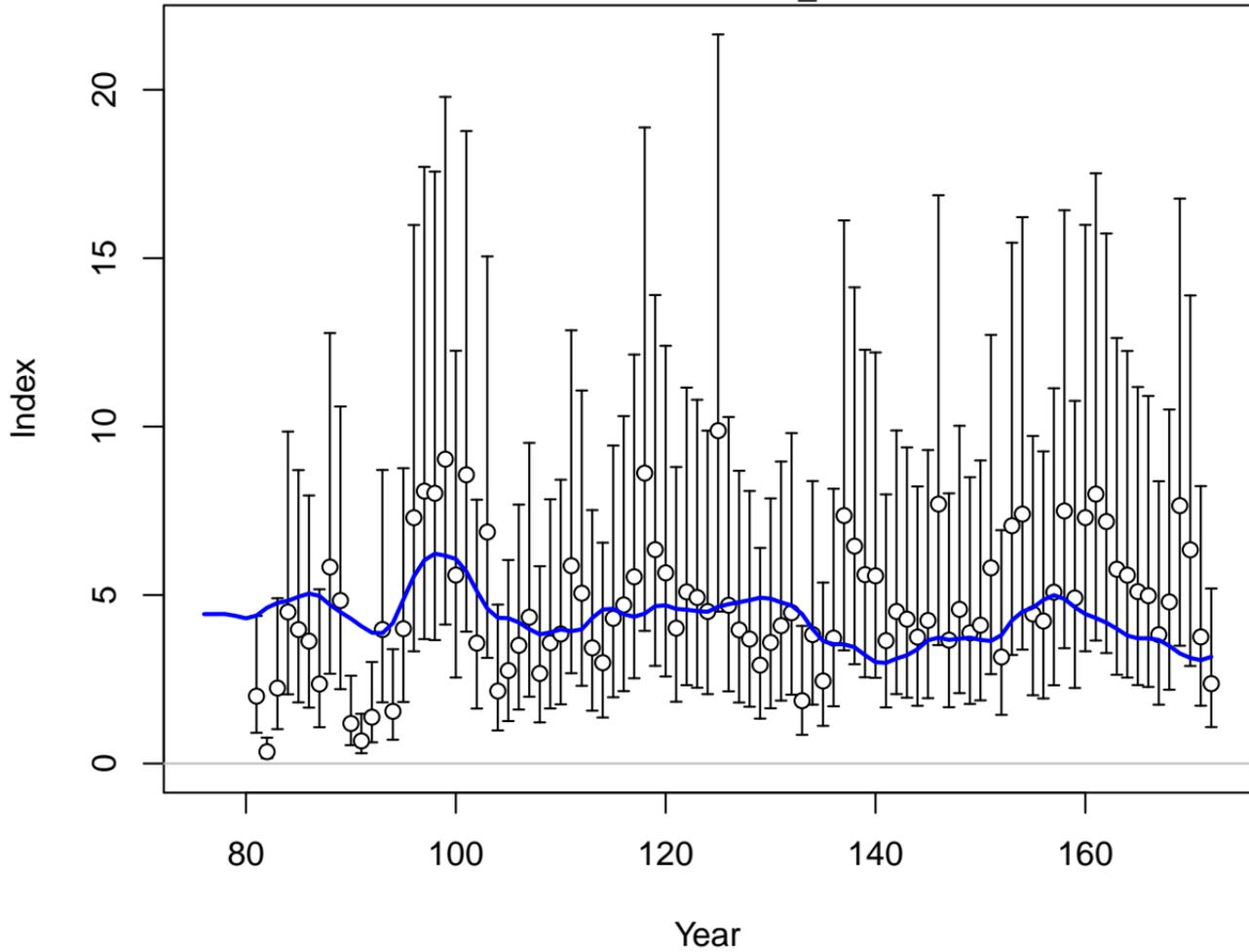


Index F5-OBJ_N

Index

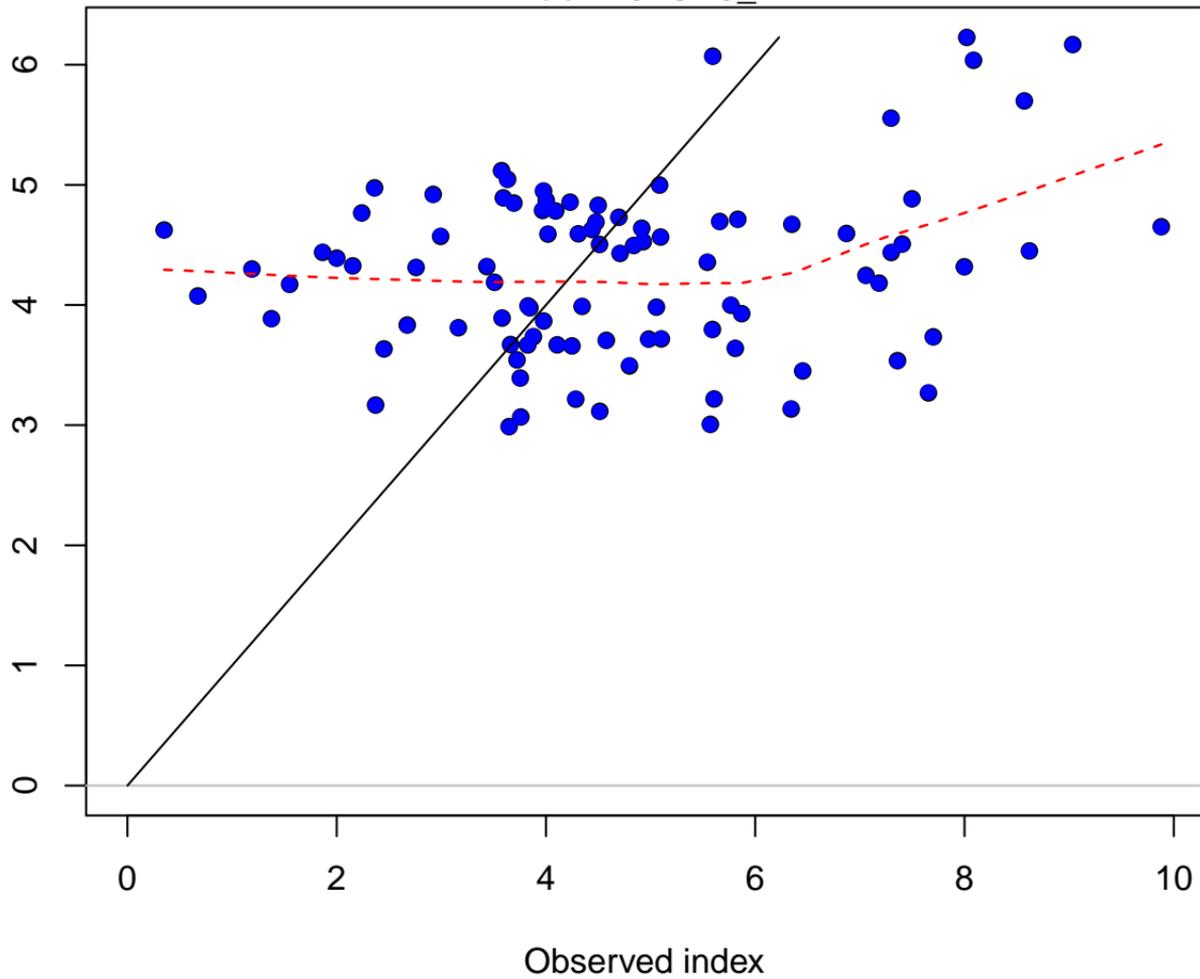


Index F5-OBJ_N



Index F5-OBJ_N

Expected index



Observed index

Log index F5-OBJ_N

Log index

3
2
1
0
-1
-2

80

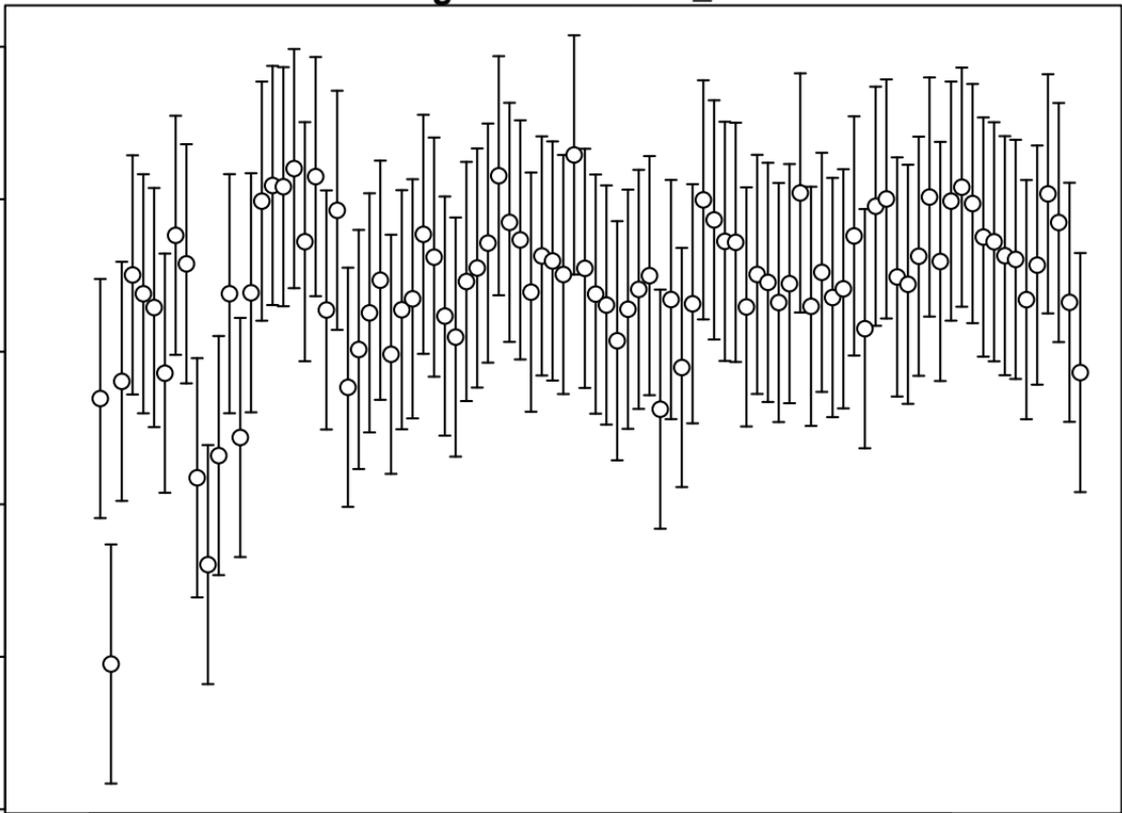
100

120

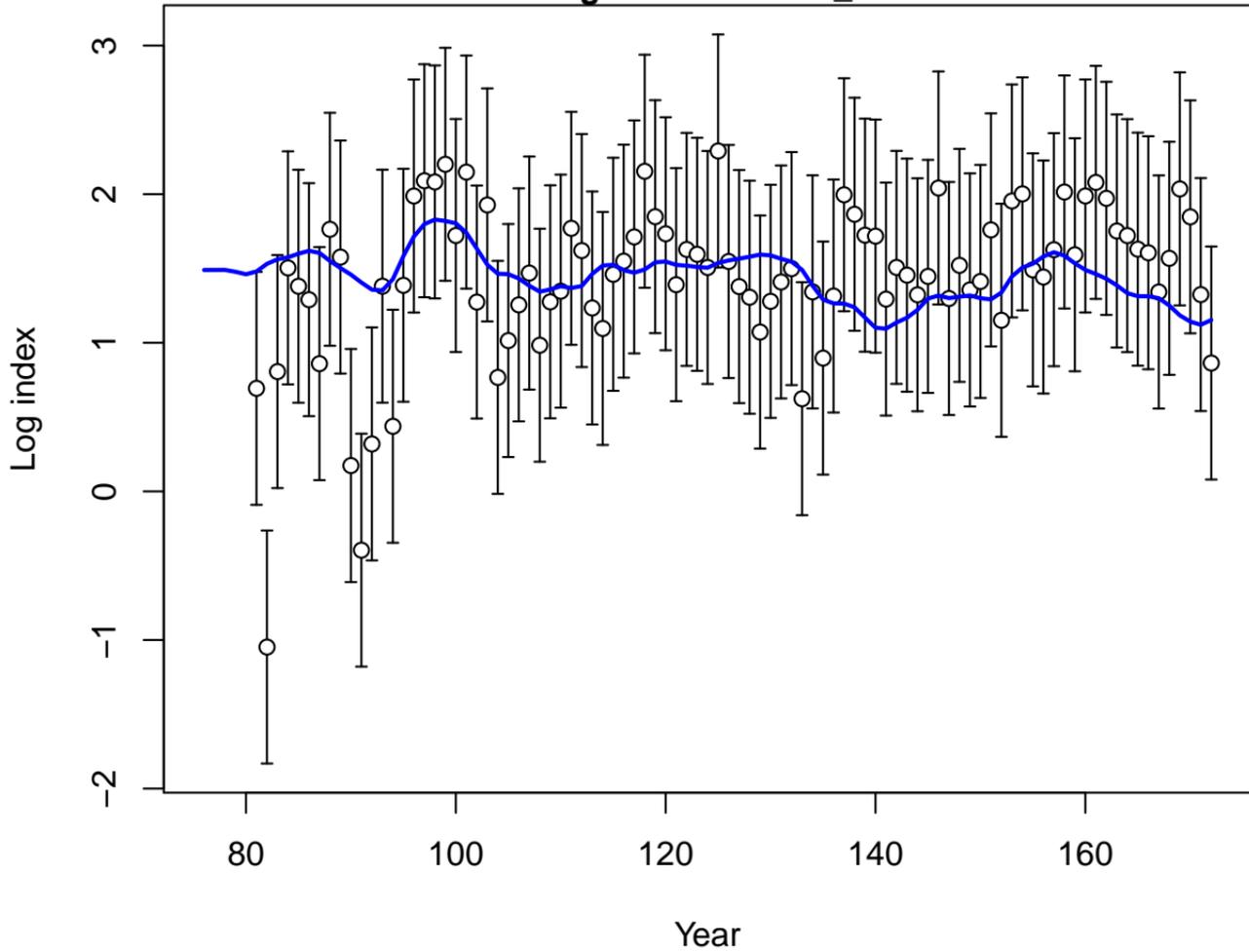
140

160

Year



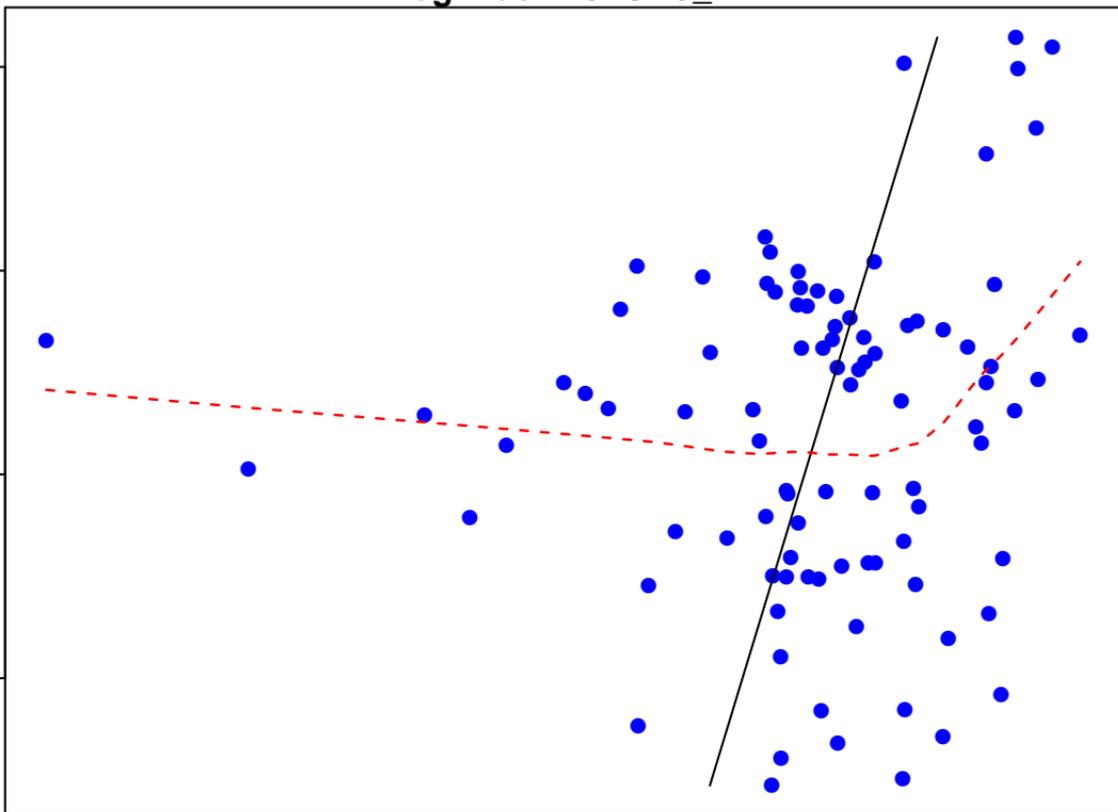
Log index F5-OBJ_N



Log index F5-OBJ_N

Log expected index

1.8
1.6
1.4
1.2



Log observed index

-1.0

-0.5

0.0

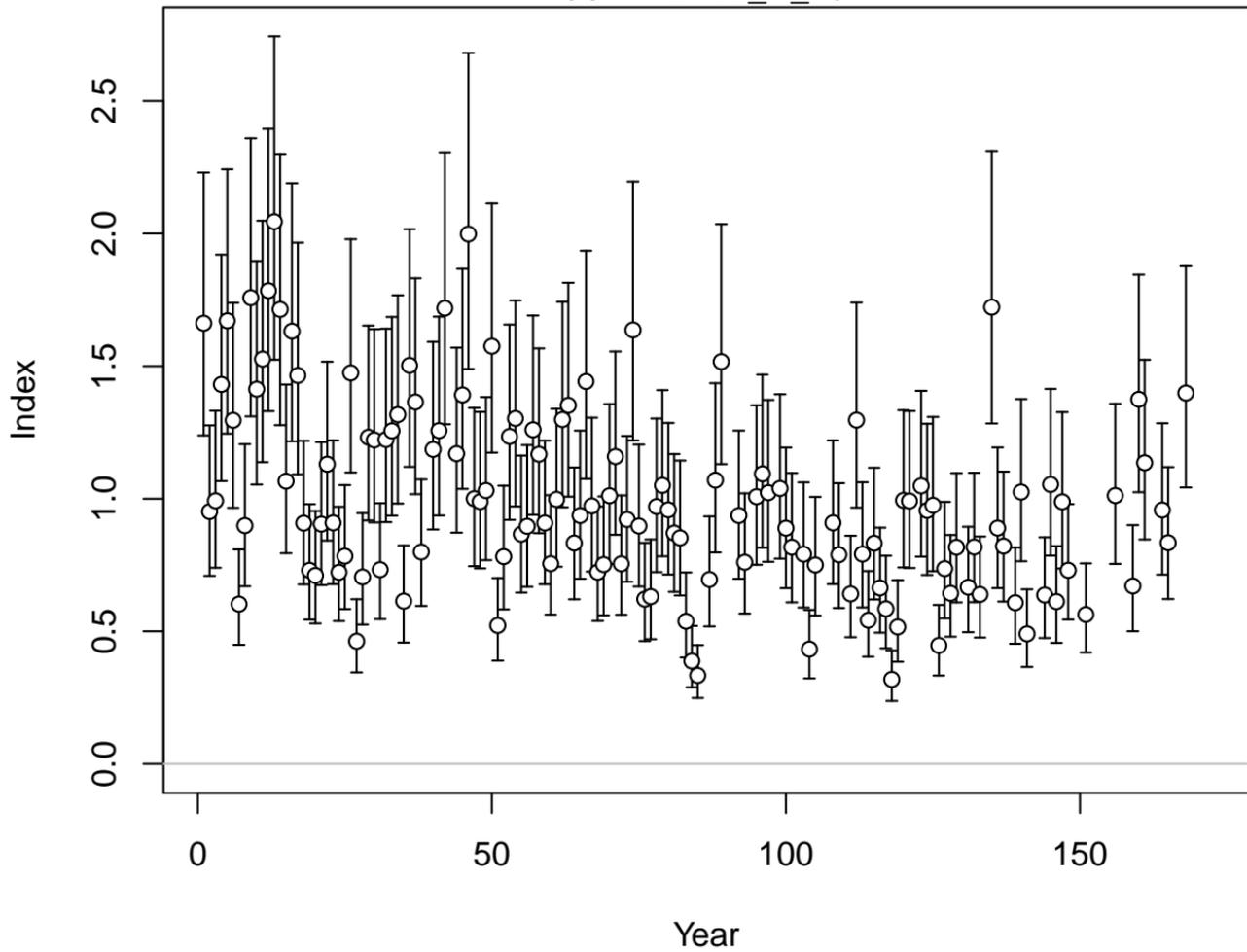
0.5

1.0

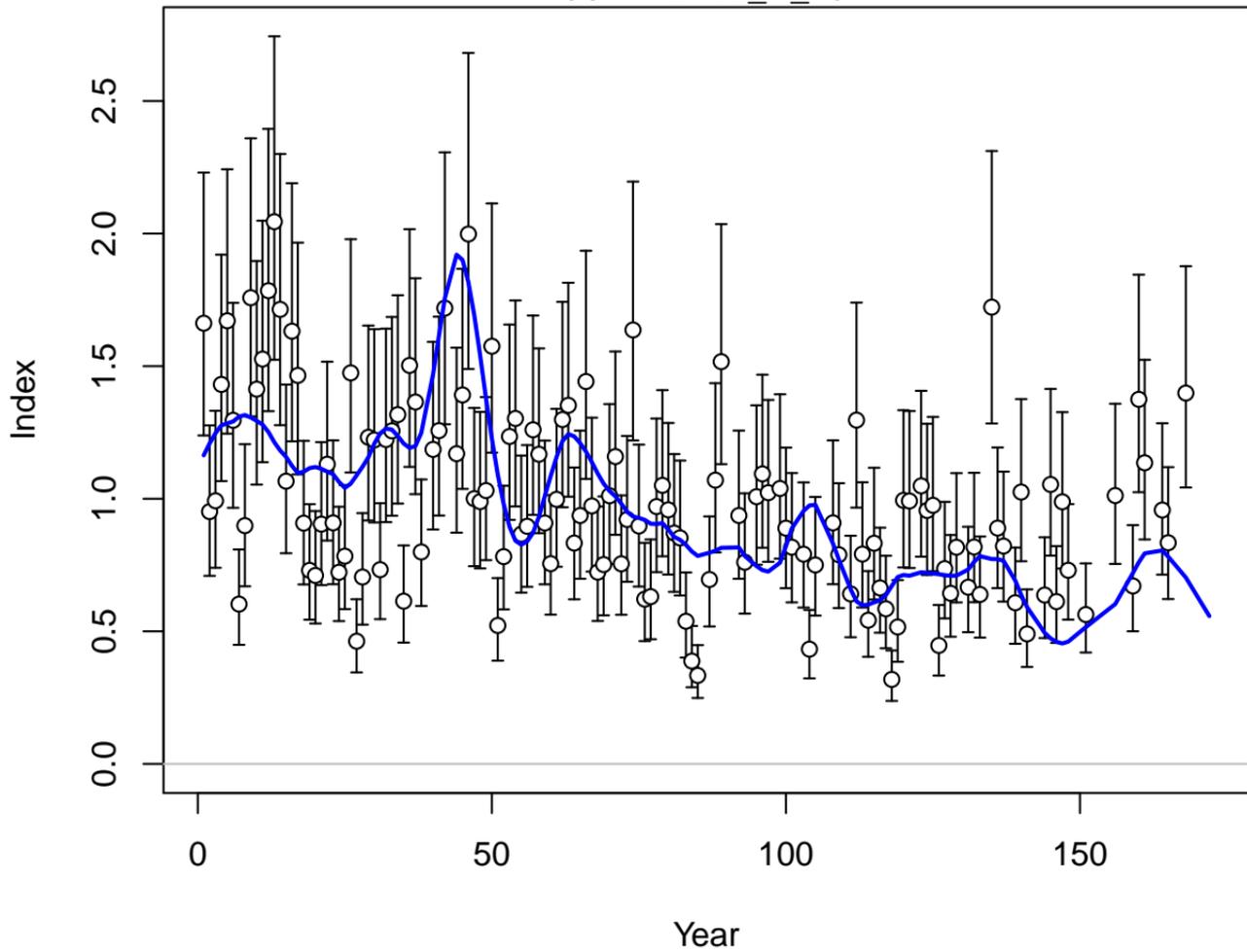
1.5

2.0

Index F12-LL_N_num

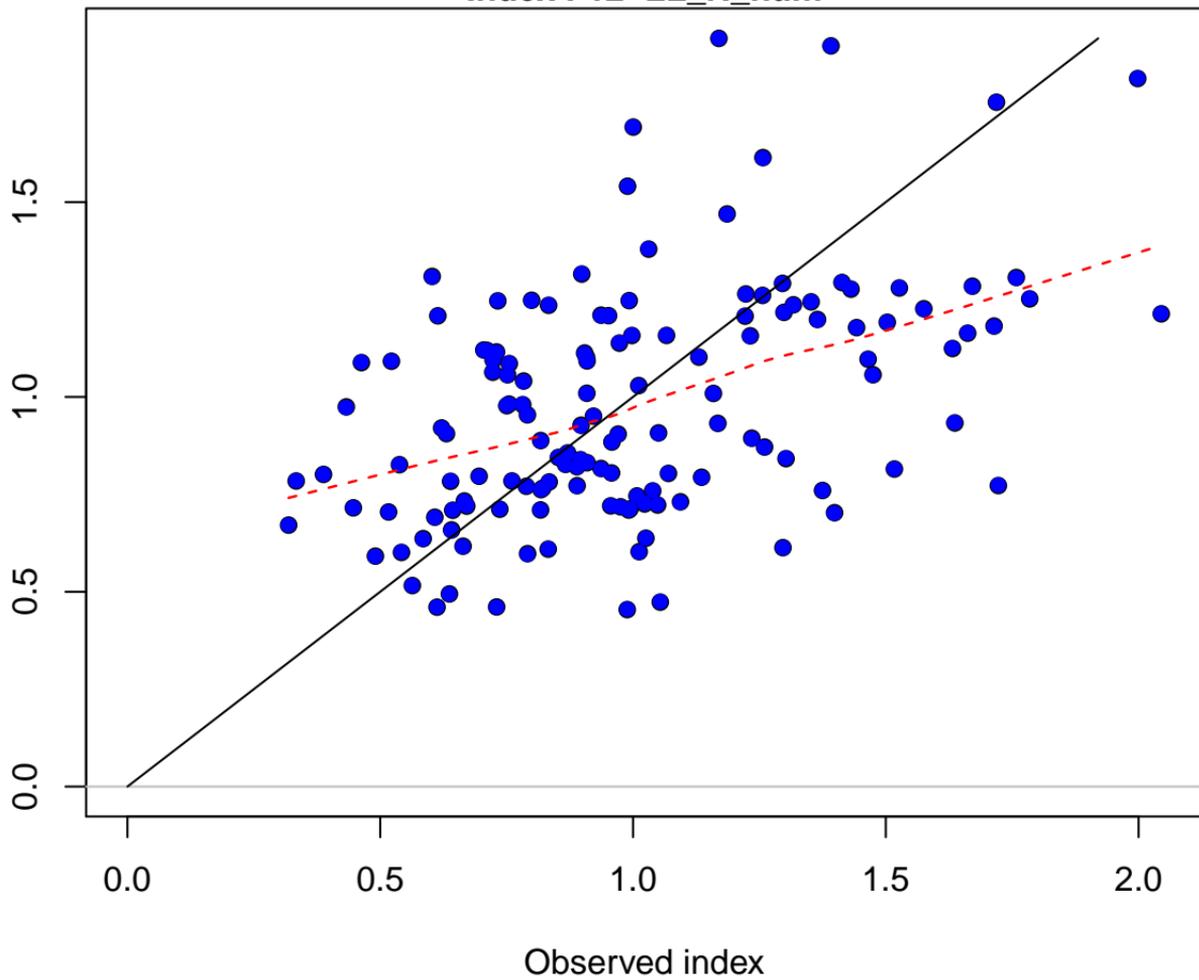


Index F12-LL_N_num



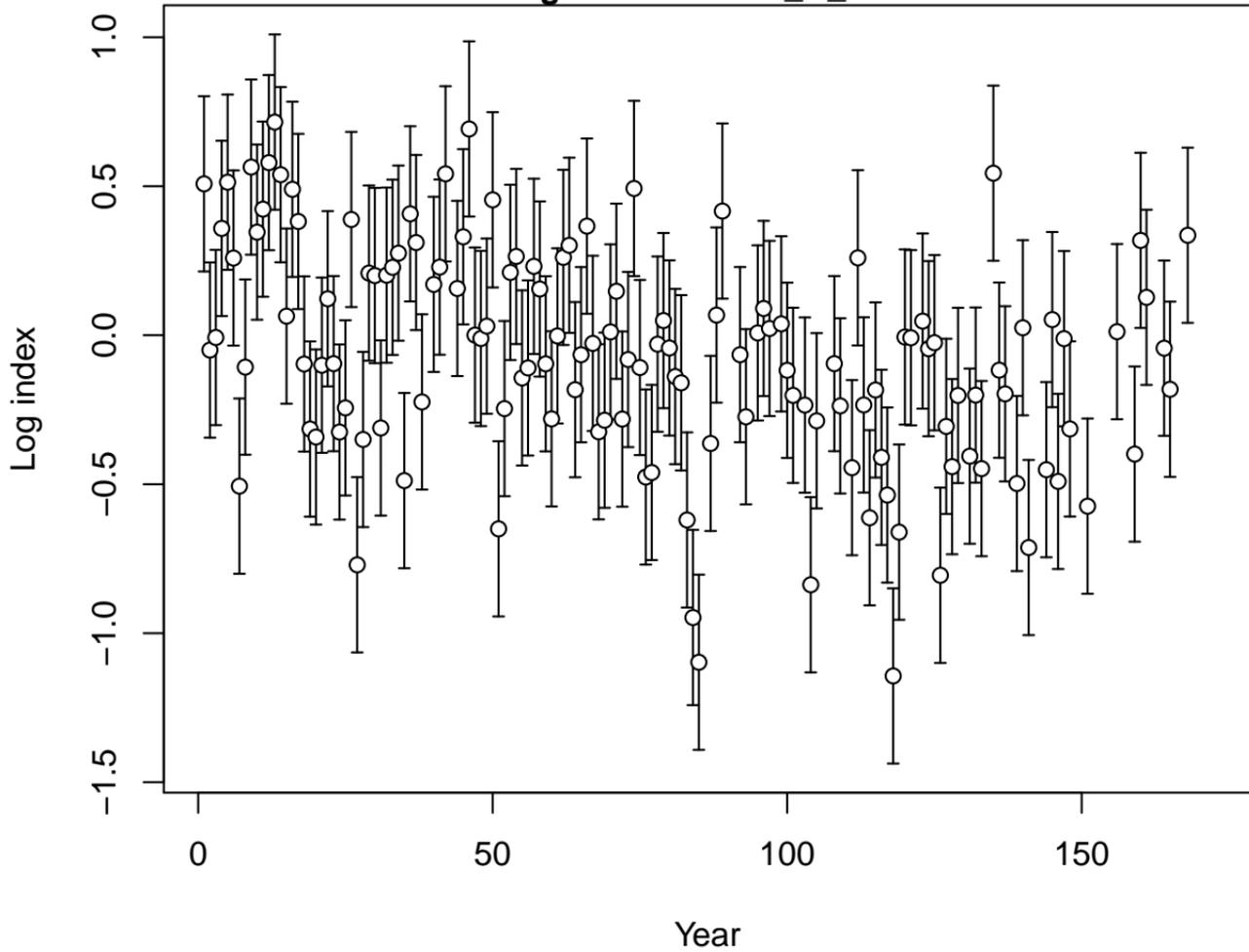
Index F12-LL_N_num

Expected index

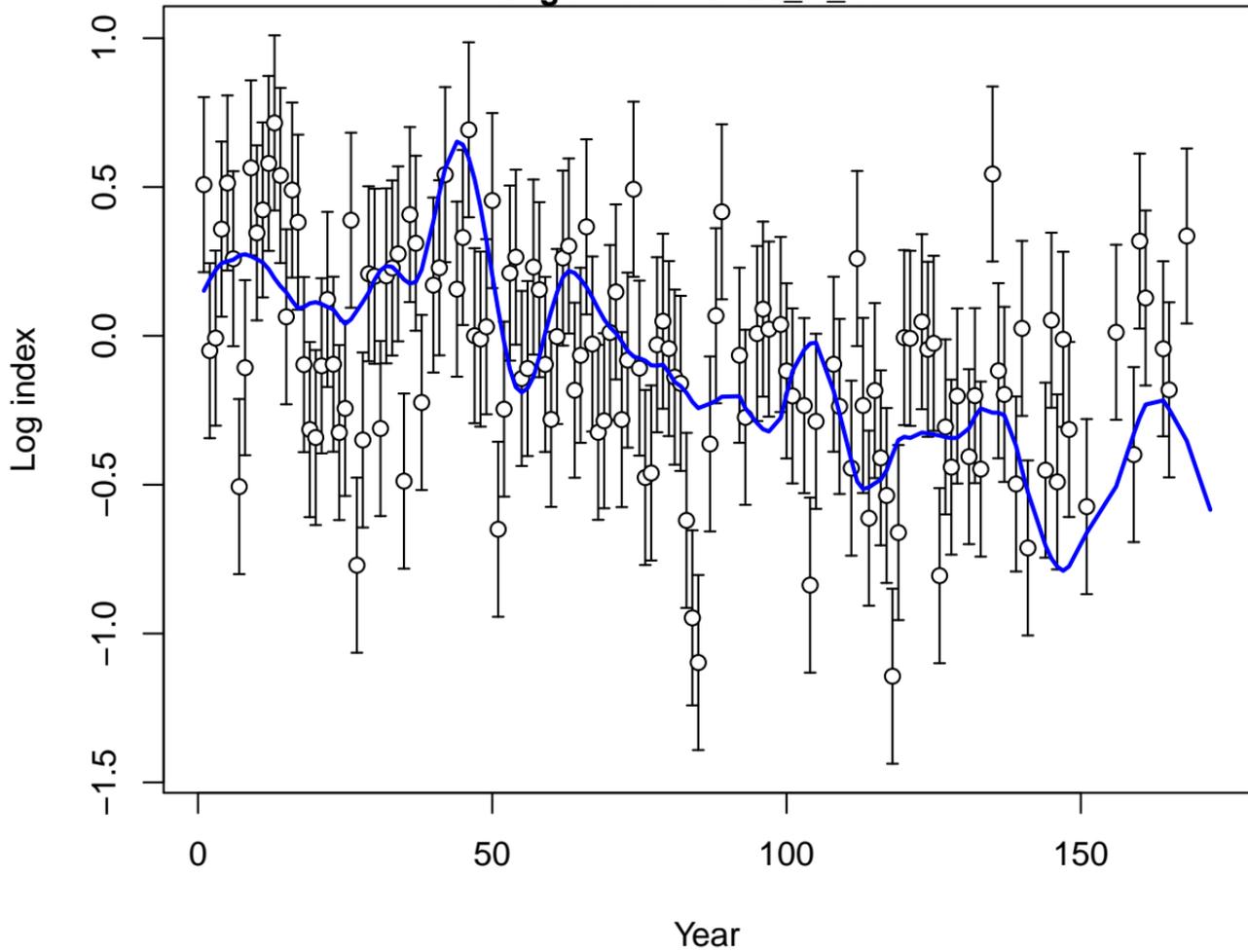


Observed index

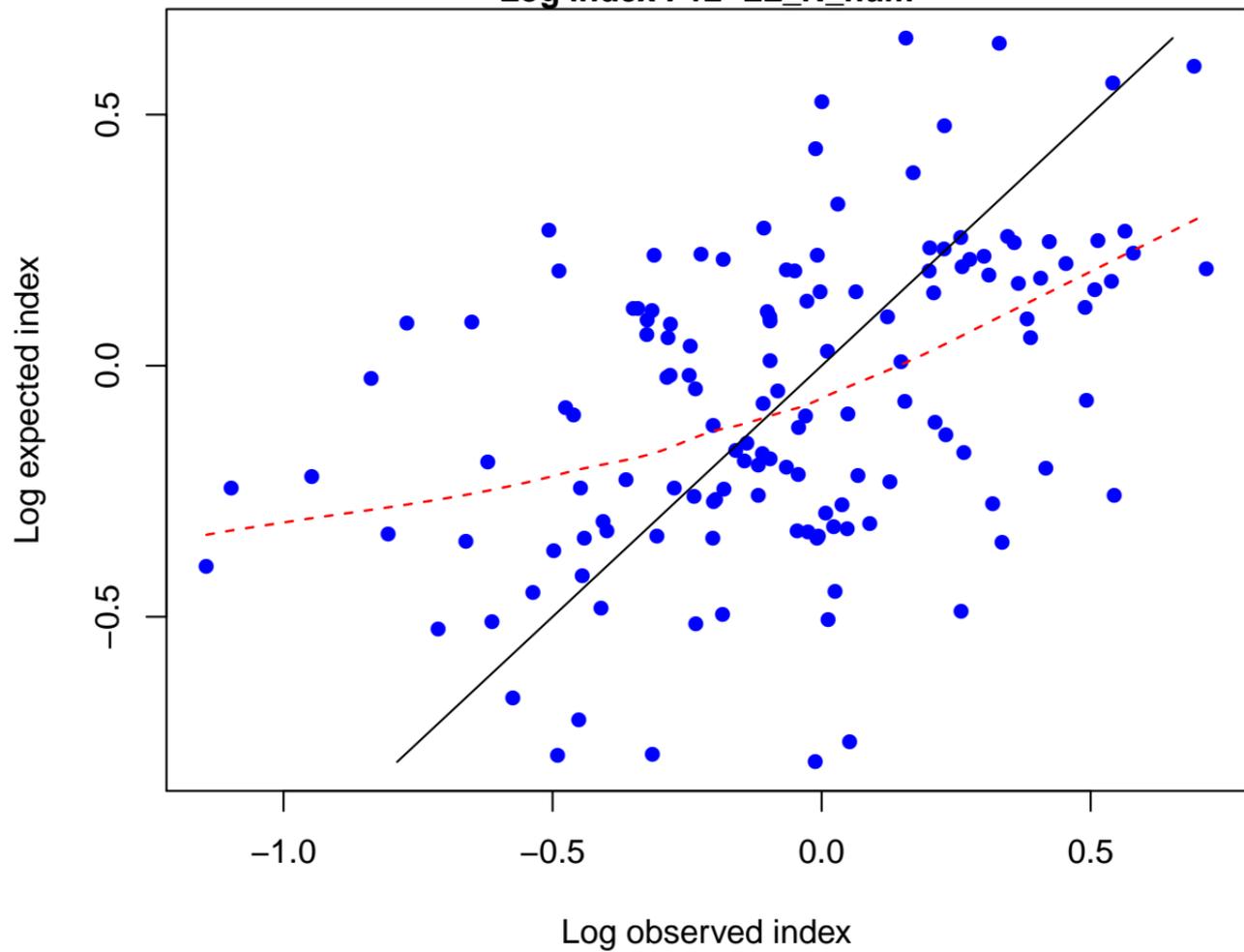
Log index F12-LL_N_num



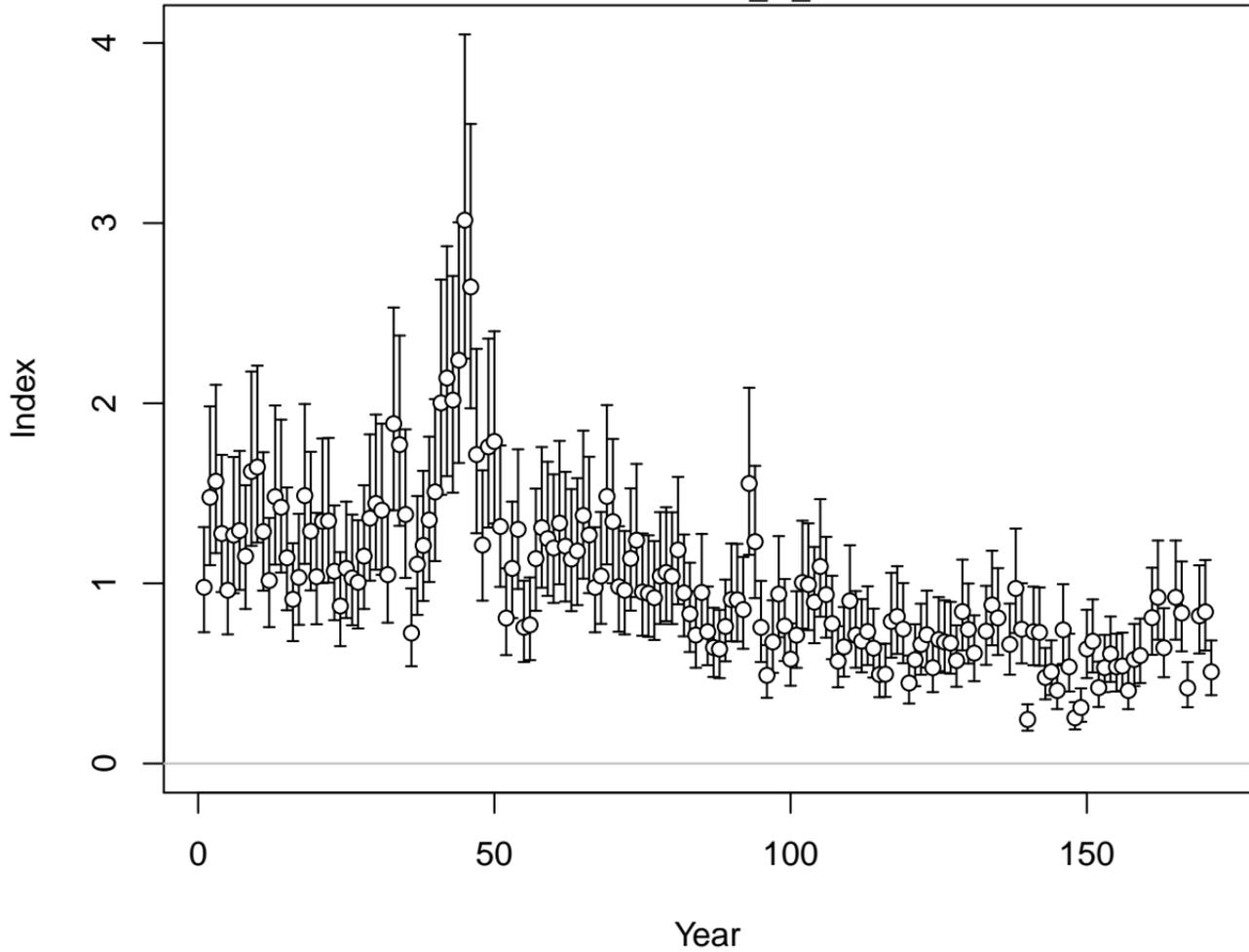
Log index F12-LL_N_num



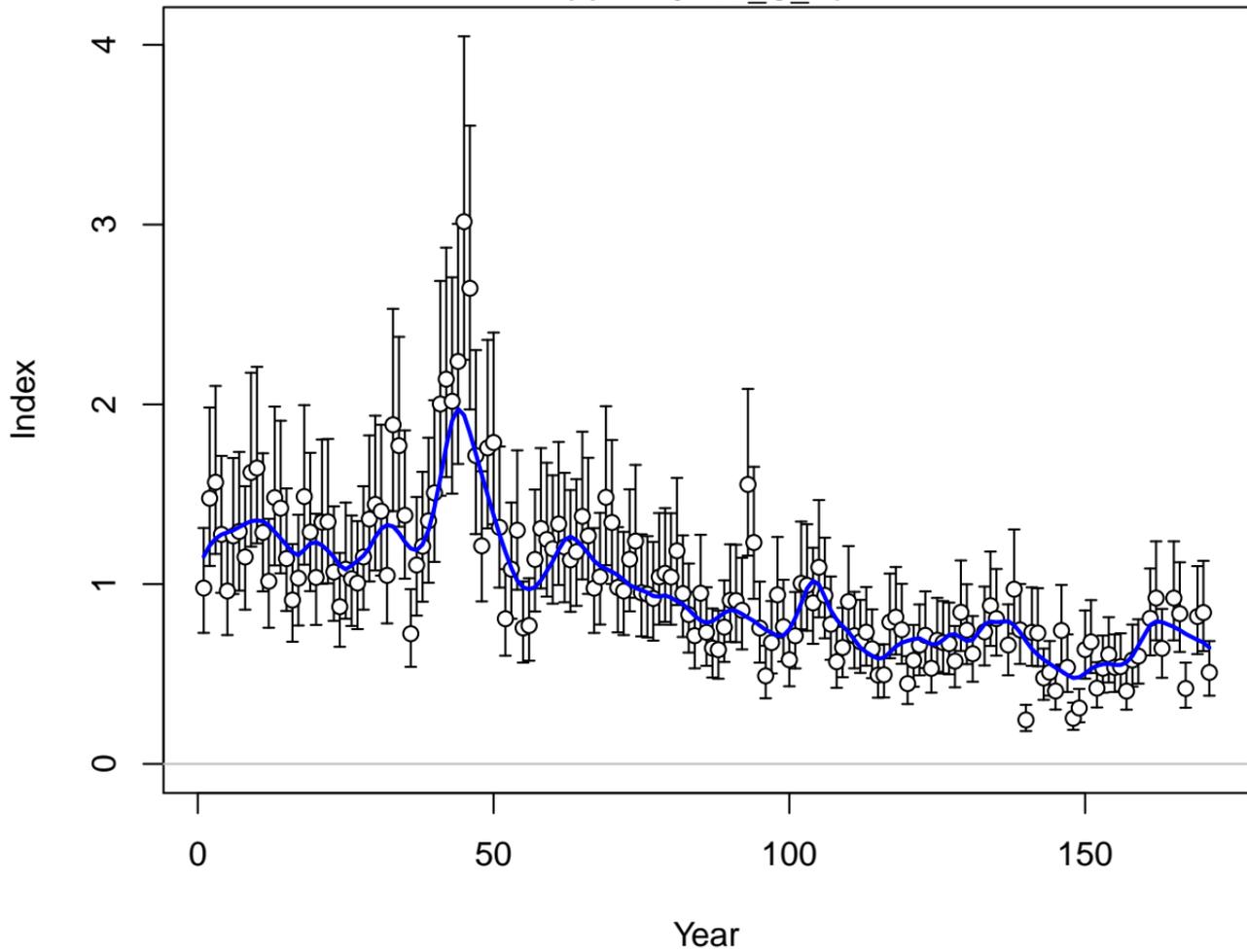
Log index F12-LL_N_num



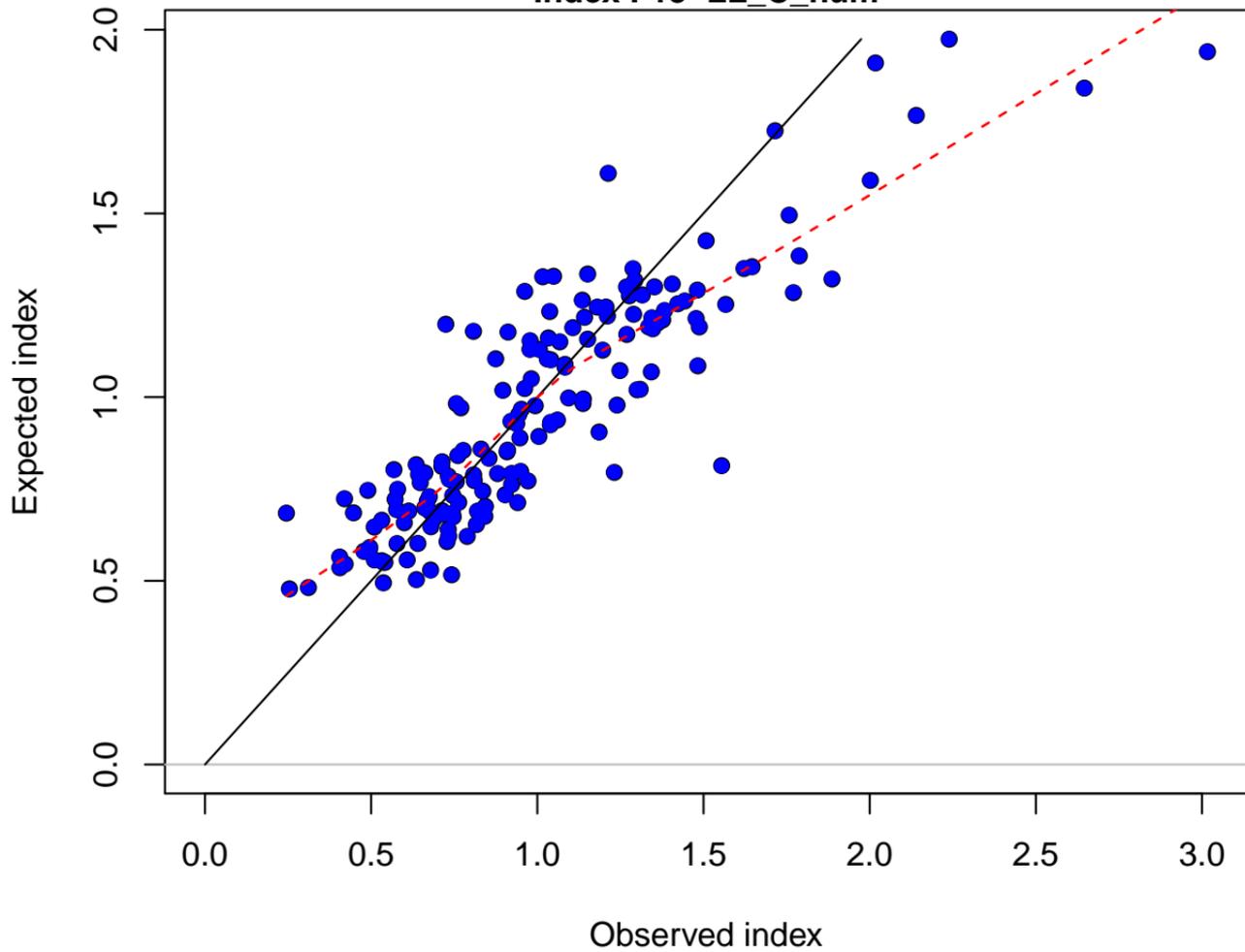
Index F13-LL_C_num



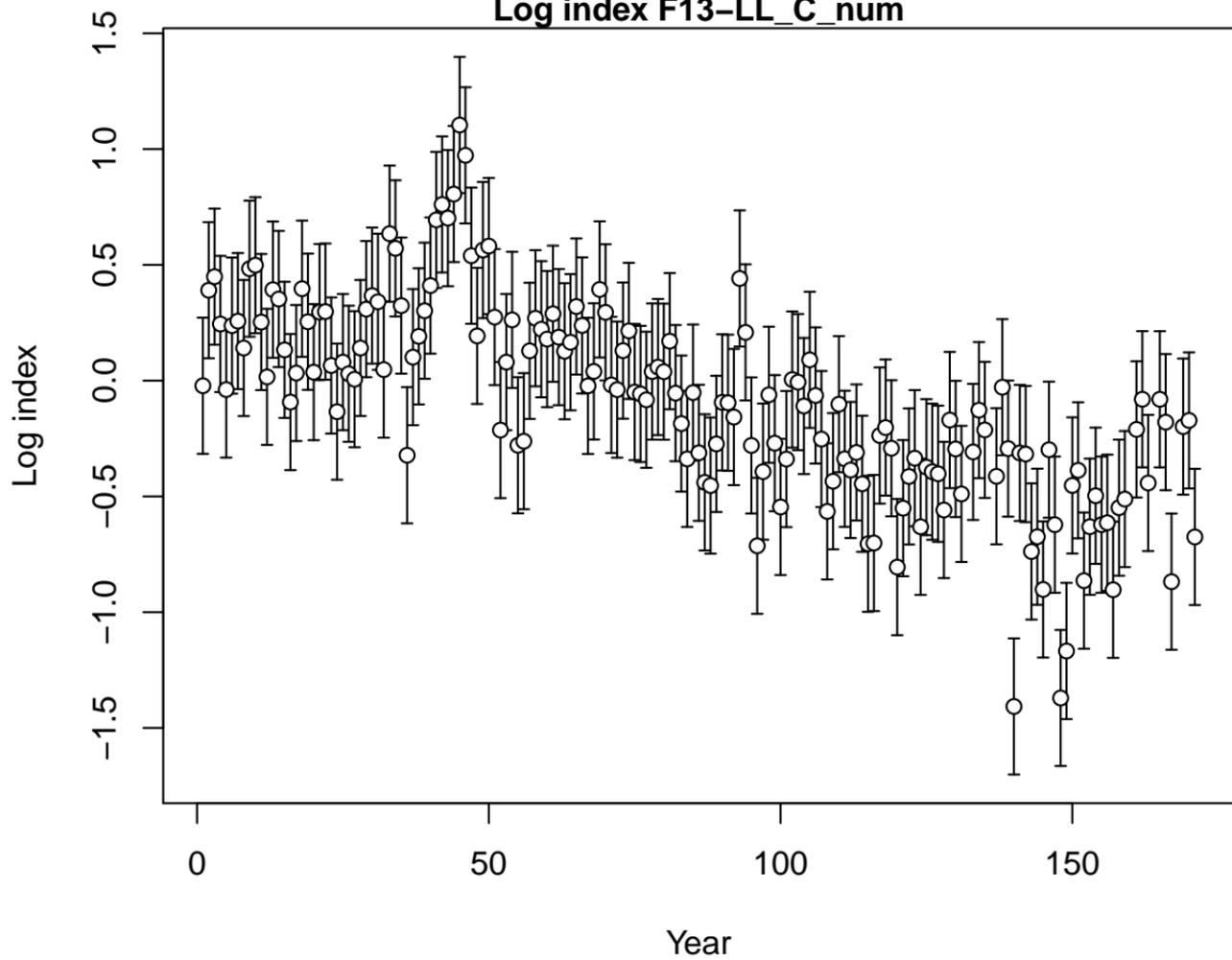
Index F13-LL_C_num



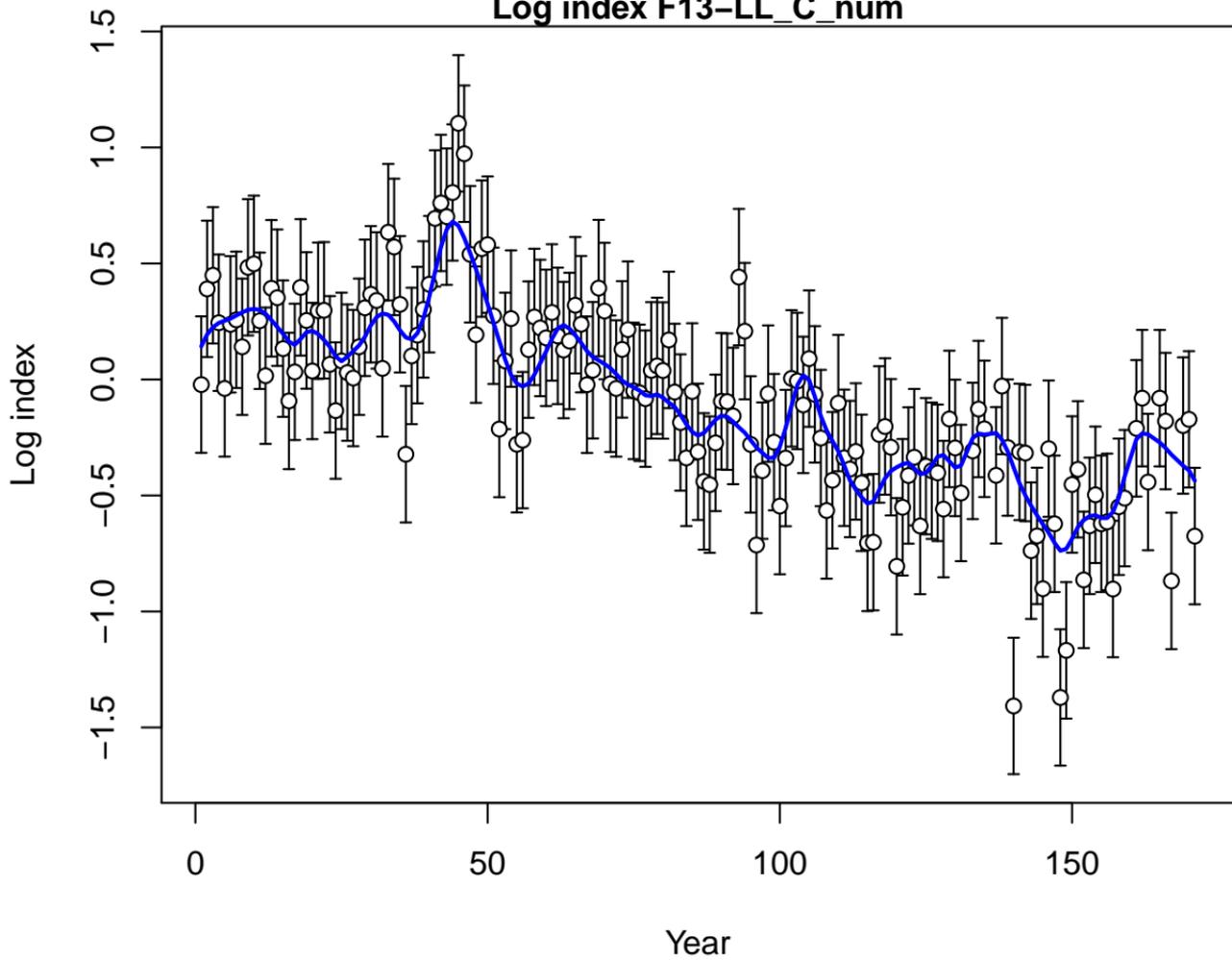
Index F13-LL_C_num



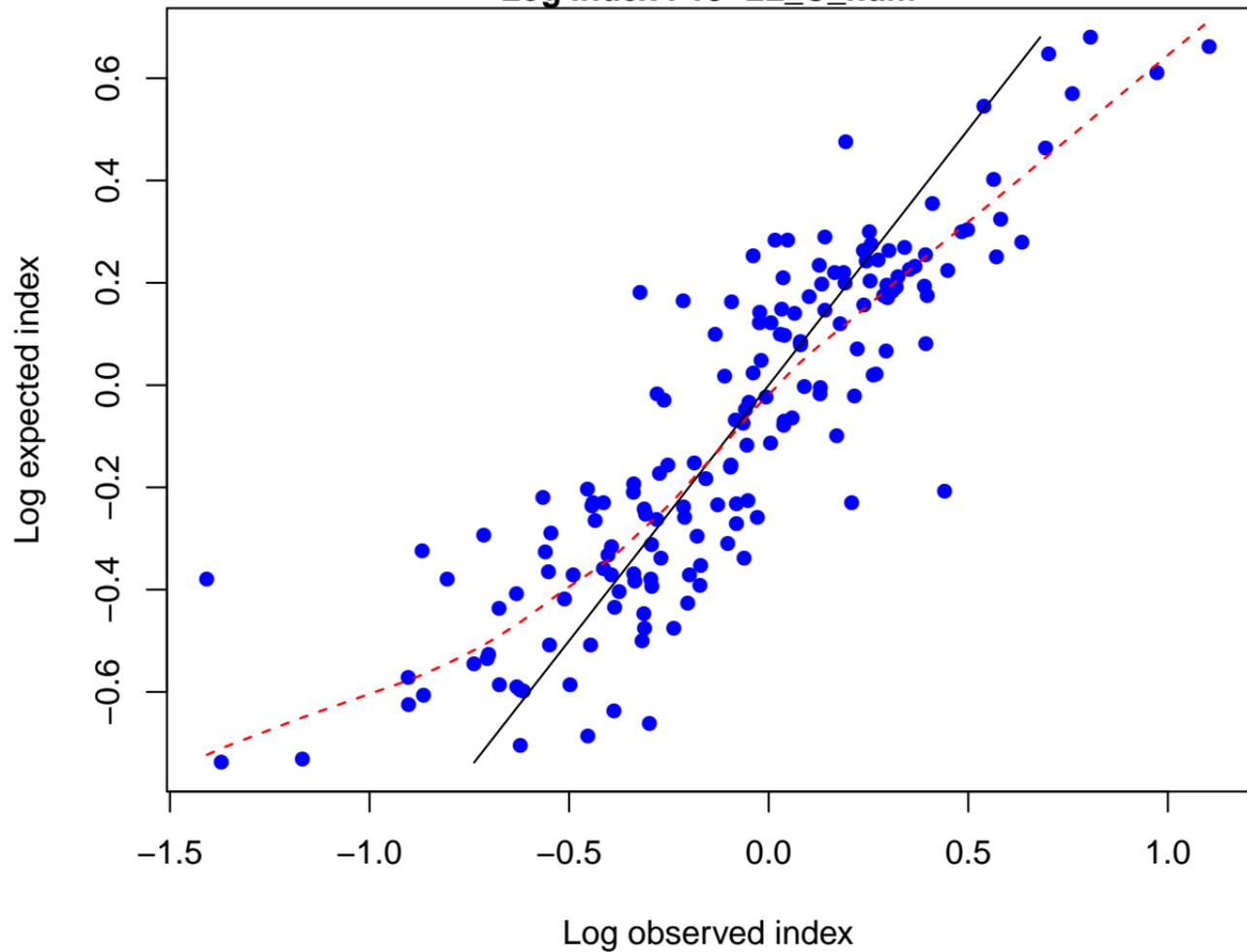
Log index F13-LL_C_num



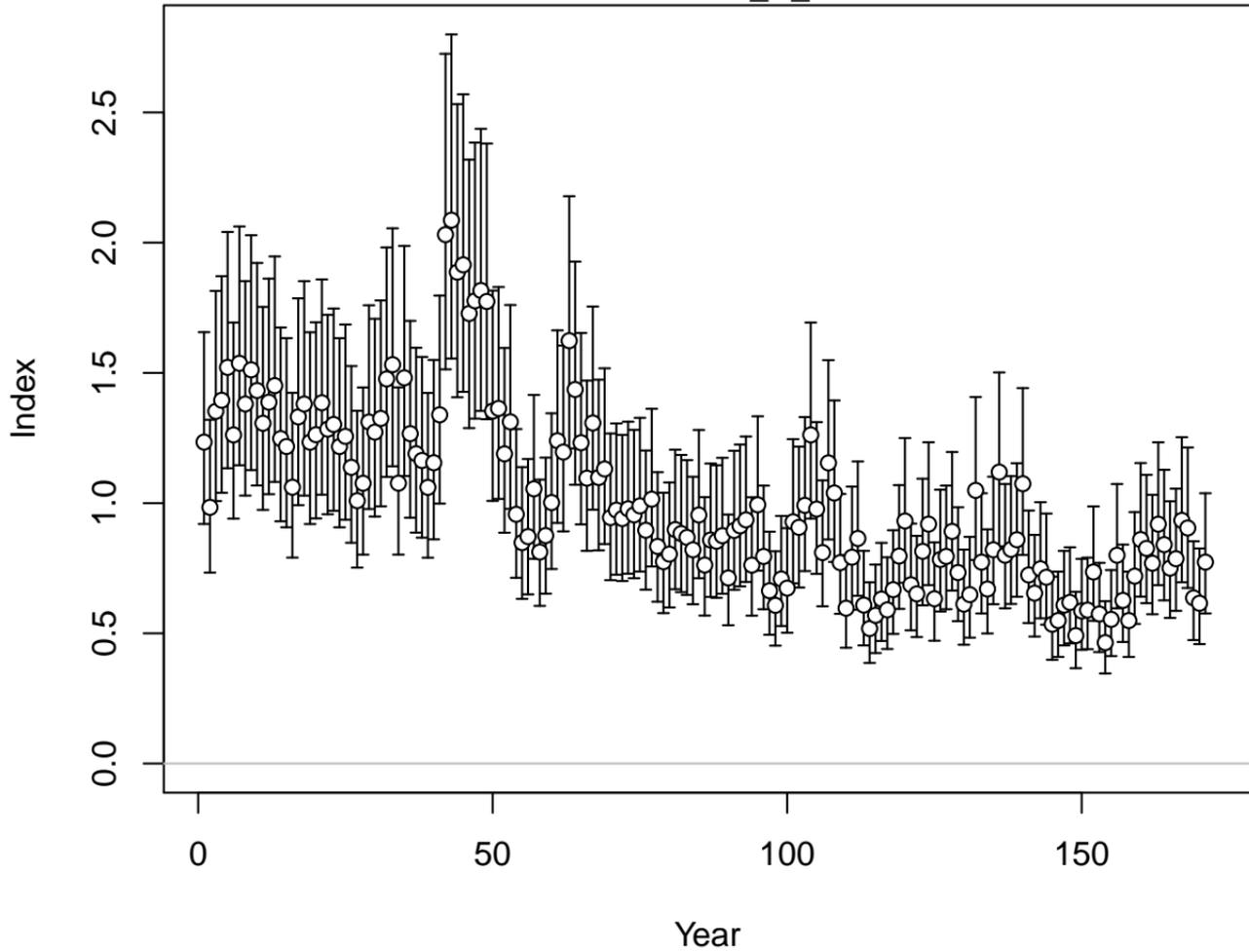
Log index F13-LL_C_num



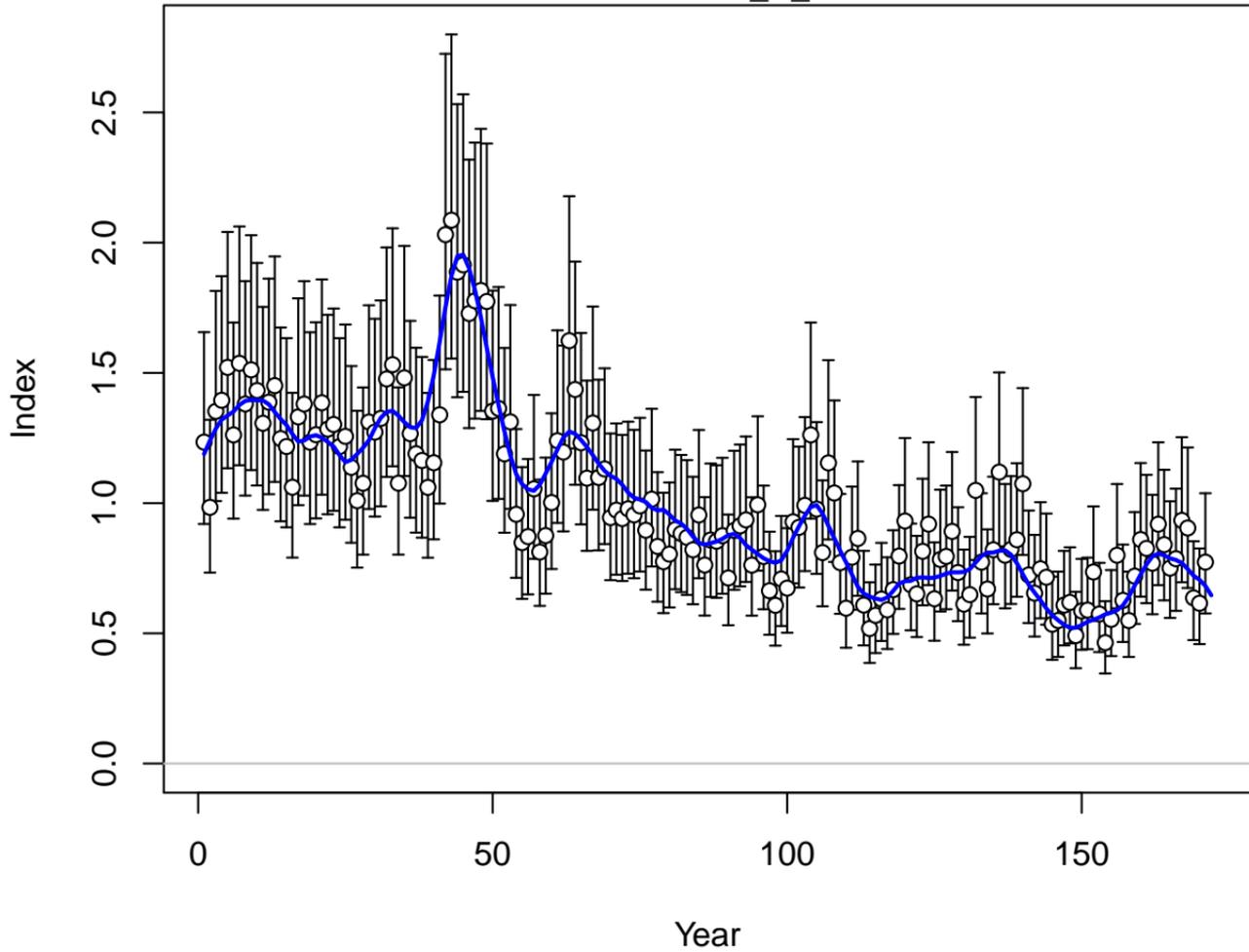
Log index F13-LL_C_num



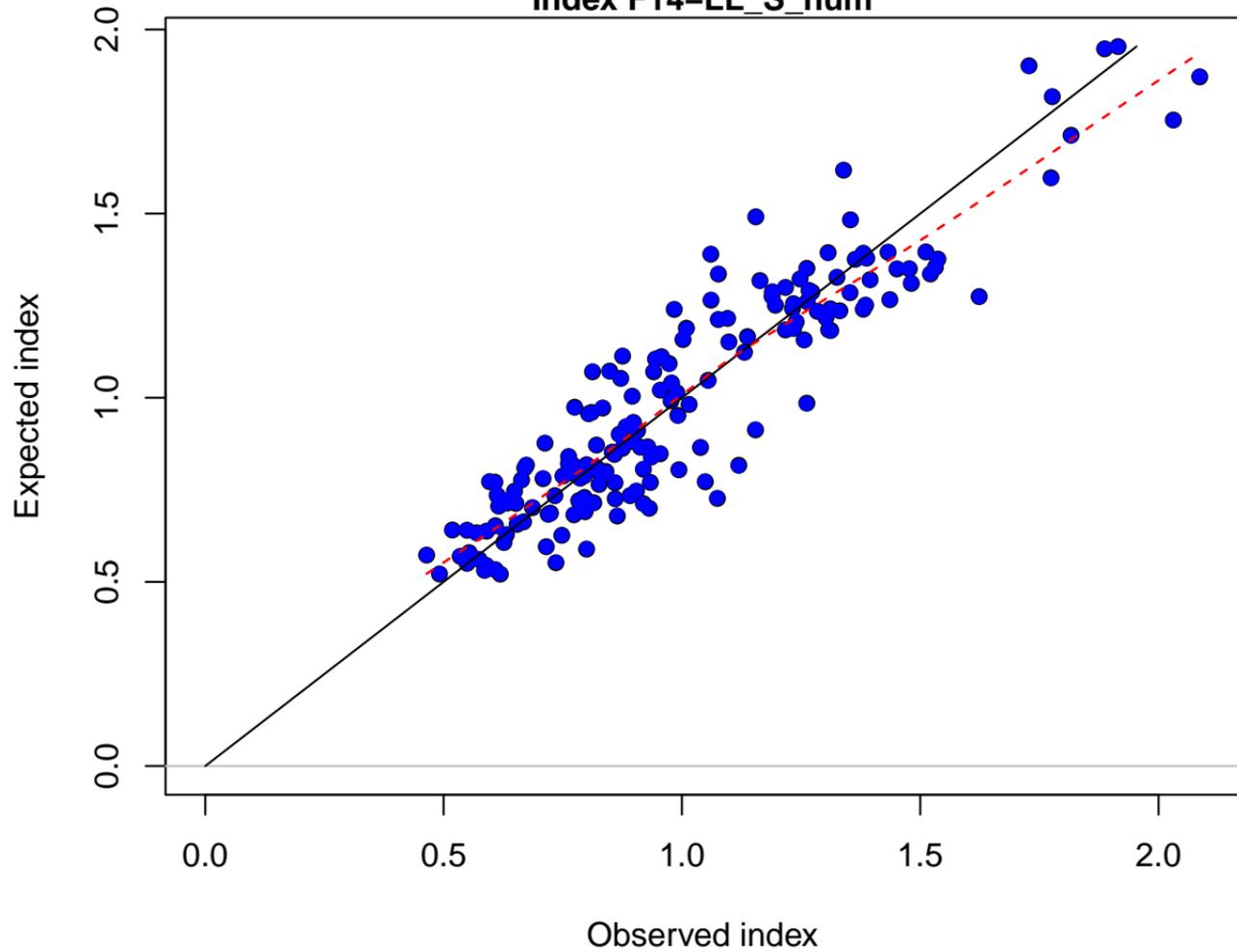
Index F14-LL_S_num



Index F14-LL_S_num



Index F14-LL_S_num



Log index F14-LL_S_num

Log index

1.0
0.5
0.0
-0.5
-1.0

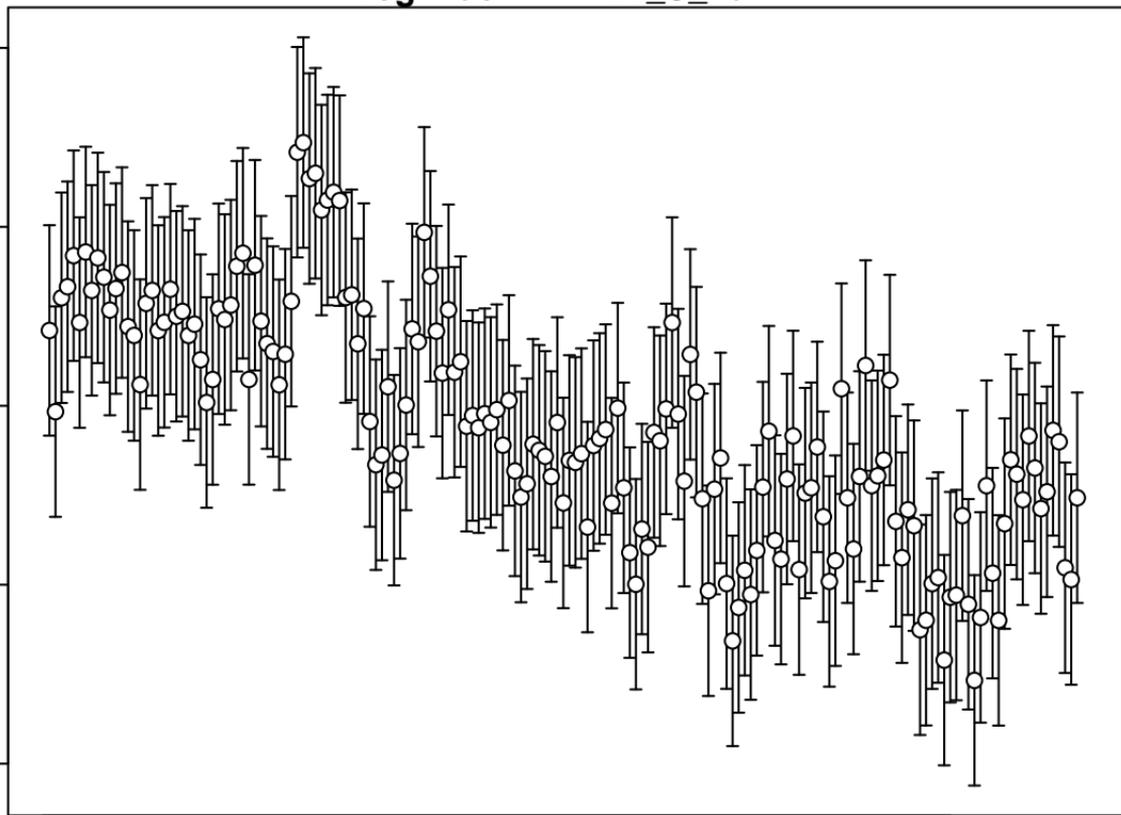
0

50

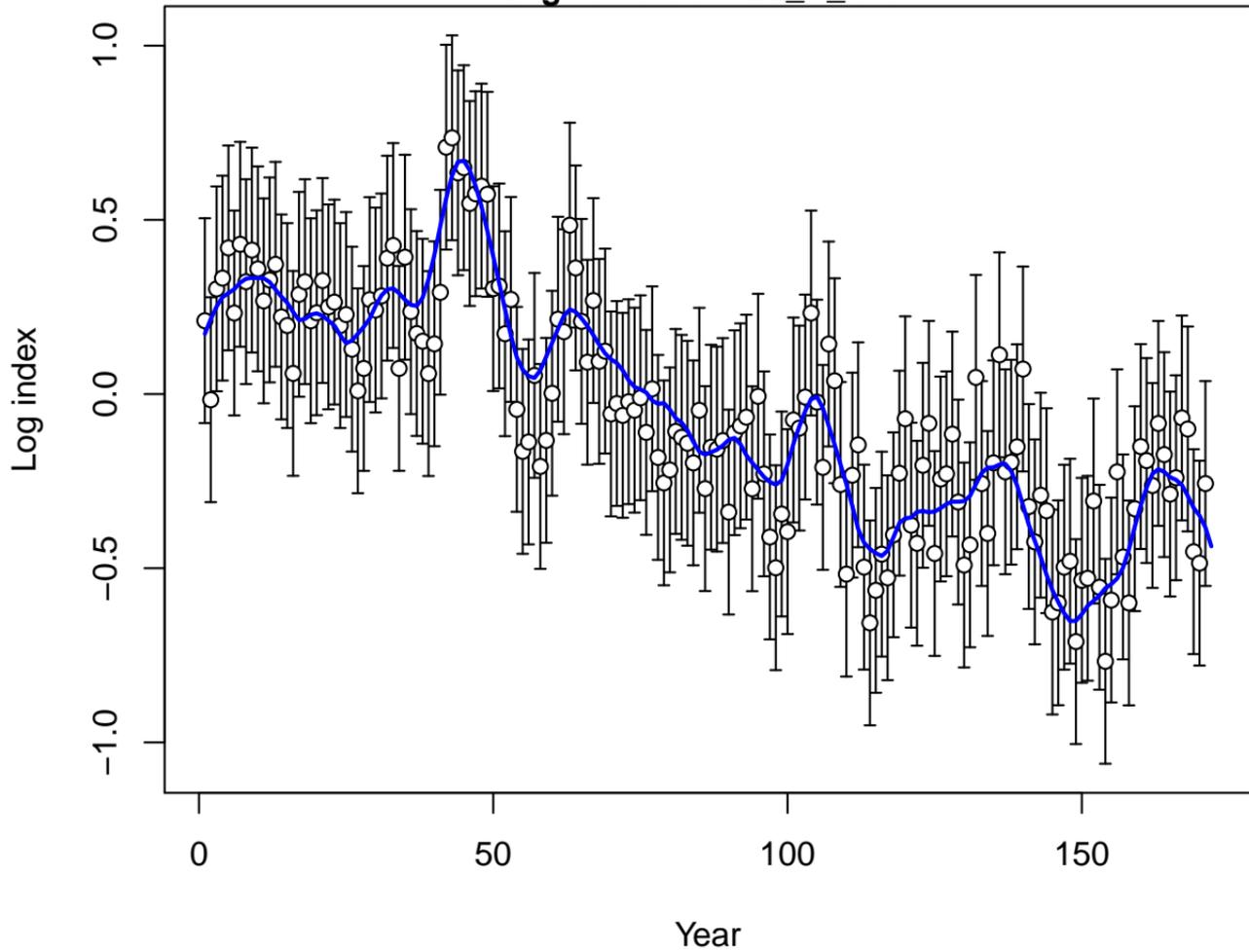
100

150

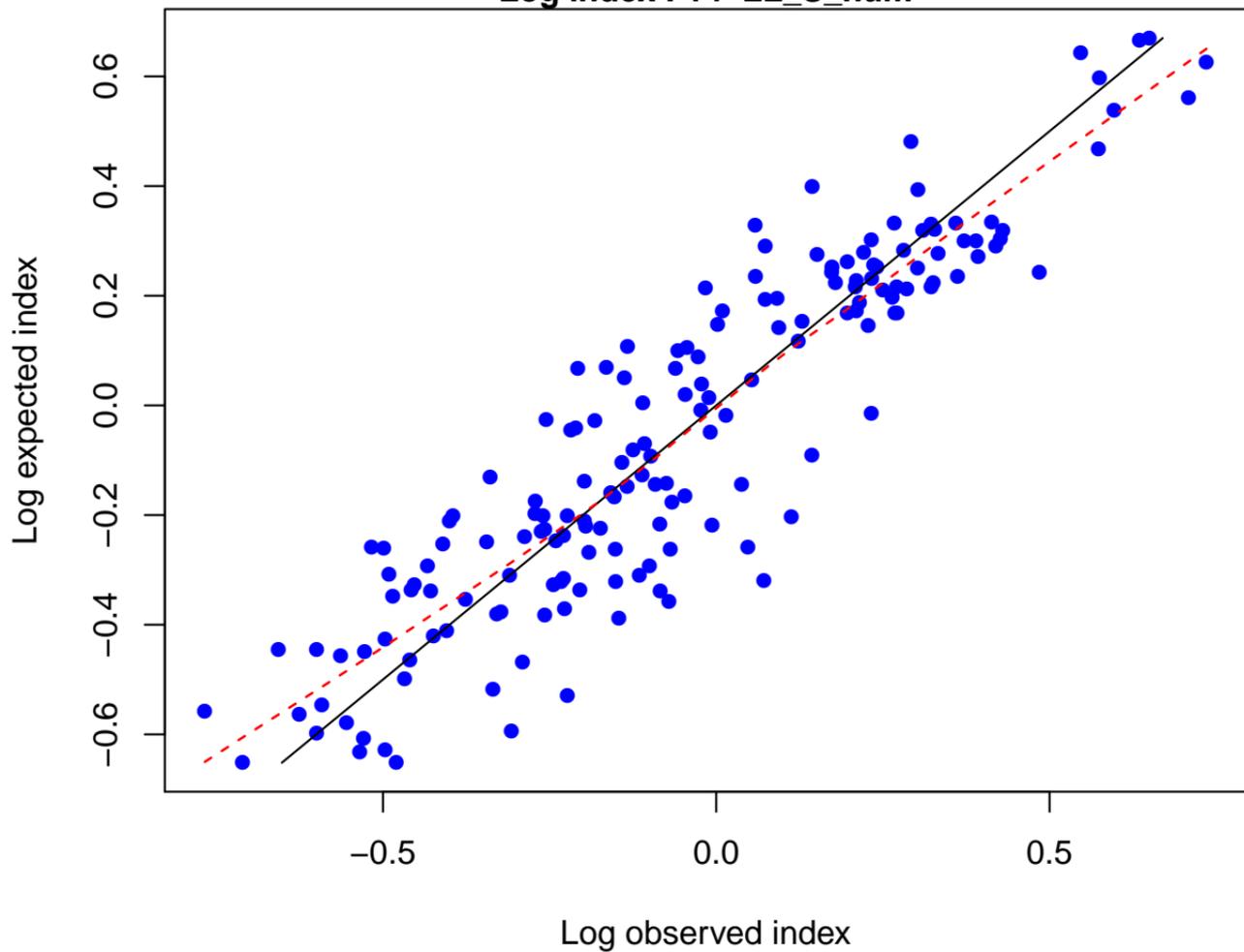
Year



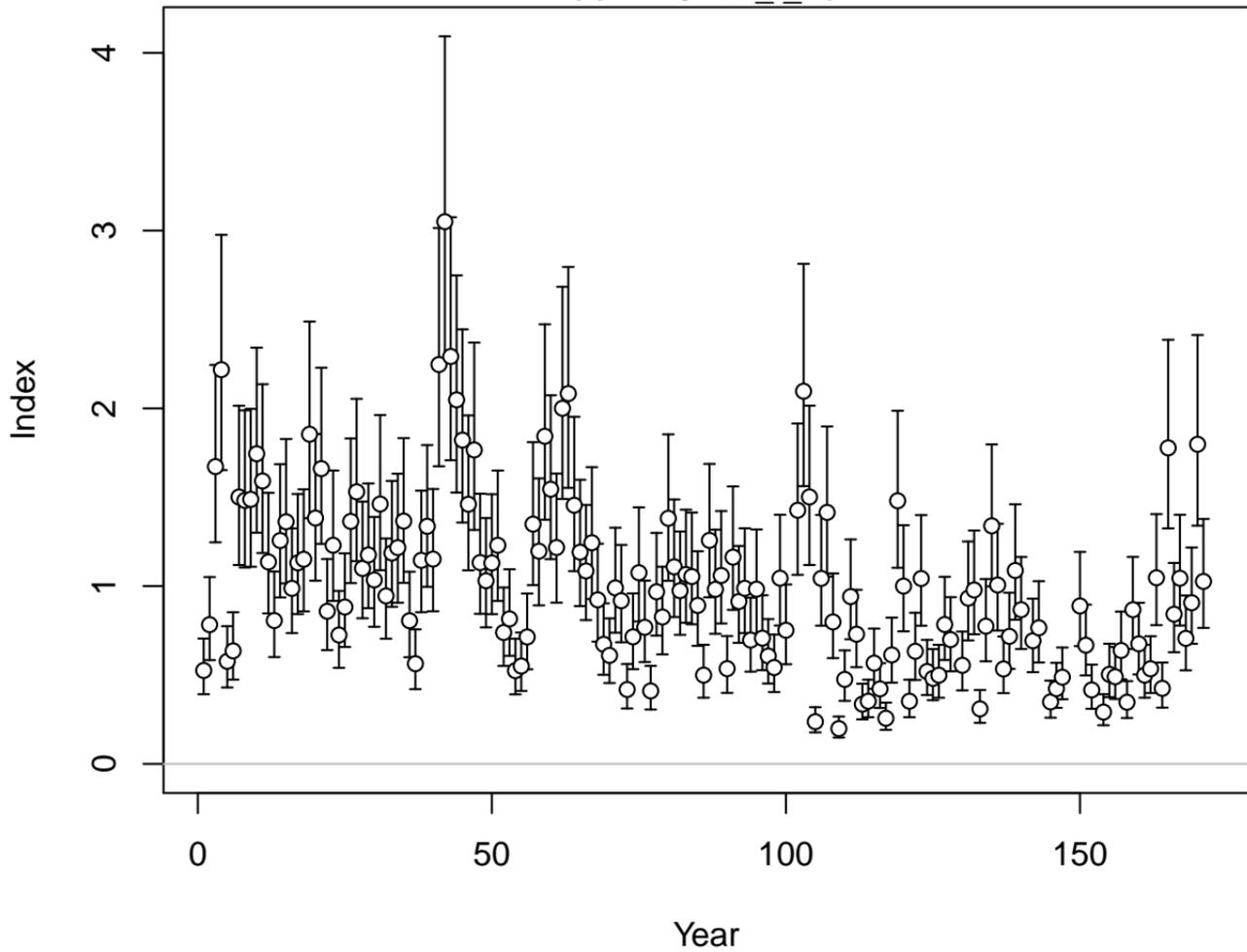
Log index F14-LL_S_num



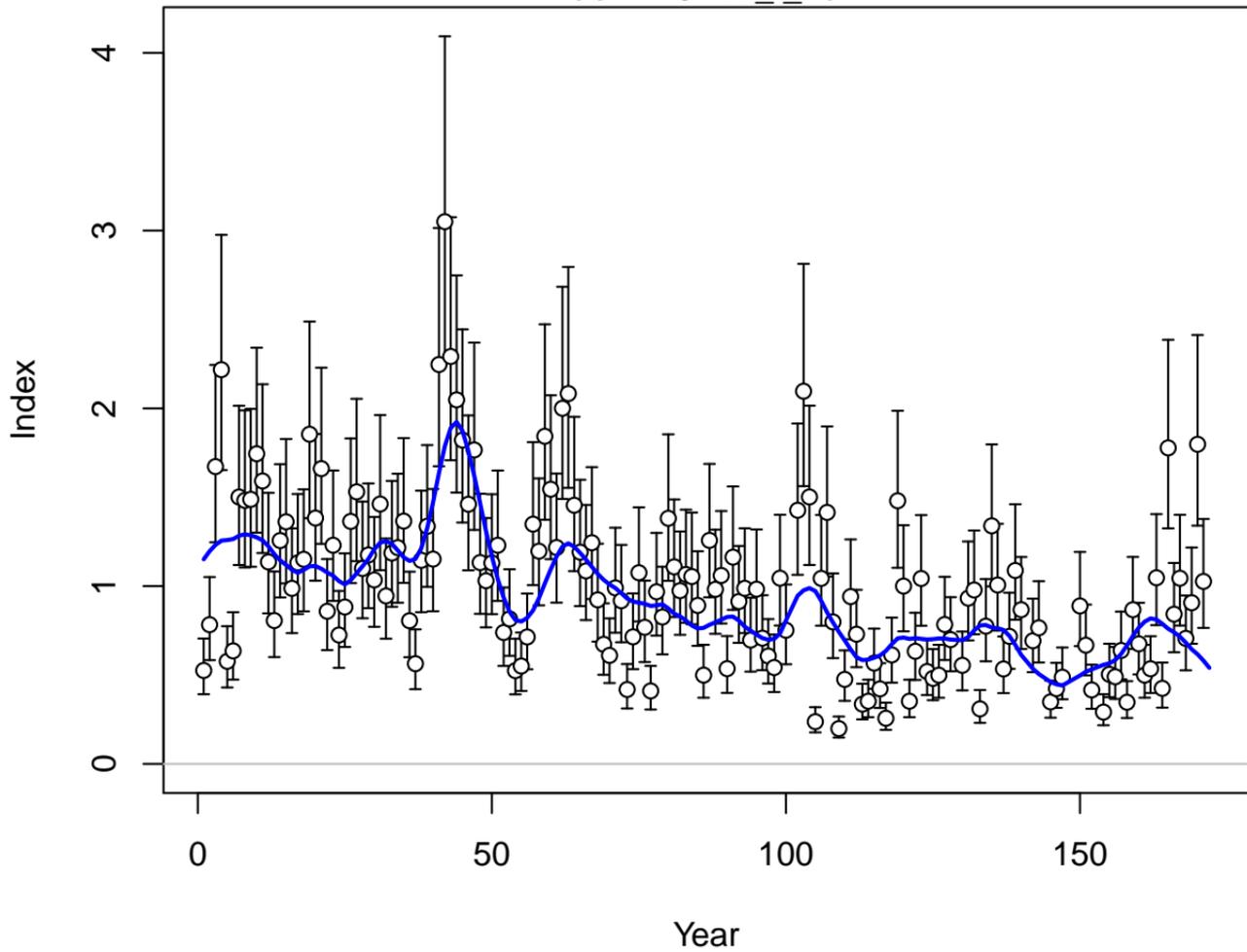
Log index F14-LL_S_num



Index F15-LL_I_num

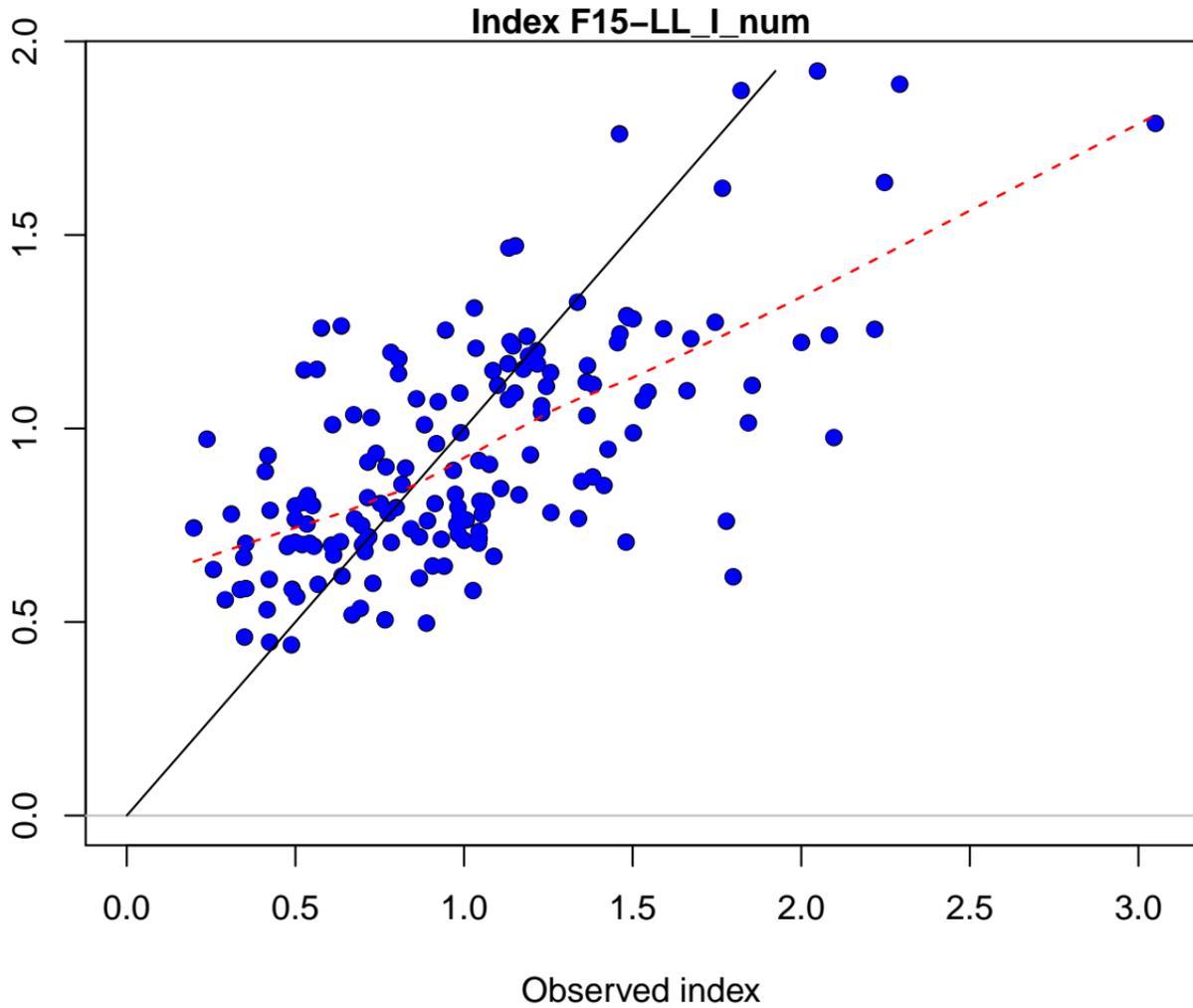


Index F15-LL_I_num



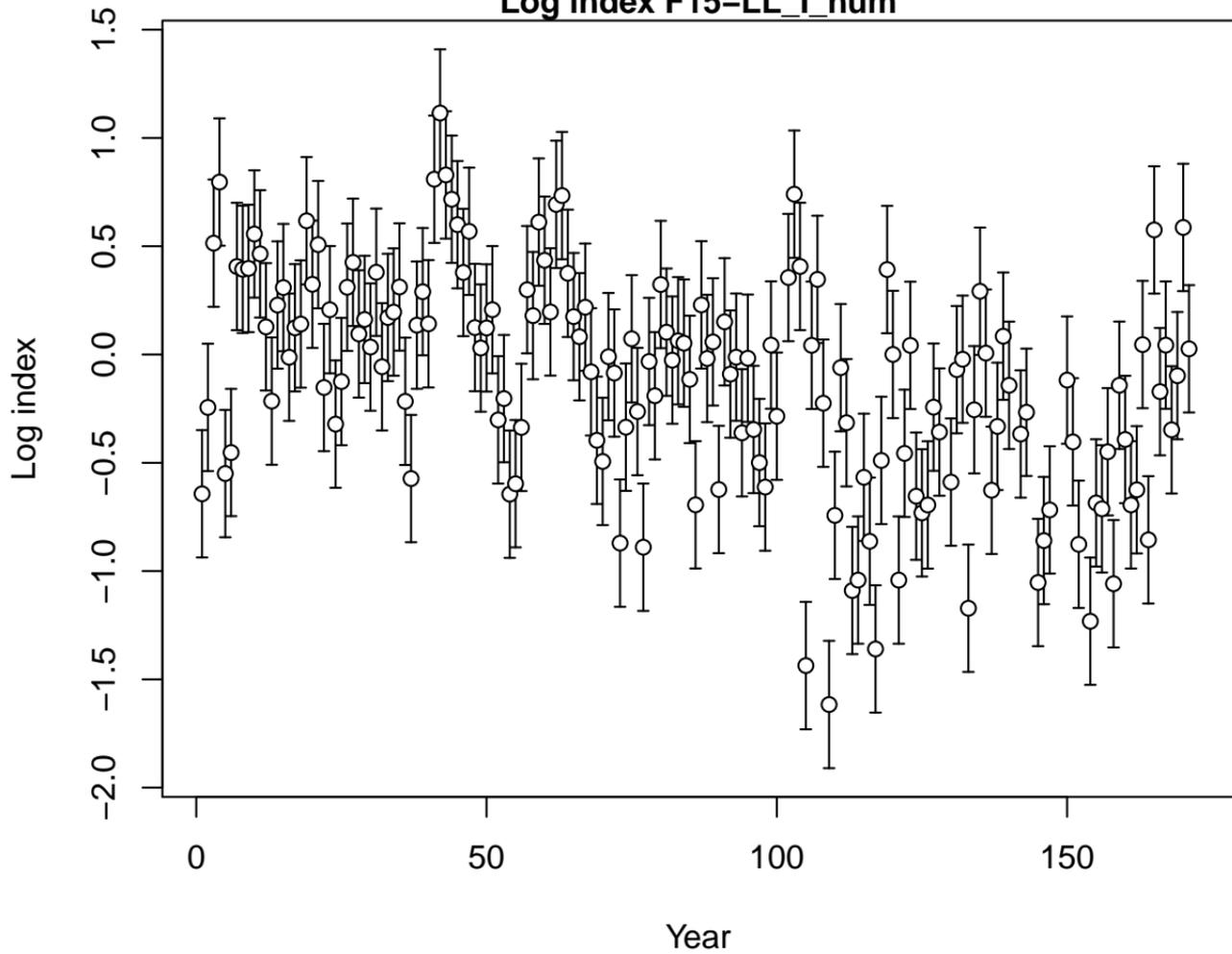
Index F15-LL_I_num

Expected index

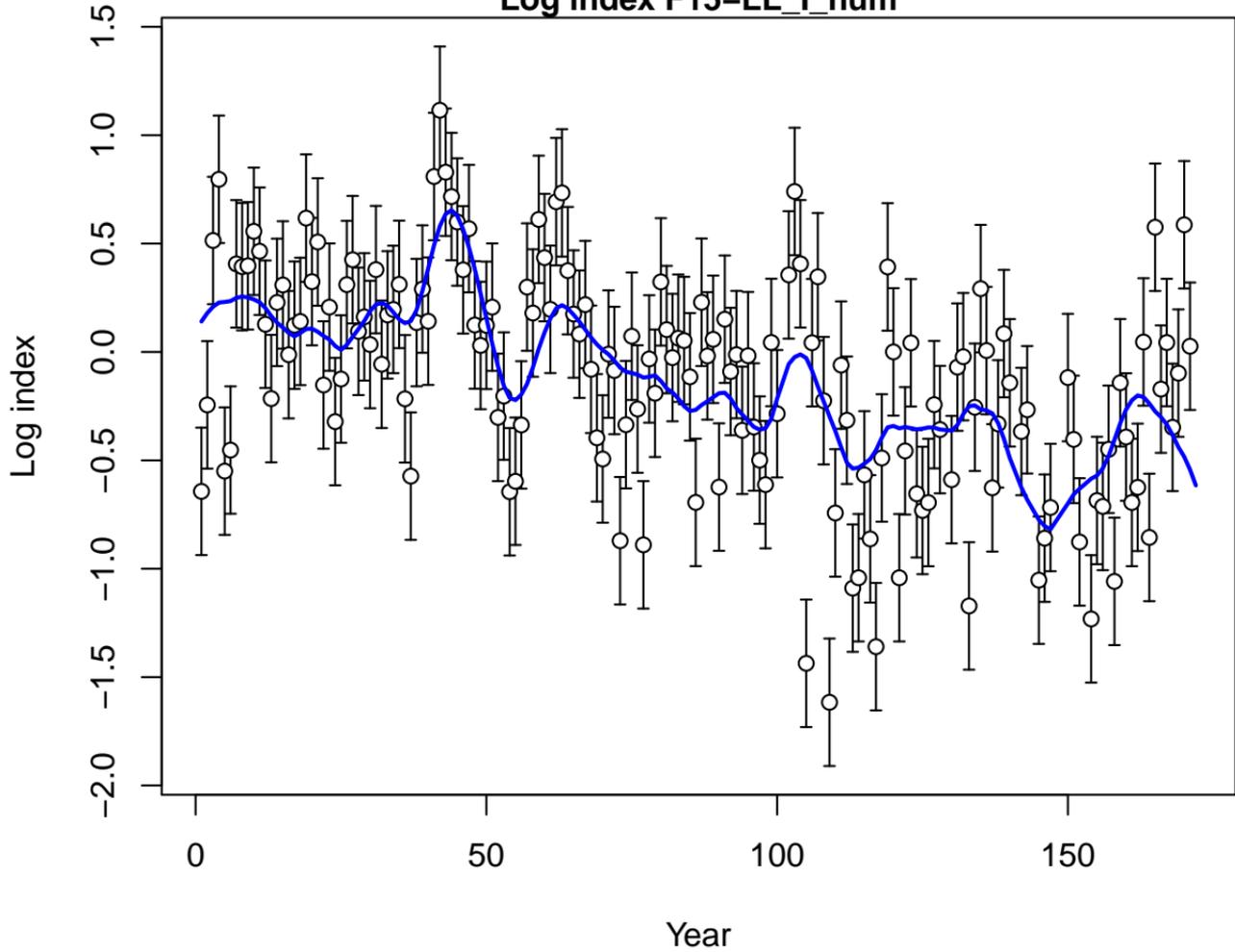


Observed index

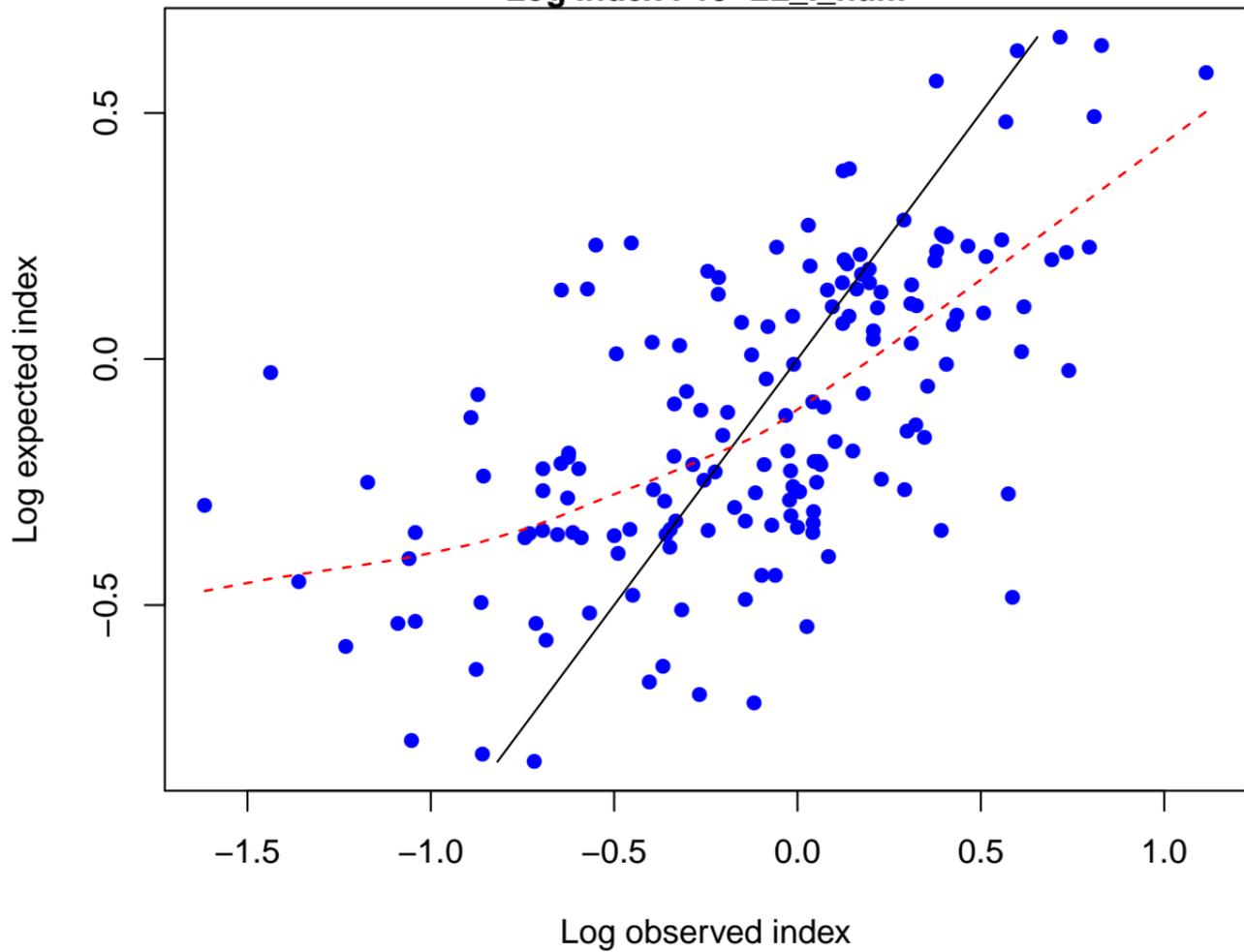
Log index F15-LL_I_num



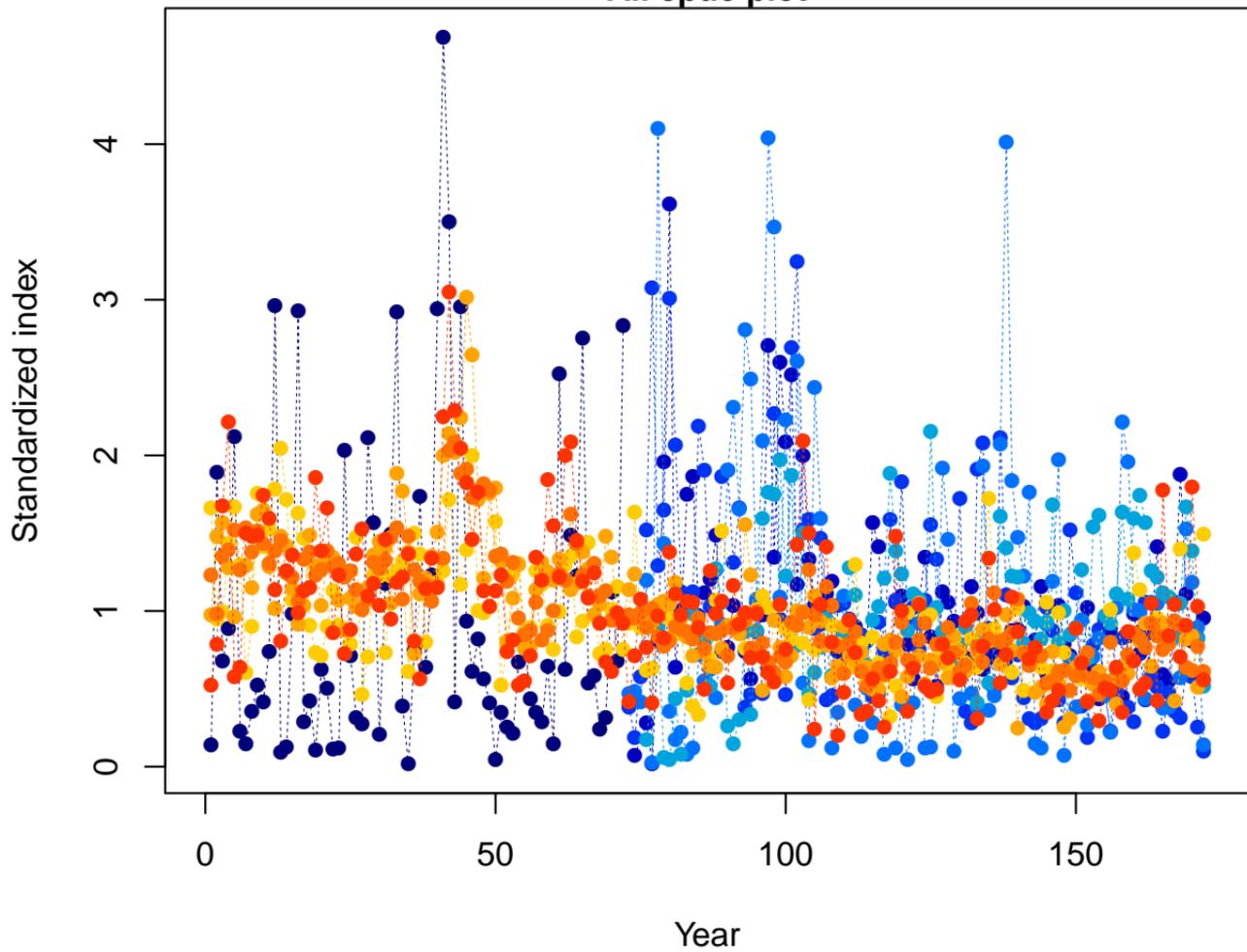
Log index F15-LL_I_num



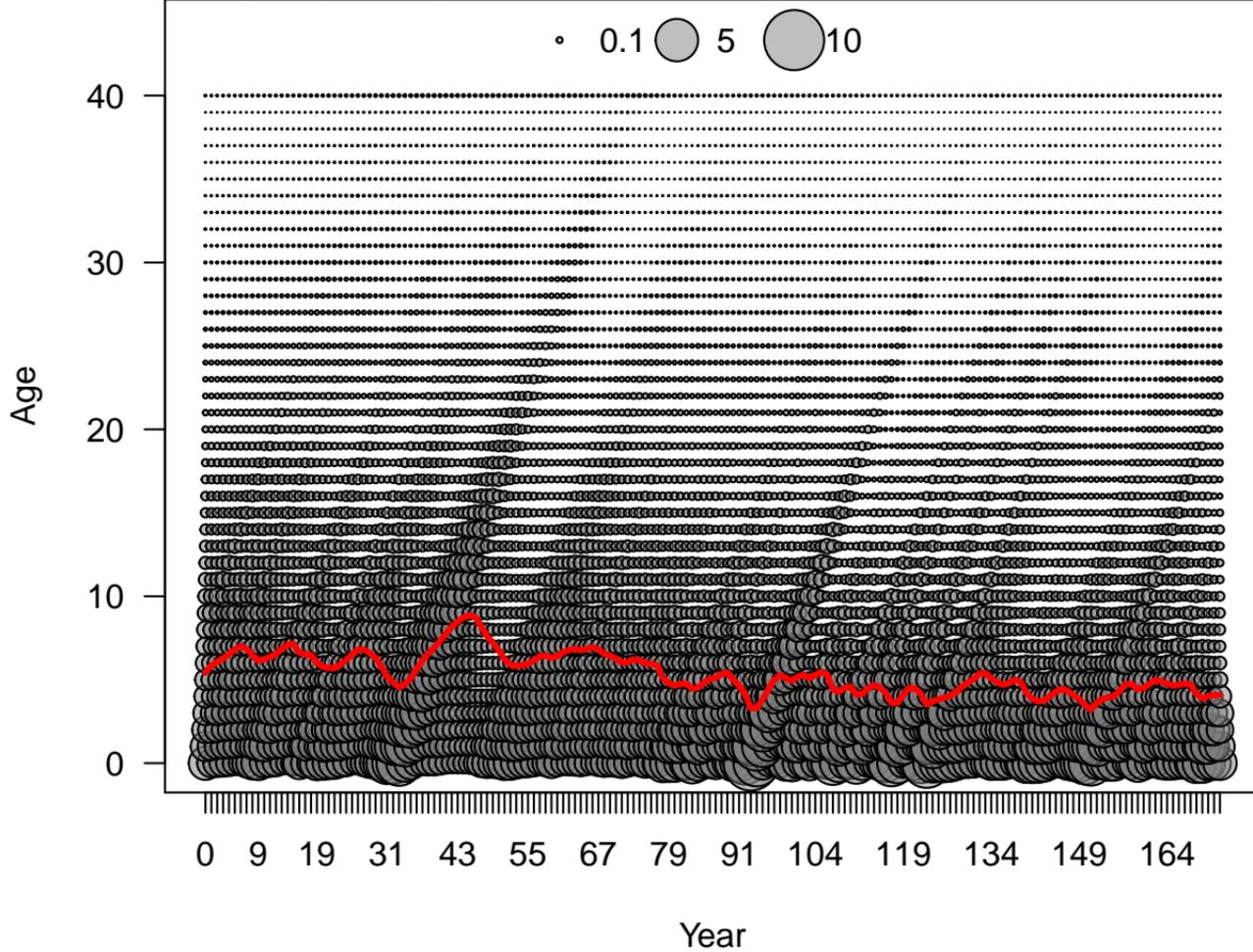
Log index F15-LL_I_num



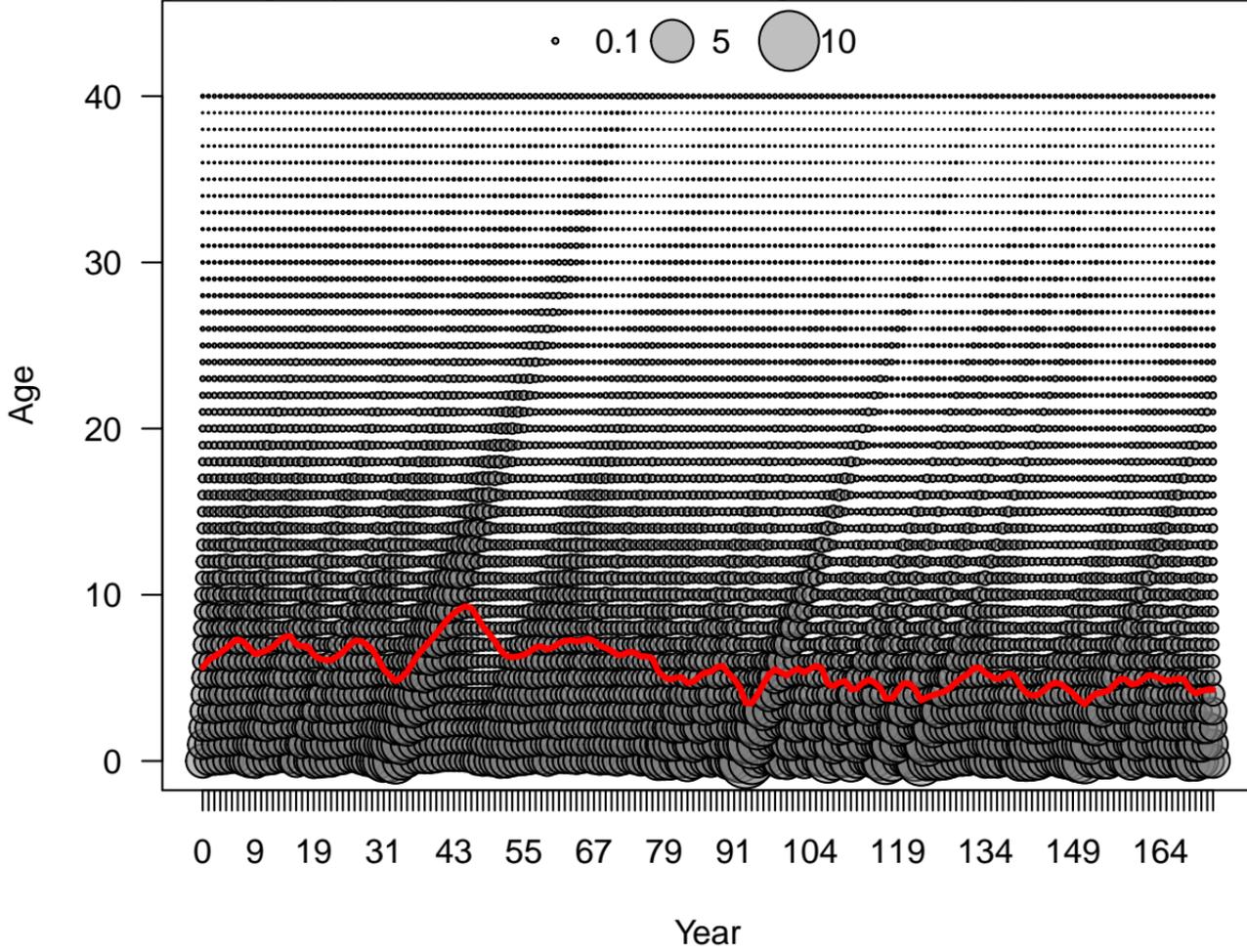
All cpue plot



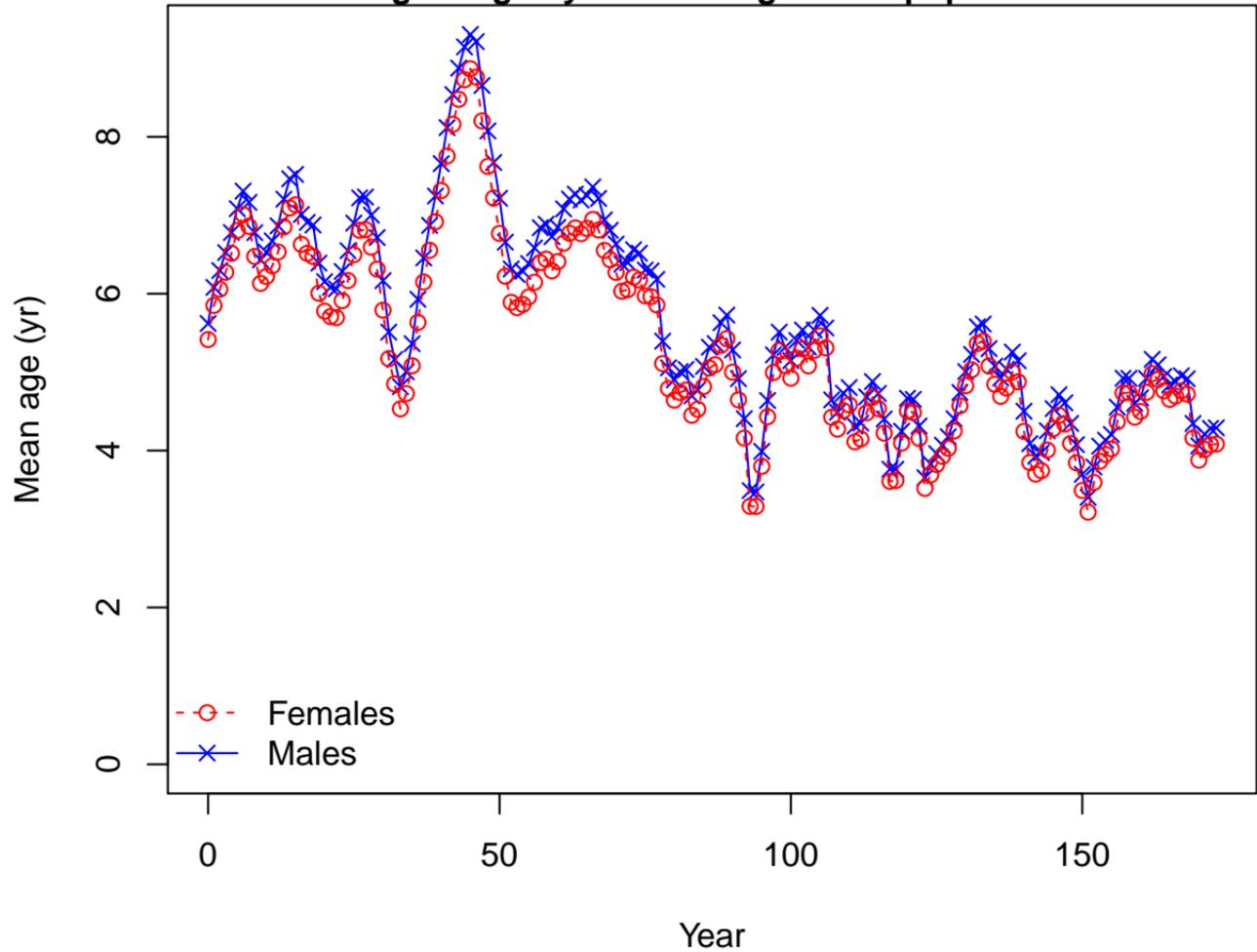
Beginning of year expected numbers at age of females in (max ~ 8.3 million)



Beginning of year expected numbers at age of males in (max ~ 8.3 million)



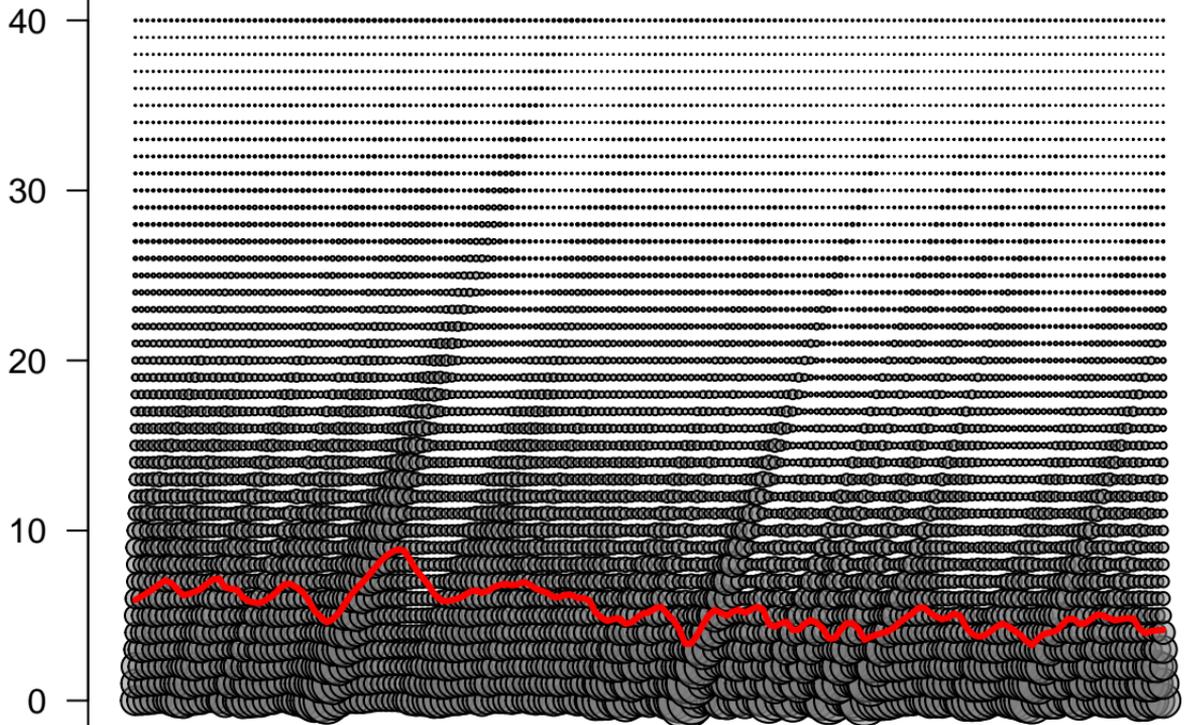
Beginning of year mean age in the population



Middle of year expected numbers at age of females in (max ~ 7.4 million)

Age

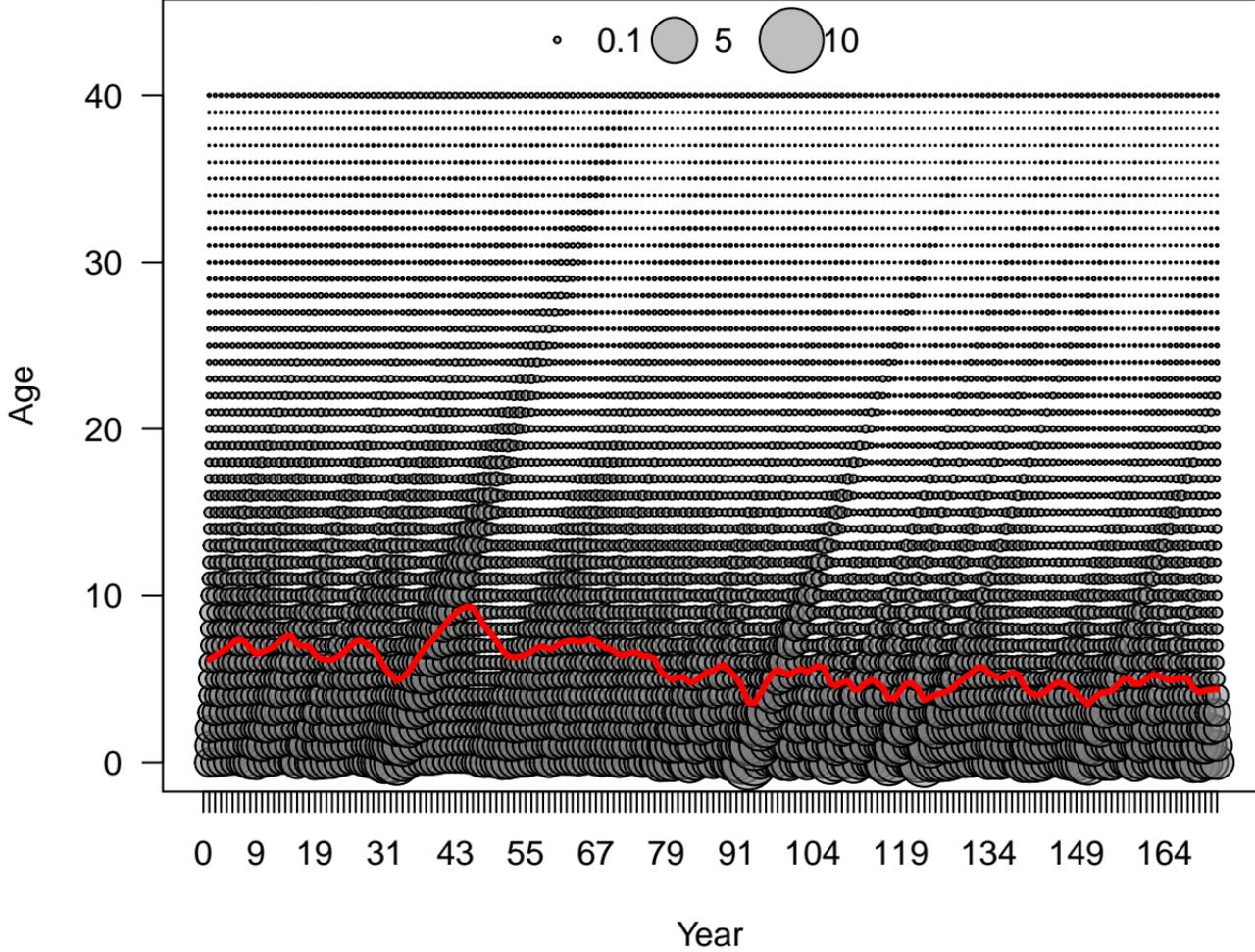
○ 0.1 ● 5 ● 10



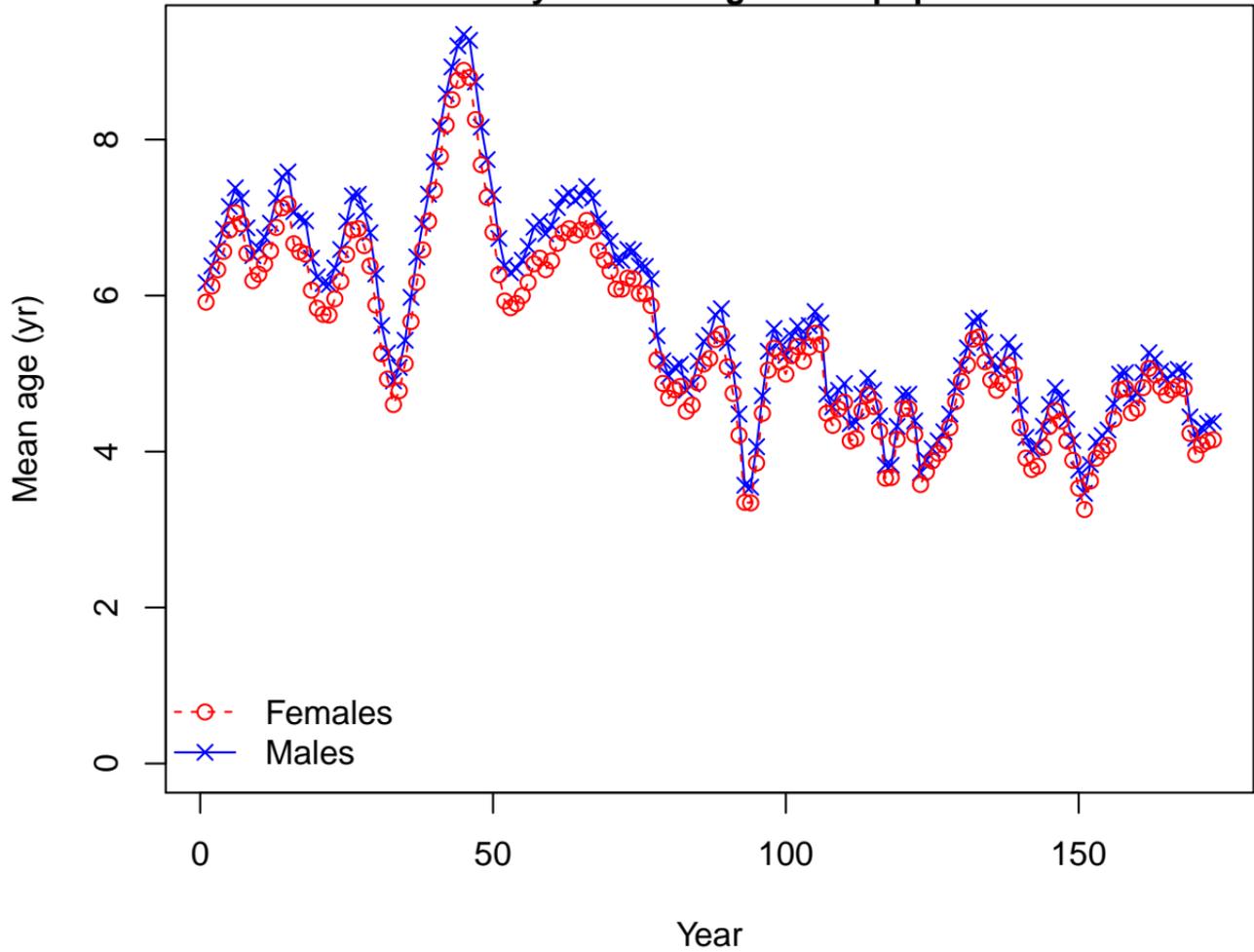
0 9 19 31 43 55 67 79 91 104 119 134 149 164

Year

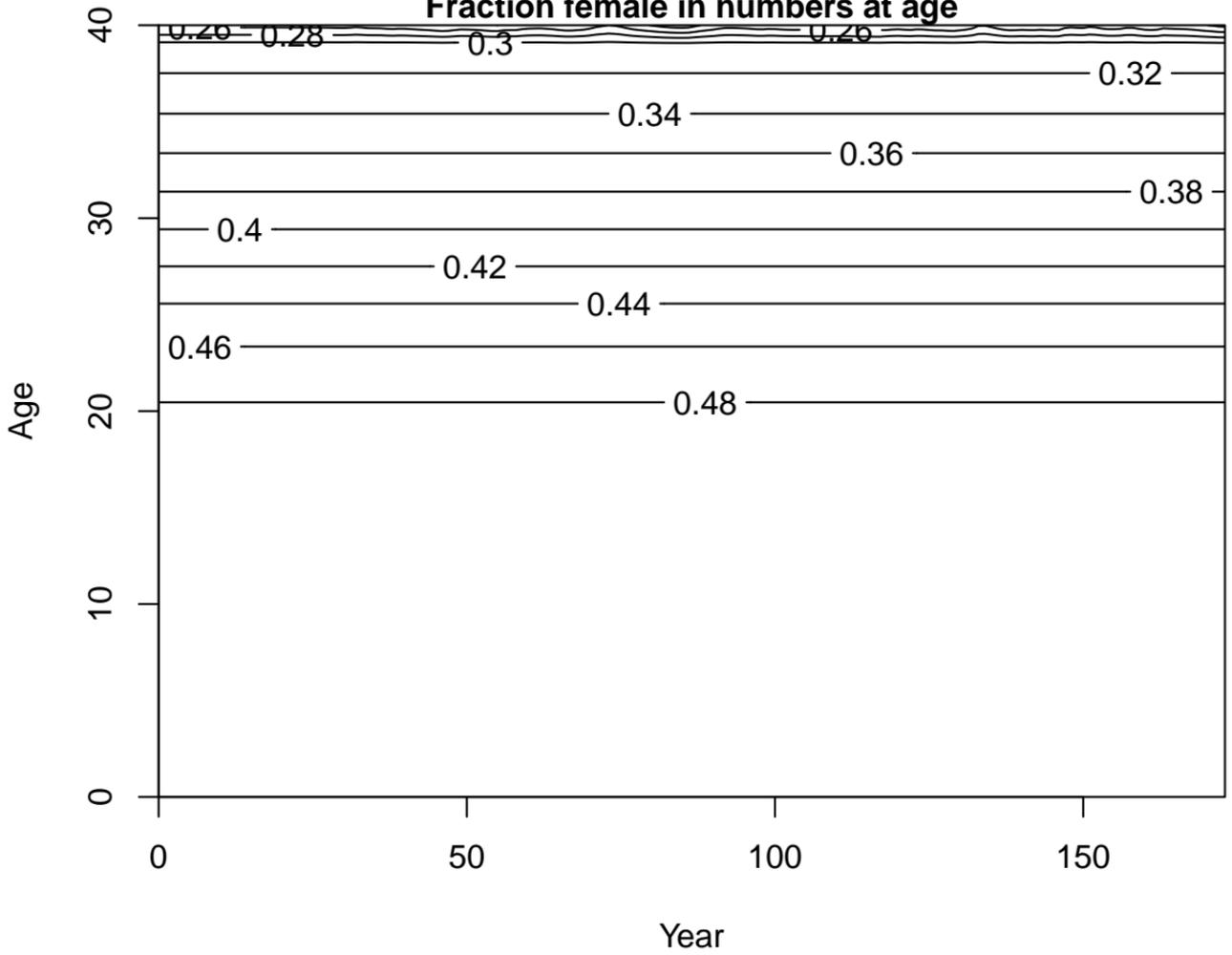
Middle of year expected numbers at age of males in (max ~ 7.4 million)



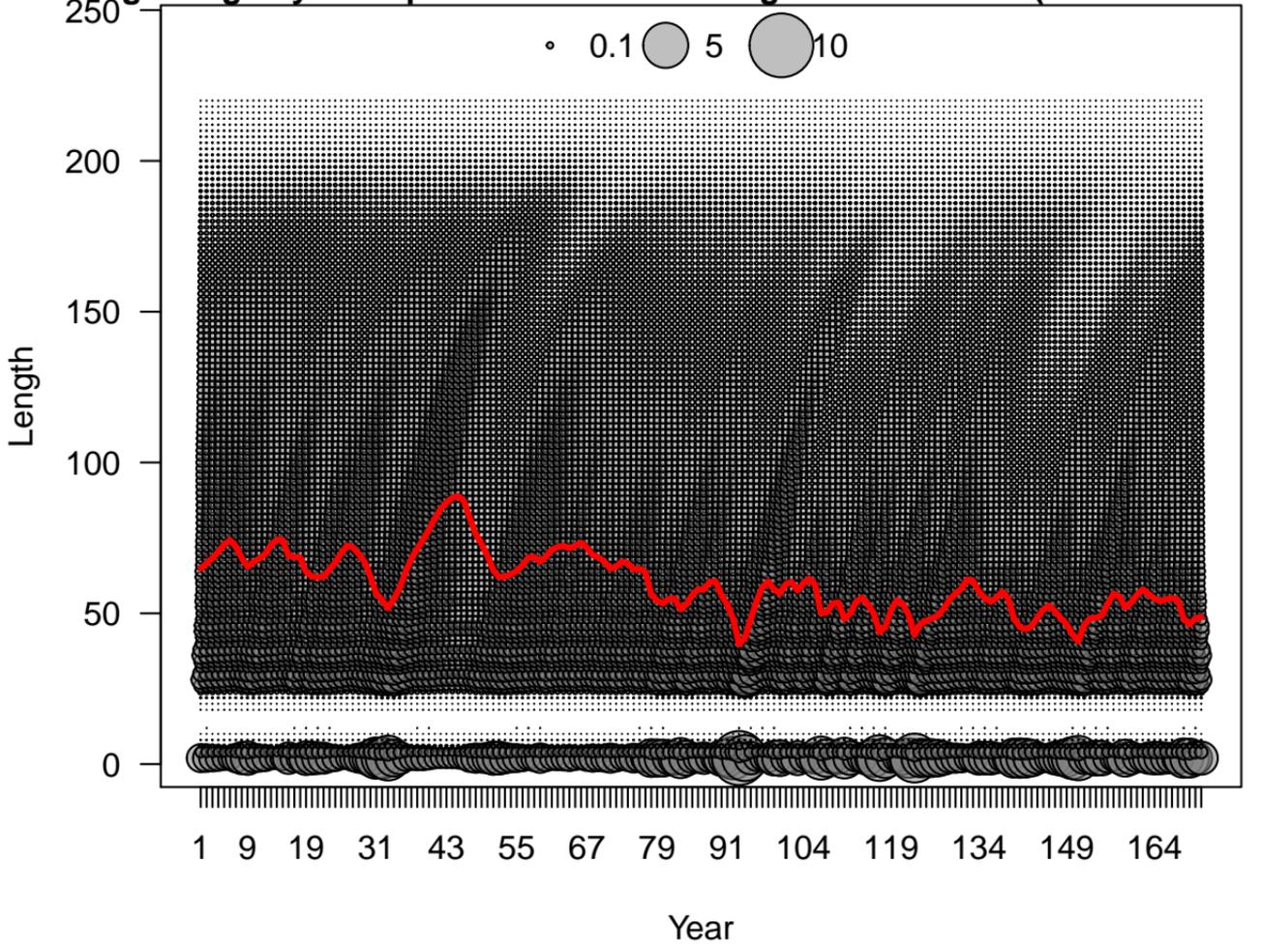
Middle of year mean age in the population



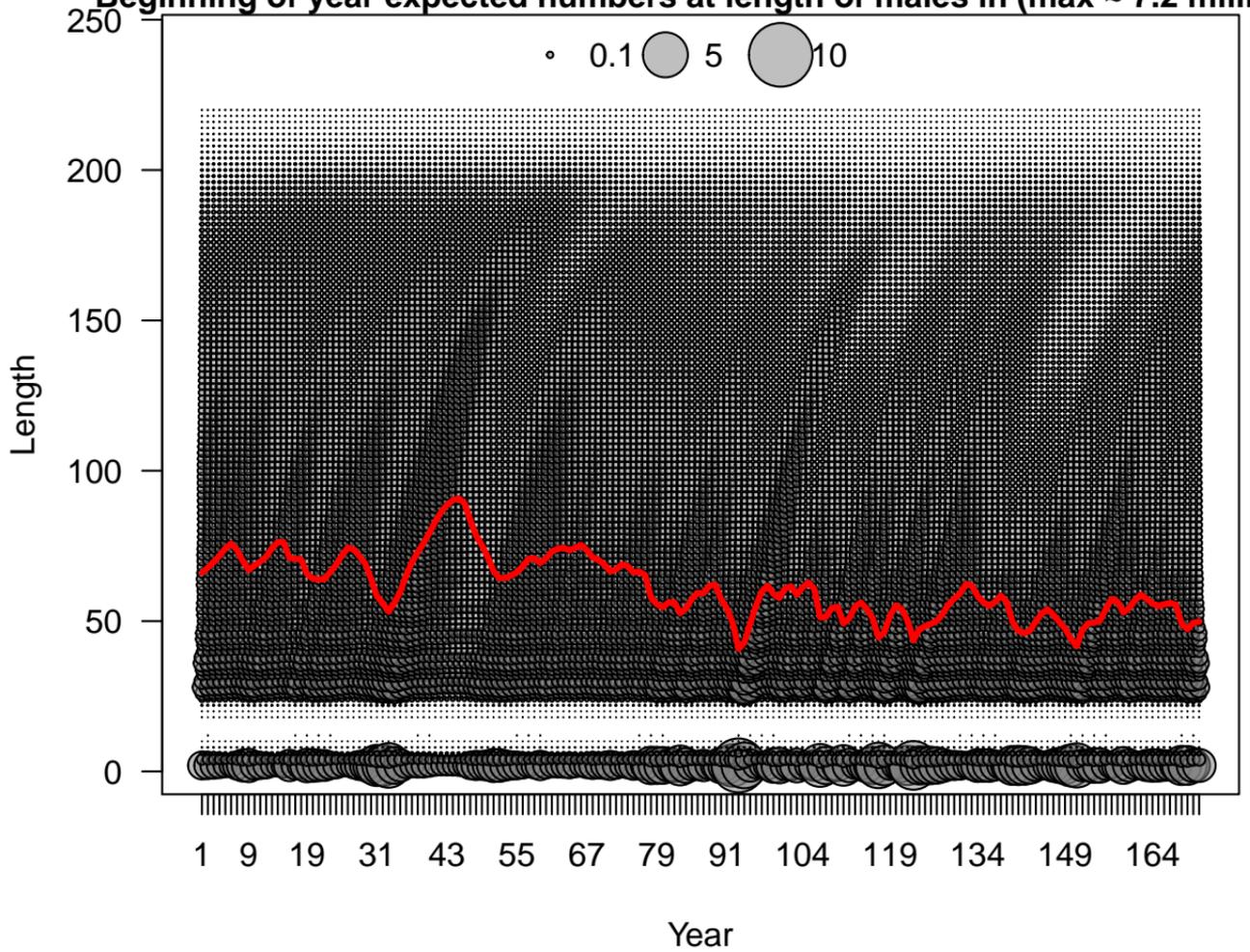
Fraction female in numbers at age



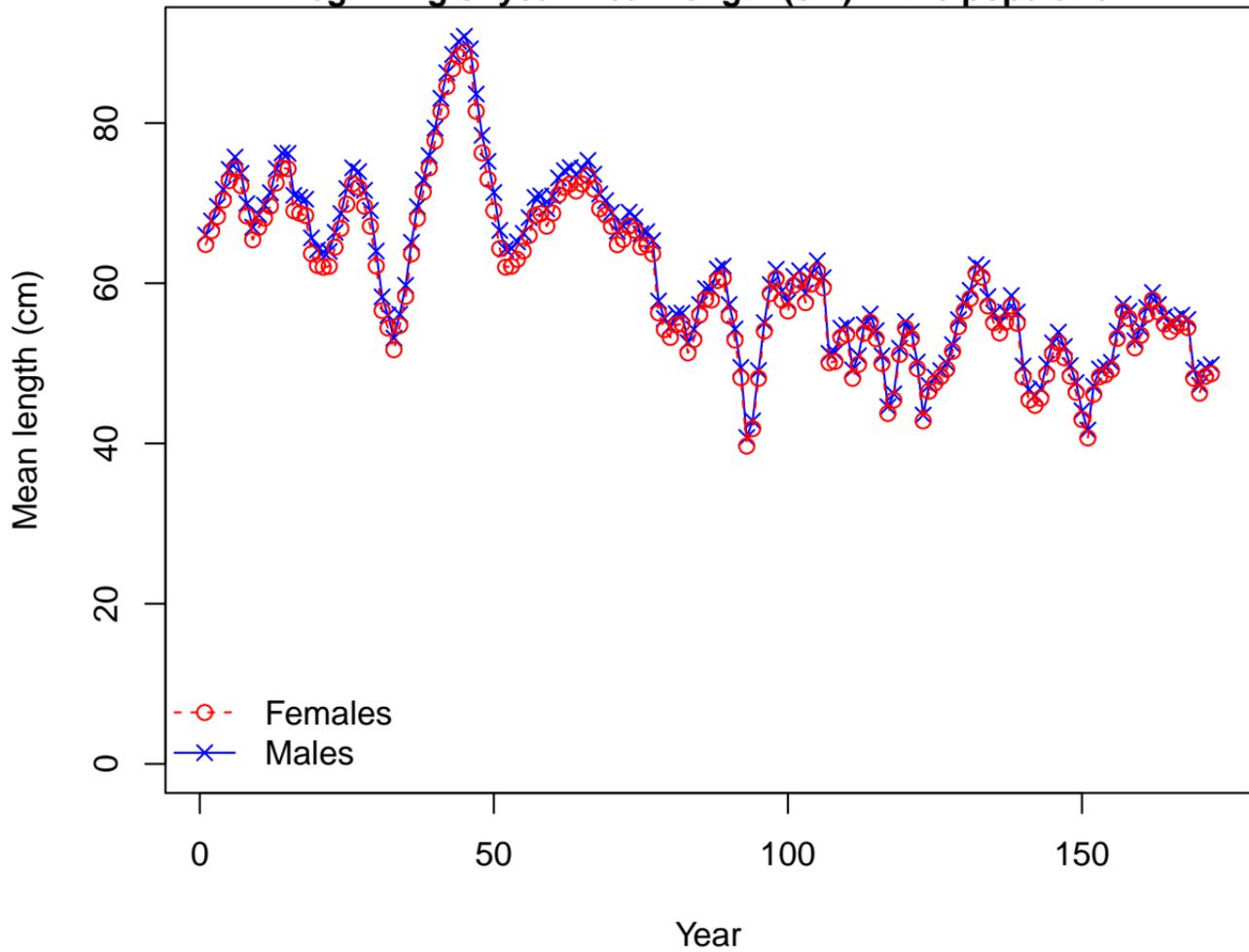
Beginning of year expected numbers at length of females in (max ~ 7.2 million)



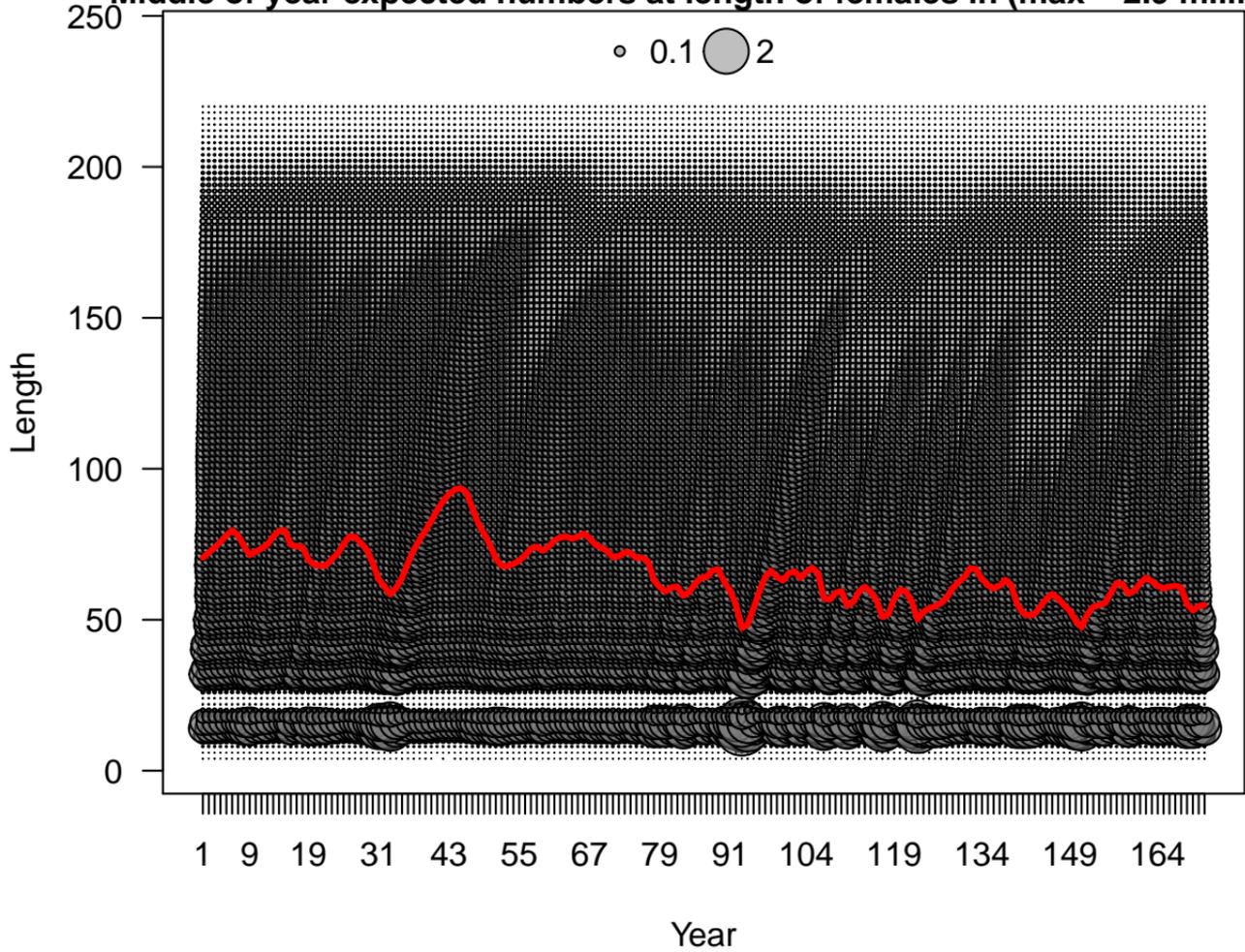
Beginning of year expected numbers at length of males in (max ~ 7.2 million)



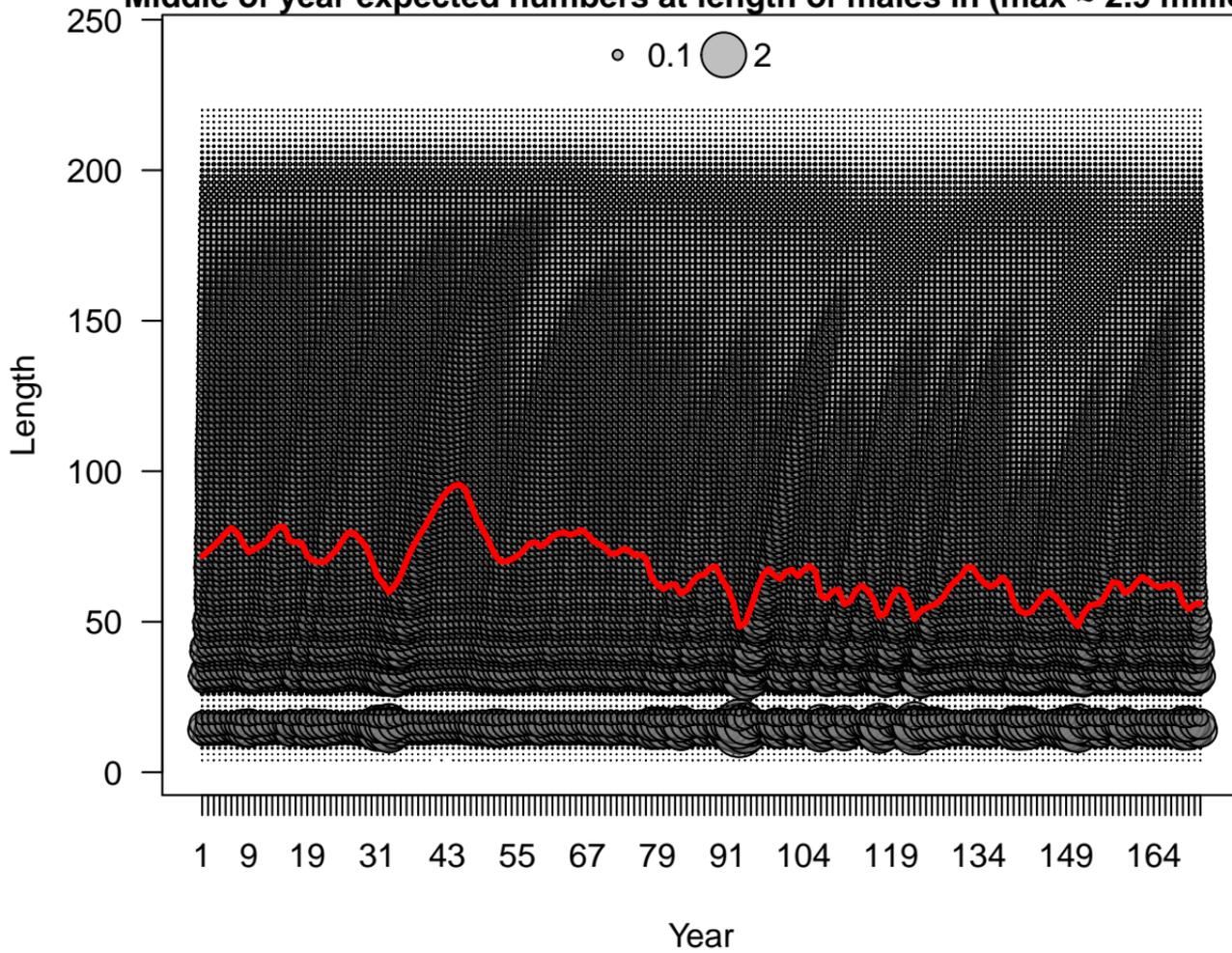
Beginning of year mean length (cm) in the population



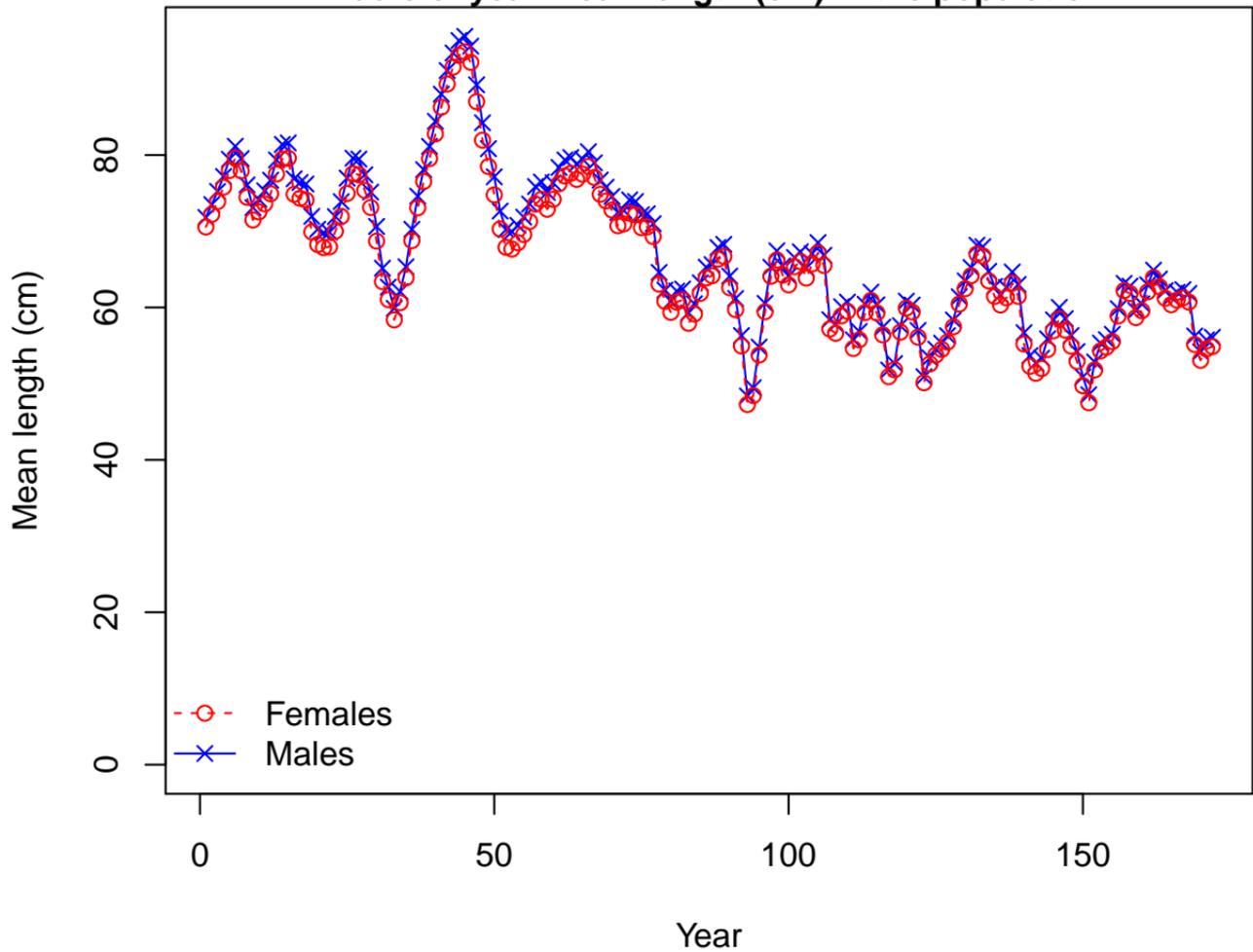
Middle of year expected numbers at length of females in (max ~ 2.9 million)



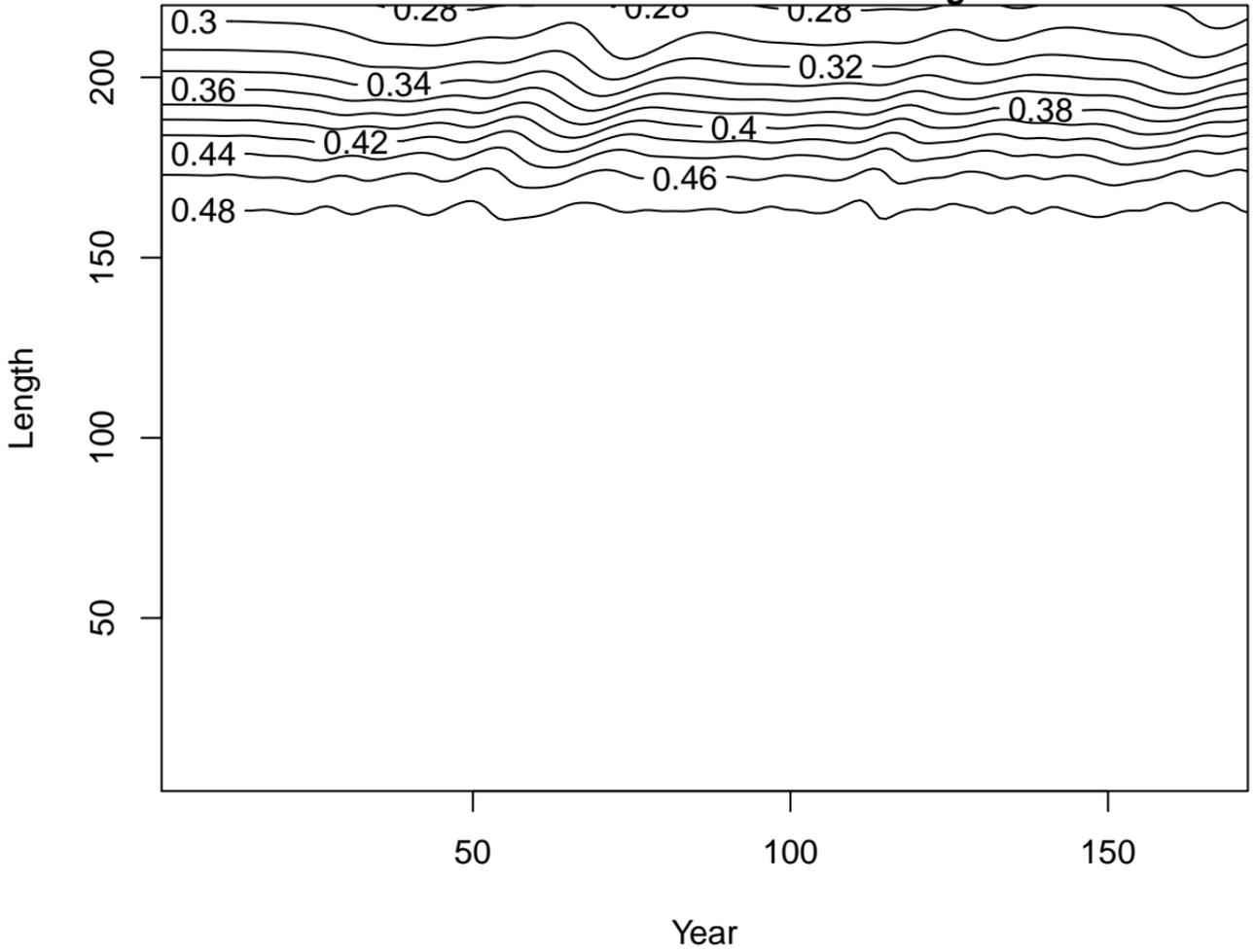
Middle of year expected numbers at length of males in (max ~ 2.9 million)



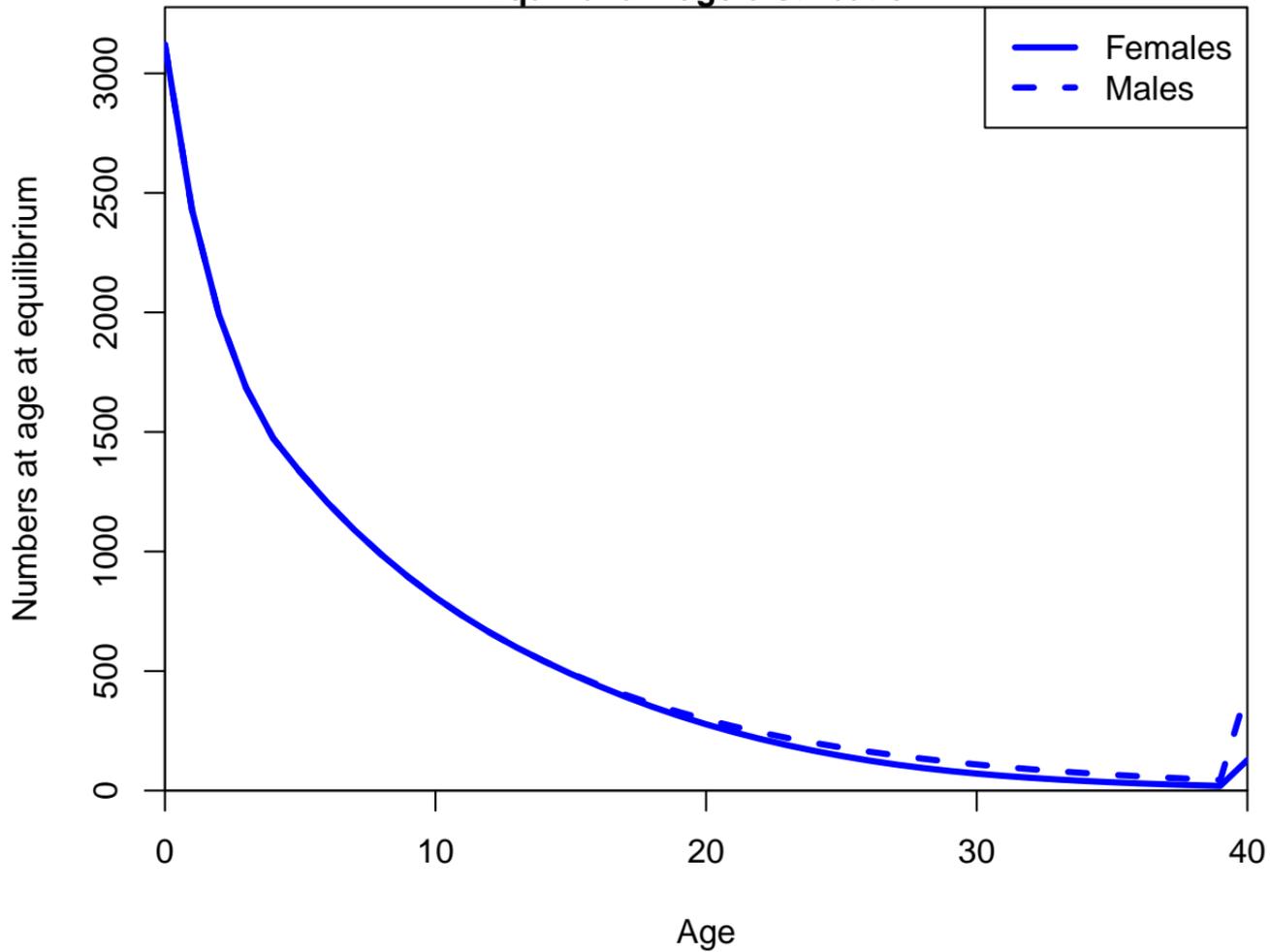
Middle of year mean length (cm) in the population



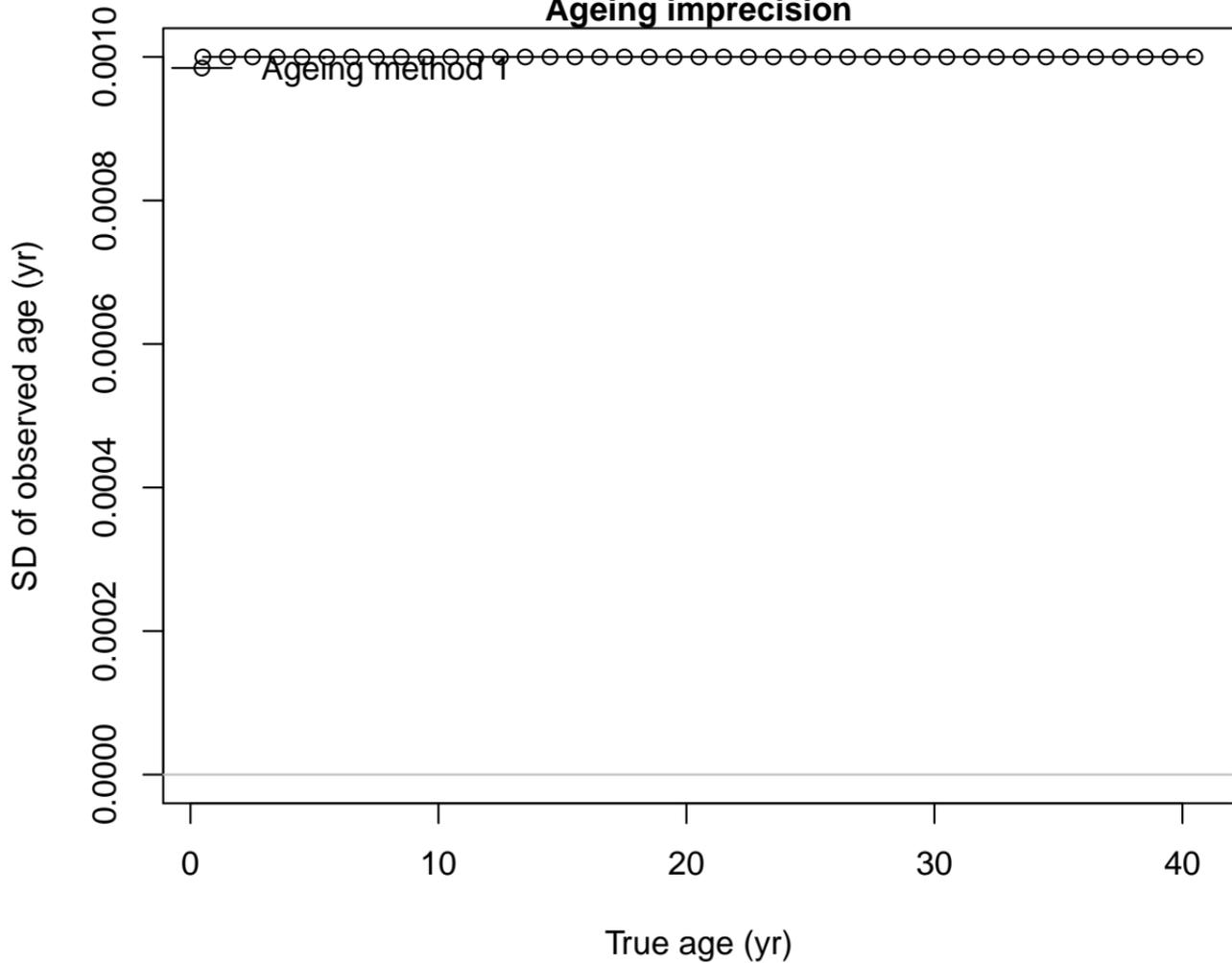
Fraction female in numbers at length



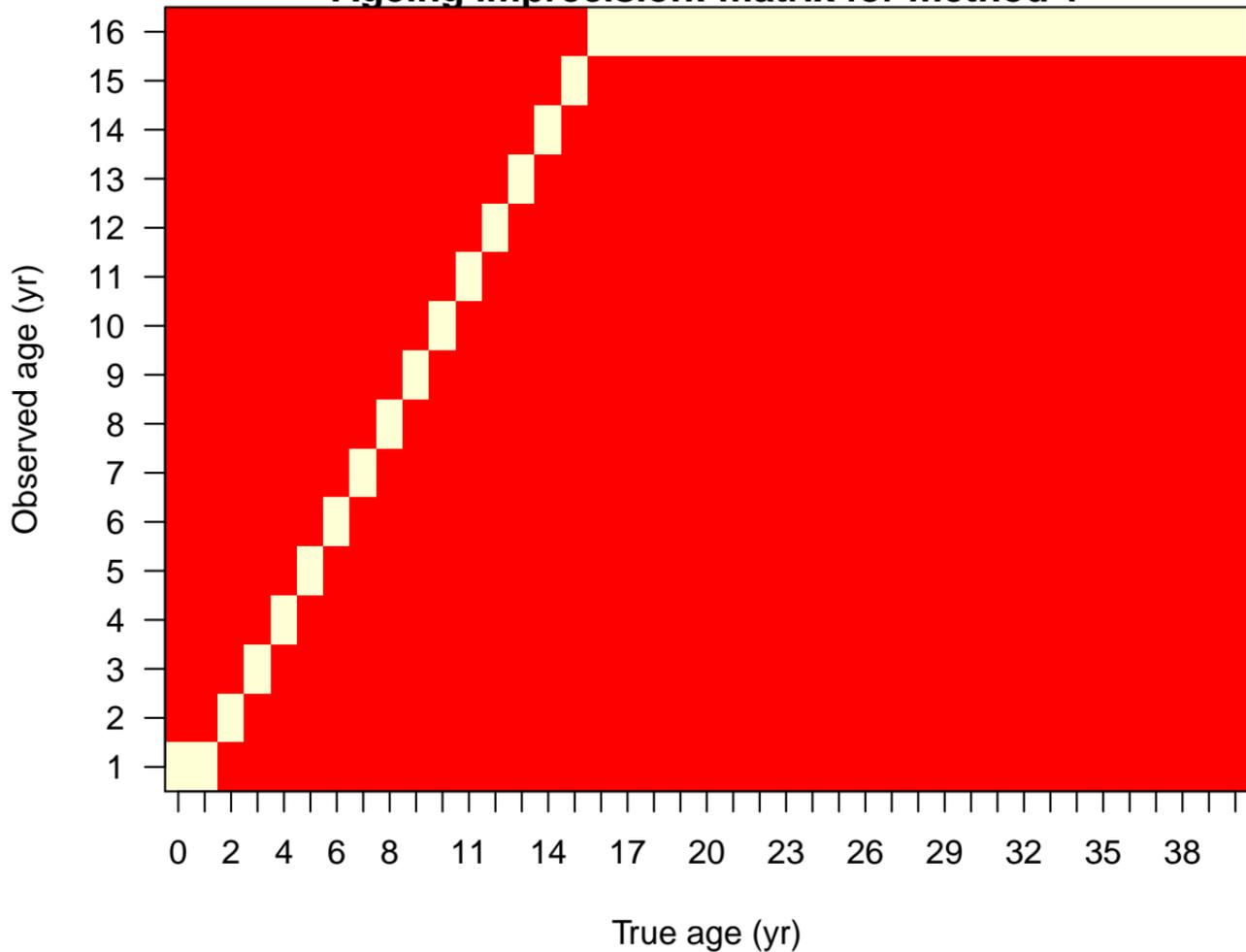
Equilibrium age distribution



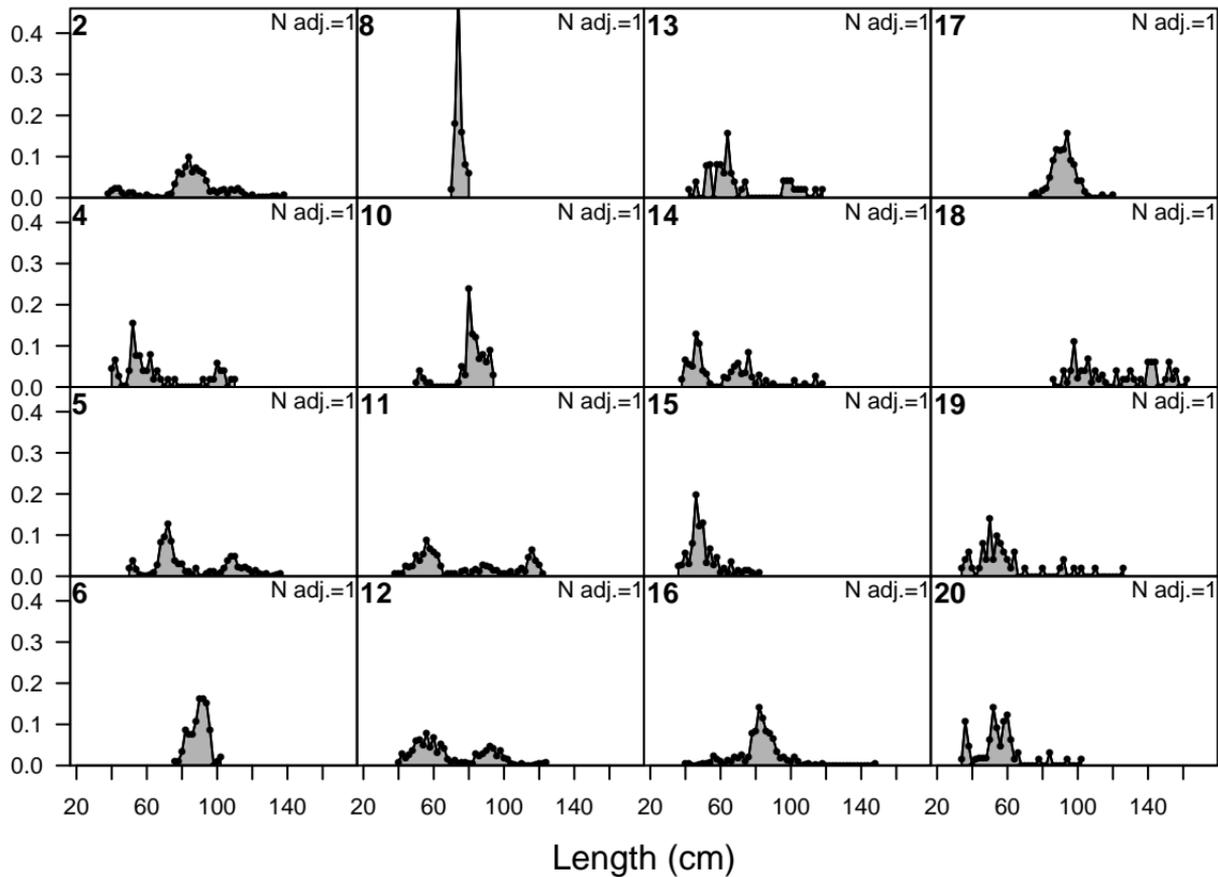
Ageing imprecision

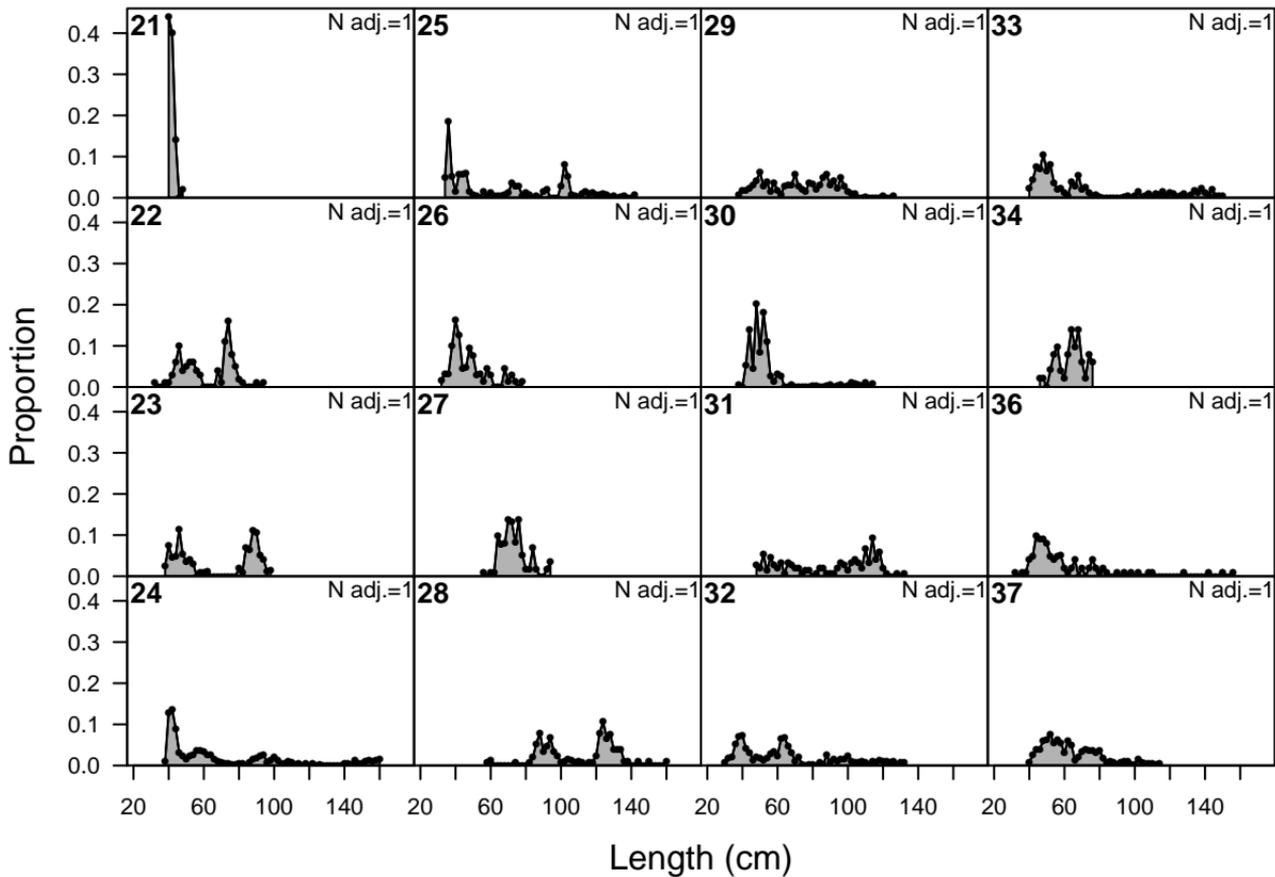


Ageing imprecision: matrix for method 1

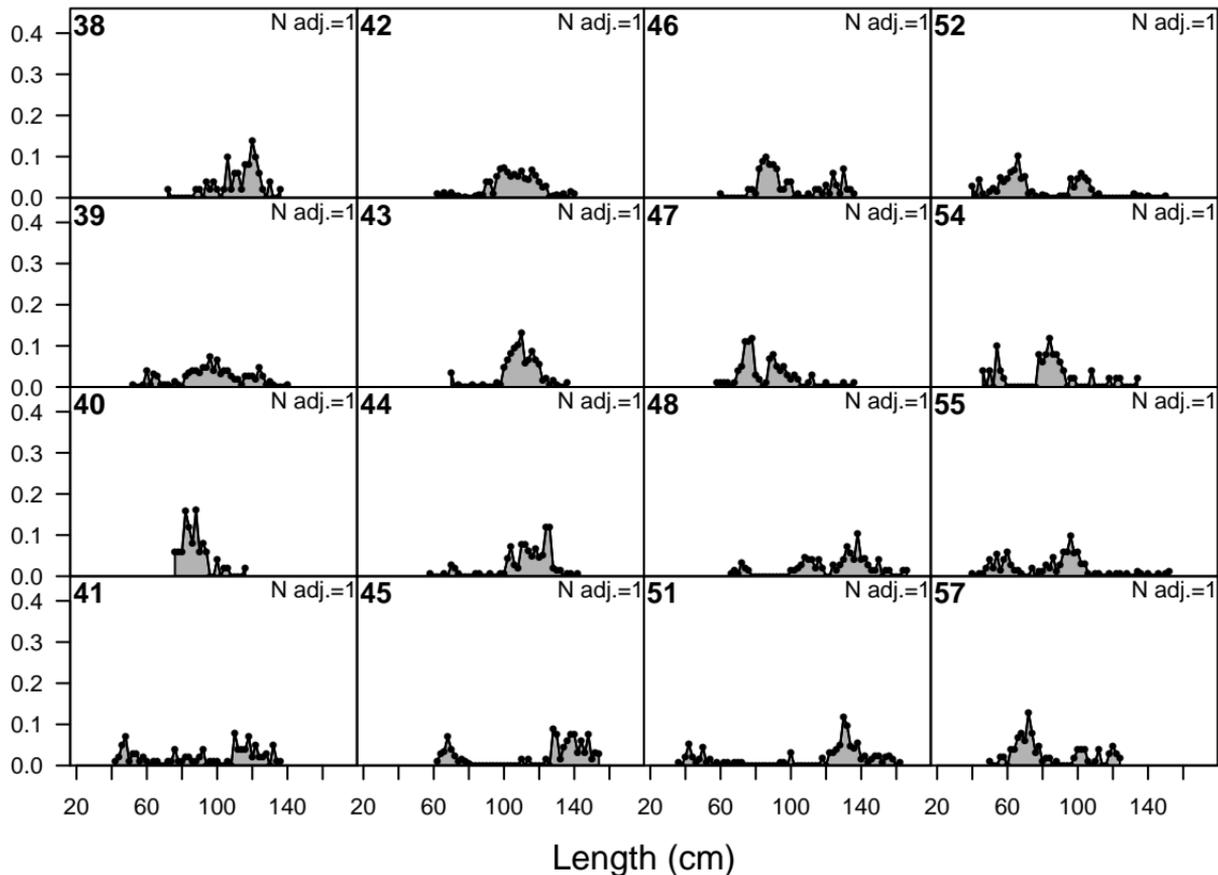


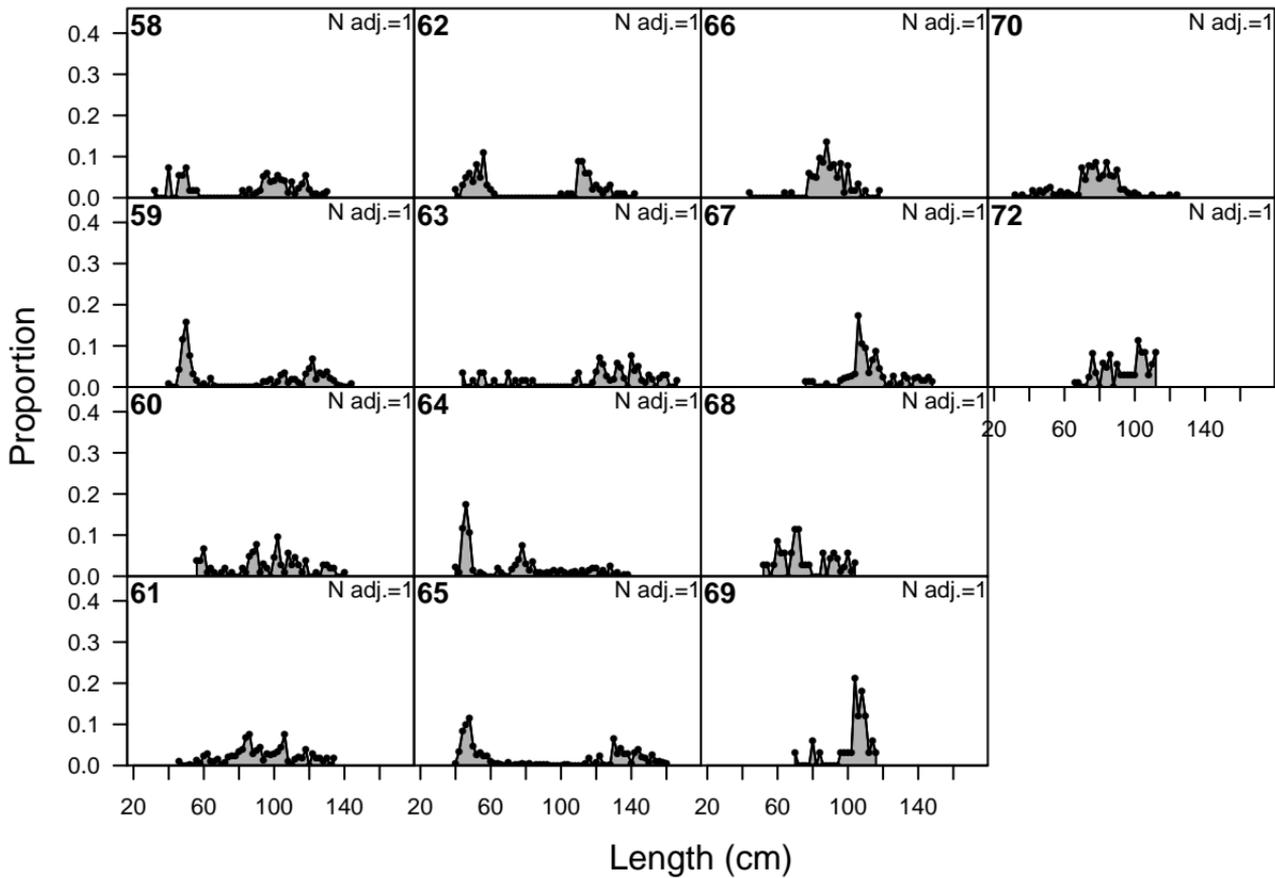
Proportion





Proportion





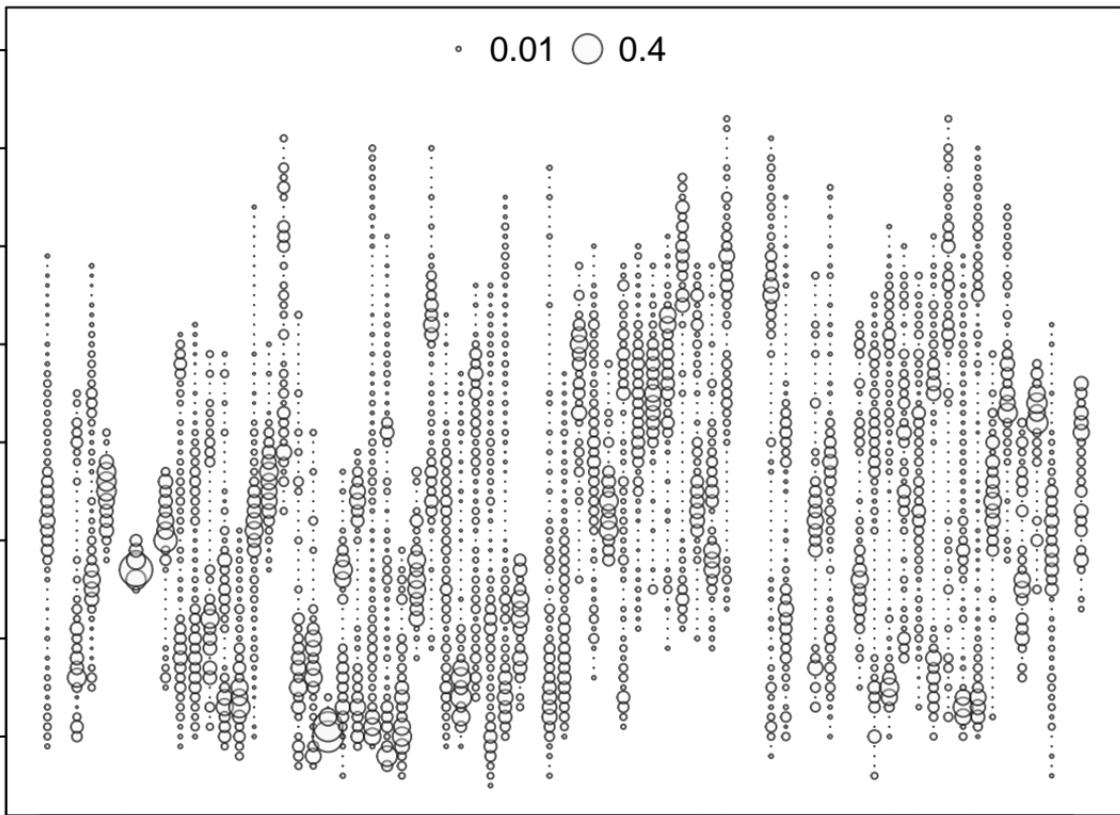
Length (cm)

180
160
140
120
100
80
60
40

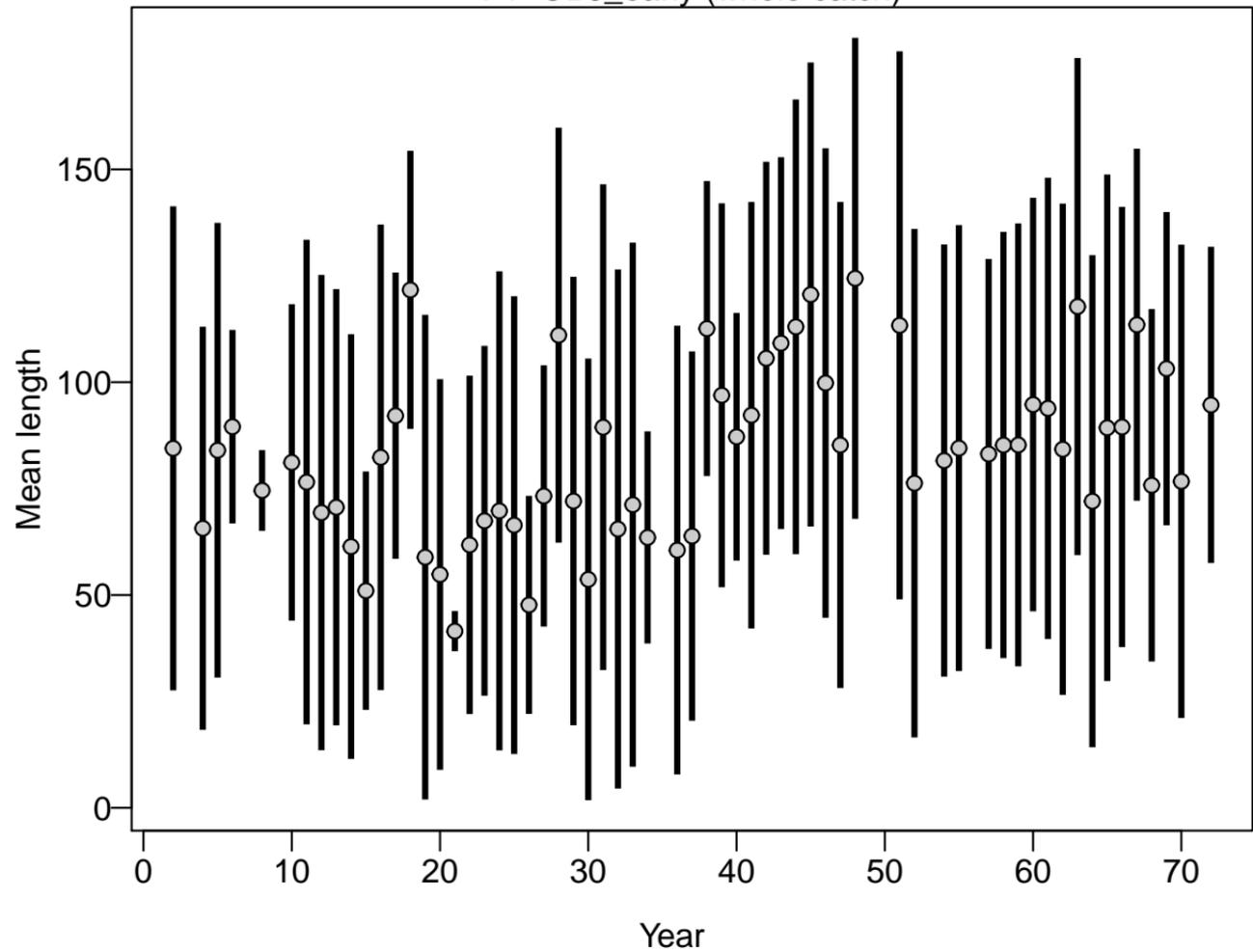
0.01 ○ 0.4

2 6 10 15 20 25 30 36 41 46 51 57 62 67 72

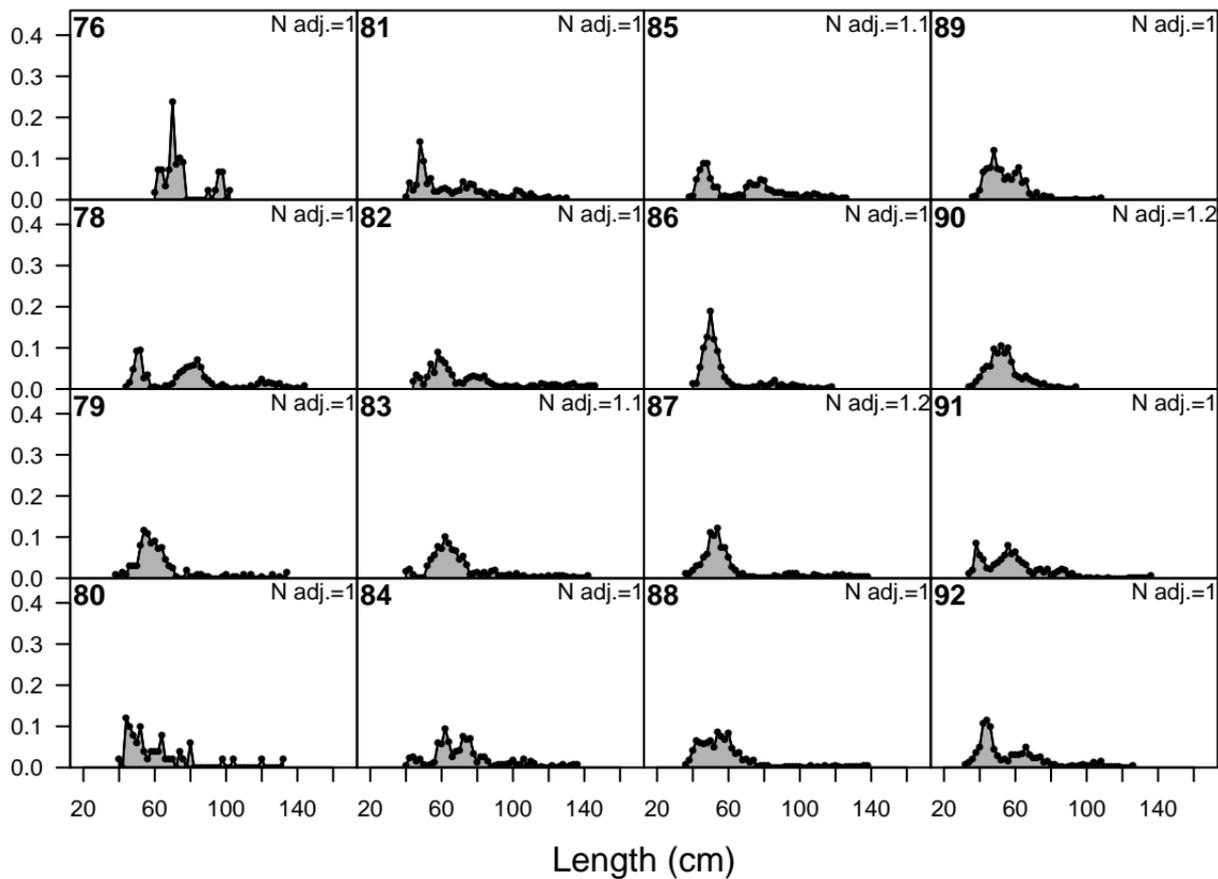
Year



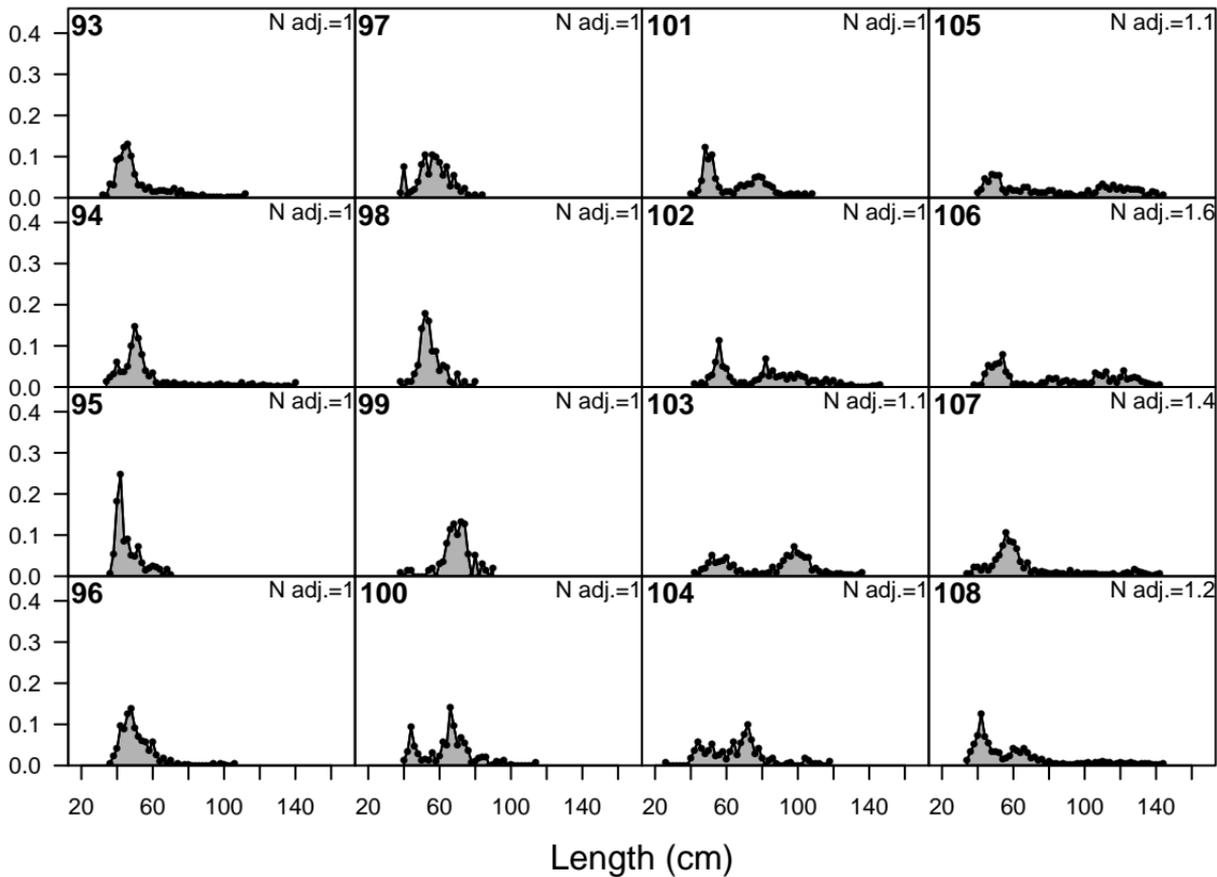
F1-OBJ_early (whole catch)



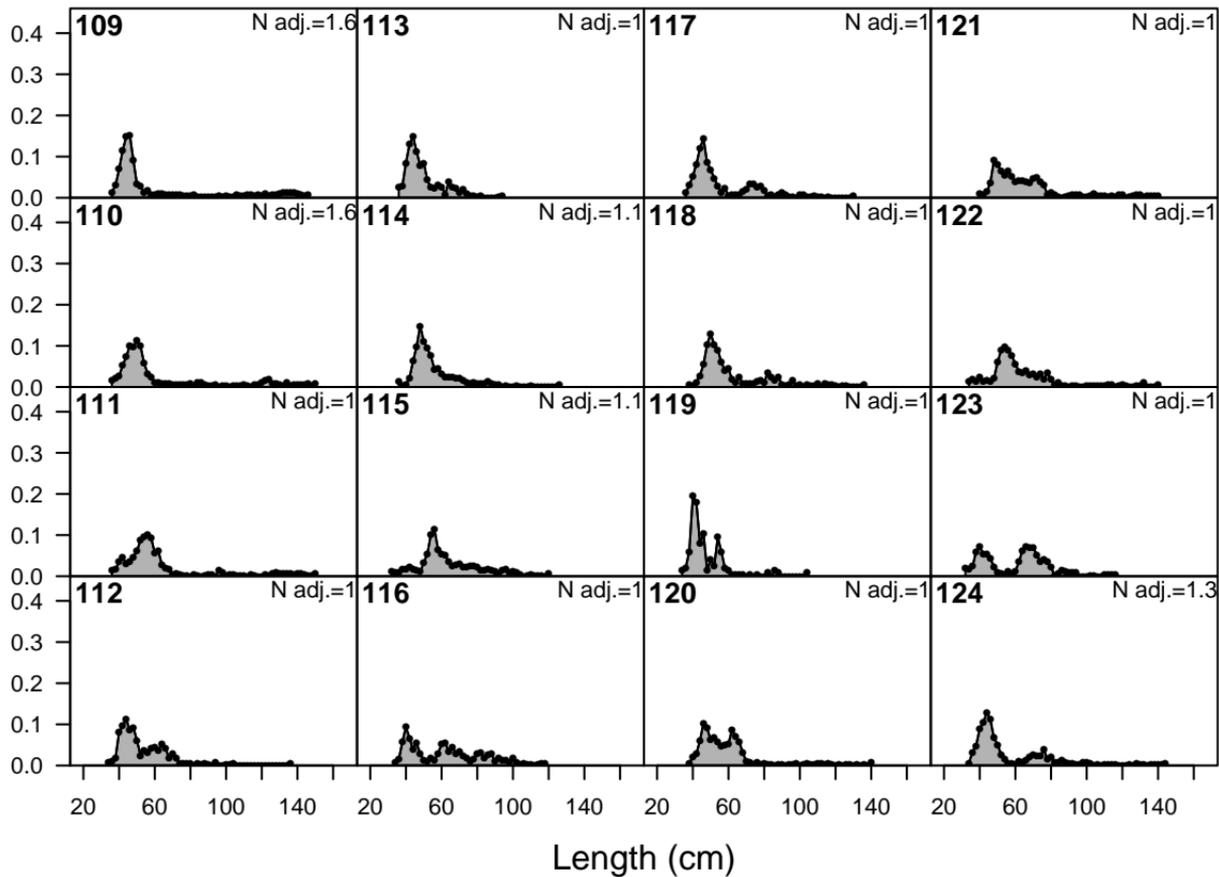
Proportion



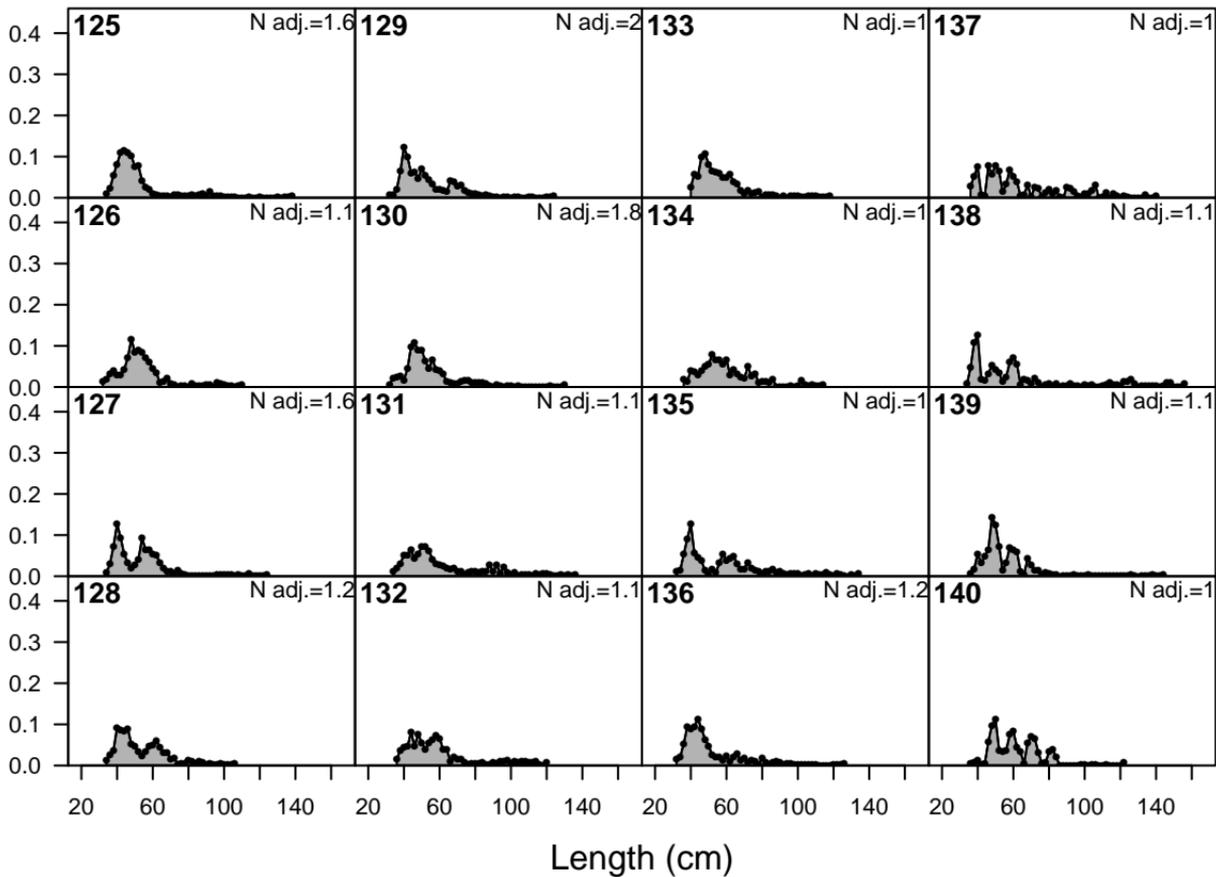
Proportion



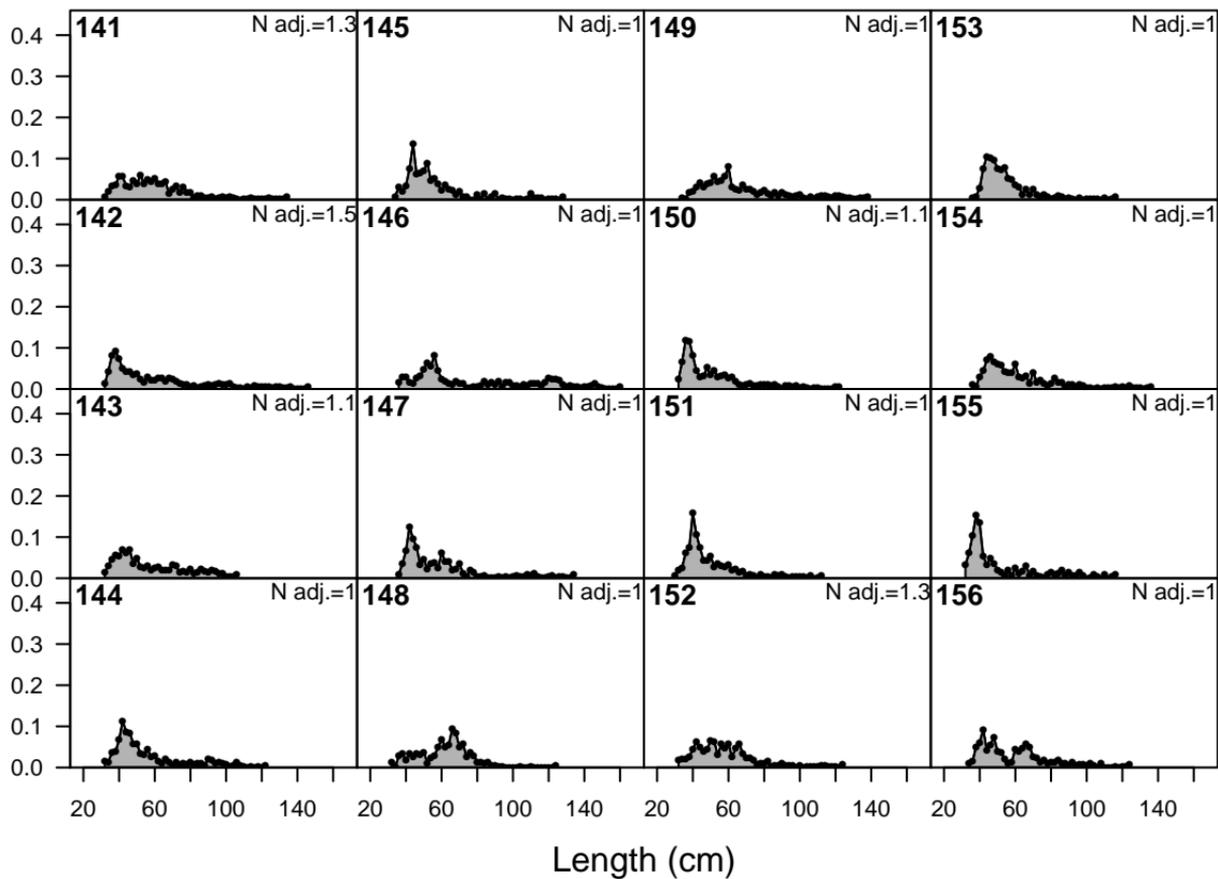
Proportion



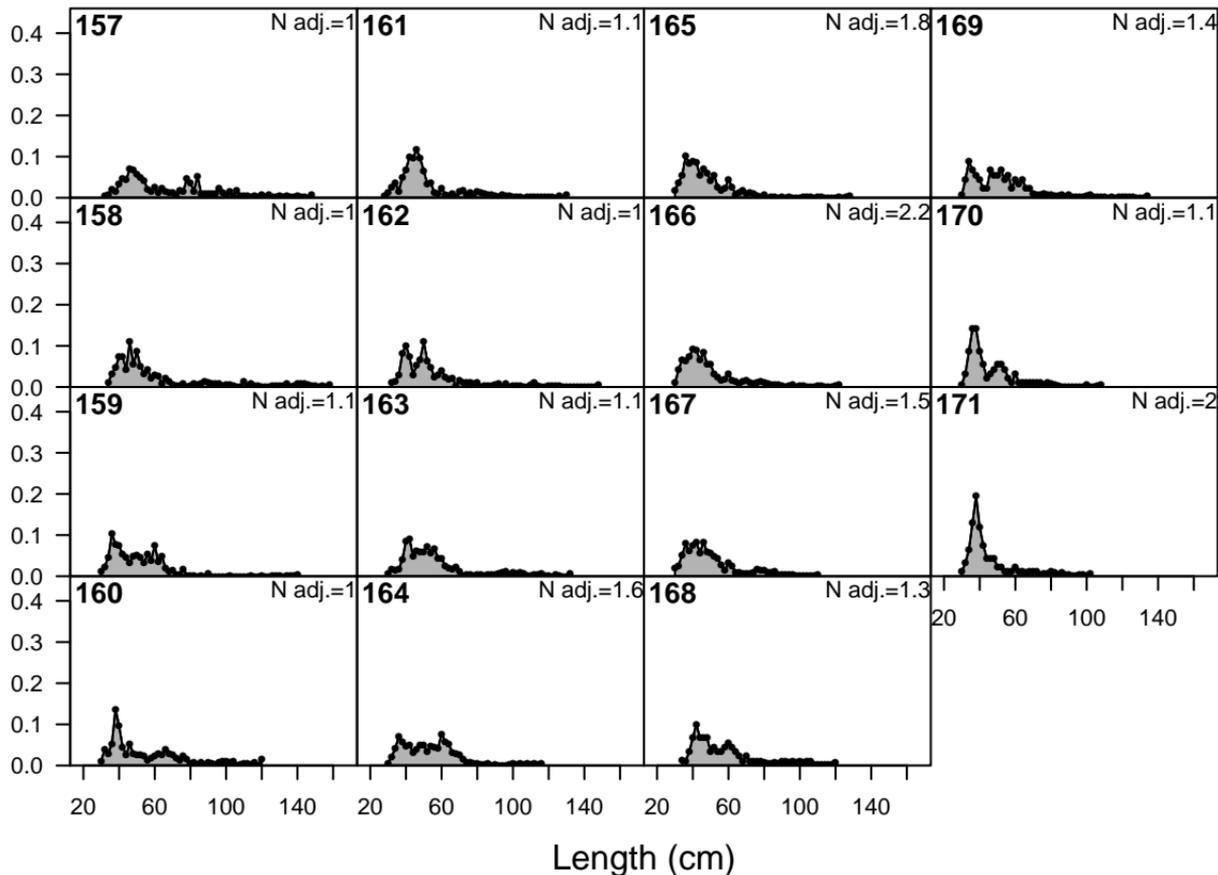
Proportion

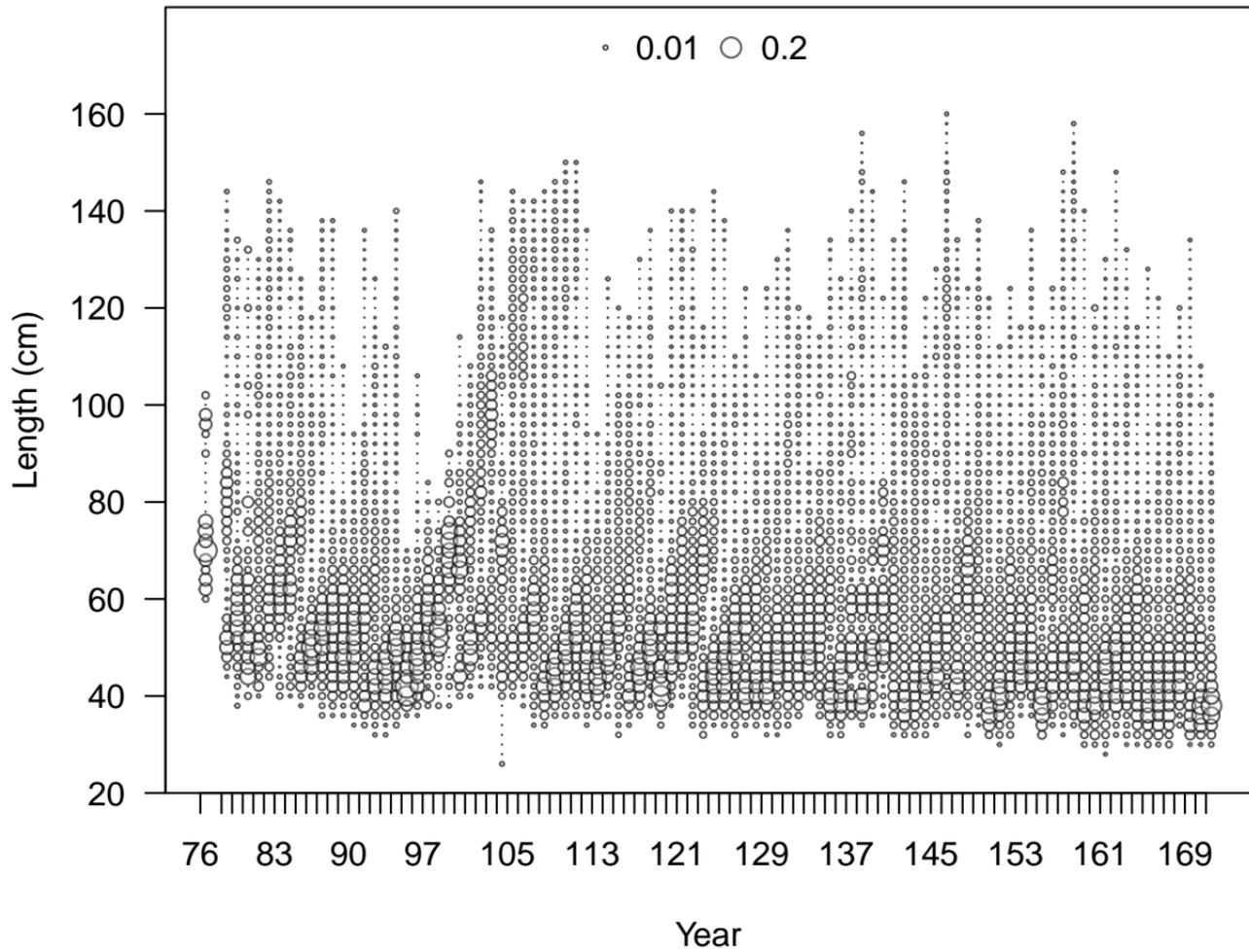


Proportion

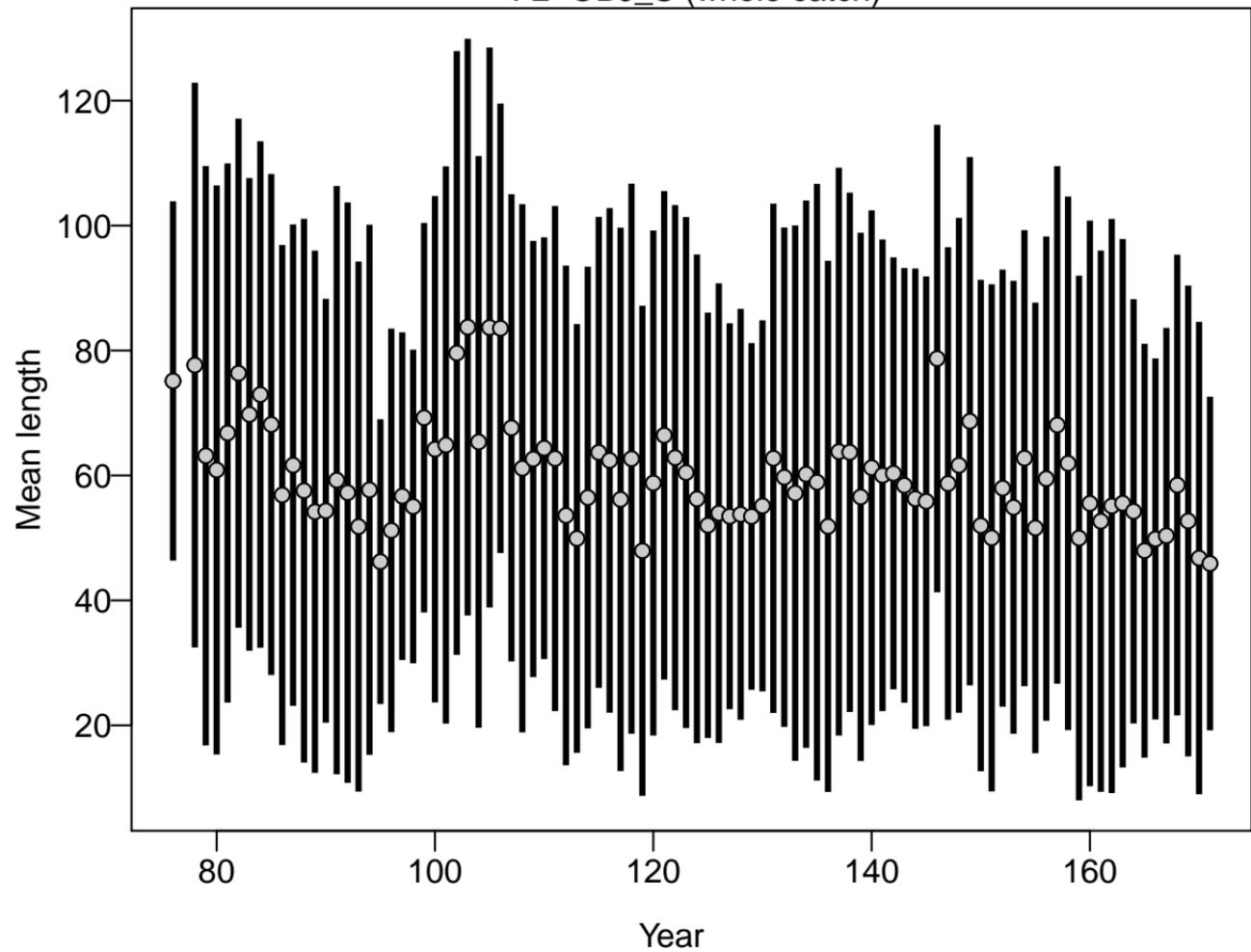


Proportion

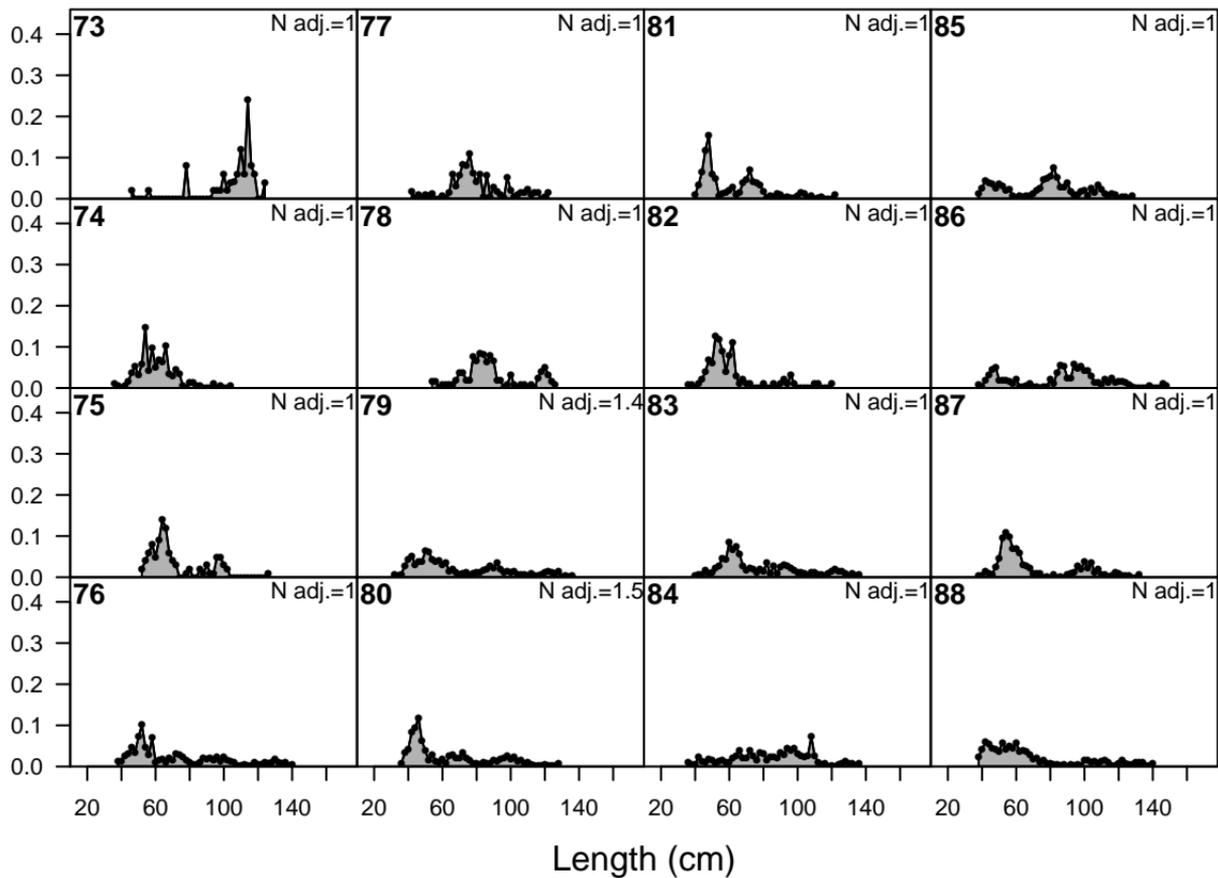




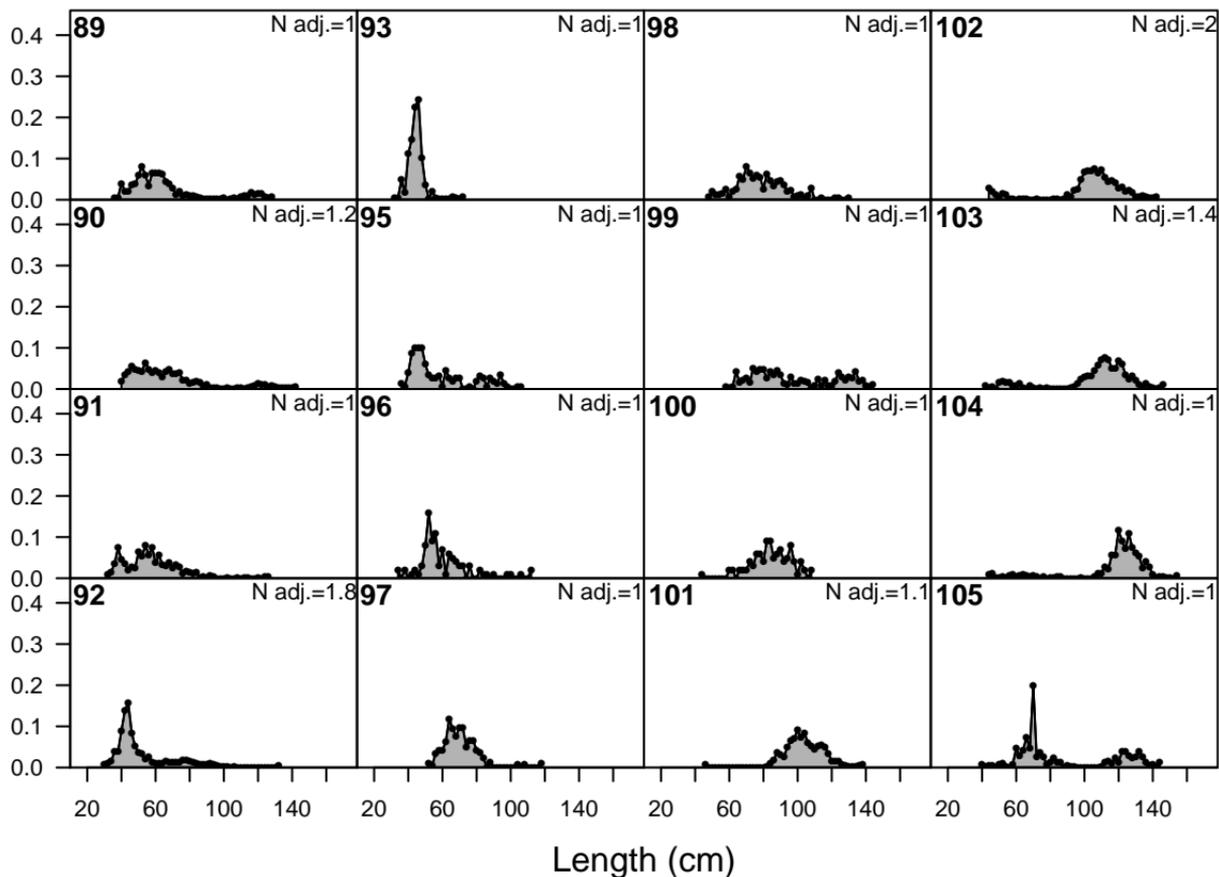
F2-OBJ_S (whole catch)



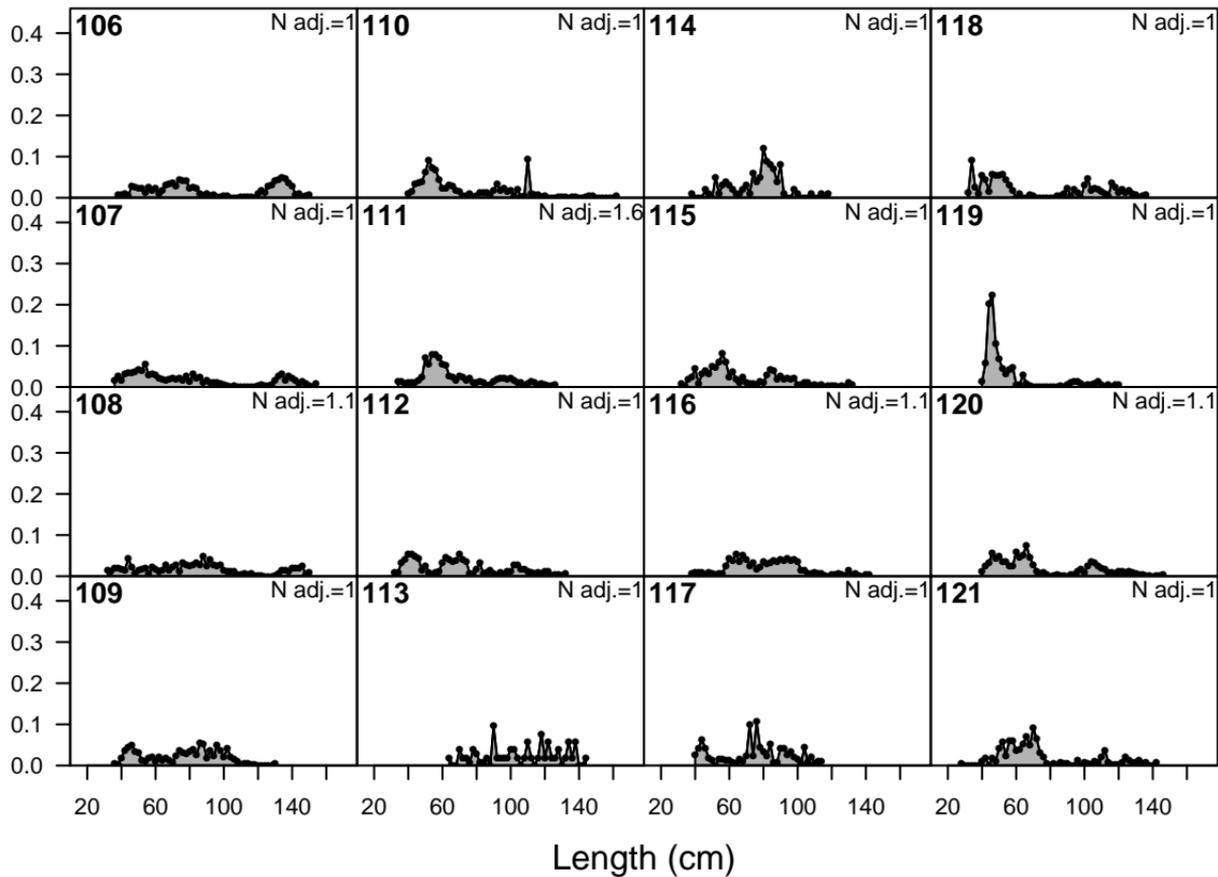
Proportion



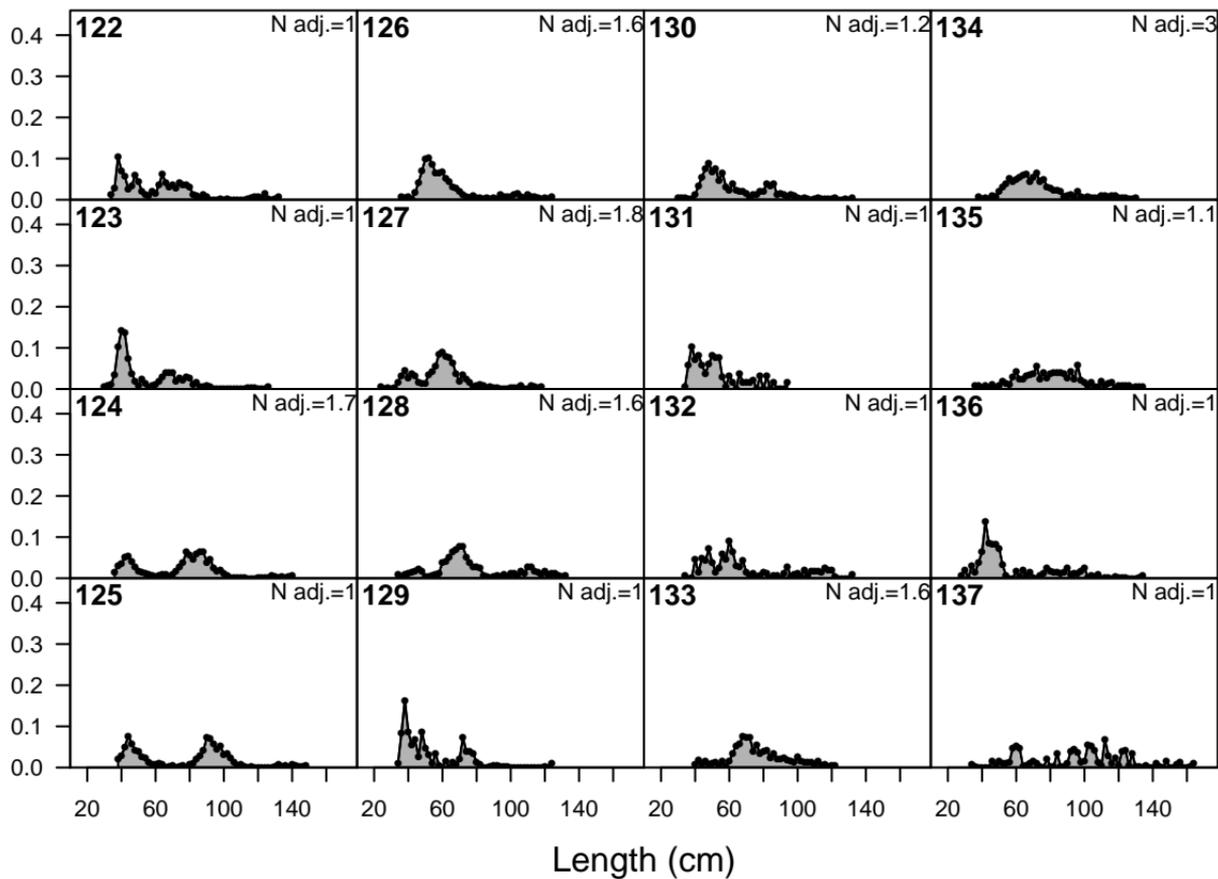
Proportion



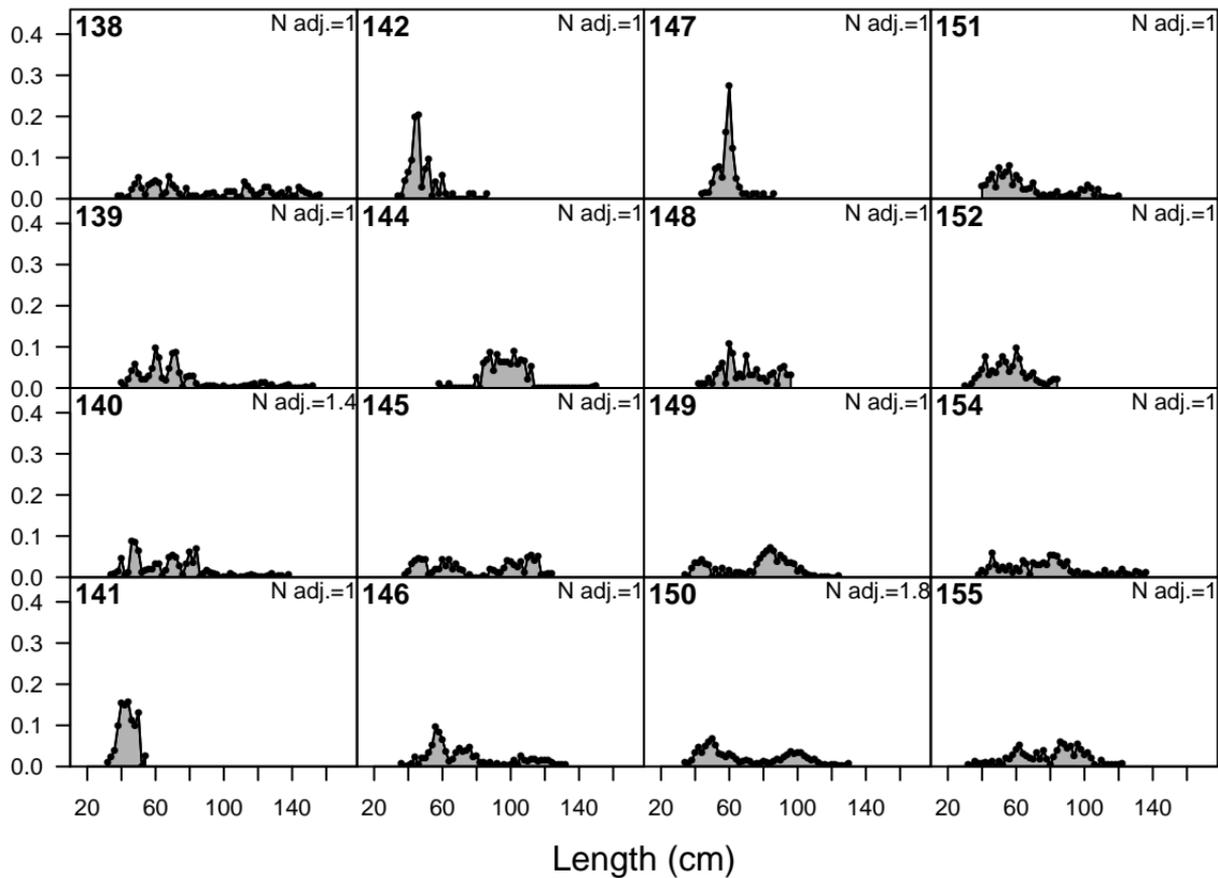
Proportion



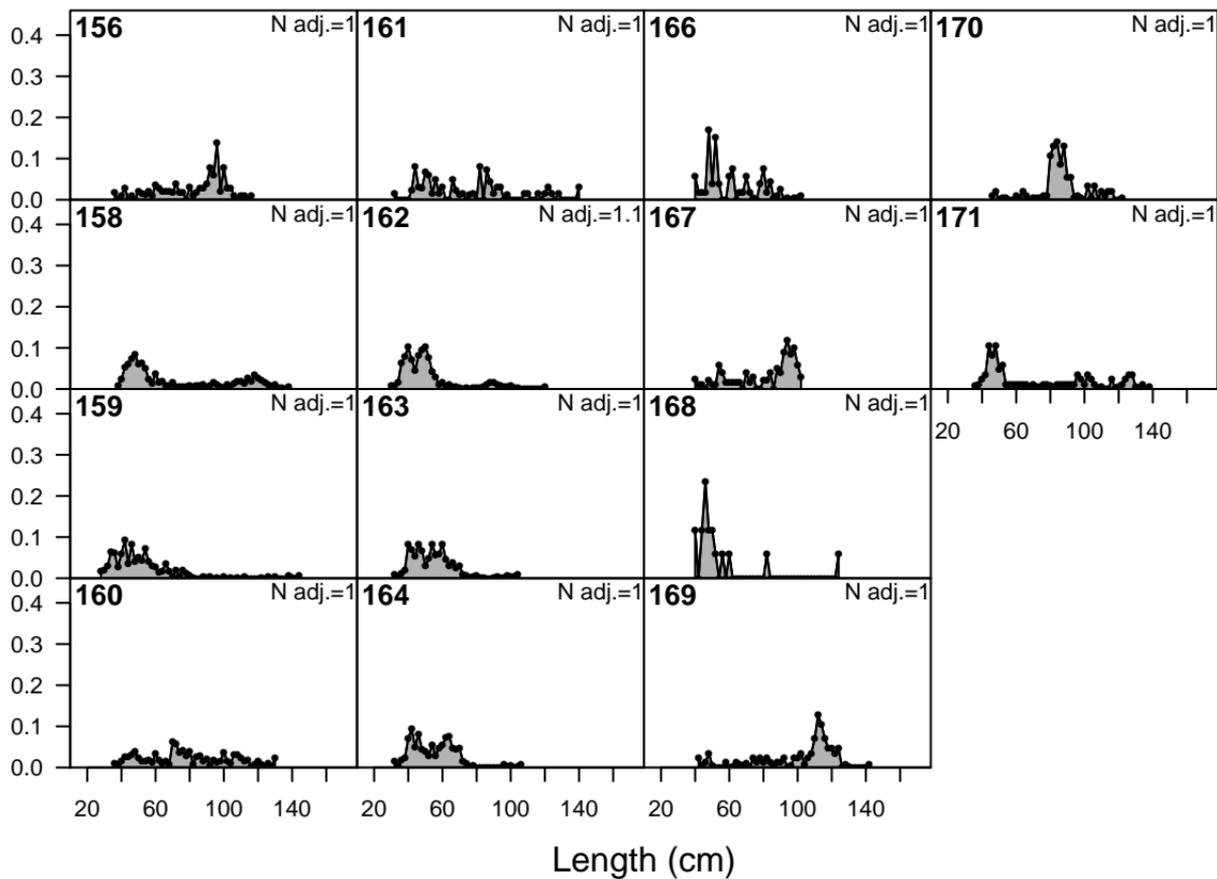
Proportion

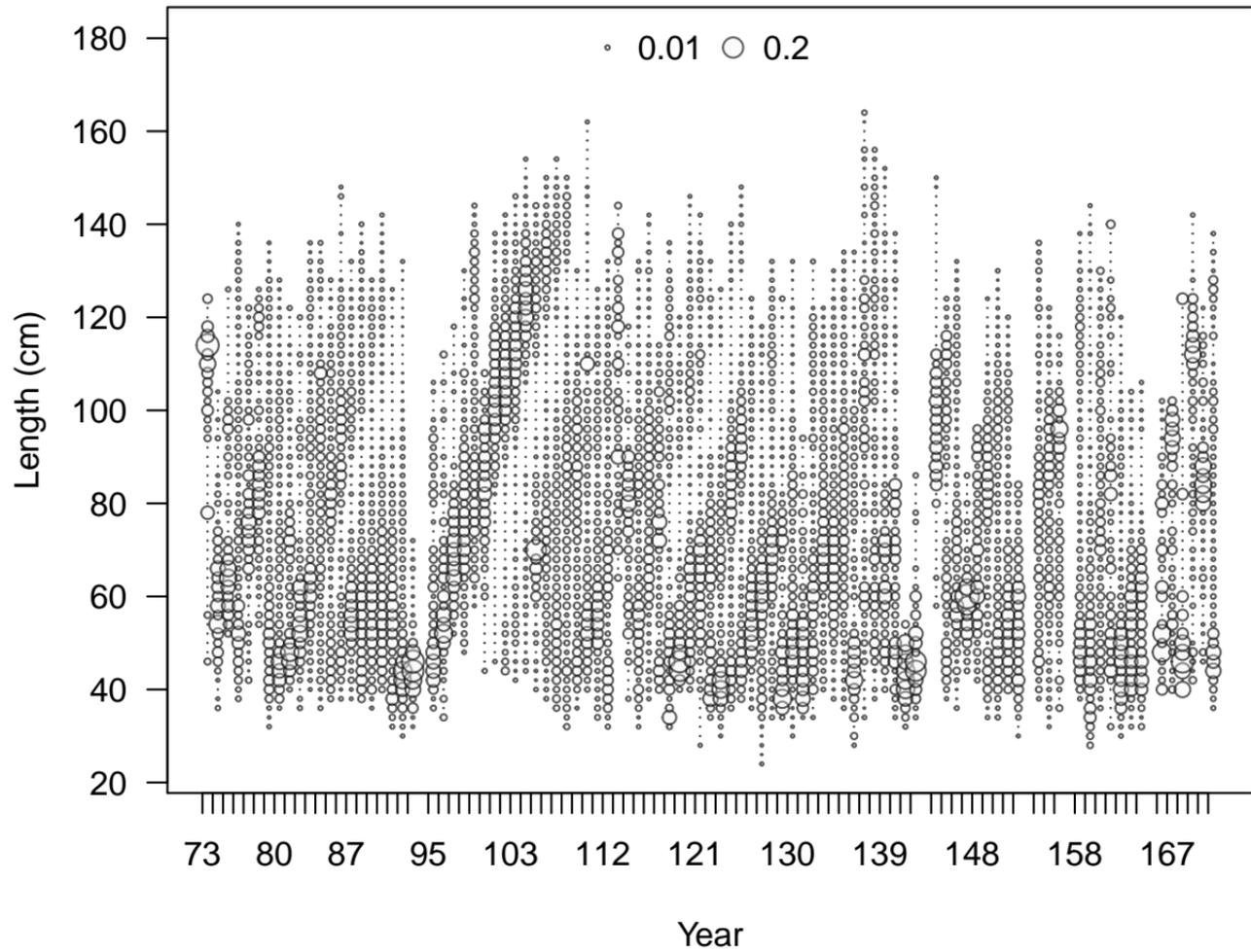


Proportion

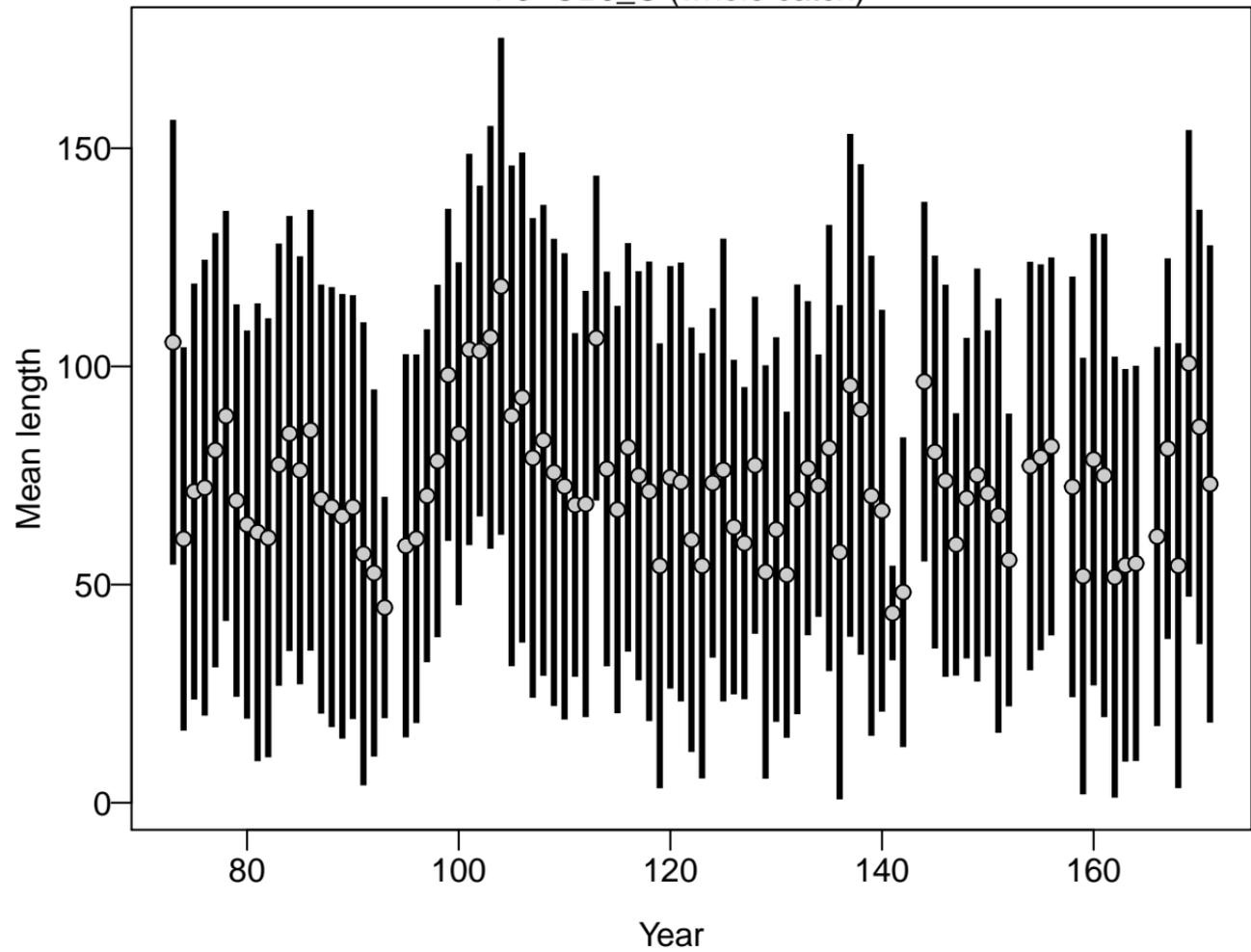


Proportion

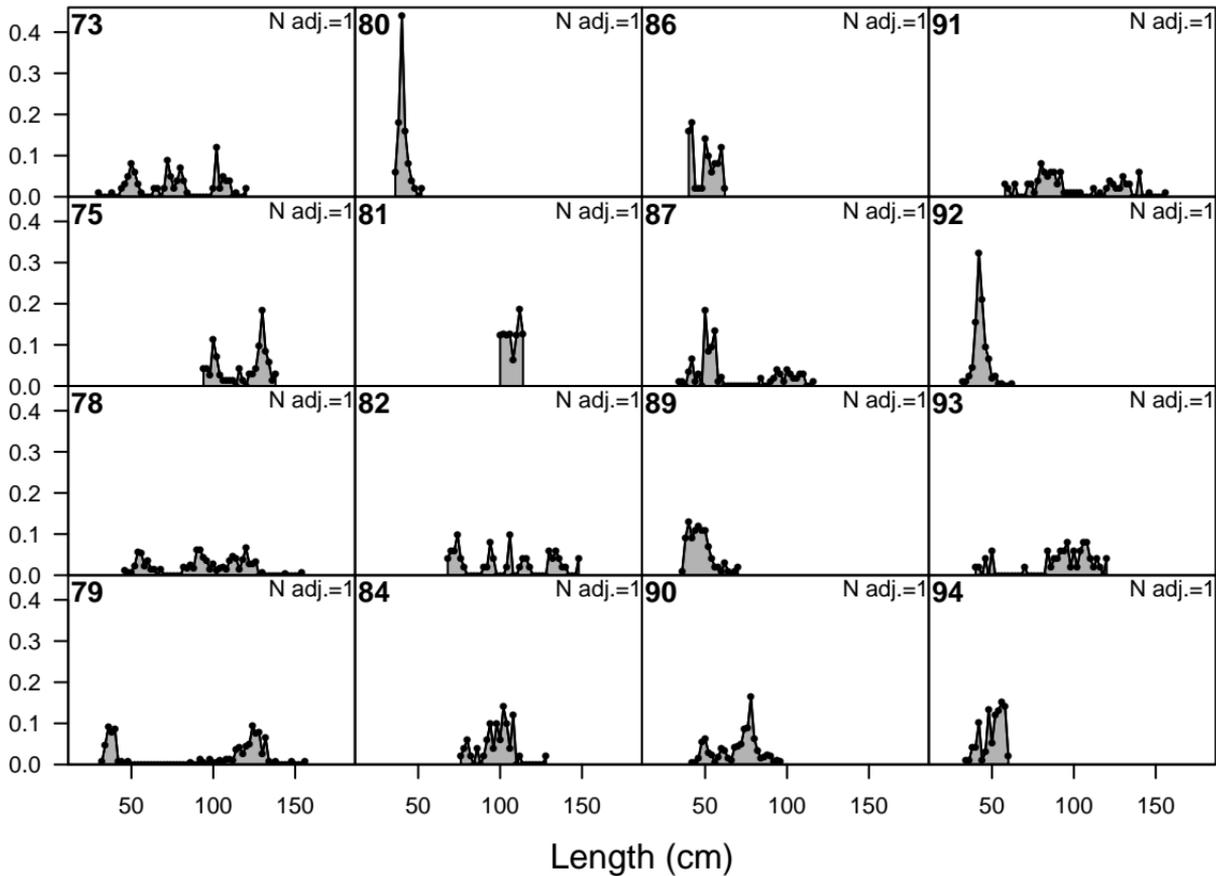




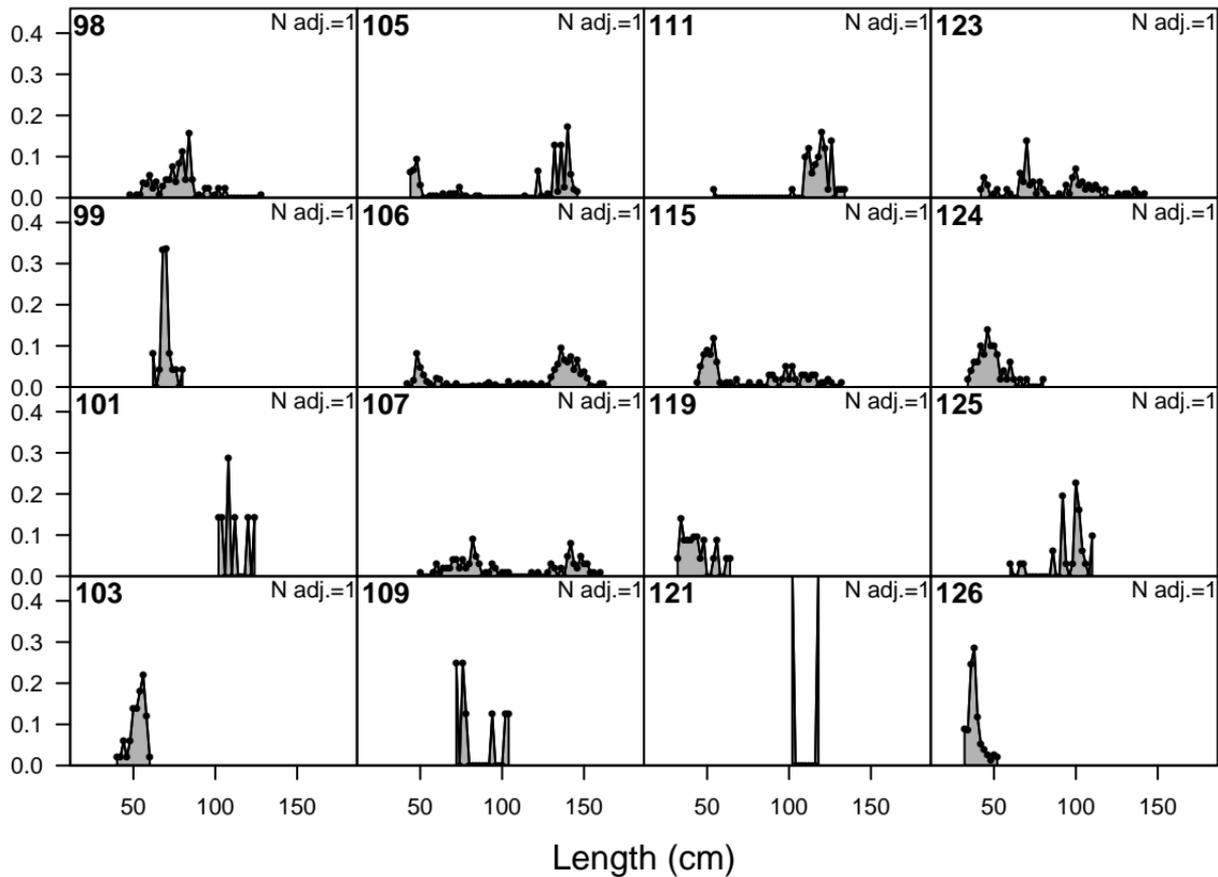
F3-OBJ_C (whole catch)

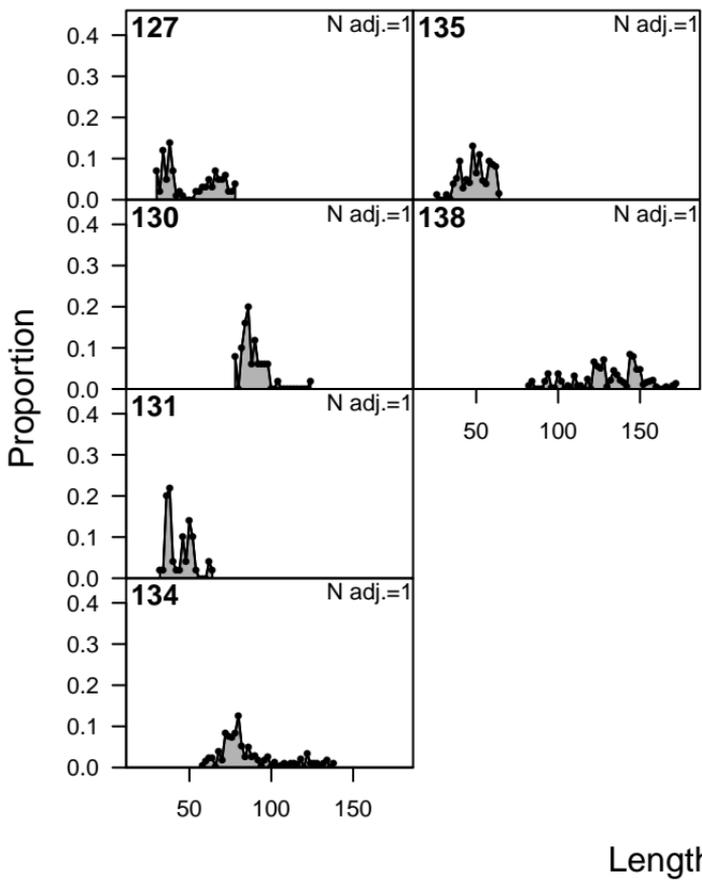


Proportion



Proportion





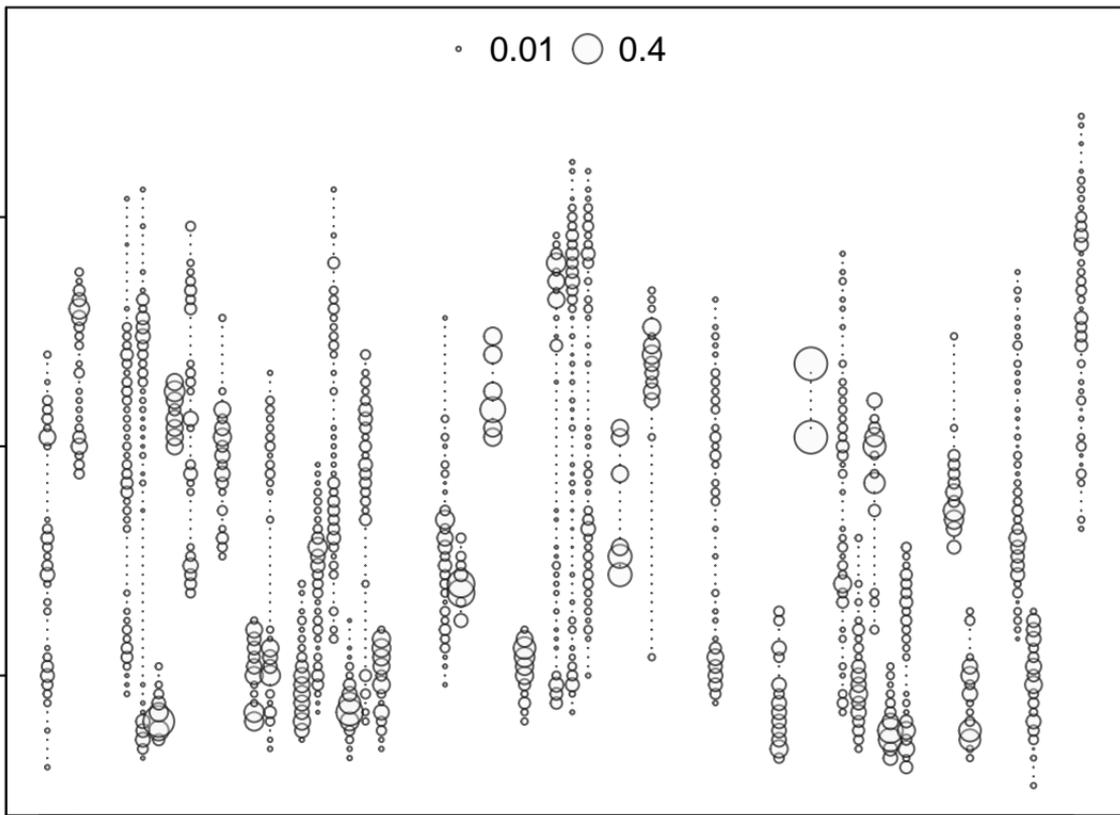
Length (cm)

150
100
50

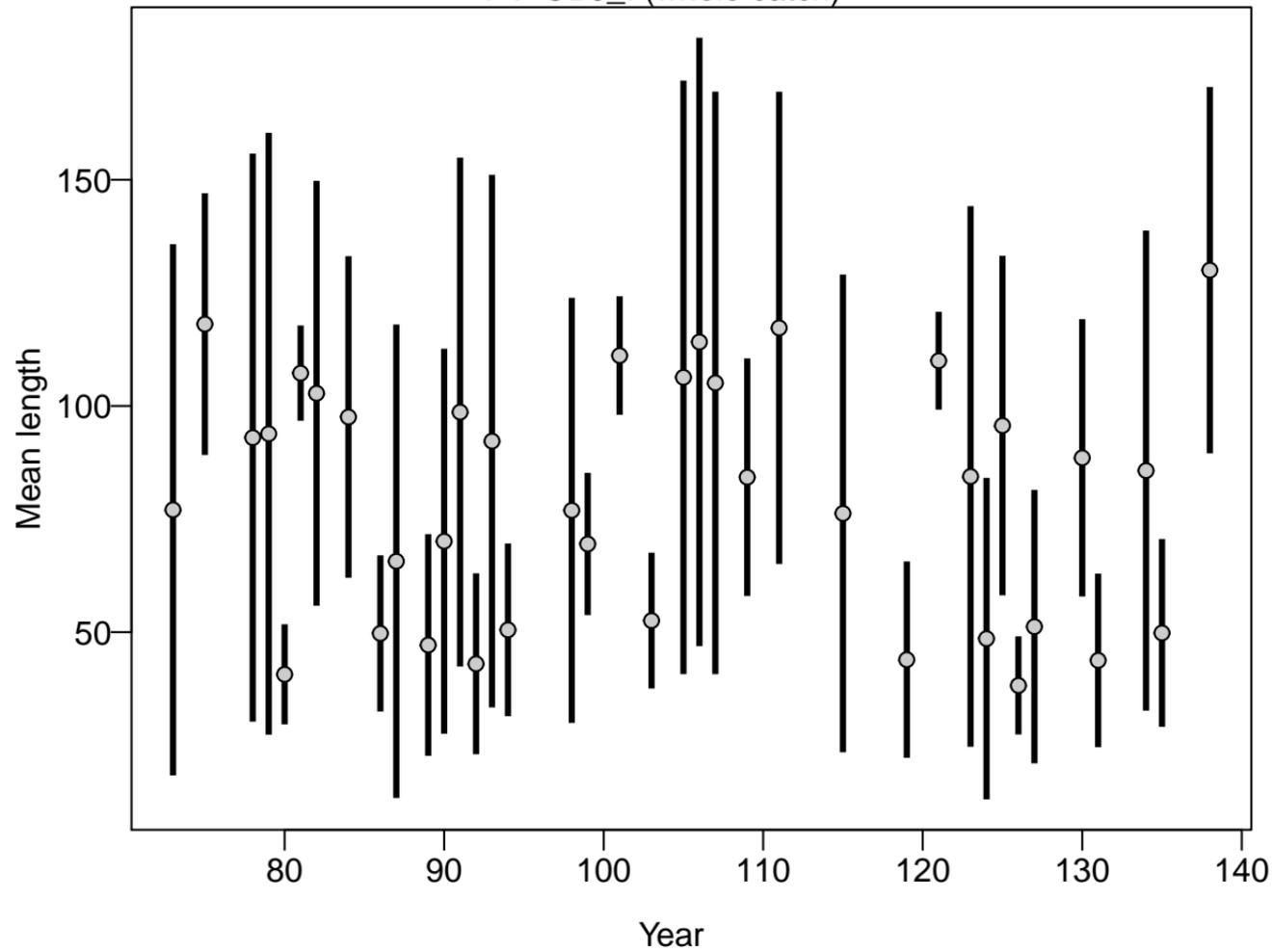
◦ 0.01 ○ 0.4

73 78 84 89 94 99 105 111 119 125 131 138

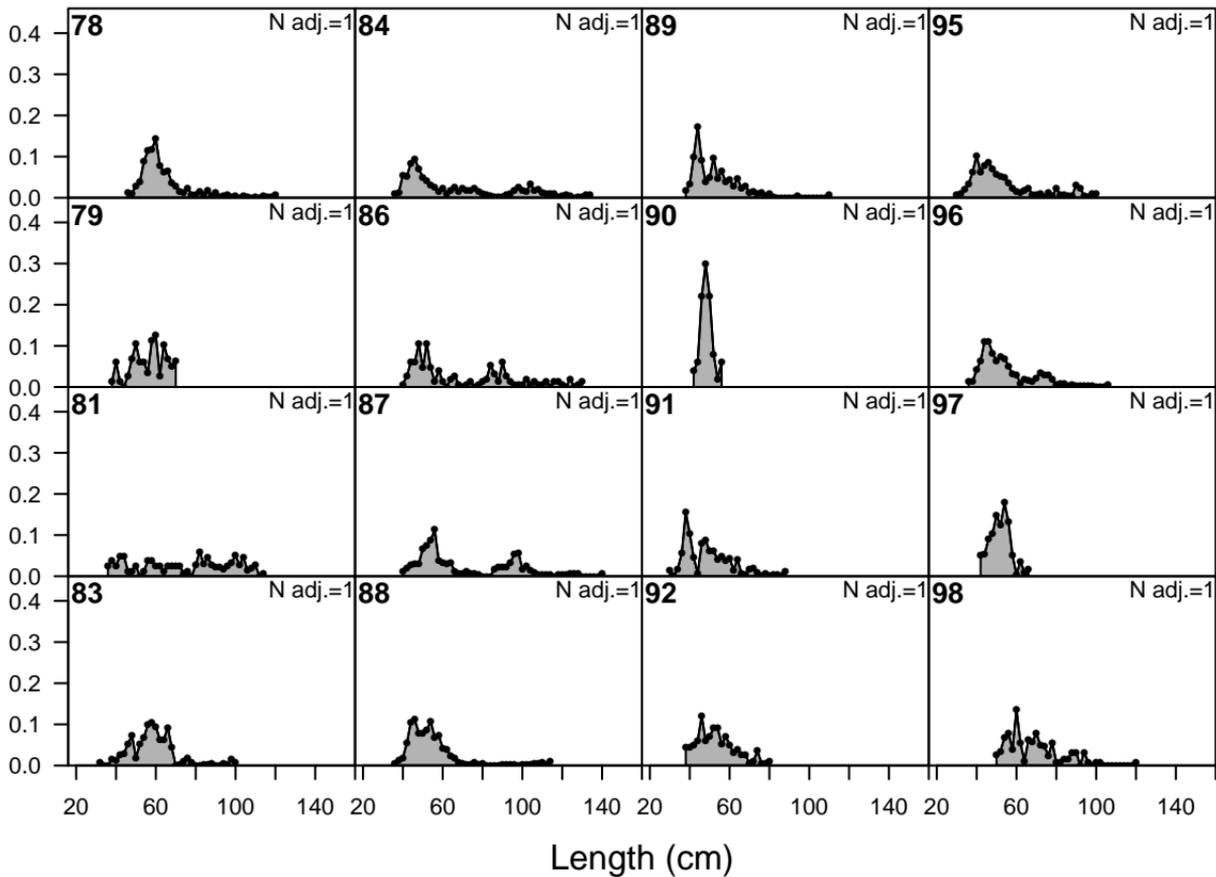
Year



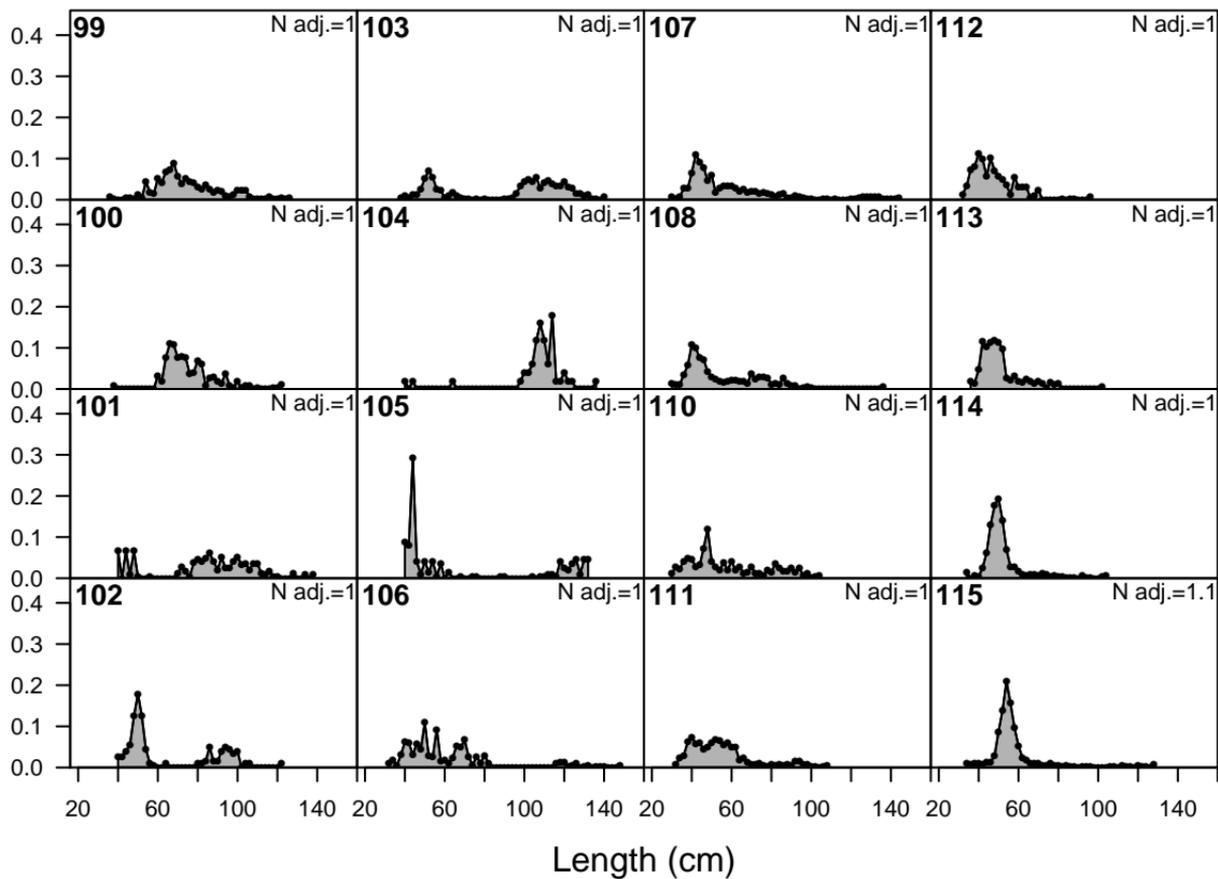
F4-OBJ_I (whole catch)



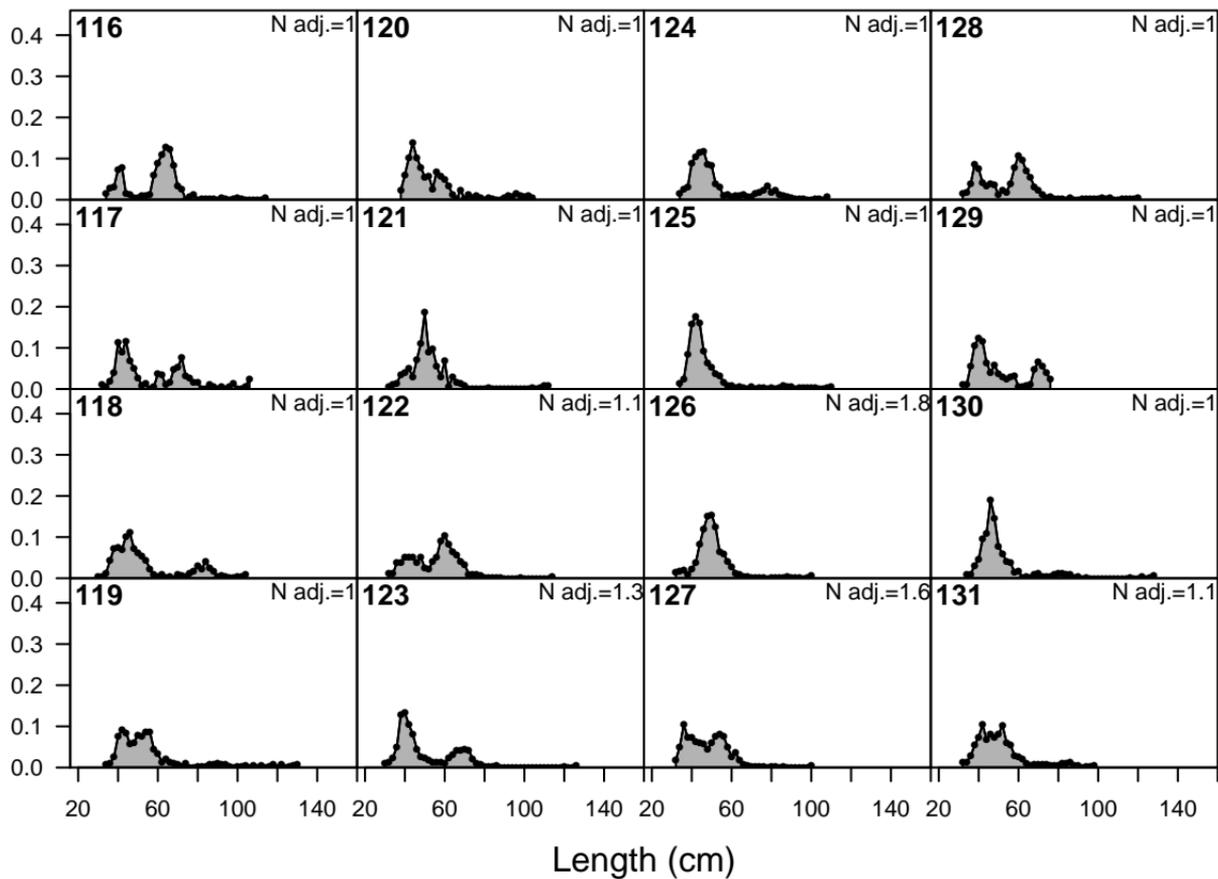
Proportion



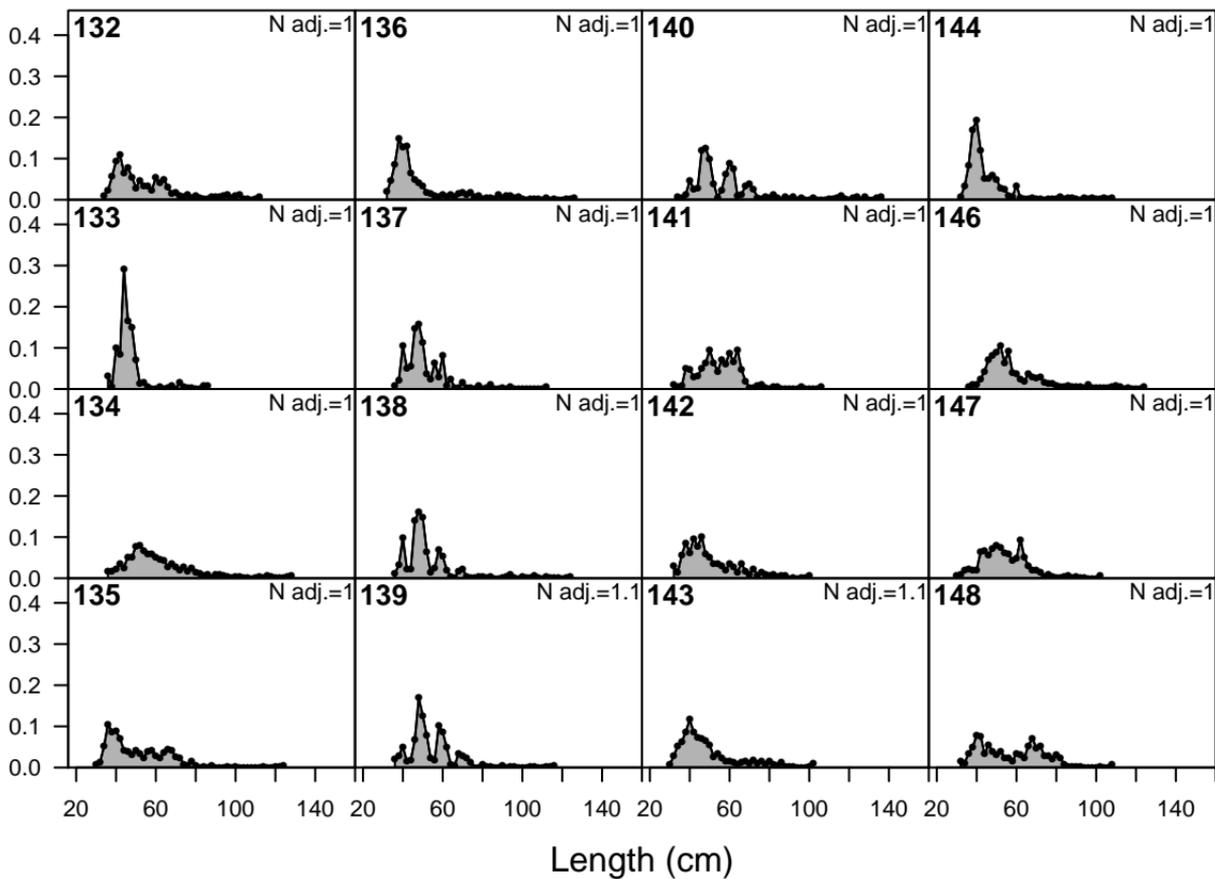
Proportion



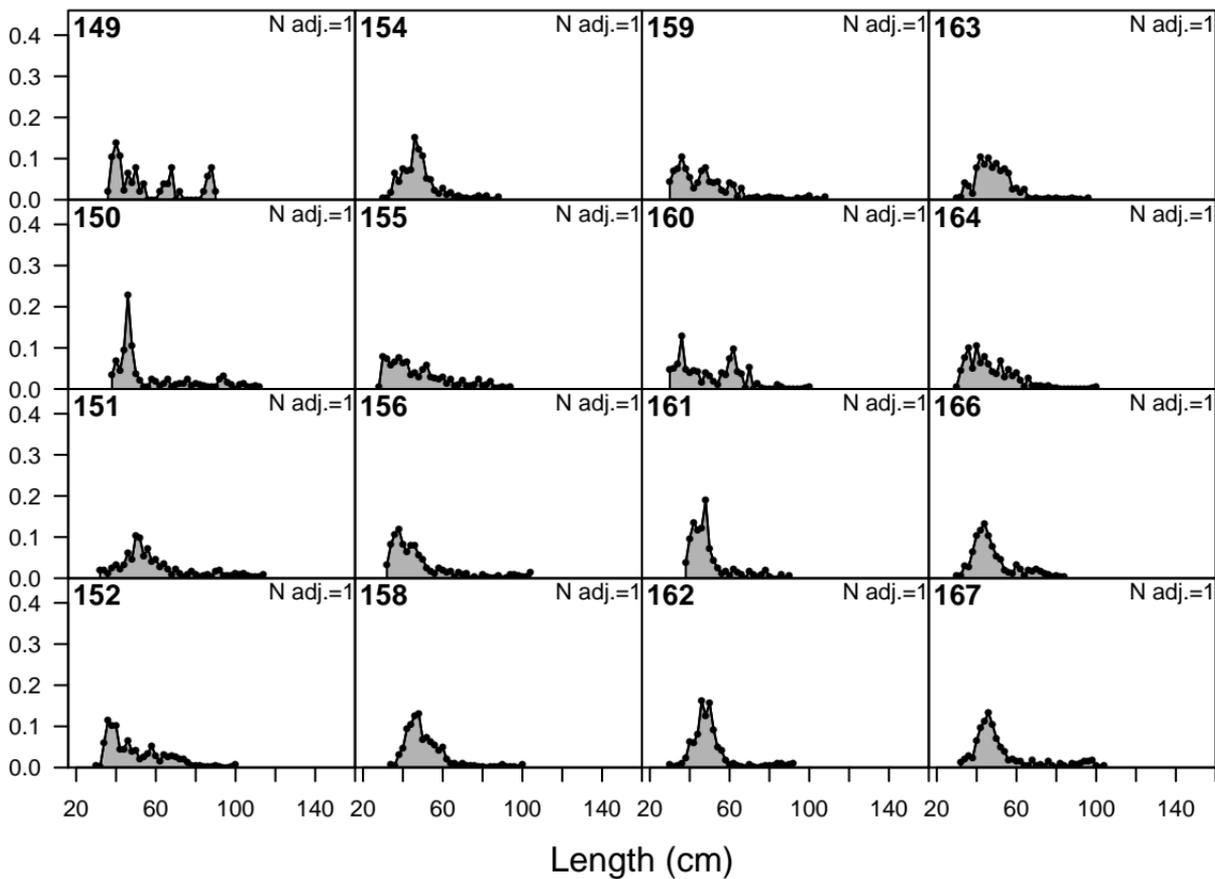
Proportion

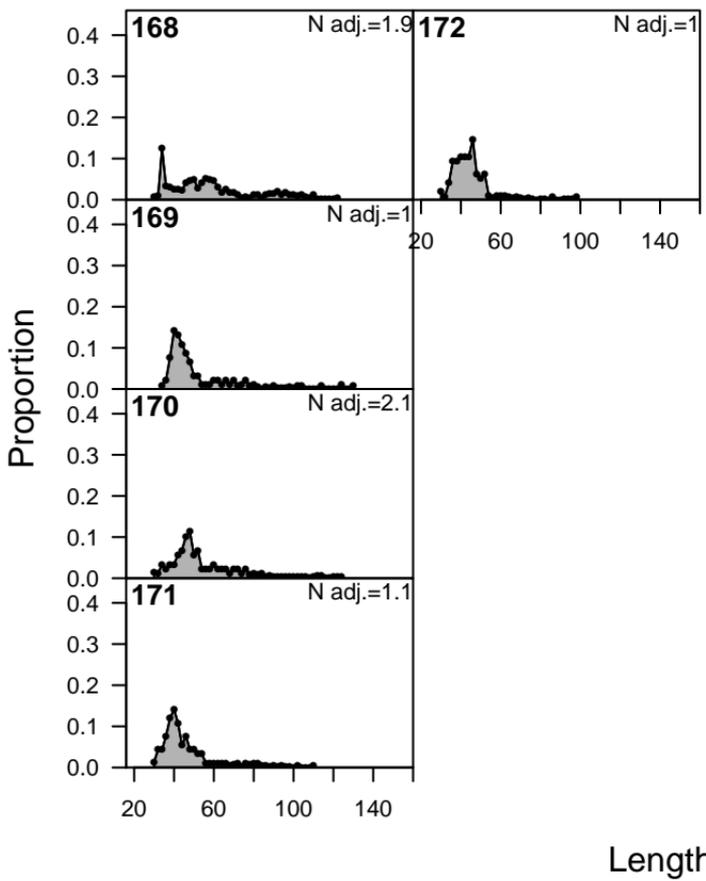


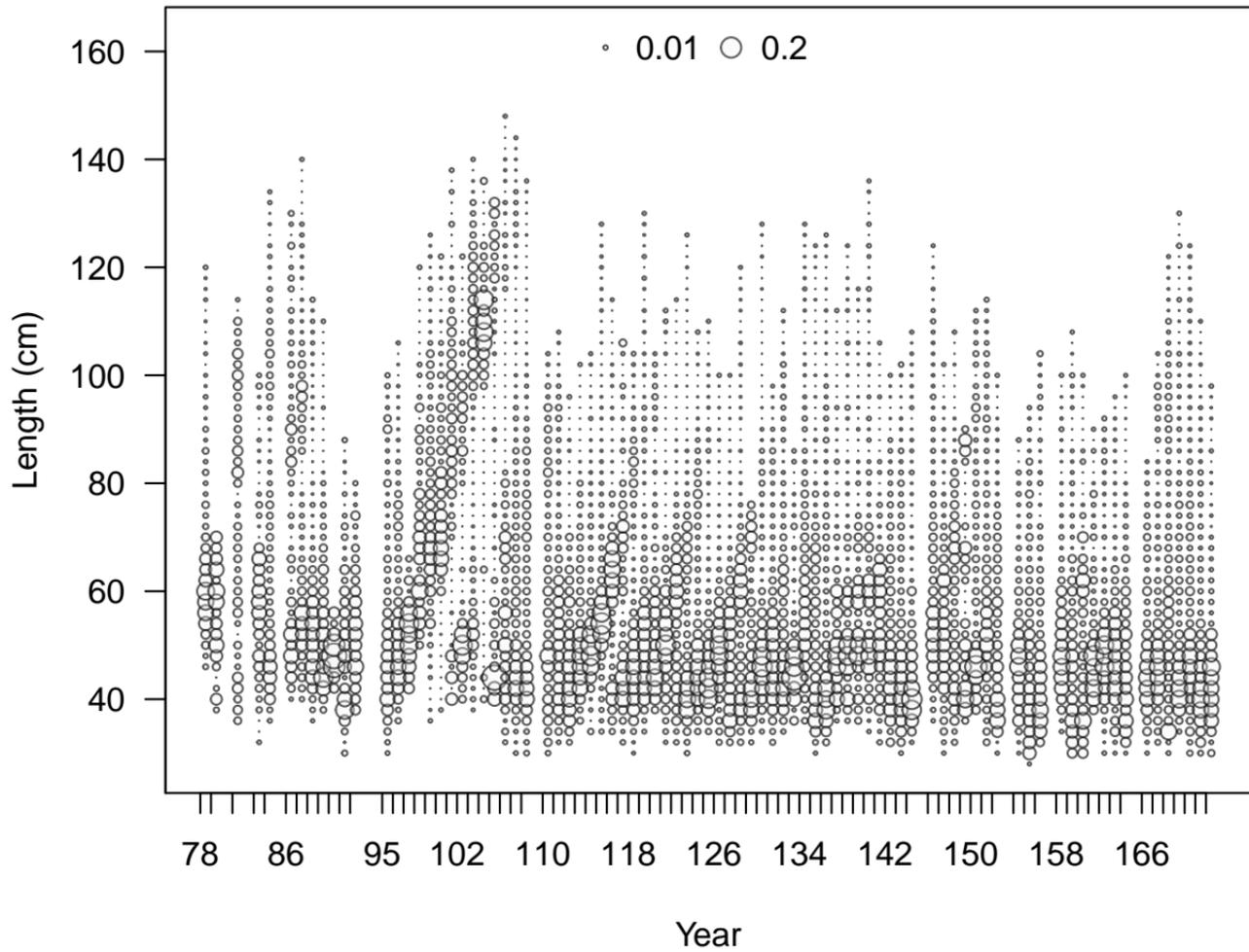
Proportion



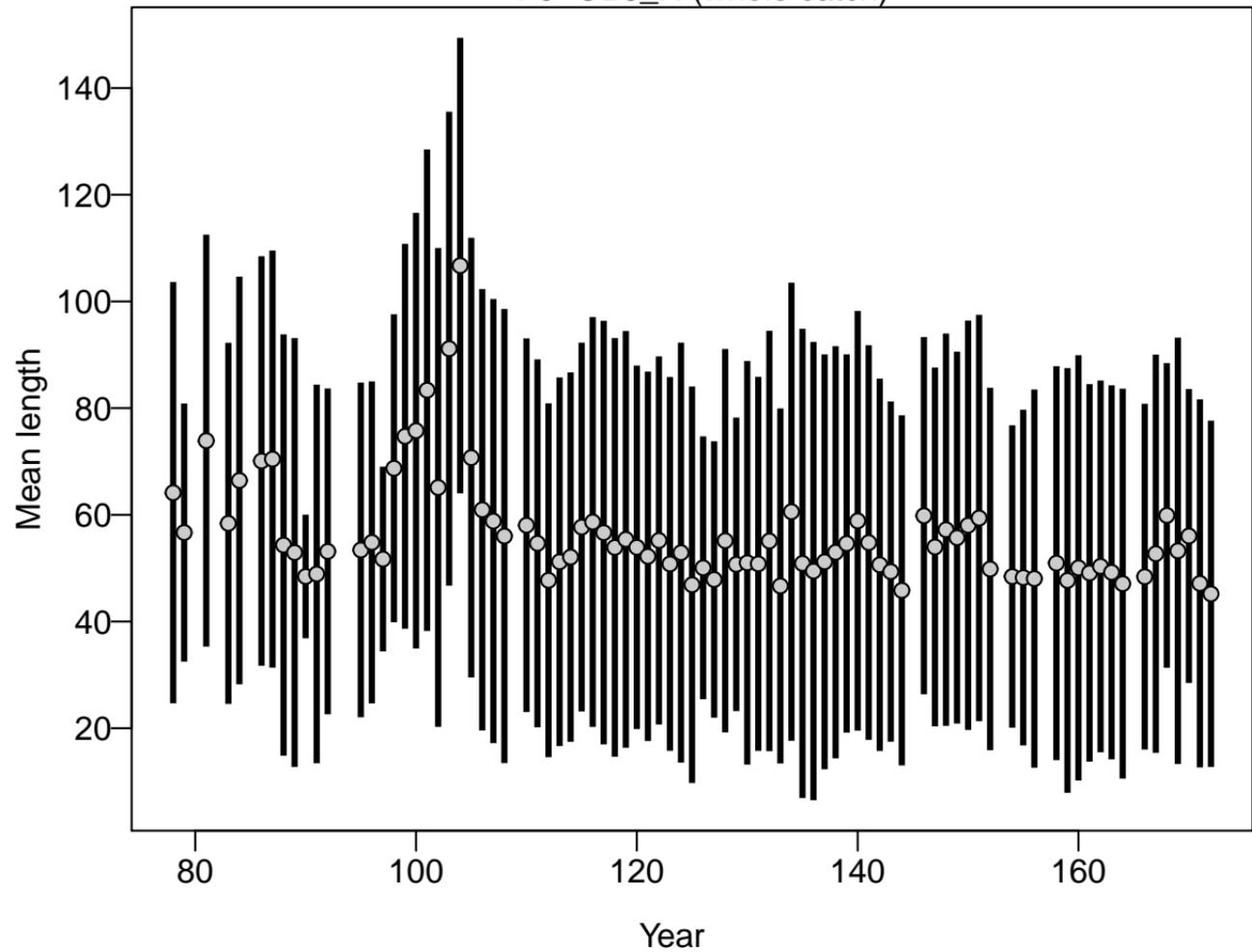
Proportion



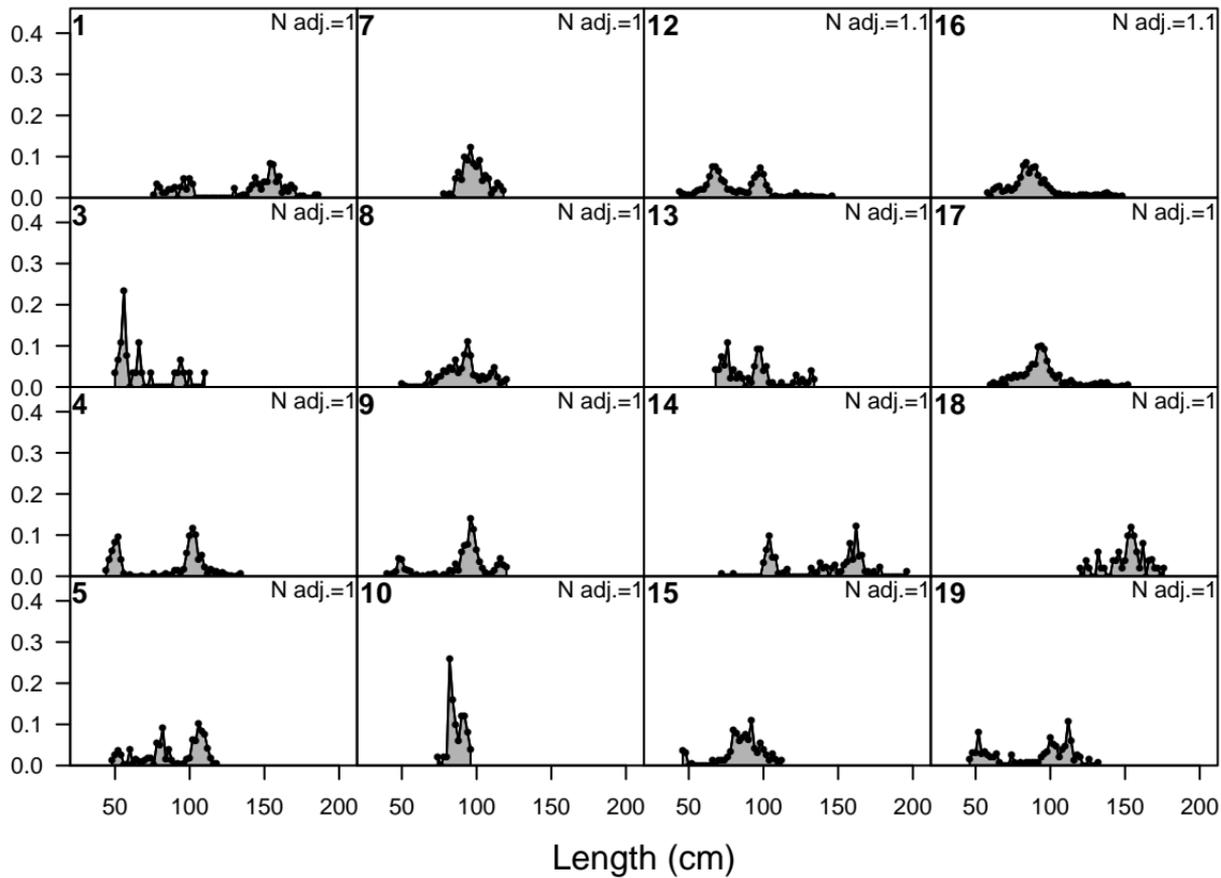


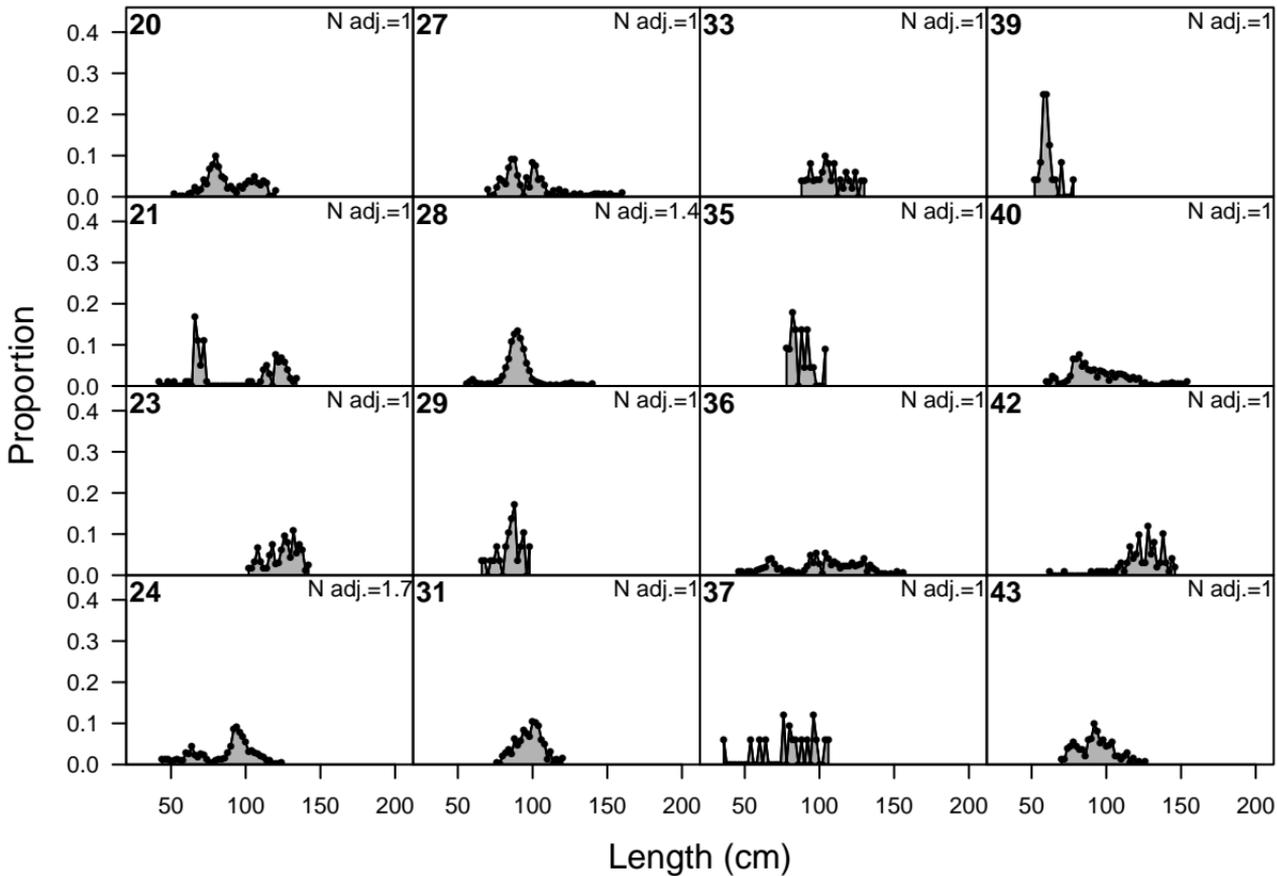


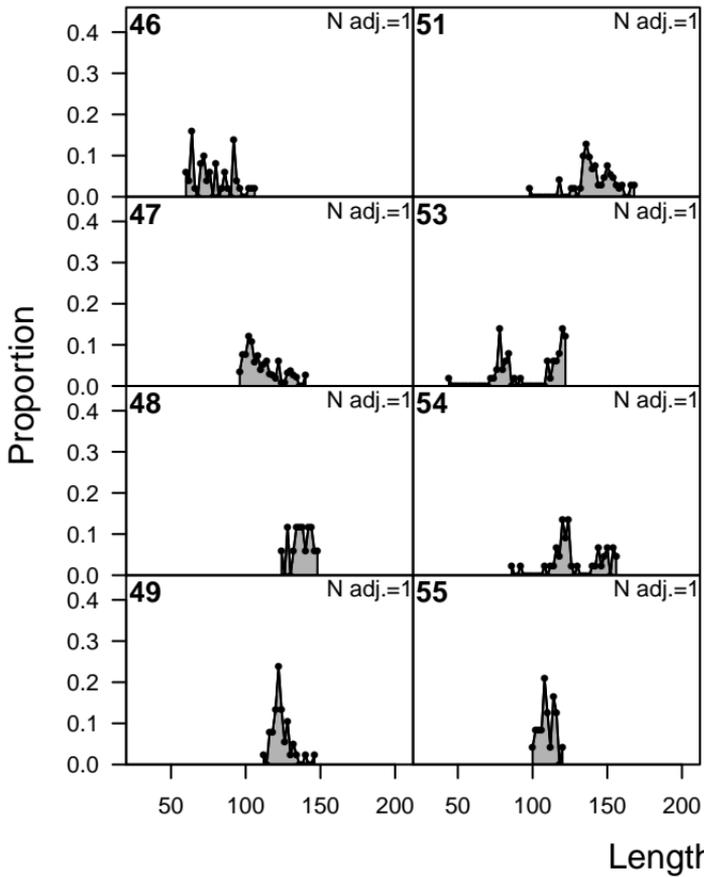
F5-OBJ_N (whole catch)



Proportion







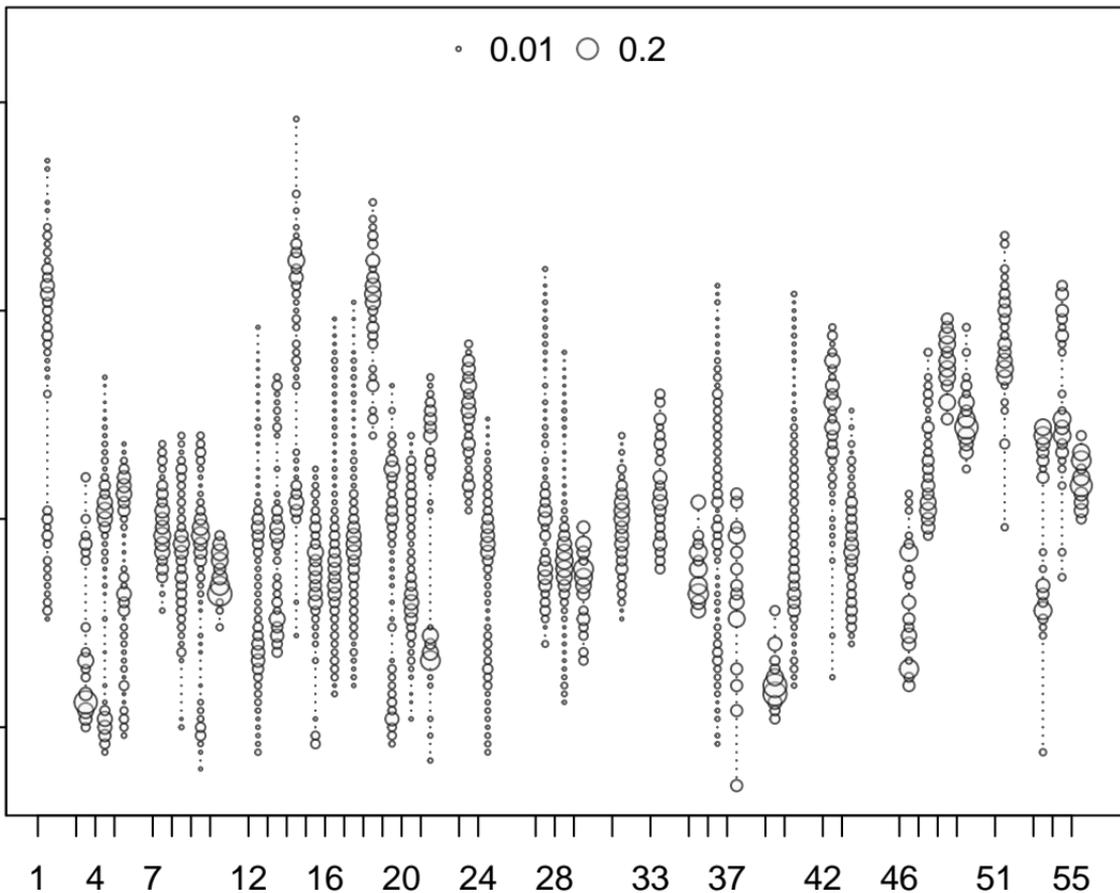
Length (cm)

200
150
100
50

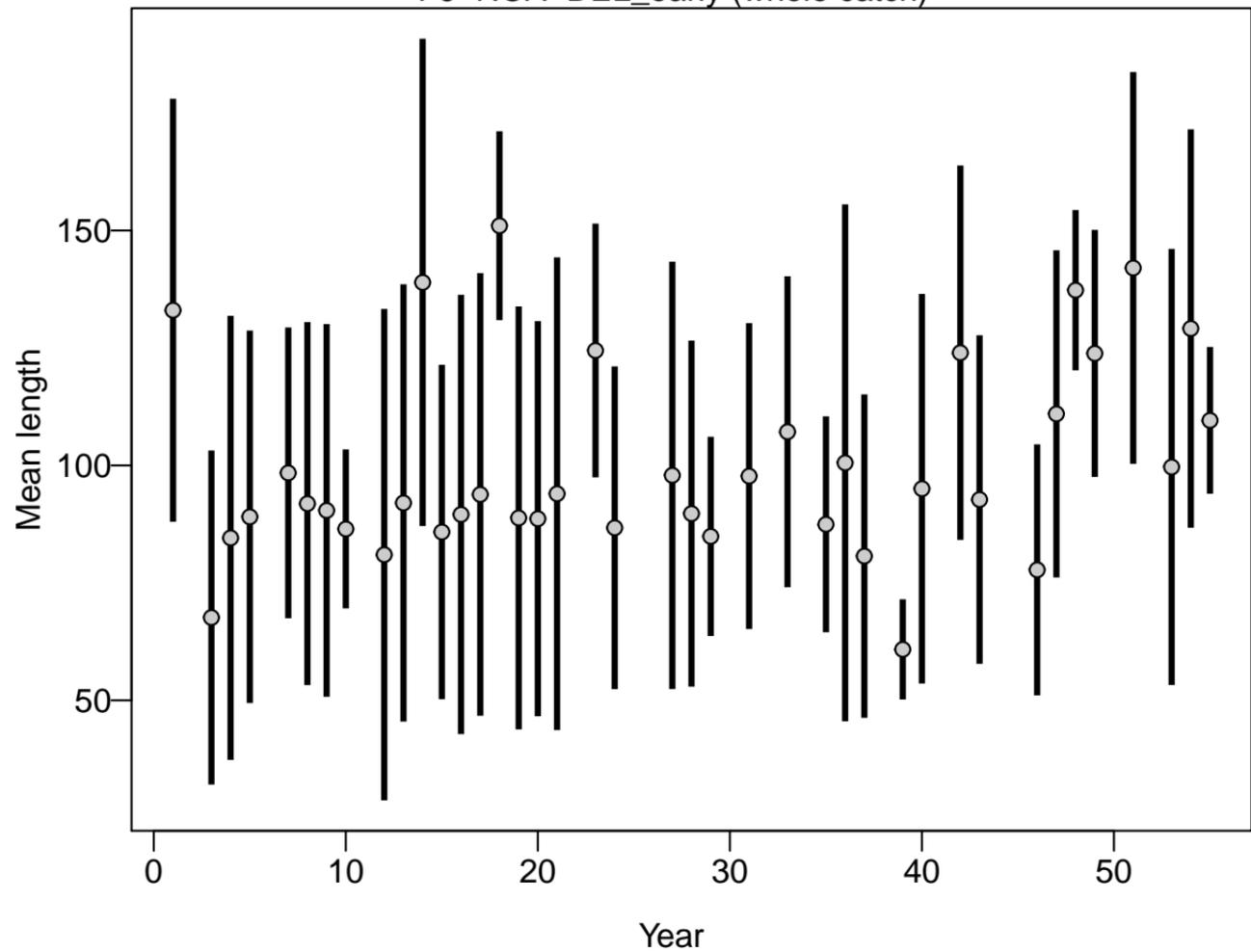
1 4 7 12 16 20 24 28 33 37 42 46 51 55

Year

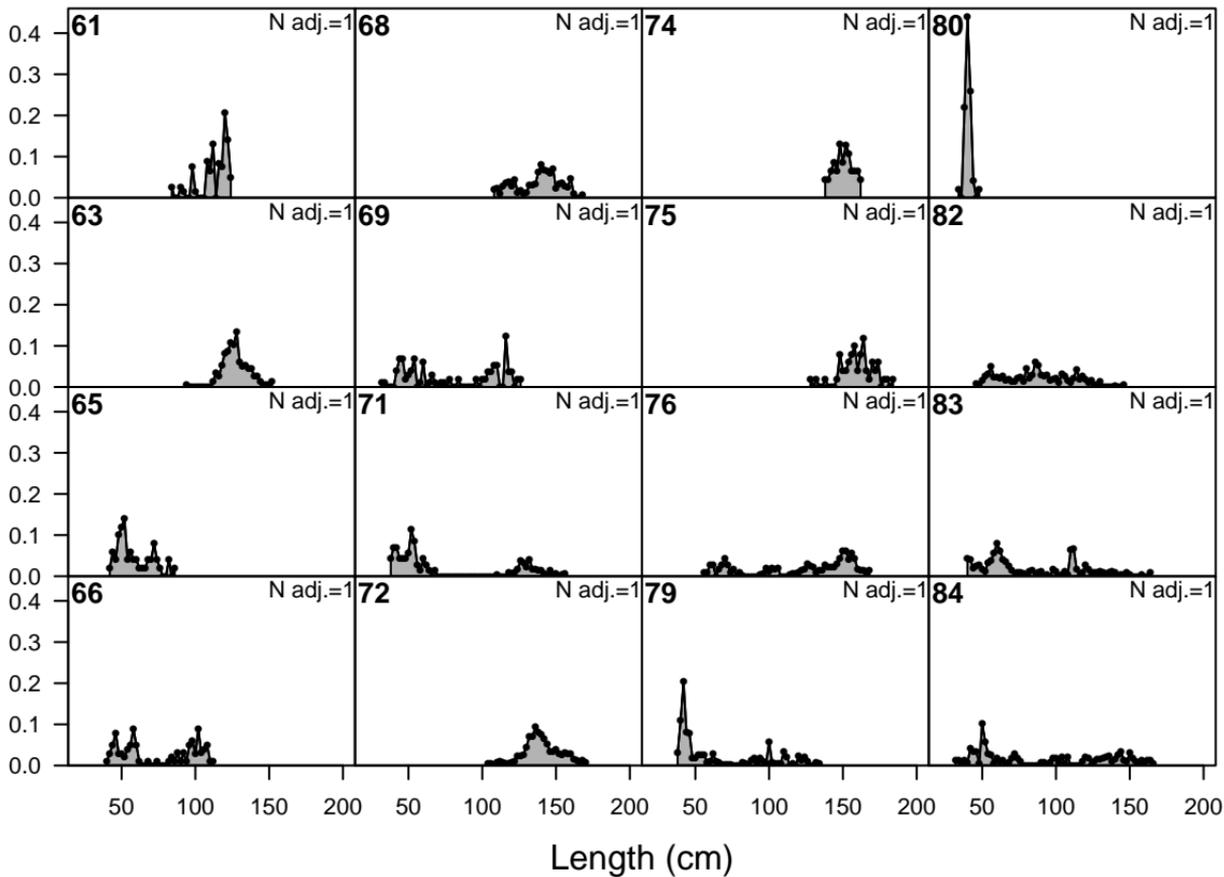
◦ 0.01 ○ 0.2



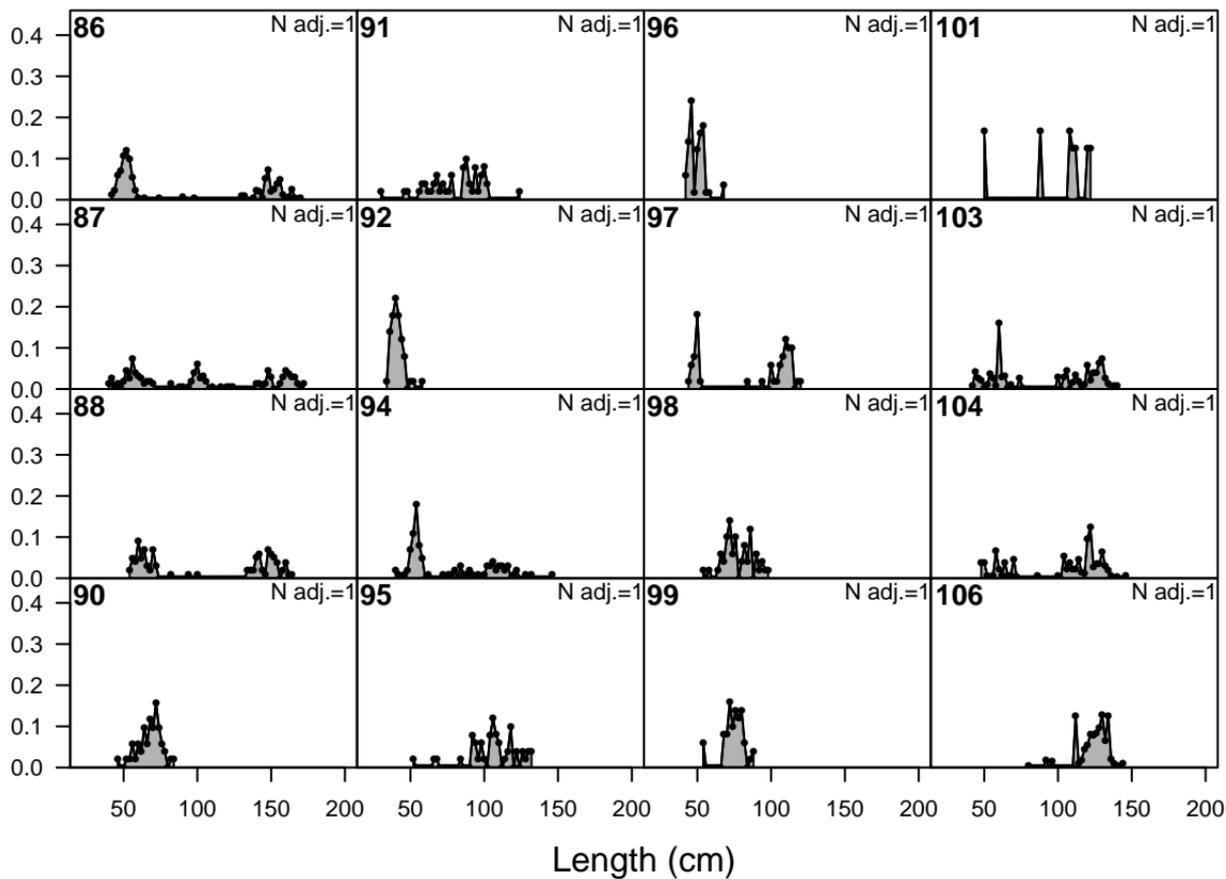
F6-NOA-DEL_early (whole catch)



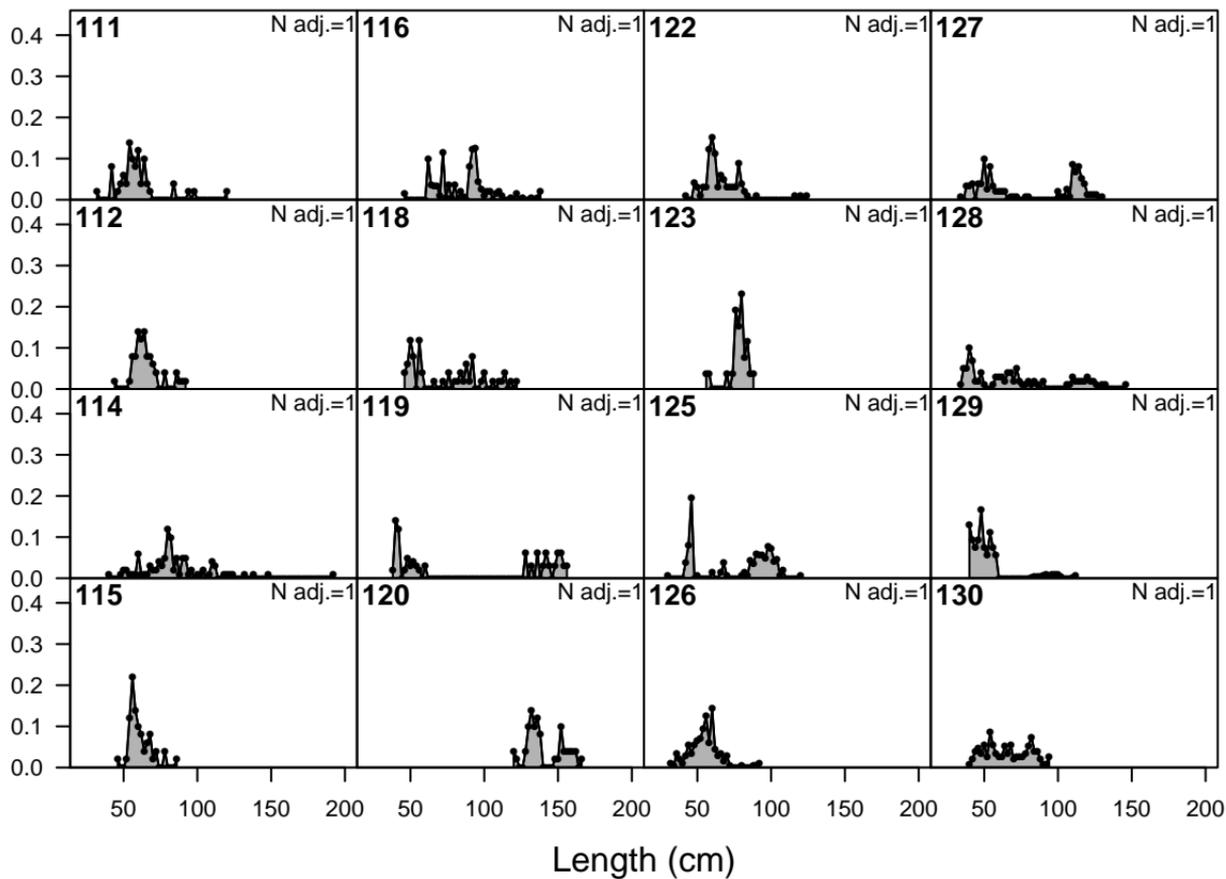
Proportion

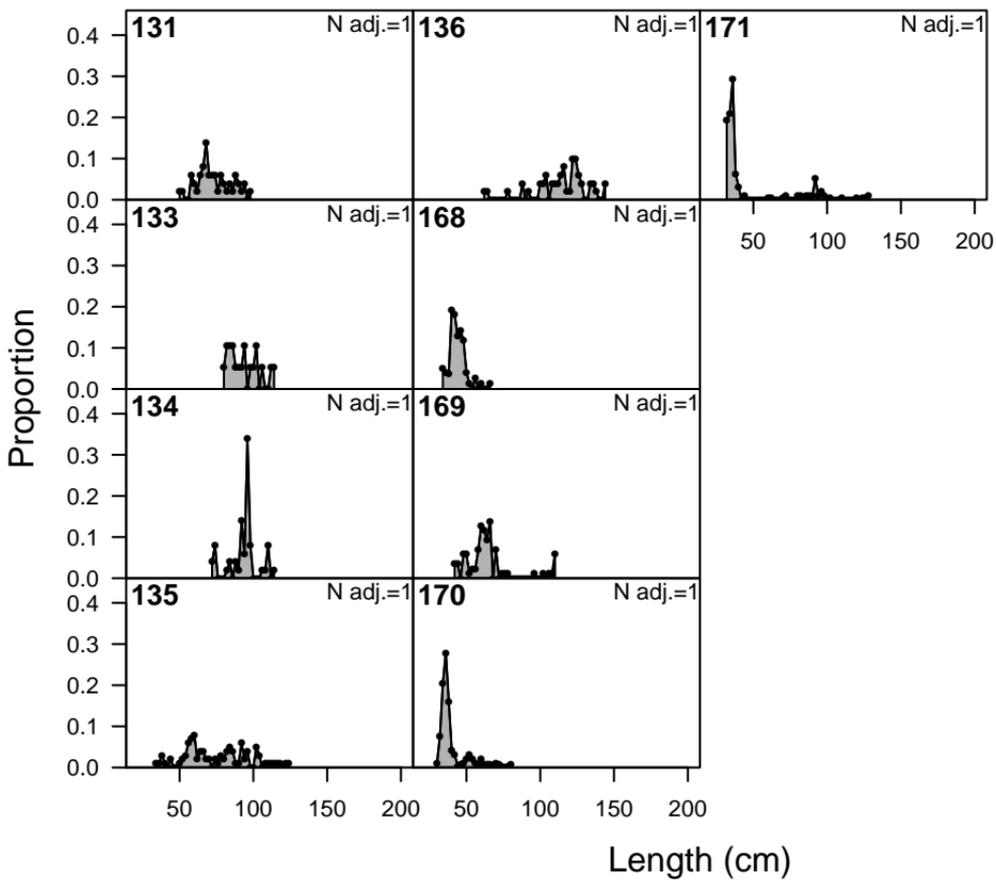


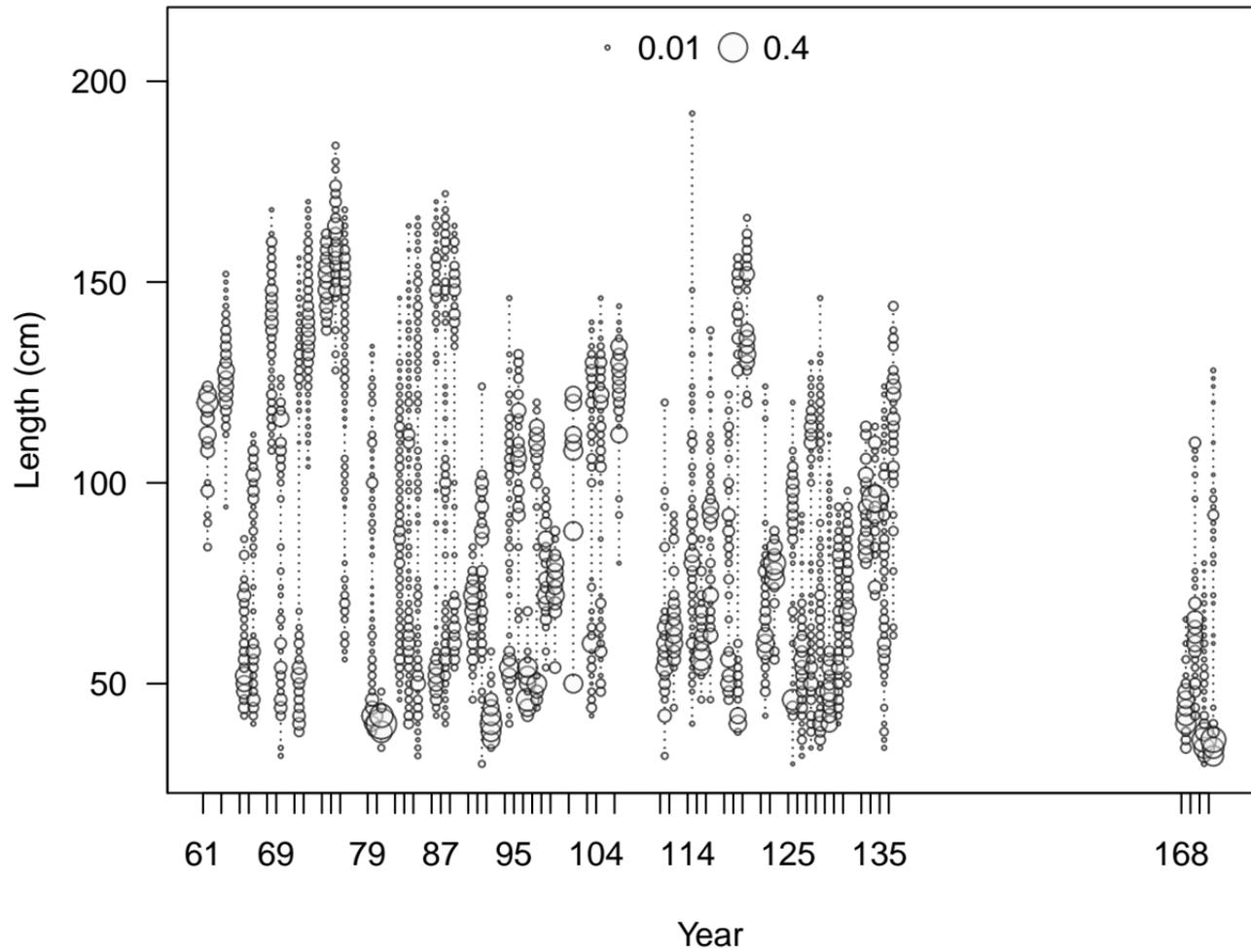
Proportion



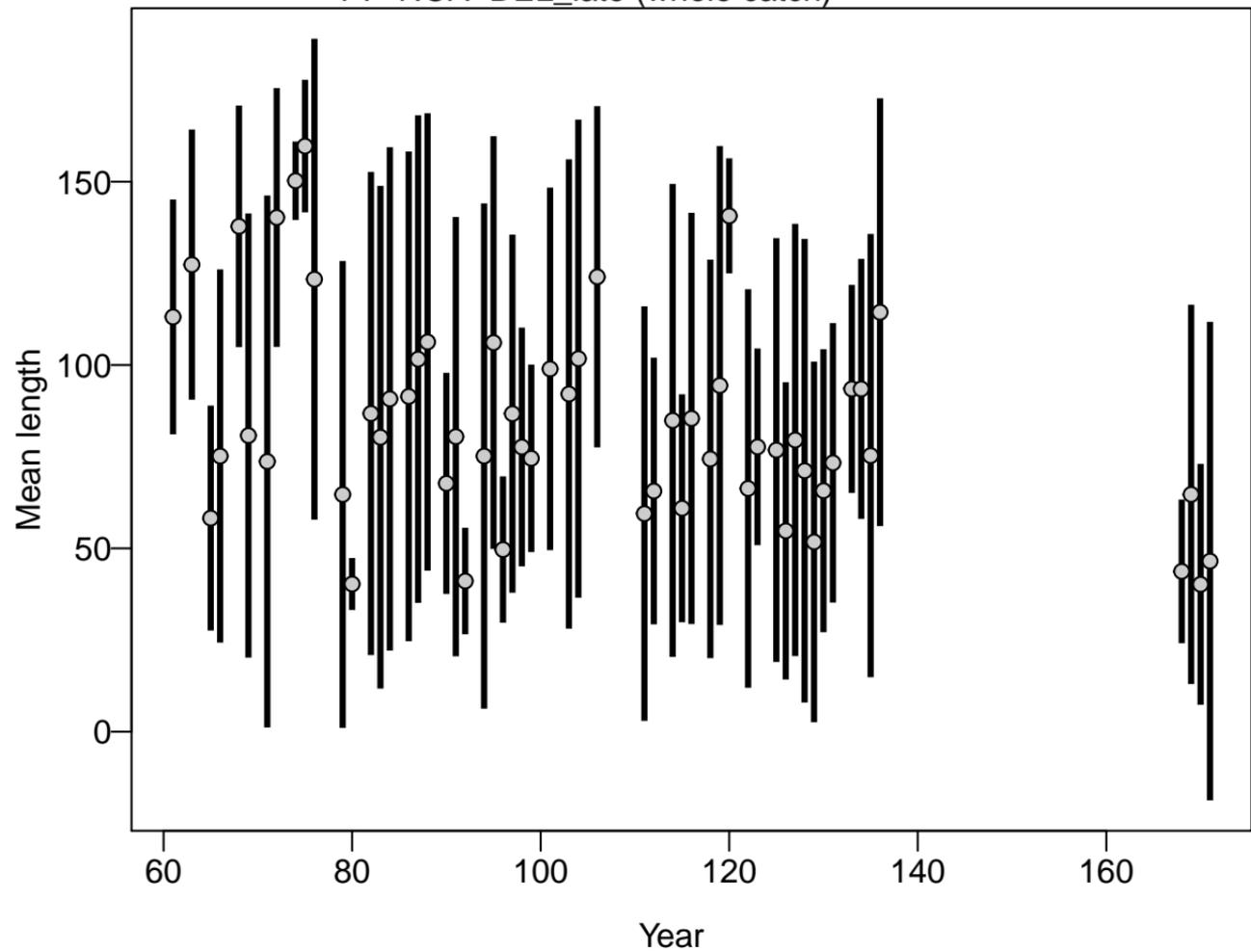
Proportion



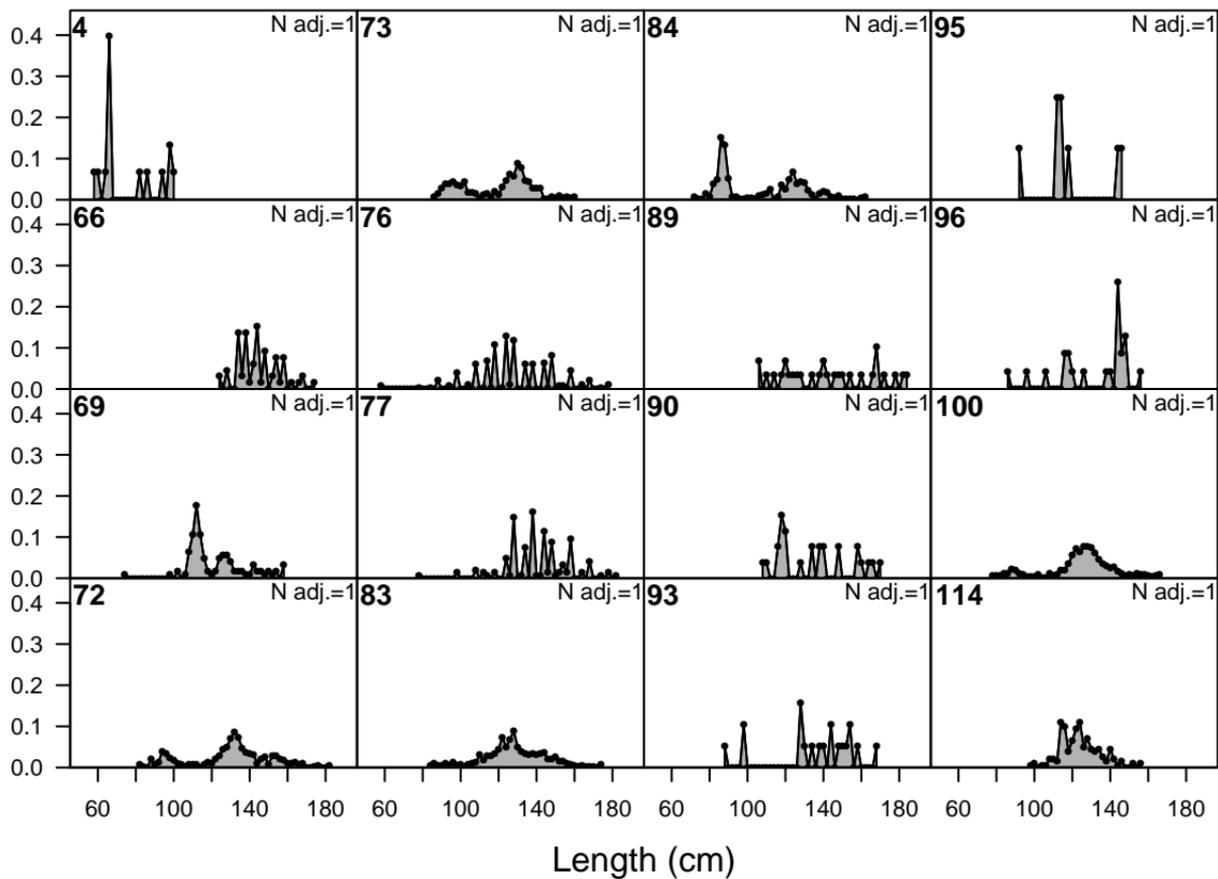




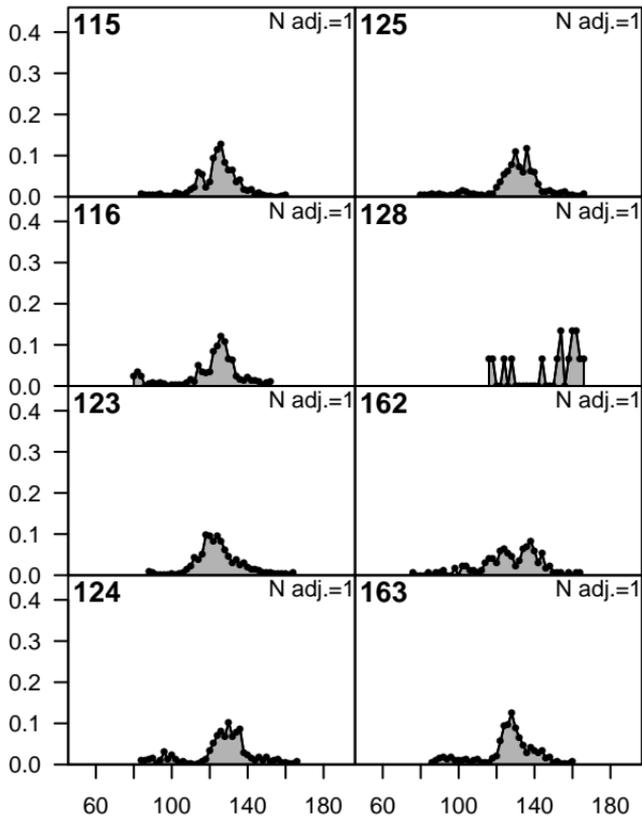
F7-NOA-DEL_late (whole catch)

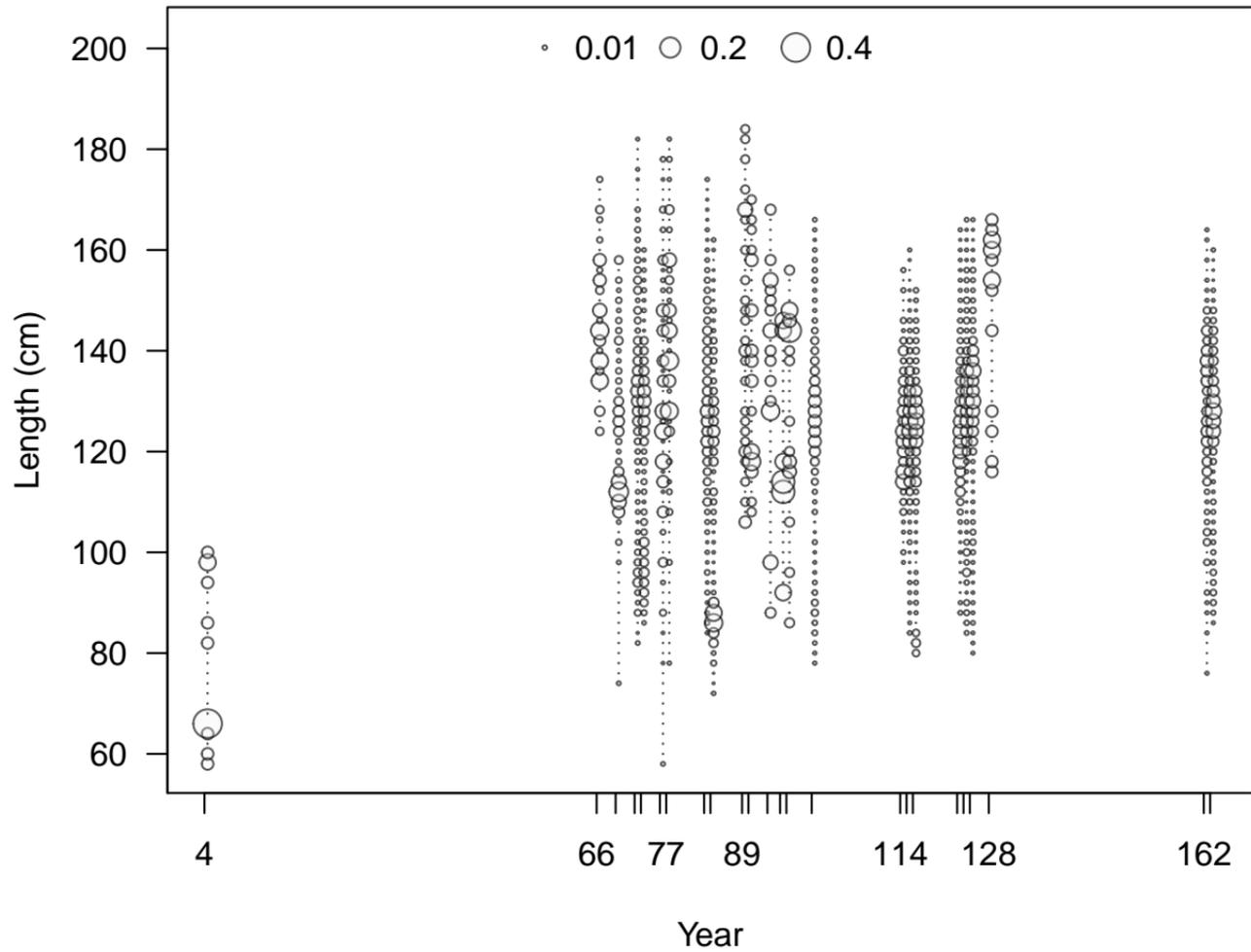


Proportion

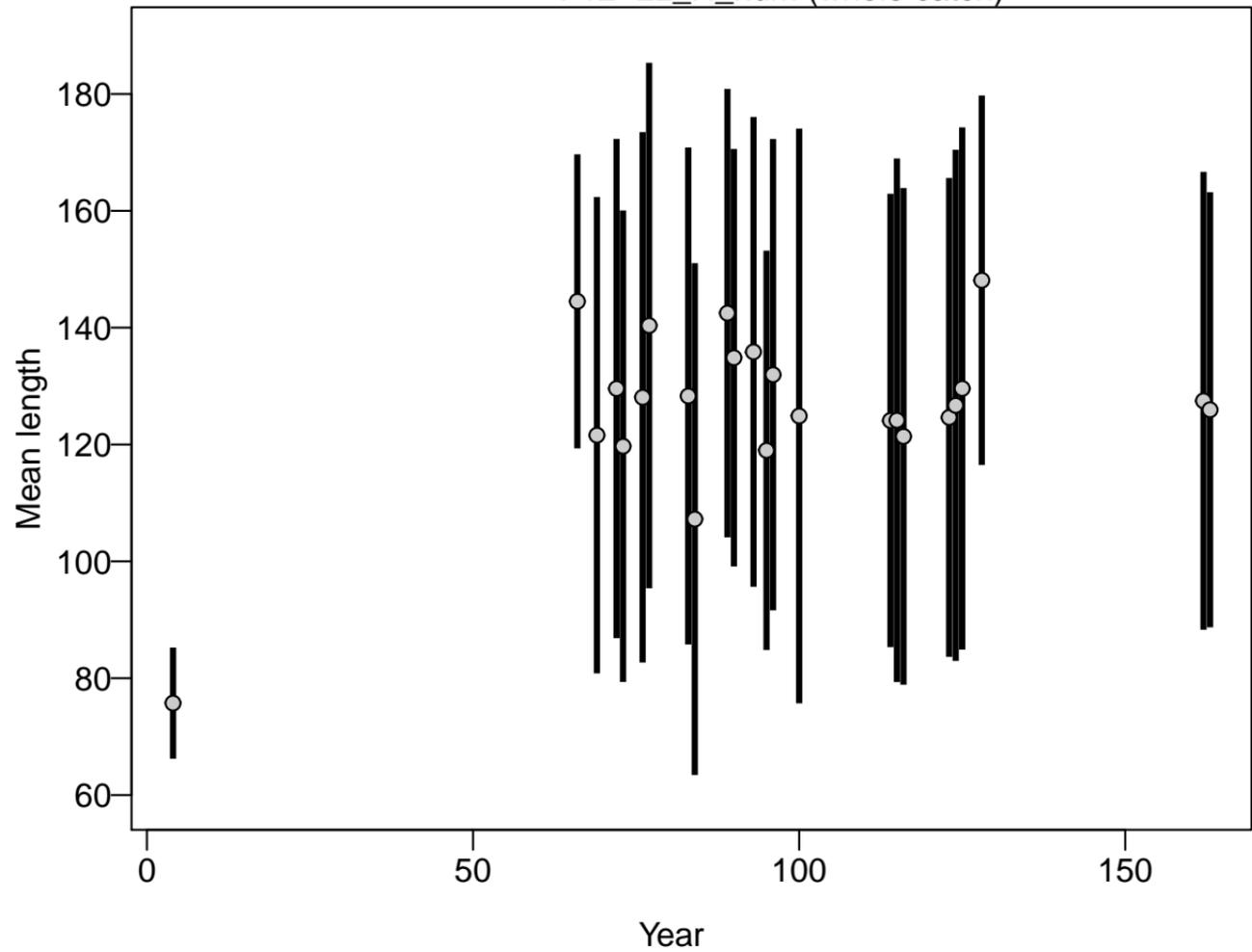


Proportion

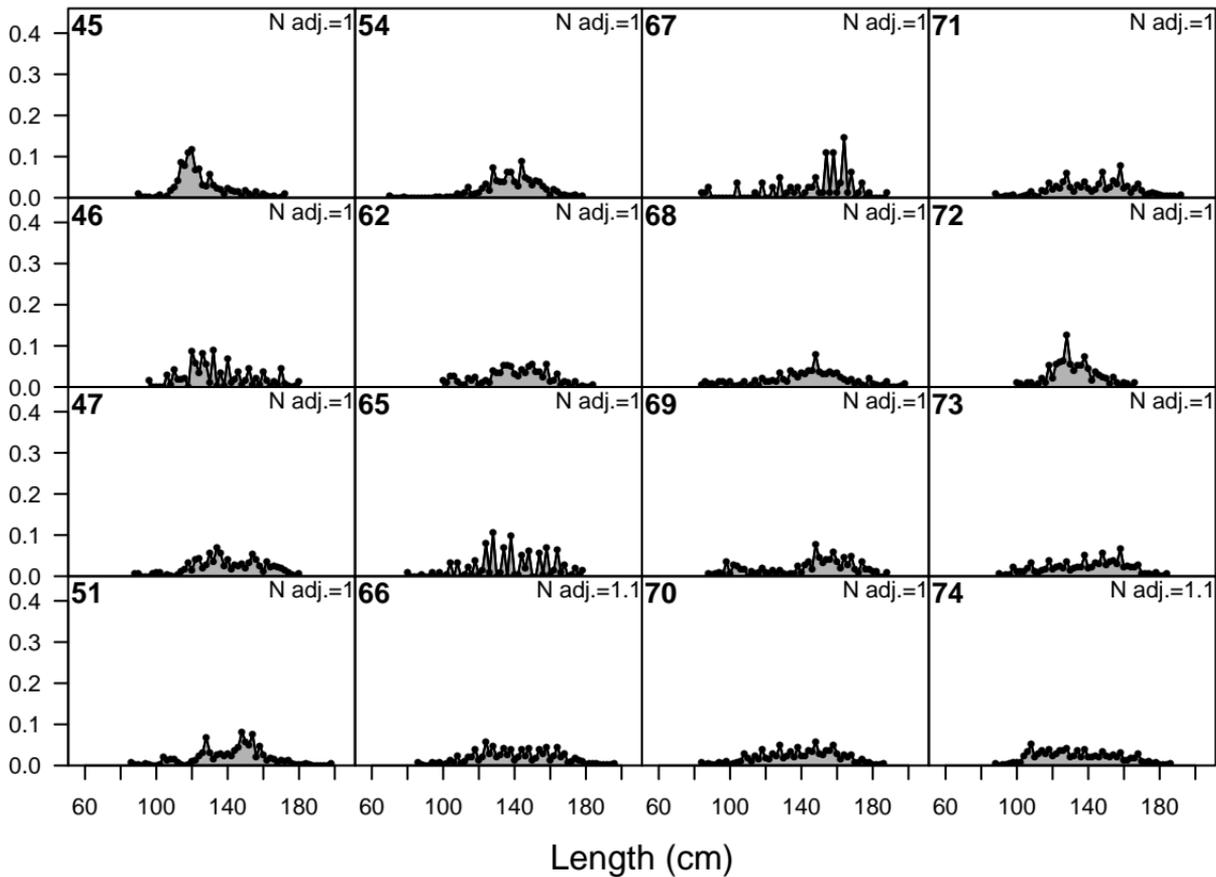




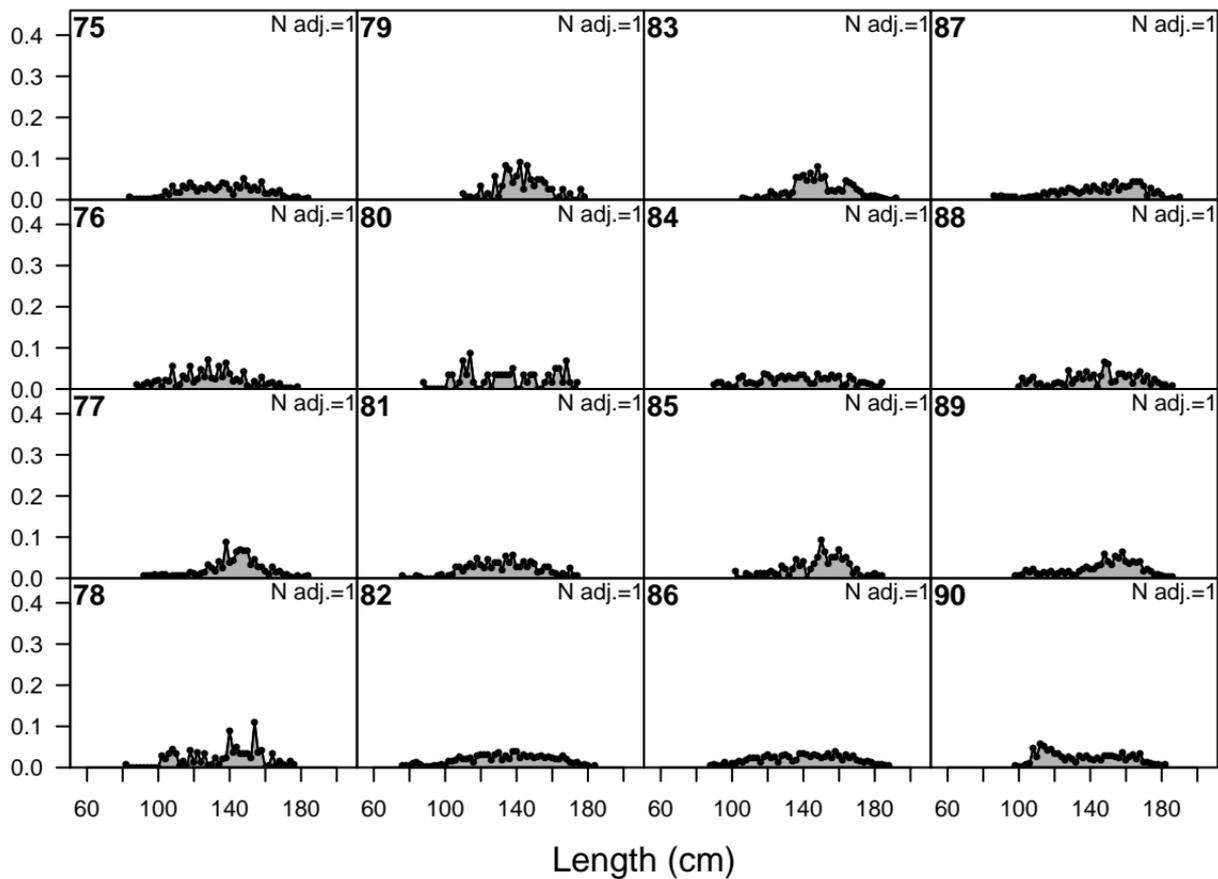
F12-LL_N_num (whole catch)



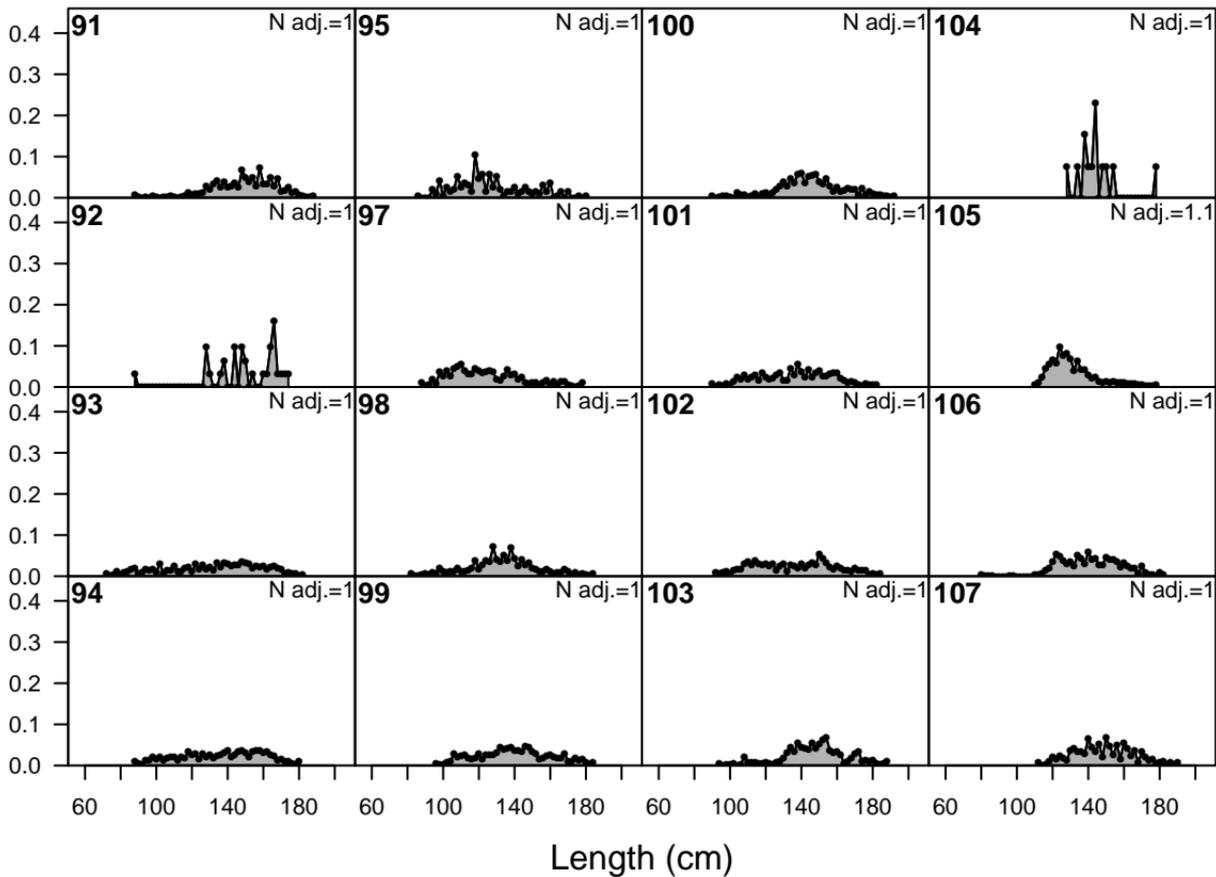
Proportion



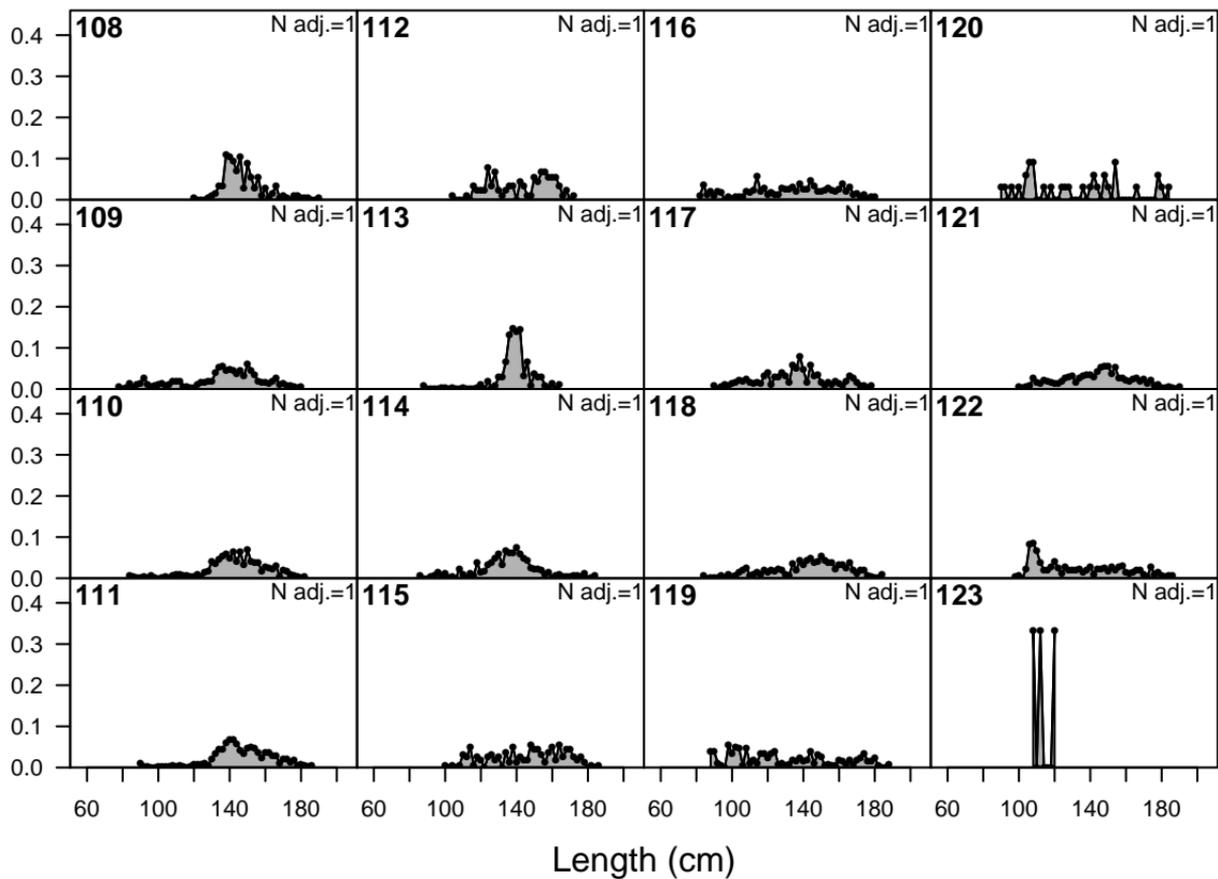
Proportion



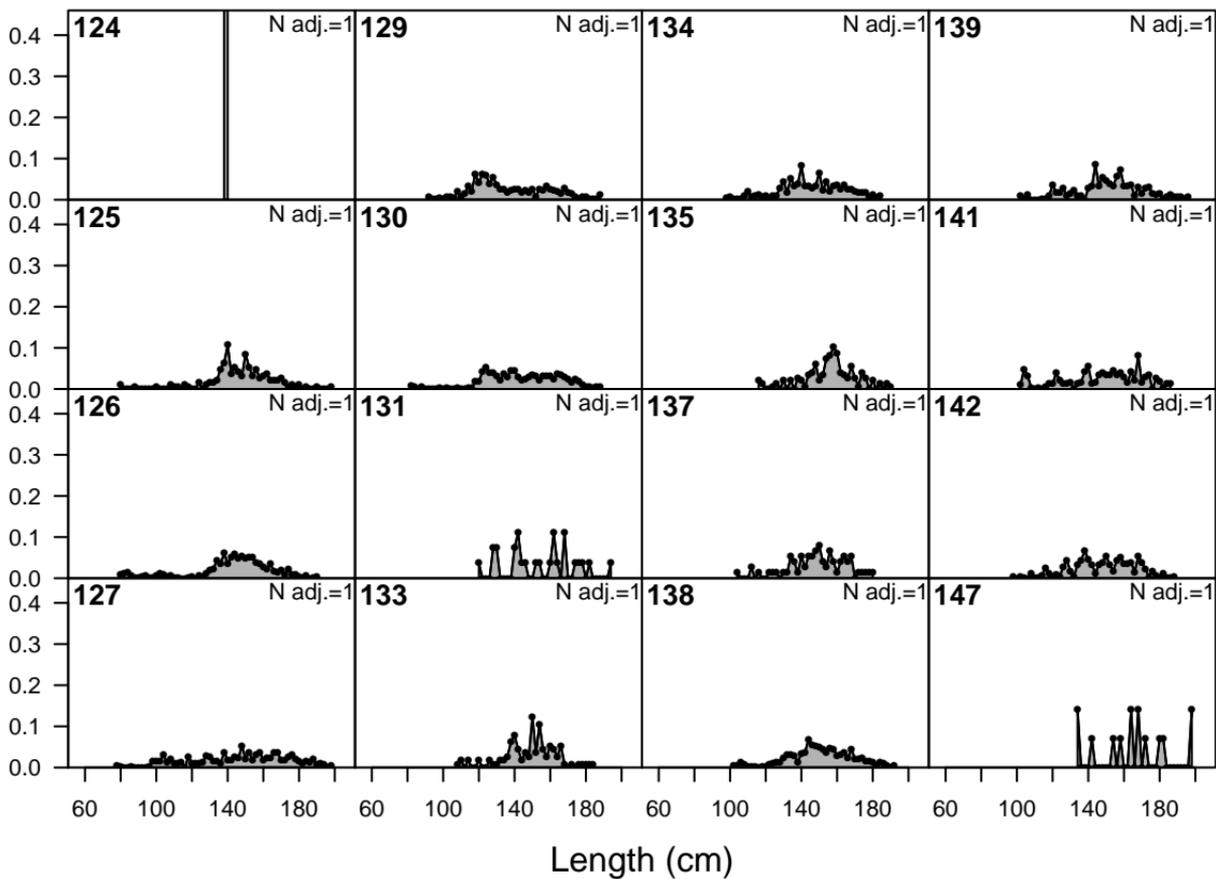
Proportion

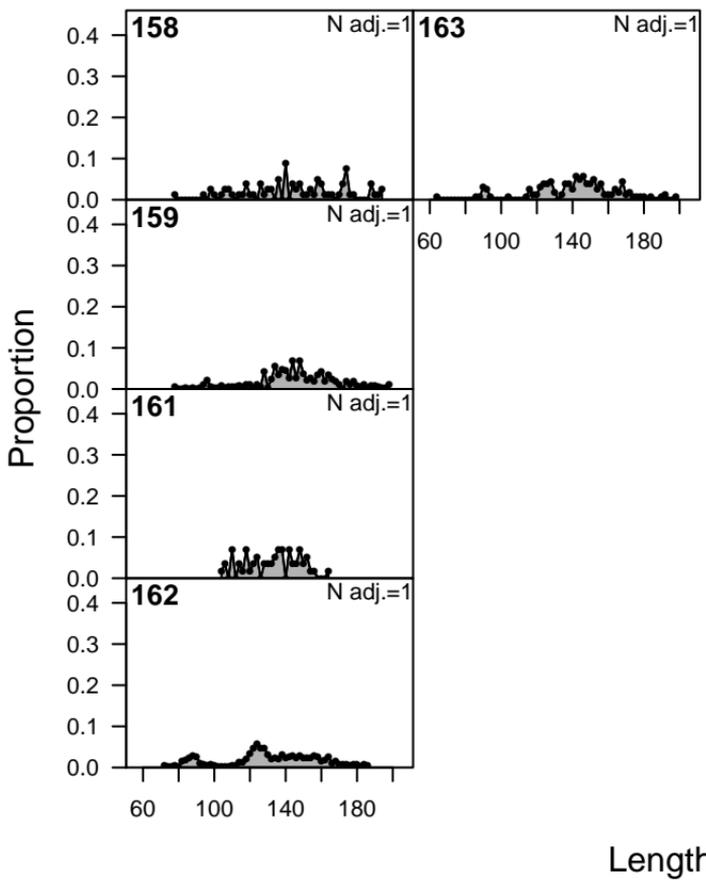


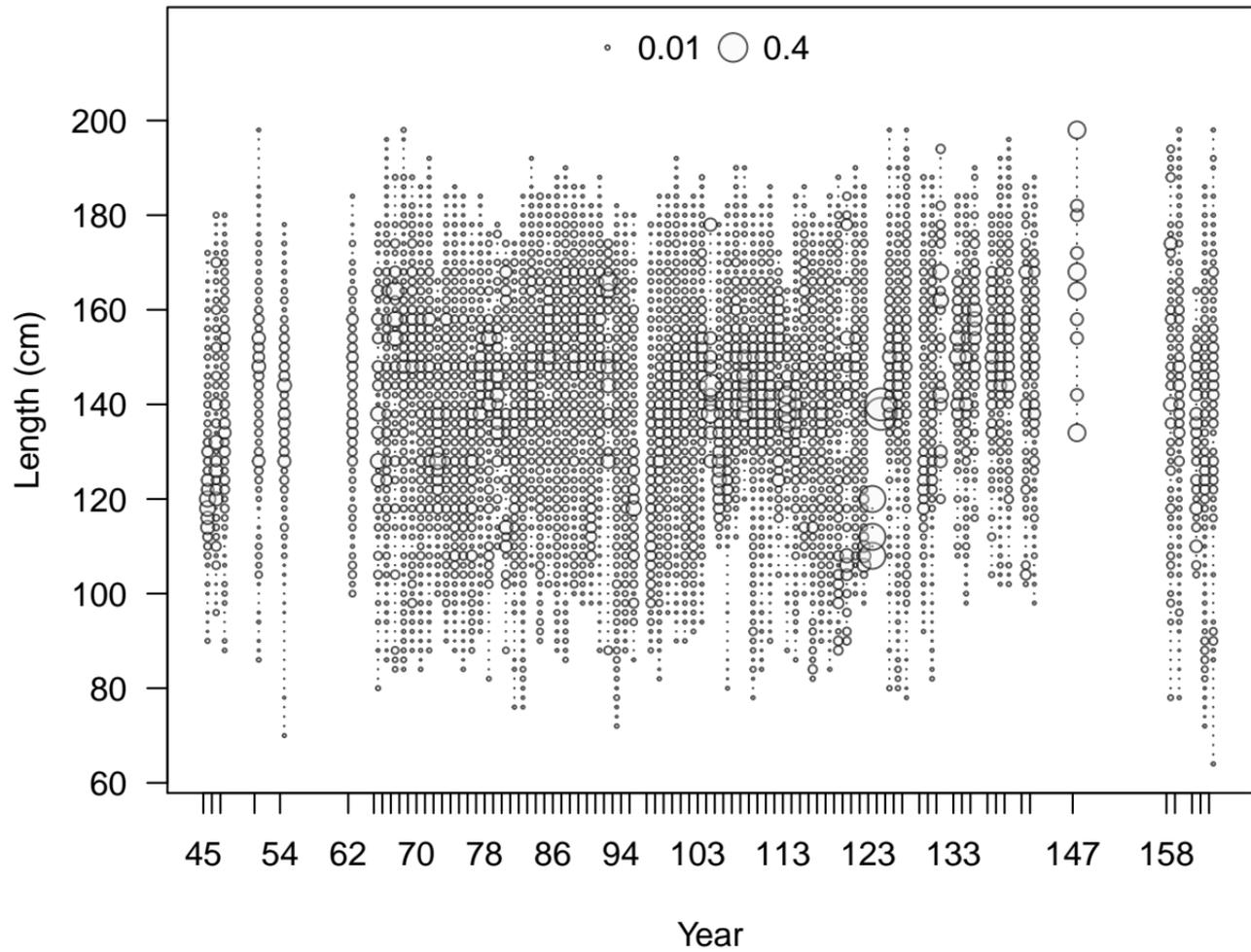
Proportion



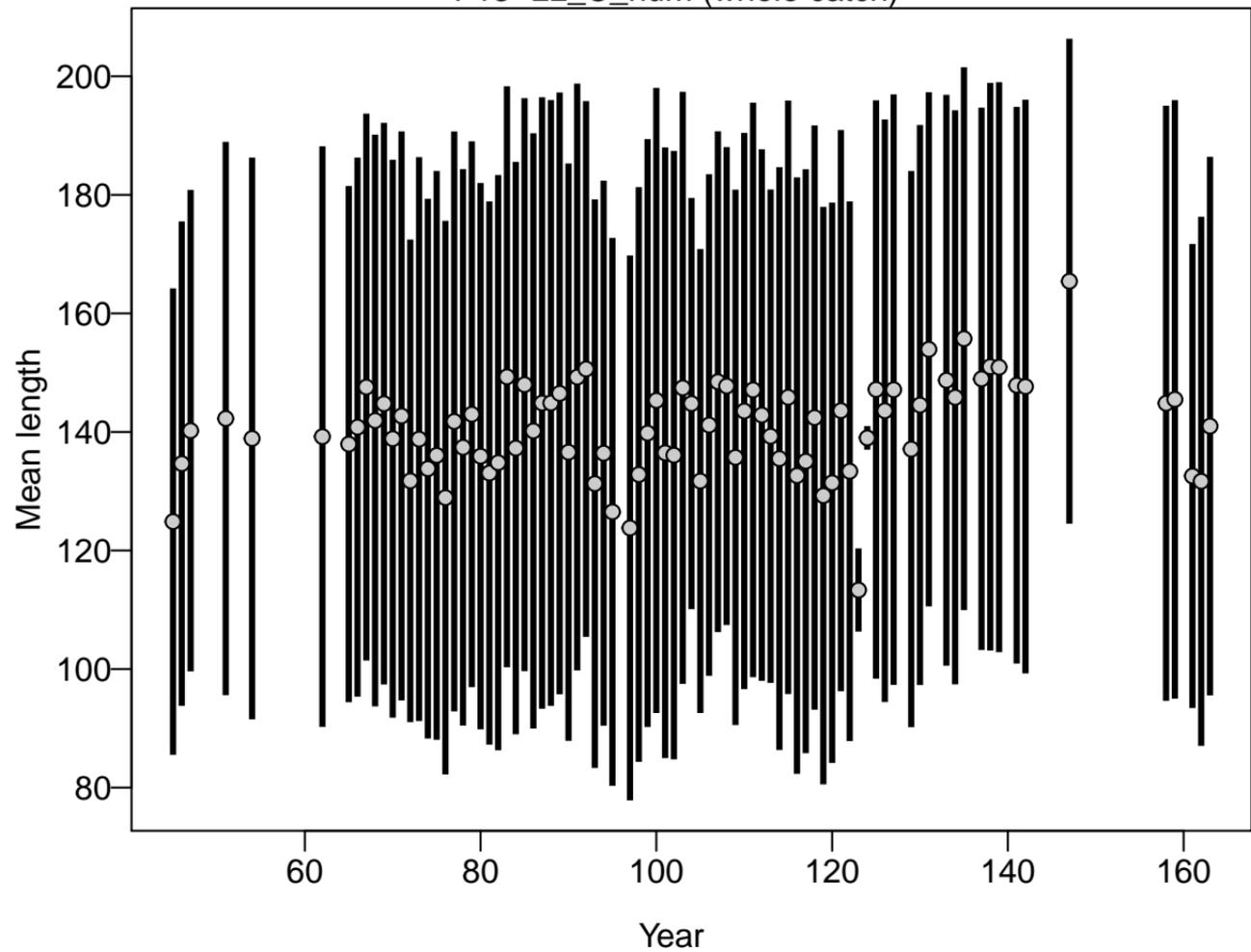
Proportion



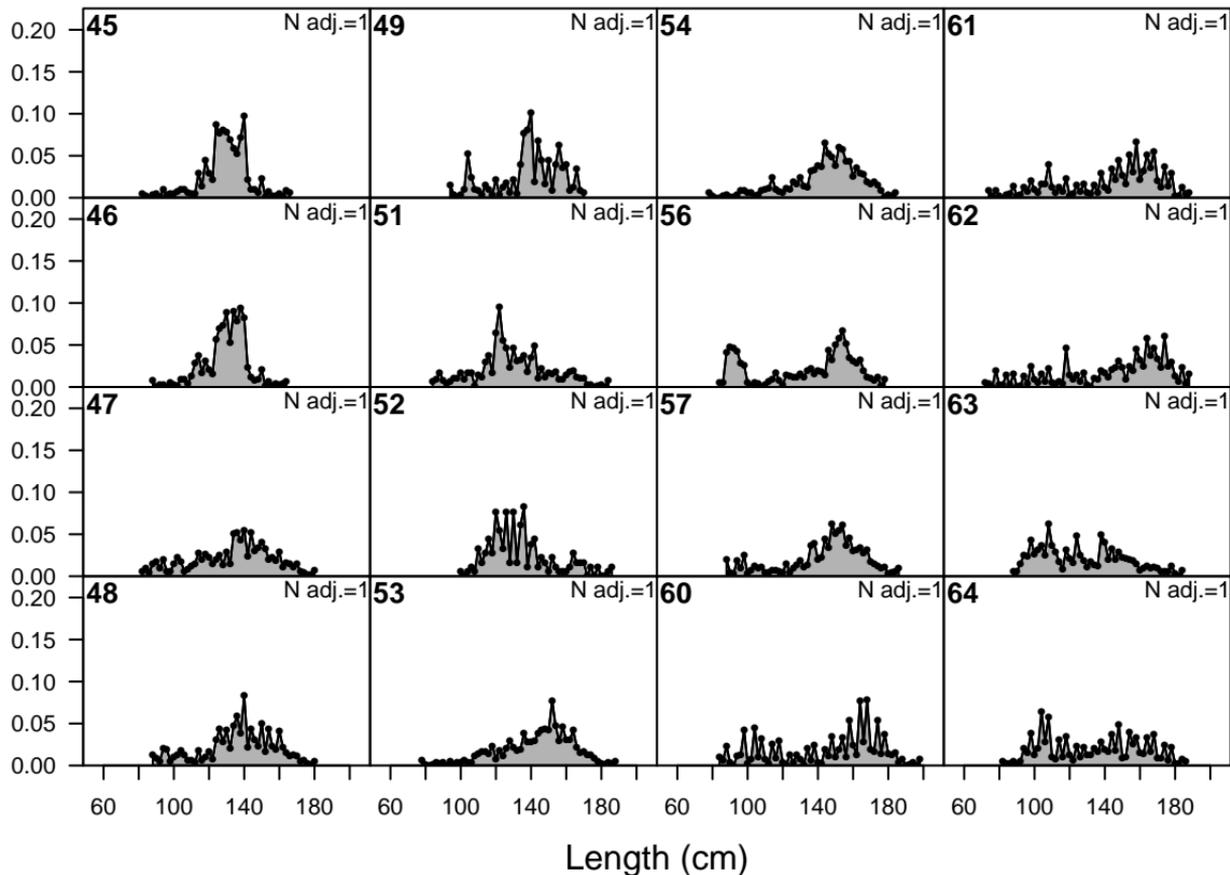




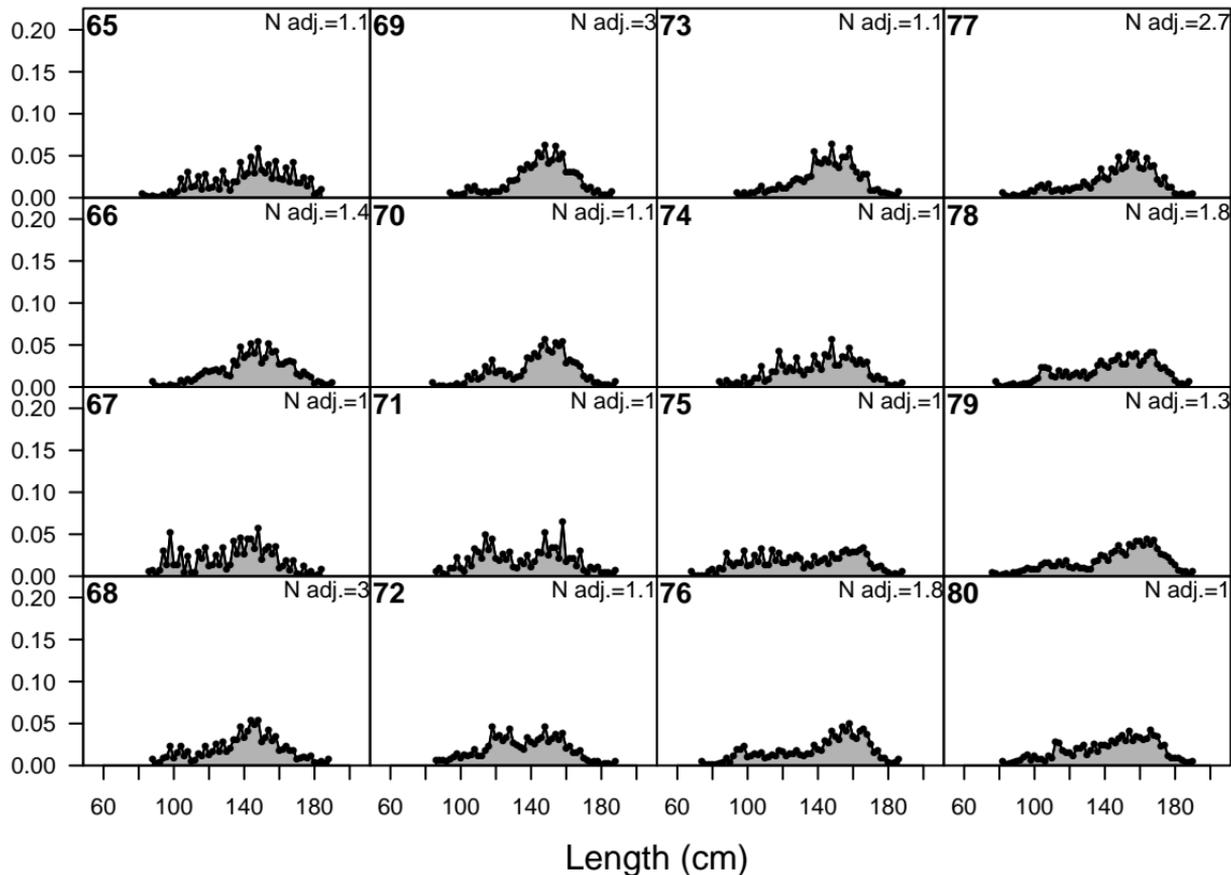
F13-LL_C_num (whole catch)



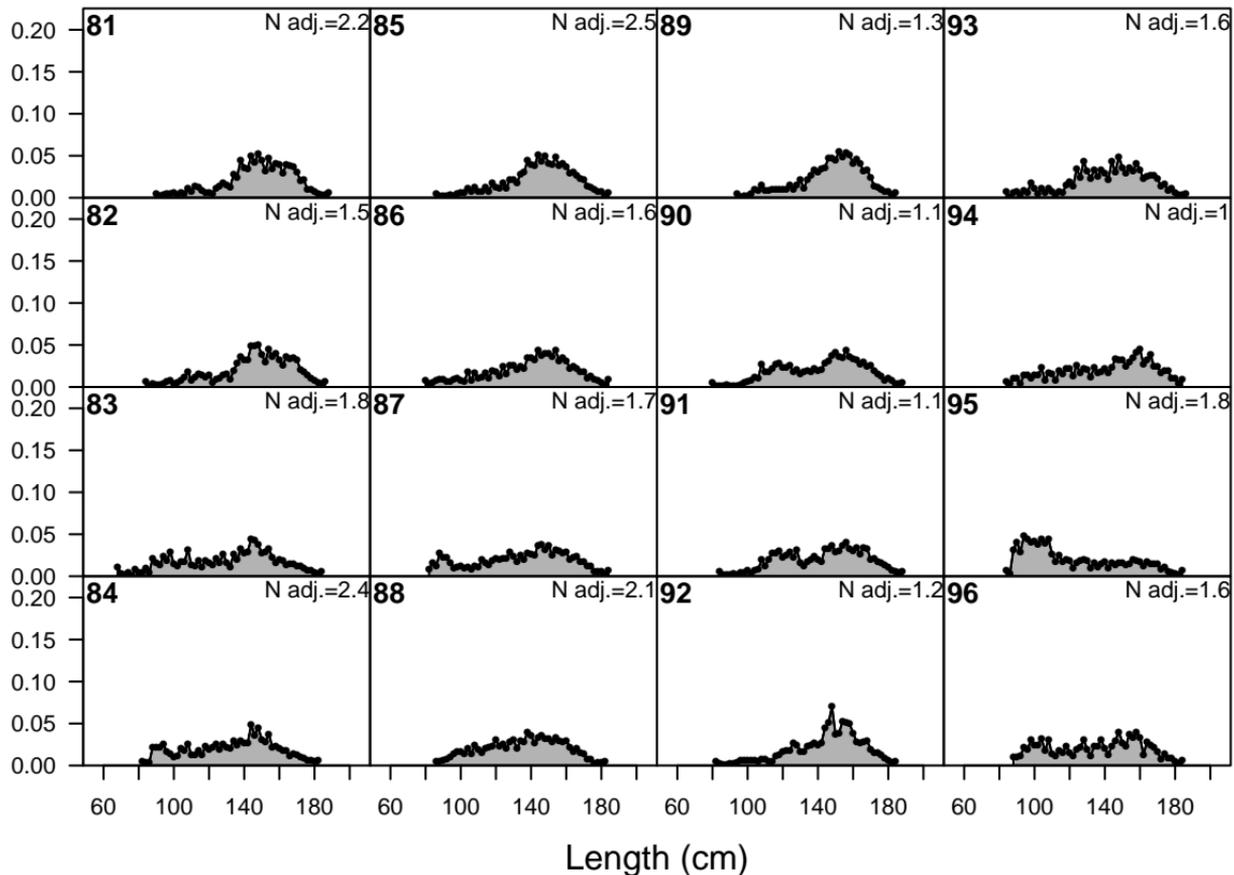
Proportion



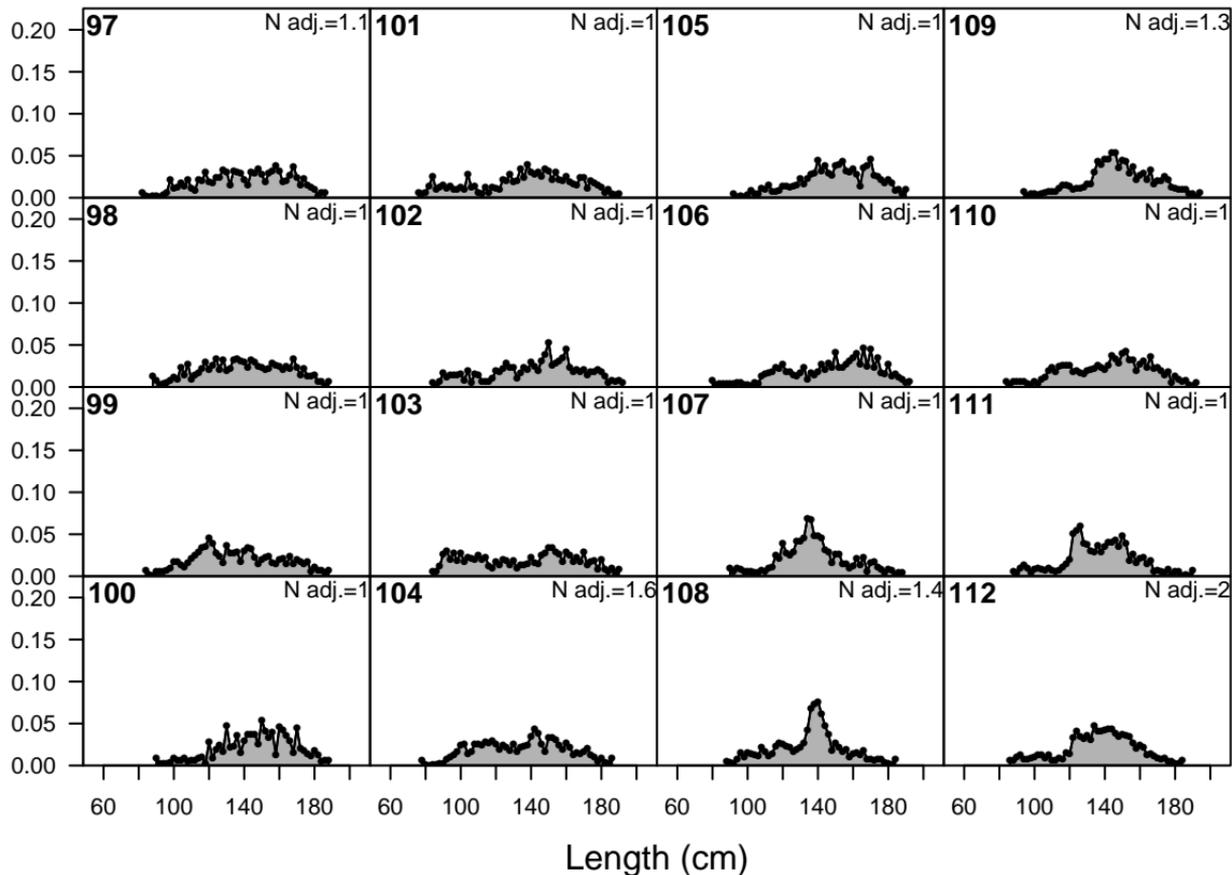
Proportion



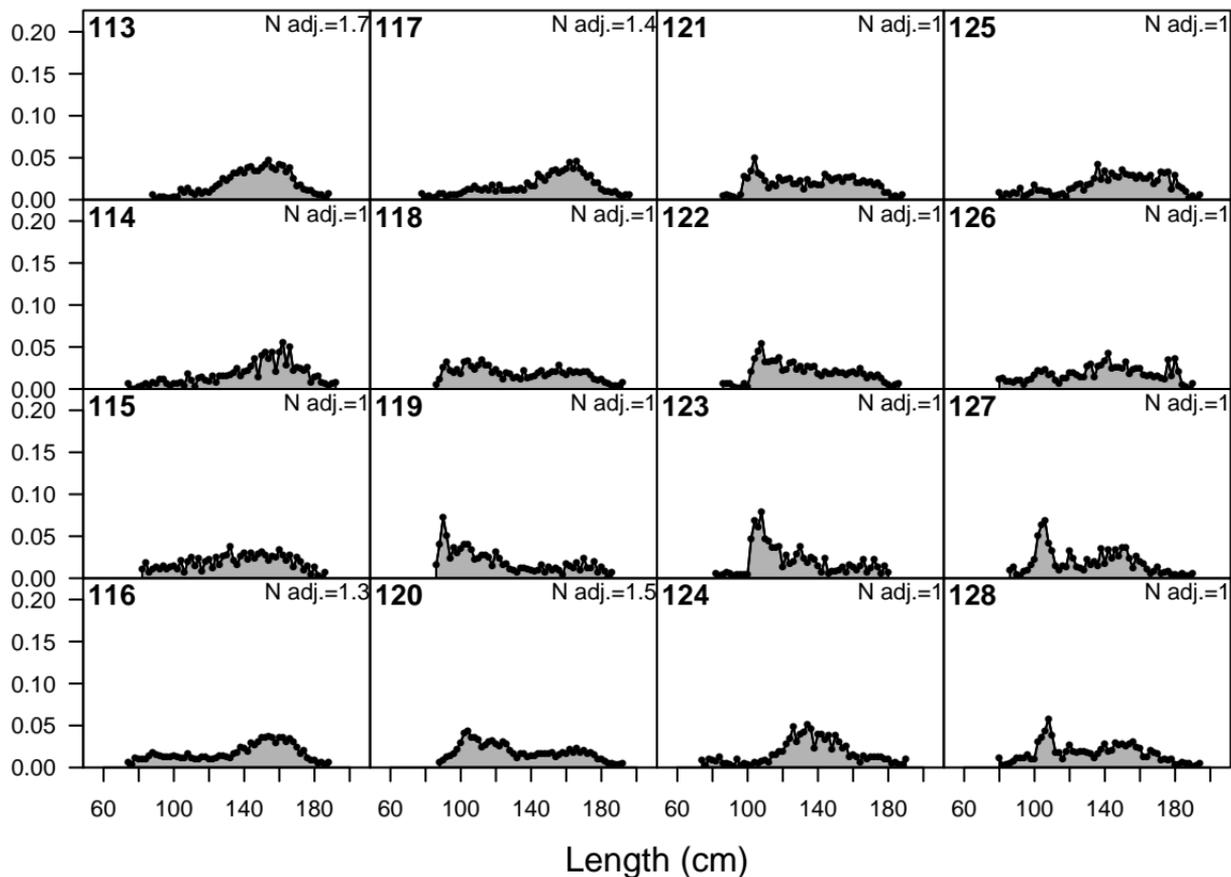
Proportion



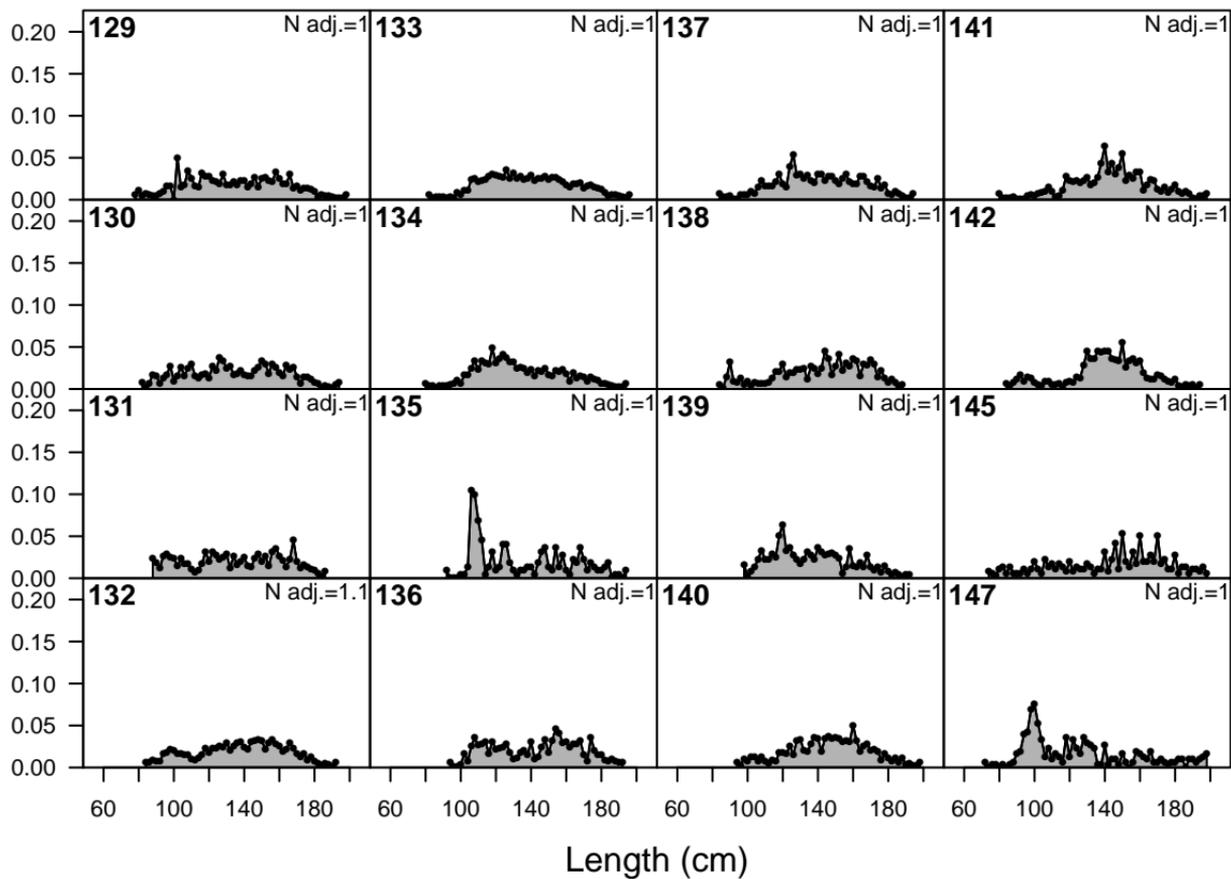
Proportion



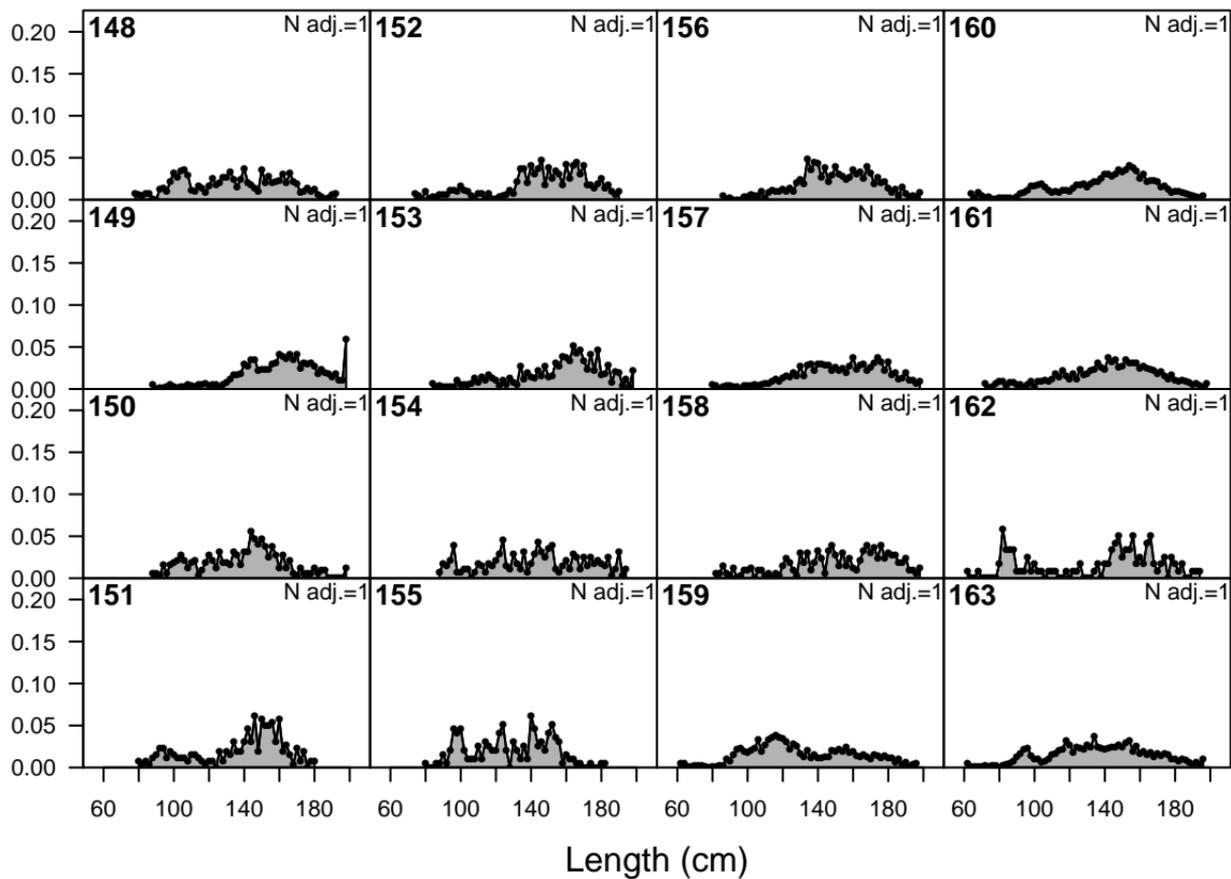
Proportion

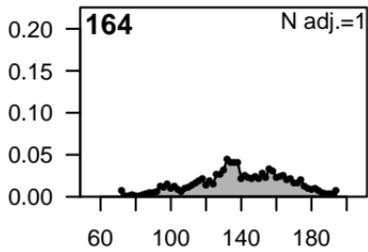


Proportion



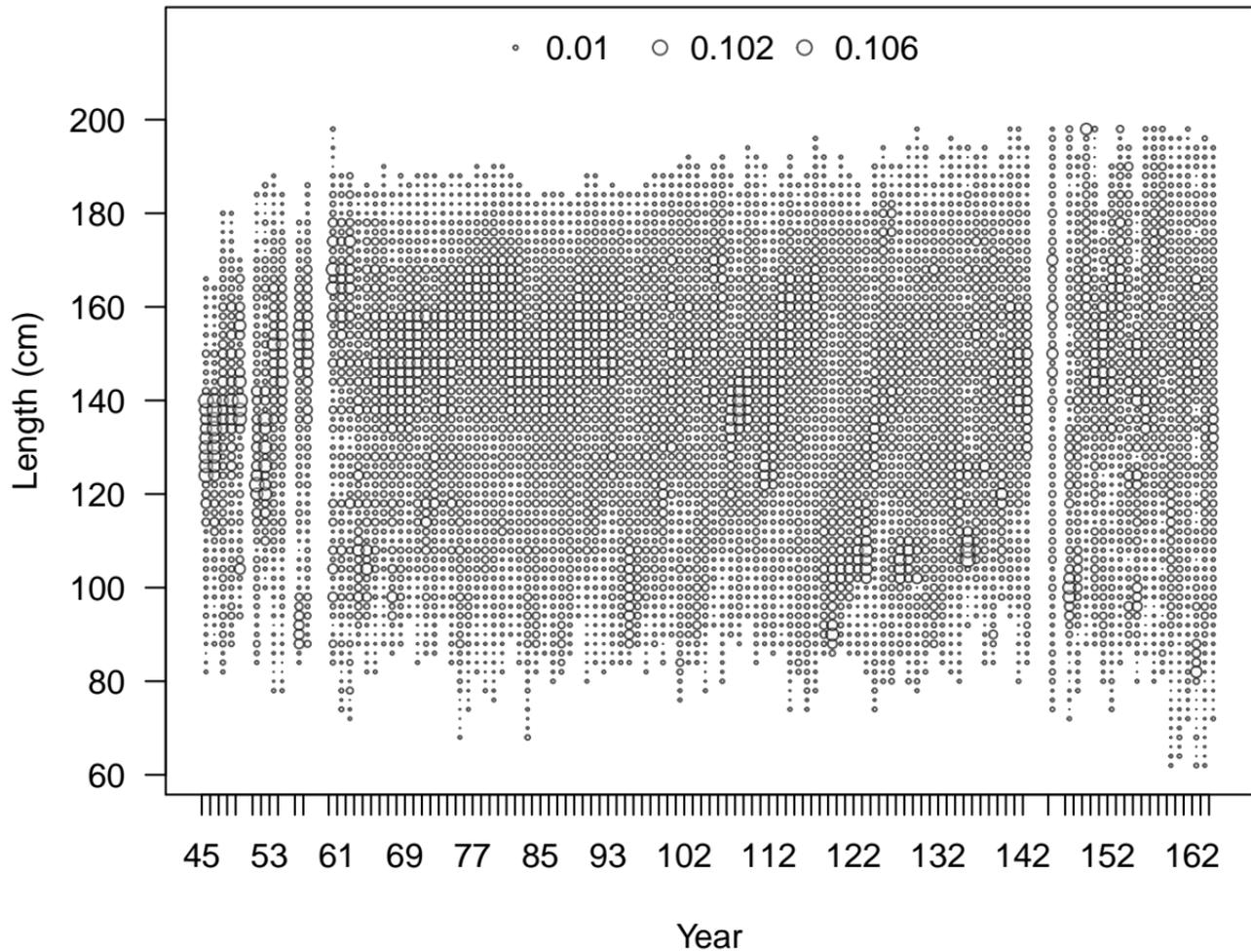
Proportion



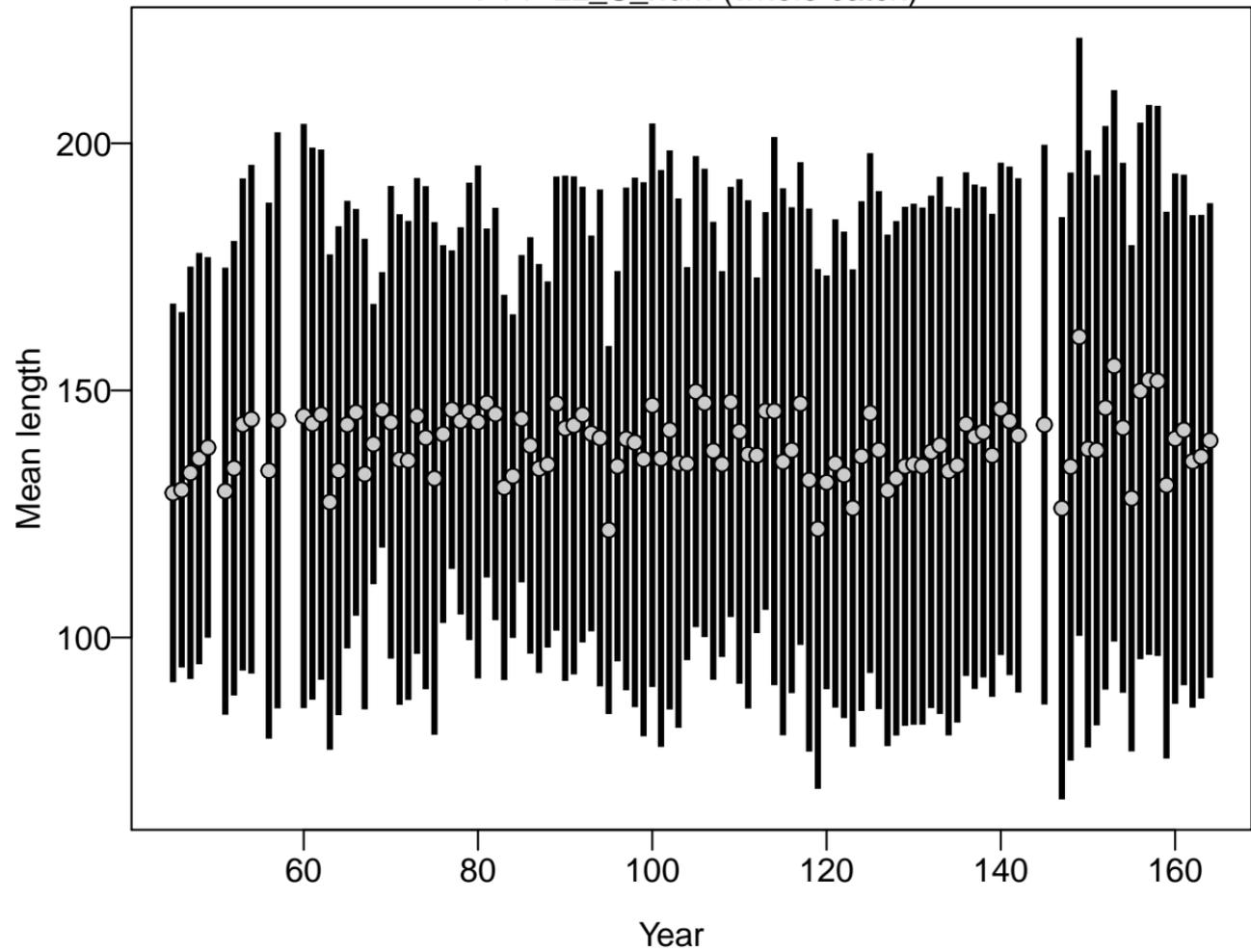


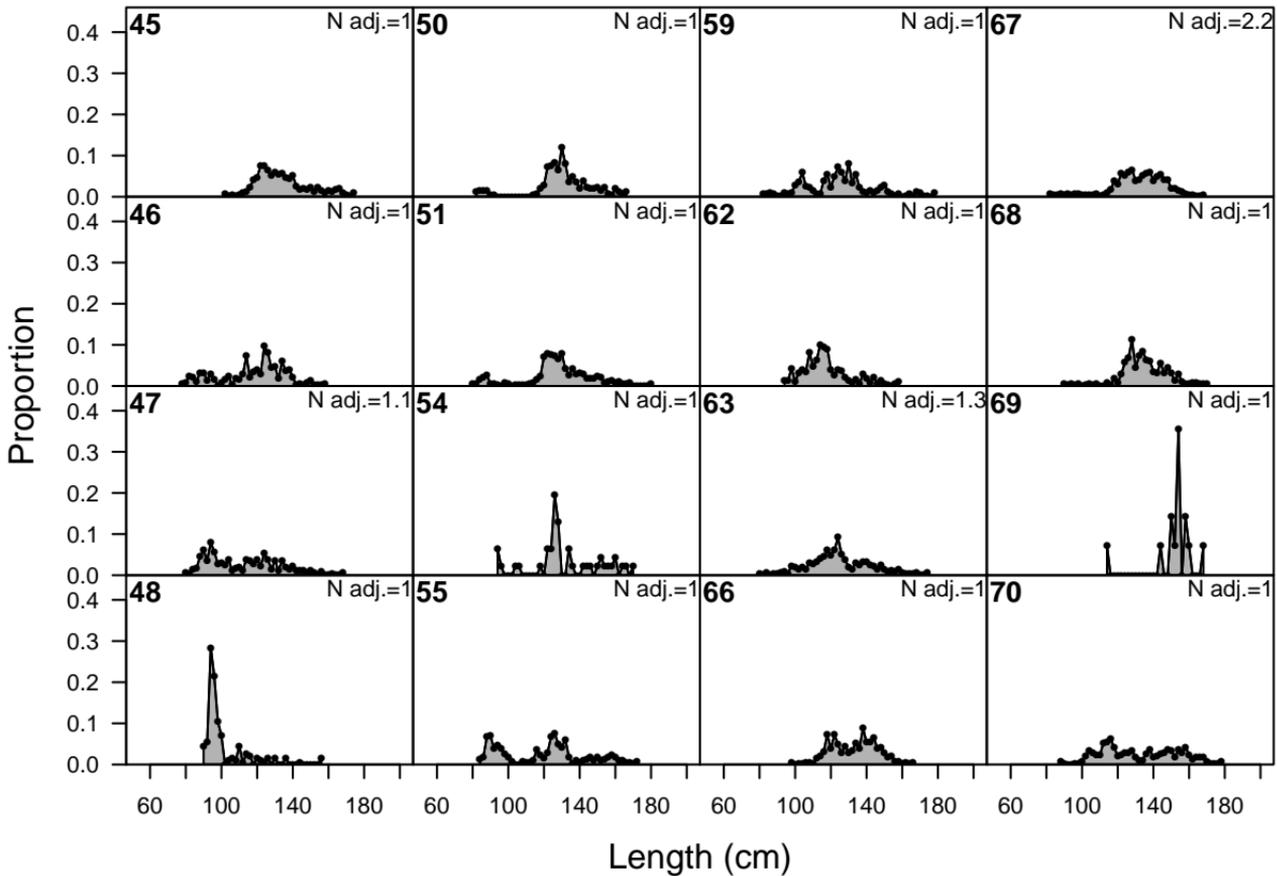
Proportion

Length (cm)

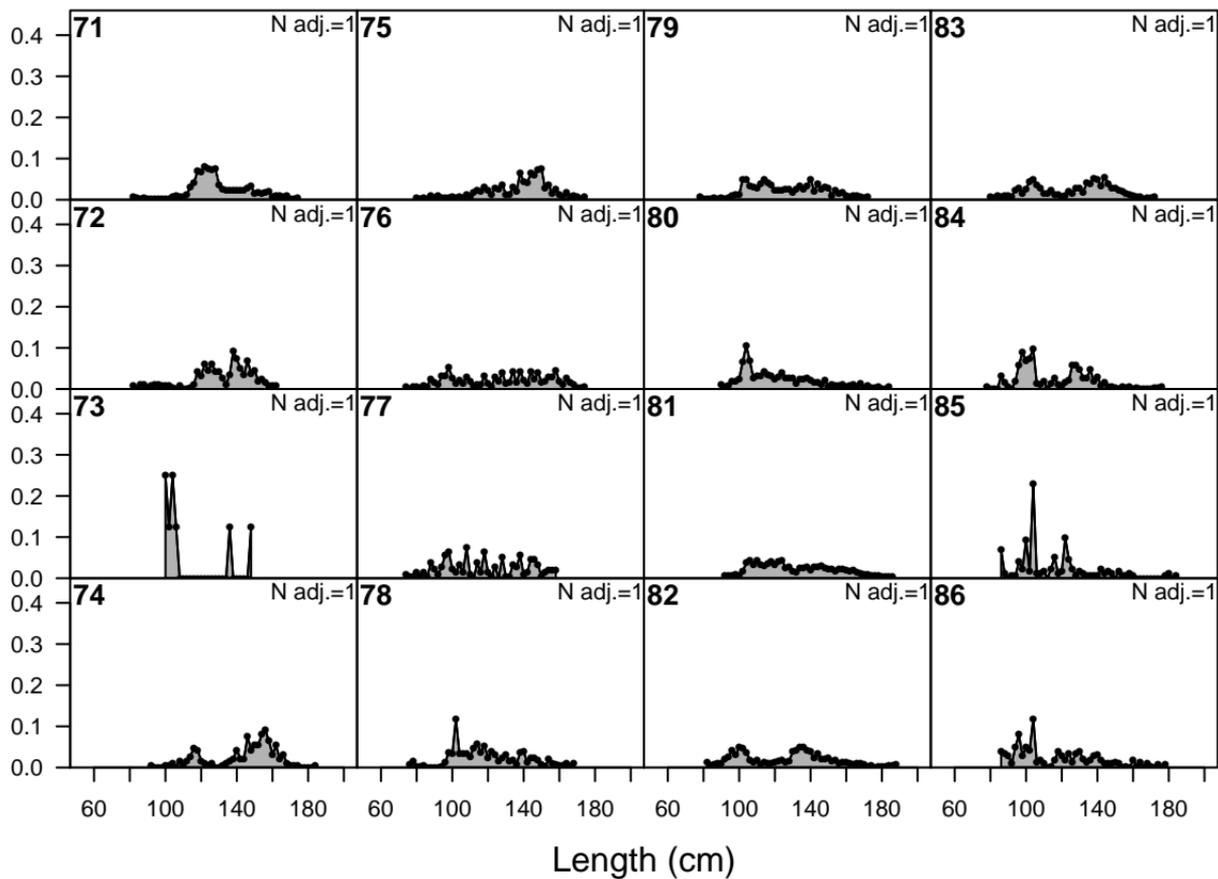


F14-LL_S_num (whole catch)

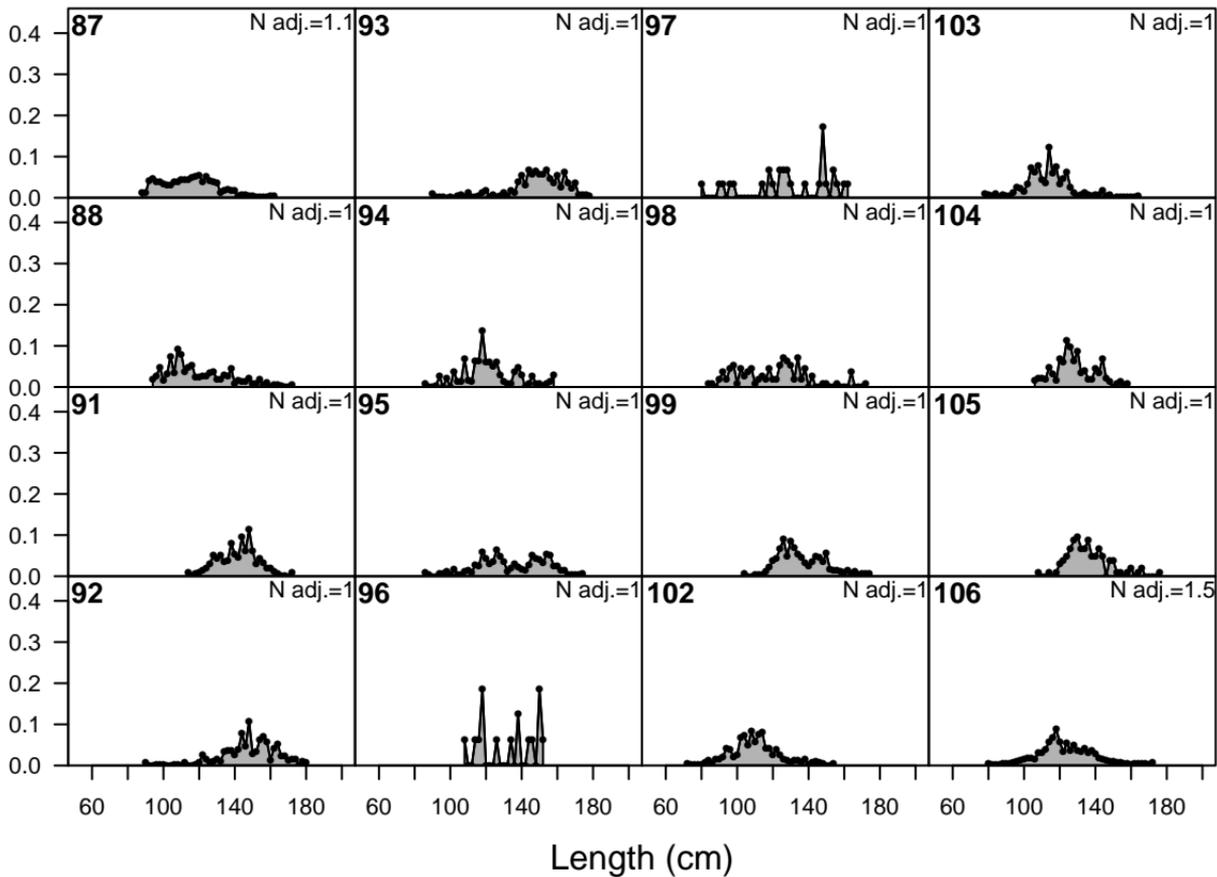




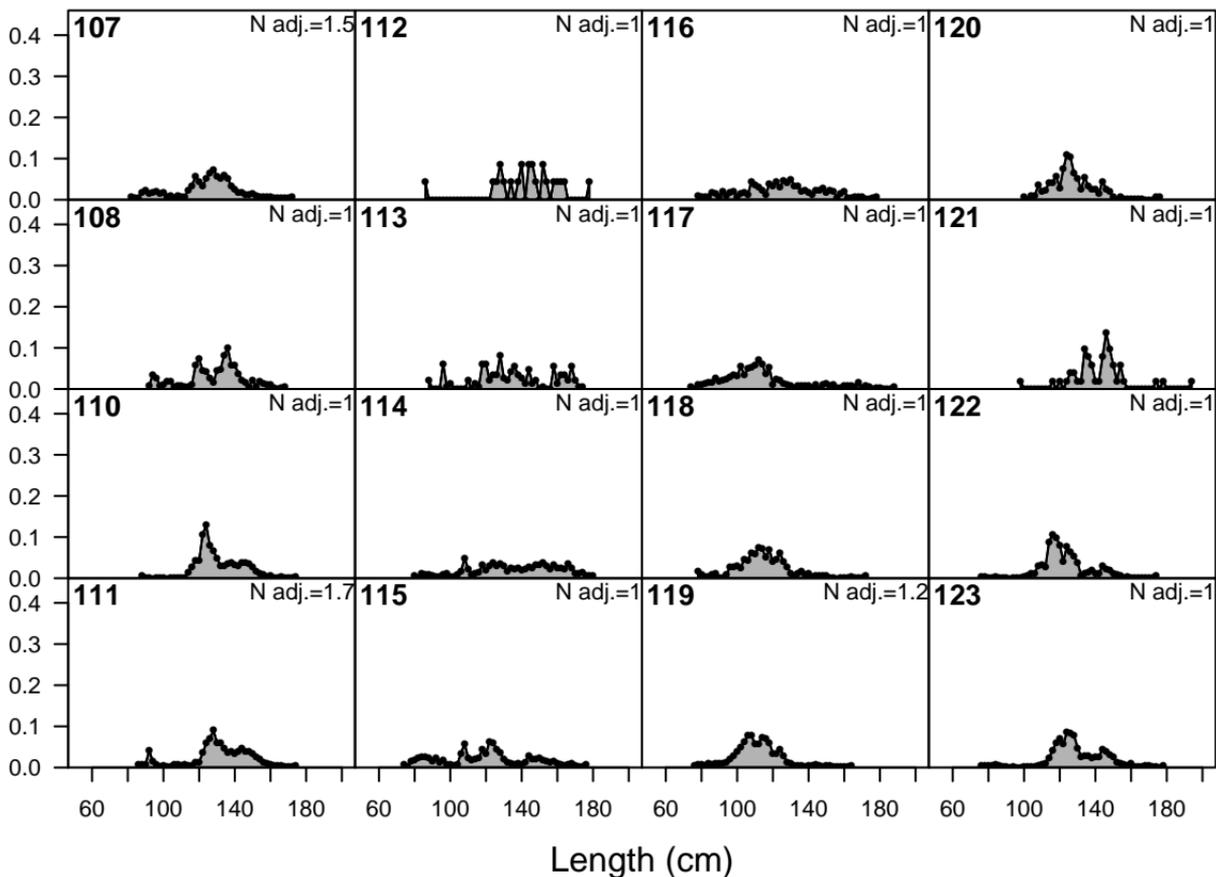
Proportion



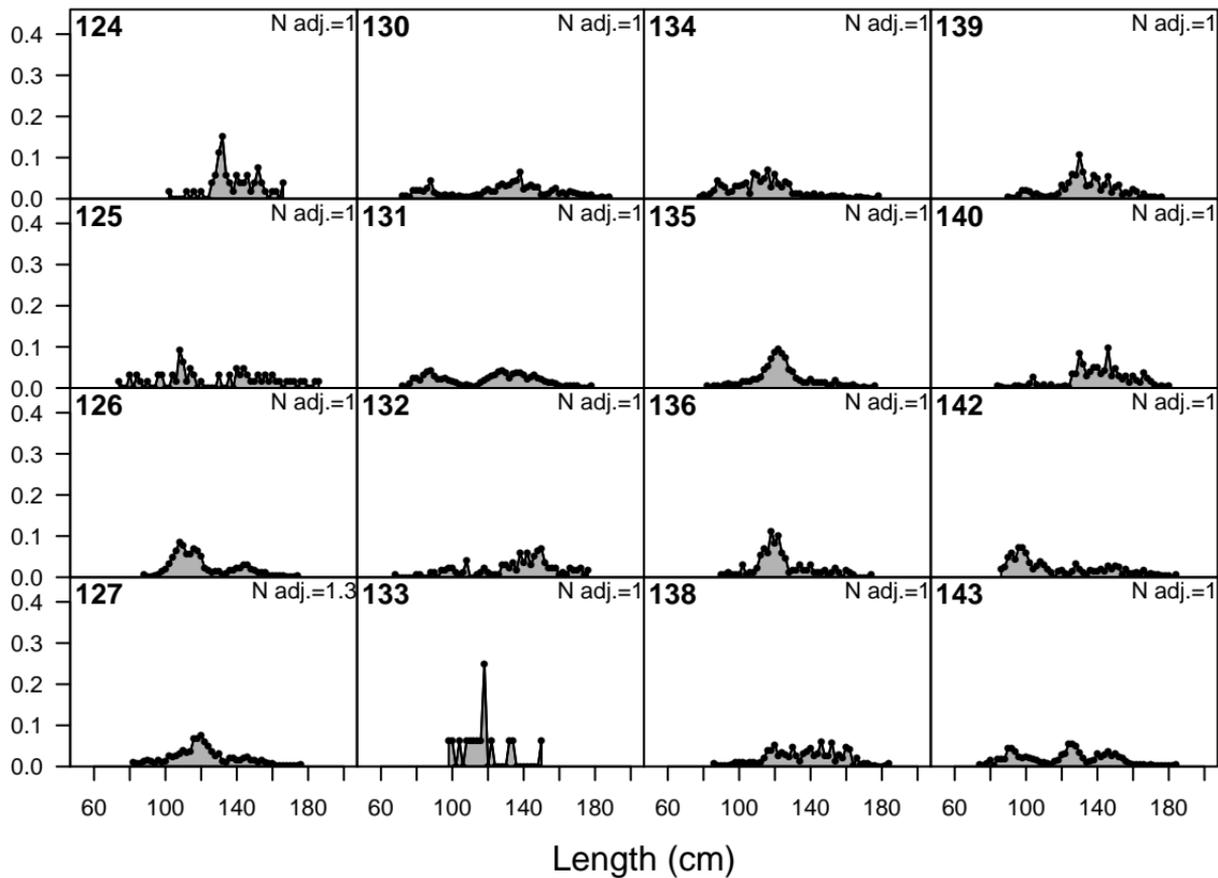
Proportion



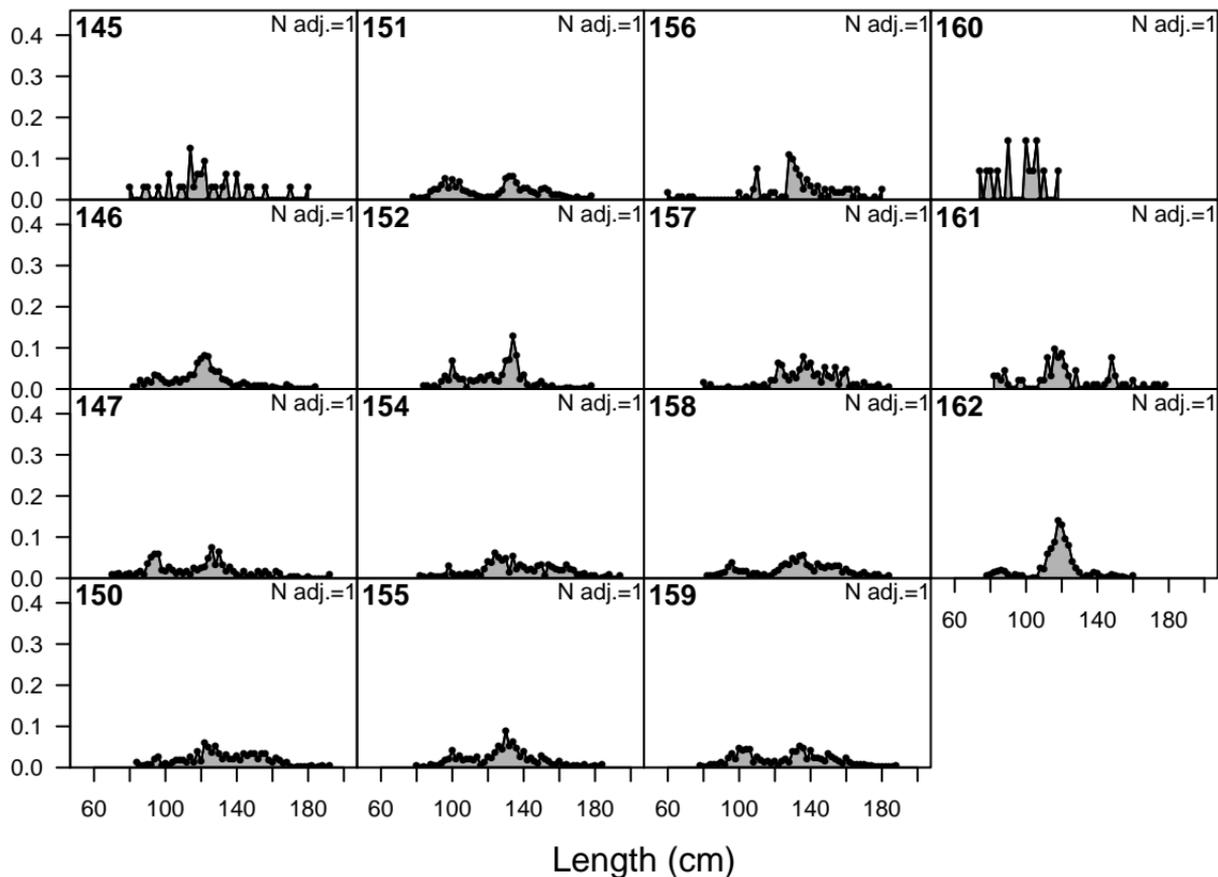
Proportion

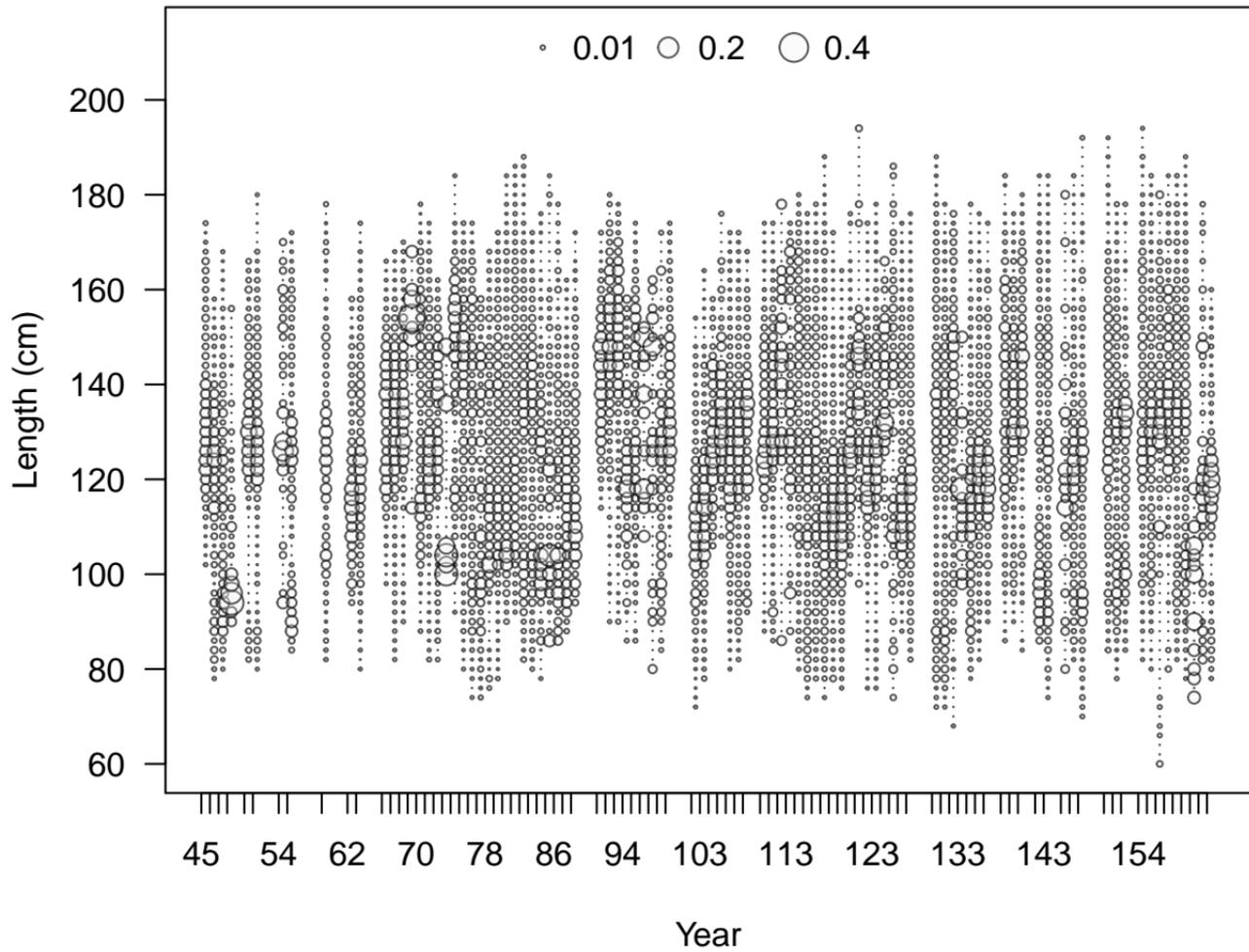


Proportion

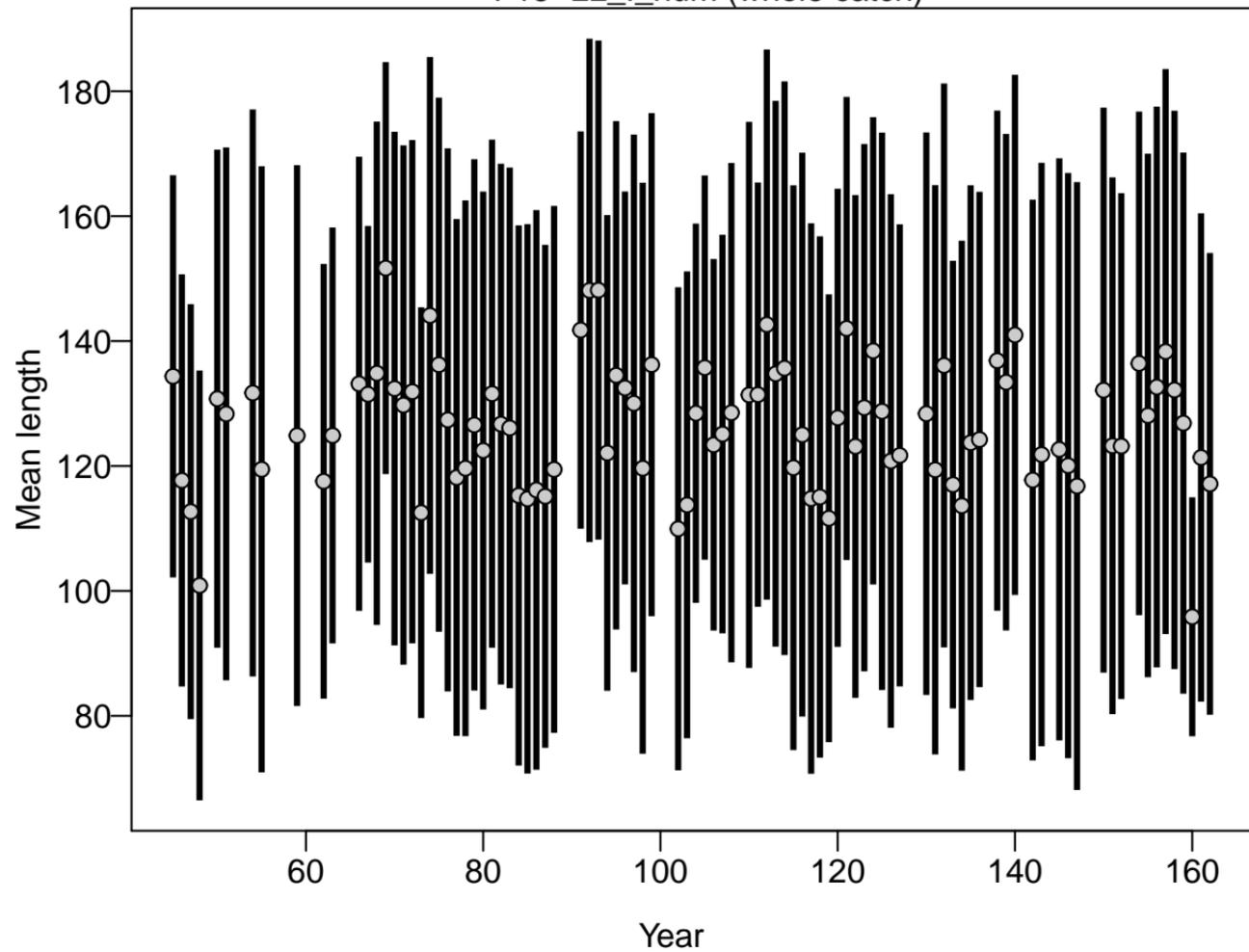


Proportion

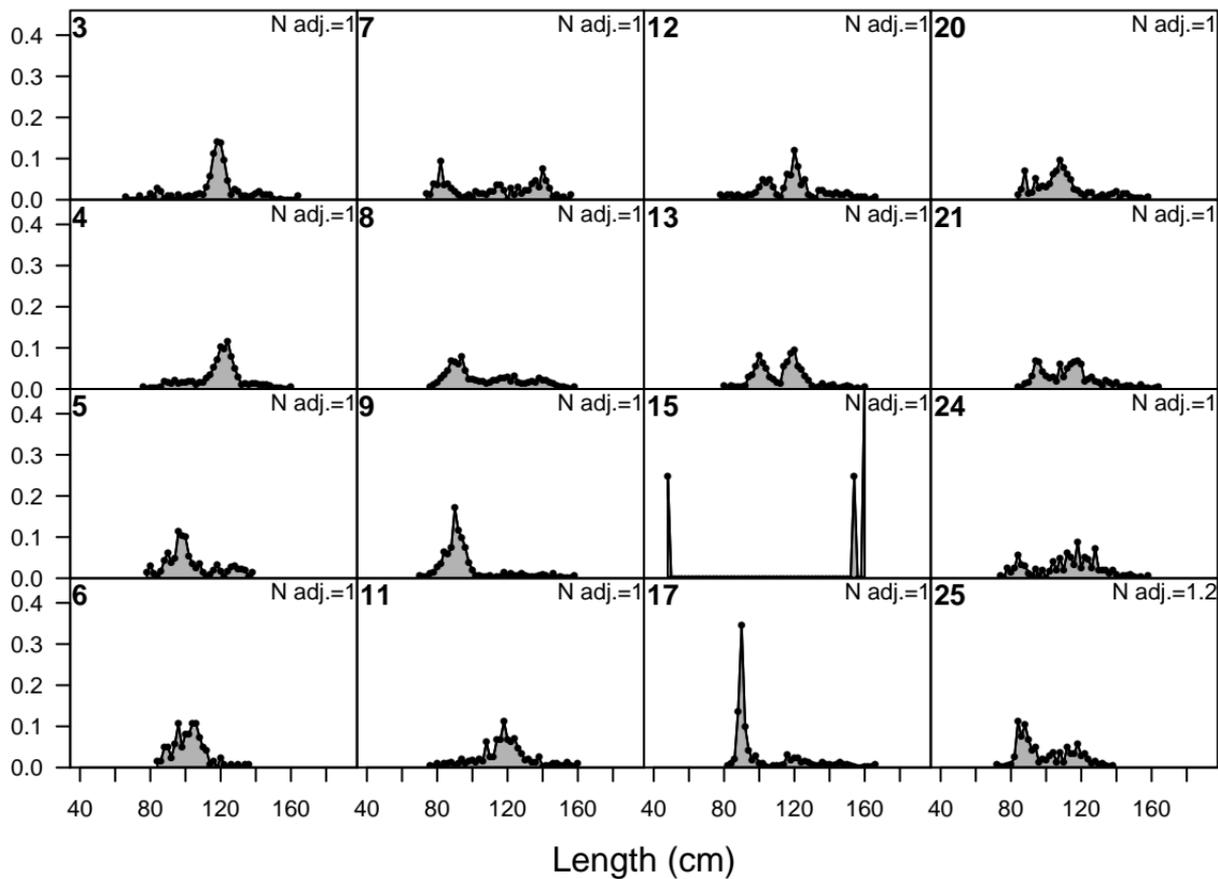




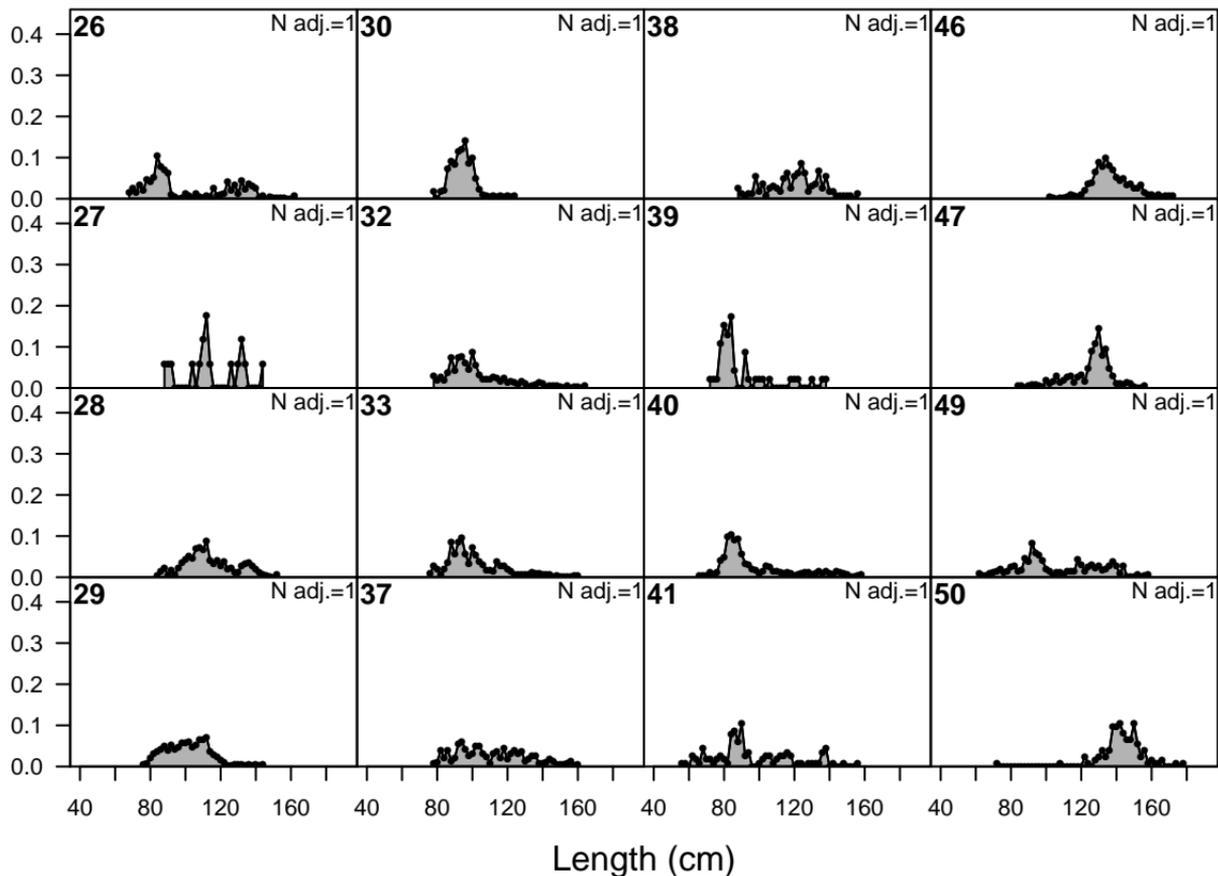
F15-LL_I_num (whole catch)

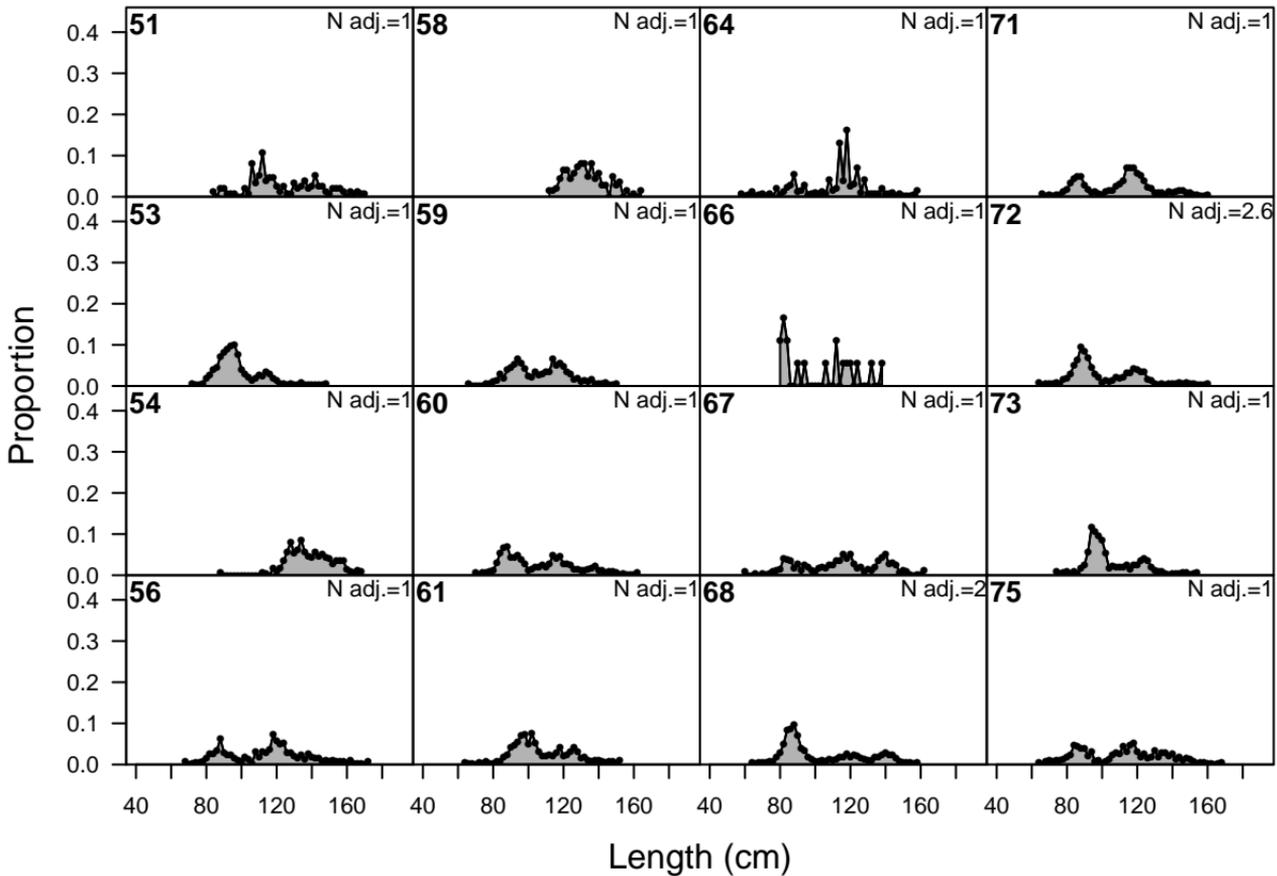


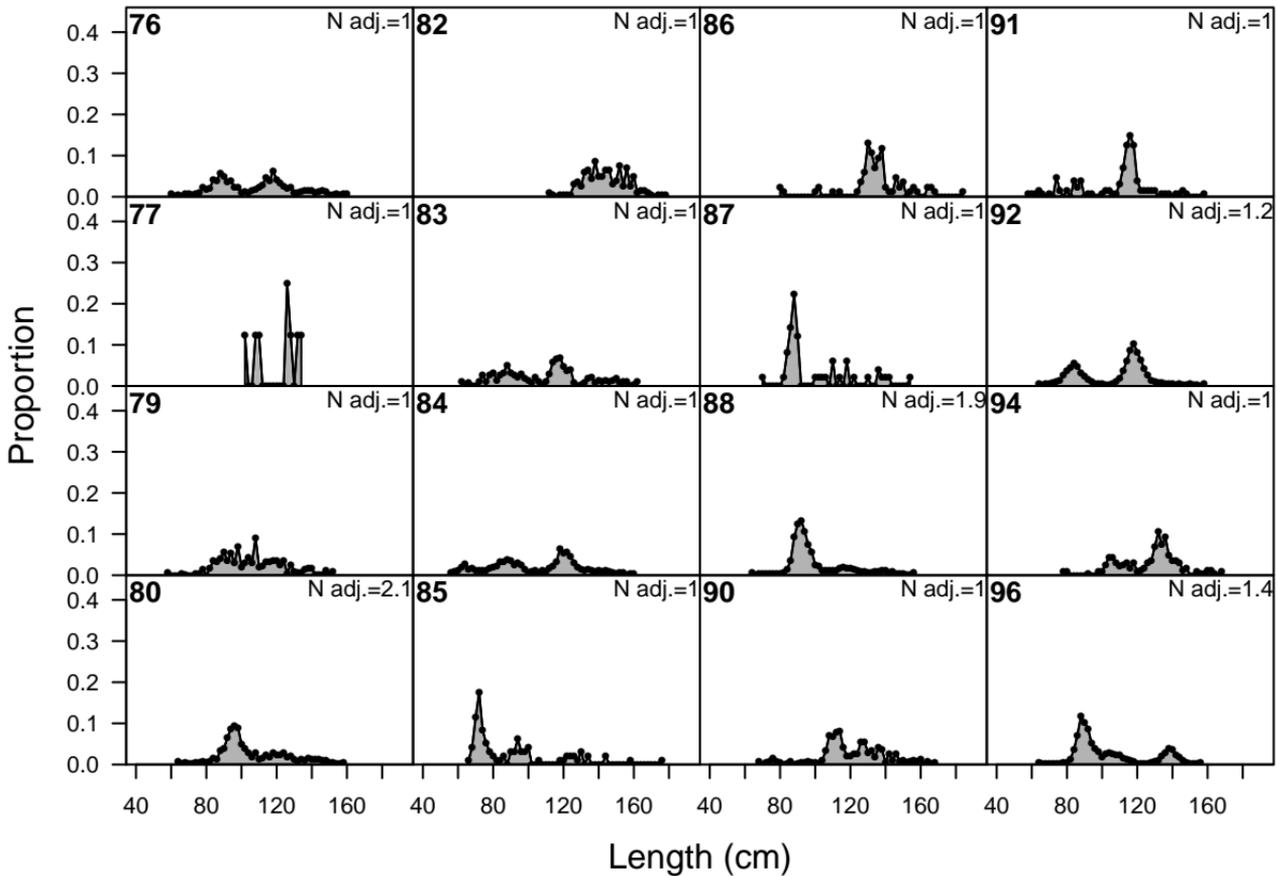
Proportion



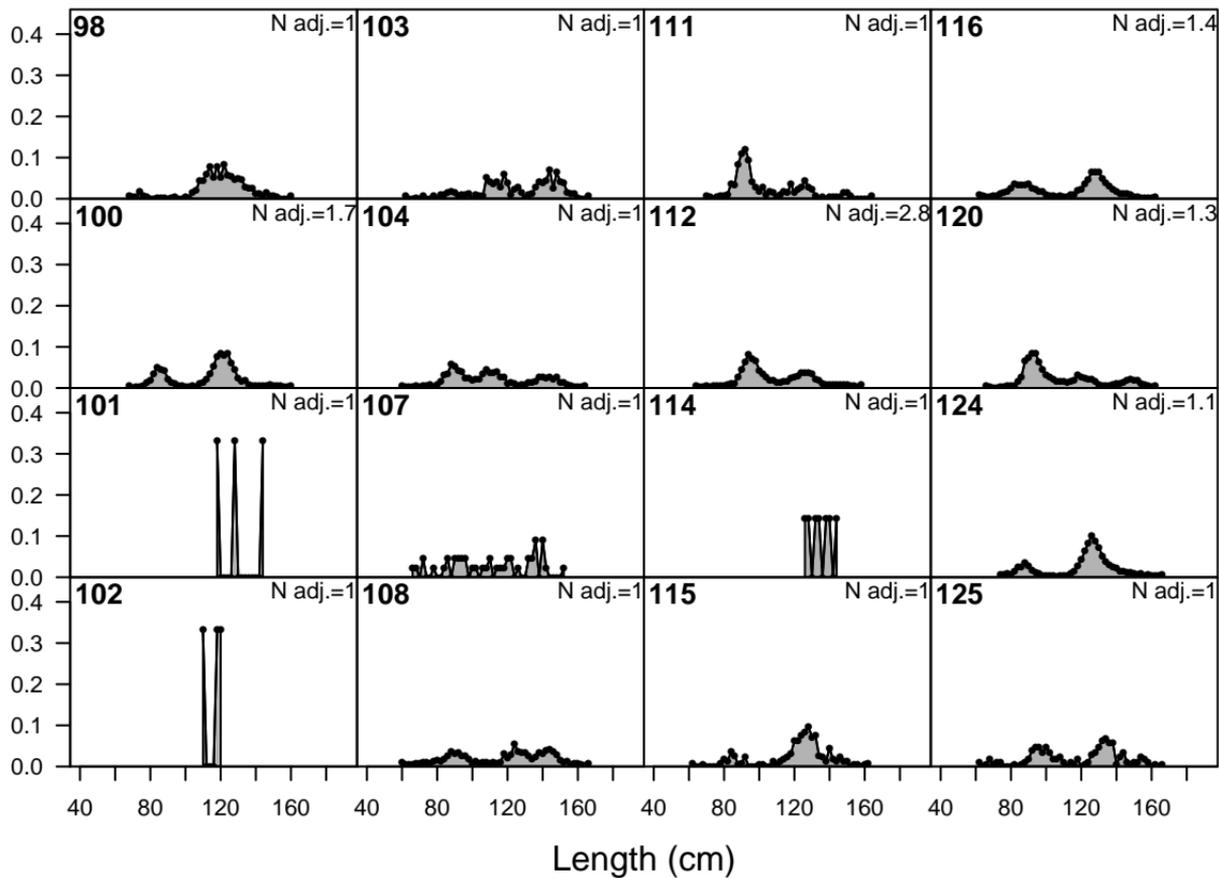
Proportion

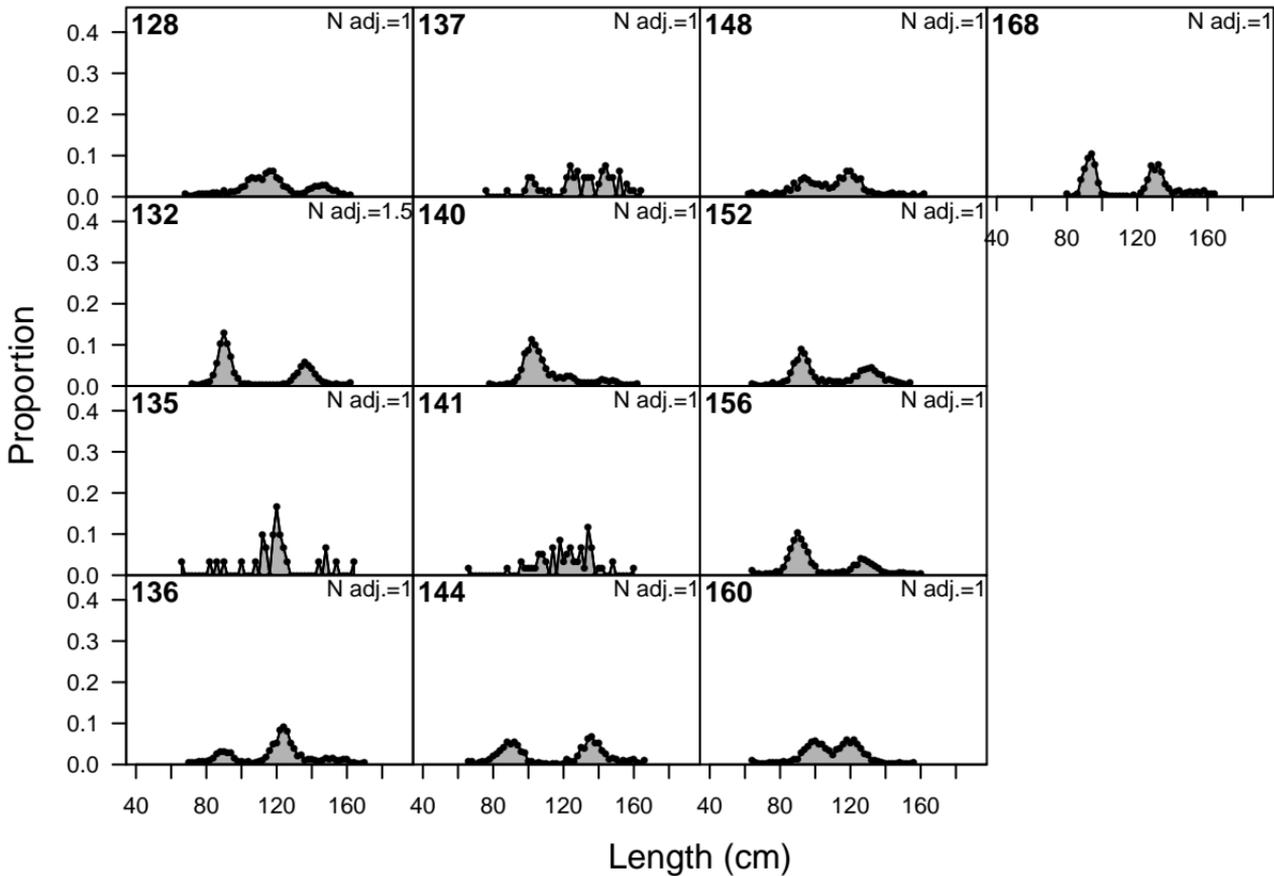






Proportion





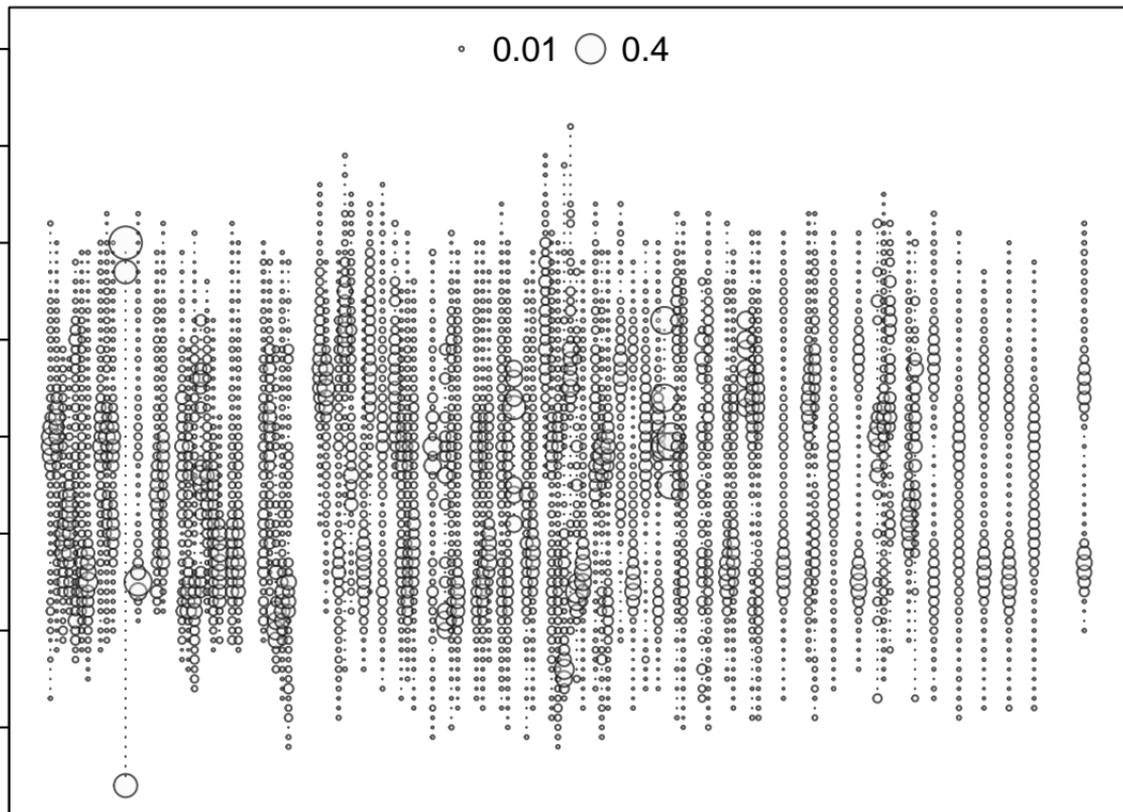
Length (cm)

200
180
160
140
120
100
80
60

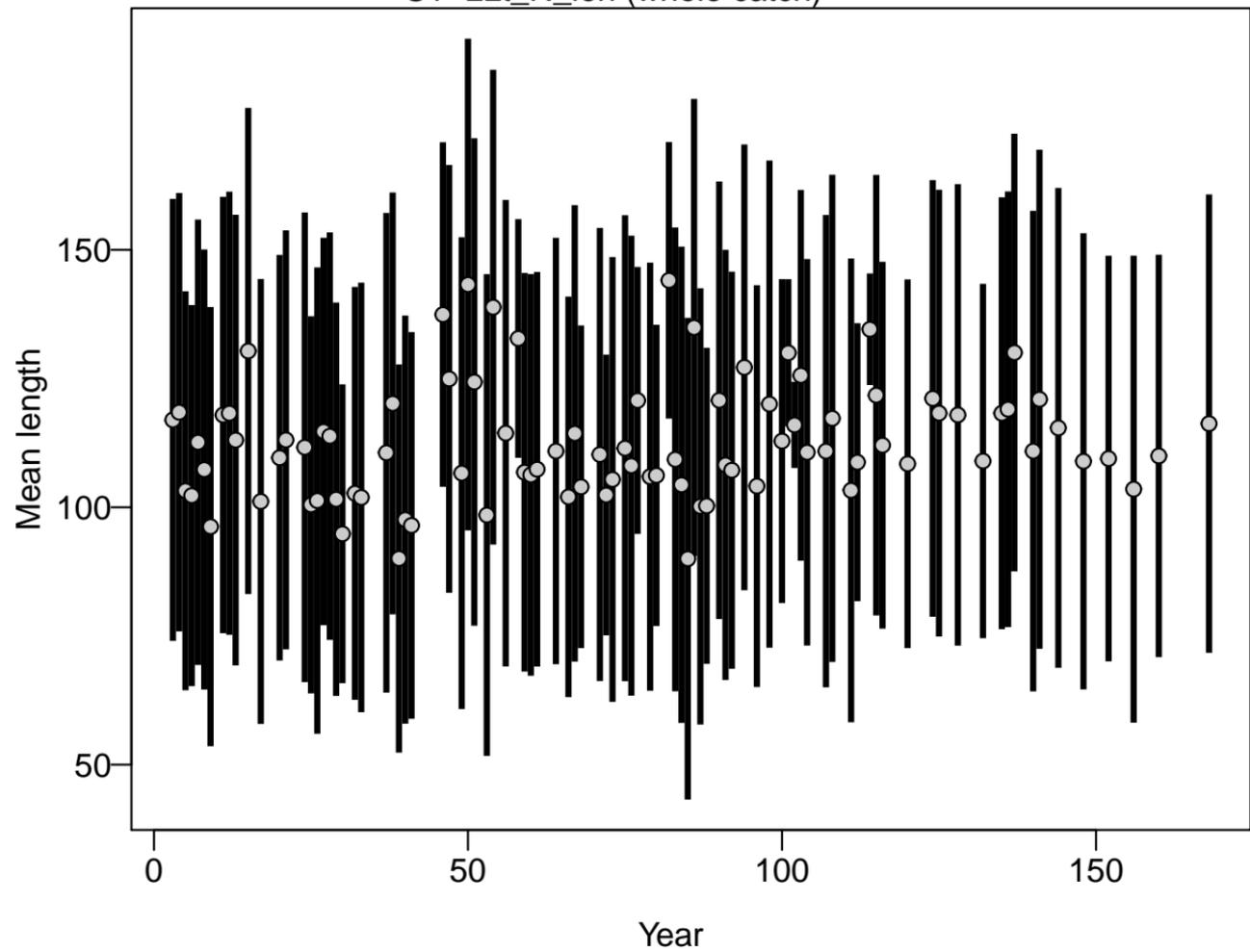
3 13 24 37 49 60 71 82 94 107 124 140 156

Year

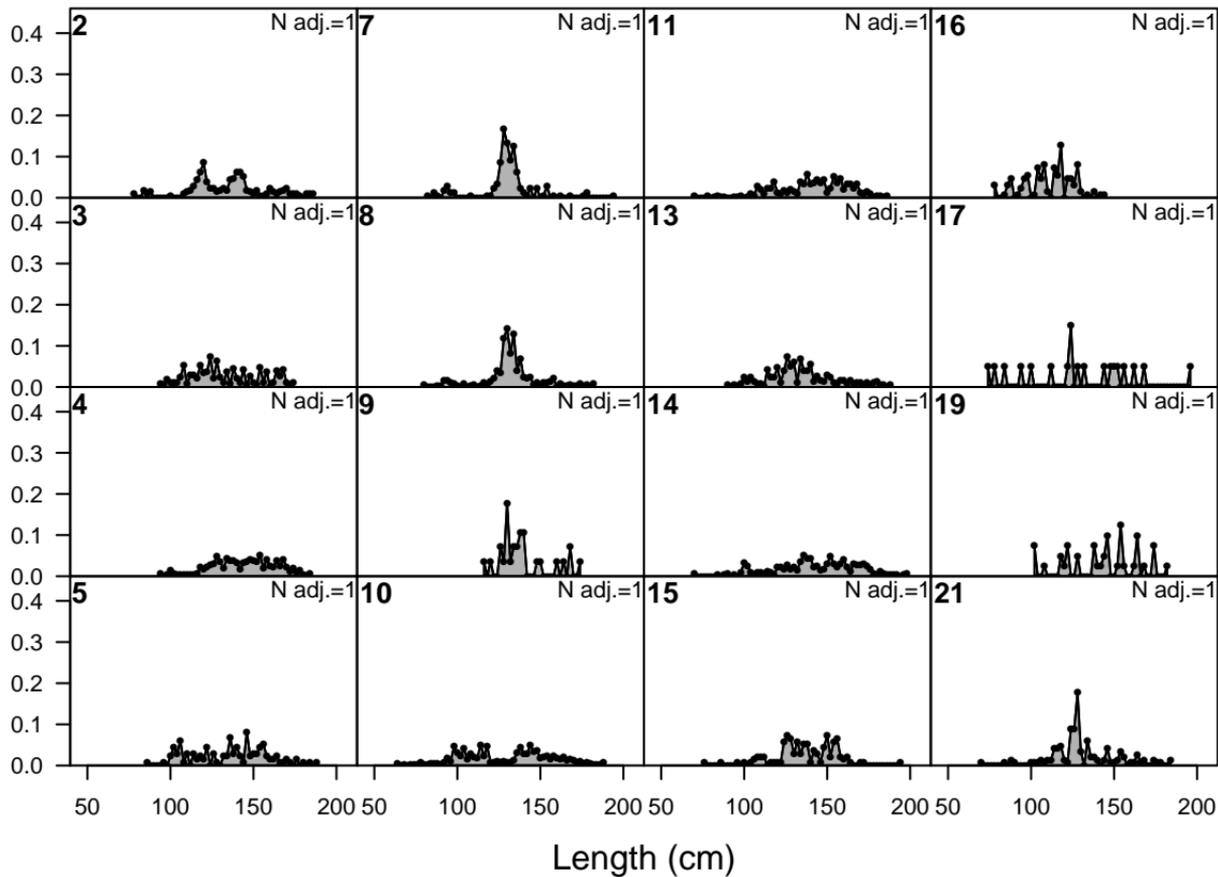
0.01 ○ 0.4



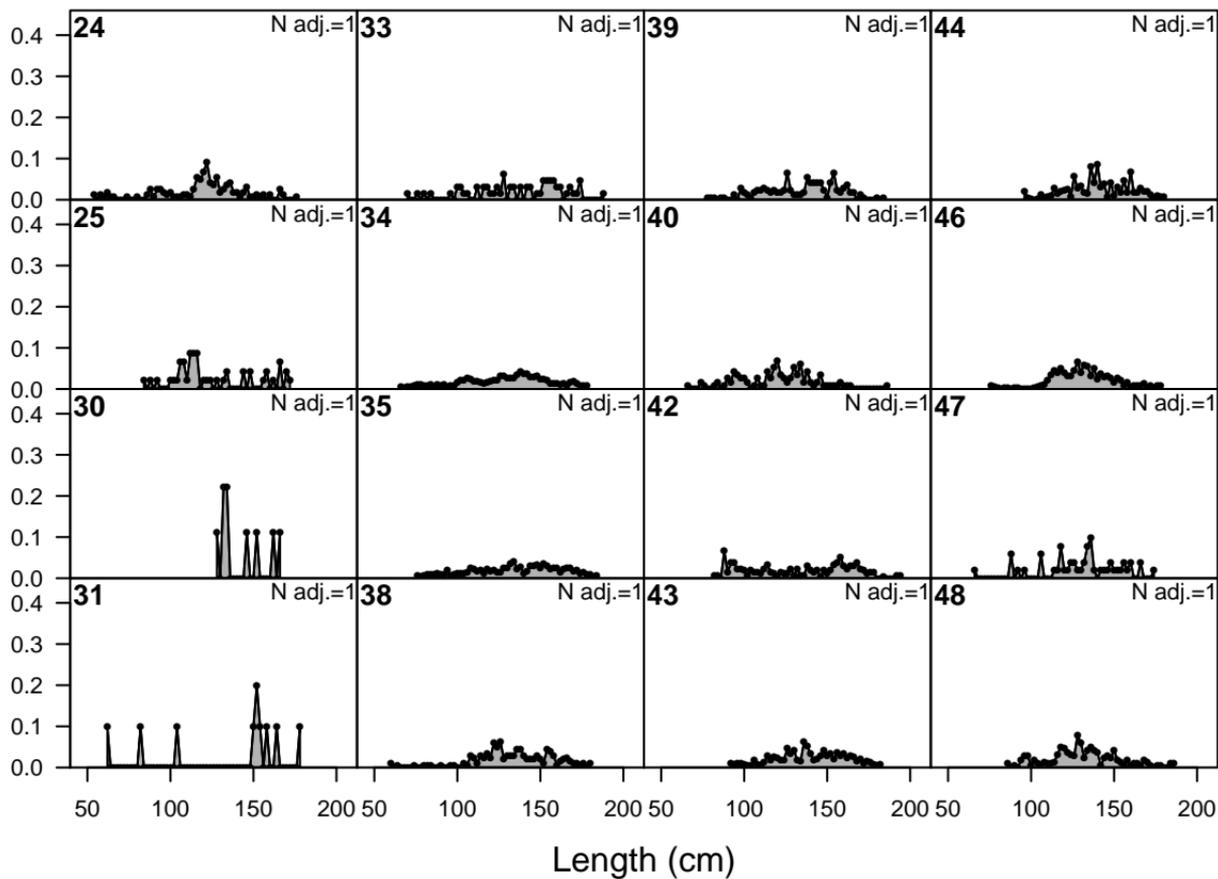
S1-LLt_N_len (whole catch)



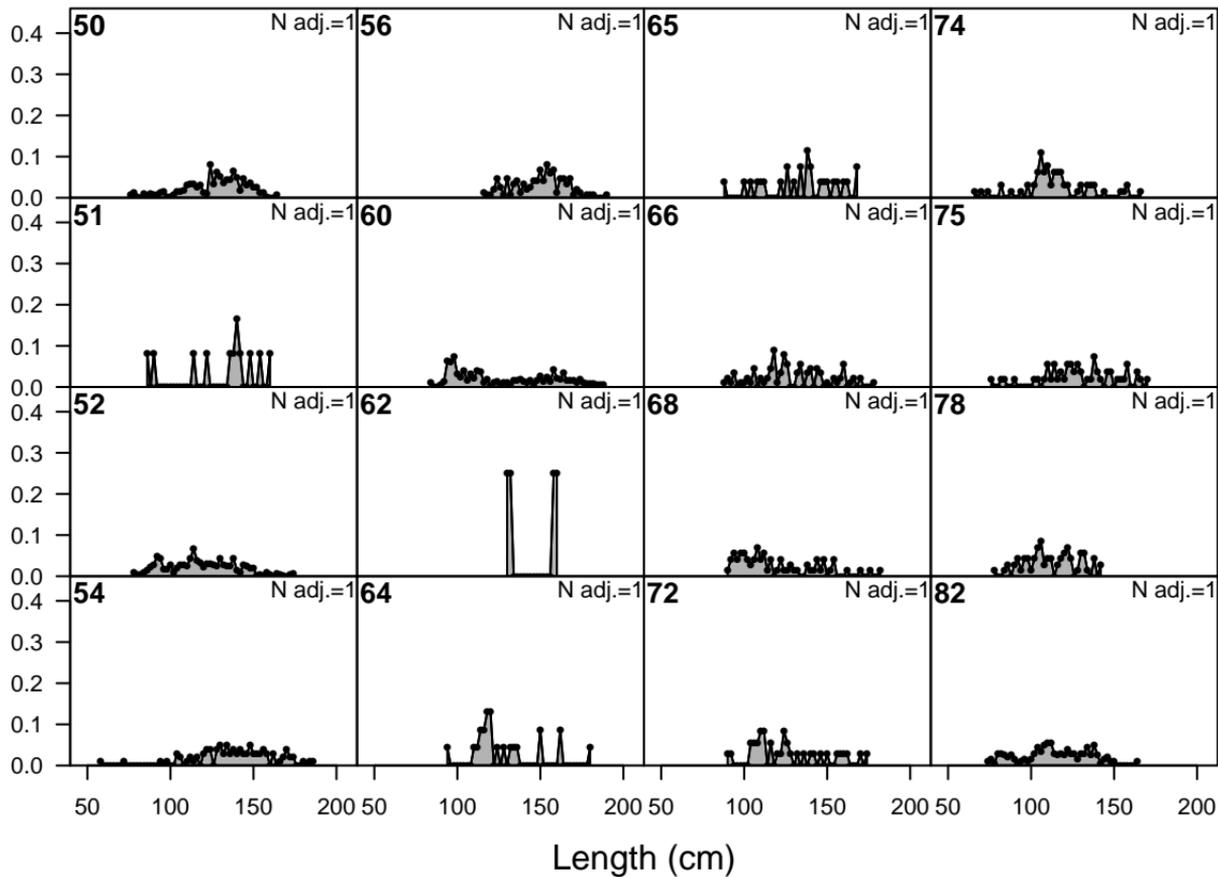
Proportion

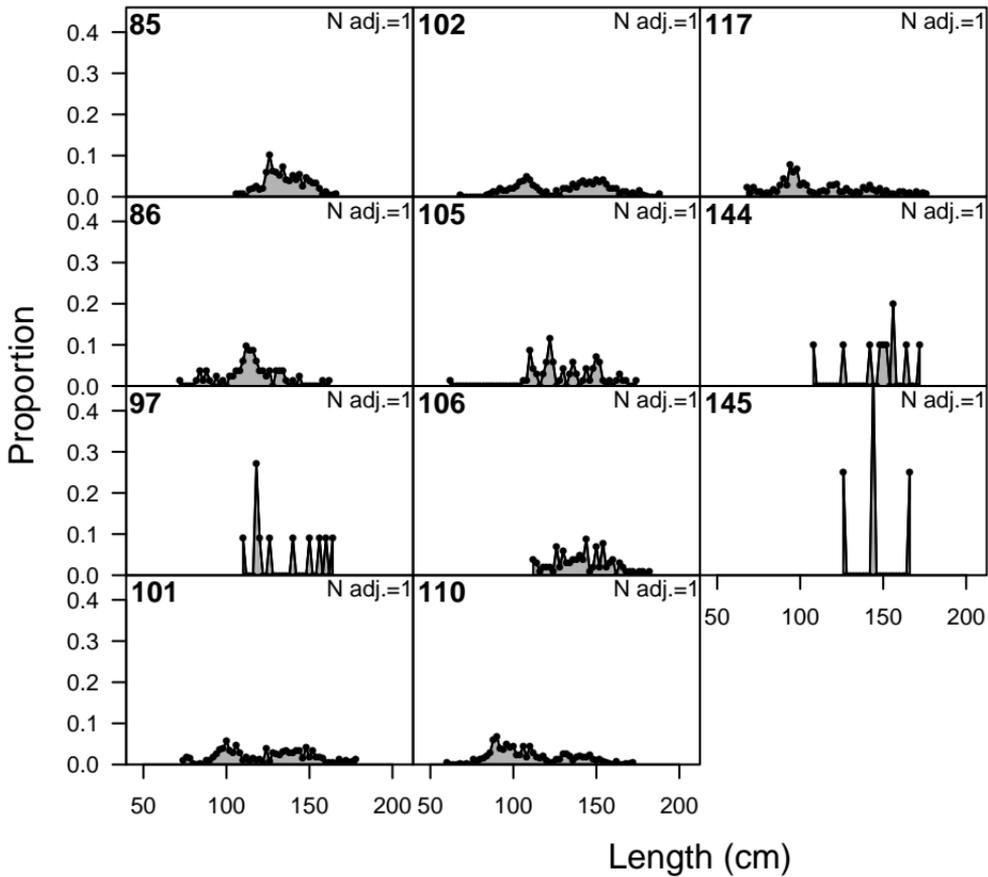


Proportion



Proportion





Length (cm)

200
150
100
50

2

9

17

30

40

50

60

72

82

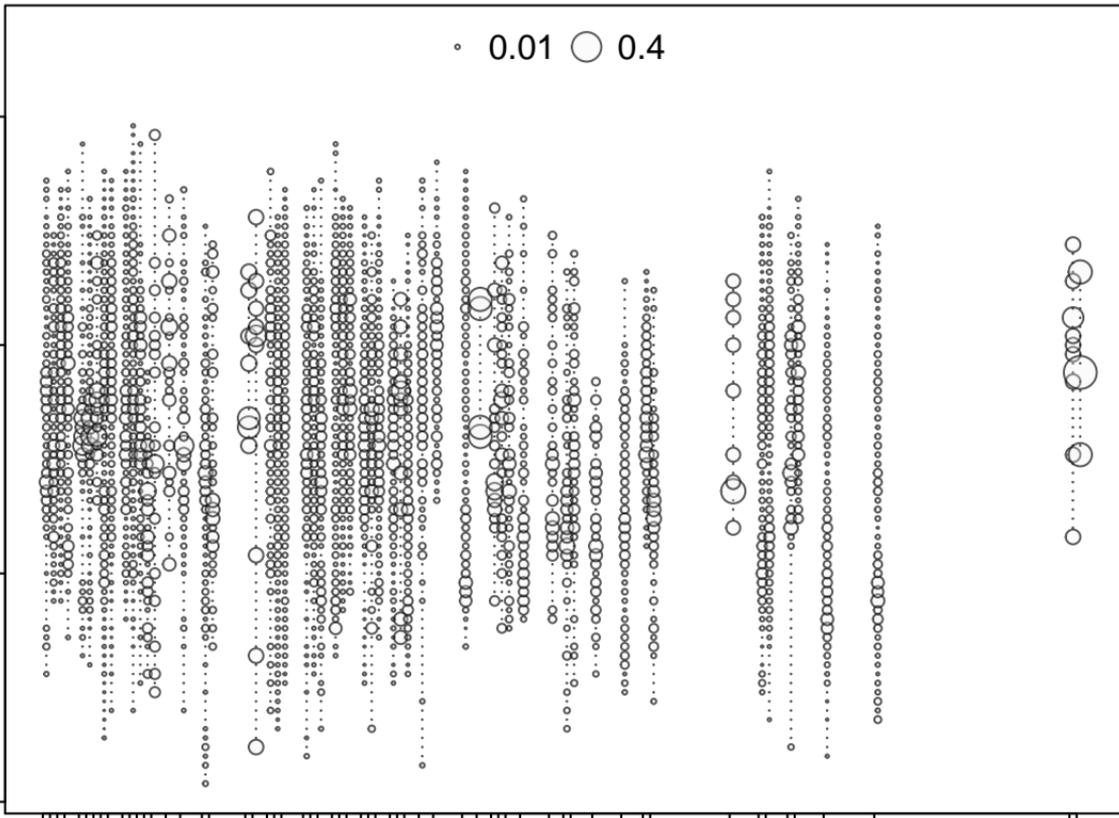
97

110

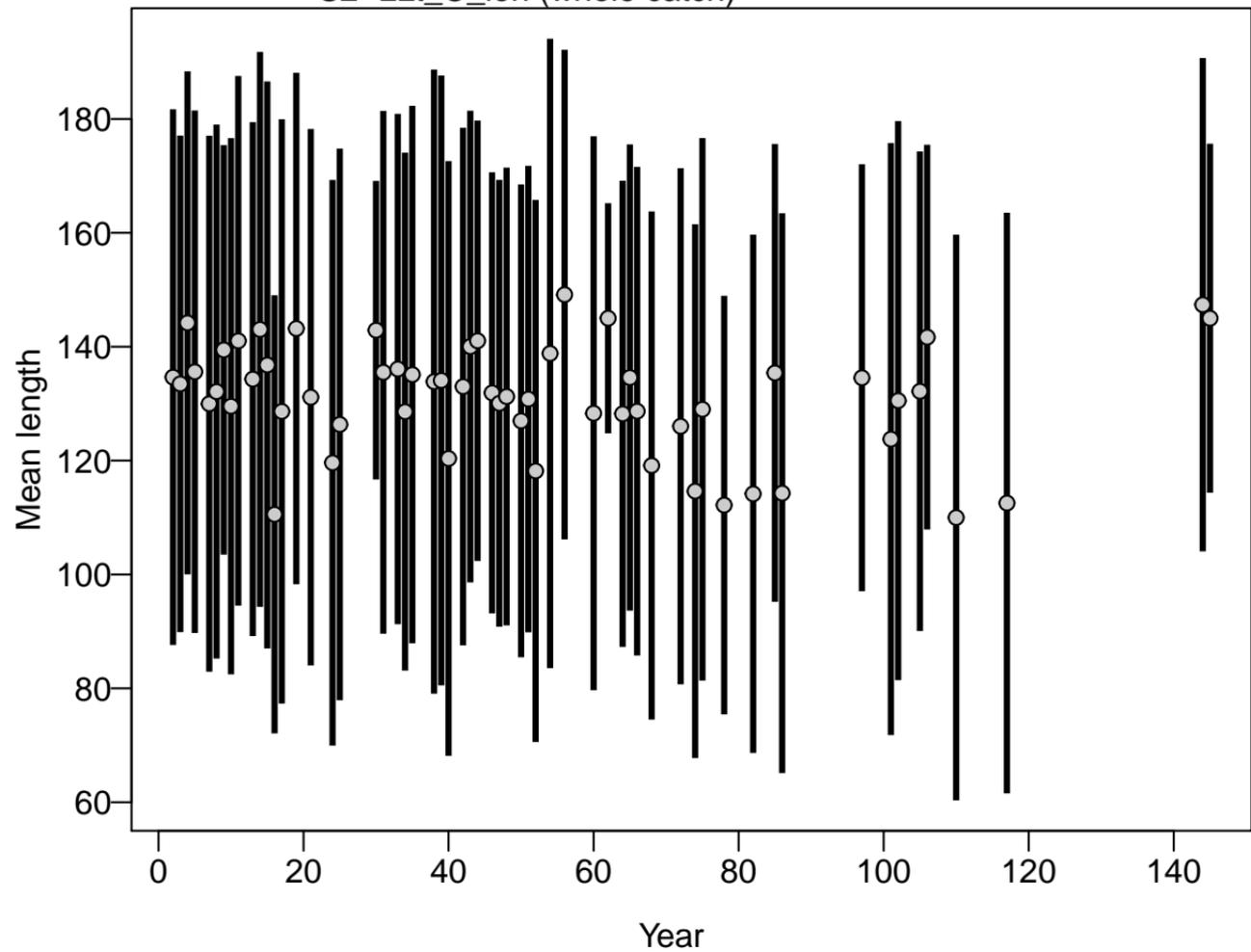
144

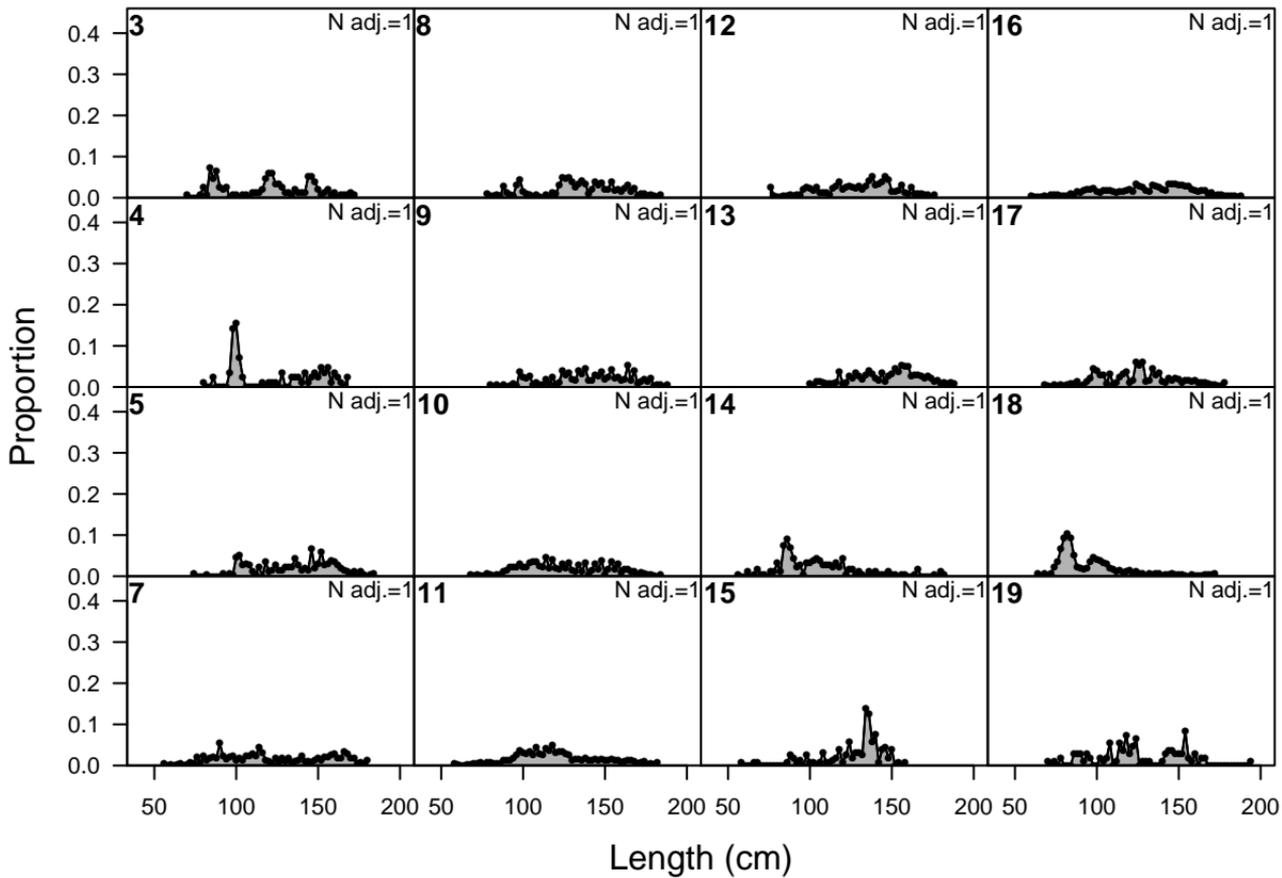
Year

◦ 0.01 ○ 0.4

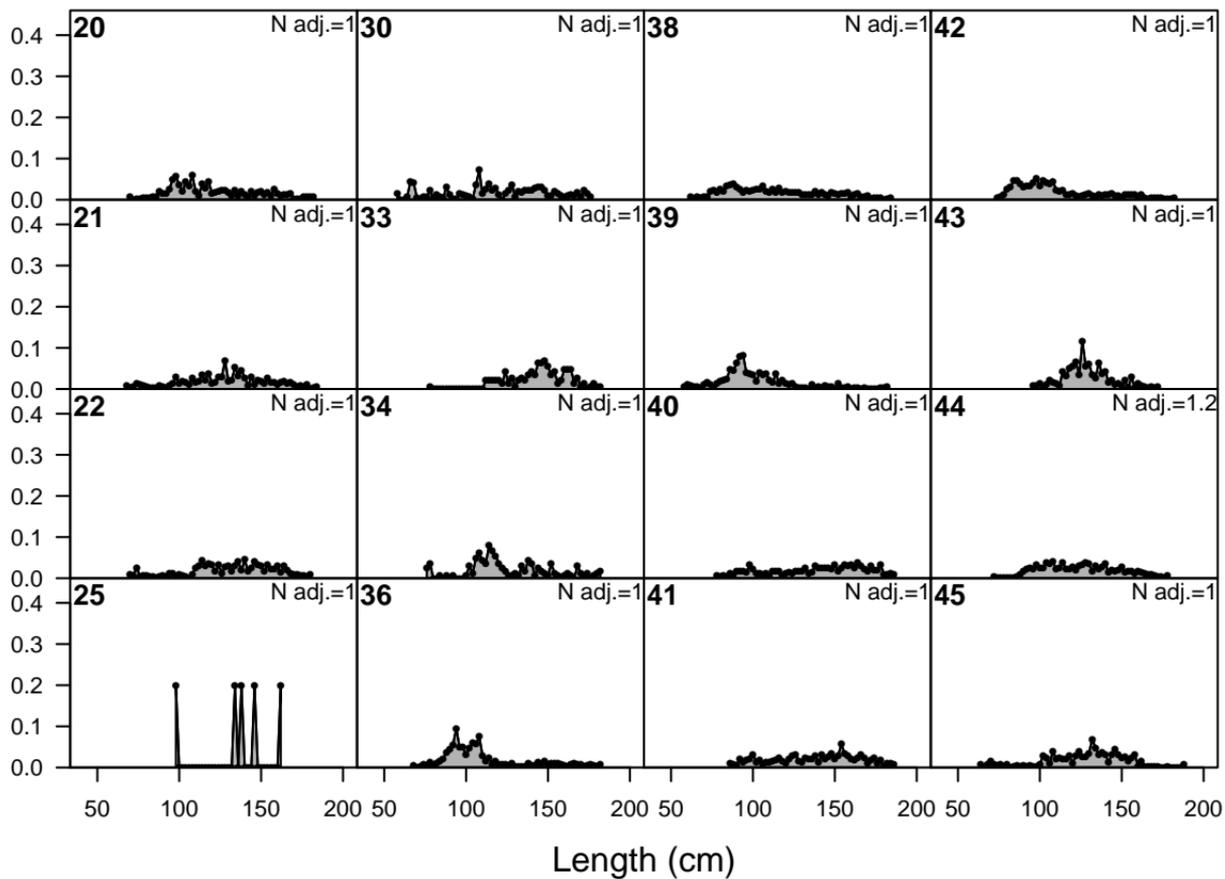


S2-LLt_C_len (whole catch)

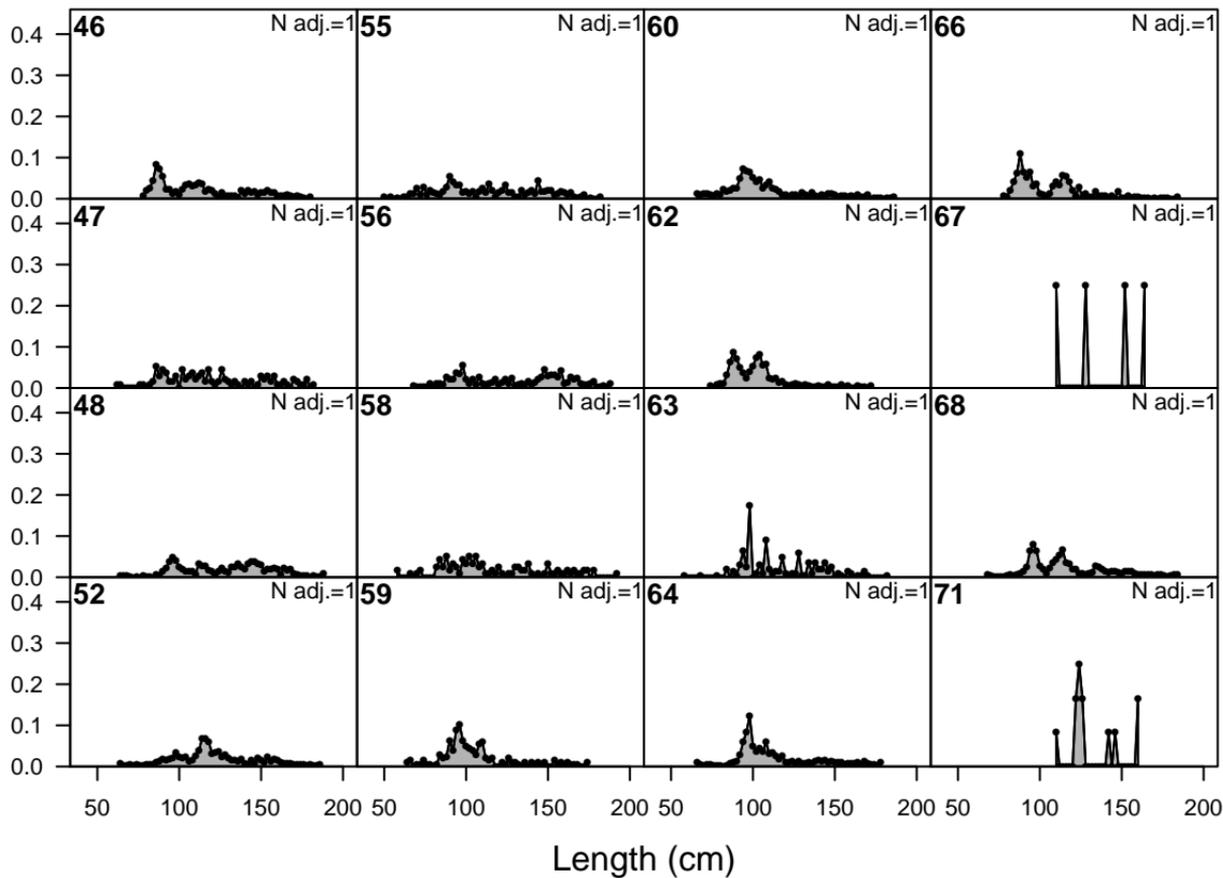




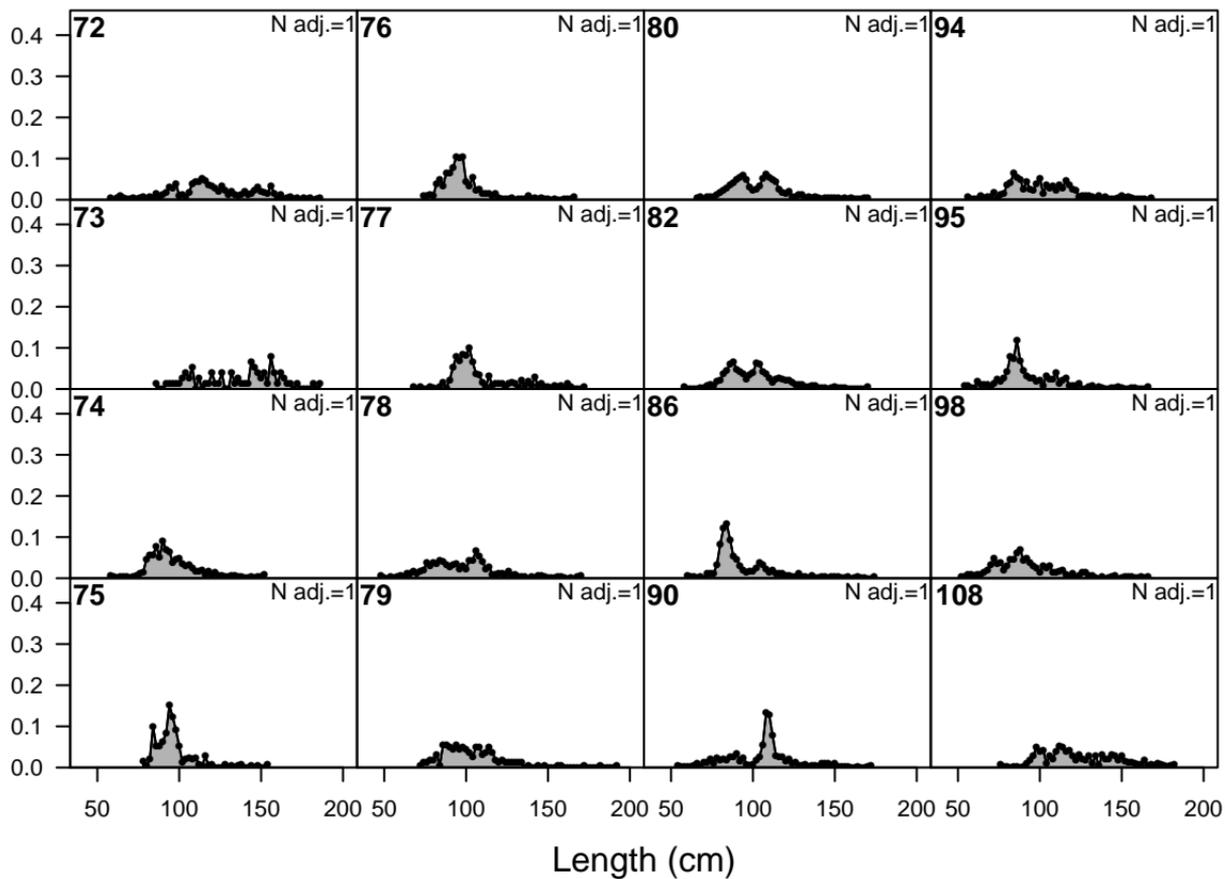
Proportion

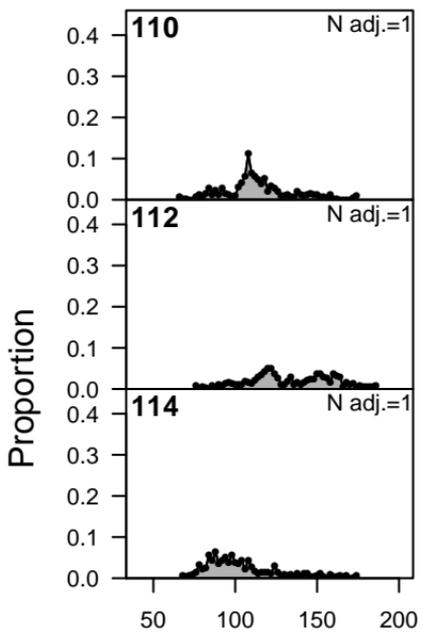


Proportion

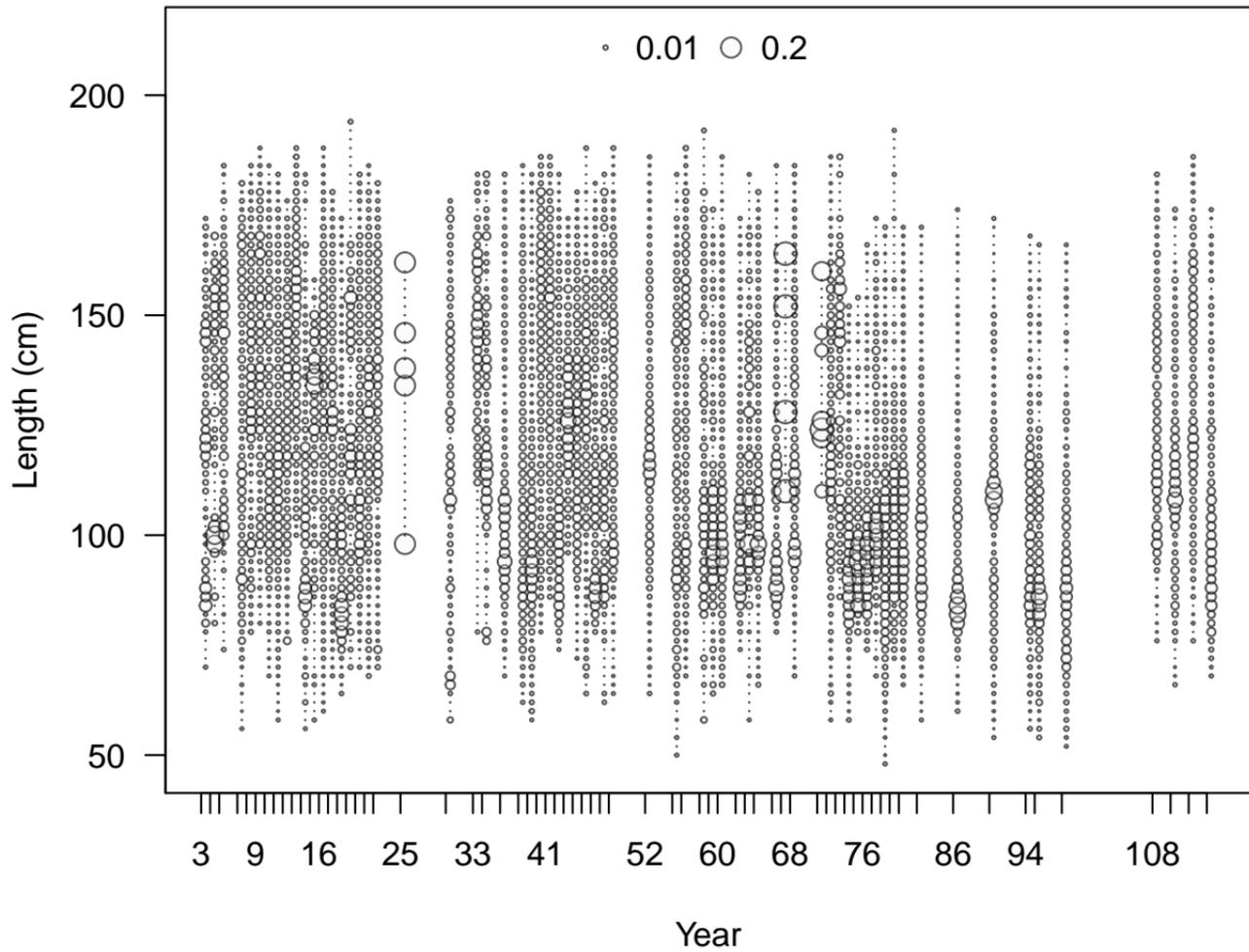


Proportion

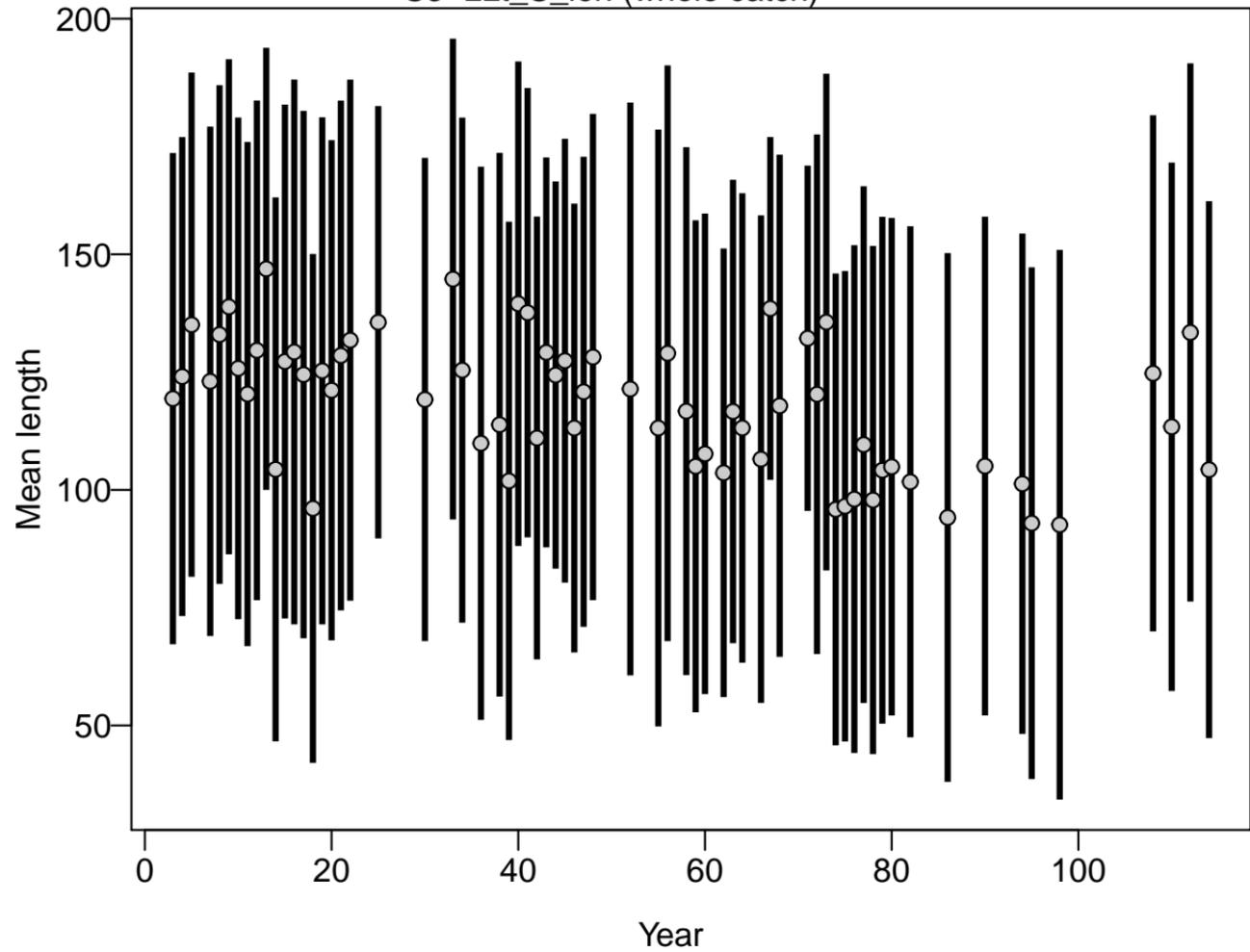




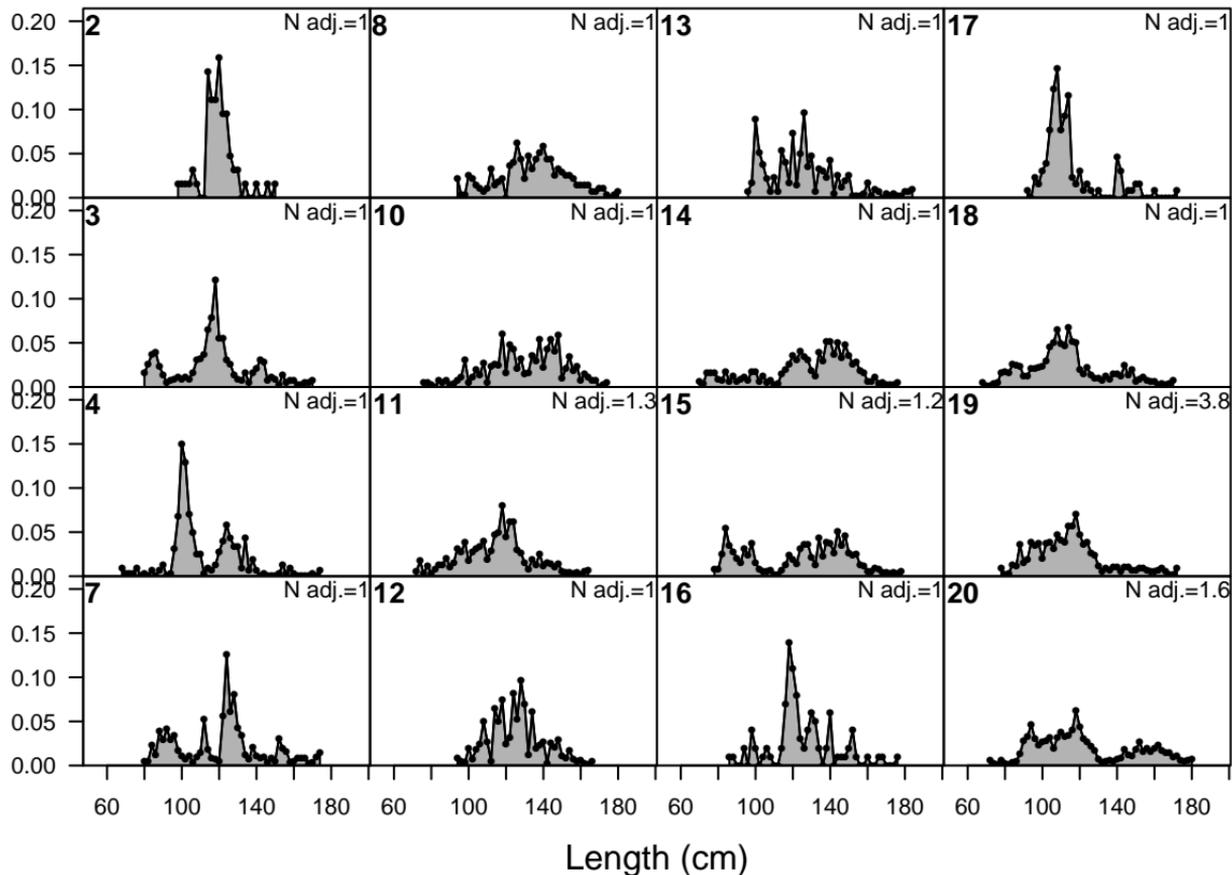
Length (cm)



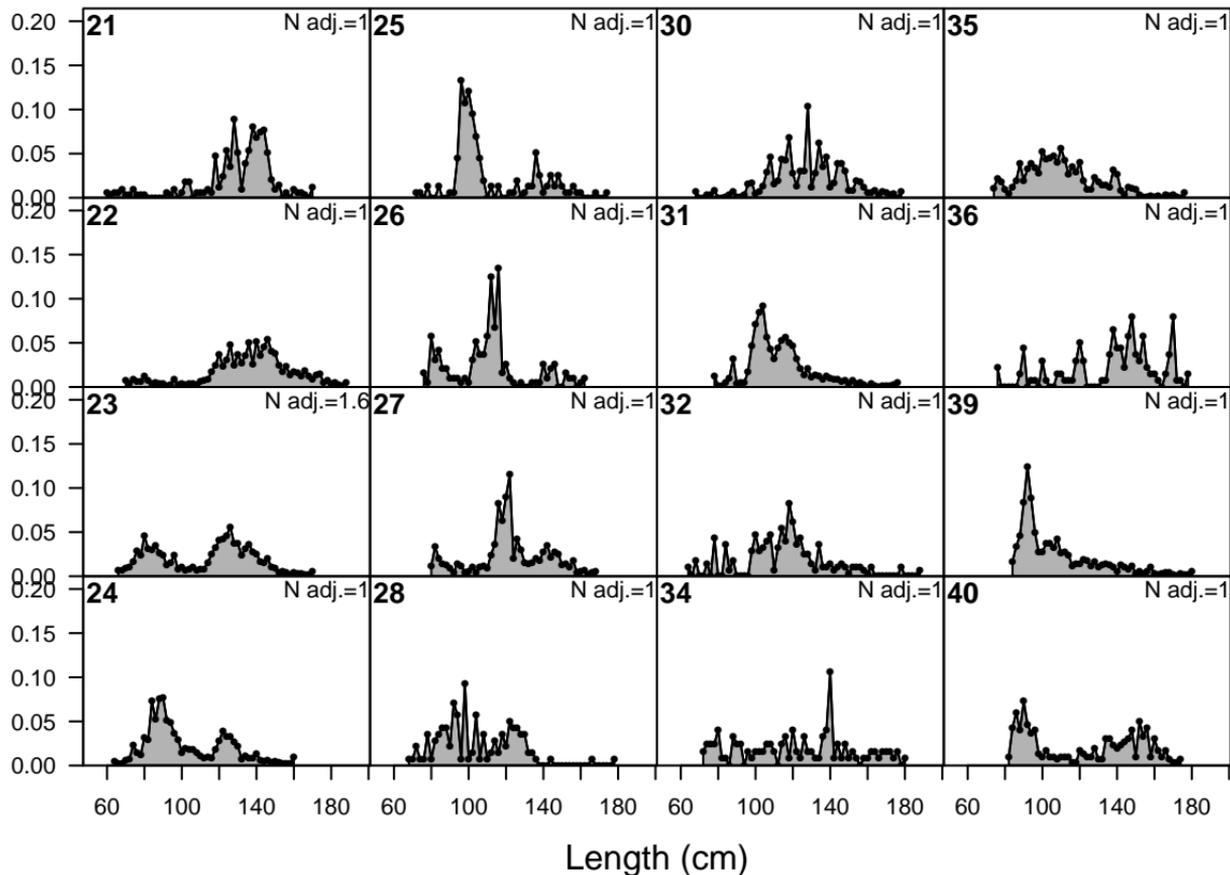
S3-LLt_S_len (whole catch)

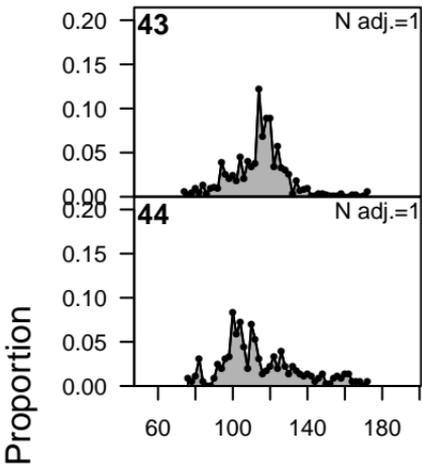


Proportion

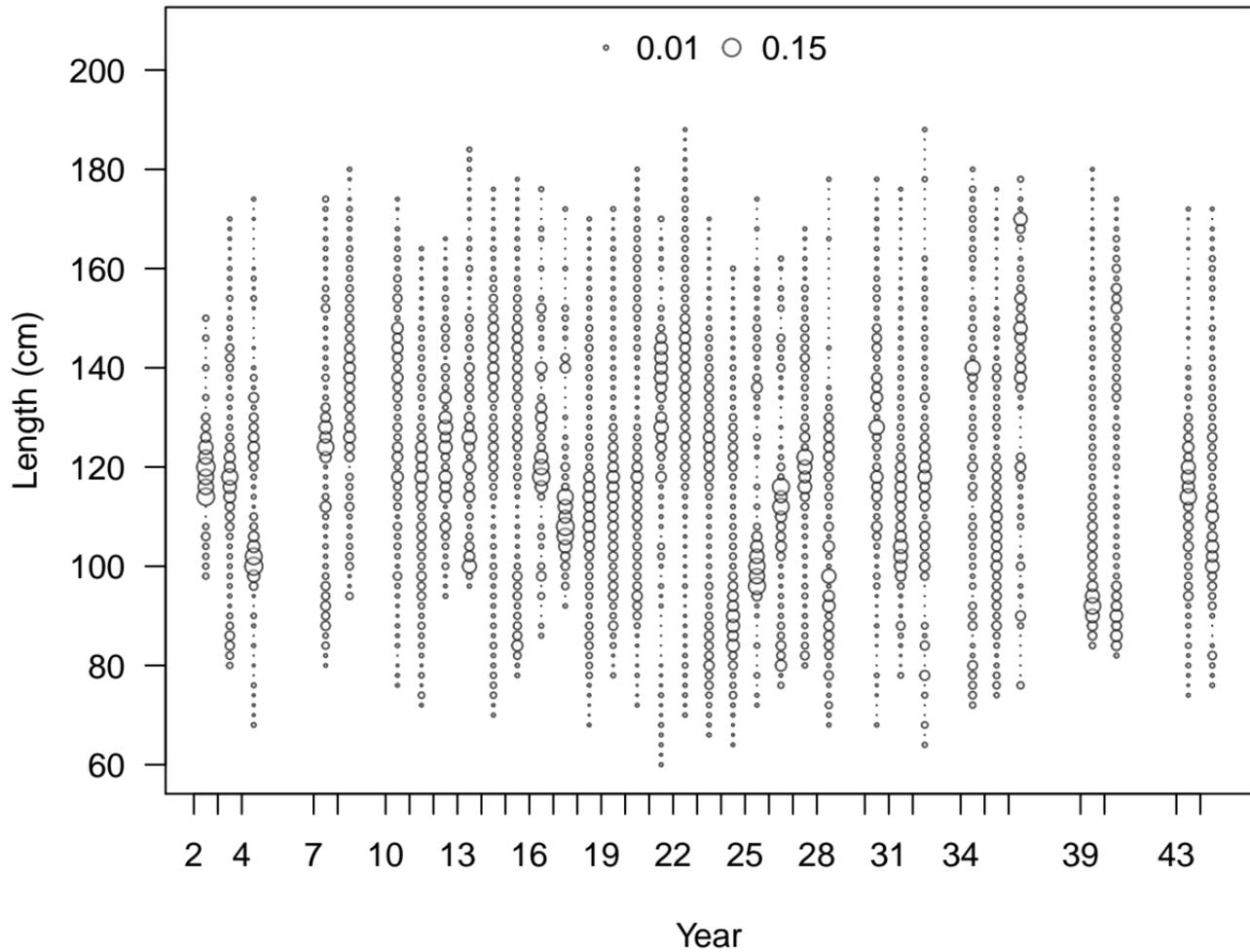


Proportion

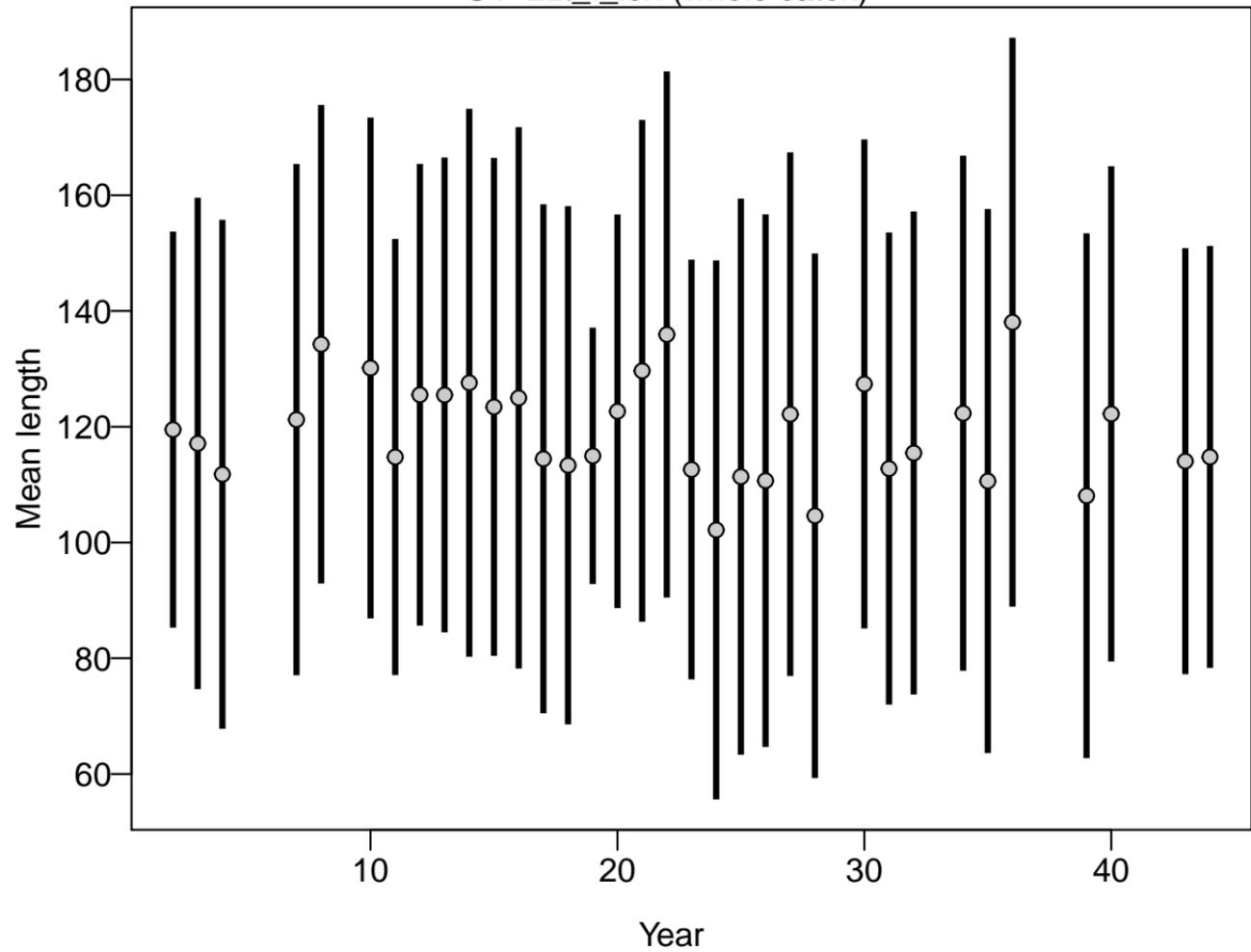




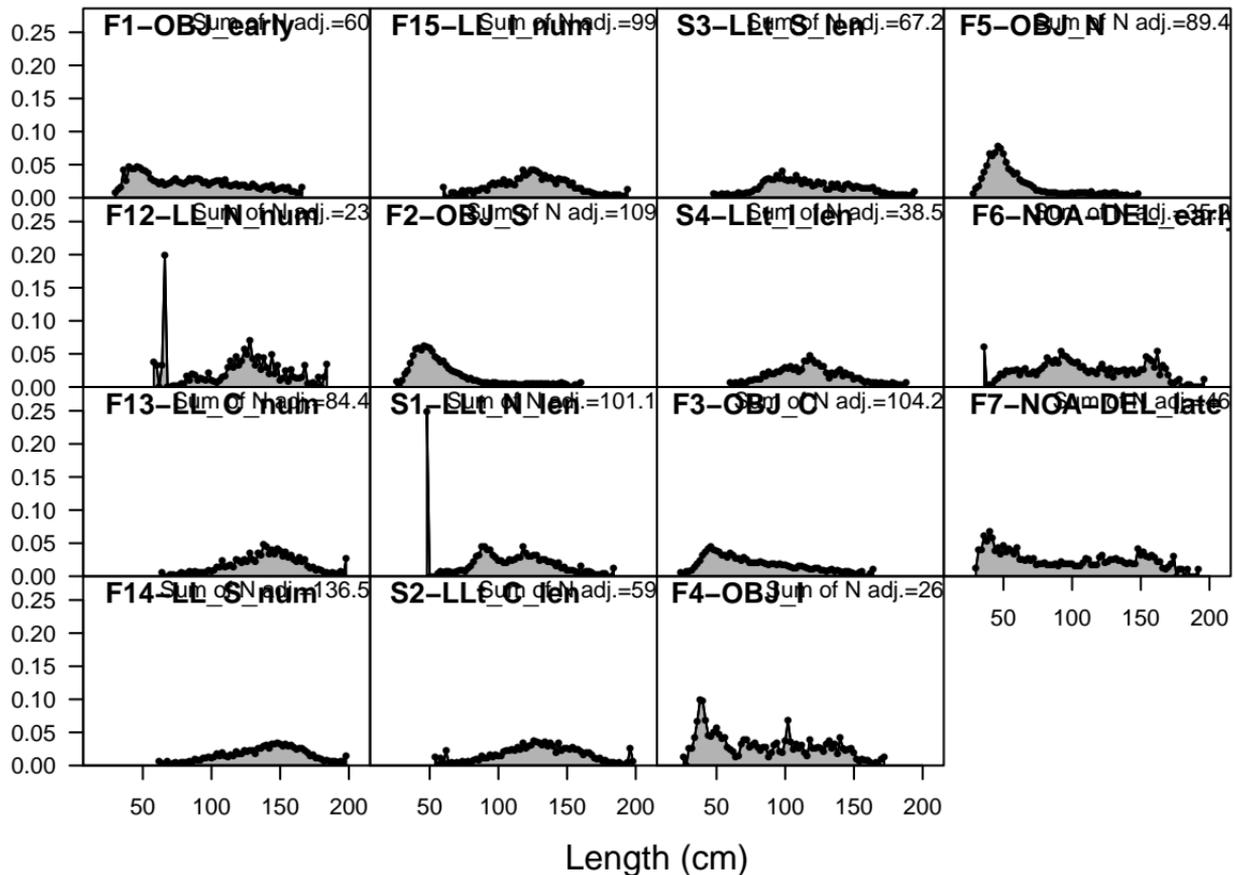
Length (cm)

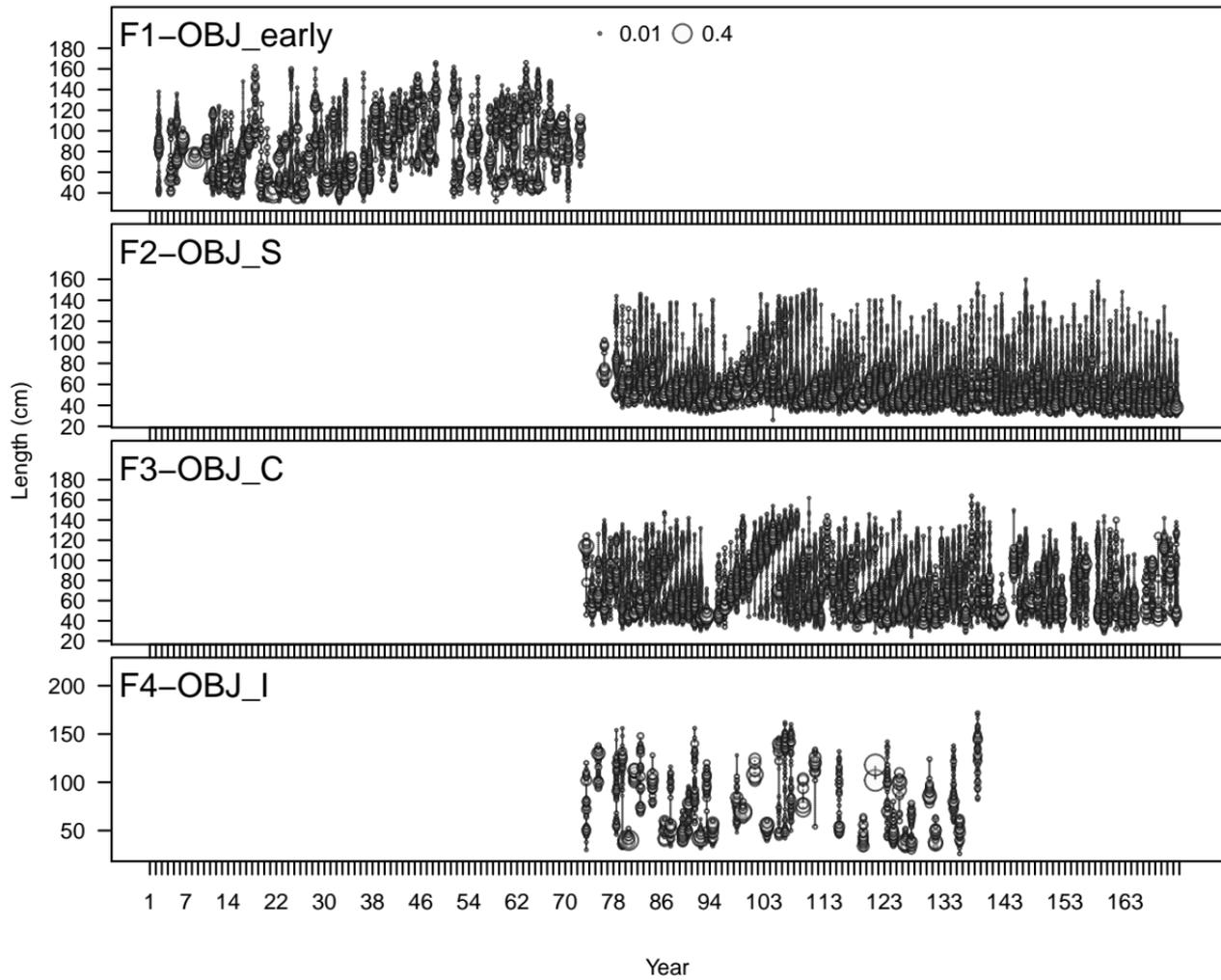


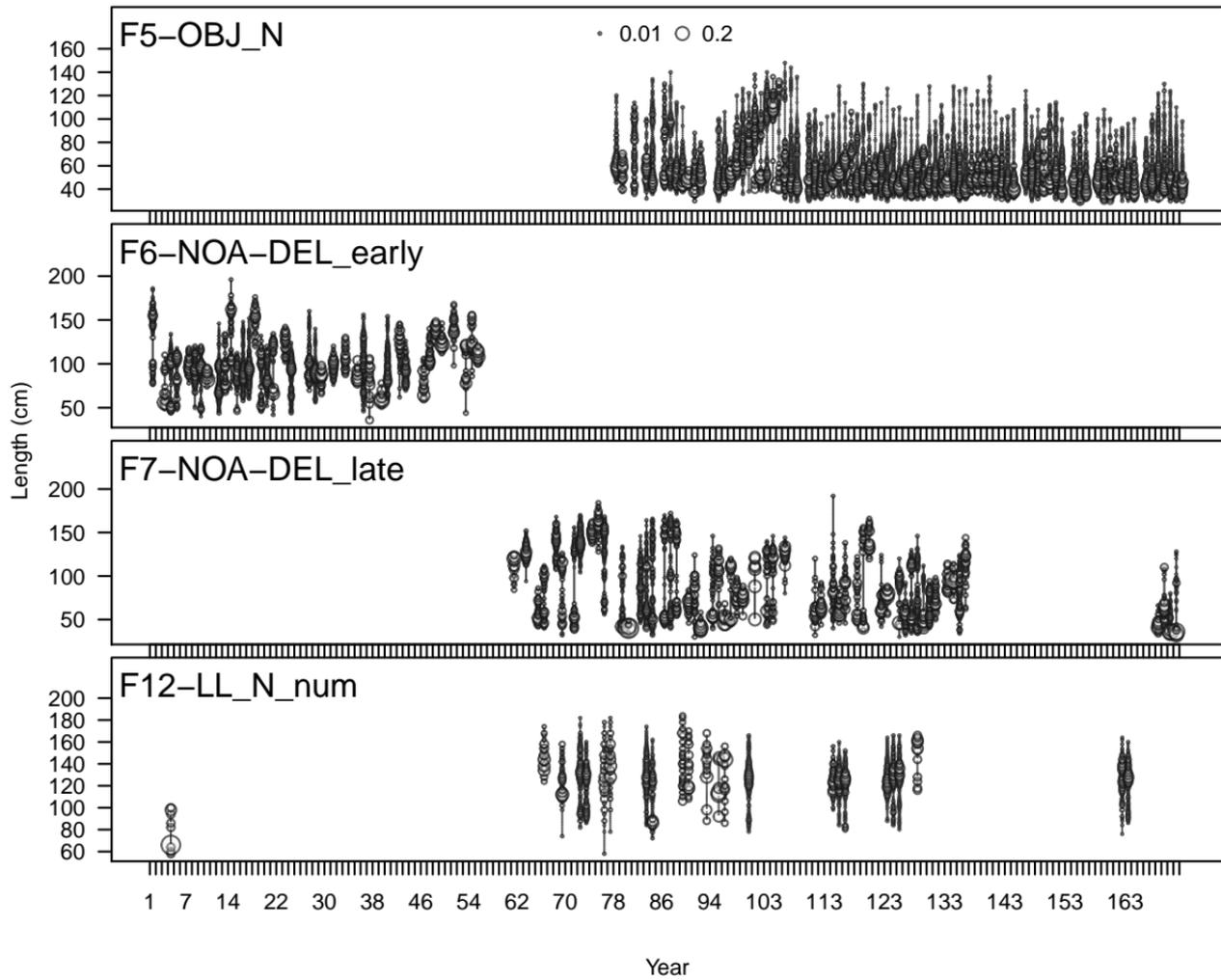
S4-LLt_I_len (whole catch)

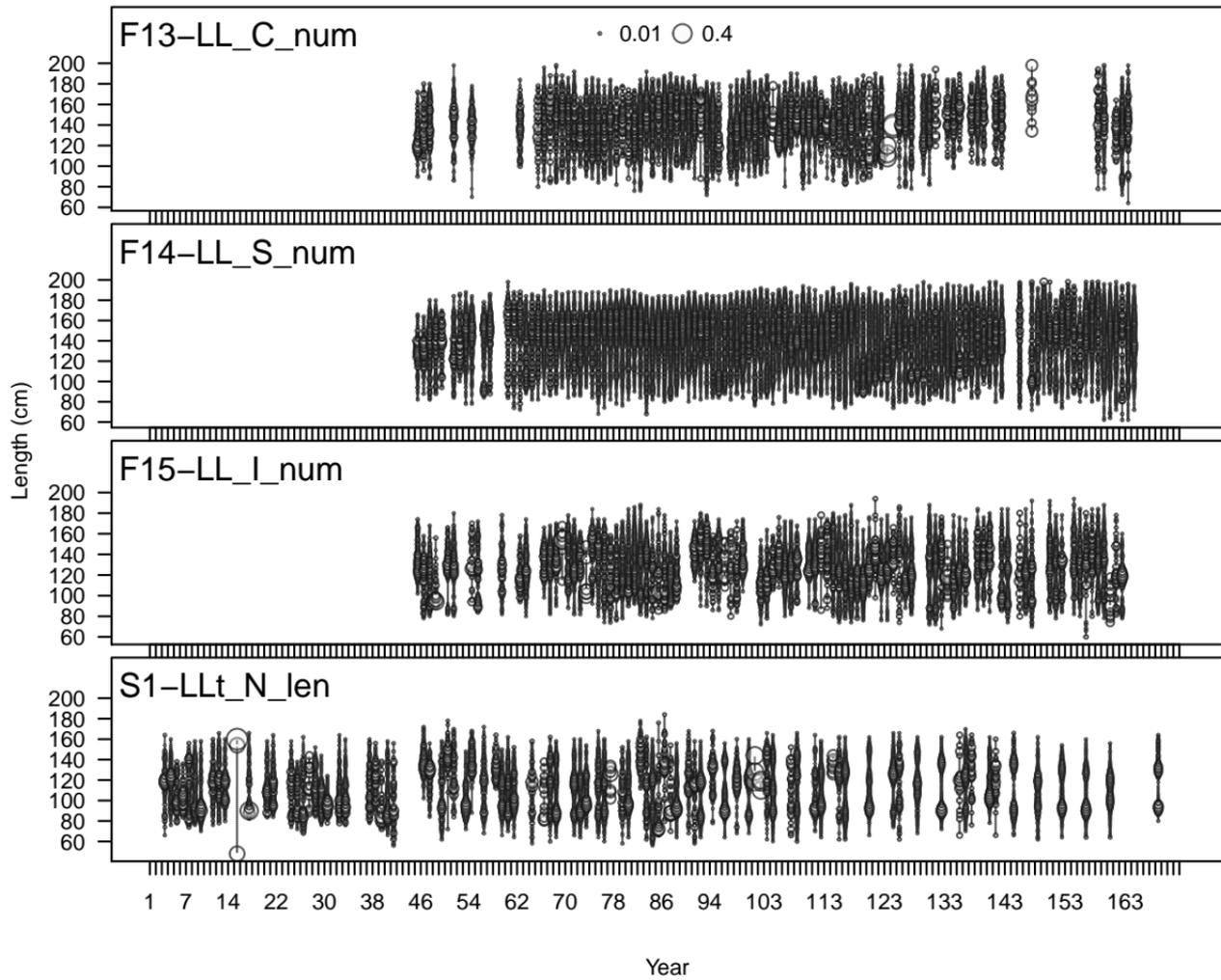


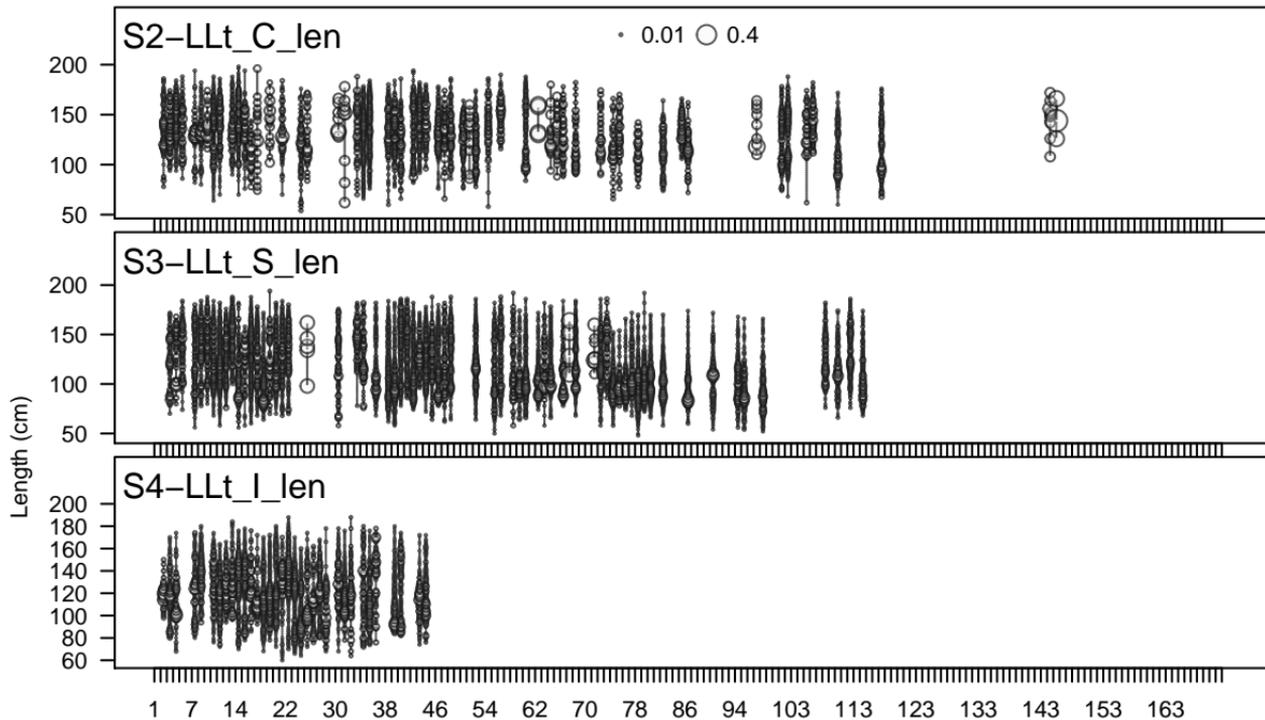
Proportion



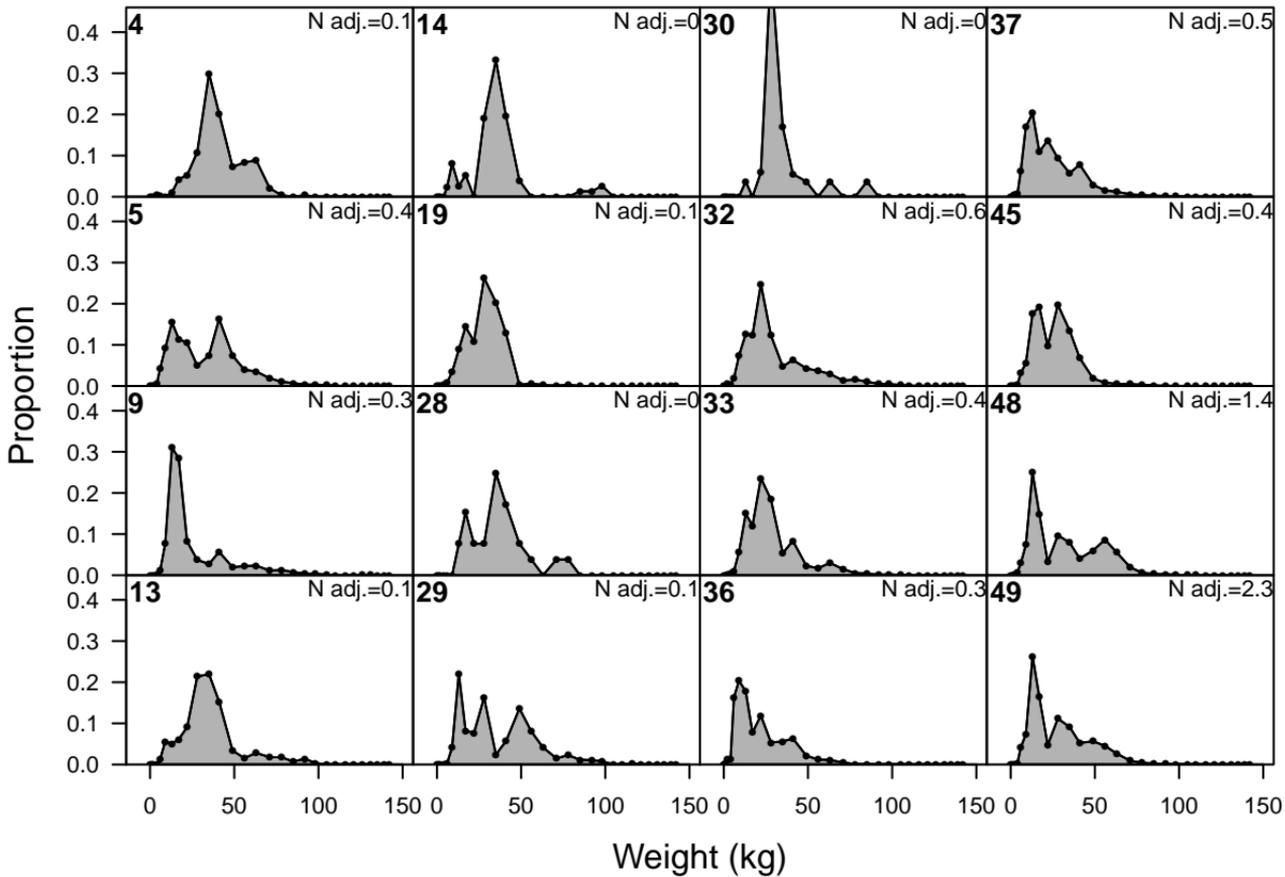


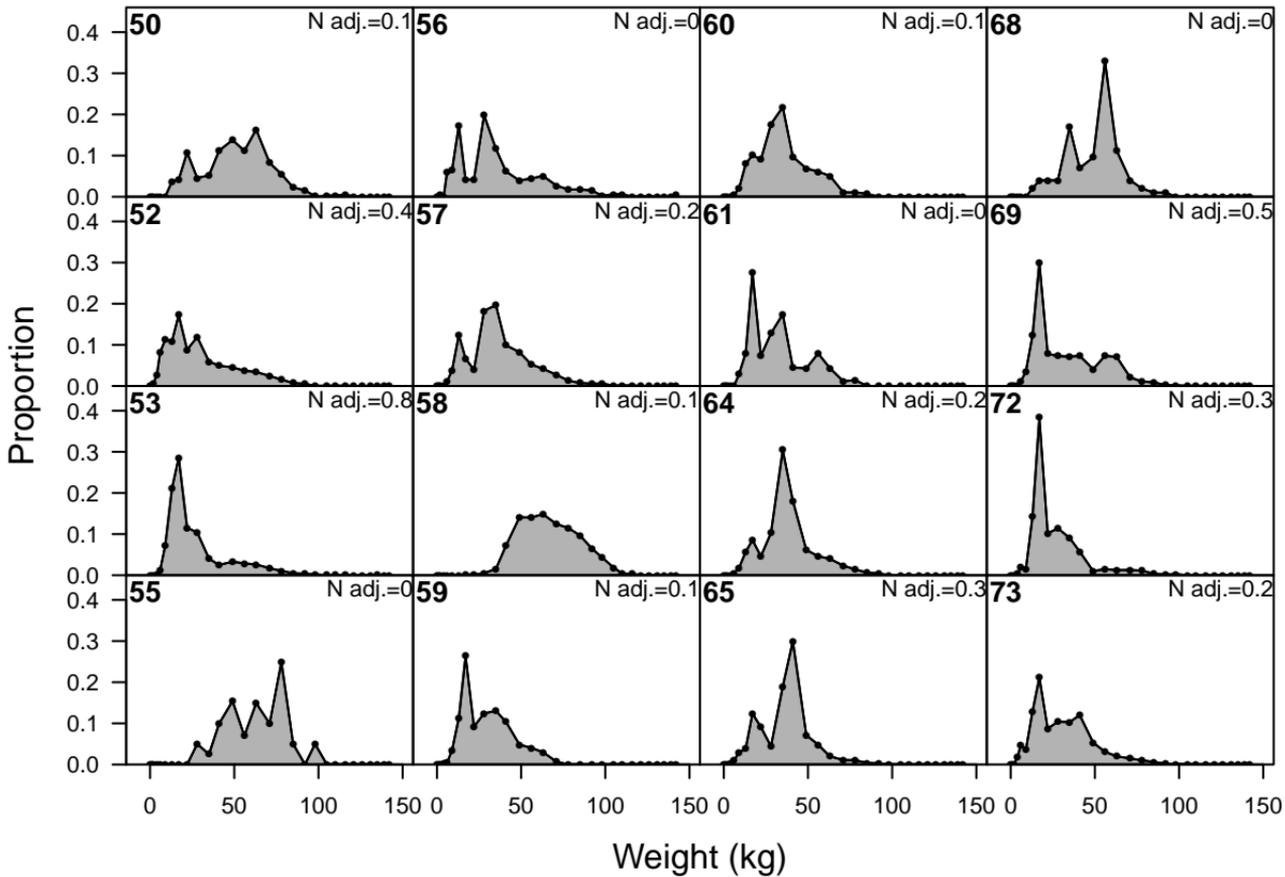


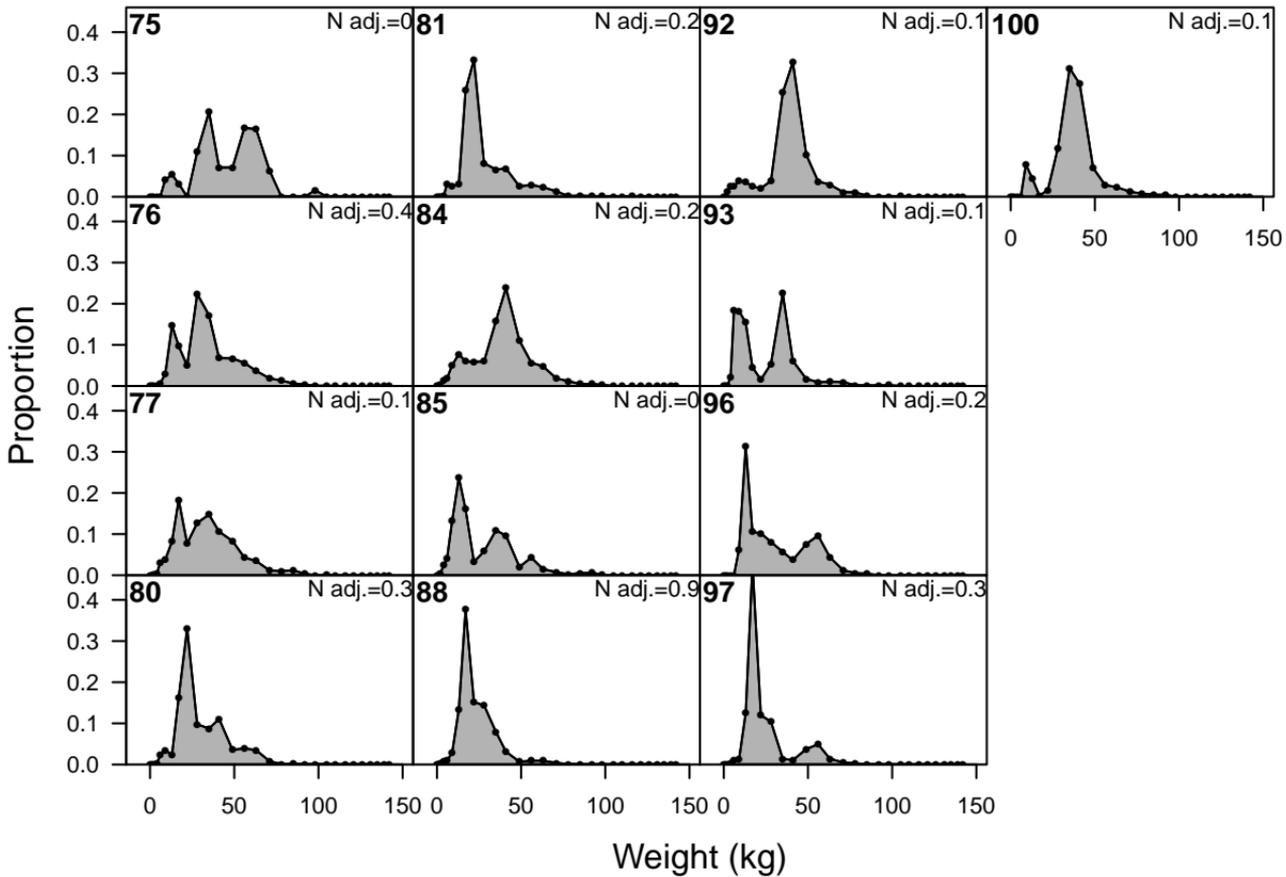


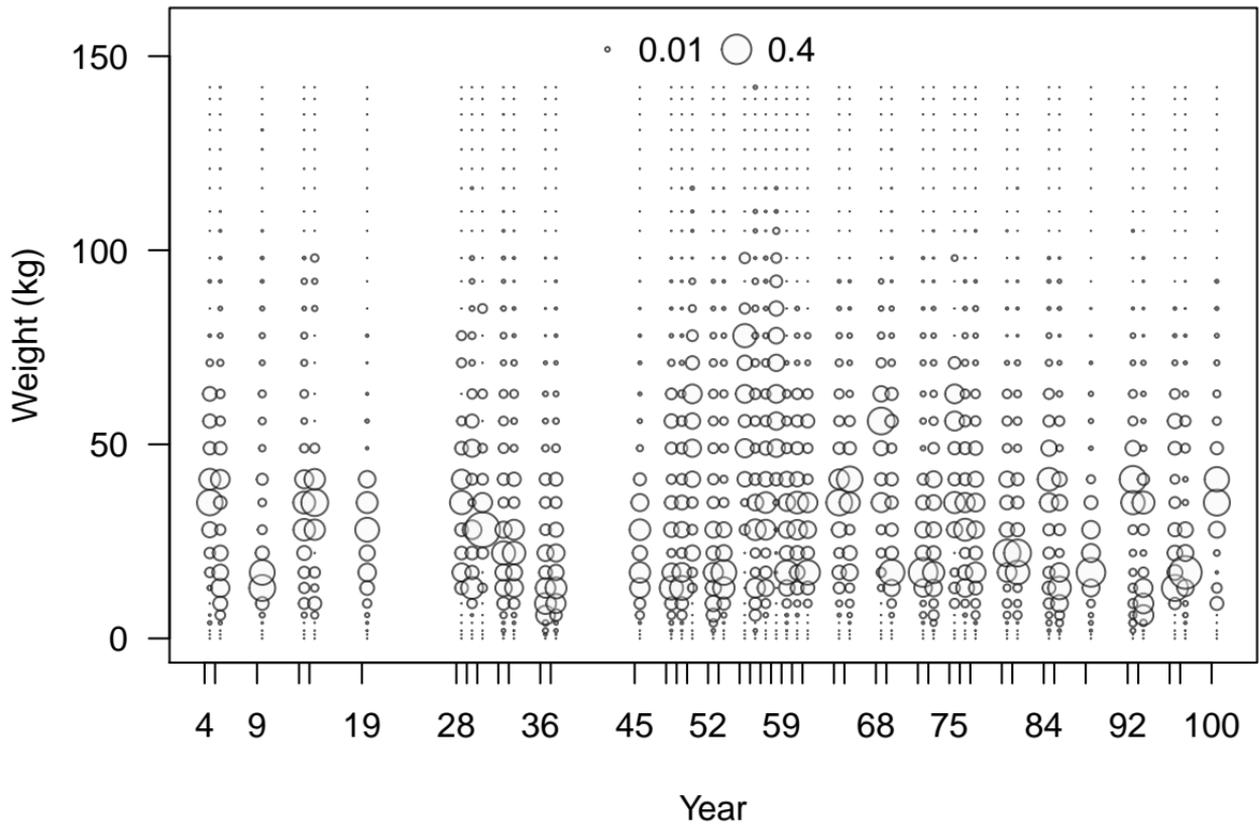


Year

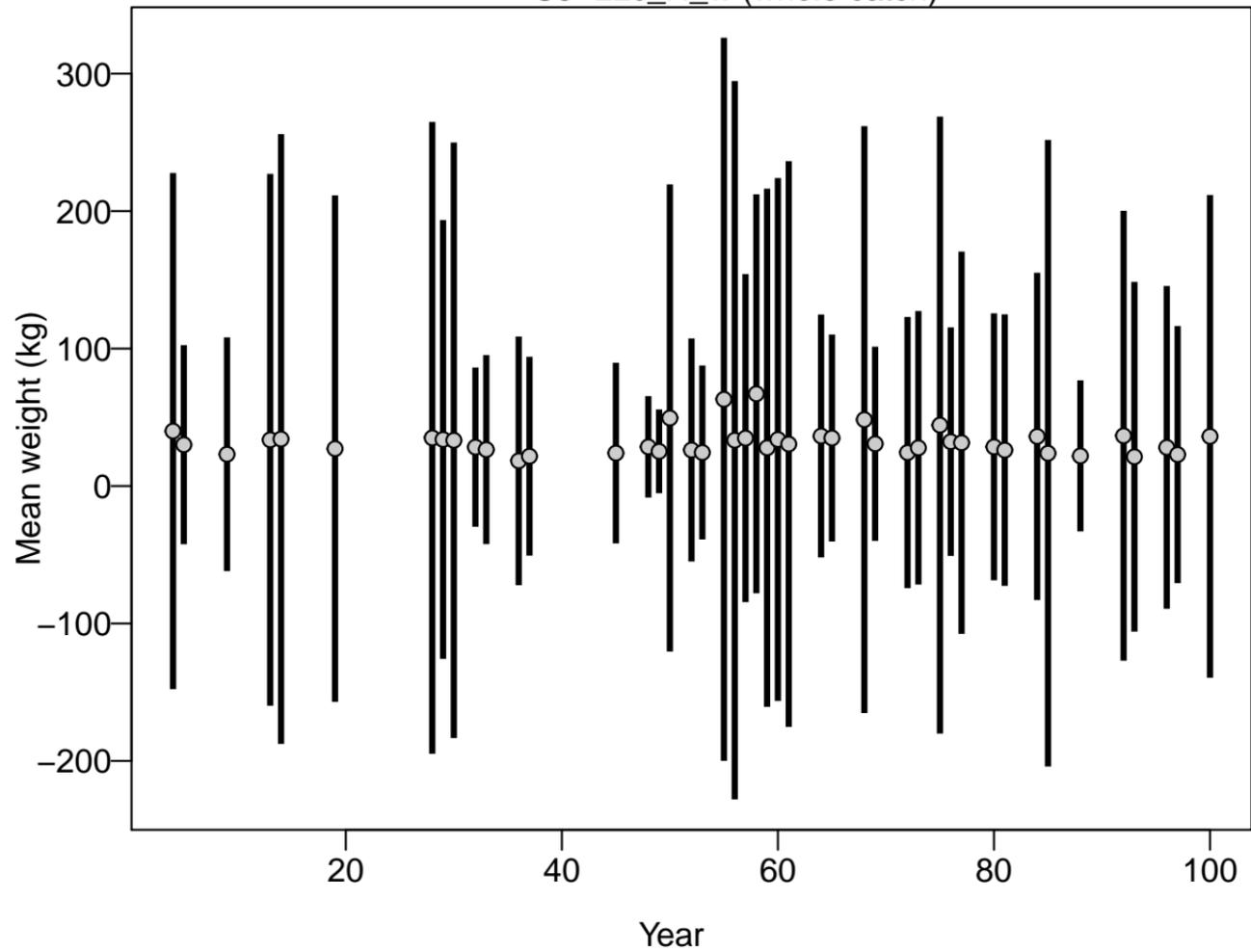


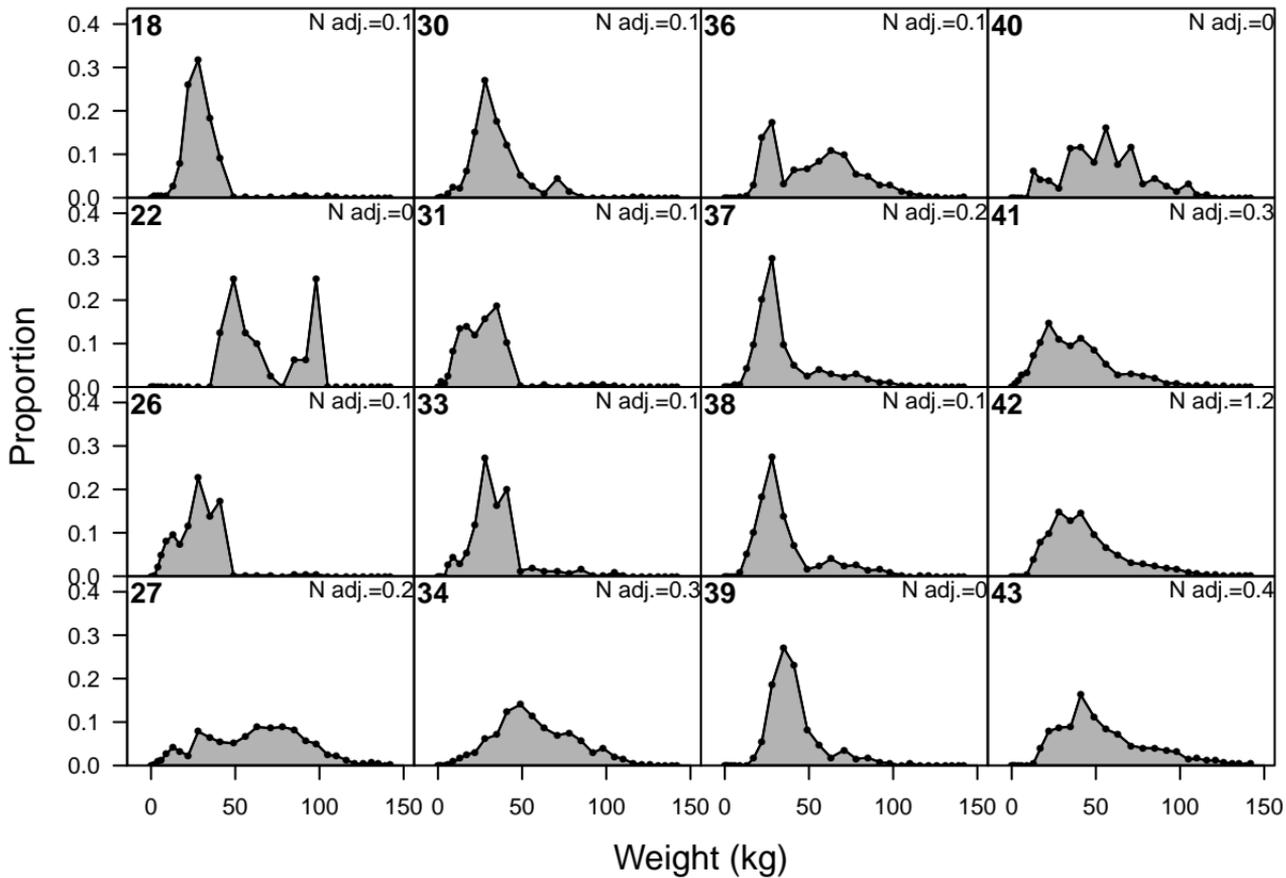


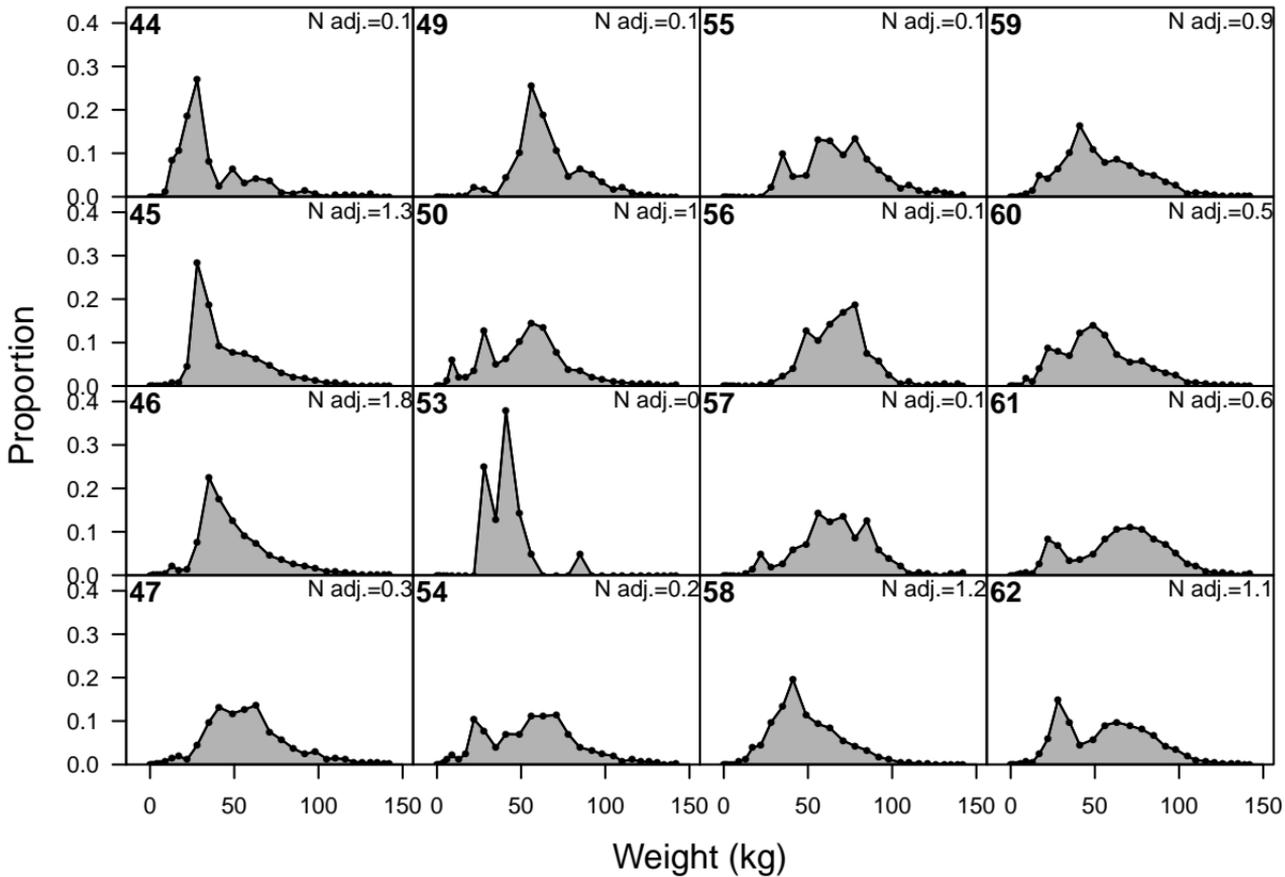




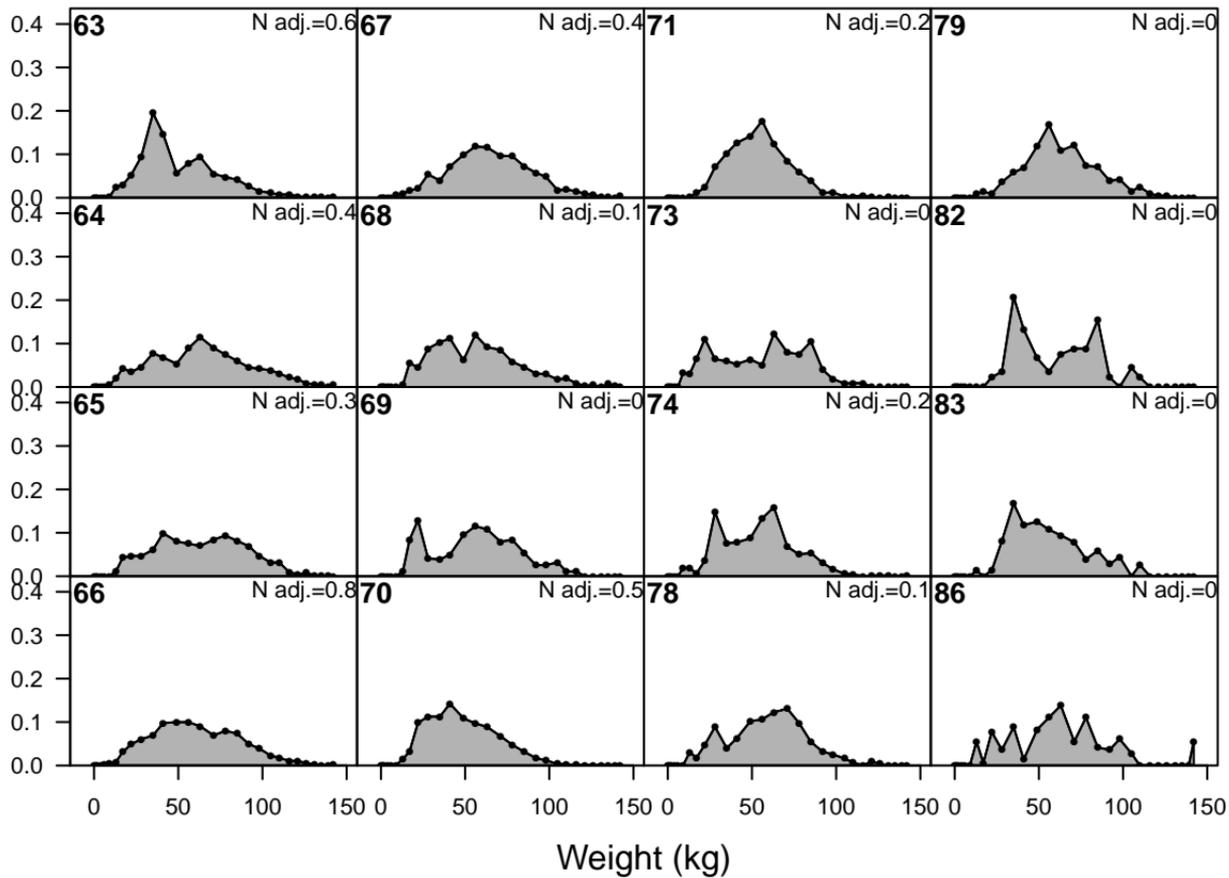
S5-LLc_N_w (whole catch)

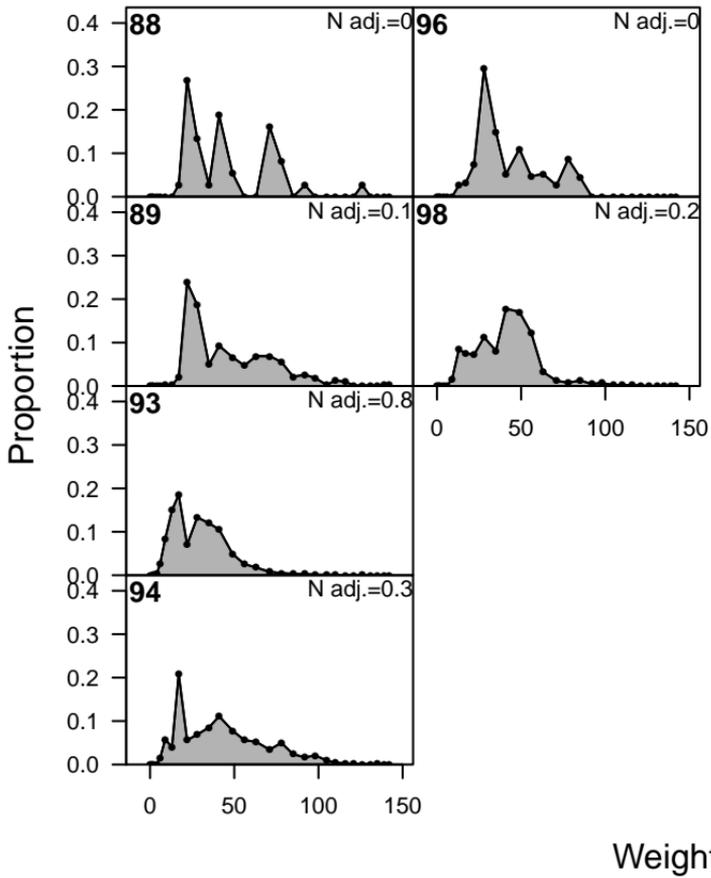


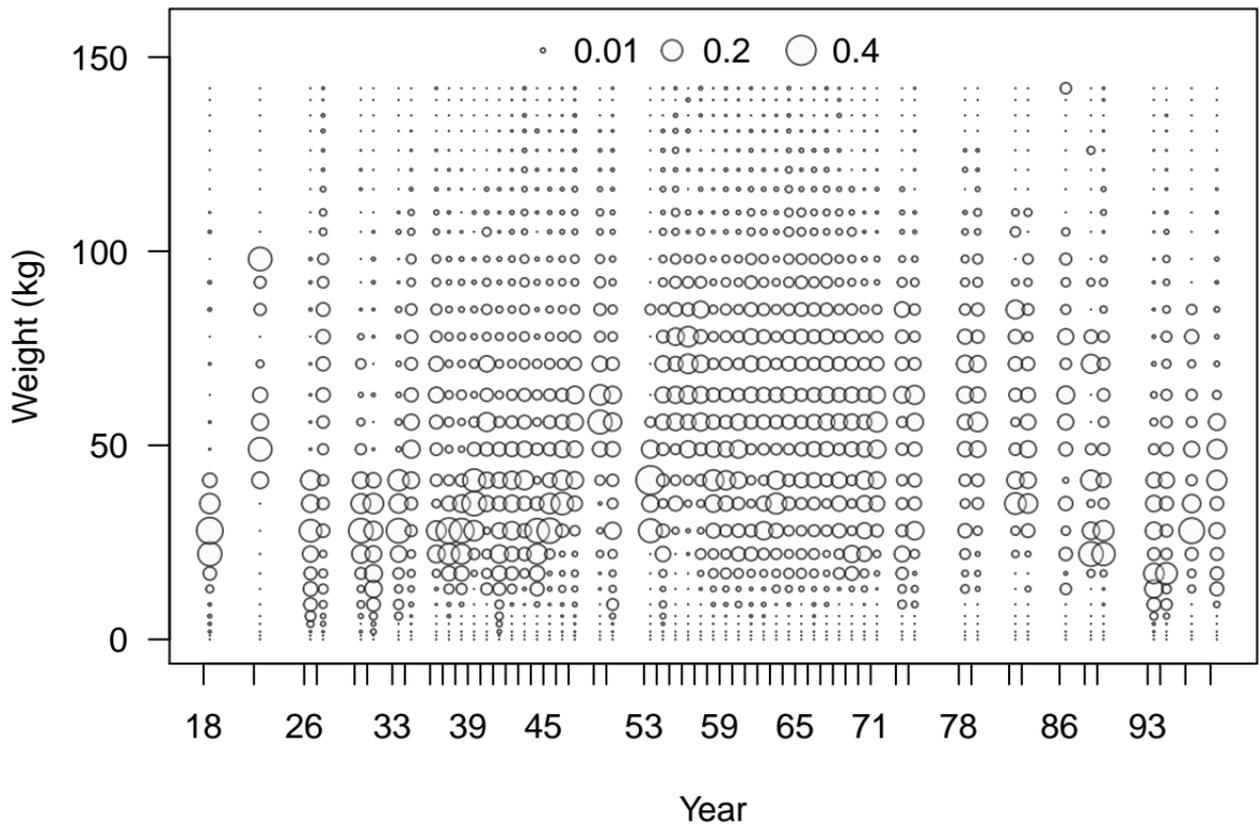




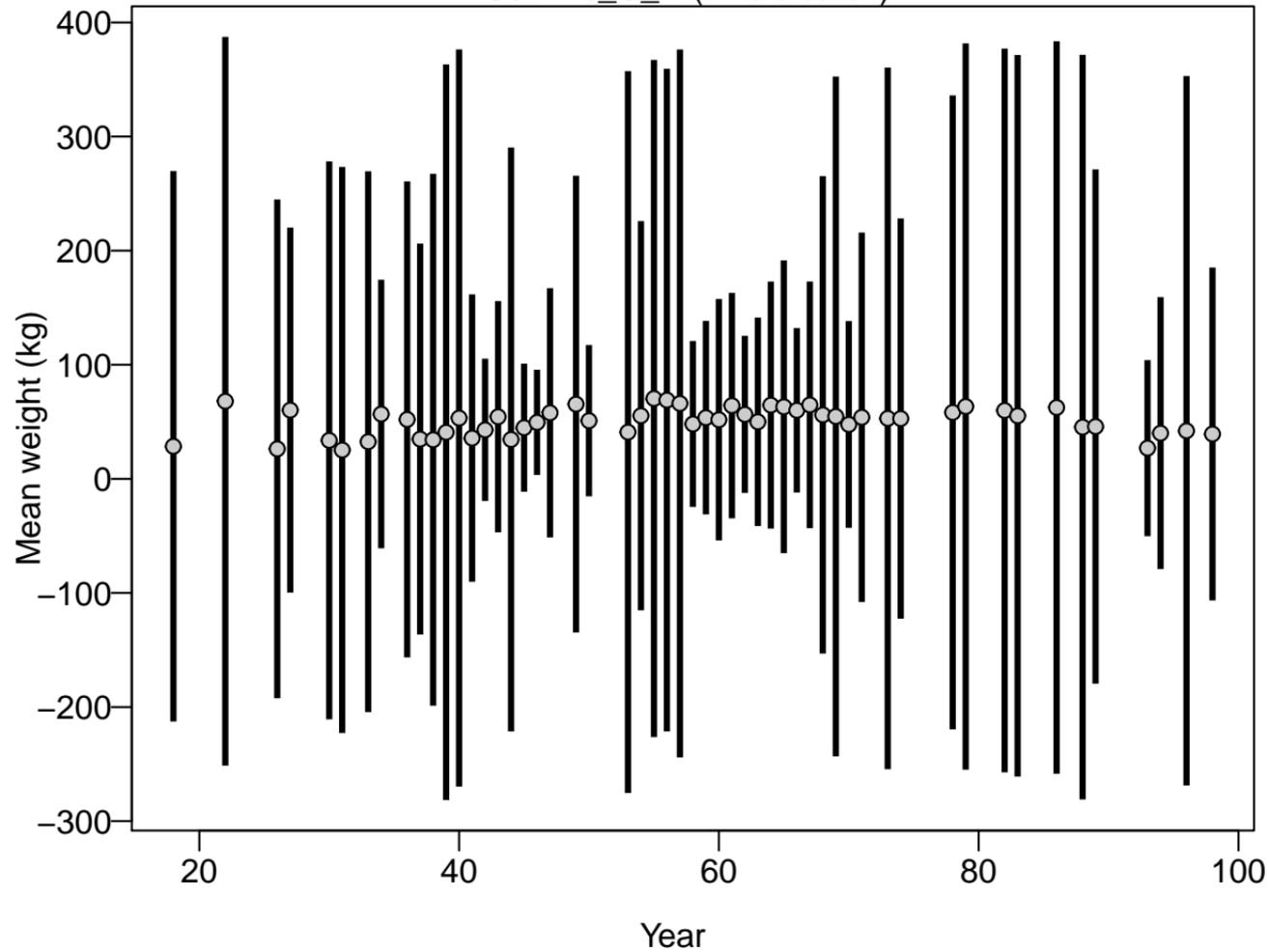
Proportion



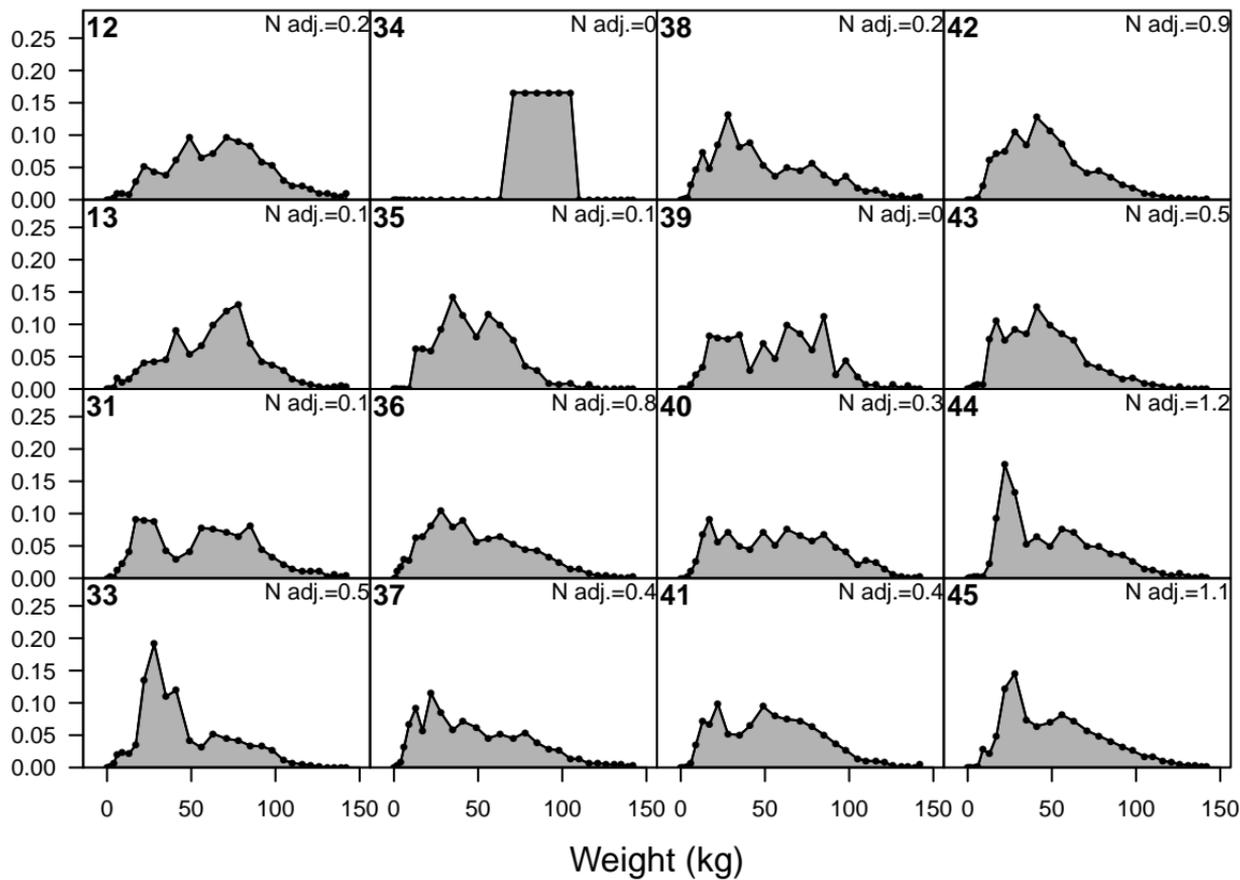




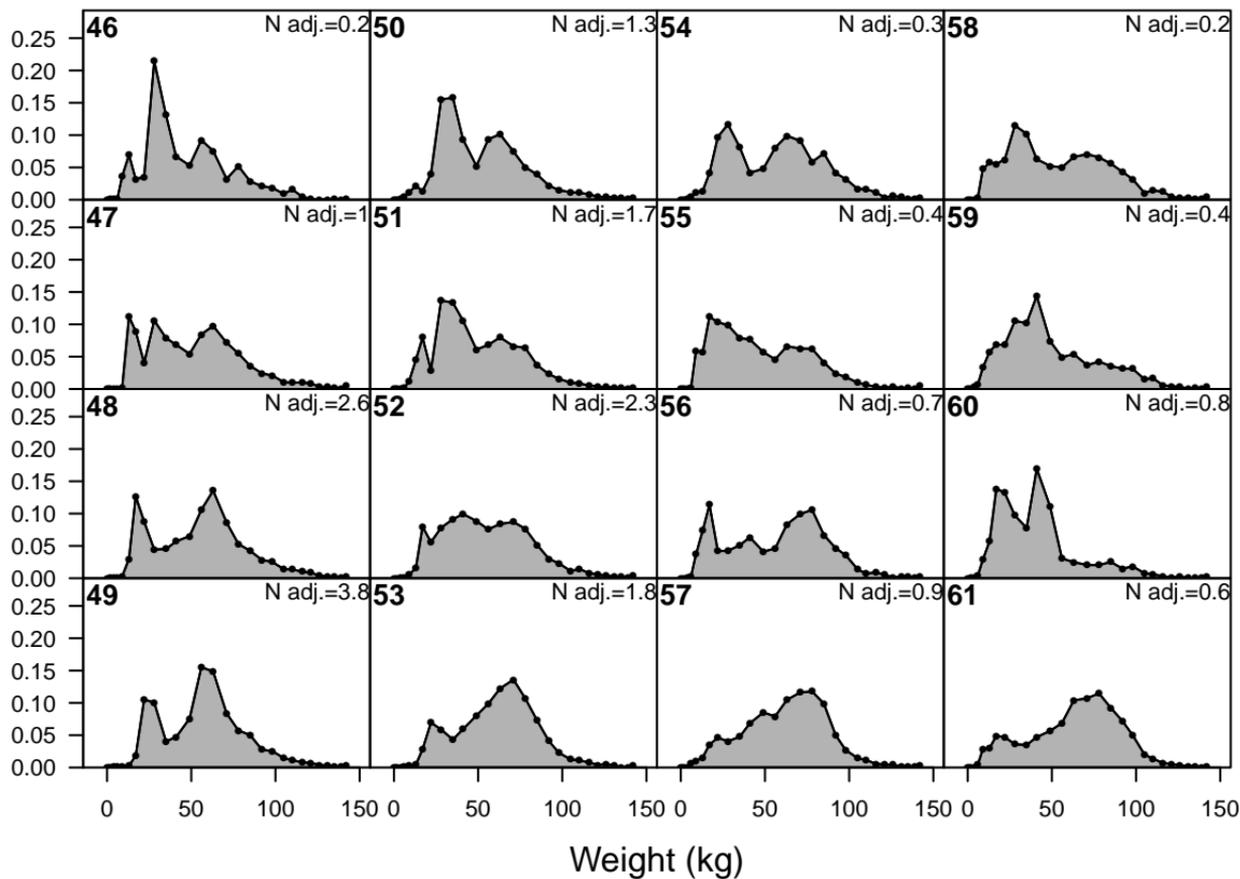
S6-LLc_C_w (whole catch)



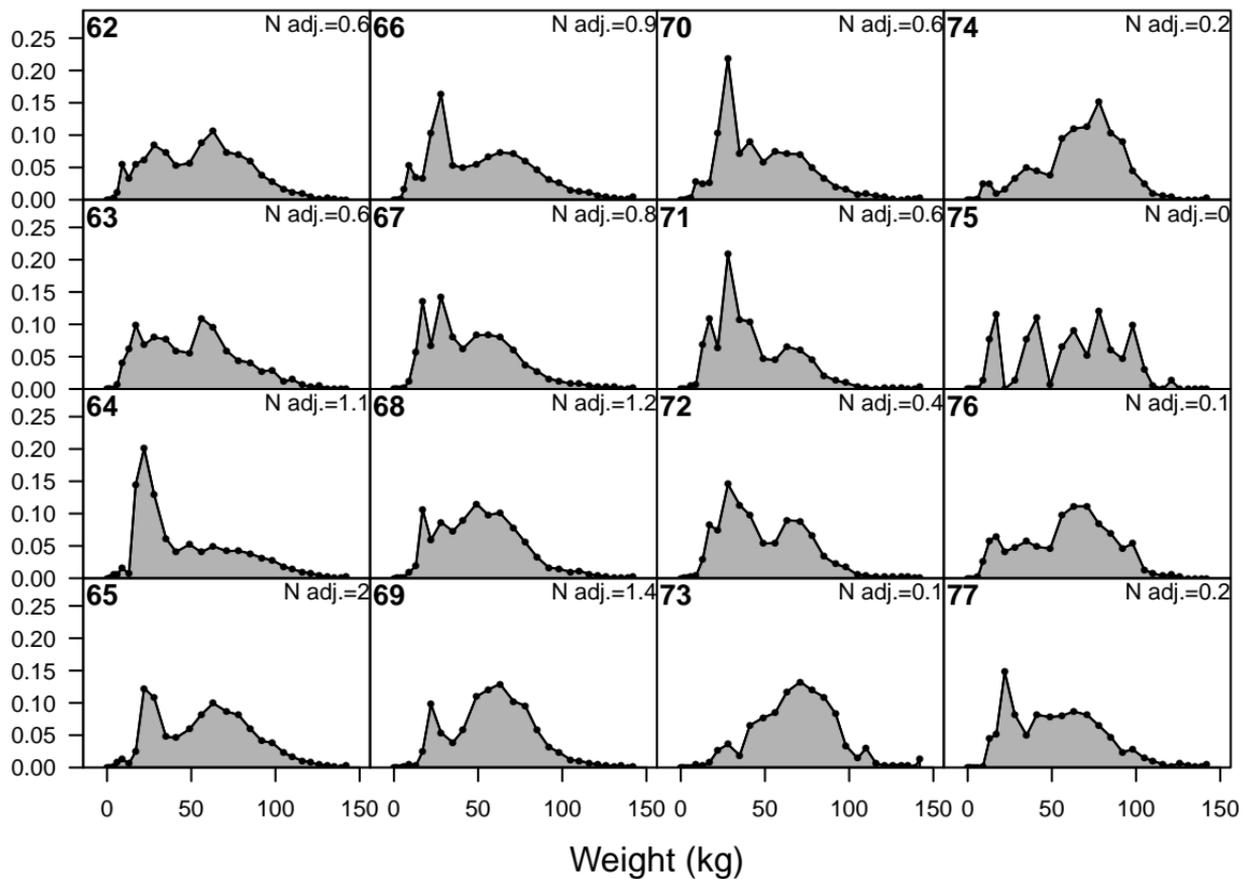
Proportion



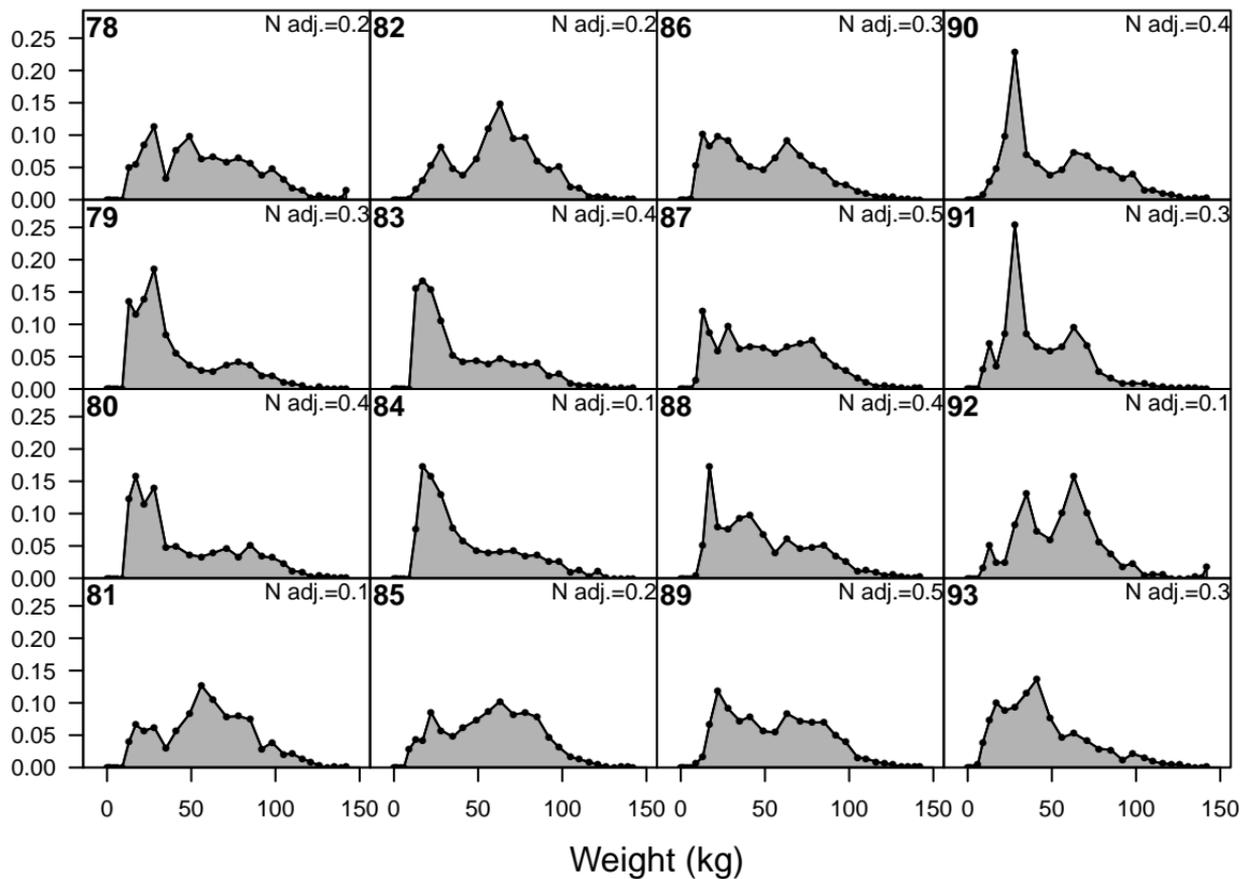
Proportion

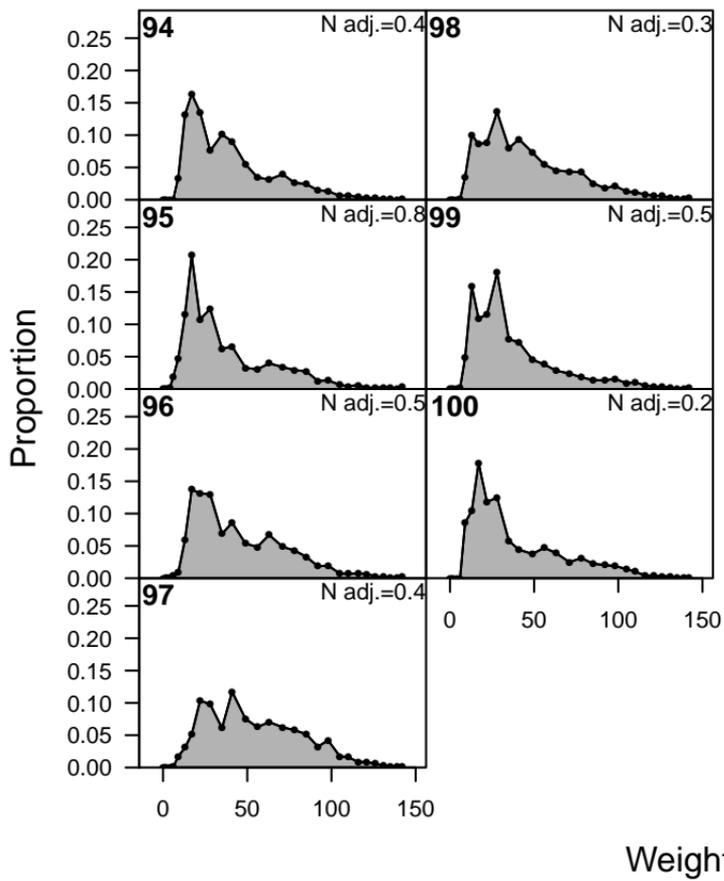


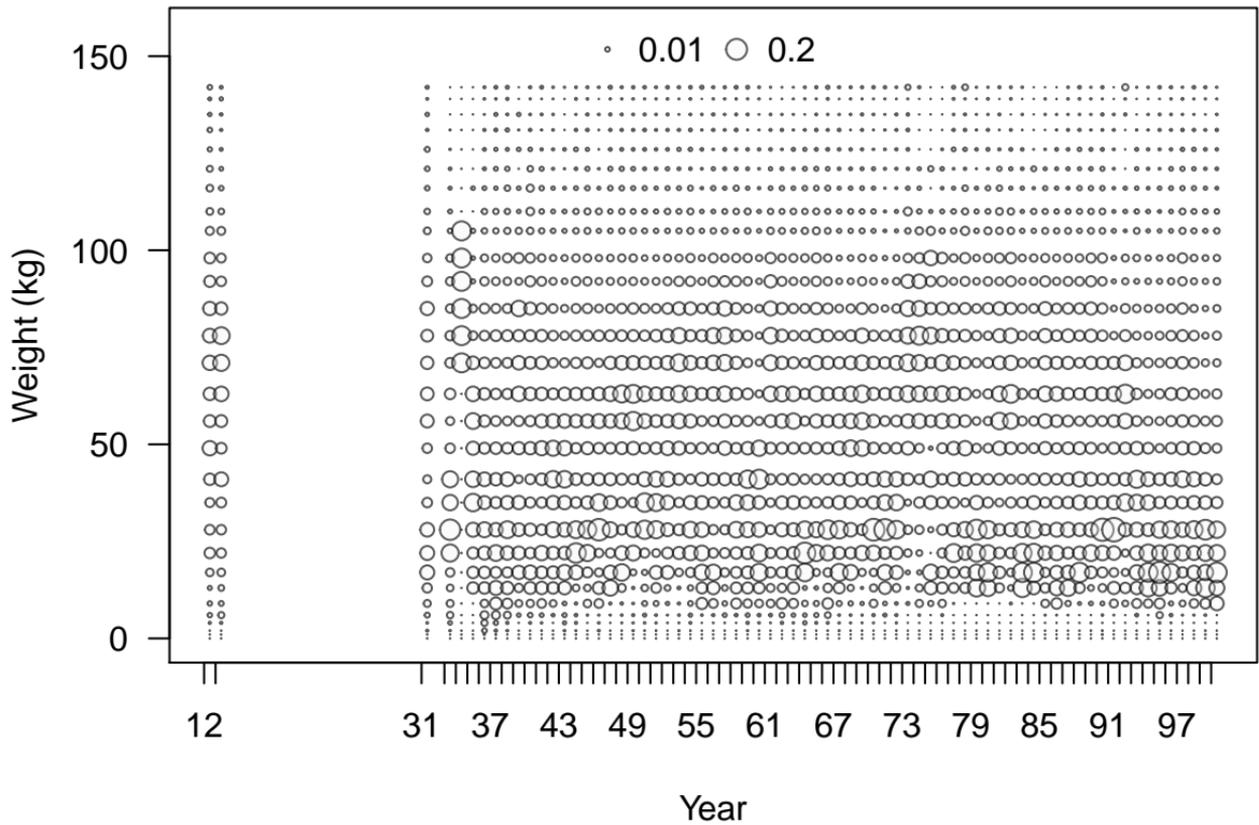
Proportion



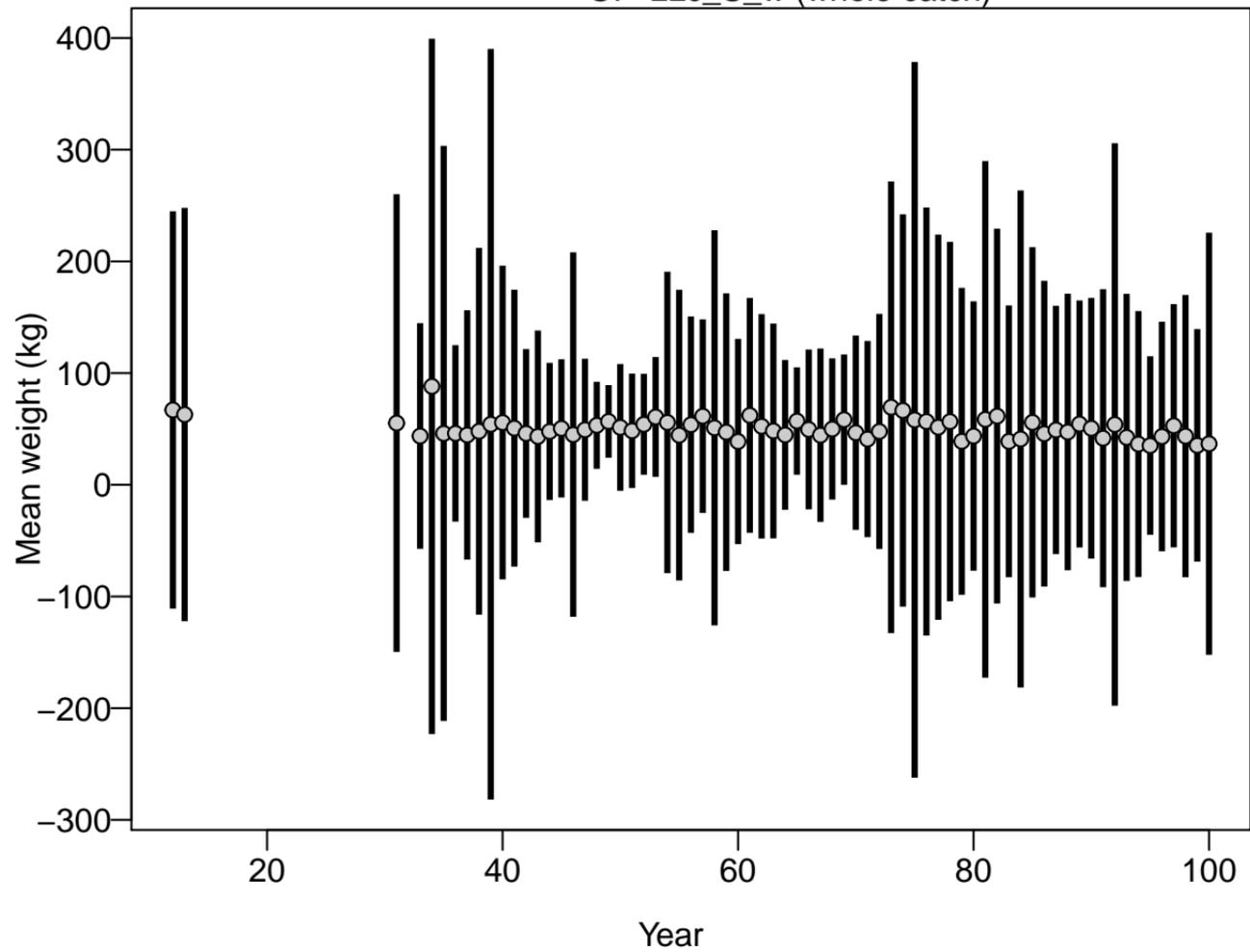
Proportion

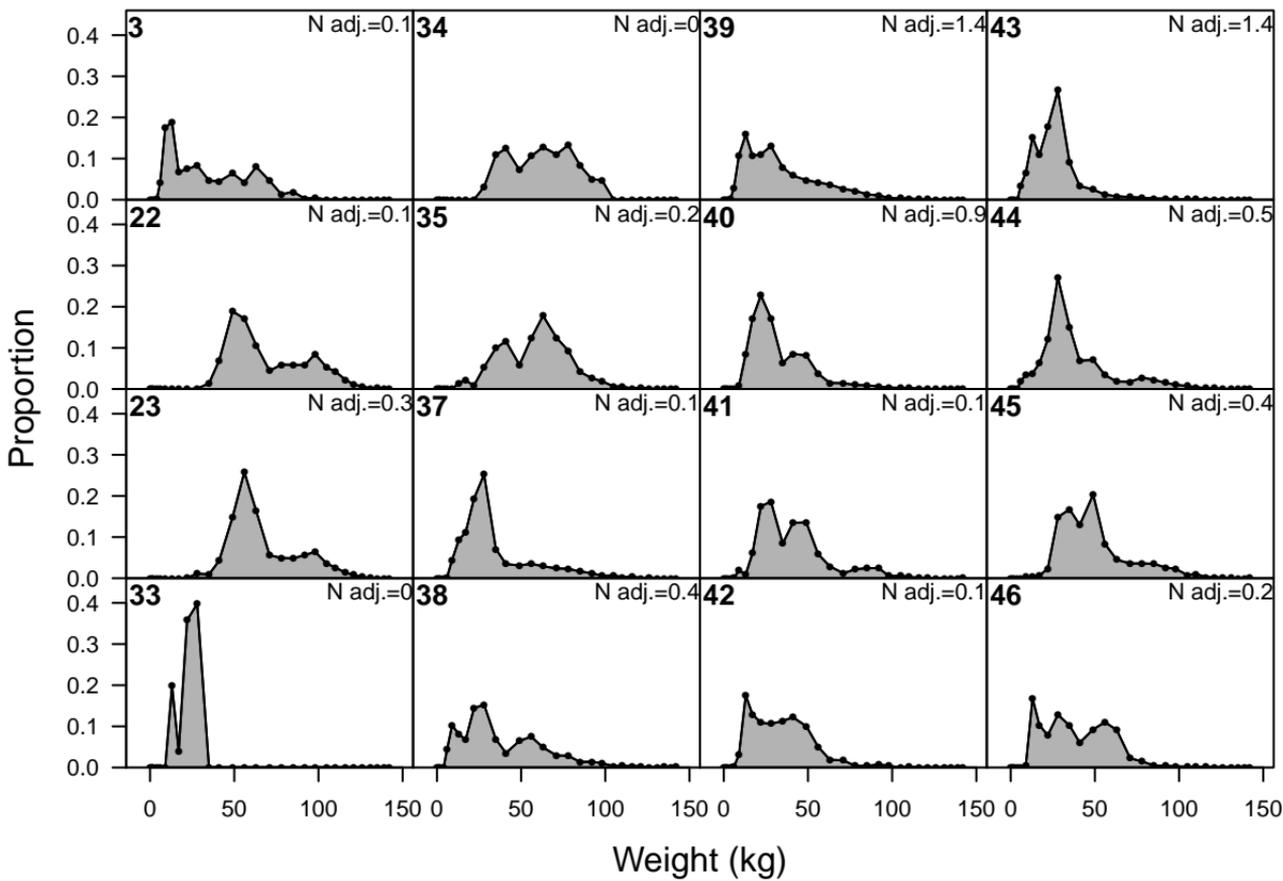


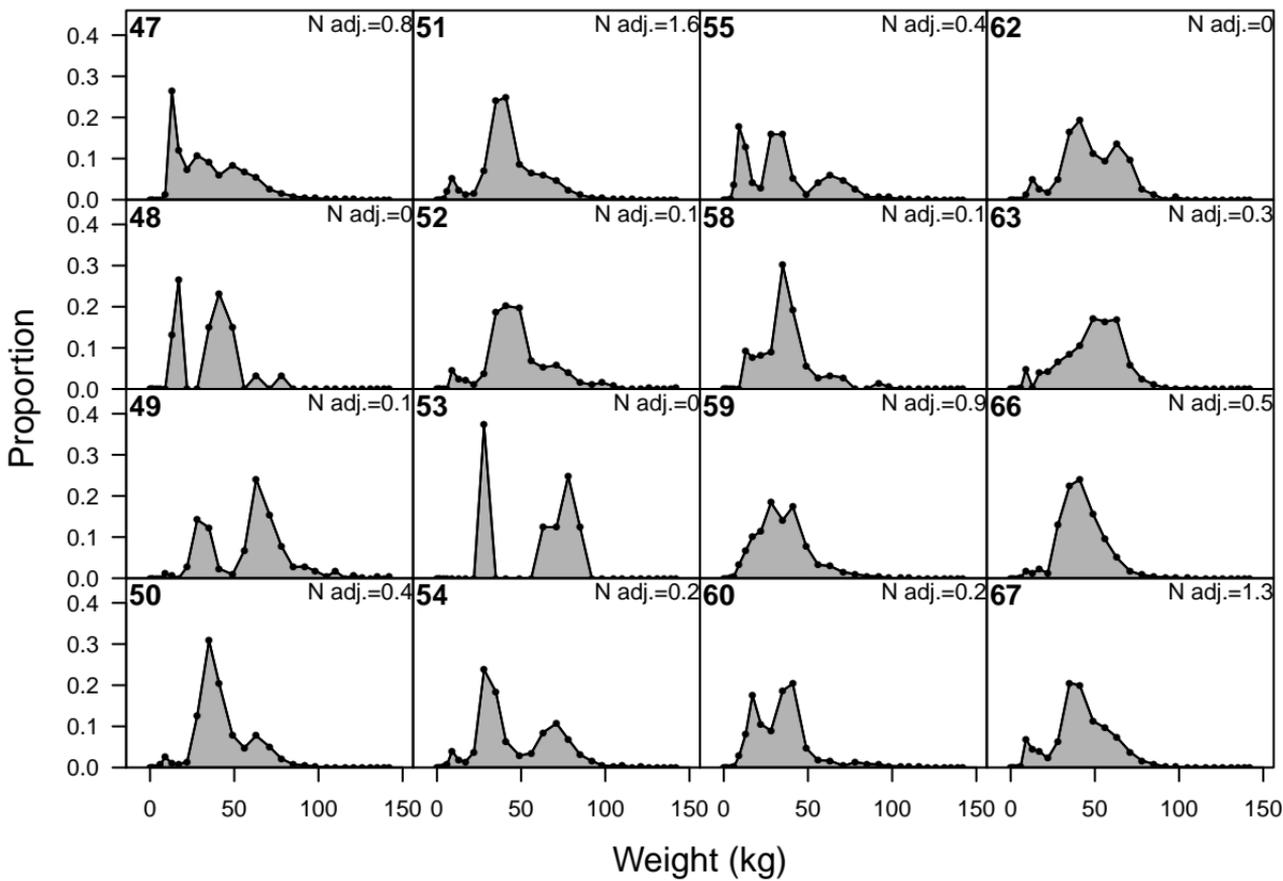


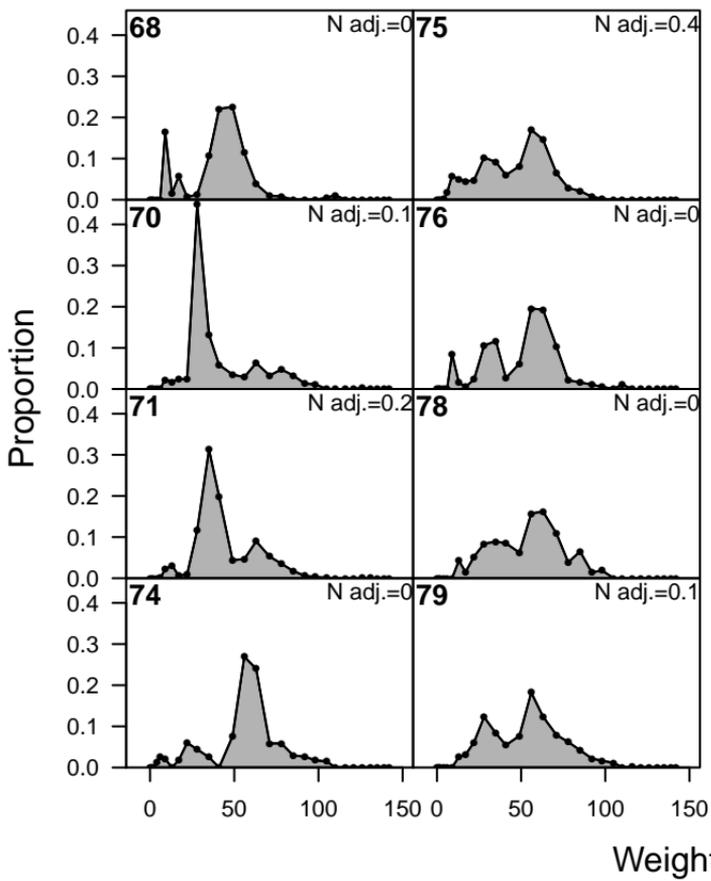


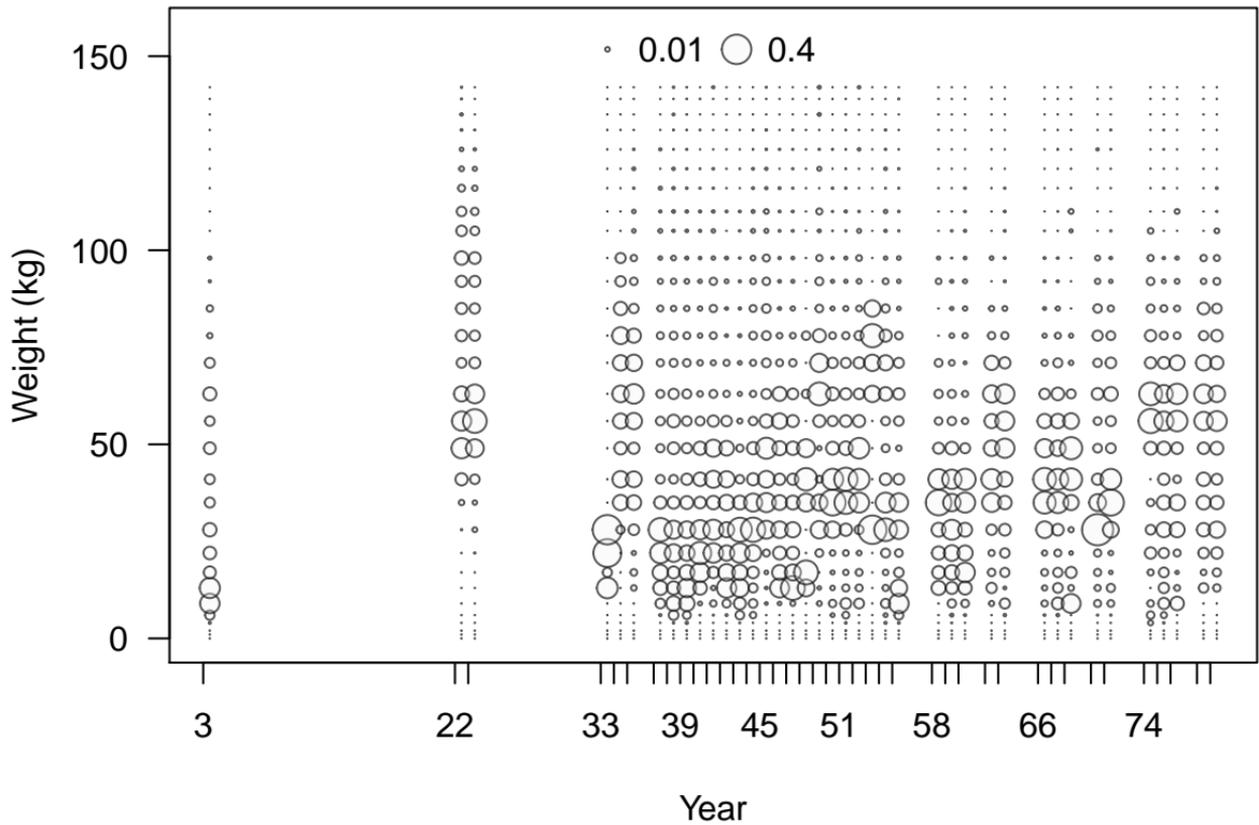
S7-LLc_S_w (whole catch)



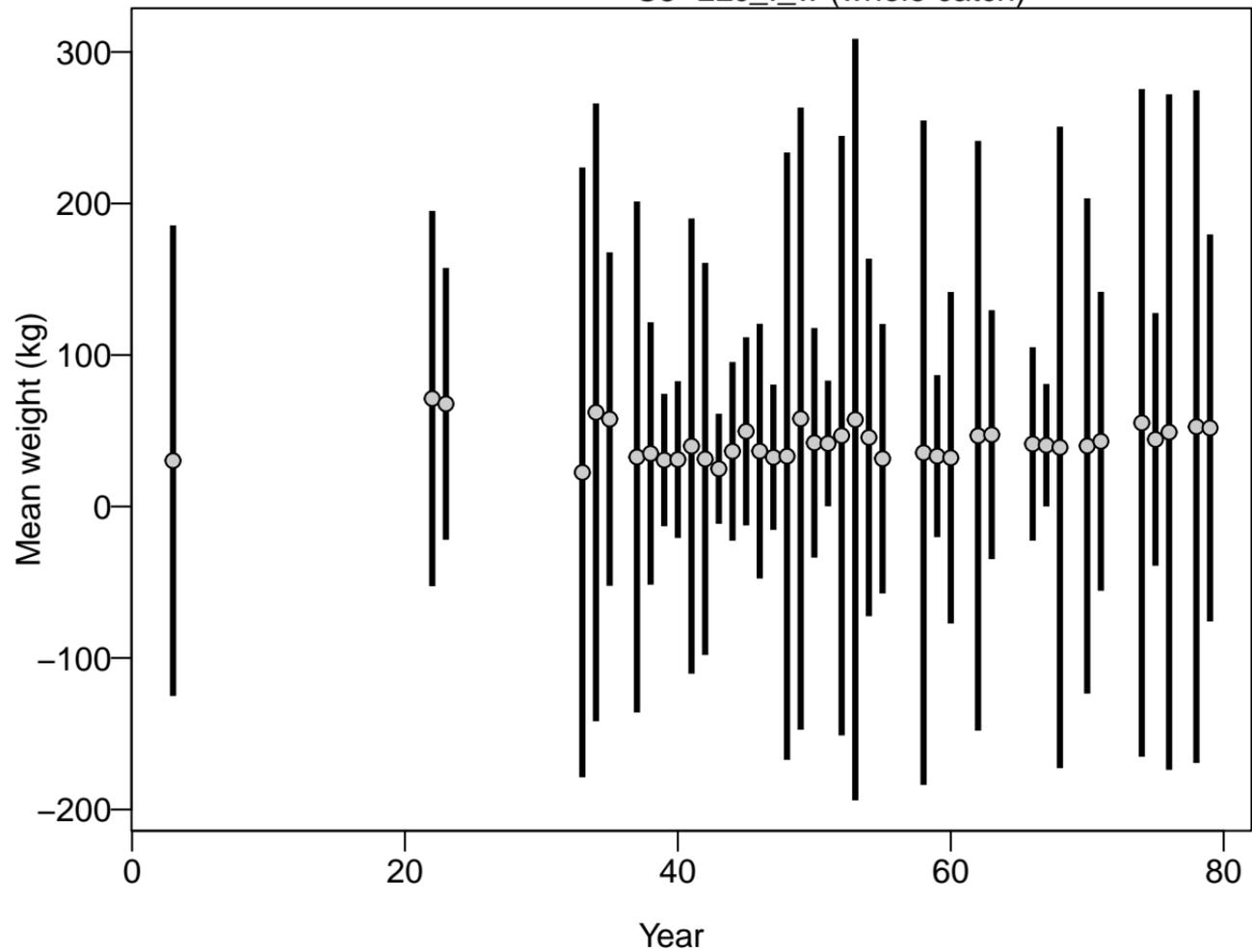


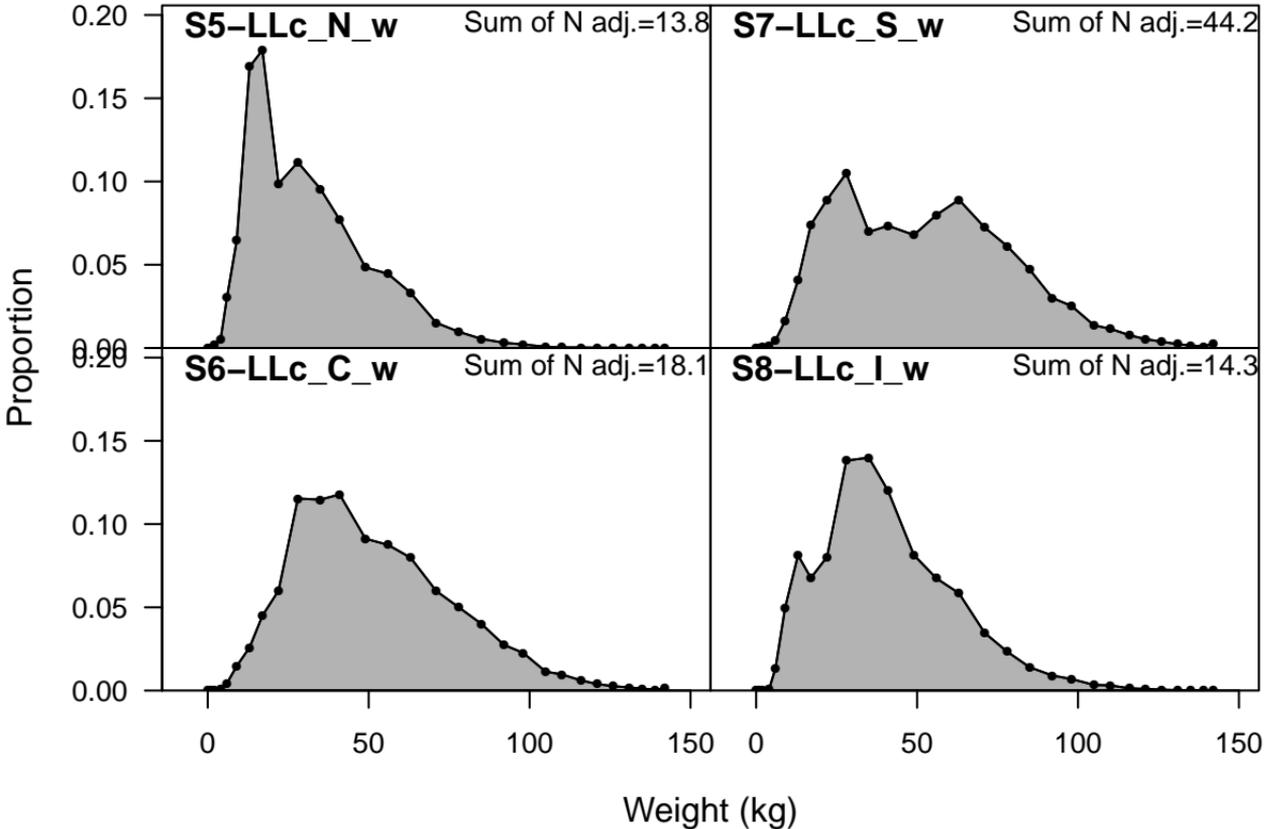


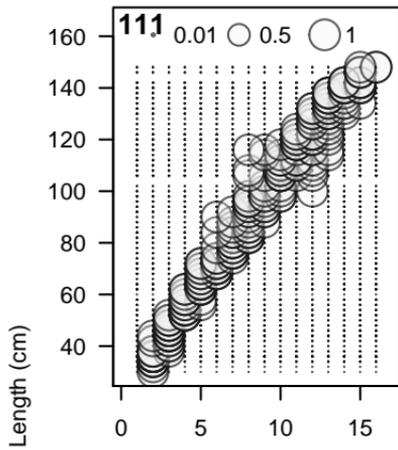




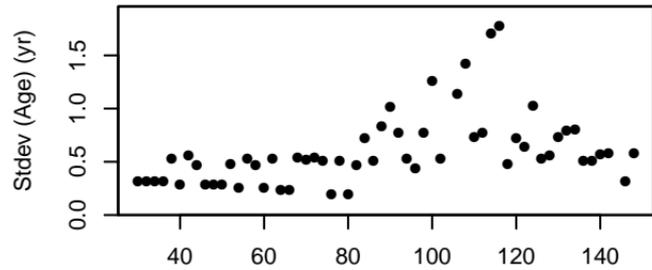
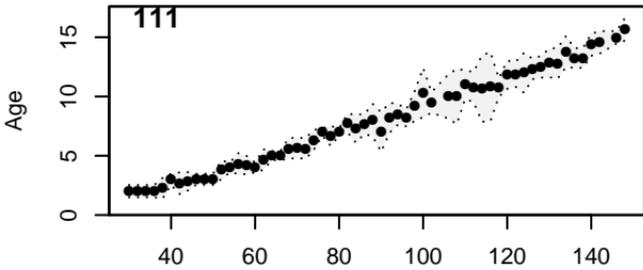
S8-LLc_I_w (whole catch)





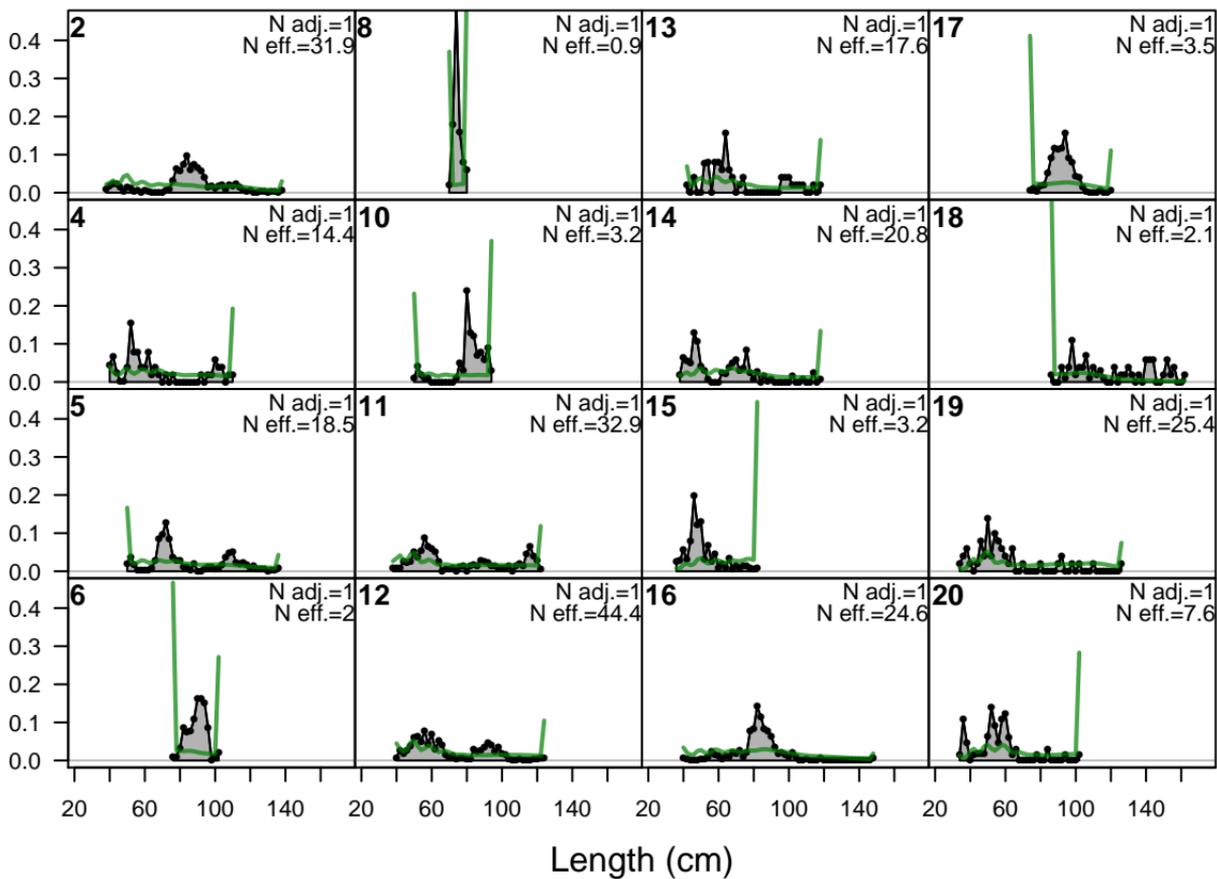


Age (yr)

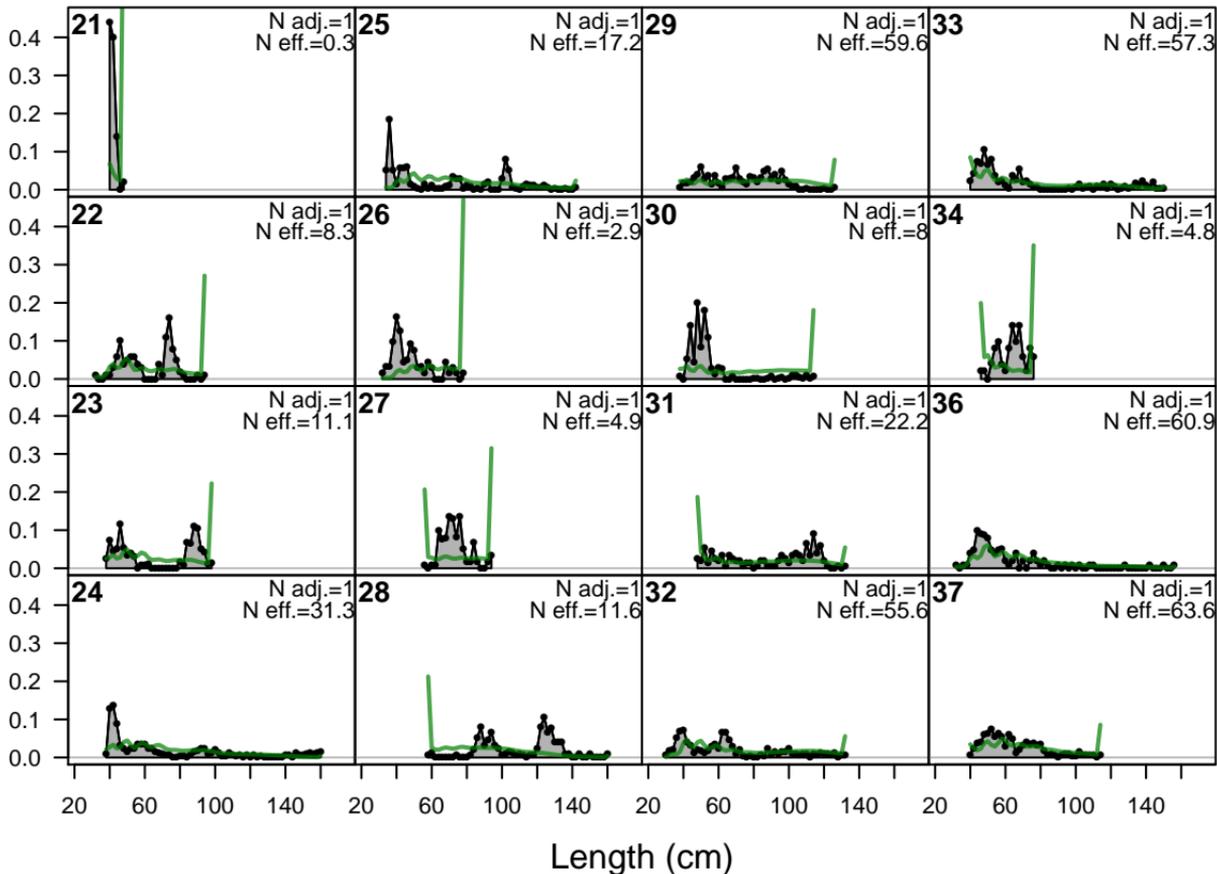


Length (cm)

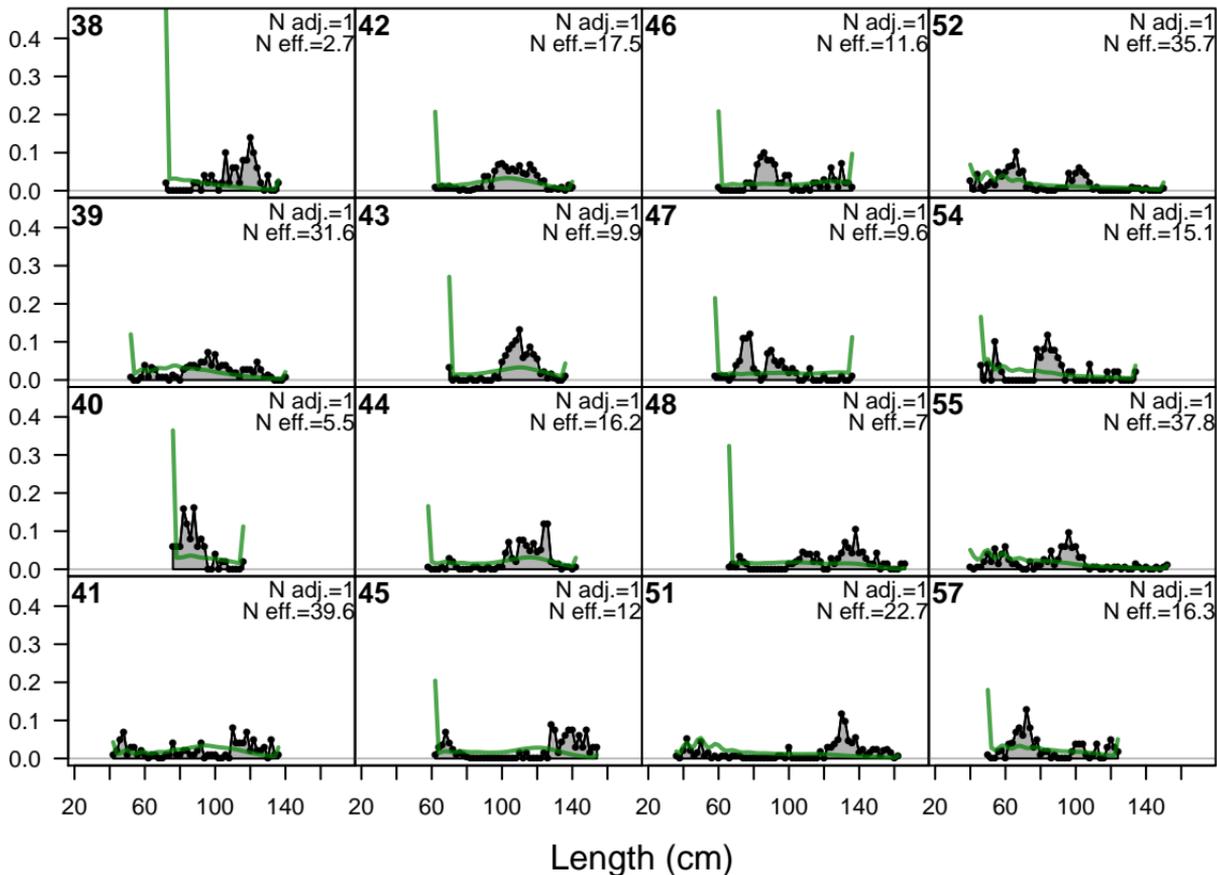
Proportion



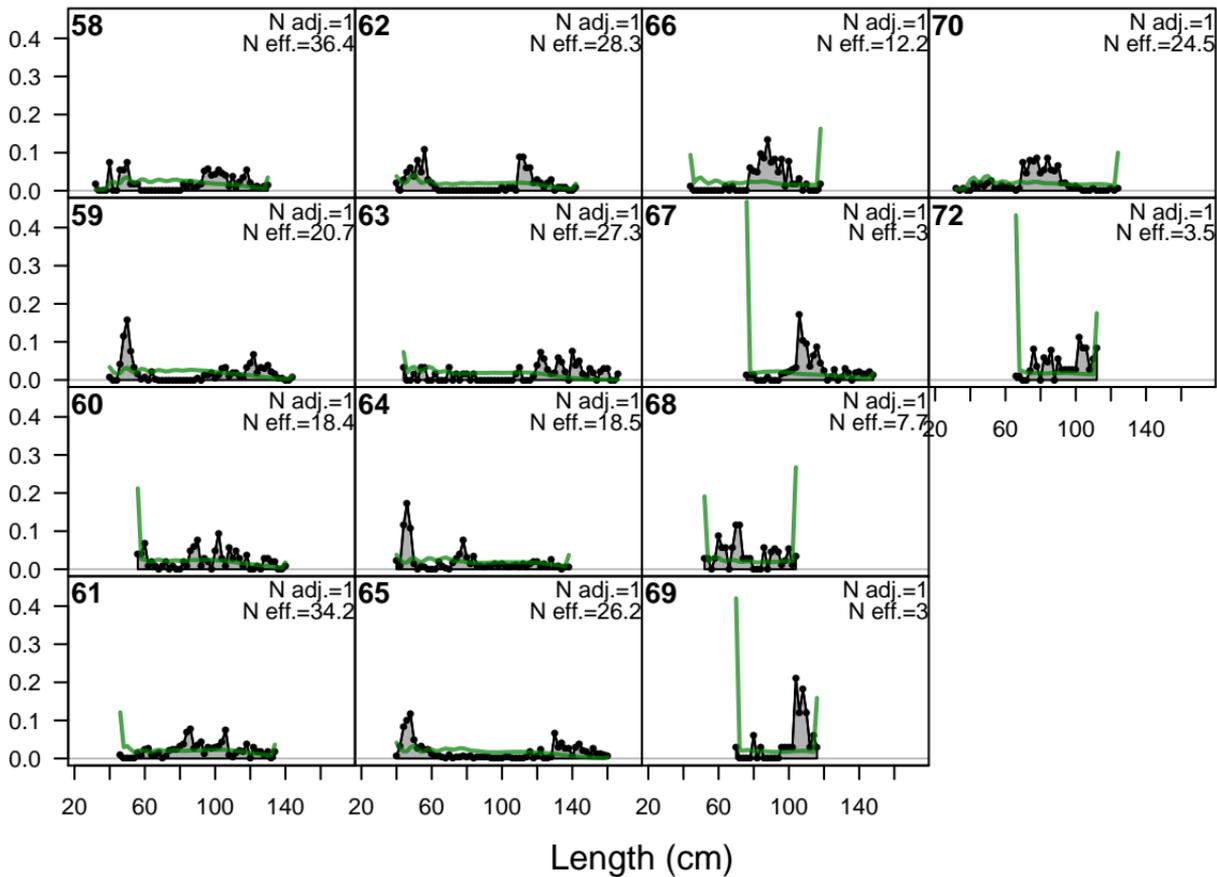
Proportion

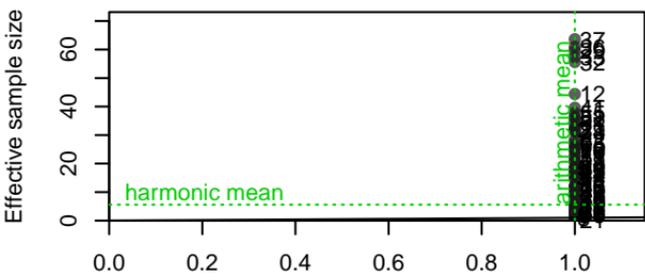
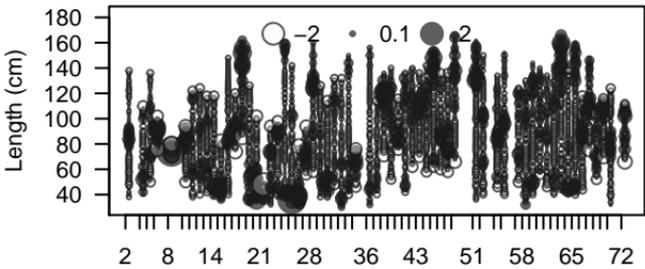


Proportion

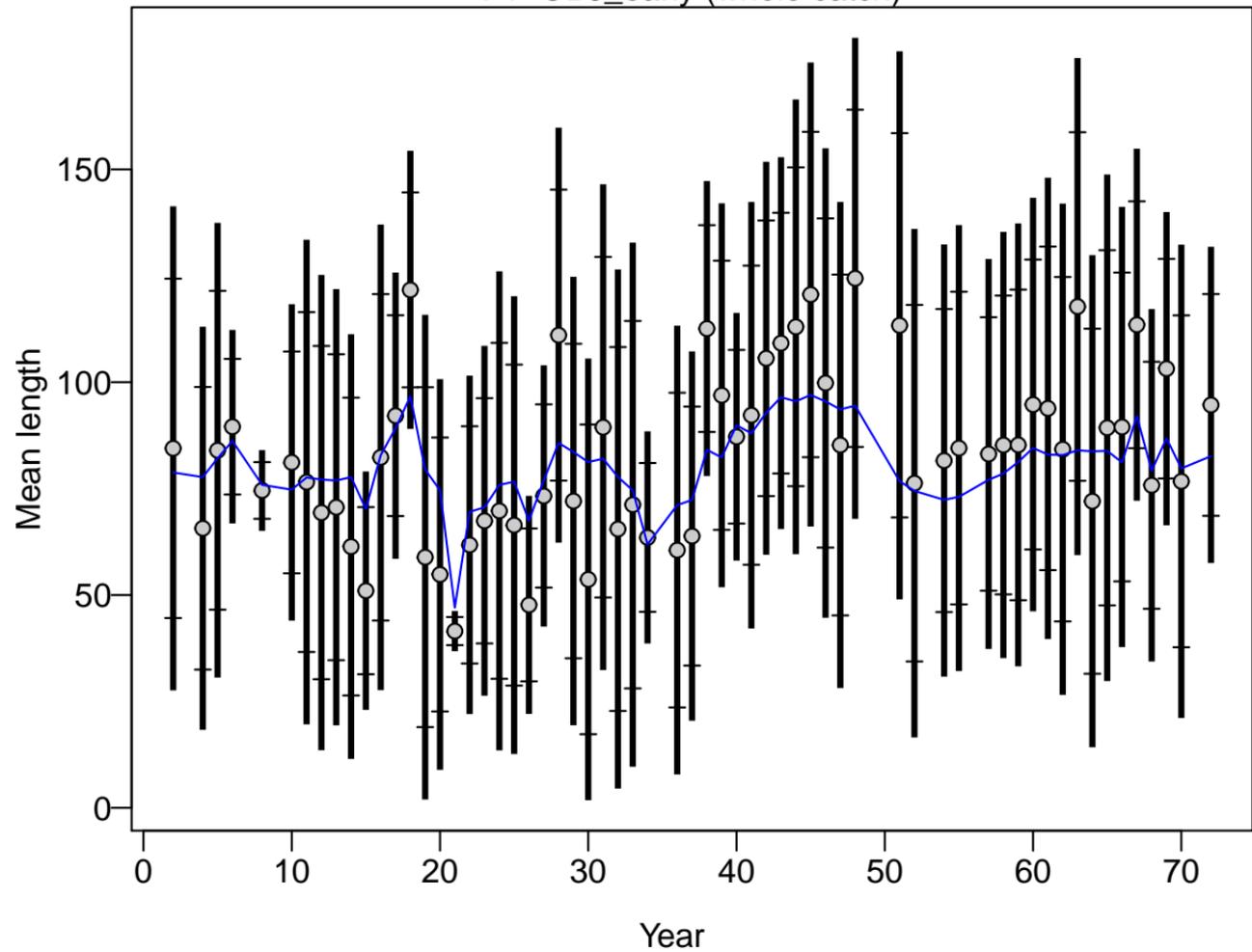


Proportion

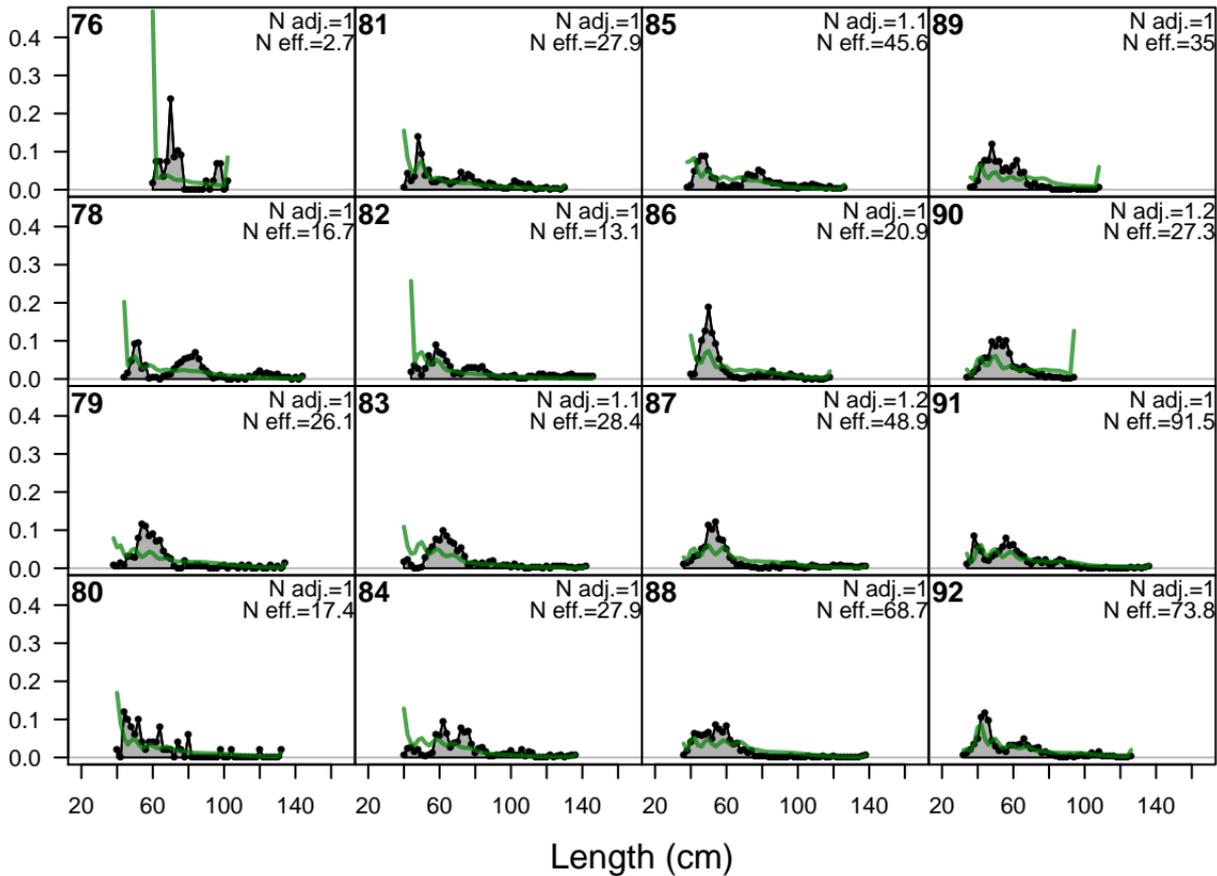




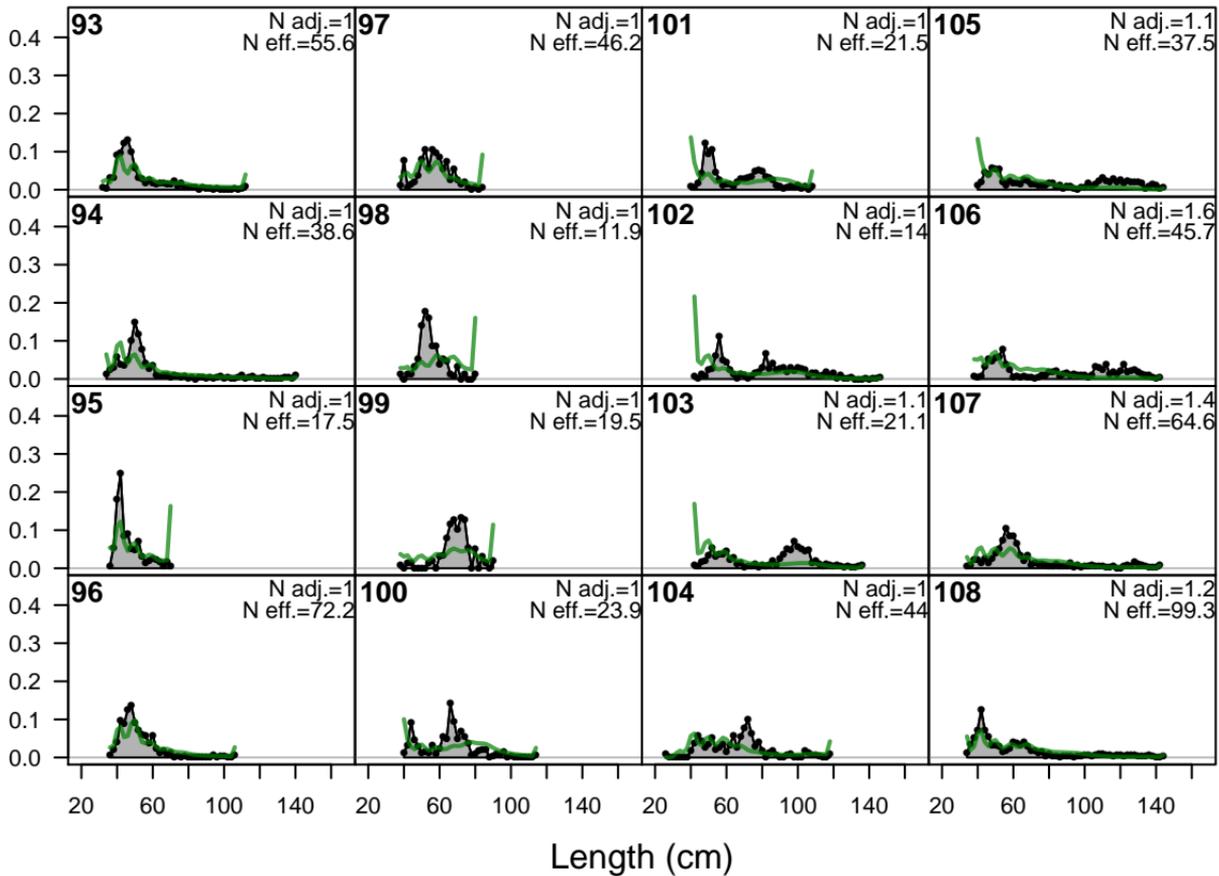
F1-Obj_early (whole catch)



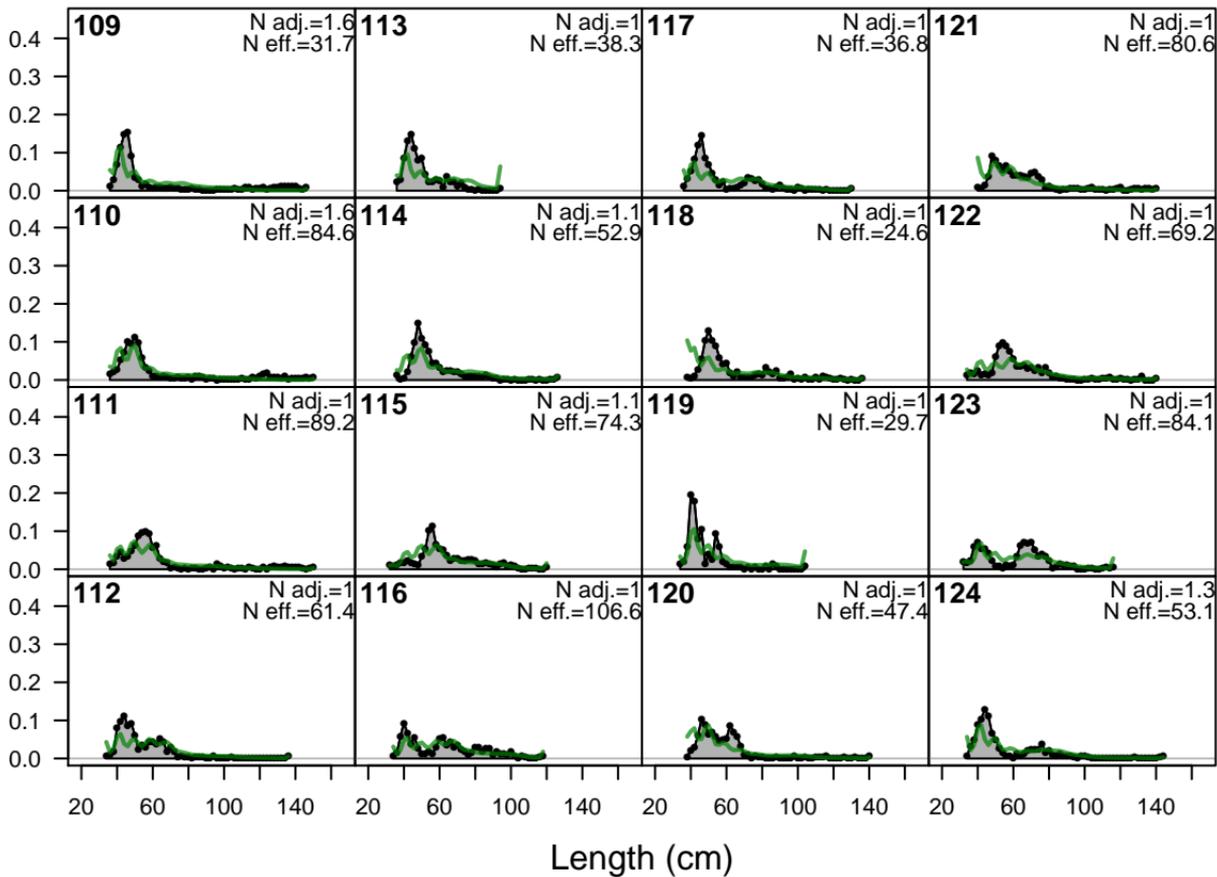
Proportion



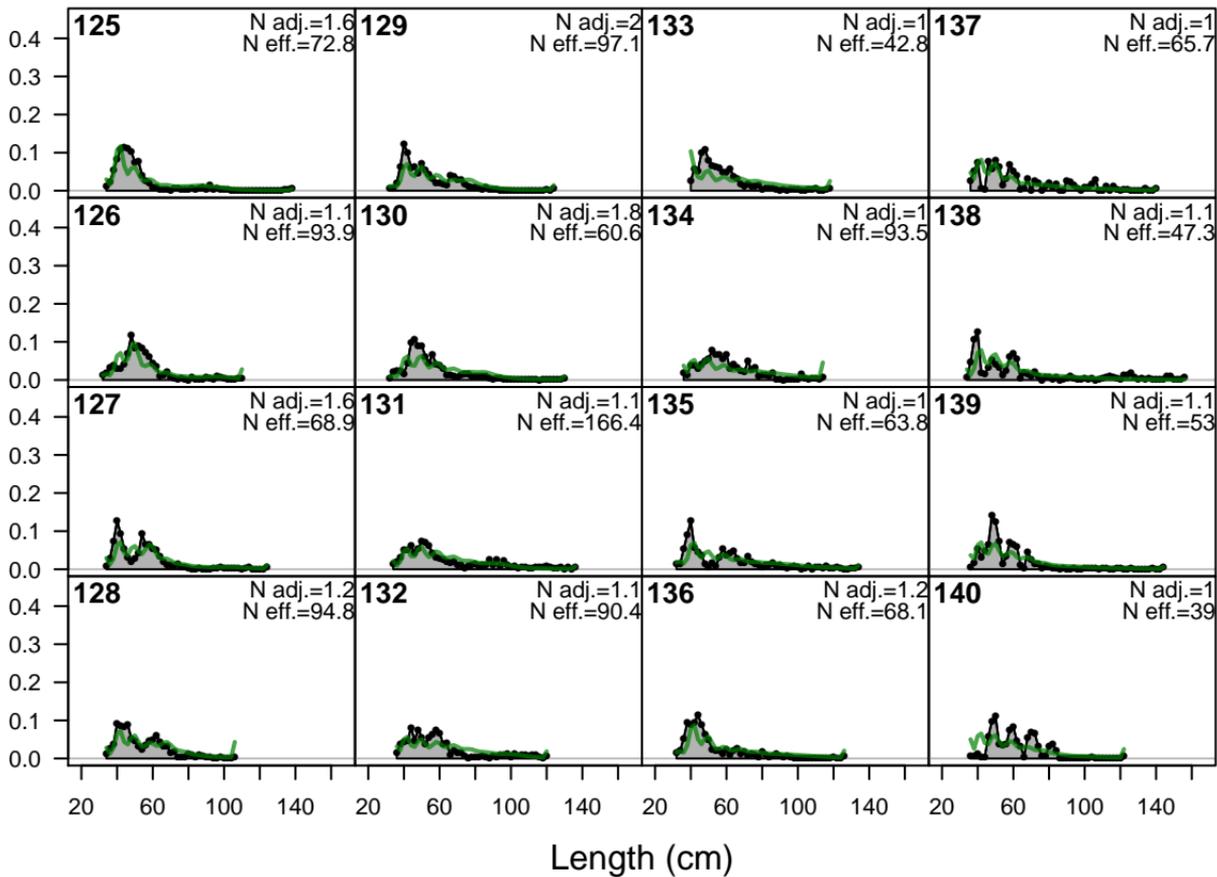
Proportion



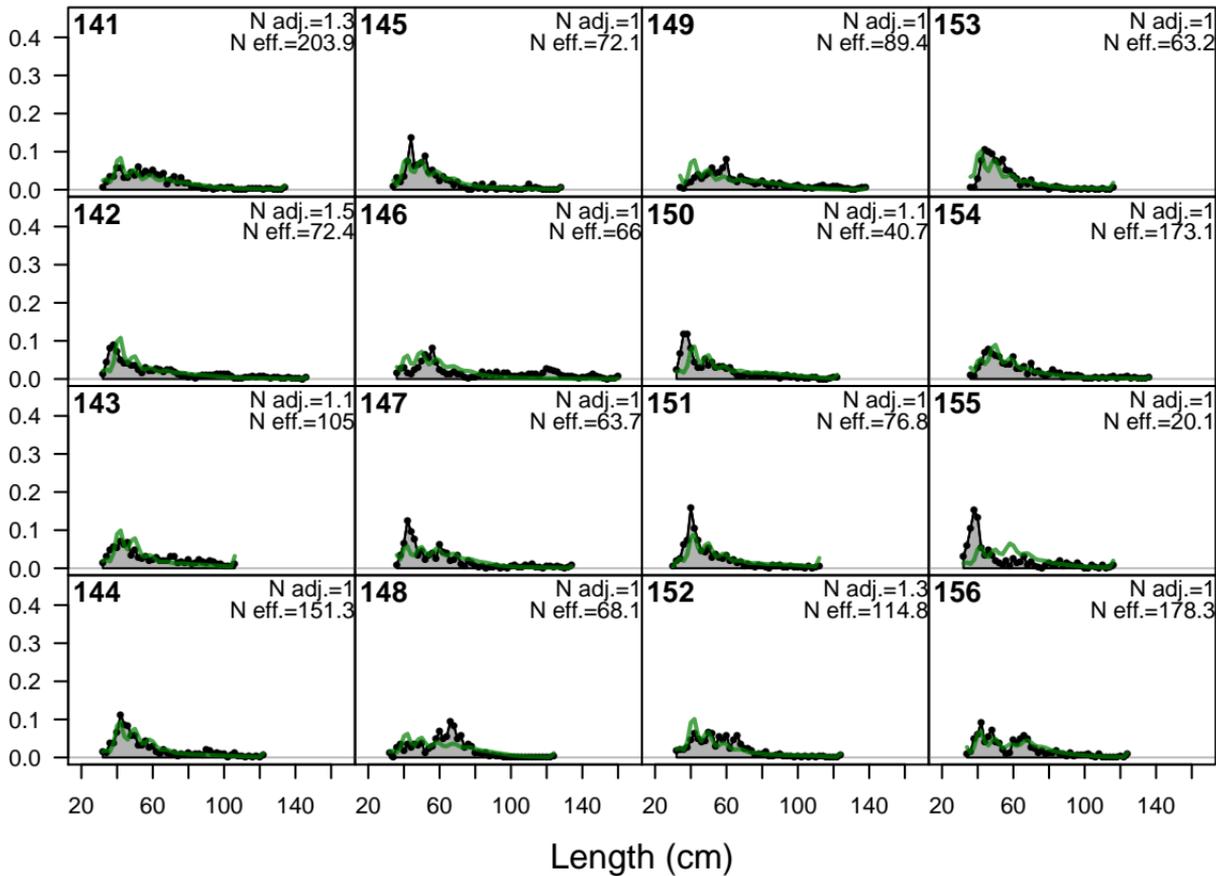
Proportion



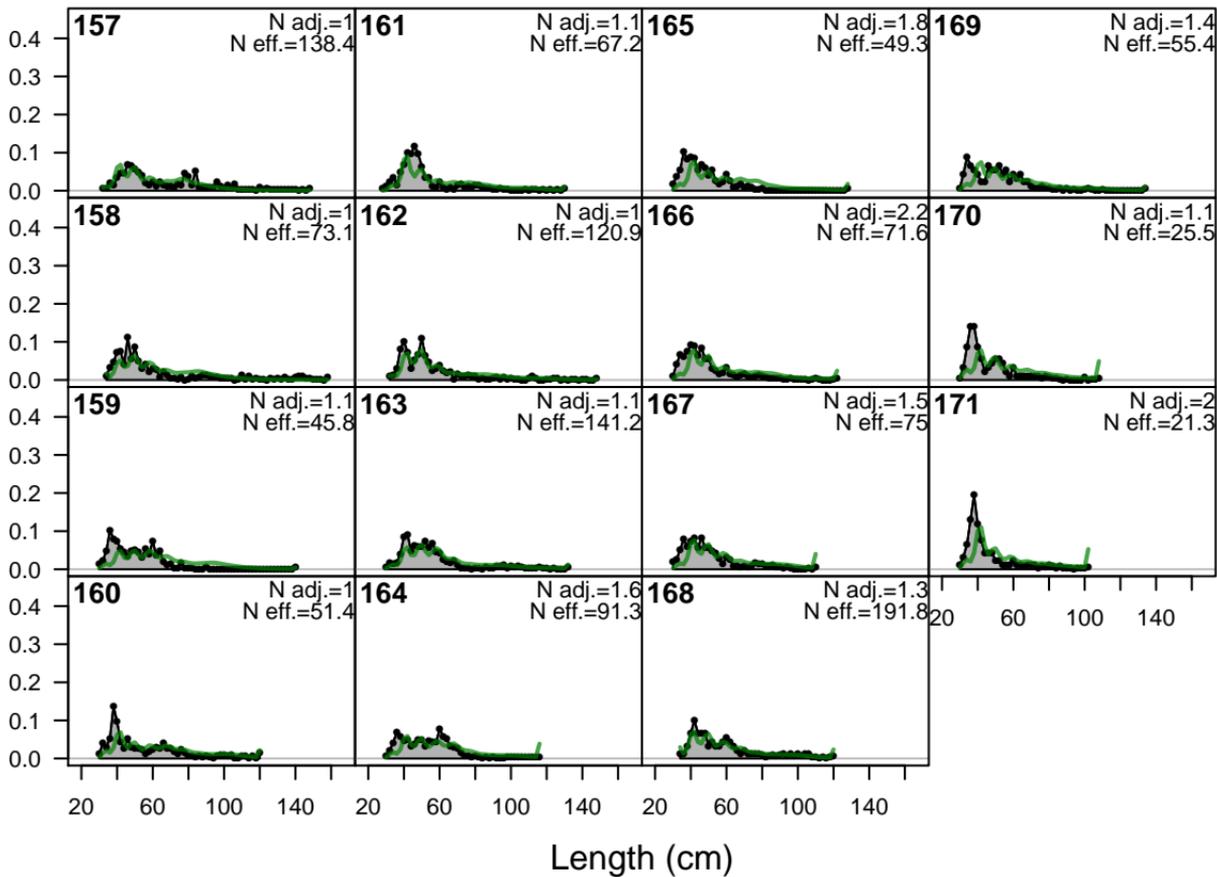
Proportion

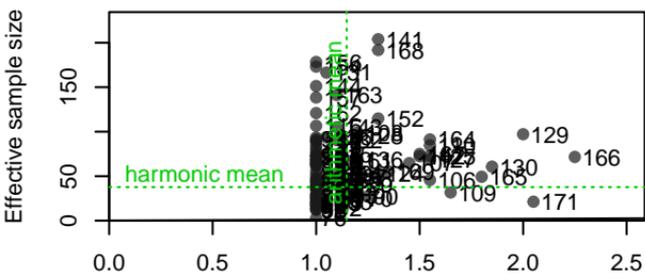
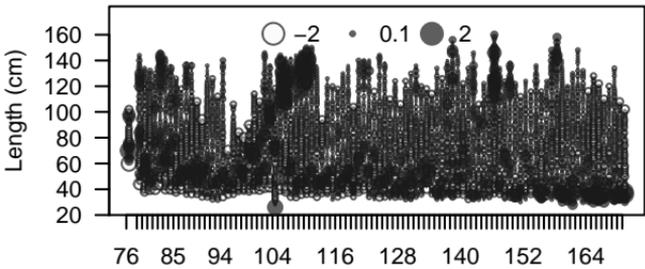


Proportion

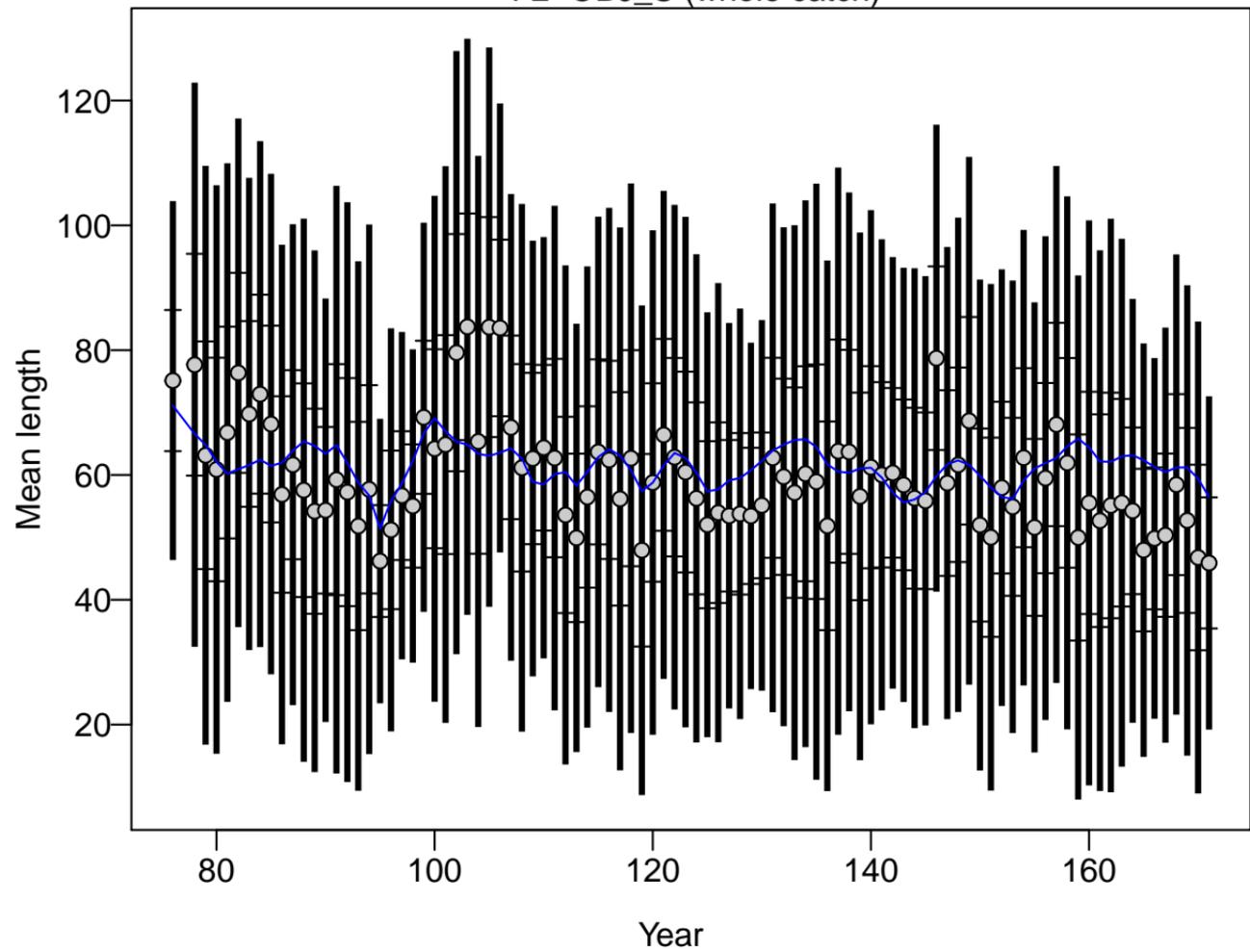


Proportion

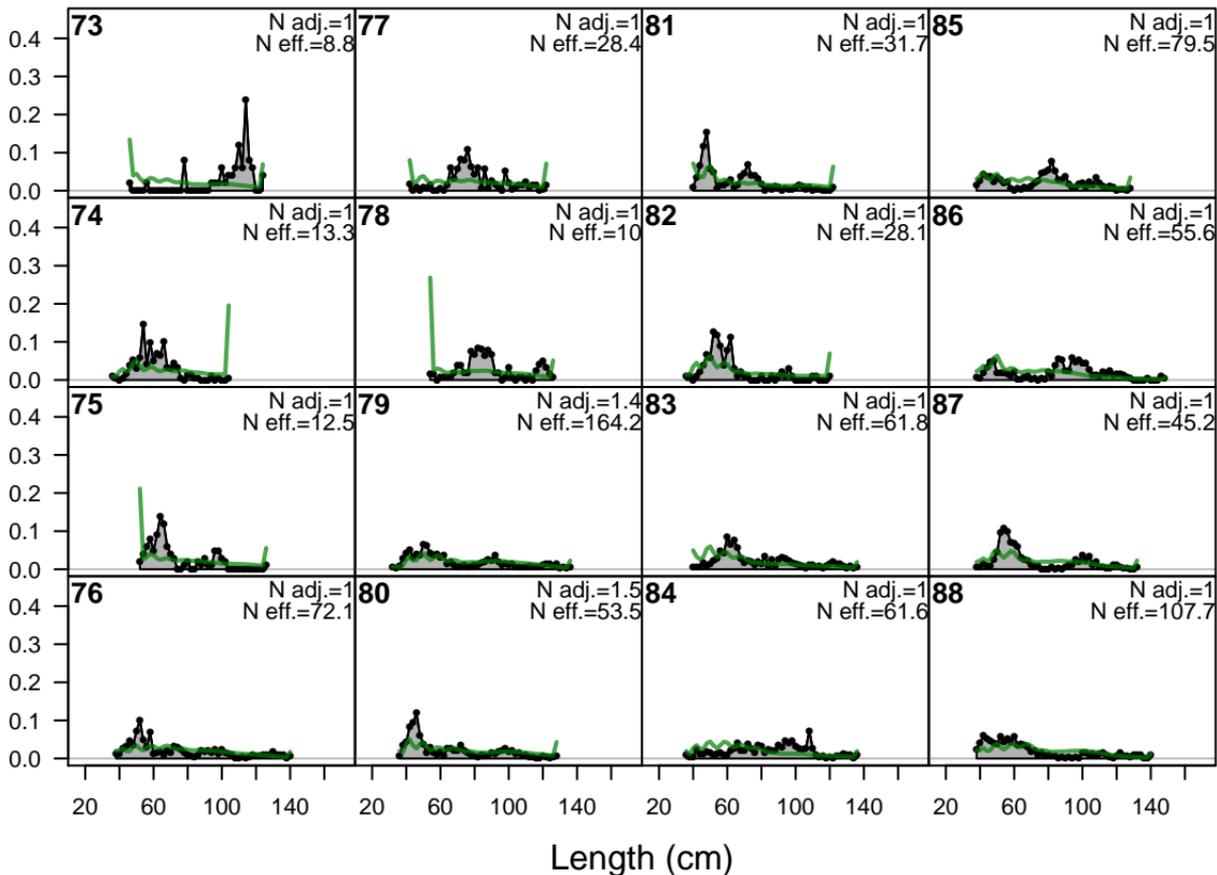




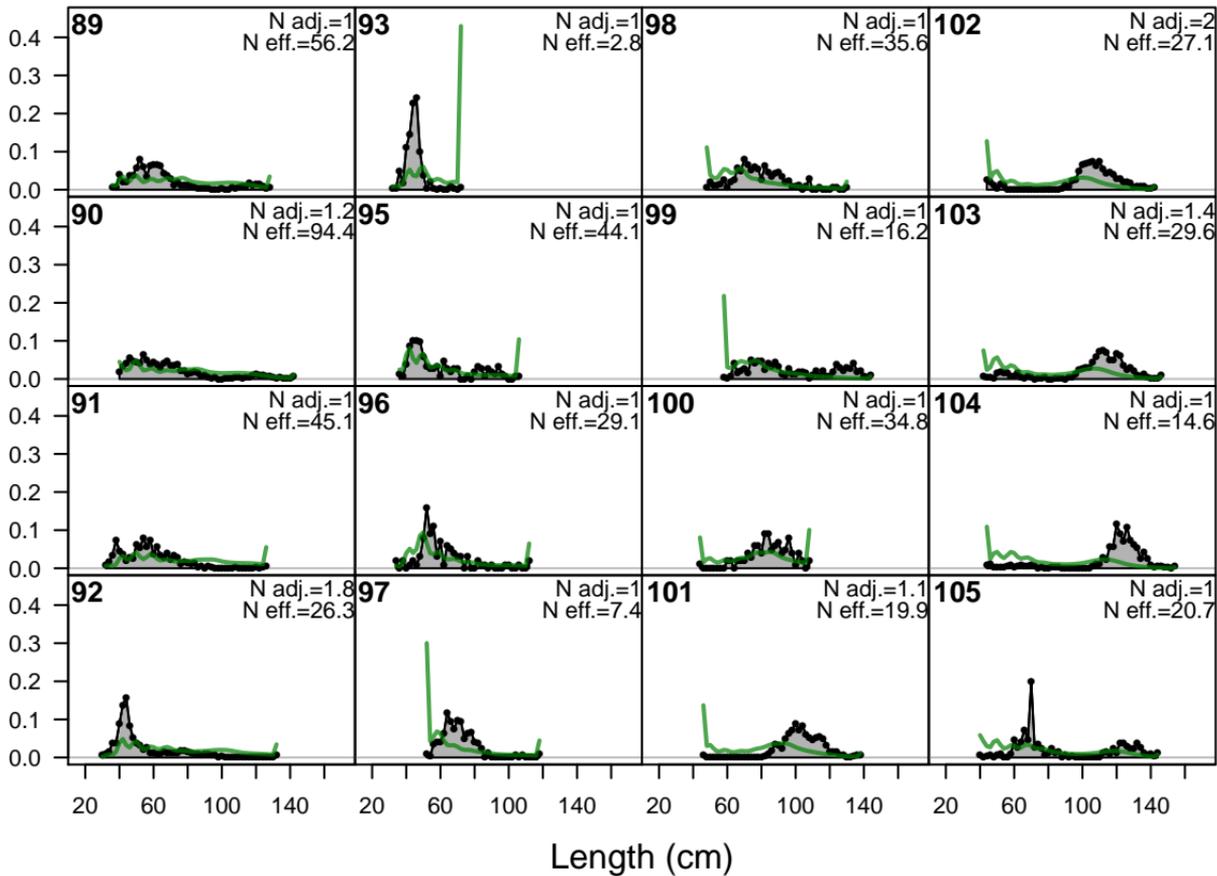
F2-OBJ_S (whole catch)



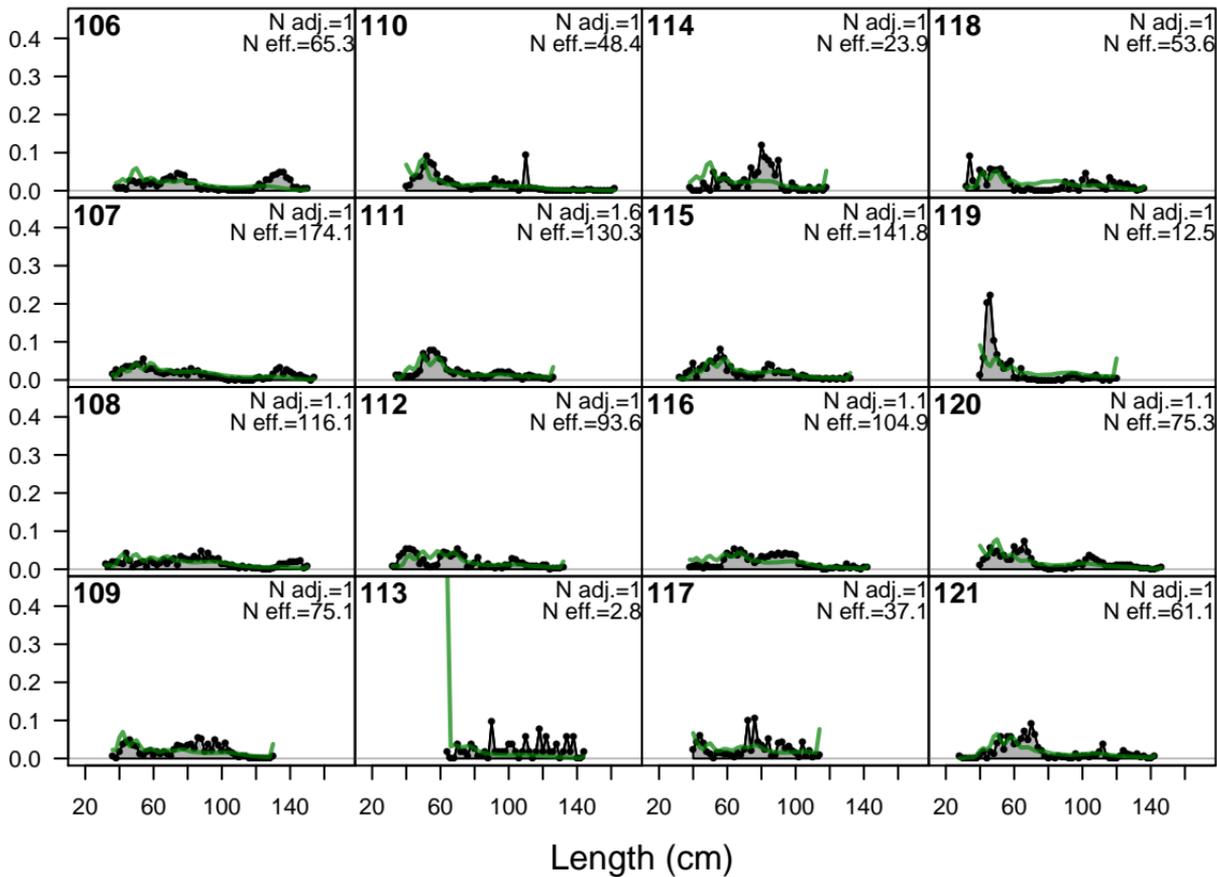
Proportion



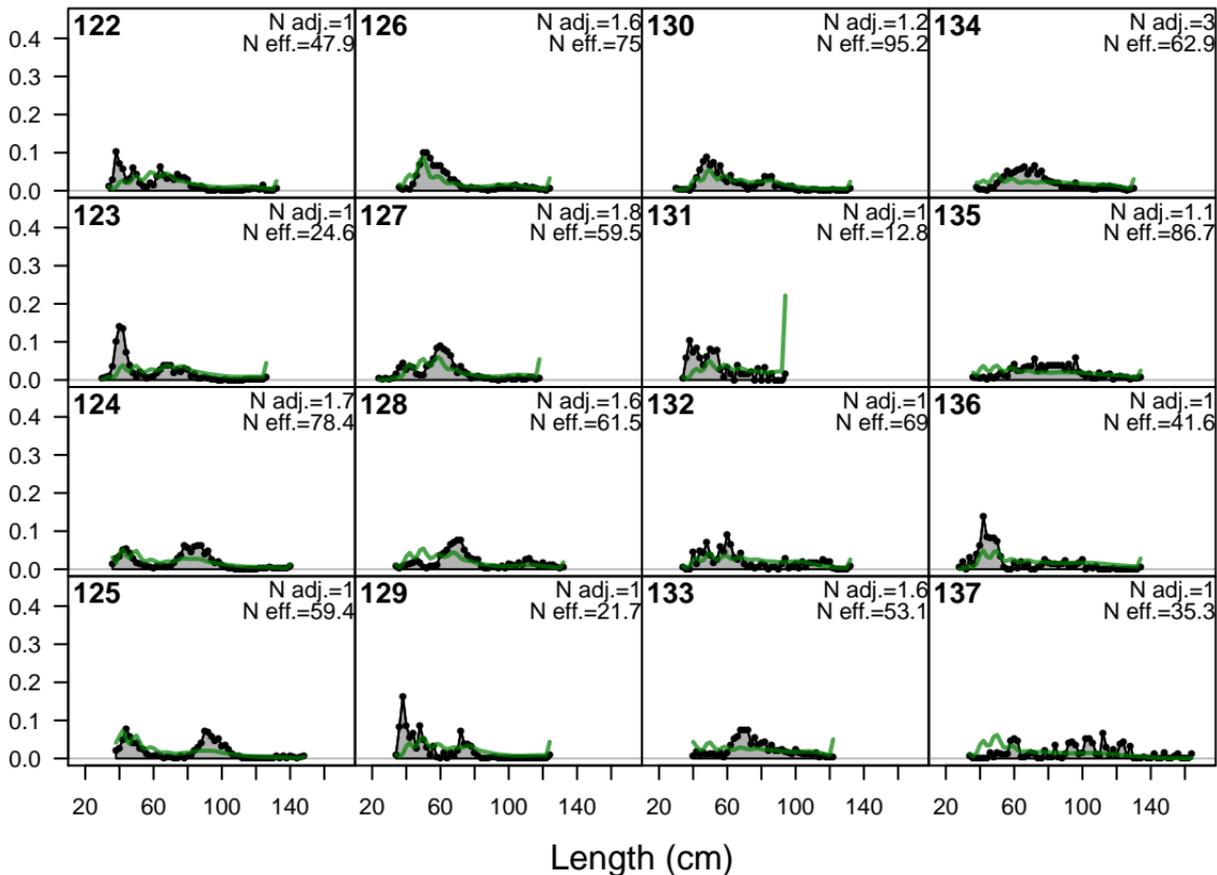
Proportion



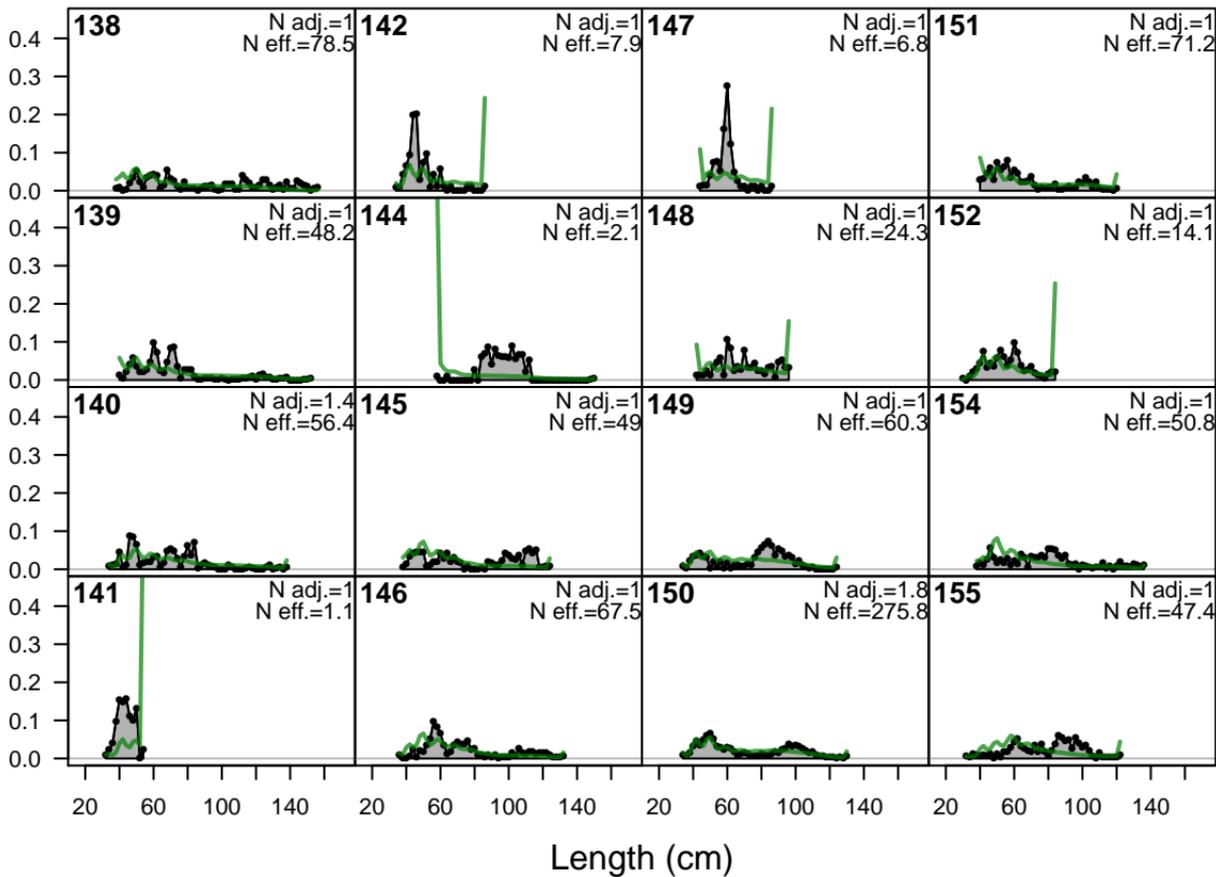
Proportion



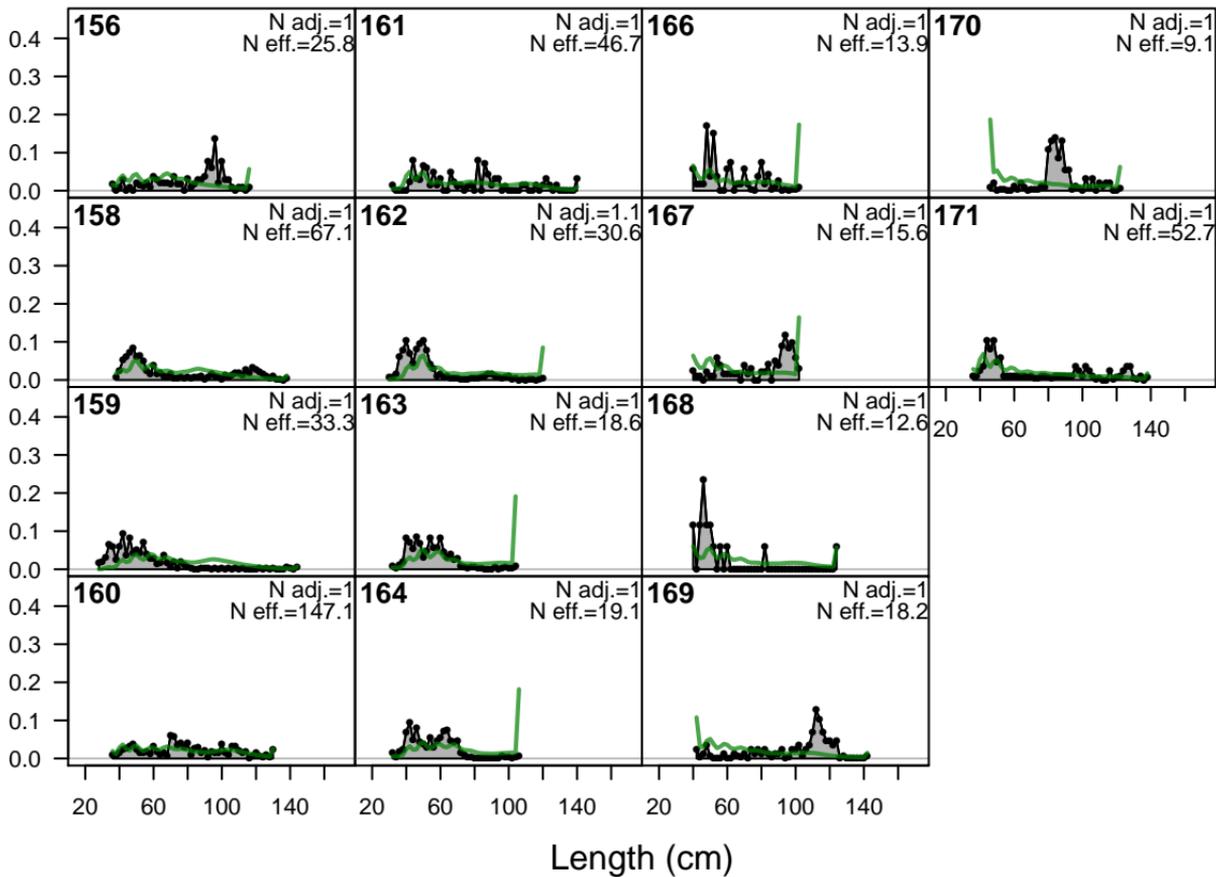
Proportion

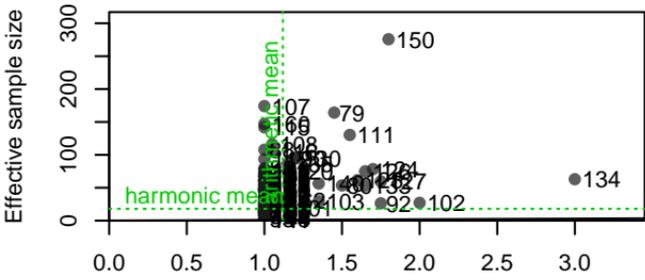
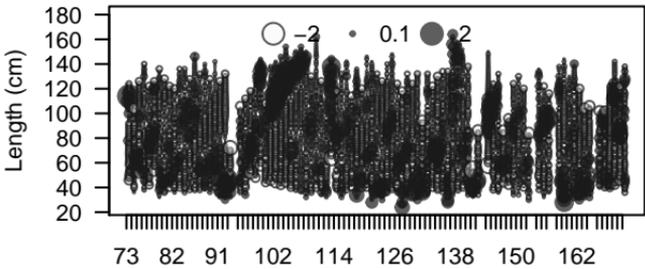


Proportion

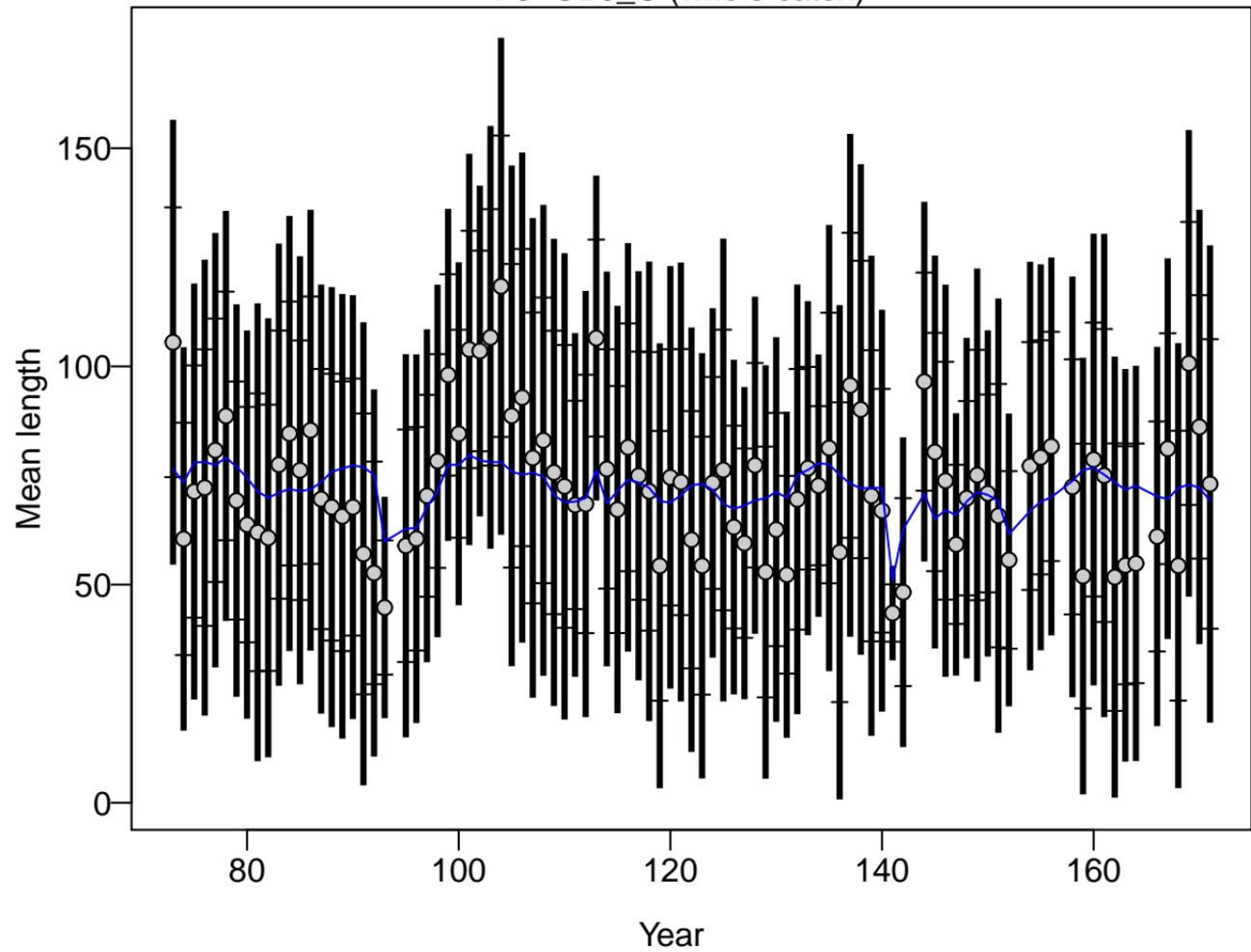


Proportion

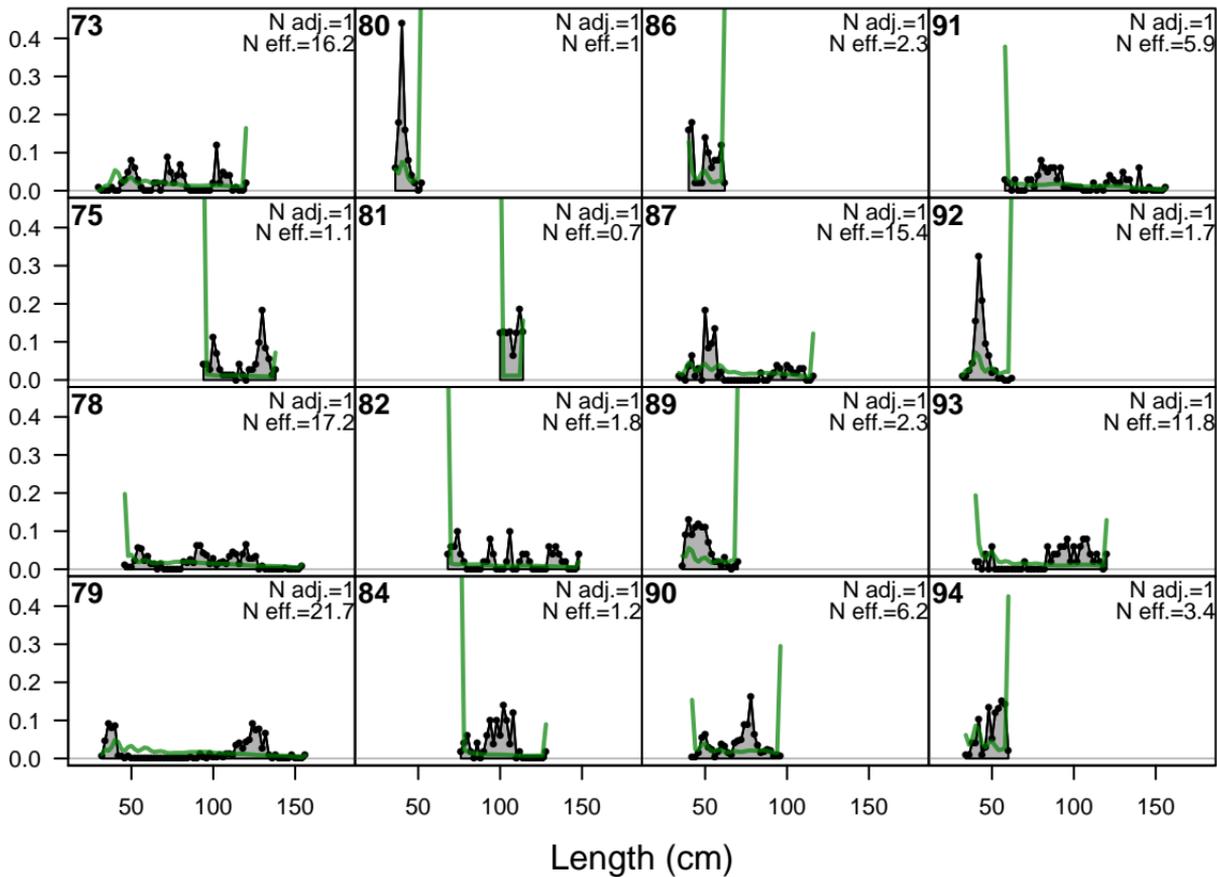




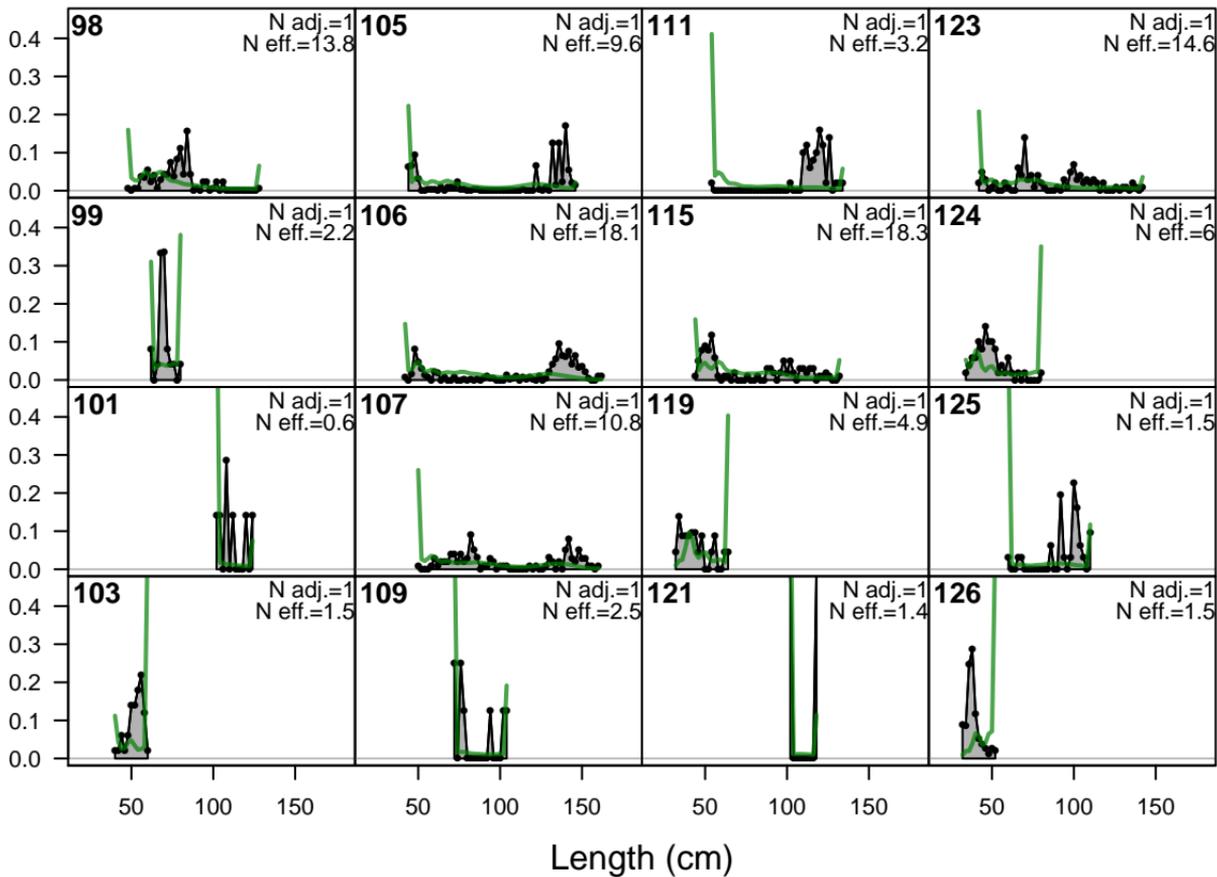
F3-OBJ_C (whole catch)

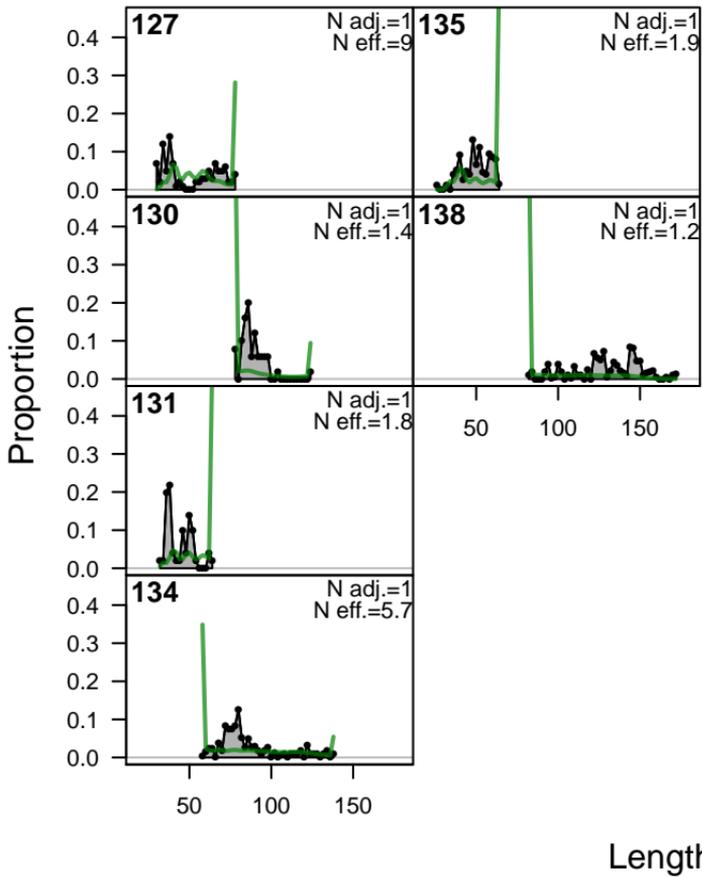


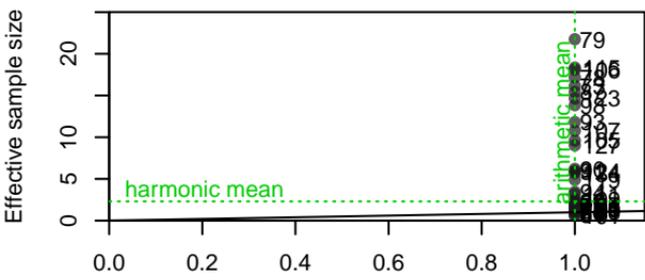
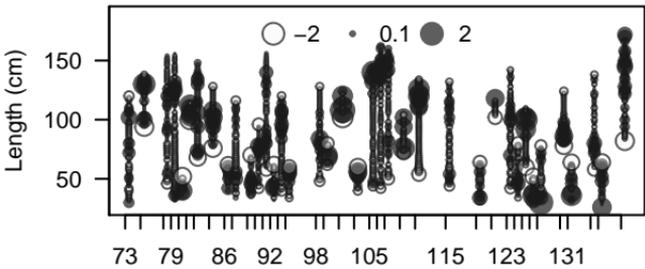
Proportion



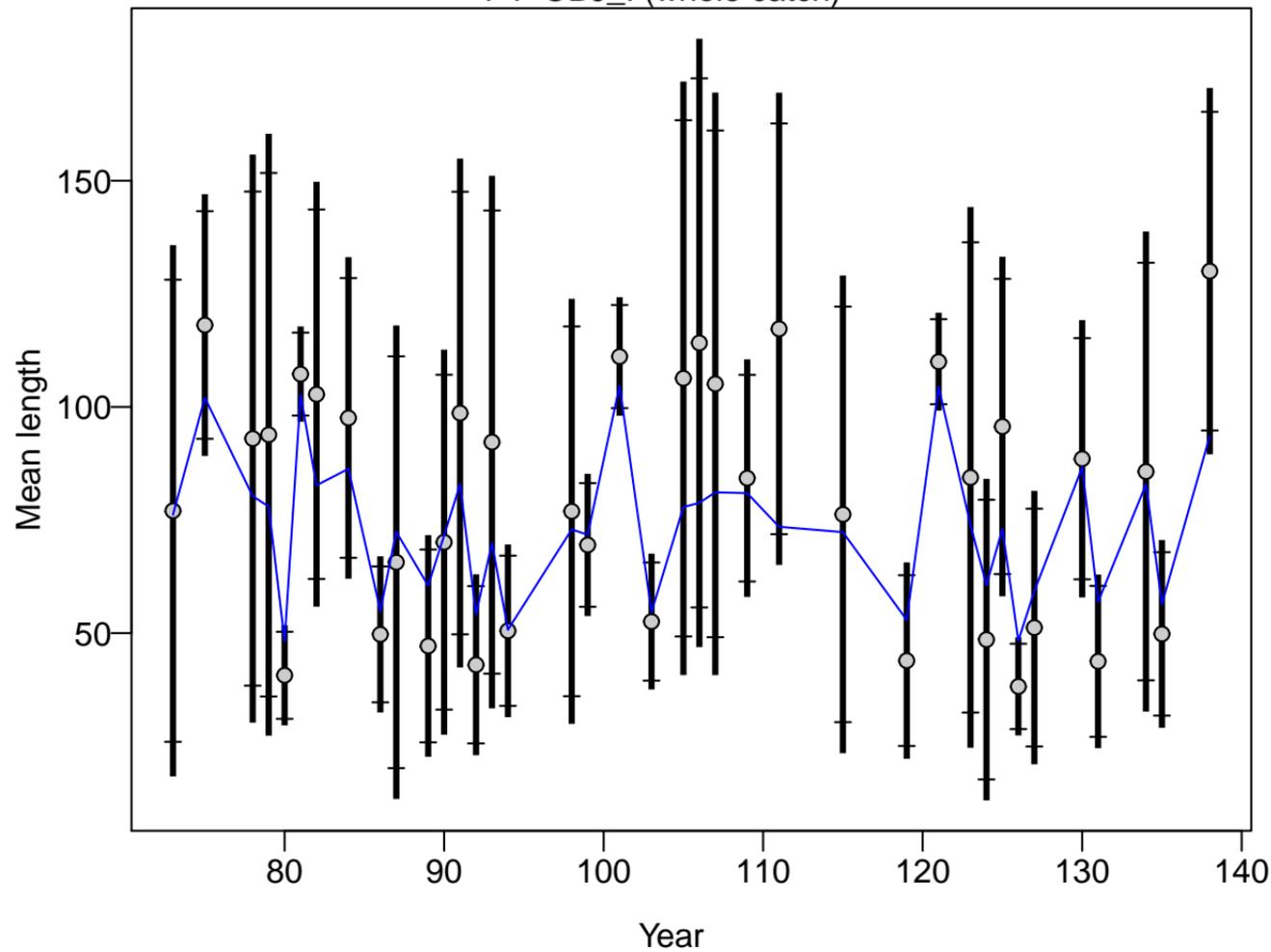
Proportion



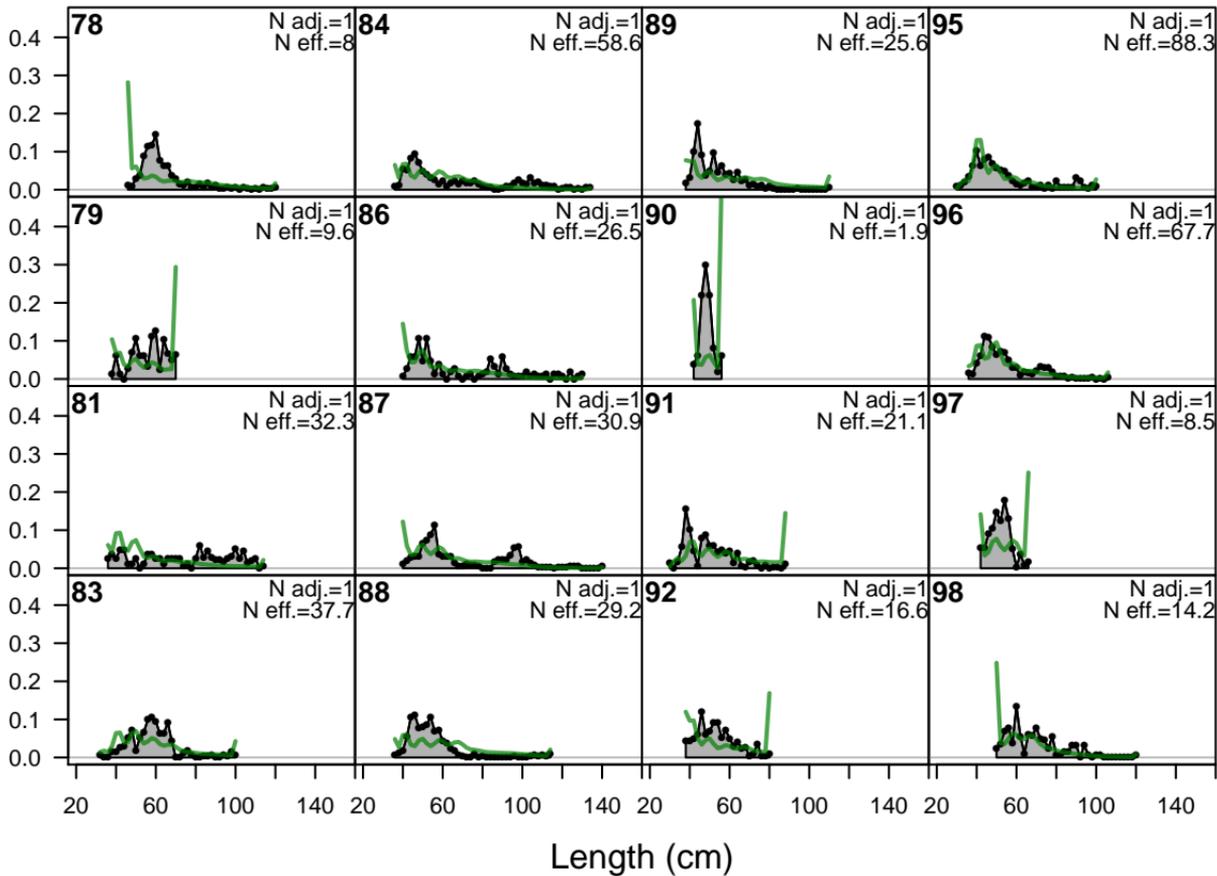




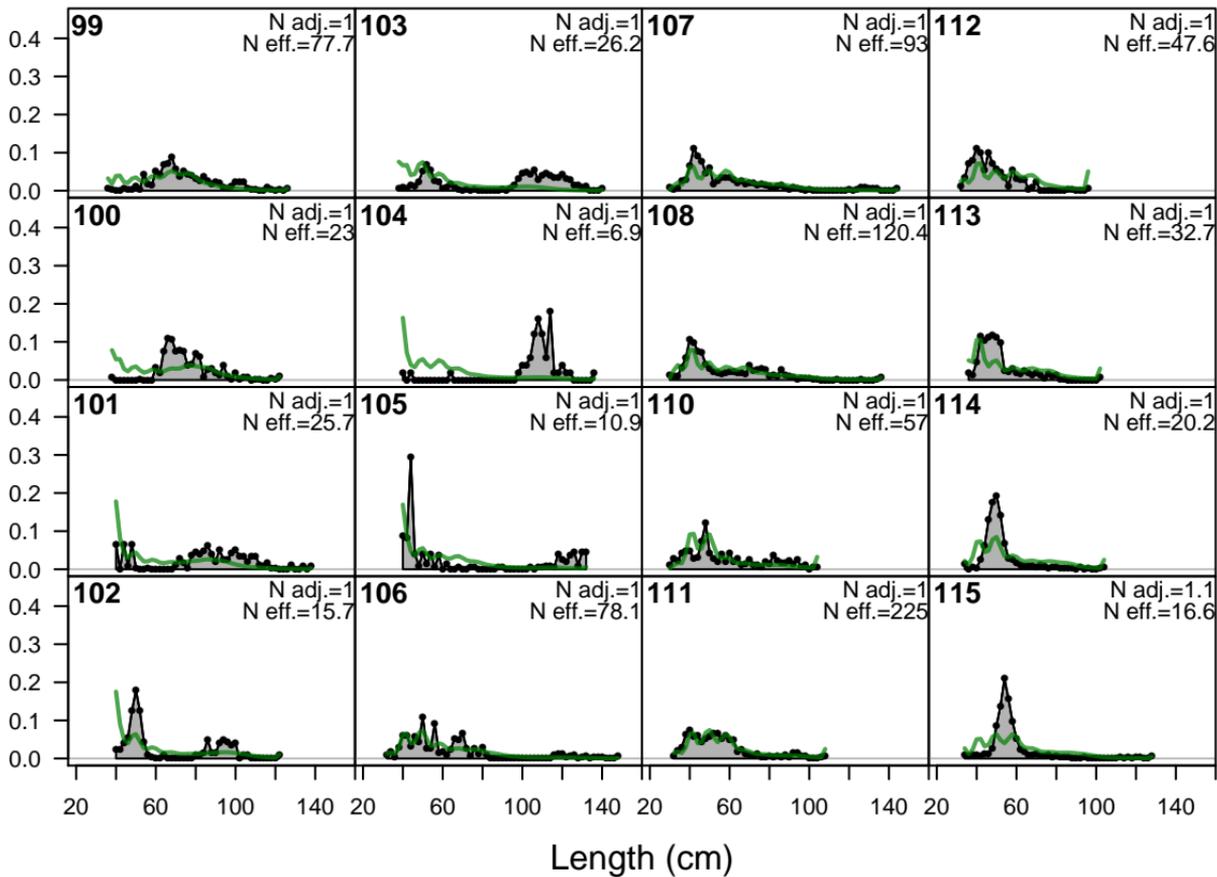
F4-OBJ_I (whole catch)



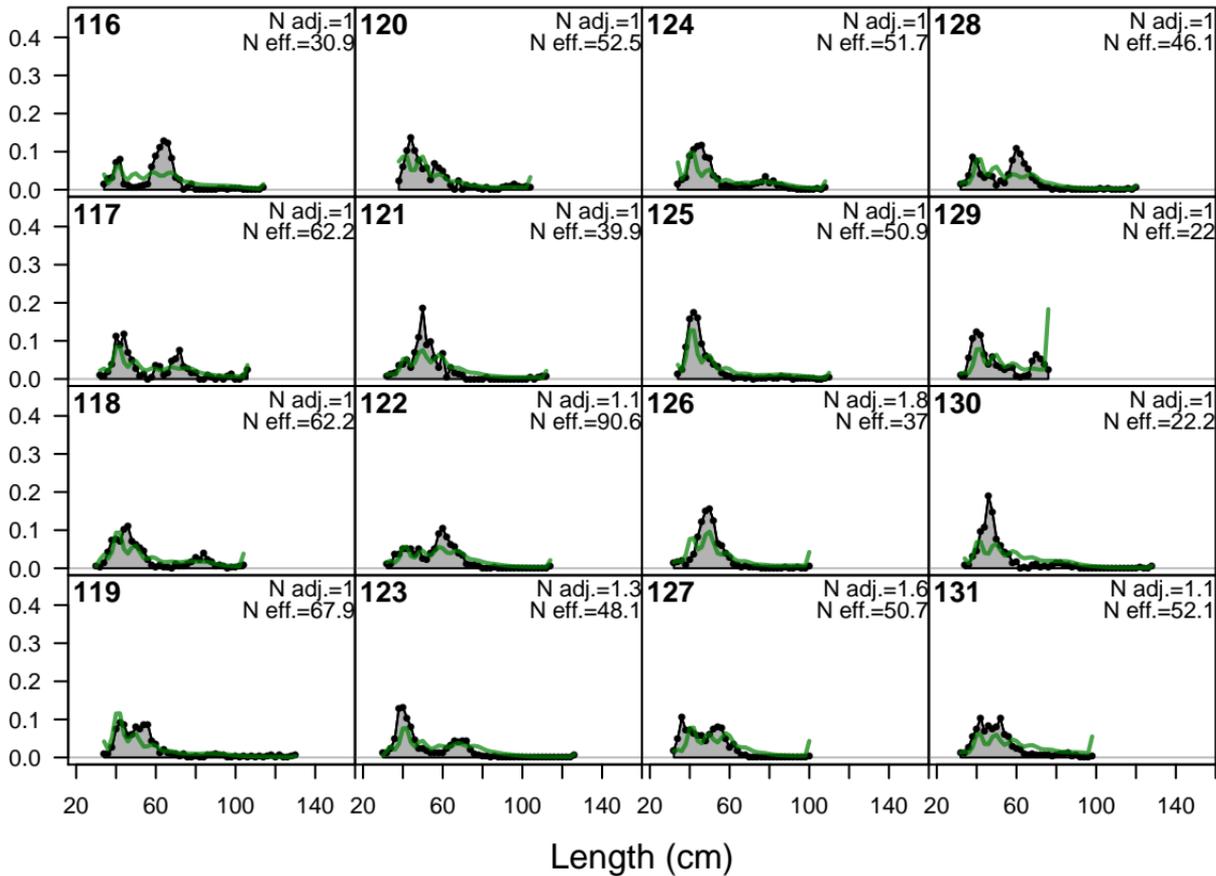
Proportion



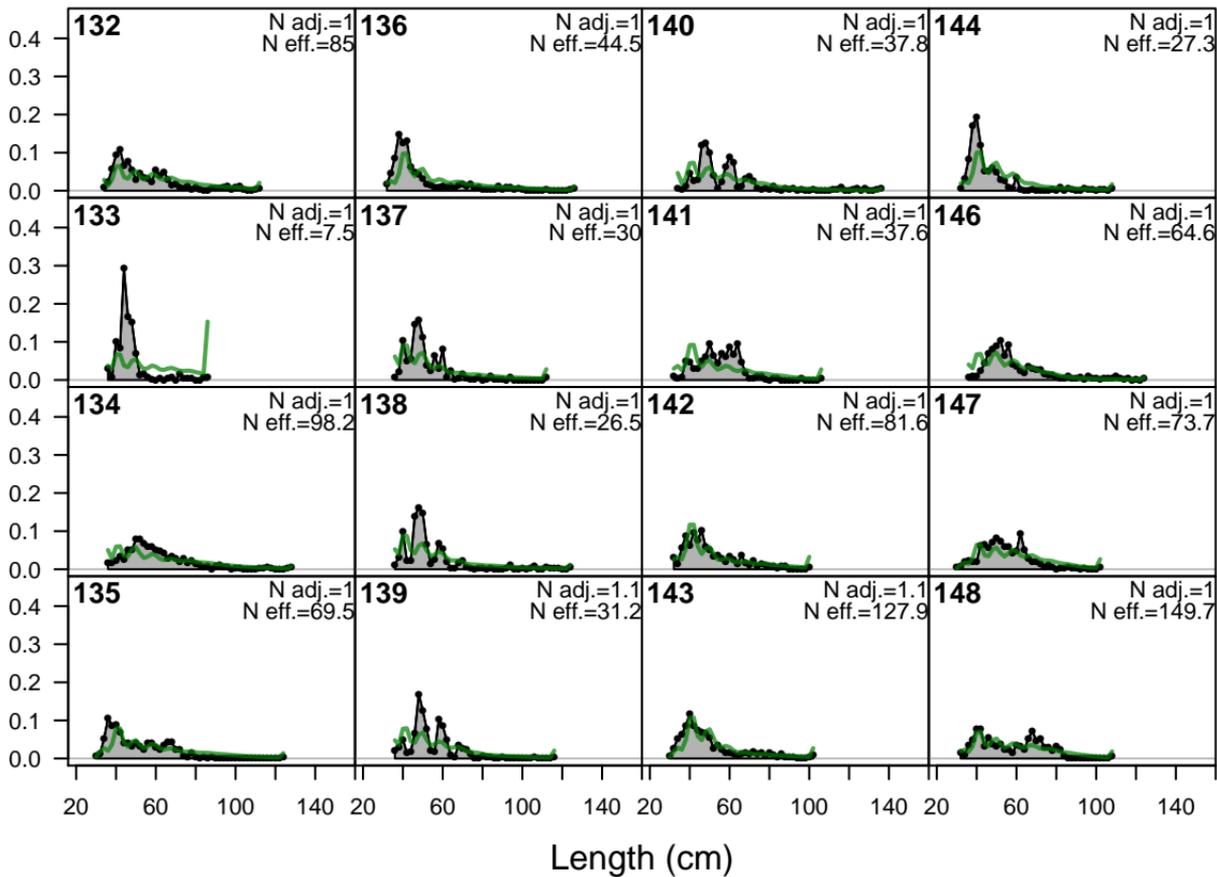
Proportion



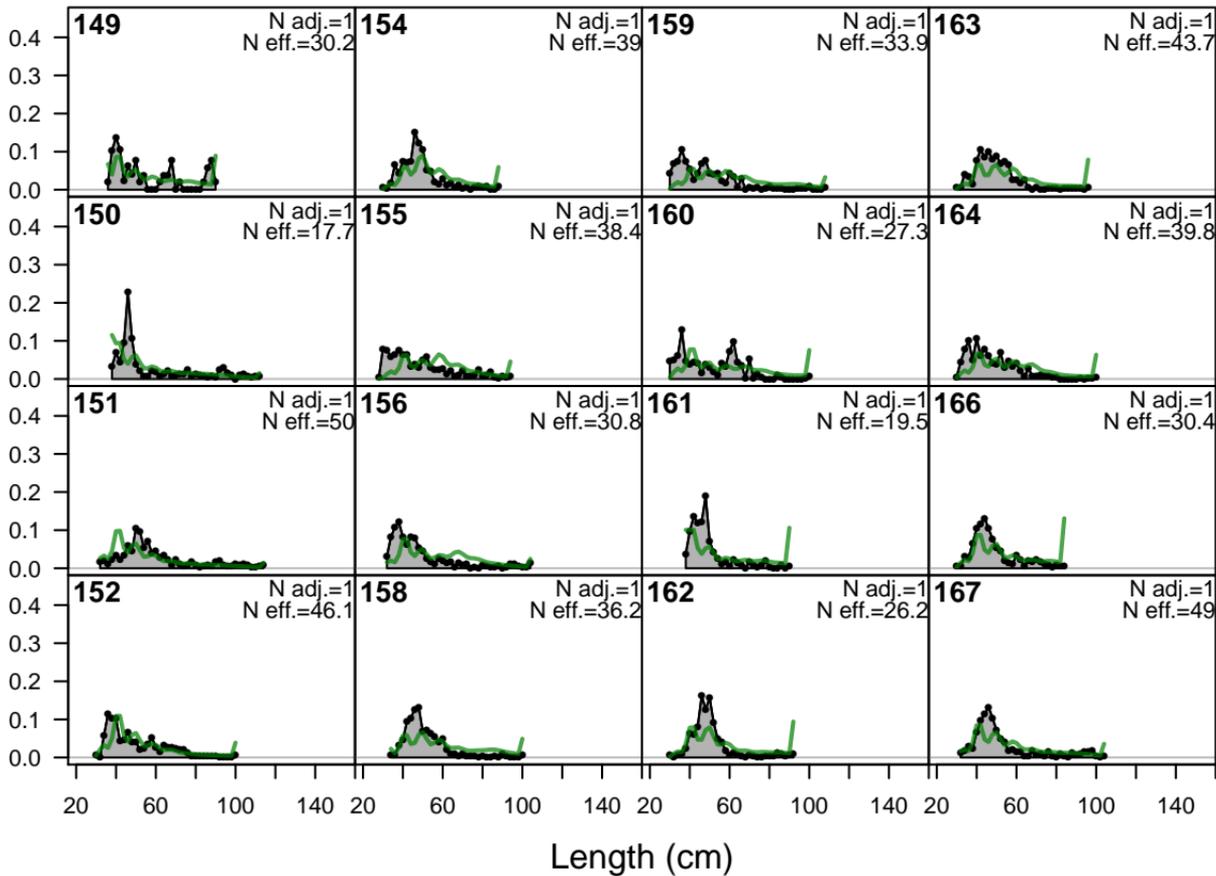
Proportion

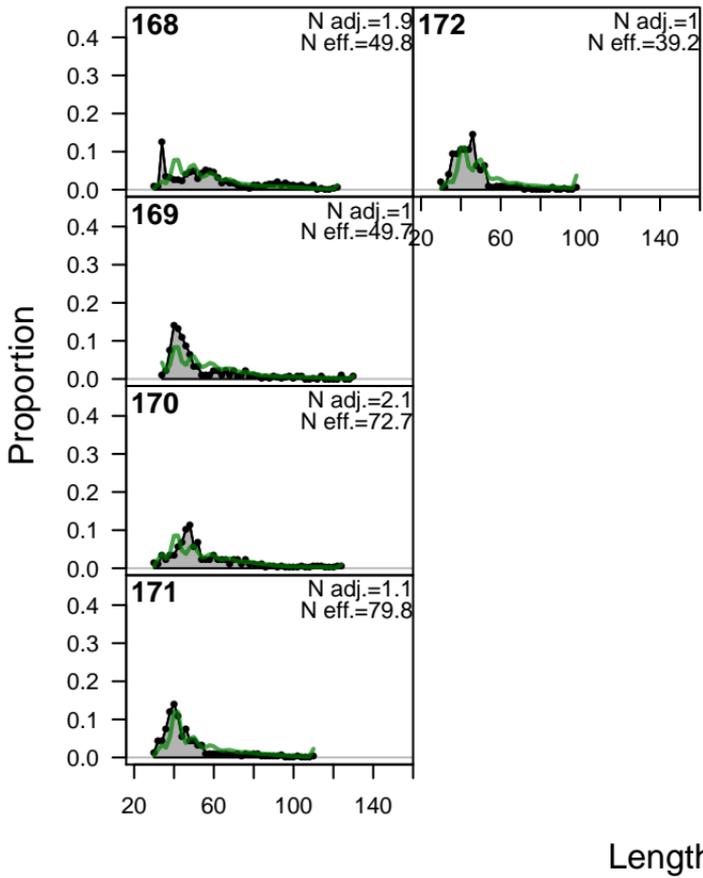


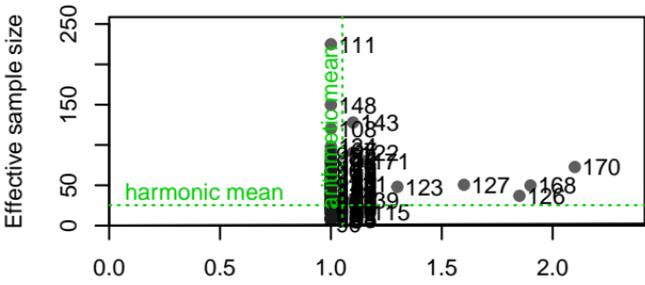
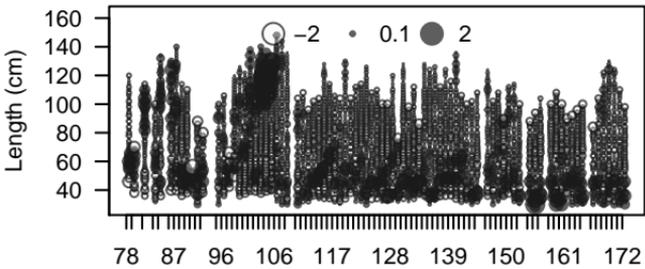
Proportion



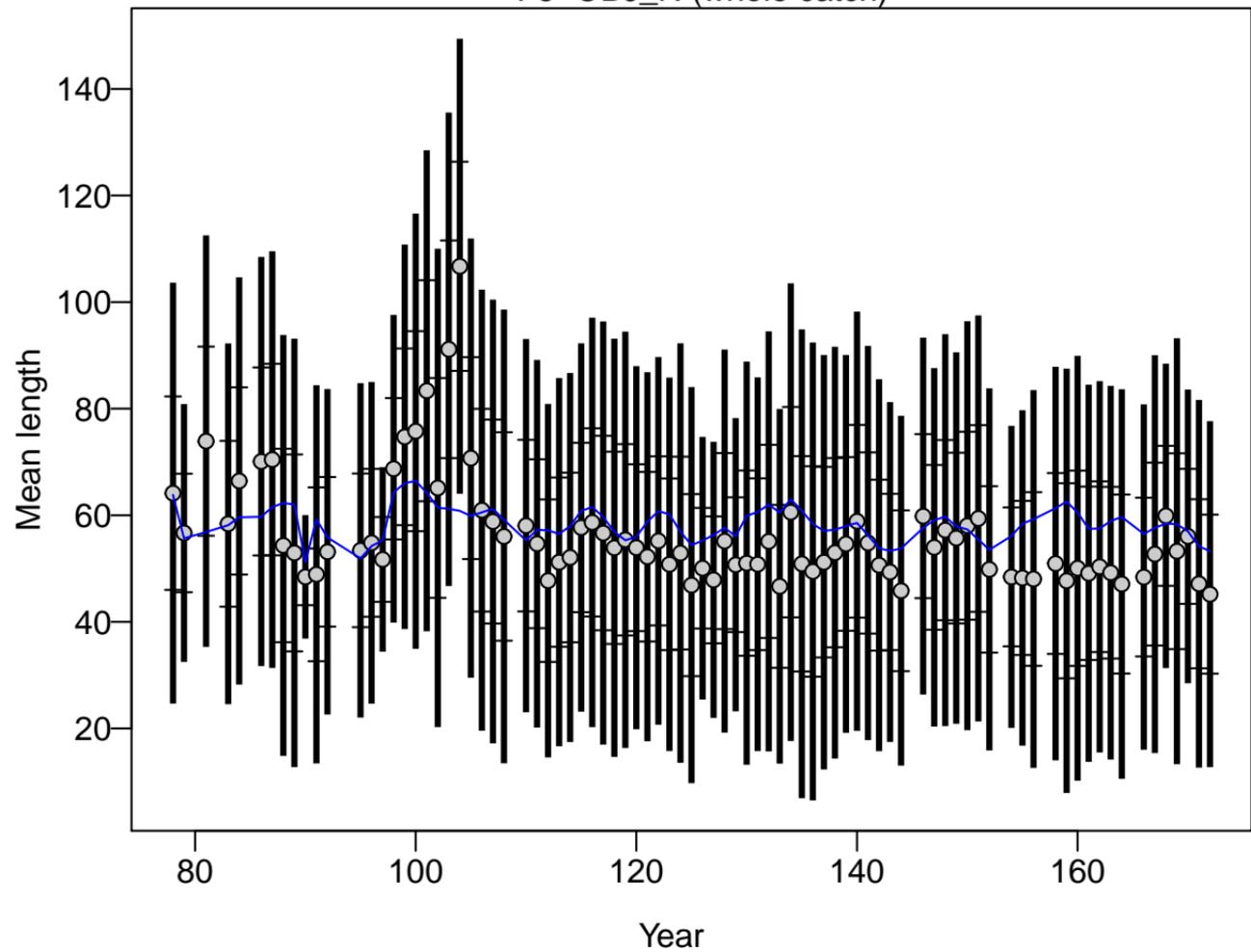
Proportion



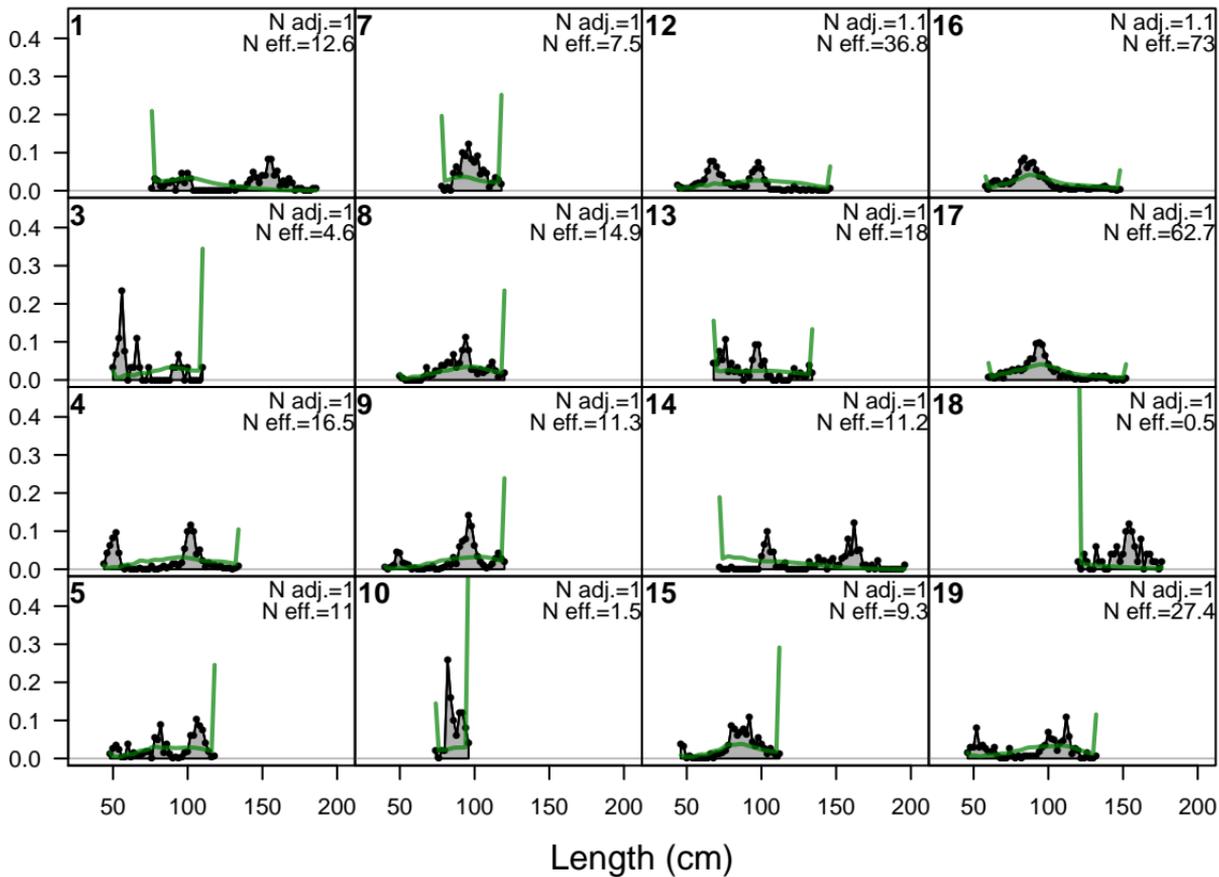




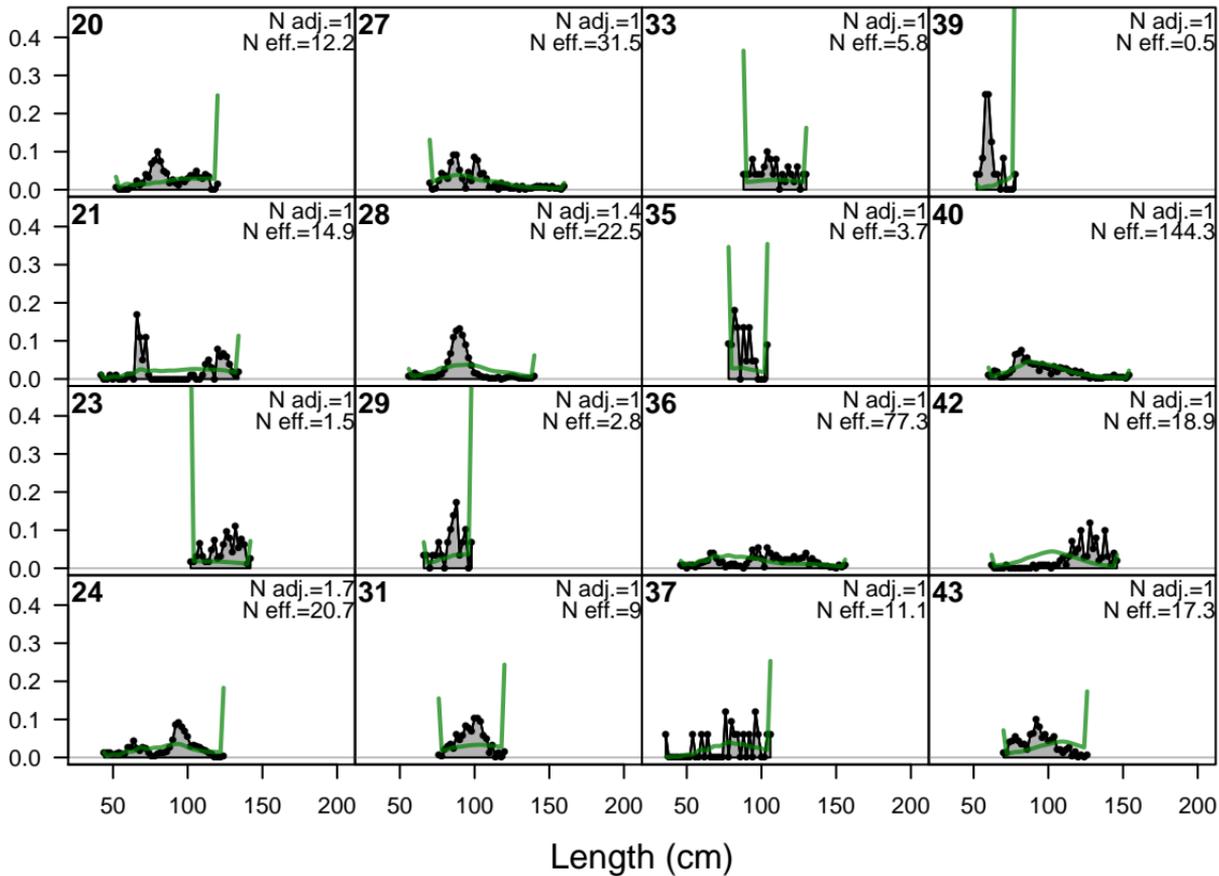
F5-OBJ_N (whole catch)



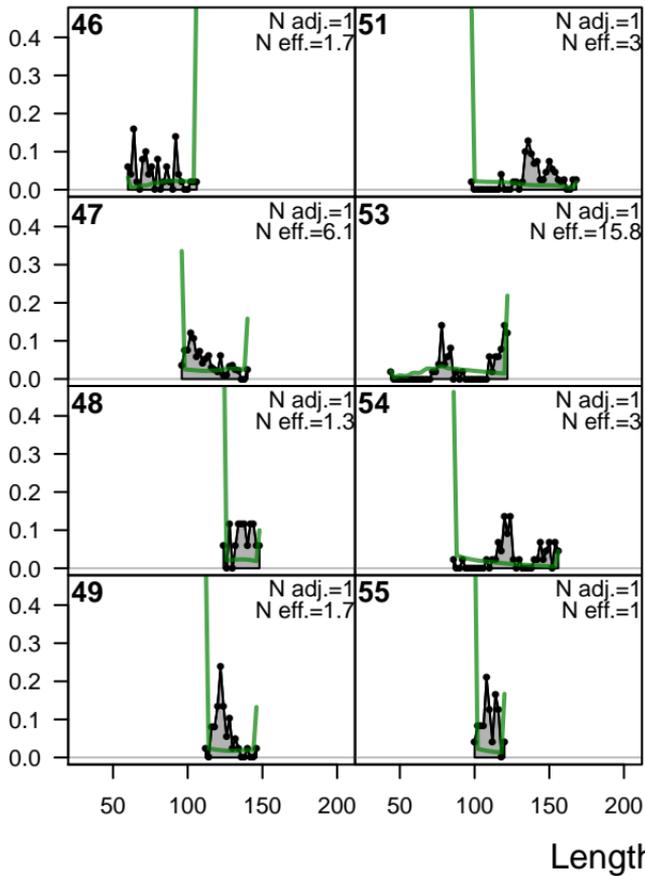
Proportion

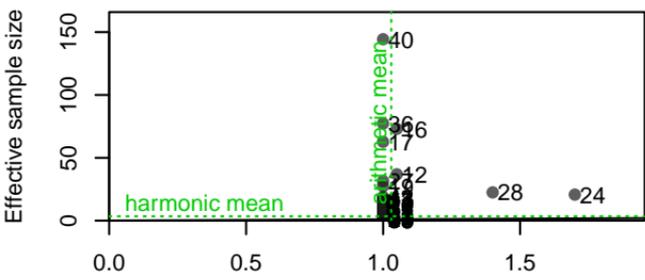
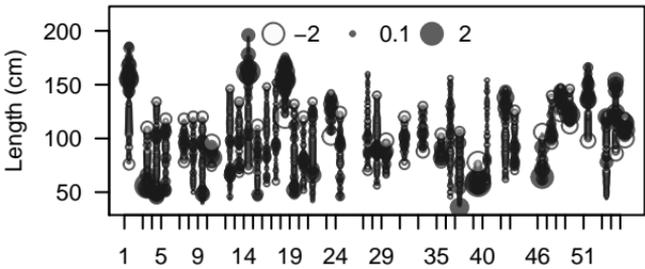


Proportion

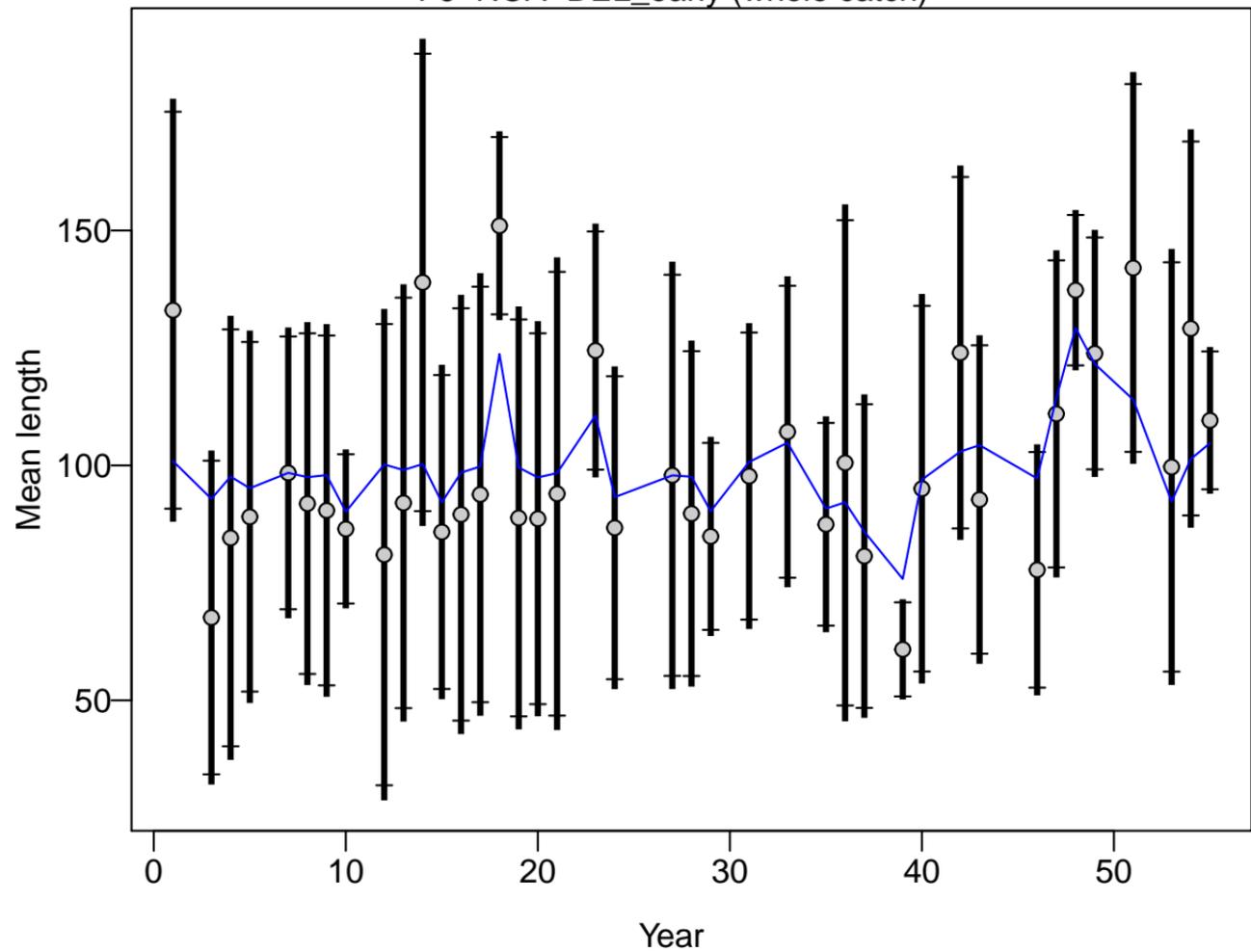


Proportion

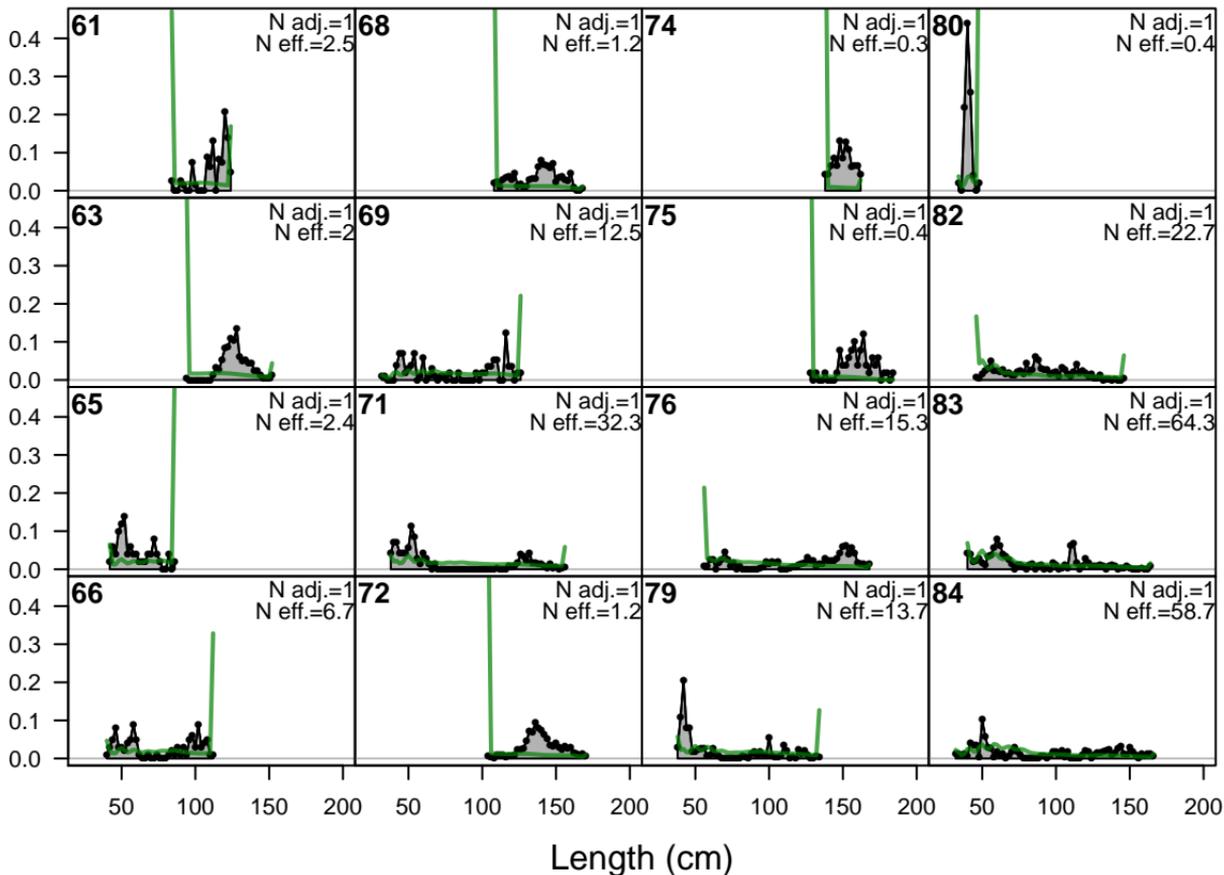




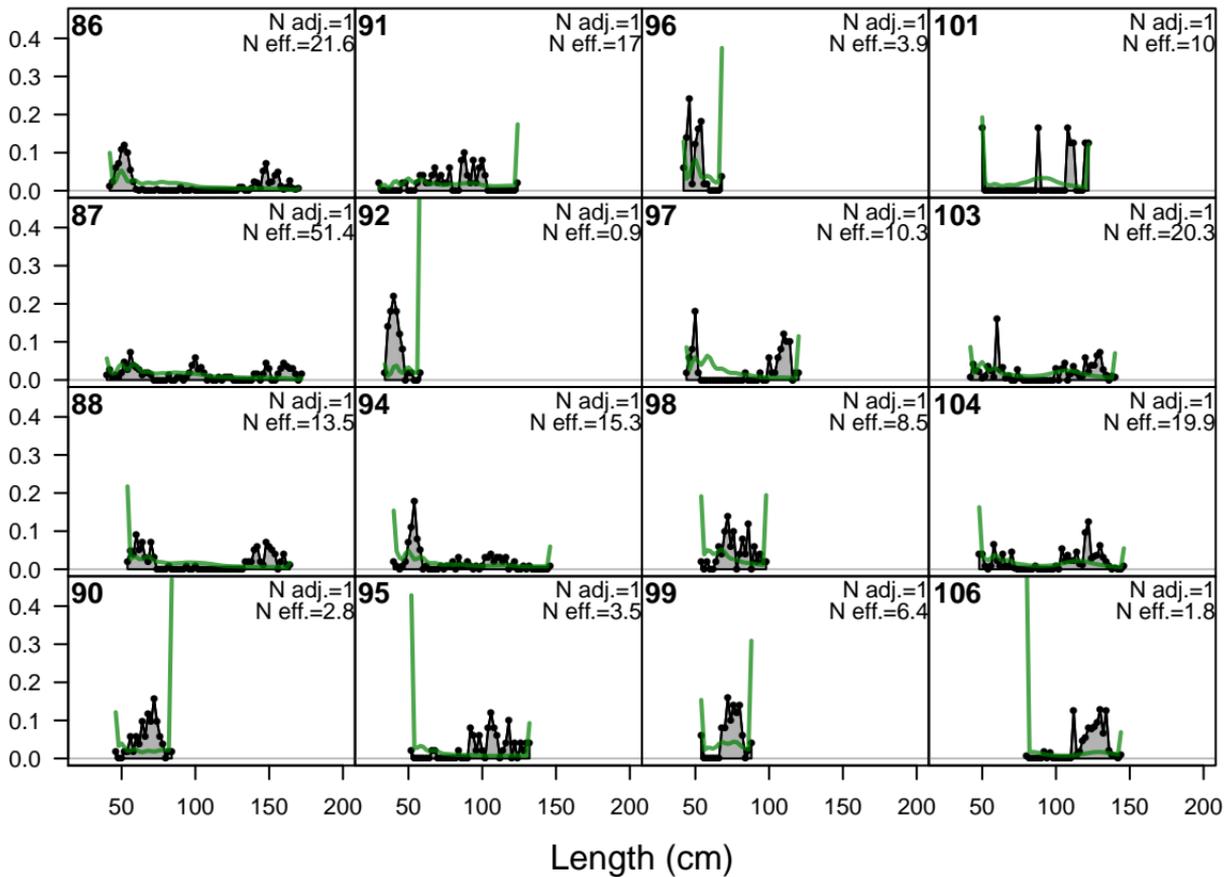
F6-NOA-DEL_early (whole catch)



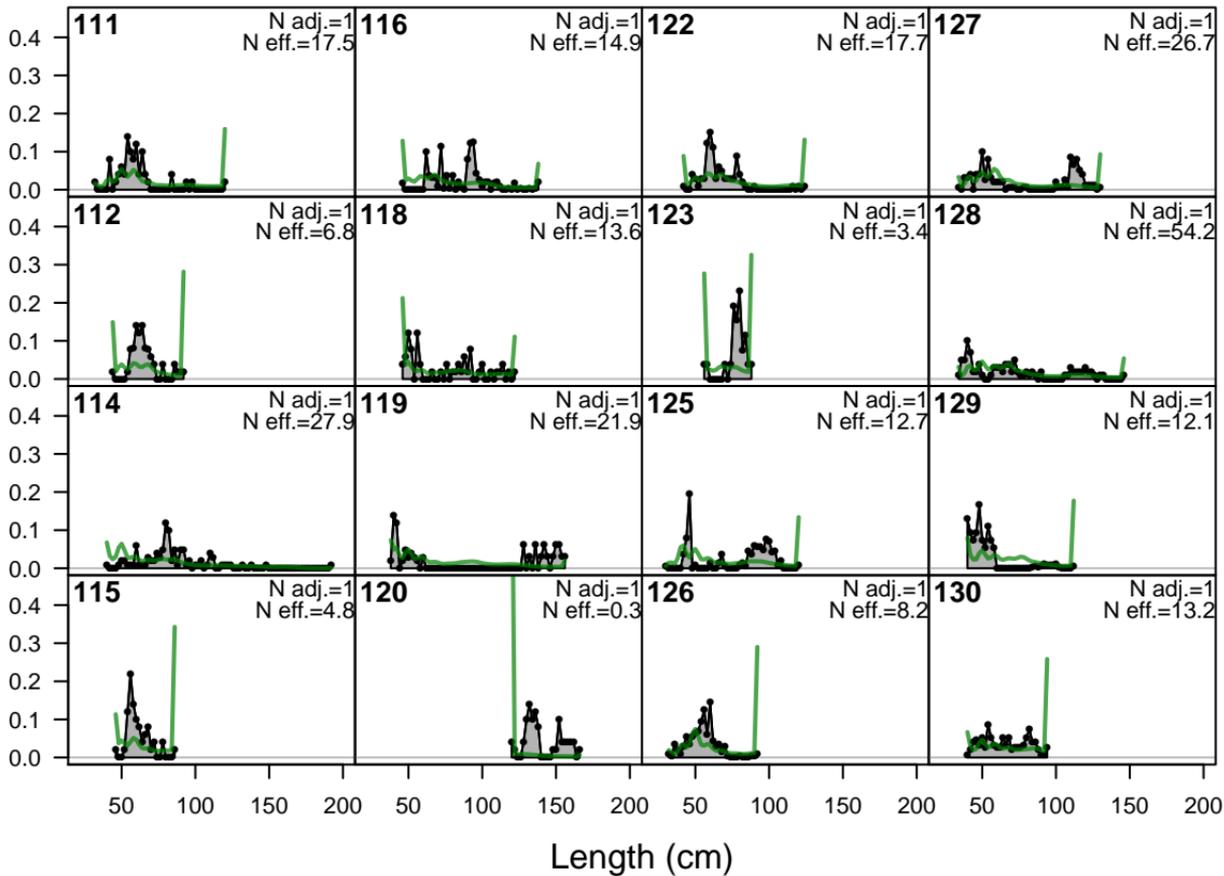
Proportion



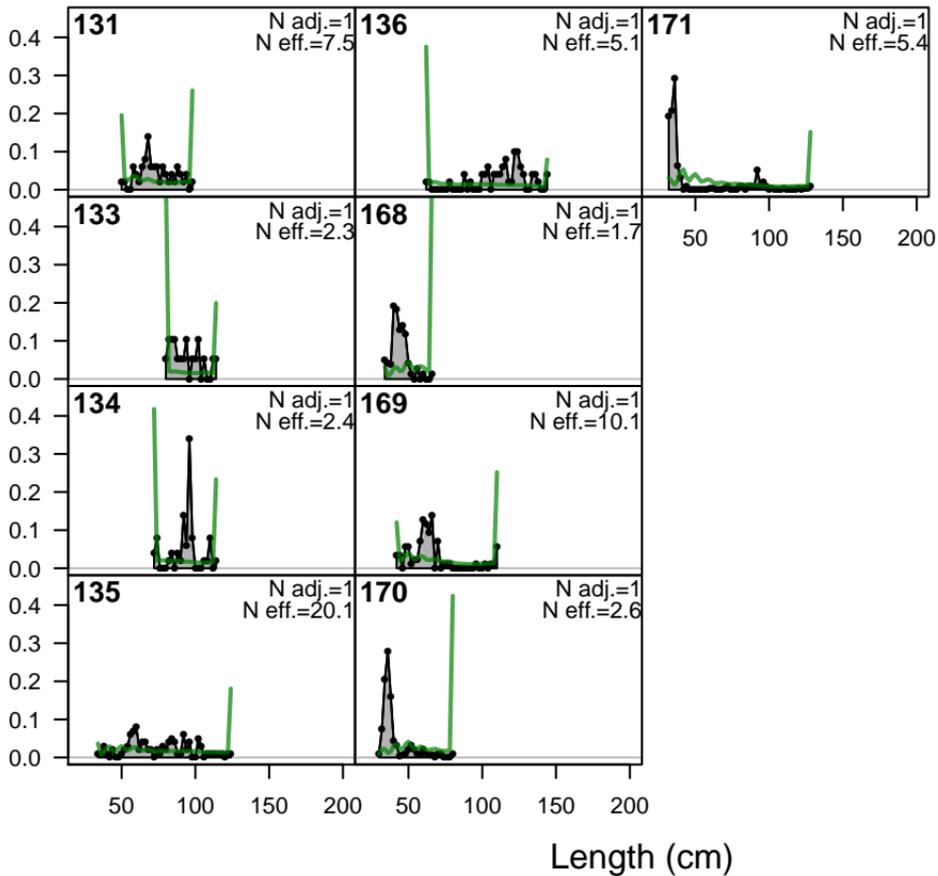
Proportion

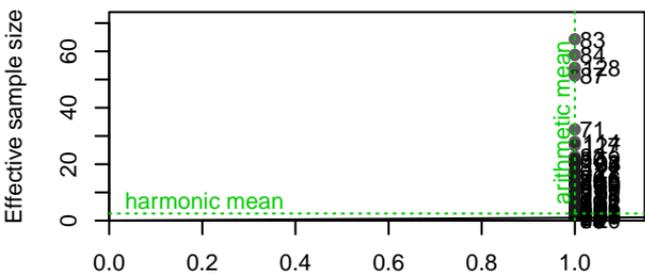
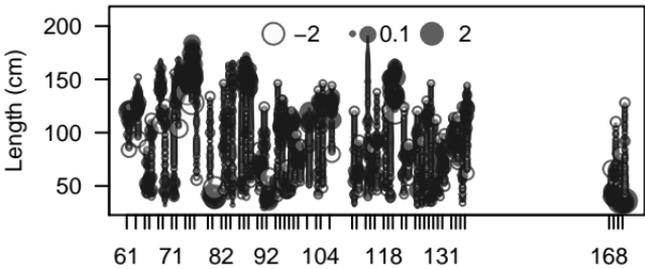


Proportion

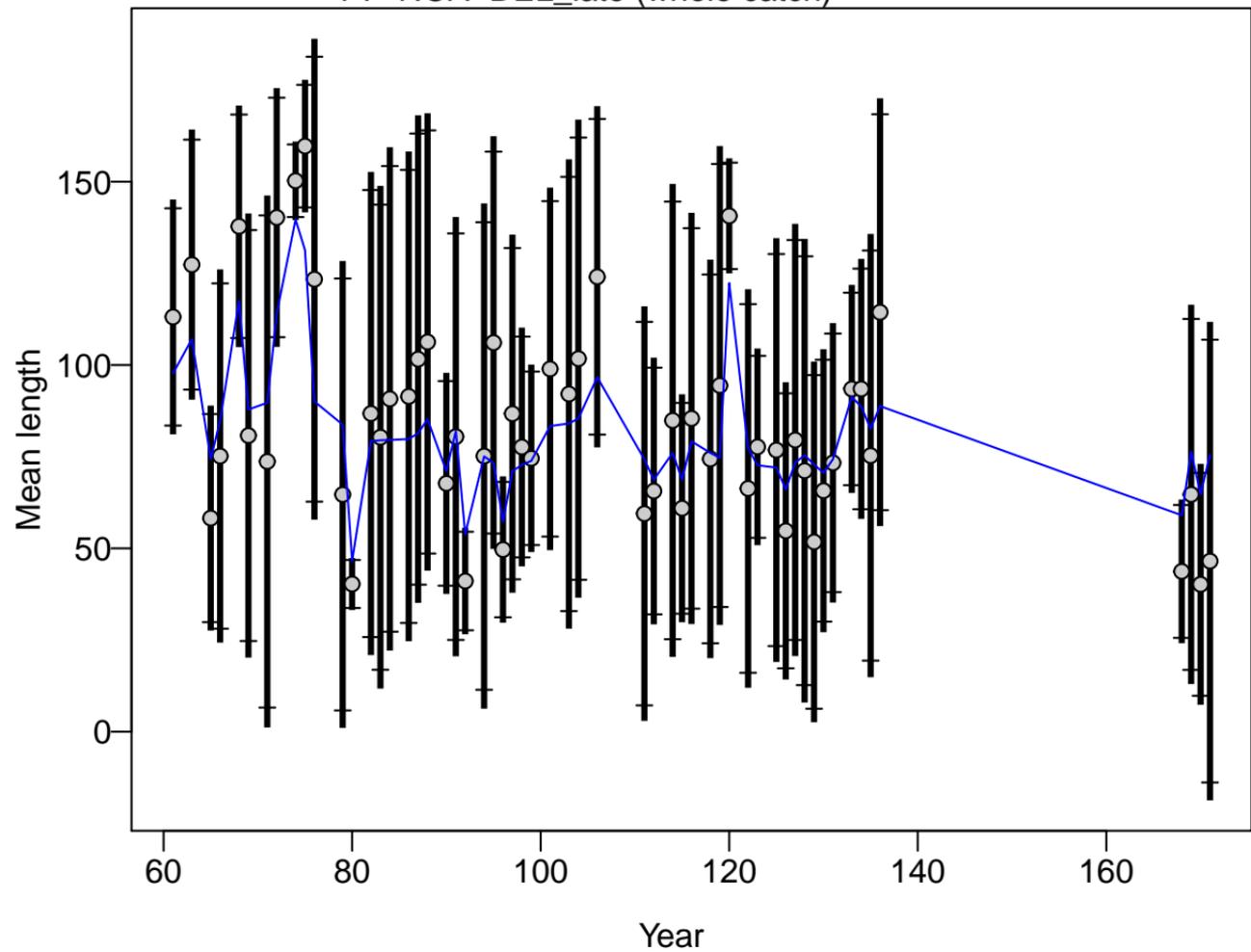


Proportion

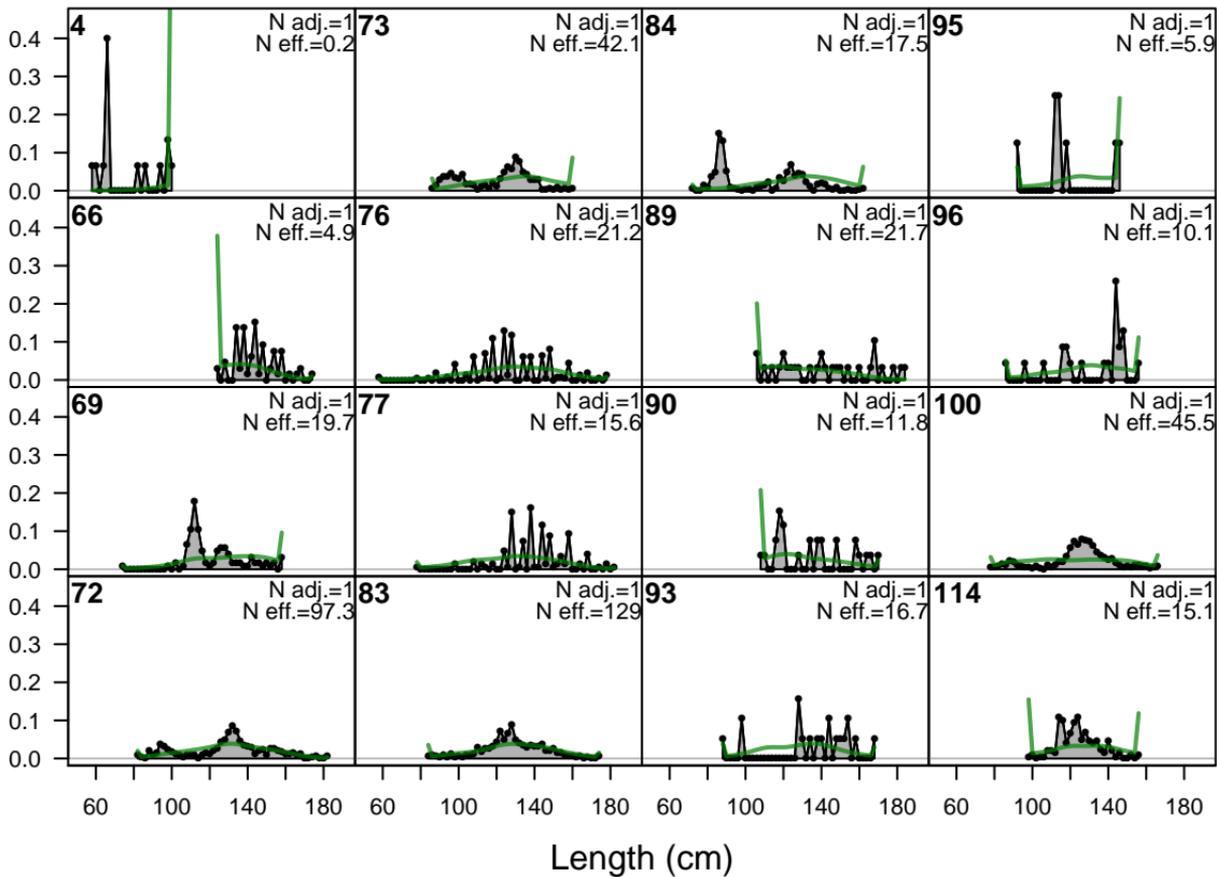




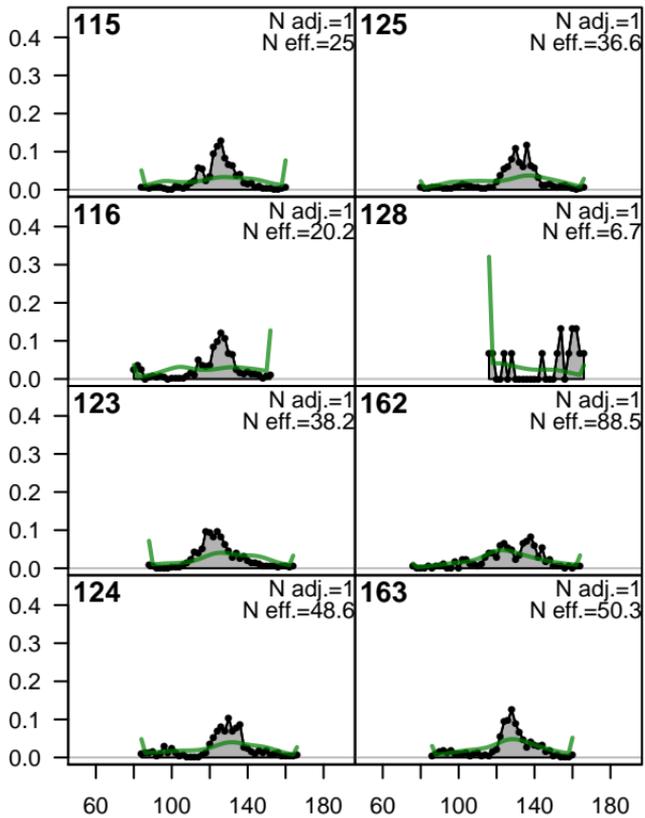
F7-NOA-DEL_late (whole catch)



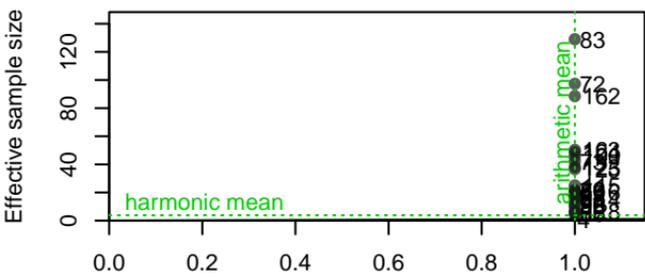
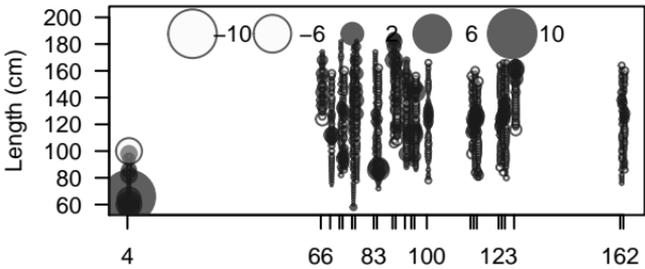
Proportion



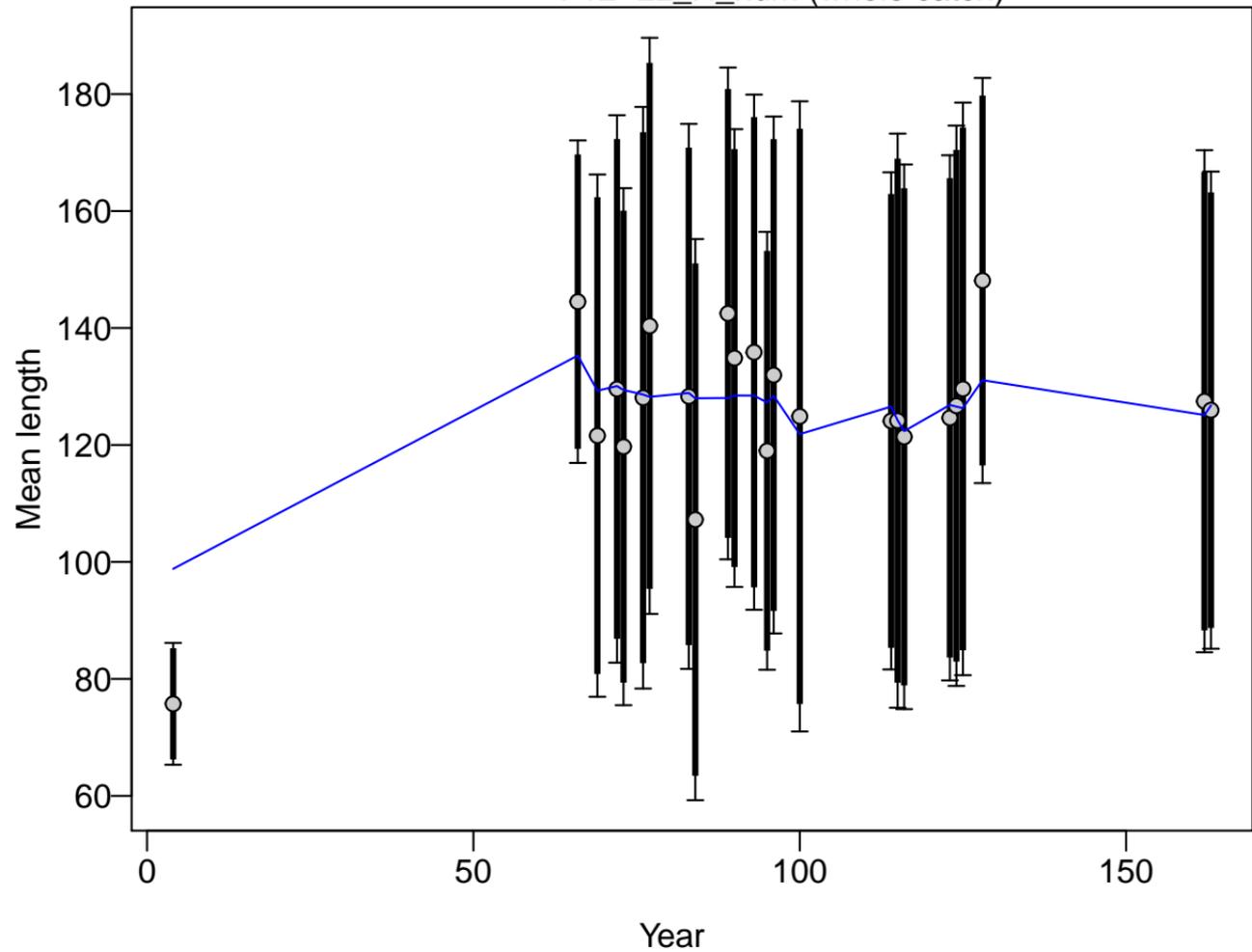
Proportion



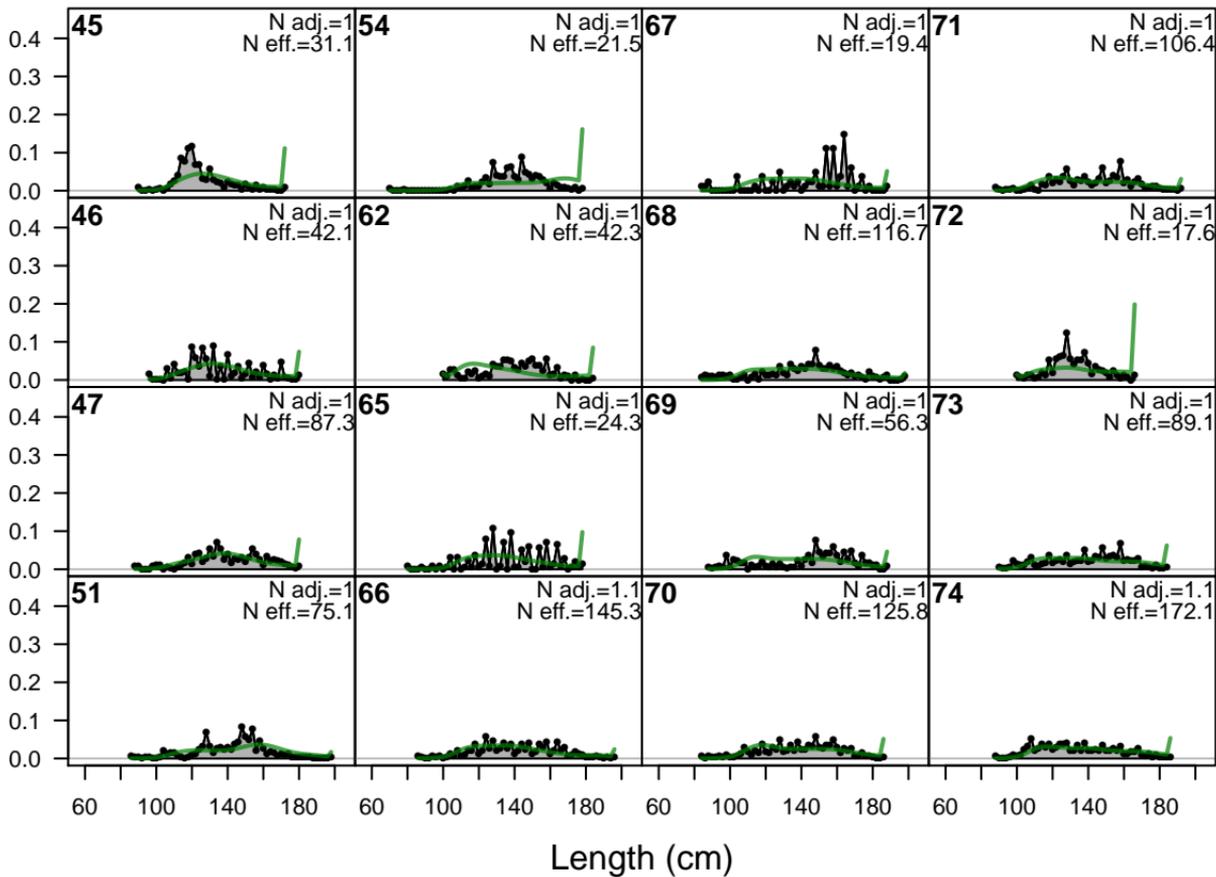
Length (cm)



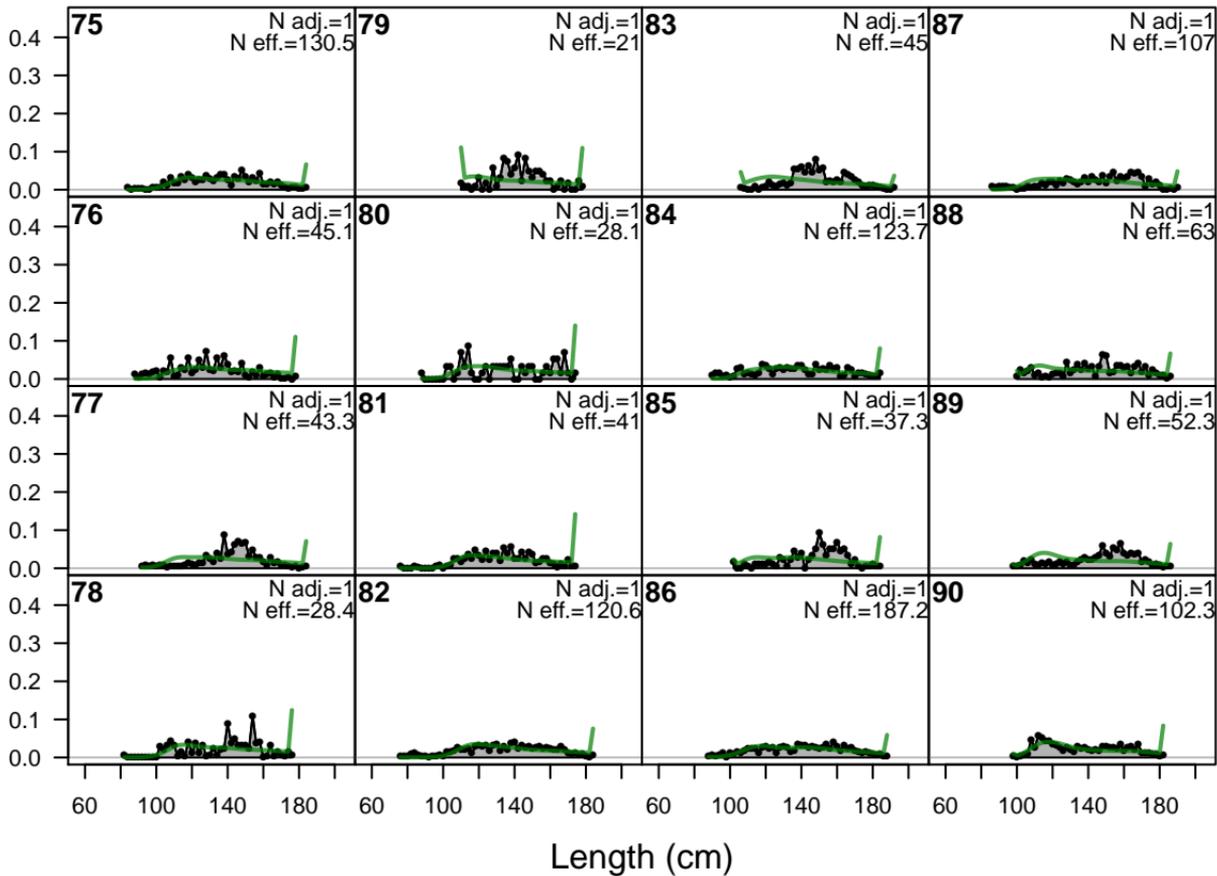
F12-LL_N_num (whole catch)



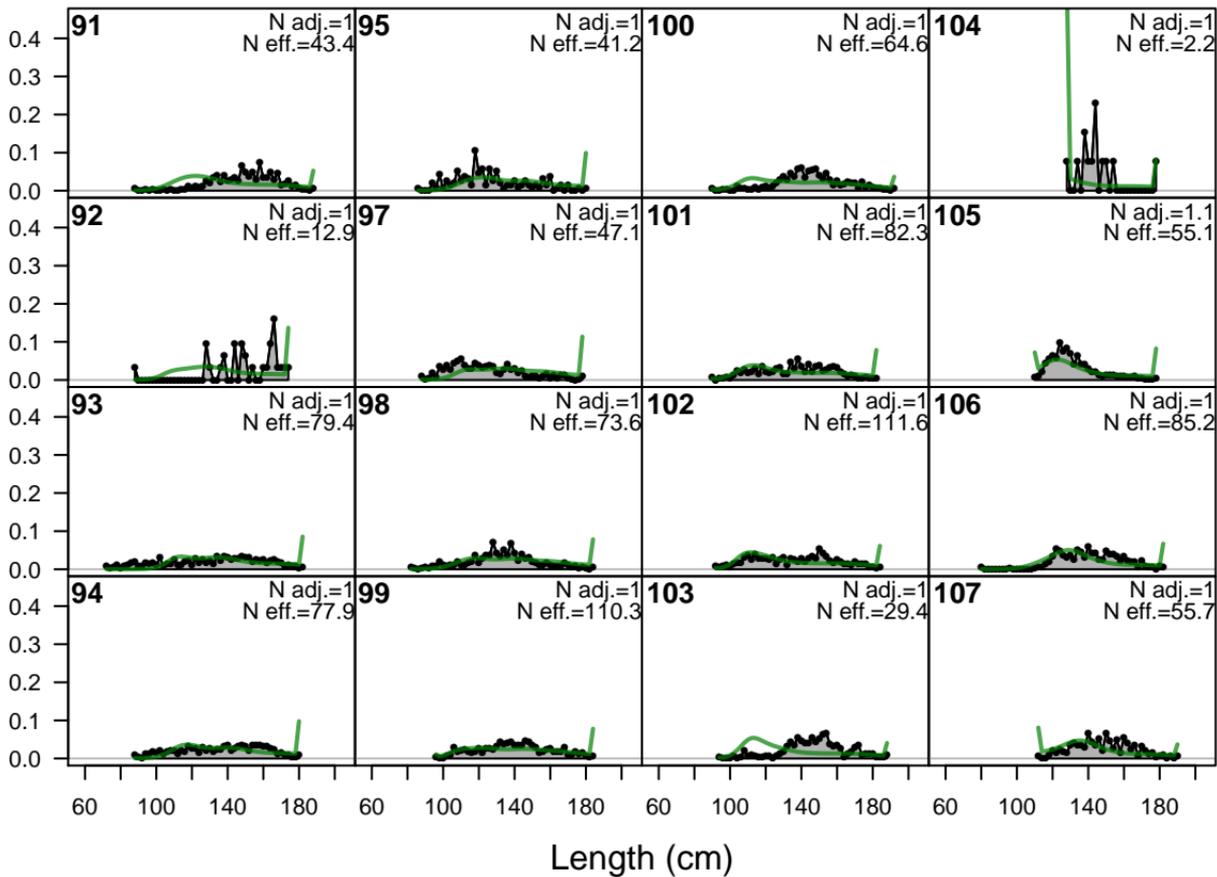
Proportion



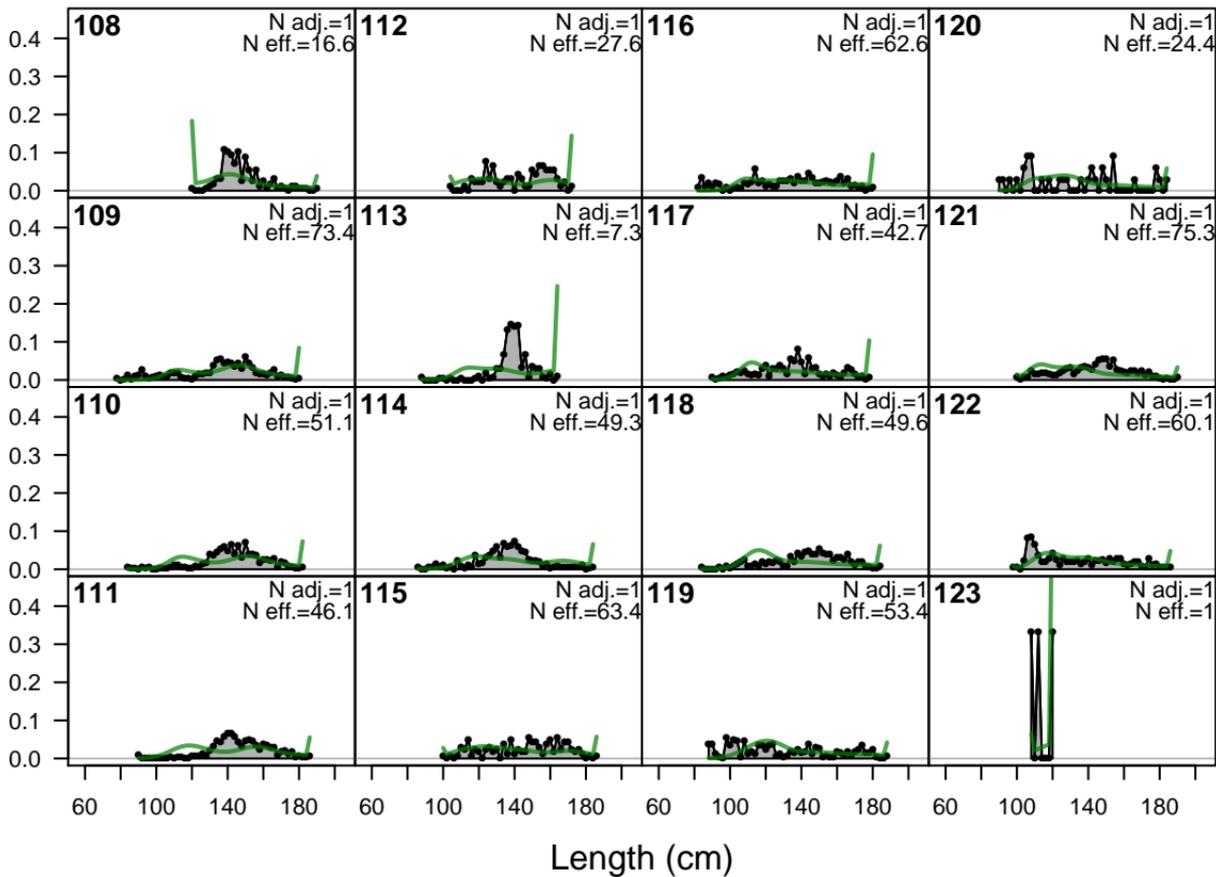
Proportion



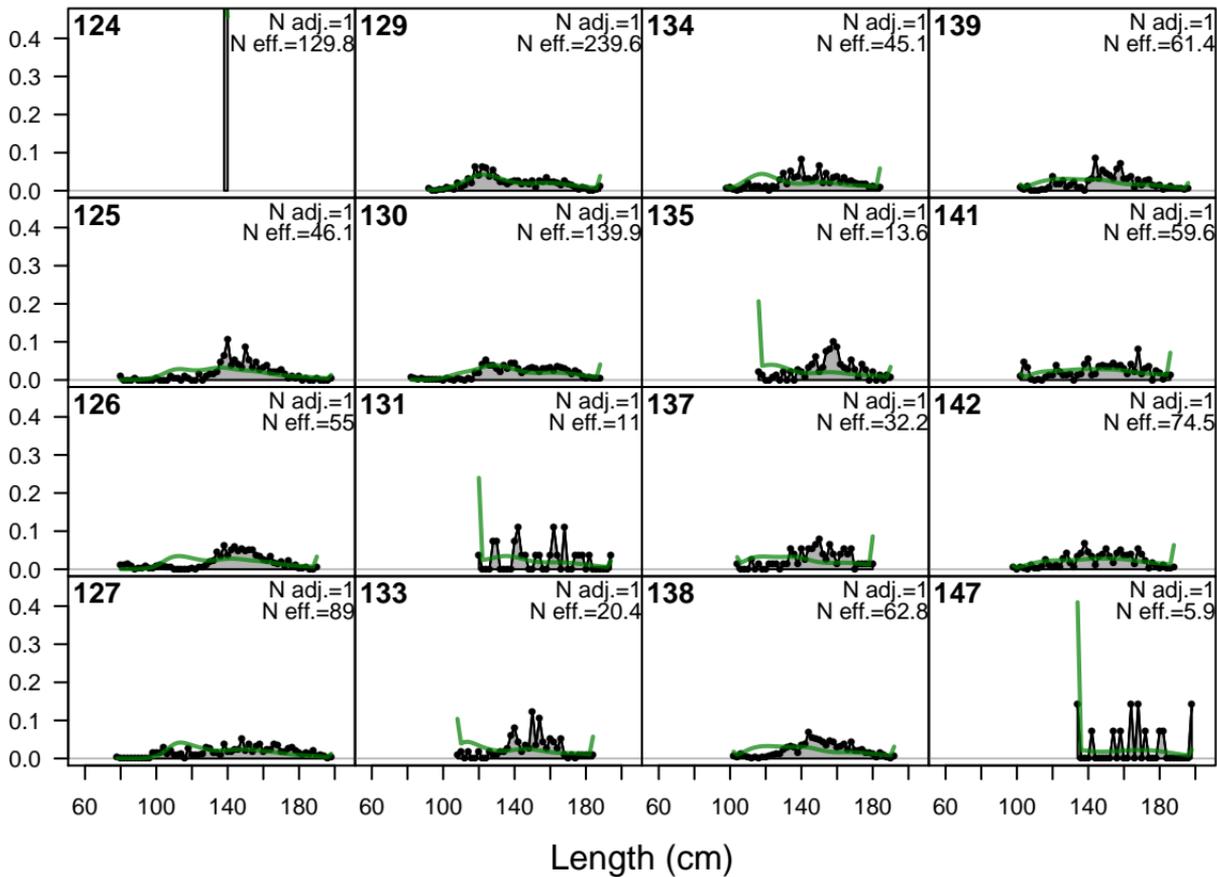
Proportion



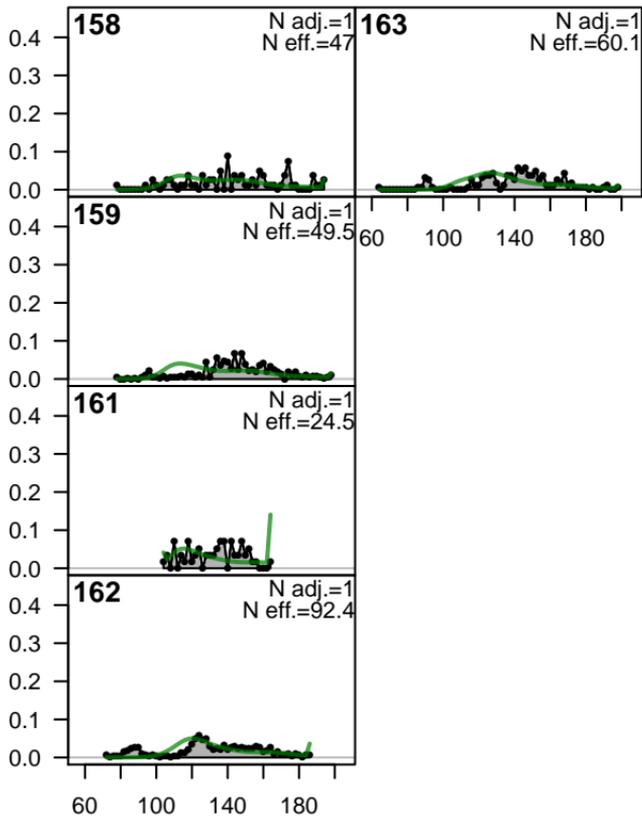
Proportion



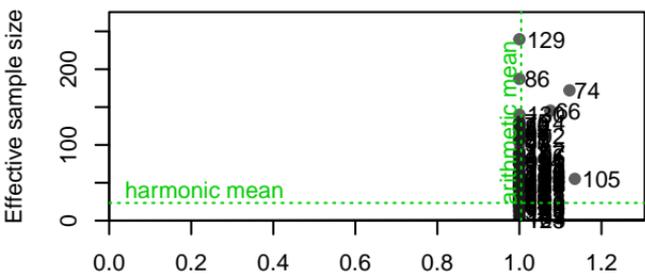
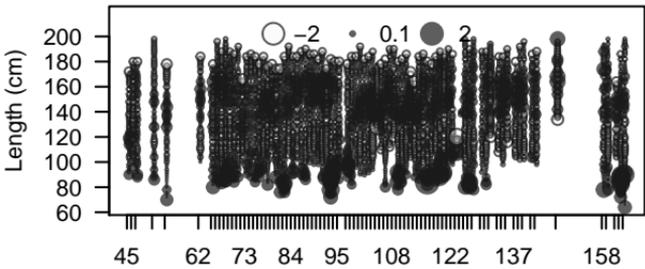
Proportion



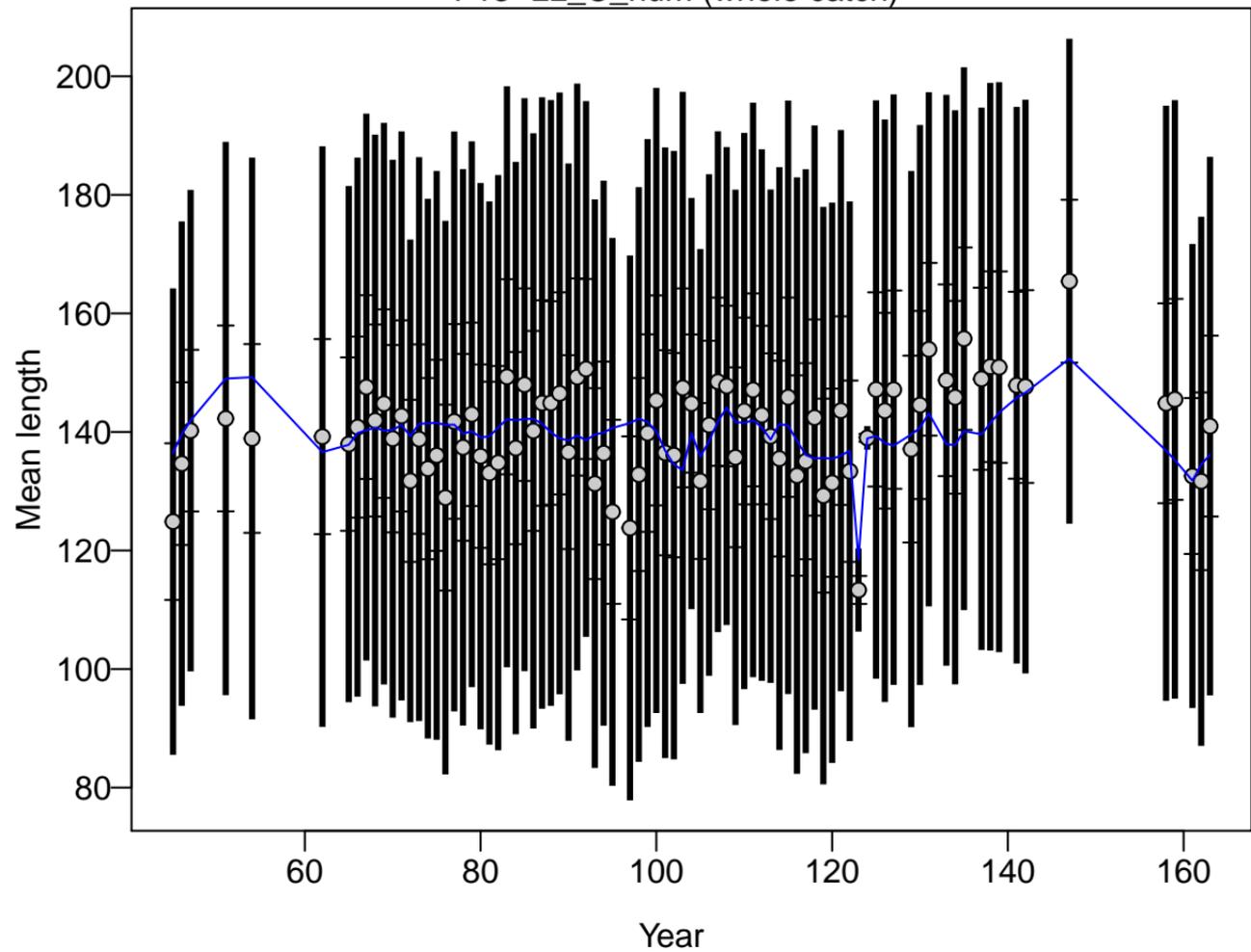
Proportion



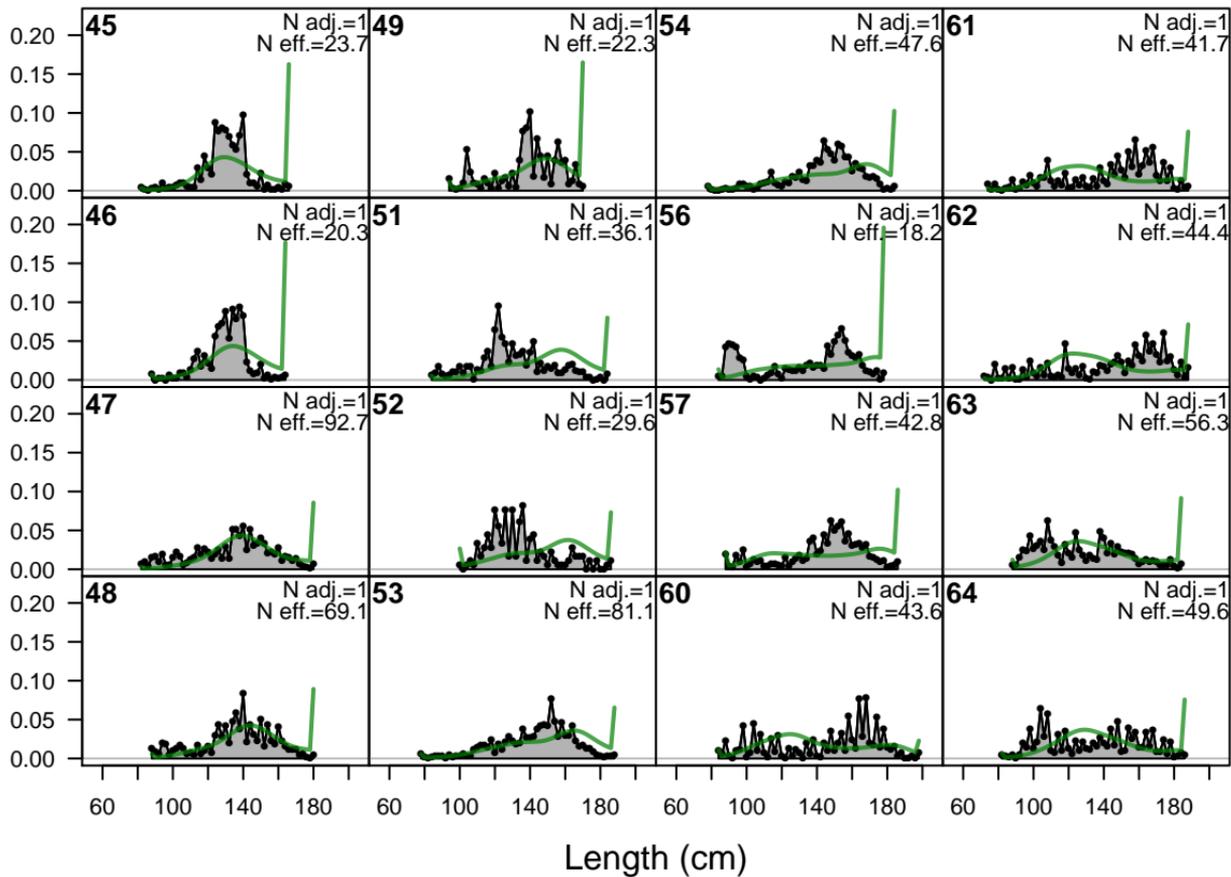
Length (cm)



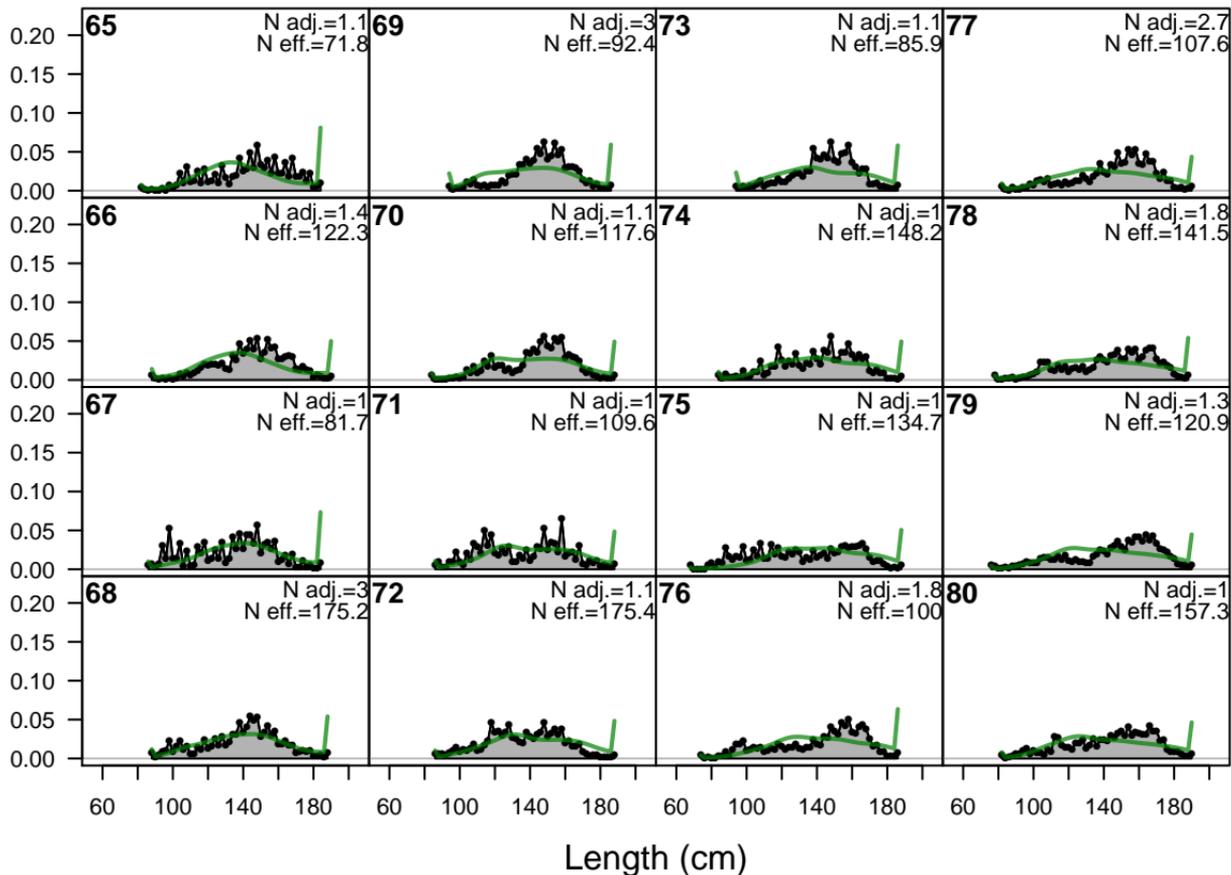
F13-LL_C_num (whole catch)



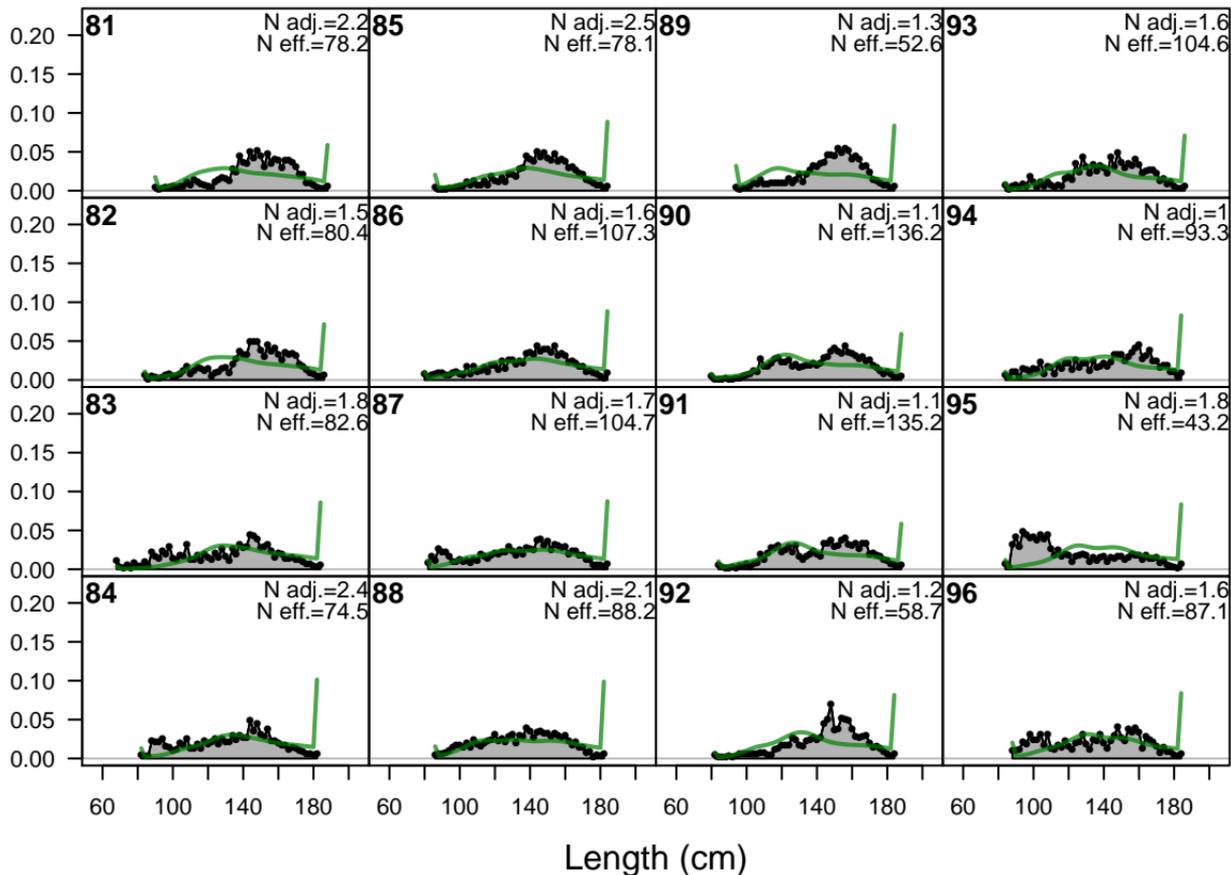
Proportion



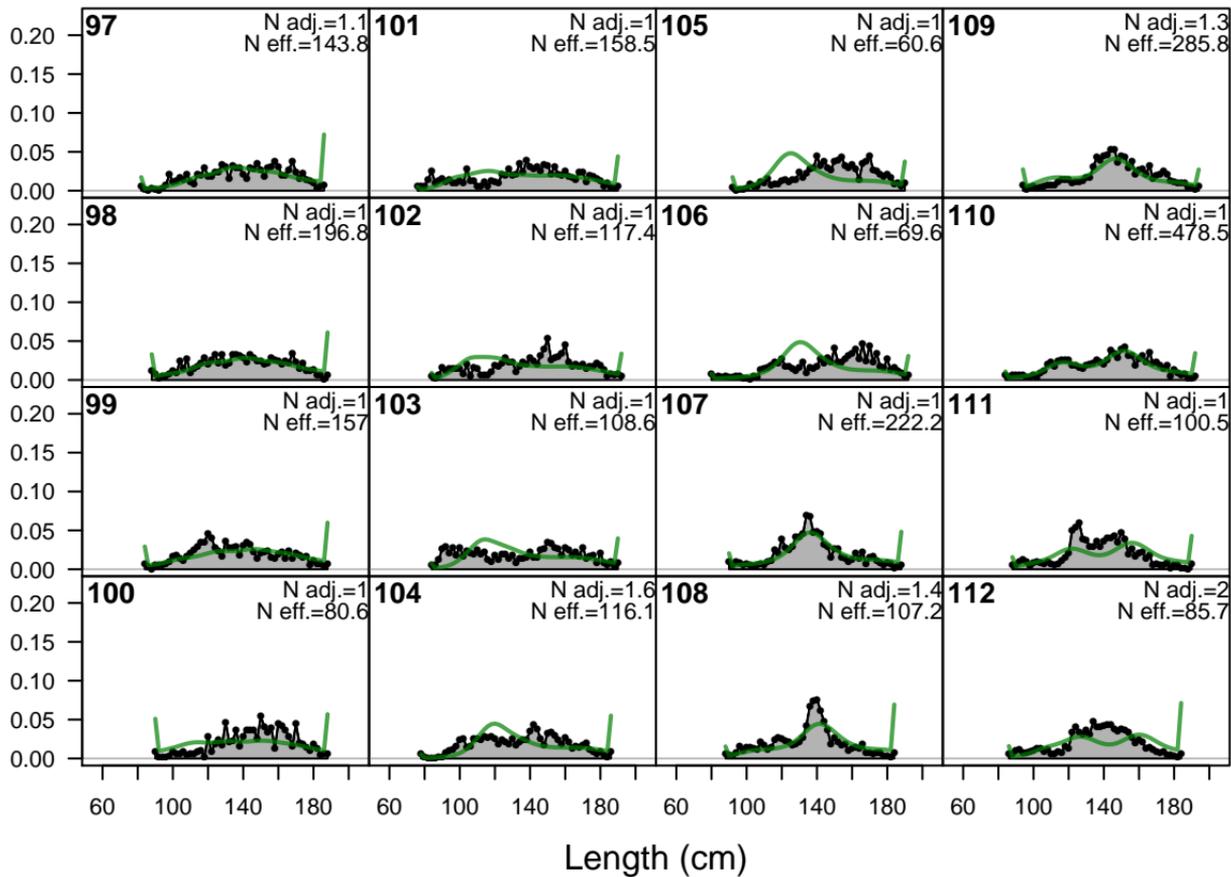
Proportion



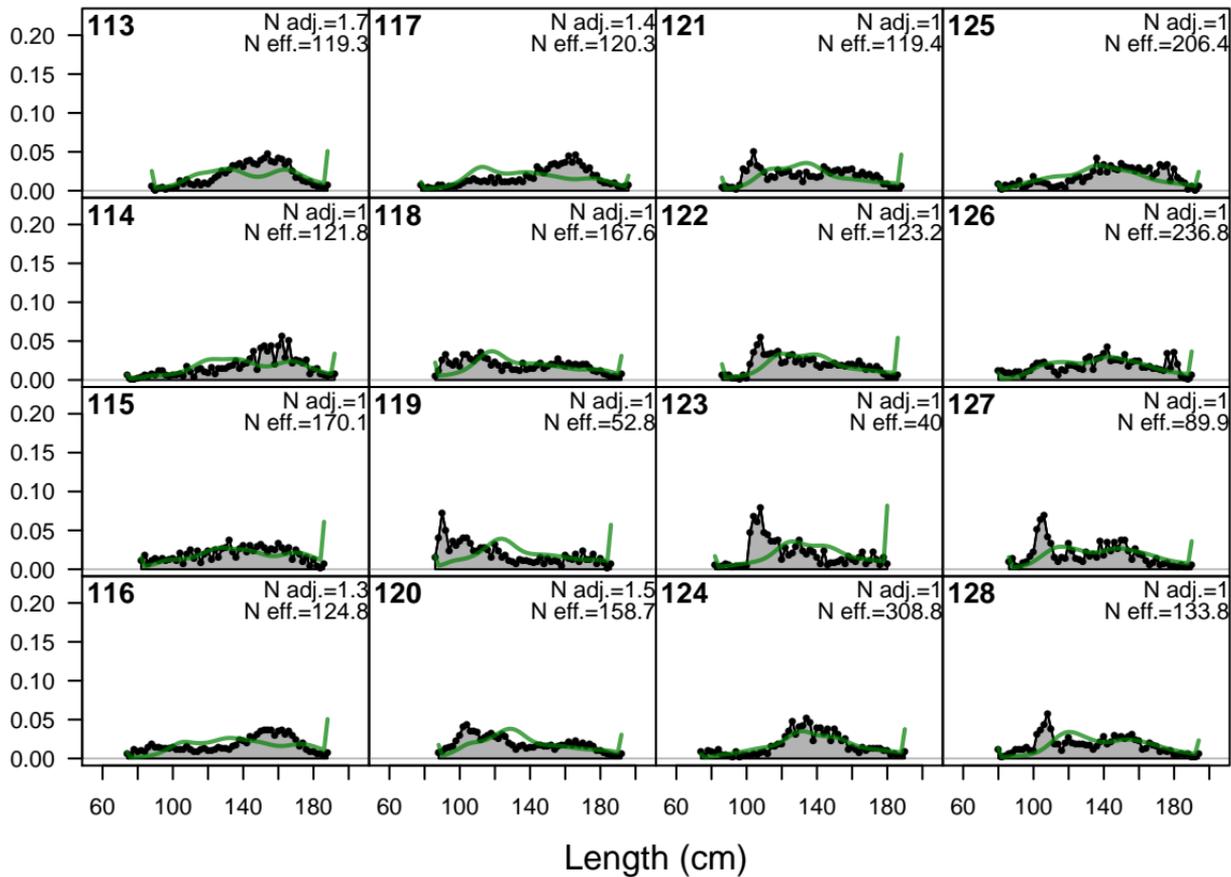
Proportion



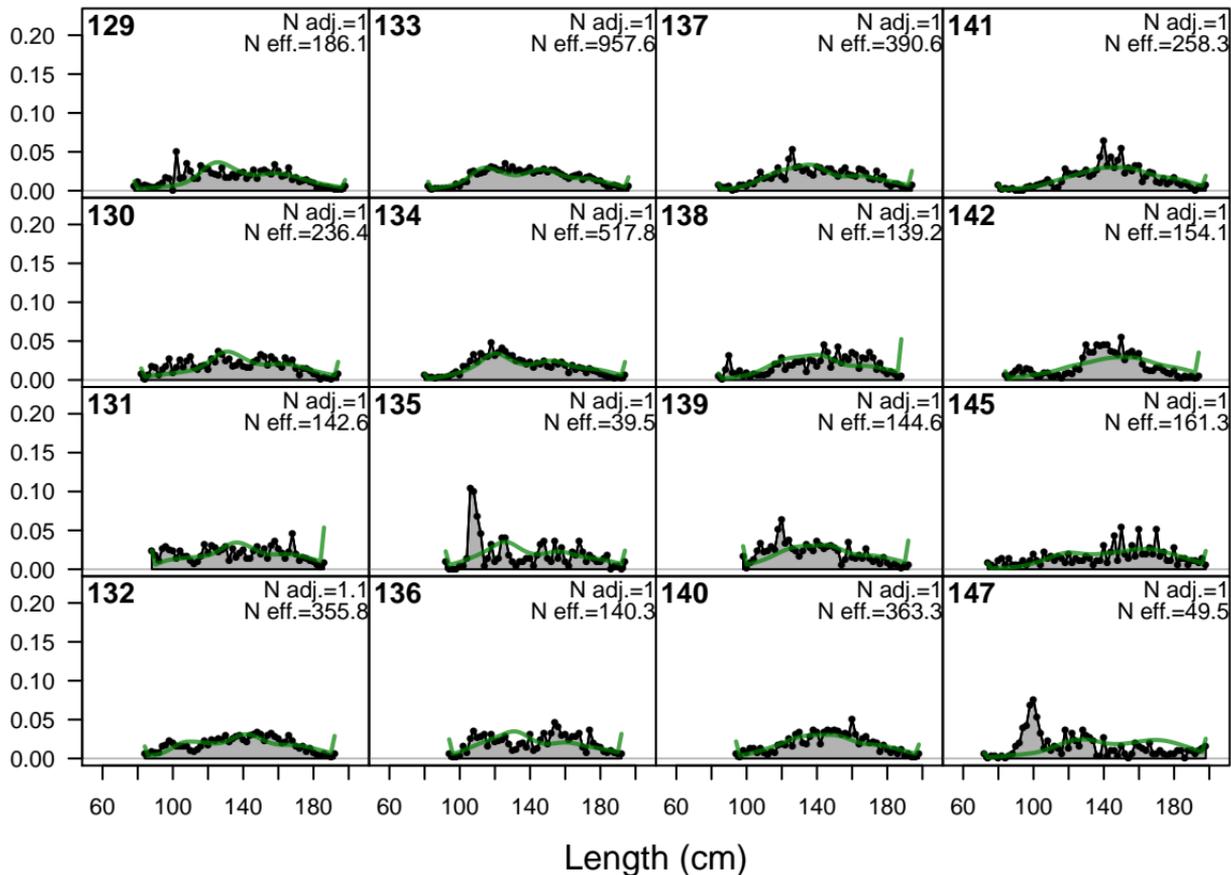
Proportion



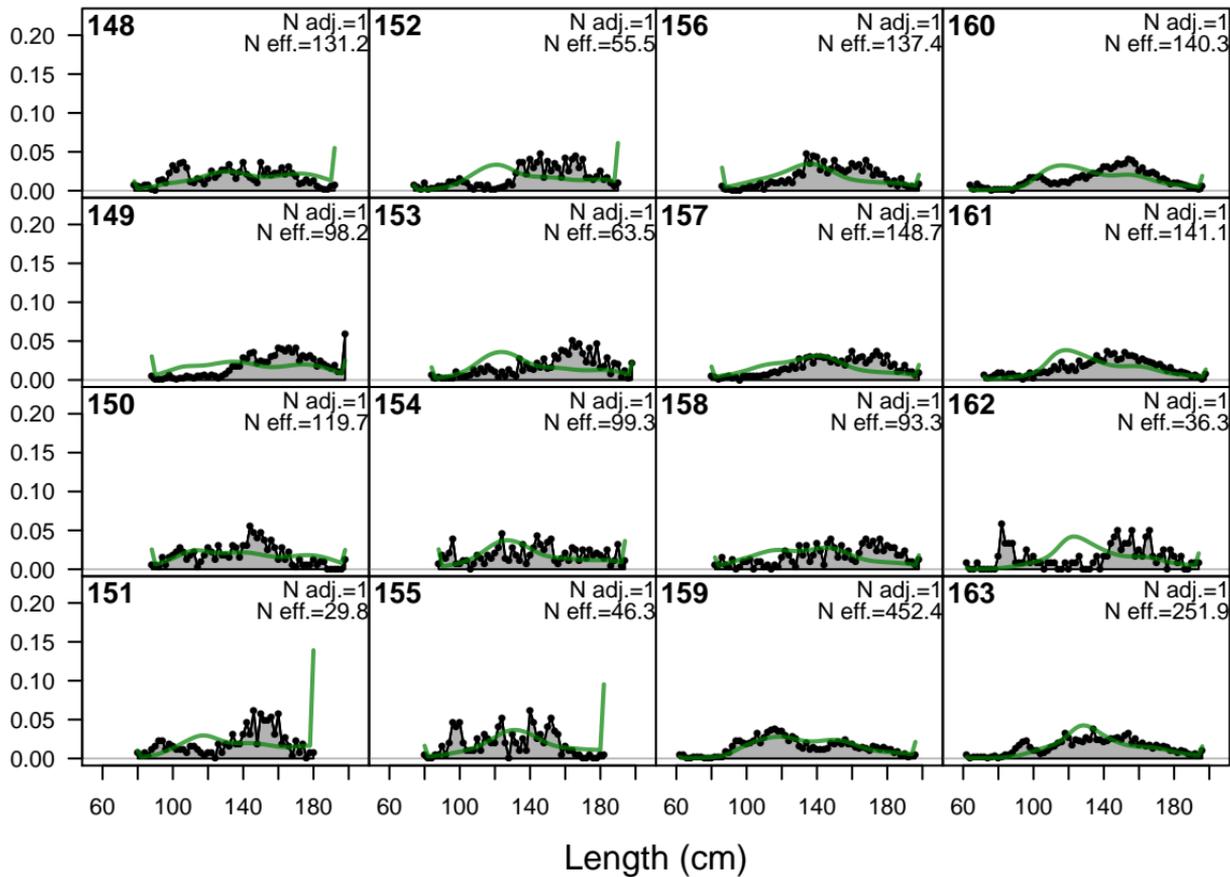
Proportion

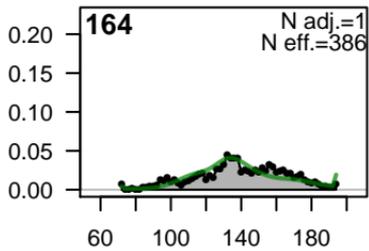


Proportion



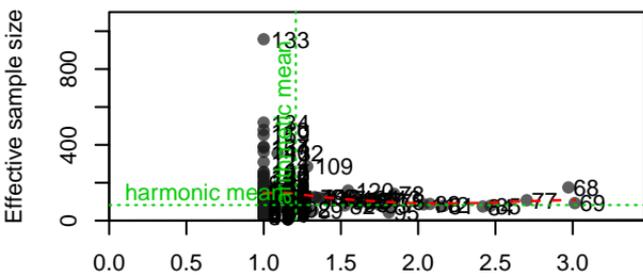
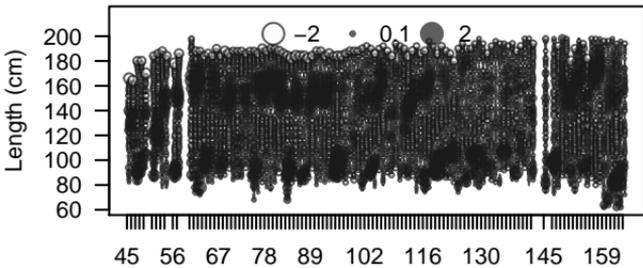
Proportion



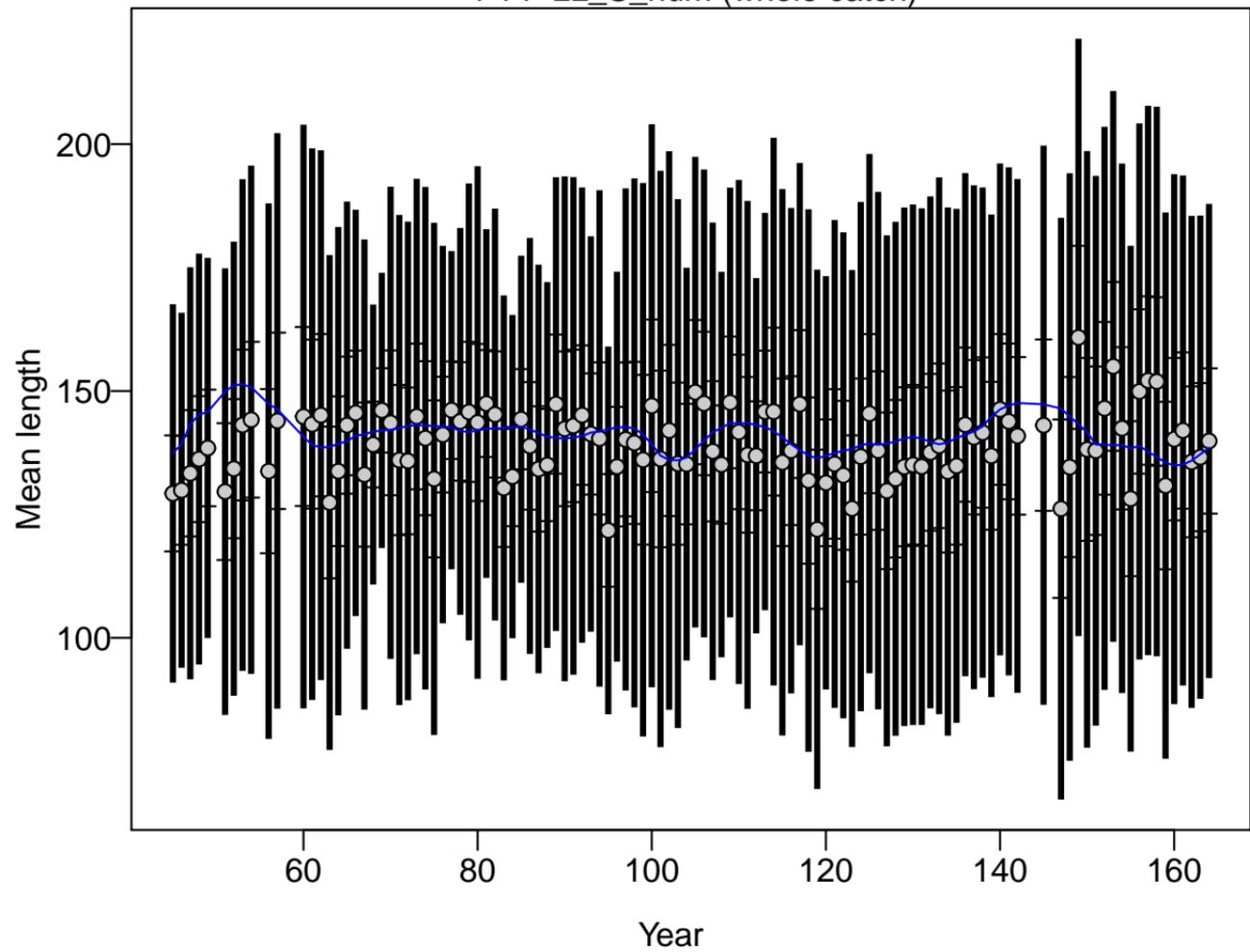


Proportion

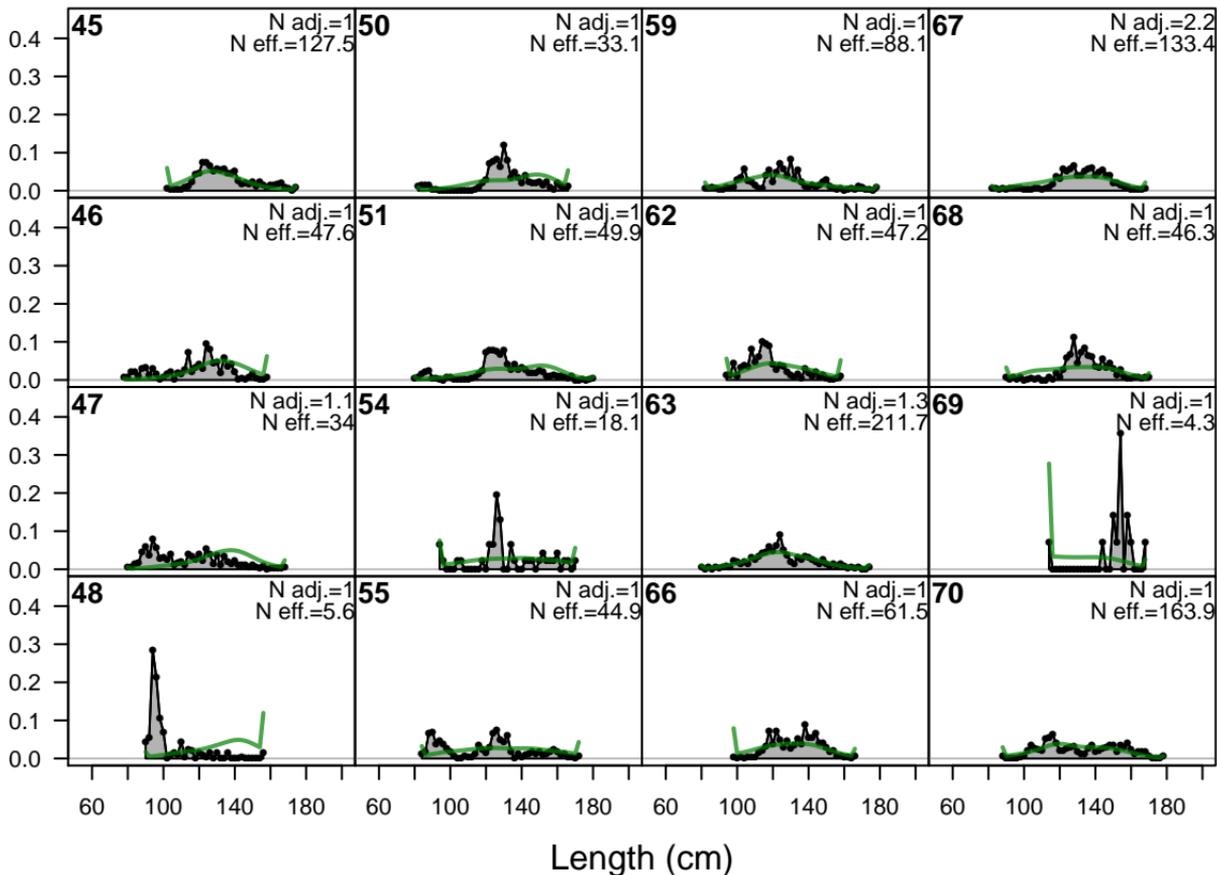
Length (cm)



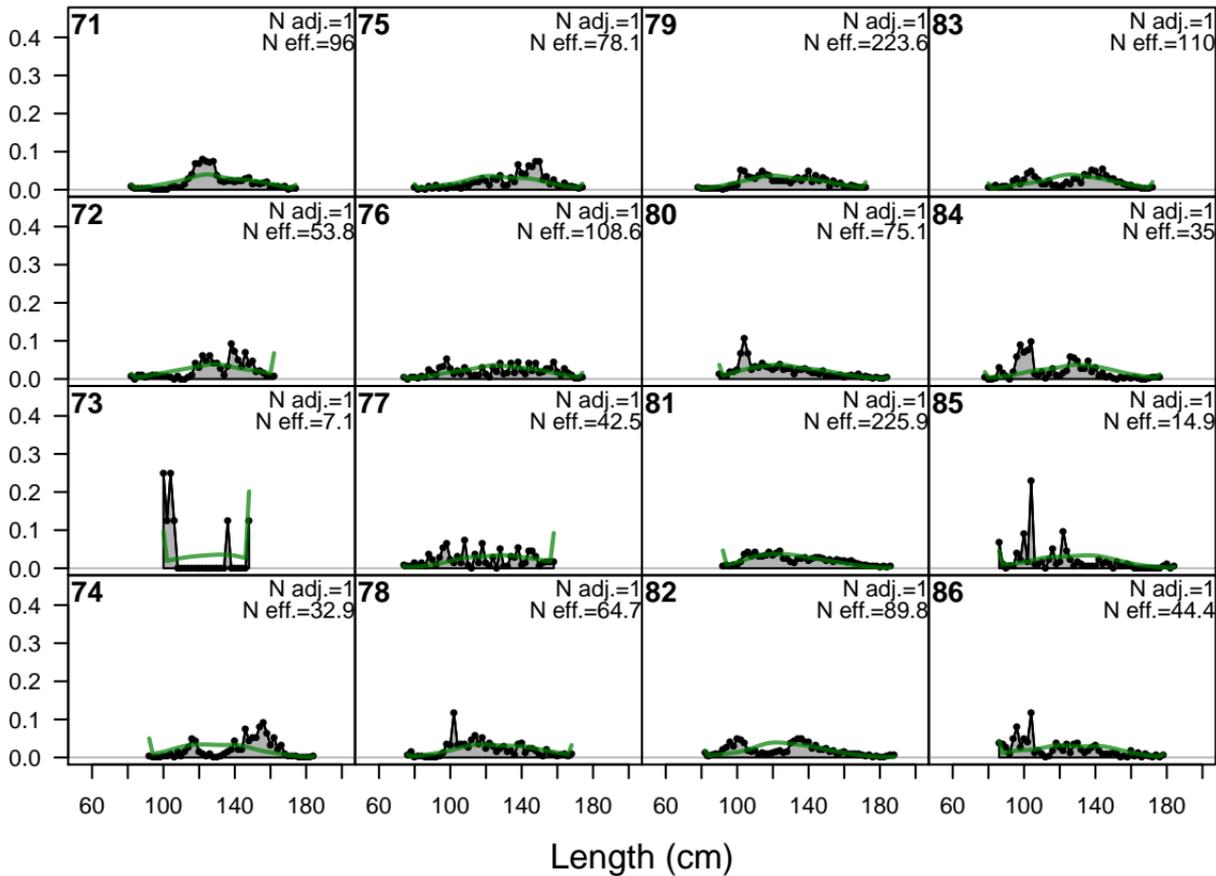
F14-LL_S_num (whole catch)



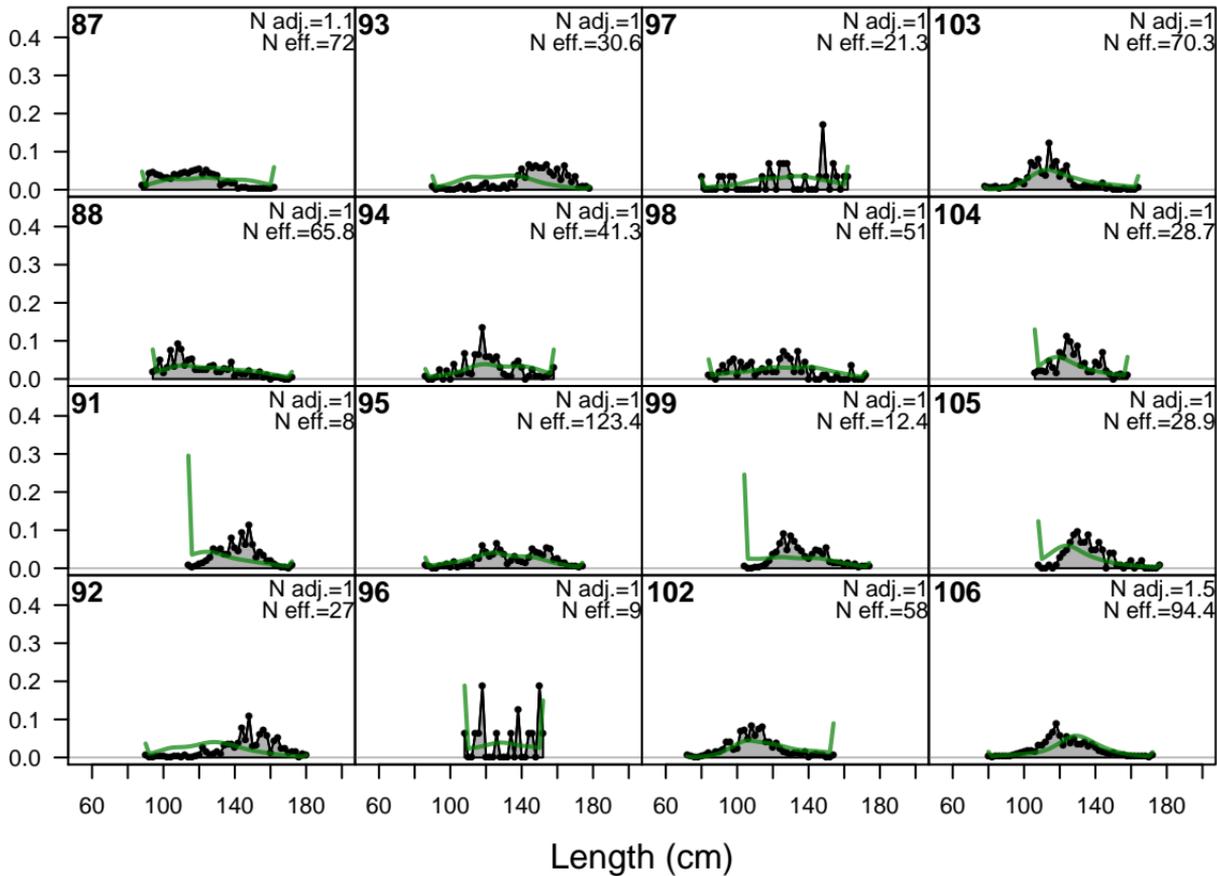
Proportion



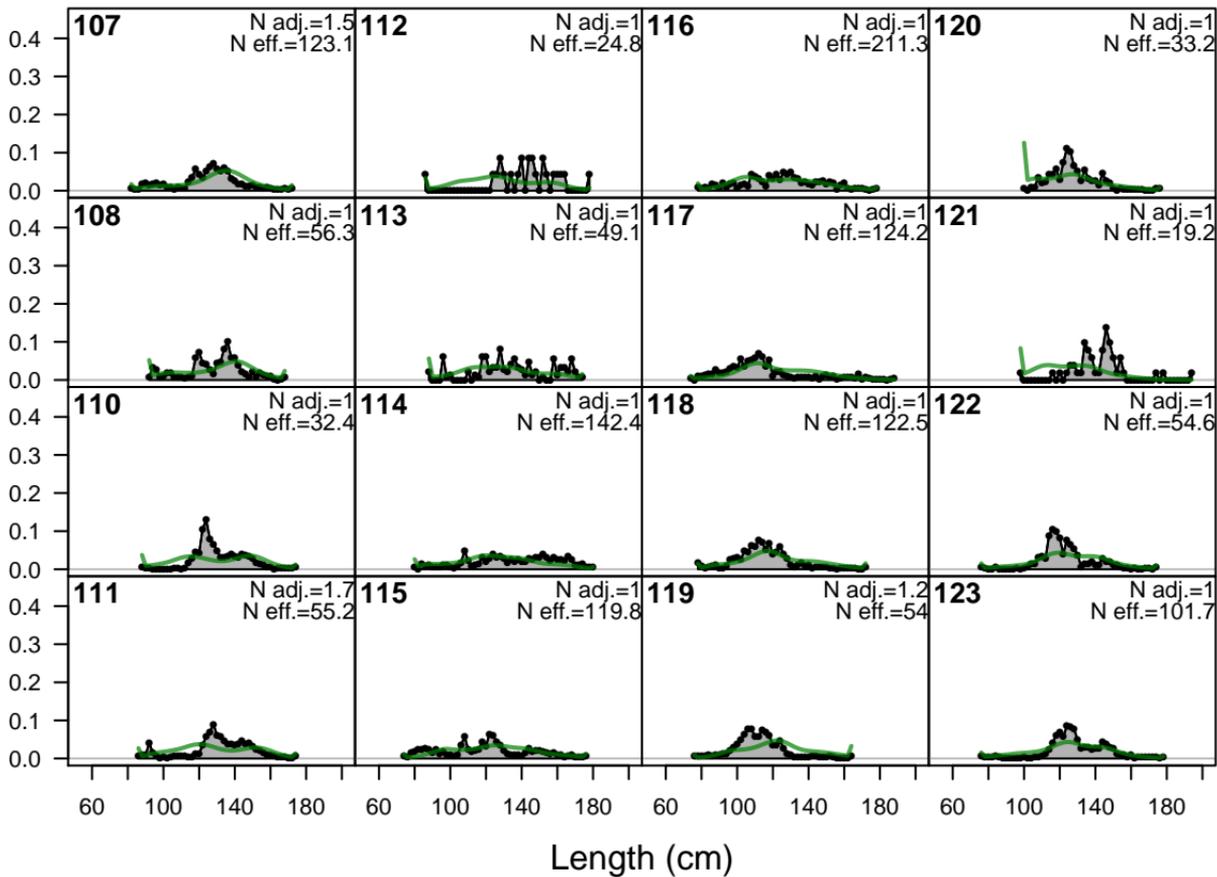
Proportion



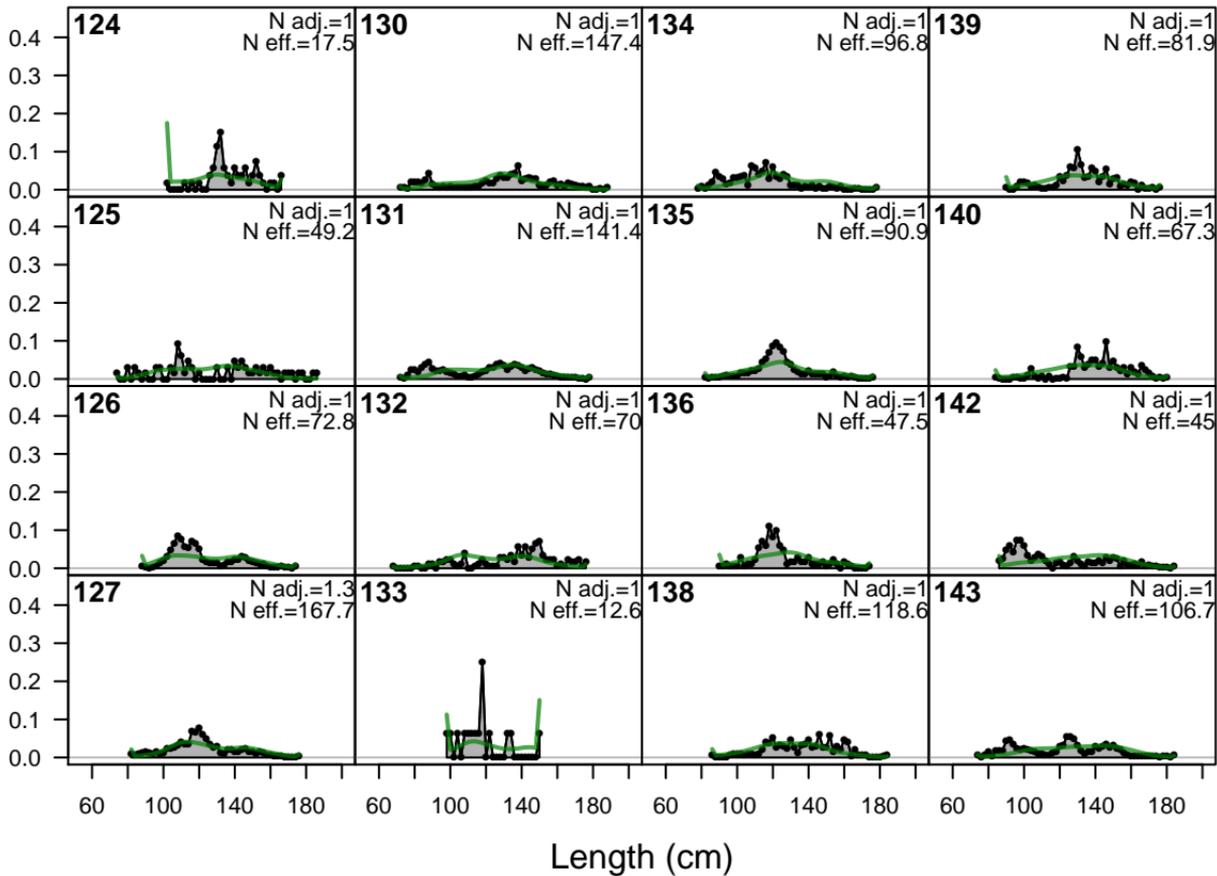
Proportion



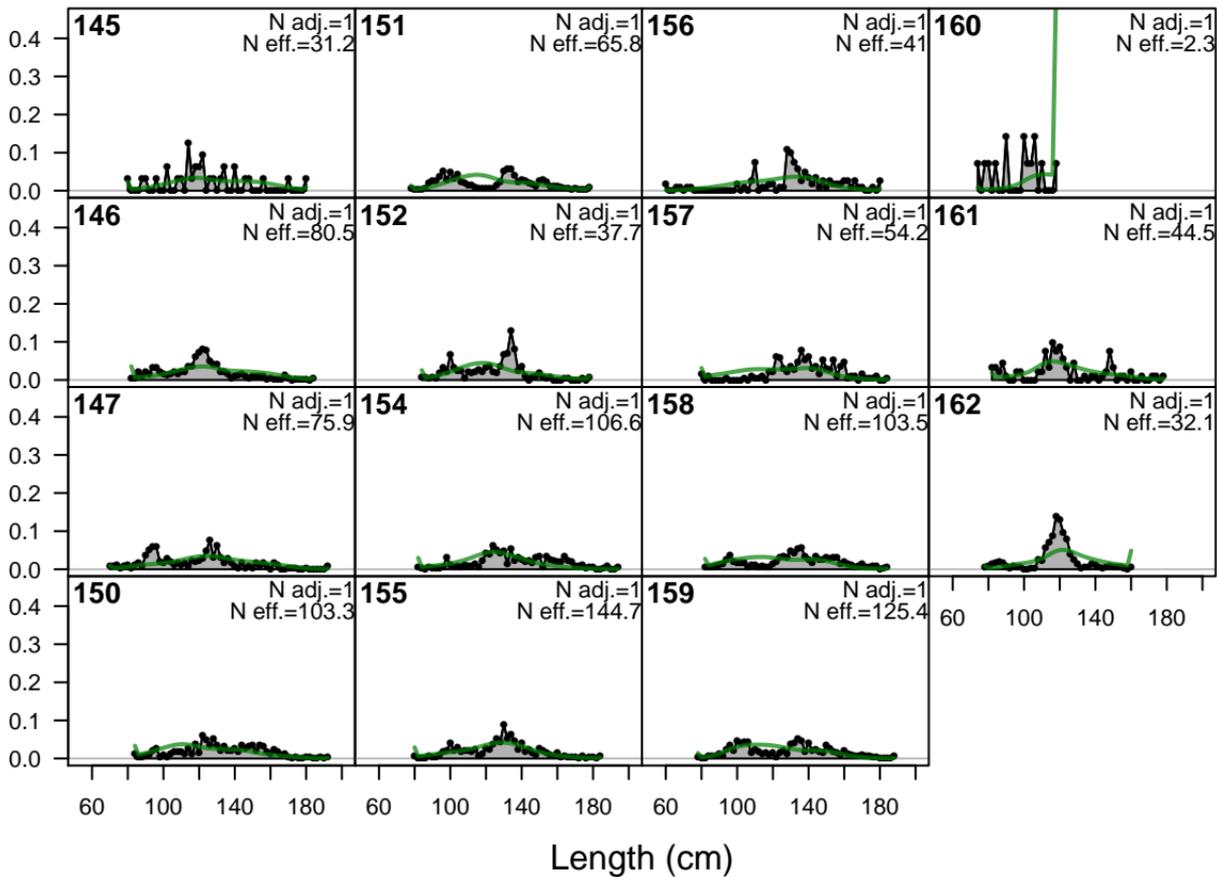
Proportion

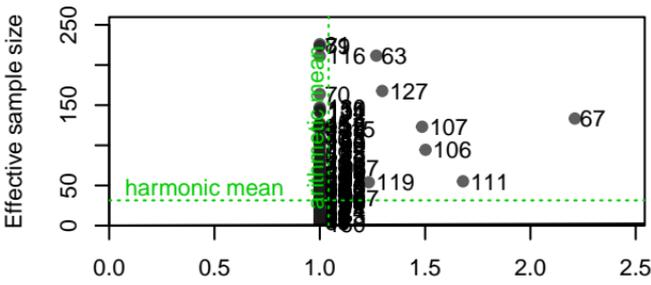
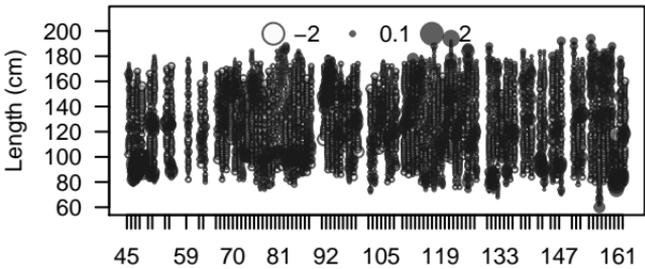


Proportion

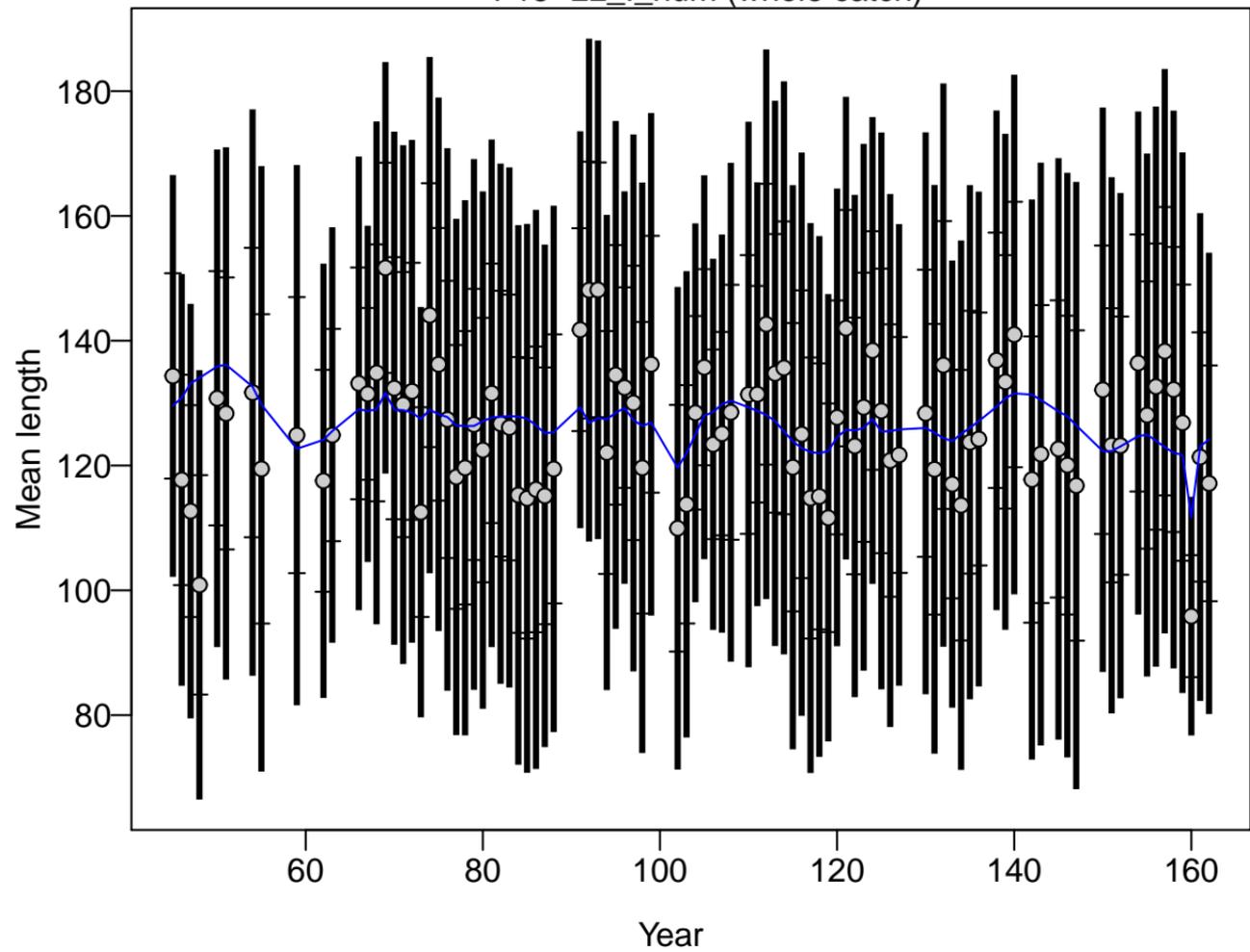


Proportion

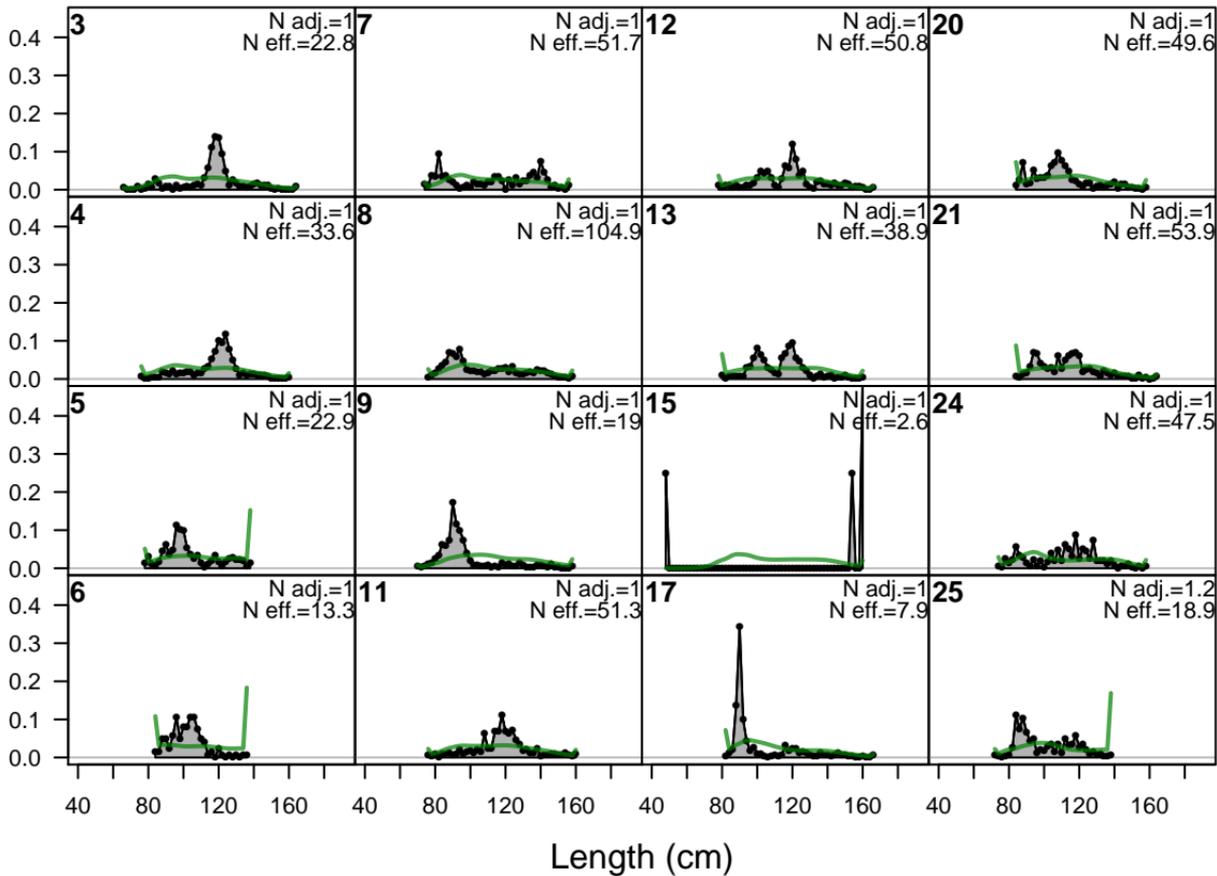




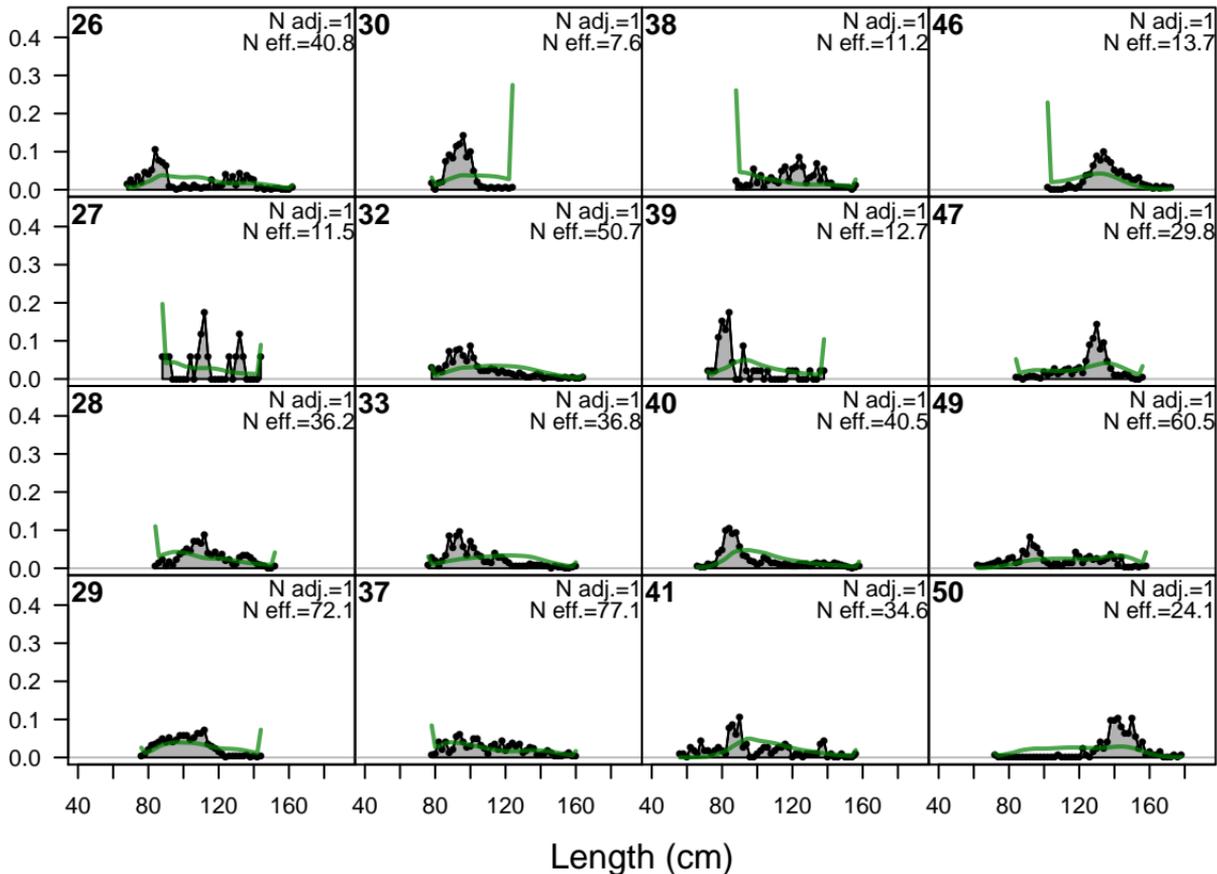
F15-LL_I_num (whole catch)



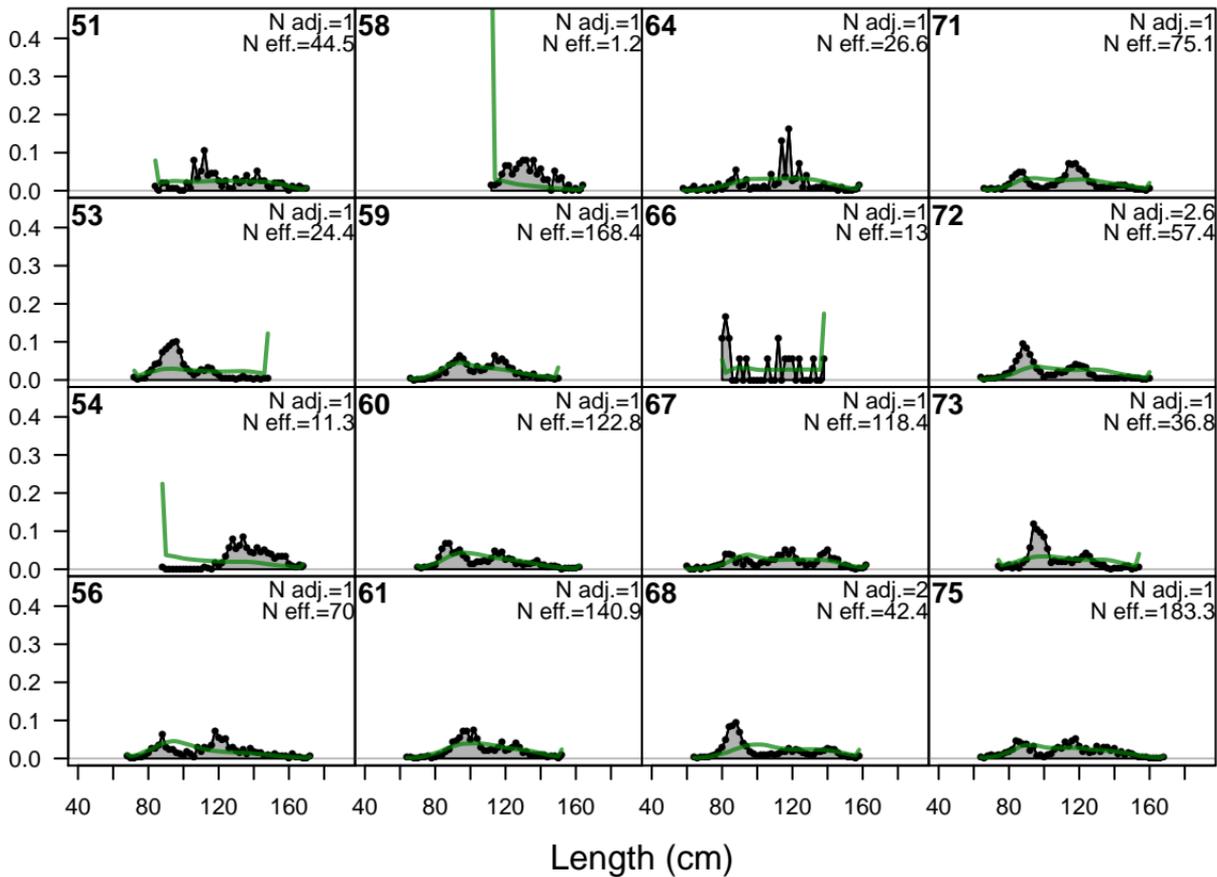
Proportion



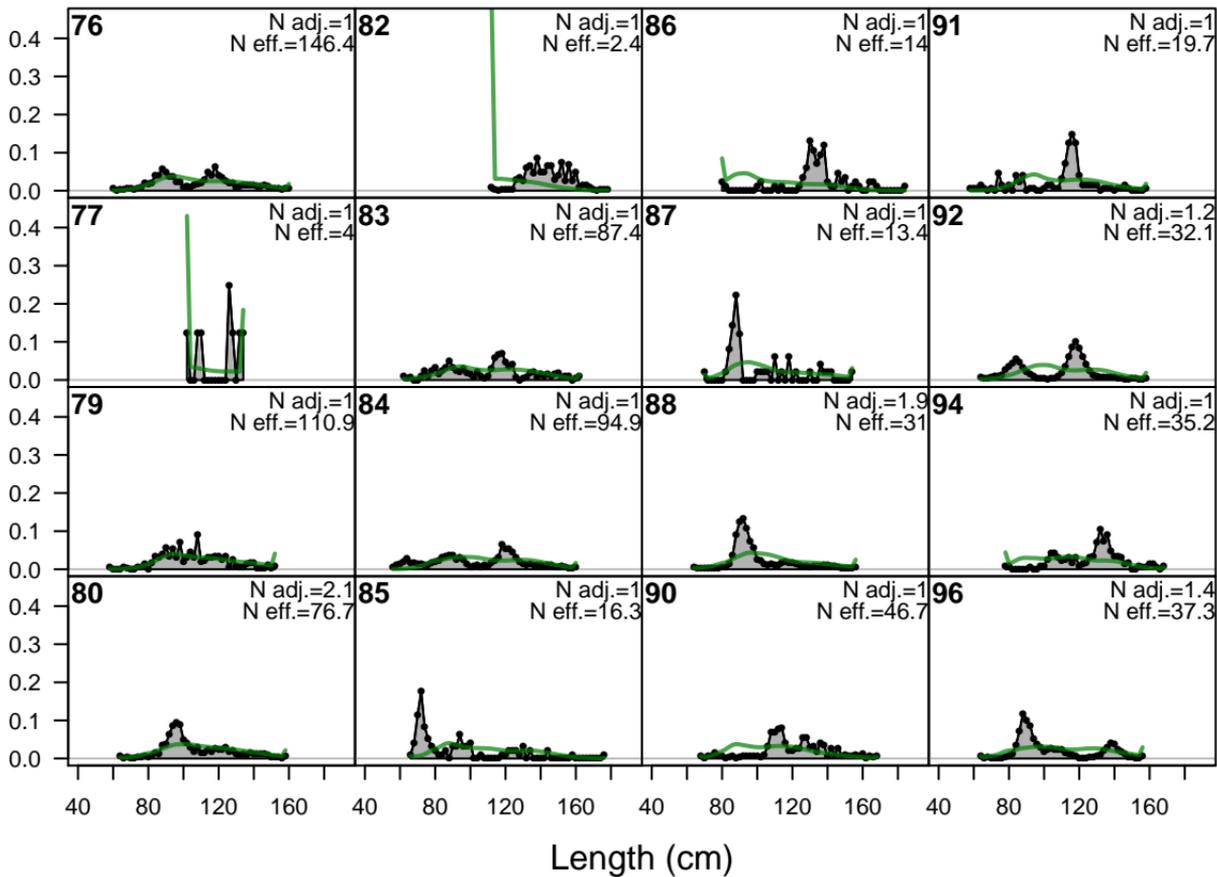
Proportion



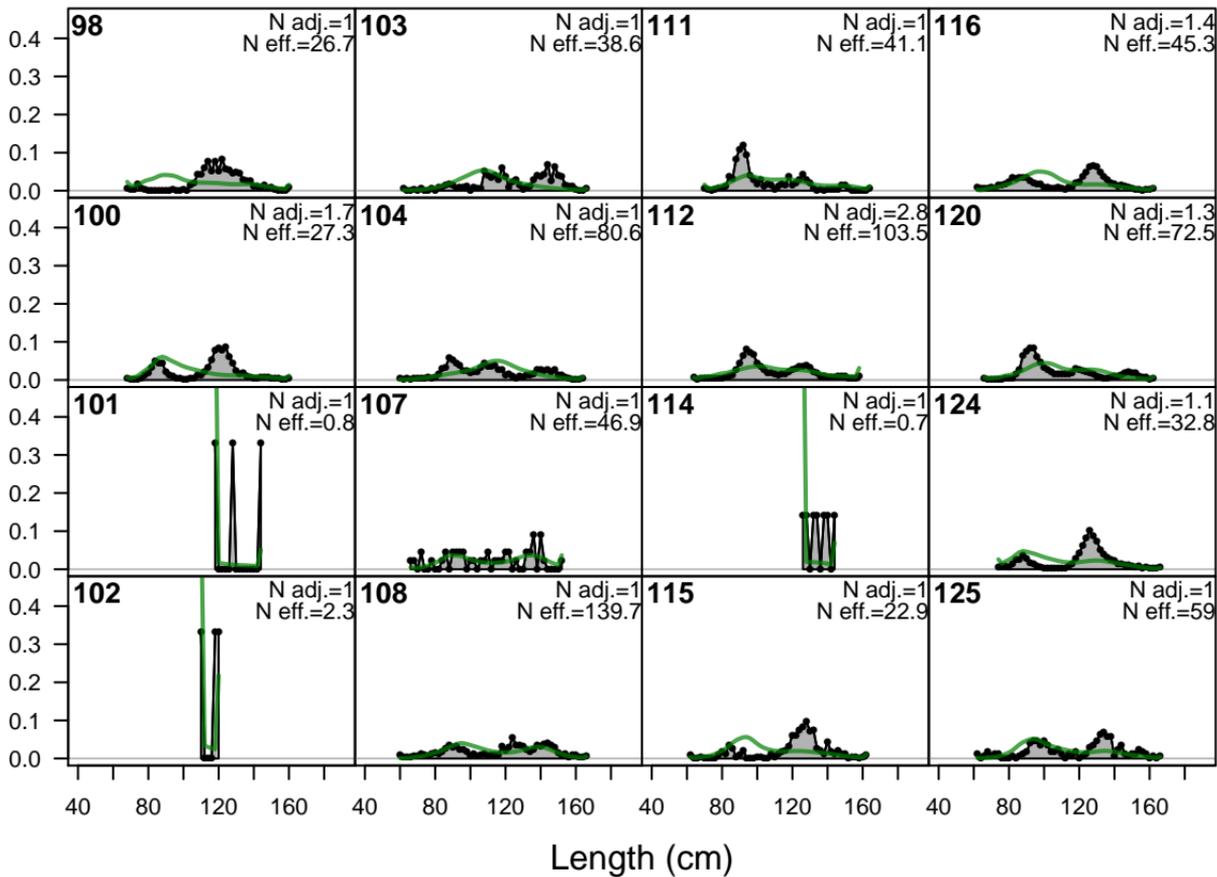
Proportion



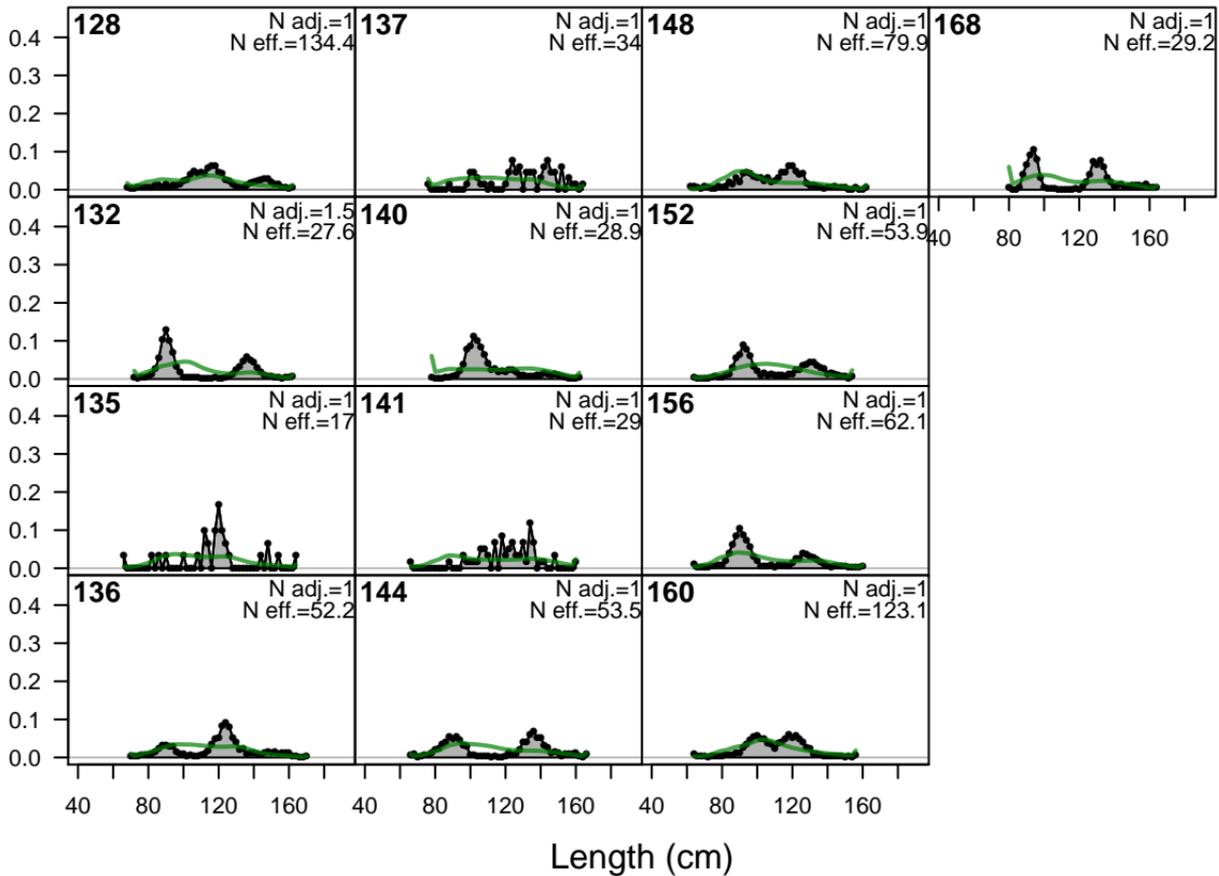
Proportion

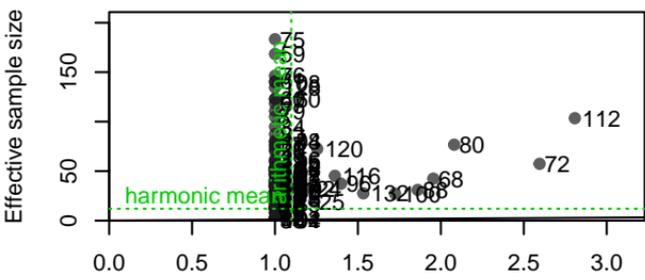
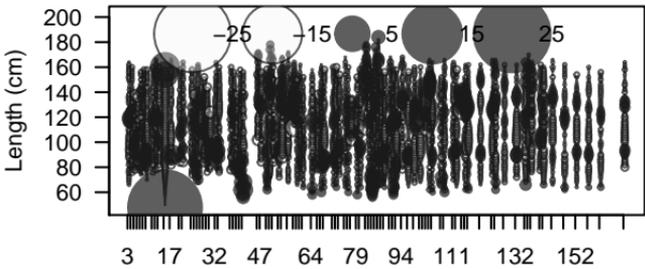


Proportion

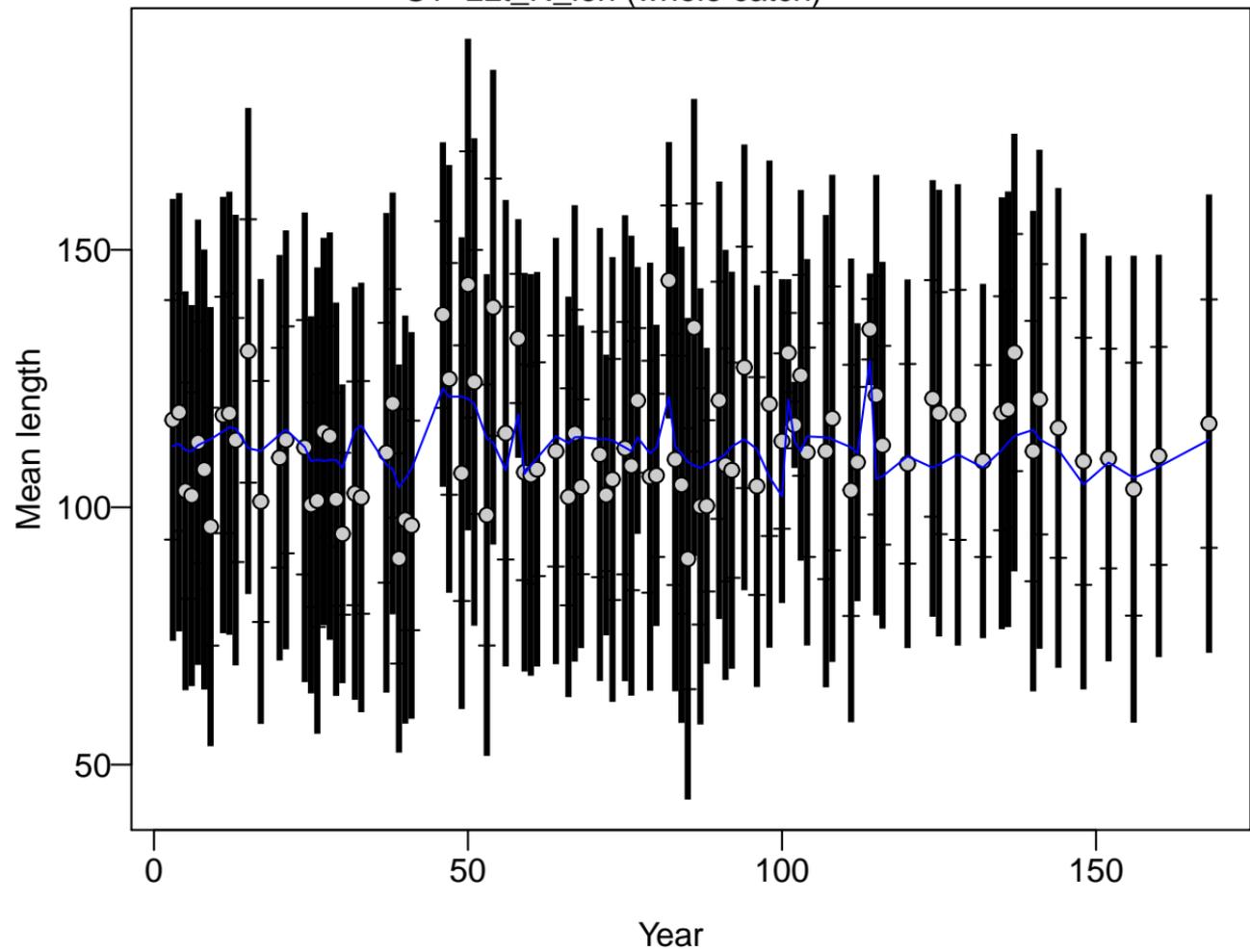


Proportion

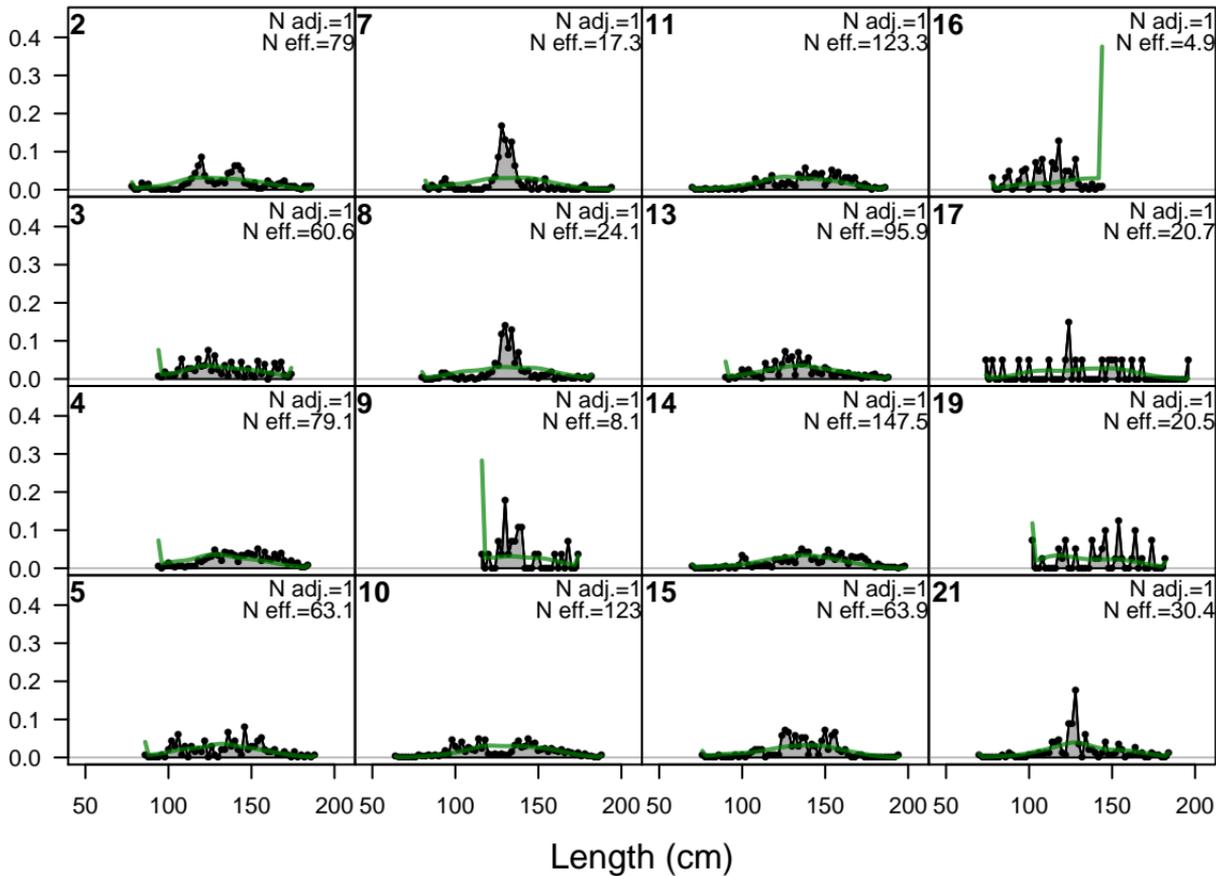




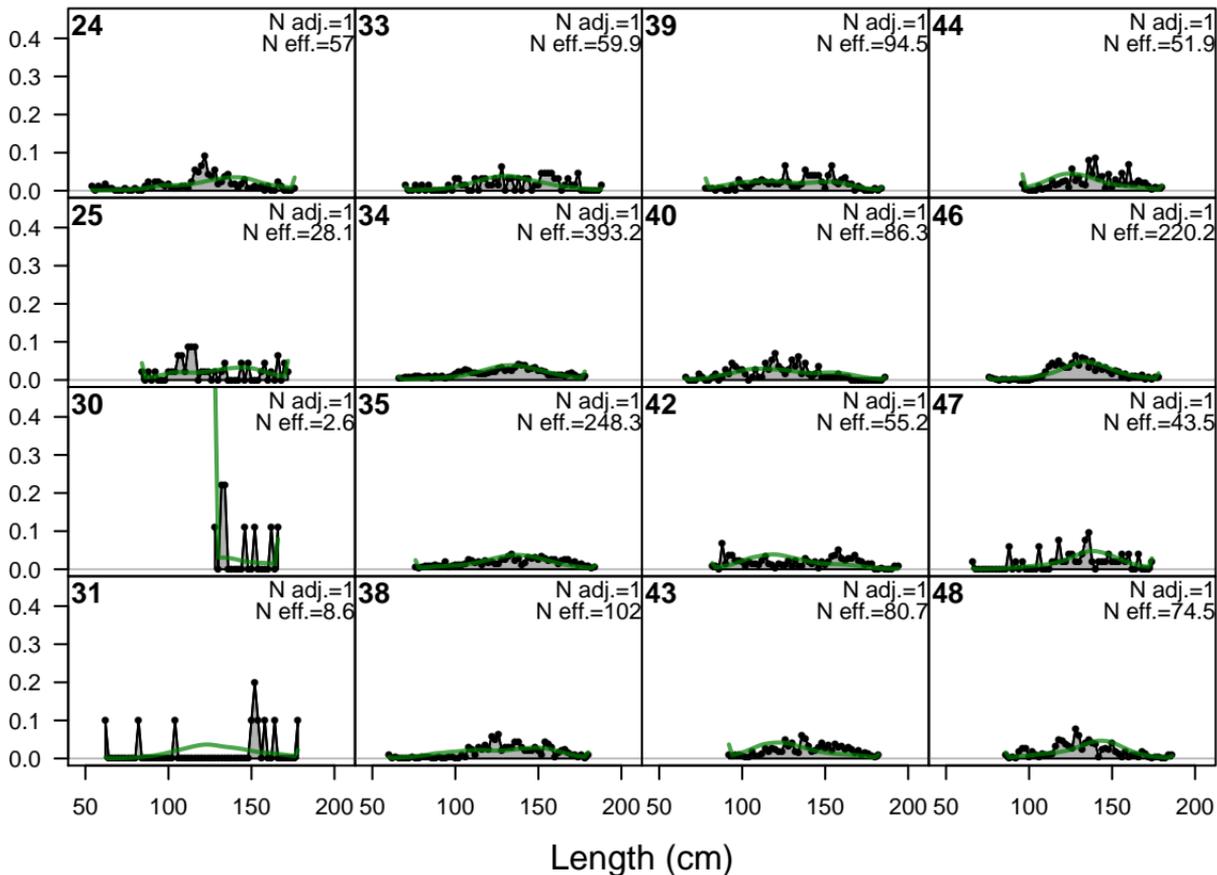
S1-LLt_N_len (whole catch)



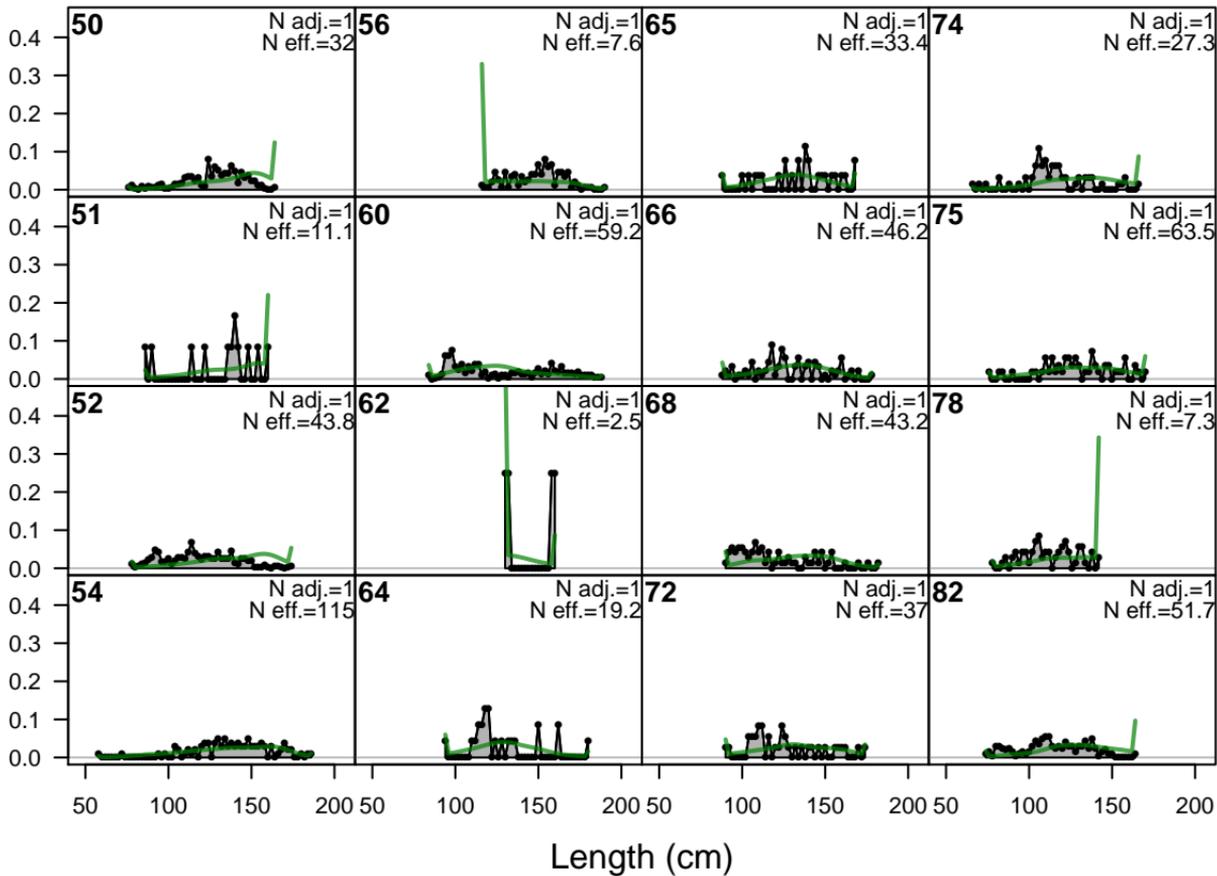
Proportion



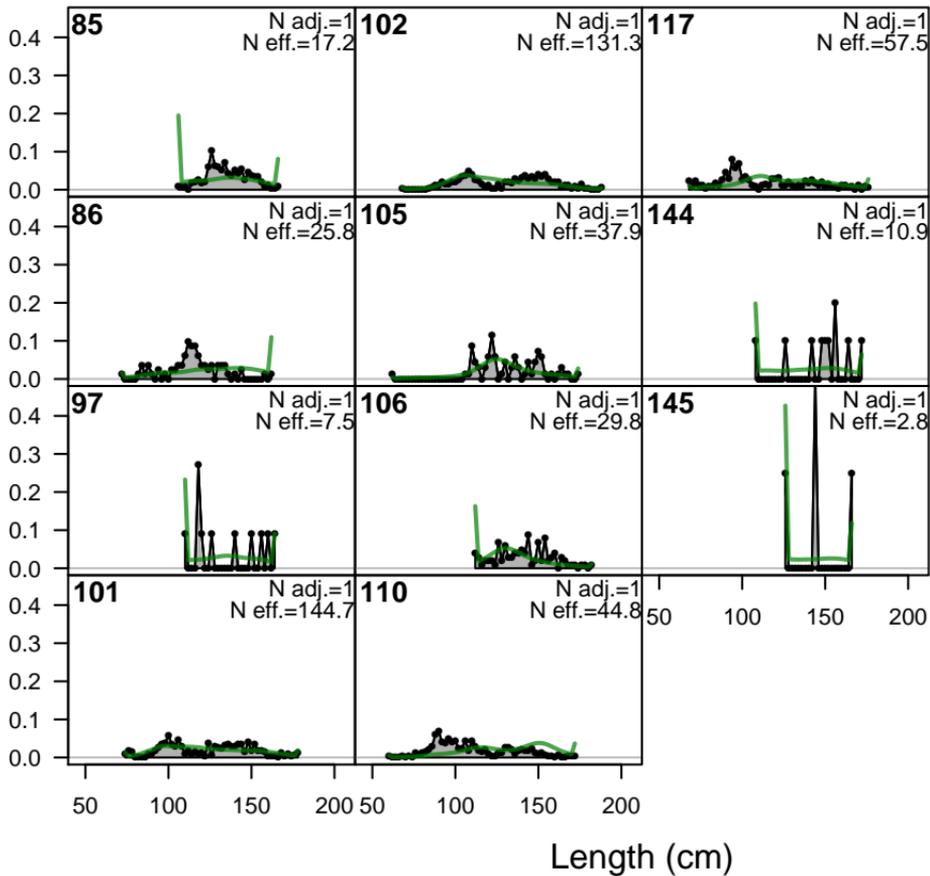
Proportion

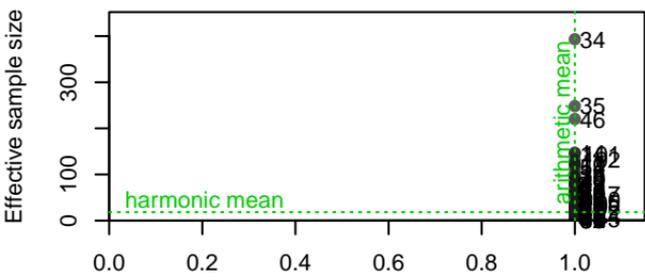
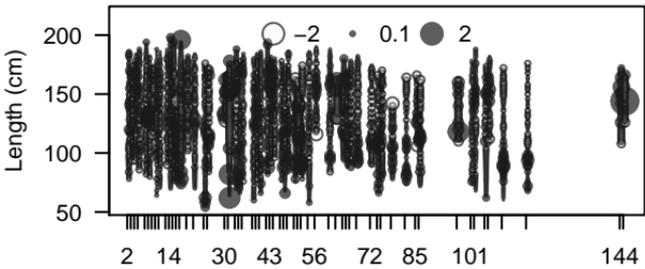


Proportion

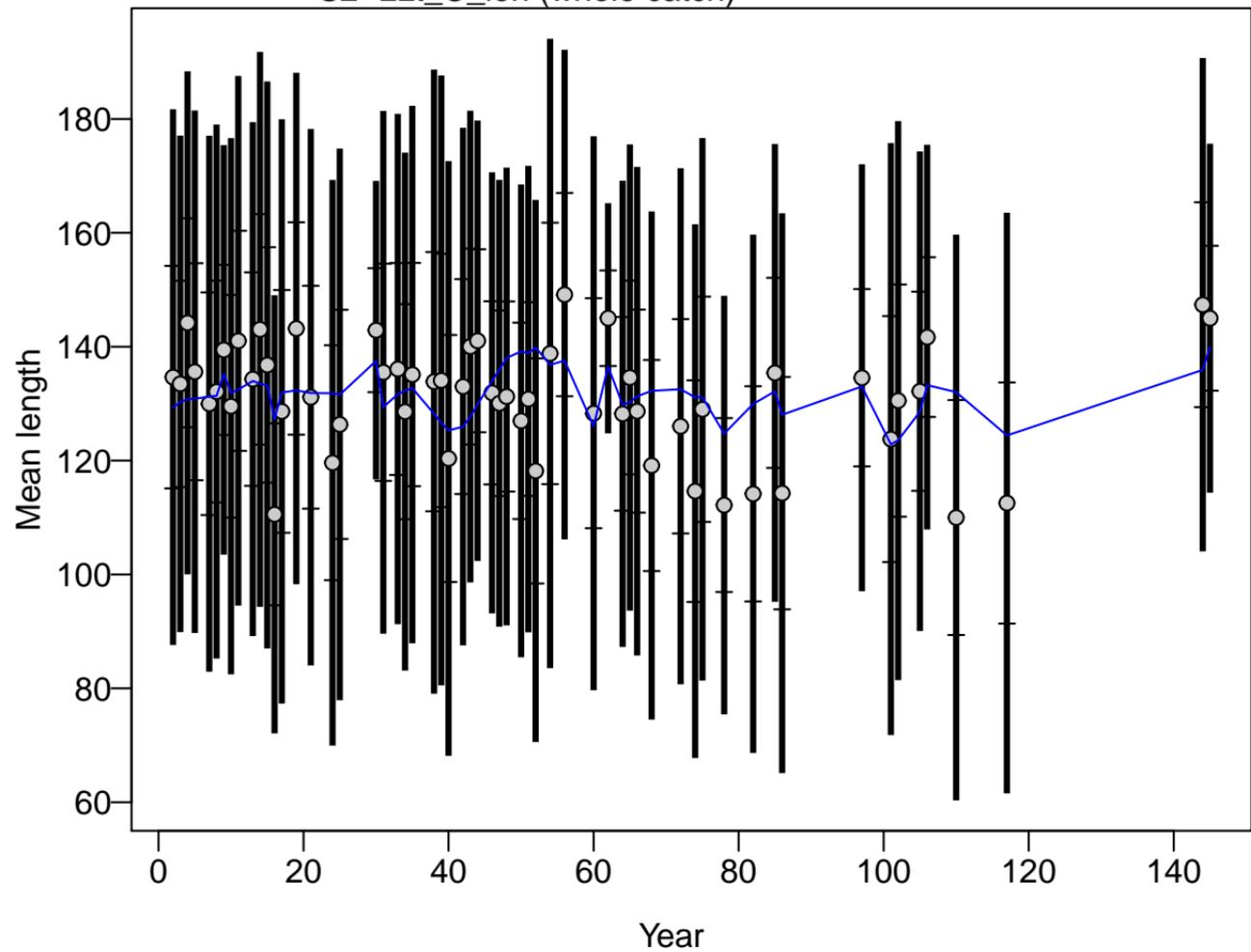


Proportion

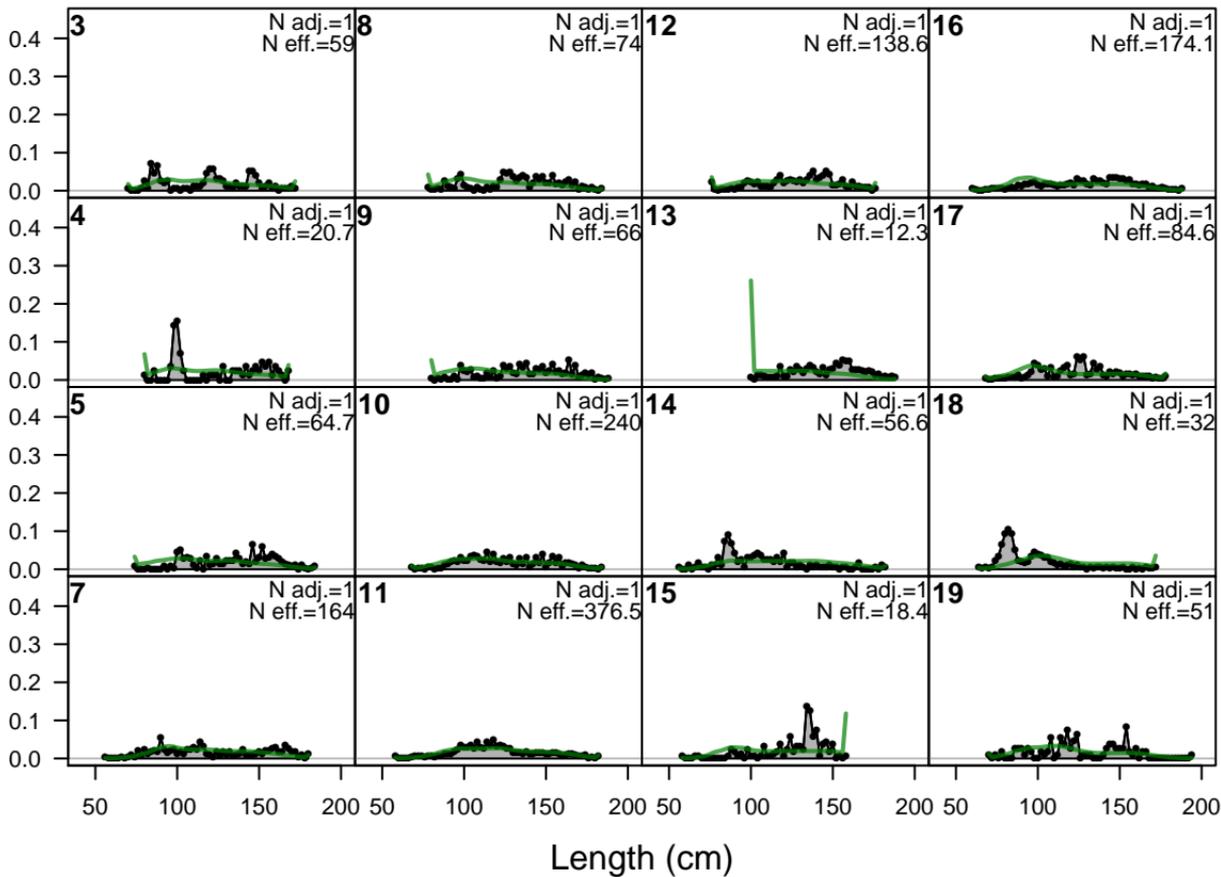




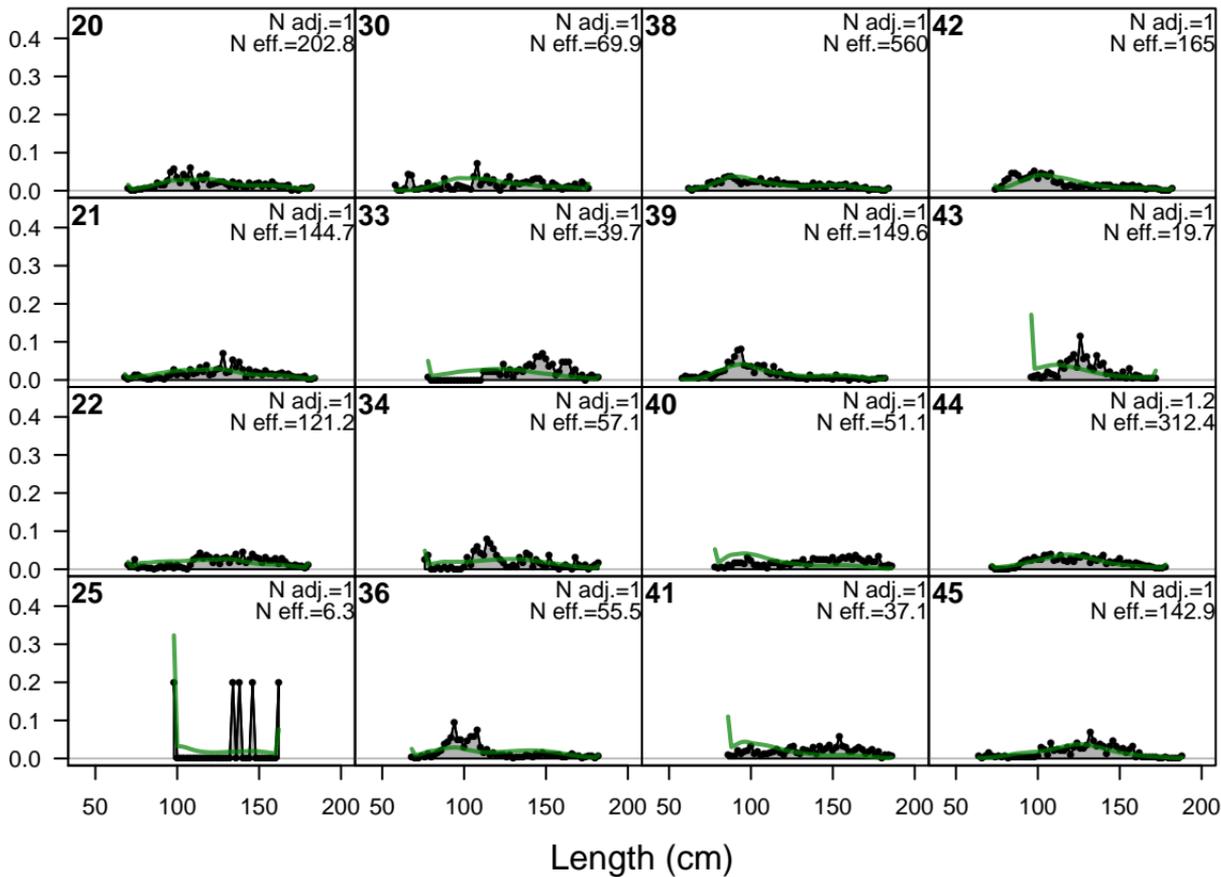
S2-LLt_C_len (whole catch)



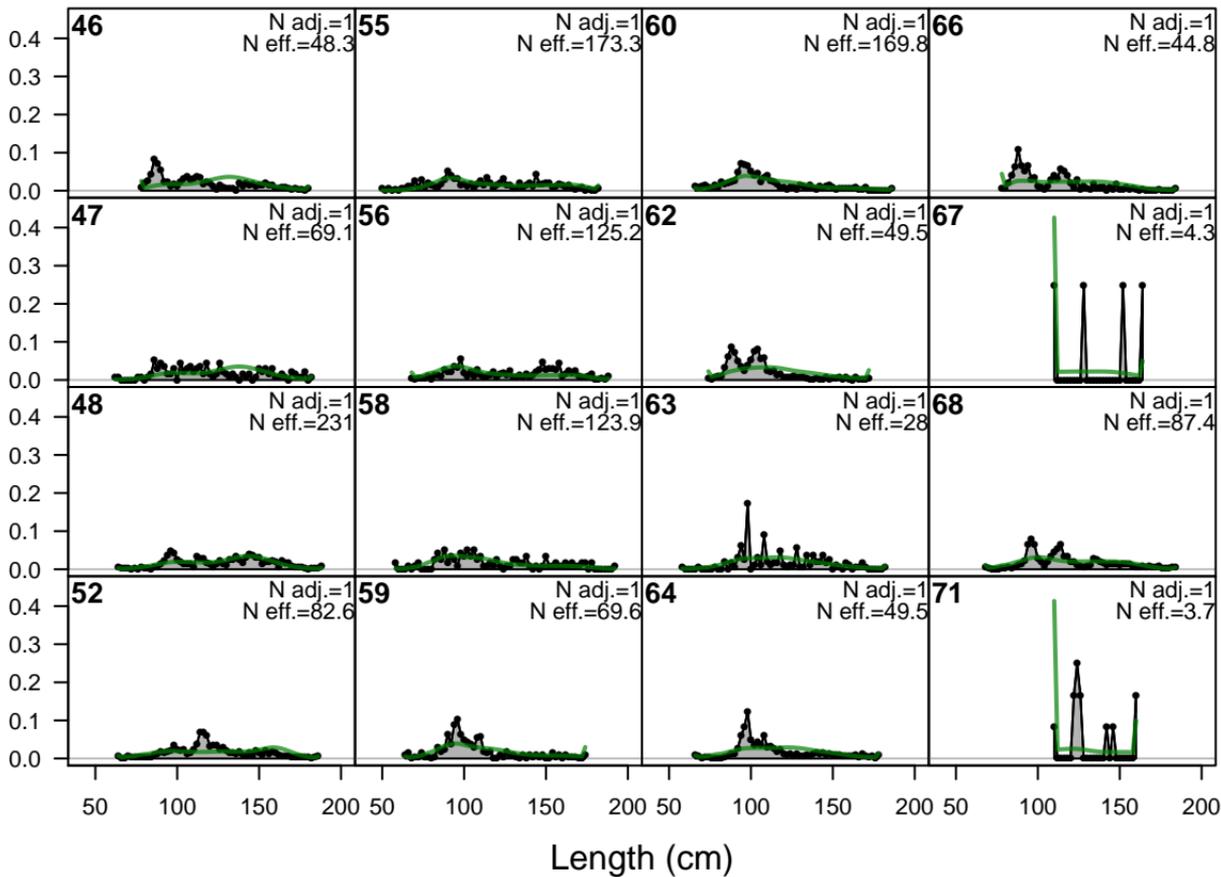
Proportion



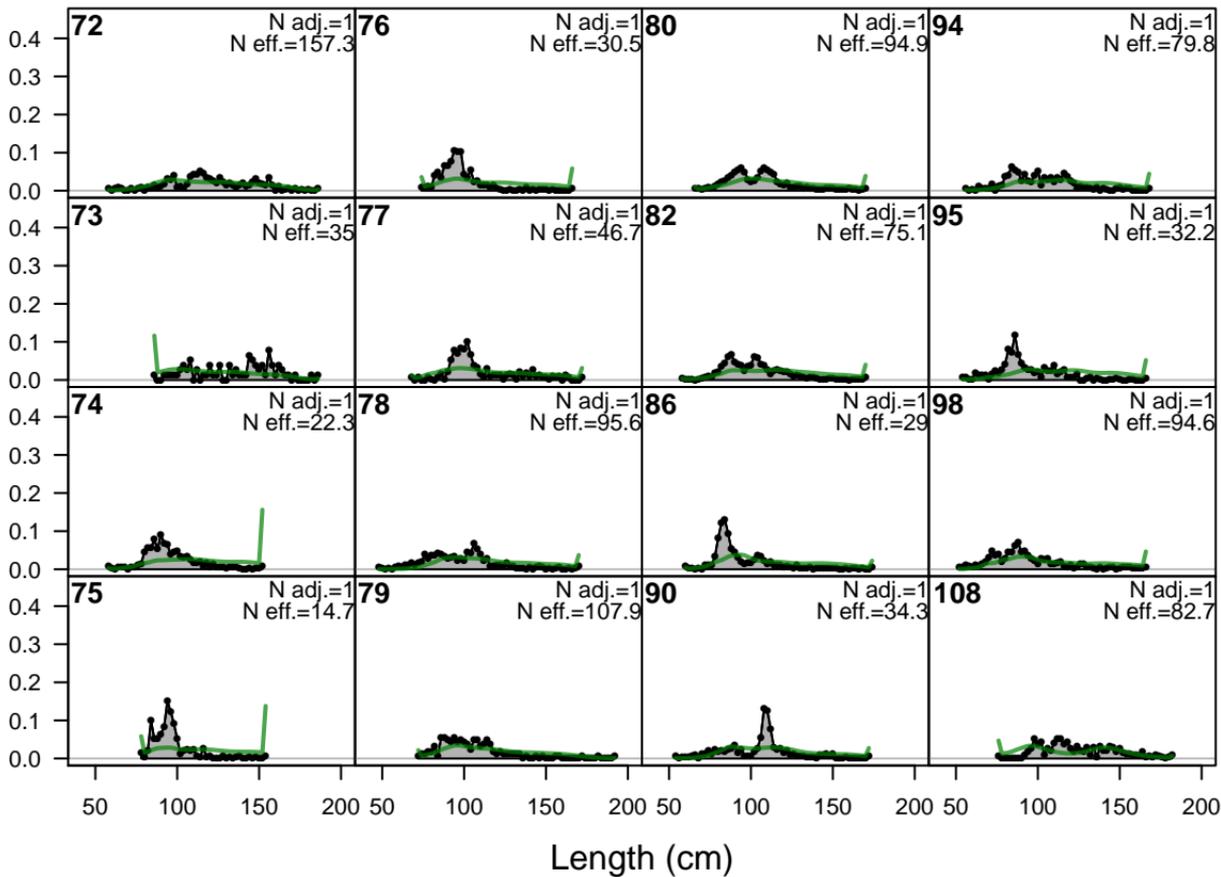
Proportion

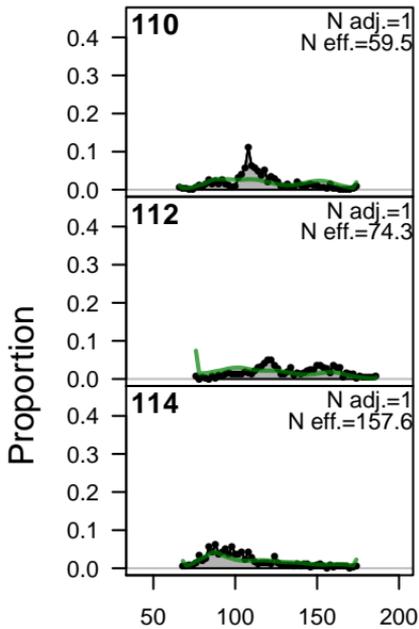


Proportion

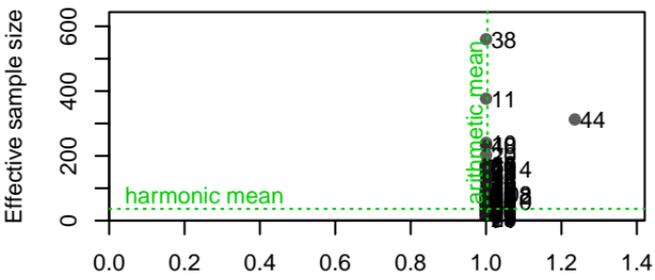
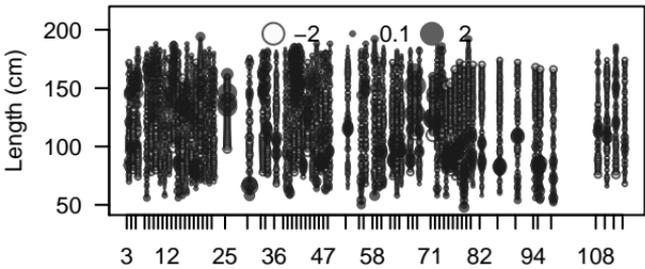


Proportion

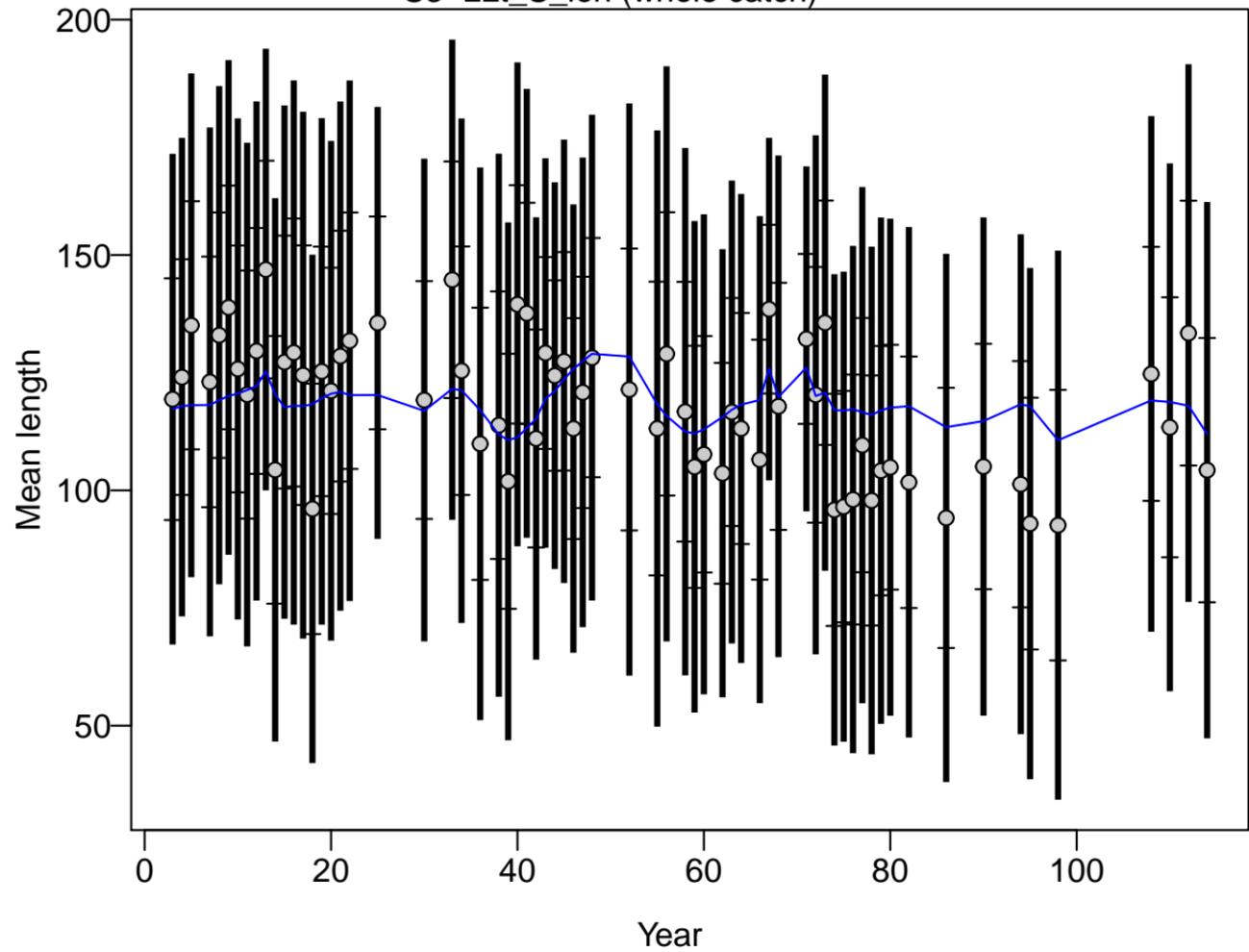




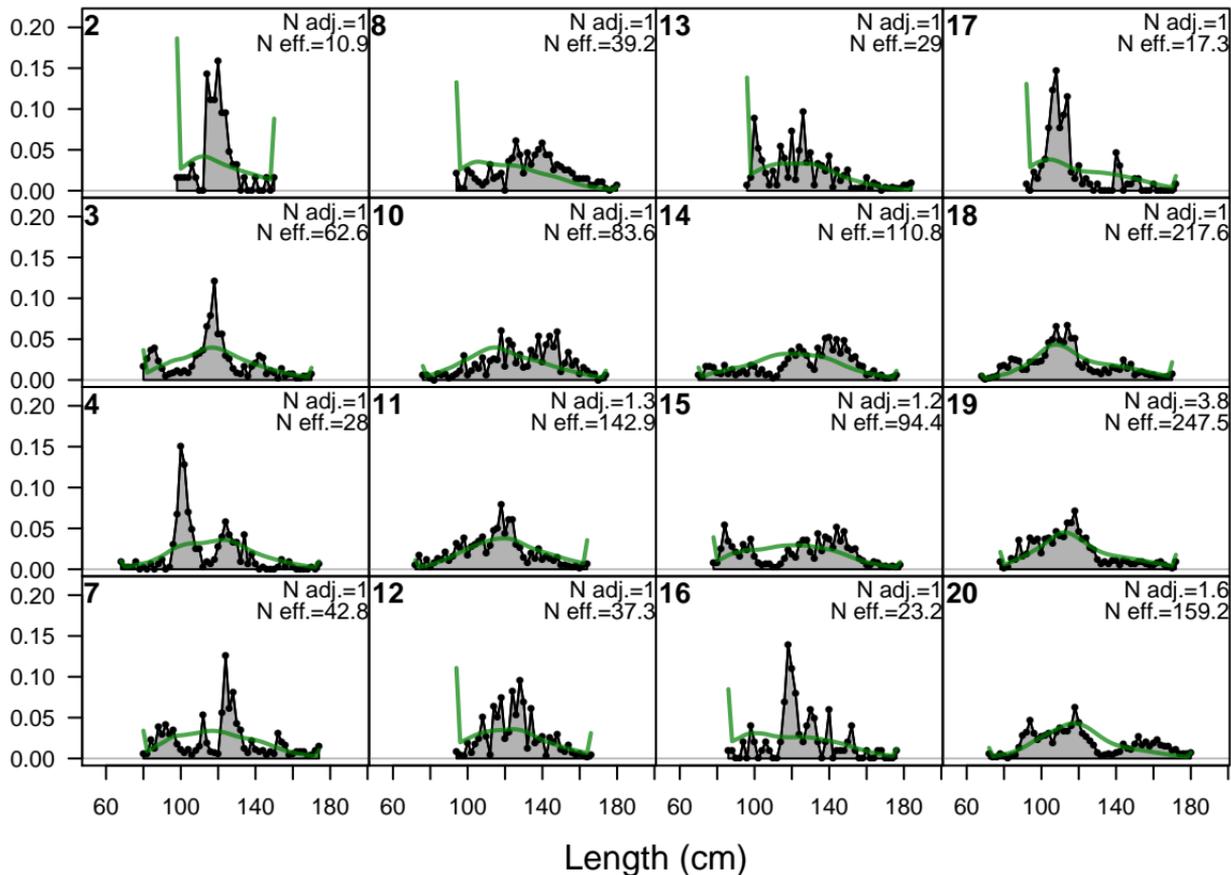
Length (cm)



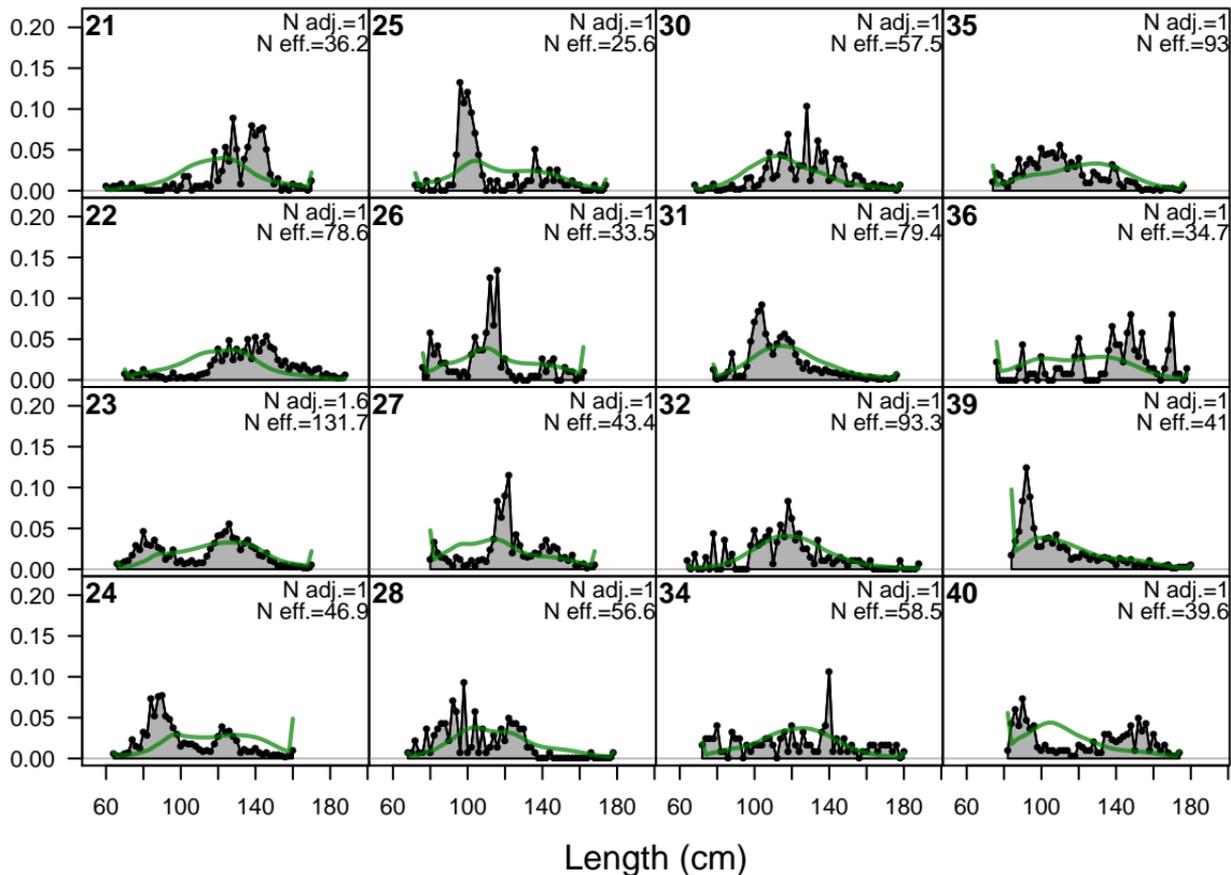
S3-LLt_S_len (whole catch)

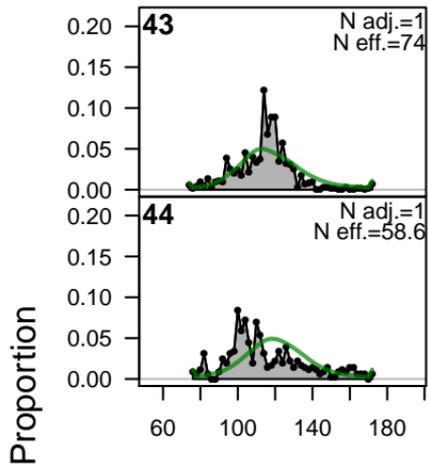


Proportion

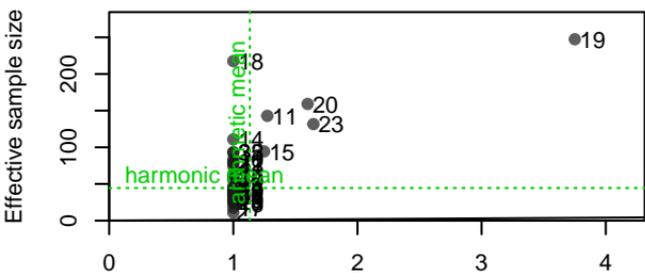
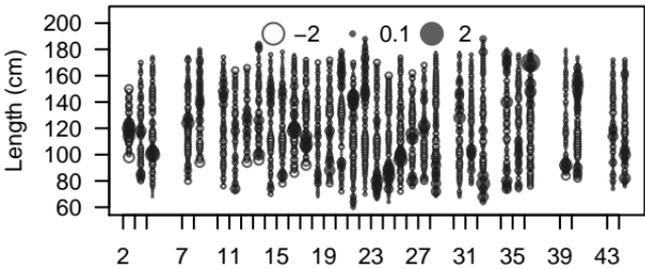


Proportion

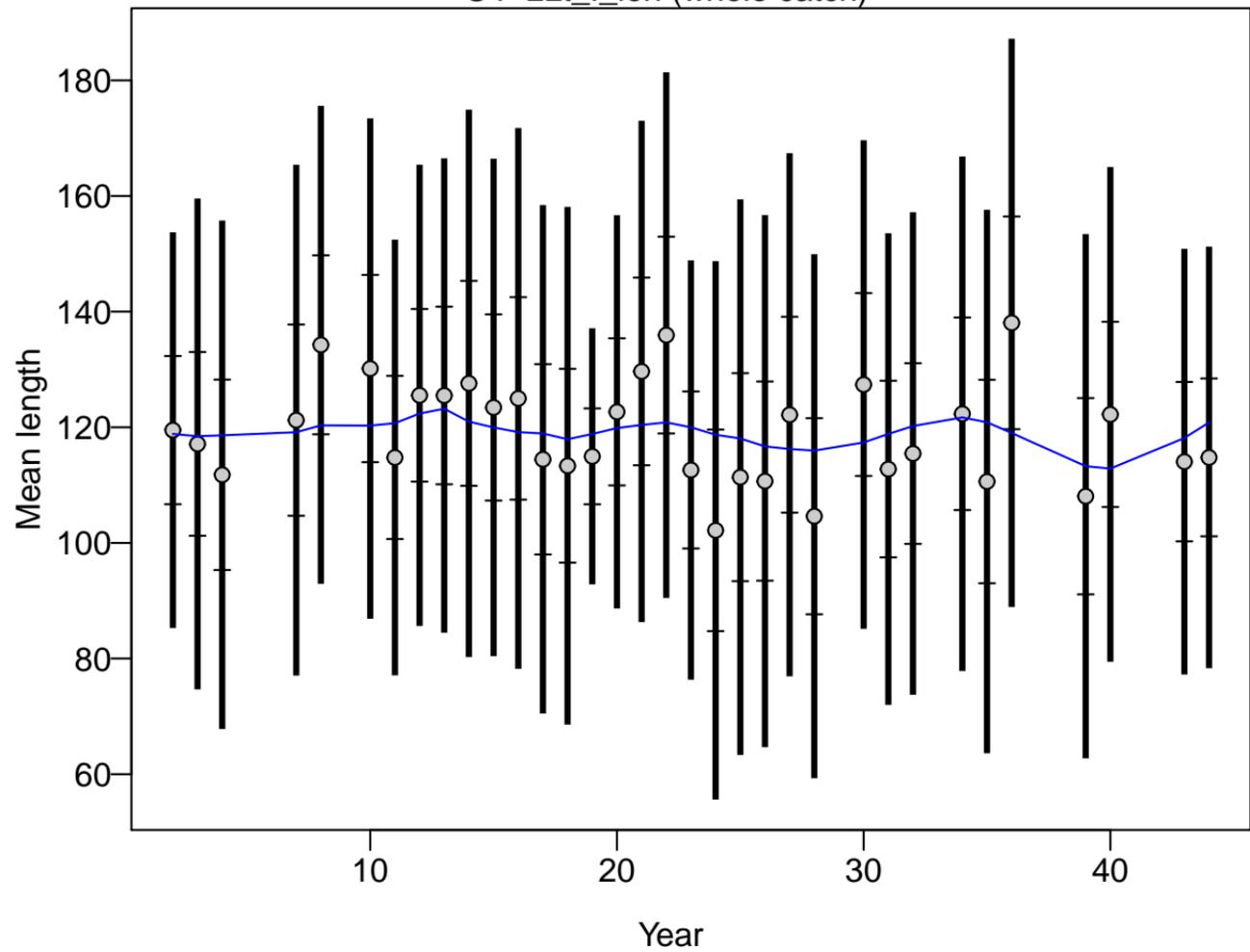




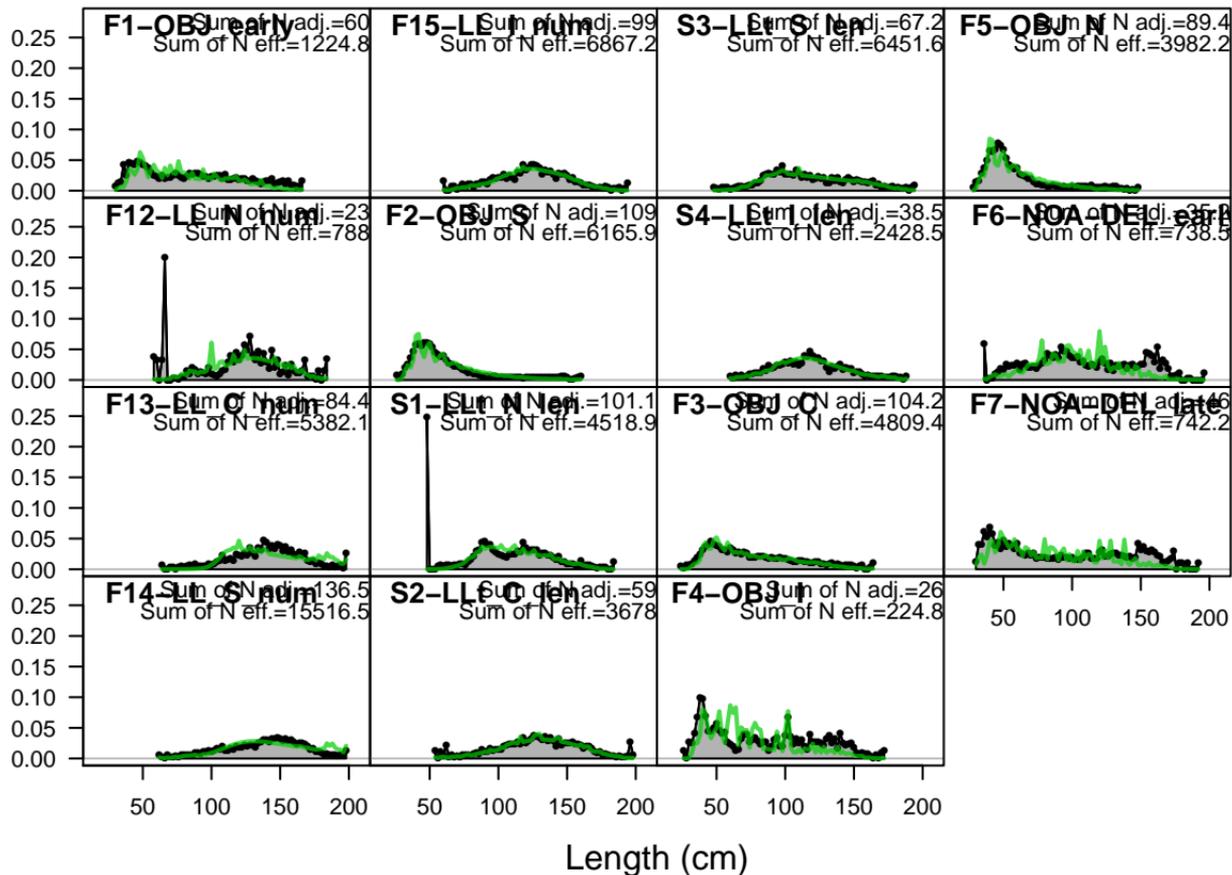
Length (cm)

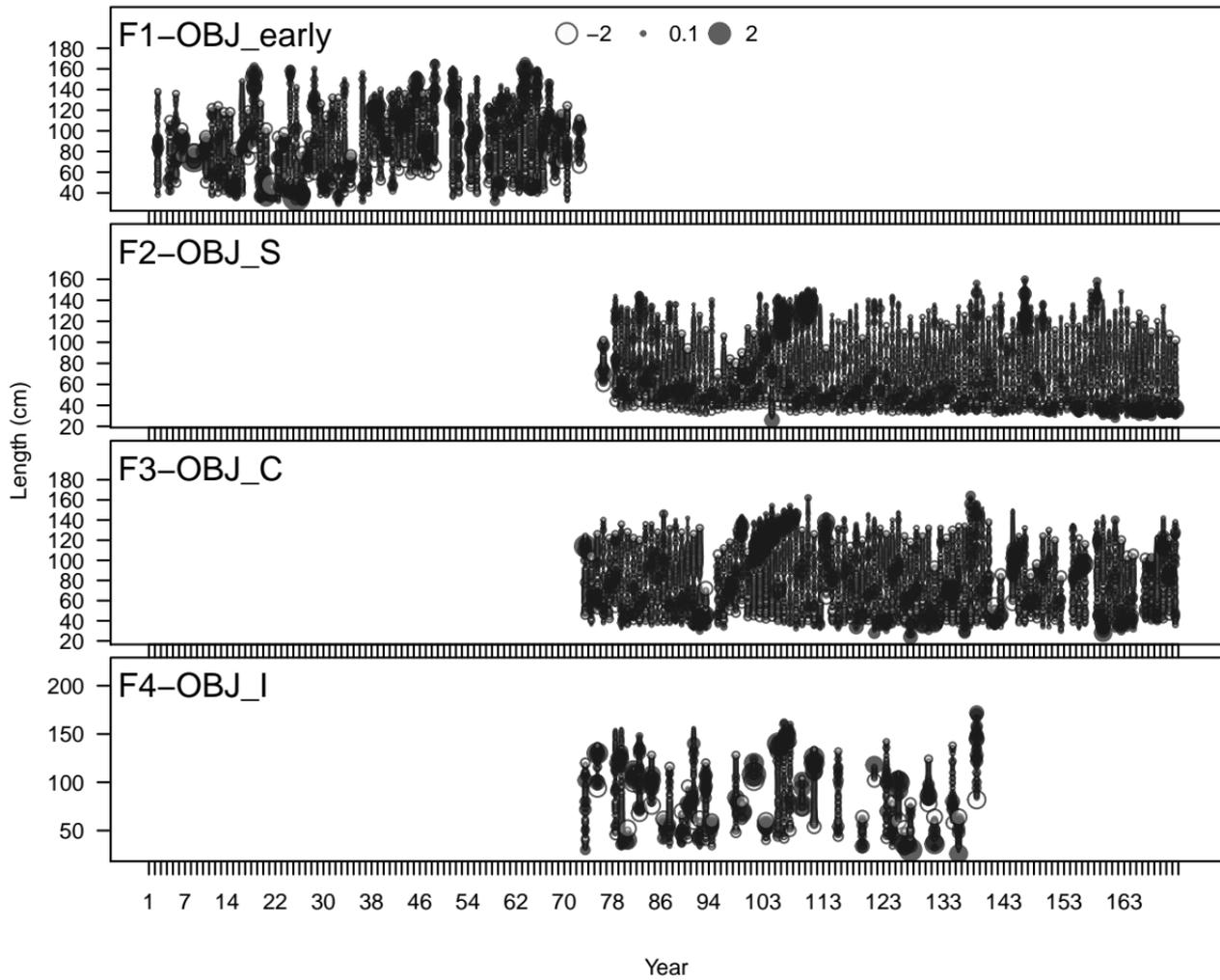


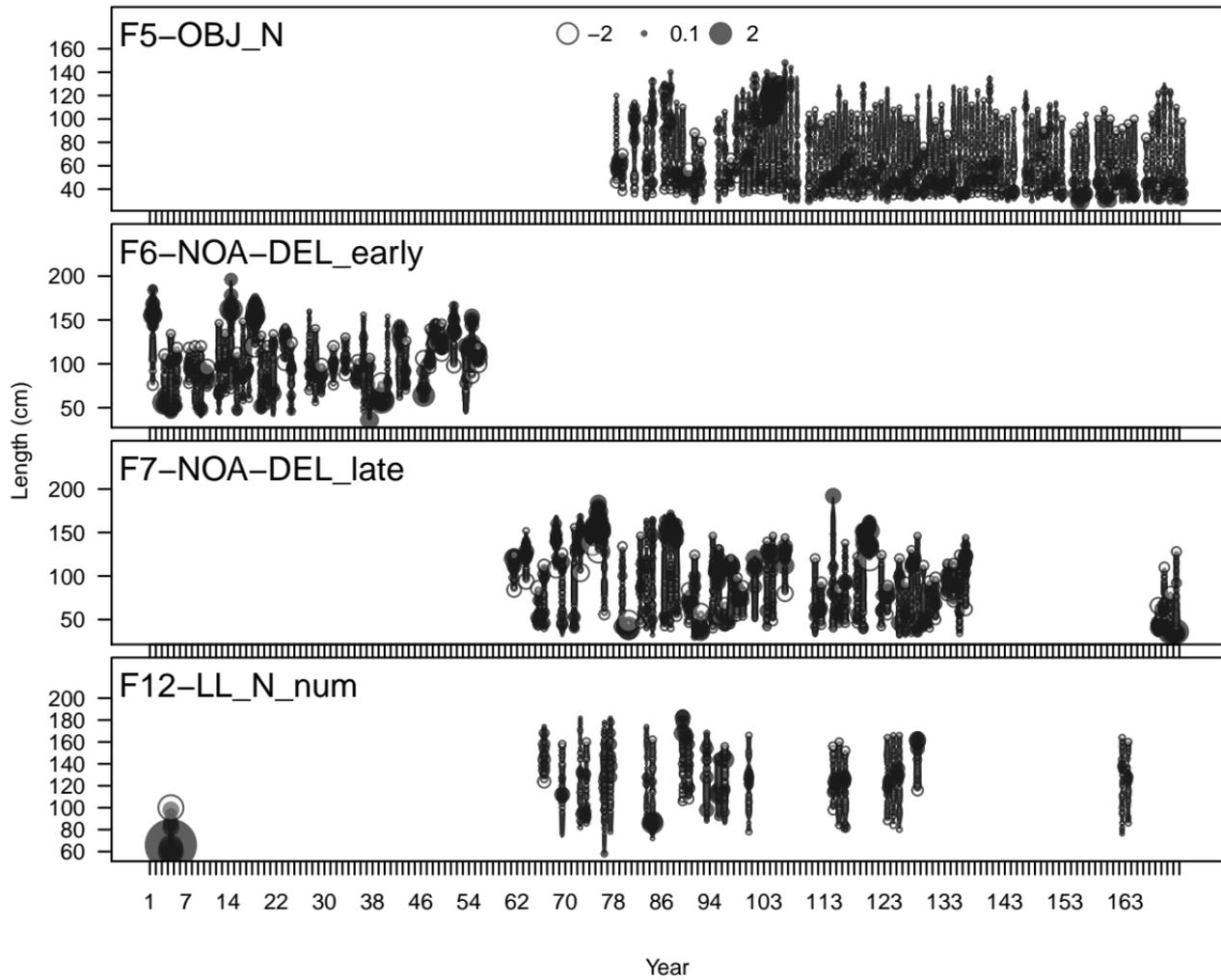
S4-LLt_I_len (whole catch)

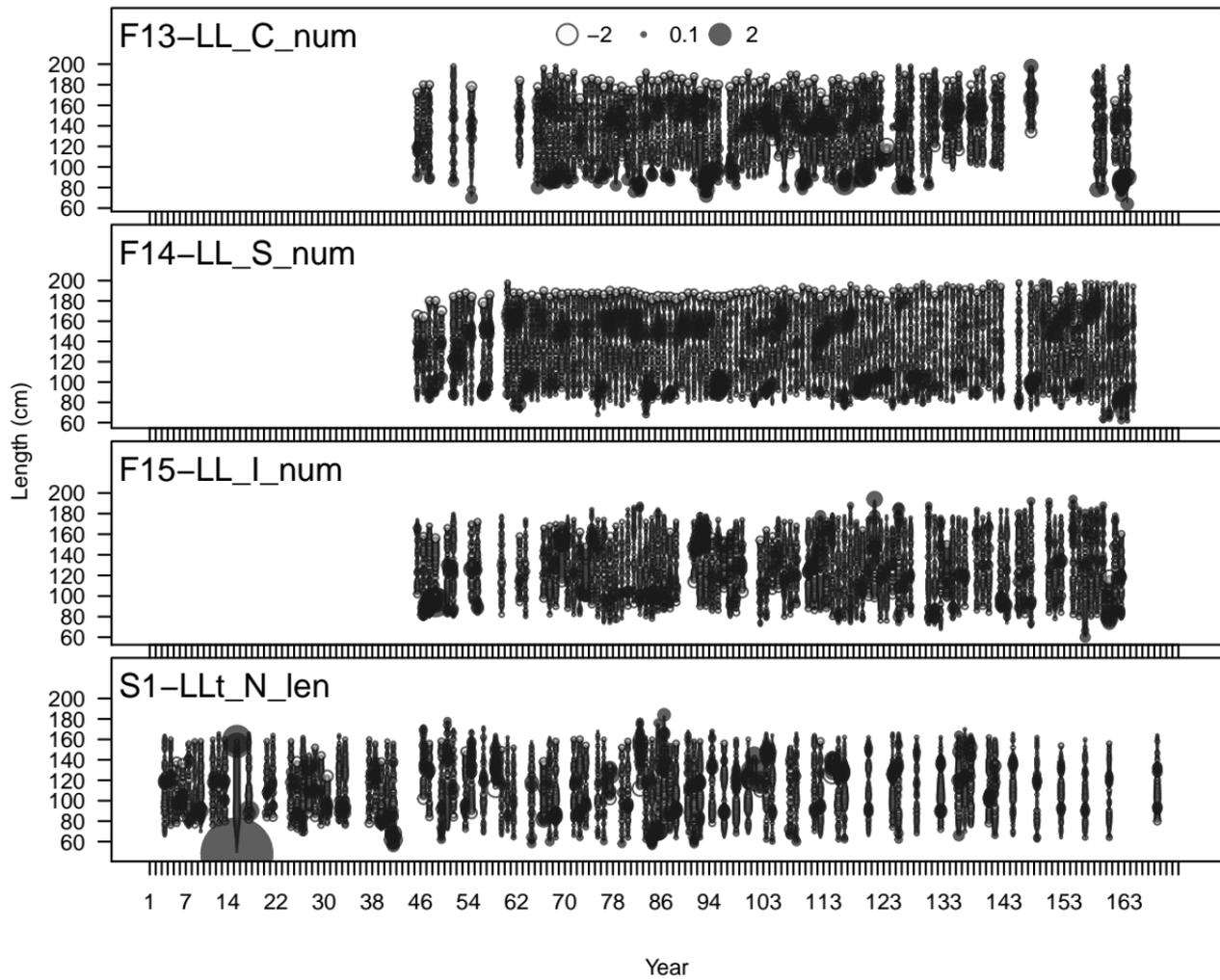


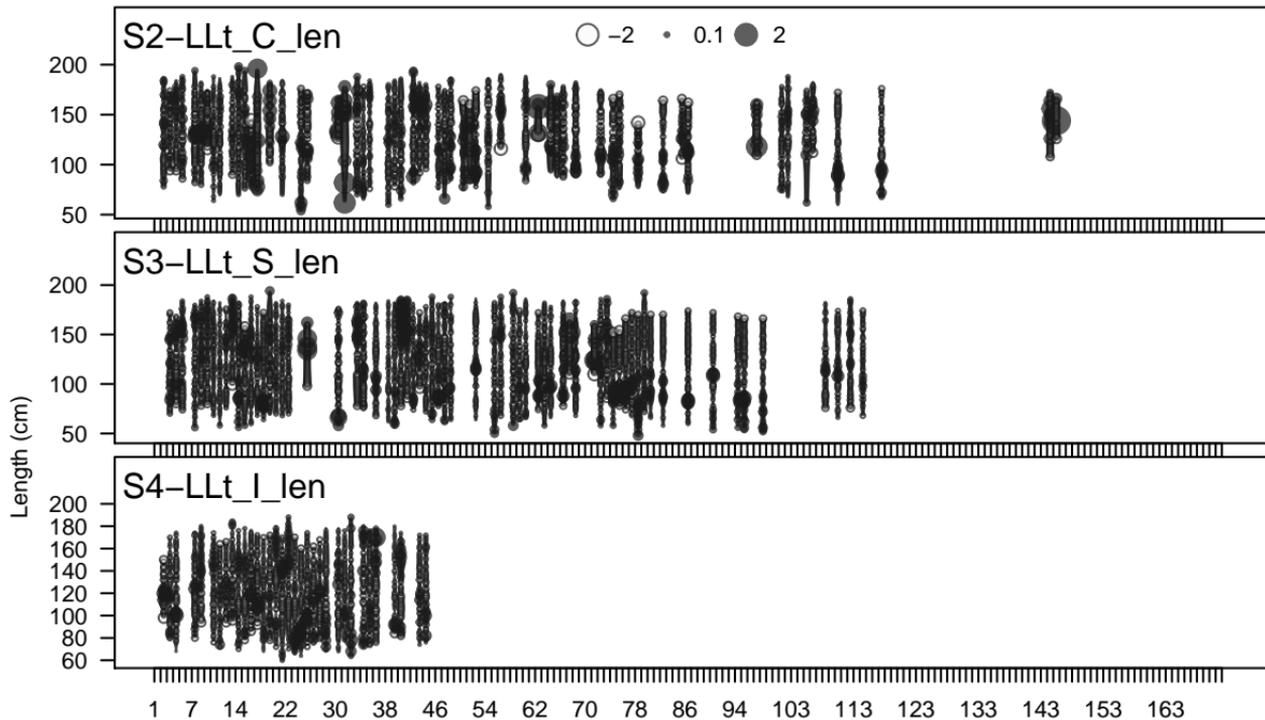
Proportion





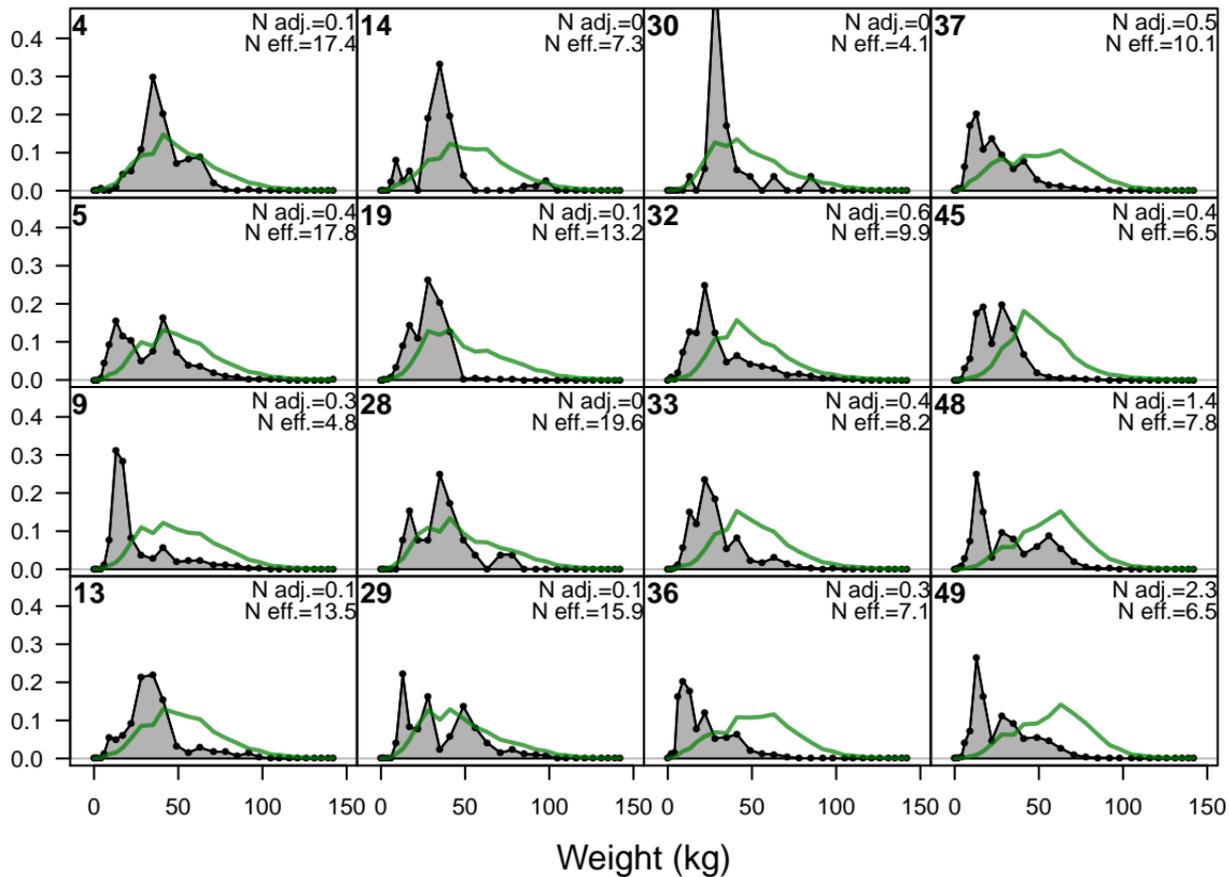




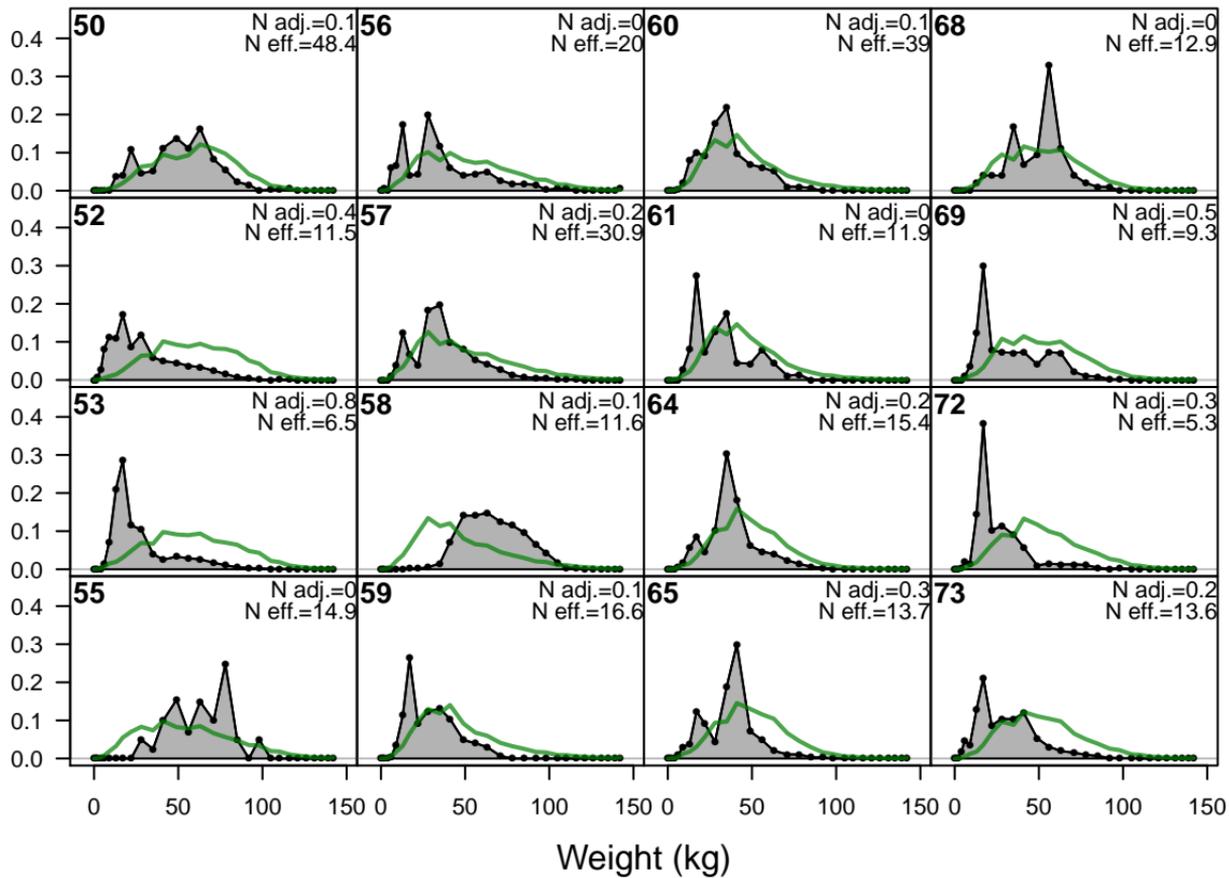


Year

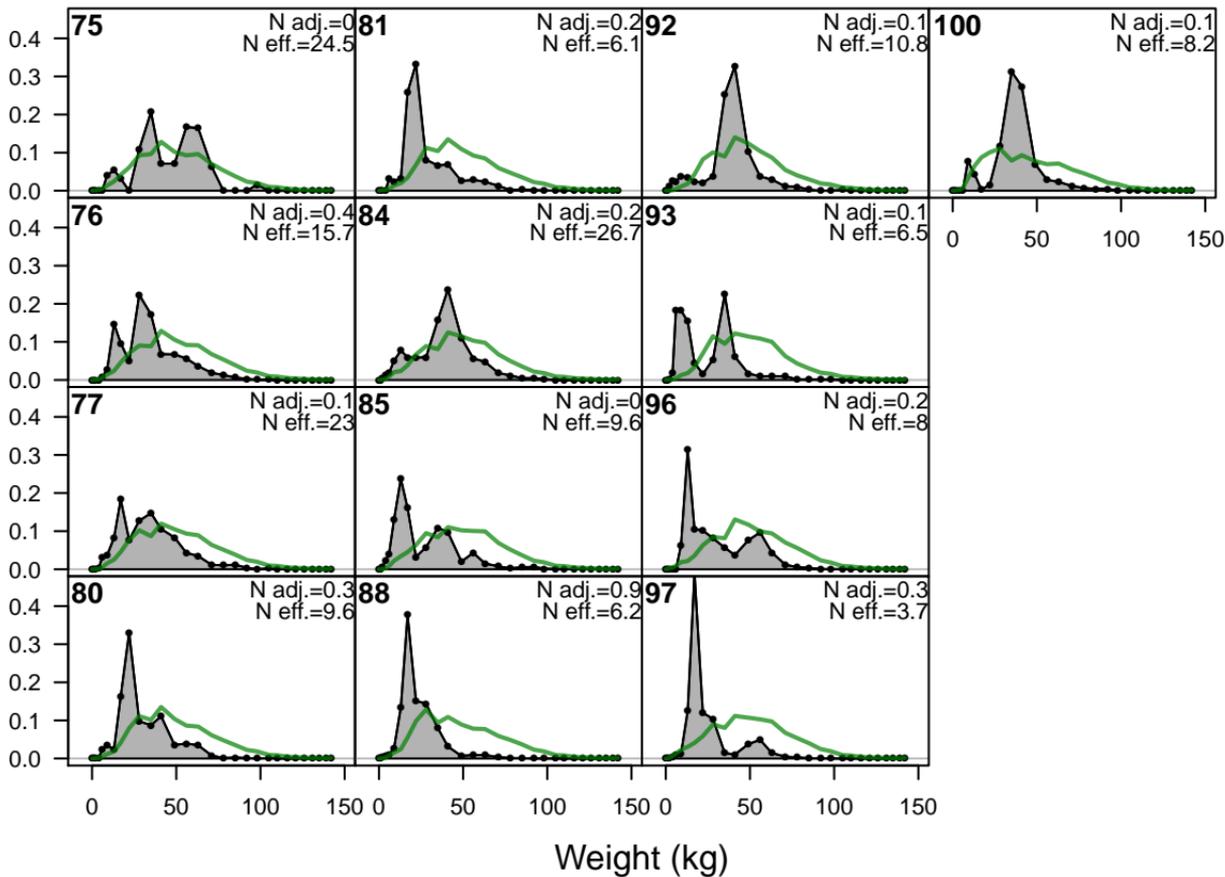
Proportion

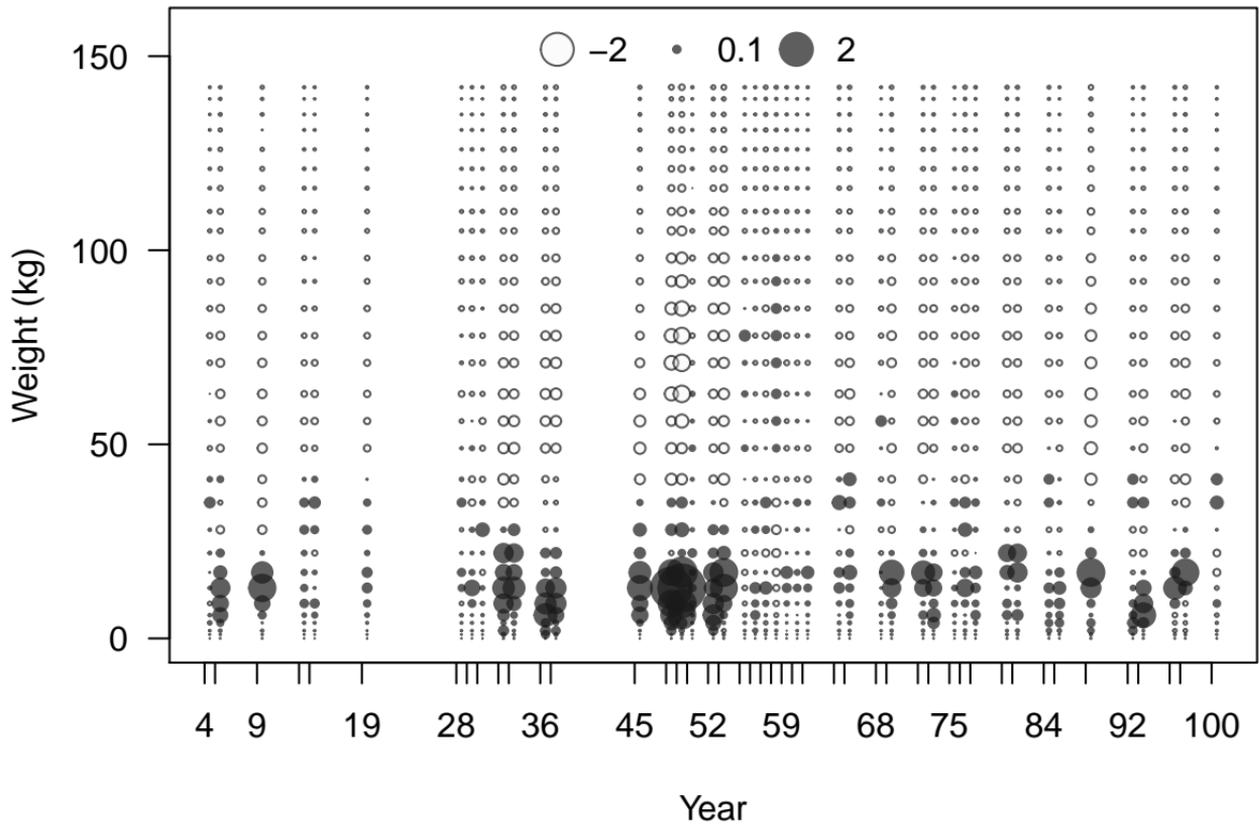


Proportion

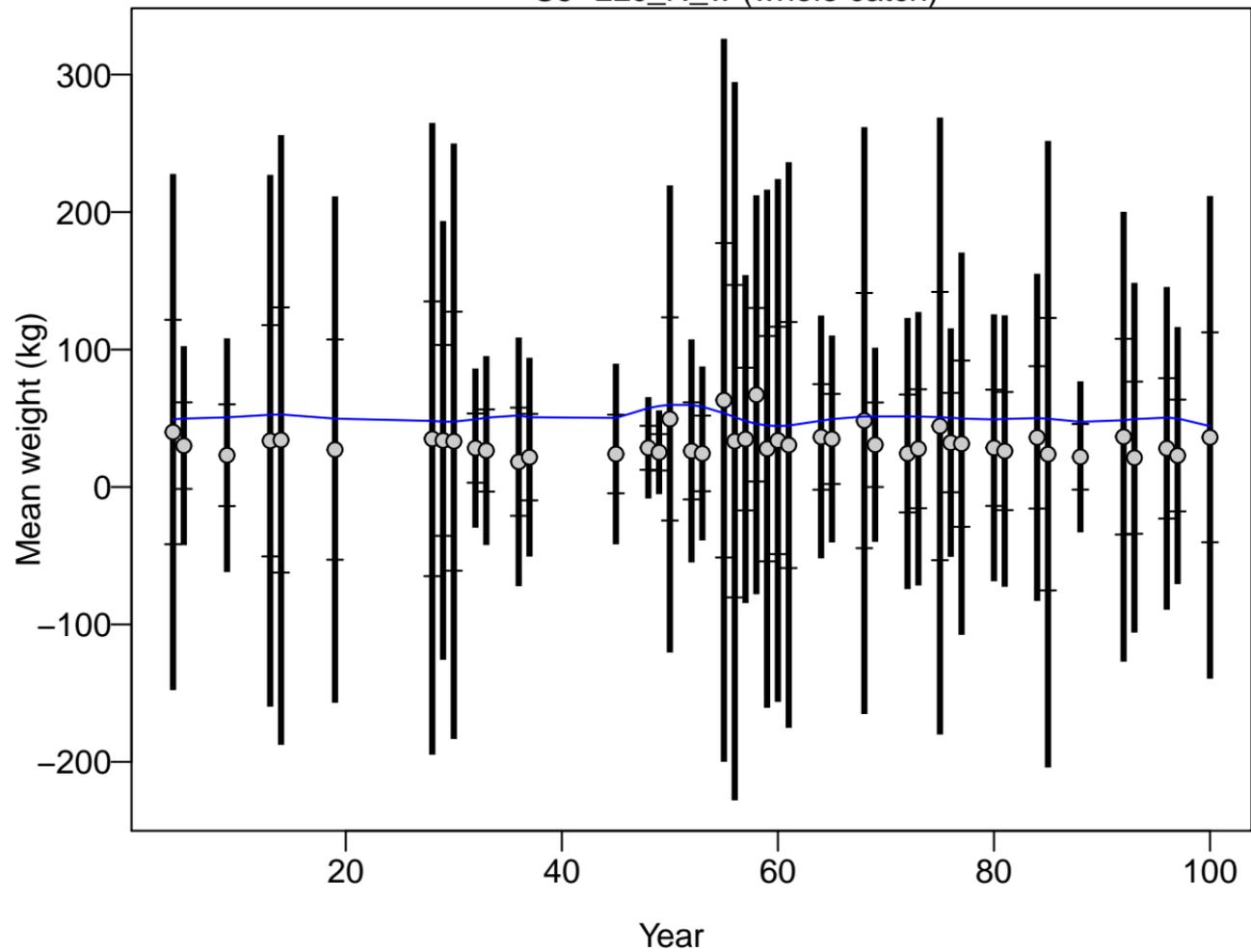


Proportion

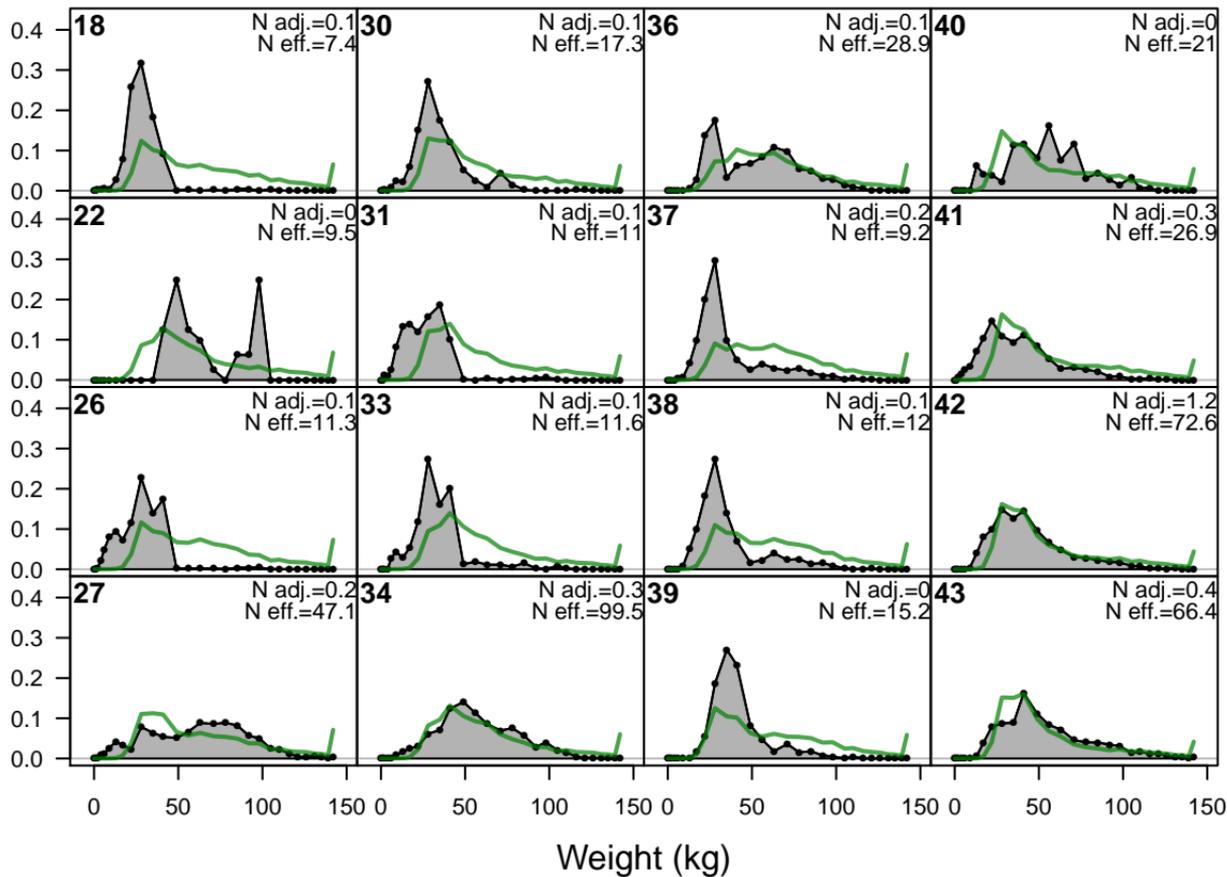




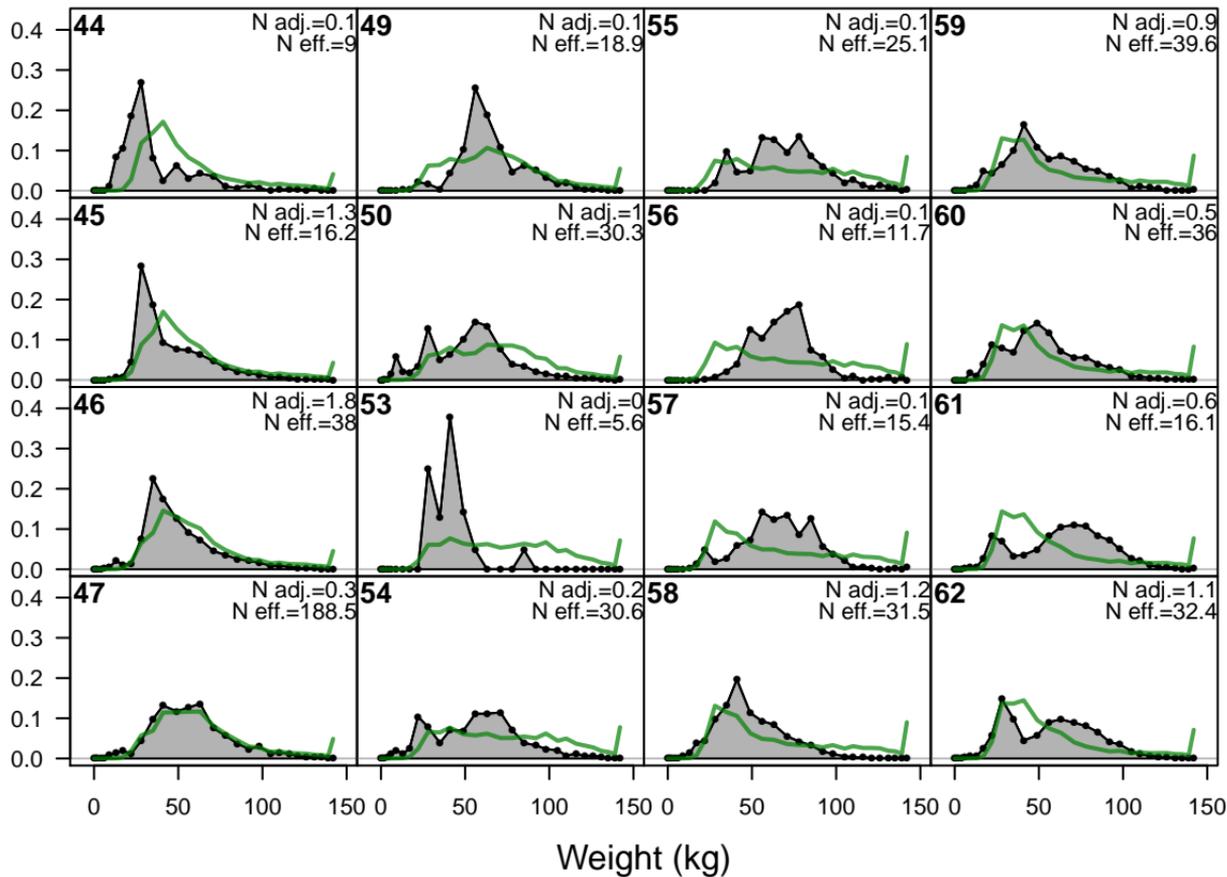
S5-LLc_N_w (whole catch)



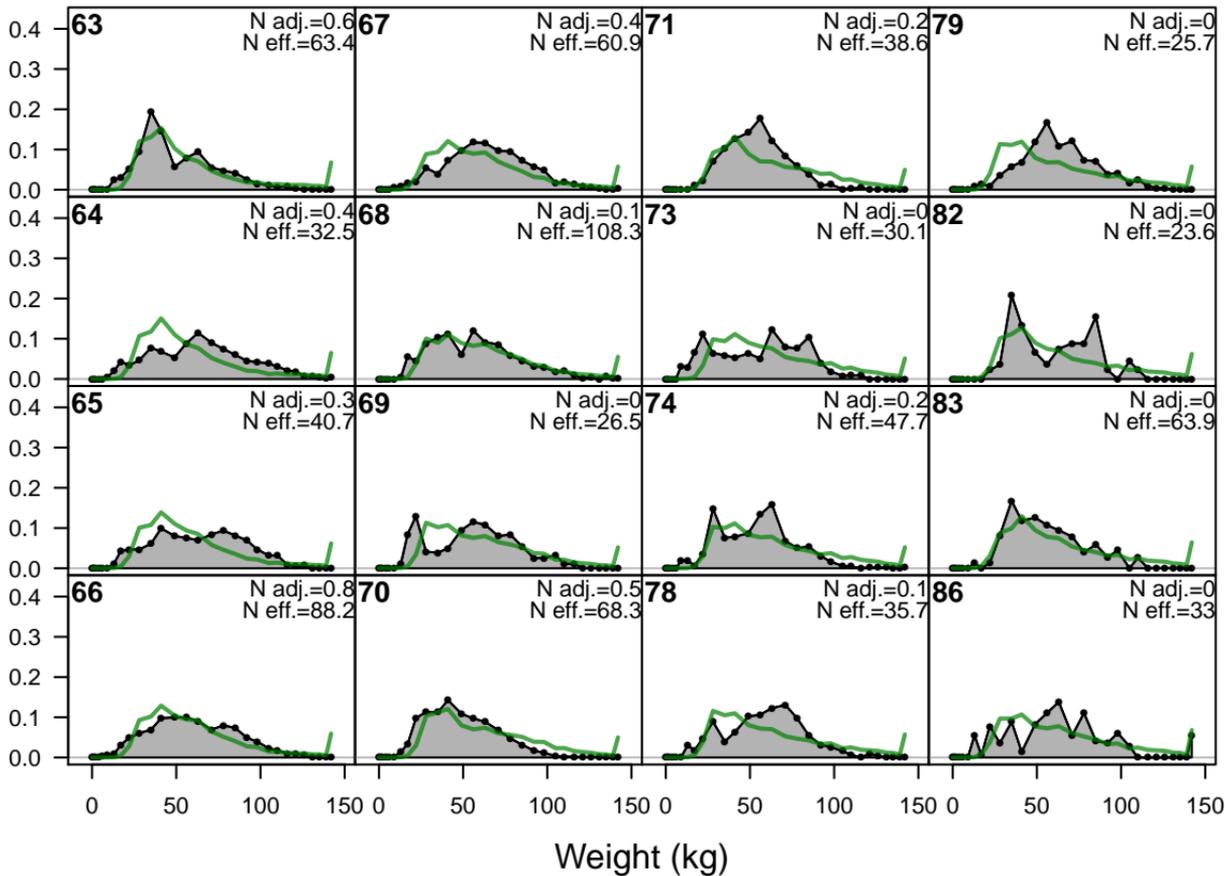
Proportion

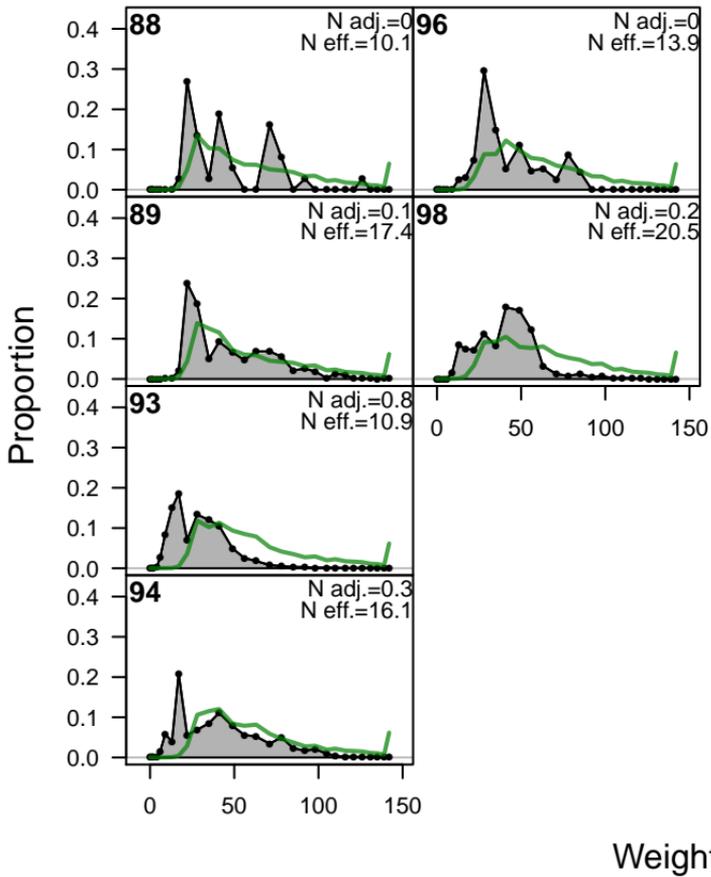


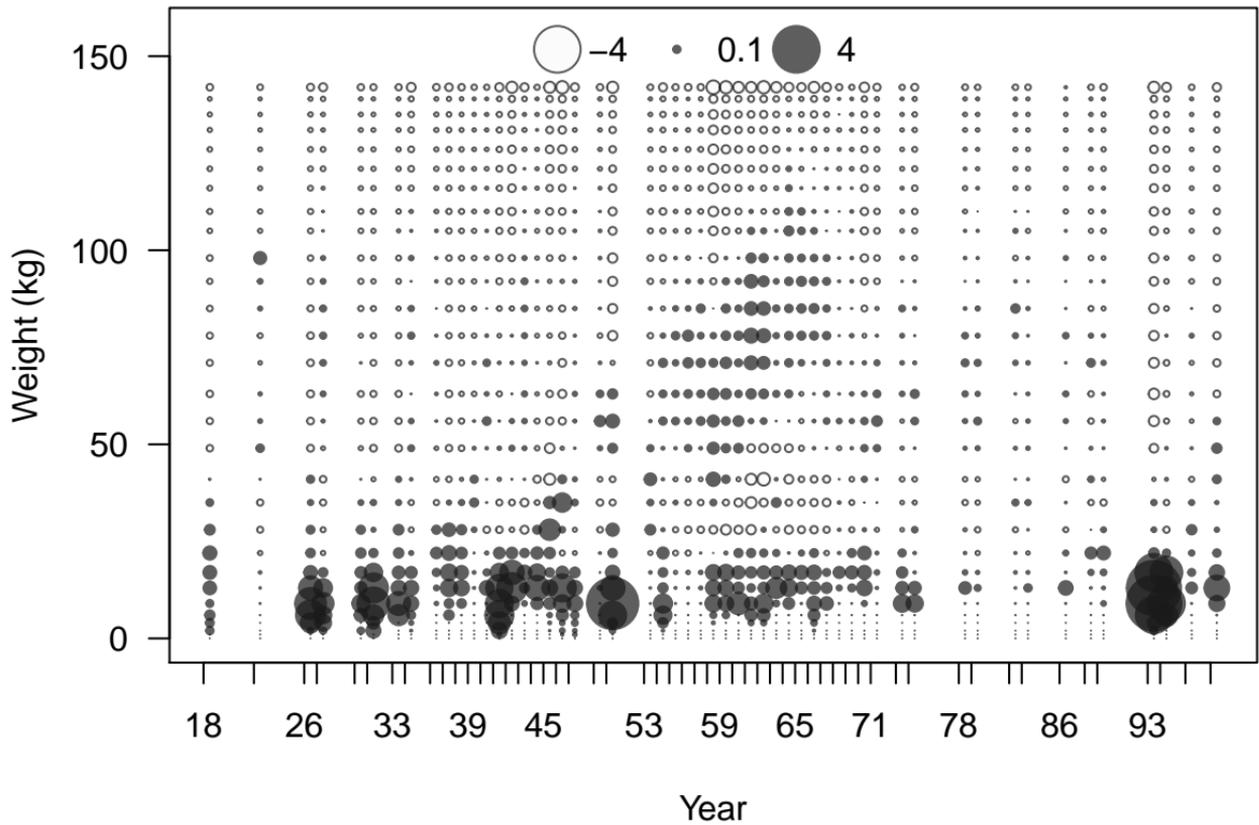
Proportion

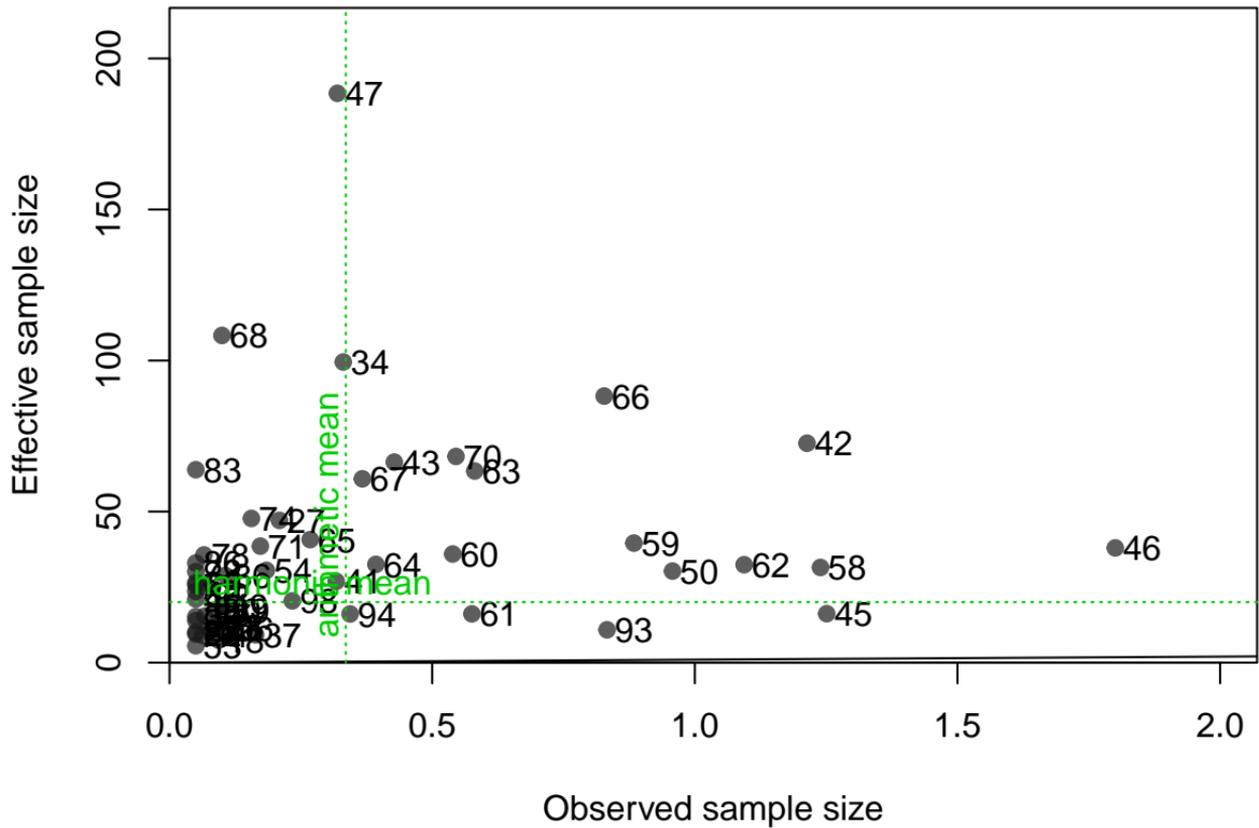


Proportion

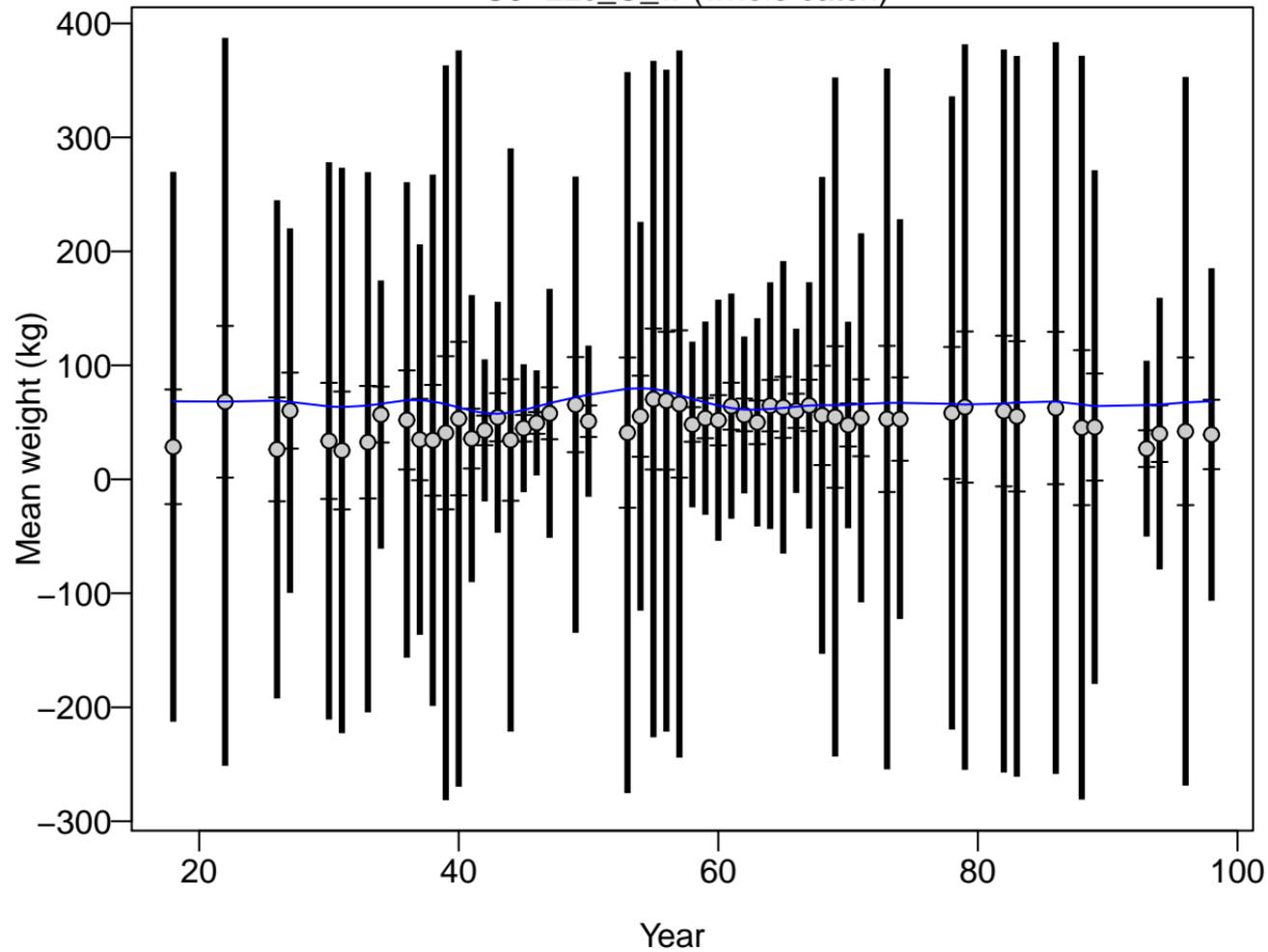




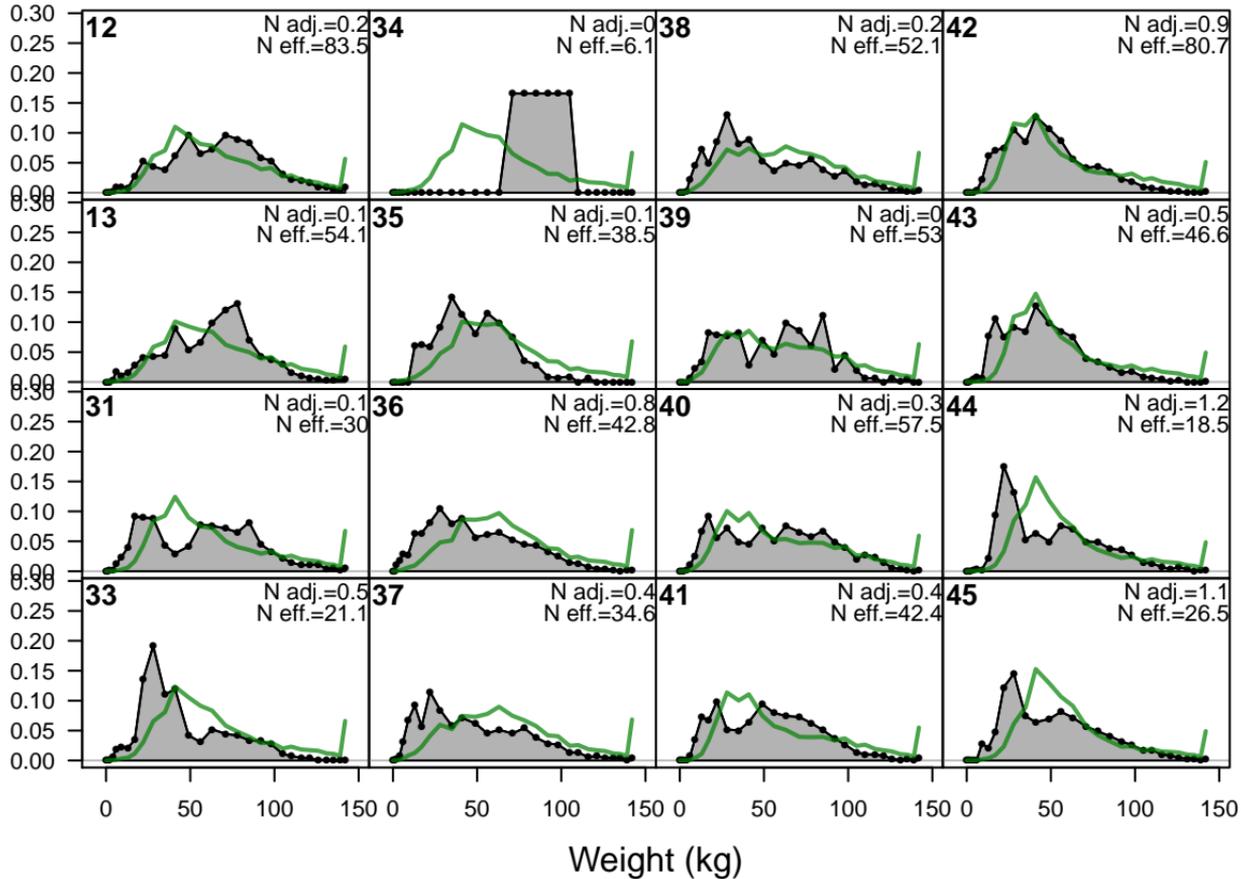




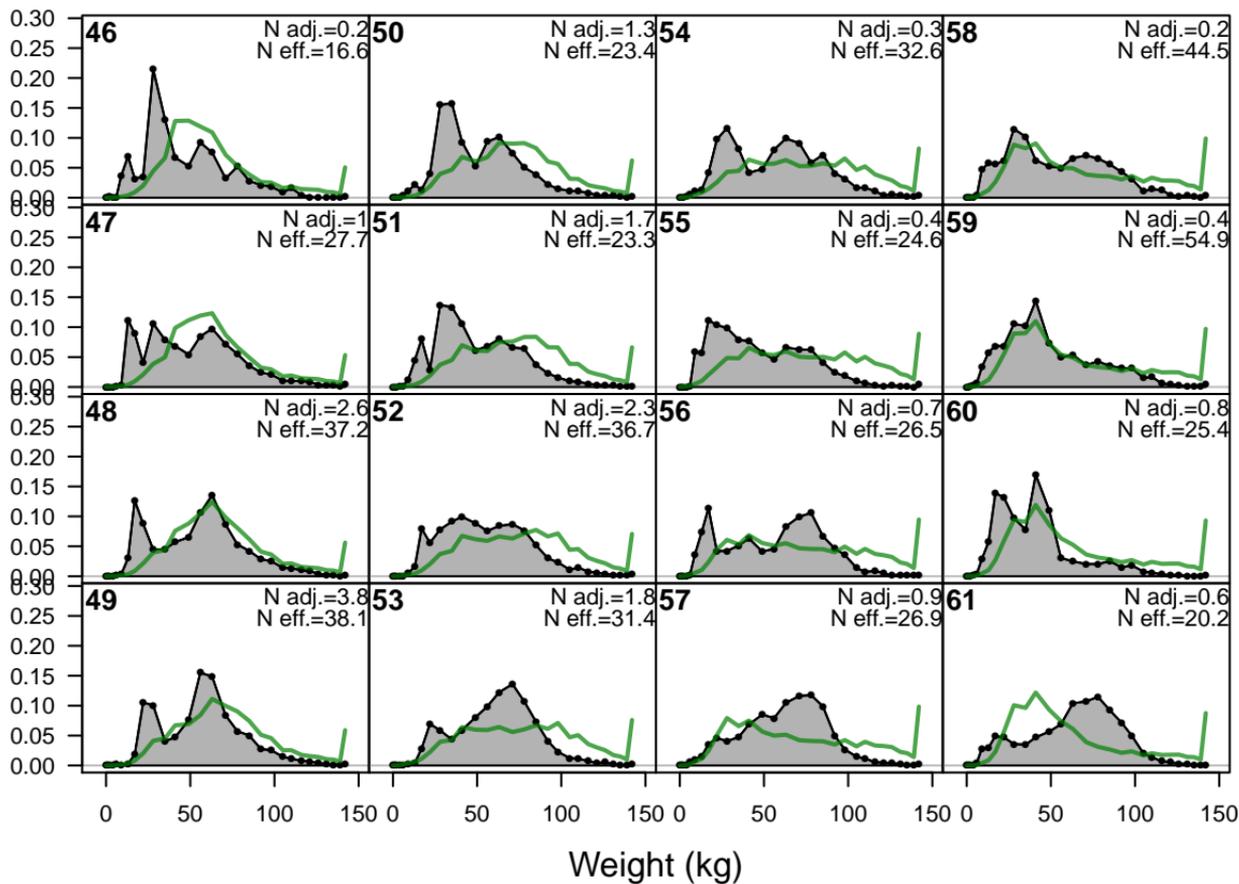
S6-LLc_C_w (whole catch)



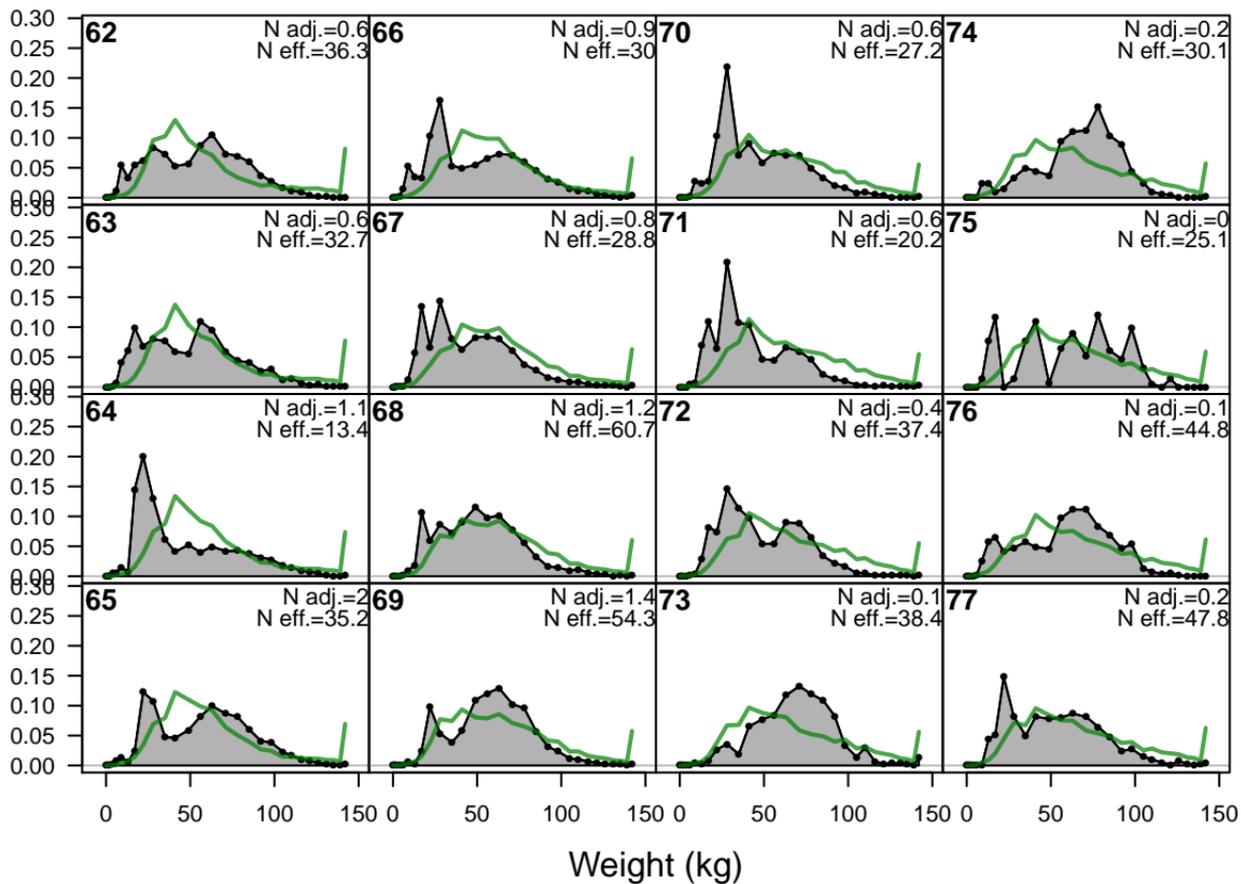
Proportion



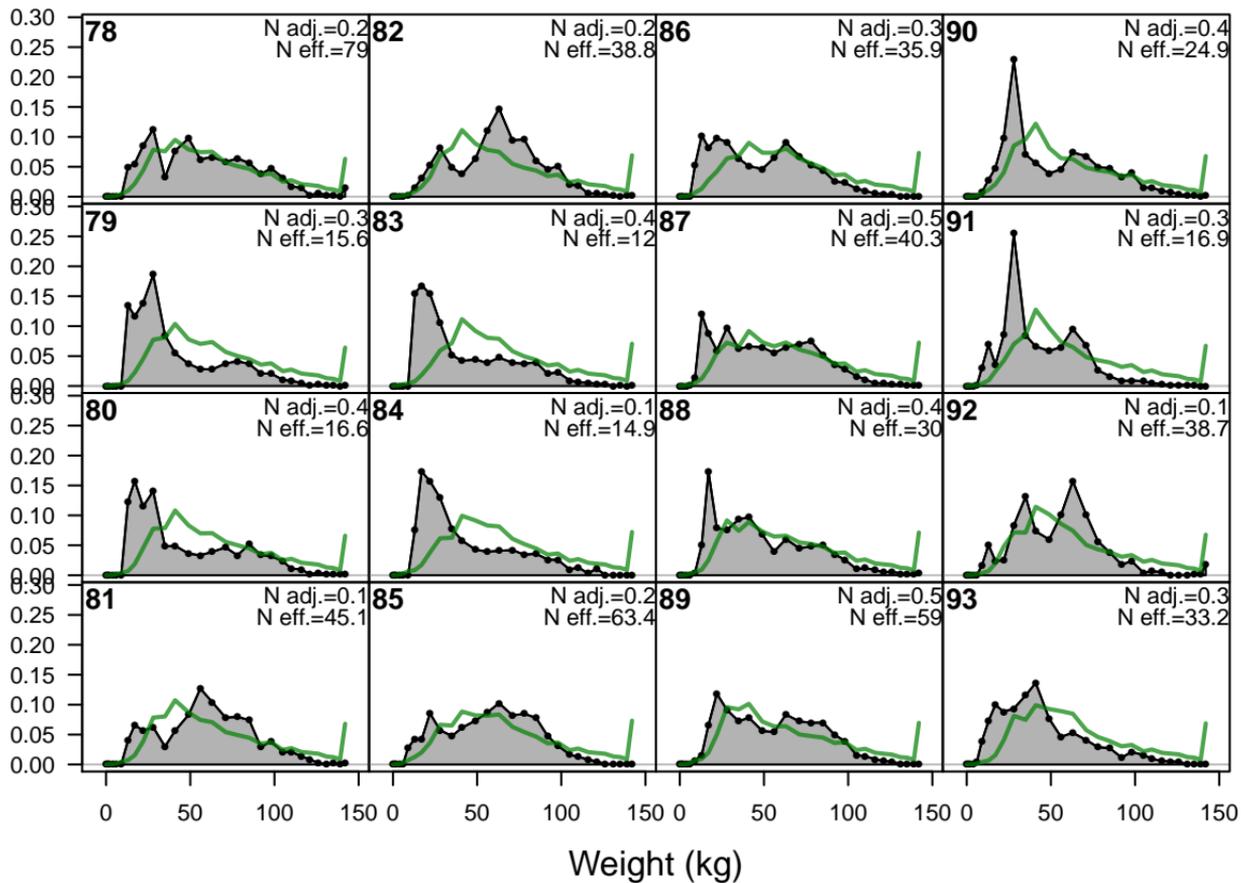
Proportion

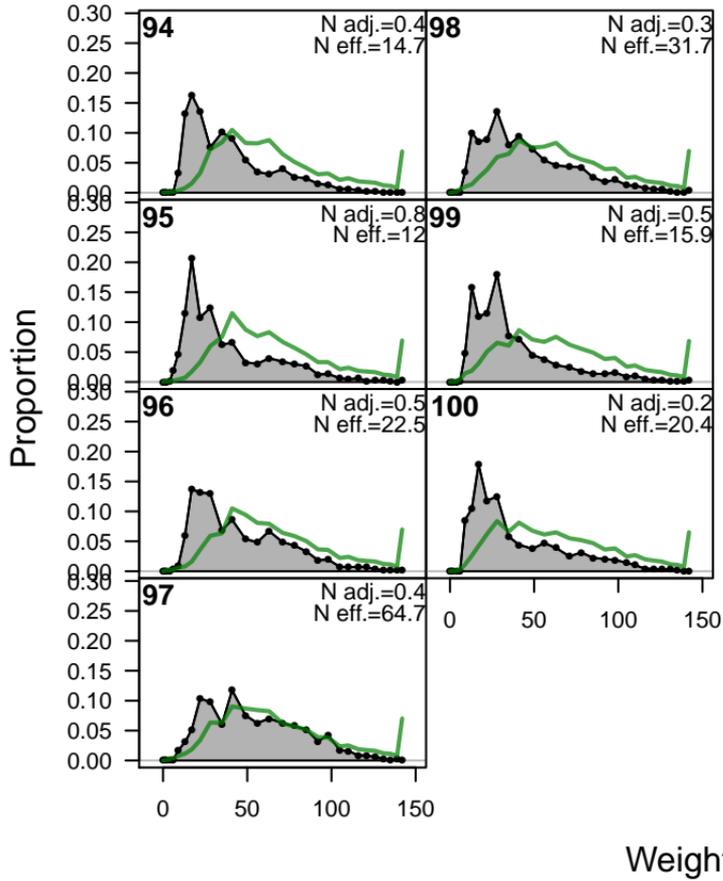


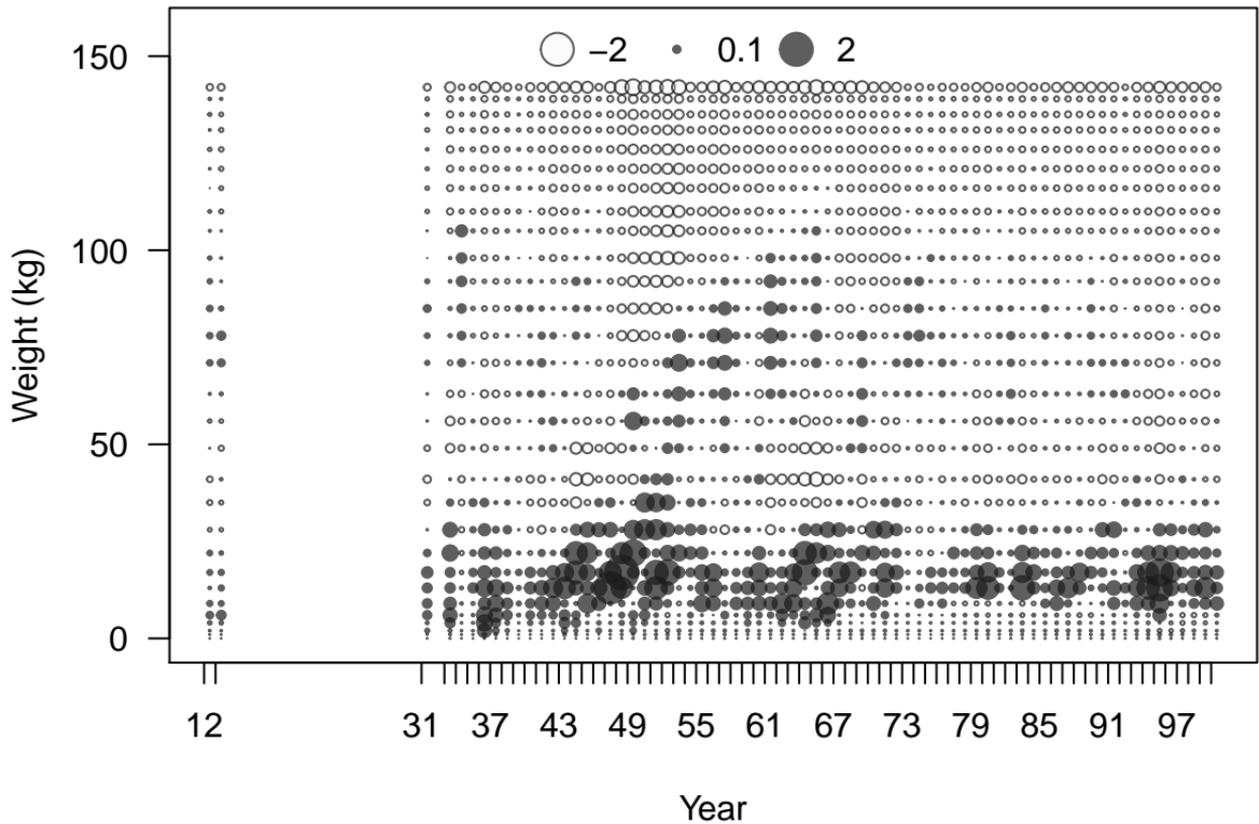
Proportion



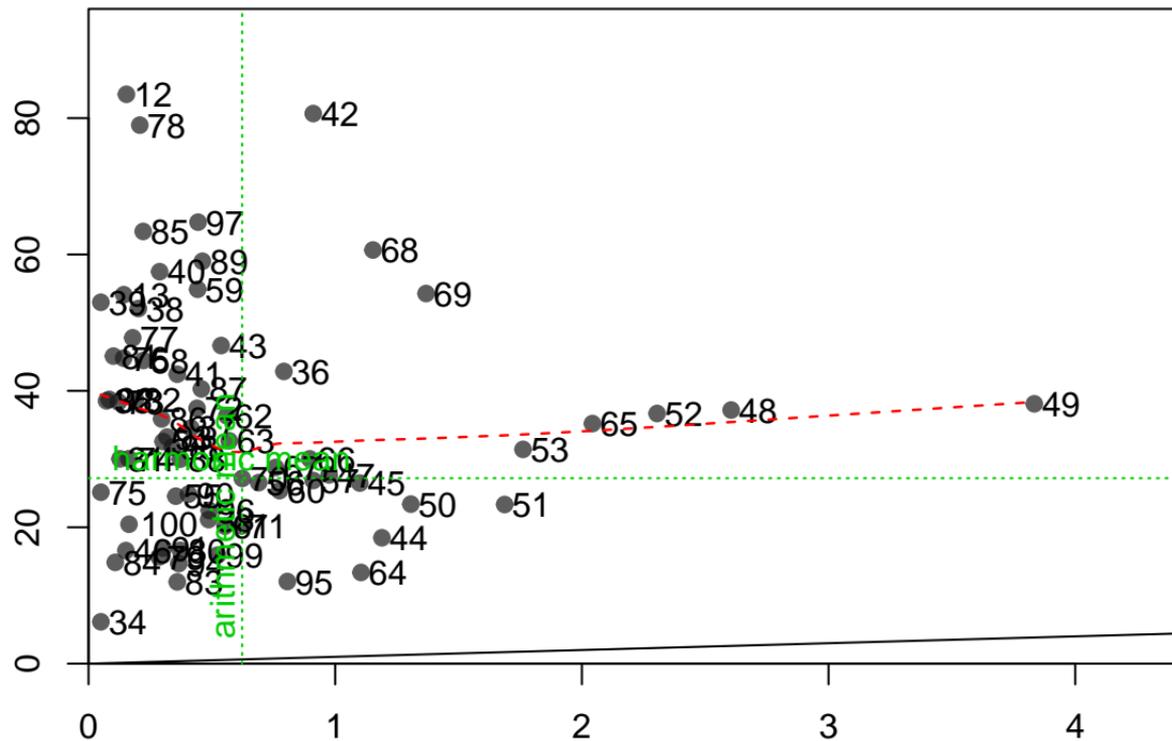
Proportion





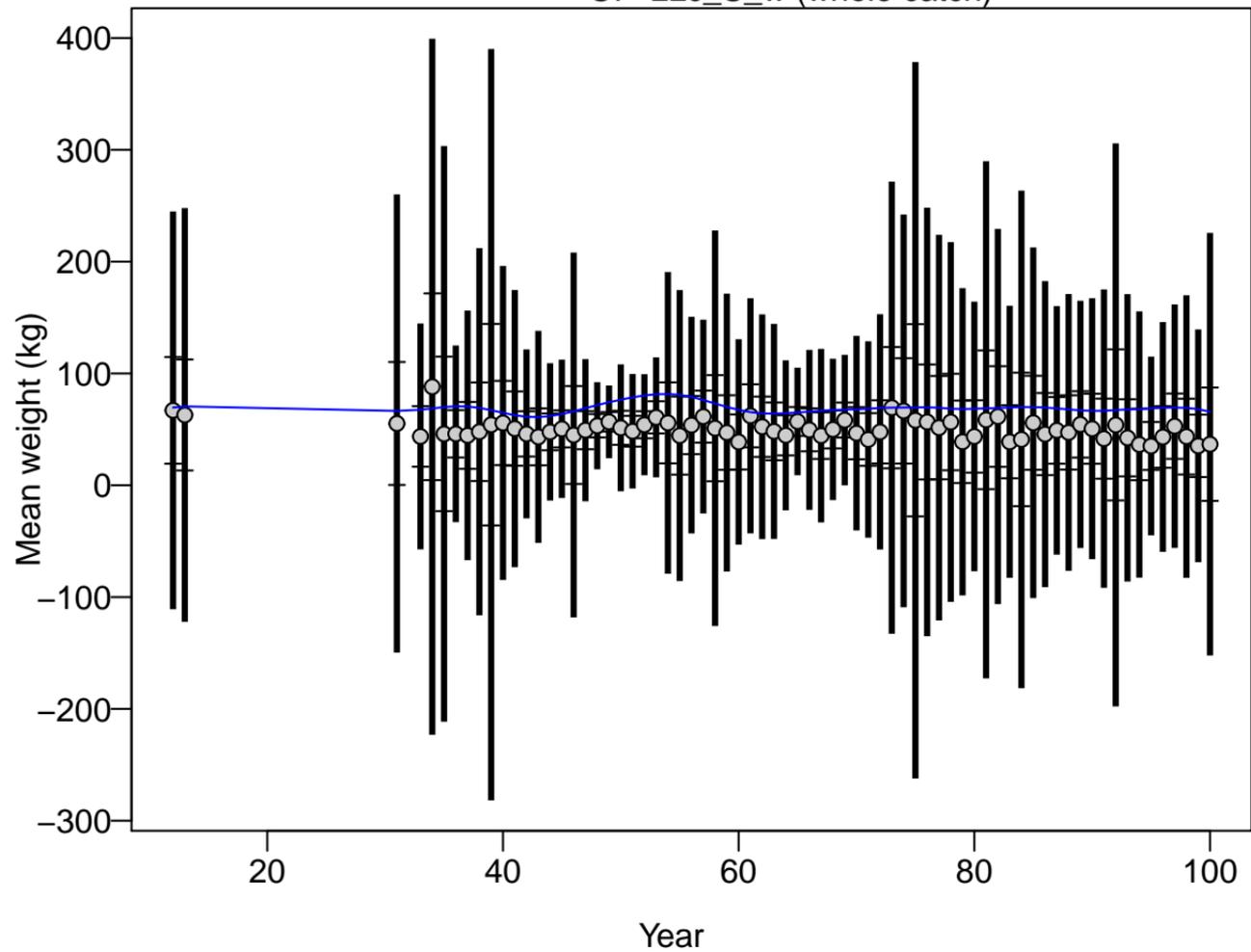


Effective sample size

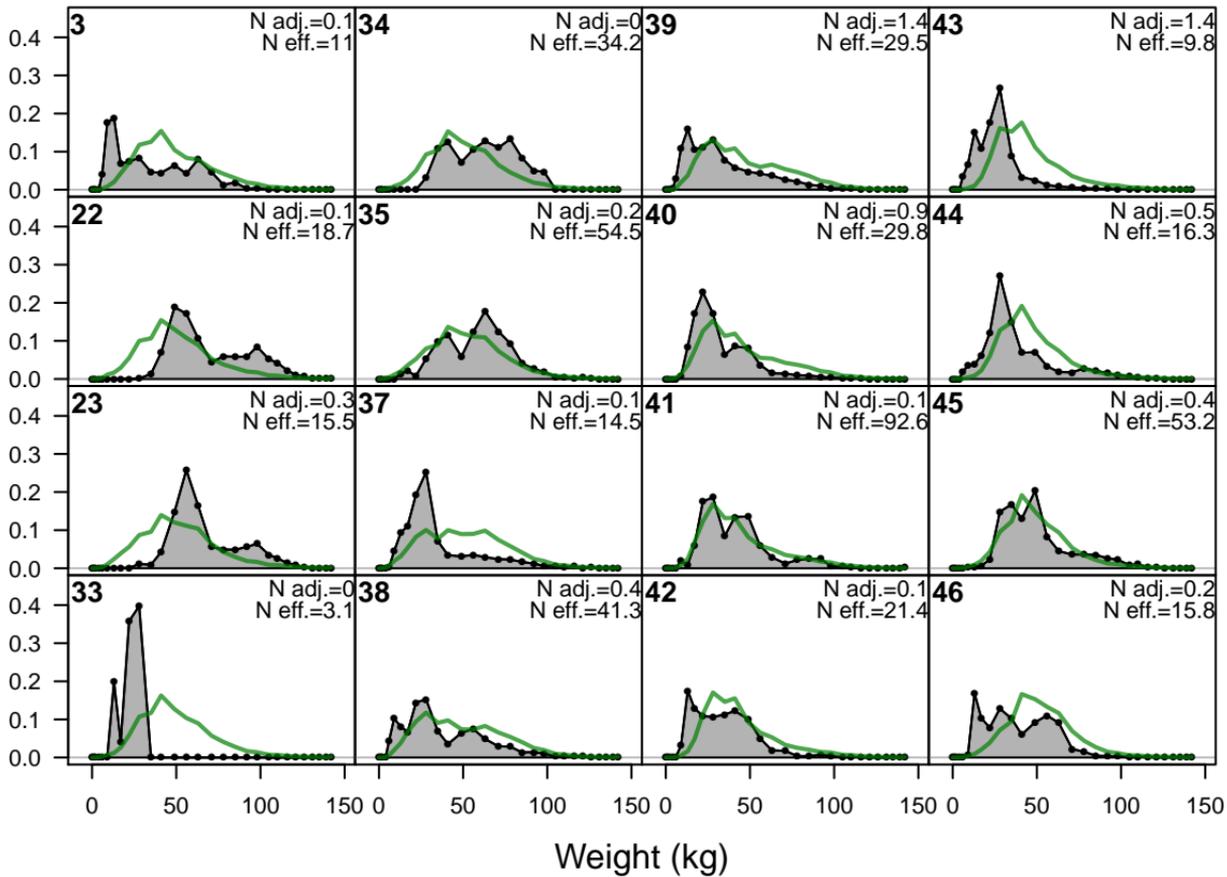


Observed sample size

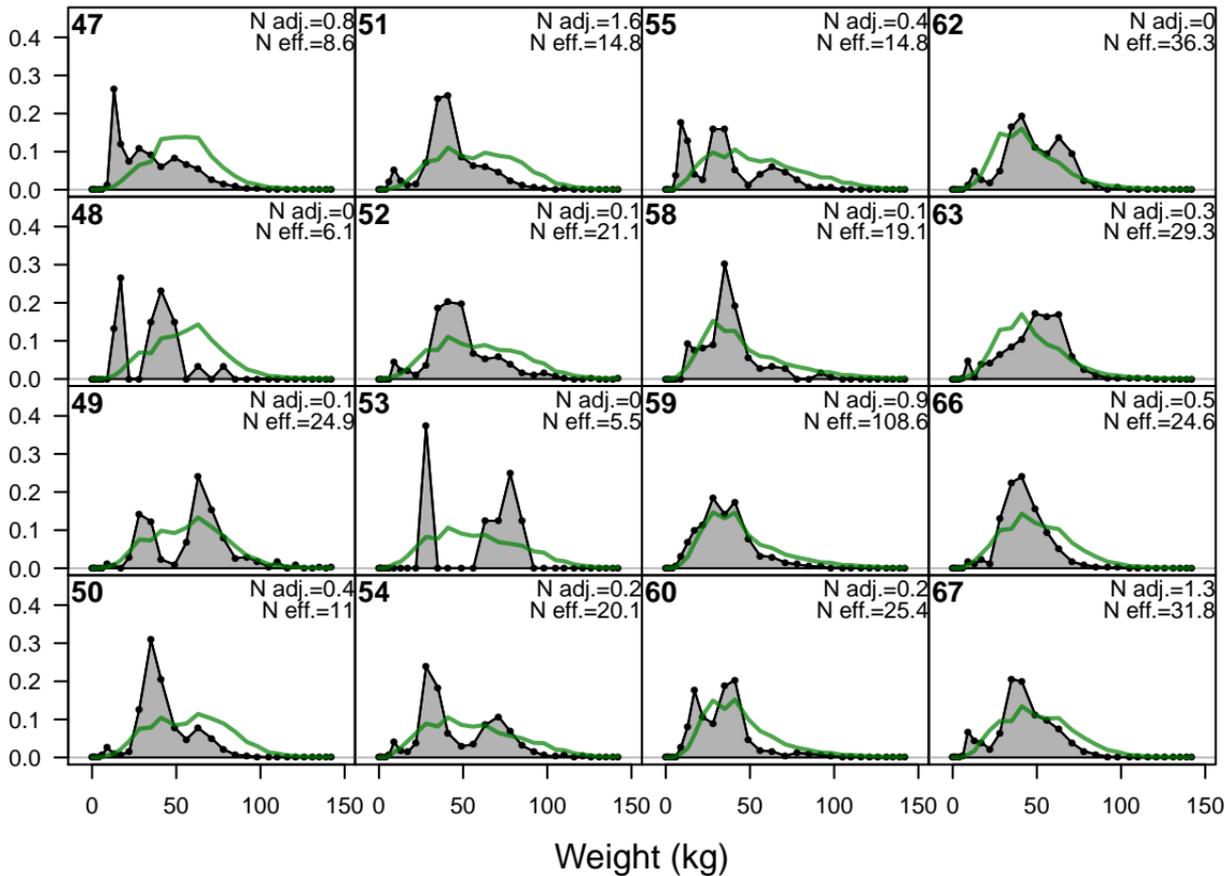
S7-LLc_S_w (whole catch)



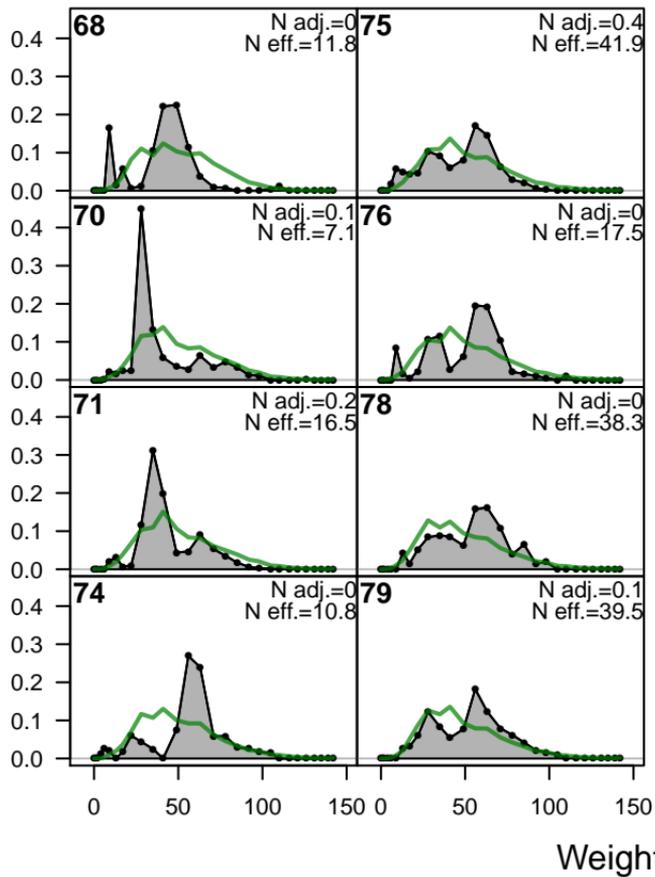
Proportion

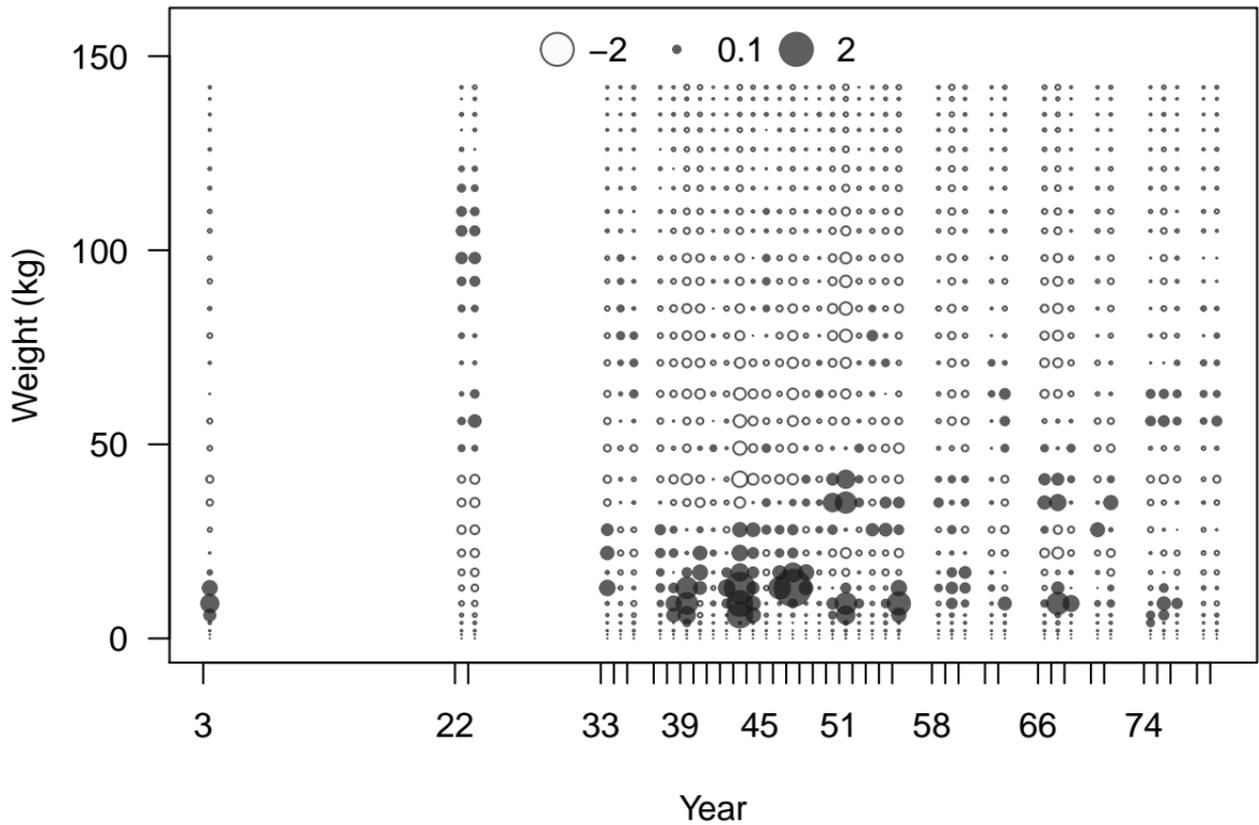


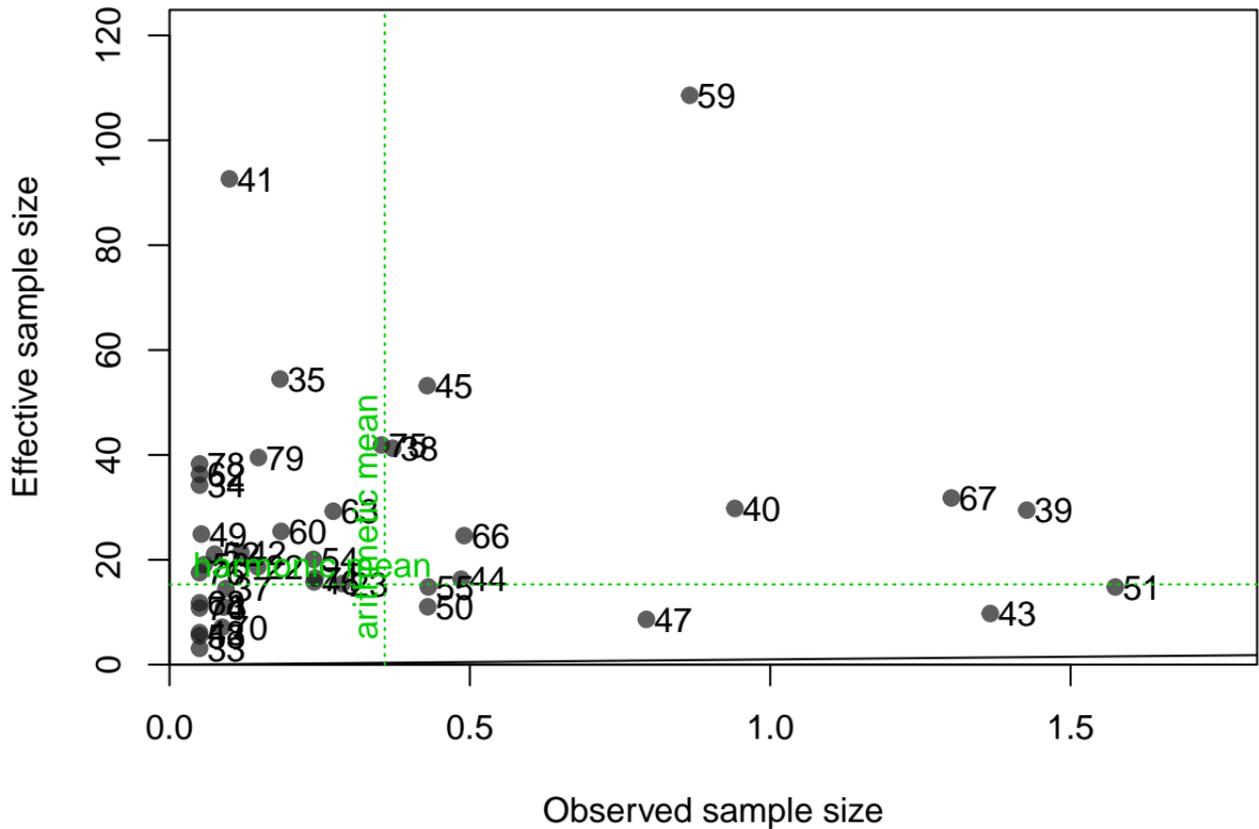
Proportion



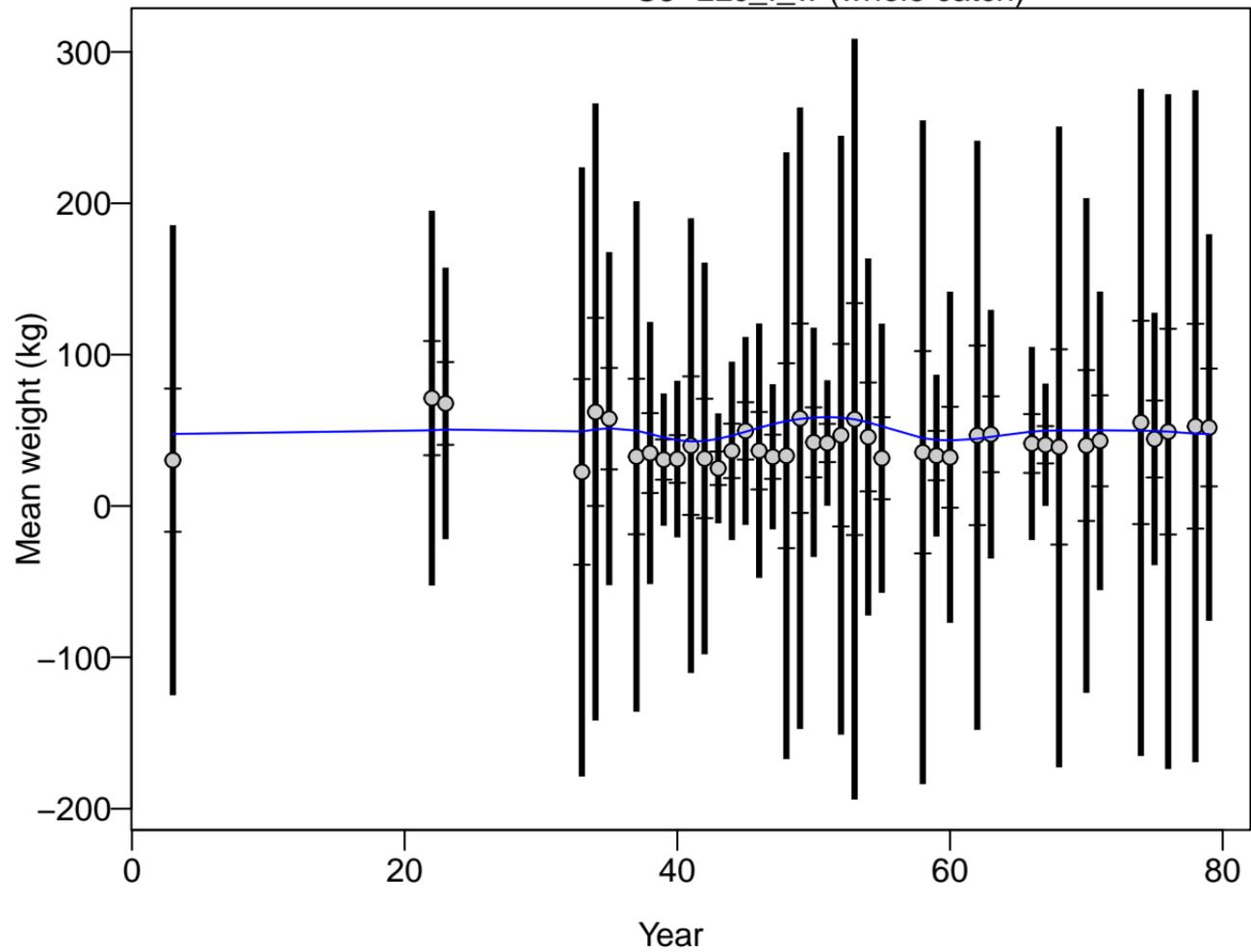
Proportion

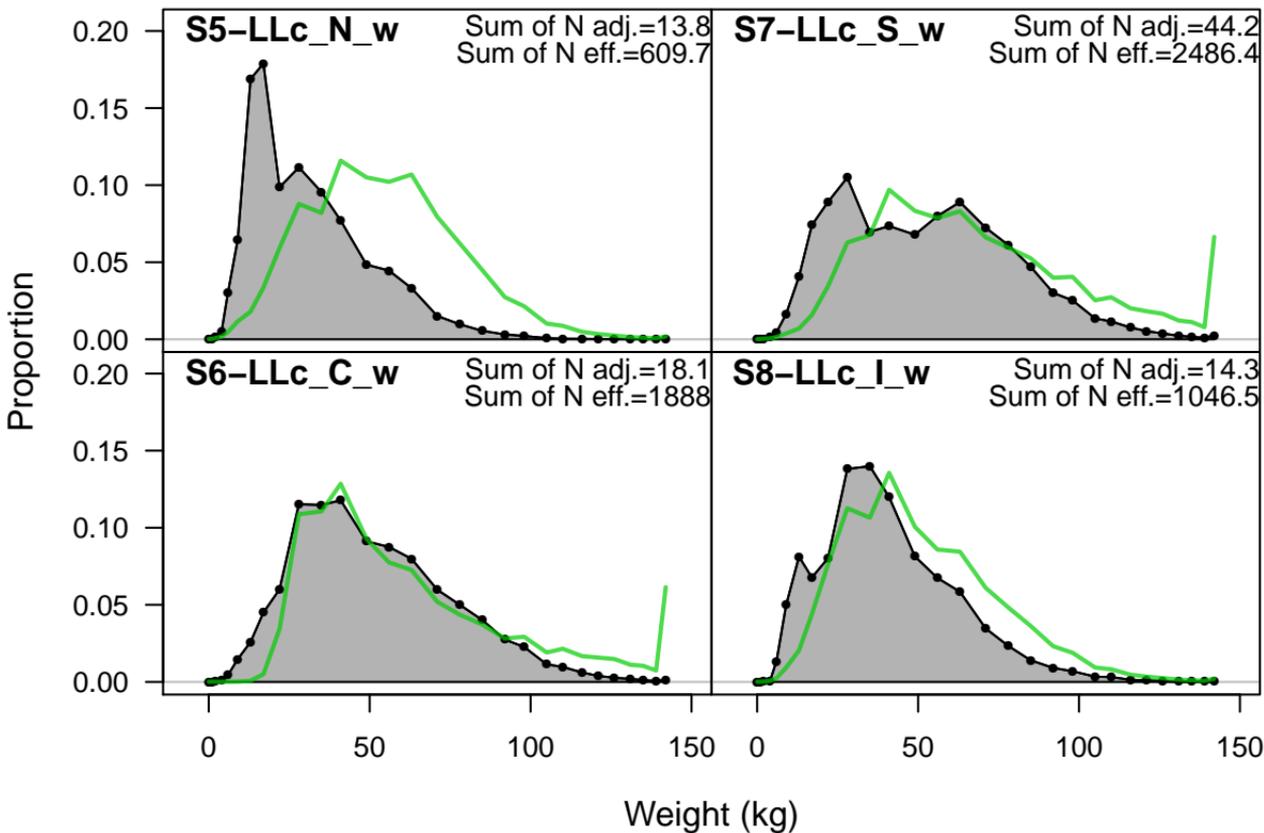


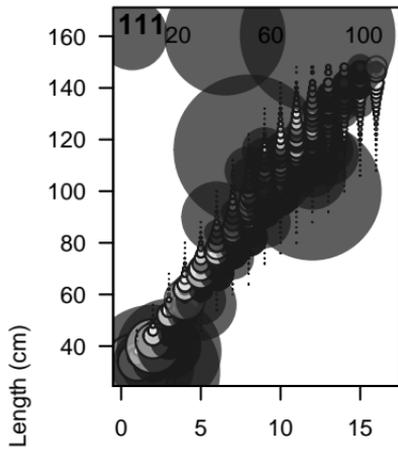




S8-LLc_I_w (whole catch)







Age (yr)

