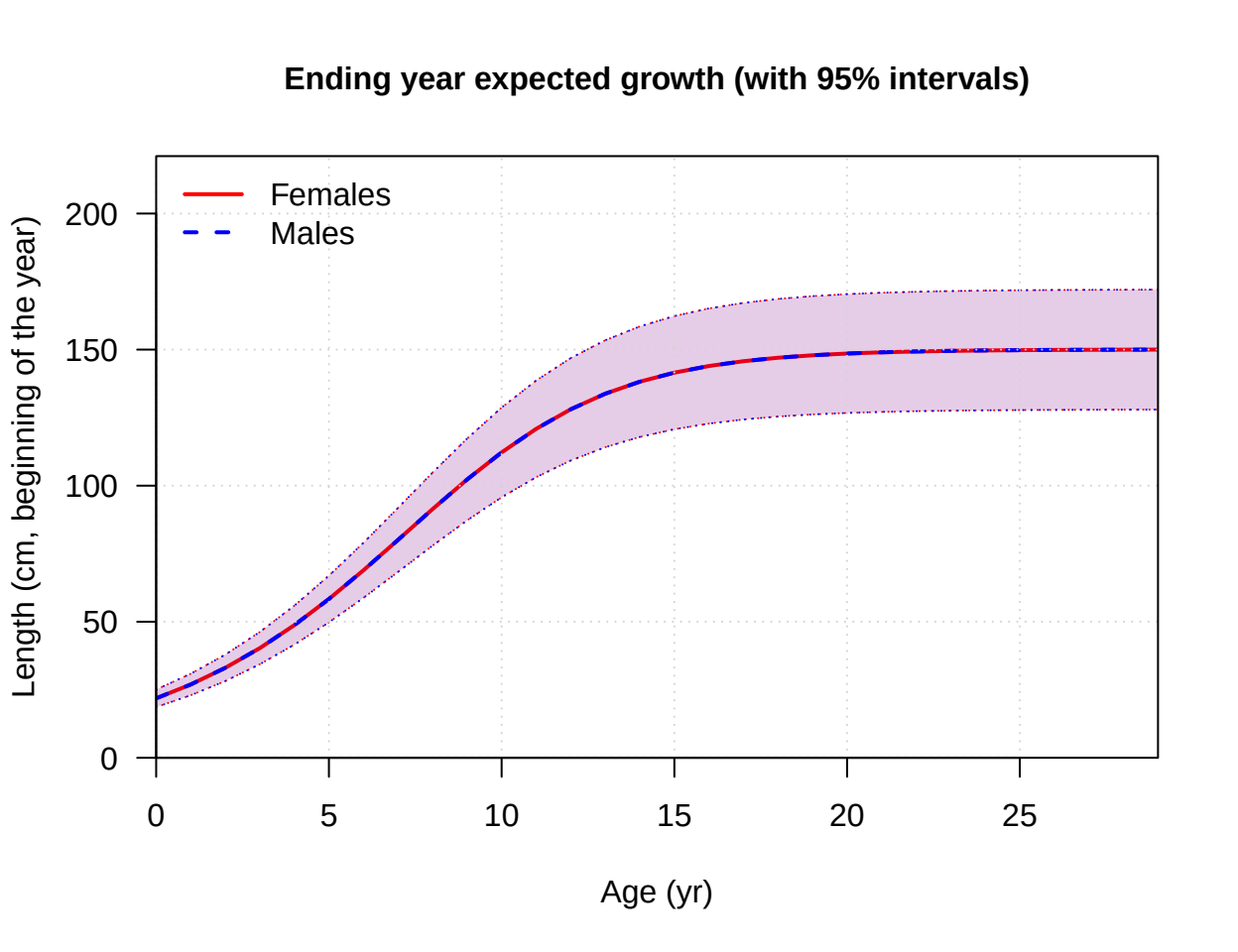
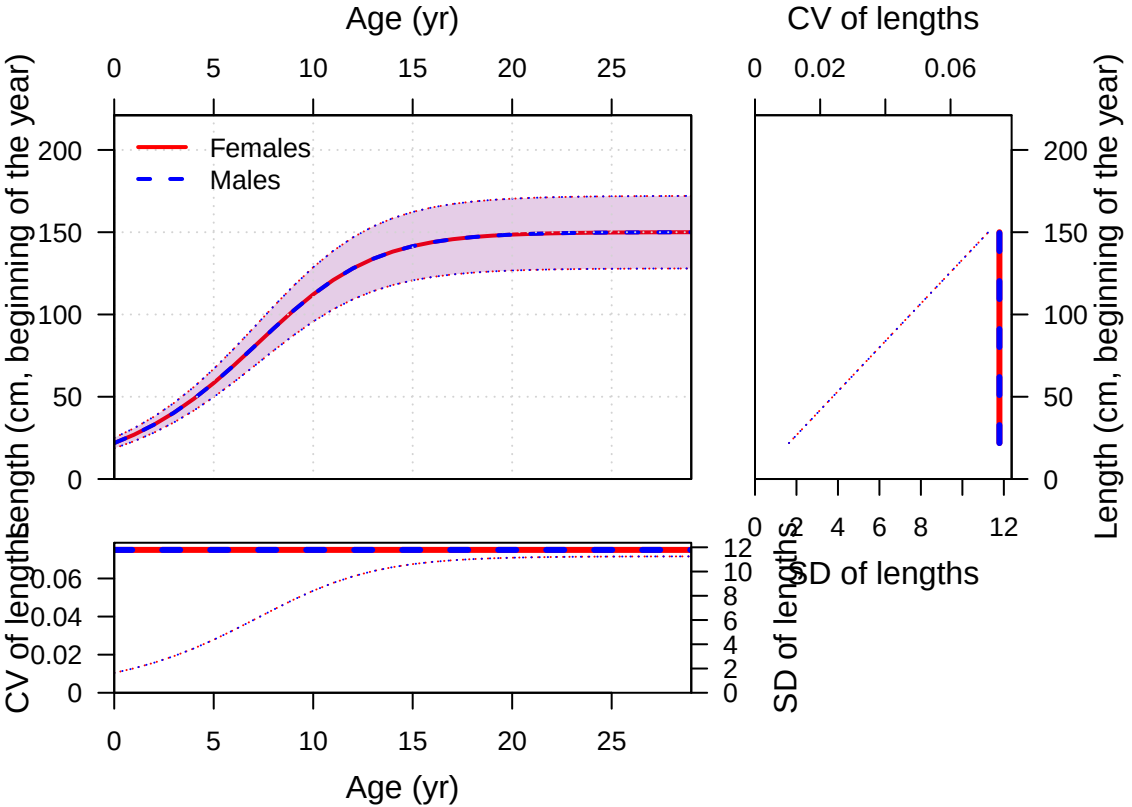
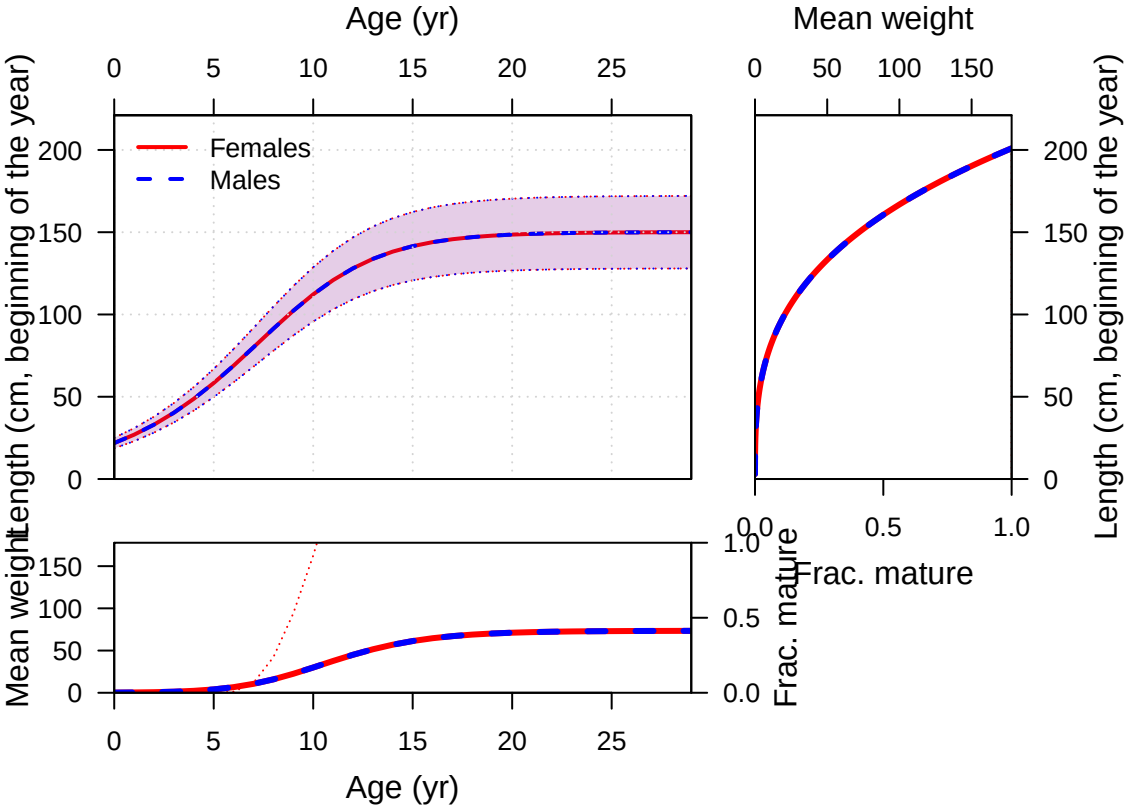
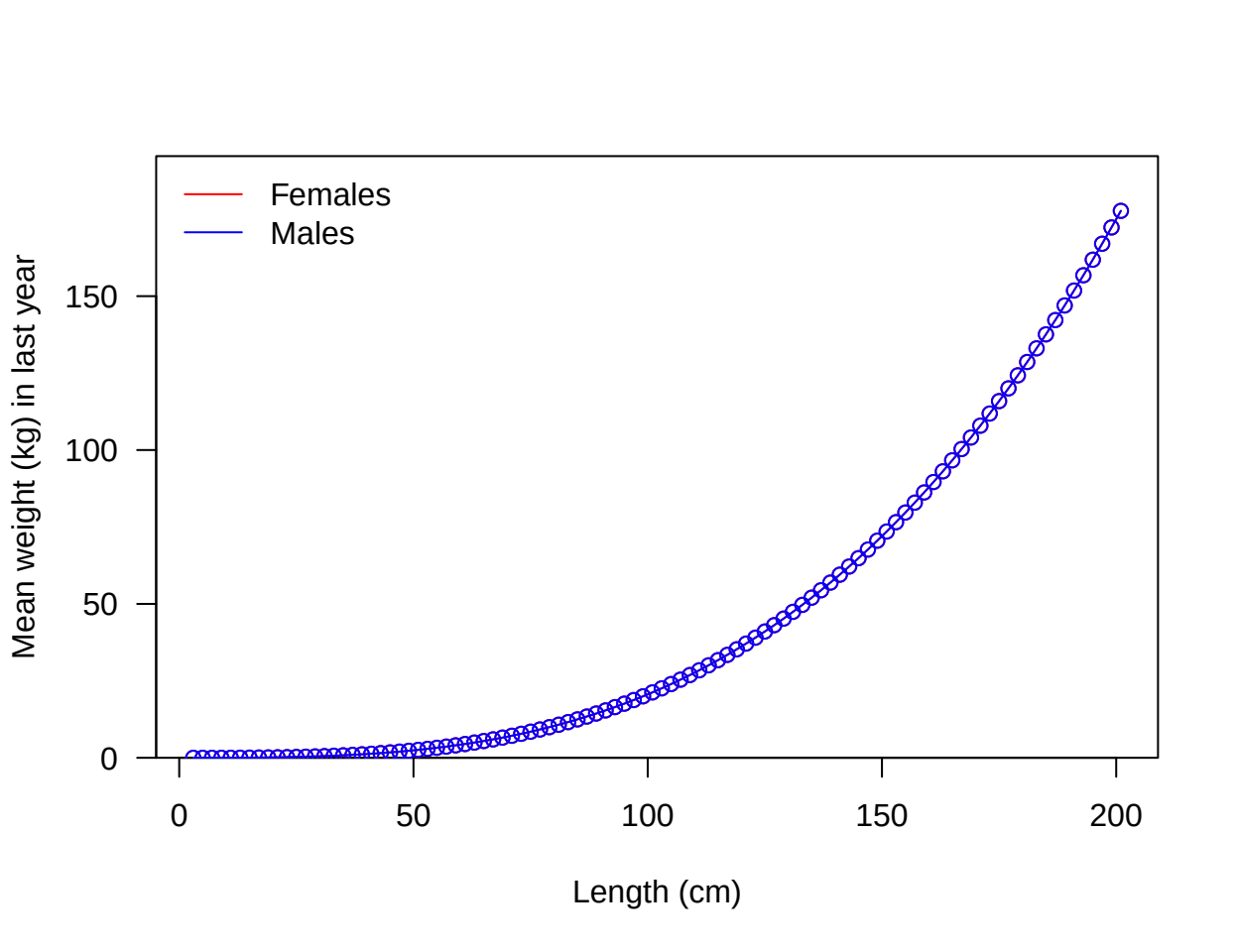
EPO yellowfin tuna
Benchmark assessment 2020
model: GRO, h = 0.9

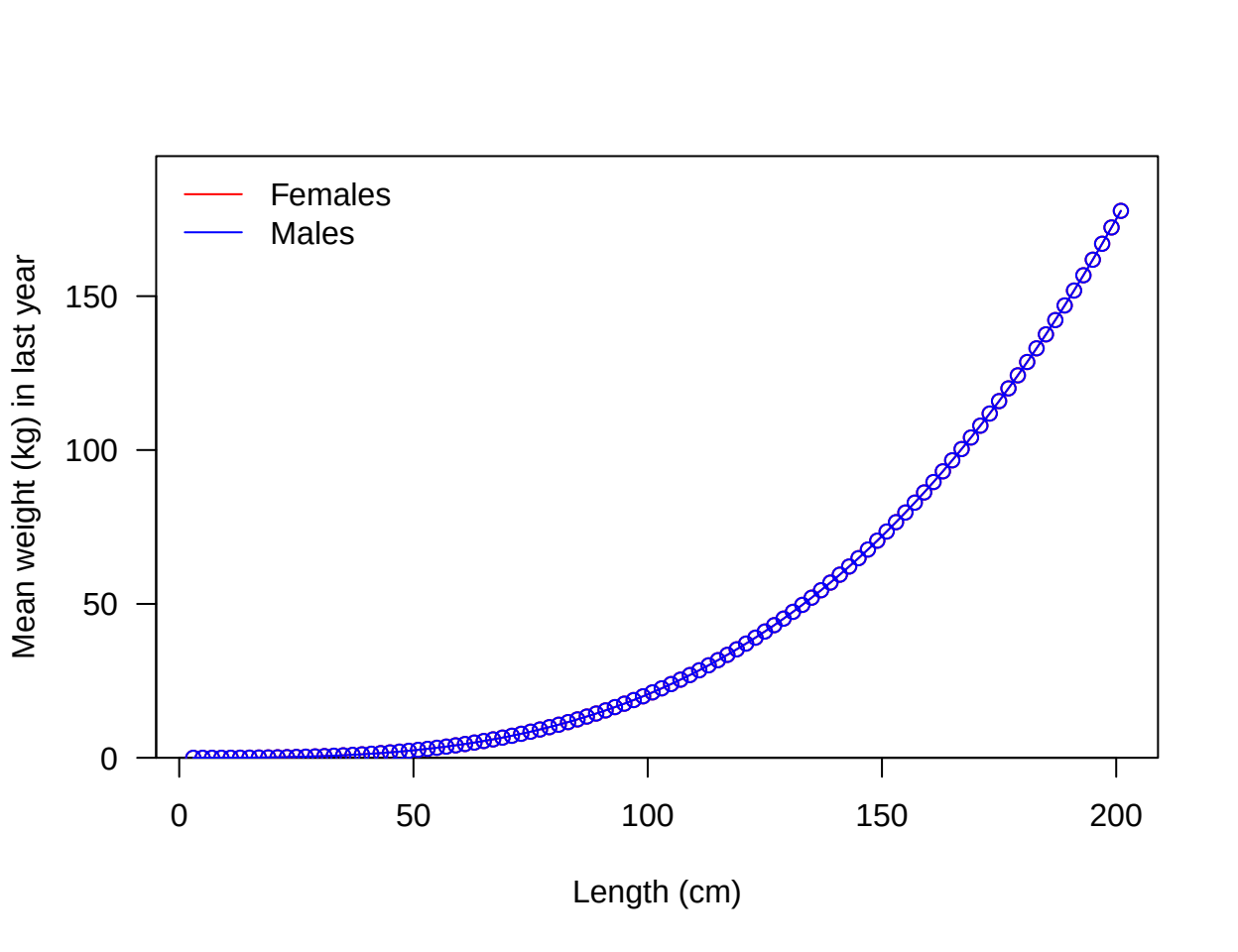
Plots created using the 'r4ss' package in R
Stock Synthesis version: 3.30.15.0
StartTime: Mon Jul 20 17:11:15 2020
Data_File: YFT−EPO.dat
Control_File: YFT−EPO.ctl

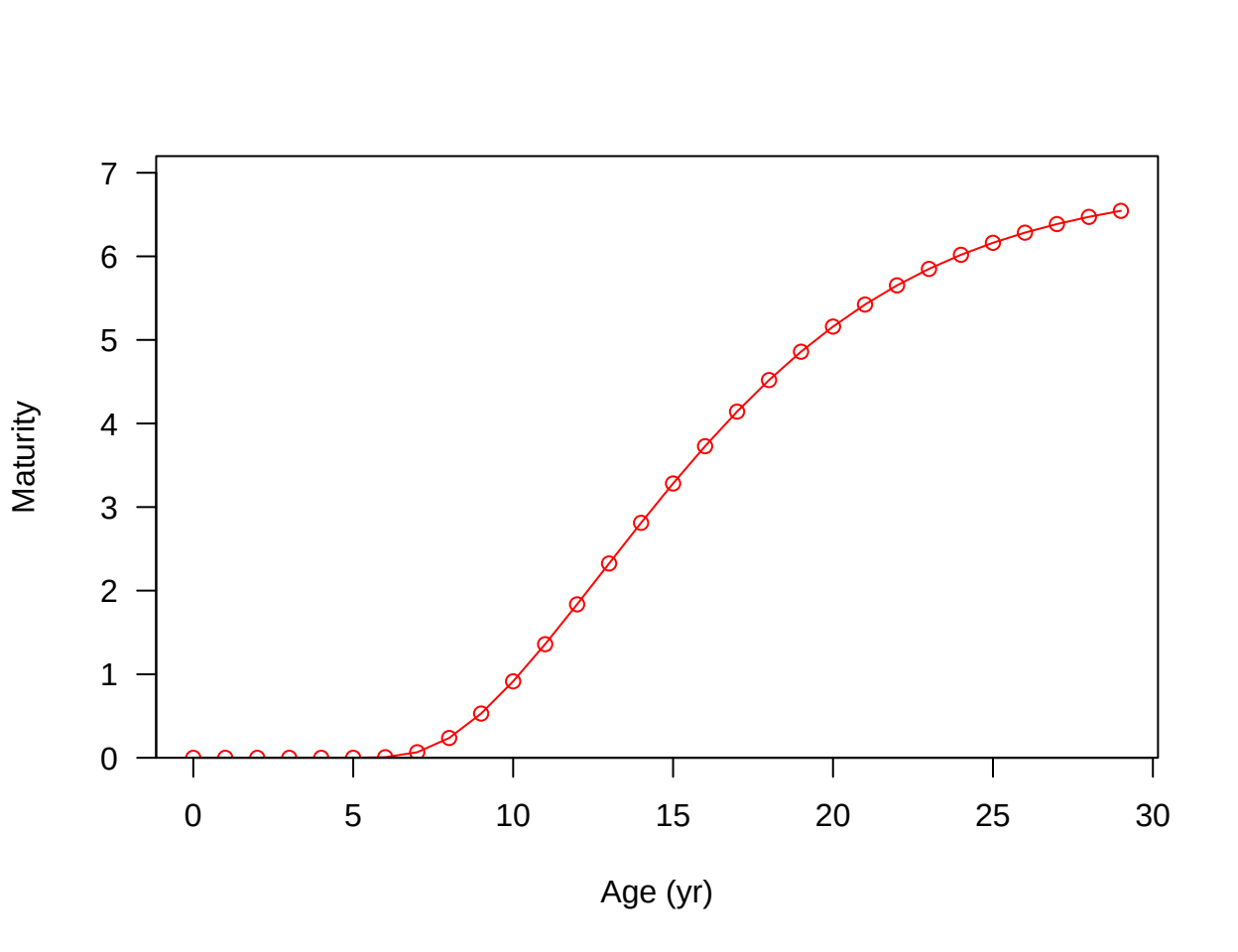

Ending year expected growth (with 95% intervals)
Females
Males
Length (cm, beginning of the year)
0
50
100
150
200
0
5
10
15
20
25
Age (yr)

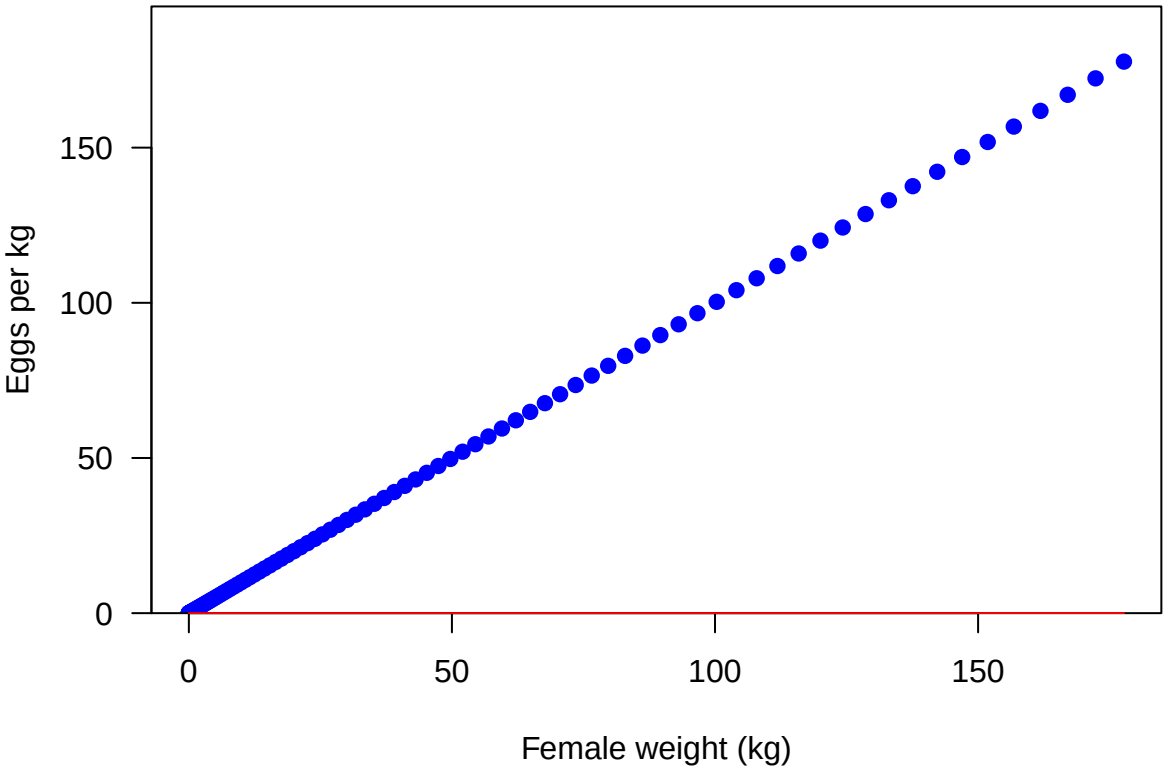

Age (yr)
CV of lengths
Females
Males
Length (cm, beginning of the year)
CV of lengths
SD of lengths
Age (yr)

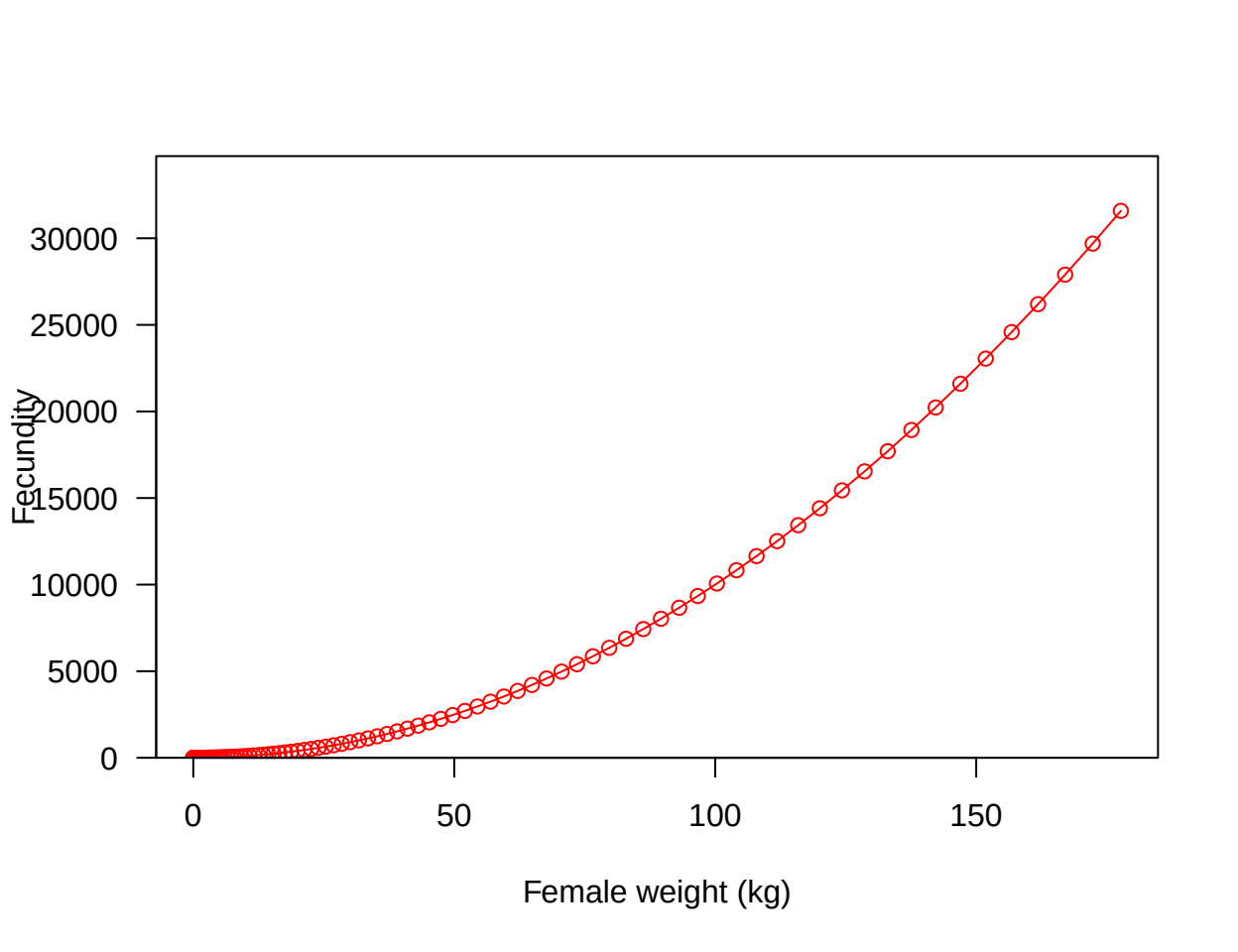

Age (yr)
Mean weight
Length (cm, beginning of the year)
Females
Males
Mean weight
Frac. mature
Age (yr)

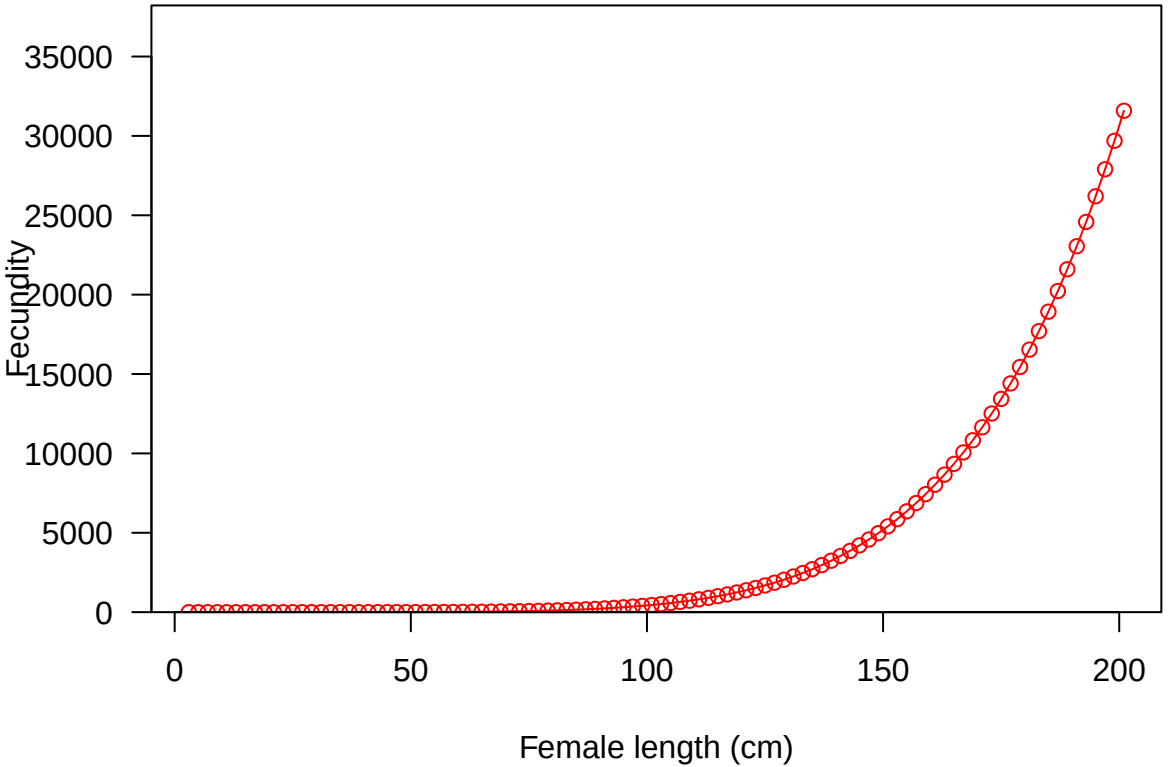

Females
Males
Mean weight (kg) in last year
0
50
100
150
0
50
100
150
200
Length (cm)

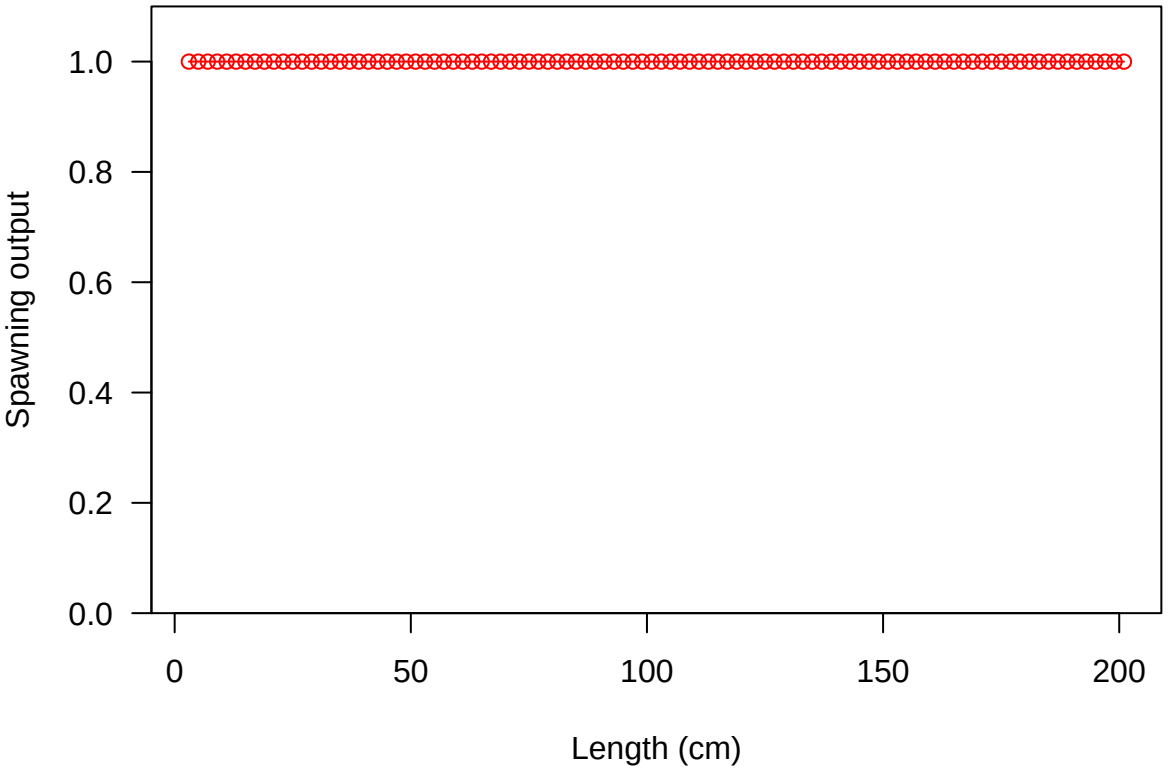

Females
Males
Mean weight (kg) in last year
0
50
100
150
0
50
100
150
200
Length (cm)

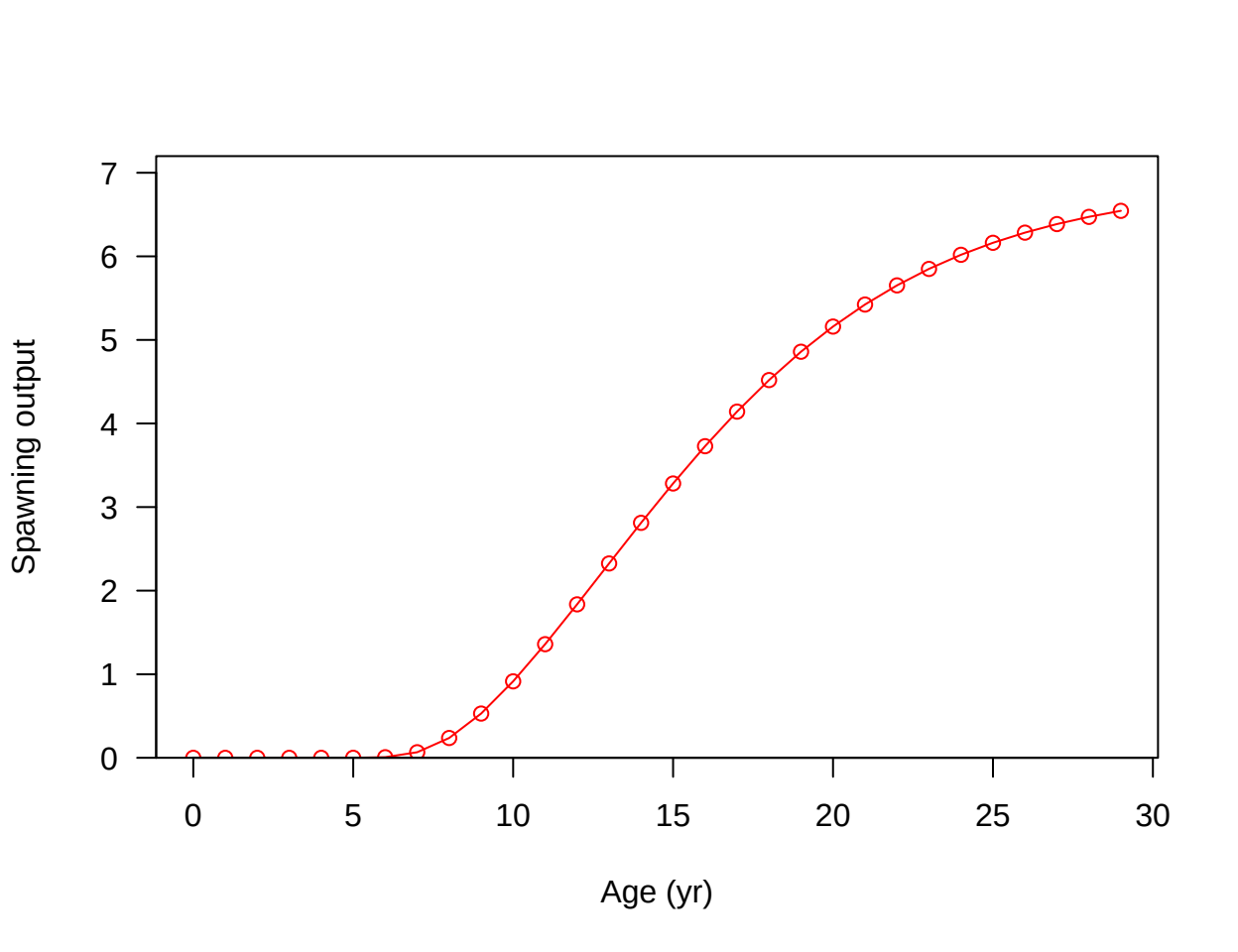

Maturity
0
1
2
3
4
5
6
7
0
5
10
15
20
25
30
Age (yr)

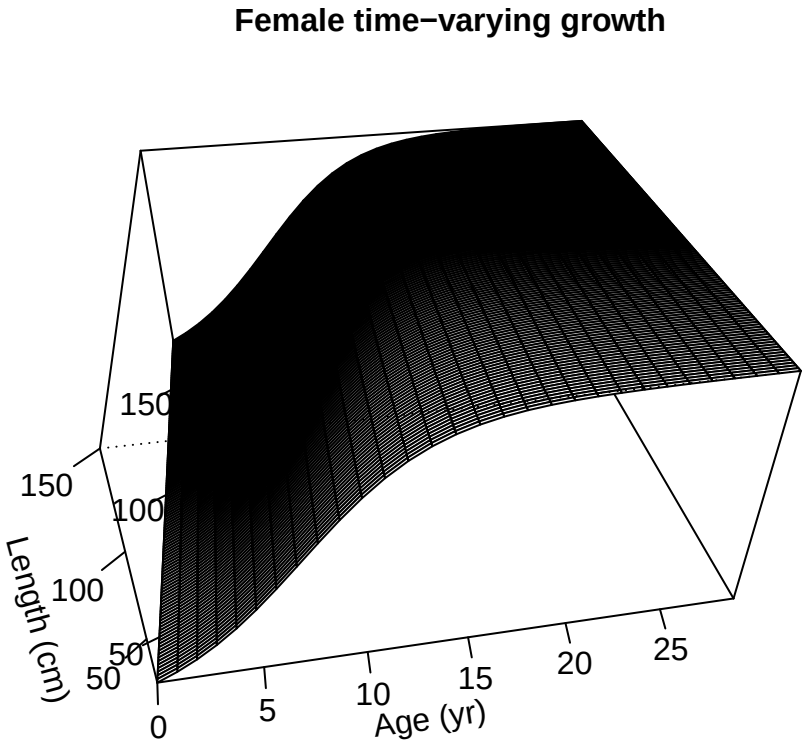

Eggs per kg
0
50
100
150
0
50
100
150
Female weight (kg)

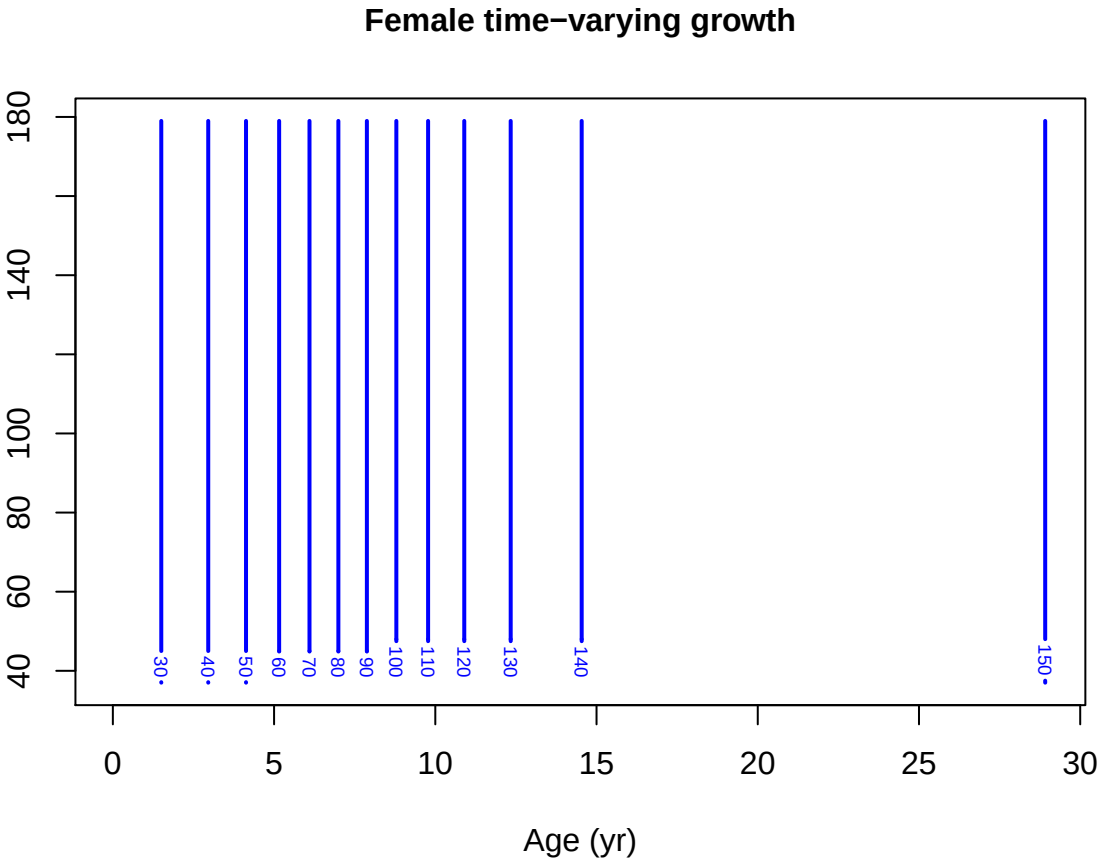

30000
25000
20000
15000
10000
5000
0
Fecundity
0
50
100
150
Female weight (kg)

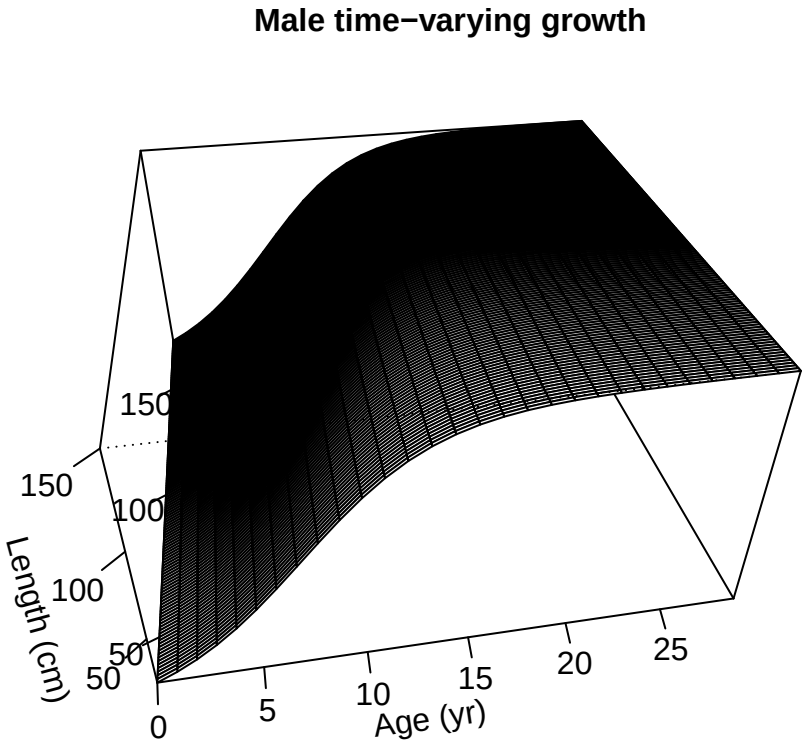

35000
30000
25000
20000
15000
10000
5000
0
Fecundity
0
50
100
150
200
Female length (cm)

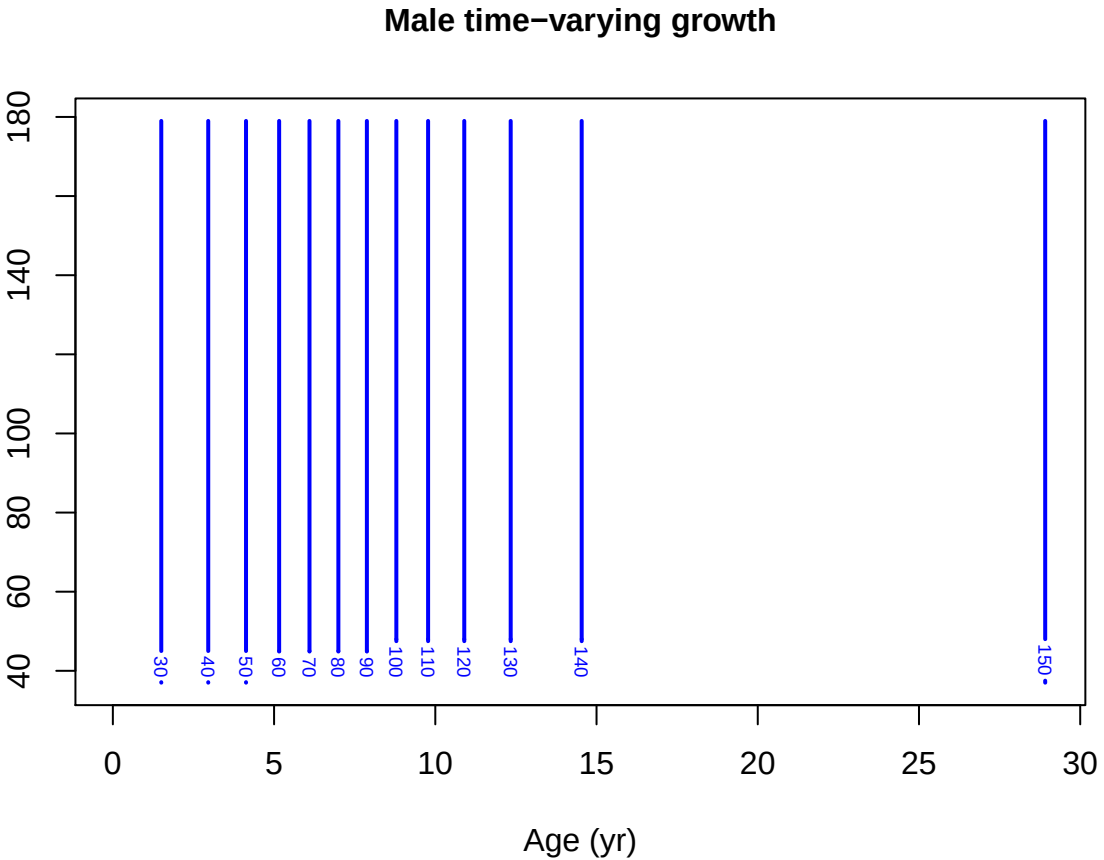

Spawning output
1.0
0.8
0.6
0.4
0.2
0.0
0
50
100
150
200
Length (cm)

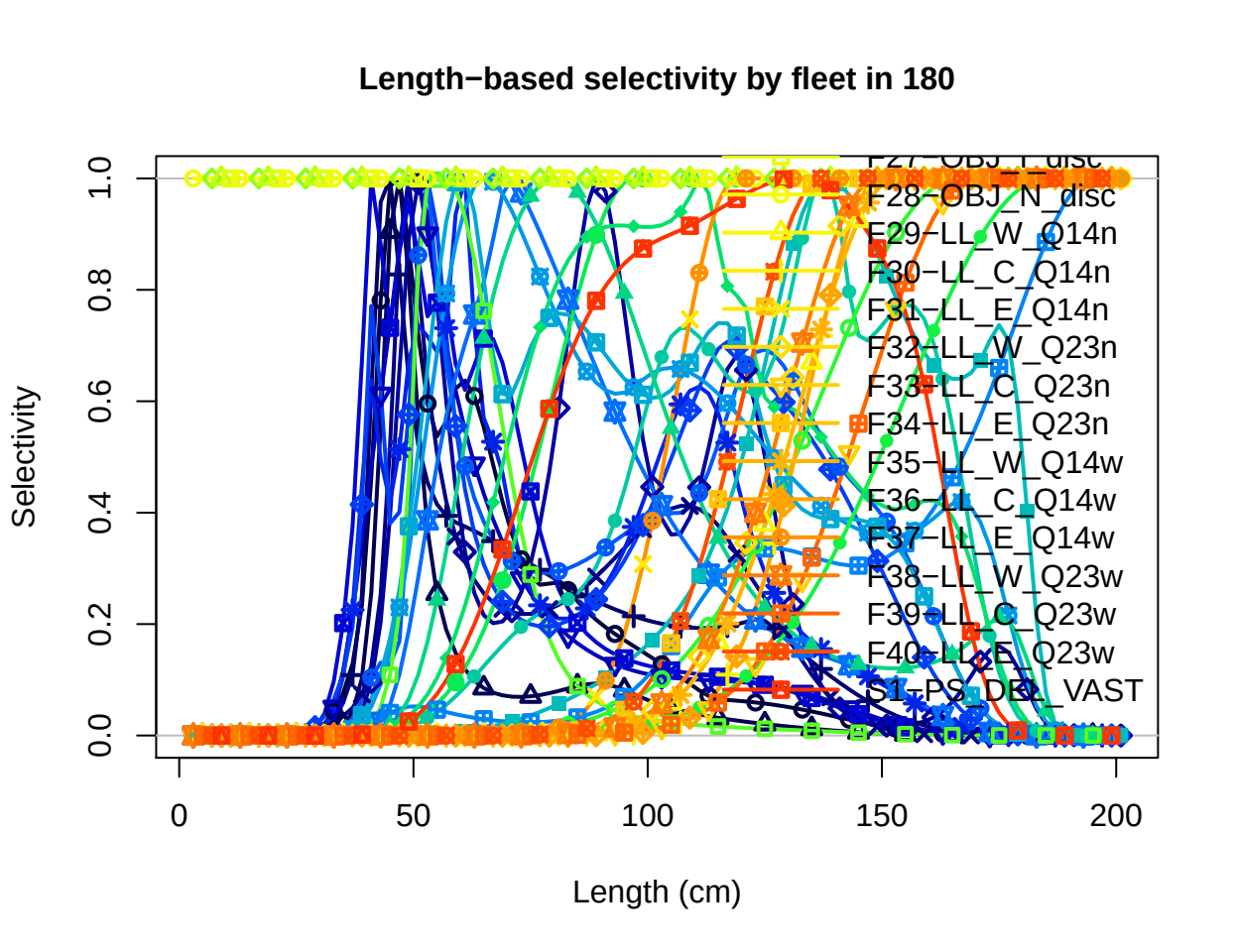

Spawning output
0
1
2
3
4
5
6
7
0
5
10
15
20
25
30
Age (yr)

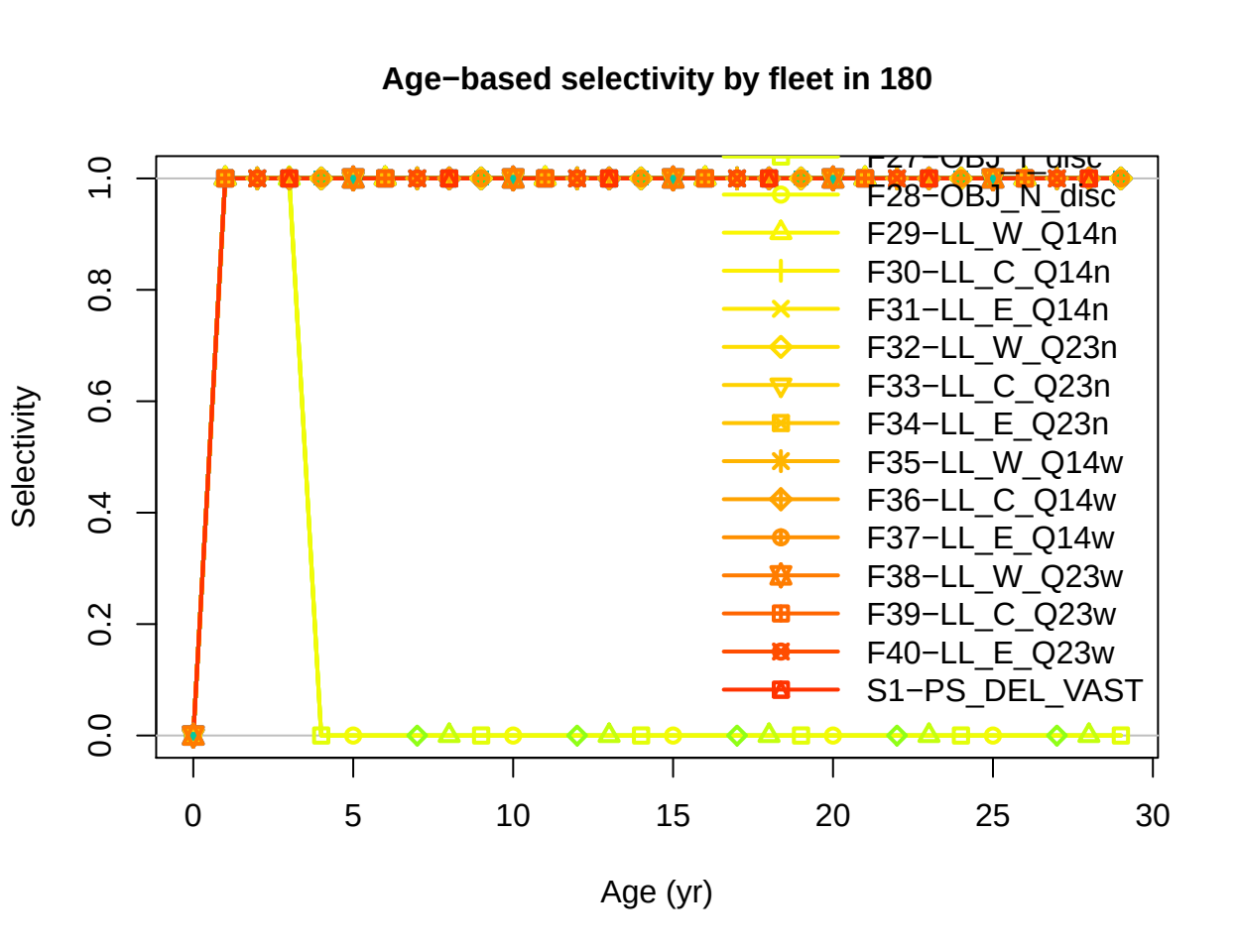

Female time−varying growth
150
100
50
Length (cm)
150
100
50
0
5
10
15
20
25
Age (yr)

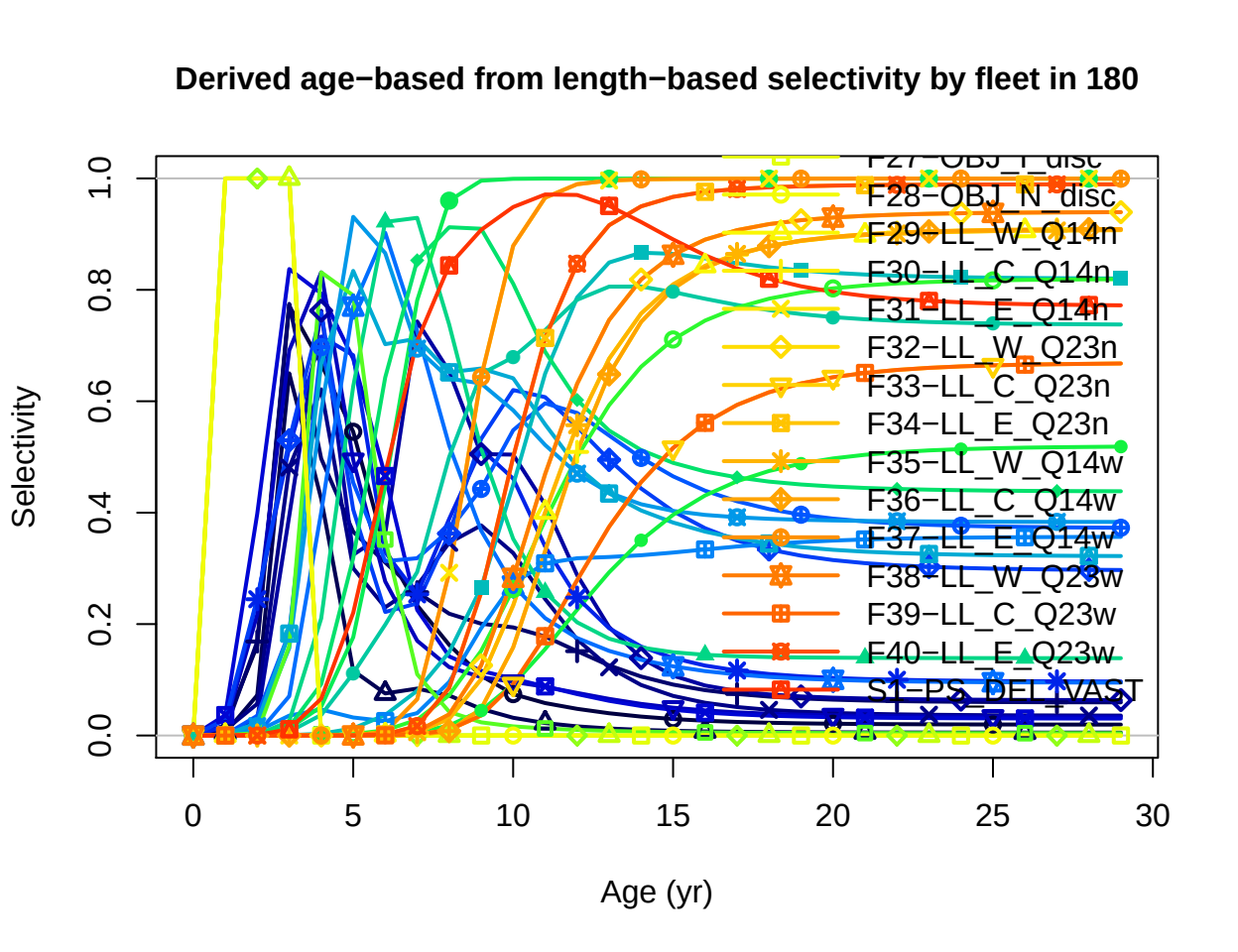

Female time−varying growth
180
140
100
80
60
40
30
40
50
60
70
80
90
100
110
120
130
140
150
0
5
10
15
20
25
30
Age (yr)

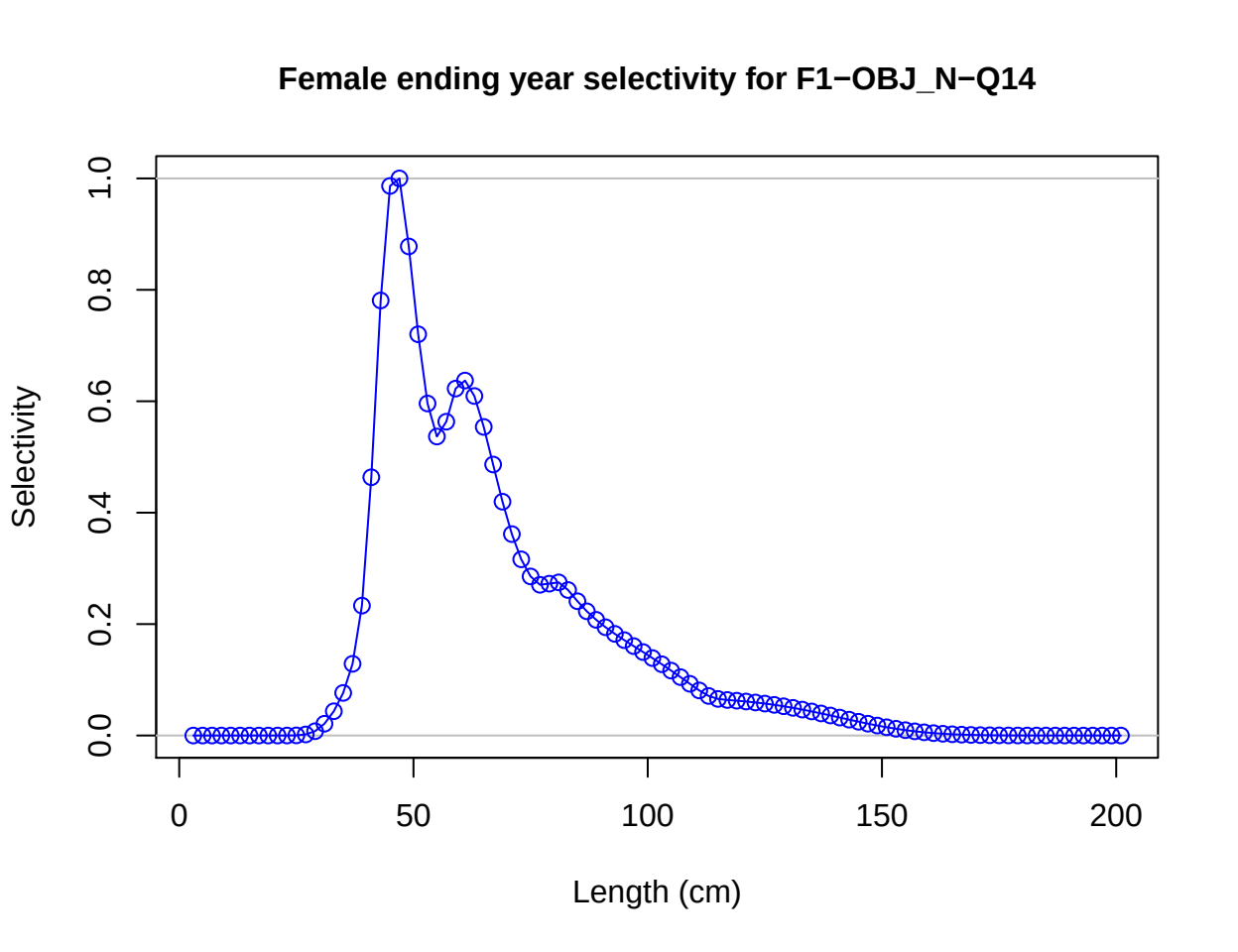

Male time−varying growth
150
100
50
Length (cm)
150
100
50
0
5
10
15
20
25
Age (yr)

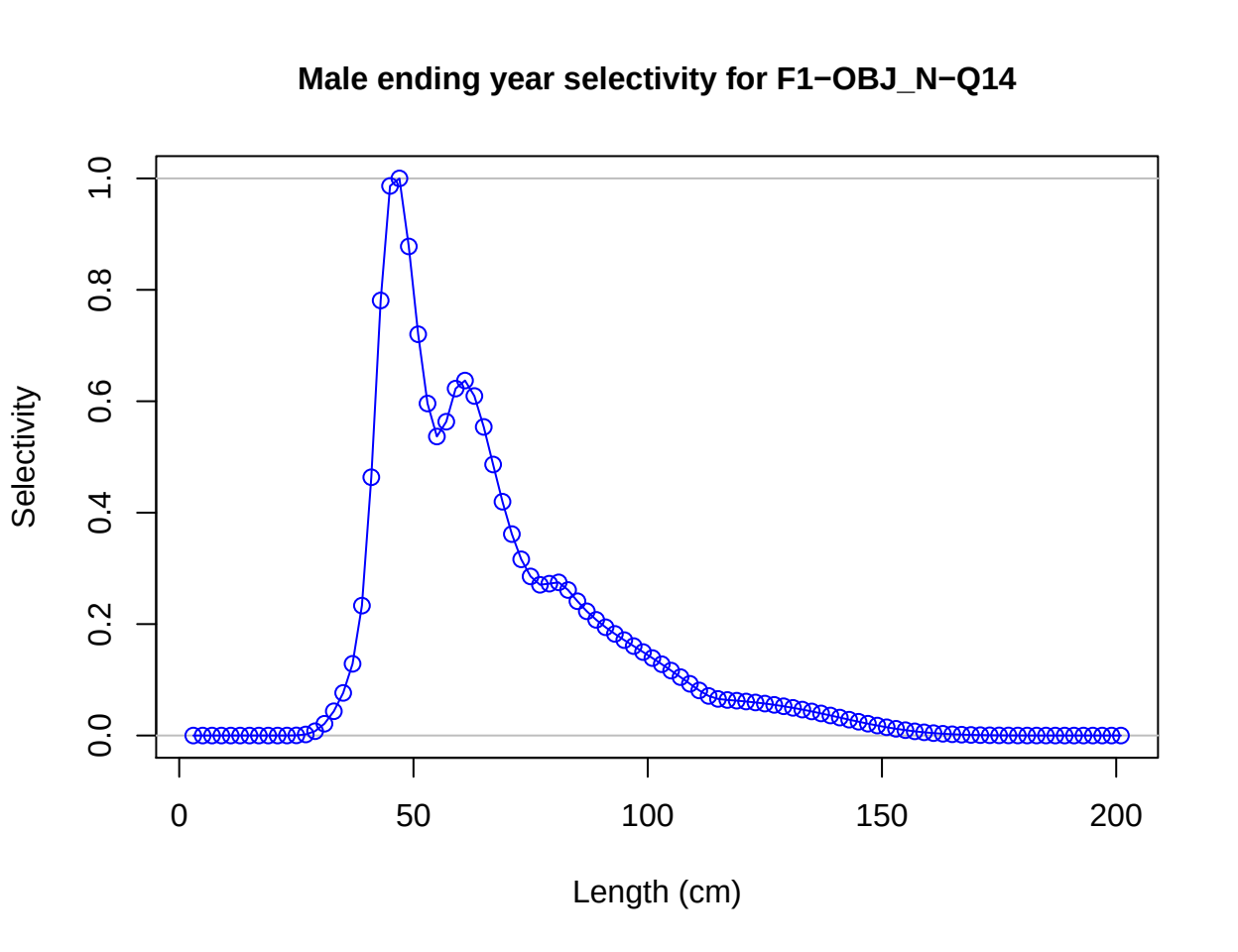

Male time−varying growth
180
140
100
80
60
40
30
40
50
60
70
80
90
100
110
120
130
140
150
0
5
10
15
20
25
30
Age (yr)

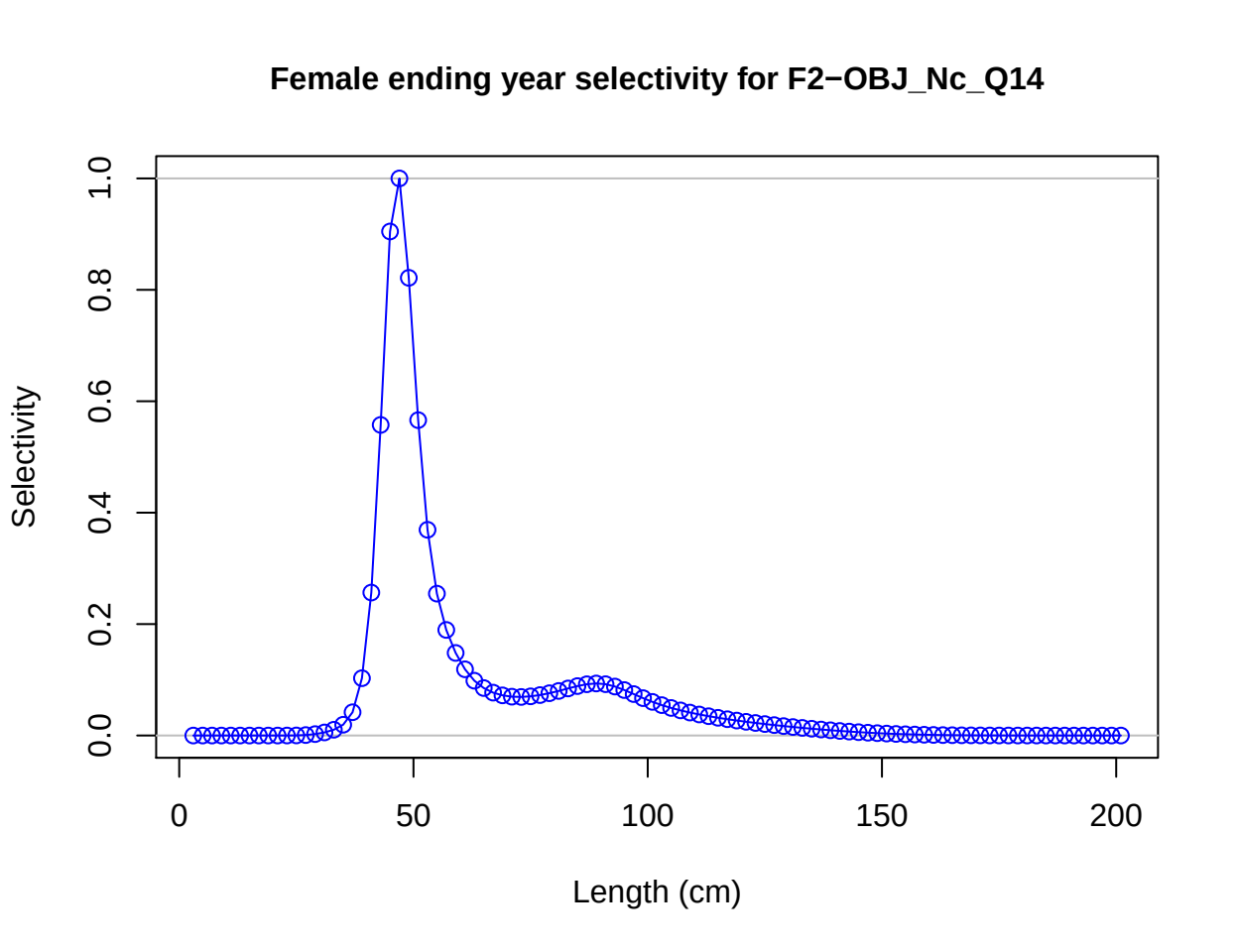

Length−based selectivity by fleet in 180
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)
F28−OBJ_N_disc
F29−LL_W_Q14n
F30−LL_C_Q14n
F31−LL_E_Q14n
F32−LL_W_Q23n
F33−LL_C_Q23n
F34−LL_E_Q23n
F35−LL_W_Q14w
F36−LL_C_Q14w
F37−LL_E_Q14w
F38−LL_W_Q23w
F39−LL_C_Q23w
F40−LL_E_Q23w
F51−PS_DEL_VAST

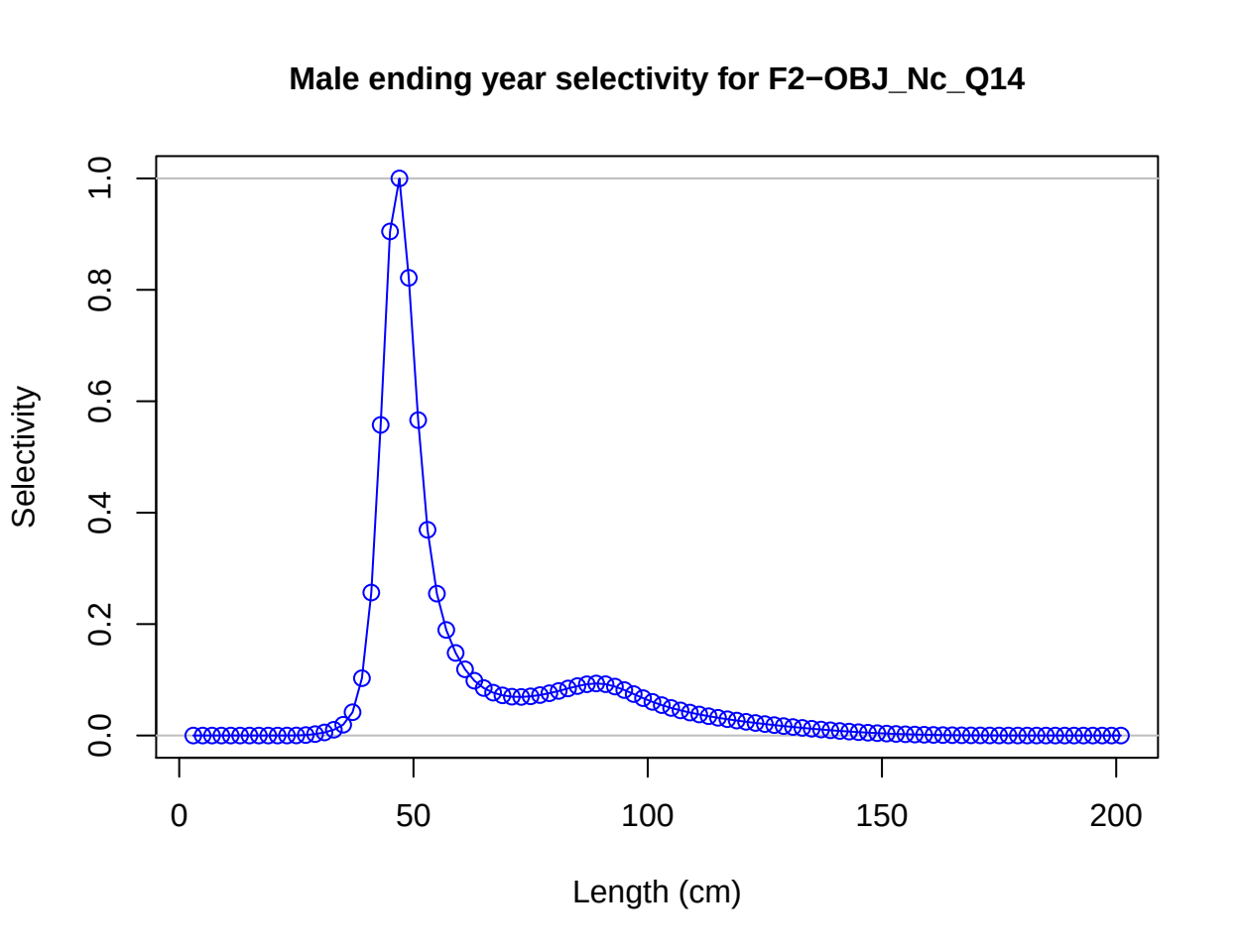

Age−based selectivity by fleet in 180
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
Age (yr)
F27−OBJ_T_disc
F28−OBJ_N_disc
F29−LL_W_Q14n
F30−LL_C_Q14n
F31−LL_E_Q14n
F32−LL_W_Q23n
F33−LL_C_Q23n
F34−LL_E_Q23n
F35−LL_W_Q14w
F36−LL_C_Q14w
F37−LL_E_Q14w
F38−LL_W_Q23w
F39−LL_C_Q23w
F40−LL_E_Q23w
S1−PS_DEL_VAST

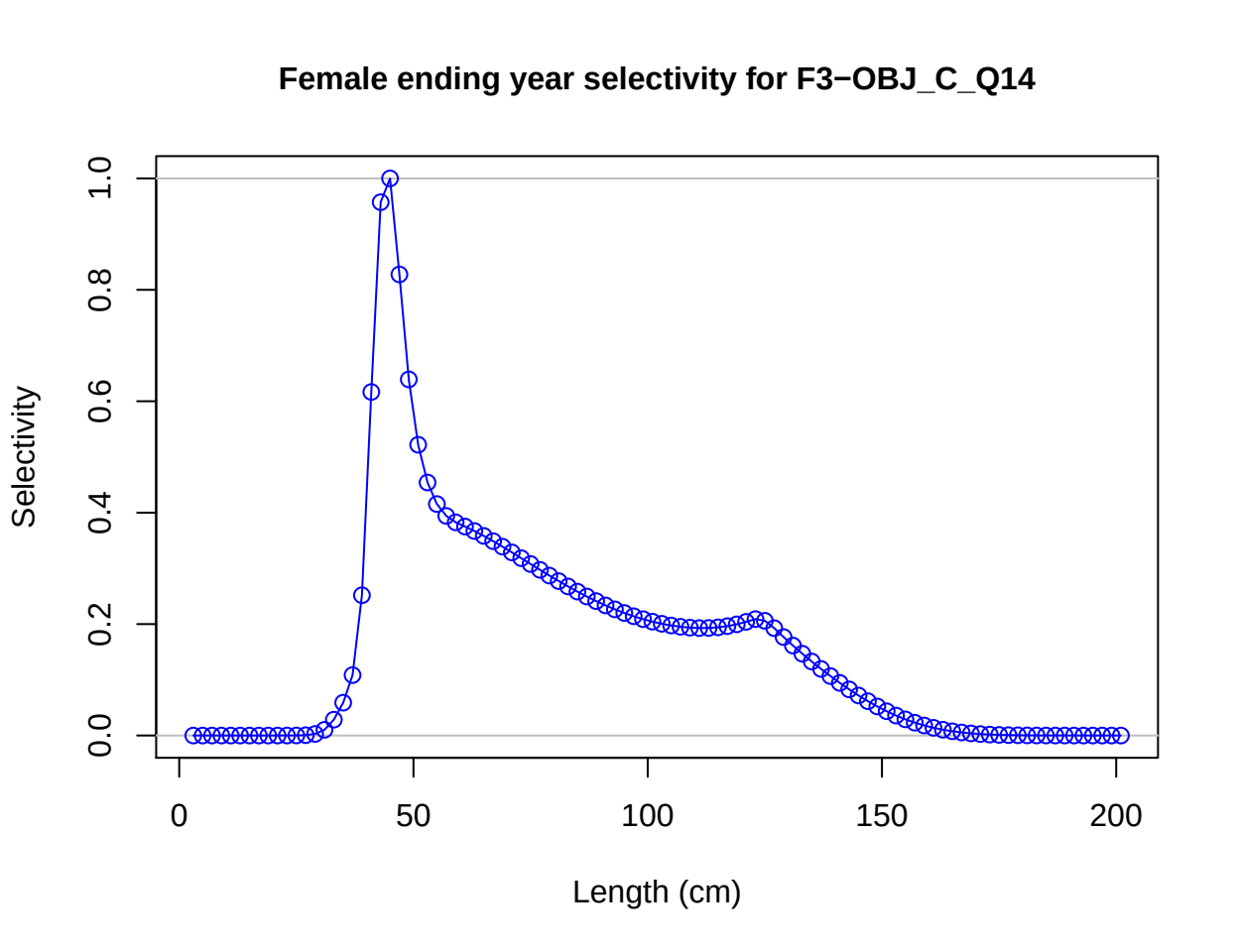

Derived age−based from length−based selectivity by fleet in 180
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
Age (yr)
F27−OBJ_T_disc
F28−OBJ_N_disc
F29−LL_W_Q14n
F30−LL_C_Q14n
F31−LL_E_Q14n
F32−LL_W_Q23n
F33−LL_C_Q23n
F34−LL_E_Q23n
F35−LL_W_Q14w
F36−LL_C_Q14w
F37−LL_E_Q14w
F38−LL_W_Q23w
F39−LL_C_Q23w
F40−LL_E_Q23w
S1−PS_DEL_VAST

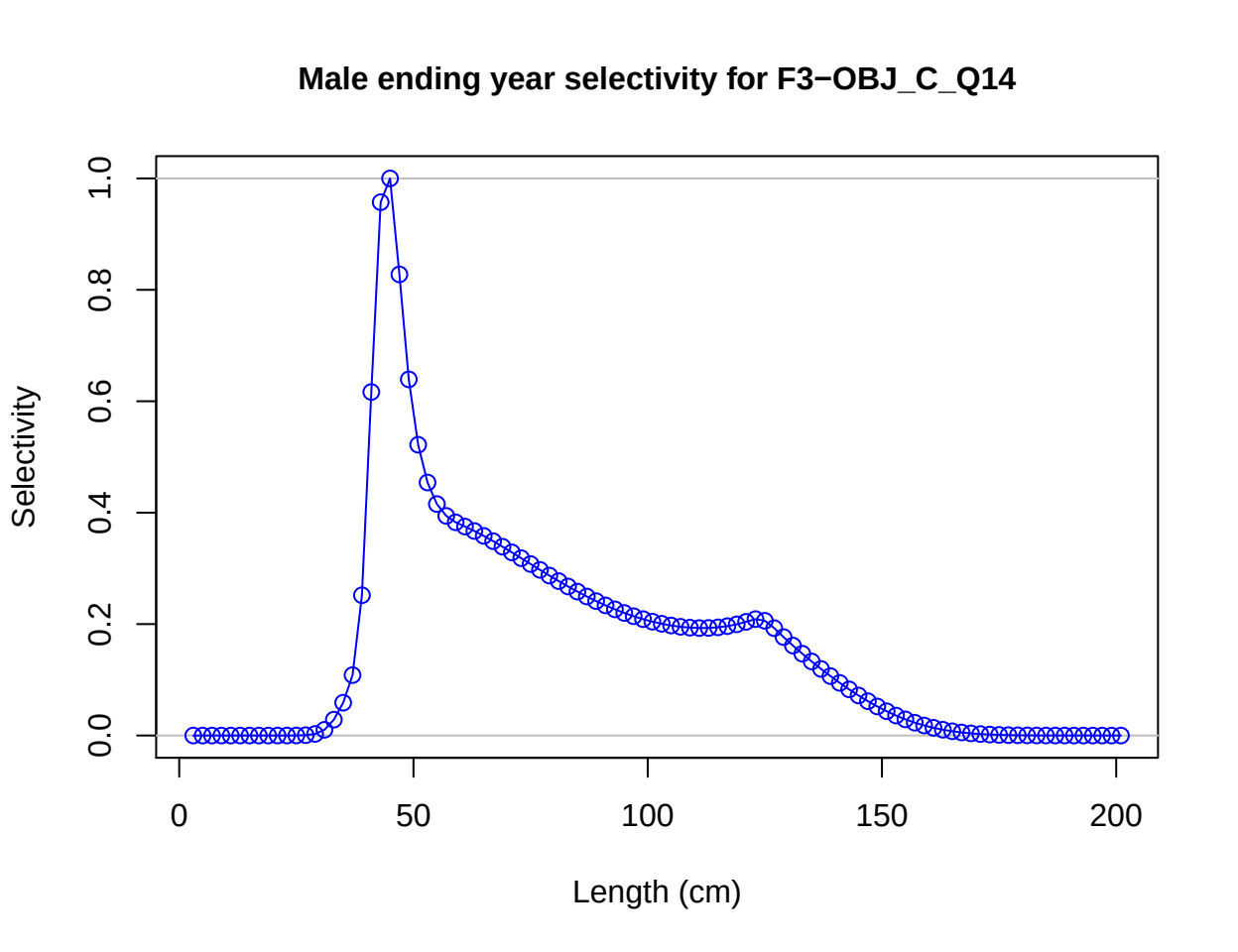

Female ending year selectivity for F1−OBJ_N−Q14
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

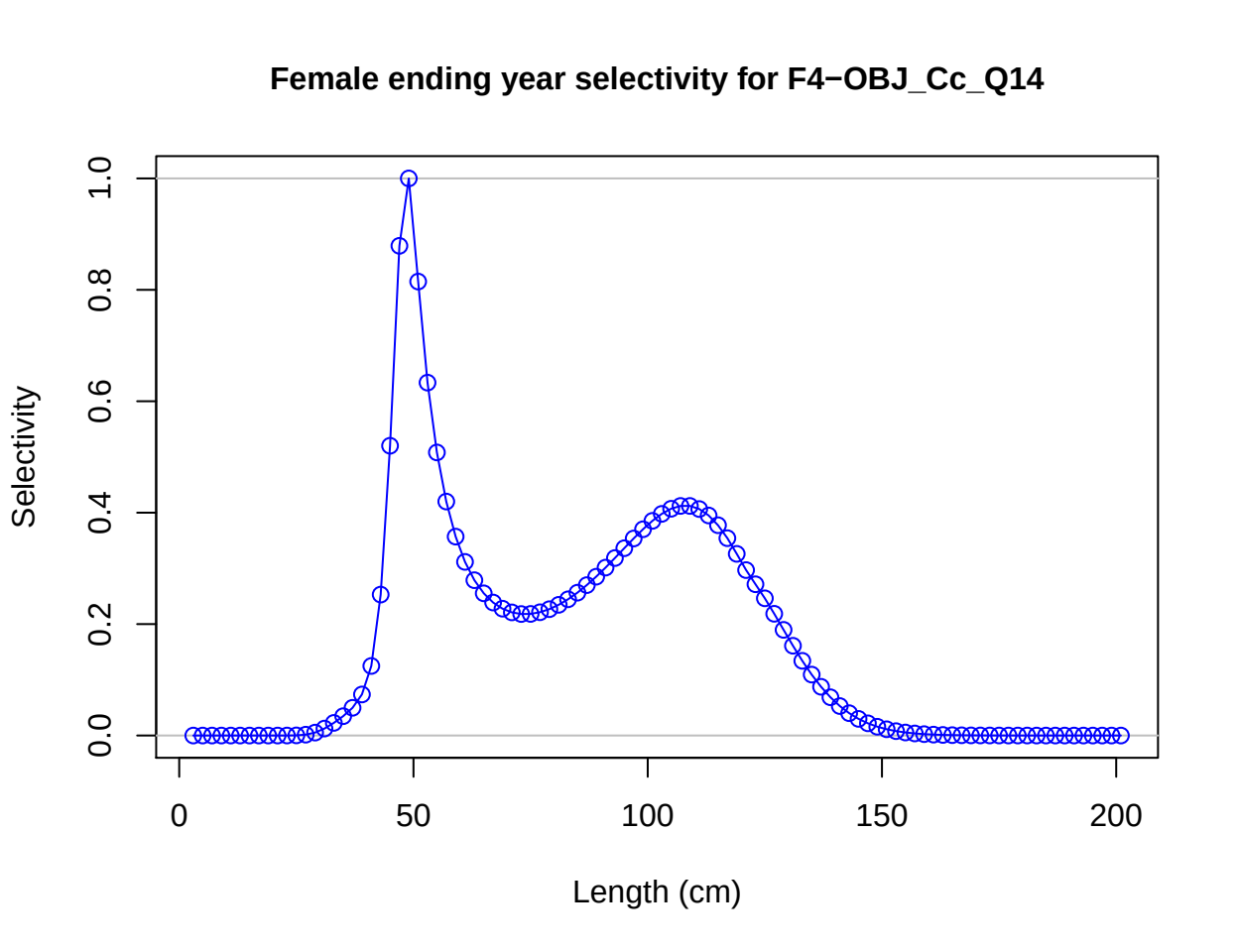

Male ending year selectivity for F1−OBJ_N−Q14
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

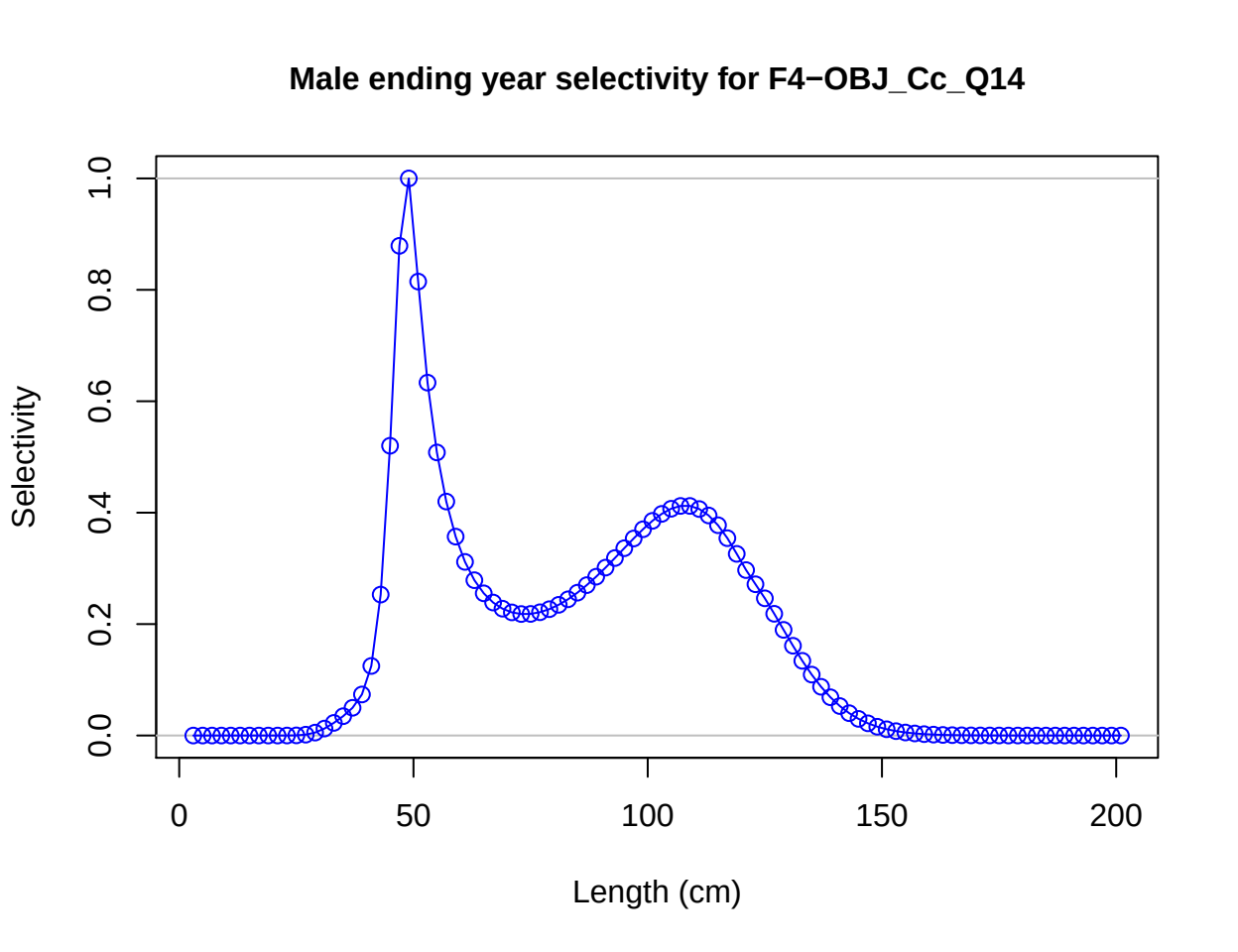

Female ending year selectivity for F2−OBJ_Nc_Q14
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

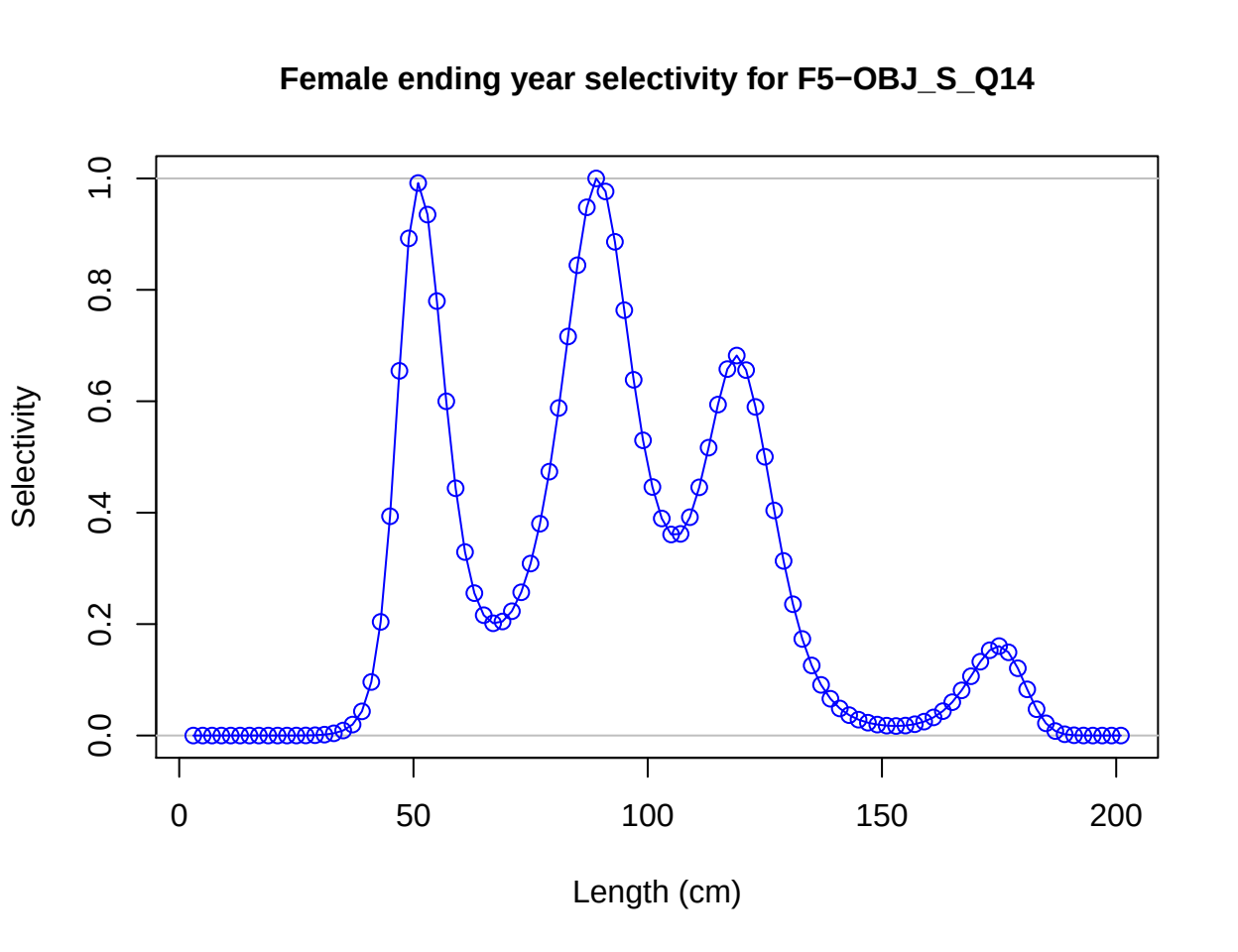

Male ending year selectivity for F2−OBJ_Nc_Q14
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

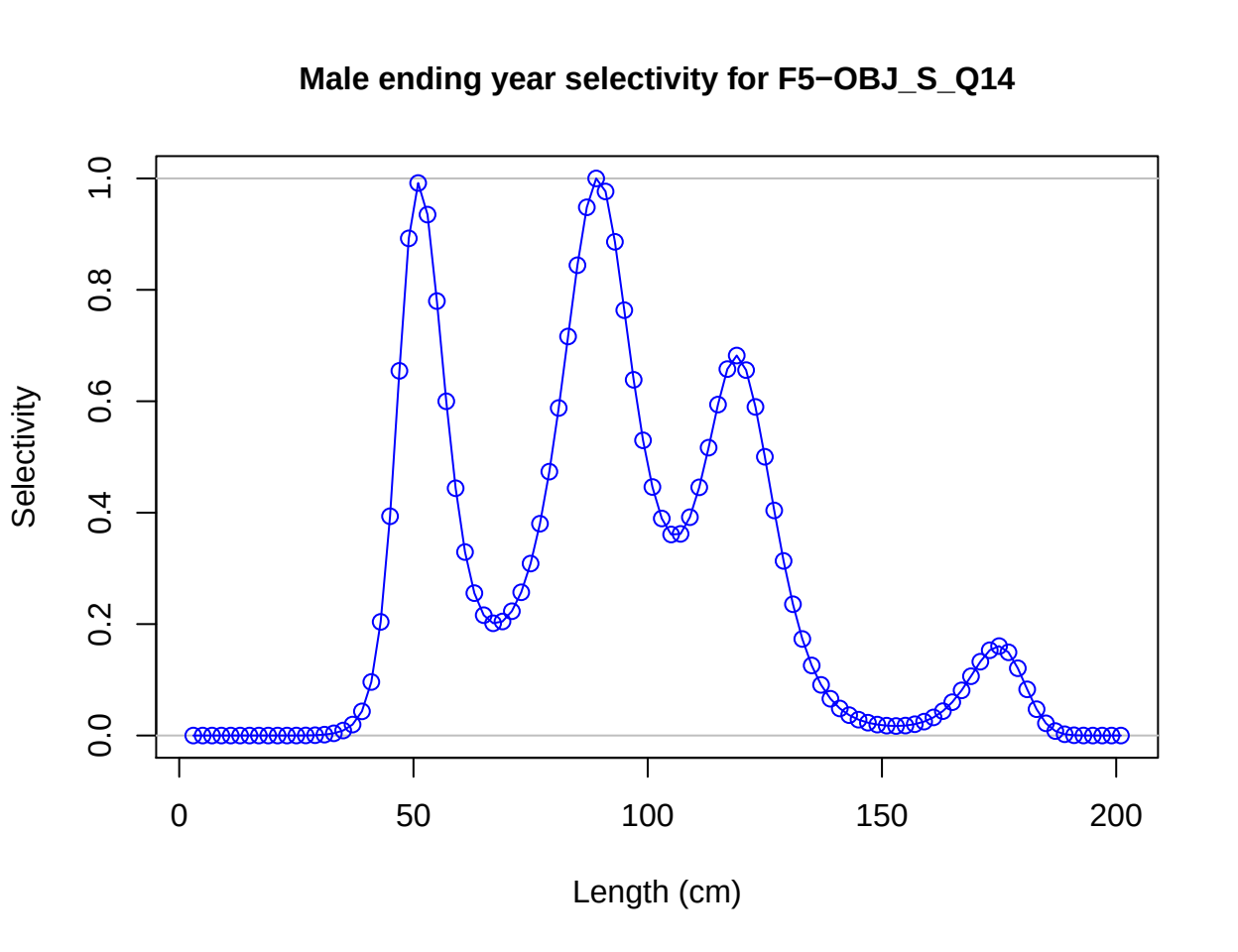

Female ending year selectivity for F3−OBJ_C_Q14
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

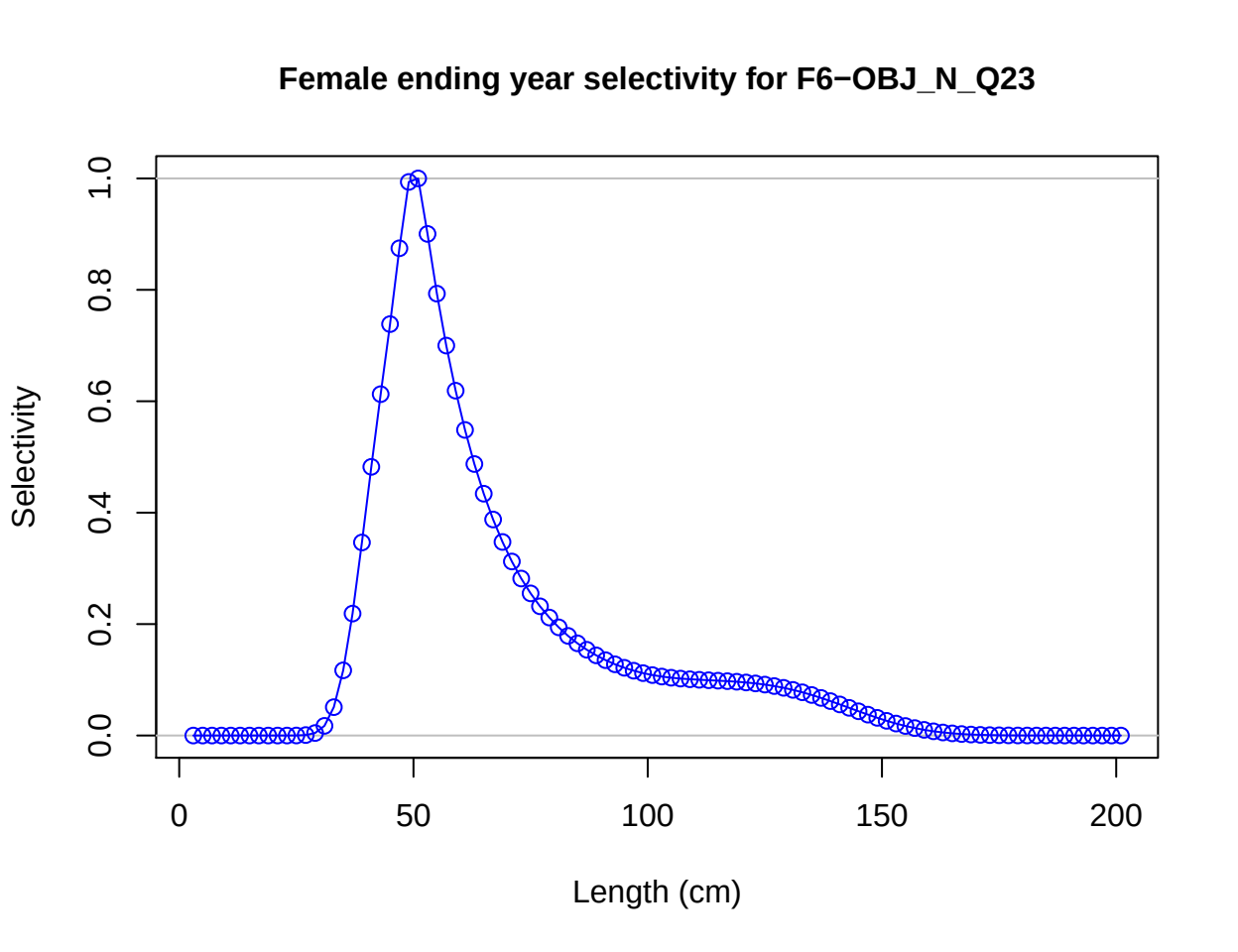

Male ending year selectivity for F3−OBJ_C_Q14
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

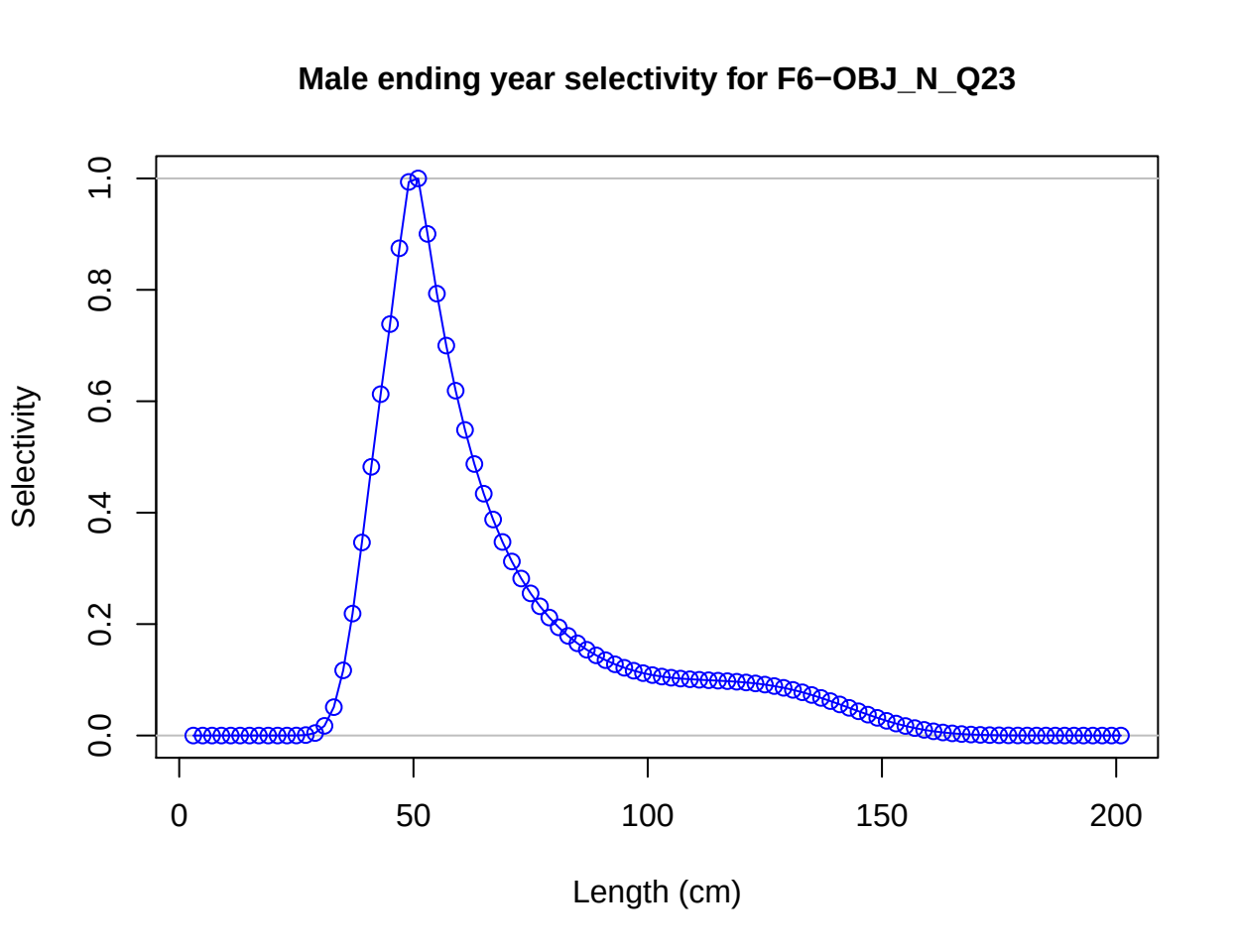

Female ending year selectivity for F4−OBJ_Cc_Q14
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

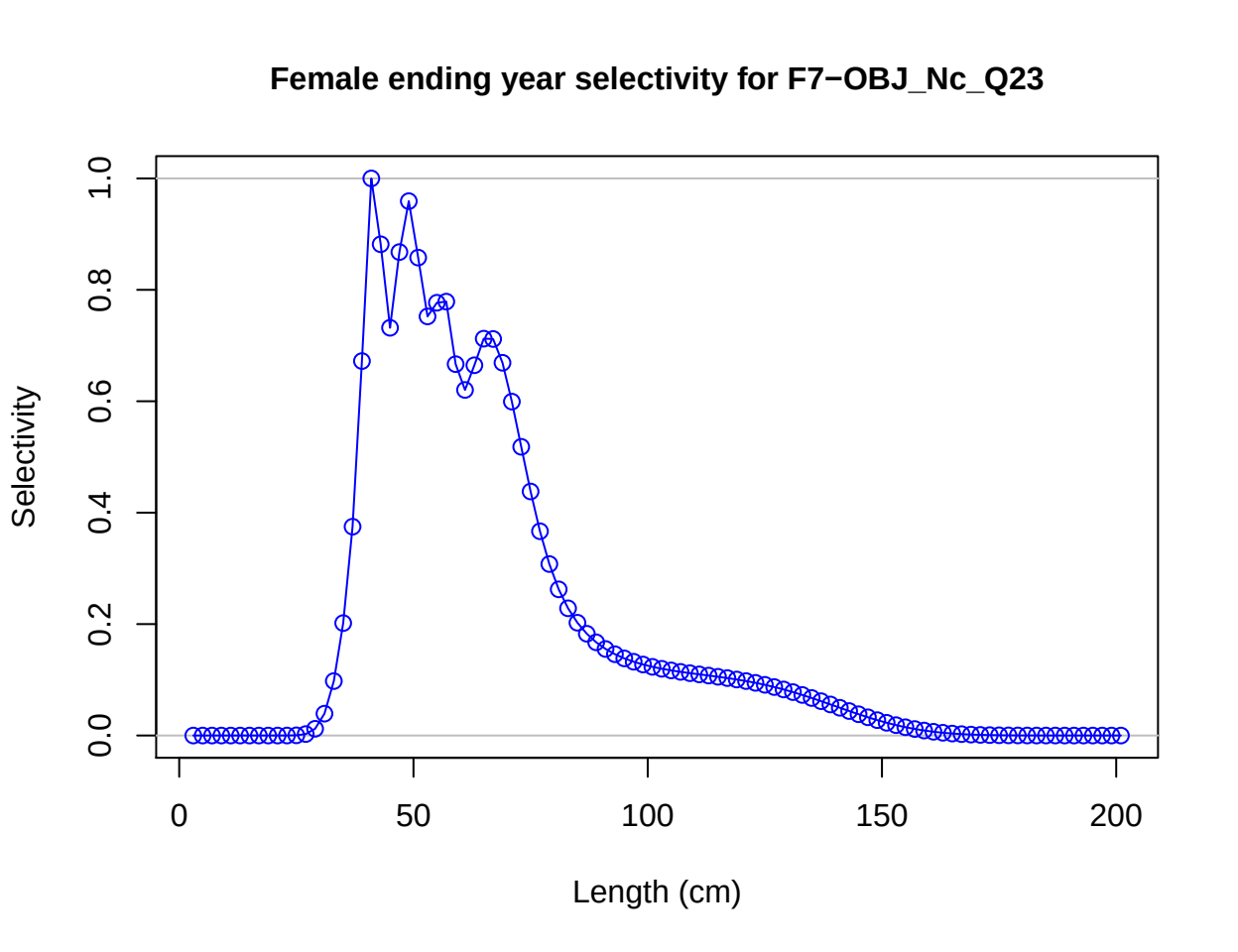

Male ending year selectivity for F4−OBJ_Cc_Q14
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

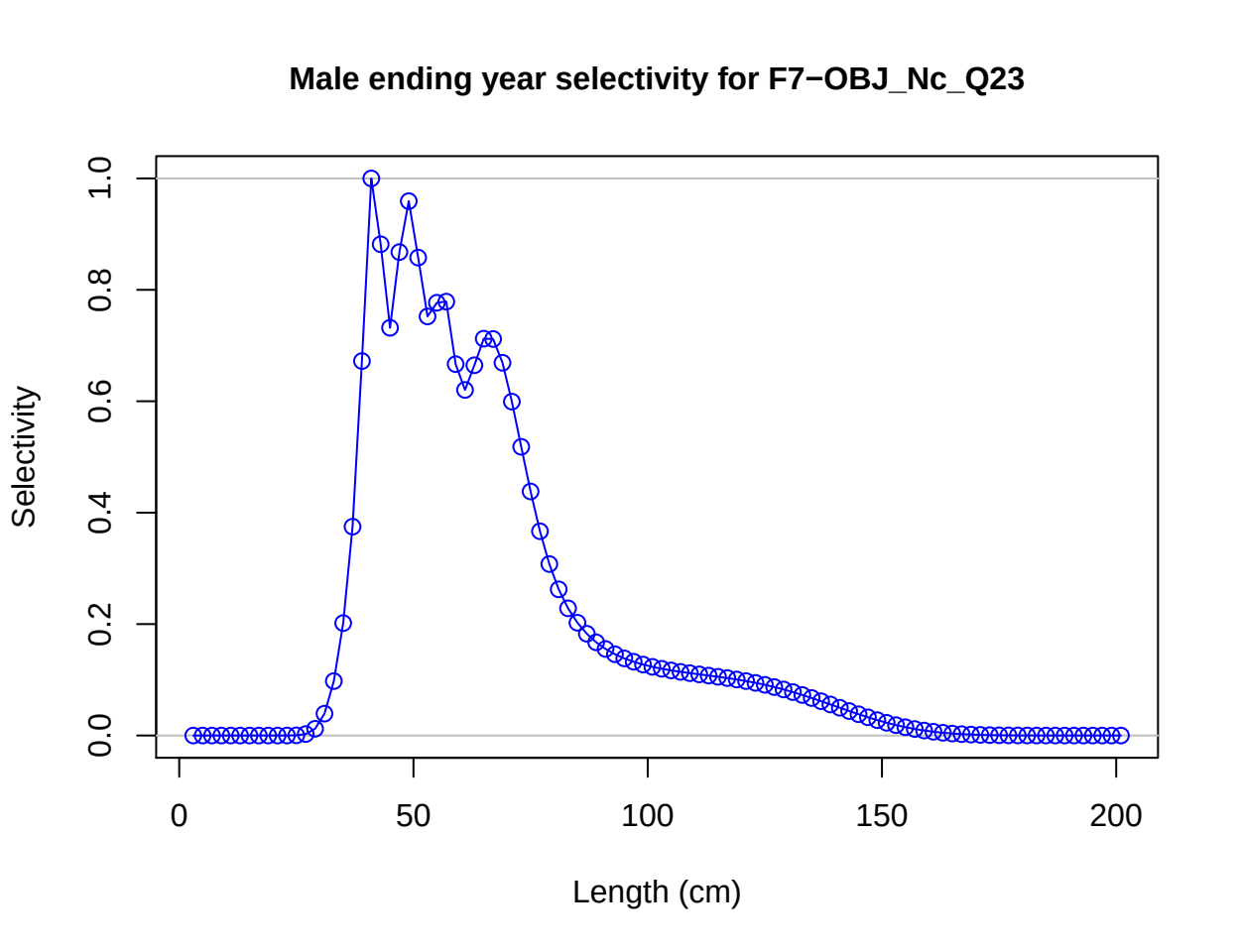

Female ending year selectivity for F5−OBJ_S_Q14
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

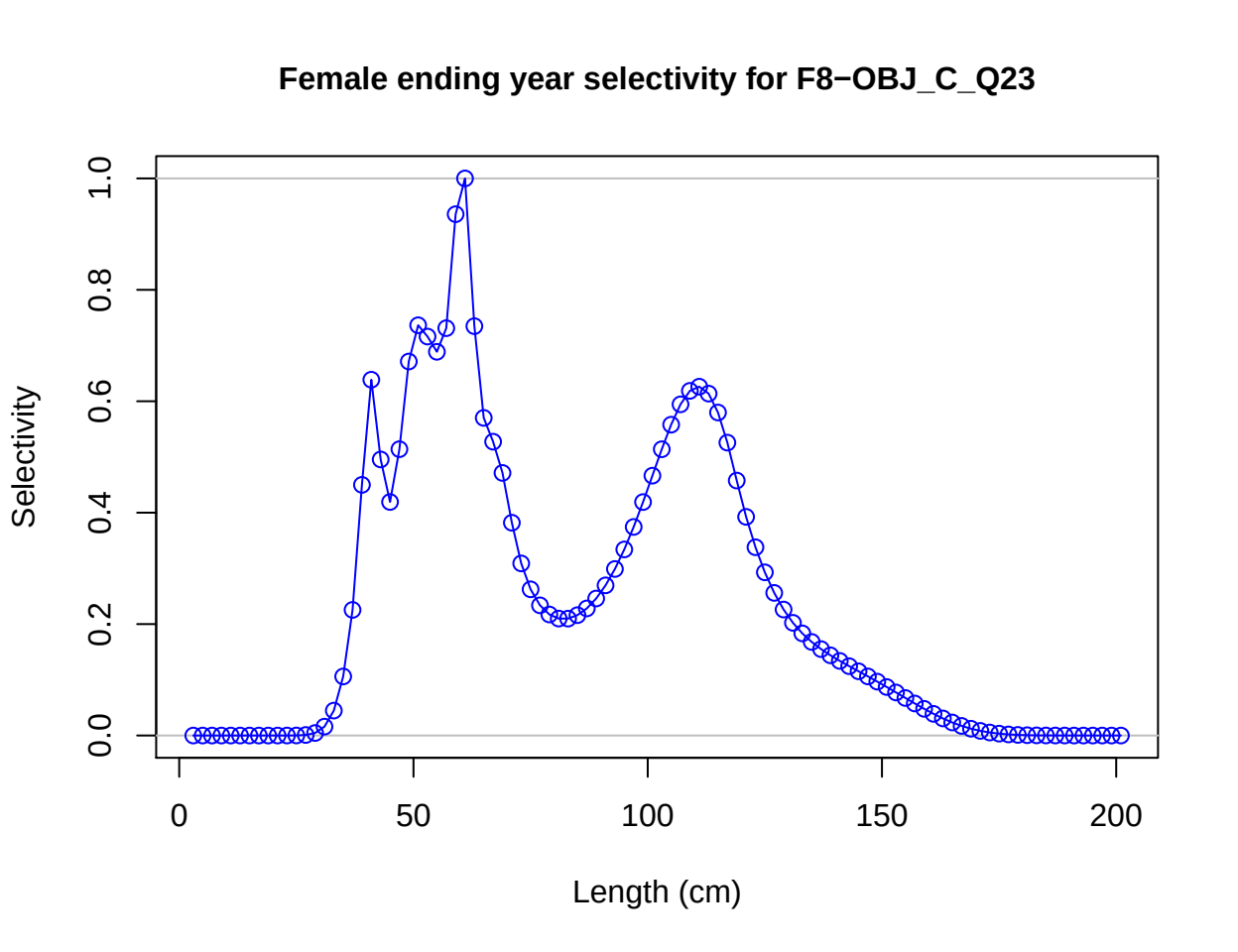

Male ending year selectivity for F5−OBJ_S_Q14
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

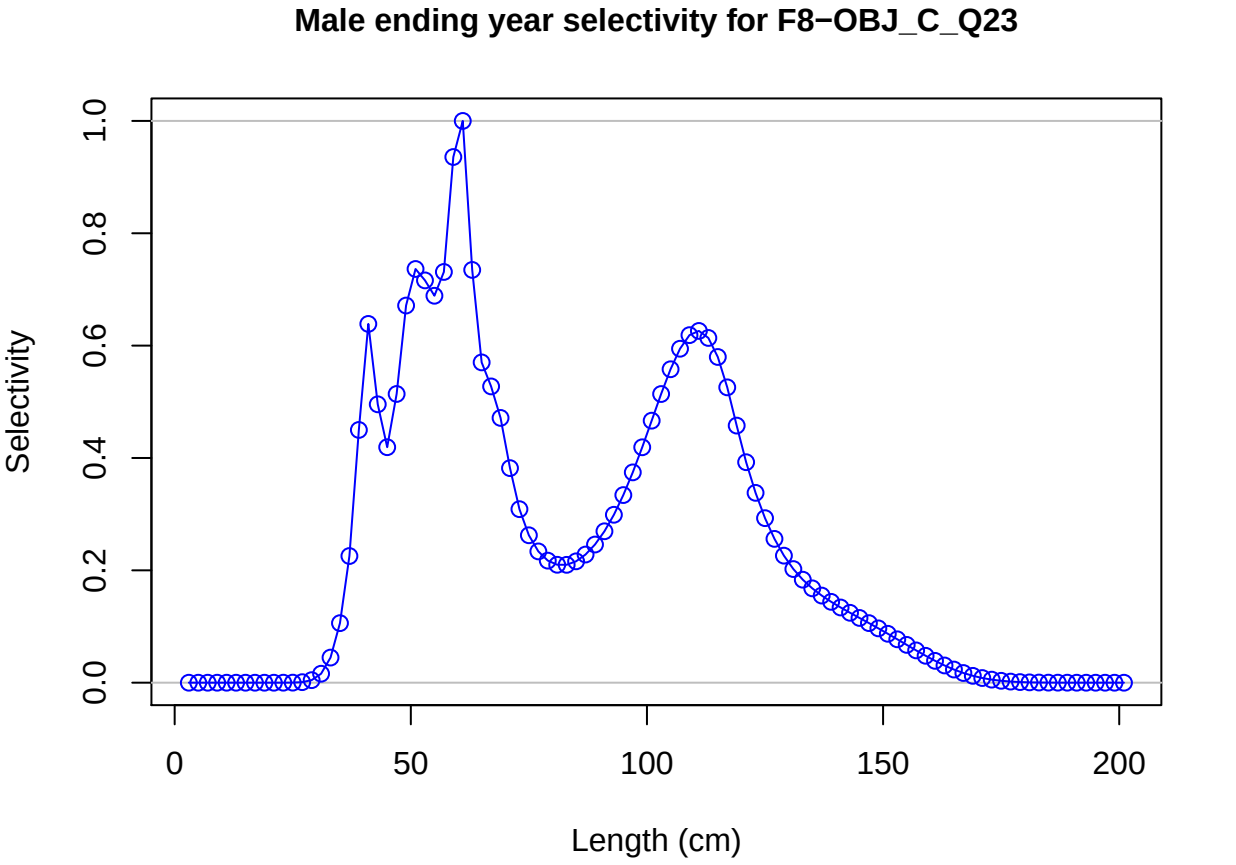

Female ending year selectivity for F6−OBJ_N_Q23
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

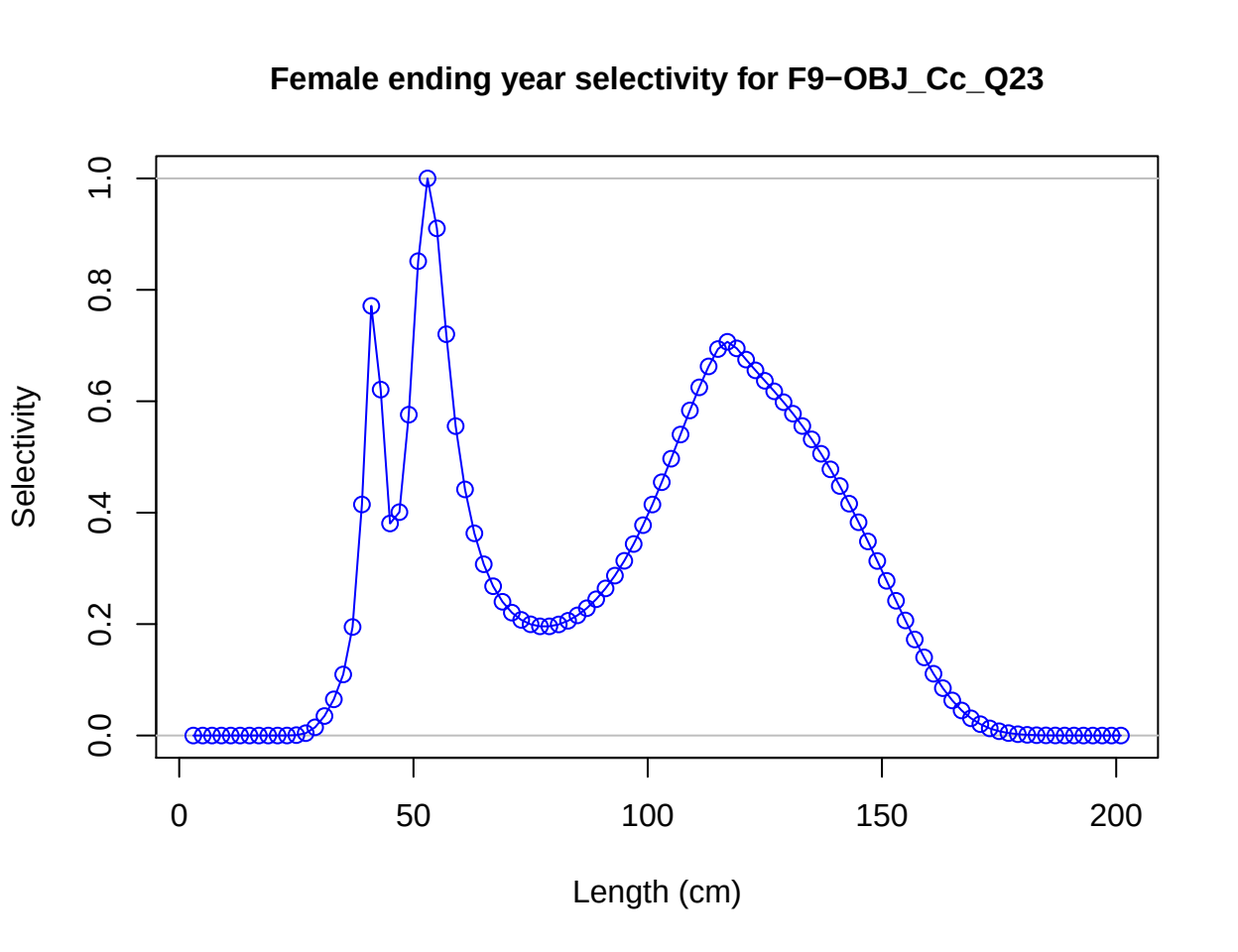

Male ending year selectivity for F6−OBJ_N_Q23
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

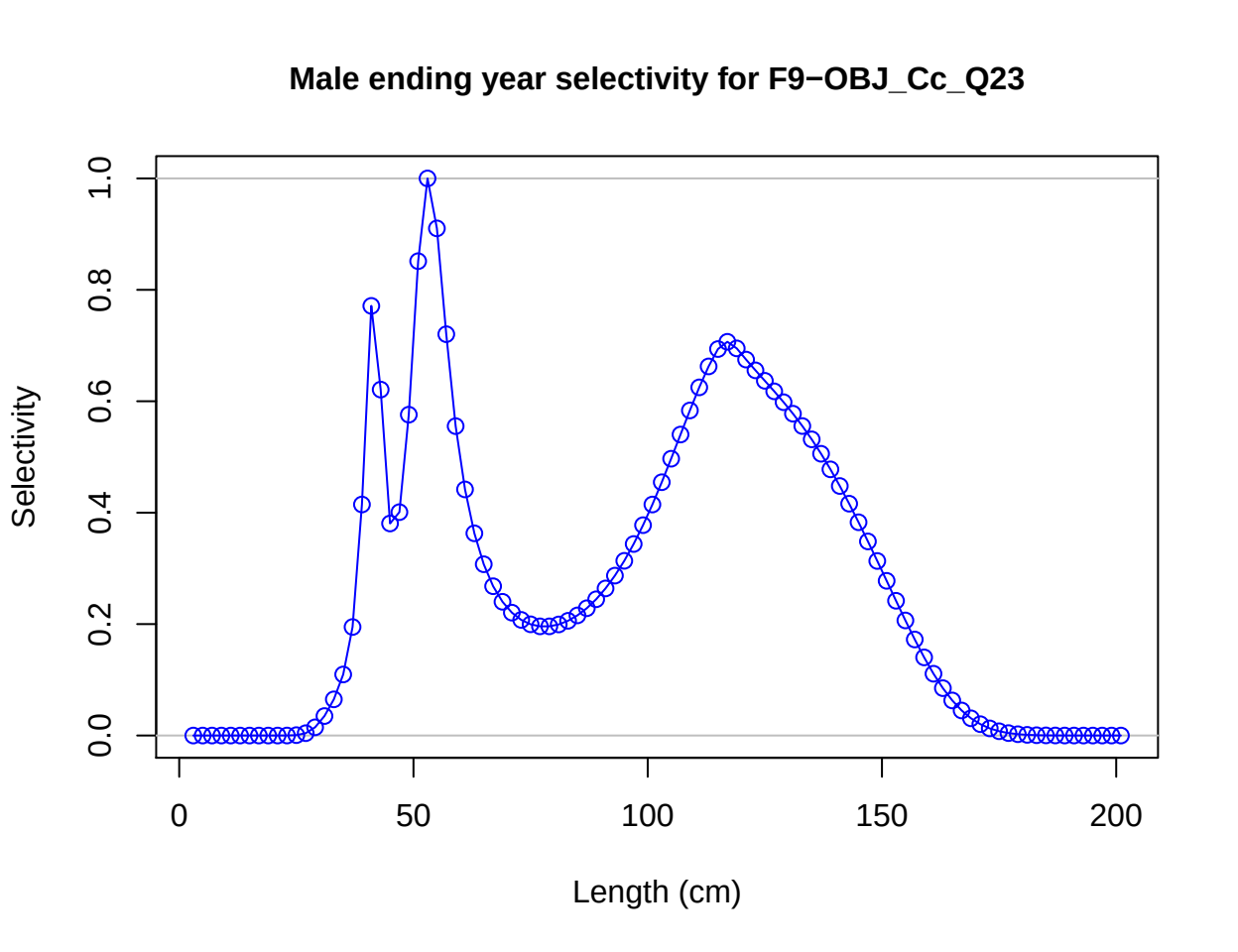

Female ending year selectivity for F7−OBJ_Nc_Q23
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

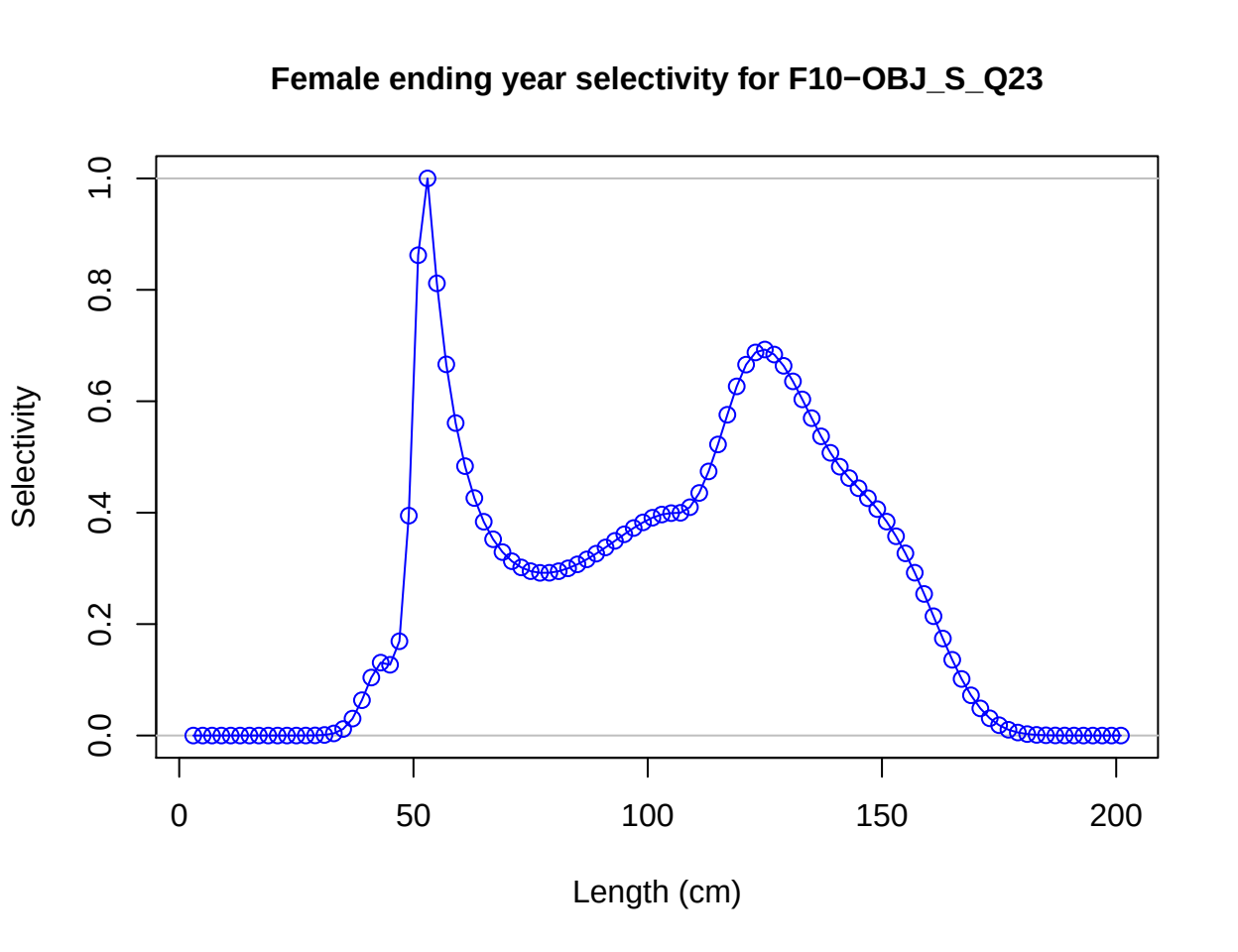

Male ending year selectivity for F7−OBJ_Nc_Q23
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

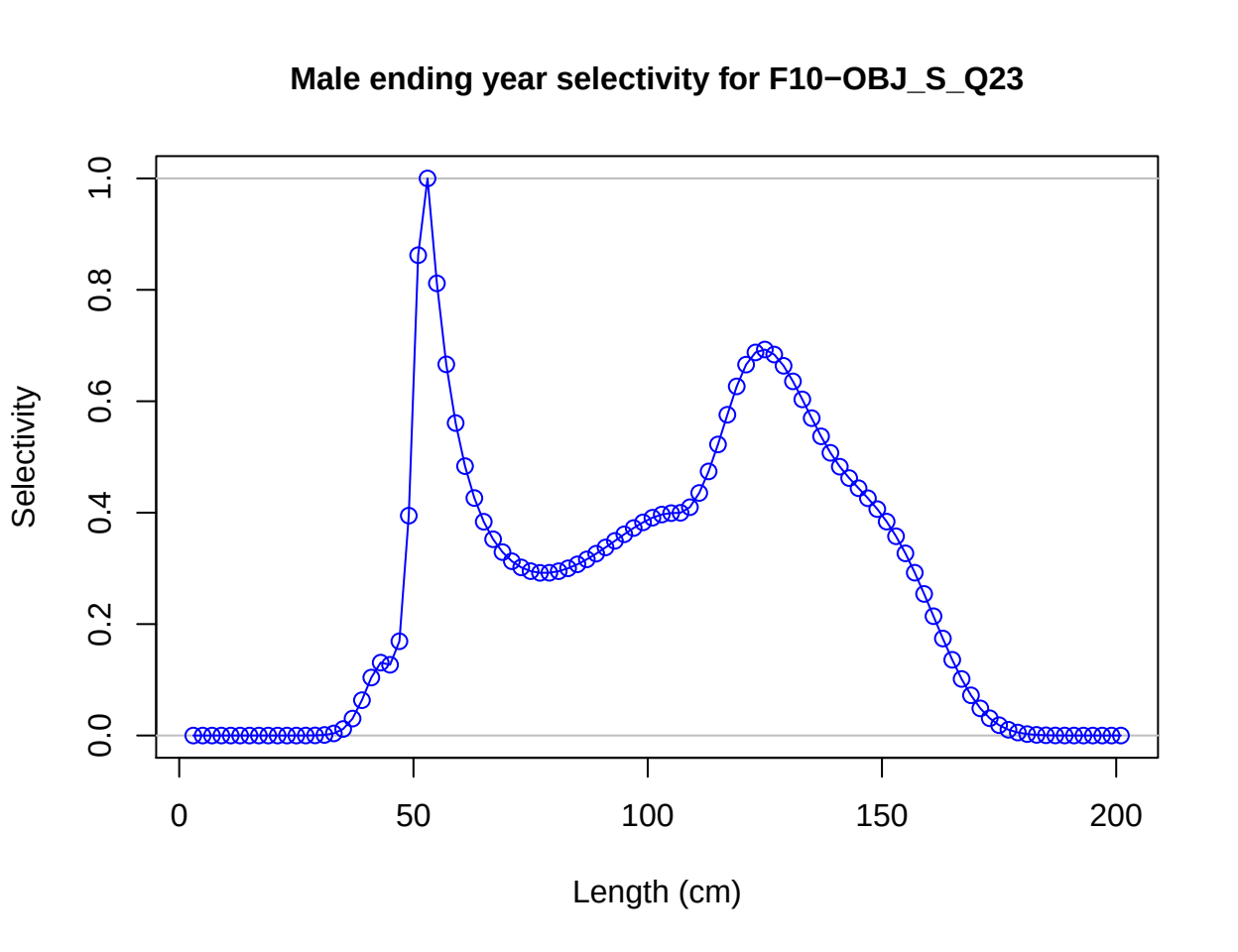

Female ending year selectivity for F8−OBJ_C_Q23
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

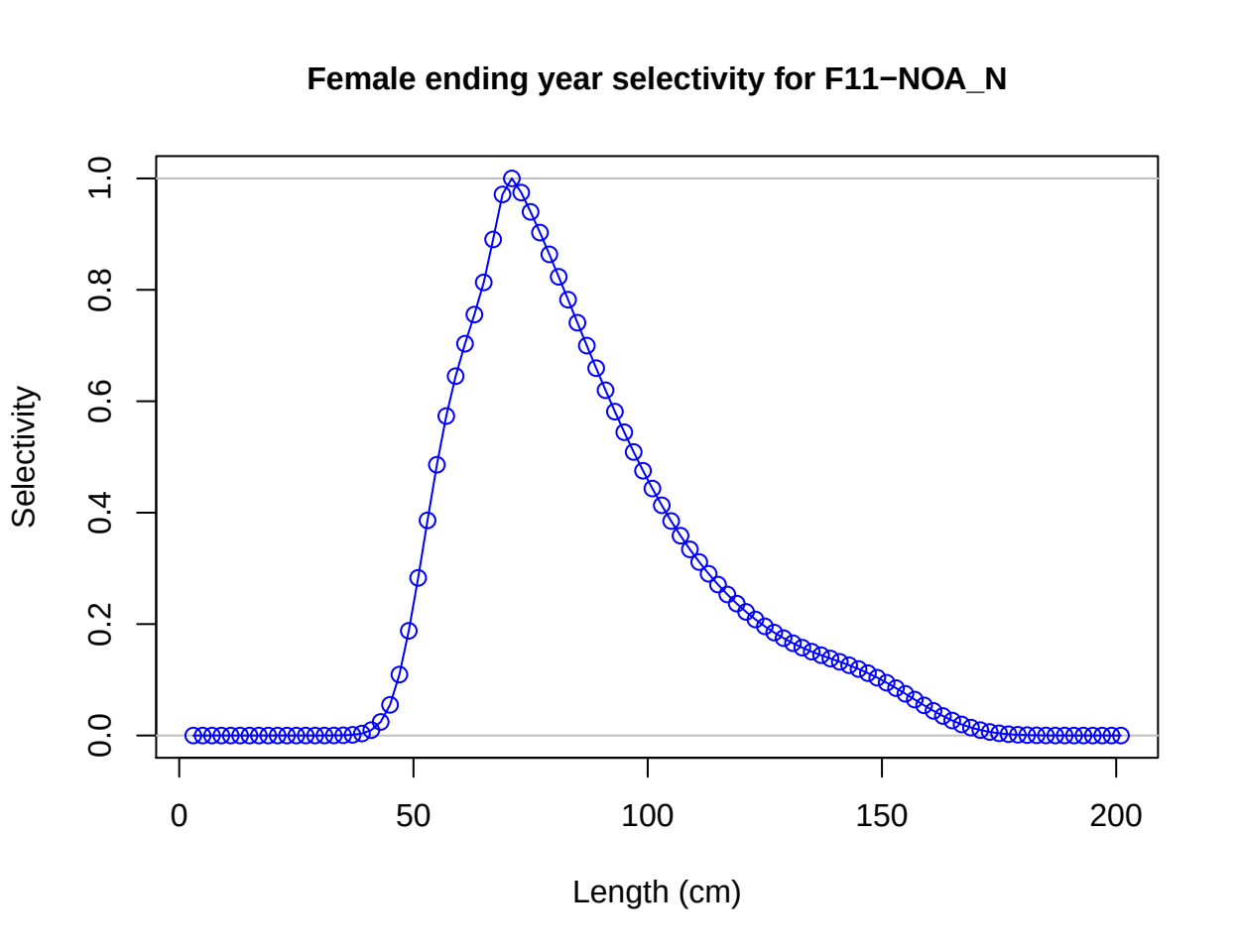

Male ending year selectivity for F8−OBJ_C_Q23
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

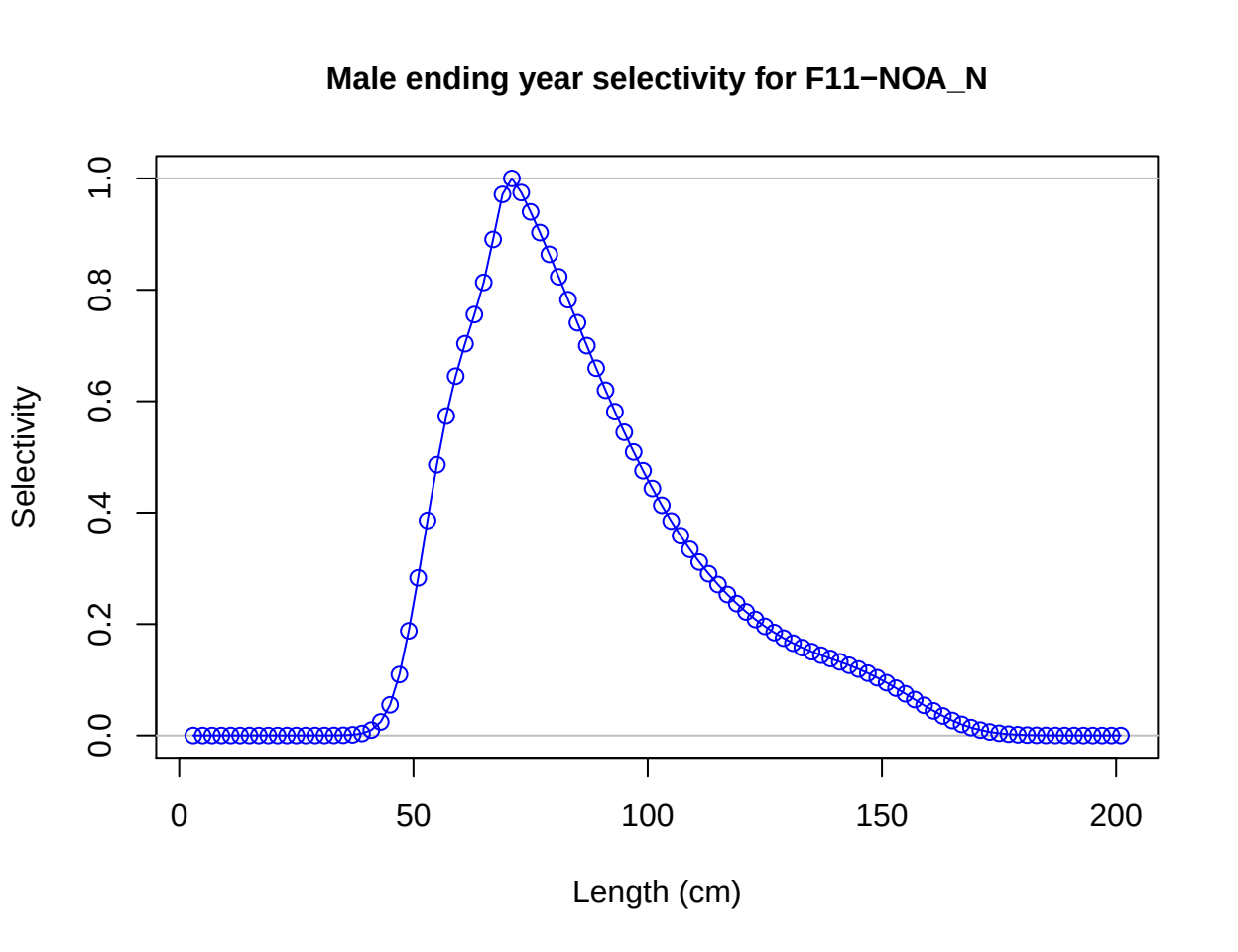

Female ending year selectivity for F9−OBJ_Cc_Q23
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

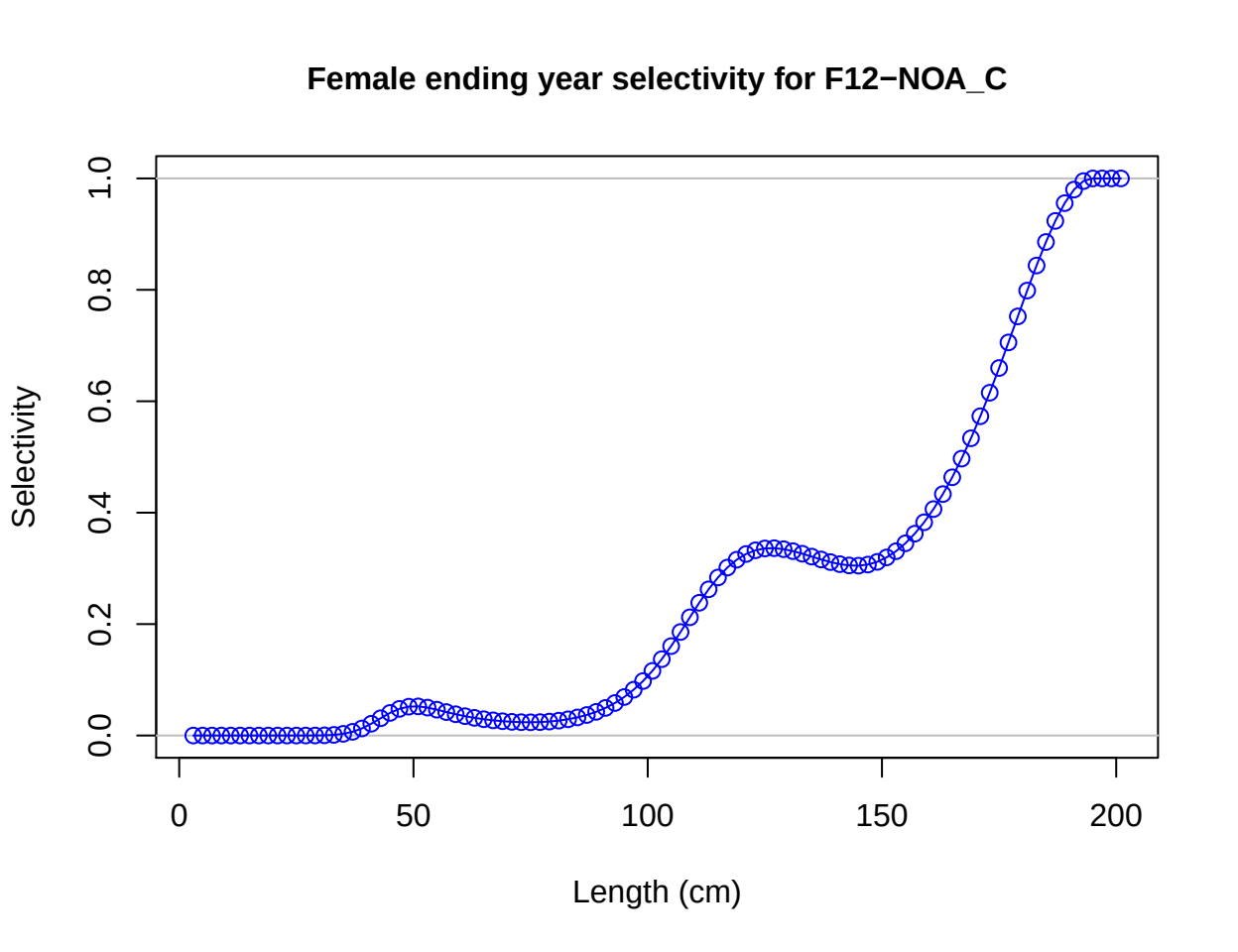

Male ending year selectivity for F9−OBJ_Cc_Q23
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

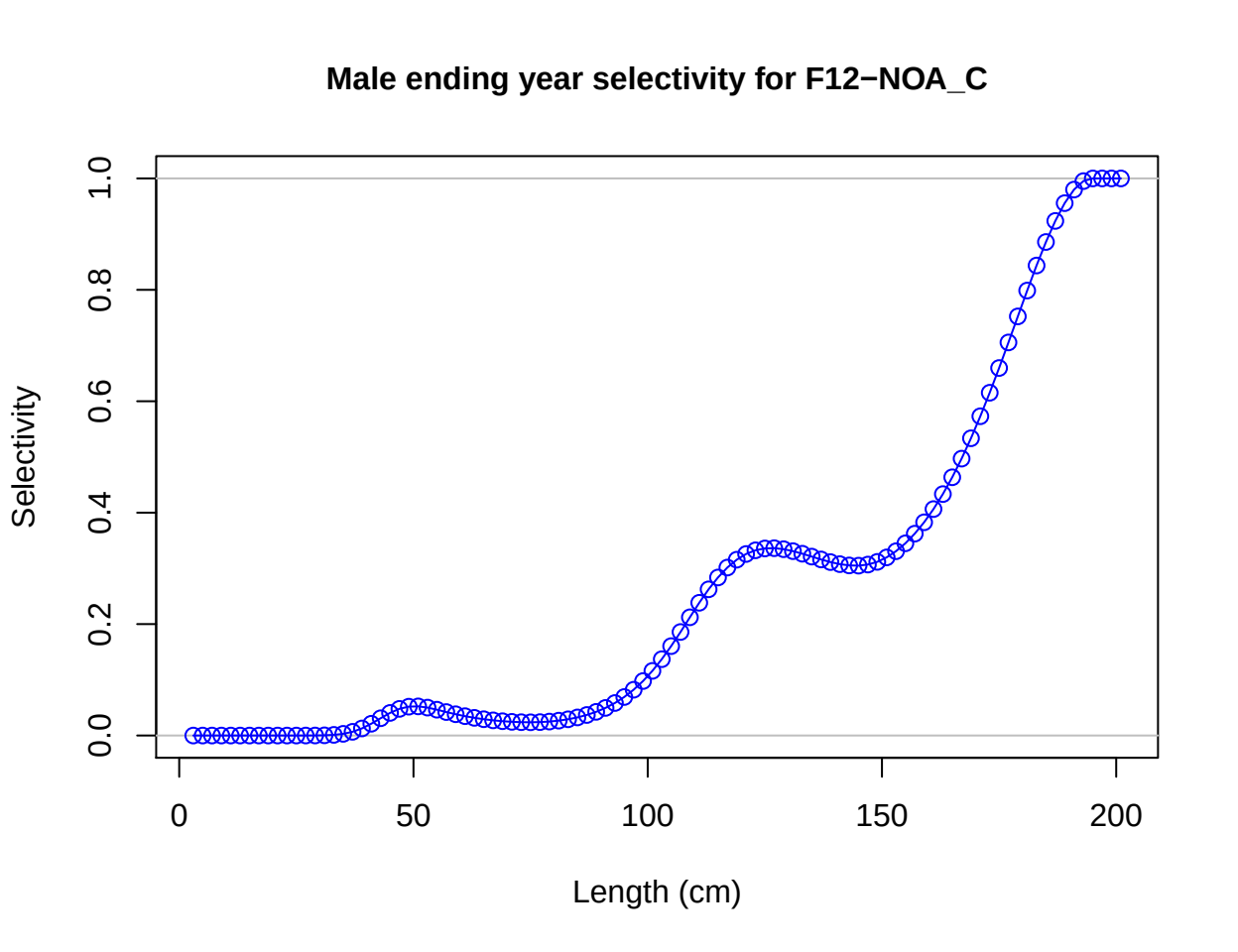

Female ending year selectivity for F10−OBJ_S_Q23
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

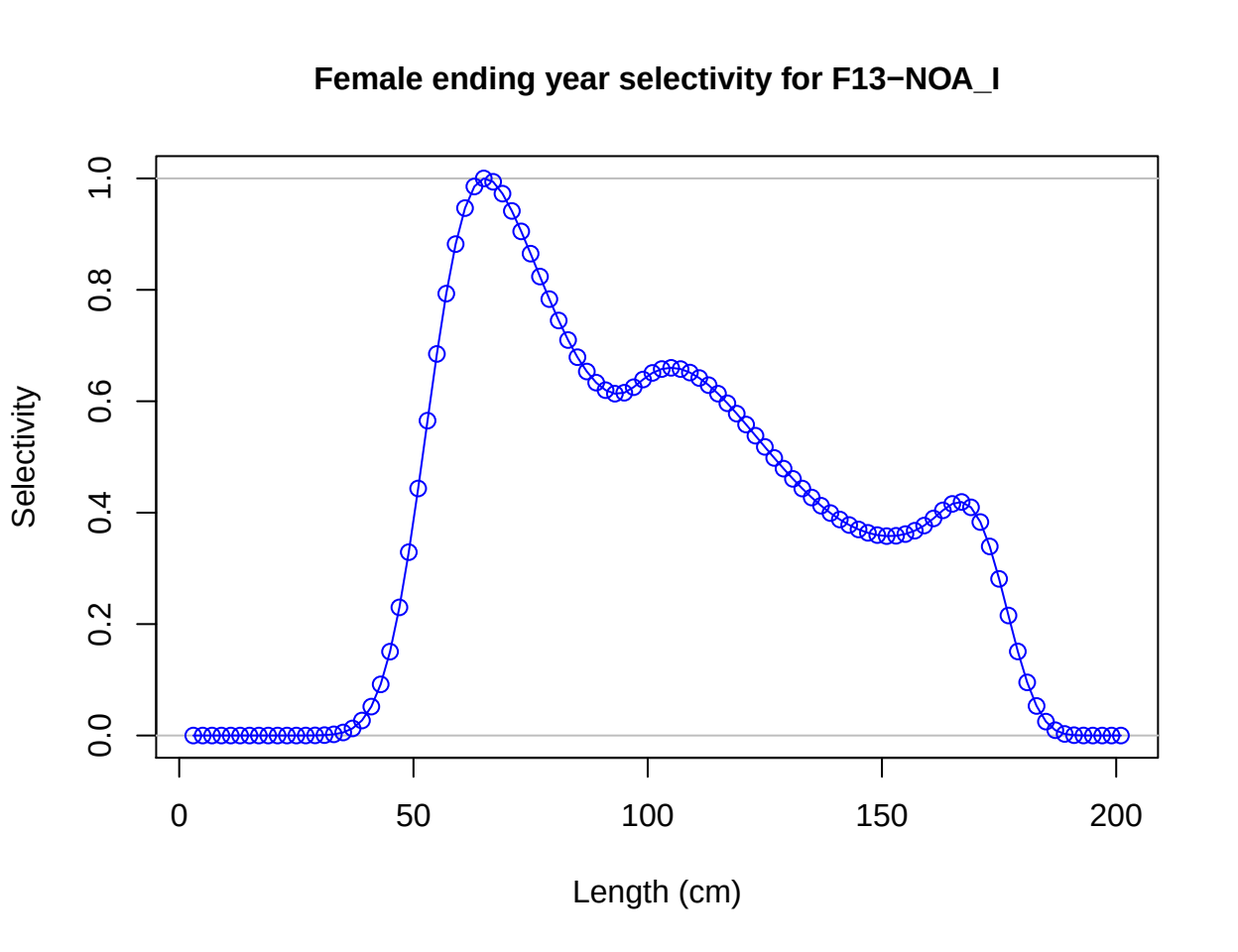

Male ending year selectivity for F10−OBJ_S_Q23
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

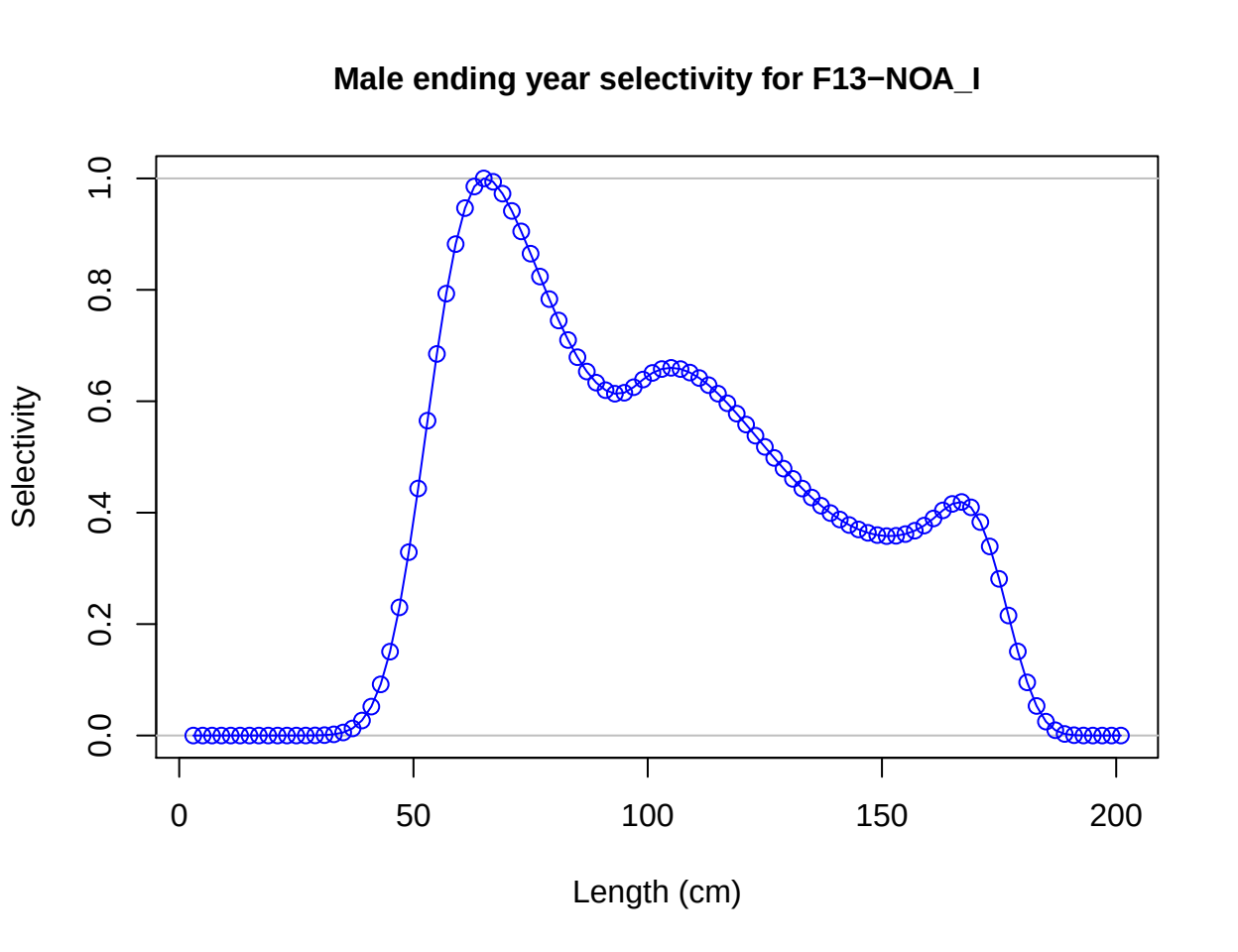

Female ending year selectivity for F11−NOA_N
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

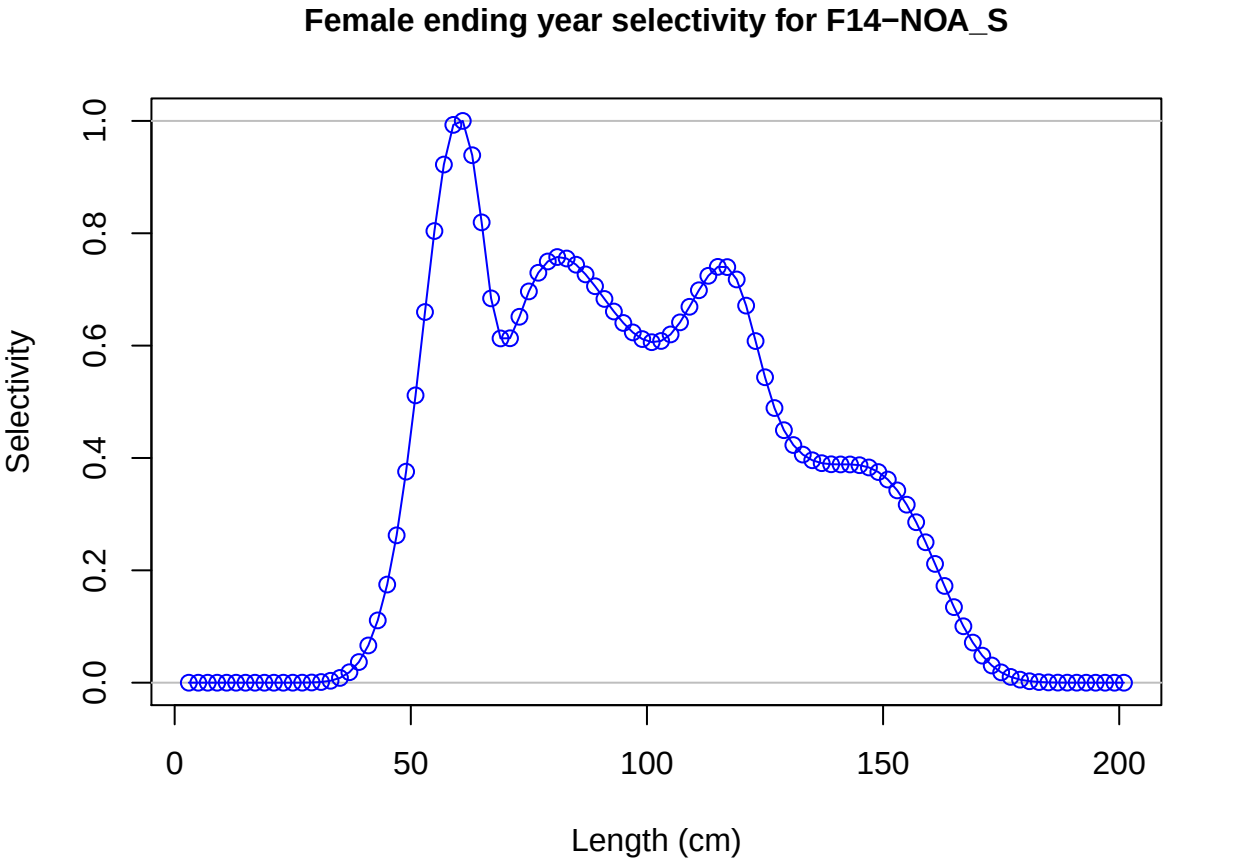

Male ending year selectivity for F11−NOA_N
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

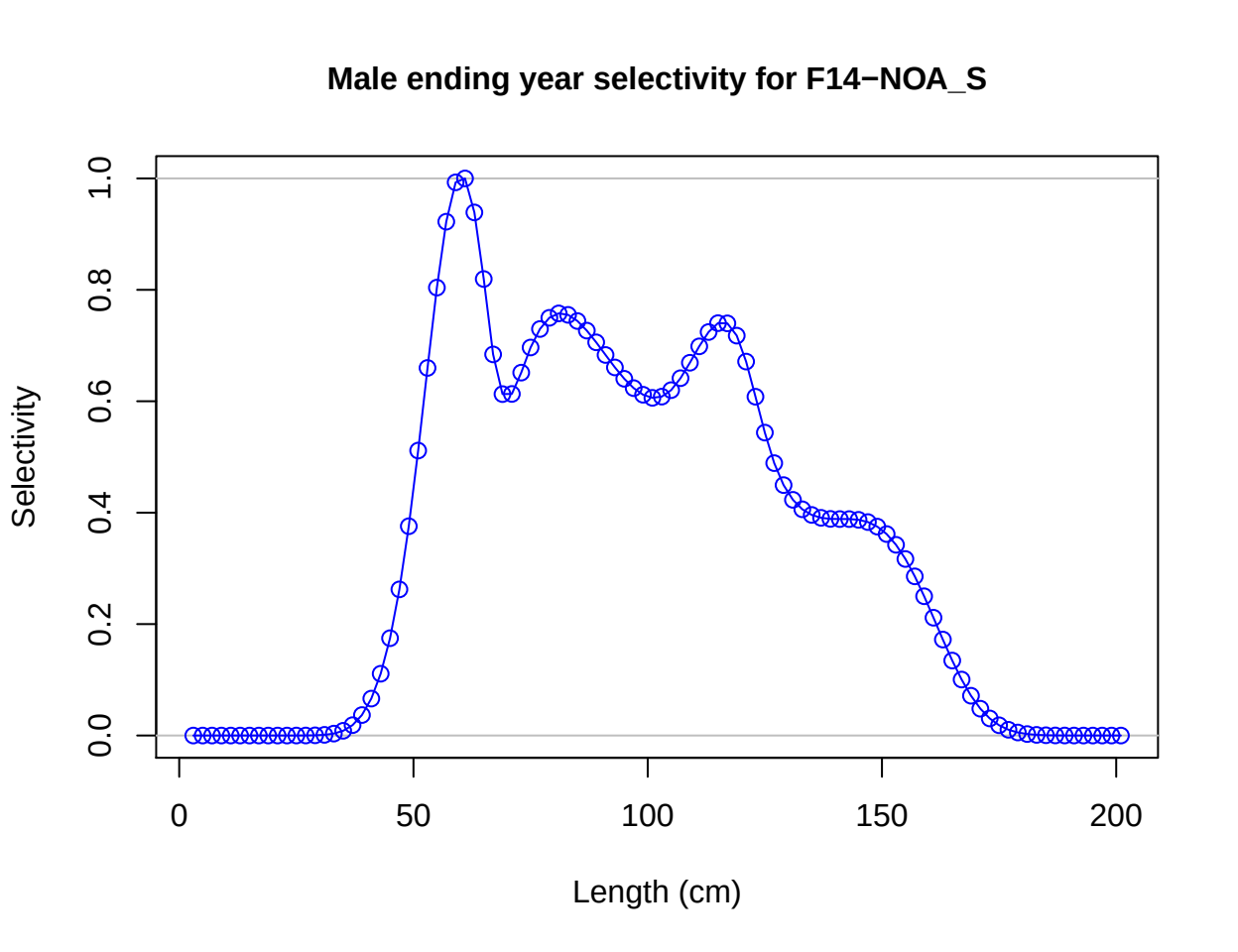

Female ending year selectivity for F12−NOA_C
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

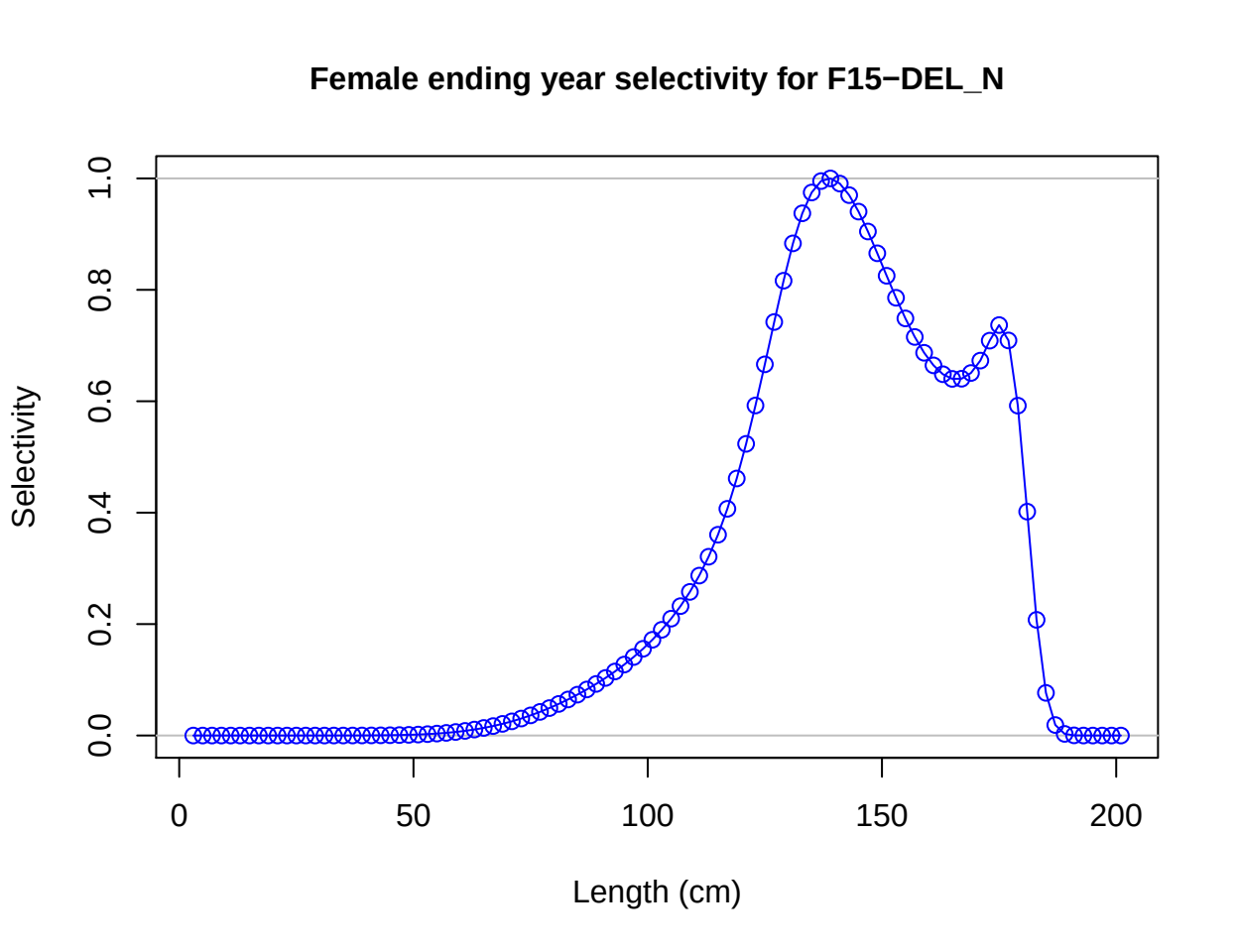

Male ending year selectivity for F12−NOA_C
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

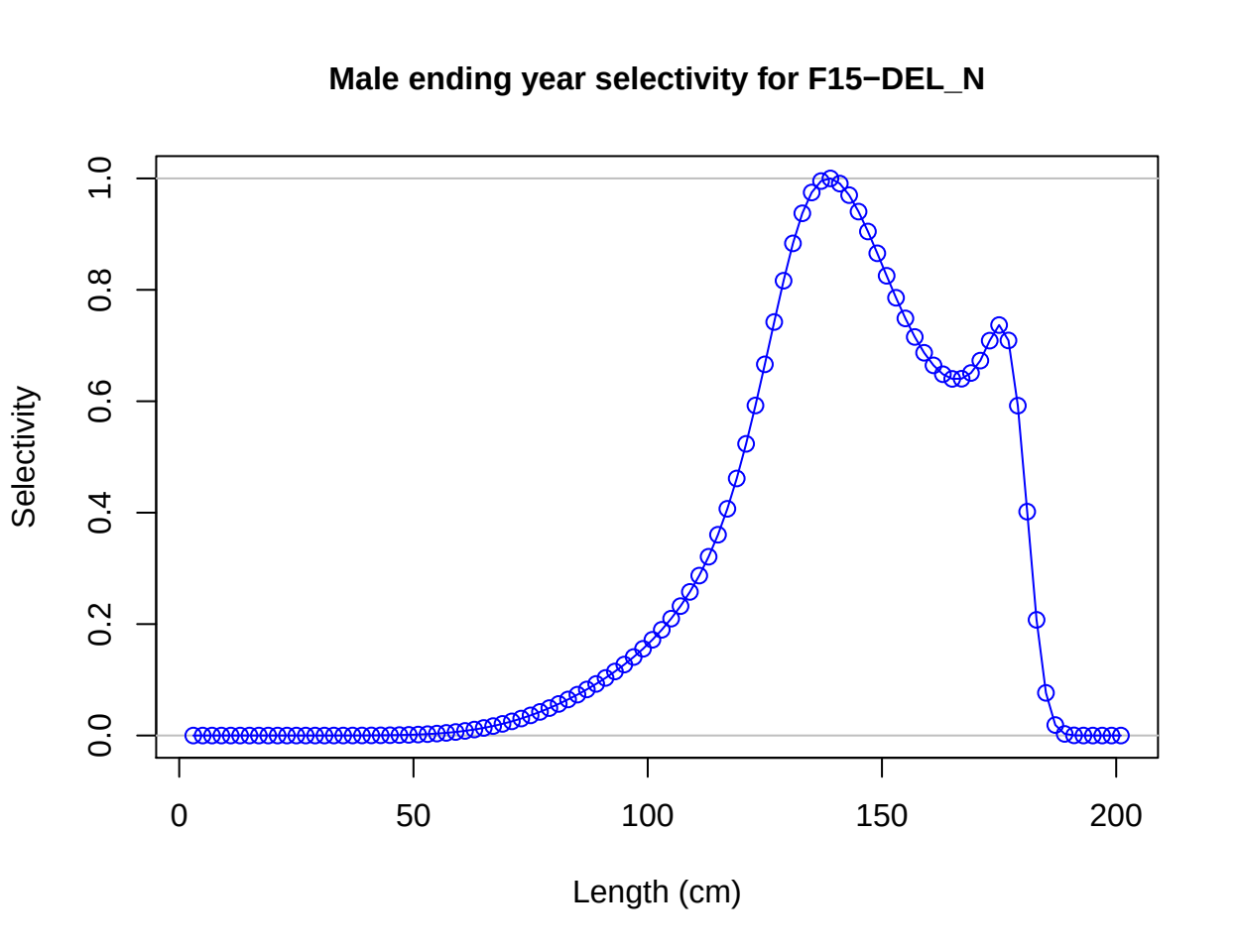

Female ending year selectivity for F13−NOA_I
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

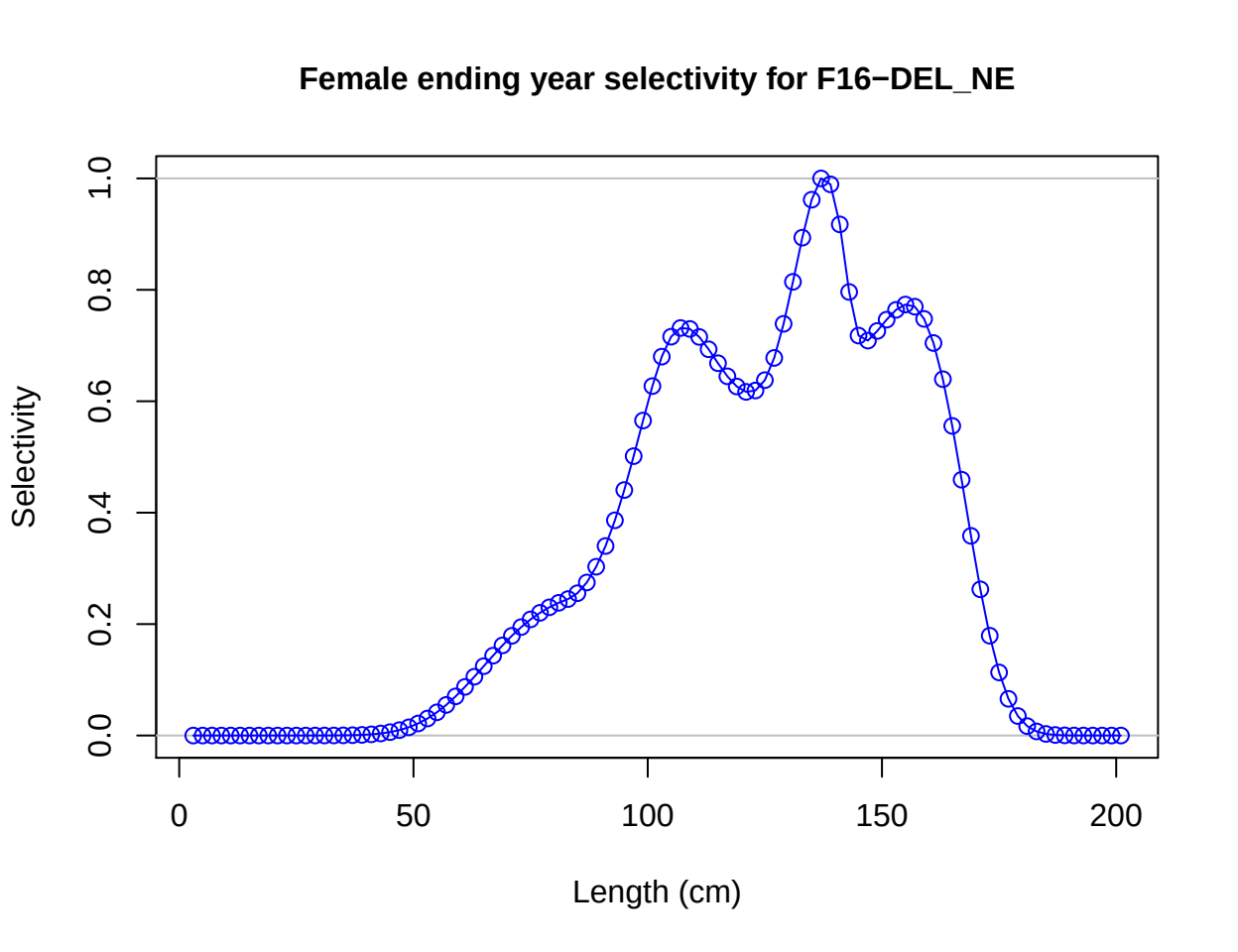

Male ending year selectivity for F13−NOA_I
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

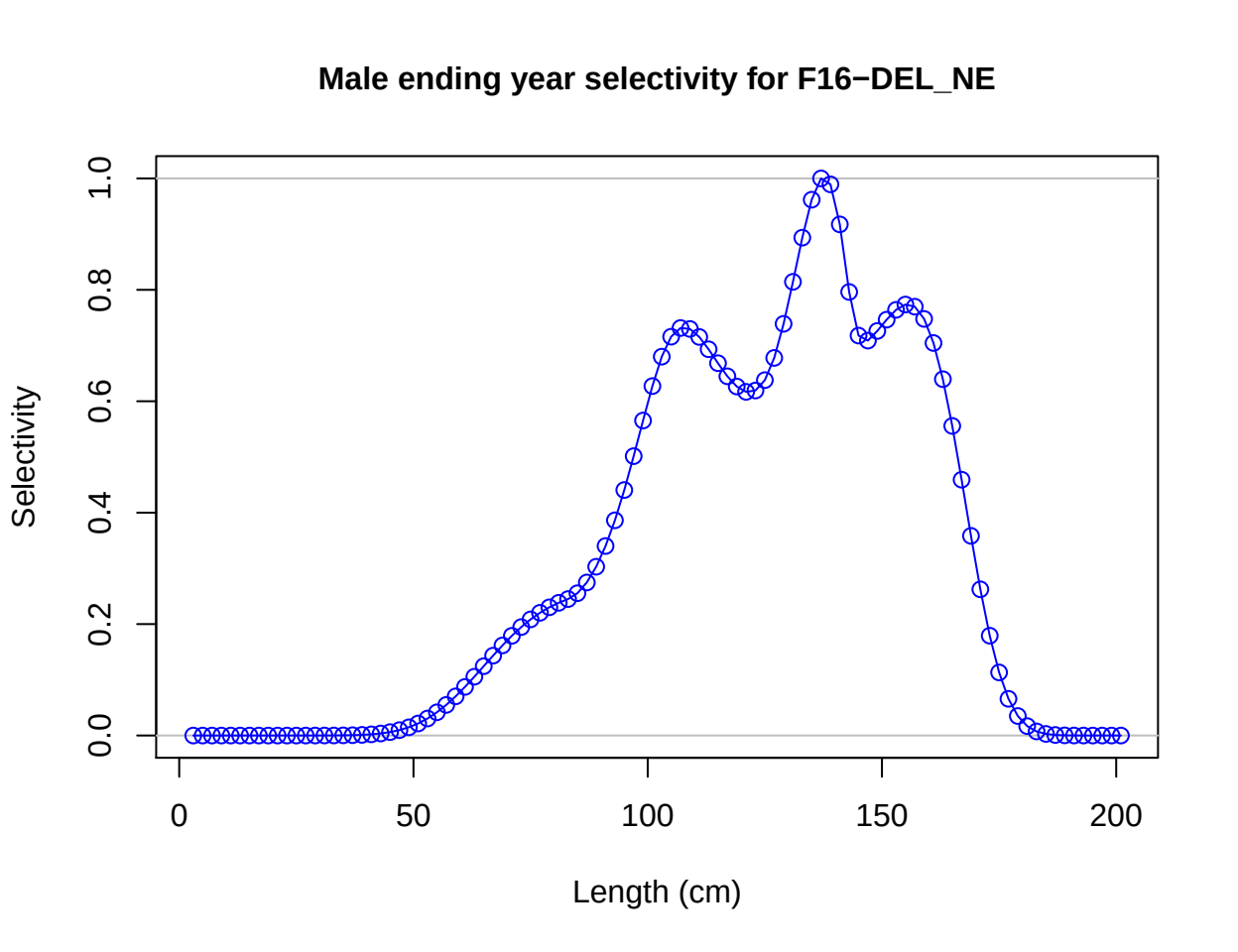

Female ending year selectivity for F14−NOA_S
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

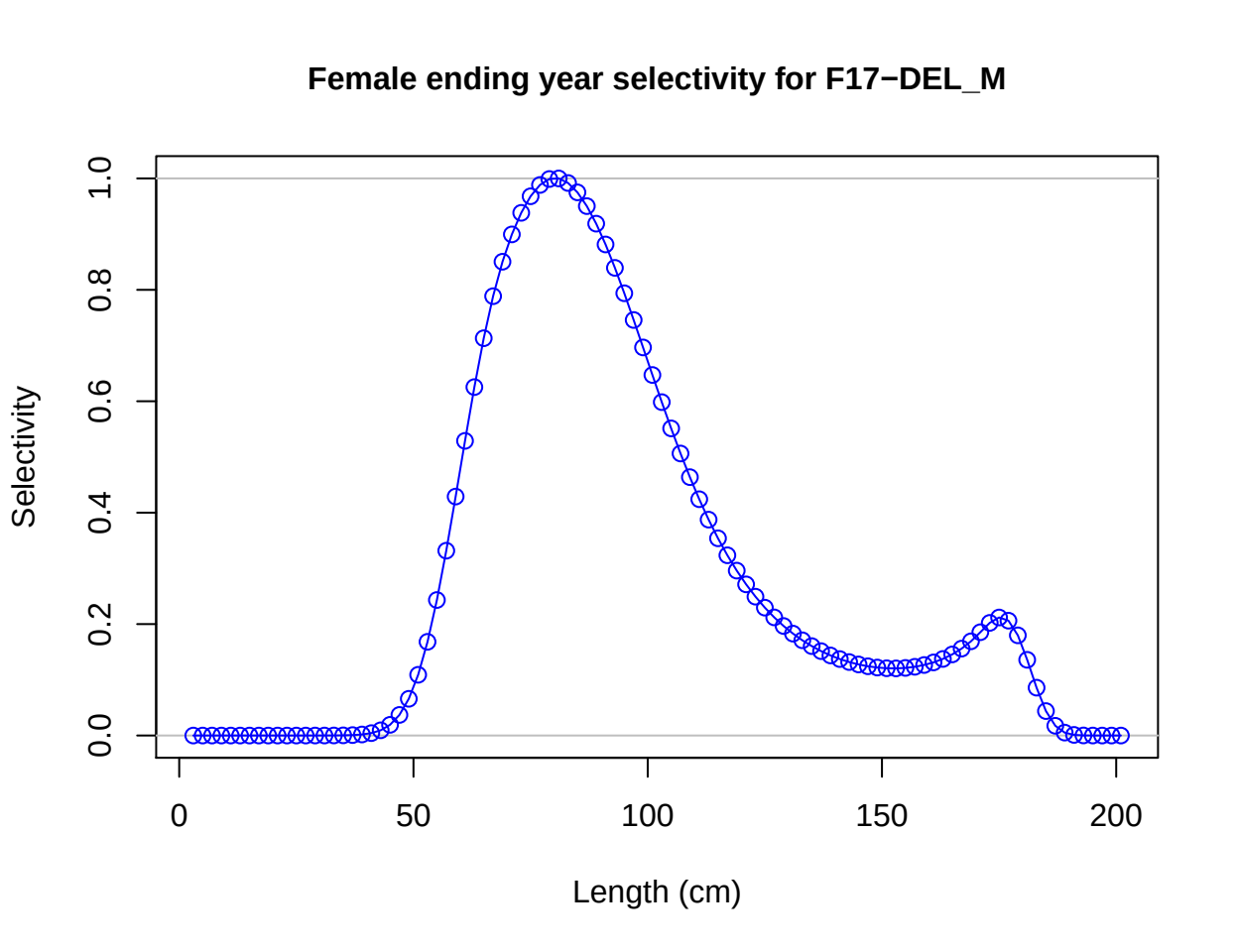

Male ending year selectivity for F14−NOA_S
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

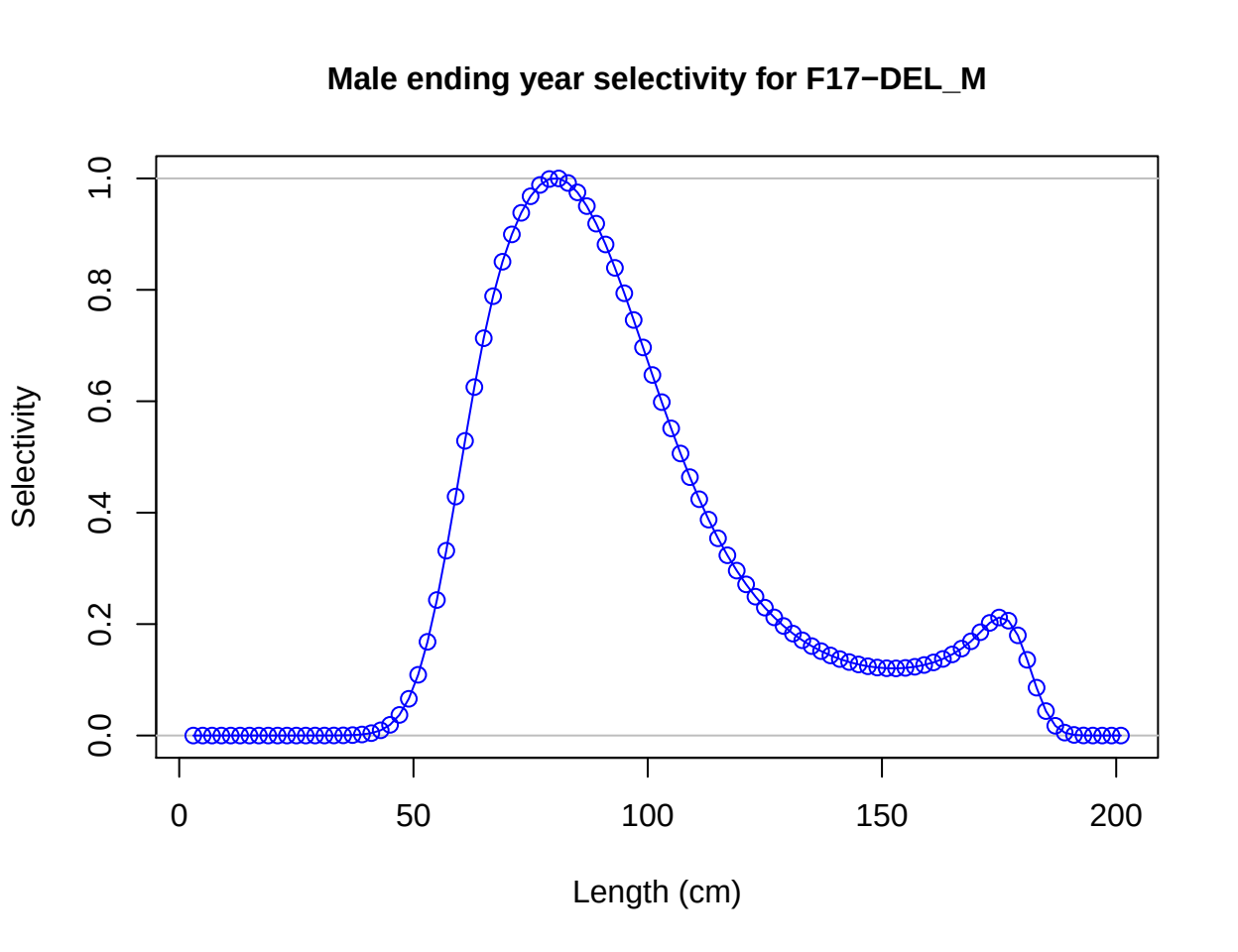

Female ending year selectivity for F15−DEL_N
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

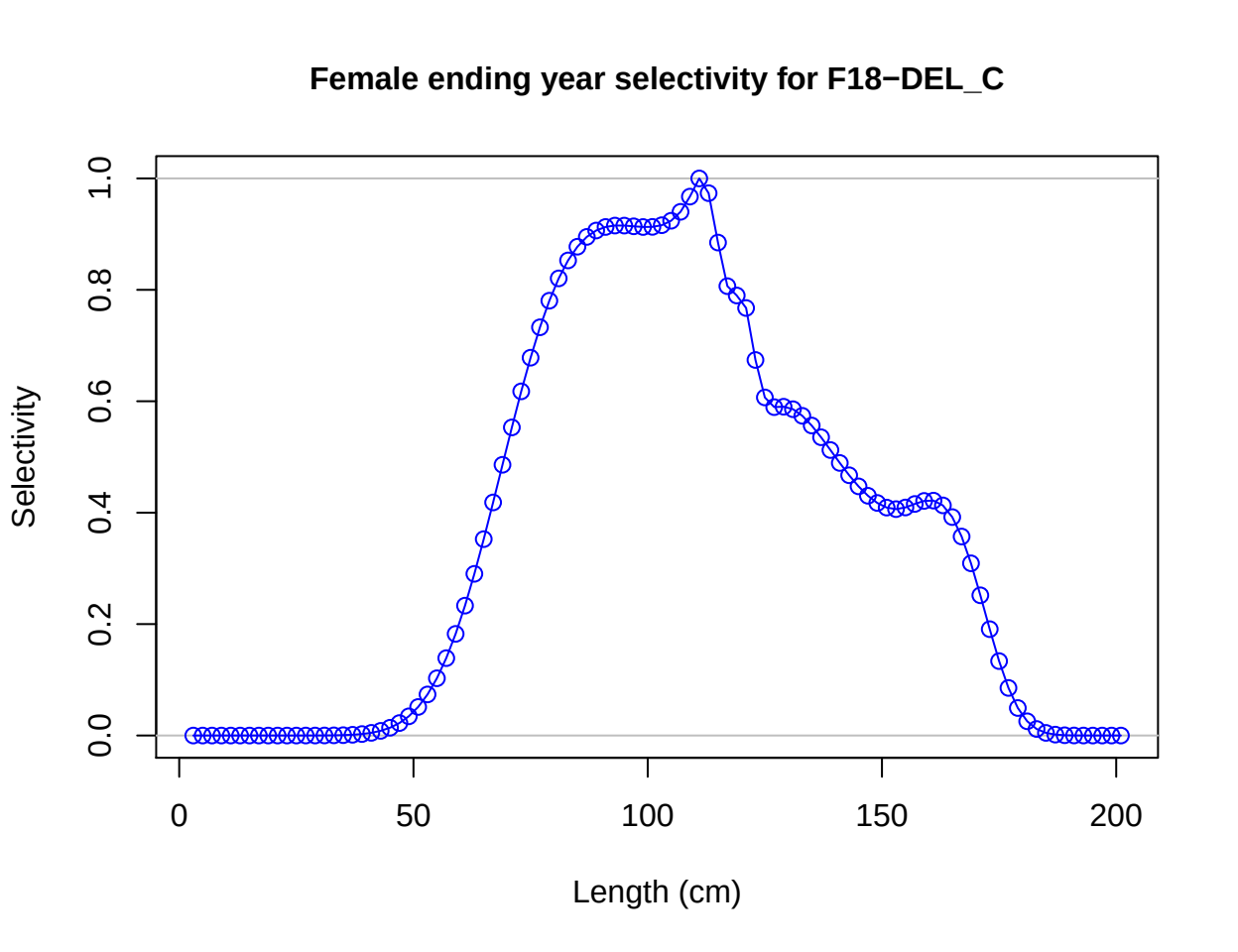

Male ending year selectivity for F15−DEL_N
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

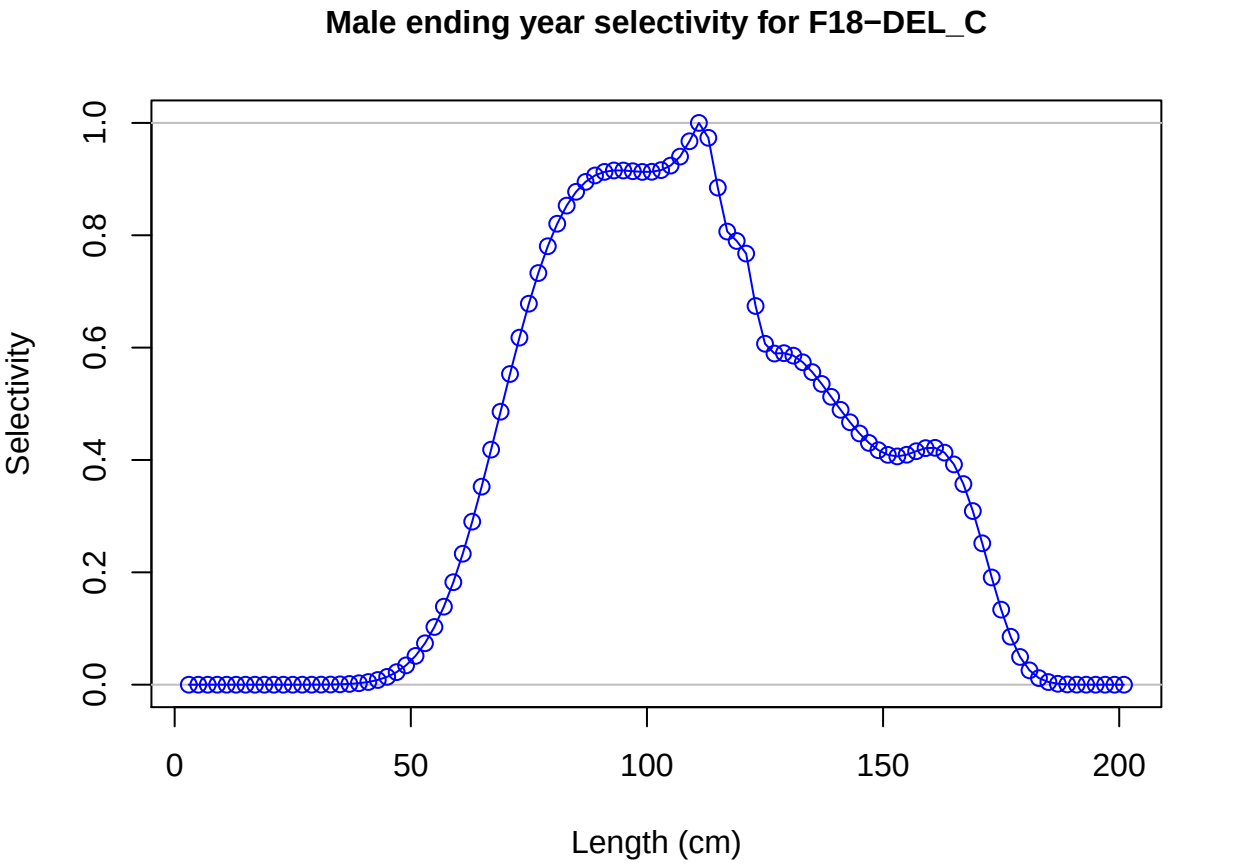

Female ending year selectivity for F16−DEL_NE
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

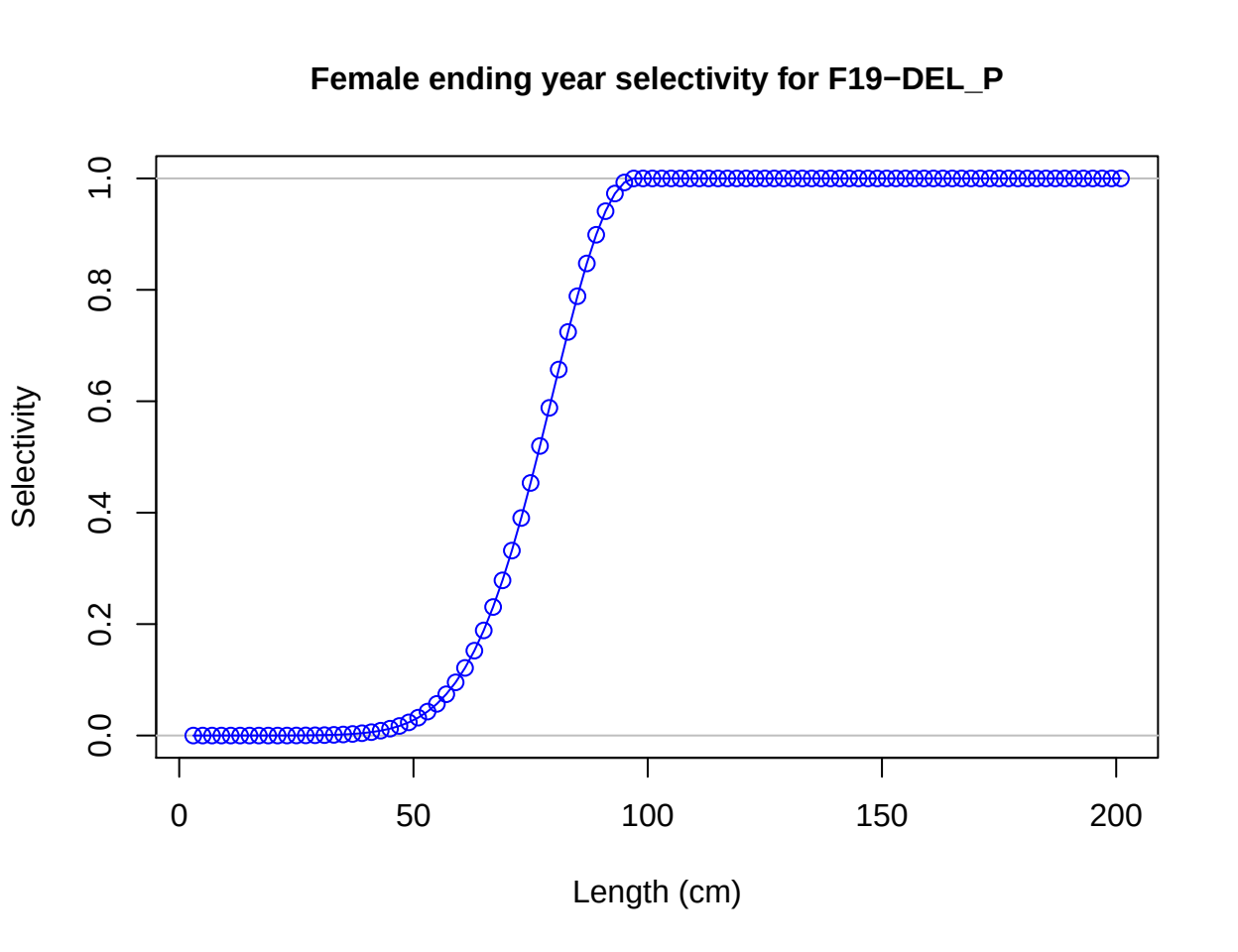

Male ending year selectivity for F16−DEL_NE
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

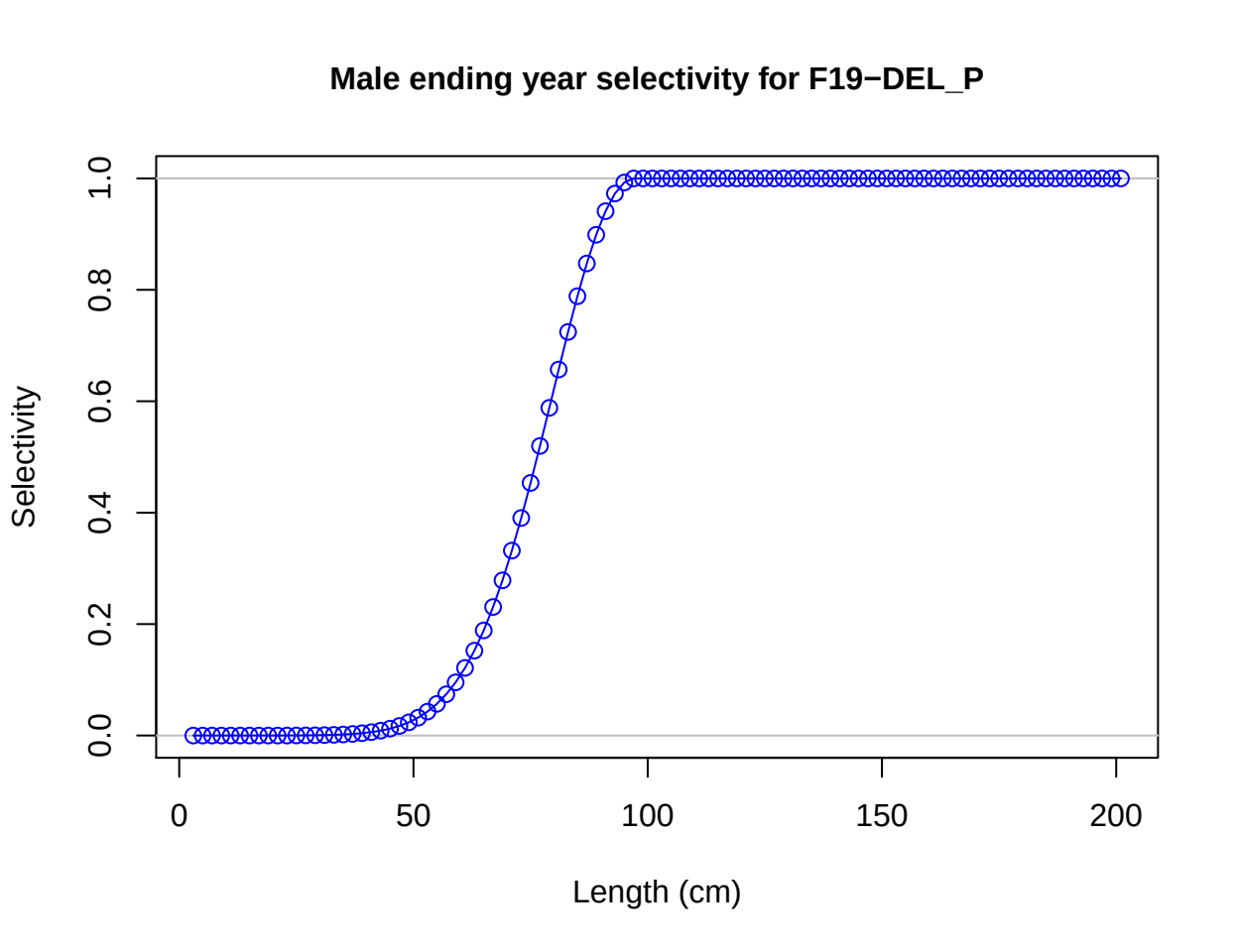

Female ending year selectivity for F17−DEL_M
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

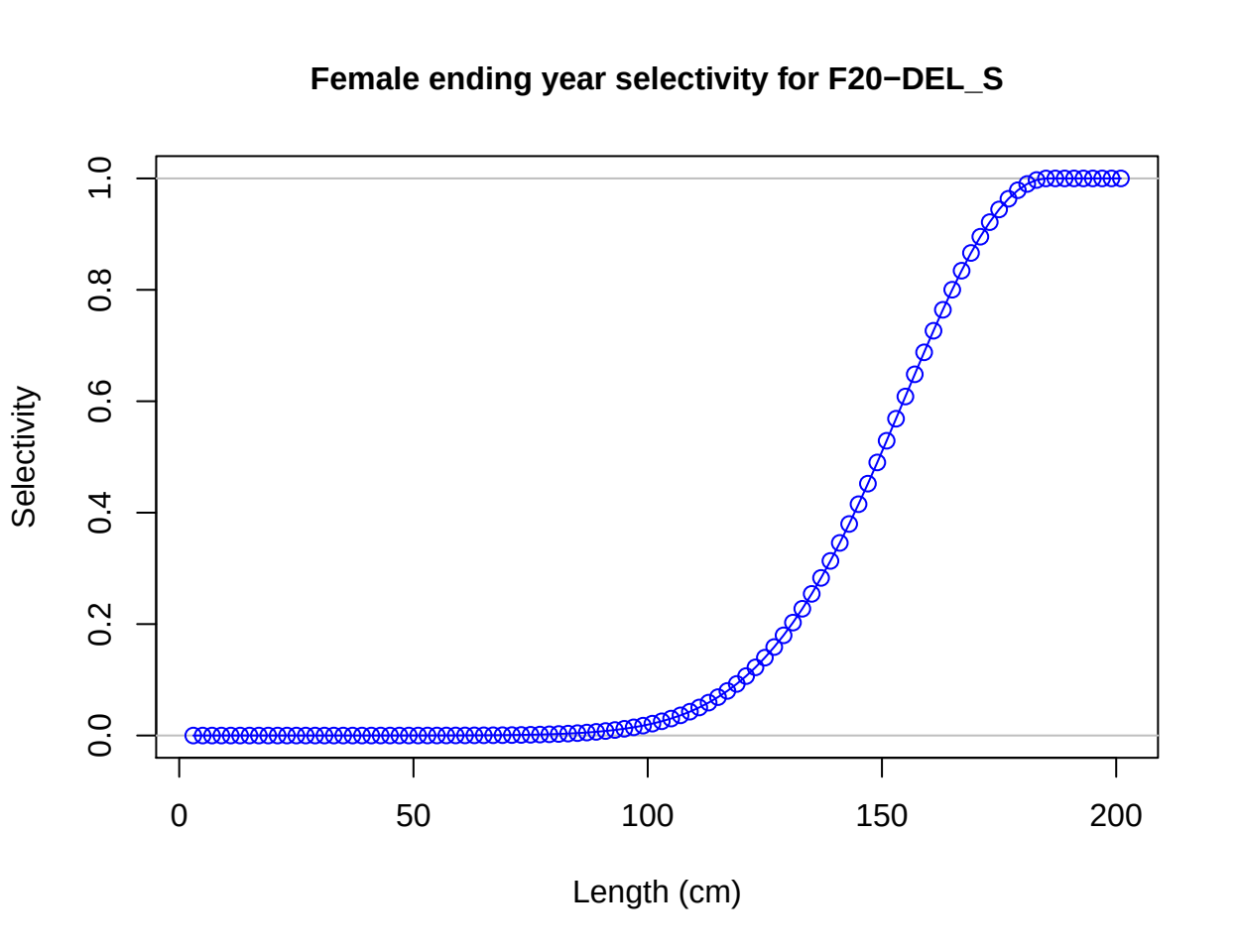

Male ending year selectivity for F17−DEL_M
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

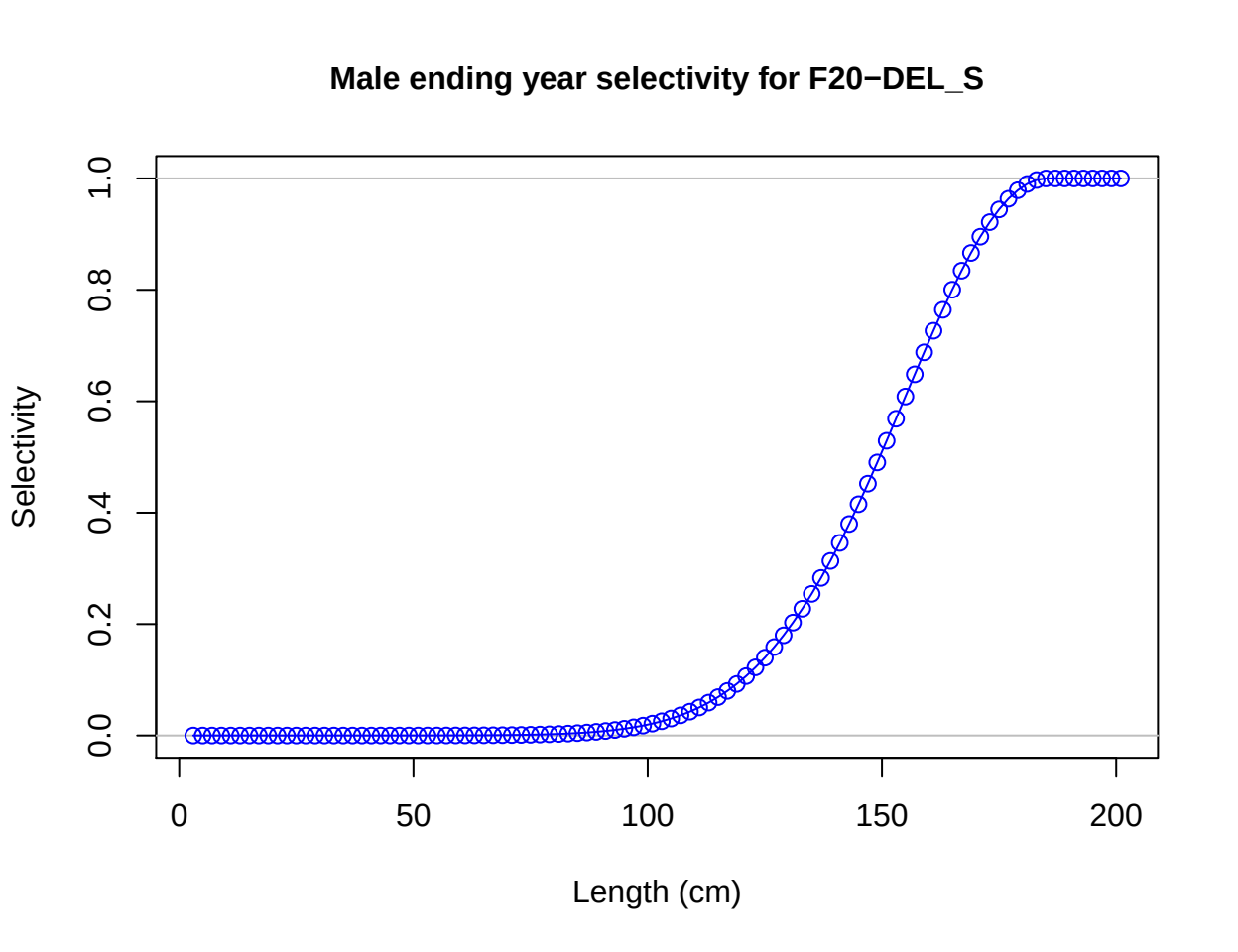

Female ending year selectivity for F18−DEL_C
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

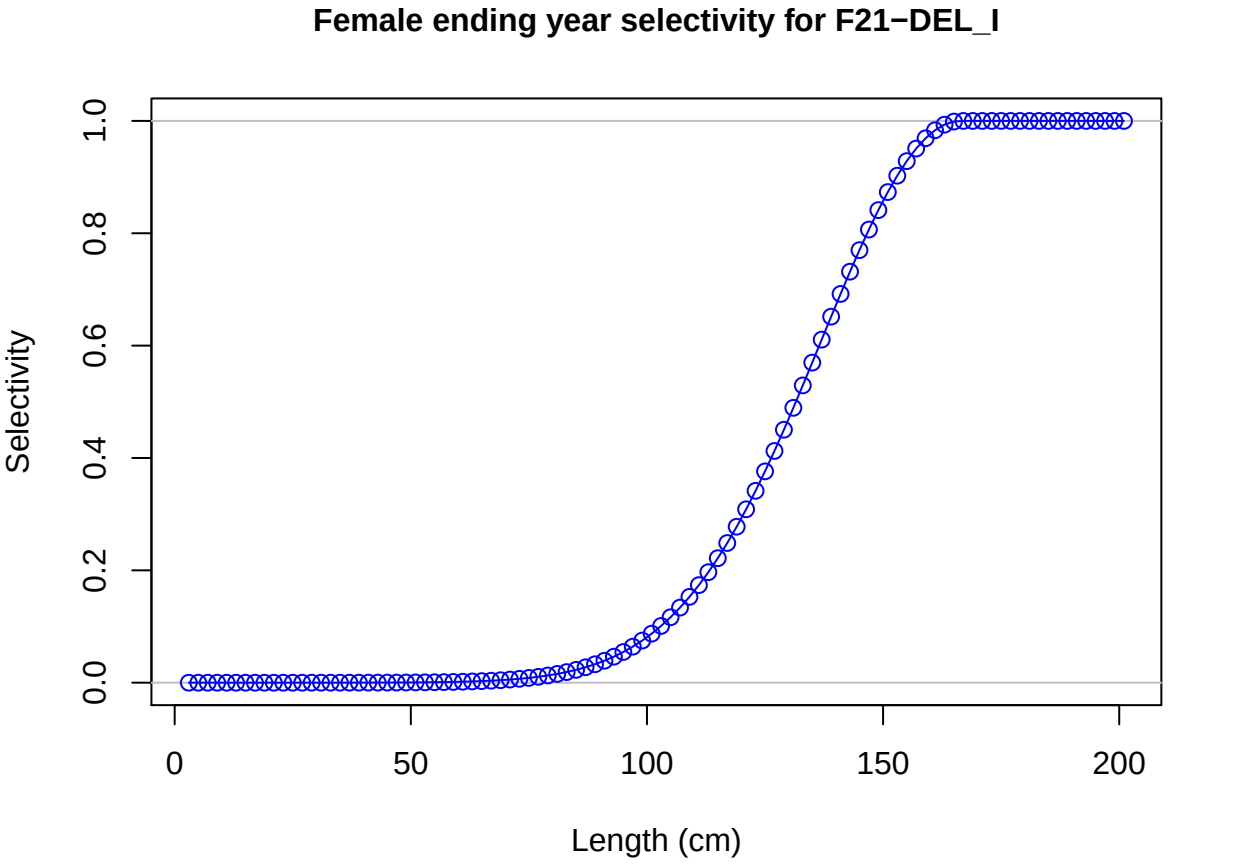

Male ending year selectivity for F18−DEL_C
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

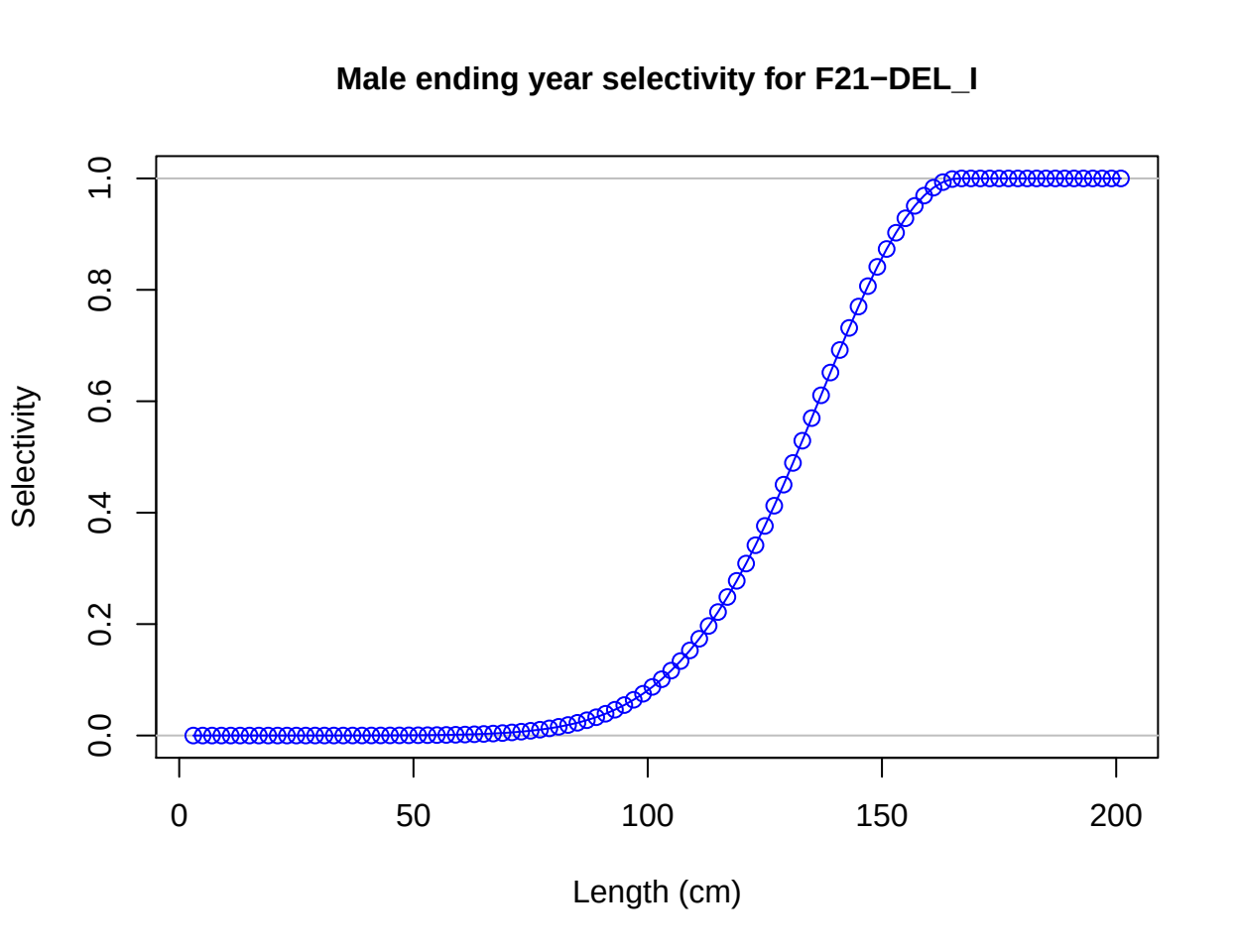

Female ending year selectivity for F19−DEL_P
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

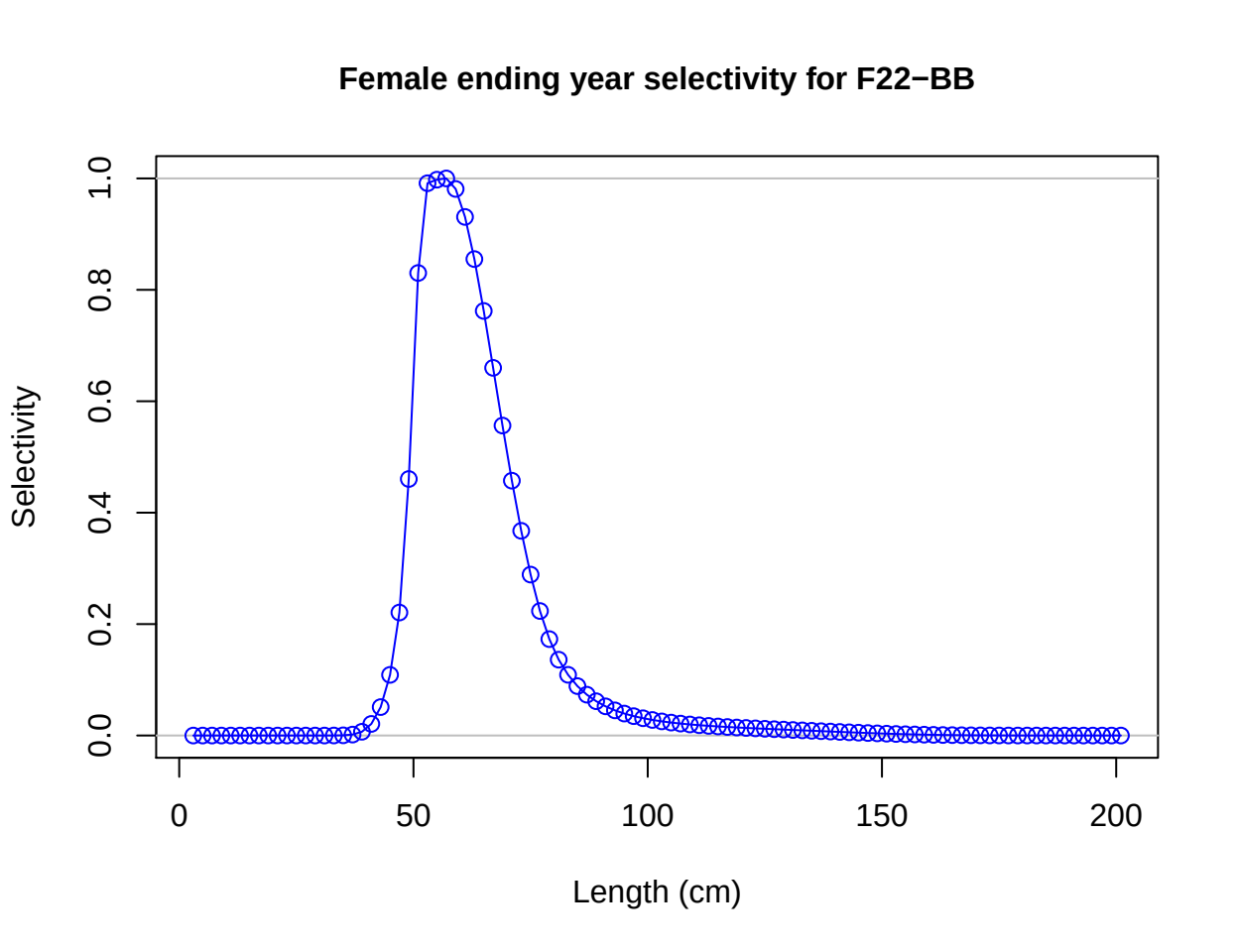

Male ending year selectivity for F19−DEL_P
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

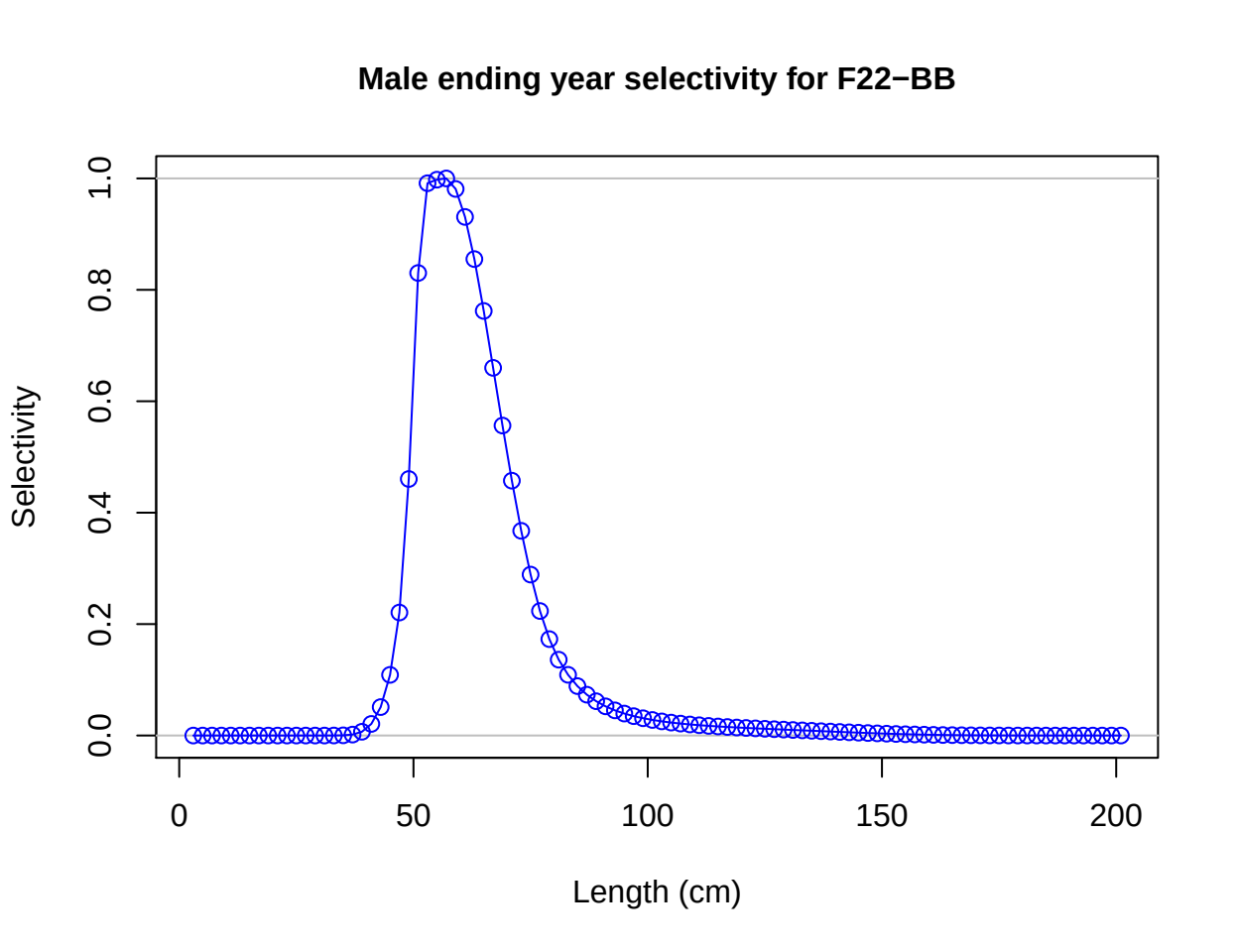

Female ending year selectivity for F20−DEL_S
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

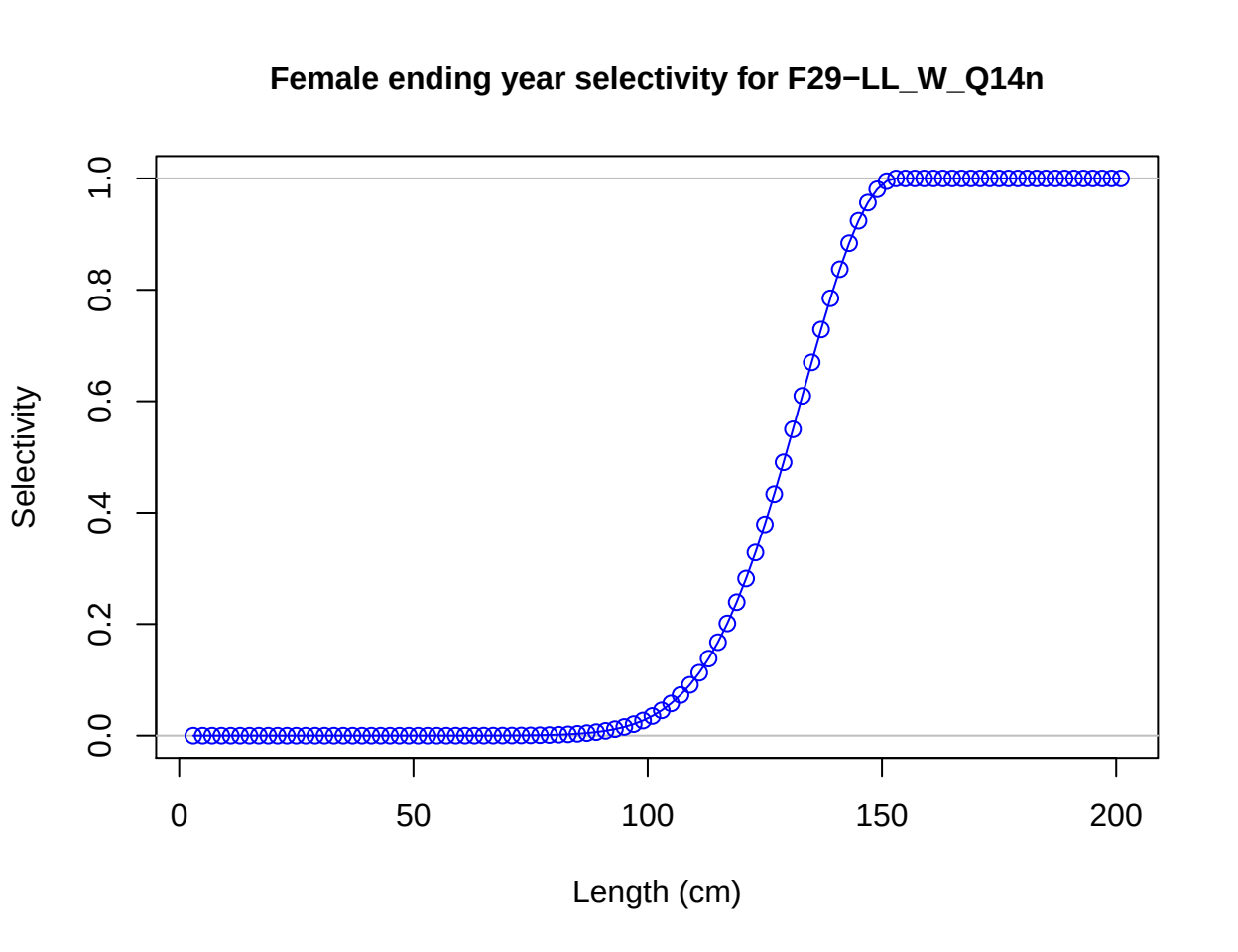

Male ending year selectivity for F20−DEL_S
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

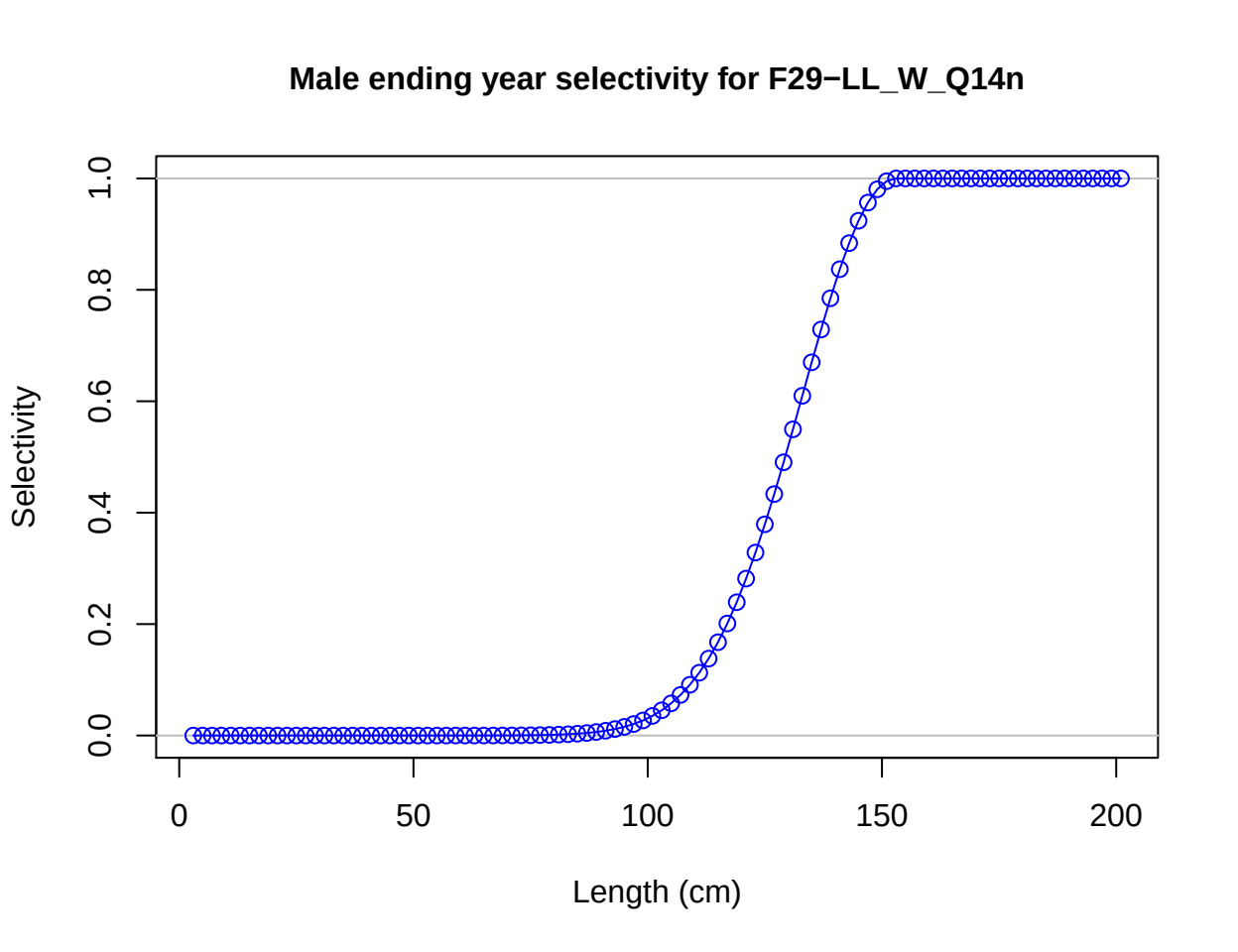

Female ending year selectivity for F21−DEL_I
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

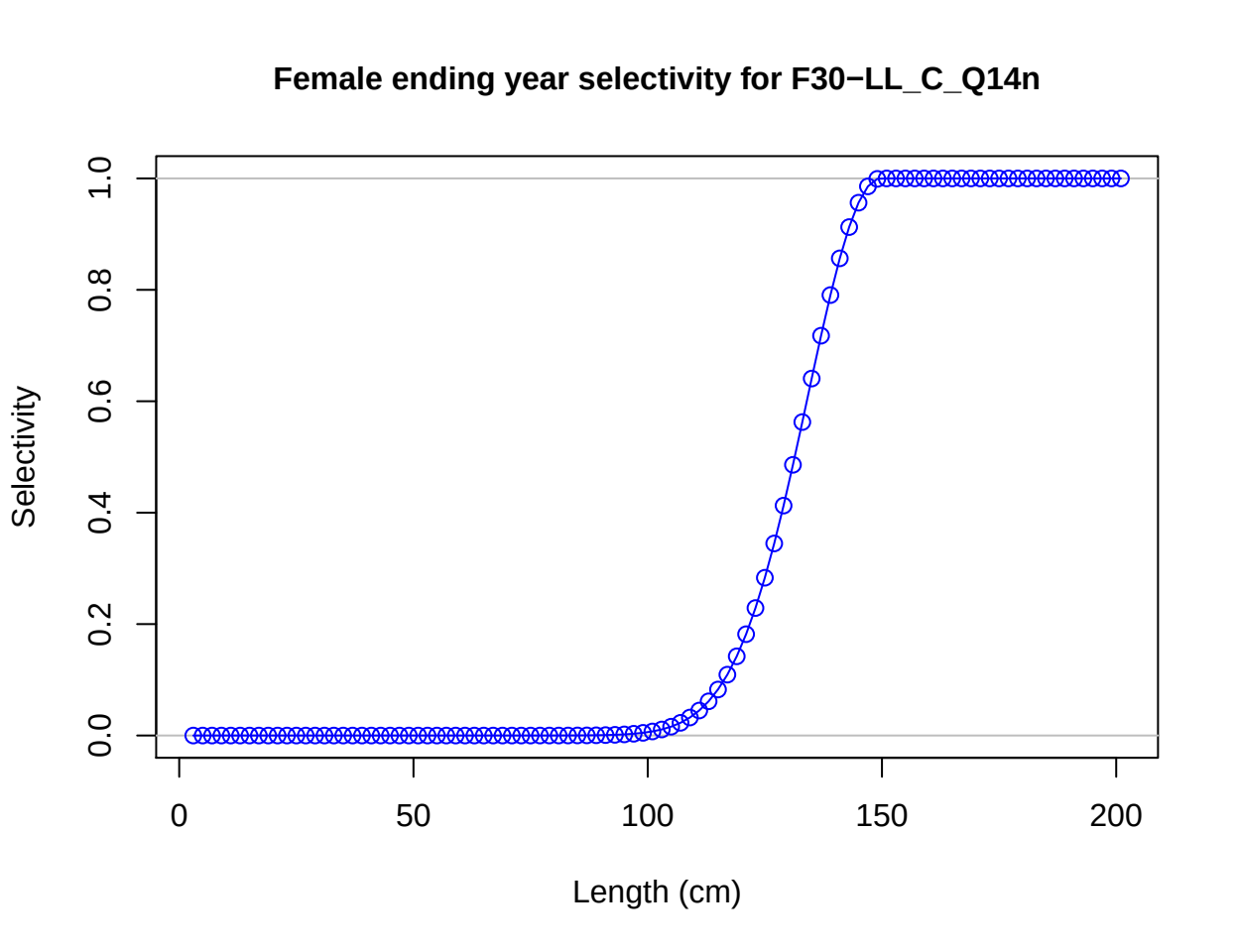

Male ending year selectivity for F21−DEL_I
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

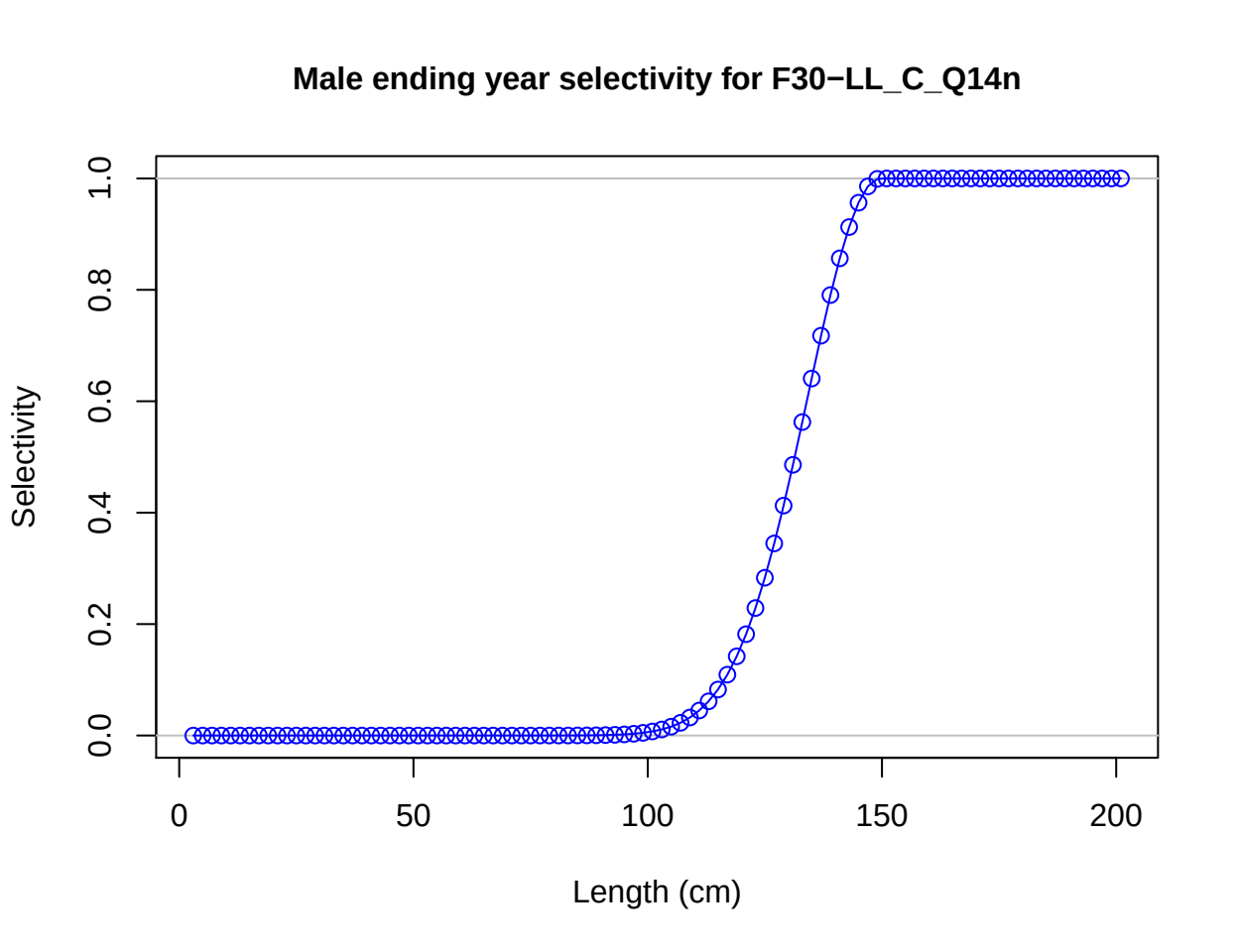

Female ending year selectivity for F22−BB
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

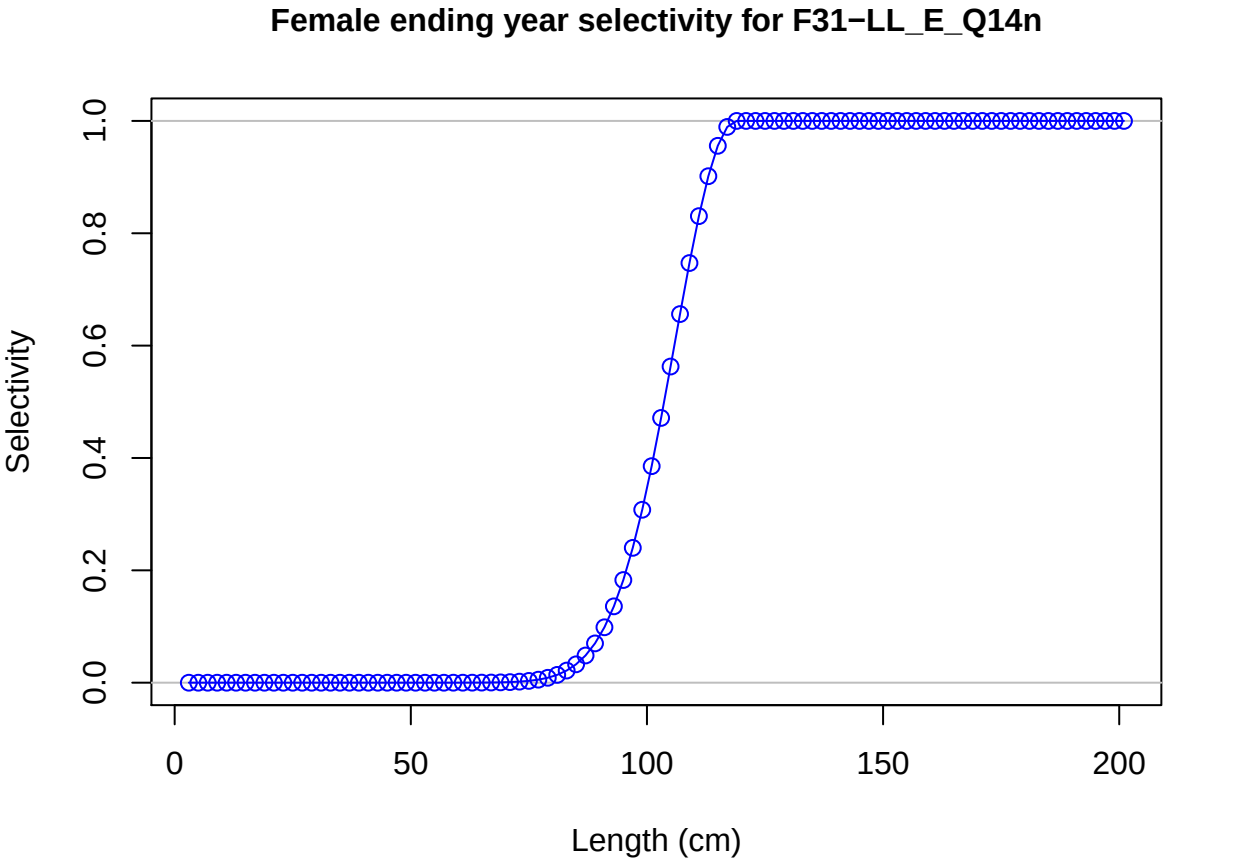

Male ending year selectivity for F22−BB
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

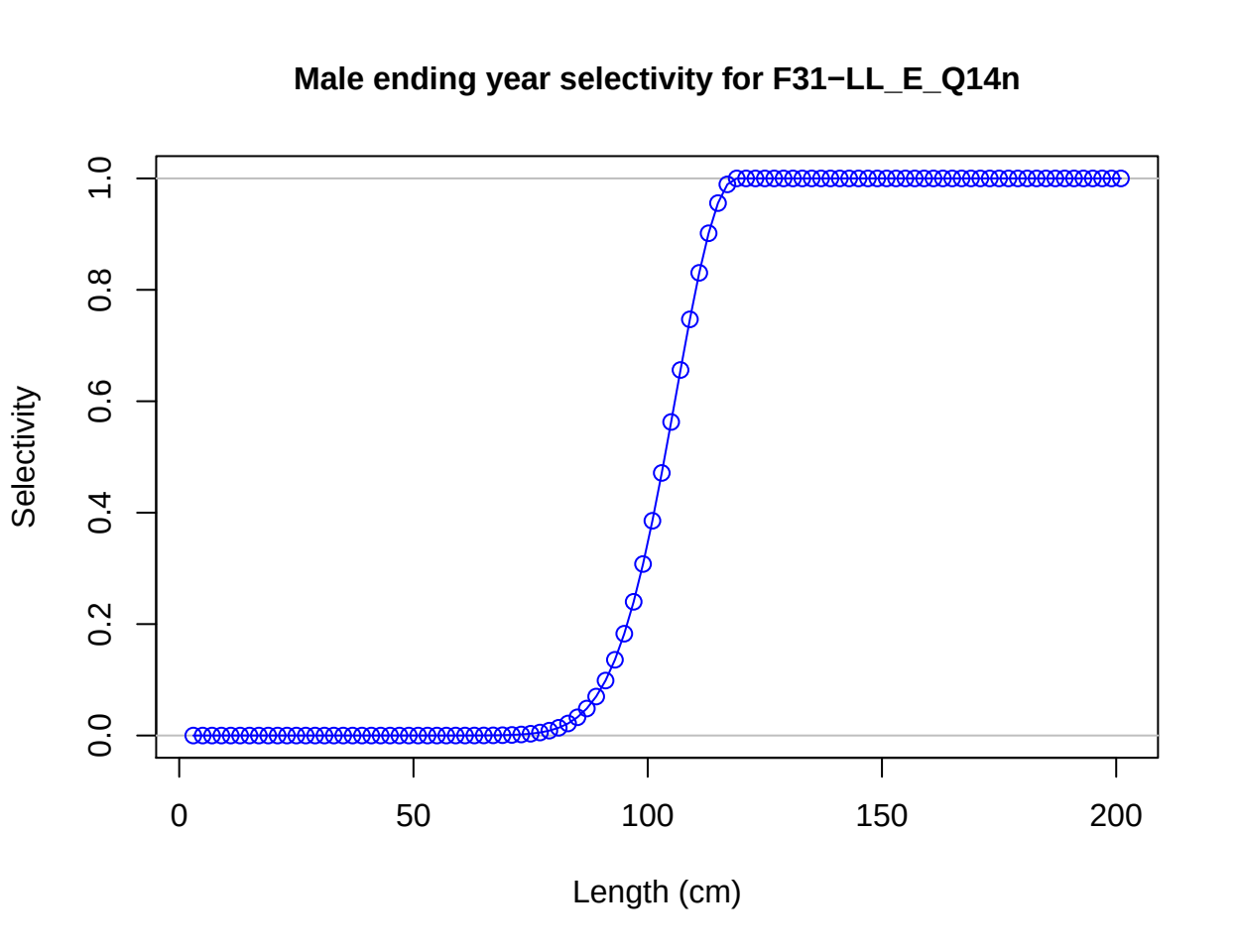

Female ending year selectivity for F29−LL_W_Q14n
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

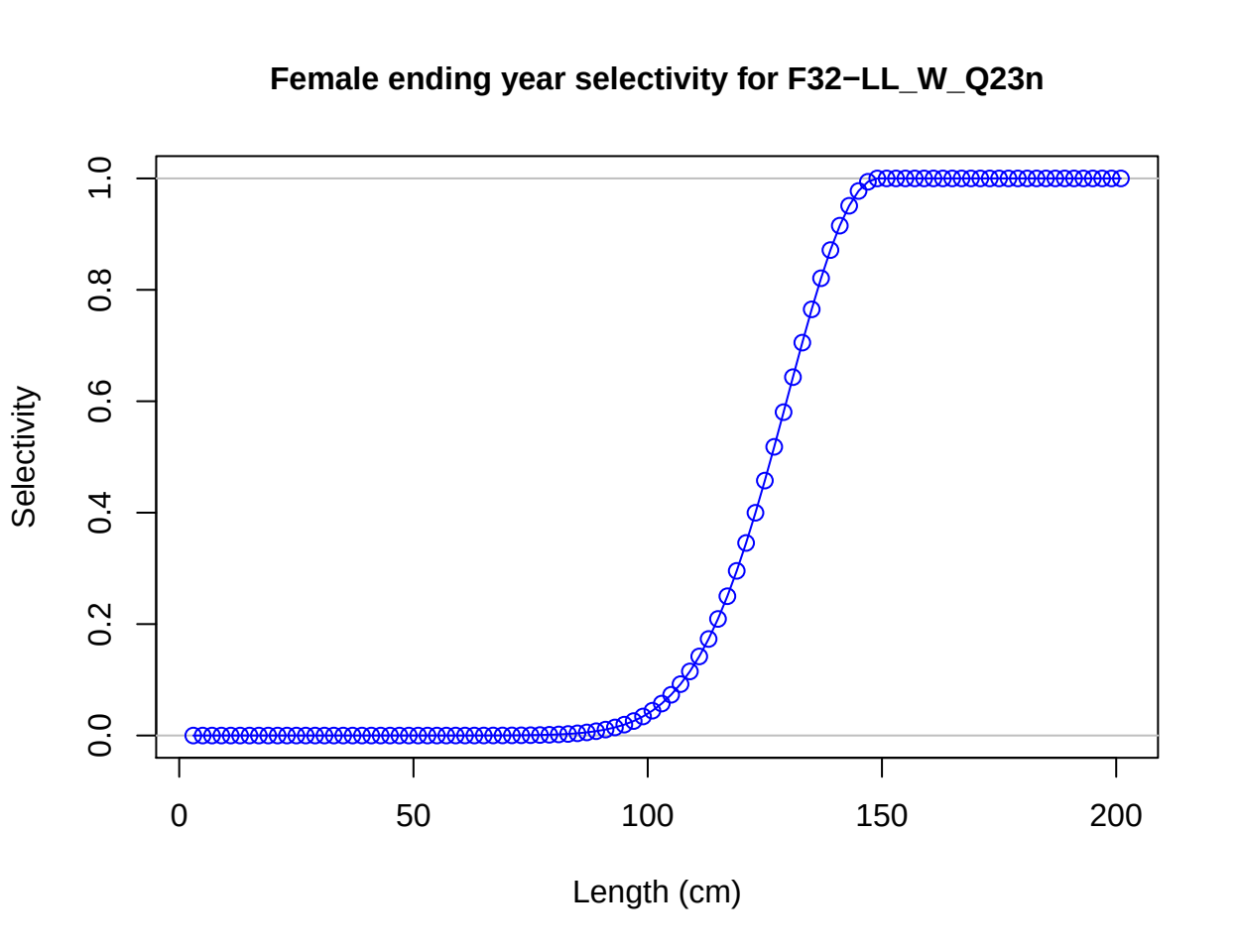

Male ending year selectivity for F29−LL_W_Q14n
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

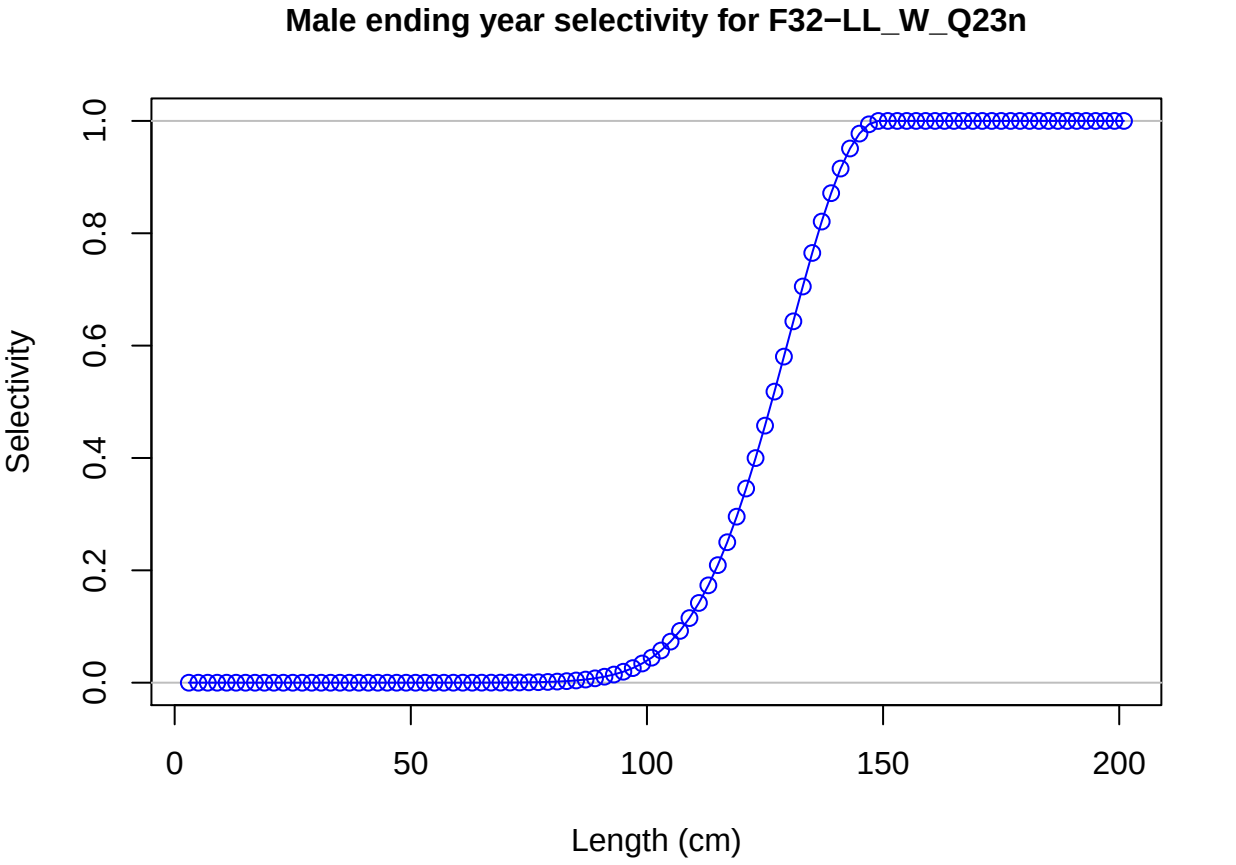

Female ending year selectivity for F30−LL_C_Q14n
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

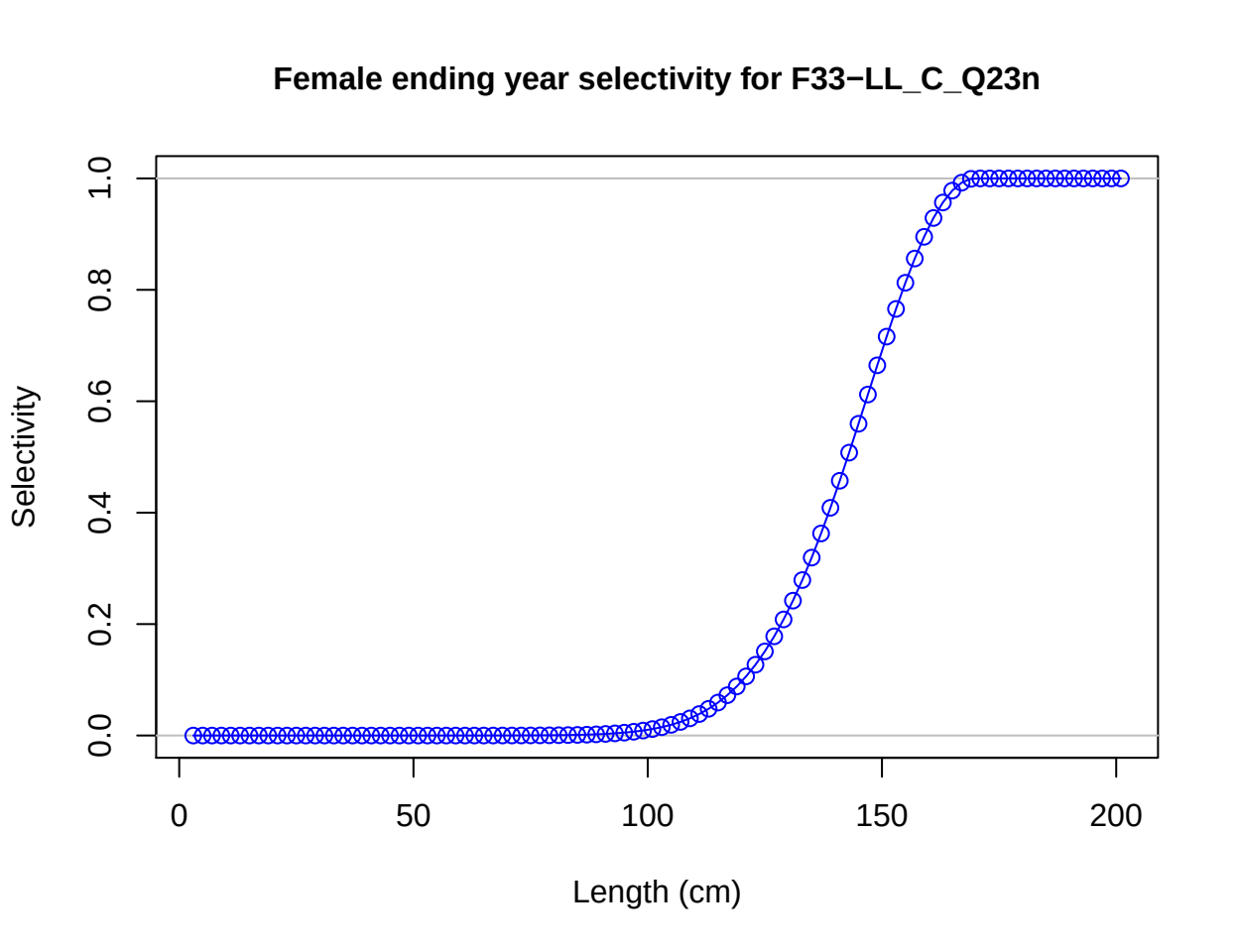

Male ending year selectivity for F30−LL_C_Q14n
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

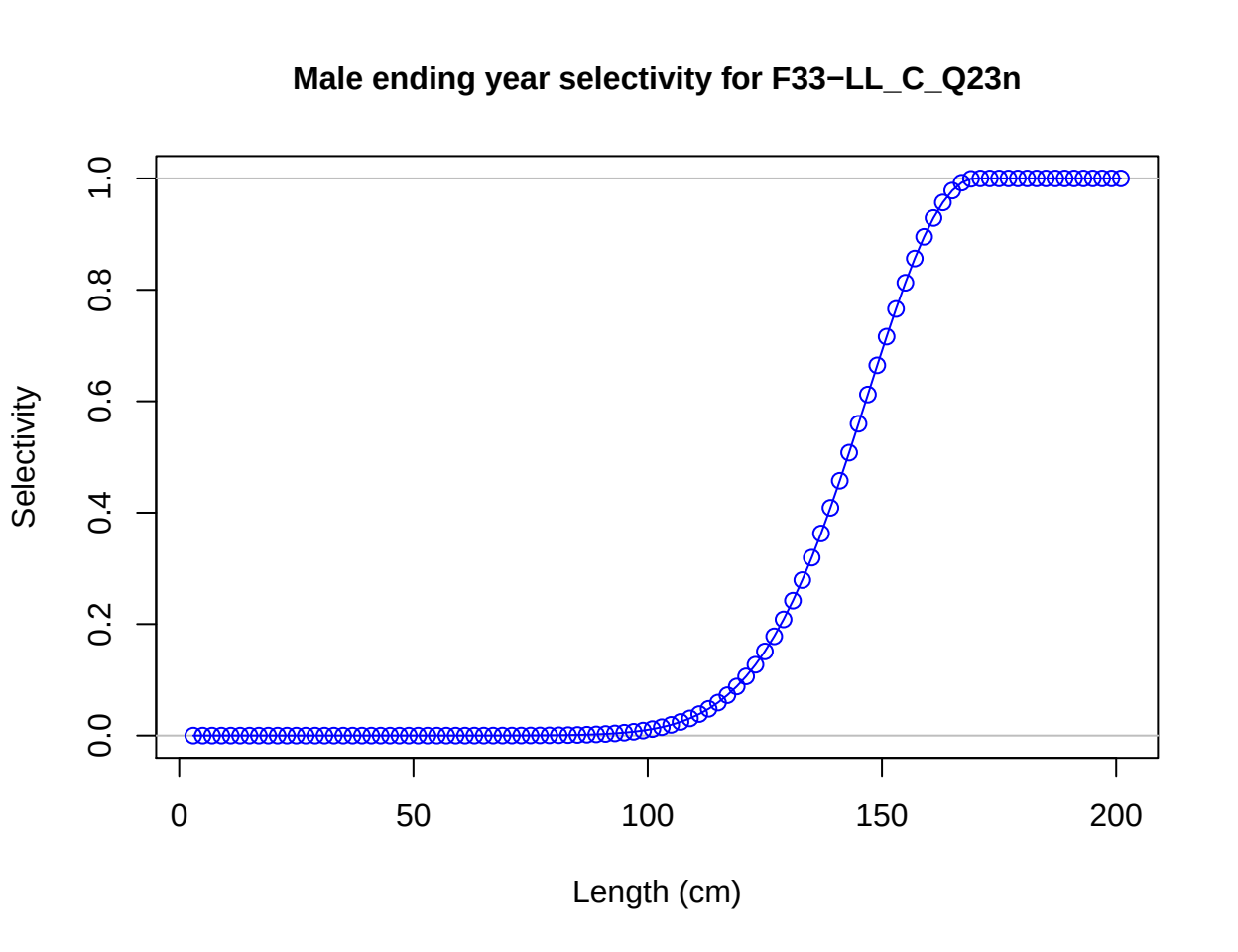

Female ending year selectivity for F31−LL_E_Q14n
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

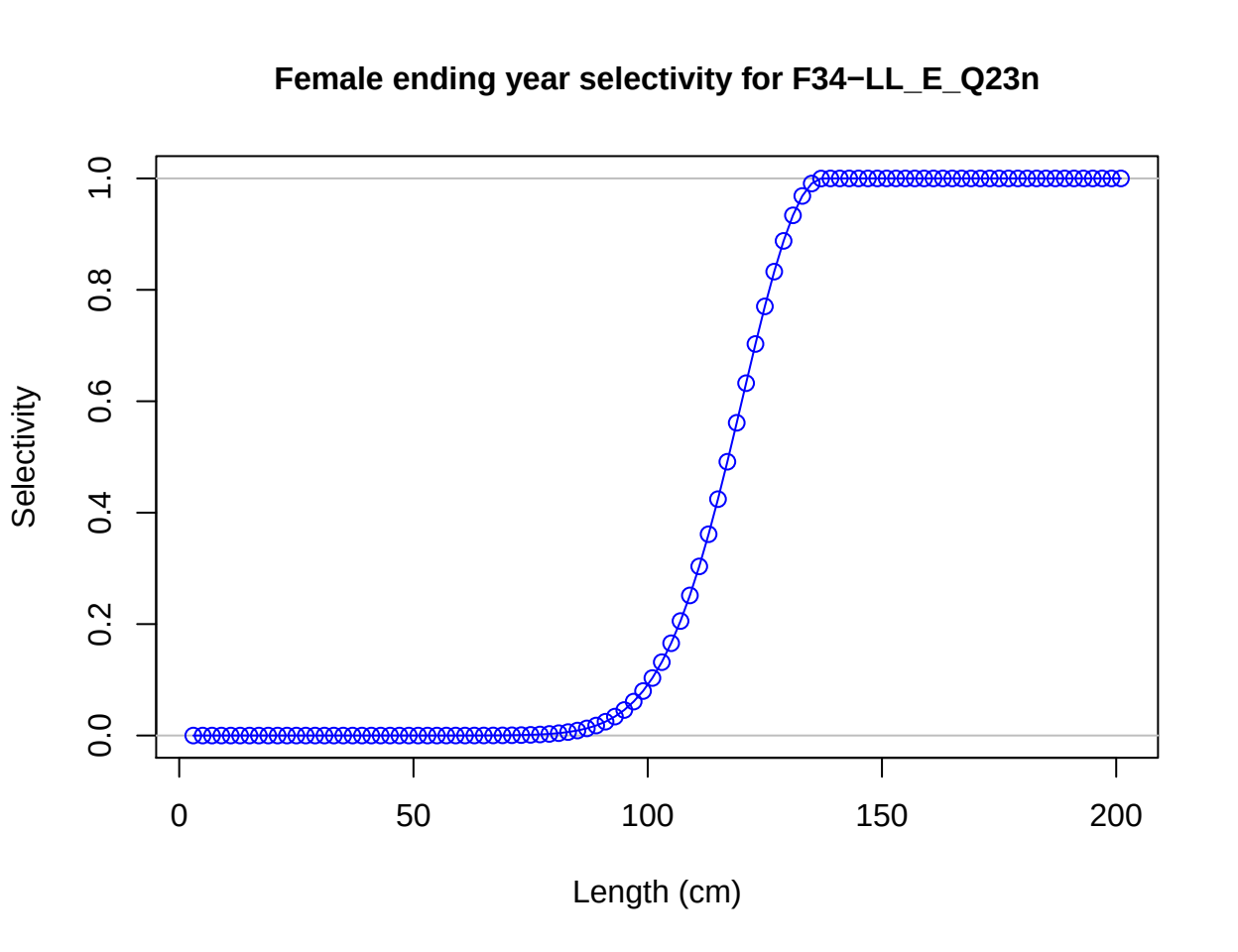

Male ending year selectivity for F31−LL_E_Q14n
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

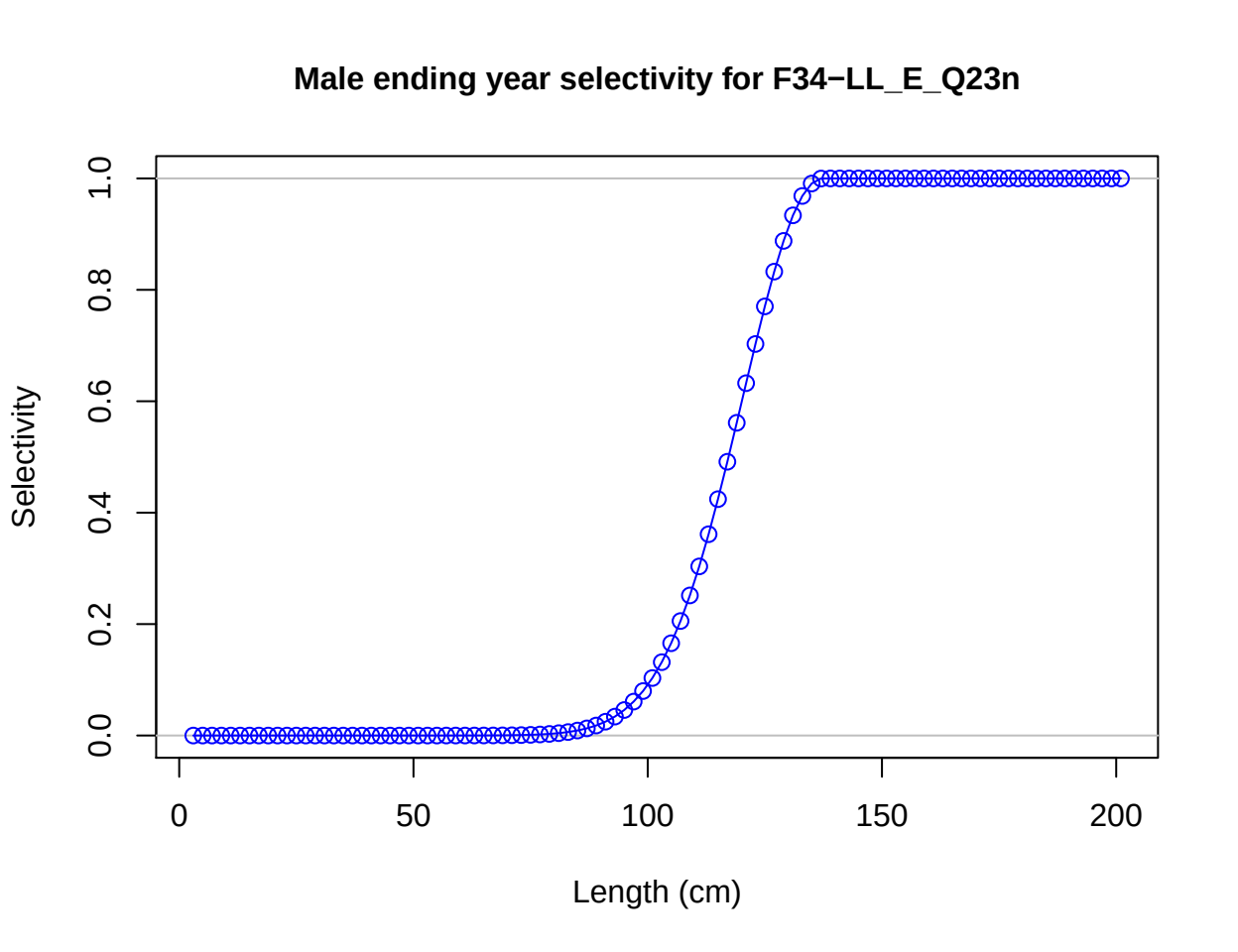

Female ending year selectivity for F32−LL_W_Q23n
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

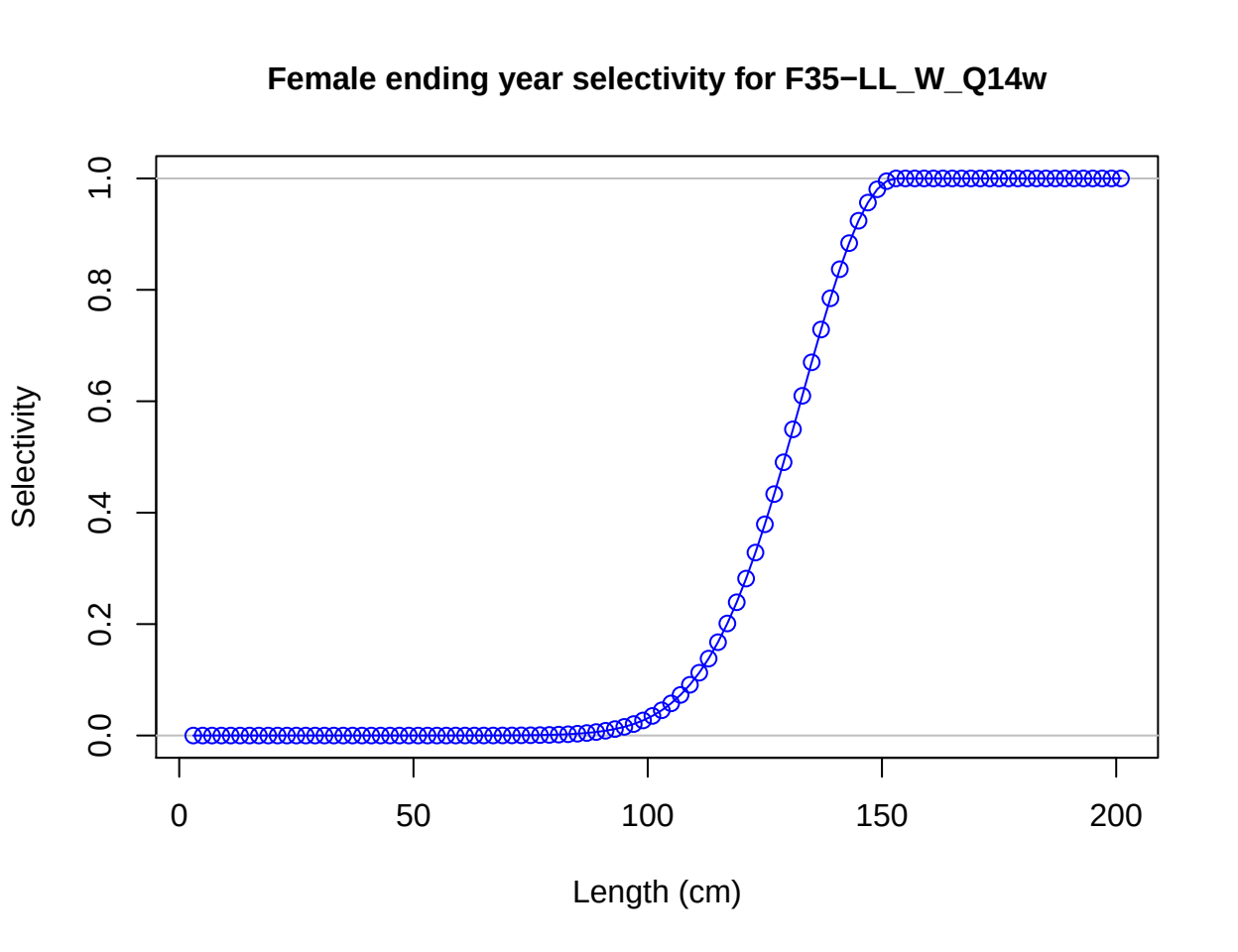

Male ending year selectivity for F32−LL_W_Q23n
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

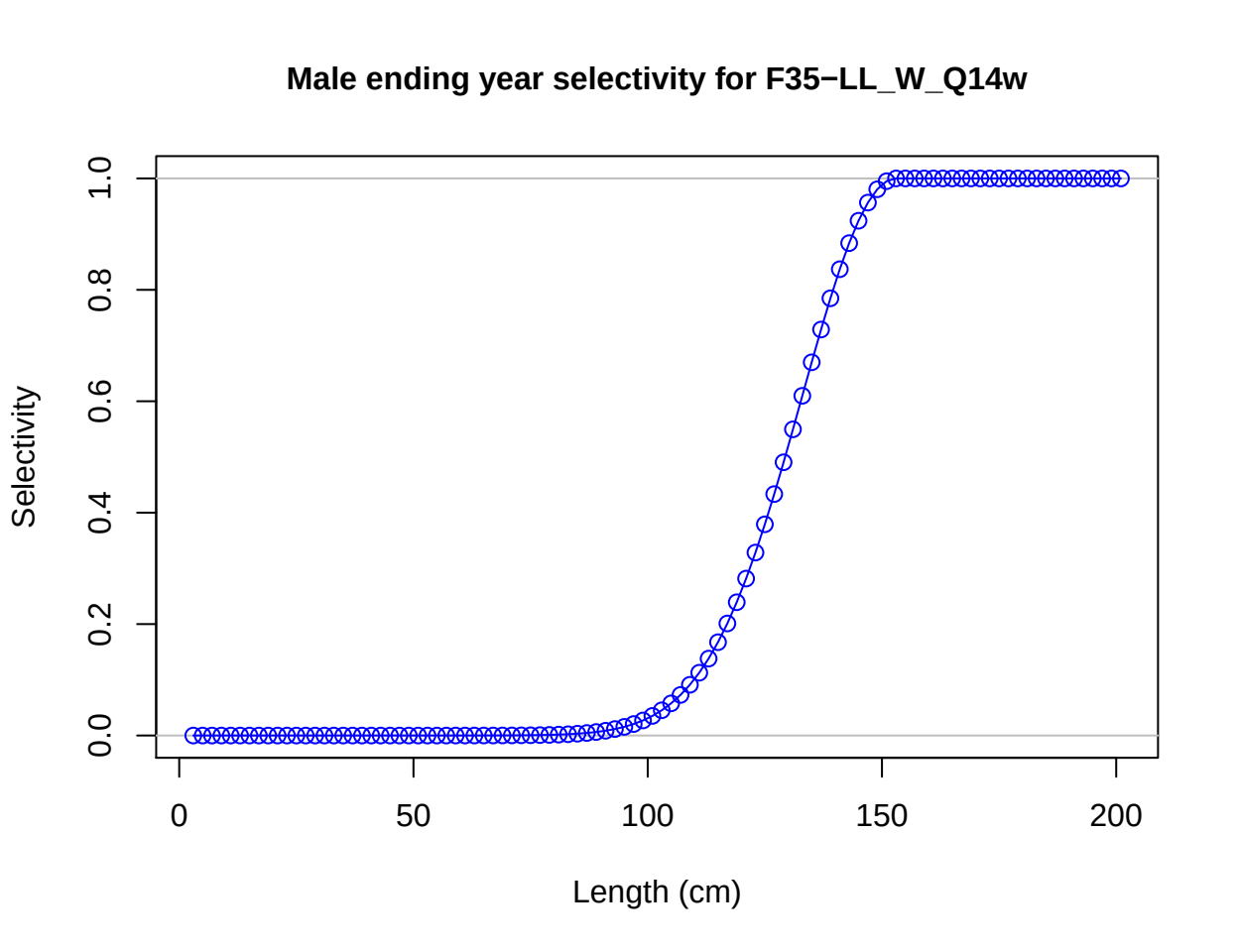

Female ending year selectivity for F33−LL_C_Q23n
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

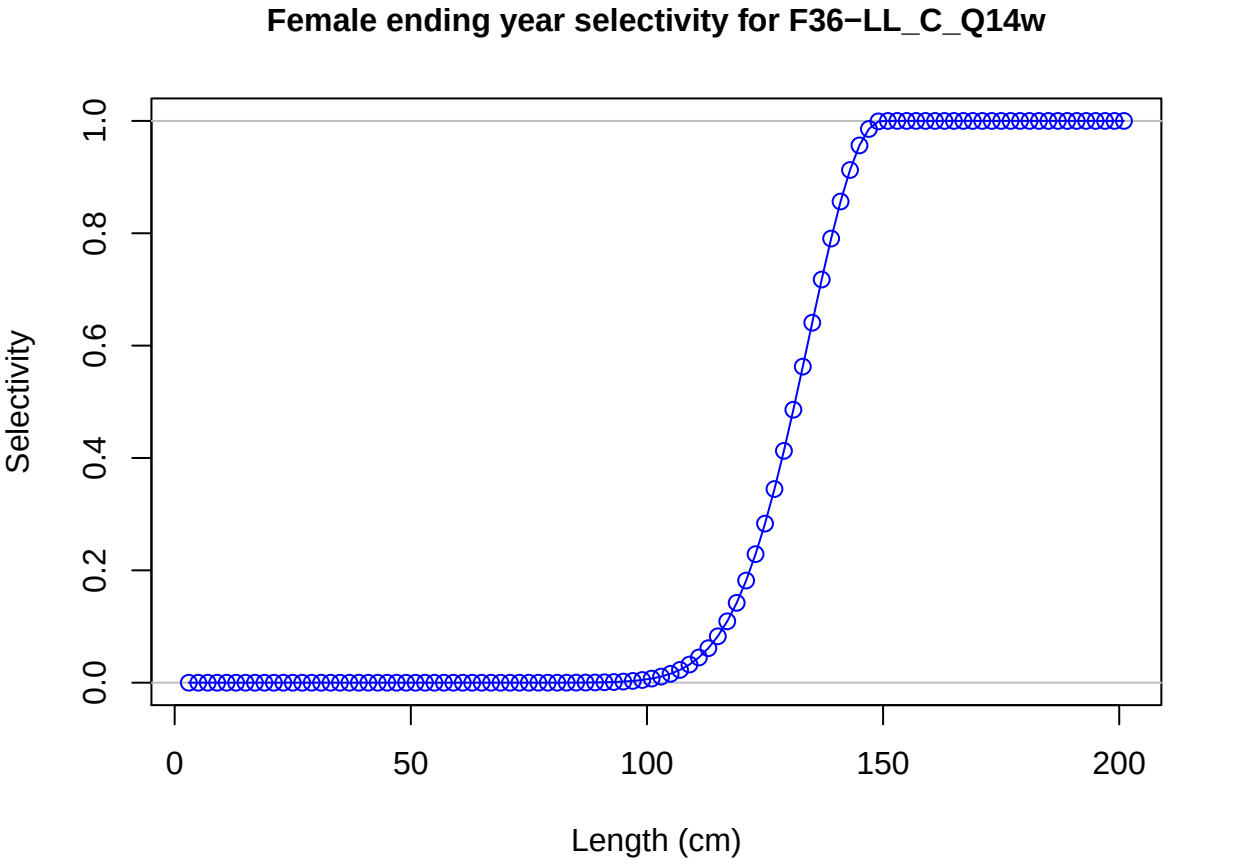

Male ending year selectivity for F33−LL_C_Q23n
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

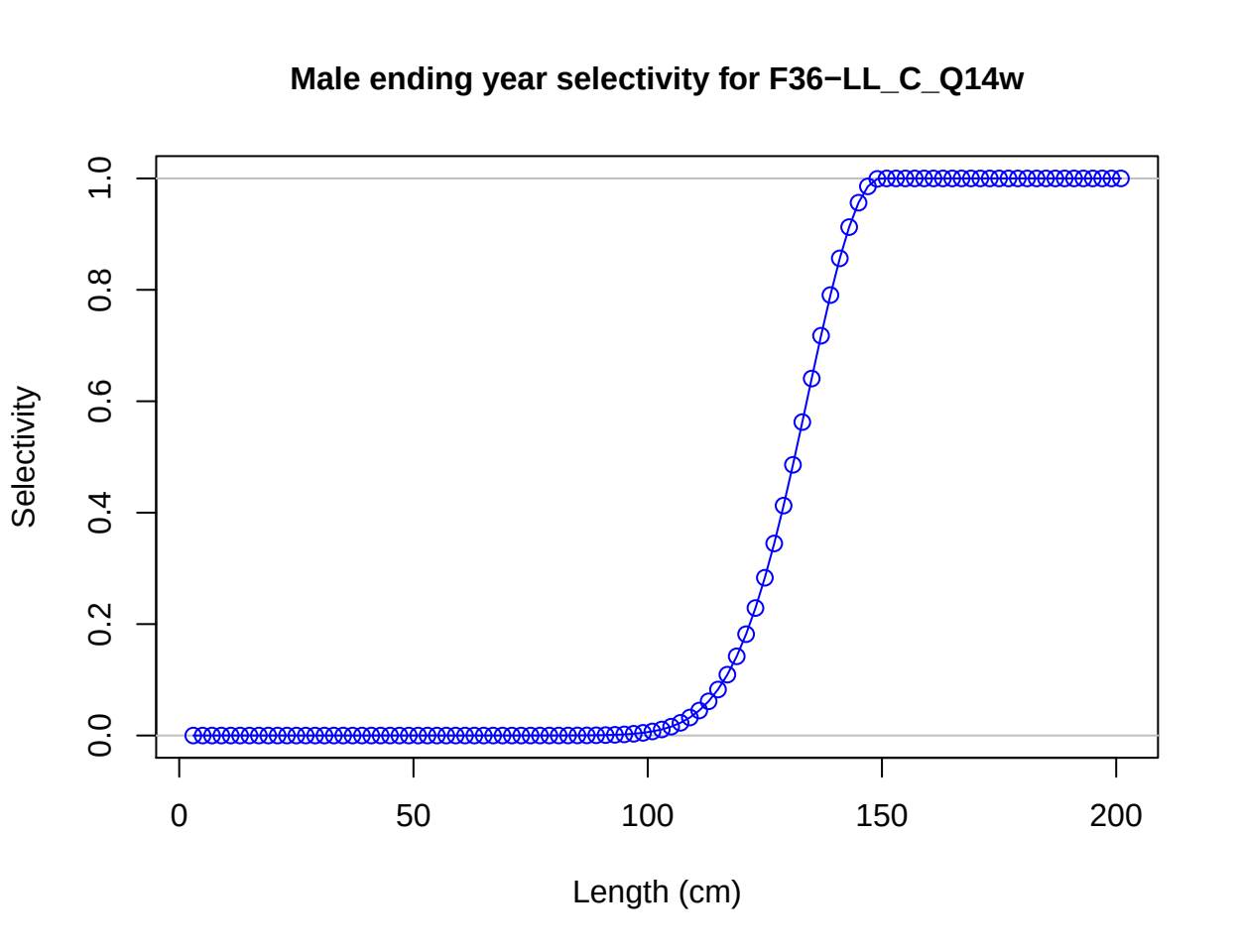

Female ending year selectivity for F34−LL_E_Q23n
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

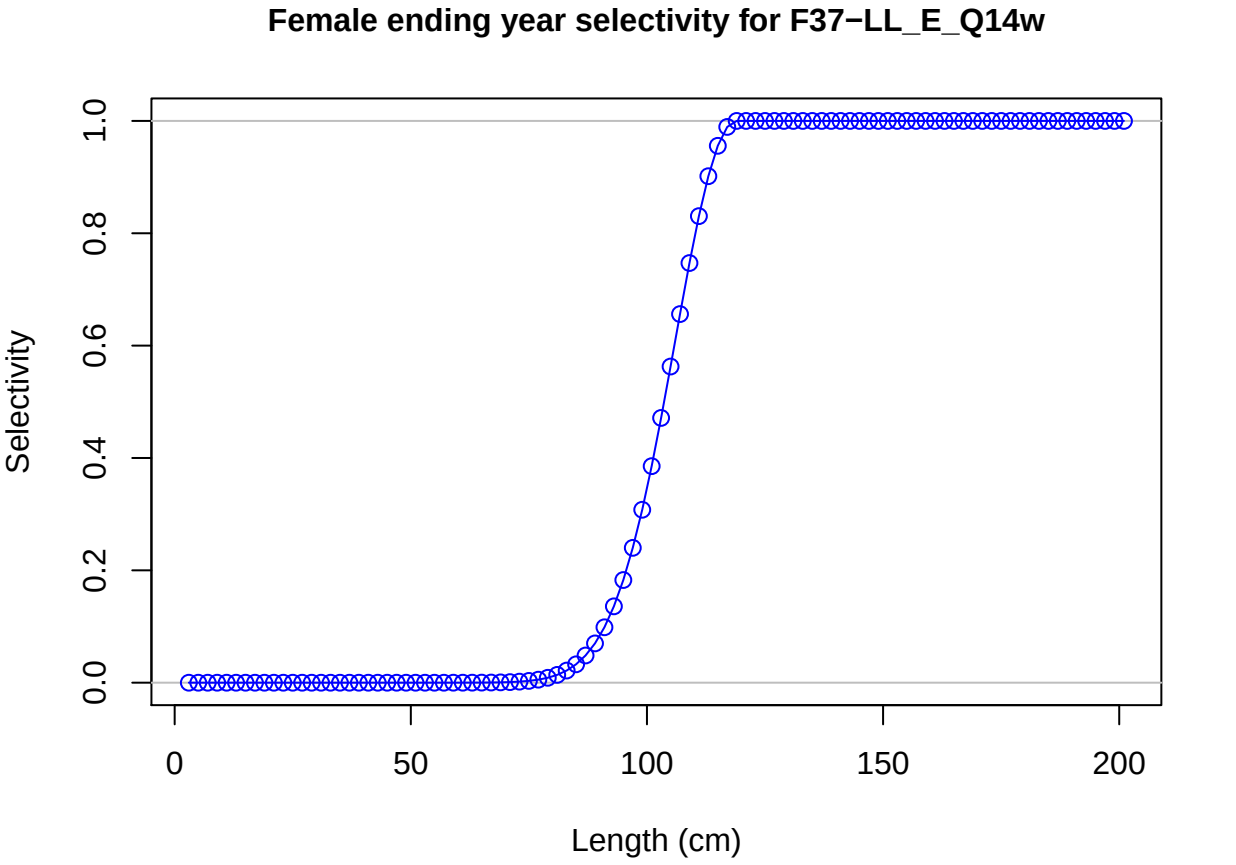

Male ending year selectivity for F34−LL_E_Q23n
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

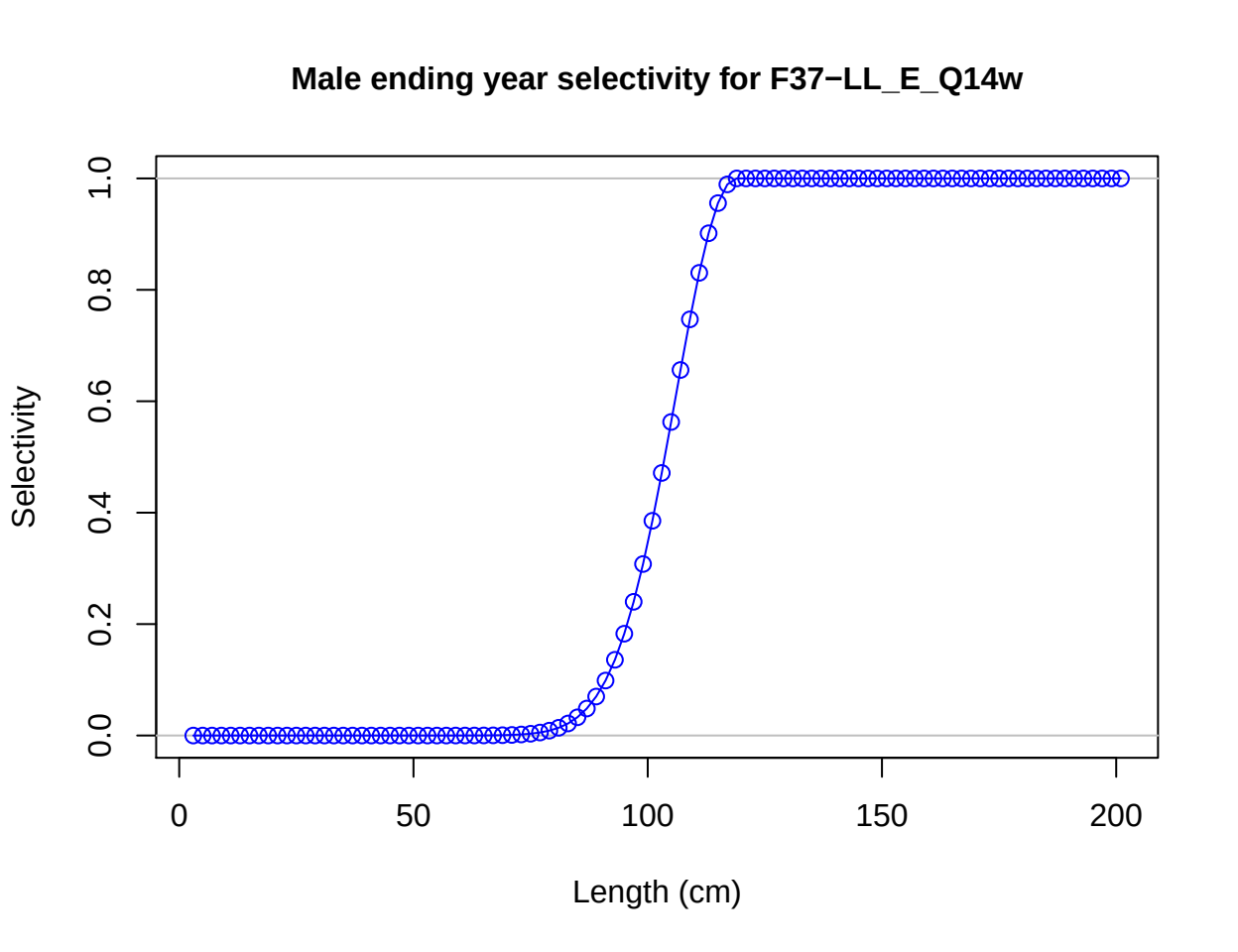

Female ending year selectivity for F35−LL_W_Q14w
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

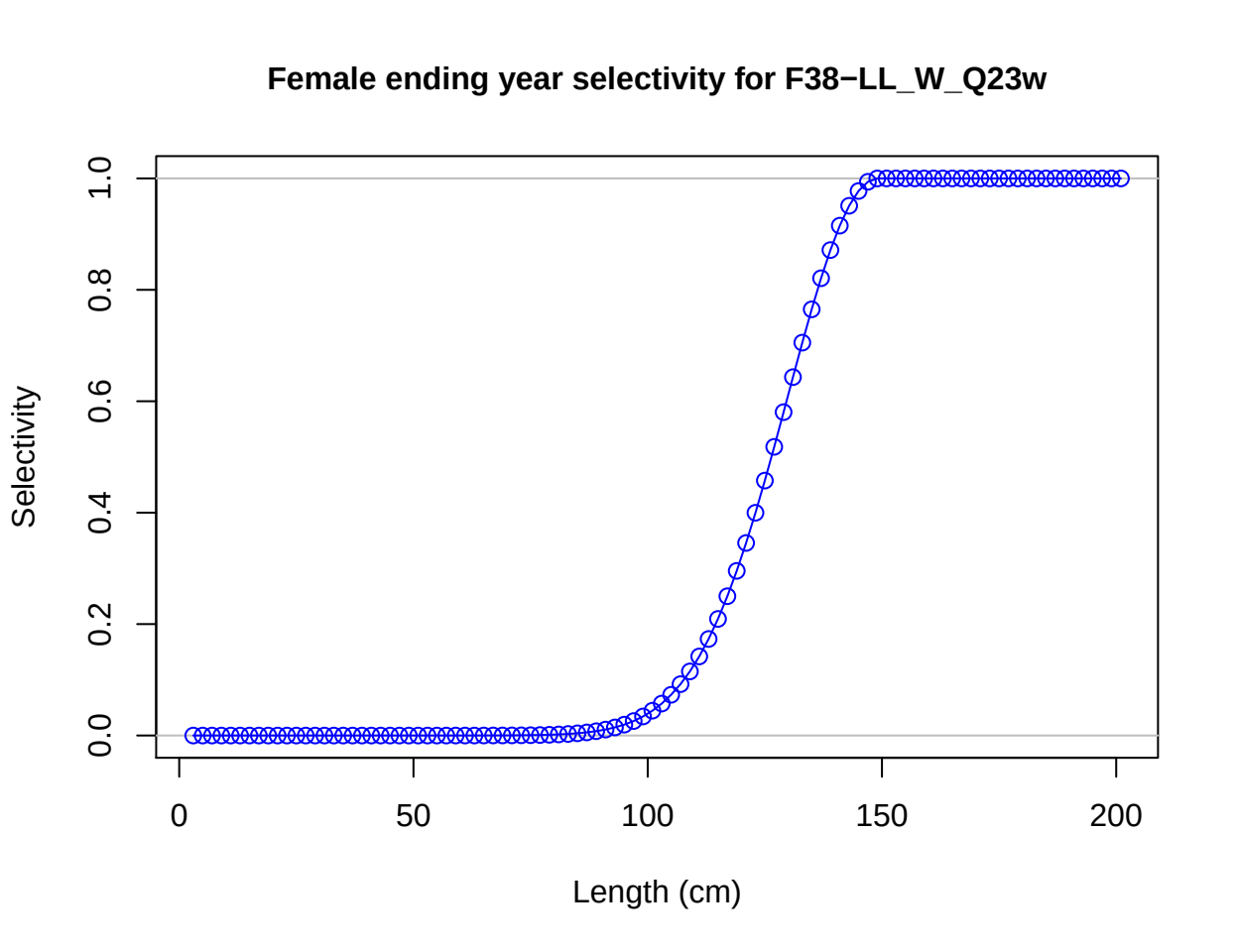

Male ending year selectivity for F35−LL_W_Q14w
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

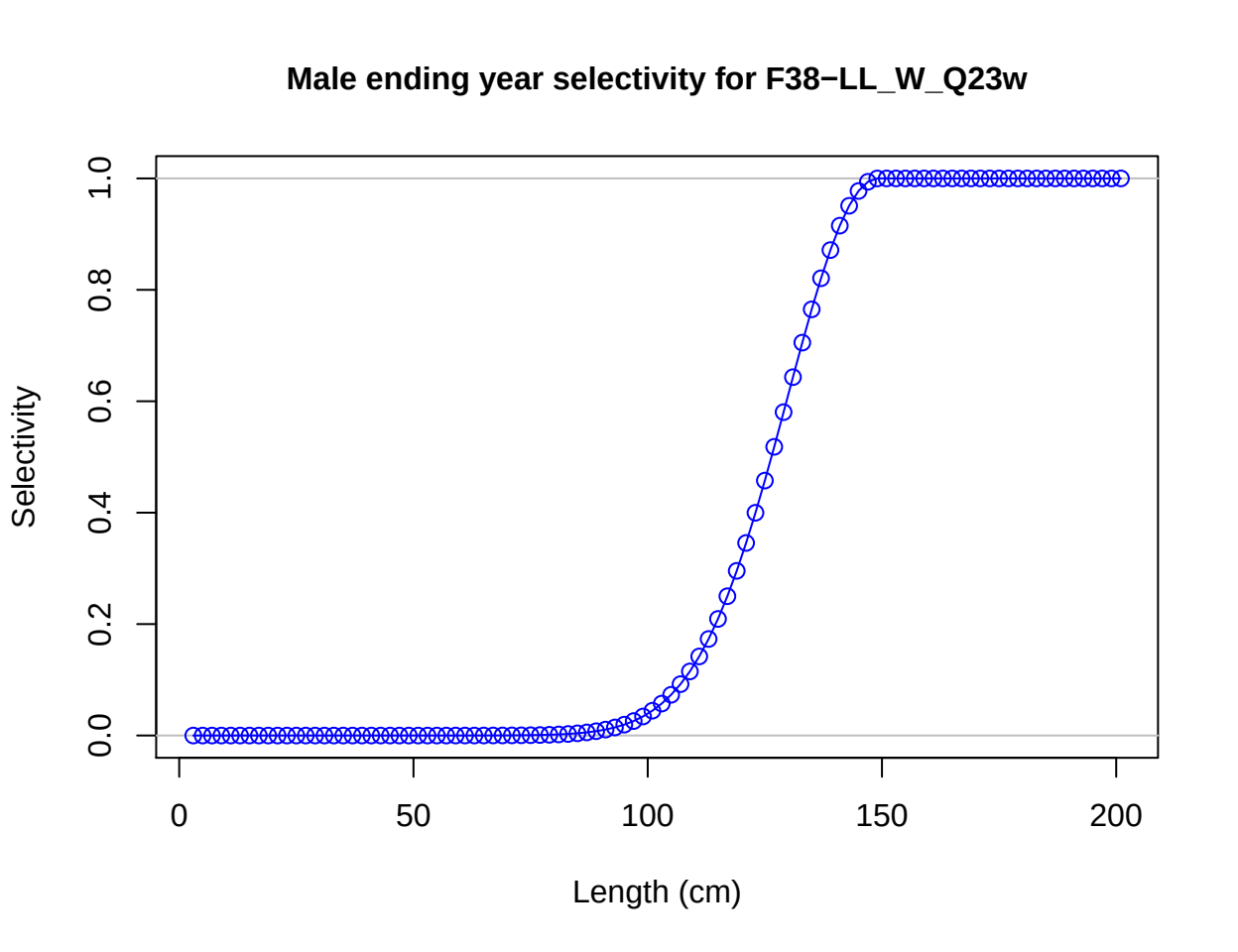

Female ending year selectivity for F36−LL_C_Q14w
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

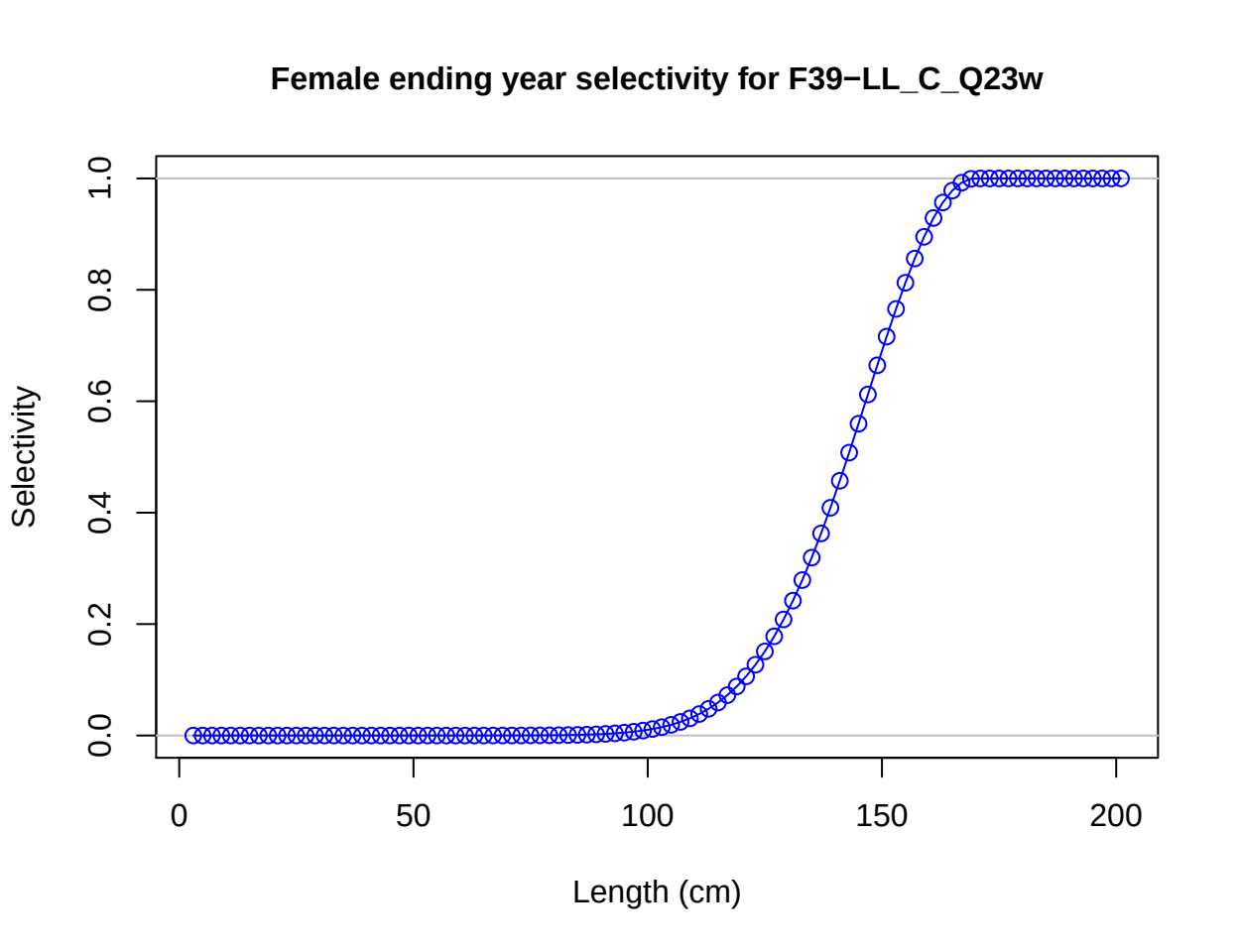

Male ending year selectivity for F36−LL_C_Q14w
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

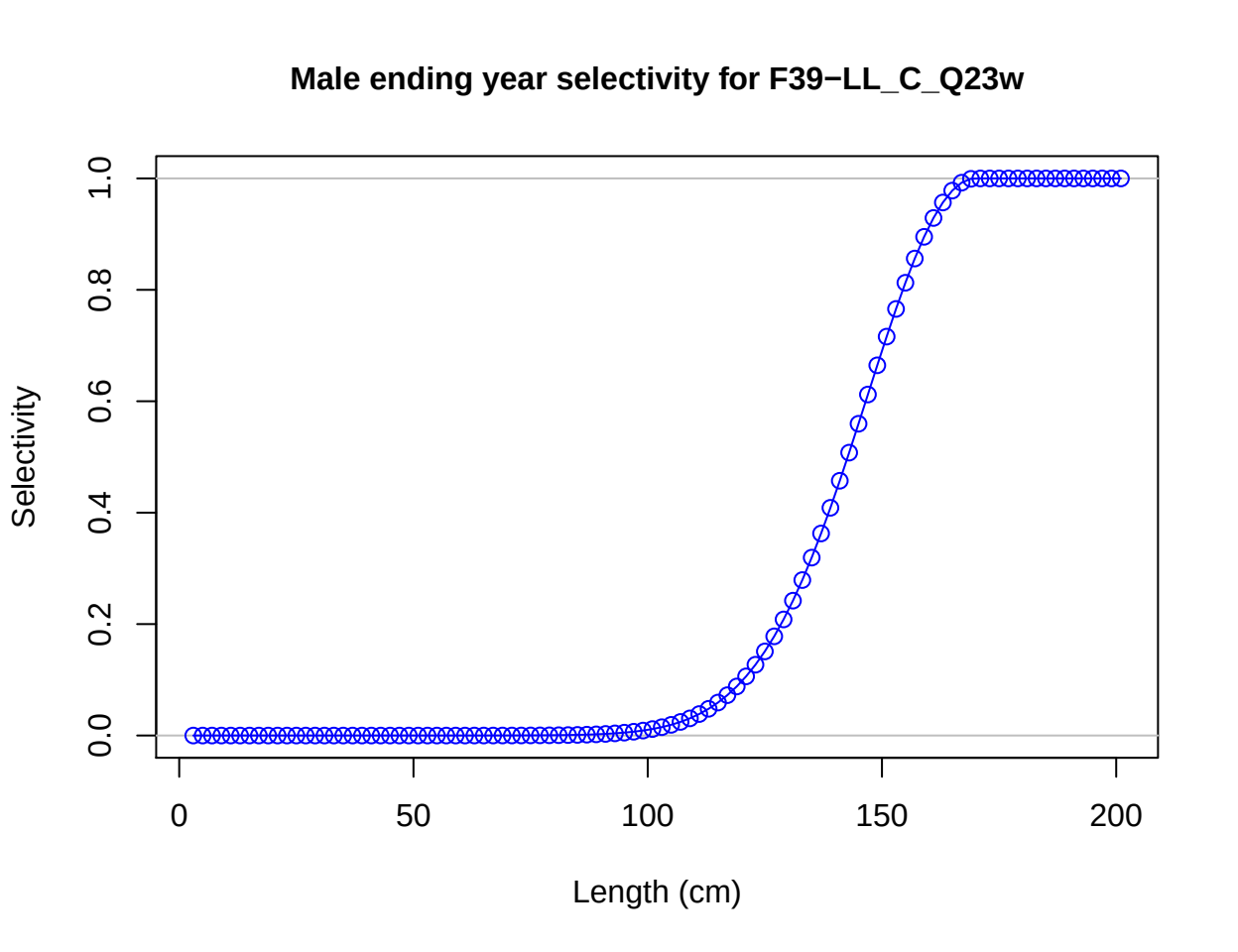

Female ending year selectivity for F37−LL_E_Q14w
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

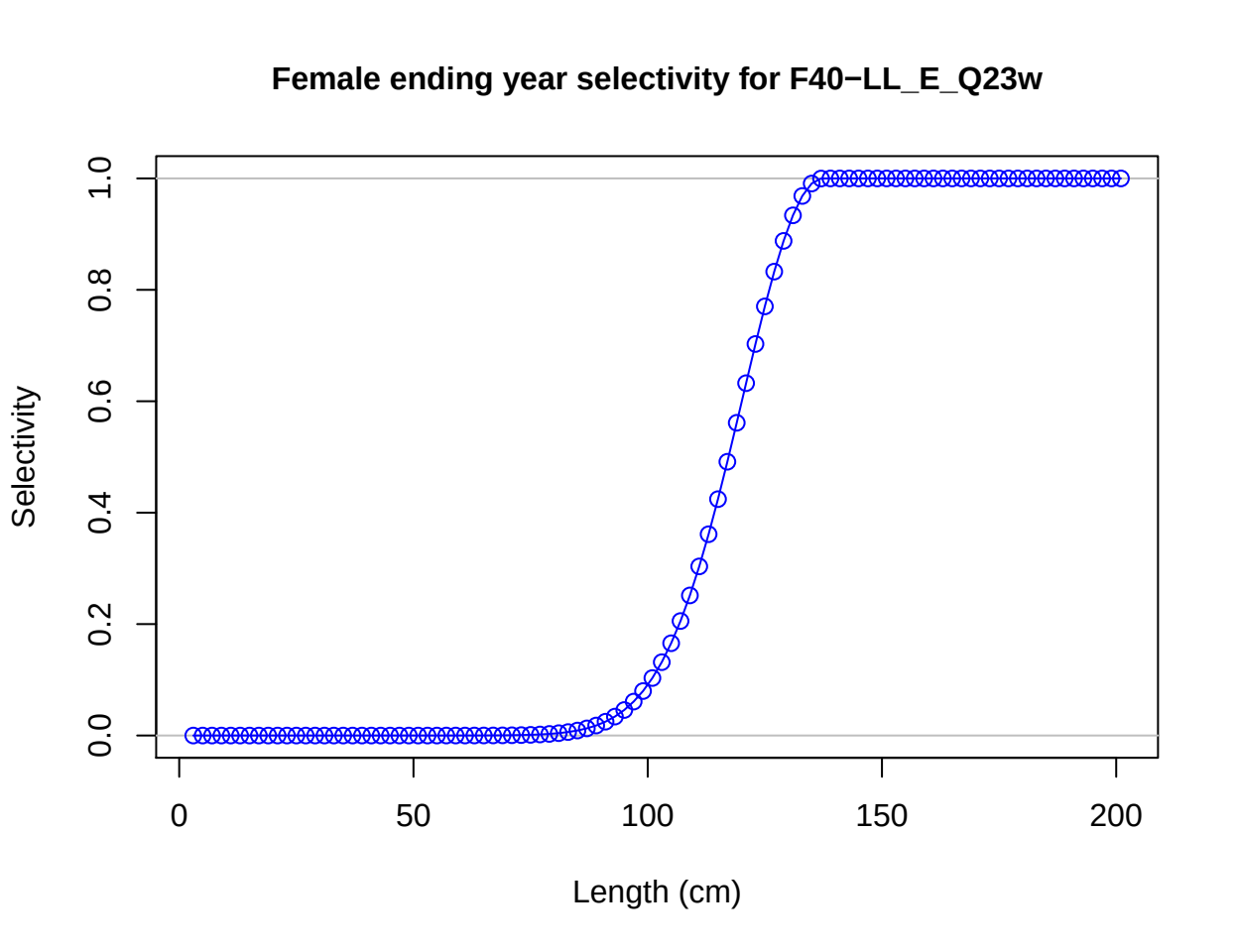

Male ending year selectivity for F37−LL_E_Q14w
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

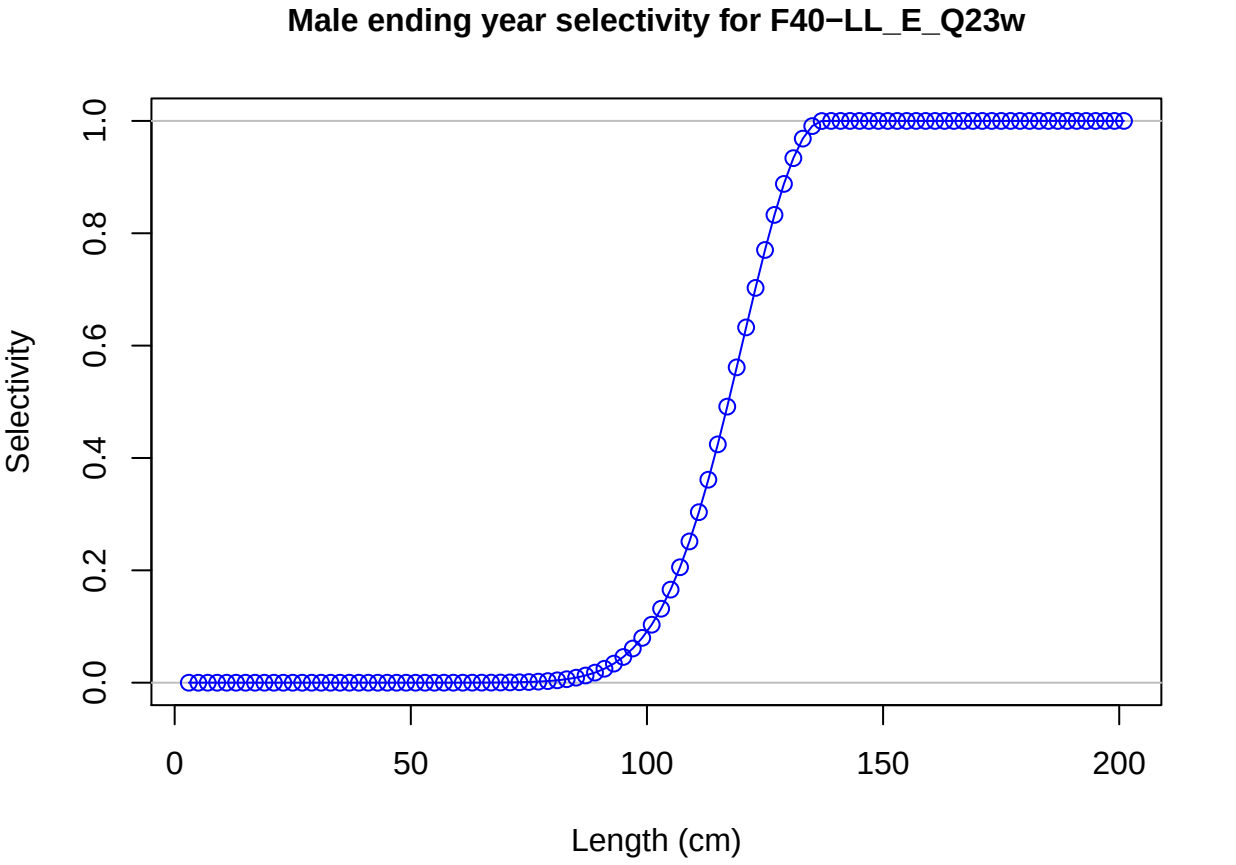

Female ending year selectivity for F38−LL_W_Q23w
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

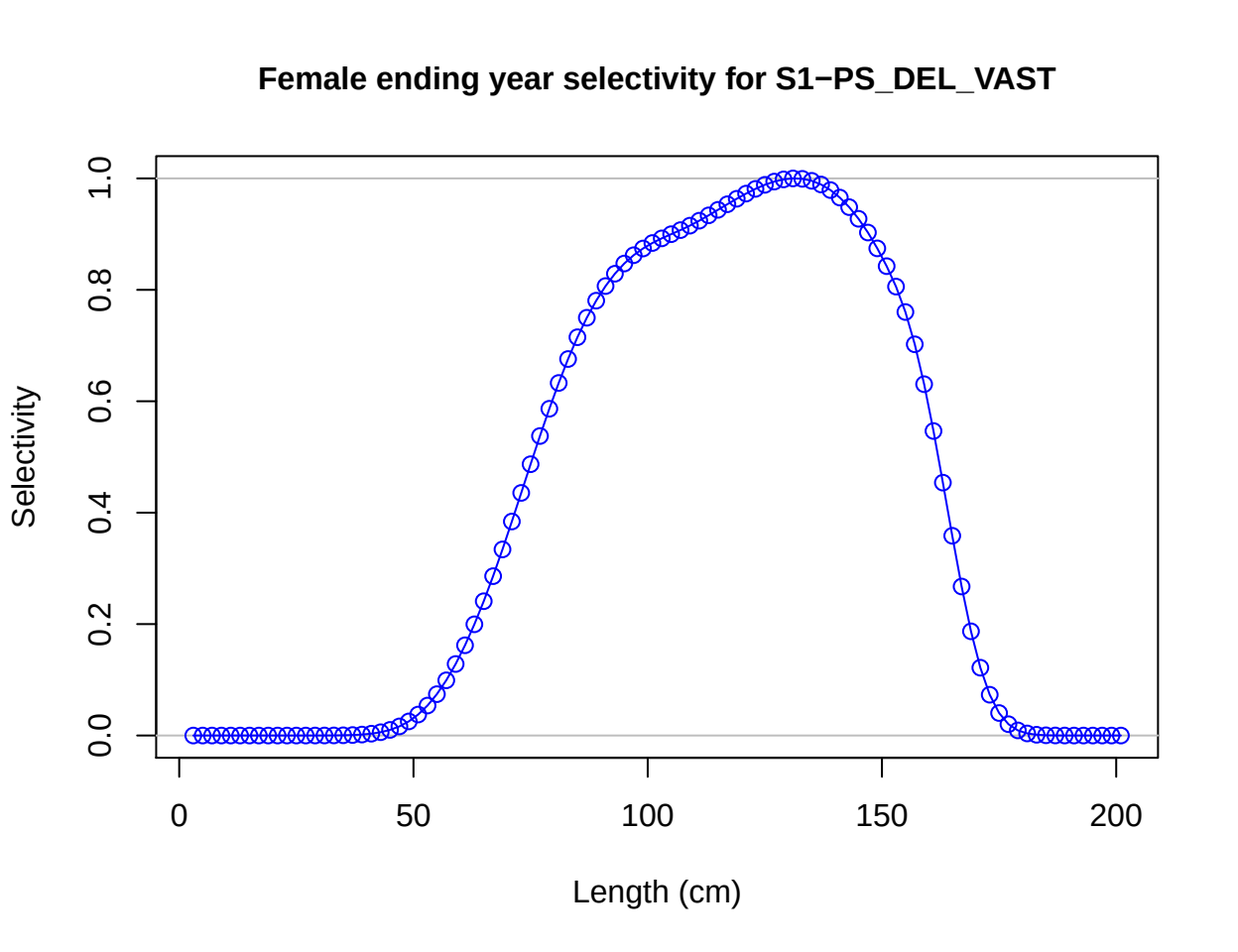

Male ending year selectivity for F38−LL_W_Q23w
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

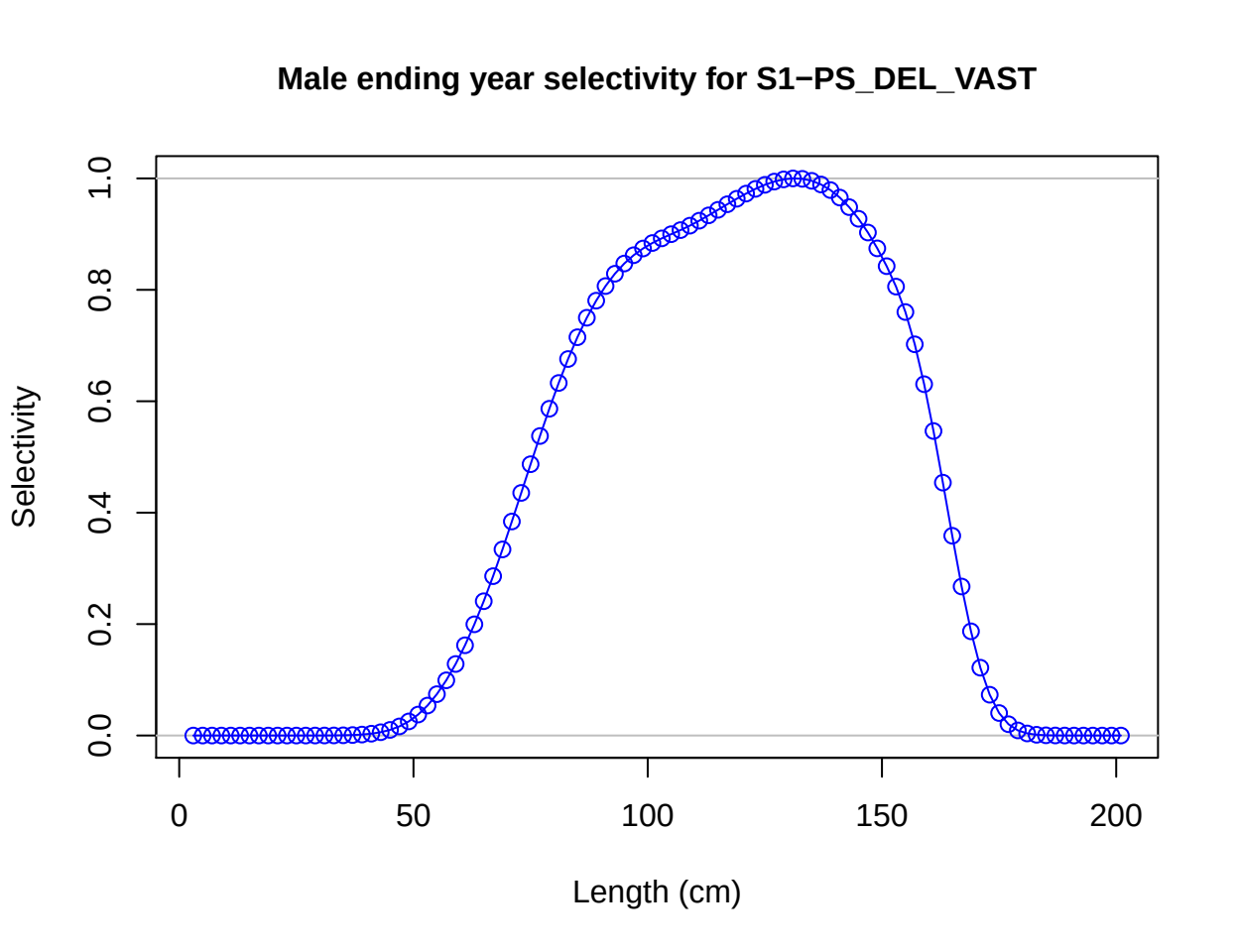

Female ending year selectivity for F39−LL_C_Q23w
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

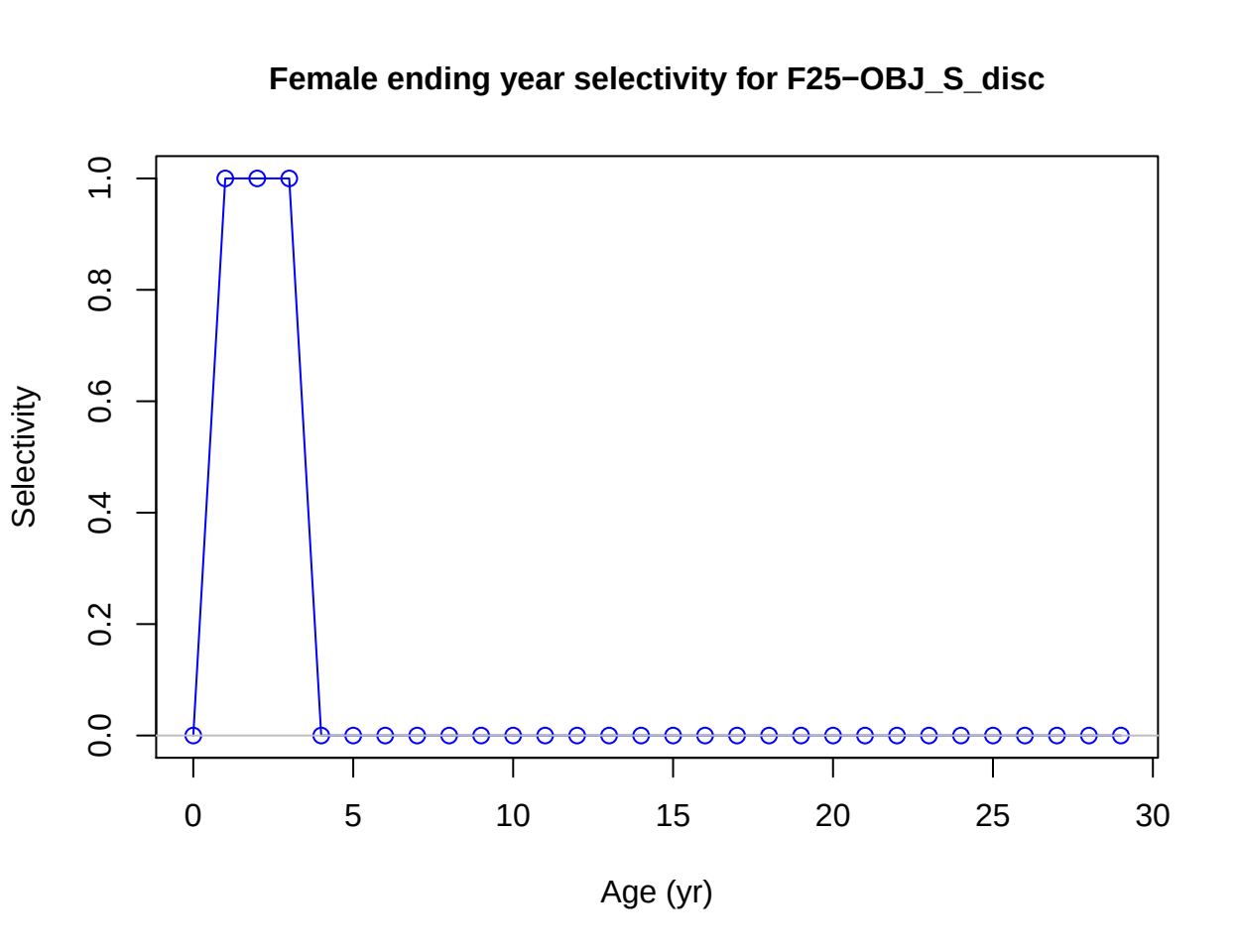

Male ending year selectivity for F39−LL_C_Q23w
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

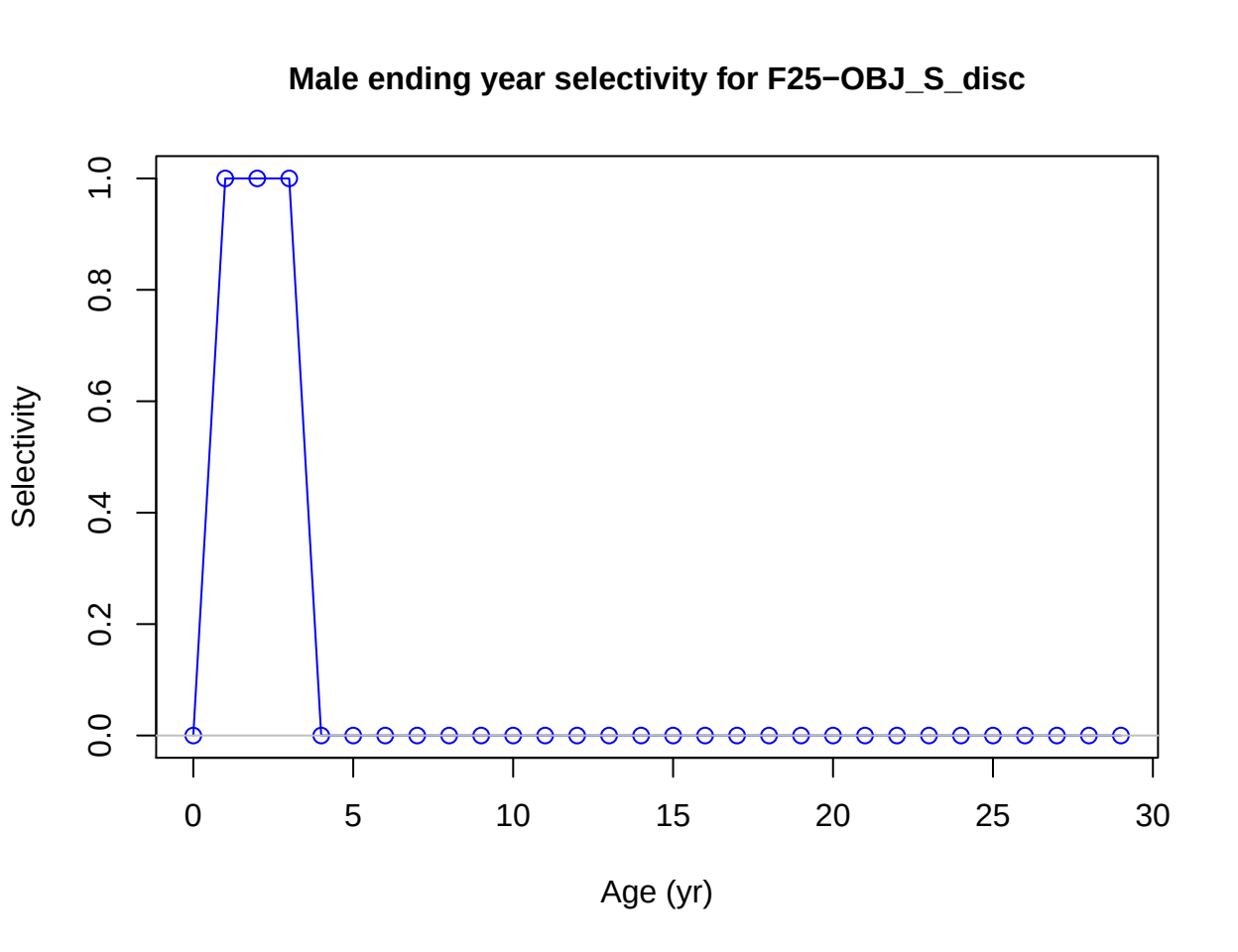

Female ending year selectivity for F40−LL_E_Q23w
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

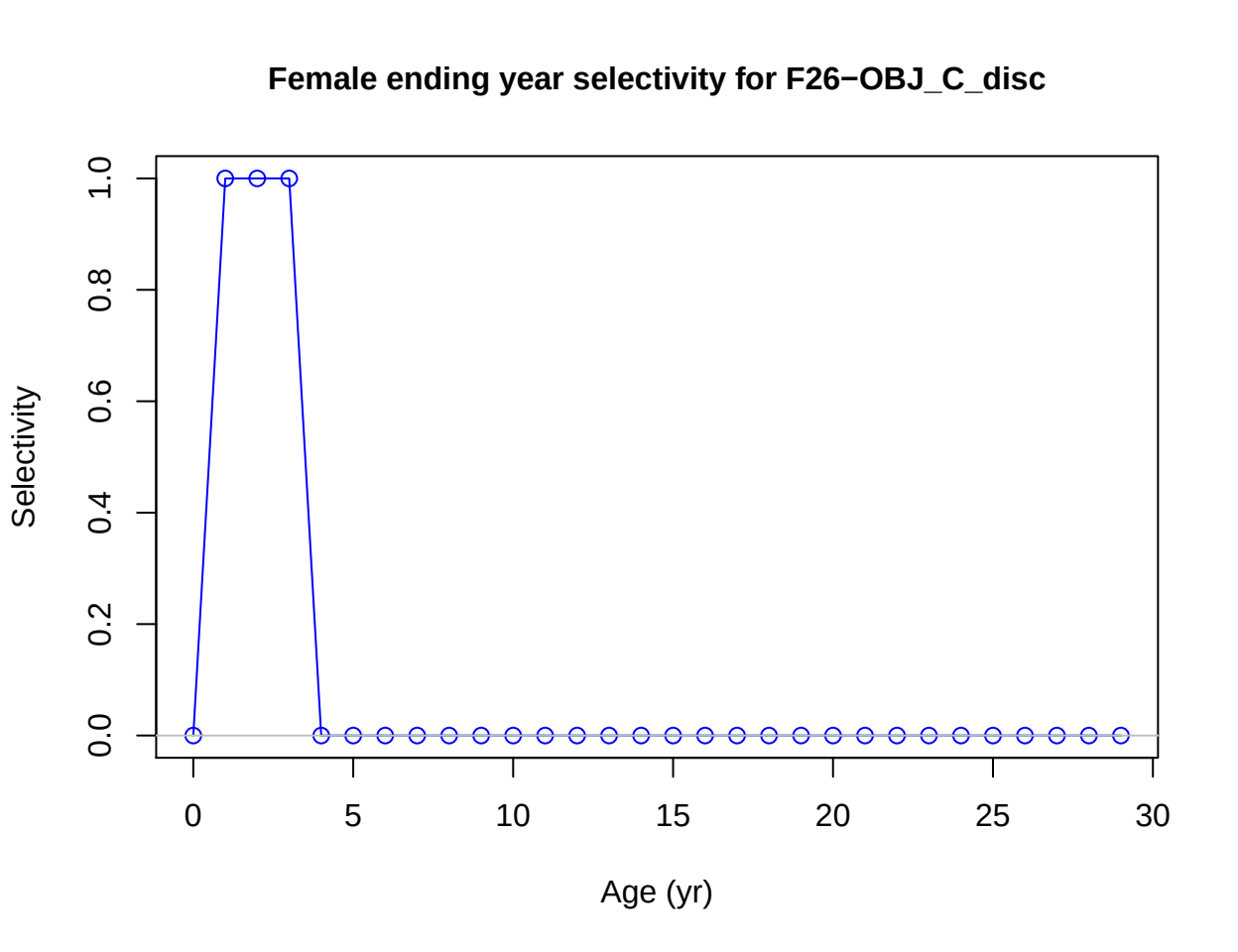

Male ending year selectivity for F40−LL_E_Q23w
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

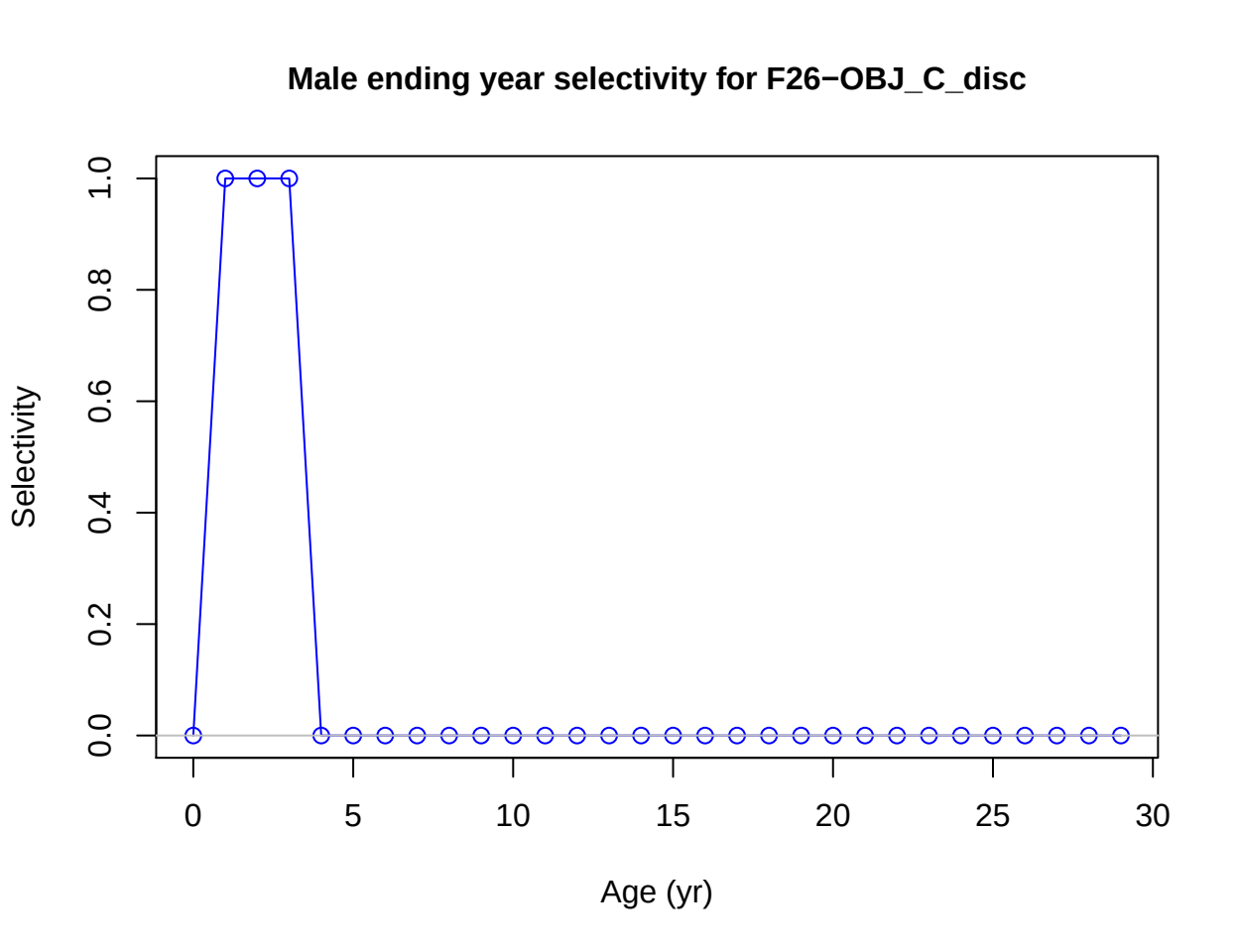

Female ending year selectivity for S1−PS_DEL_VAST
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

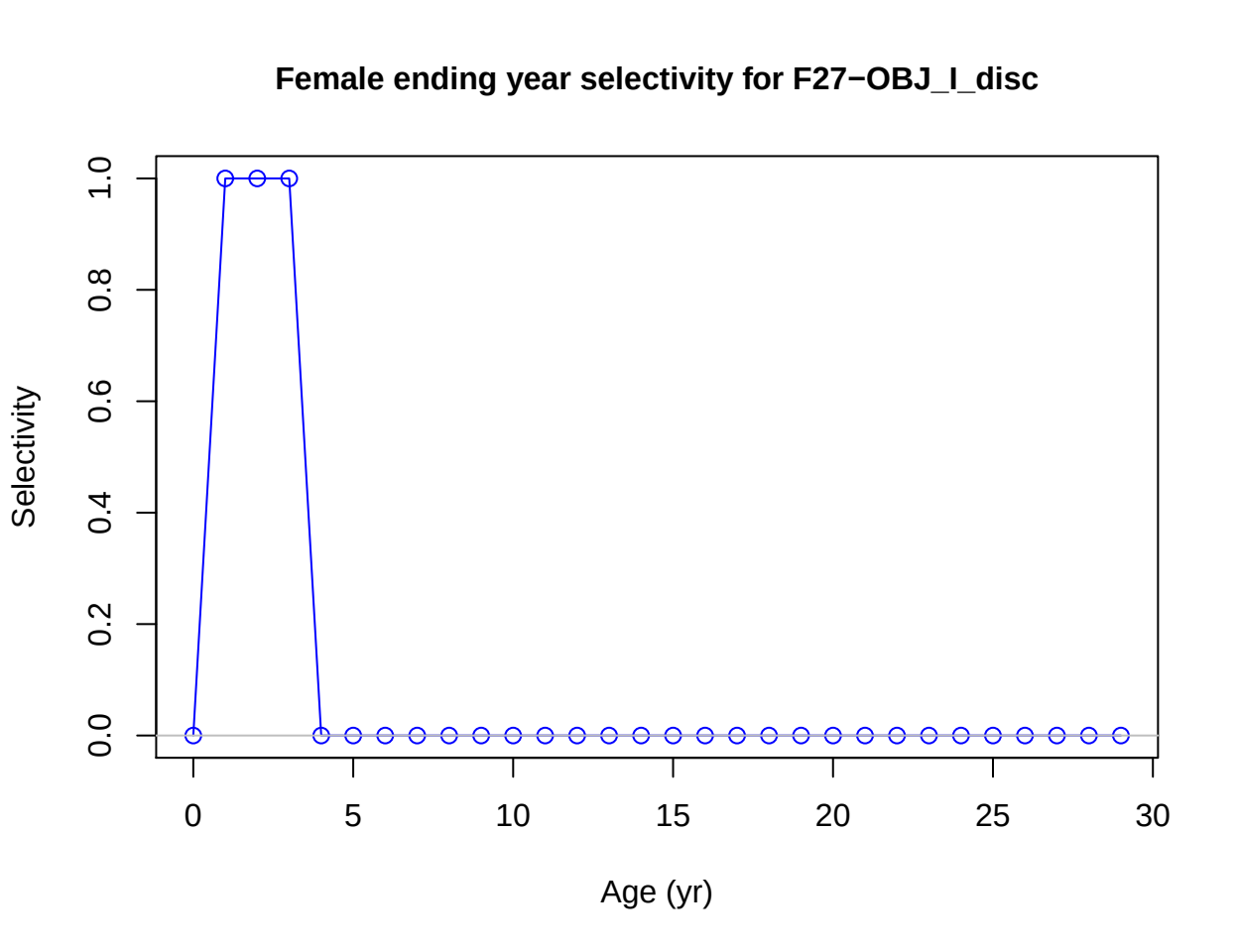

Male ending year selectivity for S1−PS_DEL_VAST
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Length (cm)

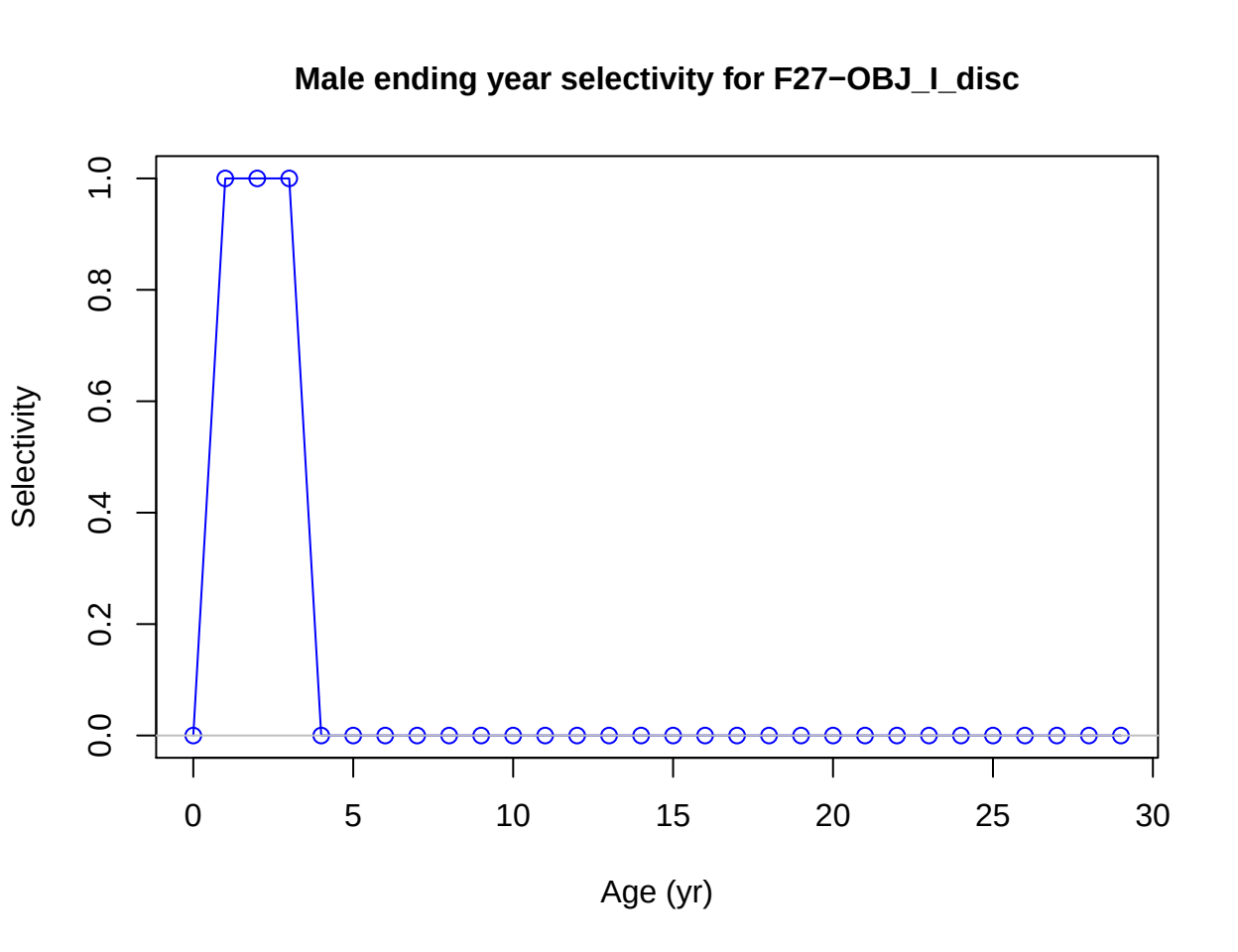

Female ending year selectivity for F25−OBJ_S_disc
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
Age (yr)

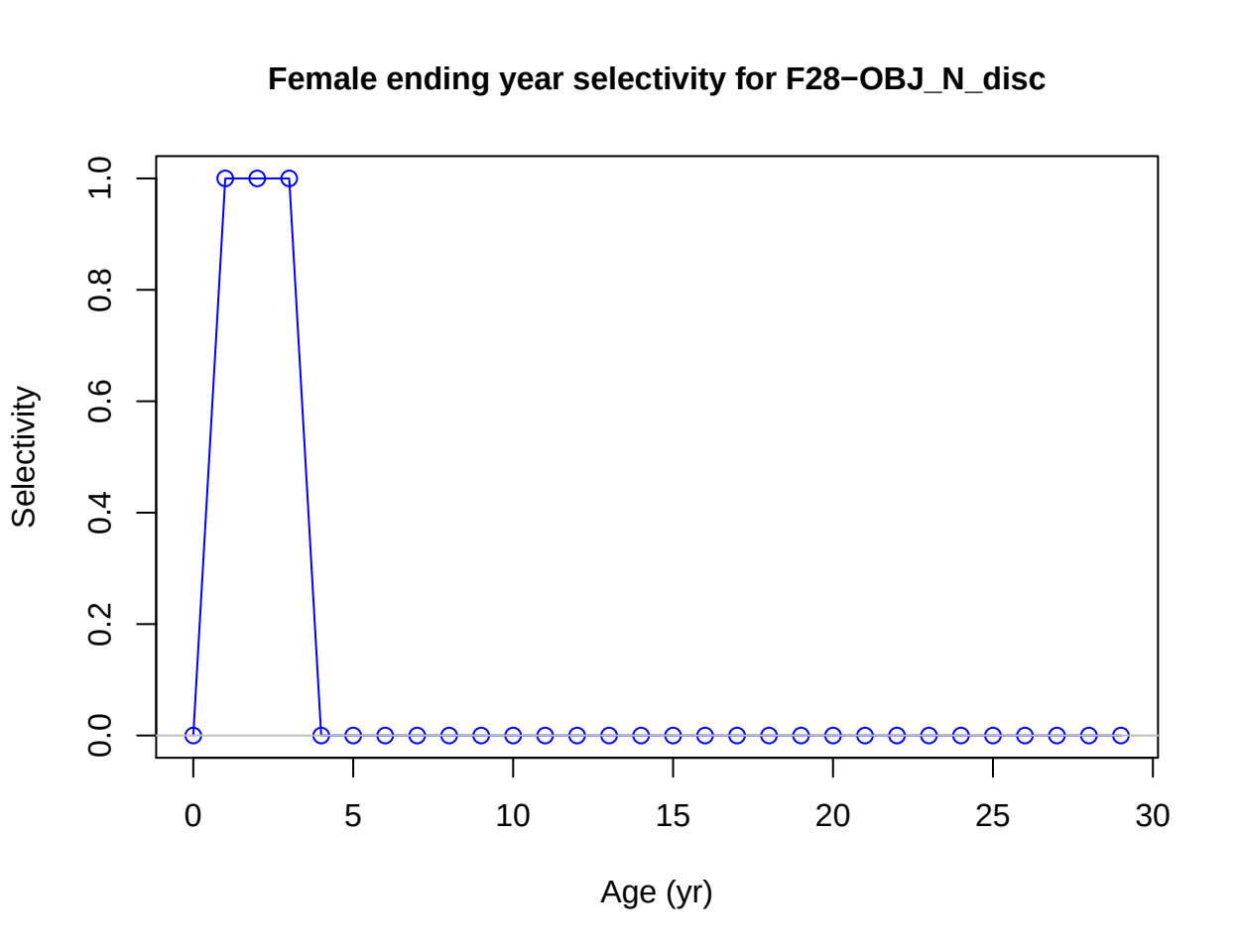

Male ending year selectivity for F25−OBJ_S_disc
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
Age (yr)

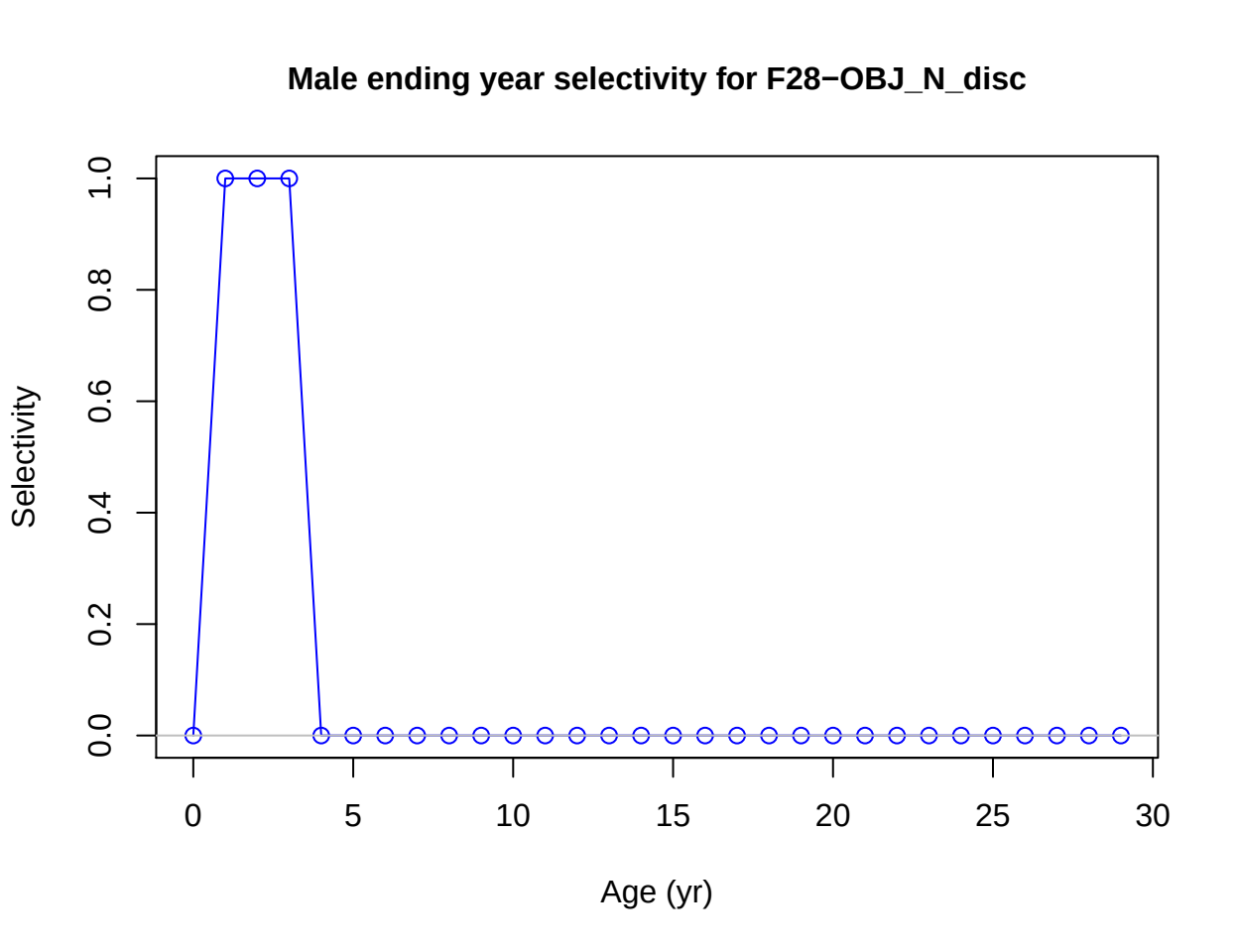

Female ending year selectivity for F26−OBJ_C_disc
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
Age (yr)

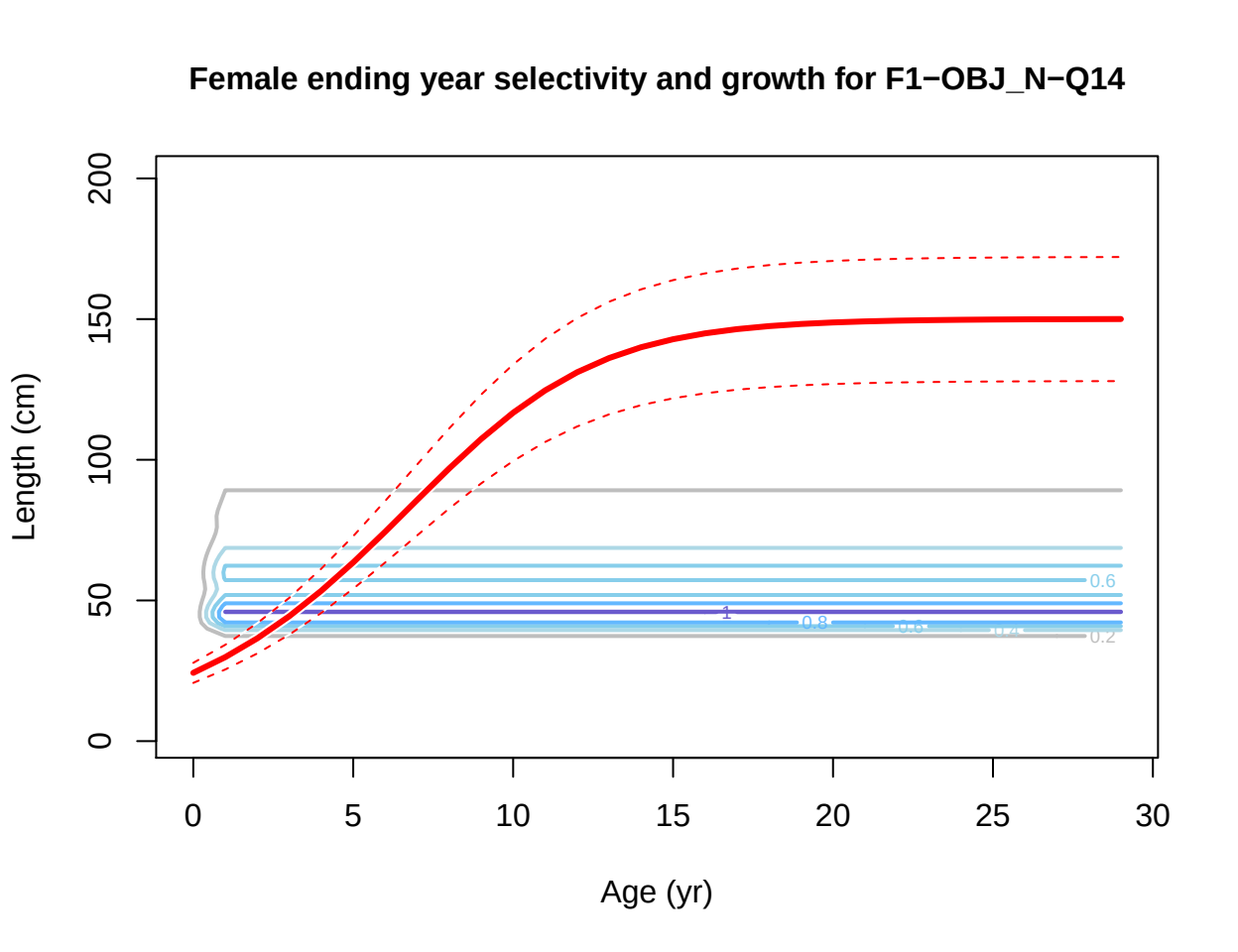

Male ending year selectivity for F26−OBJ_C_disc
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
Age (yr)

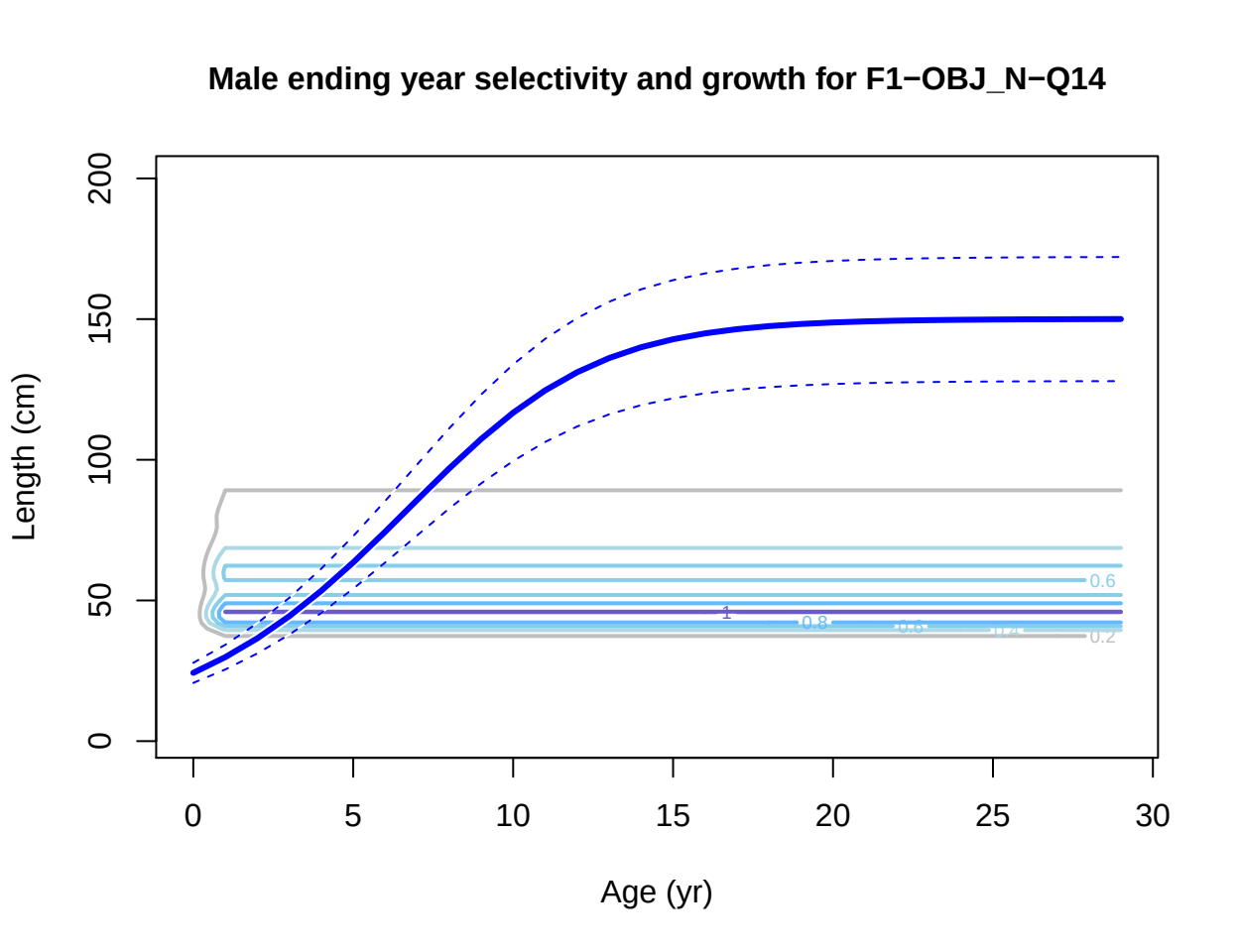

Female ending year selectivity for F27−OBJ_I_disc
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
Age (yr)

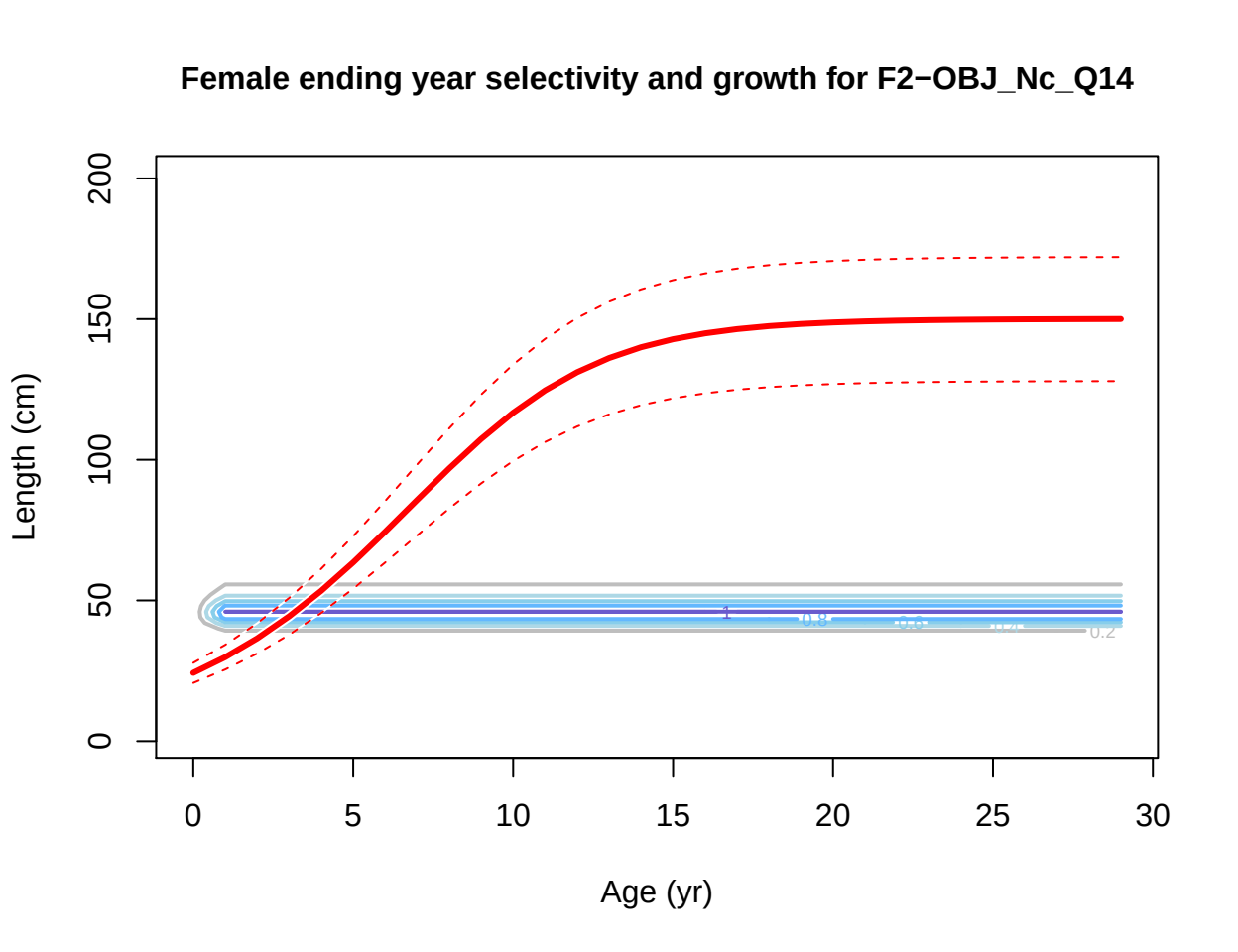

Male ending year selectivity for F27−OBJ_I_disc
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
Age (yr)

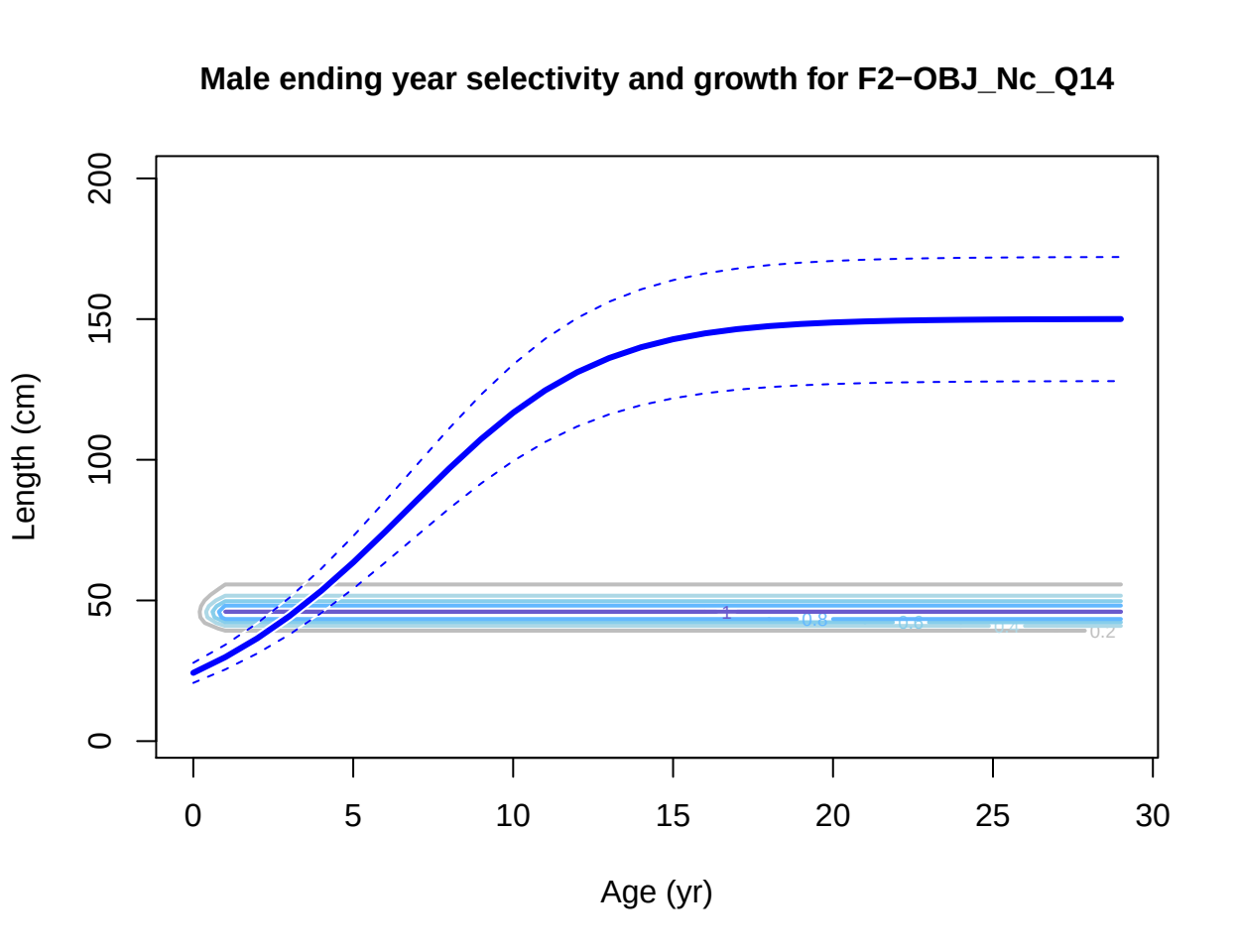

Female ending year selectivity for F28−OBJ_N_disc
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
Age (yr)

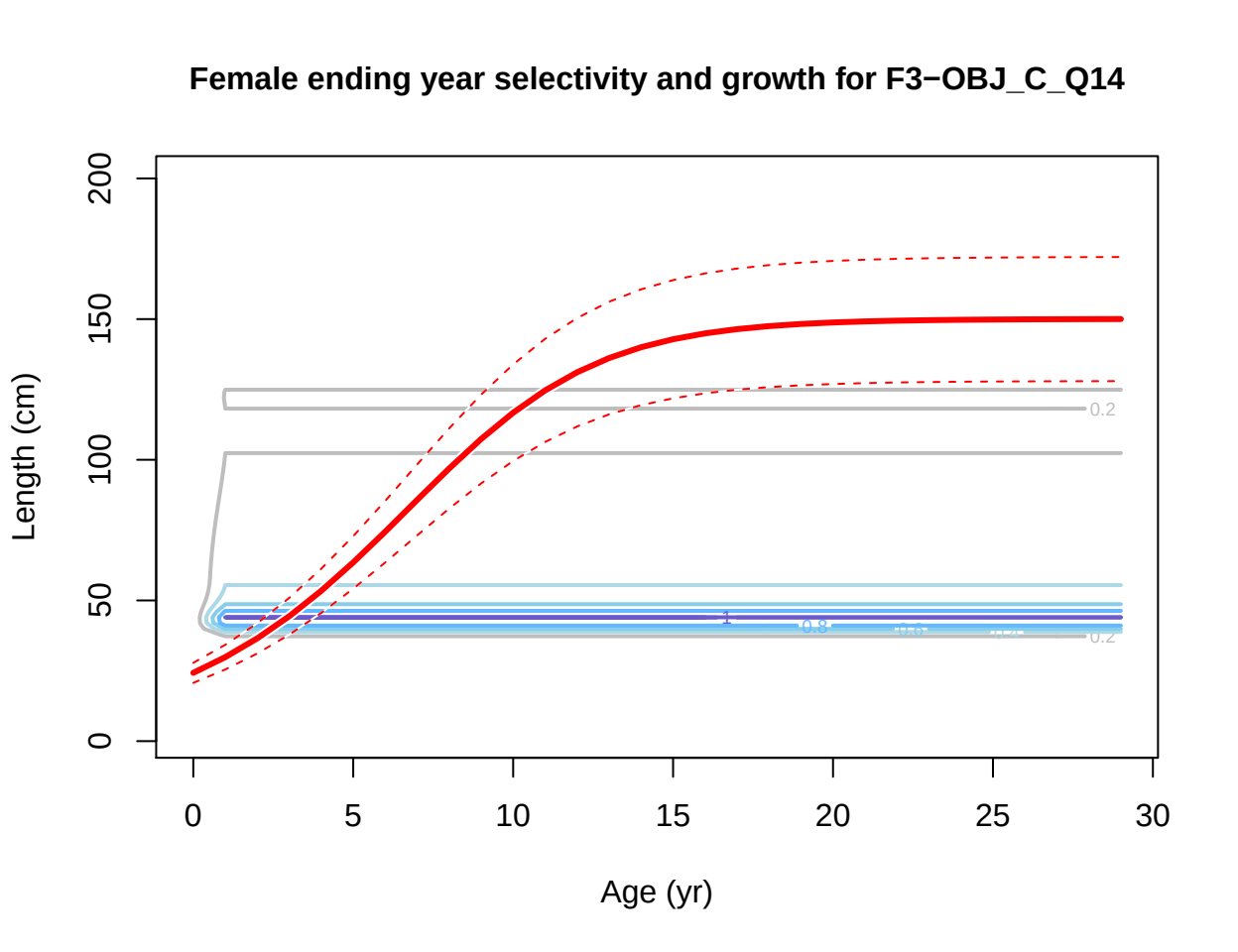

Male ending year selectivity for F28−OBJ_N_disc
Selectivity
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
Age (yr)

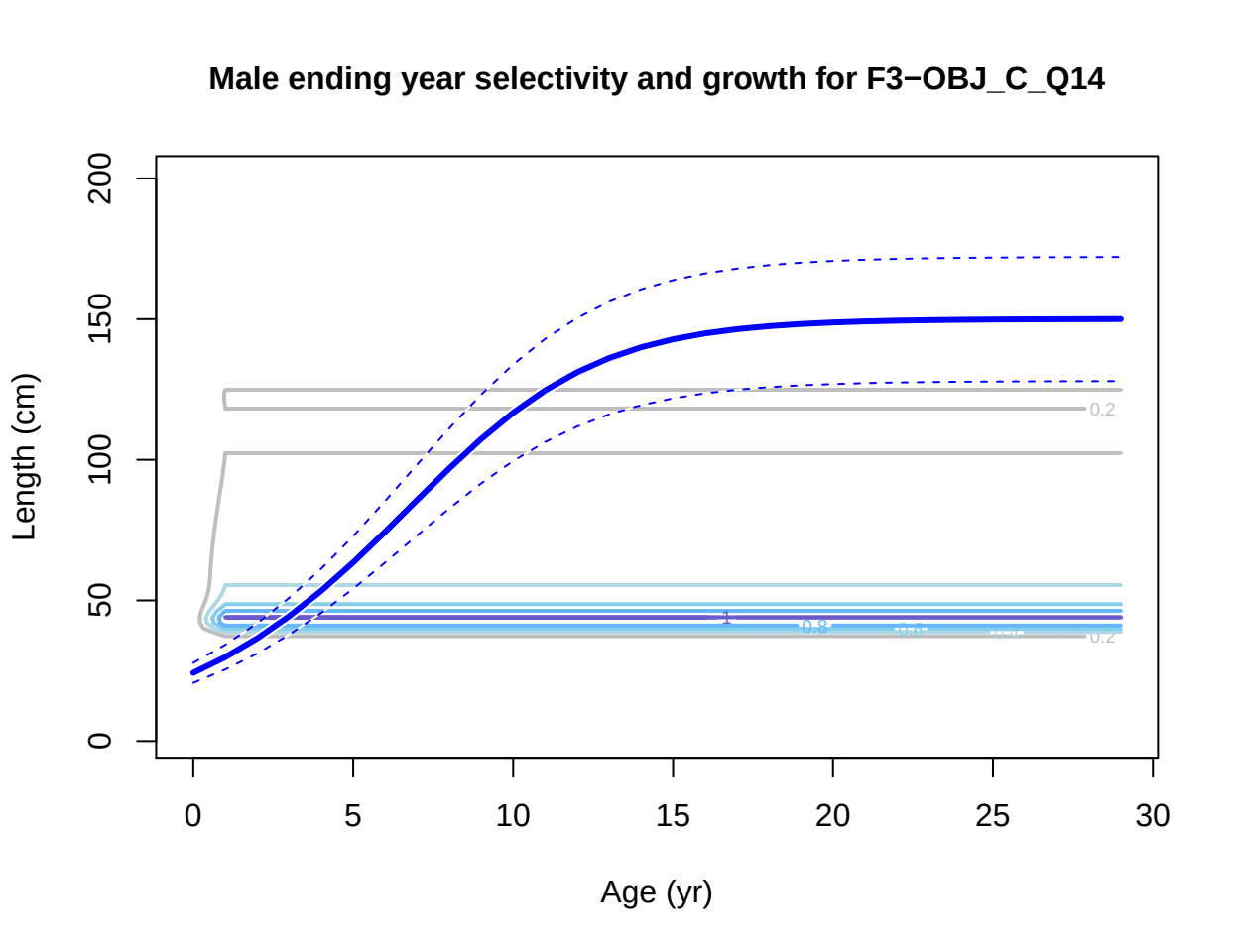

Female ending year selectivity and growth for F1−OBJ_N−Q14
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.6
1
0.8
0.2

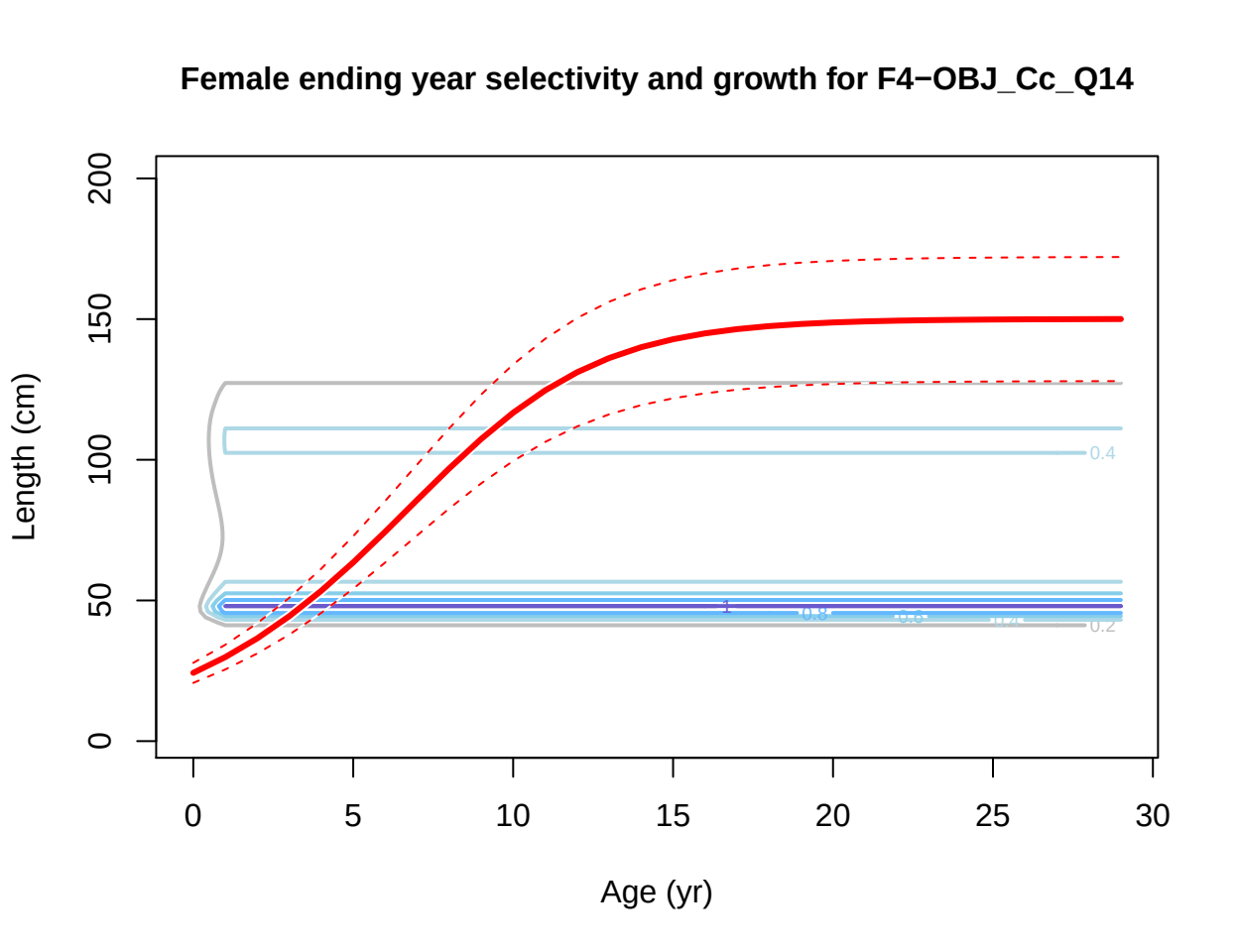

Male ending year selectivity and growth for F1−OBJ_N−Q14
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.6
1
0.8
0.2

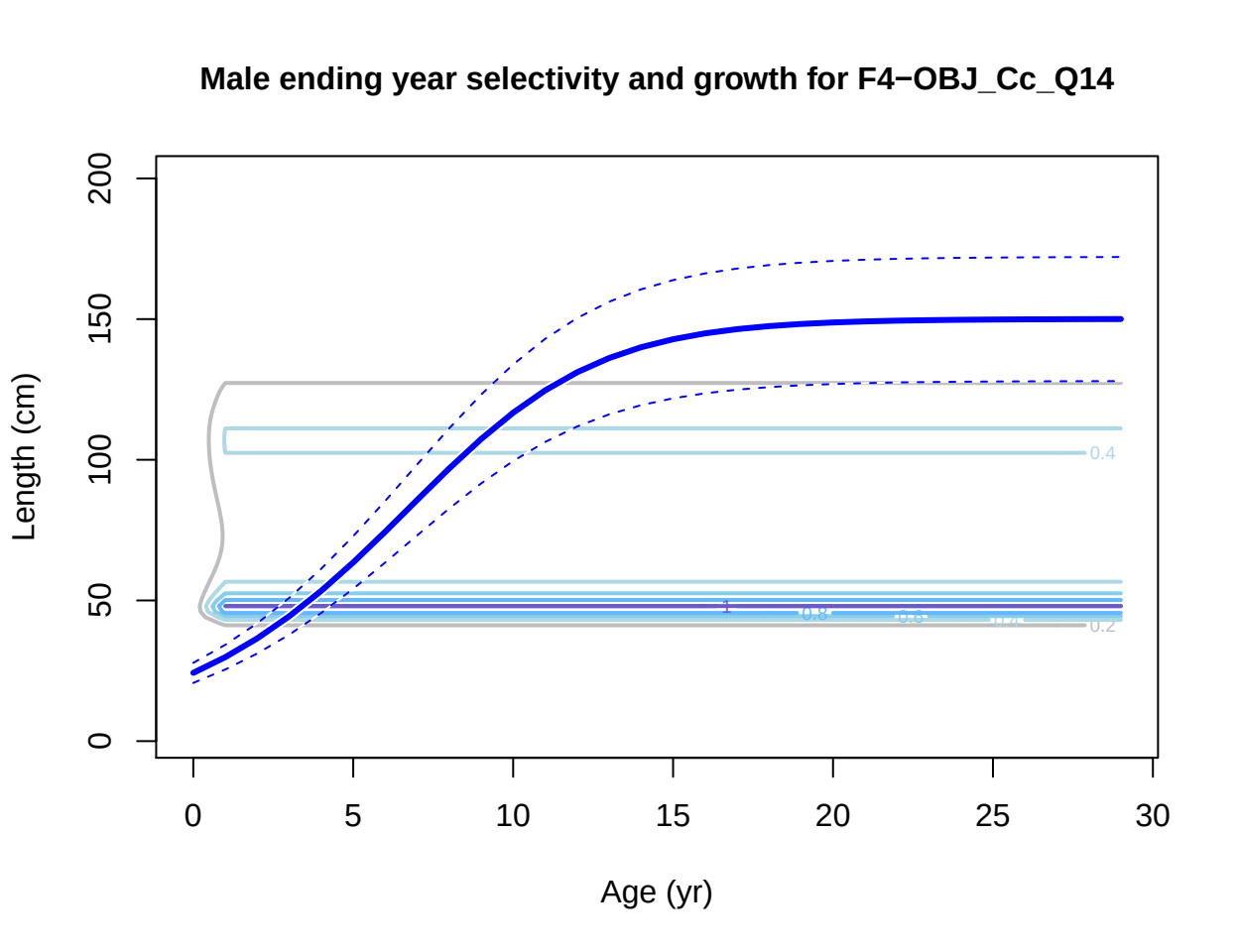

Female ending year selectivity and growth for F2−OBJ_Nc_Q14
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.2

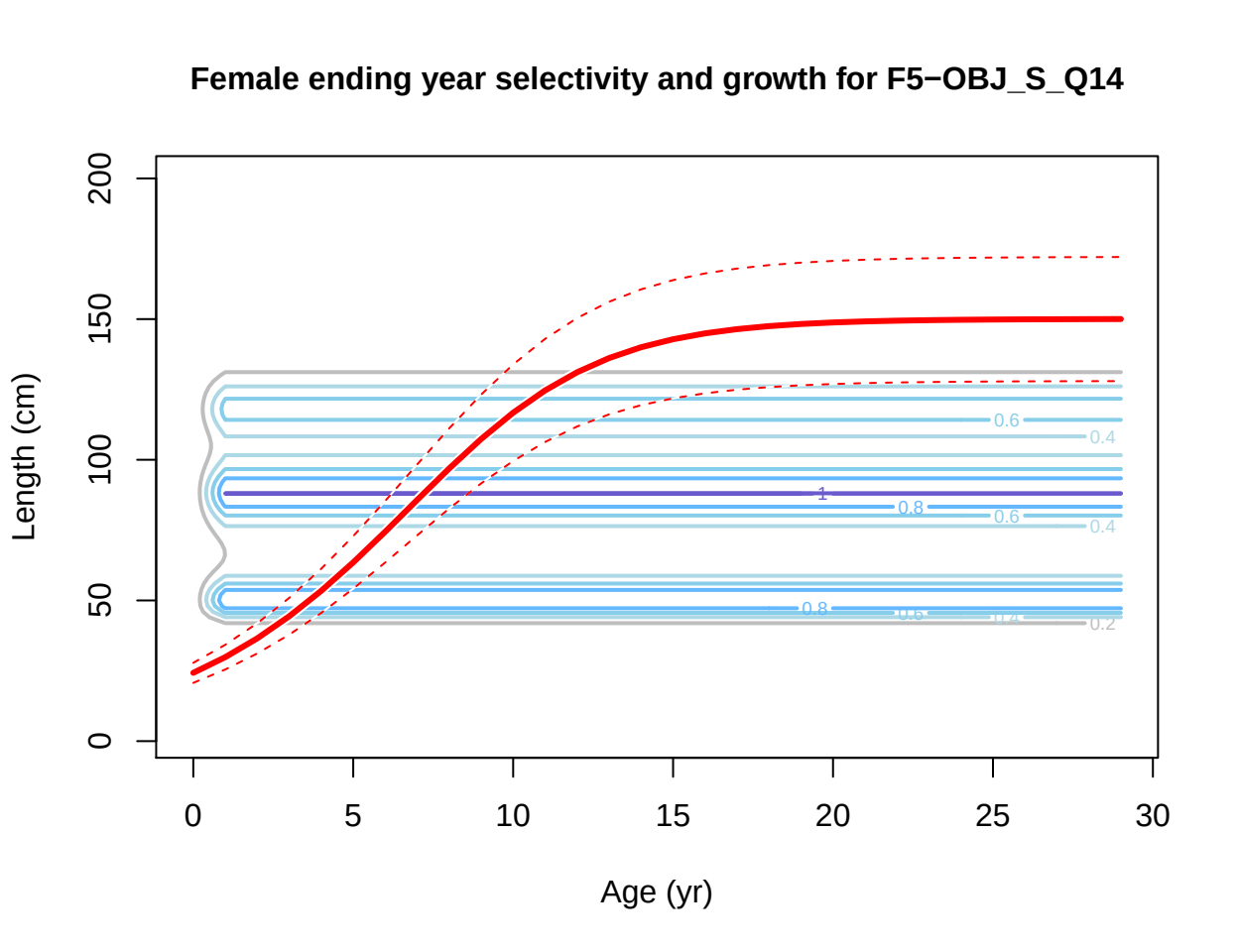

Male ending year selectivity and growth for F2−OBJ_Nc_Q14
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.2

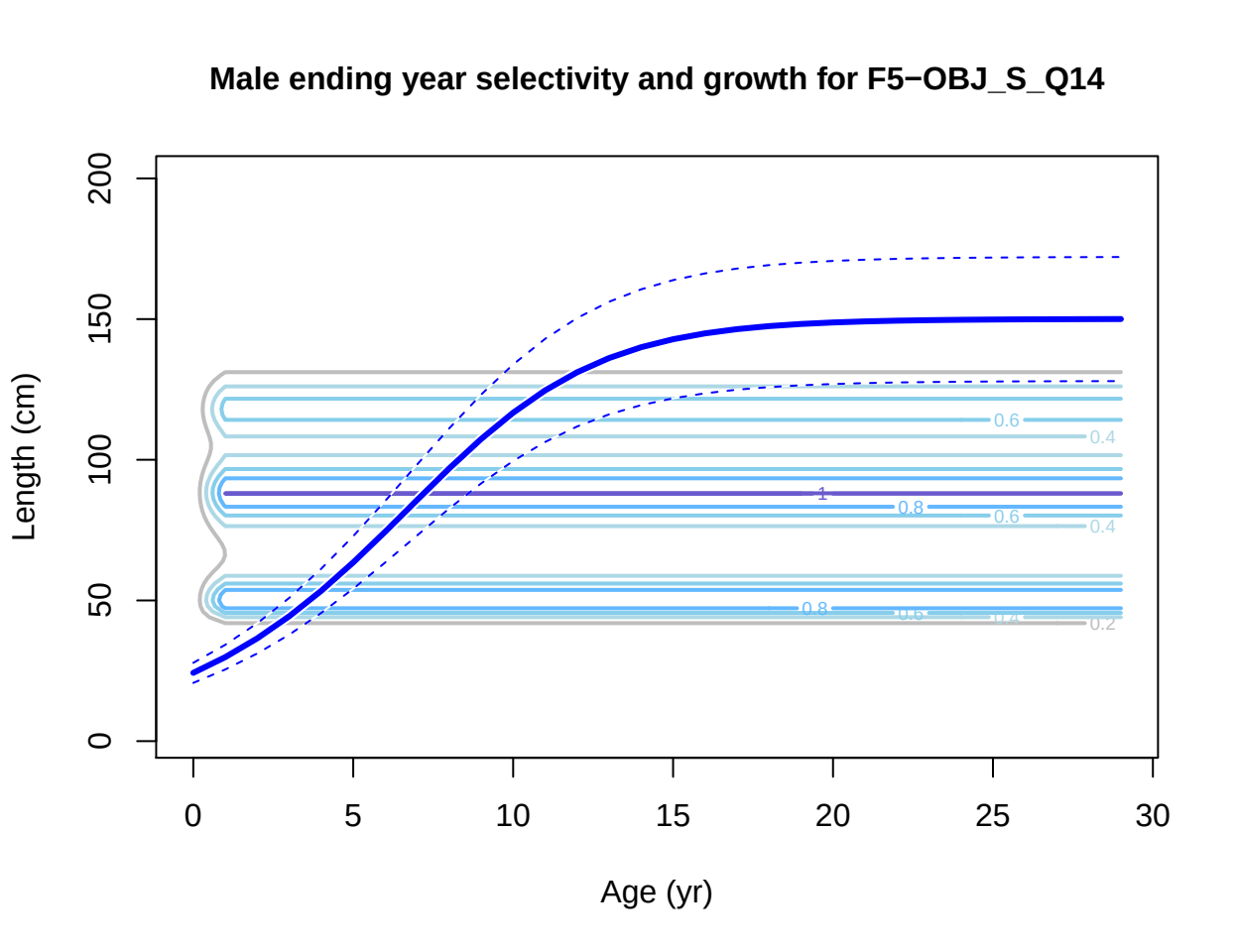

Female ending year selectivity and growth for F3−OBJ_C_Q14
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.2
1
0.8
0.2

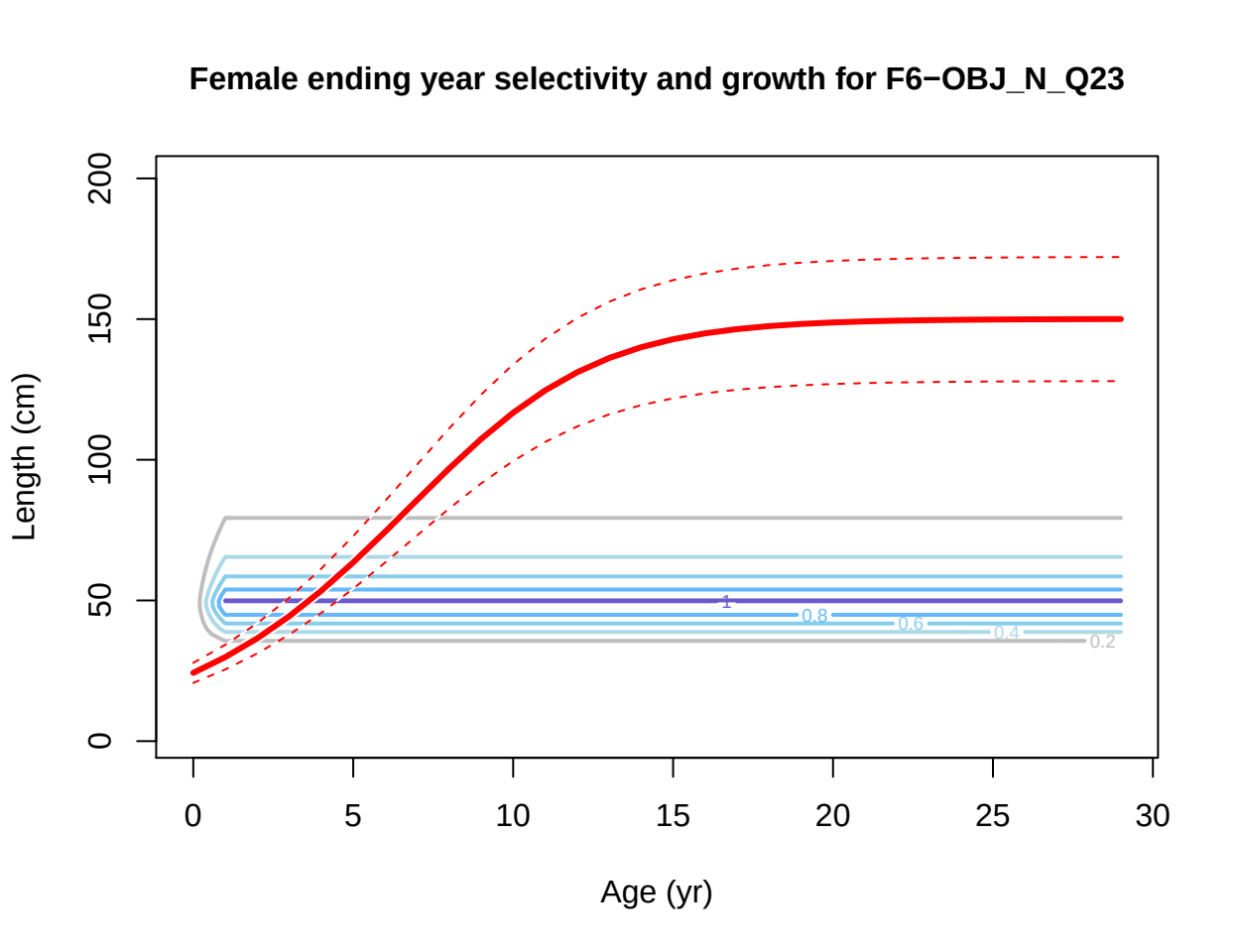

Male ending year selectivity and growth for F3−OBJ_C_Q14
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.2
1
0.8
0.2

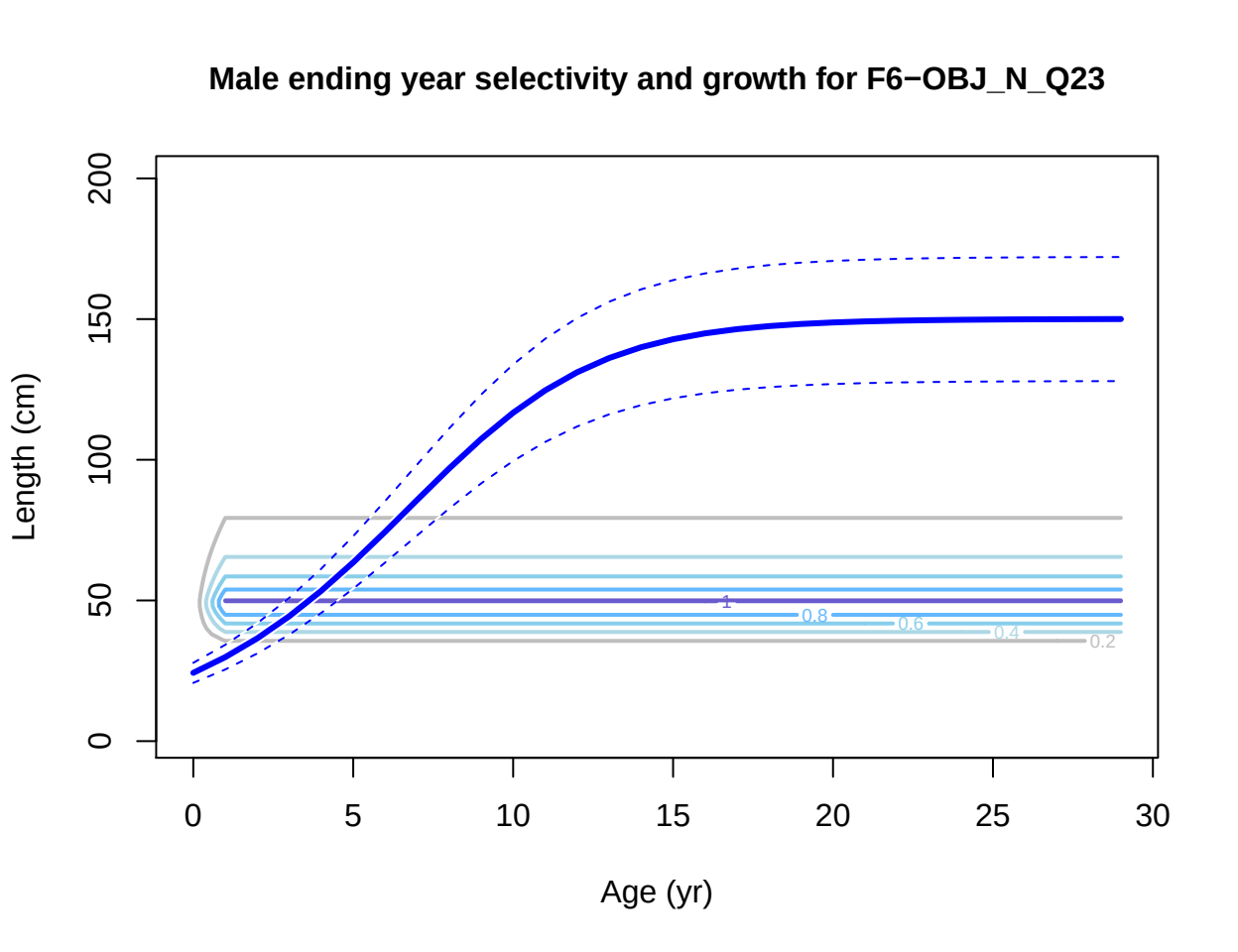

Female ending year selectivity and growth for F4−OBJ_Cc_Q14
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.4
0.2

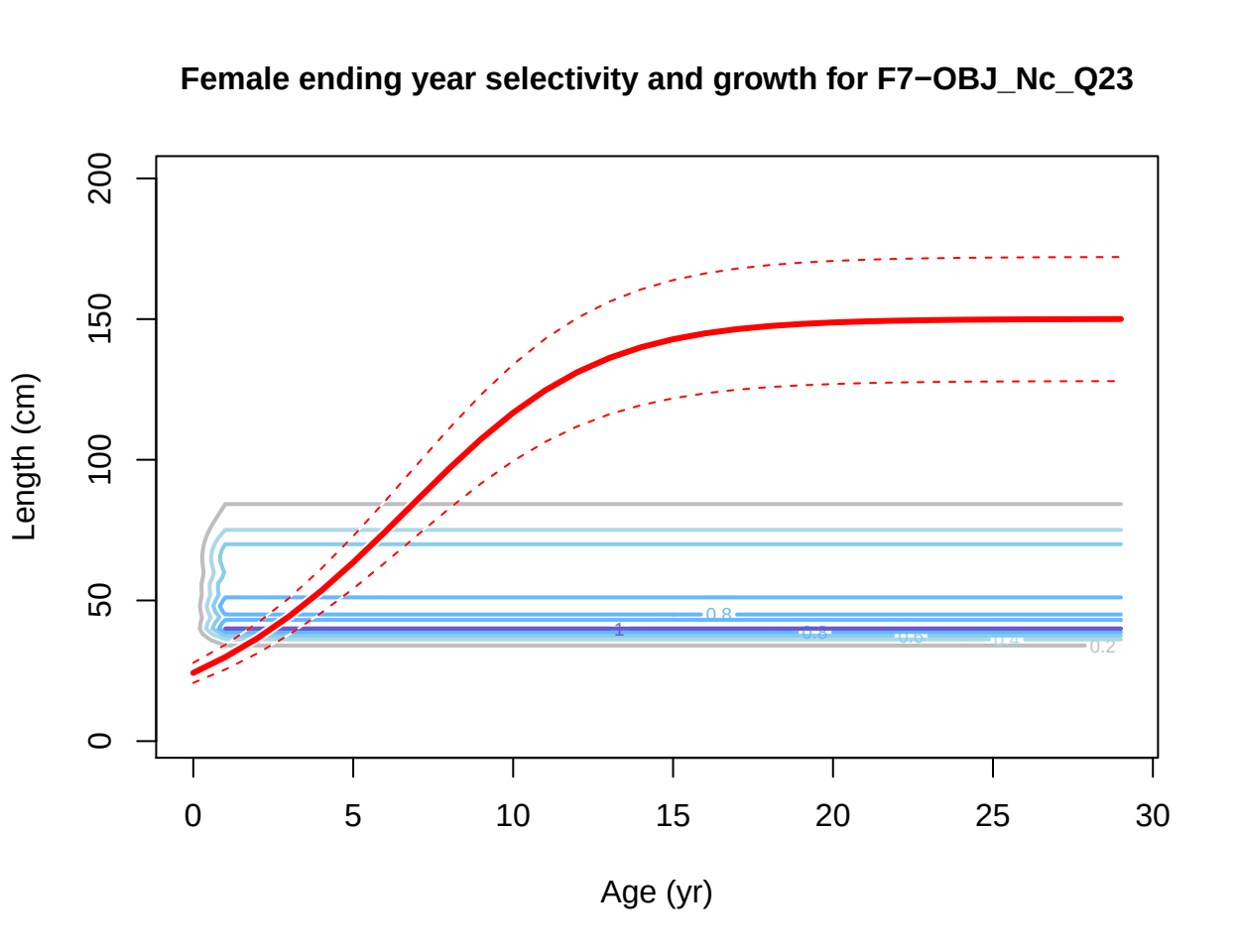

Male ending year selectivity and growth for F4−OBJ_Cc_Q14
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.4
0.2

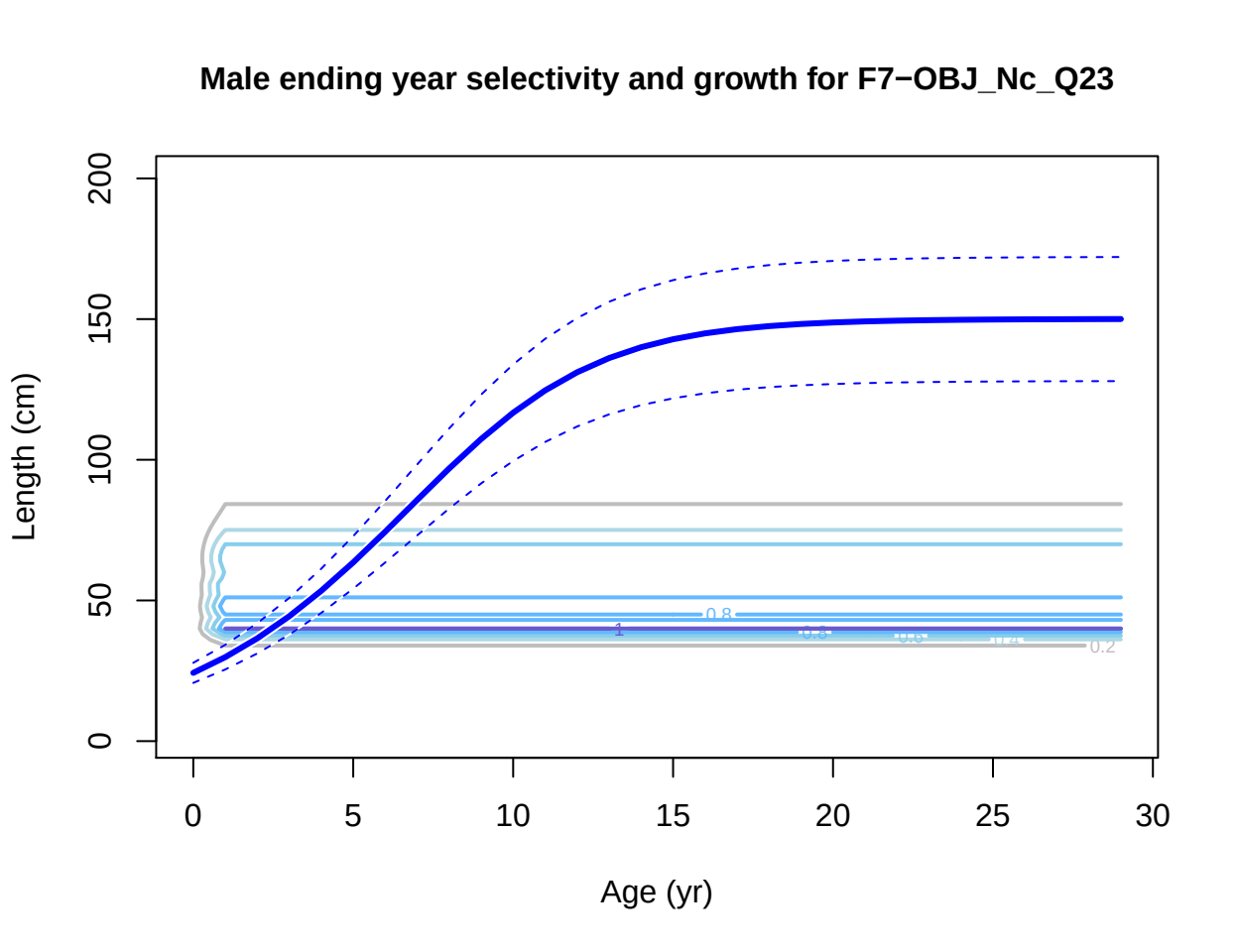

Female ending year selectivity and growth for F5−OBJ_S_Q14
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.6
0.4
1
0.8
0.6
0.4
0.8
0.2

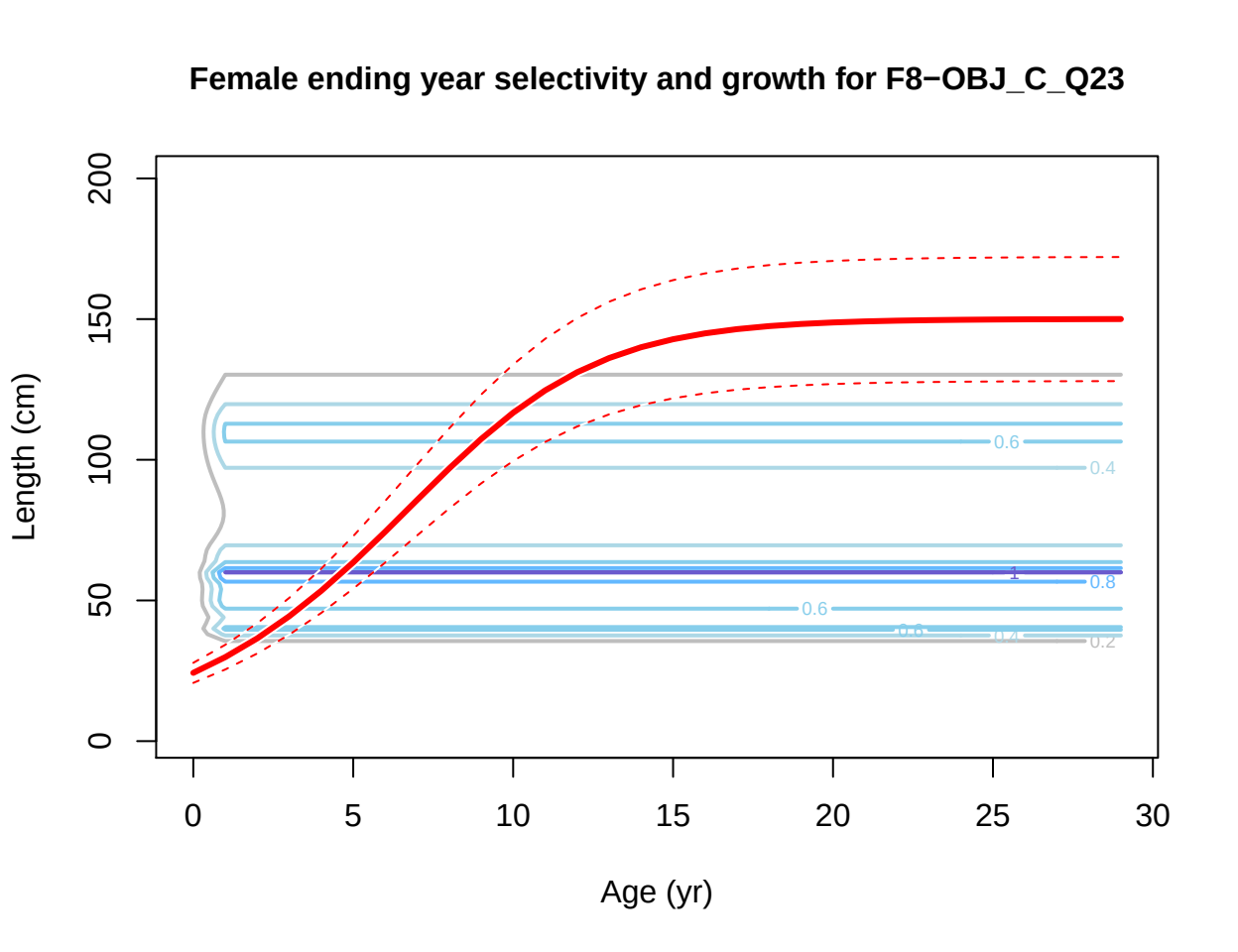

Male ending year selectivity and growth for F5−OBJ_S_Q14
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.6
0.4
1
0.8
0.6
0.4
0.8
0.2

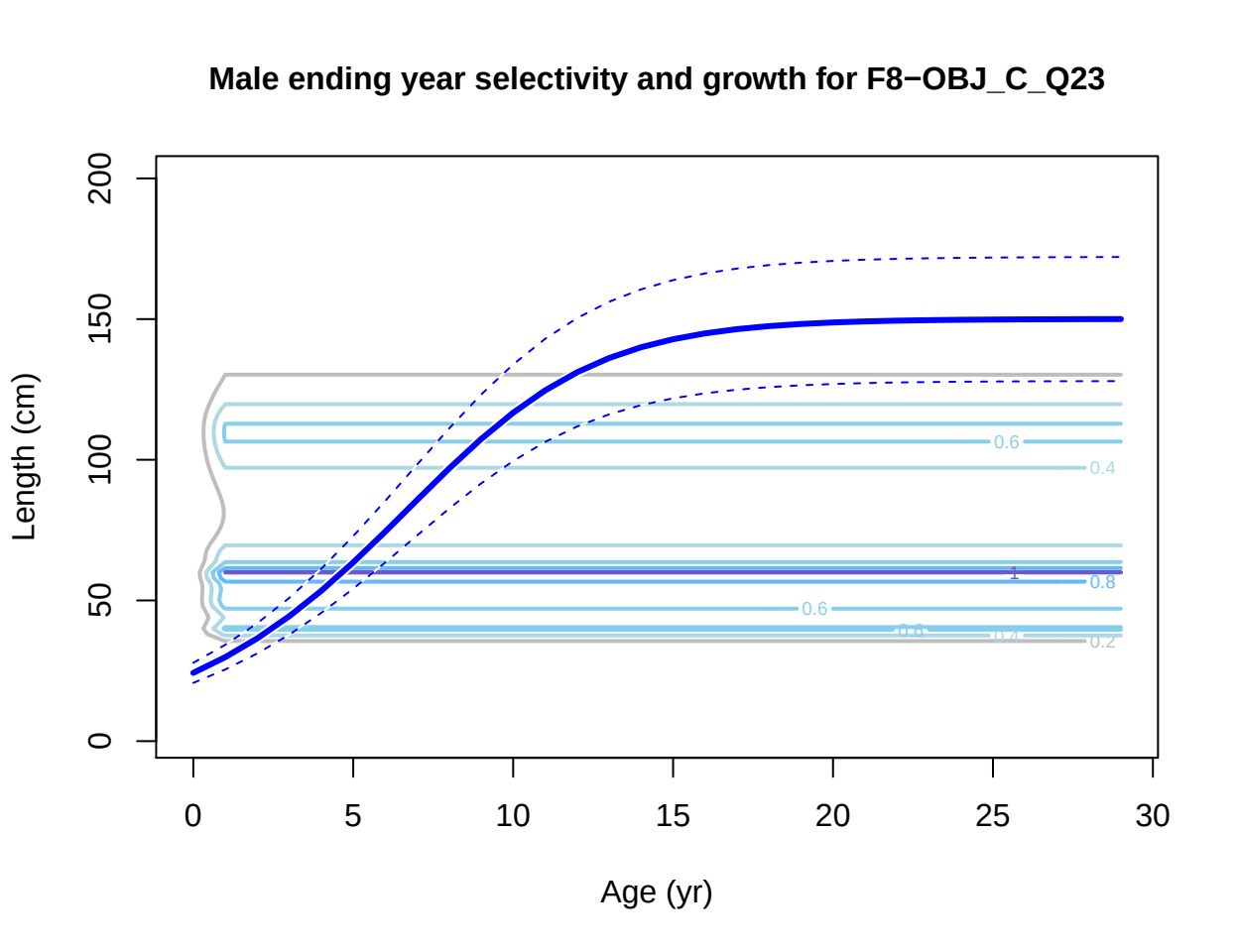

Female ending year selectivity and growth for F6−OBJ_N_Q23
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

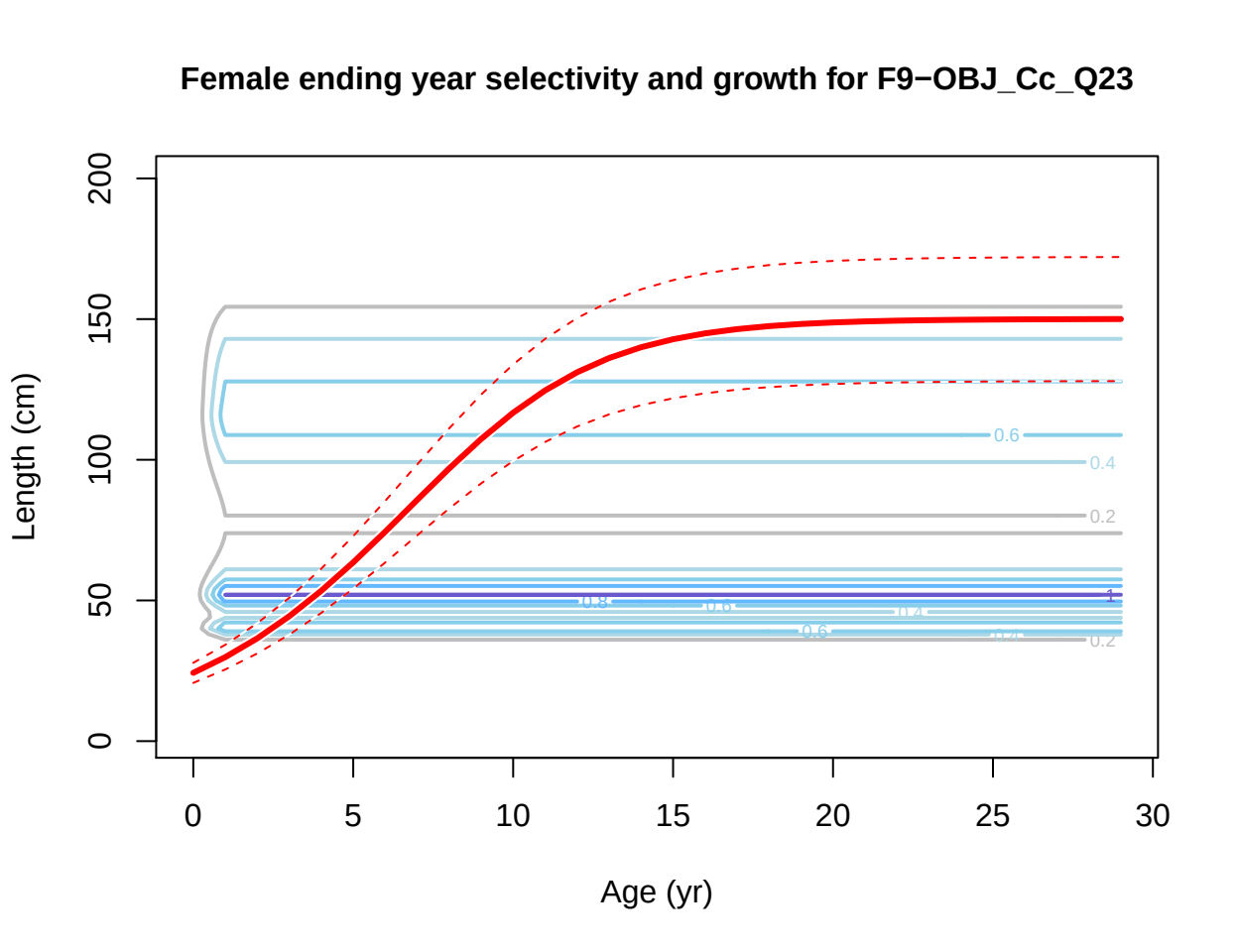

Male ending year selectivity and growth for F6−OBJ_N_Q23
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

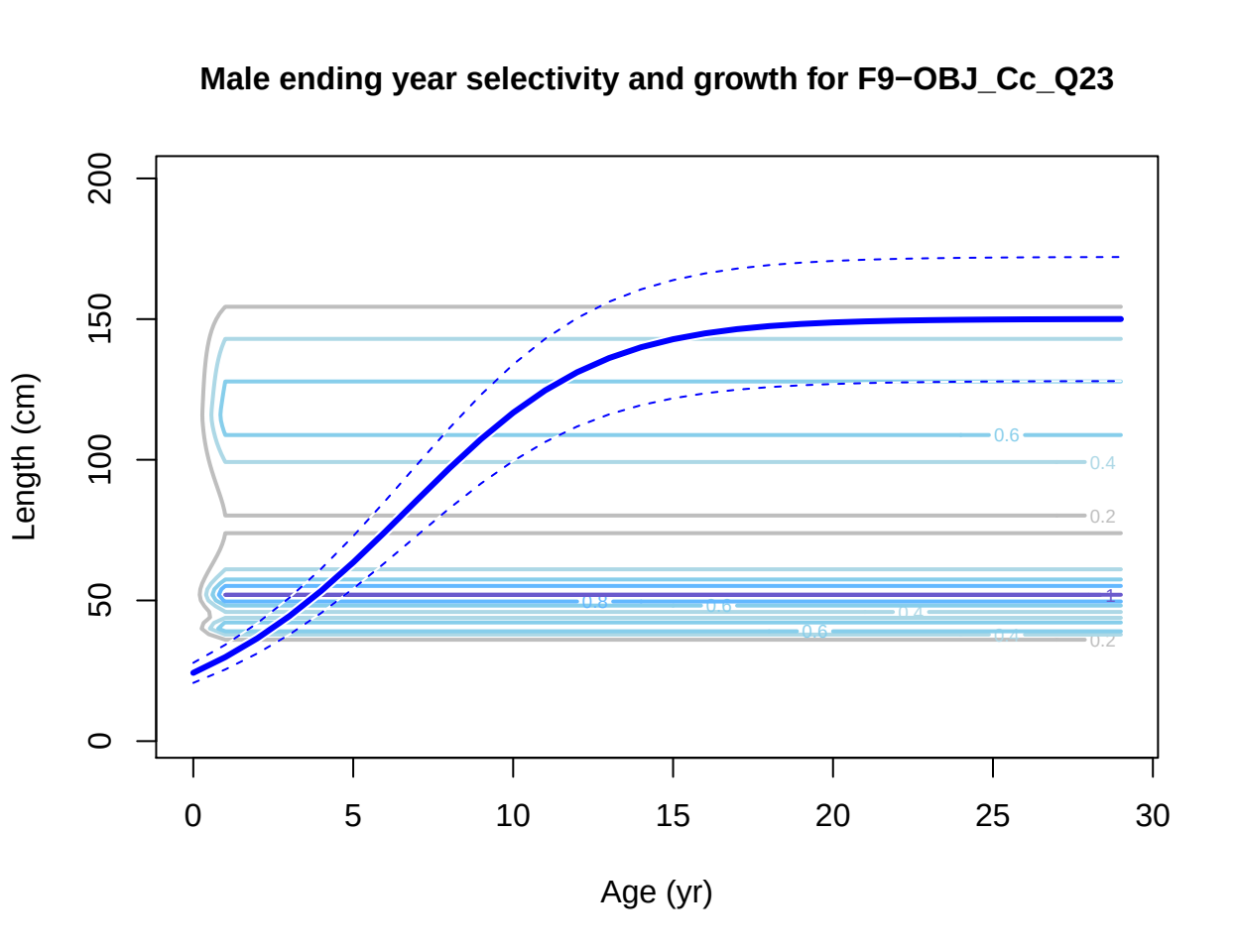

Female ending year selectivity and growth for F7−OBJ_Nc_Q23
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.8
1
0.2

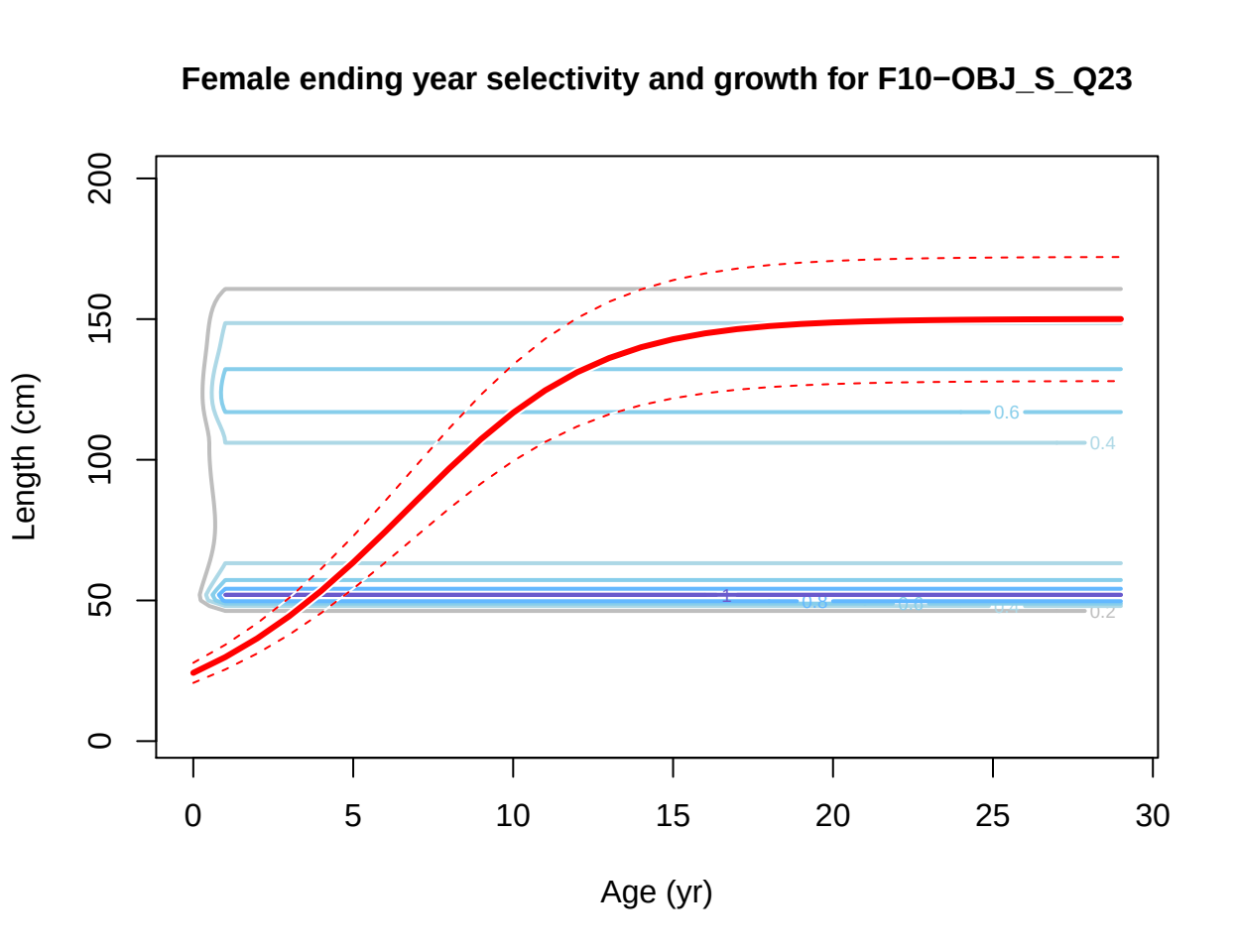

Male ending year selectivity and growth for F7−OBJ_Nc_Q23
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.8
1
0.2

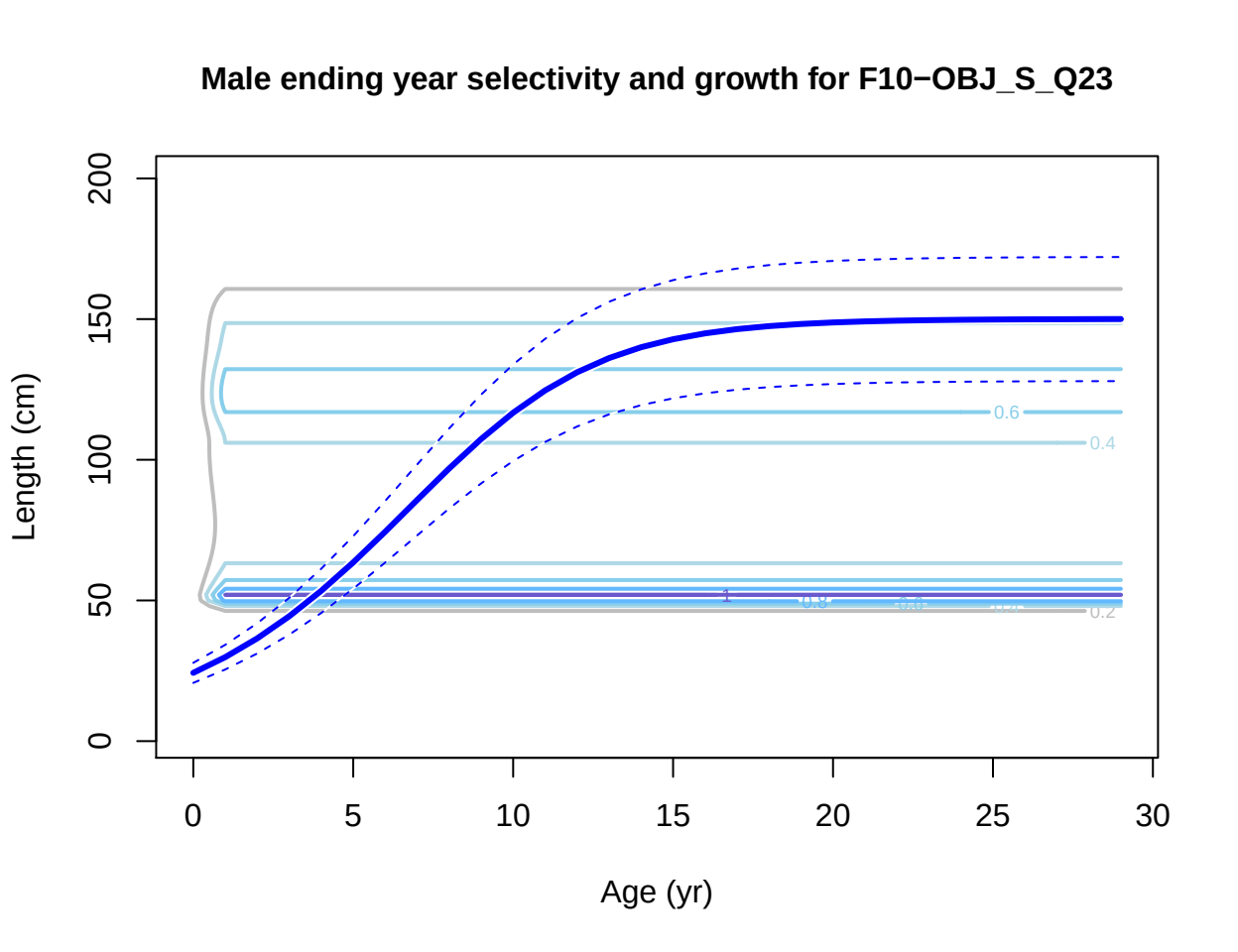

Female ending year selectivity and growth for F8−OBJ_C_Q23
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.6
0.4
1
0.8
0.6
0.2

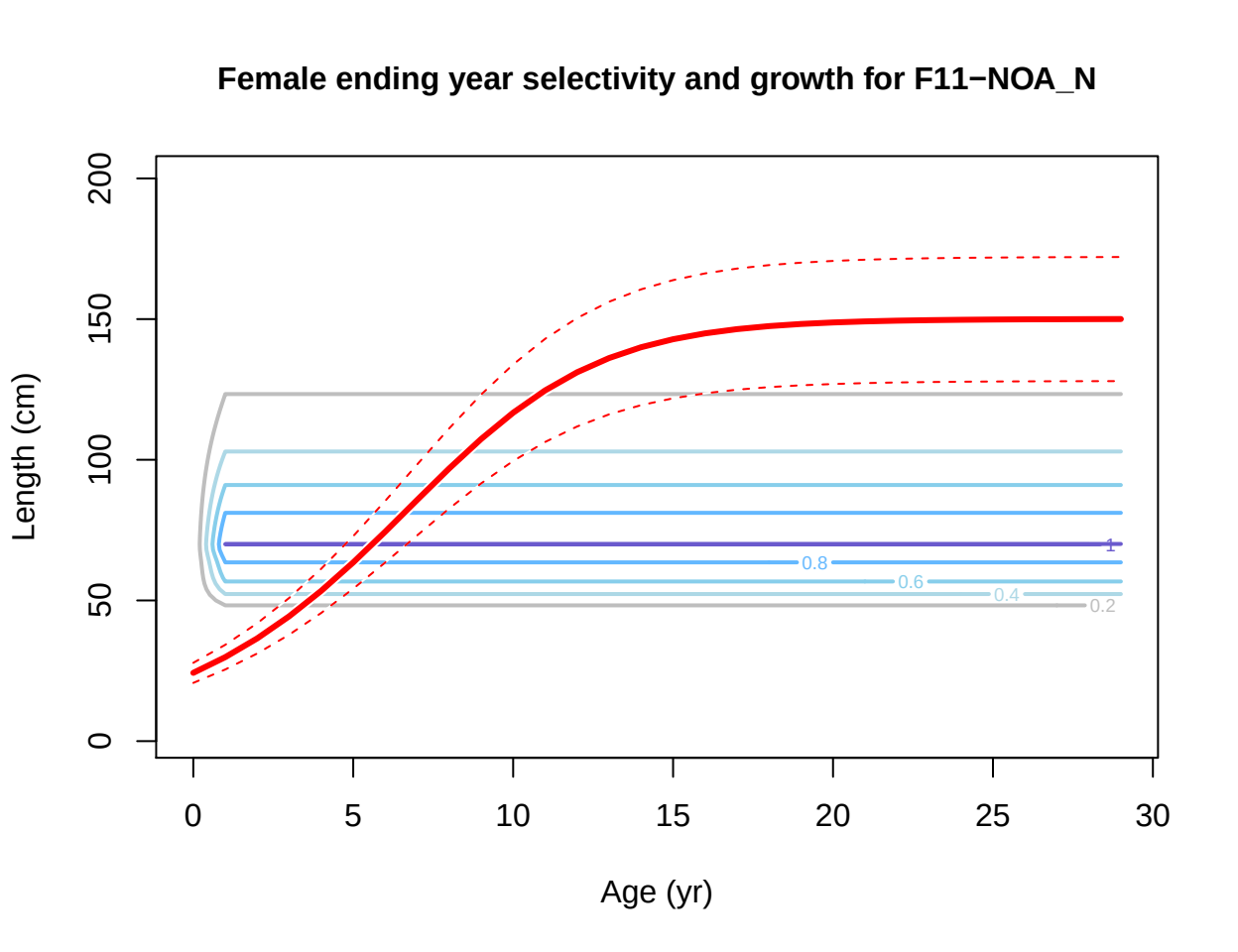

Male ending year selectivity and growth for F8−OBJ_C_Q23
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.6
0.4
1
0.8
0.6
0.2

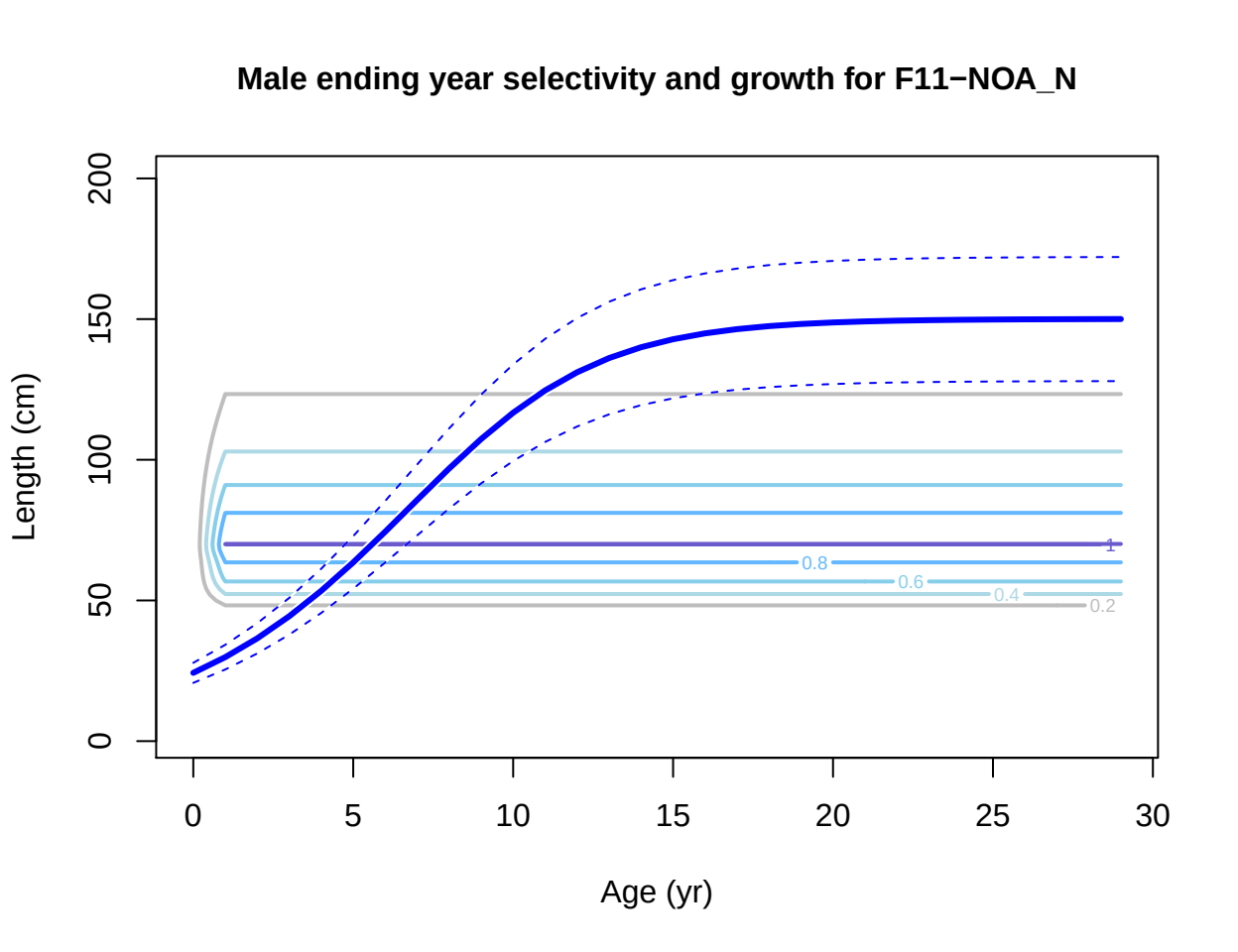

Female ending year selectivity and growth for F9−OBJ_Cc_Q23
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.6
0.4
0.2
1
0.2

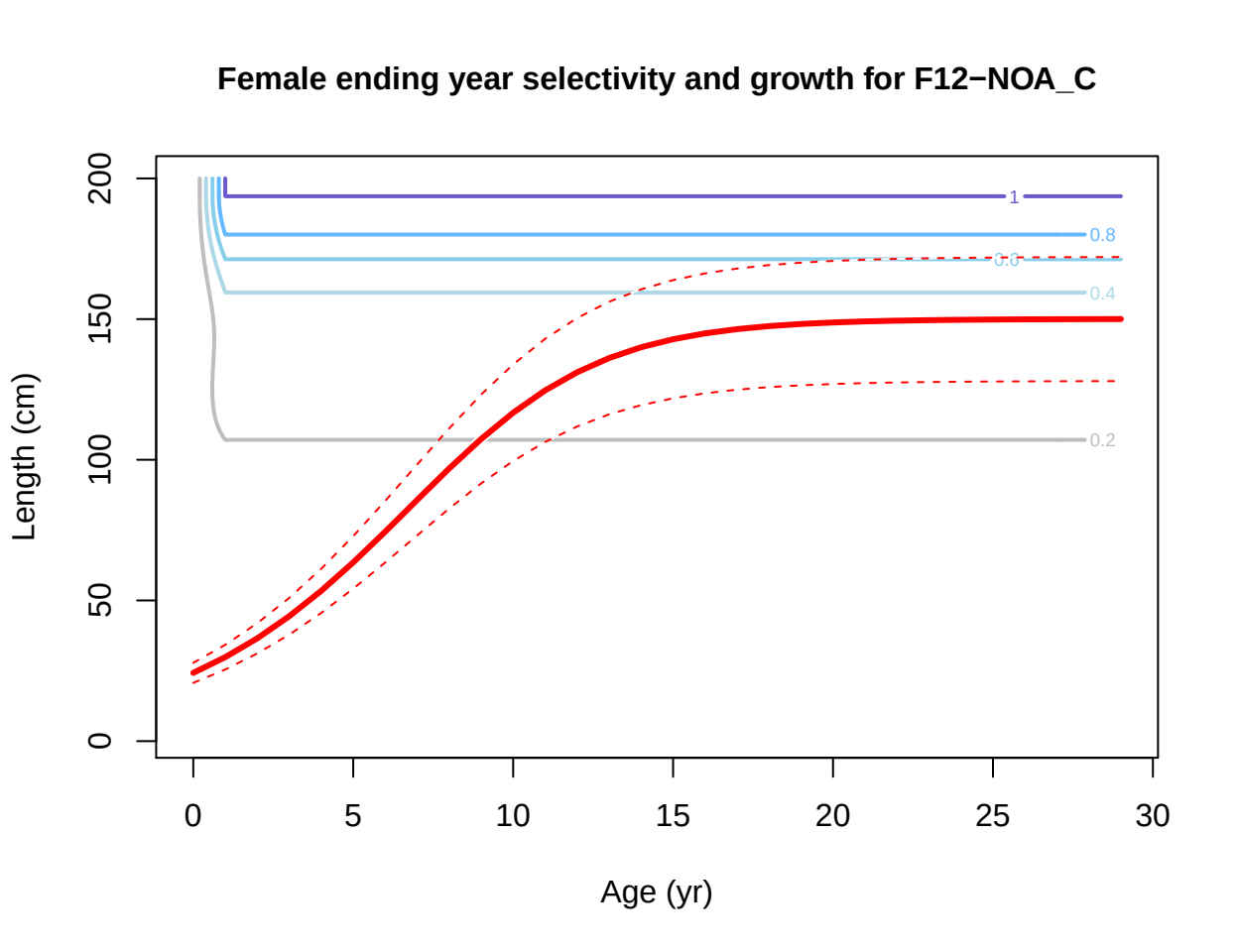

Male ending year selectivity and growth for F9−OBJ_Cc_Q23
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.6
0.4
0.2
1
0.2

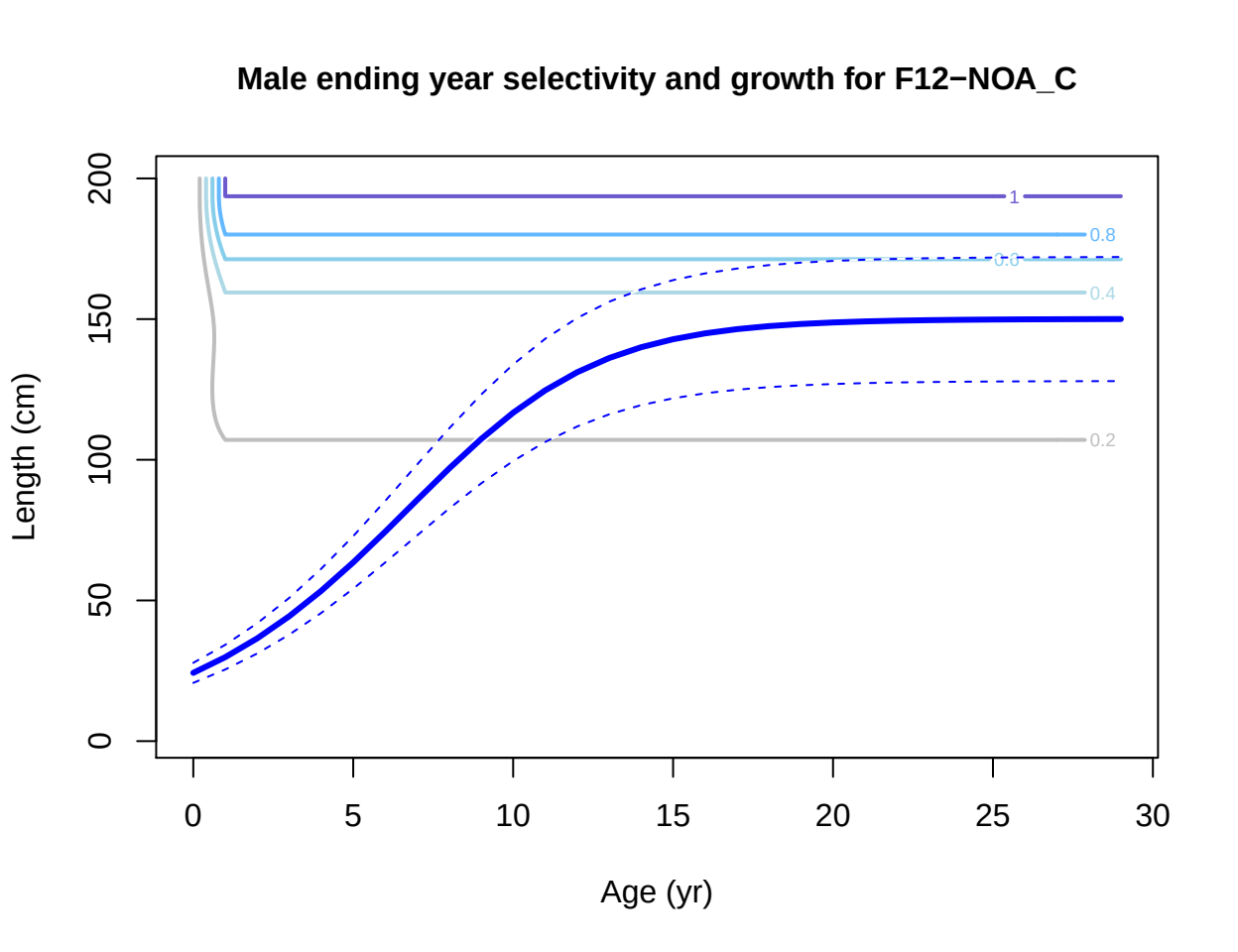

Female ending year selectivity and growth for F10−OBJ_S_Q23
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.6
0.4
0.2

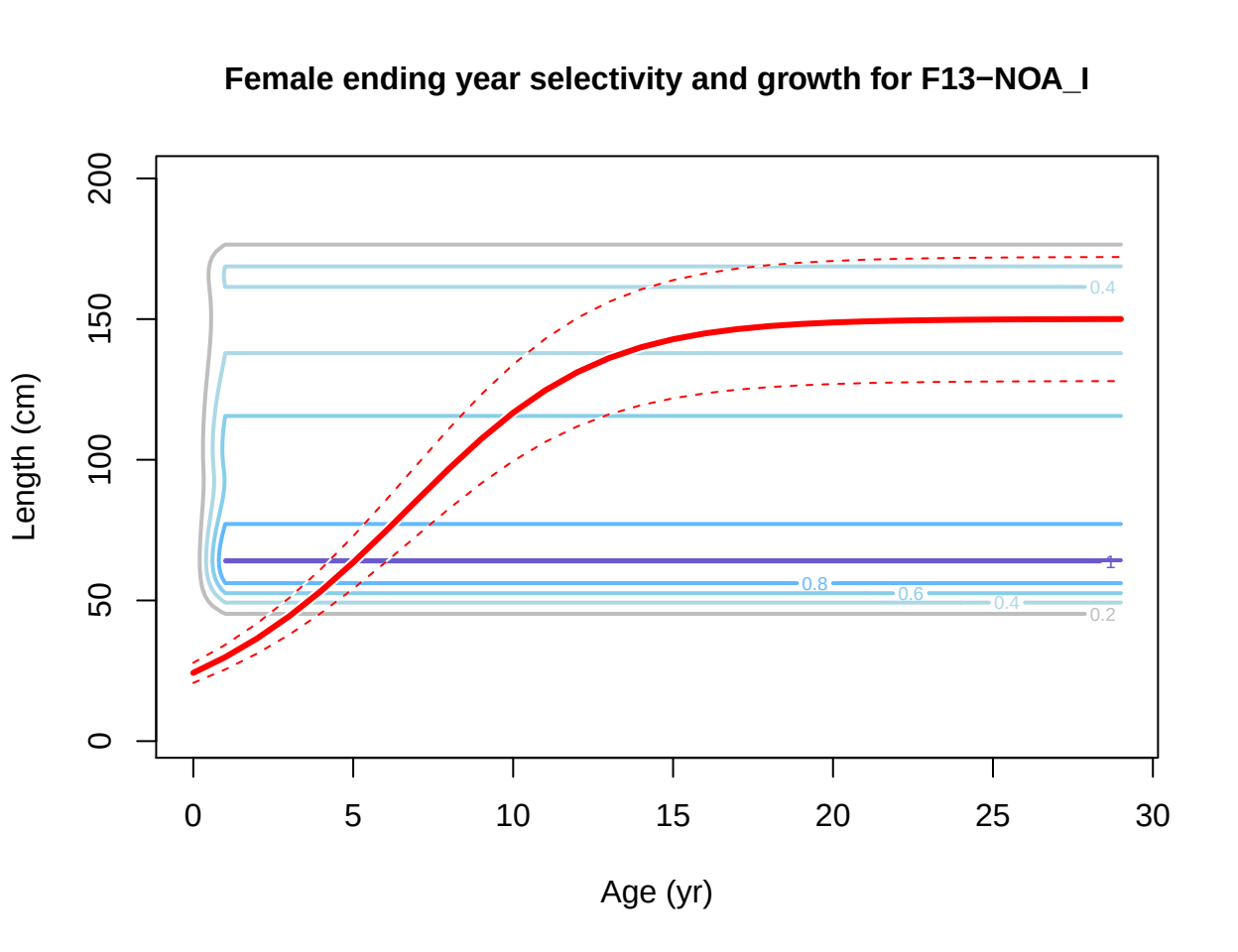

Male ending year selectivity and growth for F10−OBJ_S_Q23
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.6
0.4
0.2

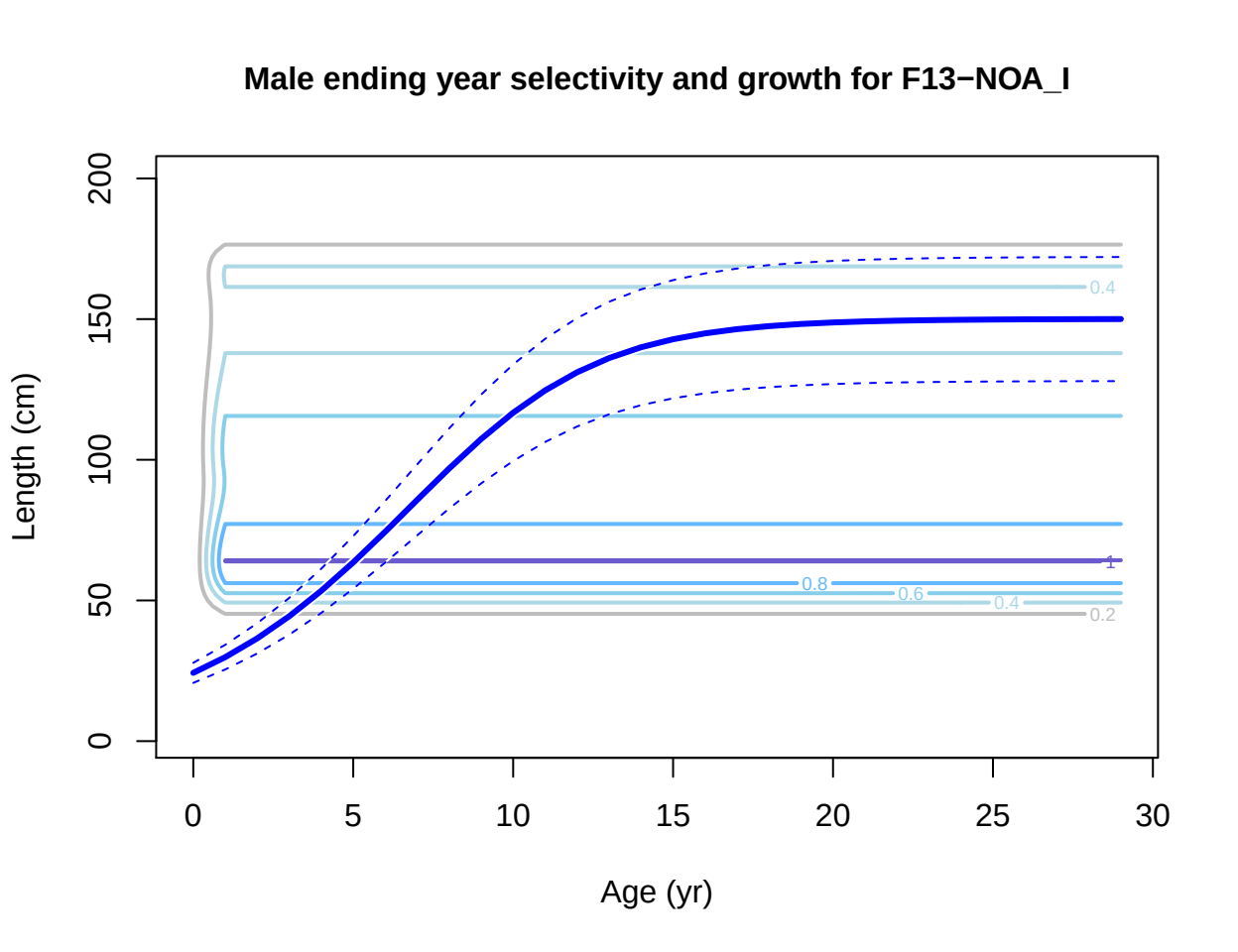

Female ending year selectivity and growth for F11−NOA_N
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

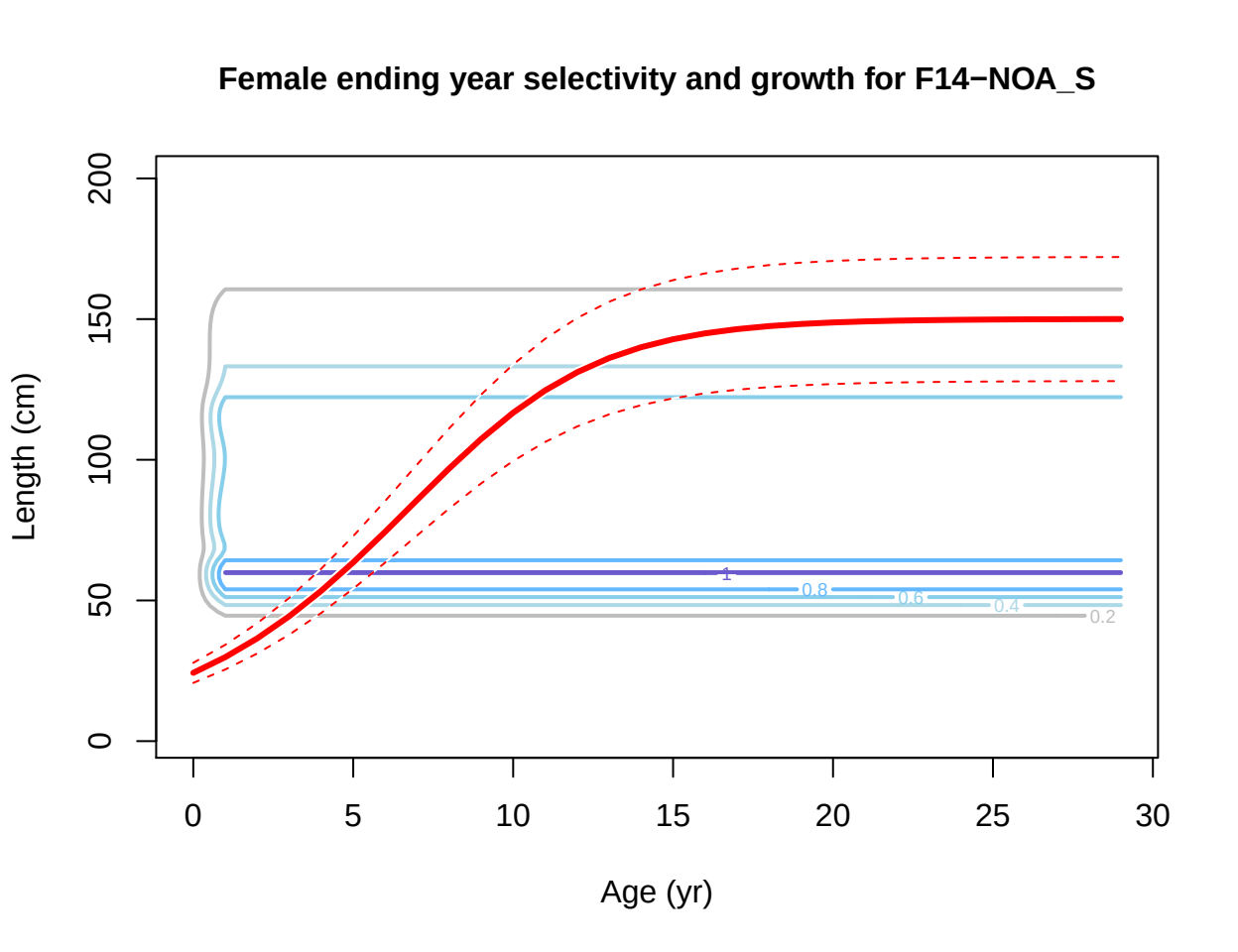

Male ending year selectivity and growth for F11−NOA_N
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

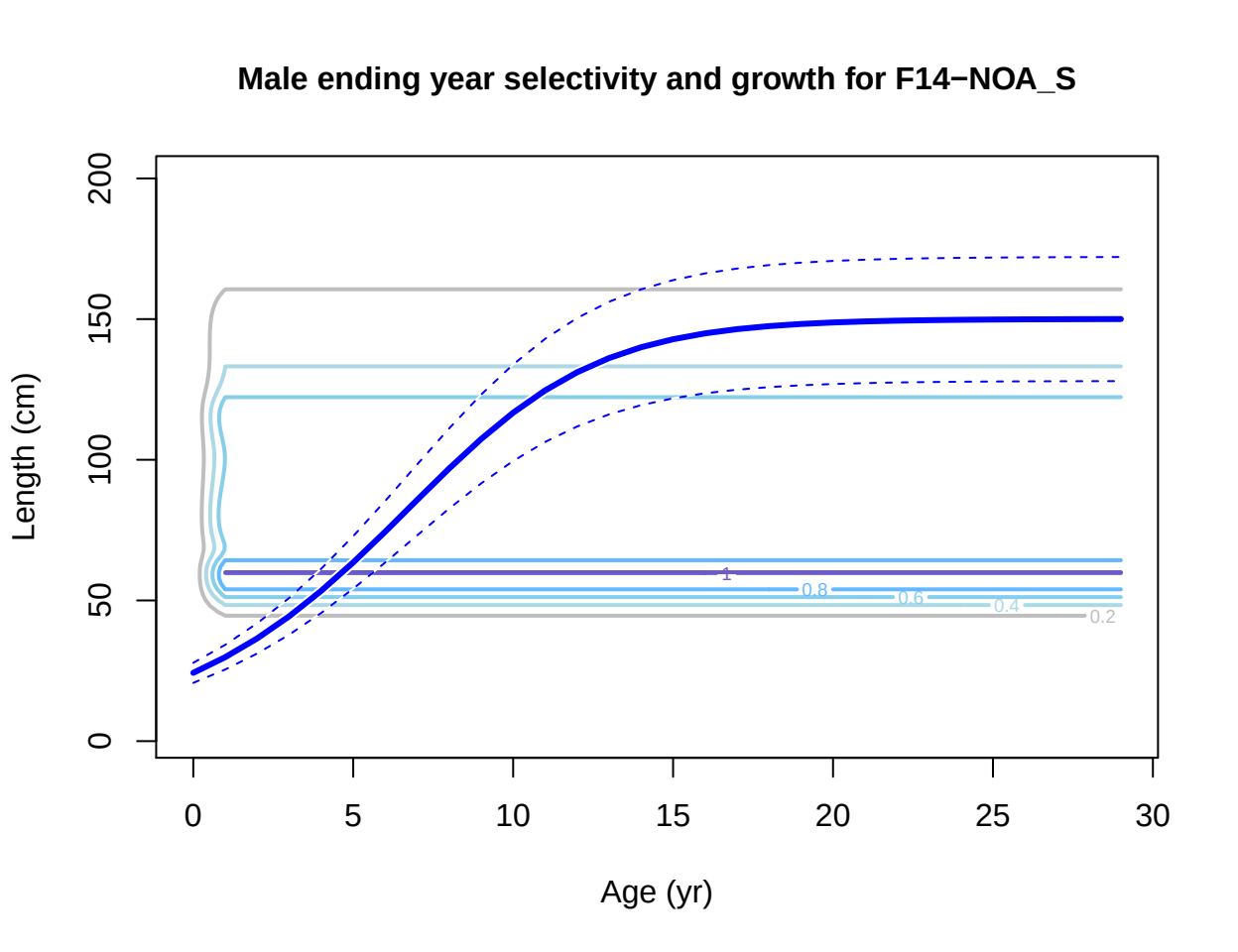

Female ending year selectivity and growth for F12−NOA_C
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

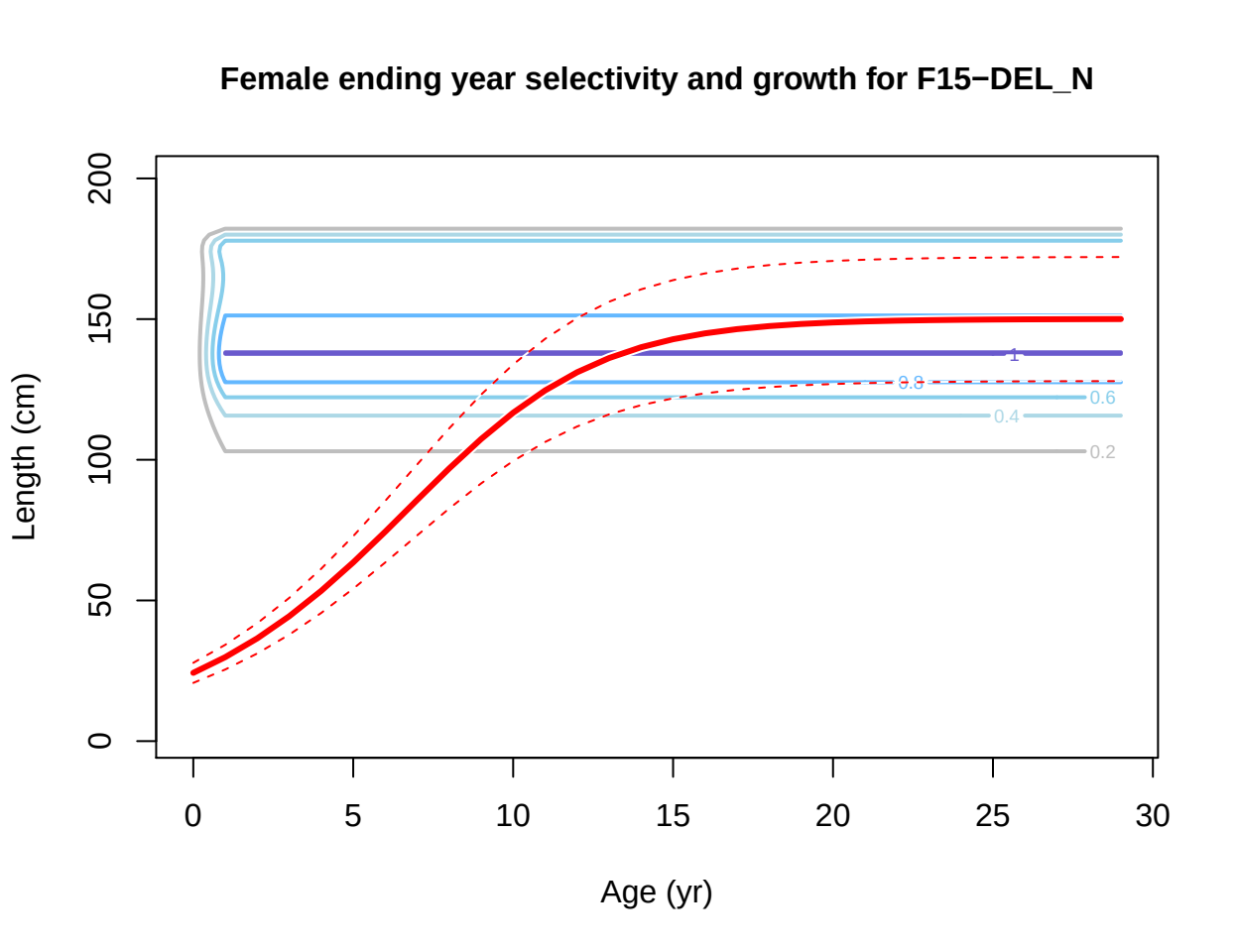

Male ending year selectivity and growth for F12−NOA_C
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

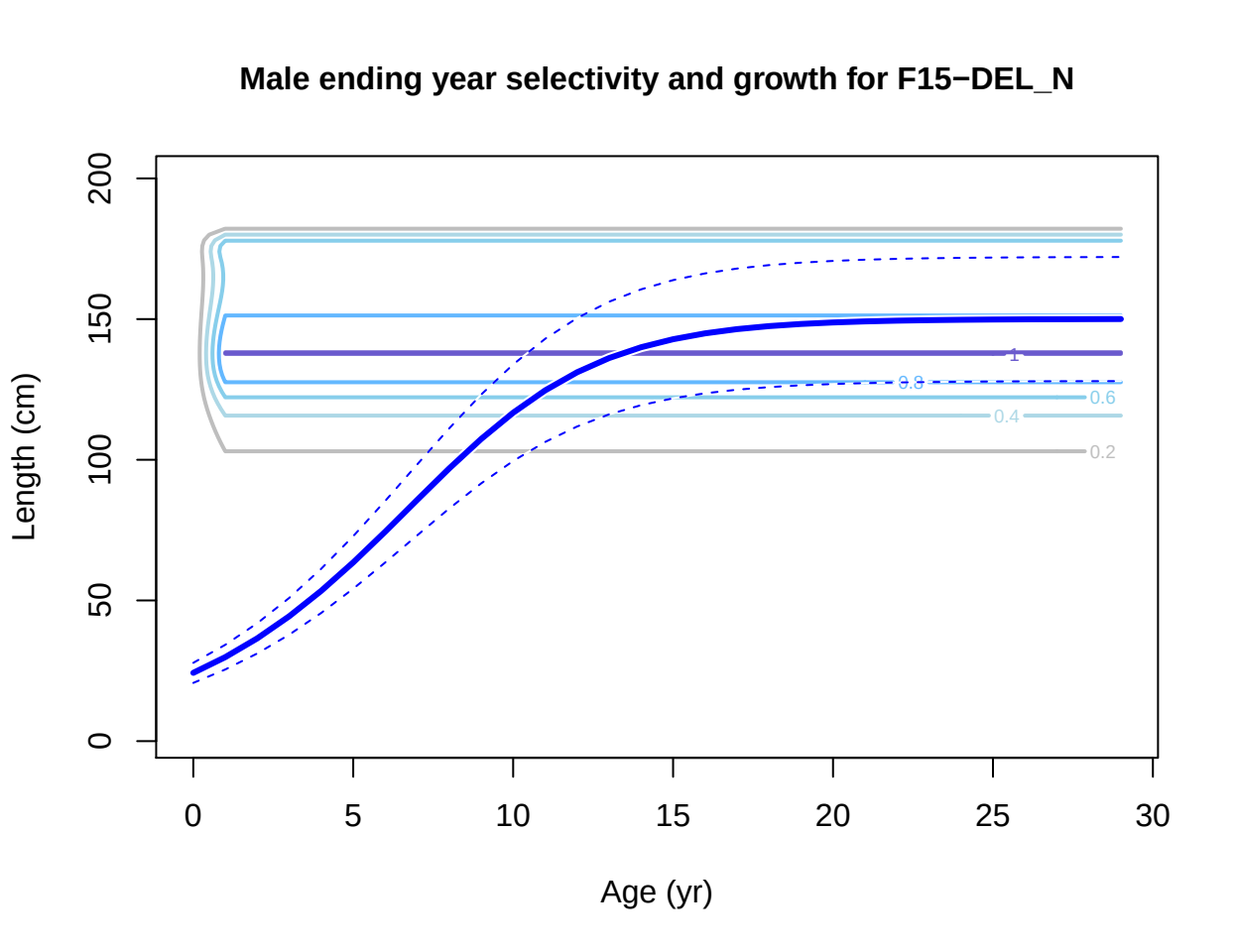

Female ending year selectivity and growth for F13−NOA_I
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.4
1
0.8
0.6
0.4
0.2

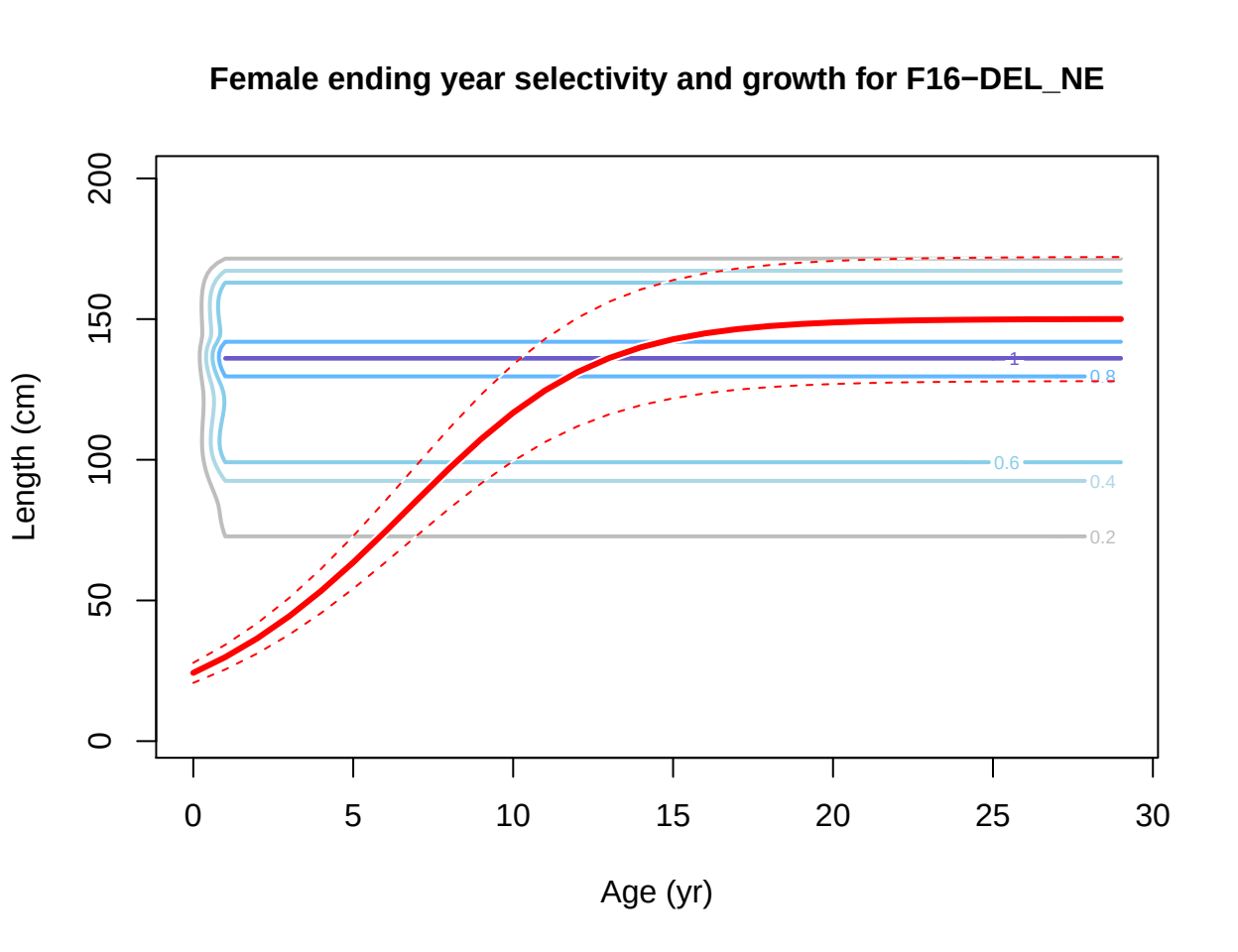

Male ending year selectivity and growth for F13−NOA_I
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.4
1
0.8
0.6
0.4
0.2

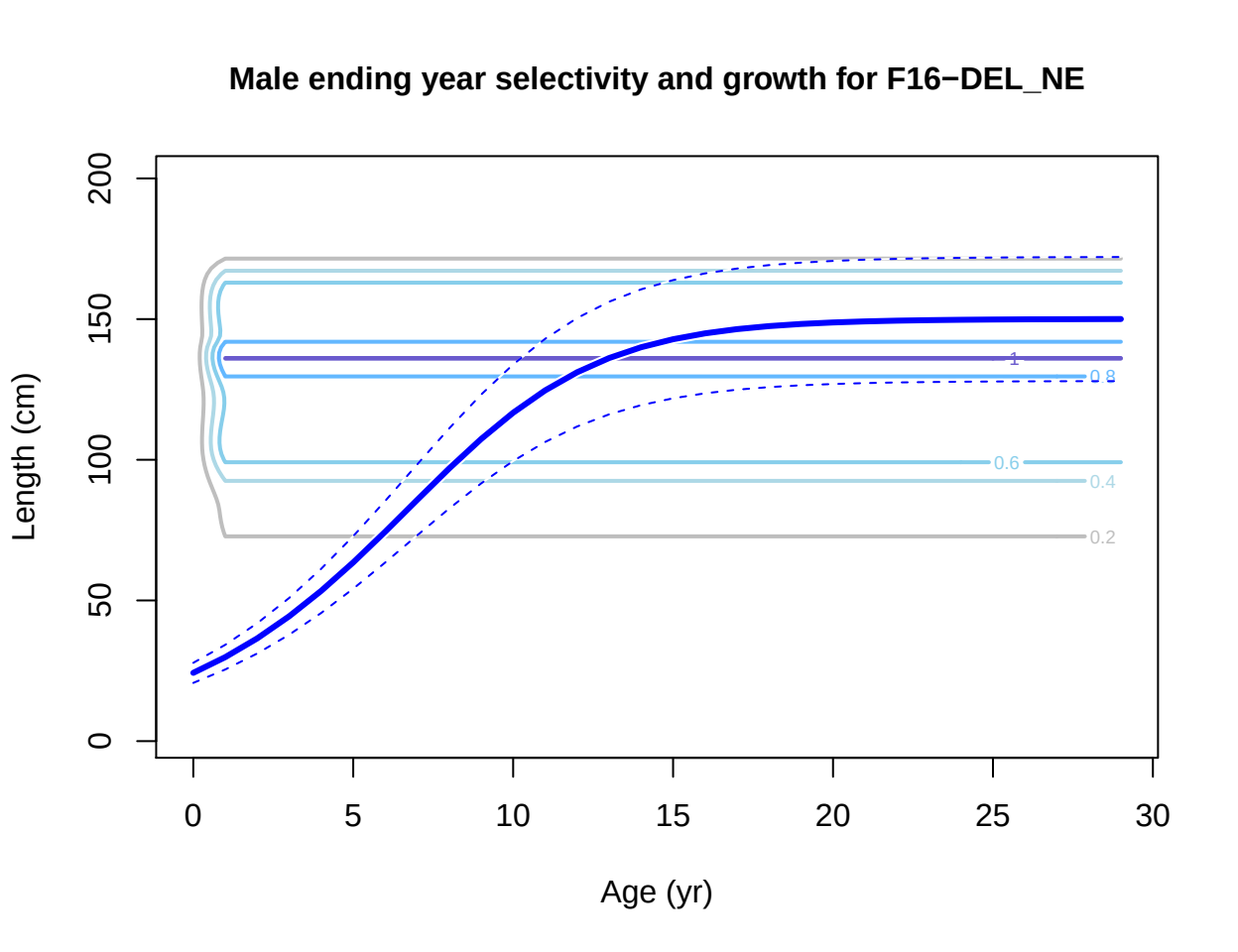

Female ending year selectivity and growth for F14−NOA_S
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

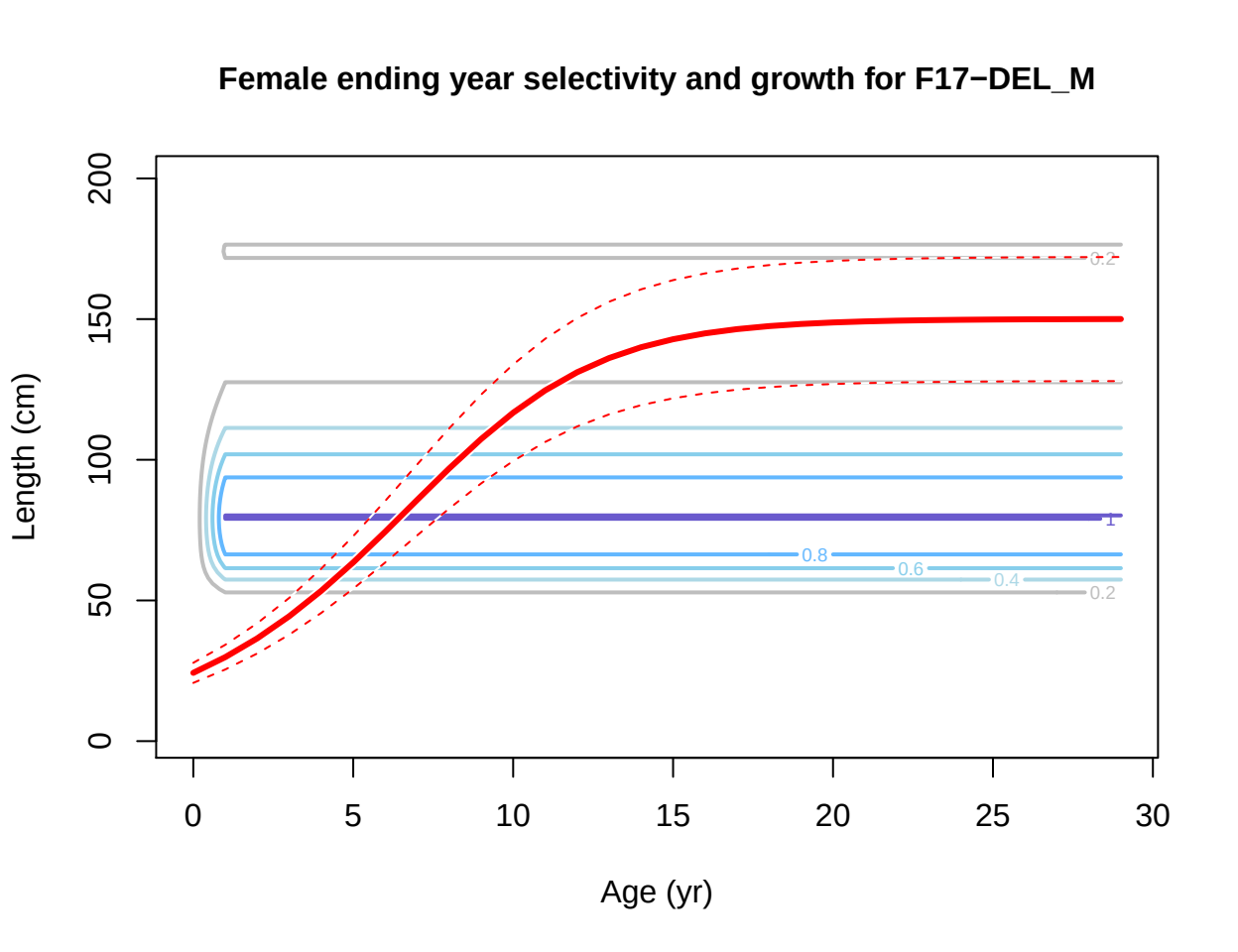

Male ending year selectivity and growth for F14−NOA_S
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

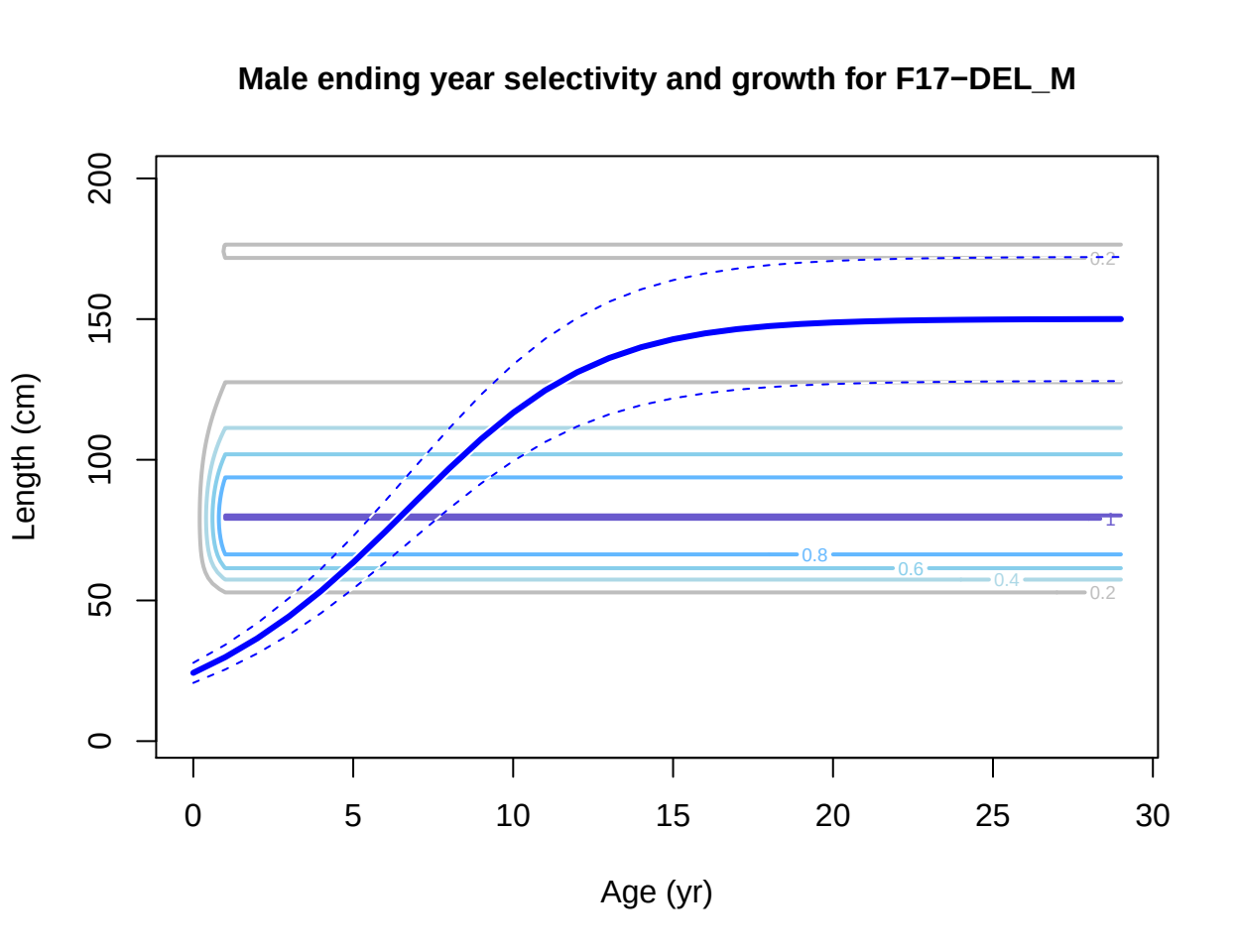

Female ending year selectivity and growth for F15−DEL_N
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

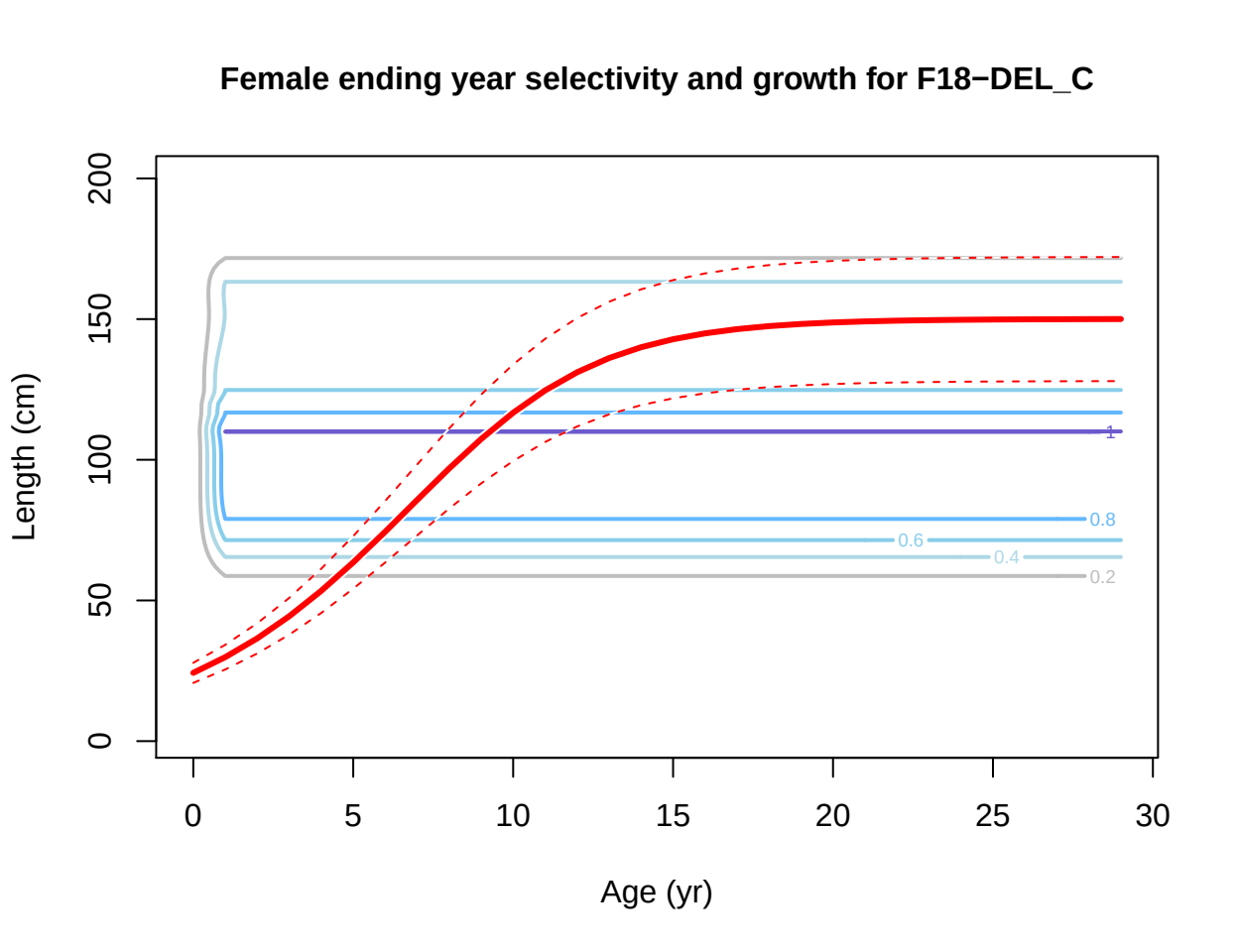

Male ending year selectivity and growth for F15−DEL_N
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

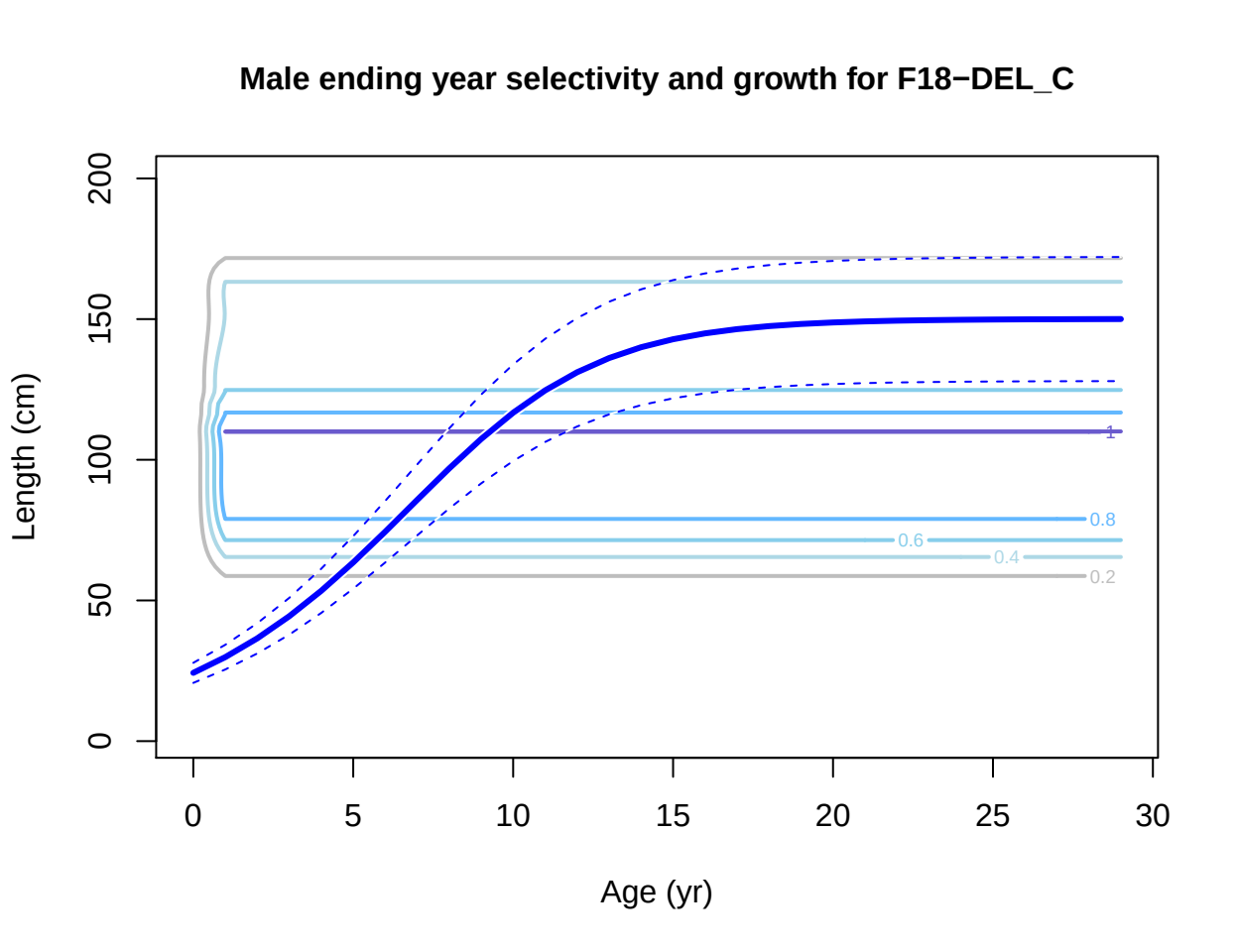

Female ending year selectivity and growth for F16−DEL_NE
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

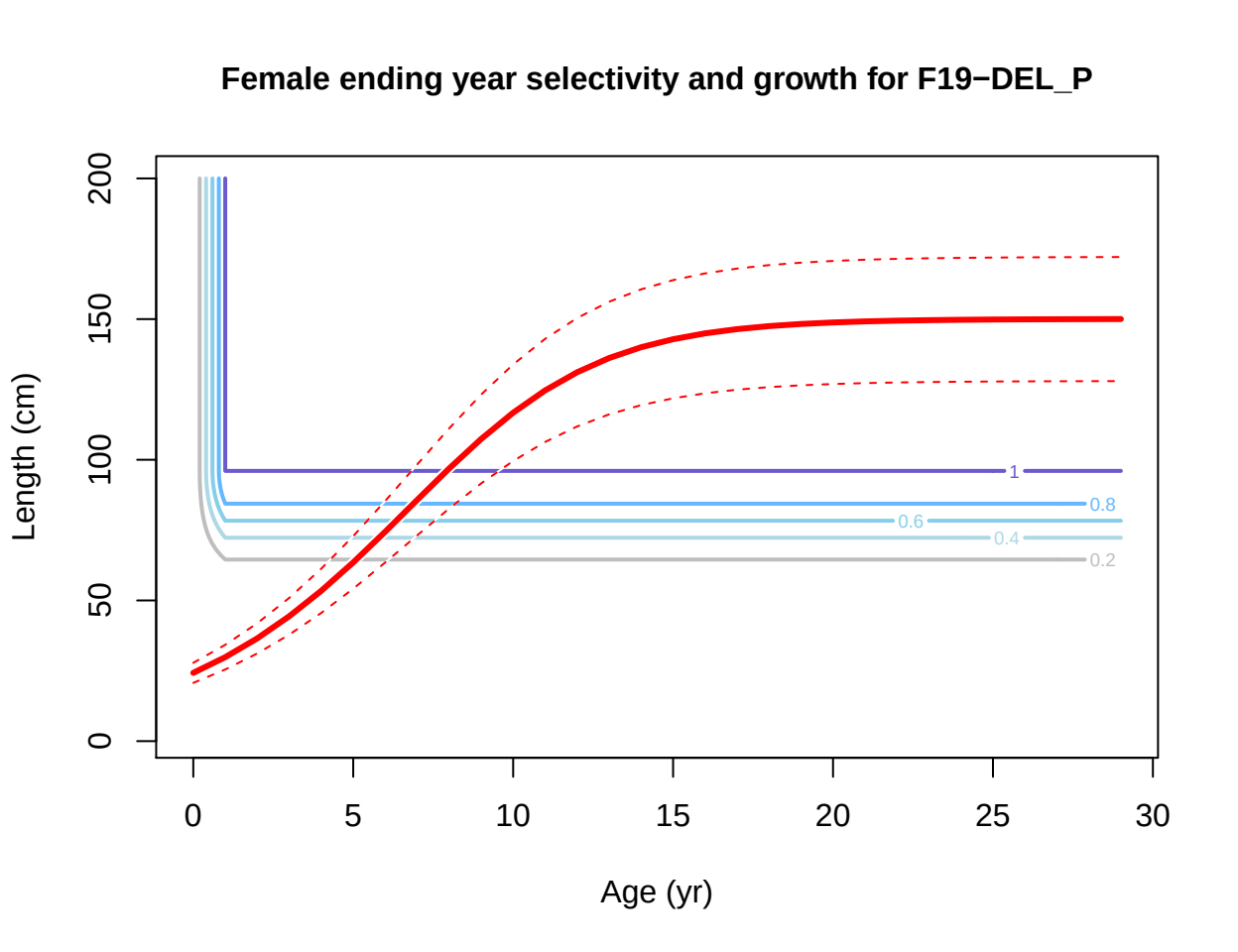

Male ending year selectivity and growth for F16−DEL_NE
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

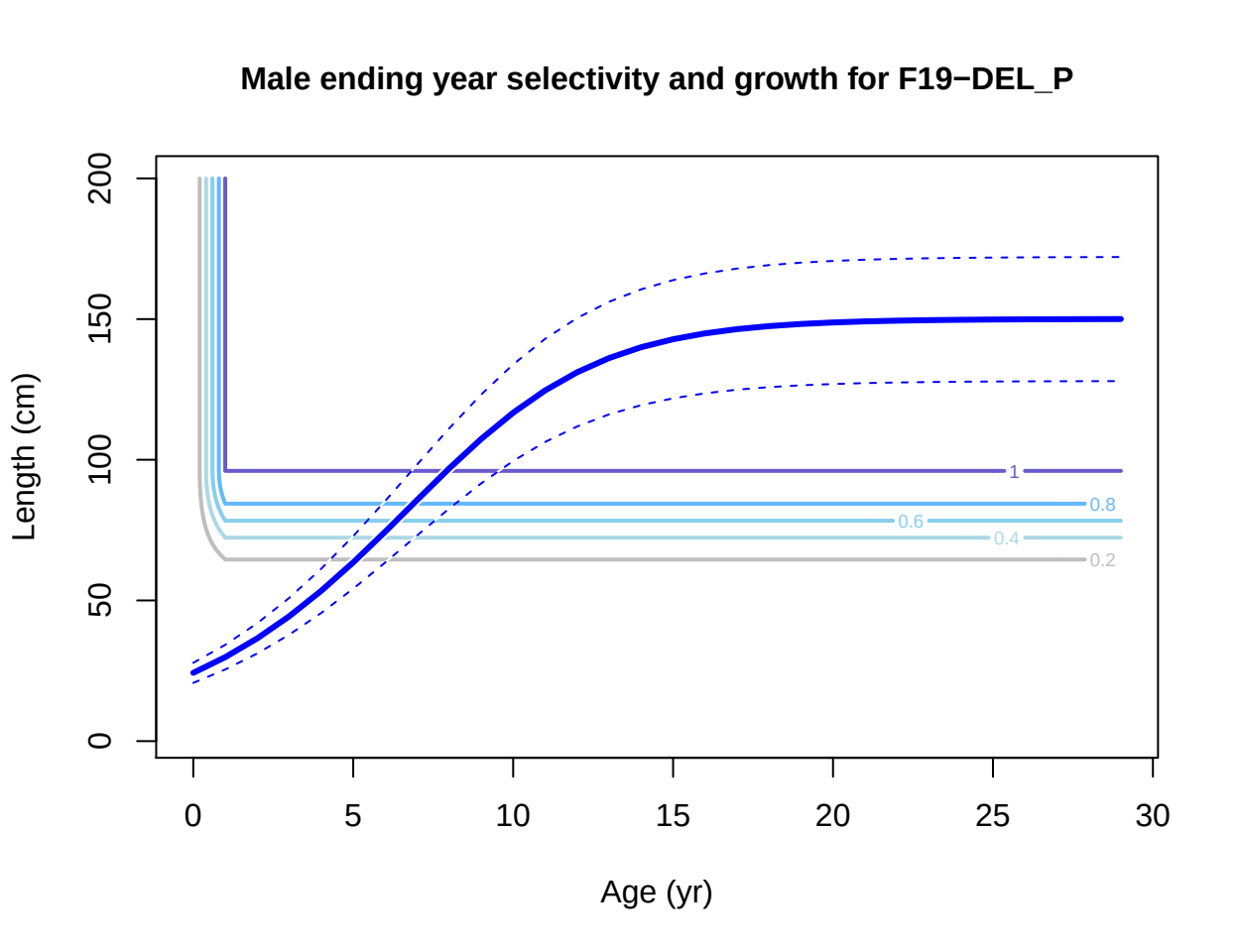

Female ending year selectivity and growth for F17−DEL_M
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2
0.2

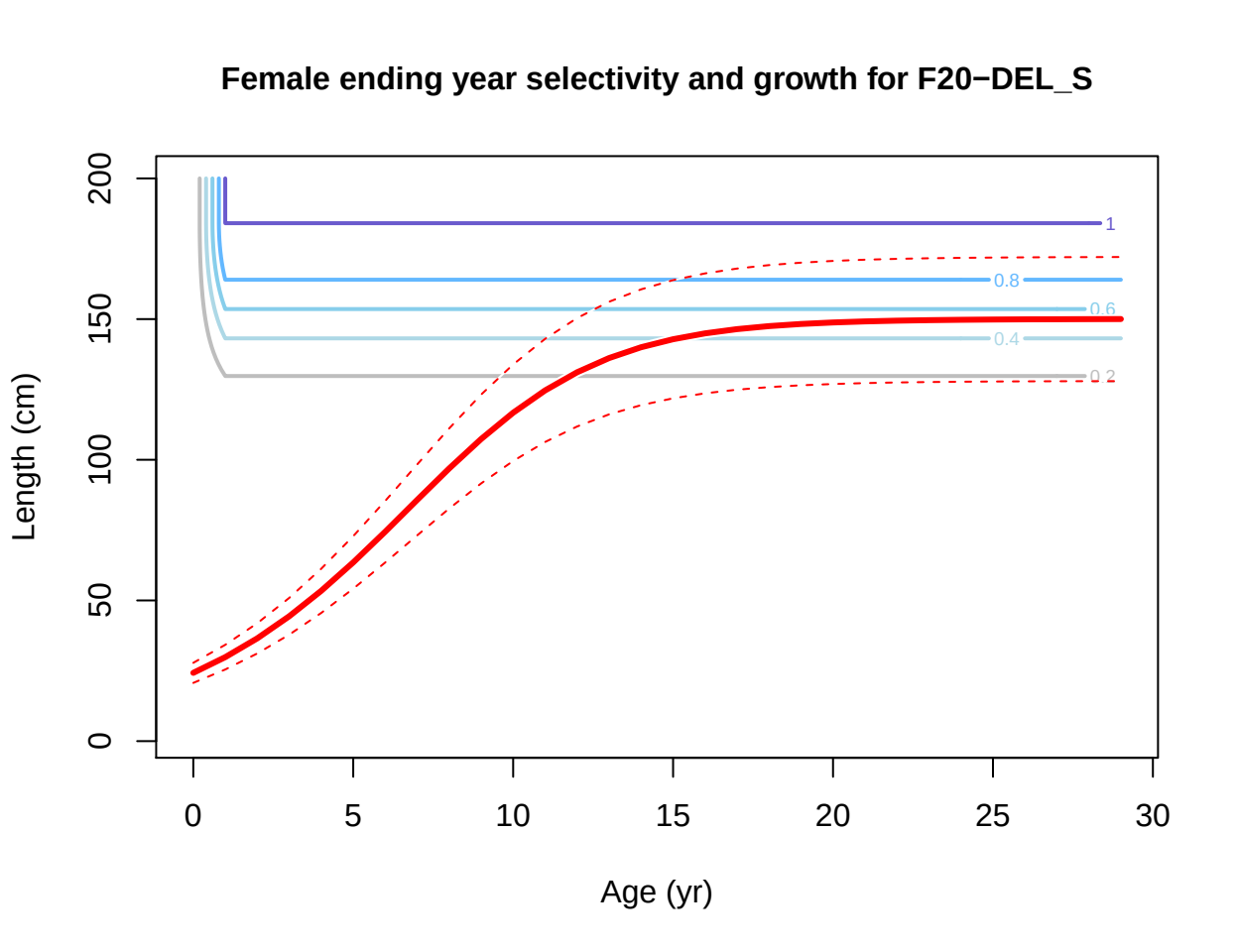

Male ending year selectivity and growth for F17−DEL_M
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.2
1
0.8
0.6
0.4
0.2

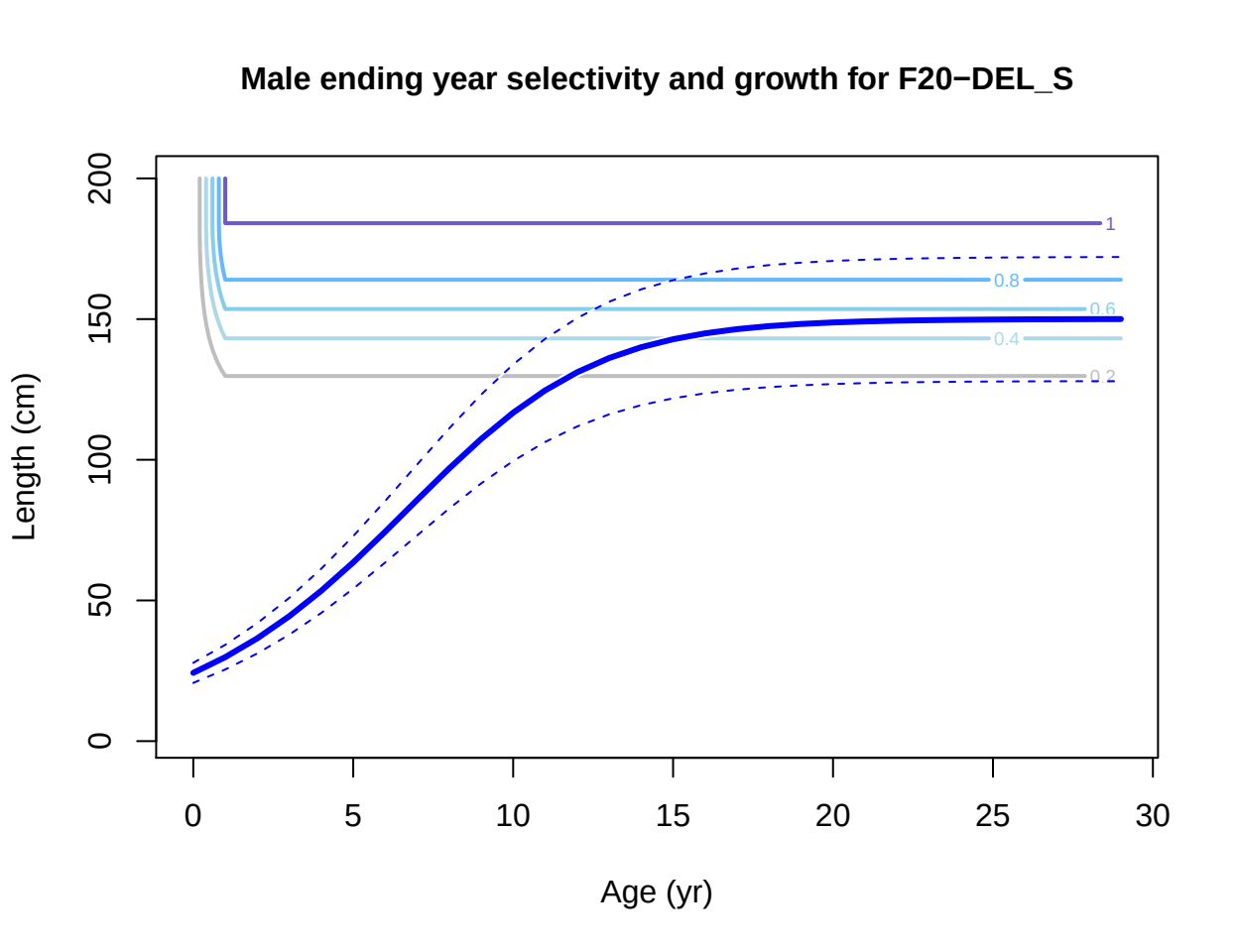

Female ending year selectivity and growth for F18−DEL_C
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

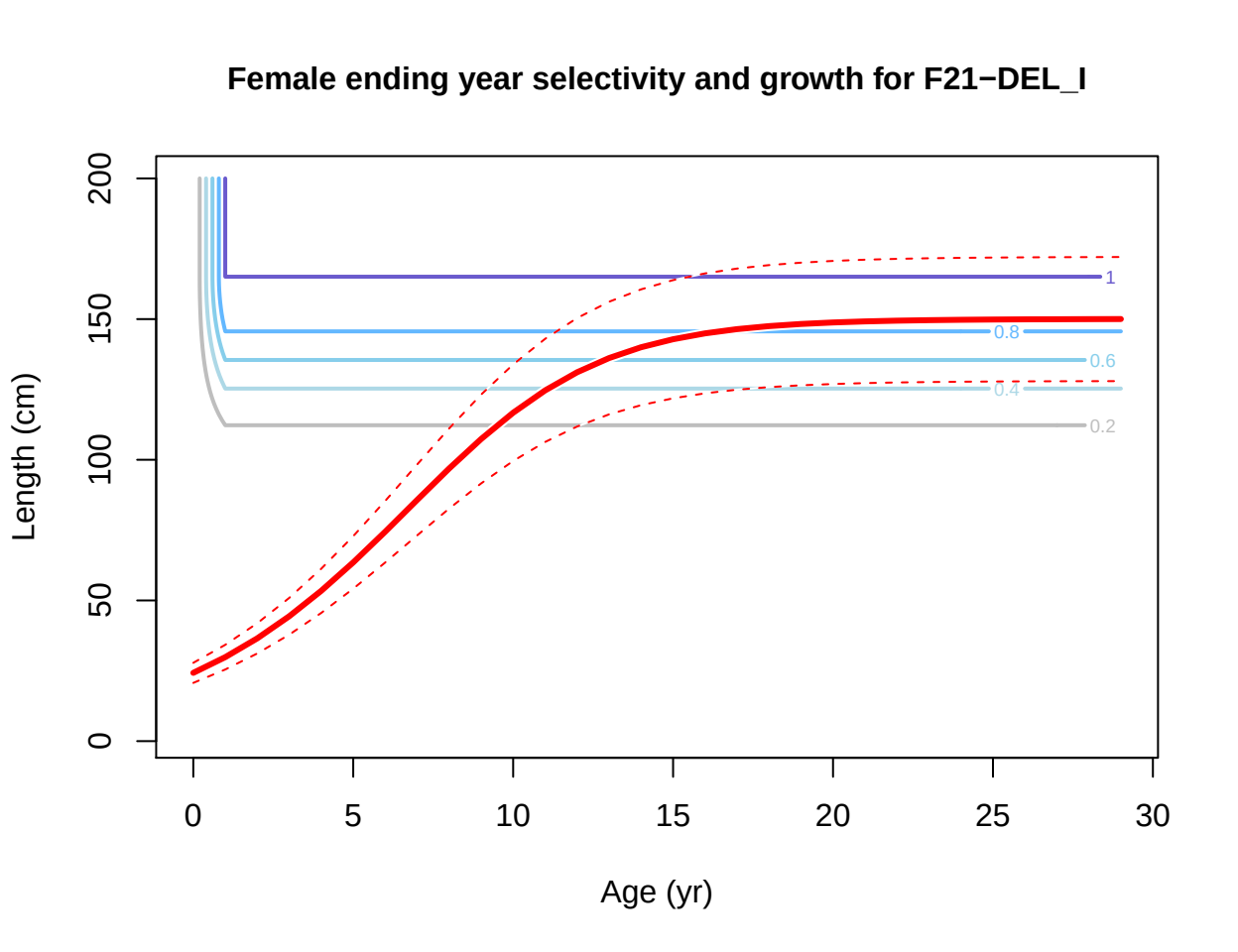

Male ending year selectivity and growth for F18−DEL_C
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

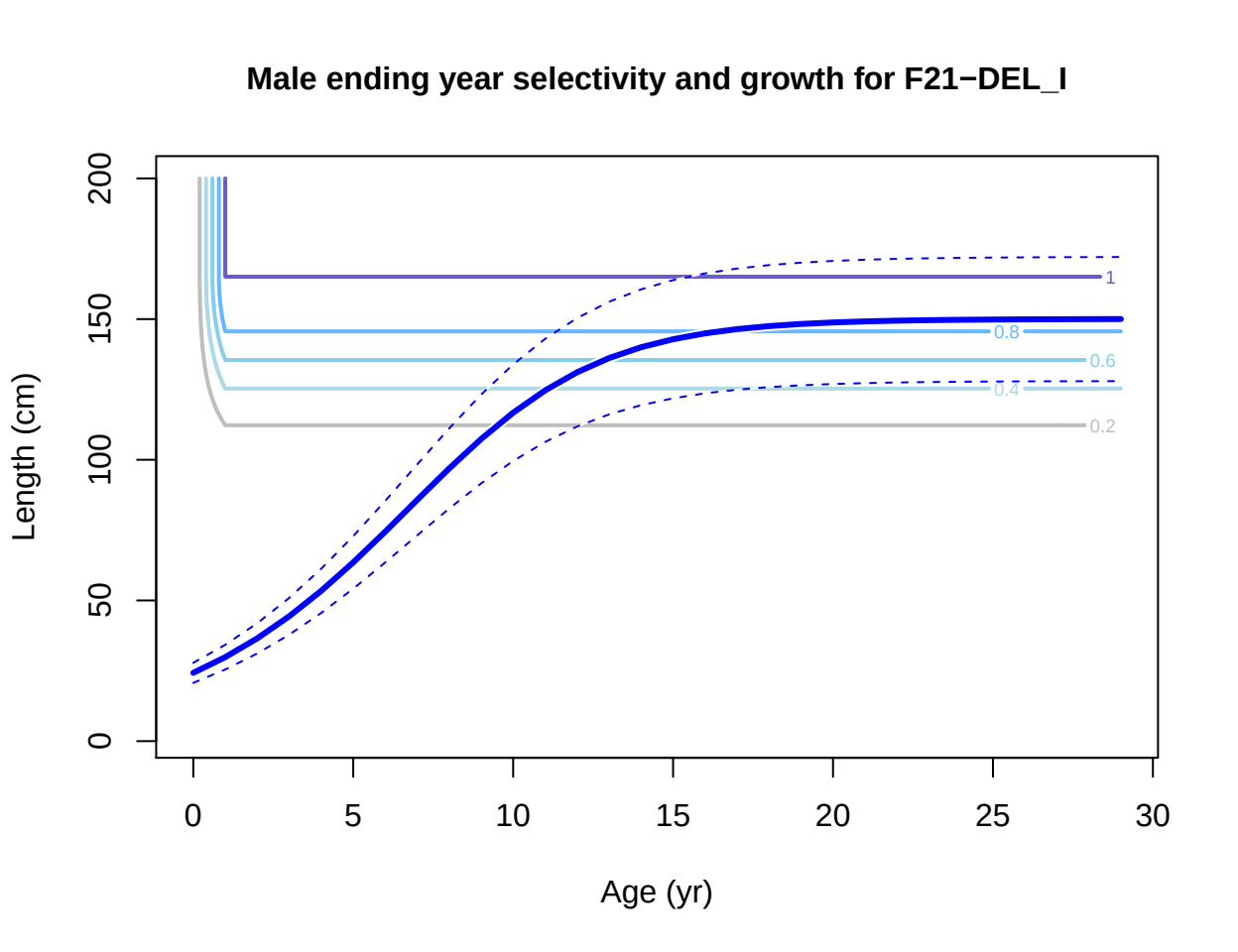

Female ending year selectivity and growth for F19−DEL_P
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

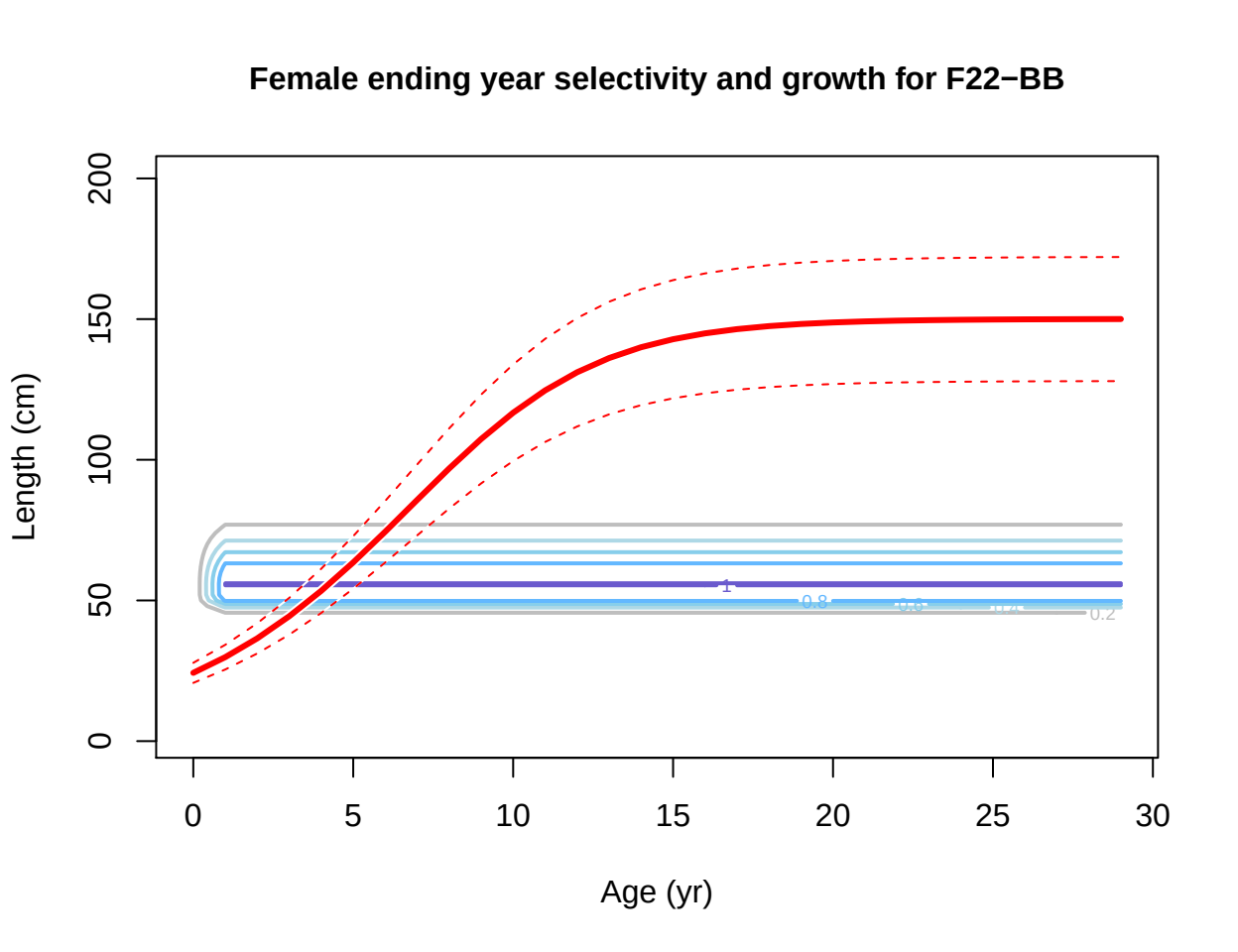

Male ending year selectivity and growth for F19−DEL_P
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

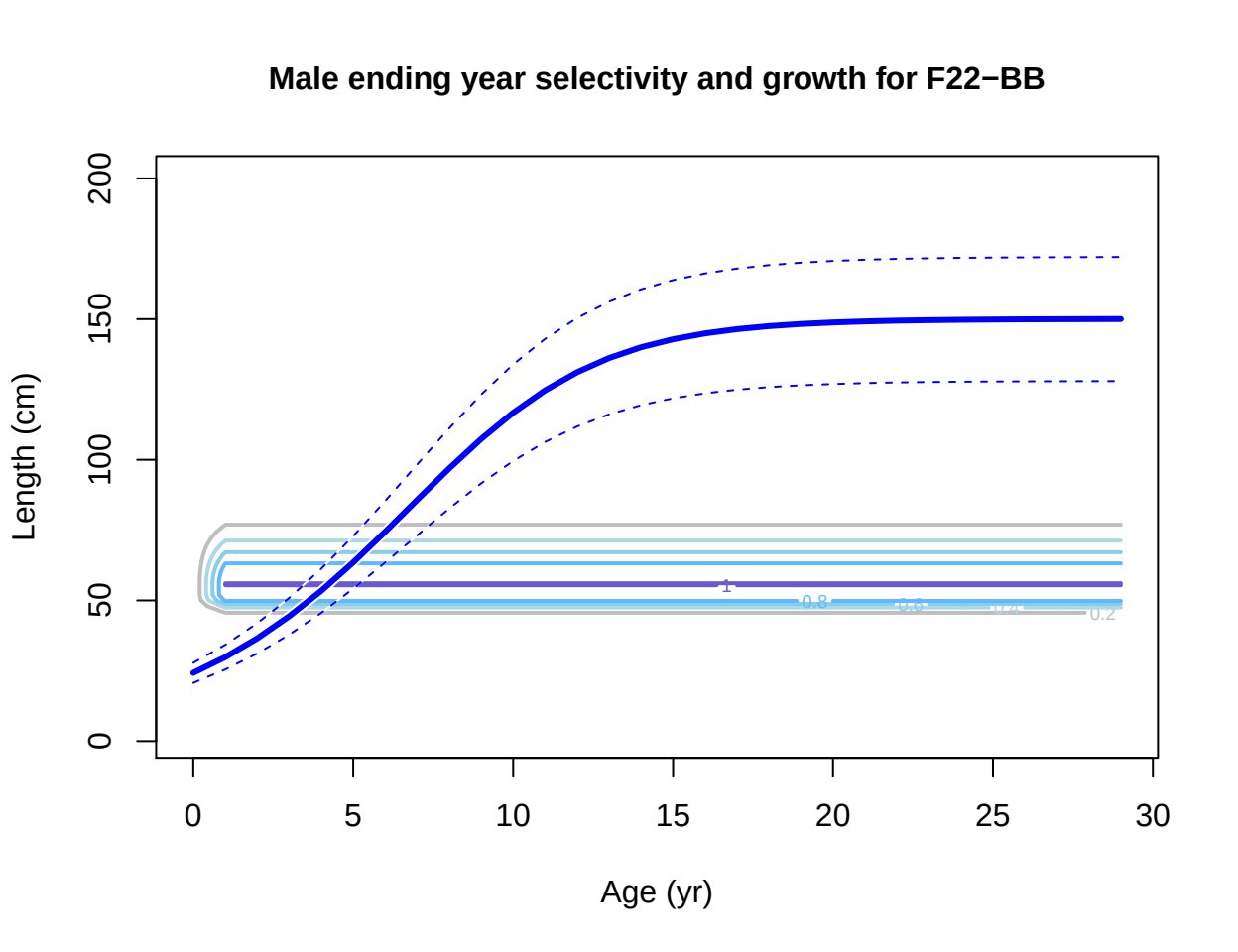

Female ending year selectivity and growth for F20−DEL_S
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

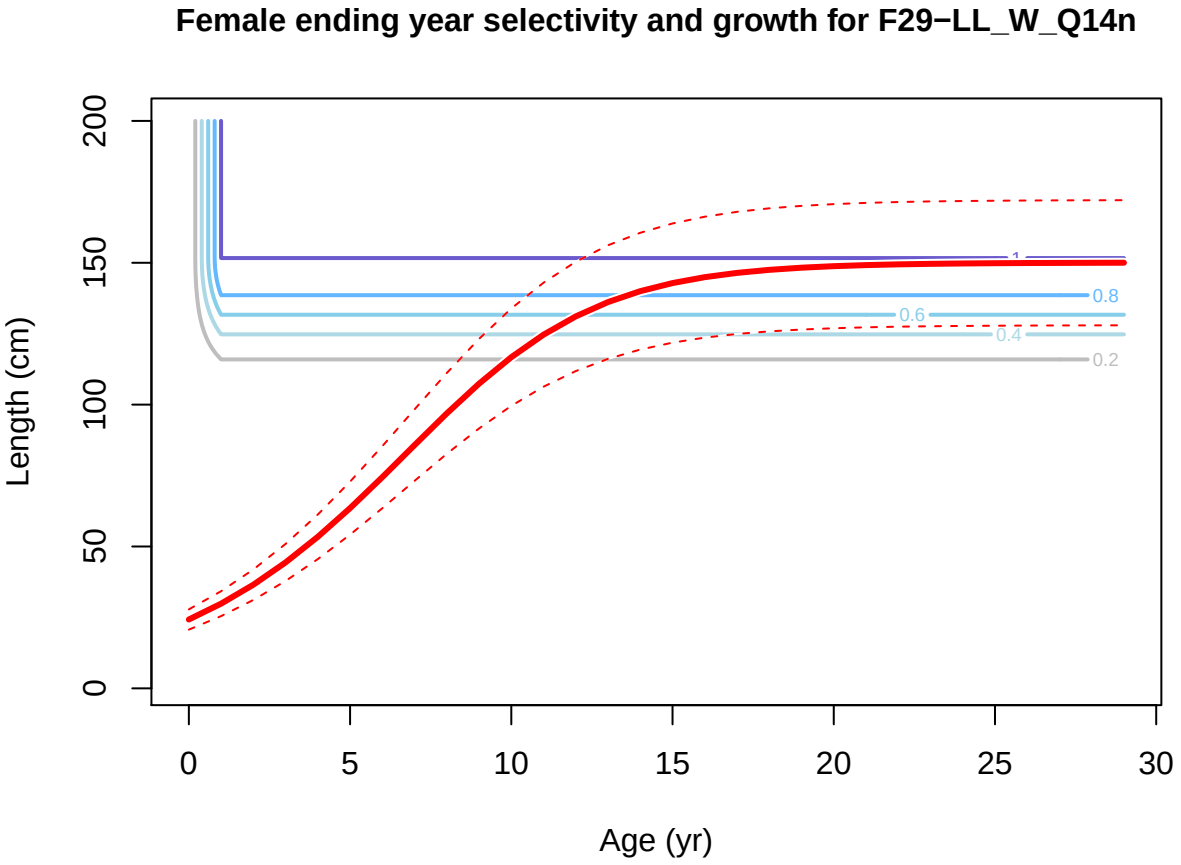

Male ending year selectivity and growth for F20−DEL_S
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

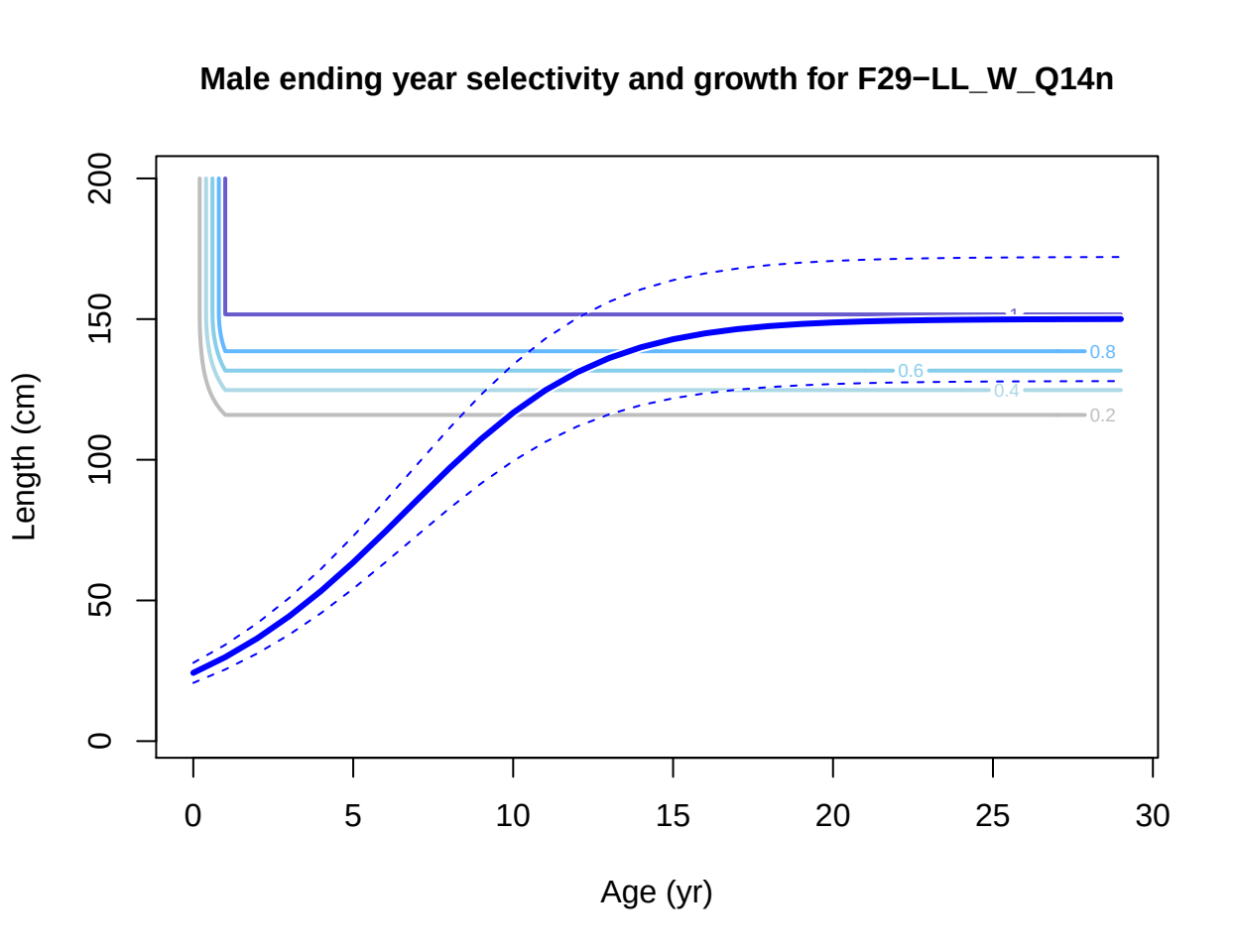

Female ending year selectivity and growth for F21−DEL_I
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

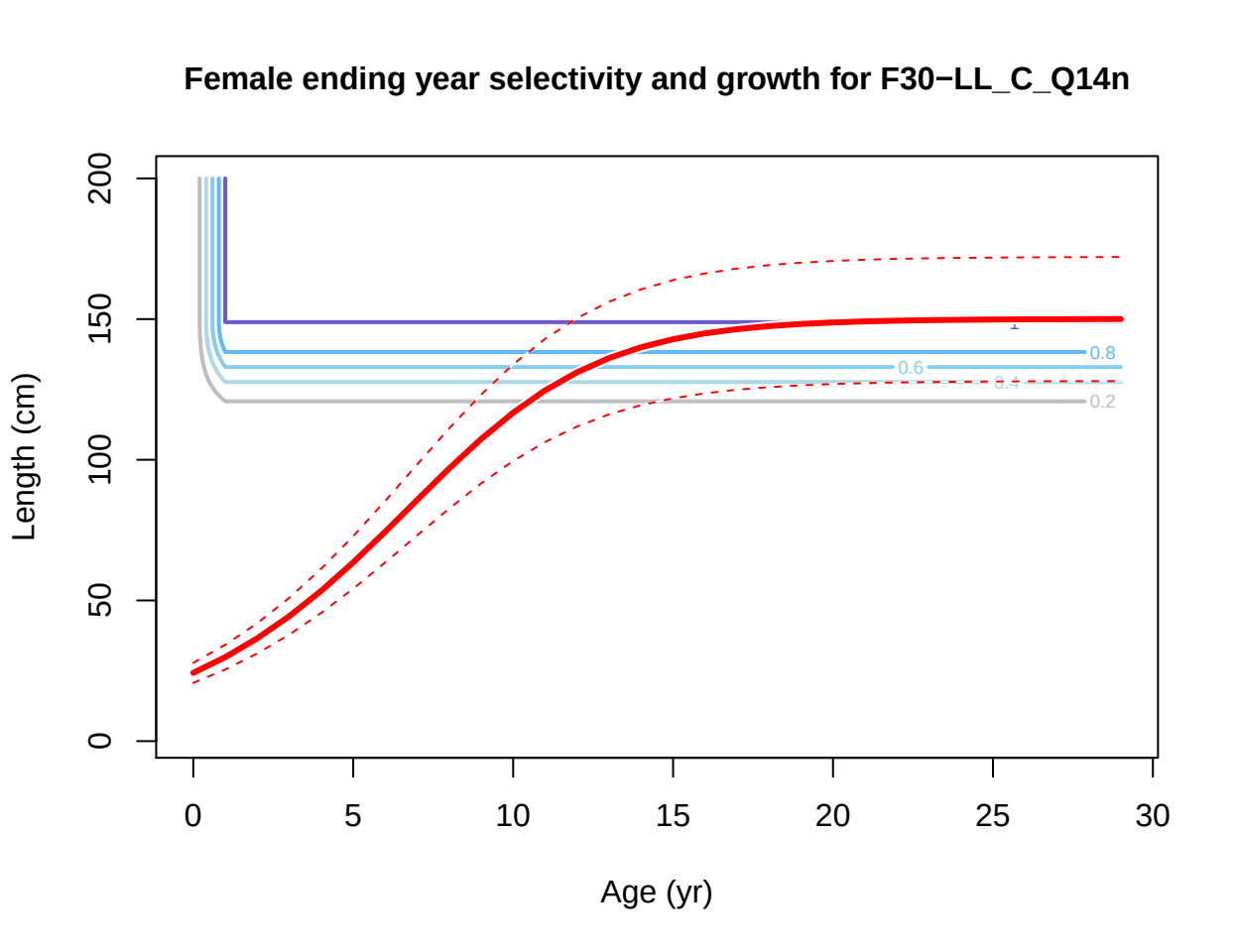

Male ending year selectivity and growth for F21−DEL_I
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

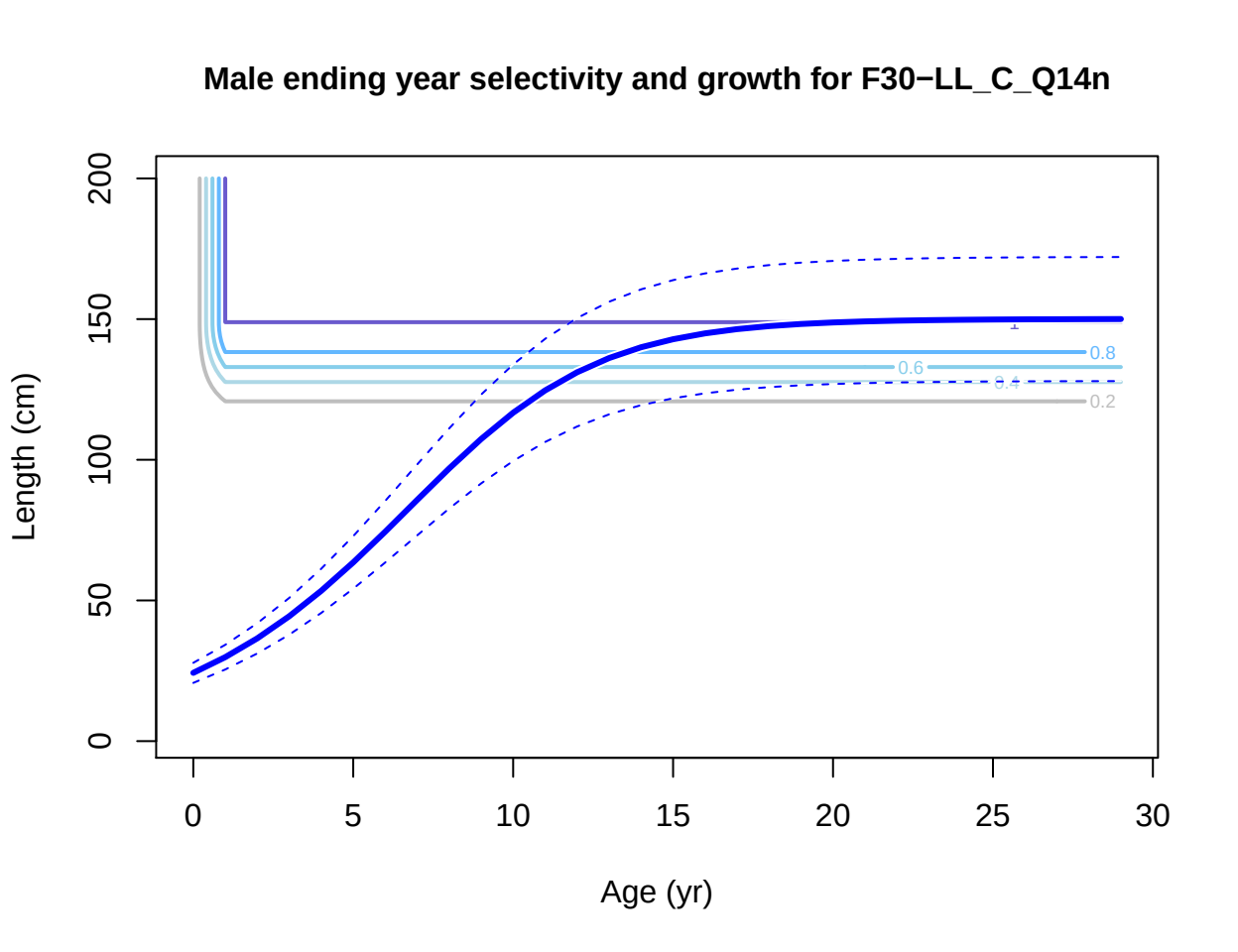

Female ending year selectivity and growth for F22−BB
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.2

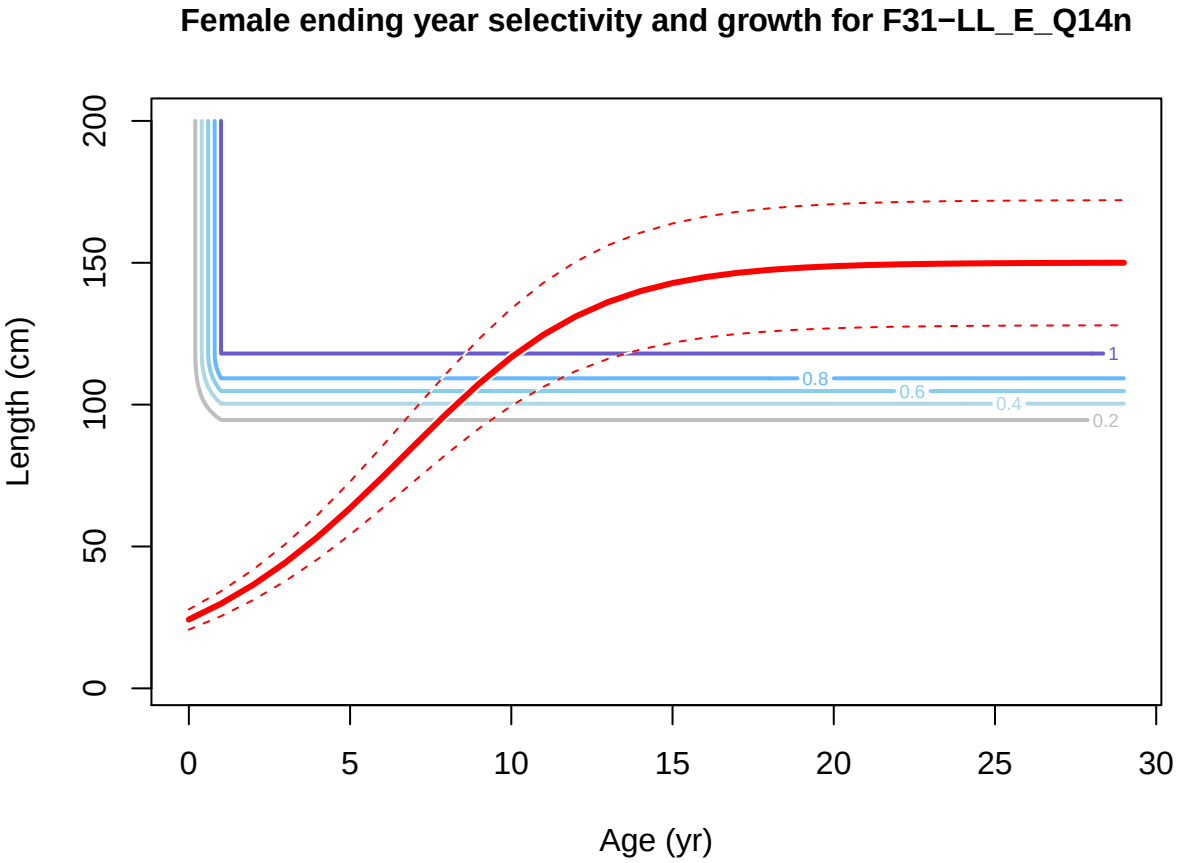

Male ending year selectivity and growth for F22−BB
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.2

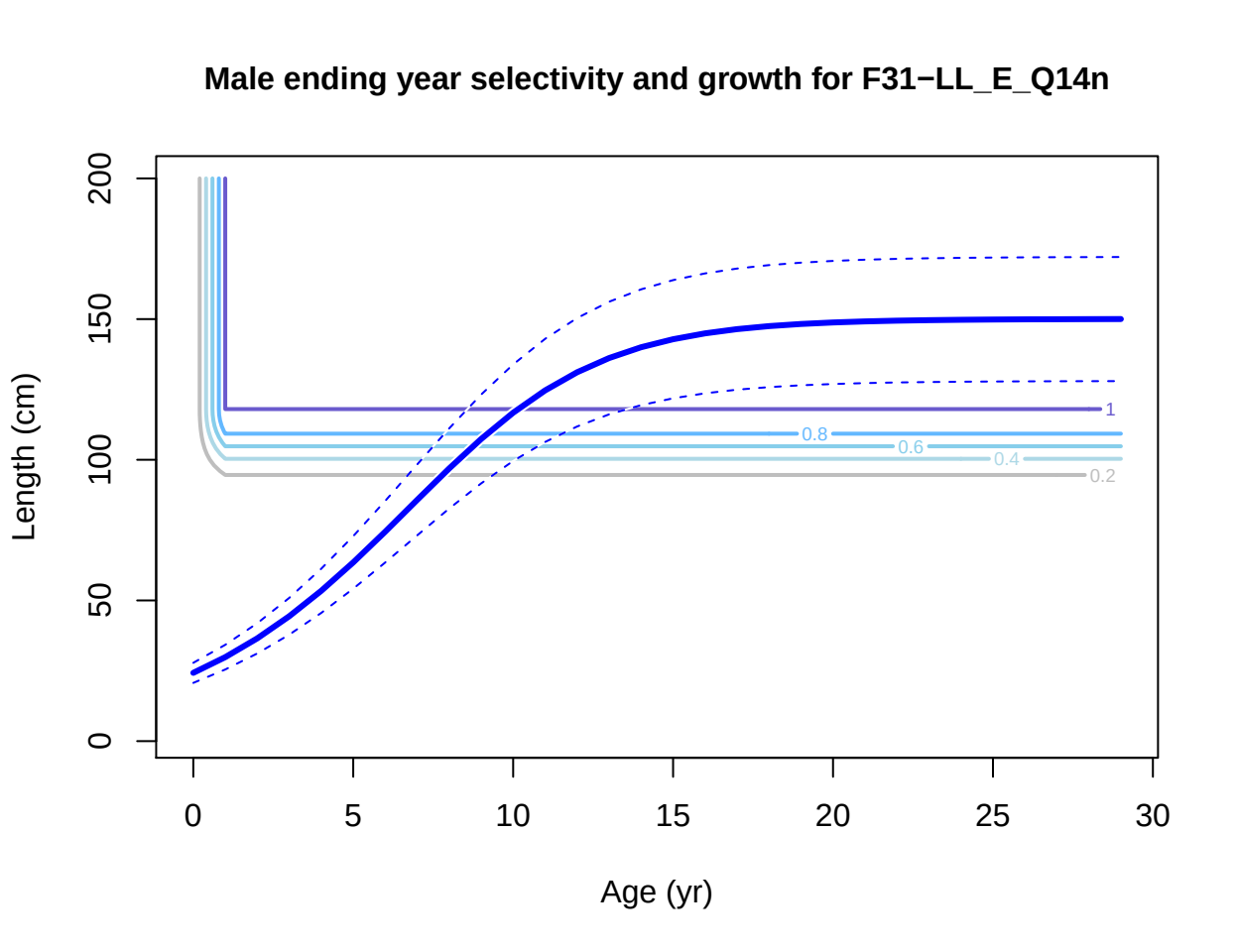

Female ending year selectivity and growth for F29−LL_W_Q14n
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

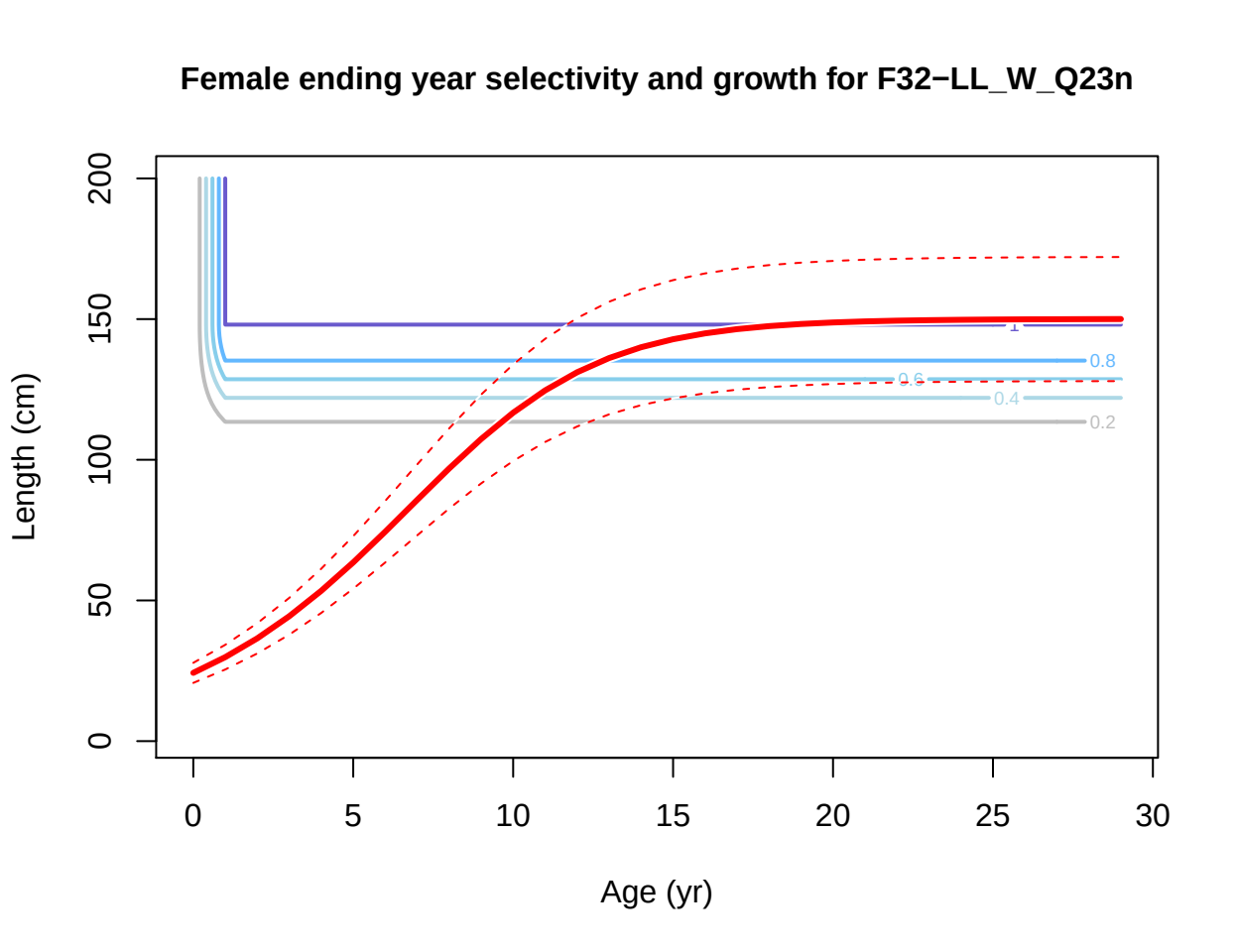

Male ending year selectivity and growth for F29−LL_W_Q14n
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

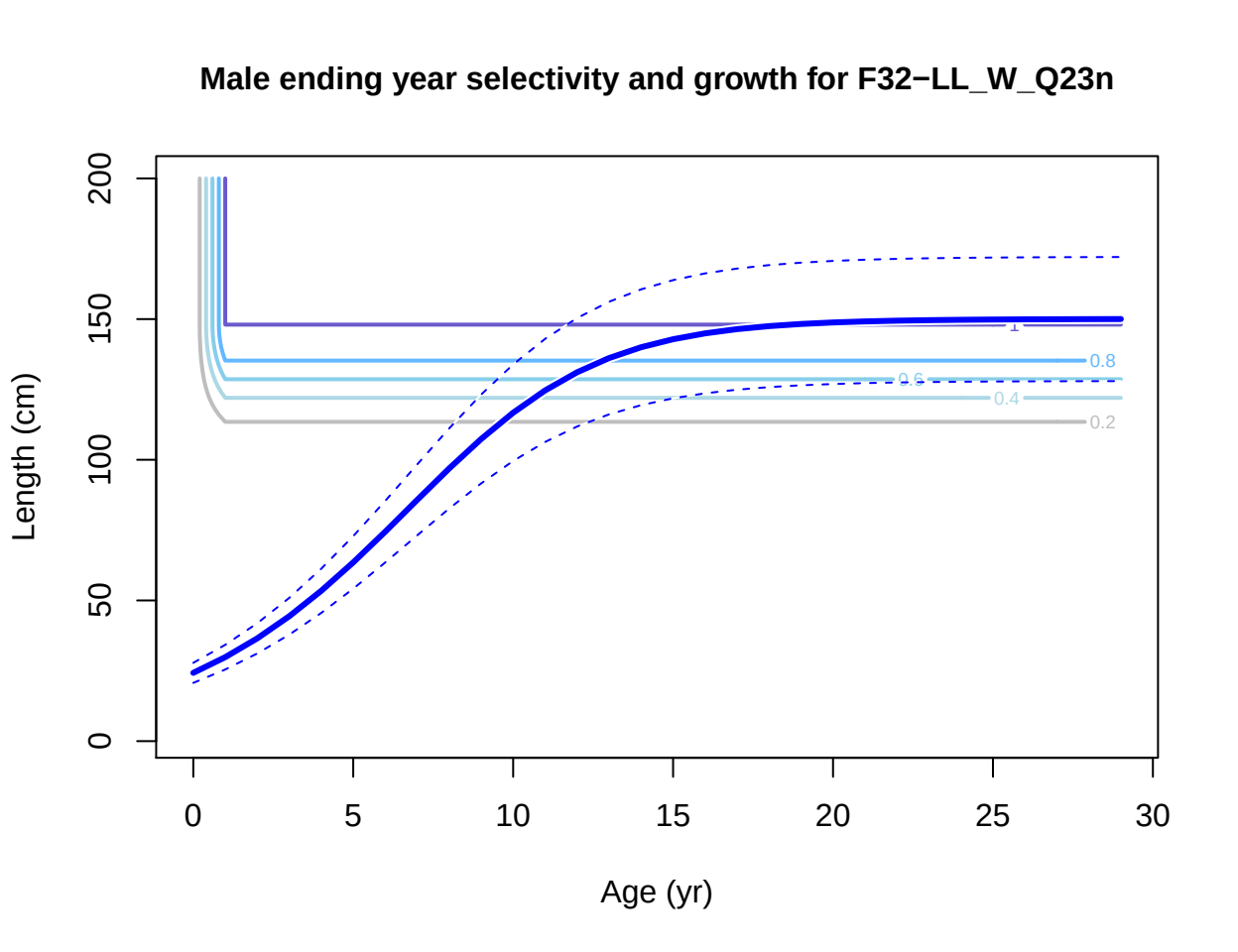

Female ending year selectivity and growth for F30−LL_C_Q14n
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.8
0.6
0.4
0.2

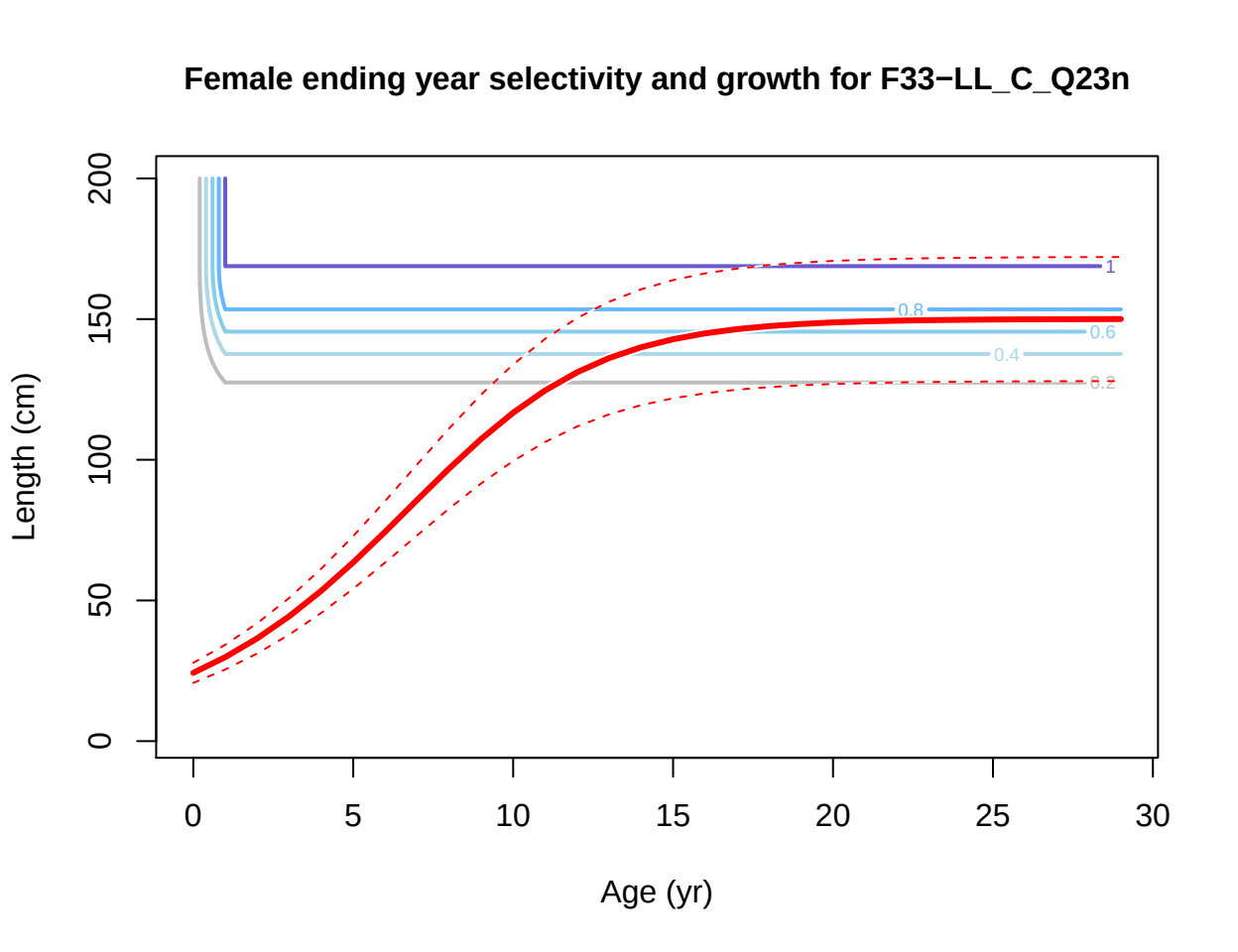

Male ending year selectivity and growth for F30−LL_C_Q14n
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.8
0.6
0.4
0.2

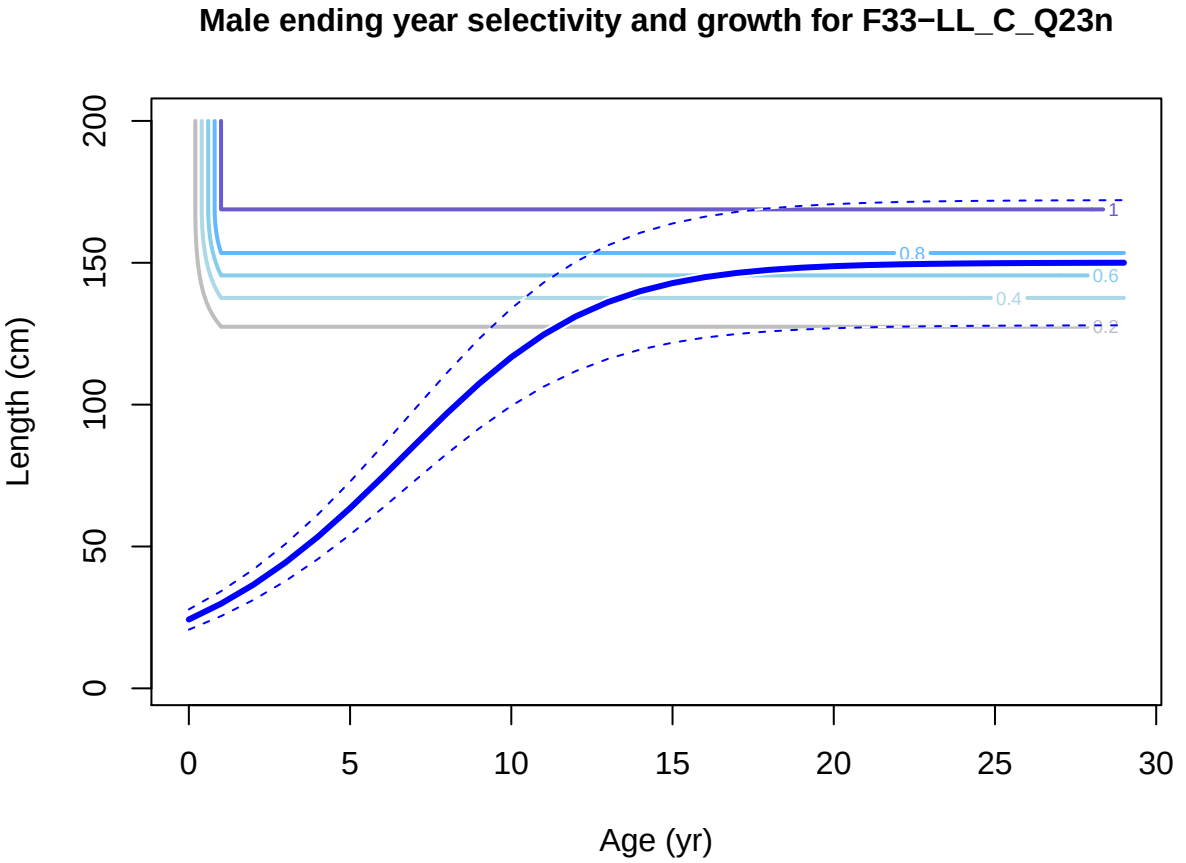

Female ending year selectivity and growth for F31−LL_E_Q14n
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

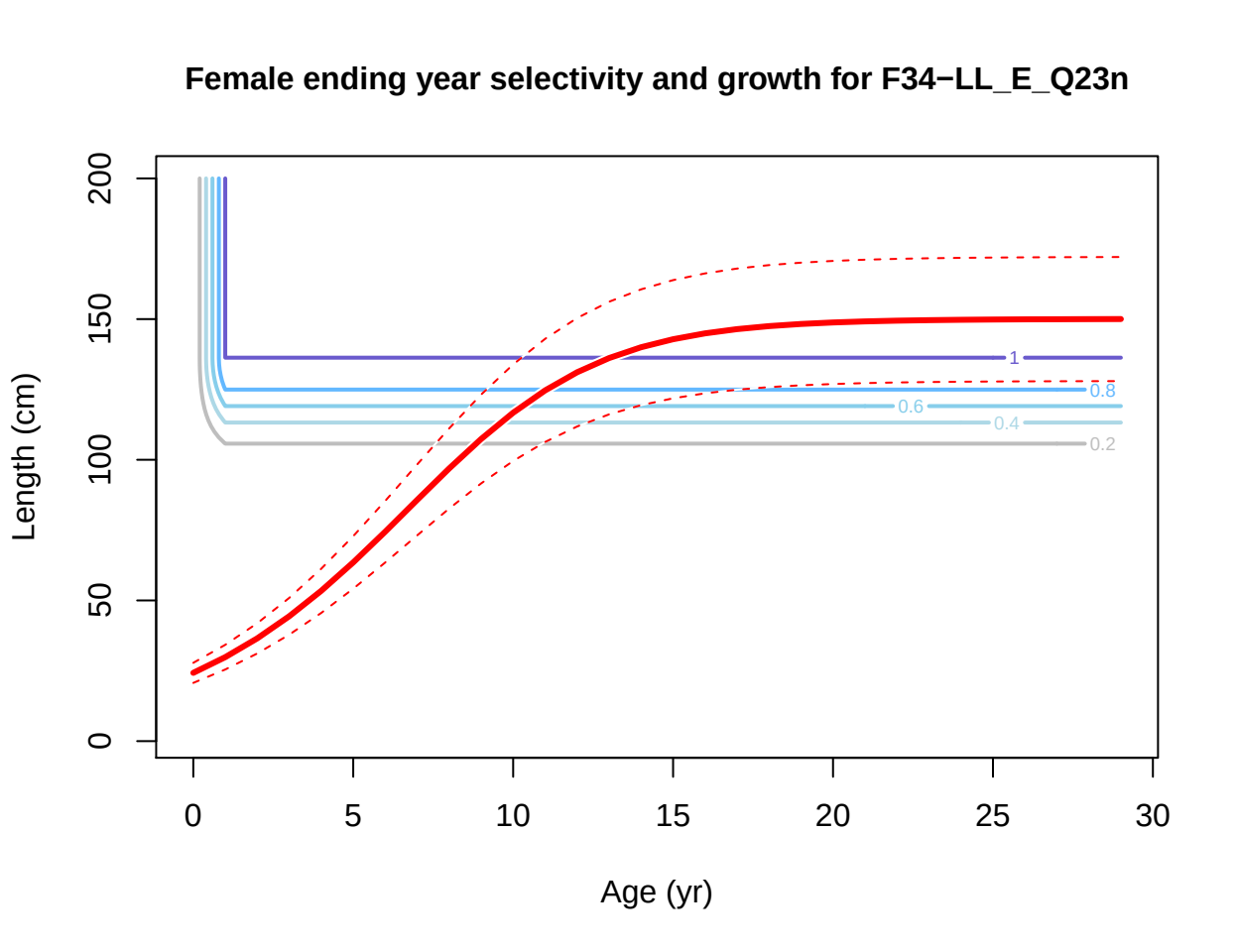

Male ending year selectivity and growth for F31−LL_E_Q14n
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

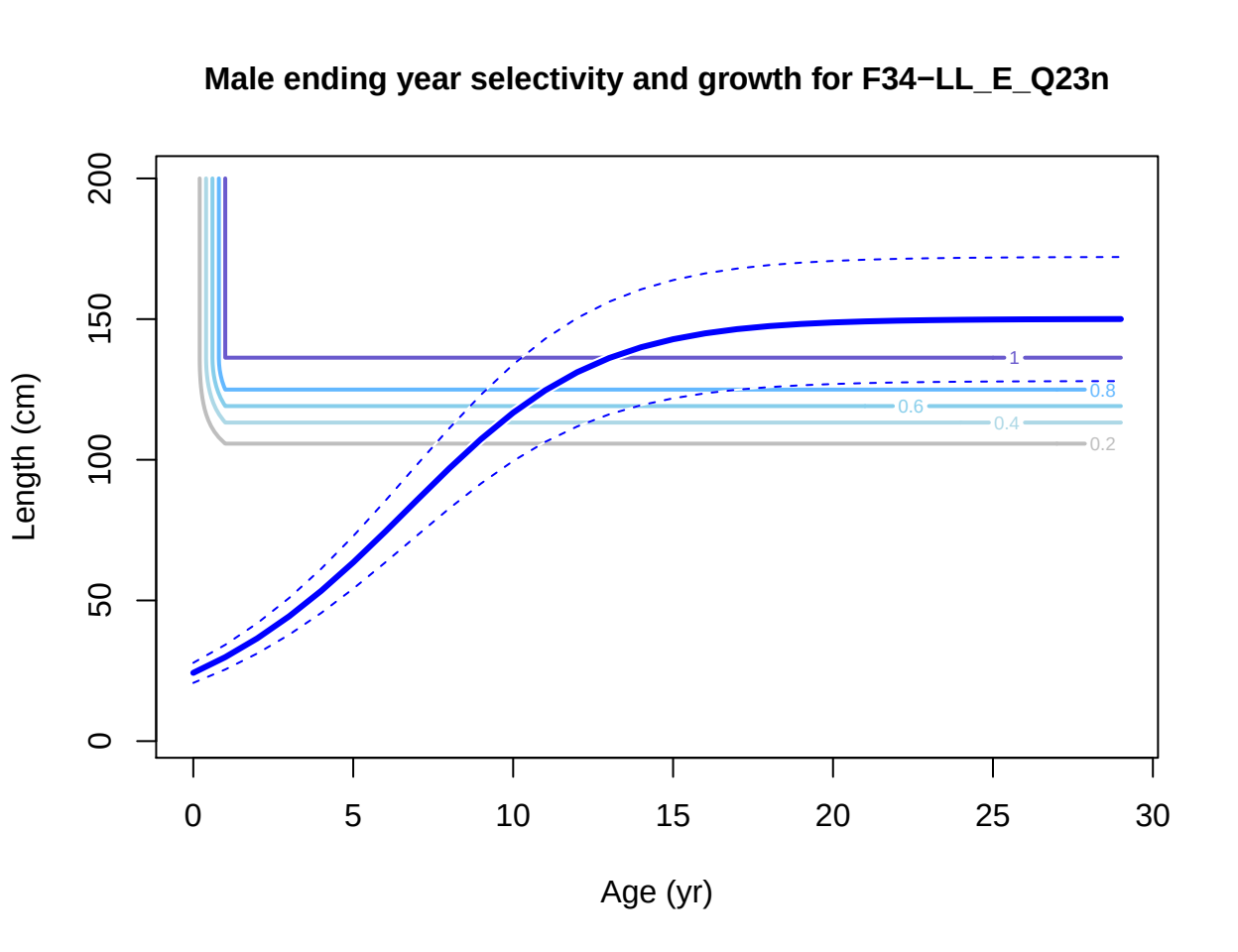

Female ending year selectivity and growth for F32−LL_W_Q23n
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

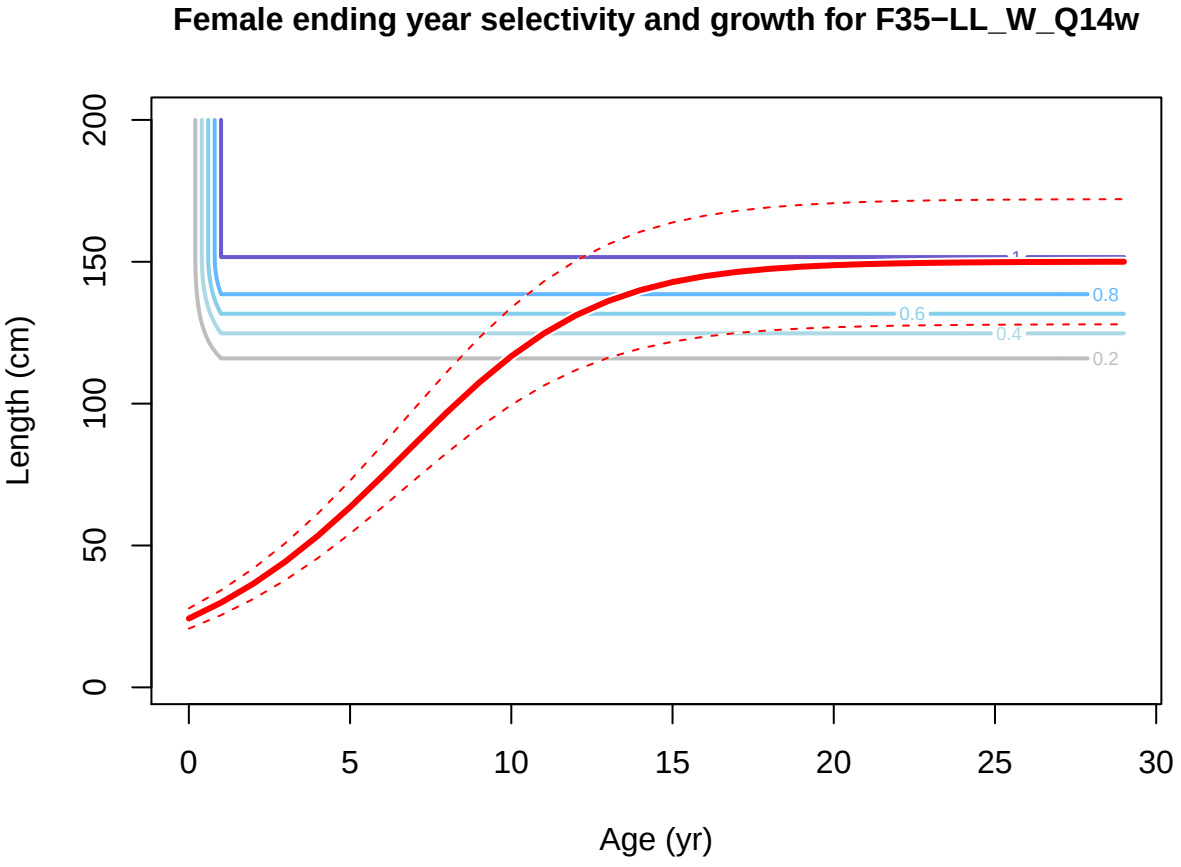

Male ending year selectivity and growth for F32−LL_W_Q23n
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

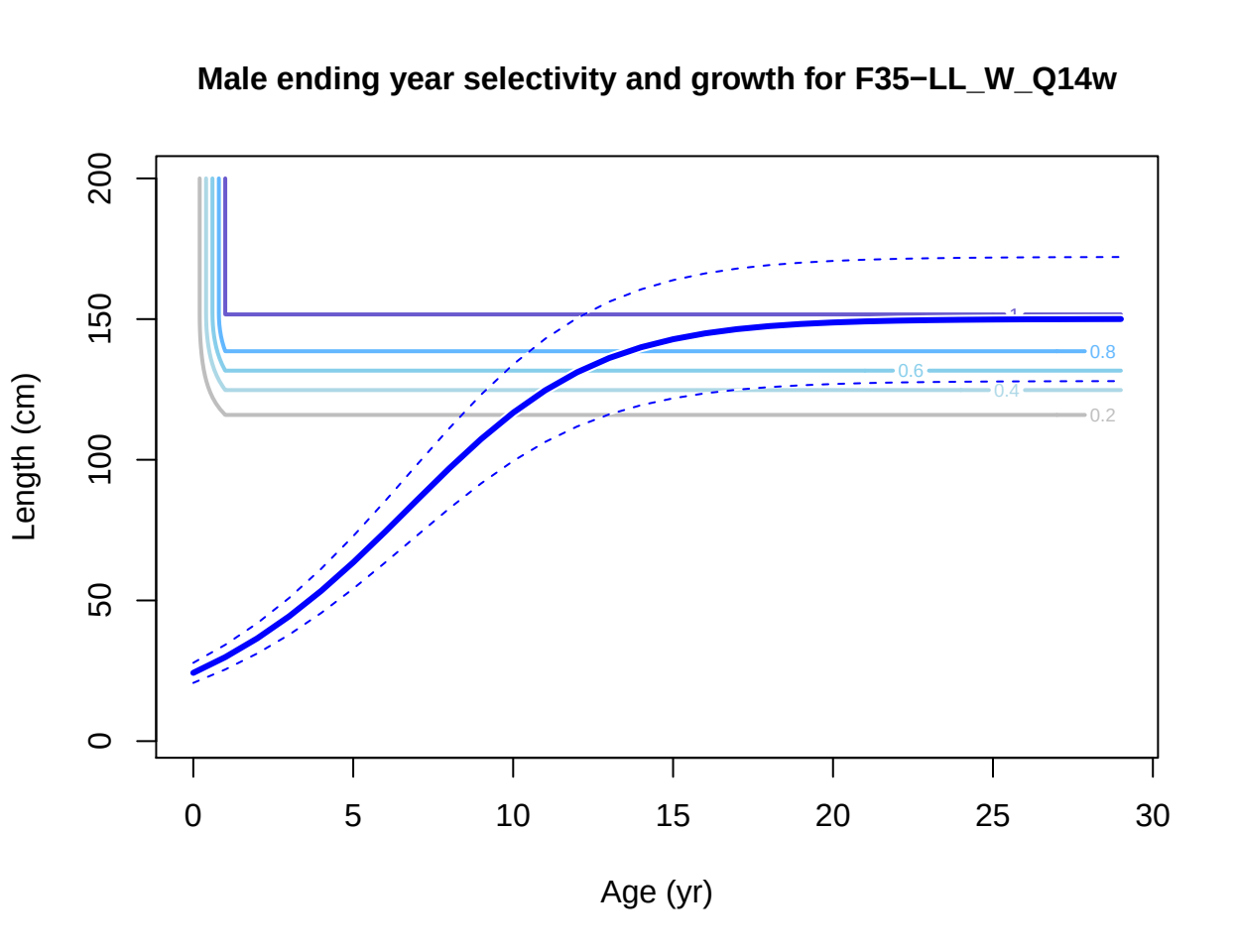

Female ending year selectivity and growth for F33−LL_C_Q23n
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

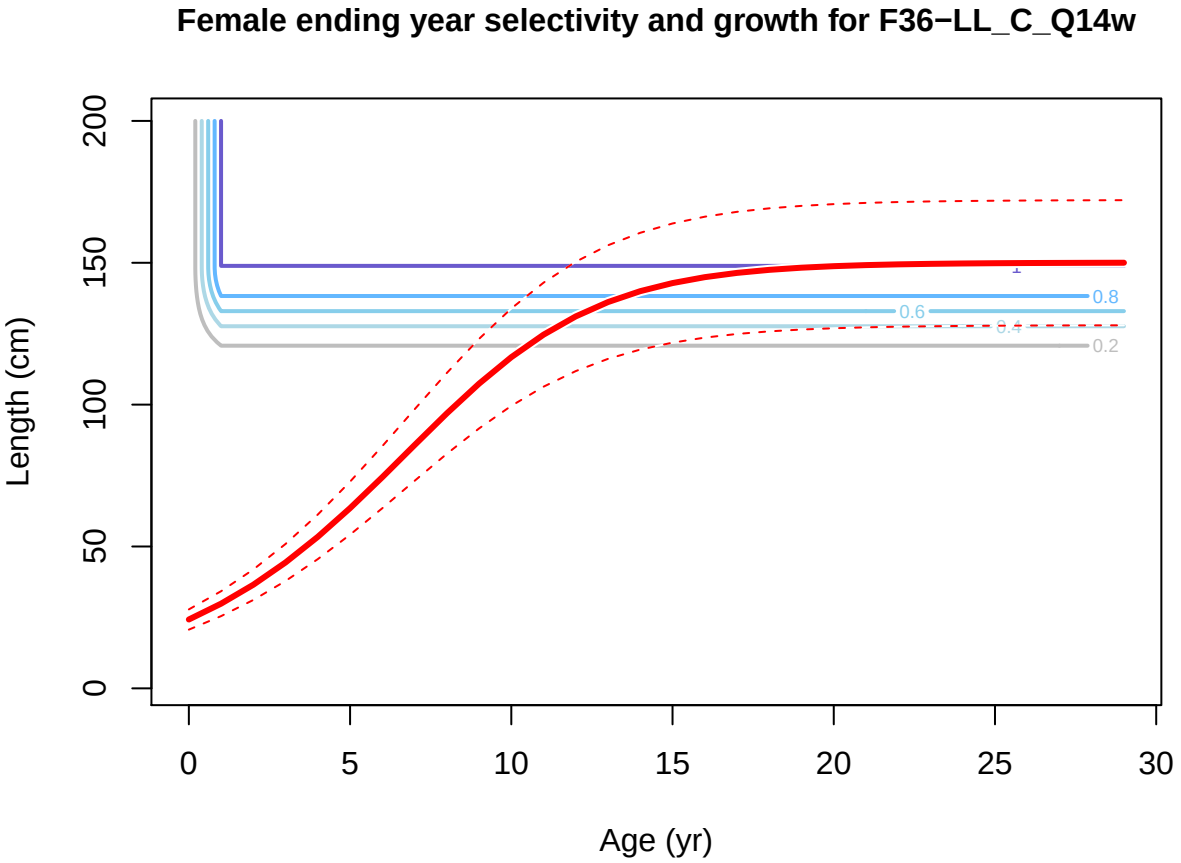

Male ending year selectivity and growth for F33−LL_C_Q23n
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

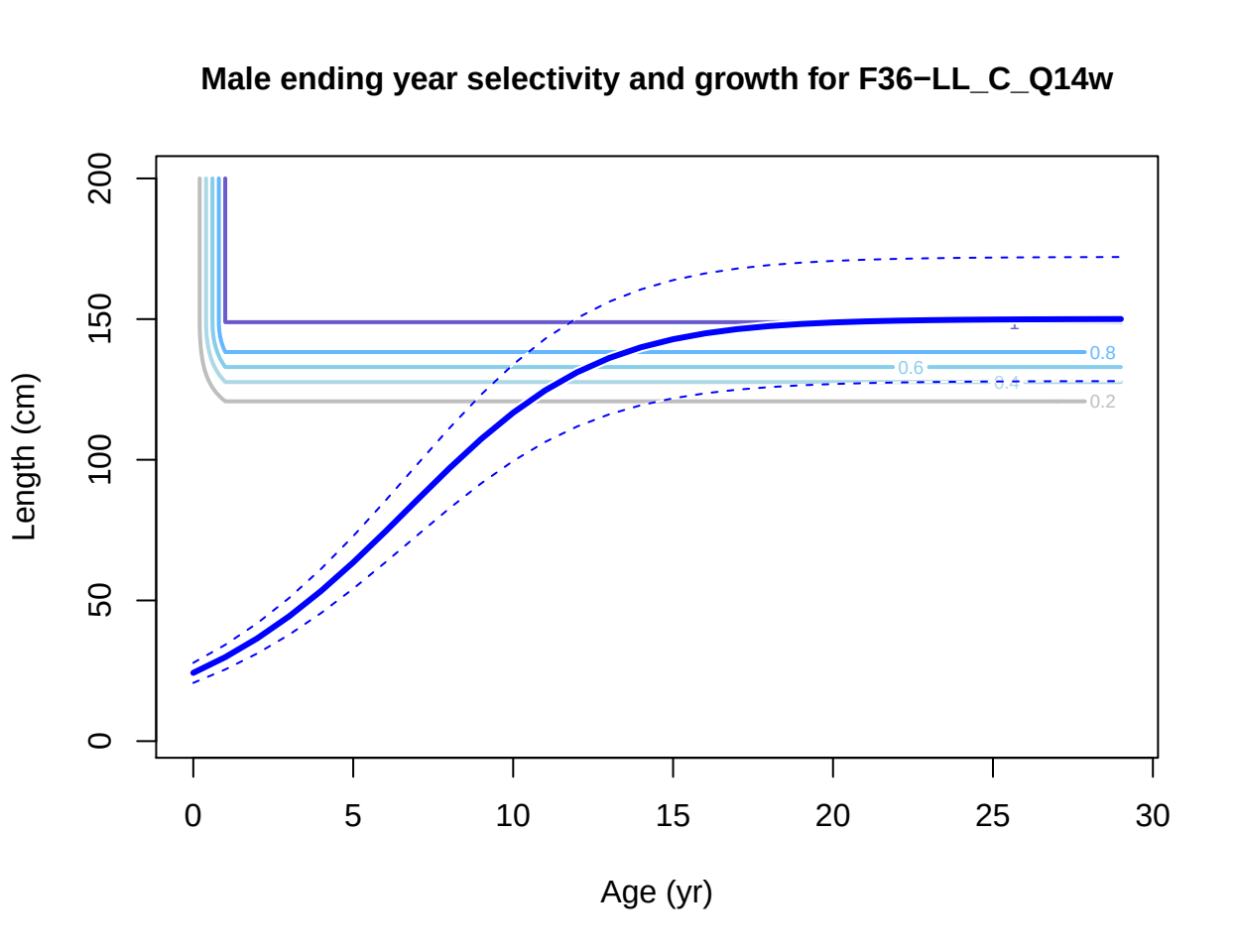

Female ending year selectivity and growth for F34−LL_E_Q23n
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

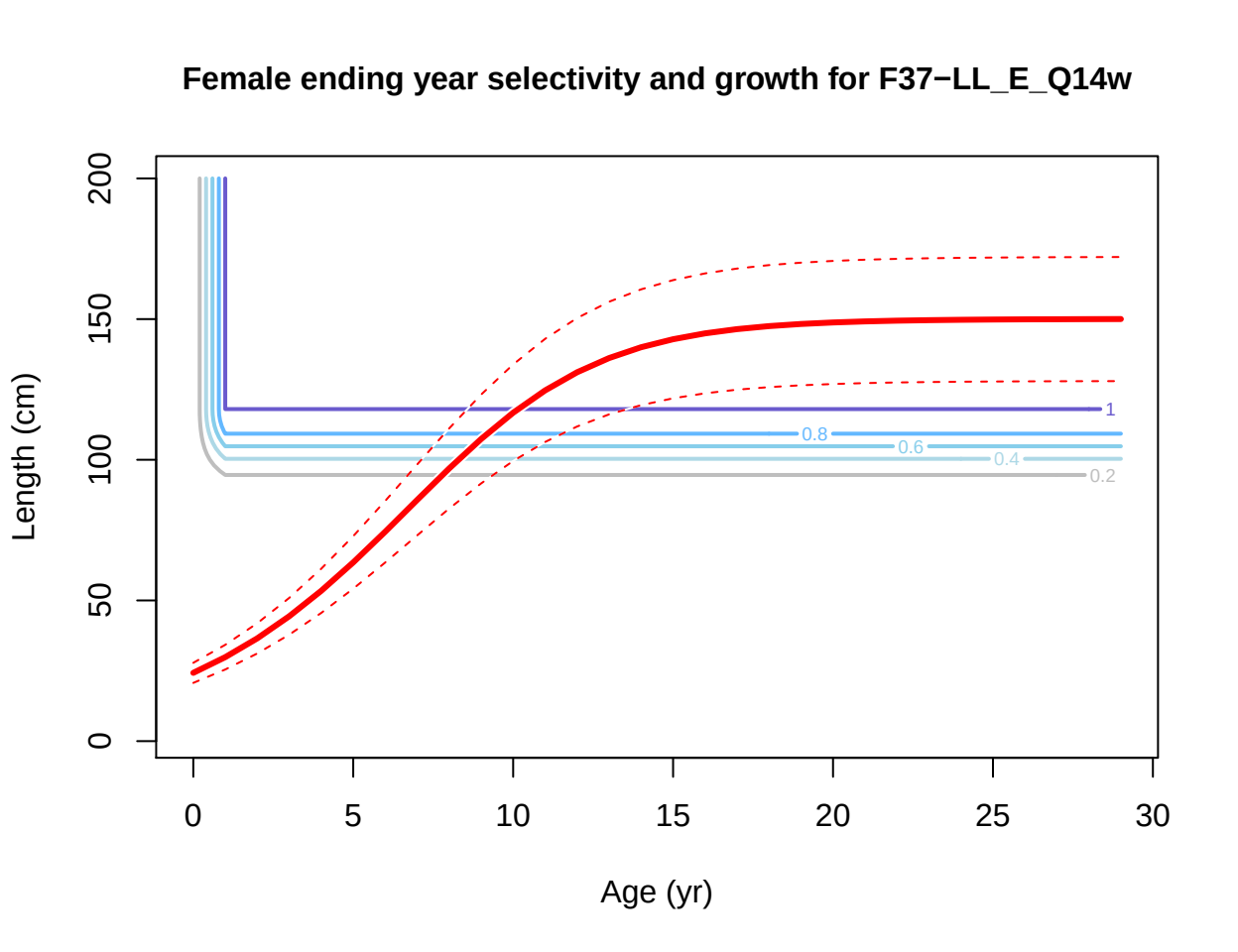

Male ending year selectivity and growth for F34−LL_E_Q23n
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

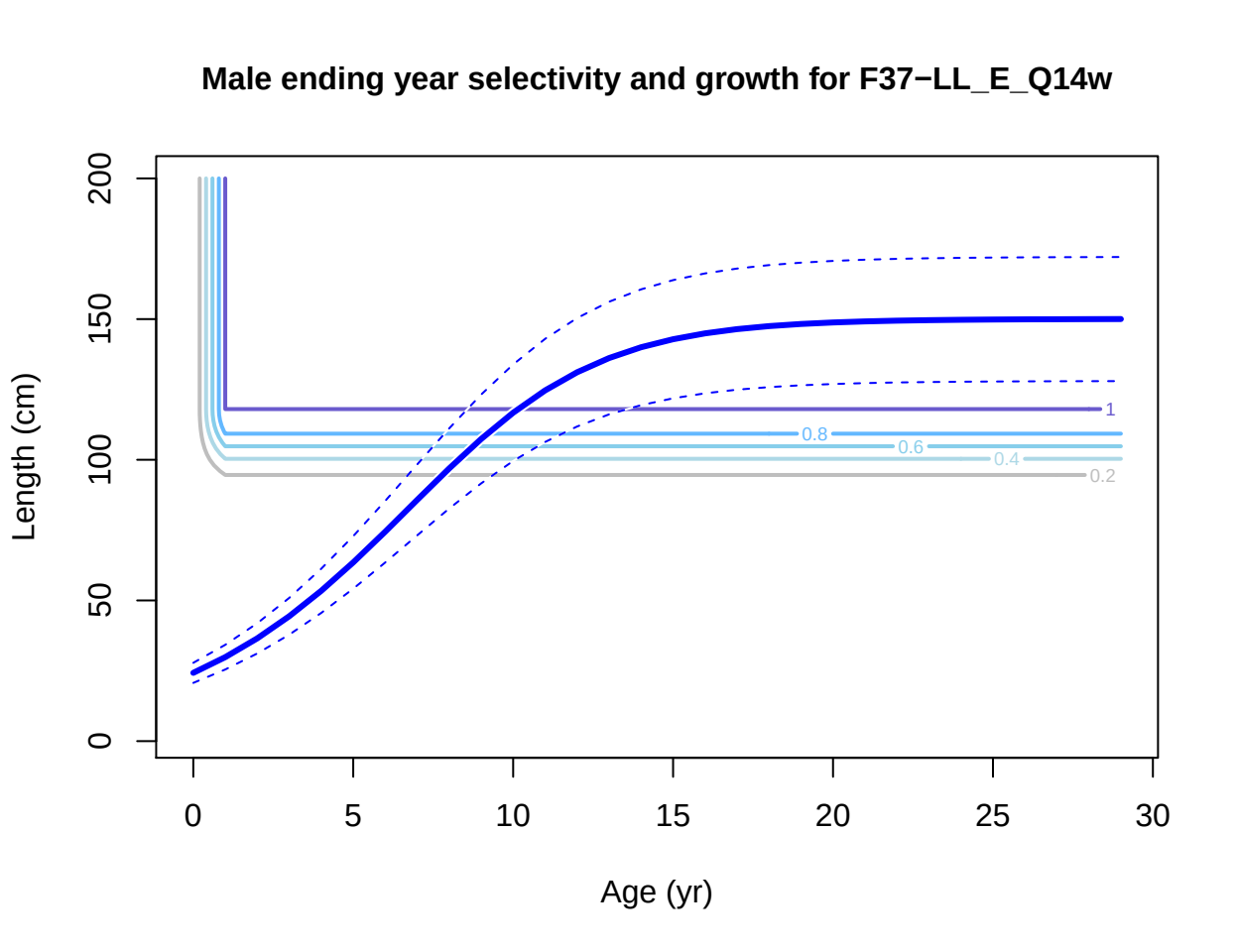

Female ending year selectivity and growth for F35−LL_W_Q14w
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

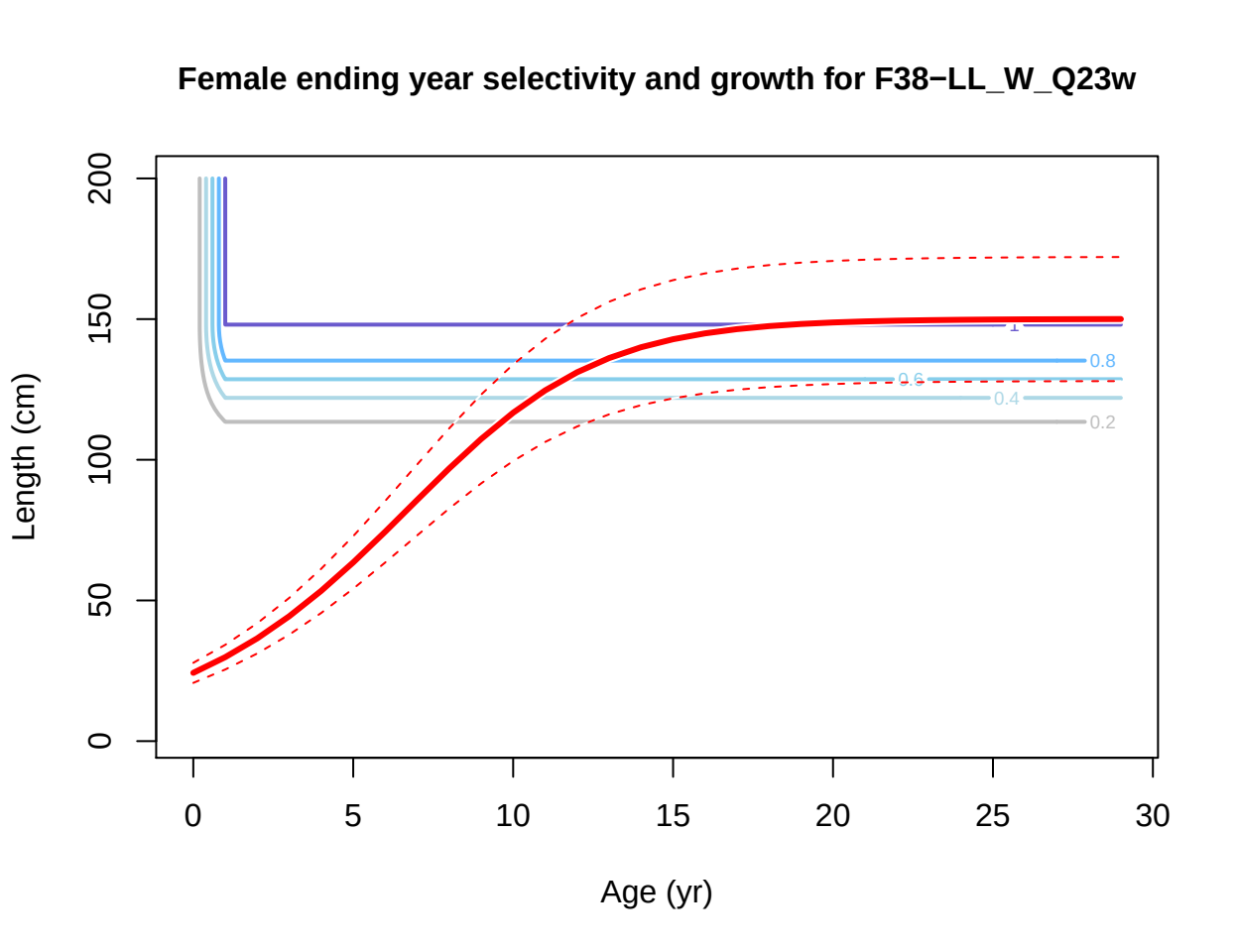

Male ending year selectivity and growth for F35−LL_W_Q14w
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

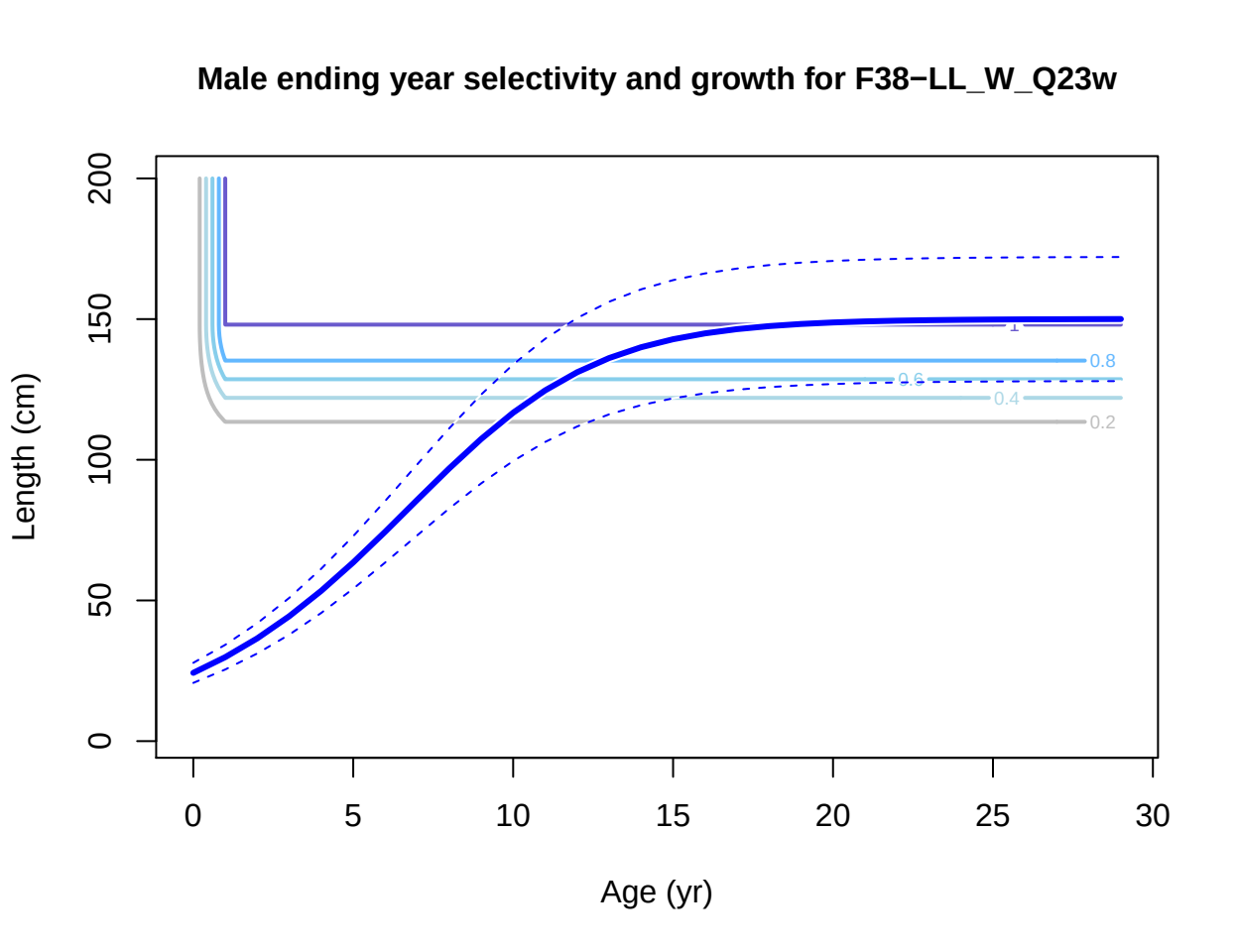

Female ending year selectivity and growth for F36−LL_C_Q14w
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.8
0.6
0.4
0.2

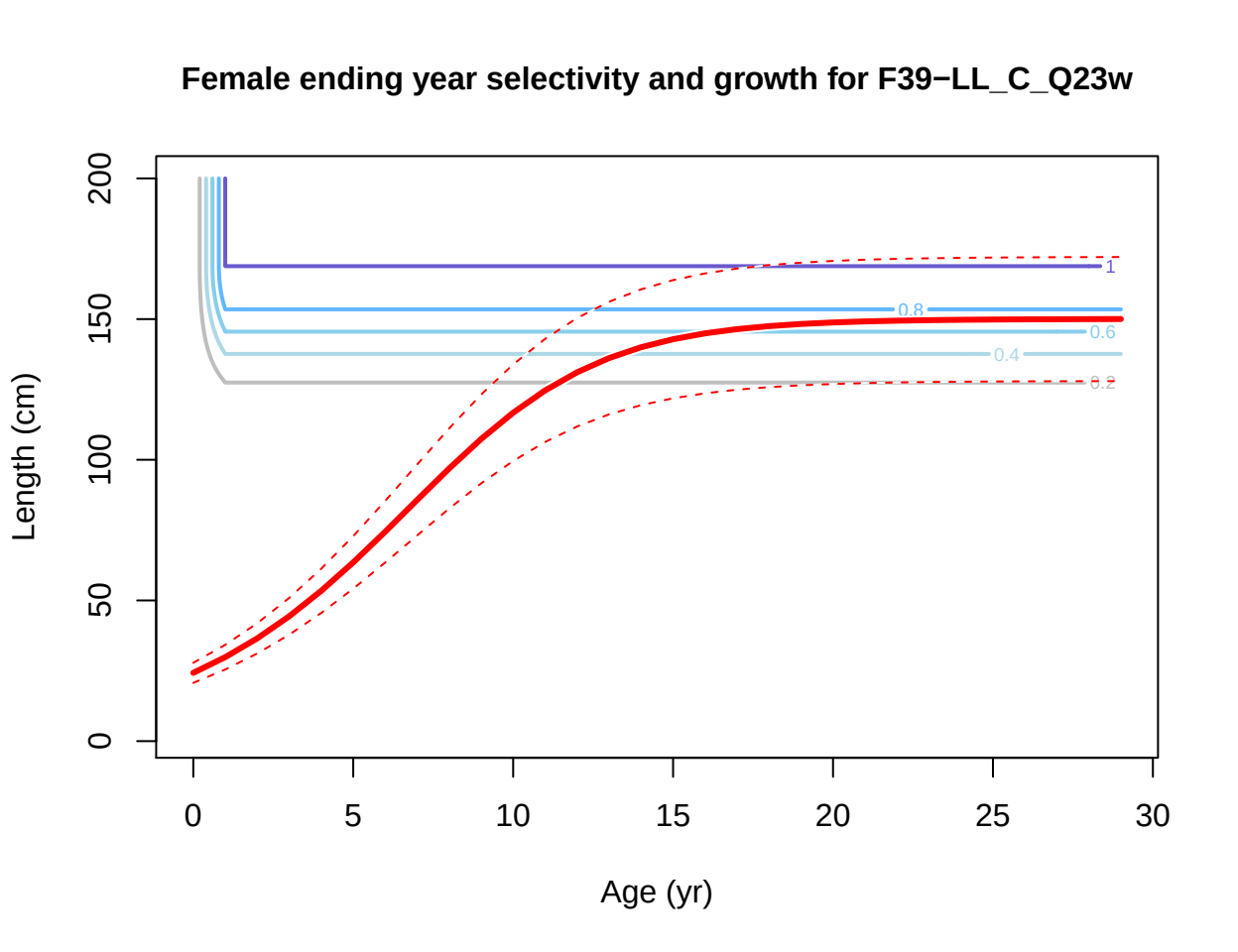

Male ending year selectivity and growth for F36−LL_C_Q14w
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.8
0.6
0.4
0.2

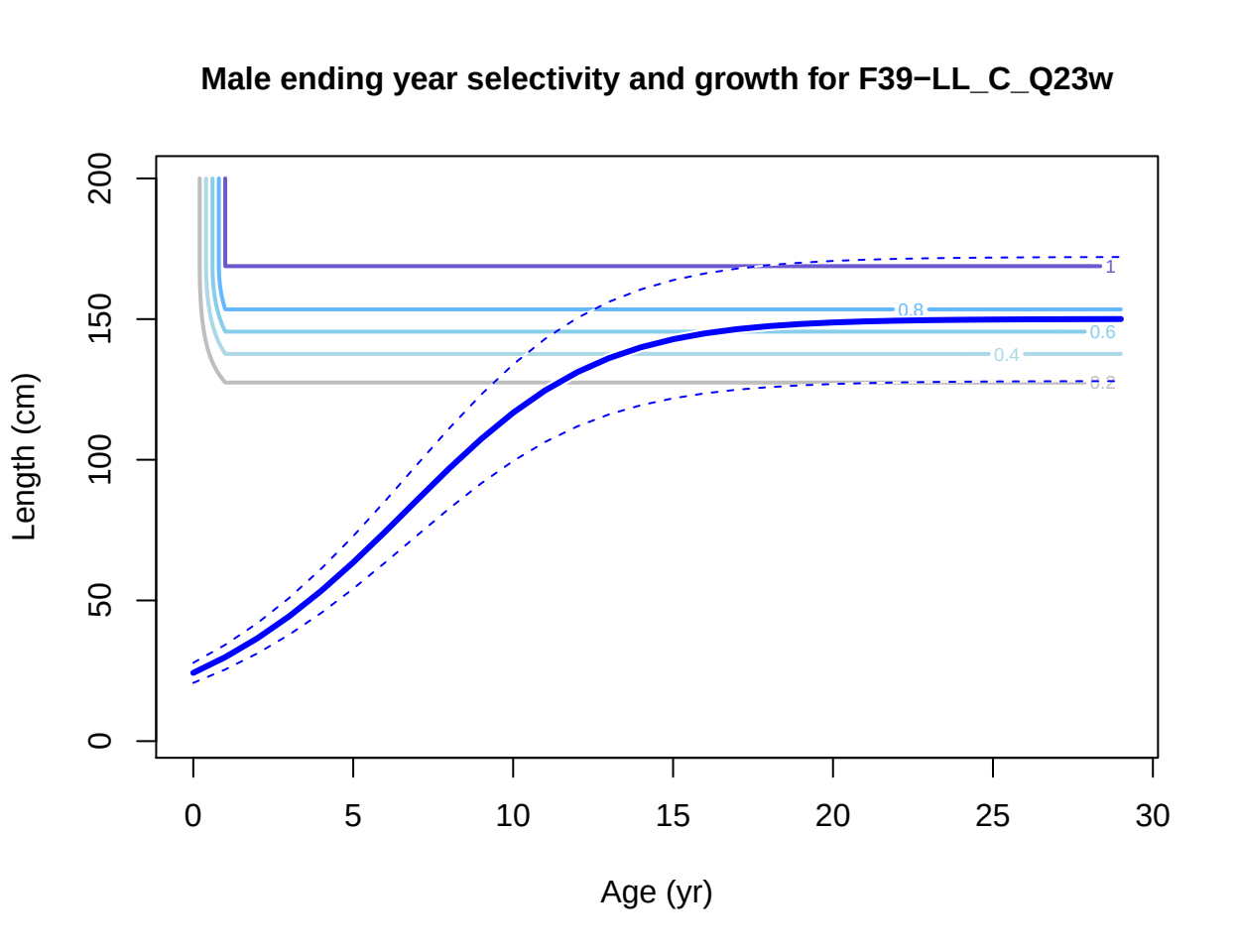

Female ending year selectivity and growth for F37−LL_E_Q14w
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

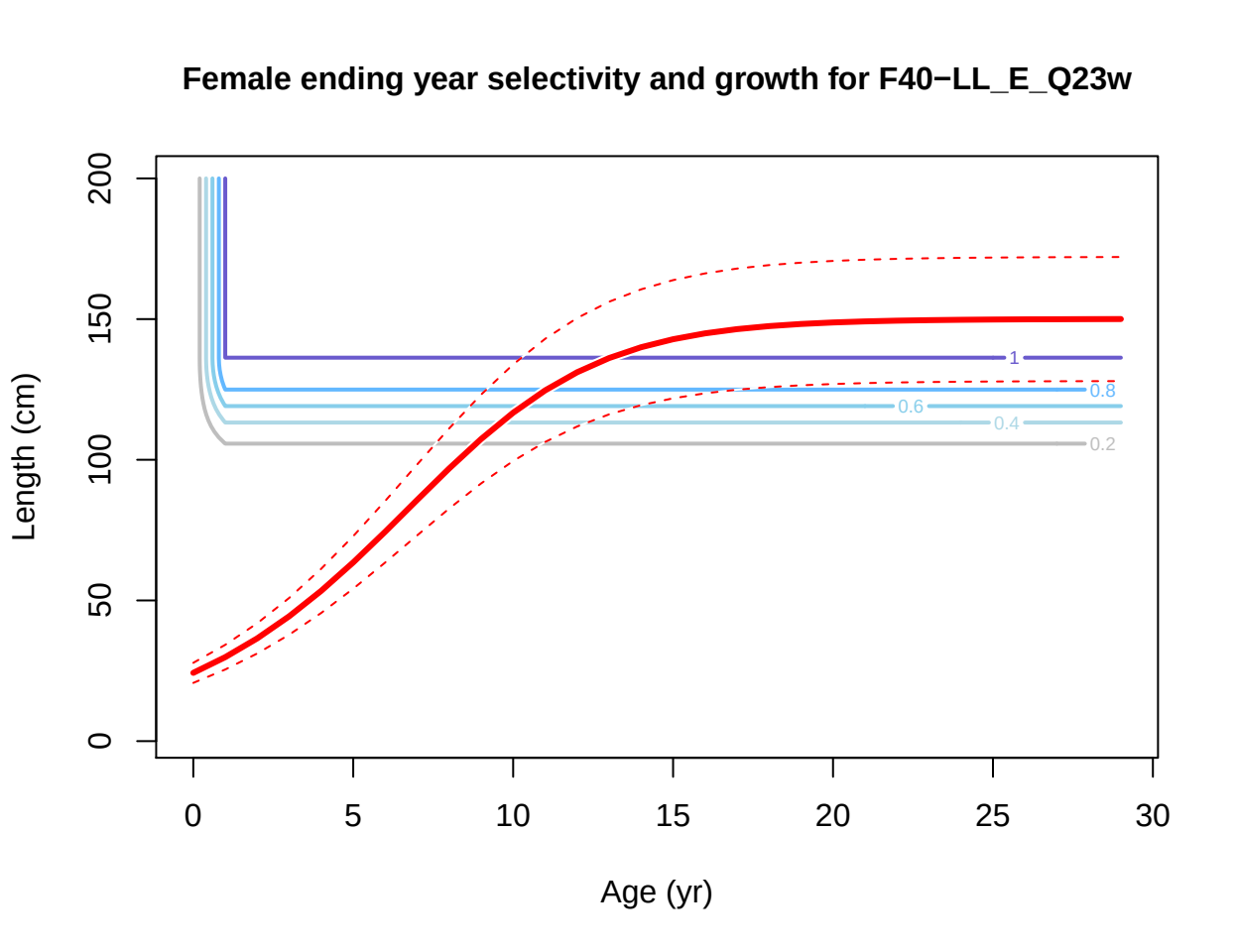

Male ending year selectivity and growth for F37−LL_E_Q14w
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

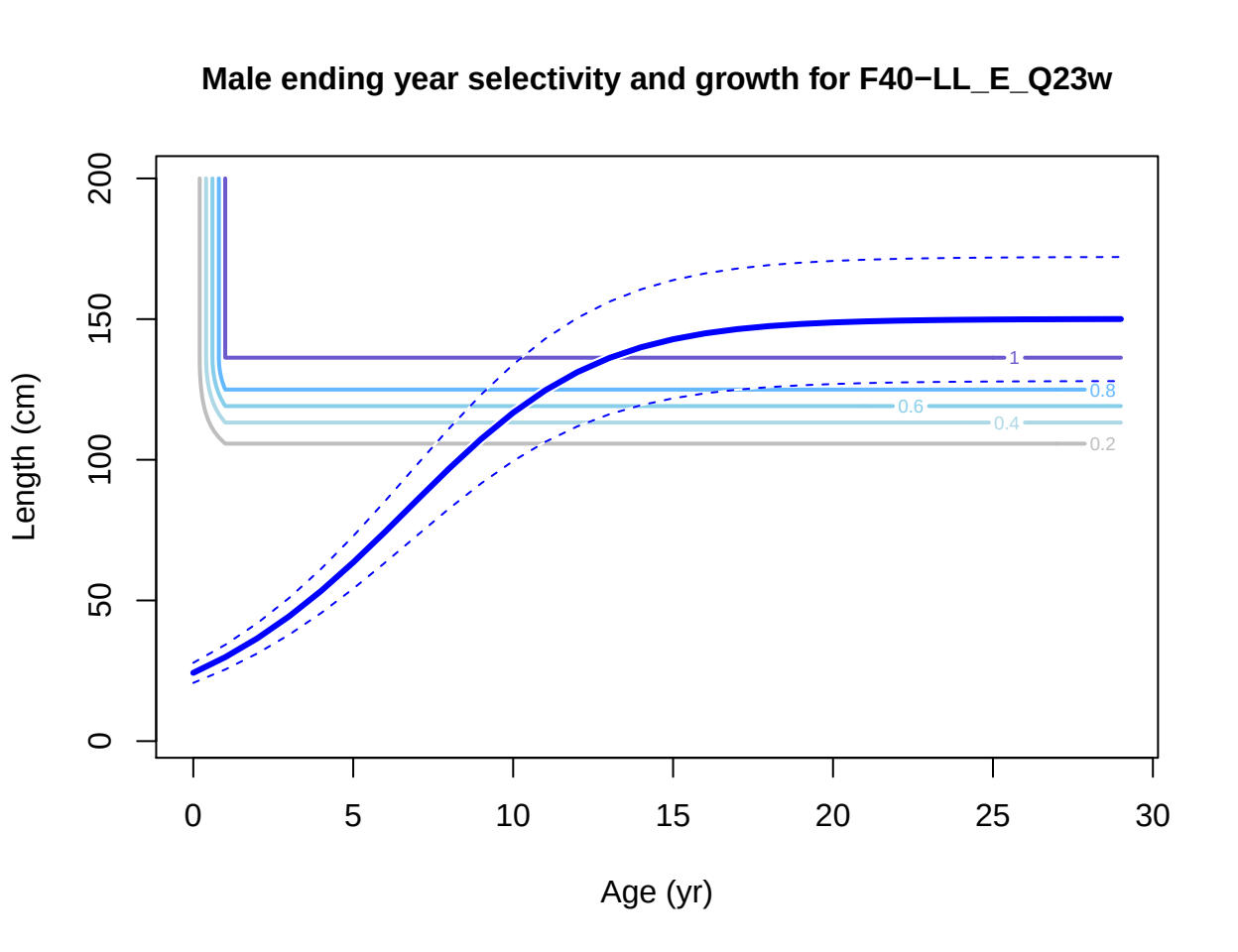

Female ending year selectivity and growth for F38−LL_W_Q23w
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

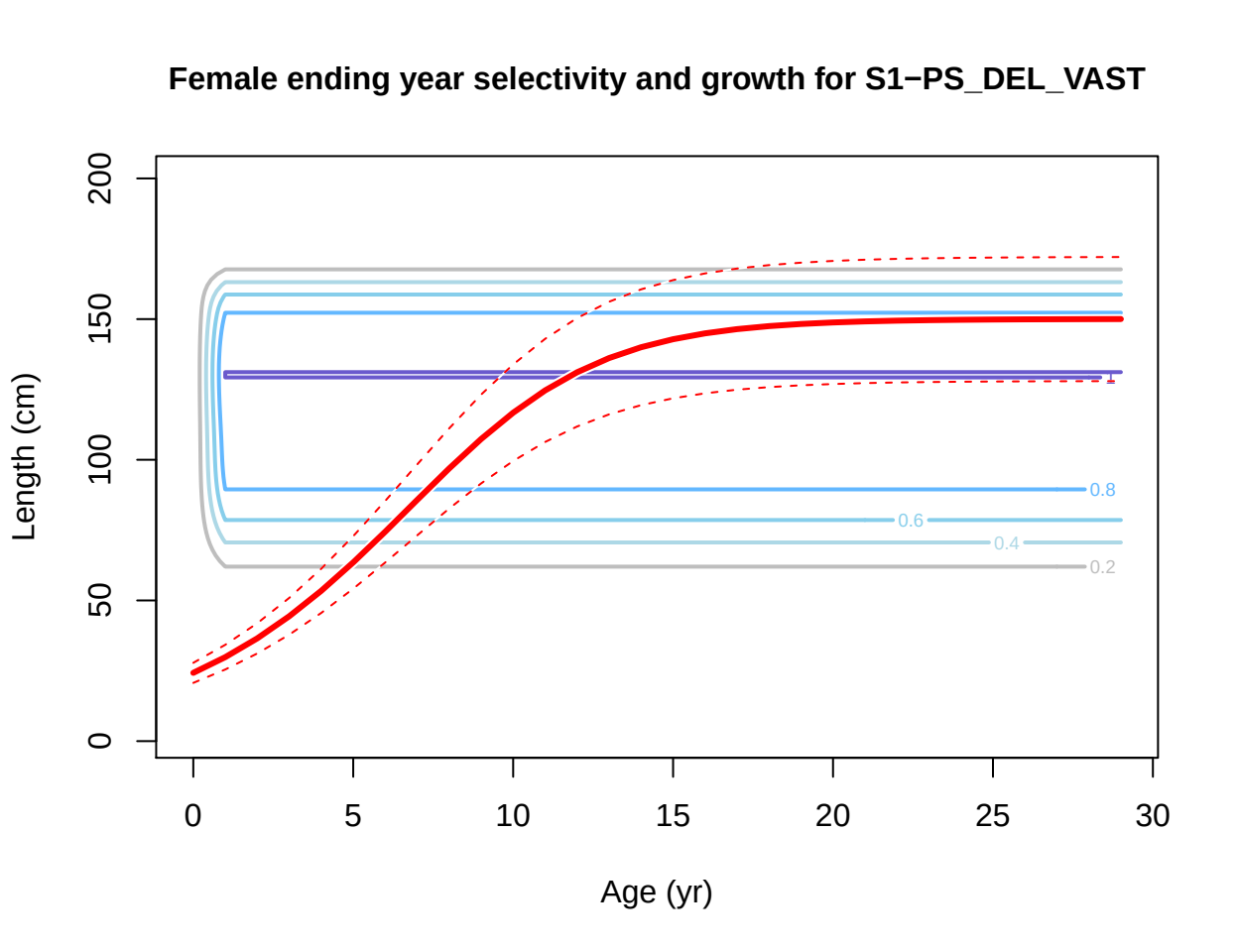

Male ending year selectivity and growth for F38−LL_W_Q23w
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

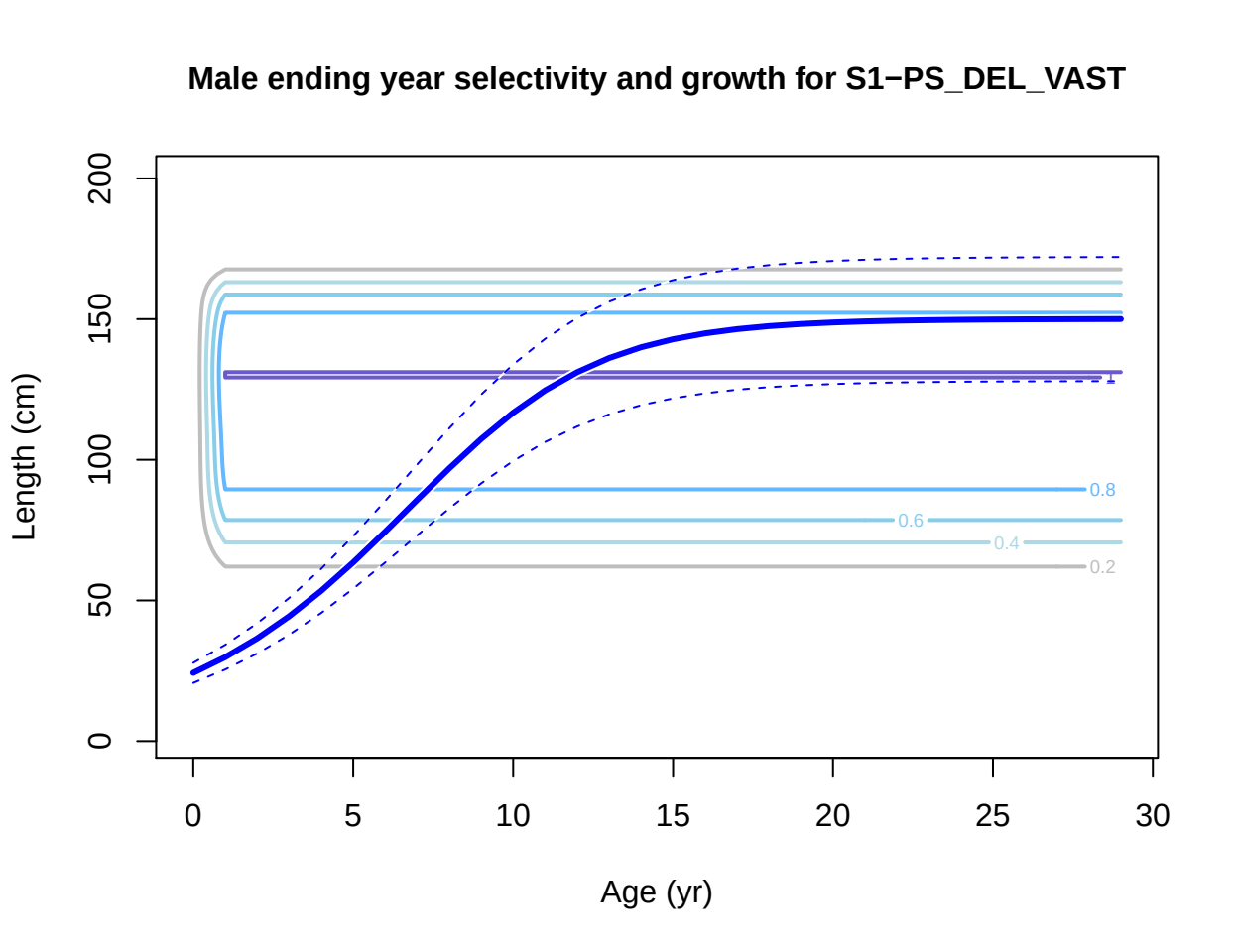

Female ending year selectivity and growth for F39−LL_C_Q23w
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

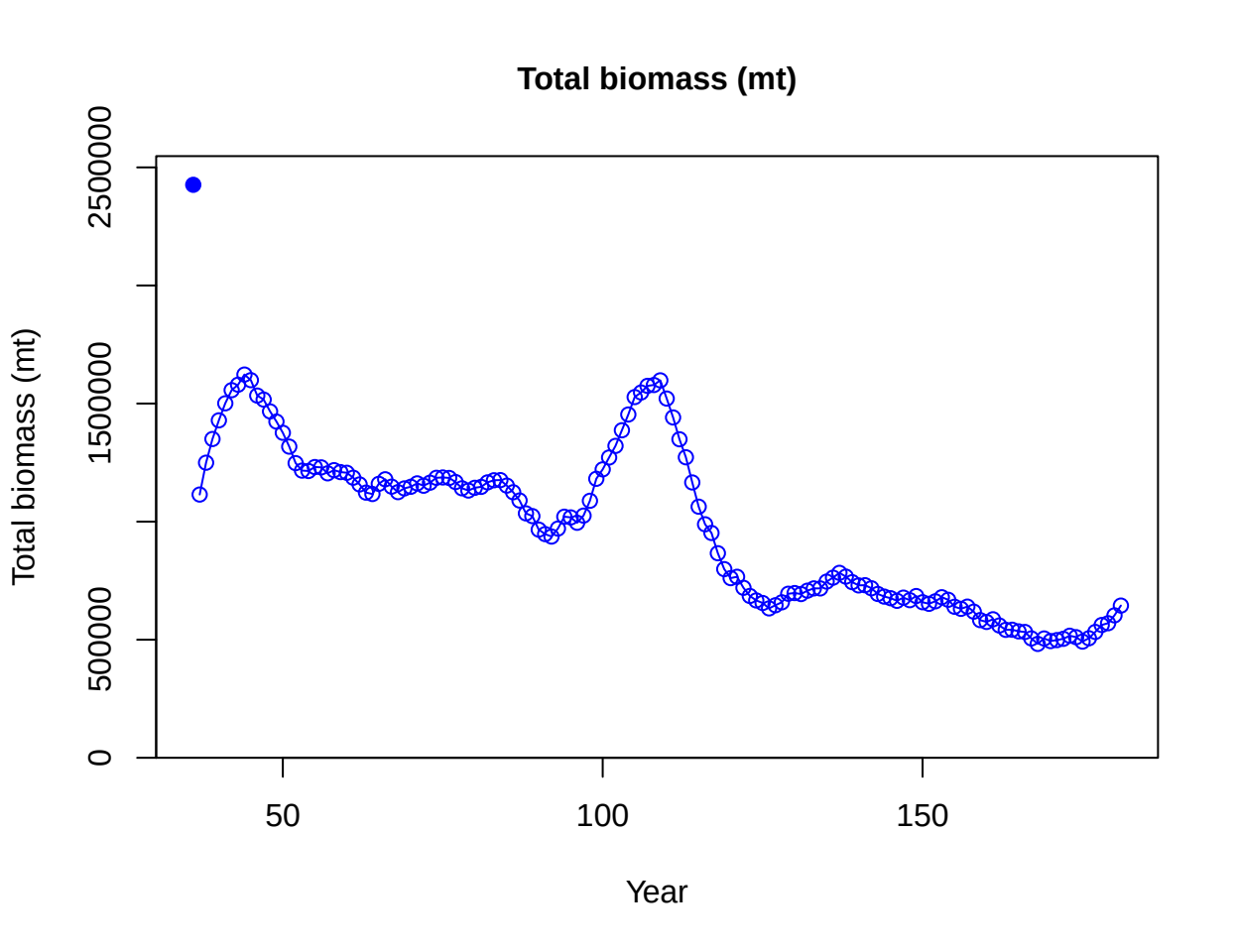

Male ending year selectivity and growth for F39−LL_C_Q23w
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

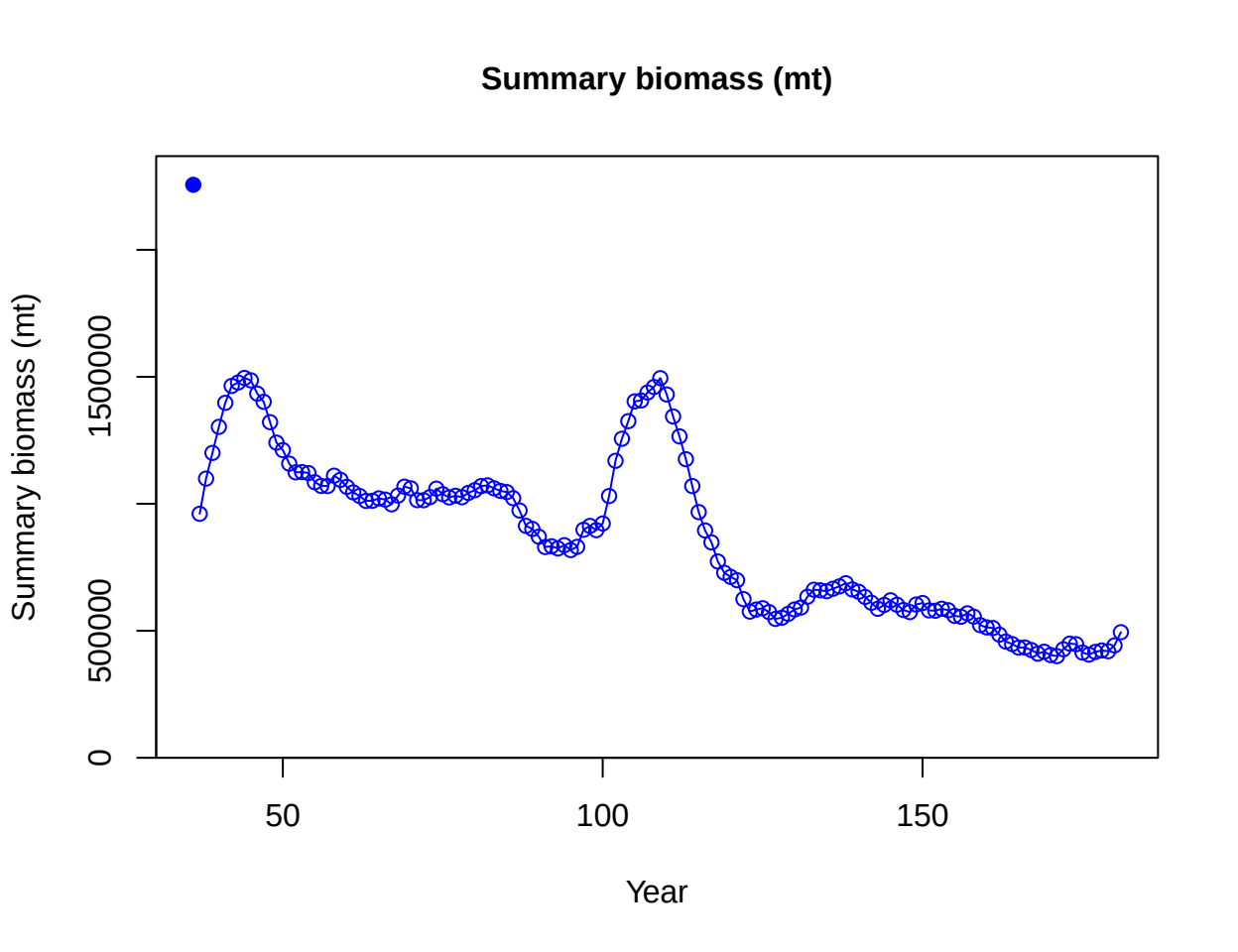

Female ending year selectivity and growth for F40−LL_E_Q23w
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

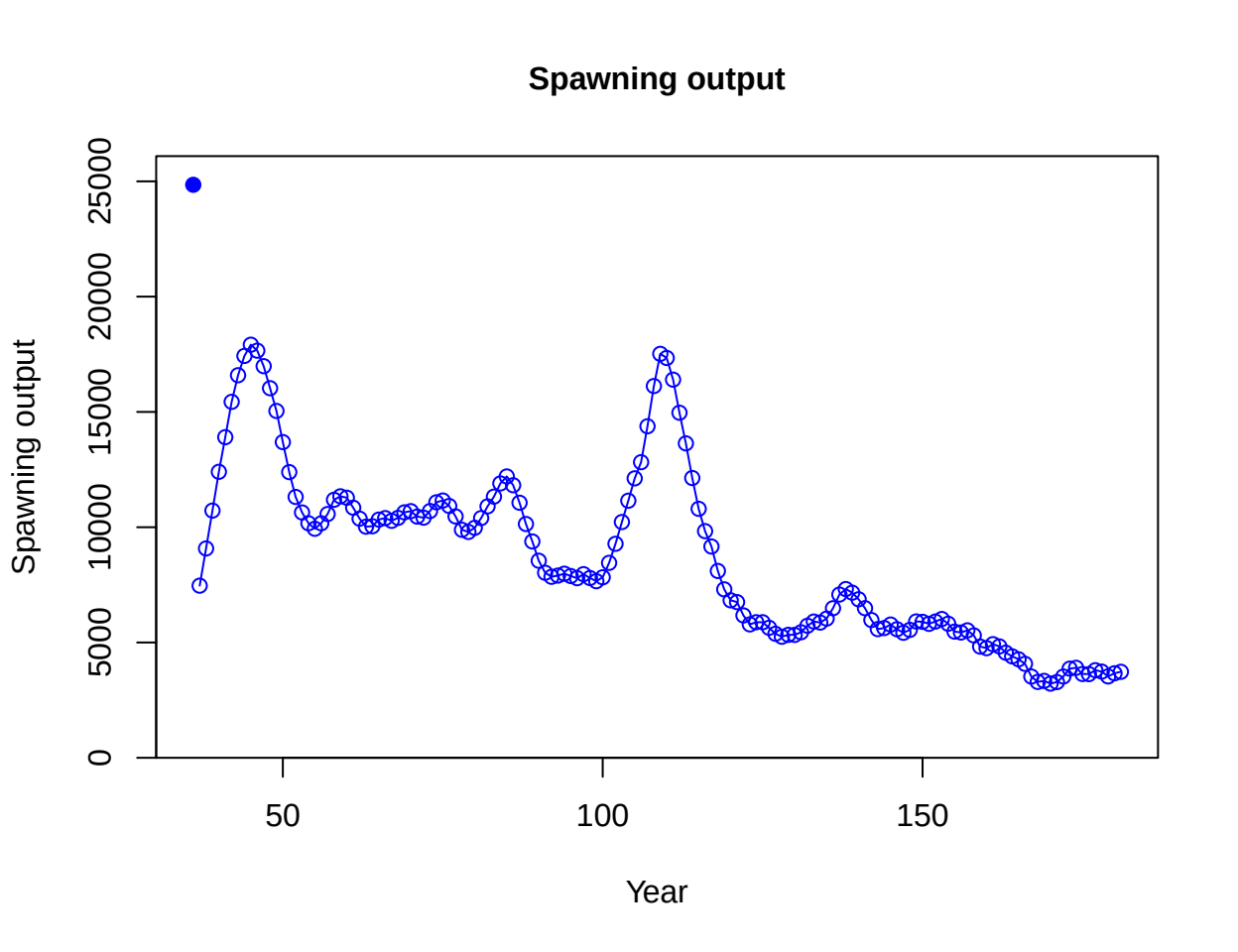

Male ending year selectivity and growth for F40−LL_E_Q23w
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
1
0.8
0.6
0.4
0.2

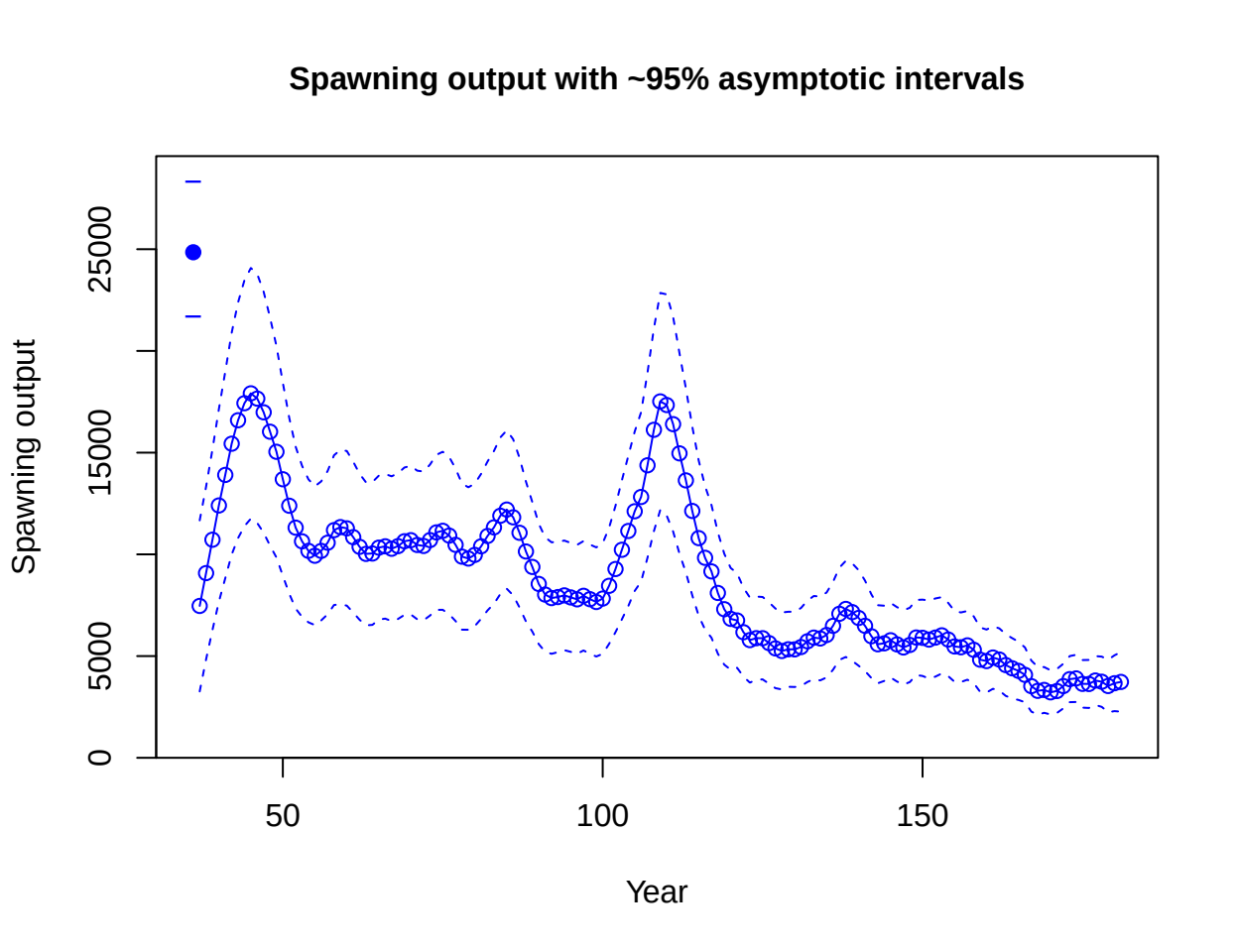

Female ending year selectivity and growth for S1−PS_DEL_VAST
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.8
0.6
0.4
0.2

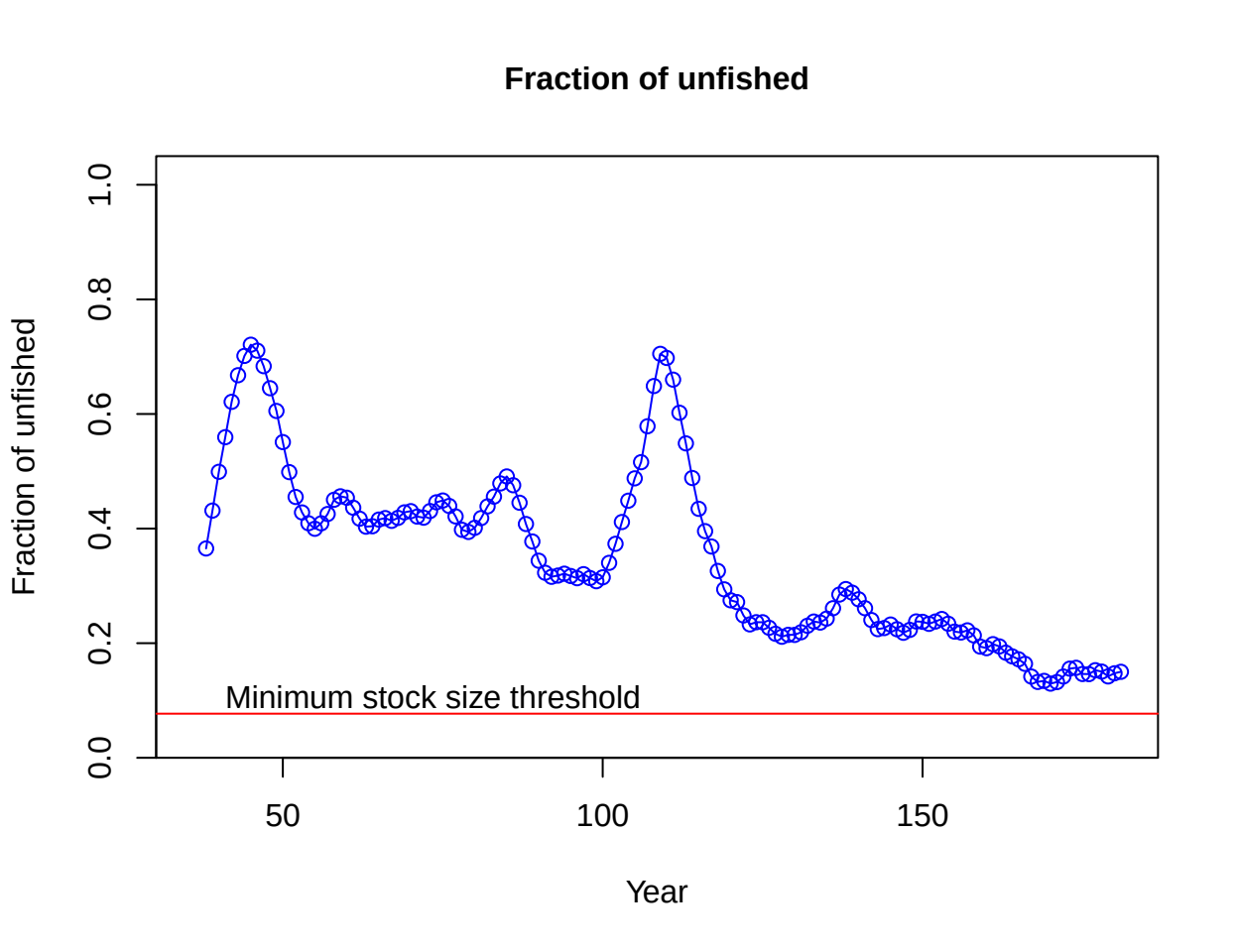

Male ending year selectivity and growth for S1−PS_DEL_VAST
Length (cm)
0
50
100
150
200
0
5
10
15
20
25
30
Age (yr)
0.8
0.6
0.4
0.2

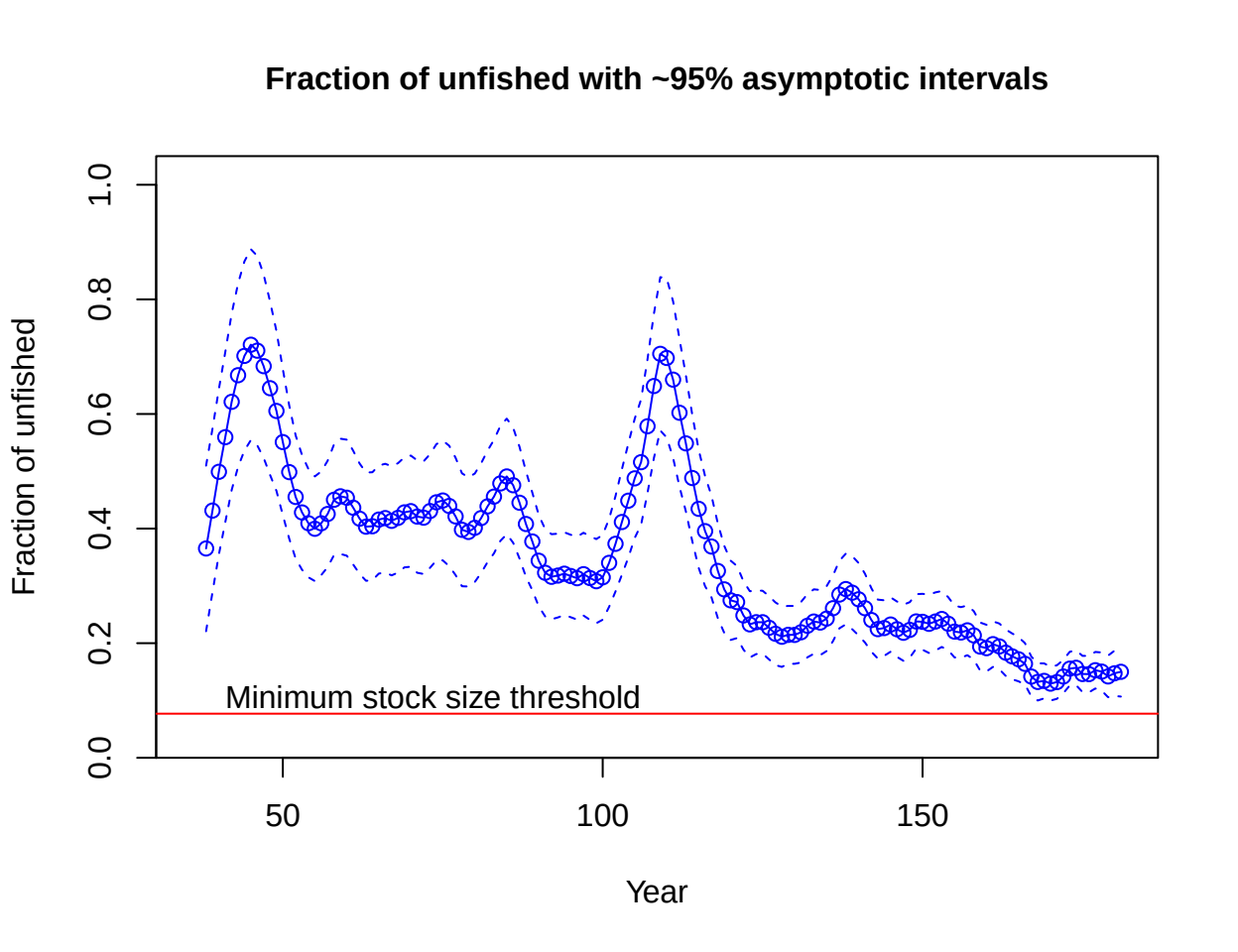

Total biomass (mt)
Total biomass (mt)
0
500000
1500000
2500000
50
100
150
Year

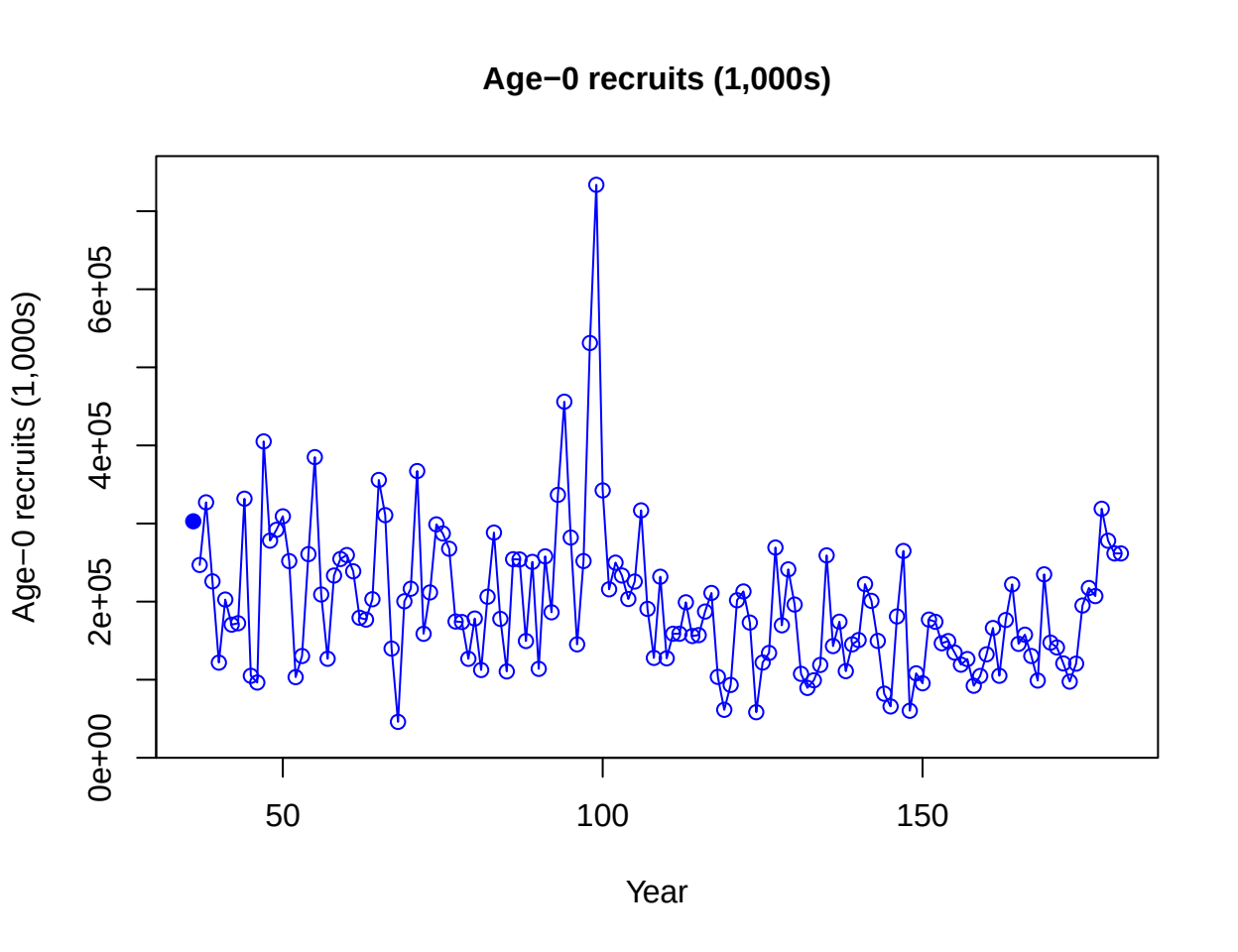

Summary biomass (mt)
Summary biomass (mt)
0
500000
1500000
50
100
150
Year

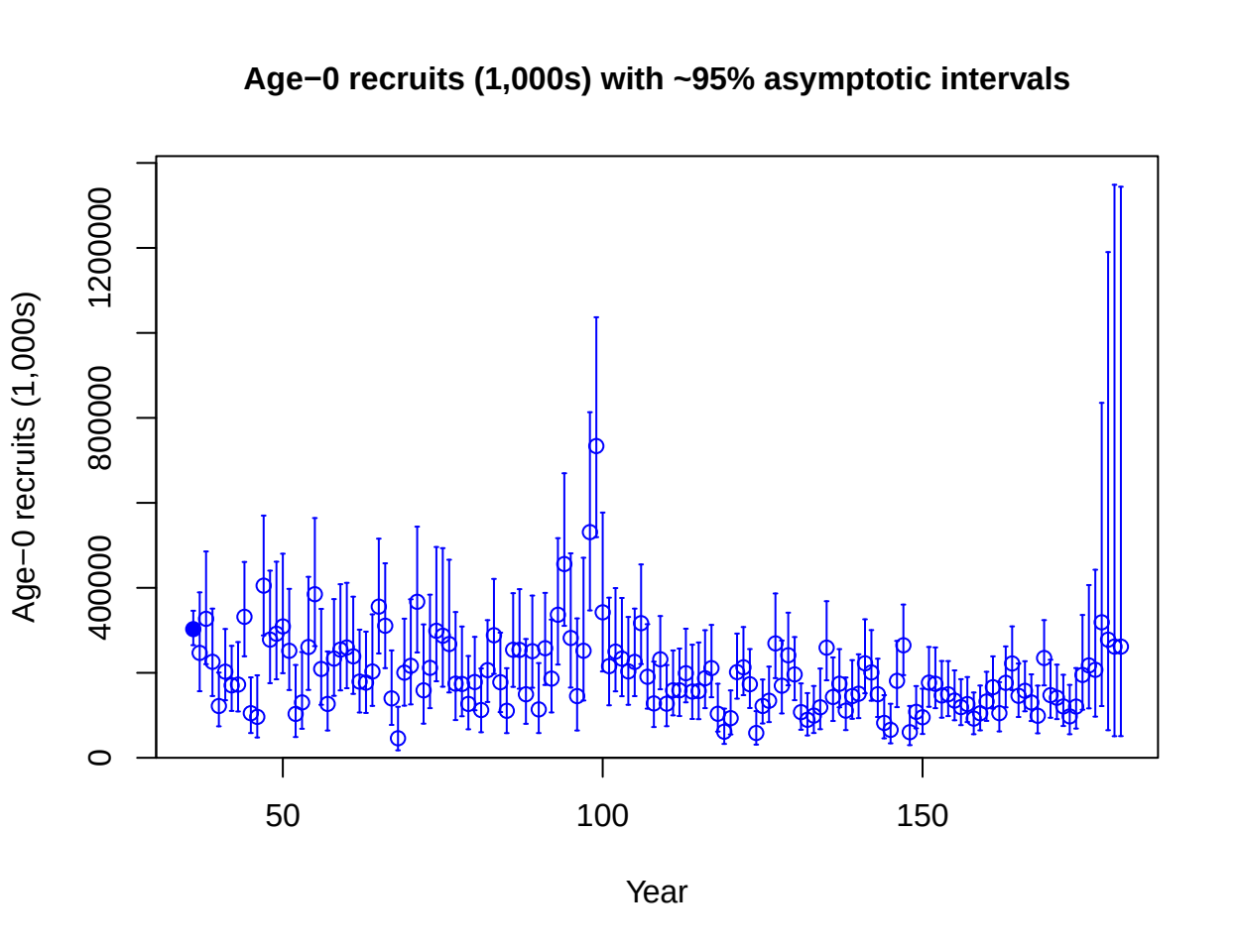

Spawning output
Spawning output
0
5000
10000
15000
20000
25000
50
100
150
Year

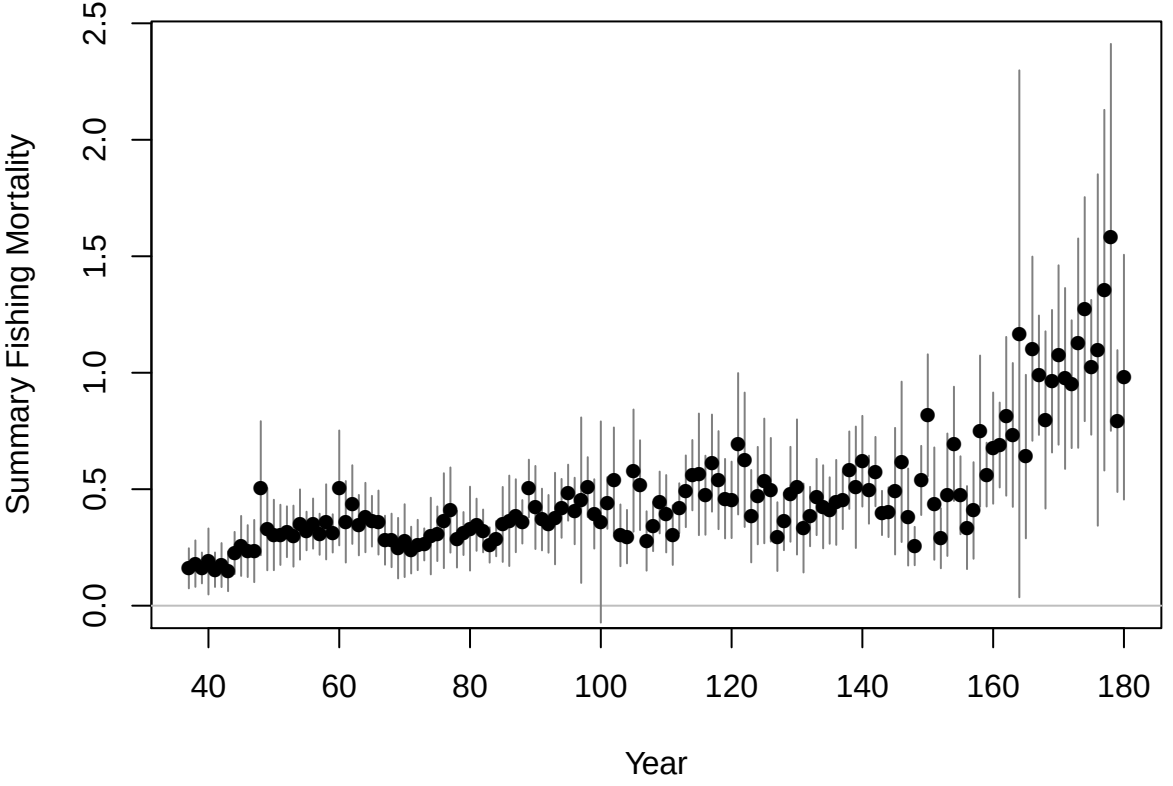

Spawning output with ~95% asymptotic intervals
Spawning output
0
5000
15000
25000
50
100
150
Year

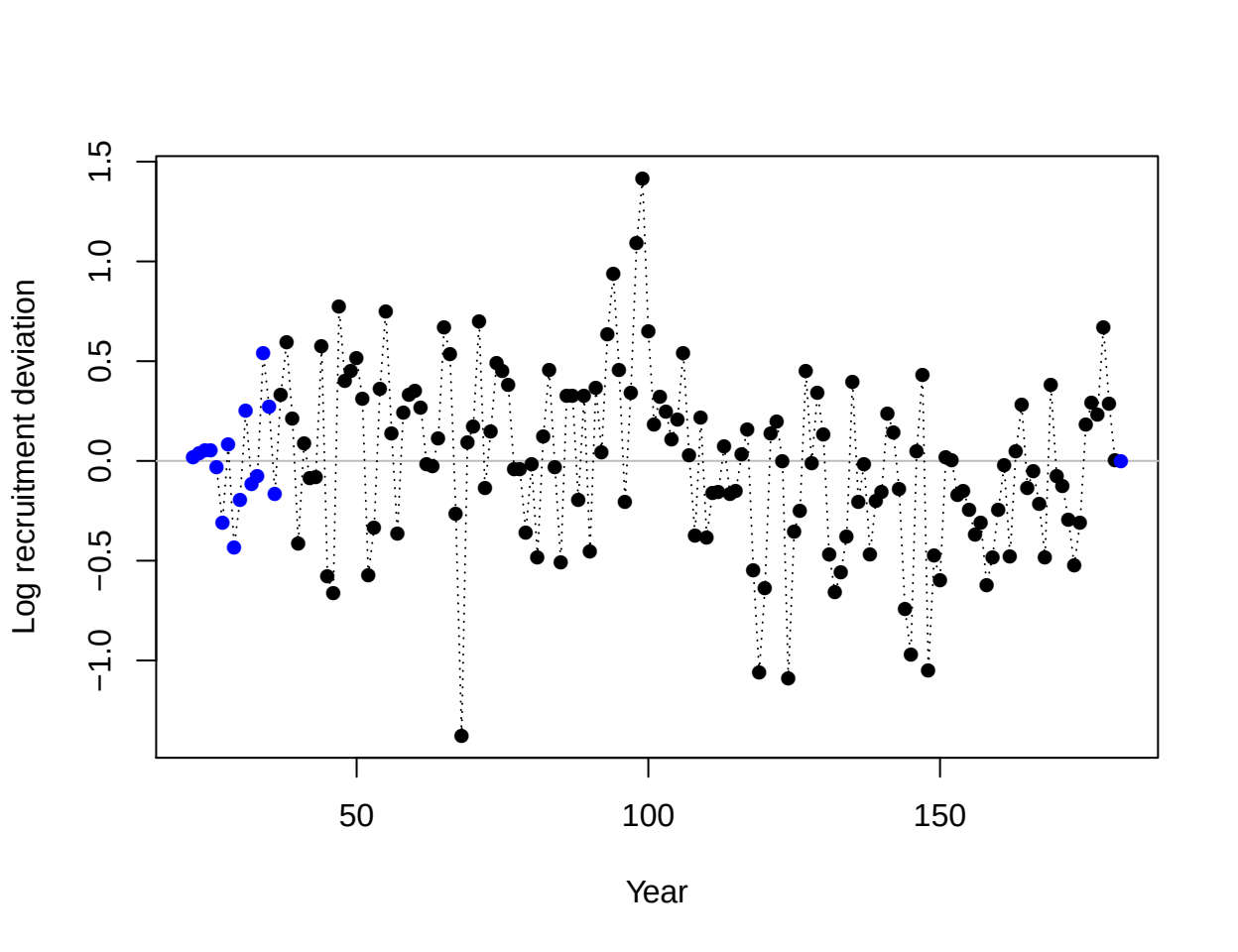

Fraction of unfished
Fraction of unfished
0.0
0.2
0.4
0.6
0.8
1.0
Minimum stock size threshold
50
100
150
Year

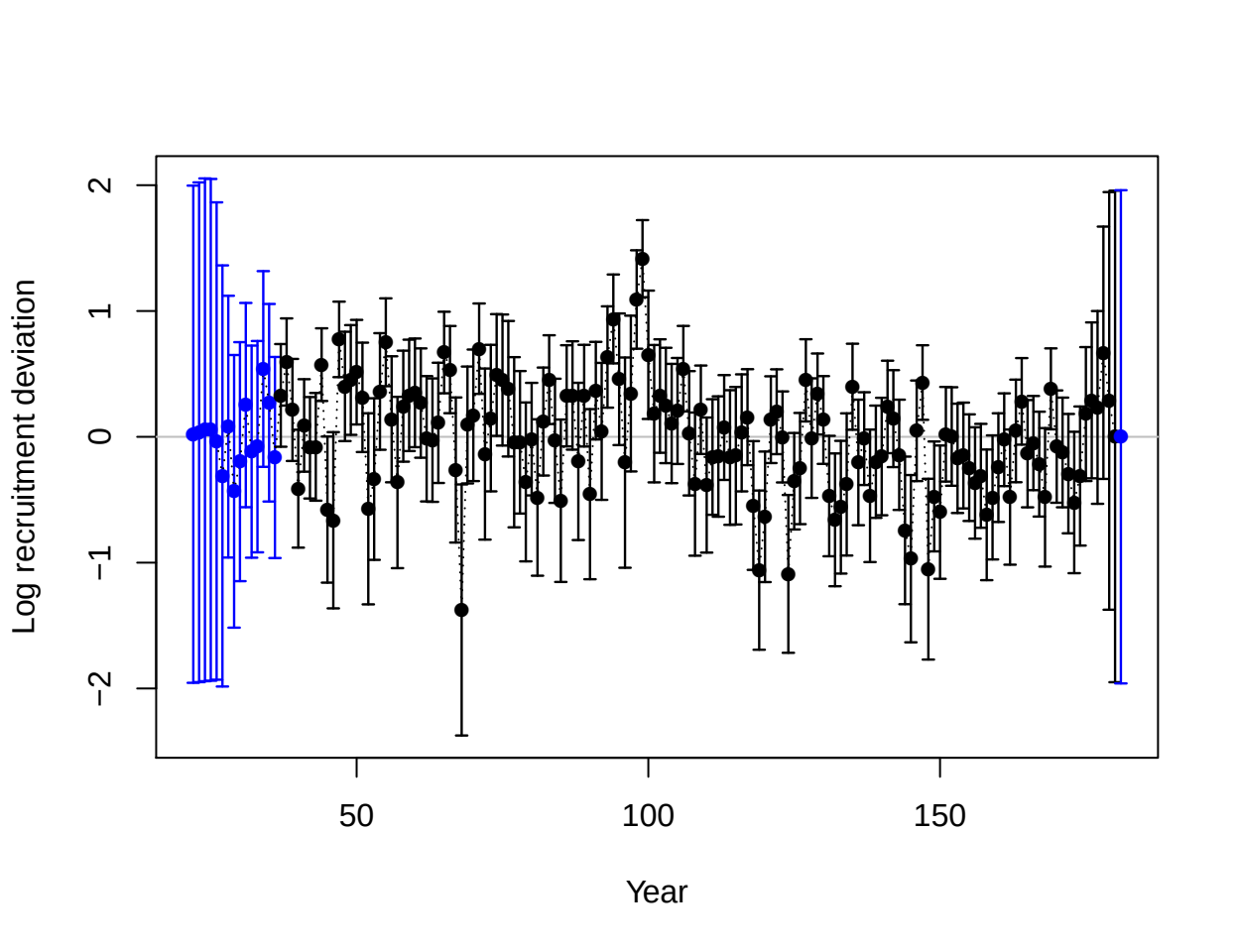

Fraction of unfished with ~95% asymptotic intervals
Fraction of unfished
0.0
0.2
0.4
0.6
0.8
1.0
Minimum stock size threshold
50
100
150
Year

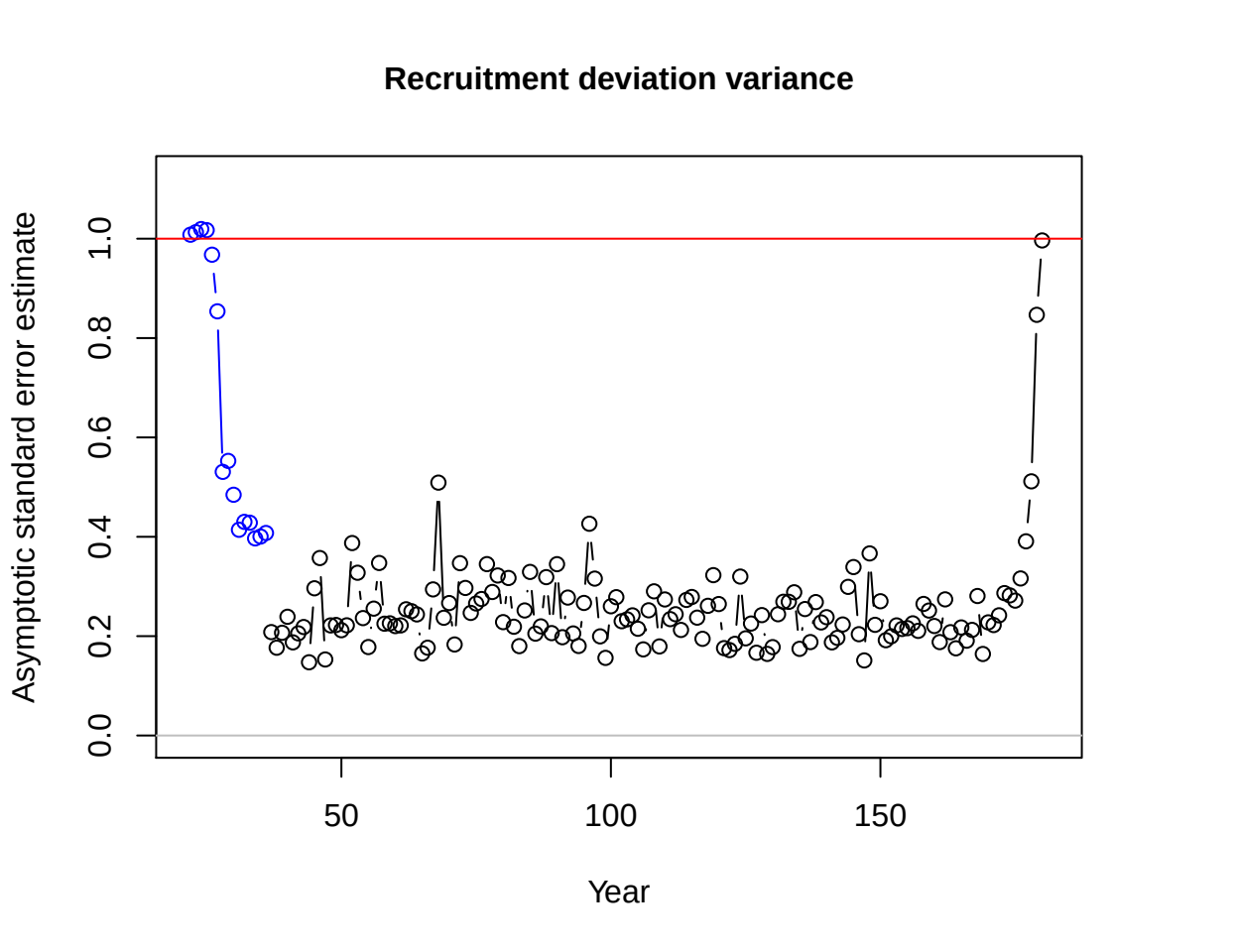

Age−0 recruits (1,000s)
Age−0 recruits (1,000s)
0e+00
2e+05
4e+05
6e+05
50
100
150
Year

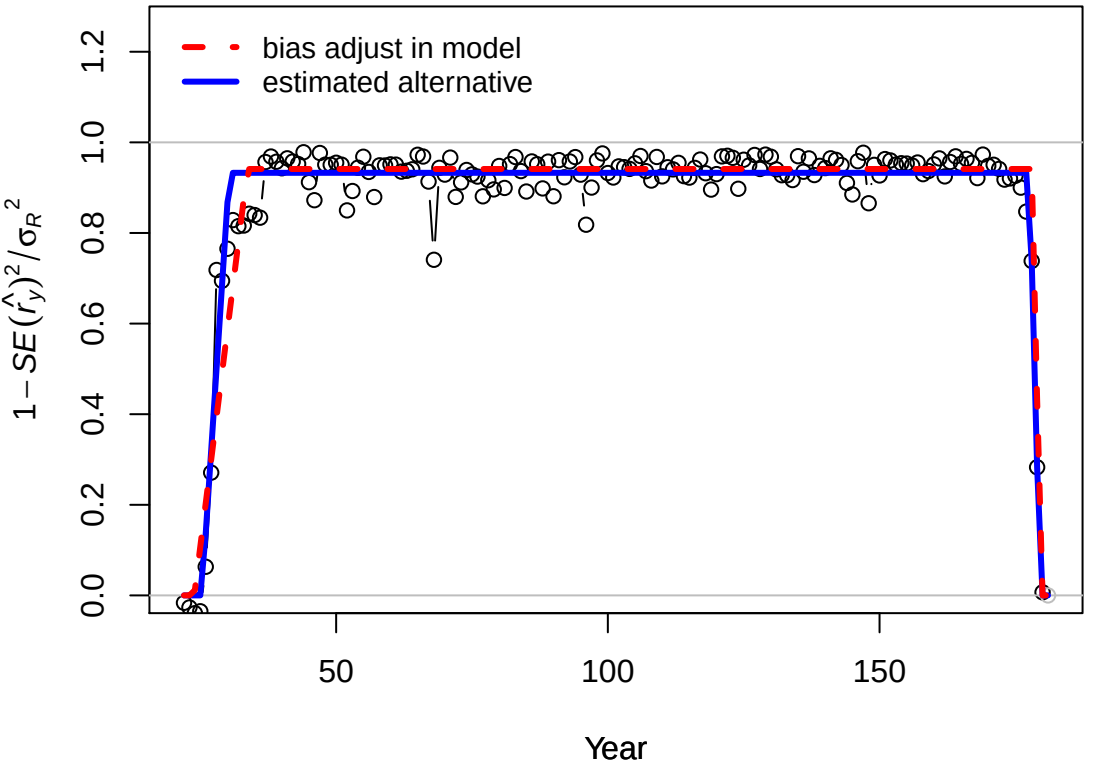

Age−0 recruits (1,000s) with ~95% asymptotic intervals
Age−0 recruits (1,000s)
0
400000
800000
1200000
50
100
150
Year

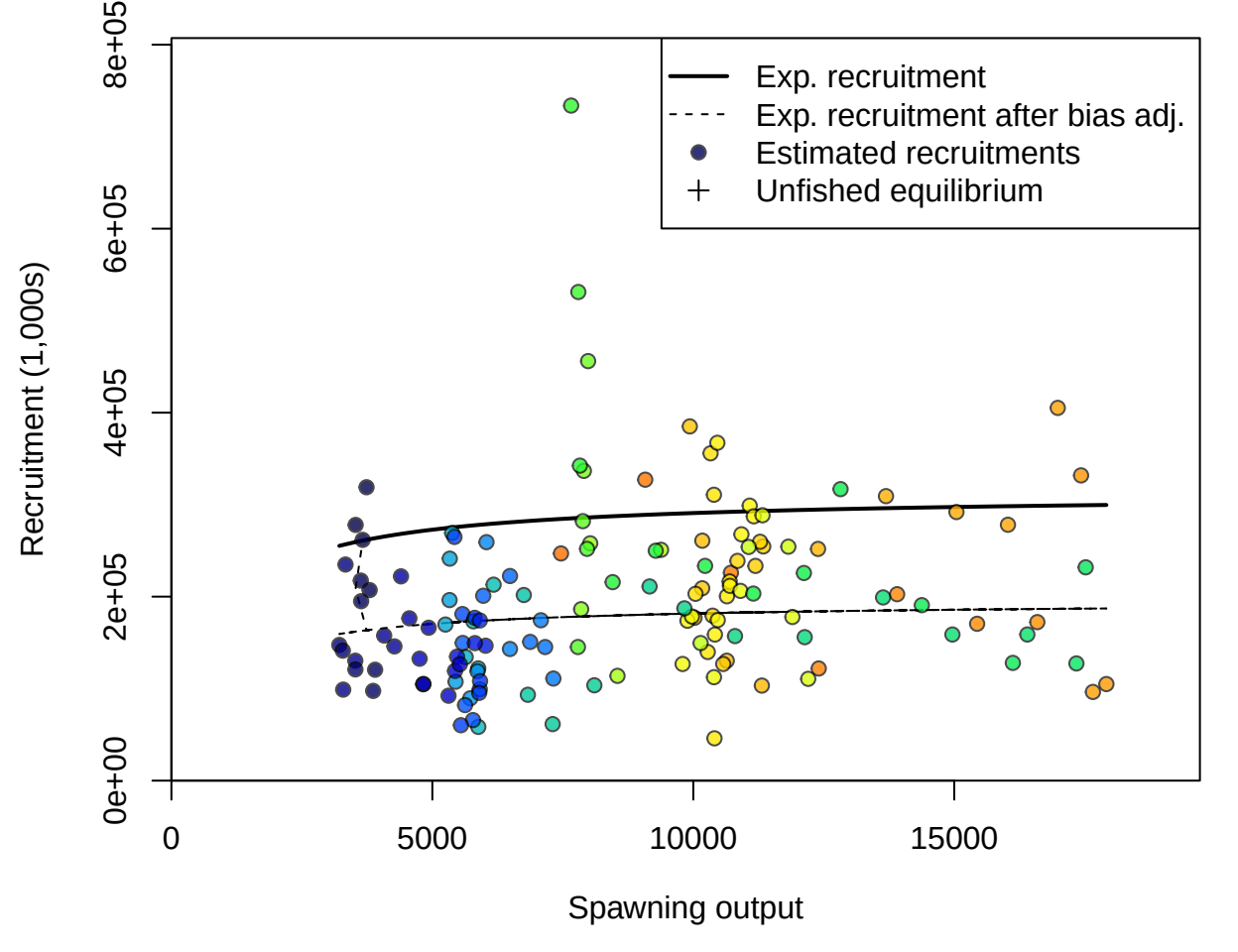

Summary Fishing Mortality
0.0
0.5
1.0
1.5
2.0
2.5
40
60
80
100
120
140
160
180
Year

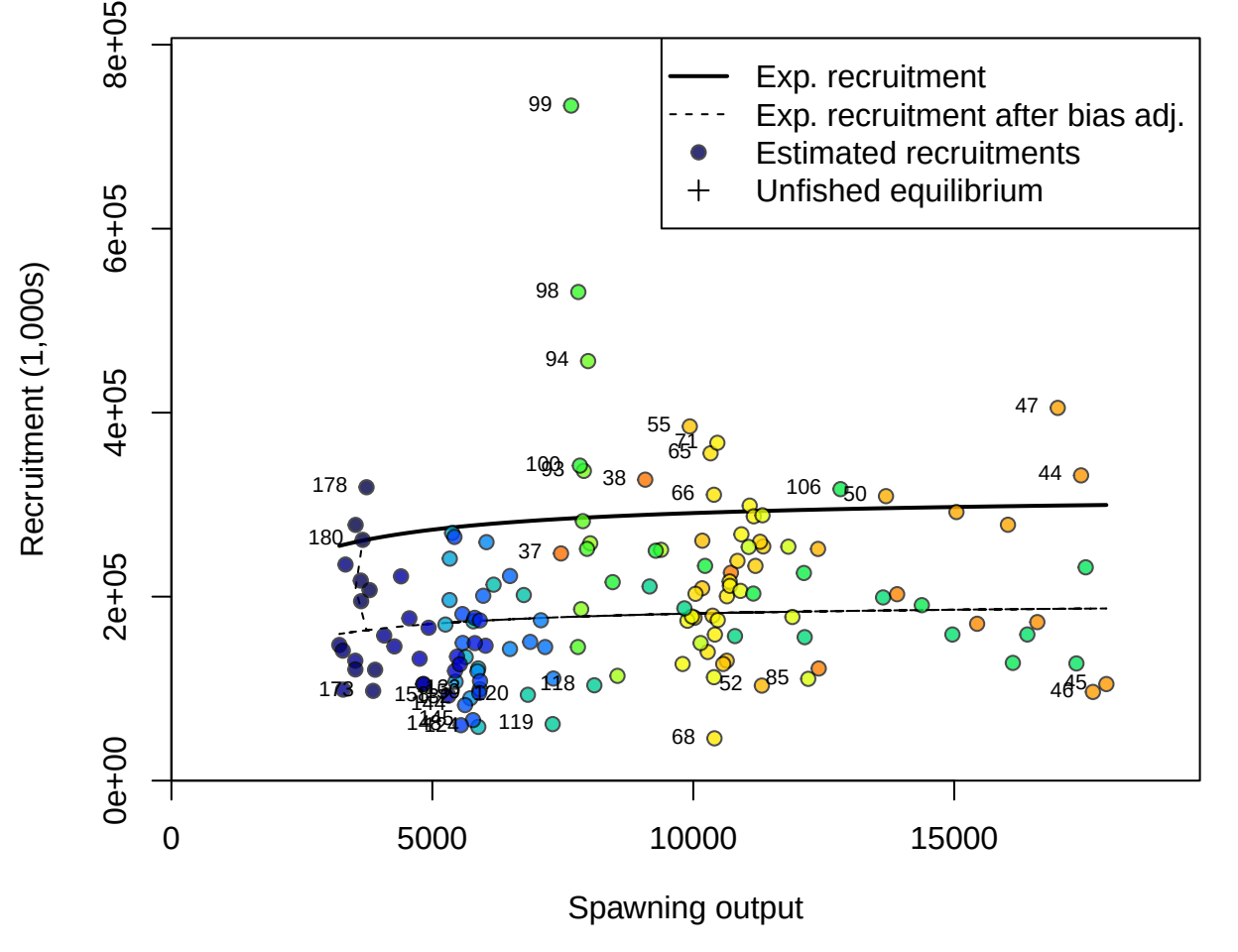

Log recruitment deviation
1.5
1.0
0.5
0.0
−0.5
−1.0
50
100
150
Year

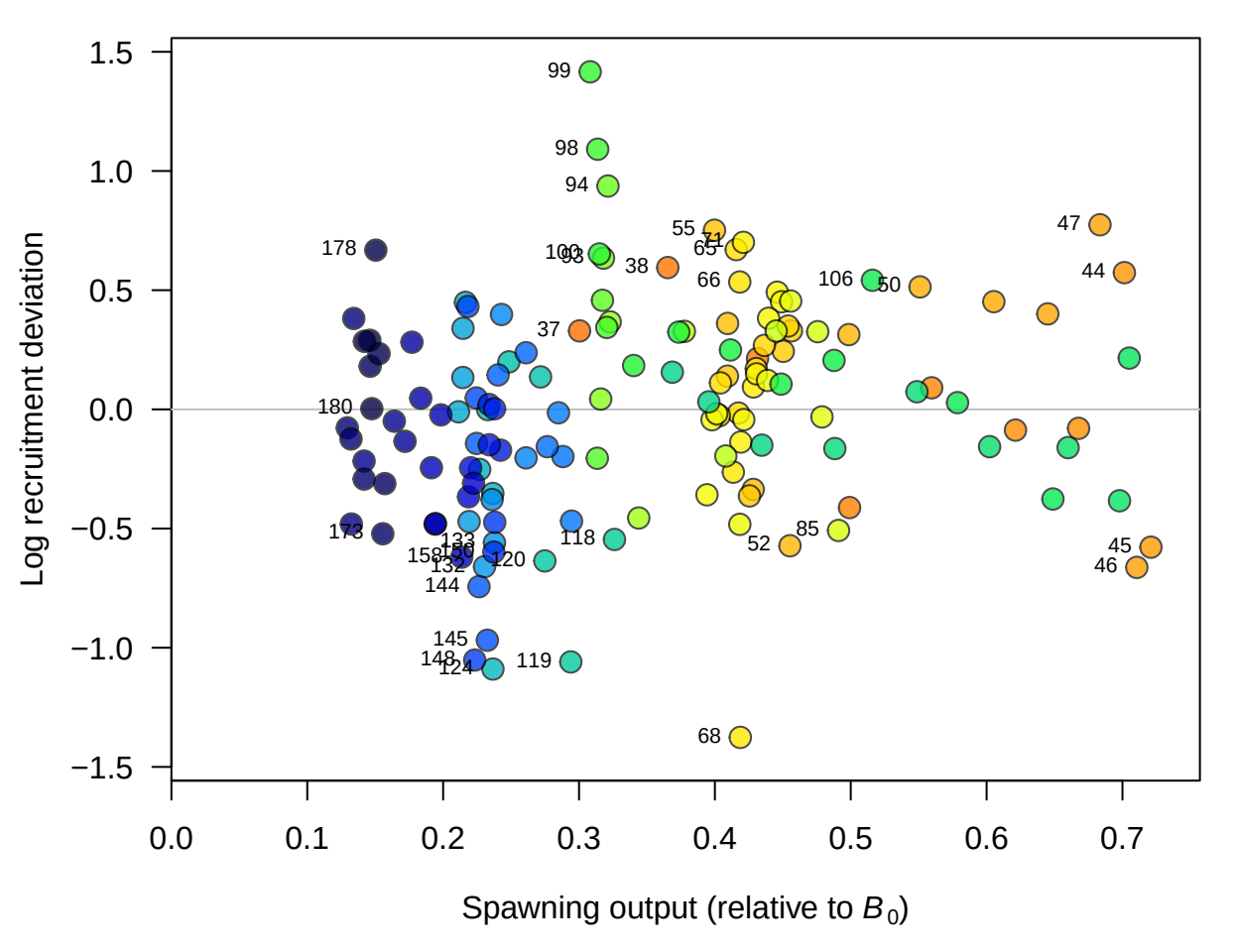

Log recruitment deviation
2
1
0
−1
−2
50
100
150
Year

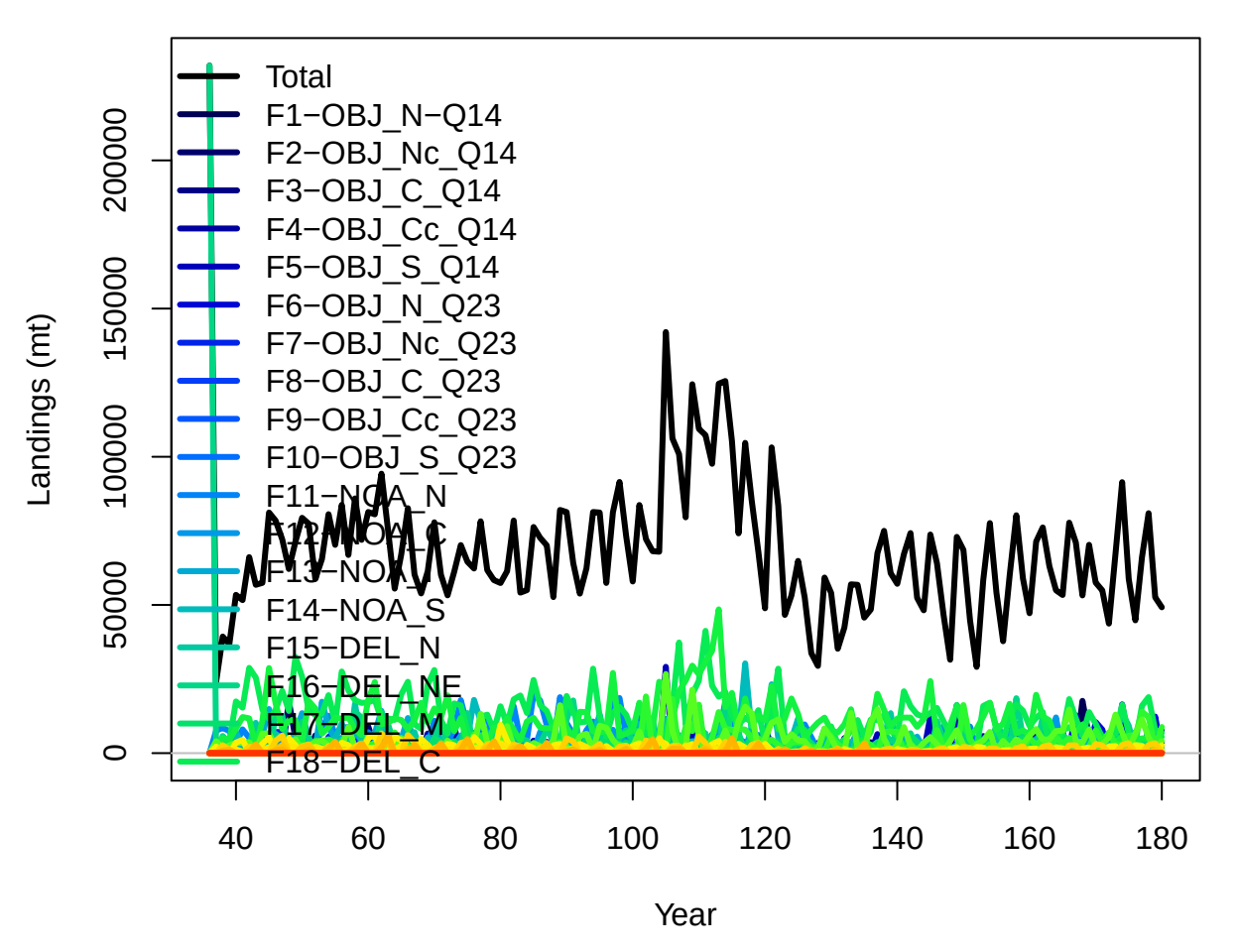

Recruitment deviation variance
Asymptotic standard error estimate
0.0
0.2
0.4
0.6
0.8
1.0
50
100
150
Year

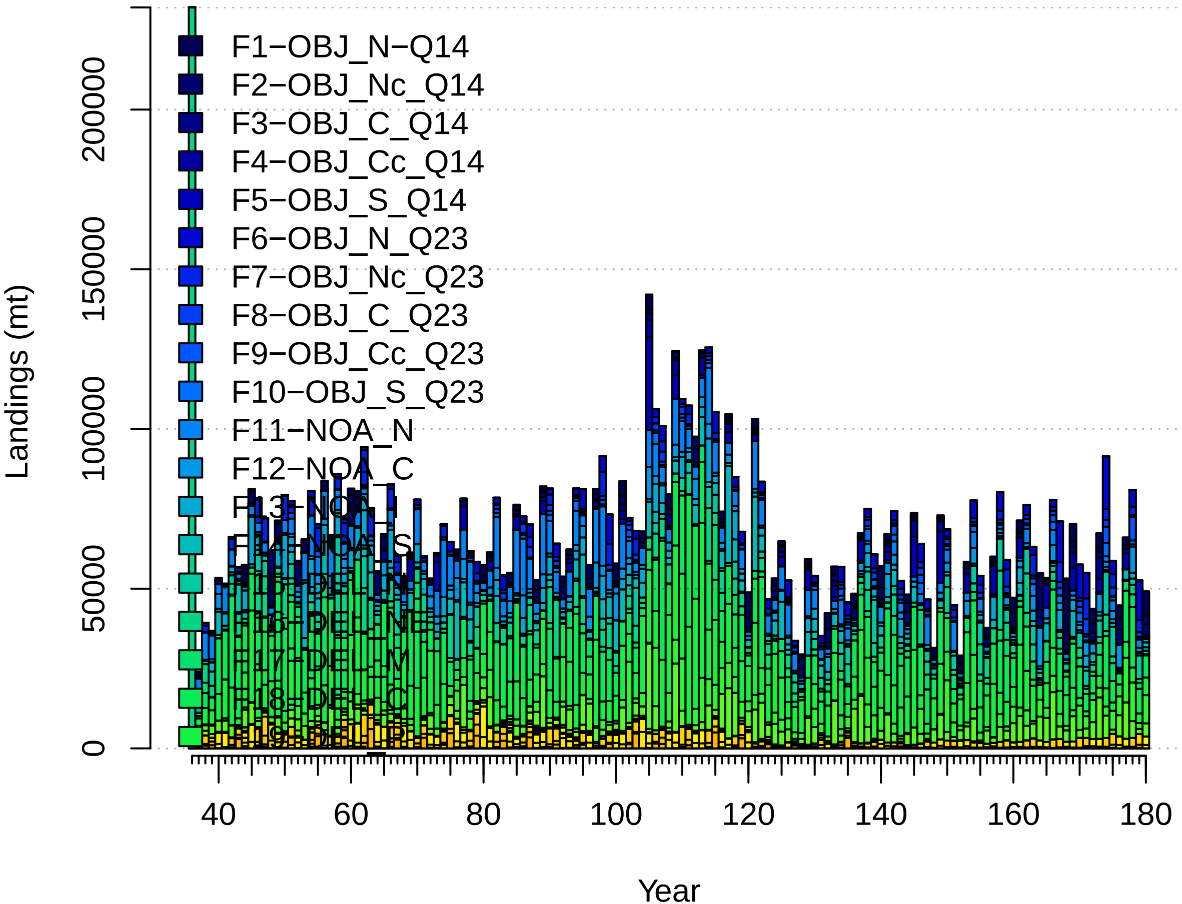

bias adjust in model
estimated alternative
$1-SE(\hat{r}_y)^2/\sigma_R^2$
0.0
0.2
0.4
0.6
0.8
1.0
1.2
50
100
150
Year

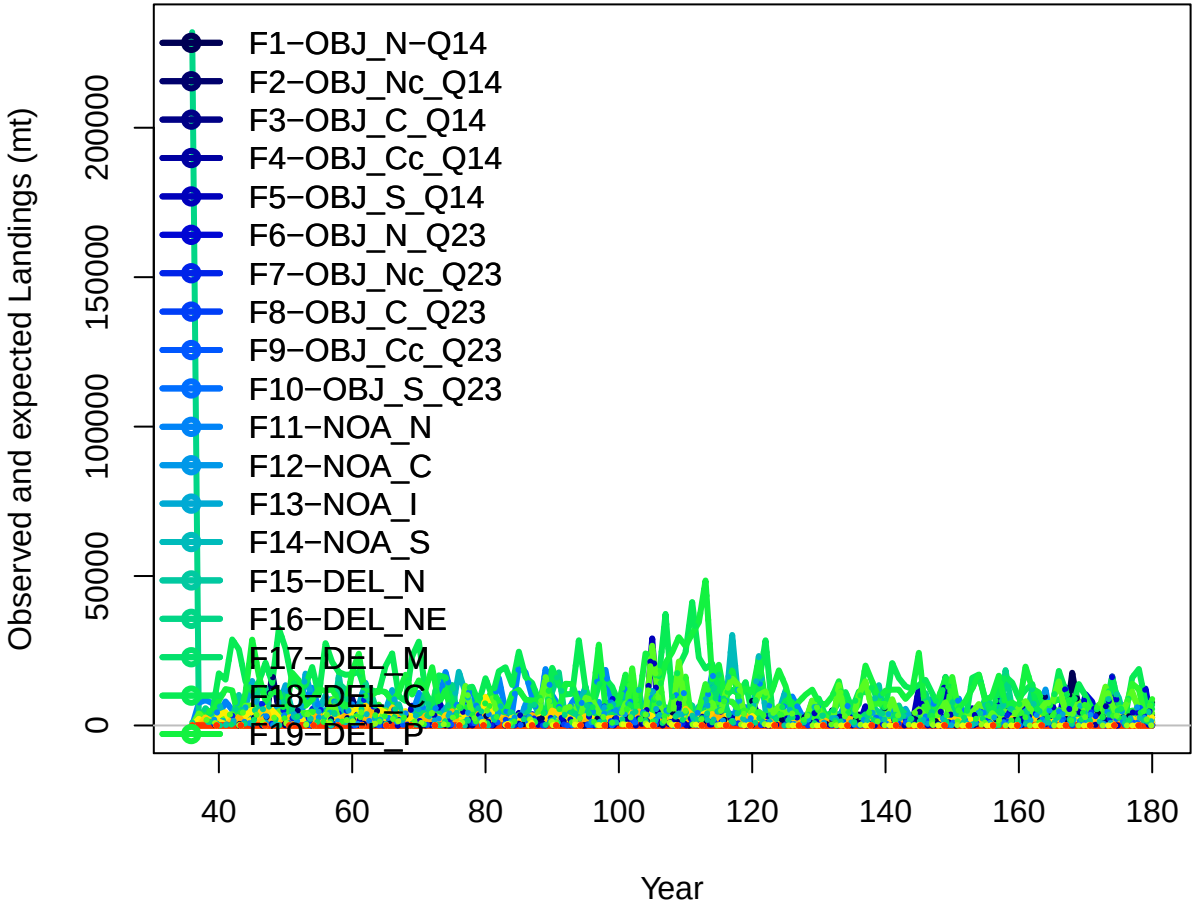

Exp. recruitment
Exp. recruitment after bias adj.
Estimated recruitments
Unfished equilibrium
Recruitment (1,000s)
0e+00
2e+05
4e+05
6e+05
8e+05
0
5000
10000
15000
Spawning output

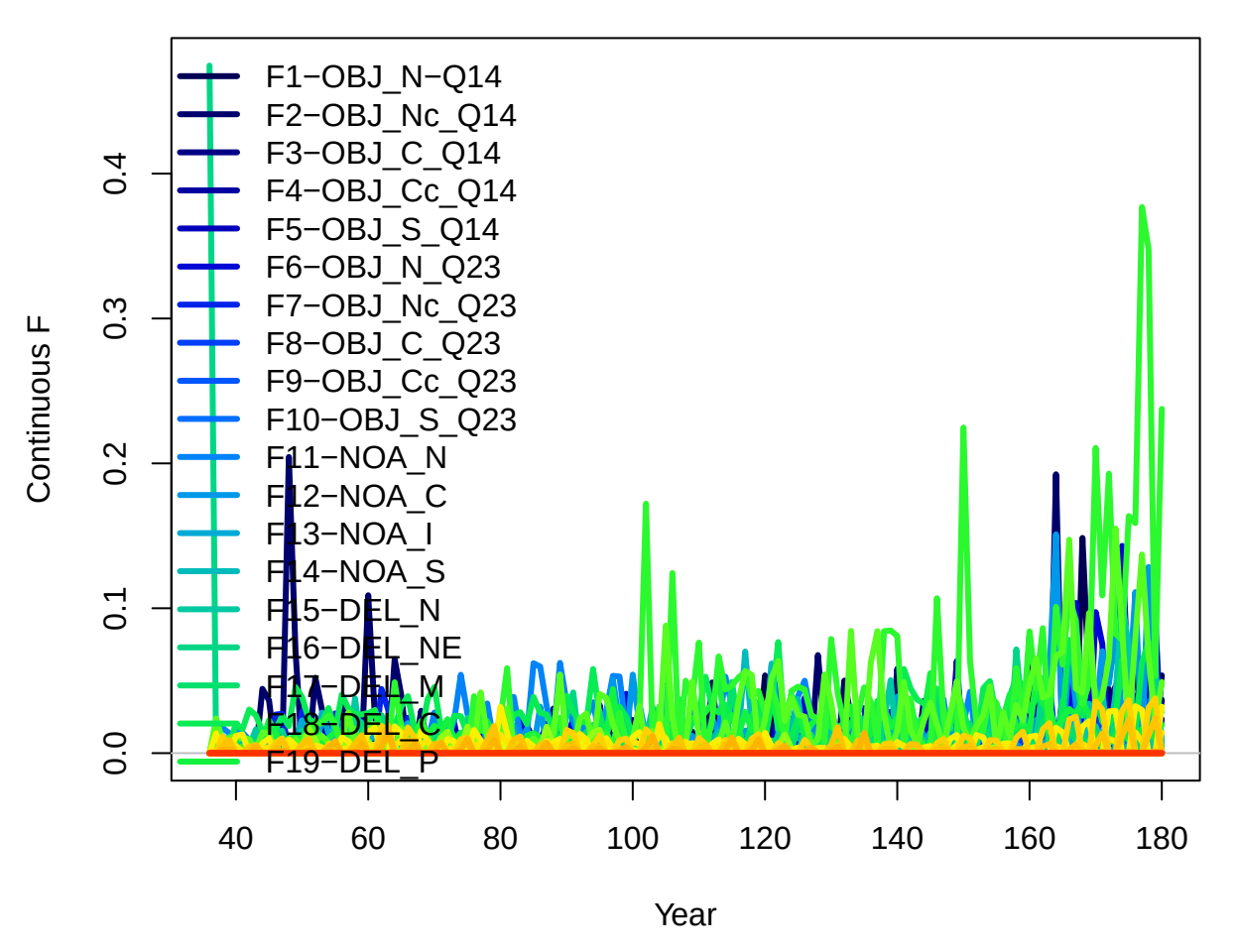

Exp. recruitment
Exp. recruitment after bias adj.
Estimated recruitments
Unfished equilibrium
Recruitment (1,000s)
0e+00
2e+05
4e+05
6e+05
8e+05
0
5000
10000
15000
Spawning output
99
98
94
55
71
65
47
100
93
38
178
66
106
50
44
180
37
52
85
45
46
118
68
119

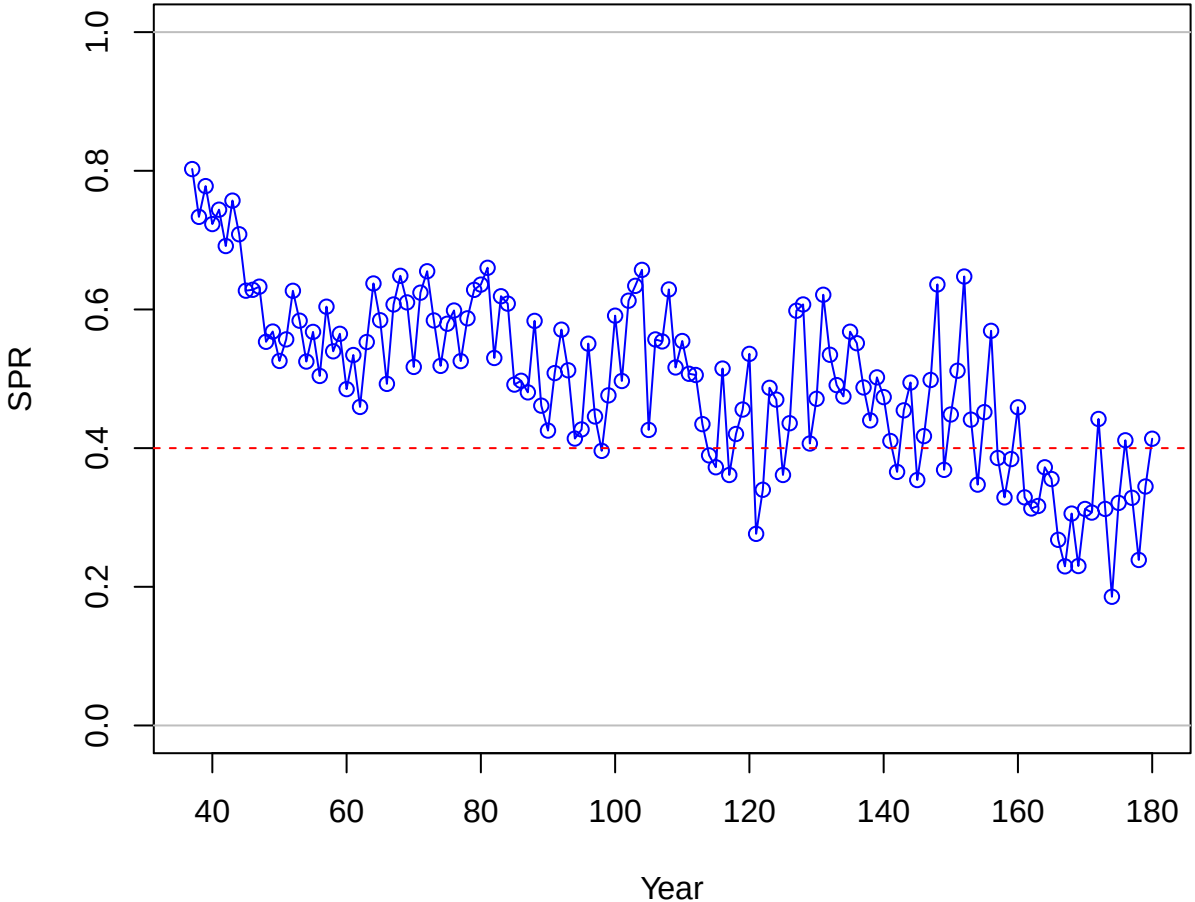

Log recruitment deviation
Spawning output (relative to B_0)
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
99
98
94
55
71
65
47
44
178
100
93
38
66
106
50
37
180
173
133
156
132
120
144
118
52
85
45
46
145
148
124
119
68

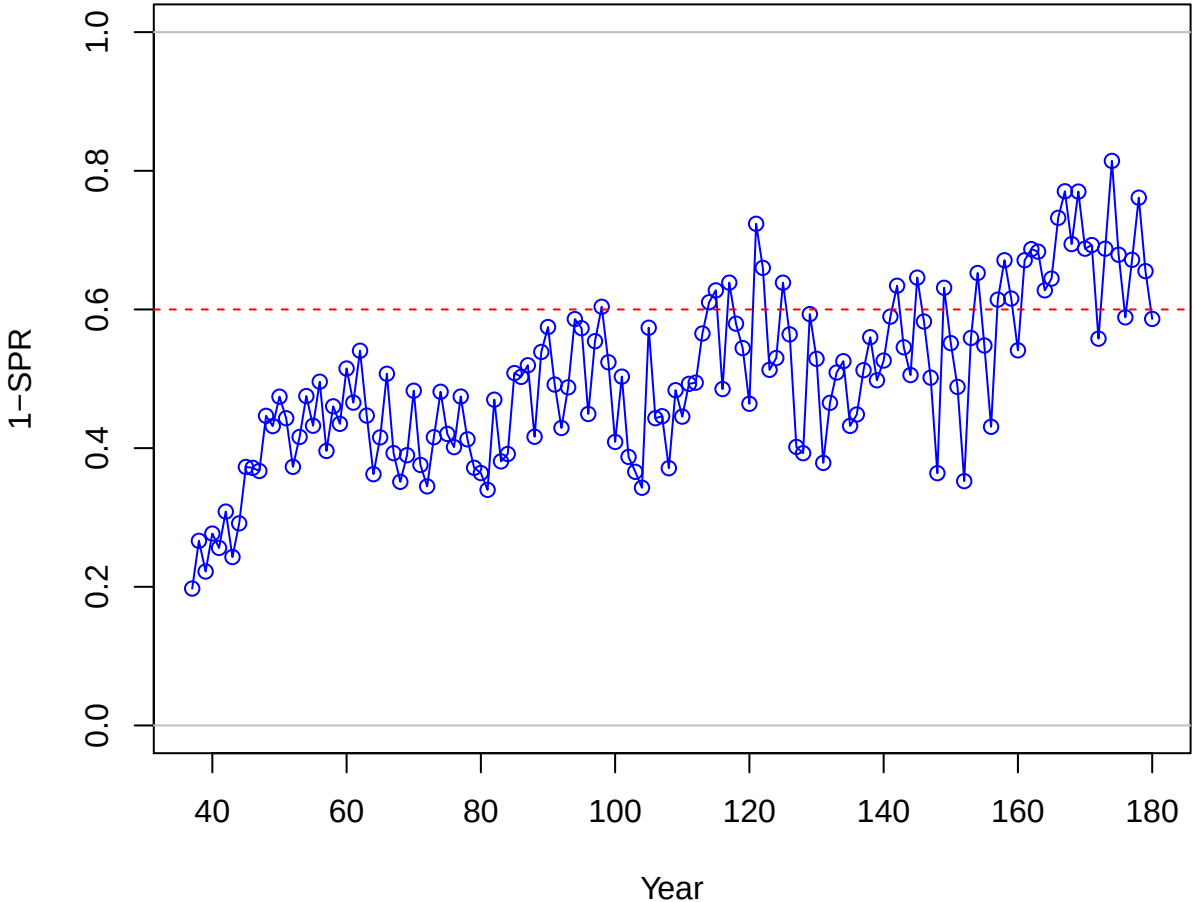

Total
F1−OBJ_N−Q14
F2−OBJ_Nc_Q14
F3−OBJ_C_Q14
F4−OBJ_Cc_Q14
F5−OBJ_S_Q14
F6−OBJ_N_Q23
F7−OBJ_Nc_Q23
F8−OBJ_C_Q23
F9−OBJ_Cc_Q23
F10−OBJ_S_Q23
F11−NOA_N
F12−NOA_C
F13−NOA_
F14−NOA_S
F15−DEL_N
F16−DEL_NE
F17−DEL_M
F18−DEL_C
Landings (mt)
0
50000
100000
150000
200000
40
60
80
100
120
140
160
180
Year

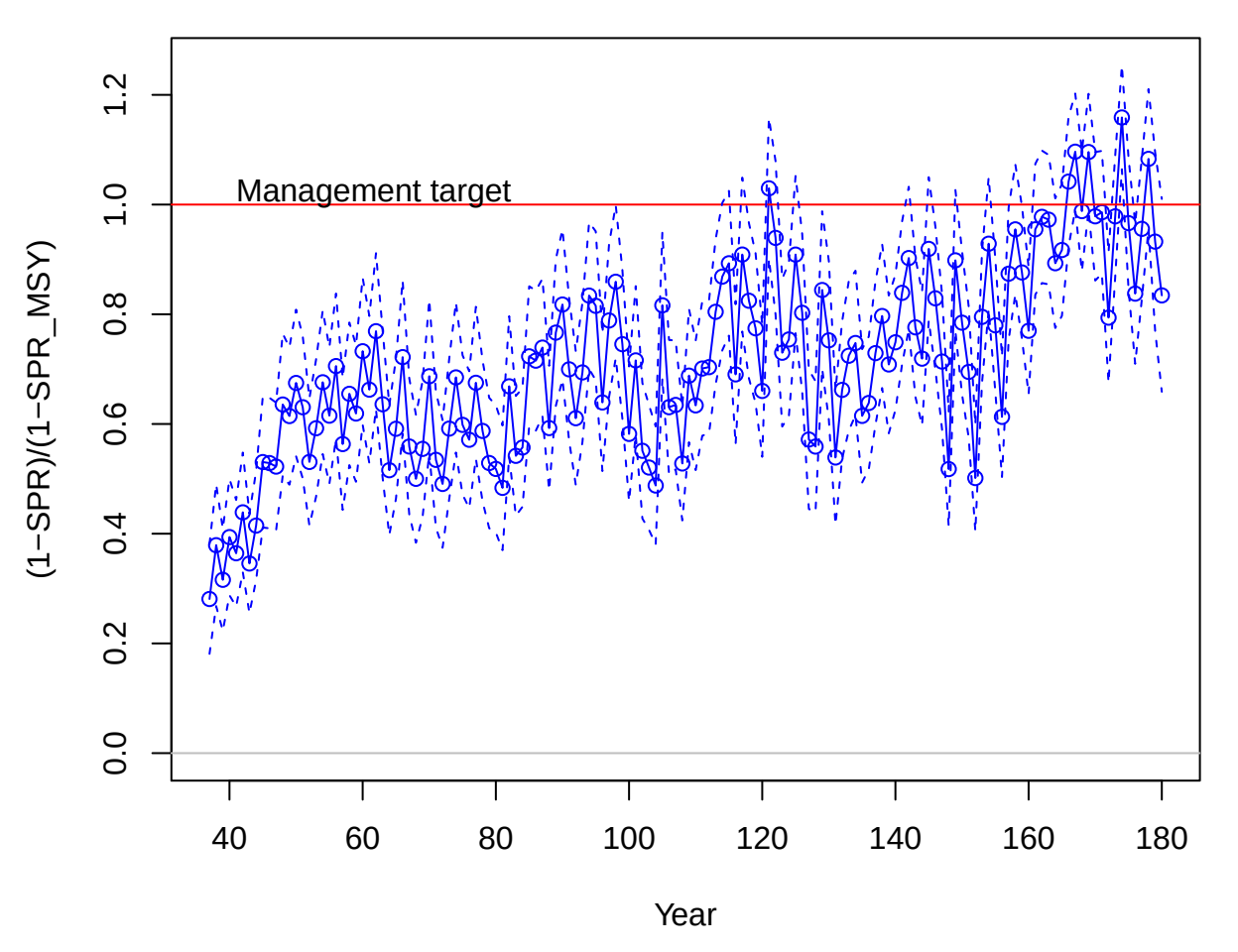

Landings (mt)
0
50000
100000
150000
200000
F1−OBJ_N−Q14
F2−OBJ_Nc_Q14
F3−OBJ_C_Q14
F4−OBJ_Cc_Q14
F5−OBJ_S_Q14
F6−OBJ_N_Q23
F7−OBJ_Nc_Q23
F8−OBJ_C_Q23
F9−OBJ_Cc_Q23
F10−OBJ_S_Q23
F11−NOA_N
F12−NOA_C
F13−NOA_I
F14−NOA_S
F15−DEL_N
F16−DEL_NL
F17−DEL_M
F18−DEL_C
F19−DEL_P
40
60
80
100
120
140
160
180
Year

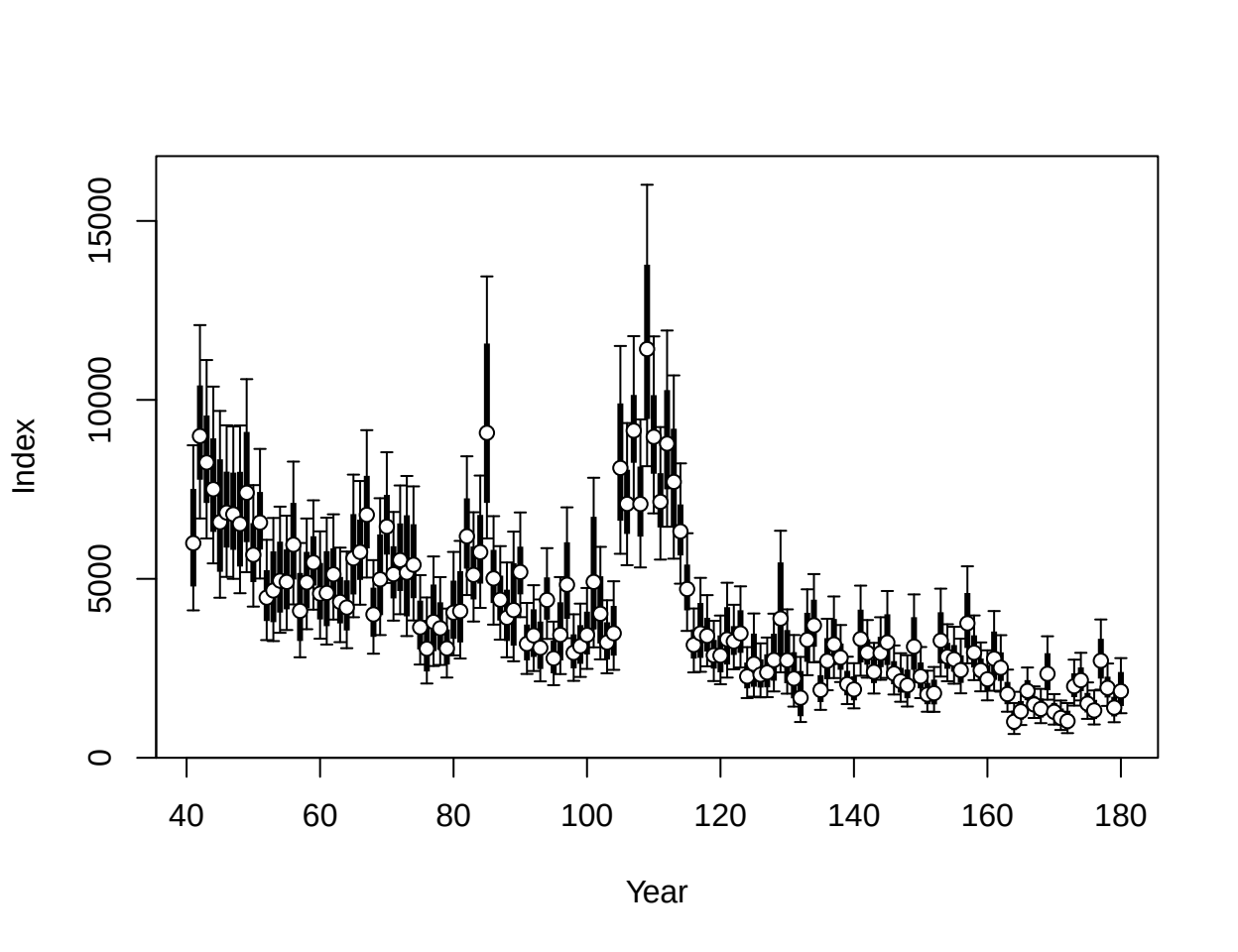

F1−OBJ_N−Q14
F2−OBJ_Nc_Q14
F3−OBJ_C_Q14
F4−OBJ_Cc_Q14
F5−OBJ_S_Q14
F6−OBJ_N_Q23
F7−OBJ_Nc_Q23
F8−OBJ_C_Q23
F9−OBJ_Cc_Q23
F10−OBJ_S_Q23
F11−NOA_N
F12−NOA_C
F13−NOA_I
F14−NOA_S
F15−DEL_N
F16−DEL_NE
F17−DEL_M
F18−DEL_C
F19−DEL_P
Observed and expected Landings (mt)
0
50000
100000
150000
200000
40
60
80
100
120
140
160
180
Year

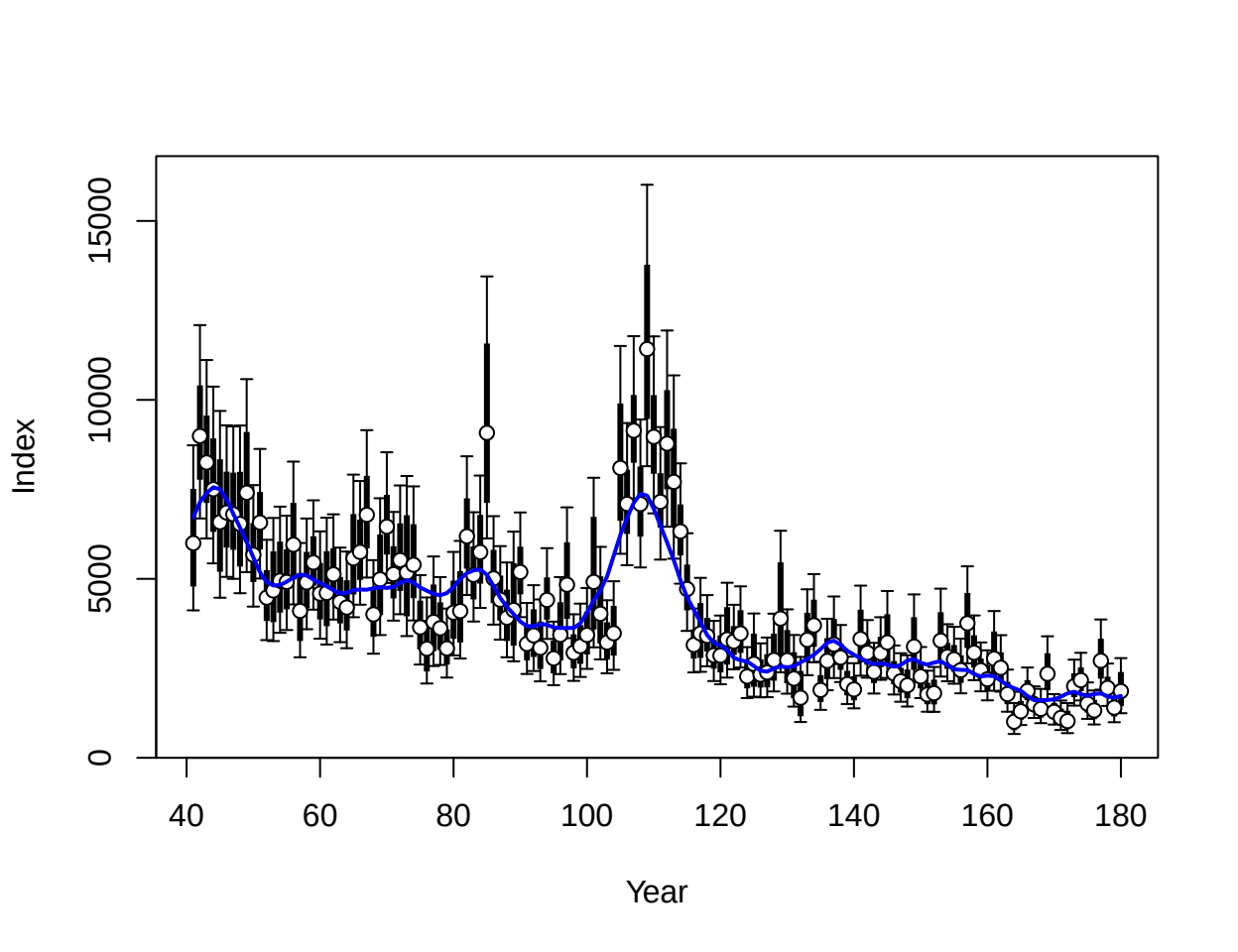

F1−OBJ_N−Q14
F2−OBJ_Nc_Q14
F3−OBJ_C_Q14
F4−OBJ_Cc_Q14
F5−OBJ_S_Q14
F6−OBJ_N_Q23
F7−OBJ_Nc_Q23
F8−OBJ_C_Q23
F9−OBJ_Cc_Q23
F10−OBJ_S_Q23
F11−NOA_N
F12−NOA_C
F13−NOA_I
F14−NOA_S
F15−DEL_N
F16−DEL_NE
F17−DEL_M
F18−DEL_C
F19−DEL_P
Continuous F
0.0
0.1
0.2
0.3
0.4
40
60
80
100
120
140
160
180
Year

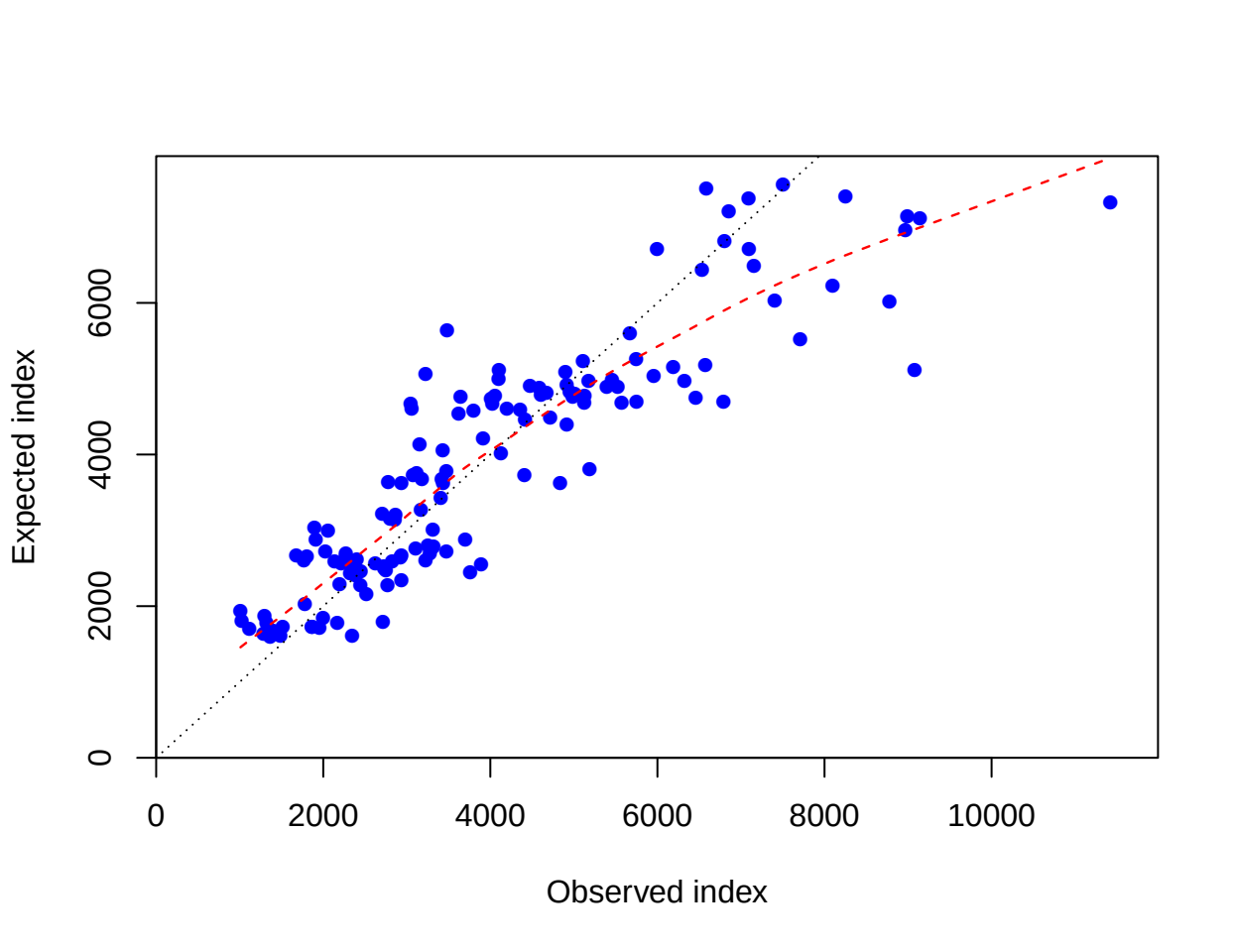

SPR
1.0
0.8
0.6
0.4
0.2
0.0
40
60
80
100
120
140
160
180
Year

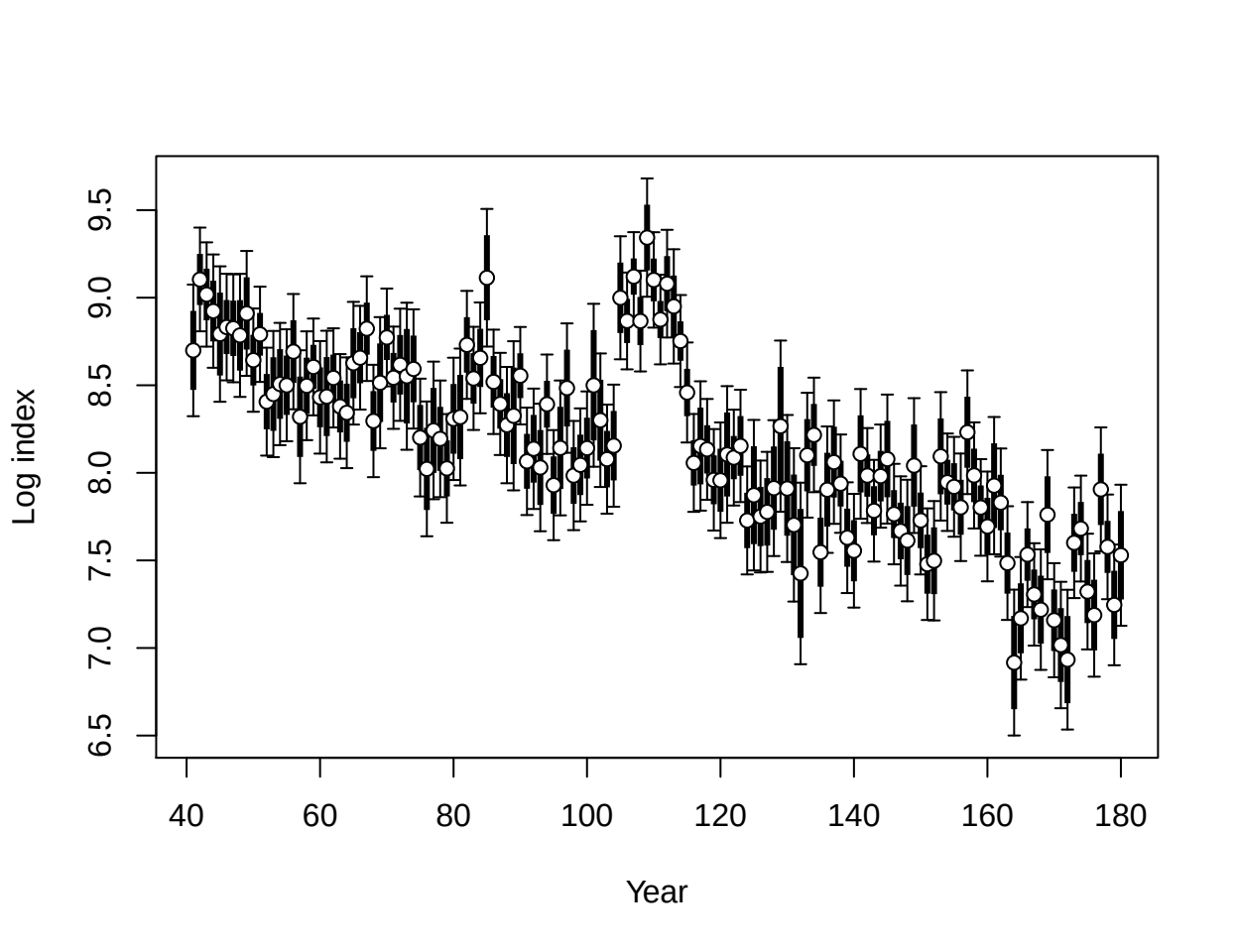

1−SPR
0.0
0.2
0.4
0.6
0.8
1.0
40
60
80
100
120
140
160
180
Year

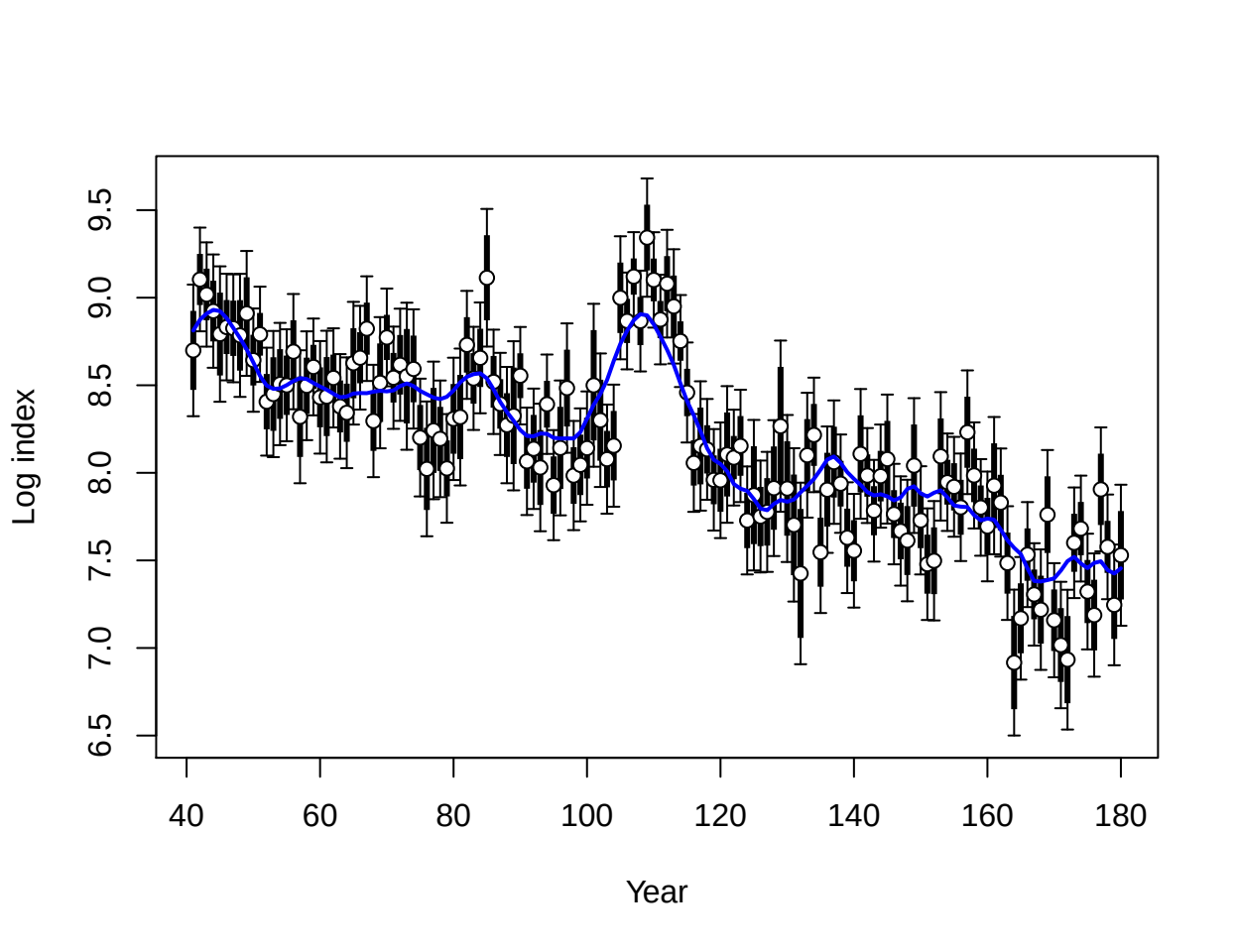

Management target
(1−SPR)/(1−SPR_MSY)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
40
60
80
100
120
140
160
180
Year

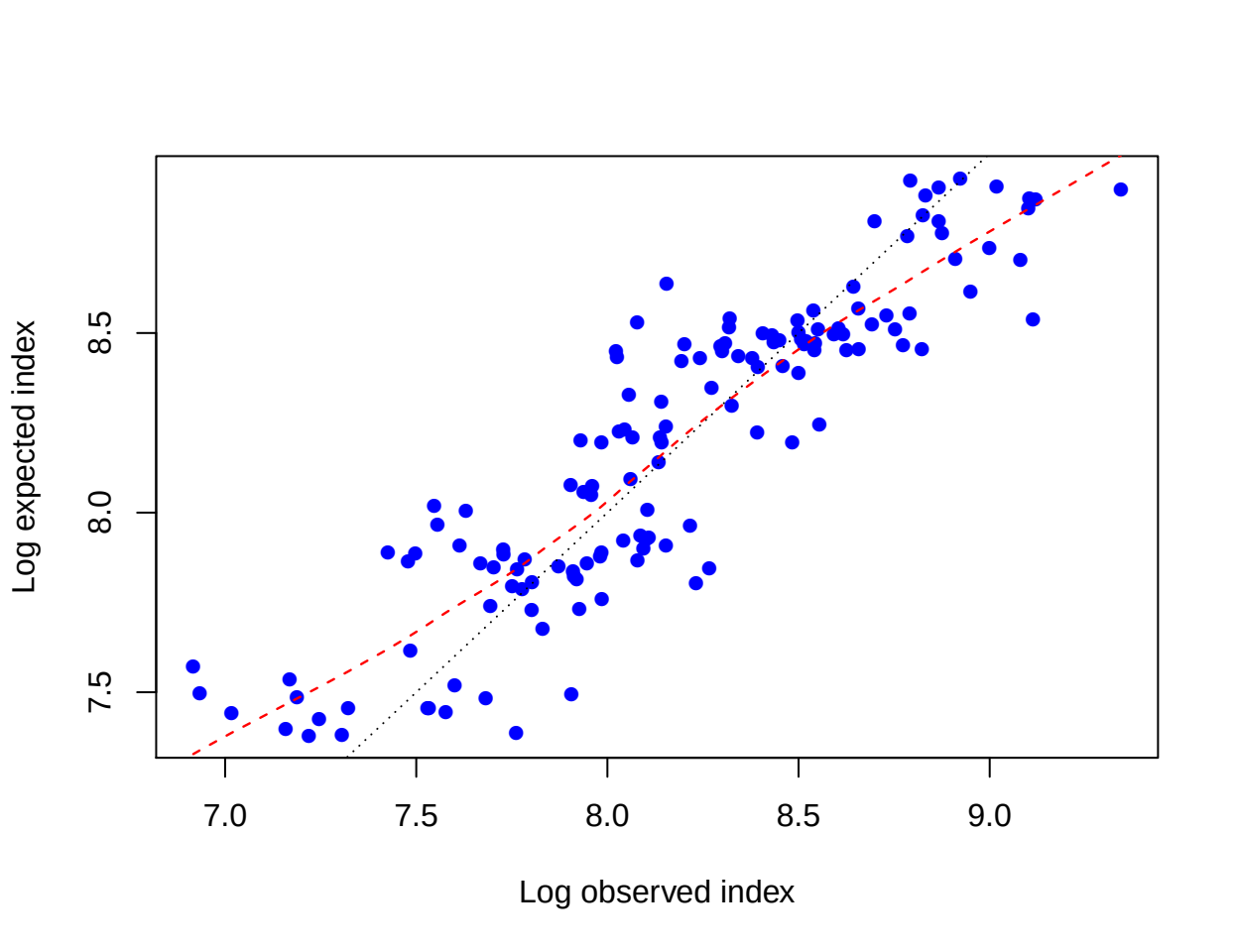

Index
0
5000
10000
15000
40
60
80
100
120
140
160
180
Year

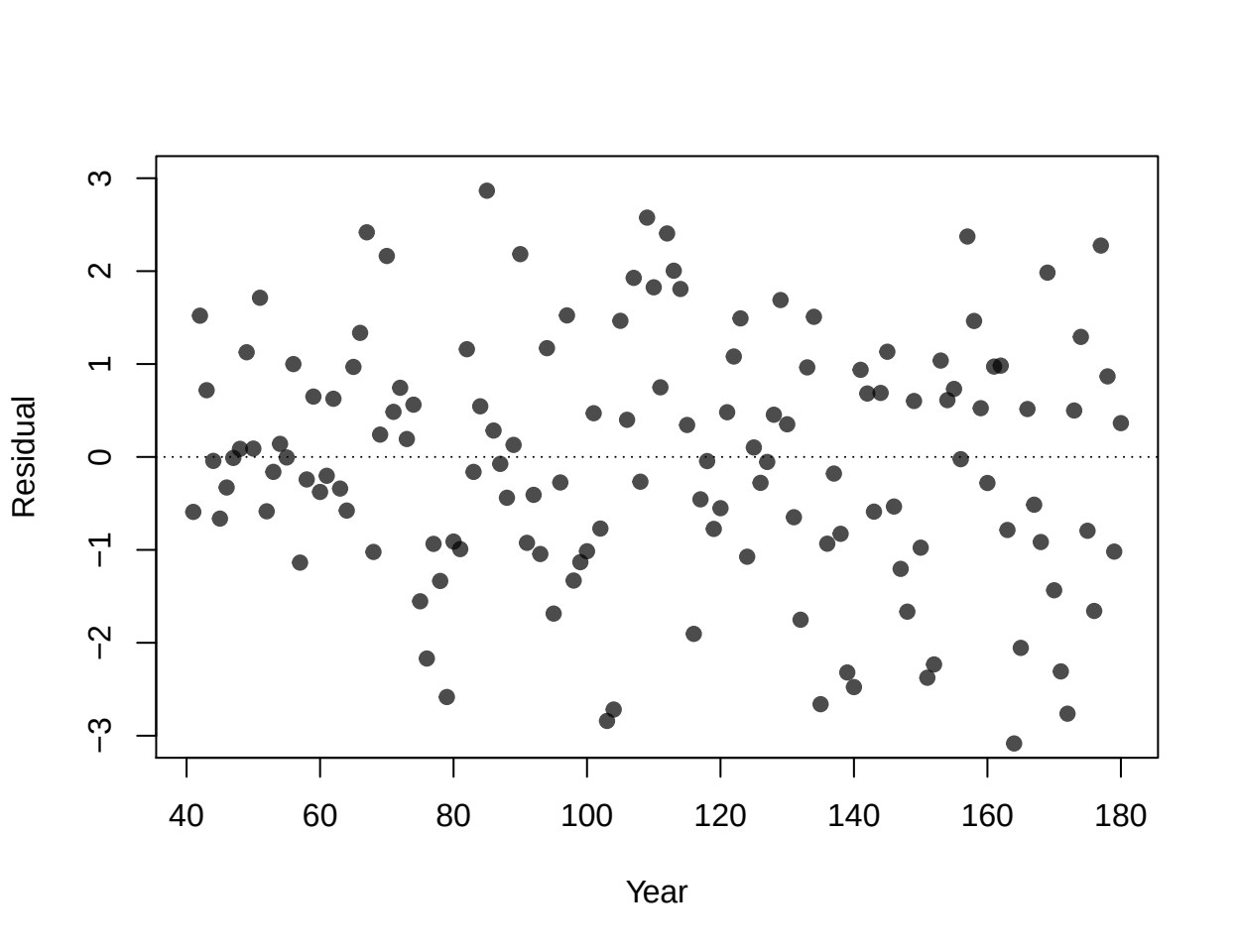

Index
0
5000
10000
15000
40
60
80
100
120
140
160
180
Year

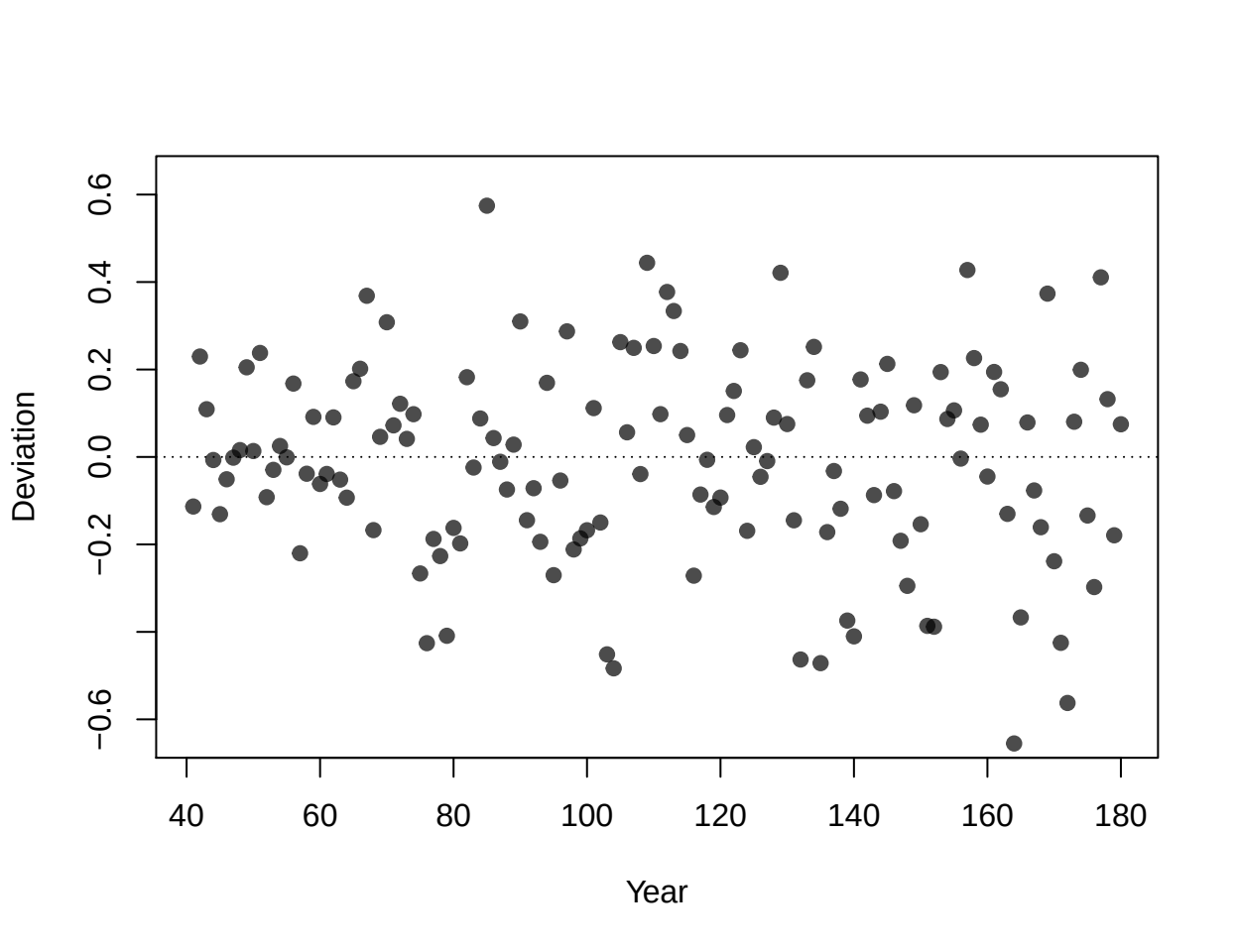

Expected index
0
2000
4000
6000
0
2000
4000
6000
8000
10000
Observed index

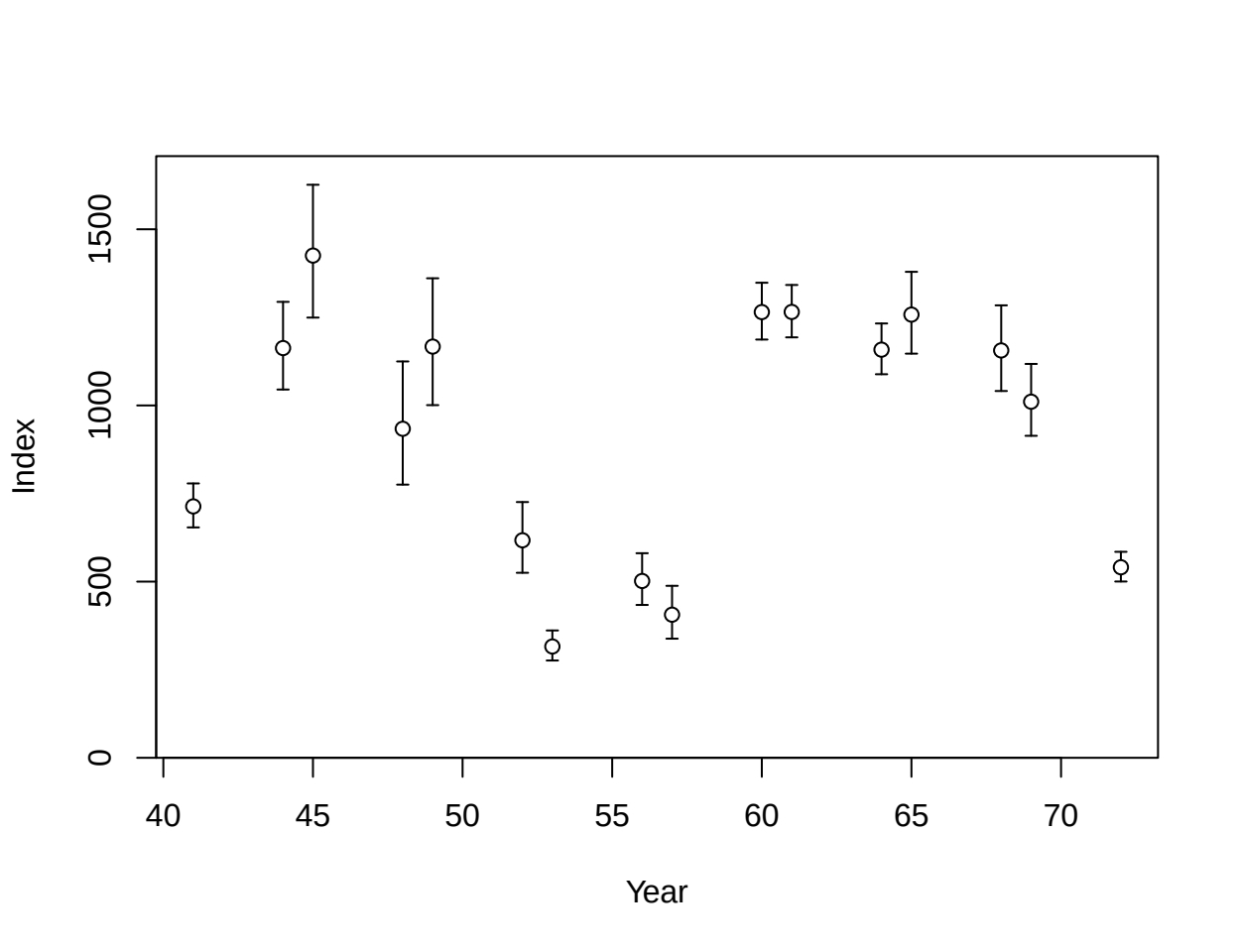

Log index
6.5
7.0
7.5
8.0
8.5
9.0
9.5
40
60
80
100
120
140
160
180
Year

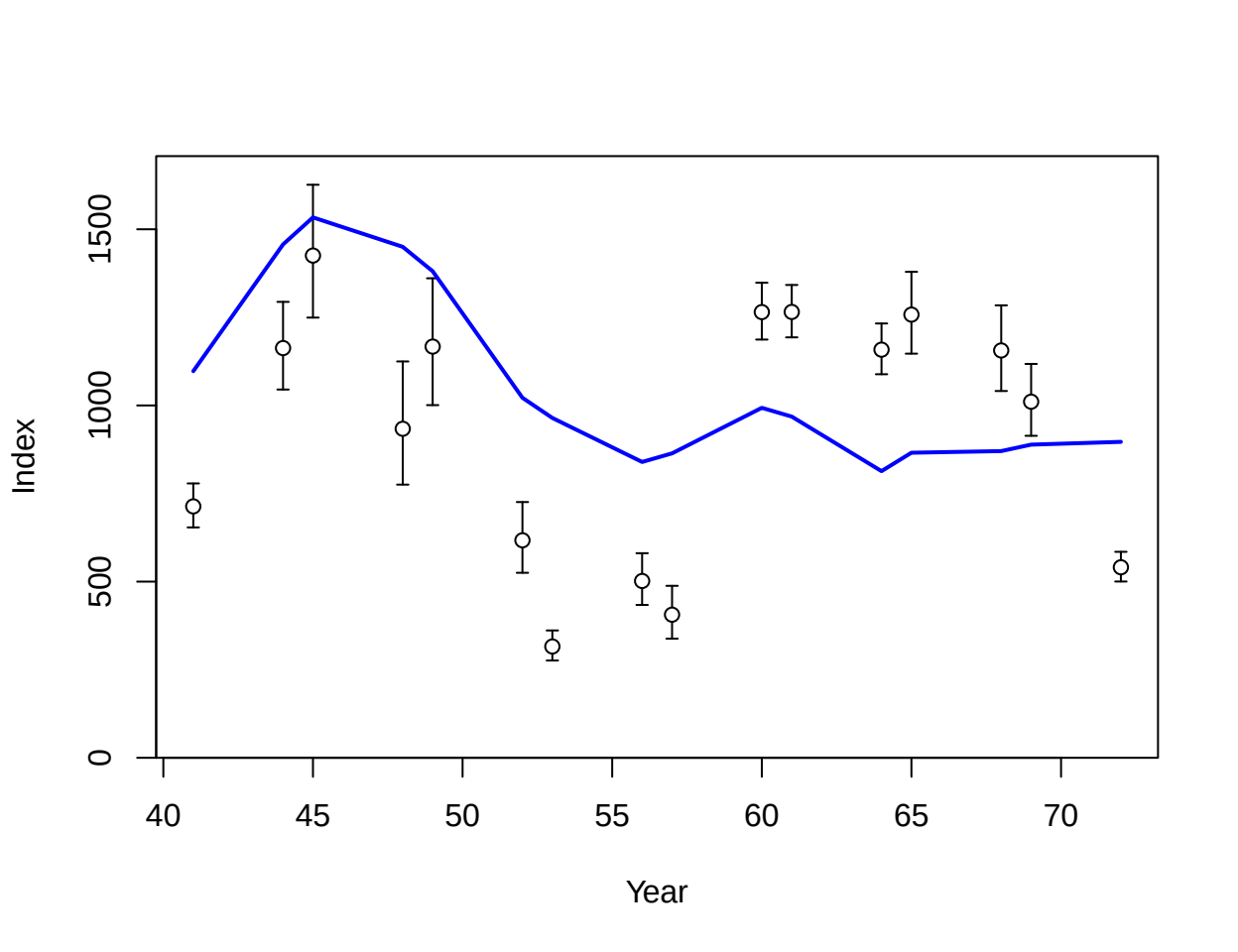

Log index
6.5
7.0
7.5
8.0
8.5
9.0
9.5
40
60
80
100
120
140
160
180
Year

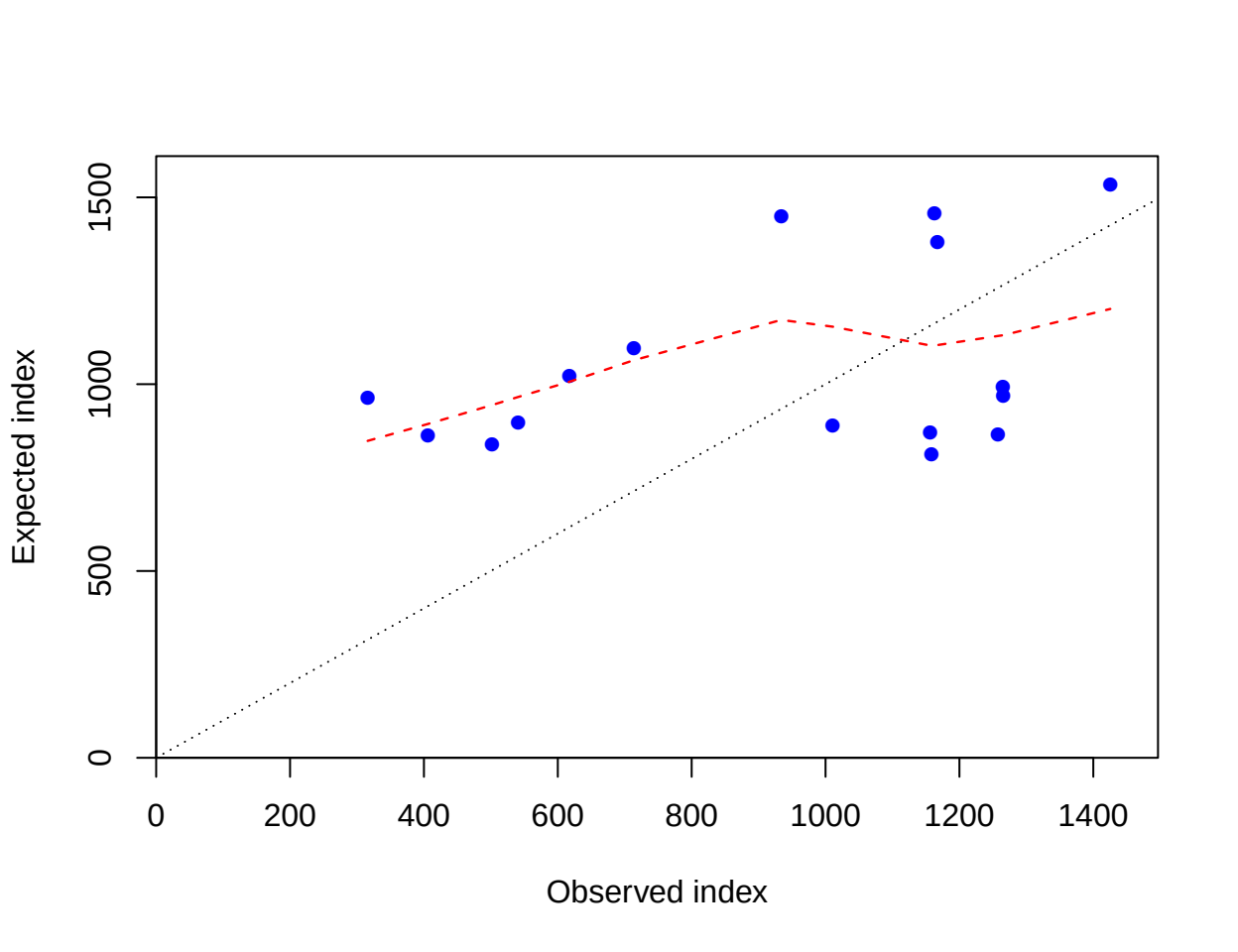

Log expected index
8.5
8.0
7.5
7.0
7.5
8.0
8.5
9.0
Log observed index

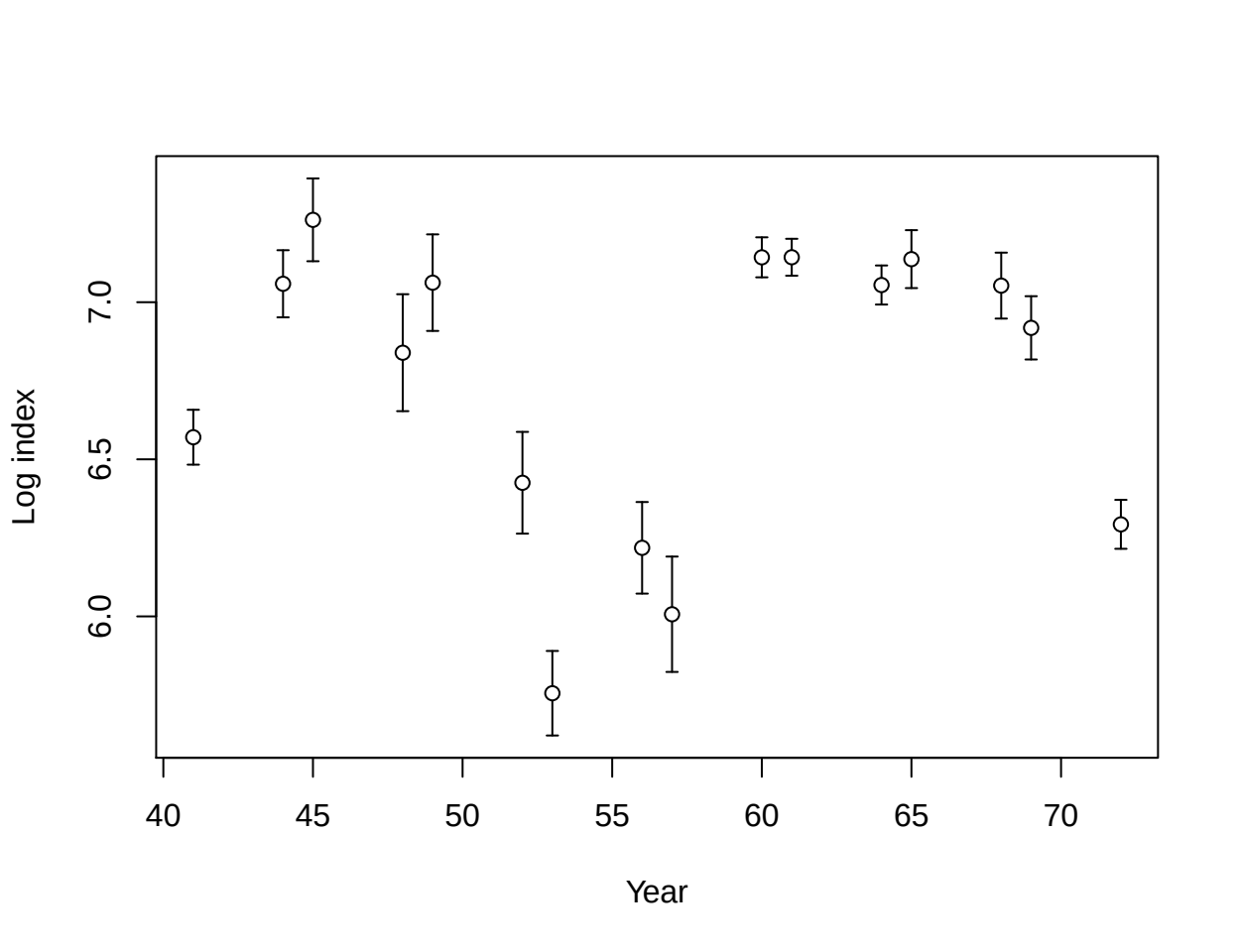

Residual
3
2
1
0
−1
−2
−3
40
60
80
100
120
140
160
180
Year

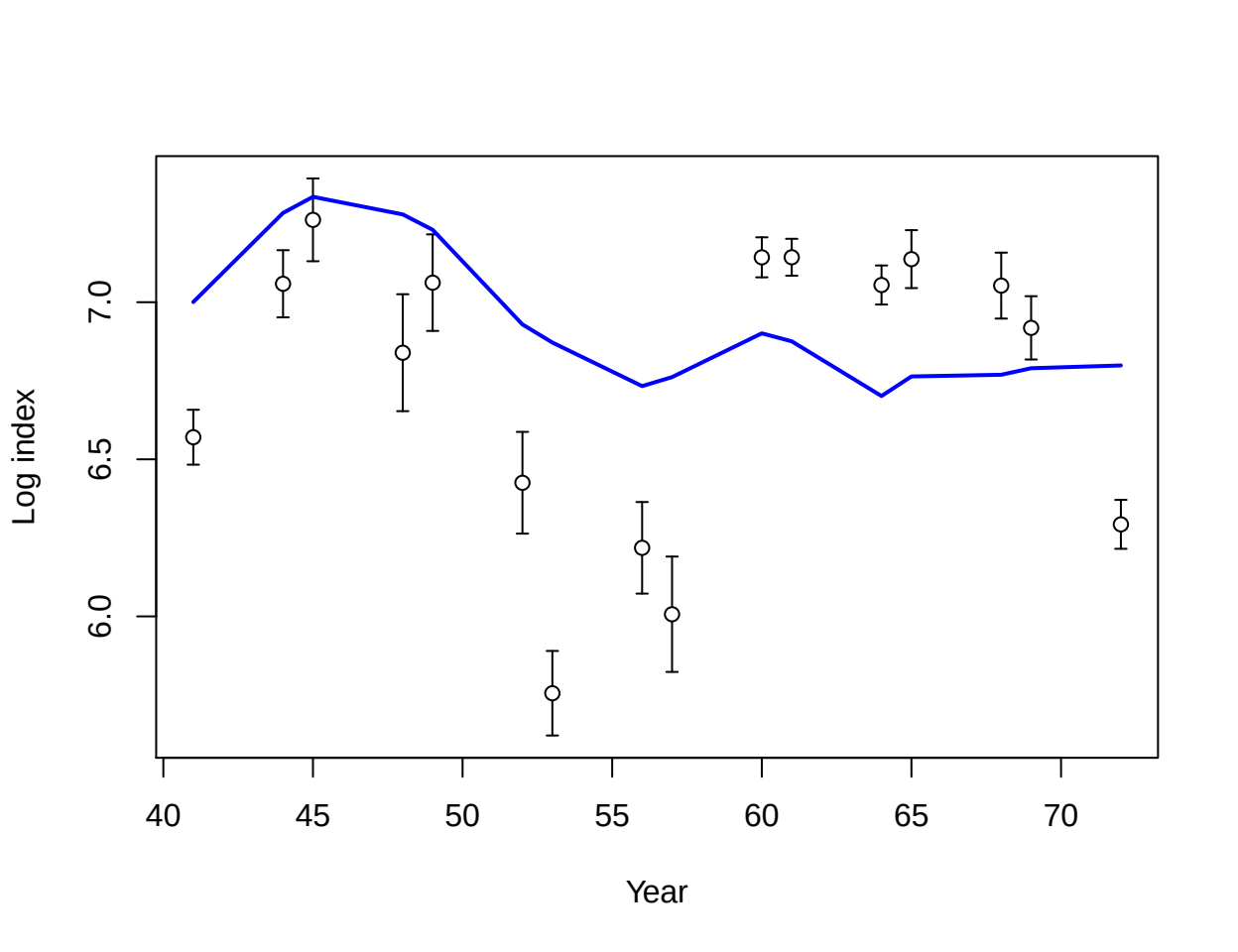

Deviation
0.6
0.4
0.2
0.0
−0.2
−0.6
40
60
80
100
120
140
160
180
Year

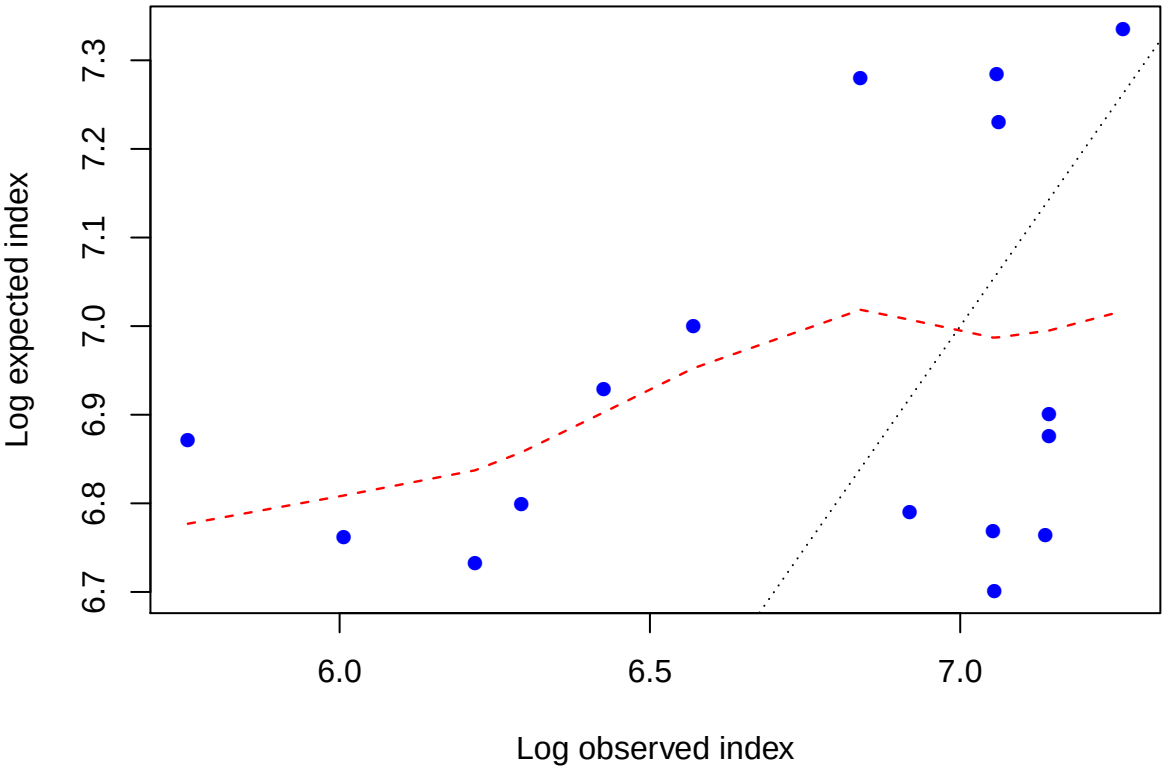

Index
0
500
1000
1500
40
45
50
55
60
65
70
Year

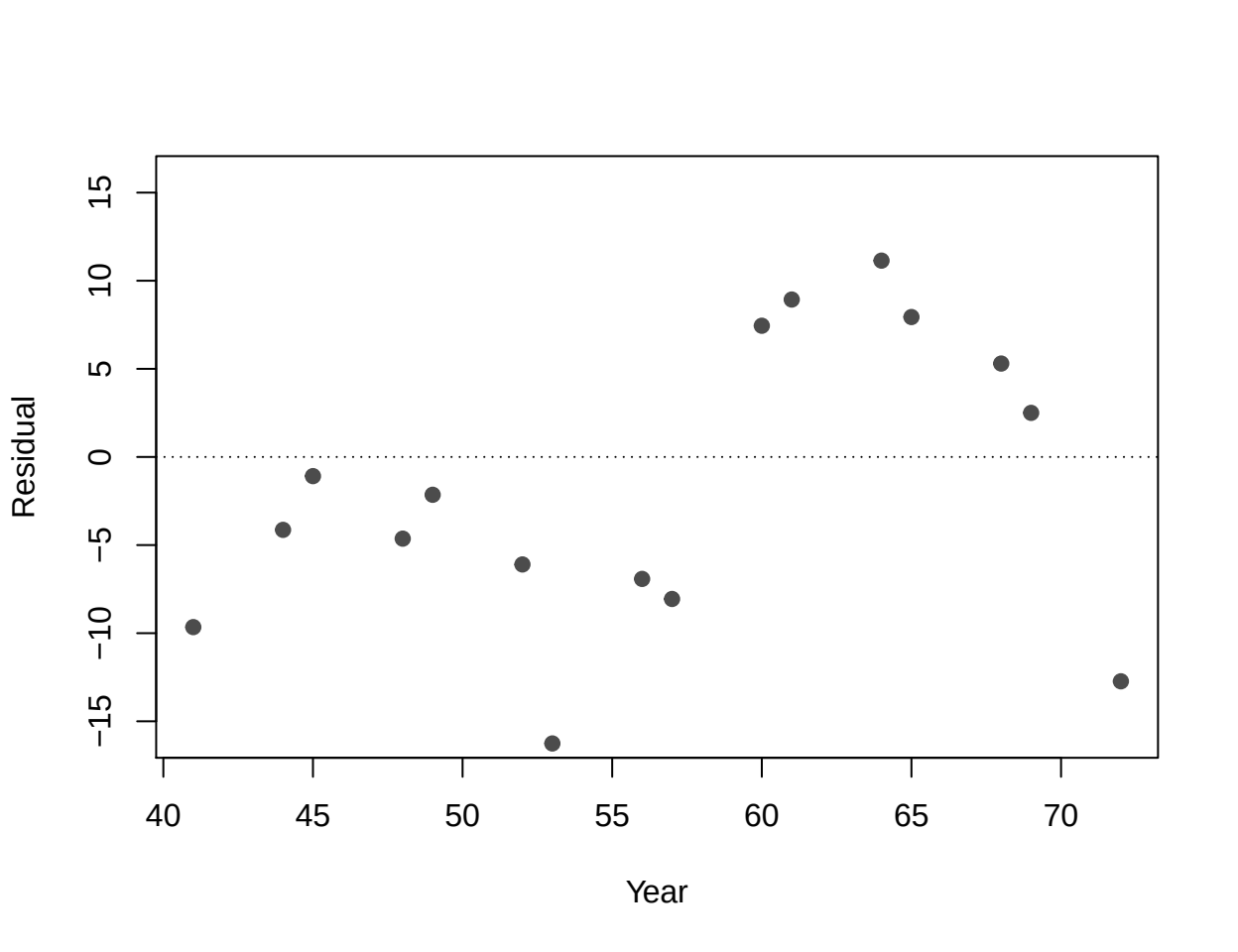

Index
0
500
1000
1500
40
45
50
55
60
65
70
Year

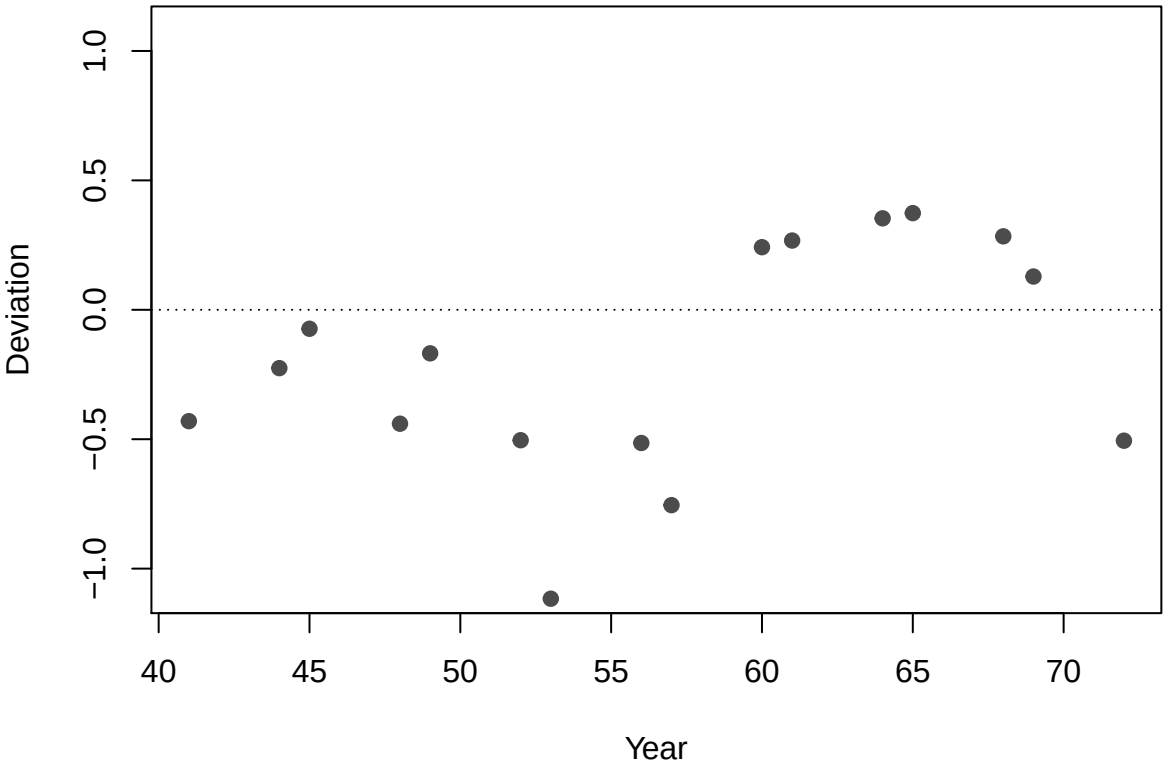

Expected index
0
500
1000
1500
0
200
400
600
800
1000
1200
1400
Observed index

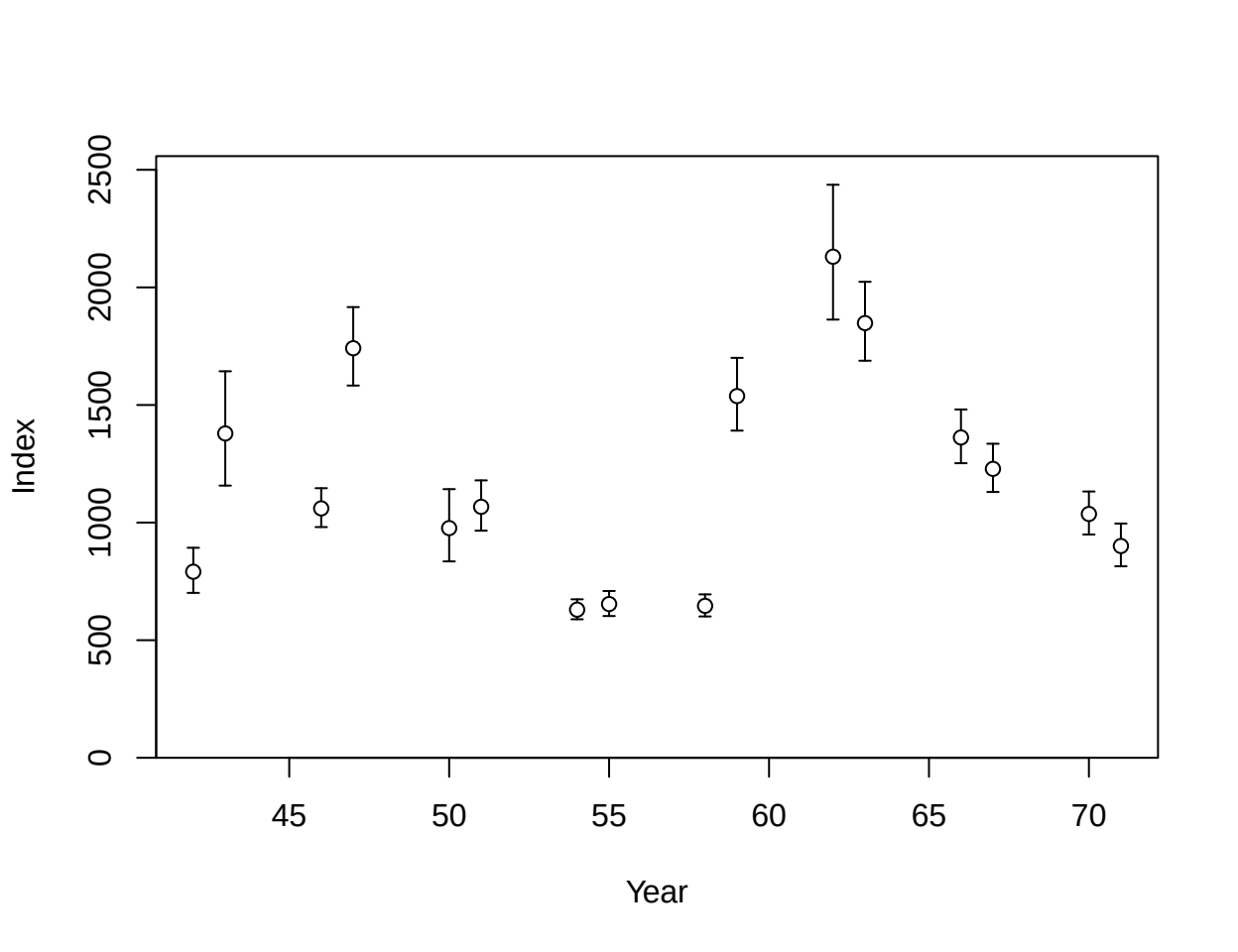

Log index
6.0
6.5
7.0
40
45
50
55
60
65
70
Year

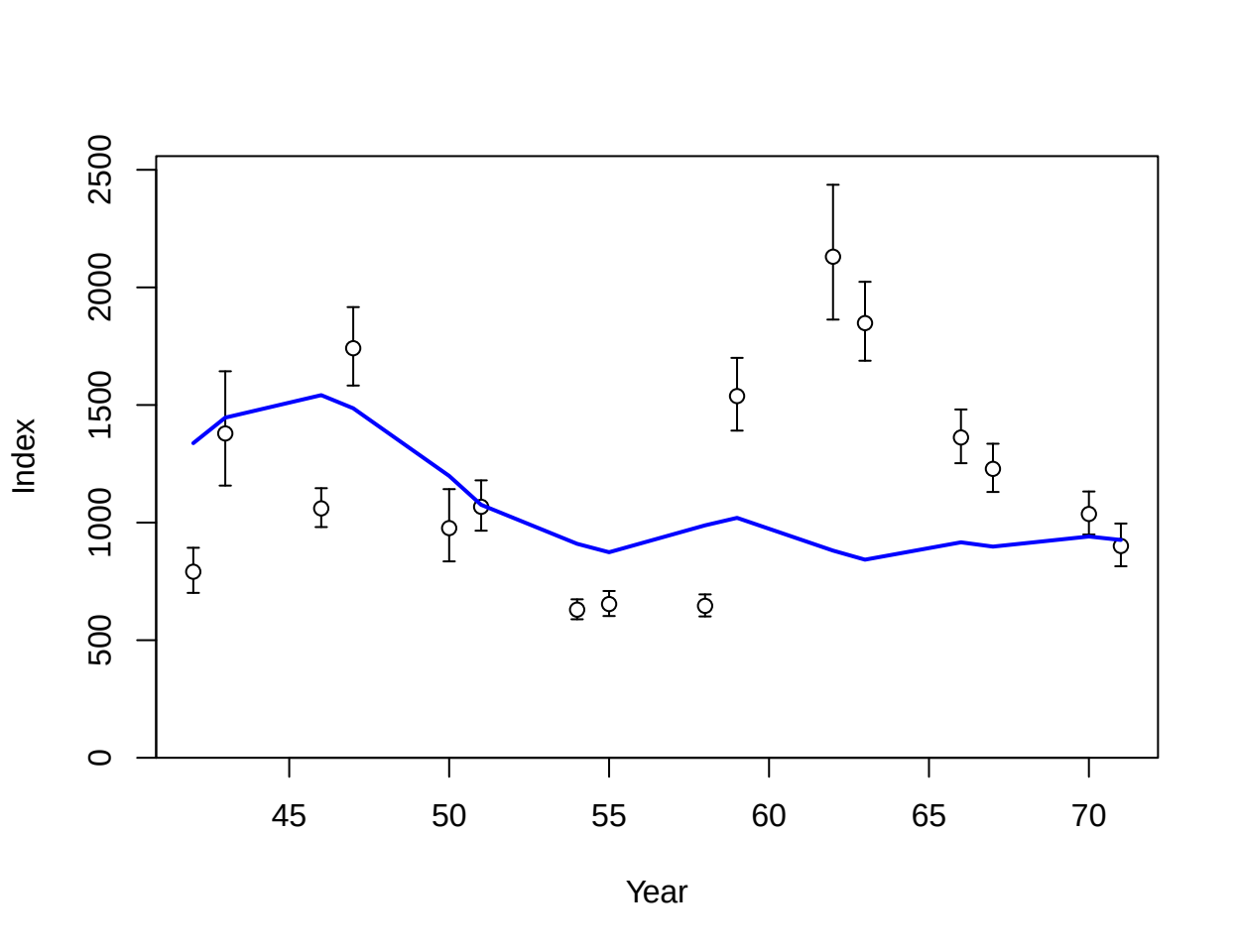

Log index
7.0
6.5
6.0
40
45
50
55
60
65
70
Year

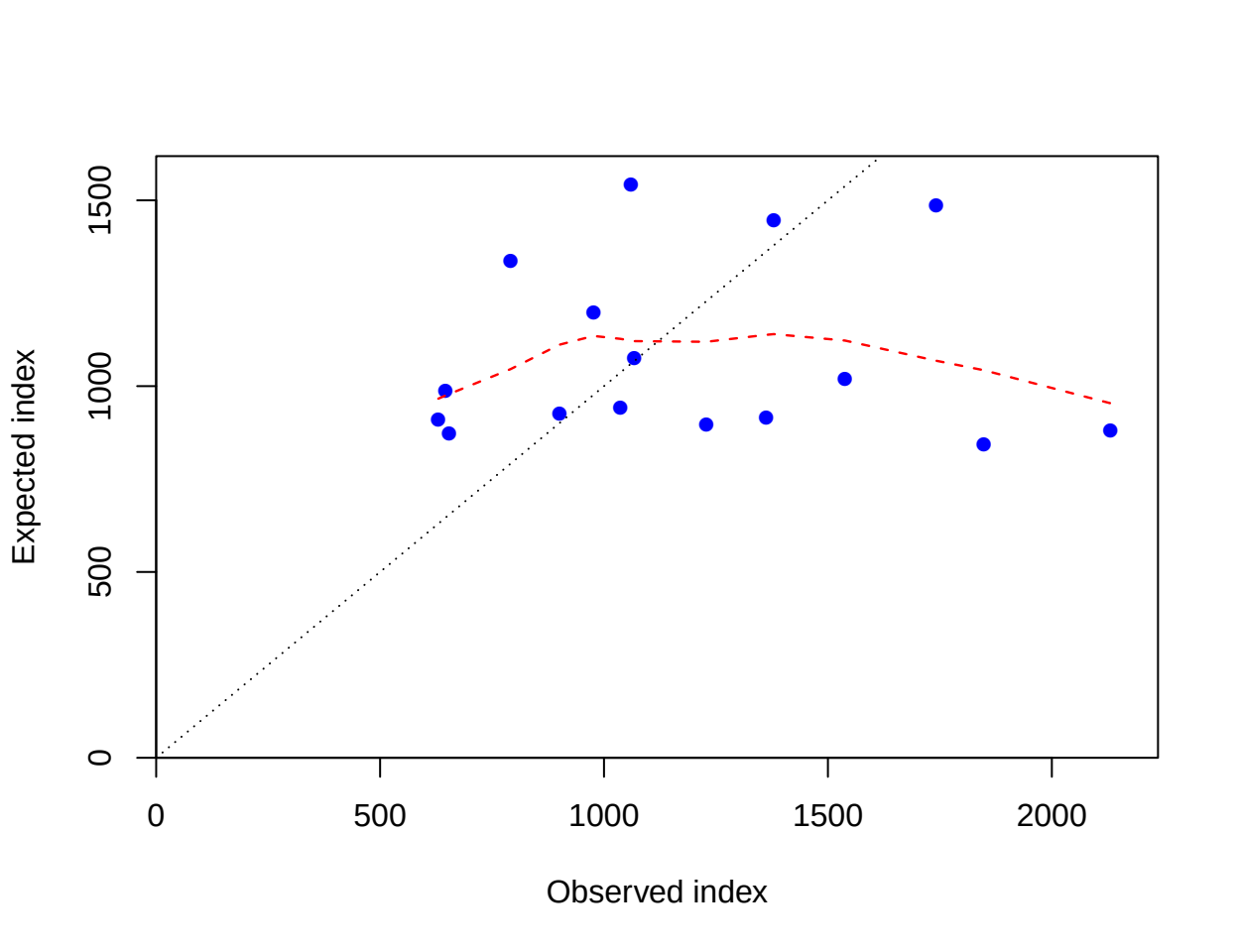

Log expected index
6.7
6.8
6.9
7.0
7.1
7.2
7.3
6.0
6.5
7.0
Log observed index

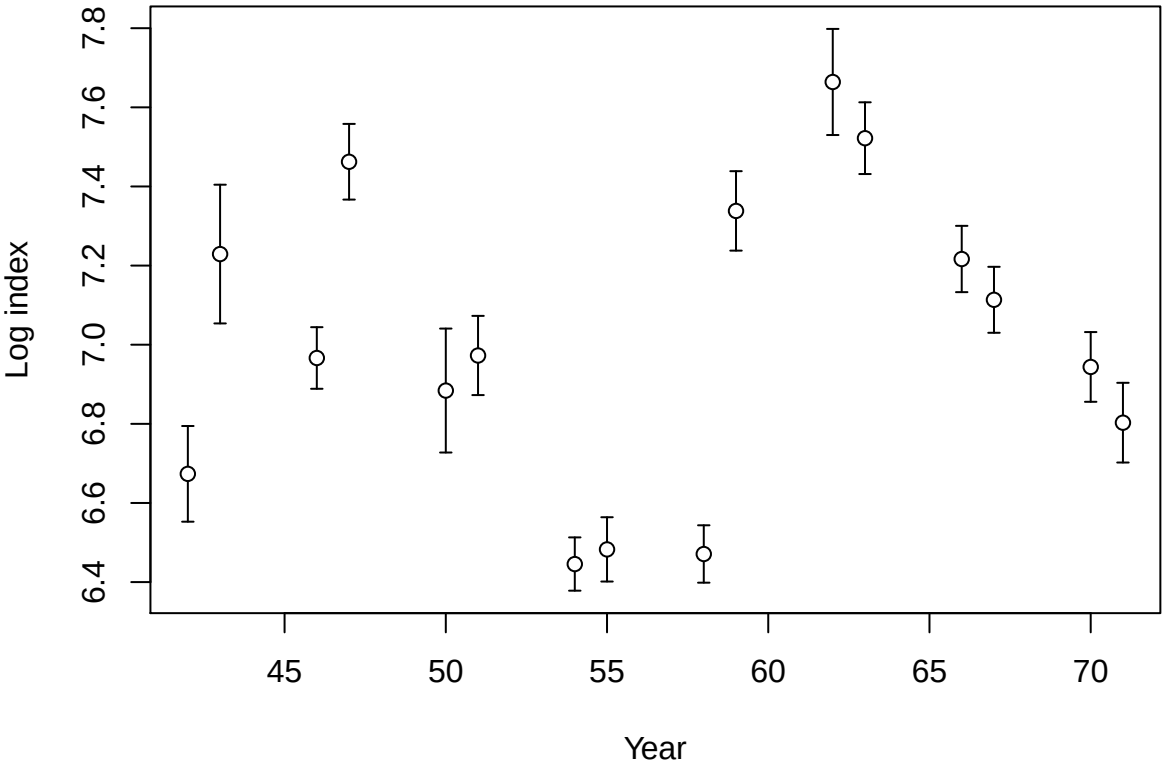

Residual
15
10
5
0
−5
−10
−15
40
45
50
55
60
65
70
Year

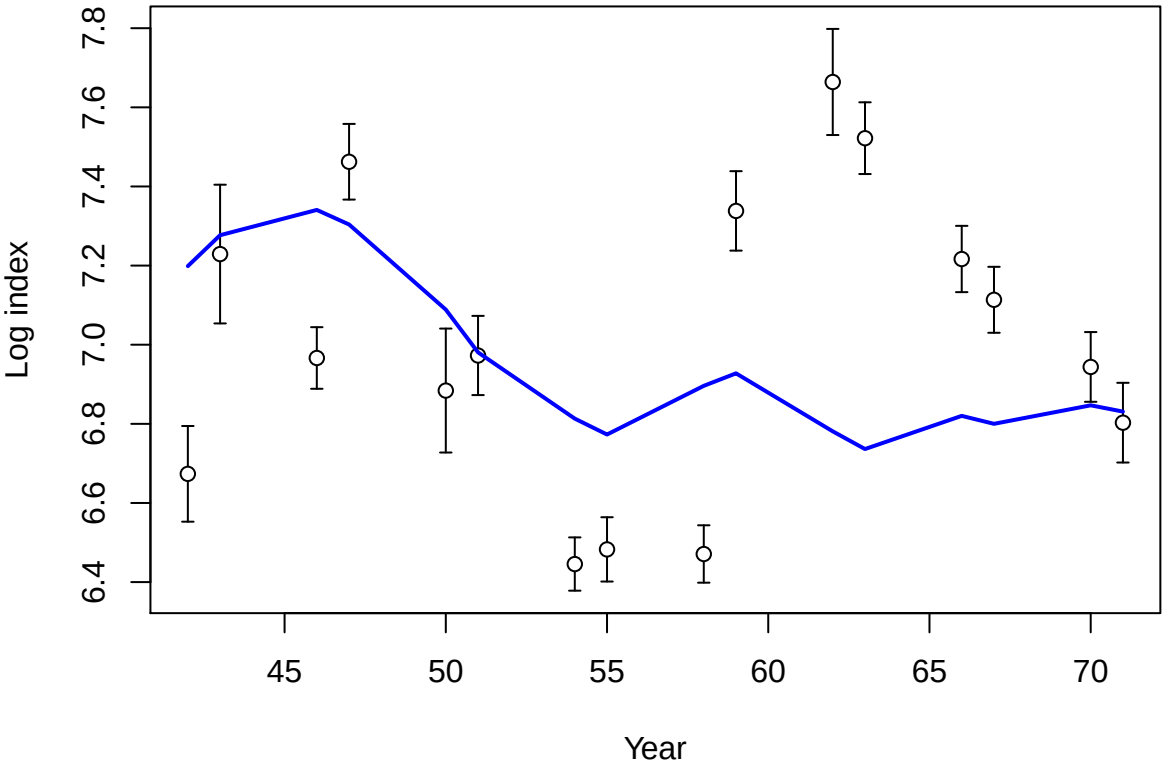

Deviation
1.0
0.5
0.0
−0.5
−1.0
40
45
50
55
60
65
70
Year

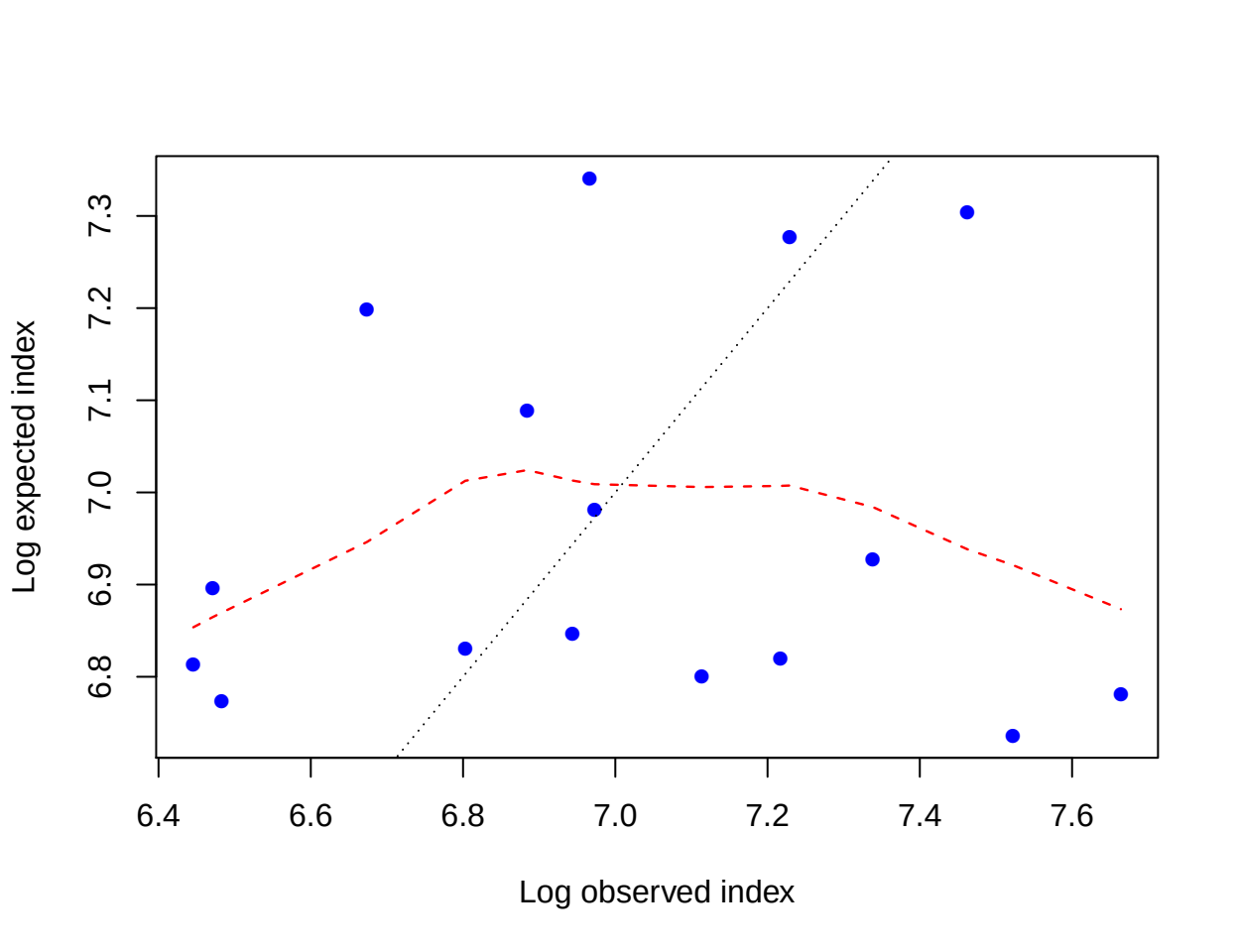

Index
0
500
1000
1500
2000
2500
45
50
55
60
65
70
Year

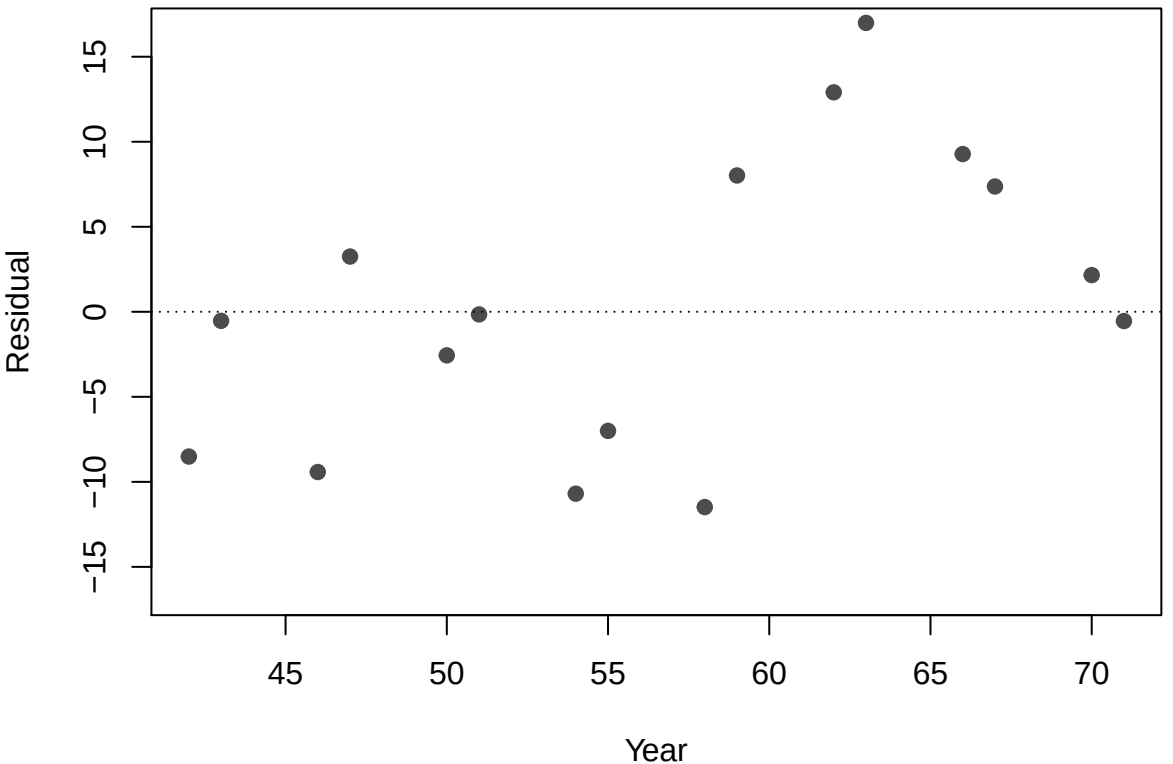

Index
0
500
1000
1500
2000
2500
45
50
55
60
65
70
Year

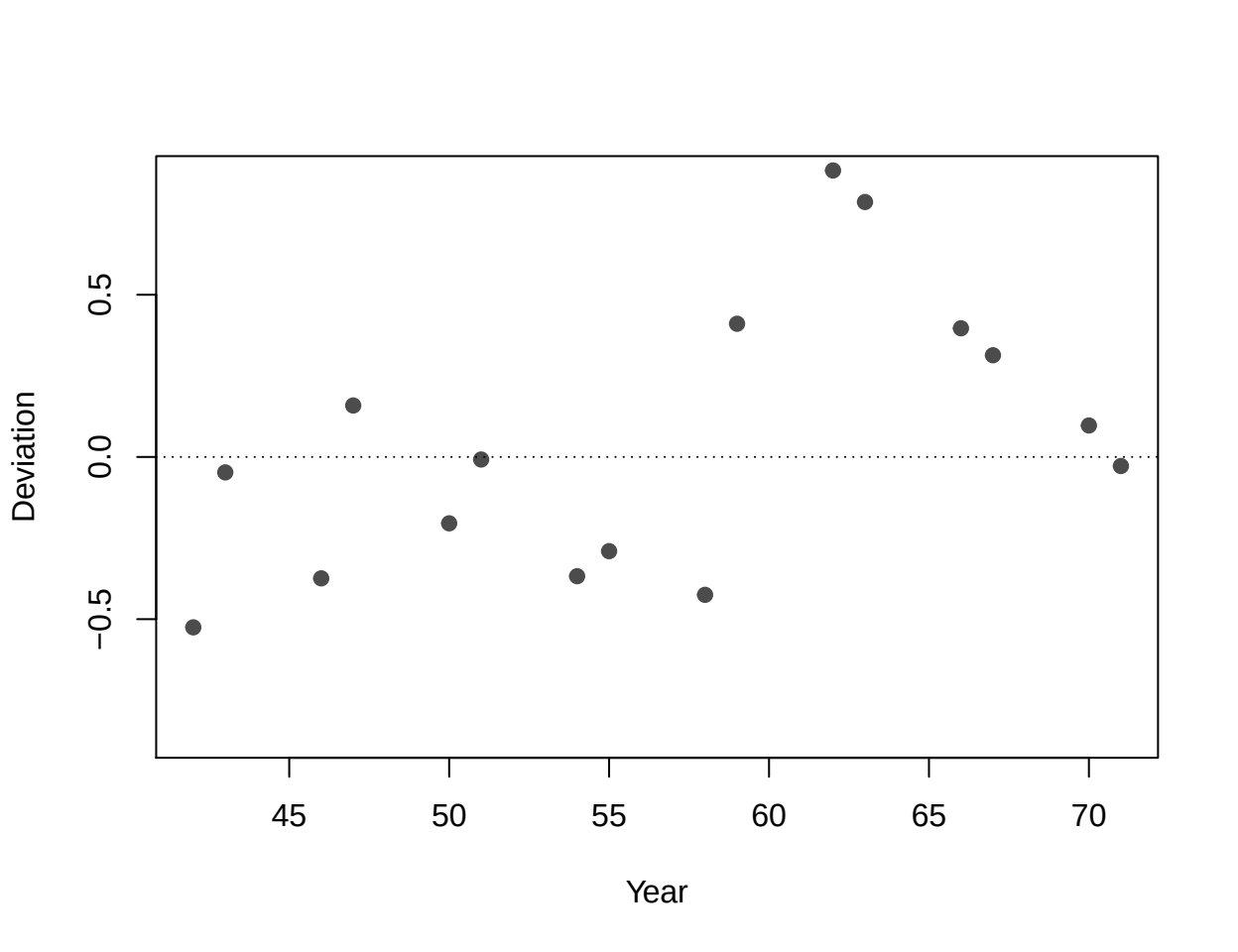

Expected index
0
500
1000
1500
0
500
1000
1500
2000
Observed index

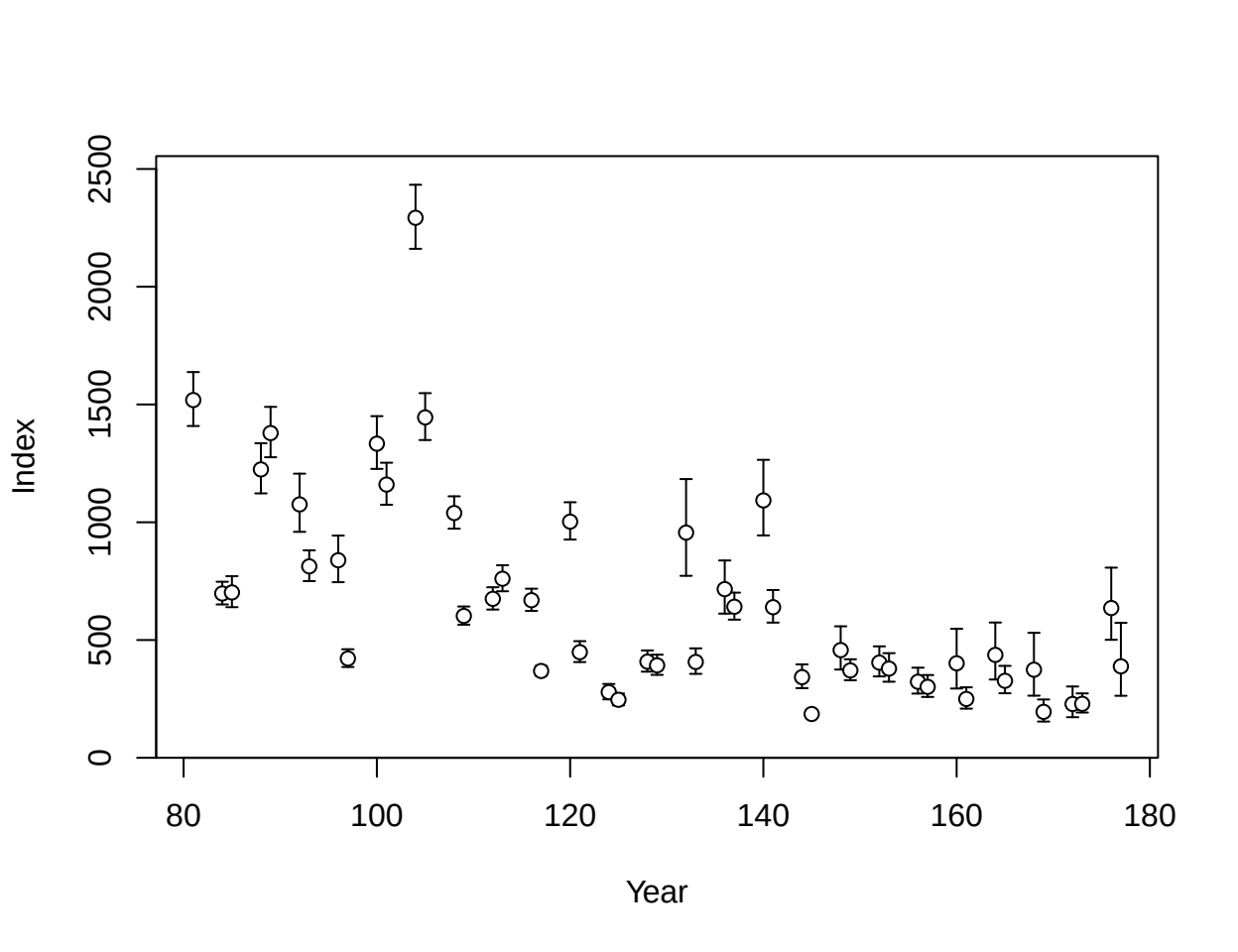

Log index
6.4
6.6
6.8
7.0
7.2
7.4
7.6
7.8
45
50
55
60
65
70
Year

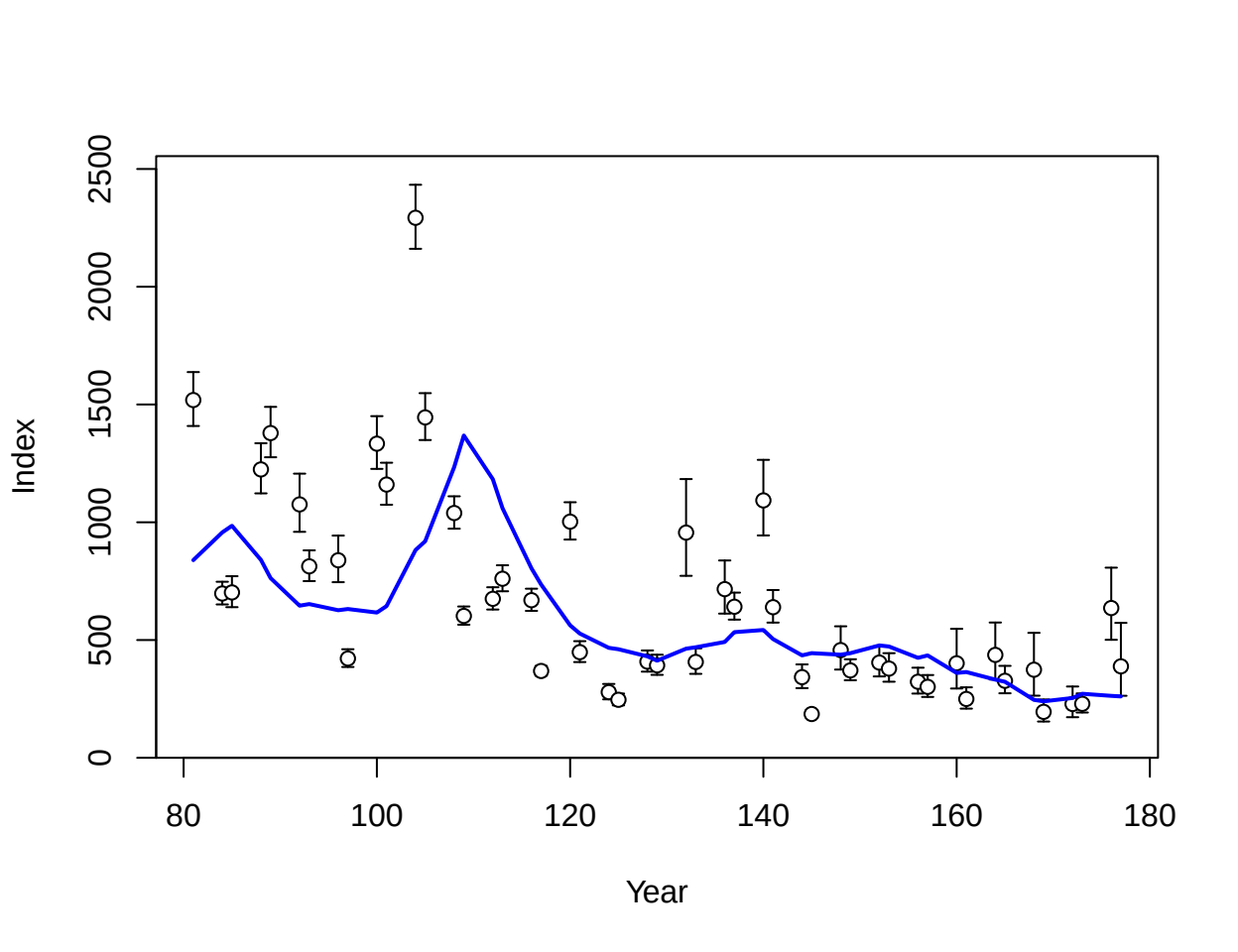

Log index
6.4
6.6
6.8
7.0
7.2
7.4
7.6
7.8
45
50
55
60
65
70
Year

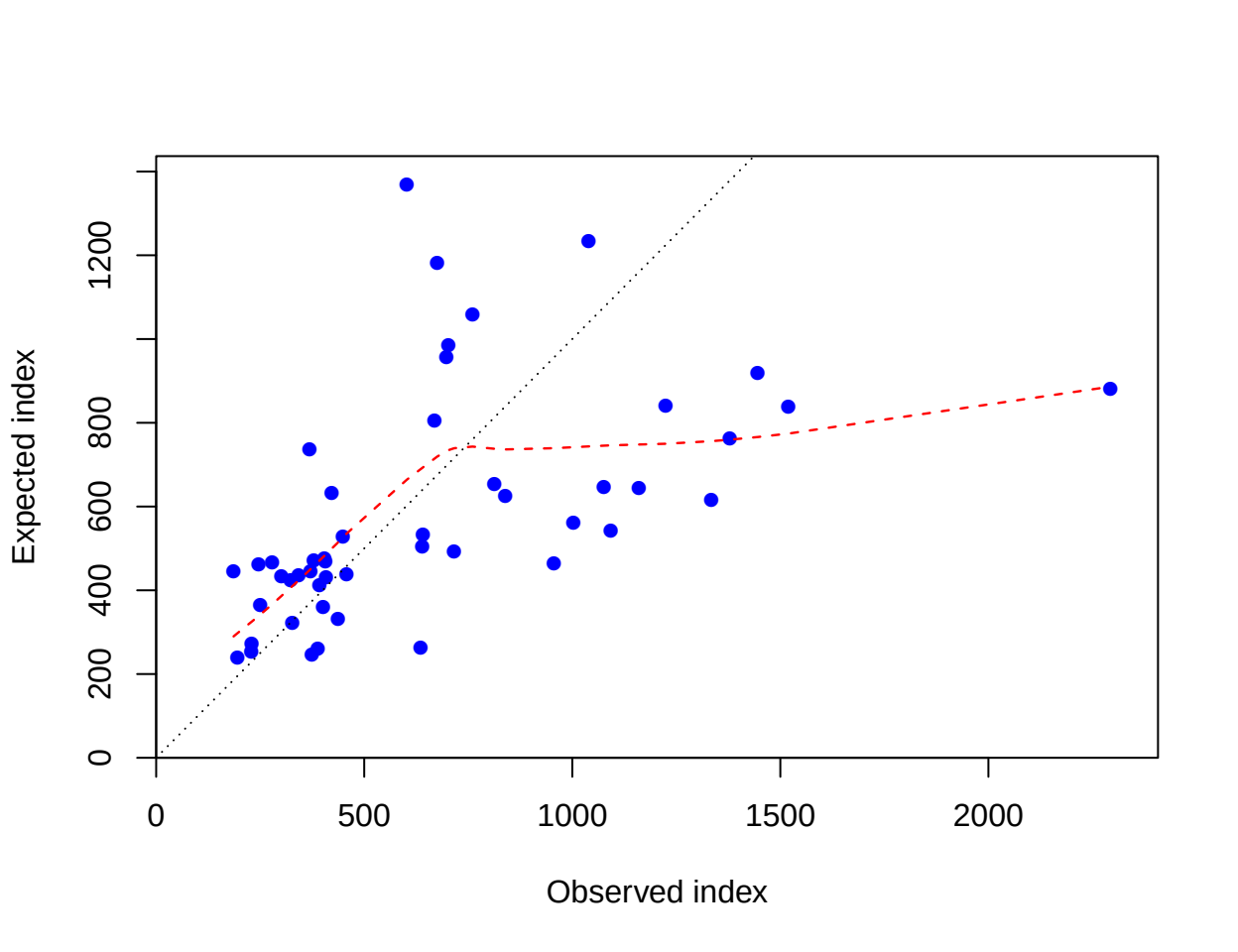

Log expected index
6.8
6.9
7.0
7.1
7.2
7.3
6.4
6.6
6.8
7.0
7.2
7.4
7.6
Log observed index

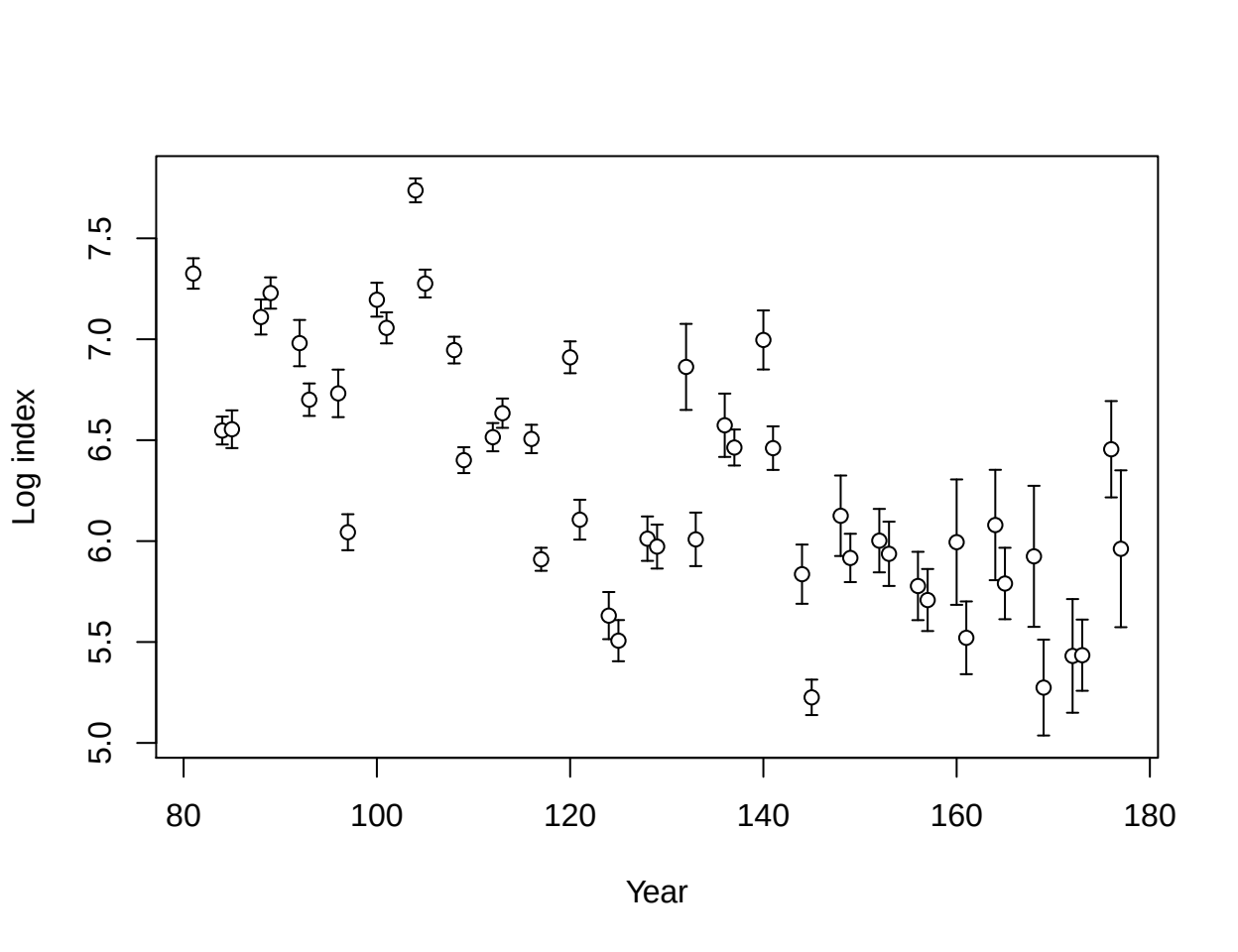

Residual
15
10
5
0
−5
−10
−15
45
50
55
60
65
70
Year

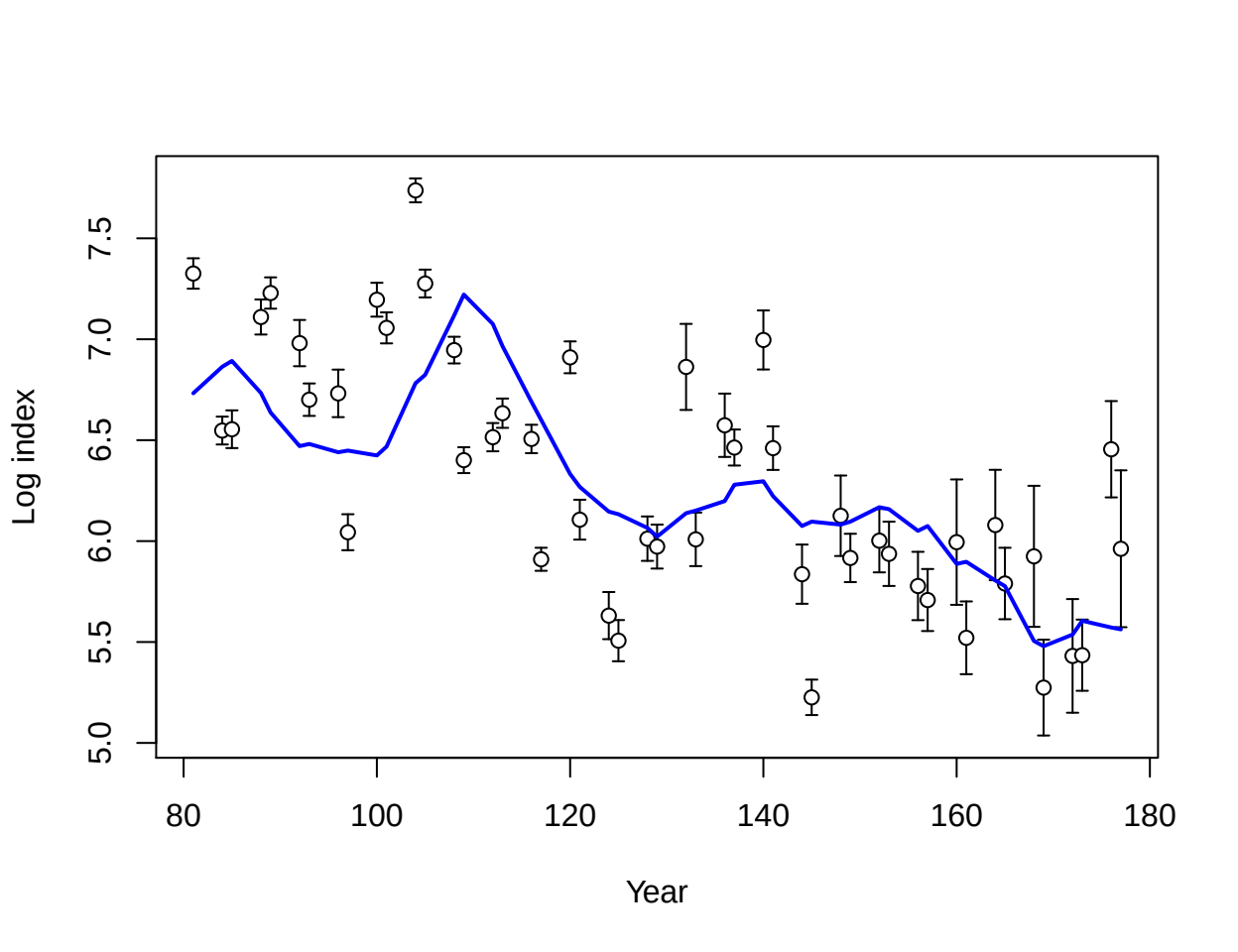

Deviation
0.5
0.0
−0.5
45
50
55
60
65
70
Year

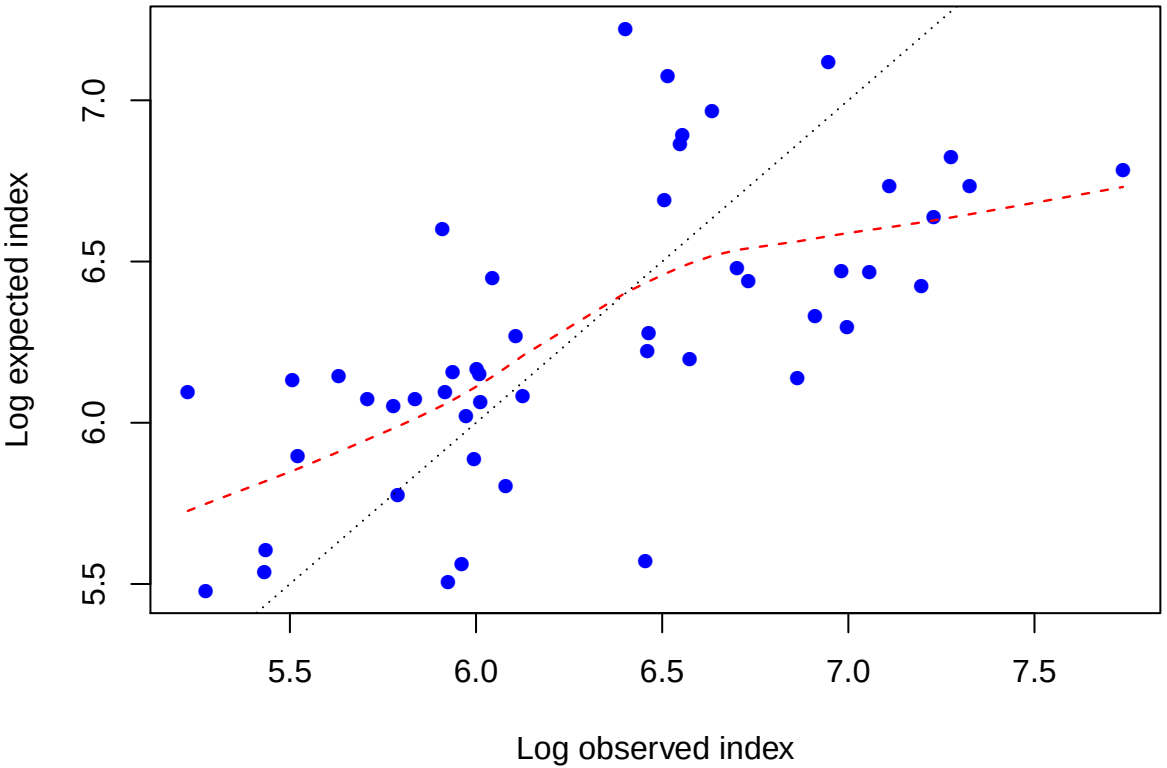

Index
0
500
1000
1500
2000
2500
80
100
120
140
160
180
Year

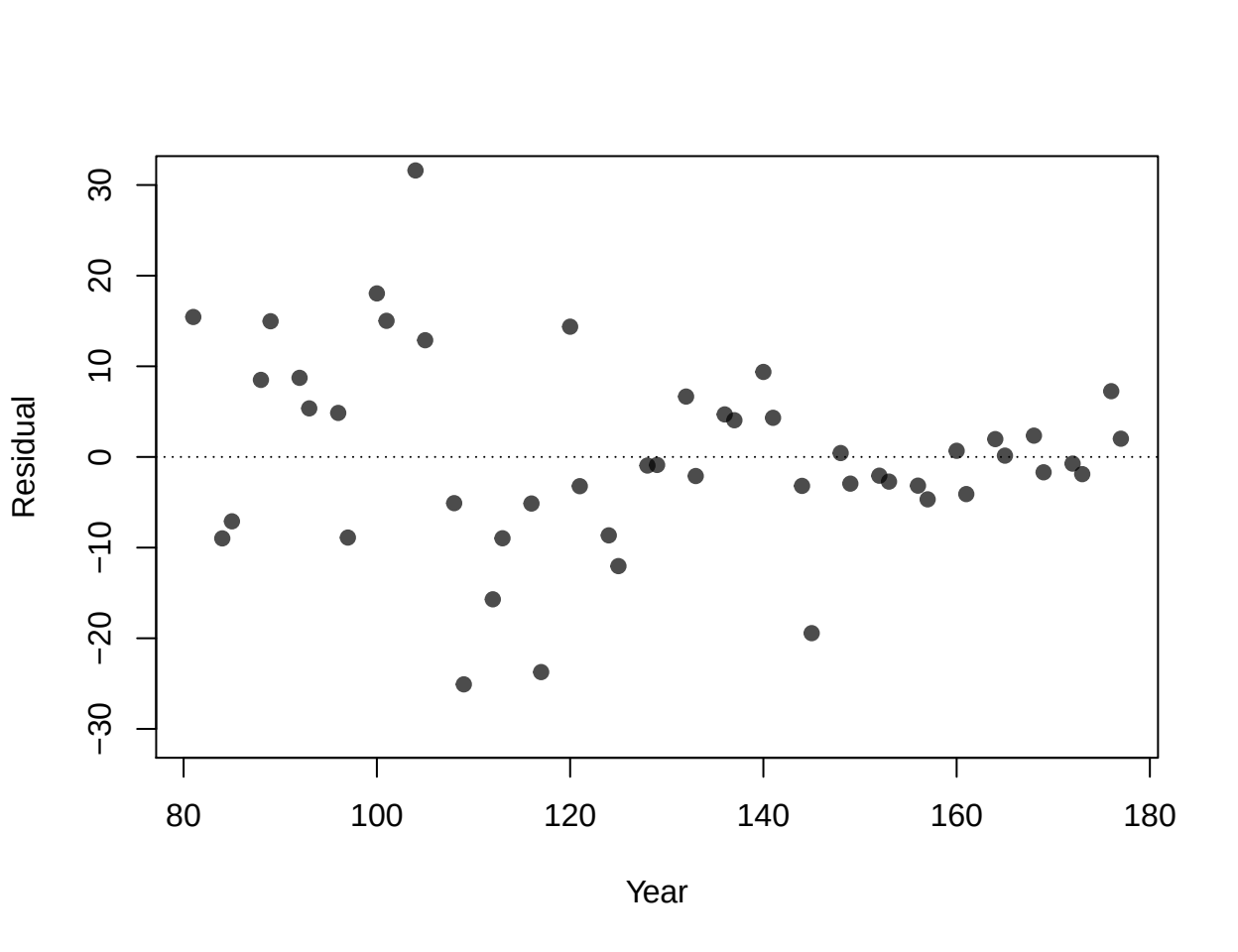

Index
0
500
1000
1500
2000
2500
80
100
120
140
160
180
Year

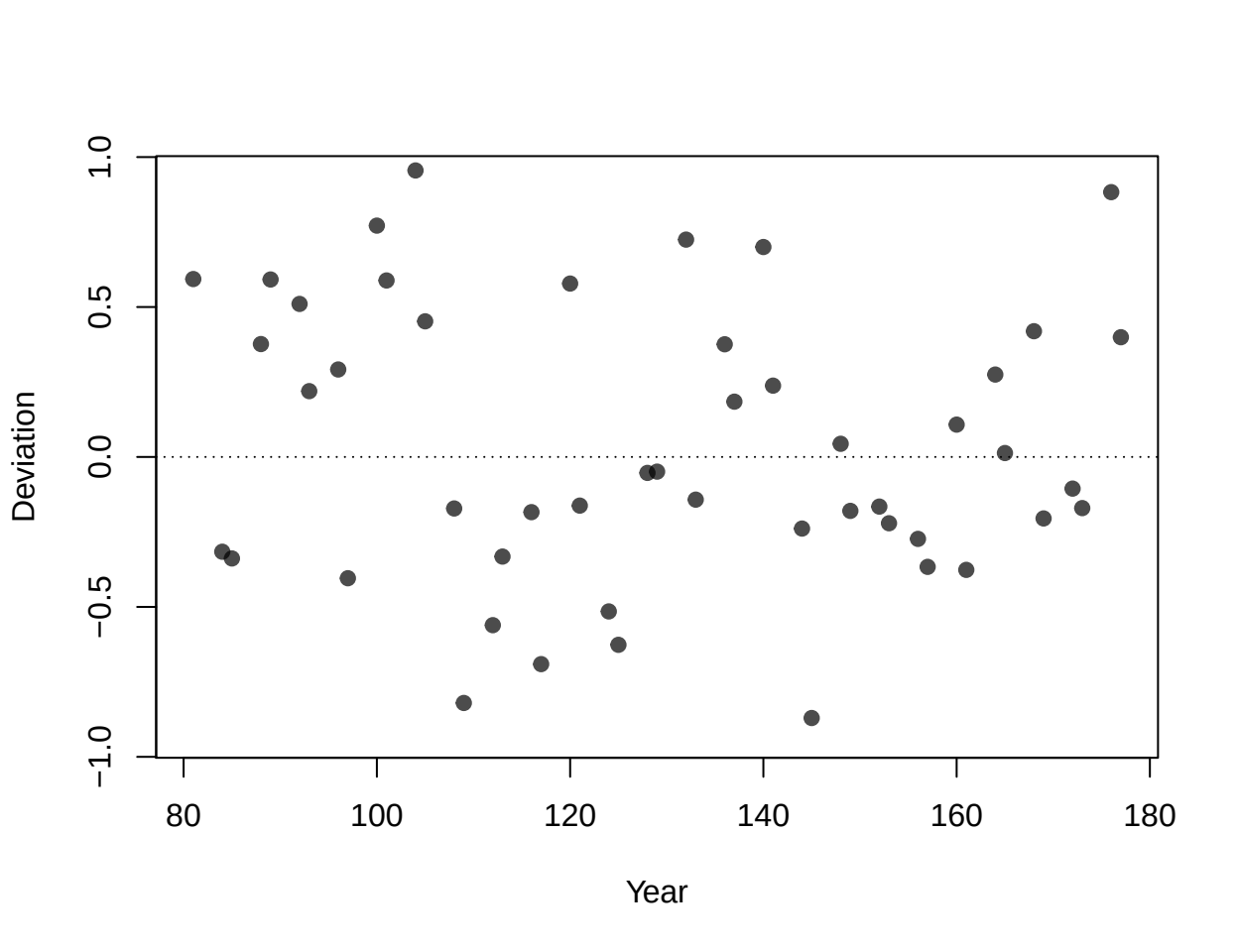

Expected index
0
200
400
600
800
1200
0
500
1000
1500
2000
Observed index

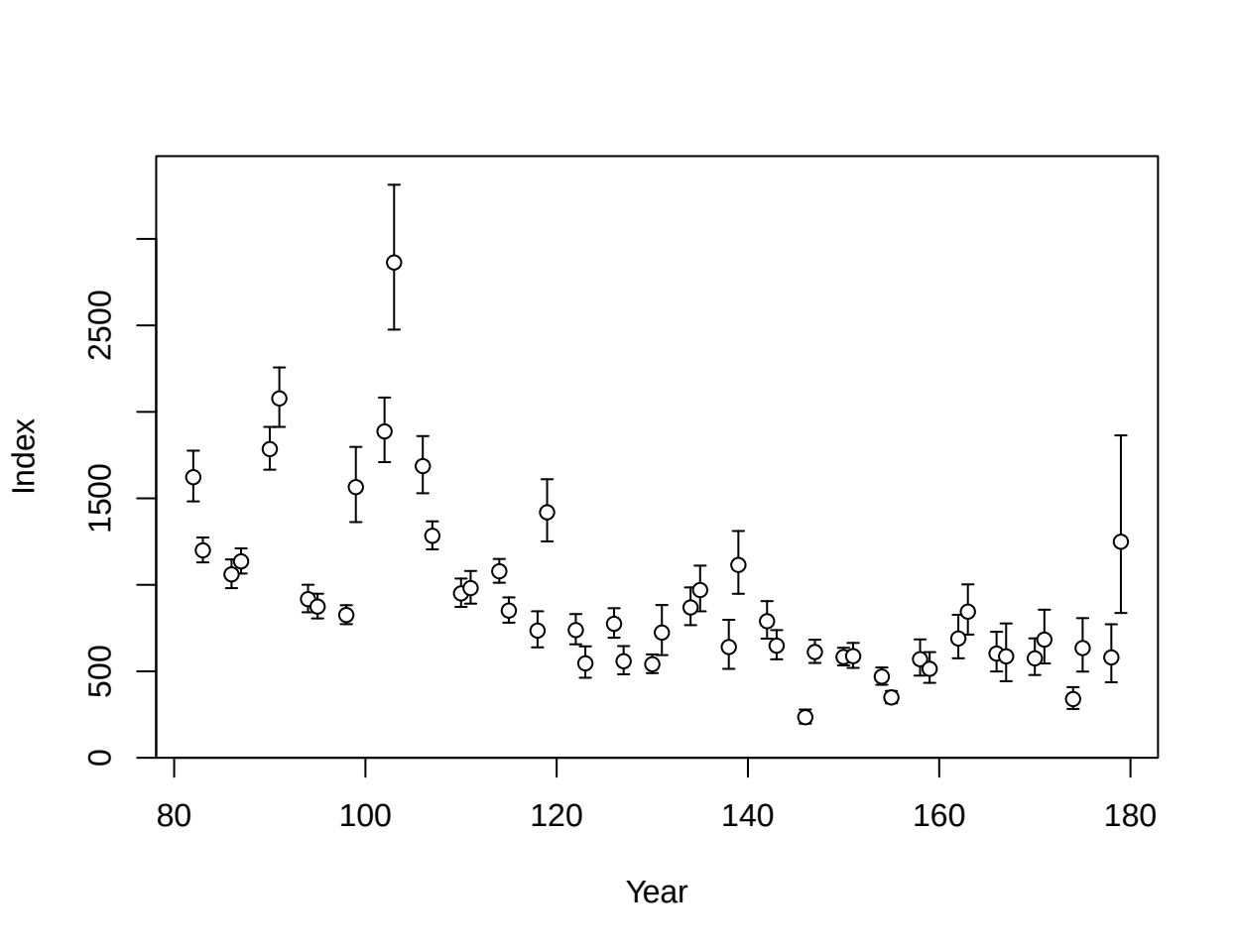

Log index
5.0
5.5
6.0
6.5
7.0
7.5
80
100
120
140
160
180
Year

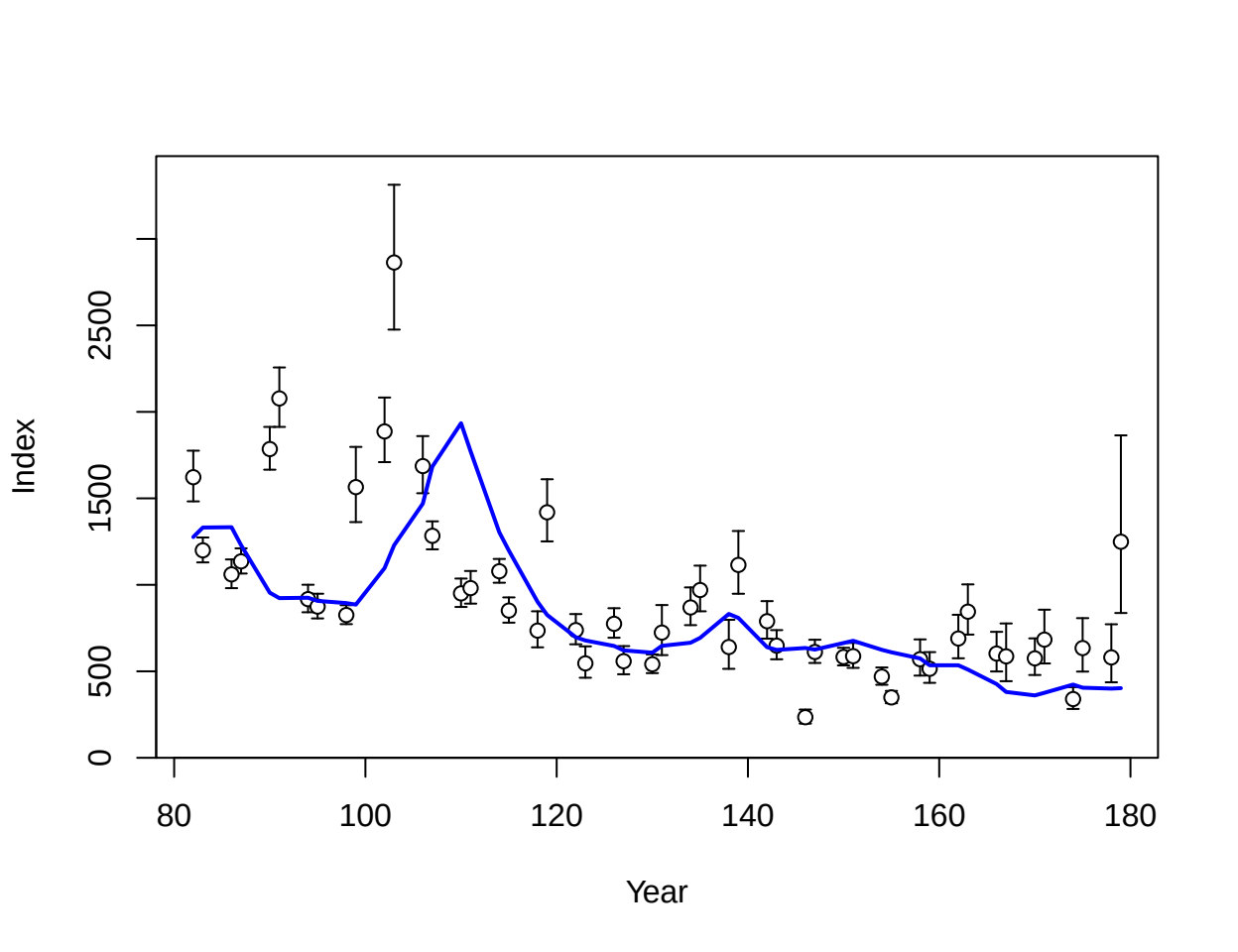

Log index
5.0
5.5
6.0
6.5
7.0
7.5
80
100
120
140
160
180
Year

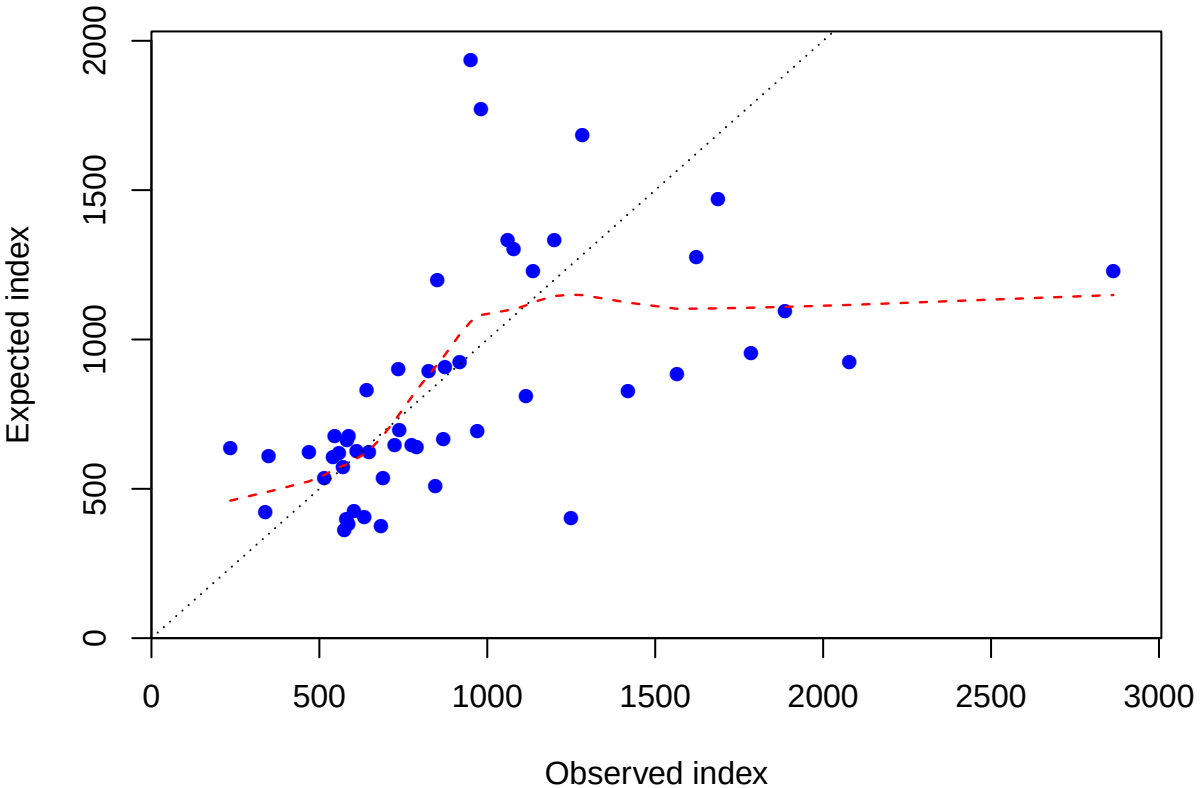

Log expected index
7.0
6.5
6.0
5.5
5.5
6.0
6.5
7.0
7.5
Log observed index

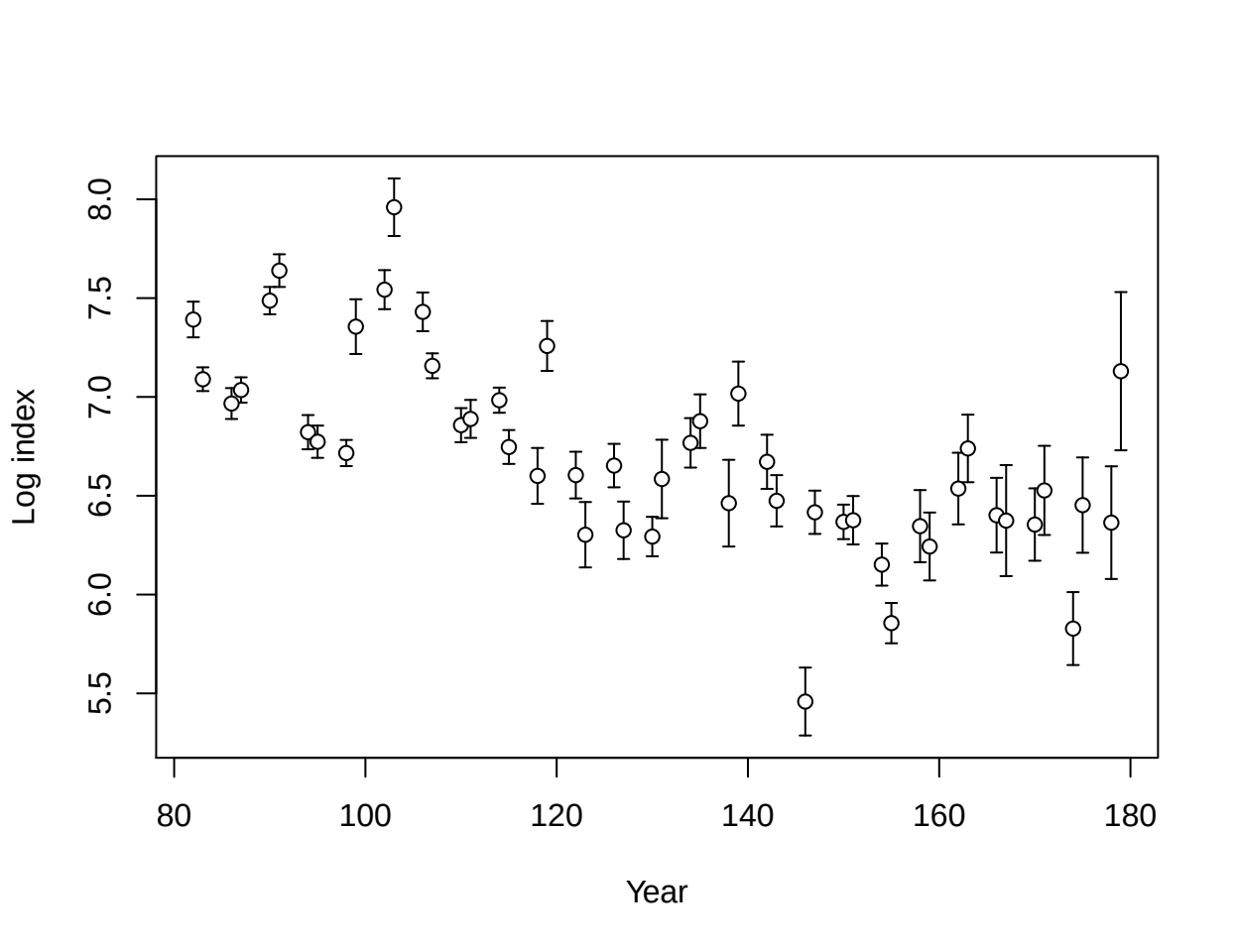

Residual
30
20
10
0
−10
−20
−30
80
100
120
140
160
180
Year

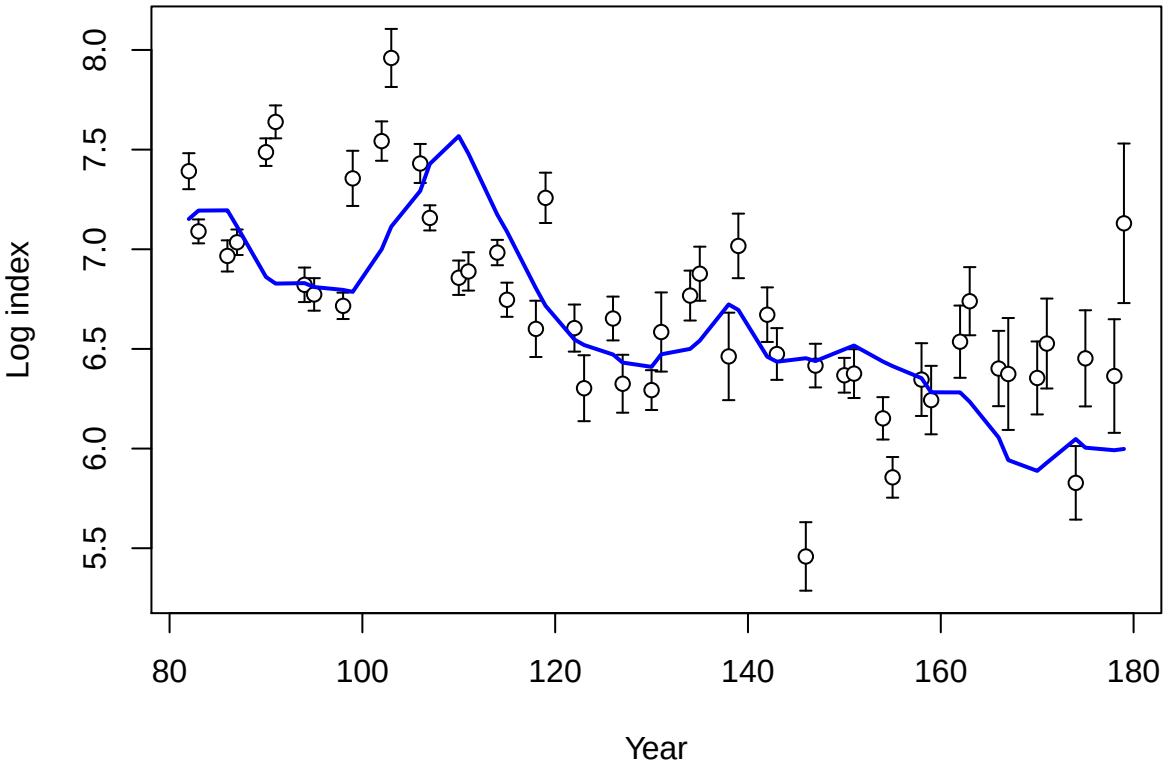

Deviation
1.0
0.5
0.0
−0.5
−1.0
80
100
120
140
160
180
Year

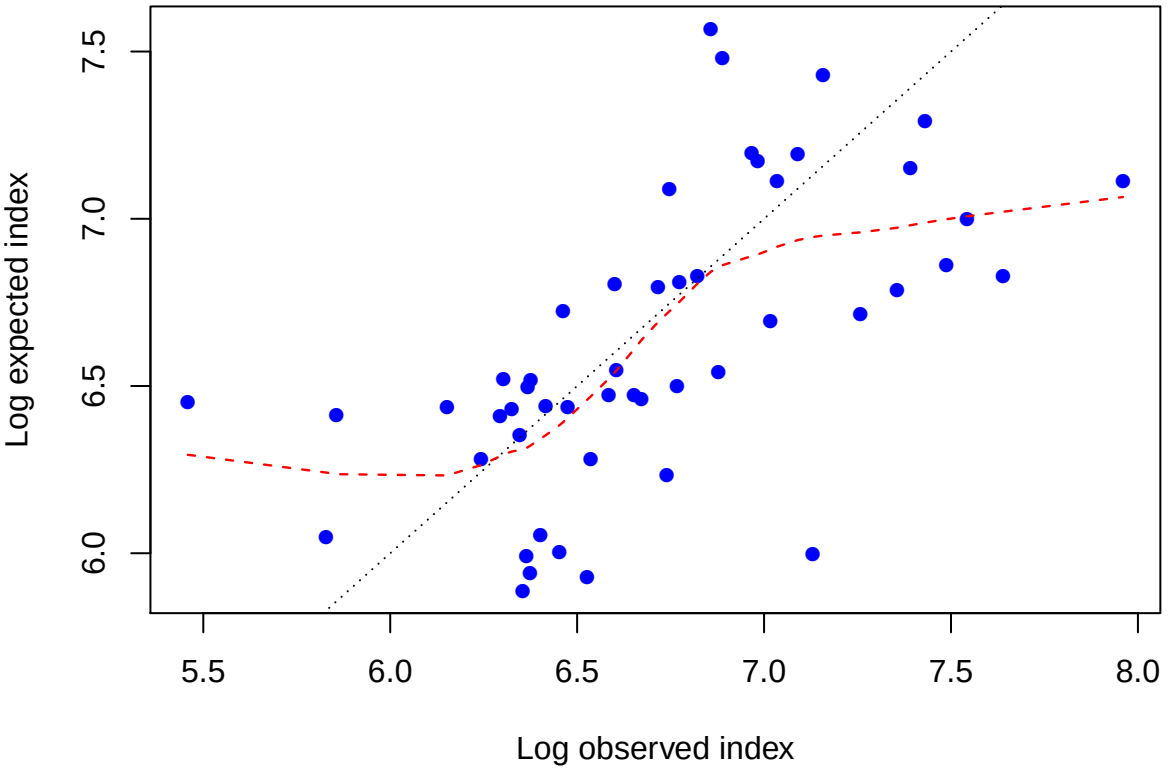

Index
0
500
1500
2500
80
100
120
140
160
180
Year

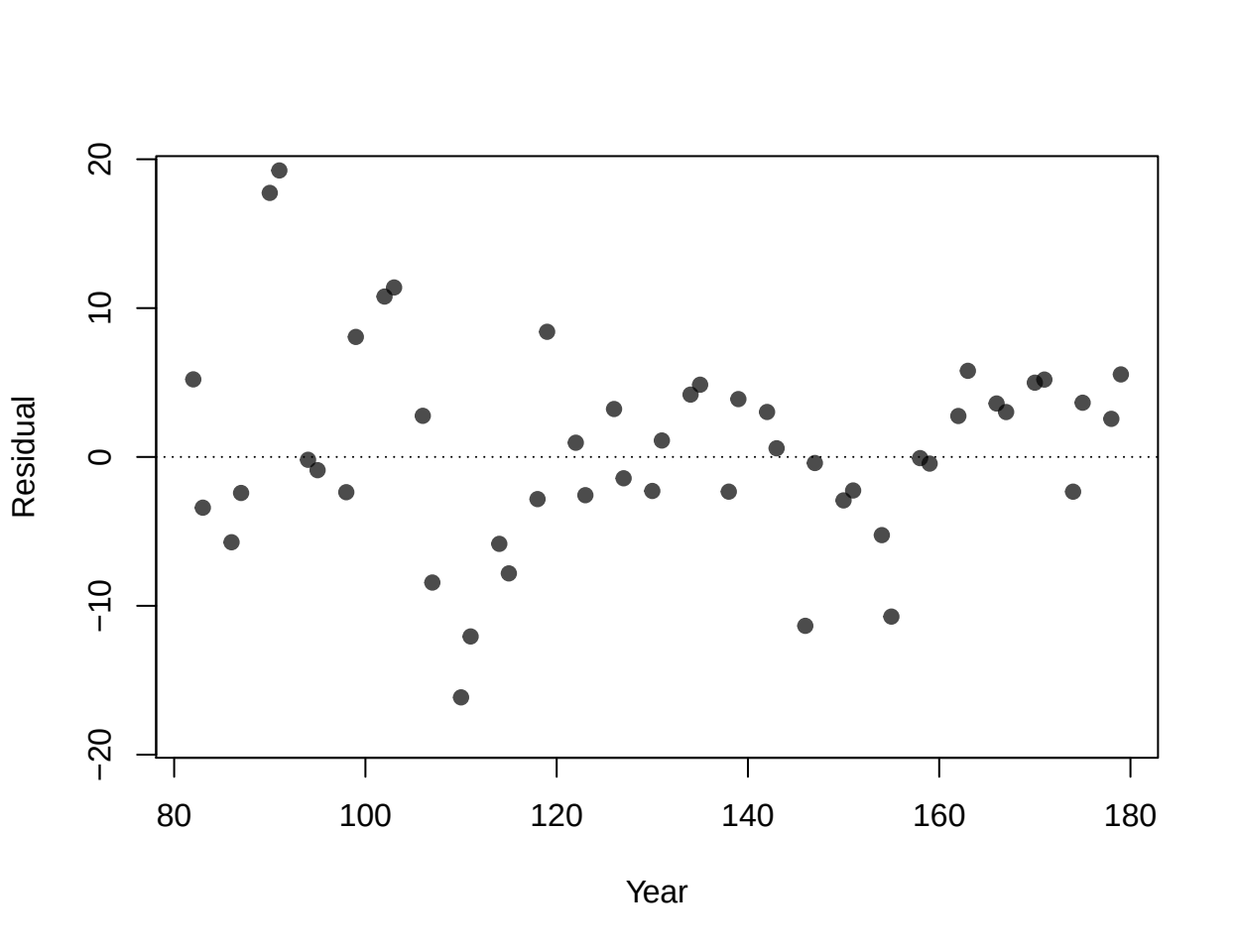

Index
0
500
1500
2500
80
100
120
140
160
180
Year

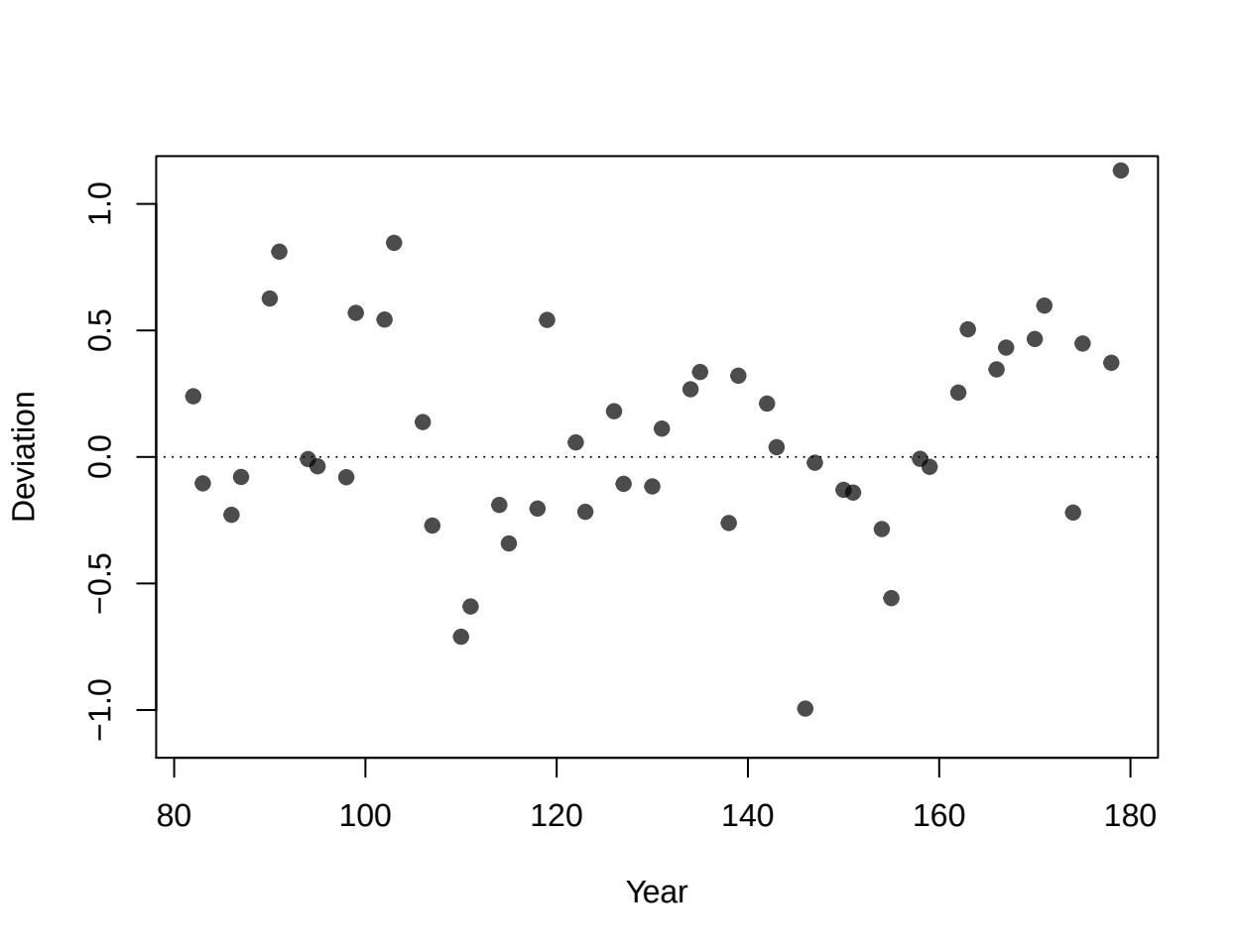

Expected index
Observed index
0
500
1000
1500
2000
2500
3000

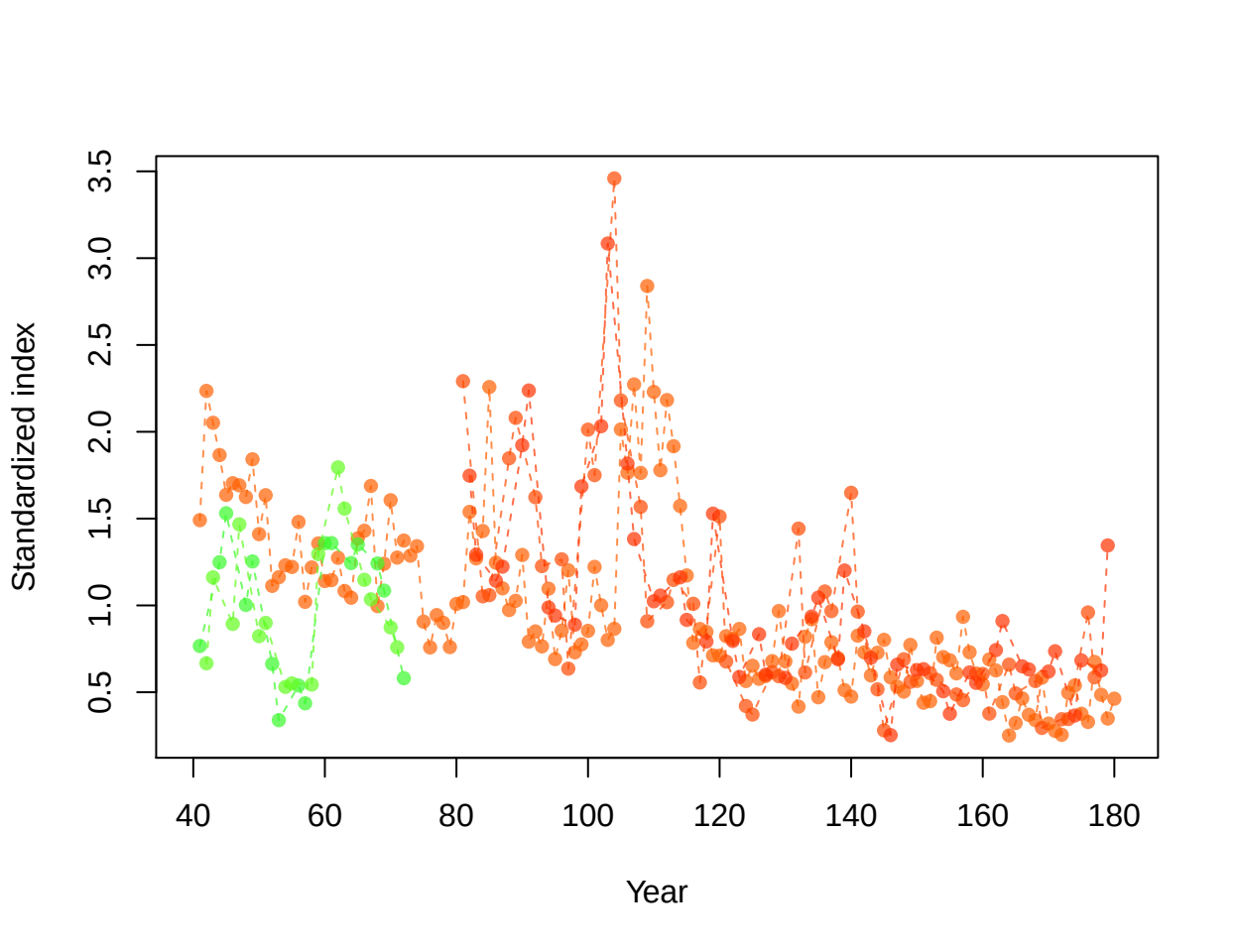

Log index
8.0
7.5
7.0
6.5
6.0
5.5
80
100
120
140
160
180
Year

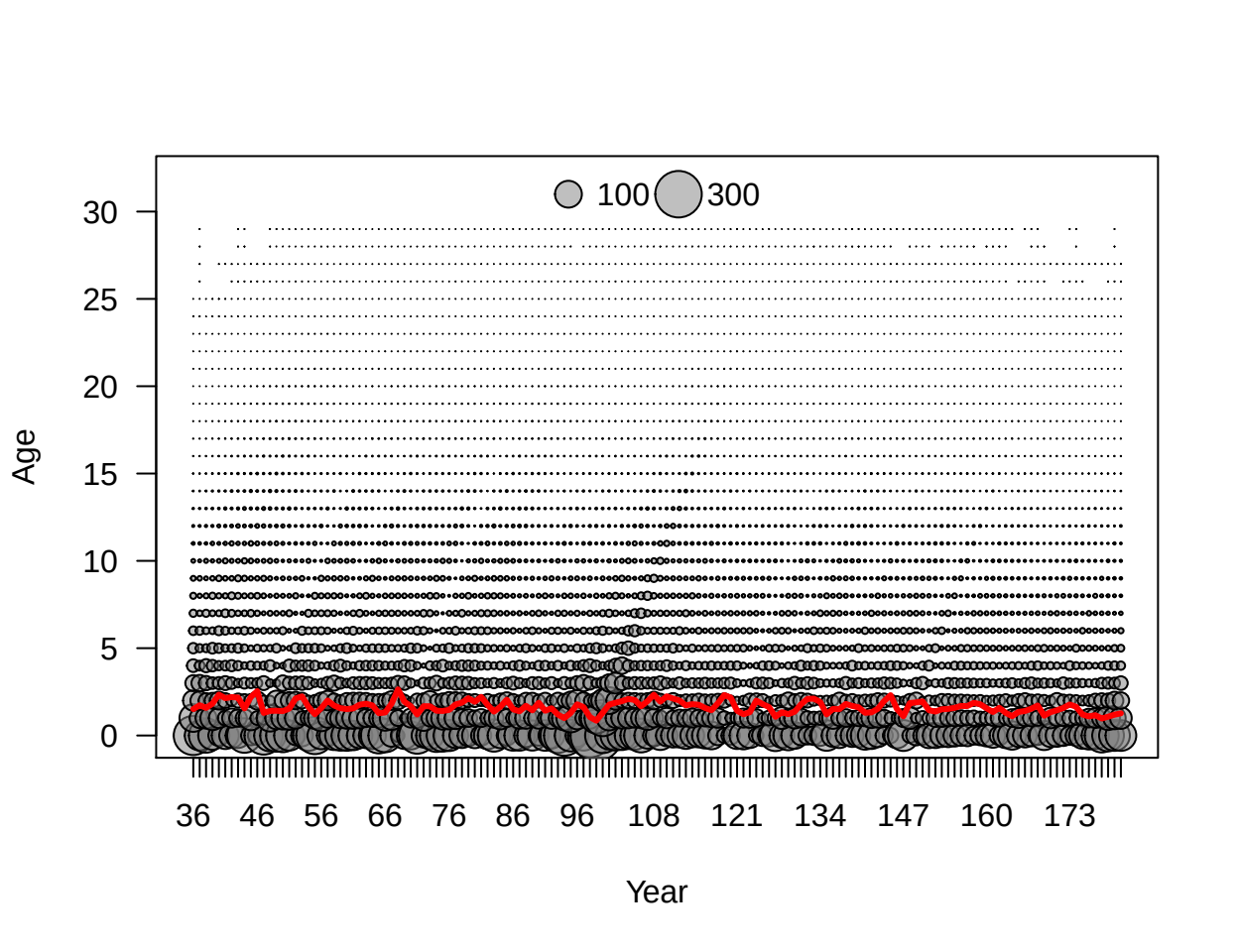

Log index
8.0
7.5
7.0
6.5
6.0
5.5
80
100
120
140
160
180
Year

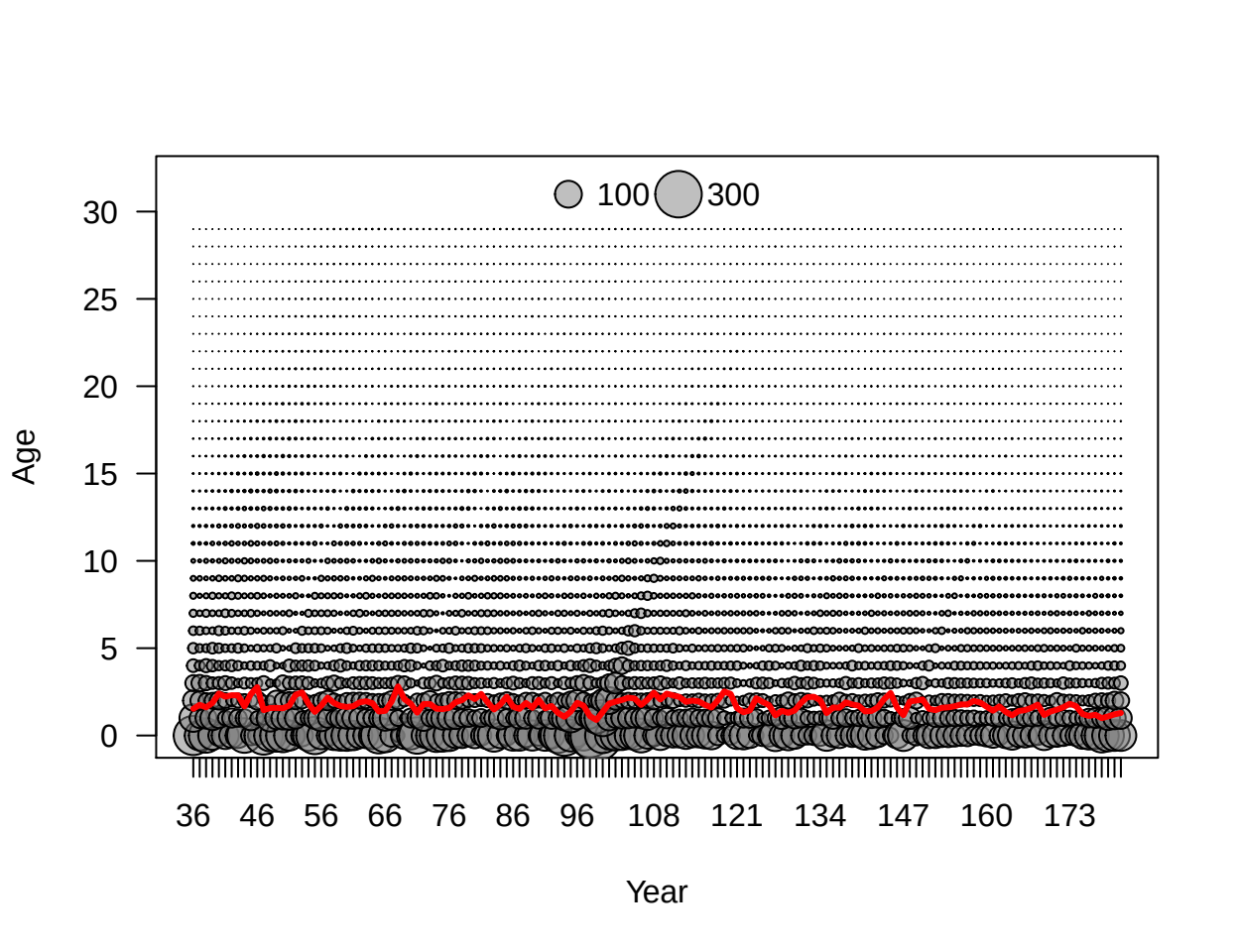

Log expected index
7.5
7.0
6.5
6.0
5.5
6.0
6.5
7.0
7.5
8.0
Log observed index

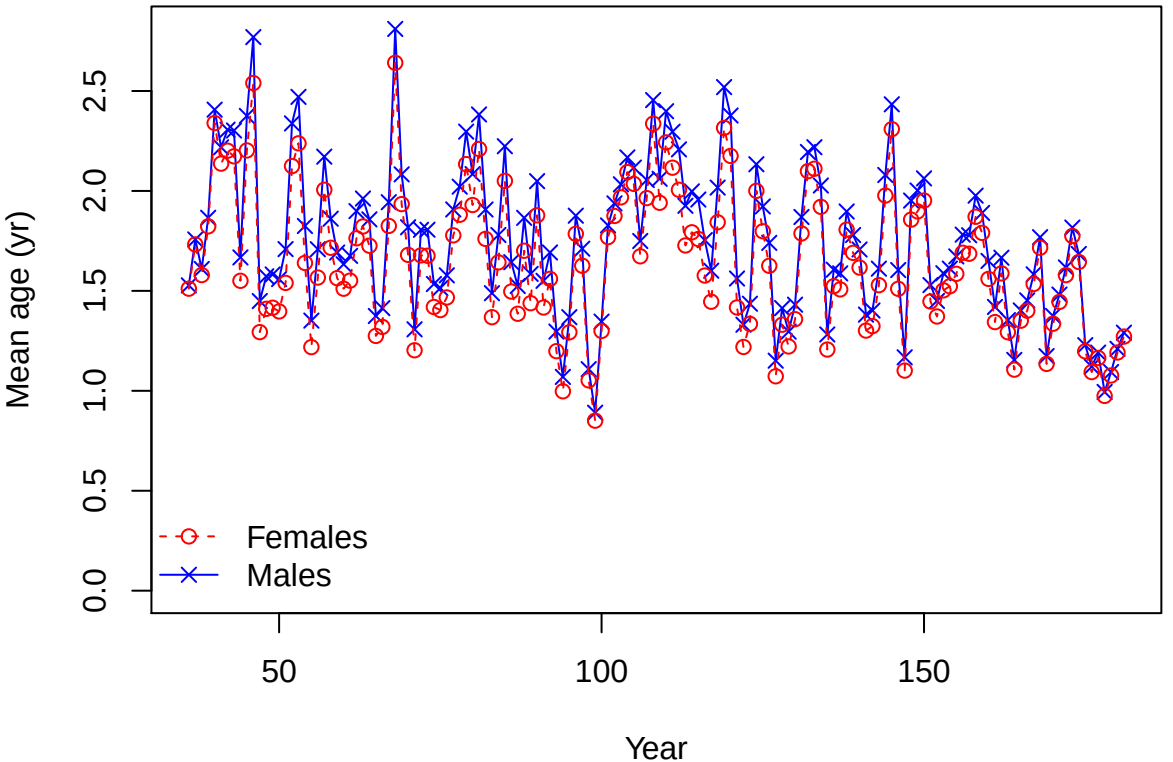

Residual
20
10
0
−10
−20
80
100
120
140
160
180
Year

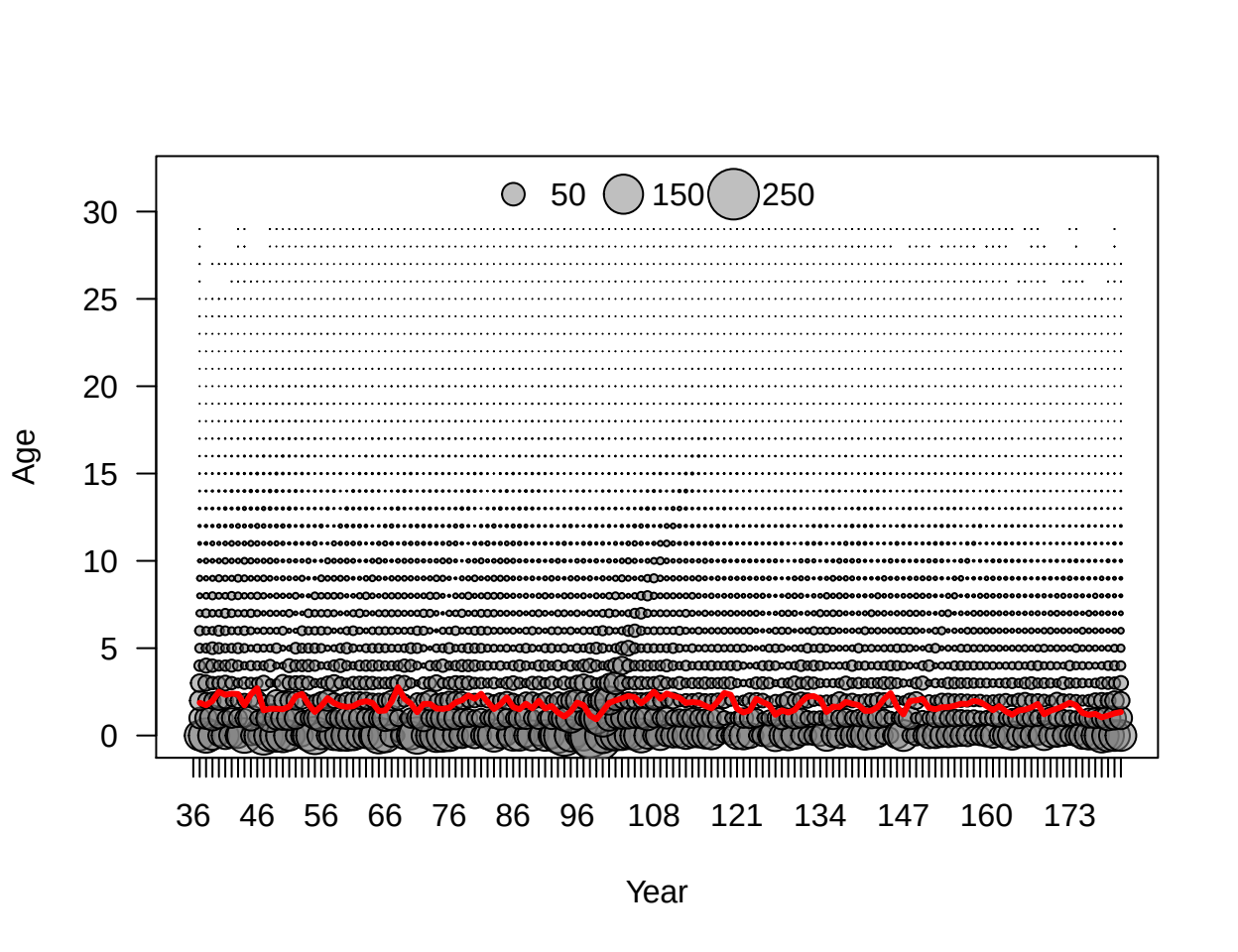

Deviation
1.0
0.5
0.0
−0.5
−1.0
80
100
120
140
160
180
Year

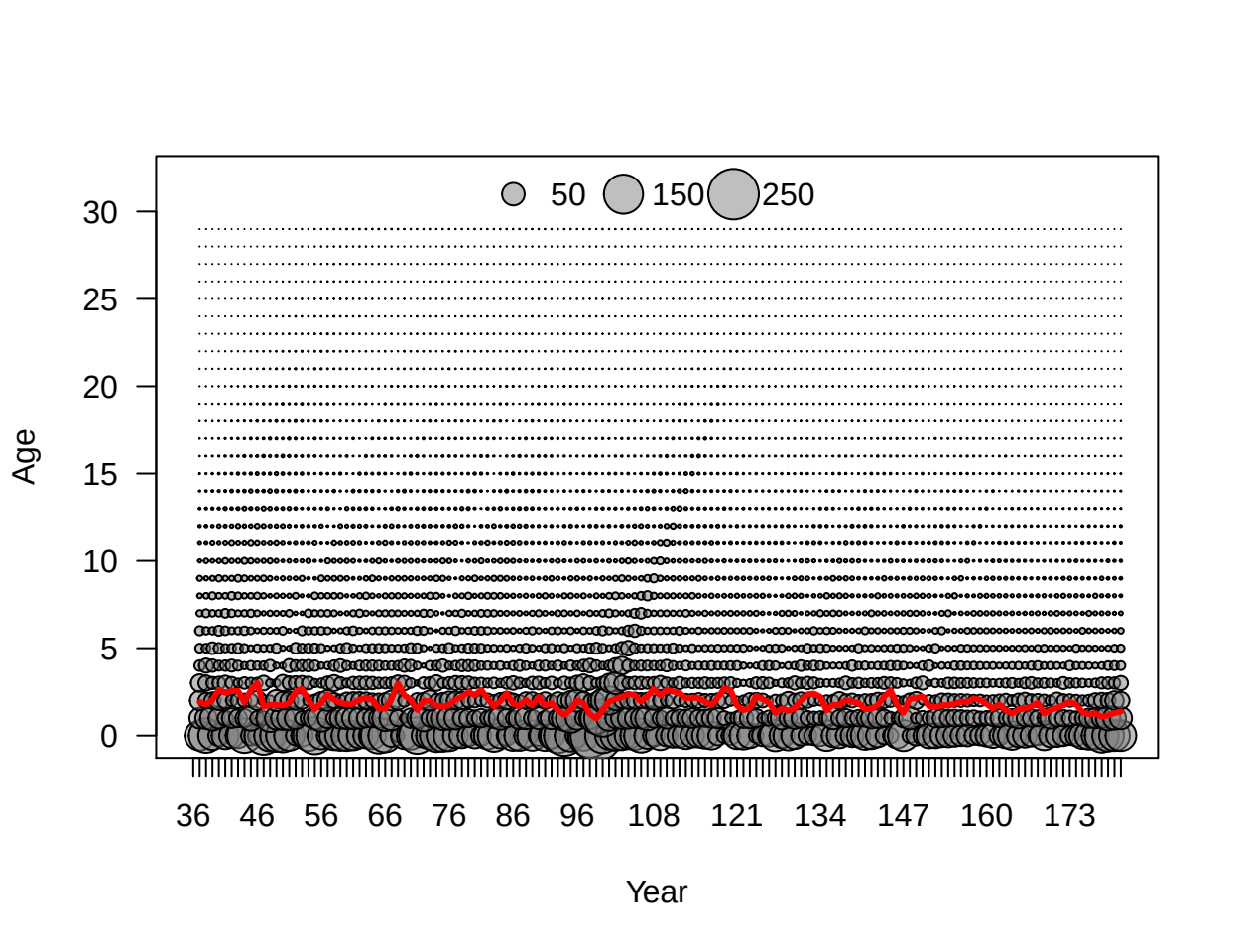

Standardized index
0.5
1.0
1.5
2.0
2.5
3.0
3.5
40
60
80
100
120
140
160
180
Year

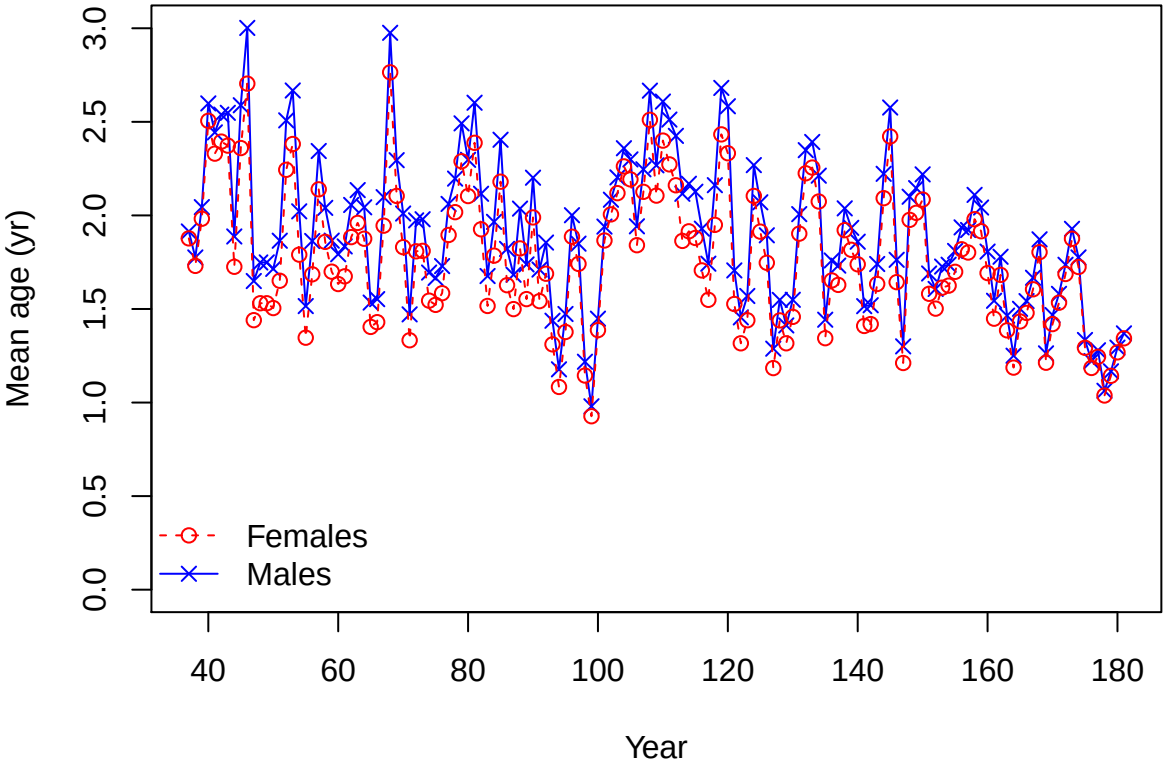

100
300
30
25
20
15
10
5
0
Age
36
46
56
66
76
86
96
108
121
134
147
160
173
Year

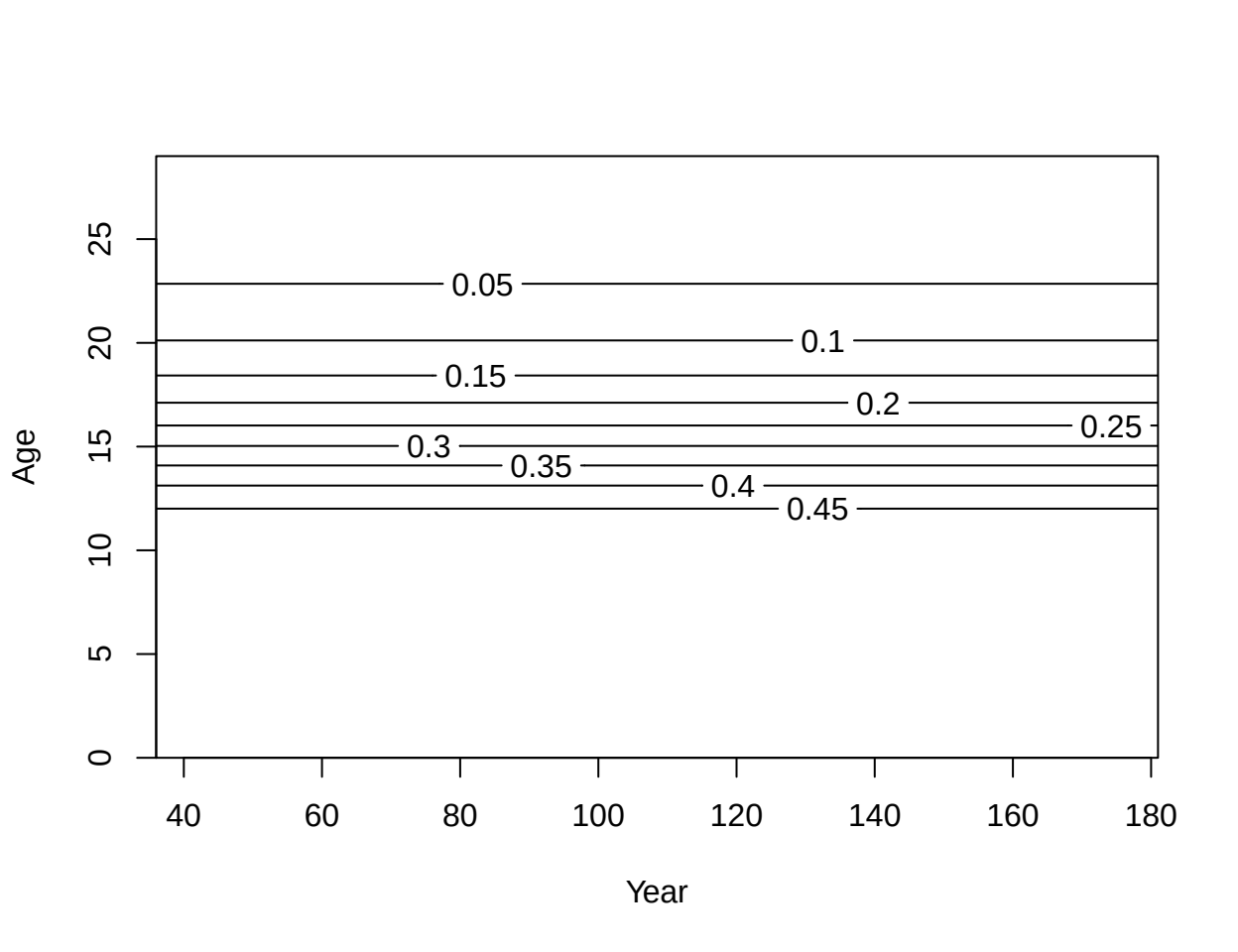

100
300
30
25
20
15
10
5
0
Age
36
46
56
66
76
86
96
108
121
134
147
160
173
Year

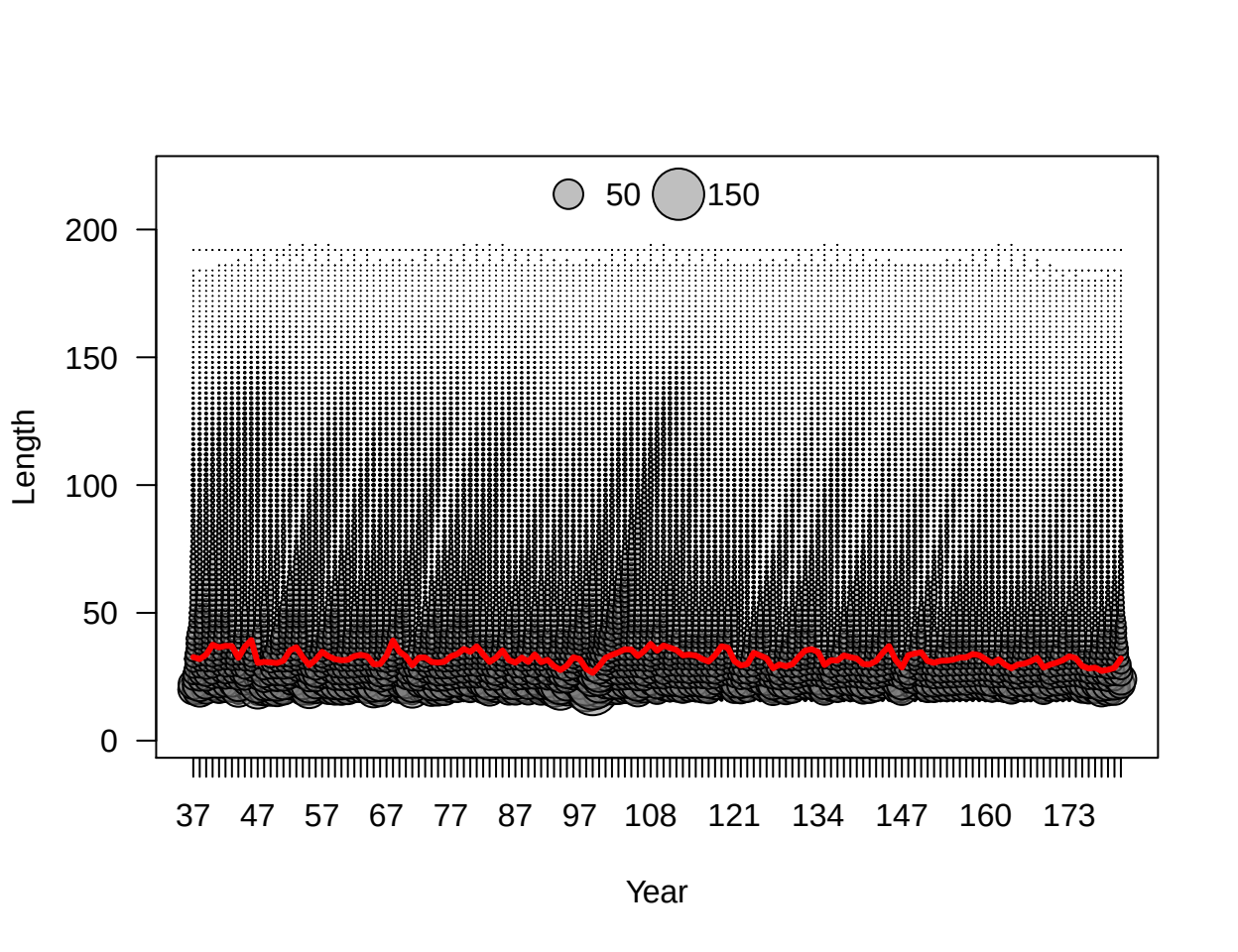

Mean age (yr)
0.0
0.5
1.0
1.5
2.0
2.5
50
100
150
Year
Females
Males

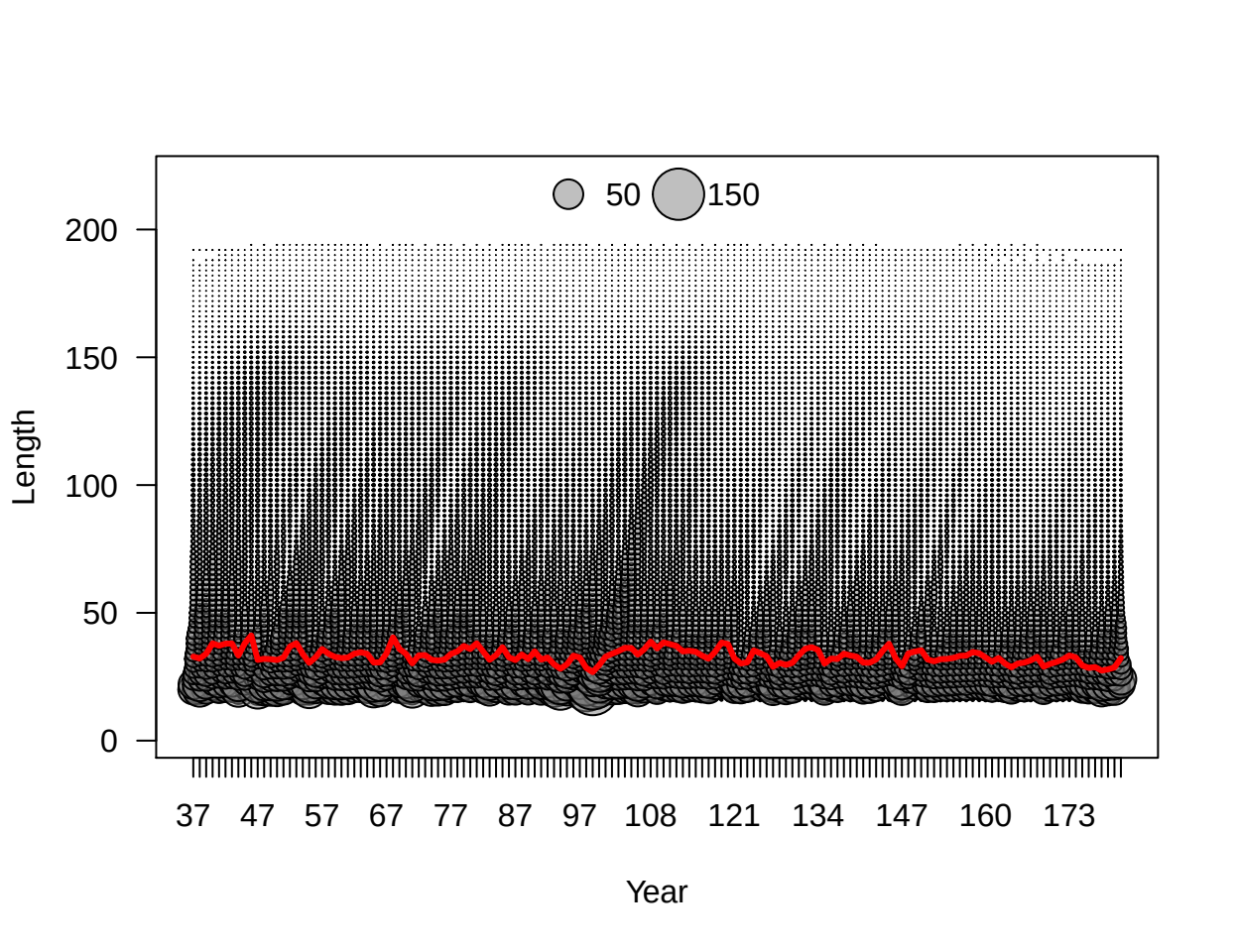

50
150
250
30
25
20
15
10
5
0
Age
36
46
56
66
76
86
96
108
121
134
147
160
173
Year

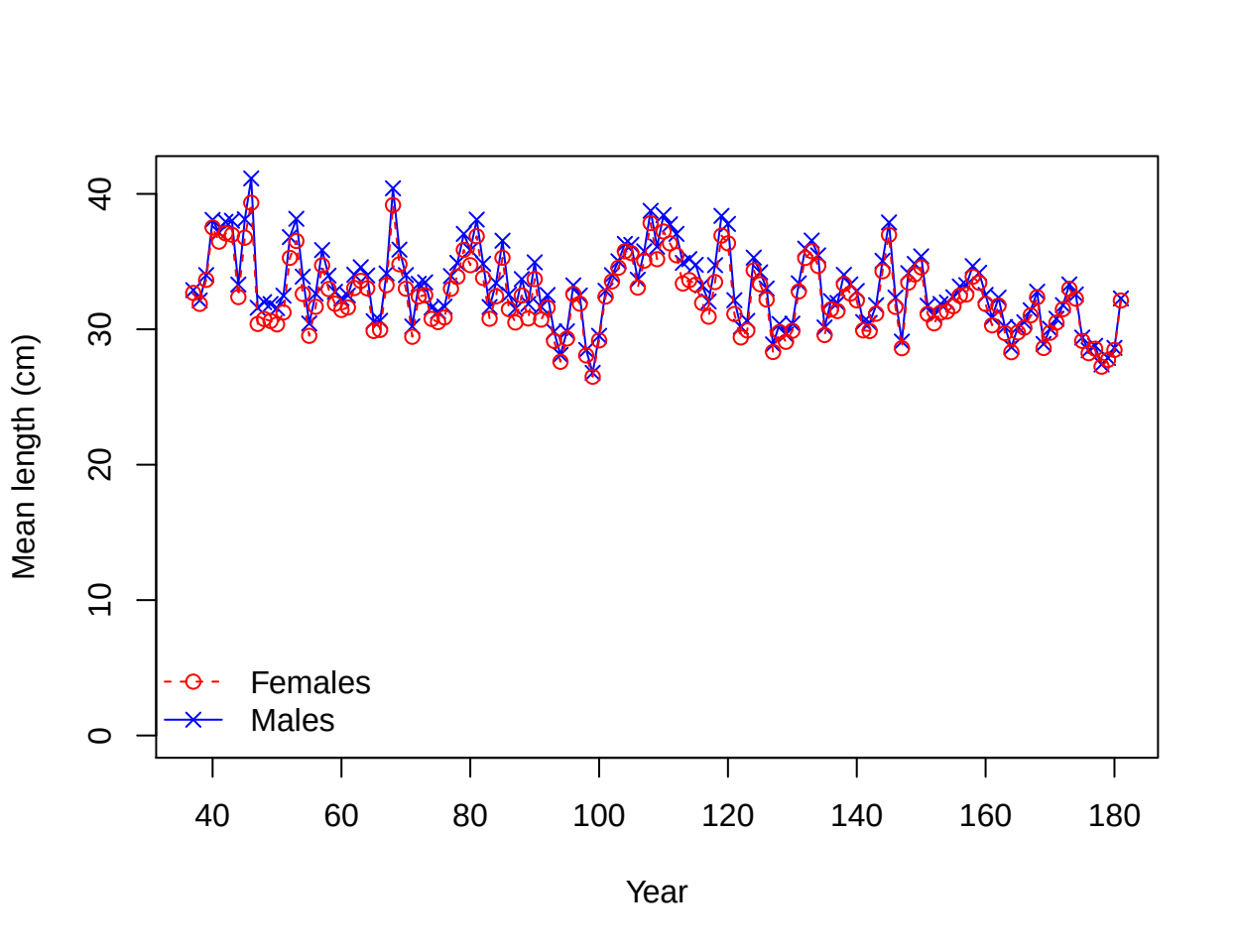

50
150
250
30
25
20
15
10
5
0
Age
36
46
56
66
76
86
96
108
121
134
147
160
173
Year

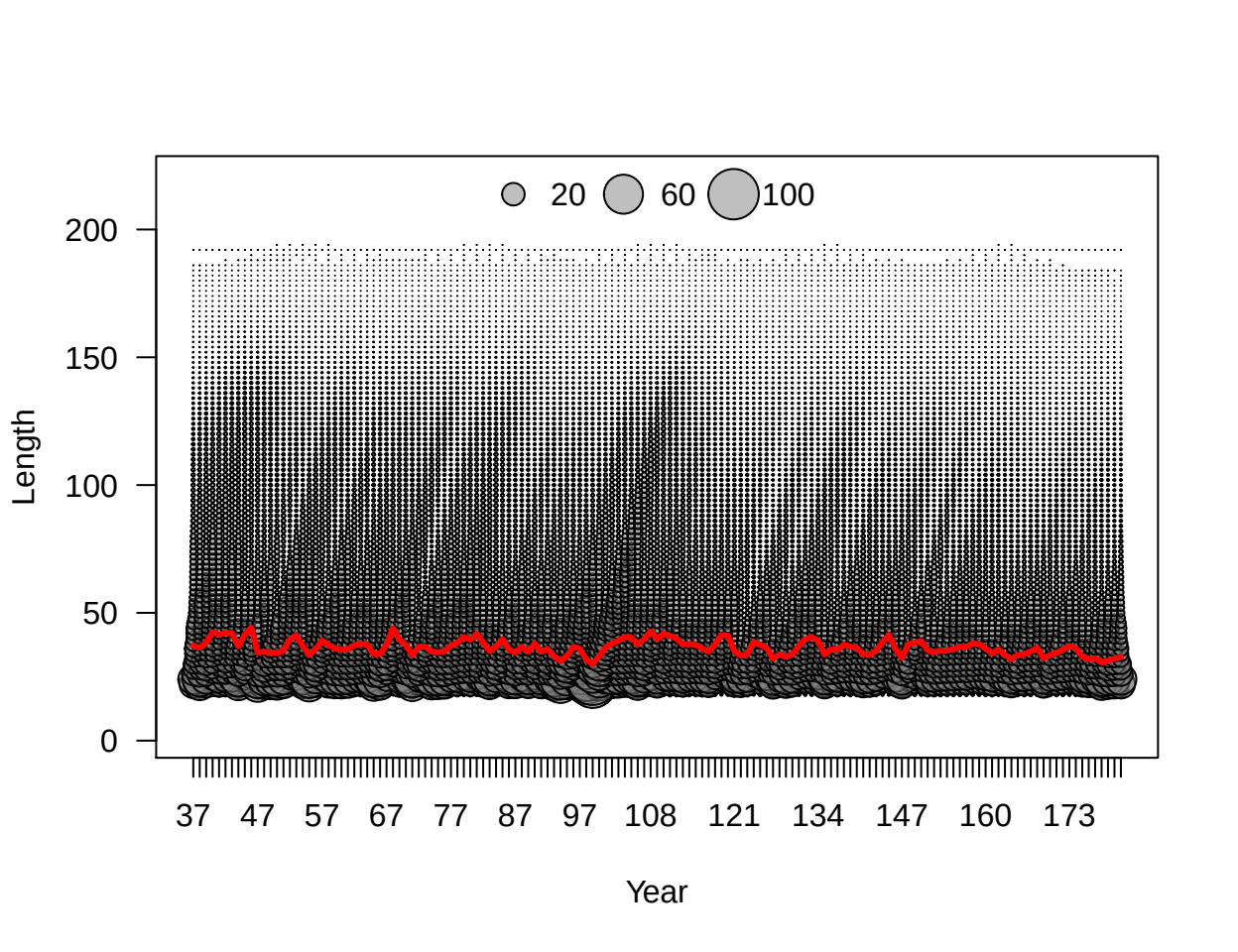

Mean age (yr)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
40
60
80
100
120
140
160
180
Year
Females
Males

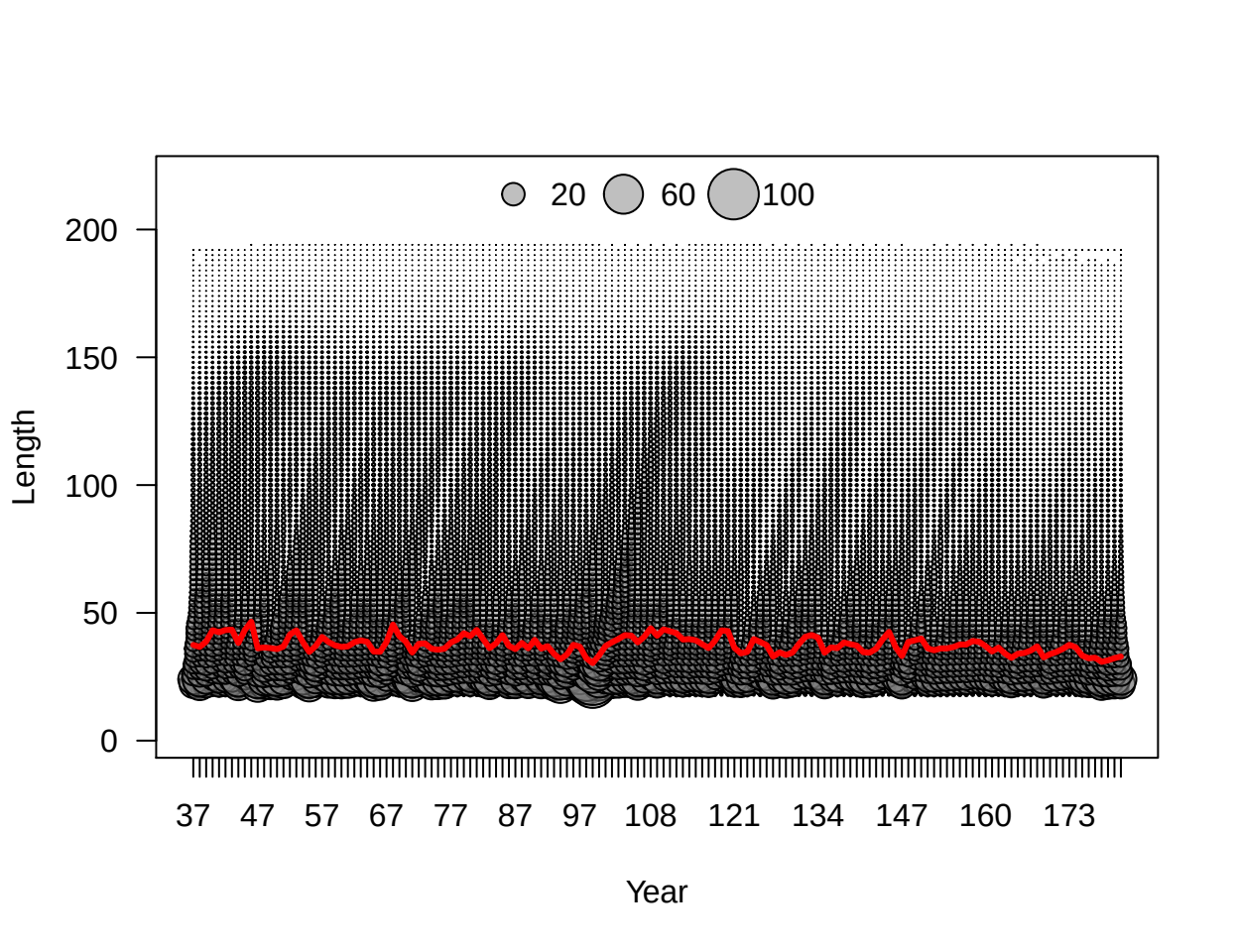

0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
Age
0
5
10
15
20
25
Year
40
60
80
100
120
140
160
180

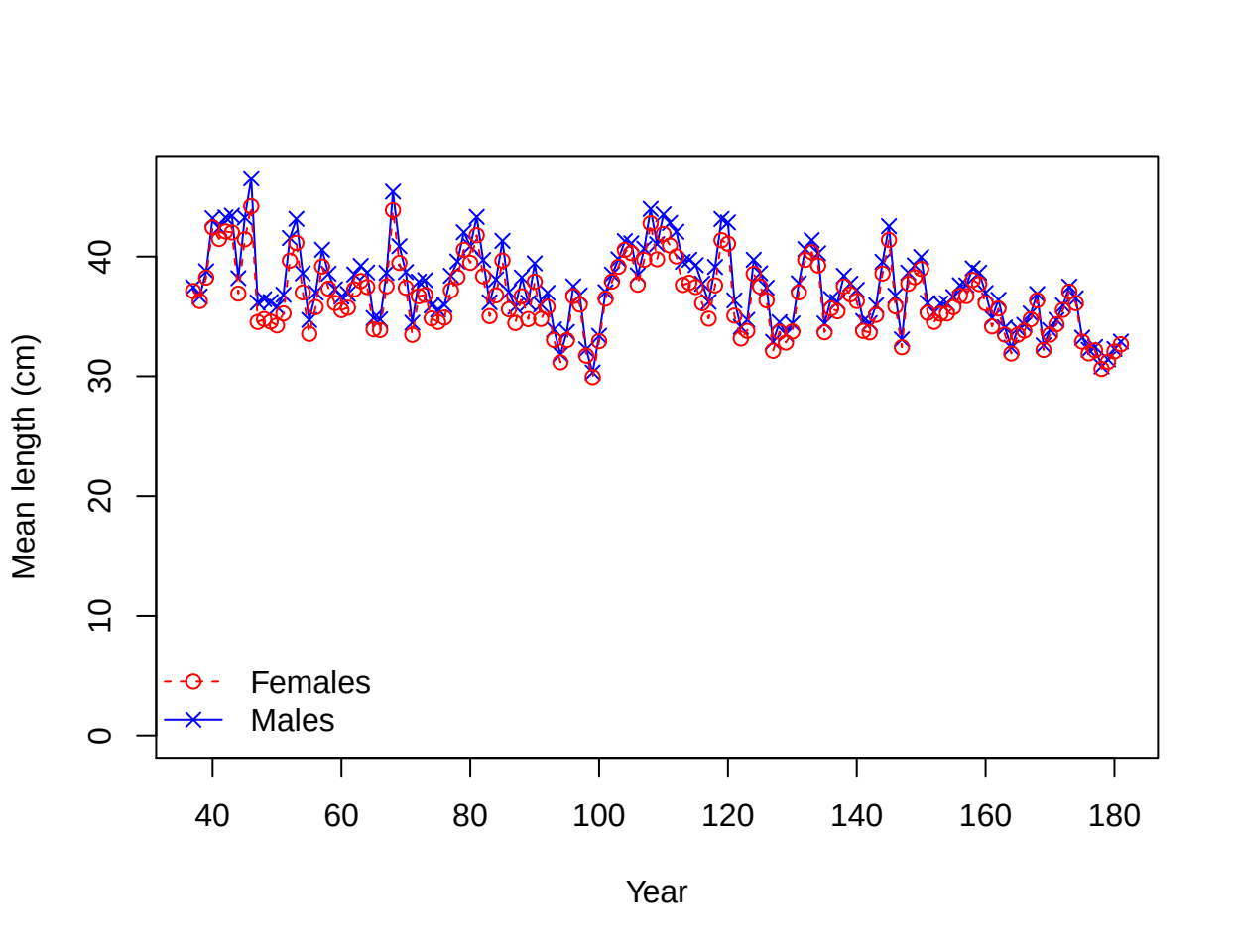

50
150
200
150
100
50
0
Length
37
47
57
67
77
87
97
108
121
134
147
160
173
Year

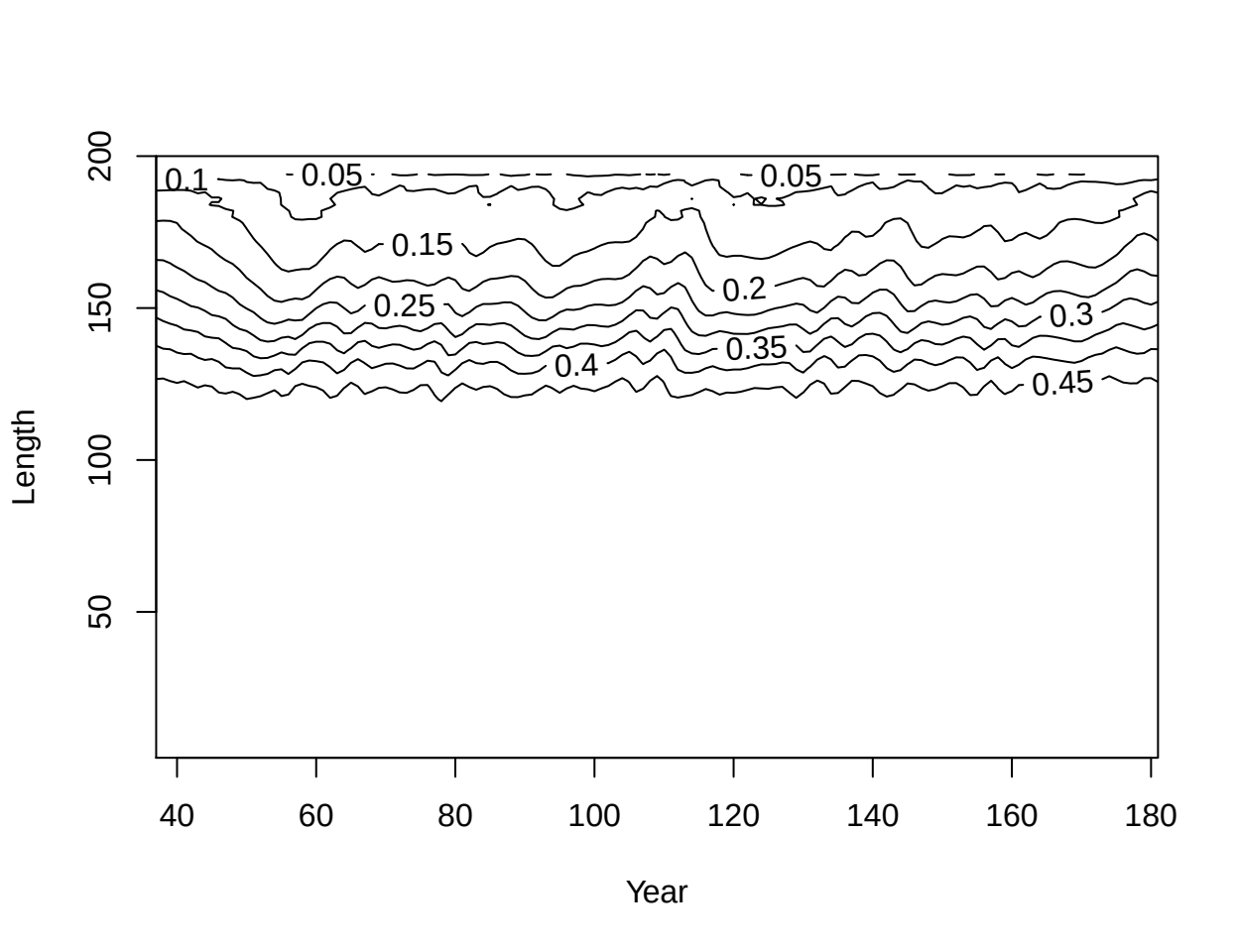

50
150
200
150
100
50
0
Length
37
47
57
67
77
87
97
108
121
134
147
160
173
Year

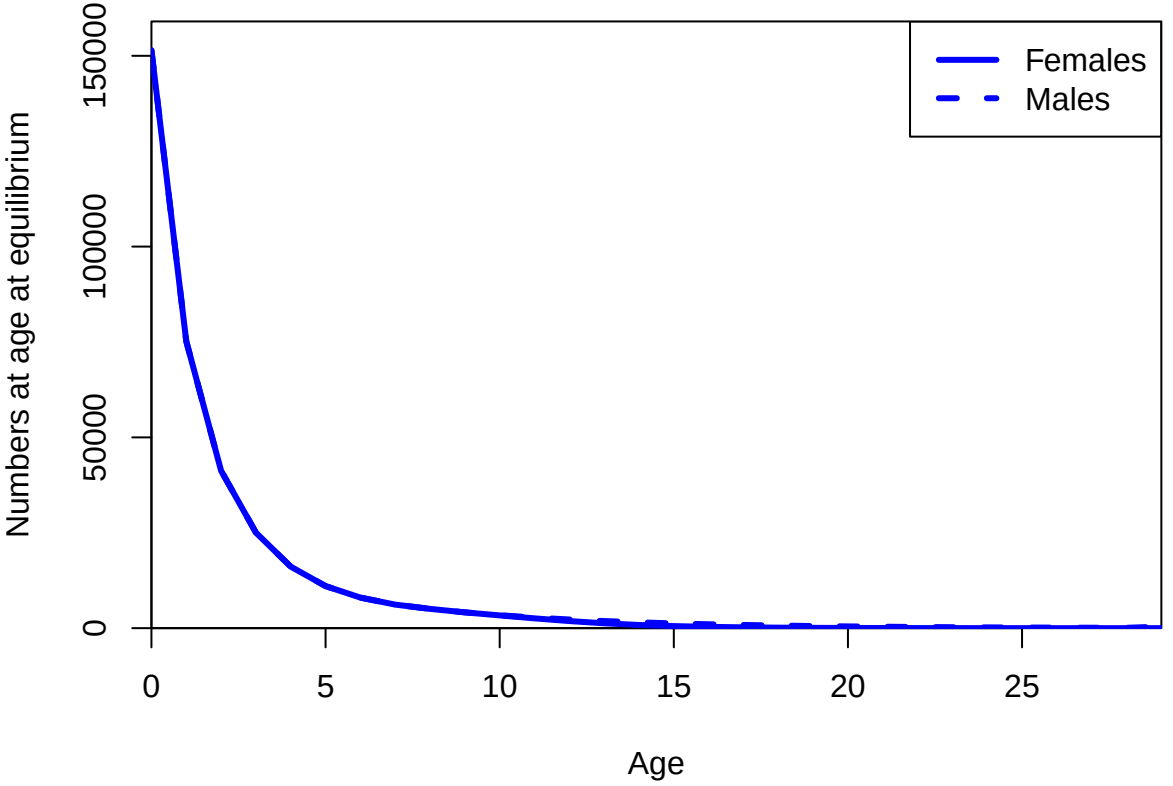

Mean length (cm)
0
10
20
30
40
40
60
80
100
120
140
160
180
Year
Females
Males

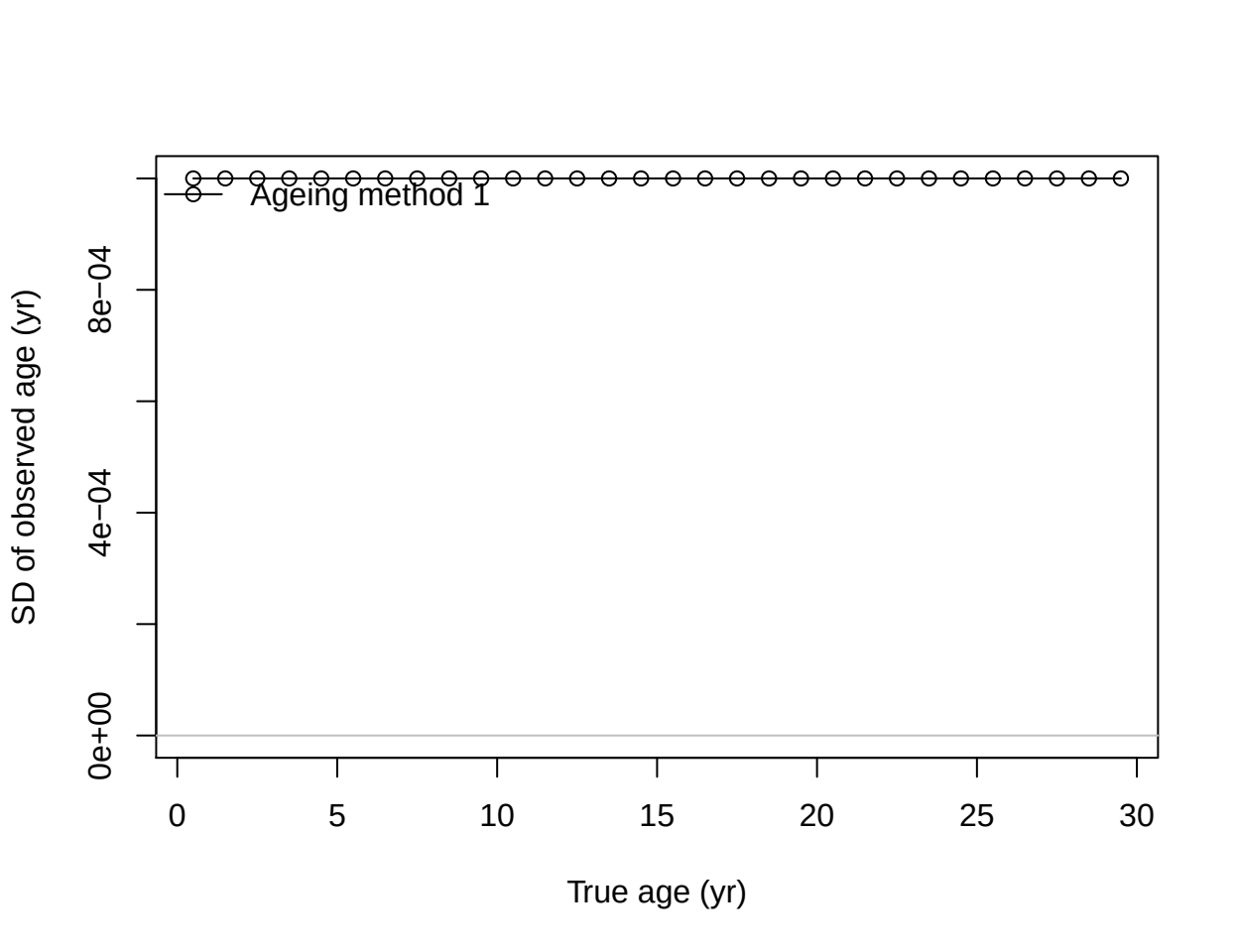

20
60
100
200
150
100
50
0
Length
37
47
57
67
77
87
97
108
121
134
147
160
173
Year

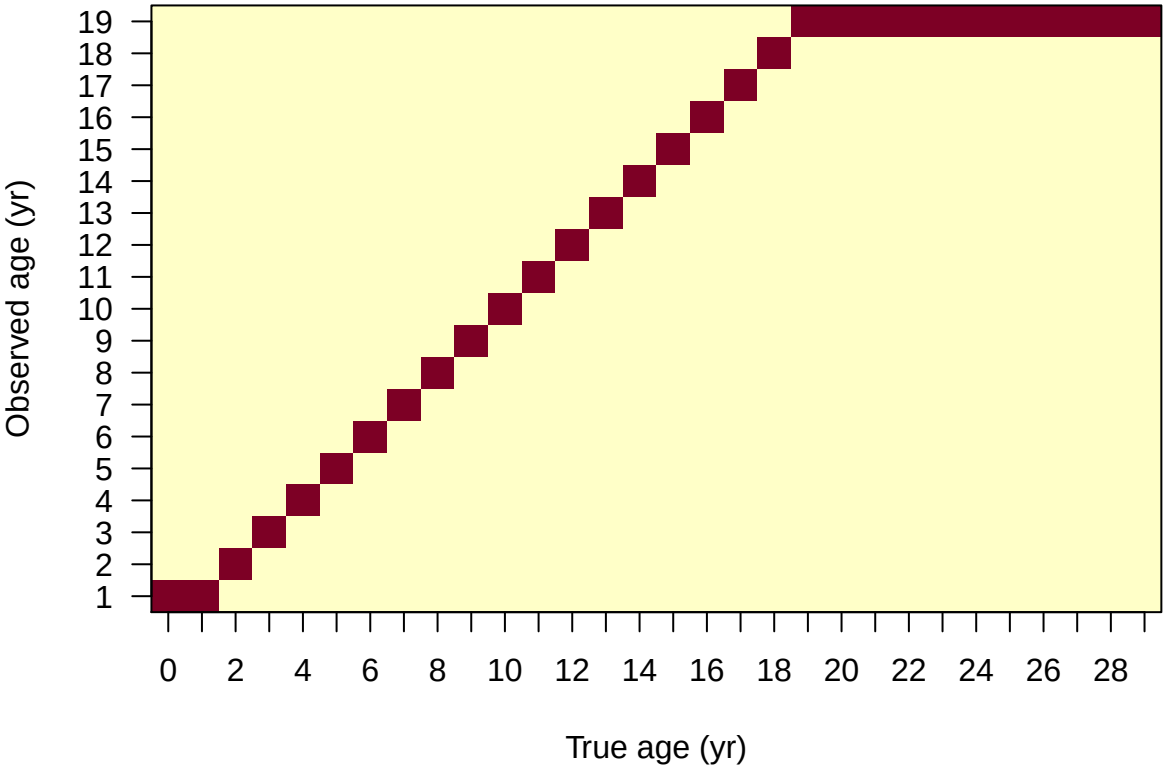

20
60
100
200
150
100
50
0
Length
37
47
57
67
77
87
97
108
121
134
147
160
173
Year

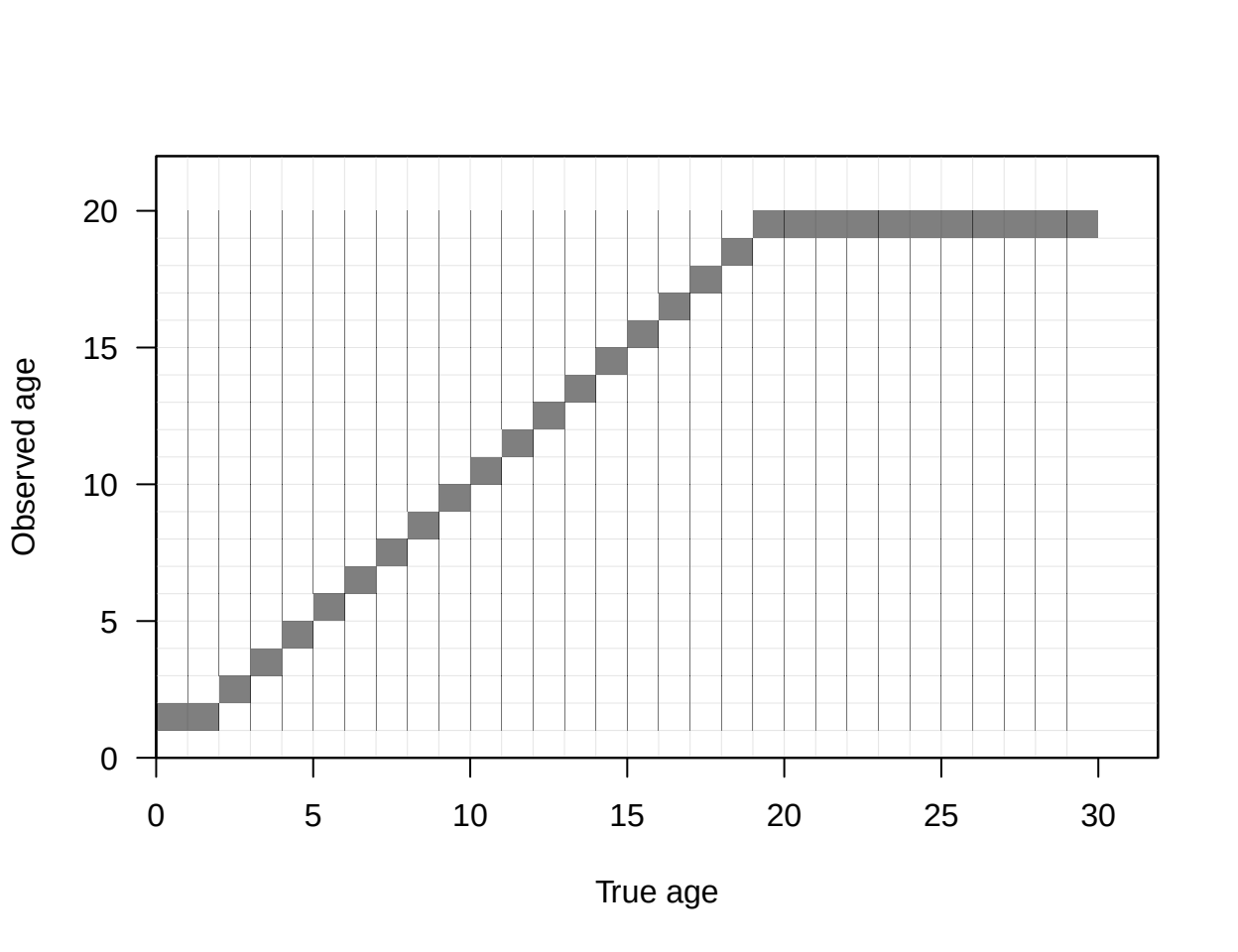

Mean length (cm)
0
10
20
30
40
40
60
80
100
120
140
160
180
Year
Females
Males

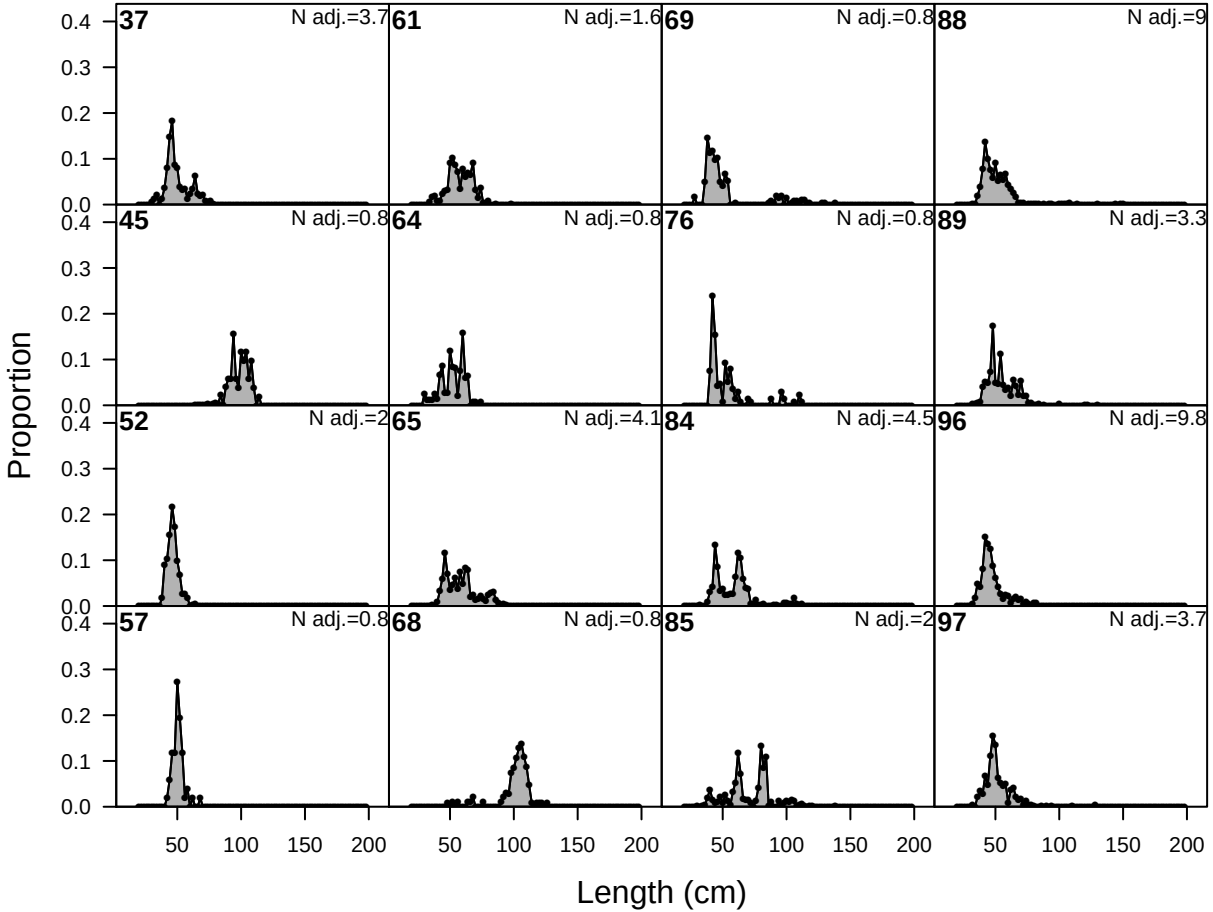

0.1
0.05
0.05
0.15
0.2
0.25
0.3
0.35
0.4
0.45
200
150
100
50
Length
40
60
80
100
120
140
160
180
Year

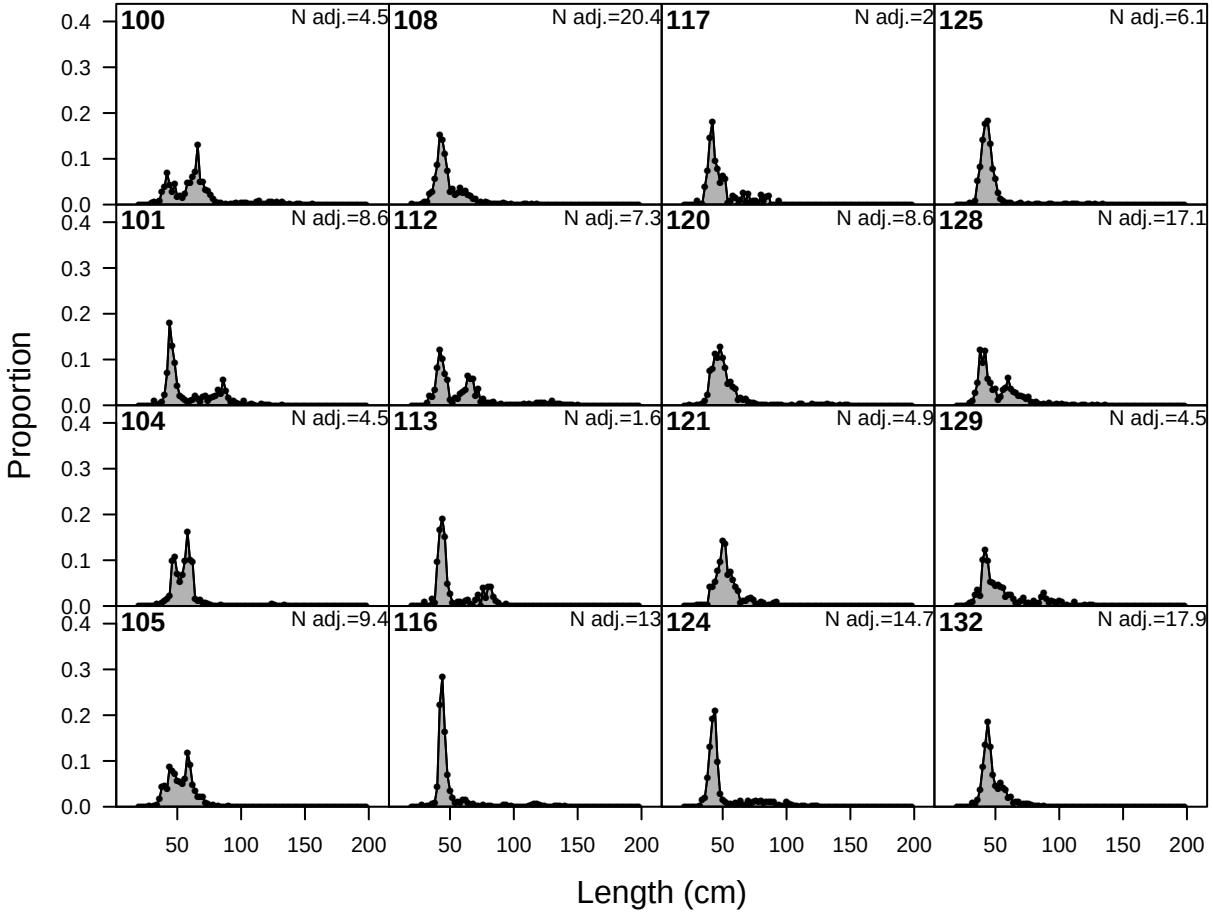

Numbers at age at equilibrium
0
50000
100000
150000
0
5
10
15
20
25
Age
Females
Males

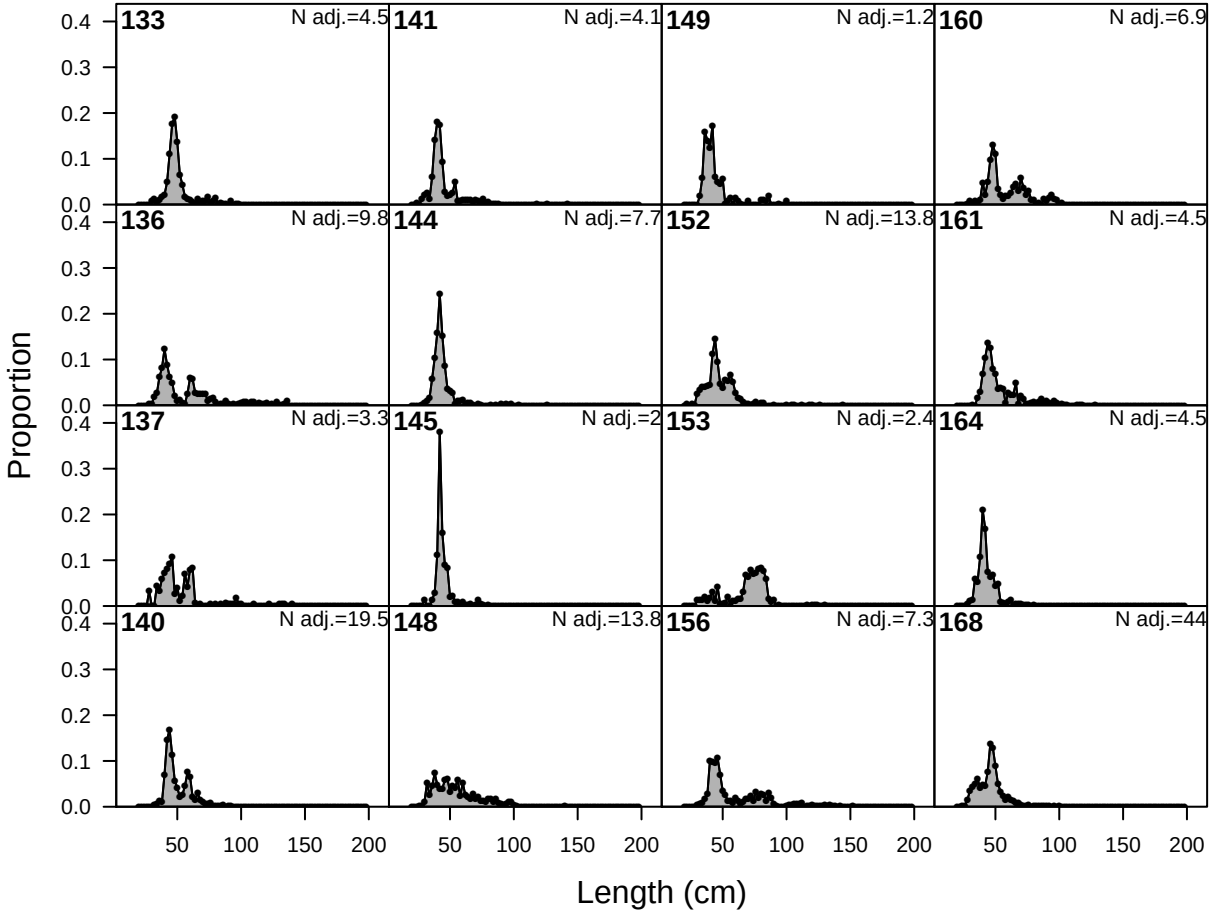

Ageing method 1
SD of observed age (yr)
0e+00
4e−04
8e−04
0
5
10
15
20
25
30
True age (yr)

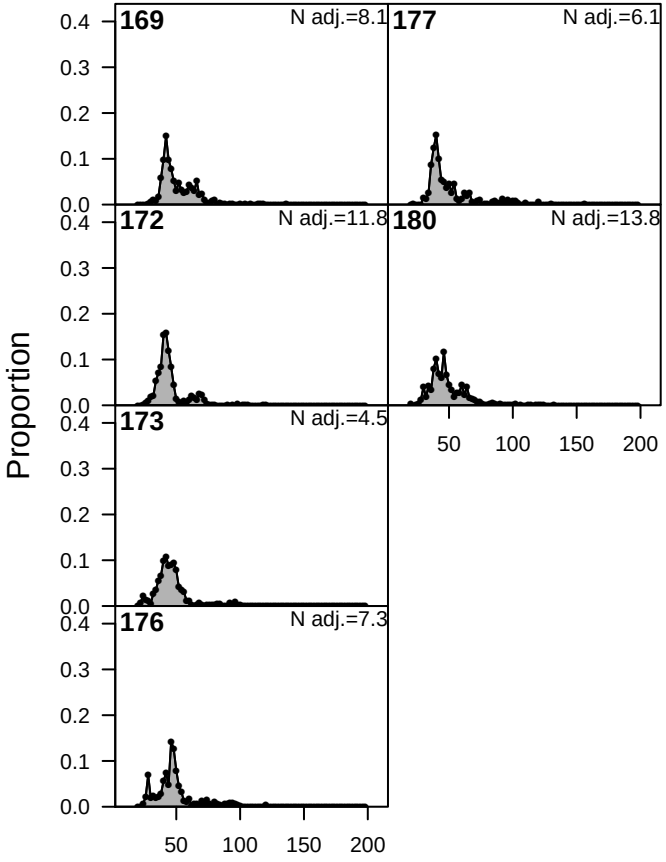

Observed age (yr)
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
True age (yr)

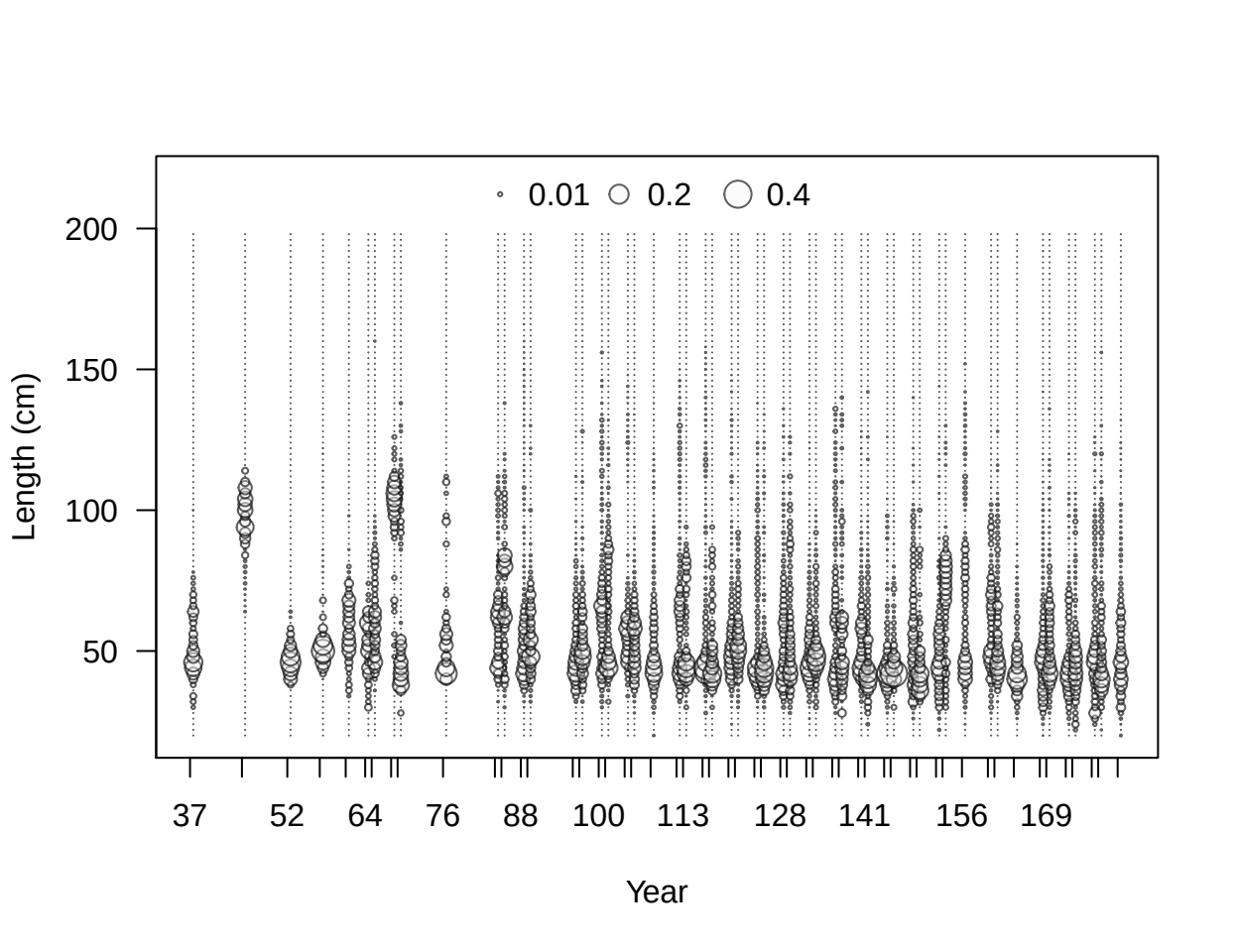

Observed age
0
5
10
15
20
0
5
10
15
20
25
30
True age

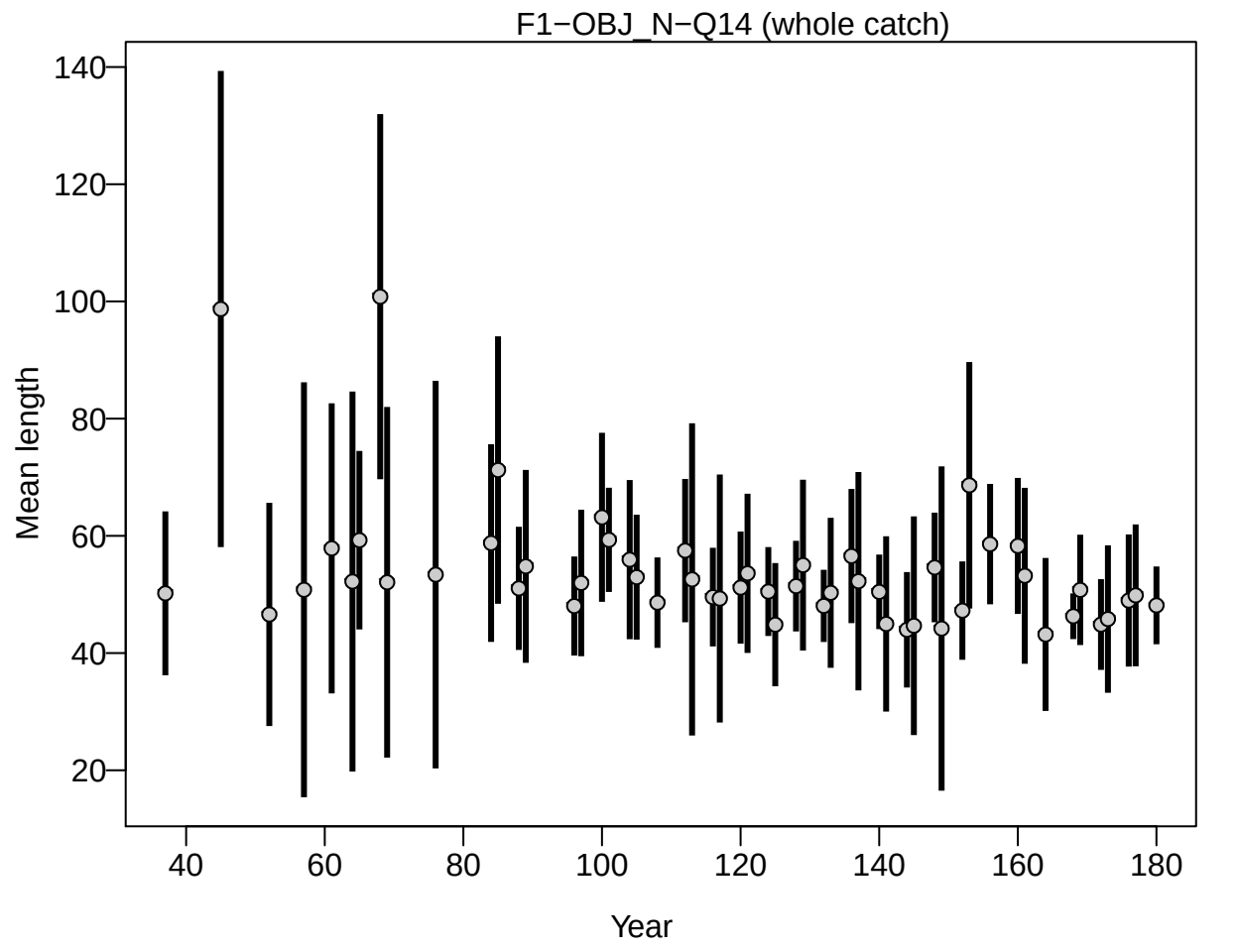

37
N adj.=3.7
61
N adj.=1.6
69
N adj.=0.8
88
N adj.=9
45
N adj.=0.8
64
N adj.=0.8
76
N adj.=0.8
89
N adj.=3.3
52
N adj.=2
65
N adj.=4.1
84
N adj.=4.5
96
N adj.=9.8
57
N adj.=0.8
68
N adj.=0.8
85
N adj.=2
97
N adj.=3.7
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

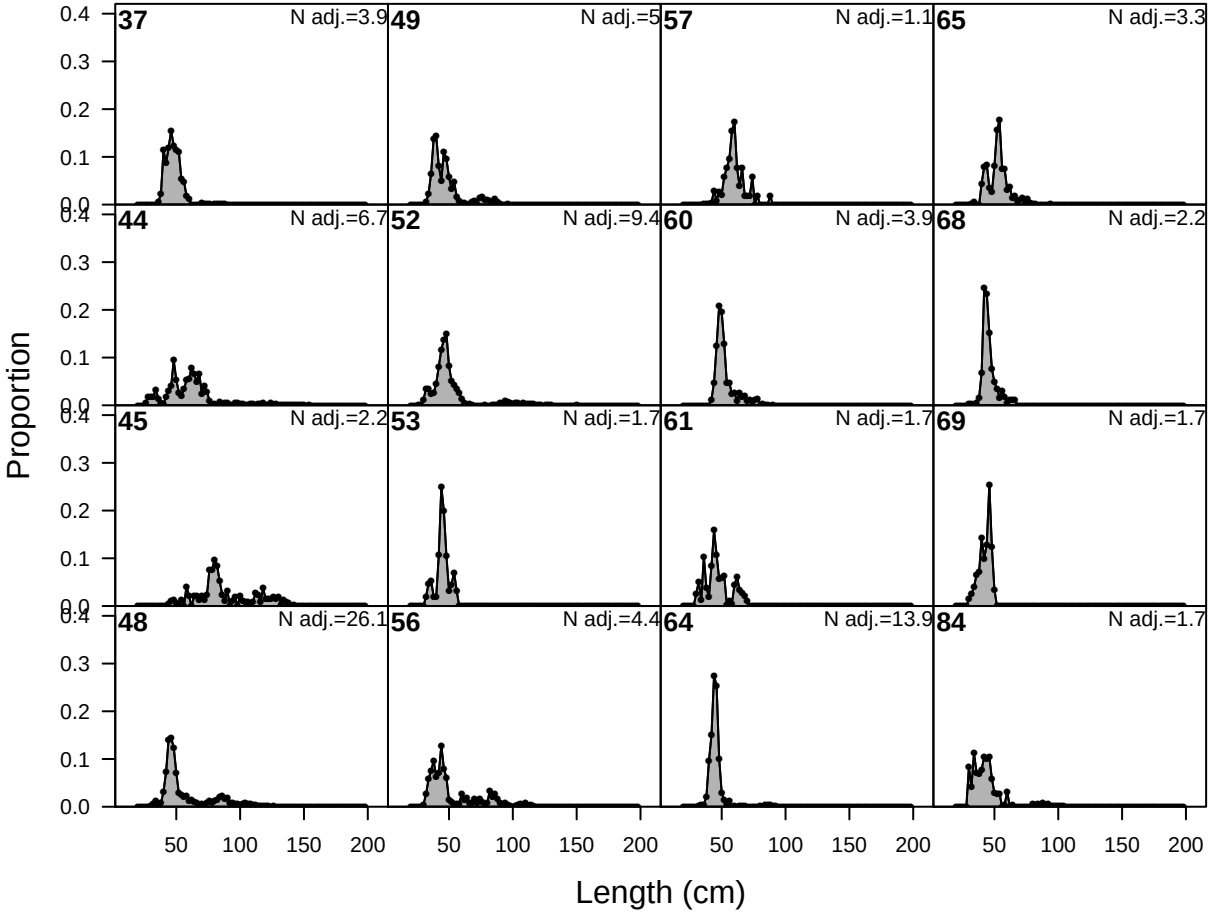

100
N adj.=4.5
108
N adj.=20.4
117
N adj.=2
125
N adj.=6.1
101
N adj.=8.6
112
N adj.=7.3
120
N adj.=8.6
128
N adj.=17.1
104
N adj.=4.5
113
N adj.=1.6
121
N adj.=4.9
129
N adj.=4.5
105
N adj.=9.4
116
N adj.=13
124
N adj.=14.7
132
N adj.=17.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

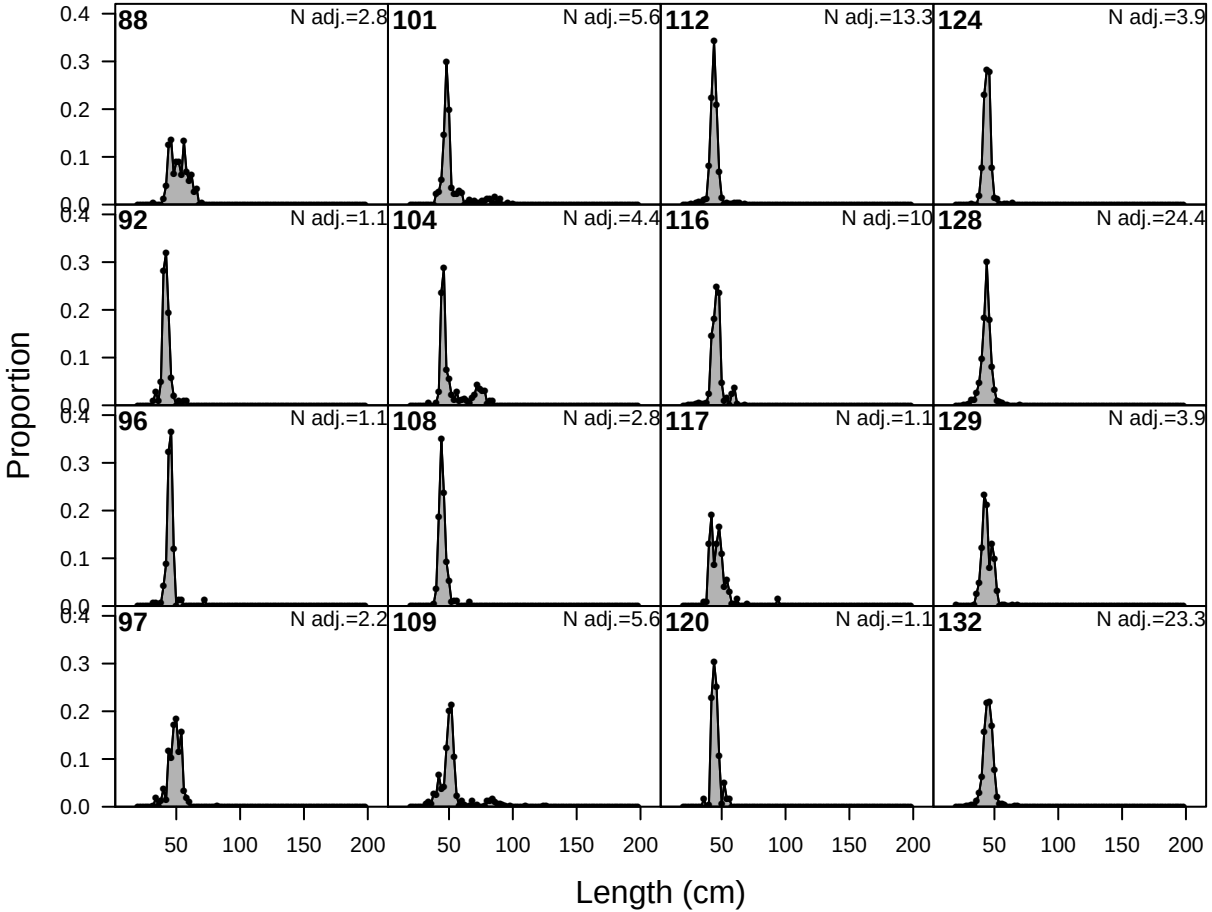

133
N adj.=4.5
141
N adj.=4.1
149
N adj.=1.2
160
N adj.=6.9
136
N adj.=9.8
144
N adj.=7.7
152
N adj.=13.8
161
N adj.=4.5
137
N adj.=3.3
145
N adj.=2
153
N adj.=2.4
164
N adj.=4.5
140
N adj.=19.5
148
N adj.=13.8
156
N adj.=7.3
168
N adj.=44
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

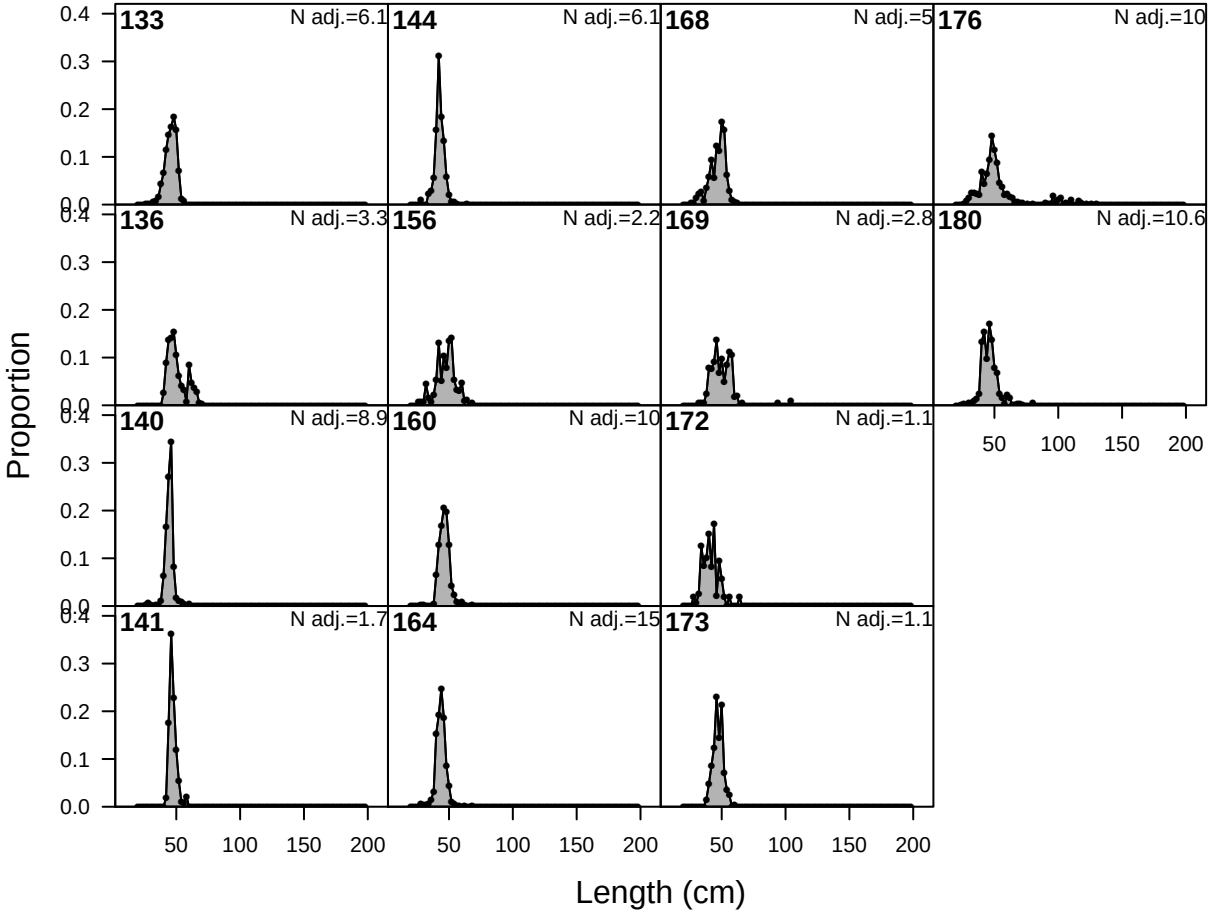

169
N adj.=8.1
177
N adj.=6.1
172
N adj.=11.8
180
N adj.=13.8
173
N adj.=4.5
176
N adj.=7.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

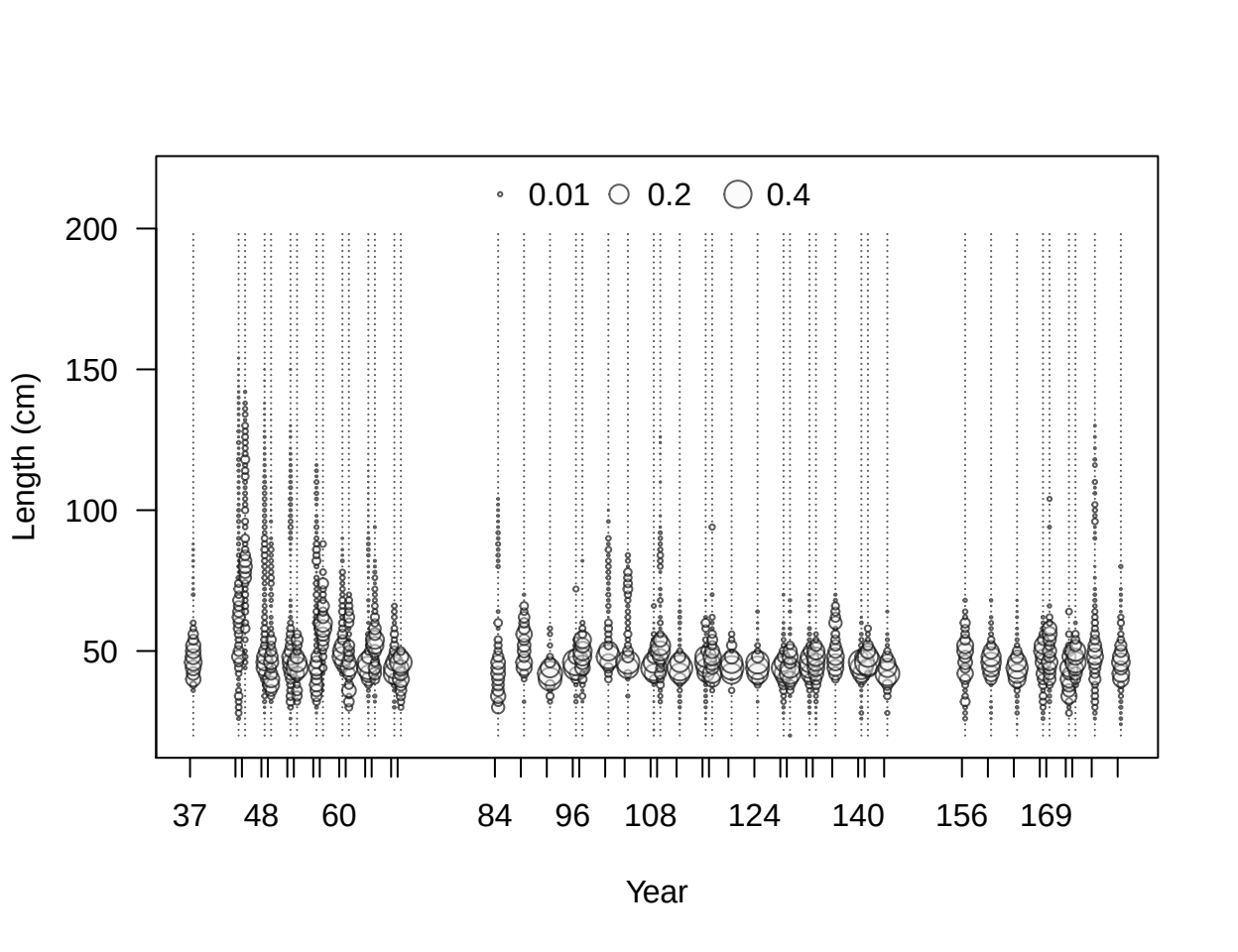

0.01
0.2
0.4
200
150
100
50
Length (cm)
37
52
64
76
88
100
113
128
141
156
169
Year

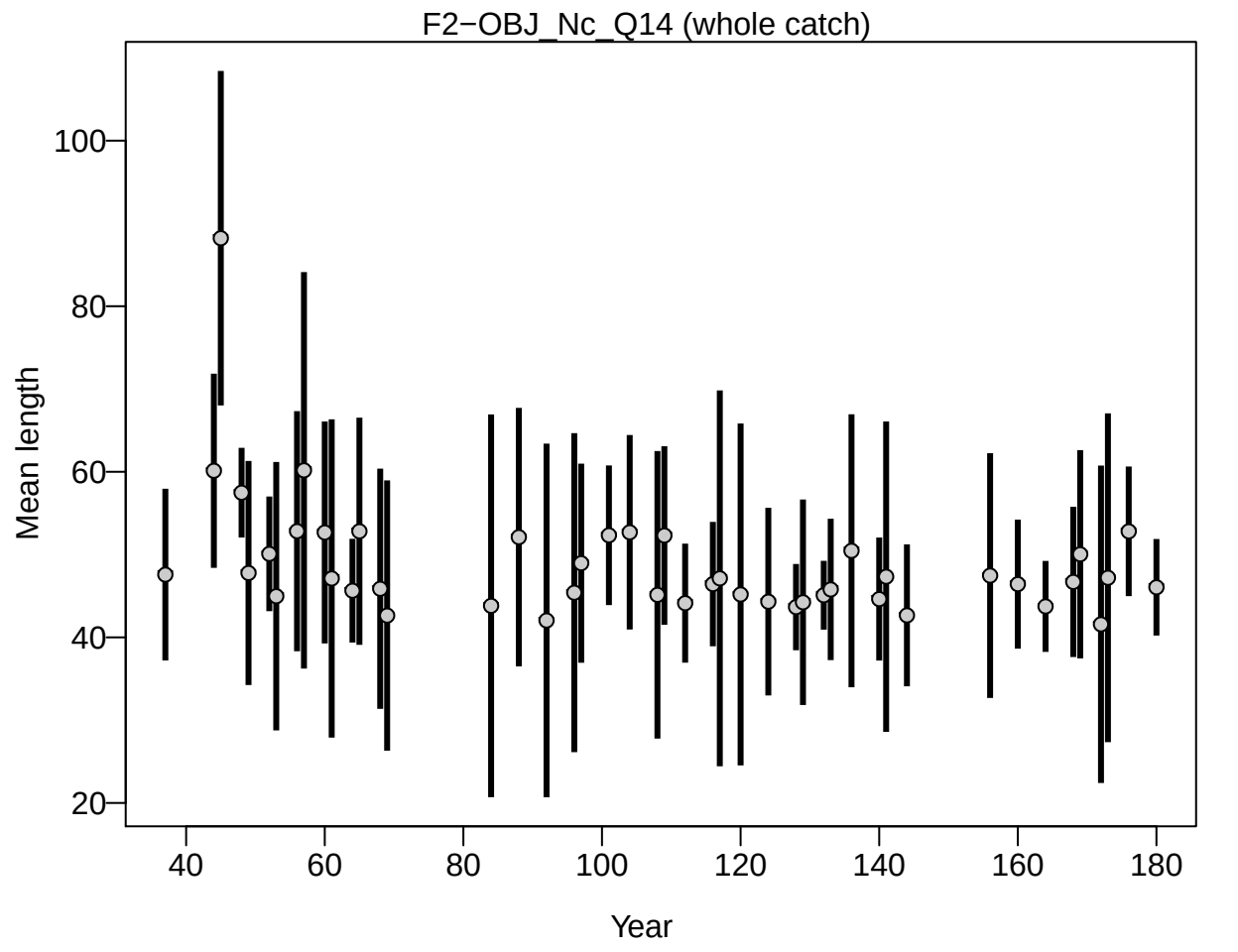

F1−OBJ_N−Q14 (whole catch)
Mean length
Year
140
120
100
80
60
40
20
40
60
80
100
120
140
160
180

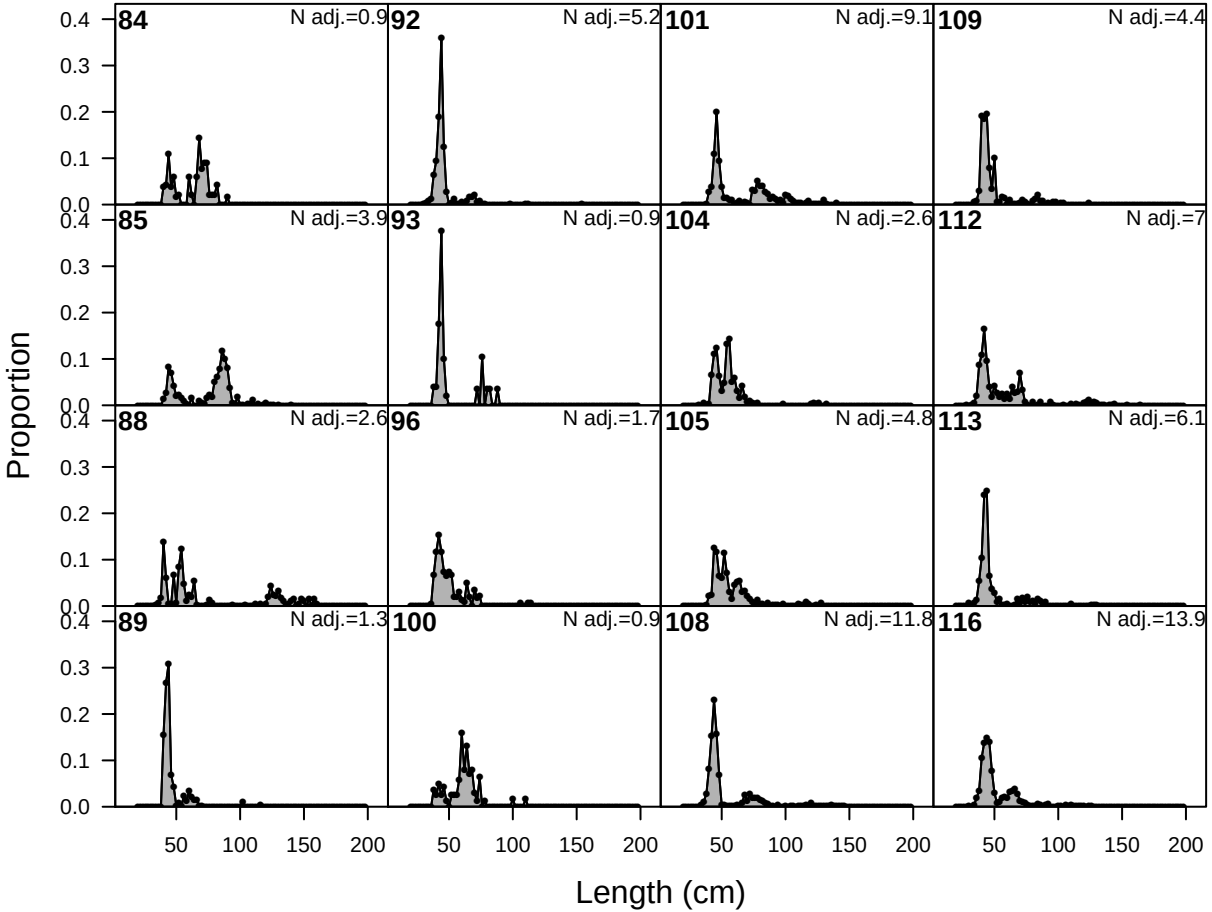

37
N adj.=3.9
49
N adj.=5
57
N adj.=1.1
65
N adj.=3.3
44
N adj.=6.7
52
N adj.=9.4
60
N adj.=3.9
68
N adj.=2.2
45
N adj.=2.2
53
N adj.=1.7
61
N adj.=1.7
69
N adj.=1.7
48
N adj.=26.1
56
N adj.=4.4
64
N adj.=13.9
84
N adj.=1.7
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

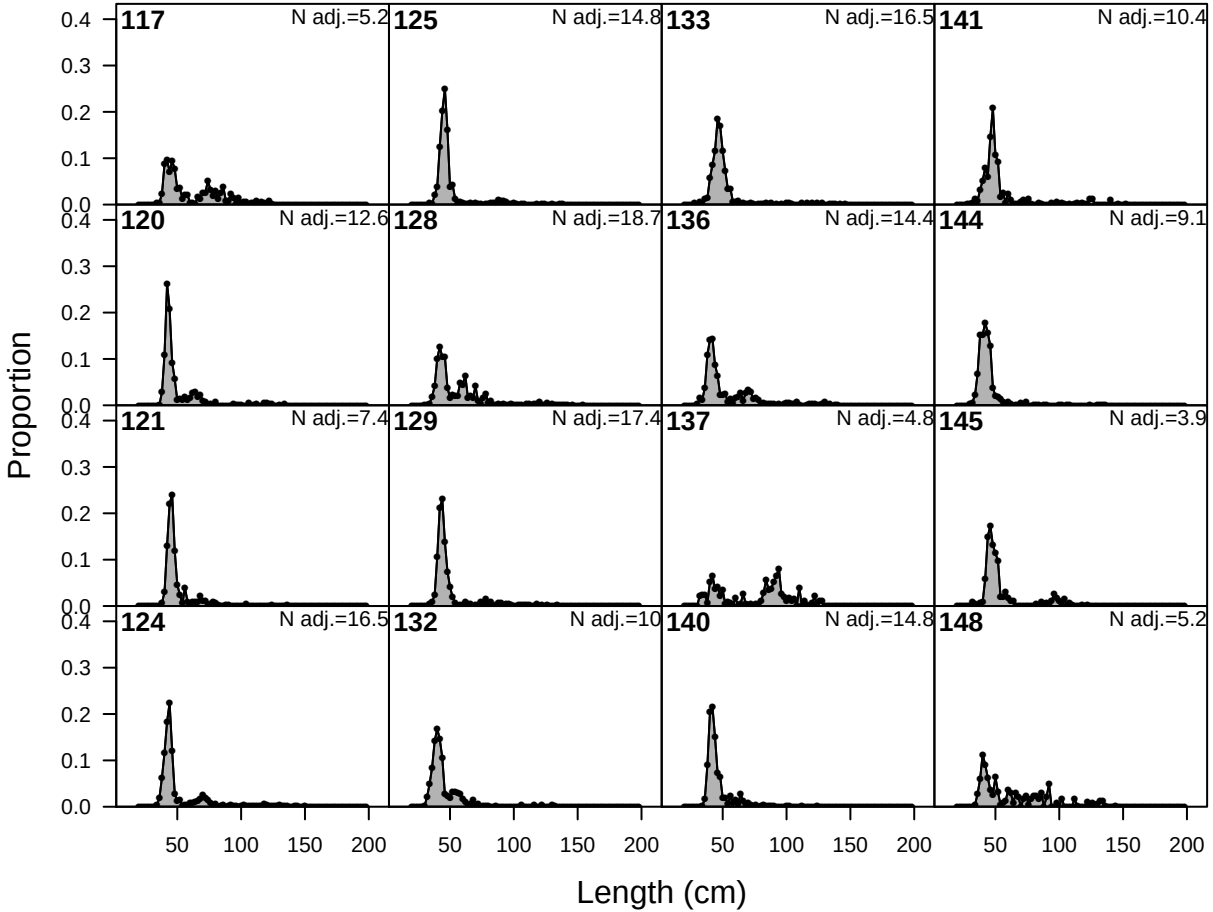

88
N adj.=2.8
101
N adj.=5.6
112
N adj.=13.3
124
N adj.=3.9
92
N adj.=1.1
104
N adj.=4.4
116
N adj.=10
128
N adj.=24.4
96
N adj.=1.1
108
N adj.=2.8
117
N adj.=1.1
129
N adj.=3.9
97
N adj.=2.2
109
N adj.=5.6
120
N adj.=1.1
132
N adj.=23.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

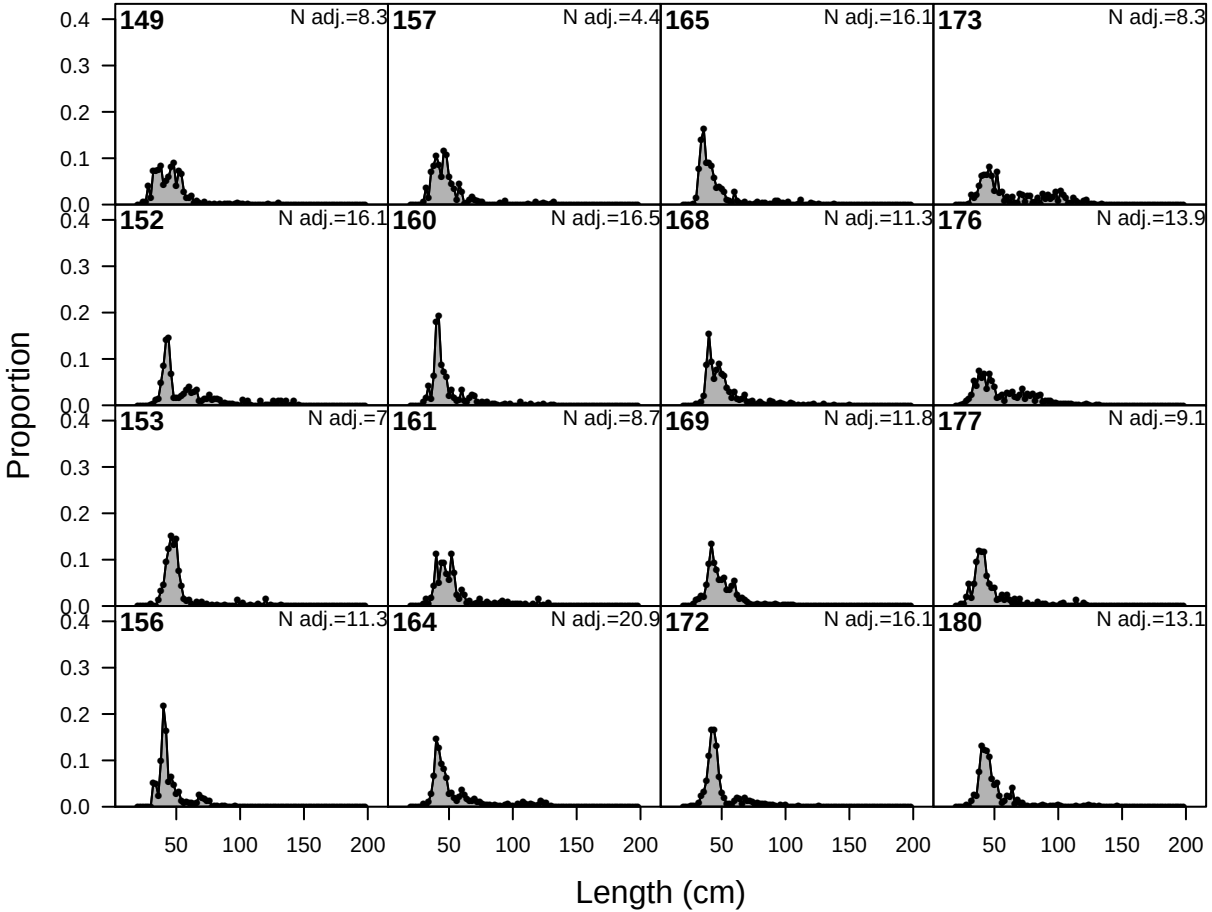

133
N adj.=6.1
144
N adj.=6.1
168
N adj.=5
176
N adj.=10
136
N adj.=3.3
156
N adj.=2.2
169
N adj.=2.8
180
N adj.=10.6
140
N adj.=8.9
160
N adj.=10
172
N adj.=1.1
141
N adj.=1.7
164
N adj.=15
173
N adj.=1.1
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

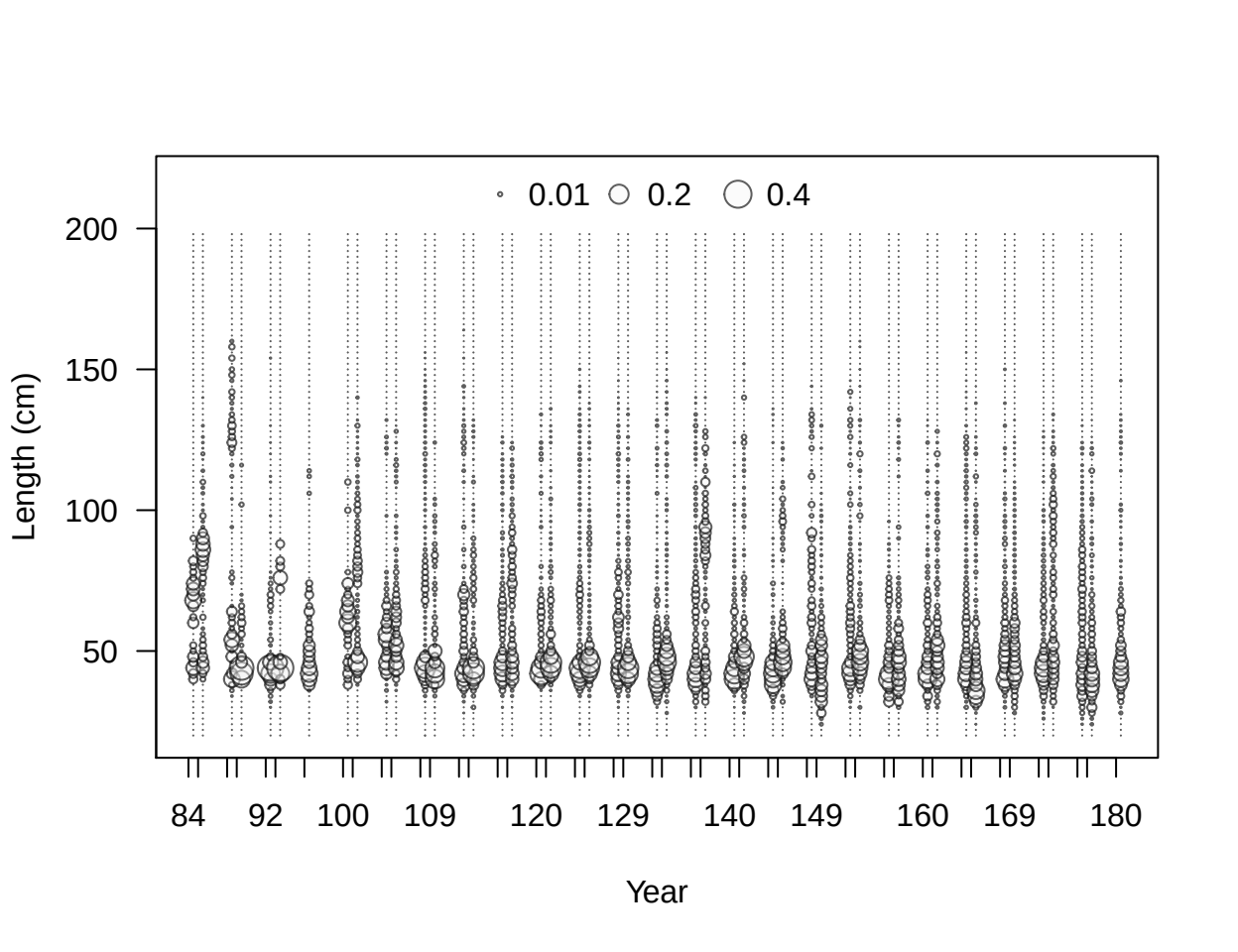

0.01
0.2
0.4
200
150
100
50
Length (cm)
37
48
60
84
96
108
124
140
156
169
Year

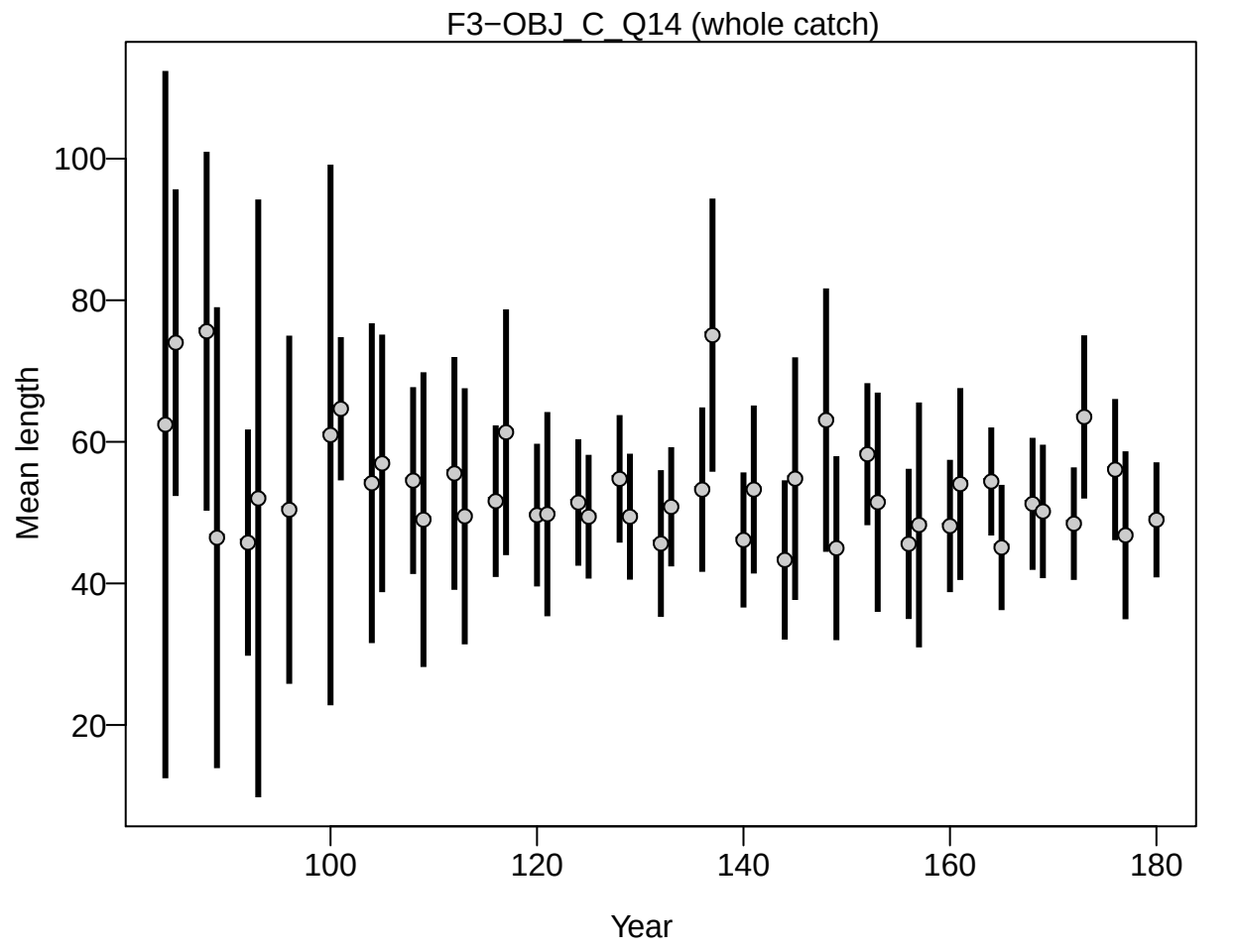

F2−OBJ_Nc_Q14 (whole catch)
Mean length
100
80
60
40
20
40
60
80
100
120
140
160
180
Year

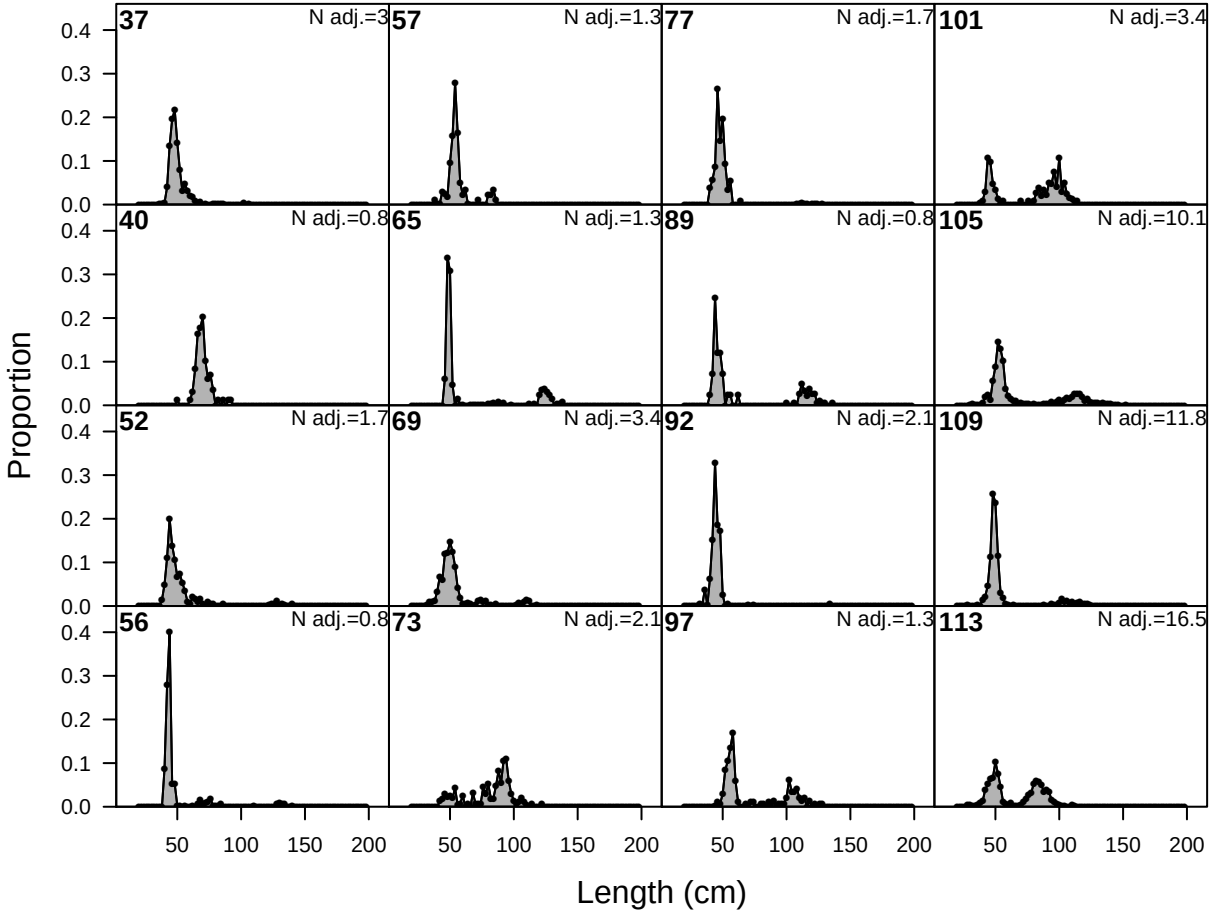

84
N adj.=0.9
92
N adj.=5.2
101
N adj.=9.1
109
N adj.=4.4
85
N adj.=3.9
93
N adj.=0.9
104
N adj.=2.6
112
N adj.=7
88
N adj.=2.6
96
N adj.=1.7
105
N adj.=4.8
113
N adj.=6.1
89
N adj.=1.3
100
N adj.=0.9
108
N adj.=11.8
116
N adj.=13.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

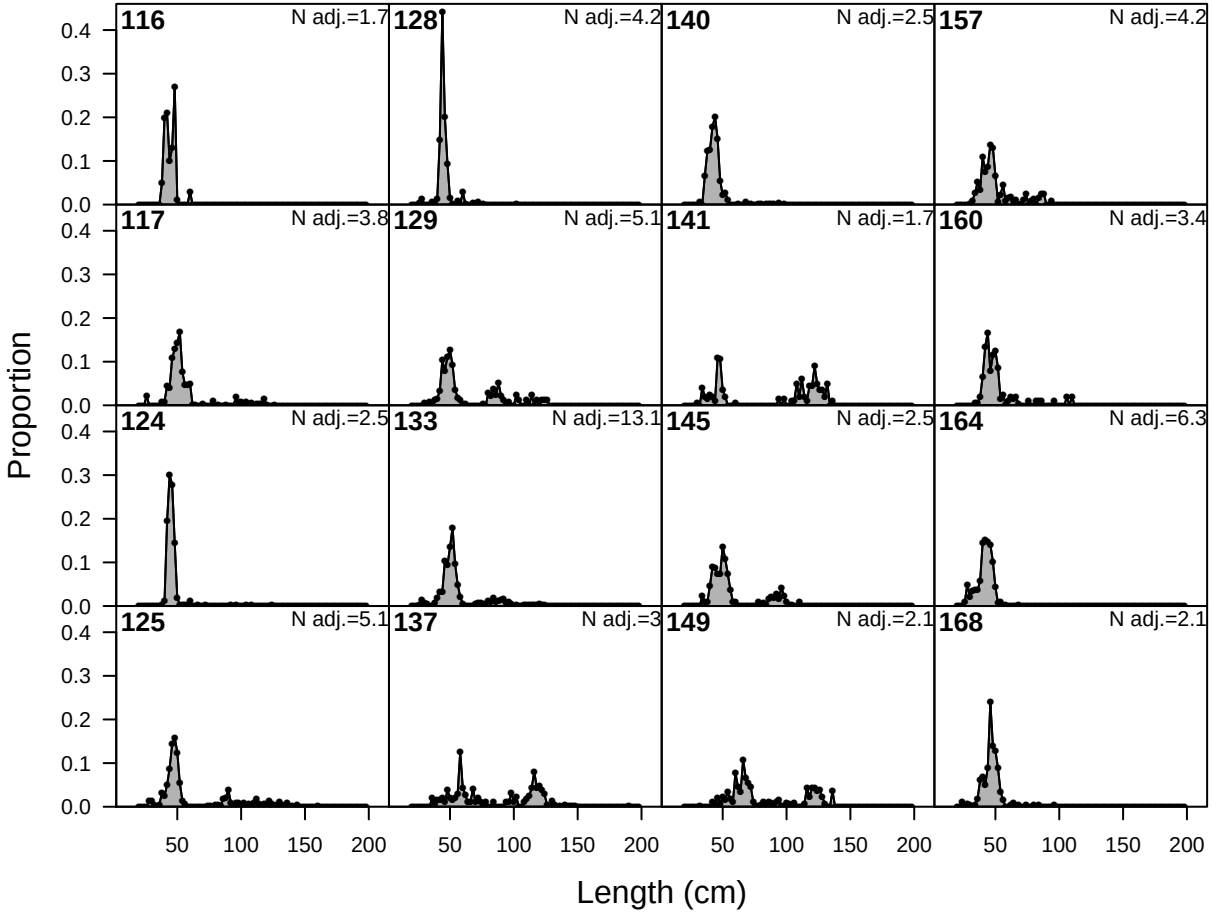

117
N adj.=5.2
125
N adj.=14.8
133
N adj.=16.5
141
N adj.=10.4
120
N adj.=12.6
128
N adj.=18.7
136
N adj.=14.4
144
N adj.=9.1
121
N adj.=7.4
129
N adj.=17.4
137
N adj.=4.8
145
N adj.=3.9
124
N adj.=16.5
132
N adj.=10
140
N adj.=14.8
148
N adj.=5.2
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

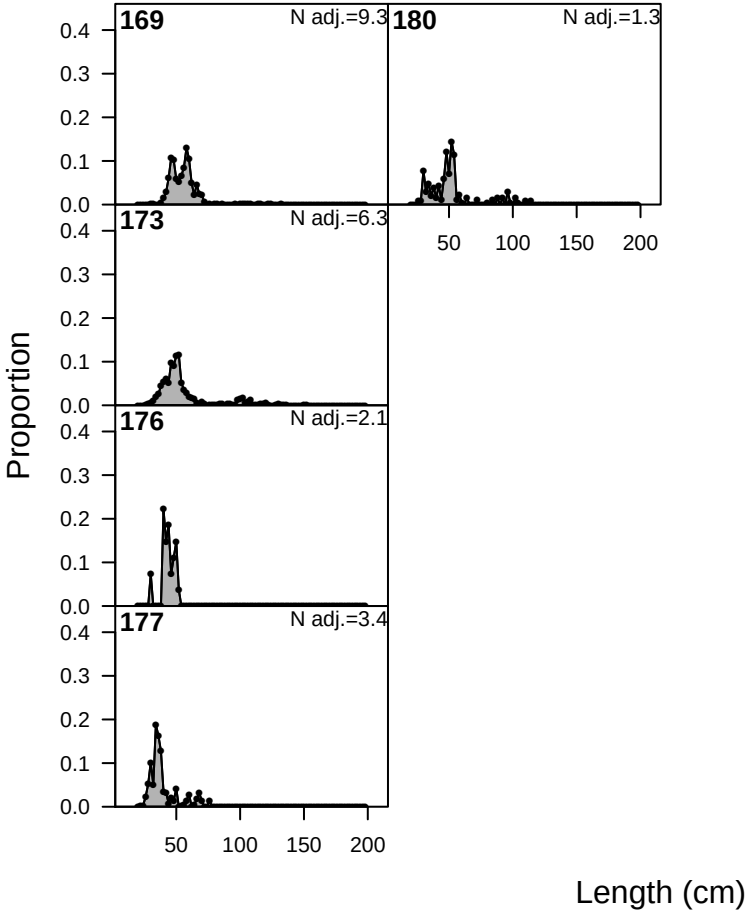

149
N adj.=8.3
157
N adj.=4.4
165
N adj.=16.1
173
N adj.=8.3
152
N adj.=16.1
160
N adj.=16.5
168
N adj.=11.3
176
N adj.=13.9
153
N adj.=7
161
N adj.=8.7
169
N adj.=11.8
177
N adj.=9.1
156
N adj.=11.3
164
N adj.=20.9
172
N adj.=16.1
180
N adj.=13.1
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

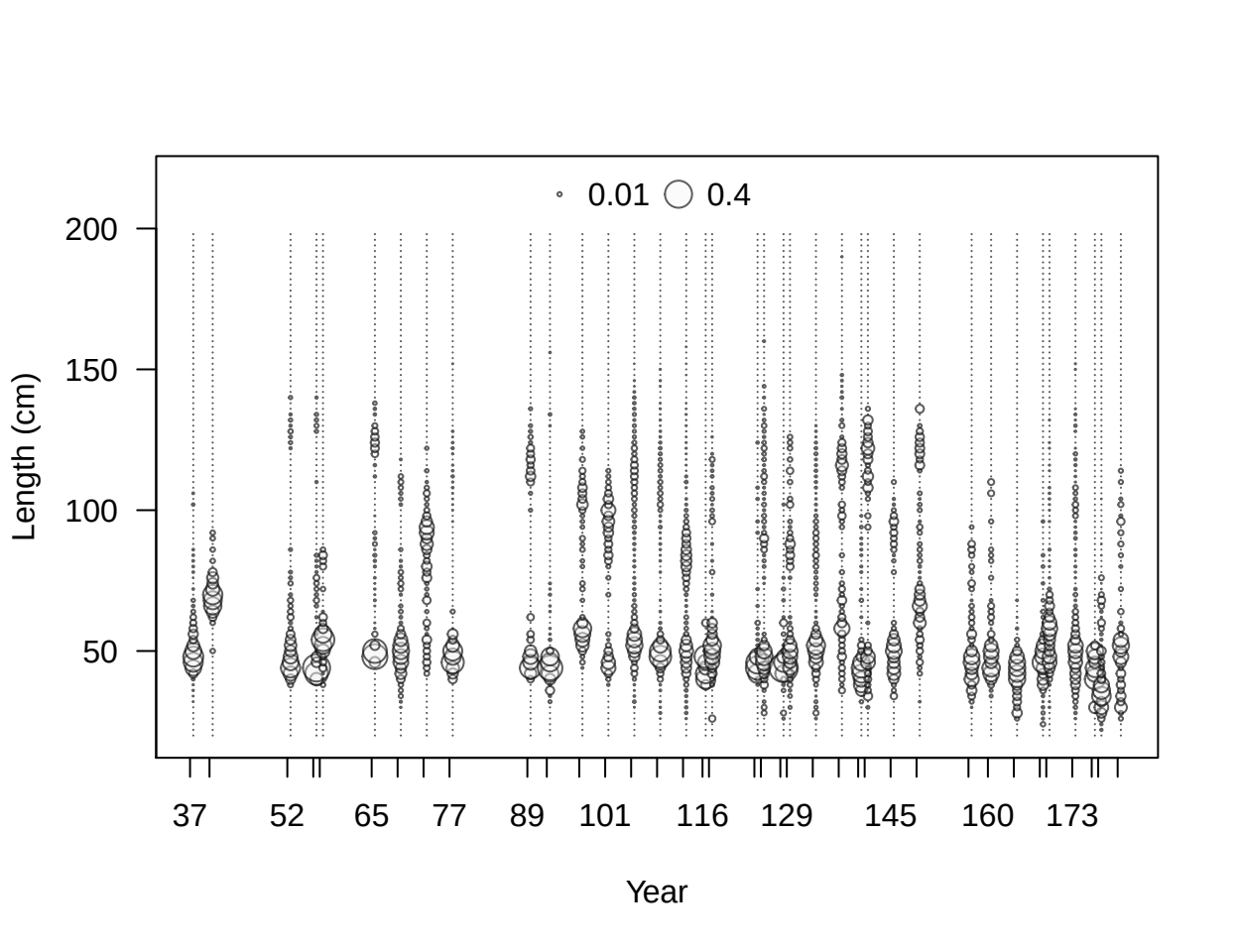

0.01
0.2
0.4
200
150
100
50
Length (cm)
84
92
100
109
120
129
140
149
160
169
180
Year

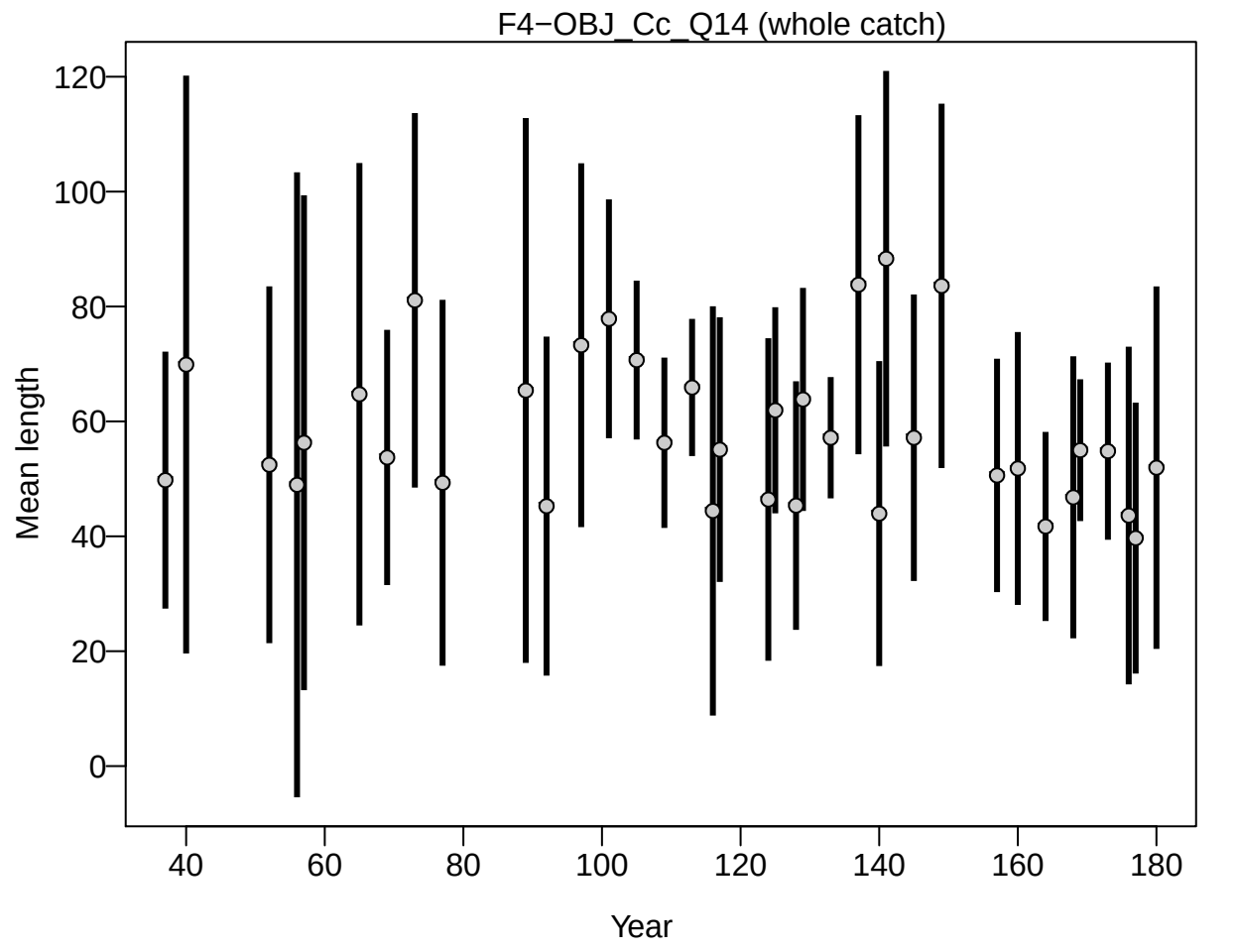

F3−OBJ_C_Q14 (whole catch)
Mean length
100
80
60
40
20
100
120
140
160
180
Year

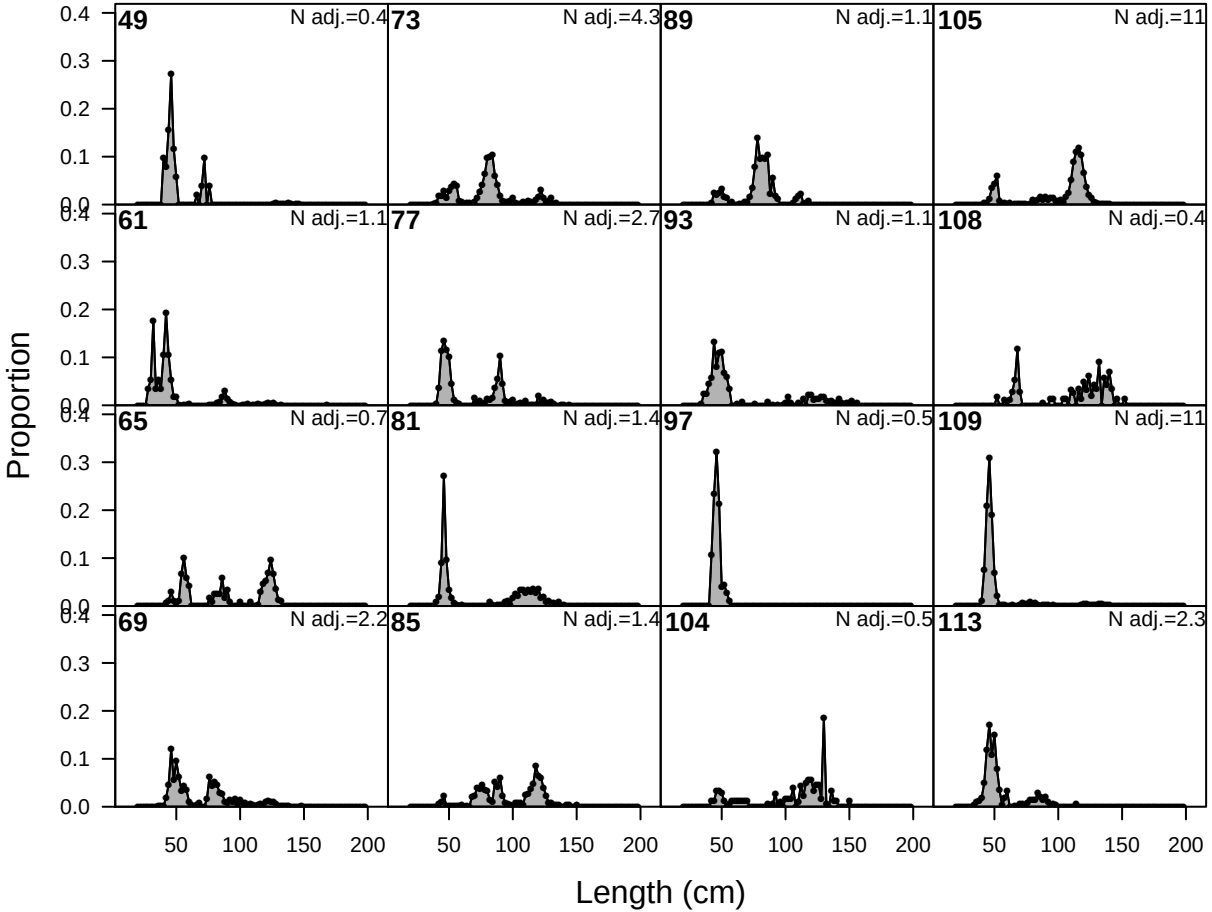

37
N adj.=3
57
N adj.=1.3
77
N adj.=1.7
101
N adj.=3.4
40
N adj.=0.8
65
N adj.=1.3
89
N adj.=0.8
105
N adj.=10.1
52
N adj.=1.7
69
N adj.=3.4
92
N adj.=2.1
109
N adj.=11.8
56
N adj.=0.8
73
N adj.=2.1
97
N adj.=1.3
113
N adj.=16.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

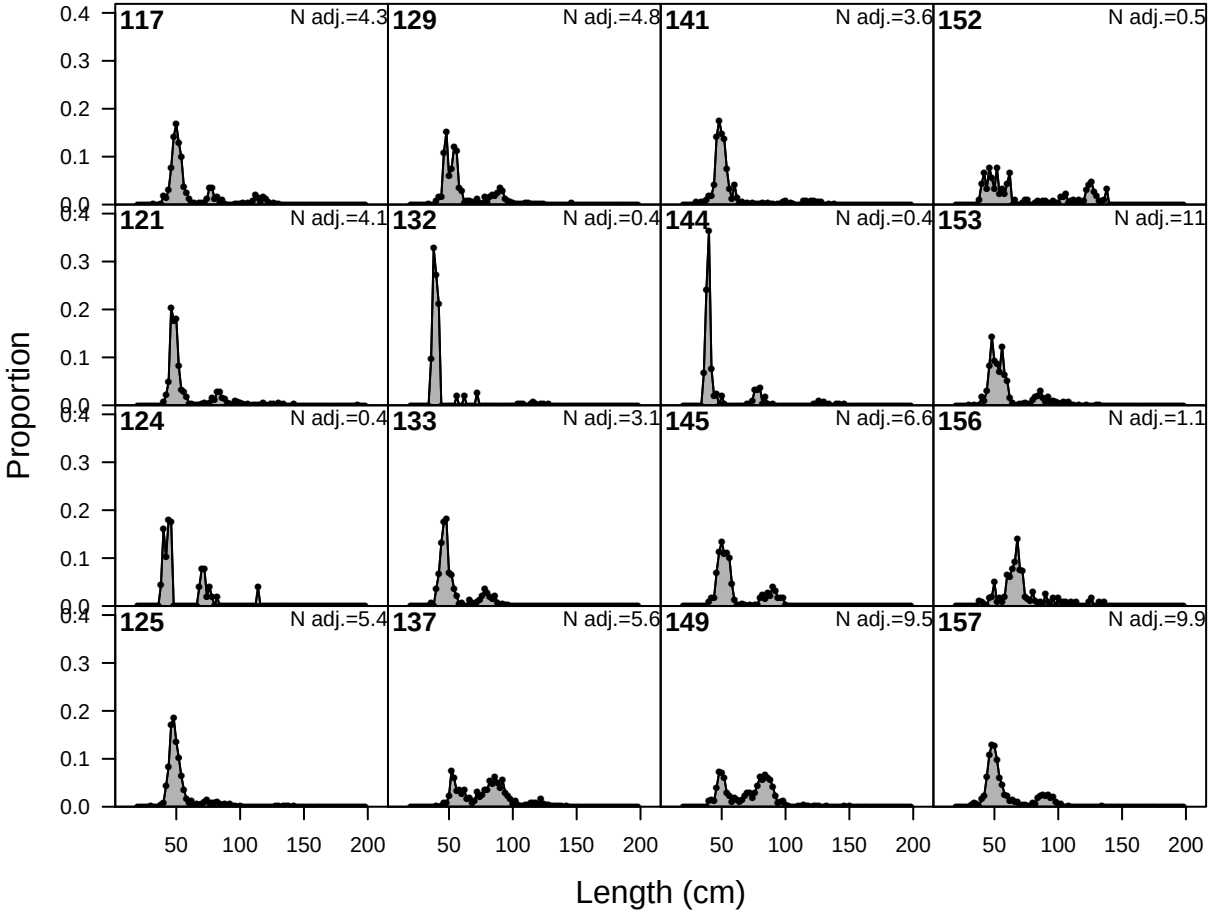

116
N adj.=1.7
128
N adj.=4.2
140
N adj.=2.5
157
N adj.=4.2
117
N adj.=3.8
129
N adj.=5.1
141
N adj.=1.7
160
N adj.=3.4
124
N adj.=2.5
133
N adj.=13.1
145
N adj.=2.5
164
N adj.=6.3
125
N adj.=5.1
137
N adj.=3
149
N adj.=2.1
168
N adj.=2.1
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

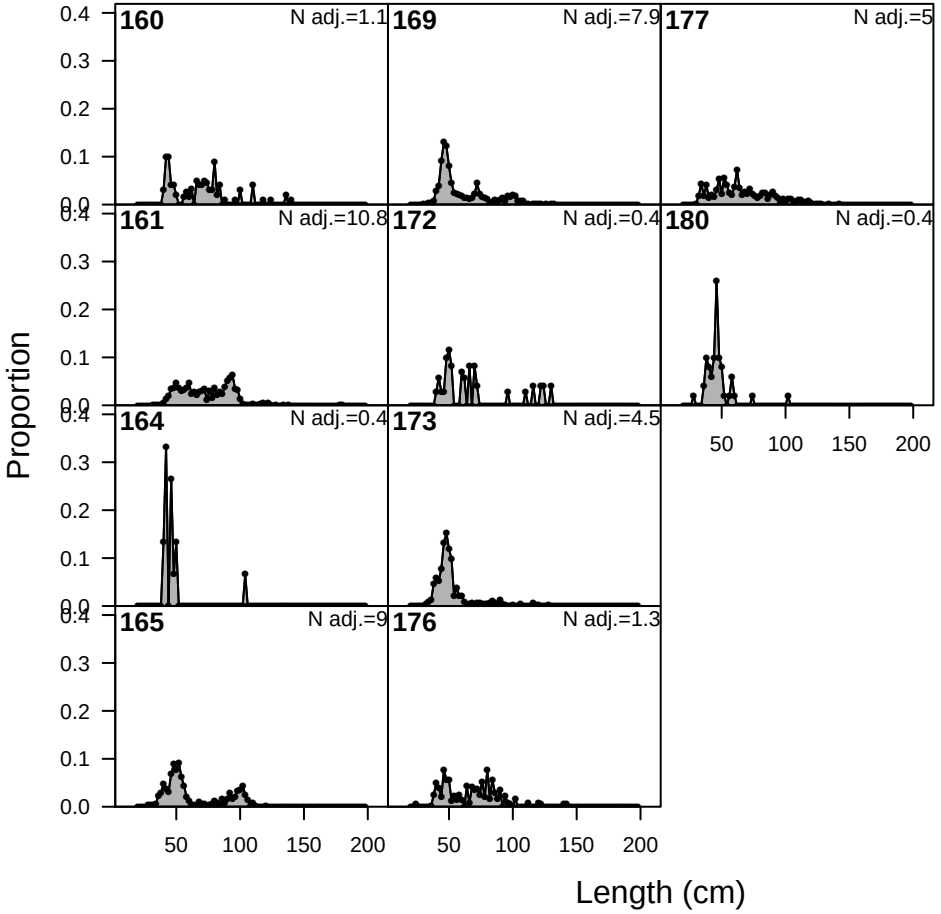

169
N adj.=9.3
180
N adj.=1.3
173
N adj.=6.3
176
N adj.=2.1
177
N adj.=3.4
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

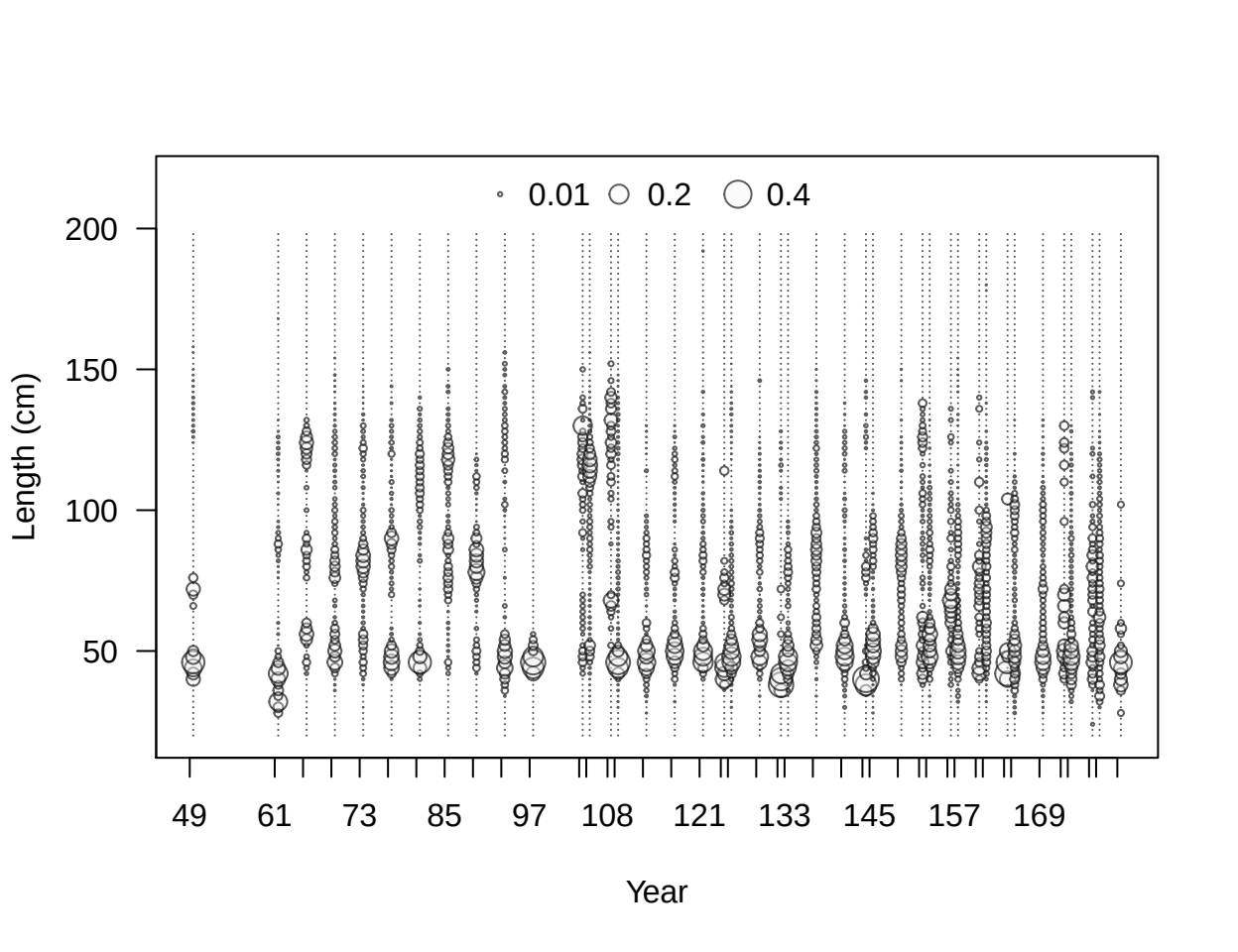

0.01
0.4
200
150
100
50
Length (cm)
37
52
65
77
89
101
116
129
145
160
173
Year

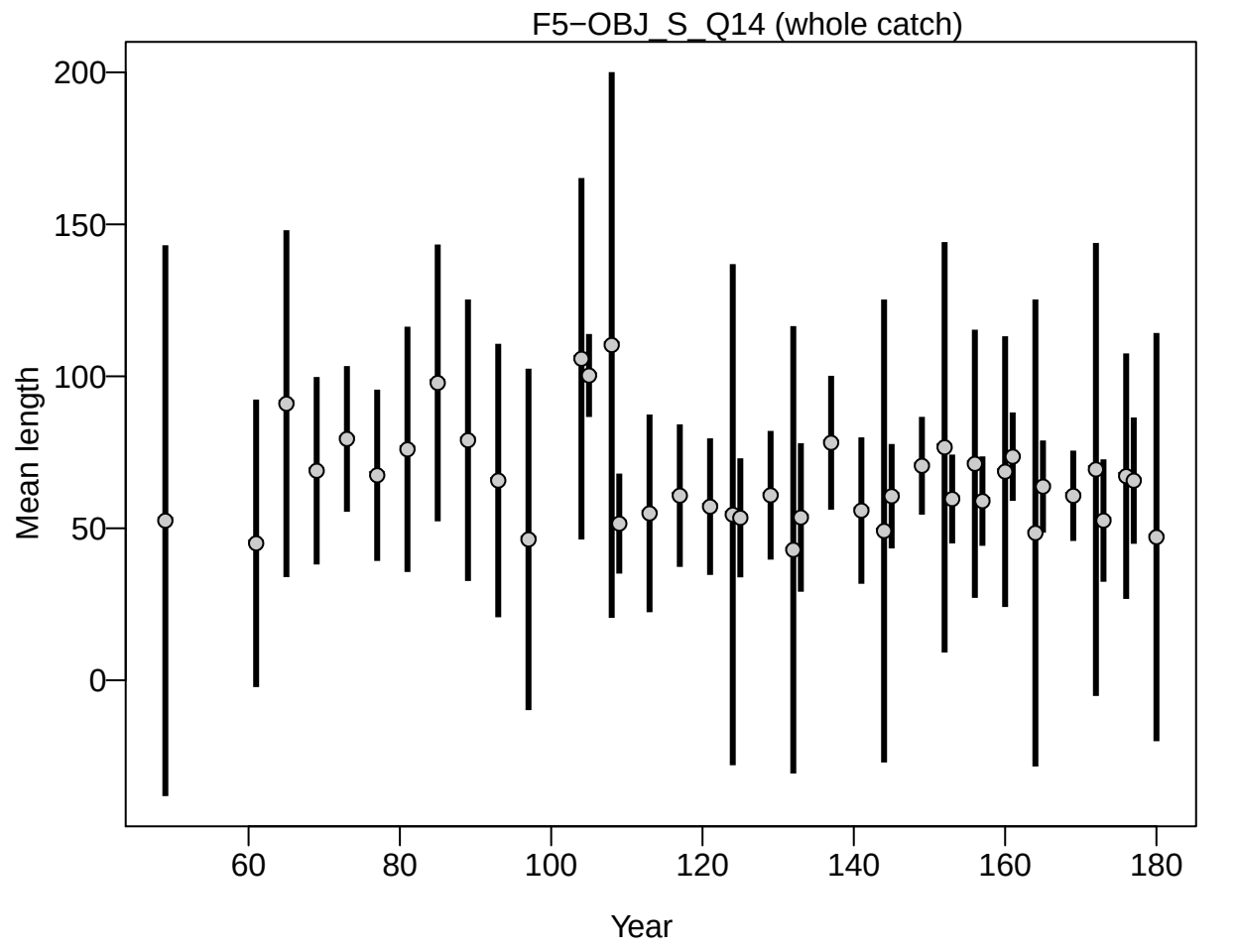

F4−OBJ_Cc_Q14 (whole catch)
Mean length
Year
120
100
80
60
40
20
0
40
60
80
100
120
140
160
180

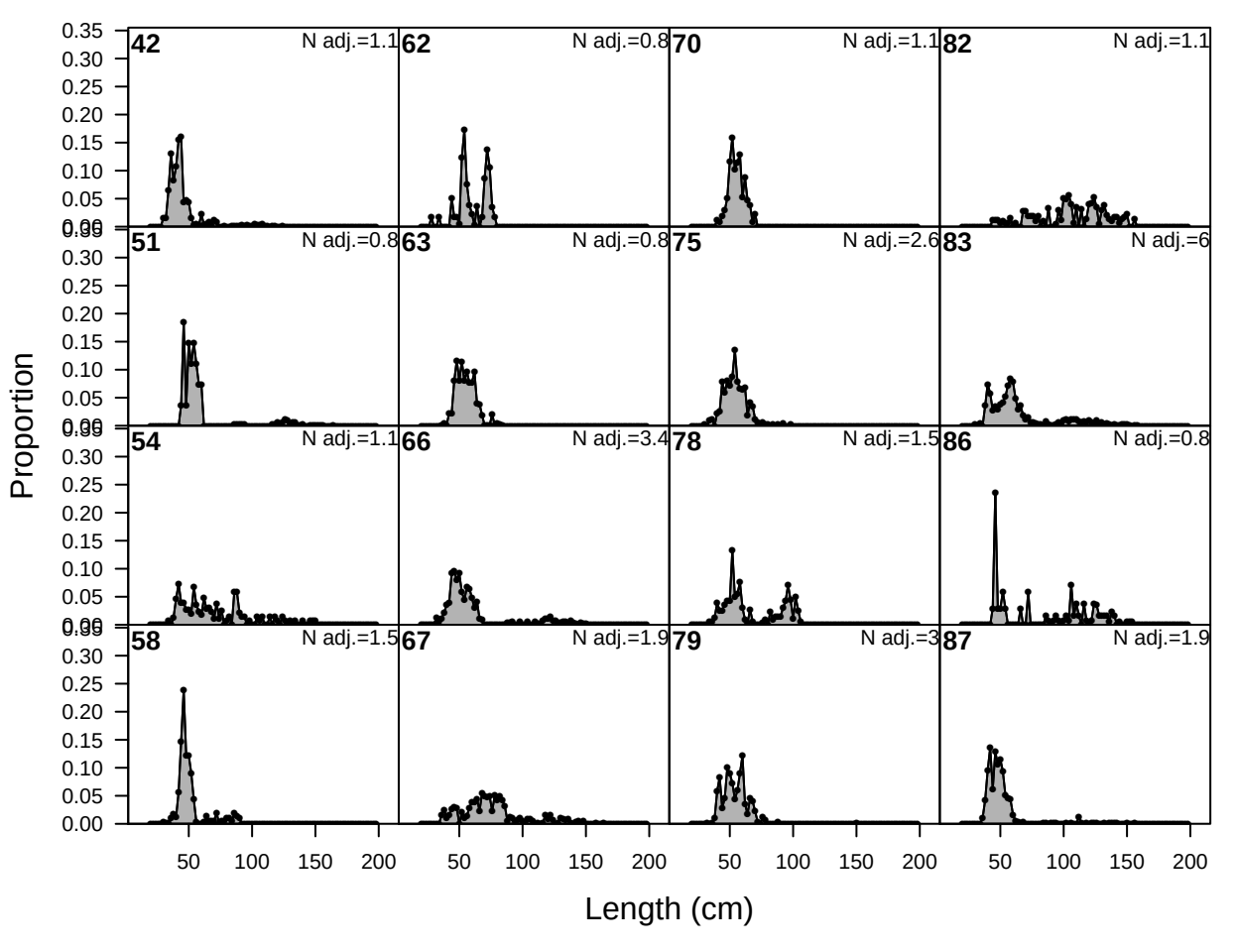

49
N adj.=0.4
73
N adj.=4.3
89
N adj.=1.1
105
N adj.=11
61
N adj.=1.1
77
N adj.=2.7
93
N adj.=1.1
108
N adj.=0.4
65
N adj.=0.7
81
N adj.=1.4
97
N adj.=0.5
109
N adj.=11
69
N adj.=2.2
85
N adj.=1.4
104
N adj.=0.5
113
N adj.=2.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

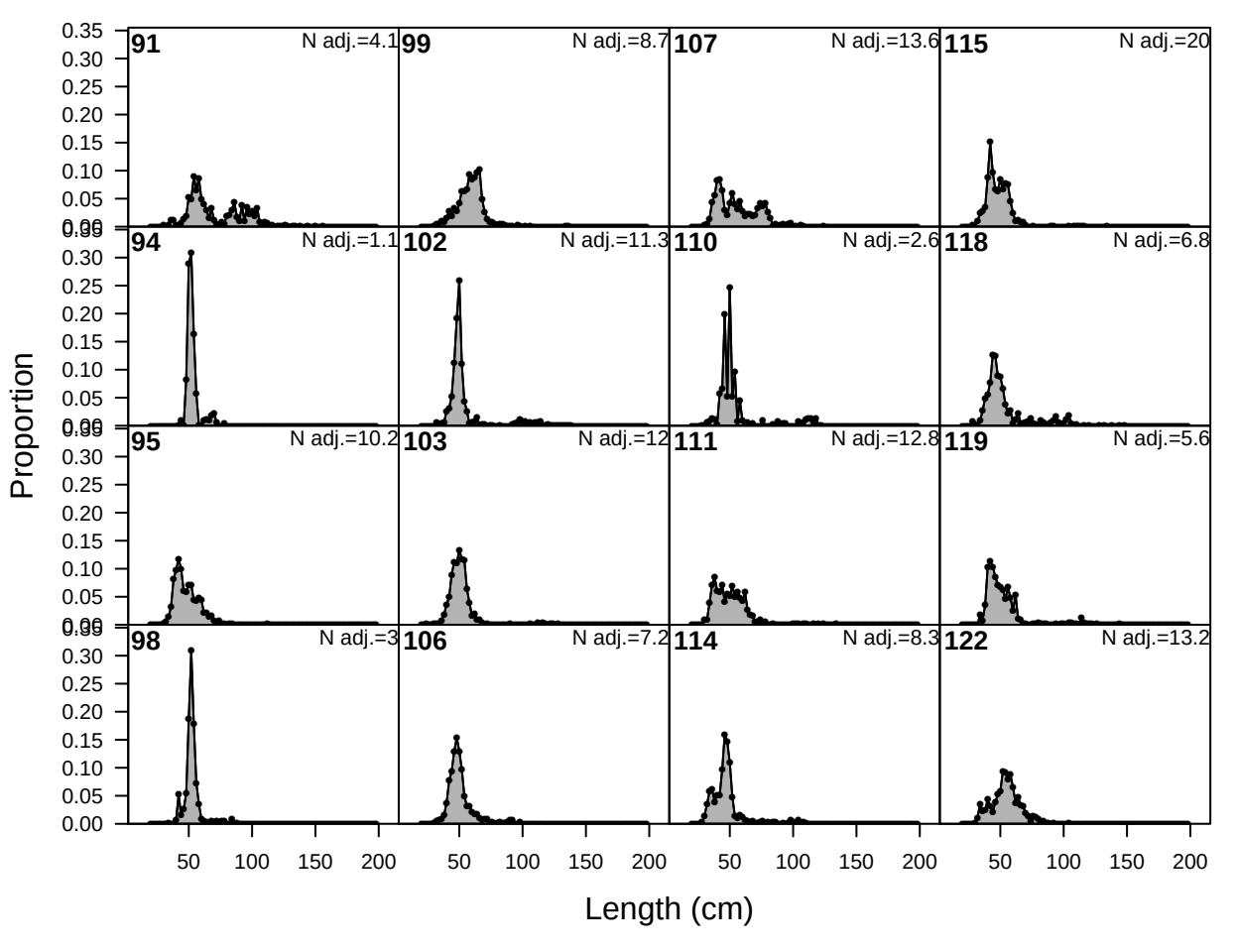

117
N adj.=4.3
129
N adj.=4.8
141
N adj.=3.6
152
N adj.=0.5
121
N adj.=4.1
132
N adj.=0.4
144
N adj.=0.4
153
N adj.=11
124
N adj.=0.4
133
N adj.=3.1
145
N adj.=6.6
156
N adj.=1.1
125
N adj.=5.4
137
N adj.=5.6
149
N adj.=9.5
157
N adj.=9.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

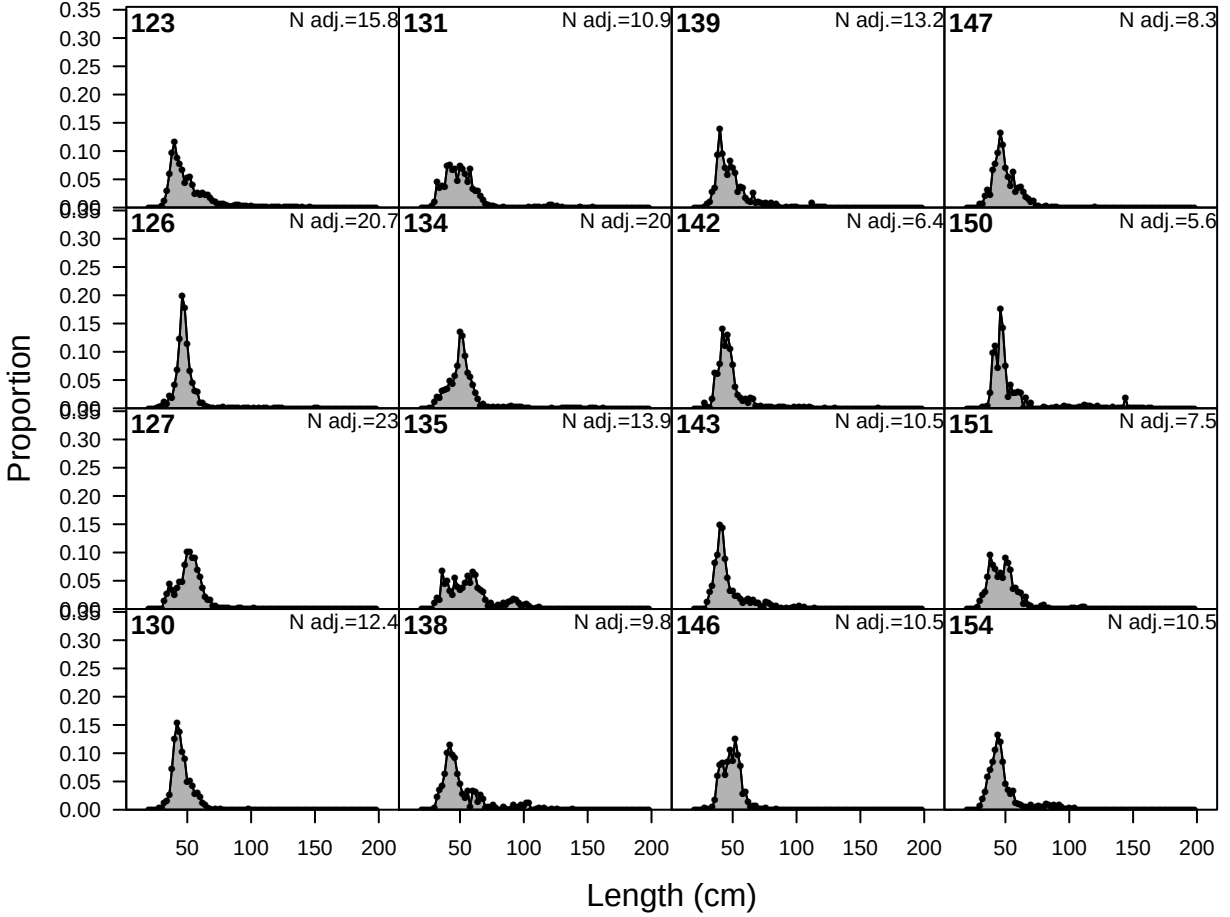

160
N adj.=1.1
169
N adj.=7.9
177
N adj.=5
161
N adj.=10.8
172
N adj.=0.4
180
N adj.=0.4
164
N adj.=0.4
173
N adj.=4.5
165
N adj.=9
176
N adj.=1.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

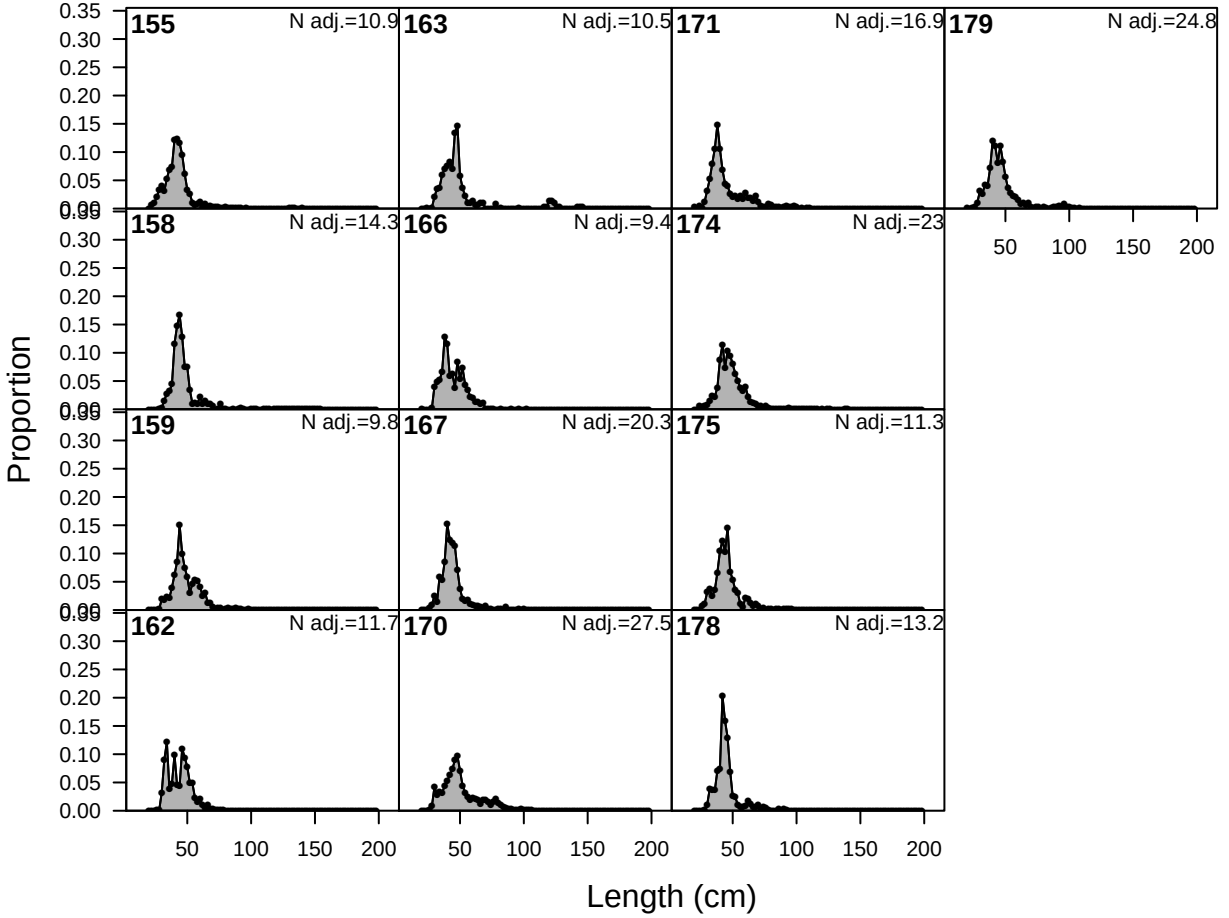

0.01
0.2
0.4
200
150
100
50
Length (cm)
49
61
73
85
97
108
121
133
145
157
169
Year

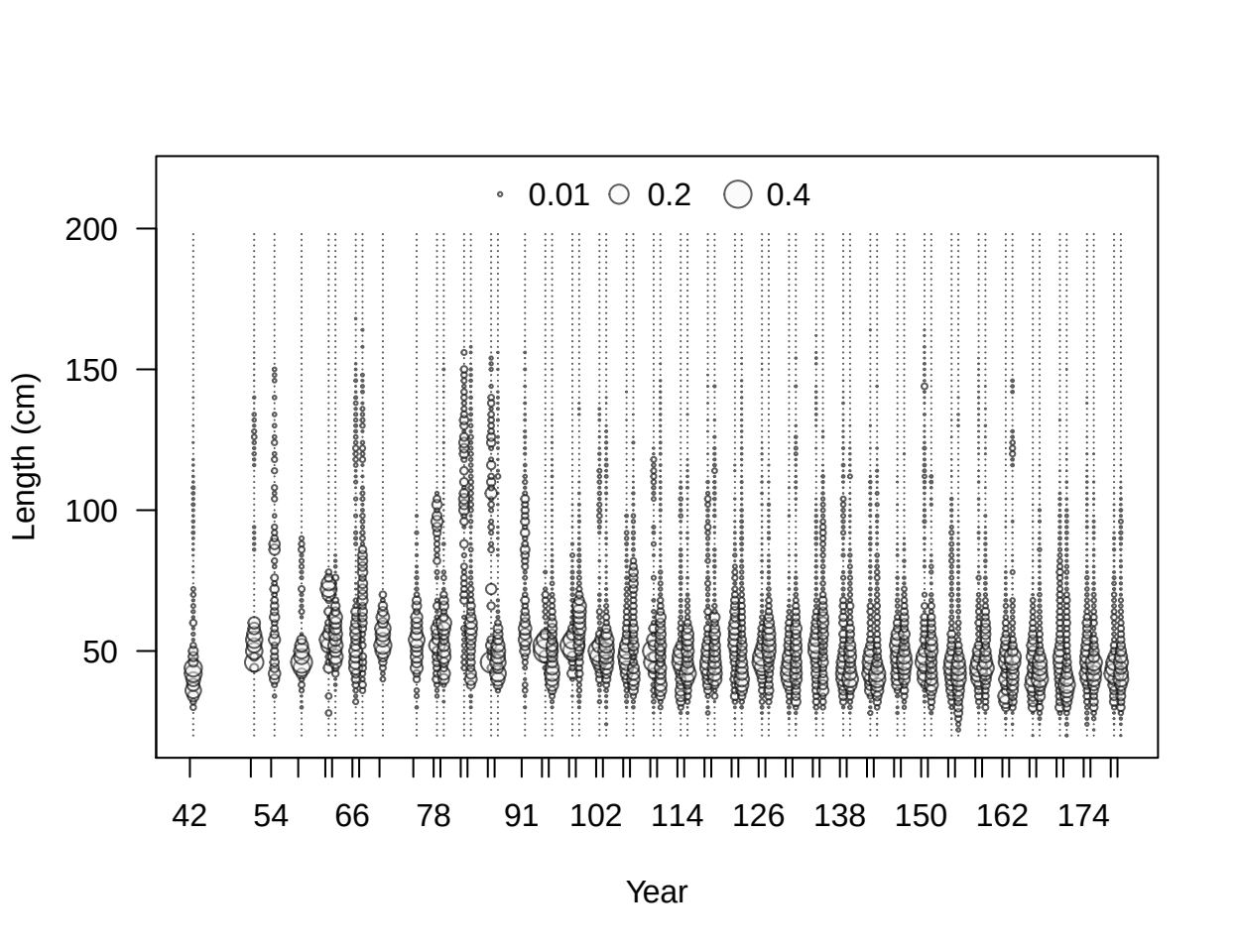

F5−OBJ_S_Q14 (whole catch)
Mean length
200
150
100
50
0
60
80
100
120
140
160
180
Year

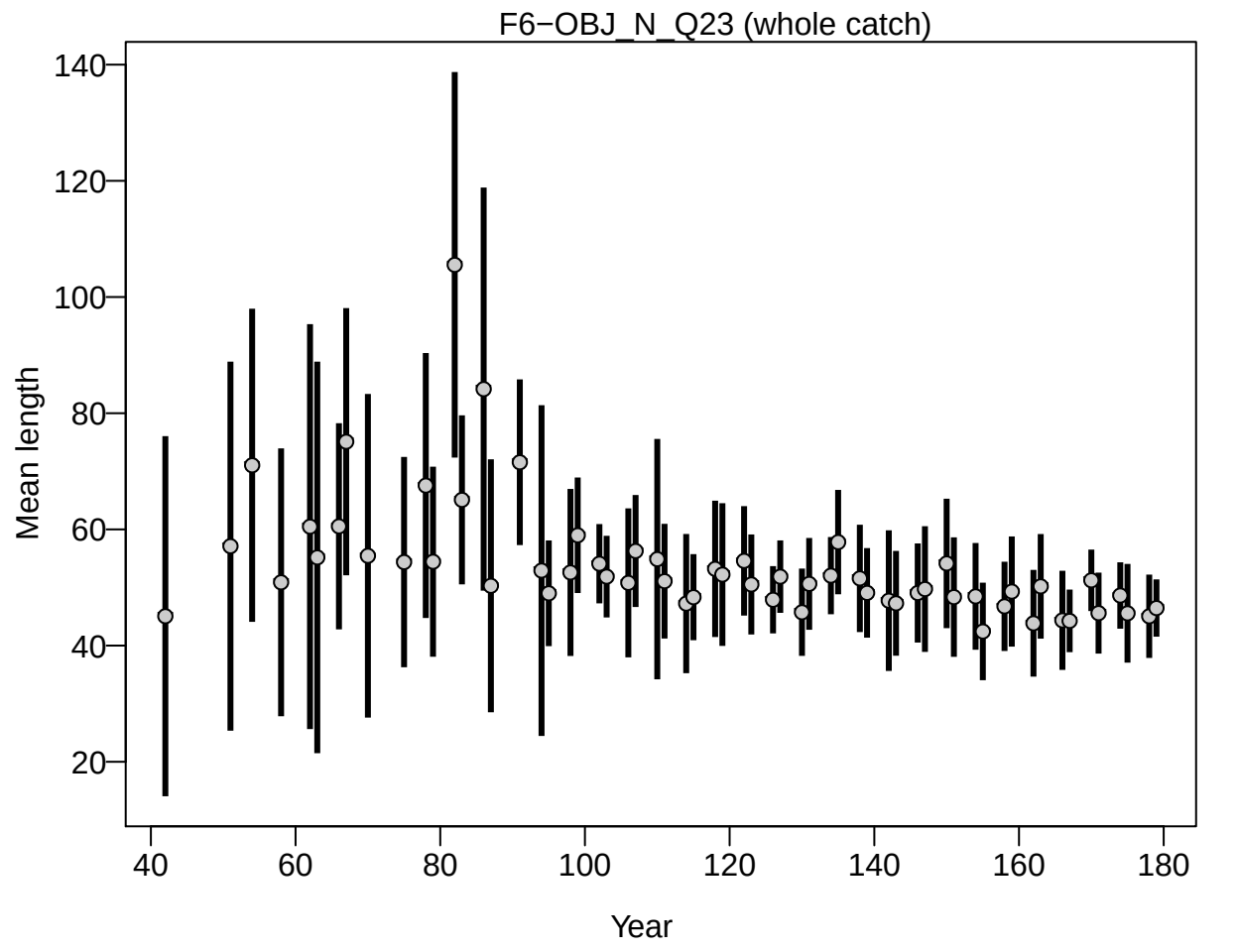

42
N adj.=1.1
62
N adj.=0.8
70
N adj.=1.1
82
N adj.=1.1
51
N adj.=0.8
63
N adj.=0.8
75
N adj.=2.6
83
N adj.=6
54
N adj.=1.1
66
N adj.=3.4
78
N adj.=1.5
86
N adj.=0.8
58
N adj.=1.5
67
N adj.=1.9
79
N adj.=3
87
N adj.=1.9
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

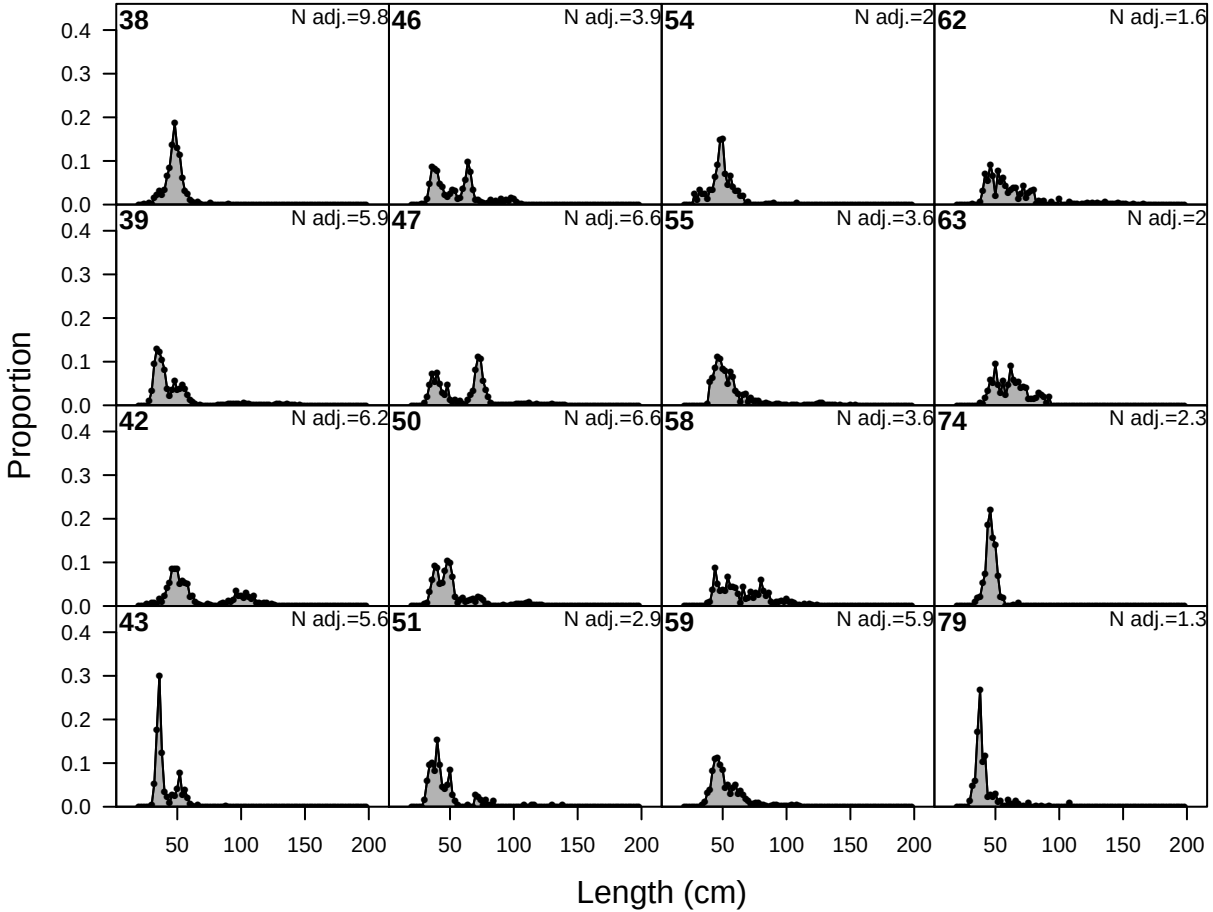

91
N adj.=4.1
99
N adj.=8.7
107
N adj.=13.6
115
N adj.=20
94
N adj.=1.1
102
N adj.=11.3
110
N adj.=2.6
118
N adj.=6.8
95
N adj.=10.2
103
N adj.=12
111
N adj.=12.8
119
N adj.=5.6
98
N adj.=3
106
N adj.=7.2
114
N adj.=8.3
122
N adj.=13.2
Proportion
Length (cm)
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200

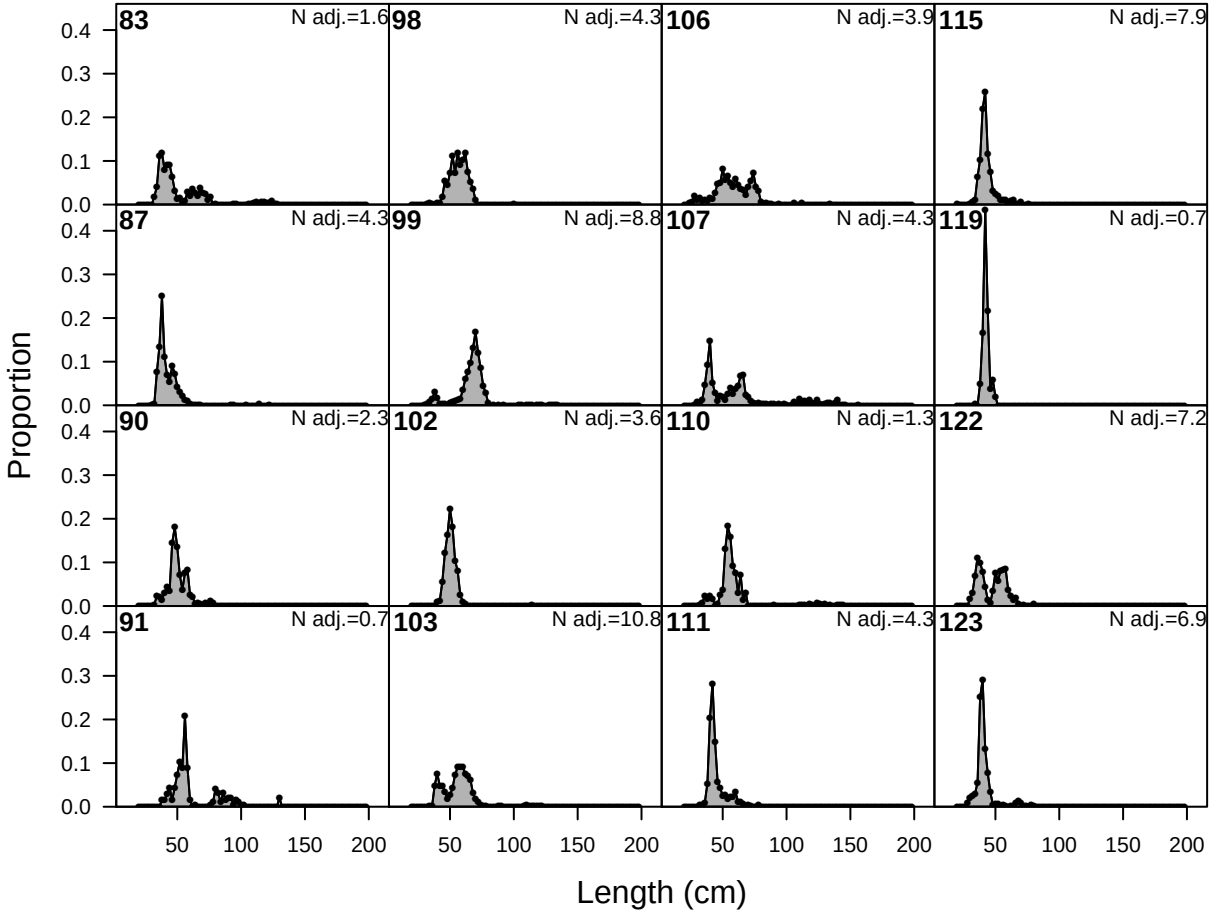

123
N adj.=15.8
131
N adj.=10.9
139
N adj.=13.2
147
N adj.=8.3
126
N adj.=20.7
134
N adj.=20
142
N adj.=6.4
150
N adj.=5.6
127
N adj.=23
135
N adj.=13.9
143
N adj.=10.5
151
N adj.=7.5
130
N adj.=12.4
138
N adj.=9.8
146
N adj.=10.5
154
N adj.=10.5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

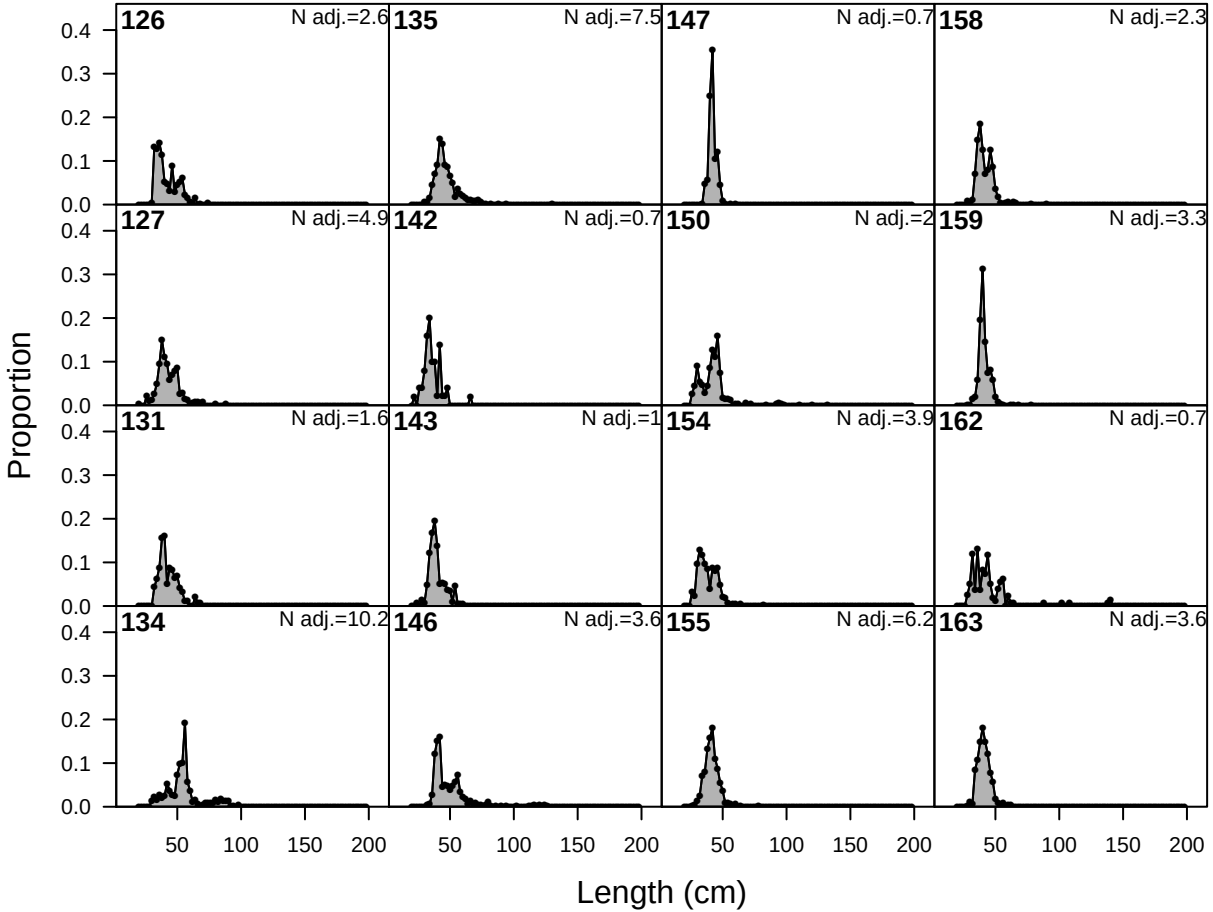

155
N adj.=10.9
163
N adj.=10.5
171
N adj.=16.9
179
N adj.=24.8
158
N adj.=14.3
166
N adj.=9.4
174
N adj.=23
159
N adj.=9.8
167
N adj.=20.3
175
N adj.=11.3
162
N adj.=11.7
170
N adj.=27.5
178
N adj.=13.2
Proportion
Length (cm)
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200

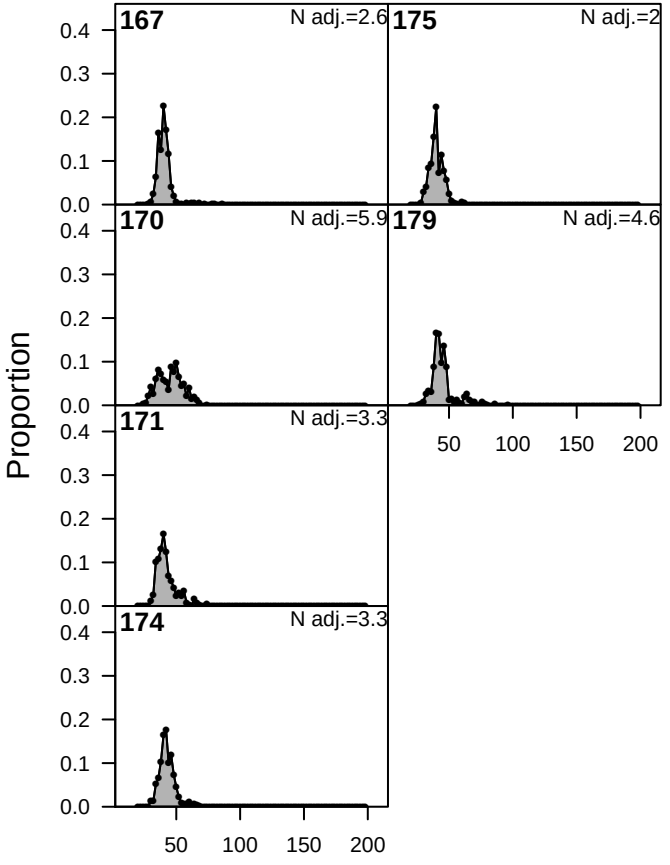

0.01
0.2
0.4
200
150
100
50
Length (cm)
42
54
66
78
91
102
114
126
138
150
162
174
Year

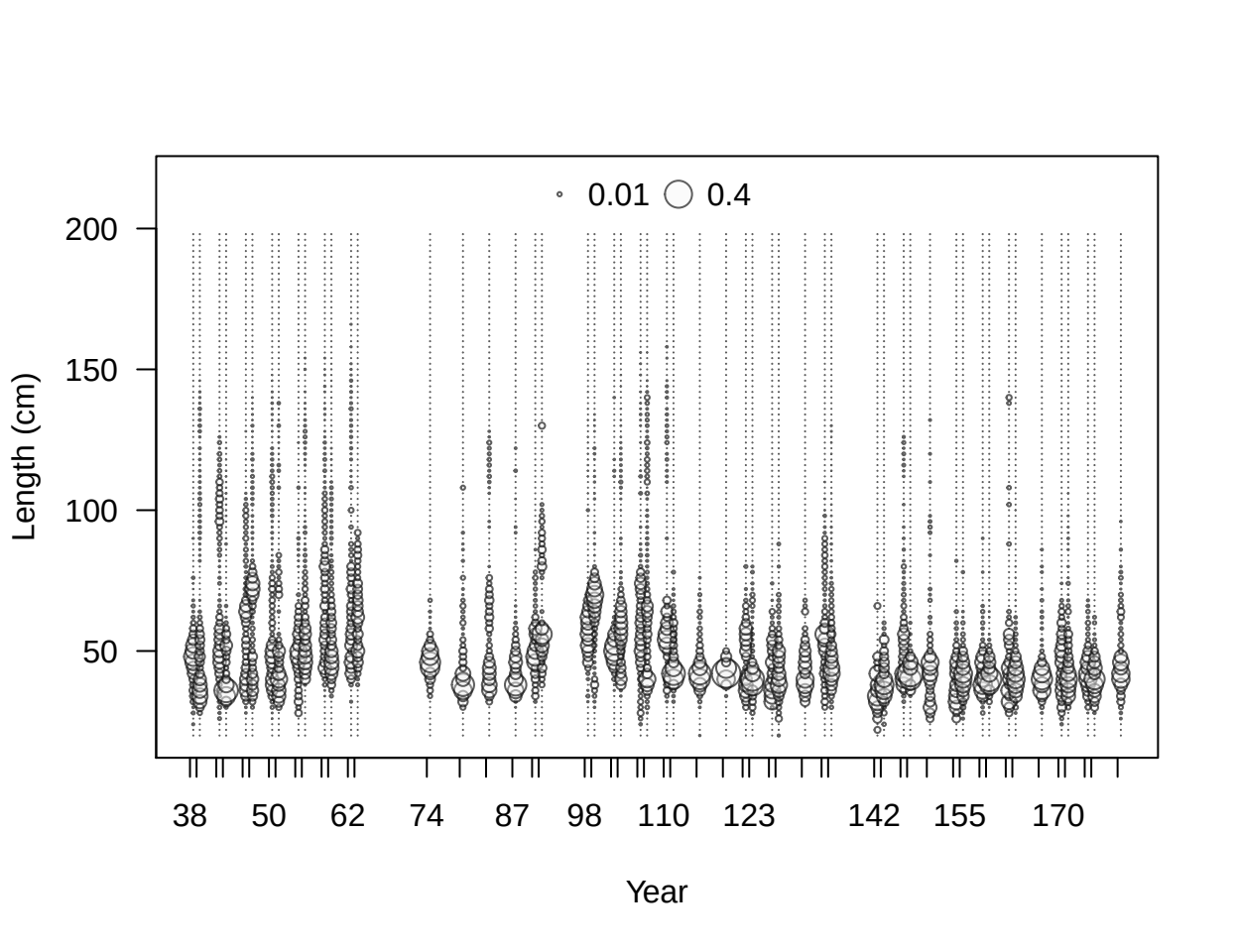

F6−OBJ_N_Q23 (whole catch)
Mean length
Year
140
120
100
80
60
40
20
40
60
80
100
120
140
160
180

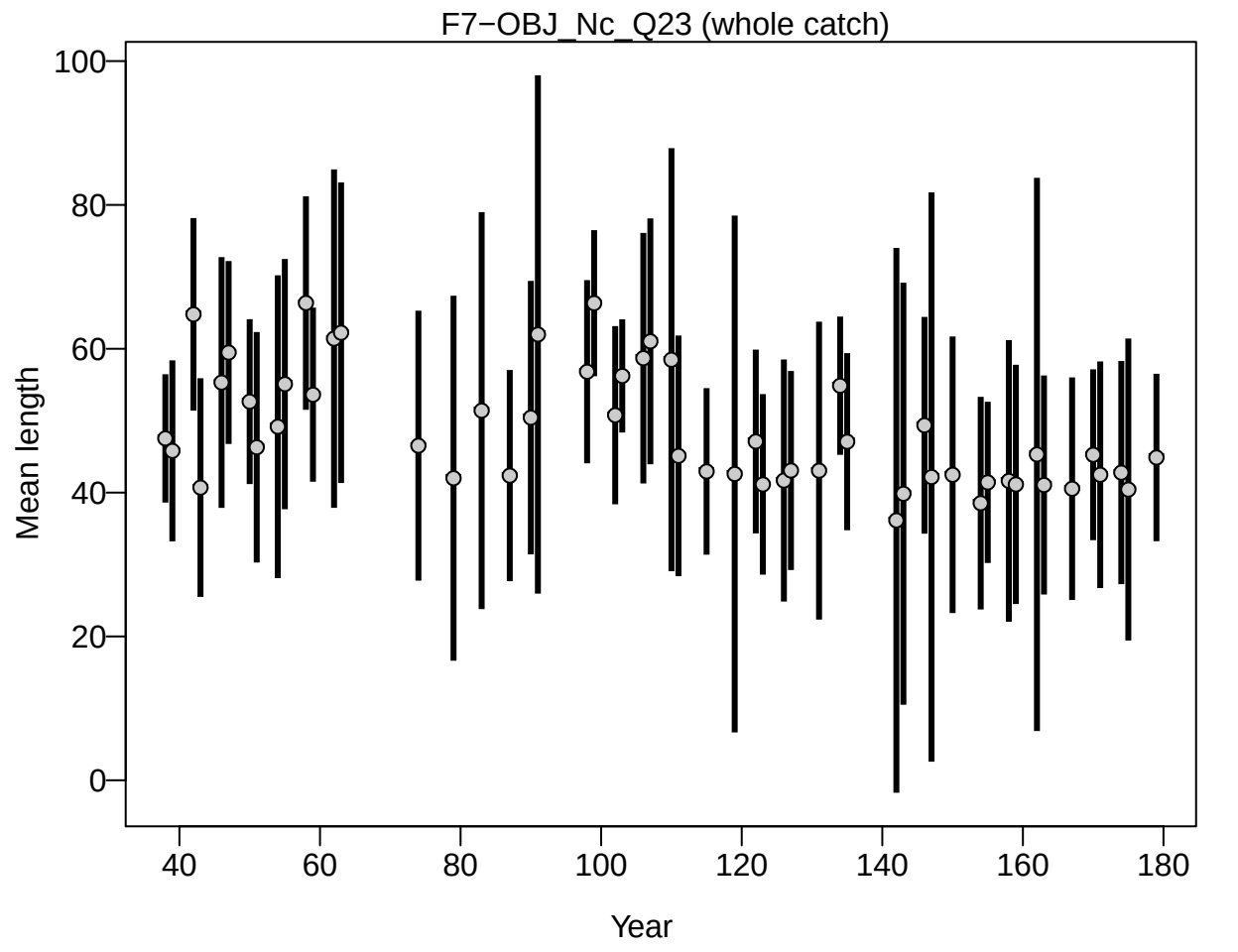

38
N adj.=9.8
46
N adj.=3.9
54
N adj.=2
62
N adj.=1.6
39
N adj.=5.9
47
N adj.=6.6
55
N adj.=3.6
63
N adj.=2
42
N adj.=6.2
50
N adj.=6.6
58
N adj.=3.6
74
N adj.=2.3
43
N adj.=5.6
51
N adj.=2.9
59
N adj.=5.9
79
N adj.=1.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

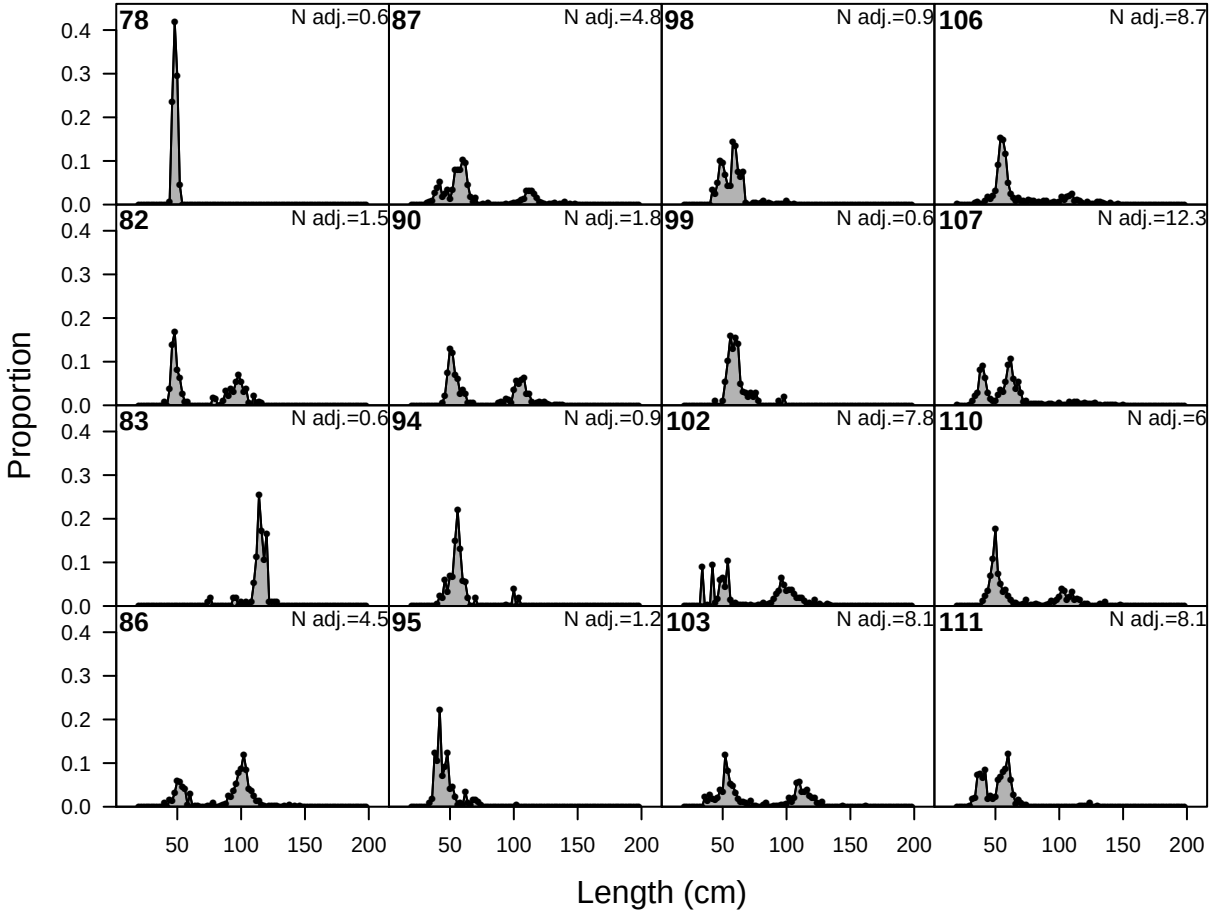

83
N adj.=1.6
98
N adj.=4.3
106
N adj.=3.9
115
N adj.=7.9
87
N adj.=4.3
99
N adj.=8.8
107
N adj.=4.3
119
N adj.=0.7
90
N adj.=2.3
102
N adj.=3.6
110
N adj.=1.3
122
N adj.=7.2
91
N adj.=0.7
103
N adj.=10.8
111
N adj.=4.3
123
N adj.=6.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

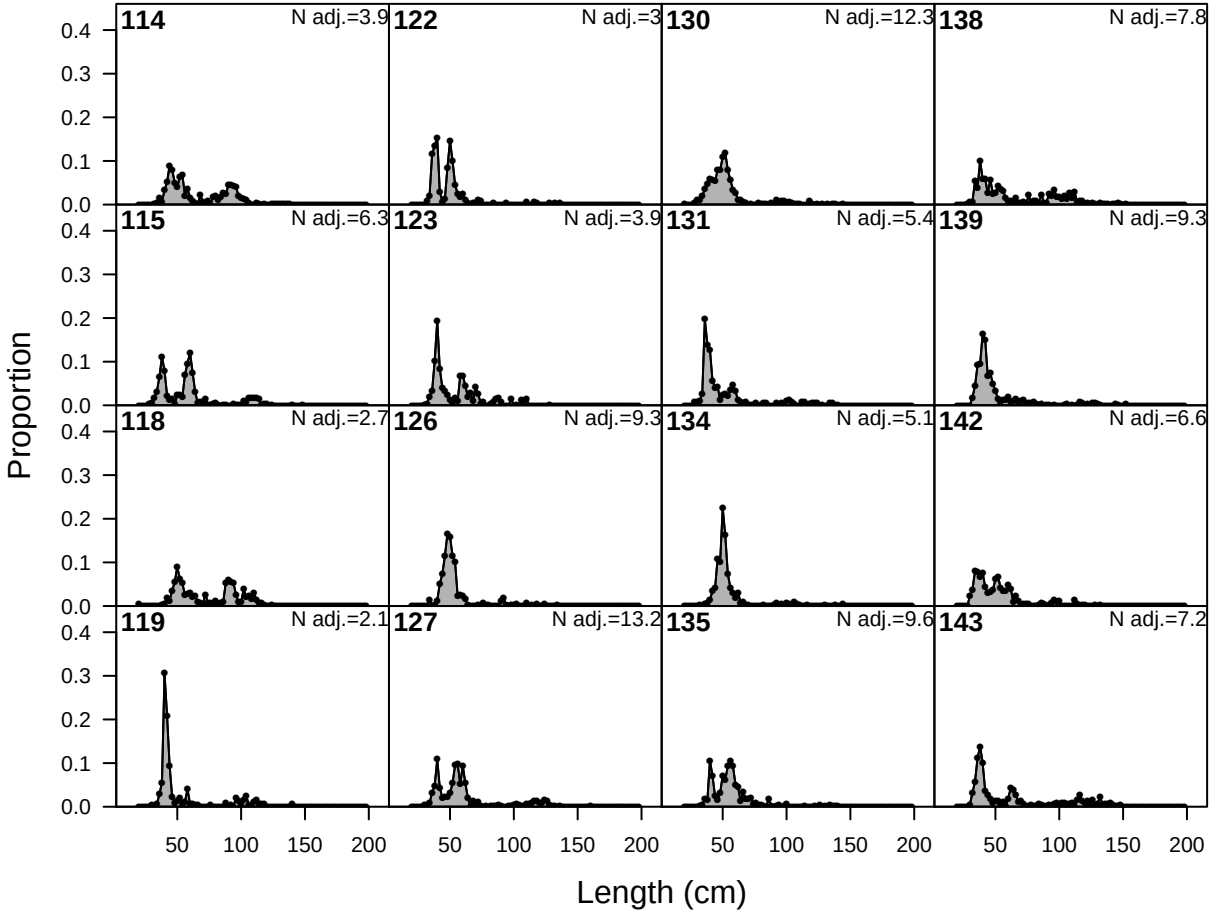

126
N adj.=2.6
135
N adj.=7.5
147
N adj.=0.7
158
N adj.=2.3
127
N adj.=4.9
142
N adj.=0.7
150
N adj.=2
159
N adj.=3.3
131
N adj.=1.6
143
N adj.=1
154
N adj.=3.9
162
N adj.=0.7
134
N adj.=10.2
146
N adj.=3.6
155
N adj.=6.2
163
N adj.=3.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

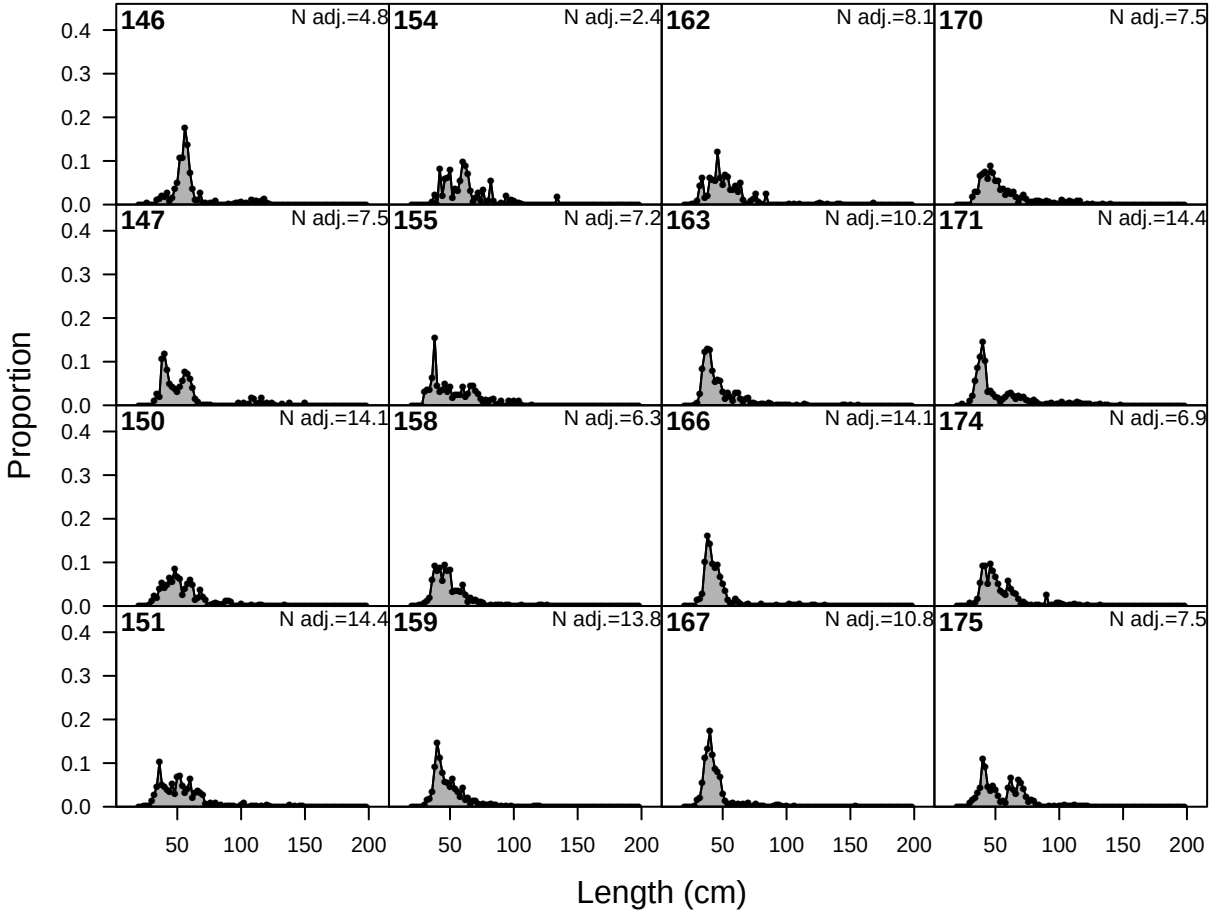

167
N adj.=2.6
175
N adj.=2
170
N adj.=5.9
179
N adj.=4.6
171
N adj.=3.3
174
N adj.=3.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

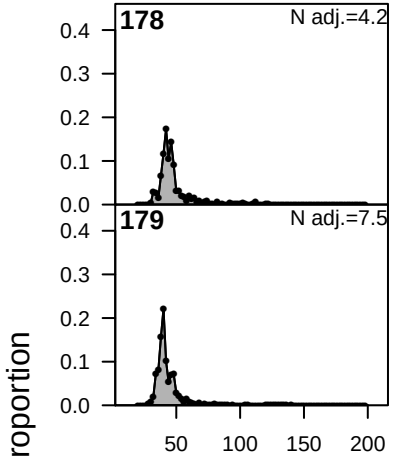

0.01
0.4
200
150
100
50
Length (cm)
38
50
62
74
87
98
110
123
142
155
170
Year


F7−OBJ_Nc_Q23 (whole catch)
Mean length
Year
100
80
60
40
20
0
40
60
80
100
120
140
160
180

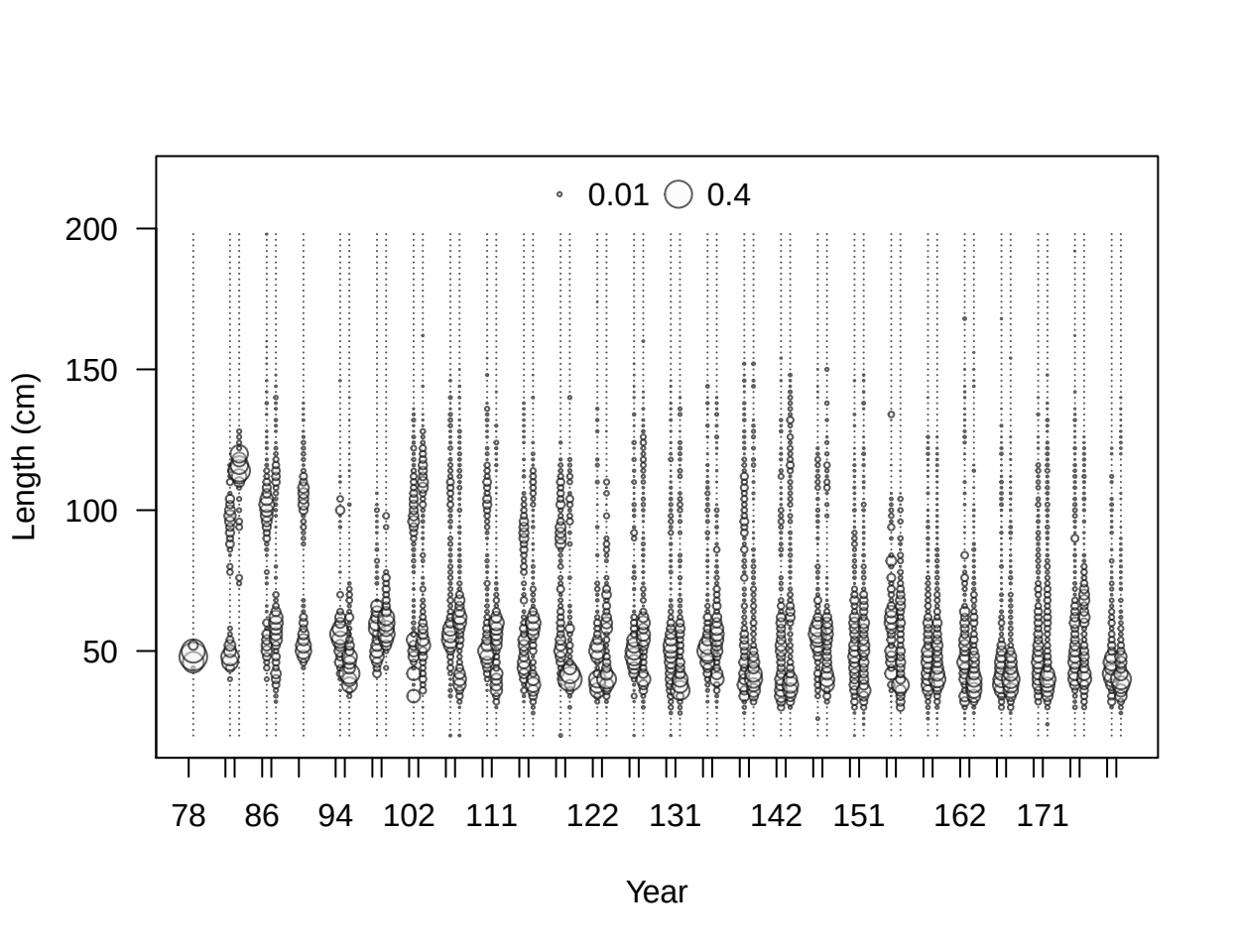

78
N adj.=0.6
87
N adj.=4.8
98
N adj.=0.9
106
N adj.=8.7
82
N adj.=1.5
90
N adj.=1.8
99
N adj.=0.6
107
N adj.=12.3
83
N adj.=0.6
94
N adj.=0.9
102
N adj.=7.8
110
N adj.=6
86
N adj.=4.5
95
N adj.=1.2
103
N adj.=8.1
111
N adj.=8.1
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

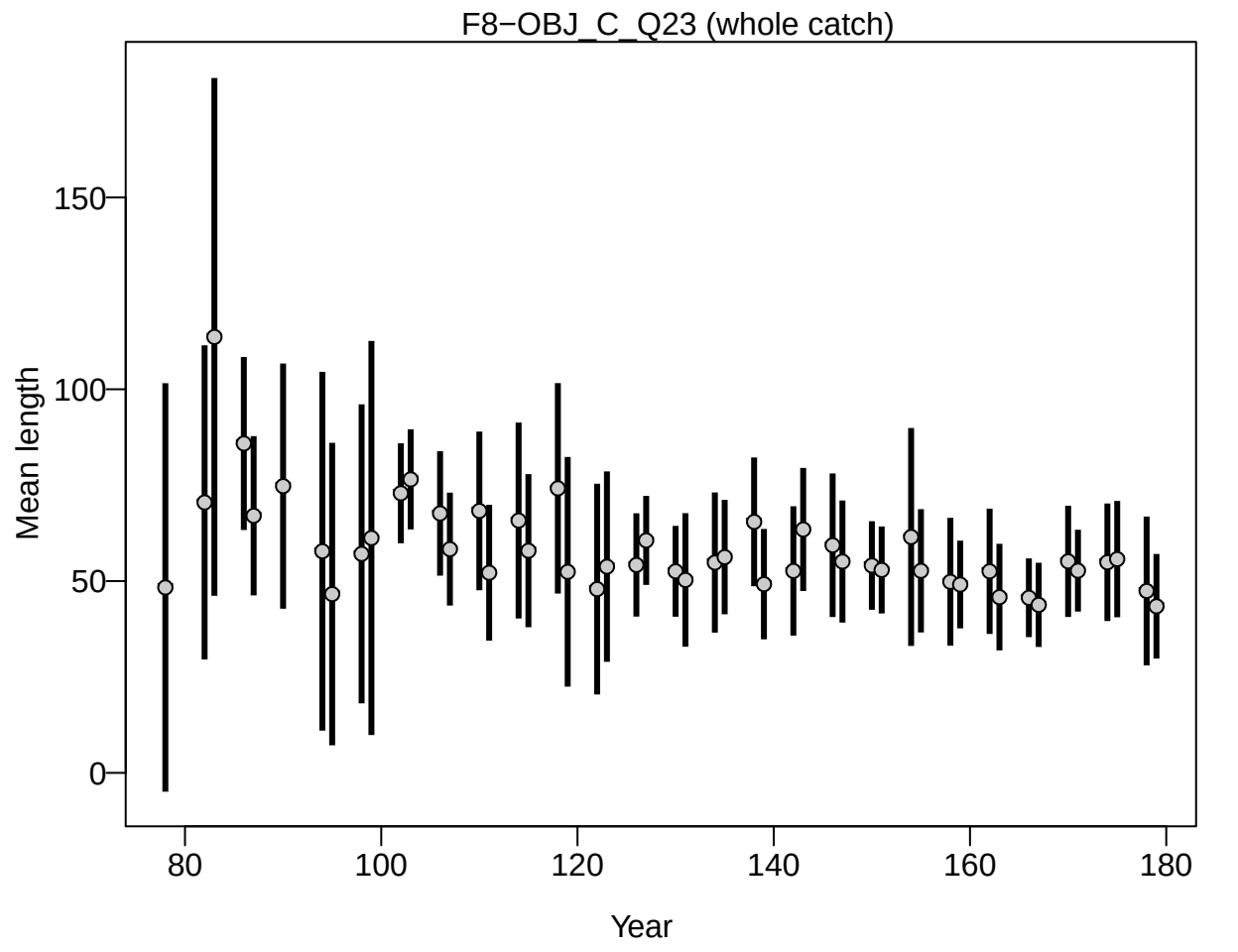

114
N adj.=3.9
122
N adj.=3
130
N adj.=12.3
138
N adj.=7.8
115
N adj.=6.3
123
N adj.=3.9
131
N adj.=5.4
139
N adj.=9.3
118
N adj.=2.7
126
N adj.=9.3
134
N adj.=5.1
142
N adj.=6.6
119
N adj.=2.1
127
N adj.=13.2
135
N adj.=9.6
143
N adj.=7.2
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

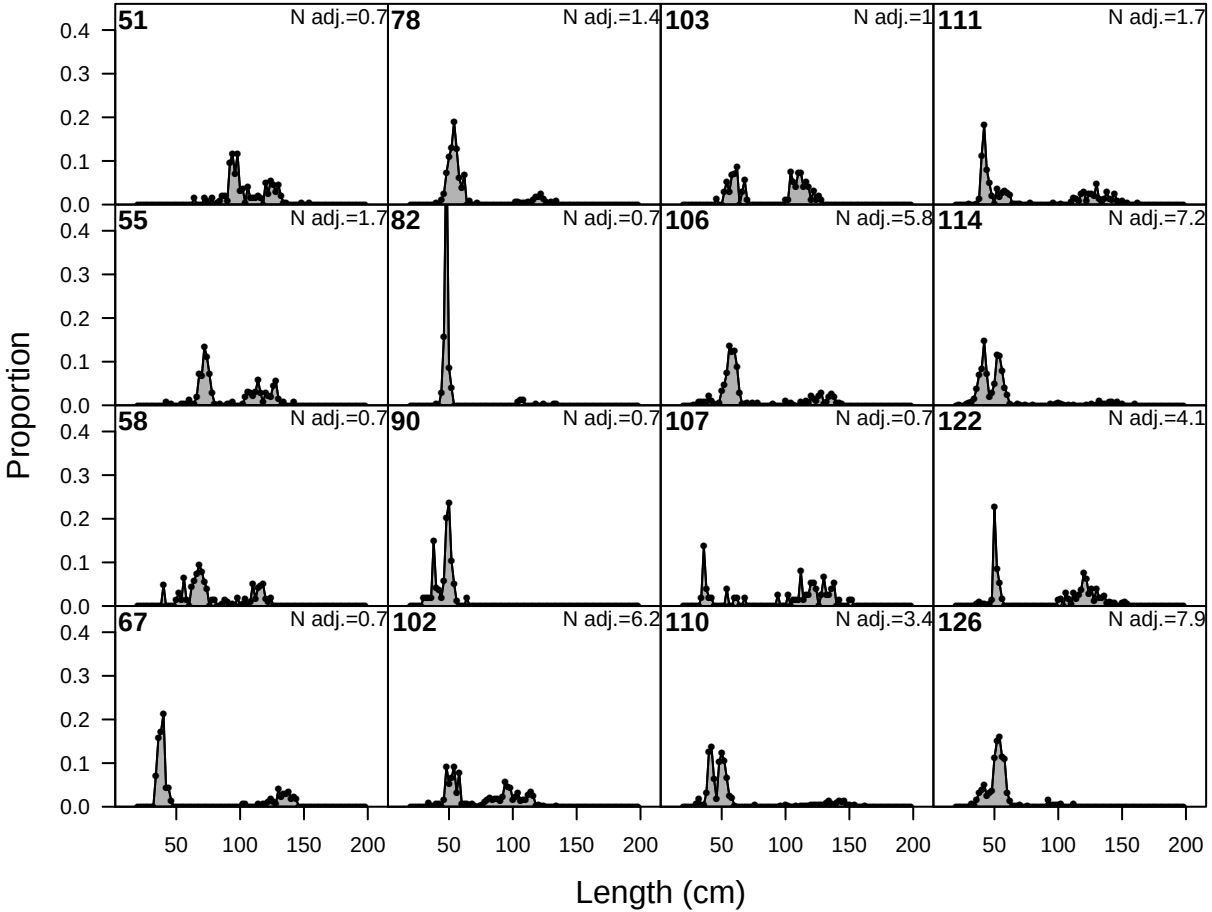

146
N adj.=4.8
154
N adj.=2.4
162
N adj.=8.1
170
N adj.=7.5
147
N adj.=7.5
155
N adj.=7.2
163
N adj.=10.2
171
N adj.=14.4
150
N adj.=14.1
158
N adj.=6.3
166
N adj.=14.1
174
N adj.=6.9
151
N adj.=14.4
159
N adj.=13.8
167
N adj.=10.8
175
N adj.=7.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

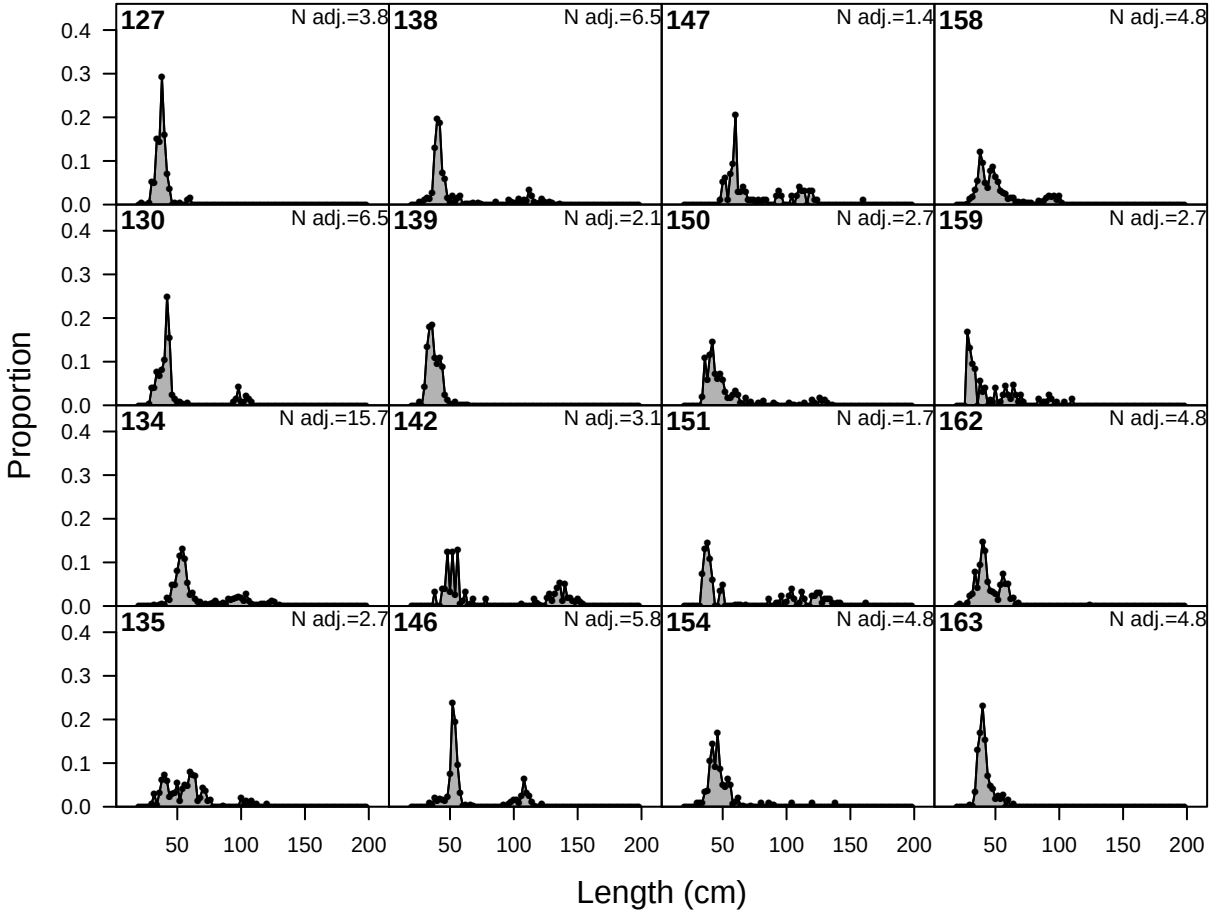


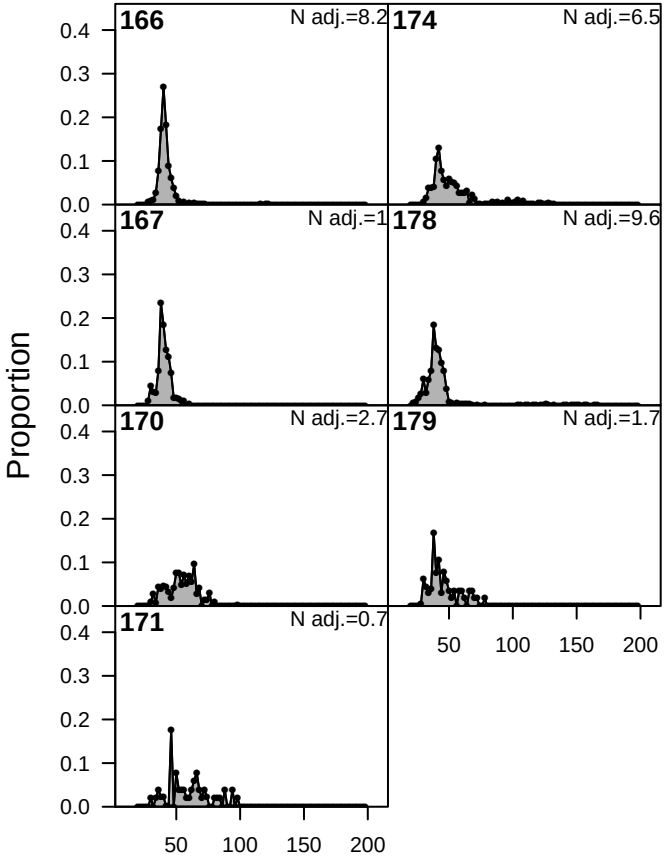
Length (cm)

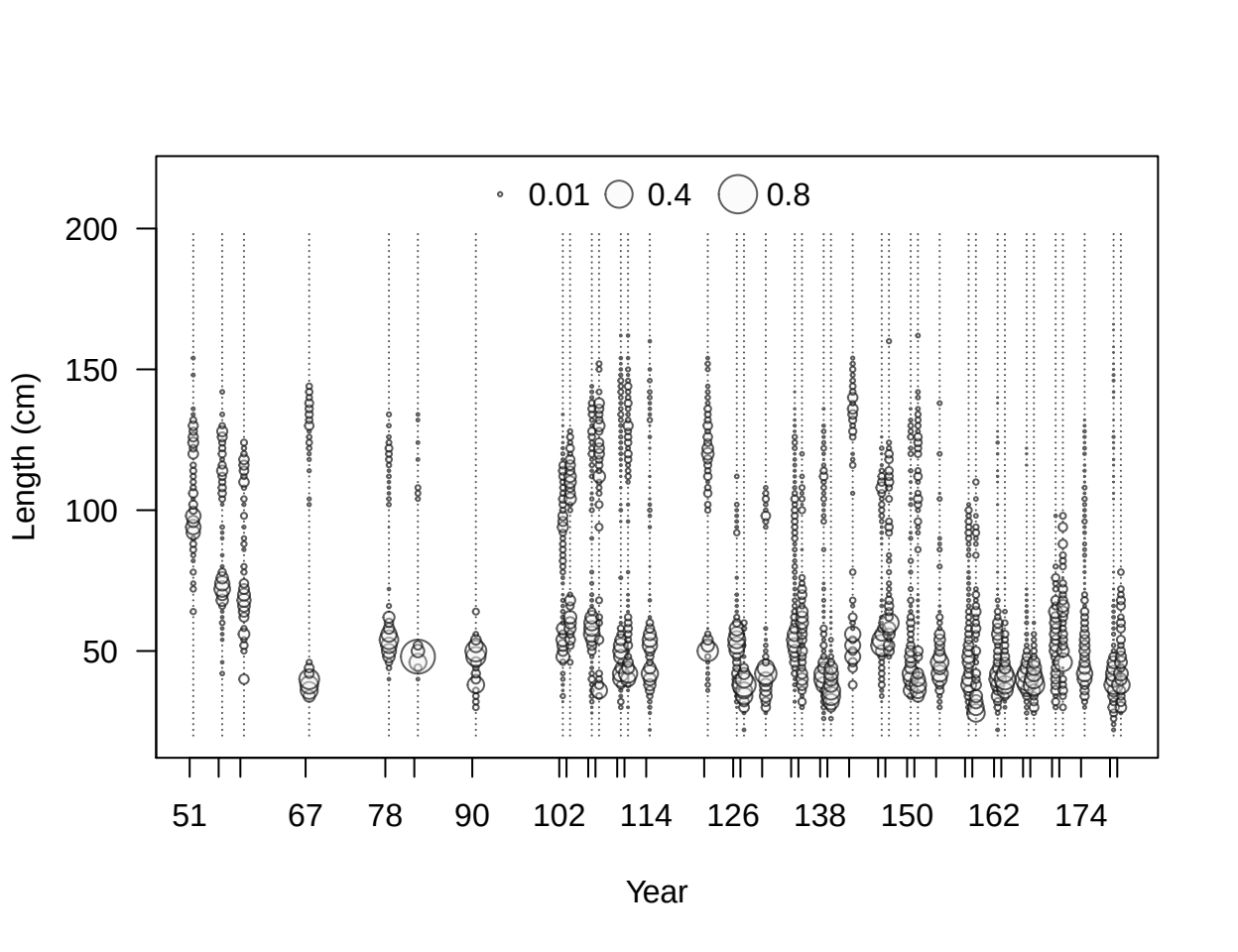

0.01
0.4
200
150
100
50
Length (cm)
78
86
94
102
111
122
131
142
151
162
171
Year

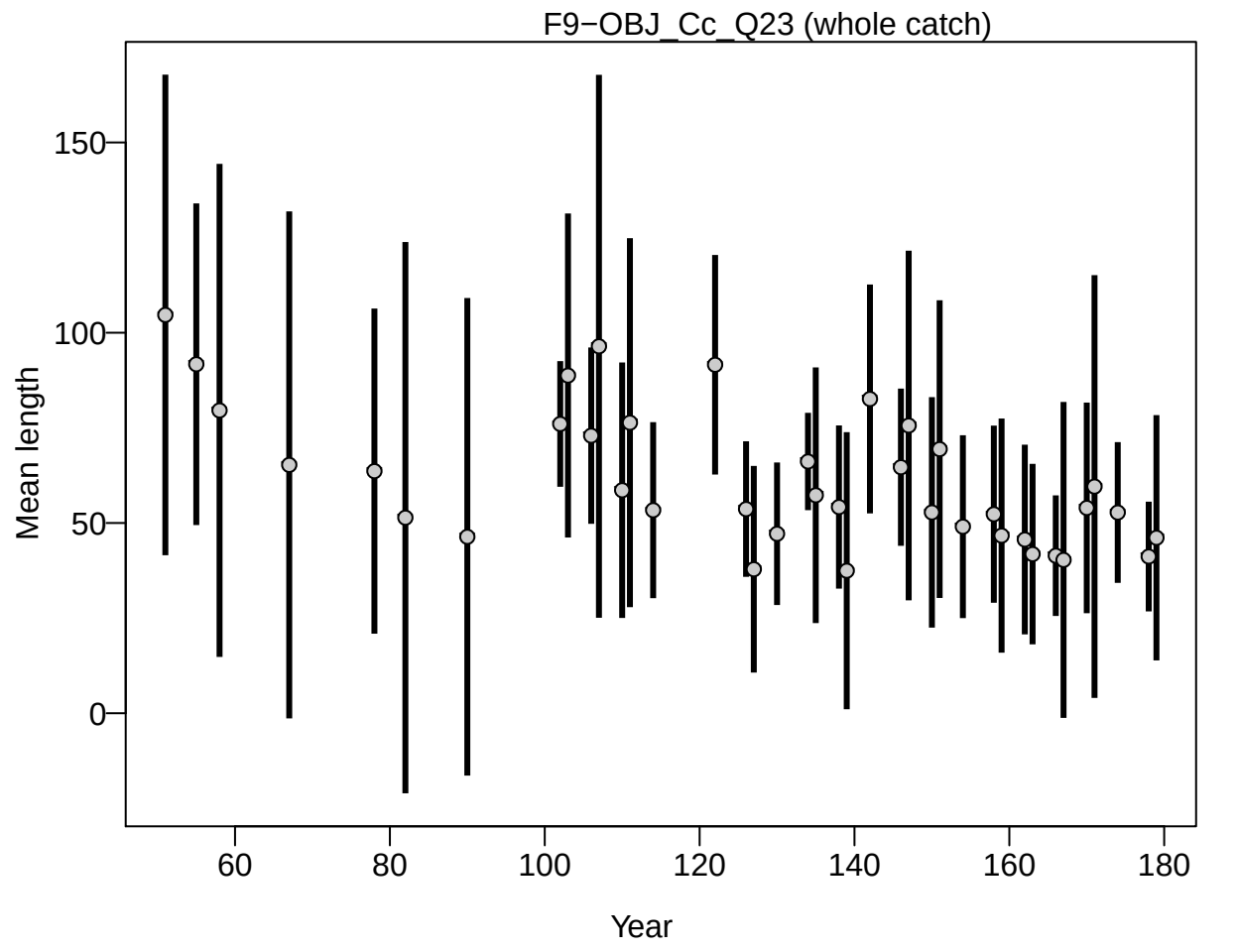

F8−OBJ_C_Q23 (whole catch)
Mean length
150
100
50
0
80
100
120
140
160
180
Year

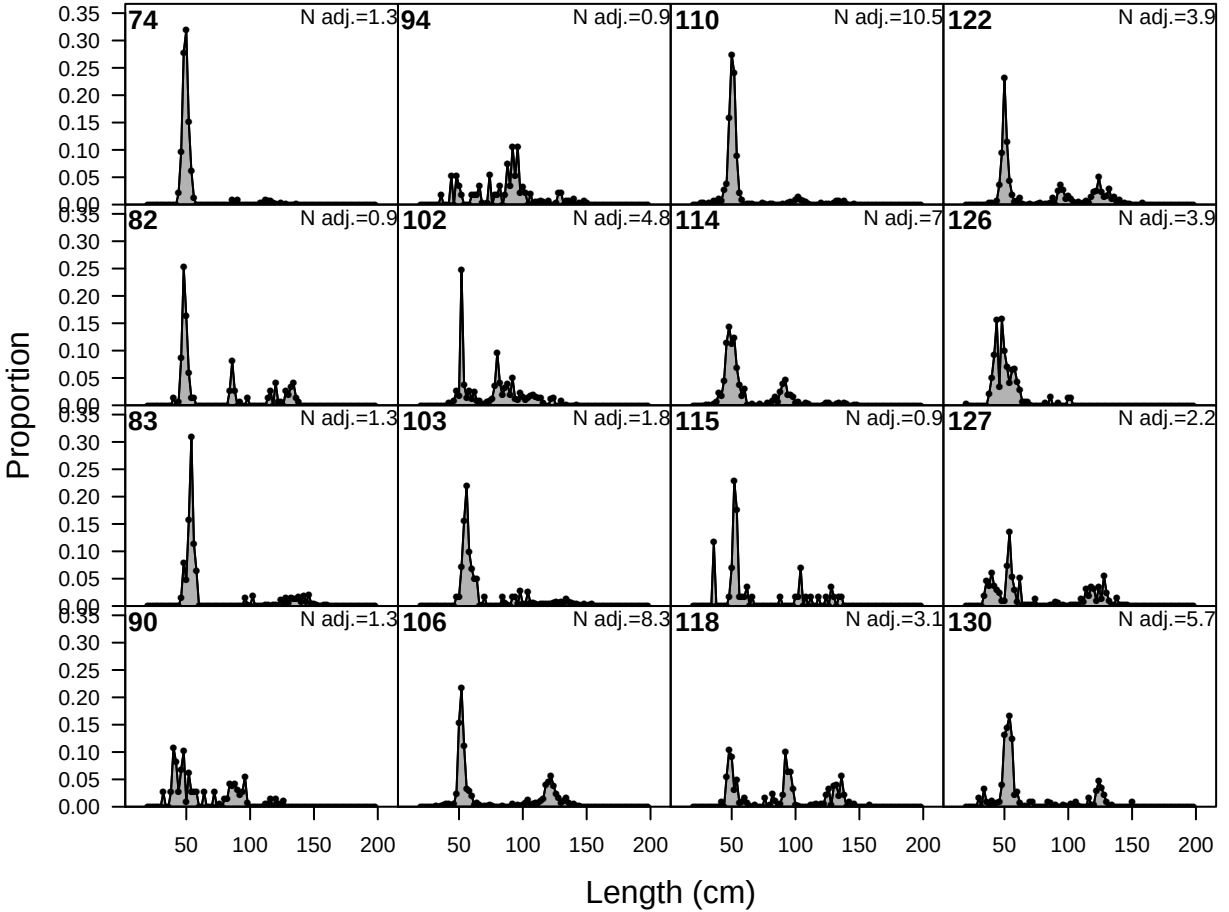

51
N adj.=0.7
78
N adj.=1.4
103
N adj.=1
111
N adj.=1.7
55
N adj.=1.7
82
N adj.=0.7
106
N adj.=5.8
114
N adj.=7.2
58
N adj.=0.7
90
N adj.=0.7
107
N adj.=0.7
122
N adj.=4.1
67
N adj.=0.7
102
N adj.=6.2
110
N adj.=3.4
126
N adj.=7.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

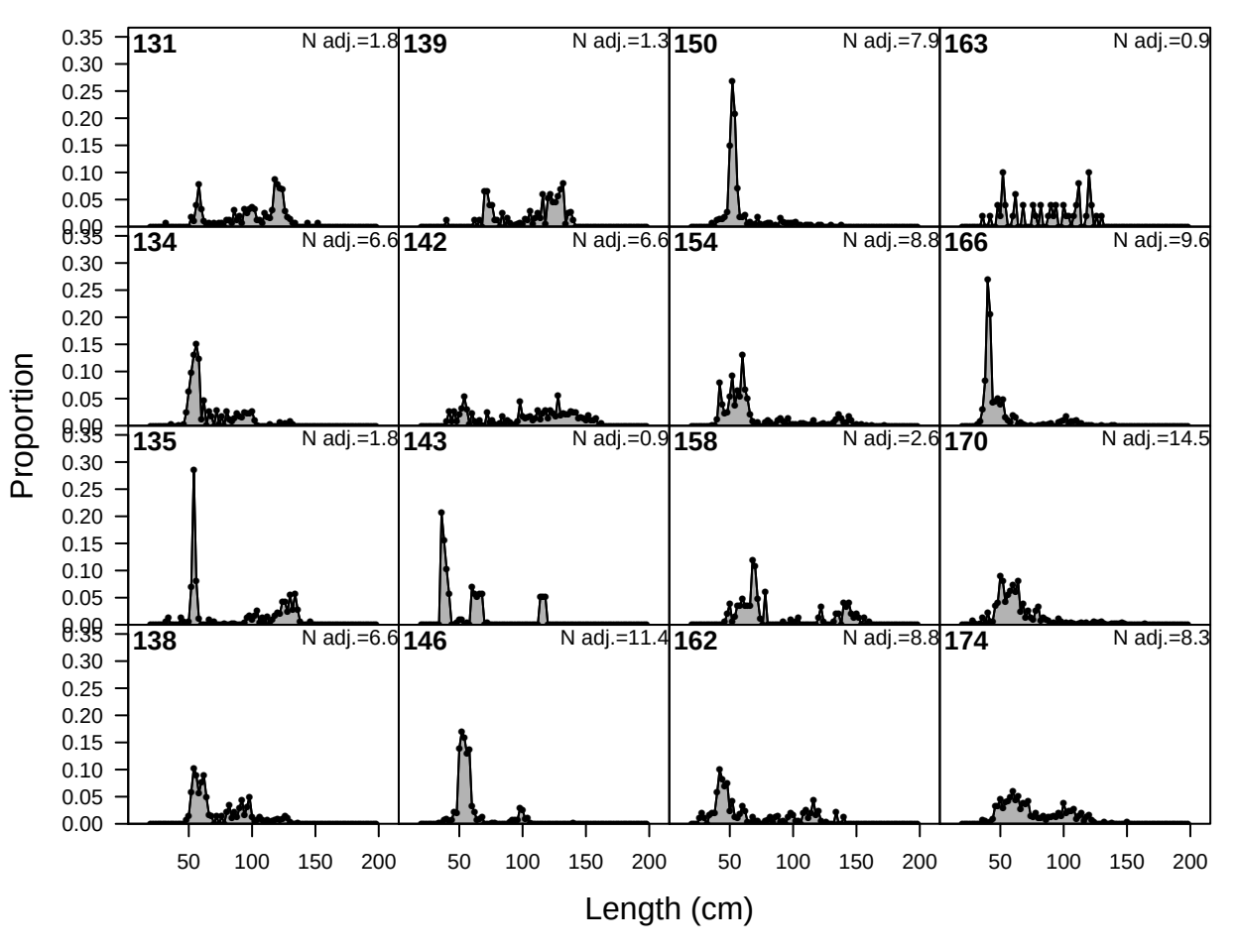

127
N adj.=3.8
138
N adj.=6.5
147
N adj.=1.4
158
N adj.=4.8
130
N adj.=6.5
139
N adj.=2.1
150
N adj.=2.7
159
N adj.=2.7
134
N adj.=15.7
142
N adj.=3.1
151
N adj.=1.7
162
N adj.=4.8
135
N adj.=2.7
146
N adj.=5.8
154
N adj.=4.8
163
N adj.=4.8
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

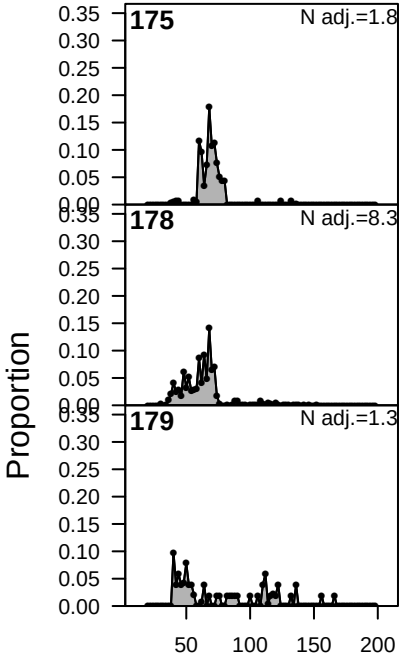

166
N adj.=8.2
174
N adj.=6.5
167
N adj.=1
178
N adj.=9.6
170
N adj.=2.7
179
N adj.=1.7
171
N adj.=0.7
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


0.01
0.4
0.8
200
150
100
50
Length (cm)
51
67
78
90
102
114
126
138
150
162
174
Year

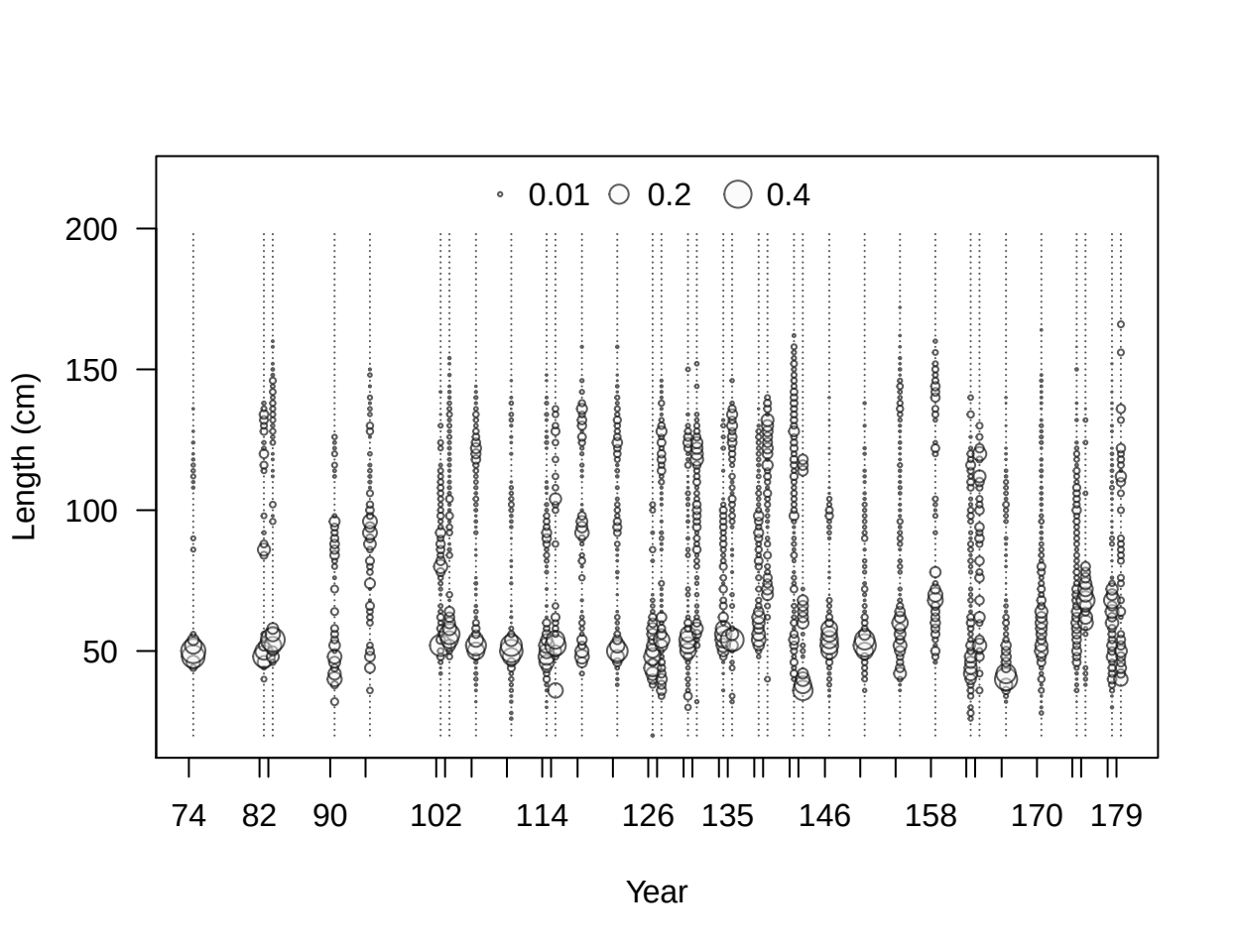

F9−OBJ_Cc_Q23 (whole catch)
Mean length
150
100
50
0
60
80
100
120
140
160
180
Year

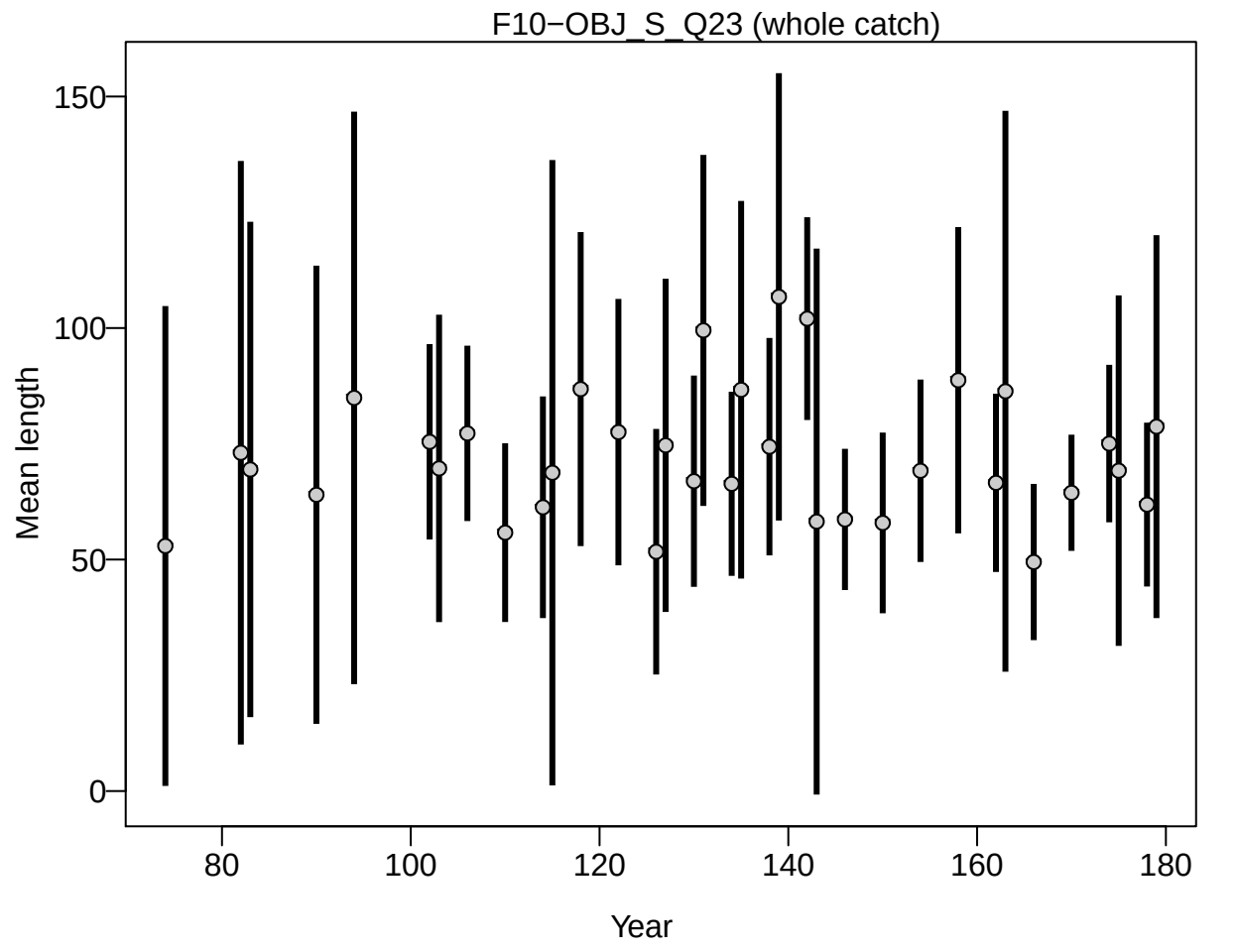

74
N adj.=1.3
94
N adj.=0.9
110
N adj.=10.5
122
N adj.=3.9
82
N adj.=0.9
102
N adj.=4.8
114
N adj.=7
126
N adj.=3.9
83
N adj.=1.3
103
N adj.=1.8
115
N adj.=0.9
127
N adj.=2.2
90
N adj.=1.3
106
N adj.=8.3
118
N adj.=3.1
130
N adj.=5.7
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

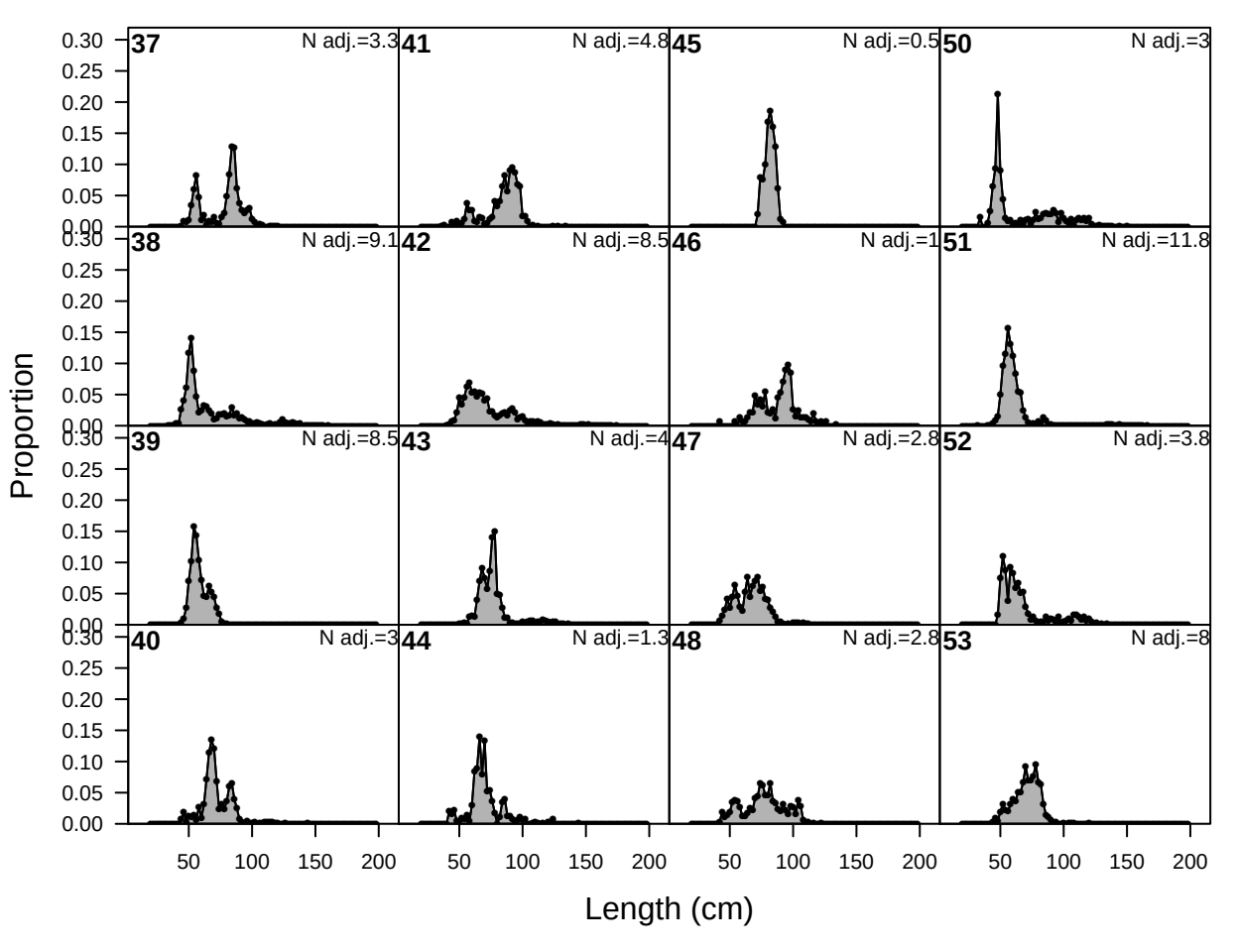

131
N adj.=1.8
139
N adj.=1.3
150
N adj.=7.9
163
N adj.=0.9
134
N adj.=6.6
142
N adj.=6.6
154
N adj.=8.8
166
N adj.=9.6
135
N adj.=1.8
143
N adj.=0.9
158
N adj.=2.6
170
N adj.=14.5
138
N adj.=6.6
146
N adj.=11.4
162
N adj.=8.8
174
N adj.=8.3
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

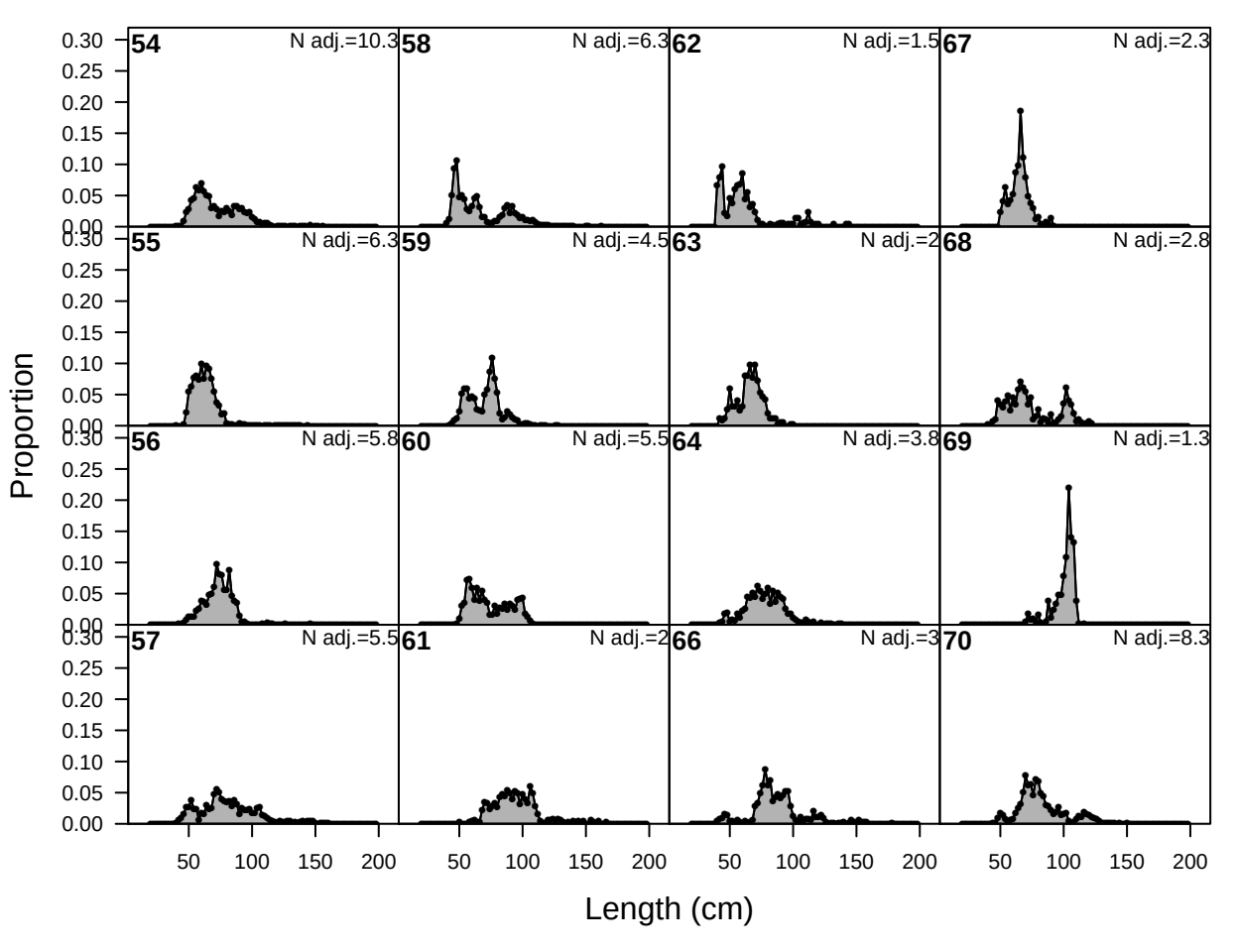

175
N adj.=1.8
178
N adj.=8.3
179
N adj.=1.3
Proportion
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
50
100
150
200

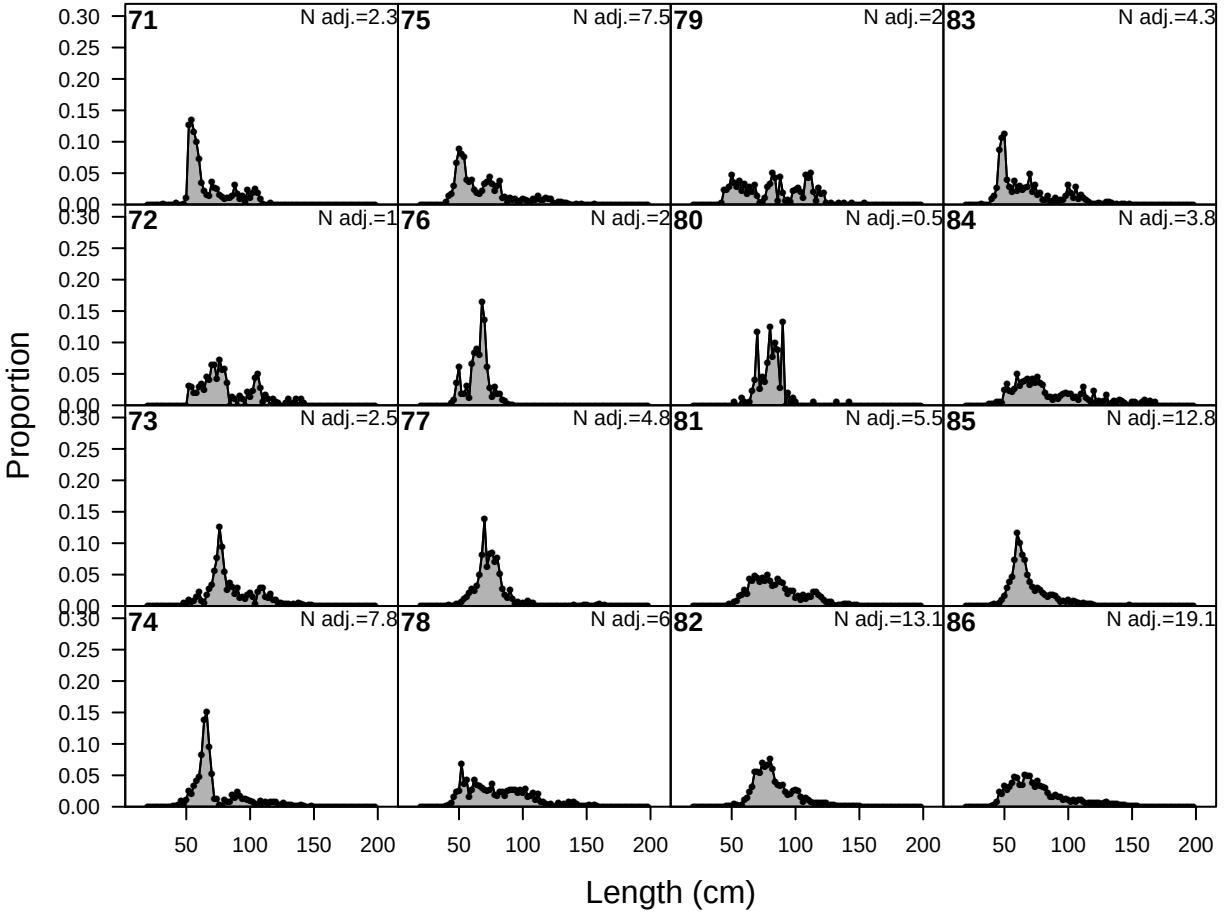
Length (cm)

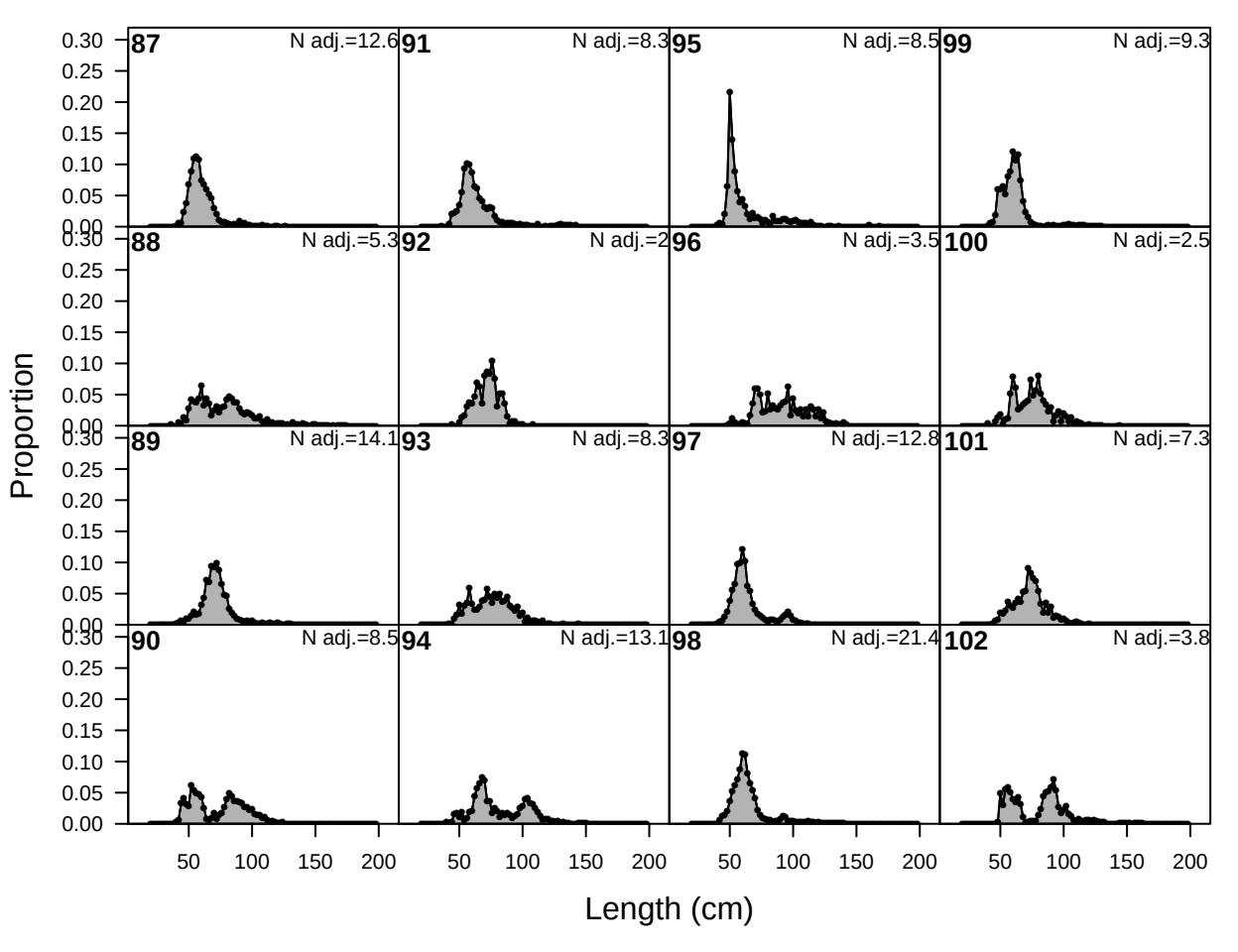

0.01
0.2
0.4
200
150
100
50
Length (cm)
74
82
90
102
114
126
135
146
158
170
179
Year

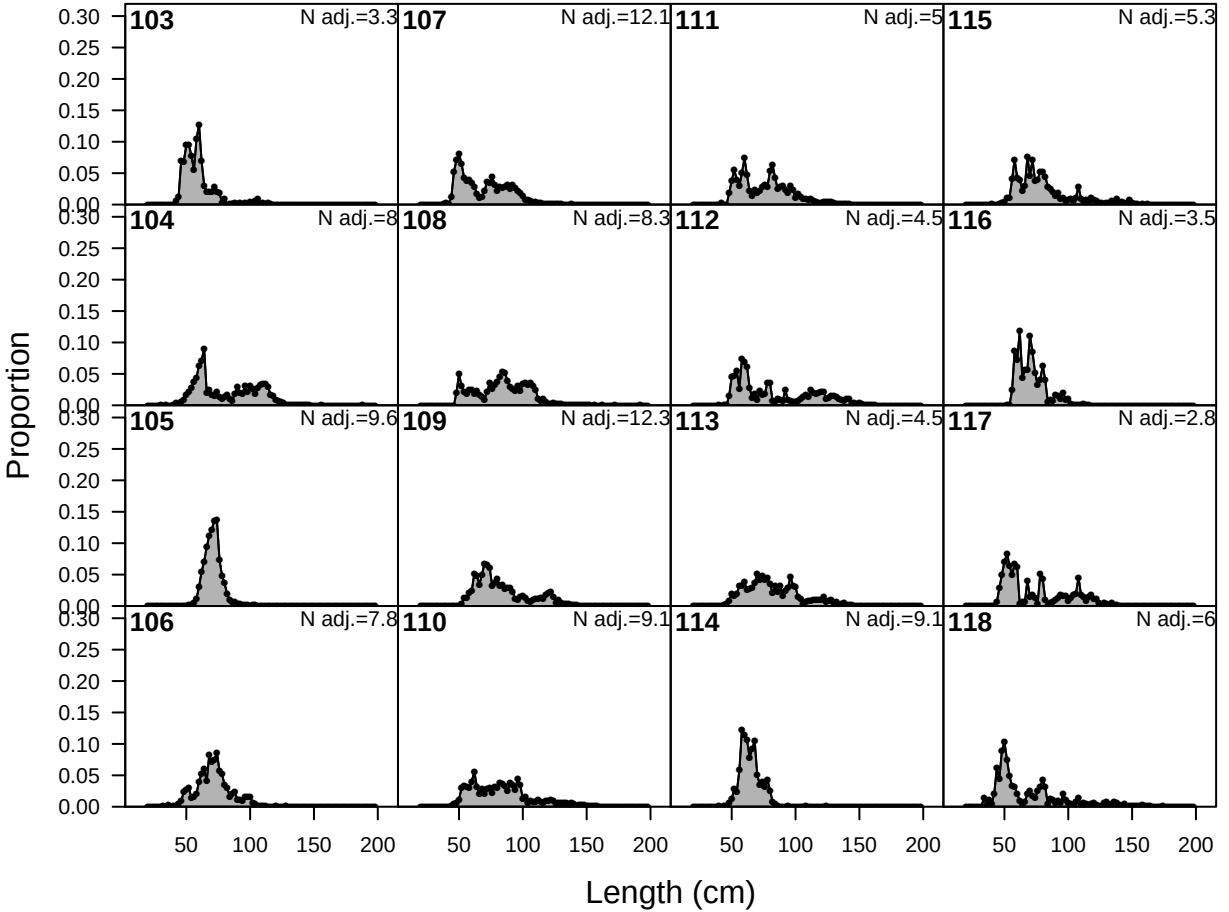

F10−OBJ_S_Q23 (whole catch)
Mean length
150
100
50
0
80
100
120
140
160
180
Year

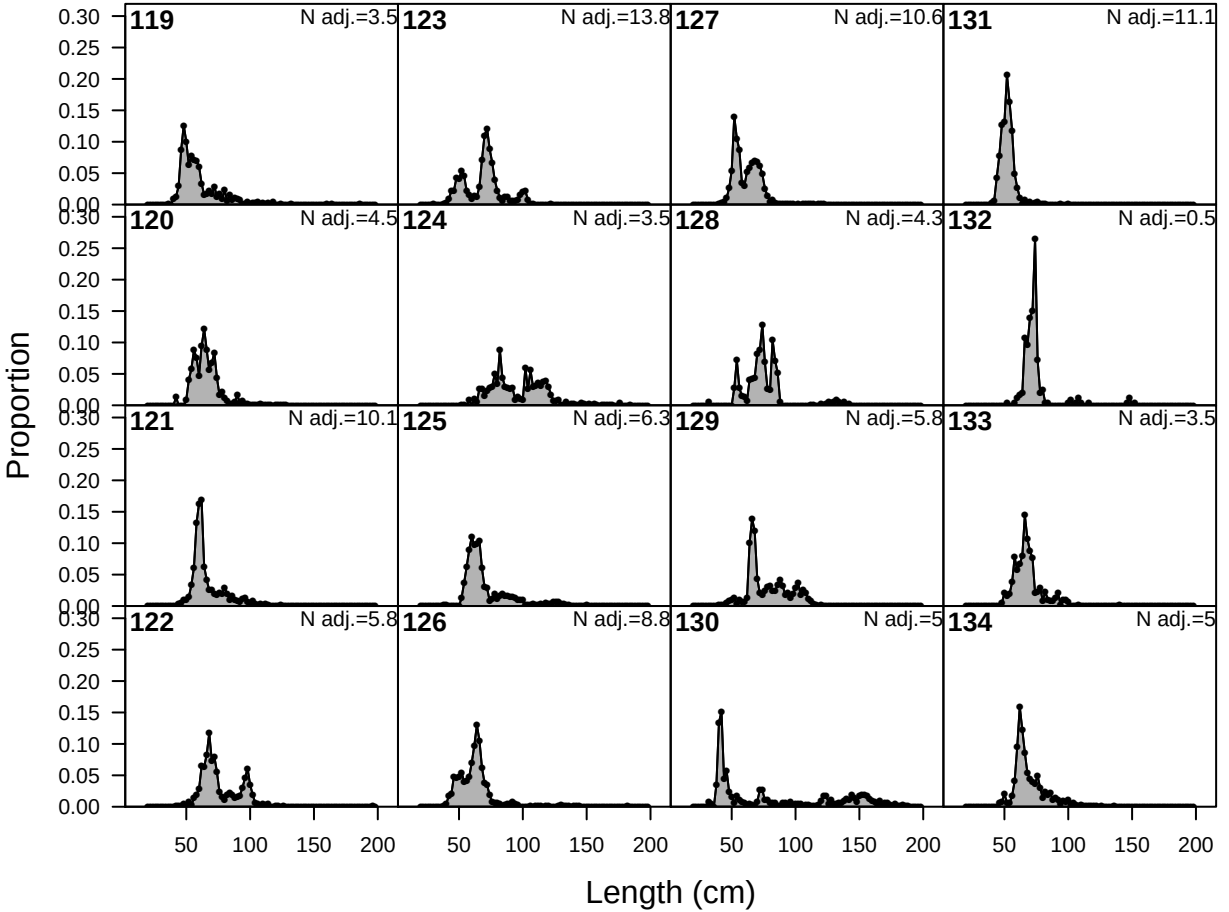

37
N adj.=3.3
41
N adj.=4.8
45
N adj.=0.5
50
N adj.=3
38
N adj.=9.1
42
N adj.=8.5
46
N adj.=1
51
N adj.=11.8
39
N adj.=8.5
43
N adj.=4
47
N adj.=2.8
52
N adj.=3.8
40
N adj.=3
44
N adj.=1.3
48
N adj.=2.8
53
N adj.=8
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

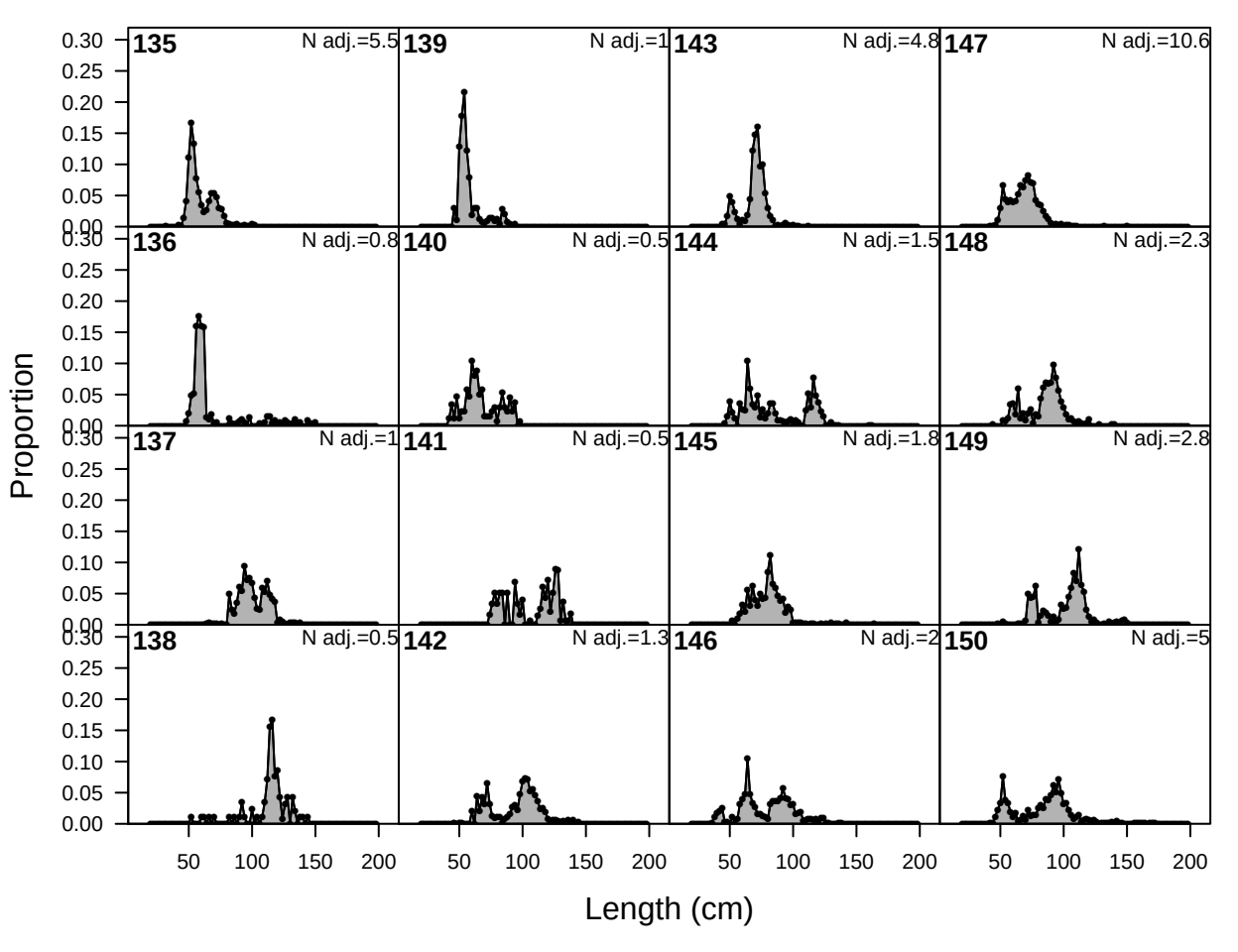

54
N adj.=10.3
58
N adj.=6.3
62
N adj.=1.5
67
N adj.=2.3
55
N adj.=6.3
59
N adj.=4.5
63
N adj.=2
68
N adj.=2.8
56
N adj.=5.8
60
N adj.=5.5
64
N adj.=3.8
69
N adj.=1.3
57
N adj.=5.5
61
N adj.=2
66
N adj.=3
70
N adj.=8.3
0.30
0.25
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)

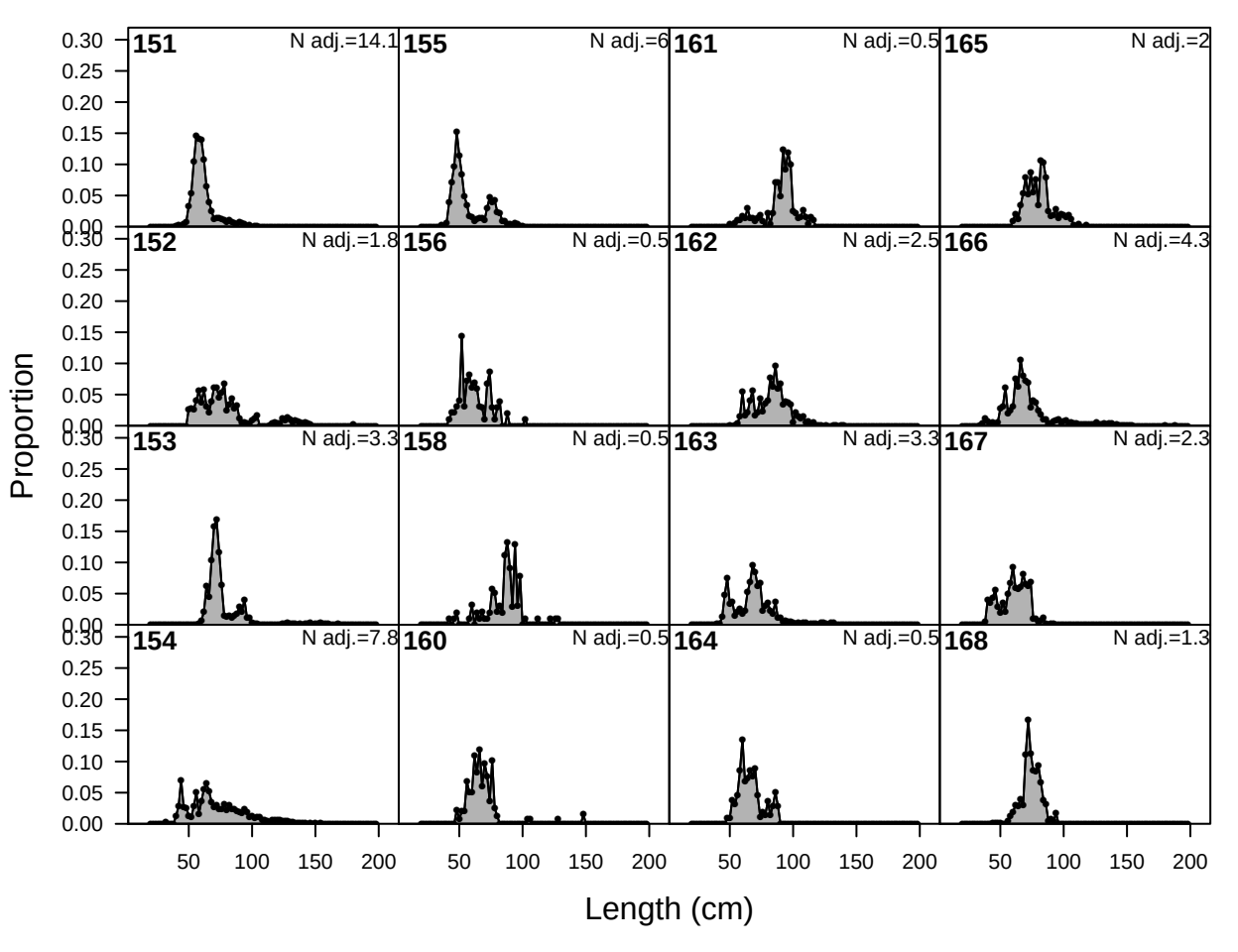

71
N adj.=2.3
75
N adj.=7.5
79
N adj.=2
83
N adj.=4.3
72
N adj.=1
76
N adj.=2
80
N adj.=0.5
84
N adj.=3.8
73
N adj.=2.5
77
N adj.=4.8
81
N adj.=5.5
85
N adj.=12.8
74
N adj.=7.8
78
N adj.=6
82
N adj.=13.1
86
N adj.=19.1
0.30
0.25
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)

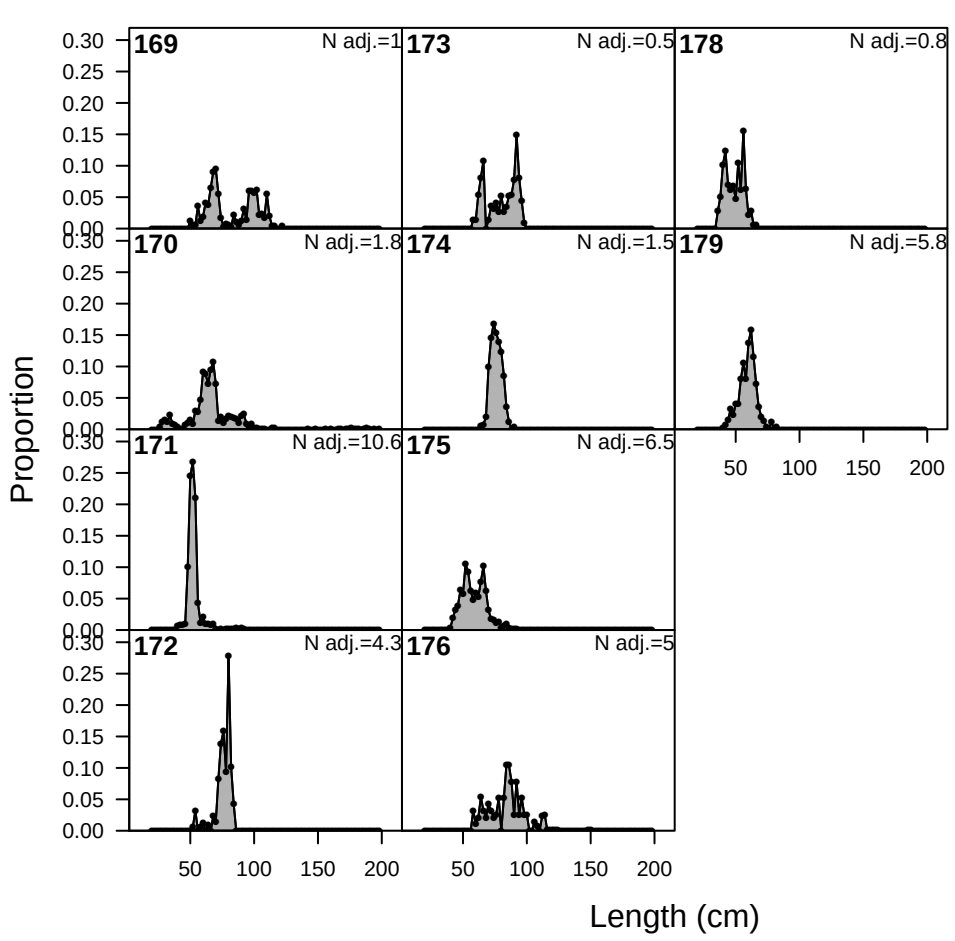

87
N adj.=12.6
91
N adj.=8.3
95
N adj.=8.5
99
N adj.=9.3
88
N adj.=5.3
92
N adj.=2
96
N adj.=3.5
100
N adj.=2.5
89
N adj.=14.1
93
N adj.=8.3
97
N adj.=12.8
101
N adj.=7.3
90
N adj.=8.5
94
N adj.=13.1
98
N adj.=21.4
102
N adj.=3.8
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

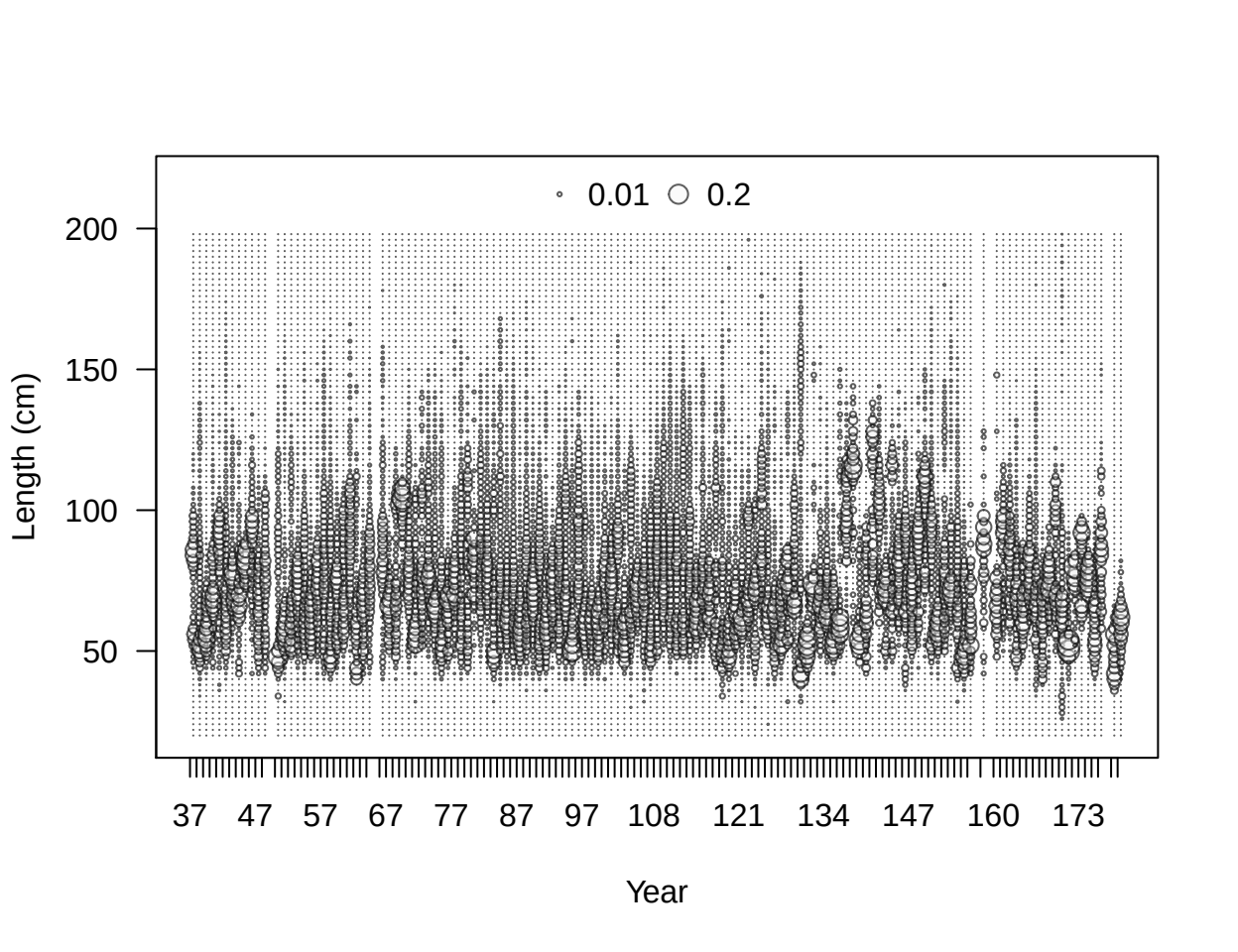

103
N adj.=3.3
107
N adj.=12.1
111
N adj.=5
115
N adj.=5.3
104
N adj.=8
108
N adj.=8.3
112
N adj.=4.5
116
N adj.=3.5
105
N adj.=9.6
109
N adj.=12.3
113
N adj.=4.5
117
N adj.=2.8
106
N adj.=7.8
110
N adj.=9.1
114
N adj.=9.1
118
N adj.=6
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

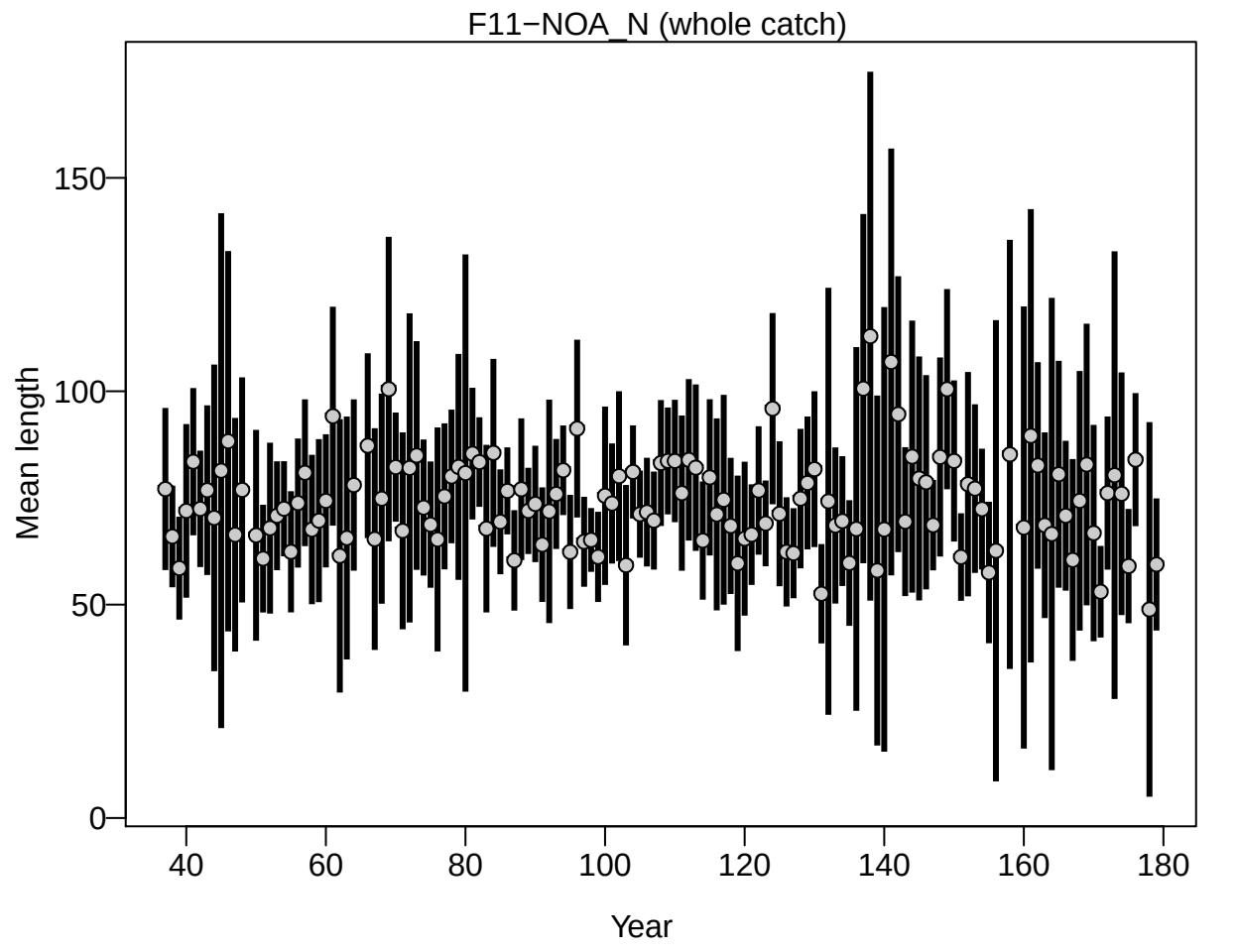

119
N adj.=3.5
123
N adj.=13.8
127
N adj.=10.6
131
N adj.=11.1
120
N adj.=4.5
124
N adj.=3.5
128
N adj.=4.3
132
N adj.=0.5
121
N adj.=10.1
125
N adj.=6.3
129
N adj.=5.8
133
N adj.=3.5
122
N adj.=5.8
126
N adj.=8.8
130
N adj.=5
134
N adj.=5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

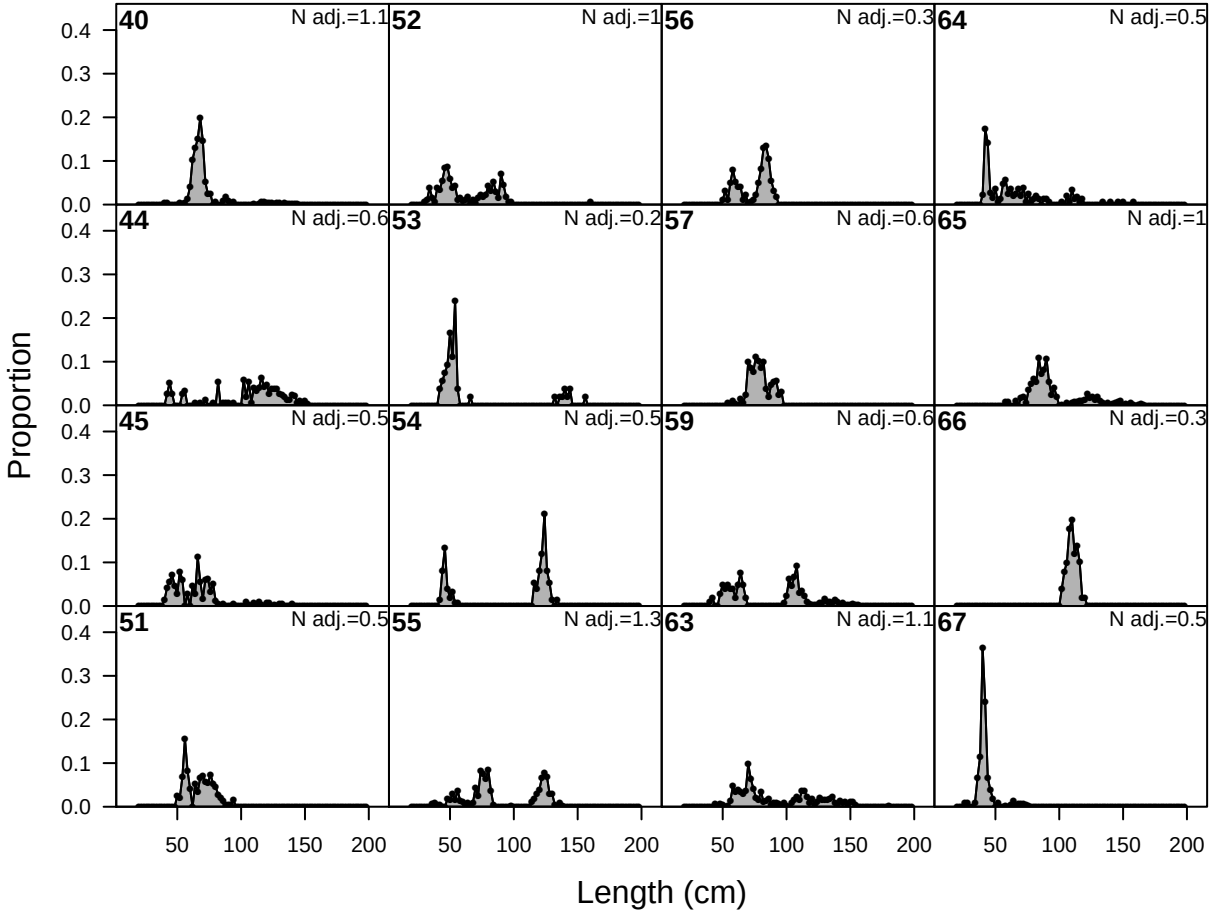

135
N adj.=5.5
139
N adj.=1
143
N adj.=4.8
147
N adj.=10.6
136
N adj.=0.8
140
N adj.=0.5
144
N adj.=1.5
148
N adj.=2.3
137
N adj.=1
141
N adj.=0.5
145
N adj.=1.8
149
N adj.=2.8
138
N adj.=0.5
142
N adj.=1.3
146
N adj.=2
150
N adj.=5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

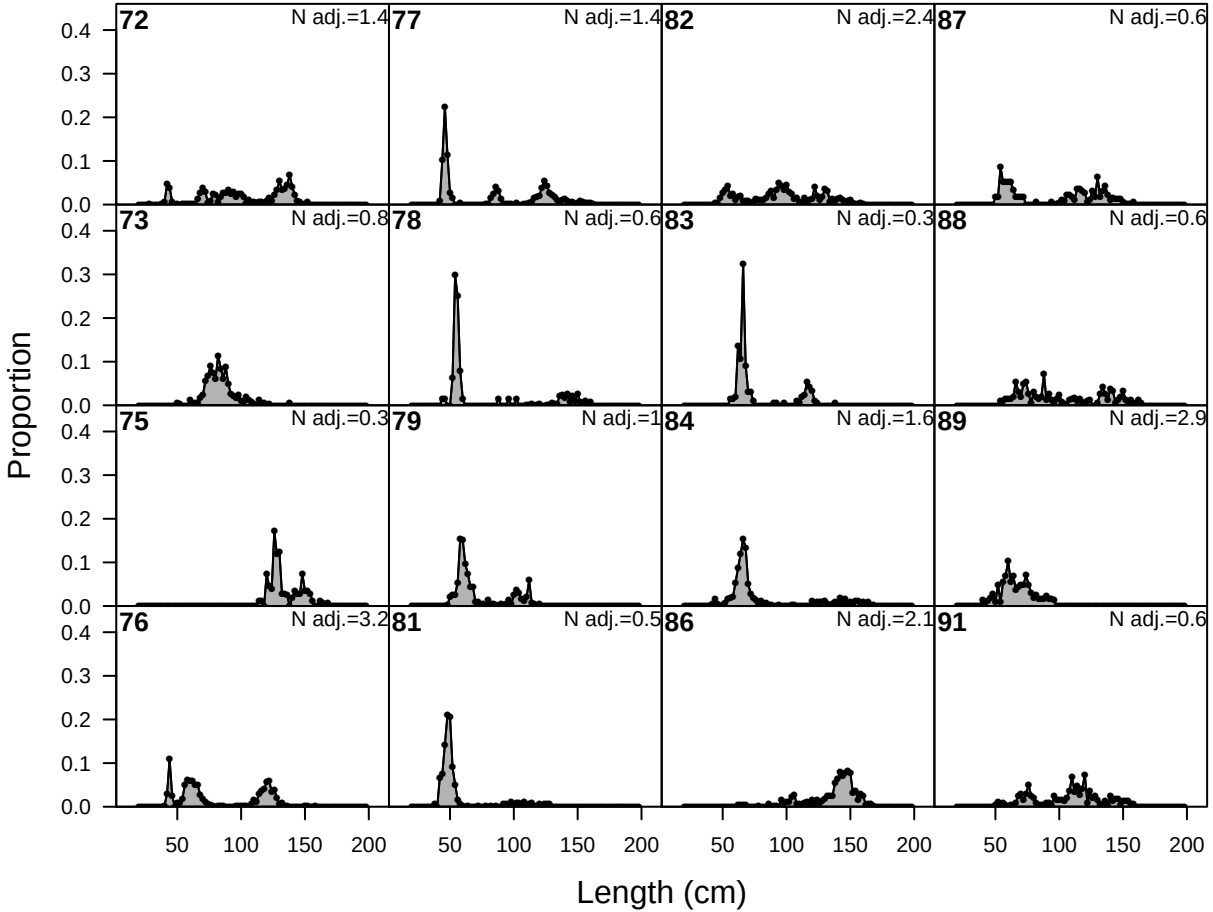

151
N adj.=14.1
155
N adj.=6
161
N adj.=0.5
165
N adj.=2
152
N adj.=1.8
156
N adj.=0.5
162
N adj.=2.5
166
N adj.=4.3
153
N adj.=3.3
158
N adj.=0.5
163
N adj.=3.3
167
N adj.=2.3
154
N adj.=7.8
160
N adj.=0.5
164
N adj.=0.5
168
N adj.=1.3
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

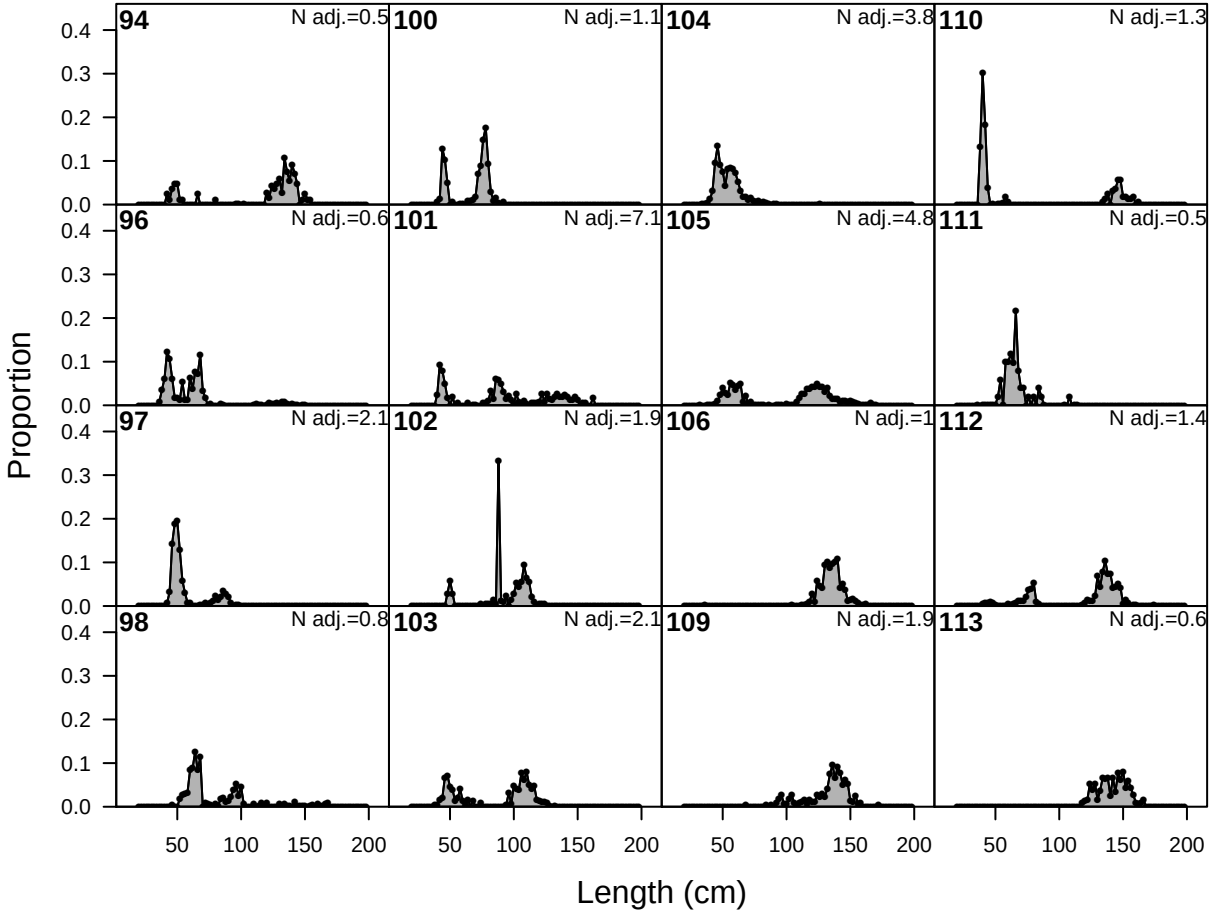

169
N adj.=1
173
N adj.=0.5
178
N adj.=0.8
170
N adj.=1.8
174
N adj.=1.5
179
N adj.=5.8
171
N adj.=10.6
175
N adj.=6.5
172
N adj.=4.3
176
N adj.=5
Proportion
Length (cm)
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200

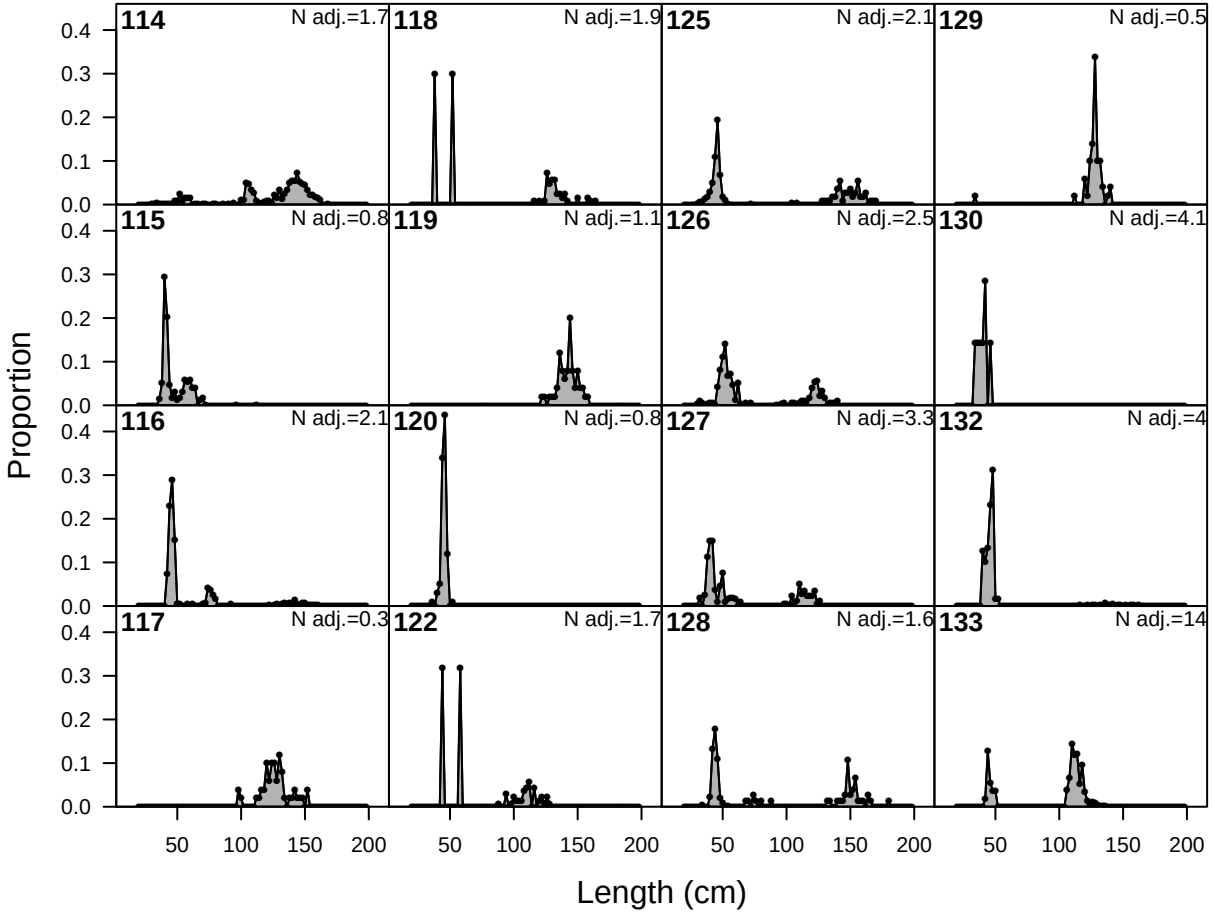

0.01
0.2
200
150
100
50
Length (cm)
37
47
57
67
77
87
97
108
121
134
147
160
173
Year

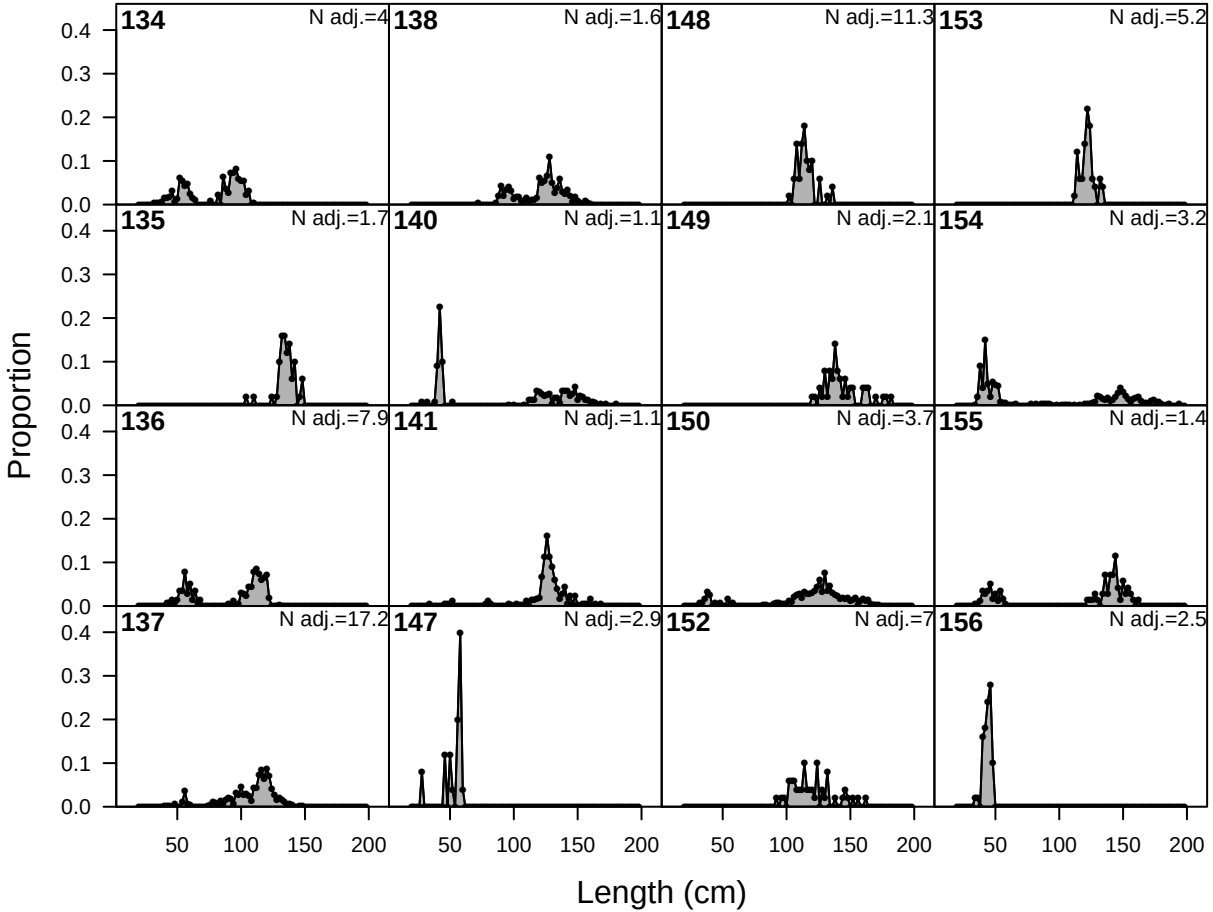

F11−NOA_N (whole catch)
Mean length
0
50
100
150
40
60
80
100
120
140
160
180
Year

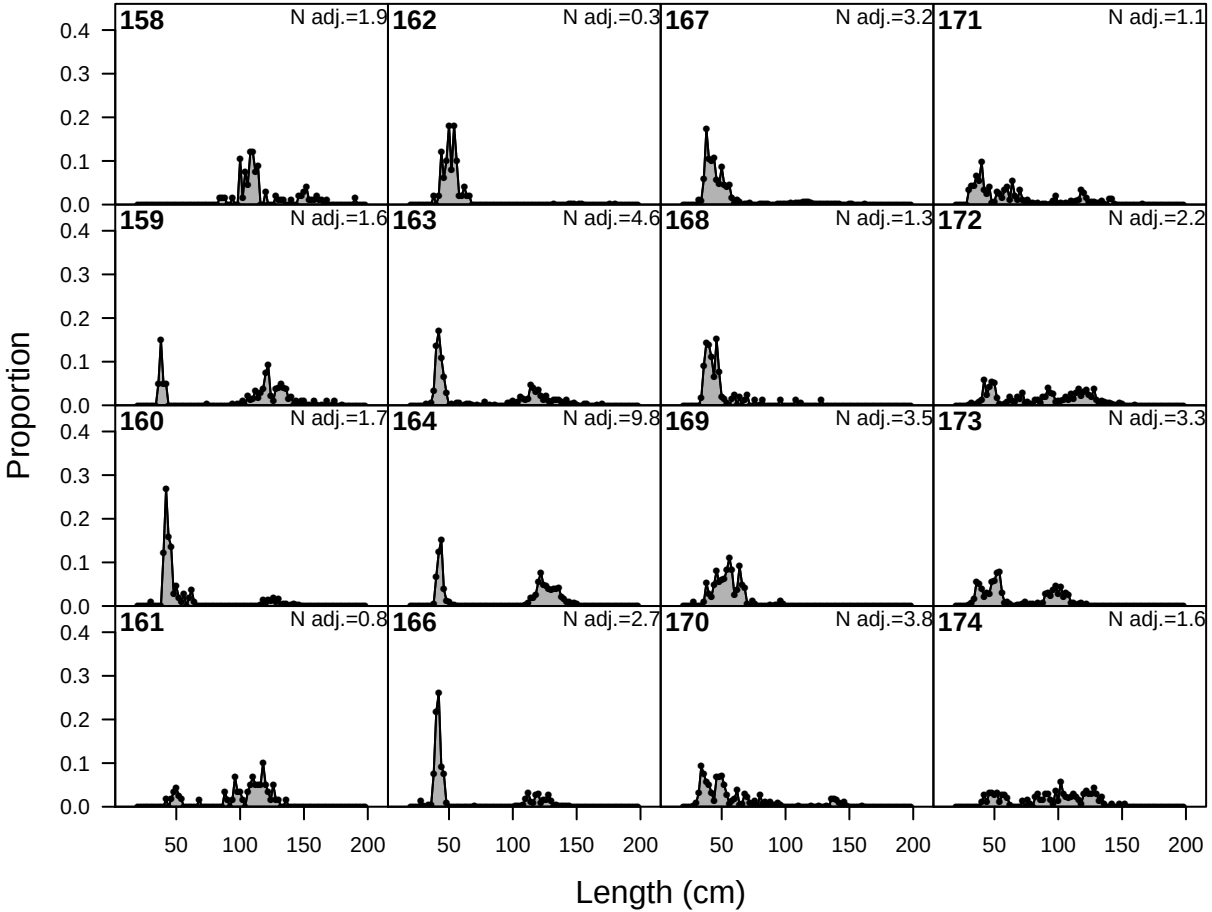

40
N adj.=1.1
52
N adj.=1
56
N adj.=0.3
64
N adj.=0.5
44
N adj.=0.6
53
N adj.=0.2
57
N adj.=0.6
65
N adj.=1
45
N adj.=0.5
54
N adj.=0.5
59
N adj.=0.6
66
N adj.=0.3
51
N adj.=0.5
55
N adj.=1.3
63
N adj.=1.1
67
N adj.=0.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

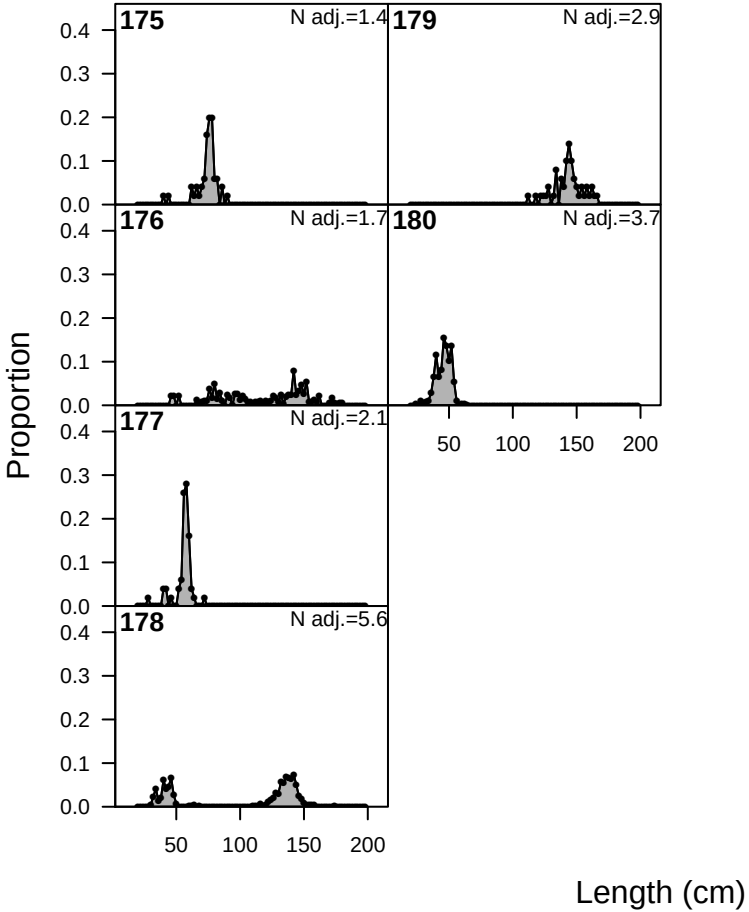

72
N adj.=1.4
77
N adj.=1.4
82
N adj.=2.4
87
N adj.=0.6
73
N adj.=0.8
78
N adj.=0.6
83
N adj.=0.3
88
N adj.=0.6
75
N adj.=0.3
79
N adj.=1
84
N adj.=1.6
89
N adj.=2.9
76
N adj.=3.2
81
N adj.=0.5
86
N adj.=2.1
91
N adj.=0.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

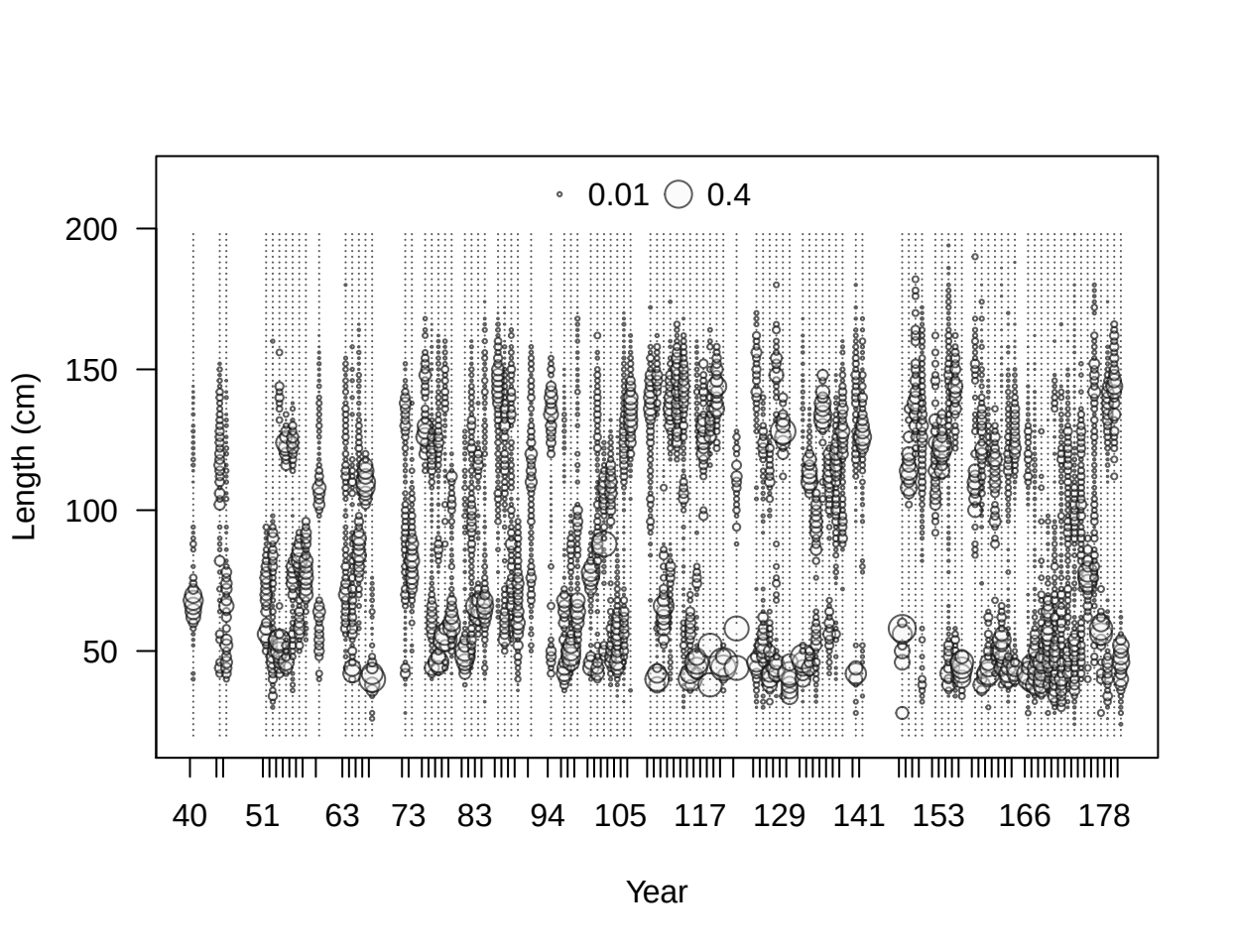

94
N adj.=0.5
100
N adj.=1.1
104
N adj.=3.8
110
N adj.=1.3
96
N adj.=0.6
101
N adj.=7.1
105
N adj.=4.8
111
N adj.=0.5
97
N adj.=2.1
102
N adj.=1.9
106
N adj.=1
112
N adj.=1.4
98
N adj.=0.8
103
N adj.=2.1
109
N adj.=1.9
113
N adj.=0.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

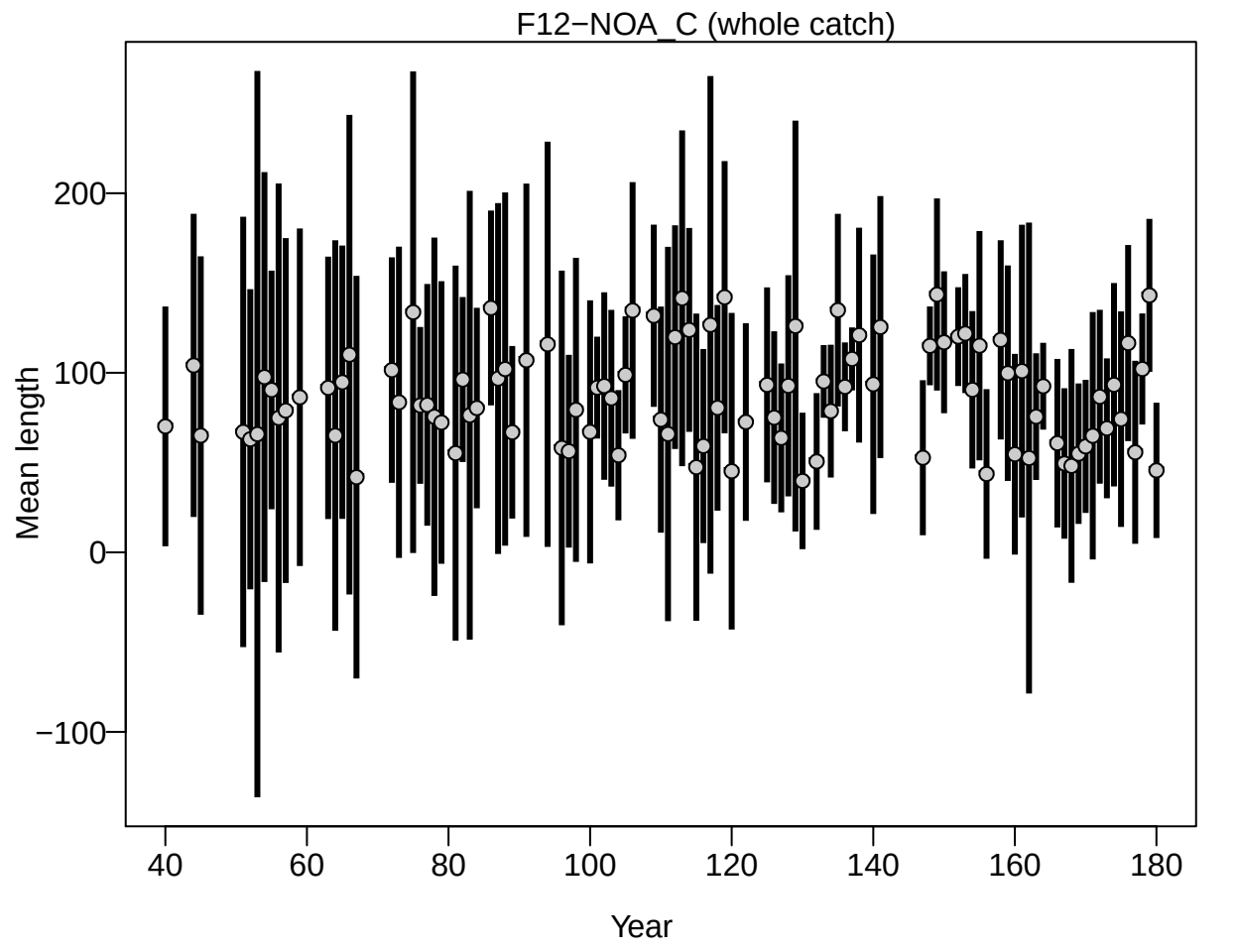

114
N adj.=1.7
118
N adj.=1.9
125
N adj.=2.1
129
N adj.=0.5
115
N adj.=0.8
119
N adj.=1.1
126
N adj.=2.5
130
N adj.=4.1
116
N adj.=2.1
120
N adj.=0.8
127
N adj.=3.3
132
N adj.=4
117
N adj.=0.3
122
N adj.=1.7
128
N adj.=1.6
133
N adj.=14
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

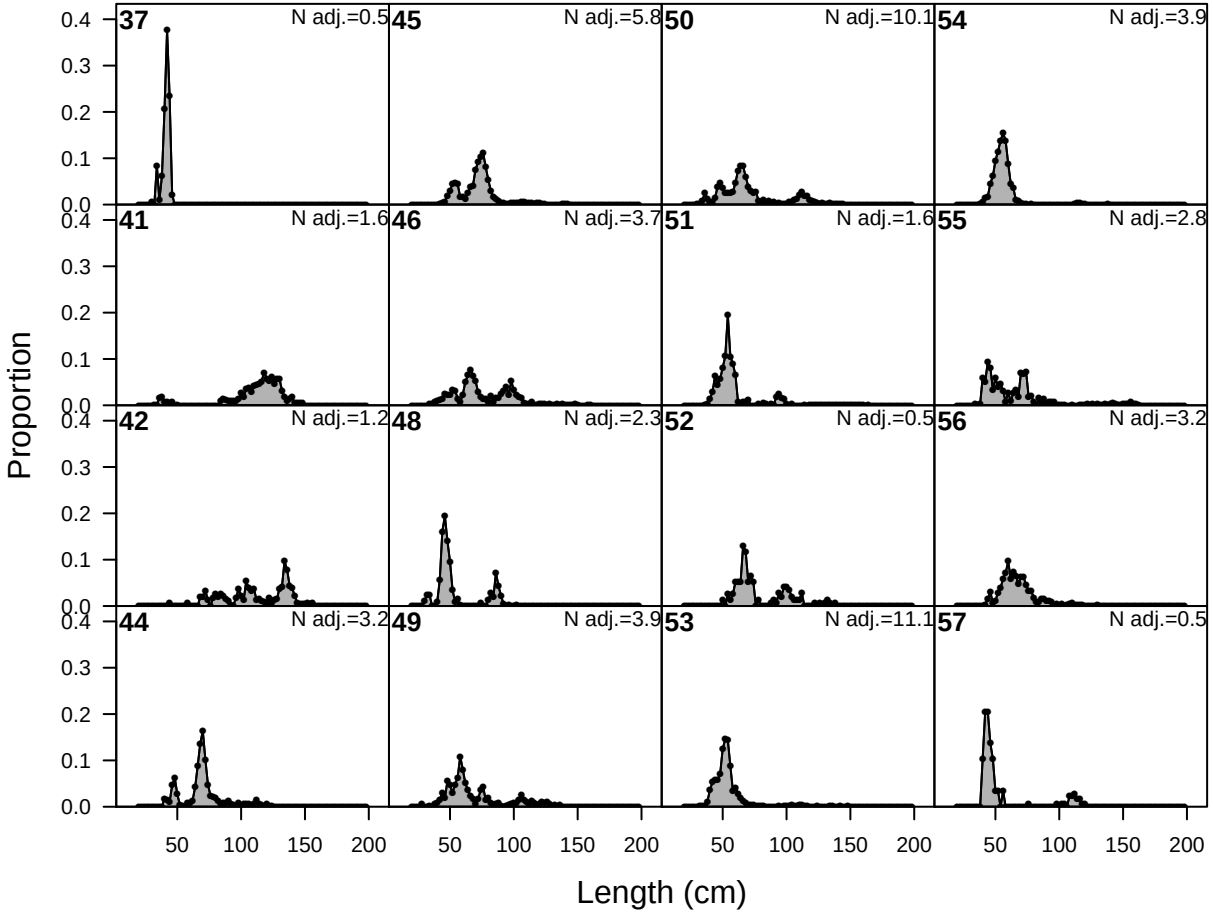

134
N adj.=4
138
N adj.=1.6
148
N adj.=11.3
153
N adj.=5.2
135
N adj.=1.7
140
N adj.=1.1
149
N adj.=2.1
154
N adj.=3.2
136
N adj.=7.9
141
N adj.=1.1
150
N adj.=3.7
155
N adj.=1.4
137
N adj.=17.2
147
N adj.=2.9
152
N adj.=7
156
N adj.=2.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

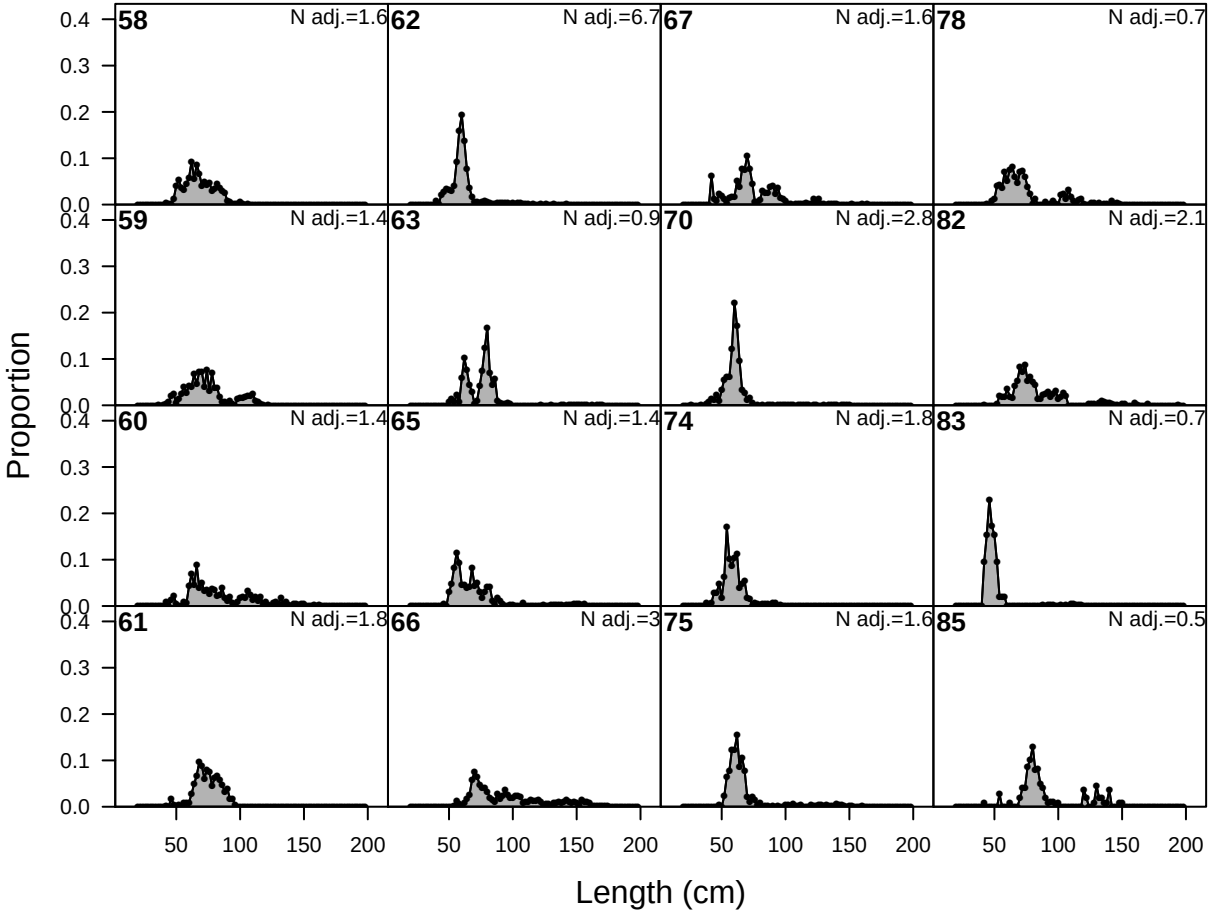

158
N adj.=1.9
162
N adj.=0.3
167
N adj.=3.2
171
N adj.=1.1
159
N adj.=1.6
163
N adj.=4.6
168
N adj.=1.3
172
N adj.=2.2
160
N adj.=1.7
164
N adj.=9.8
169
N adj.=3.5
173
N adj.=3.3
161
N adj.=0.8
166
N adj.=2.7
170
N adj.=3.8
174
N adj.=1.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

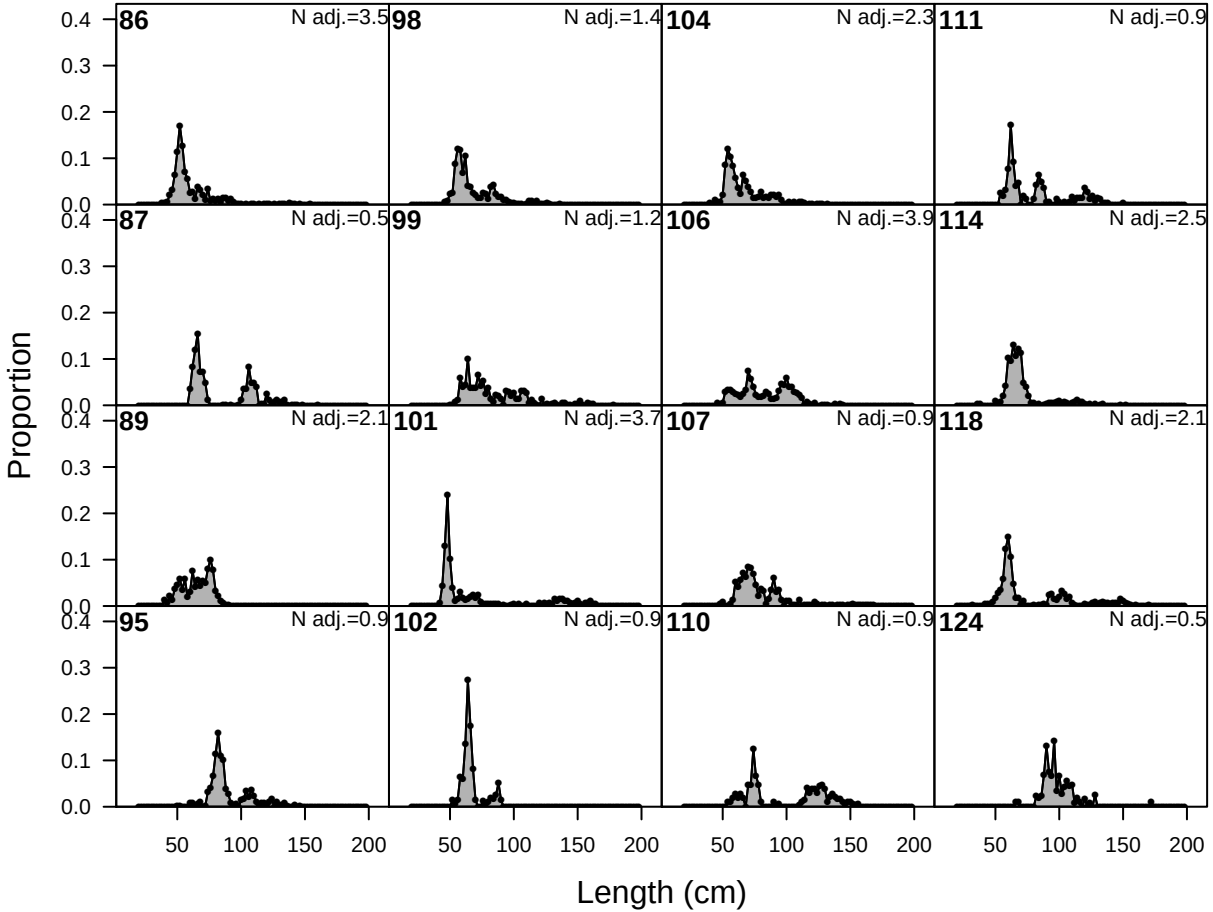

175
N adj.=1.4
179
N adj.=2.9
176
N adj.=1.7
180
N adj.=3.7
177
N adj.=2.1
178
N adj.=5.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

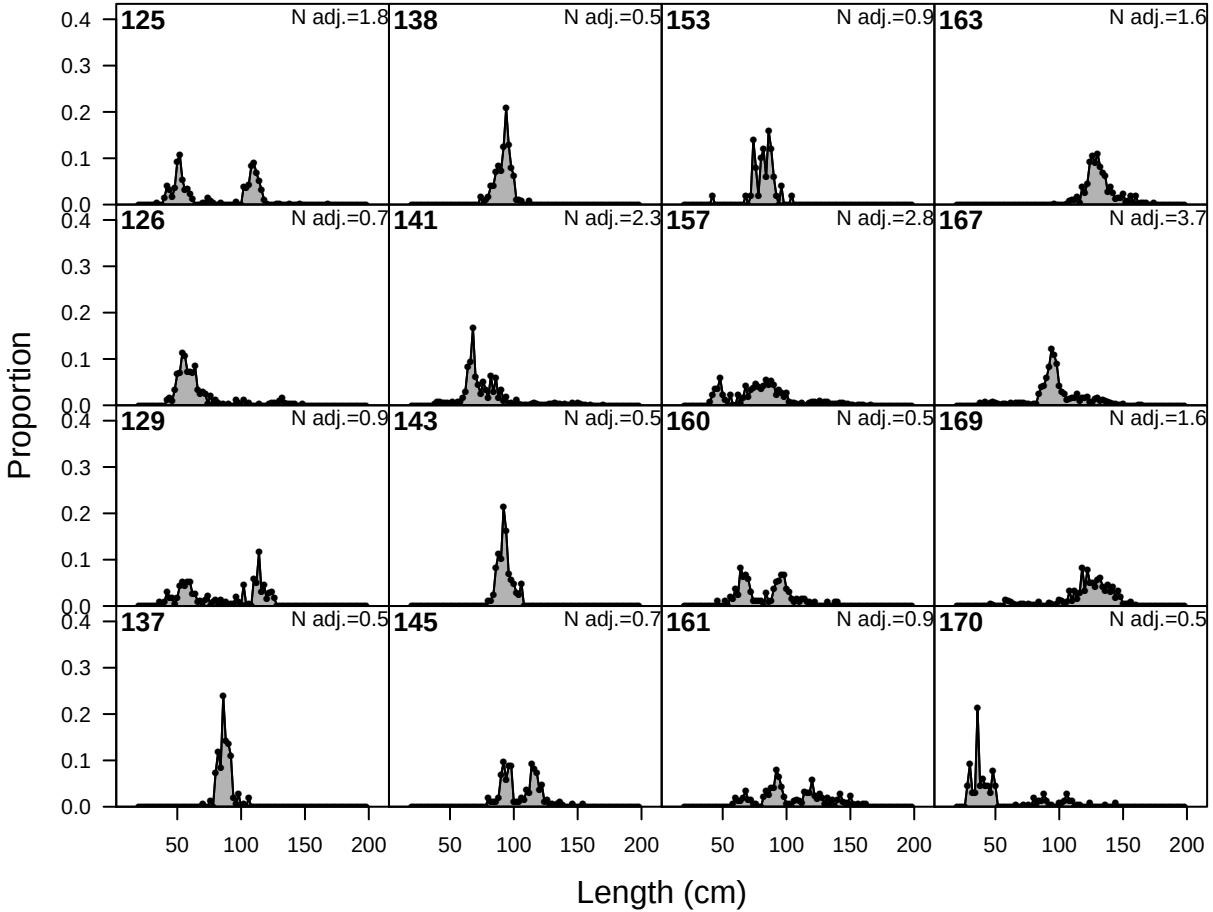

0.01
0.4
200
150
100
50
Length (cm)
40
51
63
73
83
94
105
117
129
141
153
166
178
Year

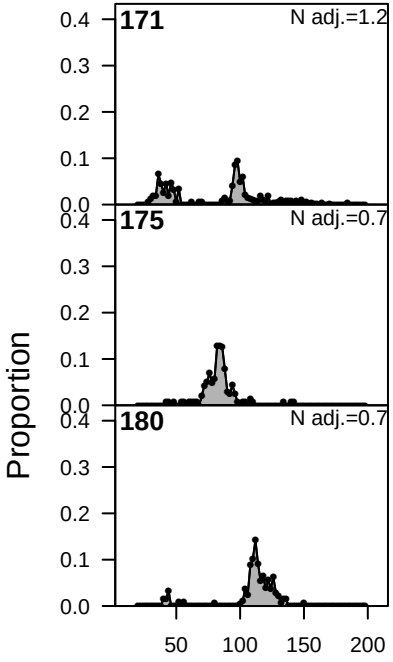

F12−NOA_C (whole catch)
Mean length
200
100
0
−100
40
60
80
100
120
140
160
180
Year

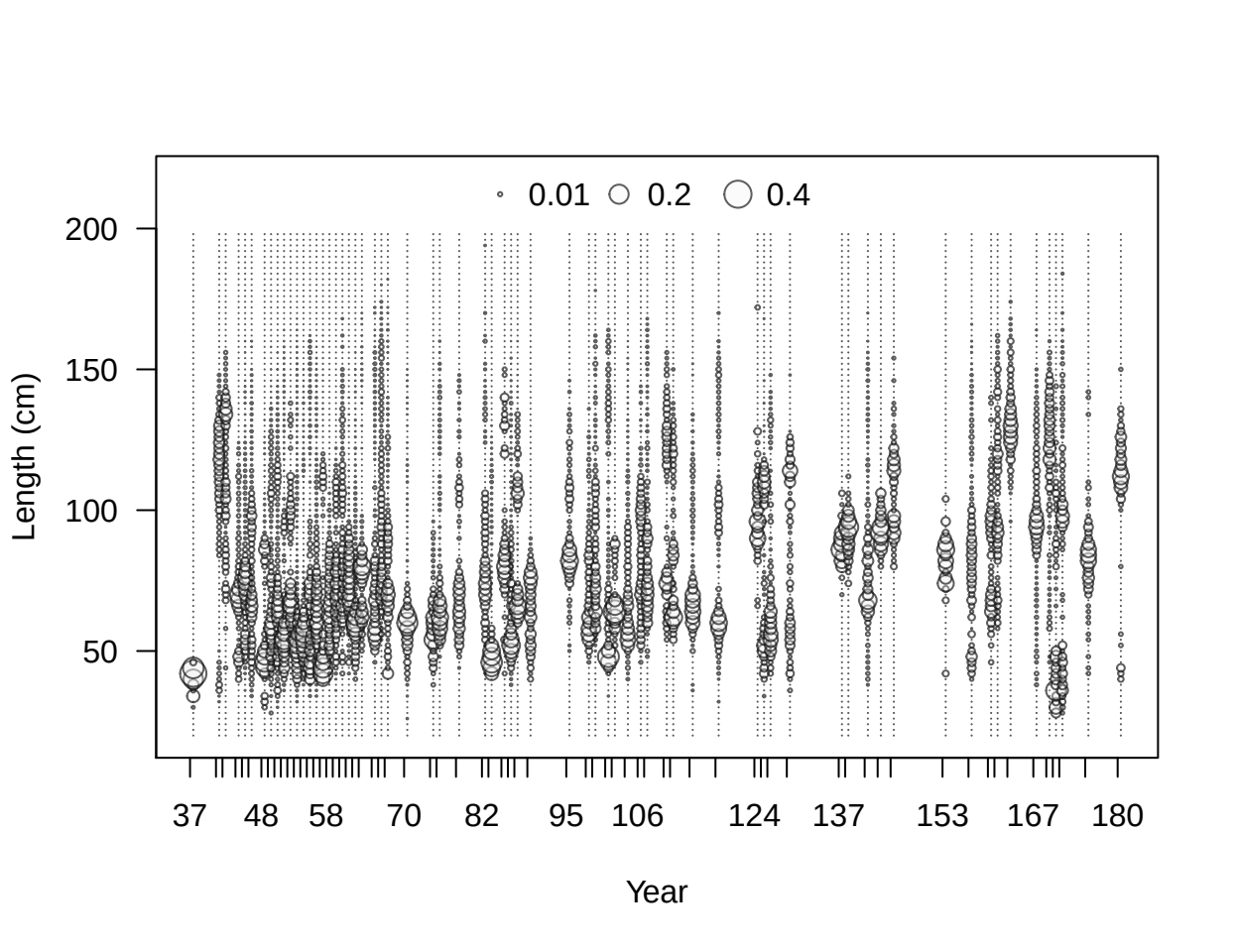

37
N adj.=0.5
45
N adj.=5.8
50
N adj.=10.1
54
N adj.=3.9
41
N adj.=1.6
46
N adj.=3.7
51
N adj.=1.6
55
N adj.=2.8
42
N adj.=1.2
48
N adj.=2.3
52
N adj.=0.5
56
N adj.=3.2
44
N adj.=3.2
49
N adj.=3.9
53
N adj.=11.1
57
N adj.=0.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

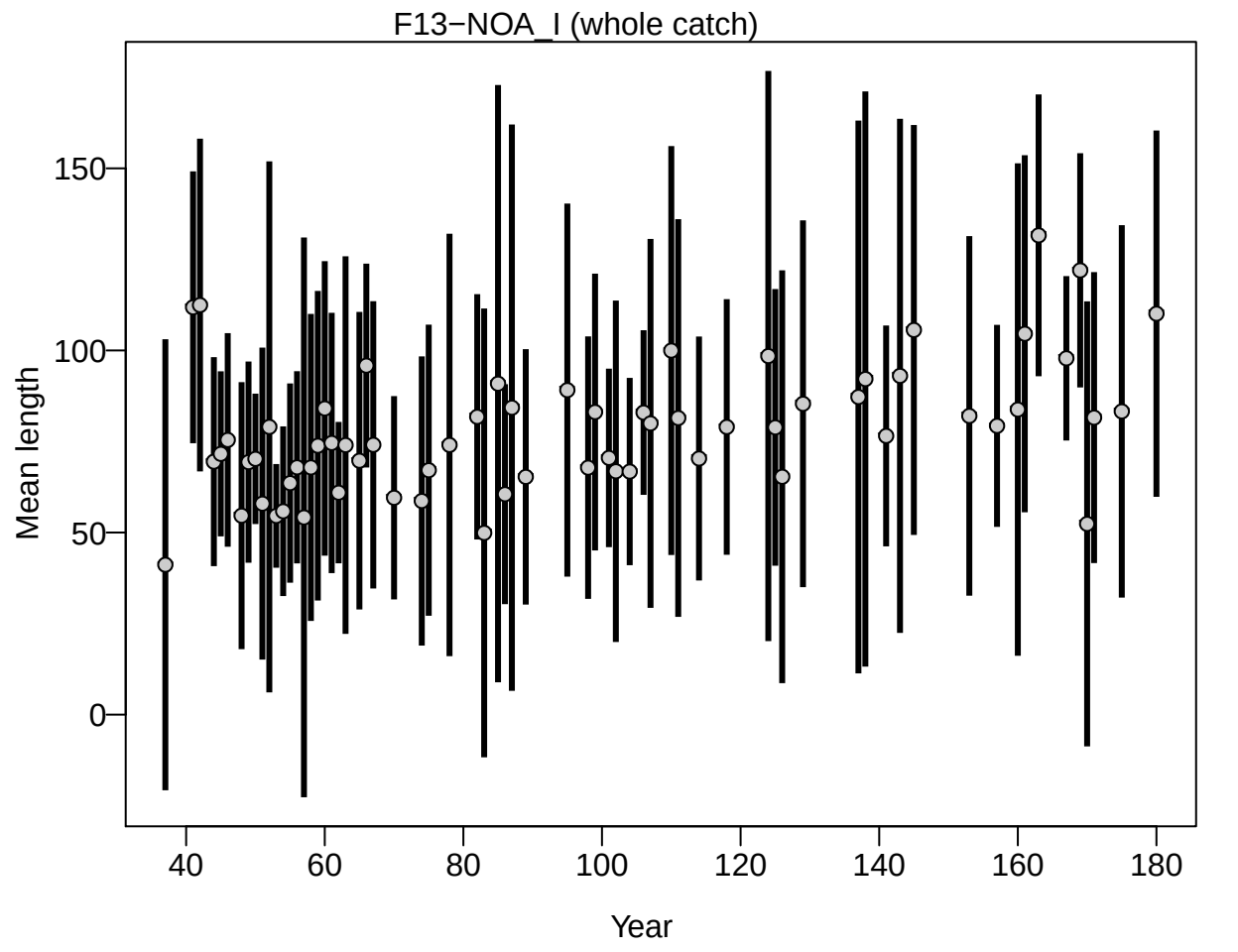

58
N adj.=1.6
62
N adj.=6.7
67
N adj.=1.6
78
N adj.=0.7
59
N adj.=1.4
63
N adj.=0.9
70
N adj.=2.8
82
N adj.=2.1
60
N adj.=1.4
65
N adj.=1.4
74
N adj.=1.8
83
N adj.=0.7
61
N adj.=1.8
66
N adj.=3
75
N adj.=1.6
85
N adj.=0.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

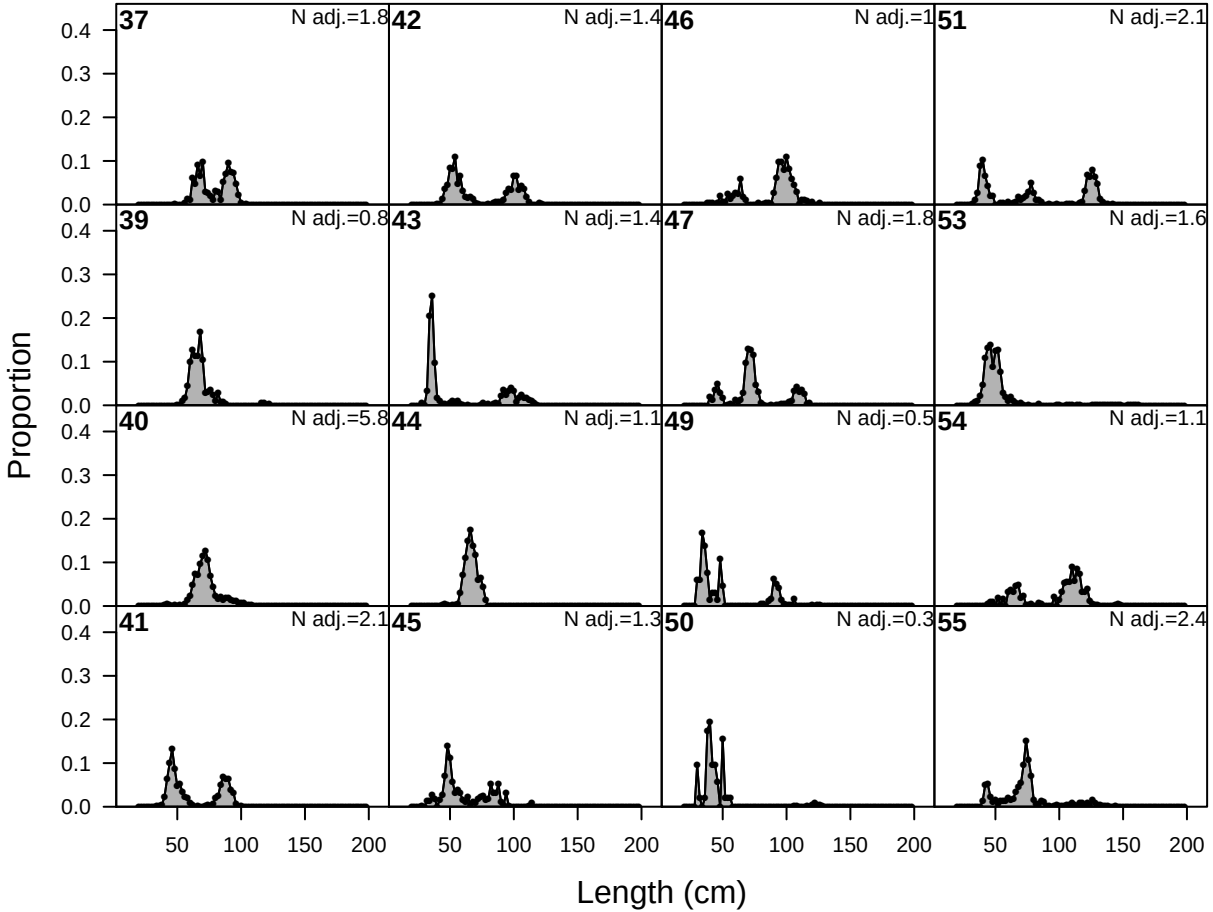

86
N adj.=3.5
98
N adj.=1.4
104
N adj.=2.3
111
N adj.=0.9
87
N adj.=0.5
99
N adj.=1.2
106
N adj.=3.9
114
N adj.=2.5
89
N adj.=2.1
101
N adj.=3.7
107
N adj.=0.9
118
N adj.=2.1
95
N adj.=0.9
102
N adj.=0.9
110
N adj.=0.9
124
N adj.=0.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

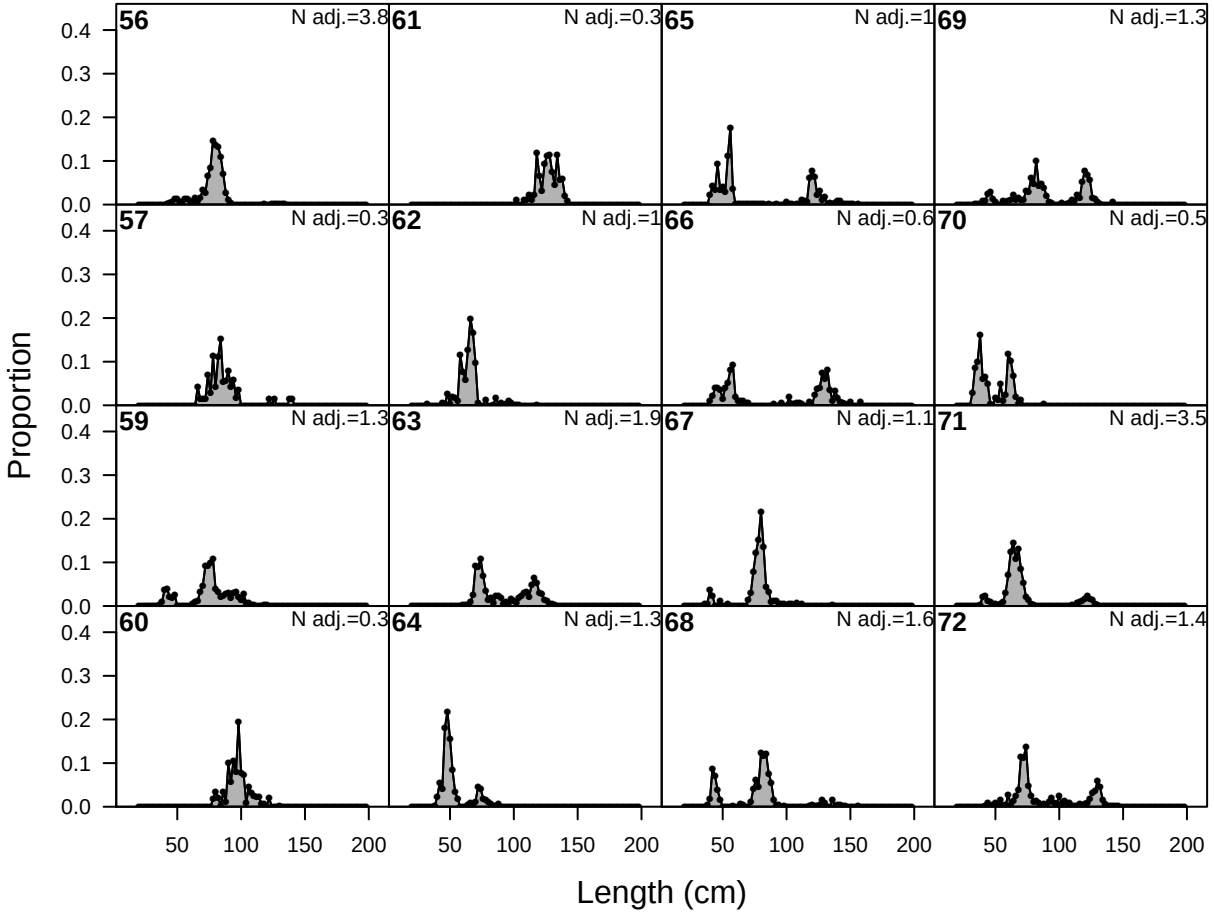

125
N adj.=1.8
138
N adj.=0.5
153
N adj.=0.9
163
N adj.=1.6
126
N adj.=0.7
141
N adj.=2.3
157
N adj.=2.8
167
N adj.=3.7
129
N adj.=0.9
143
N adj.=0.5
160
N adj.=0.5
169
N adj.=1.6
137
N adj.=0.5
145
N adj.=0.7
161
N adj.=0.9
170
N adj.=0.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

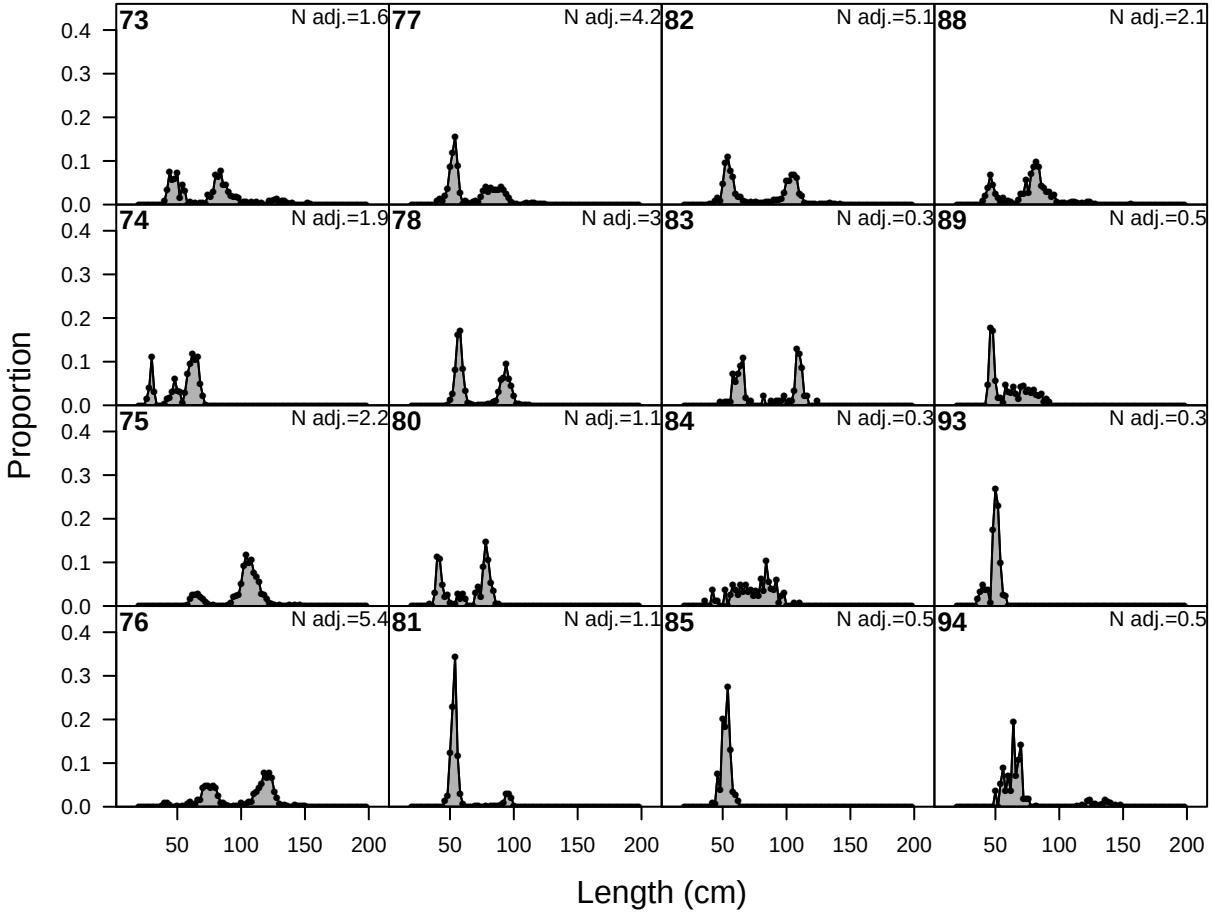

171
N adj.=1.2
175
N adj.=0.7
180
N adj.=0.7
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Proportion
Length (cm)

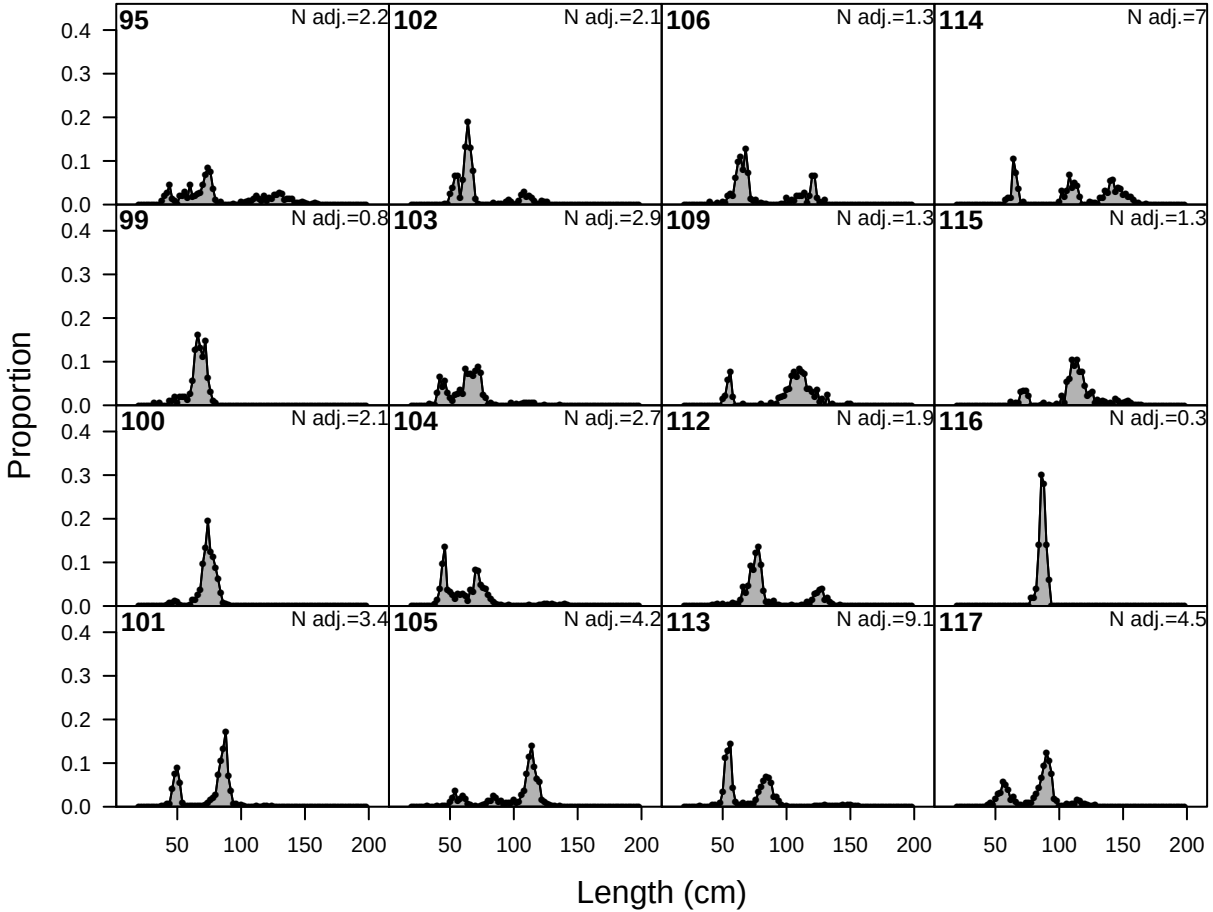

0.01
0.2
0.4
200
150
100
50
Length (cm)
37
48
58
70
82
95
106
124
137
153
167
180
Year

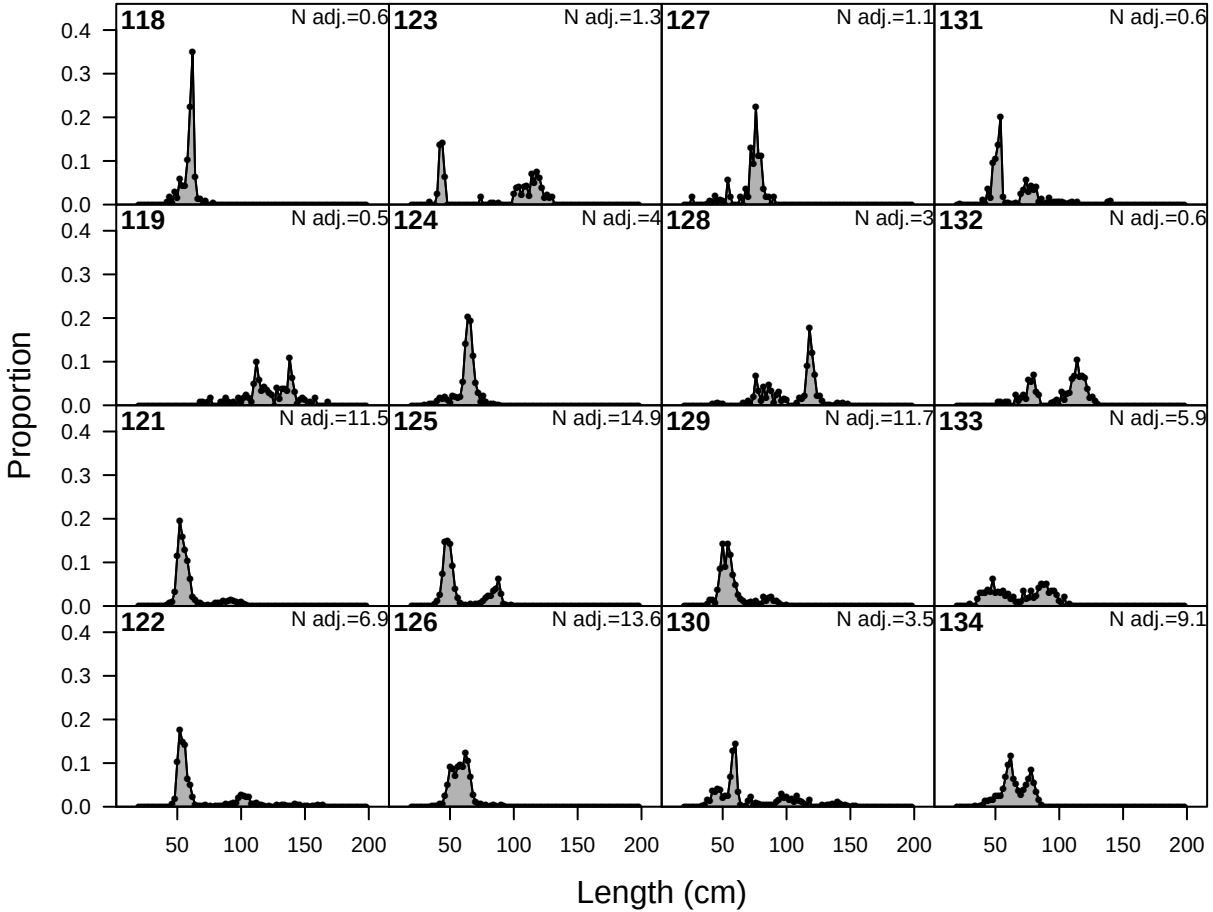

F13−NOA_I (whole catch)
Mean length
150
100
50
0
40
60
80
100
120
140
160
180
Year

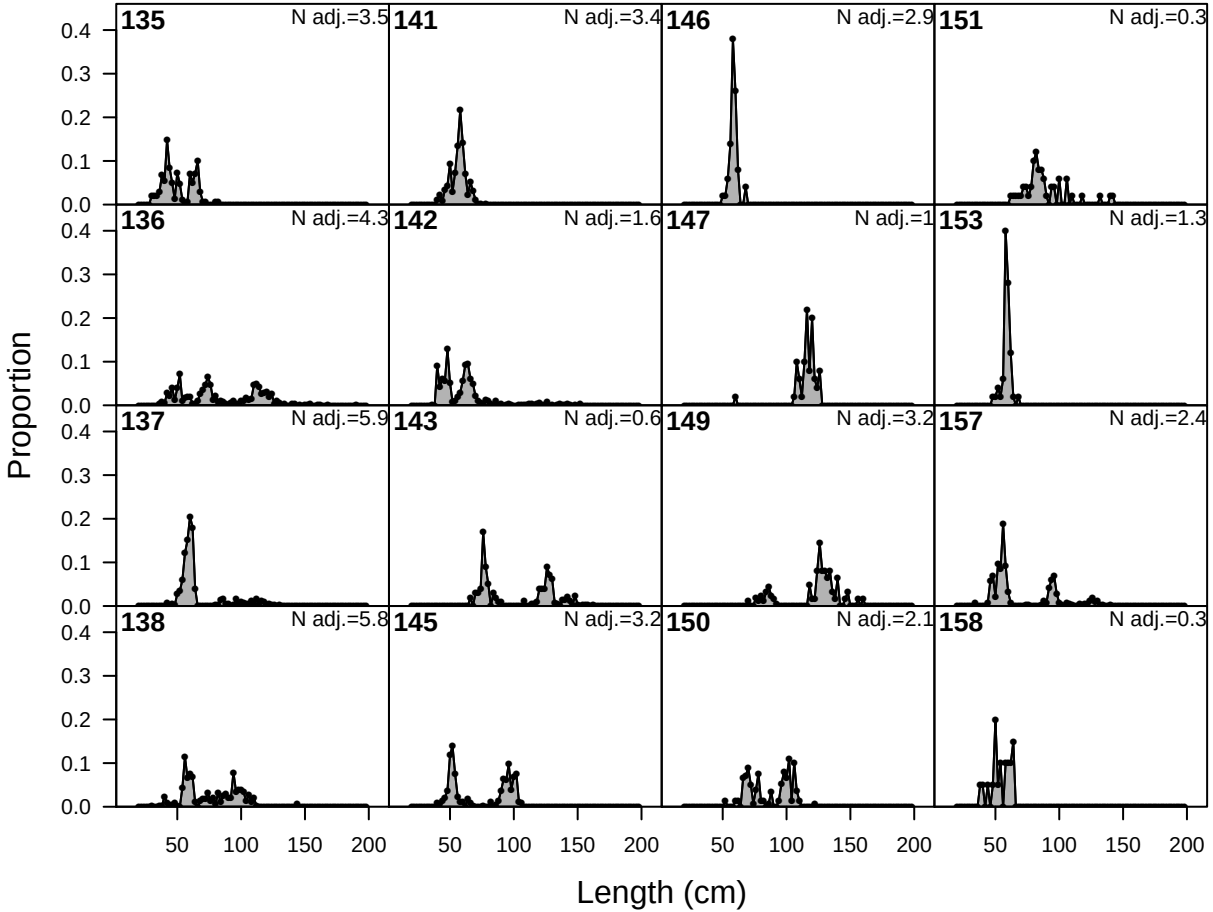

37
N adj.=1.8
42
N adj.=1.4
46
N adj.=1
51
N adj.=2.1
39
N adj.=0.8
43
N adj.=1.4
47
N adj.=1.8
53
N adj.=1.6
40
N adj.=5.8
44
N adj.=1.1
49
N adj.=0.5
54
N adj.=1.1
41
N adj.=2.1
45
N adj.=1.3
50
N adj.=0.3
55
N adj.=2.4
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

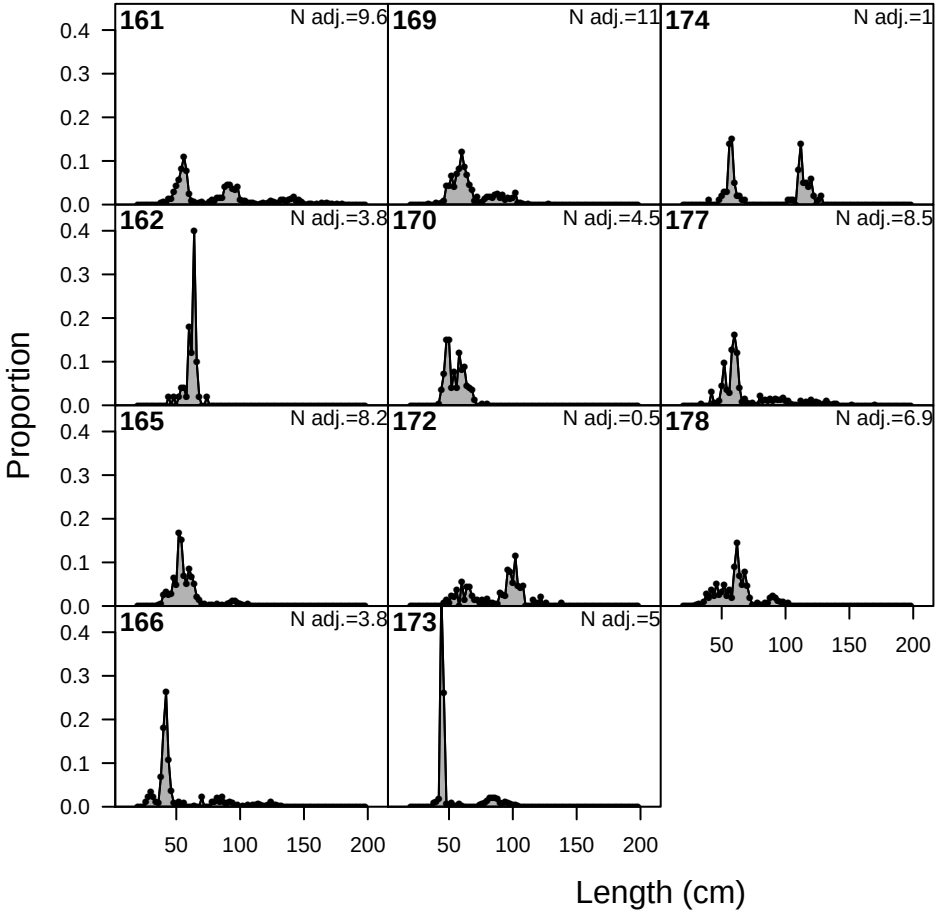

56
N adj.=3.8
61
N adj.=0.3
65
N adj.=1
69
N adj.=1.3
57
N adj.=0.3
62
N adj.=1
66
N adj.=0.6
70
N adj.=0.5
59
N adj.=1.3
63
N adj.=1.9
67
N adj.=1.1
71
N adj.=3.5
60
N adj.=0.3
64
N adj.=1.3
68
N adj.=1.6
72
N adj.=1.4
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

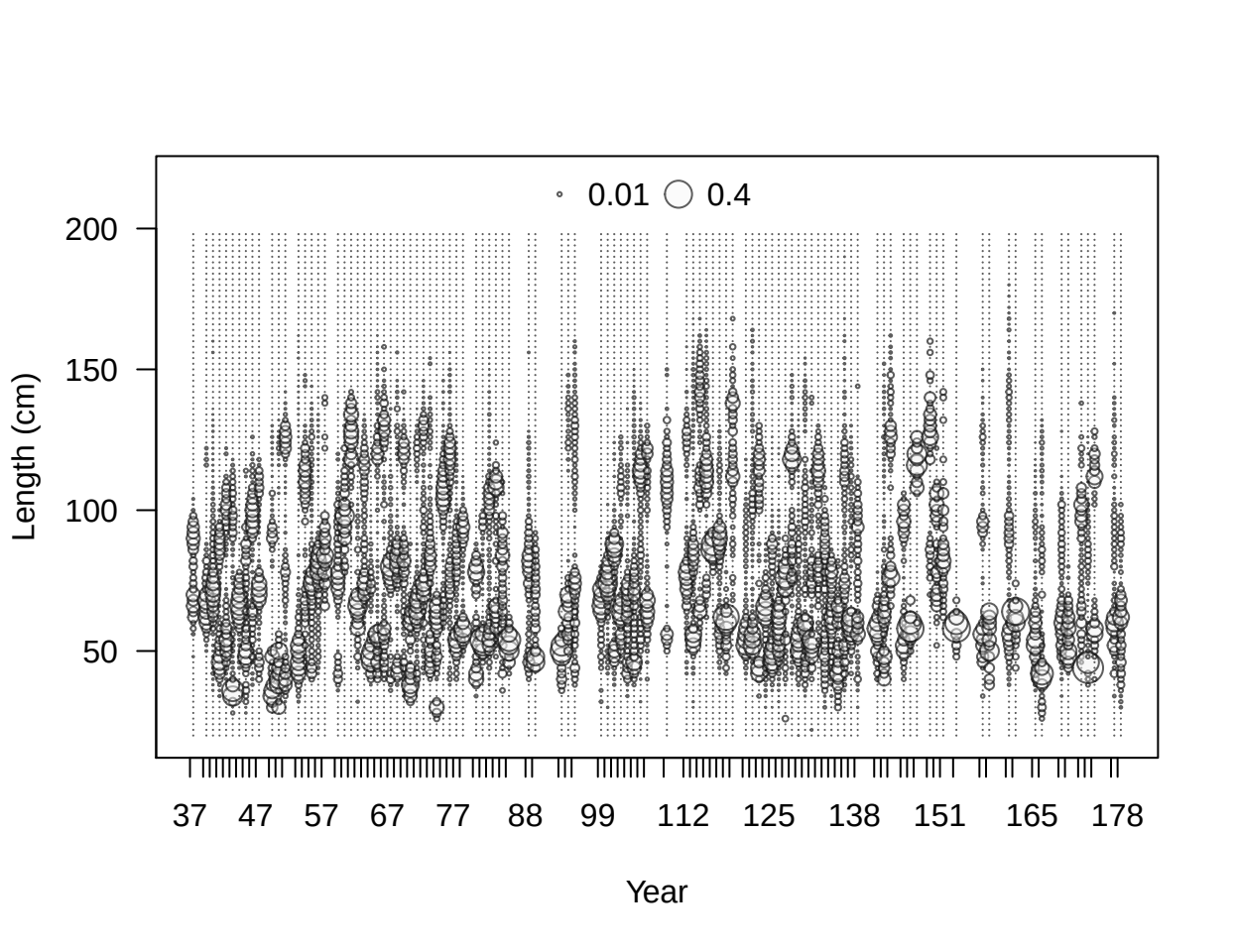

73
N adj.=1.6
77
N adj.=4.2
82
N adj.=5.1
88
N adj.=2.1
74
N adj.=1.9
78
N adj.=3
83
N adj.=0.3
89
N adj.=0.5
75
N adj.=2.2
80
N adj.=1.1
84
N adj.=0.3
93
N adj.=0.3
76
N adj.=5.4
81
N adj.=1.1
85
N adj.=0.5
94
N adj.=0.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

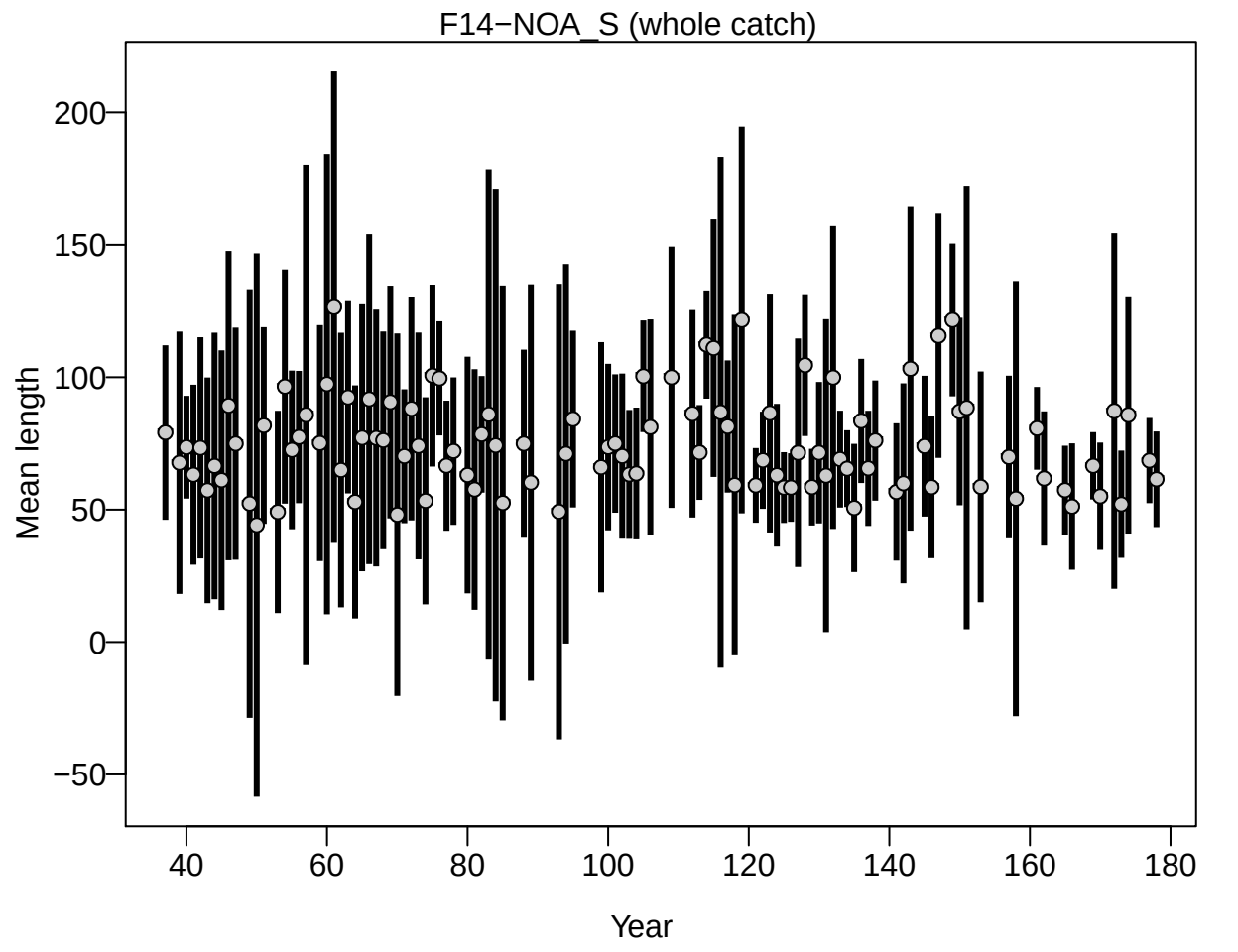

95
N adj.=2.2
102
N adj.=2.1
106
N adj.=1.3
114
N adj.=7
99
N adj.=0.8
103
N adj.=2.9
109
N adj.=1.3
115
N adj.=1.3
100
N adj.=2.1
104
N adj.=2.7
112
N adj.=1.9
116
N adj.=0.3
101
N adj.=3.4
105
N adj.=4.2
113
N adj.=9.1
117
N adj.=4.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

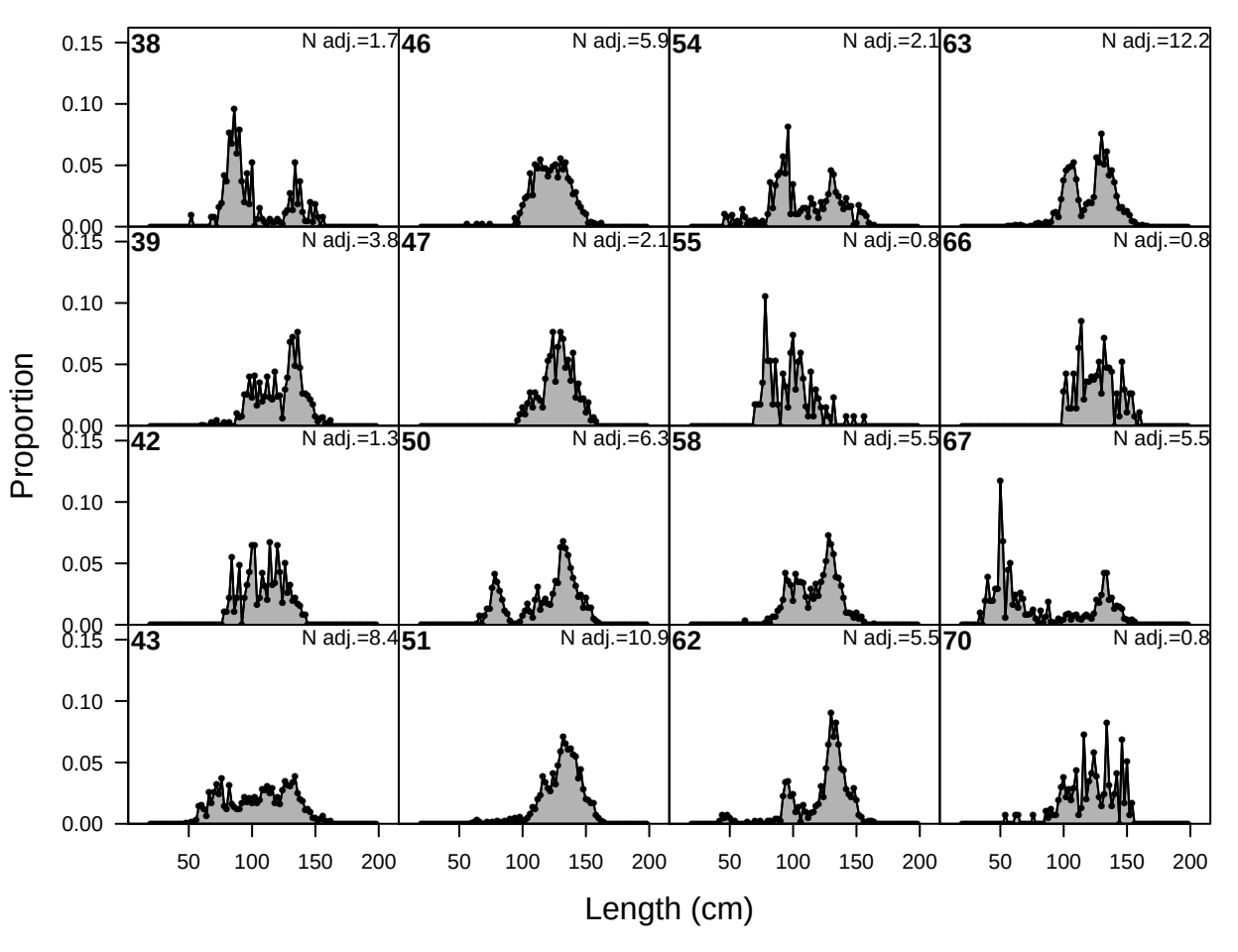

118
N adj.=0.6
123
N adj.=1.3
127
N adj.=1.1
131
N adj.=0.6
119
N adj.=0.5
124
N adj.=4
128
N adj.=3
132
N adj.=0.6
121
N adj.=11.5
125
N adj.=14.9
129
N adj.=11.7
133
N adj.=5.9
122
N adj.=6.9
126
N adj.=13.6
130
N adj.=3.5
134
N adj.=9.1
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

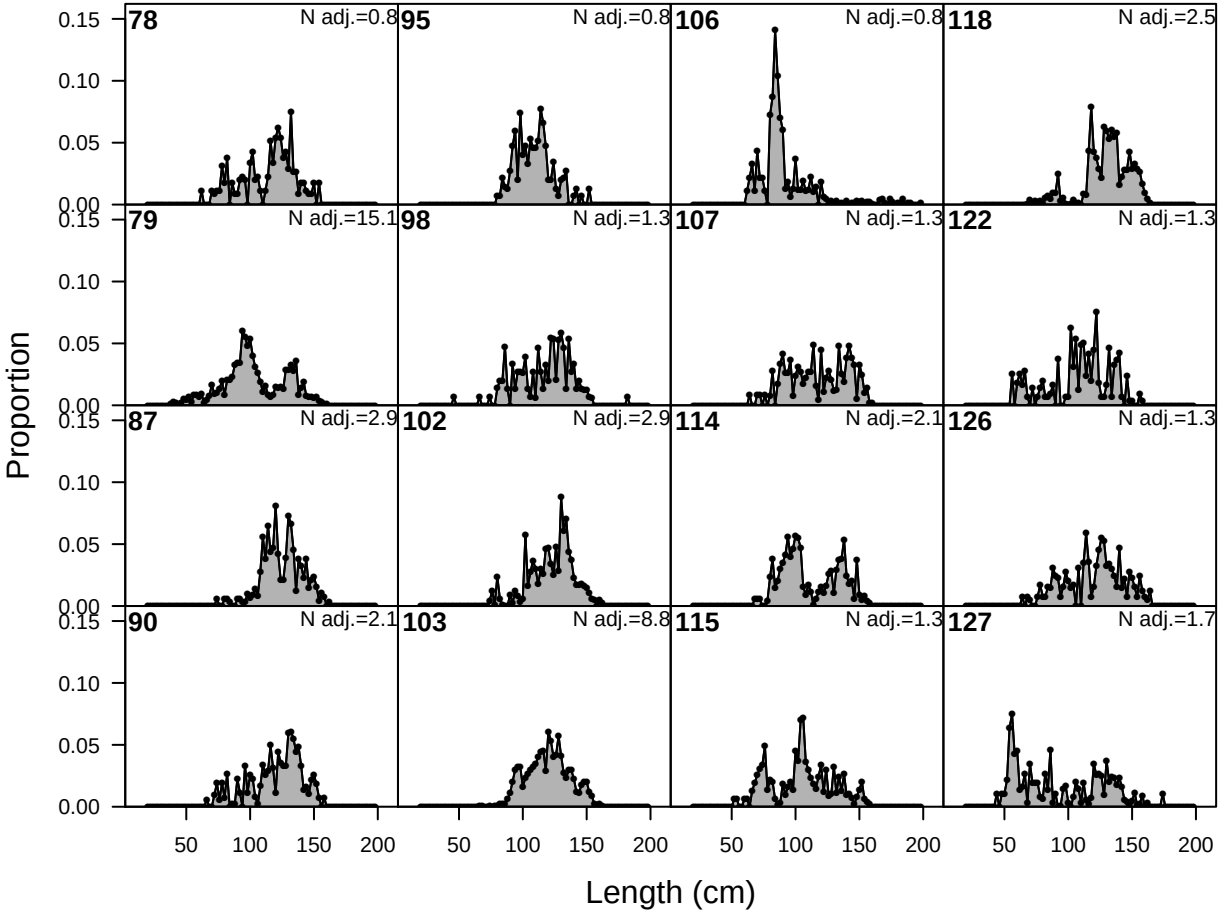

135
N adj.=3.5
141
N adj.=3.4
146
N adj.=2.9
151
N adj.=0.3
136
N adj.=4.3
142
N adj.=1.6
147
N adj.=1
153
N adj.=1.3
137
N adj.=5.9
143
N adj.=0.6
149
N adj.=3.2
157
N adj.=2.4
138
N adj.=5.8
145
N adj.=3.2
150
N adj.=2.1
158
N adj.=0.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

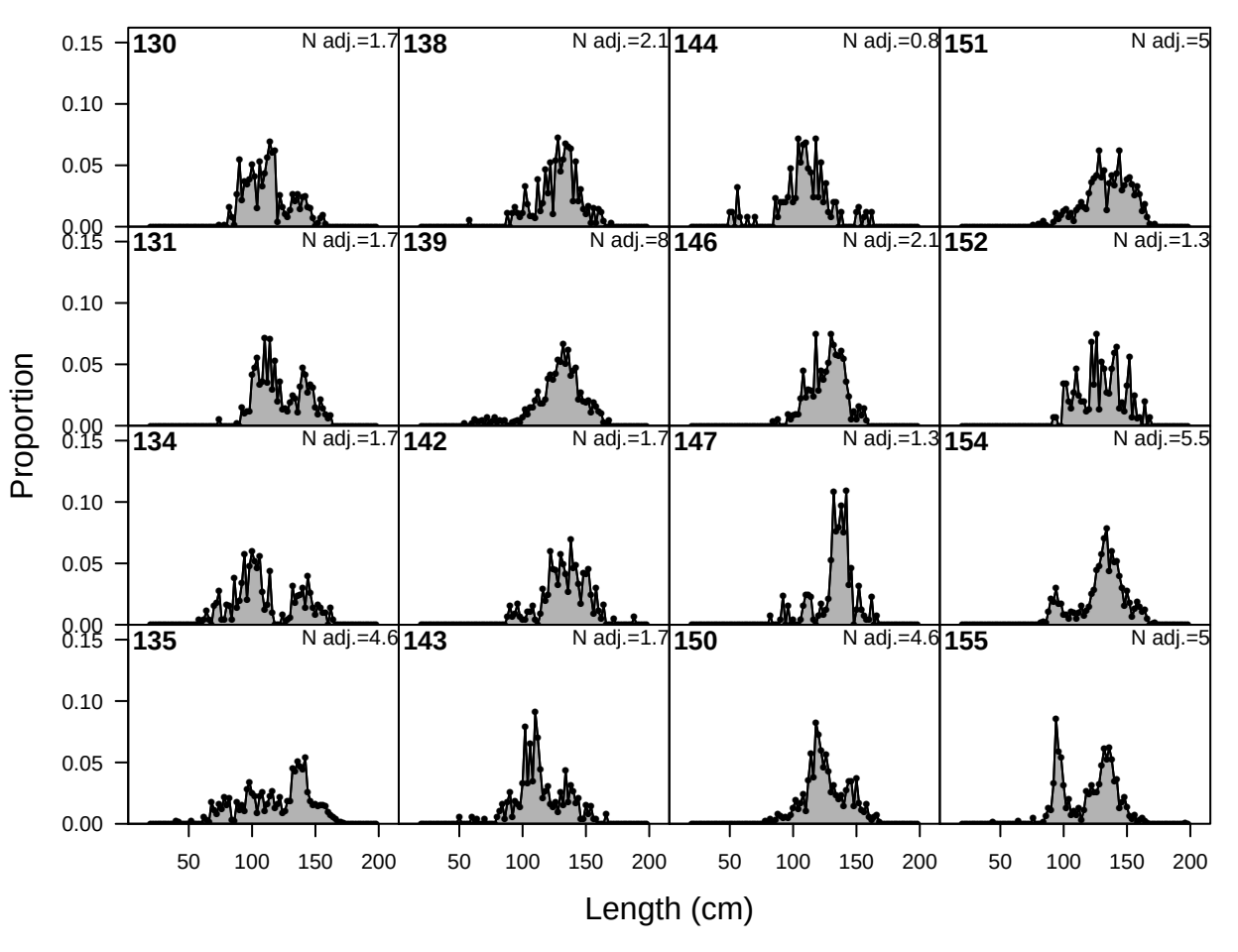

161
N adj.=9.6
169
N adj.=11
174
N adj.=1
162
N adj.=3.8
170
N adj.=4.5
177
N adj.=8.5
165
N adj.=8.2
172
N adj.=0.5
178
N adj.=6.9
166
N adj.=3.8
173
N adj.=5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

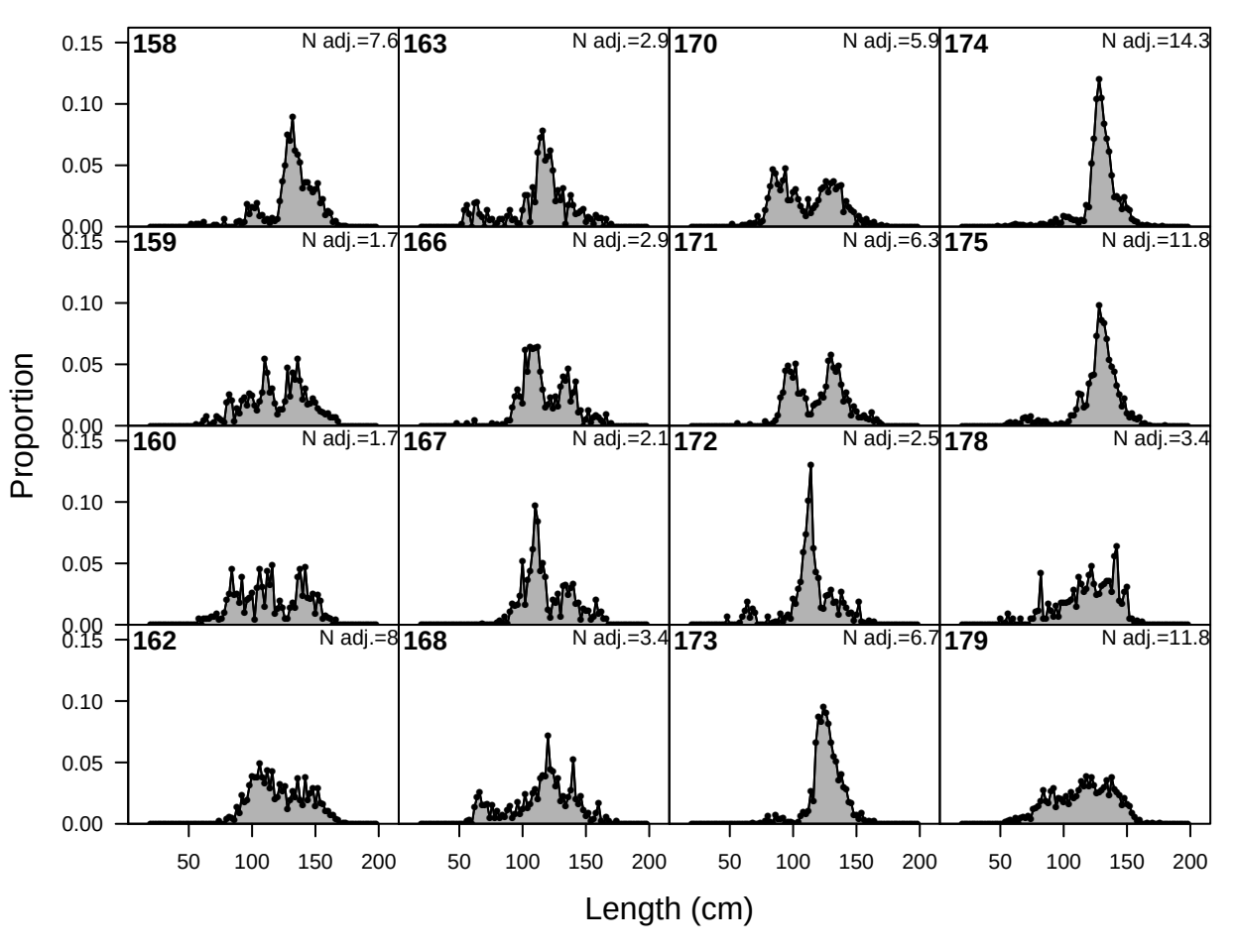

0.01
0.4
200
150
100
50
Length (cm)
37
47
57
67
77
88
99
112
125
138
151
165
178
Year

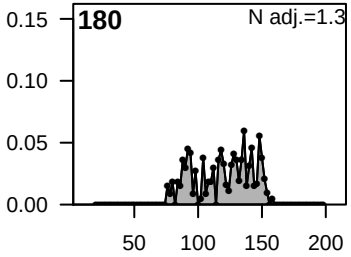

F14−NOA_S (whole catch)
Mean length
200
150
100
50
0
−50
40
60
80
100
120
140
160
180
Year


38
N adj.=1.7
46
N adj.=5.9
54
N adj.=2.1
63
N adj.=12.2
39
N adj.=3.8
47
N adj.=2.1
55
N adj.=0.8
66
N adj.=0.8
42
N adj.=1.3
50
N adj.=6.3
58
N adj.=5.5
67
N adj.=5.5
43
N adj.=8.4
51
N adj.=10.9
62
N adj.=5.5
70
N adj.=0.8
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)


78
N adj.=0.8
95
N adj.=0.8
106
N adj.=0.8
118
N adj.=2.5
79
N adj.=15.1
98
N adj.=1.3
107
N adj.=1.3
122
N adj.=1.3
87
N adj.=2.9
102
N adj.=2.9
114
N adj.=2.1
126
N adj.=1.3
90
N adj.=2.1
103
N adj.=8.8
115
N adj.=1.3
127
N adj.=1.7
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)

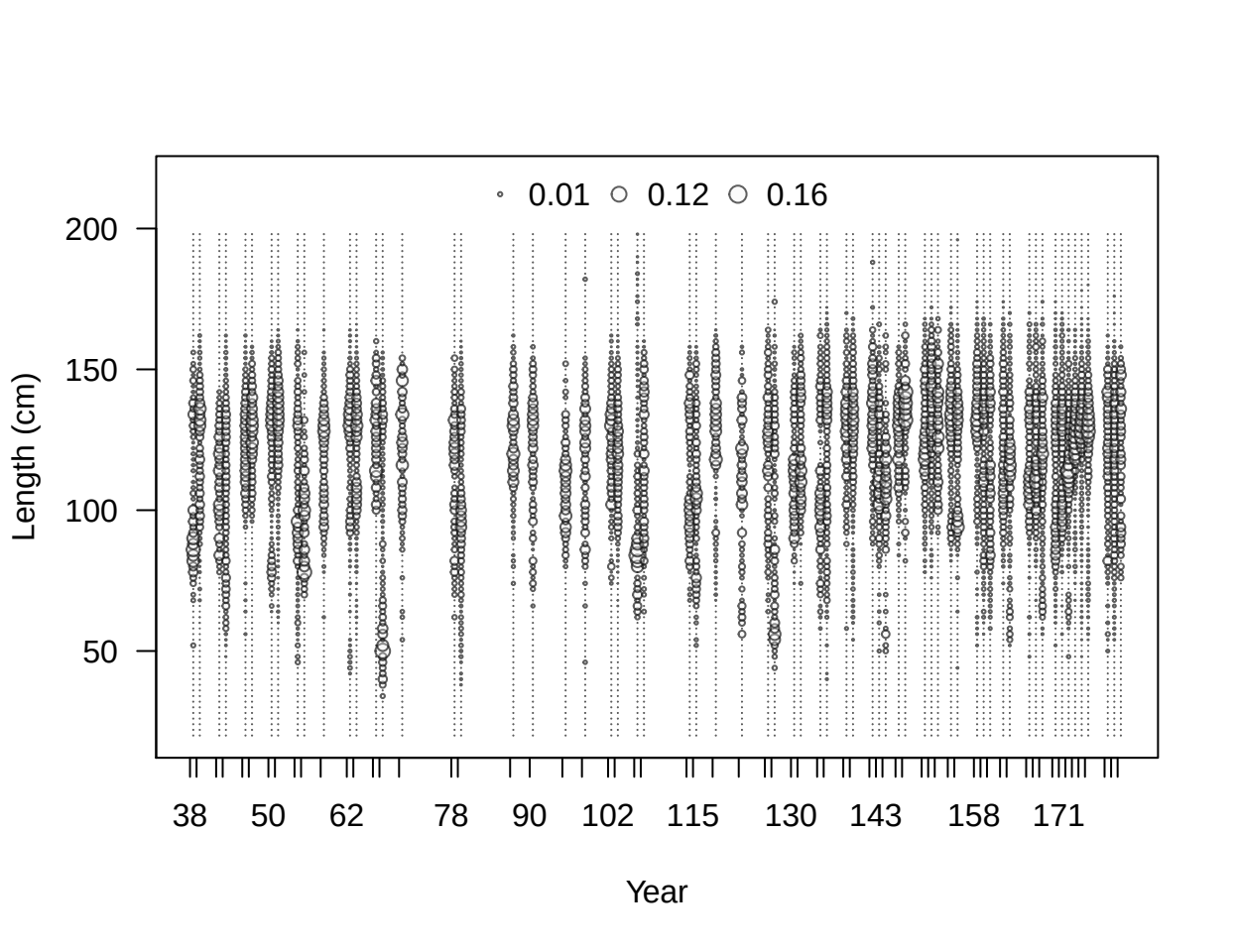

130
N adj.=1.7
138
N adj.=2.1
144
N adj.=0.8
151
N adj.=5
131
N adj.=1.7
139
N adj.=8
146
N adj.=2.1
152
N adj.=1.3
134
N adj.=1.7
142
N adj.=1.7
147
N adj.=1.3
154
N adj.=5.5
135
N adj.=4.6
143
N adj.=1.7
150
N adj.=4.6
155
N adj.=5
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)

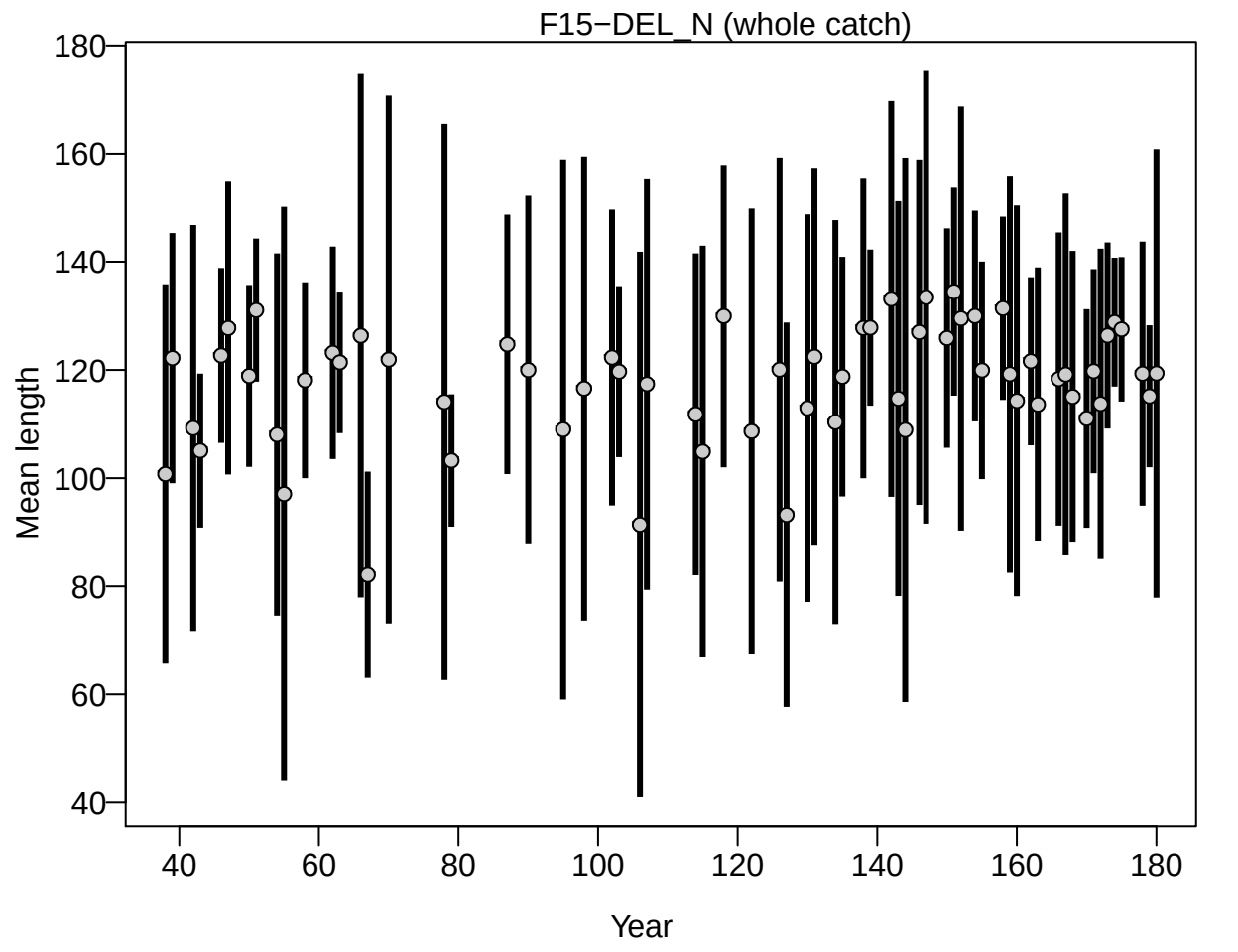

158
N adj.=7.6
163
N adj.=2.9
170
N adj.=5.9
174
N adj.=14.3
159
N adj.=1.7
166
N adj.=2.9
171
N adj.=6.3
175
N adj.=11.8
160
N adj.=1.7
167
N adj.=2.1
172
N adj.=2.5
178
N adj.=3.4
162
N adj.=8
168
N adj.=3.4
173
N adj.=6.7
179
N adj.=11.8
Proportion
0.00
0.05
0.10
0.15
50
100
150
200
Length (cm)

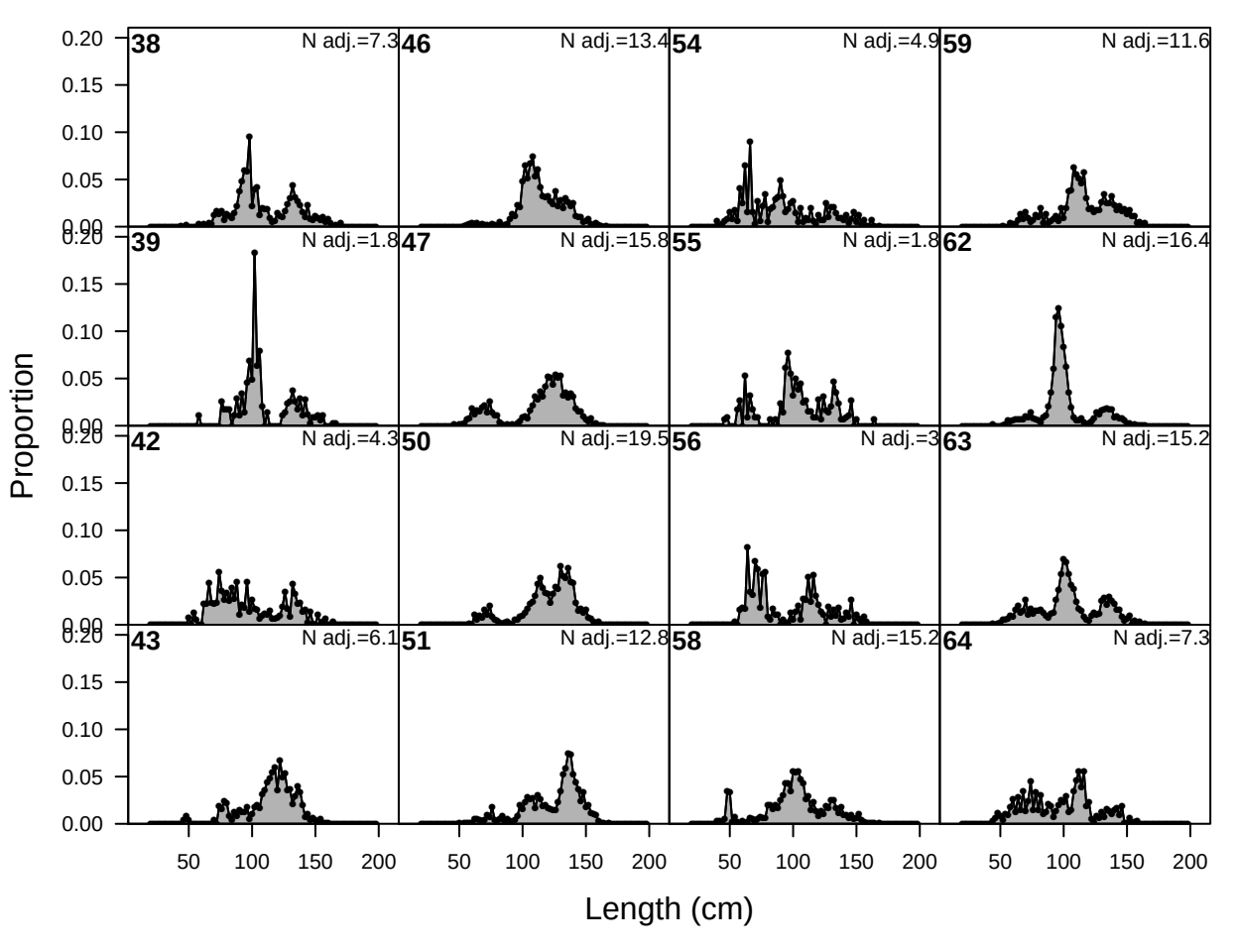


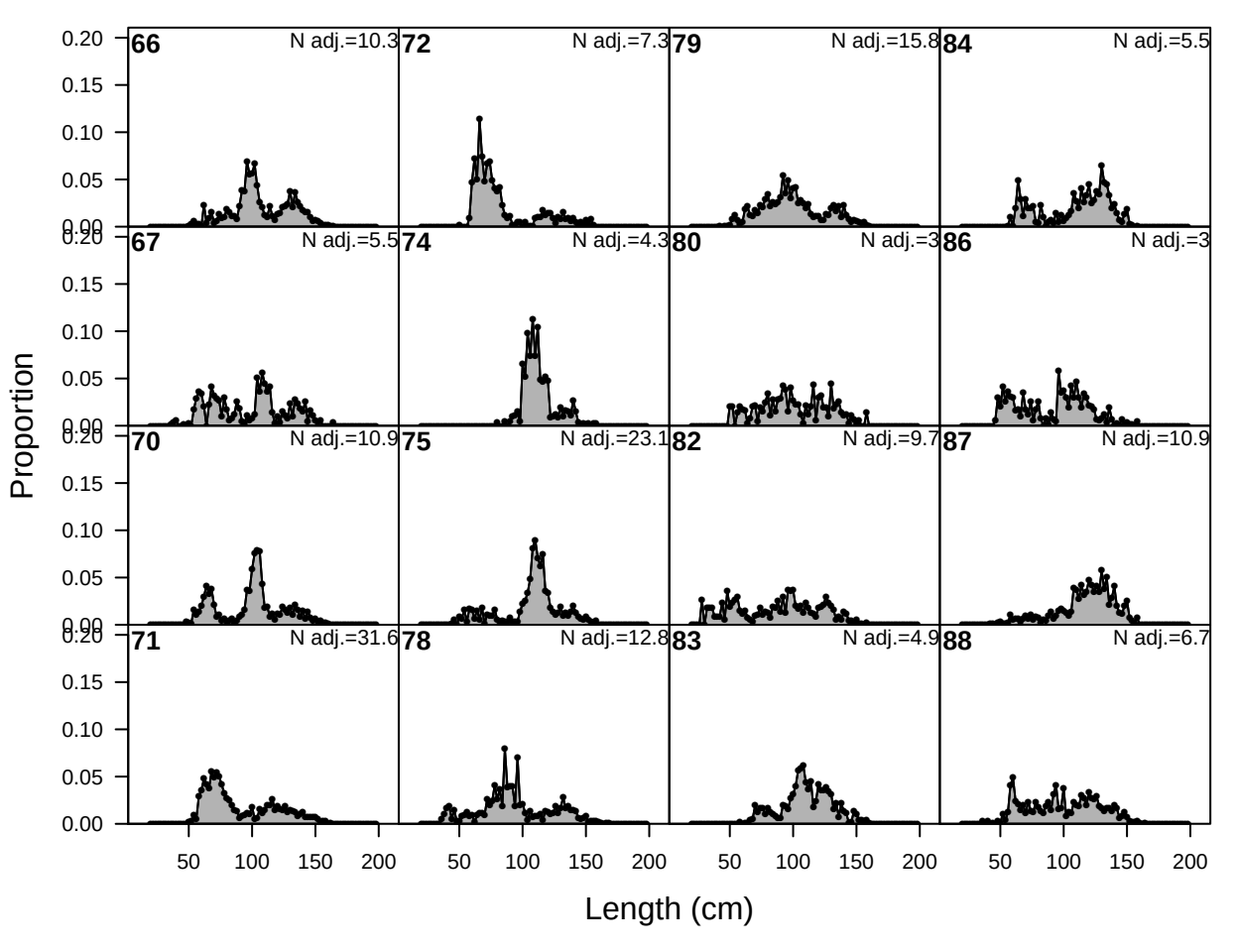
Proportion

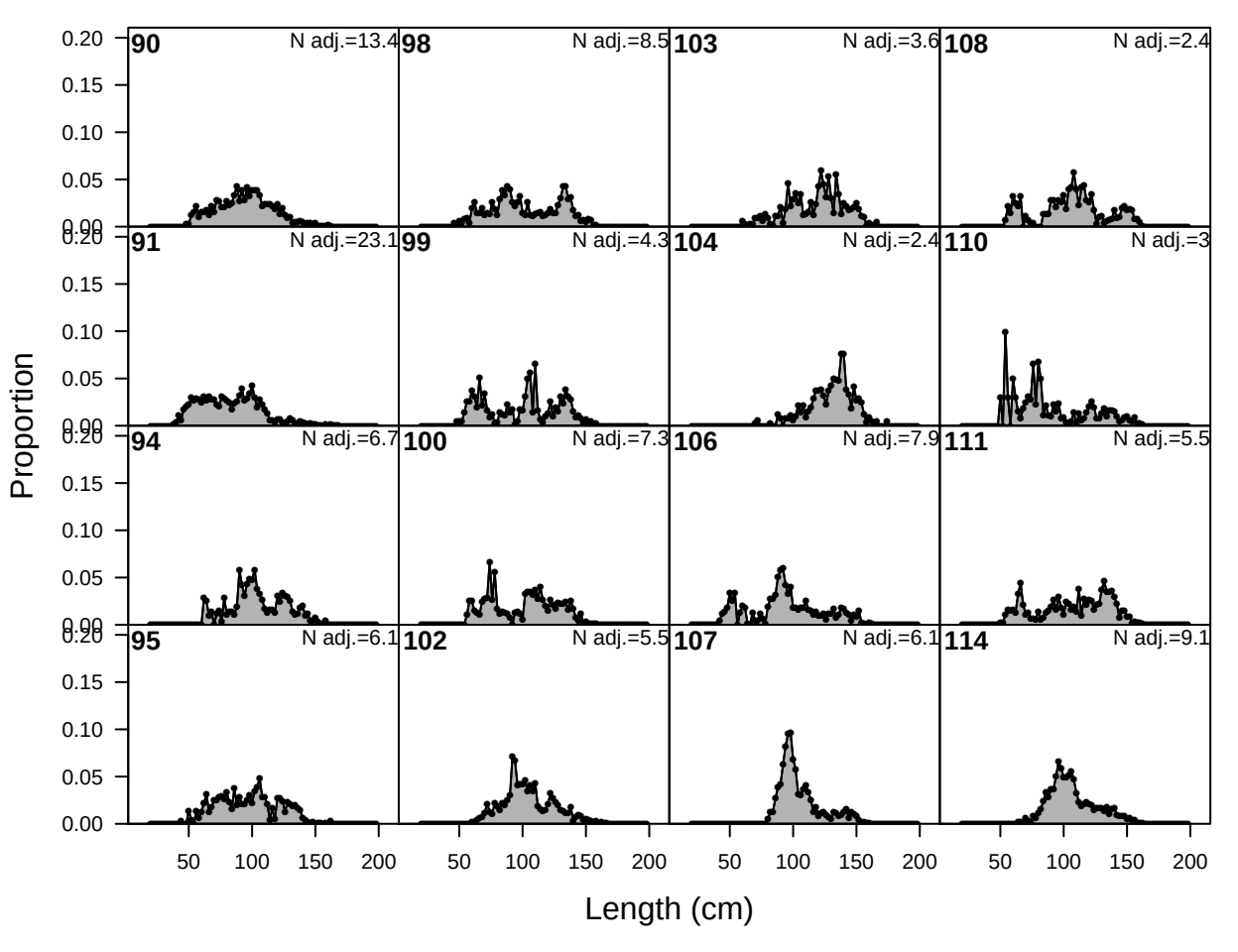
Length (cm)

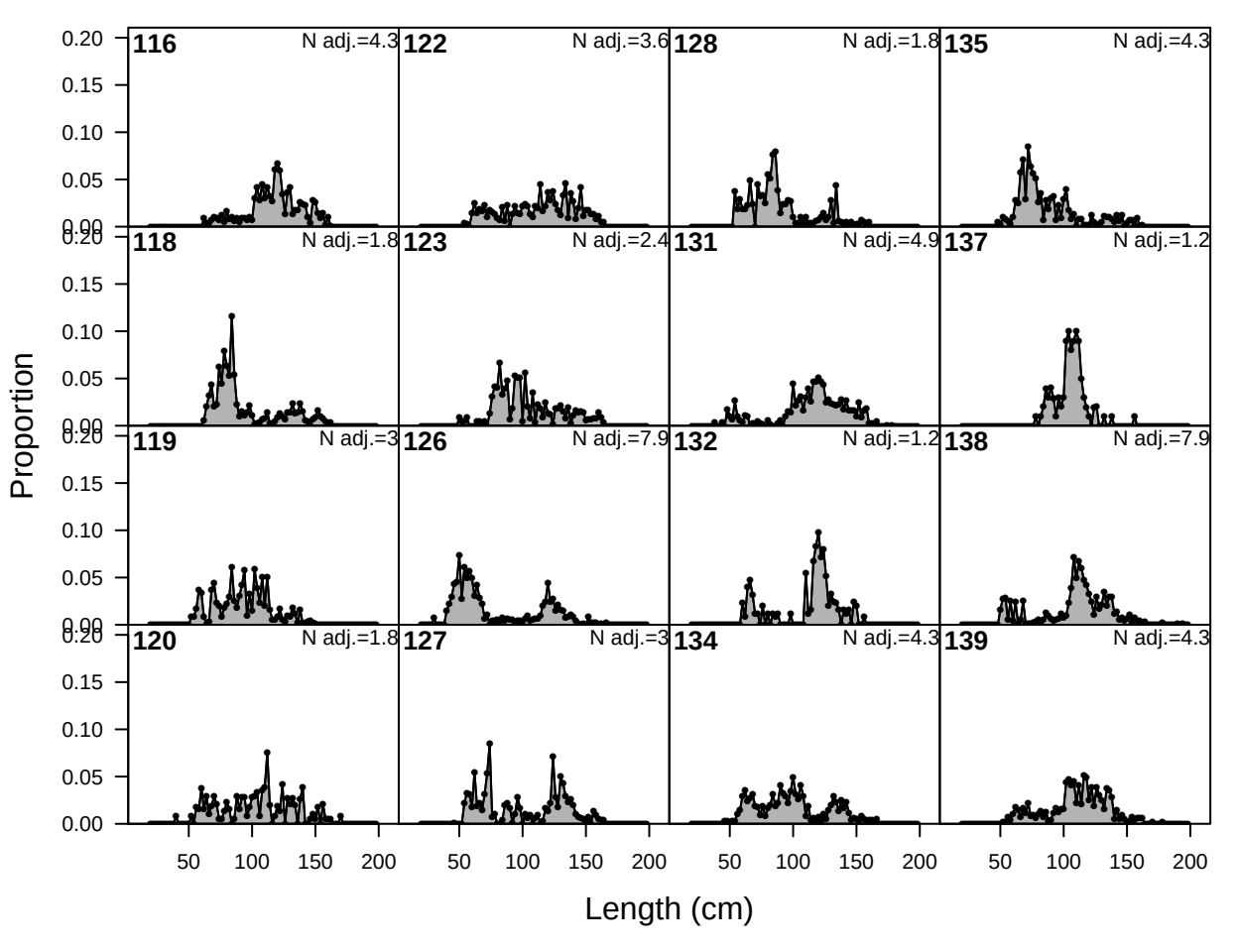

0.01
0.12
0.16
200
150
100
50
Length (cm)
38
50
62
78
90
102
115
130
143
158
171
Year

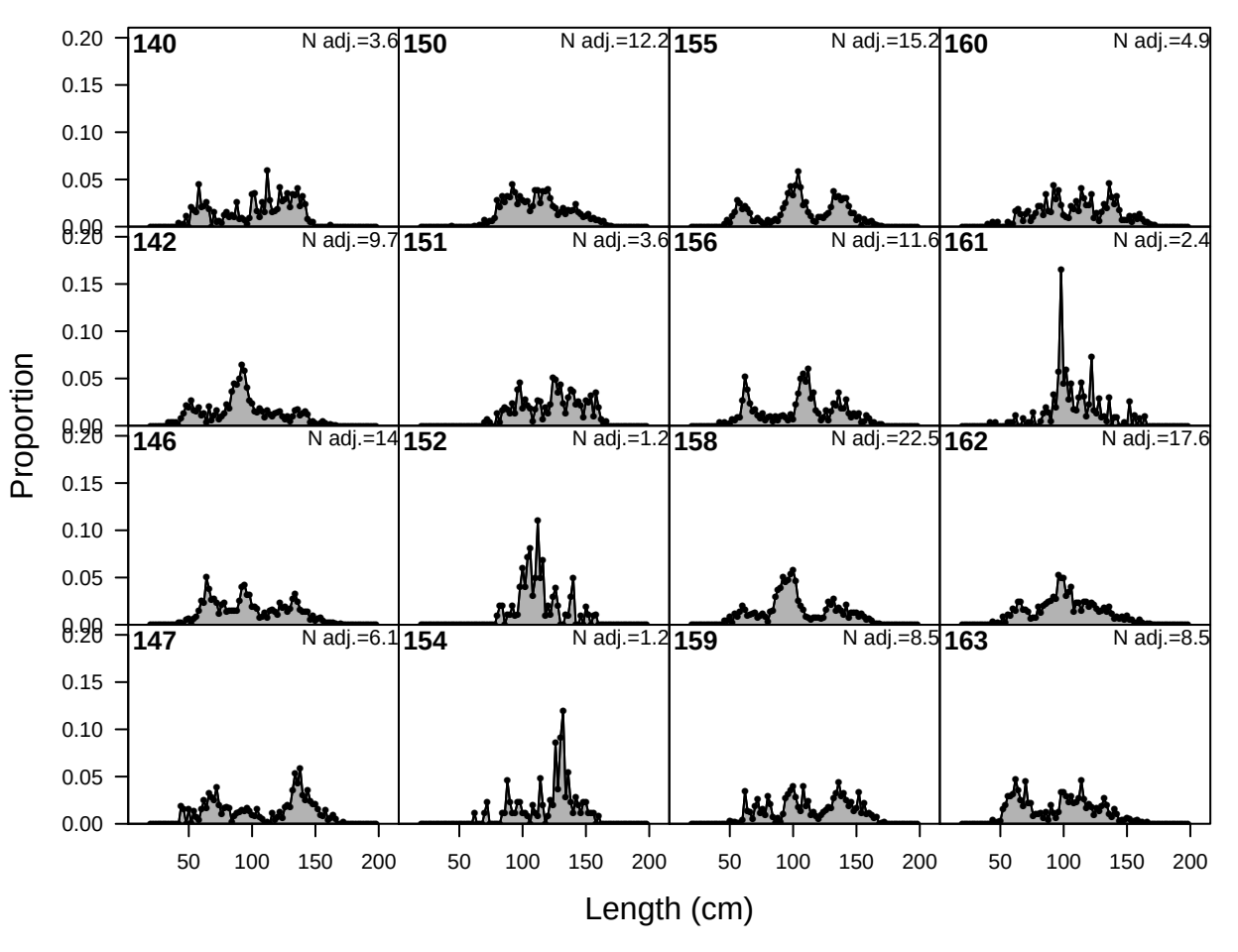

F15−DEL_N (whole catch)
Mean length
Year
180
160
140
120
100
80
60
40
40
60
80
100
120
140
160
180

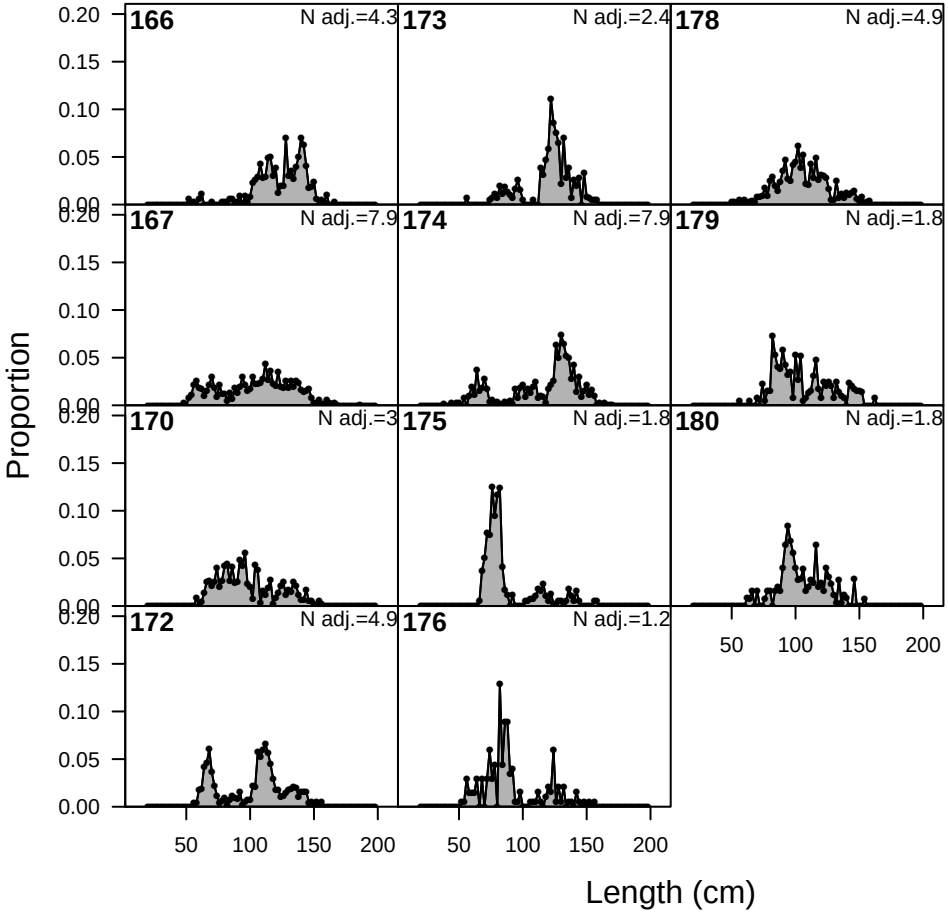

38
N adj.=7.3
46
N adj.=13.4
54
N adj.=4.9
59
N adj.=11.6
39
N adj.=1.8
47
N adj.=15.8
55
N adj.=1.8
62
N adj.=16.4
42
N adj.=4.3
50
N adj.=19.5
56
N adj.=3
63
N adj.=15.2
43
N adj.=6.1
51
N adj.=12.8
58
N adj.=15.2
64
N adj.=7.3
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)

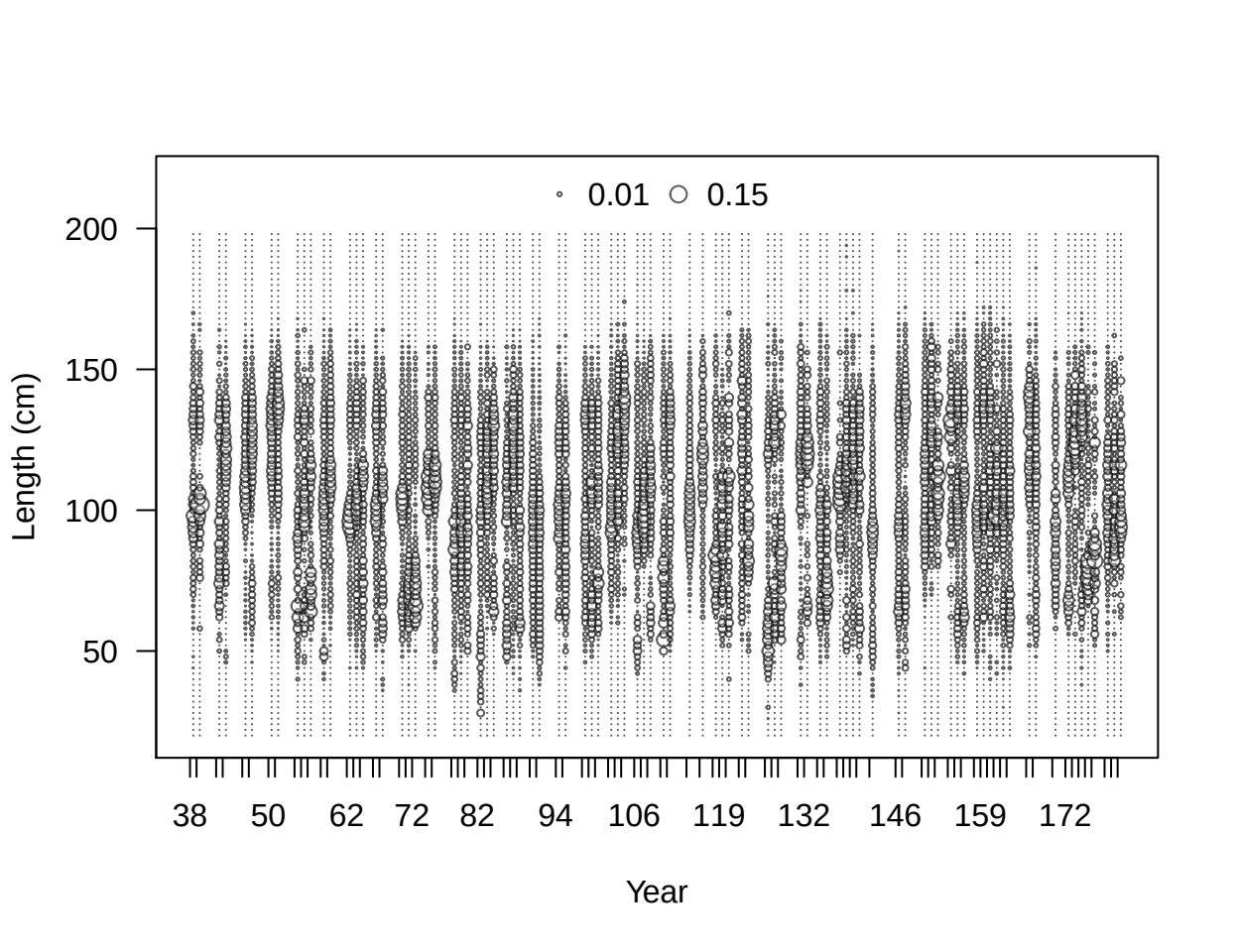

66
N adj.=10.3
72
N adj.=7.3
79
N adj.=15.8
84
N adj.=5.5
67
N adj.=5.5
74
N adj.=4.3
80
N adj.=3
86
N adj.=3
70
N adj.=10.9
75
N adj.=23.1
82
N adj.=9.7
87
N adj.=10.9
71
N adj.=31.6
78
N adj.=12.8
83
N adj.=4.9
88
N adj.=6.7
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)

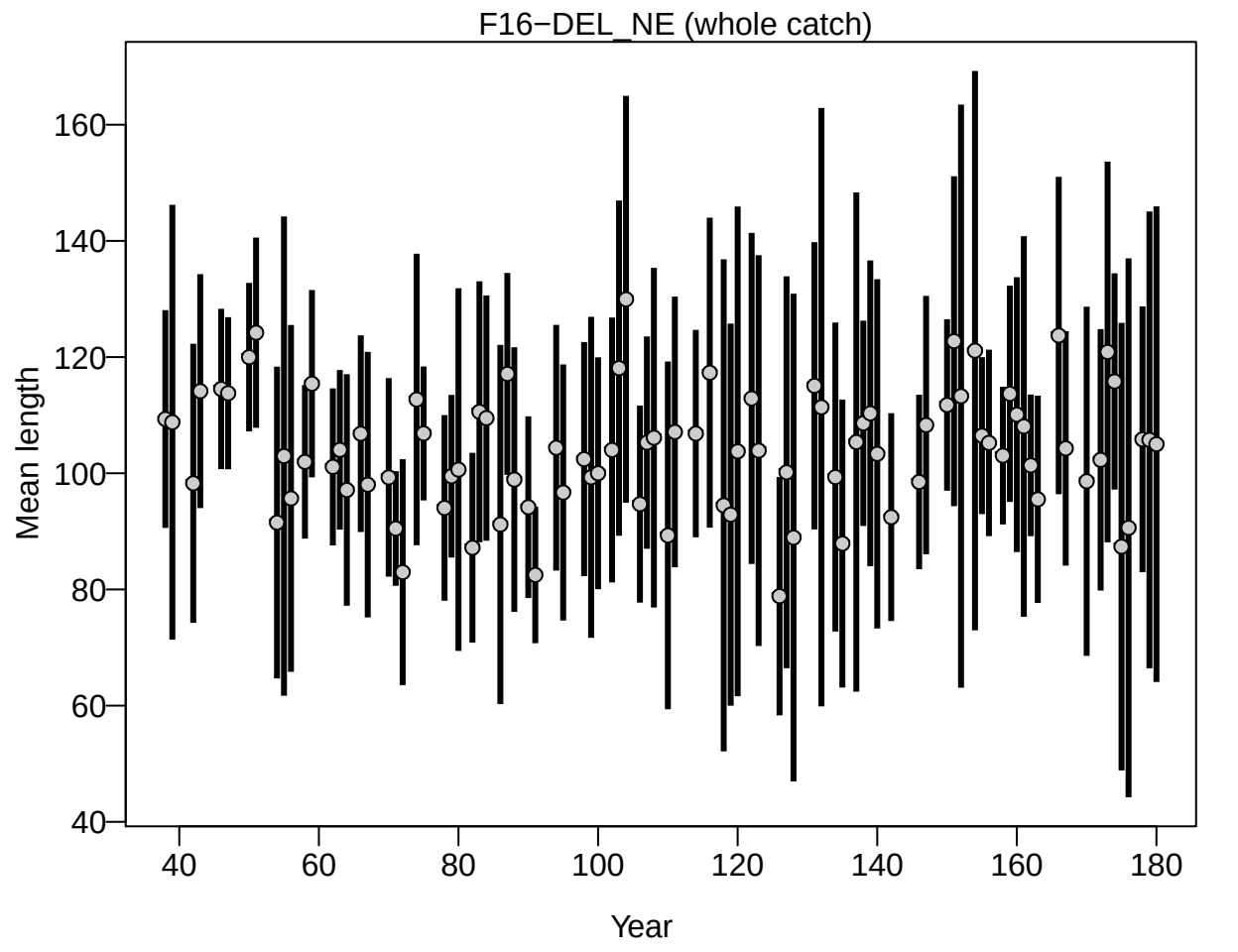

90
N adj.=13.4
98
N adj.=8.5
103
N adj.=3.6
108
N adj.=2.4
91
N adj.=23.1
99
N adj.=4.3
104
N adj.=2.4
110
N adj.=3
94
N adj.=6.7
100
N adj.=7.3
106
N adj.=7.9
111
N adj.=5.5
95
N adj.=6.1
102
N adj.=5.5
107
N adj.=6.1
114
N adj.=9.1
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)

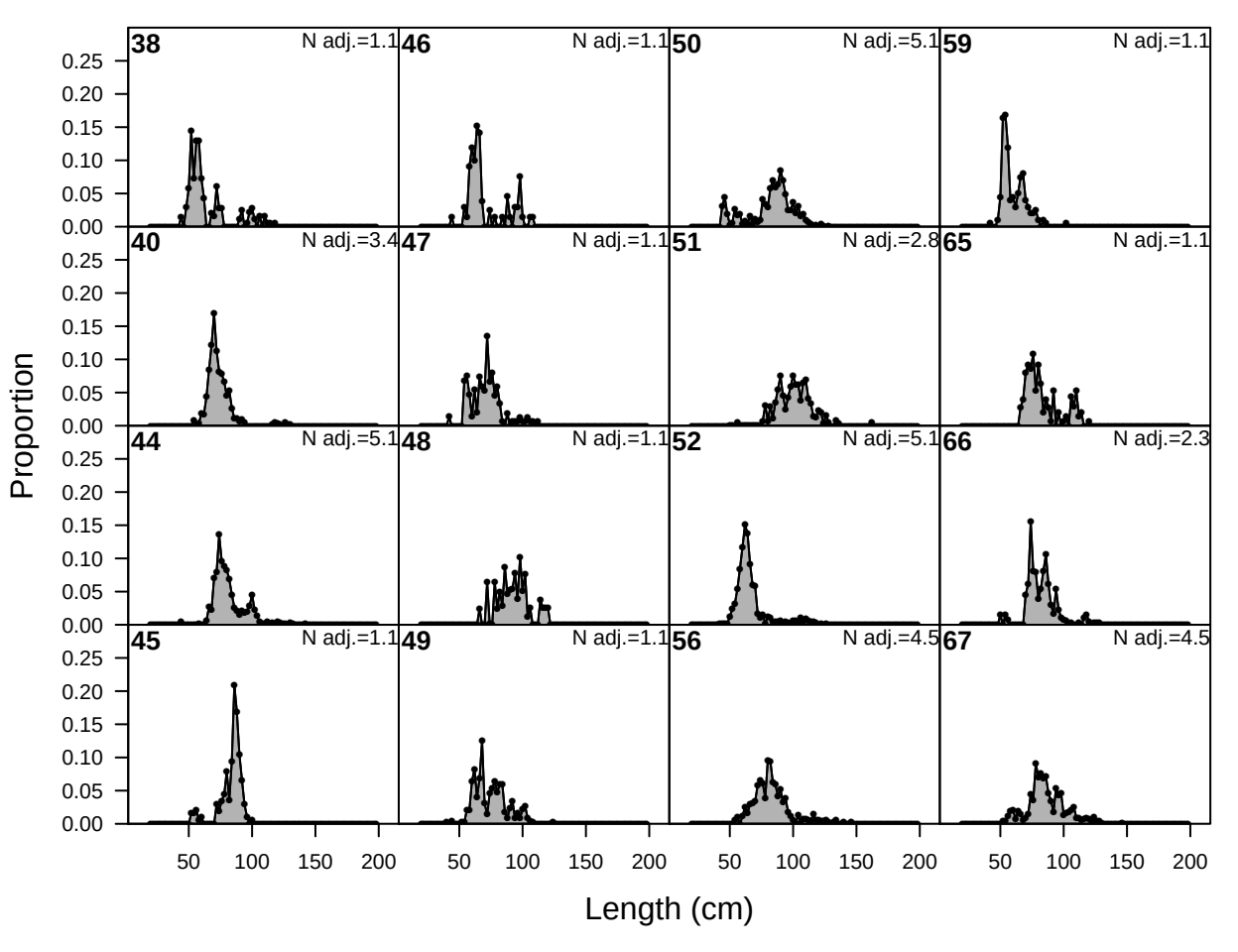

116
N adj.=4.3
122
N adj.=3.6
128
N adj.=1.8
135
N adj.=4.3
118
N adj.=1.8
123
N adj.=2.4
131
N adj.=4.9
137
N adj.=1.2
119
N adj.=3
126
N adj.=7.9
132
N adj.=1.2
138
N adj.=7.9
120
N adj.=1.8
127
N adj.=3
134
N adj.=4.3
139
N adj.=4.3
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Proportion
Length (cm)

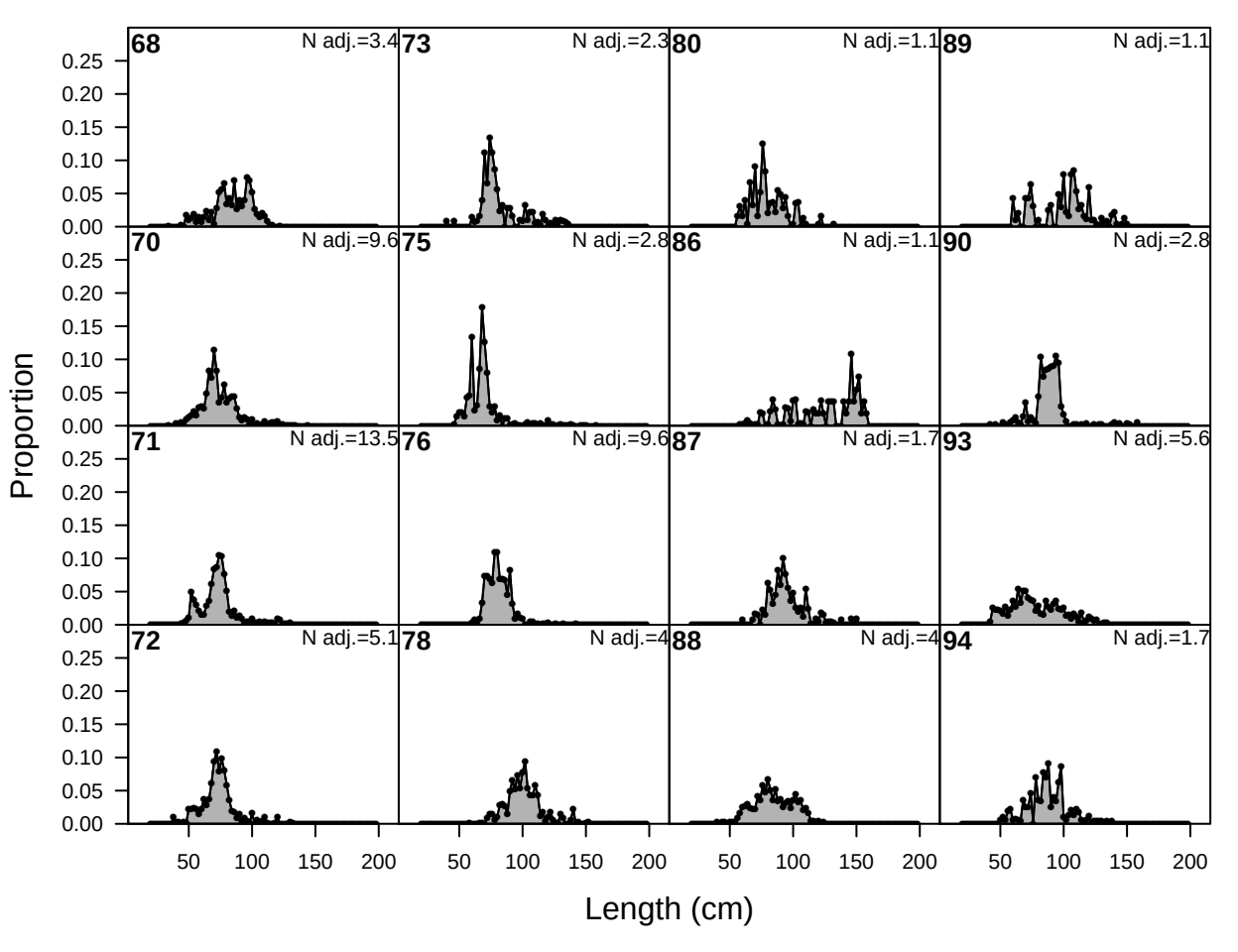

140
N adj.=3.6
150
N adj.=12.2
155
N adj.=15.2
160
N adj.=4.9
142
N adj.=9.7
151
N adj.=3.6
156
N adj.=11.6
161
N adj.=2.4
146
N adj.=14
152
N adj.=1.2
158
N adj.=22.5
162
N adj.=17.6
147
N adj.=6.1
154
N adj.=1.2
159
N adj.=8.5
163
N adj.=8.5
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)

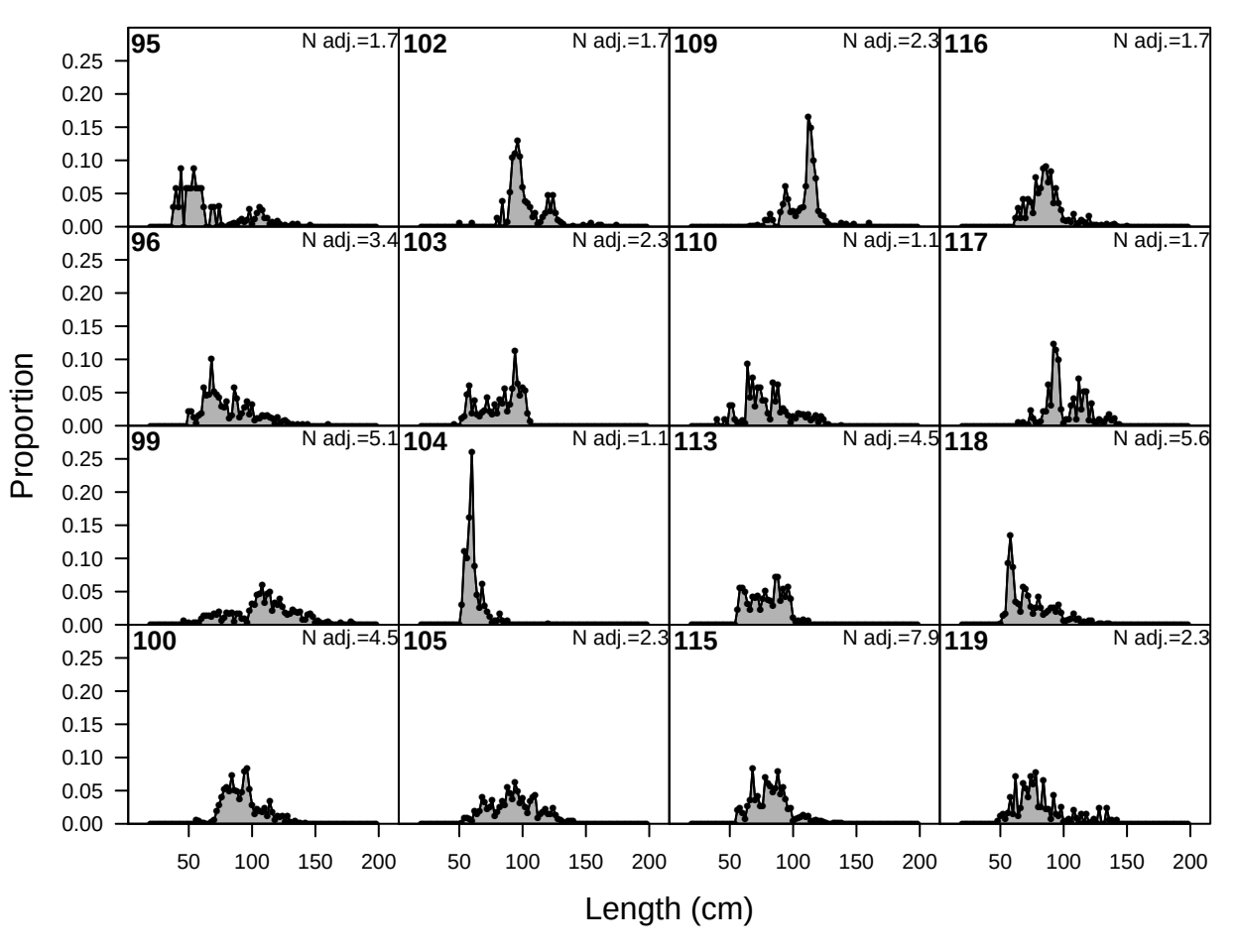

166
N adj.=4.3
173
N adj.=2.4
178
N adj.=4.9
167
N adj.=7.9
174
N adj.=7.9
179
N adj.=1.8
170
N adj.=3
175
N adj.=1.8
180
N adj.=1.8
172
N adj.=4.9
176
N adj.=1.2
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)

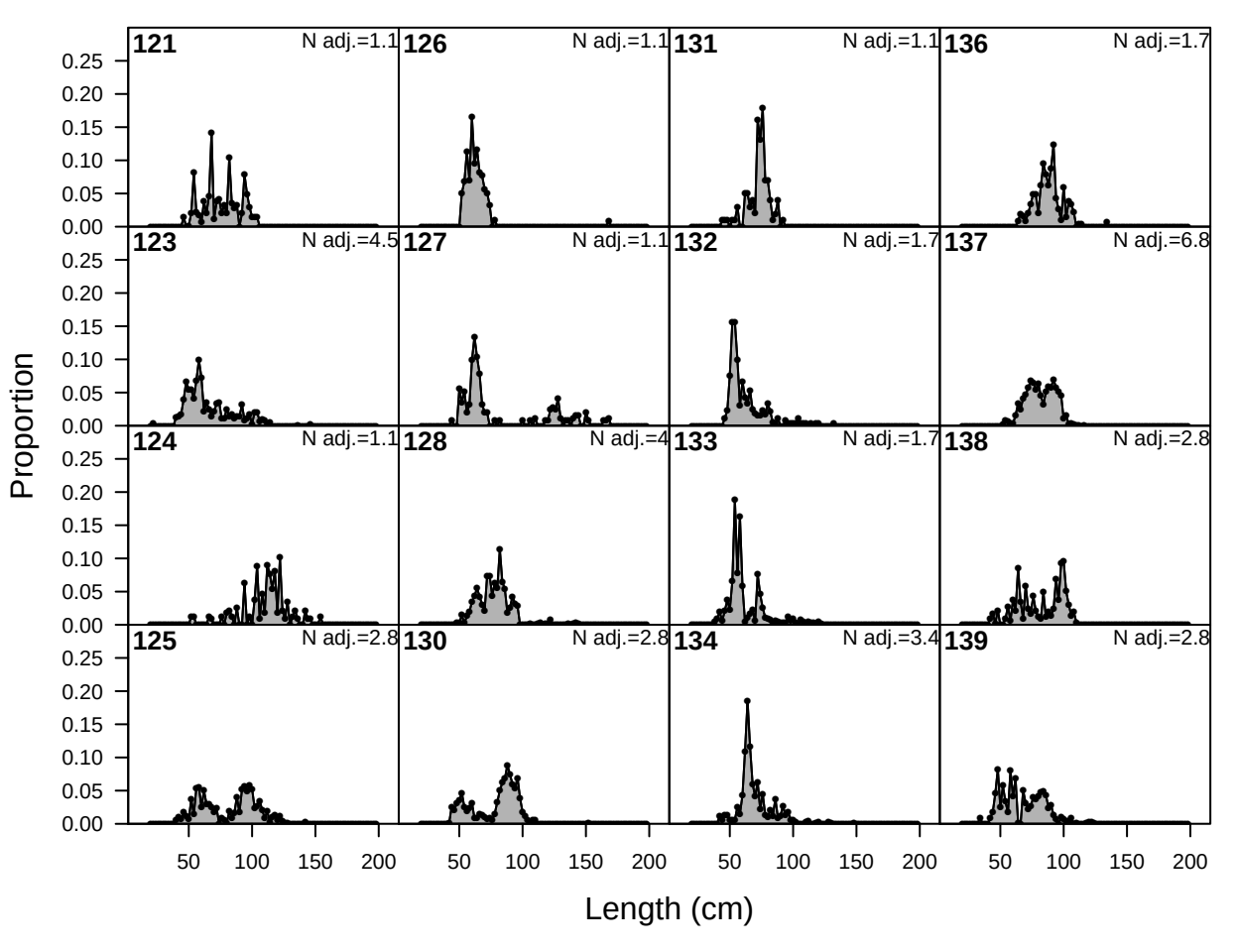

0.01
0.15
200
150
100
50
Length (cm)
38
50
62
72
82
94
106
119
132
146
159
172
Year

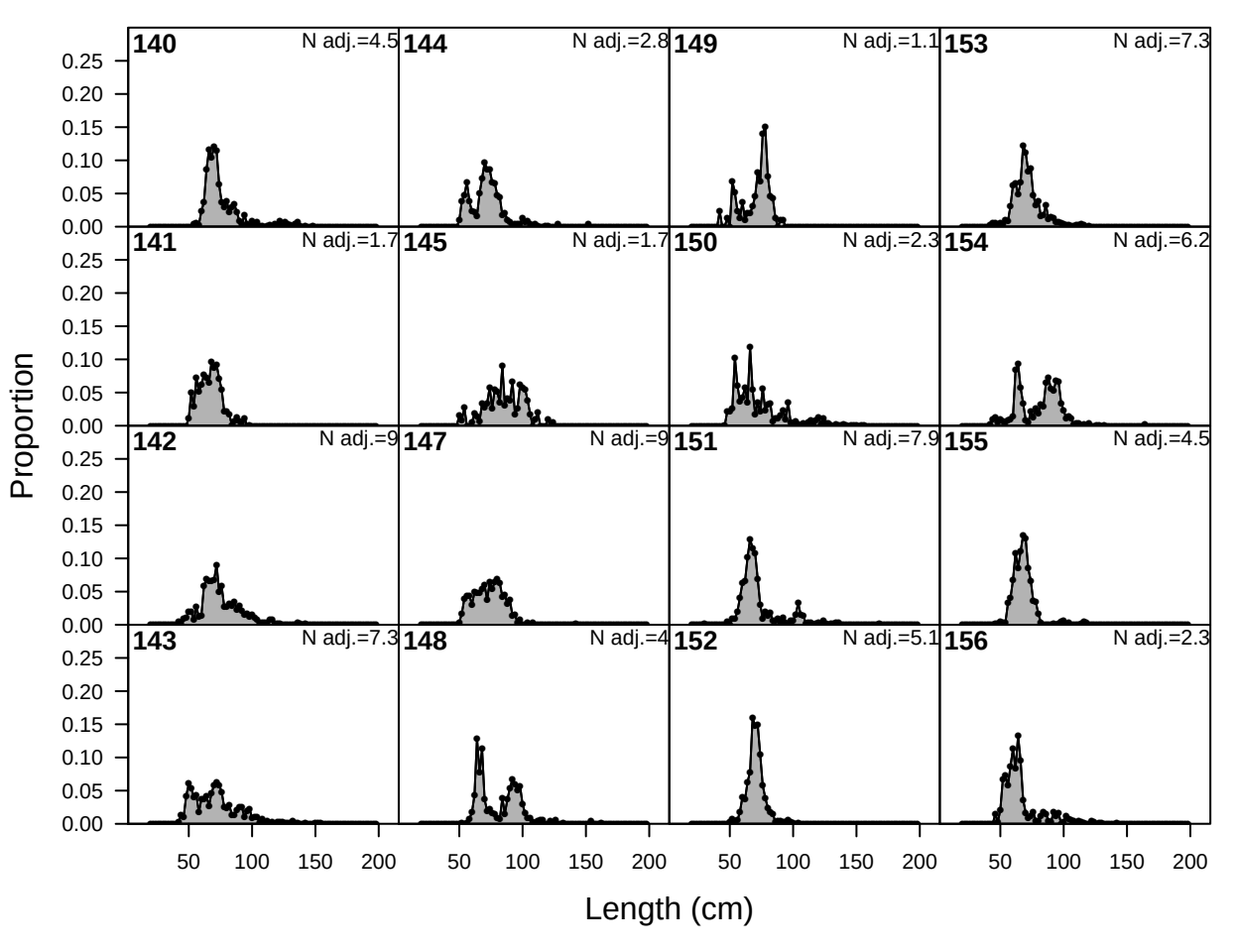

F16−DEL_NE (whole catch)
Mean length
Year
40
60
80
100
120
140
160
180

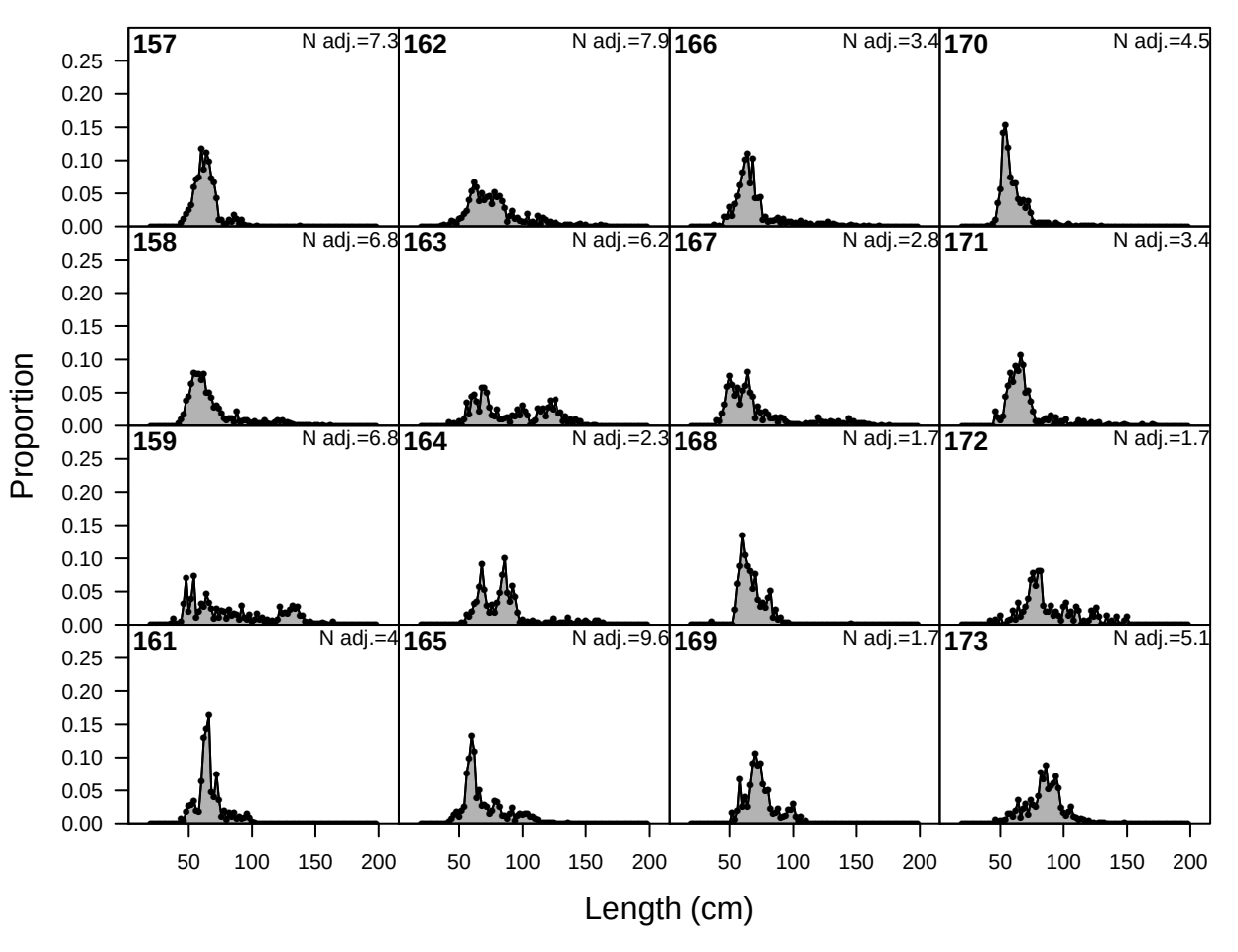

38
N adj.=1.1
46
N adj.=1.1
50
N adj.=5.1
59
N adj.=1.1
40
N adj.=3.4
47
N adj.=1.1
51
N adj.=2.8
65
N adj.=1.1
44
N adj.=5.1
48
N adj.=1.1
52
N adj.=5.1
66
N adj.=2.3
45
N adj.=1.1
49
N adj.=1.1
56
N adj.=4.5
67
N adj.=4.5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

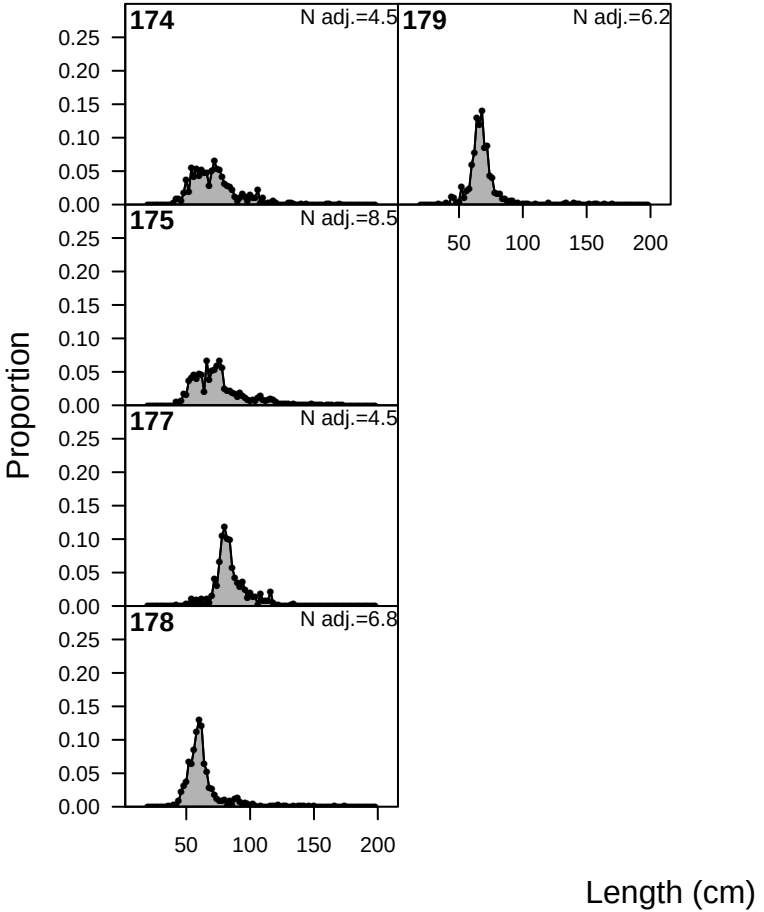

68
N adj.=3.4
73
N adj.=2.3
80
N adj.=1.1
89
N adj.=1.1
70
N adj.=9.6
75
N adj.=2.8
86
N adj.=1.1
90
N adj.=2.8
71
N adj.=13.5
76
N adj.=9.6
87
N adj.=1.7
93
N adj.=5.6
72
N adj.=5.1
78
N adj.=4
88
N adj.=4
94
N adj.=1.7
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

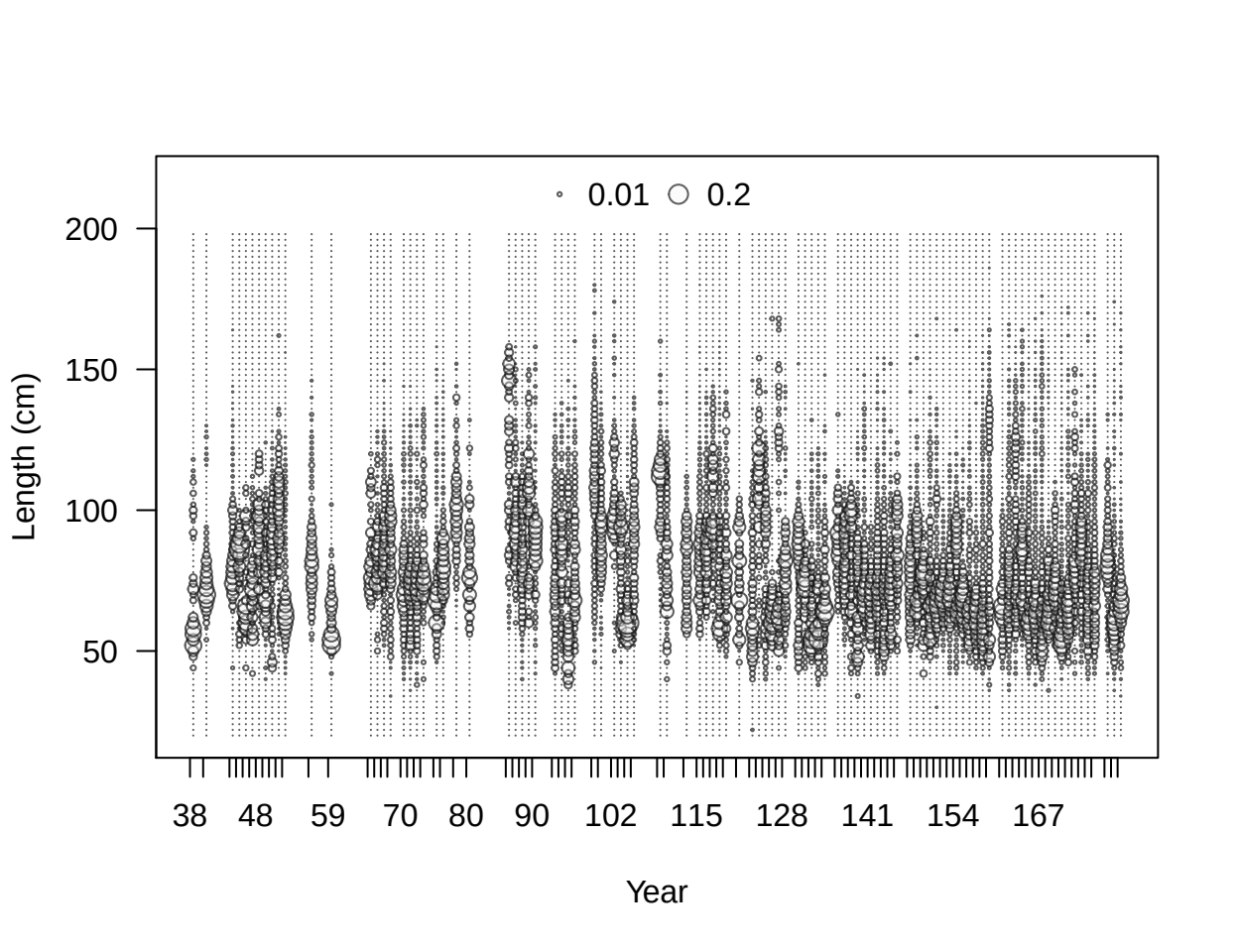

95
N adj.=1.7
102
N adj.=1.7
109
N adj.=2.3
116
N adj.=1.7
96
N adj.=3.4
103
N adj.=2.3
110
N adj.=1.1
117
N adj.=1.7
99
N adj.=5.1
104
N adj.=1.1
113
N adj.=4.5
118
N adj.=5.6
100
N adj.=4.5
105
N adj.=2.3
115
N adj.=7.9
119
N adj.=2.3
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

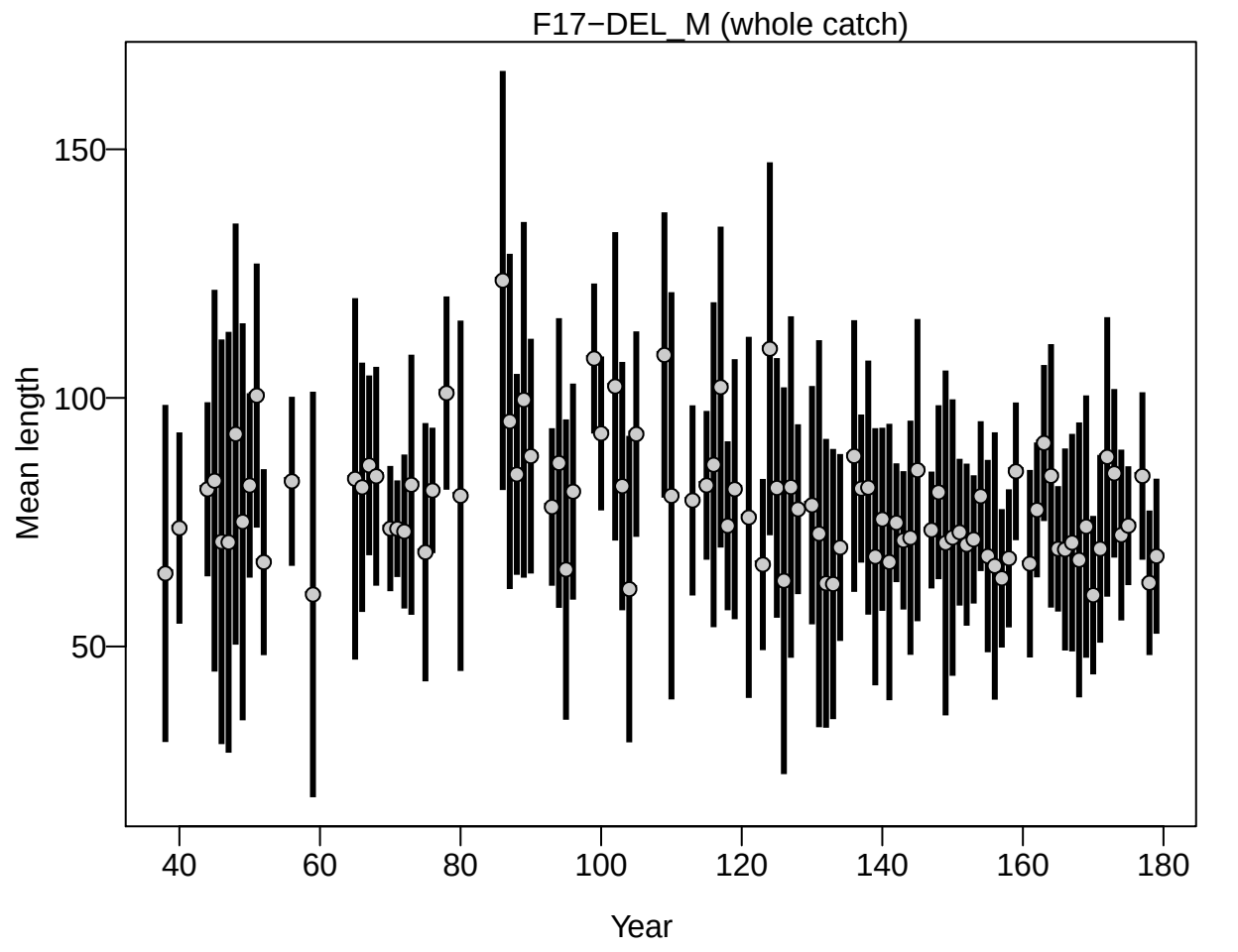

121
N adj.=1.1
126
N adj.=1.1
131
N adj.=1.1
136
N adj.=1.7
123
N adj.=4.5
127
N adj.=1.1
132
N adj.=1.7
137
N adj.=6.8
124
N adj.=1.1
128
N adj.=4
133
N adj.=1.7
138
N adj.=2.8
125
N adj.=2.8
130
N adj.=2.8
134
N adj.=3.4
139
N adj.=2.8
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

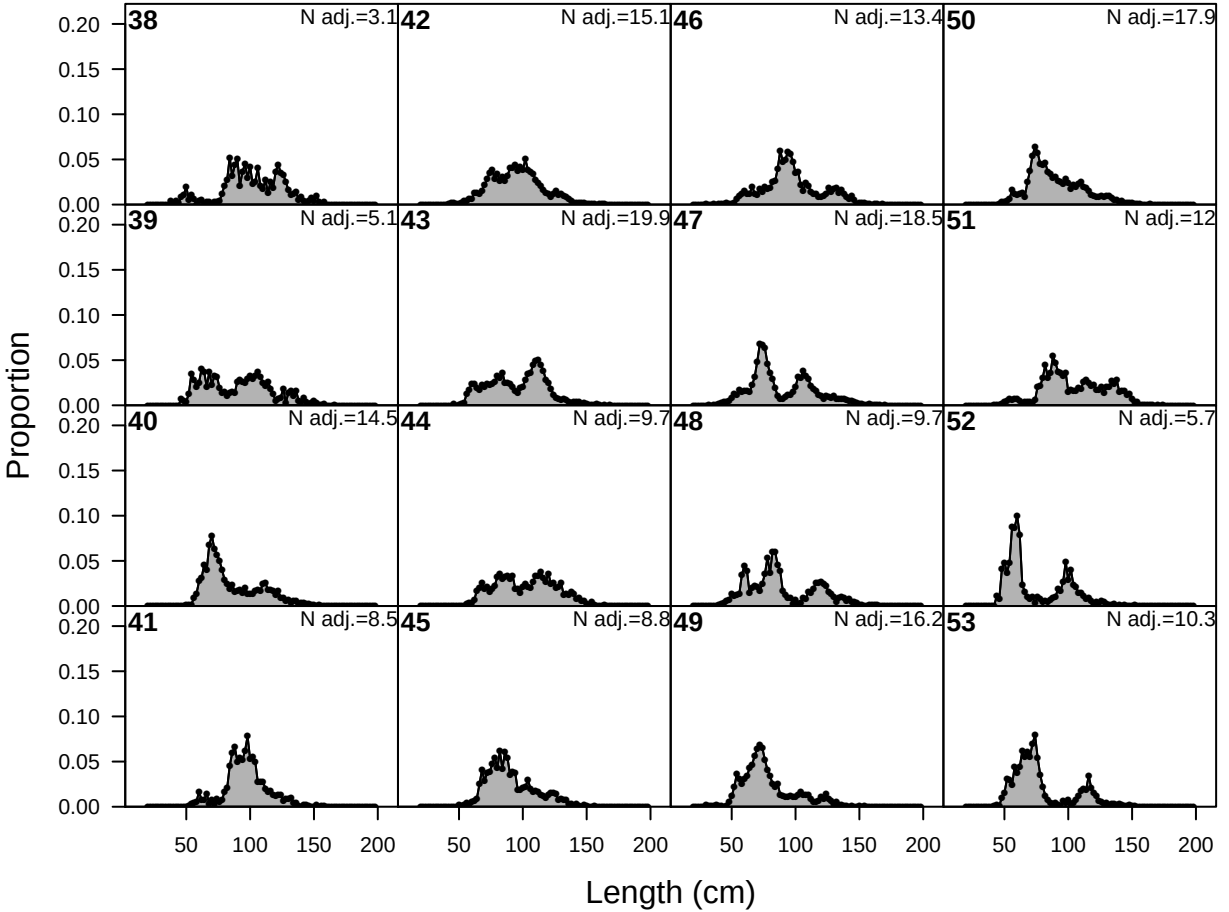

140
N adj.=4.5
144
N adj.=2.8
149
N adj.=1.1
153
N adj.=7.3
141
N adj.=1.7
145
N adj.=1.7
150
N adj.=2.3
154
N adj.=6.2
142
N adj.=9
147
N adj.=9
151
N adj.=7.9
155
N adj.=4.5
143
N adj.=7.3
148
N adj.=4
152
N adj.=5.1
156
N adj.=2.3
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

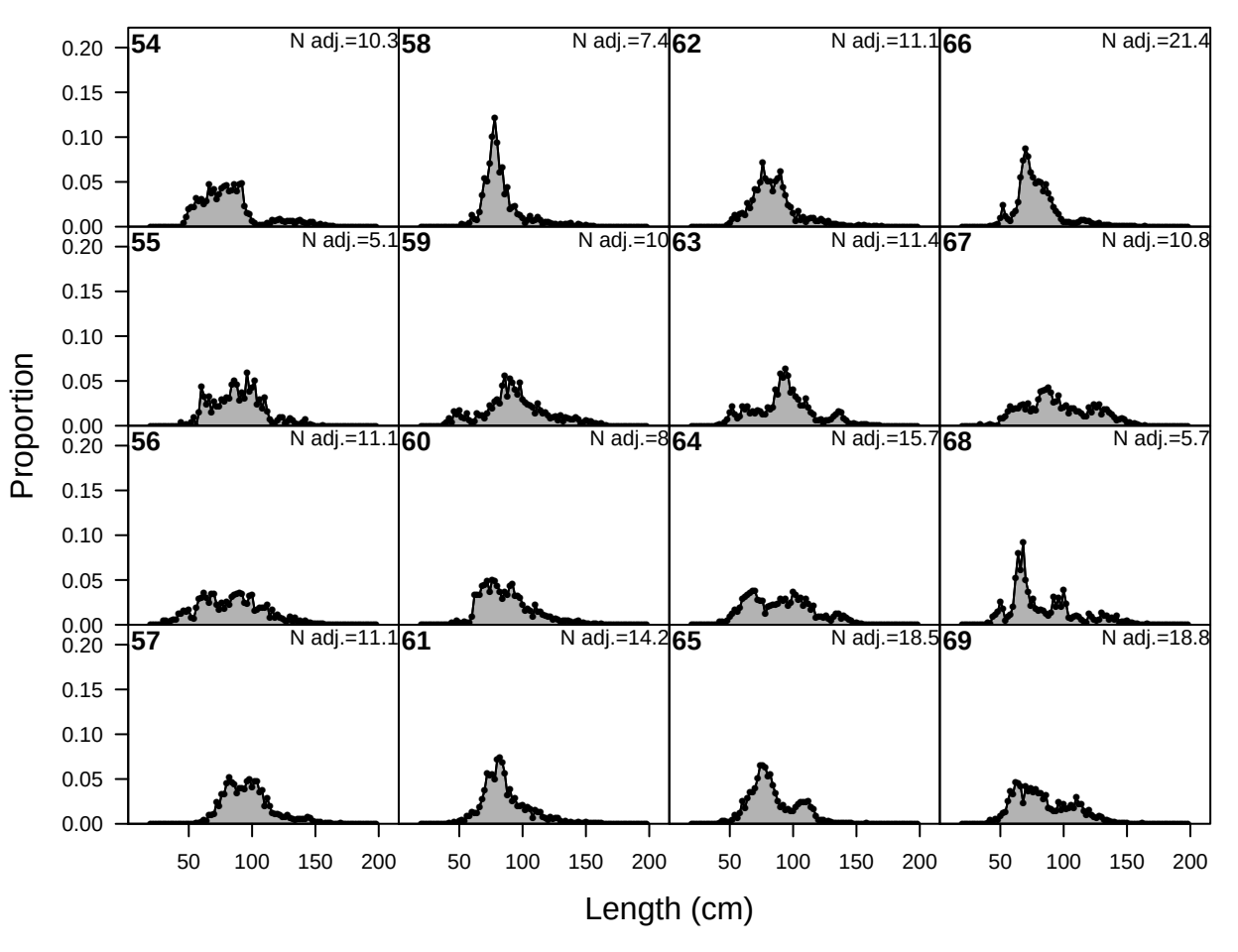

157
N adj.=7.3
162
N adj.=7.9
166
N adj.=3.4
170
N adj.=4.5
158
N adj.=6.8
163
N adj.=6.2
167
N adj.=2.8
171
N adj.=3.4
159
N adj.=6.8
164
N adj.=2.3
168
N adj.=1.7
172
N adj.=1.7
161
N adj.=4
165
N adj.=9.6
169
N adj.=1.7
173
N adj.=5.1
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

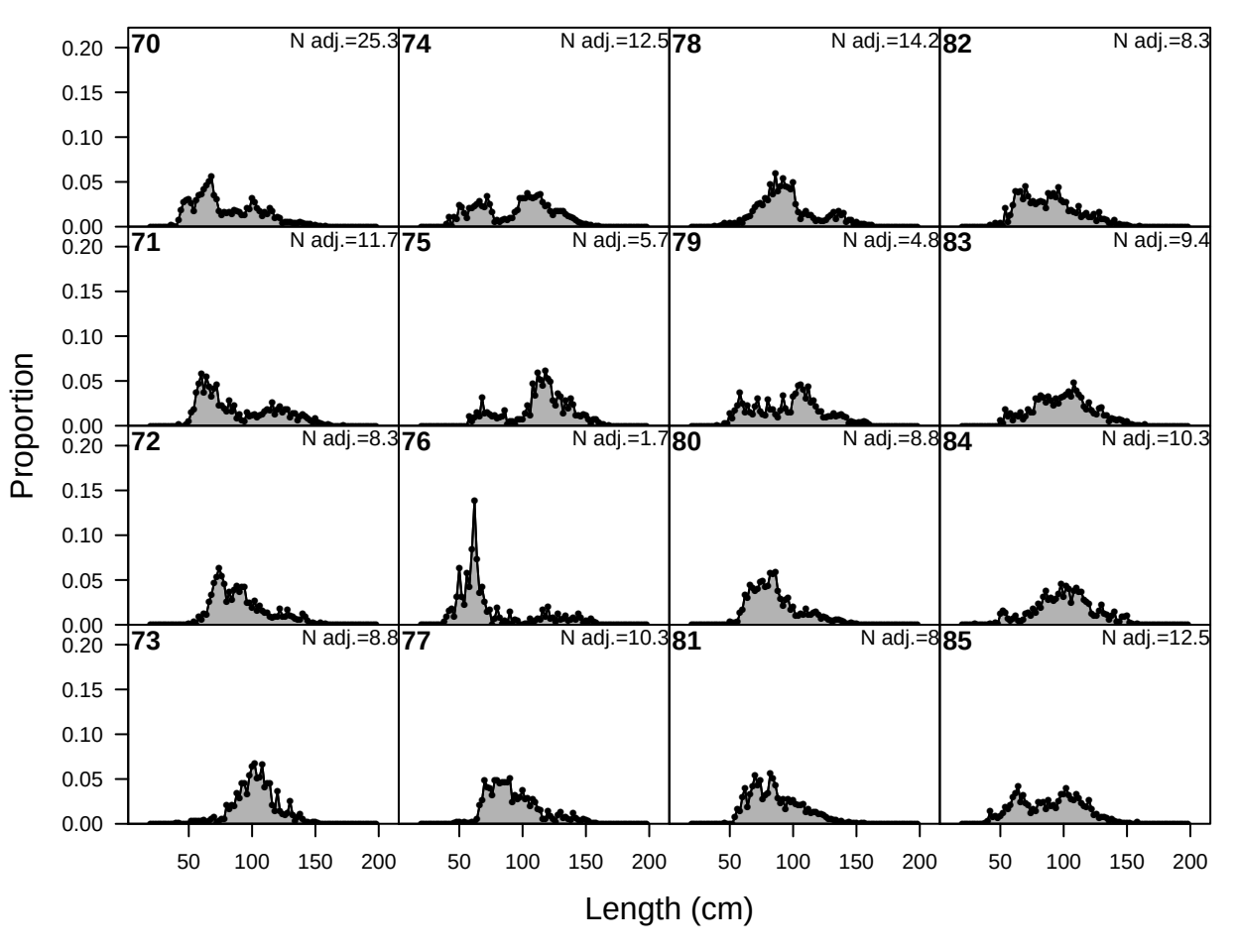

174
N adj.=4.5
179
N adj.=6.2
175
N adj.=8.5
177
N adj.=4.5
178
N adj.=6.8
0.25
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)

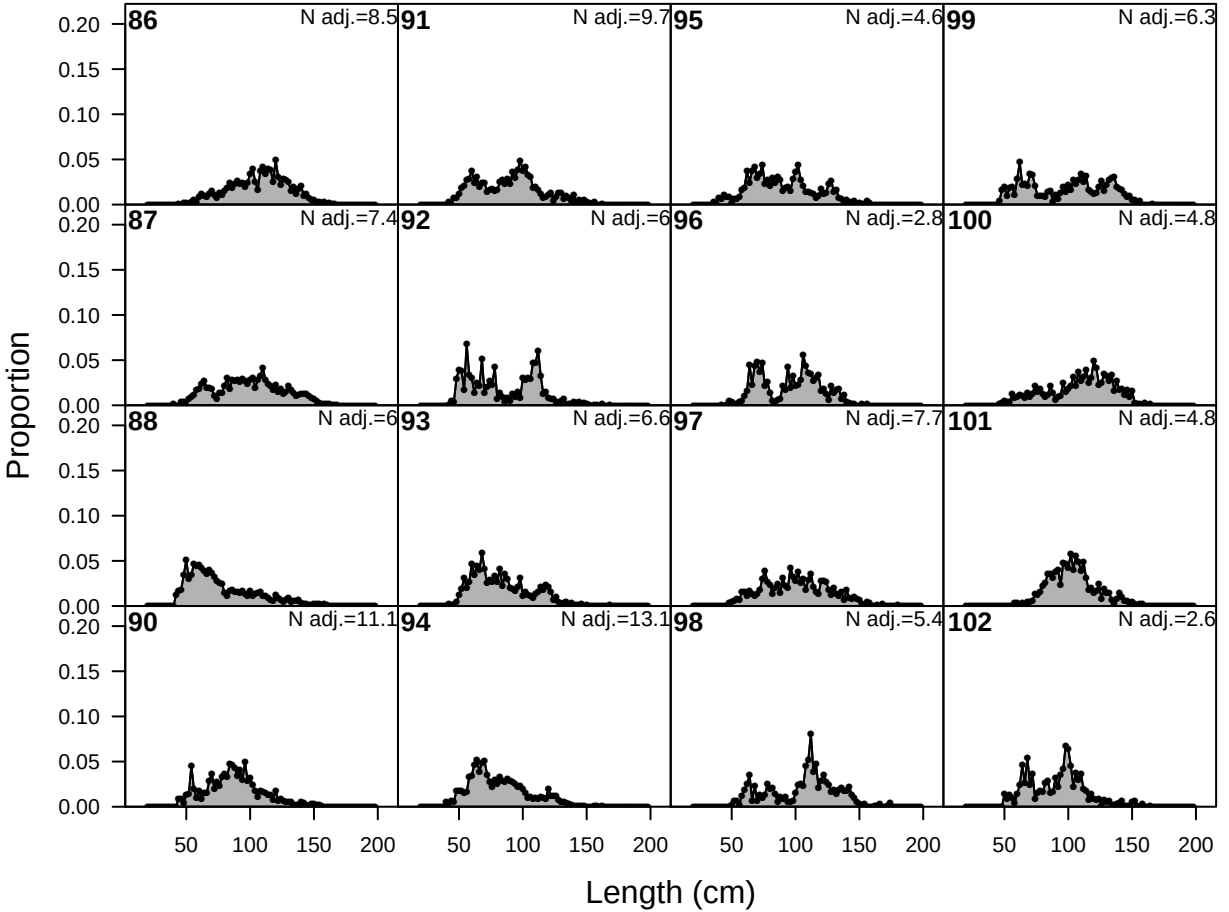

0.01
0.2
200
150
100
50
Length (cm)
38
48
59
70
80
90
102
115
128
141
154
167
Year

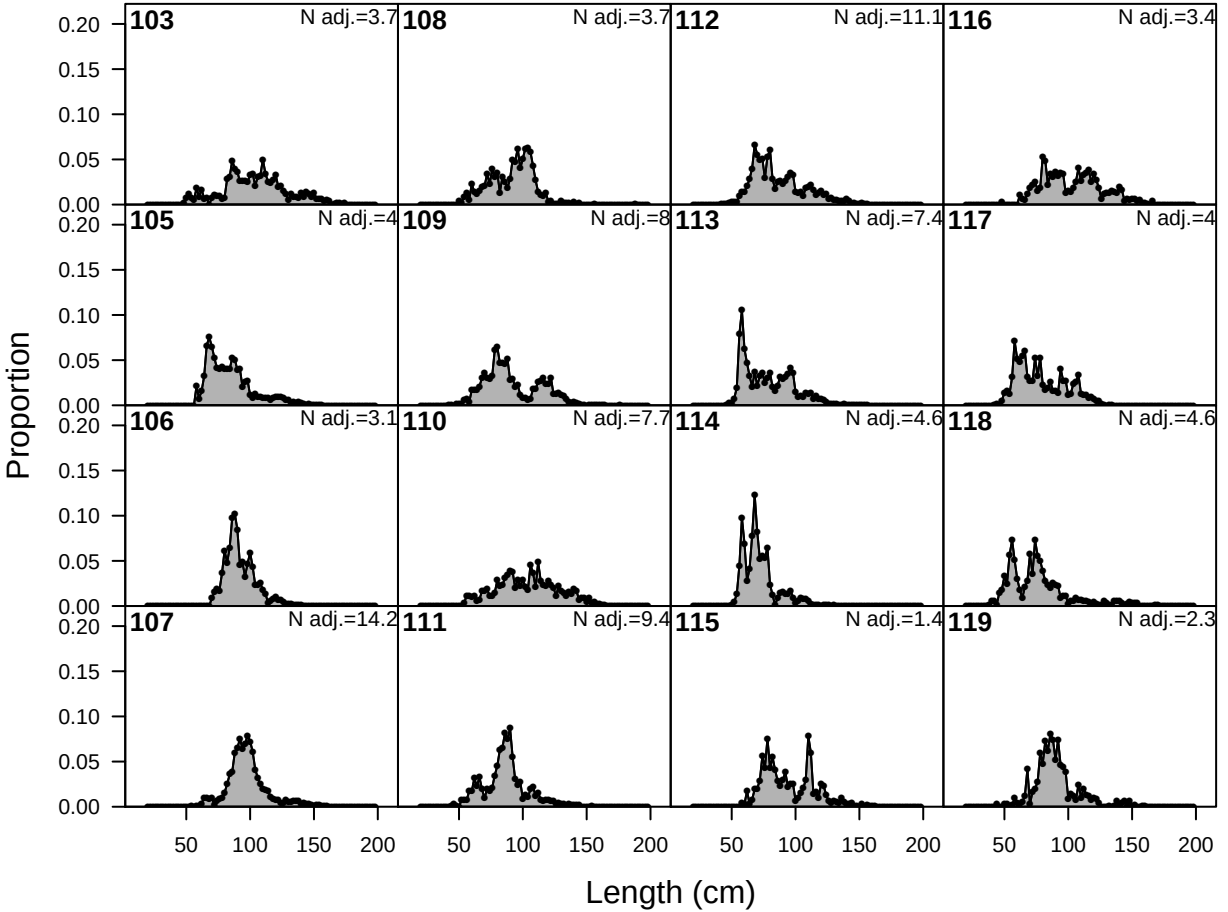

F17−DEL_M (whole catch)
150
100
50
Mean length
40
60
80
100
120
140
160
180
Year

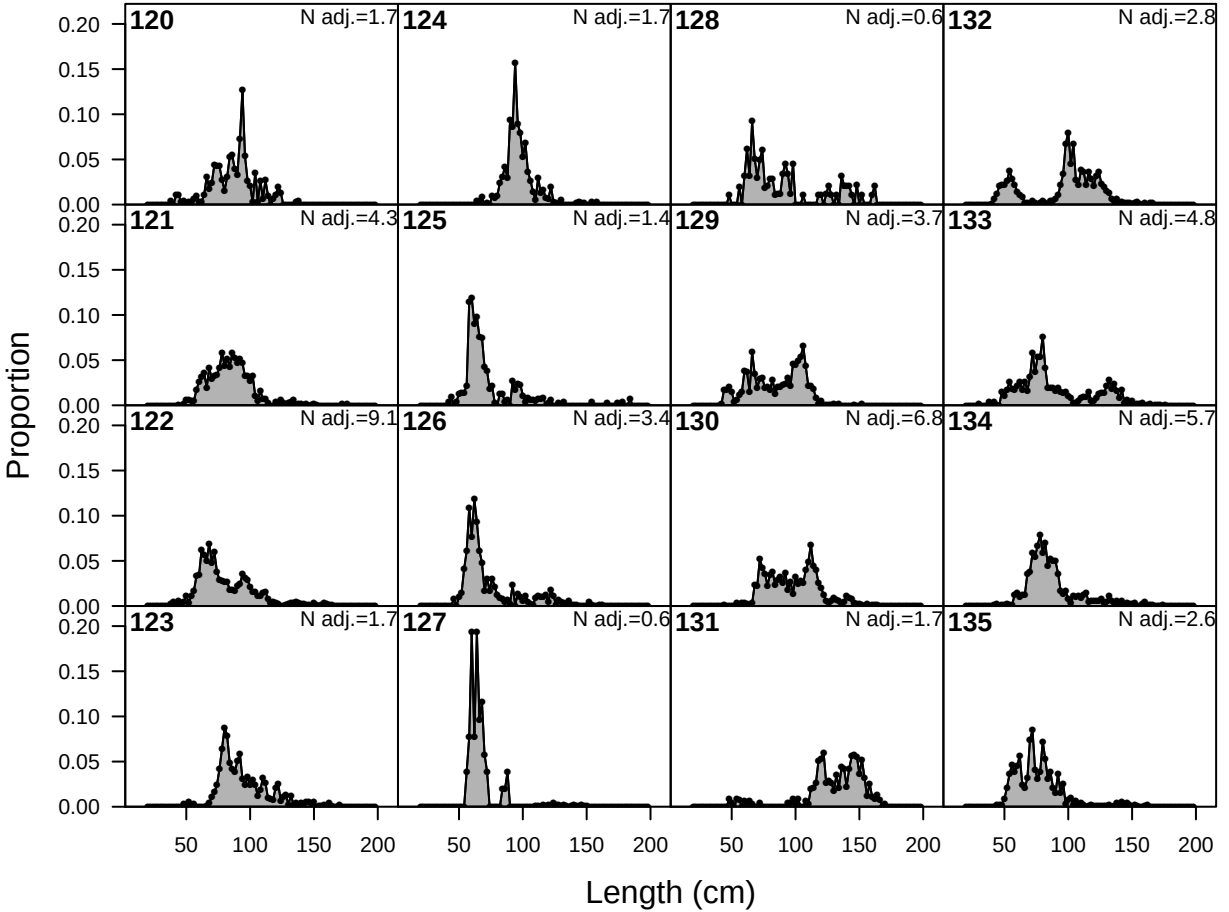

38
N adj.=3.1
42
N adj.=15.1
46
N adj.=13.4
50
N adj.=17.9
39
N adj.=5.1
43
N adj.=19.9
47
N adj.=18.5
51
N adj.=12
40
N adj.=14.5
44
N adj.=9.7
48
N adj.=9.7
52
N adj.=5.7
41
N adj.=8.5
45
N adj.=8.8
49
N adj.=16.2
53
N adj.=10.3
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Proportion
Length (cm)

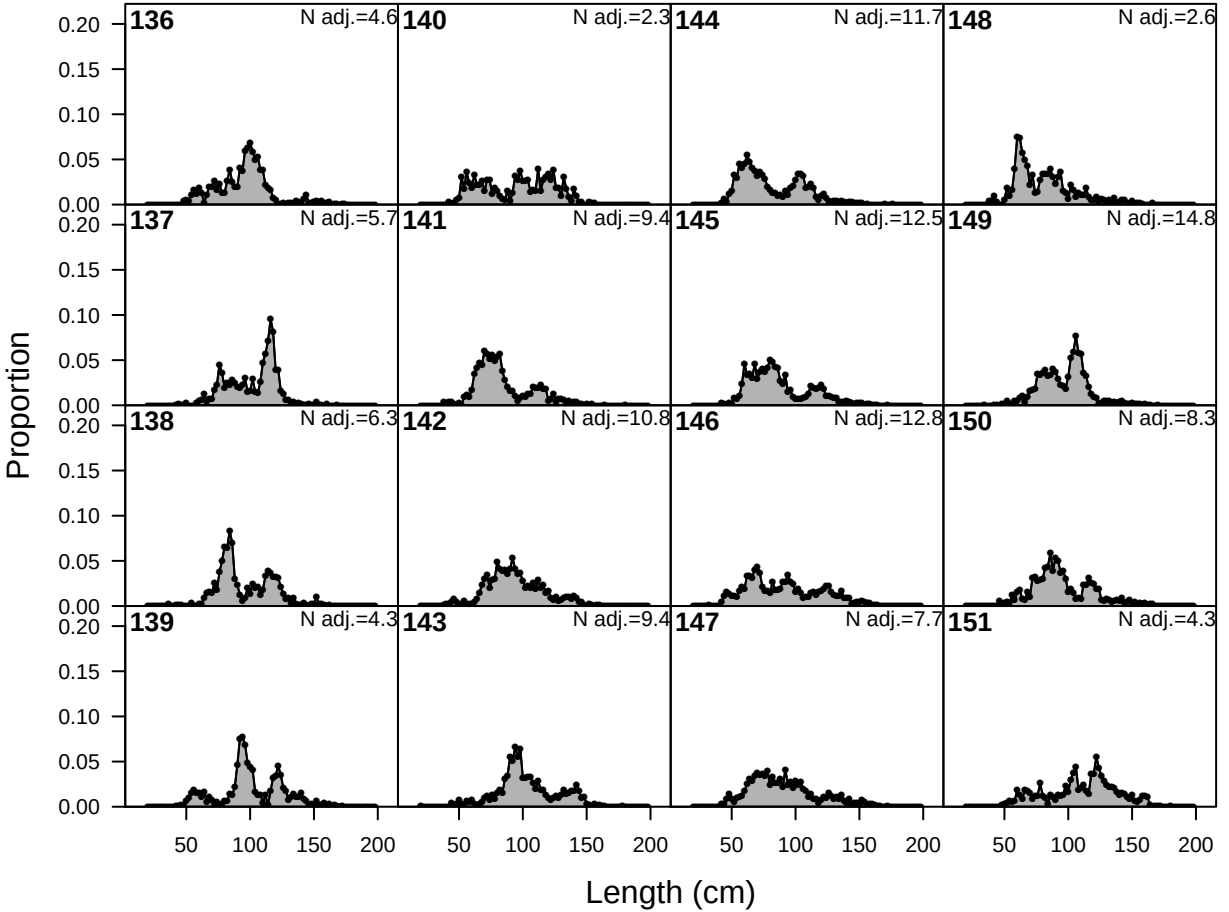

54
N adj.=10.3
58
N adj.=7.4
62
N adj.=11.1
66
N adj.=21.4
55
N adj.=5.1
59
N adj.=10
63
N adj.=11.4
67
N adj.=10.8
56
N adj.=11.1
60
N adj.=8
64
N adj.=15.7
68
N adj.=5.7
57
N adj.=11.1
61
N adj.=14.2
65
N adj.=18.5
69
N adj.=18.8
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Proportion
Length (cm)

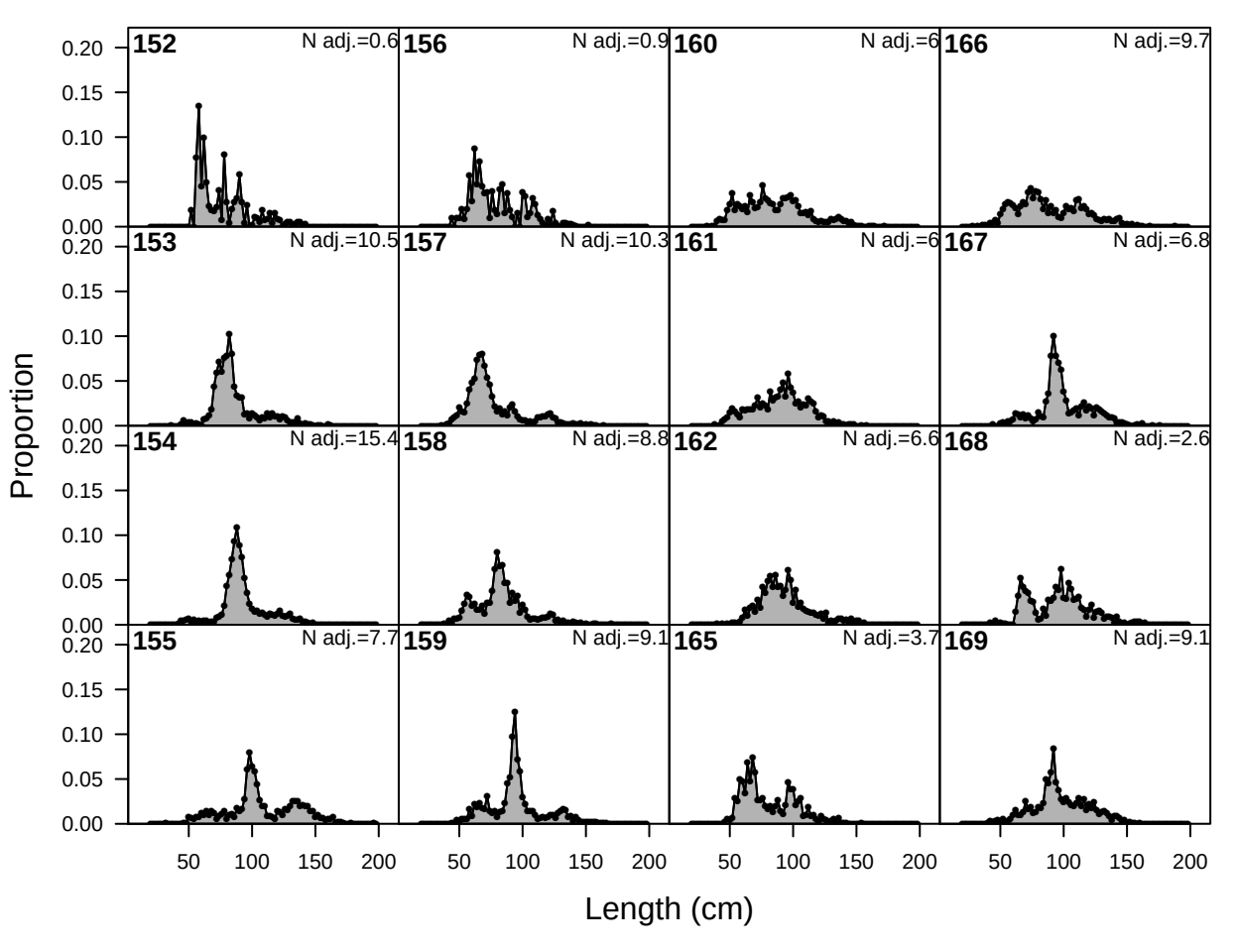

70
N adj.=25.3
74
N adj.=12.5
78
N adj.=14.2
82
N adj.=8.3
71
N adj.=11.7
75
N adj.=5.7
79
N adj.=4.8
83
N adj.=9.4
72
N adj.=8.3
76
N adj.=1.7
80
N adj.=8.8
84
N adj.=10.3
73
N adj.=8.8
77
N adj.=10.3
81
N adj.=8
85
N adj.=12.5
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Proportion
Length (cm)


86
N adj.=8.5
91
N adj.=9.7
95
N adj.=4.6
99
N adj.=6.3
87
N adj.=7.4
92
N adj.=6
96
N adj.=2.8
100
N adj.=4.8
88
N adj.=6
93
N adj.=6.6
97
N adj.=7.7
101
N adj.=4.8
90
N adj.=11.1
94
N adj.=13.1
98
N adj.=5.4
102
N adj.=2.6
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


103
N adj.=3.7
108
N adj.=3.7
112
N adj.=11.1
116
N adj.=3.4
105
N adj.=4
109
N adj.=8
113
N adj.=7.4
117
N adj.=4
106
N adj.=3.1
110
N adj.=7.7
114
N adj.=4.6
118
N adj.=4.6
107
N adj.=14.2
111
N adj.=9.4
115
N adj.=1.4
119
N adj.=2.3
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


120
N adj.=1.7
124
N adj.=1.7
128
N adj.=0.6
132
N adj.=2.8
121
N adj.=4.3
125
N adj.=1.4
129
N adj.=3.7
133
N adj.=4.8
122
N adj.=9.1
126
N adj.=3.4
130
N adj.=6.8
134
N adj.=5.7
123
N adj.=1.7
127
N adj.=0.6
131
N adj.=1.7
135
N adj.=2.6
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Proportion
Length (cm)


136
N adj.=4.6
140
N adj.=2.3
144
N adj.=11.7
148
N adj.=2.6
137
N adj.=5.7
141
N adj.=9.4
145
N adj.=12.5
149
N adj.=14.8
138
N adj.=6.3
142
N adj.=10.8
146
N adj.=12.8
150
N adj.=8.3
139
N adj.=4.3
143
N adj.=9.4
147
N adj.=7.7
151
N adj.=4.3
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


152
N adj.=0.6
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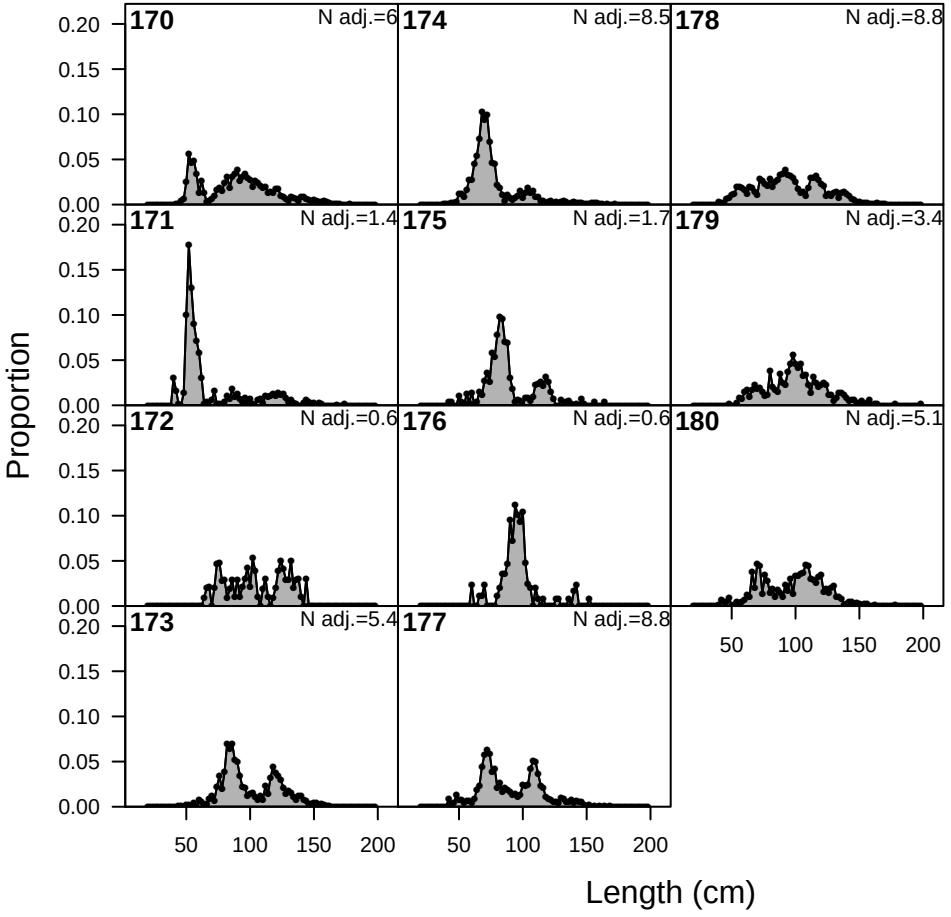
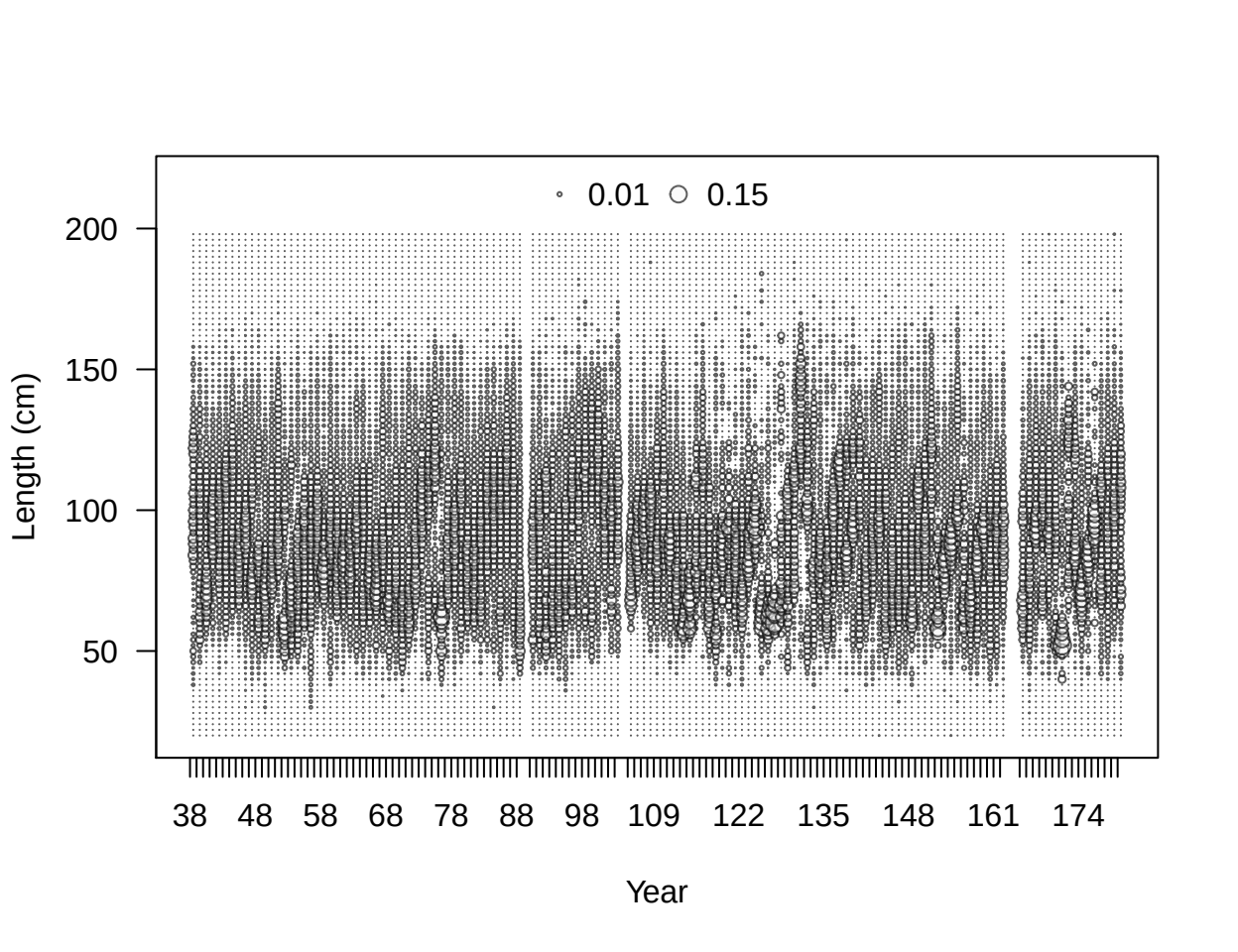
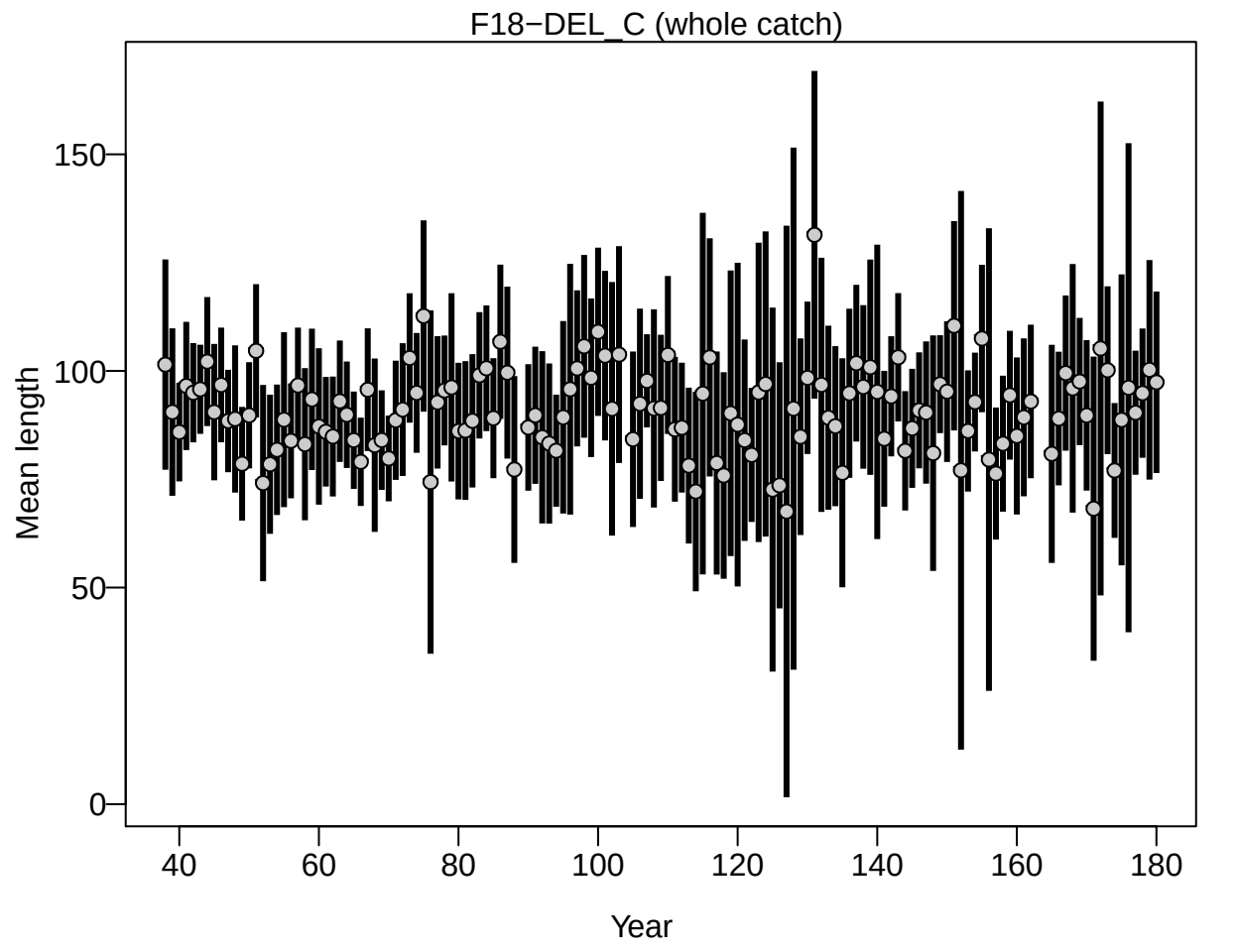
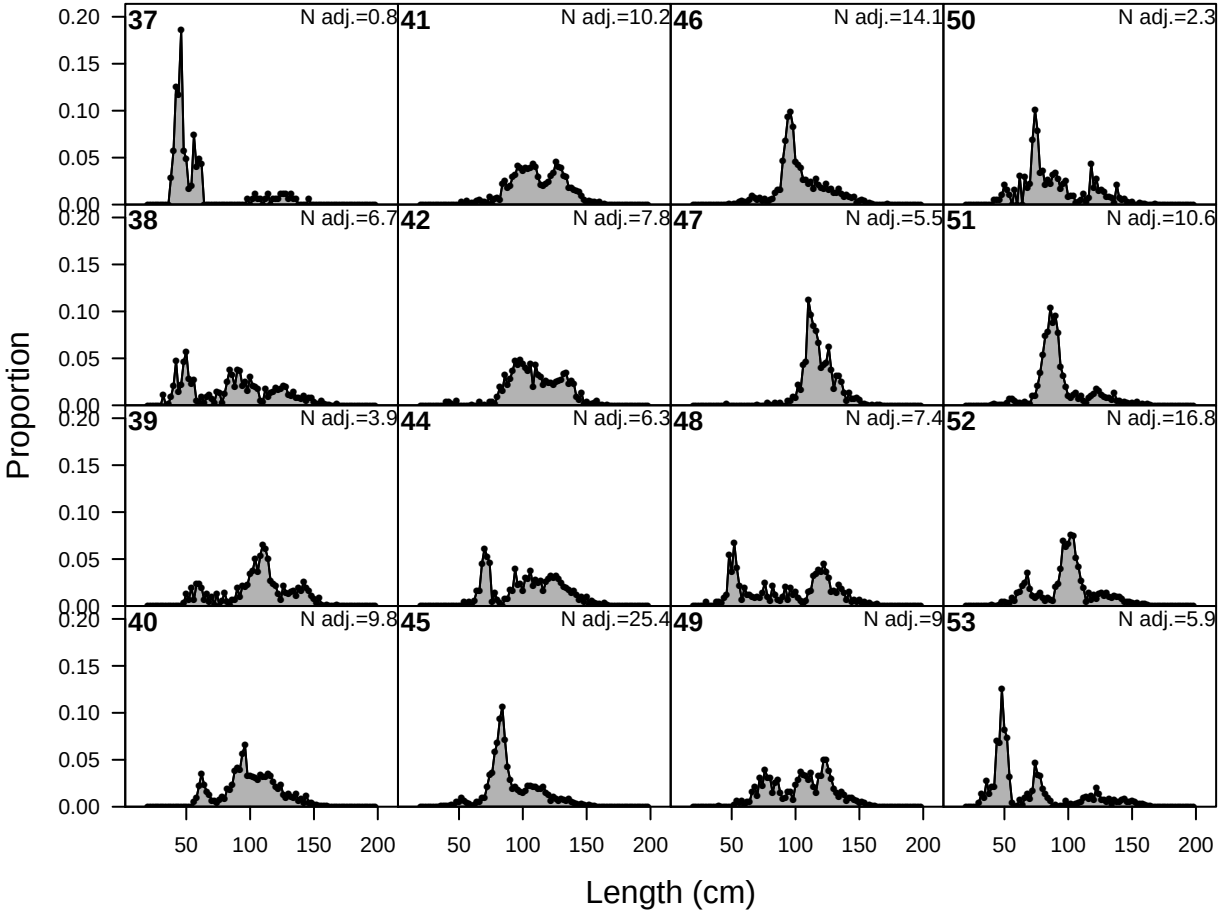
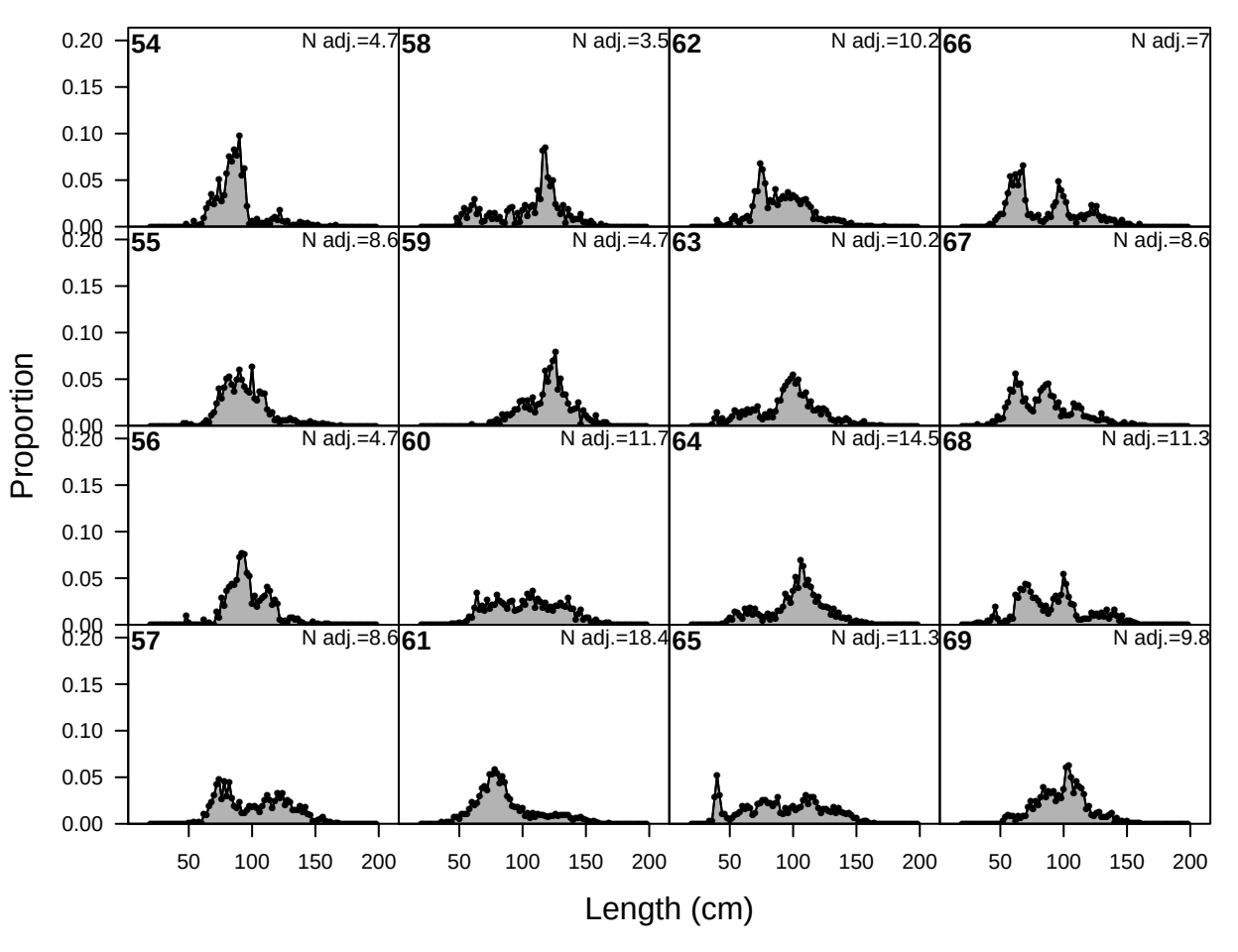
N adj.=0.9
160
N adj.=6
166
N adj.=9.7
153
N adj.=10.5
157
N adj.=10.3
161
N adj.=6
167
N adj.=6.8
154
N adj.=15.4
158
N adj.=8.8
162
N adj.=6.6
168
N adj.=2.6
155
N adj.=7.7
159
N adj.=9.1
165
N adj.=3.7
169
N adj.=9.1
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)

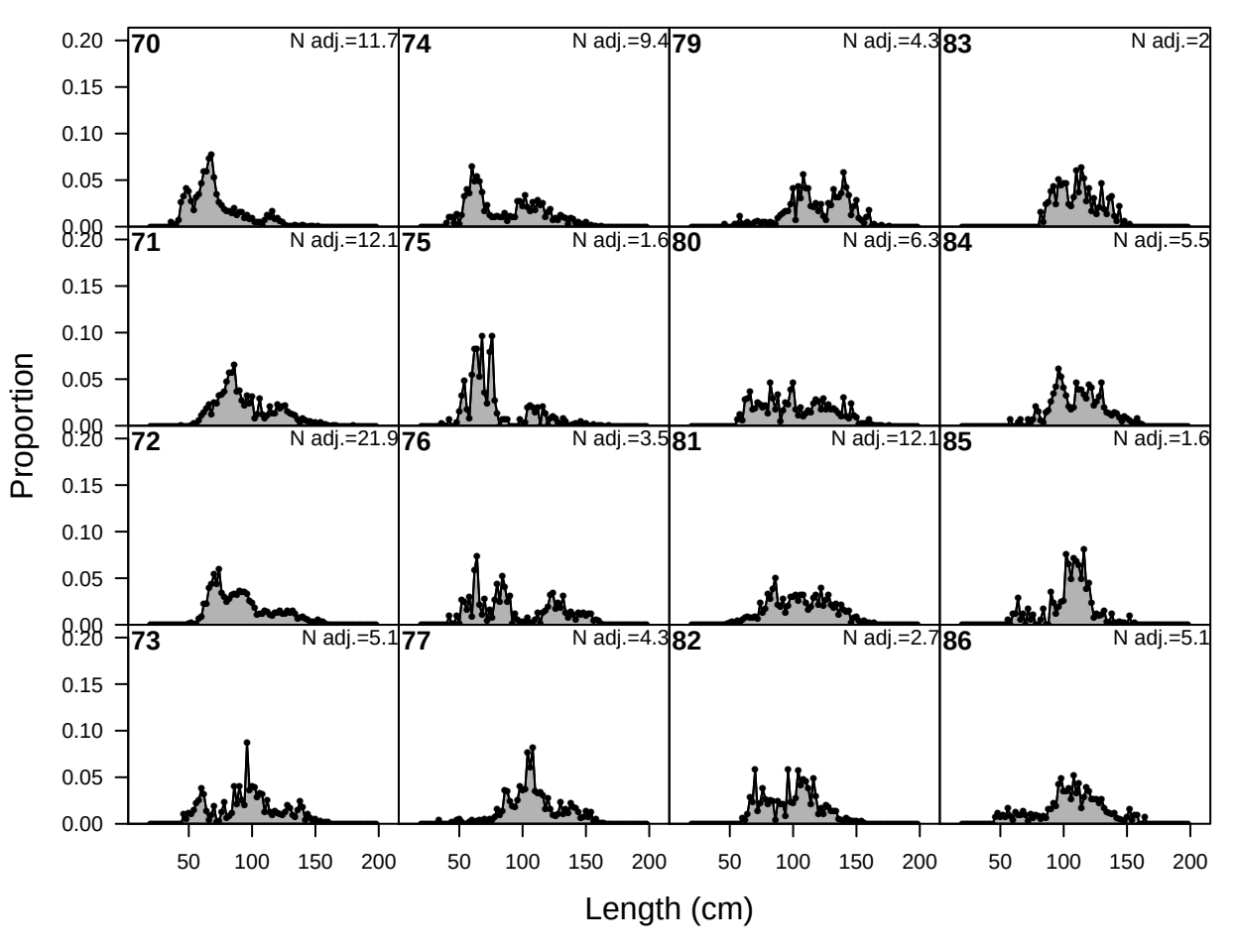

170
N adj.=6
174
N adj.=8.5
178
N adj.=8.8
171
N adj.=1.4
175
N adj.=1.7
179
N adj.=3.4
172
N adj.=0.6
176
N adj.=0.6
180
N adj.=5.1
173
N adj.=5.4
177
N adj.=8.8
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Proportion
Length (cm)

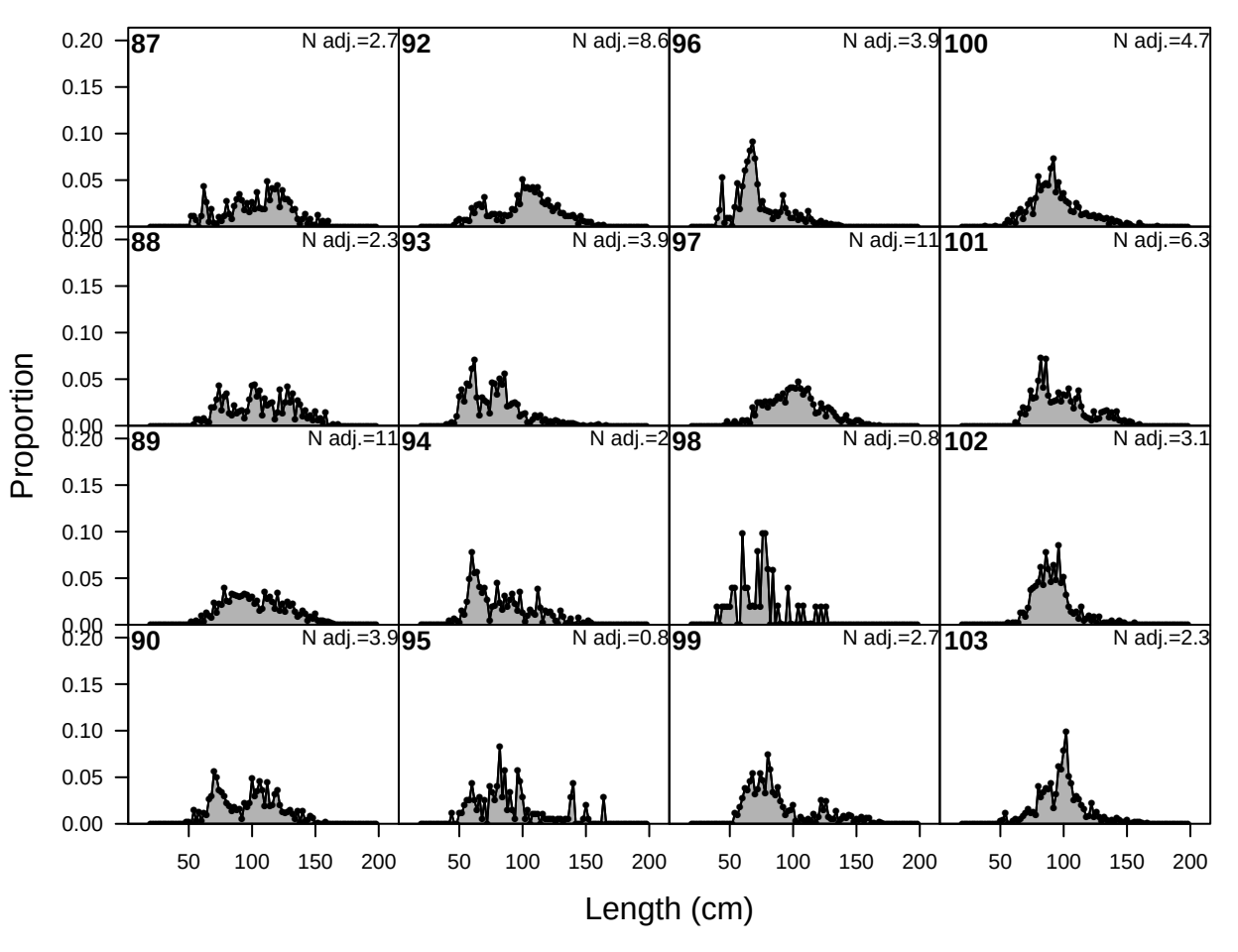

0.01
0.15
200
150
100
50
Length (cm)
38
48
58
68
78
88
98
109
122
135
148
161
174
Year

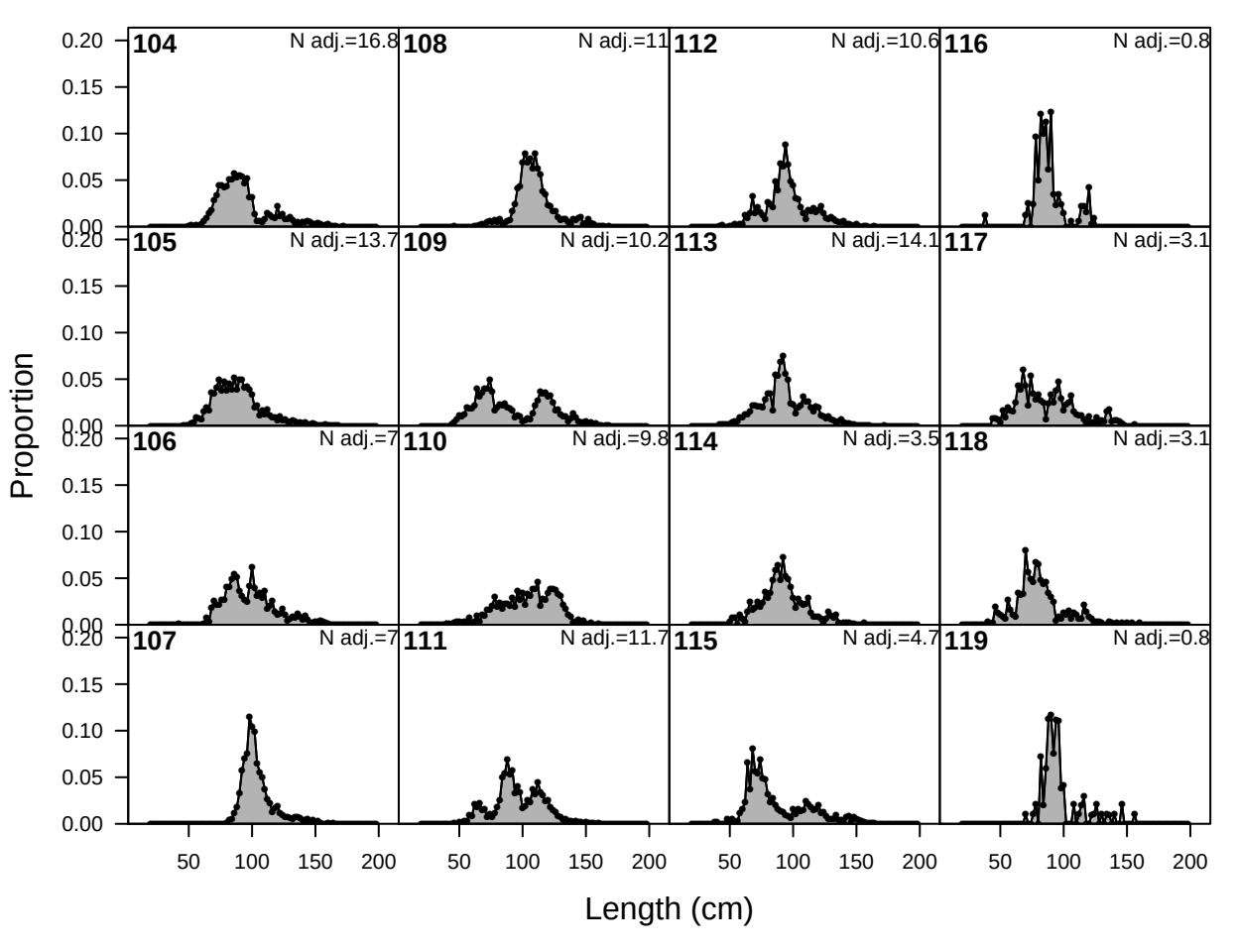

F18−DEL_C (whole catch)
Mean length
150
100
50
0
40
60
80
100
120
140
160
180
Year

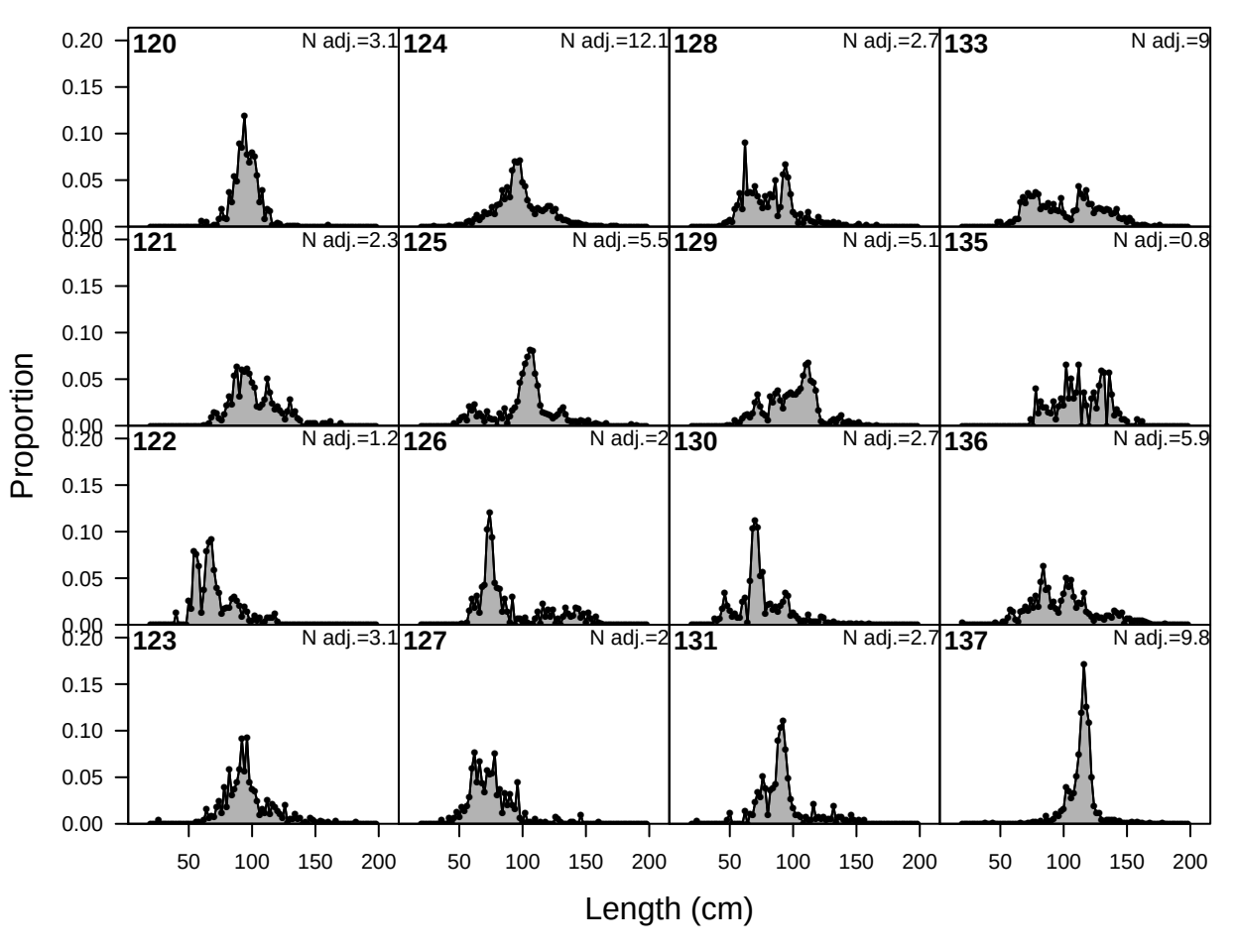

37
N adj.=0.8
41
N adj.=10.2
46
N adj.=14.1
50
N adj.=2.3
38
N adj.=6.7
42
N adj.=7.8
47
N adj.=5.5
51
N adj.=10.6
39
N adj.=3.9
44
N adj.=6.3
48
N adj.=7.4
52
N adj.=16.8
40
N adj.=9.8
45
N adj.=25.4
49
N adj.=9
53
N adj.=5.9
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


54
N adj.=4.7
58
N adj.=3.5
62
N adj.=10.2
66
N adj.=7
55
N adj.=8.6
59
N adj.=4.7
63
N adj.=10.2
67
N adj.=8.6
56
N adj.=4.7
60
N adj.=11.7
64
N adj.=14.5
68
N adj.=11.3
57
N adj.=8.6
61
N adj.=18.4
65
N adj.=11.3
69
N adj.=9.8
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


70
N adj.=11.7
74
N adj.=9.4
79
N adj.=4.3
83
N adj.=2
71
N adj.=12.1
75
N adj.=1.6
80
N adj.=6.3
84
N adj.=5.5
72
N adj.=21.9
76
N adj.=3.5
81
N adj.=12.1
85
N adj.=1.6
73
N adj.=5.1
77
N adj.=4.3
82
N adj.=2.7
86
N adj.=5.1
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)


87
N adj.=2.7
92
N adj.=8.6
96
N adj.=3.9
100
N adj.=4.7
88
N adj.=2.3
93
N adj.=3.9
97
N adj.=11
101
N adj.=6.3
89
N adj.=11
94
N adj.=2
98
N adj.=0.8
102
N adj.=3.1
90
N adj.=3.9
95
N adj.=0.8
99
N adj.=2.7
103
N adj.=2.3
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)


104
N adj.=16.8
108
N adj.=11
112
N adj.=10.6
116
N adj.=0.8
105
N adj.=13.7
109
N adj.=10.2
113
N adj.=14.1
117
N adj.=3.1
106
N adj.=7
110
N adj.=9.8
114
N adj.=3.5
118
N adj.=3.1
107
N adj.=7
111
N adj.=11.7
115
N adj.=4.7
119
N adj.=0.8
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)


120
N adj.=3.1
124
N adj.=12.1
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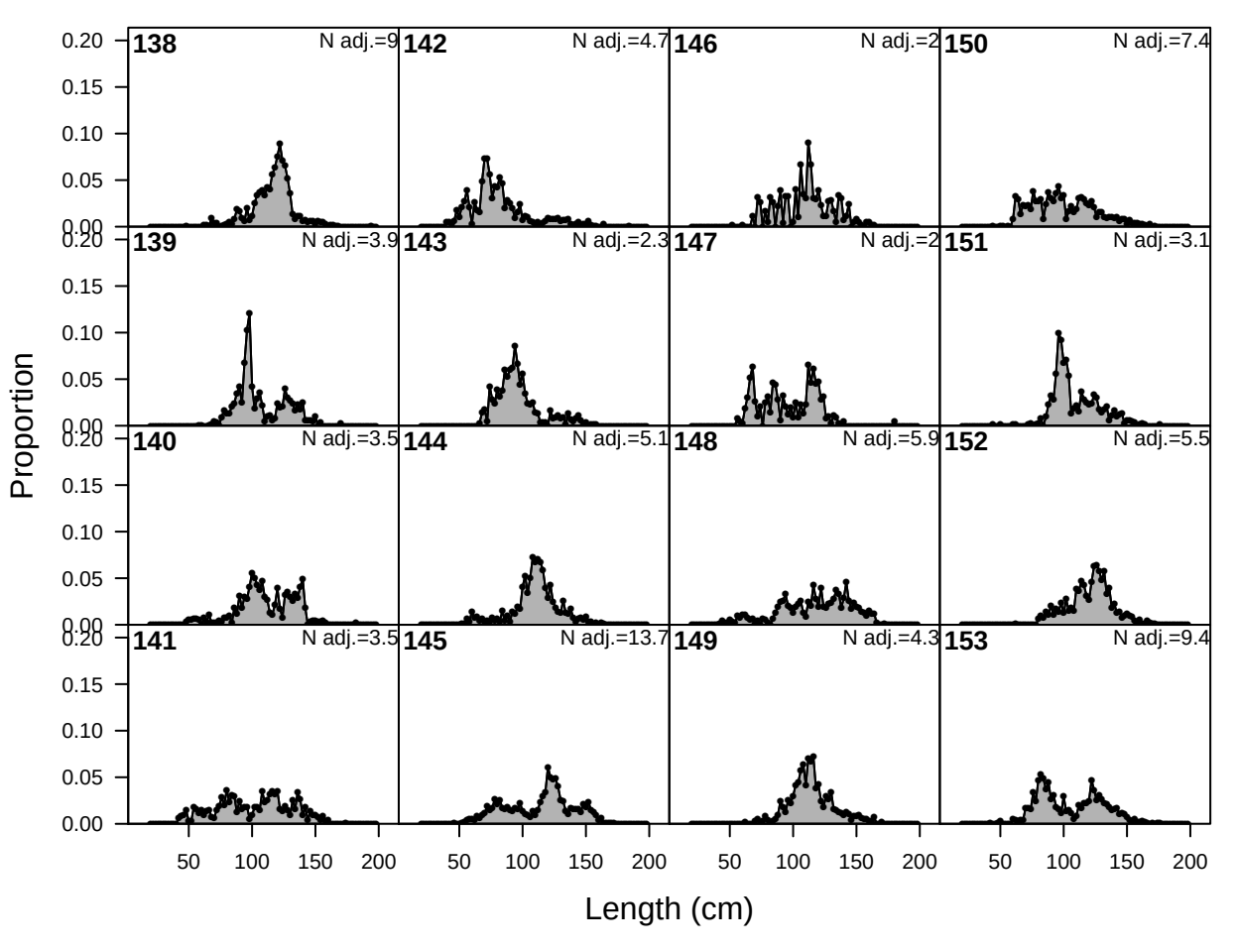
N adj.=2.7
133
N adj.=9
121
N adj.=2.3
125
N adj.=5.5
129
N adj.=5.1
135
N adj.=0.8
122
N adj.=1.2
126
N adj.=2
130
N adj.=2.7
136
N adj.=5.9
123
N adj.=3.1
127
N adj.=2
131
N adj.=2.7
137
N adj.=9.8
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


138
N adj.=9
142
N adj.=4.7
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N adj.=2
150
N adj.=7.4
139
N adj.=3.9
143
N adj.=2.3
147
N adj.=2
151
N adj.=3.1
140
N adj.=3.5
144
N adj.=5.1
148
N adj.=5.9
152
N adj.=5.5
141
N adj.=3.5
145
N adj.=13.7
149
N adj.=4.3
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N adj.=9.4
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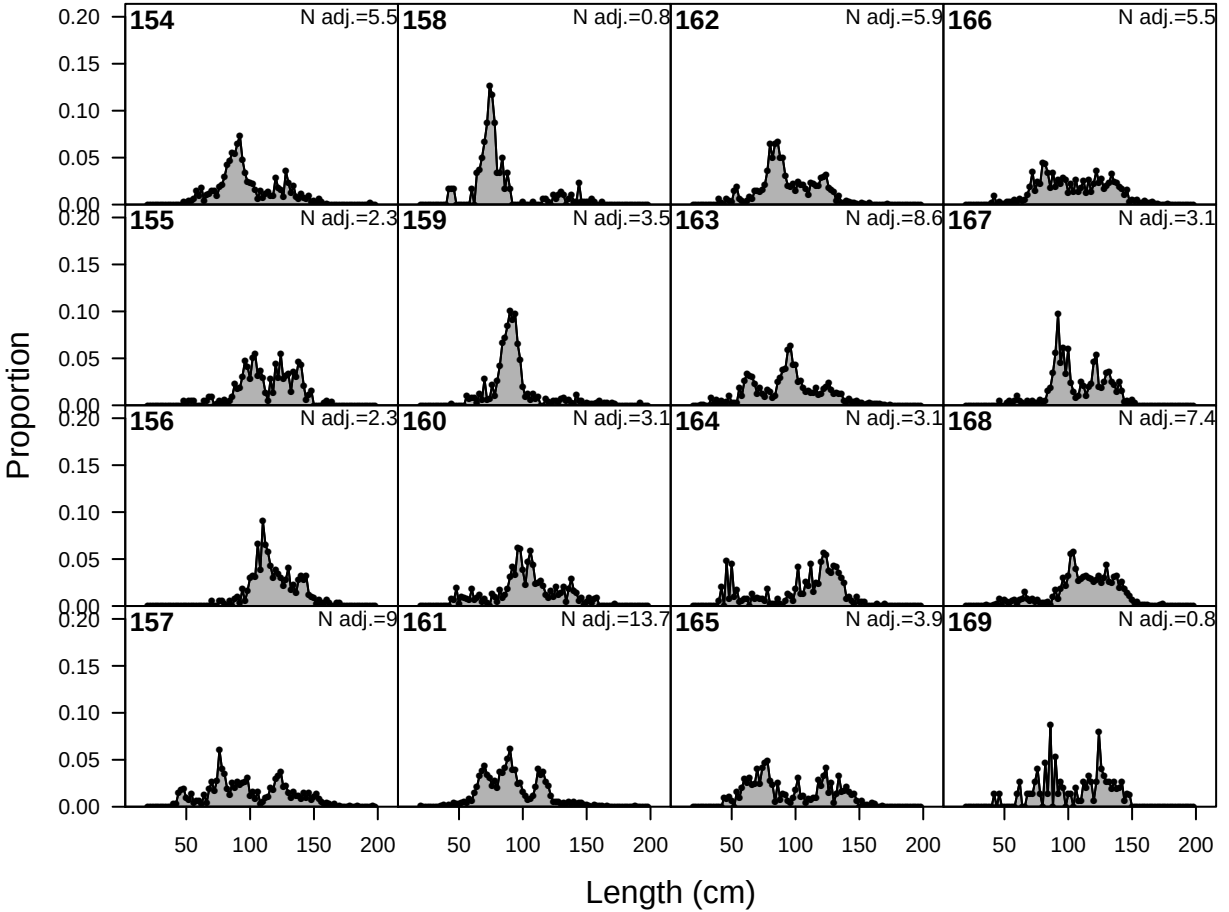
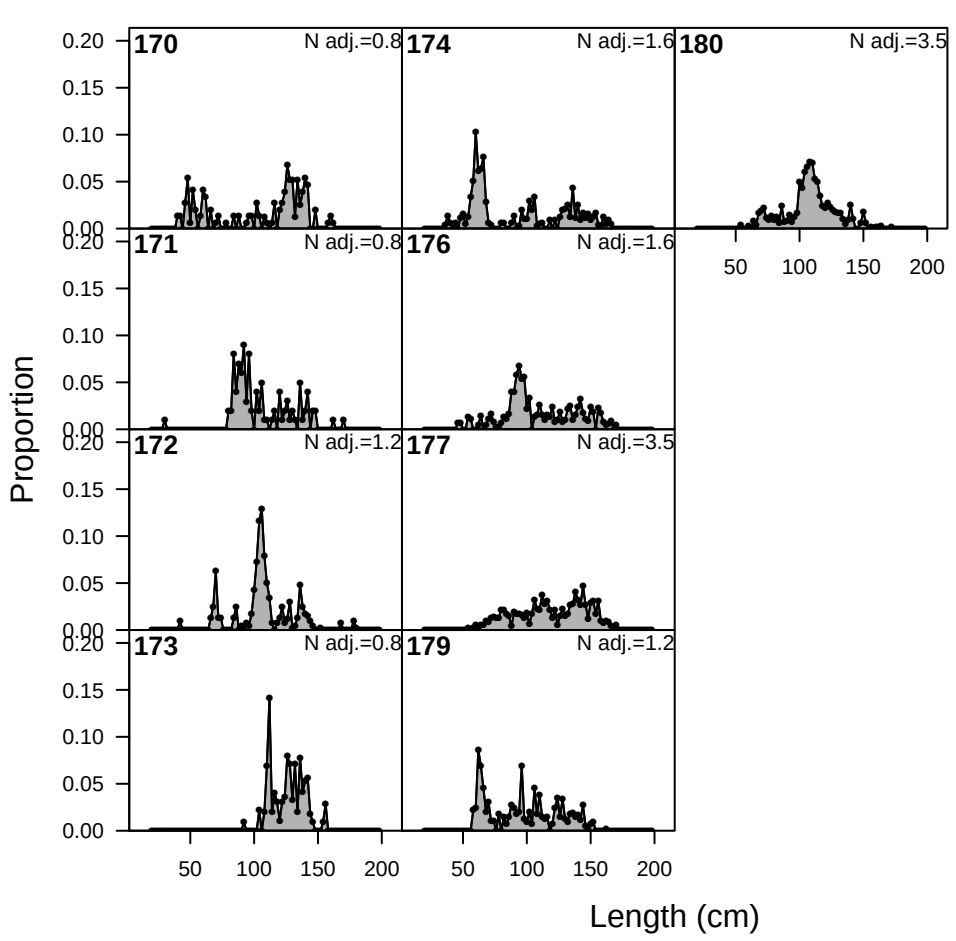
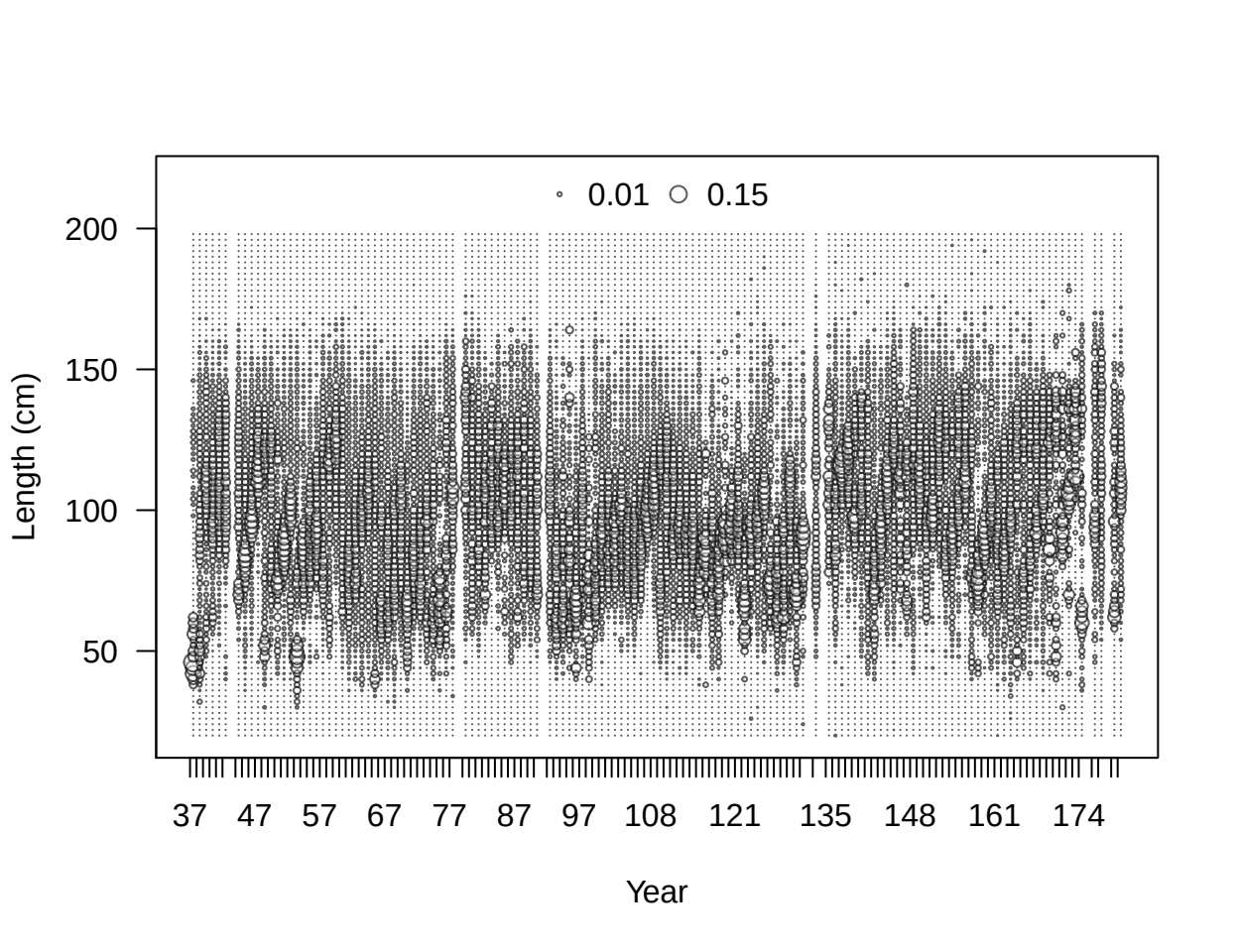
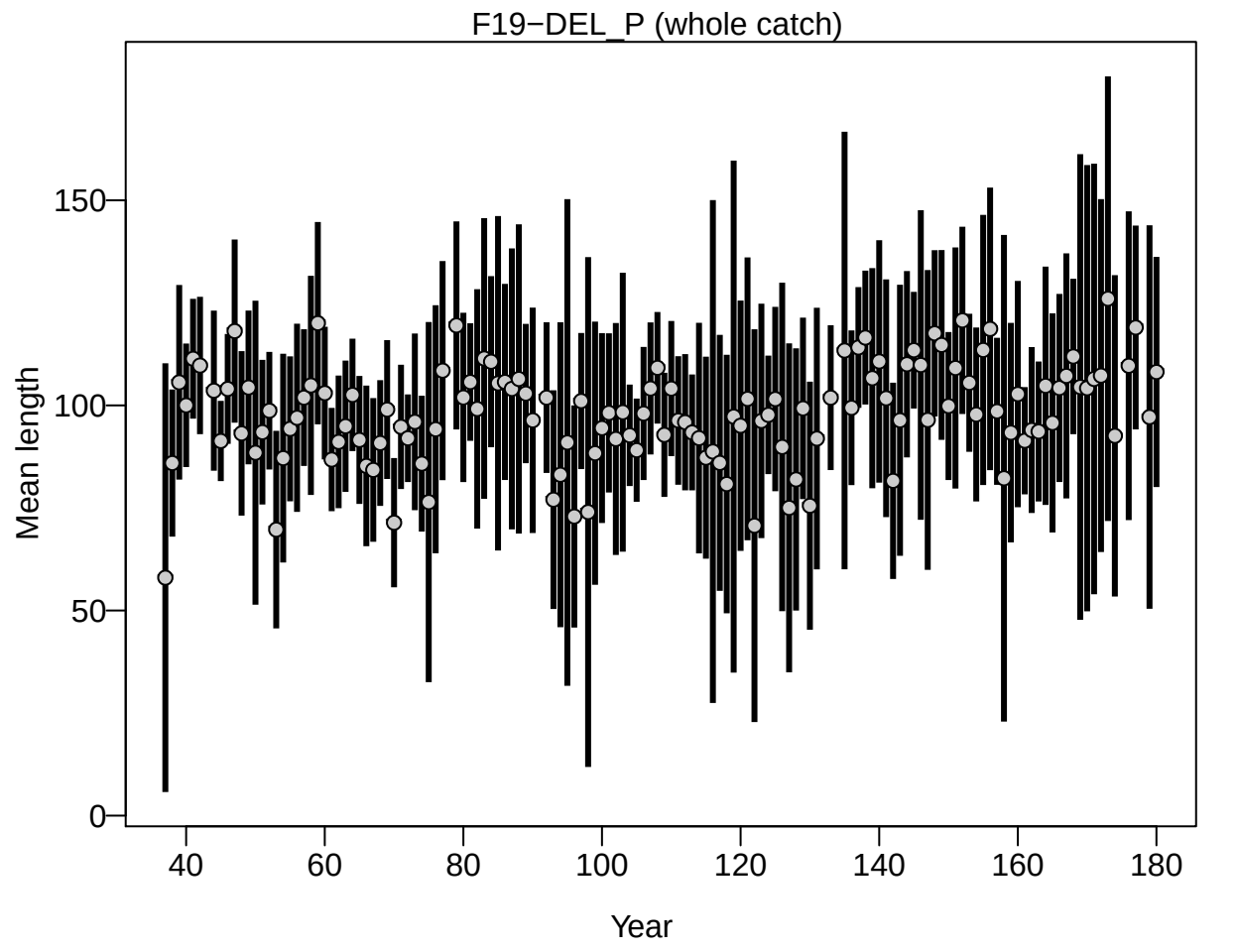
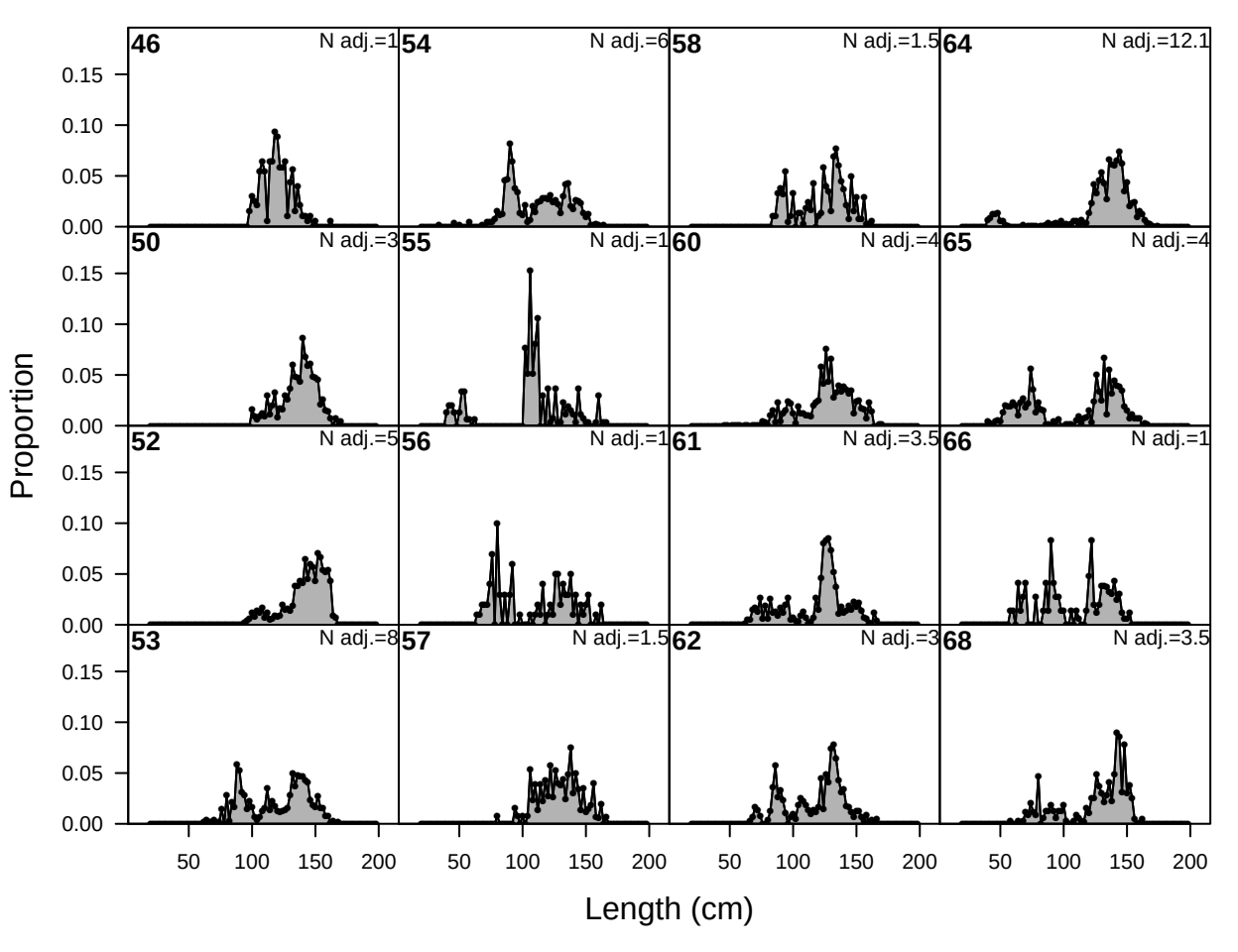
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)

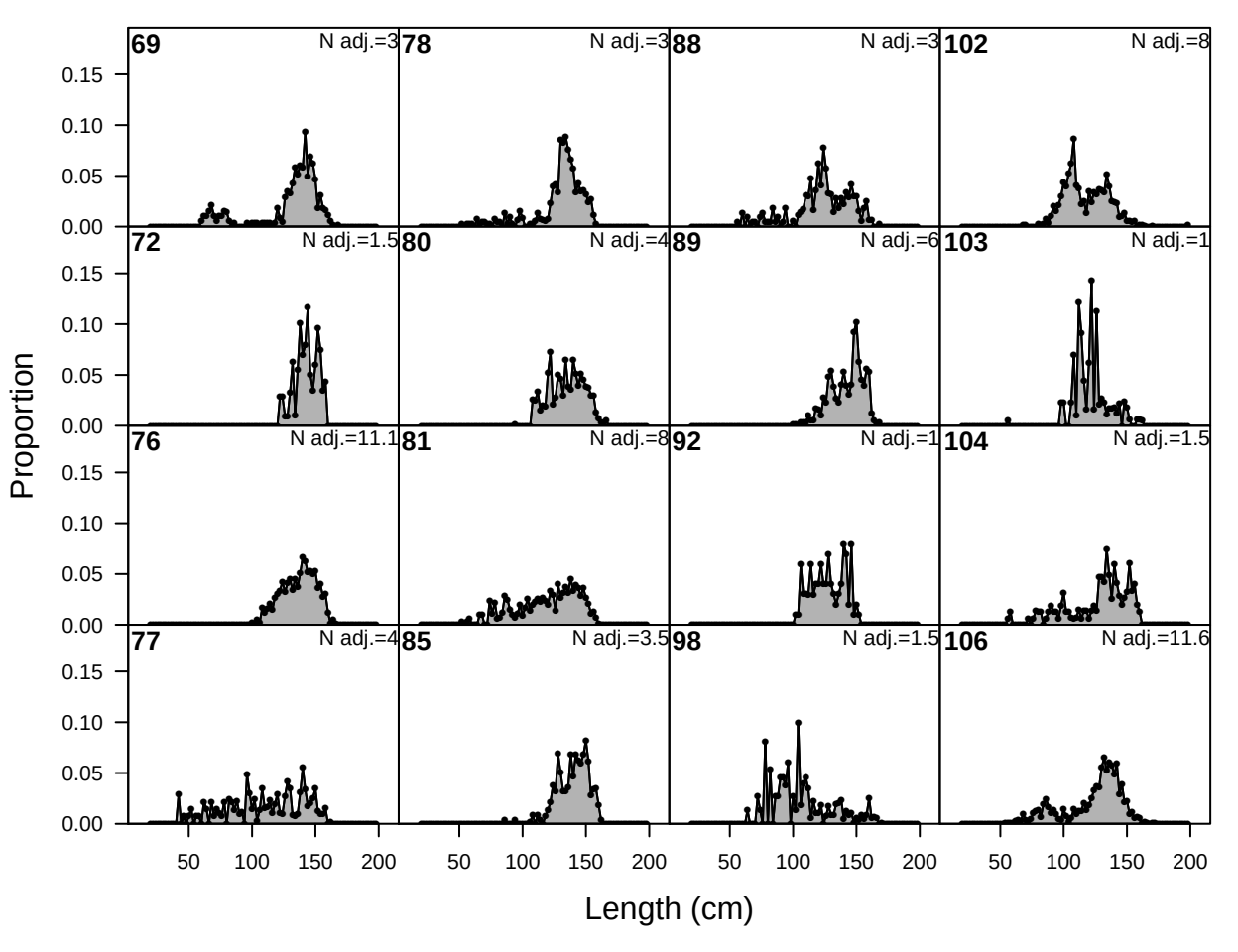

154
N adj.=5.5
158
N adj.=0.8
162
N adj.=5.9
166
N adj.=5.5
155
N adj.=2.3
159
N adj.=3.5
163
N adj.=8.6
167
N adj.=3.1
156
N adj.=2.3
160
N adj.=3.1
164
N adj.=3.1
168
N adj.=7.4
157
N adj.=9
161
N adj.=13.7
165
N adj.=3.9
169
N adj.=0.8
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Proportion
Length (cm)

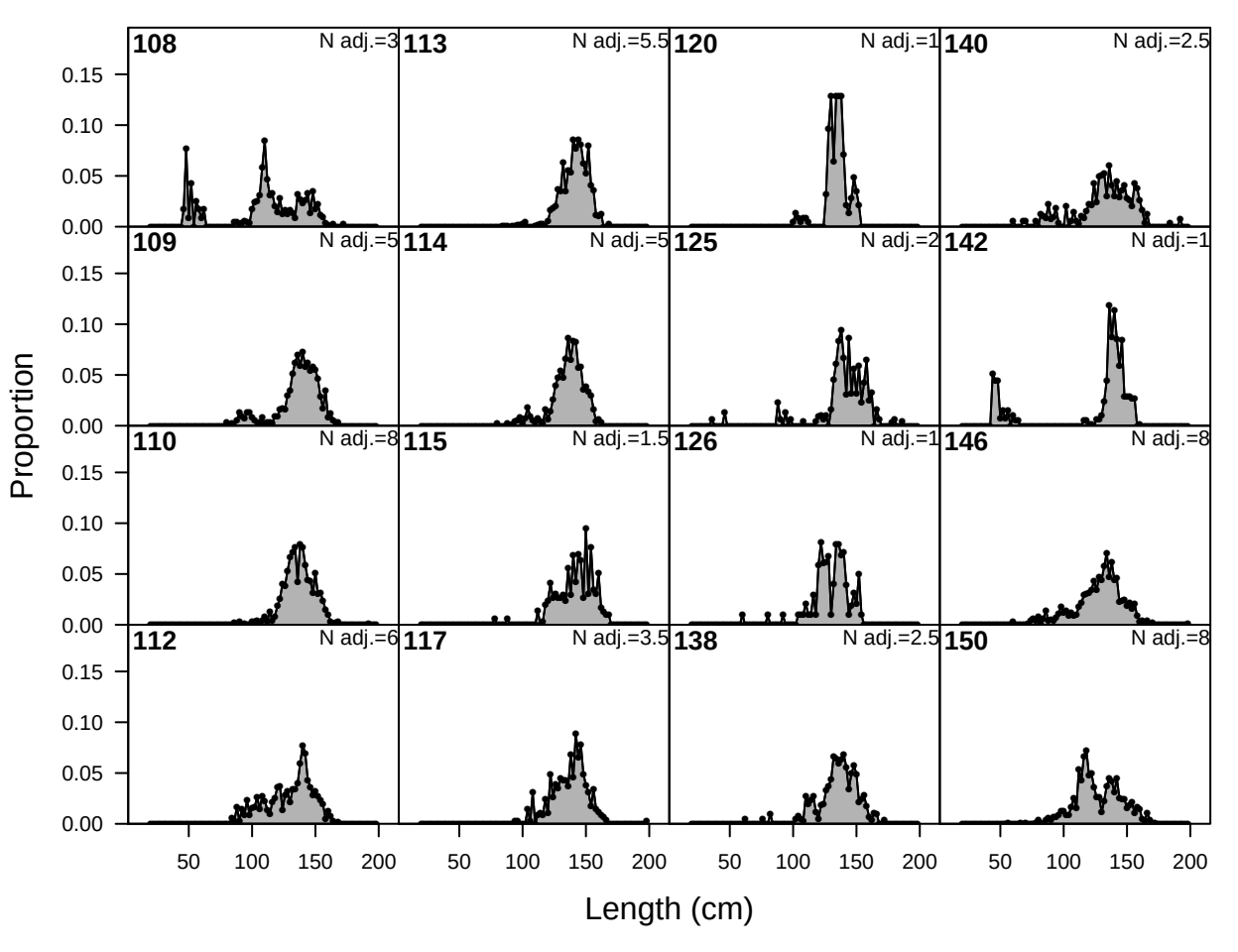

170
N adj.=0.8
174
N adj.=1.6
180
N adj.=3.5
171
N adj.=0.8
176
N adj.=1.6
172
N adj.=1.2
177
N adj.=3.5
173
N adj.=0.8
179
N adj.=1.2
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)

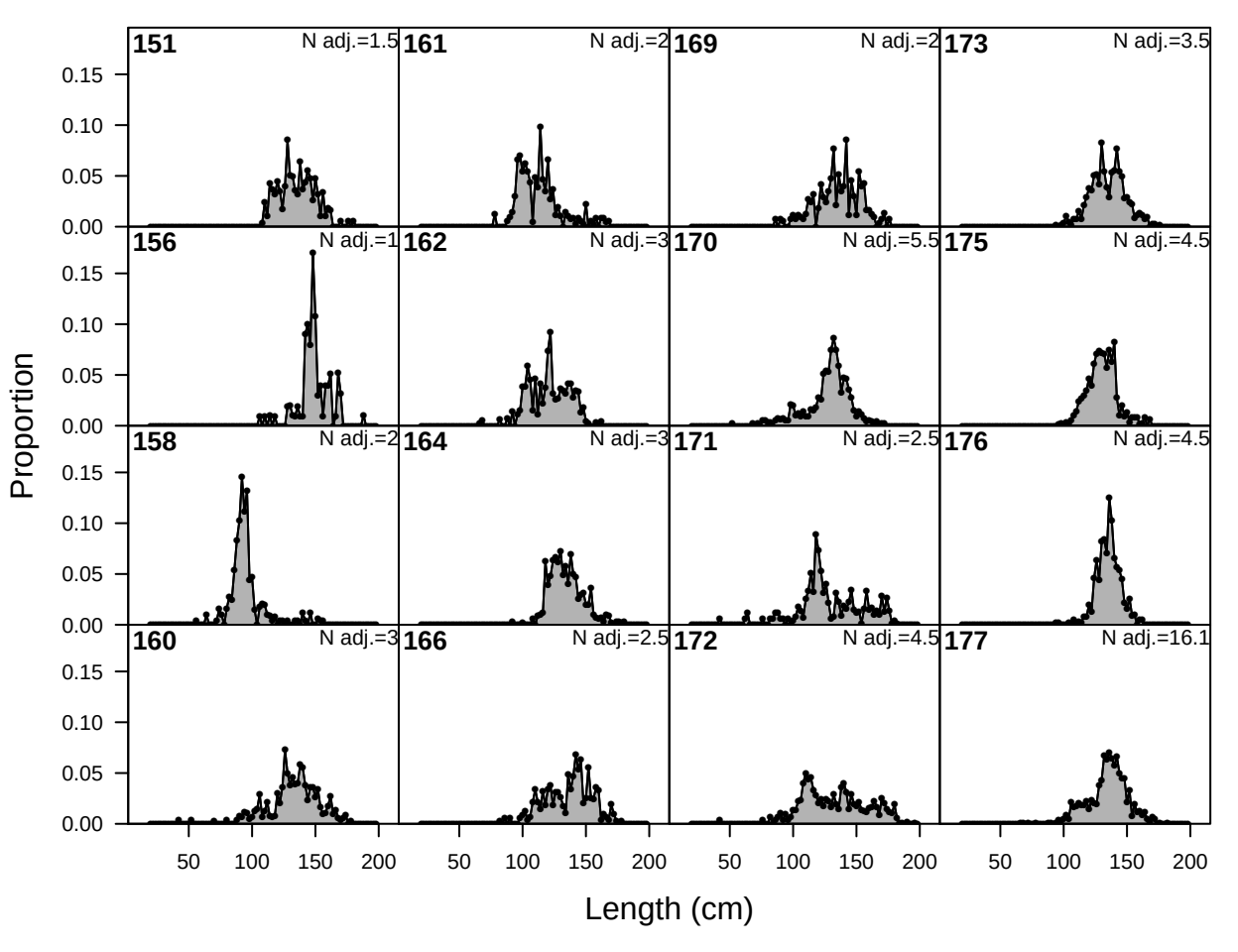

0.01
0.15
200
150
100
50
Length (cm)
37
47
57
67
77
87
97
108
121
135
148
161
174
Year

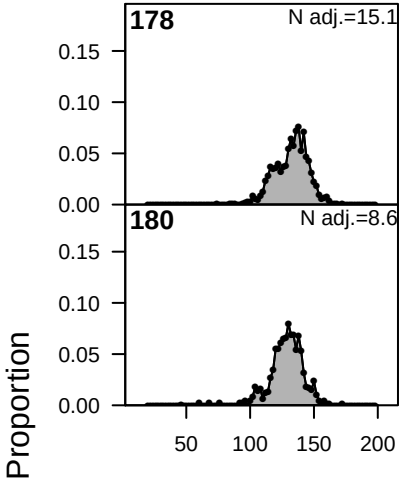

F19−DEL_P (whole catch)
Mean length
0
50
100
150
40
60
80
100
120
140
160
180
Year

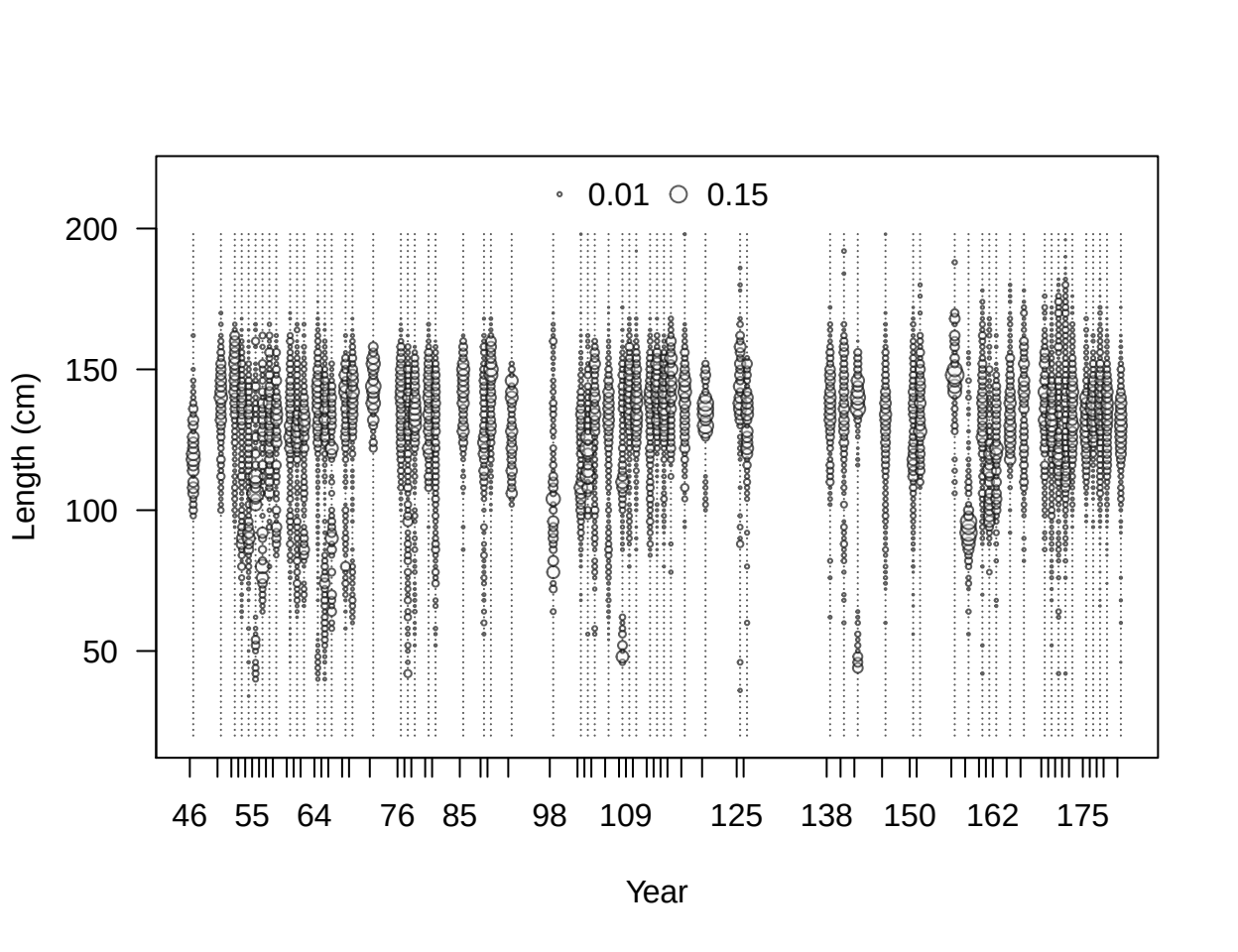

46
N adj.=1
54
N adj.=6
58
N adj.=1.5
64
N adj.=12.1
50
N adj.=3
55
N adj.=1
60
N adj.=4
65
N adj.=4
52
N adj.=5
56
N adj.=1
61
N adj.=3.5
66
N adj.=1
53
N adj.=8
57
N adj.=1.5
62
N adj.=3
68
N adj.=3.5
Proportion
0.00
0.05
0.10
0.15
50
100
150
200
Length (cm)

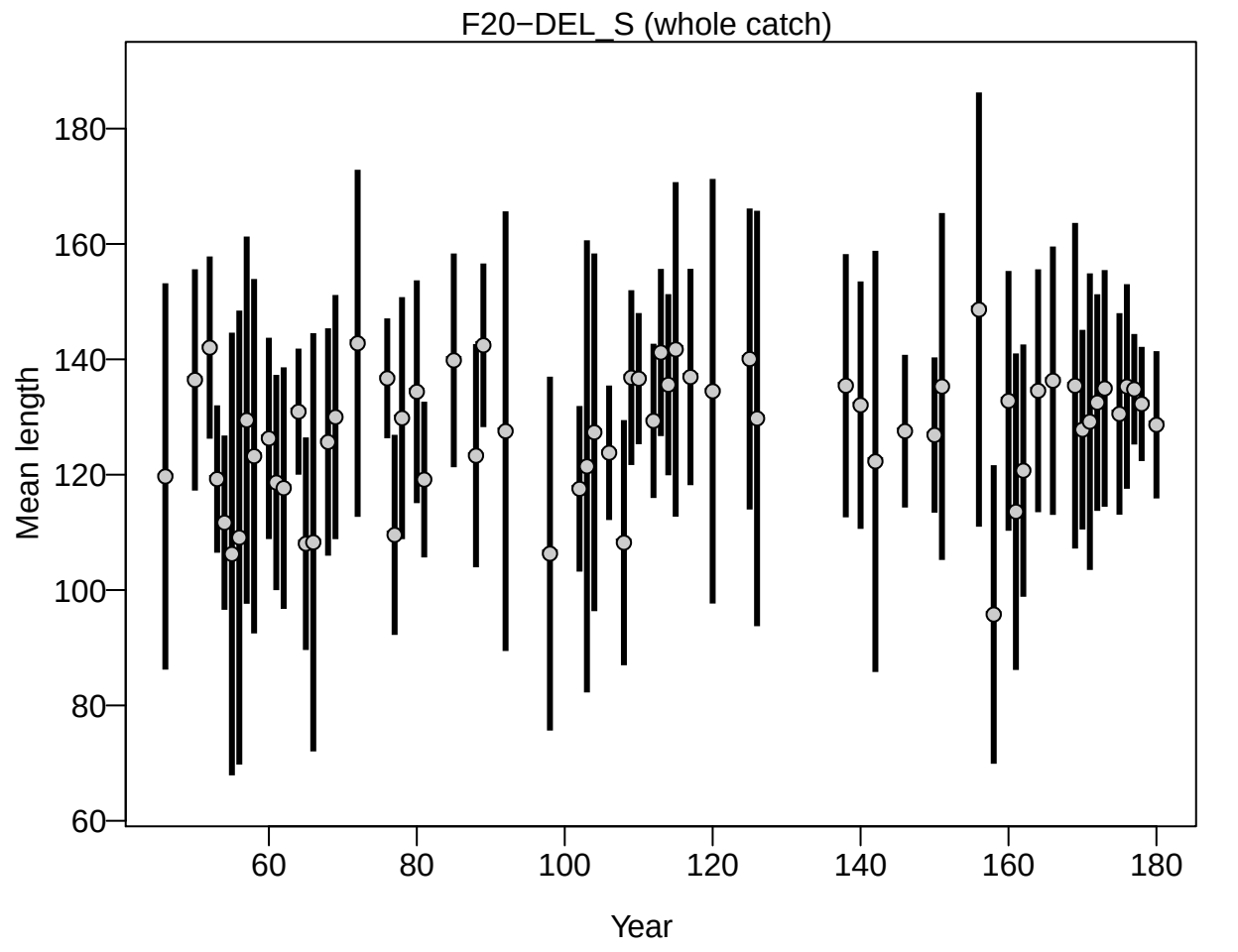

69
N adj.=3
78
N adj.=3
88
N adj.=3
102
N adj.=8
72
N adj.=1.5
80
N adj.=4
89
N adj.=6
103
N adj.=1
76
N adj.=11.1
81
N adj.=8
92
N adj.=1
104
N adj.=1.5
77
N adj.=4
85
N adj.=3.5
98
N adj.=1.5
106
N adj.=11.6
0.00
0.05
0.10
0.15
50
100
150
200
Proportion
Length (cm)

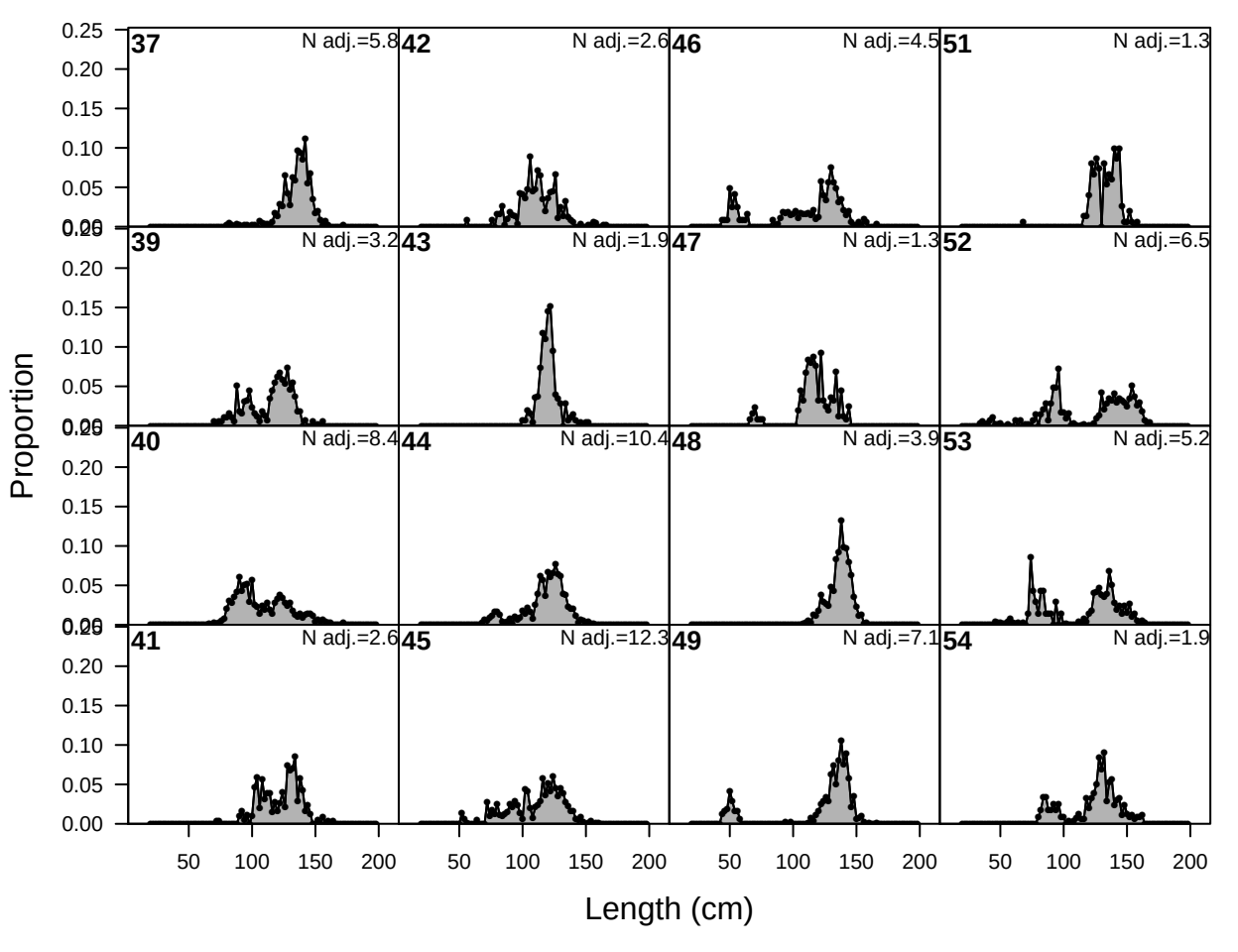

108
N adj.=3
113
N adj.=5.5
120
N adj.=1
140
N adj.=2.5
109
N adj.=5
114
N adj.=5
125
N adj.=2
142
N adj.=1
110
N adj.=8
115
N adj.=1.5
126
N adj.=1
146
N adj.=8
112
N adj.=6
117
N adj.=3.5
138
N adj.=2.5
150
N adj.=8
Proportion
0.00
0.05
0.10
0.15
50
100
150
200
Length (cm)

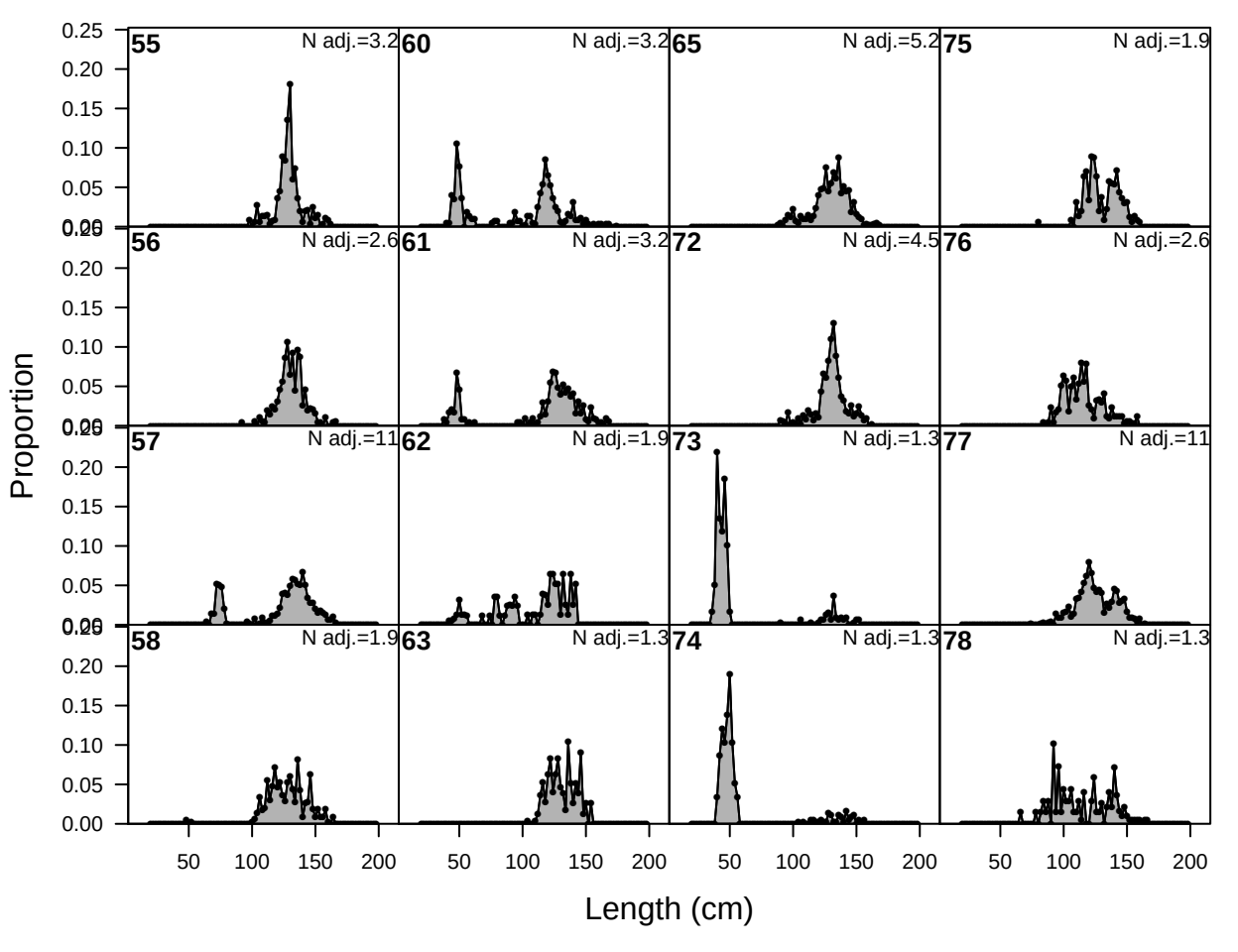

151
N adj.=1.5
161
N adj.=2
169
N adj.=2
173
N adj.=3.5
156
N adj.=1
162
N adj.=3
170
N adj.=5.5
175
N adj.=4.5
158
N adj.=2
164
N adj.=3
171
N adj.=2.5
176
N adj.=4.5
160
N adj.=3
166
N adj.=2.5
172
N adj.=4.5
177
N adj.=16.1
0.00
0.05
0.10
0.15
50
100
150
200
Proportion
Length (cm)

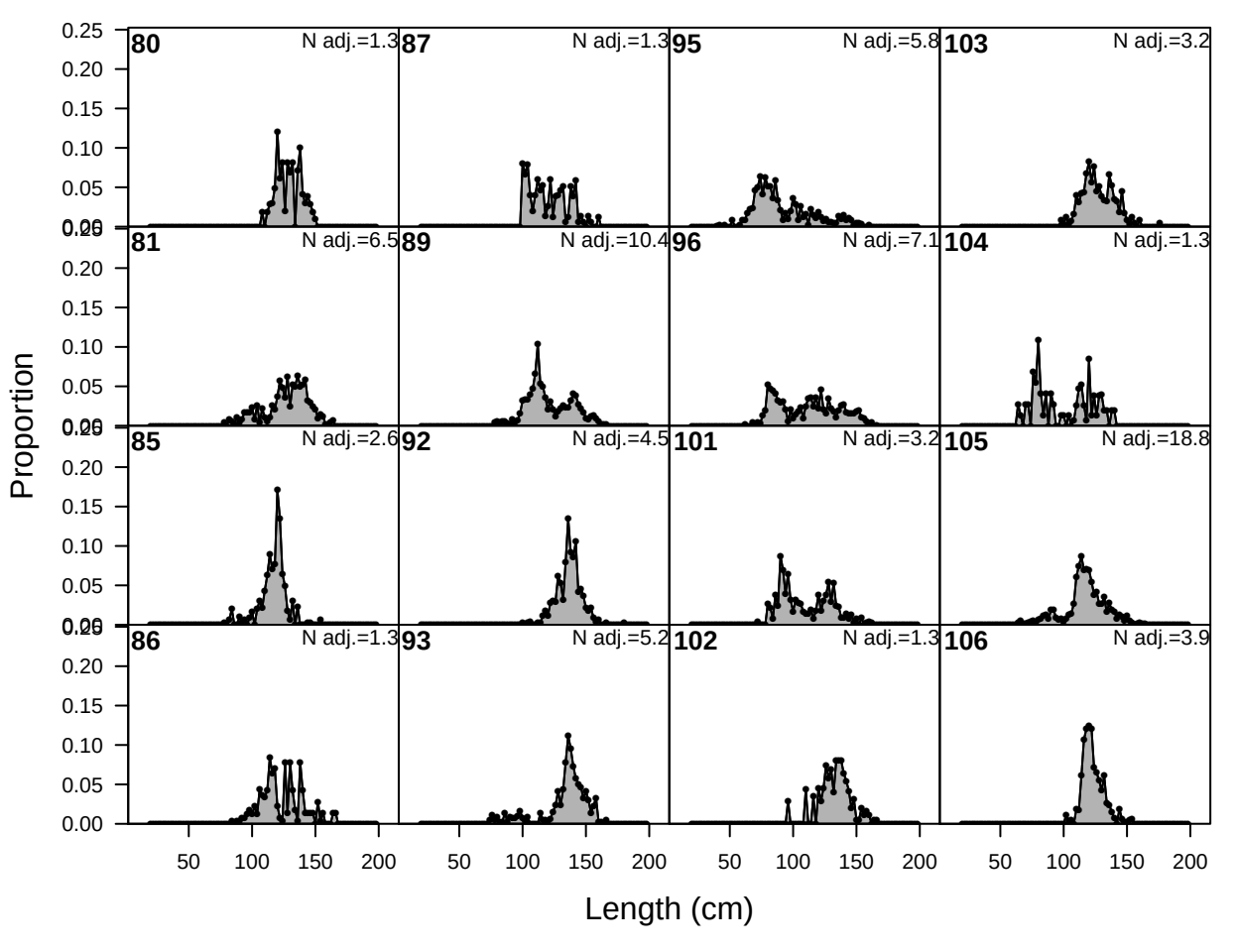

178
N adj.=15.1
180
N adj.=8.6
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)

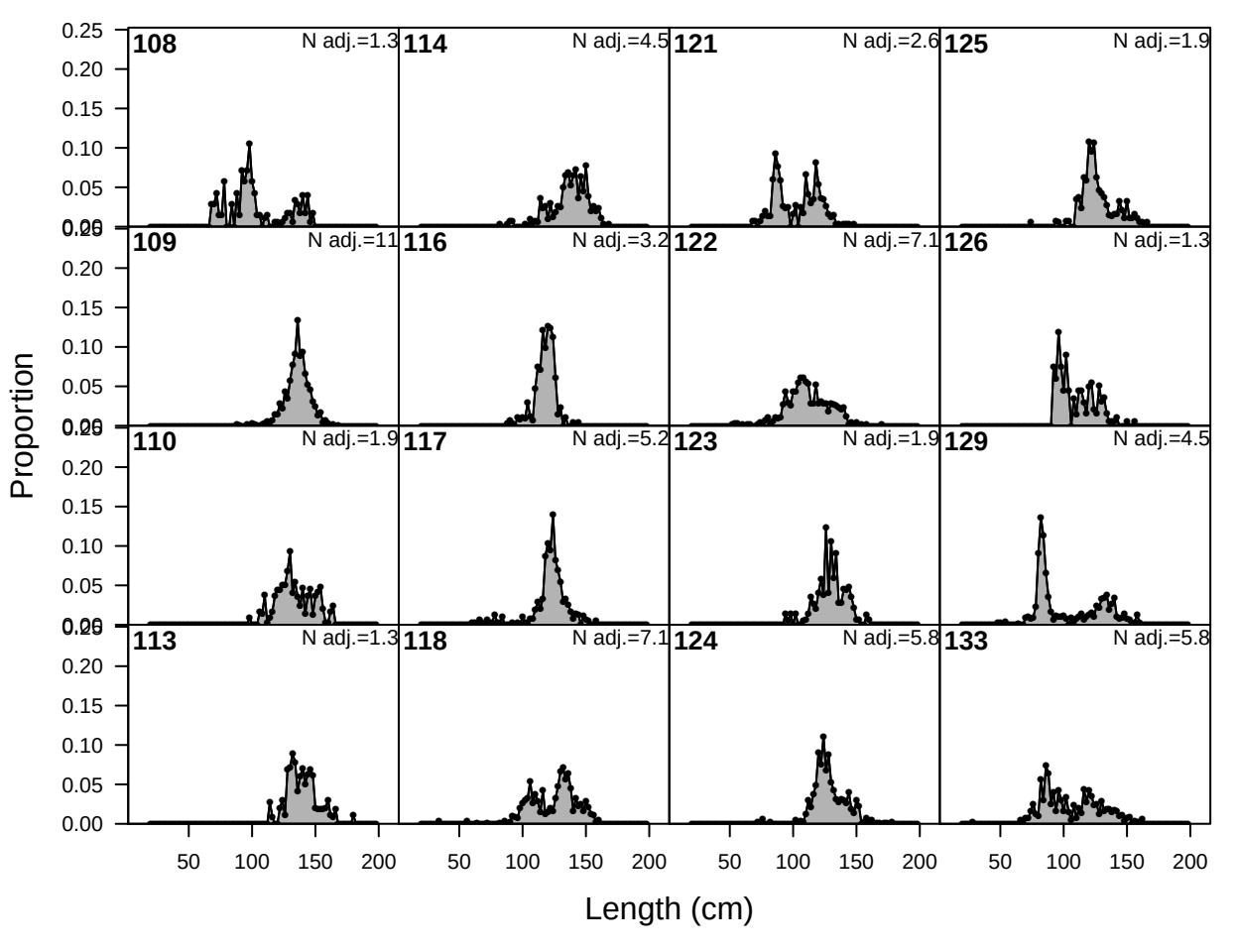

0.01
0.15
200
150
100
50
Length (cm)
46
55
64
76
85
98
109
125
138
150
162
175
Year

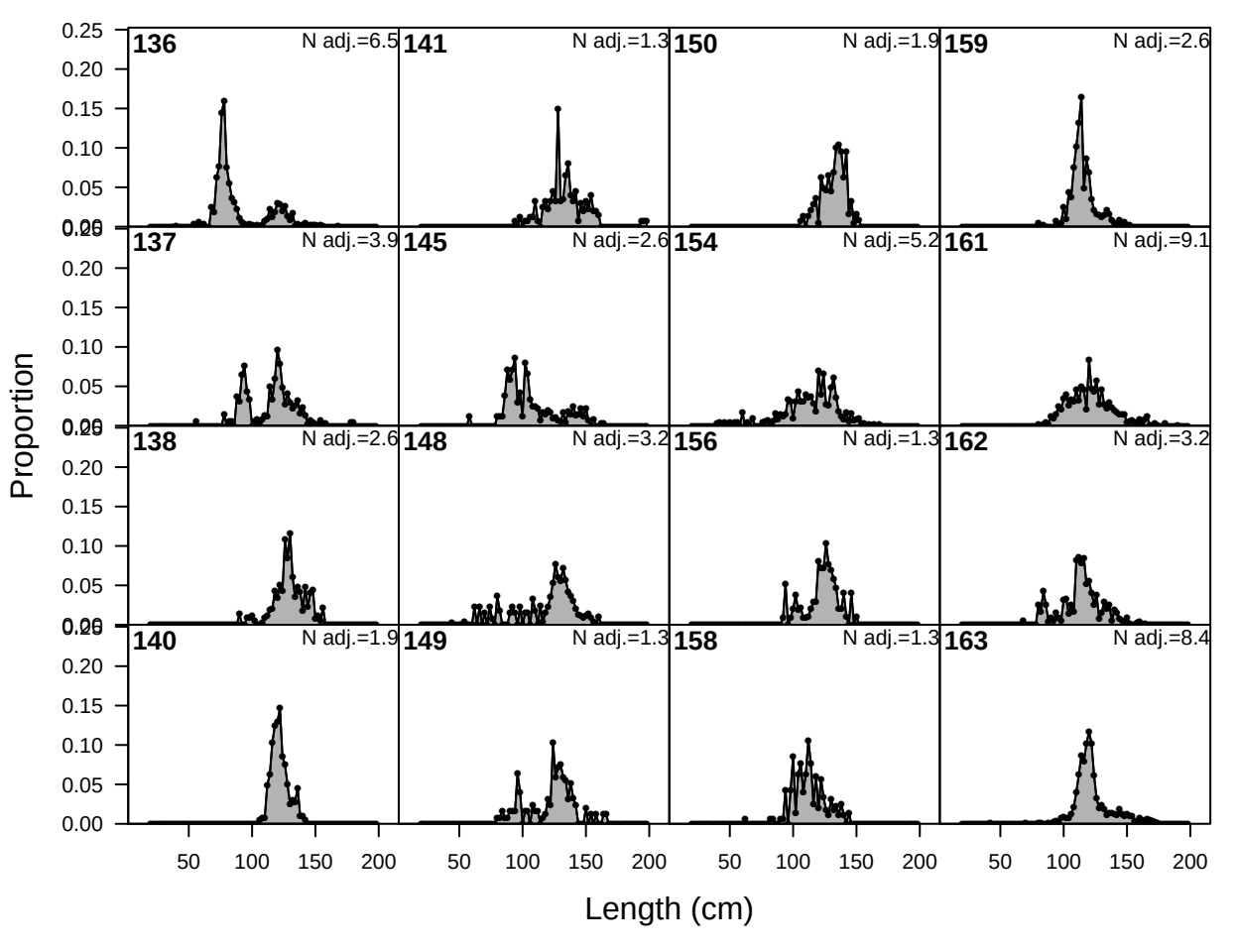

F20−DEL_S (whole catch)
Mean length
Year
180
160
140
120
100
80
60
60
80
100
120
140
160
180

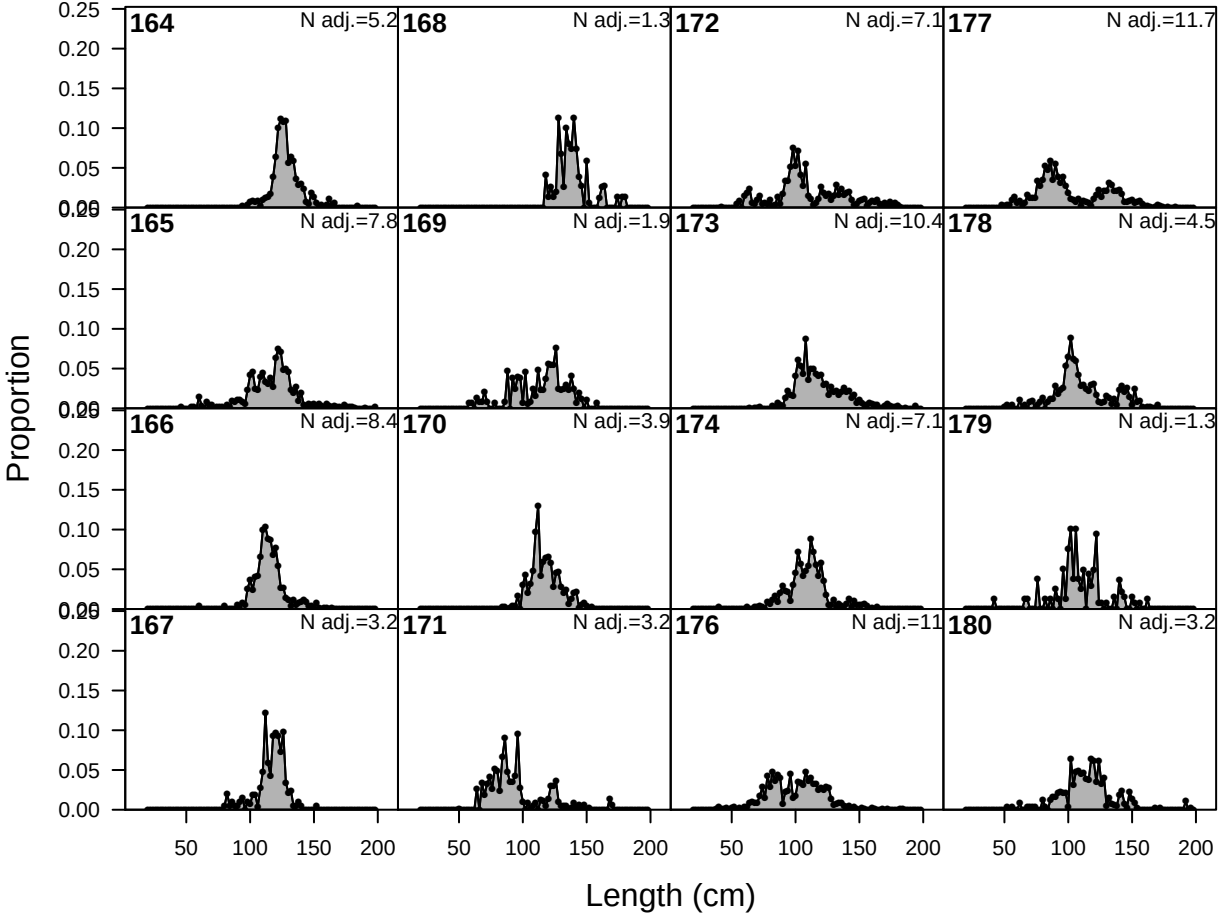

37
N adj.=5.8
42
N adj.=2.6
46
N adj.=4.5
51
N adj.=1.3
39
N adj.=3.2
43
N adj.=1.9
47
N adj.=1.3
52
N adj.=6.5
40
N adj.=8.4
44
N adj.=10.4
48
N adj.=3.9
53
N adj.=5.2
41
N adj.=2.6
45
N adj.=12.3
49
N adj.=7.1
54
N adj.=1.9
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

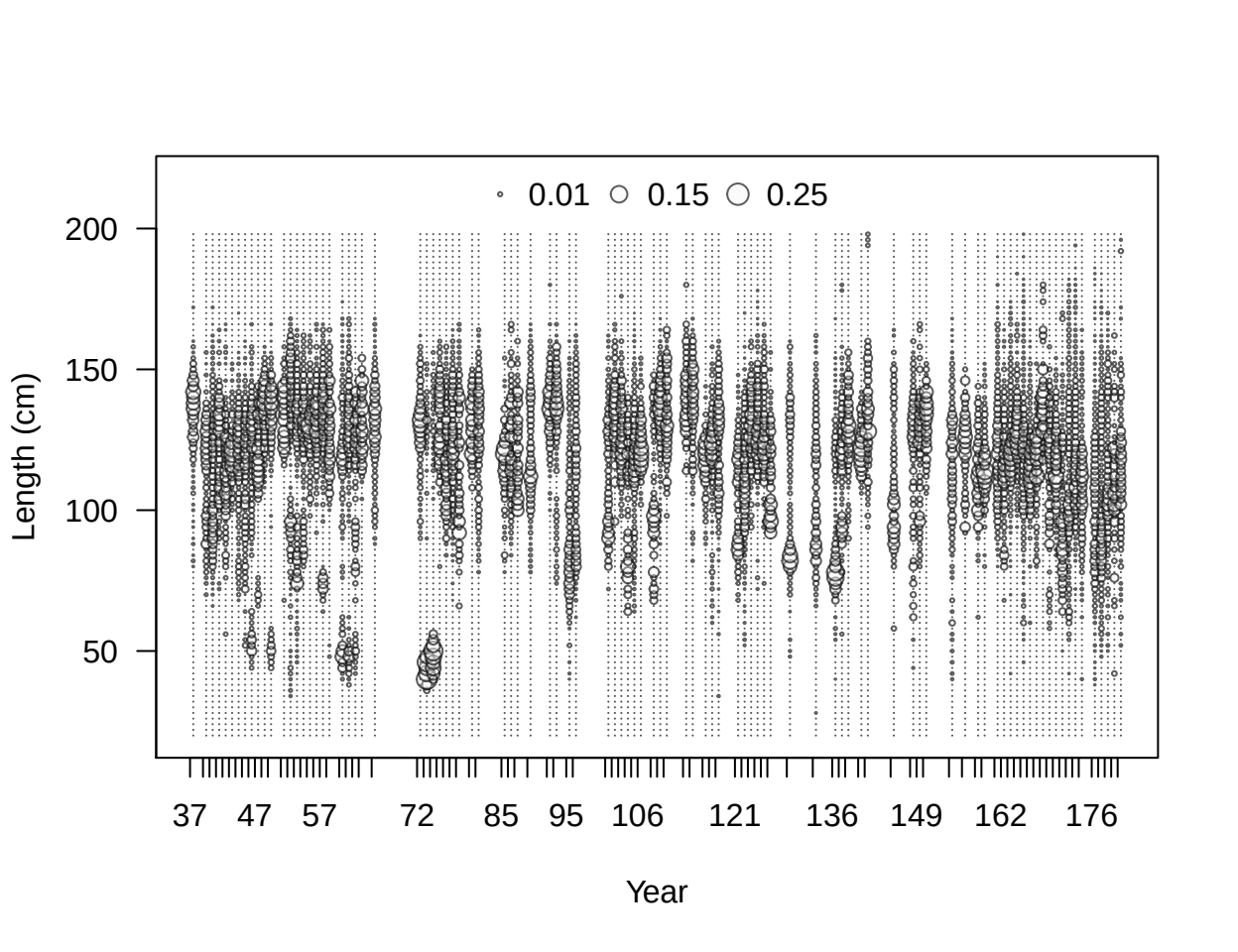

55
N adj.=3.2
60
N adj.=3.2
65
N adj.=5.2
75
N adj.=1.9
56
N adj.=2.6
61
N adj.=3.2
72
N adj.=4.5
76
N adj.=2.6
57
N adj.=11
62
N adj.=1.9
73
N adj.=1.3
77
N adj.=11
58
N adj.=1.9
63
N adj.=1.3
74
N adj.=1.3
78
N adj.=1.3
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

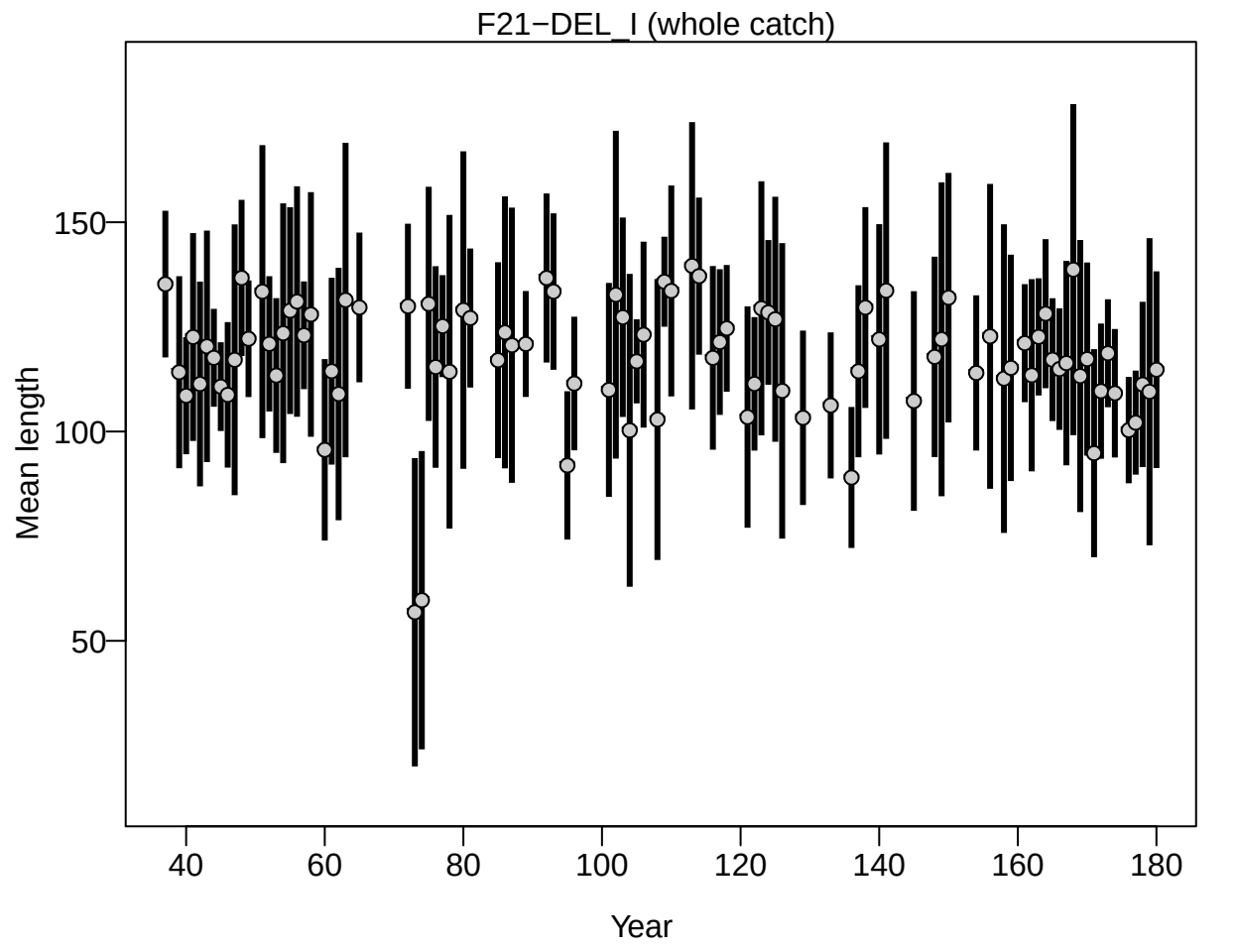

80
N adj.=1.3
87
N adj.=1.3
95
N adj.=5.8
103
N adj.=3.2
81
N adj.=6.5
89
N adj.=10.4
96
N adj.=7.1
104
N adj.=1.3
85
N adj.=2.6
92
N adj.=4.5
101
N adj.=3.2
105
N adj.=18.8
86
N adj.=1.3
93
N adj.=5.2
102
N adj.=1.3
106
N adj.=3.9
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

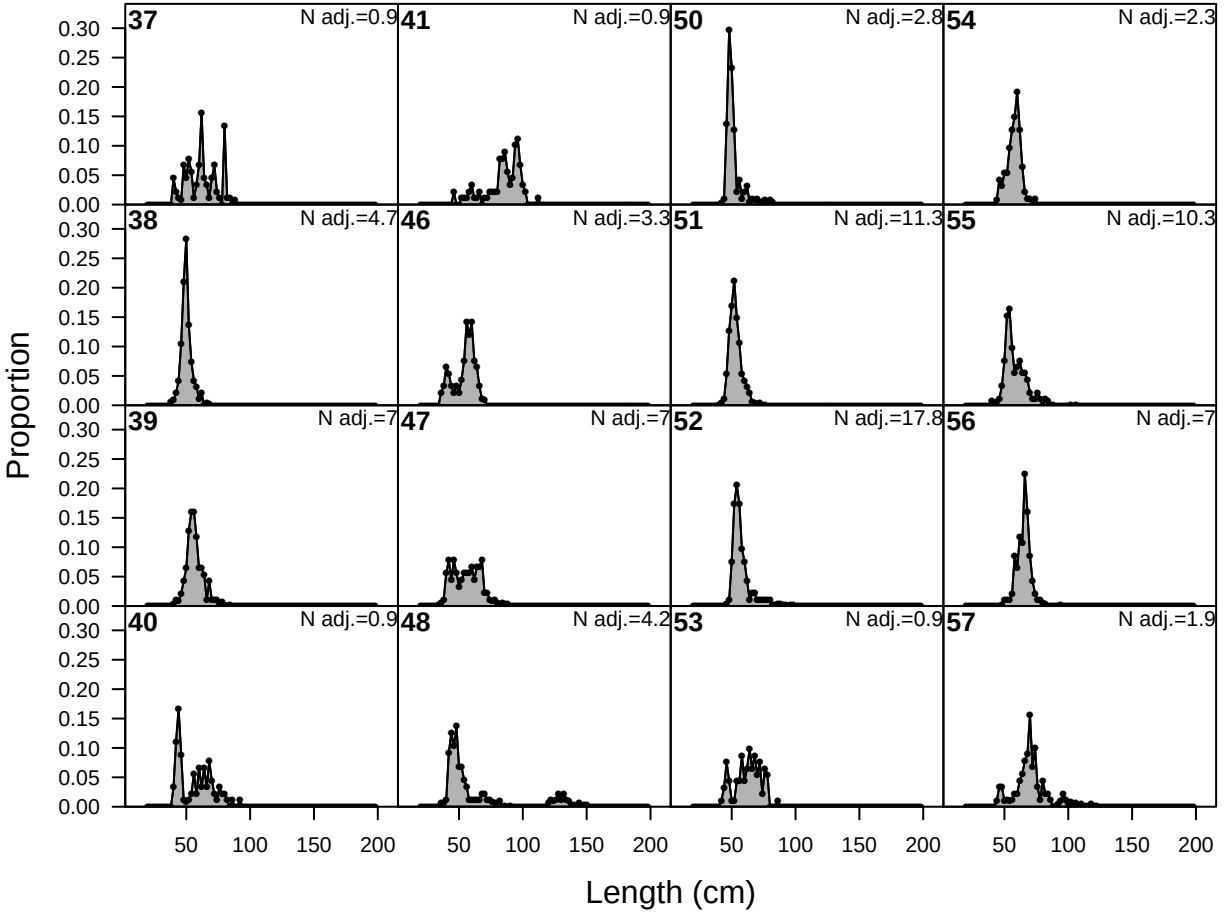

108
N adj.=1.3
114
N adj.=4.5
121
N adj.=2.6
125
N adj.=1.9
109
N adj.=11
116
N adj.=3.2
122
N adj.=7.1
126
N adj.=1.3
110
N adj.=1.9
117
N adj.=5.2
123
N adj.=1.9
129
N adj.=4.5
113
N adj.=1.3
118
N adj.=7.1
124
N adj.=5.8
133
N adj.=5.8
Proportion
0.25
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Length (cm)

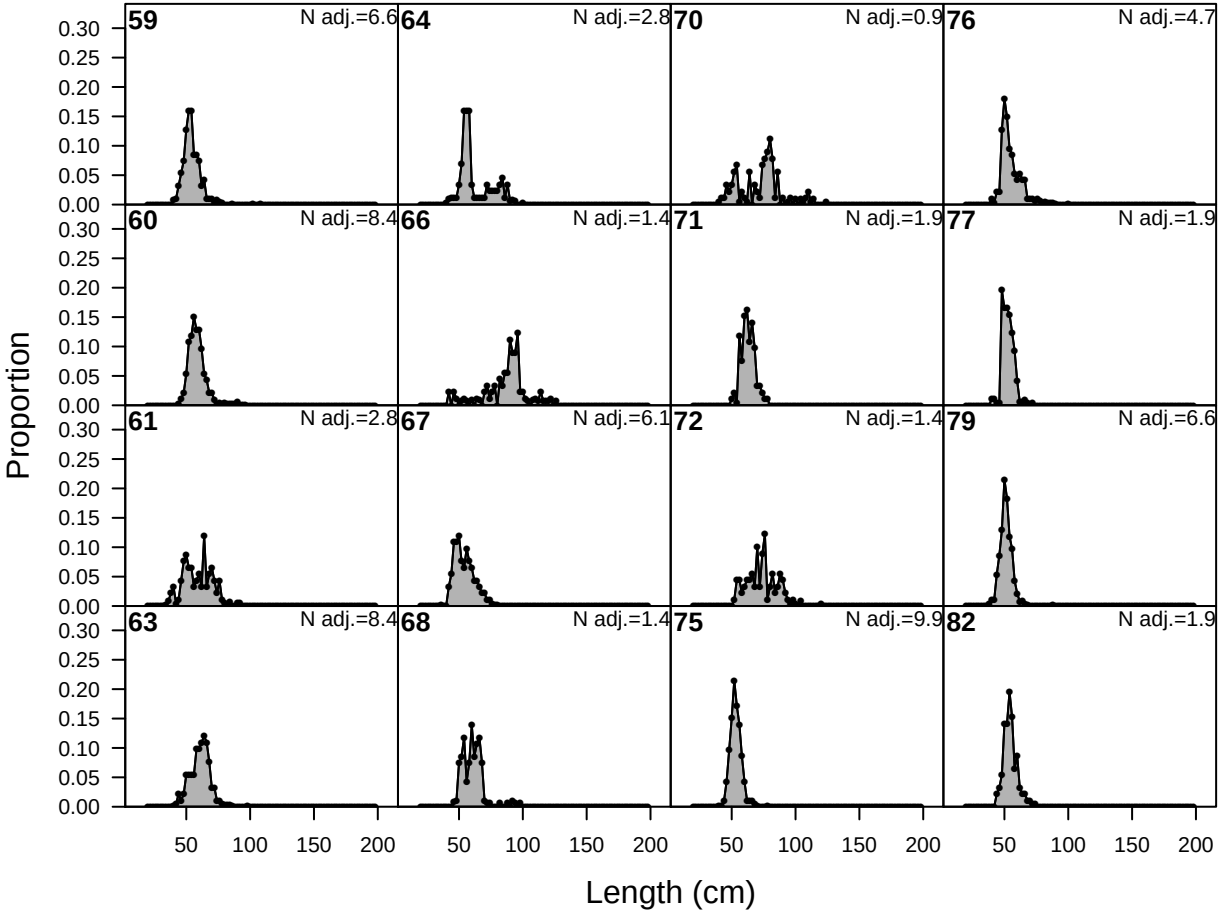

136
N adj.=6.5
141
N adj.=1.3
150
N adj.=1.9
159
N adj.=2.6
137
N adj.=3.9
145
N adj.=2.6
154
N adj.=5.2
161
N adj.=9.1
138
N adj.=2.6
148
N adj.=3.2
156
N adj.=1.3
162
N adj.=3.2
140
N adj.=1.9
149
N adj.=1.3
158
N adj.=1.3
163
N adj.=8.4
Proportion
0.25
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Length (cm)

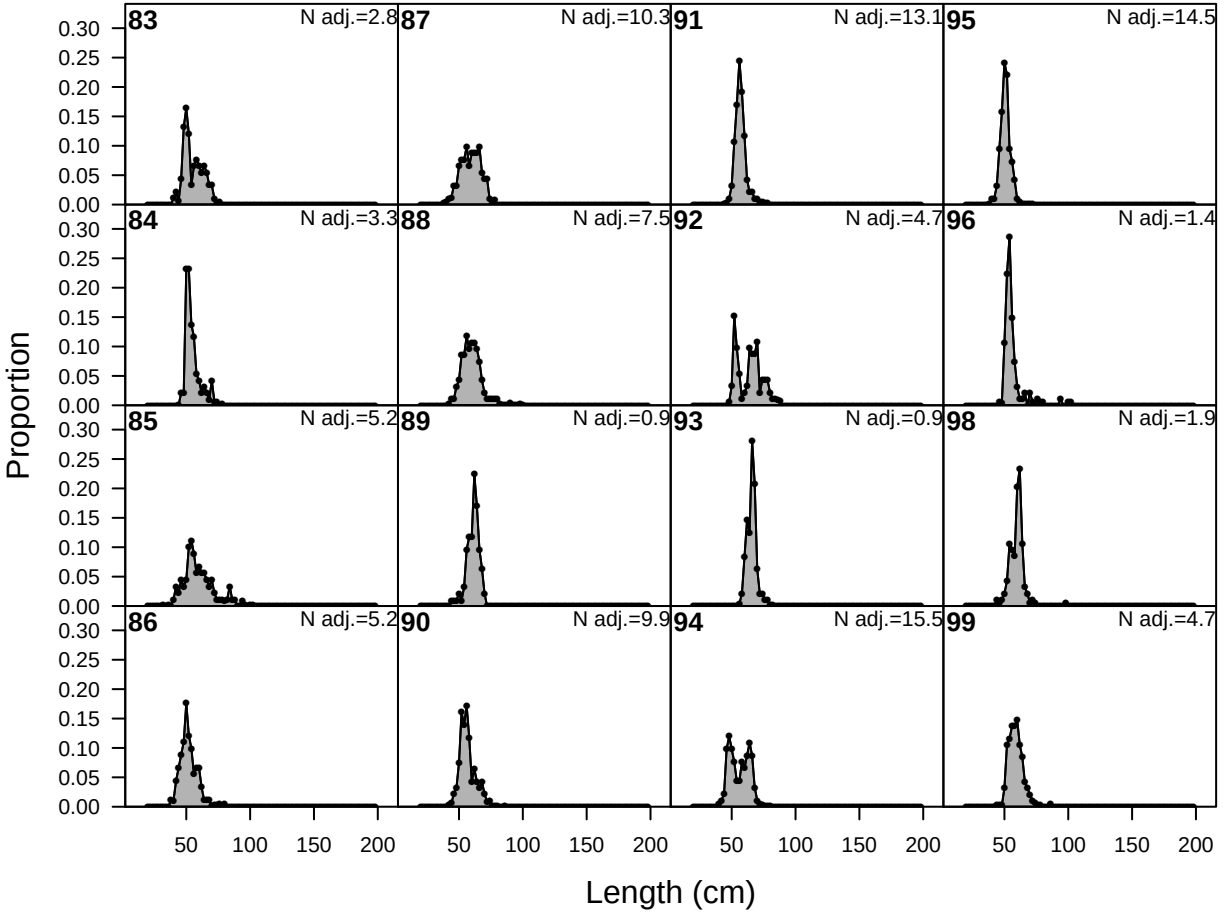

164
N adj.=5.2
168
N adj.=1.3
172
N adj.=7.1
177
N adj.=11.7
165
N adj.=7.8
169
N adj.=1.9
173
N adj.=10.4
178
N adj.=4.5
166
N adj.=8.4
170
N adj.=3.9
174
N adj.=7.1
179
N adj.=1.3
167
N adj.=3.2
171
N adj.=3.2
176
N adj.=11
180
N adj.=3.2
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

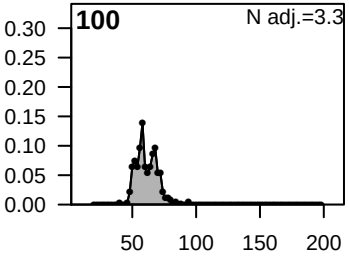

0.01
0.15
0.25
200
150
100
50
Length (cm)
37
47
57
72
85
95
106
121
136
149
162
176
Year


F21−DEL_I (whole catch)
Mean length
150
100
50
40
60
80
100
120
140
160
180
Year


37
N adj.=0.9
41
N adj.=0.9
50
N adj.=2.8
54
N adj.=2.3
38
N adj.=4.7
46
N adj.=3.3
51
N adj.=11.3
55
N adj.=10.3
39
N adj.=7
47
N adj.=7
52
N adj.=17.8
56
N adj.=7
40
N adj.=0.9
48
N adj.=4.2
53
N adj.=0.9
57
N adj.=1.9
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

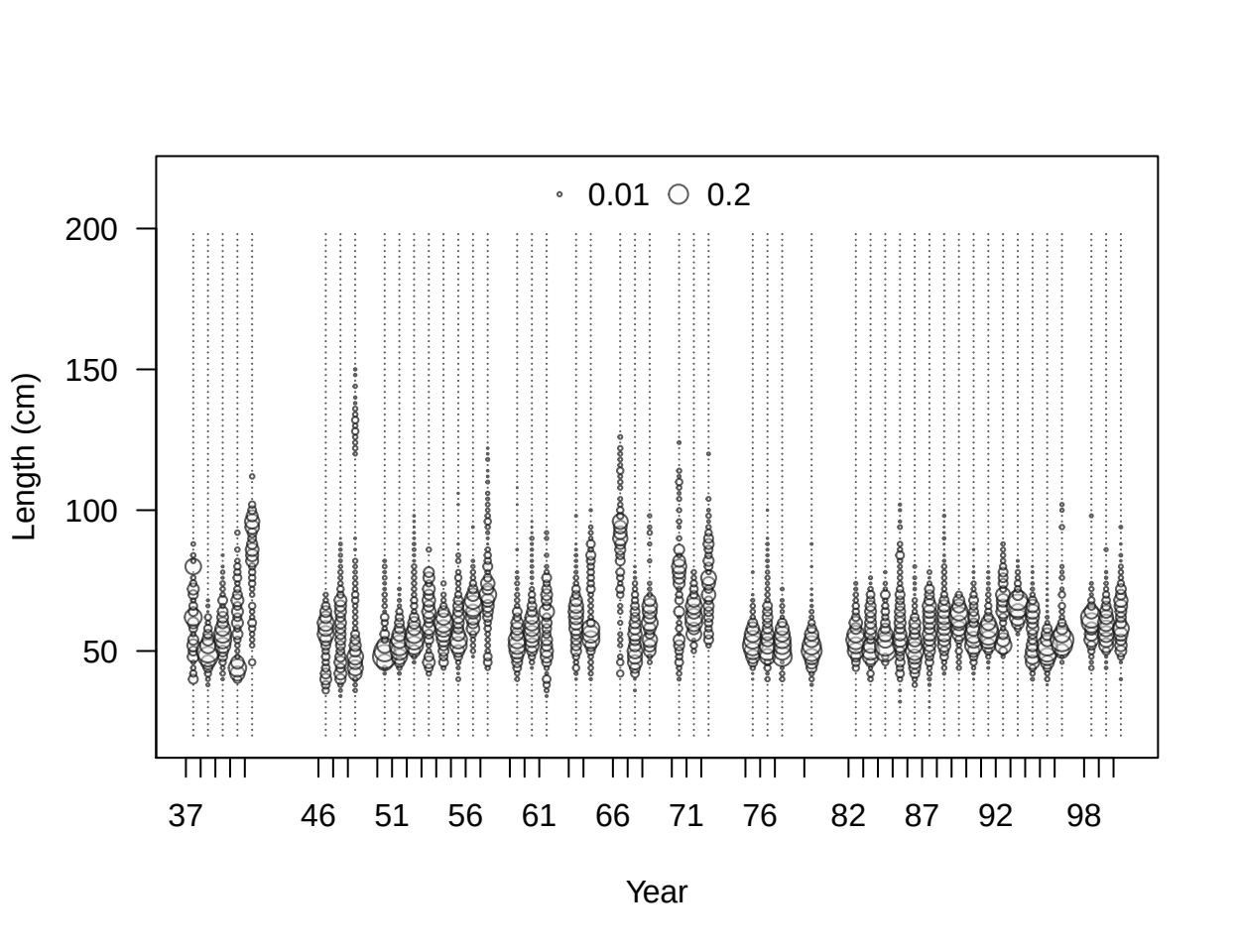

59
N adj.=6.6
64
N adj.=2.8
70
N adj.=0.9
76
N adj.=4.7
60
N adj.=8.4
66
N adj.=1.4
71
N adj.=1.9
77
N adj.=1.9
61
N adj.=2.8
67
N adj.=6.1
72
N adj.=1.4
79
N adj.=6.6
63
N adj.=8.4
68
N adj.=1.4
75
N adj.=9.9
82
N adj.=1.9
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

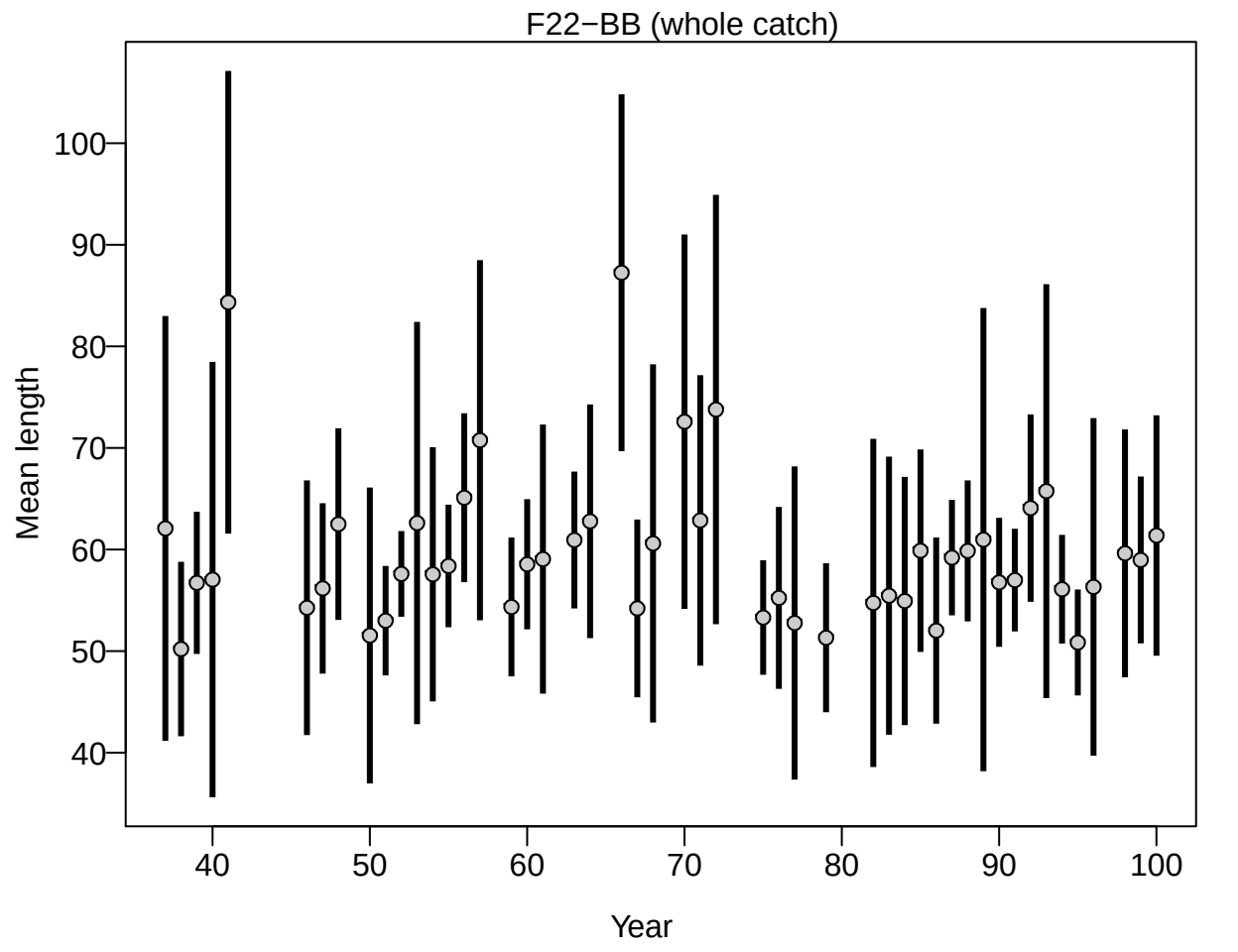

83
N adj.=2.8
87
N adj.=10.3
91
N adj.=13.1
95
N adj.=14.5
84
N adj.=3.3
88
N adj.=7.5
92
N adj.=4.7
96
N adj.=1.4
85
N adj.=5.2
89
N adj.=0.9
93
N adj.=0.9
98
N adj.=1.9
86
N adj.=5.2
90
N adj.=9.9
94
N adj.=15.5
99
N adj.=4.7
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

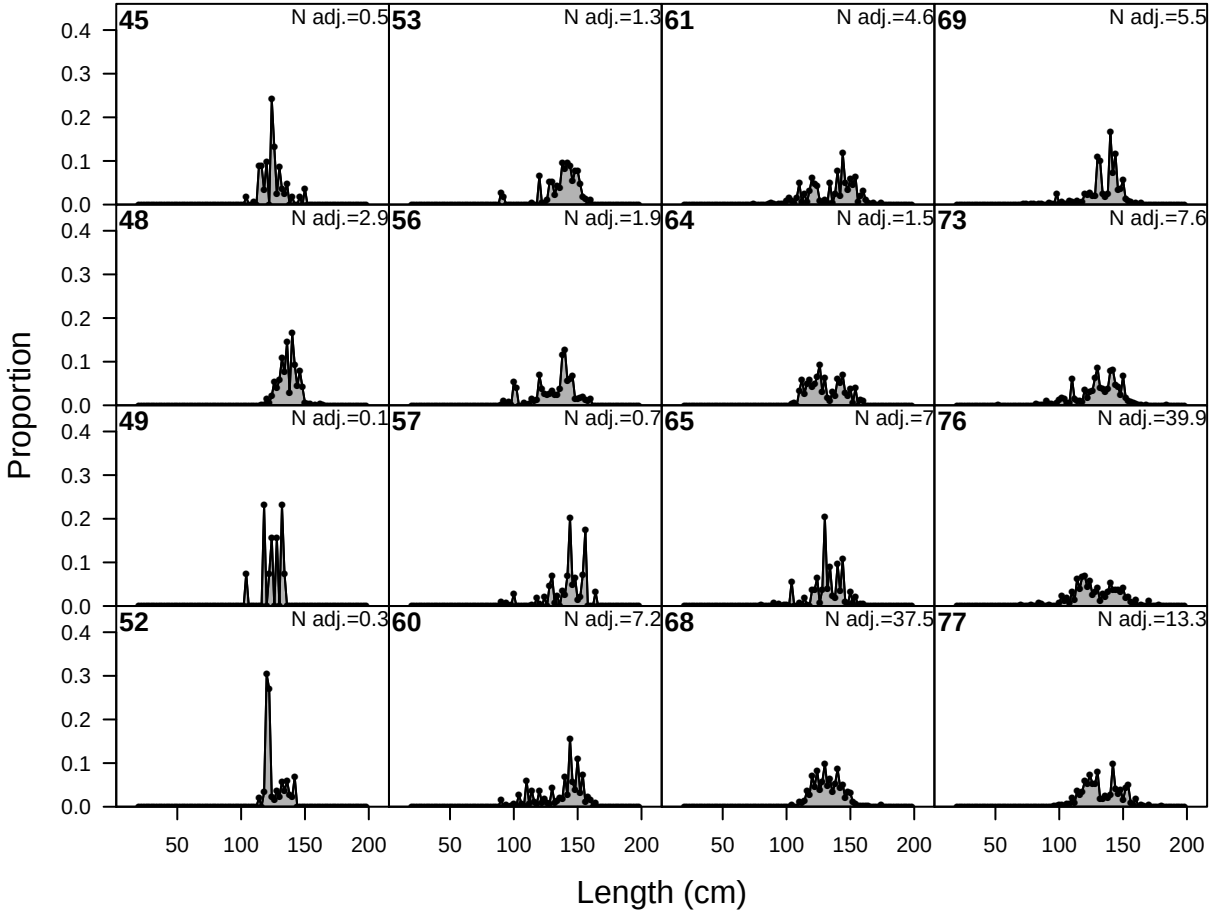


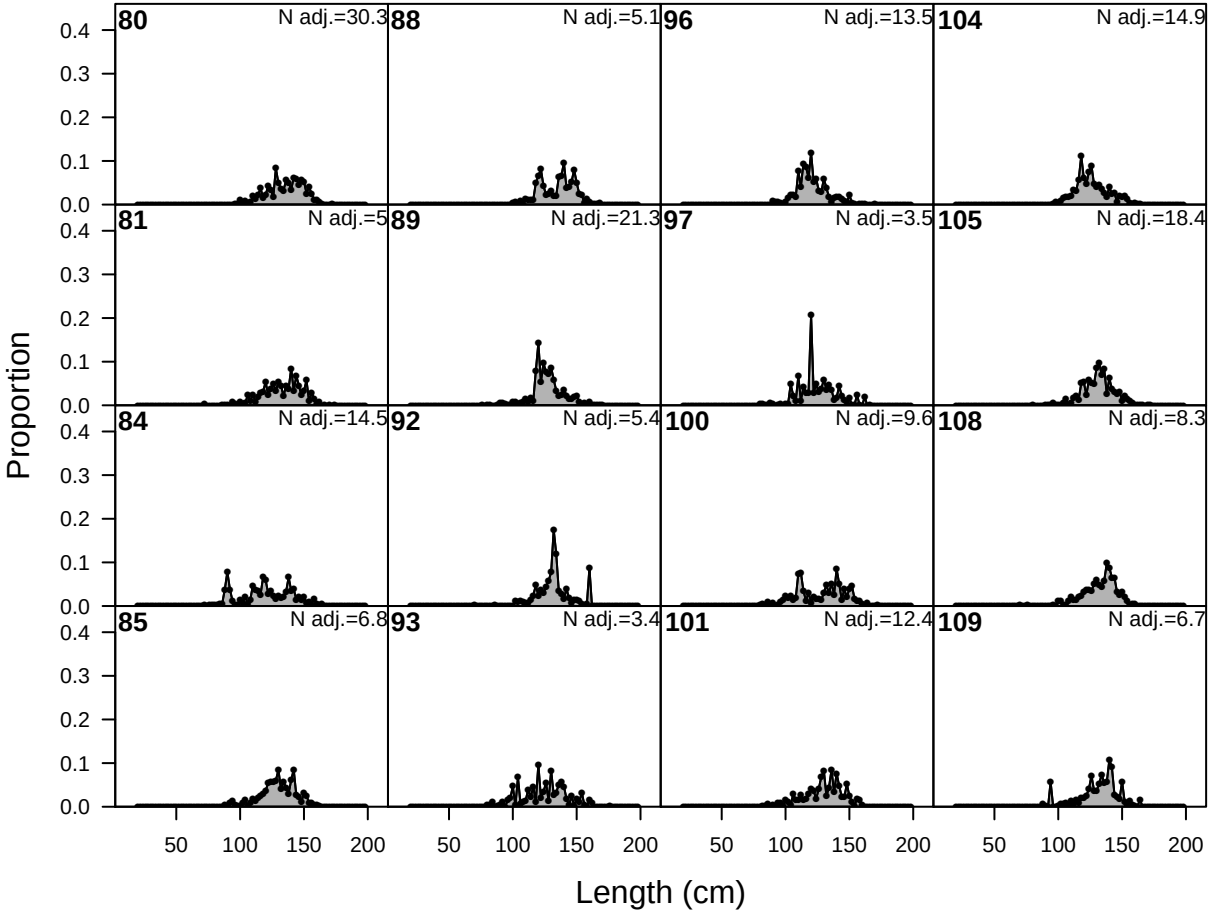
Proportion

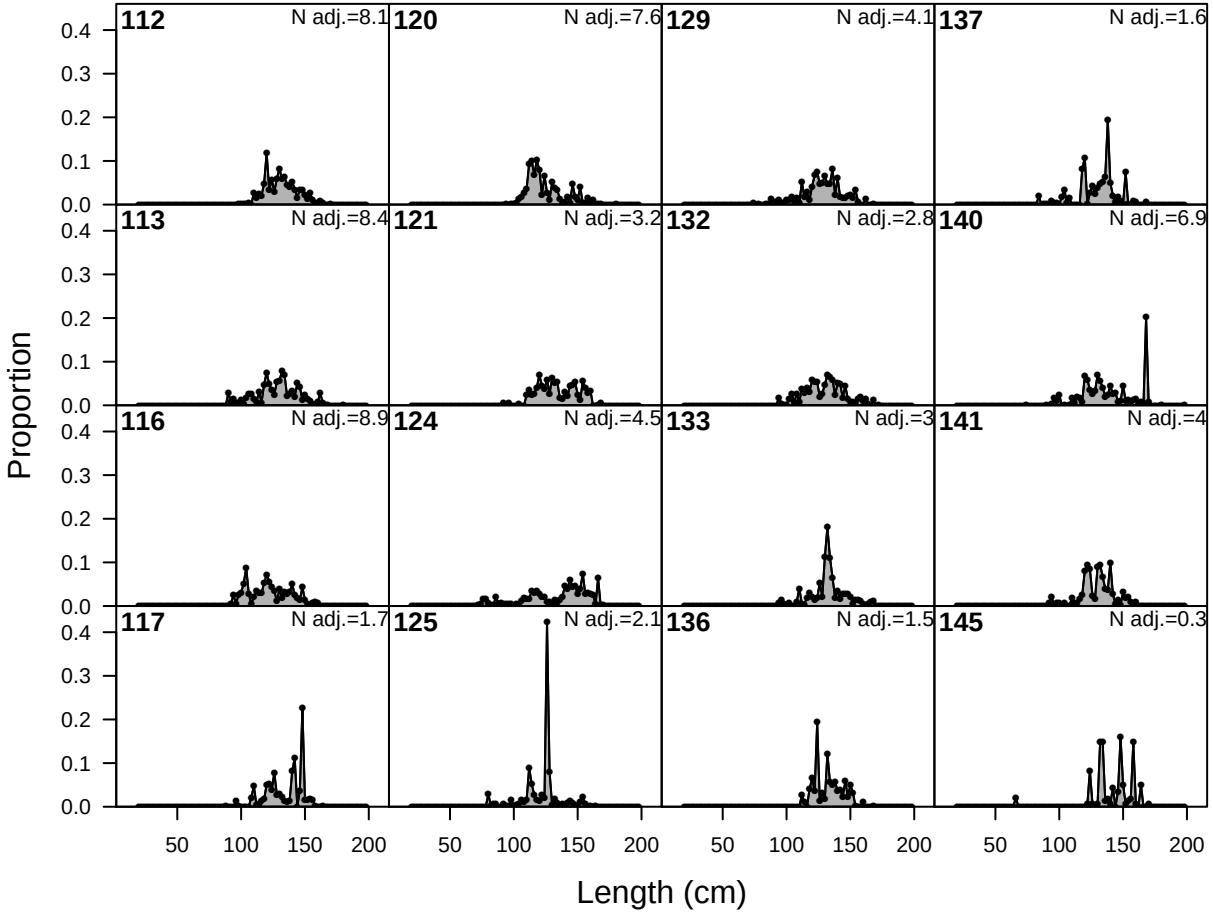
Length (cm)

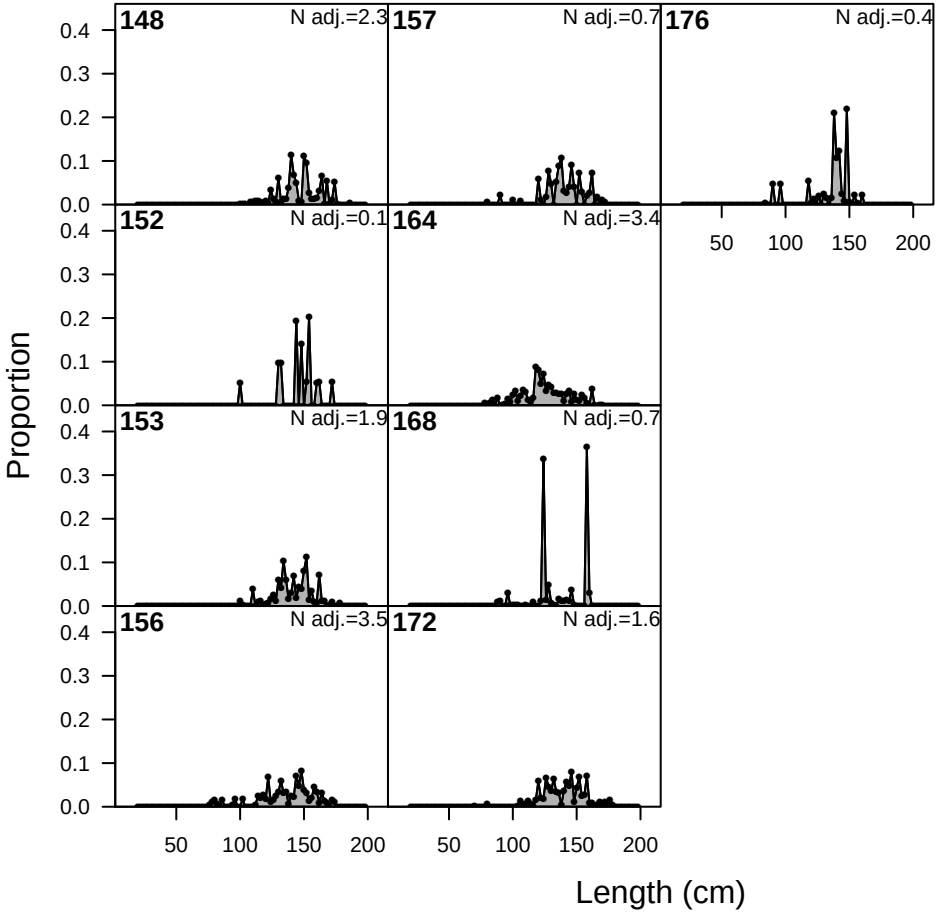

0.01
0.2
200
150
100
50
Length (cm)
37
46
51
56
61
66
71
76
82
87
92
98
Year

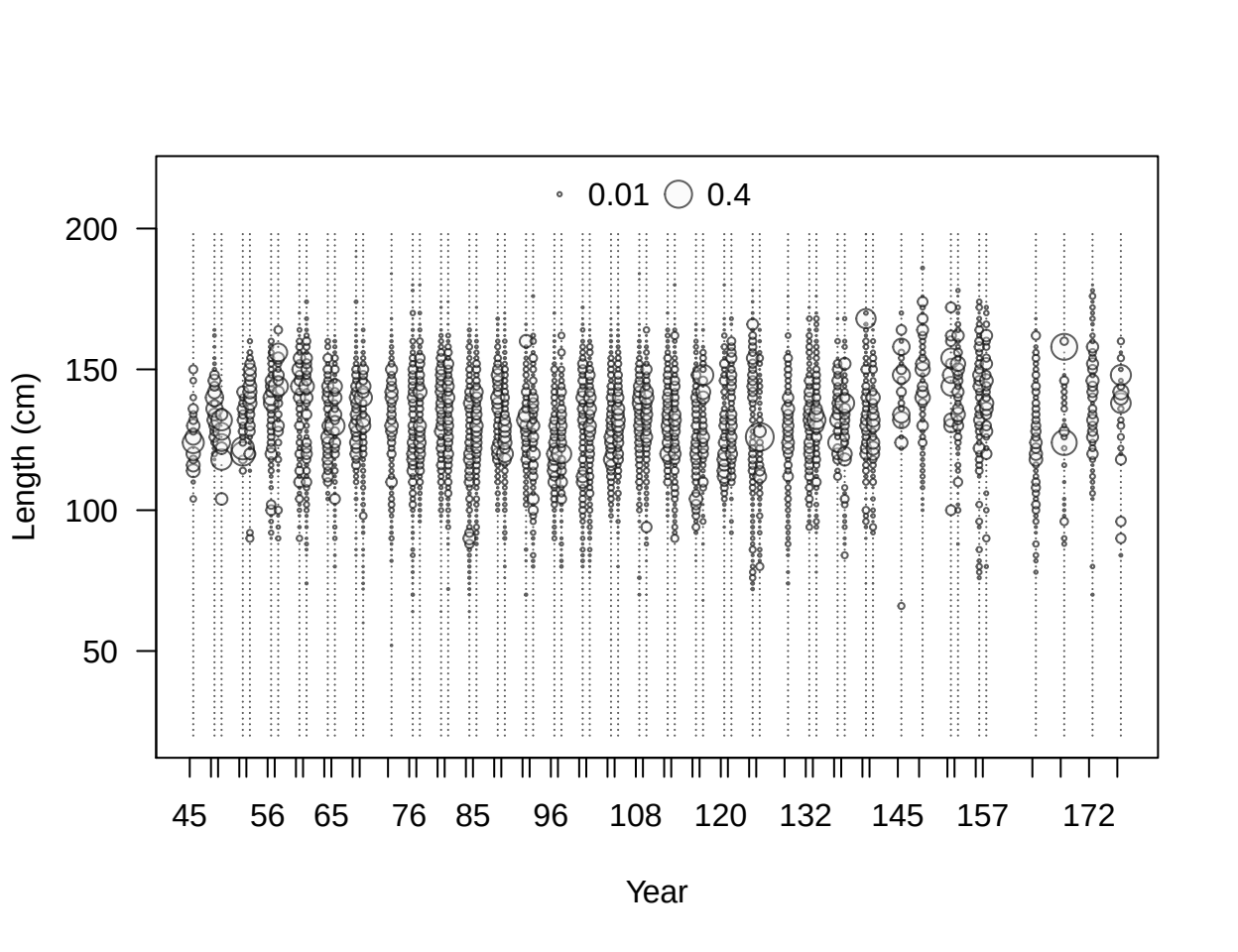

F22−BB (whole catch)
Mean length
100
90
80
70
60
50
40
40
50
60
70
80
90
100
Year

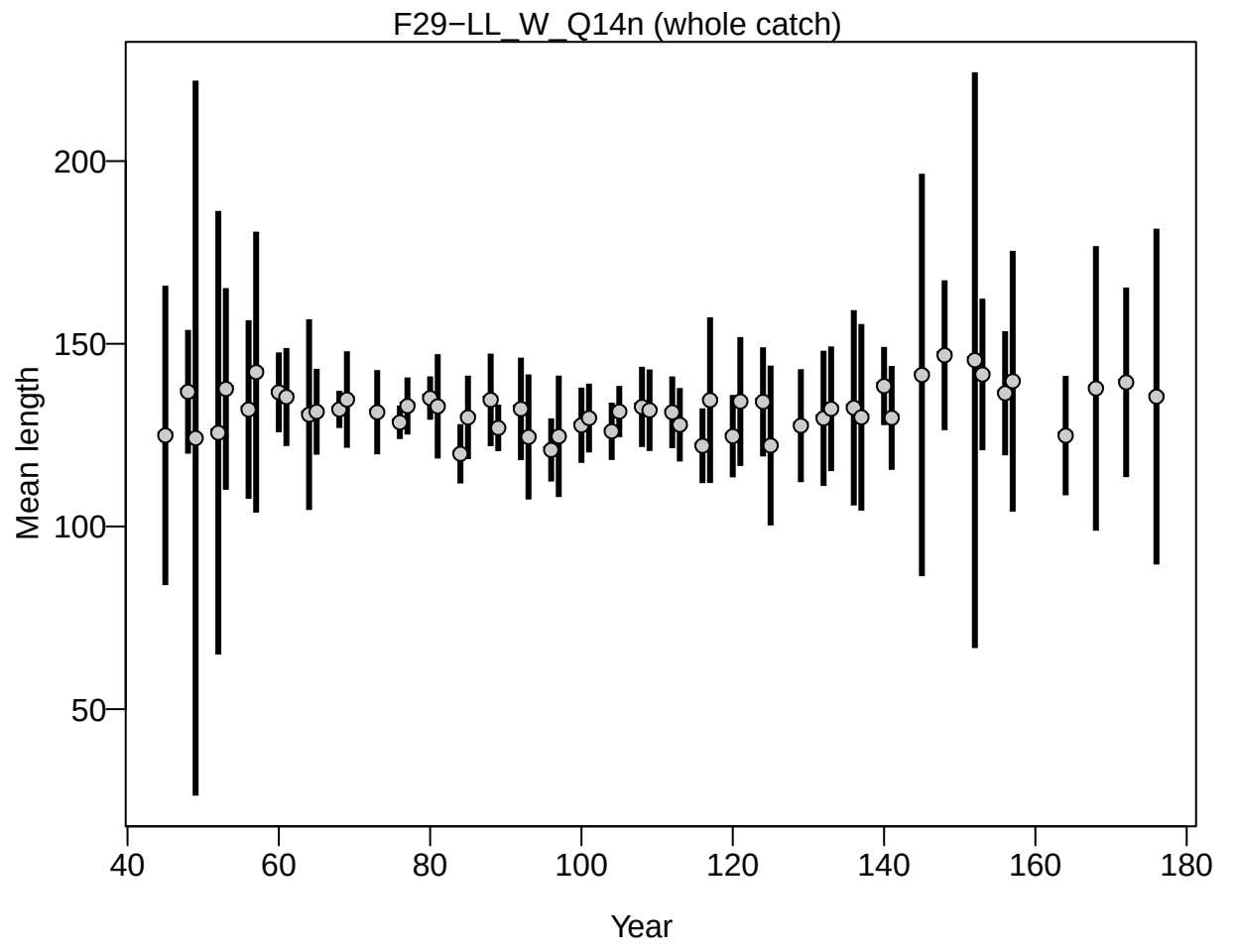

45
N adj.=0.5
53
N adj.=1.3
61
N adj.=4.6
69
N adj.=5.5
48
N adj.=2.9
56
N adj.=1.9
64
N adj.=1.5
73
N adj.=7.6
49
N adj.=0.1
57
N adj.=0.7
65
N adj.=7
76
N adj.=39.9
52
N adj.=0.3
60
N adj.=7.2
68
N adj.=37.5
77
N adj.=13.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

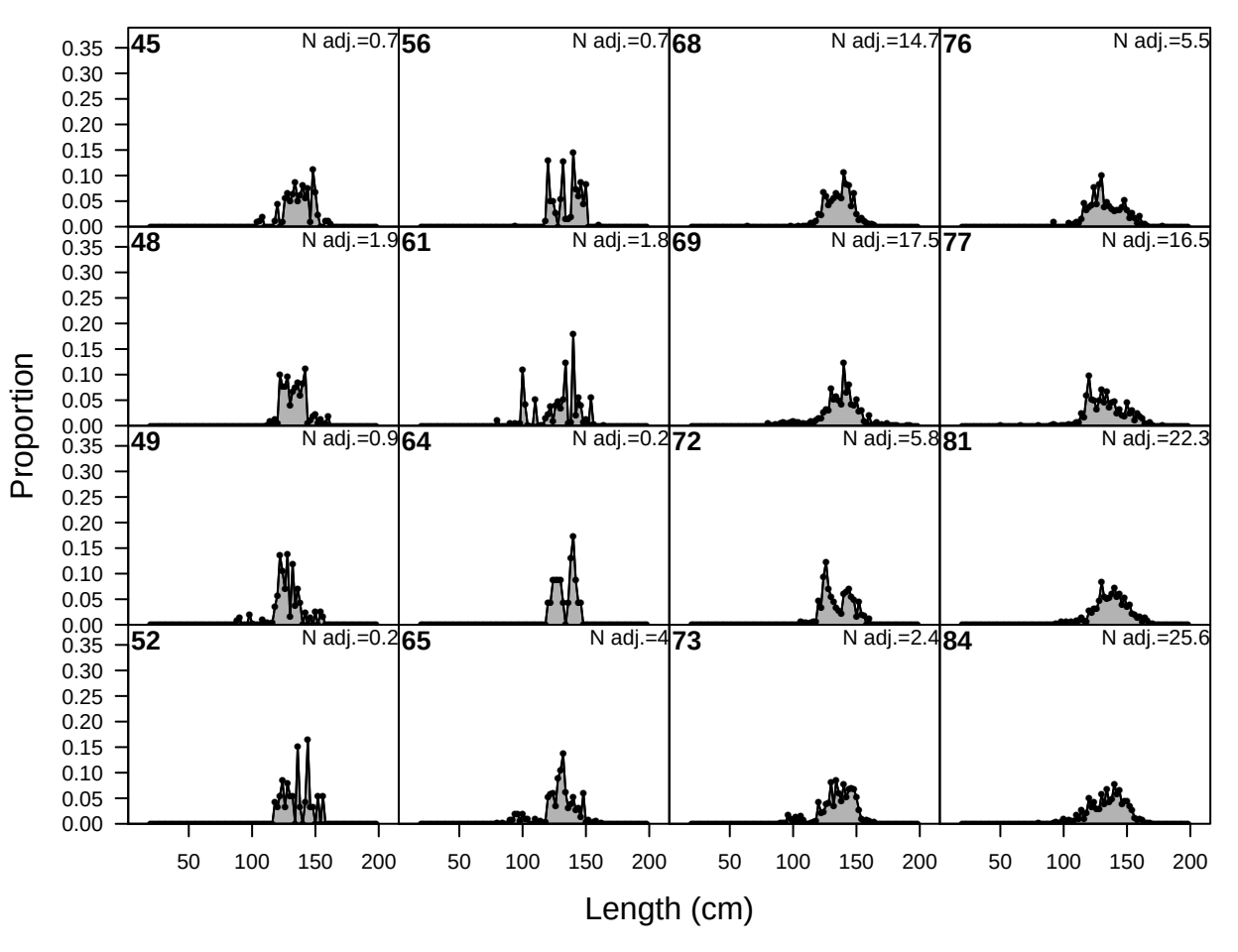

80
N adj.=30.3
88
N adj.=5.1
96
N adj.=13.5
104
N adj.=14.9
81
N adj.=5
89
N adj.=21.3
97
N adj.=3.5
105
N adj.=18.4
84
N adj.=14.5
92
N adj.=5.4
100
N adj.=9.6
108
N adj.=8.3
85
N adj.=6.8
93
N adj.=3.4
101
N adj.=12.4
109
N adj.=6.7
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

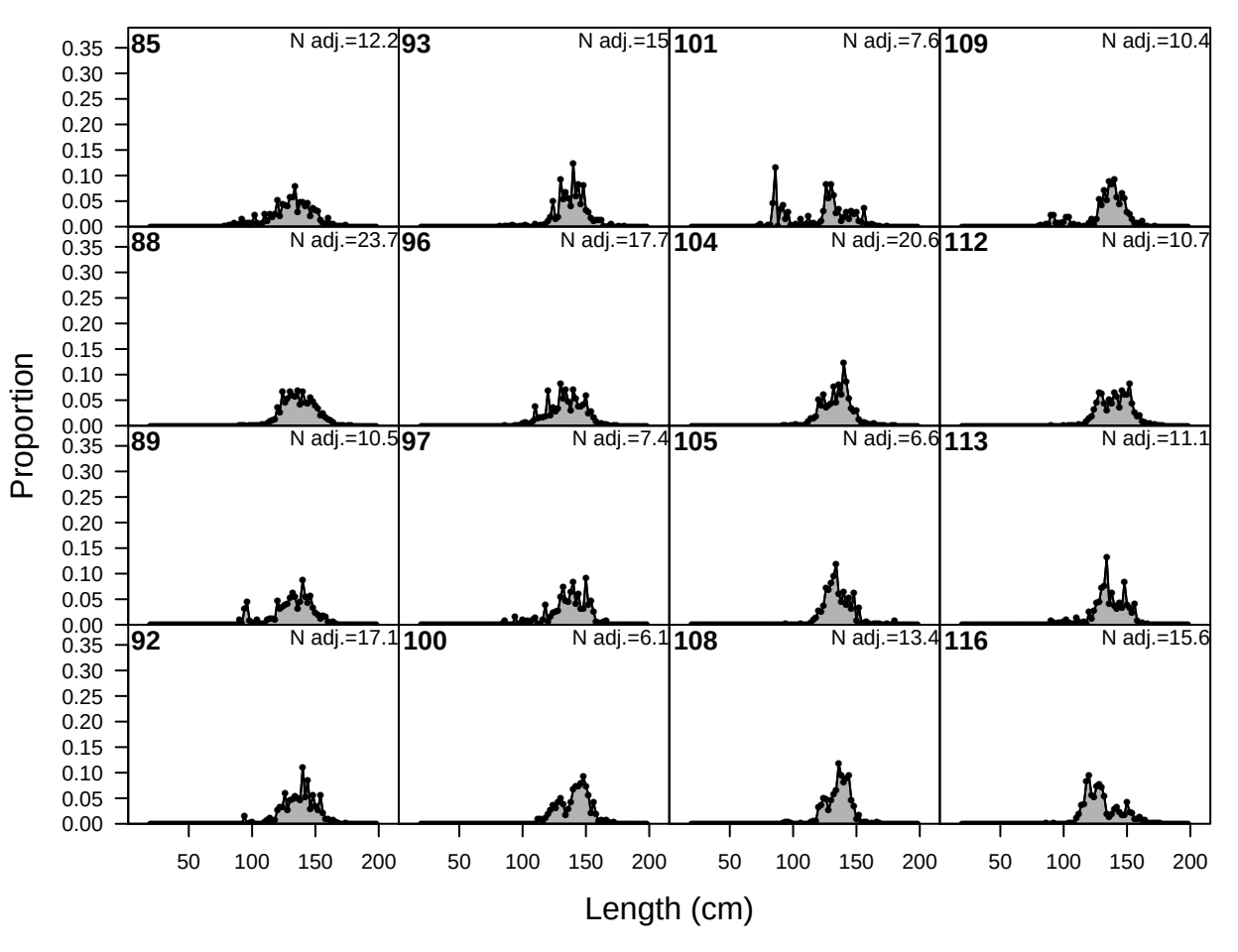

112
N adj.=8.1
120
N adj.=7.6
129
N adj.=4.1
137
N adj.=1.6
113
N adj.=8.4
121
N adj.=3.2
132
N adj.=2.8
140
N adj.=6.9
116
N adj.=8.9
124
N adj.=4.5
133
N adj.=3
141
N adj.=4
117
N adj.=1.7
125
N adj.=2.1
136
N adj.=1.5
145
N adj.=0.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

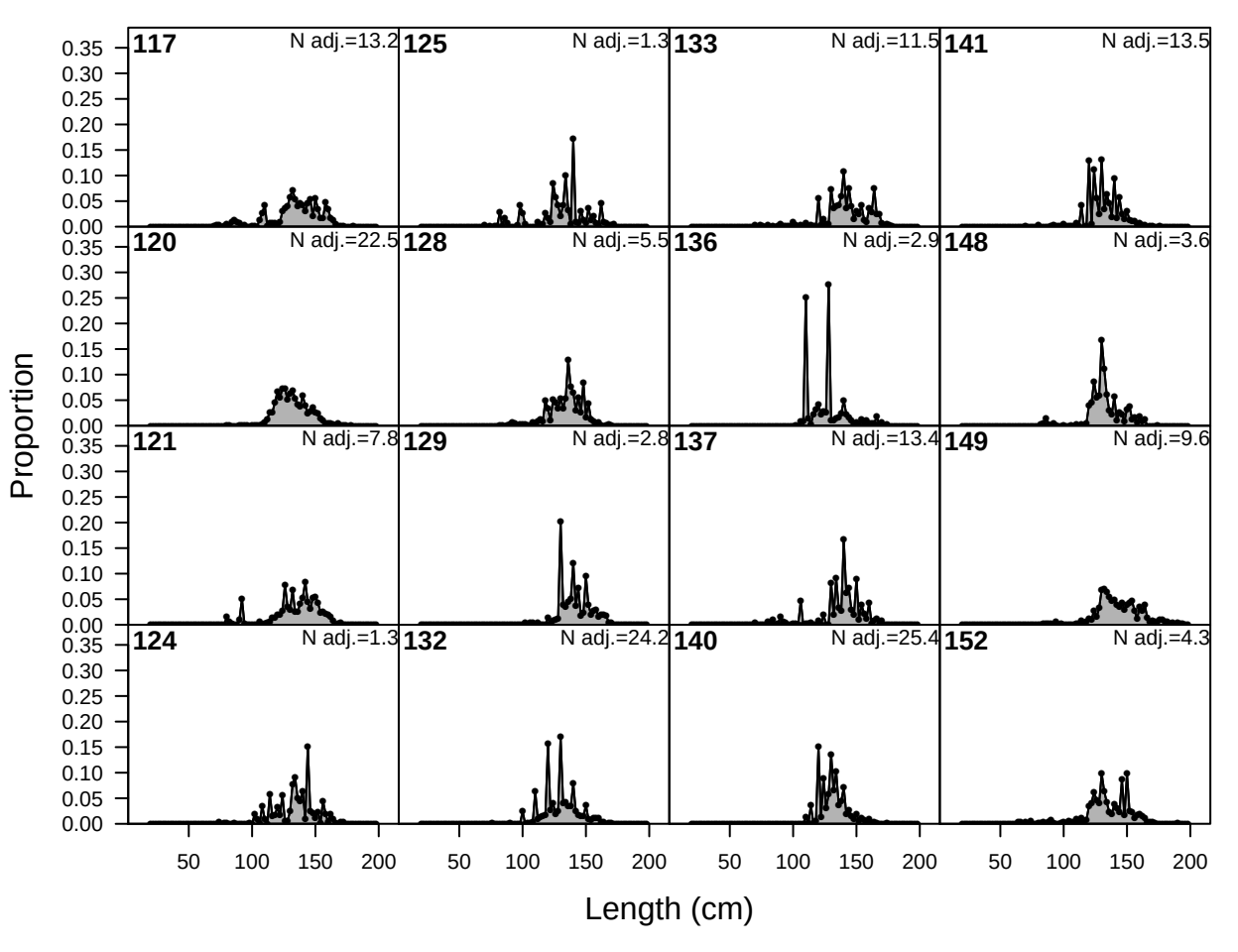

148
N adj.=2.3
157
N adj.=0.7
176
N adj.=0.4
152
N adj.=0.1
164
N adj.=3.4
153
N adj.=1.9
168
N adj.=0.7
156
N adj.=3.5
172
N adj.=1.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

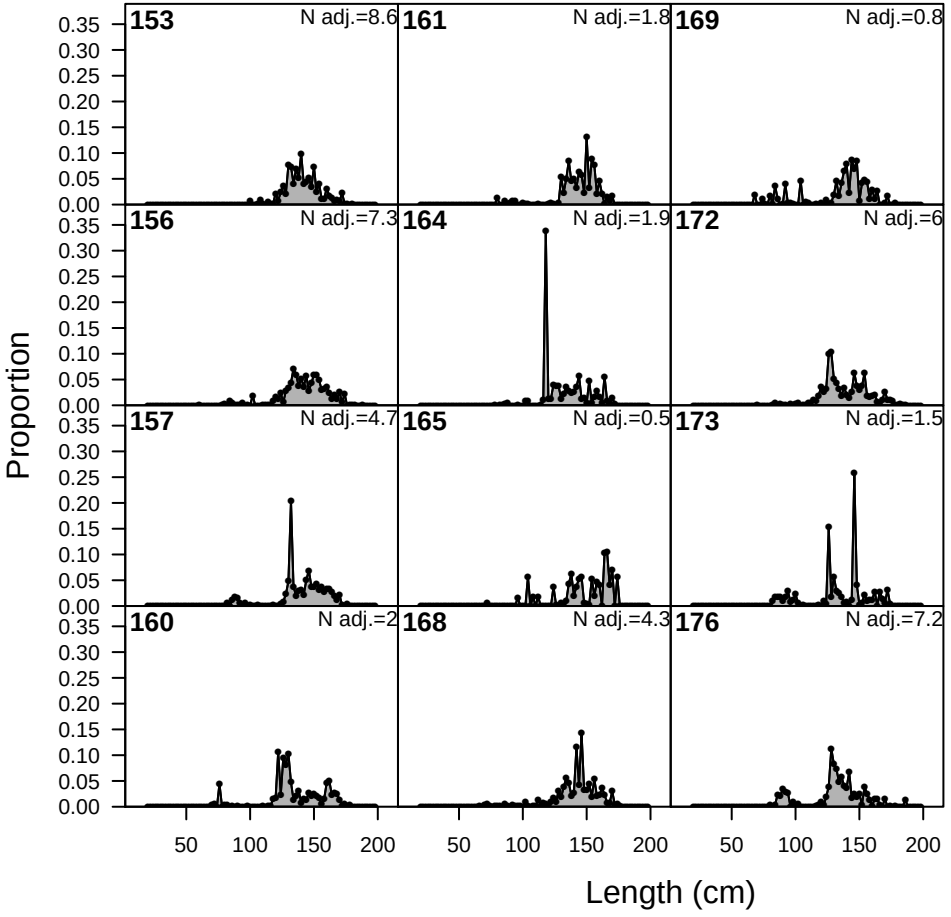

0.01
0.4
200
150
100
50
Length (cm)
45
56
65
76
85
96
108
120
132
145
157
172
Year

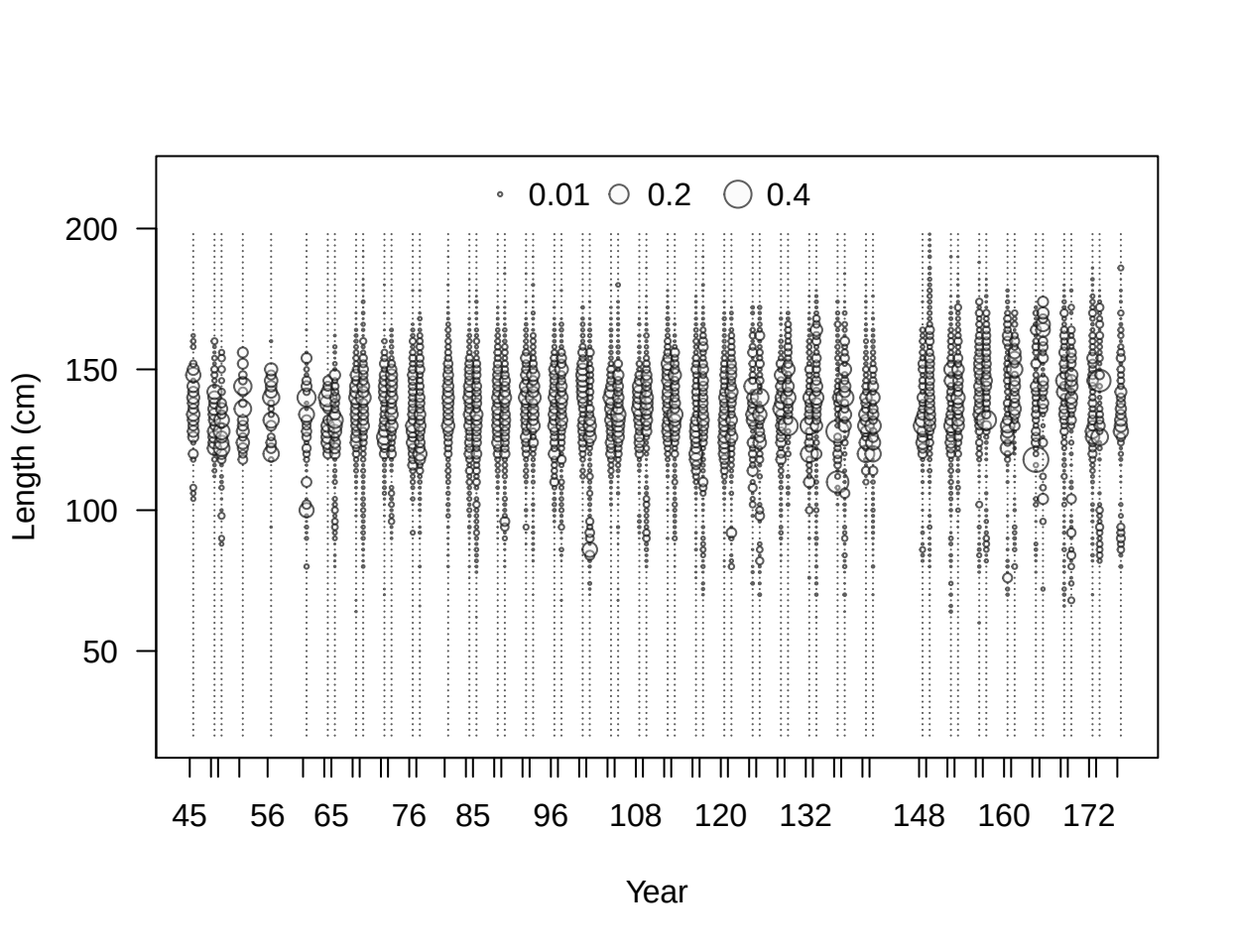

F29−LL_W_Q14n (whole catch)
Mean length
200
150
100
50
40
60
80
100
120
140
160
180
Year

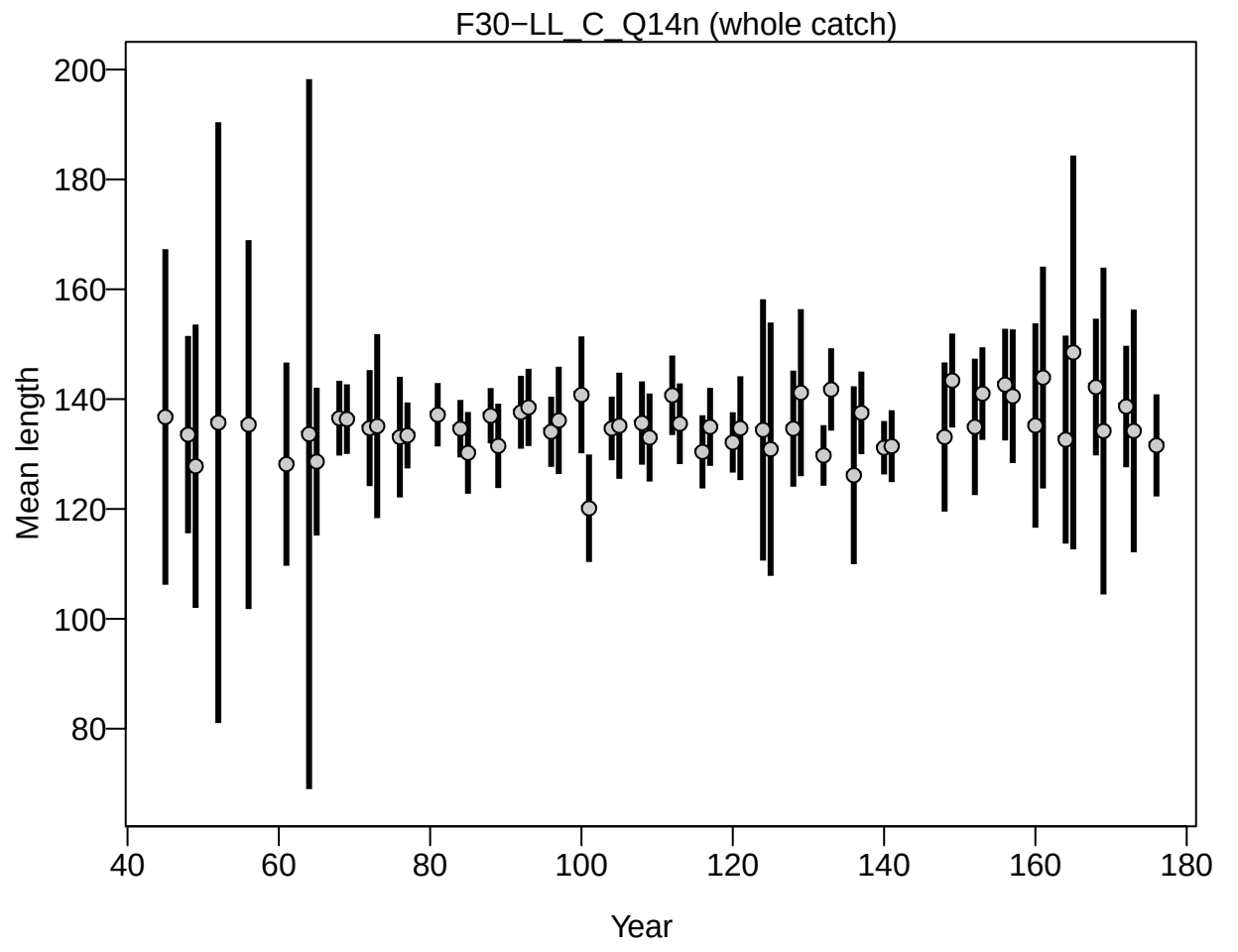

45
N adj.=0.7
56
N adj.=0.7
68
N adj.=14.7
76
N adj.=5.5
48
N adj.=1.9
61
N adj.=1.8
69
N adj.=17.5
77
N adj.=16.5
49
N adj.=0.9
64
N adj.=0.2
72
N adj.=5.8
81
N adj.=22.3
52
N adj.=0.2
65
N adj.=4
73
N adj.=2.4
84
N adj.=25.6
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

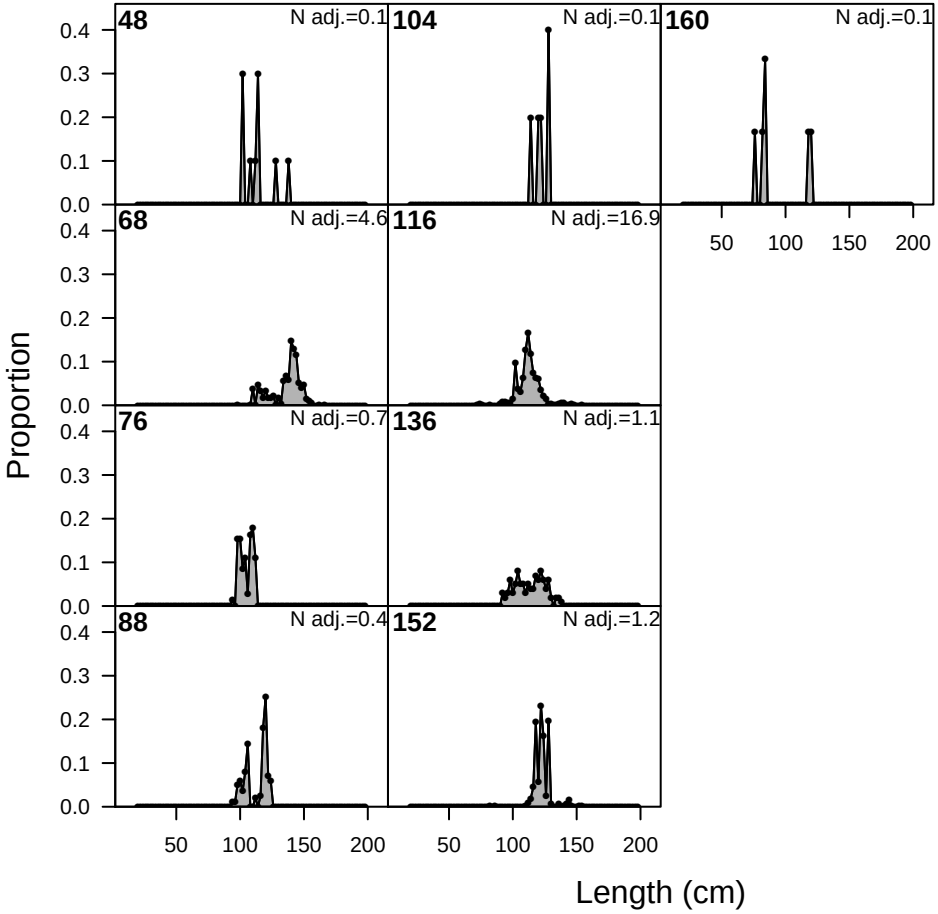

85
N adj.=12.2
93
N adj.=15
101
N adj.=7.6
109
N adj.=10.4
88
N adj.=23.7
96
N adj.=17.7
104
N adj.=20.6
112
N adj.=10.7
89
N adj.=10.5
97
N adj.=7.4
105
N adj.=6.6
113
N adj.=11.1
92
N adj.=17.1
100
N adj.=6.1
108
N adj.=13.4
116
N adj.=15.6
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

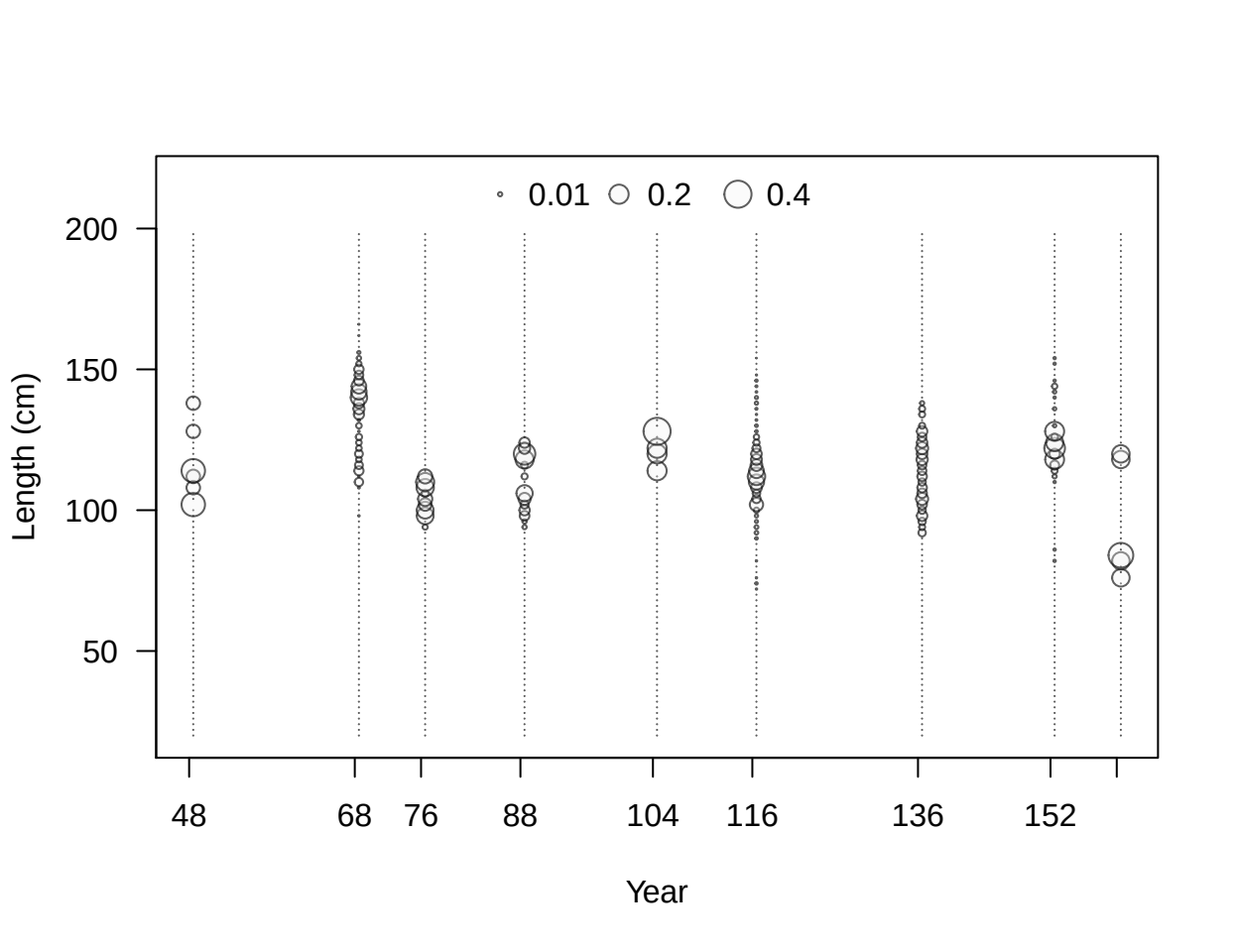

117
N adj.=13.2
125
N adj.=1.3
133
N adj.=11.5
141
N adj.=13.5
120
N adj.=22.5
128
N adj.=5.5
136
N adj.=2.9
148
N adj.=3.6
121
N adj.=7.8
129
N adj.=2.8
137
N adj.=13.4
149
N adj.=9.6
124
N adj.=1.3
132
N adj.=24.2
140
N adj.=25.4
152
N adj.=4.3
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

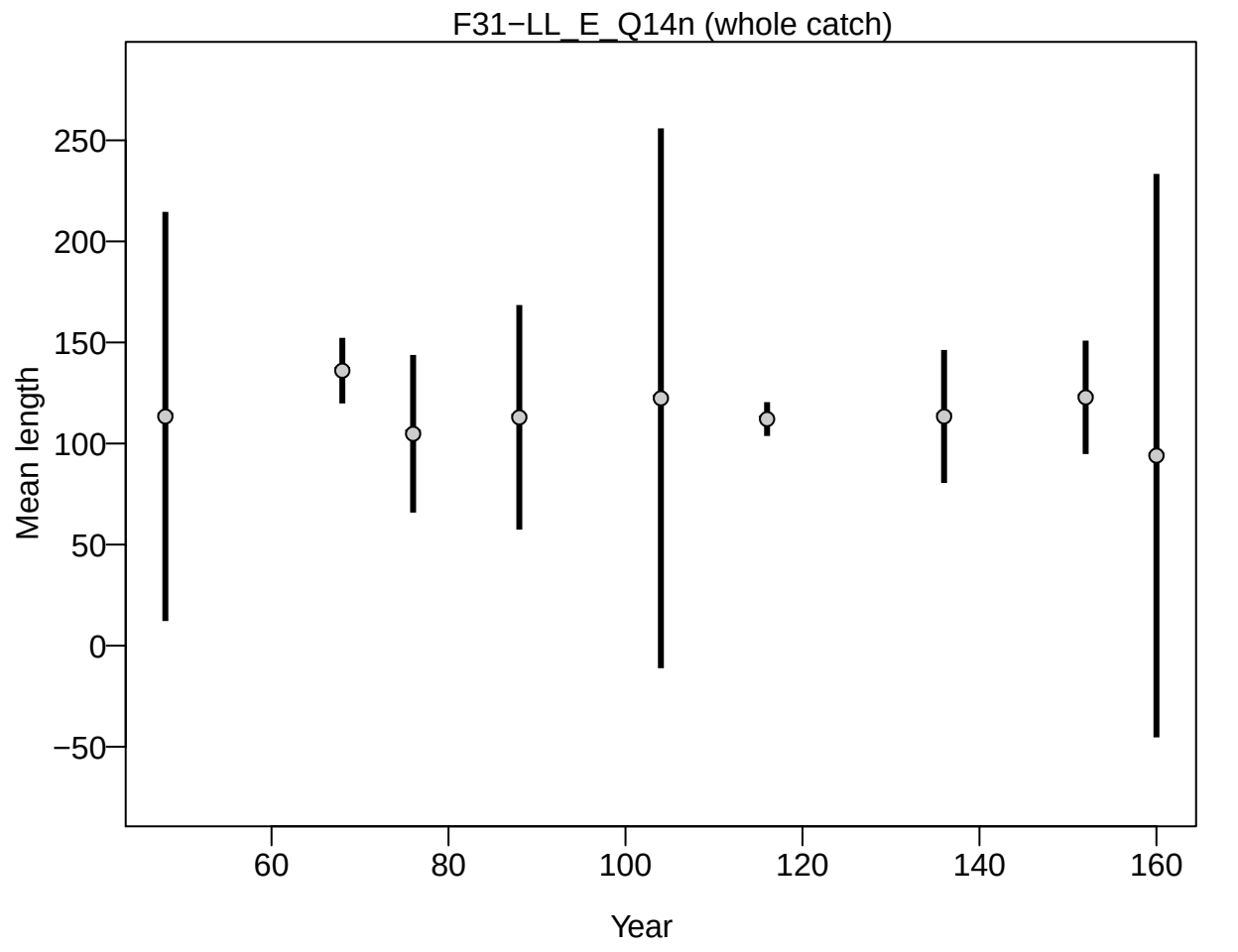

153
N adj.=8.6
161
N adj.=1.8
169
N adj.=0.8
156
N adj.=7.3
164
N adj.=1.9
172
N adj.=6
157
N adj.=4.7
165
N adj.=0.5
173
N adj.=1.5
160
N adj.=2
168
N adj.=4.3
176
N adj.=7.2
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

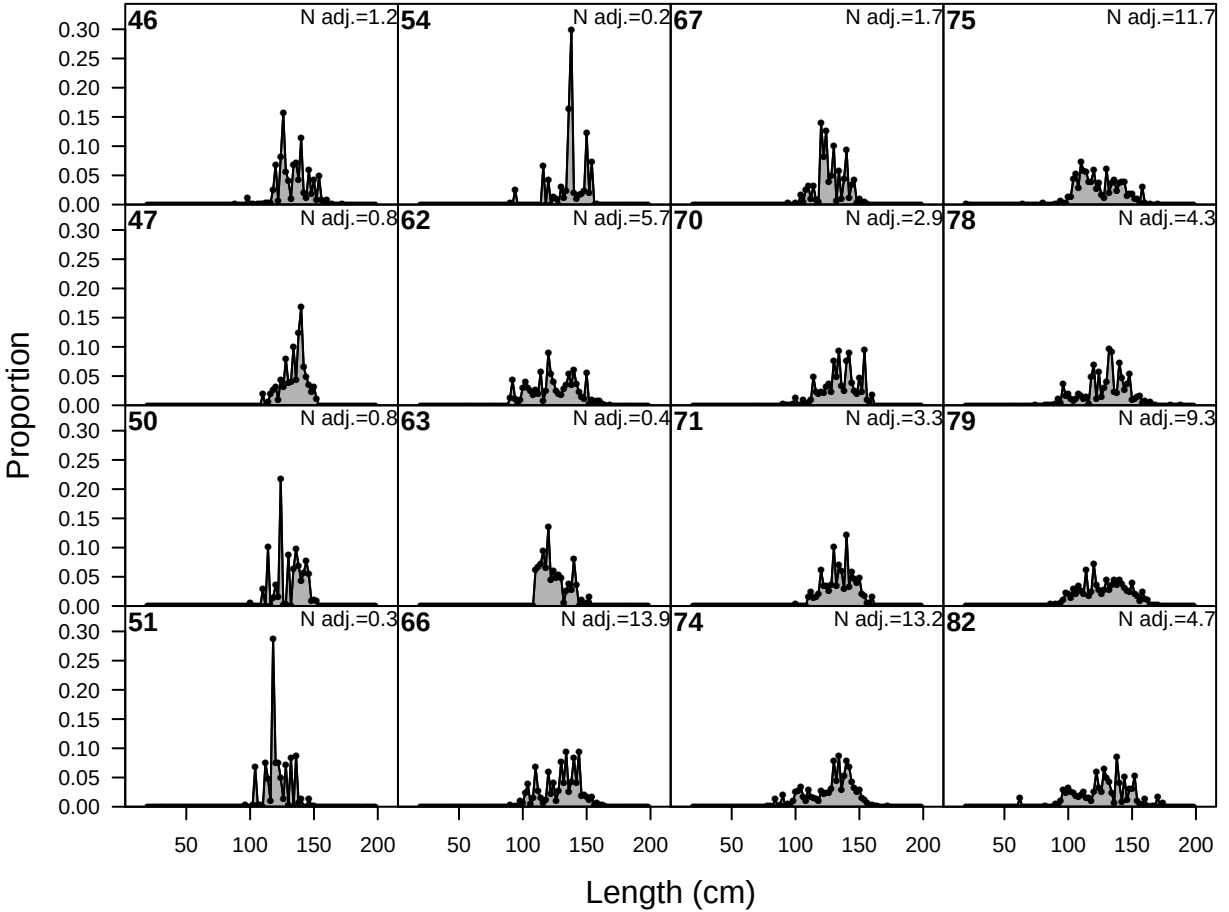

0.01
0.2
0.4
200
150
100
50
Length (cm)
45
56
65
76
85
96
108
120
132
148
160
172
Year

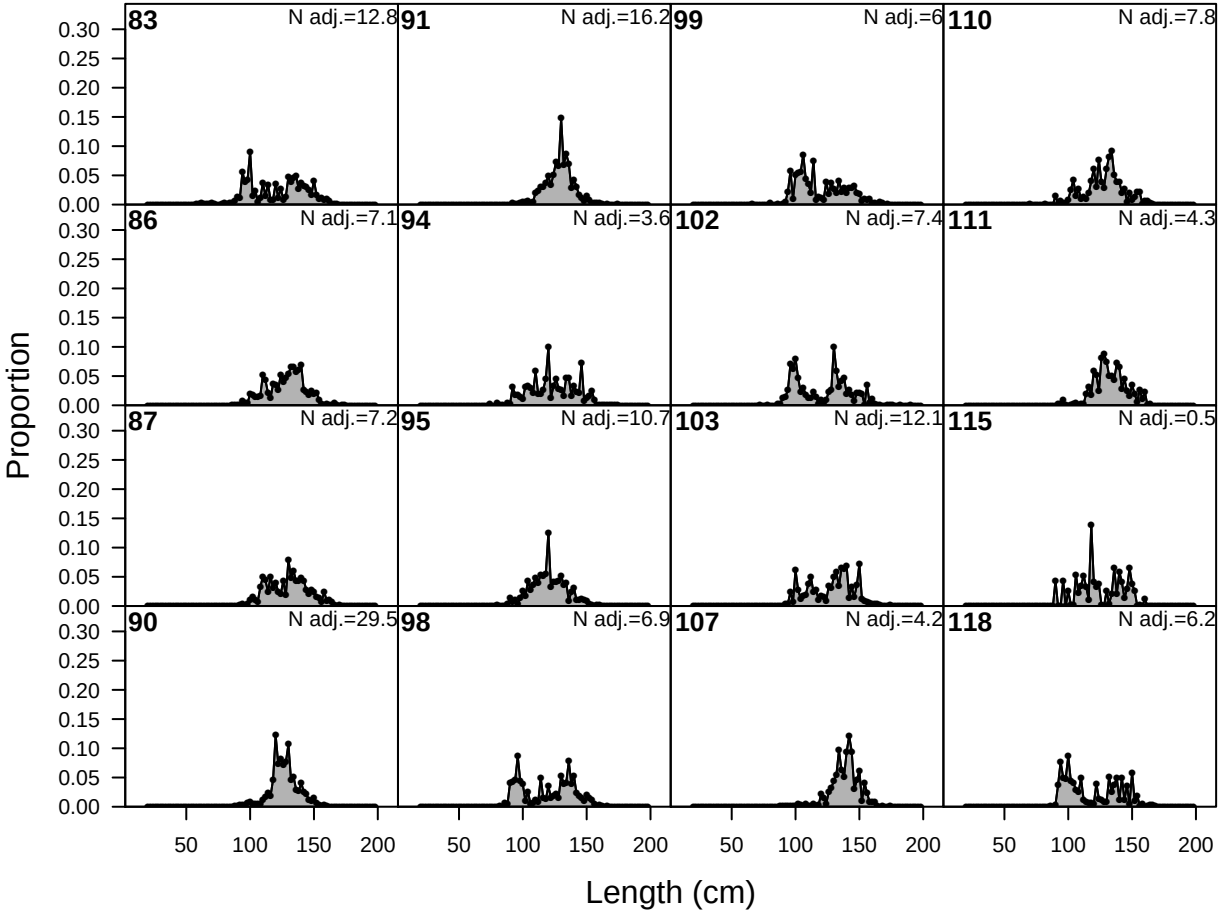

F30−LL_C_Q14n (whole catch)
Mean length
200
180
160
140
120
100
80
40
60
80
100
120
140
160
180
Year

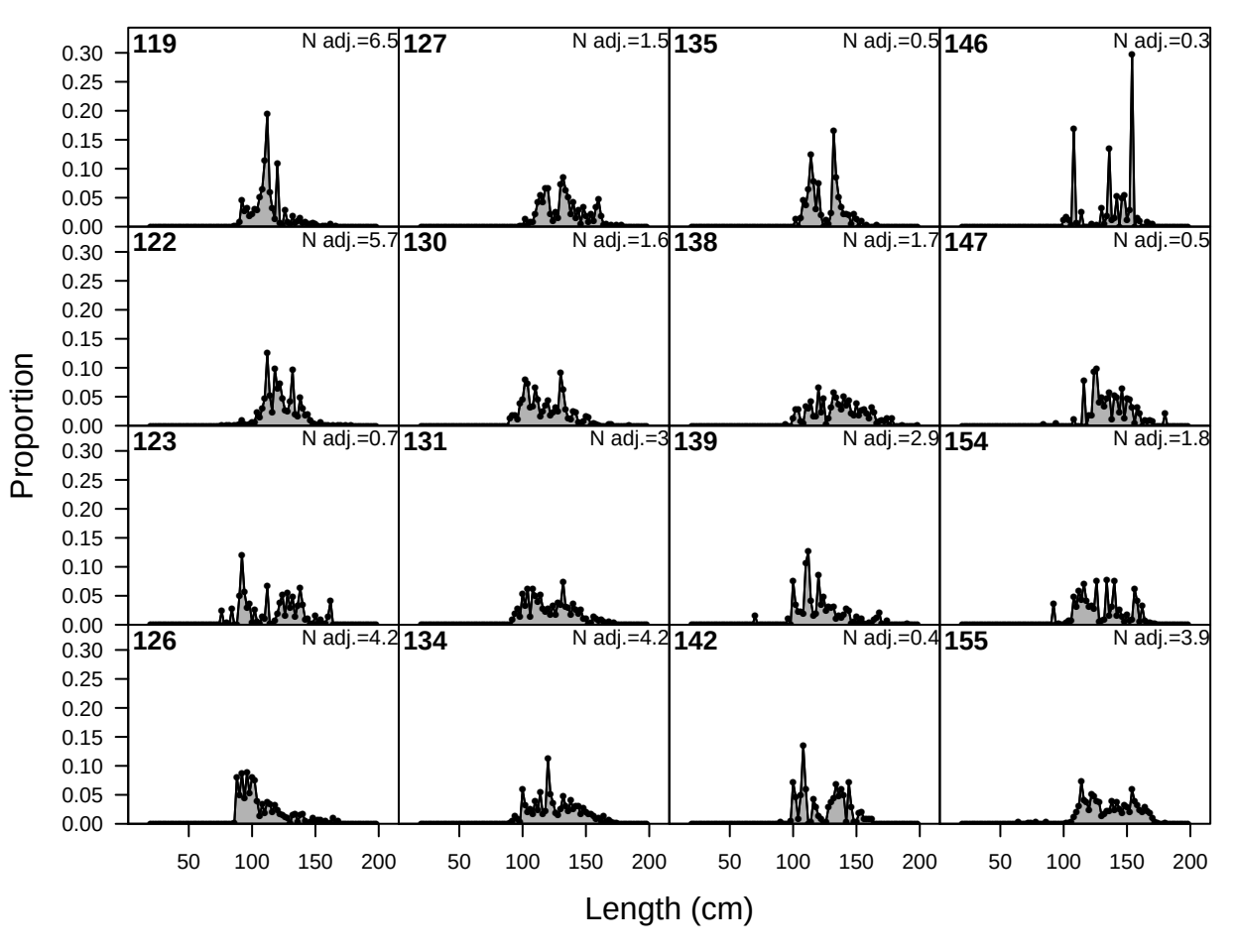

48
N adj.=0.1
104
N adj.=0.1
160
N adj.=0.1
68
N adj.=4.6
116
N adj.=16.9
76
N adj.=0.7
136
N adj.=1.1
88
N adj.=0.4
152
N adj.=1.2
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Proportion
Length (cm)

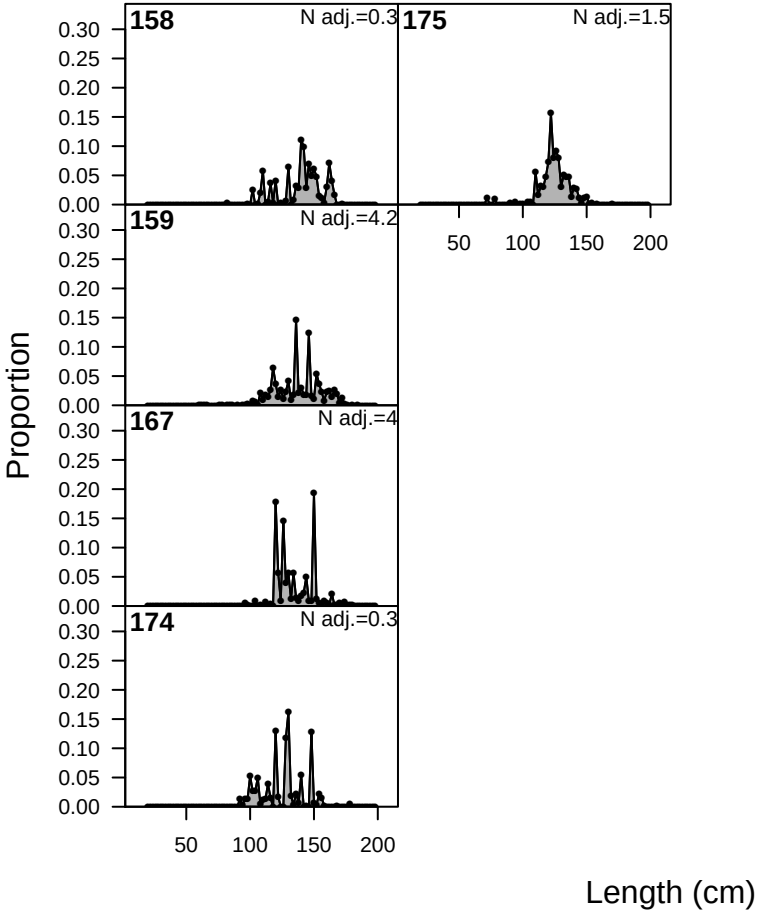

0.01
0.2
0.4
200
150
100
50
Length (cm)
48
68
76
88
104
116
136
152
Year

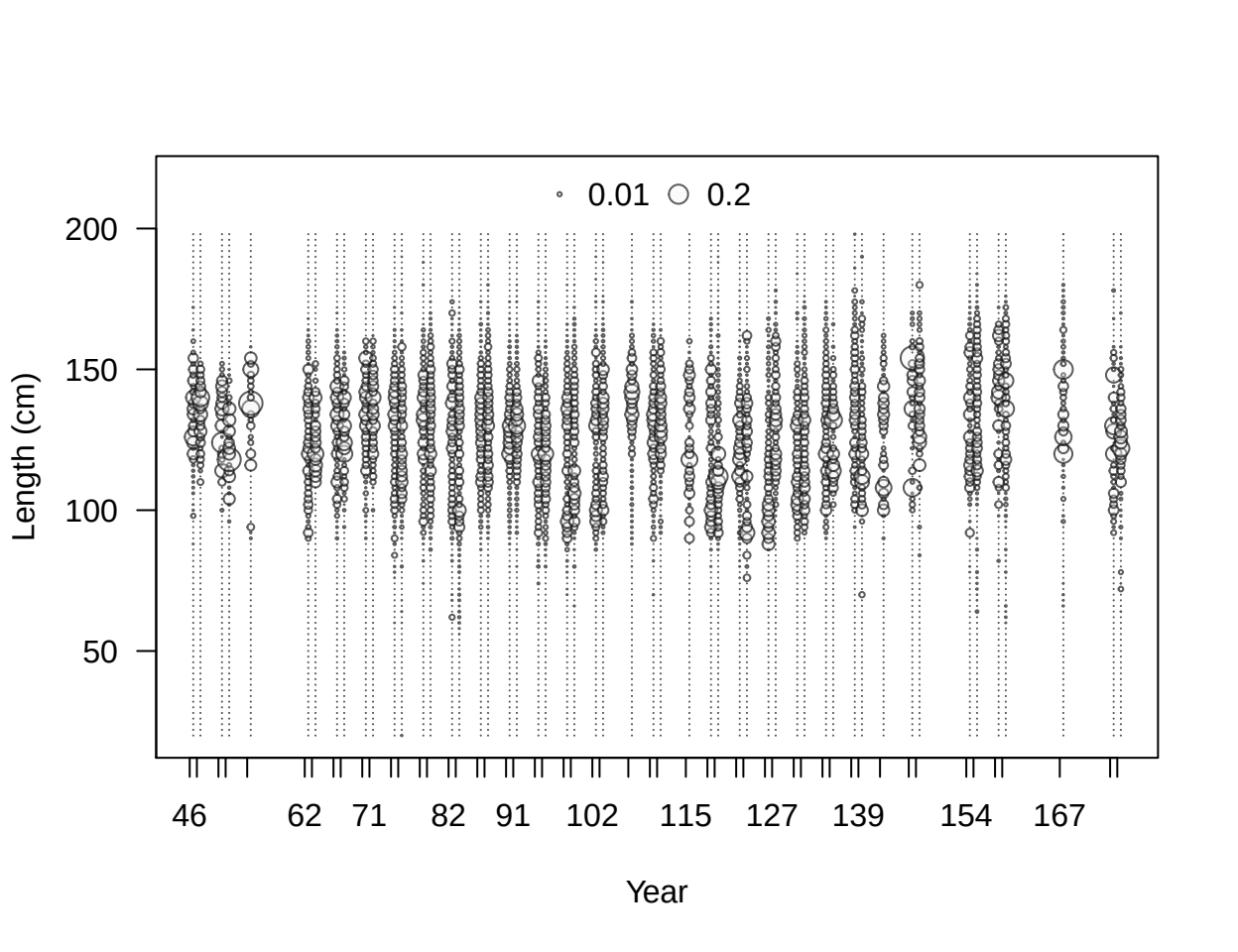

F31−LL_E_Q14n (whole catch)
Mean length
250
200
150
100
50
0
−50
60
80
100
120
140
160
Year

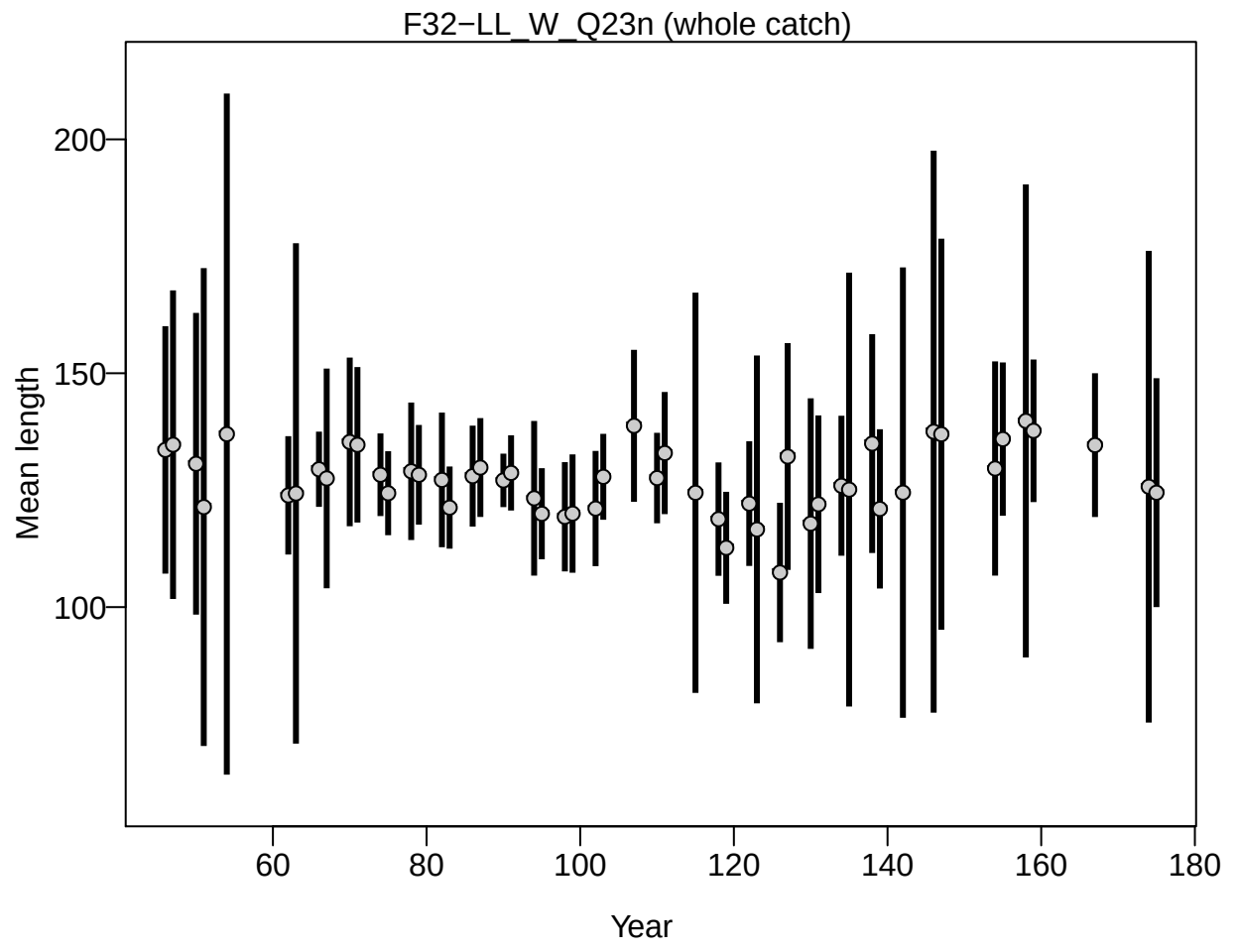

46
N adj.=1.2
54
N adj.=0.2
67
N adj.=1.7
75
N adj.=11.7
47
N adj.=0.8
62
N adj.=5.7
70
N adj.=2.9
78
N adj.=4.3
50
N adj.=0.8
63
N adj.=0.4
71
N adj.=3.3
79
N adj.=9.3
51
N adj.=0.3
66
N adj.=13.9
74
N adj.=13.2
82
N adj.=4.7
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

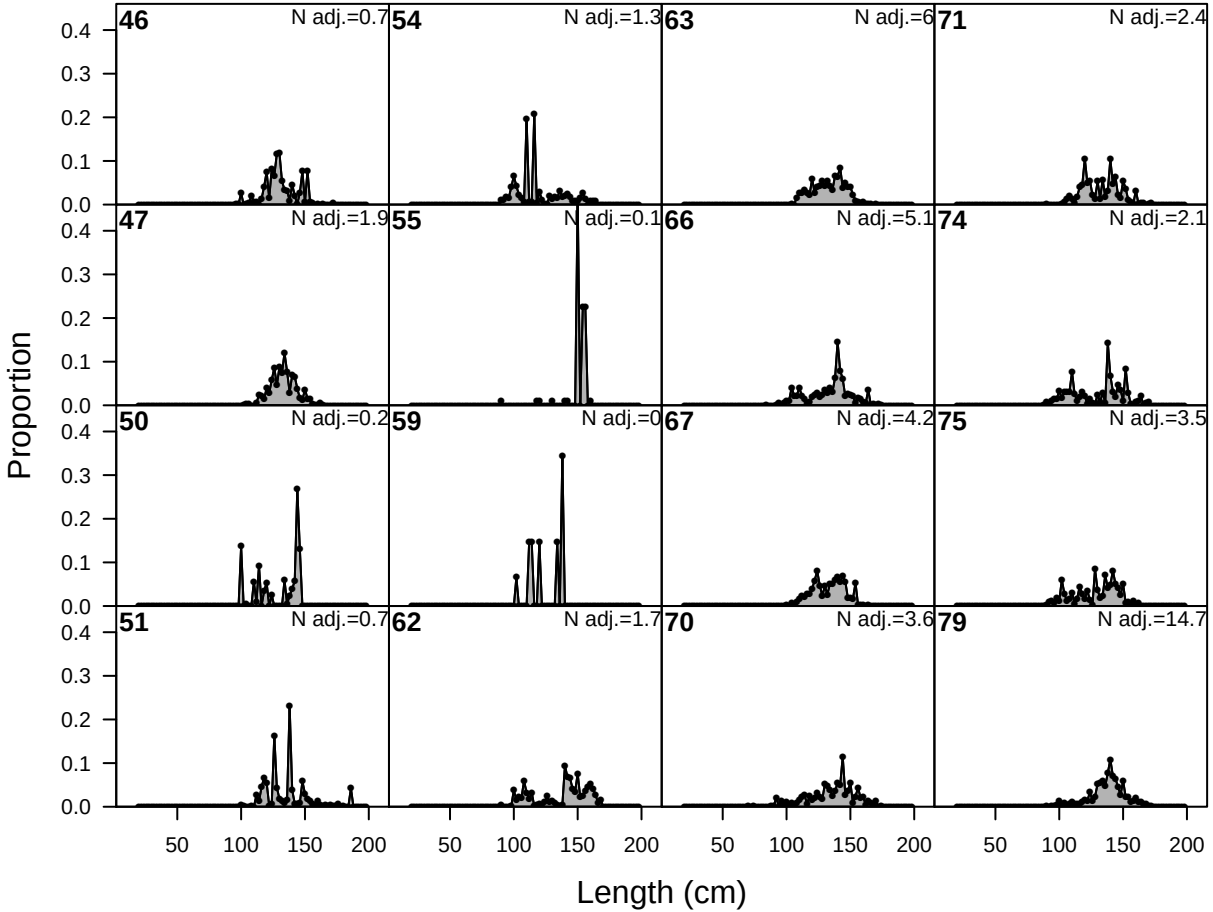

83
N adj.=12.8
91
N adj.=16.2
99
N adj.=6
110
N adj.=7.8
86
N adj.=7.1
94
N adj.=3.6
102
N adj.=7.4
111
N adj.=4.3
87
N adj.=7.2
95
N adj.=10.7
103
N adj.=12.1
115
N adj.=0.5
90
N adj.=29.5
98
N adj.=6.9
107
N adj.=4.2
118
N adj.=6.2
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

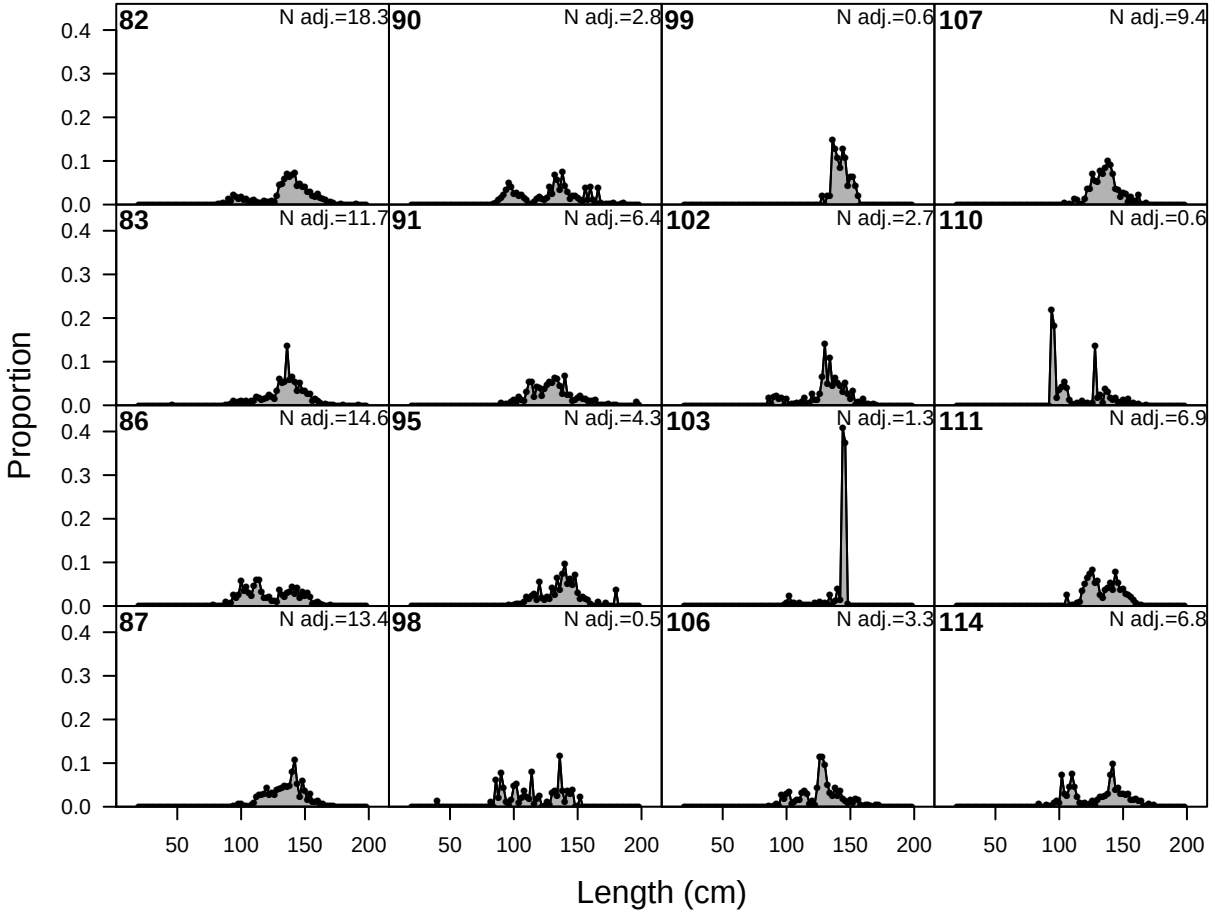

119
N adj.=6.5
127
N adj.=1.5
135
N adj.=0.5
146
N adj.=0.3
122
N adj.=5.7
130
N adj.=1.6
138
N adj.=1.7
147
N adj.=0.5
123
N adj.=0.7
131
N adj.=3
139
N adj.=2.9
154
N adj.=1.8
126
N adj.=4.2
134
N adj.=4.2
142
N adj.=0.4
155
N adj.=3.9
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

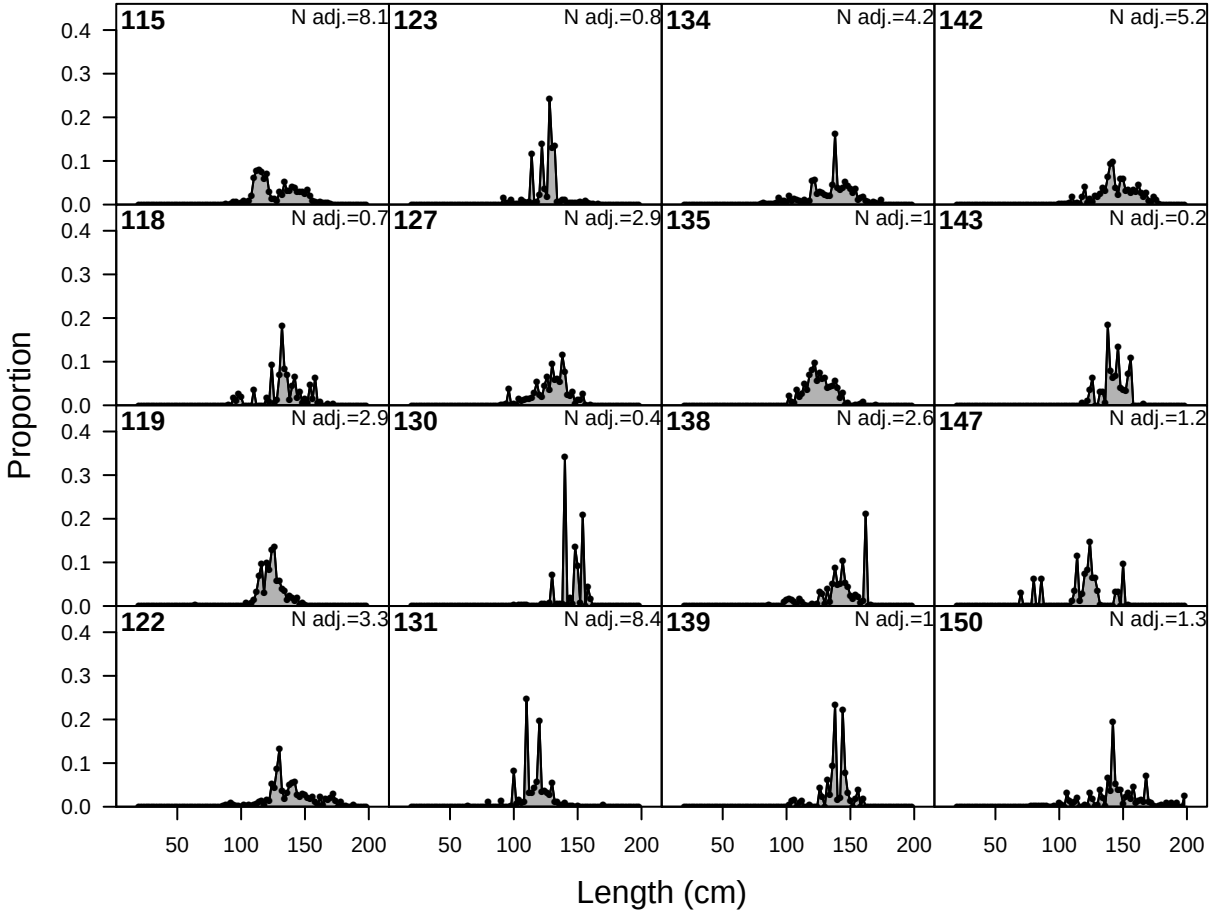

158
N adj.=0.3
175
N adj.=1.5
159
N adj.=4.2
167
N adj.=4
174
N adj.=0.3
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

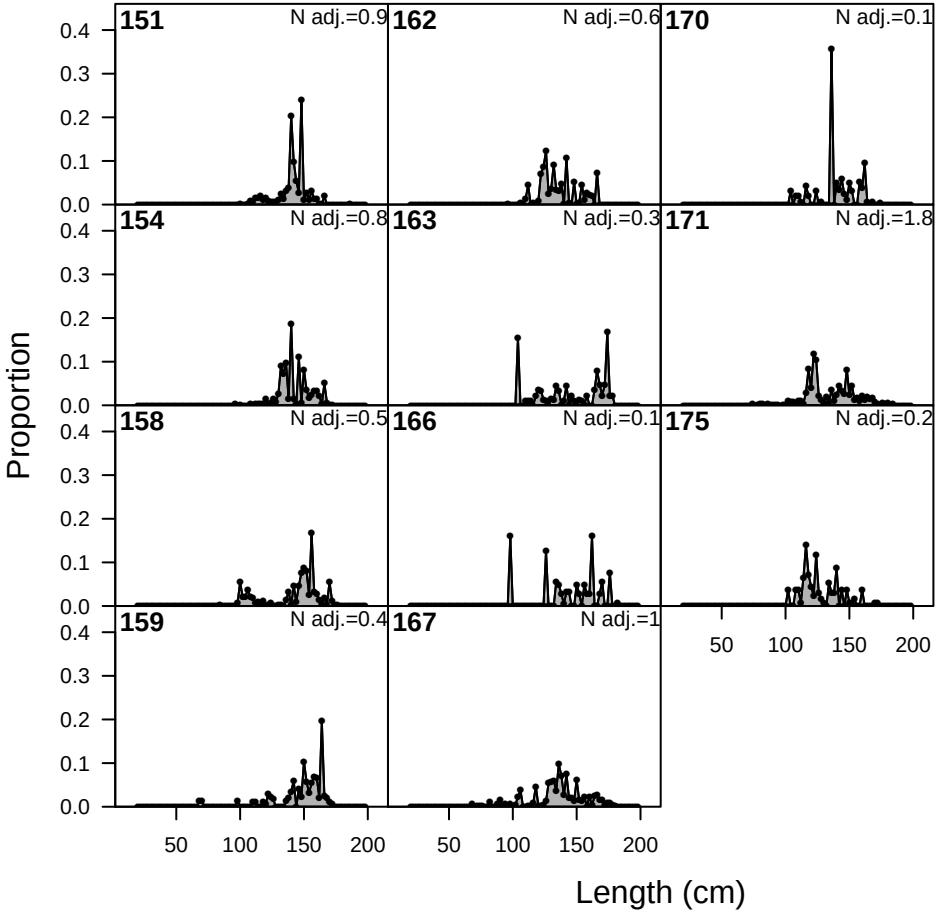

0.01
0.2
200
150
100
50
Length (cm)
46
62
71
82
91
102
115
127
139
154
167
Year

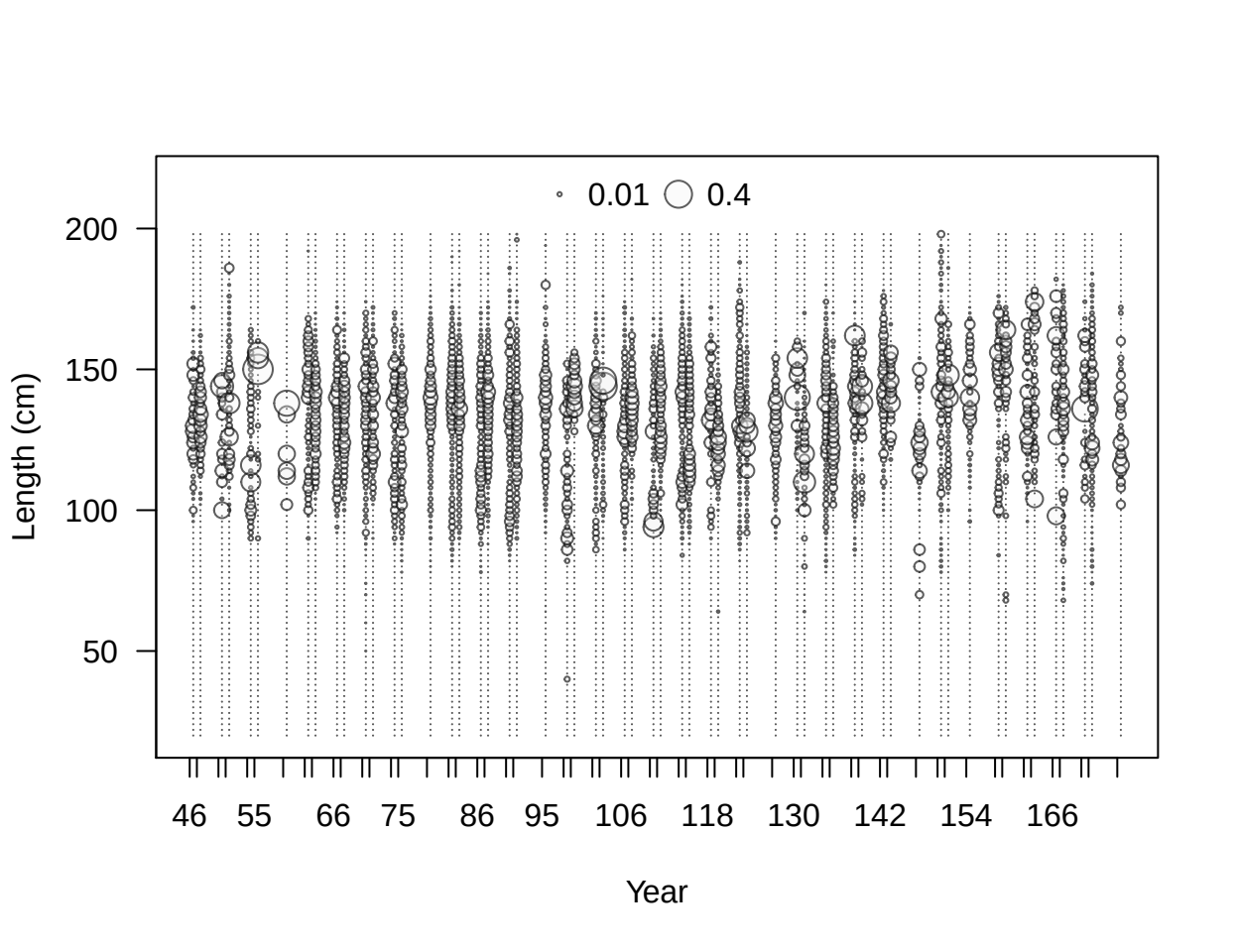

F32−LL_W_Q23n (whole catch)
Mean length
200
150
100
60
80
100
120
140
160
180
Year

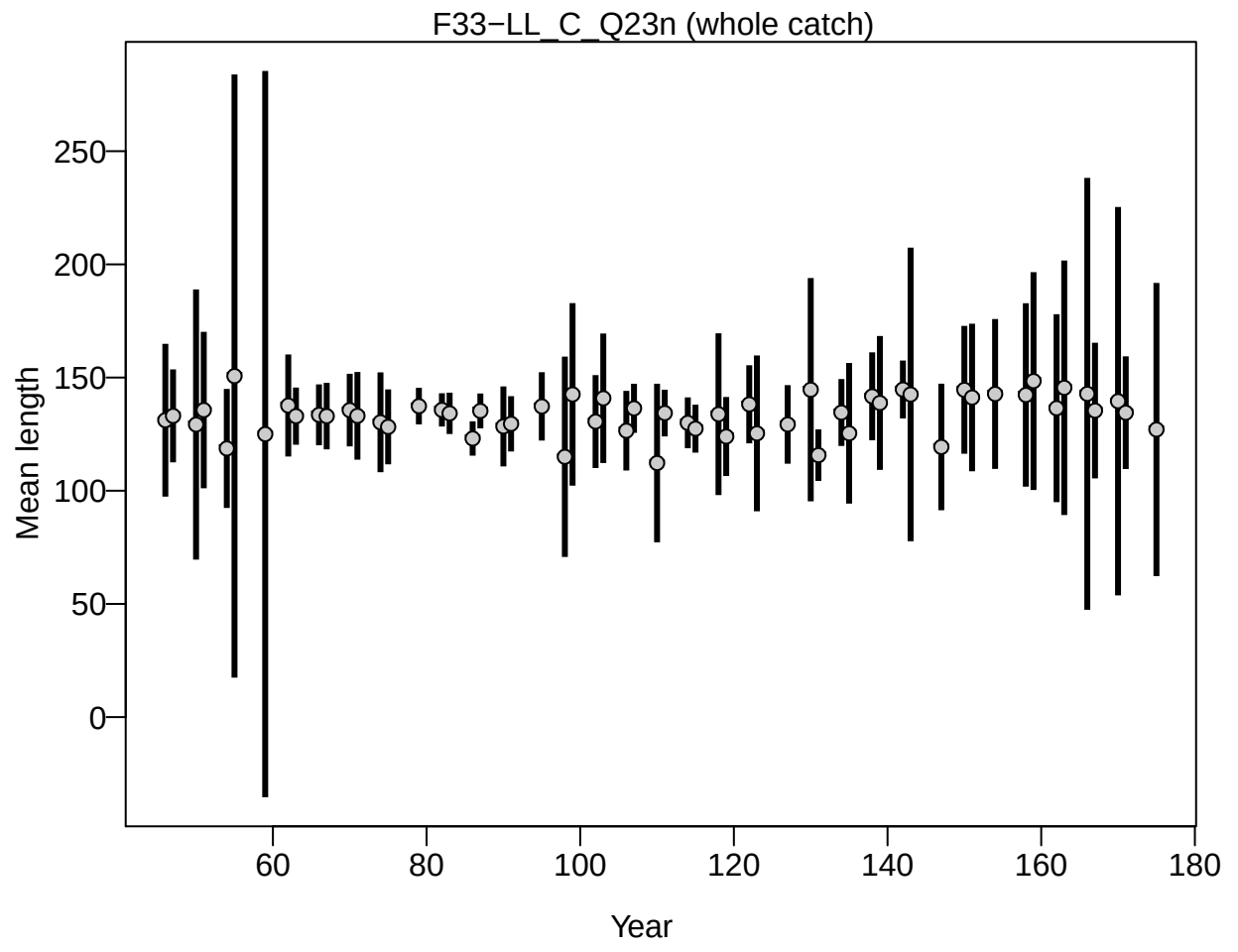

46
N adj.=0.7
54
N adj.=1.3
63
N adj.=6
71
N adj.=2.4
47
N adj.=1.9
55
N adj.=0.1
66
N adj.=5.1
74
N adj.=2.1
50
N adj.=0.2
59
N adj.=0
67
N adj.=4.2
75
N adj.=3.5
51
N adj.=0.7
62
N adj.=1.7
70
N adj.=3.6
79
N adj.=14.7
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

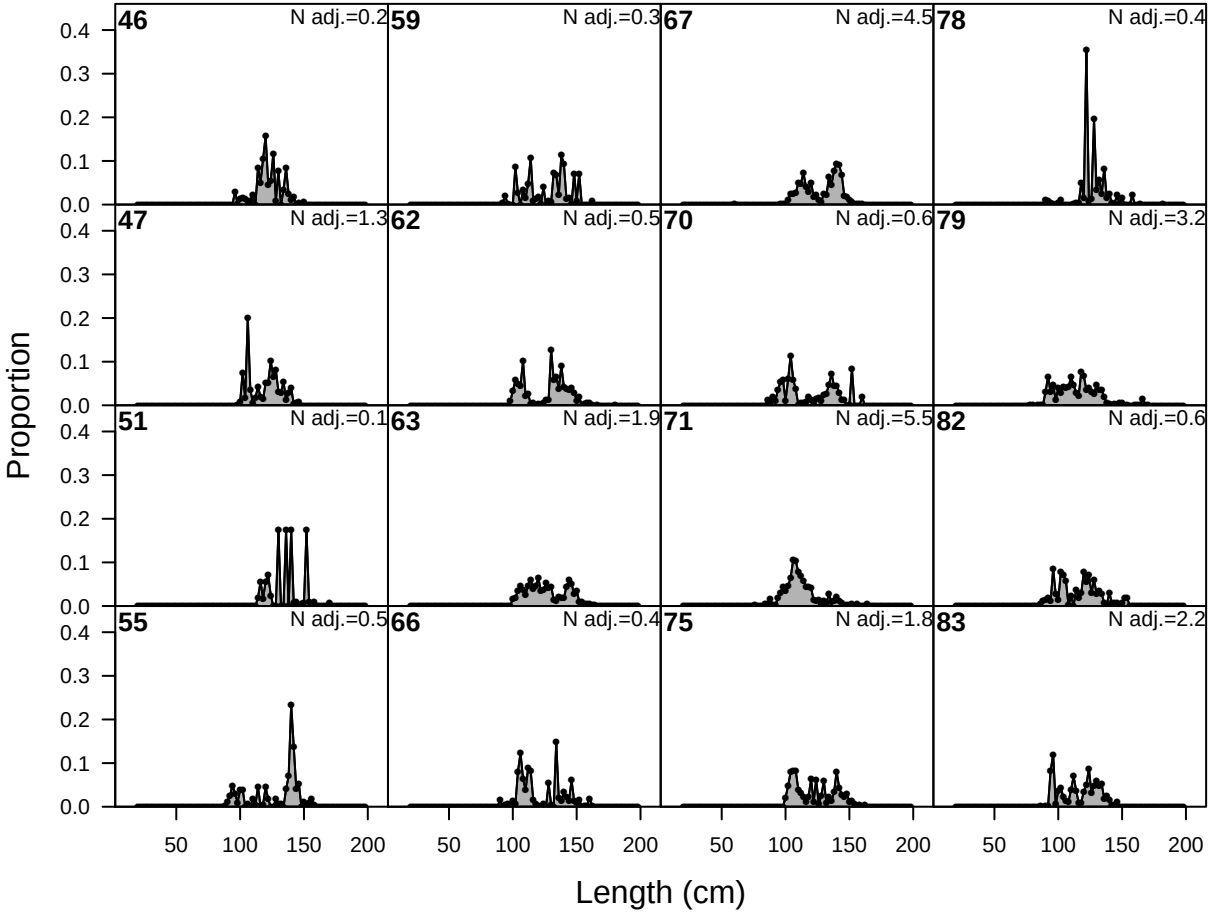

82
N adj.=18.3
90
N adj.=2.8
99
N adj.=0.6
107
N adj.=9.4
83
N adj.=11.7
91
N adj.=6.4
102
N adj.=2.7
110
N adj.=0.6
86
N adj.=14.6
95
N adj.=4.3
103
N adj.=1.3
111
N adj.=6.9
87
N adj.=13.4
98
N adj.=0.5
106
N adj.=3.3
114
N adj.=6.8
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

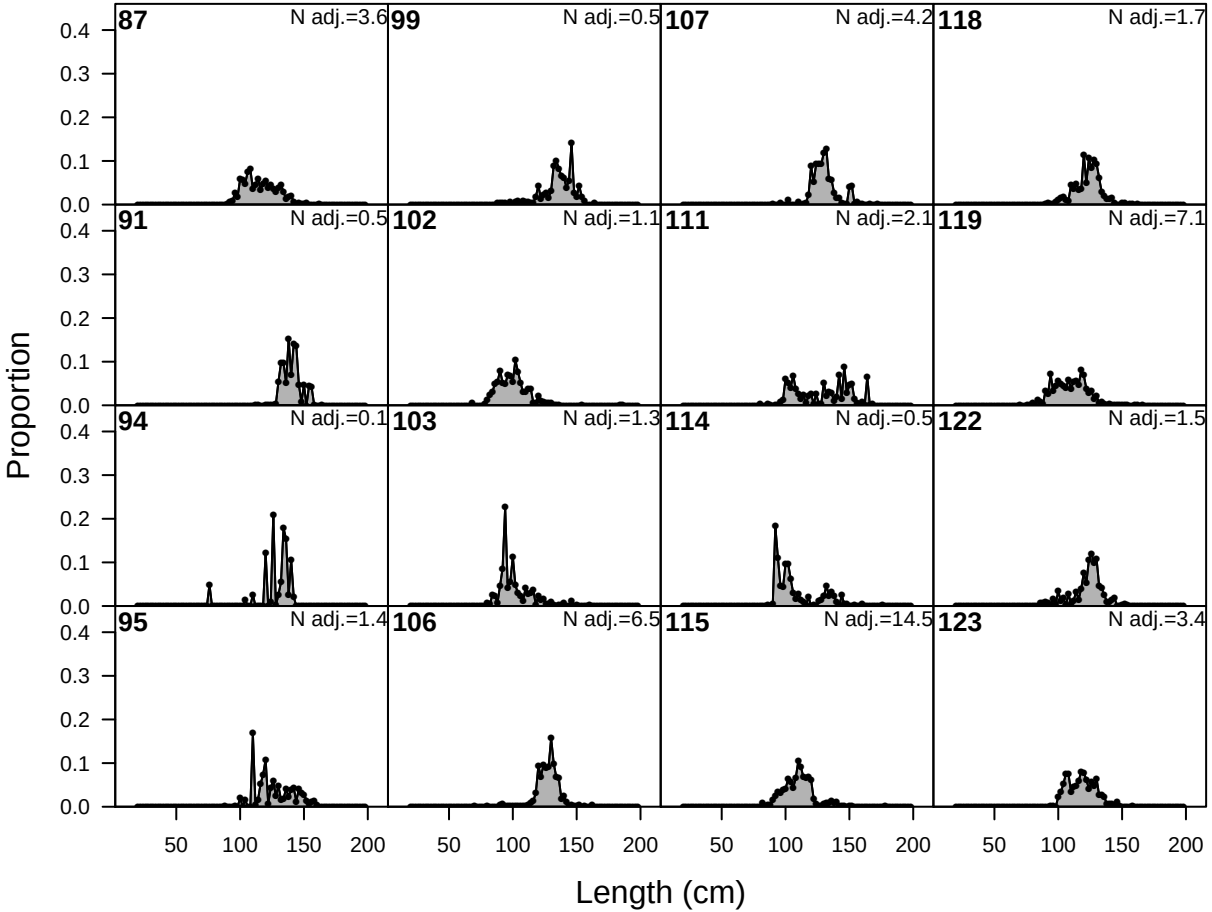

115
N adj.=8.1
123
N adj.=0.8
134
N adj.=4.2
142
N adj.=5.2
118
N adj.=0.7
127
N adj.=2.9
135
N adj.=1
143
N adj.=0.2
119
N adj.=2.9
130
N adj.=0.4
138
N adj.=2.6
147
N adj.=1.2
122
N adj.=3.3
131
N adj.=8.4
139
N adj.=1
150
N adj.=1.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

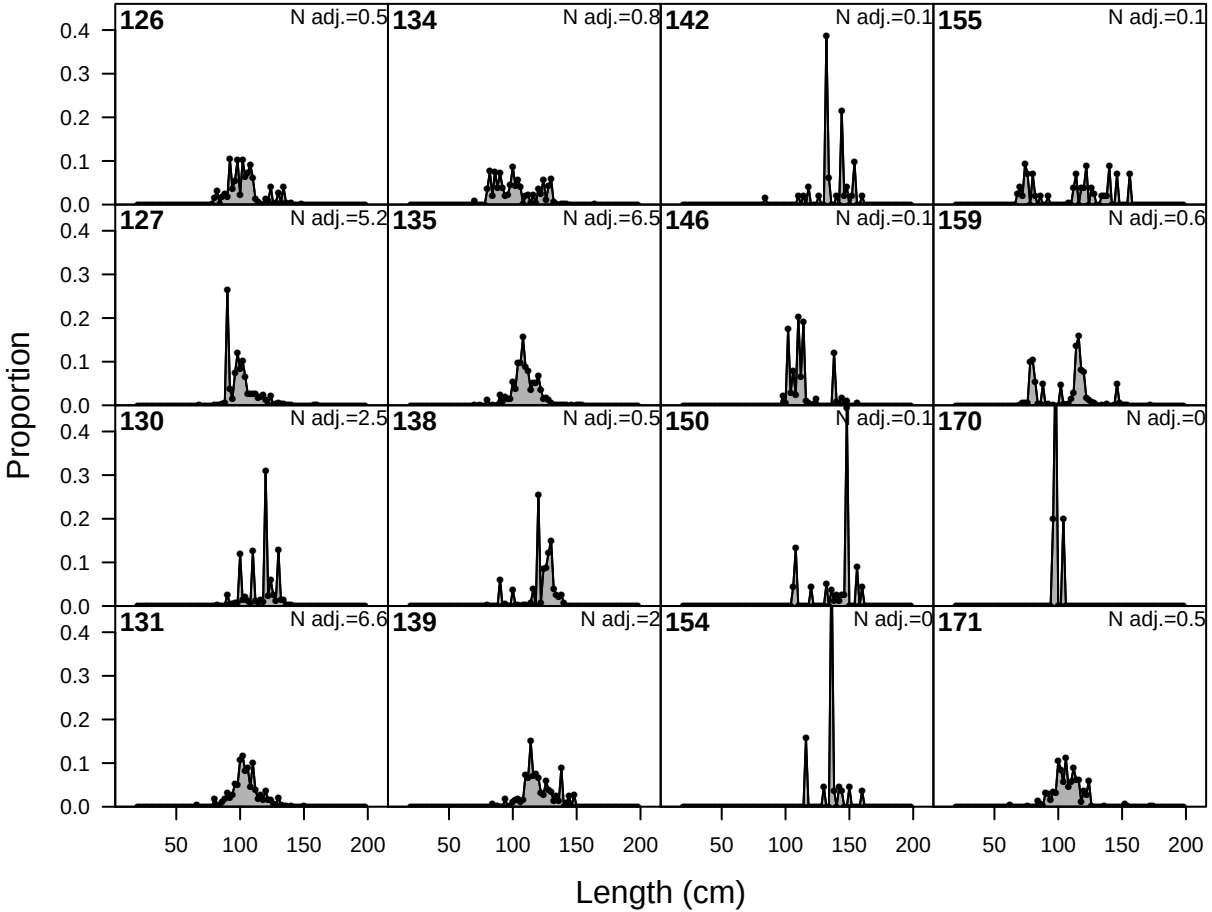

151
N adj.=0.9
162
N adj.=0.6
170
N adj.=0.1
154
N adj.=0.8
163
N adj.=0.3
171
N adj.=1.8
158
N adj.=0.5
166
N adj.=0.1
175
N adj.=0.2
159
N adj.=0.4
167
N adj.=1
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

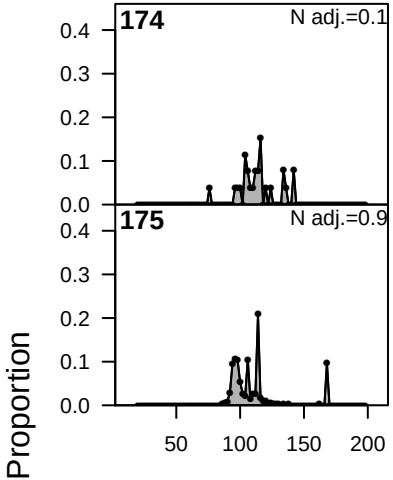

0.01
0.4
200
150
100
50
Length (cm)
46
55
66
75
86
95
106
118
130
142
154
166
Year

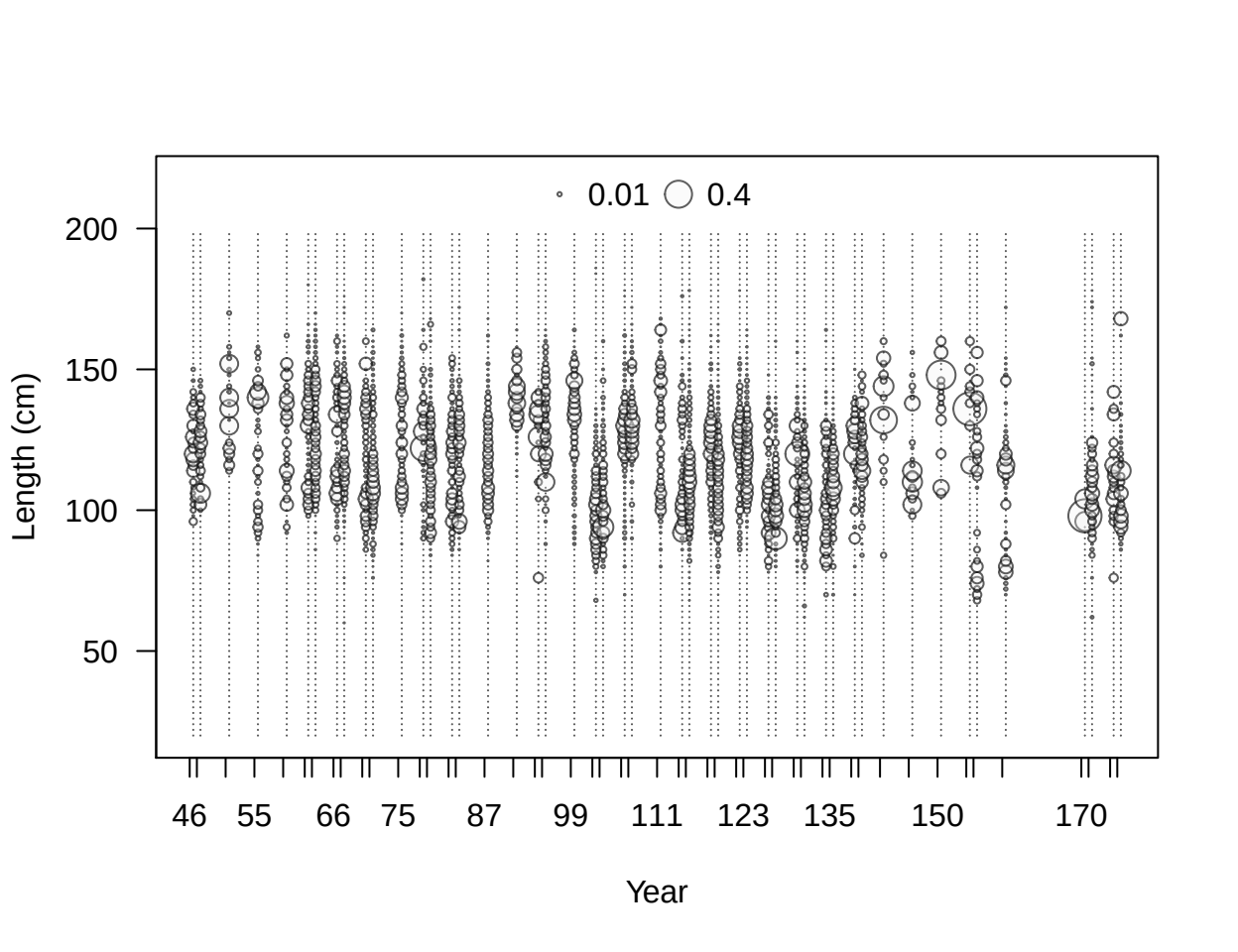

F33−LL_C_Q23n (whole catch)
Mean length
250
200
150
100
50
0
60
80
100
120
140
160
180
Year

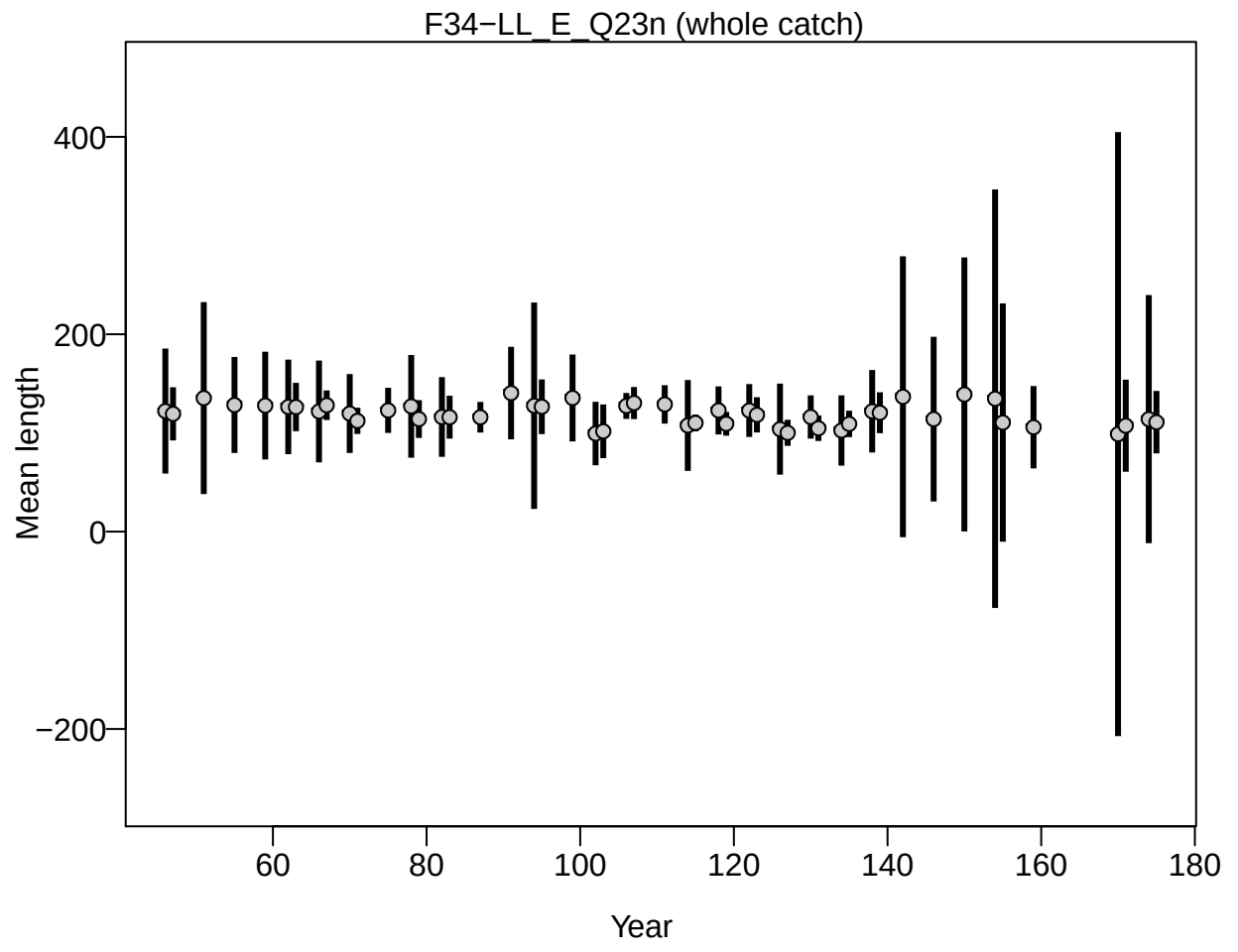

46
N adj.=0.2
59
N adj.=0.3
67
N adj.=4.5
78
N adj.=0.4
47
N adj.=1.3
62
N adj.=0.5
70
N adj.=0.6
79
N adj.=3.2
51
N adj.=0.1
63
N adj.=1.9
71
N adj.=5.5
82
N adj.=0.6
55
N adj.=0.5
66
N adj.=0.4
75
N adj.=1.8
83
N adj.=2.2
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

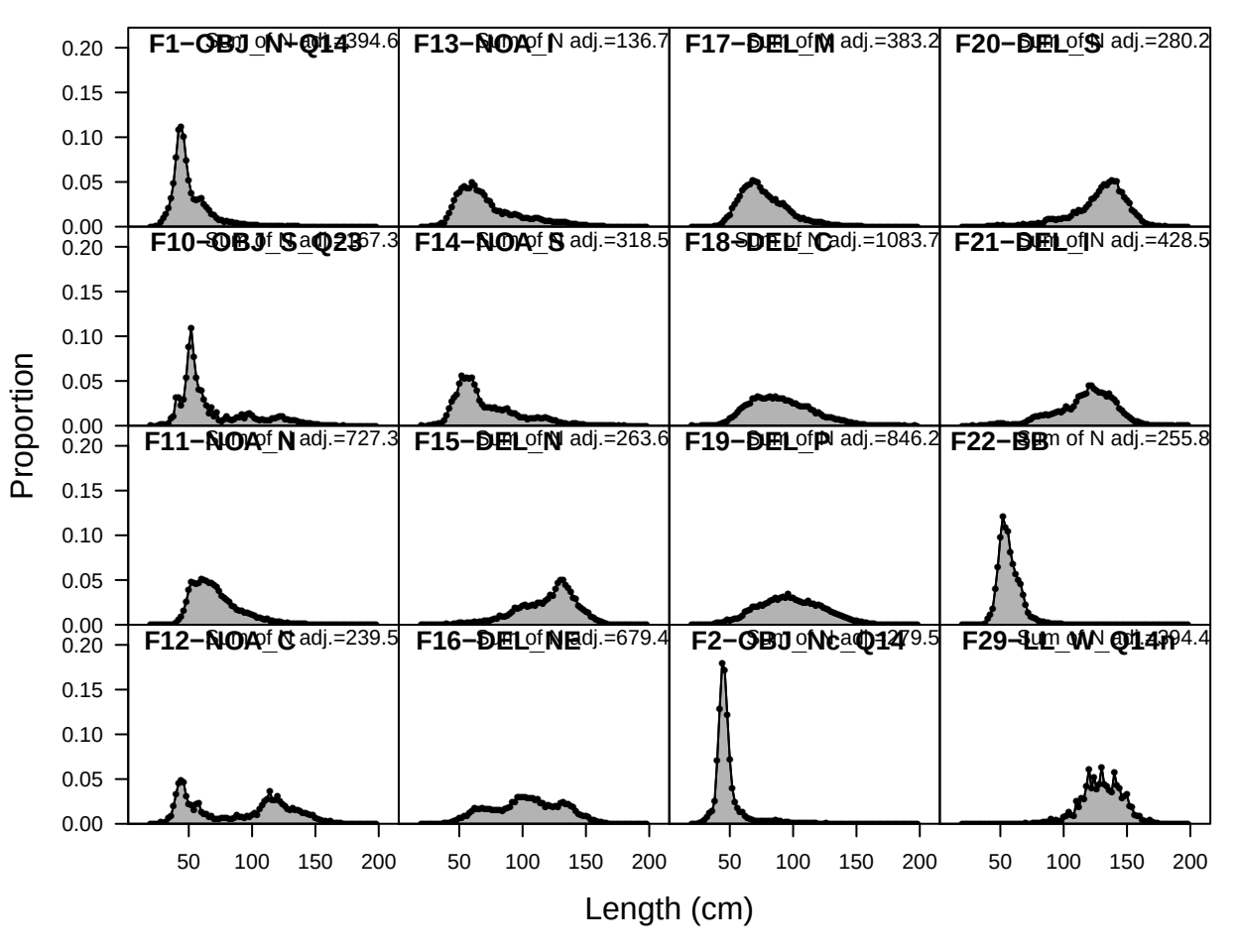

87
N adj.=3.6
99
N adj.=0.5
107
N adj.=4.2
118
N adj.=1.7
91
N adj.=0.5
102
N adj.=1.1
111
N adj.=2.1
119
N adj.=7.1
94
N adj.=0.1
103
N adj.=1.3
114
N adj.=0.5
122
N adj.=1.5
95
N adj.=1.4
106
N adj.=6.5
115
N adj.=14.5
123
N adj.=3.4
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

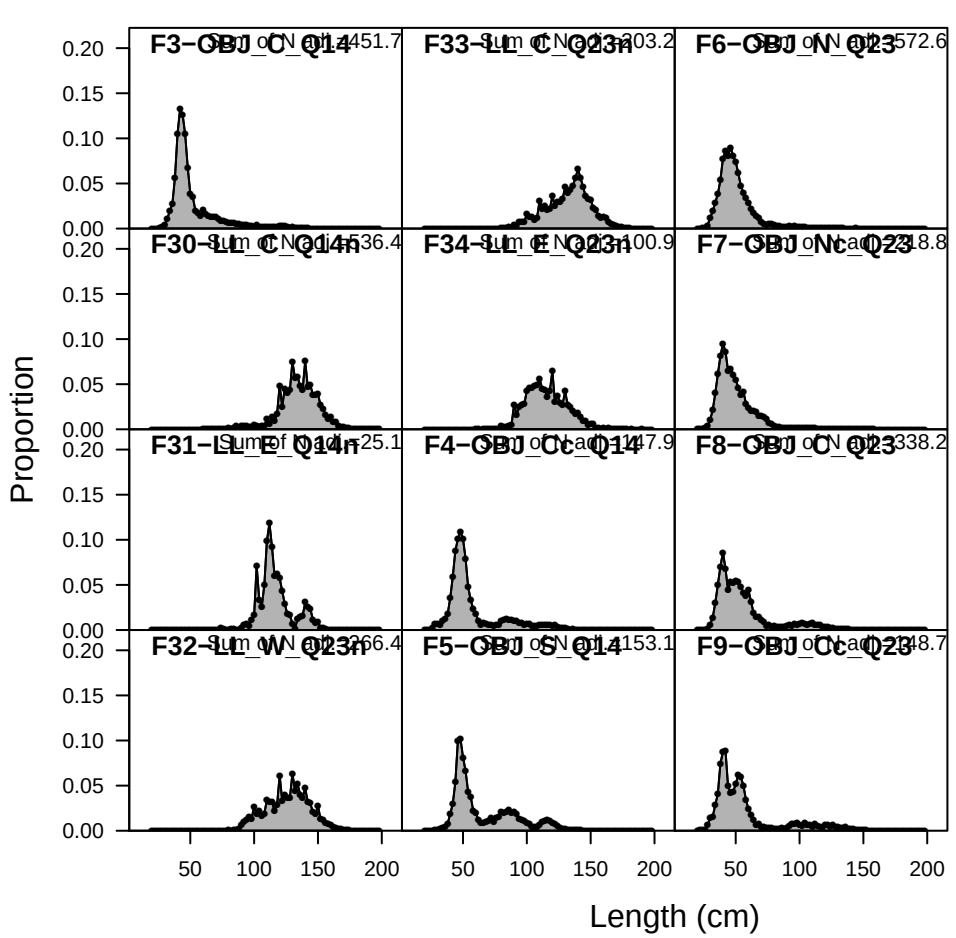

126
N adj.=0.5
134
N adj.=0.8
142
N adj.=0.1
155
N adj.=0.1
127
N adj.=5.2
135
N adj.=6.5
146
N adj.=0.1
159
N adj.=0.6
130
N adj.=2.5
138
N adj.=0.5
150
N adj.=0.1
170
N adj.=0
131
N adj.=6.6
139
N adj.=2
154
N adj.=0
171
N adj.=0.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

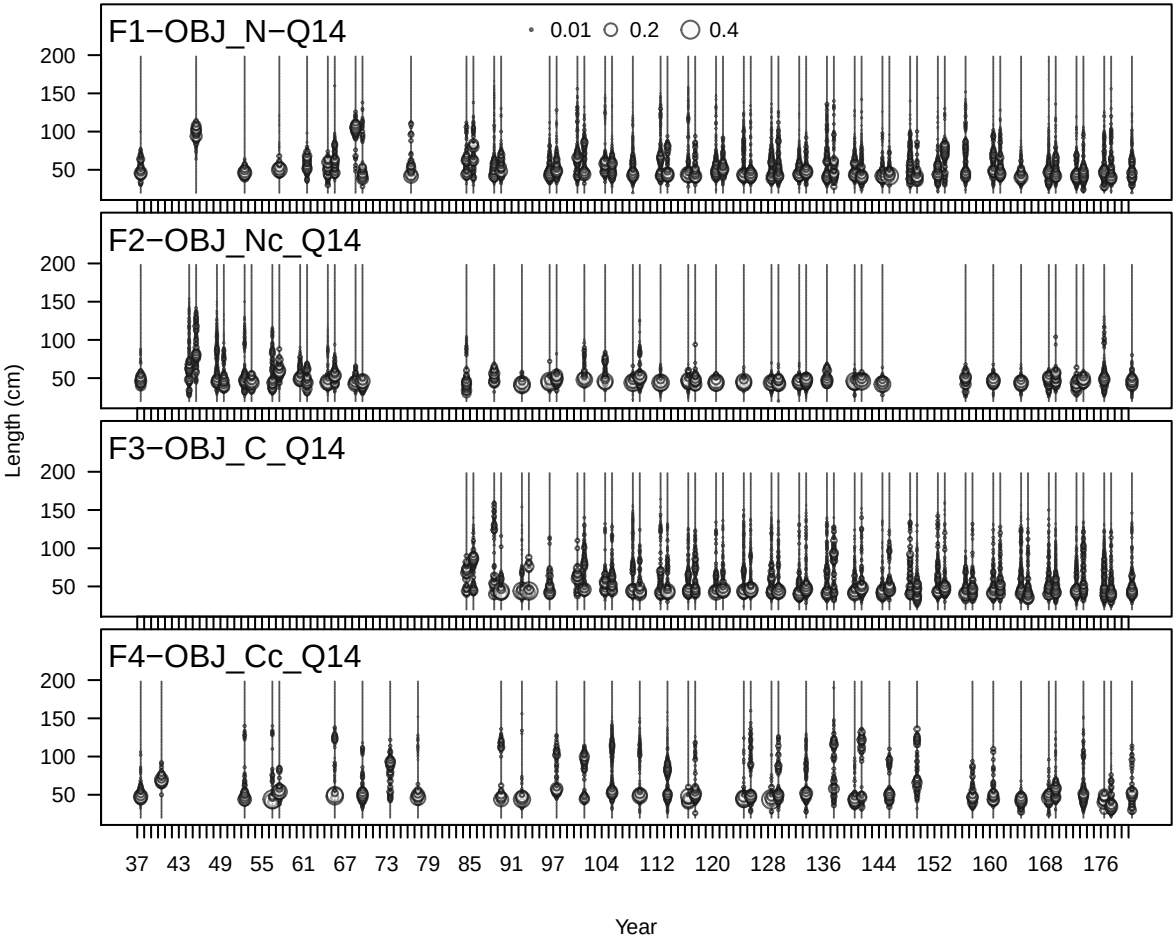

174
N adj.=0.1
175
N adj.=0.9
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Proportion
Length (cm)

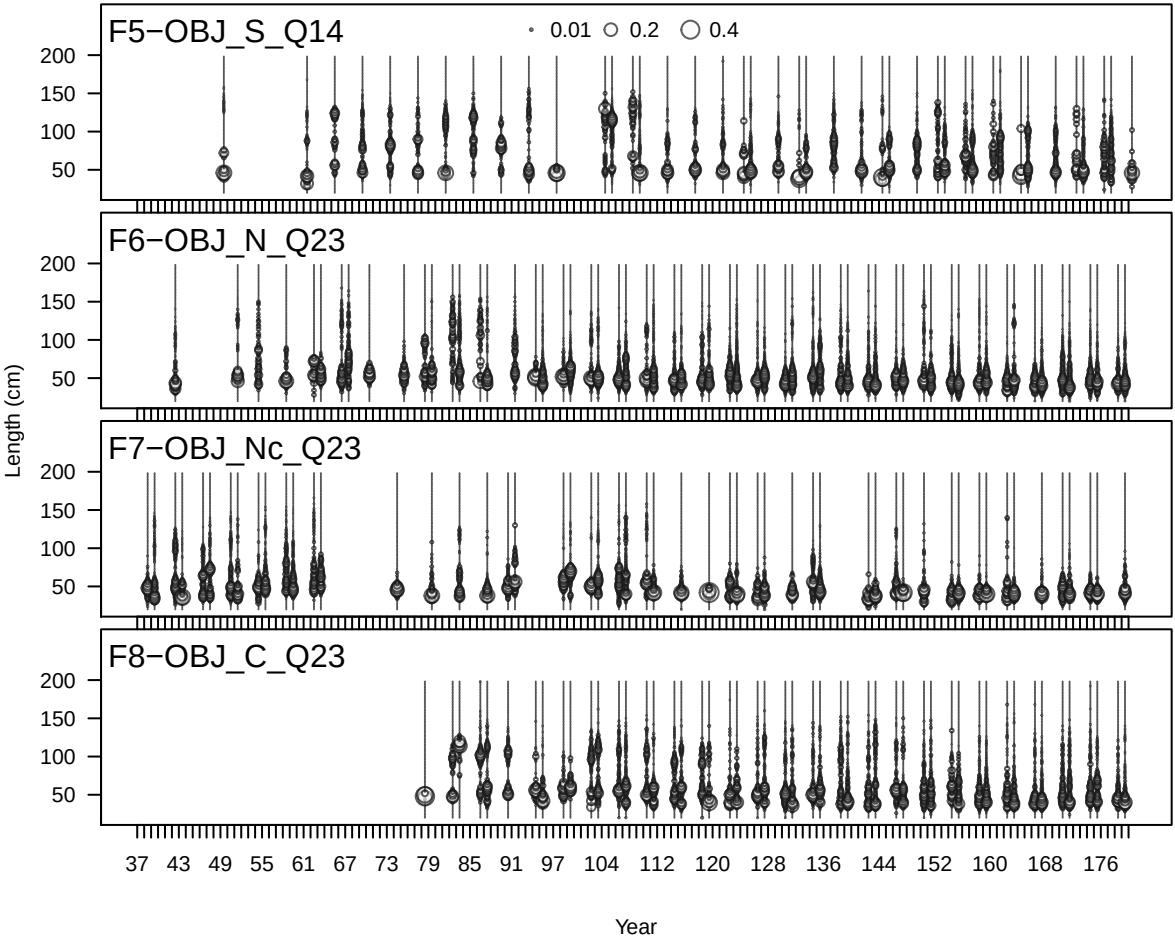

0.01
0.4
200
150
100
50
Length (cm)
46
55
66
75
87
99
111
123
135
150
170
Year

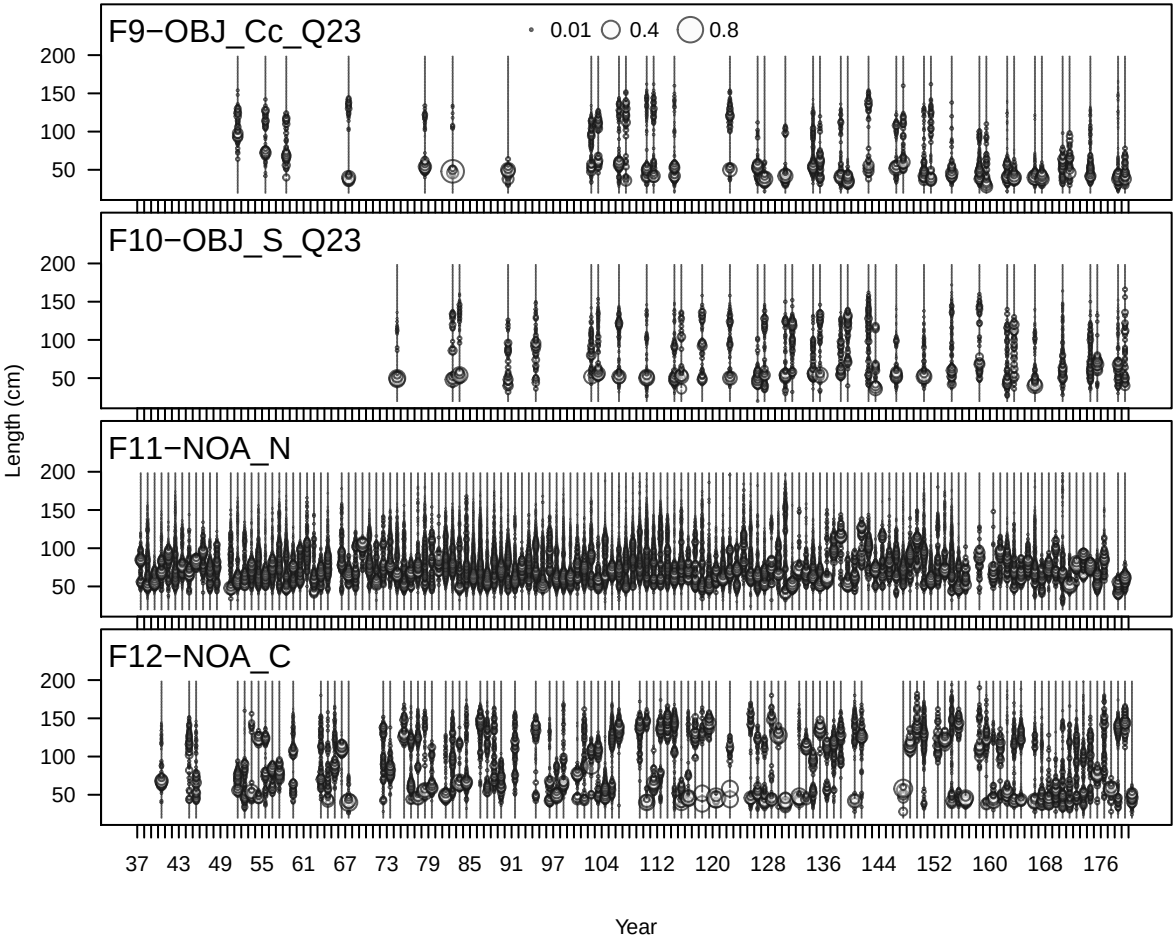

F34−LL_E_Q23n (whole catch)
400
200
0
−200
Mean length
60
80
100
120
140
160
180
Year

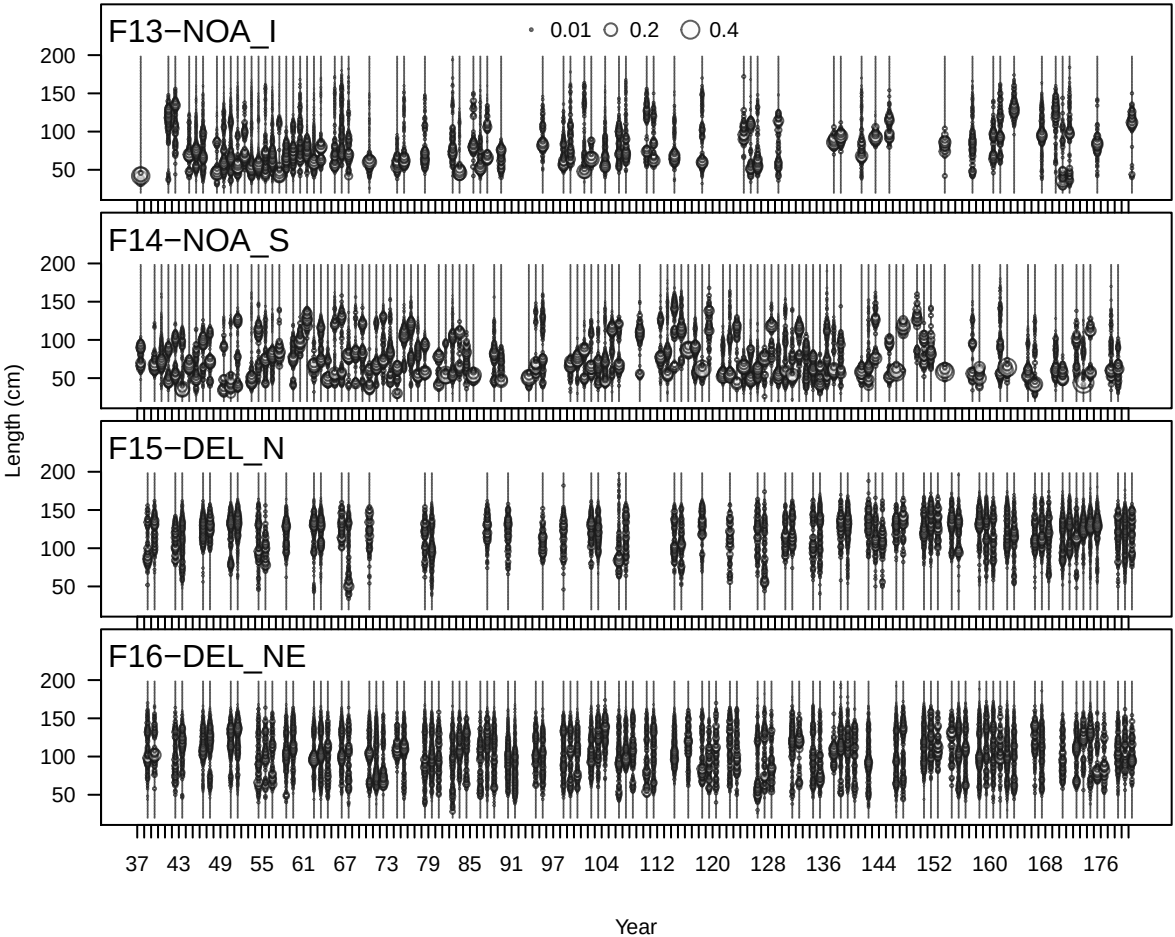

F1−OBJ_N_Q14
Sum of N adj.=394.6
F13−NOA_I
Sum of N adj.=136.7
F17−DEL_M
Sum of N adj.=383.2
F20−DEL_S
Sum of N adj.=280.2
F10−OBJ_S_Q23
Sum of N adj.=367.3
F14−NOA_S
Sum of N adj.=318.5
F18−DEL_C
Sum of N adj.=1083.7
F21−DEL_I
Sum of N adj.=428.5
F11−NOA_N
Sum of N adj.=727.3
F15−DEL_N
Sum of N adj.=263.6
F19−DEL_P
Sum of N adj.=846.2
F22−SB
Sum of N adj.=255.8
F12−NOA_C
Sum of N adj.=239.5
F16−DEL_NE
Sum of N adj.=679.4
F2−OBJ_Nc_Q14
Sum of N adj.=279.5
F29−LL_W_Q14m
Sum of N adj.=394.4
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)

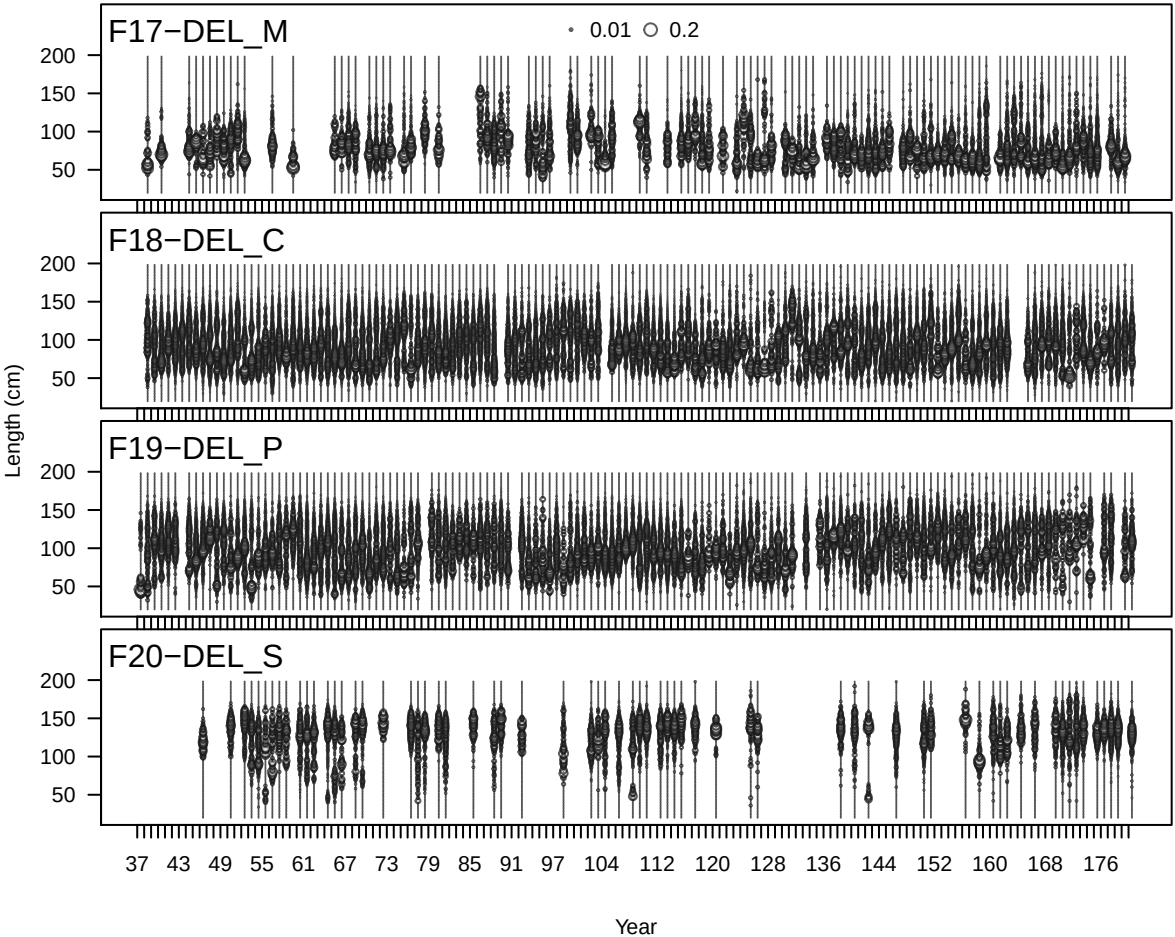

F3−GBJ_C_Q14
Sum of N adj 451.7
F33−LL_C_Q23h
Sum of N adj 203.2
F6−GBJ_N_Q23
Sum of N adj 572.6
F30−LL_C_Q14h
Sum of N adj 536.4
F34−LL_E_Q23h
Sum of N adj 100.9
F7−GBJ_Nc_Q23
Sum of N adj 218.8
F31−LL_E_Q14h
Sum of N adj 25.1
F4−GBJ_Cc_Q14
Sum of N adj 47.9
F8−GBJ_C_Q23
Sum of N adj 338.2
F32−LL_W_Q23h
Sum of N adj 266.4
F5−GBJ_S_Q14
Sum of N adj 153.1
F9−GBJ_Cc_Q23
Sum of N adj 48.7
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)

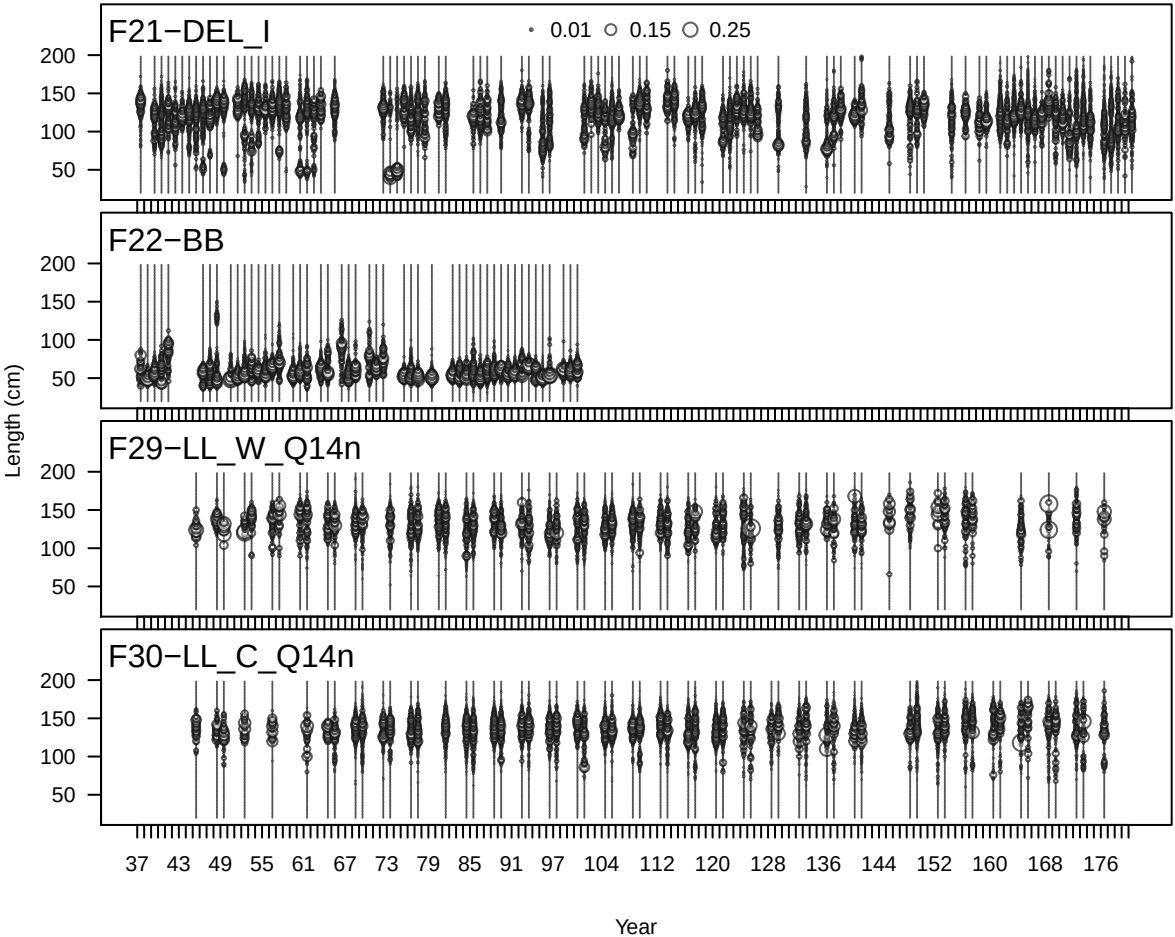

F1−OBJ_N−Q14
0.01
0.2
0.4
F2−OBJ_Nc_Q14
F3−OBJ_C_Q14
F4−OBJ_Cc_Q14
Length (cm)
200
150
100
50
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

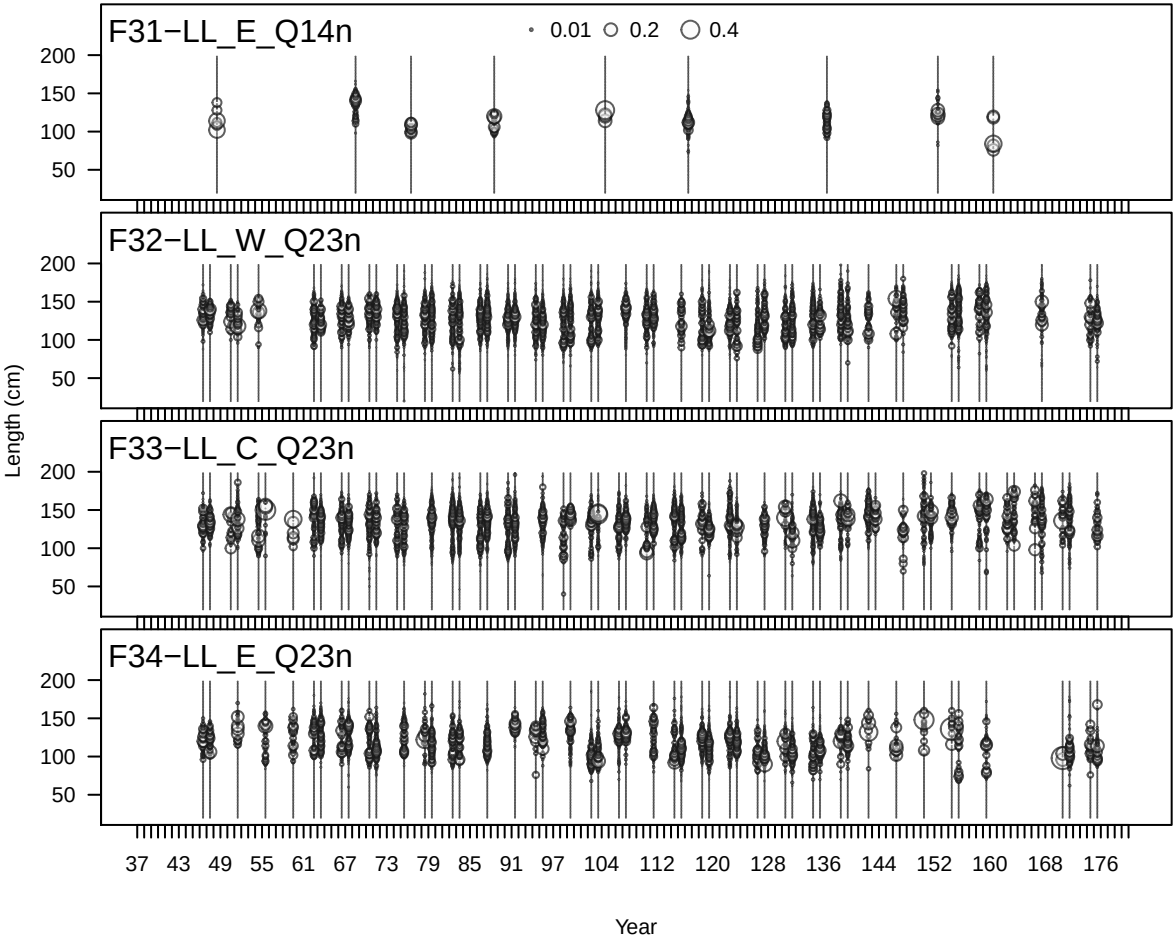

F5−OBJ_S_Q14
0.01
0.2
0.4
F6−OBJ_N_Q23
F7−OBJ_Nc_Q23
F8−OBJ_C_Q23
Length (cm)
50
100
150
200
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

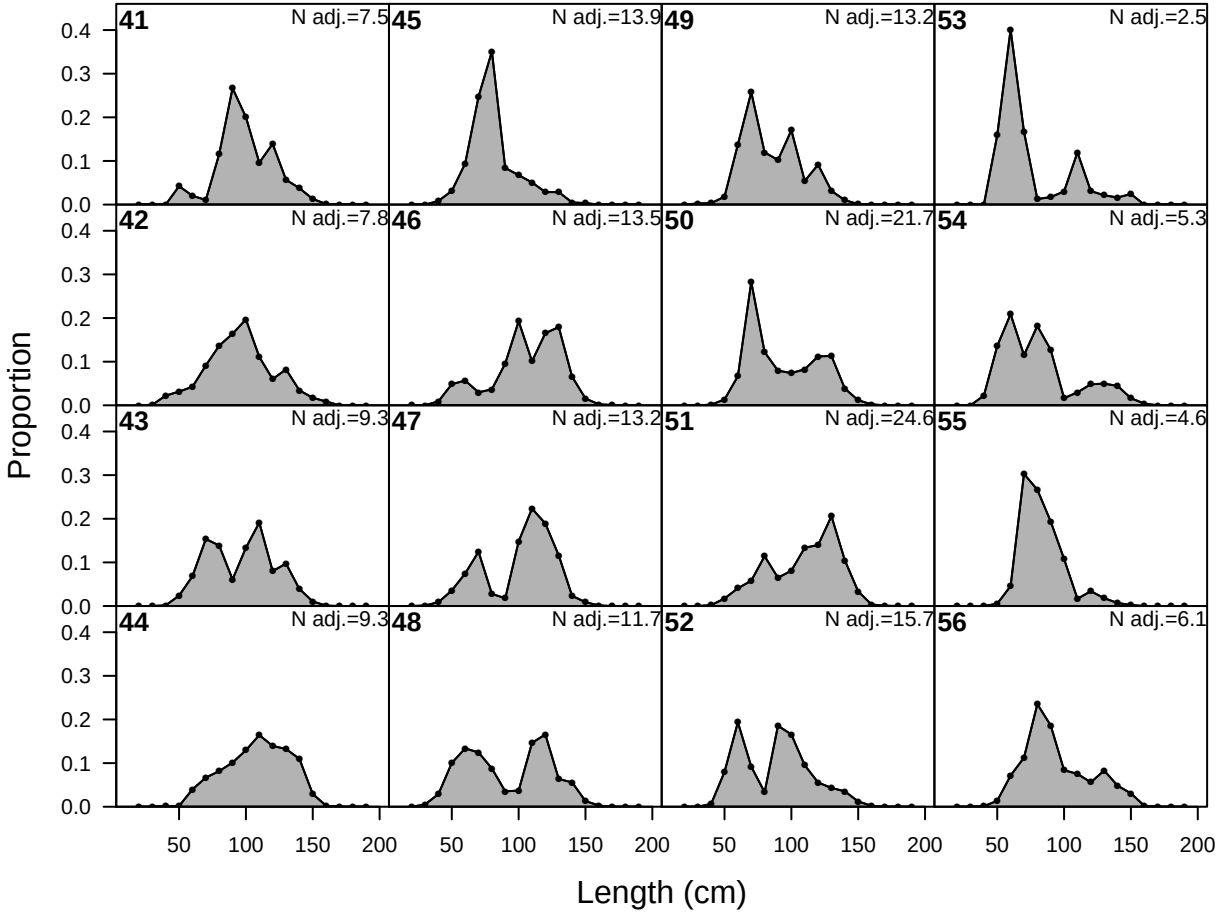

F9−OBJ_Cc_Q23
0.01
0.4
0.8
F10−OBJ_S_Q23
F11−NOA_N
F12−NOA_C
Length (cm)
200
150
100
50
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

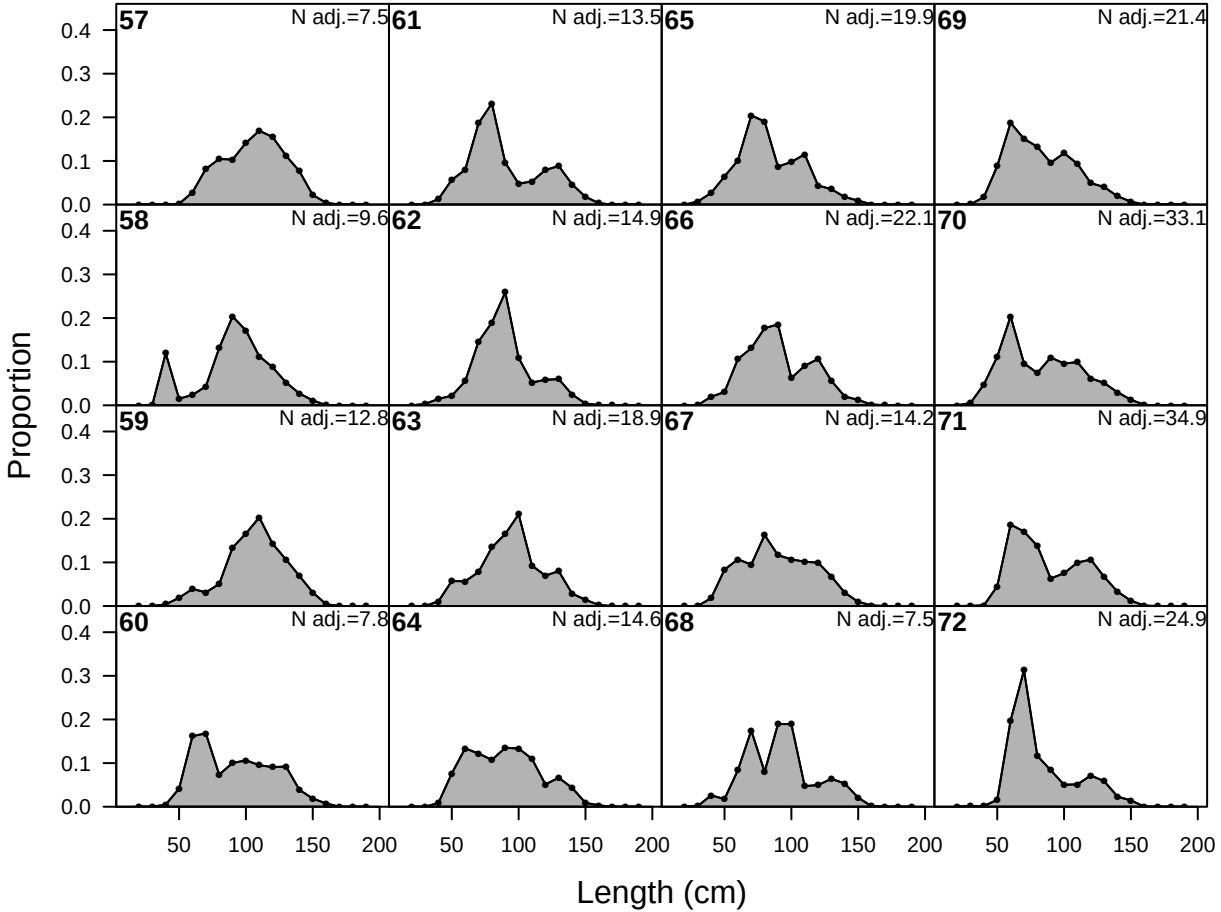

F13−NOA_I
F14−NOA_S
F15−DEL_N
F16−DEL_NE
0.01
0.2
0.4
Length (cm)
50
100
150
200
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

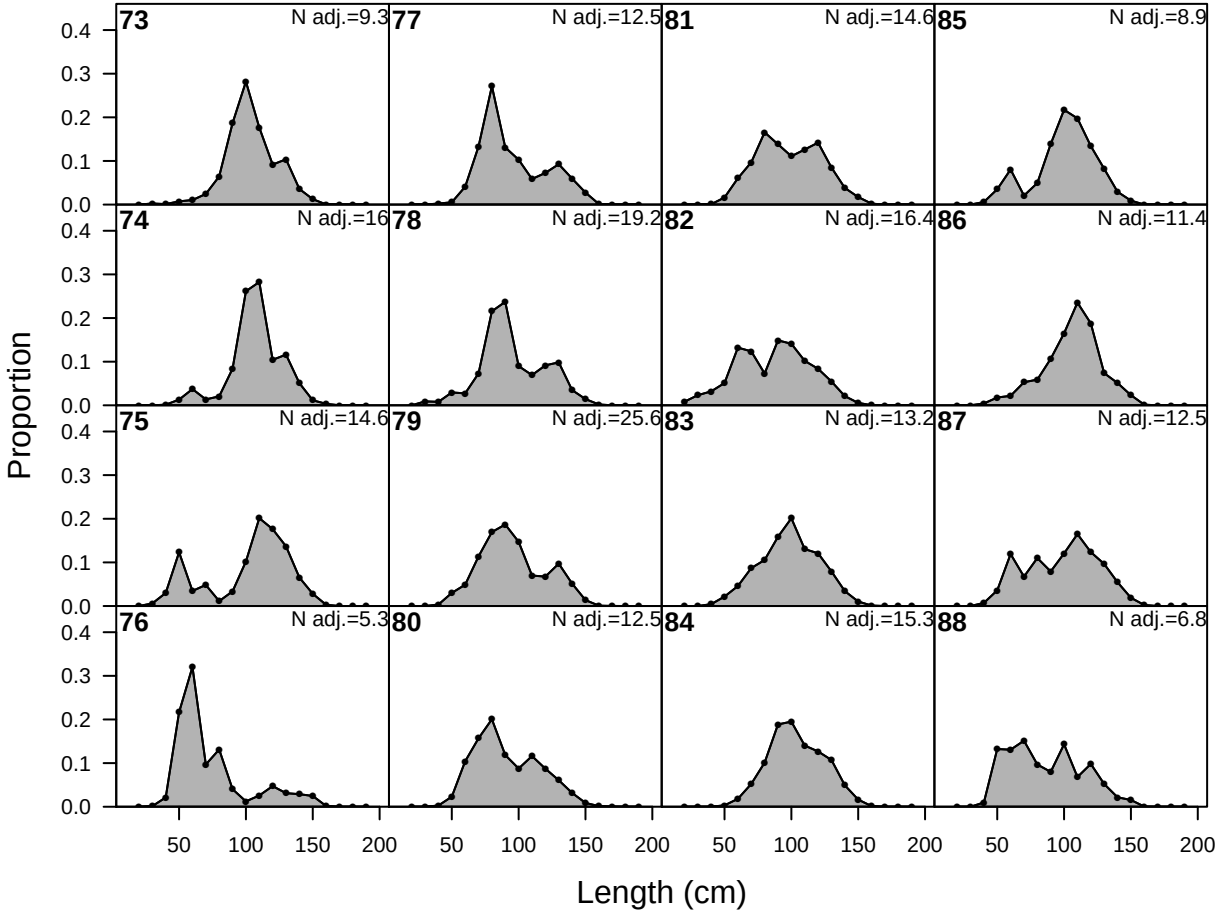

F17−DEL_M
0.01
0.2
F18−DEL_C
F19−DEL_P
F20−DEL_S
Length (cm)
200
150
100
50
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

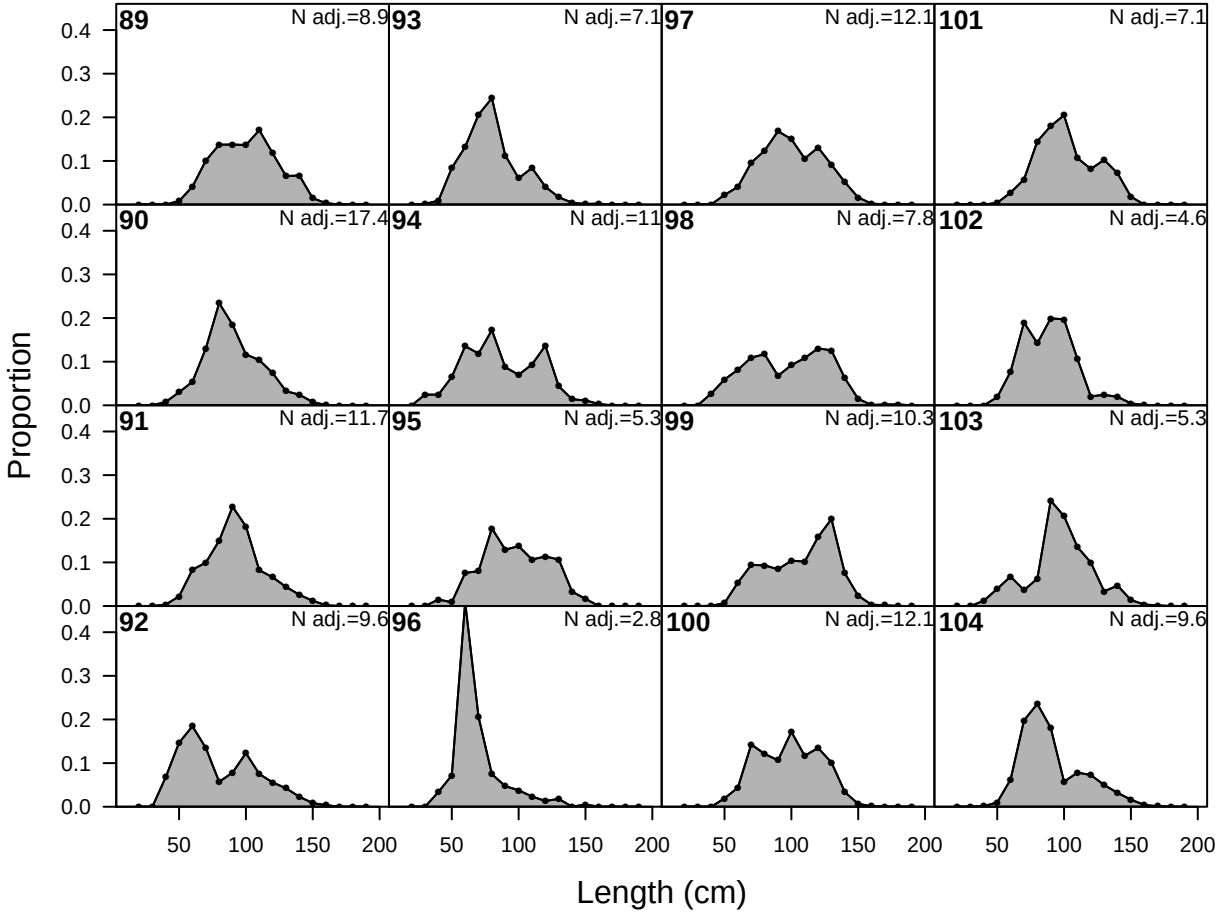

F21−DEL_I
0.01
0.15
0.25
F22−BB
F29−LL_W_Q14n
F30−LL_C_Q14n
Length (cm)
200
150
100
50
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

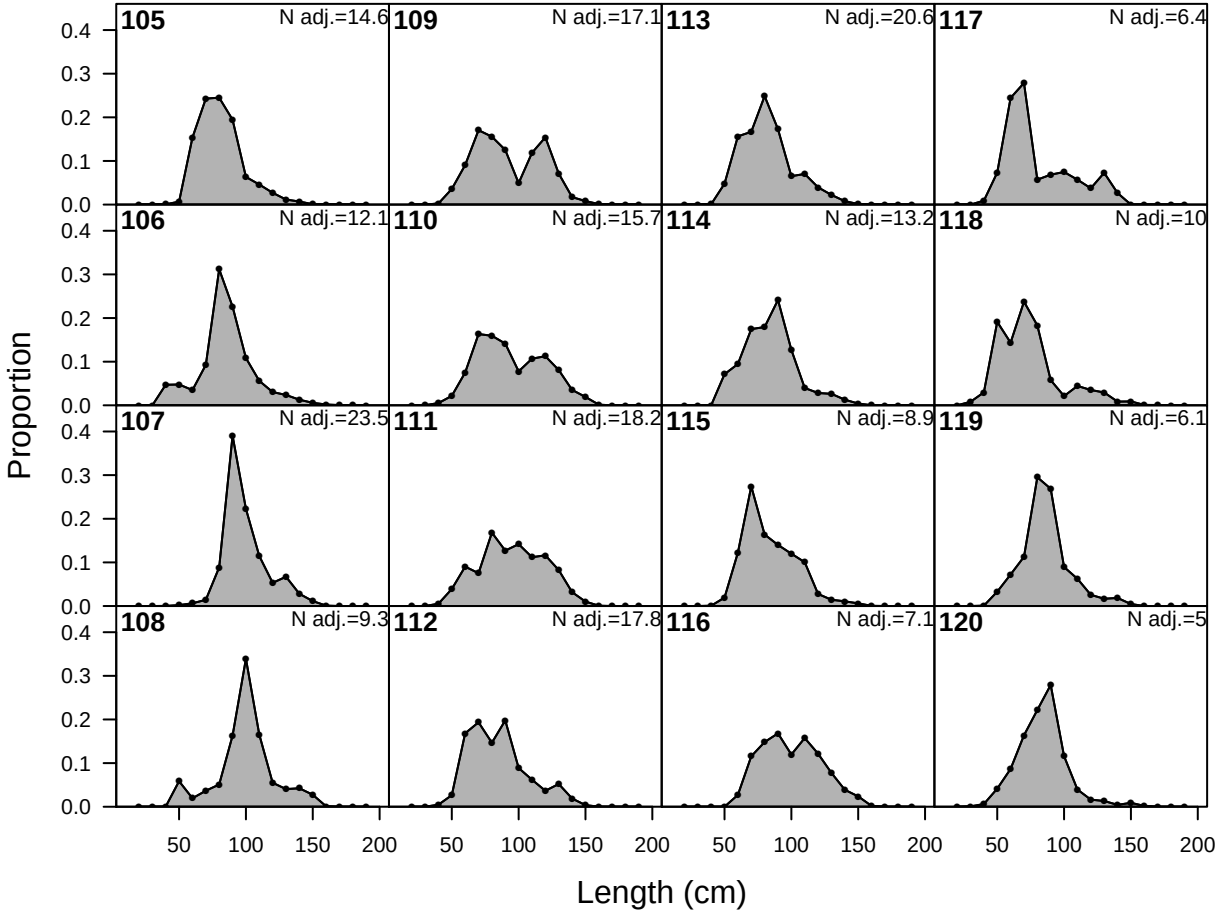

F31−LL_E_Q14n
0.01
0.2
0.4
F32−LL_W_Q23n
F33−LL_C_Q23n
F34−LL_E_Q23n
Length (cm)
200
150
100
50
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

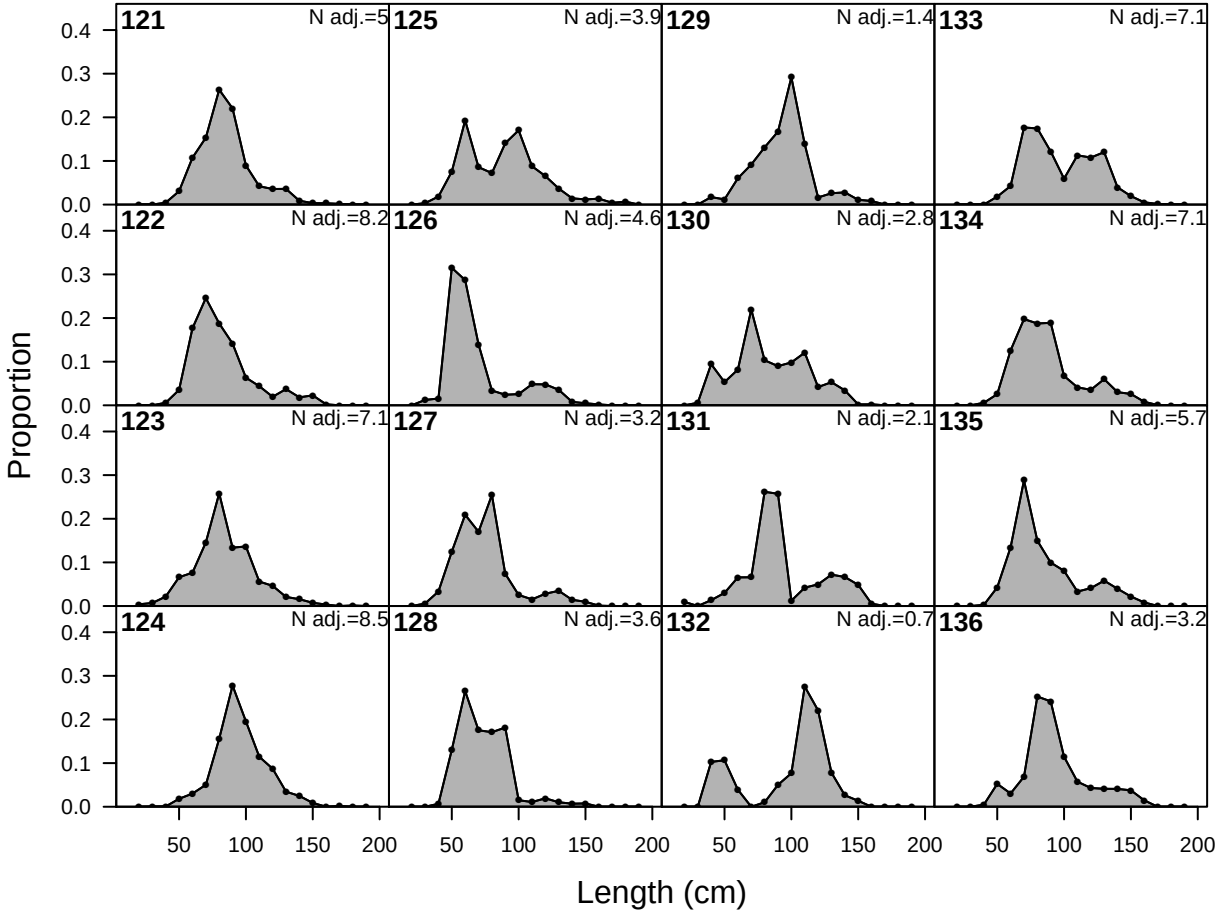

41
N adj.=7.5
45
N adj.=13.9
49
N adj.=13.2
53
N adj.=2.5
42
N adj.=7.8
46
N adj.=13.5
50
N adj.=21.7
54
N adj.=5.3
43
N adj.=9.3
47
N adj.=13.2
51
N adj.=24.6
55
N adj.=4.6
44
N adj.=9.3
48
N adj.=11.7
52
N adj.=15.7
56
N adj.=6.1
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

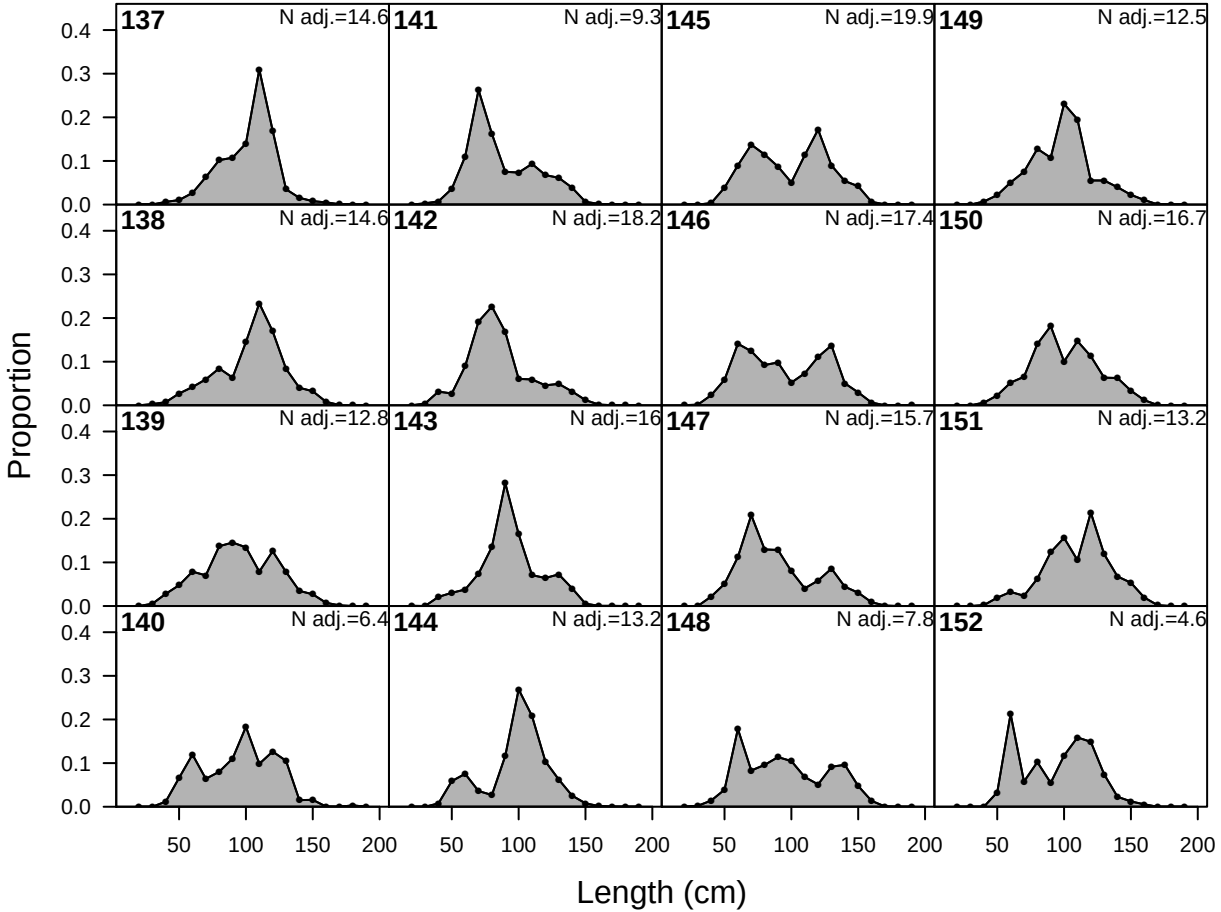

57
N adj.=7.5
61
N adj.=13.5
65
N adj.=19.9
69
N adj.=21.4
58
N adj.=9.6
62
N adj.=14.9
66
N adj.=22.1
70
N adj.=33.1
59
N adj.=12.8
63
N adj.=18.9
67
N adj.=14.2
71
N adj.=34.9
60
N adj.=7.8
64
N adj.=14.6
68
N adj.=7.5
72
N adj.=24.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

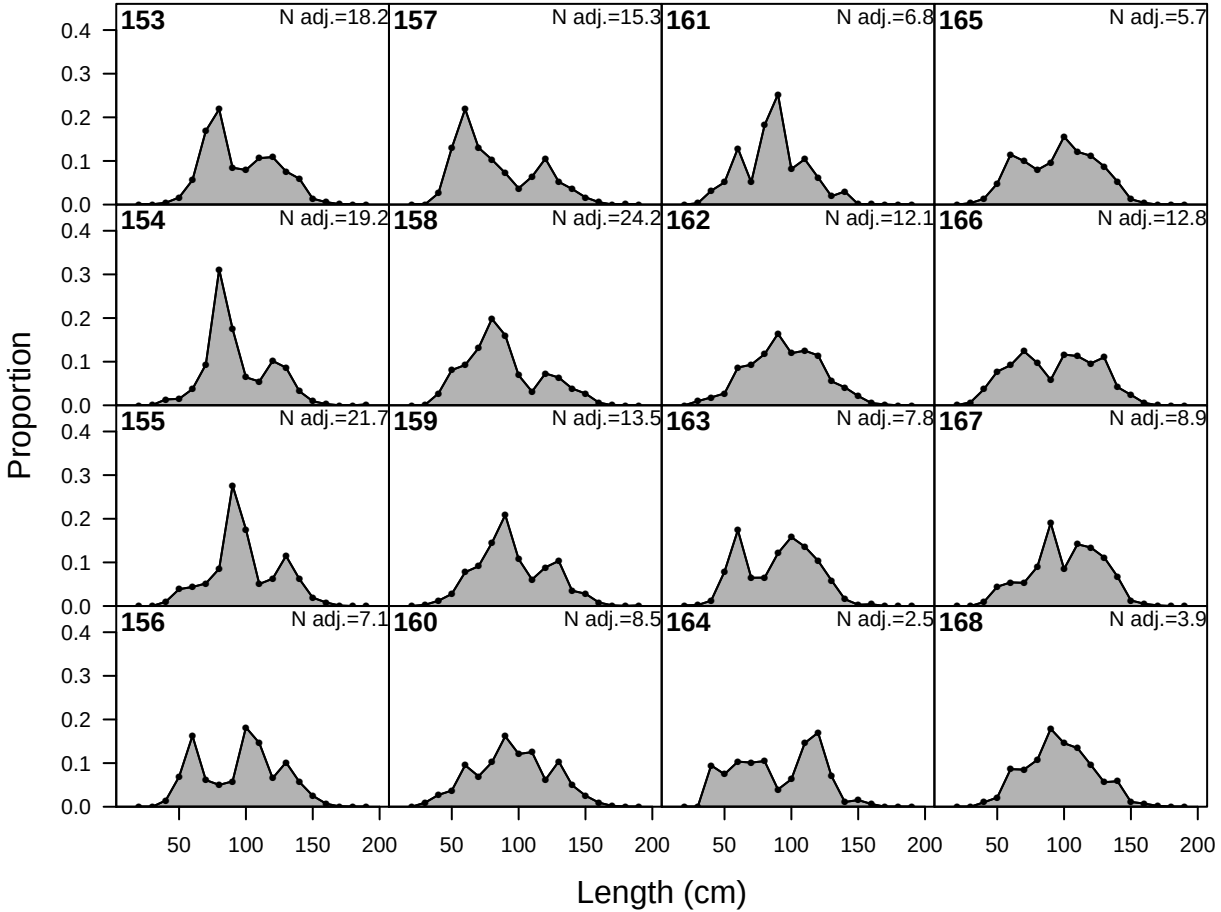

73
N adj.=9.3
77
N adj.=12.5
81
N adj.=14.6
85
N adj.=8.9
74
N adj.=16
78
N adj.=19.2
82
N adj.=16.4
86
N adj.=11.4
75
N adj.=14.6
79
N adj.=25.6
83
N adj.=13.2
87
N adj.=12.5
76
N adj.=5.3
80
N adj.=12.5
84
N adj.=15.3
88
N adj.=6.8
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

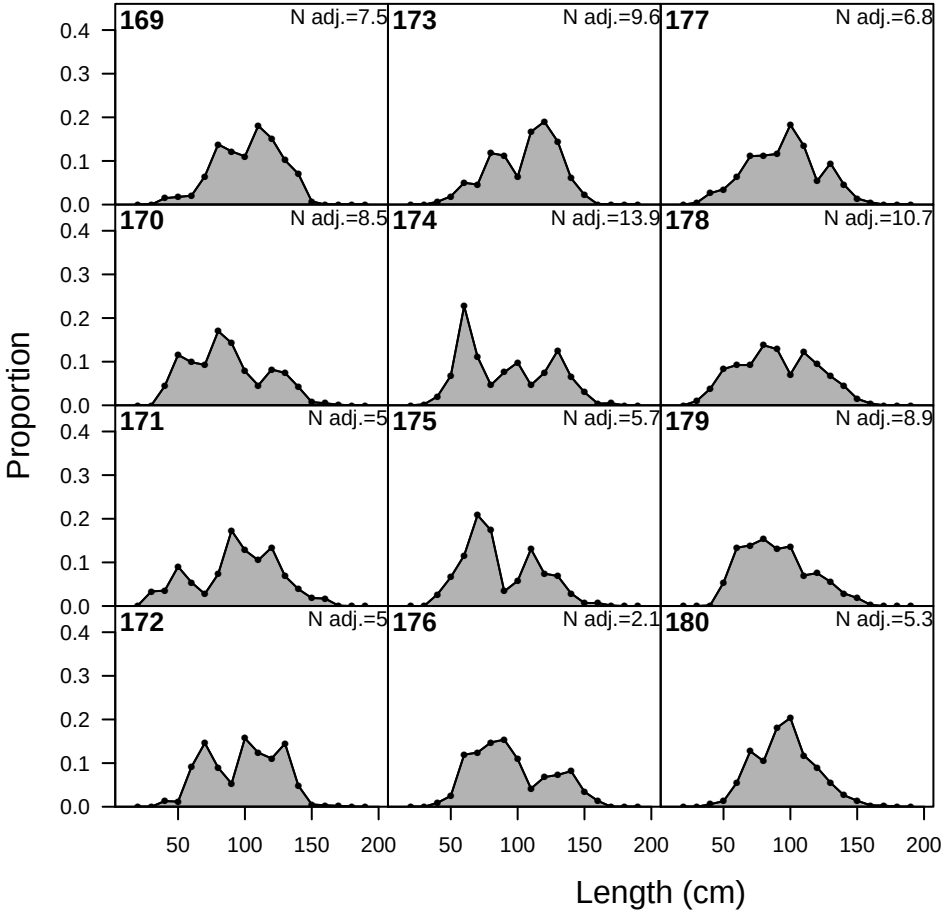

89
N adj.=8.9
93
N adj.=7.1
97
N adj.=12.1
101
N adj.=7.1
90
N adj.=17.4
94
N adj.=11
98
N adj.=7.8
102
N adj.=4.6
91
N adj.=11.7
95
N adj.=5.3
99
N adj.=10.3
103
N adj.=5.3
92
N adj.=9.6
96
N adj.=2.8
100
N adj.=12.1
104
N adj.=9.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

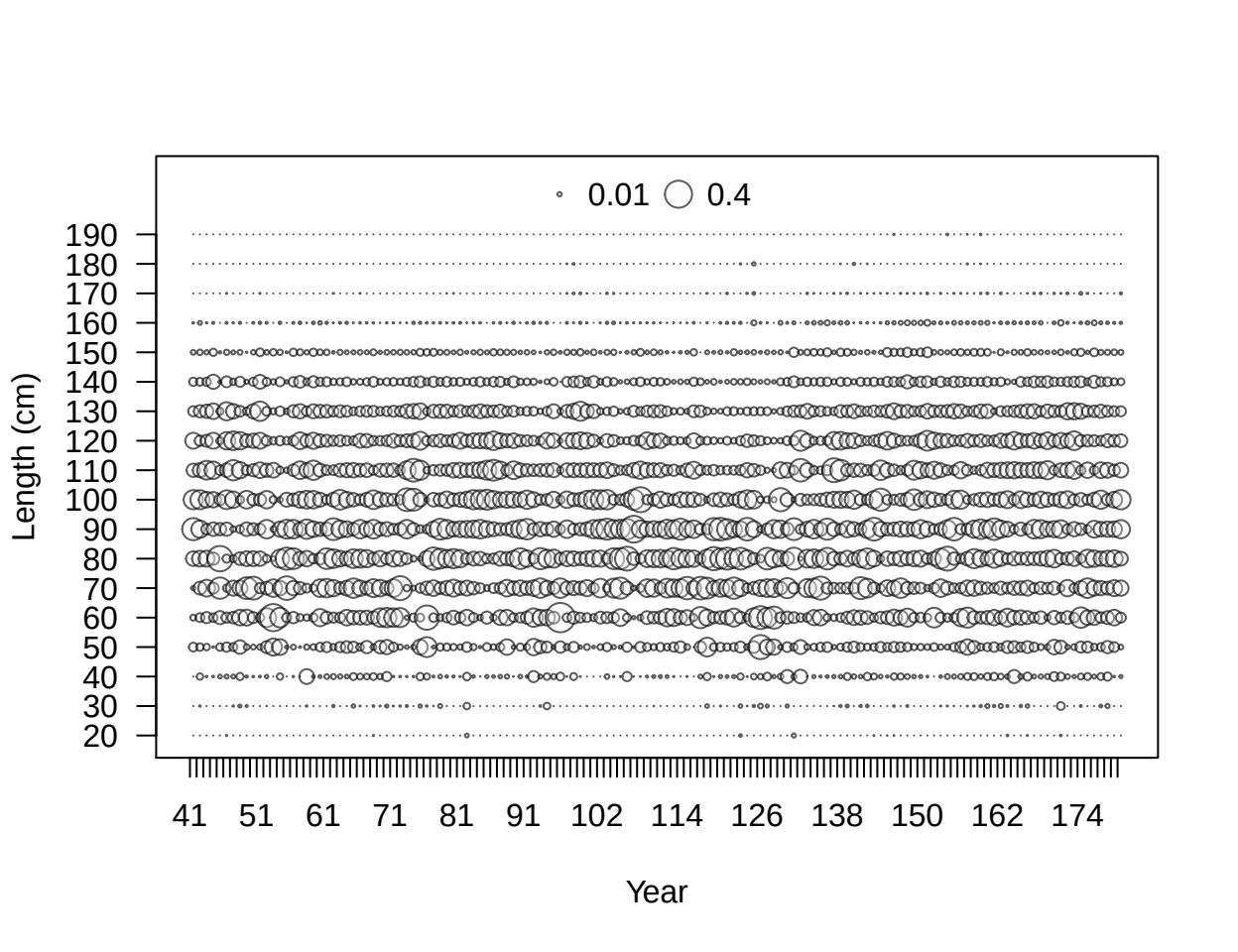

105
N adj.=14.6
109
N adj.=17.1
113
N adj.=20.6
117
N adj.=6.4
106
N adj.=12.1
110
N adj.=15.7
114
N adj.=13.2
118
N adj.=10
107
N adj.=23.5
111
N adj.=18.2
115
N adj.=8.9
119
N adj.=6.1
108
N adj.=9.3
112
N adj.=17.8
116
N adj.=7.1
120
N adj.=5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

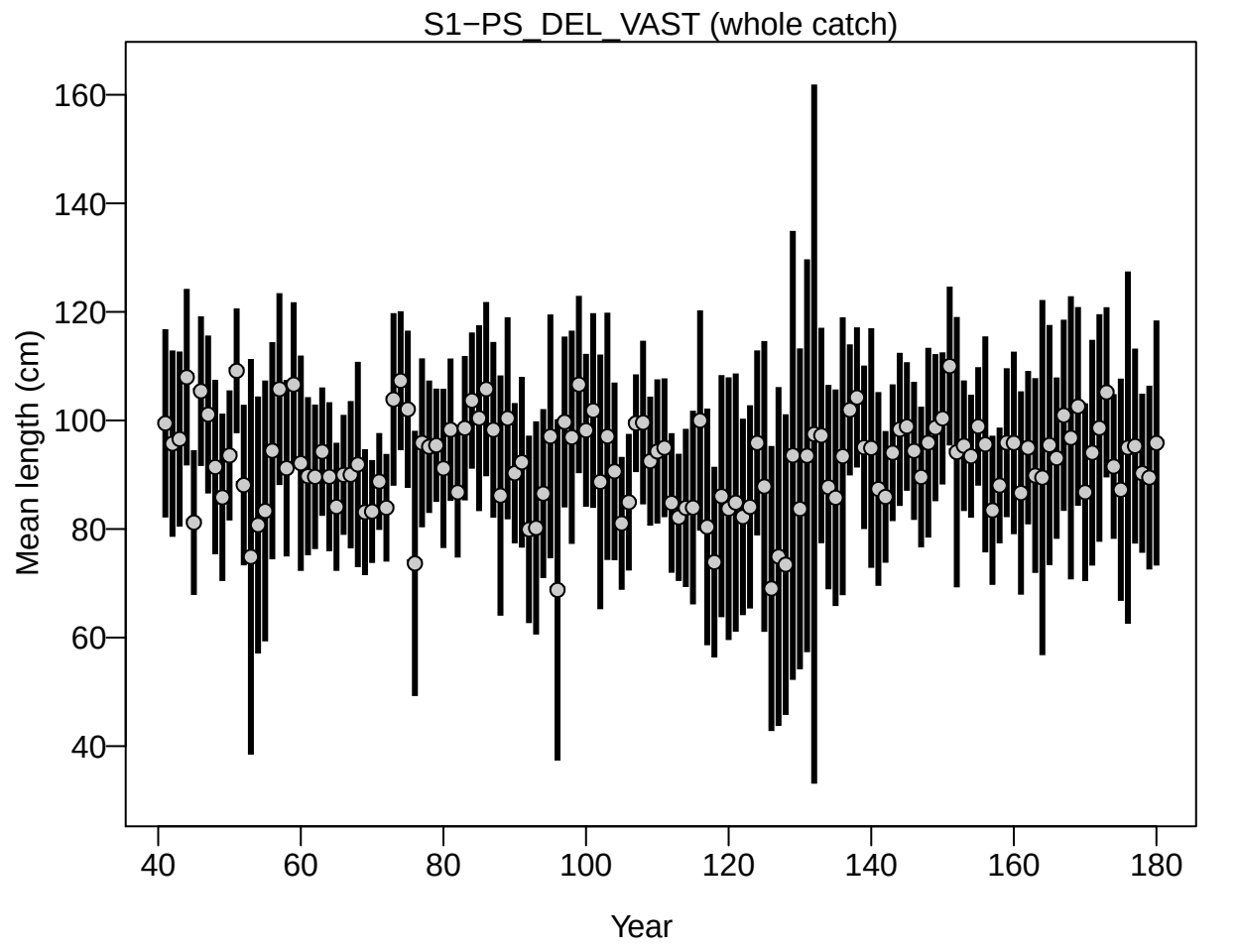

121
N adj.=5
125
N adj.=3.9
129
N adj.=1.4
133
N adj.=7.1
122
N adj.=8.2
126
N adj.=4.6
130
N adj.=2.8
134
N adj.=7.1
123
N adj.=7.1
127
N adj.=3.2
131
N adj.=2.1
135
N adj.=5.7
124
N adj.=8.5
128
N adj.=3.6
132
N adj.=0.7
136
N adj.=3.2
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

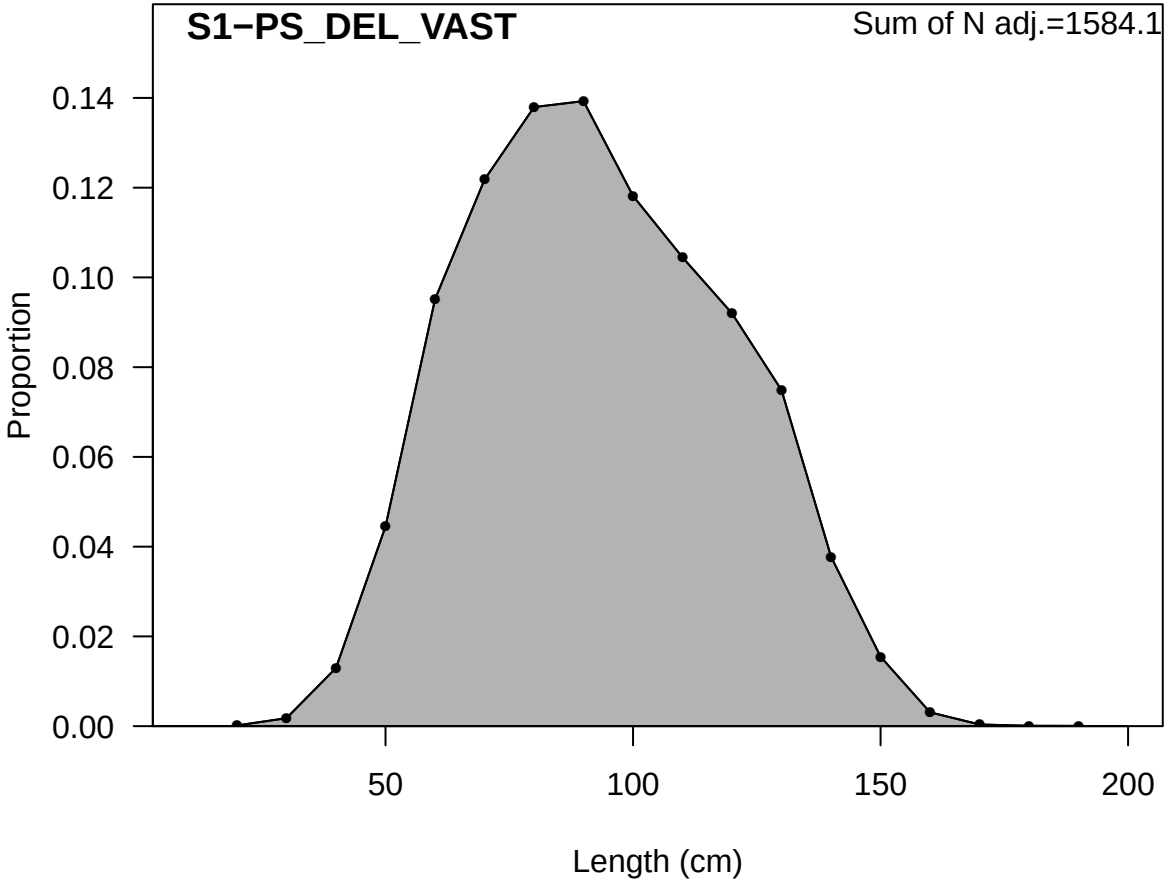

137
N adj.=14.6
141
N adj.=9.3
145
N adj.=19.9
149
N adj.=12.5
138
N adj.=14.6
142
N adj.=18.2
146
N adj.=17.4
150
N adj.=16.7
139
N adj.=12.8
143
N adj.=16
147
N adj.=15.7
151
N adj.=13.2
140
N adj.=6.4
144
N adj.=13.2
148
N adj.=7.8
152
N adj.=4.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

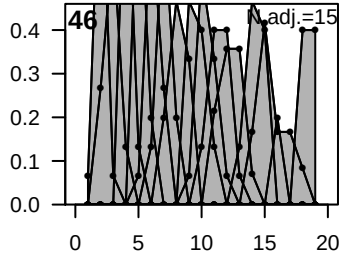

153
N adj.=18.2
157
N adj.=15.3
161
N adj.=6.8
165
N adj.=5.7
154
N adj.=19.2
158
N adj.=24.2
162
N adj.=12.1
166
N adj.=12.8
155
N adj.=21.7
159
N adj.=13.5
163
N adj.=7.8
167
N adj.=8.9
156
N adj.=7.1
160
N adj.=8.5
164
N adj.=2.5
168
N adj.=3.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


169
N adj.=7.5
173
N adj.=9.6
177
N adj.=6.8
170
N adj.=8.5
174
N adj.=13.9
178
N adj.=10.7
171
N adj.=5
175
N adj.=5.7
179
N adj.=8.9
172
N adj.=5
176
N adj.=2.1
180
N adj.=5.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


0.01
0.4
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
Length (cm)
41
51
61
71
81
91
102
114
126
138
150
162
174
Year

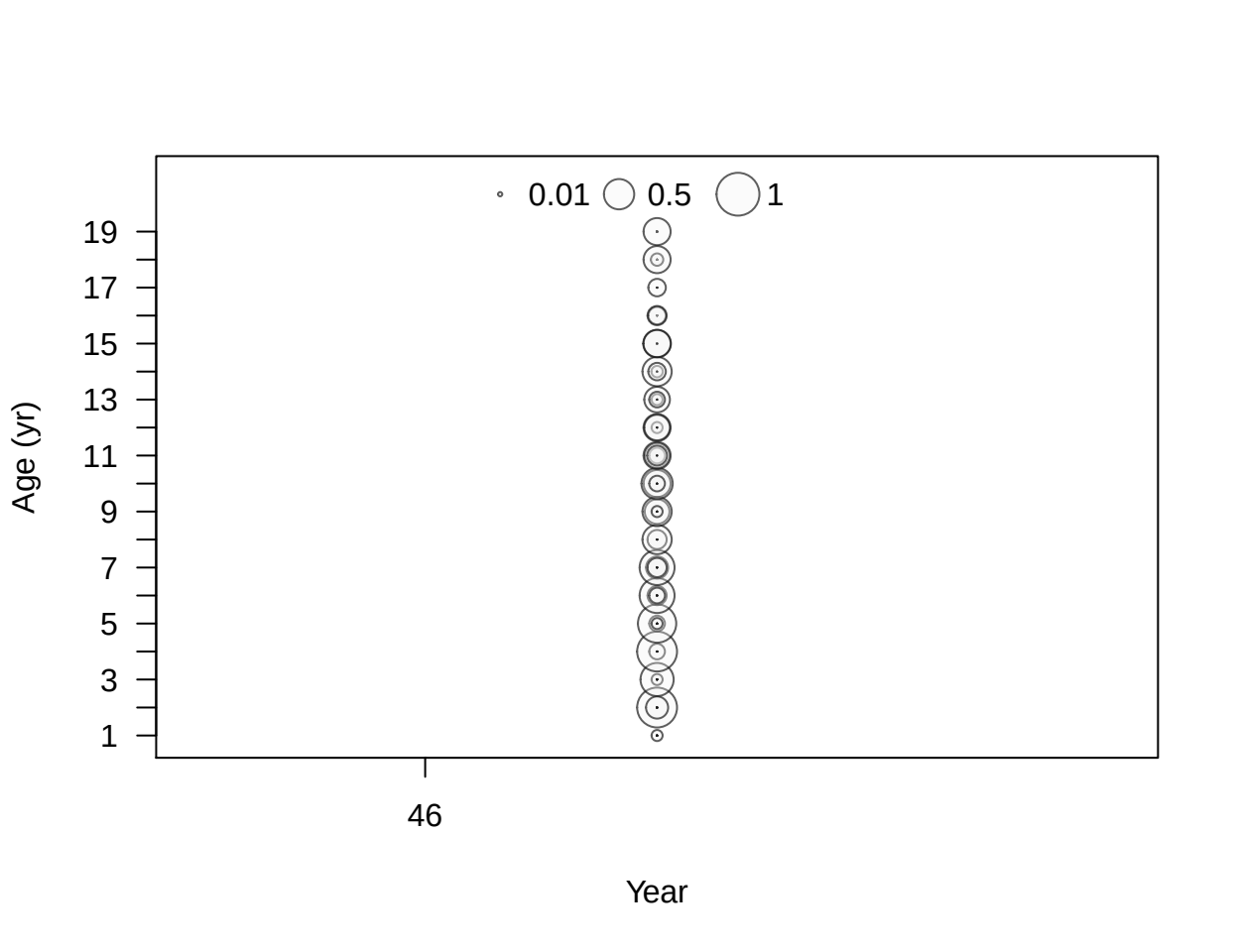

S1−PS_DEL_VAST (whole catch)
Mean length (cm)
160
140
120
100
80
60
40
40
60
80
100
120
140
160
180
Year

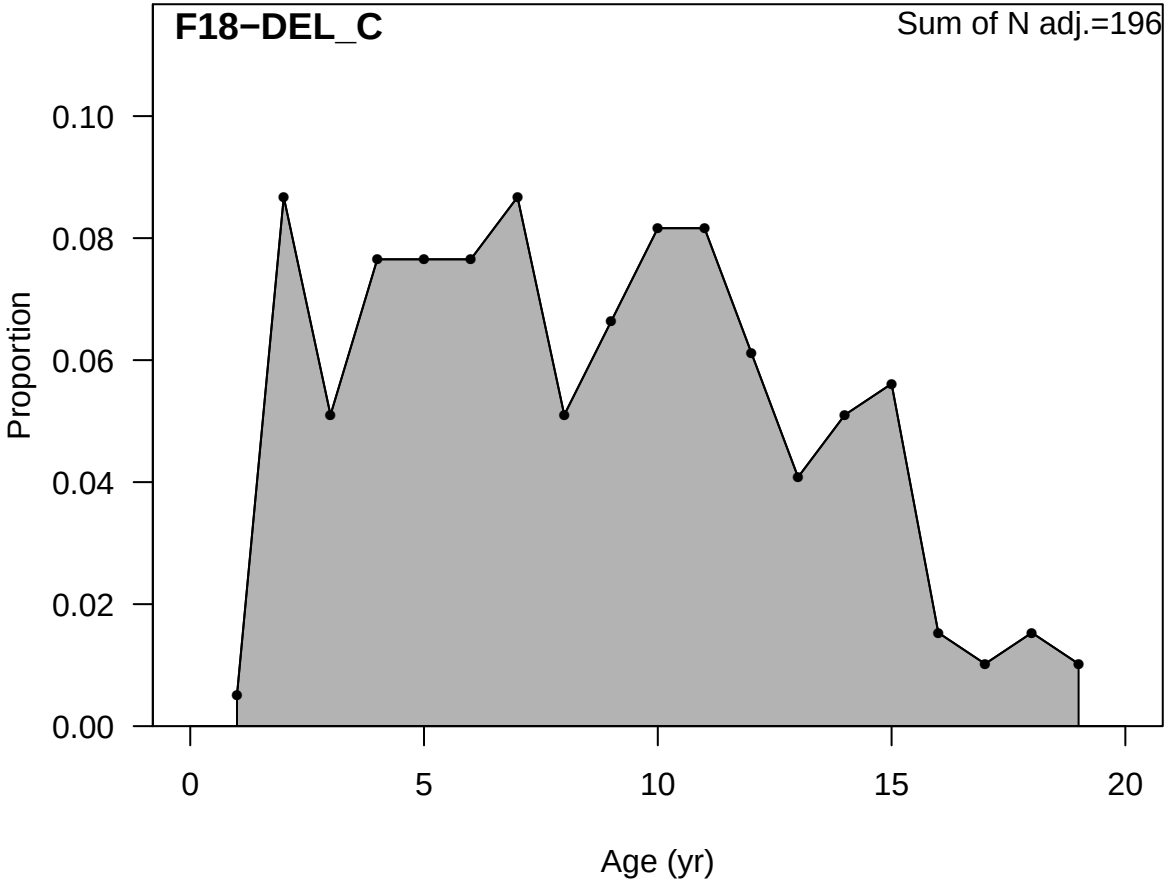

S1−PS_DEL_VAST
Sum of N adj.=1584.1
Proportion
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
50
100
150
200
Length (cm)

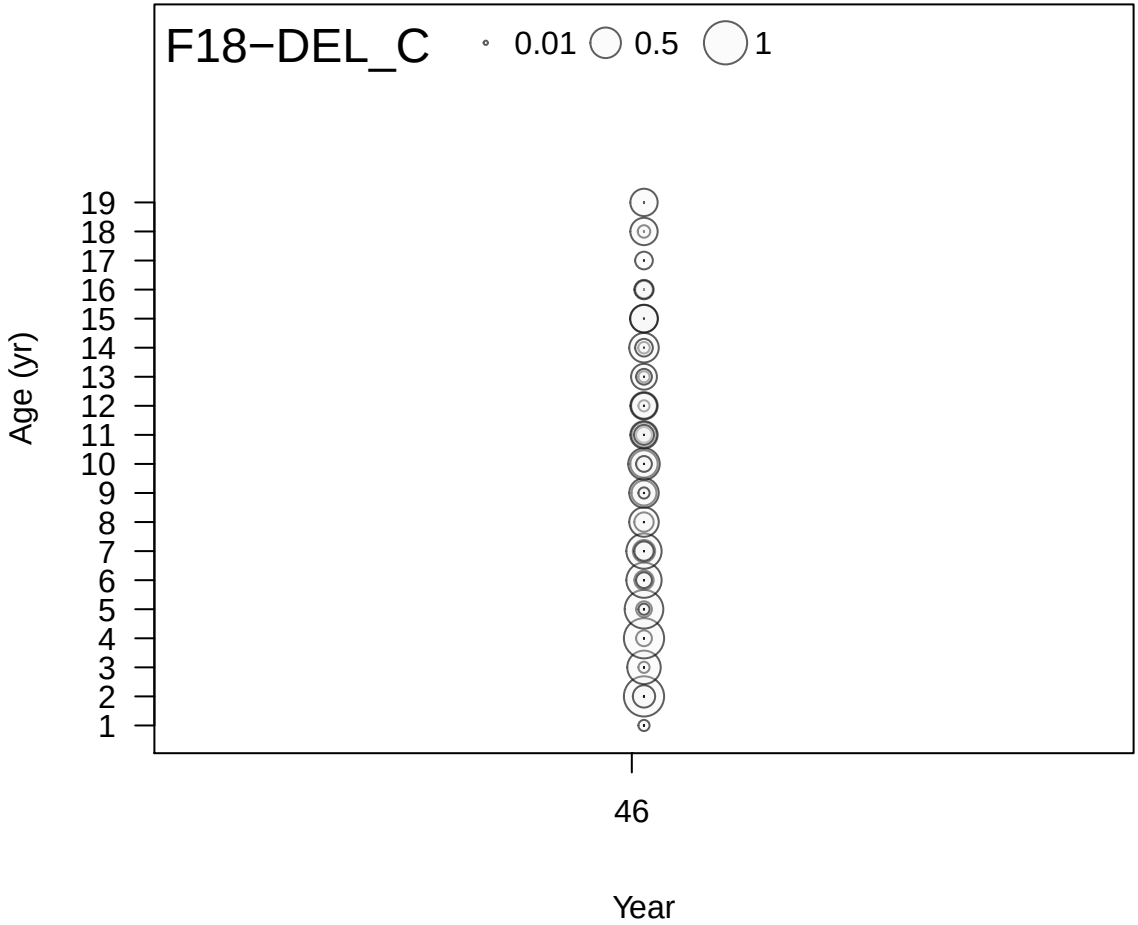


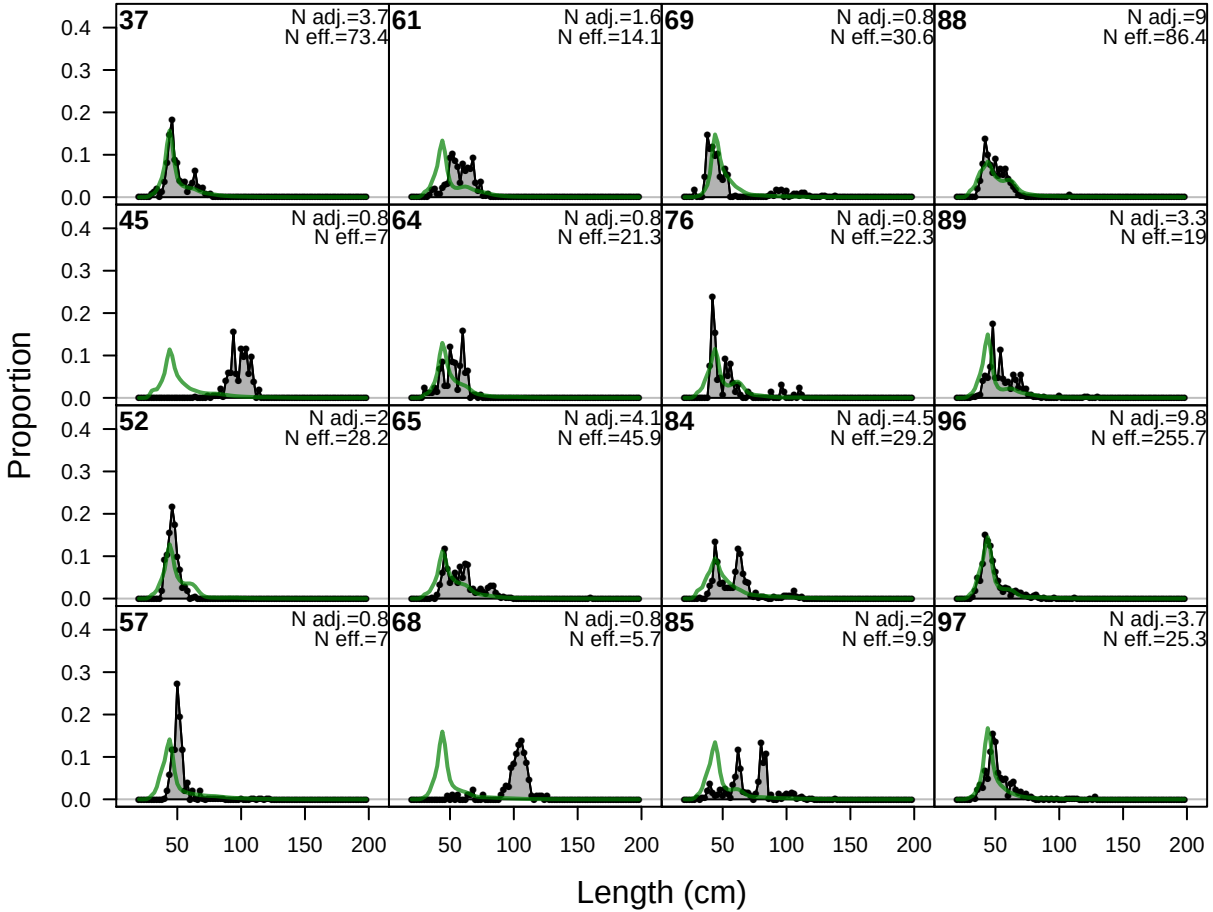
Proportion

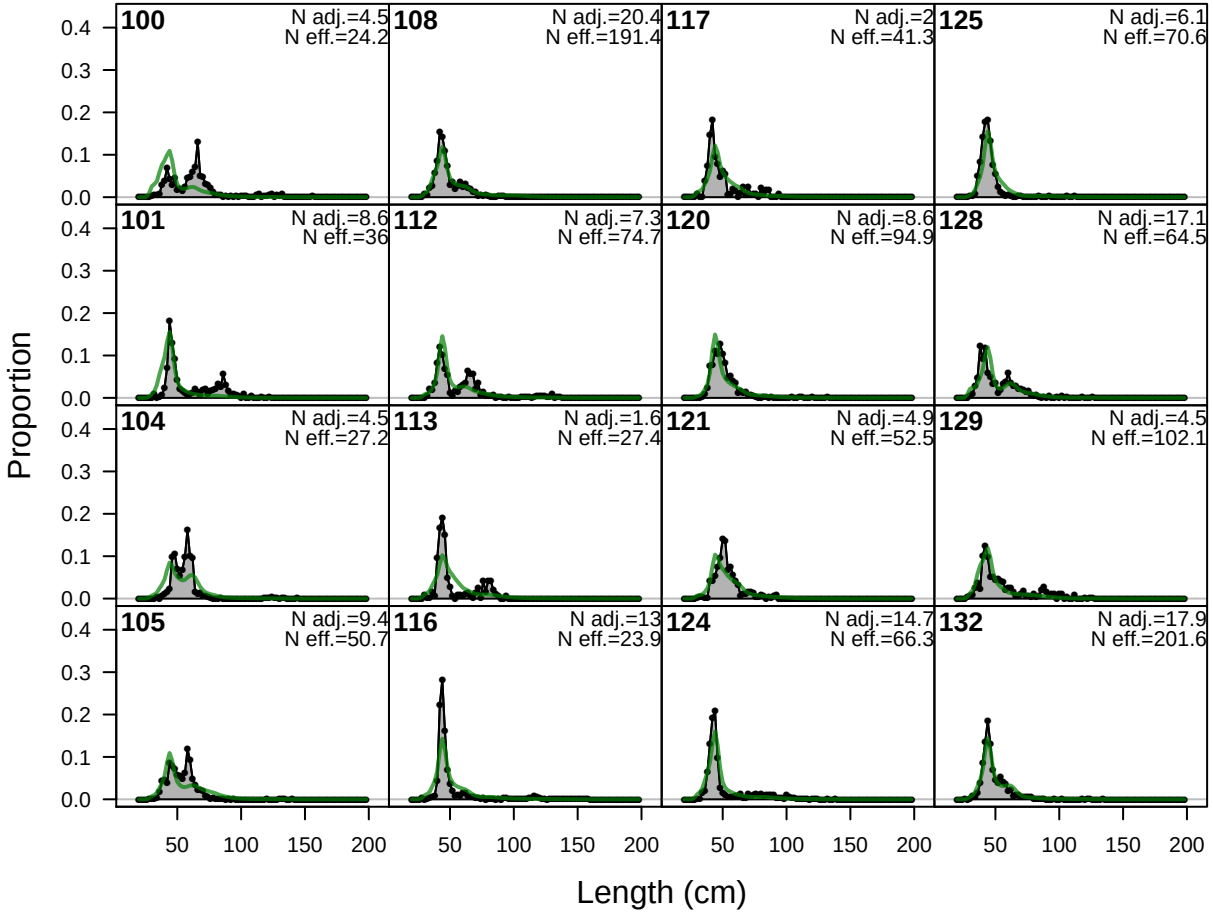
Age (yr)

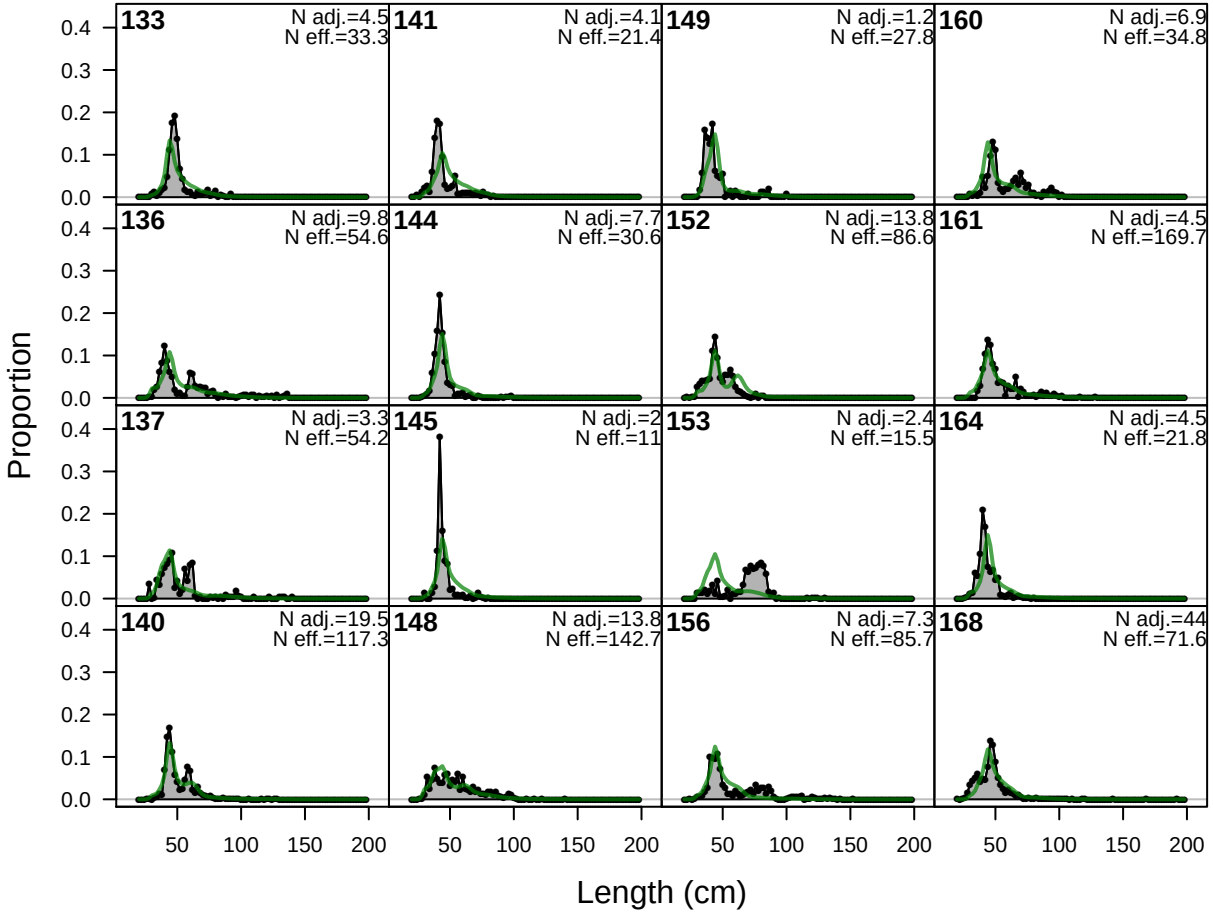

0.01
0.5
1
19
17
15
13
11
9
7
5
3
1
Age (yr)
46
Year

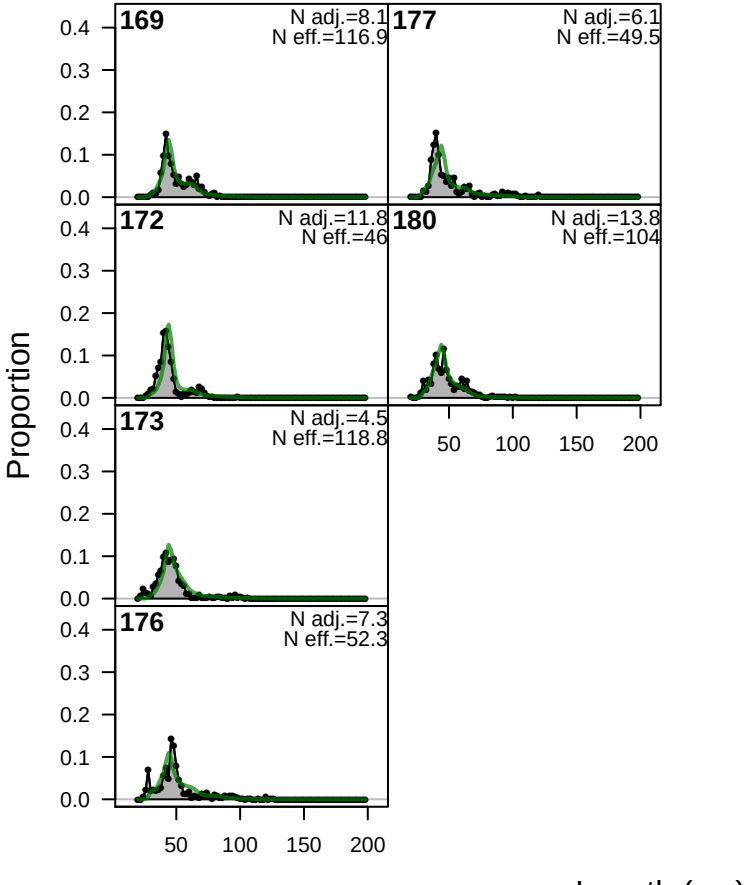

F18−DEL_C
Sum of N adj.=196
0.10
0.08
0.06
0.04
0.02
0.00
Proportion
0
5
10
15
20
Age (yr)

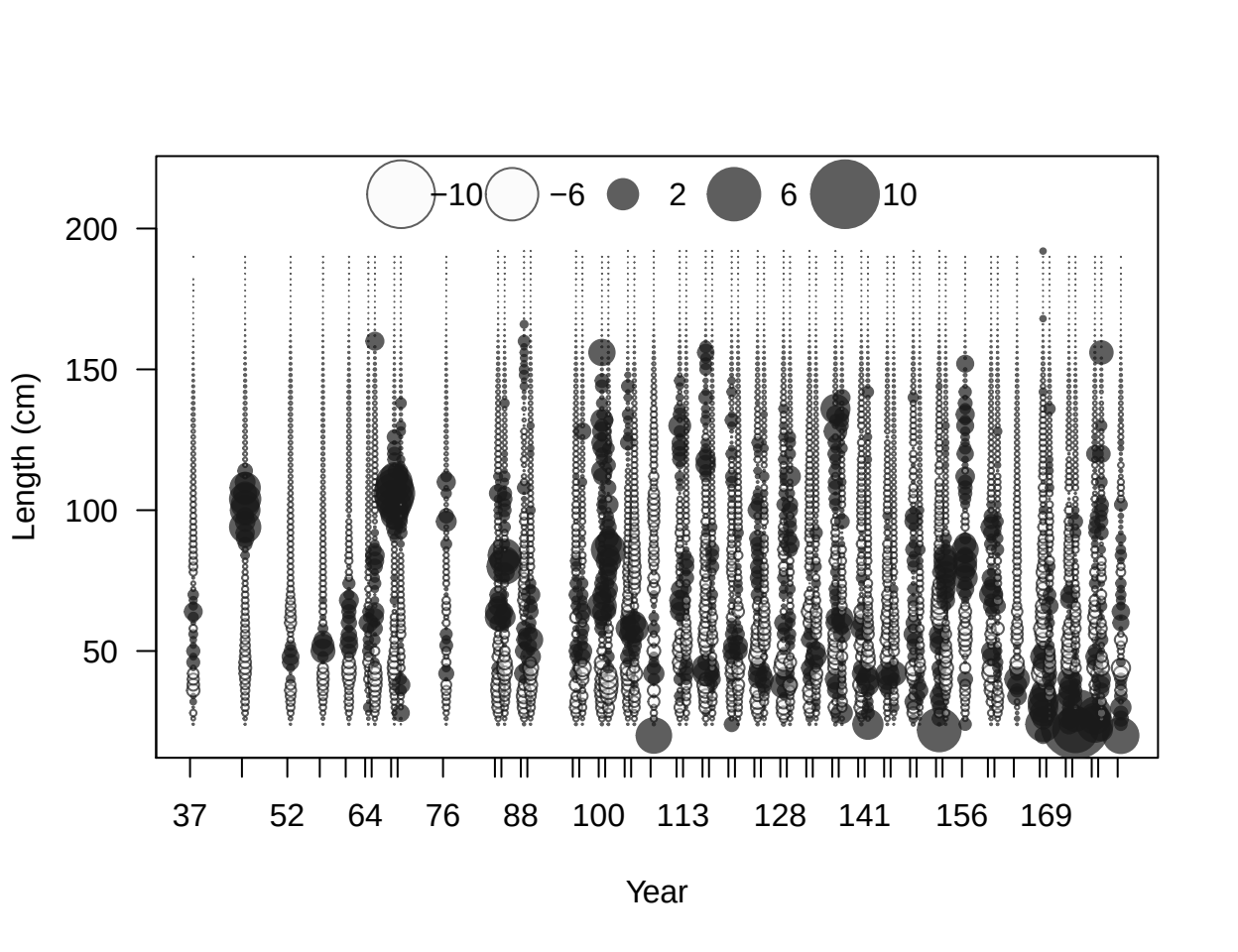

F18−DEL_C
0.01
0.5
1
Age (yr)
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
46
Year

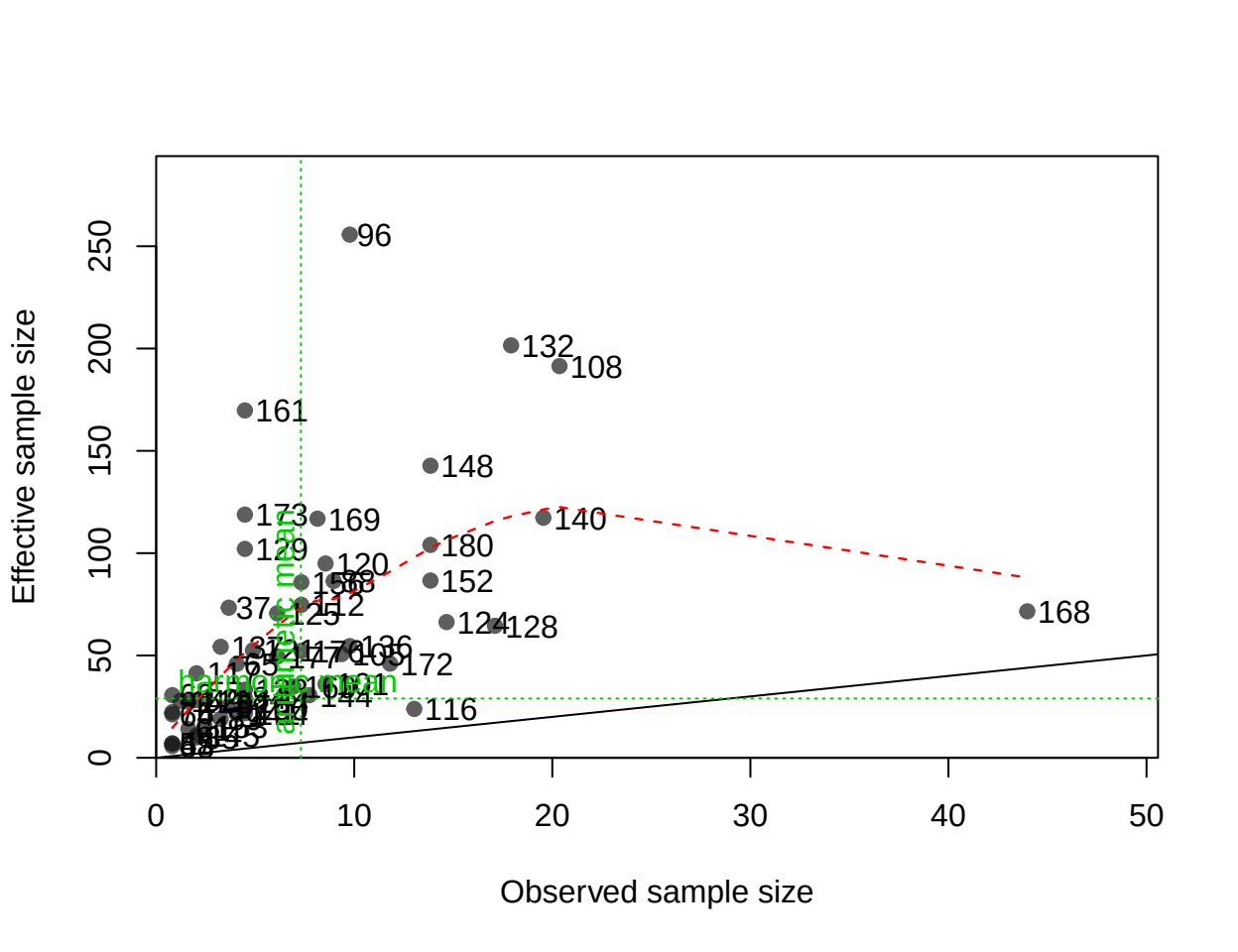

37
N adj.=3.7
N eff.=73.4
61
N adj.=1.6
N eff.=14.1
69
N adj.=0.8
N eff.=30.6
88
N adj.=9
N eff.=86.4
45
N adj.=0.8
N eff.=7
64
N adj.=0.8
N eff.=21.3
76
N adj.=0.8
N eff.=22.3
89
N adj.=3.3
N eff.=19
52
N adj.=2
N eff.=28.2
65
N adj.=4.1
N eff.=45.9
84
N adj.=4.5
N eff.=29.2
96
N adj.=9.8
N eff.=255.7
57
N adj.=0.8
N eff.=7
68
N adj.=0.8
N eff.=5.7
85
N adj.=2
N eff.=9.9
97
N adj.=3.7
N eff.=25.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

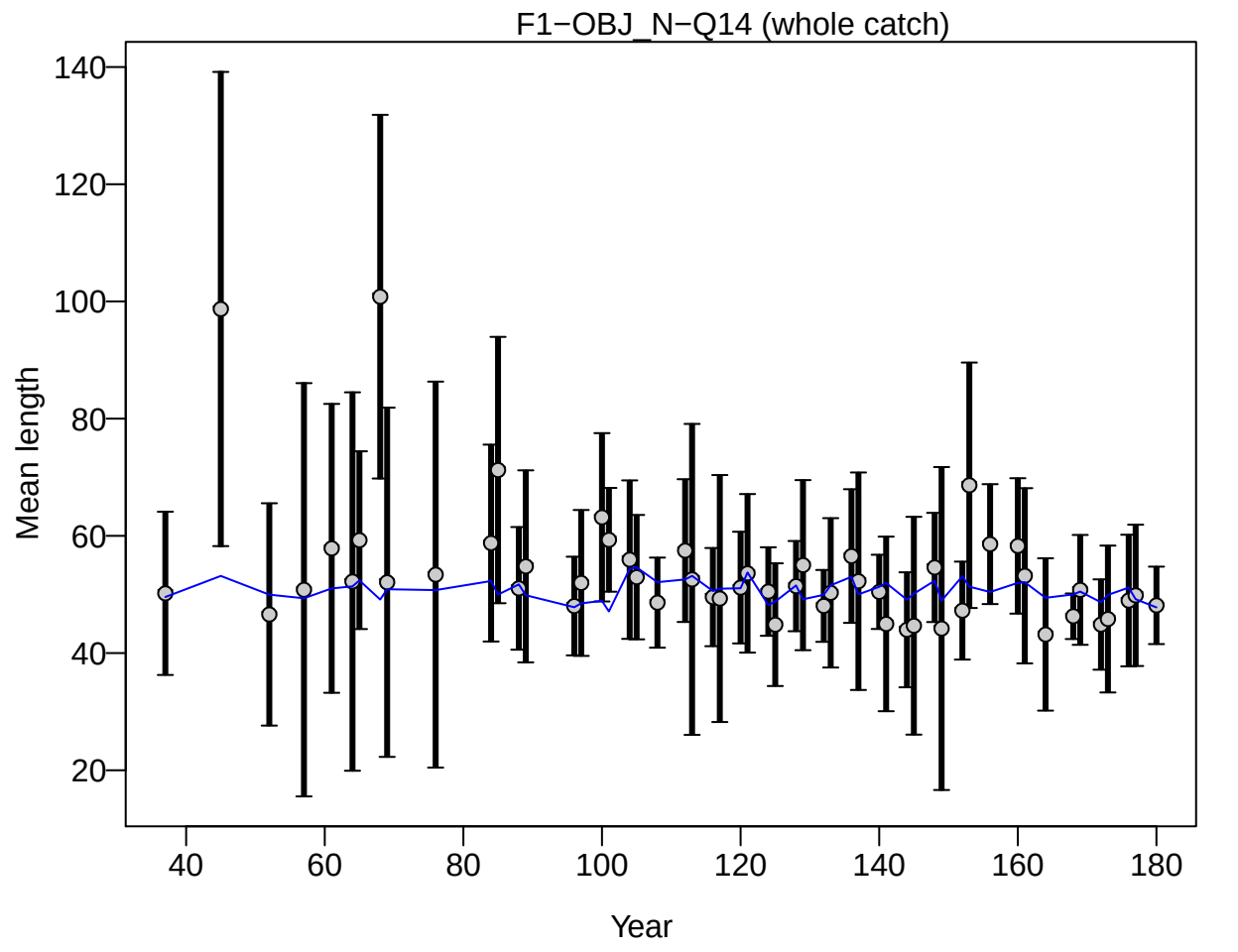

100
N adj.=4.5
N eff.=24.2
108
N adj.=20.4
N eff.=191.4
117
N adj.=2
N eff.=41.3
125
N adj.=6.1
N eff.=70.6
101
N adj.=8.6
N eff.=36
112
N adj.=7.3
N eff.=74.7
120
N adj.=8.6
N eff.=94.9
128
N adj.=17.1
N eff.=64.5
104
N adj.=4.5
N eff.=27.2
113
N adj.=1.6
N eff.=27.4
121
N adj.=4.9
N eff.=52.5
129
N adj.=4.5
N eff.=102.1
105
N adj.=9.4
N eff.=50.7
116
N adj.=13
N eff.=23.9
124
N adj.=14.7
N eff.=66.3
132
N adj.=17.9
N eff.=201.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

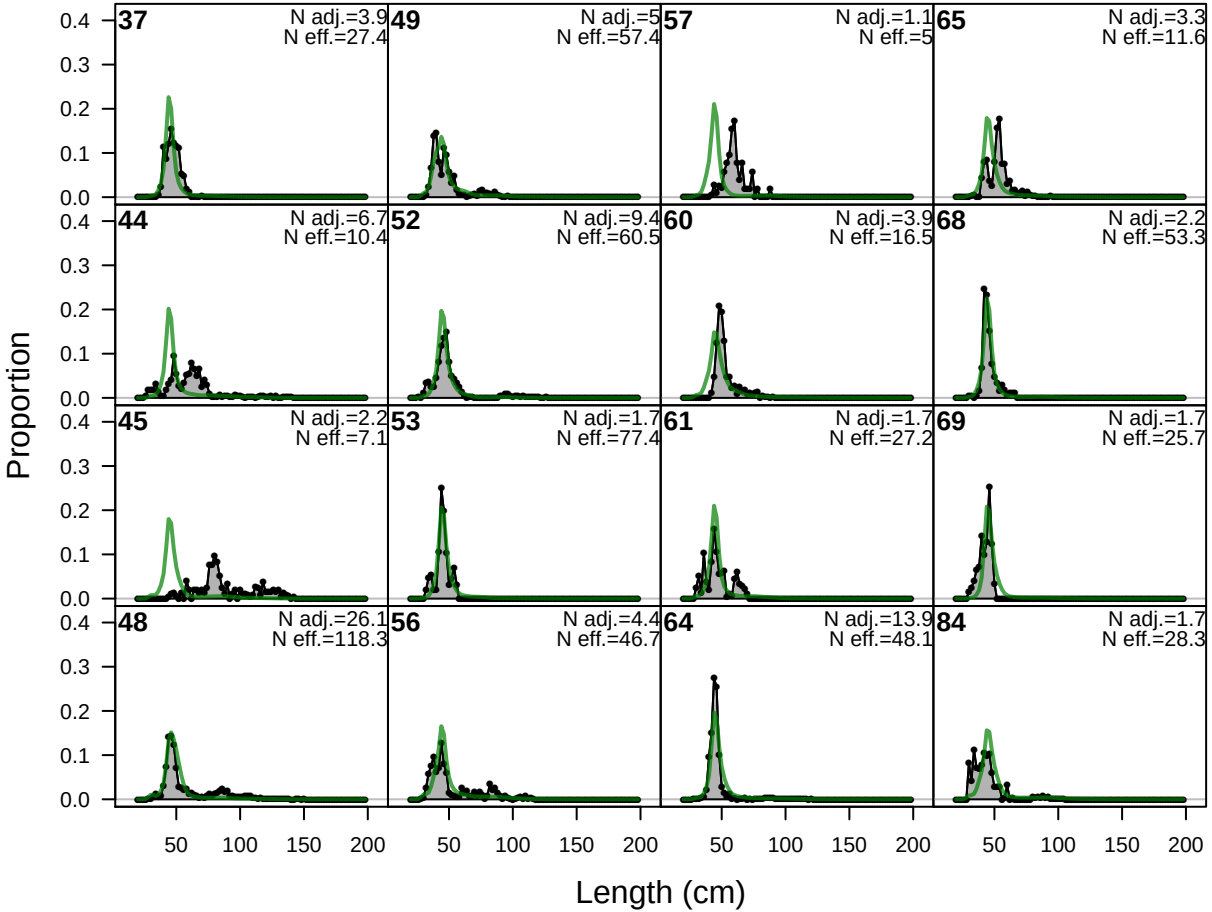

133
N adj.=4.5
N eff.=33.3
141
N adj.=4.1
N eff.=21.4
149
N adj.=1.2
N eff.=27.8
160
N adj.=6.9
N eff.=34.8
136
N adj.=9.8
N eff.=54.6
144
N adj.=7.7
N eff.=30.6
152
N adj.=13.8
N eff.=86.6
161
N adj.=4.5
N eff.=169.7
137
N adj.=3.3
N eff.=54.2
145
N adj.=2
N eff.=11
153
N adj.=2.4
N eff.=15.5
164
N adj.=4.5
N eff.=21.8
140
N adj.=19.5
N eff.=117.3
148
N adj.=13.8
N eff.=142.7
156
N adj.=7.3
N eff.=85.7
168
N adj.=44
N eff.=71.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

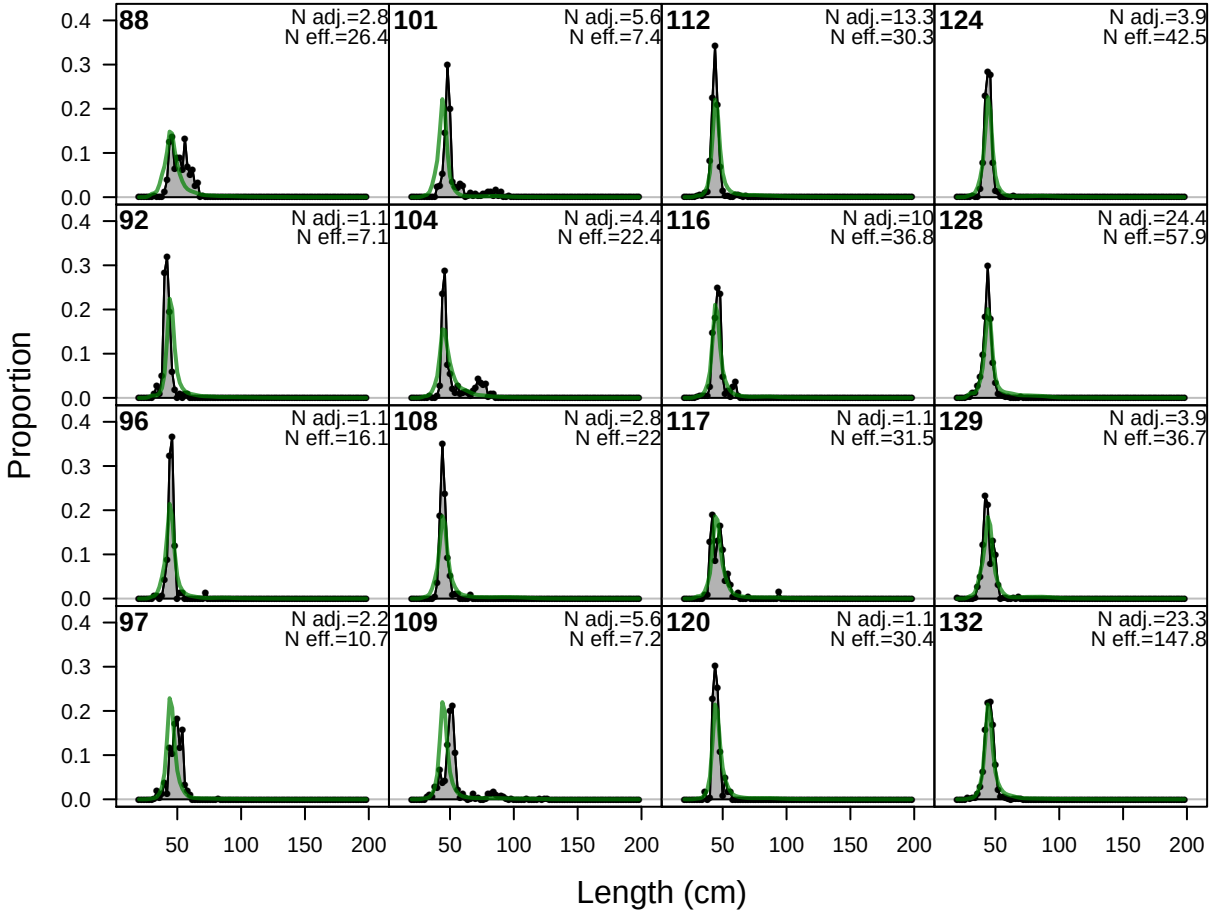

169
N adj.=8.1
N eff.=116.9
177
N adj.=6.1
N eff.=49.5
172
N adj.=11.8
N eff.=46
180
N adj.=13.8
N eff.=104
173
N adj.=4.5
N eff.=118.8
176
N adj.=7.3
N eff.=52.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

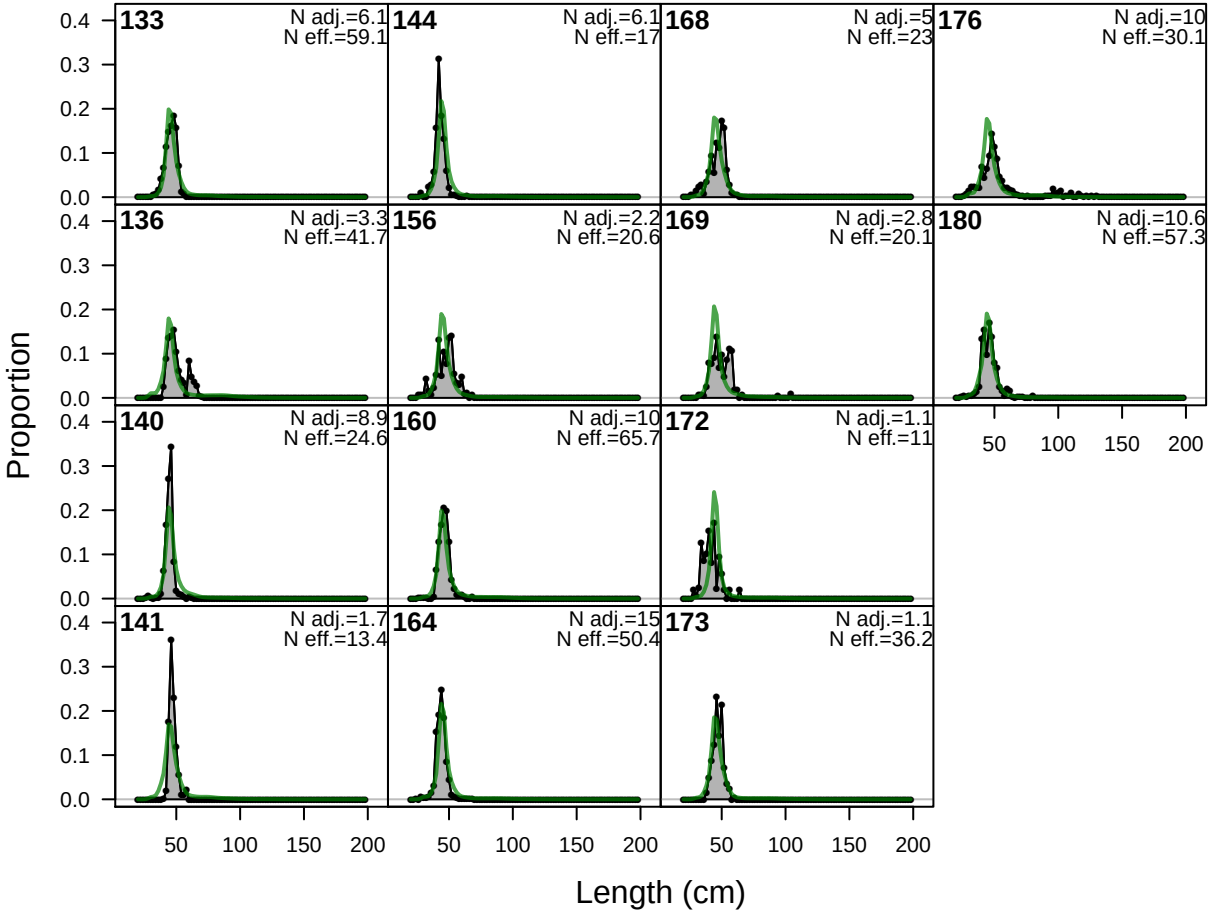

−10
−6
2
6
10
200
150
100
50
Length (cm)
37
52
64
76
88
100
113
128
141
156
169
Year

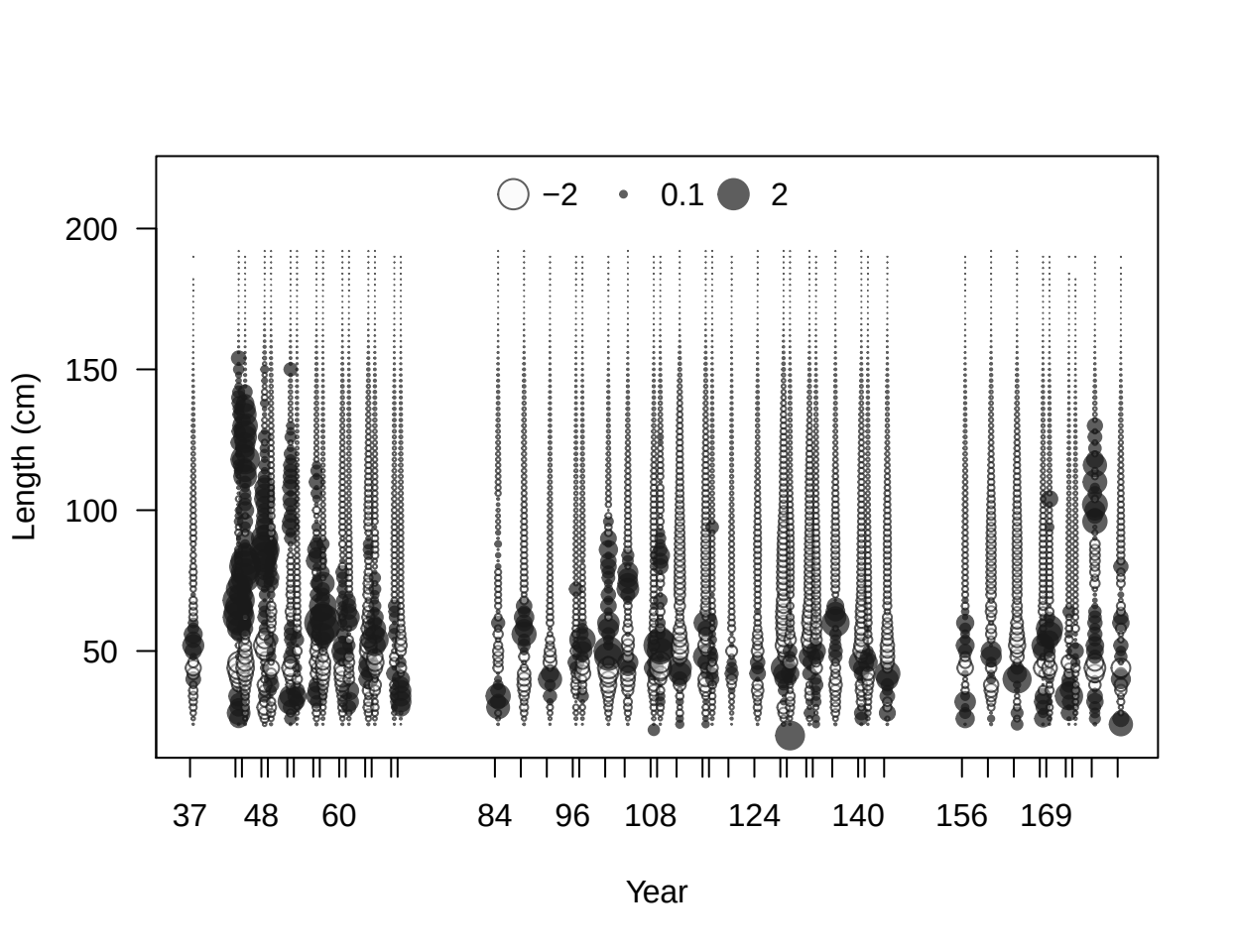

Effective sample size
Observed sample size
0
50
100
150
200
250
0
10
20
30
40
50
96
132
108
161
148
173
169
140
129
180
120
152
168
37
125
124
128
172
116
harmonic mean
arithmetic mean

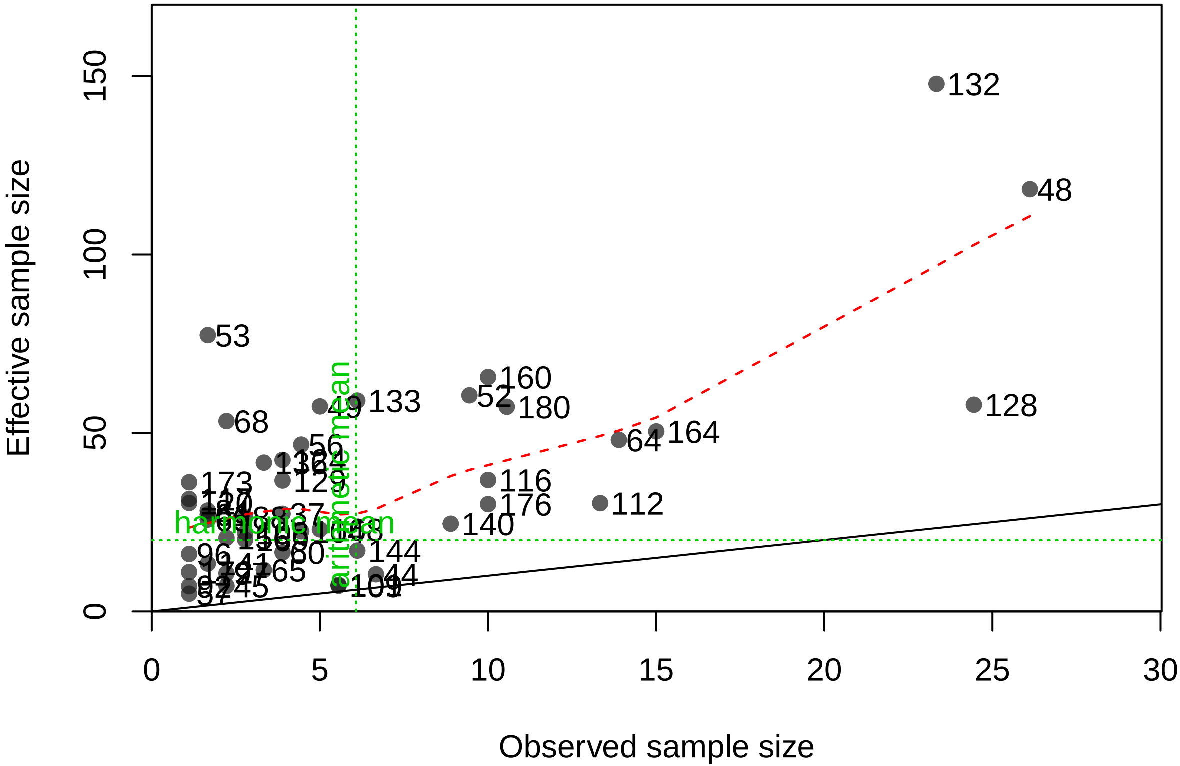

F1−OBJ_N−Q14 (whole catch)
Mean length
Year
140
120
100
80
60
40
20
40
60
80
100
120
140
160
180

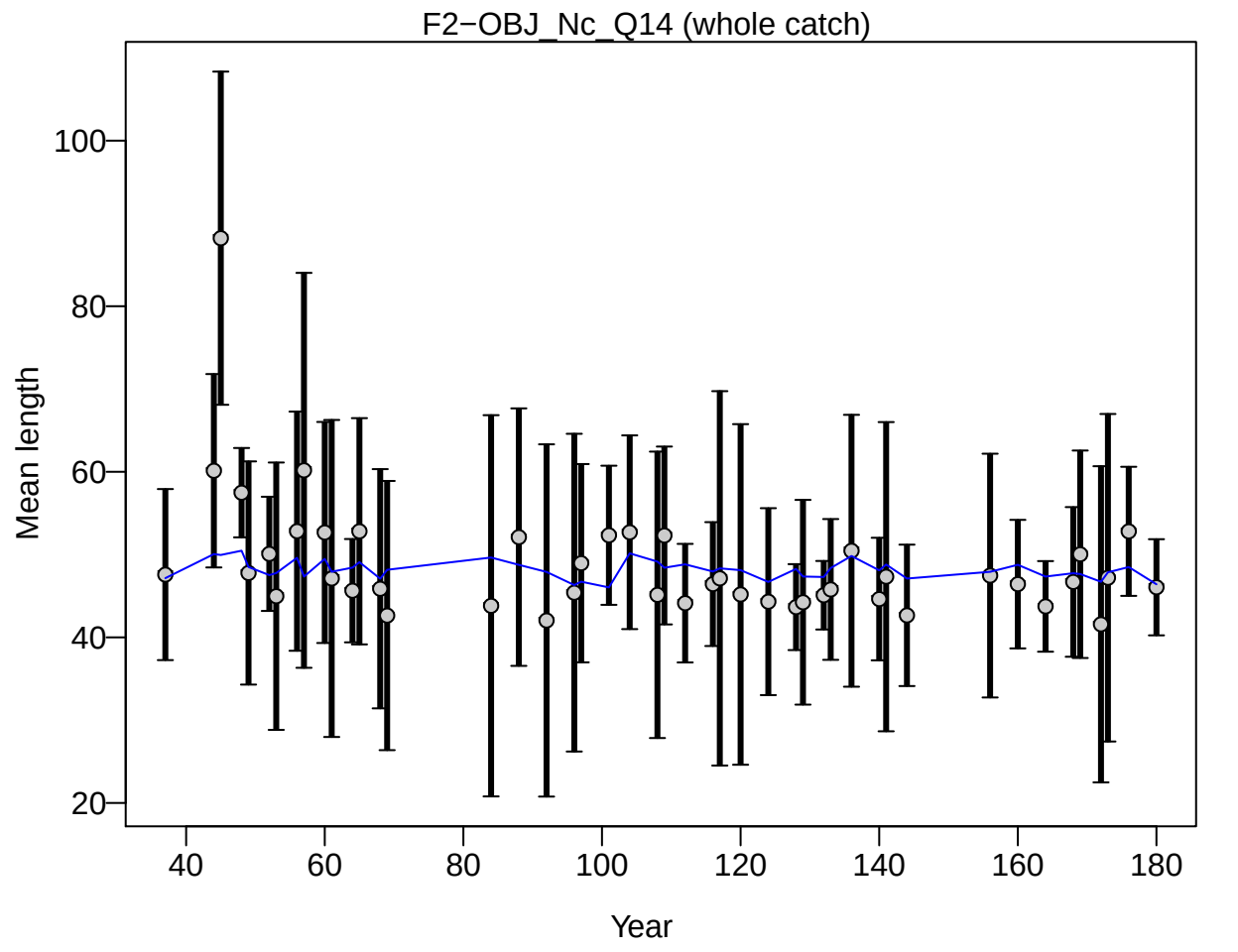

37
N adj.=3.9
N eff.=27.4
49
N adj.=5
N eff.=57.4
57
N adj.=1.1
N eff.=5
65
N adj.=3.3
N eff.=11.6
44
N adj.=6.7
N eff.=10.4
52
N adj.=9.4
N eff.=60.5
60
N adj.=3.9
N eff.=16.5
68
N adj.=2.2
N eff.=53.3
45
N adj.=2.2
N eff.=7.1
53
N adj.=1.7
N eff.=77.4
61
N adj.=1.7
N eff.=27.2
69
N adj.=1.7
N eff.=25.7
48
N adj.=26.1
N eff.=118.3
56
N adj.=4.4
N eff.=46.7
64
N adj.=13.9
N eff.=48.1
84
N adj.=1.7
N eff.=28.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

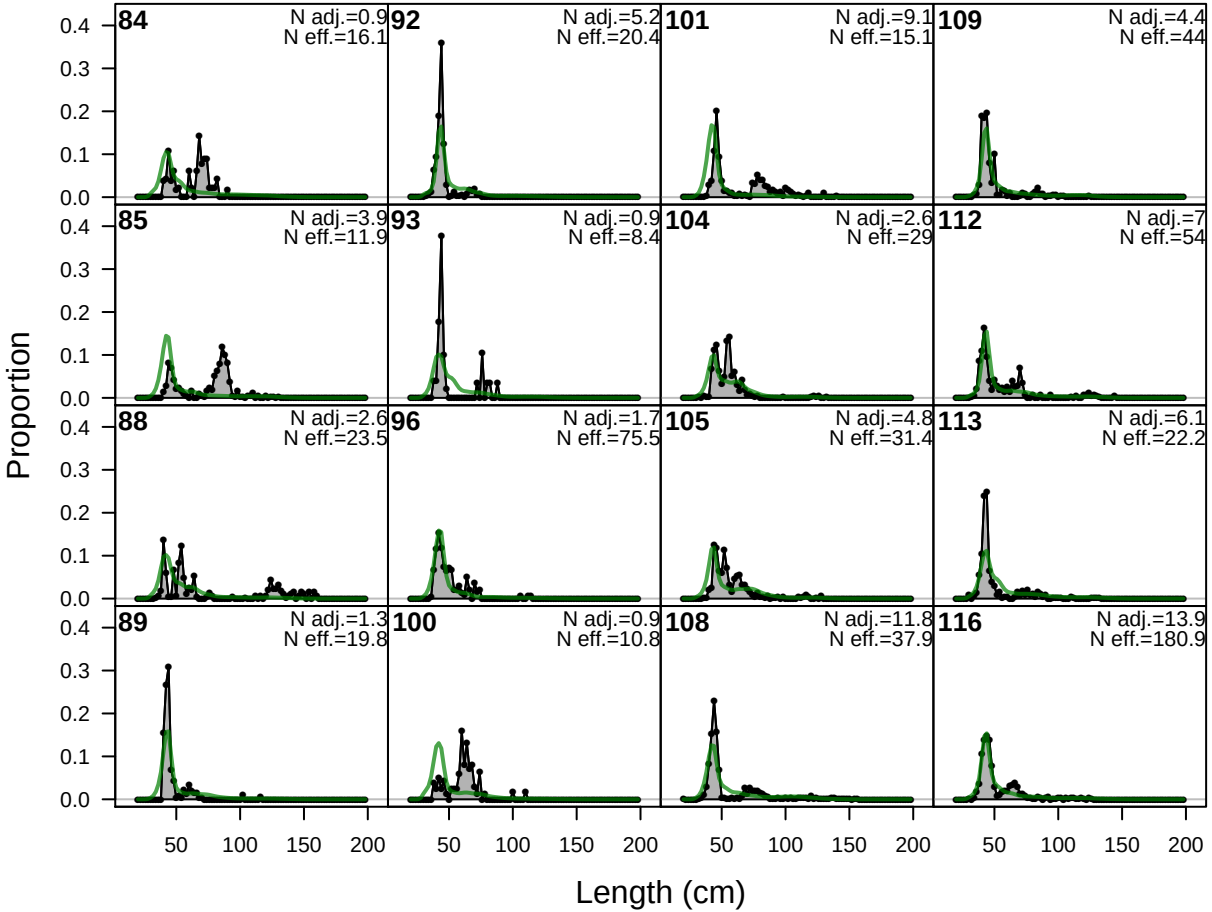

88
N adj.=2.8
N eff.=26.4
101
N adj.=5.6
N eff.=7.4
112
N adj.=13.3
N eff.=30.3
124
N adj.=3.9
N eff.=42.5
92
N adj.=1.1
N eff.=7.1
104
N adj.=4.4
N eff.=22.4
116
N adj.=10
N eff.=36.8
128
N adj.=24.4
N eff.=57.9
96
N adj.=1.1
N eff.=16.1
108
N adj.=2.8
N eff.=22
117
N adj.=1.1
N eff.=31.5
129
N adj.=3.9
N eff.=36.7
97
N adj.=2.2
N eff.=10.7
109
N adj.=5.6
N eff.=7.2
120
N adj.=1.1
N eff.=30.4
132
N adj.=23.3
N eff.=147.8
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

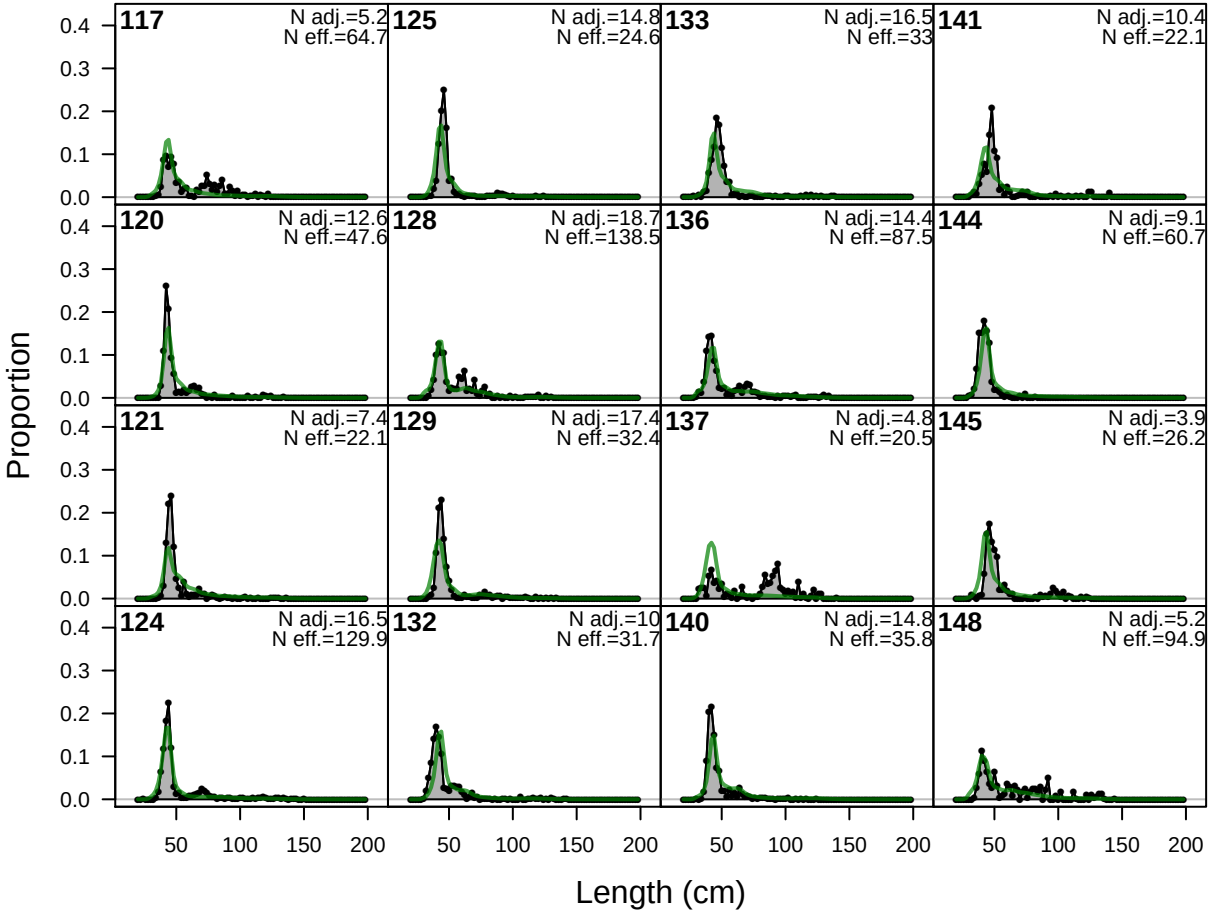

133
N adj.=6.1
N eff.=59.1
144
N adj.=6.1
N eff.=17
168
N adj.=5
N eff.=23
176
N adj.=10
N eff.=30.1
136
N adj.=3.3
N eff.=41.7
156
N adj.=2.2
N eff.=20.6
169
N adj.=2.8
N eff.=20.1
180
N adj.=10.6
N eff.=57.3
140
N adj.=8.9
N eff.=24.6
160
N adj.=10
N eff.=65.7
172
N adj.=1.1
N eff.=11
141
N adj.=1.7
N eff.=13.4
164
N adj.=15
N eff.=50.4
173
N adj.=1.1
N eff.=36.2
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

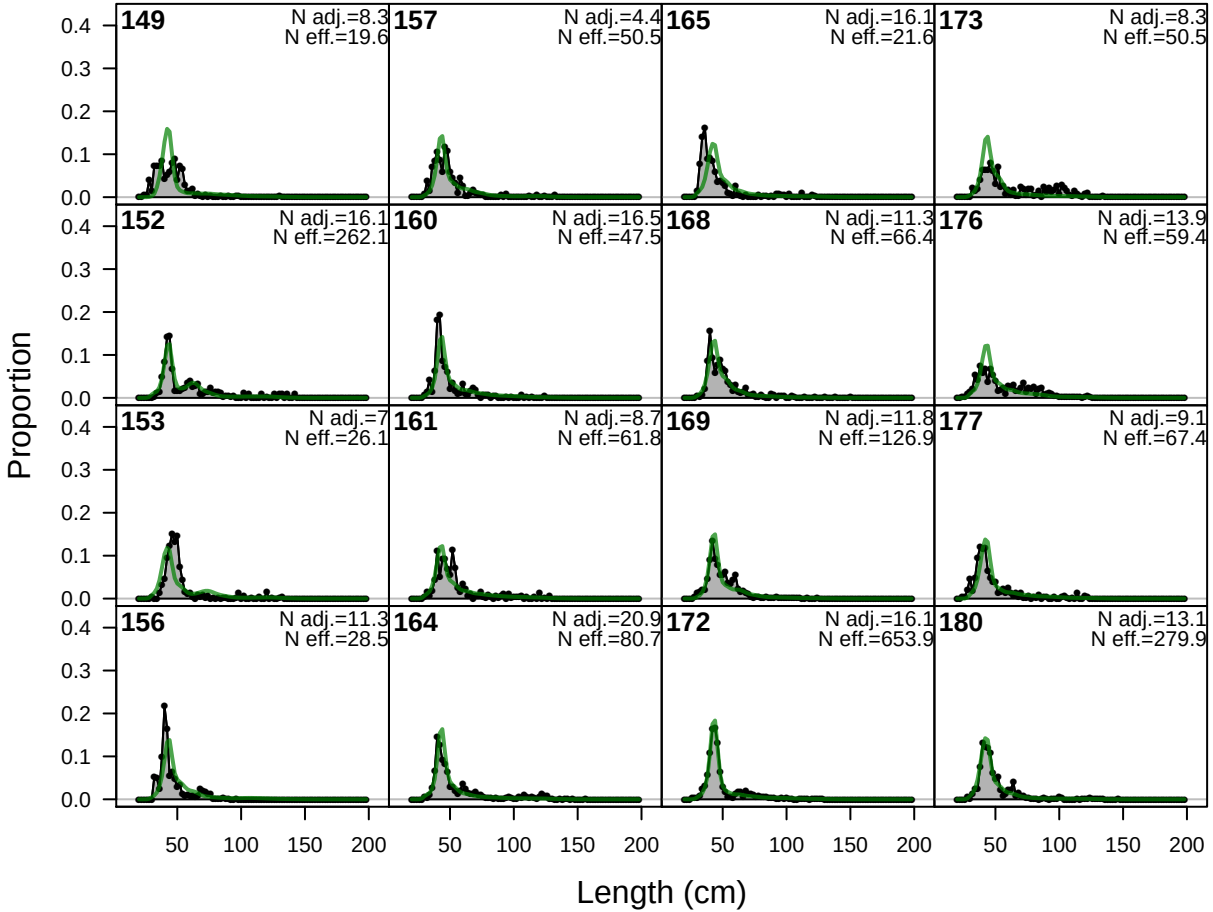

−2
0.1
2
200
150
100
50
Length (cm)
37
48
60
84
96
108
124
140
156
169
Year

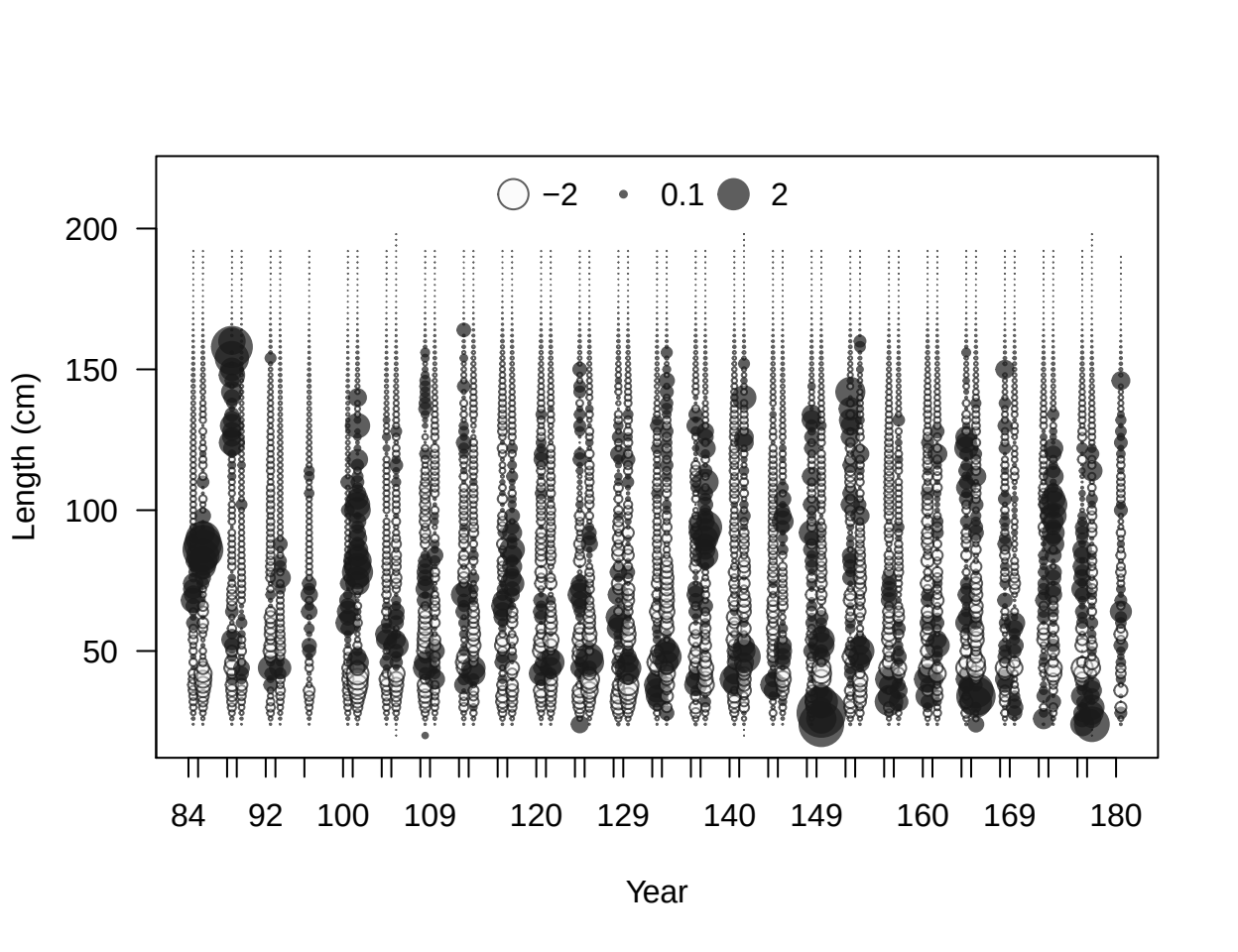

Effective sample size
Observed sample size
0
50
100
150
0
5
10
15
20
25
30
harmonic mean
arithmetic mean
132
48
128
53
160
52
180
133
68
164
64
116
176
112
140
173
144
56
65
45
44

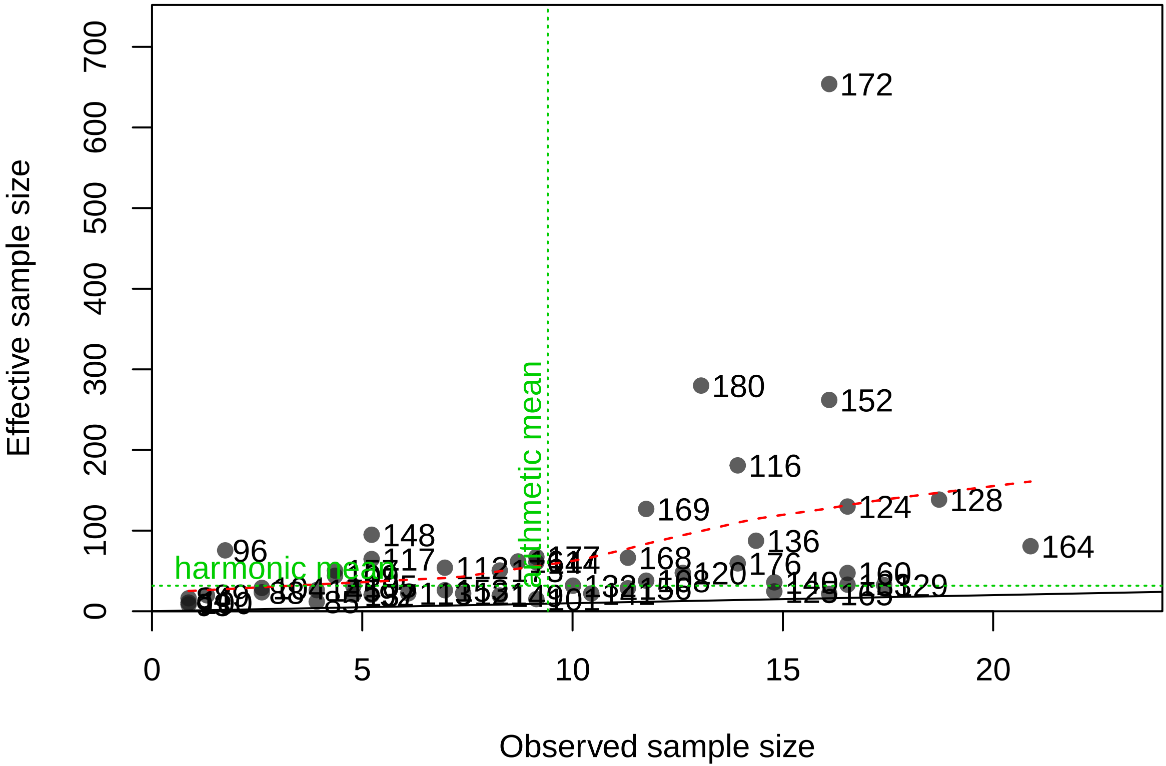

F2−OBJ_Nc_Q14 (whole catch)
Mean length
Year
100
80
60
40
20
40
60
80
100
120
140
160
180


84
N adj.=0.9
N eff.=16.1
92
N adj.=5.2
N eff.=20.4
101
N adj.=9.1
N eff.=15.1
109
N adj.=4.4
N eff.=44
85
N adj.=3.9
N eff.=11.9
93
N adj.=0.9
N eff.=8.4
104
N adj.=2.6
N eff.=29
112
N adj.=7
N eff.=54
88
N adj.=2.6
N eff.=23.5
96
N adj.=1.7
N eff.=75.5
105
N adj.=4.8
N eff.=31.4
113
N adj.=6.1
N eff.=22.2
89
N adj.=1.3
N eff.=19.8
100
N adj.=0.9
N eff.=10.8
108
N adj.=11.8
N eff.=37.9
116
N adj.=13.9
N eff.=180.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

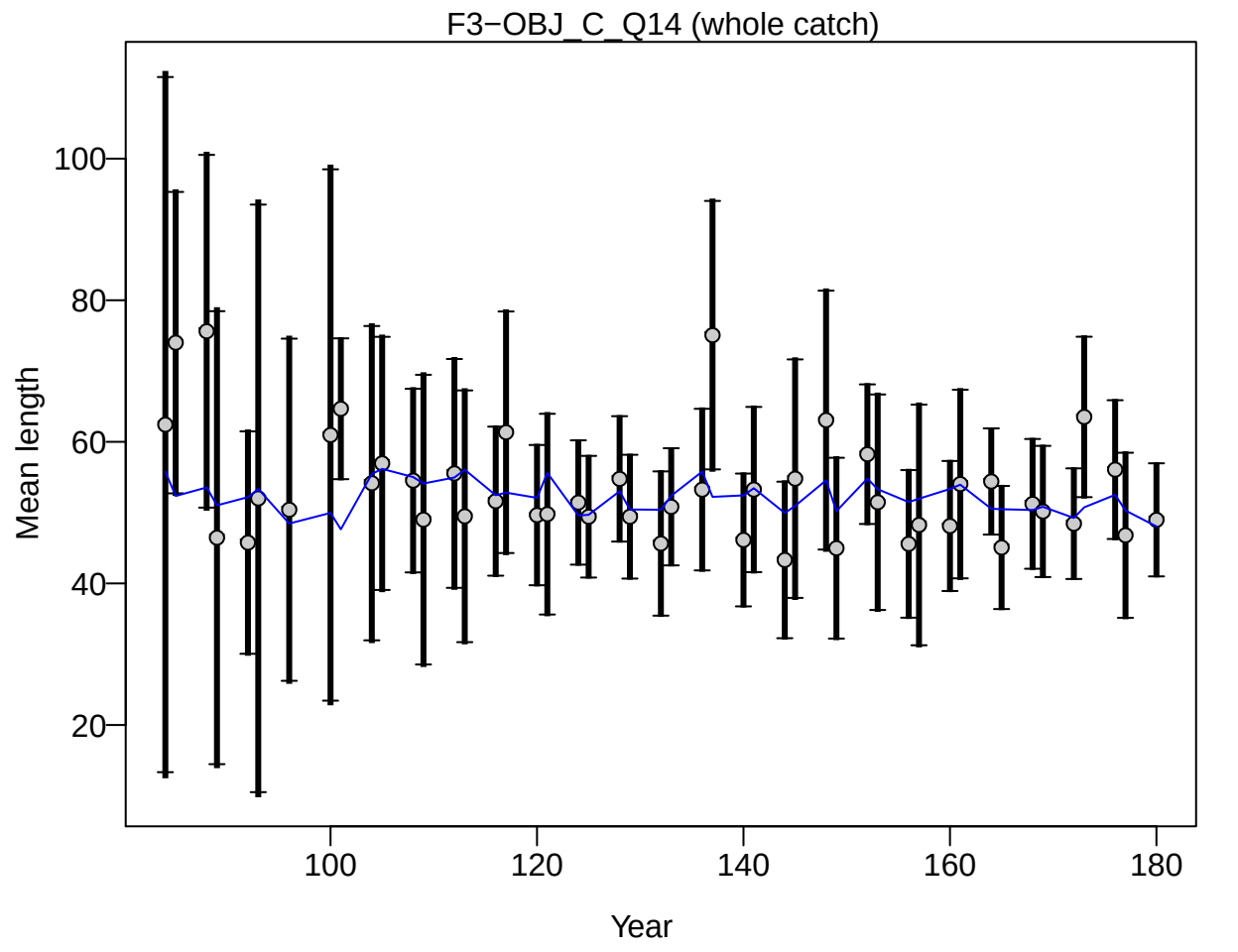

117
N adj.=5.2
N eff.=64.7
125
N adj.=14.8
N eff.=24.6
133
N adj.=16.5
N eff.=33
141
N adj.=10.4
N eff.=22.1
120
N adj.=12.6
N eff.=47.6
128
N adj.=18.7
N eff.=138.5
136
N adj.=14.4
N eff.=87.5
144
N adj.=9.1
N eff.=60.7
121
N adj.=7.4
N eff.=22.1
129
N adj.=17.4
N eff.=32.4
137
N adj.=4.8
N eff.=20.5
145
N adj.=3.9
N eff.=26.2
124
N adj.=16.5
N eff.=129.9
132
N adj.=10
N eff.=31.7
140
N adj.=14.8
N eff.=35.8
148
N adj.=5.2
N eff.=94.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

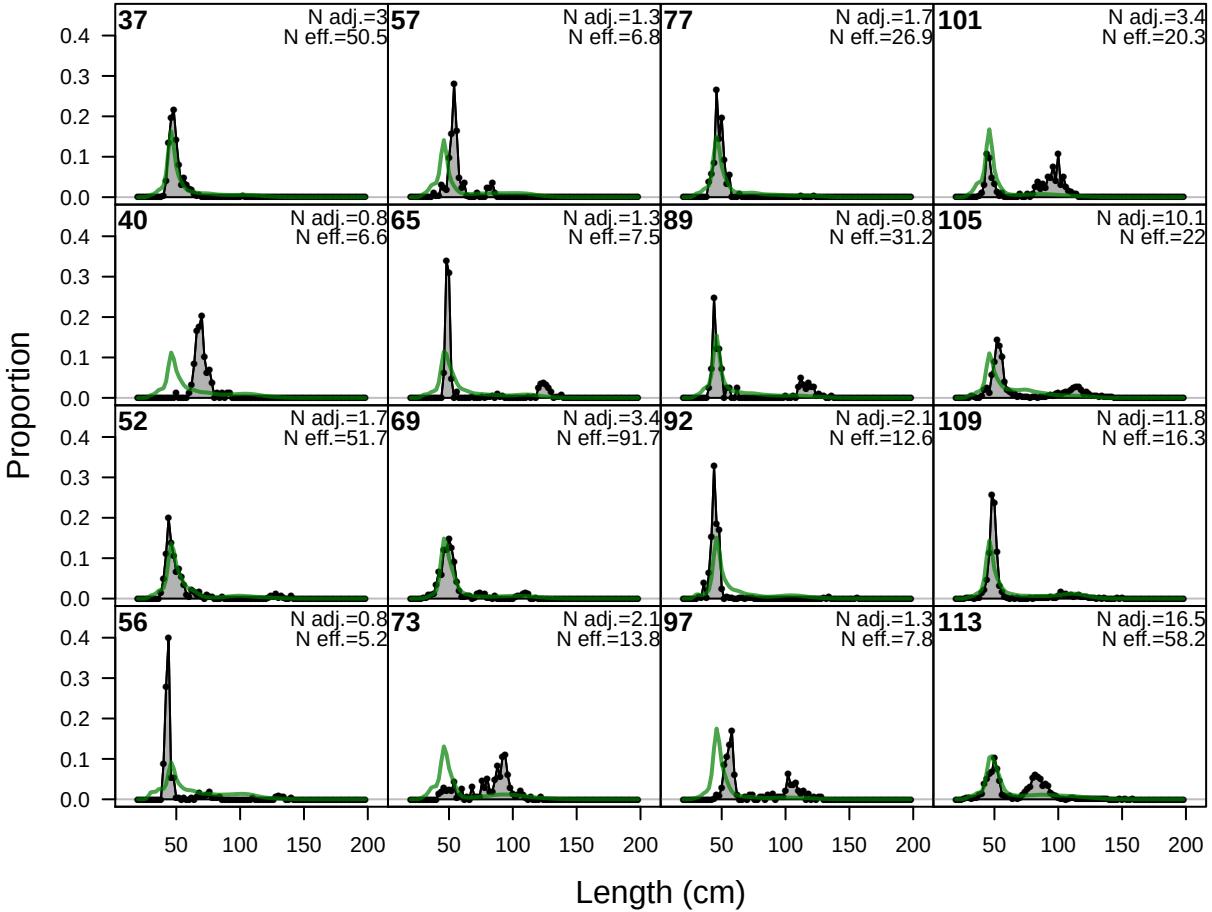

149
N adj.=8.3
N eff.=19.6
157
N adj.=4.4
N eff.=50.5
165
N adj.=16.1
N eff.=21.6
173
N adj.=8.3
N eff.=50.5
152
N adj.=16.1
N eff.=262.1
160
N adj.=16.5
N eff.=47.5
168
N adj.=11.3
N eff.=66.4
176
N adj.=13.9
N eff.=59.4
153
N adj.=7
N eff.=26.1
161
N adj.=8.7
N eff.=61.8
169
N adj.=11.8
N eff.=126.9
177
N adj.=9.1
N eff.=67.4
156
N adj.=11.3
N eff.=28.5
164
N adj.=20.9
N eff.=80.7
172
N adj.=16.1
N eff.=653.9
180
N adj.=13.1
N eff.=279.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

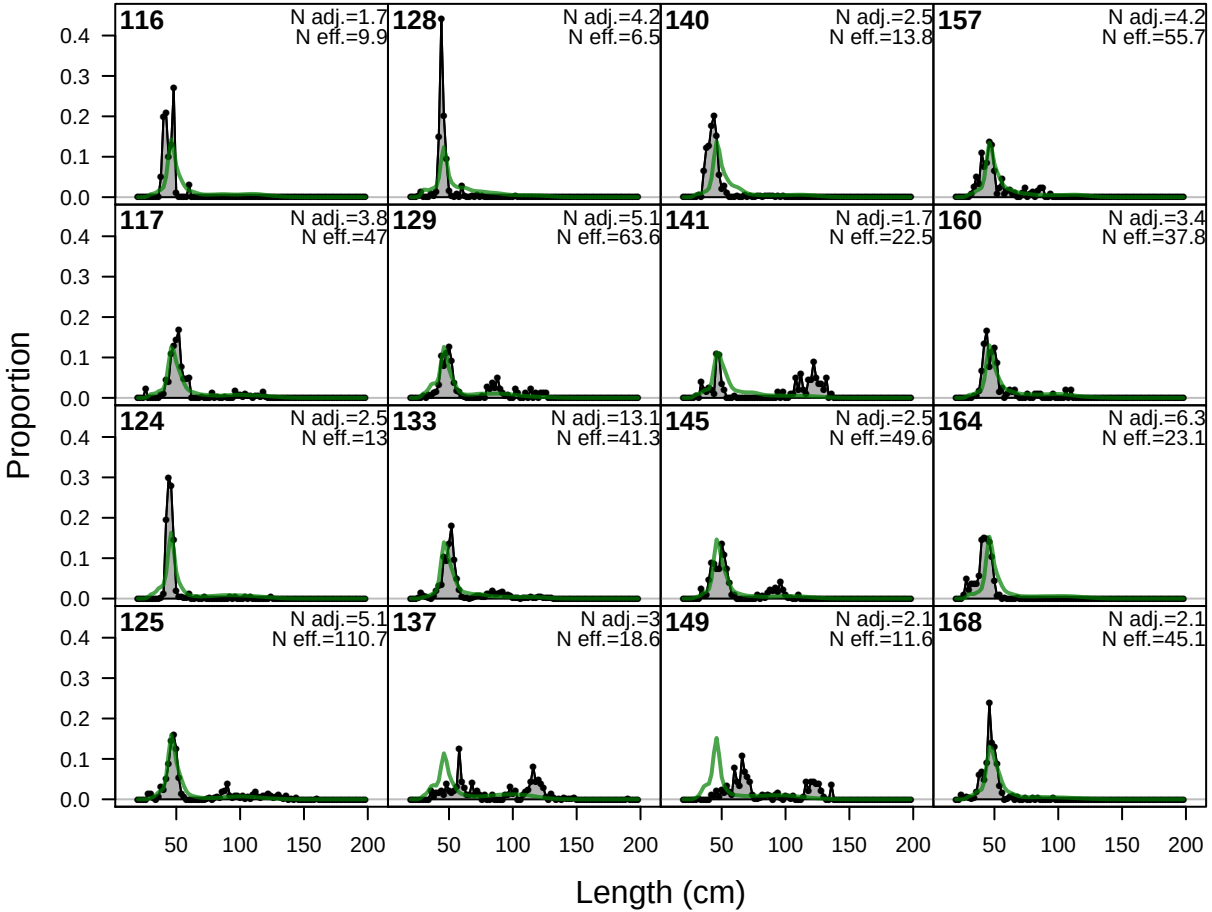

−2
0.1
2
200
150
100
50
Length (cm)
84
92
100
109
120
129
140
149
160
169
180
Year

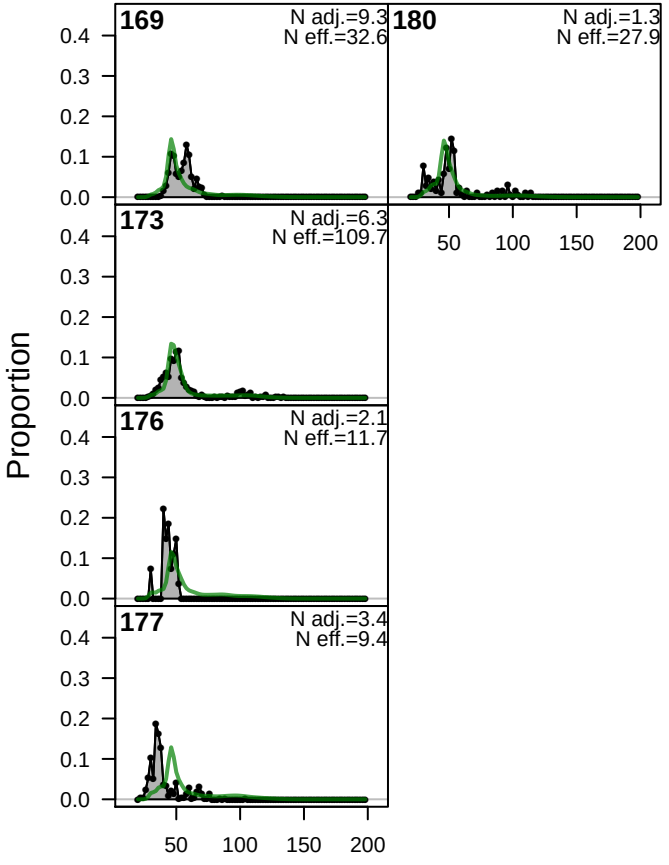


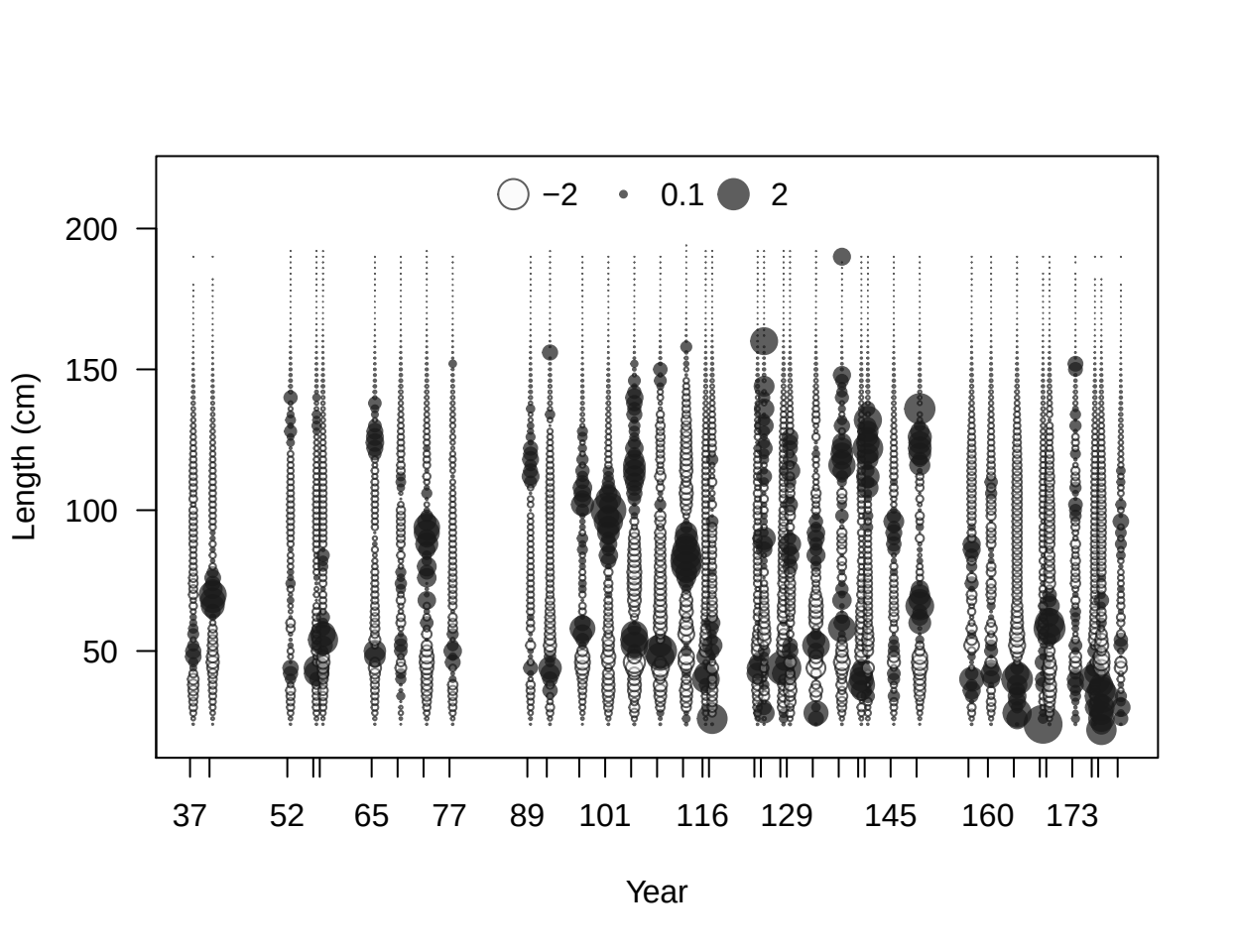
Effective sample size
Observed sample size
0
100
200
300
400
500
600
700
0
5
10
15
20
harmonic mean
arithmetic mean
172
180
152
116
169
124
128
164
148
117
96
168
176
136
120

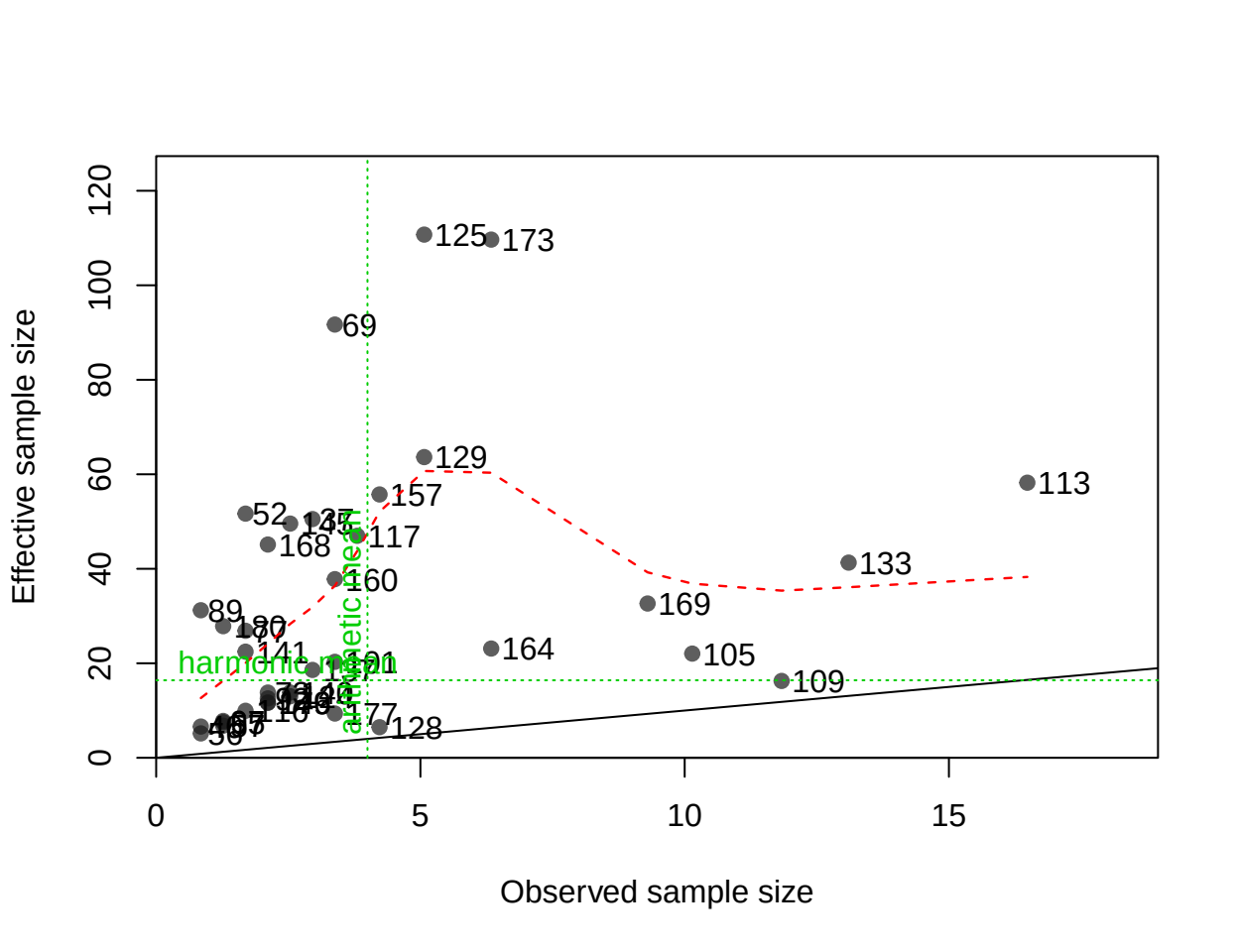

F3−OBJ_C_Q14 (whole catch)
Mean length
100
80
60
40
20
100
120
140
160
180
Year

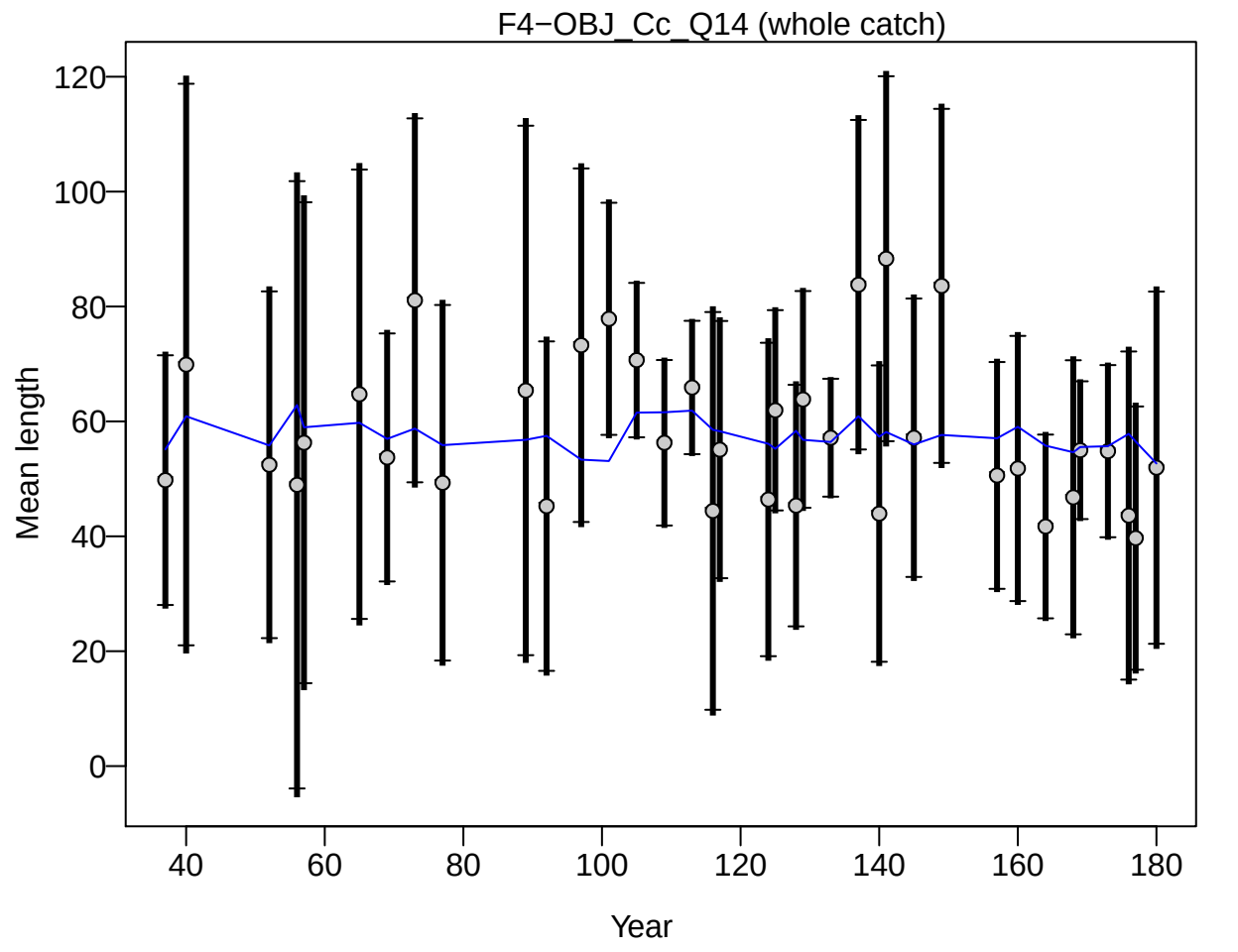

37
N adj.=3
N eff.=50.5
57
N adj.=1.3
N eff.=6.8
77
N adj.=1.7
N eff.=26.9
101
N adj.=3.4
N eff.=20.3
40
N adj.=0.8
N eff.=6.6
65
N adj.=1.3
N eff.=7.5
89
N adj.=0.8
N eff.=31.2
105
N adj.=10.1
N eff.=22
52
N adj.=1.7
N eff.=51.7
69
N adj.=3.4
N eff.=91.7
92
N adj.=2.1
N eff.=12.6
109
N adj.=11.8
N eff.=16.3
56
N adj.=0.8
N eff.=5.2
73
N adj.=2.1
N eff.=13.8
97
N adj.=1.3
N eff.=7.8
113
N adj.=16.5
N eff.=58.2
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

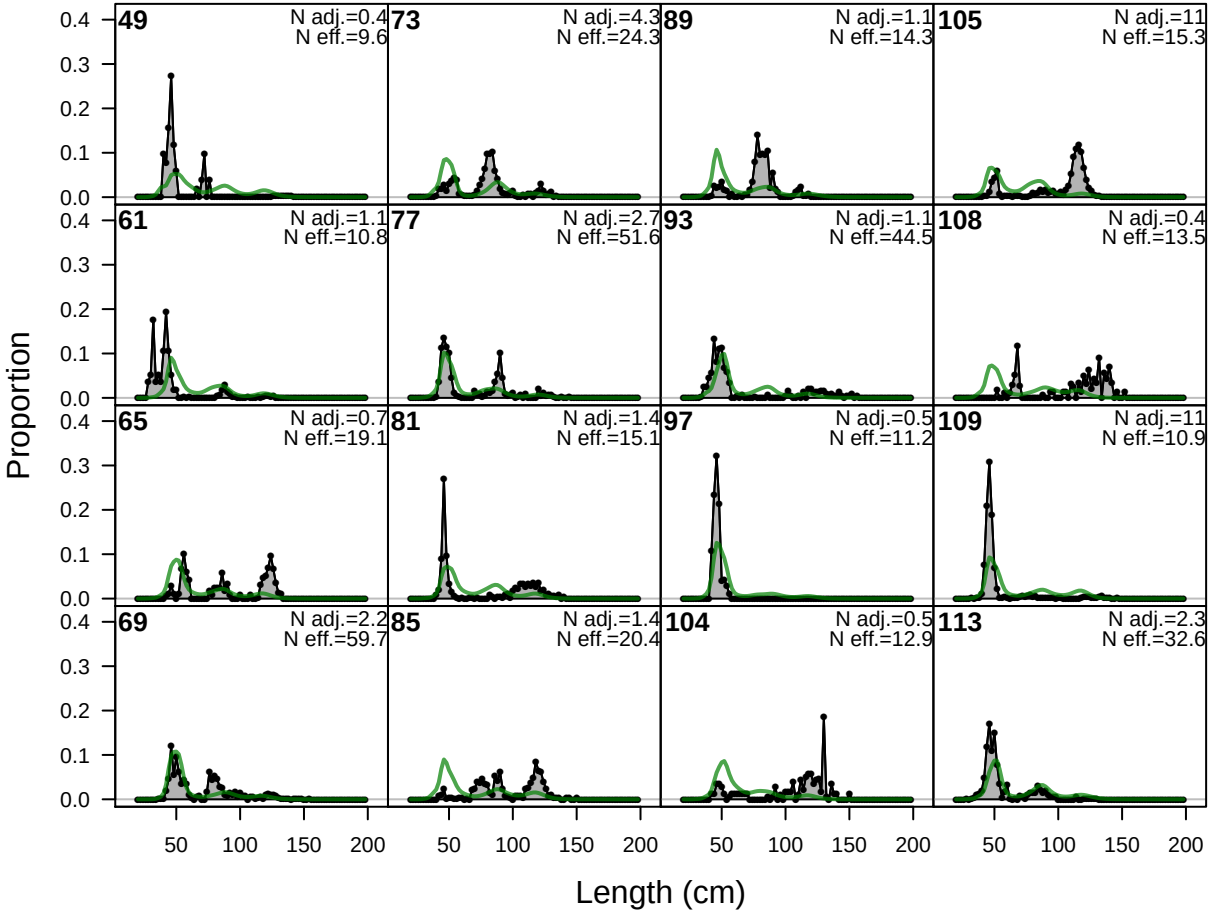

116
N adj.=1.7
N eff.=9.9
128
N adj.=4.2
N eff.=6.5
140
N adj.=2.5
N eff.=13.8
157
N adj.=4.2
N eff.=55.7
117
N adj.=3.8
N eff.=47
129
N adj.=5.1
N eff.=63.6
141
N adj.=1.7
N eff.=22.5
160
N adj.=3.4
N eff.=37.8
124
N adj.=2.5
N eff.=13
133
N adj.=13.1
N eff.=41.3
145
N adj.=2.5
N eff.=49.6
164
N adj.=6.3
N eff.=23.1
125
N adj.=5.1
N eff.=110.7
137
N adj.=3
N eff.=18.6
149
N adj.=2.1
N eff.=11.6
168
N adj.=2.1
N eff.=45.1
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

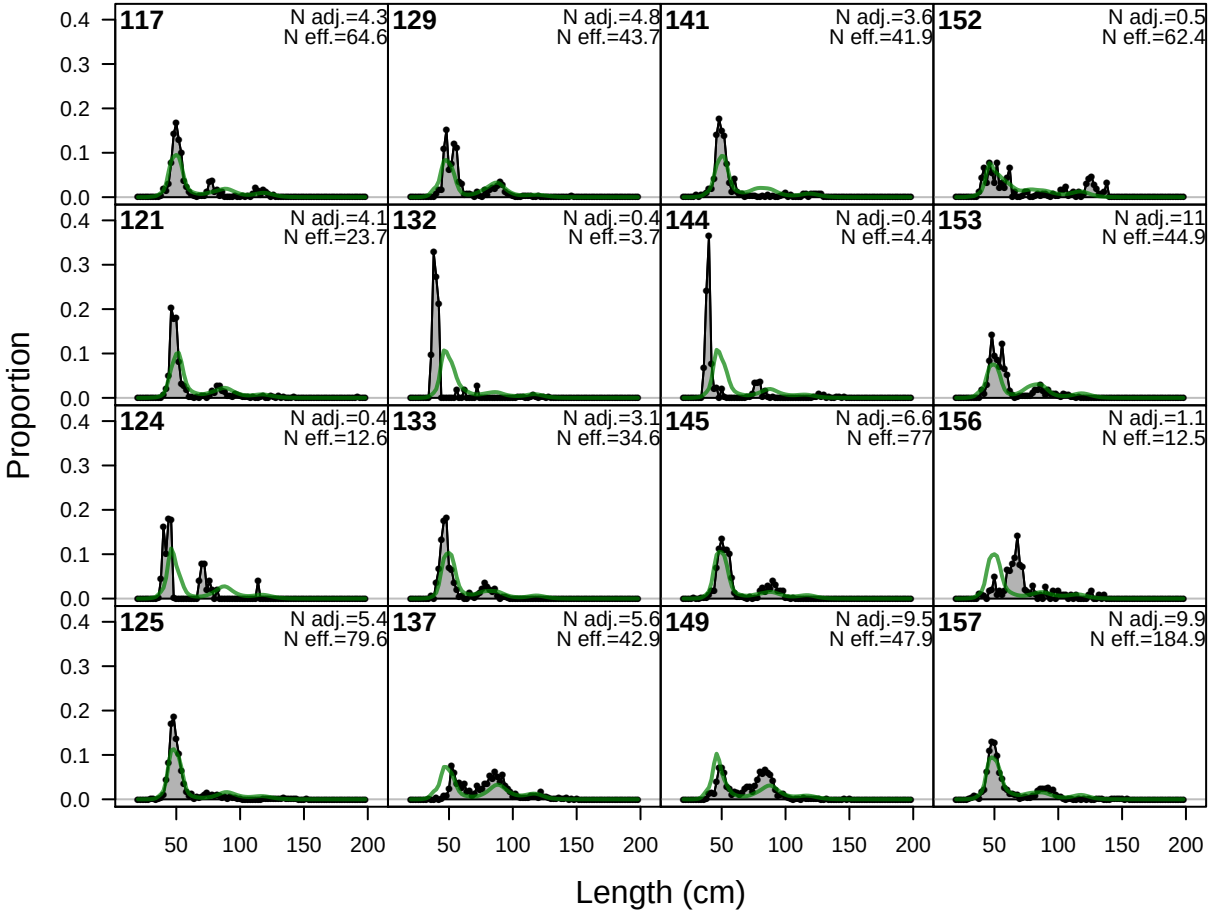

169
N adj.=9.3
N eff.=32.6
180
N adj.=1.3
N eff.=27.9
173
N adj.=6.3
N eff.=109.7
176
N adj.=2.1
N eff.=11.7
177
N adj.=3.4
N eff.=9.4
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

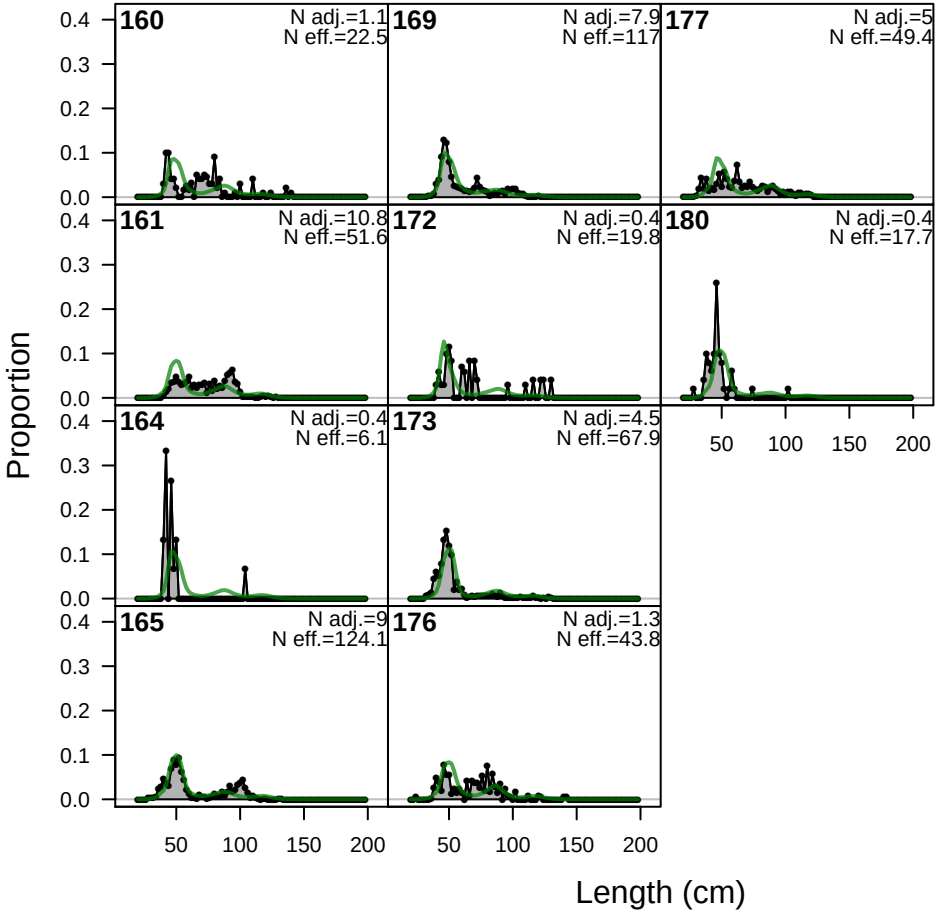

−2
0.1
2
200
150
100
50
Length (cm)
37
52
65
77
89
101
116
129
145
160
173
Year

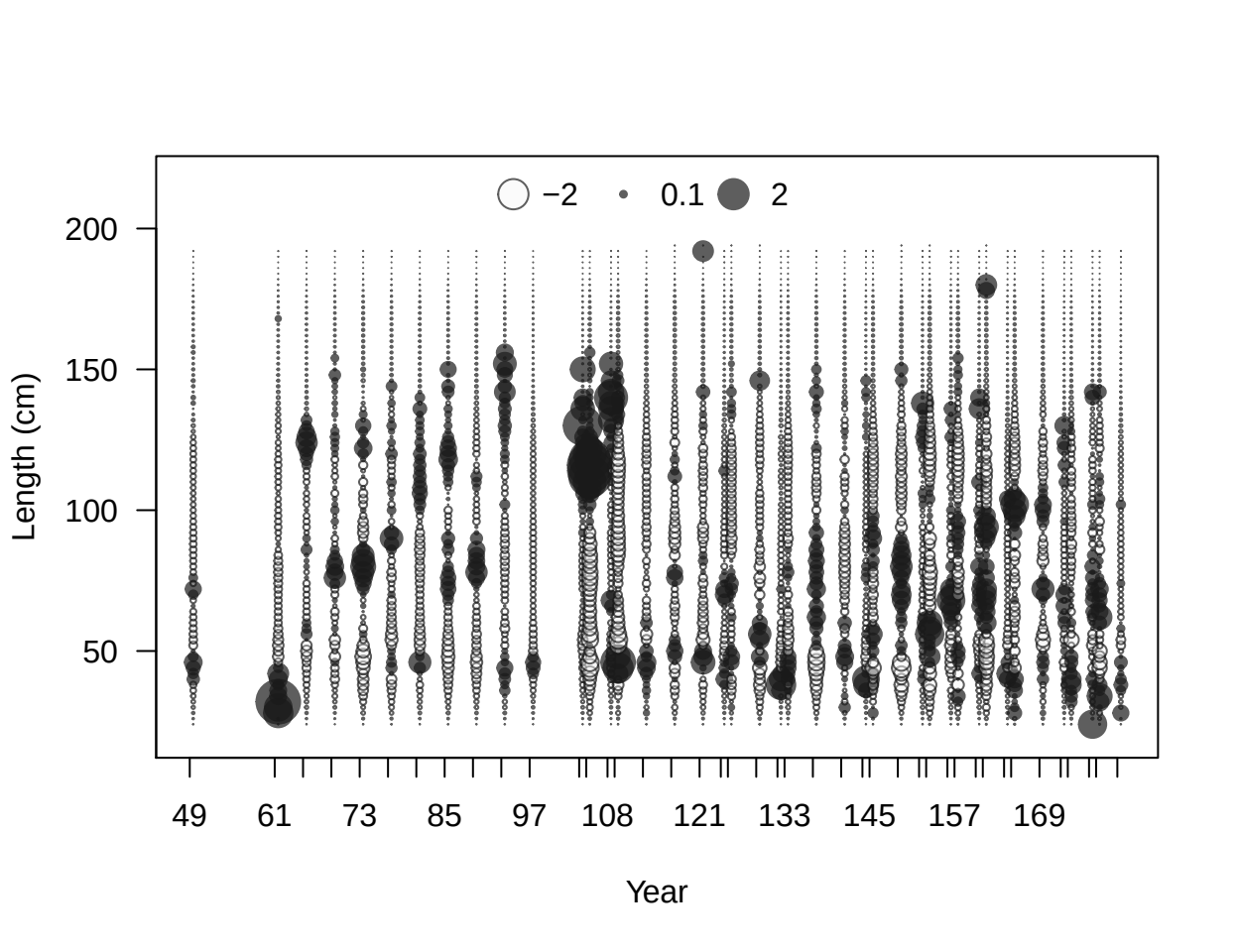

Effective sample size
Observed sample size
0
20
40
60
80
100
120
0
5
10
15
125
173
69
129
113
157
52
168
117
133
160
169
89
164
105
109
128
harmonic mean
arithmetic mean

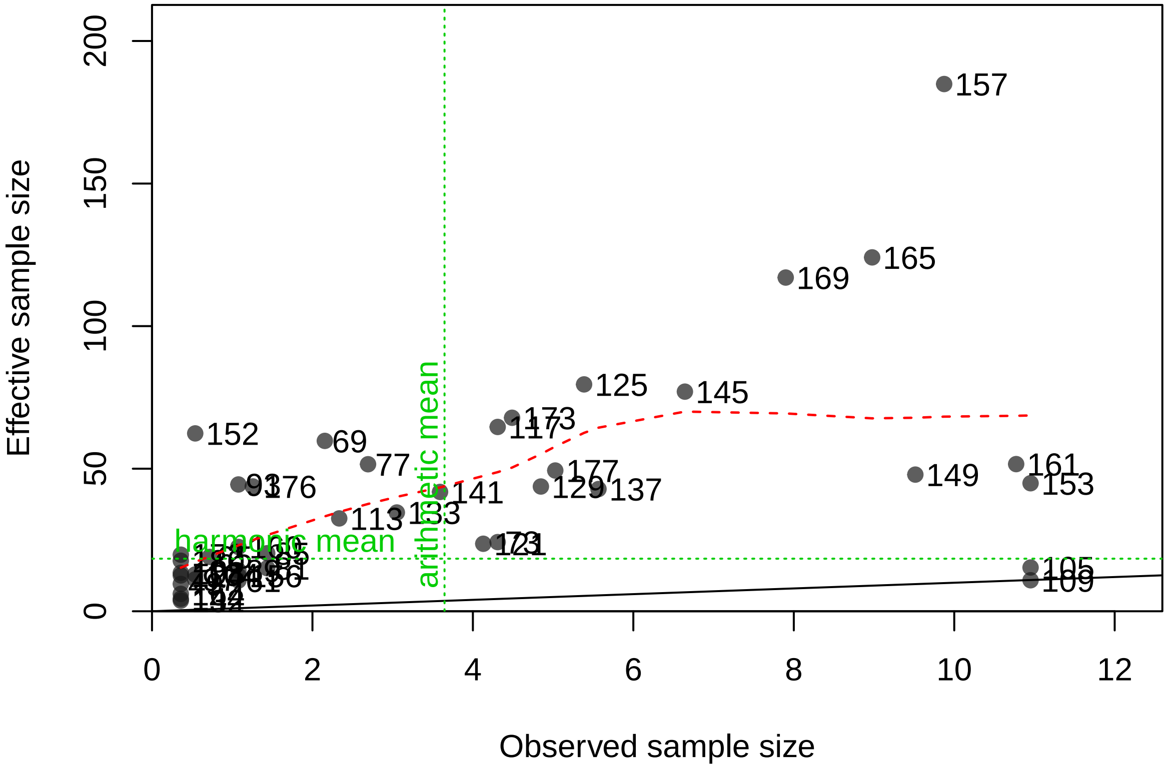

F4−OBJ_Cc_Q14 (whole catch)
Mean length
Year
120
100
80
60
40
20
0
40
60
80
100
120
140
160
180


49
N adj.=0.4
N eff.=9.6
73
N adj.=4.3
N eff.=24.3
89
N adj.=1.1
N eff.=14.3
105
N adj.=11
N eff.=15.3
61
N adj.=1.1
N eff.=10.8
77
N adj.=2.7
N eff.=51.6
93
N adj.=1.1
N eff.=44.5
108
N adj.=0.4
N eff.=13.5
65
N adj.=0.7
N eff.=19.1
81
N adj.=1.4
N eff.=15.1
97
N adj.=0.5
N eff.=11.2
109
N adj.=11
N eff.=10.9
69
N adj.=2.2
N eff.=59.7
85
N adj.=1.4
N eff.=20.4
104
N adj.=0.5
N eff.=12.9
113
N adj.=2.3
N eff.=32.6
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Proportion
Length (cm)

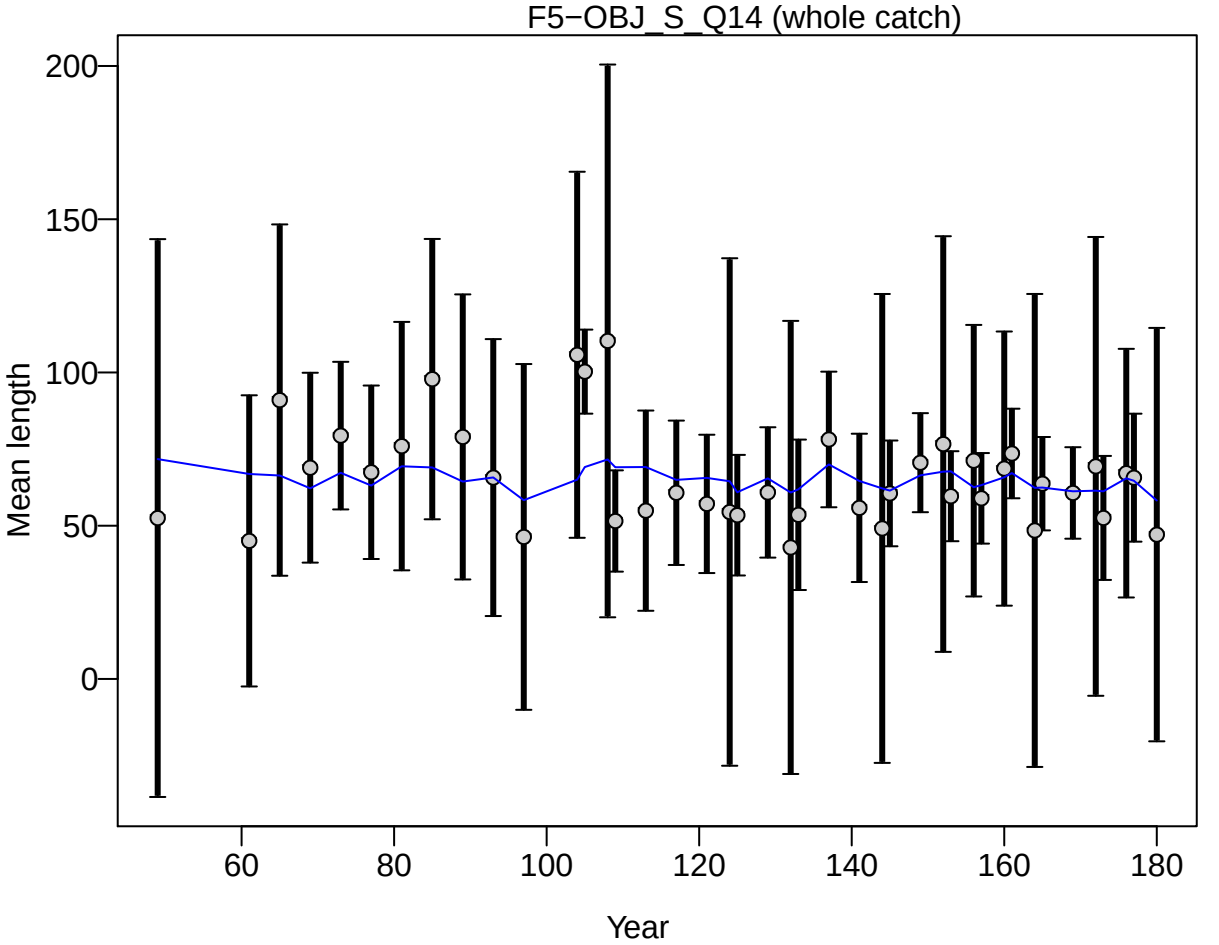

117
N adj.=4.3
N eff.=64.6
129
N adj.=4.8
N eff.=43.7
141
N adj.=3.6
N eff.=41.9
152
N adj.=0.5
N eff.=62.4
121
N adj.=4.1
N eff.=23.7
132
N adj.=0.4
N eff.=3.7
144
N adj.=0.4
N eff.=4.4
153
N adj.=11
N eff.=44.9
124
N adj.=0.4
N eff.=12.6
133
N adj.=3.1
N eff.=34.6
145
N adj.=6.6
N eff.=77
156
N adj.=1.1
N eff.=12.5
125
N adj.=5.4
N eff.=79.6
137
N adj.=5.6
N eff.=42.9
149
N adj.=9.5
N eff.=47.9
157
N adj.=9.9
N eff.=184.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

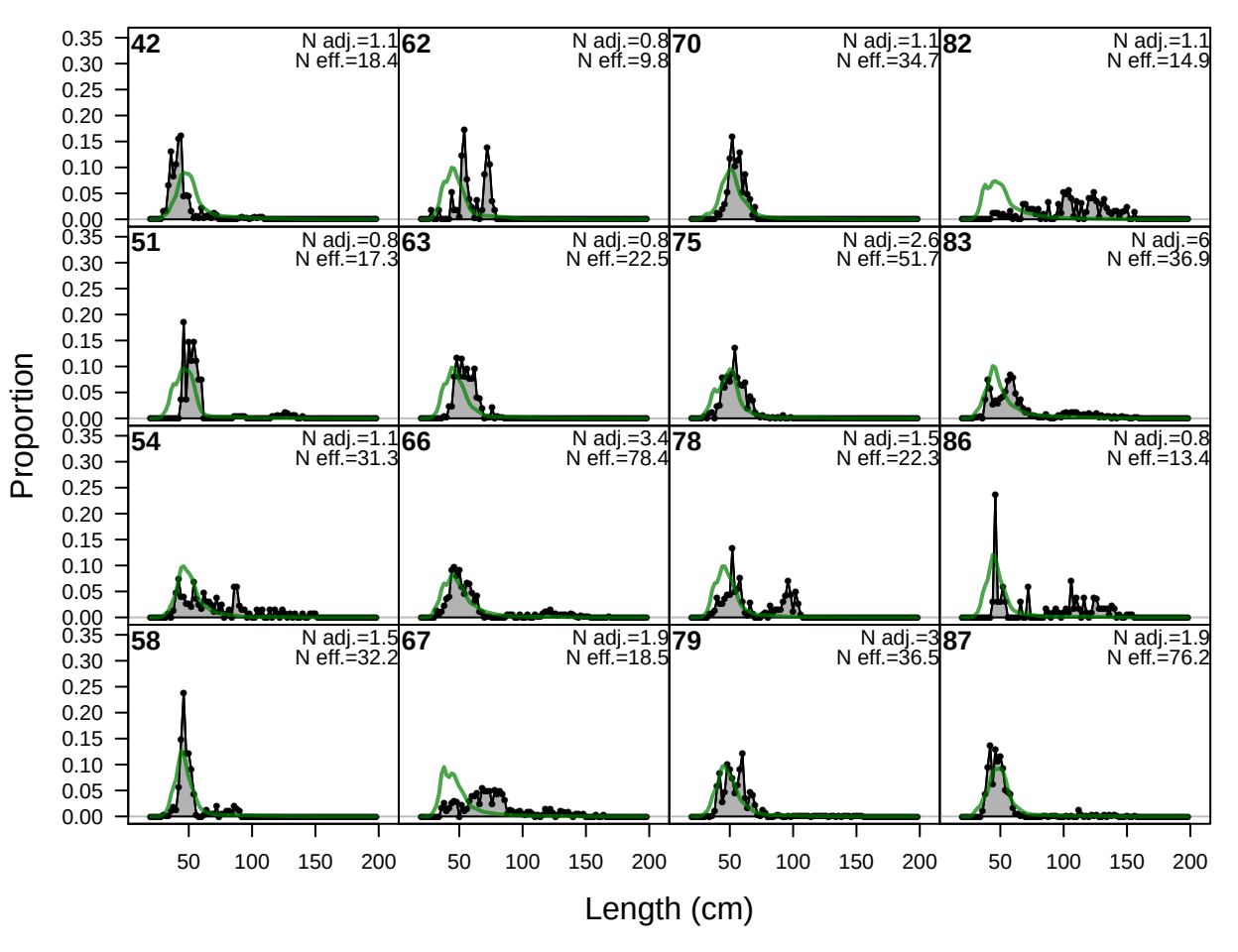

160
N adj.=1.1
N eff.=22.5
169
N adj.=7.9
N eff.=117
177
N adj.=5
N eff.=49.4
161
N adj.=10.8
N eff.=51.6
172
N adj.=0.4
N eff.=19.8
180
N adj.=0.4
N eff.=17.7
164
N adj.=0.4
N eff.=6.1
173
N adj.=4.5
N eff.=67.9
165
N adj.=9
N eff.=124.1
176
N adj.=1.3
N eff.=43.8
Proportion
Length (cm)
0.0
0.1
0.2
0.3
0.4
50
100
150
200

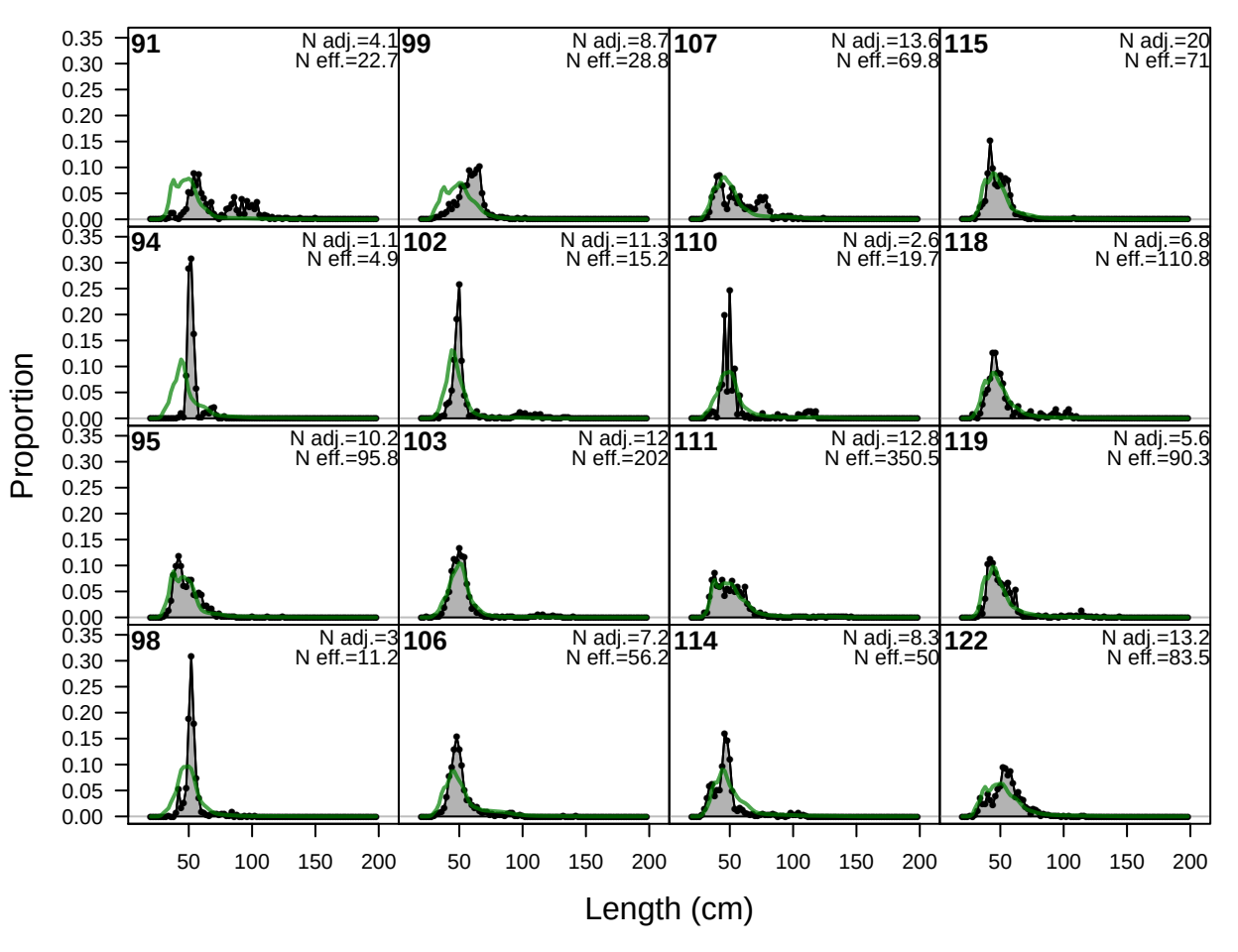

−2
0.1
2
200
150
100
50
Length (cm)
49
61
73
85
97
108
121
133
145
157
169
Year

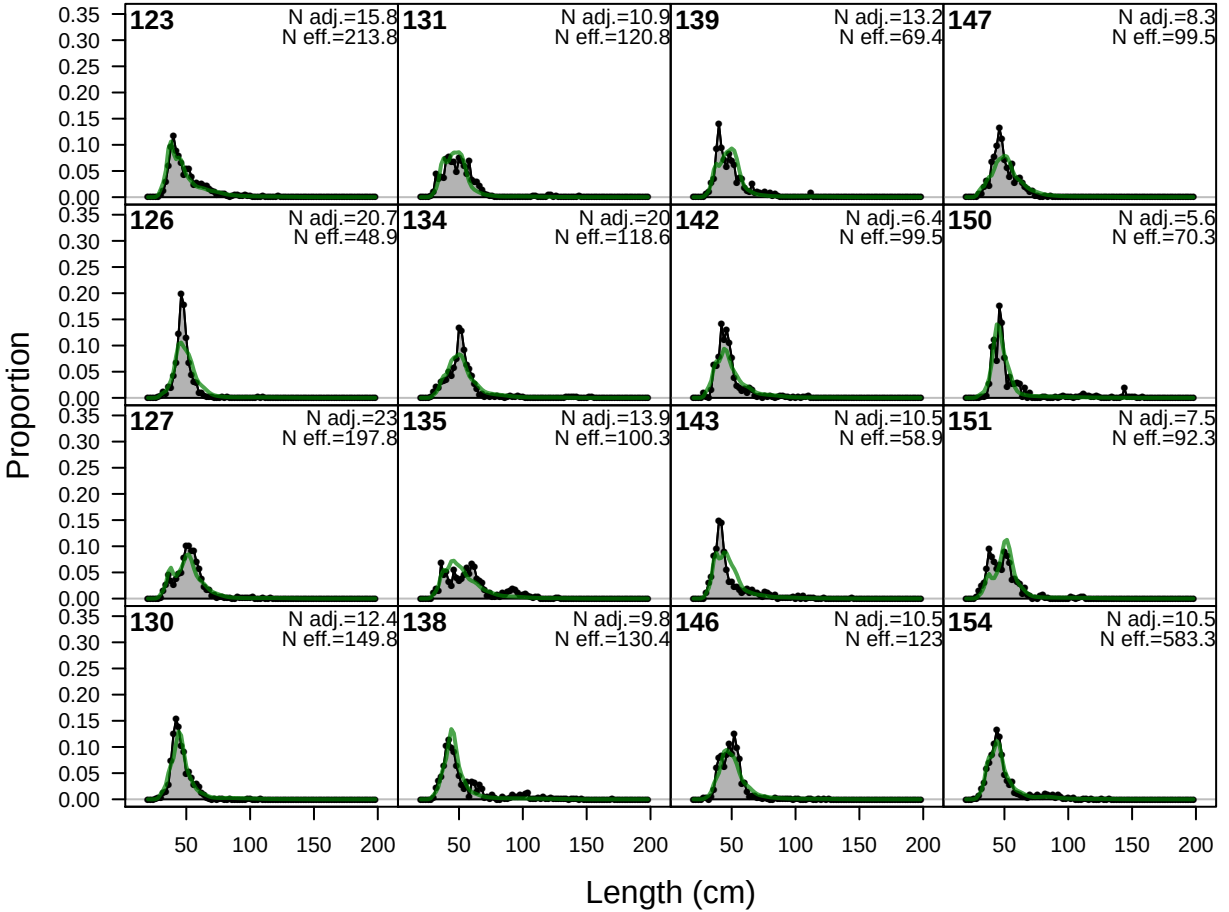


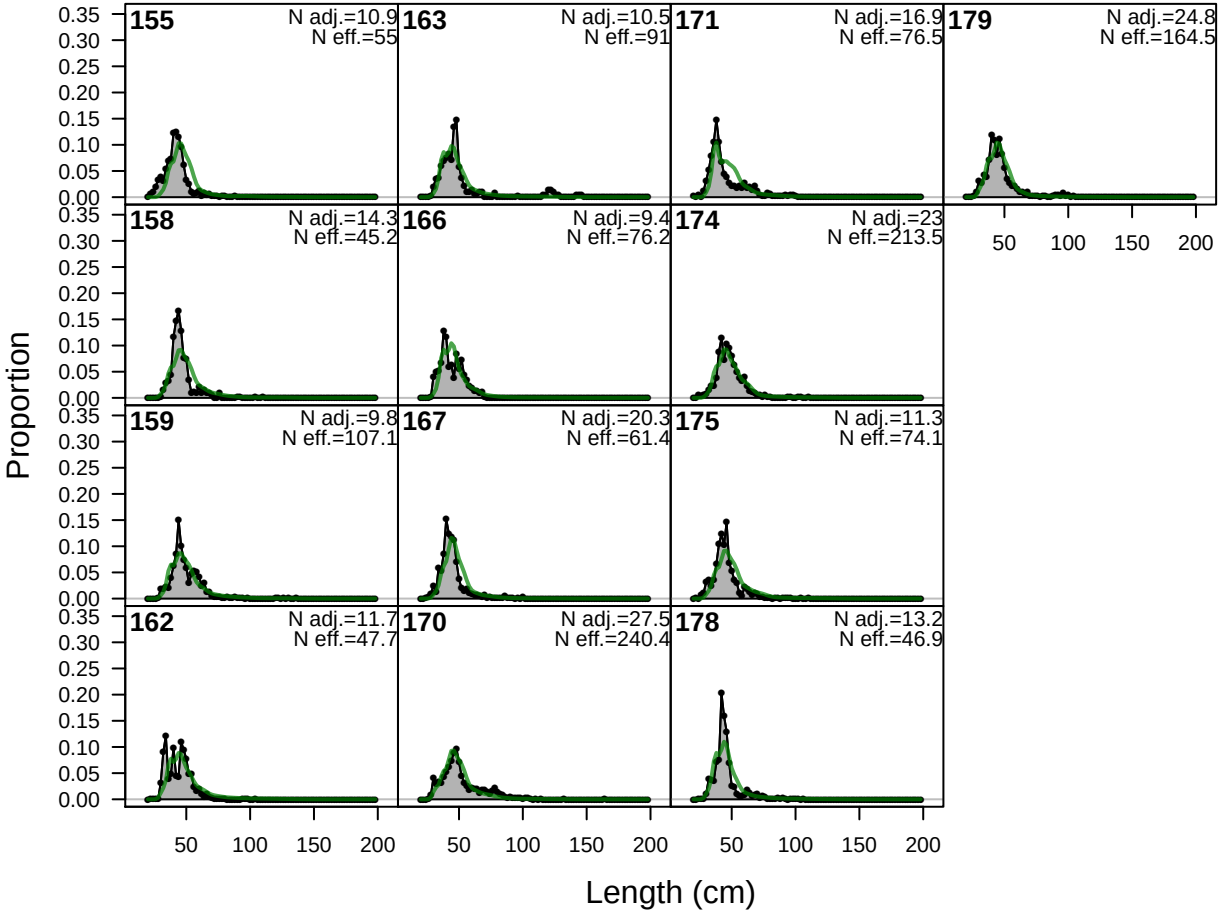
Effective sample size
Observed sample size
0
50
100
150
200
0
2
4
6
8
10
12
harmonic mean
arithmetic mean
157
165
169
125
145
173
117
152
69
77
177
149
161
153
129
137
141
113
133
105
109

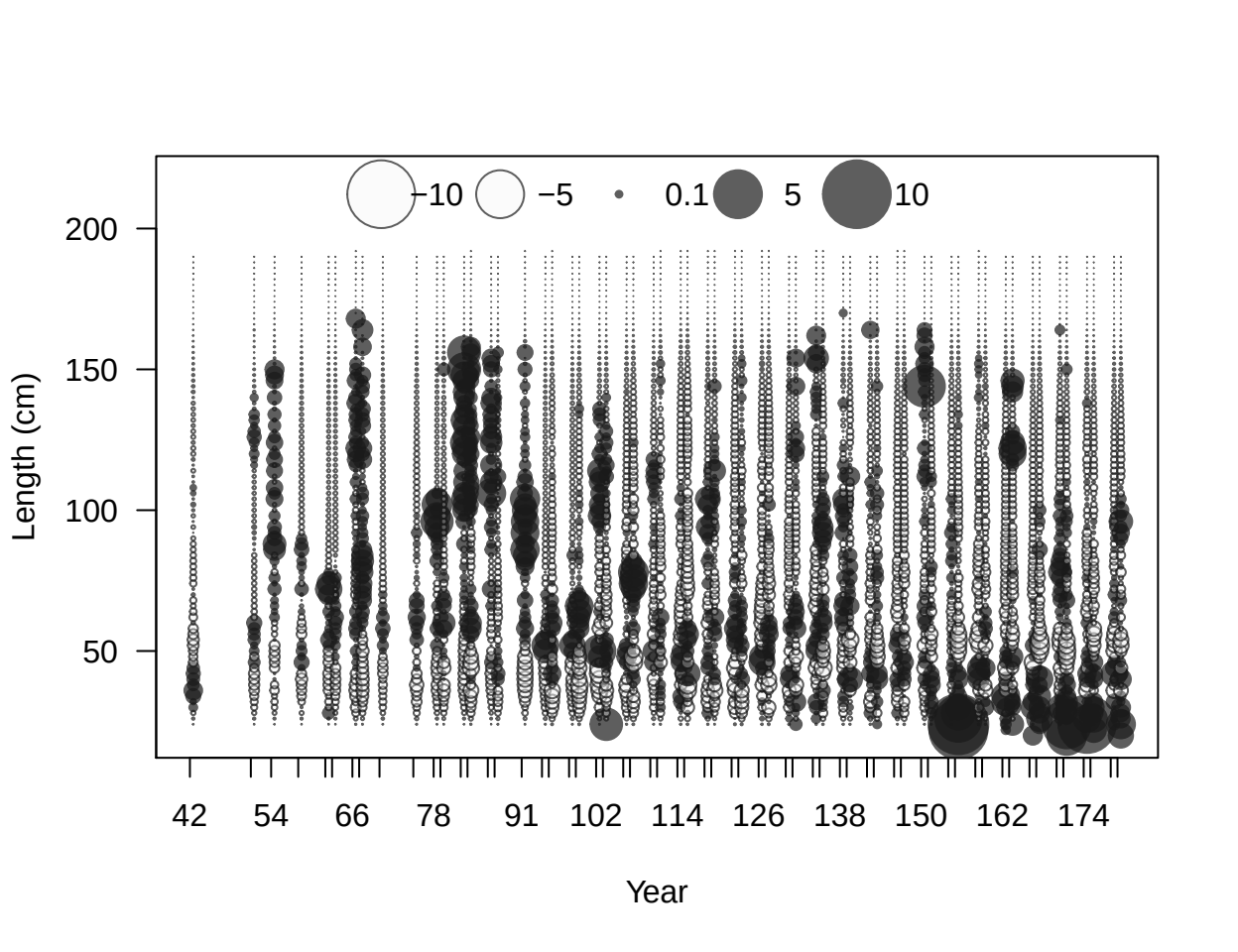

F5−OBJ_S_Q14 (whole catch)
Mean length
200
150
100
50
0
60
80
100
120
140
160
180
Year

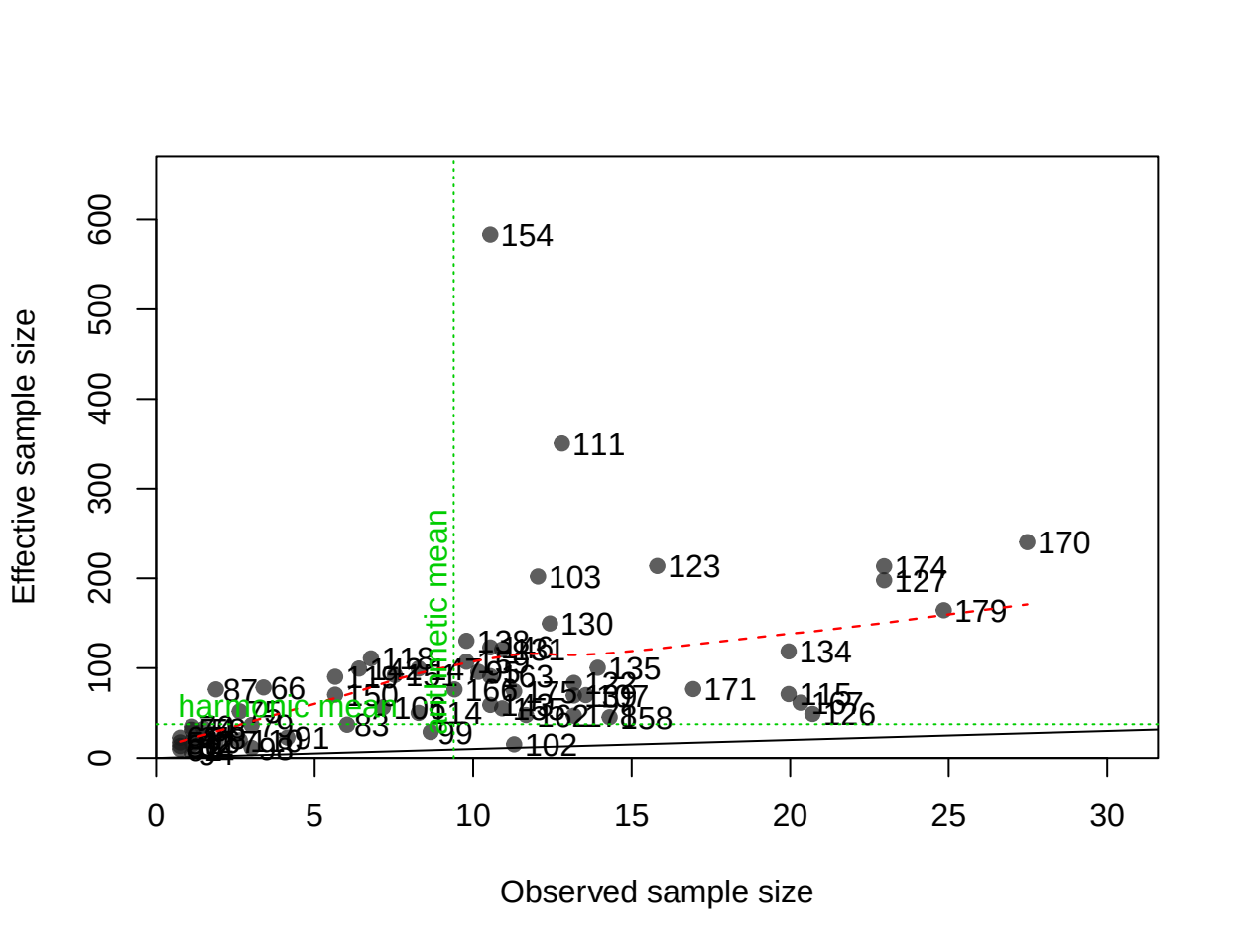

42
N adj.=1.1
N eff.=18.4
62
N adj.=0.8
N eff.=9.8
70
N adj.=1.1
N eff.=34.7
82
N adj.=1.1
N eff.=14.9
51
N adj.=0.8
N eff.=17.3
63
N adj.=0.8
N eff.=22.5
75
N adj.=2.6
N eff.=51.7
83
N adj.=6
N eff.=36.9
54
N adj.=1.1
N eff.=31.3
66
N adj.=3.4
N eff.=78.4
78
N adj.=1.5
N eff.=22.3
86
N adj.=0.8
N eff.=13.4
58
N adj.=1.5
N eff.=32.2
67
N adj.=1.9
N eff.=18.5
79
N adj.=3
N eff.=36.5
87
N adj.=1.9
N eff.=76.2
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

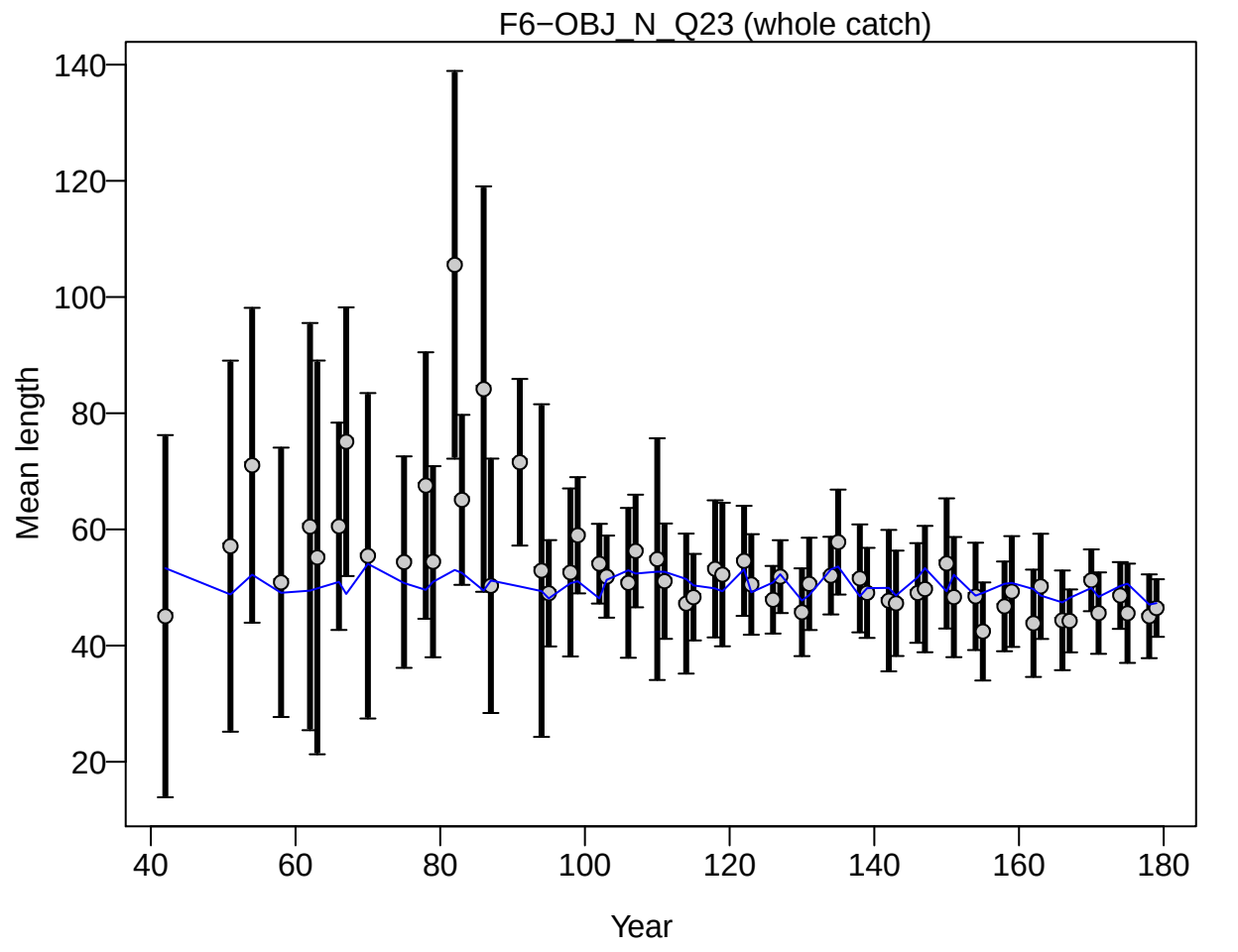

91
N adj.=4.1
N eff.=22.7
99
N adj.=8.7
N eff.=28.8
107
N adj.=13.6
N eff.=69.8
115
N adj.=20
N eff.=71
94
N adj.=1.1
N eff.=4.9
102
N adj.=11.3
N eff.=15.2
110
N adj.=2.6
N eff.=19.7
118
N adj.=6.8
N eff.=110.8
95
N adj.=10.2
N eff.=95.8
103
N adj.=12
N eff.=202
111
N adj.=12.8
N eff.=350.5
119
N adj.=5.6
N eff.=90.3
98
N adj.=3
N eff.=11.2
106
N adj.=7.2
N eff.=56.2
114
N adj.=8.3
N eff.=50
122
N adj.=13.2
N eff.=83.5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

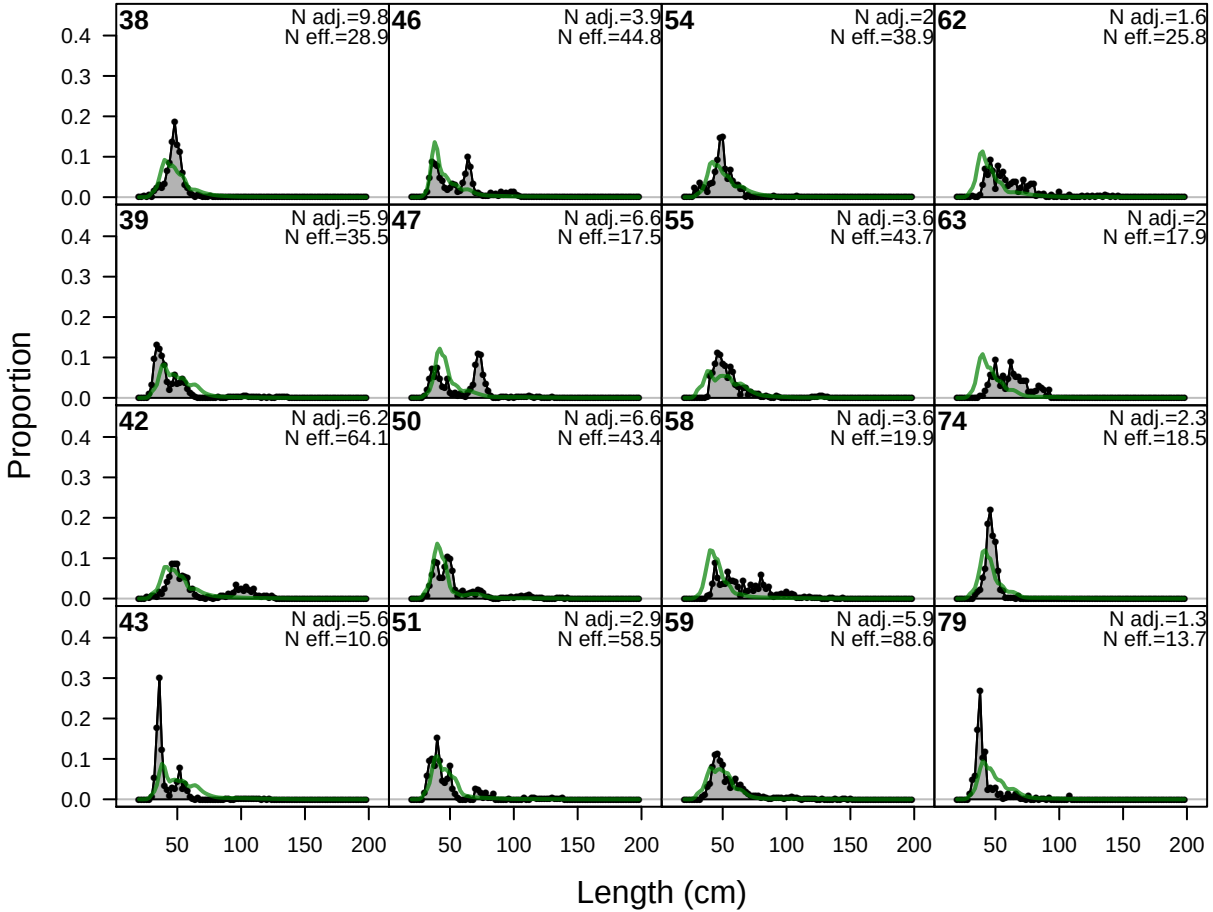

123
N adj.=15.8
N eff.=213.8
131
N adj.=10.9
N eff.=120.8
139
N adj.=13.2
N eff.=69.4
147
N adj.=8.3
N eff.=99.5
126
N adj.=20.7
N eff.=48.9
134
N adj.=20
N eff.=118.6
142
N adj.=6.4
N eff.=99.5
150
N adj.=5.6
N eff.=70.3
127
N adj.=23
N eff.=197.8
135
N adj.=13.9
N eff.=100.3
143
N adj.=10.5
N eff.=58.9
151
N adj.=7.5
N eff.=92.3
130
N adj.=12.4
N eff.=149.8
138
N adj.=9.8
N eff.=130.4
146
N adj.=10.5
N eff.=123
154
N adj.=10.5
N eff.=583.3
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

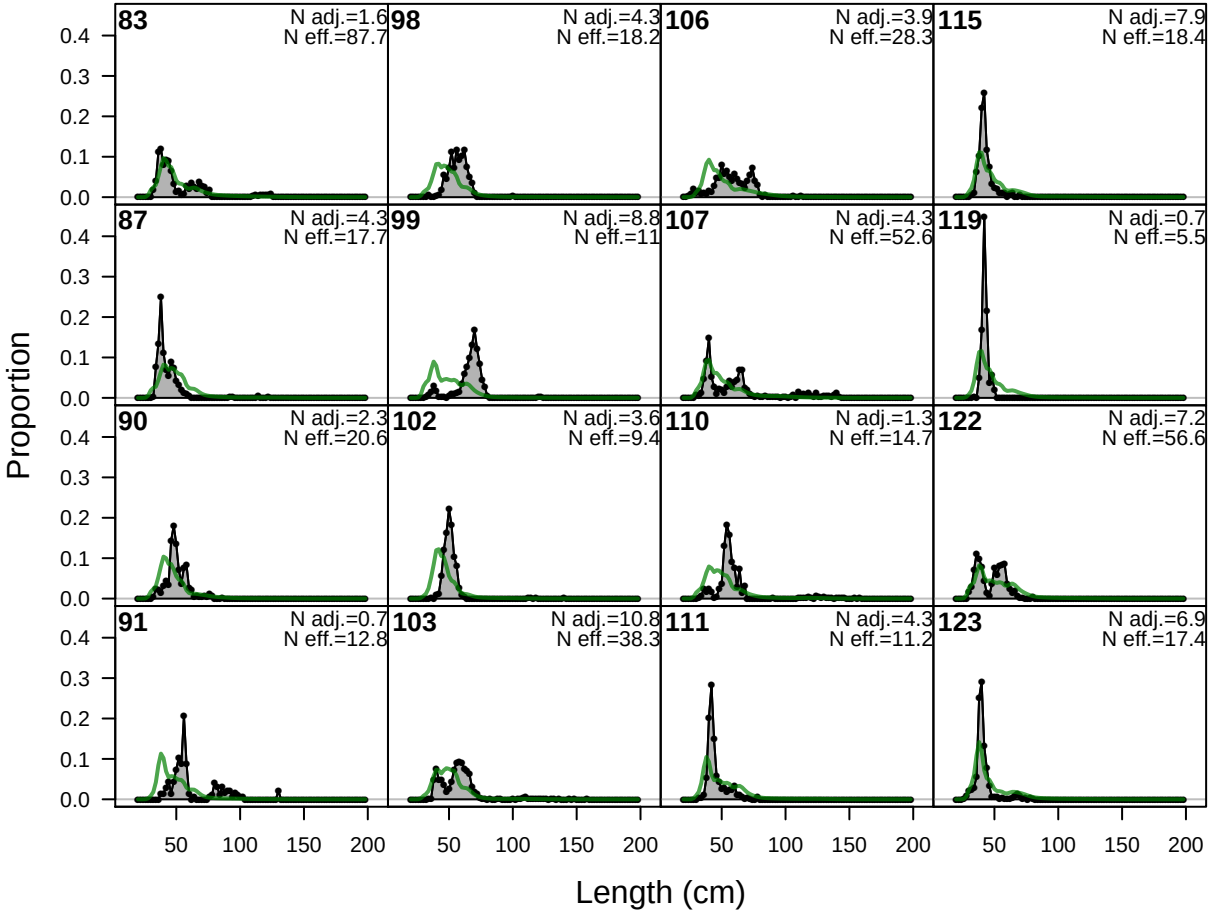

155
N adj.=10.9
N eff.=55
163
N adj.=10.5
N eff.=91
171
N adj.=16.9
N eff.=76.5
179
N adj.=24.8
N eff.=164.5
158
N adj.=14.3
N eff.=45.2
166
N adj.=9.4
N eff.=76.2
174
N adj.=23
N eff.=213.5
159
N adj.=9.8
N eff.=107.1
167
N adj.=20.3
N eff.=61.4
175
N adj.=11.3
N eff.=74.1
162
N adj.=11.7
N eff.=47.7
170
N adj.=27.5
N eff.=240.4
178
N adj.=13.2
N eff.=46.9
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

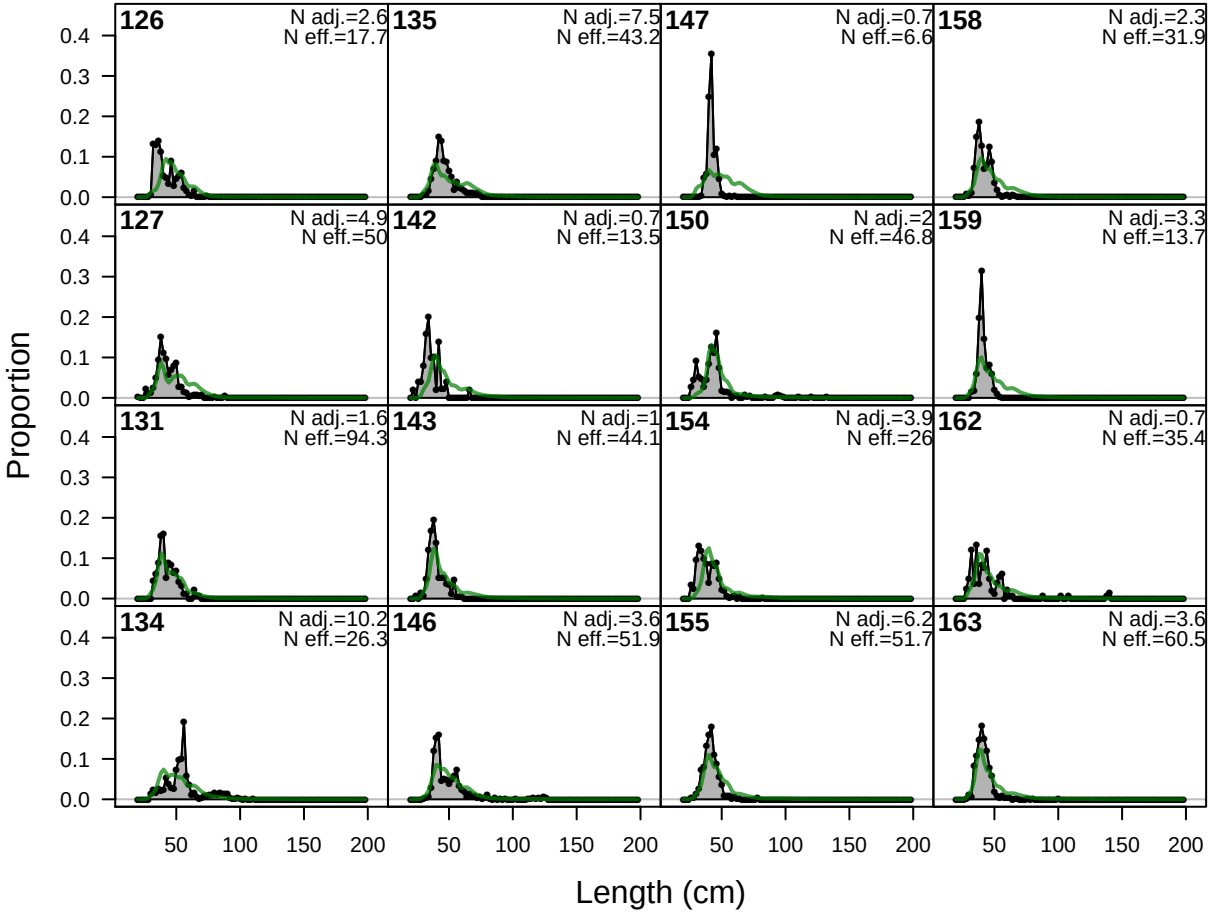

−10
−5
0.1
5
10
200
150
100
50
Length (cm)
42
54
66
78
91
102
114
126
138
150
162
174
Year

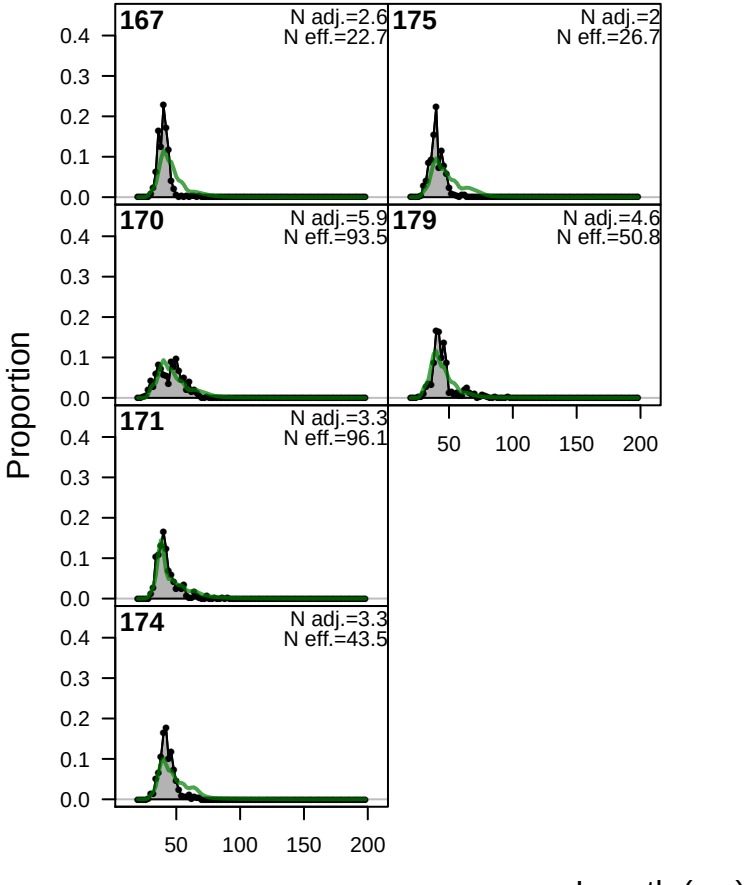

Effective sample size
Observed sample size
0
100
200
300
400
500
600
0
5
10
15
20
25
30
arithmetic mean
harmonic mean
154
111
103
123
174
127
170
179
130
134
135
171
115
126
158
102
99
83
87
66

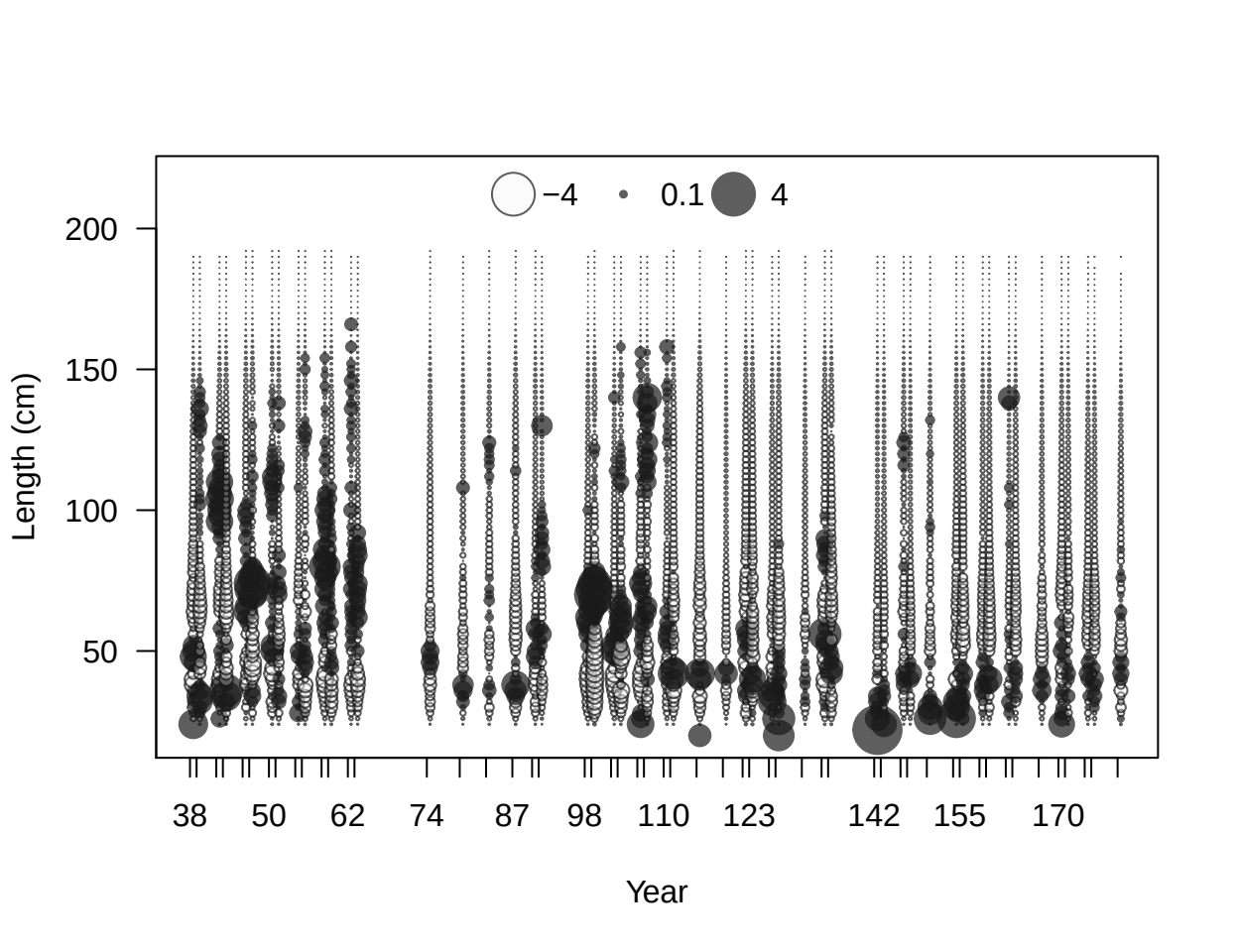

F6−OBJ_N_Q23 (whole catch)
Mean length
Year
140
120
100
80
60
40
20
40
60
80
100
120
140
160
180

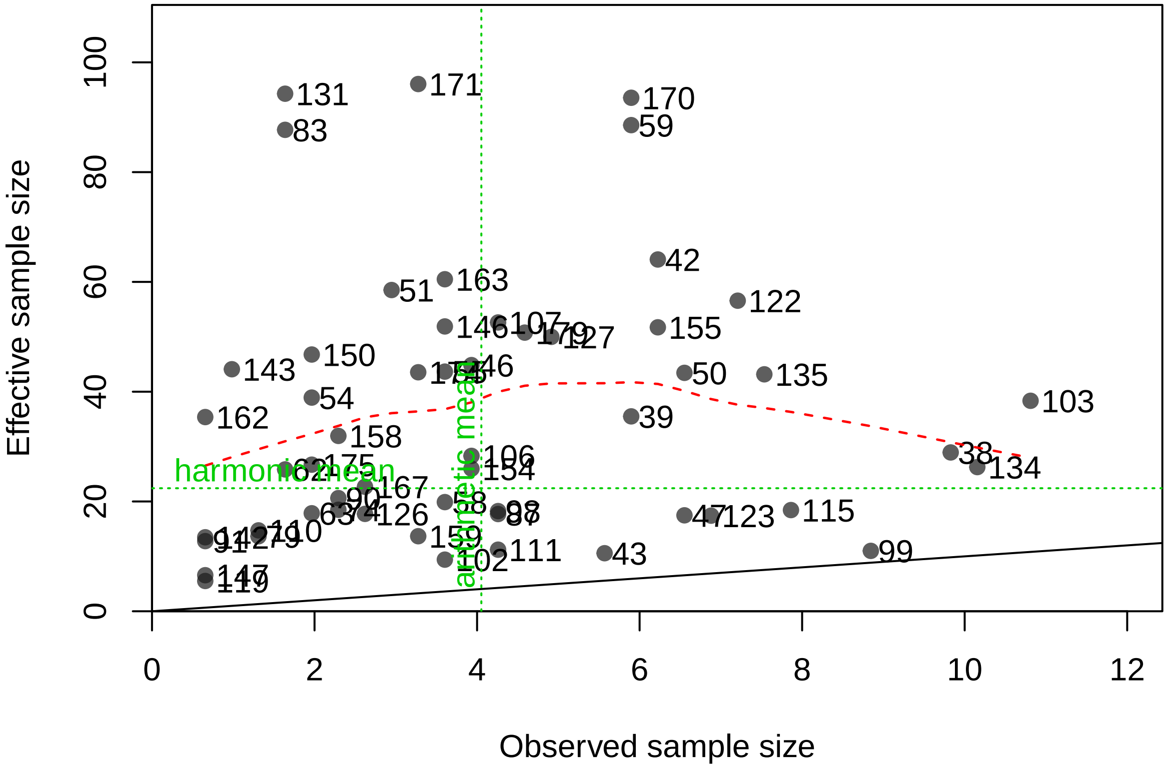

38
N adj.=9.8
N eff.=28.9
46
N adj.=3.9
N eff.=44.8
54
N adj.=2
N eff.=38.9
62
N adj.=1.6
N eff.=25.8
39
N adj.=5.9
N eff.=35.5
47
N adj.=6.6
N eff.=17.5
55
N adj.=3.6
N eff.=43.7
63
N adj.=2
N eff.=17.9
42
N adj.=6.2
N eff.=64.1
50
N adj.=6.6
N eff.=43.4
58
N adj.=3.6
N eff.=19.9
74
N adj.=2.3
N eff.=18.5
43
N adj.=5.6
N eff.=10.6
51
N adj.=2.9
N eff.=58.5
59
N adj.=5.9
N eff.=88.6
79
N adj.=1.3
N eff.=13.7
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

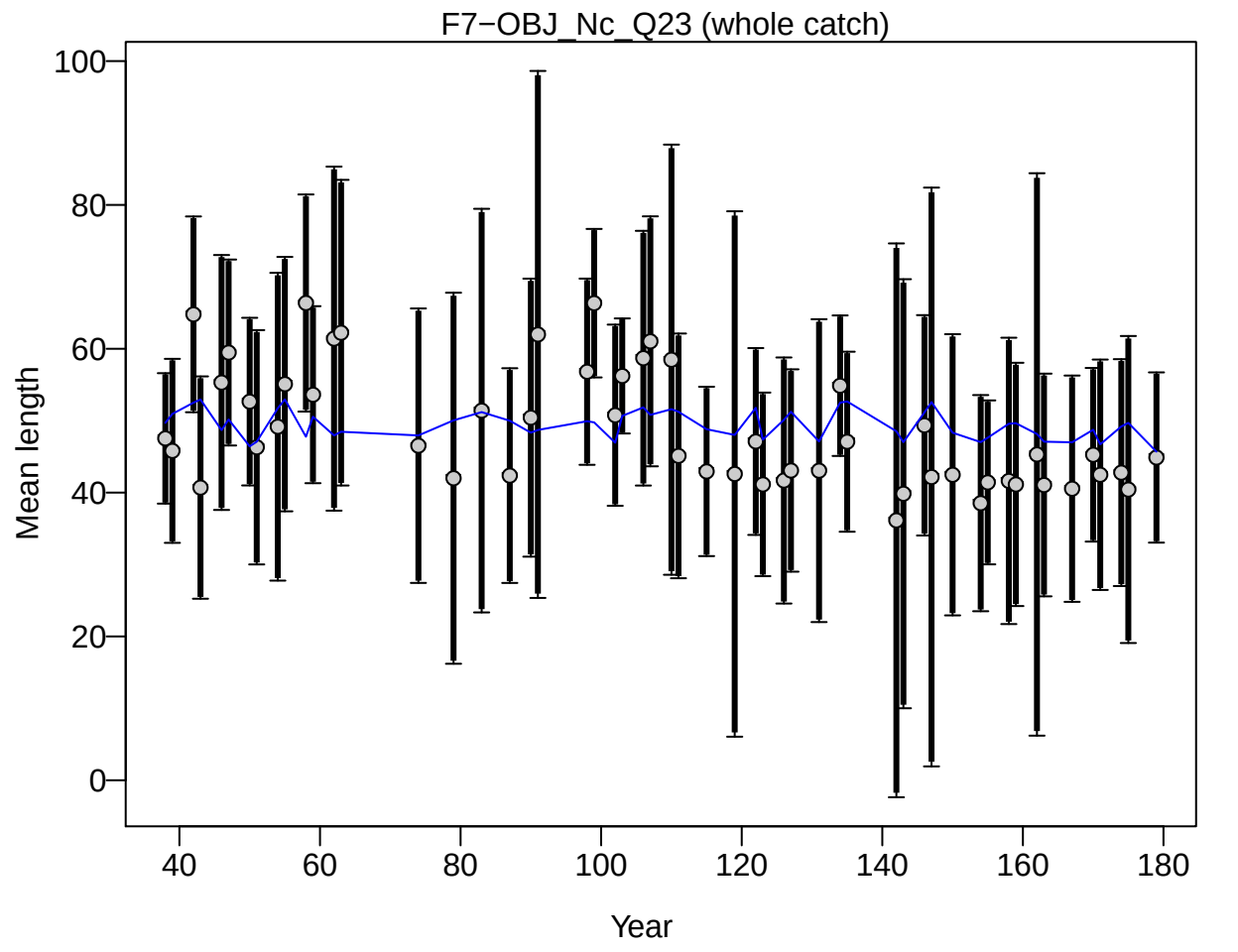

83
N adj.=1.6
N eff.=87.7
98
N adj.=4.3
N eff.=18.2
106
N adj.=3.9
N eff.=28.3
115
N adj.=7.9
N eff.=18.4
87
N adj.=4.3
N eff.=17.7
99
N adj.=8.8
N eff.=11
107
N adj.=4.3
N eff.=52.6
119
N adj.=0.7
N eff.=5.5
90
N adj.=2.3
N eff.=20.6
102
N adj.=3.6
N eff.=9.4
110
N adj.=1.3
N eff.=14.7
122
N adj.=7.2
N eff.=56.6
91
N adj.=0.7
N eff.=12.8
103
N adj.=10.8
N eff.=38.3
111
N adj.=4.3
N eff.=11.2
123
N adj.=6.9
N eff.=17.4
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

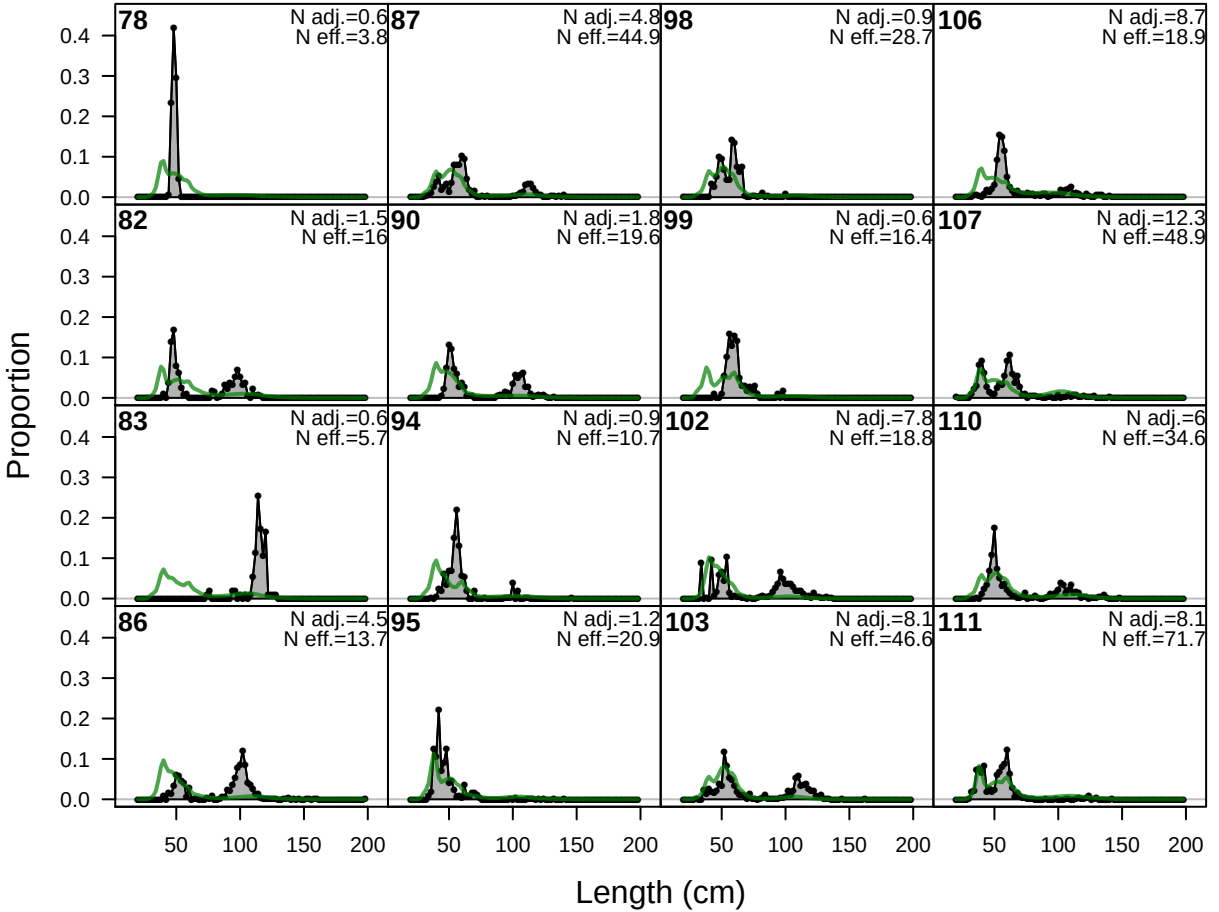

126
N adj.=2.6
N eff.=17.7
135
N adj.=7.5
N eff.=43.2
147
N adj.=0.7
N eff.=6.6
158
N adj.=2.3
N eff.=31.9
127
N adj.=4.9
N eff.=50
142
N adj.=0.7
N eff.=13.5
150
N adj.=2
N eff.=46.8
159
N adj.=3.3
N eff.=13.7
131
N adj.=1.6
N eff.=94.3
143
N adj.=1
N eff.=44.1
154
N adj.=3.9
N eff.=26
162
N adj.=0.7
N eff.=35.4
134
N adj.=10.2
N eff.=26.3
146
N adj.=3.6
N eff.=51.9
155
N adj.=6.2
N eff.=51.7
163
N adj.=3.6
N eff.=60.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

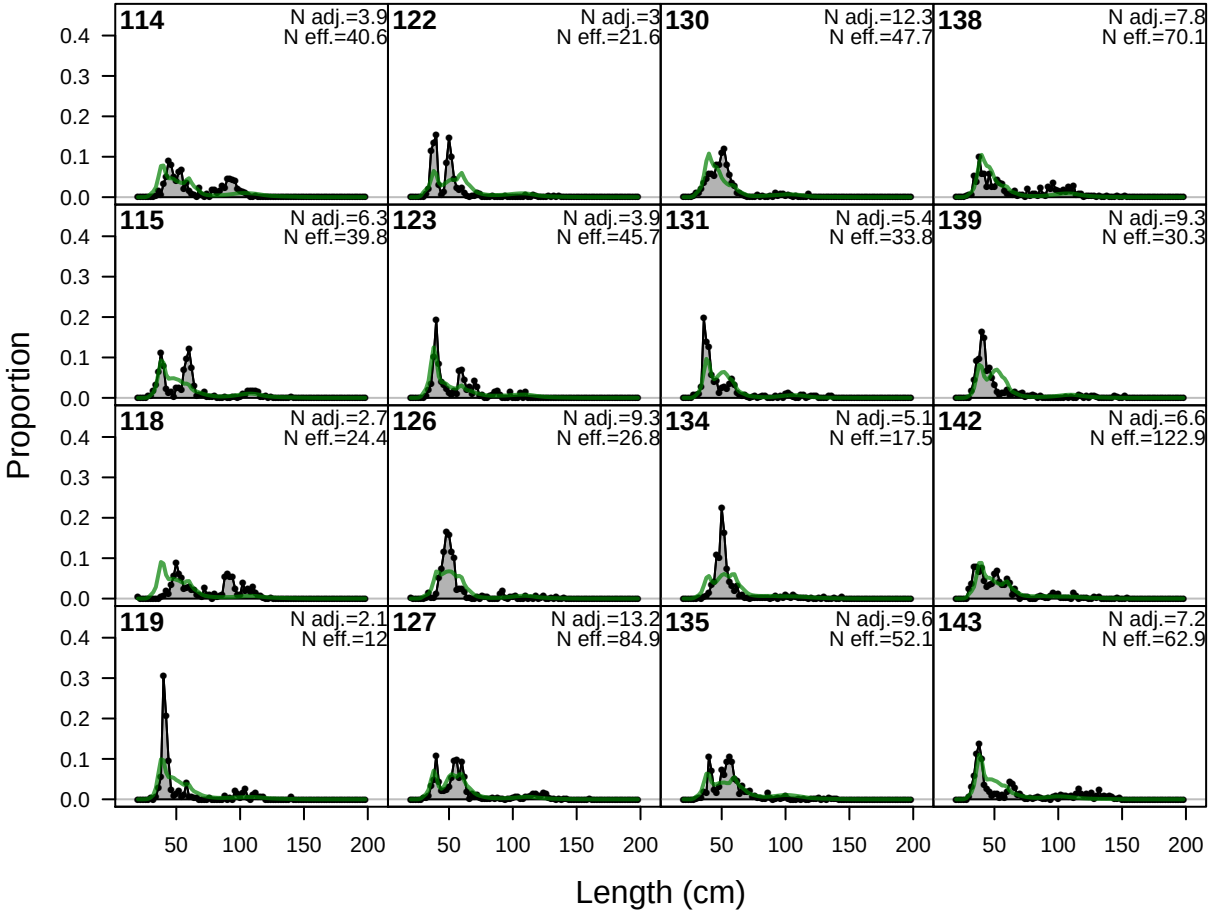

167
N adj.=2.6
N eff.=22.7
175
N adj.=2
N eff.=26.7
170
N adj.=5.9
N eff.=93.5
179
N adj.=4.6
N eff.=50.8
171
N adj.=3.3
N eff.=96.1
174
N adj.=3.3
N eff.=43.5
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Proportion
Length (cm)

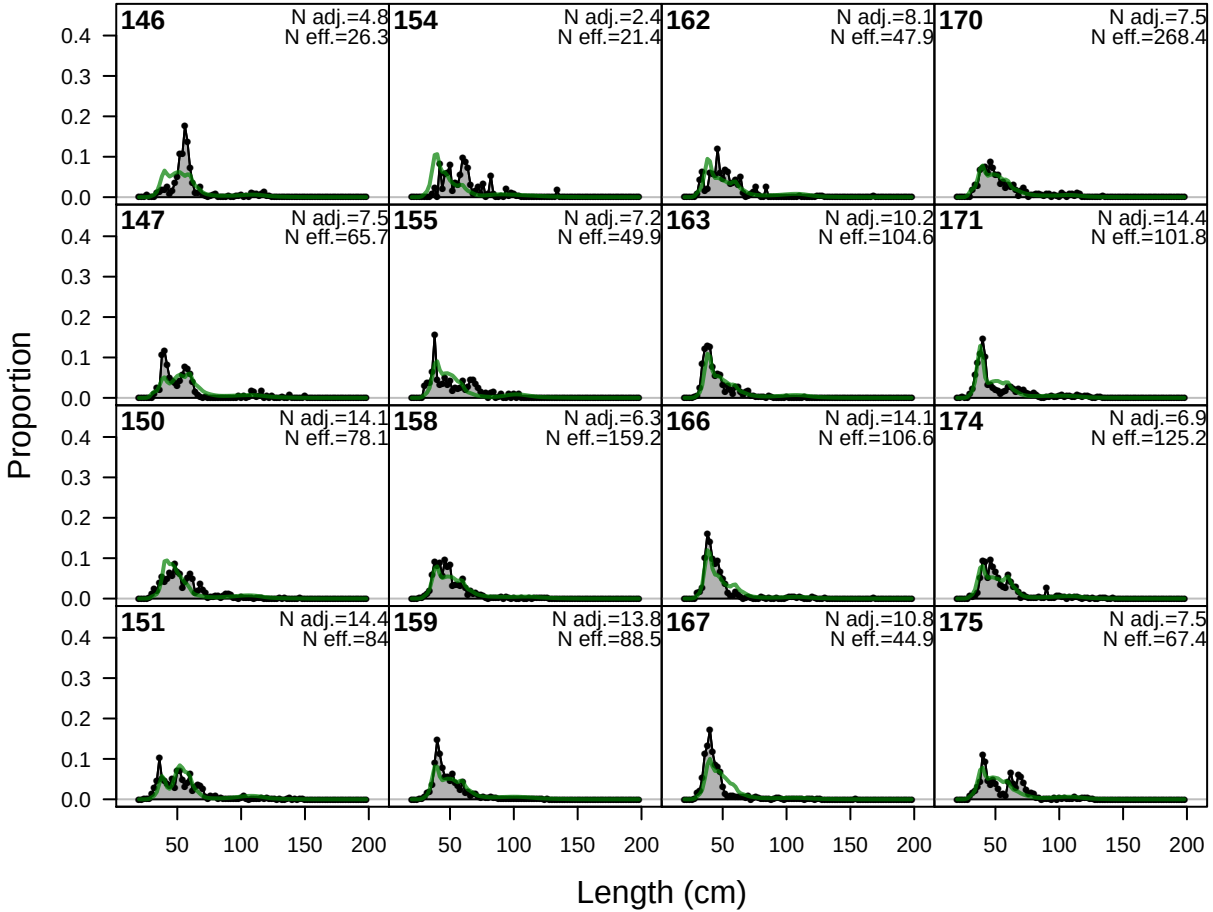

−4
0.1
4
200
150
100
50
Length (cm)
38
50
62
74
87
98
110
123
142
155
170
Year


Effective sample size
Observed sample size
harmonic mean
arithmetic mean
0
20
40
60
80
100
0
2
4
6
8
10
12
131
83
171
170
59
42
163
51
122
146
107
155
150
143
50
135
54
103
162
39
158
106
154
38
134
167
115
126
47
123
111
43
99
102
147
119


F7−OBJ_Nc_Q23 (whole catch)
Mean length
Year
100
80
60
40
20
0
40
60
80
100
120
140
160
180


78
N adj.=0.6
N eff.=3.8
87
N adj.=4.8
N eff.=44.9
98
N adj.=0.9
N eff.=28.7
106
N adj.=8.7
N eff.=18.9
82
N adj.=1.5
N eff.=16
90
N adj.=1.8
N eff.=19.6
99
N adj.=0.6
N eff.=16.4
107
N adj.=12.3
N eff.=48.9
83
N adj.=0.6
N eff.=5.7
94
N adj.=0.9
N eff.=10.7
102
N adj.=7.8
N eff.=18.8
110
N adj.=6
N eff.=34.6
86
N adj.=4.5
N eff.=13.7
95
N adj.=1.2
N eff.=20.9
103
N adj.=8.1
N eff.=46.6
111
N adj.=8.1
N eff.=71.7
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


114
N adj.=3.9
N eff.=40.6
122
N adj.=3
N eff.=21.6
130
N adj.=12.3
N eff.=47.7
138
N adj.=7.8
N eff.=70.1
115
N adj.=6.3
N eff.=39.8
123
N adj.=3.9
N eff.=45.7
131
N adj.=5.4
N eff.=33.8
139
N adj.=9.3
N eff.=30.3
118
N adj.=2.7
N eff.=24.4
126
N adj.=9.3
N eff.=26.8
134
N adj.=5.1
N eff.=17.5
142
N adj.=6.6
N eff.=122.9
119
N adj.=2.1
N eff.=12
127
N adj.=13.2
N eff.=84.9
135
N adj.=9.6
N eff.=52.1
143
N adj.=7.2
N eff.=62.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


146
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N eff.=26.3
154
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N eff.=21.4
162
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N eff.=47.9
170
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N eff.=268.4
147
N adj.=7.5
N eff.=65.7
155
N adj.=7.2
N eff.=49.9
163
N adj.=10.2
N eff.=104.6
171
N adj.=14.4
N eff.=101.8
150
N adj.=14.1
N eff.=78.1
158
N adj.=6.3
N eff.=159.2
166
N adj.=14.1
N eff.=106.6
174
N adj.=6.9
N eff.=125.2
151
N adj.=14.4
N eff.=84
159
N adj.=13.8
N eff.=88.5
167
N adj.=10.8
N eff.=44.9
175
N adj.=7.5
N eff.=67.4
Proportion
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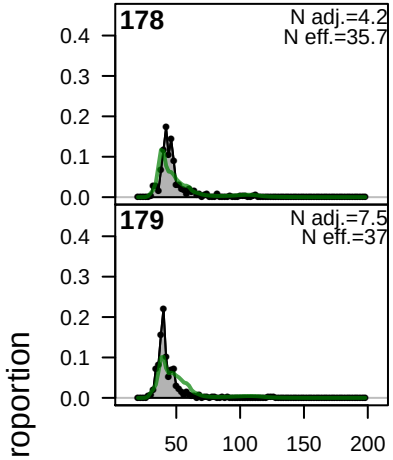
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)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N eff.=35.7
179
N adj.=7.5
N eff.=37
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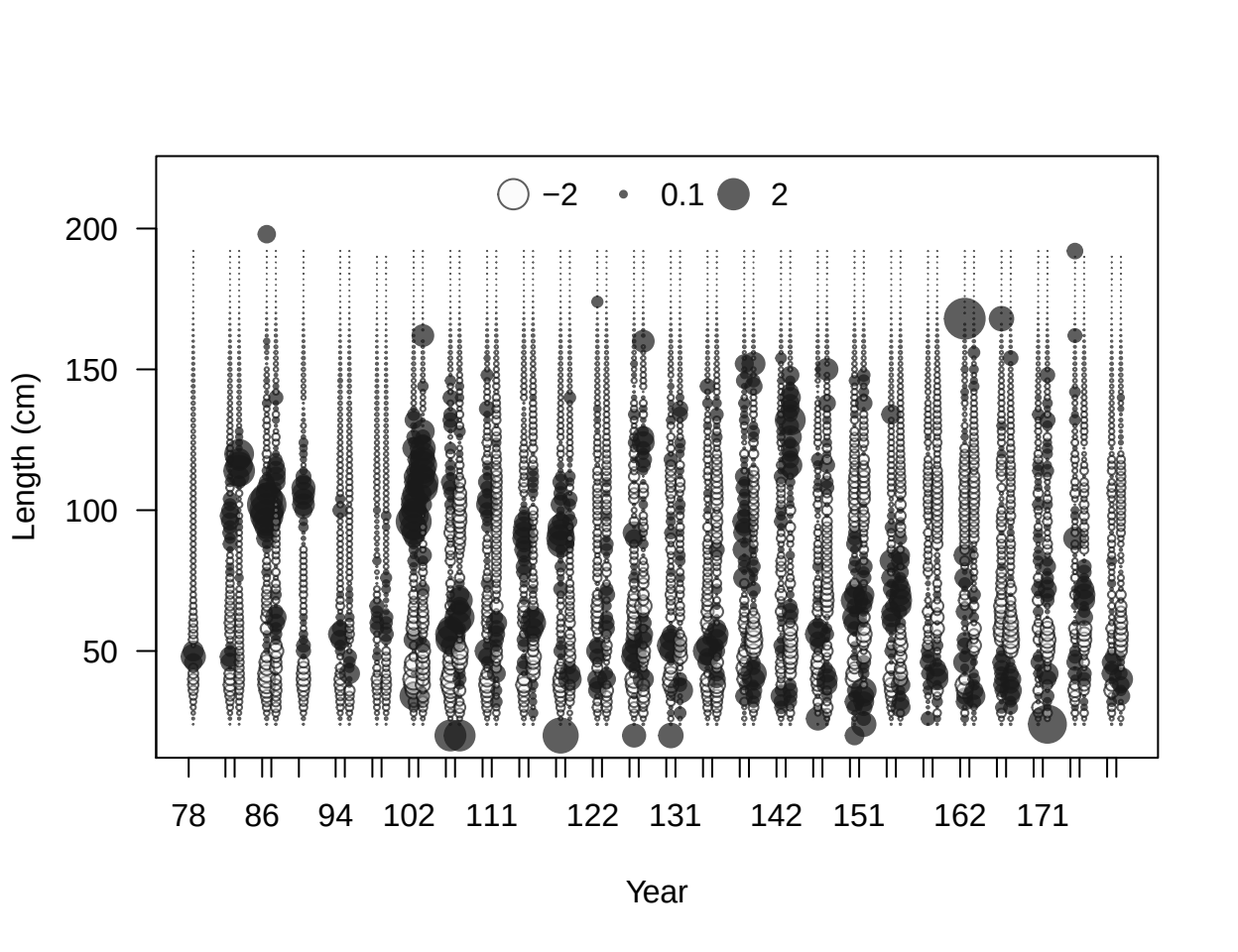
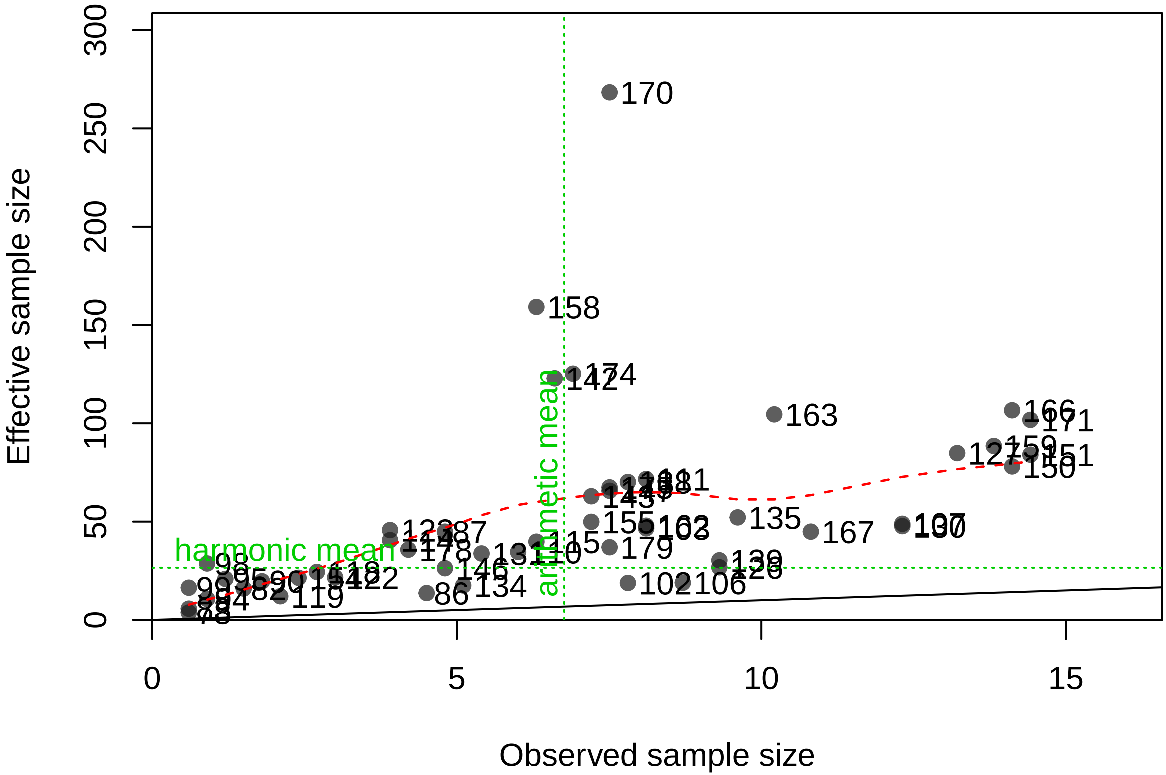
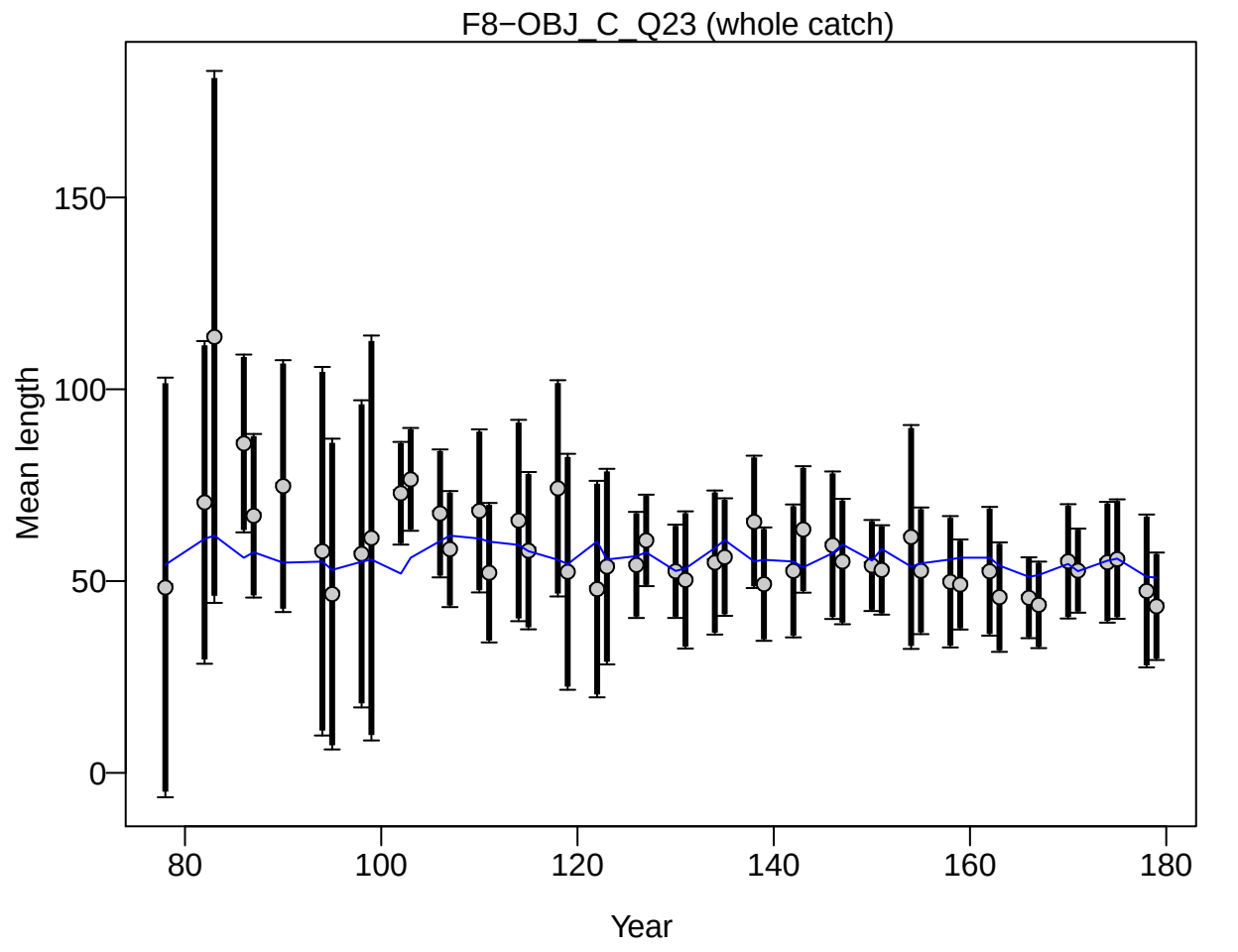
0.1
0.2
0.3
0.4
50
100
150
200
Proportion

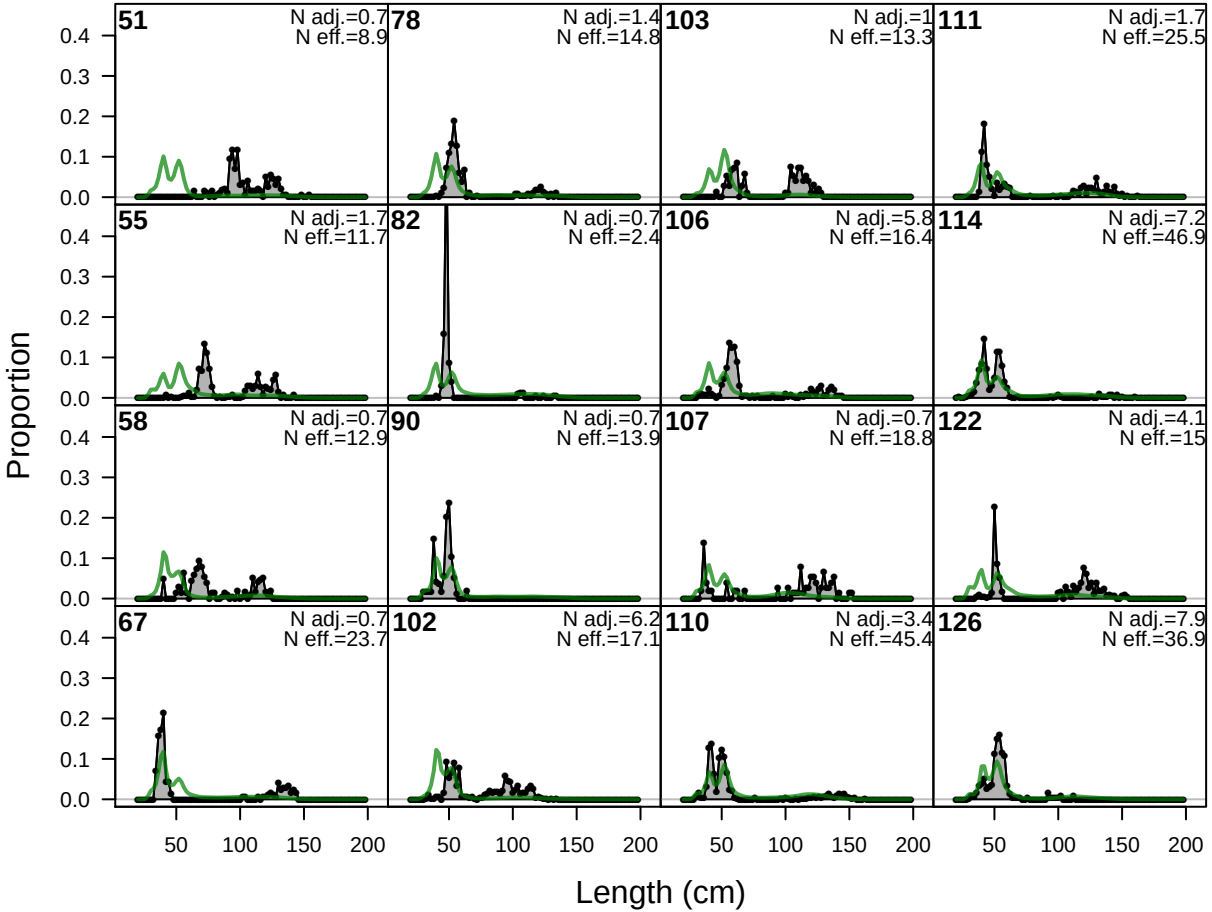
Length (cm)


−2
0.1
2
200
150
100
50
Length (cm)
78
86
94
102
111
122
131
142
151
162
171
Year



Effective sample size
Observed sample size
harmonic mean
arithmetic mean
0
50
100
150
200
250
300
5
10
15
170
158
163
166
171
135
167
179


F8−OBJ_C_Q23 (whole catch)
Mean length
150
100
50
0
80
100
120
140
160
180
Year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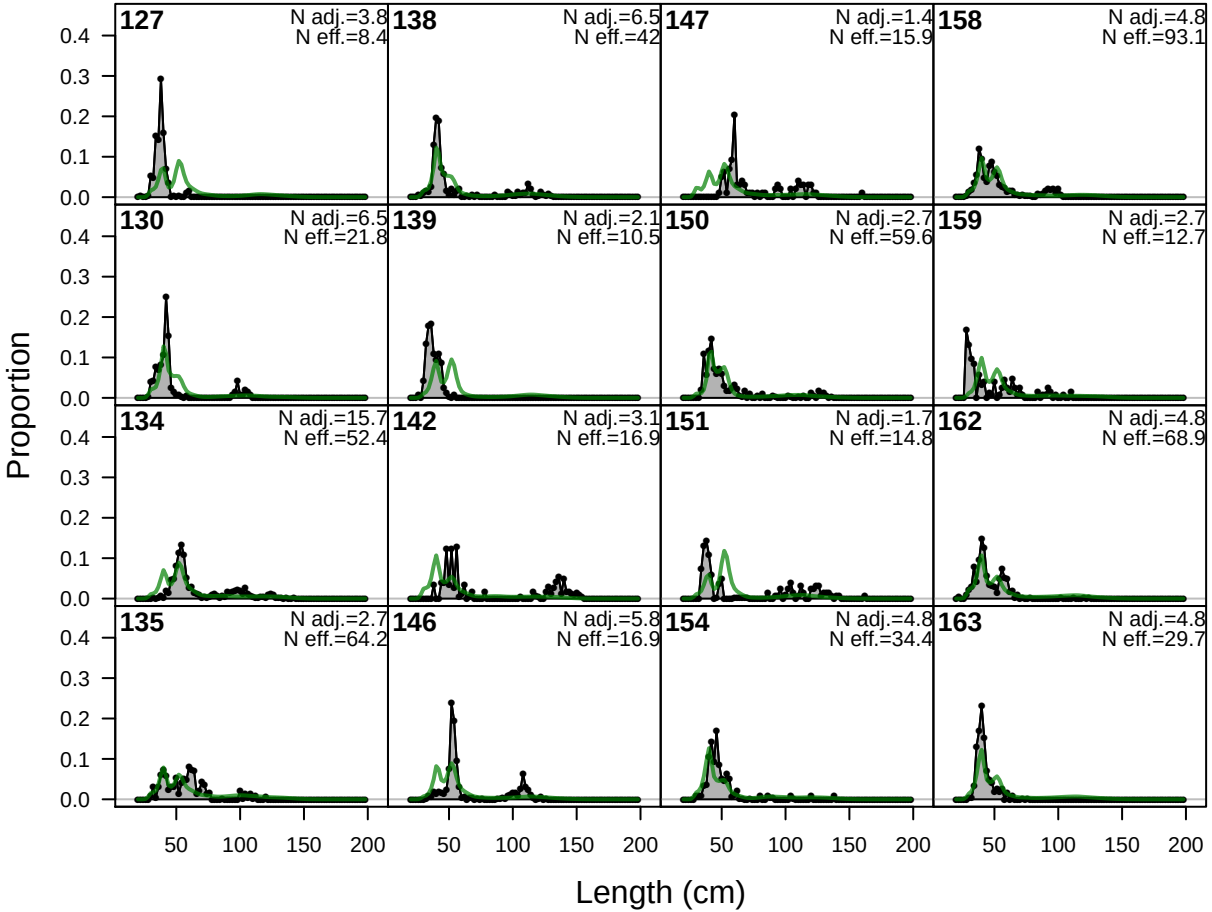
N eff.=8.9
78
N adj.=1.4
N eff.=14.8
103
N adj.=1
N eff.=13.3
111
N adj.=1.7
N eff.=25.5
55
N adj.=1.7
N eff.=11.7
82
N adj.=0.7
N eff.=2.4
106
N adj.=5.8
N eff.=16.4
114
N adj.=7.2
N eff.=46.9
58
N adj.=0.7
N eff.=12.9
90
N adj.=0.7
N eff.=13.9
107
N adj.=0.7
N eff.=18.8
122
N adj.=4.1
N eff.=15
67
N adj.=0.7
N eff.=23.7
102
N adj.=6.2
N eff.=17.1
110
N adj.=3.4
N eff.=45.4
126
N adj.=7.9
N eff.=36.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)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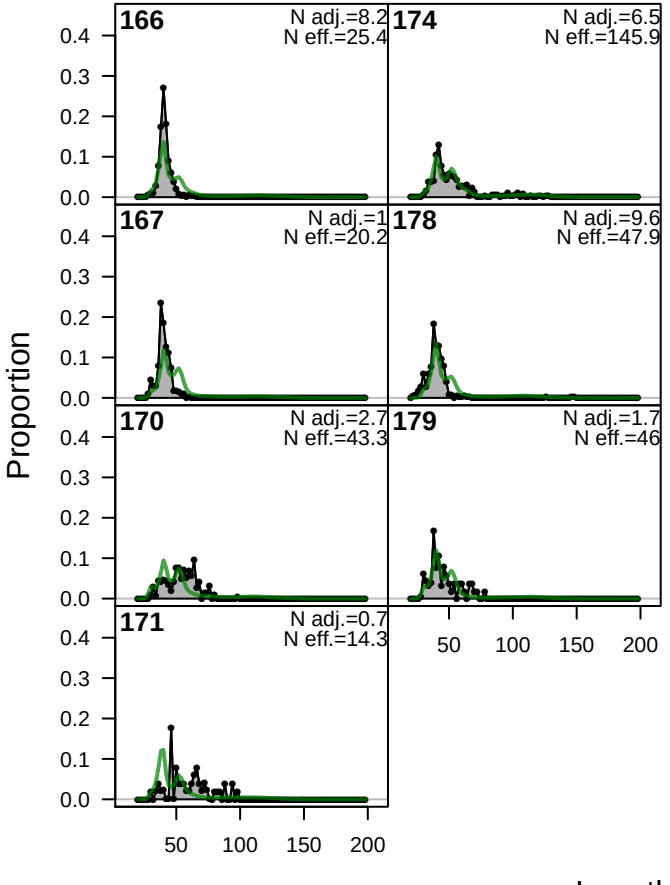
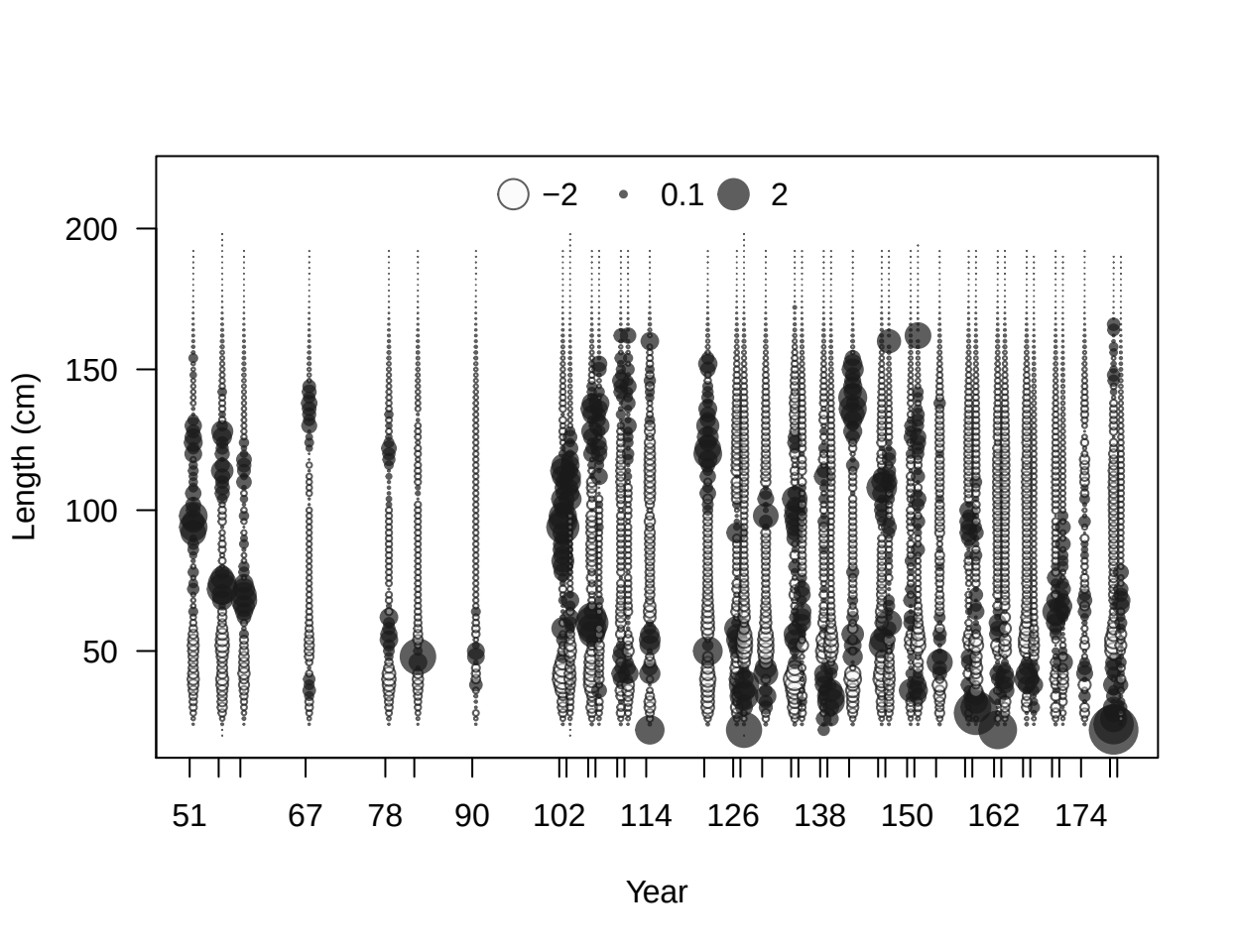
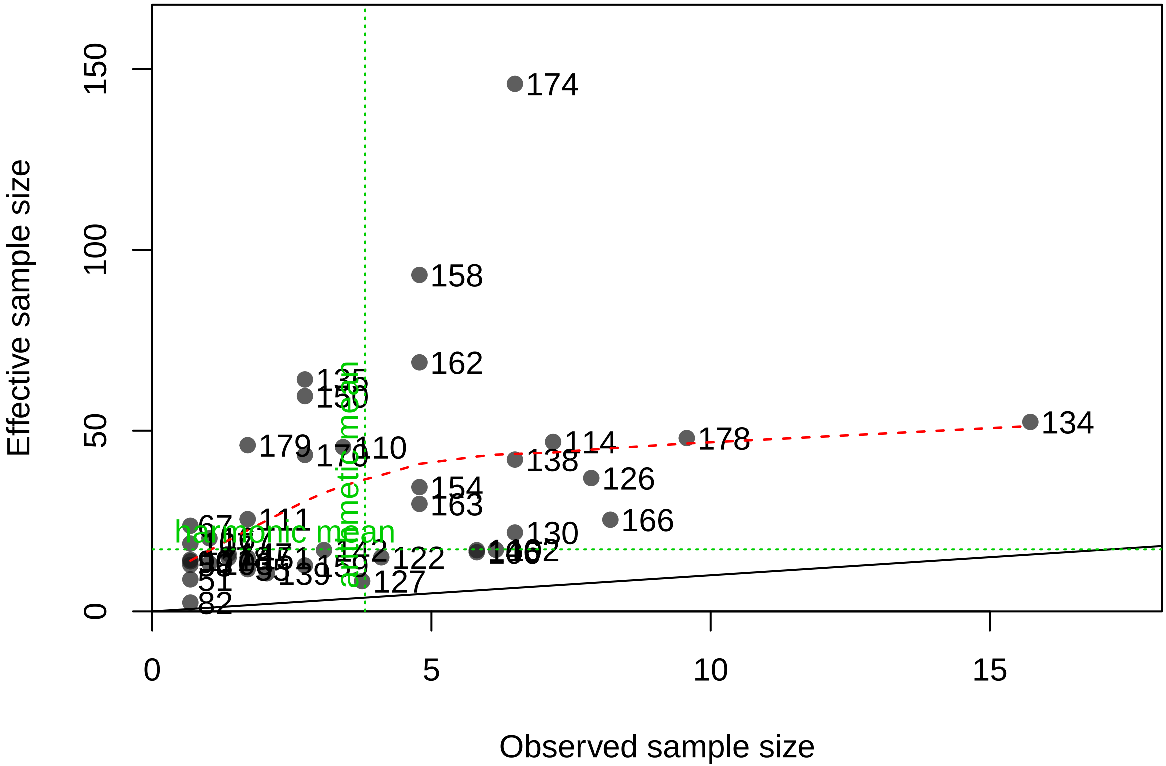
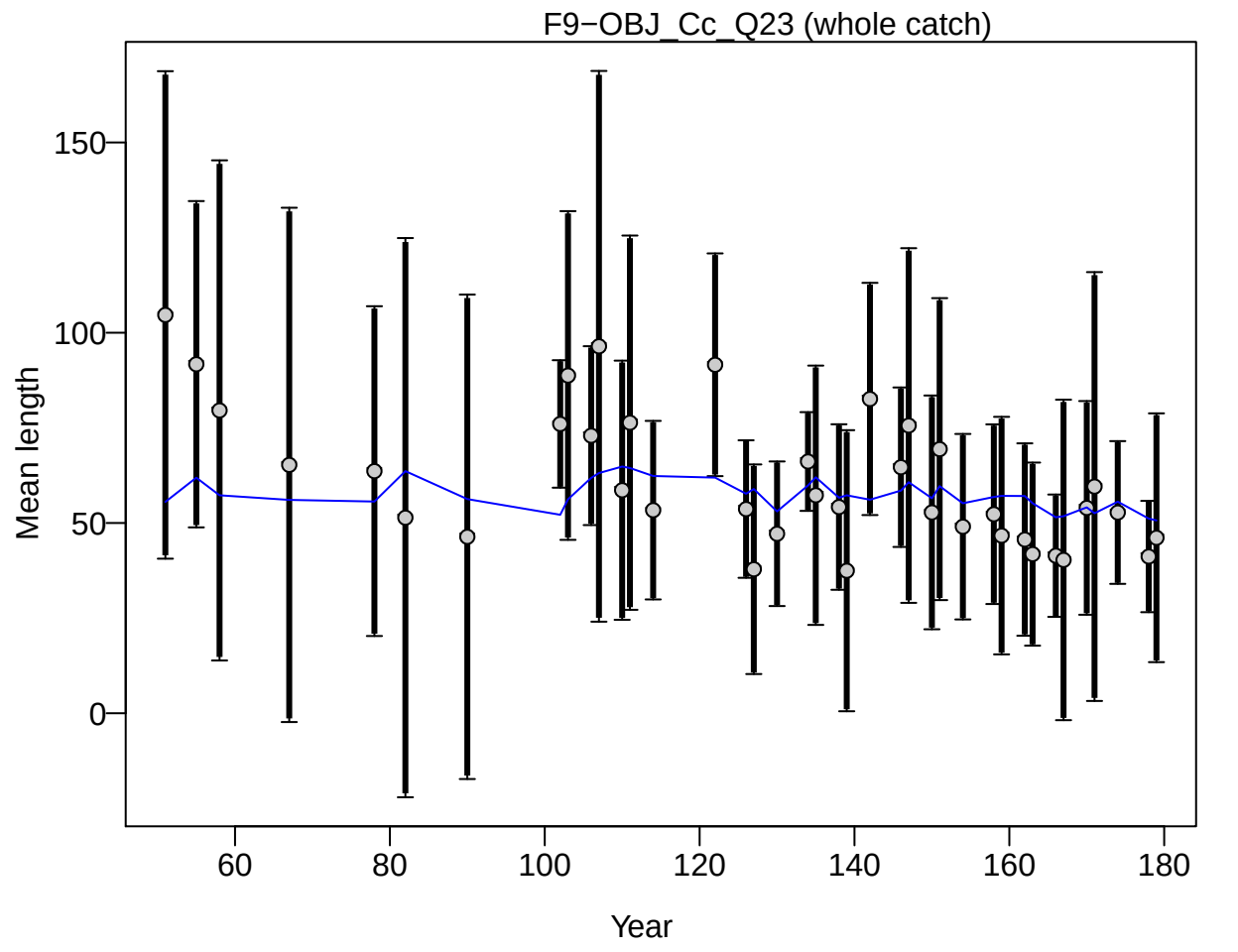
N eff.=8.4
138
N adj.=6.5
N eff.=42
147
N adj.=1.4
N eff.=15.9
158
N adj.=4.8
N eff.=93.1
130
N adj.=6.5
N eff.=21.8
139
N adj.=2.1
N eff.=10.5
150
N adj.=2.7
N eff.=59.6
159
N adj.=2.7
N eff.=12.7
134
N adj.=15.7
N eff.=52.4
142
N adj.=3.1
N eff.=16.9
151
N adj.=1.7
N eff.=14.8
162
N adj.=4.8
N eff.=68.9
135
N adj.=2.7
N eff.=64.2
146
N adj.=5.8
N eff.=16.9
154
N adj.=4.8
N eff.=34.4
163
N adj.=4.8
N eff.=29.7
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

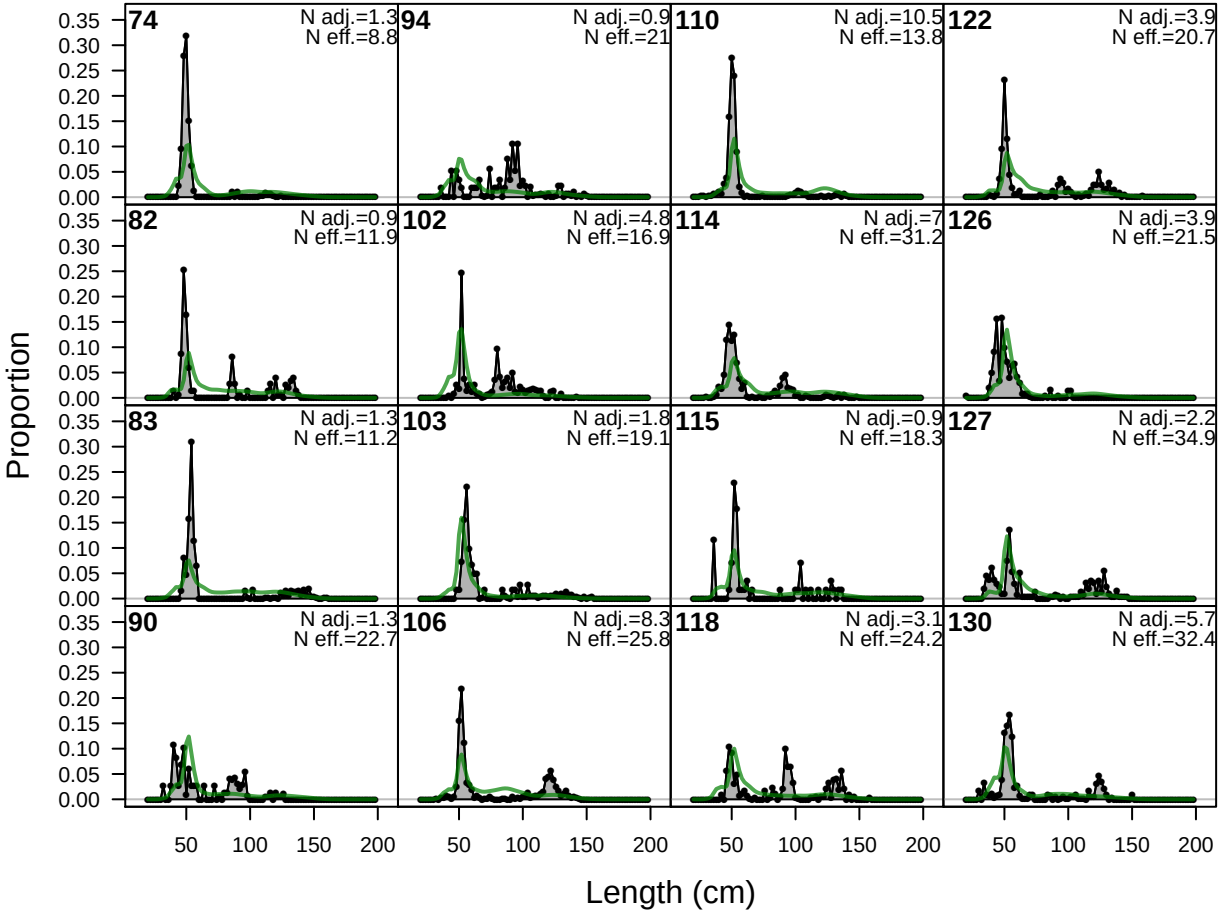

166
N adj.=8.2
N eff.=25.4
174
N adj.=6.5
N eff.=145.9
167
N adj.=1
N eff.=20.2
178
N adj.=9.6
N eff.=47.9
170
N adj.=2.7
N eff.=43.3
179
N adj.=1.7
N eff.=46
171
N adj.=0.7
N eff.=14.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

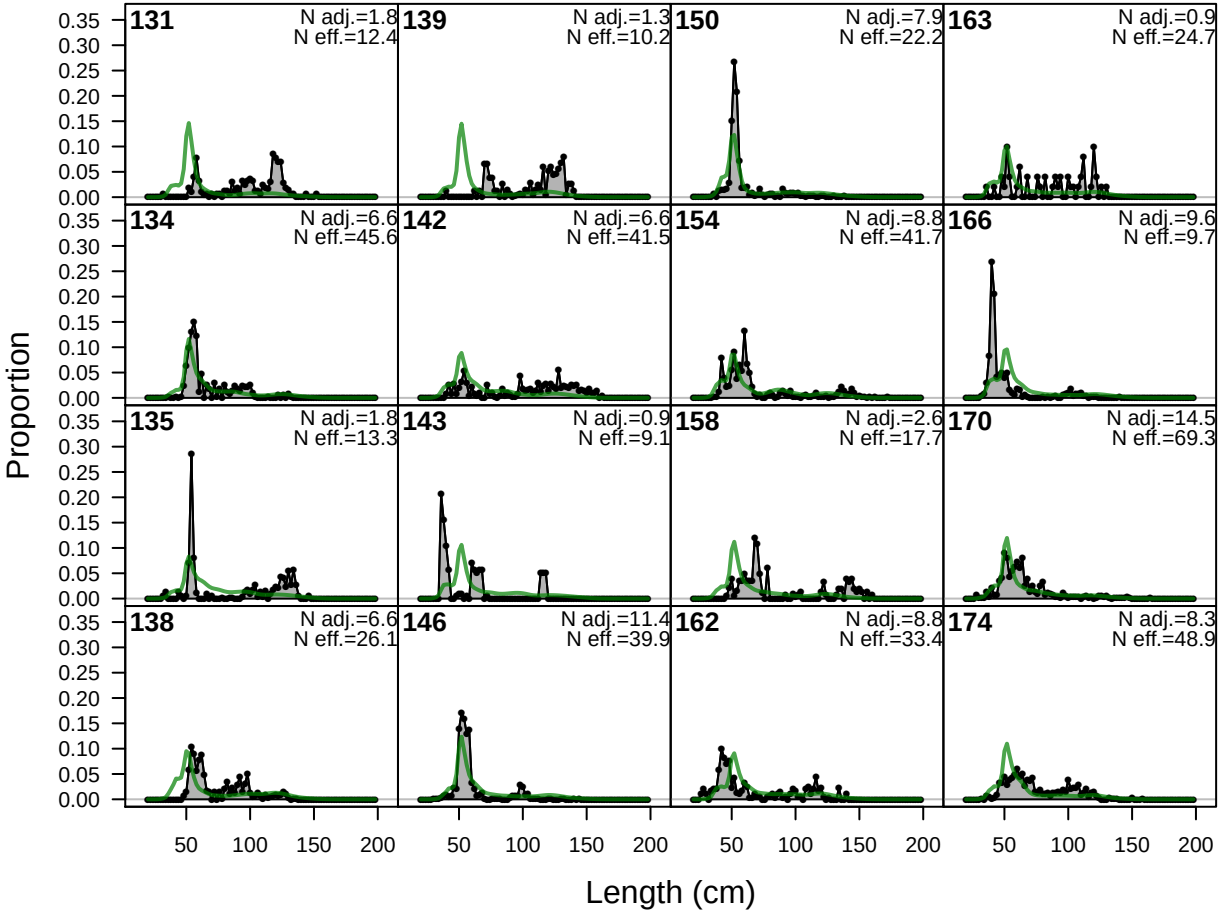

−2
0.1
2
200
150
100
50
Length (cm)
51
67
78
90
102
114
126
138
150
162
174
Year



Effective sample size
Observed sample size
0
50
100
150
0
5
10
15
harmonic mean
arithmetic mean
174
158
162
134
178
114
138
126
110
179
154
163
166
130
111
67
122
139
127
82
51


F9−OBJ_Cc_Q23 (whole catch)
Mean length
150
100
50
0
60
80
100
120
140
160
180
Year


74
N adj.=1.3
N eff.=8.8
94
N adj.=0.9
N eff.=21
110
N adj.=10.5
N eff.=13.8
122
N adj.=3.9
N eff.=20.7
82
N adj.=0.9
N eff.=11.9
102
N adj.=4.8
N eff.=16.9
114
N adj.=7
N eff.=31.2
126
N adj.=3.9
N eff.=21.5
83
N adj.=1.3
N eff.=11.2
103
N adj.=1.8
N eff.=19.1
115
N adj.=0.9
N eff.=18.3
127
N adj.=2.2
N eff.=34.9
90
N adj.=1.3
N eff.=22.7
106
N adj.=8.3
N eff.=25.8
118
N adj.=3.1
N eff.=24.2
130
N adj.=5.7
N eff.=32.4
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)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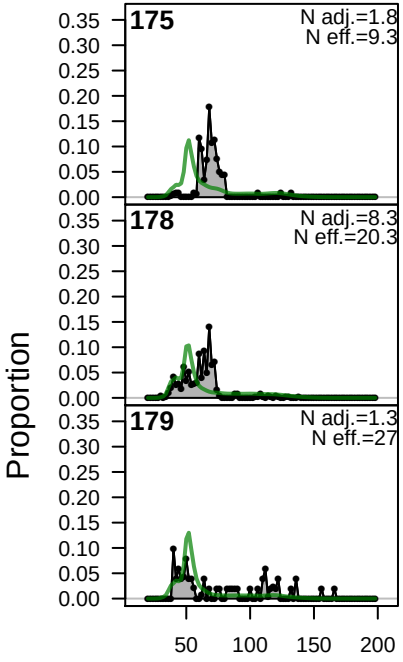
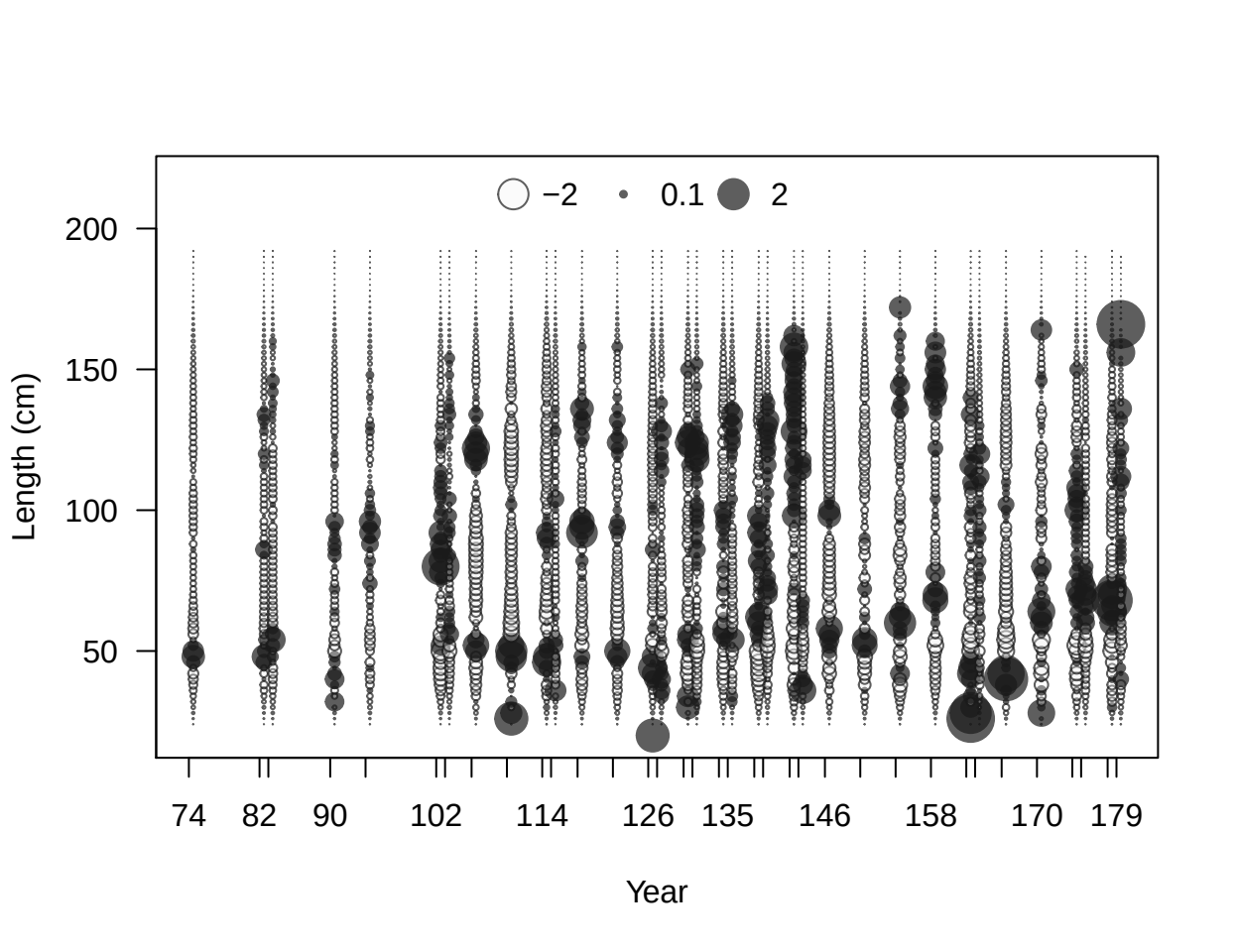
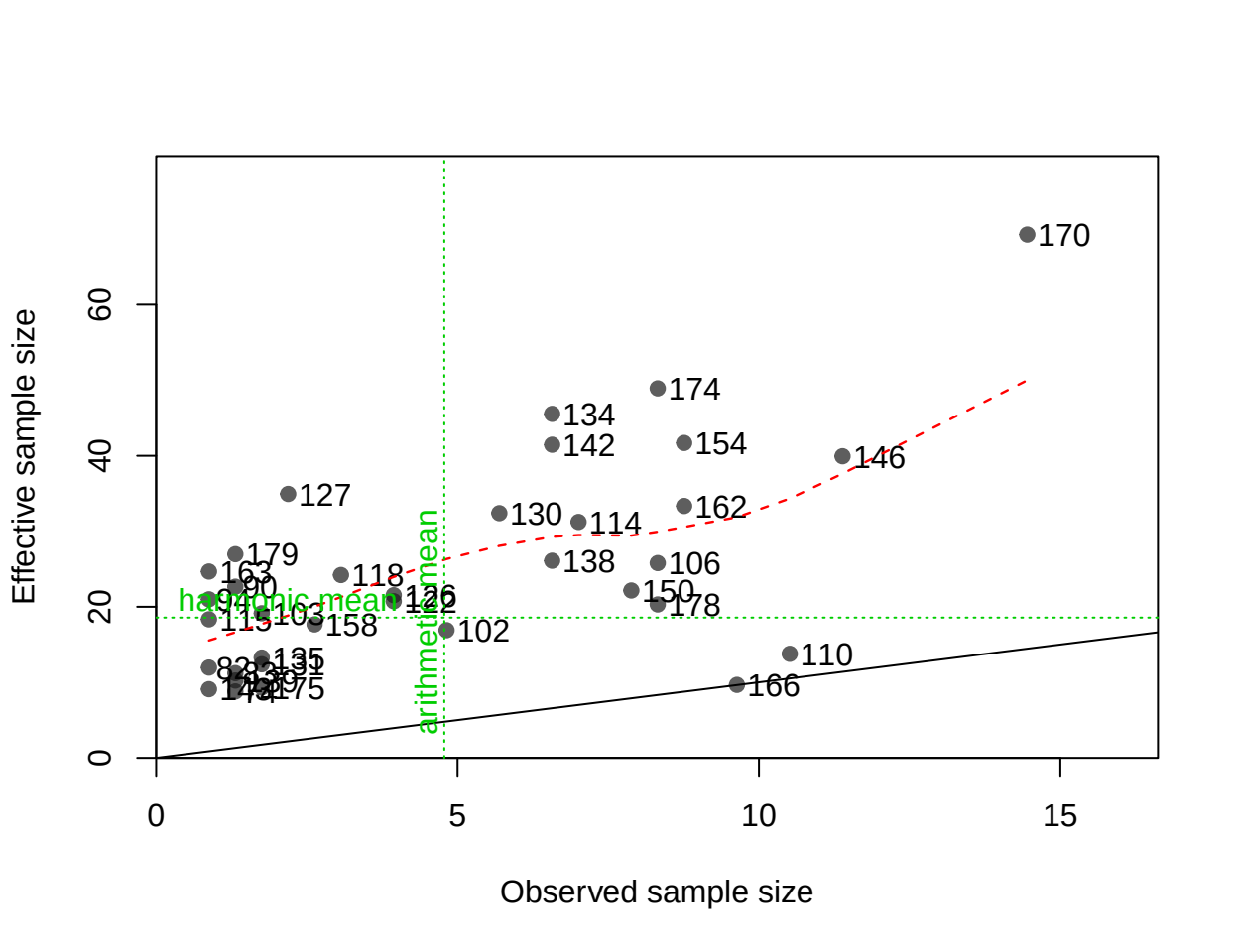
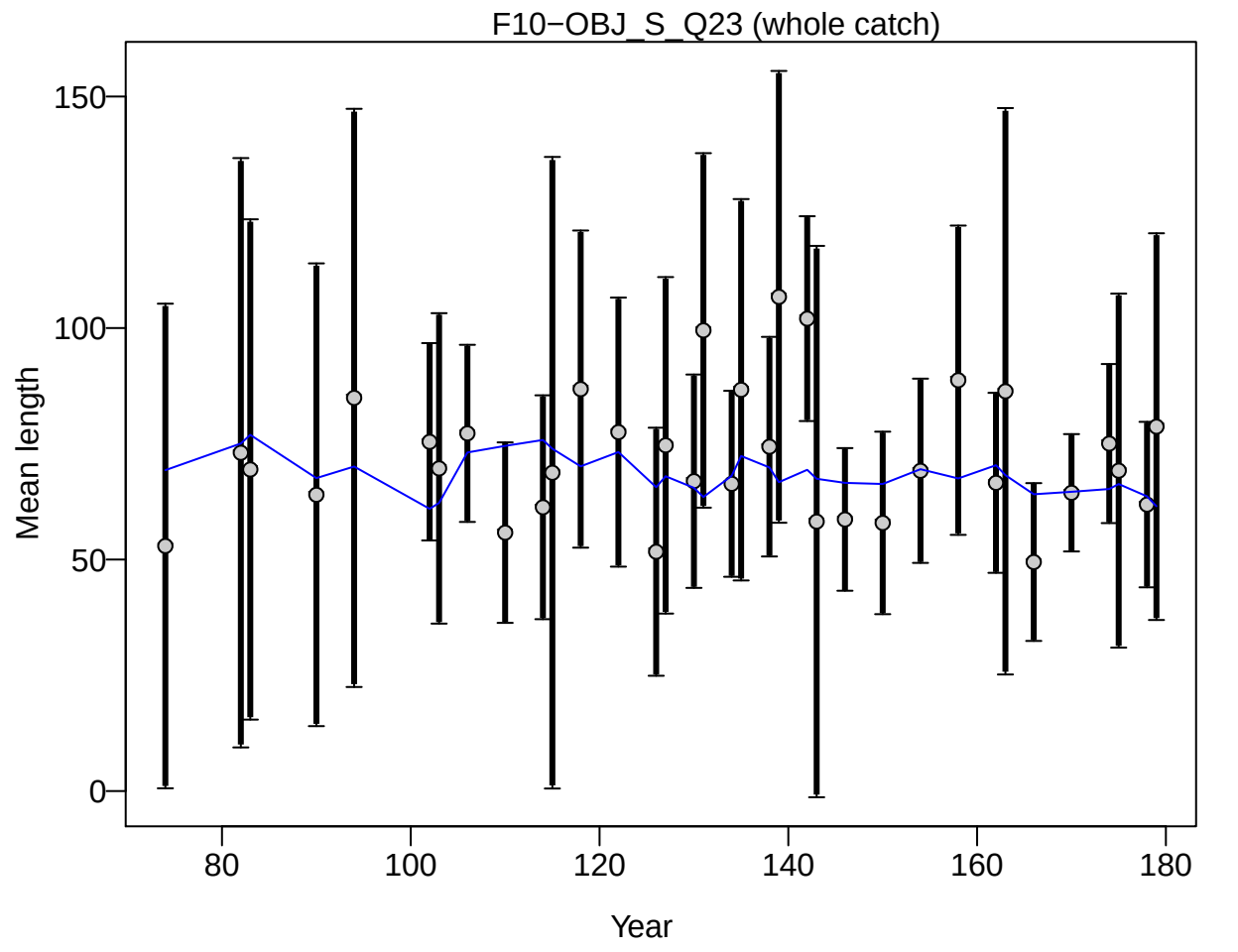
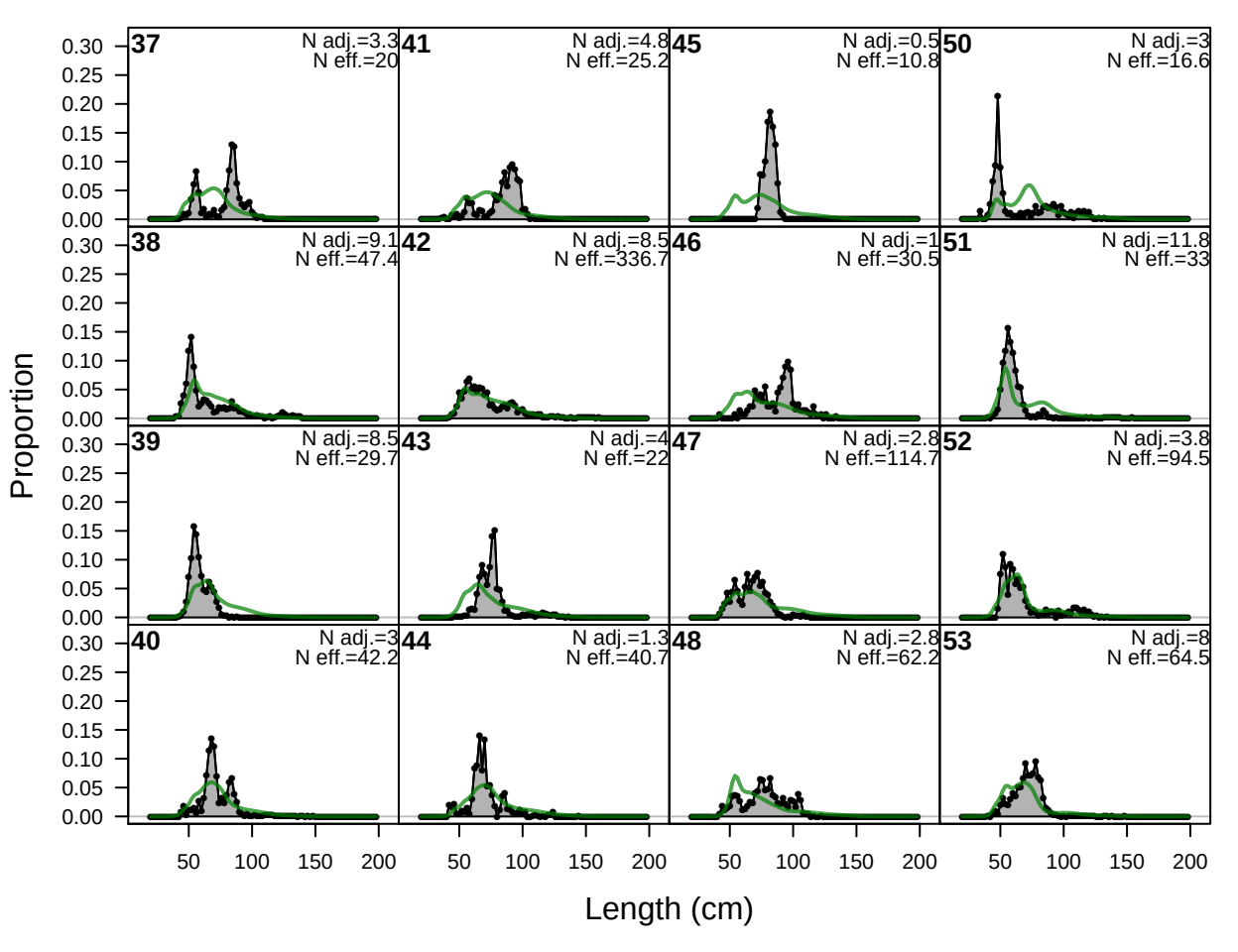
N adj.=1.8
N eff.=12.4
139
N adj.=1.3
N eff.=10.2
150
N adj.=7.9
N eff.=22.2
163
N adj.=0.9
N eff.=24.7
134
N adj.=6.6
N eff.=45.6
142
N adj.=6.6
N eff.=41.5
154
N adj.=8.8
N eff.=41.7
166
N adj.=9.6
N eff.=9.7
135
N adj.=1.8
N eff.=13.3
143
N adj.=0.9
N eff.=9.1
158
N adj.=2.6
N eff.=17.7
170
N adj.=14.5
N eff.=69.3
138
N adj.=6.6
N eff.=26.1
146
N adj.=11.4
N eff.=39.9
162
N adj.=8.8
N eff.=33.4
174
N adj.=8.3
N eff.=48.9
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)


175
N adj.=1.8
N eff.=9.3
178
N adj.=8.3
N eff.=20.3
179
N adj.=1.3
N eff.=27
Proportion
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Length (cm)


−2
0.1
2
200
150
100
50
Length (cm)
74
82
90
102
114
126
135
146
158
170
179
Year


Effective sample size
Observed sample size
0
20
40
60
0
5
10
15
harmonic mean
arithmetic mean
170
174
134
142
154
146
127
130
114
162
179
163
118
138
106
150
178
158
102
110
166
175


F10−OBJ_S_Q23 (whole catch)
Mean length
150
100
50
0
80
100
120
140
160
180
Year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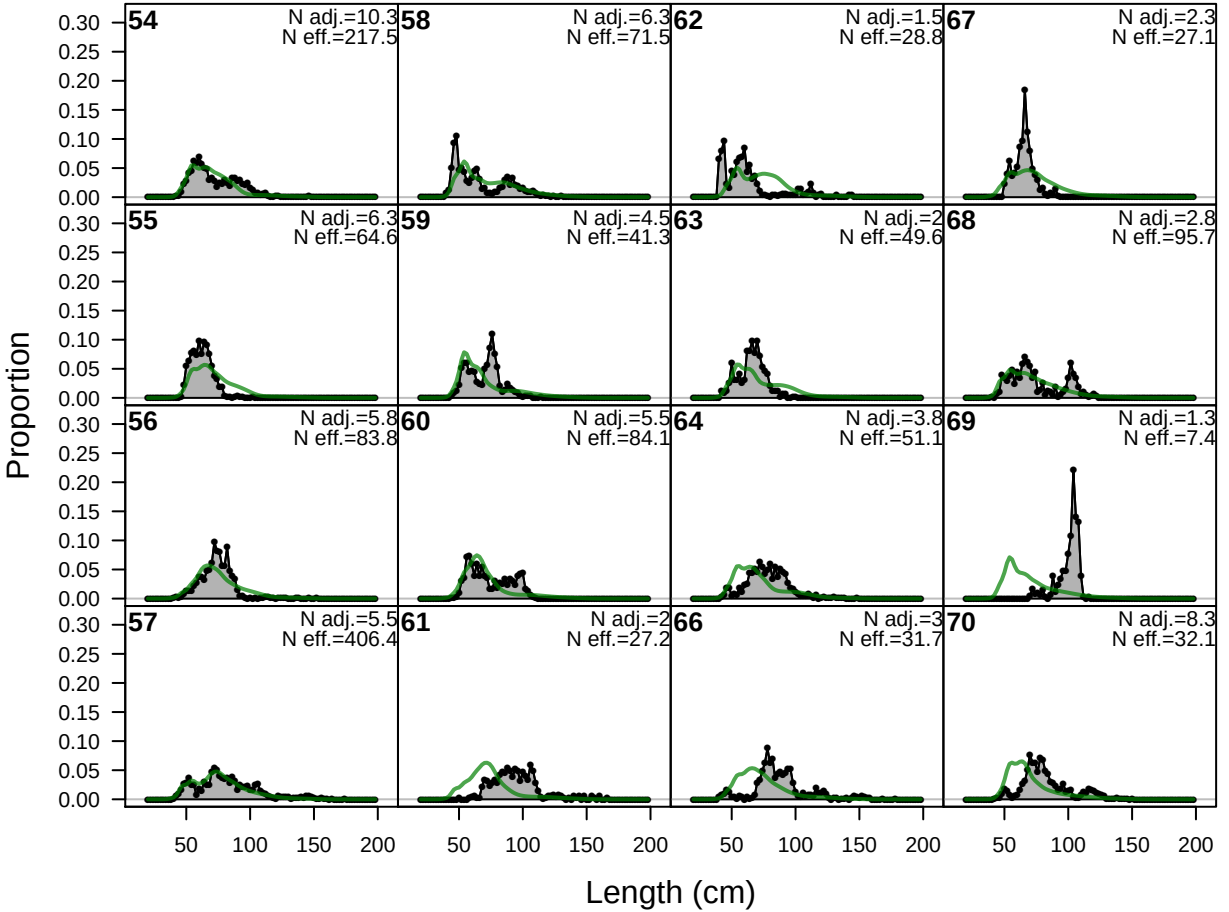
N eff.=20
41
N adj.=4.8
N eff.=25.2
45
N adj.=0.5
N eff.=10.8
50
N adj.=3
N eff.=16.6
38
N adj.=9.1
N eff.=47.4
42
N adj.=8.5
N eff.=336.7
46
N adj.=1
N eff.=30.5
51
N adj.=11.8
N eff.=33
39
N adj.=8.5
N eff.=29.7
43
N adj.=4
N eff.=22
47
N adj.=2.8
N eff.=114.7
52
N adj.=3.8
N eff.=94.5
40
N adj.=3
N eff.=42.2
44
N adj.=1.3
N eff.=40.7
48
N adj.=2.8
N eff.=62.2
53
N adj.=8
N eff.=64.5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)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58
N adj.=6.3
N eff.=71.5
62
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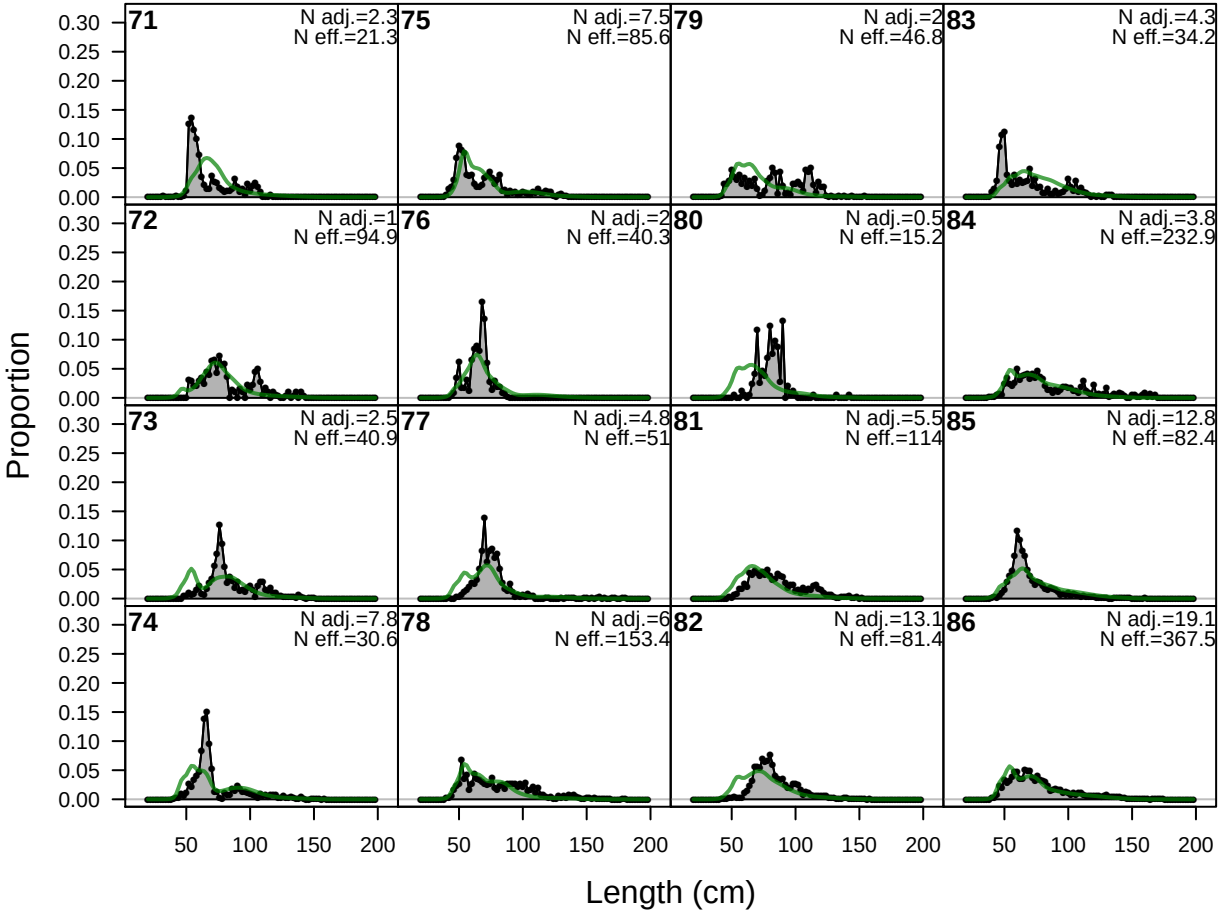
N eff.=28.8
67
N adj.=2.3
N eff.=27.1
55
N adj.=6.3
N eff.=64.6
59
N adj.=4.5
N eff.=41.3
63
N adj.=2
N eff.=49.6
68
N adj.=2.8
N eff.=95.7
56
N adj.=5.8
N eff.=83.8
60
N adj.=5.5
N eff.=84.1
64
N adj.=3.8
N eff.=51.1
69
N adj.=1.3
N eff.=7.4
57
N adj.=5.5
N eff.=406.4
61
N adj.=2
N eff.=27.2
66
N adj.=3
N eff.=31.7
70
N adj.=8.3
N eff.=32.1
0.30
0.25
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)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N eff.=21.3
75
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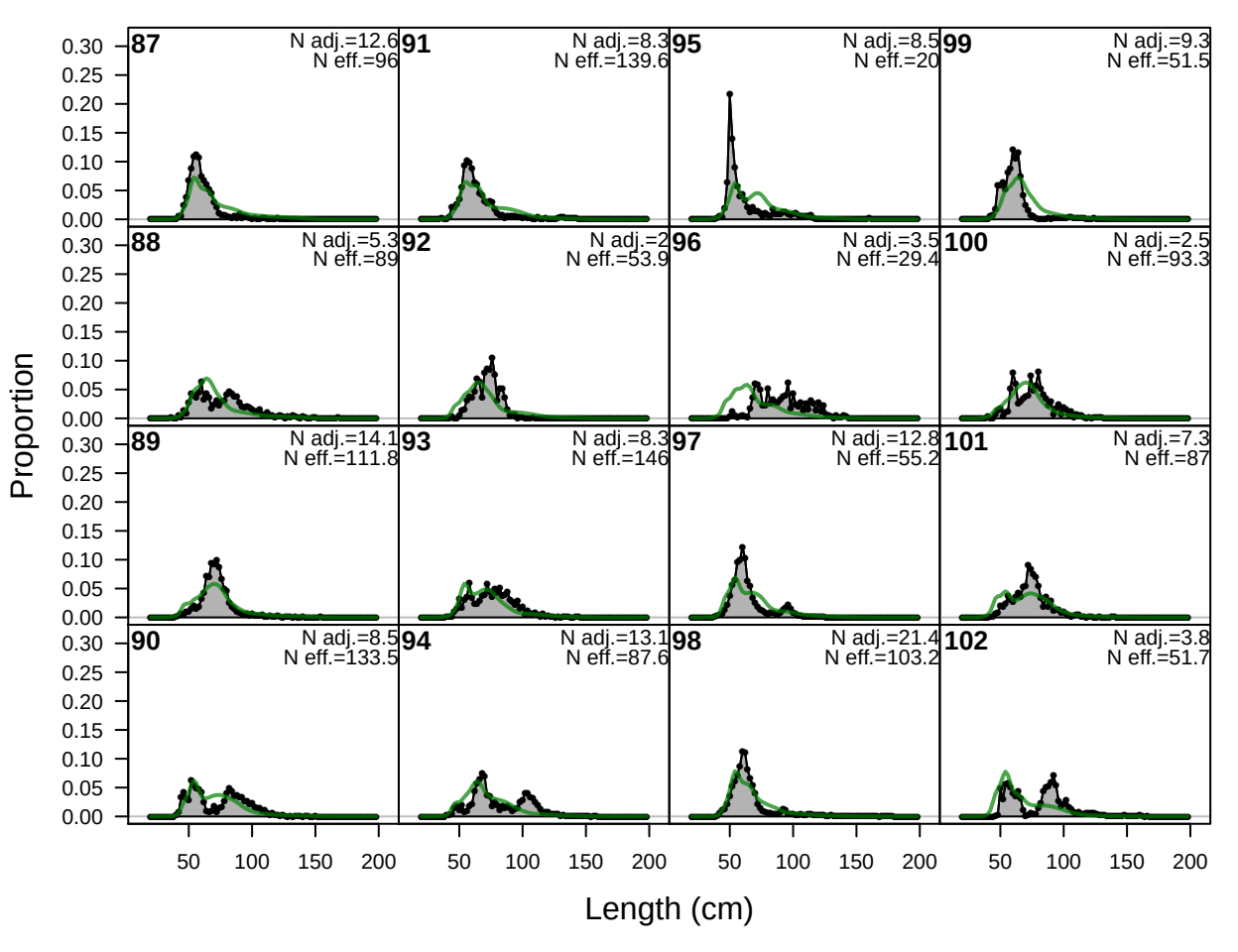
N eff.=85.6
79
N adj.=2
N eff.=46.8
83
N adj.=4.3
N eff.=34.2
72
N adj.=1
N eff.=94.9
76
N adj.=2
N eff.=40.3
80
N adj.=0.5
N eff.=15.2
84
N adj.=3.8
N eff.=232.9
73
N adj.=2.5
N eff.=40.9
77
N adj.=4.8
N eff.=51
81
N adj.=5.5
N eff.=114
85
N adj.=12.8
N eff.=82.4
74
N adj.=7.8
N eff.=30.6
78
N adj.=6
N eff.=153.4
82
N adj.=13.1
N eff.=81.4
86
N adj.=19.1
N eff.=367.5
0.30
0.25
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)


87
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N eff.=96
91
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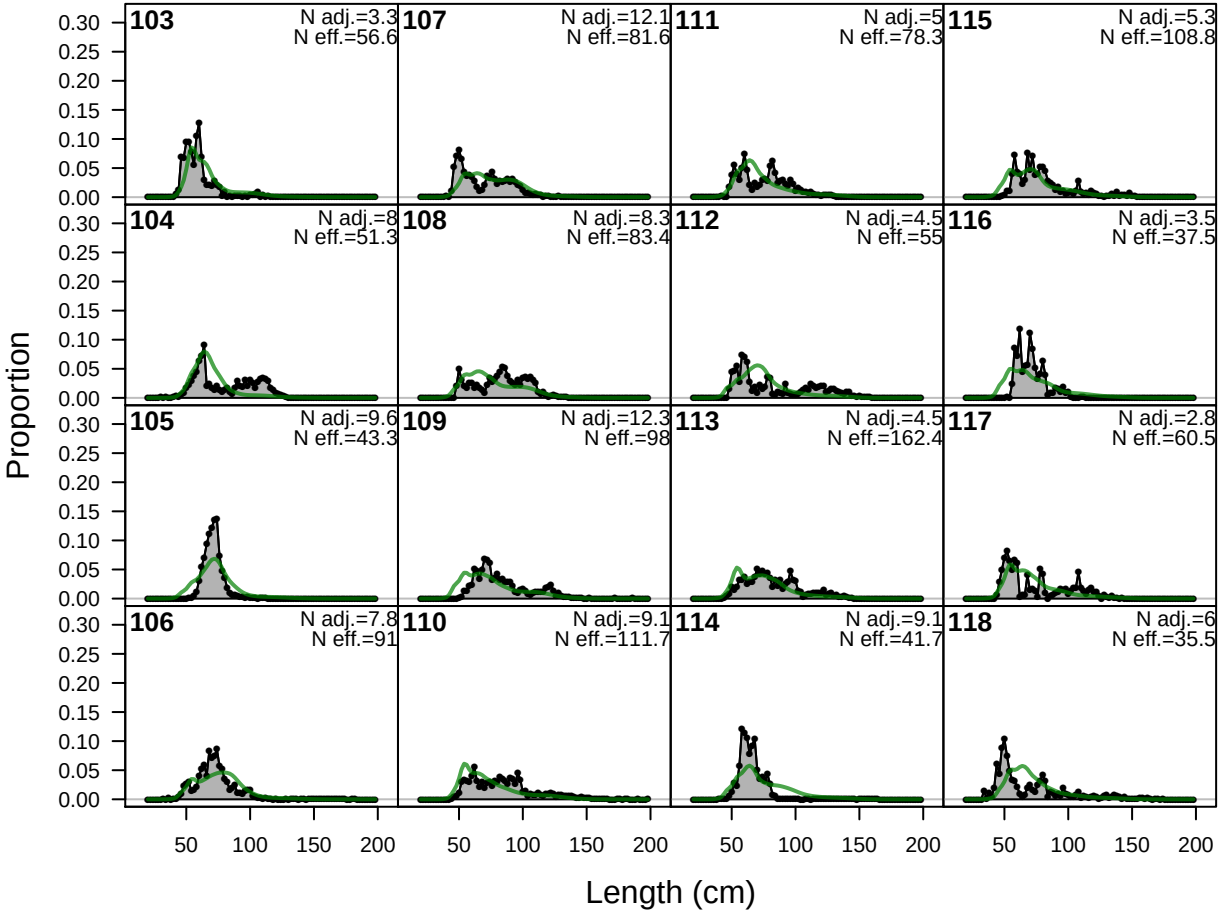
N eff.=139.6
95
N adj.=8.5
N eff.=20
99
N adj.=9.3
N eff.=51.5
88
N adj.=5.3
N eff.=89
92
N adj.=2
N eff.=53.9
96
N adj.=3.5
N eff.=29.4
100
N adj.=2.5
N eff.=93.3
89
N adj.=14.1
N eff.=111.8
93
N adj.=8.3
N eff.=146
97
N adj.=12.8
N eff.=55.2
101
N adj.=7.3
N eff.=87
90
N adj.=8.5
N eff.=133.5
94
N adj.=13.1
N eff.=87.6
98
N adj.=21.4
N eff.=103.2
102
N adj.=3.8
N eff.=51.7
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)


103
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N eff.=56.6
107
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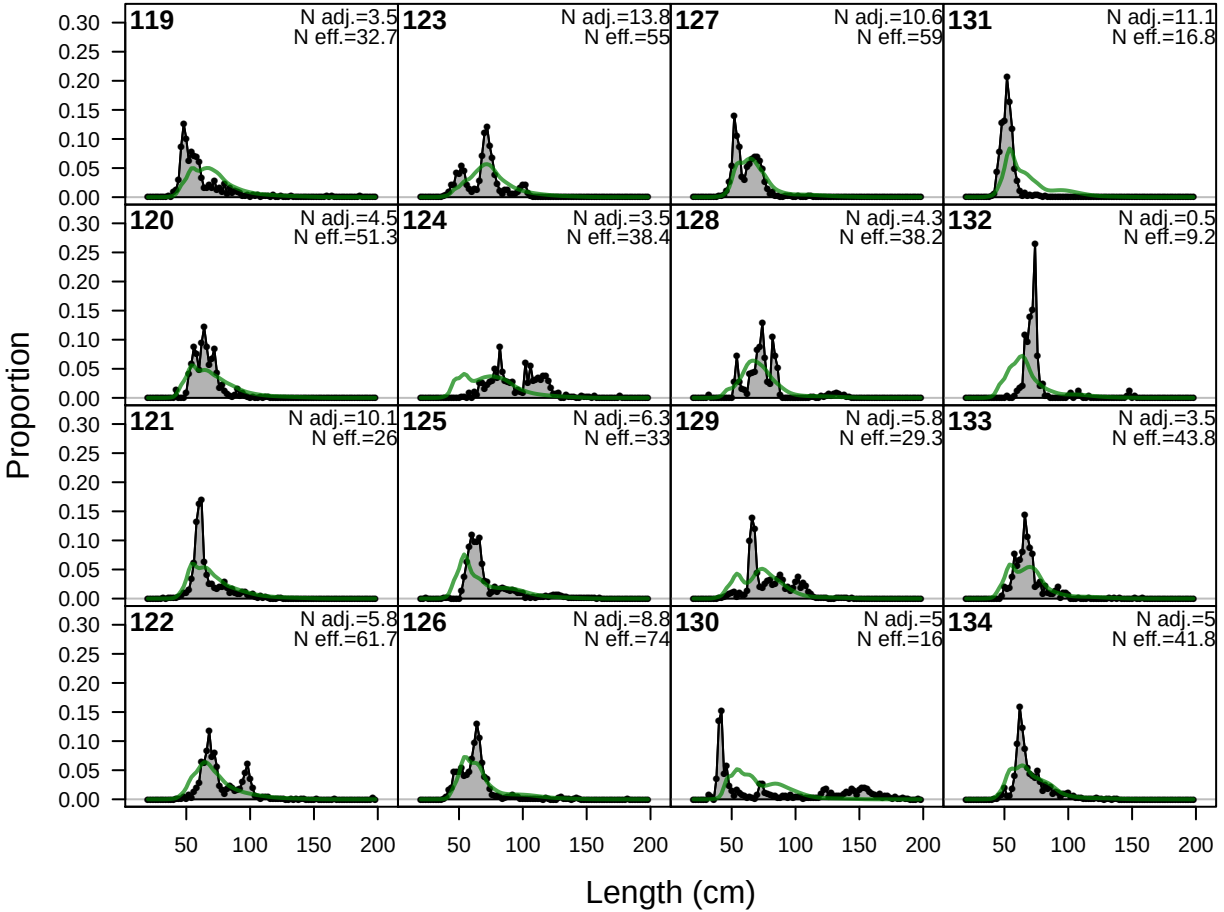
N eff.=81.6
111
N adj.=5
N eff.=78.3
115
N adj.=5.3
N eff.=108.8
104
N adj.=8
N eff.=51.3
108
N adj.=8.3
N eff.=83.4
112
N adj.=4.5
N eff.=55
116
N adj.=3.5
N eff.=37.5
105
N adj.=9.6
N eff.=43.3
109
N adj.=12.3
N eff.=98
113
N adj.=4.5
N eff.=162.4
117
N adj.=2.8
N eff.=60.5
106
N adj.=7.8
N eff.=91
110
N adj.=9.1
N eff.=111.7
114
N adj.=9.1
N eff.=41.7
118
N adj.=6
N eff.=35.5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)


119
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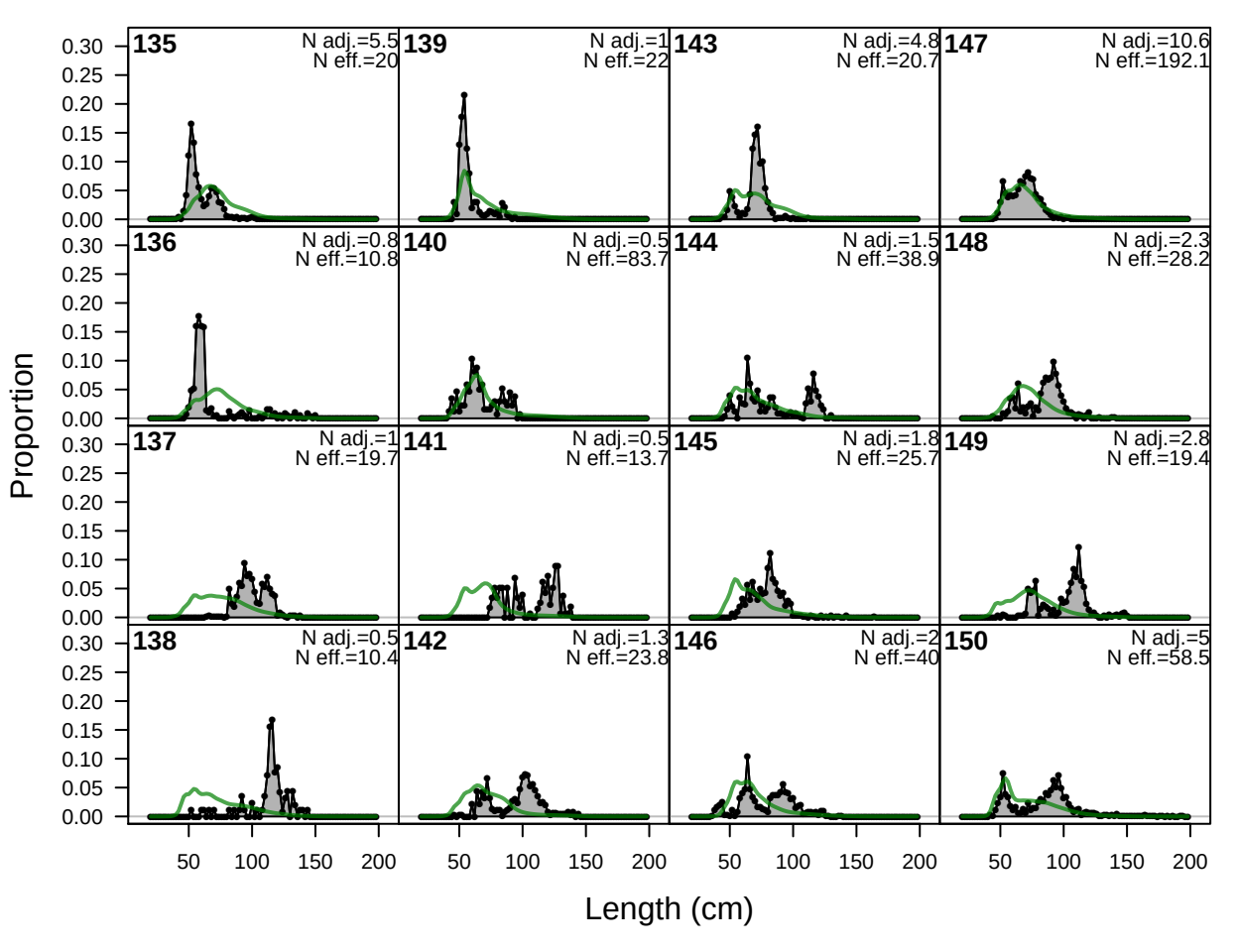
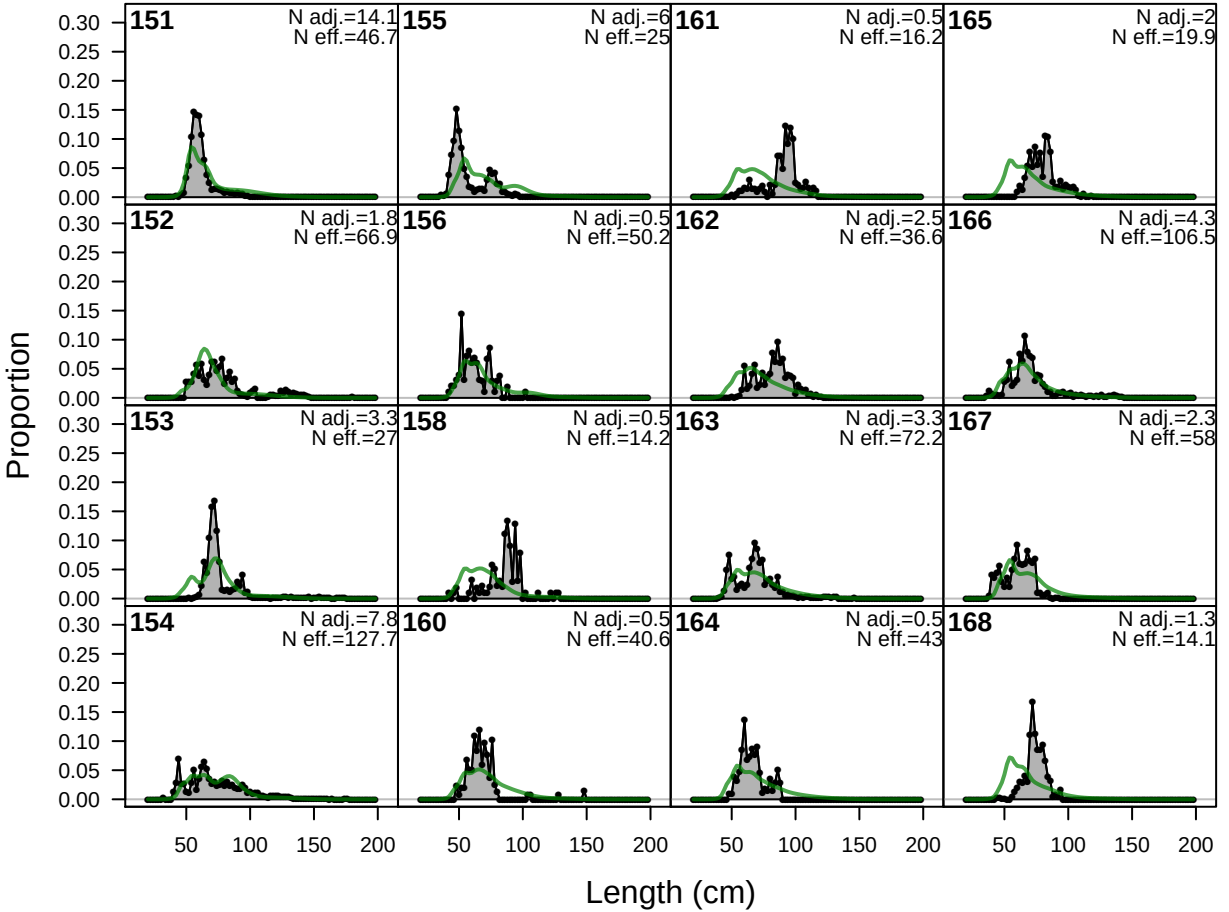
N eff.=32.7
123
N adj.=13.8
N eff.=55
127
N adj.=10.6
N eff.=59
131
N adj.=11.1
N eff.=16.8
120
N adj.=4.5
N eff.=51.3
124
N adj.=3.5
N eff.=38.4
128
N adj.=4.3
N eff.=38.2
132
N adj.=0.5
N eff.=9.2
121
N adj.=10.1
N eff.=26
125
N adj.=6.3
N eff.=33
129
N adj.=5.8
N eff.=29.3
133
N adj.=3.5
N eff.=43.8
122
N adj.=5.8
N eff.=61.7
126
N adj.=8.8
N eff.=74
130
N adj.=5
N eff.=16
134
N adj.=5
N eff.=41.8
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)


135
N adj.=5.5
N eff.=20
139
N adj.=1
N eff.=22
143
N adj.=4.8
N eff.=20.7
147
N adj.=10.6
N eff.=192.1
136
N adj.=0.8
N eff.=10.8
140
N adj.=0.5
N eff.=83.7
144
N adj.=1.5
N eff.=38.9
148
N adj.=2.3
N eff.=28.2
137
N adj.=1
N eff.=19.7
141
N adj.=0.5
N eff.=13.7
145
N adj.=1.8
N eff.=25.7
149
N adj.=2.8
N eff.=19.4
138
N adj.=0.5
N eff.=10.4
142
N adj.=1.3
N eff.=23.8
146
N adj.=2
N eff.=40
150
N adj.=5
N eff.=58.5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)


151
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N eff.=46.7
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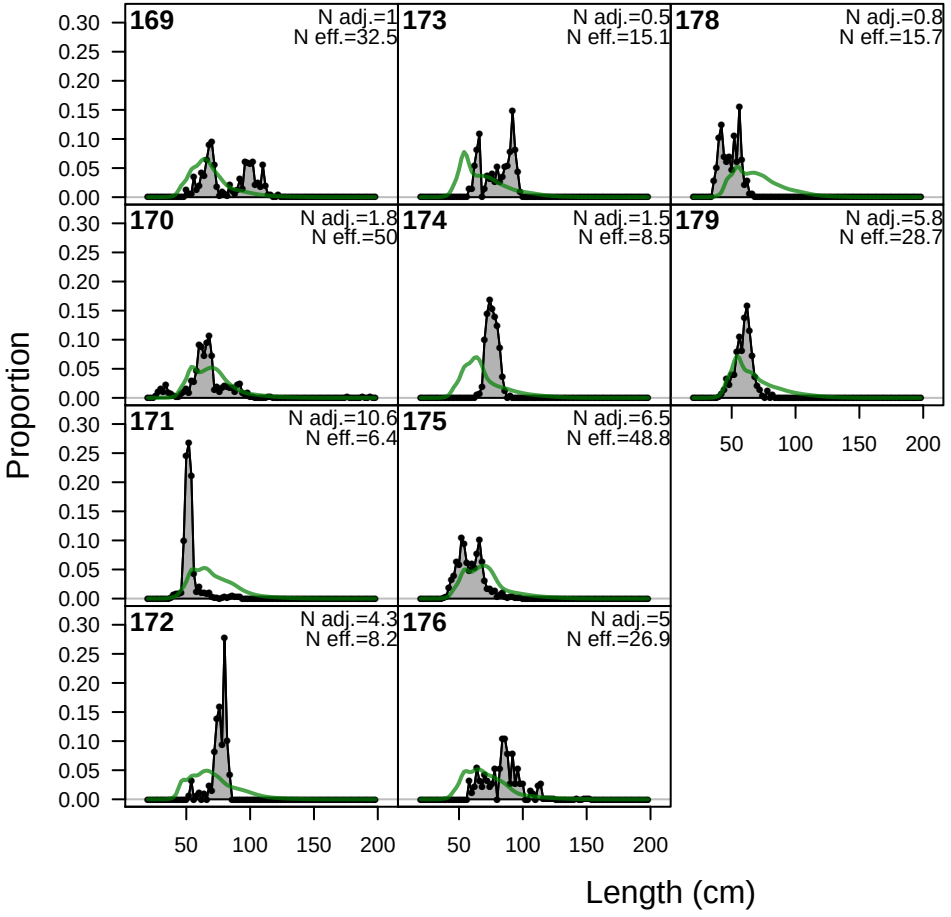
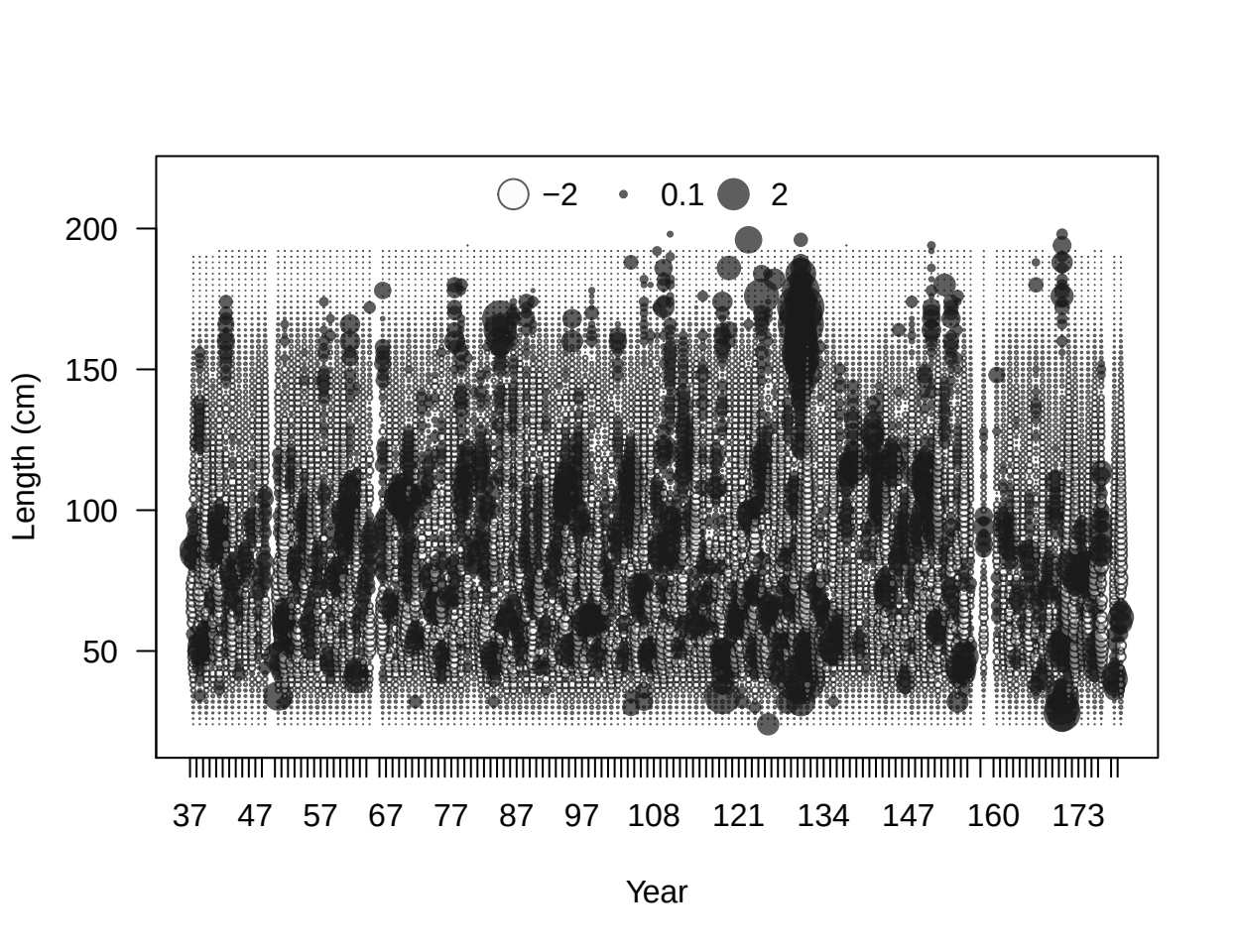
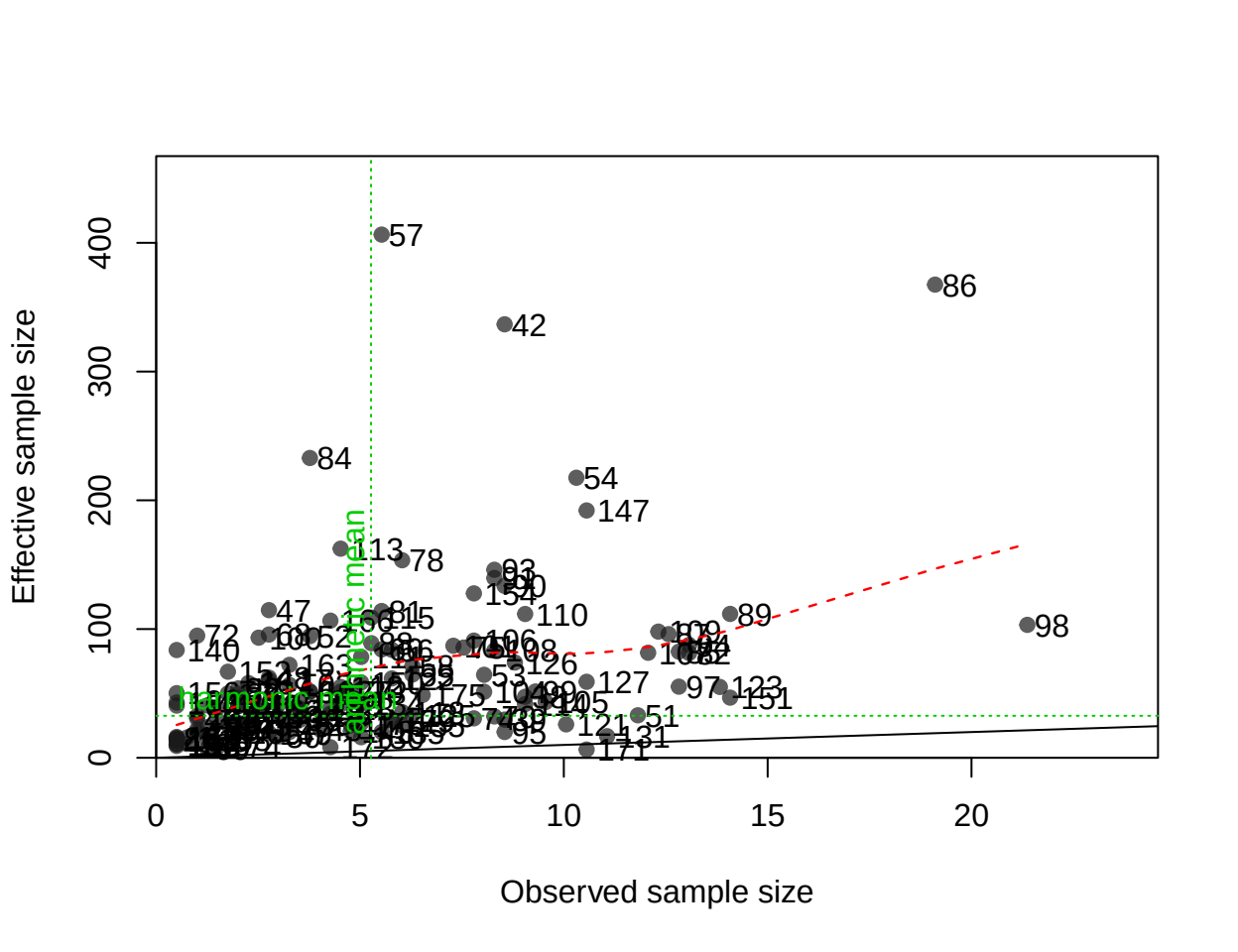
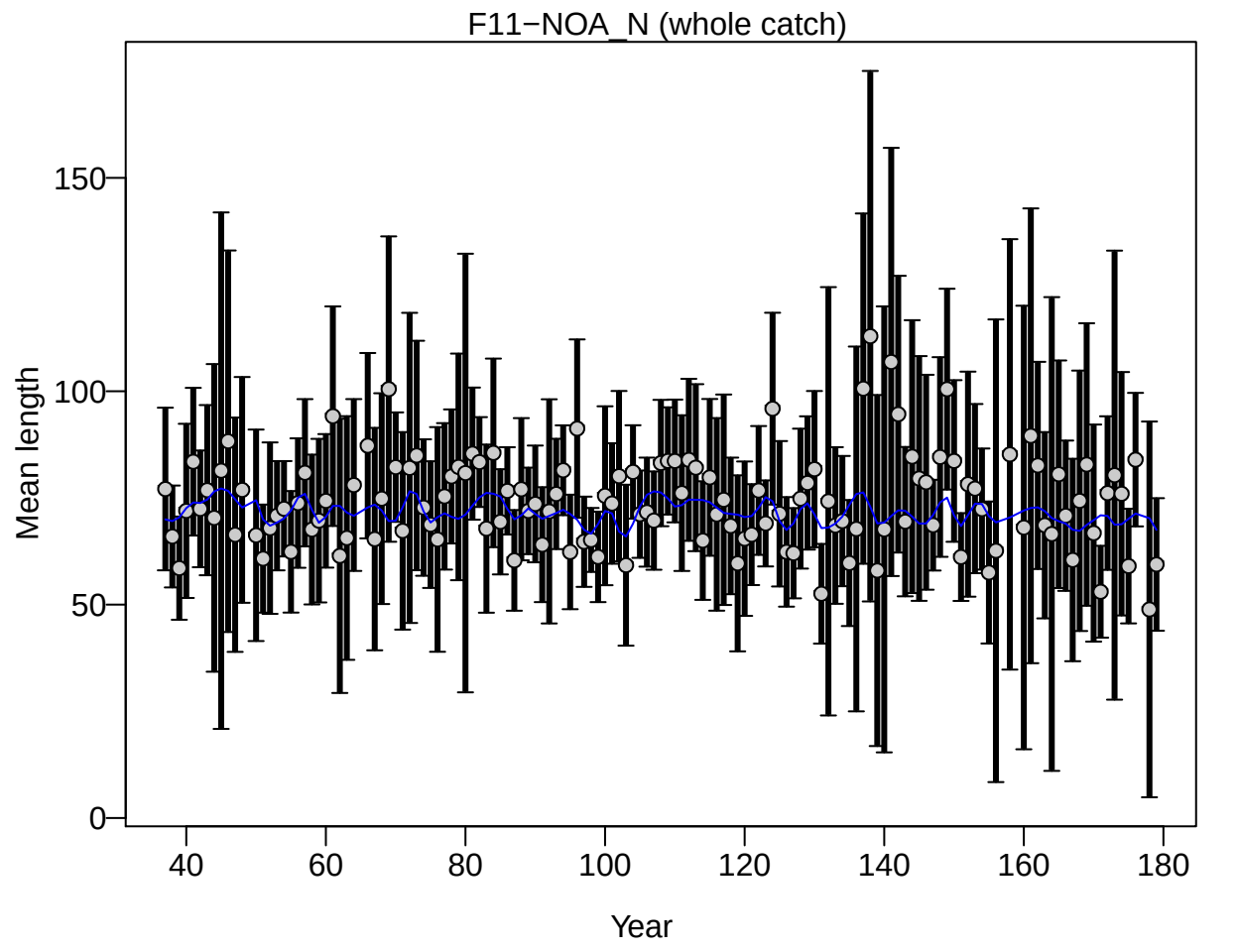
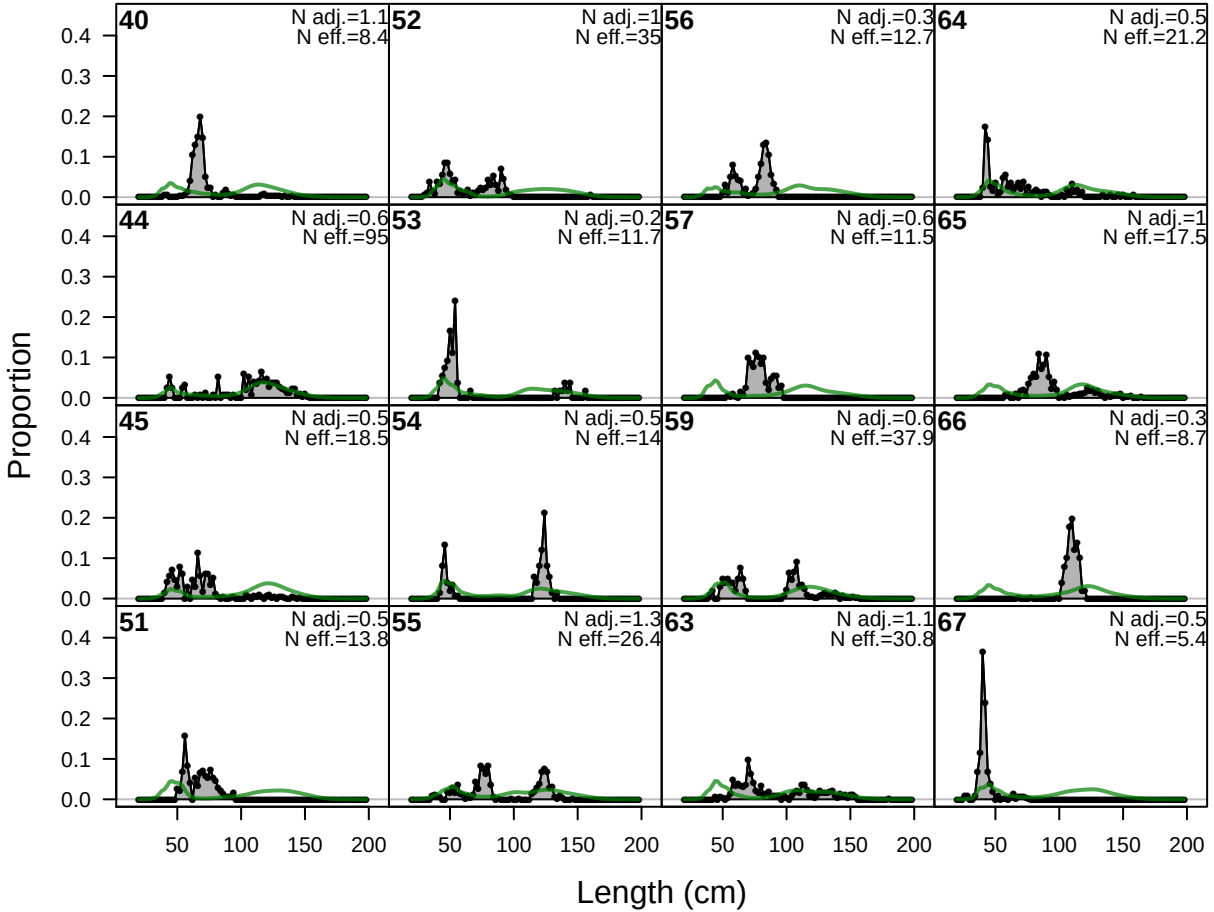
N adj.=6
N eff.=25
161
N adj.=0.5
N eff.=16.2
165
N adj.=2
N eff.=19.9
152
N adj.=1.8
N eff.=66.9
156
N adj.=0.5
N eff.=50.2
162
N adj.=2.5
N eff.=36.6
166
N adj.=4.3
N eff.=106.5
153
N adj.=3.3
N eff.=27
158
N adj.=0.5
N eff.=14.2
163
N adj.=3.3
N eff.=72.2
167
N adj.=2.3
N eff.=58
154
N adj.=7.8
N eff.=127.7
160
N adj.=0.5
N eff.=40.6
164
N adj.=0.5
N eff.=43
168
N adj.=1.3
N eff.=14.1
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)


169
N adj.=1
N eff.=32.5
173
N adj.=0.5
N eff.=15.1
178
N adj.=0.8
N eff.=15.7
170
N adj.=1.8
N eff.=50
174
N adj.=1.5
N eff.=8.5
179
N adj.=5.8
N eff.=28.7
171
N adj.=10.6
N eff.=6.4
175
N adj.=6.5
N eff.=48.8
172
N adj.=4.3
N eff.=8.2
176
N adj.=5
N eff.=26.9
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)


−2
0.1
2
200
150
100
50
Length (cm)
37
47
57
67
77
87
97
108
121
134
147
160
173
Year


Effective sample size
Observed sample size
0
100
200
300
400
0
5
10
15
20
harmonic mean
arithmetic mean
57
42
86
84
54
147
13
78
154
110
89
98
47
72
140
126
127
97
123
151
51
121
131
171
harmonic mean
arithmetic mean


F11−NOA_N (whole catch)
Mean length
0
50
100
150
40
60
80
100
120
140
160
180
Year


40
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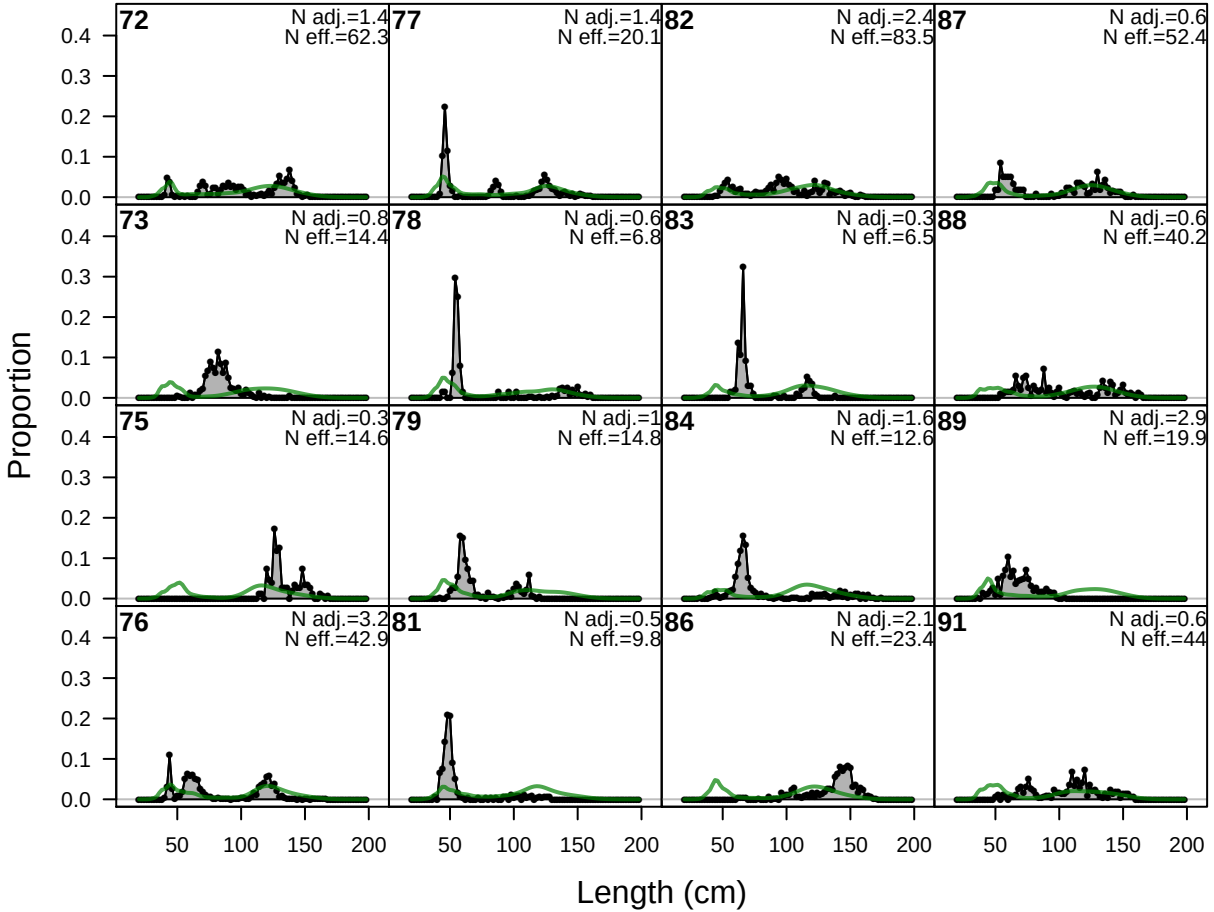
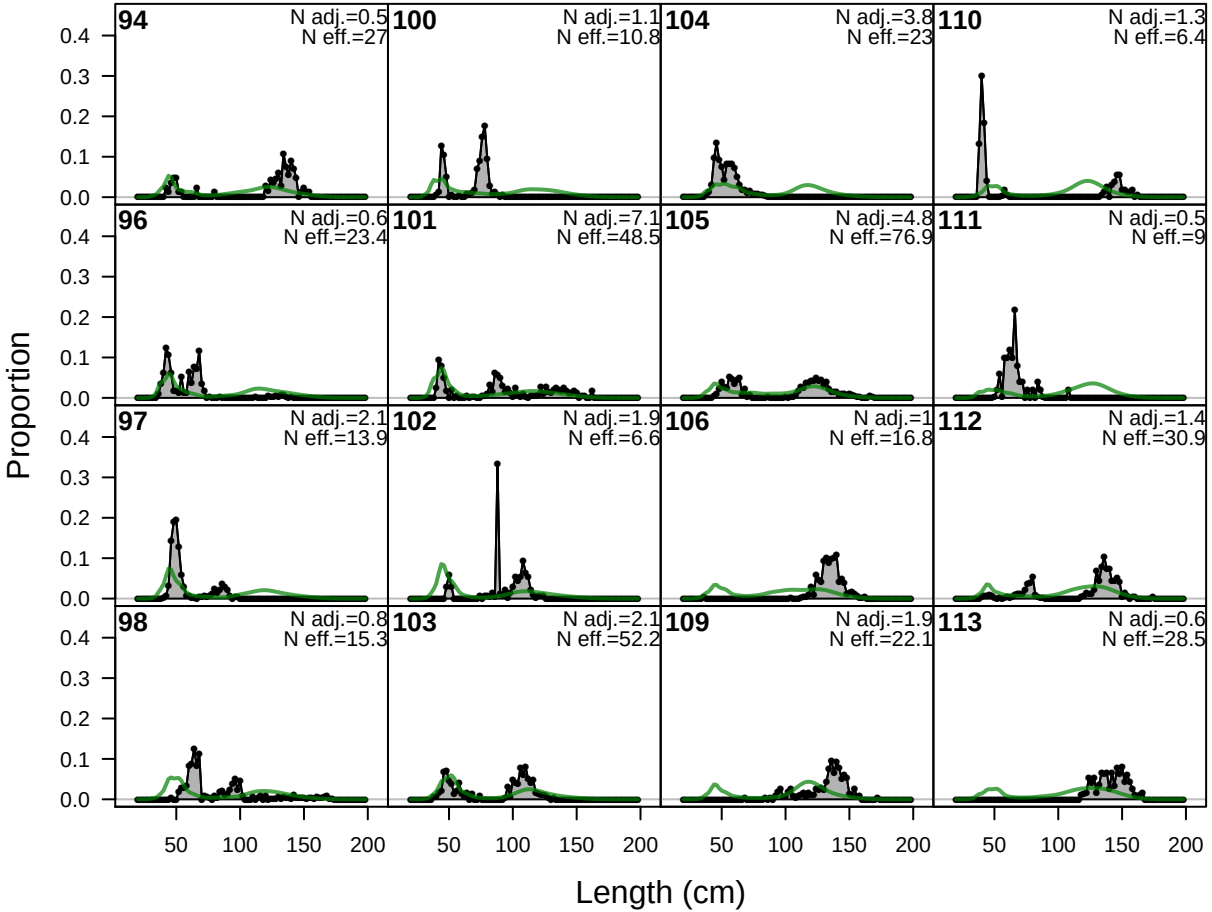
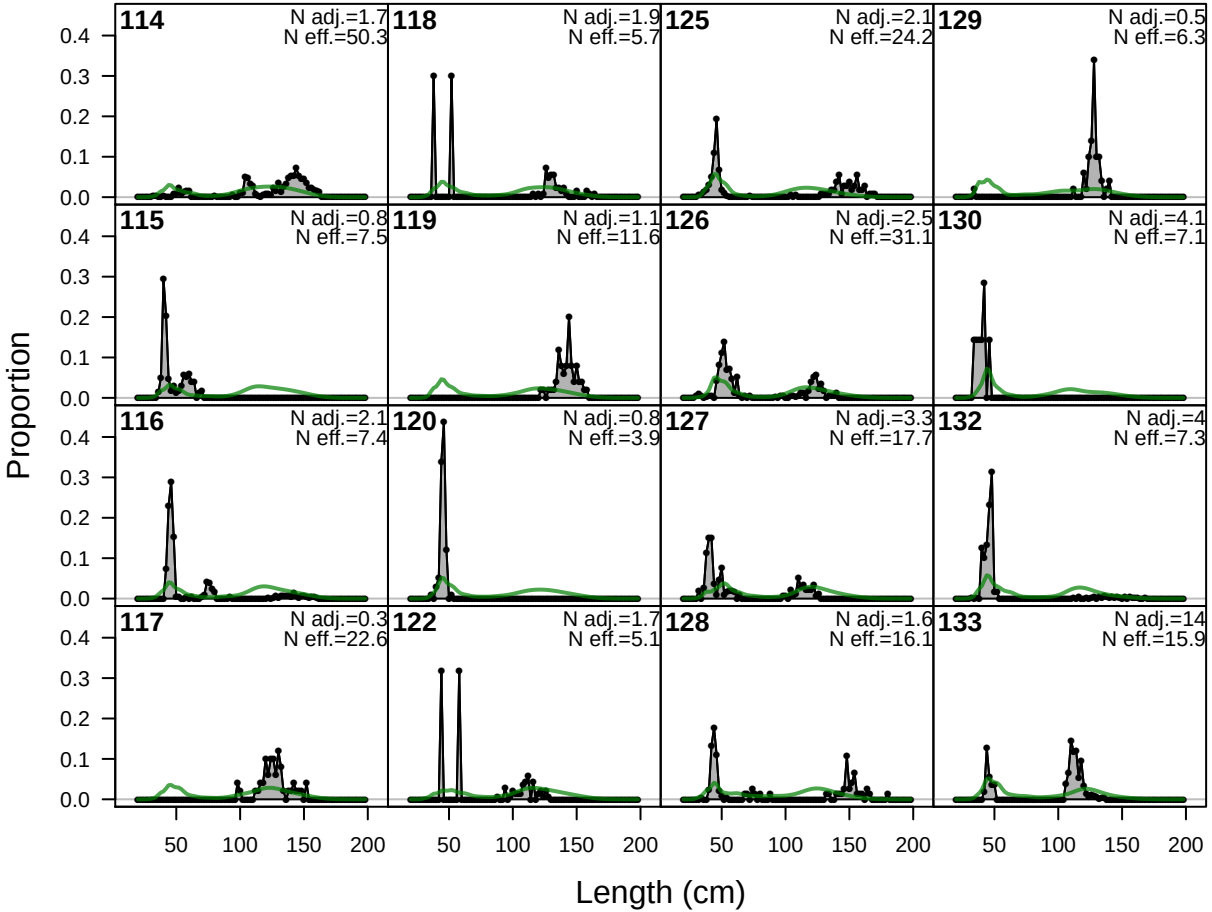
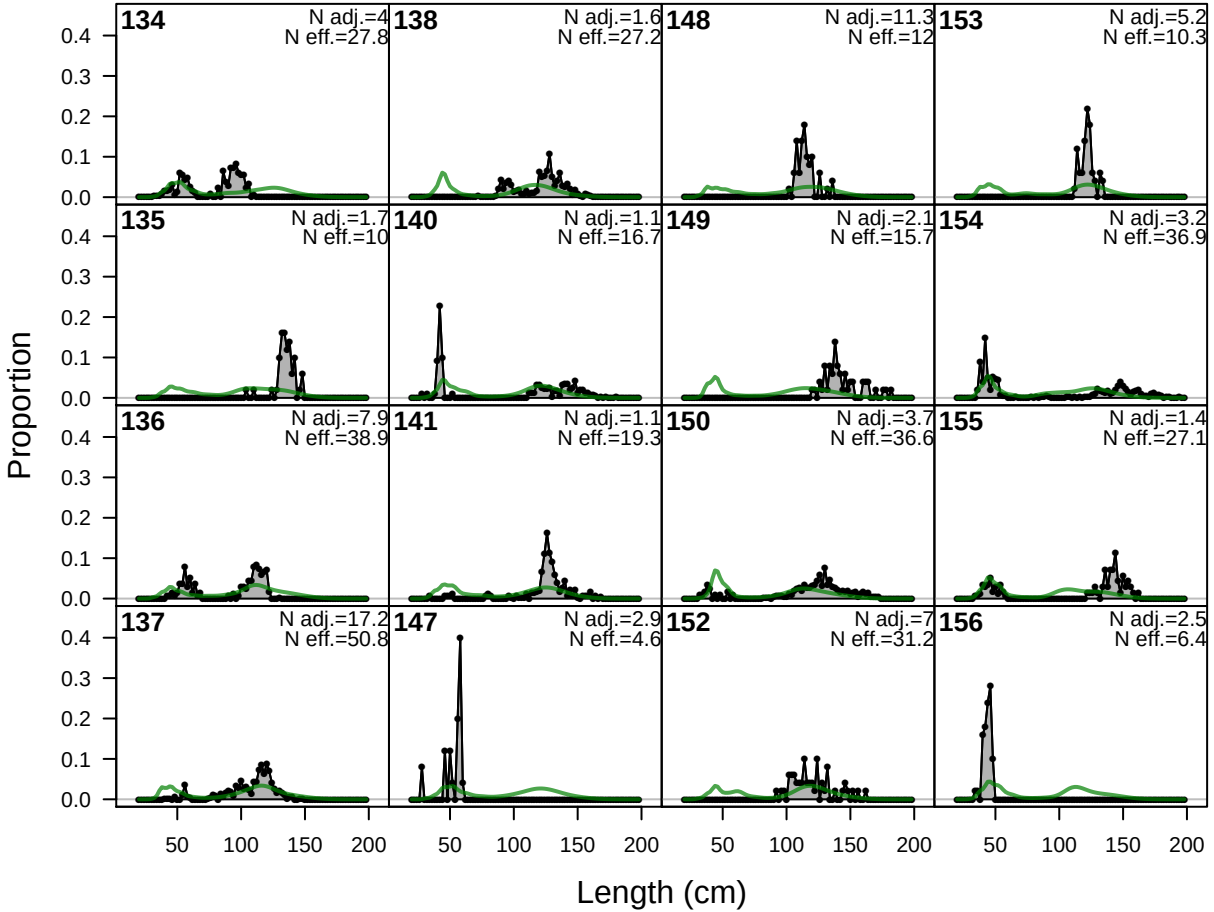
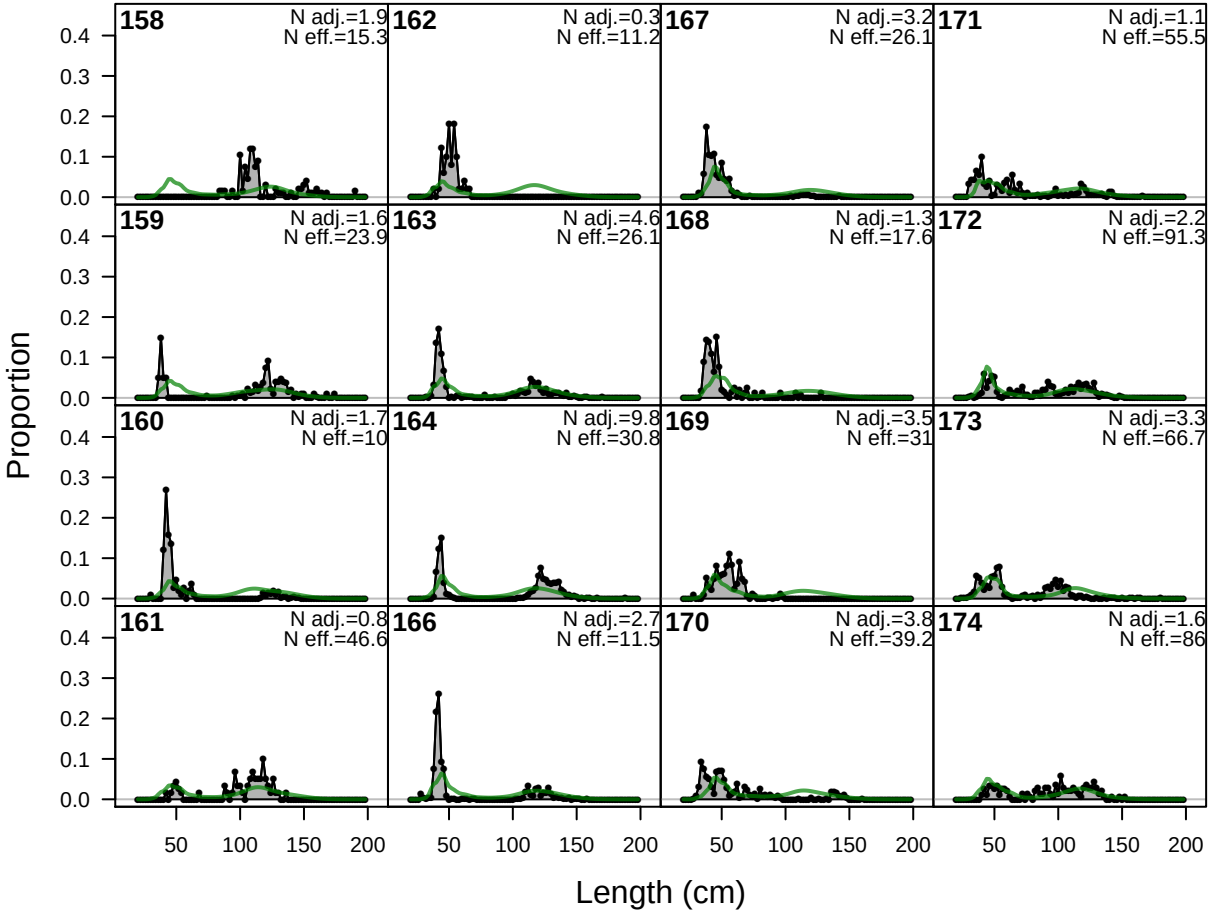
N eff.=8.4
52
N adj.=1
N eff.=35
56
N adj.=0.3
N eff.=12.7
64
N adj.=0.5
N eff.=21.2
44
N adj.=0.6
N eff.=95
53
N adj.=0.2
N eff.=11.7
57
N adj.=0.6
N eff.=11.5
65
N adj.=1
N eff.=17.5
45
N adj.=0.5
N eff.=18.5
54
N adj.=0.5
N eff.=14
59
N adj.=0.6
N eff.=37.9
66
N adj.=0.3
N eff.=8.7
51
N adj.=0.5
N eff.=13.8
55
N adj.=1.3
N eff.=26.4
63
N adj.=1.1
N eff.=30.8
67
N adj.=0.5
N eff.=5.4
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

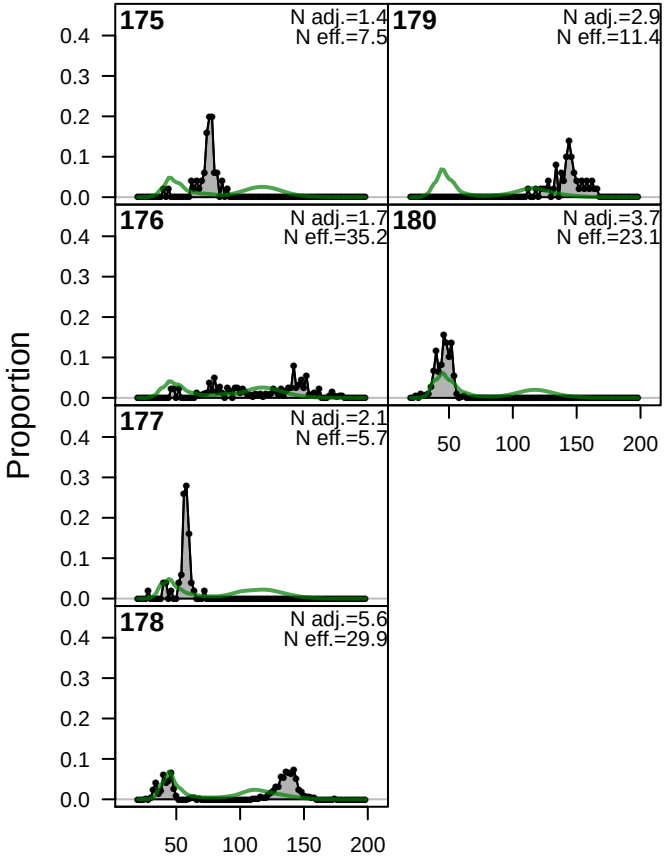

72
N adj.=1.4
N eff.=62.3
77
N adj.=1.4
N eff.=20.1
82
N adj.=2.4
N eff.=83.5
87
N adj.=0.6
N eff.=52.4
73
N adj.=0.8
N eff.=14.4
78
N adj.=0.6
N eff.=6.8
83
N adj.=0.3
N eff.=6.5
88
N adj.=0.6
N eff.=40.2
75
N adj.=0.3
N eff.=14.6
79
N adj.=1
N eff.=14.8
84
N adj.=1.6
N eff.=12.6
89
N adj.=2.9
N eff.=19.9
76
N adj.=3.2
N eff.=42.9
81
N adj.=0.5
N eff.=9.8
86
N adj.=2.1
N eff.=23.4
91
N adj.=0.6
N eff.=44
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

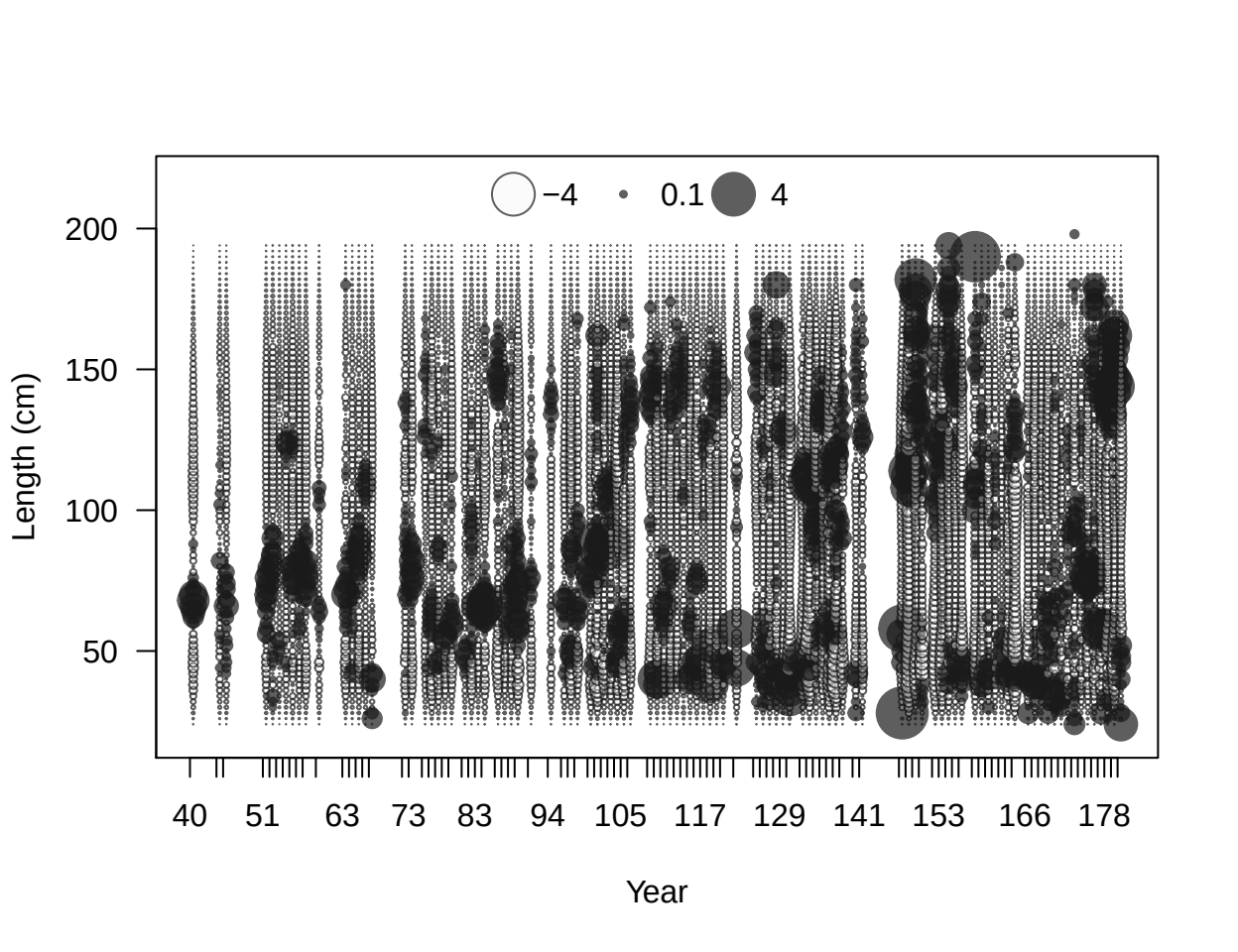

94
N adj.=0.5
N eff.=27
100
N adj.=1.1
N eff.=10.8
104
N adj.=3.8
N eff.=23
110
N adj.=1.3
N eff.=6.4
96
N adj.=0.6
N eff.=23.4
101
N adj.=7.1
N eff.=48.5
105
N adj.=4.8
N eff.=76.9
111
N adj.=0.5
N eff.=9
97
N adj.=2.1
N eff.=13.9
102
N adj.=1.9
N eff.=6.6
106
N adj.=1
N eff.=16.8
112
N adj.=1.4
N eff.=30.9
98
N adj.=0.8
N eff.=15.3
103
N adj.=2.1
N eff.=52.2
109
N adj.=1.9
N eff.=22.1
113
N adj.=0.6
N eff.=28.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

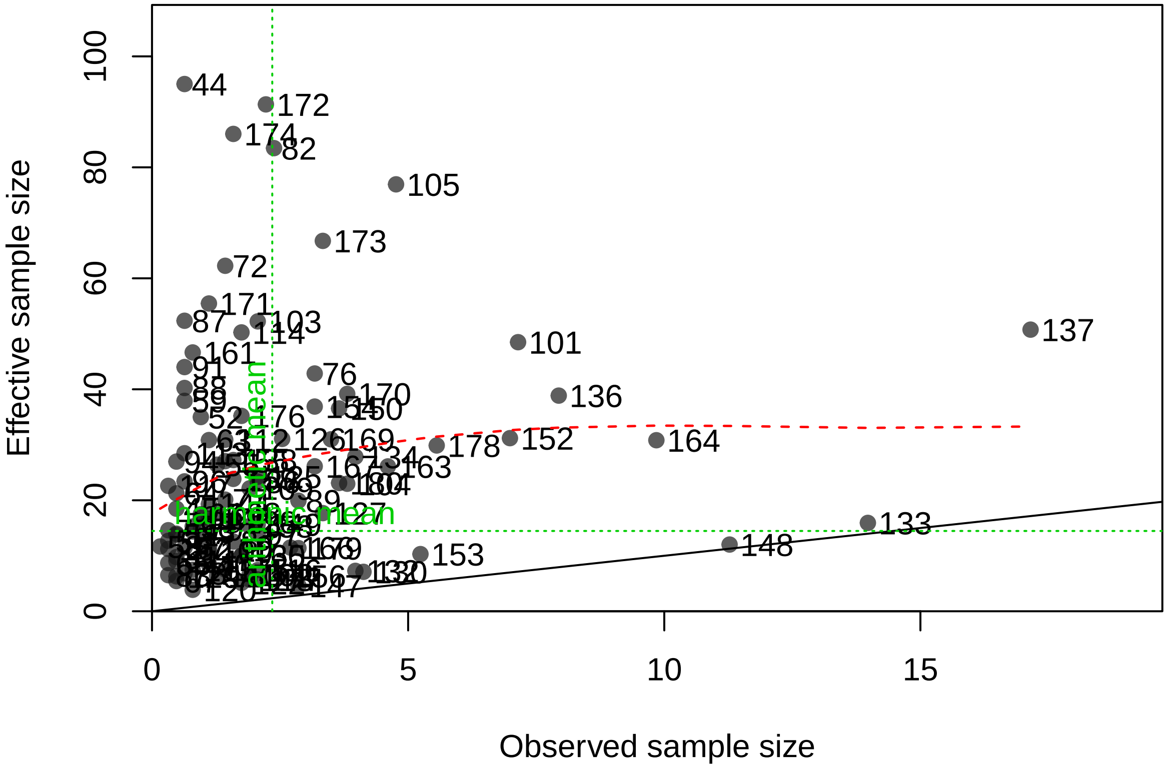

114
N adj.=1.7
N eff.=50.3
118
N adj.=1.9
N eff.=5.7
125
N adj.=2.1
N eff.=24.2
129
N adj.=0.5
N eff.=6.3
115
N adj.=0.8
N eff.=7.5
119
N adj.=1.1
N eff.=11.6
126
N adj.=2.5
N eff.=31.1
130
N adj.=4.1
N eff.=7.1
116
N adj.=2.1
N eff.=7.4
120
N adj.=0.8
N eff.=3.9
127
N adj.=3.3
N eff.=17.7
132
N adj.=4
N eff.=7.3
117
N adj.=0.3
N eff.=22.6
122
N adj.=1.7
N eff.=5.1
128
N adj.=1.6
N eff.=16.1
133
N adj.=14
N eff.=15.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


134
N adj.=4
N eff.=27.8
138
N adj.=1.6
N eff.=27.2
148
N adj.=11.3
N eff.=12
153
N adj.=5.2
N eff.=10.3
135
N adj.=1.7
N eff.=10
140
N adj.=1.1
N eff.=16.7
149
N adj.=2.1
N eff.=15.7
154
N adj.=3.2
N eff.=36.9
136
N adj.=7.9
N eff.=38.9
141
N adj.=1.1
N eff.=19.3
150
N adj.=3.7
N eff.=36.6
155
N adj.=1.4
N eff.=27.1
137
N adj.=17.2
N eff.=50.8
147
N adj.=2.9
N eff.=4.6
152
N adj.=7
N eff.=31.2
156
N adj.=2.5
N eff.=6.4
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

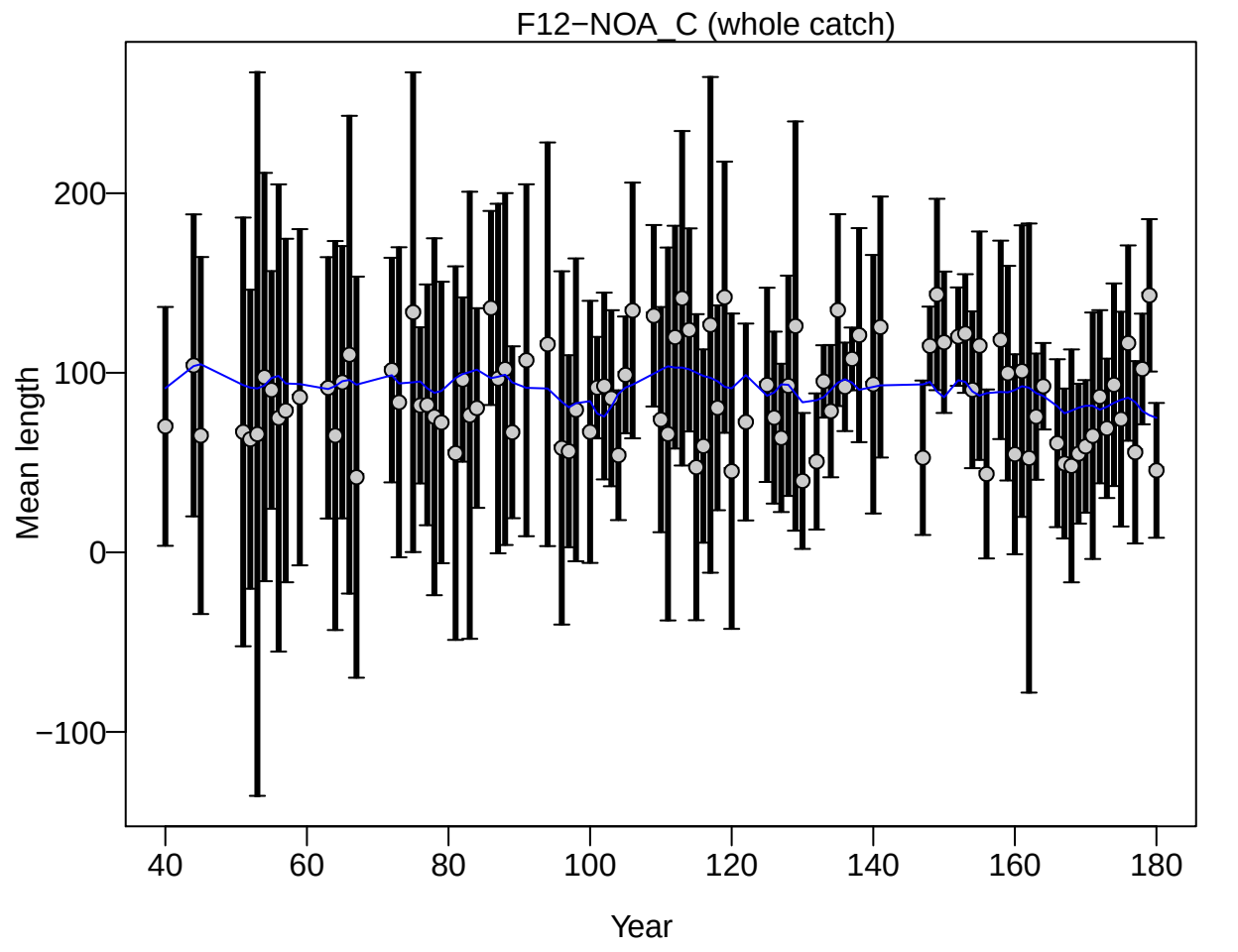

158
N adj.=1.9
N eff.=15.3
162
N adj.=0.3
N eff.=11.2
167
N adj.=3.2
N eff.=26.1
171
N adj.=1.1
N eff.=55.5
159
N adj.=1.6
N eff.=23.9
163
N adj.=4.6
N eff.=26.1
168
N adj.=1.3
N eff.=17.6
172
N adj.=2.2
N eff.=91.3
160
N adj.=1.7
N eff.=10
164
N adj.=9.8
N eff.=30.8
169
N adj.=3.5
N eff.=31
173
N adj.=3.3
N eff.=66.7
161
N adj.=0.8
N eff.=46.6
166
N adj.=2.7
N eff.=11.5
170
N adj.=3.8
N eff.=39.2
174
N adj.=1.6
N eff.=86
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

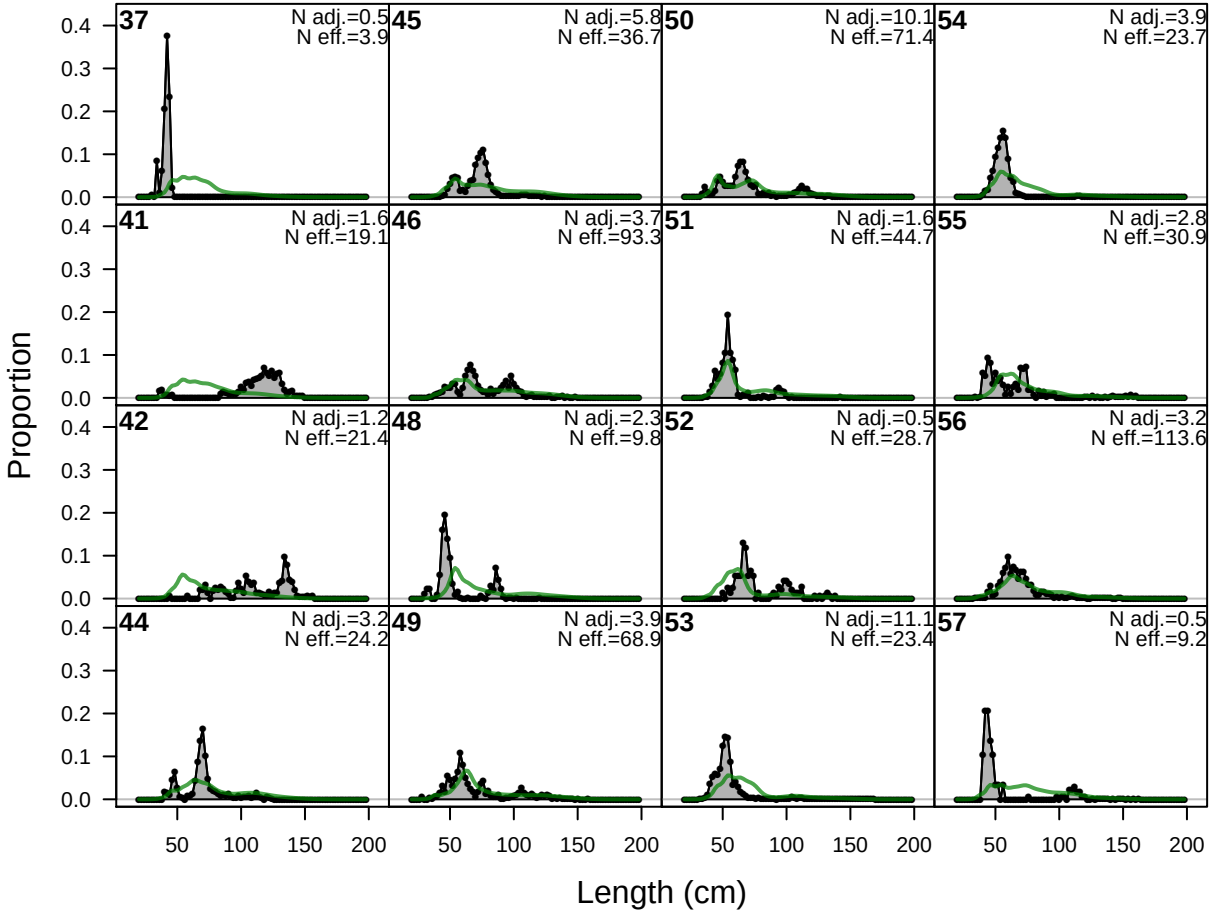

175
N adj.=1.4
N eff.=7.5
179
N adj.=2.9
N eff.=11.4
176
N adj.=1.7
N eff.=35.2
180
N adj.=3.7
N eff.=23.1
177
N adj.=2.1
N eff.=5.7
178
N adj.=5.6
N eff.=29.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

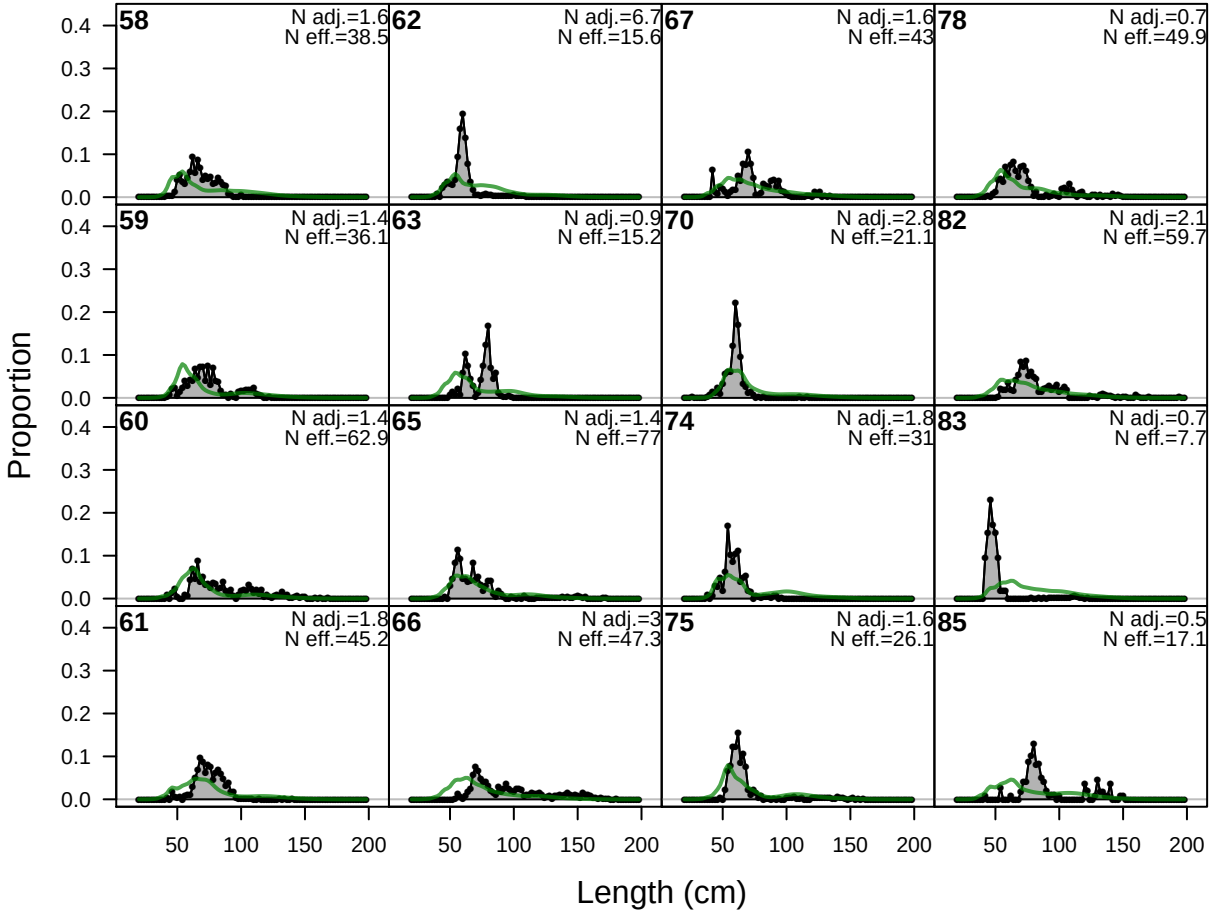

−4
0.1
4
200
150
100
50
Length (cm)
40
51
63
73
83
94
105
117
129
141
153
166
178
Year

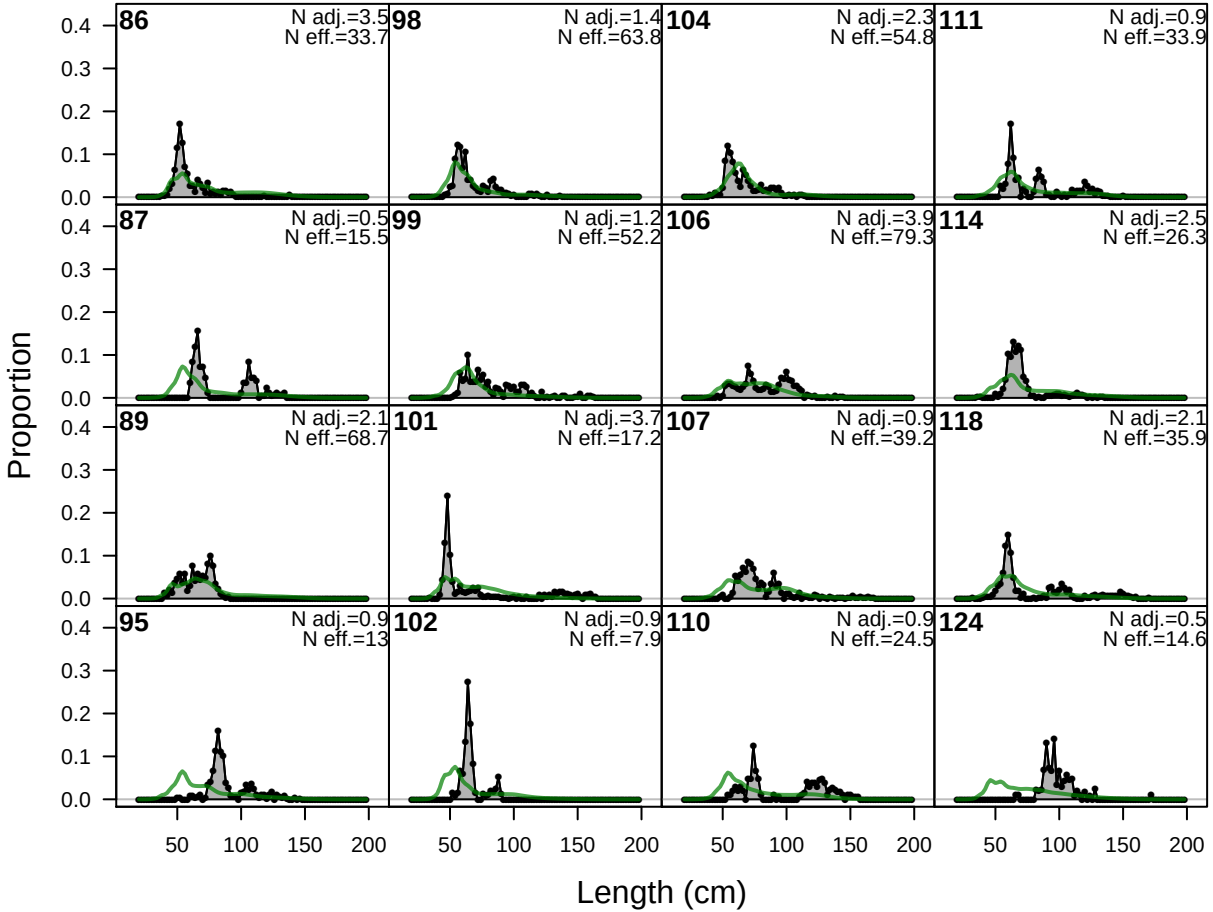


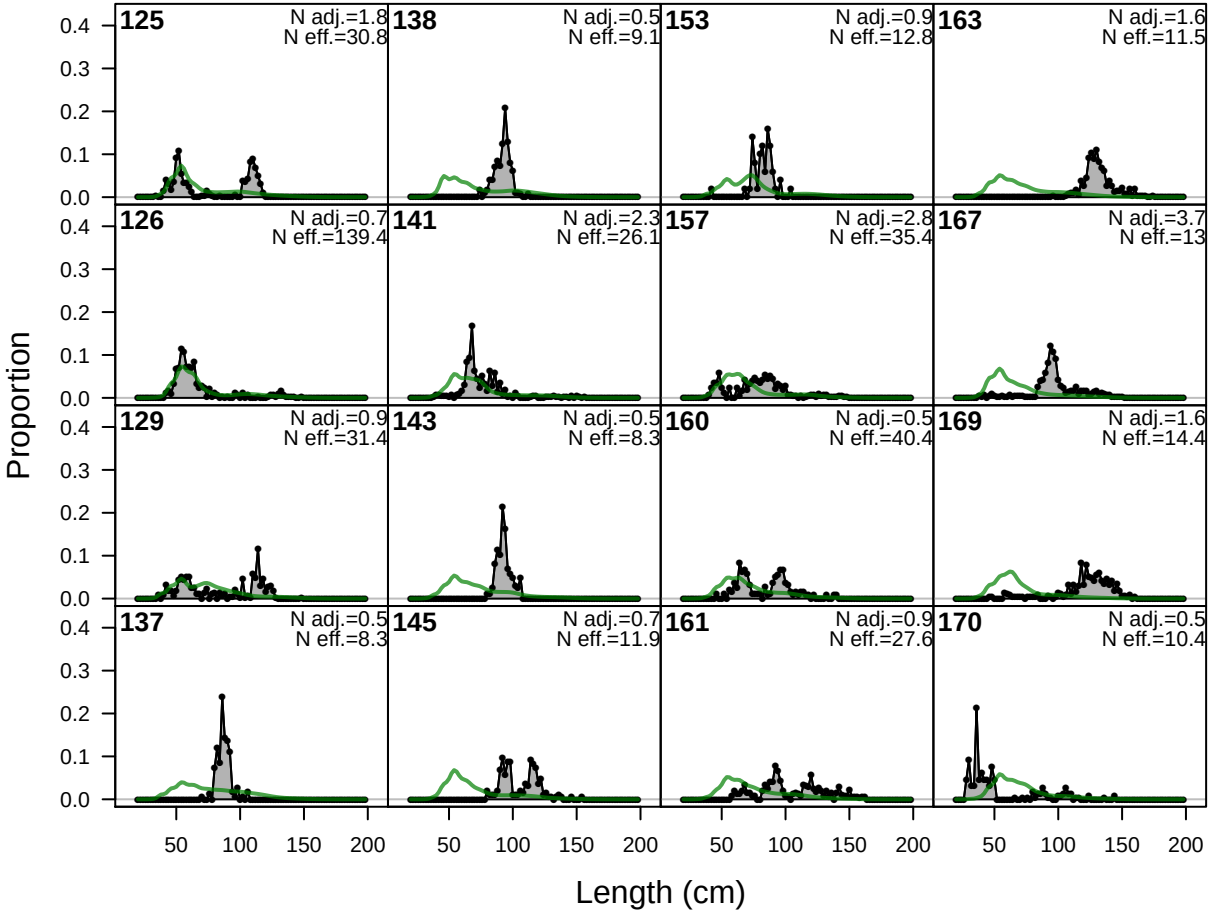
Effective sample size
Observed sample size
0
20
40
60
80
100
0
5
10
15
harmonic mean
arithmetic mean
44
172
174
82
105
173
72
171
87
103
114
101
137
161
76
170
136
152
164
178
163
133
148
153

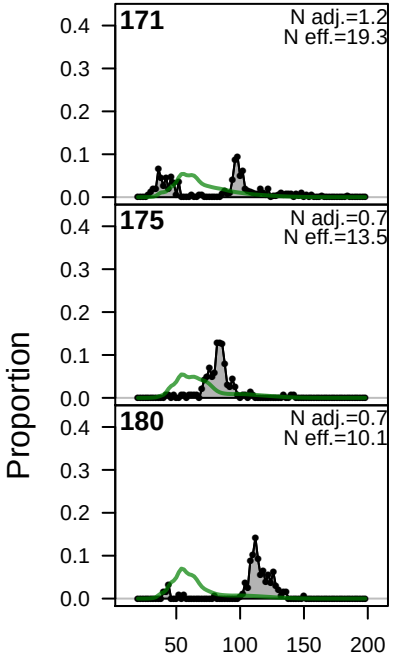

F12−NOA_C (whole catch)
Mean length
200
100
0
−100
40
60
80
100
120
140
160
180
Year


37
N adj.=0.5
N eff.=3.9
45
N adj.=5.8
N eff.=36.7
50
N adj.=10.1
N eff.=71.4
54
N adj.=3.9
N eff.=23.7
41
N adj.=1.6
N eff.=19.1
46
N adj.=3.7
N eff.=93.3
51
N adj.=1.6
N eff.=44.7
55
N adj.=2.8
N eff.=30.9
42
N adj.=1.2
N eff.=21.4
48
N adj.=2.3
N eff.=9.8
52
N adj.=0.5
N eff.=28.7
56
N adj.=3.2
N eff.=113.6
44
N adj.=3.2
N eff.=24.2
49
N adj.=3.9
N eff.=68.9
53
N adj.=11.1
N eff.=23.4
57
N adj.=0.5
N eff.=9.2
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

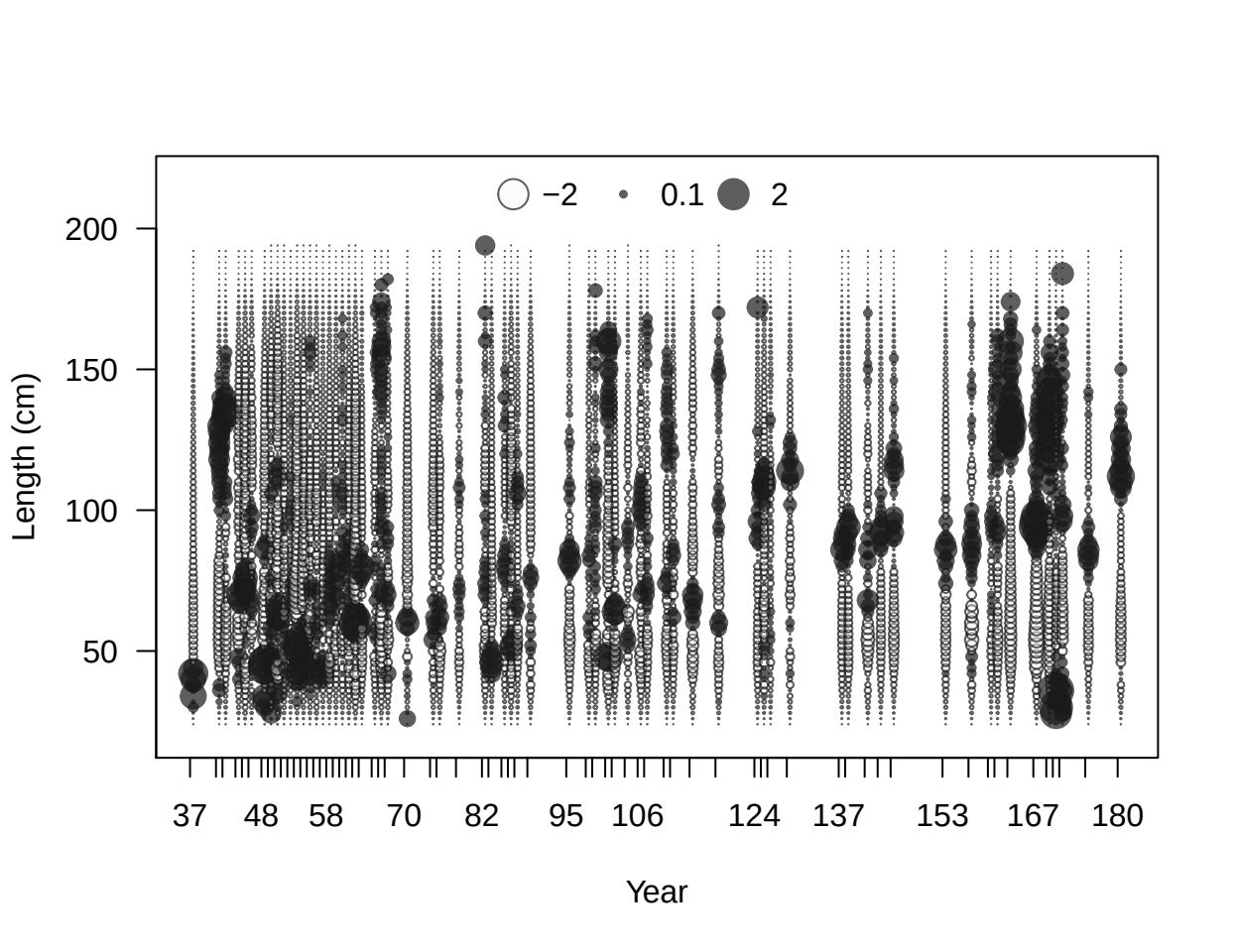

58
N adj.=1.6
N eff.=38.5
62
N adj.=6.7
N eff.=15.6
67
N adj.=1.6
N eff.=43
78
N adj.=0.7
N eff.=49.9
59
N adj.=1.4
N eff.=36.1
63
N adj.=0.9
N eff.=15.2
70
N adj.=2.8
N eff.=21.1
82
N adj.=2.1
N eff.=59.7
60
N adj.=1.4
N eff.=62.9
65
N adj.=1.4
N eff.=77
74
N adj.=1.8
N eff.=31
83
N adj.=0.7
N eff.=7.7
61
N adj.=1.8
N eff.=45.2
66
N adj.=3
N eff.=47.3
75
N adj.=1.6
N eff.=26.1
85
N adj.=0.5
N eff.=17.1
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

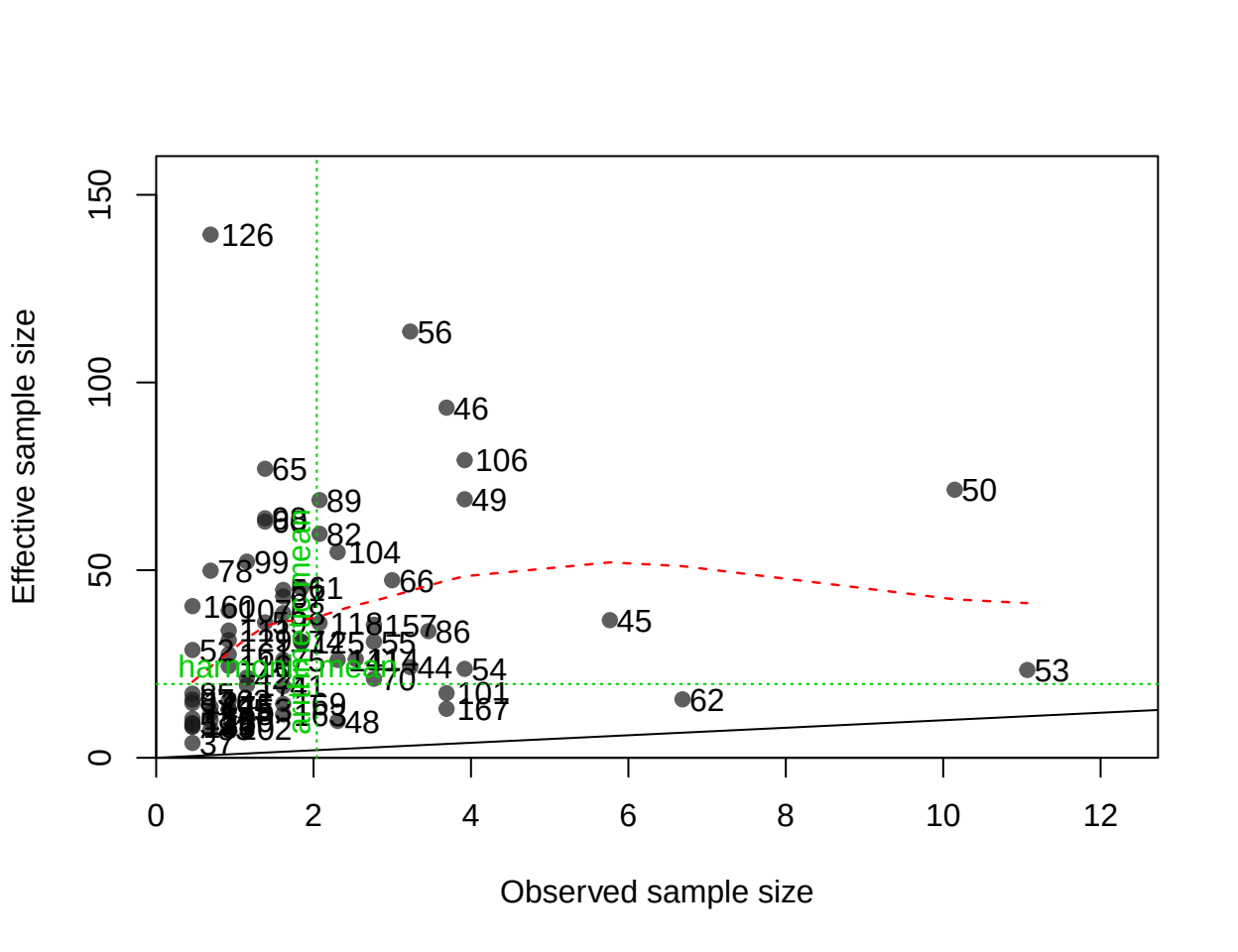

86
N adj.=3.5
N eff.=33.7
98
N adj.=1.4
N eff.=63.8
104
N adj.=2.3
N eff.=54.8
111
N adj.=0.9
N eff.=33.9
87
N adj.=0.5
N eff.=15.5
99
N adj.=1.2
N eff.=52.2
106
N adj.=3.9
N eff.=79.3
114
N adj.=2.5
N eff.=26.3
89
N adj.=2.1
N eff.=68.7
101
N adj.=3.7
N eff.=17.2
107
N adj.=0.9
N eff.=39.2
118
N adj.=2.1
N eff.=35.9
95
N adj.=0.9
N eff.=13
102
N adj.=0.9
N eff.=7.9
110
N adj.=0.9
N eff.=24.5
124
N adj.=0.5
N eff.=14.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

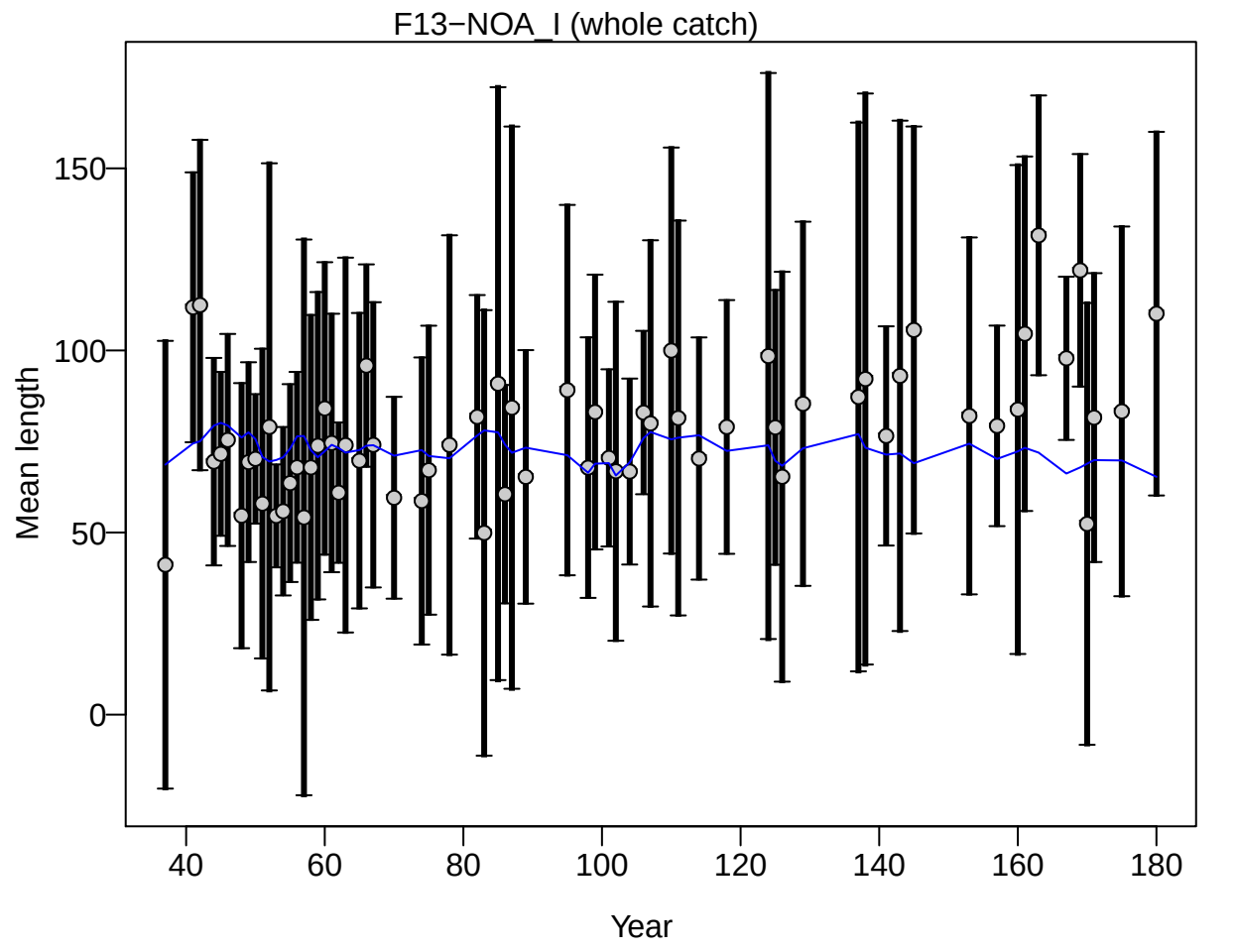

125
N adj.=1.8
N eff.=30.8
138
N adj.=0.5
N eff.=9.1
153
N adj.=0.9
N eff.=12.8
163
N adj.=1.6
N eff.=11.5
126
N adj.=0.7
N eff.=139.4
141
N adj.=2.3
N eff.=26.1
157
N adj.=2.8
N eff.=35.4
167
N adj.=3.7
N eff.=13
129
N adj.=0.9
N eff.=31.4
143
N adj.=0.5
N eff.=8.3
160
N adj.=0.5
N eff.=40.4
169
N adj.=1.6
N eff.=14.4
137
N adj.=0.5
N eff.=8.3
145
N adj.=0.7
N eff.=11.9
161
N adj.=0.9
N eff.=27.6
170
N adj.=0.5
N eff.=10.4
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

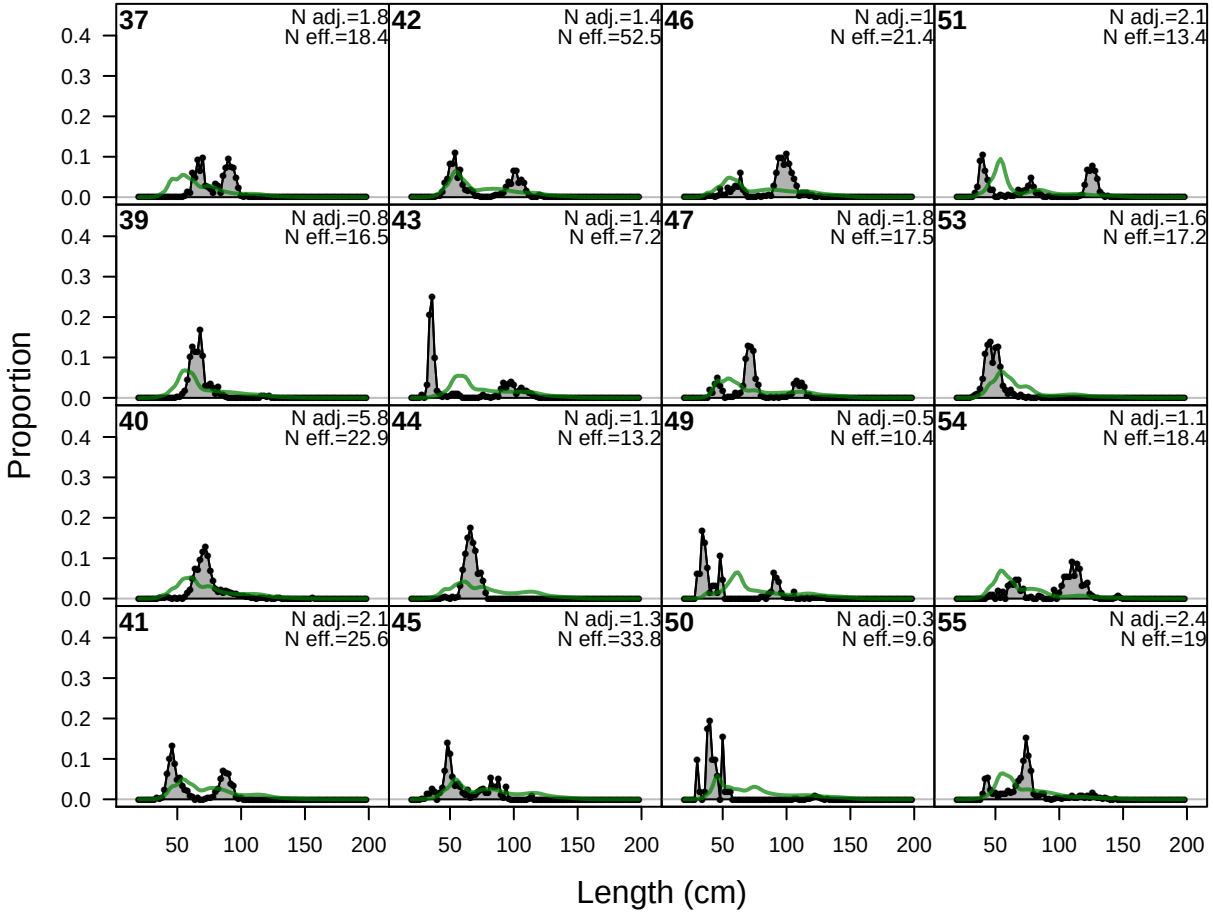

171
N adj.=1.2
N eff.=19.3
175
N adj.=0.7
N eff.=13.5
180
N adj.=0.7
N eff.=10.1
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200

Length (cm)


−2
0.1
2
200
150
100
50
Length (cm)
37
48
58
70
82
95
106
124
137
153
167
180
Year


Effective sample size
Observed sample size
0
50
100
150
0
2
4
6
8
10
12
harmonic mean
arithmetic mean
126
56
46
106
65
89
49
50
82
104
99
78
66
45
86
53
54
62
48


F13−NOA_I (whole catch)
Mean length
150
100
50
0
40
60
80
100
120
140
160
180
Year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N eff.=18.4
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N eff.=52.5
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N eff.=21.4
51
N adj.=2.1
N eff.=13.4
39
N adj.=0.8
N eff.=16.5
43
N adj.=1.4
N eff.=7.2
47
N adj.=1.8
N eff.=17.5
53
N adj.=1.6
N eff.=17.2
40
N adj.=5.8
N eff.=22.9
44
N adj.=1.1
N eff.=13.2
49
N adj.=0.5
N eff.=10.4
54
N adj.=1.1
N eff.=18.4
41
N adj.=2.1
N eff.=25.6
45
N adj.=1.3
N eff.=33.8
50
N adj.=0.3
N eff.=9.6
55
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N eff.=19
Proportion
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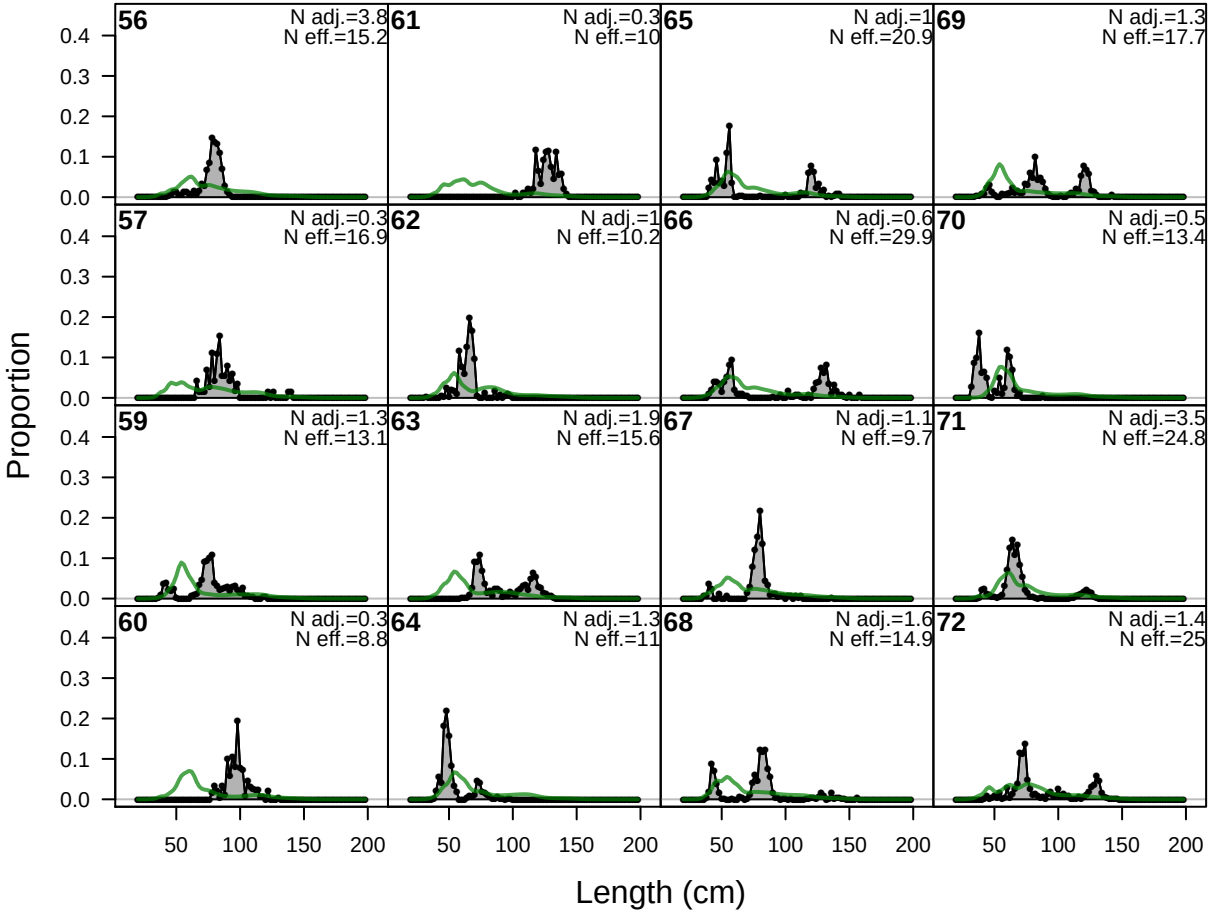
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)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57
N adj.=0.3
N eff.=16.9
62
N adj.=1
N eff.=10.2
66
N adj.=0.6
N eff.=29.9
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N adj.=0.5
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N adj.=1.3
N eff.=13.1
63
N adj.=1.9
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67
N adj.=1.1
N eff.=9.7
71
N adj.=3.5
N eff.=24.8
60
N adj.=0.3
N eff.=8.8
64
N adj.=1.3
N eff.=11
68
N adj.=1.6
N eff.=14.9
72
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N eff.=25
Proportion
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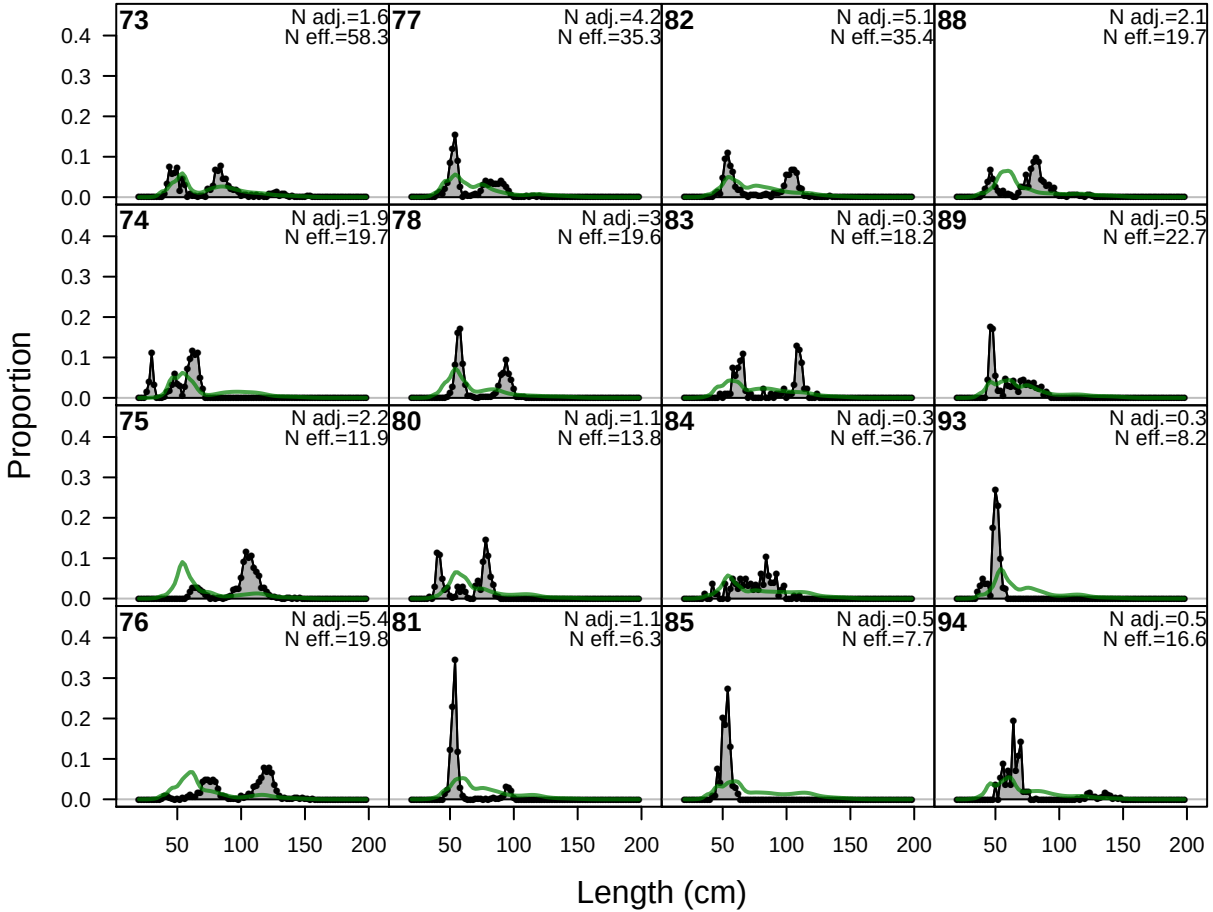
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)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N eff.=35.4
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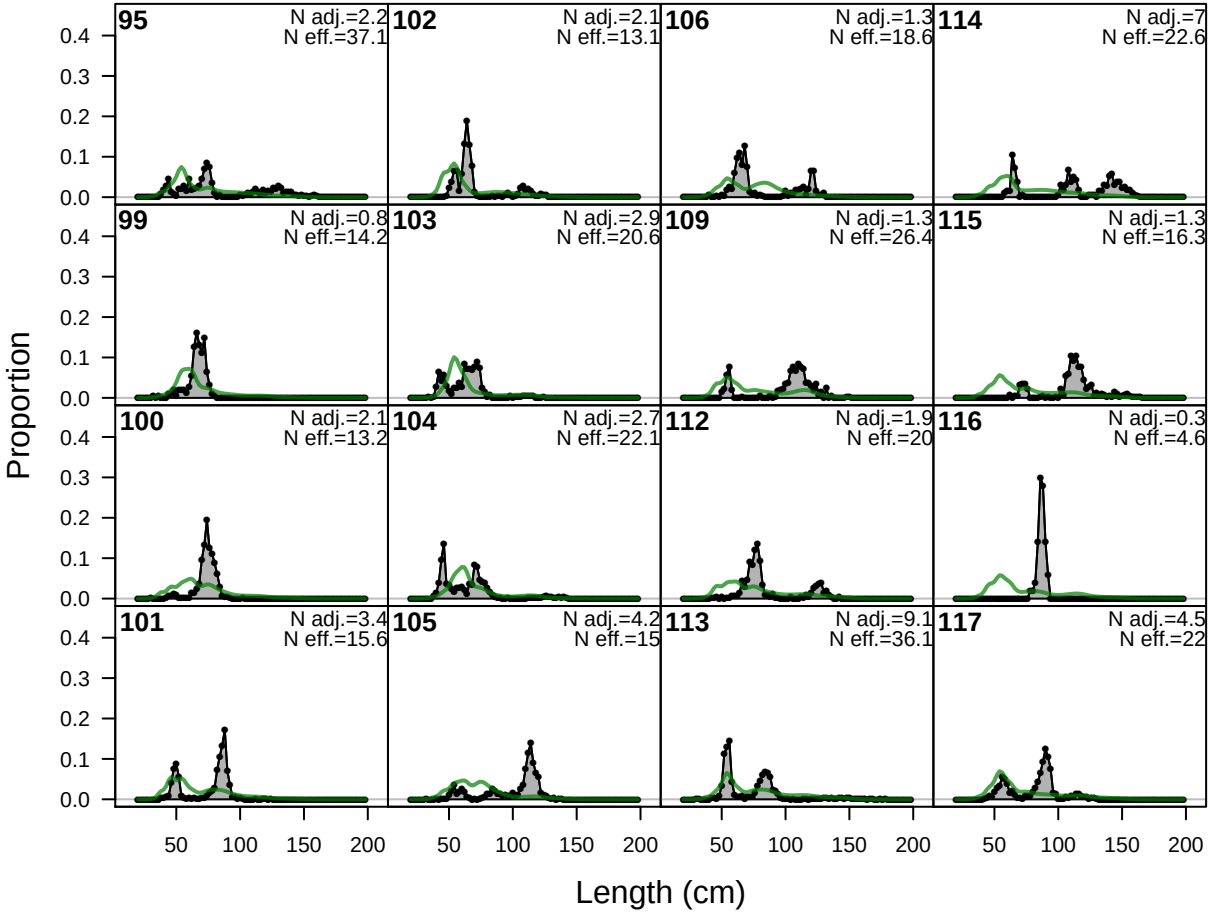
N adj.=2.1
N eff.=19.7
74
N adj.=1.9
N eff.=19.7
78
N adj.=3
N eff.=19.6
83
N adj.=0.3
N eff.=18.2
89
N adj.=0.5
N eff.=22.7
75
N adj.=2.2
N eff.=11.9
80
N adj.=1.1
N eff.=13.8
84
N adj.=0.3
N eff.=36.7
93
N adj.=0.3
N eff.=8.2
76
N adj.=5.4
N eff.=19.8
81
N adj.=1.1
N eff.=6.3
85
N adj.=0.5
N eff.=7.7
94
N adj.=0.5
N eff.=16.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)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106
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N eff.=18.6
114
N adj.=7
N eff.=22.6
99
N adj.=0.8
N eff.=14.2
103
N adj.=2.9
N eff.=20.6
109
N adj.=1.3
N eff.=26.4
115
N adj.=1.3
N eff.=16.3
100
N adj.=2.1
N eff.=13.2
104
N adj.=2.7
N eff.=22.1
112
N adj.=1.9
N eff.=20
116
N adj.=0.3
N eff.=4.6
101
N adj.=3.4
N eff.=15.6
105
N adj.=4.2
N eff.=15
113
N adj.=9.1
N eff.=36.1
117
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N eff.=22
Proportion
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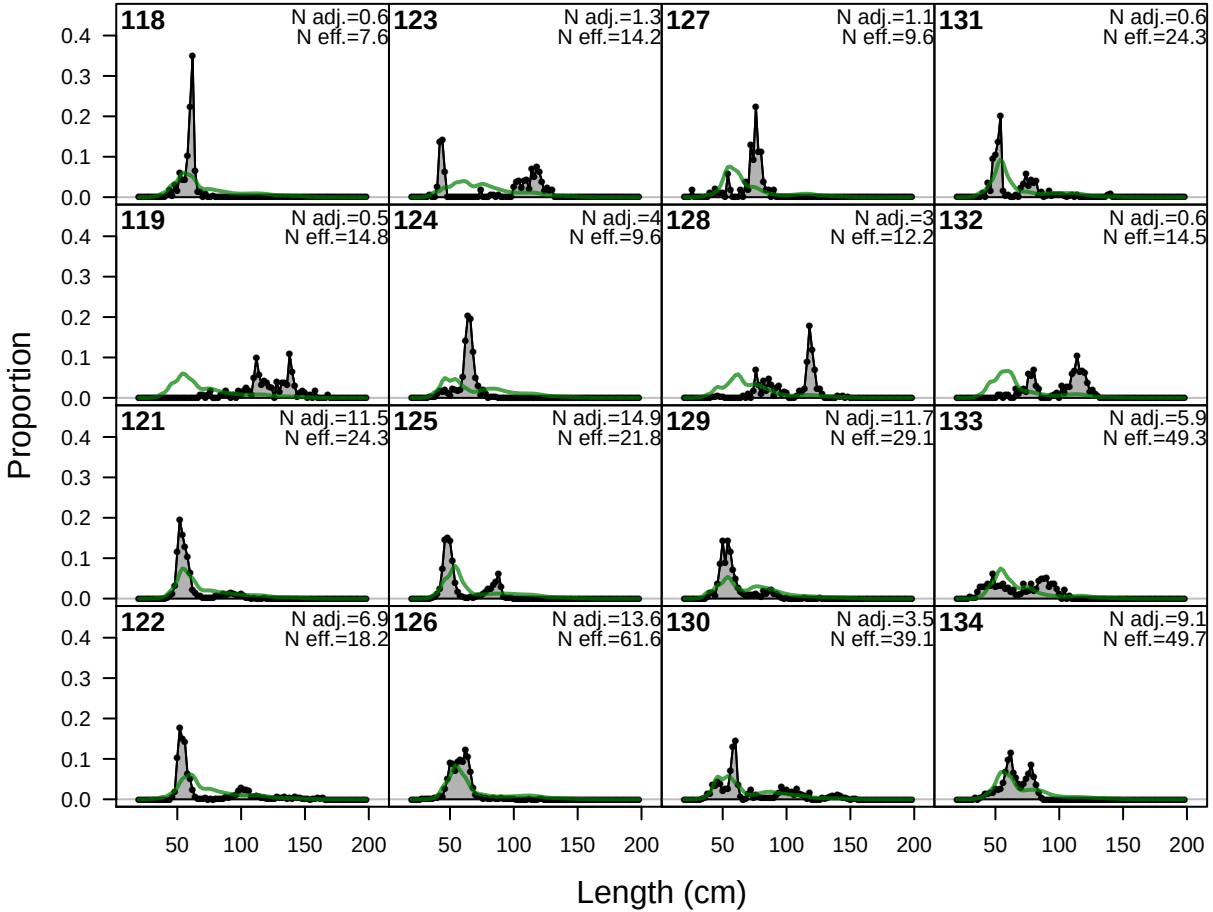
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)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N eff.=7.6
123
N adj.=1.3
N eff.=14.2
127
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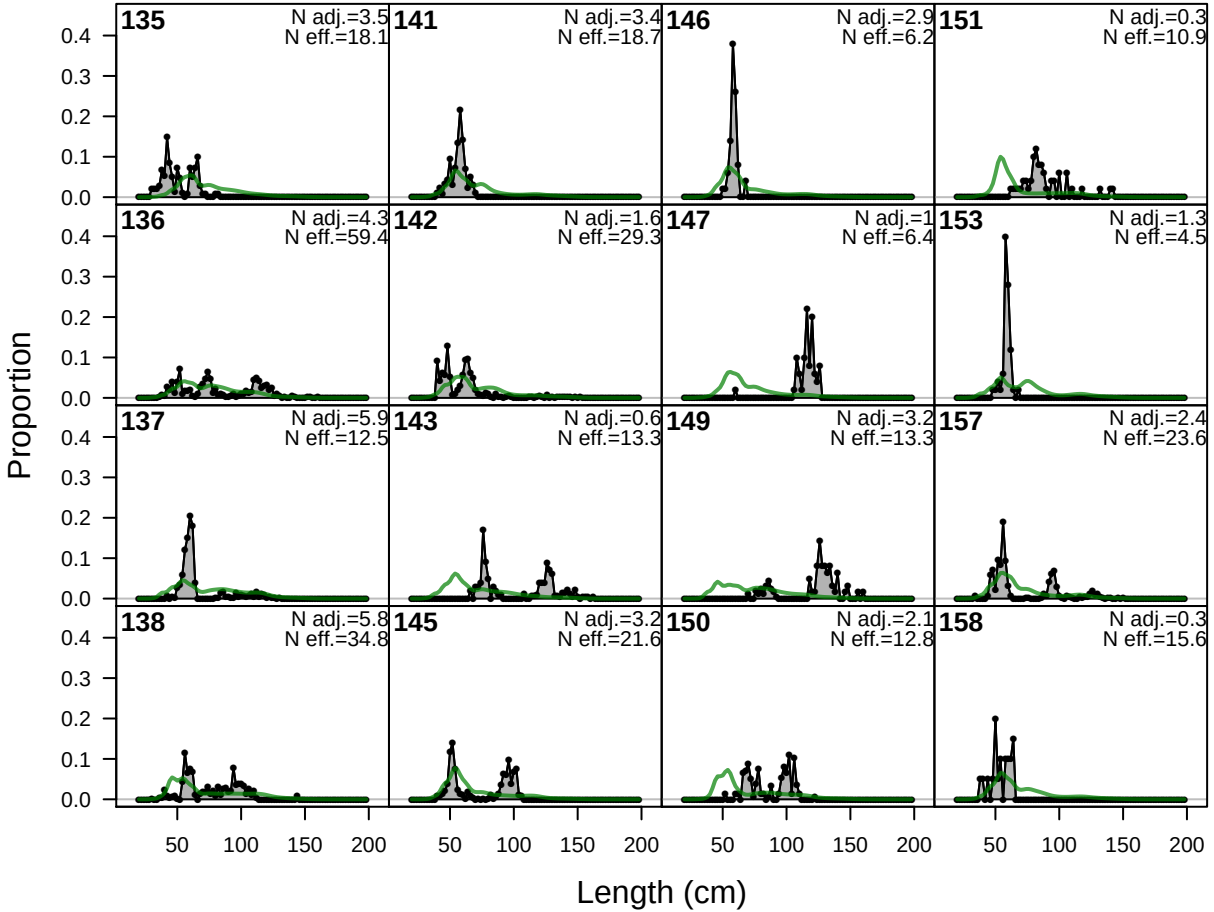
N eff.=9.6
131
N adj.=0.6
N eff.=24.3
119
N adj.=0.5
N eff.=14.8
124
N adj.=4
N eff.=9.6
128
N adj.=3
N eff.=12.2
132
N adj.=0.6
N eff.=14.5
121
N adj.=11.5
N eff.=24.3
125
N adj.=14.9
N eff.=21.8
129
N adj.=11.7
N eff.=29.1
133
N adj.=5.9
N eff.=49.3
122
N adj.=6.9
N eff.=18.2
126
N adj.=13.6
N eff.=61.6
130
N adj.=3.5
N eff.=39.1
134
N adj.=9.1
N eff.=49.7
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)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N eff.=18.7
146
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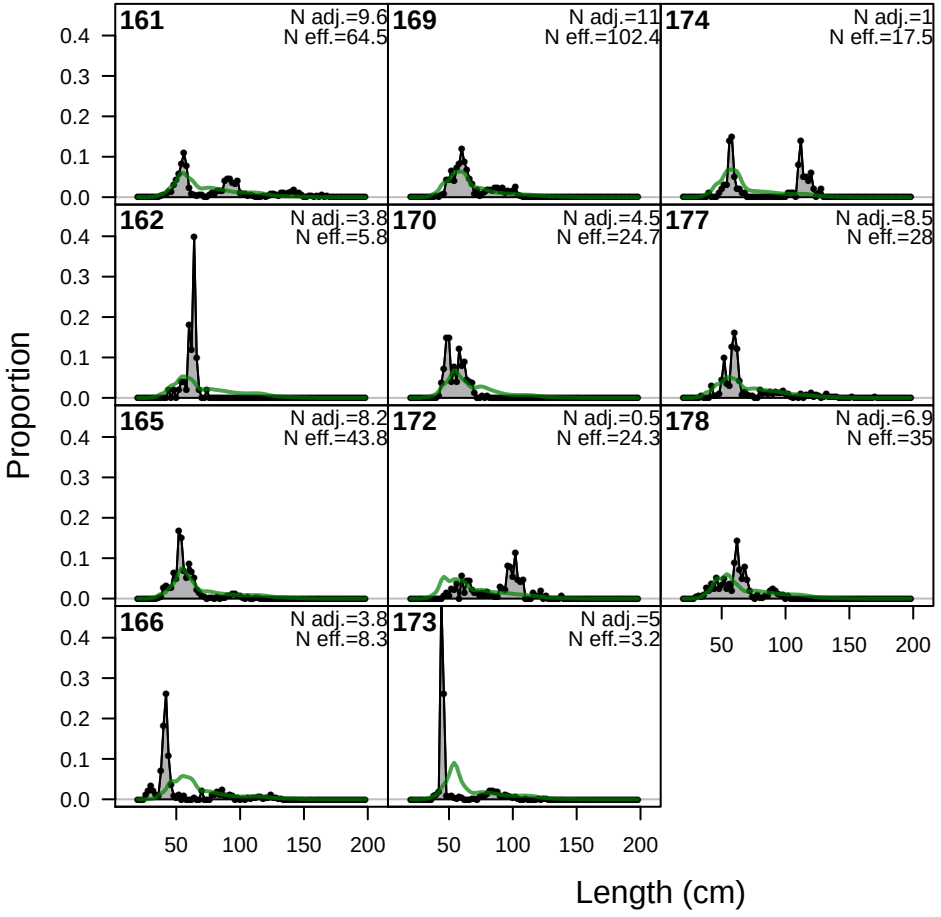
N eff.=6.2
151
N adj.=0.3
N eff.=10.9
136
N adj.=4.3
N eff.=59.4
142
N adj.=1.6
N eff.=29.3
147
N adj.=1
N eff.=6.4
153
N adj.=1.3
N eff.=4.5
137
N adj.=5.9
N eff.=12.5
143
N adj.=0.6
N eff.=13.3
149
N adj.=3.2
N eff.=13.3
157
N adj.=2.4
N eff.=23.6
138
N adj.=5.8
N eff.=34.8
145
N adj.=3.2
N eff.=21.6
150
N adj.=2.1
N eff.=12.8
158
N adj.=0.3
N eff.=15.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


161
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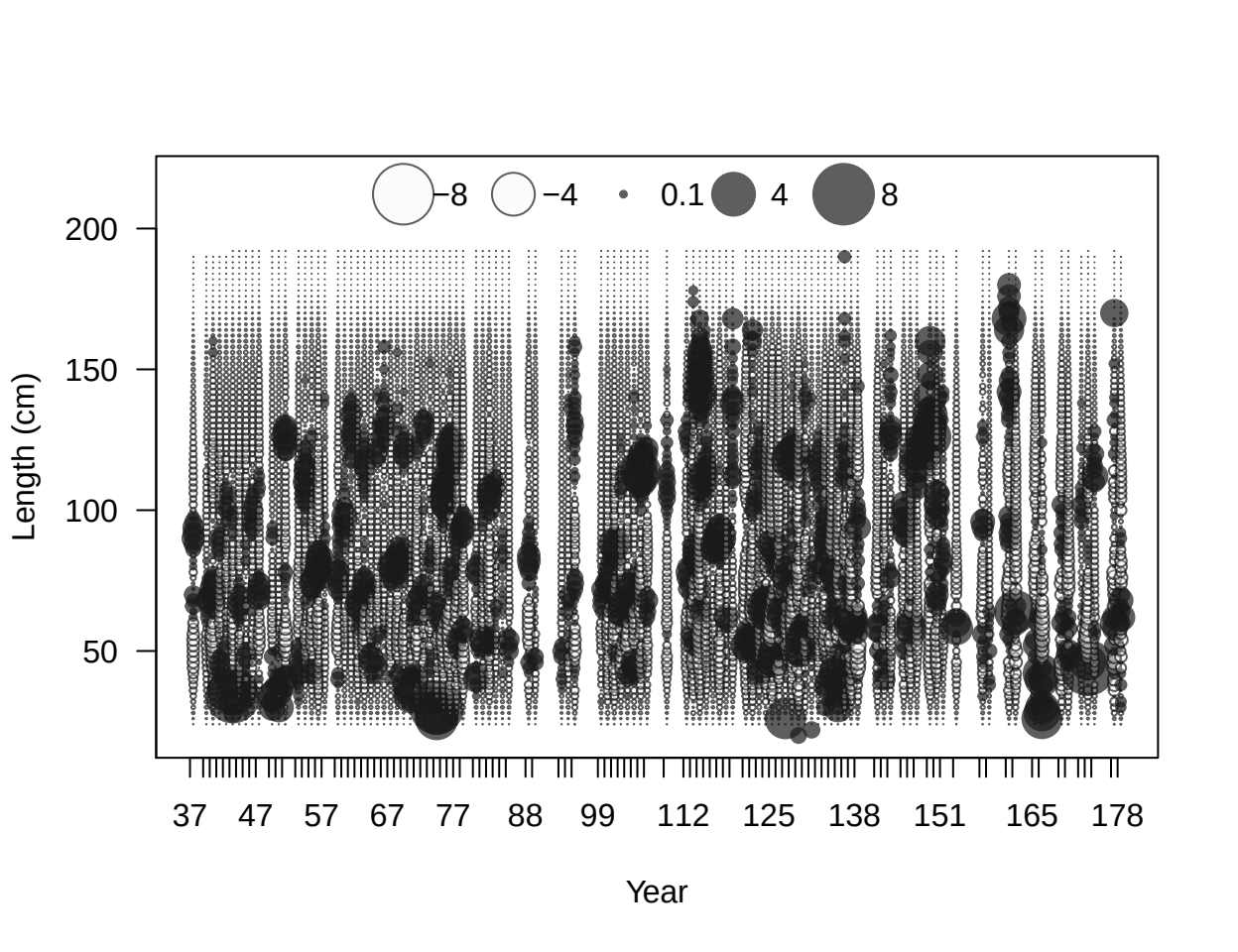
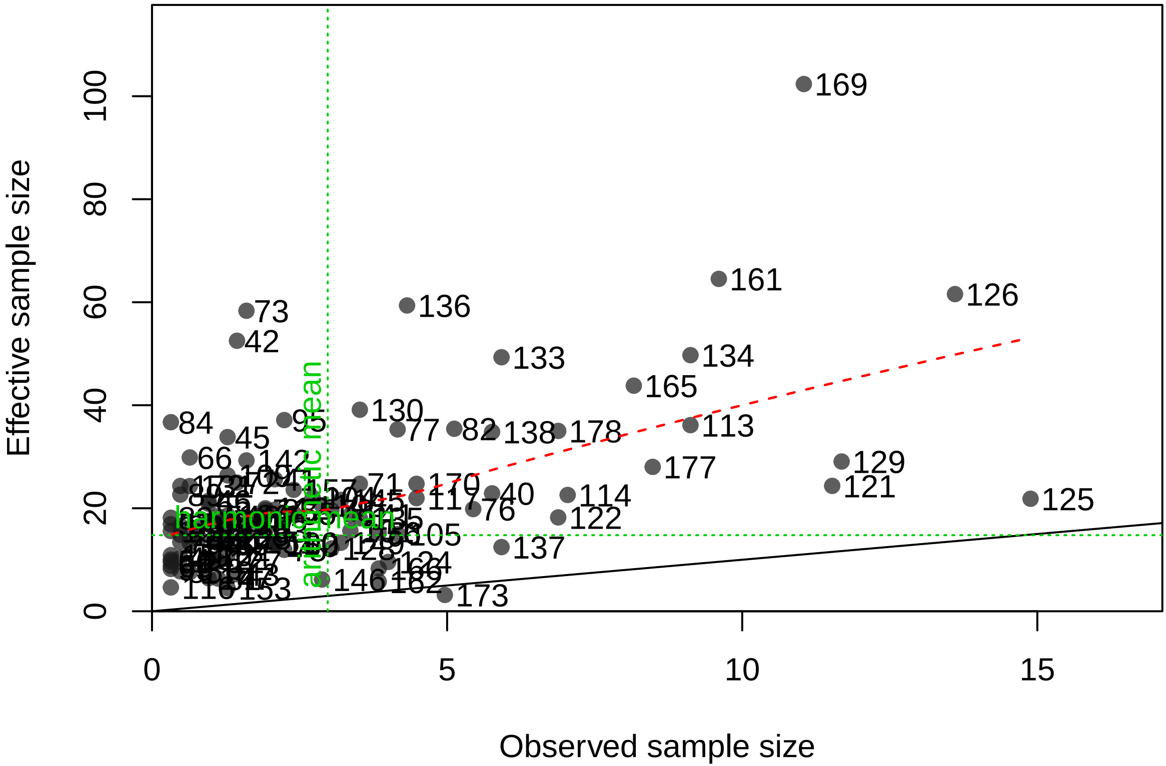
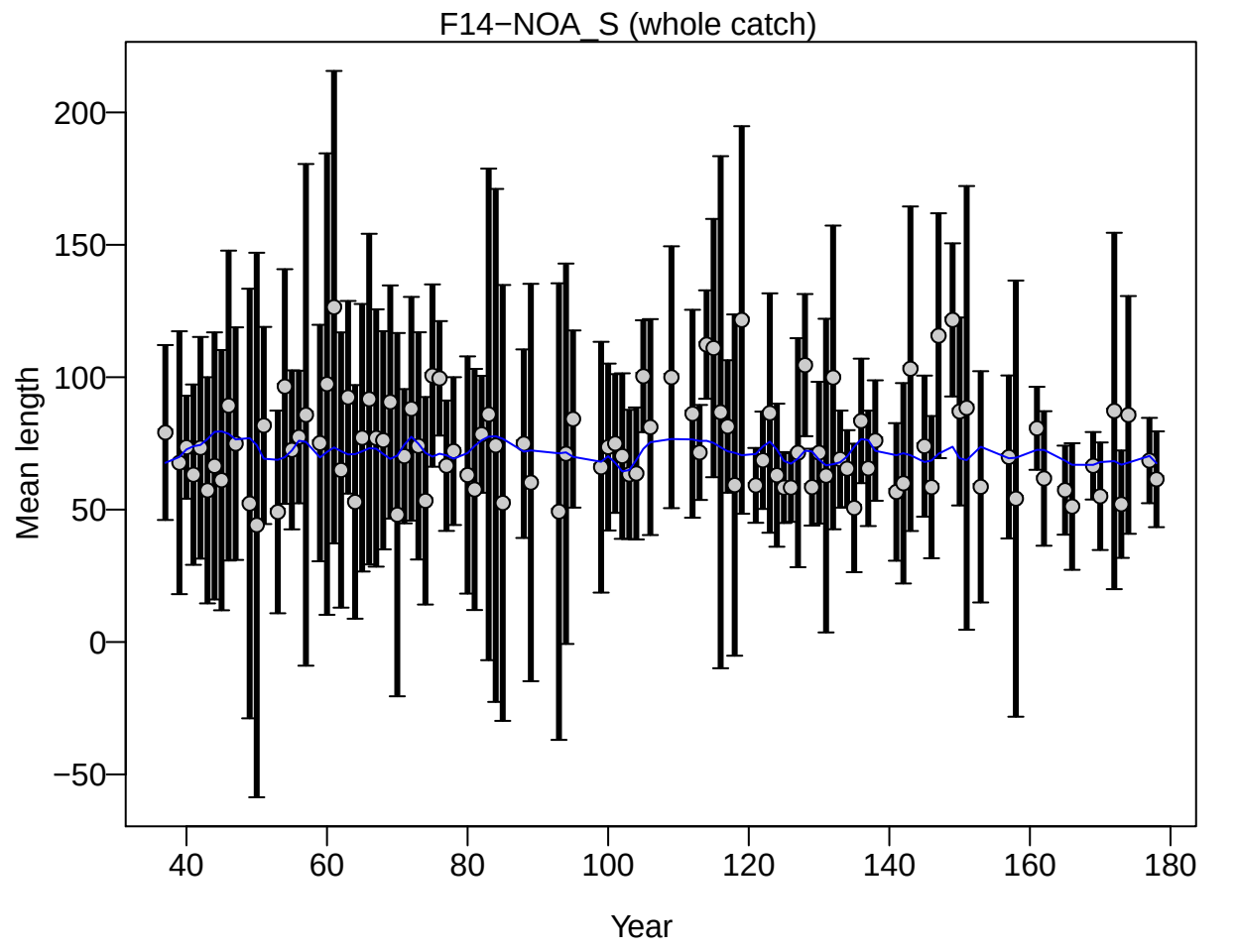
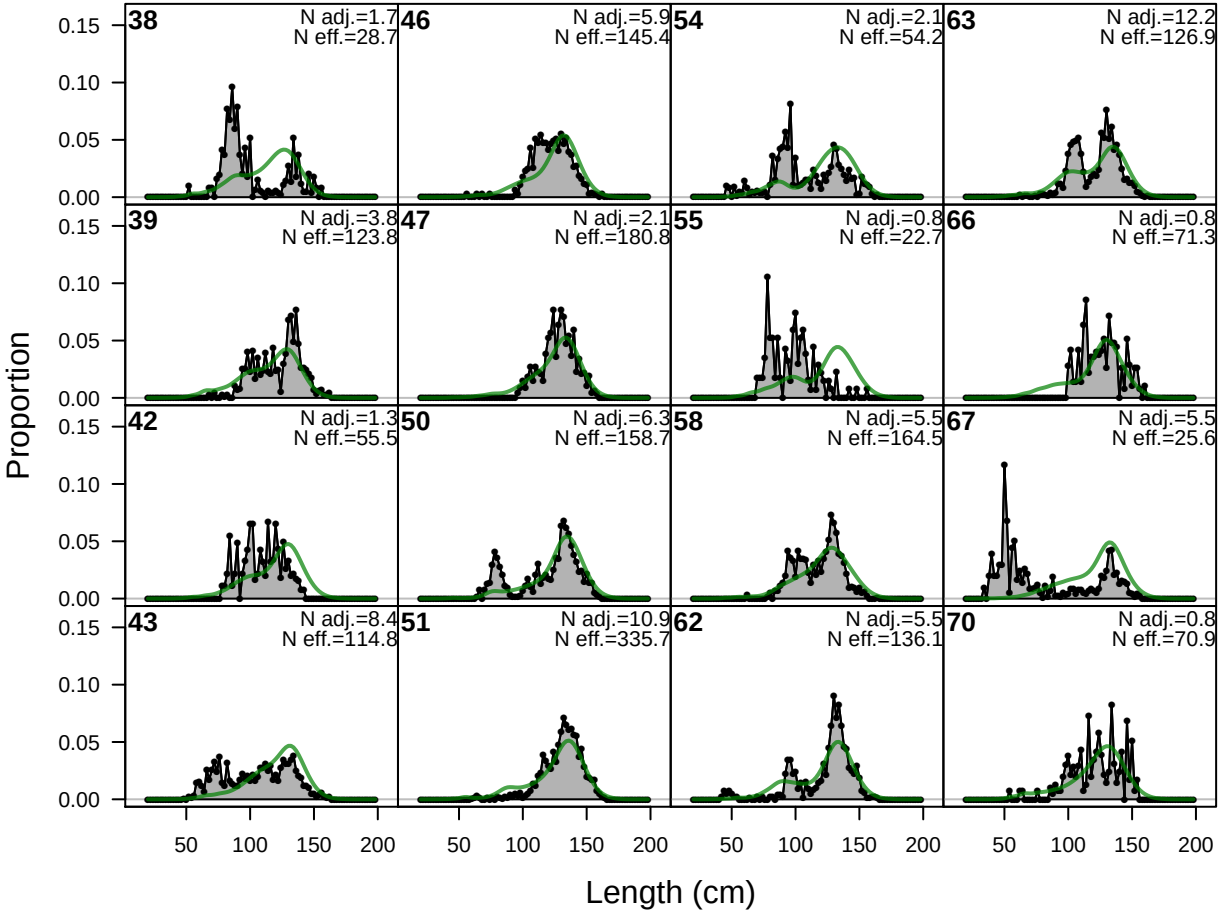
N eff.=64.5
169
N adj.=11
N eff.=102.4
174
N adj.=1
N eff.=17.5
162
N adj.=3.8
N eff.=5.8
170
N adj.=4.5
N eff.=24.7
177
N adj.=8.5
N eff.=28
165
N adj.=8.2
N eff.=43.8
172
N adj.=0.5
N eff.=24.3
178
N adj.=6.9
N eff.=35
166
N adj.=3.8
N eff.=8.3
173
N adj.=5
N eff.=3.2
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


−8
−4
0.1
4
8
200
150
100
50
Length (cm)
37
47
57
67
77
88
99
112
125
138
151
165
178
Year



Effective sample size
Observed sample size
0
20
40
60
80
100
0
5
10
15
harmonic mean
arithmetic mean
169
161
126
136
73
42
133
134
165
130
84
45
77
82
138
178
113
66
142
177
129
121
71
170
117
40
114
76
125
122
105
137
146
182
173
116
153


F14−NOA_S (whole catch)
Mean length
200
150
100
50
0
−50
40
60
80
100
120
140
160
180
Year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N adj.=1.7
N eff.=28.7
46
N adj.=5.9
N eff.=145.4
54
N adj.=2.1
N eff.=54.2
63
N adj.=12.2
N eff.=126.9
39
N adj.=3.8
N eff.=123.8
47
N adj.=2.1
N eff.=180.8
55
N adj.=0.8
N eff.=22.7
66
N adj.=0.8
N eff.=71.3
42
N adj.=1.3
N eff.=55.5
50
N adj.=6.3
N eff.=158.7
58
N adj.=5.5
N eff.=164.5
67
N adj.=5.5
N eff.=25.6
43
N adj.=8.4
N eff.=114.8
51
N adj.=10.9
N eff.=335.7
62
N adj.=5.5
N eff.=136.1
70
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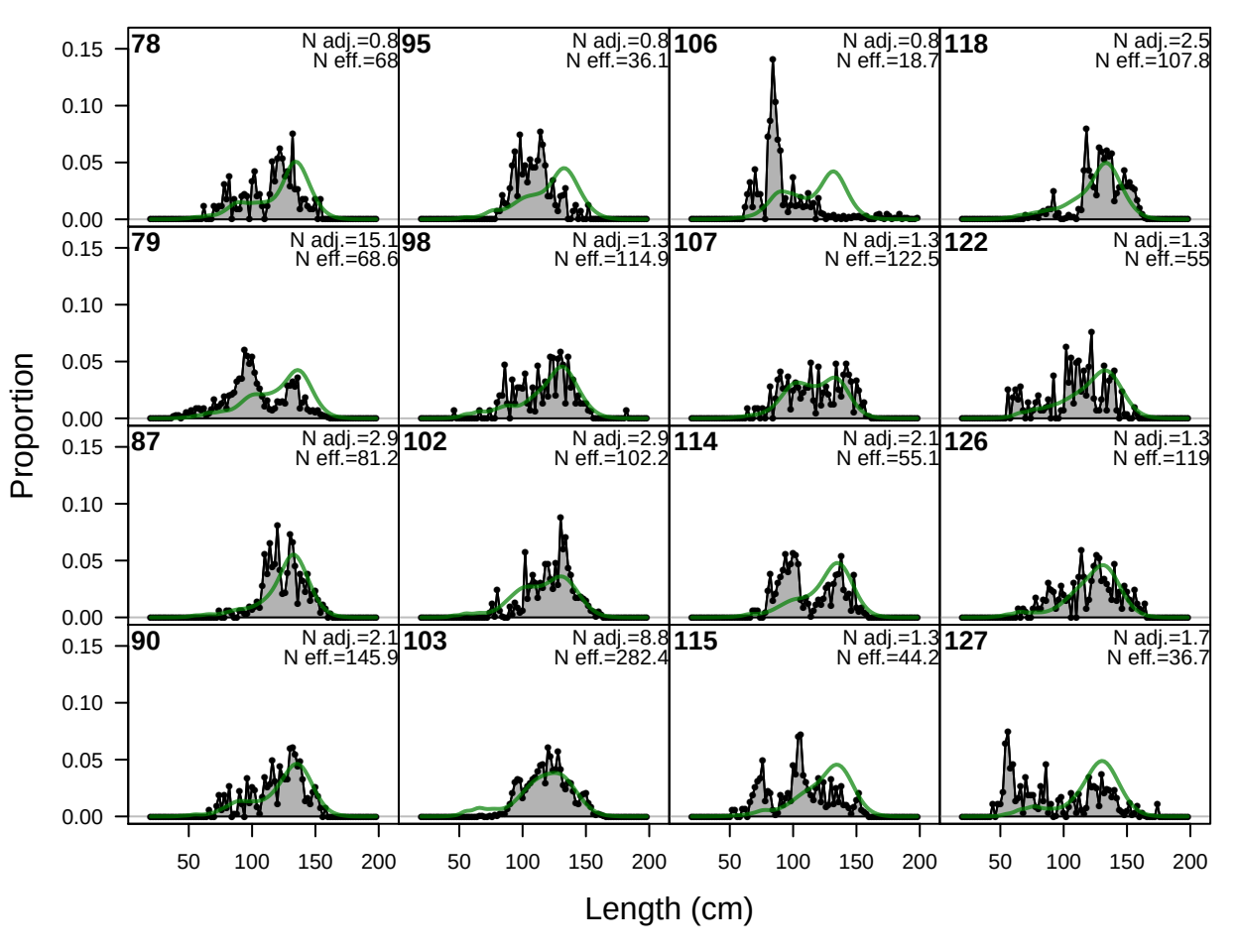
N eff.=70.9
Proportion
0.00
0.05
0.10
0.15
50
100
150
200
Length (cm)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N eff.=68
95
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N eff.=36.1
106
N adj.=0.8
N eff.=18.7
118
N adj.=2.5
N eff.=107.8
79
N adj.=15.1
N eff.=68.6
98
N adj.=1.3
N eff.=114.9
107
N adj.=1.3
N eff.=122.5
122
N adj.=1.3
N eff.=55
87
N adj.=2.9
N eff.=81.2
102
N adj.=2.9
N eff.=102.2
114
N adj.=2.1
N eff.=55.1
126
N adj.=1.3
N eff.=119
90
N adj.=2.1
N eff.=145.9
103
N adj.=8.8
N eff.=282.4
115
N adj.=1.3
N eff.=44.2
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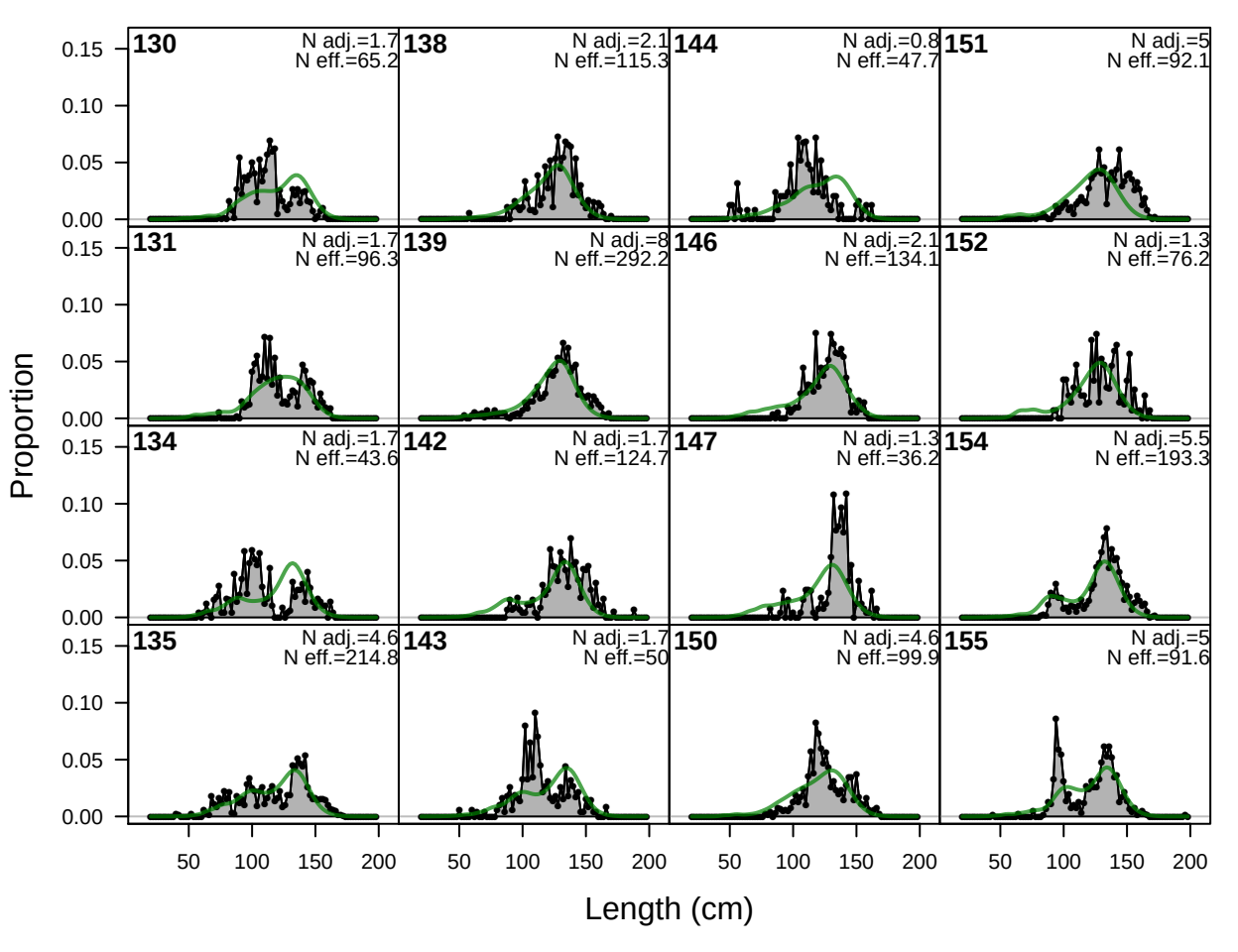
N adj.=1.7
N eff.=36.7
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)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N adj.=2.1
N eff.=115.3
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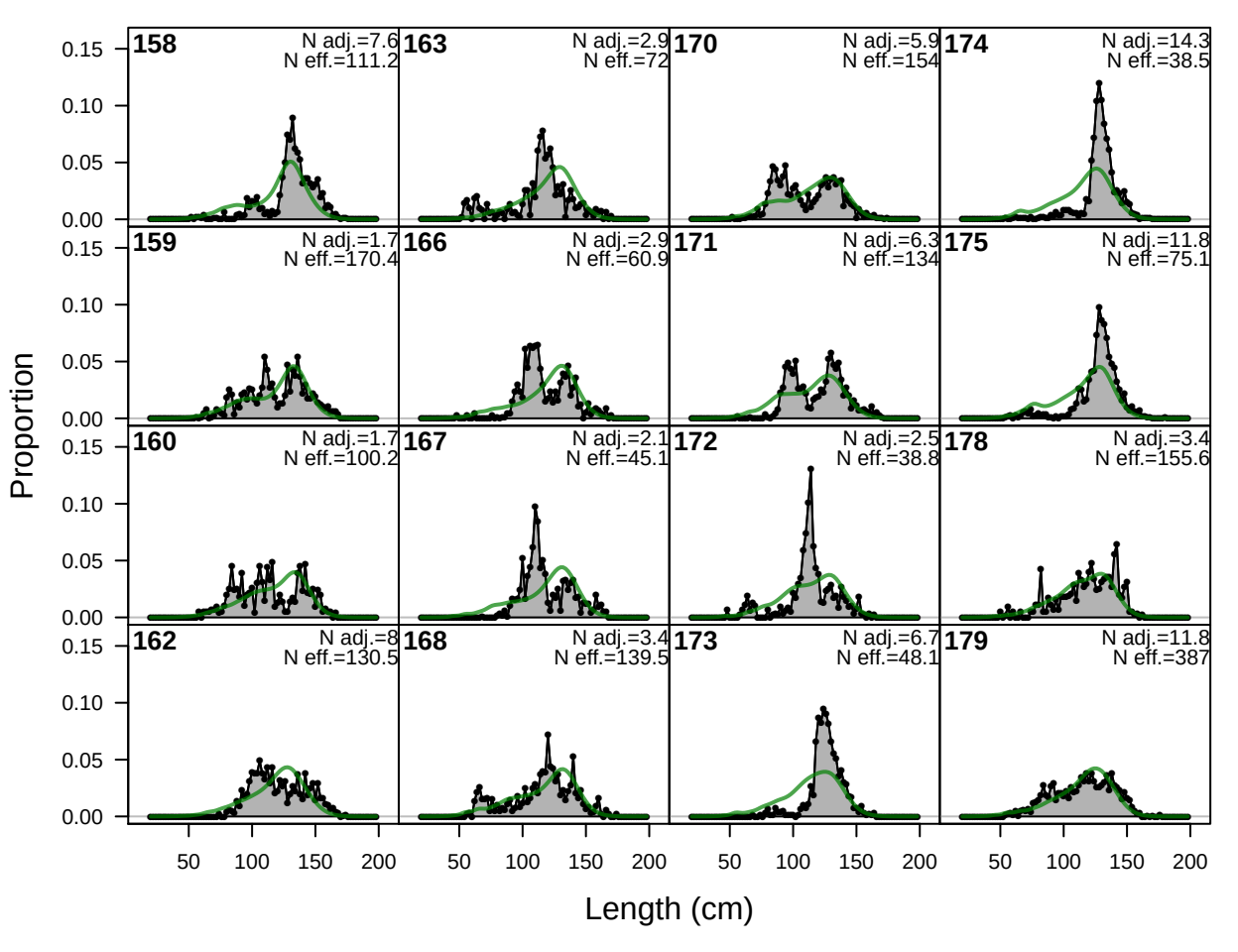
N eff.=47.7
151
N adj.=5
N eff.=92.1
131
N adj.=1.7
N eff.=96.3
139
N adj.=8
N eff.=292.2
146
N adj.=2.1
N eff.=134.1
152
N adj.=1.3
N eff.=76.2
134
N adj.=1.7
N eff.=43.6
142
N adj.=1.7
N eff.=124.7
147
N adj.=1.3
N eff.=36.2
154
N adj.=5.5
N eff.=193.3
135
N adj.=4.6
N eff.=214.8
143
N adj.=1.7
N eff.=50
150
N adj.=4.6
N eff.=99.9
155
N adj.=5
N eff.=91.6
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)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N eff.=111.2
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N adj.=2.9
N eff.=72
170
N adj.=5.9
N eff.=154
174
N adj.=14.3
N eff.=38.5
159
N adj.=1.7
N eff.=170.4
166
N adj.=2.9
N eff.=60.9
171
N adj.=6.3
N eff.=134
175
N adj.=11.8
N eff.=75.1
160
N adj.=1.7
N eff.=100.2
167
N adj.=2.1
N eff.=45.1
172
N adj.=2.5
N eff.=38.8
178
N adj.=3.4
N eff.=155.6
162
N adj.=8
N eff.=130.5
168
N adj.=3.4
N eff.=139.5
173
N adj.=6.7
N eff.=48.1
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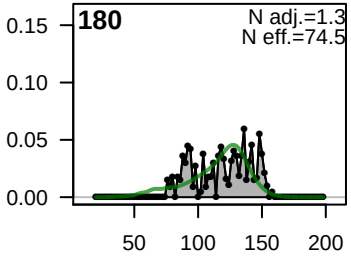
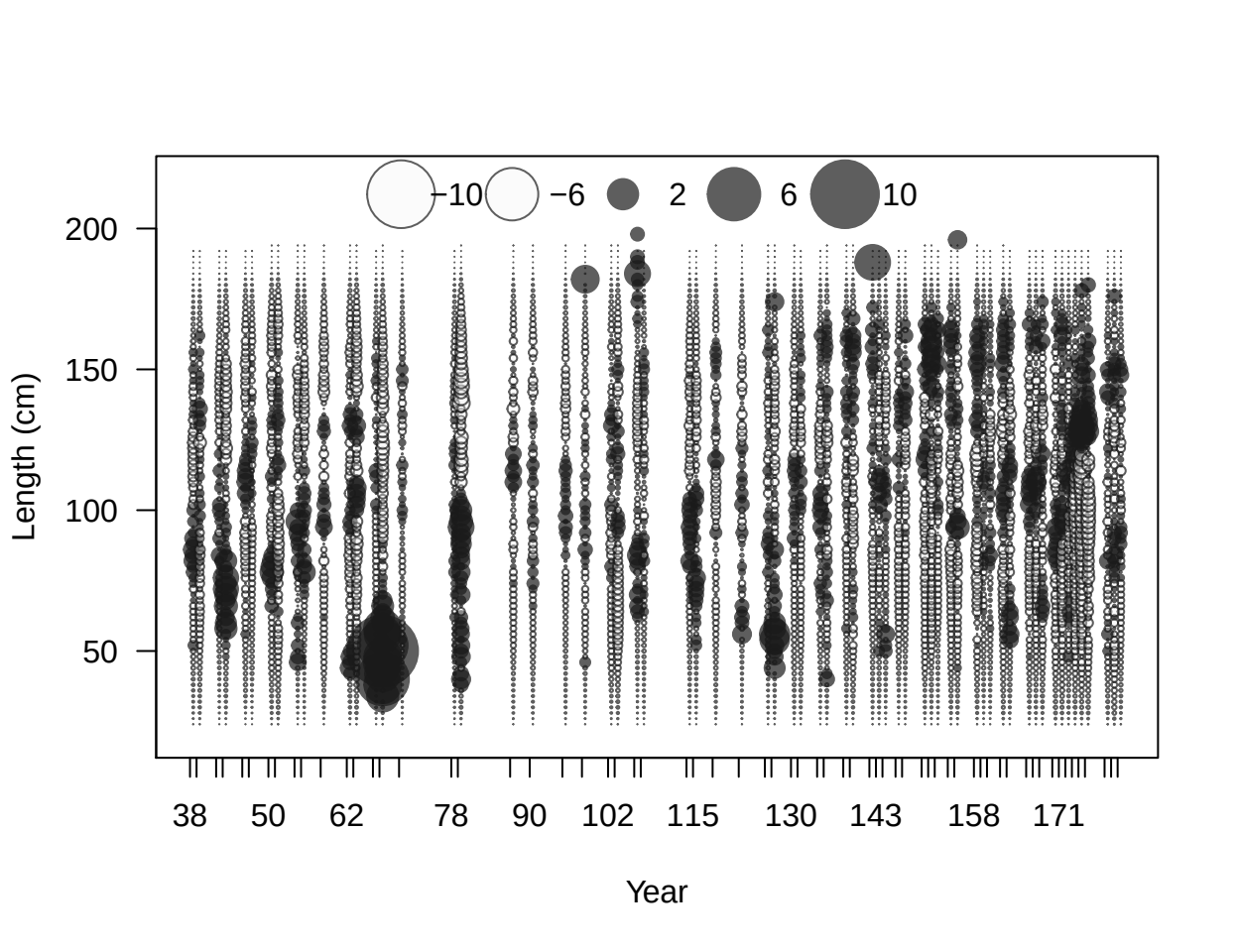
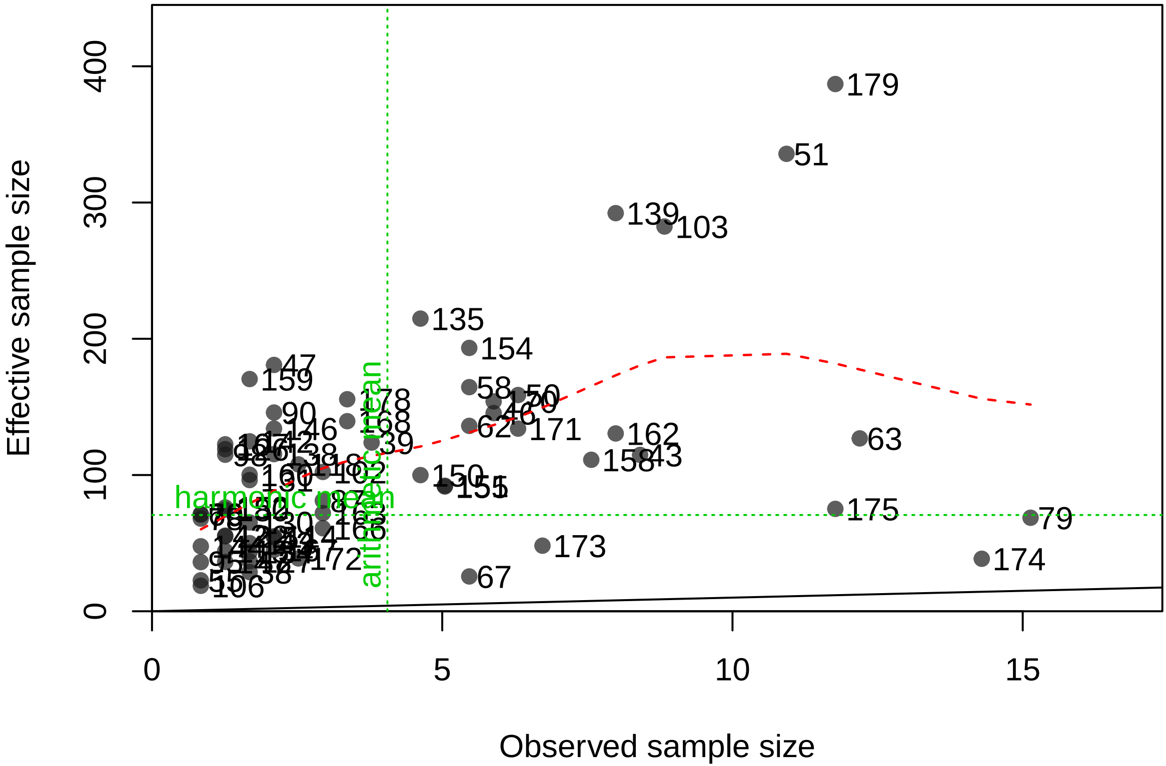
N adj.=11.8
N eff.=387
Proportion
0.00
0.05
0.10
0.15
50
100
150
200
Length (cm)



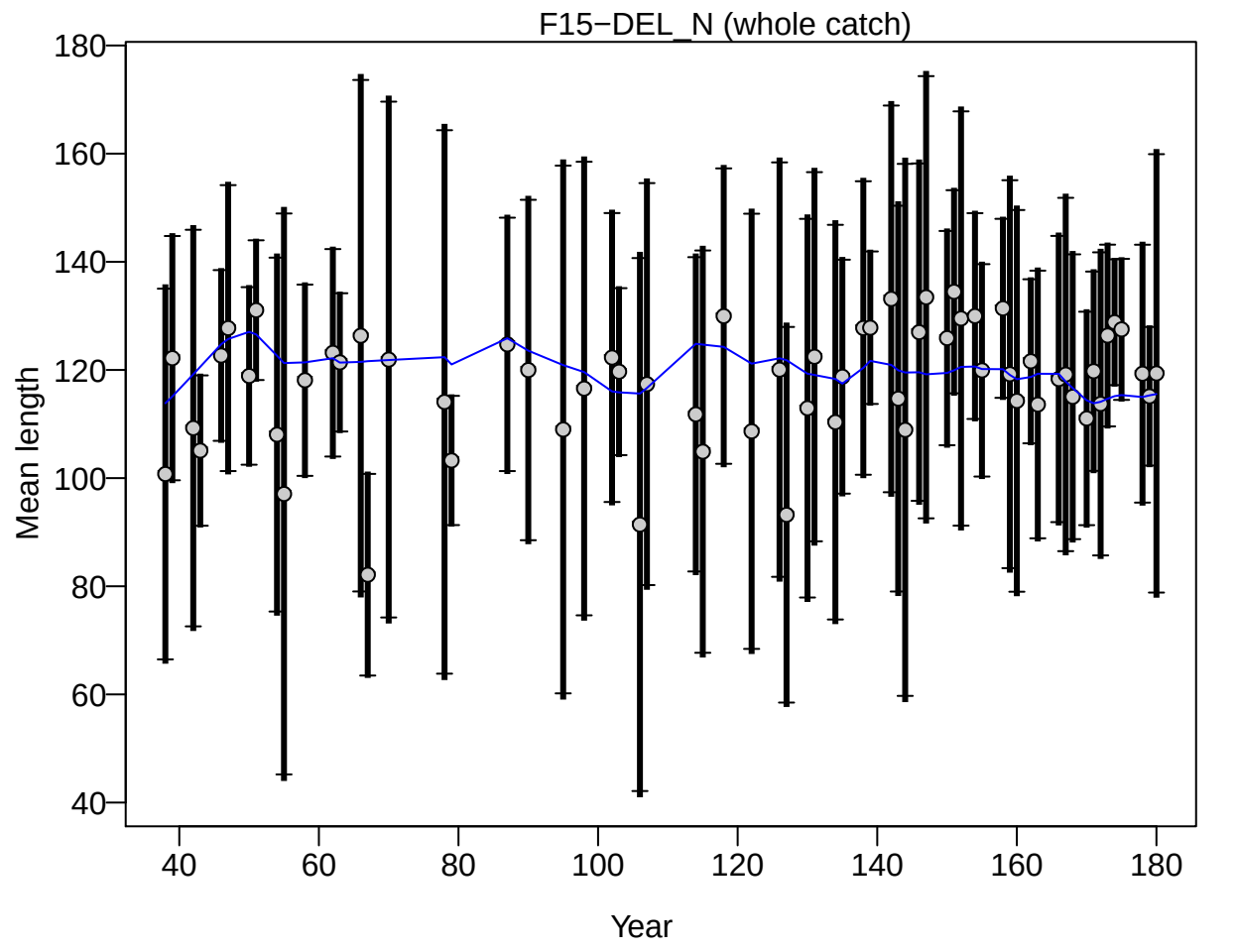
Proportion

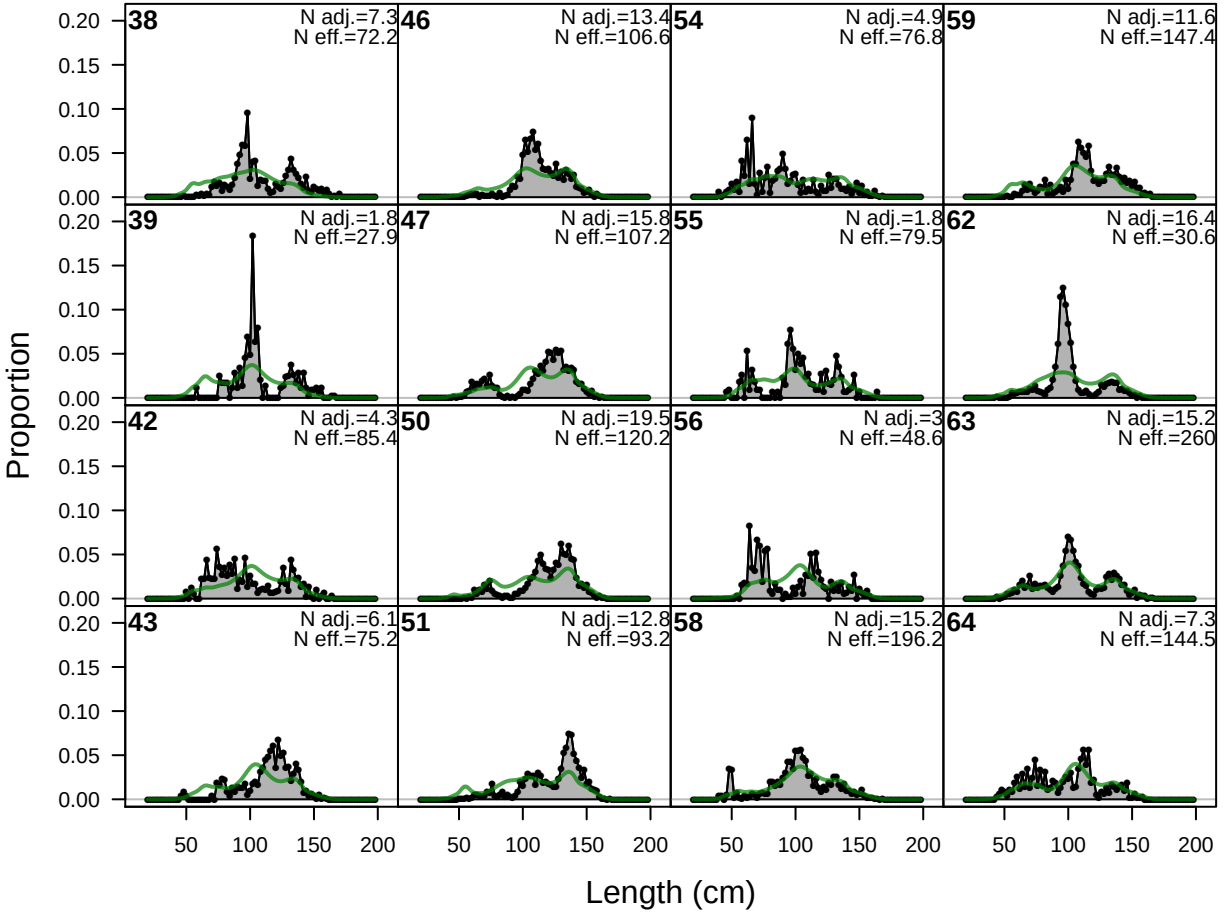
Length (cm)


−10
−6
2
6
10
200
150
100
50
Length (cm)
38
50
62
78
90
102
115
130
143
158
171
Year



Effective sample size
Observed sample size
0
100
200
300
400
0
5
10
15
harmonic mean
arithmetic mean
179
51
139
103
135
154
63
175
79
173
174
67
171
162
158
43


F15−DEL_N (whole catch)
Mean length
Year
180
160
140
120
100
80
60
40
40
60
80
100
120
140
160
180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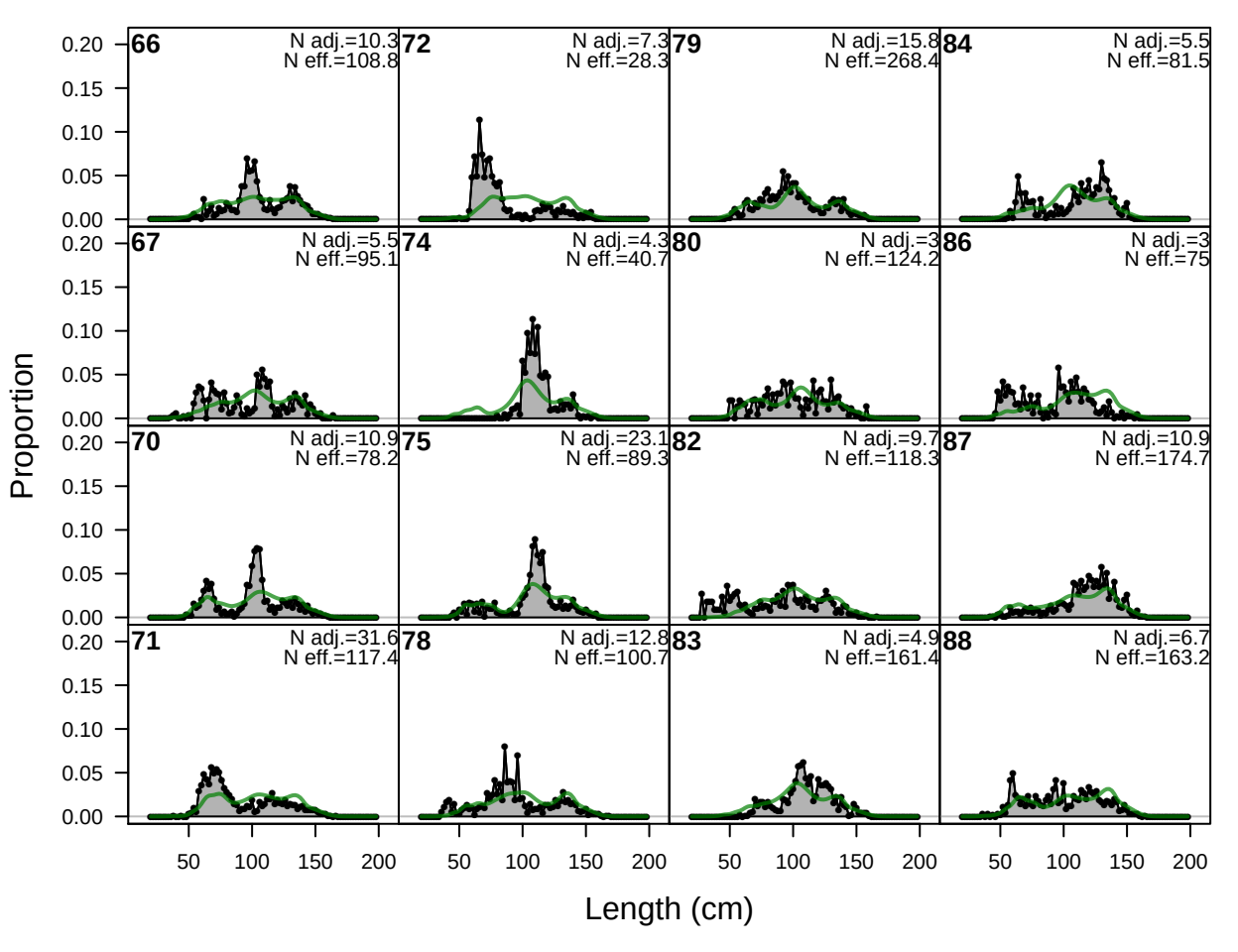
N eff.=72.2
46
N adj.=13.4
N eff.=106.6
54
N adj.=4.9
N eff.=76.8
59
N adj.=11.6
N eff.=147.4
39
N adj.=1.8
N eff.=27.9
47
N adj.=15.8
N eff.=107.2
55
N adj.=1.8
N eff.=79.5
62
N adj.=16.4
N eff.=30.6
42
N adj.=4.3
N eff.=85.4
50
N adj.=19.5
N eff.=120.2
56
N adj.=3
N eff.=48.6
63
N adj.=15.2
N eff.=260
43
N adj.=6.1
N eff.=75.2
51
N adj.=12.8
N eff.=93.2
58
N adj.=15.2
N eff.=196.2
64
N adj.=7.3
N eff.=144.5
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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N eff.=268.4
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N eff.=81.5
67
N adj.=5.5
N eff.=95.1
74
N adj.=4.3
N eff.=40.7
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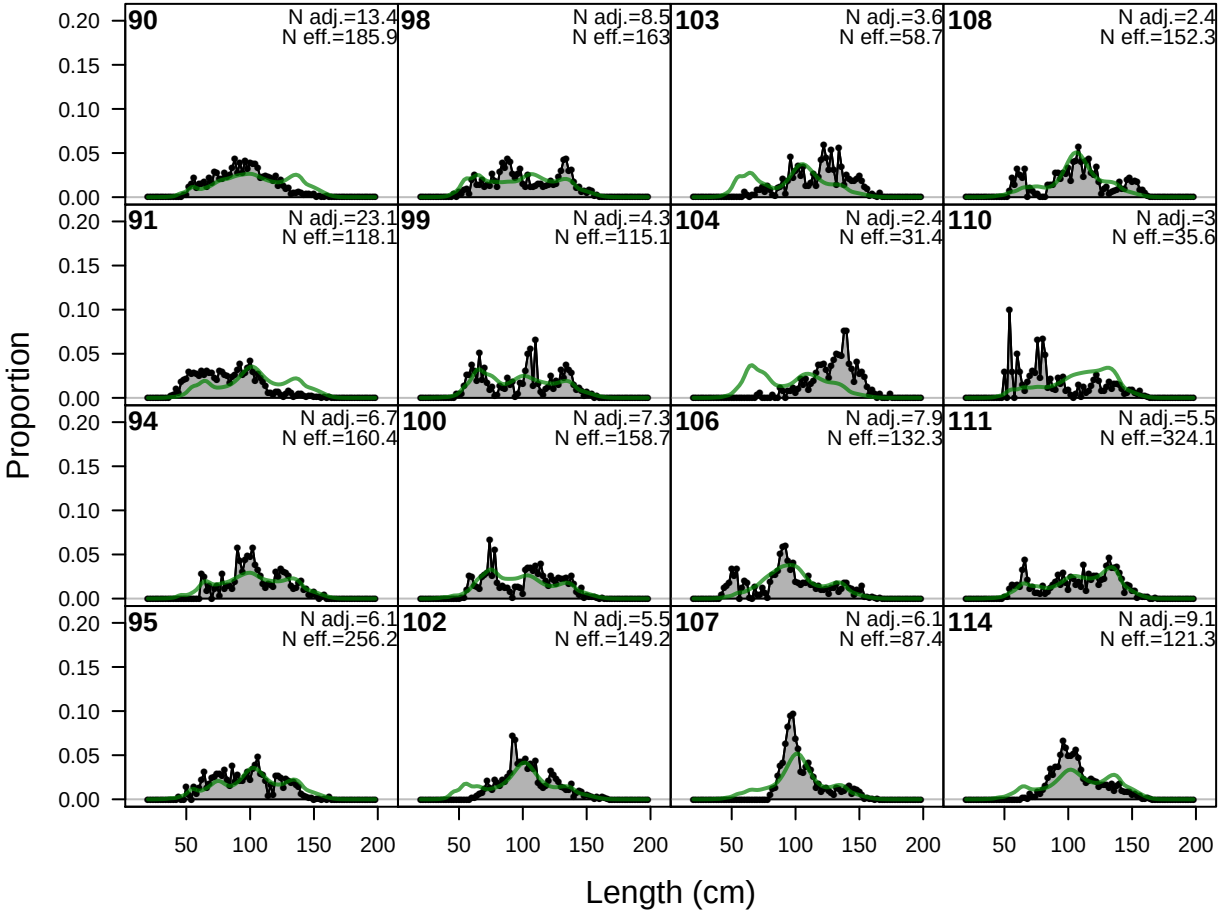
N adj.=3
N eff.=124.2
86
N adj.=3
N eff.=75
70
N adj.=10.9
N eff.=78.2
75
N adj.=23.1
N eff.=89.3
82
N adj.=9.7
N eff.=118.3
87
N adj.=10.9
N eff.=174.7
71
N adj.=31.6
N eff.=117.4
78
N adj.=12.8
N eff.=100.7
83
N adj.=4.9
N eff.=161.4
88
N adj.=6.7
N eff.=163.2
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Proportion
Length (cm)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98
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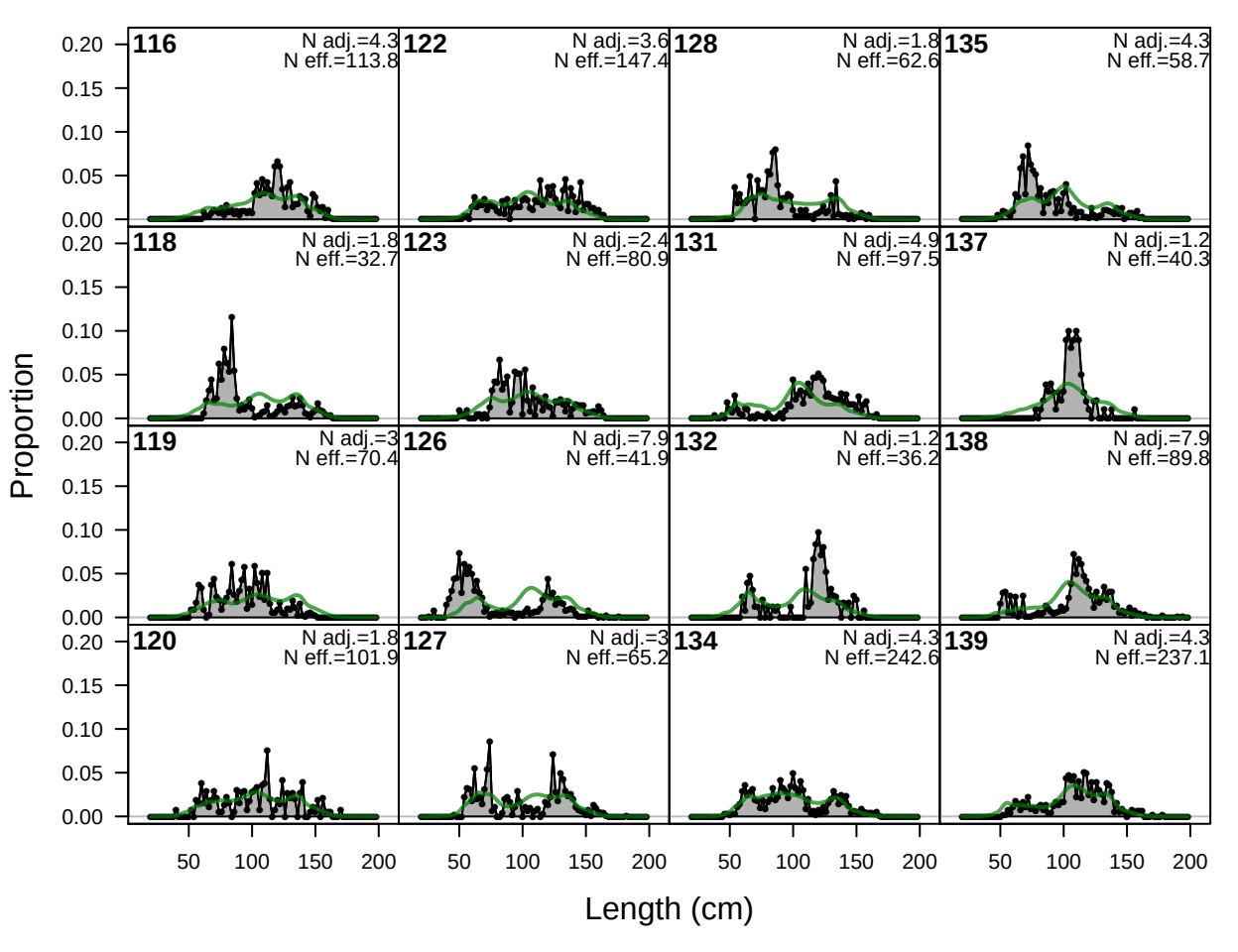
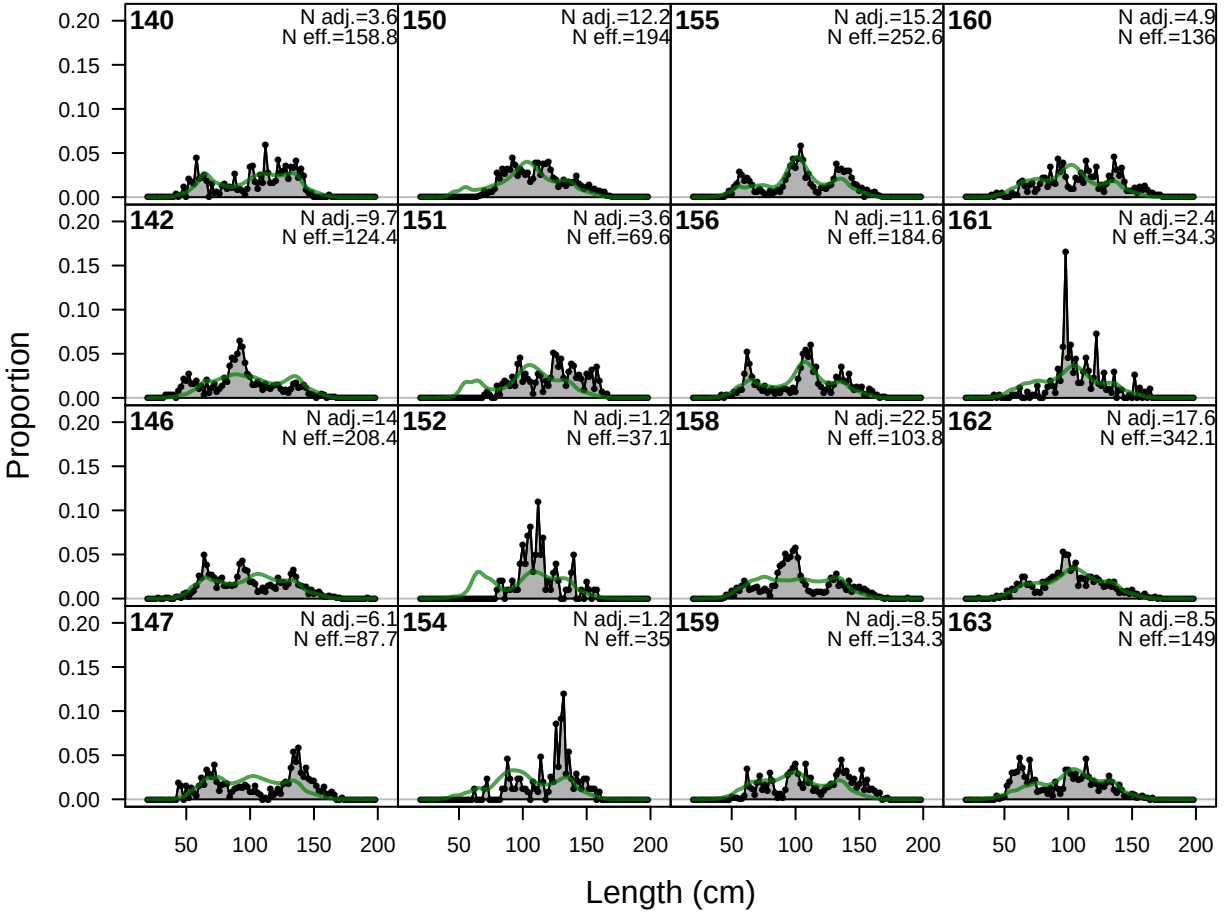
N eff.=163
103
N adj.=3.6
N eff.=58.7
108
N adj.=2.4
N eff.=152.3
91
N adj.=23.1
N eff.=118.1
99
N adj.=4.3
N eff.=115.1
104
N adj.=2.4
N eff.=31.4
110
N adj.=3
N eff.=35.6
94
N adj.=6.7
N eff.=160.4
100
N adj.=7.3
N eff.=158.7
106
N adj.=7.9
N eff.=132.3
111
N adj.=5.5
N eff.=324.1
95
N adj.=6.1
N eff.=256.2
102
N adj.=5.5
N eff.=149.2
107
N adj.=6.1
N eff.=87.4
114
N adj.=9.1
N eff.=121.3
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


116
N adj.=4.3
N eff.=113.8
122
N adj.=3.6
N eff.=147.4
128
N adj.=1.8
N eff.=62.6
135
N adj.=4.3
N eff.=58.7
118
N adj.=1.8
N eff.=32.7
123
N adj.=2.4
N eff.=80.9
131
N adj.=4.9
N eff.=97.5
137
N adj.=1.2
N eff.=40.3
119
N adj.=3
N eff.=70.4
126
N adj.=7.9
N eff.=41.9
132
N adj.=1.2
N eff.=36.2
138
N adj.=7.9
N eff.=89.8
120
N adj.=1.8
N eff.=101.9
127
N adj.=3
N eff.=65.2
134
N adj.=4.3
N eff.=242.6
139
N adj.=4.3
N eff.=237.1
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Proportion
Length (cm)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N eff.=158.8
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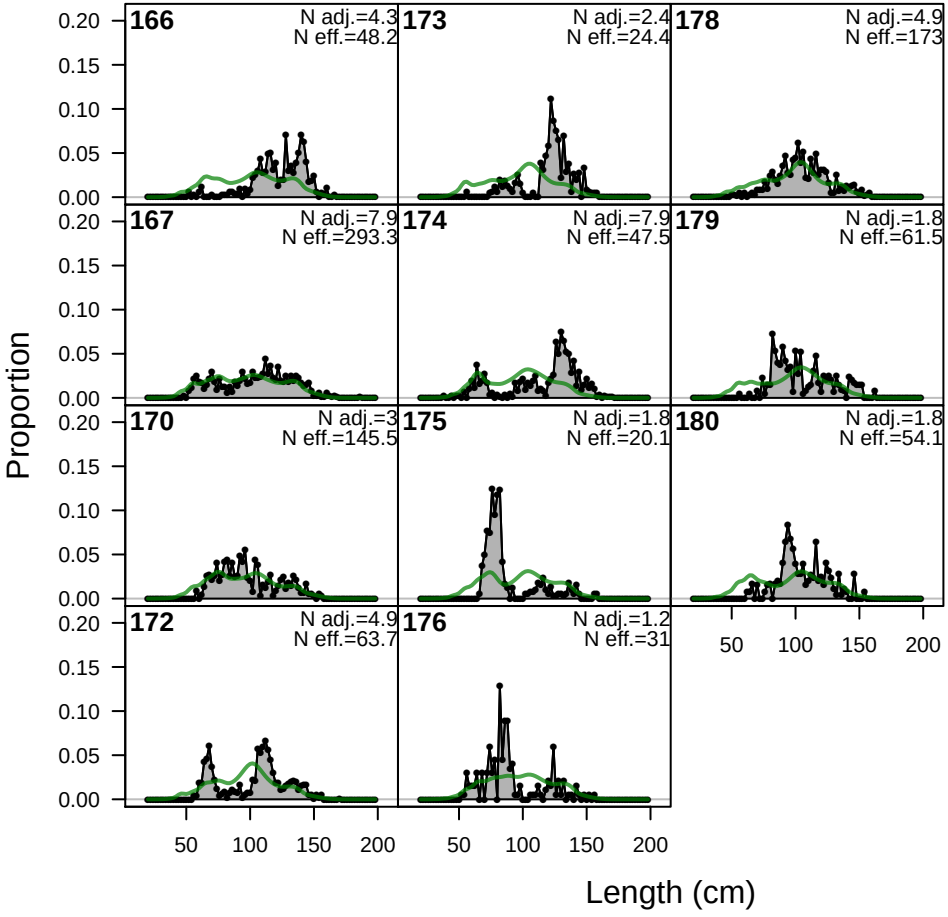
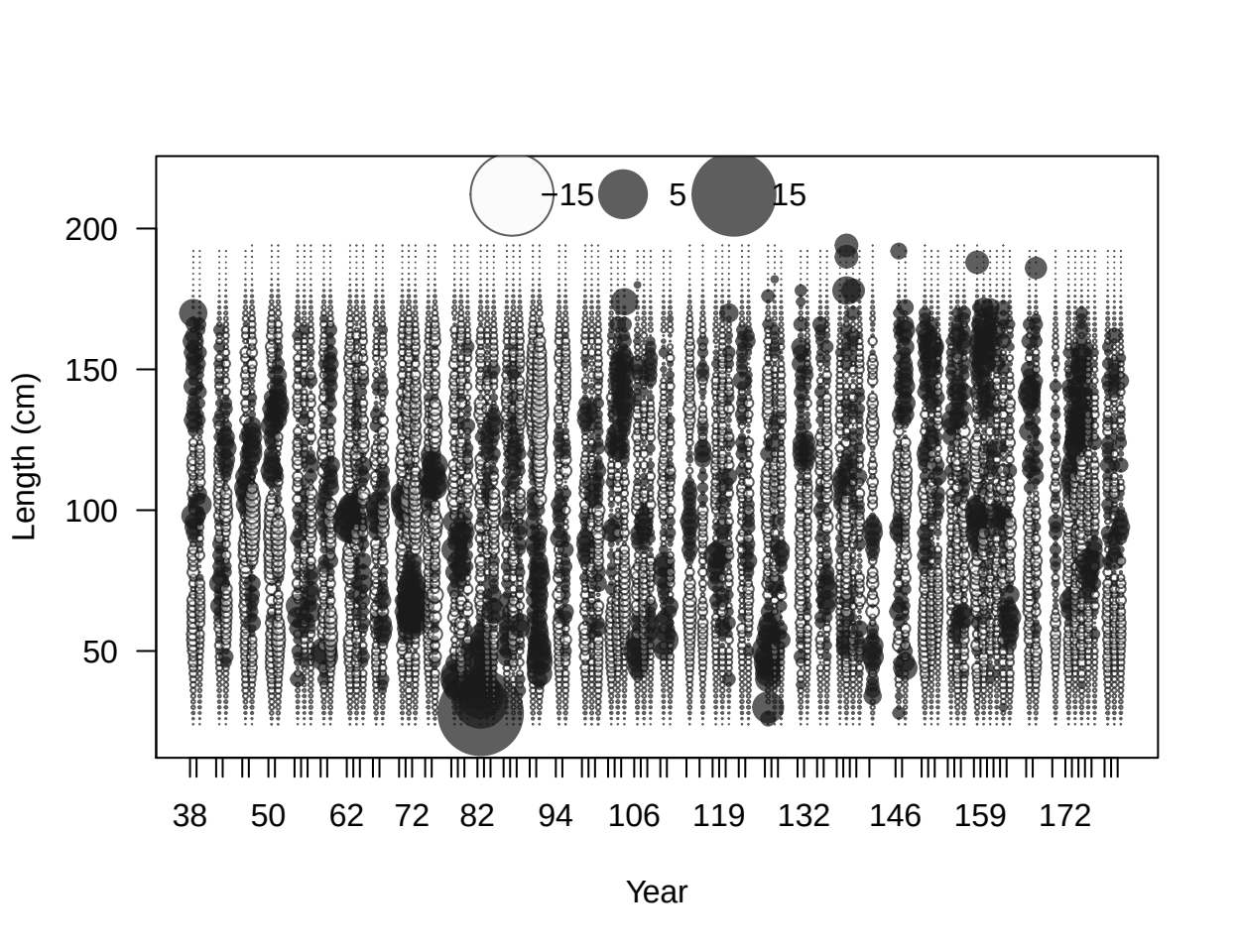
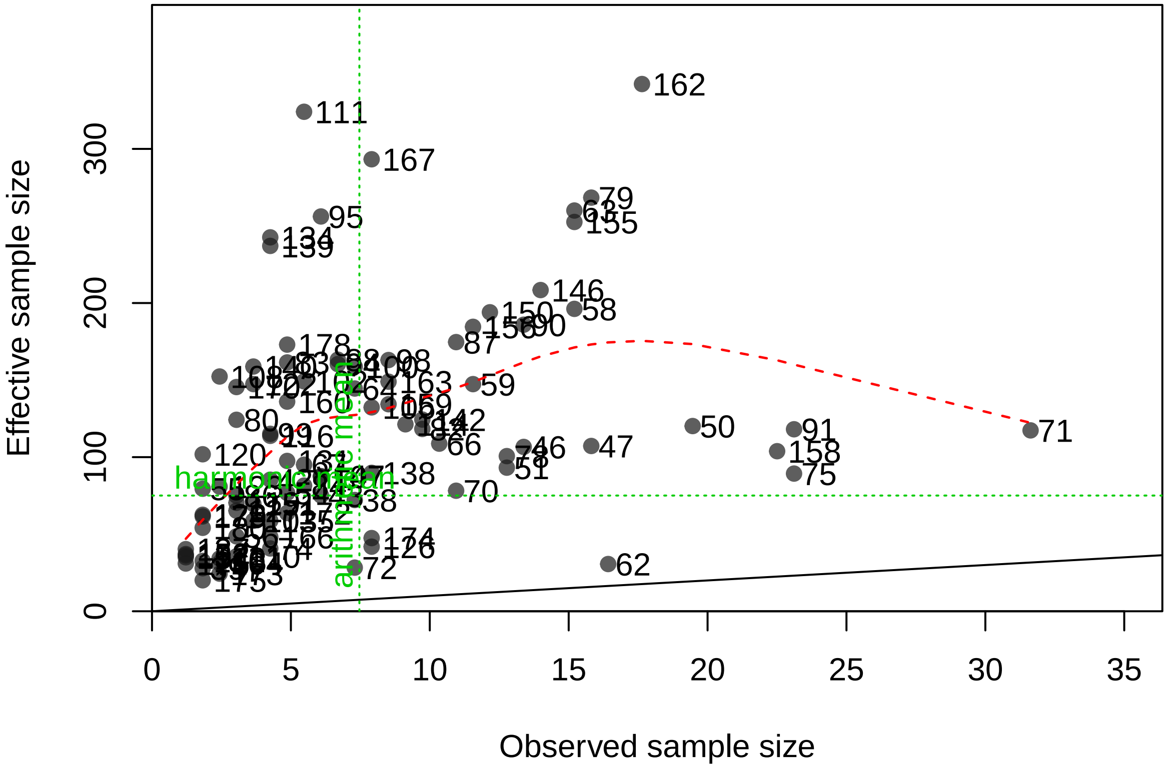
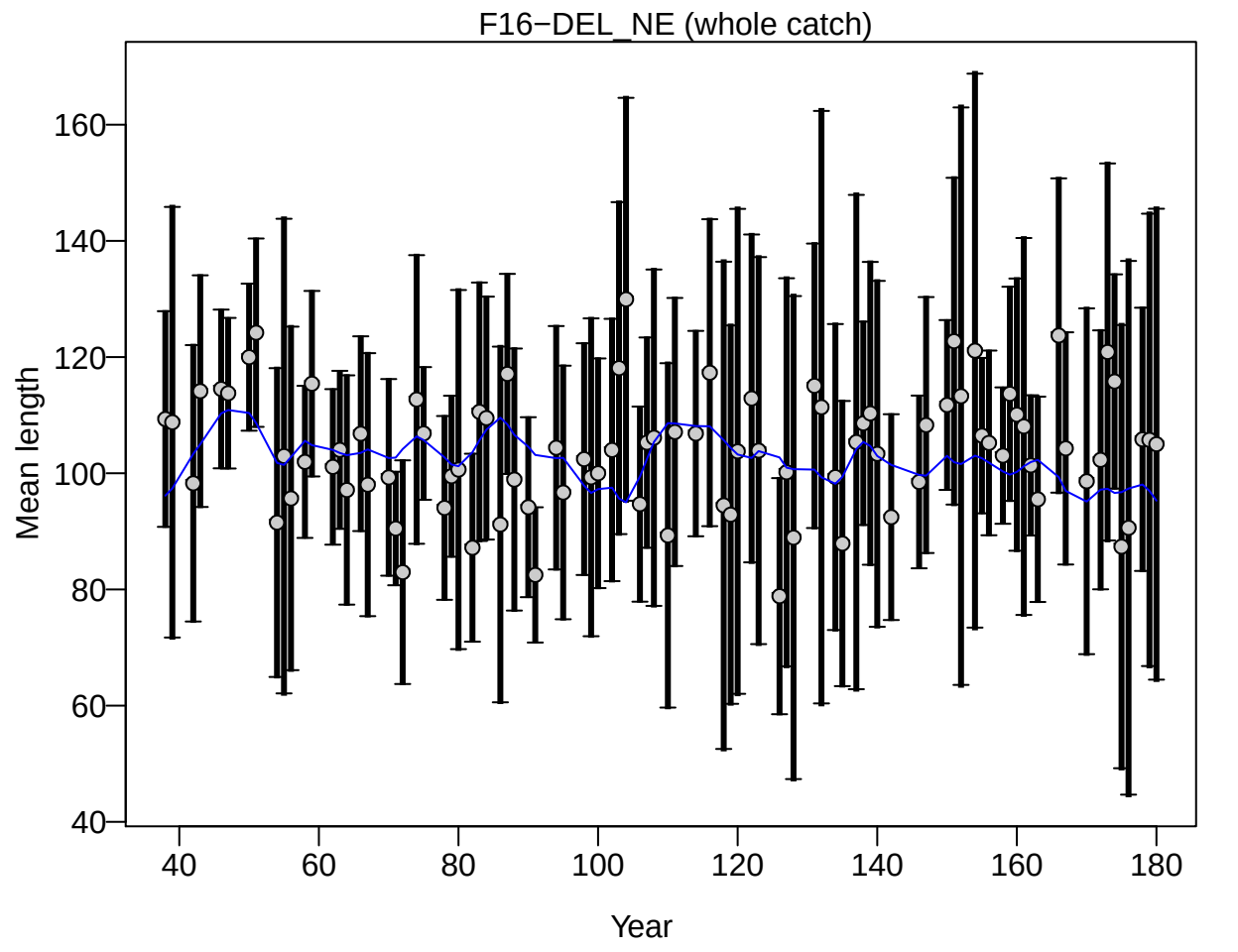
N adj.=12.2
N eff.=194
155
N adj.=15.2
N eff.=252.6
160
N adj.=4.9
N eff.=136
142
N adj.=9.7
N eff.=124.4
151
N adj.=3.6
N eff.=69.6
156
N adj.=11.6
N eff.=184.6
161
N adj.=2.4
N eff.=34.3
146
N adj.=14
N eff.=208.4
152
N adj.=1.2
N eff.=37.1
158
N adj.=22.5
N eff.=103.8
162
N adj.=17.6
N eff.=342.1
147
N adj.=6.1
N eff.=87.7
154
N adj.=1.2
N eff.=35
159
N adj.=8.5
N eff.=134.3
163
N adj.=8.5
N eff.=149
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)

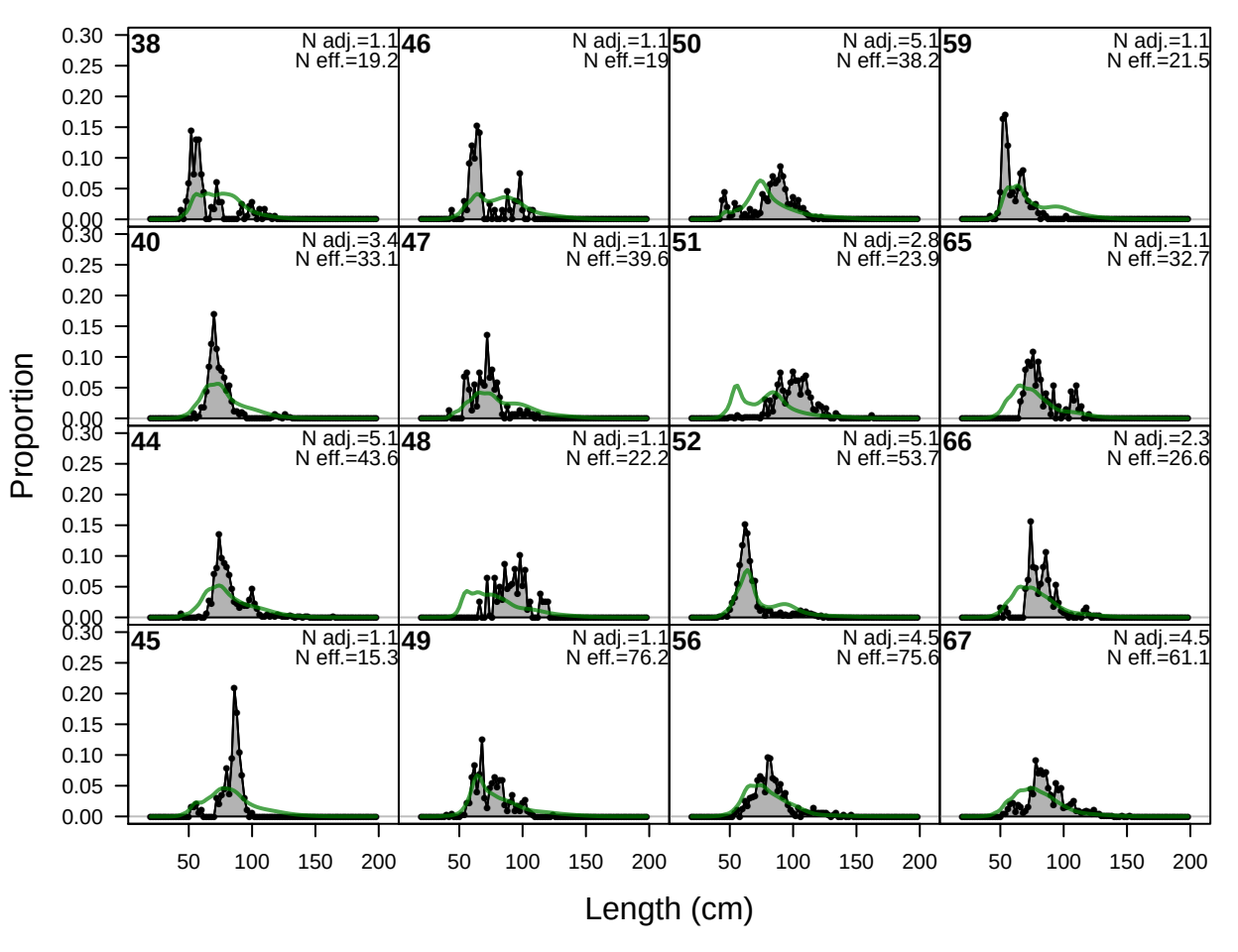

166
N adj.=4.3
N eff.=48.2
173
N adj.=2.4
N eff.=24.4
178
N adj.=4.9
N eff.=173
167
N adj.=7.9
N eff.=293.3
174
N adj.=7.9
N eff.=47.5
179
N adj.=1.8
N eff.=61.5
170
N adj.=3
N eff.=145.5
175
N adj.=1.8
N eff.=20.1
180
N adj.=1.8
N eff.=54.1
172
N adj.=4.9
N eff.=63.7
176
N adj.=1.2
N eff.=31
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)

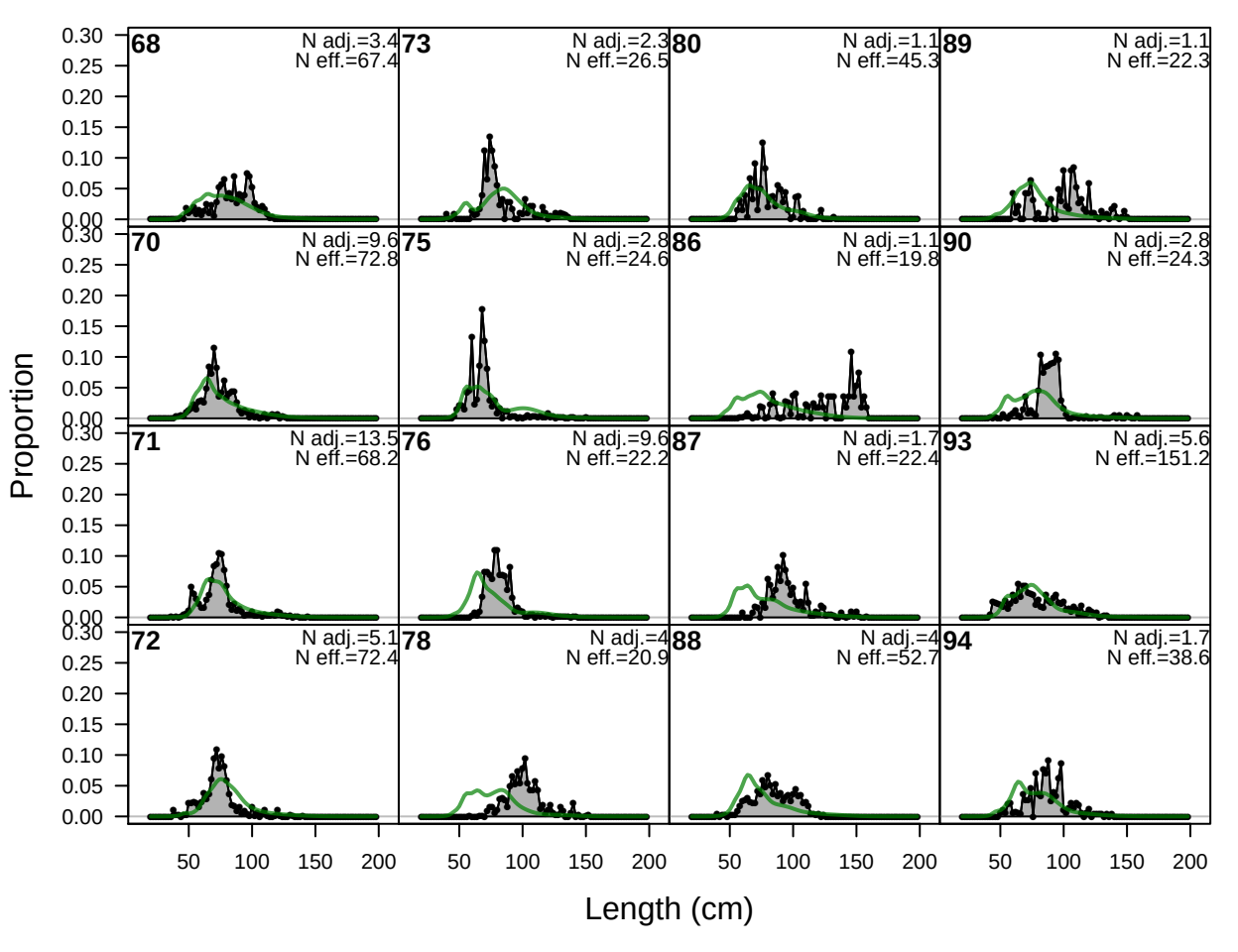

15
5
15
200
150
100
50
Length (cm)
38
50
62
72
82
94
106
119
132
146
159
172
Year

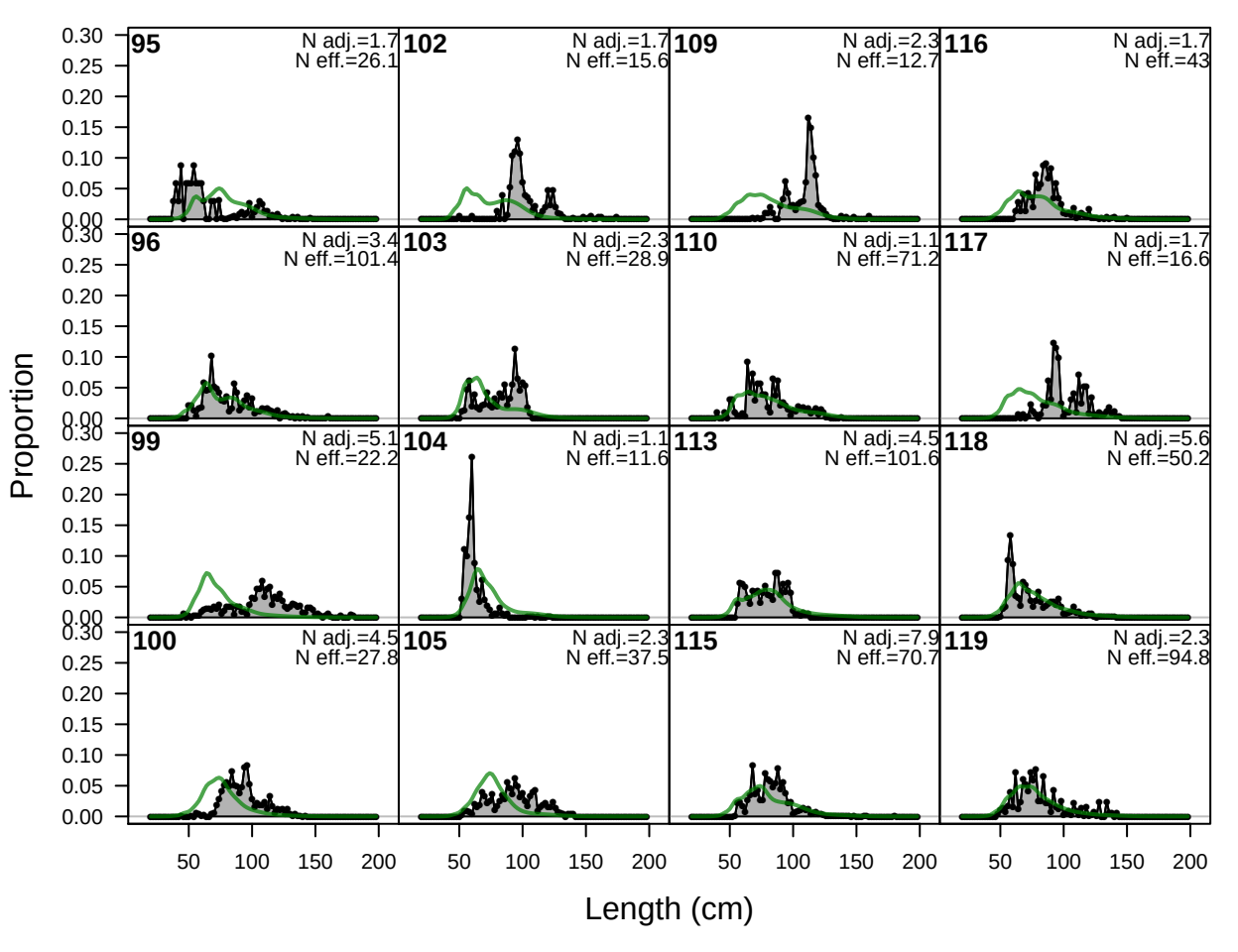


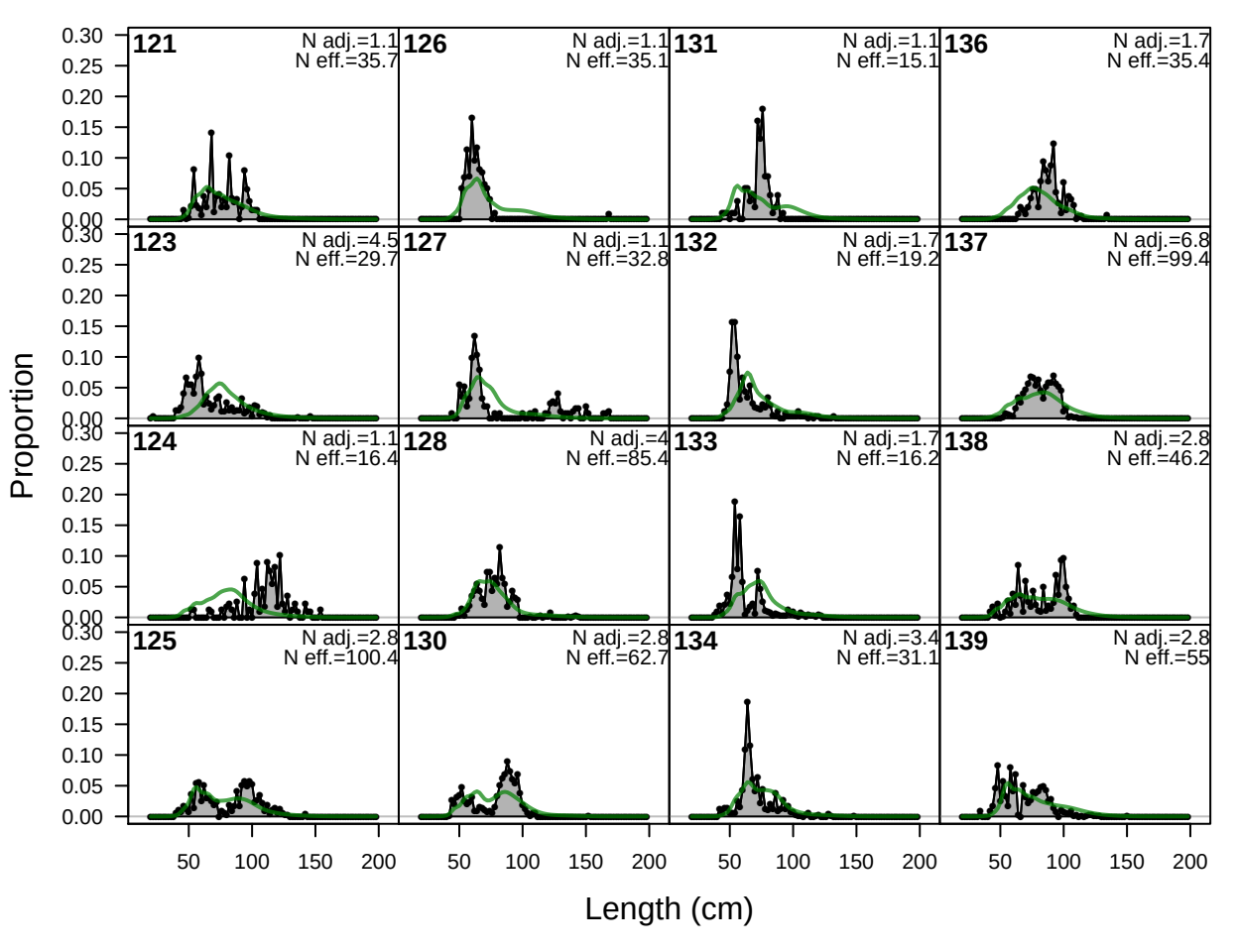
Effective sample size
Observed sample size
0
100
200
300
0
5
10
15
20
25
30
35
harmonic mean
arithmetic mean
162
111
167
79
155
95
134
139
146
58
150
87
59
50
91
158
75
71
47
70
66
51
62
72
174
126
138
120
80
116
178
160
163

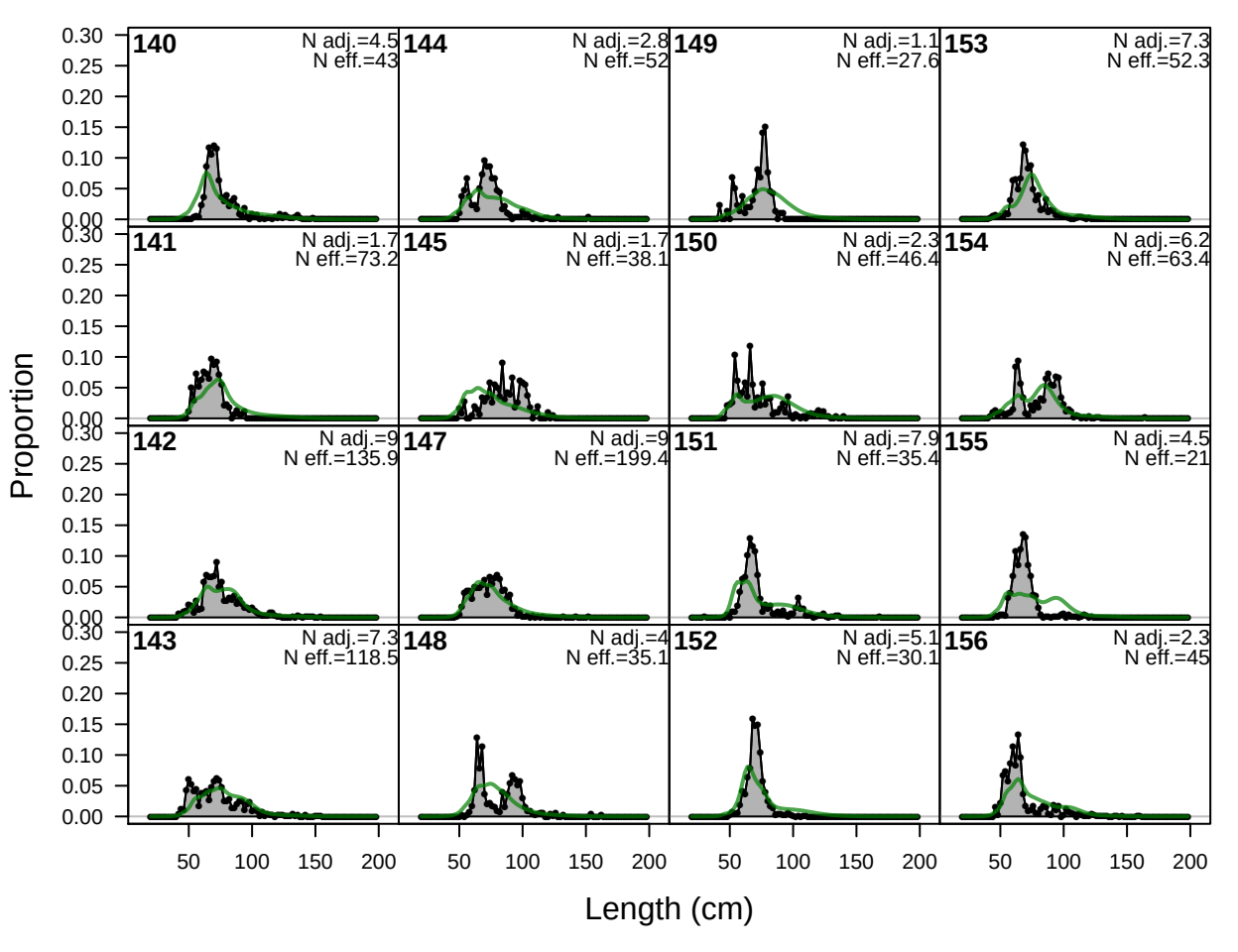

F16−DEL_NE (whole catch)
Mean length
Year
160
140
120
100
80
60
40
40
60
80
100
120
140
160
180

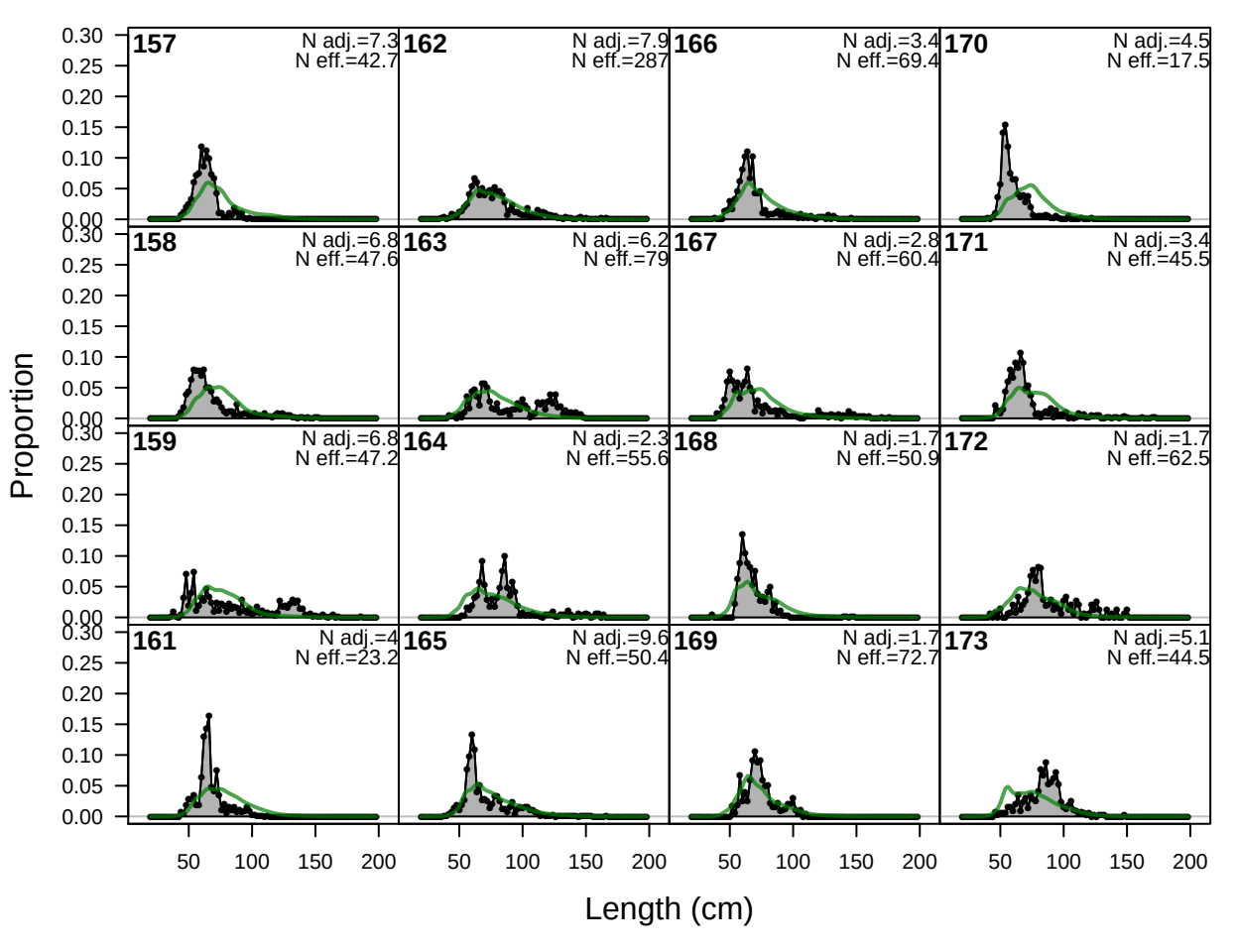

38
N adj.=1.1
N eff.=19.2
46
N adj.=1.1
N eff.=19
50
N adj.=5.1
N eff.=38.2
59
N adj.=1.1
N eff.=21.5
40
N adj.=3.4
N eff.=33.1
47
N adj.=1.1
N eff.=39.6
51
N adj.=2.8
N eff.=23.9
65
N adj.=1.1
N eff.=32.7
44
N adj.=5.1
N eff.=43.6
48
N adj.=1.1
N eff.=22.2
52
N adj.=5.1
N eff.=53.7
66
N adj.=2.3
N eff.=26.6
45
N adj.=1.1
N eff.=15.3
49
N adj.=1.1
N eff.=76.2
56
N adj.=4.5
N eff.=75.6
67
N adj.=4.5
N eff.=61.1
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

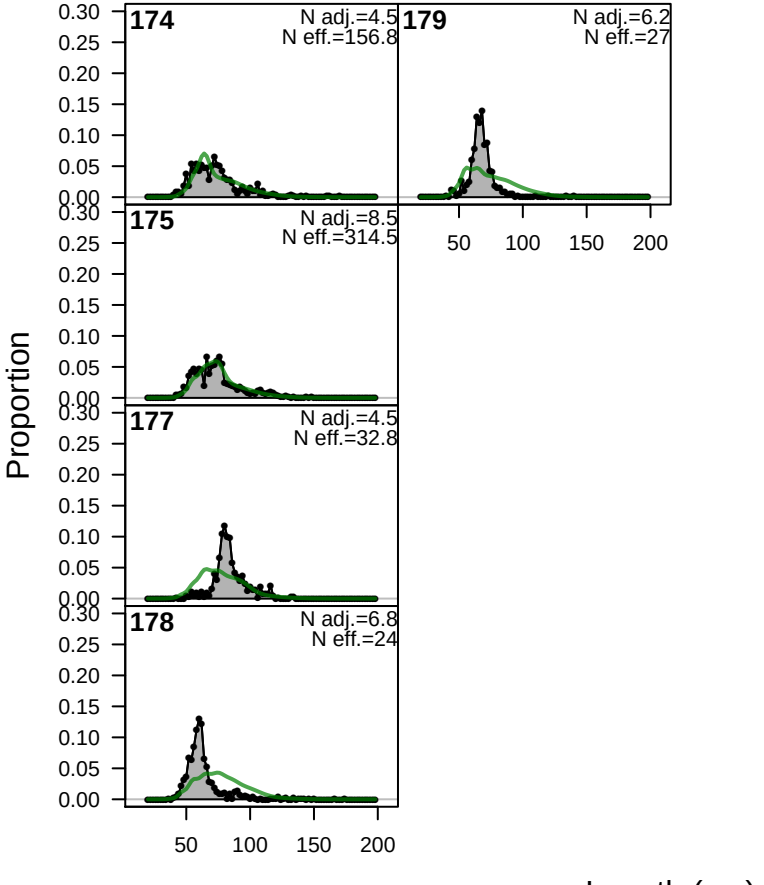

68
N adj.=3.4
N eff.=67.4
73
N adj.=2.3
N eff.=26.5
80
N adj.=1.1
N eff.=45.3
89
N adj.=1.1
N eff.=22.3
70
N adj.=9.6
N eff.=72.8
75
N adj.=2.8
N eff.=24.6
86
N adj.=1.1
N eff.=19.8
90
N adj.=2.8
N eff.=24.3
71
N adj.=13.5
N eff.=68.2
76
N adj.=9.6
N eff.=22.2
87
N adj.=1.7
N eff.=22.4
93
N adj.=5.6
N eff.=151.2
72
N adj.=5.1
N eff.=72.4
78
N adj.=4
N eff.=20.9
88
N adj.=4
N eff.=52.7
94
N adj.=1.7
N eff.=38.6
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

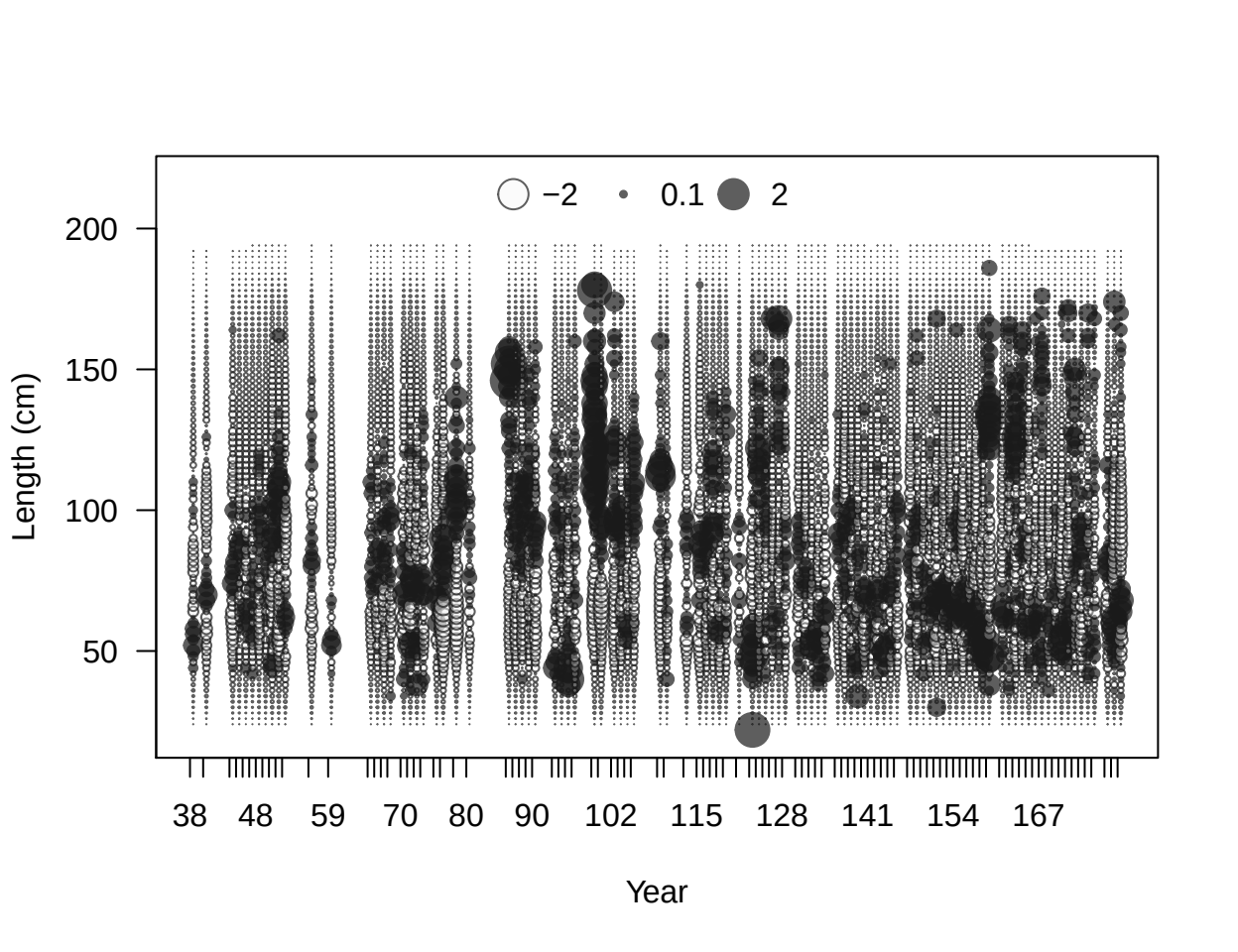

95
N adj.=1.7
N eff.=26.1
102
N adj.=1.7
N eff.=15.6
109
N adj.=2.3
N eff.=12.7
116
N adj.=1.7
N eff.=43
96
N adj.=3.4
N eff.=101.4
103
N adj.=2.3
N eff.=28.9
110
N adj.=1.1
N eff.=71.2
117
N adj.=1.7
N eff.=16.6
99
N adj.=5.1
N eff.=22.2
104
N adj.=1.1
N eff.=11.6
113
N adj.=4.5
N eff.=101.6
118
N adj.=5.6
N eff.=50.2
100
N adj.=4.5
N eff.=27.8
105
N adj.=2.3
N eff.=37.5
115
N adj.=7.9
N eff.=70.7
119
N adj.=2.3
N eff.=94.8
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

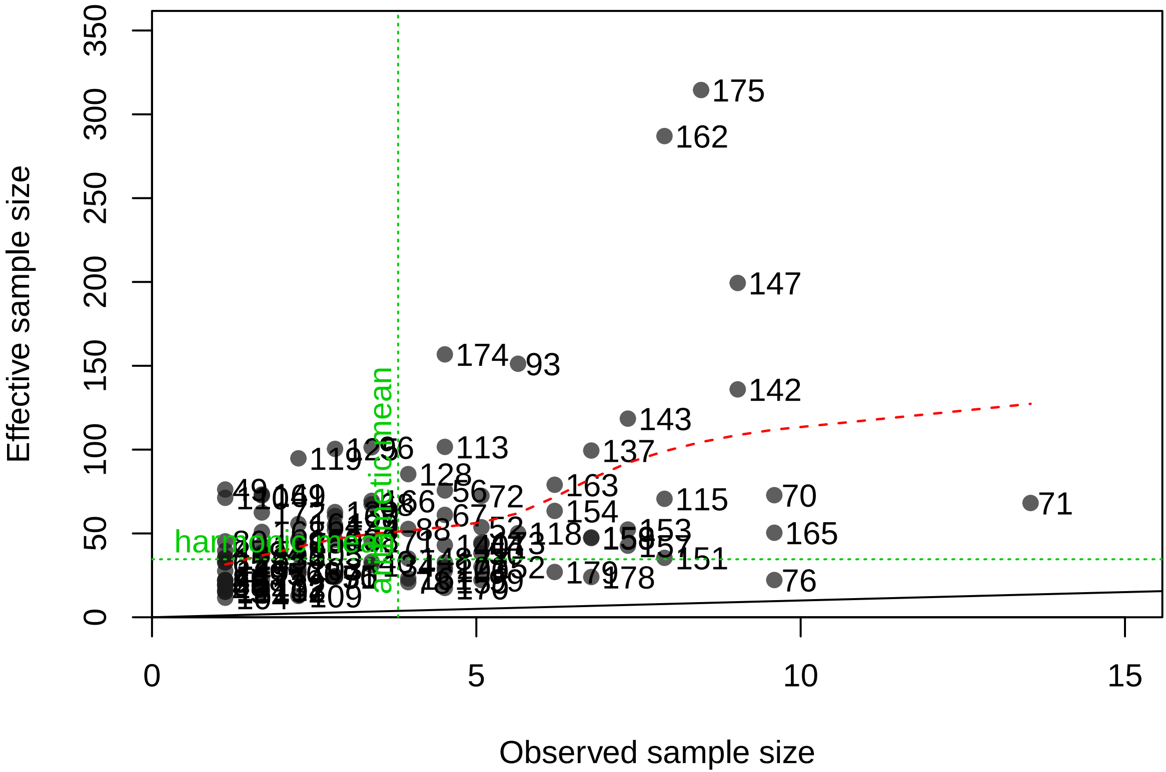

121
N adj.=1.1
N eff.=35.7
126
N adj.=1.1
N eff.=35.1
131
N adj.=1.1
N eff.=15.1
136
N adj.=1.7
N eff.=35.4
123
N adj.=4.5
N eff.=29.7
127
N adj.=1.1
N eff.=32.8
132
N adj.=1.7
N eff.=19.2
137
N adj.=6.8
N eff.=99.4
124
N adj.=1.1
N eff.=16.4
128
N adj.=4
N eff.=85.4
133
N adj.=1.7
N eff.=16.2
138
N adj.=2.8
N eff.=46.2
125
N adj.=2.8
N eff.=100.4
130
N adj.=2.8
N eff.=62.7
134
N adj.=3.4
N eff.=31.1
139
N adj.=2.8
N eff.=55
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

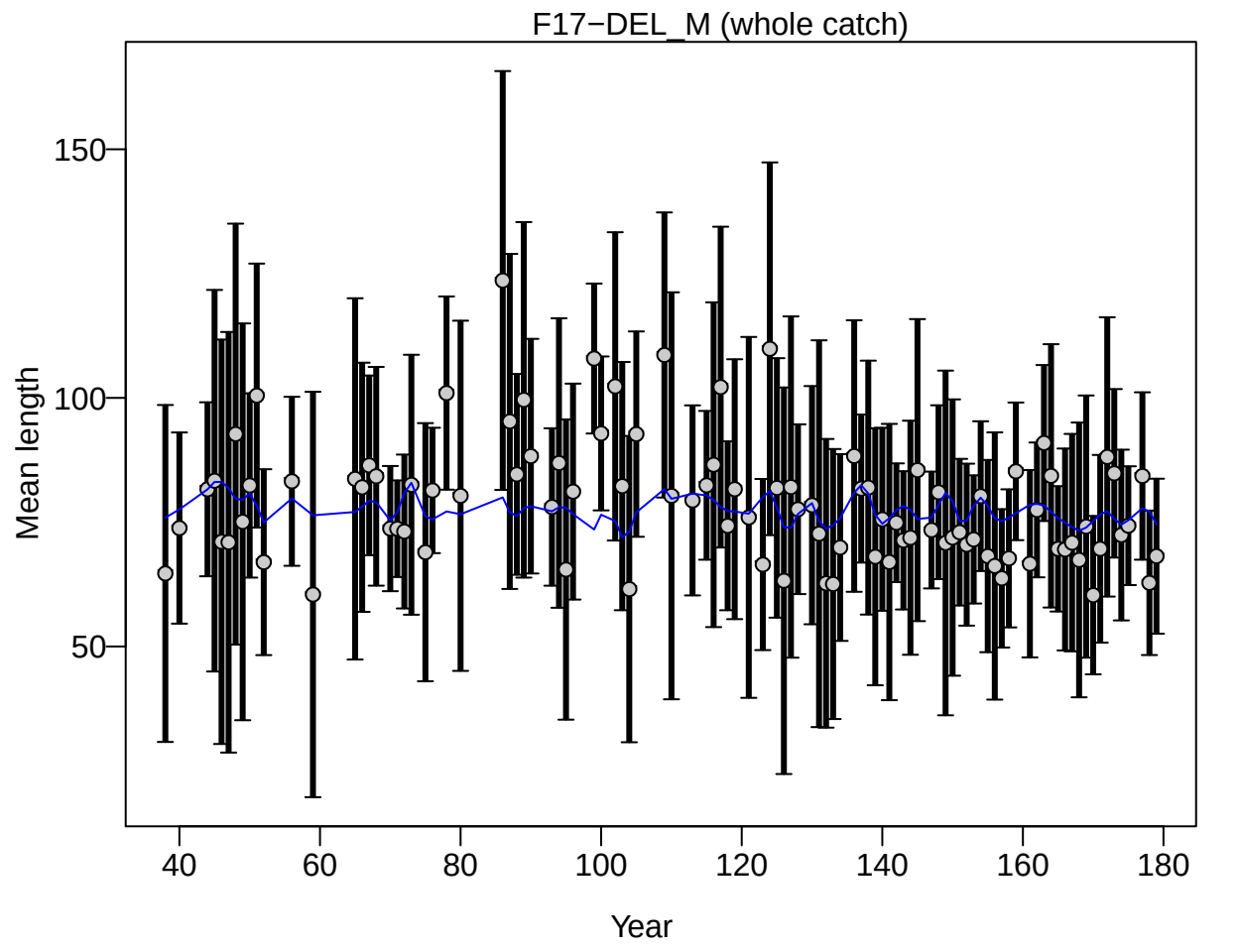

140
N adj.=4.5
N eff.=43
144
N adj.=2.8
N eff.=52
149
N adj.=1.1
N eff.=27.6
153
N adj.=7.3
N eff.=52.3
141
N adj.=1.7
N eff.=73.2
145
N adj.=1.7
N eff.=38.1
150
N adj.=2.3
N eff.=46.4
154
N adj.=6.2
N eff.=63.4
142
N adj.=9
N eff.=135.9
147
N adj.=9
N eff.=199.4
151
N adj.=7.9
N eff.=35.4
155
N adj.=4.5
N eff.=21
143
N adj.=7.3
N eff.=118.5
148
N adj.=4
N eff.=35.1
152
N adj.=5.1
N eff.=30.1
156
N adj.=2.3
N eff.=45
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

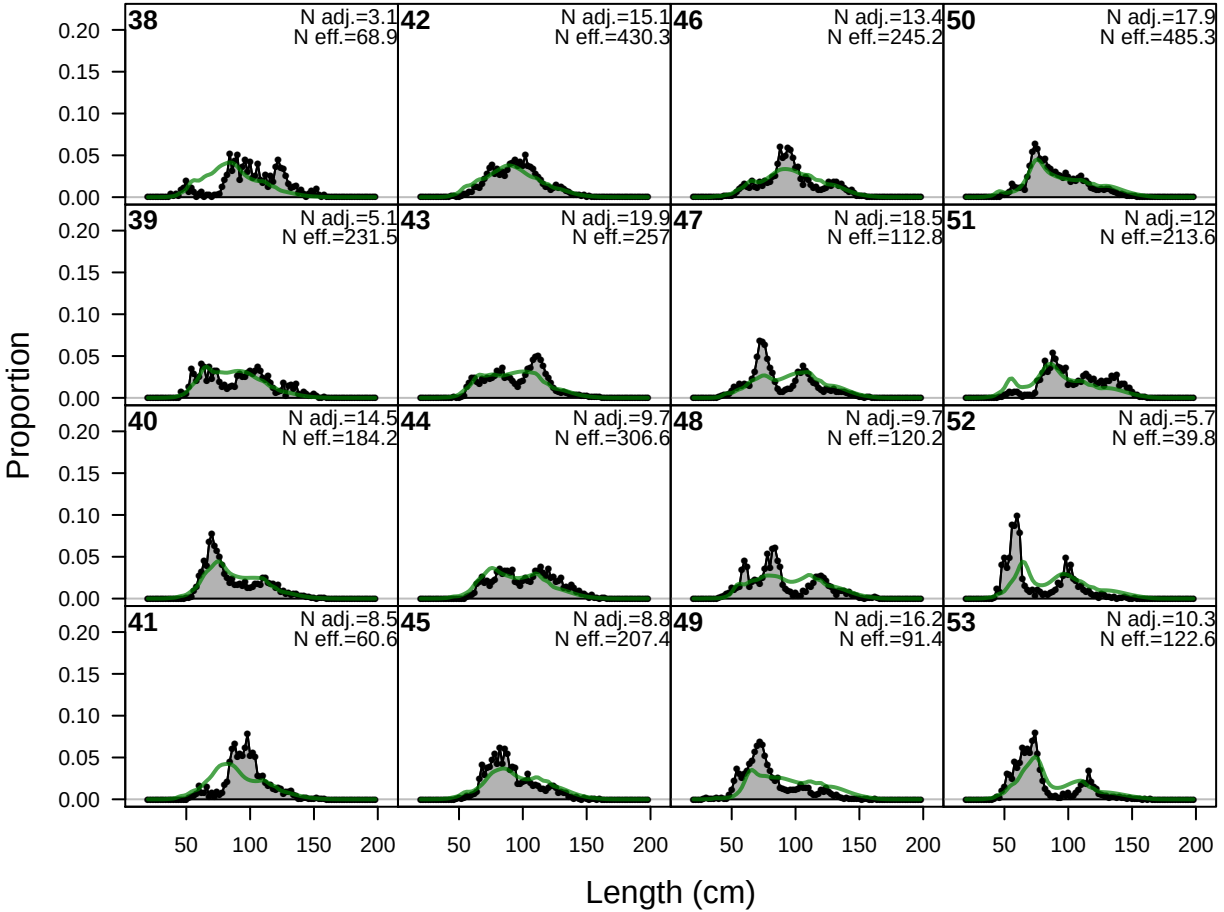

157
N adj.=7.3
N eff.=42.7
162
N adj.=7.9
N eff.=287
166
N adj.=3.4
N eff.=69.4
170
N adj.=4.5
N eff.=17.5
158
N adj.=6.8
N eff.=47.6
163
N adj.=6.2
N eff.=79
167
N adj.=2.8
N eff.=60.4
171
N adj.=3.4
N eff.=45.5
159
N adj.=6.8
N eff.=47.2
164
N adj.=2.3
N eff.=55.6
168
N adj.=1.7
N eff.=50.9
172
N adj.=1.7
N eff.=62.5
161
N adj.=4
N eff.=23.2
165
N adj.=9.6
N eff.=50.4
169
N adj.=1.7
N eff.=72.7
173
N adj.=5.1
N eff.=44.5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)


174
N adj.=4.5
N eff.=156.8
179
N adj.=6.2
N eff.=27
175
N adj.=8.5
N eff.=314.5
177
N adj.=4.5
N eff.=32.8
178
N adj.=6.8
N eff.=24
Proportion
0.30
0.25
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Length (cm)


−2
0.1
2
200
150
100
50
Length (cm)
38
48
59
70
80
90
102
115
128
141
154
167
Year


Effective sample size
Observed sample size
0
50
100
150
200
250
300
350
0
5
10
15
harmonic mean
arithmetic mean
175
162
147
174
93
142
143
113
137
119
128
163
154
115
70
71
165
153
151
76
178
118
49
109


F17−DEL_M (whole catch)
Mean length
150
100
50
40
60
80
100
120
140
160
180
Year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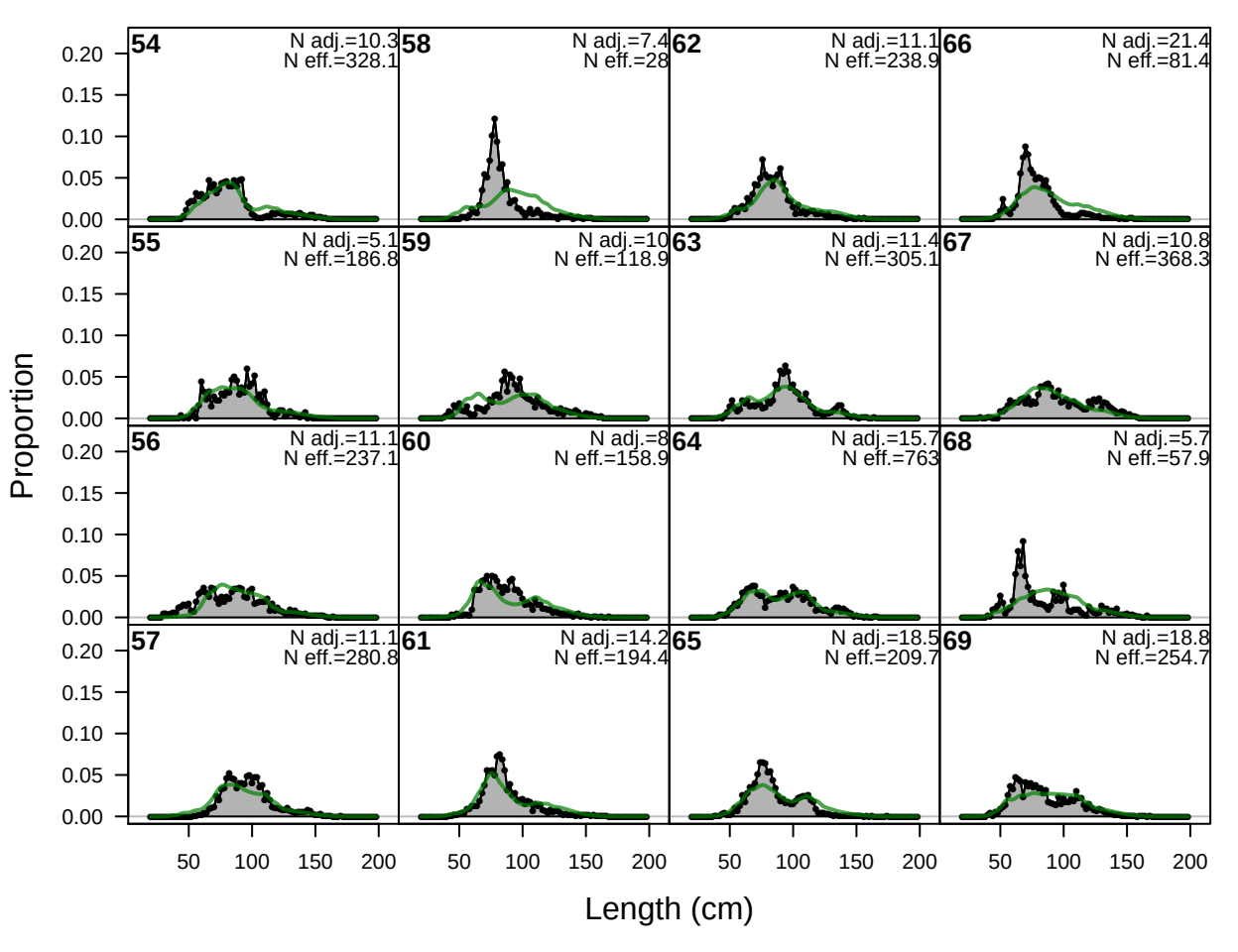
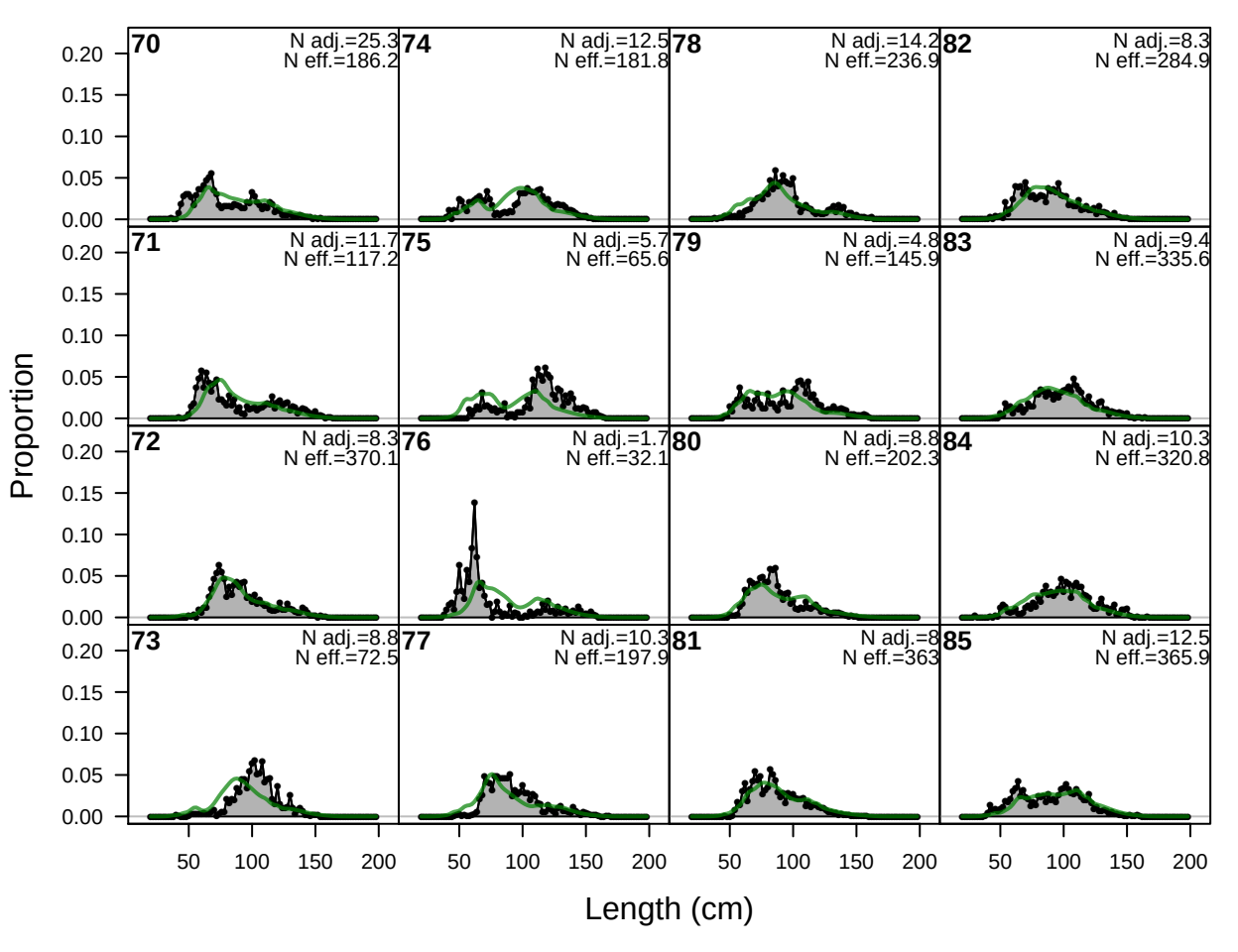
N eff.=68.9
42
N adj.=15.1
N eff.=430.3
46
N adj.=13.4
N eff.=245.2
50
N adj.=17.9
N eff.=485.3
39
N adj.=5.1
N eff.=231.5
43
N adj.=19.9
N eff.=257
47
N adj.=18.5
N eff.=112.8
51
N adj.=12
N eff.=213.6
40
N adj.=14.5
N eff.=184.2
44
N adj.=9.7
N eff.=306.6
48
N adj.=9.7
N eff.=120.2
52
N adj.=5.7
N eff.=39.8
41
N adj.=8.5
N eff.=60.6
45
N adj.=8.8
N eff.=207.4
49
N adj.=16.2
N eff.=91.4
53
N adj.=10.3
N eff.=122.6
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


54
N adj.=10.3
N eff.=328.1
58
N adj.=7.4
N eff.=28
62
N adj.=11.1
N eff.=238.9
66
N adj.=21.4
N eff.=81.4
55
N adj.=5.1
N eff.=186.8
59
N adj.=10
N eff.=118.9
63
N adj.=11.4
N eff.=305.1
67
N adj.=10.8
N eff.=368.3
56
N adj.=11.1
N eff.=237.1
60
N adj.=8
N eff.=158.9
64
N adj.=15.7
N eff.=763
68
N adj.=5.7
N eff.=57.9
57
N adj.=11.1
N eff.=280.8
61
N adj.=14.2
N eff.=194.4
65
N adj.=18.5
N eff.=209.7
69
N adj.=18.8
N eff.=254.7
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


70
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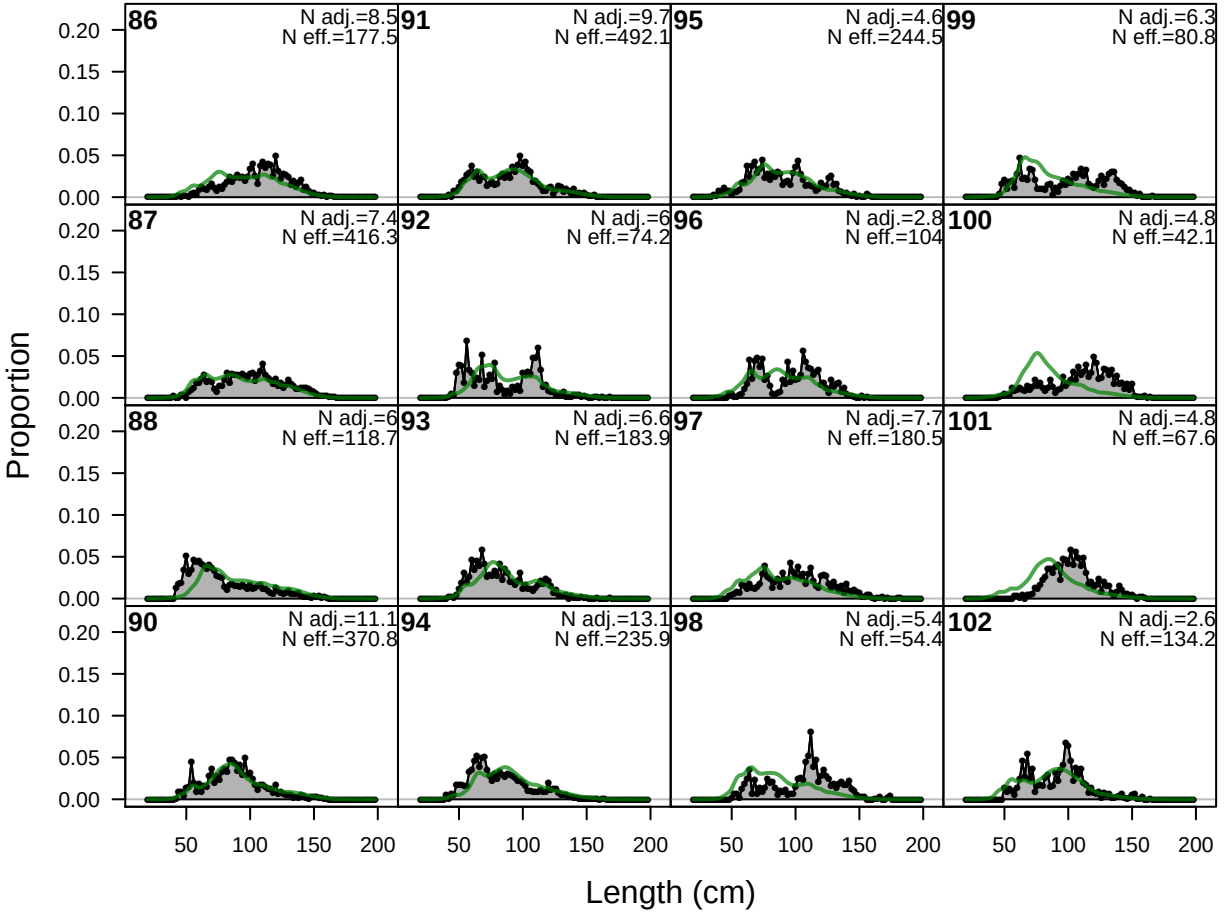
N eff.=186.2
74
N adj.=12.5
N eff.=181.8
78
N adj.=14.2
N eff.=236.9
82
N adj.=8.3
N eff.=284.9
71
N adj.=11.7
N eff.=117.2
75
N adj.=5.7
N eff.=65.6
79
N adj.=4.8
N eff.=145.9
83
N adj.=9.4
N eff.=335.6
72
N adj.=8.3
N eff.=370.1
76
N adj.=1.7
N eff.=32.1
80
N adj.=8.8
N eff.=202.3
84
N adj.=10.3
N eff.=320.8
73
N adj.=8.8
N eff.=72.5
77
N adj.=10.3
N eff.=197.9
81
N adj.=8
N eff.=363
85
N adj.=12.5
N eff.=365.9
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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N adj.=8.5
N eff.=177.5
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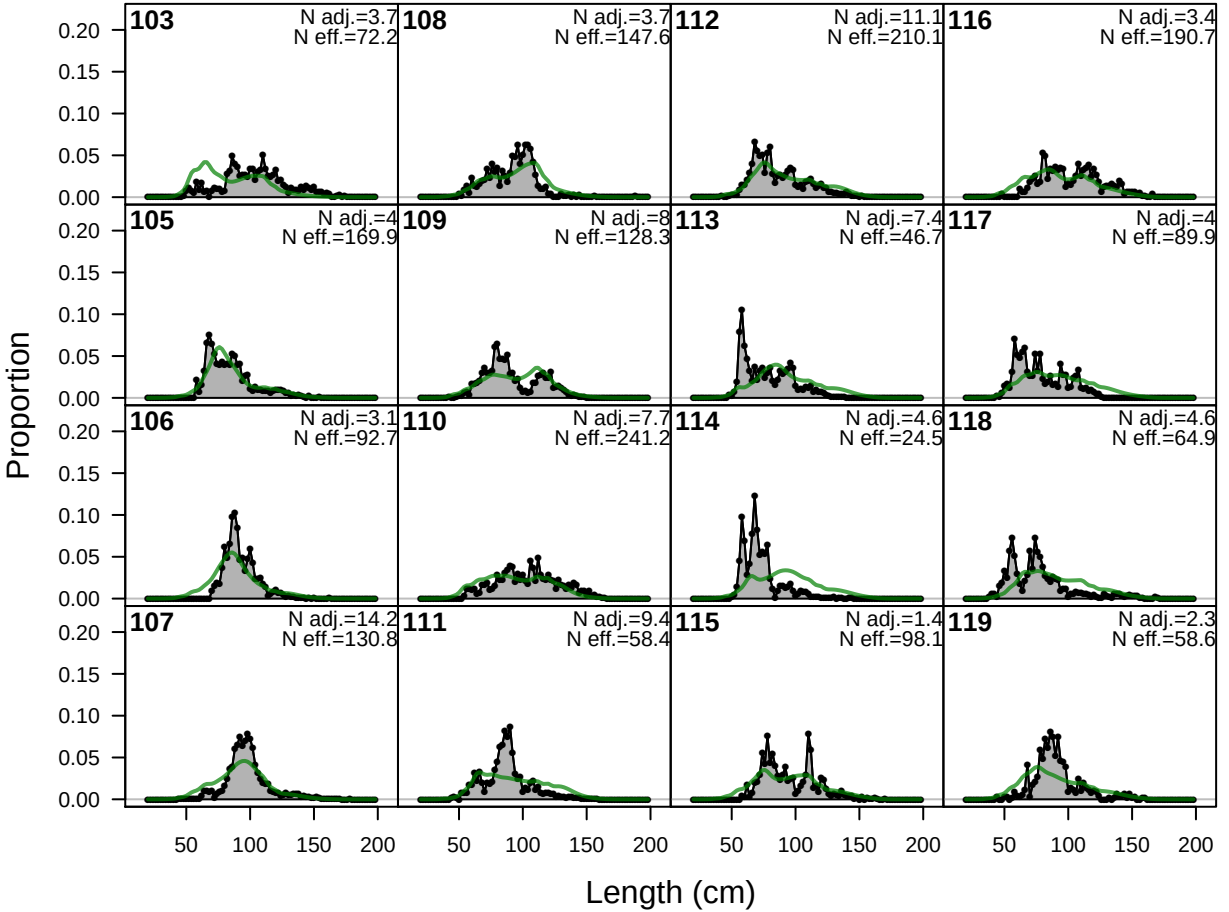
N adj.=9.7
N eff.=492.1
95
N adj.=4.6
N eff.=244.5
99
N adj.=6.3
N eff.=80.8
87
N adj.=7.4
N eff.=416.3
92
N adj.=6
N eff.=74.2
96
N adj.=2.8
N eff.=104
100
N adj.=4.8
N eff.=42.1
88
N adj.=6
N eff.=118.7
93
N adj.=6.6
N eff.=183.9
97
N adj.=7.7
N eff.=180.5
101
N adj.=4.8
N eff.=67.6
90
N adj.=11.1
N eff.=370.8
94
N adj.=13.1
N eff.=235.9
98
N adj.=5.4
N eff.=54.4
102
N adj.=2.6
N eff.=134.2
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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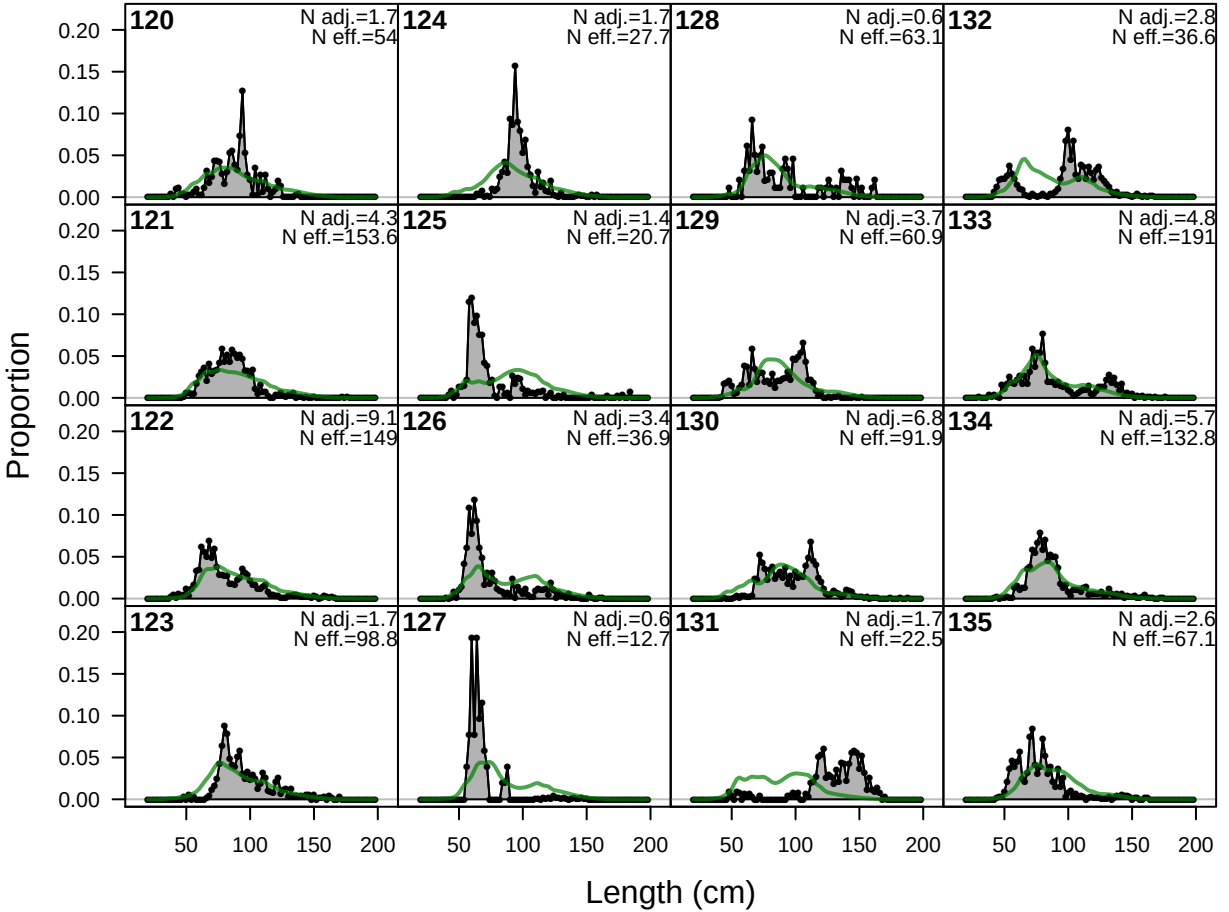
N eff.=72.2
108
N adj.=3.7
N eff.=147.6
112
N adj.=11.1
N eff.=210.1
116
N adj.=3.4
N eff.=190.7
105
N adj.=4
N eff.=169.9
109
N adj.=8
N eff.=128.3
113
N adj.=7.4
N eff.=46.7
117
N adj.=4
N eff.=89.9
106
N adj.=3.1
N eff.=92.7
110
N adj.=7.7
N eff.=241.2
114
N adj.=4.6
N eff.=24.5
118
N adj.=4.6
N eff.=64.9
107
N adj.=14.2
N eff.=130.8
111
N adj.=9.4
N eff.=58.4
115
N adj.=1.4
N eff.=98.1
119
N adj.=2.3
N eff.=58.6
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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N eff.=54
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132
N adj.=2.8
N eff.=36.6
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N adj.=4.3
N eff.=153.6
125
N adj.=1.4
N eff.=20.7
129
N adj.=3.7
N eff.=60.9
133
N adj.=4.8
N eff.=191
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N adj.=9.1
N eff.=149
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N adj.=3.4
N eff.=36.9
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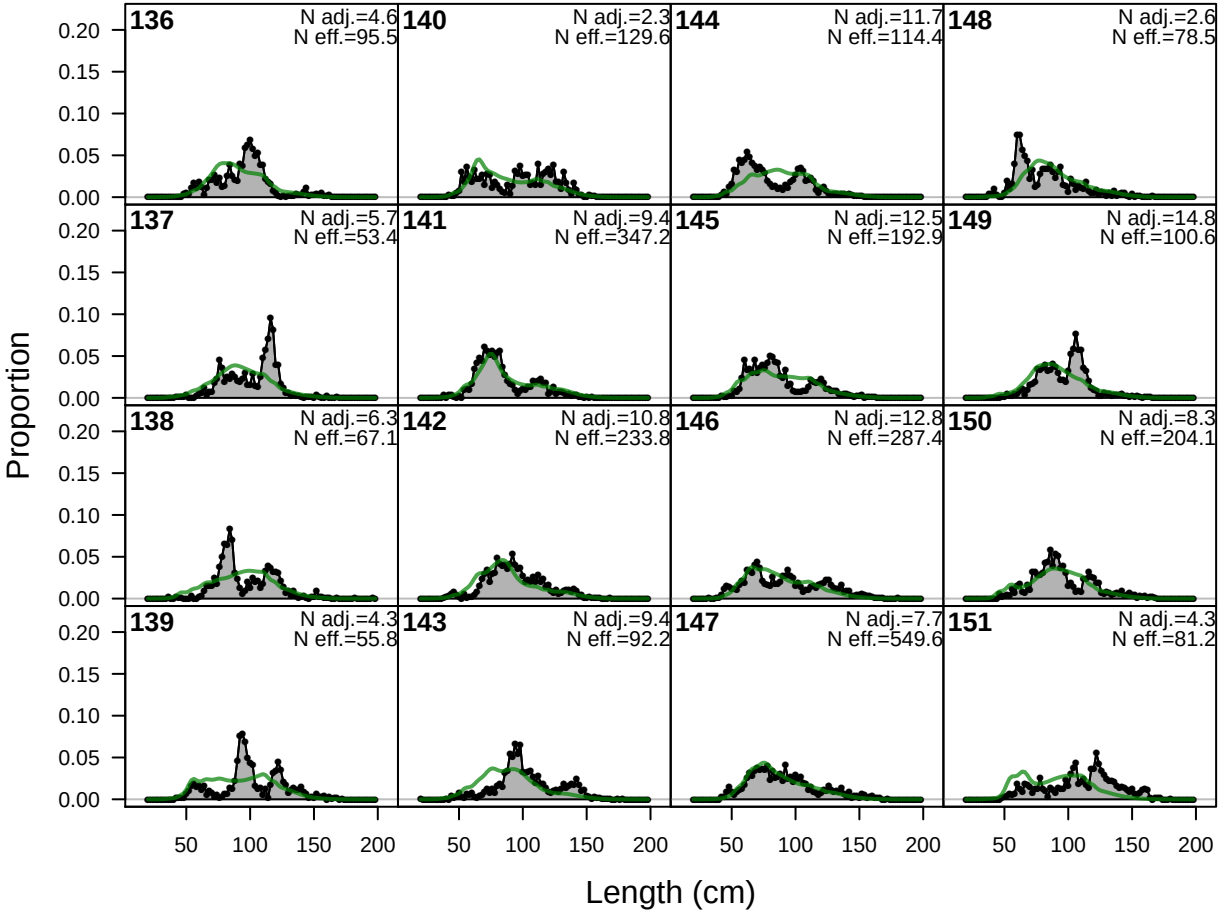
N adj.=6.8
N eff.=91.9
134
N adj.=5.7
N eff.=132.8
123
N adj.=1.7
N eff.=98.8
127
N adj.=0.6
N eff.=12.7
131
N adj.=1.7
N eff.=22.5
135
N adj.=2.6
N eff.=67.1
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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N adj.=4.6
N eff.=95.5
140
N adj.=2.3
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144
N adj.=11.7
N eff.=114.4
148
N adj.=2.6
N eff.=78.5
137
N adj.=5.7
N eff.=53.4
141
N adj.=9.4
N eff.=347.2
145
N adj.=12.5
N eff.=192.9
149
N adj.=14.8
N eff.=100.6
138
N adj.=6.3
N eff.=67.1
142
N adj.=10.8
N eff.=233.8
146
N adj.=12.8
N eff.=287.4
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N adj.=8.3
N eff.=204.1
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N adj.=4.3
N eff.=55.8
143
N adj.=9.4
N eff.=92.2
147
N adj.=7.7
N eff.=549.6
151
N adj.=4.3
N eff.=81.2
Proportion
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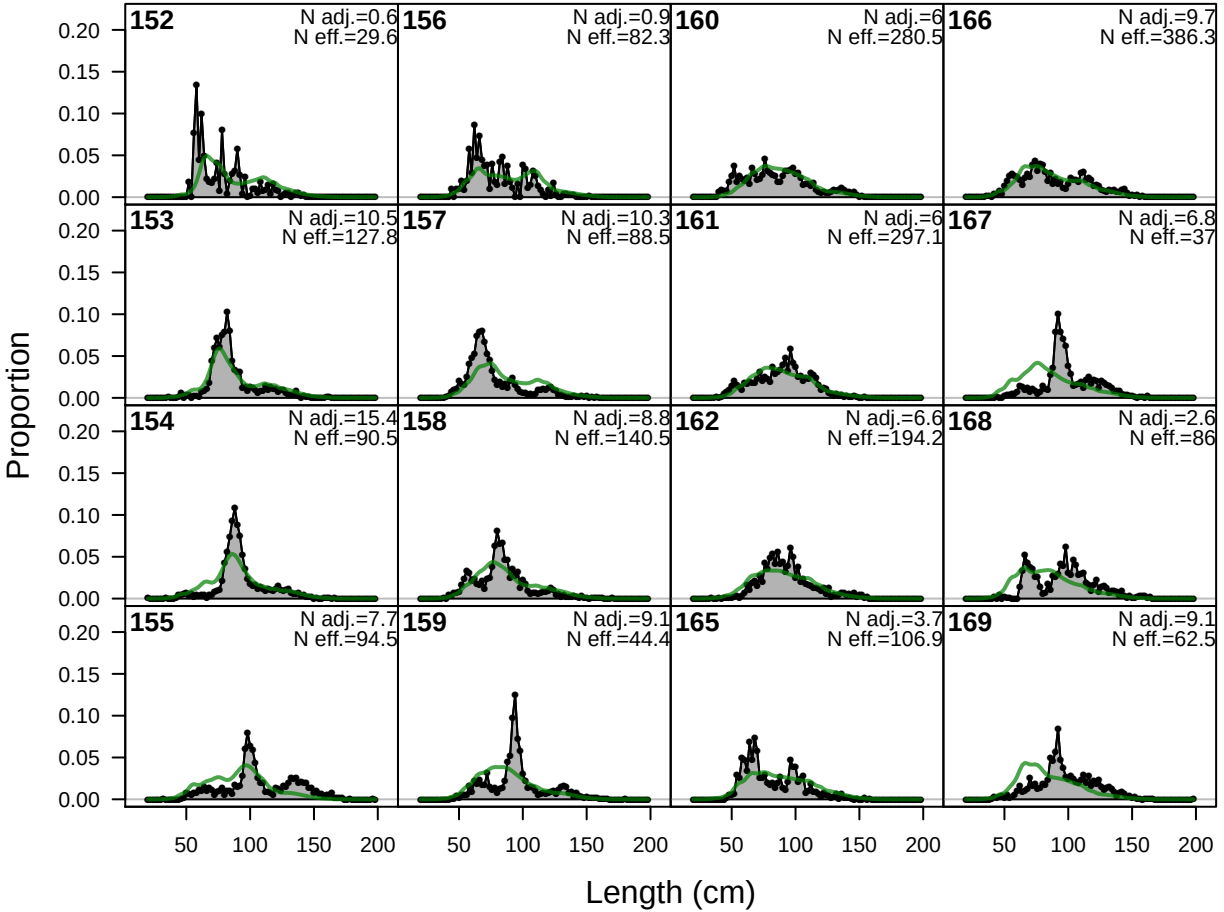
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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N eff.=82.3
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N adj.=6
N eff.=280.5
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N adj.=9.7
N eff.=386.3
153
N adj.=10.5
N eff.=127.8
157
N adj.=10.3
N eff.=88.5
161
N adj.=6
N eff.=297.1
167
N adj.=6.8
N eff.=37
154
N adj.=15.4
N eff.=90.5
158
N adj.=8.8
N eff.=140.5
162
N adj.=6.6
N eff.=194.2
168
N adj.=2.6
N eff.=86
155
N adj.=7.7
N eff.=94.5
159
N adj.=9.1
N eff.=44.4
165
N adj.=3.7
N eff.=106.9
169
N adj.=9.1
N eff.=62.5
Proportion
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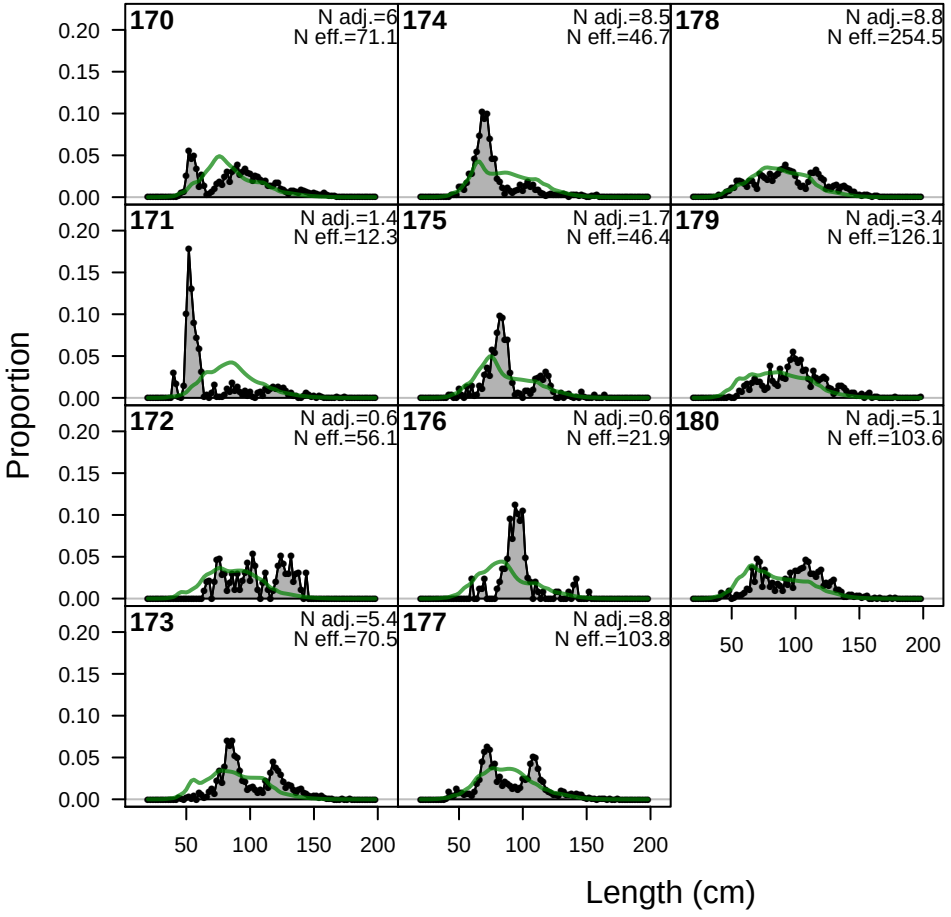
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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174
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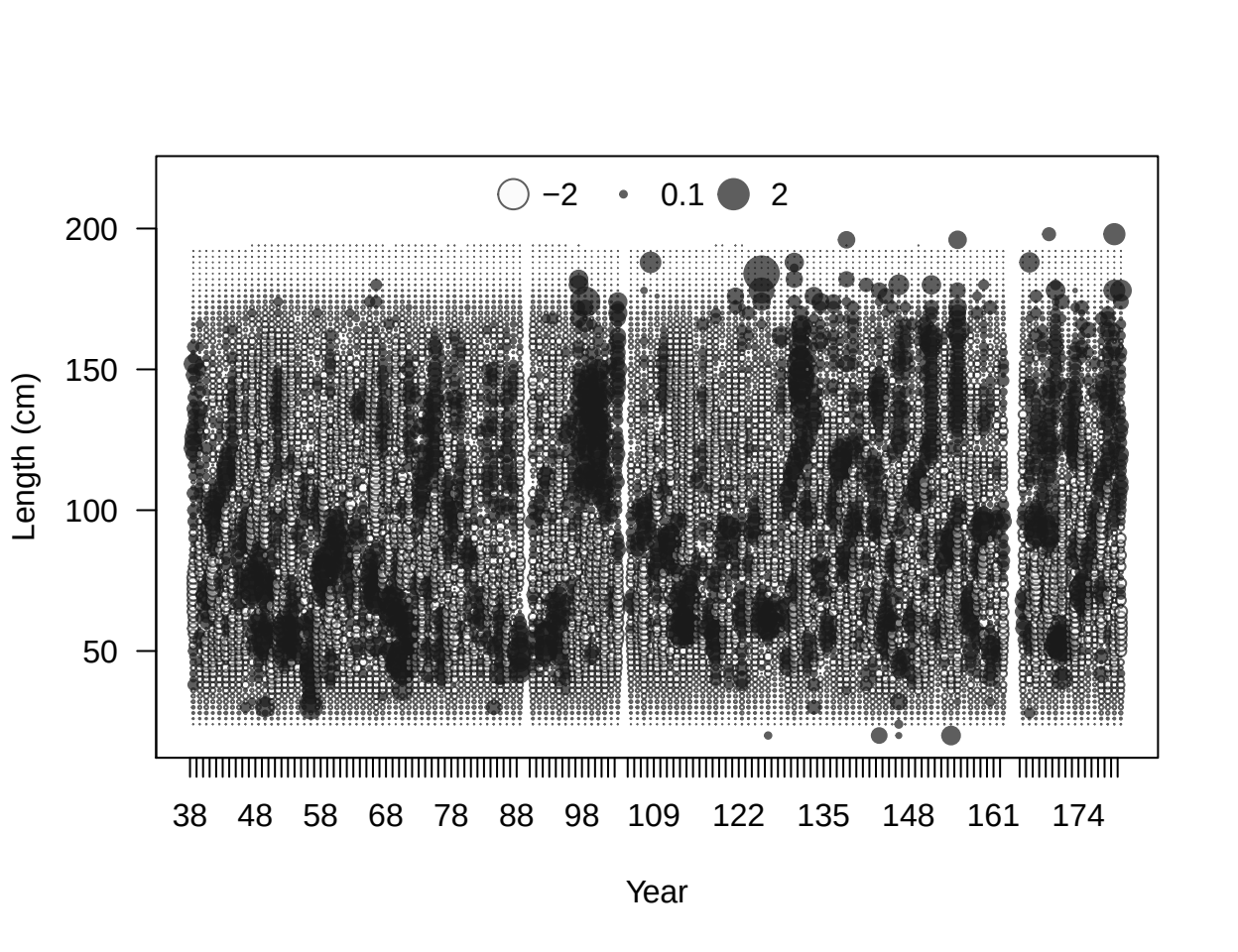
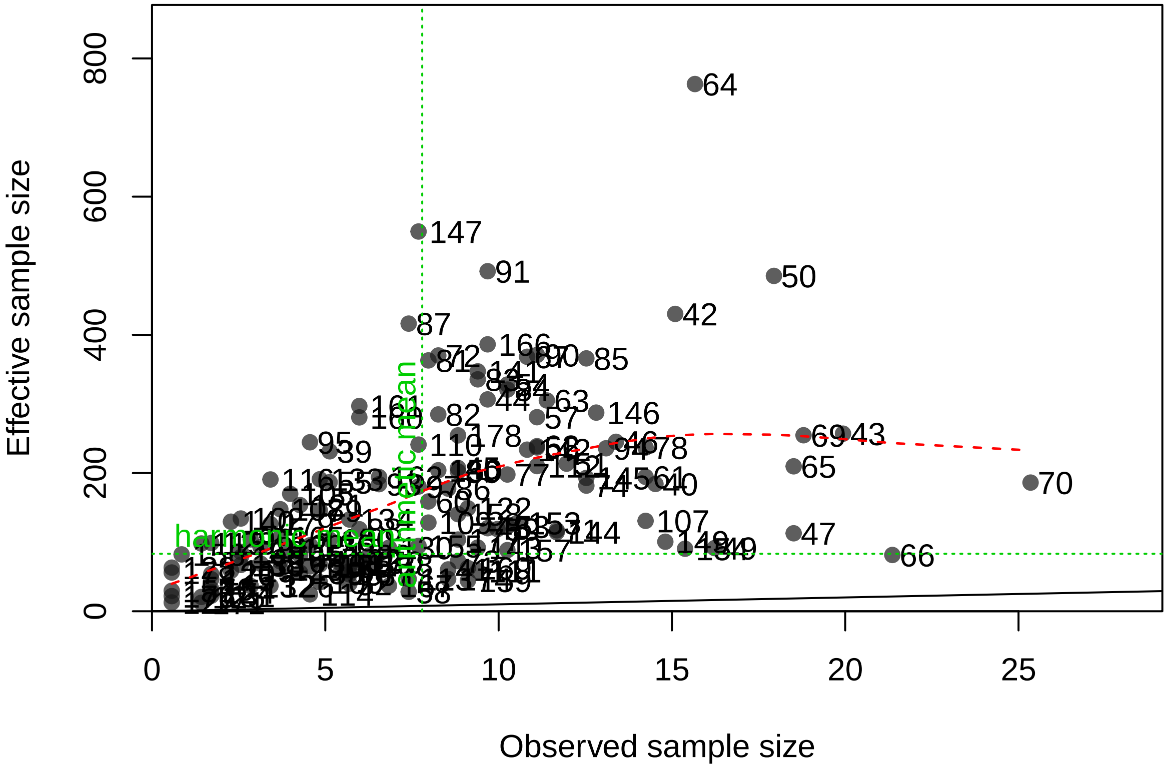
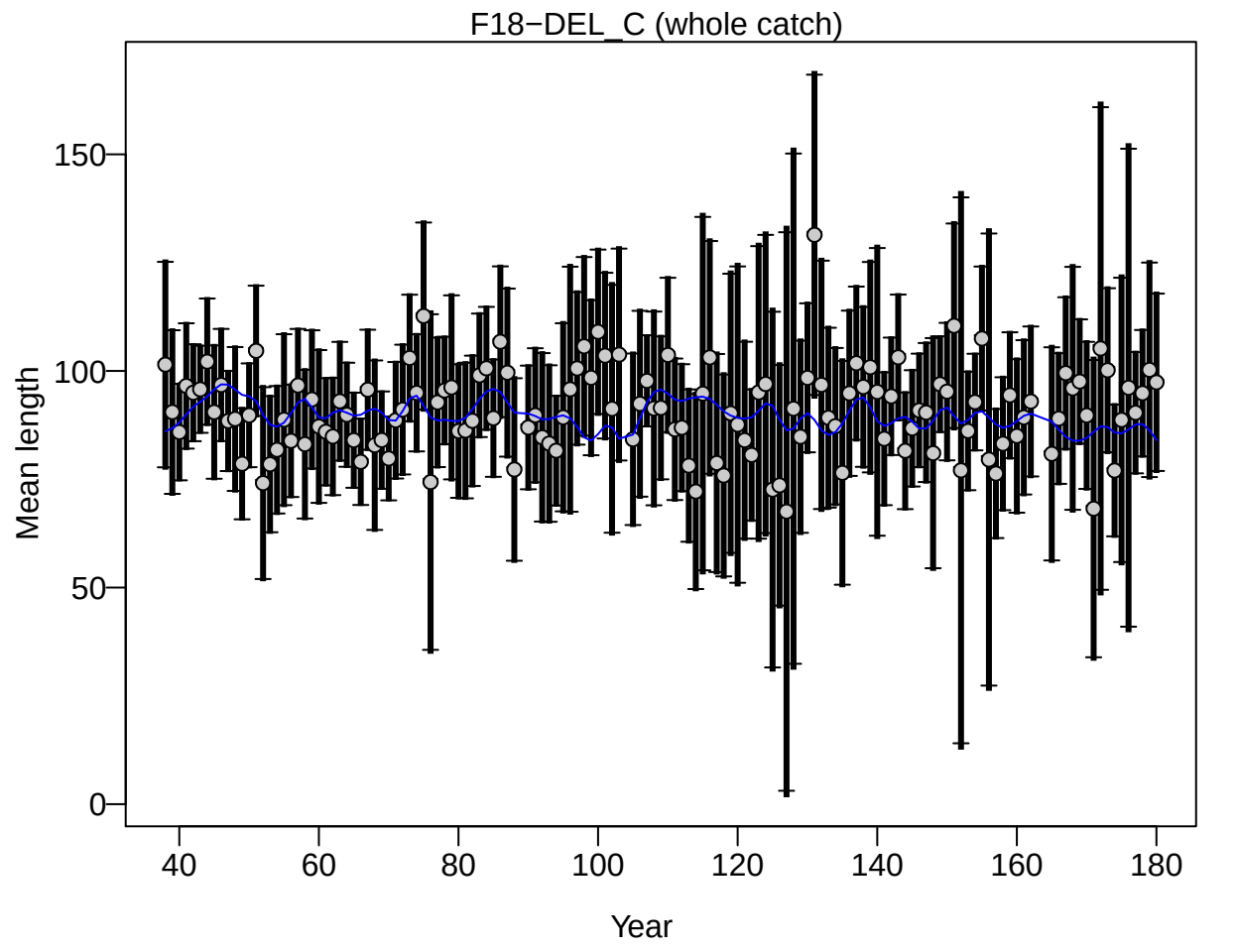
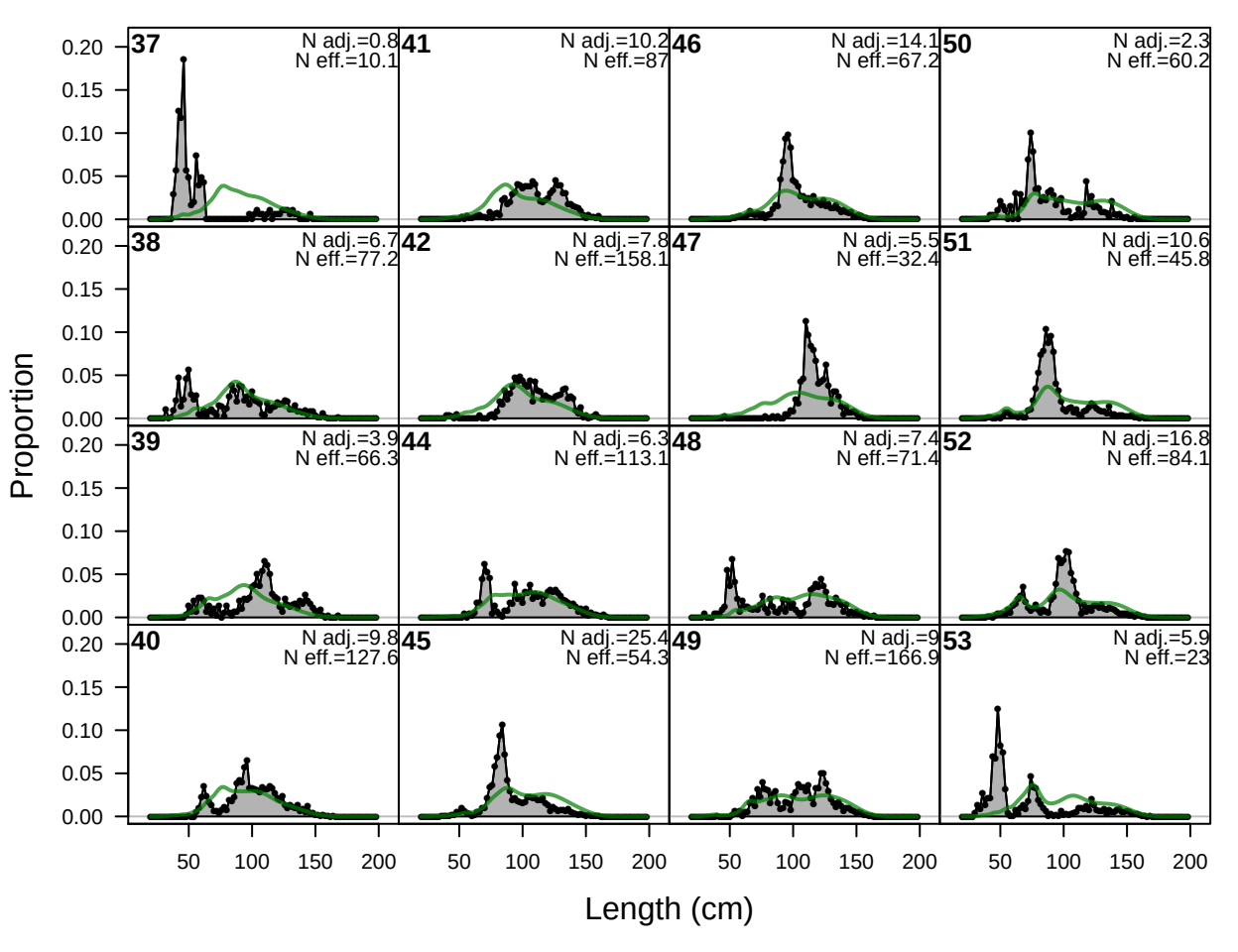
171
N adj.=1.4
N eff.=12.3
175
N adj.=1.7
N eff.=46.4
179
N adj.=3.4
N eff.=126.1
172
N adj.=0.6
N eff.=56.1
176
N adj.=0.6
N eff.=21.9
180
N adj.=5.1
N eff.=103.6
173
N adj.=5.4
N eff.=70.5
177
N adj.=8.8
N eff.=103.8
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


−2
0.1
2
200
150
100
50
Length (cm)
38
48
58
68
78
88
98
109
122
135
148
161
174
Year


Effective sample size
Observed sample size
0
200
400
600
800
0
5
10
15
20
25
harmonic mean
arithmetic mean
64
147
91
50
42
87
166
85
146
57
63
82
178
110
95
39
69
43
65
70
40
107
47
66


F18−DEL_C (whole catch)
Mean length
0
50
100
150
40
60
80
100
120
140
160
180
Year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N eff.=10.1
41
N adj.=10.2
N eff.=87
46
N adj.=14.1
N eff.=67.2
50
N adj.=2.3
N eff.=60.2
38
N adj.=6.7
N eff.=77.2
42
N adj.=7.8
N eff.=158.1
47
N adj.=5.5
N eff.=32.4
51
N adj.=10.6
N eff.=45.8
39
N adj.=3.9
N eff.=66.3
44
N adj.=6.3
N eff.=113.1
48
N adj.=7.4
N eff.=71.4
52
N adj.=16.8
N eff.=84.1
40
N adj.=9.8
N eff.=127.6
45
N adj.=25.4
N eff.=54.3
49
N adj.=9
N eff.=166.9
53
N adj.=5.9
N eff.=23
Proportion
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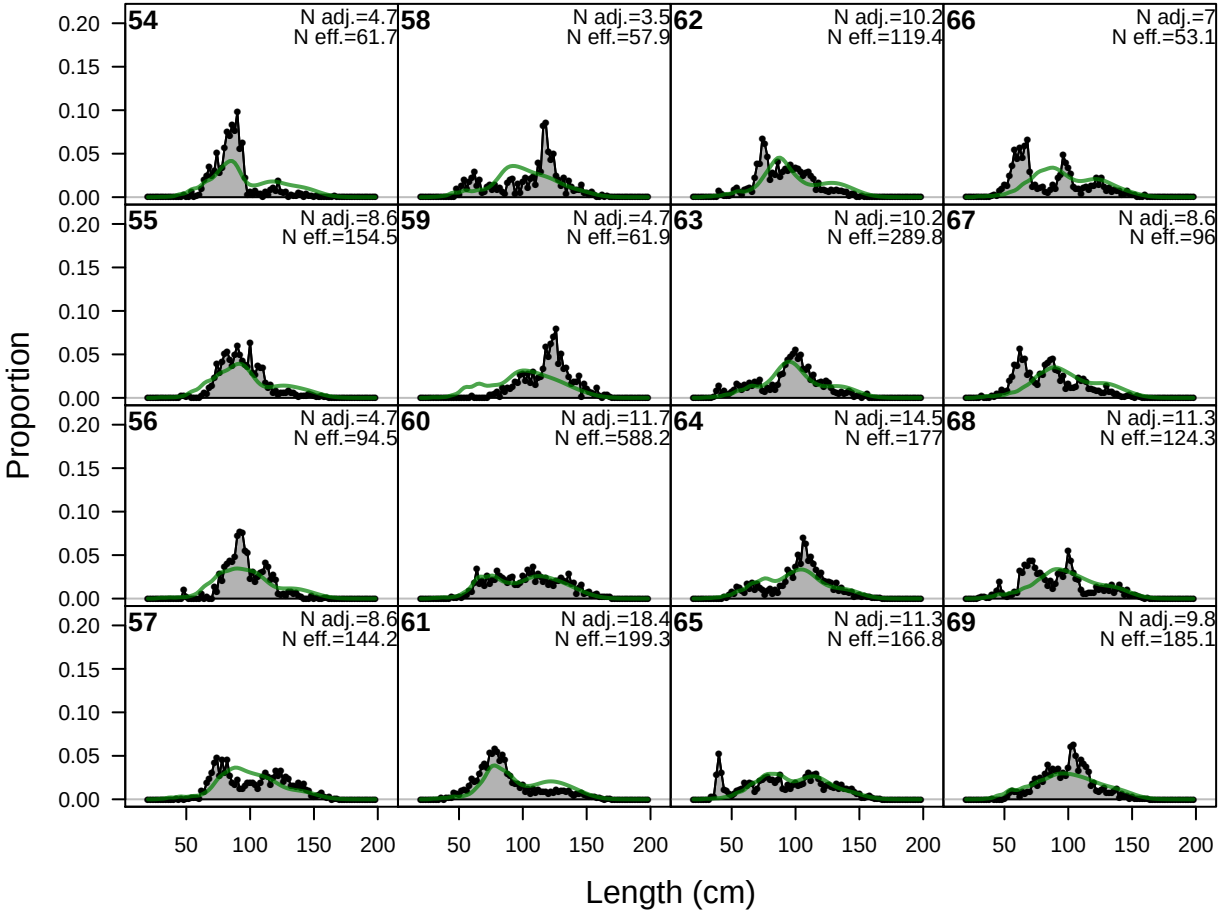
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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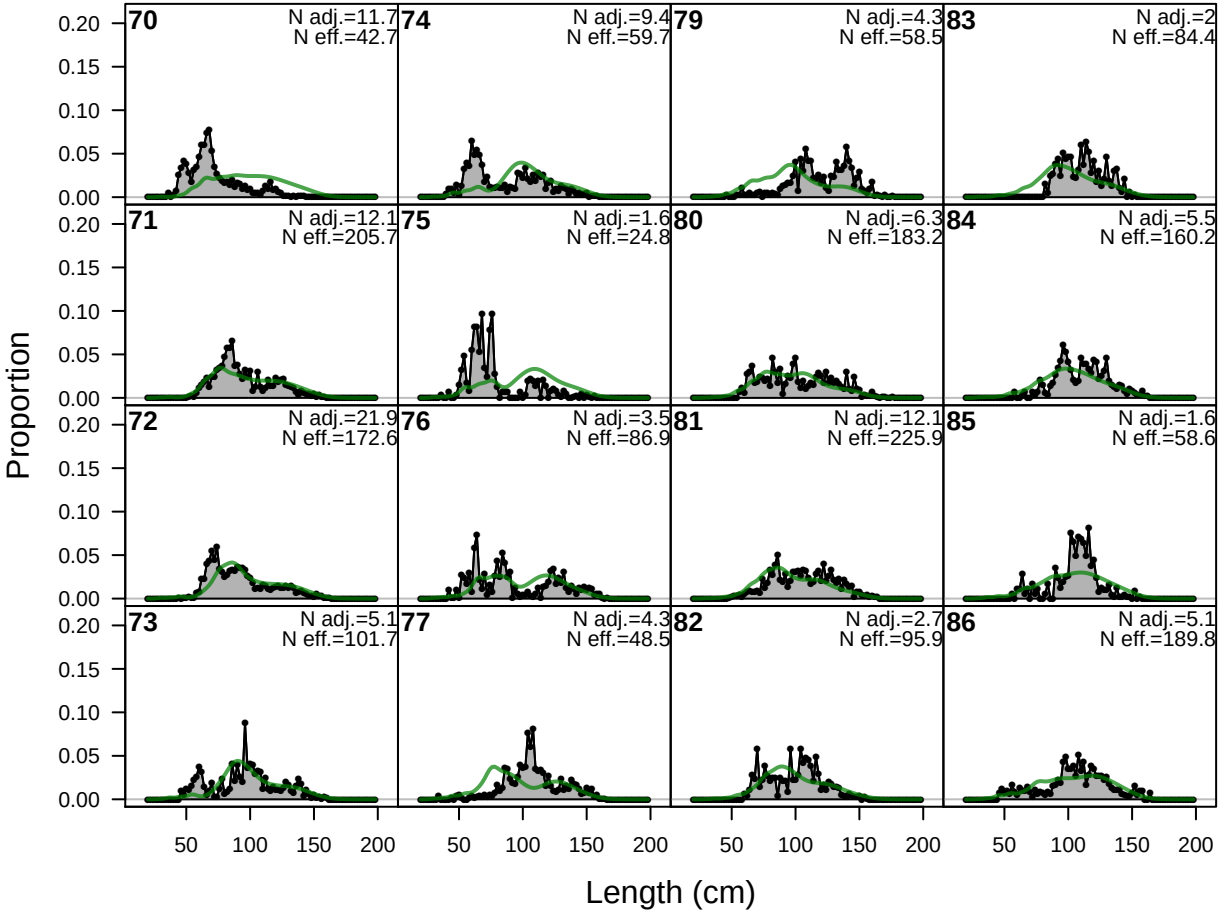
N adj.=4.7
N eff.=61.7
58
N adj.=3.5
N eff.=57.9
62
N adj.=10.2
N eff.=119.4
66
N adj.=7
N eff.=53.1
55
N adj.=8.6
N eff.=154.5
59
N adj.=4.7
N eff.=61.9
63
N adj.=10.2
N eff.=289.8
67
N adj.=8.6
N eff.=96
56
N adj.=4.7
N eff.=94.5
60
N adj.=11.7
N eff.=588.2
64
N adj.=14.5
N eff.=177
68
N adj.=11.3
N eff.=124.3
57
N adj.=8.6
N eff.=144.2
61
N adj.=18.4
N eff.=199.3
65
N adj.=11.3
N eff.=166.8
69
N adj.=9.8
N eff.=185.1
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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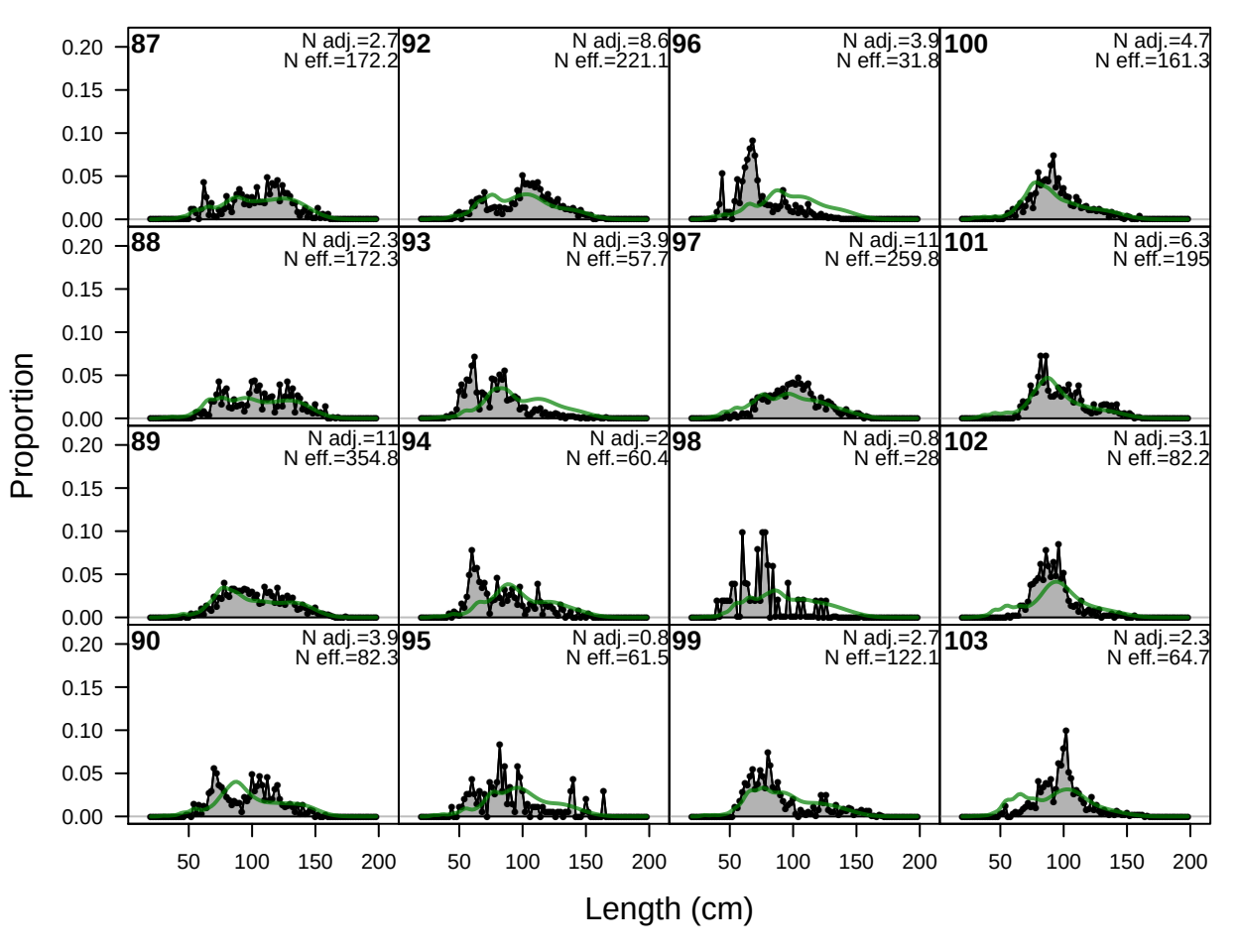
N adj.=11.7
N eff.=42.7
74
N adj.=9.4
N eff.=59.7
79
N adj.=4.3
N eff.=58.5
83
N adj.=2
N eff.=84.4
71
N adj.=12.1
N eff.=205.7
75
N adj.=1.6
N eff.=24.8
80
N adj.=6.3
N eff.=183.2
84
N adj.=5.5
N eff.=160.2
72
N adj.=21.9
N eff.=172.6
76
N adj.=3.5
N eff.=86.9
81
N adj.=12.1
N eff.=225.9
85
N adj.=1.6
N eff.=58.6
73
N adj.=5.1
N eff.=101.7
77
N adj.=4.3
N eff.=48.5
82
N adj.=2.7
N eff.=95.9
86
N adj.=5.1
N eff.=189.8
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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N eff.=172.2
92
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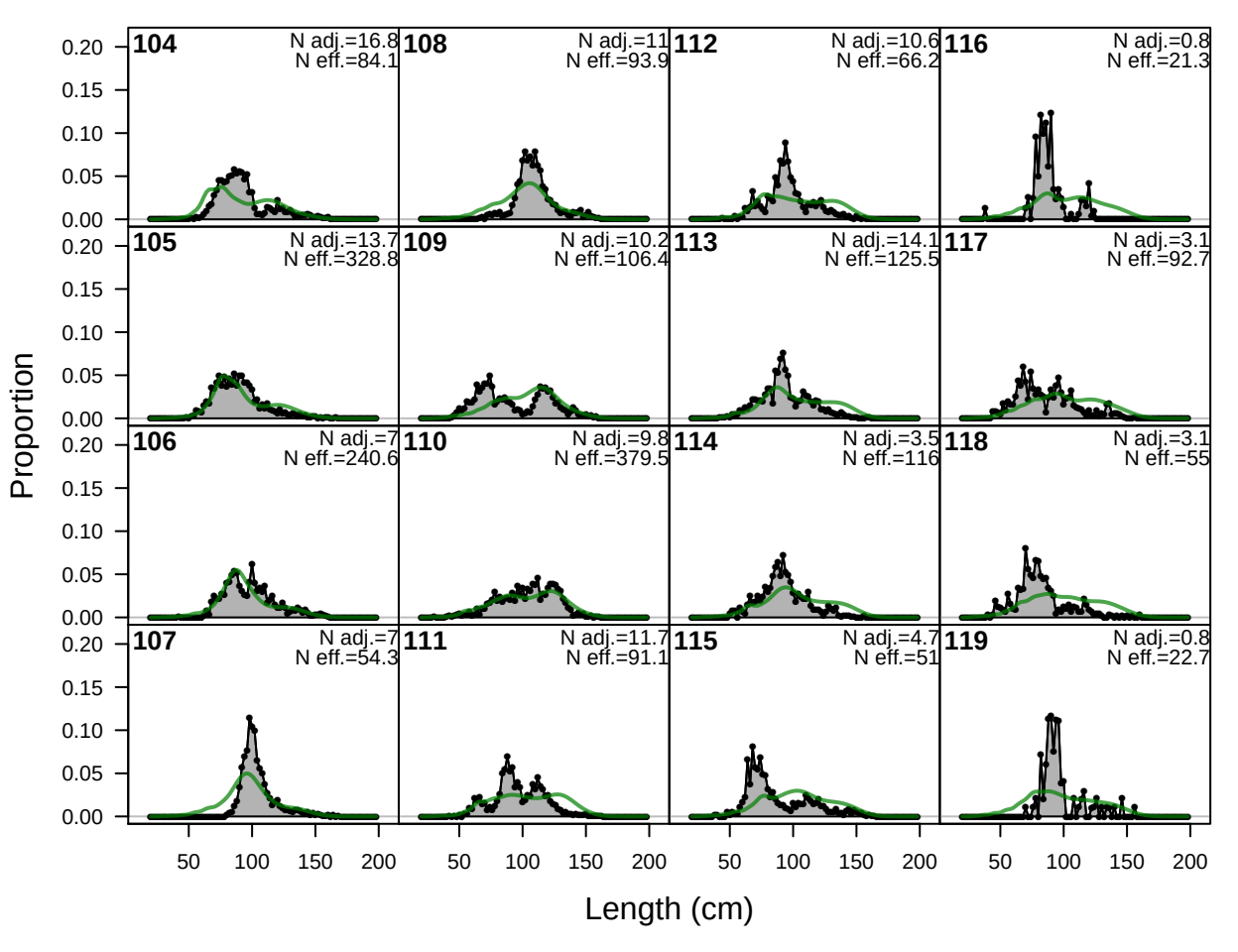
N eff.=221.1
96
N adj.=3.9
N eff.=31.8
100
N adj.=4.7
N eff.=161.3
88
N adj.=2.3
N eff.=172.3
93
N adj.=3.9
N eff.=57.7
97
N adj.=11
N eff.=259.8
101
N adj.=6.3
N eff.=195
89
N adj.=11
N eff.=354.8
94
N adj.=2
N eff.=60.4
98
N adj.=0.8
N eff.=28
102
N adj.=3.1
N eff.=82.2
90
N adj.=3.9
N eff.=82.3
95
N adj.=0.8
N eff.=61.5
99
N adj.=2.7
N eff.=122.1
103
N adj.=2.3
N eff.=64.7
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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N eff.=84.1
108
N adj.=11
N eff.=93.9
112
N adj.=10.6
N eff.=66.2
116
N adj.=0.8
N eff.=21.3
105
N adj.=13.7
N eff.=328.8
109
N adj.=10.2
N eff.=106.4
113
N adj.=14.1
N eff.=125.5
117
N adj.=3.1
N eff.=92.7
106
N adj.=7
N eff.=240.6
110
N adj.=9.8
N eff.=379.5
114
N adj.=3.5
N eff.=116
118
N adj.=3.1
N eff.=55
107
N adj.=7
N eff.=54.3
111
N adj.=11.7
N eff.=91.1
115
N adj.=4.7
N eff.=51
119
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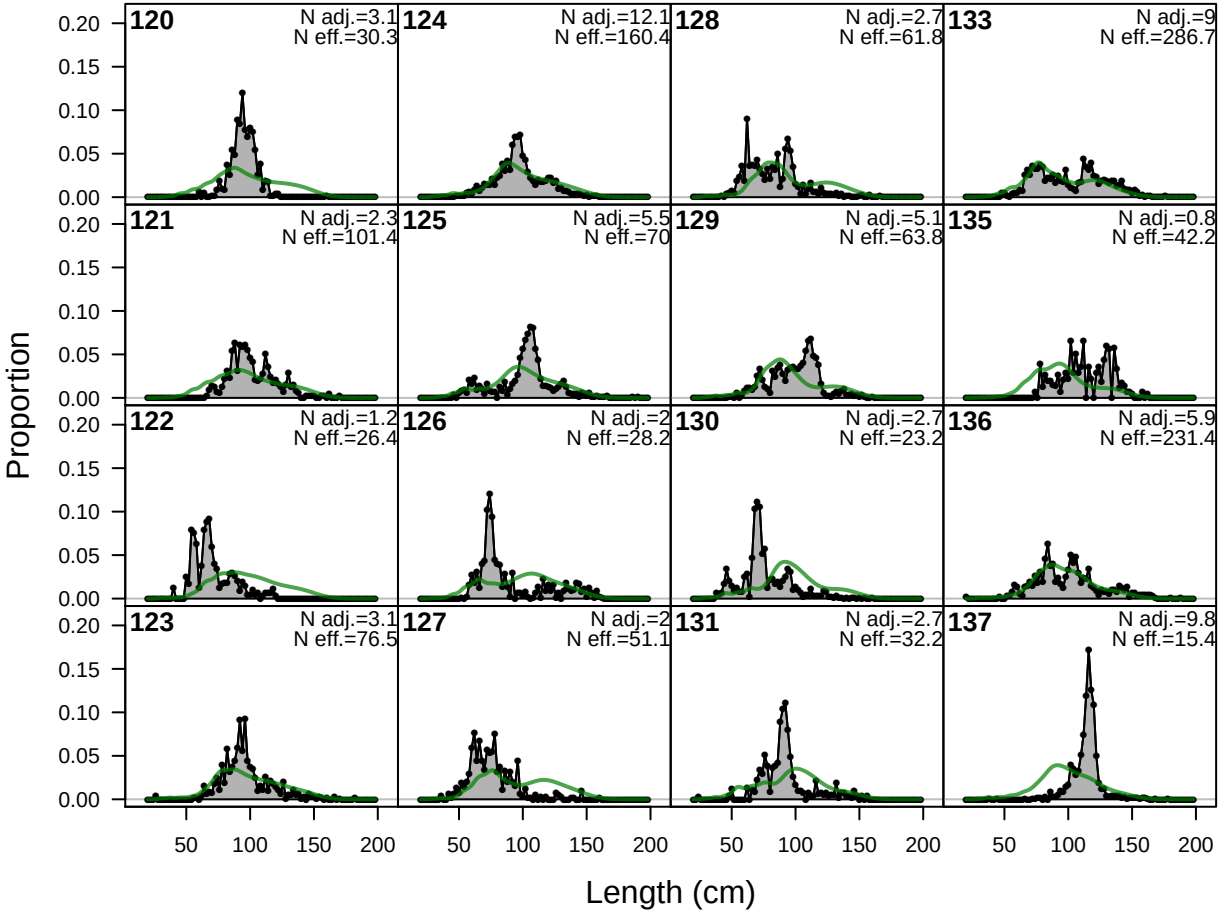
N eff.=22.7
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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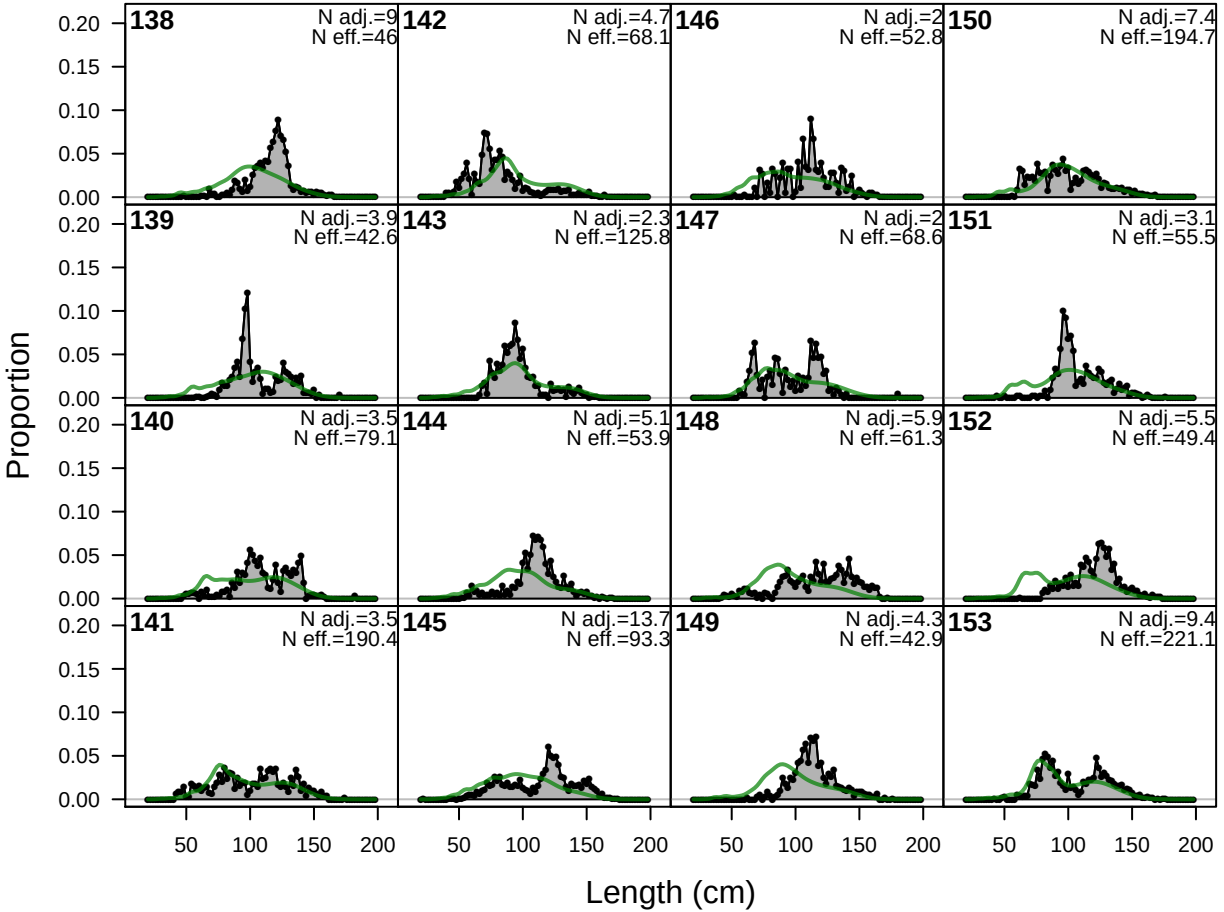
N eff.=61.8
133
N adj.=9
N eff.=286.7
121
N adj.=2.3
N eff.=101.4
125
N adj.=5.5
N eff.=70
129
N adj.=5.1
N eff.=63.8
135
N adj.=0.8
N eff.=42.2
122
N adj.=1.2
N eff.=26.4
126
N adj.=2
N eff.=28.2
130
N adj.=2.7
N eff.=23.2
136
N adj.=5.9
N eff.=231.4
123
N adj.=3.1
N eff.=76.5
127
N adj.=2
N eff.=51.1
131
N adj.=2.7
N eff.=32.2
137
N adj.=9.8
N eff.=15.4
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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N eff.=46
142
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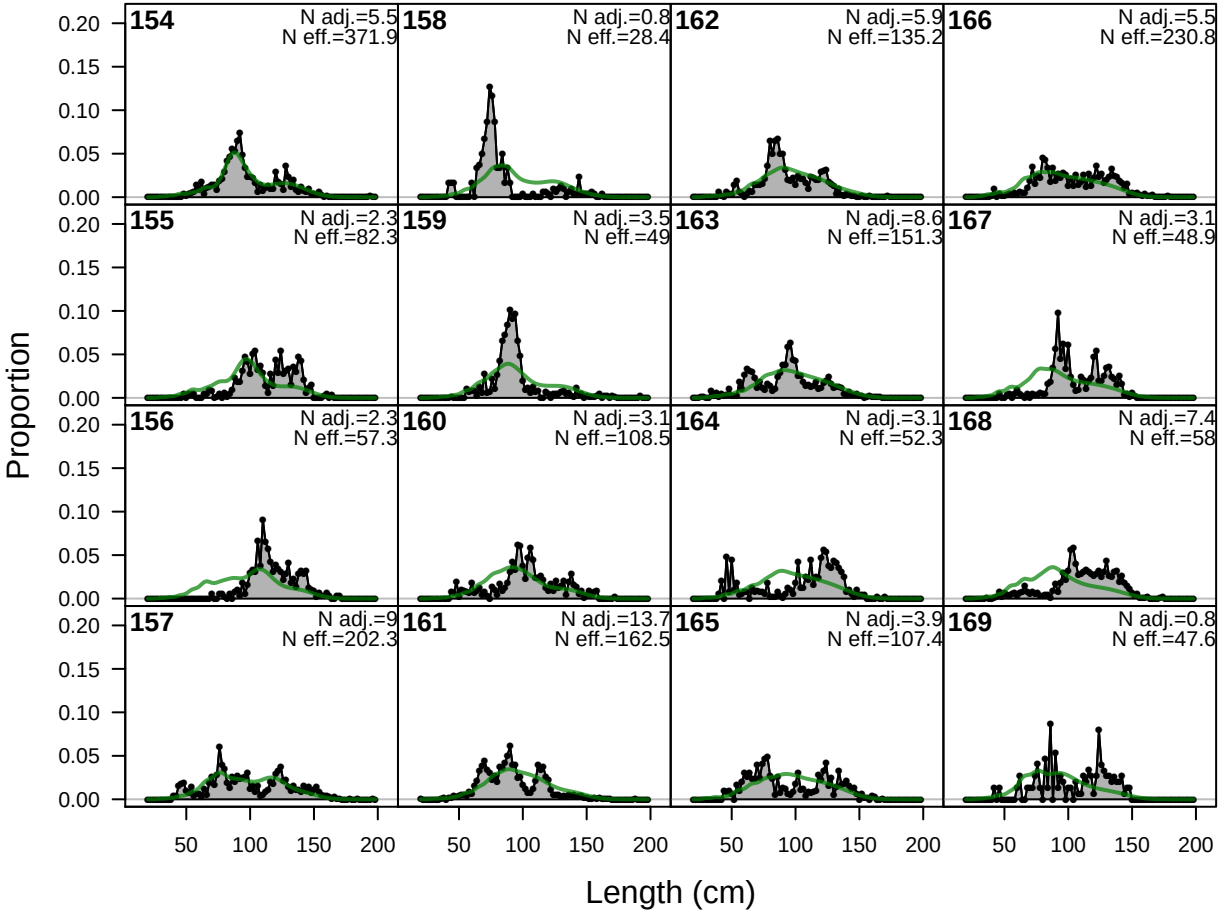
N eff.=68.1
146
N adj.=2
N eff.=52.8
150
N adj.=7.4
N eff.=194.7
139
N adj.=3.9
N eff.=42.6
143
N adj.=2.3
N eff.=125.8
147
N adj.=2
N eff.=68.6
151
N adj.=3.1
N eff.=55.5
140
N adj.=3.5
N eff.=79.1
144
N adj.=5.1
N eff.=53.9
148
N adj.=5.9
N eff.=61.3
152
N adj.=5.5
N eff.=49.4
141
N adj.=3.5
N eff.=190.4
145
N adj.=13.7
N eff.=93.3
149
N adj.=4.3
N eff.=42.9
153
N adj.=9.4
N eff.=221.1
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)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162
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N eff.=135.2
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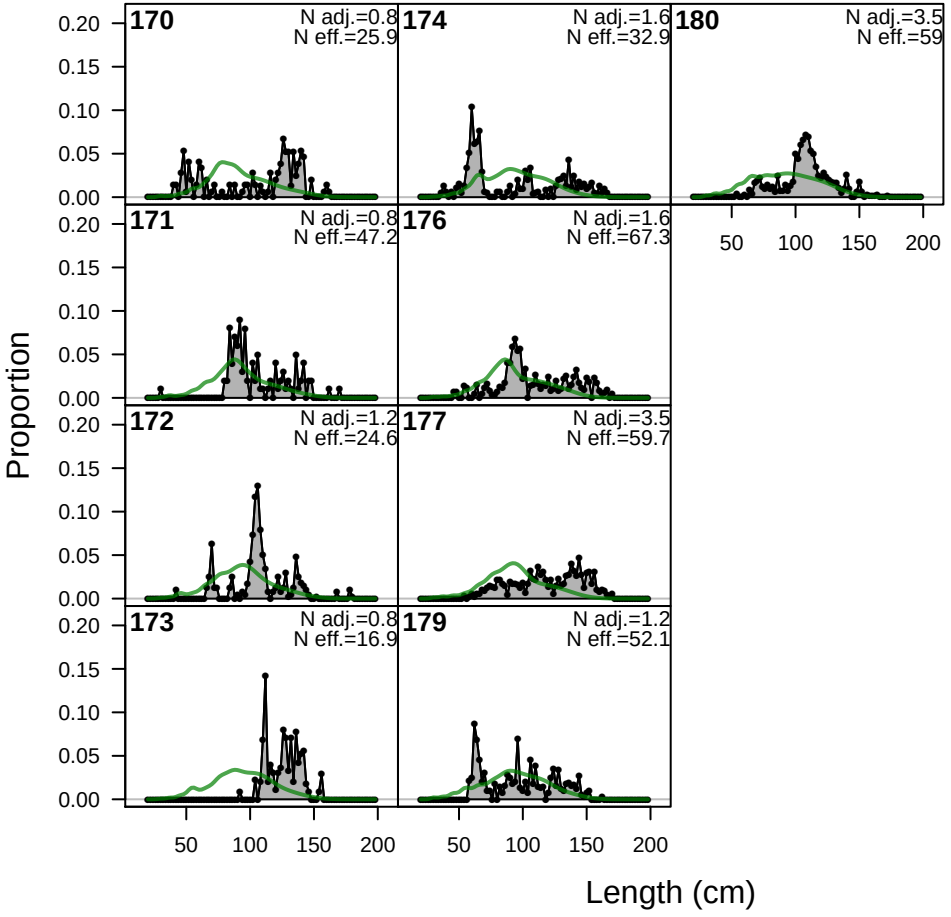
N eff.=230.8
155
N adj.=2.3
N eff.=82.3
159
N adj.=3.5
N eff.=49
163
N adj.=8.6
N eff.=151.3
167
N adj.=3.1
N eff.=48.9
156
N adj.=2.3
N eff.=57.3
160
N adj.=3.1
N eff.=108.5
164
N adj.=3.1
N eff.=52.3
168
N adj.=7.4
N eff.=58
157
N adj.=9
N eff.=202.3
161
N adj.=13.7
N eff.=162.5
165
N adj.=3.9
N eff.=107.4
169
N adj.=0.8
N eff.=47.6
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Proportion
Length (cm)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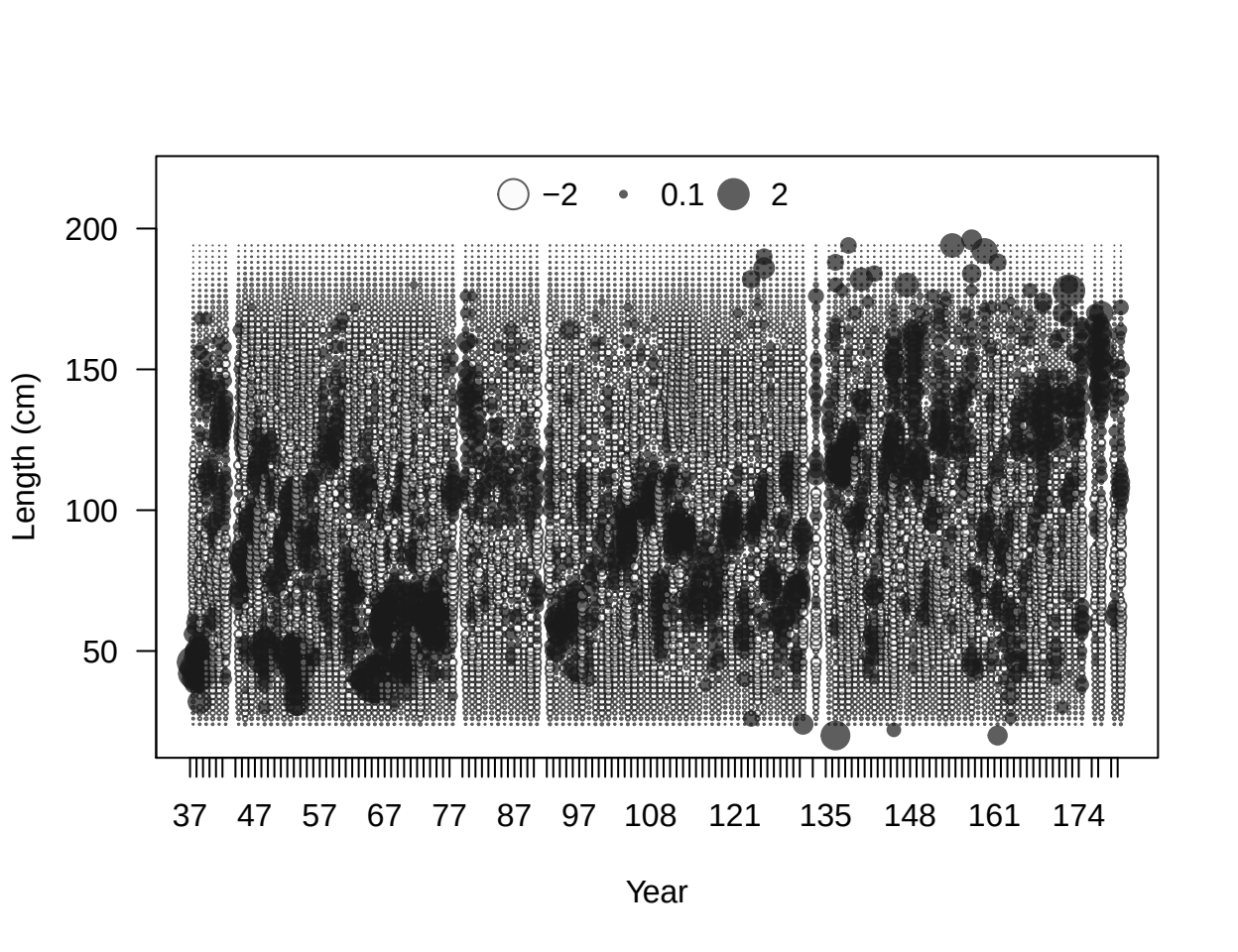
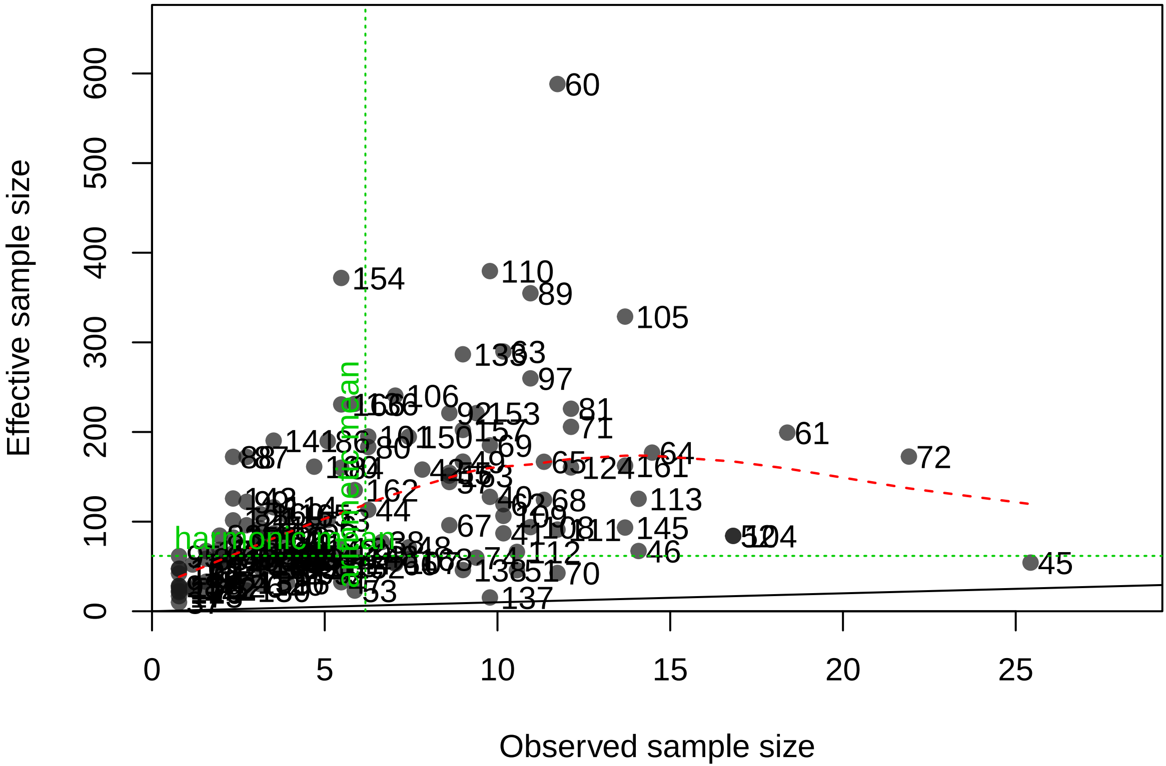
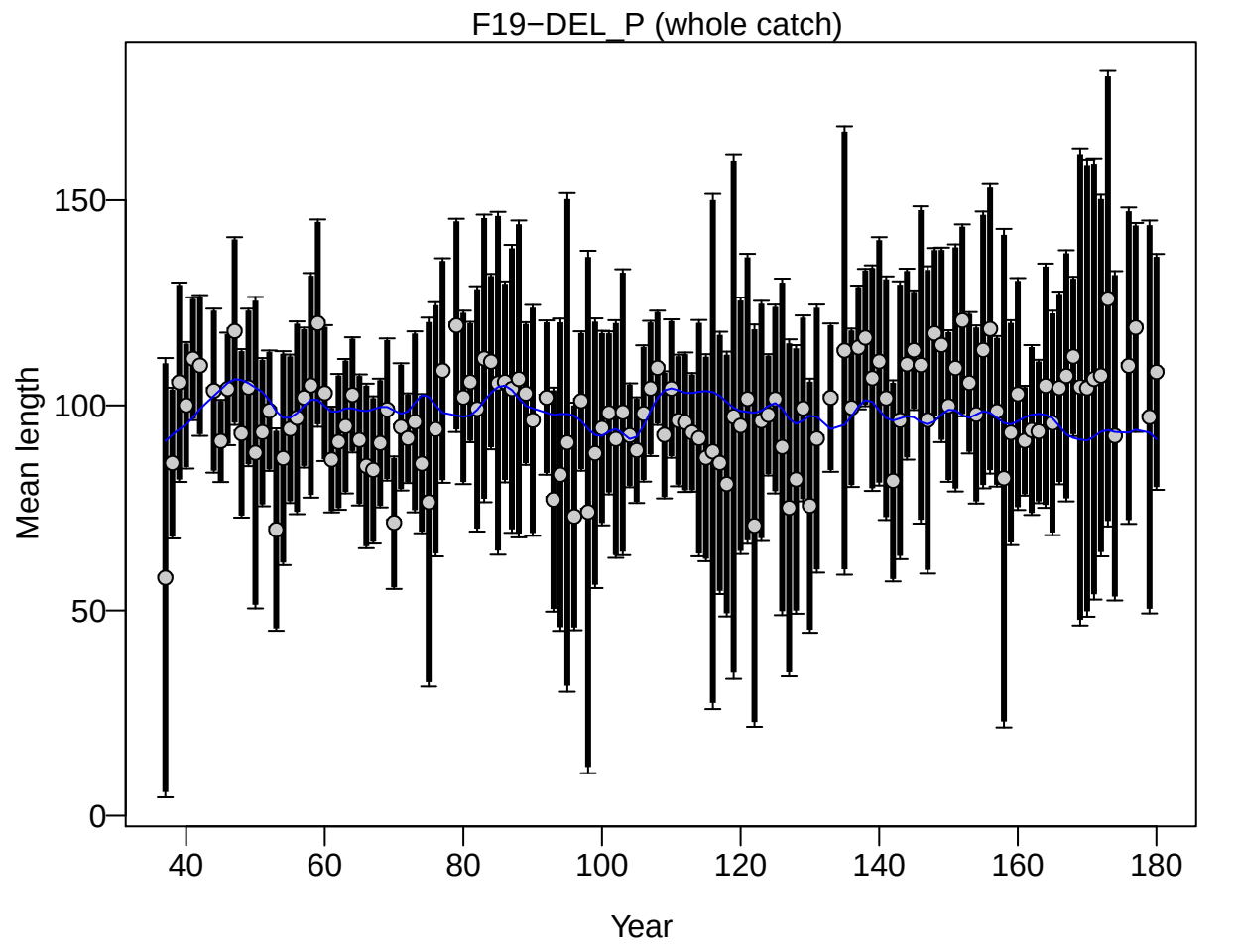
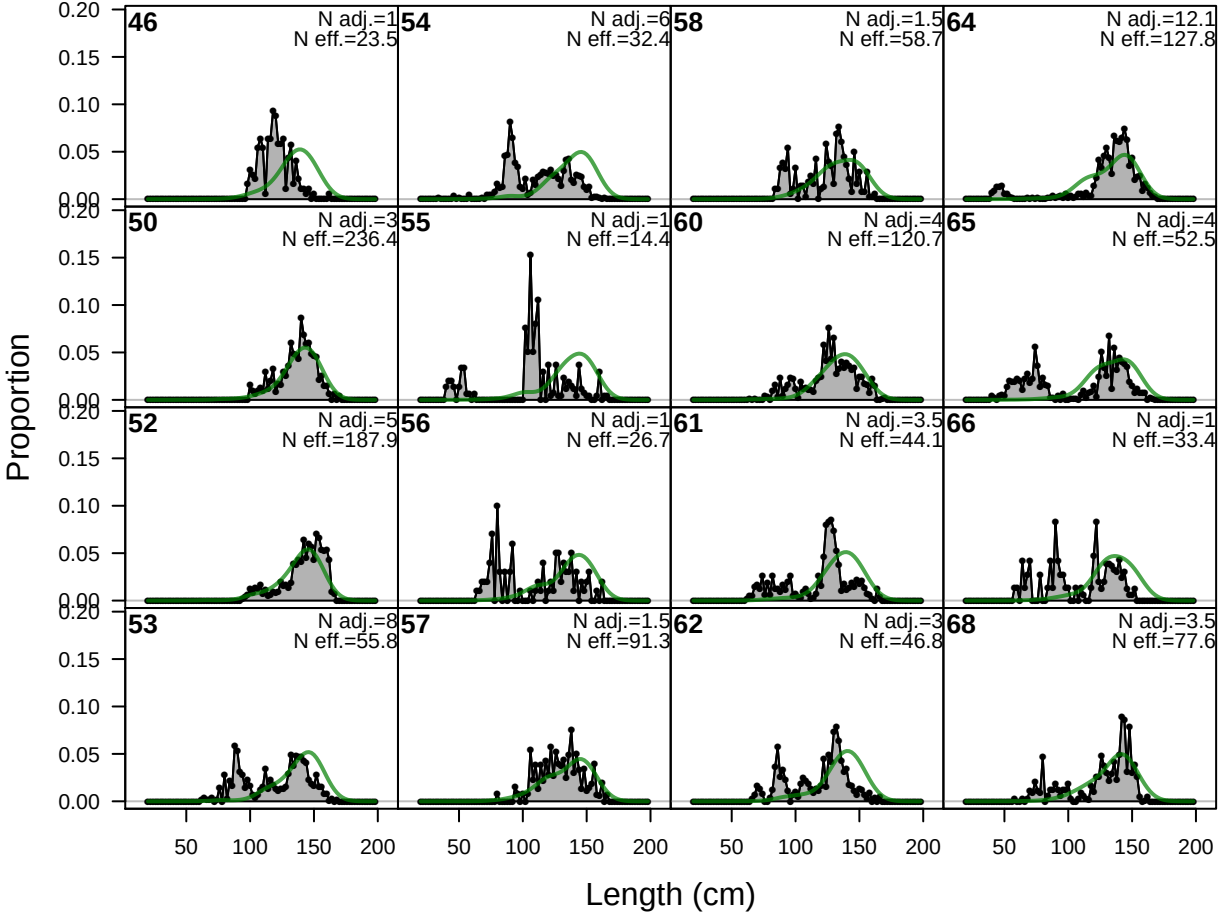
N adj.=0.8
N eff.=25.9
174
N adj.=1.6
N eff.=32.9
180
N adj.=3.5
N eff.=59
171
N adj.=0.8
N eff.=47.2
176
N adj.=1.6
N eff.=67.3
172
N adj.=1.2
N eff.=24.6
177
N adj.=3.5
N eff.=59.7
173
N adj.=0.8
N eff.=16.9
179
N adj.=1.2
N eff.=52.1
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


−2
0.1
2
200
150
100
50
Length (cm)
37
47
57
67
77
87
97
108
121
135
148
161
174
Year



Effective sample size
Observed sample size
0
100
200
300
400
500
600
0
5
10
15
20
25
harmonic mean
arithmetic mean
60
154
110
89
105
63
97
106
81
71
61
64
72
113
145
46
45
137


F19−DEL_P (whole catch)
Mean length
0
50
100
150
40
60
80
100
120
140
160
180
Year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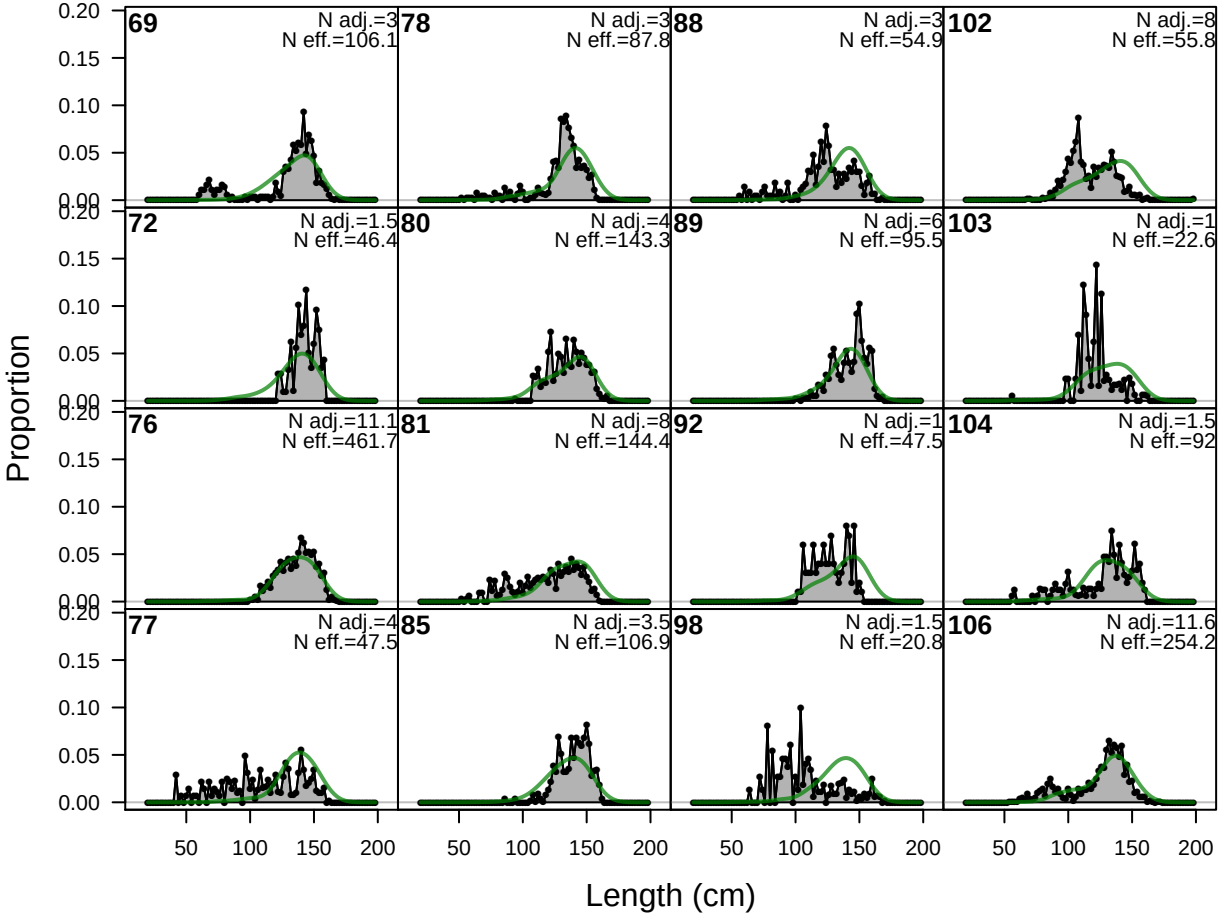
N eff.=23.5
54
N adj.=6
N eff.=32.4
58
N adj.=1.5
N eff.=58.7
64
N adj.=12.1
N eff.=127.8
50
N adj.=3
N eff.=236.4
55
N adj.=1
N eff.=14.4
60
N adj.=4
N eff.=120.7
65
N adj.=4
N eff.=52.5
52
N adj.=5
N eff.=187.9
56
N adj.=1
N eff.=26.7
61
N adj.=3.5
N eff.=44.1
66
N adj.=1
N eff.=33.4
53
N adj.=8
N eff.=55.8
57
N adj.=1.5
N eff.=91.3
62
N adj.=3
N eff.=46.8
68
N adj.=3.5
N eff.=77.6
0.20
0.15
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)


69
N adj.=3
N eff.=106.1
78
N adj.=3
N eff.=87.8
88
N adj.=3
N eff.=54.9
102
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N eff.=55.8
72
N adj.=1.5
N eff.=46.4
80
N adj.=4
N eff.=143.3
89
N adj.=6
N eff.=95.5
103
N adj.=1
N eff.=22.6
76
N adj.=11.1
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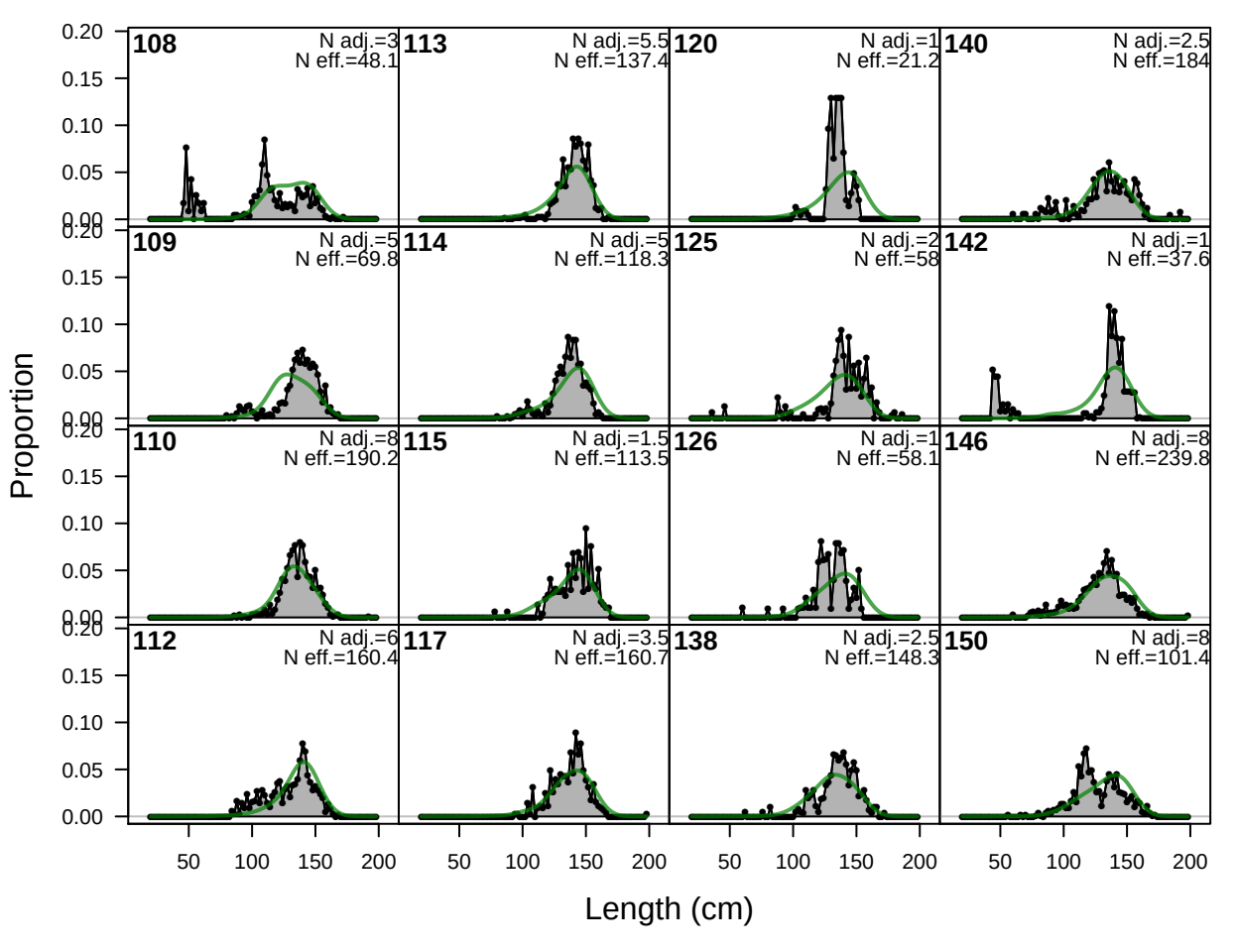
81
N adj.=8
N eff.=144.4
92
N adj.=1
N eff.=47.5
104
N adj.=1.5
N eff.=92
77
N adj.=4
N eff.=47.5
85
N adj.=3.5
N eff.=106.9
98
N adj.=1.5
N eff.=20.8
106
N adj.=11.6
N eff.=254.2
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


108
N adj.=3
N eff.=48.1
113
N adj.=5.5
N eff.=137.4
120
N adj.=1
N eff.=21.2
140
N adj.=2.5
N eff.=184
109
N adj.=5
N eff.=69.8
114
N adj.=5
N eff.=118.3
125
N adj.=2
N eff.=58
142
N adj.=1
N eff.=37.6
110
N adj.=8
N eff.=190.2
115
N adj.=1.5
N eff.=113.5
126
N adj.=1
N eff.=58.1
146
N adj.=8
N eff.=239.8
112
N adj.=6
N eff.=160.4
117
N adj.=3.5
N eff.=160.7
138
N adj.=2.5
N eff.=148.3
150
N adj.=8
N eff.=101.4
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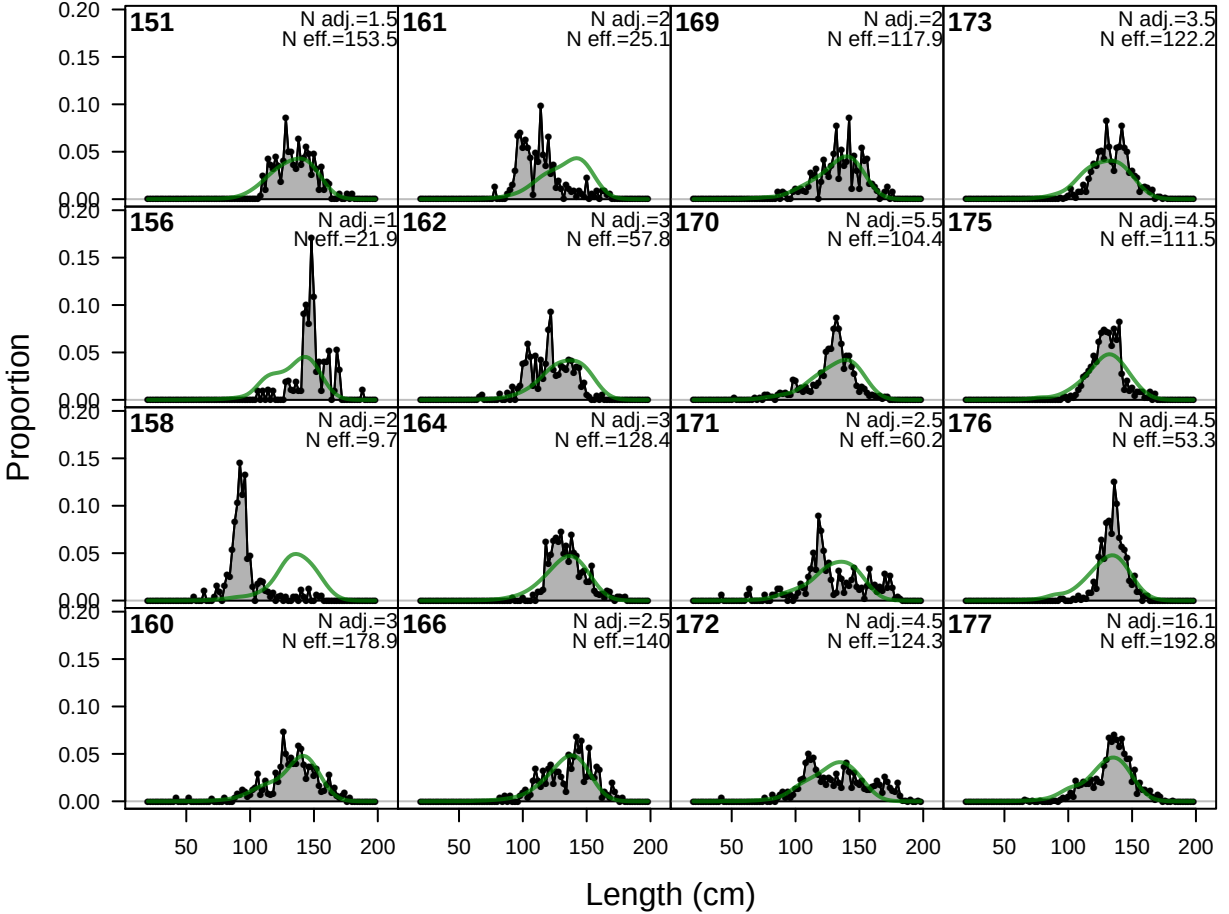
0.10
0.05
0.00
50
100
150
200
Proportion
Length (cm)


151
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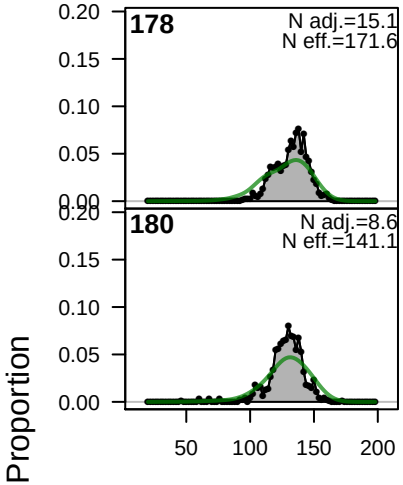
N eff.=153.5
161
N adj.=2
N eff.=25.1
169
N adj.=2
N eff.=117.9
173
N adj.=3.5
N eff.=122.2
156
N adj.=1
N eff.=21.9
162
N adj.=3
N eff.=57.8
170
N adj.=5.5
N eff.=104.4
175
N adj.=4.5
N eff.=111.5
158
N adj.=2
N eff.=9.7
164
N adj.=3
N eff.=128.4
171
N adj.=2.5
N eff.=60.2
176
N adj.=4.5
N eff.=53.3
160
N adj.=3
N eff.=178.9
166
N adj.=2.5
N eff.=140
172
N adj.=4.5
N eff.=124.3
177
N adj.=16.1
N eff.=192.8
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)


178
N adj.=15.1
N eff.=171.6
180
N adj.=8.6
N eff.=141.1
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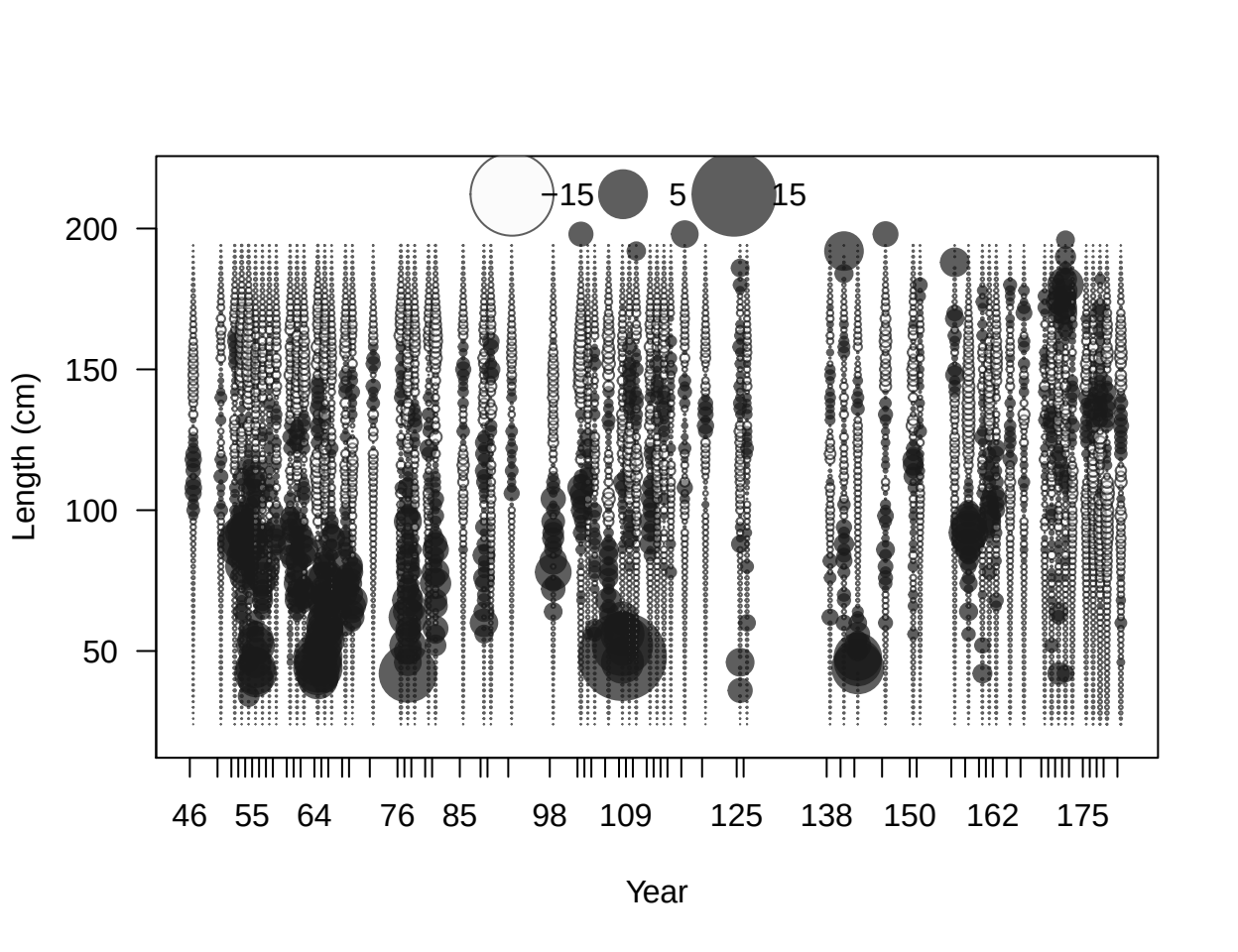
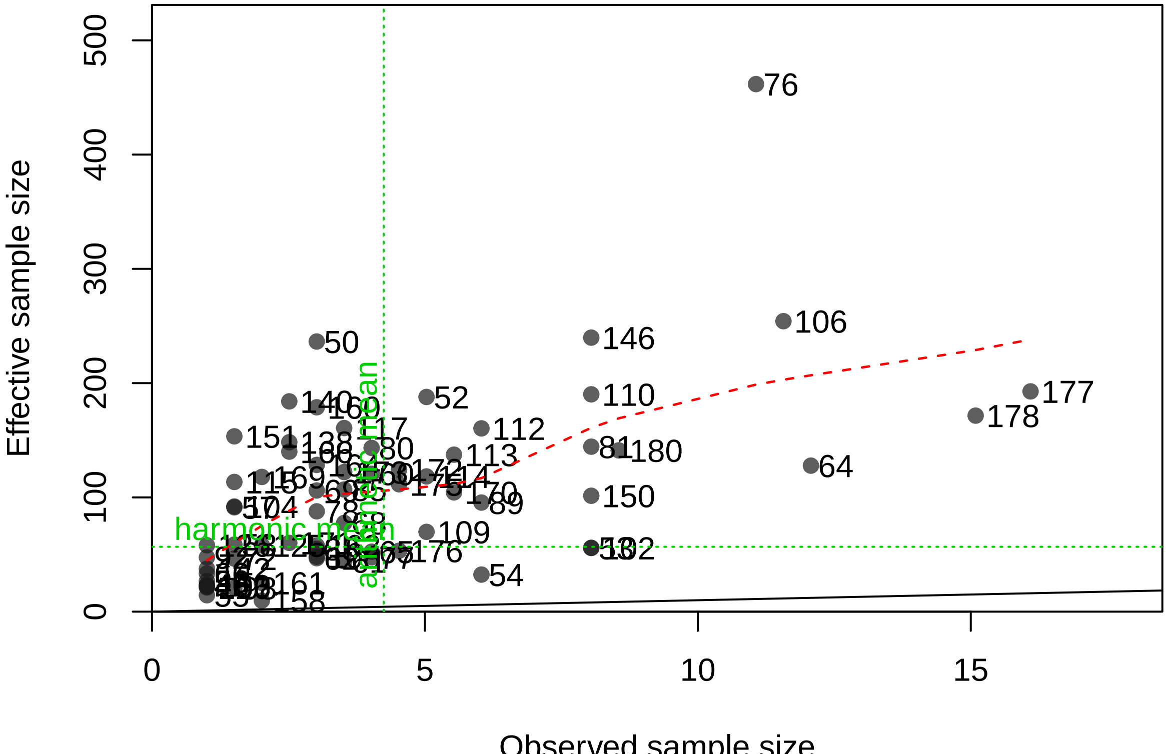
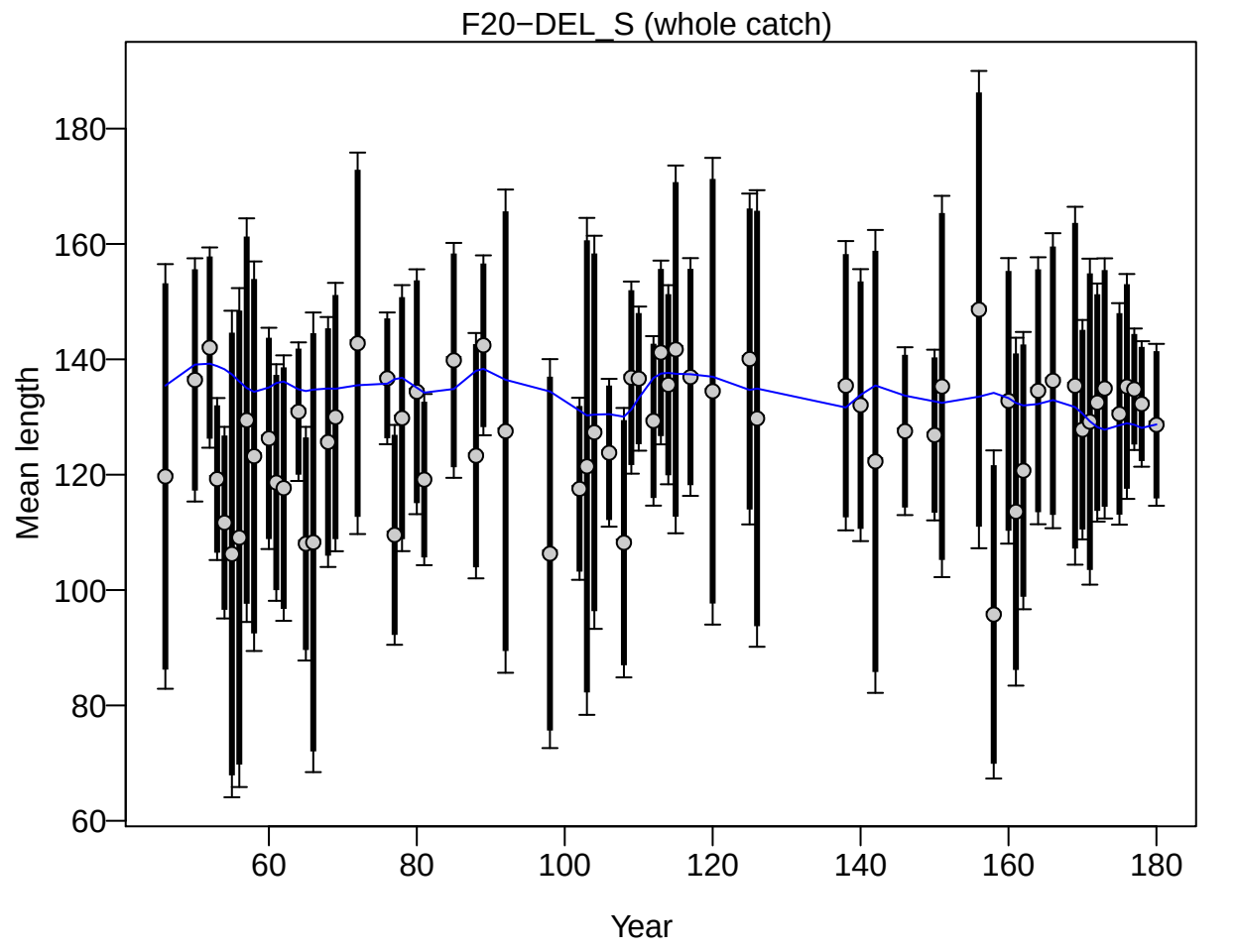
0.15
0.10
0.05
0.00
50
100
150
200
Proportion

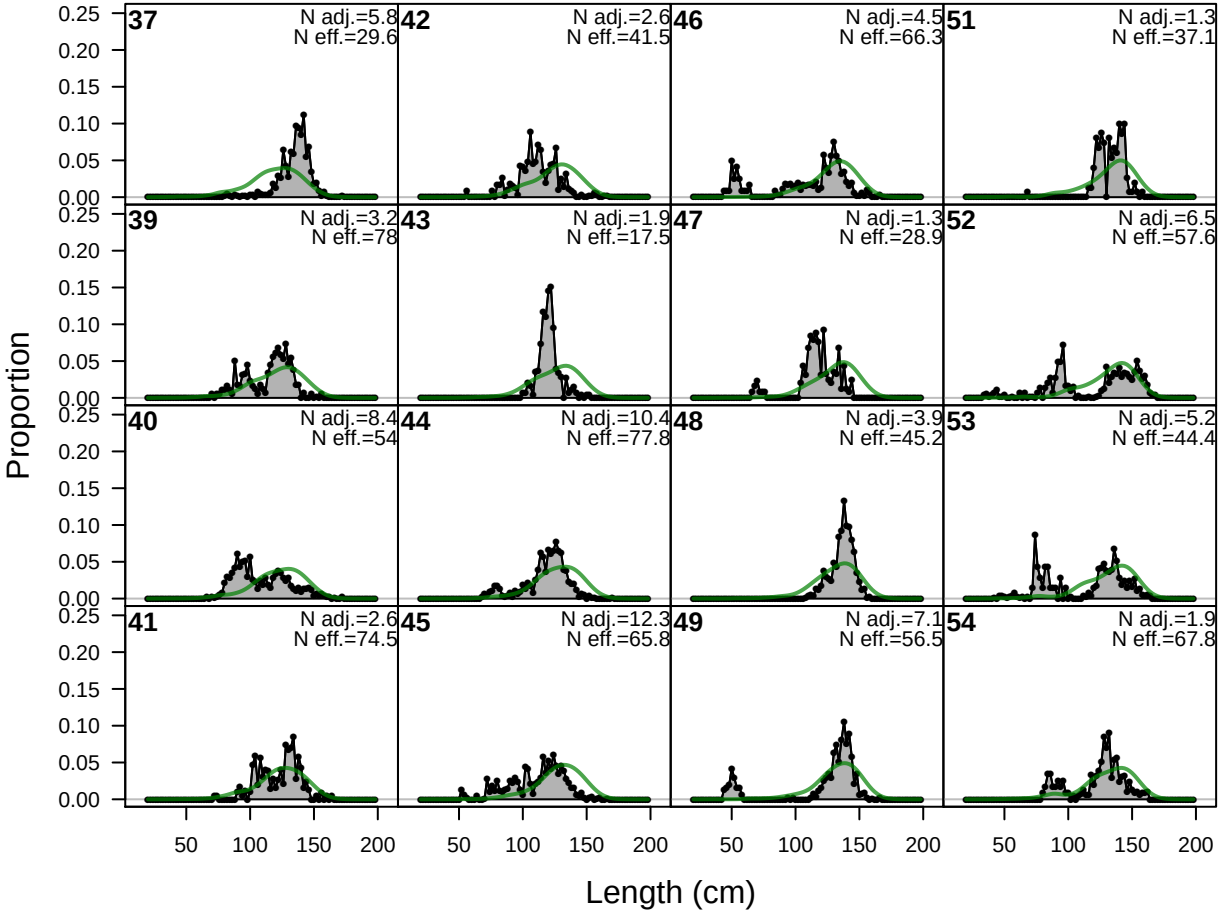
Length (cm)

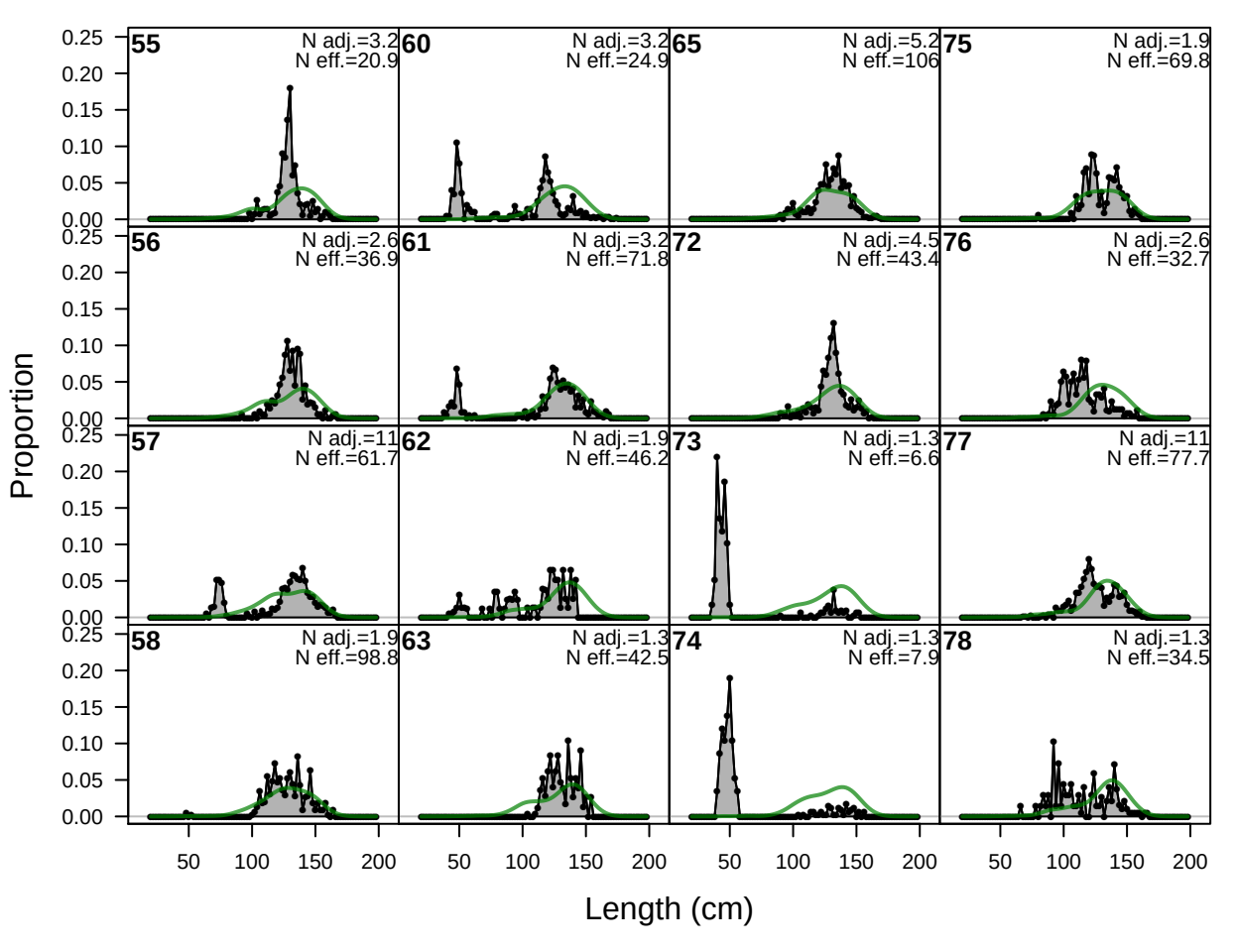

15
5
15
200
150
100
50
Length (cm)
46
55
64
76
85
98
109
125
138
150
162
175
Year

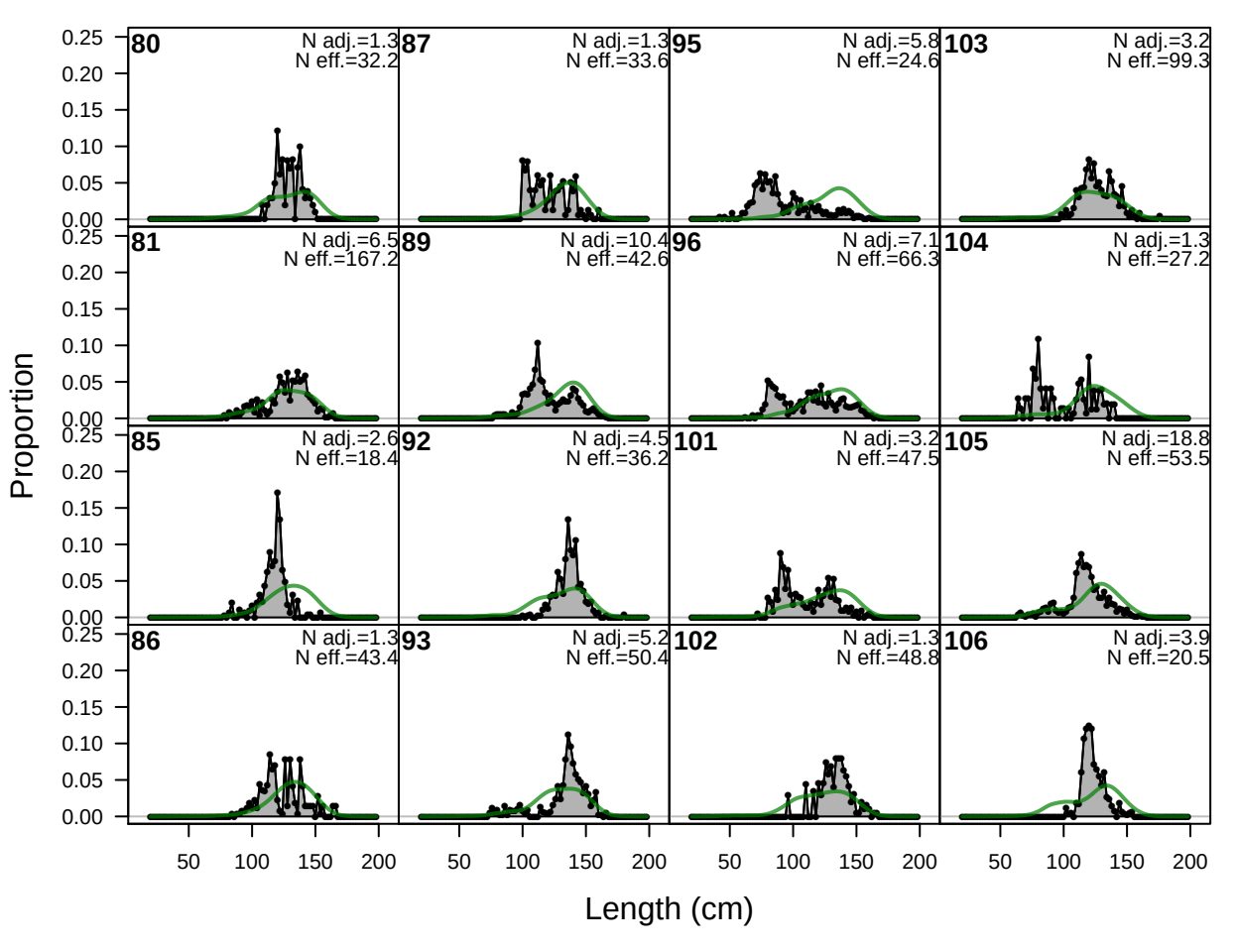


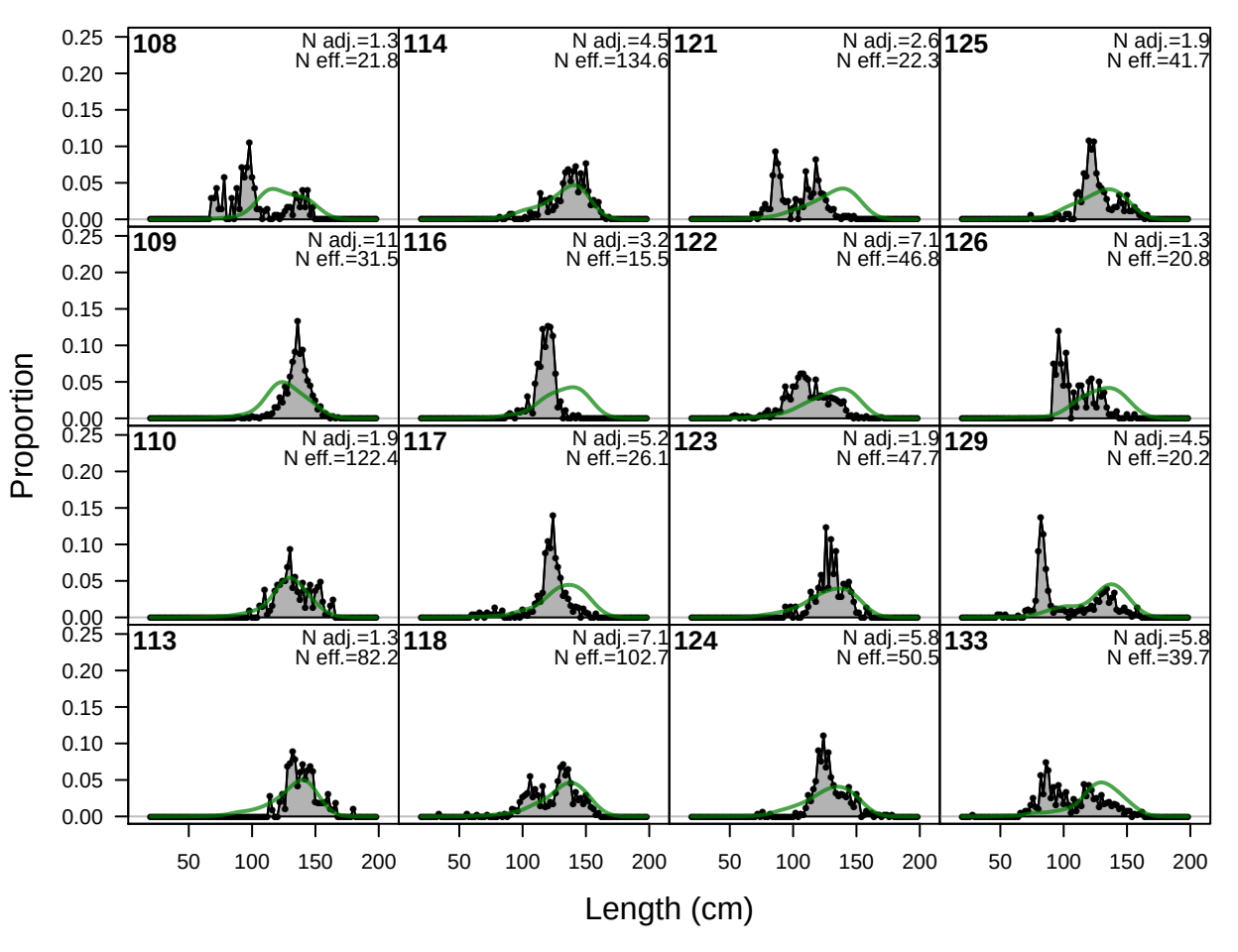
Effective sample size
Observed sample size
0
100
200
300
400
500
0
5
10
15
harmonic mean
arithmetic mean
76
106
146
50
110
52
177
178
140
112
151
180
64
113
150
115
109
54
176
158
161

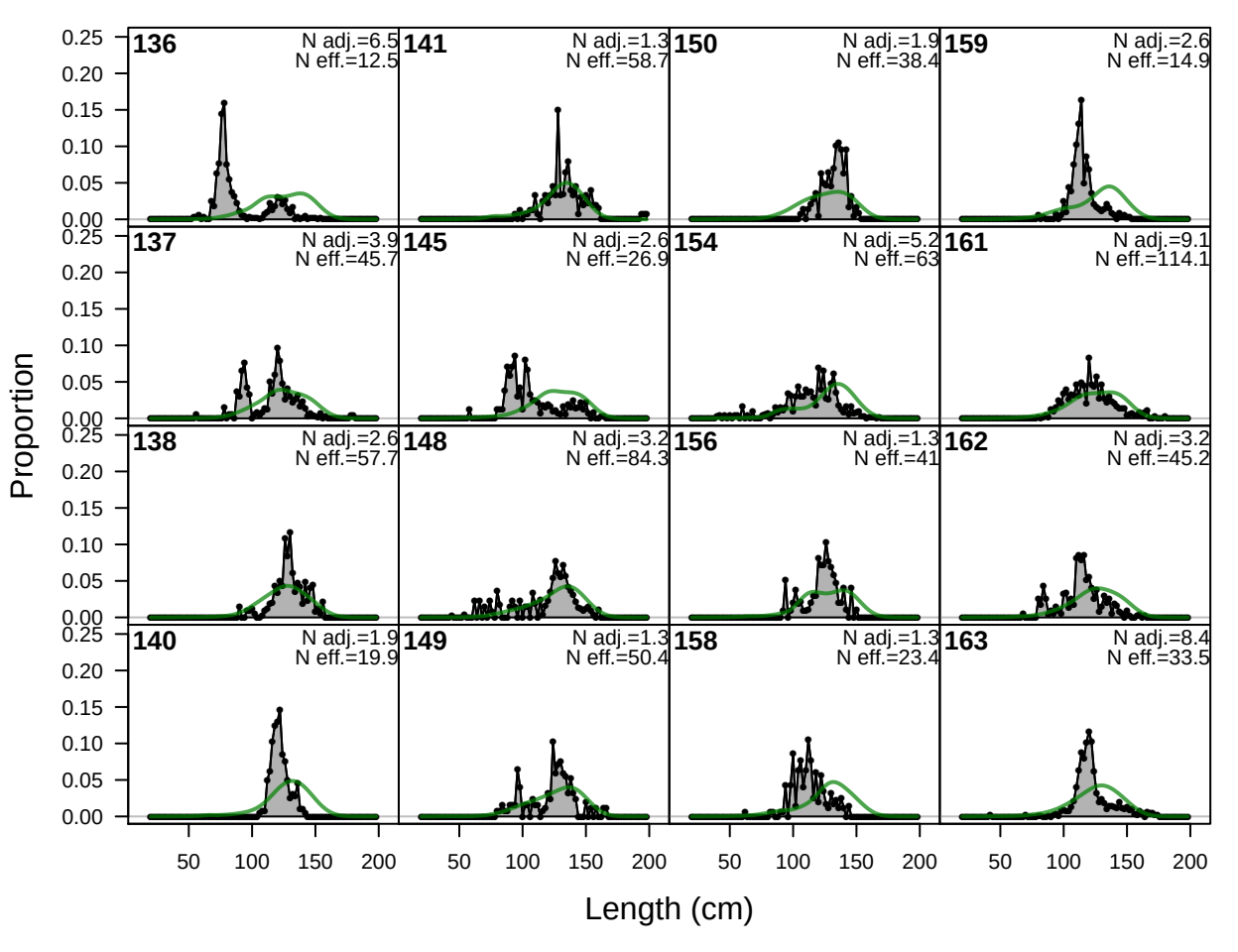

F20−DEL_S (whole catch)
Mean length
Year
180
160
140
120
100
80
60
60
80
100
120
140
160
180

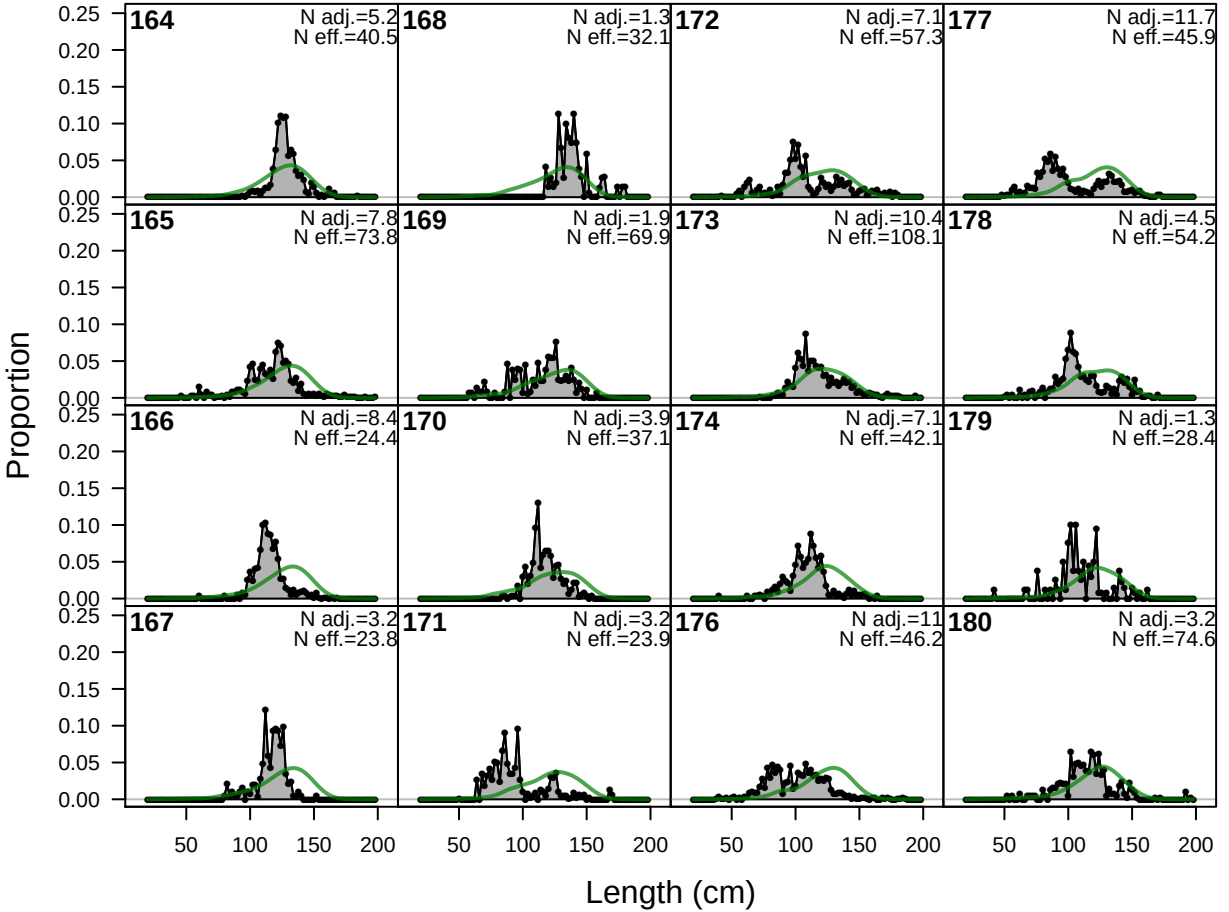

37
N adj.=5.8
N eff.=29.6
42
N adj.=2.6
N eff.=41.5
46
N adj.=4.5
N eff.=66.3
51
N adj.=1.3
N eff.=37.1
39
N adj.=3.2
N eff.=78
43
N adj.=1.9
N eff.=17.5
47
N adj.=1.3
N eff.=28.9
52
N adj.=6.5
N eff.=57.6
40
N adj.=8.4
N eff.=54
44
N adj.=10.4
N eff.=77.8
48
N adj.=3.9
N eff.=45.2
53
N adj.=5.2
N eff.=44.4
41
N adj.=2.6
N eff.=74.5
45
N adj.=12.3
N eff.=65.8
49
N adj.=7.1
N eff.=56.5
54
N adj.=1.9
N eff.=67.8
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

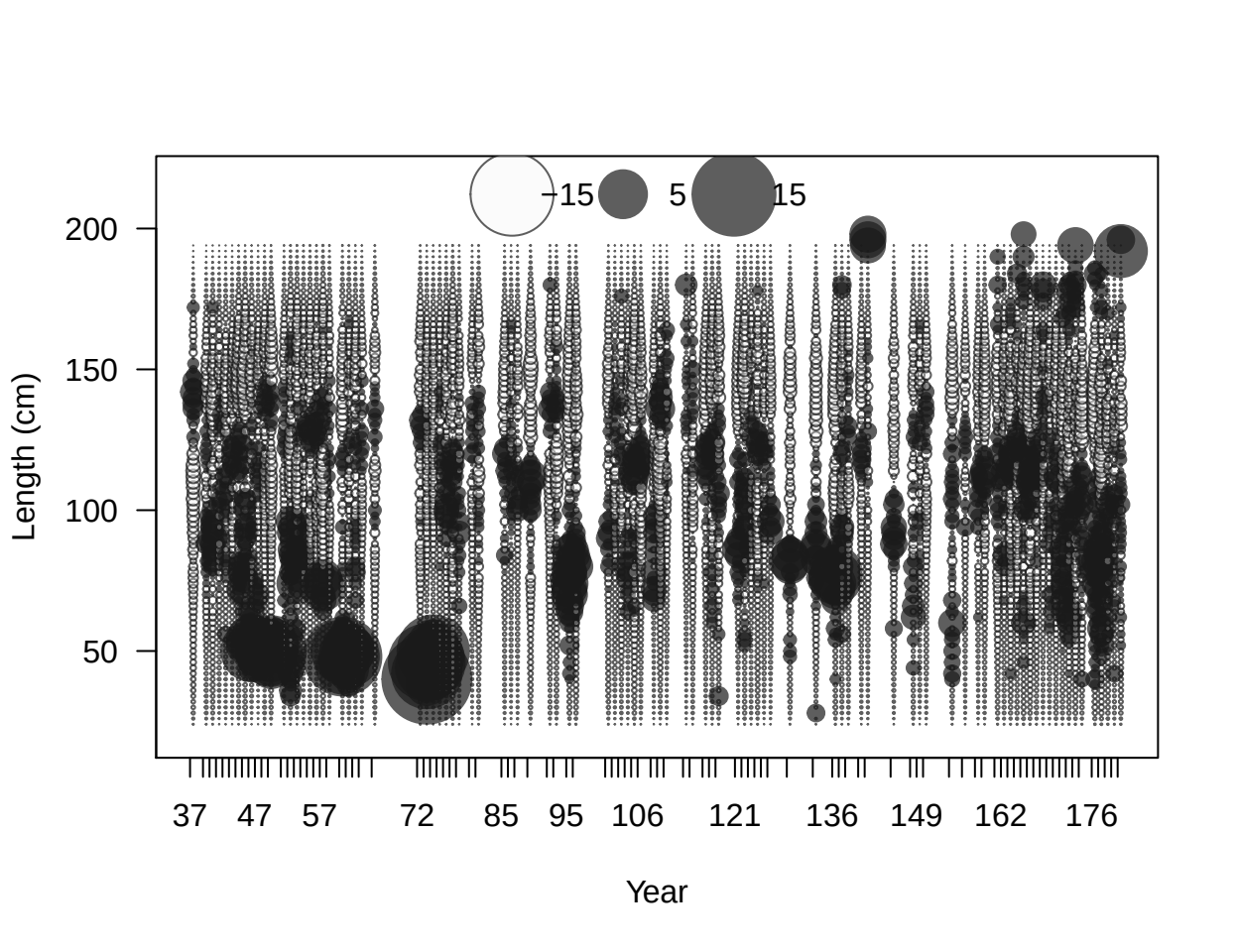

55
N adj.=3.2
N eff.=20.9
60
N adj.=3.2
N eff.=24.9
65
N adj.=5.2
N eff.=106
75
N adj.=1.9
N eff.=69.8
56
N adj.=2.6
N eff.=36.9
61
N adj.=3.2
N eff.=71.8
72
N adj.=4.5
N eff.=43.4
76
N adj.=2.6
N eff.=32.7
57
N adj.=11
N eff.=61.7
62
N adj.=1.9
N eff.=46.2
73
N adj.=1.3
N eff.=6.6
77
N adj.=11
N eff.=77.7
58
N adj.=1.9
N eff.=98.8
63
N adj.=1.3
N eff.=42.5
74
N adj.=1.3
N eff.=7.9
78
N adj.=1.3
N eff.=34.5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

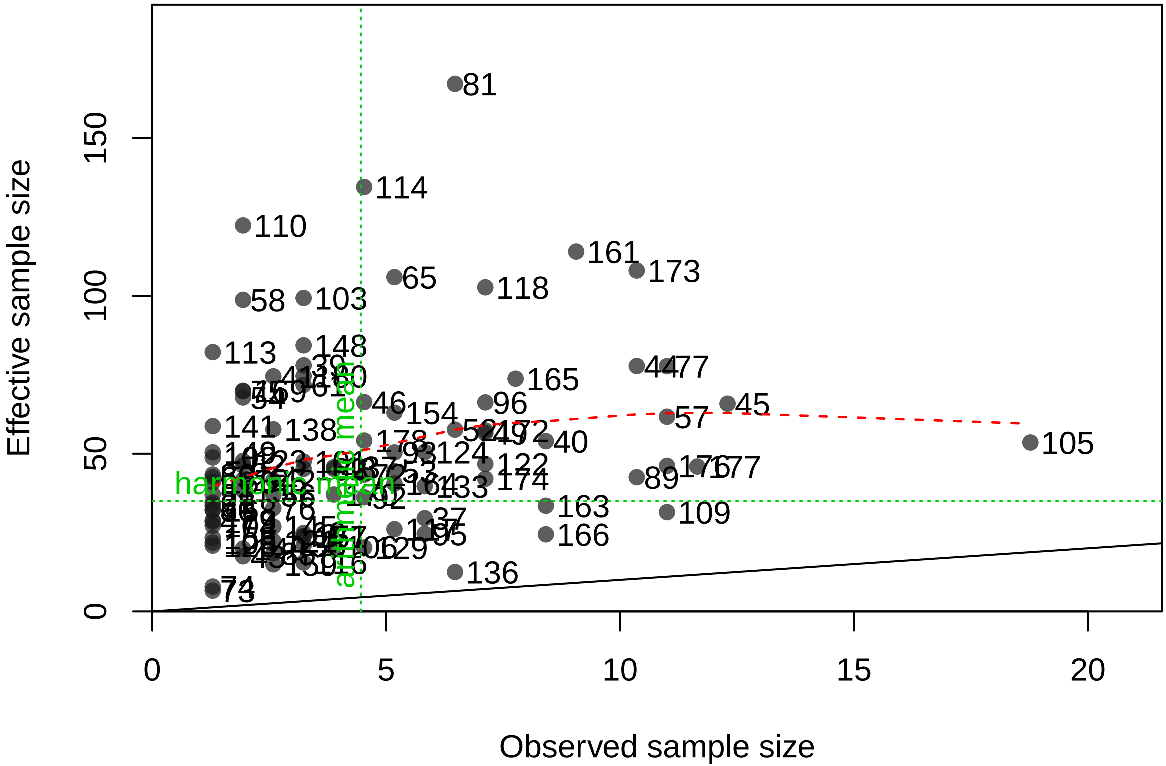

80
N adj.=1.3
N eff.=32.2
87
N adj.=1.3
N eff.=33.6
95
N adj.=5.8
N eff.=24.6
103
N adj.=3.2
N eff.=99.3
81
N adj.=6.5
N eff.=167.2
89
N adj.=10.4
N eff.=42.6
96
N adj.=7.1
N eff.=66.3
104
N adj.=1.3
N eff.=27.2
85
N adj.=2.6
N eff.=18.4
92
N adj.=4.5
N eff.=36.2
101
N adj.=3.2
N eff.=47.5
105
N adj.=18.8
N eff.=53.5
86
N adj.=1.3
N eff.=43.4
93
N adj.=5.2
N eff.=50.4
102
N adj.=1.3
N eff.=48.8
106
N adj.=3.9
N eff.=20.5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)


108
N adj.=1.3
N eff.=21.8
114
N adj.=4.5
N eff.=134.6
121
N adj.=2.6
N eff.=22.3
125
N adj.=1.9
N eff.=41.7
109
N adj.=11
N eff.=31.5
116
N adj.=3.2
N eff.=15.5
122
N adj.=7.1
N eff.=46.8
126
N adj.=1.3
N eff.=20.8
110
N adj.=1.9
N eff.=122.4
117
N adj.=5.2
N eff.=26.1
123
N adj.=1.9
N eff.=47.7
129
N adj.=4.5
N eff.=20.2
113
N adj.=1.3
N eff.=82.2
118
N adj.=7.1
N eff.=102.7
124
N adj.=5.8
N eff.=50.5
133
N adj.=5.8
N eff.=39.7
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

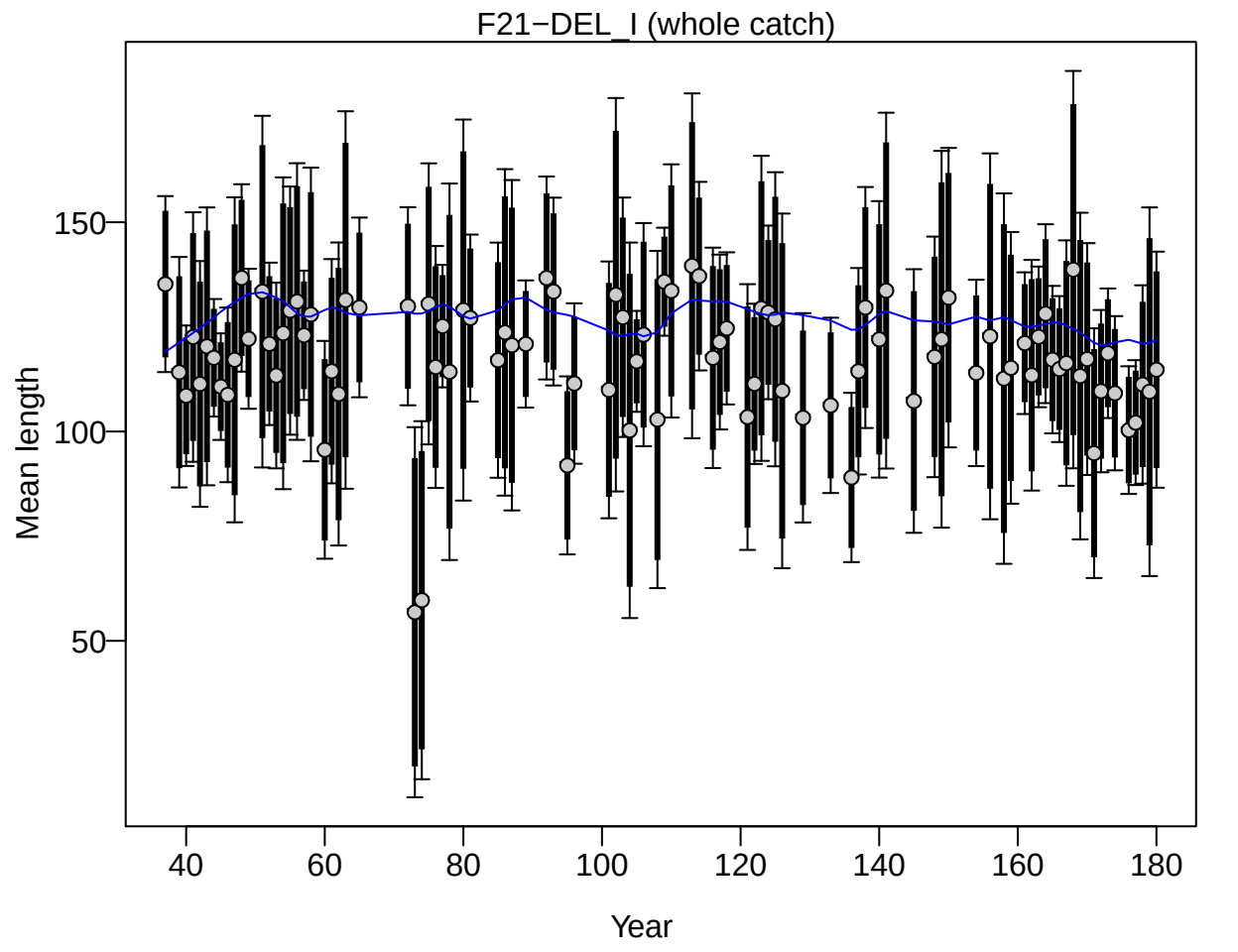

136
N adj.=6.5
N eff.=12.5
141
N adj.=1.3
N eff.=58.7
150
N adj.=1.9
N eff.=38.4
159
N adj.=2.6
N eff.=14.9
137
N adj.=3.9
N eff.=45.7
145
N adj.=2.6
N eff.=26.9
154
N adj.=5.2
N eff.=63
161
N adj.=9.1
N eff.=114.1
138
N adj.=2.6
N eff.=57.7
148
N adj.=3.2
N eff.=84.3
156
N adj.=1.3
N eff.=41
162
N adj.=3.2
N eff.=45.2
140
N adj.=1.9
N eff.=19.9
149
N adj.=1.3
N eff.=50.4
158
N adj.=1.3
N eff.=23.4
163
N adj.=8.4
N eff.=33.5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

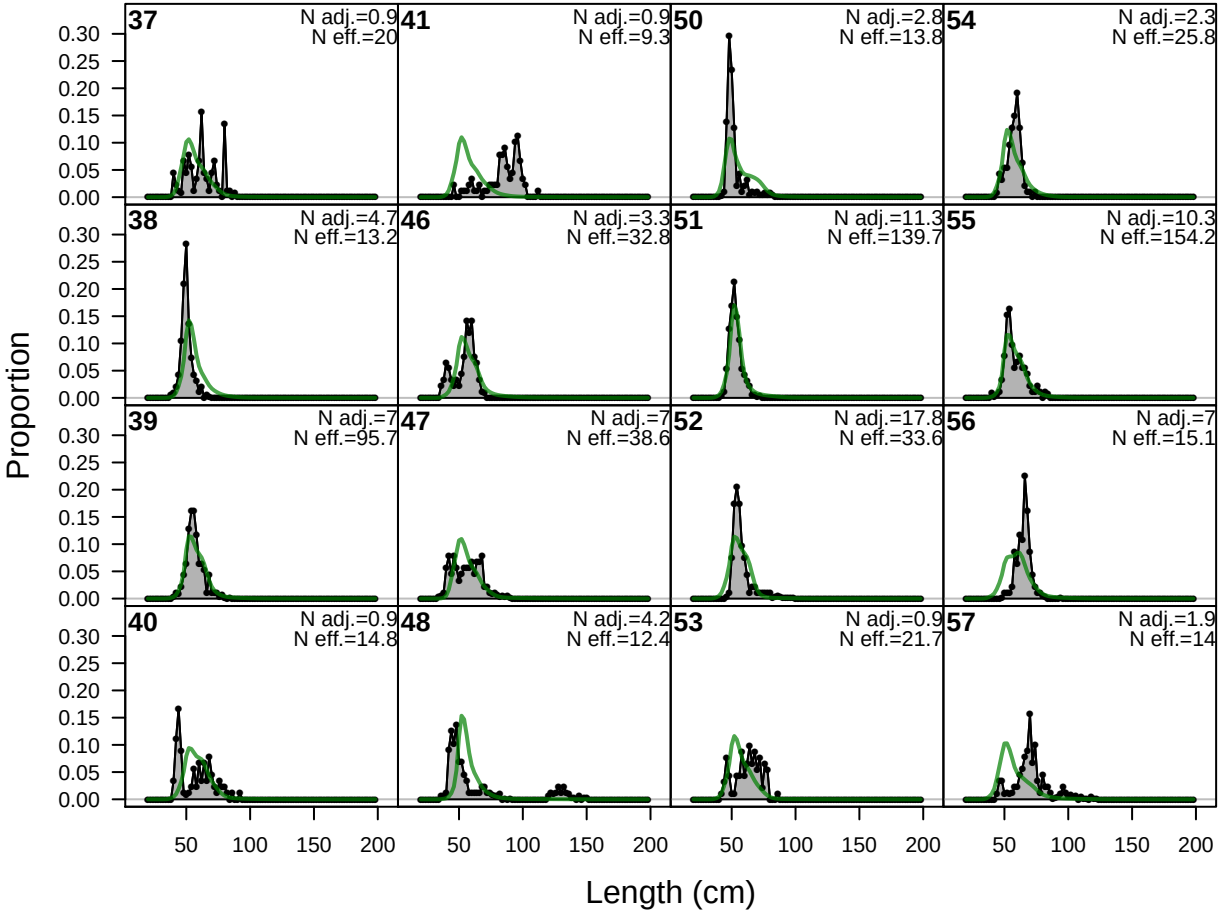

164
N adj.=5.2
N eff.=40.5
168
N adj.=1.3
N eff.=32.1
172
N adj.=7.1
N eff.=57.3
177
N adj.=11.7
N eff.=45.9
165
N adj.=7.8
N eff.=73.8
169
N adj.=1.9
N eff.=69.9
173
N adj.=10.4
N eff.=108.1
178
N adj.=4.5
N eff.=54.2
166
N adj.=8.4
N eff.=24.4
170
N adj.=3.9
N eff.=37.1
174
N adj.=7.1
N eff.=42.1
179
N adj.=1.3
N eff.=28.4
167
N adj.=3.2
N eff.=23.8
171
N adj.=3.2
N eff.=23.9
176
N adj.=11
N eff.=46.2
180
N adj.=3.2
N eff.=74.6
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
50
100
150
200
Length (cm)

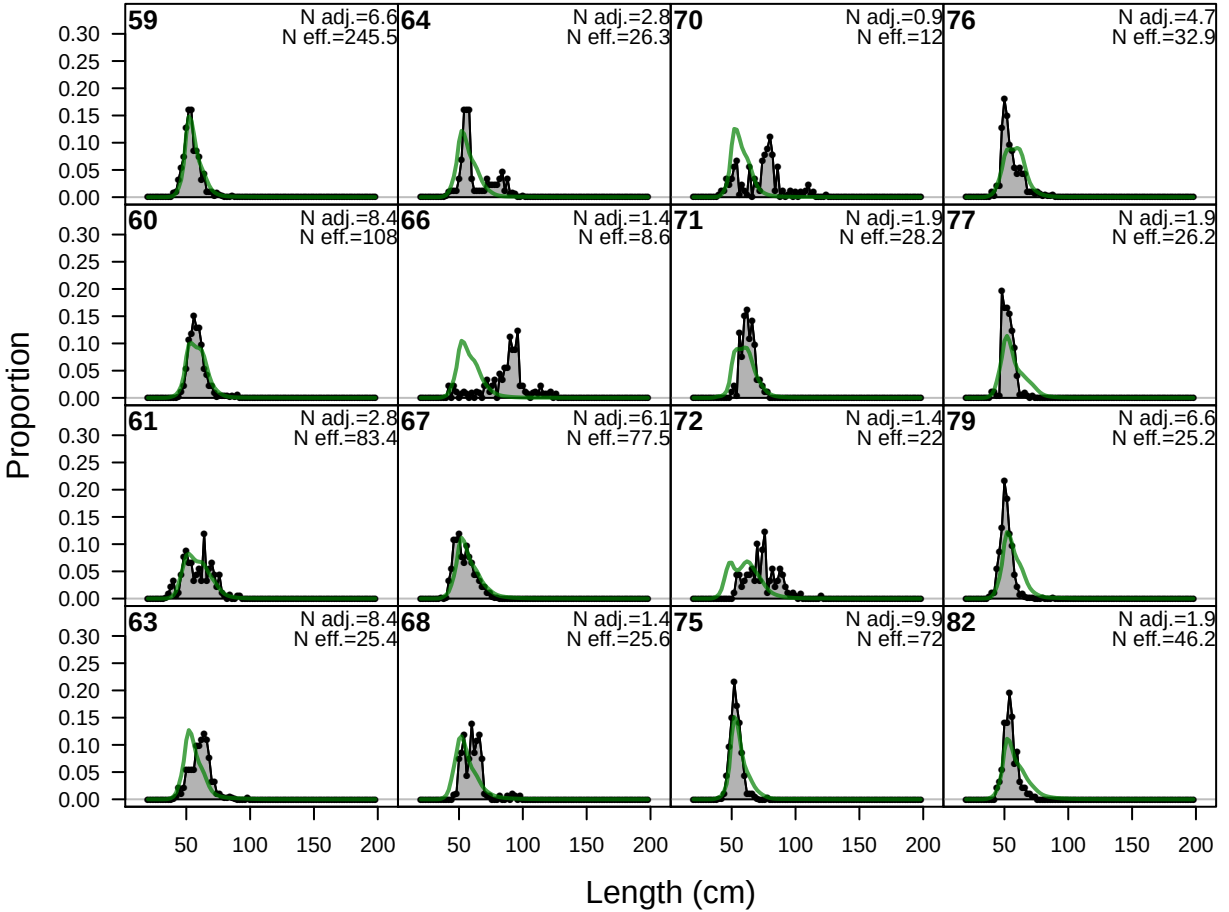

15
5
15
200
150
100
50
Length (cm)
37
47
57
72
85
95
106
121
136
149
162
176
Year

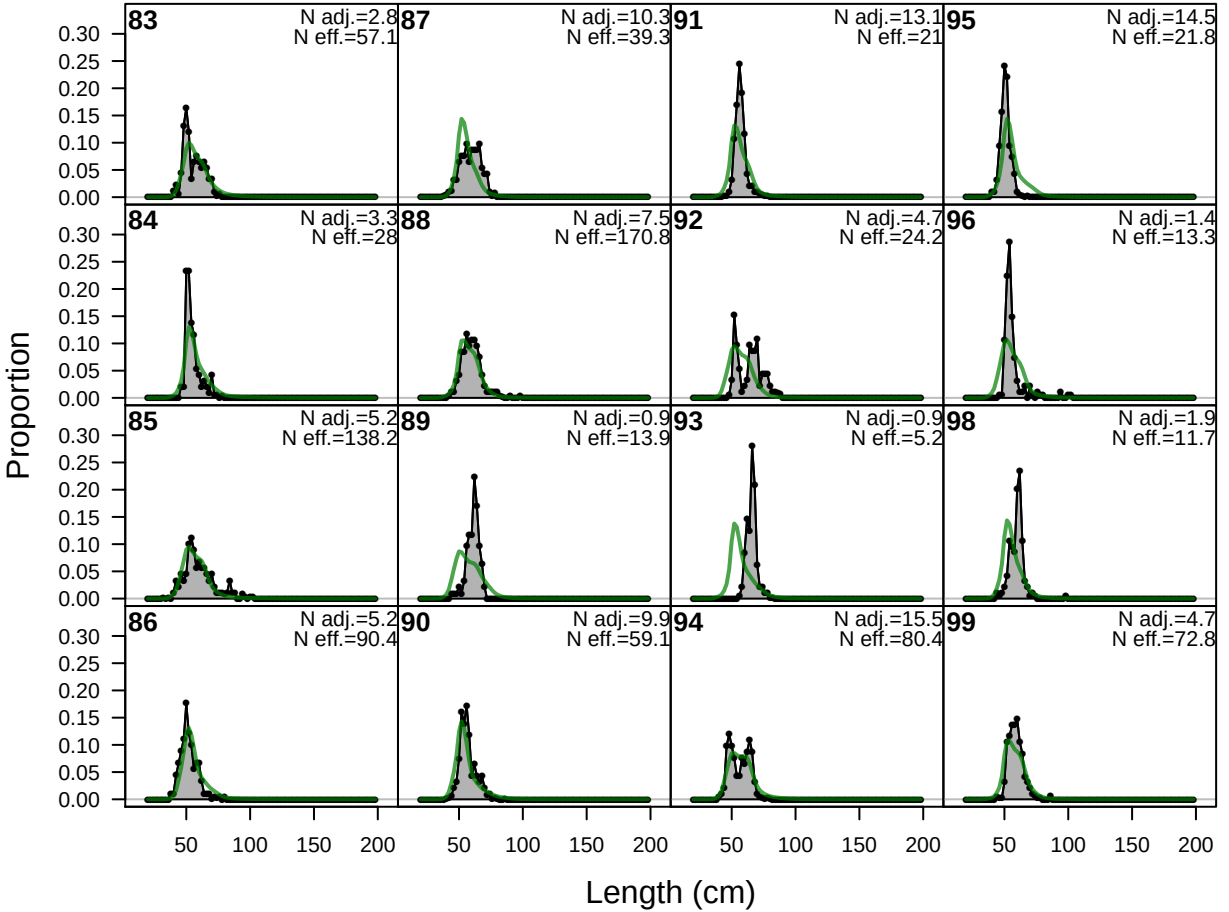


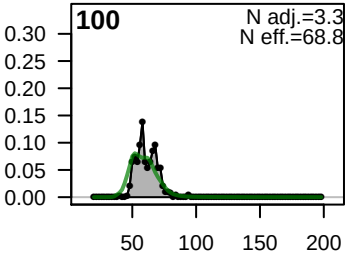
Effective sample size
Observed sample size
0
50
100
150
0
5
10
15
20
harmonic mean
arithmetic mean
81
114
110
161
173
65
118
58
103
113
148
165
96
45
57
40
105
122
174
89
163
109
166
136


F21−DEL_I (whole catch)
Mean length
150
100
50
40
60
80
100
120
140
160
180
Year


37
N adj.=0.9
N eff.=20
41
N adj.=0.9
N eff.=9.3
50
N adj.=2.8
N eff.=13.8
54
N adj.=2.3
N eff.=25.8
38
N adj.=4.7
N eff.=13.2
46
N adj.=3.3
N eff.=32.8
51
N adj.=11.3
N eff.=139.7
55
N adj.=10.3
N eff.=154.2
39
N adj.=7
N eff.=95.7
47
N adj.=7
N eff.=38.6
52
N adj.=17.8
N eff.=33.6
56
N adj.=7
N eff.=15.1
40
N adj.=0.9
N eff.=14.8
48
N adj.=4.2
N eff.=12.4
53
N adj.=0.9
N eff.=21.7
57
N adj.=1.9
N eff.=14
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

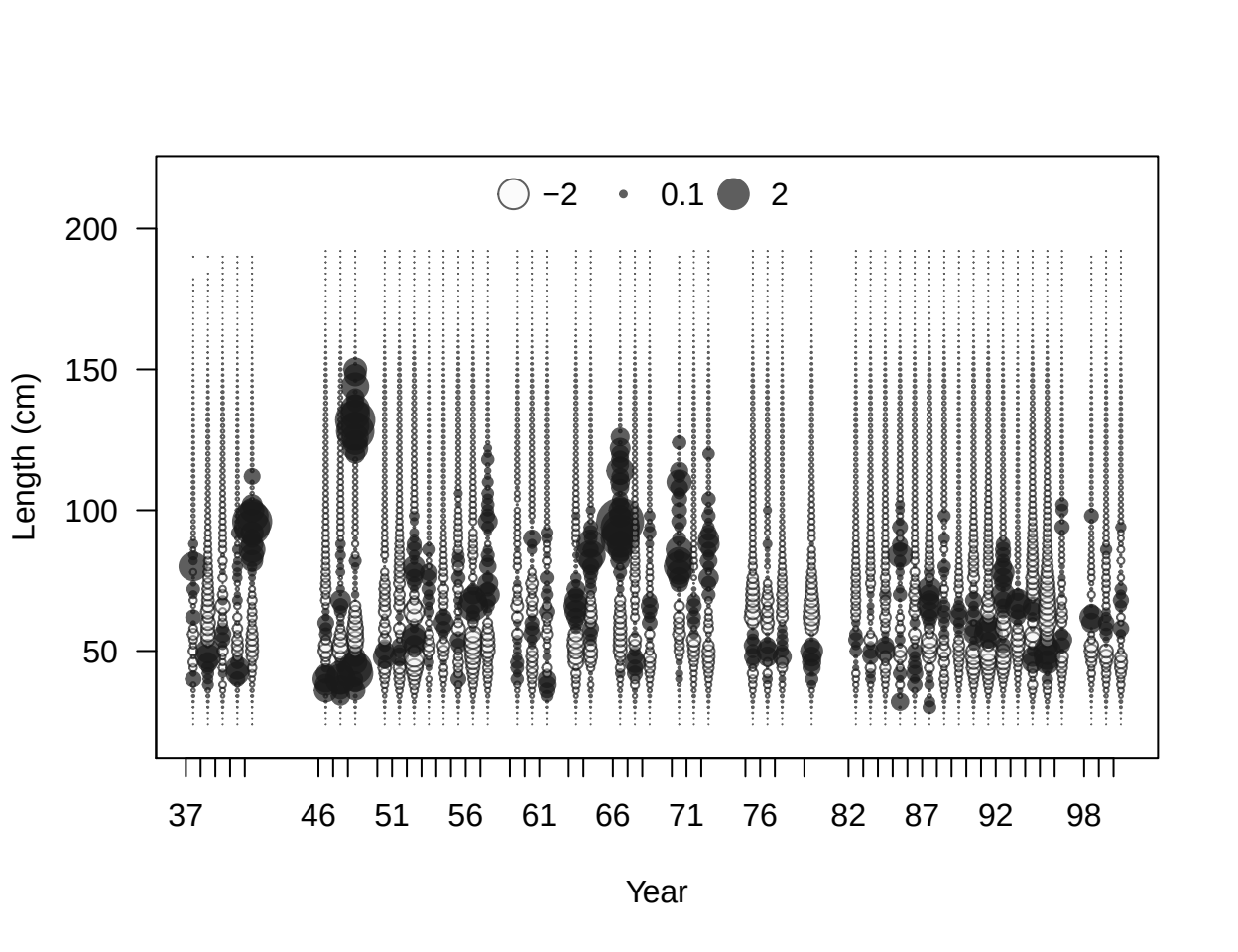

59
N adj.=6.6
N eff.=245.5
64
N adj.=2.8
N eff.=26.3
70
N adj.=0.9
N eff.=12
76
N adj.=4.7
N eff.=32.9
60
N adj.=8.4
N eff.=108
66
N adj.=1.4
N eff.=8.6
71
N adj.=1.9
N eff.=28.2
77
N adj.=1.9
N eff.=26.2
61
N adj.=2.8
N eff.=83.4
67
N adj.=6.1
N eff.=77.5
72
N adj.=1.4
N eff.=22
79
N adj.=6.6
N eff.=25.2
63
N adj.=8.4
N eff.=25.4
68
N adj.=1.4
N eff.=25.6
75
N adj.=9.9
N eff.=72
82
N adj.=1.9
N eff.=46.2
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

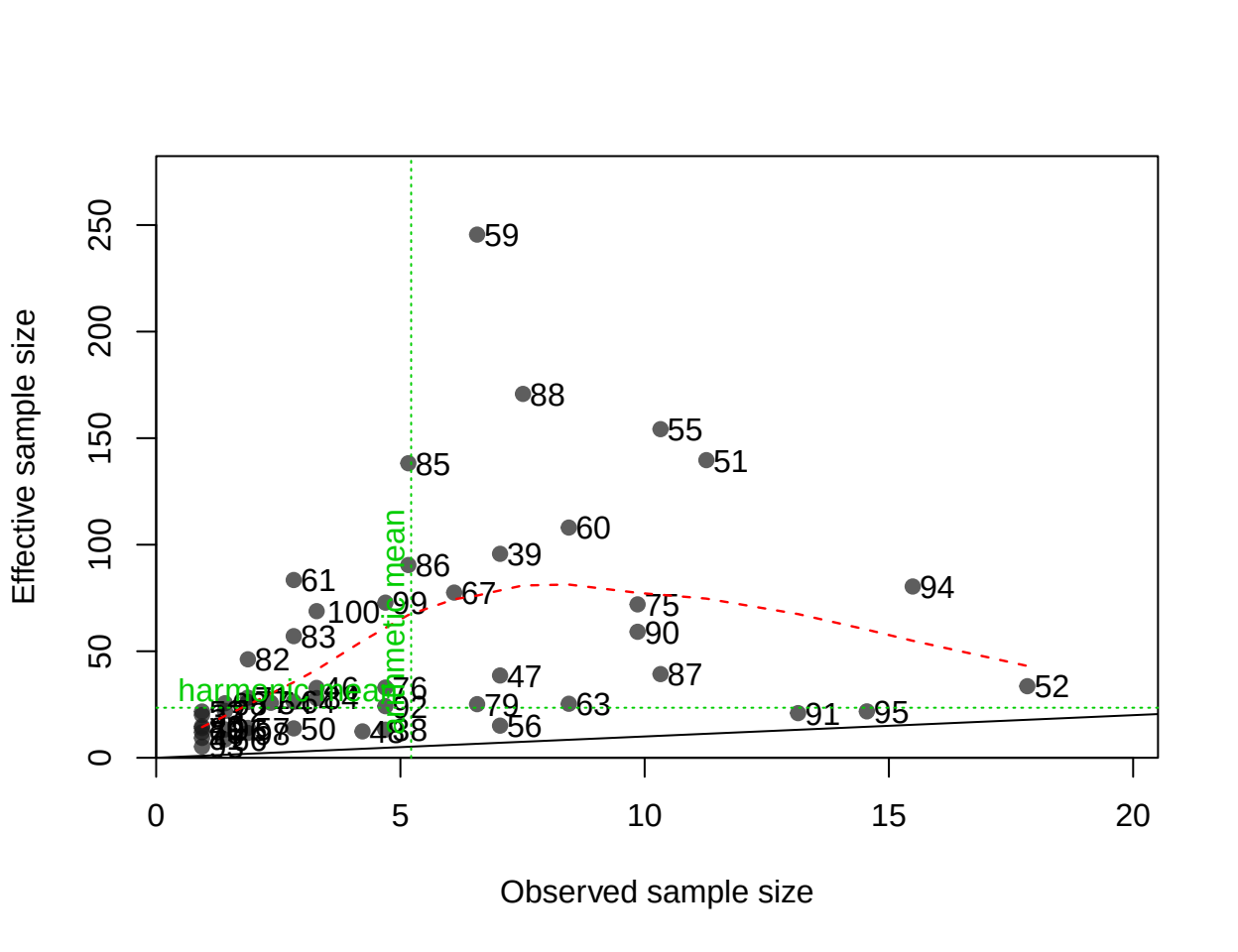

83
N adj.=2.8
N eff.=57.1
87
N adj.=10.3
N eff.=39.3
91
N adj.=13.1
N eff.=21
95
N adj.=14.5
N eff.=21.8
84
N adj.=3.3
N eff.=28
88
N adj.=7.5
N eff.=170.8
92
N adj.=4.7
N eff.=24.2
96
N adj.=1.4
N eff.=13.3
85
N adj.=5.2
N eff.=138.2
89
N adj.=0.9
N eff.=13.9
93
N adj.=0.9
N eff.=5.2
98
N adj.=1.9
N eff.=11.7
86
N adj.=5.2
N eff.=90.4
90
N adj.=9.9
N eff.=59.1
94
N adj.=15.5
N eff.=80.4
99
N adj.=4.7
N eff.=72.8
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

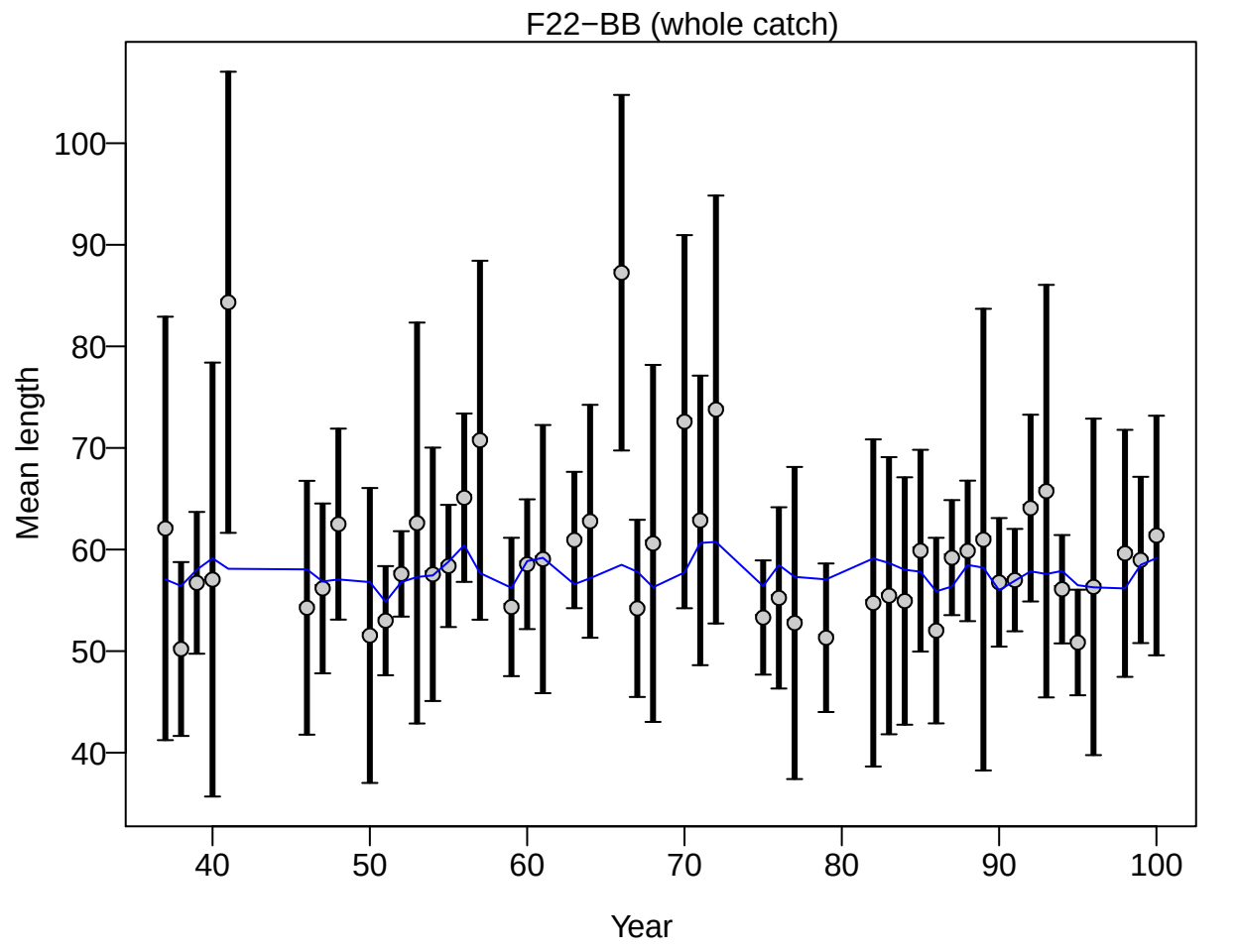


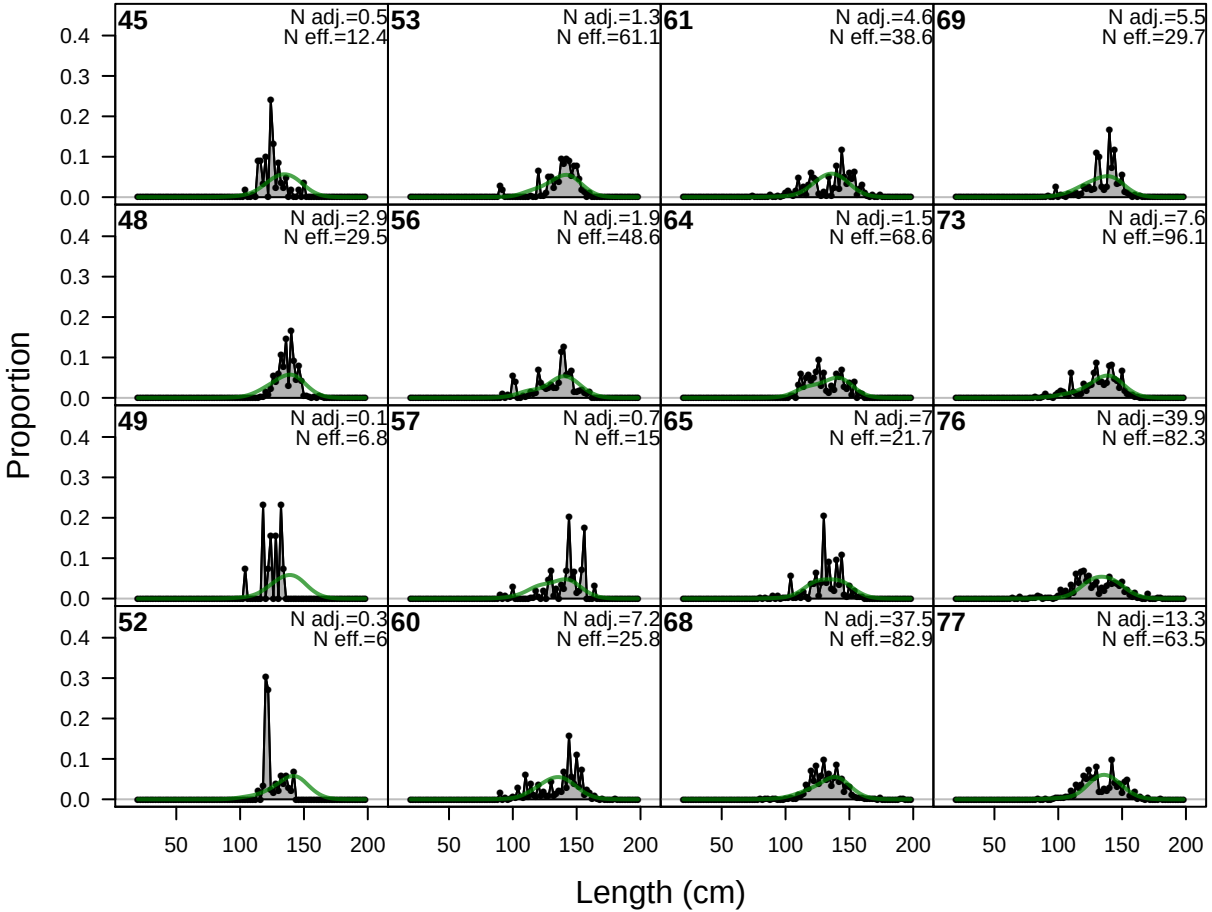
Proportion

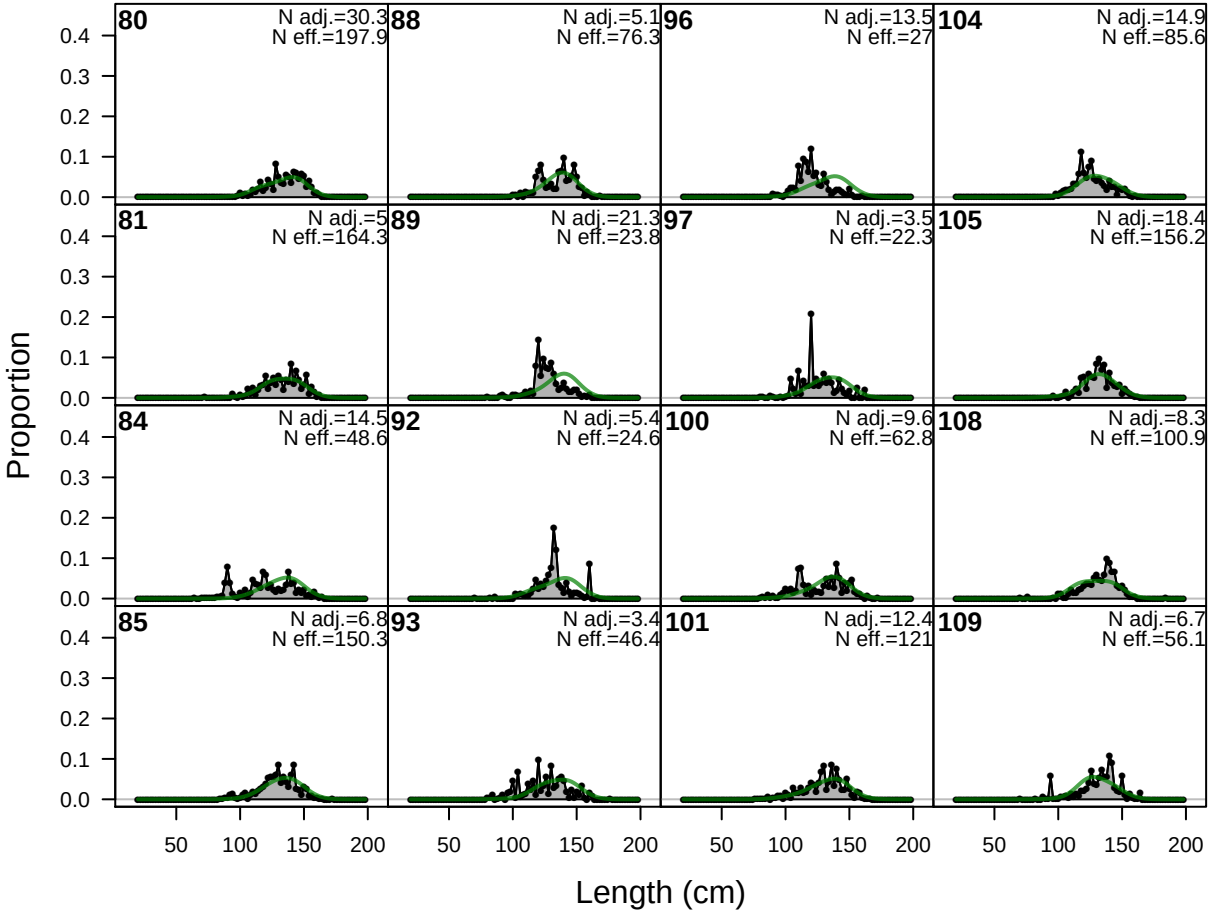
Length (cm)

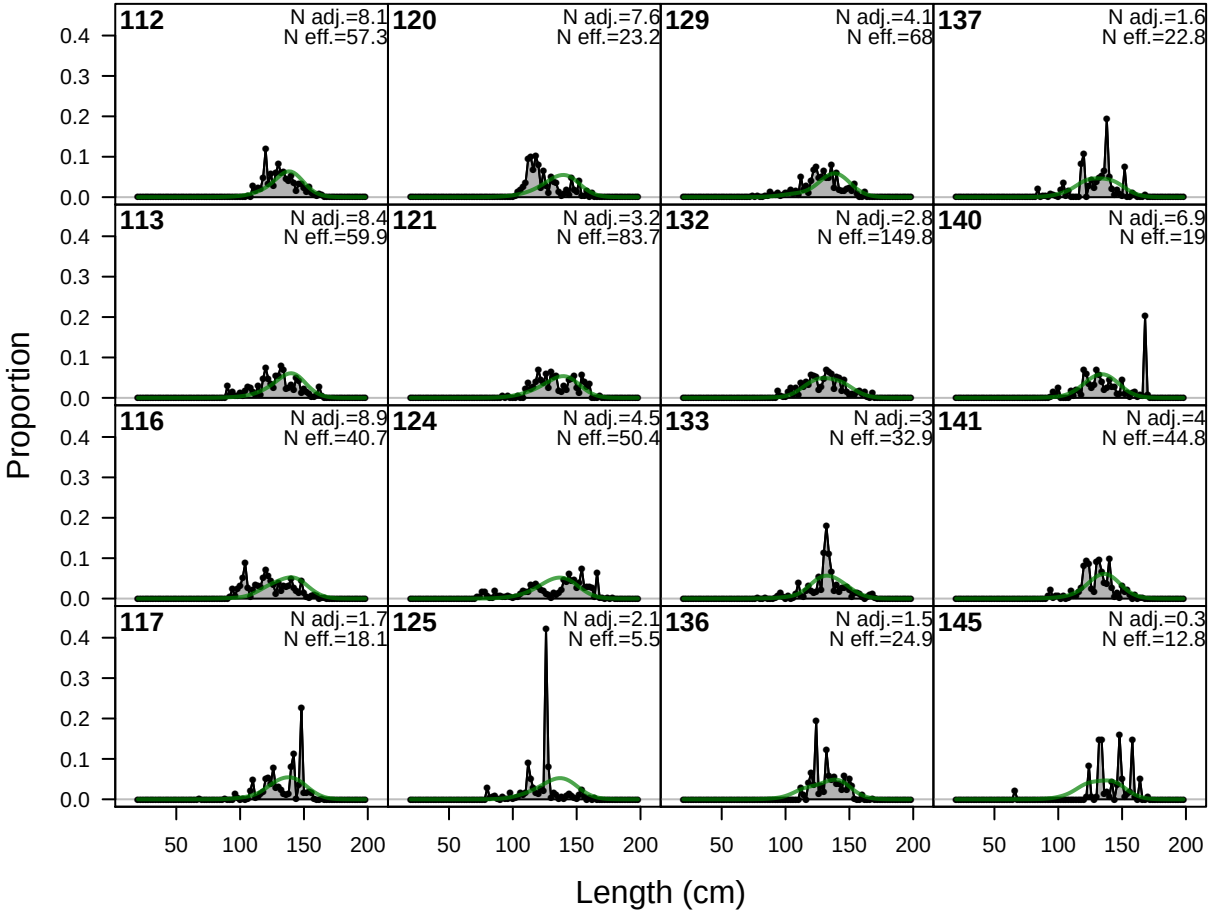

−2
0.1
2
200
150
100
50
Length (cm)
37
46
51
56
61
66
71
76
82
87
92
98
Year

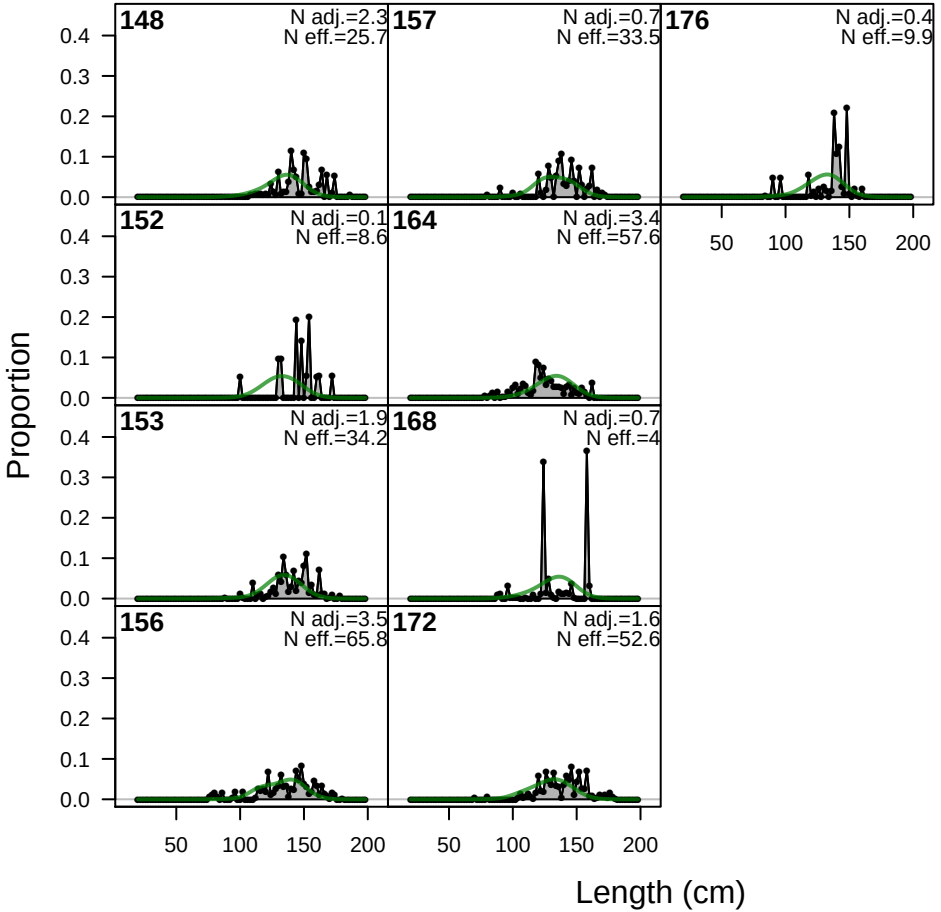

Effective sample size
Observed sample size
0
50
100
150
200
250
0
5
10
15
20
59
88
55
51
85
60
39
86
61
67
94
99
75
100
83
90
82
47
87
52
46
79
63
91
95
50
56
arithmetic mean
harmonic mean


F22−BB (whole catch)
Mean length
100
90
80
70
60
50
40
40
50
60
70
80
90
100
Year


45
N adj.=0.5
N eff.=12.4
53
N adj.=1.3
N eff.=61.1
61
N adj.=4.6
N eff.=38.6
69
N adj.=5.5
N eff.=29.7
48
N adj.=2.9
N eff.=29.5
56
N adj.=1.9
N eff.=48.6
64
N adj.=1.5
N eff.=68.6
73
N adj.=7.6
N eff.=96.1
49
N adj.=0.1
N eff.=6.8
57
N adj.=0.7
N eff.=15
65
N adj.=7
N eff.=21.7
76
N adj.=39.9
N eff.=82.3
52
N adj.=0.3
N eff.=6
60
N adj.=7.2
N eff.=25.8
68
N adj.=37.5
N eff.=82.9
77
N adj.=13.3
N eff.=63.5
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


80
N adj.=30.3
N eff.=197.9
88
N adj.=5.1
N eff.=76.3
96
N adj.=13.5
N eff.=27
104
N adj.=14.9
N eff.=85.6
81
N adj.=5
N eff.=164.3
89
N adj.=21.3
N eff.=23.8
97
N adj.=3.5
N eff.=22.3
105
N adj.=18.4
N eff.=156.2
84
N adj.=14.5
N eff.=48.6
92
N adj.=5.4
N eff.=24.6
100
N adj.=9.6
N eff.=62.8
108
N adj.=8.3
N eff.=100.9
85
N adj.=6.8
N eff.=150.3
93
N adj.=3.4
N eff.=46.4
101
N adj.=12.4
N eff.=121
109
N adj.=6.7
N eff.=56.1
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


112
N adj.=8.1
N eff.=57.3
120
N adj.=7.6
N eff.=23.2
129
N adj.=4.1
N eff.=68
137
N adj.=1.6
N eff.=22.8
113
N adj.=8.4
N eff.=59.9
121
N adj.=3.2
N eff.=83.7
132
N adj.=2.8
N eff.=149.8
140
N adj.=6.9
N eff.=19
116
N adj.=8.9
N eff.=40.7
124
N adj.=4.5
N eff.=50.4
133
N adj.=3
N eff.=32.9
141
N adj.=4
N eff.=44.8
117
N adj.=1.7
N eff.=18.1
125
N adj.=2.1
N eff.=5.5
136
N adj.=1.5
N eff.=24.9
145
N adj.=0.3
N eff.=12.8
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


148
N adj.=2.3
N eff.=25.7
157
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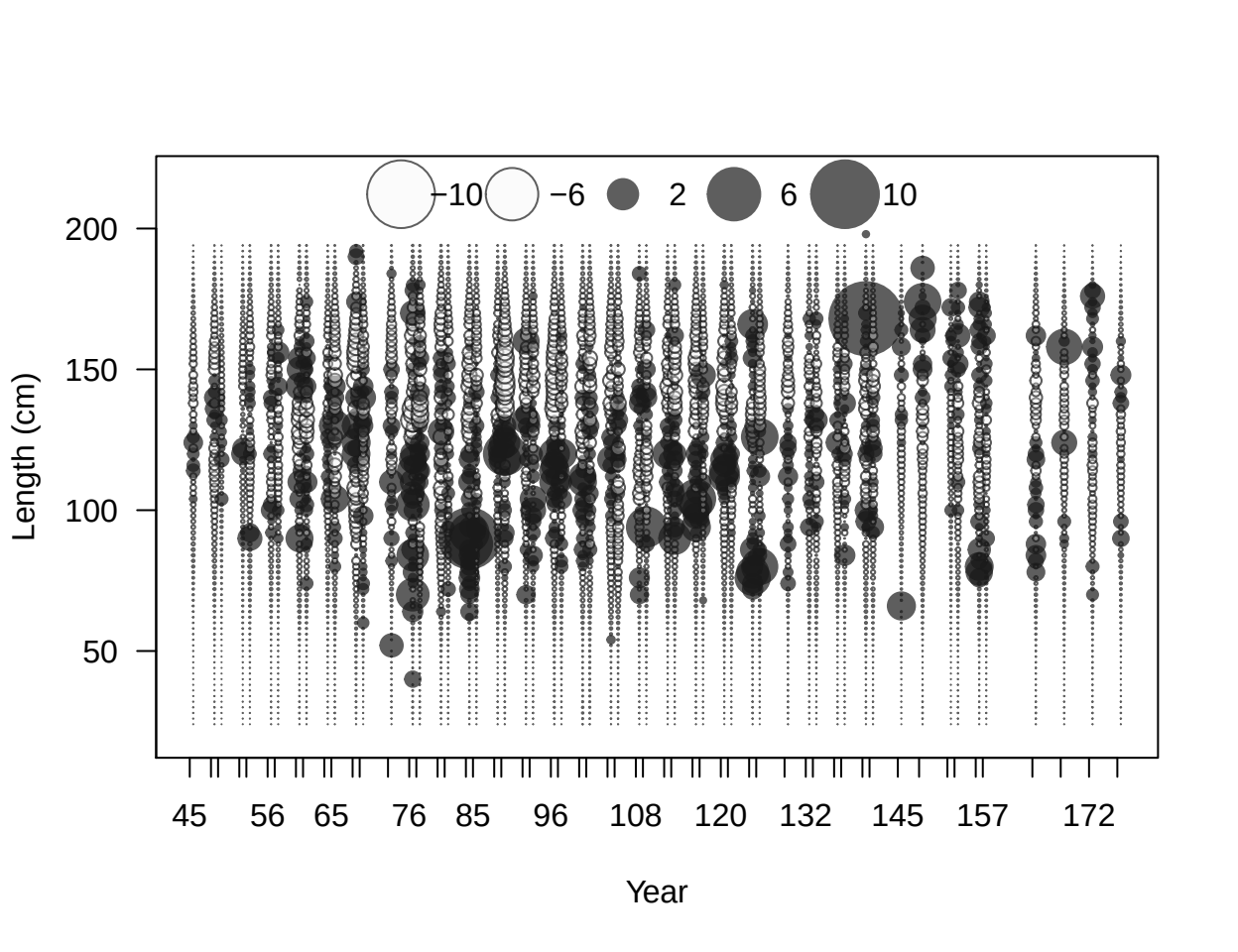
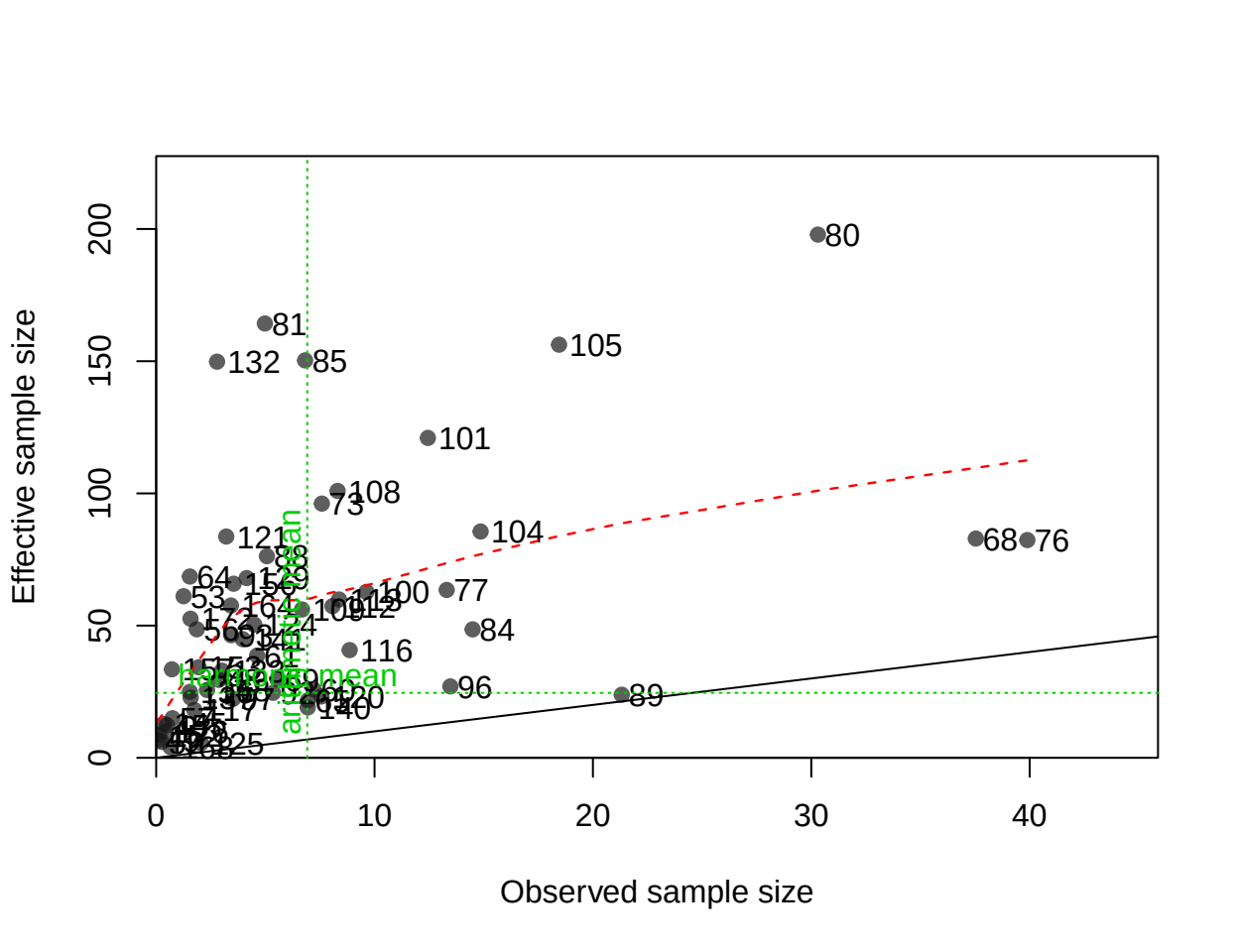
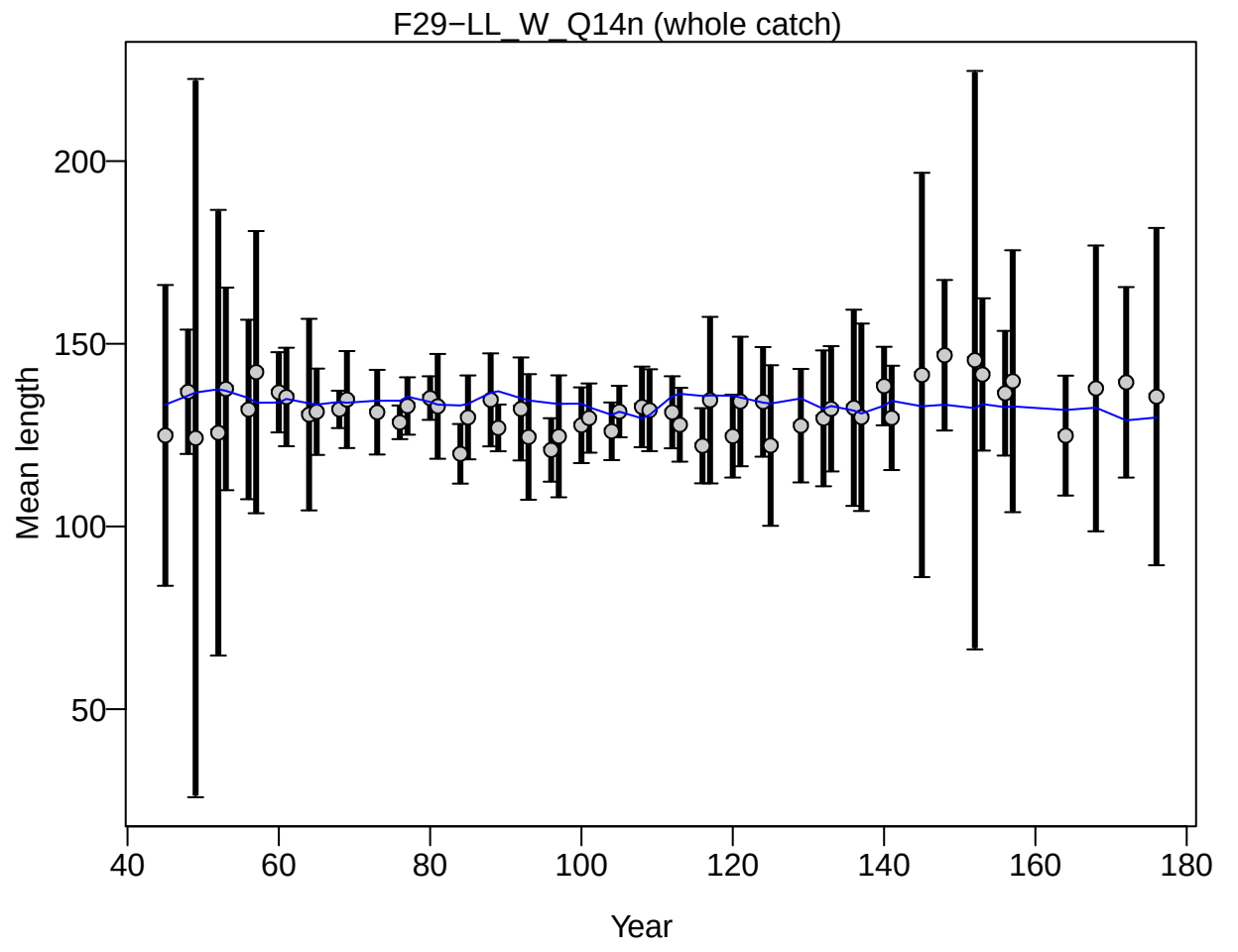
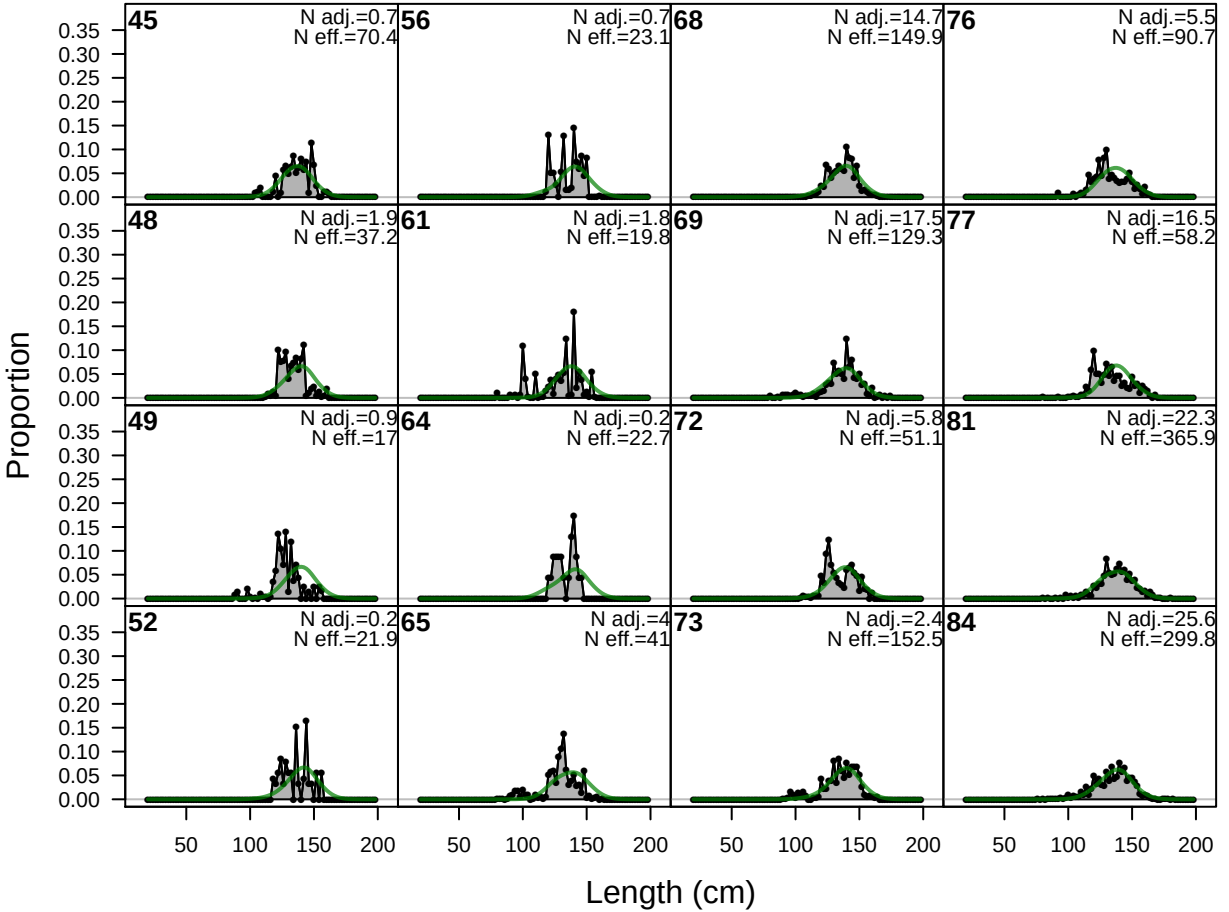
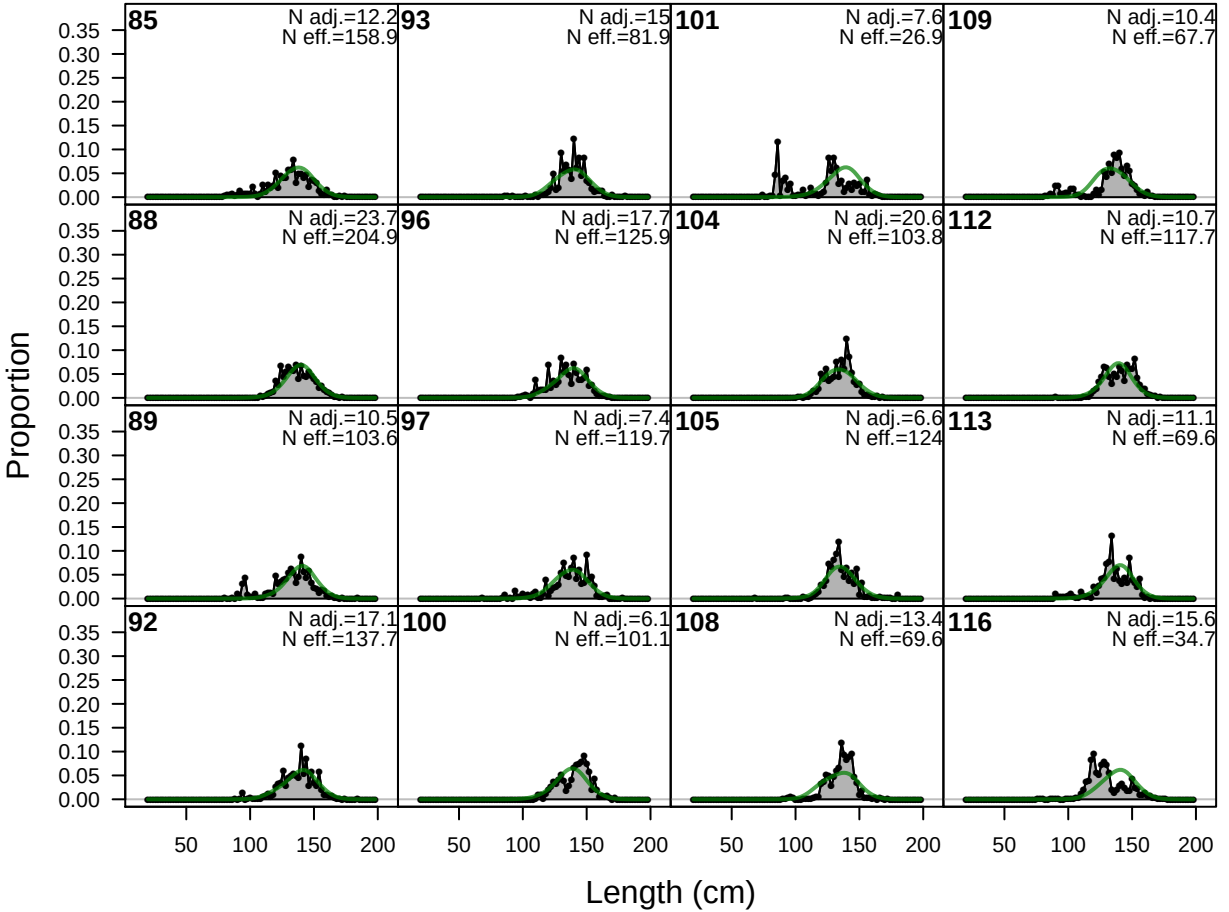
N eff.=33.5
176
N adj.=0.4
N eff.=9.9
152
N adj.=0.1
N eff.=8.6
164
N adj.=3.4
N eff.=57.6
153
N adj.=1.9
N eff.=34.2
168
N adj.=0.7
N eff.=4
156
N adj.=3.5
N eff.=65.8
172
N adj.=1.6
N eff.=52.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

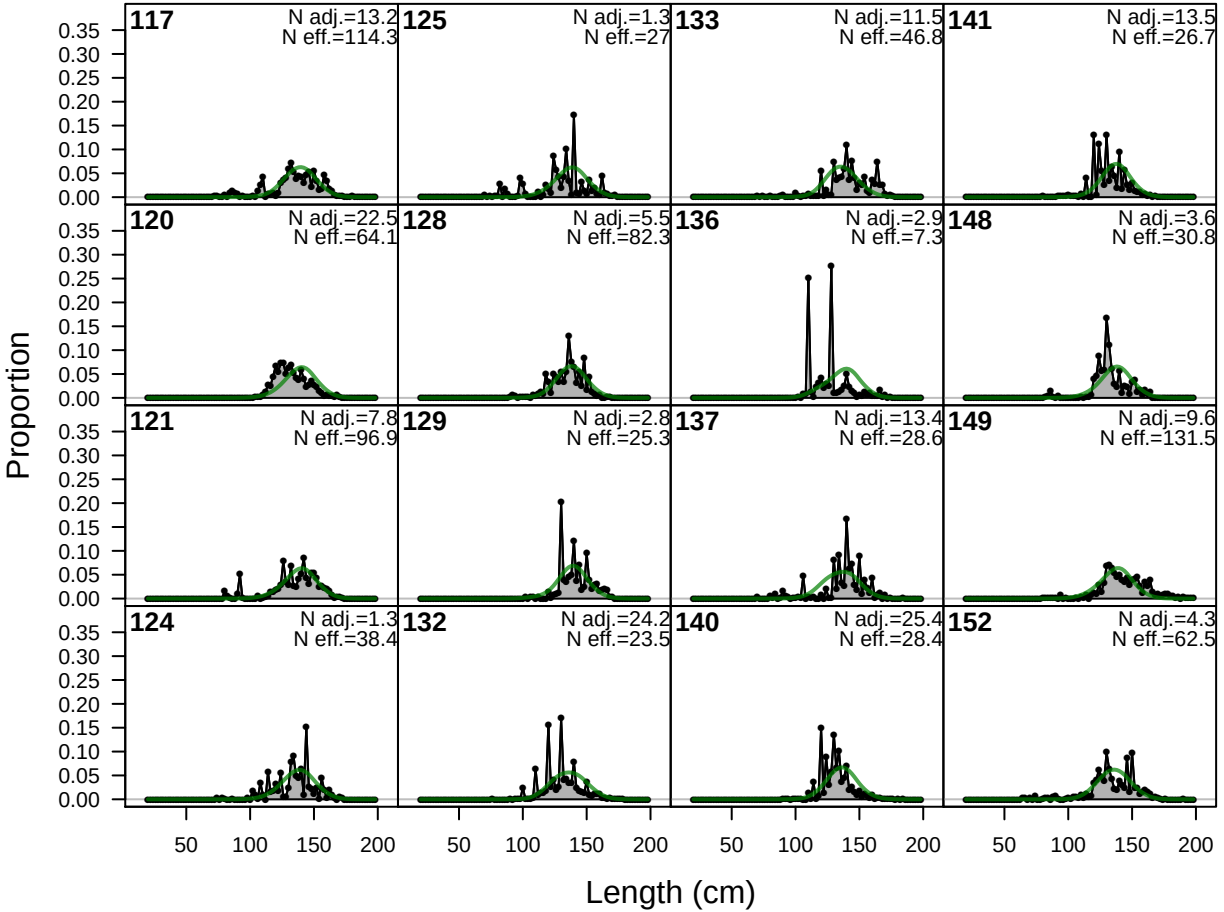

−10
−6
2
6
10
200
150
100
50
Length (cm)
45
56
65
76
85
96
108
120
132
145
157
172
Year

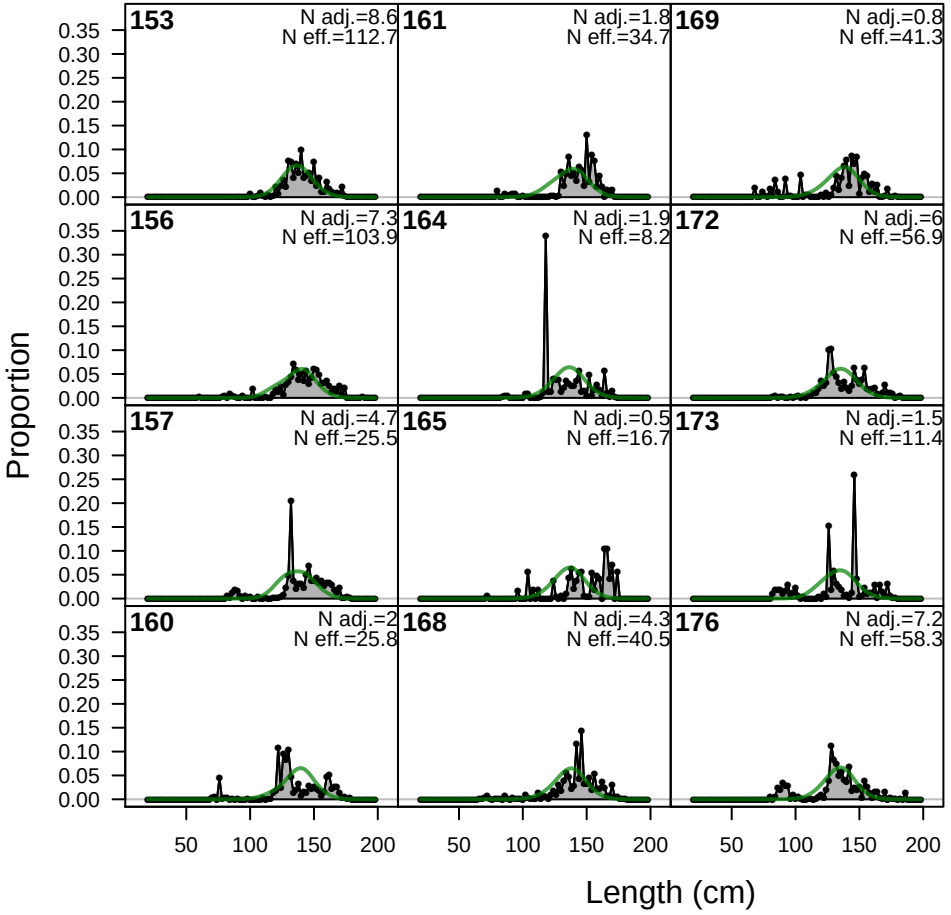

Effective sample size
Observed sample size
0
50
100
150
200
0
10
20
30
40
80
81
132
85
105
101
108
73
121
104
68
76
64
53
100
77
84
116
96
89
mean

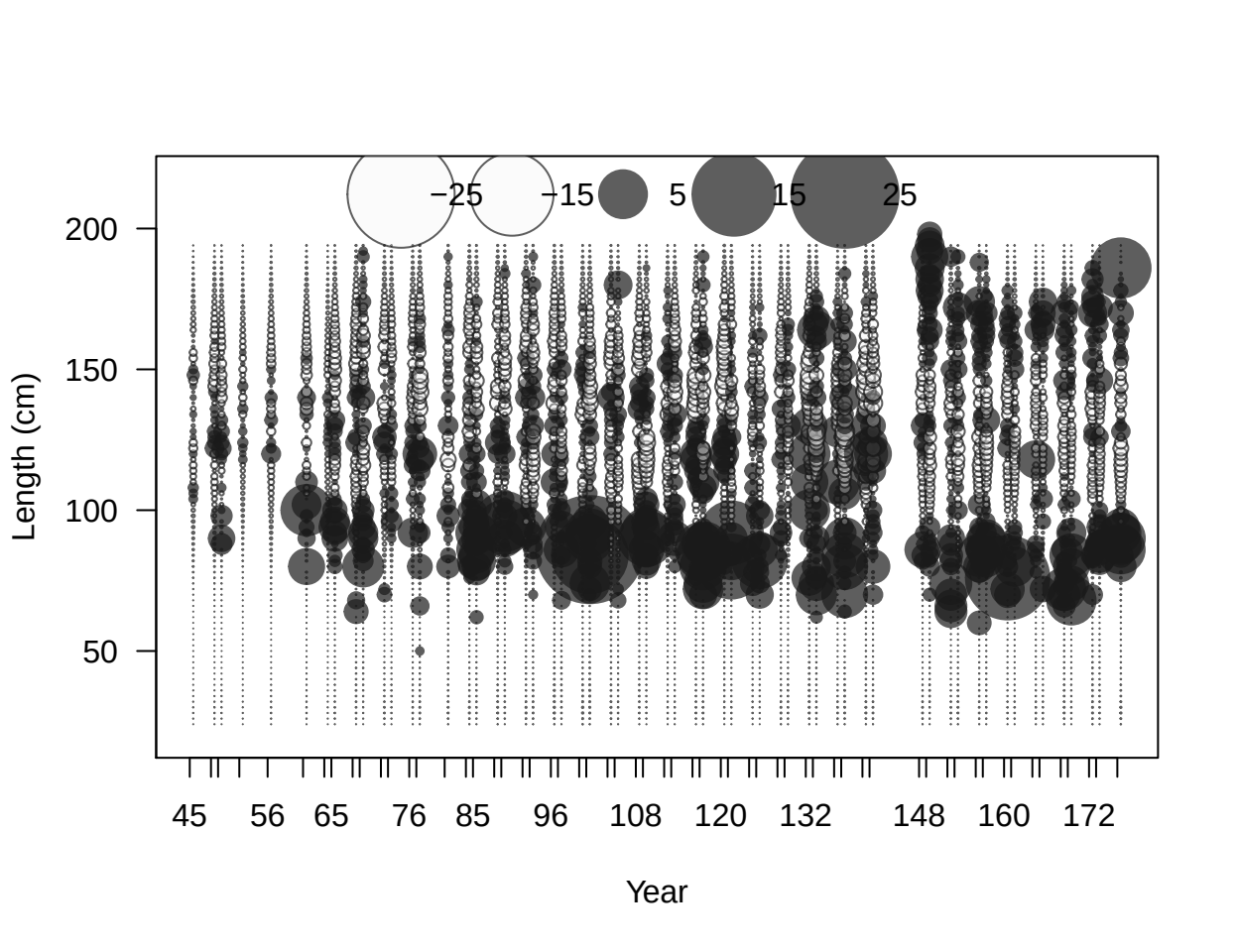

F29−LL_W_Q14n (whole catch)
Mean length
200
150
100
50
40
60
80
100
120
140
160
180
Year

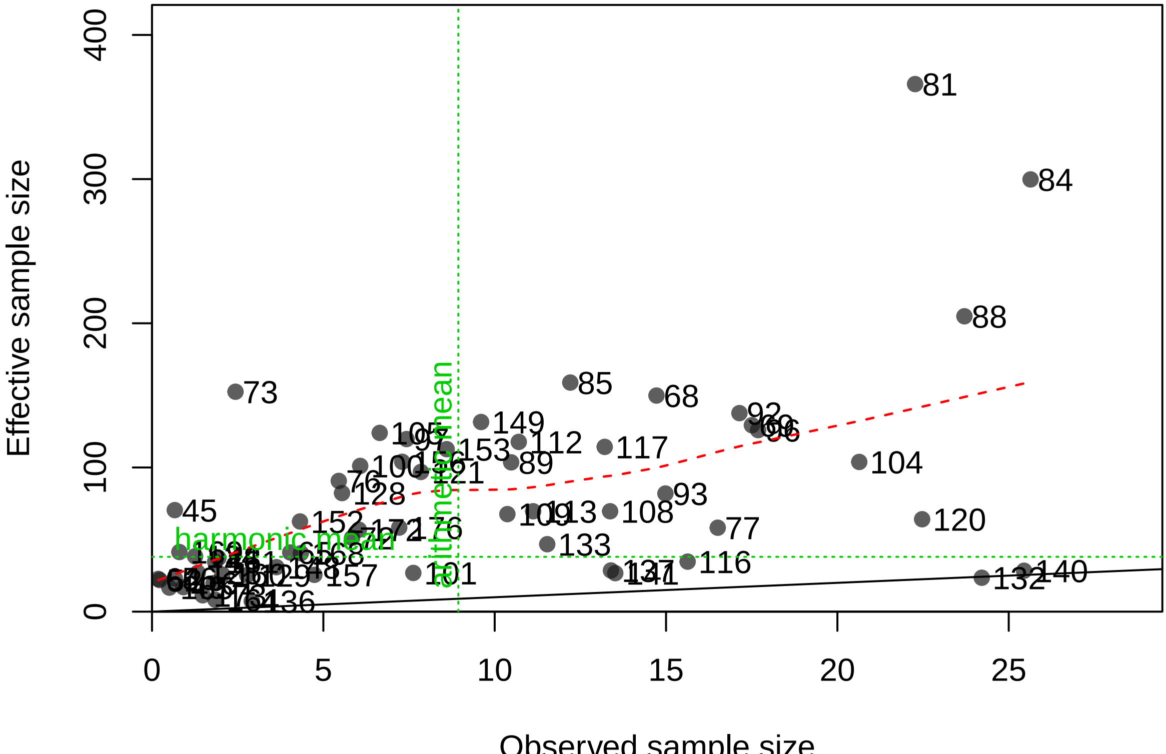

45
N adj.=0.7
N eff.=70.4
56
N adj.=0.7
N eff.=23.1
68
N adj.=14.7
N eff.=149.9
76
N adj.=5.5
N eff.=90.7
48
N adj.=1.9
N eff.=37.2
61
N adj.=1.8
N eff.=19.8
69
N adj.=17.5
N eff.=129.3
77
N adj.=16.5
N eff.=58.2
49
N adj.=0.9
N eff.=17
64
N adj.=0.2
N eff.=22.7
72
N adj.=5.8
N eff.=51.1
81
N adj.=22.3
N eff.=365.9
52
N adj.=0.2
N eff.=21.9
65
N adj.=4
N eff.=41
73
N adj.=2.4
N eff.=152.5
84
N adj.=25.6
N eff.=299.8
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)


85
N adj.=12.2
N eff.=158.9
93
N adj.=15
N eff.=81.9
101
N adj.=7.6
N eff.=26.9
109
N adj.=10.4
N eff.=67.7
88
N adj.=23.7
N eff.=204.9
96
N adj.=17.7
N eff.=125.9
104
N adj.=20.6
N eff.=103.8
112
N adj.=10.7
N eff.=117.7
89
N adj.=10.5
N eff.=103.6
97
N adj.=7.4
N eff.=119.7
105
N adj.=6.6
N eff.=124
113
N adj.=11.1
N eff.=69.6
92
N adj.=17.1
N eff.=137.7
100
N adj.=6.1
N eff.=101.1
108
N adj.=13.4
N eff.=69.6
116
N adj.=15.6
N eff.=34.7
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

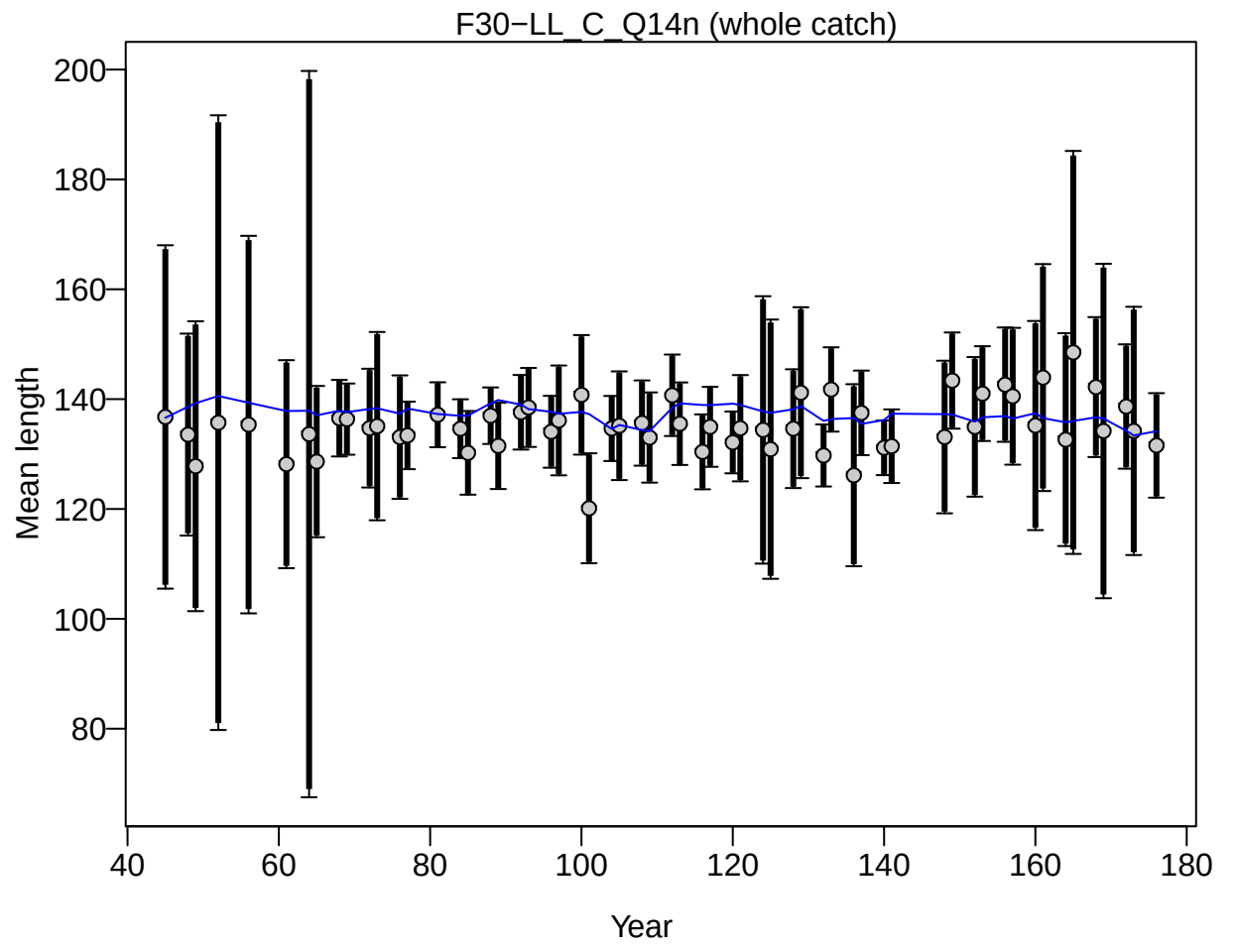

117
N adj.=13.2
N eff.=114.3
125
N adj.=1.3
N eff.=27
133
N adj.=11.5
N eff.=46.8
141
N adj.=13.5
N eff.=26.7
120
N adj.=22.5
N eff.=64.1
128
N adj.=5.5
N eff.=82.3
136
N adj.=2.9
N eff.=7.3
148
N adj.=3.6
N eff.=30.8
121
N adj.=7.8
N eff.=96.9
129
N adj.=2.8
N eff.=25.3
137
N adj.=13.4
N eff.=28.6
149
N adj.=9.6
N eff.=131.5
124
N adj.=1.3
N eff.=38.4
132
N adj.=24.2
N eff.=23.5
140
N adj.=25.4
N eff.=28.4
152
N adj.=4.3
N eff.=62.5
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

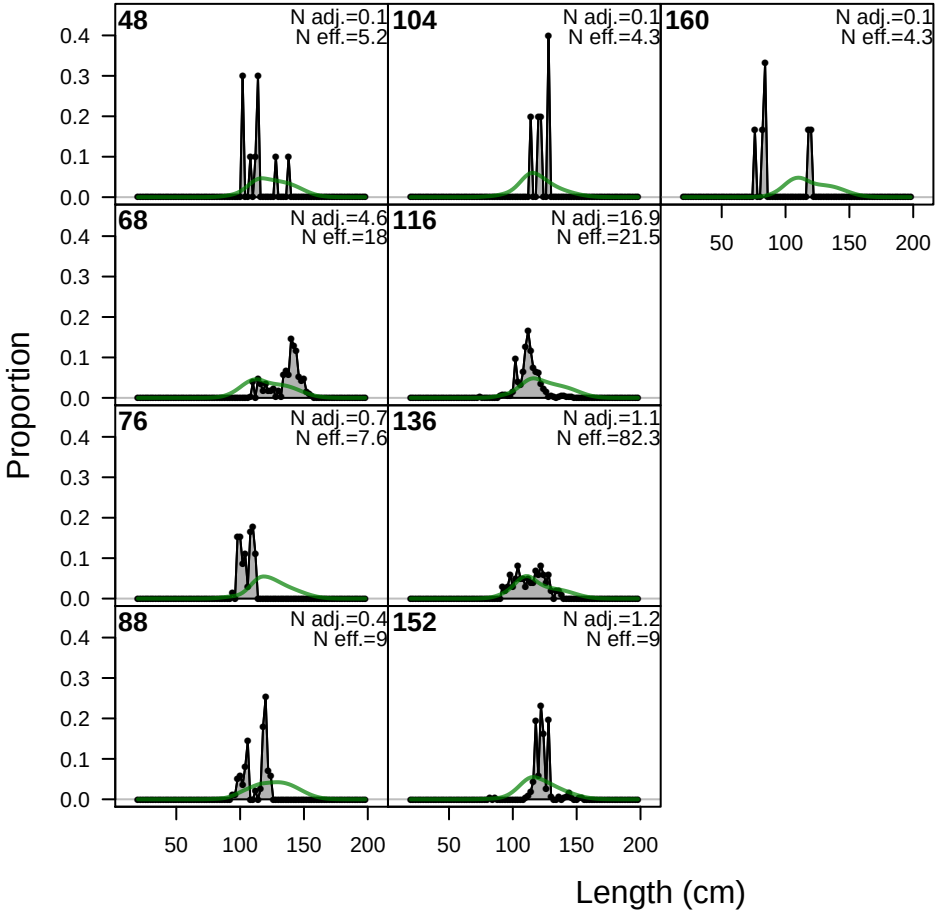

153
N adj.=8.6
N eff.=112.7
161
N adj.=1.8
N eff.=34.7
169
N adj.=0.8
N eff.=41.3
156
N adj.=7.3
N eff.=103.9
164
N adj.=1.9
N eff.=8.2
172
N adj.=6
N eff.=56.9
157
N adj.=4.7
N eff.=25.5
165
N adj.=0.5
N eff.=16.7
173
N adj.=1.5
N eff.=11.4
160
N adj.=2
N eff.=25.8
168
N adj.=4.3
N eff.=40.5
176
N adj.=7.2
N eff.=58.3
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
50
100
150
200
Length (cm)

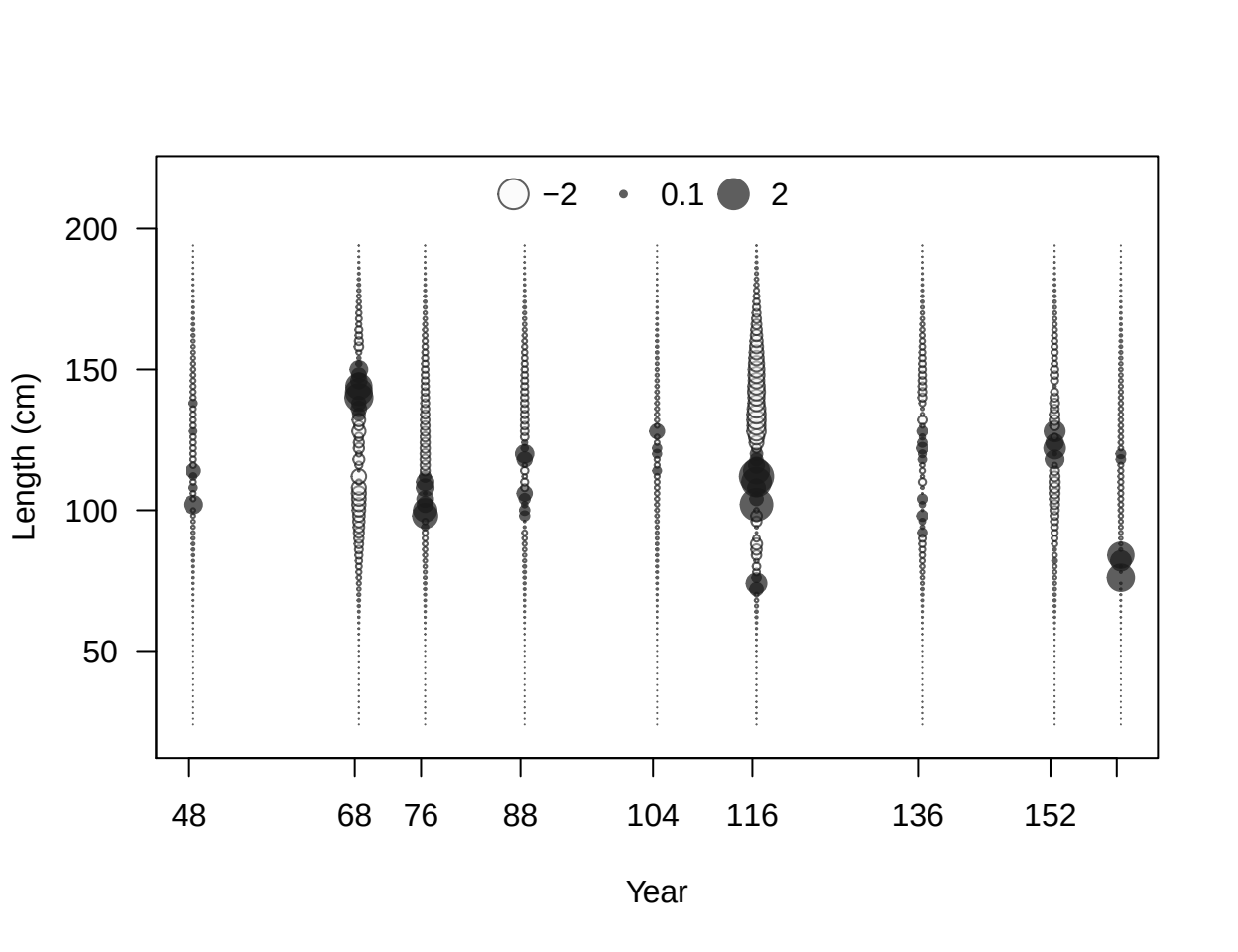

−25
−15
5
15
25
200
150
100
50
Length (cm)
45
56
65
76
85
96
108
120
132
148
160
172
Year

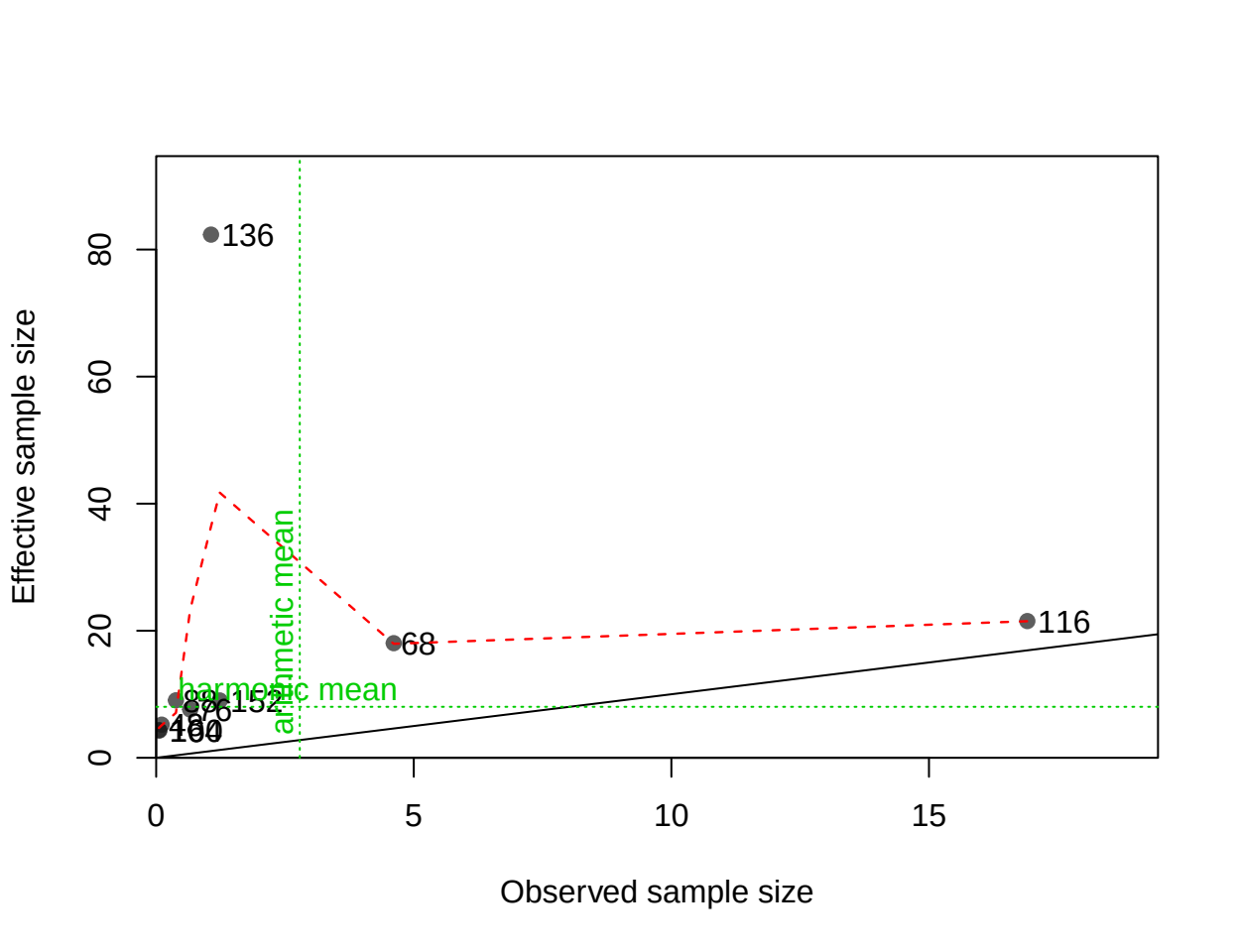


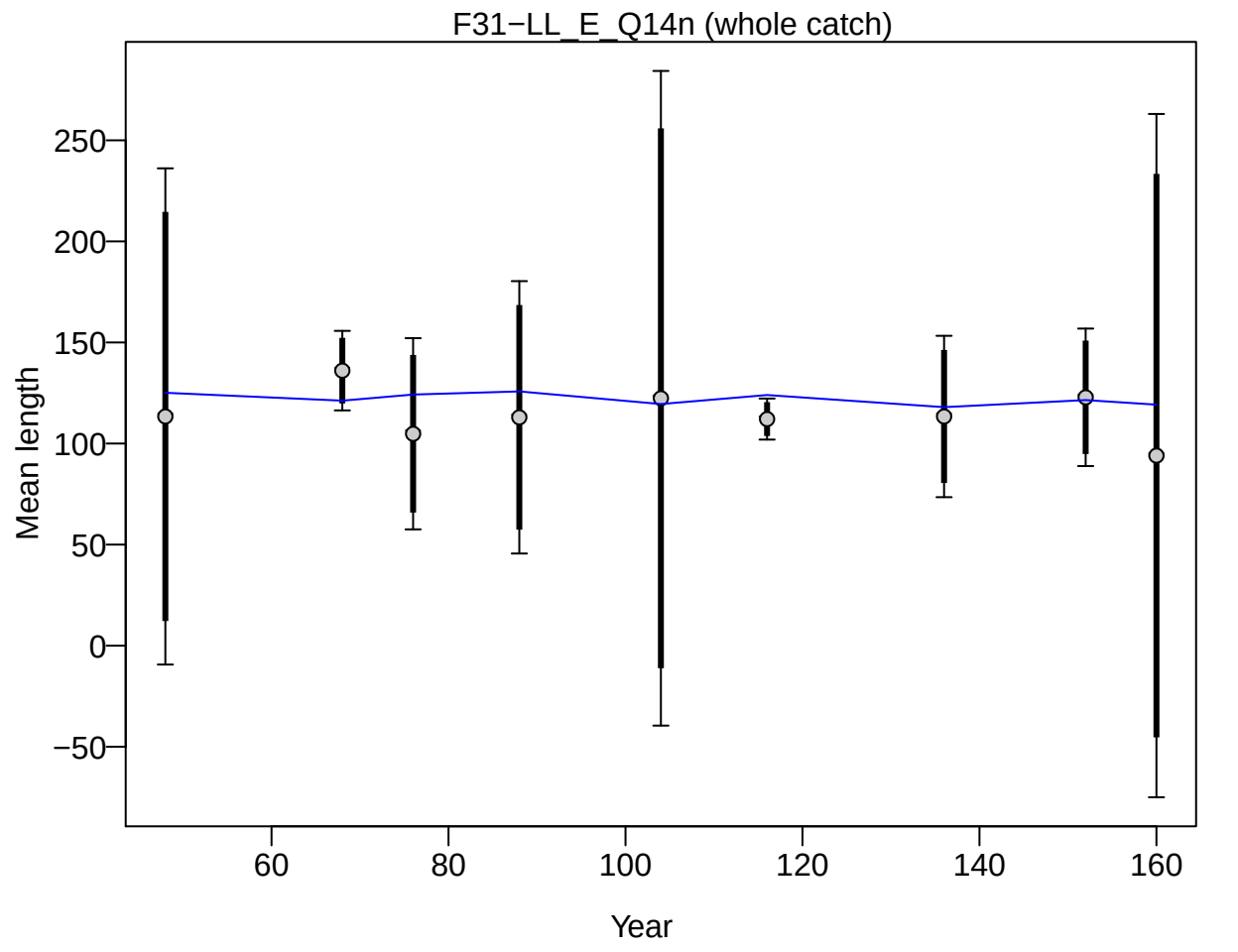
Effective sample size
Observed sample size
0
100
200
300
400
0
5
10
15
20
25
harmonic mean
arithmetic mean
81
84
88
73
85
68
92
149
112
117
104
105
153
89
100
121
76
128
93
45
108
120
152
77
133
116
140
132
101
157
136

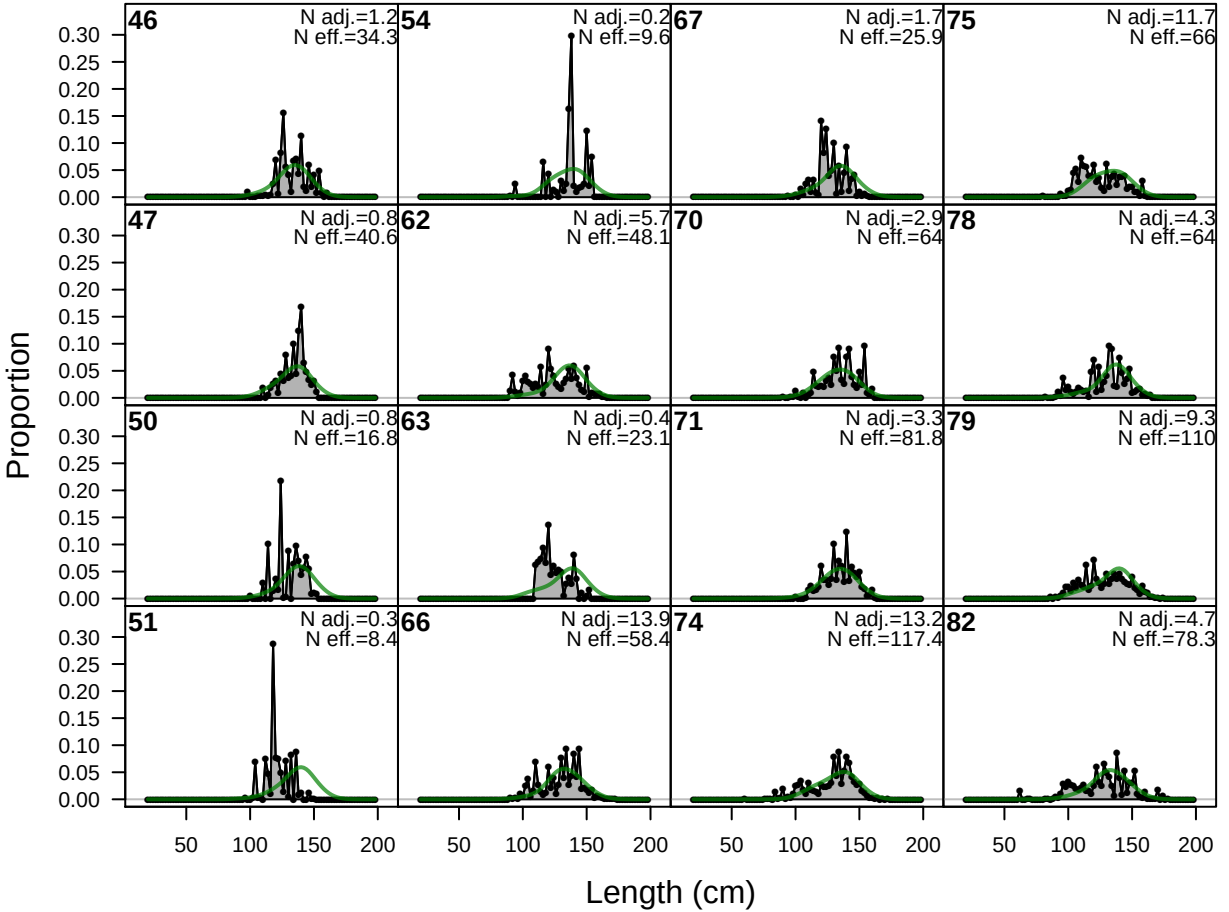

F30−LL_C_Q14n (whole catch)
Mean length
200
180
160
140
120
100
80
40
60
80
100
120
140
160
180
Year

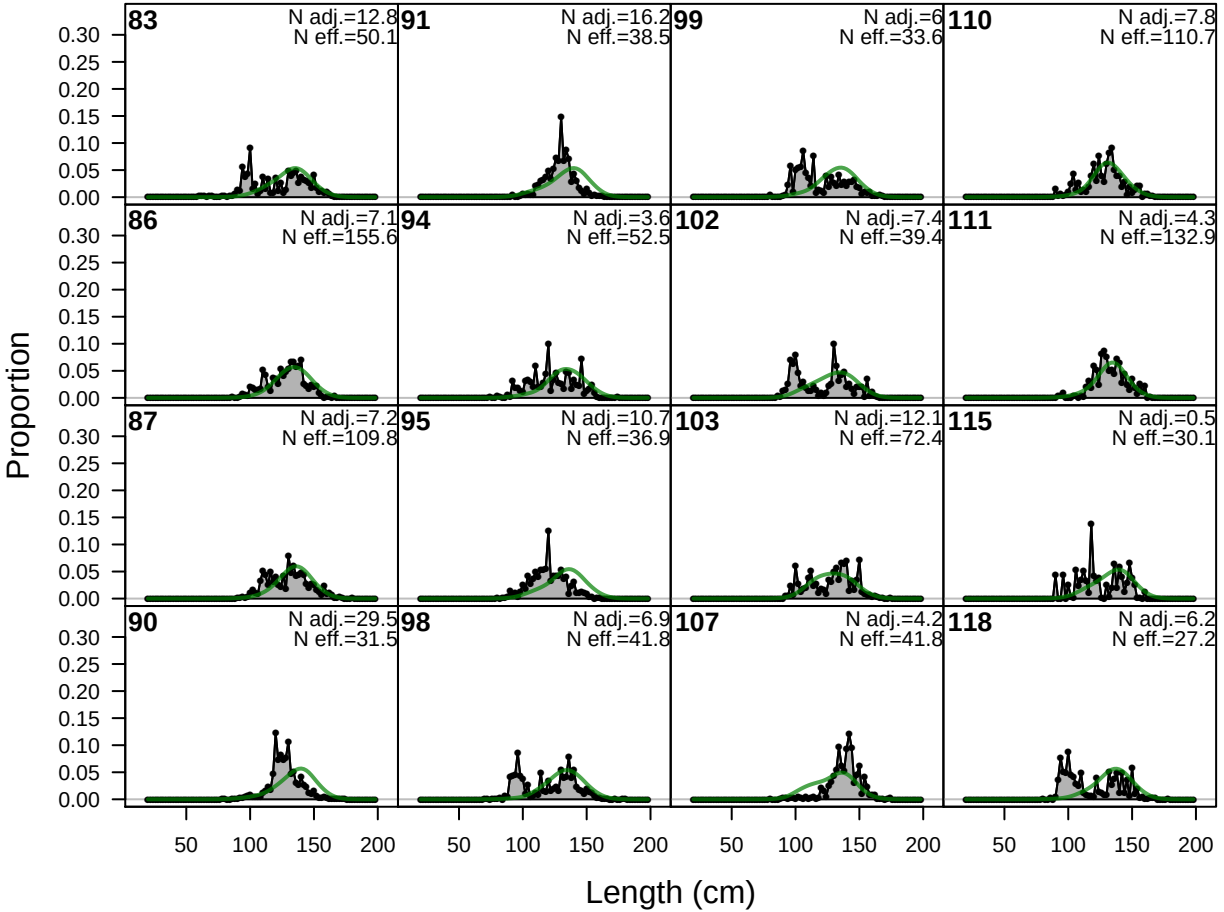

48
N adj.=0.1
N eff.=5.2
104
N adj.=0.1
N eff.=4.3
160
N adj.=0.1
N eff.=4.3
68
N adj.=4.6
N eff.=18
116
N adj.=16.9
N eff.=21.5
76
N adj.=0.7
N eff.=7.6
136
N adj.=1.1
N eff.=82.3
88
N adj.=0.4
N eff.=9
152
N adj.=1.2
N eff.=9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

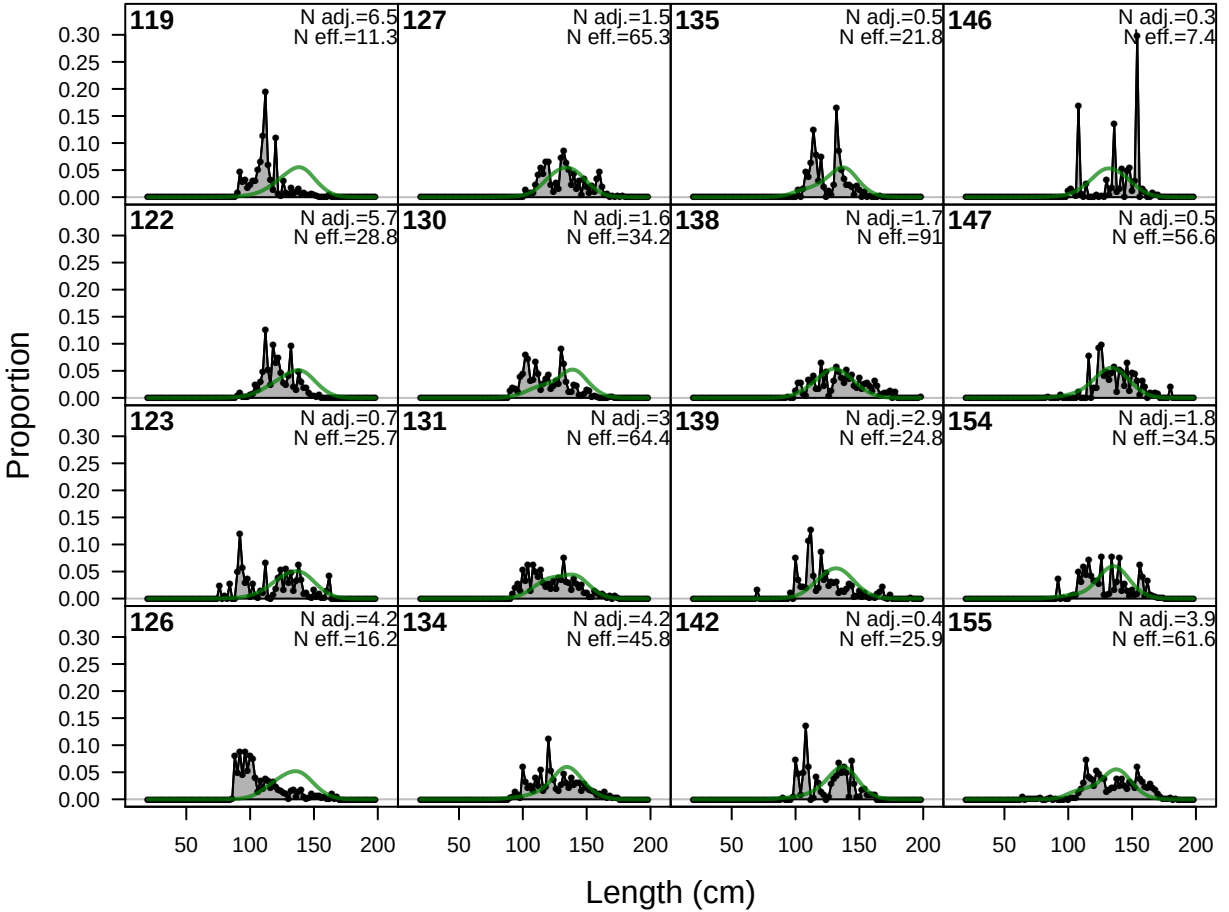

−2
0.1
2
200
150
100
50
Length (cm)
48
68
76
88
104
116
136
152
Year

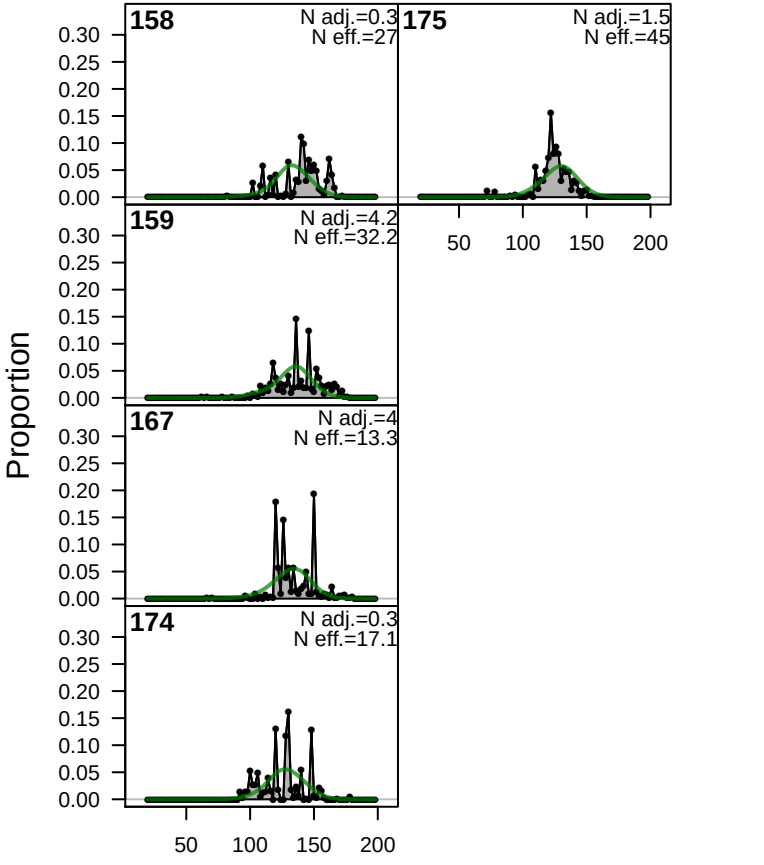

Effective sample size
Observed sample size
0
20
40
60
80
0
5
10
15
136
68
116
152
100
harmonic mean
arithmetic mean

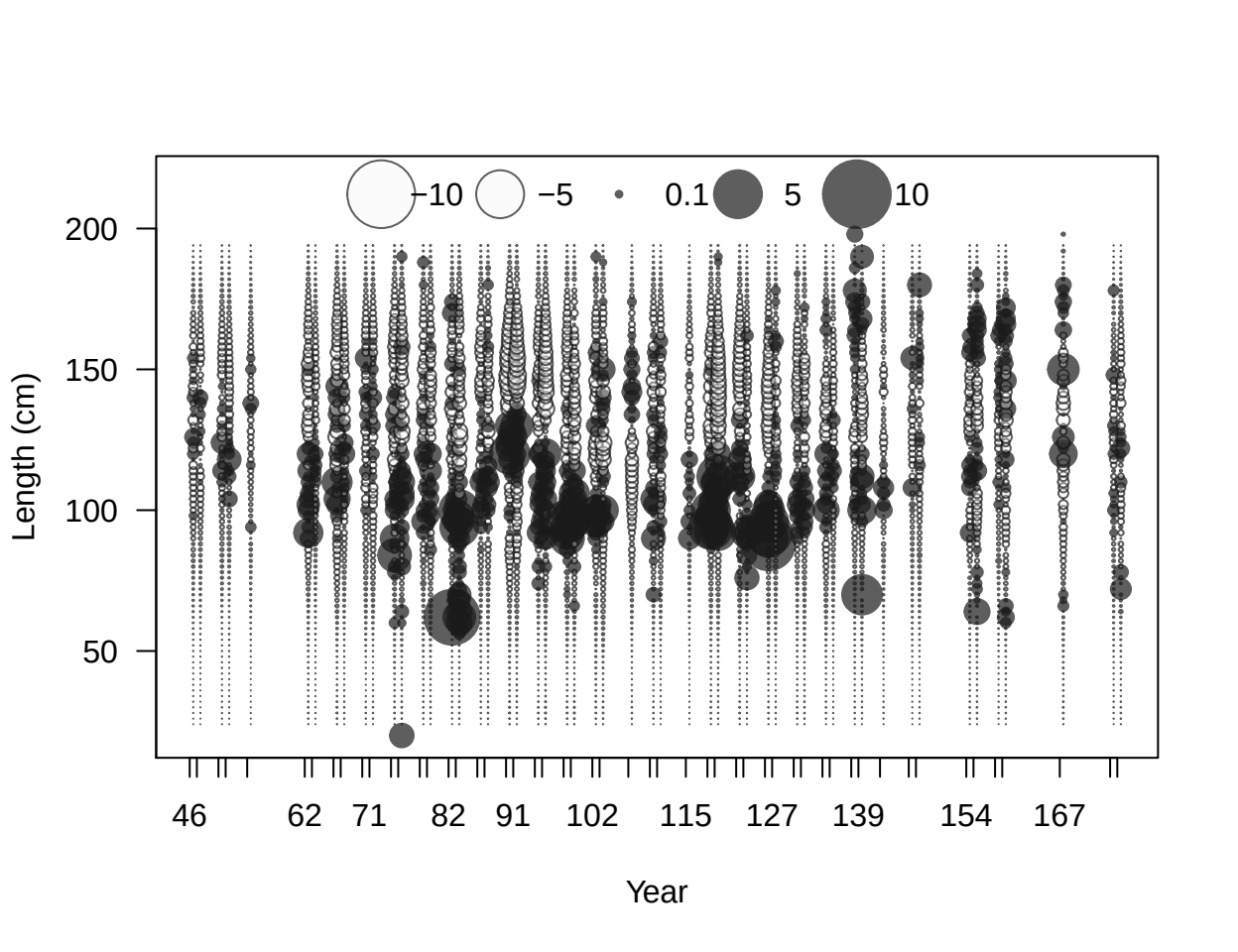

F31−LL_E_Q14n (whole catch)
Mean length
250
200
150
100
50
0
−50
60
80
100
120
140
160
Year

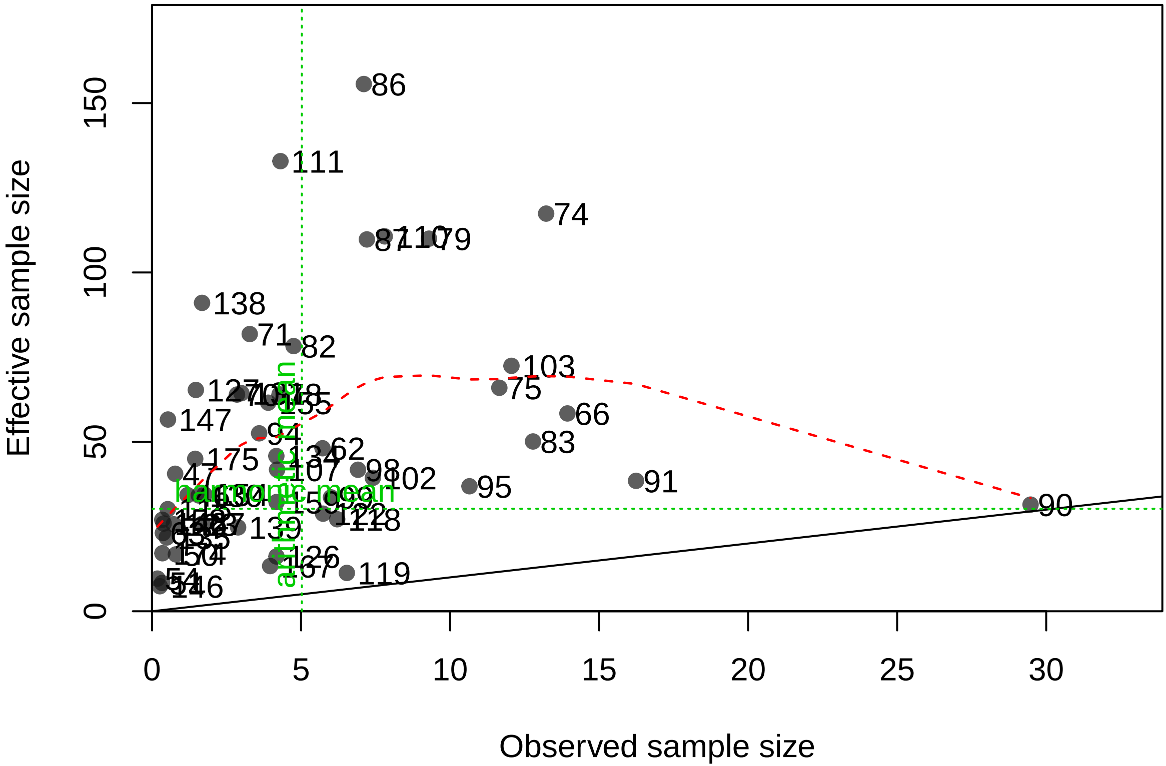

46
N adj.=1.2
N eff.=34.3
54
N adj.=0.2
N eff.=9.6
67
N adj.=1.7
N eff.=25.9
75
N adj.=11.7
N eff.=66
47
N adj.=0.8
N eff.=40.6
62
N adj.=5.7
N eff.=48.1
70
N adj.=2.9
N eff.=64
78
N adj.=4.3
N eff.=64
50
N adj.=0.8
N eff.=16.8
63
N adj.=0.4
N eff.=23.1
71
N adj.=3.3
N eff.=81.8
79
N adj.=9.3
N eff.=110
51
N adj.=0.3
N eff.=8.4
66
N adj.=13.9
N eff.=58.4
74
N adj.=13.2
N eff.=117.4
82
N adj.=4.7
N eff.=78.3
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)


83
N adj.=12.8
N eff.=50.1
91
N adj.=16.2
N eff.=38.5
99
N adj.=6
N eff.=33.6
110
N adj.=7.8
N eff.=110.7
86
N adj.=7.1
N eff.=155.6
94
N adj.=3.6
N eff.=52.5
102
N adj.=7.4
N eff.=39.4
111
N adj.=4.3
N eff.=132.9
87
N adj.=7.2
N eff.=109.8
95
N adj.=10.7
N eff.=36.9
103
N adj.=12.1
N eff.=72.4
115
N adj.=0.5
N eff.=30.1
90
N adj.=29.5
N eff.=31.5
98
N adj.=6.9
N eff.=41.8
107
N adj.=4.2
N eff.=41.8
118
N adj.=6.2
N eff.=27.2
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

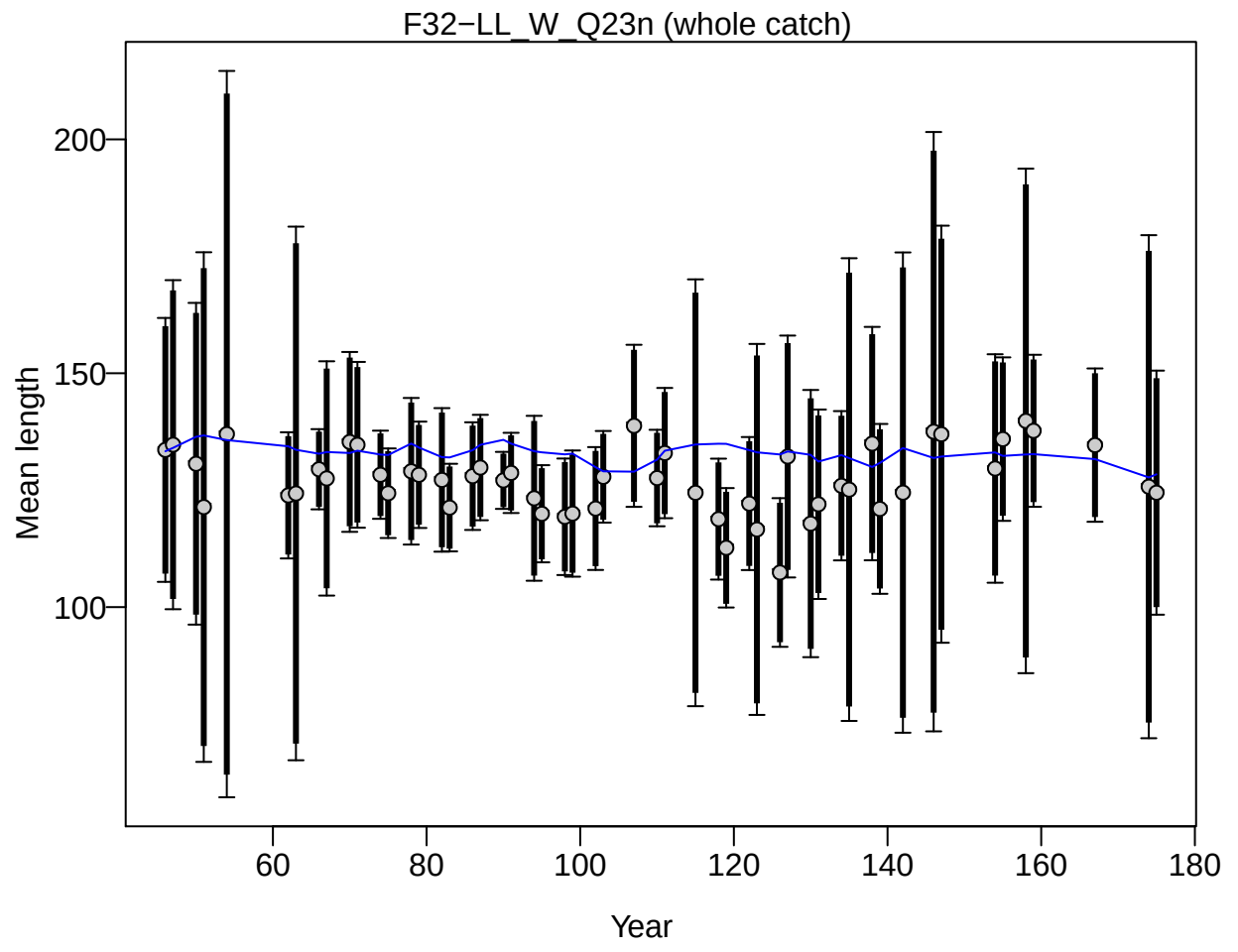

119
N adj.=6.5
N eff.=11.3
127
N adj.=1.5
N eff.=65.3
135
N adj.=0.5
N eff.=21.8
146
N adj.=0.3
N eff.=7.4
122
N adj.=5.7
N eff.=28.8
130
N adj.=1.6
N eff.=34.2
138
N adj.=1.7
N eff.=91
147
N adj.=0.5
N eff.=56.6
123
N adj.=0.7
N eff.=25.7
131
N adj.=3
N eff.=64.4
139
N adj.=2.9
N eff.=24.8
154
N adj.=1.8
N eff.=34.5
126
N adj.=4.2
N eff.=16.2
134
N adj.=4.2
N eff.=45.8
142
N adj.=0.4
N eff.=25.9
155
N adj.=3.9
N eff.=61.6
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

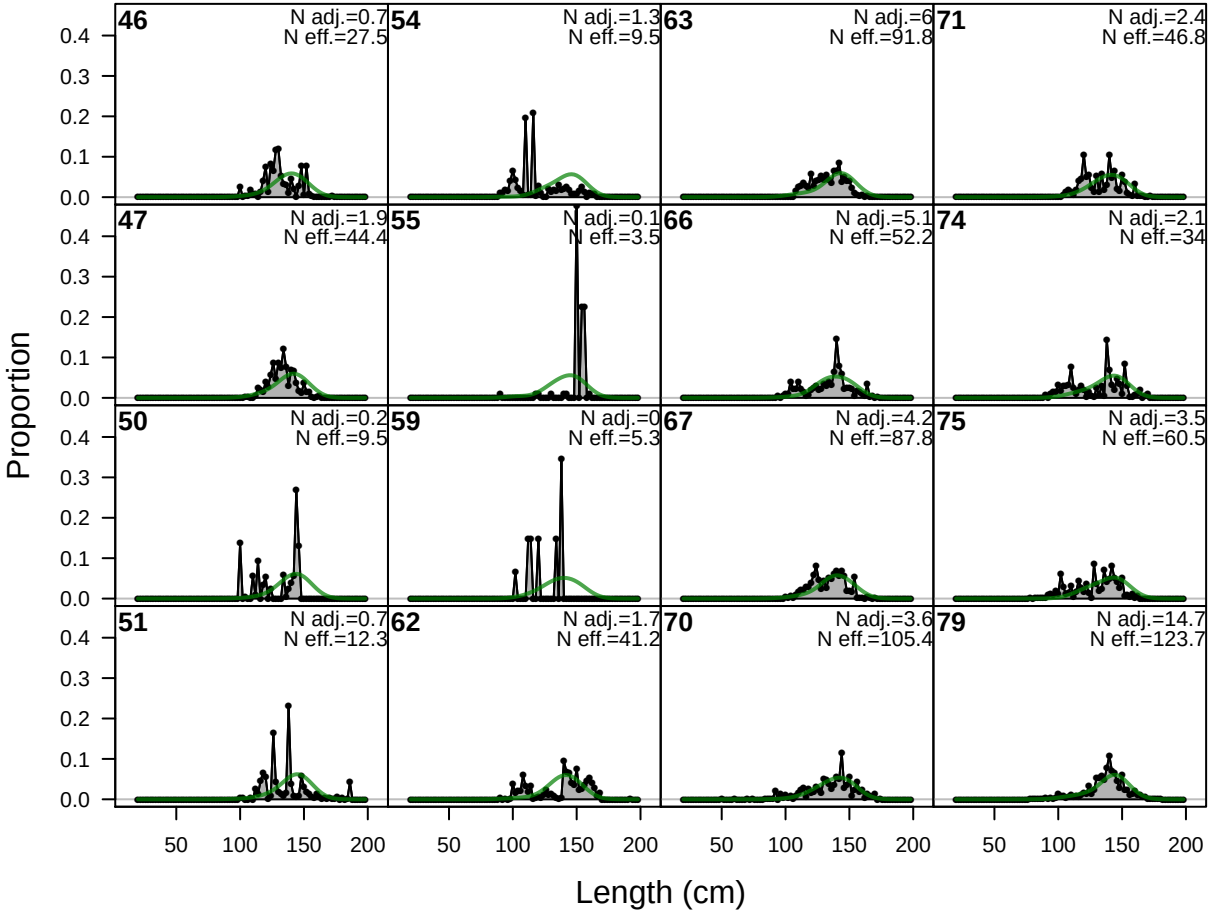

158
N adj.=0.3
N eff.=27
175
N adj.=1.5
N eff.=45
159
N adj.=4.2
N eff.=32.2
167
N adj.=4
N eff.=13.3
174
N adj.=0.3
N eff.=17.1
Proportion
0.00
0.05
0.10
0.15
0.20
0.25
0.30
50
100
150
200
Length (cm)

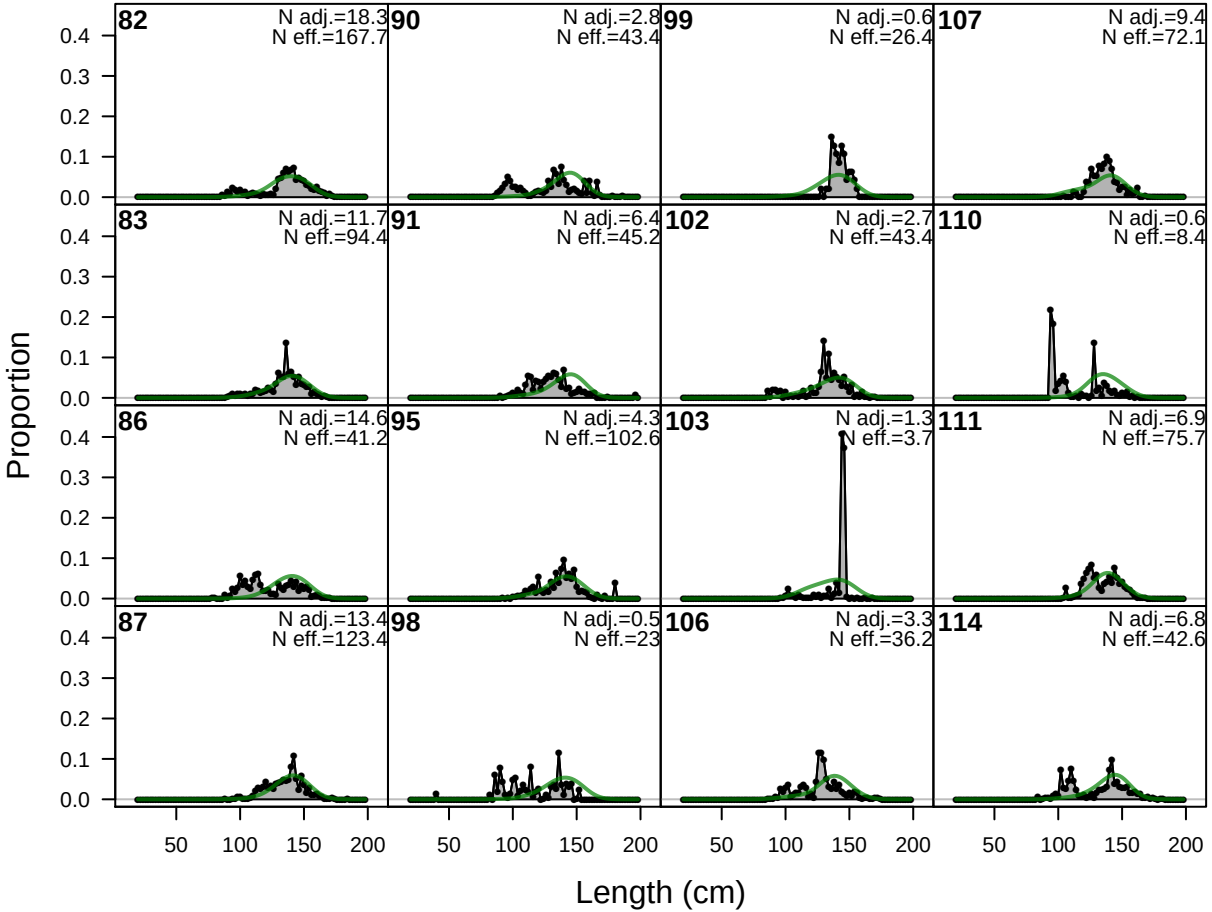

−10
−5
0.1
5
10
200
150
100
50
Length (cm)
46
62
71
82
91
102
115
127
139
154
167
Year

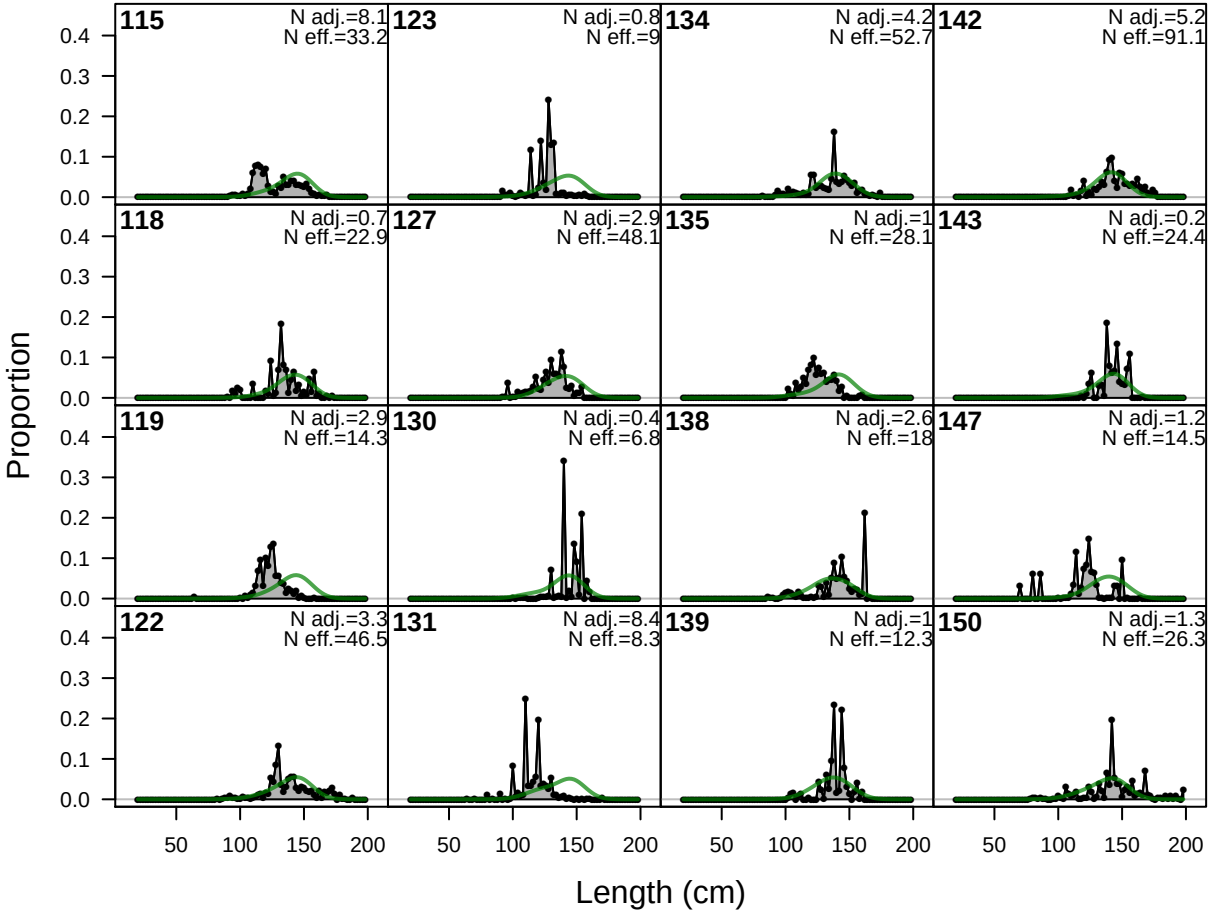


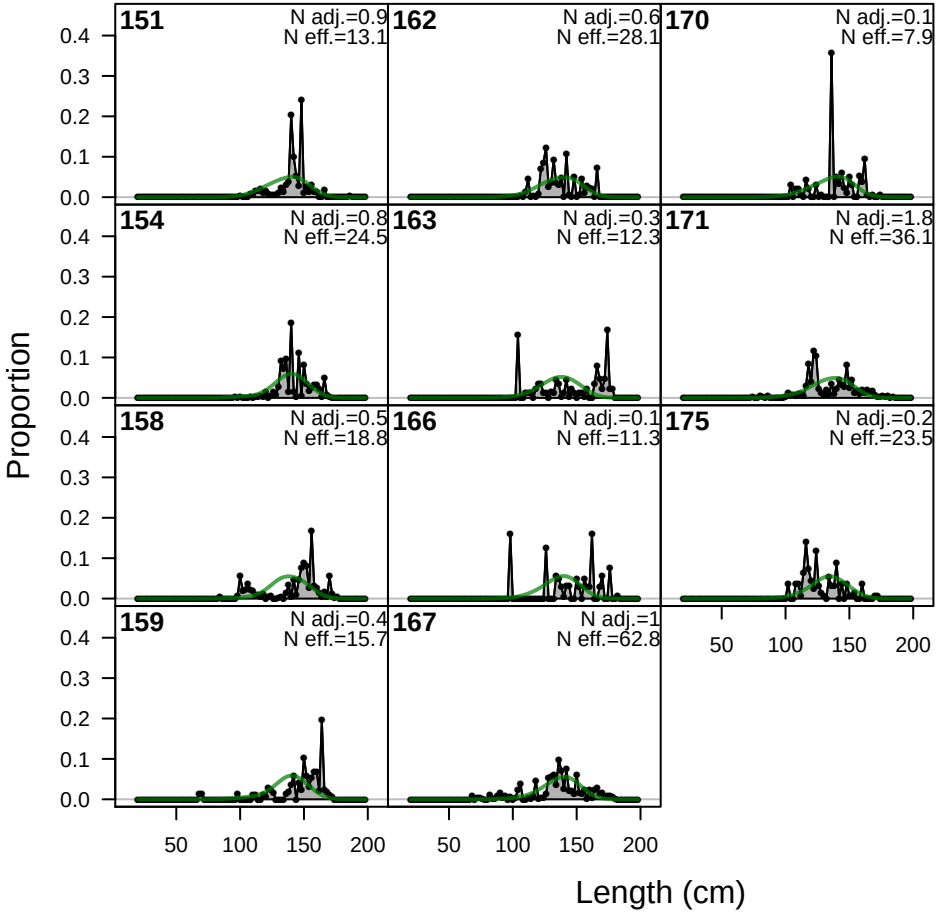
Effective sample size
Observed sample size
0
50
100
150
0
5
10
15
20
25
30
harmonic mean
arithmetic mean
86
111
74
79
138
71
82
103
75
66
147
83
62
175
98
102
95
91
90
139
118
119
126
146

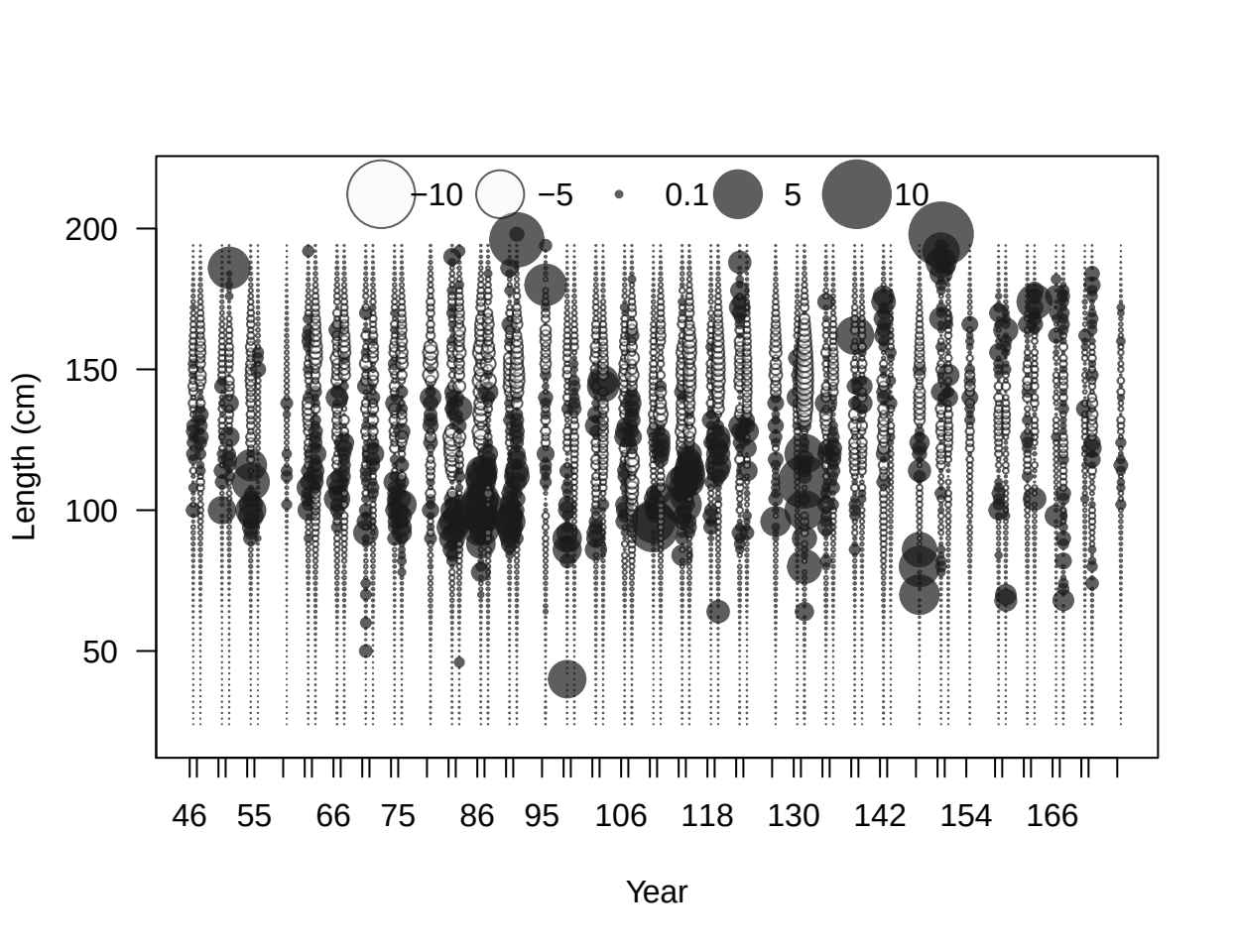

F32−LL_W_Q23n (whole catch)
Mean length
200
150
100
60
80
100
120
140
160
180
Year

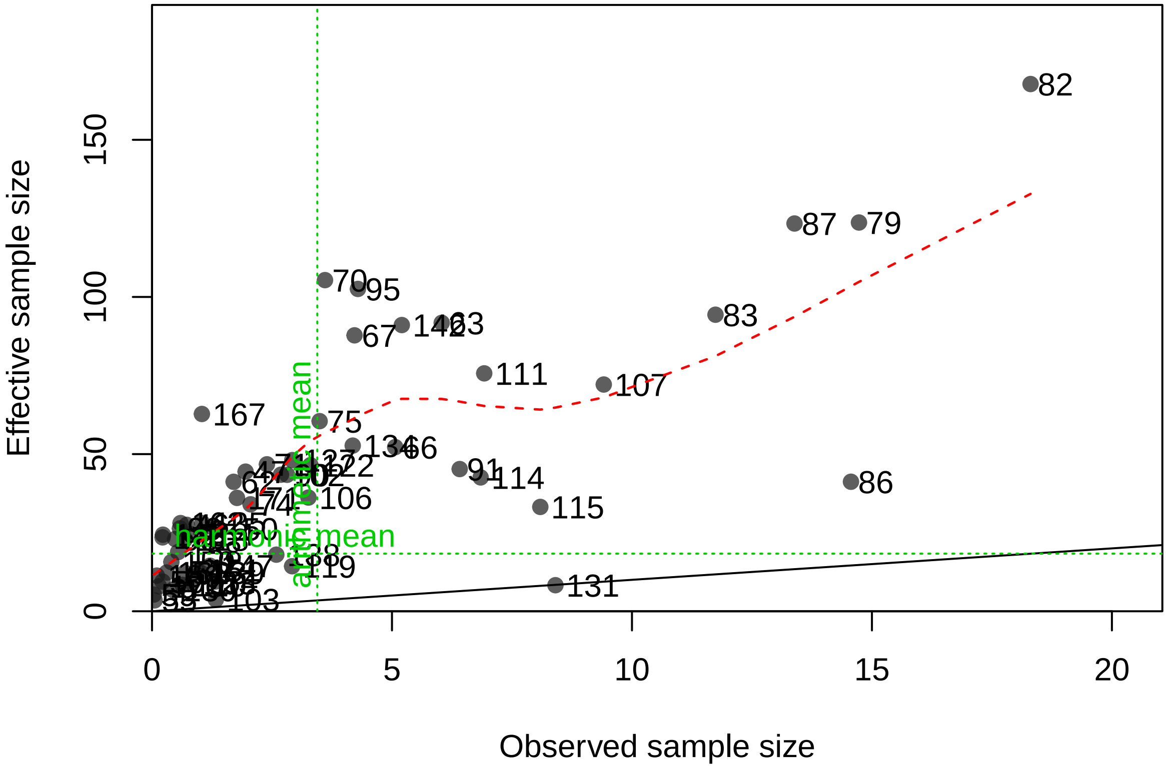

46
N adj.=0.7
N eff.=27.5
54
N adj.=1.3
N eff.=9.5
63
N adj.=6
N eff.=91.8
71
N adj.=2.4
N eff.=46.8
47
N adj.=1.9
N eff.=44.4
55
N adj.=0.1
N eff.=3.5
66
N adj.=5.1
N eff.=52.2
74
N adj.=2.1
N eff.=34
50
N adj.=0.2
N eff.=9.5
59
N adj.=0
N eff.=5.3
67
N adj.=4.2
N eff.=87.8
75
N adj.=3.5
N eff.=60.5
51
N adj.=0.7
N eff.=12.3
62
N adj.=1.7
N eff.=41.2
70
N adj.=3.6
N eff.=105.4
79
N adj.=14.7
N eff.=123.7
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


82
N adj.=18.3
N eff.=167.7
90
N adj.=2.8
N eff.=43.4
99
N adj.=0.6
N eff.=26.4
107
N adj.=9.4
N eff.=72.1
83
N adj.=11.7
N eff.=94.4
91
N adj.=6.4
N eff.=45.2
102
N adj.=2.7
N eff.=43.4
110
N adj.=0.6
N eff.=8.4
86
N adj.=14.6
N eff.=41.2
95
N adj.=4.3
N eff.=102.6
103
N adj.=1.3
N eff.=3.7
111
N adj.=6.9
N eff.=75.7
87
N adj.=13.4
N eff.=123.4
98
N adj.=0.5
N eff.=23
106
N adj.=3.3
N eff.=36.2
114
N adj.=6.8
N eff.=42.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

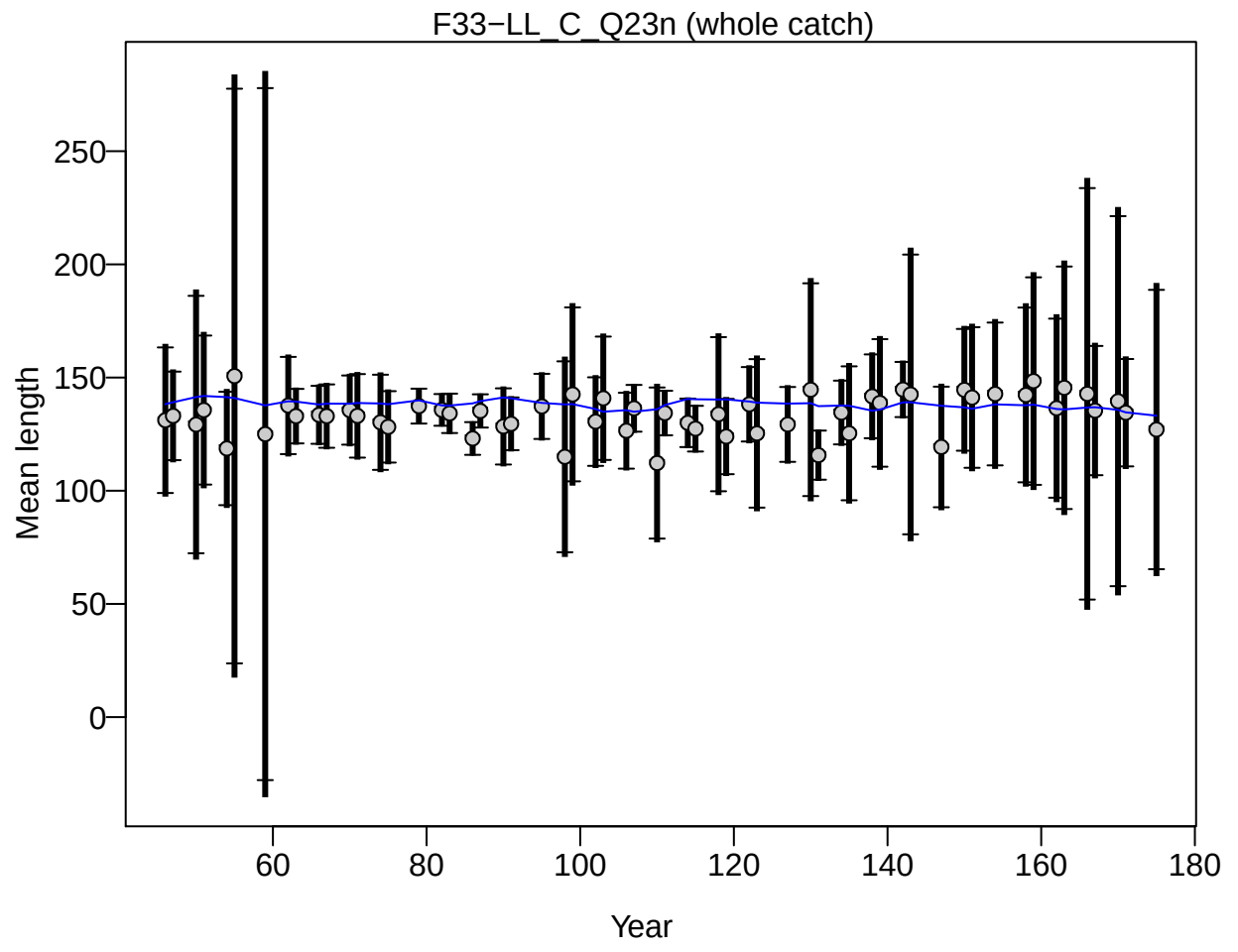

115
N adj.=8.1
N eff.=33.2
123
N adj.=0.8
N eff.=9
134
N adj.=4.2
N eff.=52.7
142
N adj.=5.2
N eff.=91.1
118
N adj.=0.7
N eff.=22.9
127
N adj.=2.9
N eff.=48.1
135
N adj.=1
N eff.=28.1
143
N adj.=0.2
N eff.=24.4
119
N adj.=2.9
N eff.=14.3
130
N adj.=0.4
N eff.=6.8
138
N adj.=2.6
N eff.=18
147
N adj.=1.2
N eff.=14.5
122
N adj.=3.3
N eff.=46.5
131
N adj.=8.4
N eff.=8.3
139
N adj.=1
N eff.=12.3
150
N adj.=1.3
N eff.=26.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

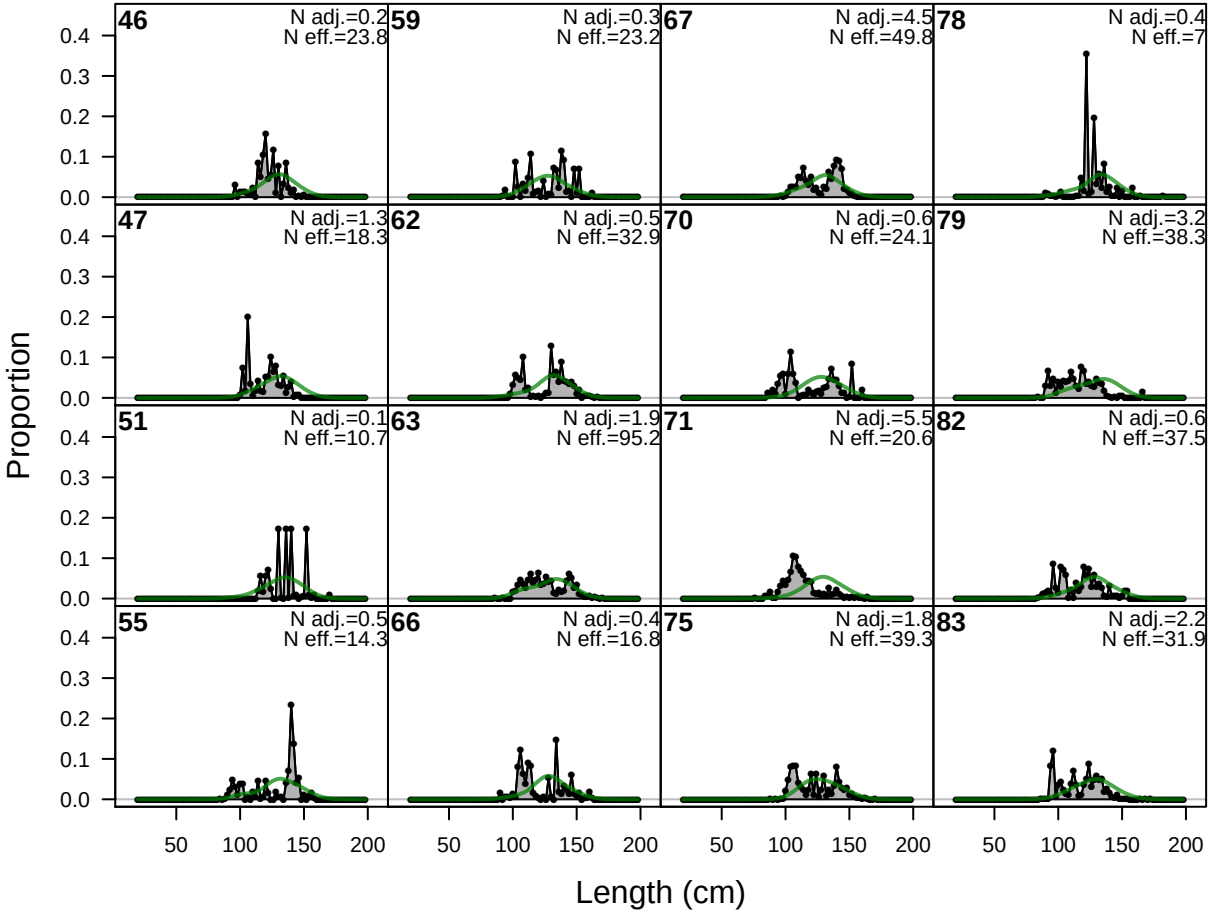

151
N adj.=0.9
N eff.=13.1
162
N adj.=0.6
N eff.=28.1
170
N adj.=0.1
N eff.=7.9
154
N adj.=0.8
N eff.=24.5
163
N adj.=0.3
N eff.=12.3
171
N adj.=1.8
N eff.=36.1
158
N adj.=0.5
N eff.=18.8
166
N adj.=0.1
N eff.=11.3
175
N adj.=0.2
N eff.=23.5
159
N adj.=0.4
N eff.=15.7
167
N adj.=1
N eff.=62.8
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

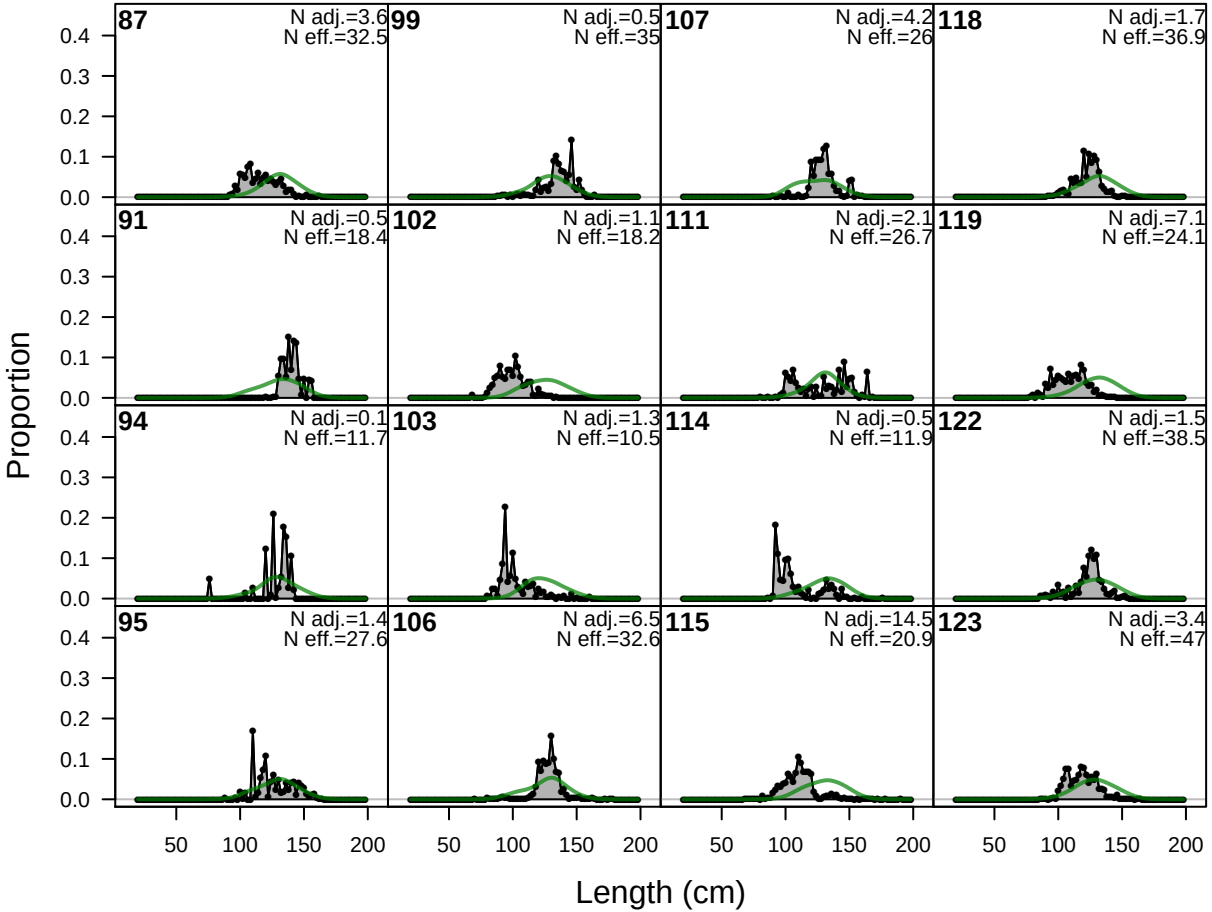

−10
−5
0.1
5
10
200
150
100
50
Length (cm)
46
55
66
75
86
95
106
118
130
142
154
166
Year

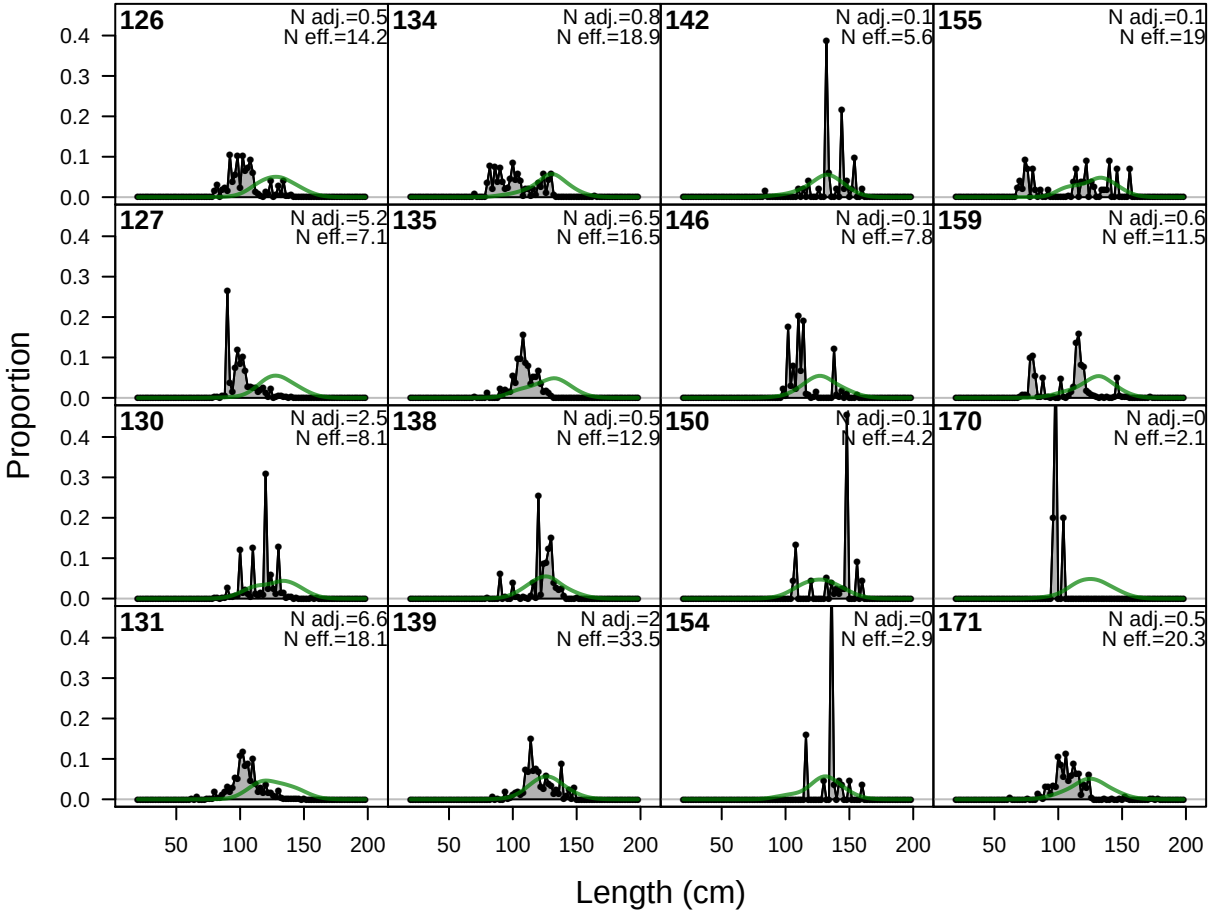


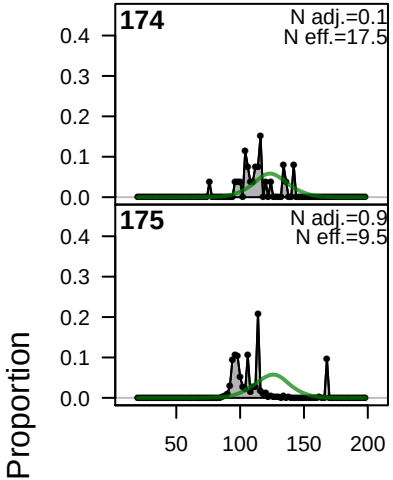
Effective sample size
Observed sample size
0
50
100
150
0
5
10
15
20
82
87
79
83
70
95
67
111
107
167
75
106
91
114
86
115
131
119
103
harmonic mean
arithmetic mean

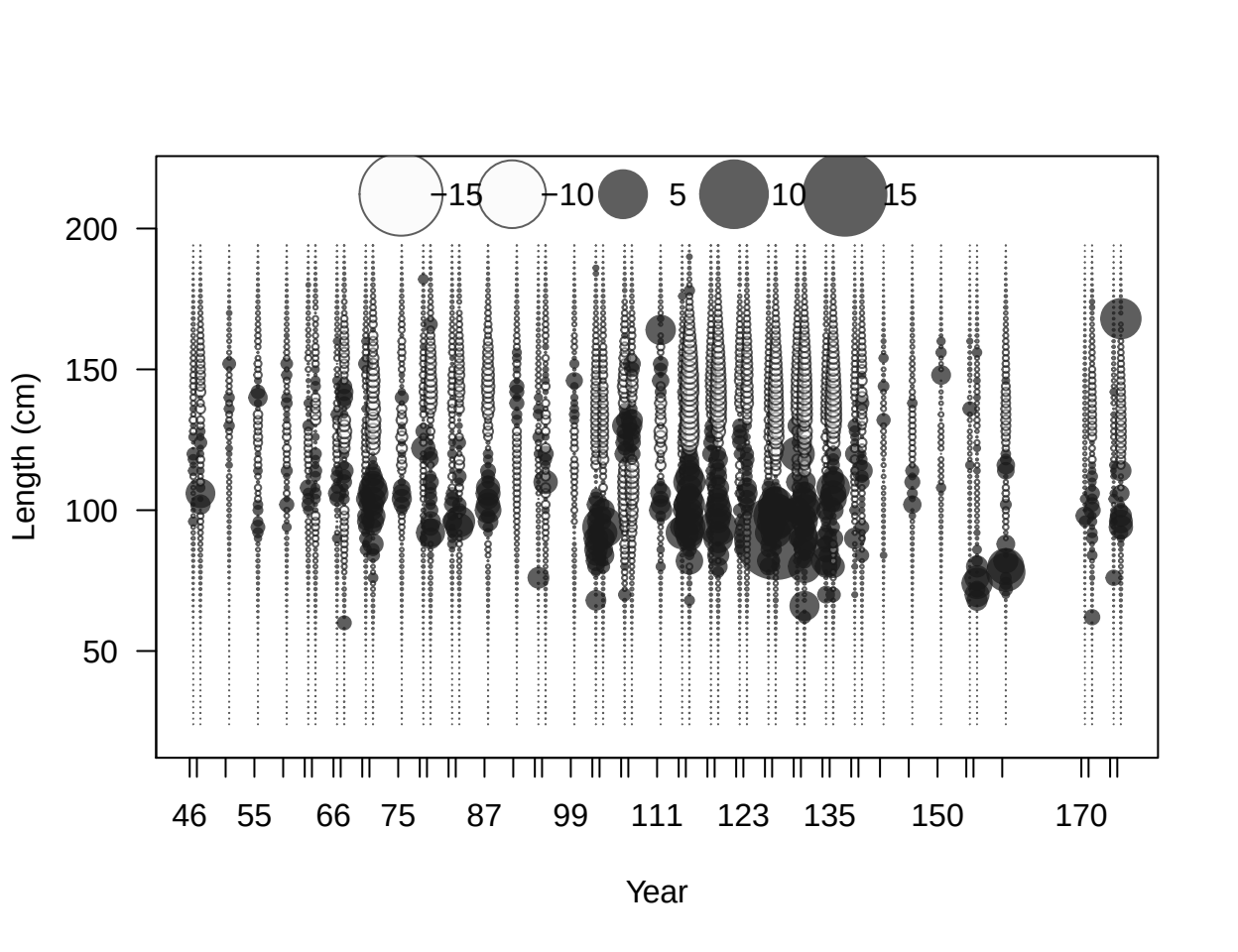

F33−LL_C_Q23n (whole catch)
Mean length
250
200
150
100
50
0
60
80
100
120
140
160
180
Year

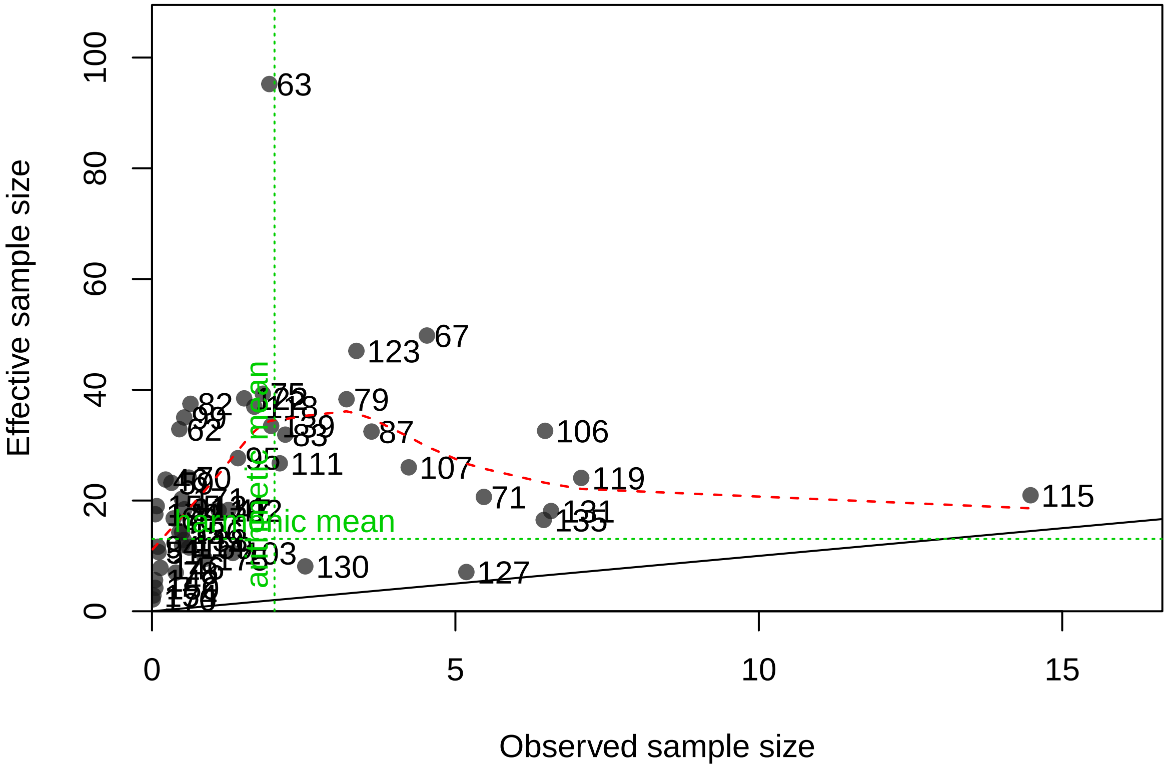

46
N adj.=0.2
N eff.=23.8
59
N adj.=0.3
N eff.=23.2
67
N adj.=4.5
N eff.=49.8
78
N adj.=0.4
N eff.=7
47
N adj.=1.3
N eff.=18.3
62
N adj.=0.5
N eff.=32.9
70
N adj.=0.6
N eff.=24.1
79
N adj.=3.2
N eff.=38.3
51
N adj.=0.1
N eff.=10.7
63
N adj.=1.9
N eff.=95.2
71
N adj.=5.5
N eff.=20.6
82
N adj.=0.6
N eff.=37.5
55
N adj.=0.5
N eff.=14.3
66
N adj.=0.4
N eff.=16.8
75
N adj.=1.8
N eff.=39.3
83
N adj.=2.2
N eff.=31.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


87
N adj.=3.6
N eff.=32.5
99
N adj.=0.5
N eff.=35
107
N adj.=4.2
N eff.=26
118
N adj.=1.7
N eff.=36.9
91
N adj.=0.5
N eff.=18.4
102
N adj.=1.1
N eff.=18.2
111
N adj.=2.1
N eff.=26.7
119
N adj.=7.1
N eff.=24.1
94
N adj.=0.1
N eff.=11.7
103
N adj.=1.3
N eff.=10.5
114
N adj.=0.5
N eff.=11.9
122
N adj.=1.5
N eff.=38.5
95
N adj.=1.4
N eff.=27.6
106
N adj.=6.5
N eff.=32.6
115
N adj.=14.5
N eff.=20.9
123
N adj.=3.4
N eff.=47
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

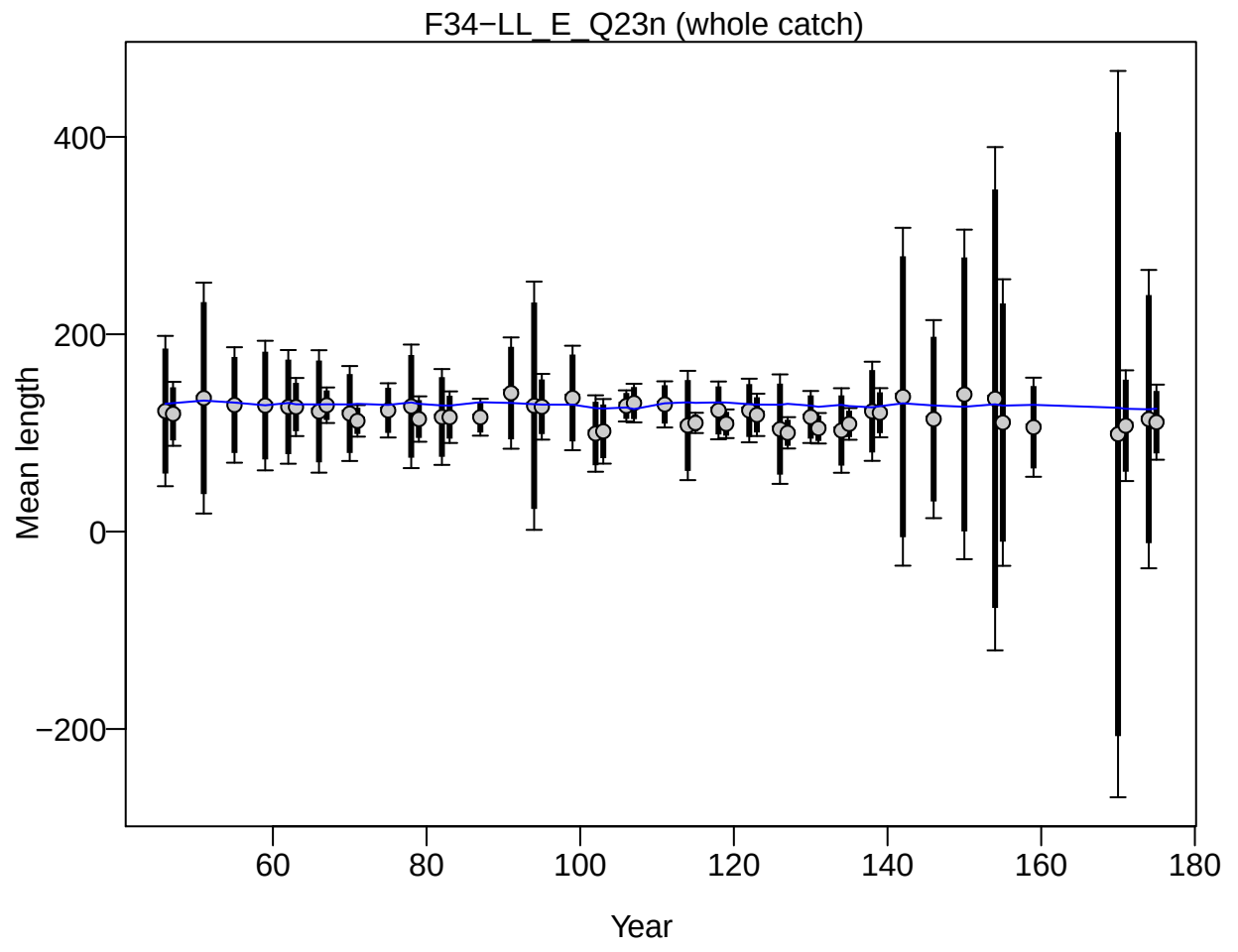

126
N adj.=0.5
N eff.=14.2
134
N adj.=0.8
N eff.=18.9
142
N adj.=0.1
N eff.=5.6
155
N adj.=0.1
N eff.=19
127
N adj.=5.2
N eff.=7.1
135
N adj.=6.5
N eff.=16.5
146
N adj.=0.1
N eff.=7.8
159
N adj.=0.6
N eff.=11.5
130
N adj.=2.5
N eff.=8.1
138
N adj.=0.5
N eff.=12.9
150
N adj.=0.1
N eff.=4.2
170
N adj.=0
N eff.=2.1
131
N adj.=6.6
N eff.=18.1
139
N adj.=2
N eff.=33.5
154
N adj.=0
N eff.=2.9
171
N adj.=0.5
N eff.=20.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

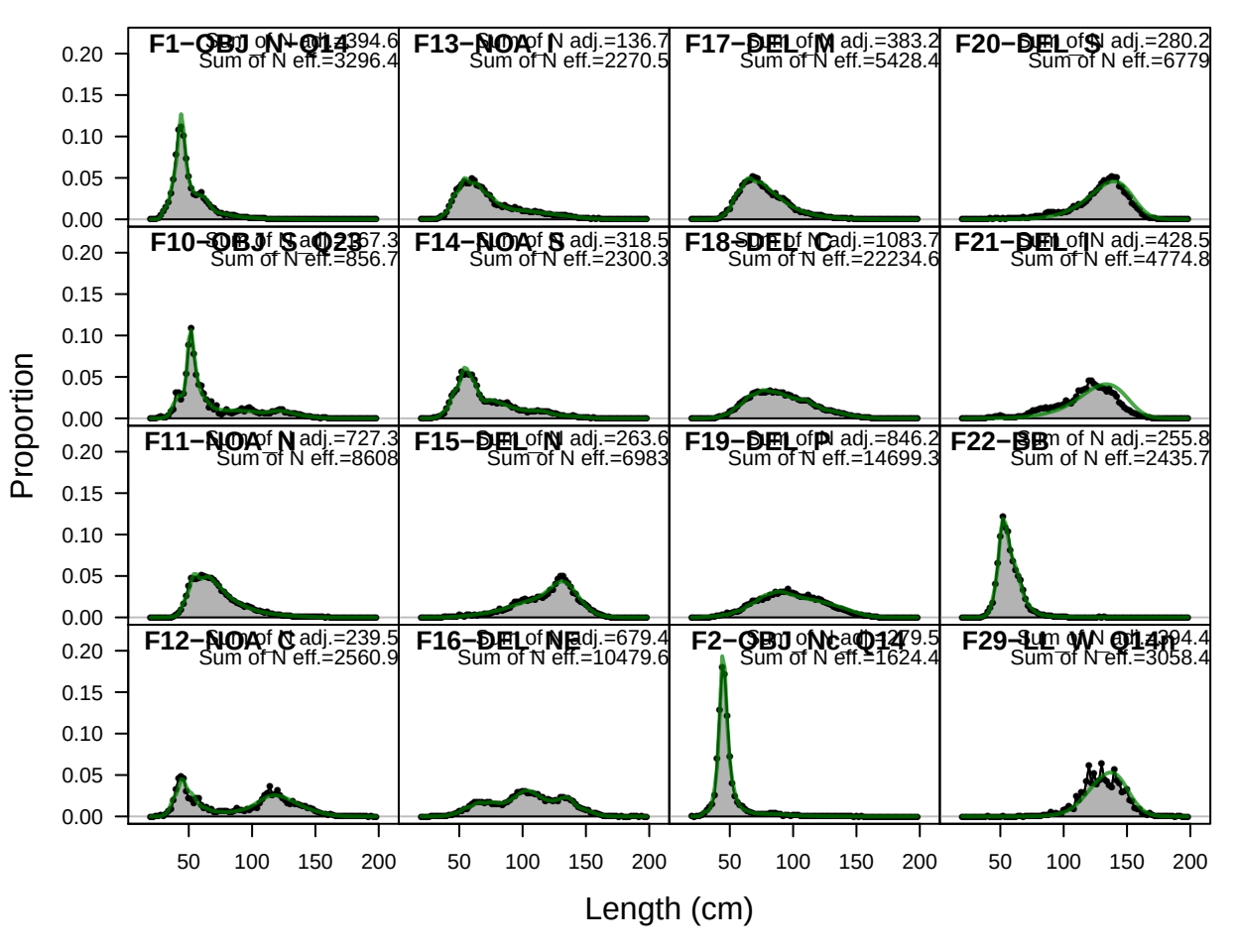

174
N adj.=0.1
N eff.=17.5
175
N adj.=0.9
N eff.=9.5
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Proportion
Length (cm)

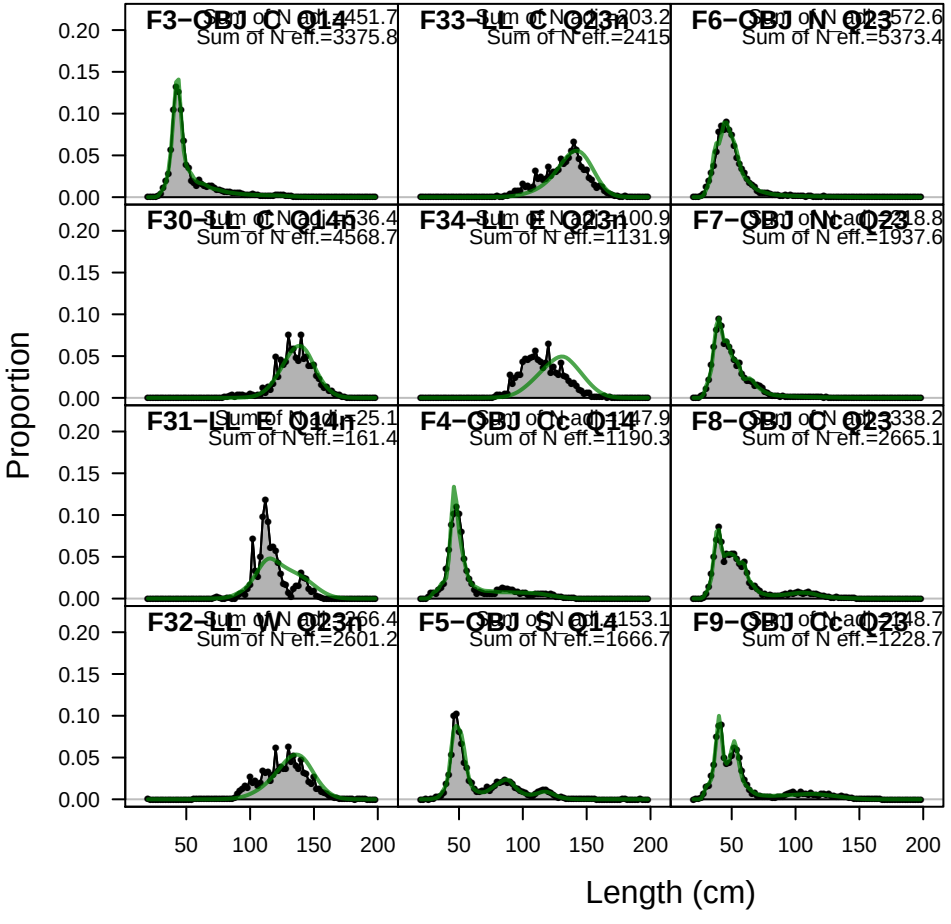

15
10
5
10
15
200
150
100
50
Length (cm)
46
55
66
75
87
99
111
123
135
150
170
Year

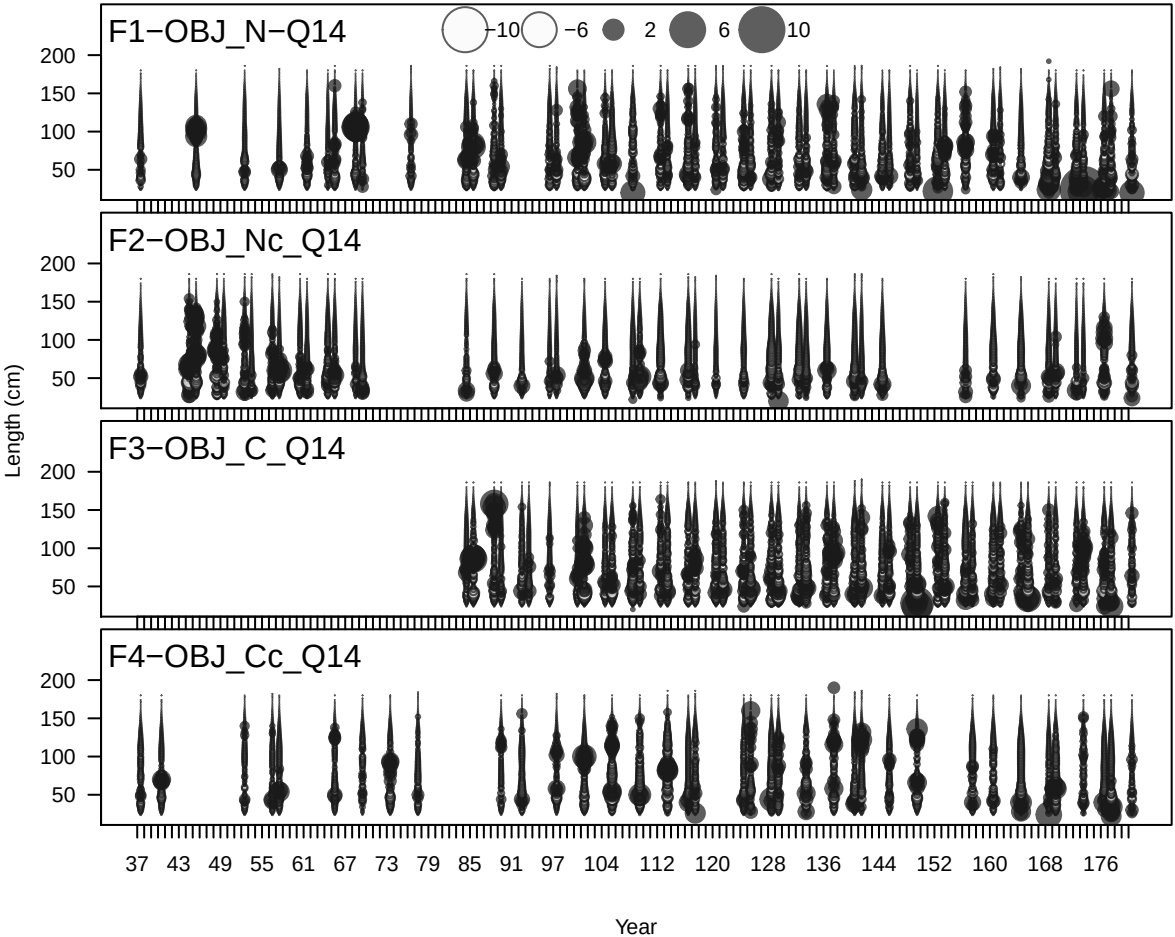


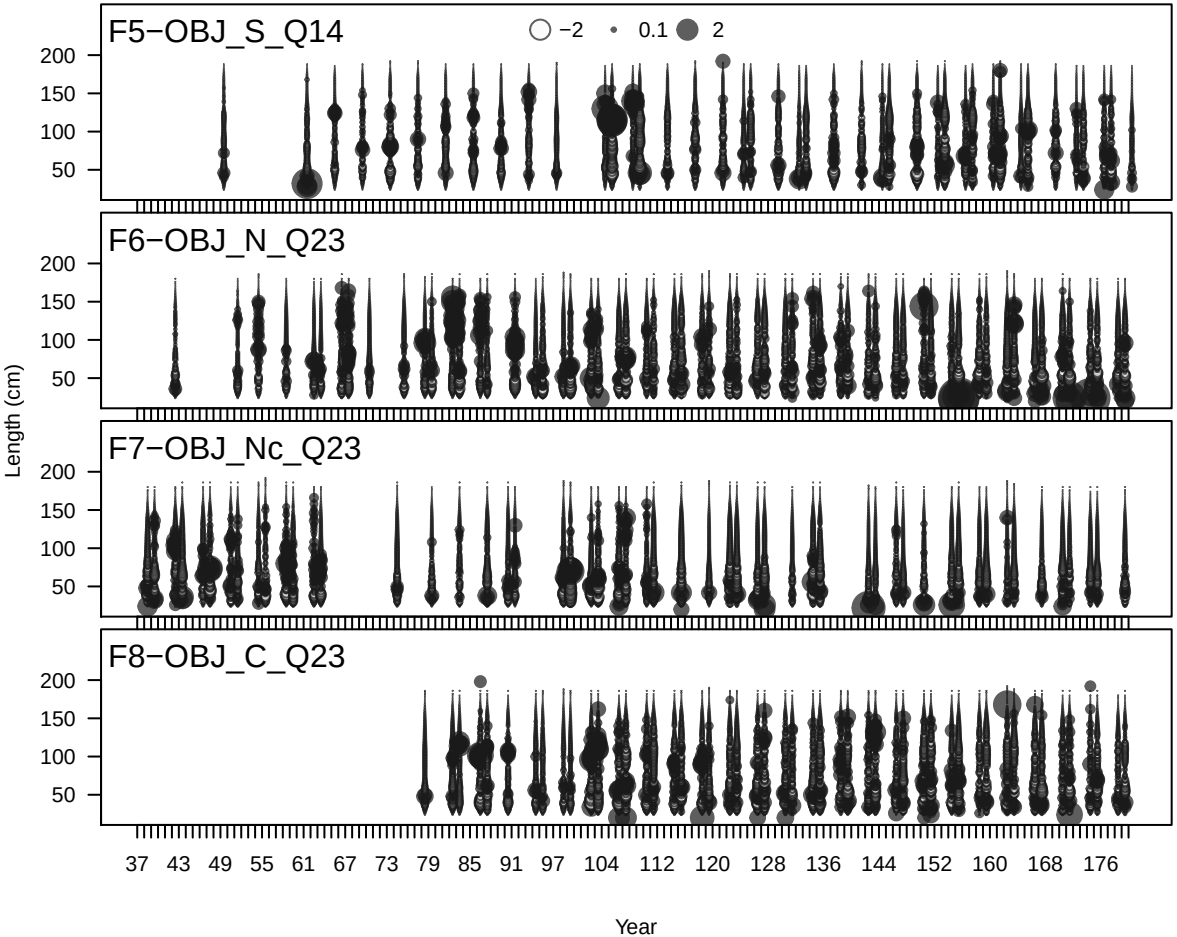
Effective sample size
Observed sample size
harmonic mean
arithmetic mean
0
20
40
60
80
100
0
5
10
15
63
67
123
79
106
87
107
119
71
115
131
135
130
127
111

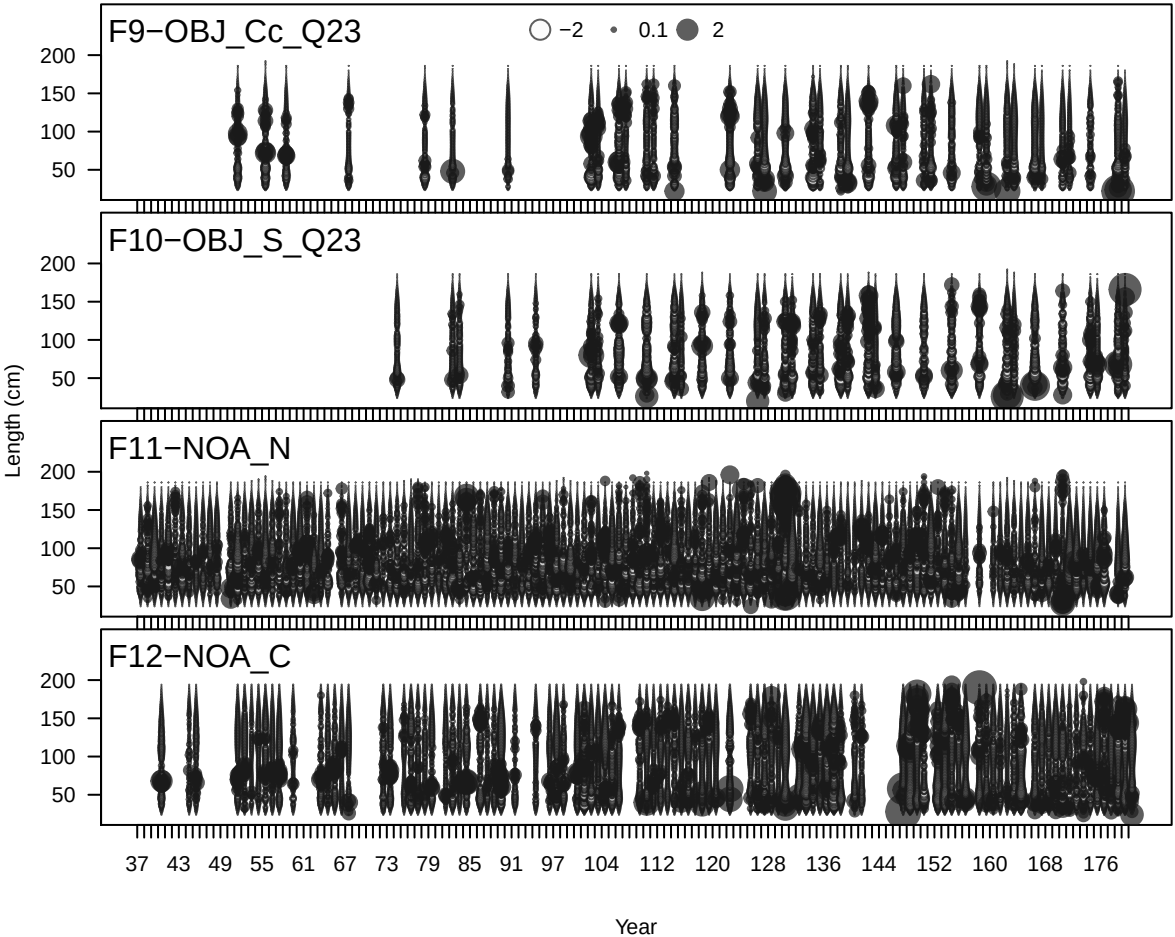

F34−LL_E_Q23n (whole catch)
400
200
0
−200
Mean length
60
80
100
120
140
160
180
Year

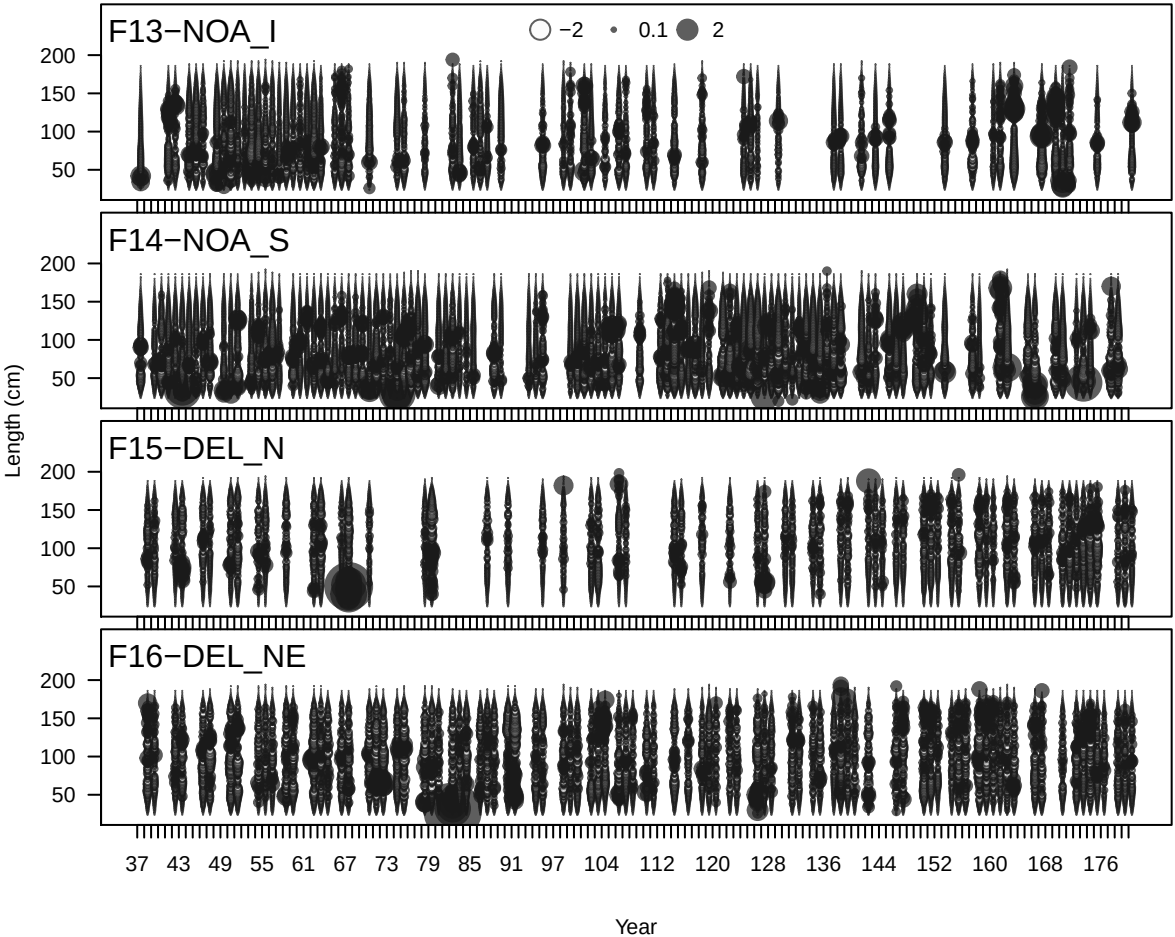

F1−GBJ N Q14
Sum of N adj.=4394.6
Sum of N eff.=3296.4
F13−NOA I
Sum of N adj.=136.7
Sum of N eff.=2270.5
F17−DEL M
Sum of N adj.=383.2
Sum of N eff.=5428.4
F20−DEL S
Sum of N adj.=280.2
Sum of N eff.=6779
F10−GBJ S Q23
Sum of N adj.=1167.3
Sum of N eff.=856.7
F14−NOA S
Sum of N adj.=318.5
Sum of N eff.=2300.3
F18−DEL C
Sum of N adj.=1083.7
Sum of N eff.=22234.6
F21−DEL I
Sum of N adj.=428.5
Sum of N eff.=4774.8
F11−NOA N
Sum of N adj.=727.3
Sum of N eff.=8608
F15−DEL N
Sum of N adj.=263.6
Sum of N eff.=6983
F19−DEL P
Sum of N adj.=846.2
Sum of N eff.=14699.3
F22−SB
Sum of N adj.=255.8
Sum of N eff.=2435.7
F12−NOA C
Sum of N adj.=239.5
Sum of N eff.=2560.9
F16−DEL NE
Sum of N adj.=679.4
Sum of N eff.=10479.6
F2−GBJ Nc Q14
Sum of N adj.=1279.5
Sum of N eff.=1624.4
F29−LL W Q14H
Sum of N adj.=4394.4
Sum of N eff.=3058.4
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)

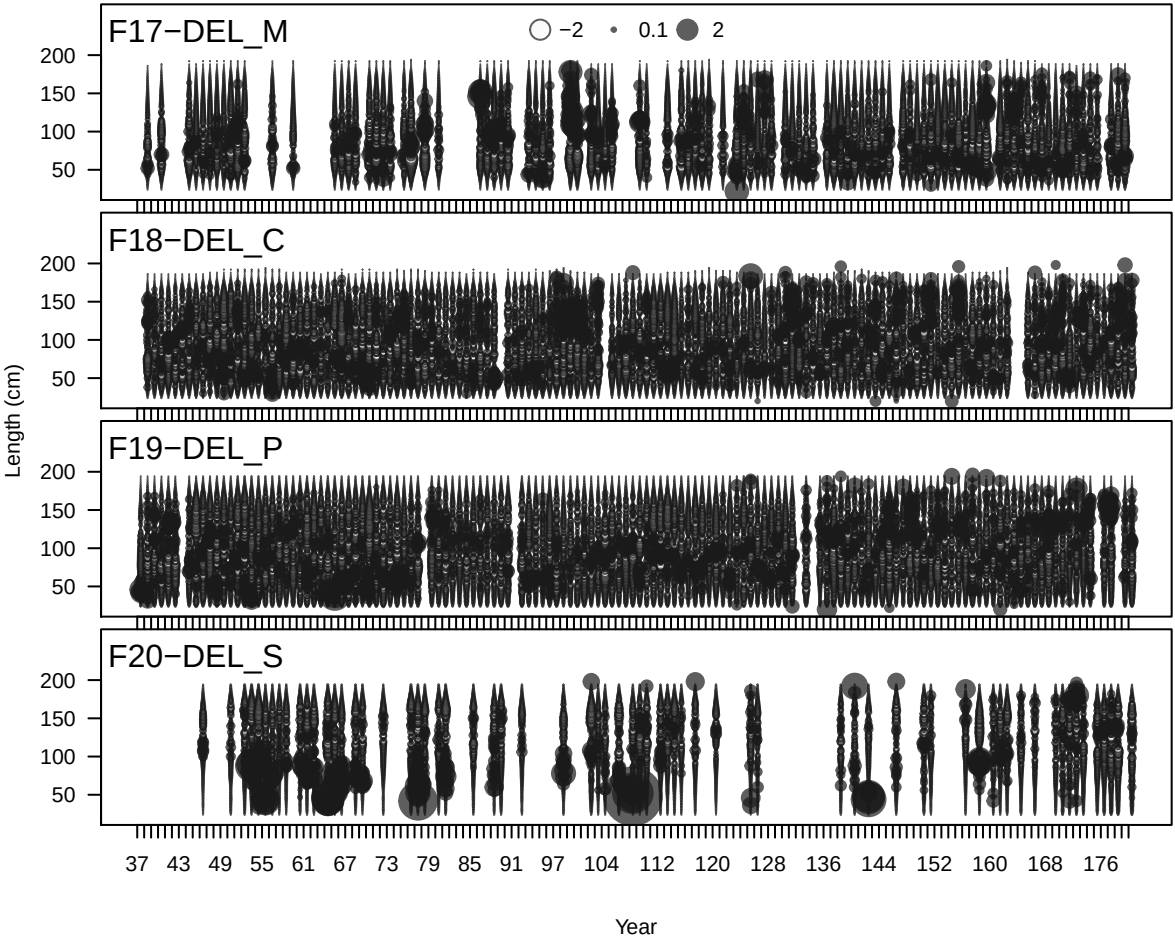

F3−QBJ_C_Q14
Sum of N adj.=1451.7
Sum of N eff.=3375.8
F33−LL_C_Q23n
Sum of N adj.=1203.2
Sum of N eff.=2415
F6−QBJ_N_Q23
Sum of N adj.=2572.6
Sum of N eff.=5373.4
F30−LL_C_Q14n
Sum of N adj.=1536.4
Sum of N eff.=4568.7
F34−LL_E_Q23n
Sum of N adj.=1100.9
Sum of N eff.=1131.9
F7−QBJ_Nc_Q23
Sum of N adj.=1218.8
Sum of N eff.=1937.6
F31−LL_E_Q14n
Sum of N adj.=125.1
Sum of N eff.=161.4
F4−QBJ_Cc_Q14
Sum of N adj.=1147.9
Sum of N eff.=1190.3
F8−QBJ_C_Q23
Sum of N adj.=2338.2
Sum of N eff.=2665.1
F32−LL_W_Q23n
Sum of N adj.=2266.4
Sum of N eff.=2601.2
F5−QBJ_S_Q14
Sum of N adj.=1153.1
Sum of N eff.=1666.7
F9−QBJ_Cc_Q23
Sum of N adj.=1248.7
Sum of N eff.=1228.7
Proportion
0.00
0.05
0.10
0.15
0.20
50
100
150
200
Length (cm)

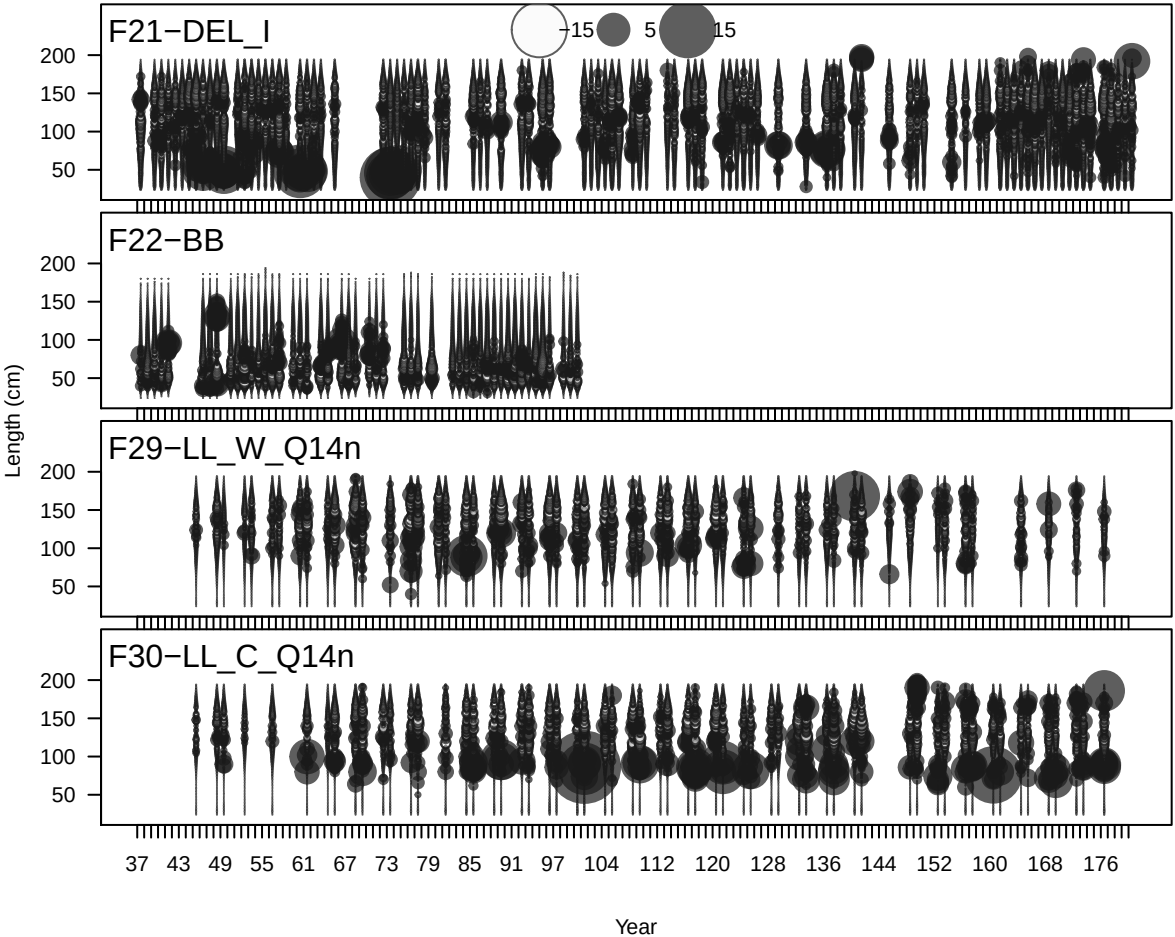

F1−OBJ_N−Q14
F2−OBJ_Nc_Q14
F3−OBJ_C_Q14
F4−OBJ_Cc_Q14
−10
−6
2
6
10
Length (cm)
50
100
150
200
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

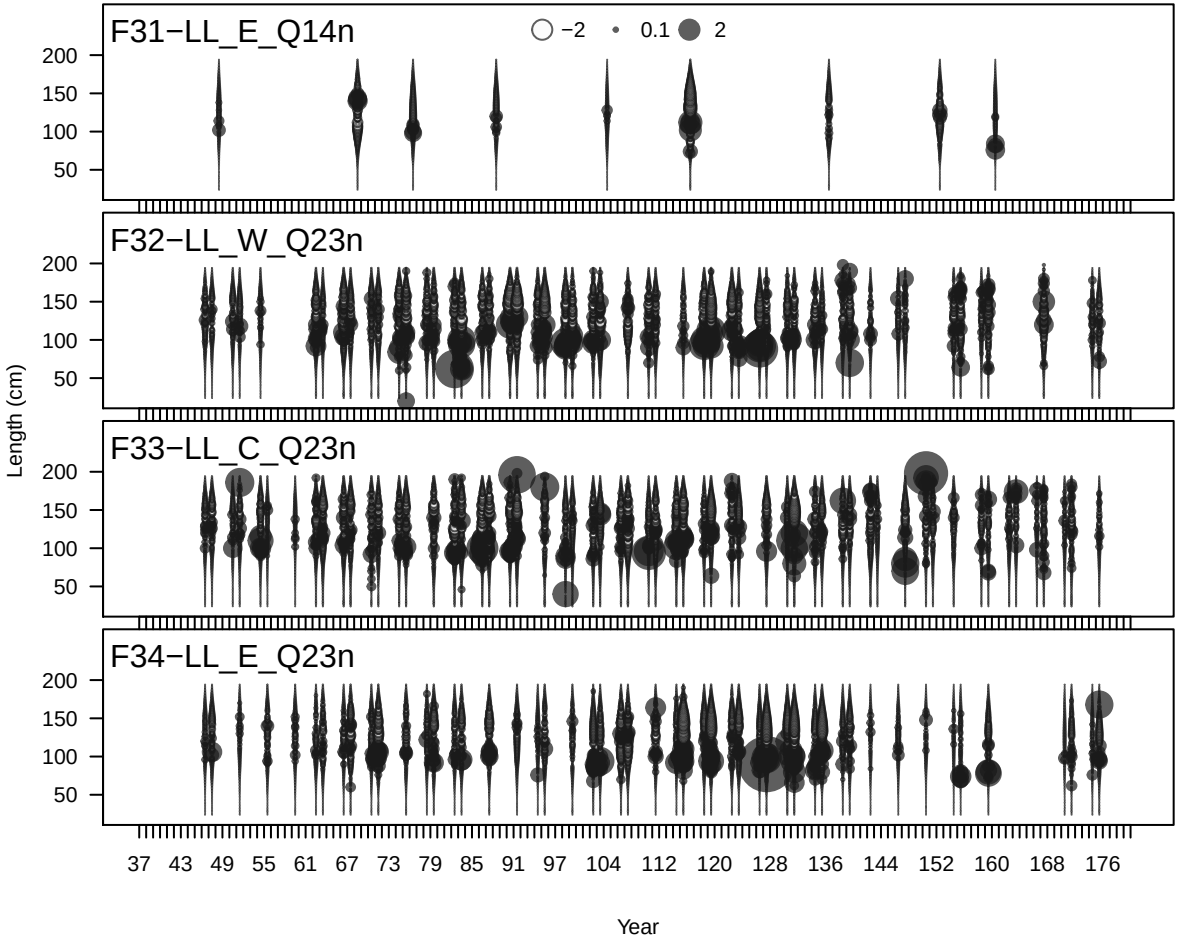

F5−OBJ_S_Q14
−2
0.1
2
F6−OBJ_N_Q23
F7−OBJ_Nc_Q23
F8−OBJ_C_Q23
Length (cm)
50
100
150
200
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

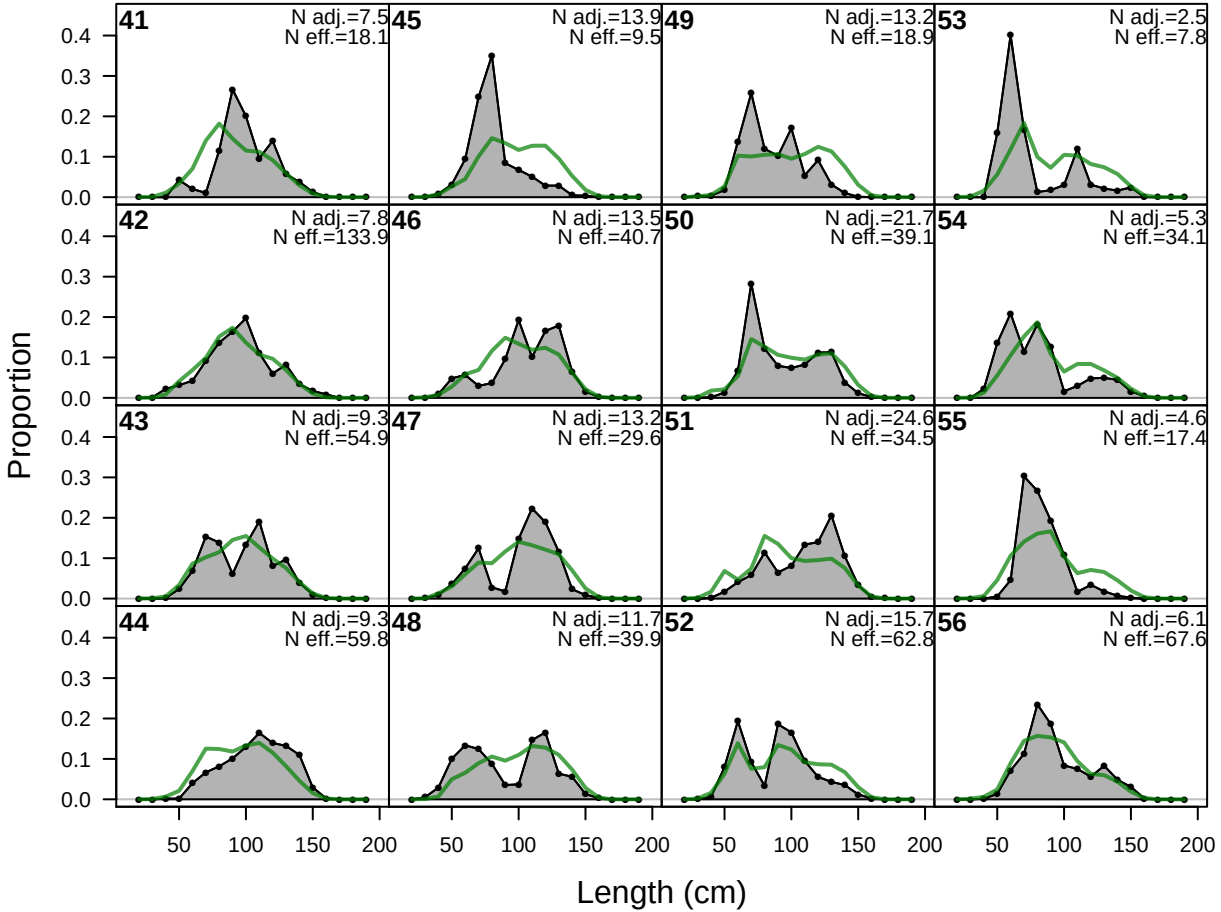

F9−OBJ_Cc_Q23
−2
0.1
2
F10−OBJ_S_Q23
F11−NOA_N
F12−NOA_C
Length (cm)
200
150
100
50
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

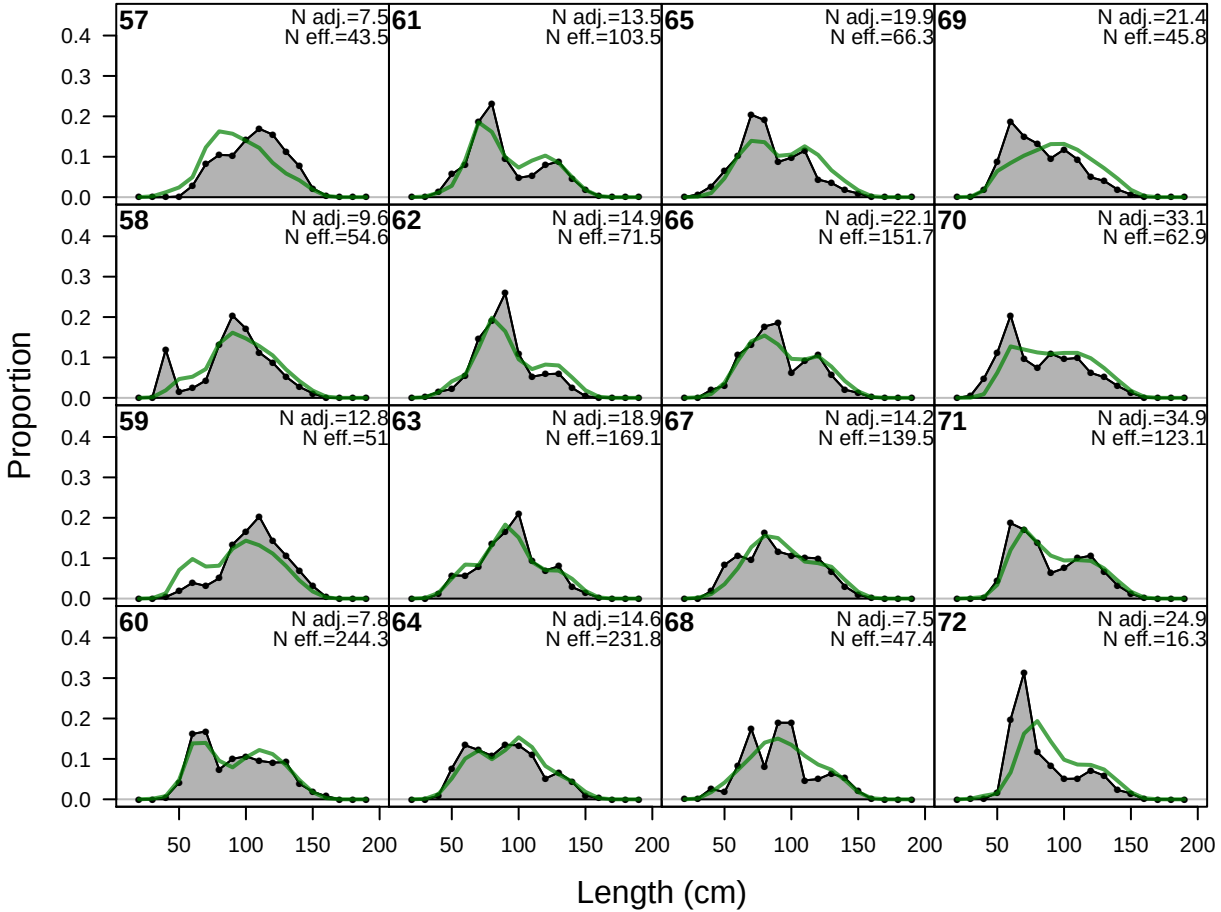

F13−NOA_I
F14−NOA_S
F15−DEL_N
F16−DEL_NE
−2
0.1
2
Length (cm)
50
100
150
200
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

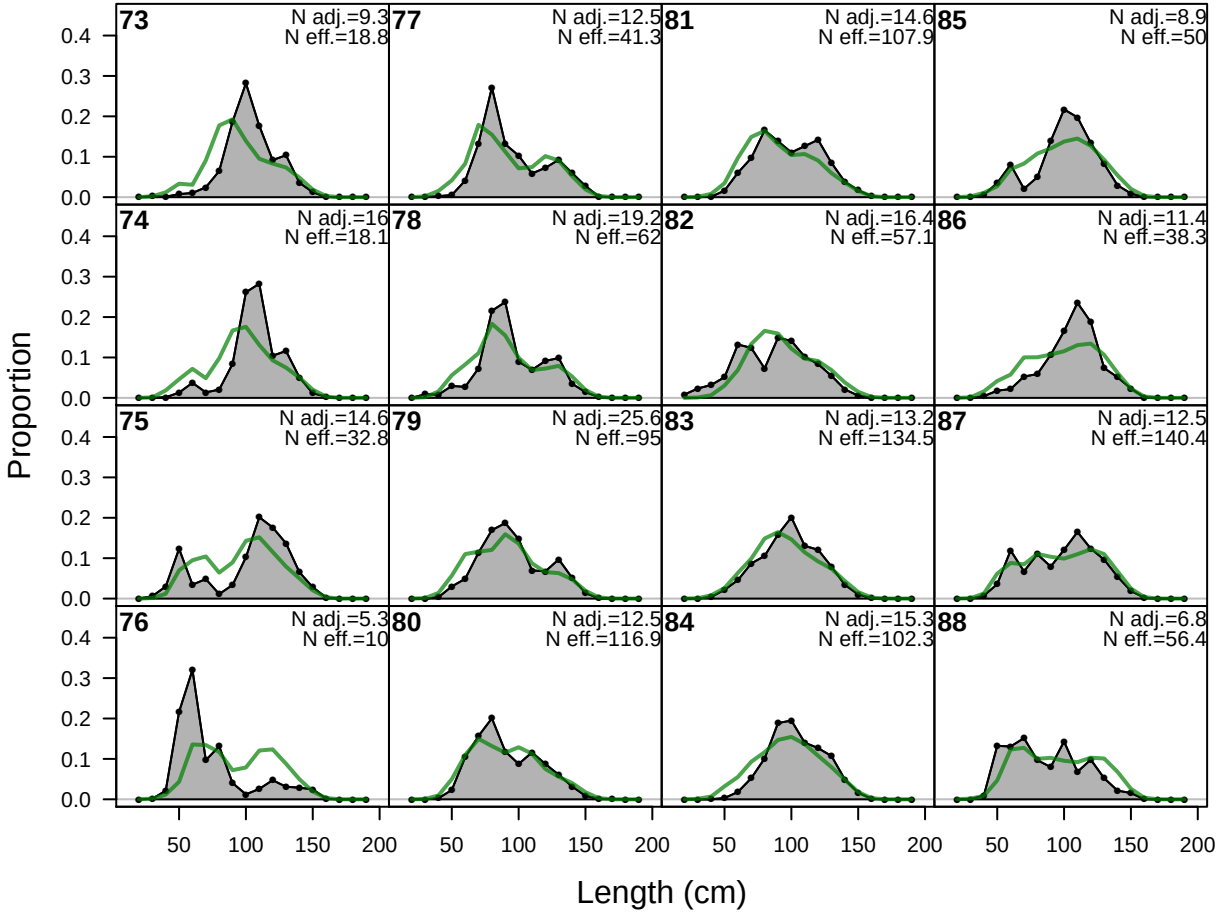

F17−DEL_M
−2
0.1
2
F18−DEL_C
F19−DEL_P
F20−DEL_S
Length (cm)
200
150
100
50
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

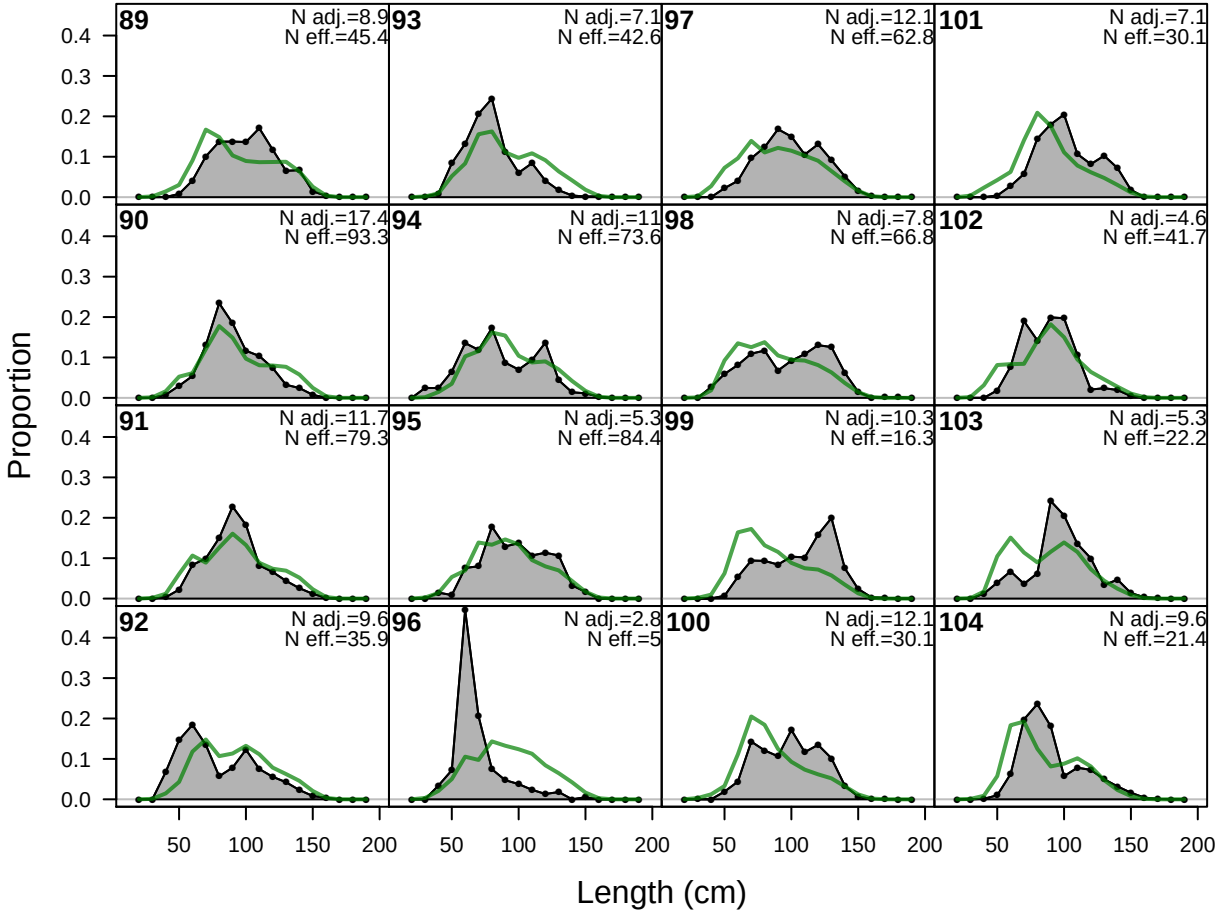

F21−DEL_I
F22−BB
F29−LL_W_Q14n
F30−LL_C_Q14n
15
5
15
Length (cm)
50
100
150
200
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

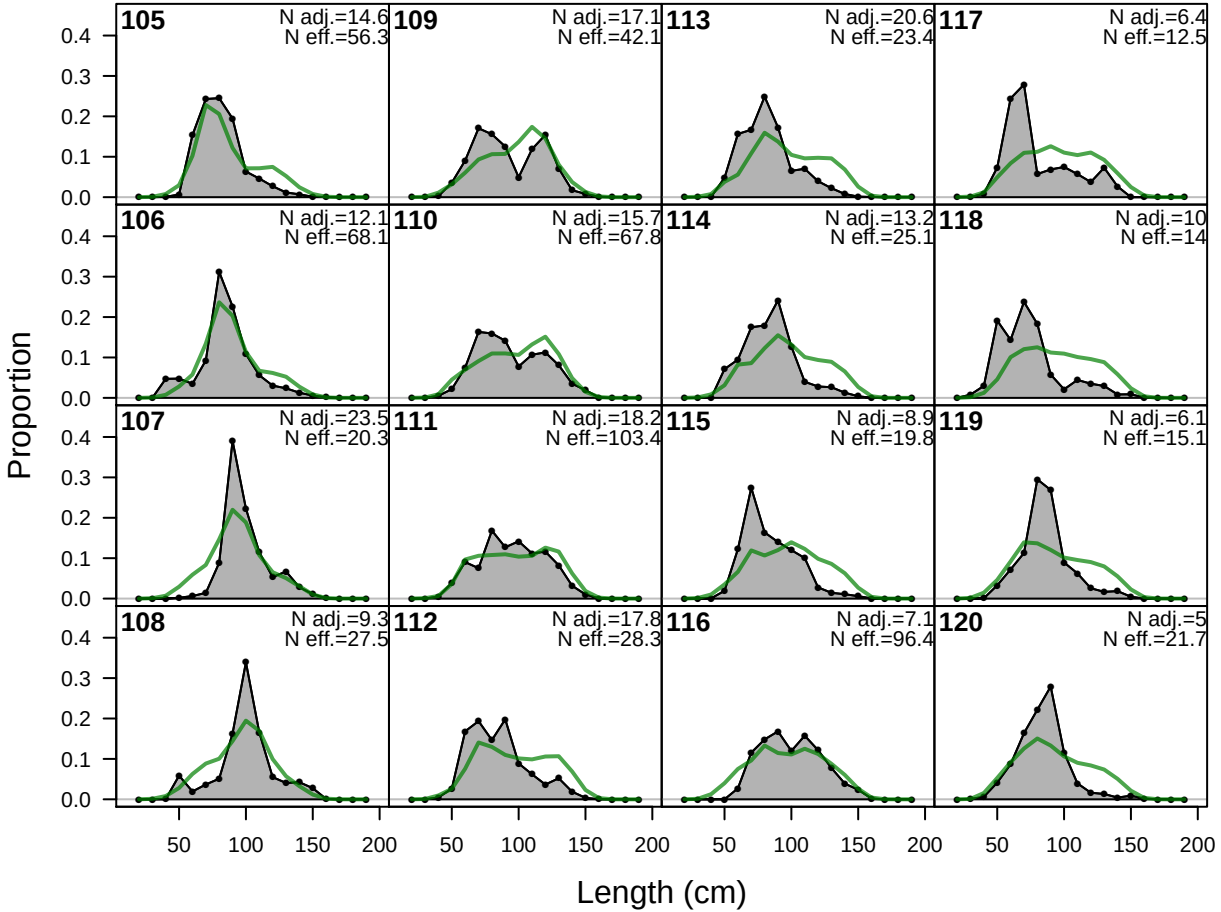

F31−LL_E_Q14n
−2
0.1
2
F32−LL_W_Q23n
F33−LL_C_Q23n
F34−LL_E_Q23n
Length (cm)
200
150
100
50
37
43
49
55
61
67
73
79
85
91
97
104
112
120
128
136
144
152
160
168
176
Year

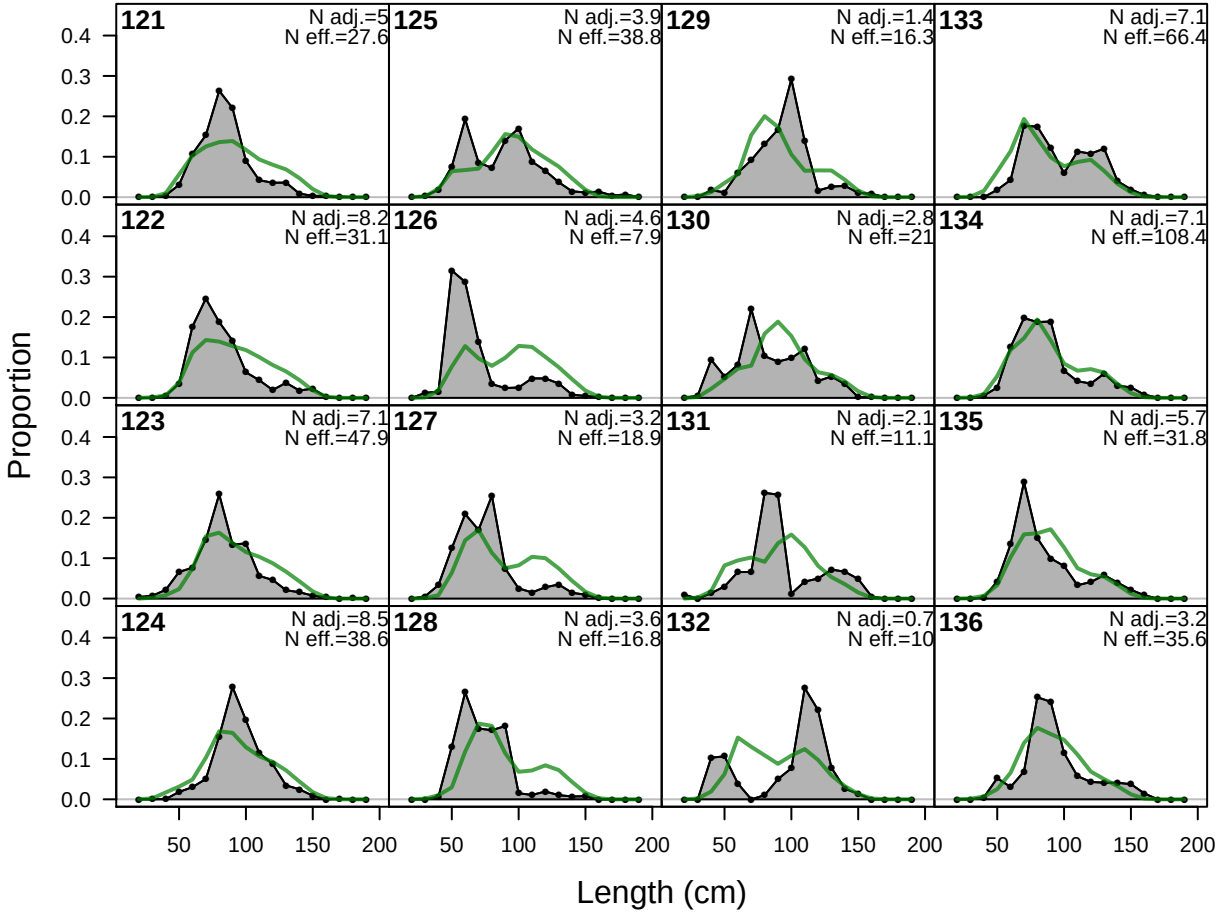

41
N adj.=7.5
N eff.=18.1
45
N adj.=13.9
N eff.=9.5
49
N adj.=13.2
N eff.=18.9
53
N adj.=2.5
N eff.=7.8
42
N adj.=7.8
N eff.=133.9
46
N adj.=13.5
N eff.=40.7
50
N adj.=21.7
N eff.=39.1
54
N adj.=5.3
N eff.=34.1
43
N adj.=9.3
N eff.=54.9
47
N adj.=13.2
N eff.=29.6
51
N adj.=24.6
N eff.=34.5
55
N adj.=4.6
N eff.=17.4
44
N adj.=9.3
N eff.=59.8
48
N adj.=11.7
N eff.=39.9
52
N adj.=15.7
N eff.=62.8
56
N adj.=6.1
N eff.=67.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

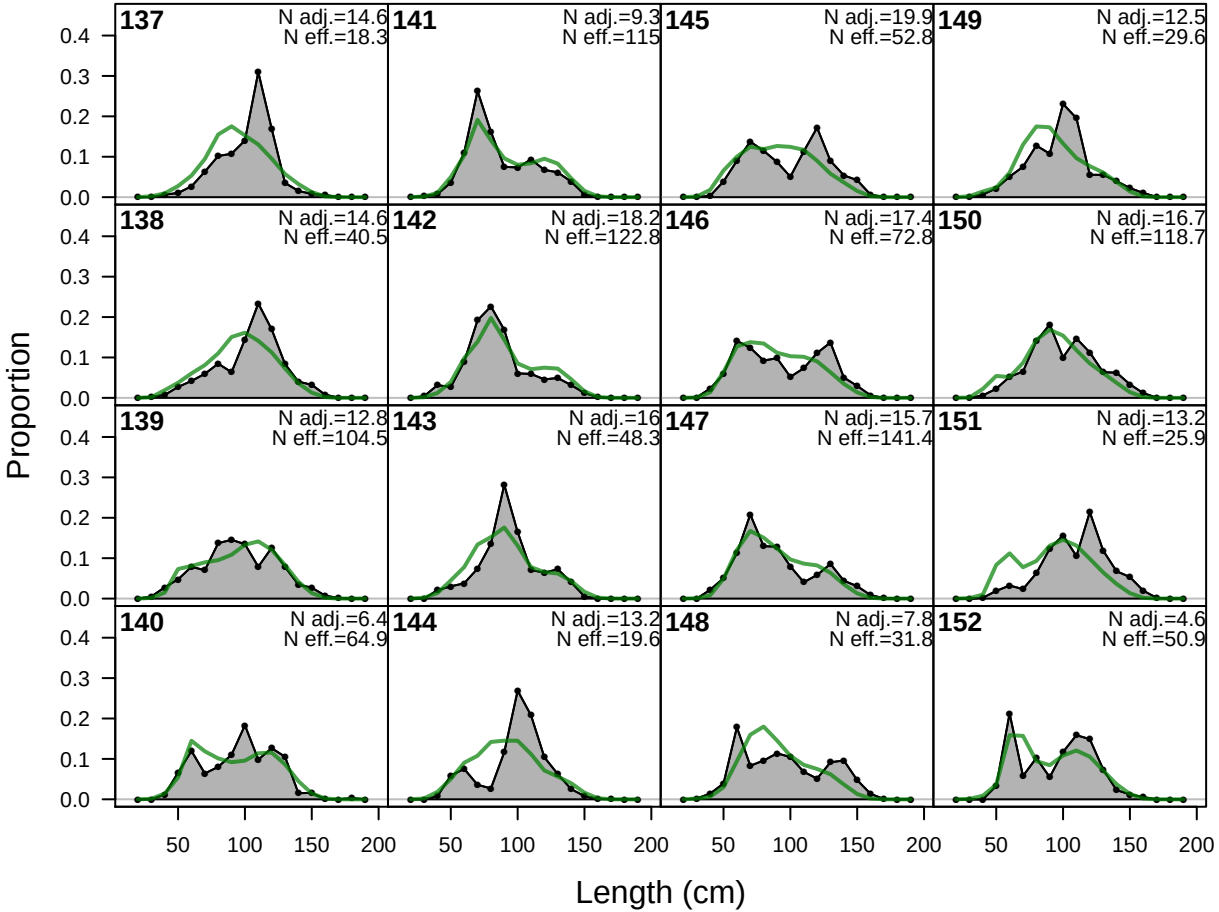

57
N adj.=7.5
N eff.=43.5
61
N adj.=13.5
N eff.=103.5
65
N adj.=19.9
N eff.=66.3
69
N adj.=21.4
N eff.=45.8
58
N adj.=9.6
N eff.=54.6
62
N adj.=14.9
N eff.=71.5
66
N adj.=22.1
N eff.=151.7
70
N adj.=33.1
N eff.=62.9
59
N adj.=12.8
N eff.=51
63
N adj.=18.9
N eff.=169.1
67
N adj.=14.2
N eff.=139.5
71
N adj.=34.9
N eff.=123.1
60
N adj.=7.8
N eff.=244.3
64
N adj.=14.6
N eff.=231.8
68
N adj.=7.5
N eff.=47.4
72
N adj.=24.9
N eff.=16.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

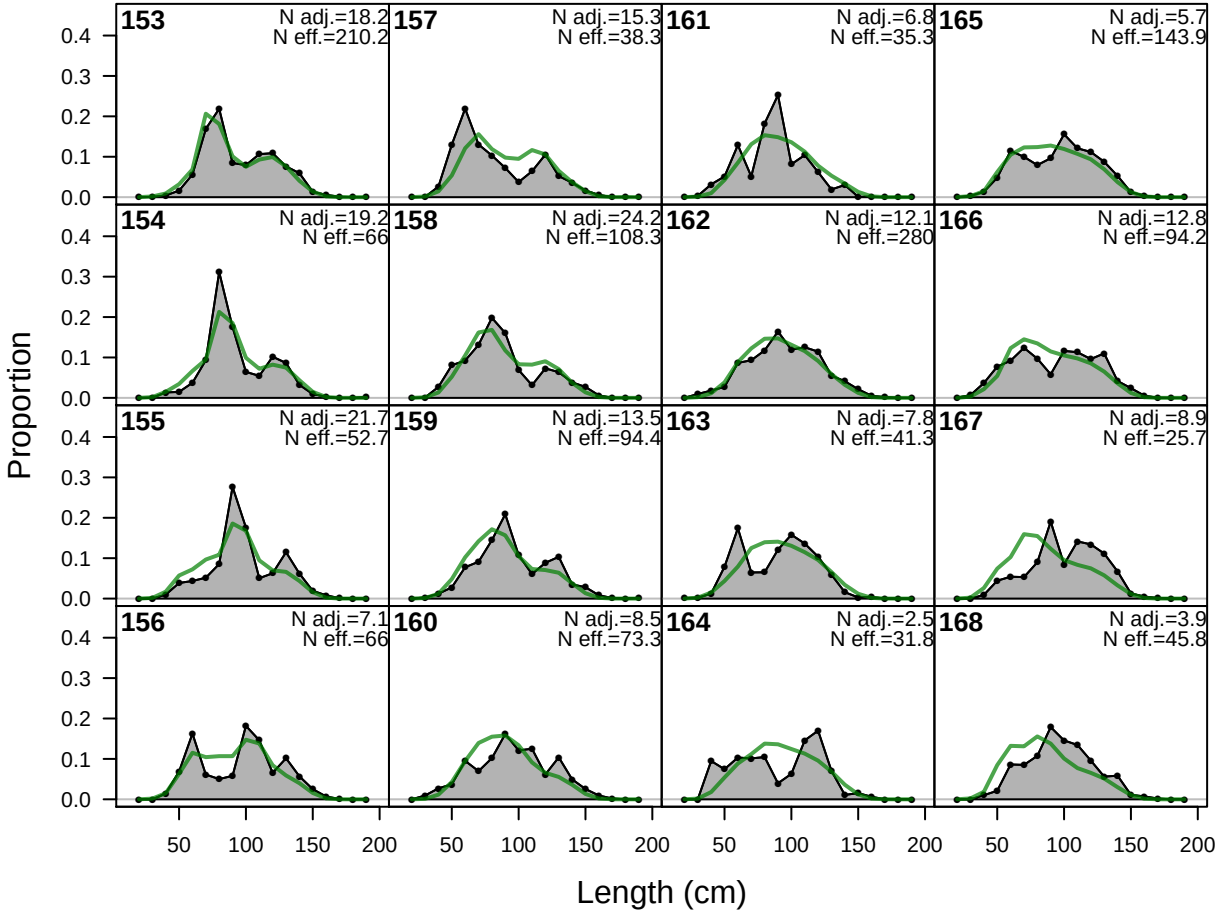

73
N adj.=9.3
N eff.=18.8
77
N adj.=12.5
N eff.=41.3
81
N adj.=14.6
N eff.=107.9
85
N adj.=8.9
N eff.=50
74
N adj.=16
N eff.=18.1
78
N adj.=19.2
N eff.=62
82
N adj.=16.4
N eff.=57.1
86
N adj.=11.4
N eff.=38.3
75
N adj.=14.6
N eff.=32.8
79
N adj.=25.6
N eff.=95
83
N adj.=13.2
N eff.=134.5
87
N adj.=12.5
N eff.=140.4
76
N adj.=5.3
N eff.=10
80
N adj.=12.5
N eff.=116.9
84
N adj.=15.3
N eff.=102.3
88
N adj.=6.8
N eff.=56.4
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

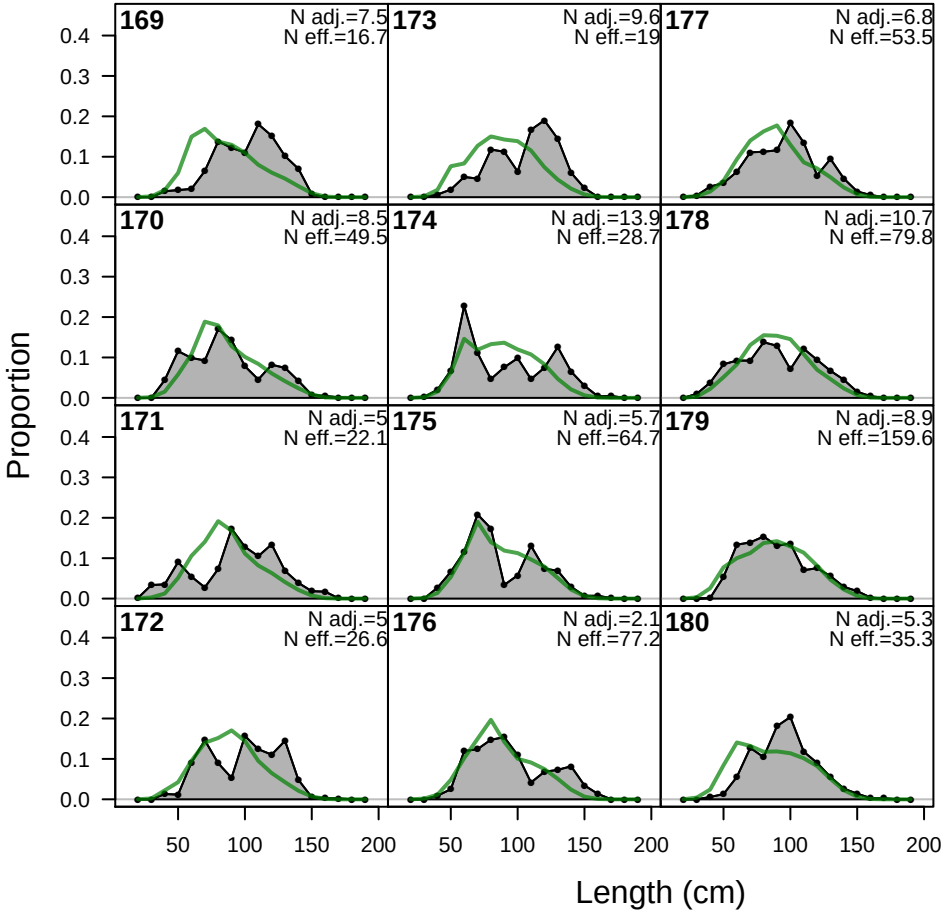

89
N adj.=8.9
N eff.=45.4
93
N adj.=7.1
N eff.=42.6
97
N adj.=12.1
N eff.=62.8
101
N adj.=7.1
N eff.=30.1
90
N adj.=17.4
N eff.=93.3
94
N adj.=11
N eff.=73.6
98
N adj.=7.8
N eff.=66.8
102
N adj.=4.6
N eff.=41.7
91
N adj.=11.7
N eff.=79.3
95
N adj.=5.3
N eff.=84.4
99
N adj.=10.3
N eff.=16.3
103
N adj.=5.3
N eff.=22.2
92
N adj.=9.6
N eff.=35.9
96
N adj.=2.8
N eff.=5
100
N adj.=12.1
N eff.=30.1
104
N adj.=9.6
N eff.=21.4
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

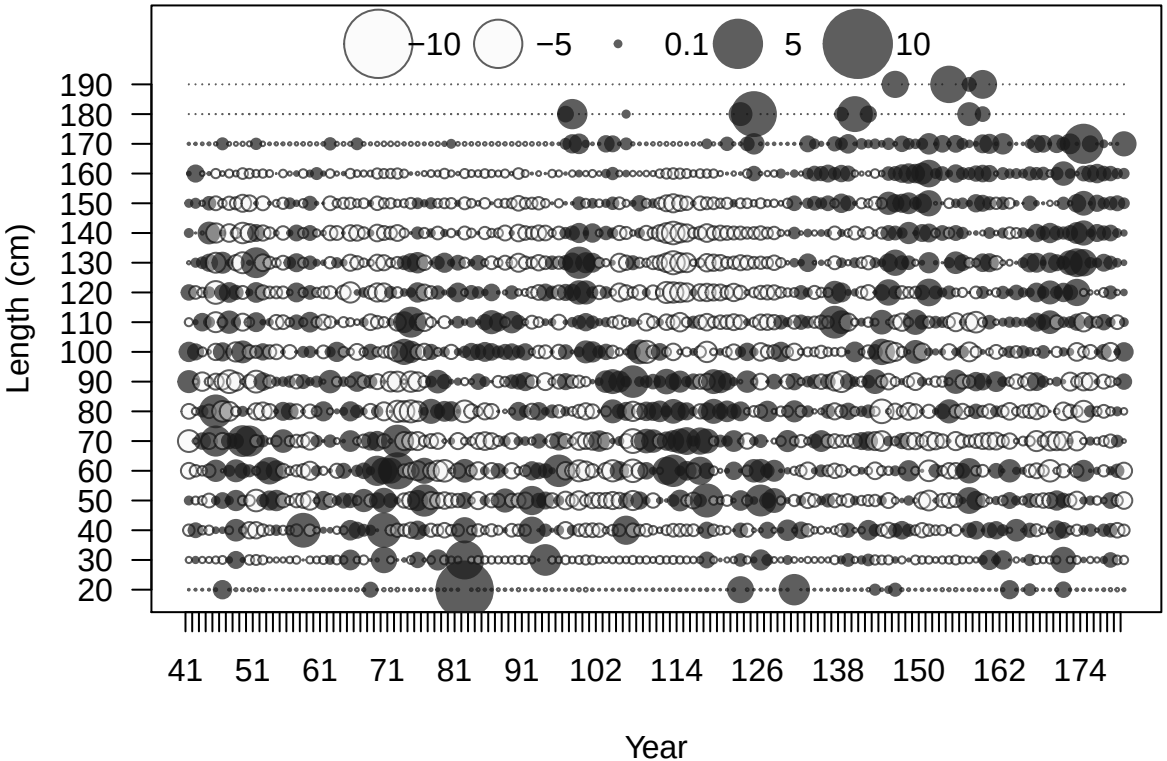

105
N adj.=14.6
N eff.=56.3
109
N adj.=17.1
N eff.=42.1
113
N adj.=20.6
N eff.=23.4
117
N adj.=6.4
N eff.=12.5
106
N adj.=12.1
N eff.=68.1
110
N adj.=15.7
N eff.=67.8
114
N adj.=13.2
N eff.=25.1
118
N adj.=10
N eff.=14
107
N adj.=23.5
N eff.=20.3
111
N adj.=18.2
N eff.=103.4
115
N adj.=8.9
N eff.=19.8
119
N adj.=6.1
N eff.=15.1
108
N adj.=9.3
N eff.=27.5
112
N adj.=17.8
N eff.=28.3
116
N adj.=7.1
N eff.=96.4
120
N adj.=5
N eff.=21.7
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

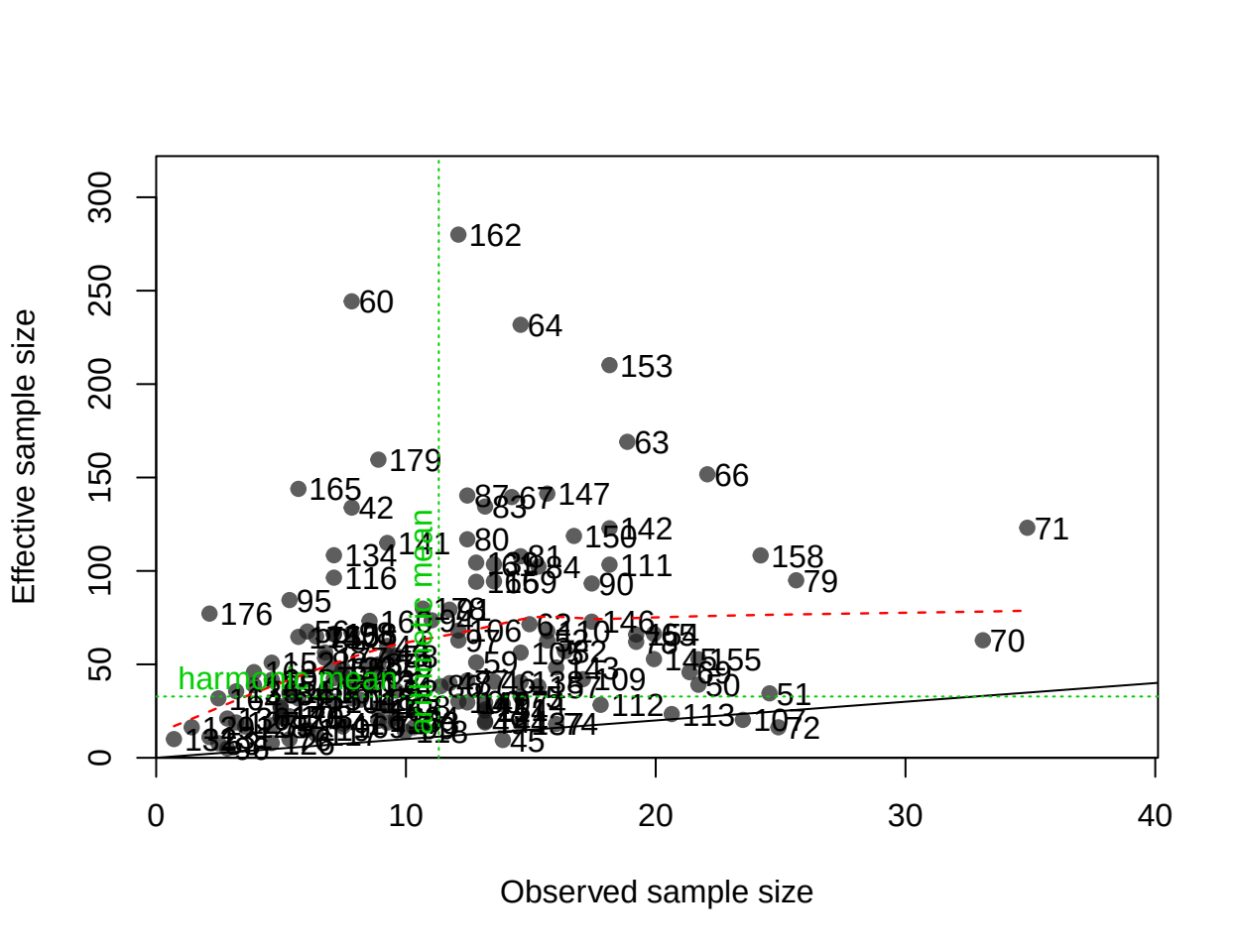

121
N adj.=5
N eff.=27.6
125
N adj.=3.9
N eff.=38.8
129
N adj.=1.4
N eff.=16.3
133
N adj.=7.1
N eff.=66.4
122
N adj.=8.2
N eff.=31.1
126
N adj.=4.6
N eff.=7.9
130
N adj.=2.8
N eff.=21
134
N adj.=7.1
N eff.=108.4
123
N adj.=7.1
N eff.=47.9
127
N adj.=3.2
N eff.=18.9
131
N adj.=2.1
N eff.=11.1
135
N adj.=5.7
N eff.=31.8
124
N adj.=8.5
N eff.=38.6
128
N adj.=3.6
N eff.=16.8
132
N adj.=0.7
N eff.=10
136
N adj.=3.2
N eff.=35.6
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

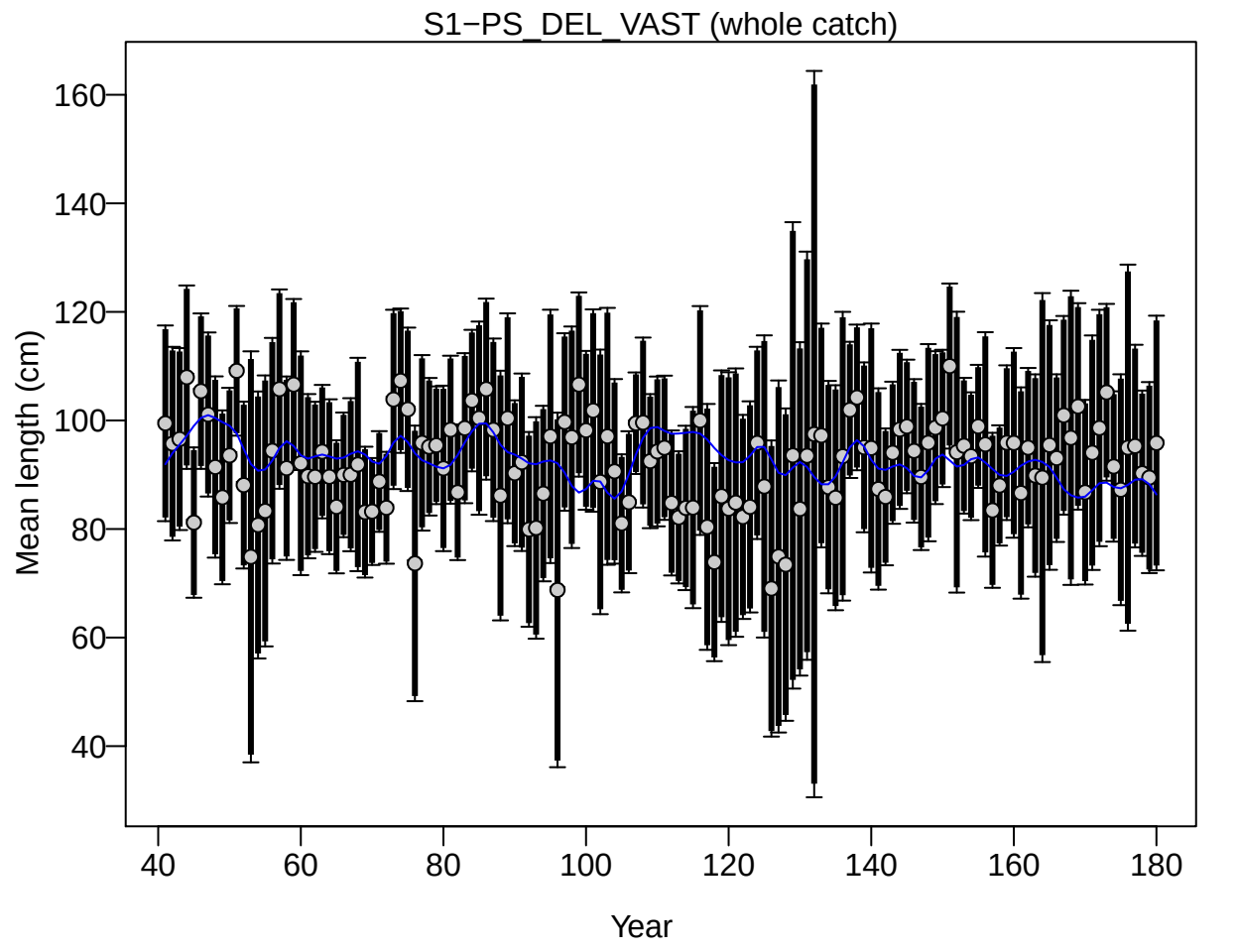

137
N adj.=14.6
N eff.=18.3
141
N adj.=9.3
N eff.=115
145
N adj.=19.9
N eff.=52.8
149
N adj.=12.5
N eff.=29.6
138
N adj.=14.6
N eff.=40.5
142
N adj.=18.2
N eff.=122.8
146
N adj.=17.4
N eff.=72.8
150
N adj.=16.7
N eff.=118.7
139
N adj.=12.8
N eff.=104.5
143
N adj.=16
N eff.=48.3
147
N adj.=15.7
N eff.=141.4
151
N adj.=13.2
N eff.=25.9
140
N adj.=6.4
N eff.=64.9
144
N adj.=13.2
N eff.=19.6
148
N adj.=7.8
N eff.=31.8
152
N adj.=4.6
N eff.=50.9
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

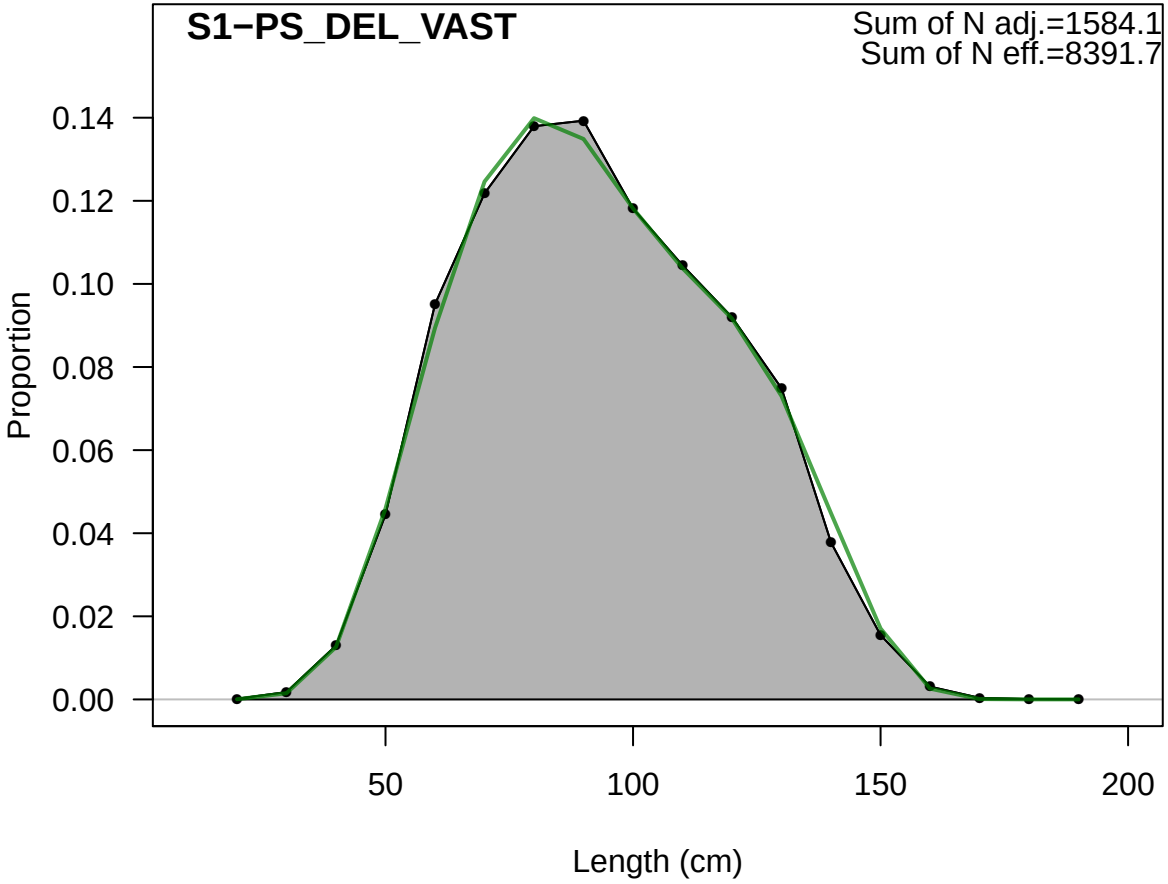

153
N adj.=18.2
N eff.=210.2
157
N adj.=15.3
N eff.=38.3
161
N adj.=6.8
N eff.=35.3
165
N adj.=5.7
N eff.=143.9
154
N adj.=19.2
N eff.=66
158
N adj.=24.2
N eff.=108.3
162
N adj.=12.1
N eff.=280
166
N adj.=12.8
N eff.=94.2
155
N adj.=21.7
N eff.=52.7
159
N adj.=13.5
N eff.=94.4
163
N adj.=7.8
N eff.=41.3
167
N adj.=8.9
N eff.=25.7
156
N adj.=7.1
N eff.=66
160
N adj.=8.5
N eff.=73.3
164
N adj.=2.5
N eff.=31.8
168
N adj.=3.9
N eff.=45.8
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)

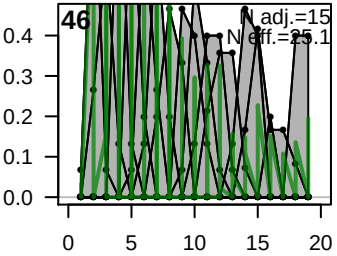

169
N adj.=7.5
N eff.=16.7
173
N adj.=9.6
N eff.=19
177
N adj.=6.8
N eff.=53.5
170
N adj.=8.5
N eff.=49.5
174
N adj.=13.9
N eff.=28.7
178
N adj.=10.7
N eff.=79.8
171
N adj.=5
N eff.=22.1
175
N adj.=5.7
N eff.=64.7
179
N adj.=8.9
N eff.=159.6
172
N adj.=5
N eff.=26.6
176
N adj.=2.1
N eff.=77.2
180
N adj.=5.3
N eff.=35.3
Proportion
0.0
0.1
0.2
0.3
0.4
50
100
150
200
Length (cm)


−10
−5
0.1
5
10
Length (cm)
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
41
51
61
71
81
91
102
114
126
138
150
162
174
Year


Effective sample size
Observed sample size
0
50
100
150
200
250
300
0
10
20
30
40
harmonic mean
arithmetic mean
geometric mean

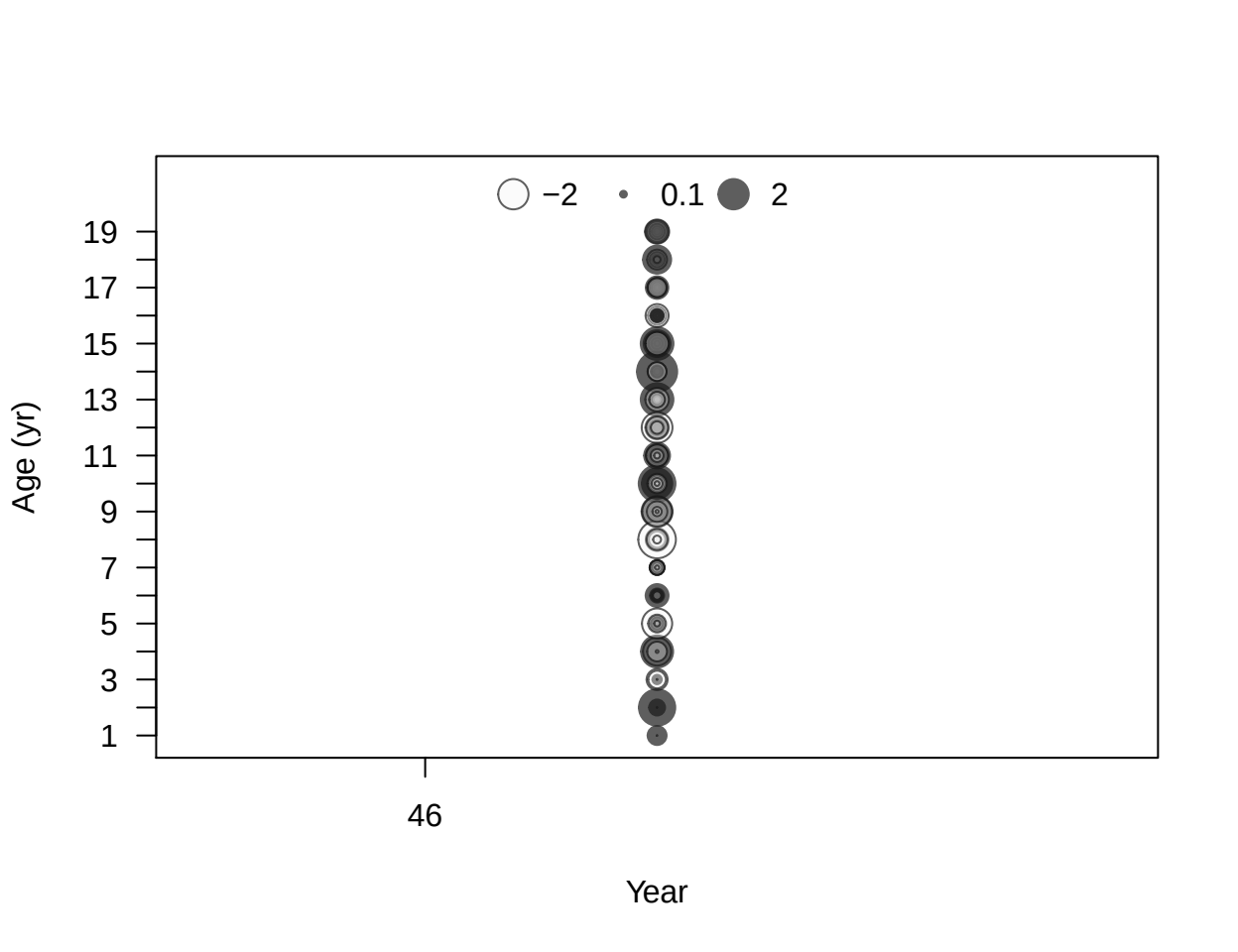

S1−PS_DEL_VAST (whole catch)
Mean length (cm)
160
140
120
100
80
60
40
40
60
80
100
120
140
160
180
Year

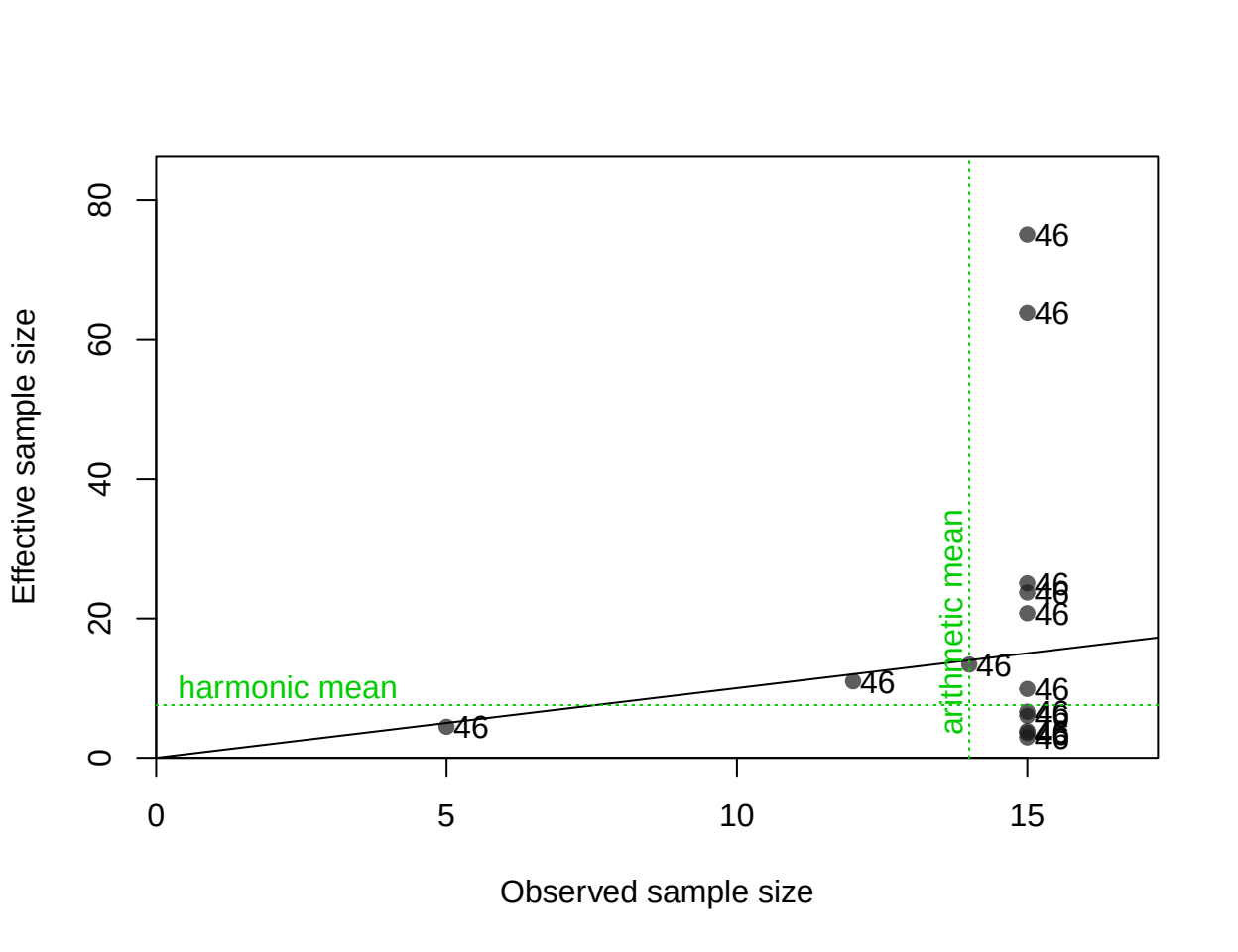

S1−PS_DEL_VAST
Sum of N adj.=1584.1
Sum of N eff.=8391.7
Proportion
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
50
100
150
200
Length (cm)

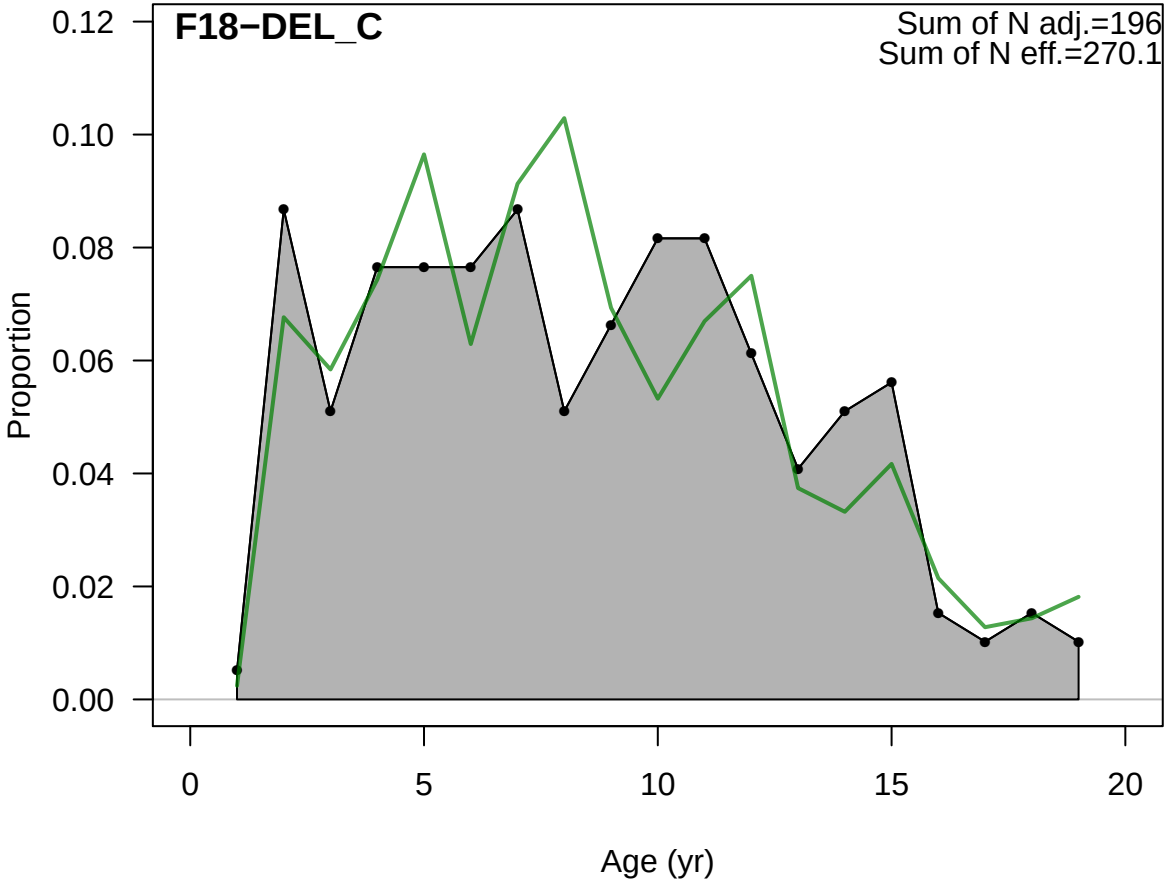


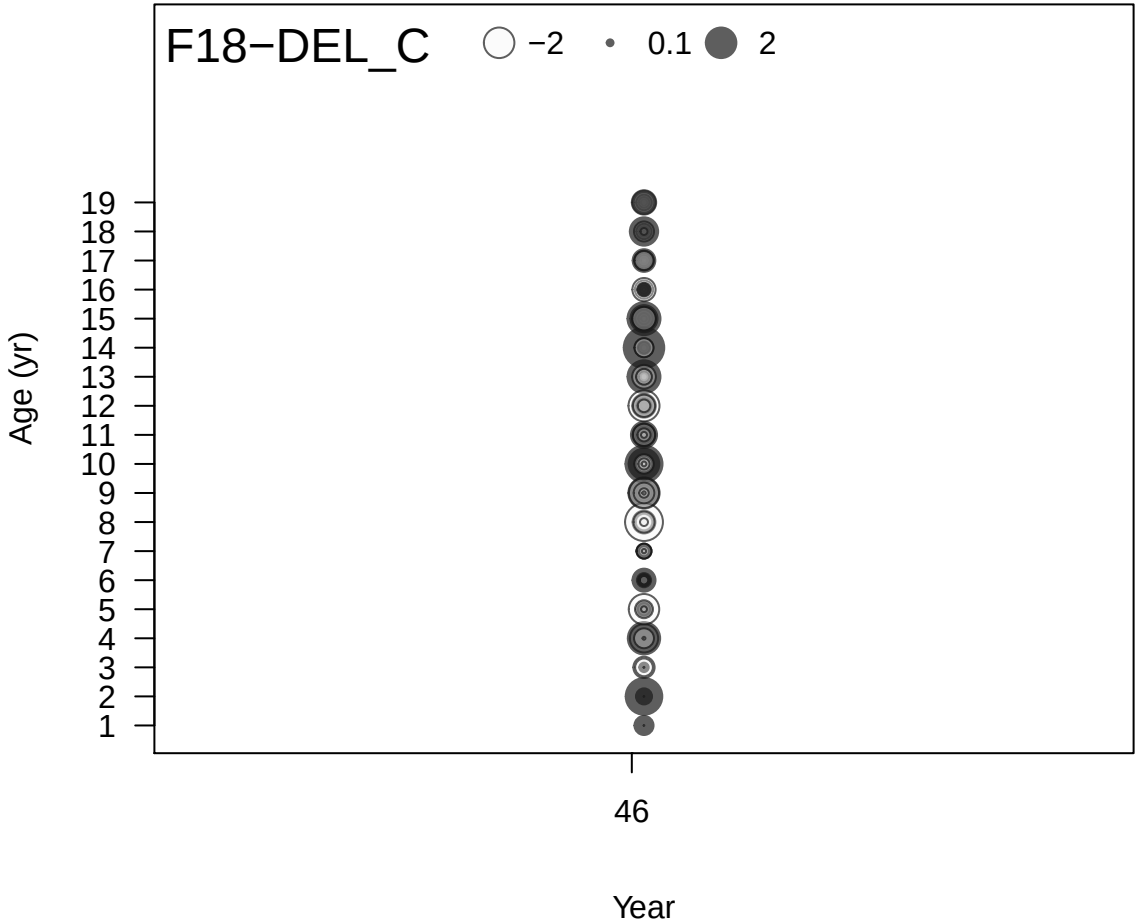
Proportion

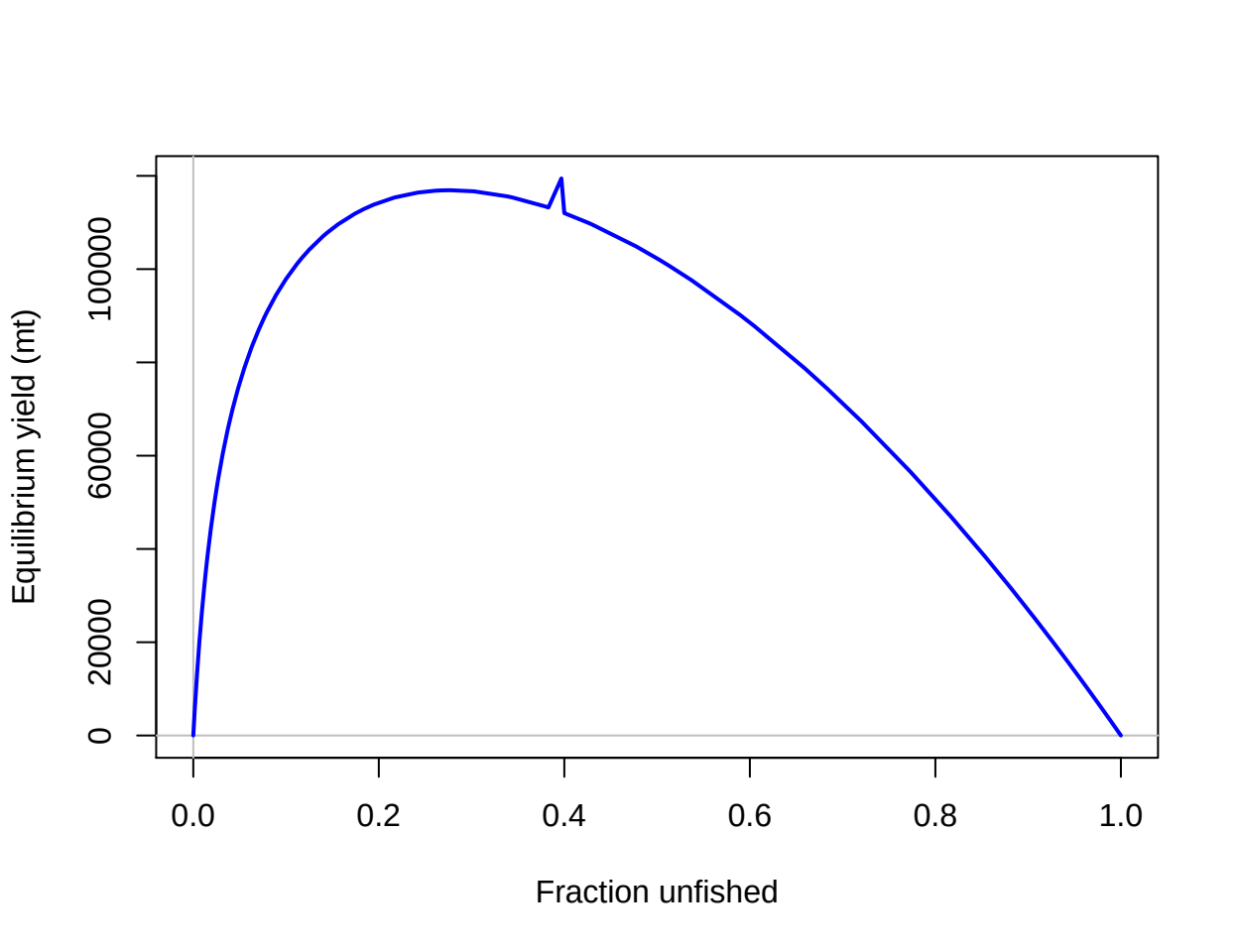
Age (yr)

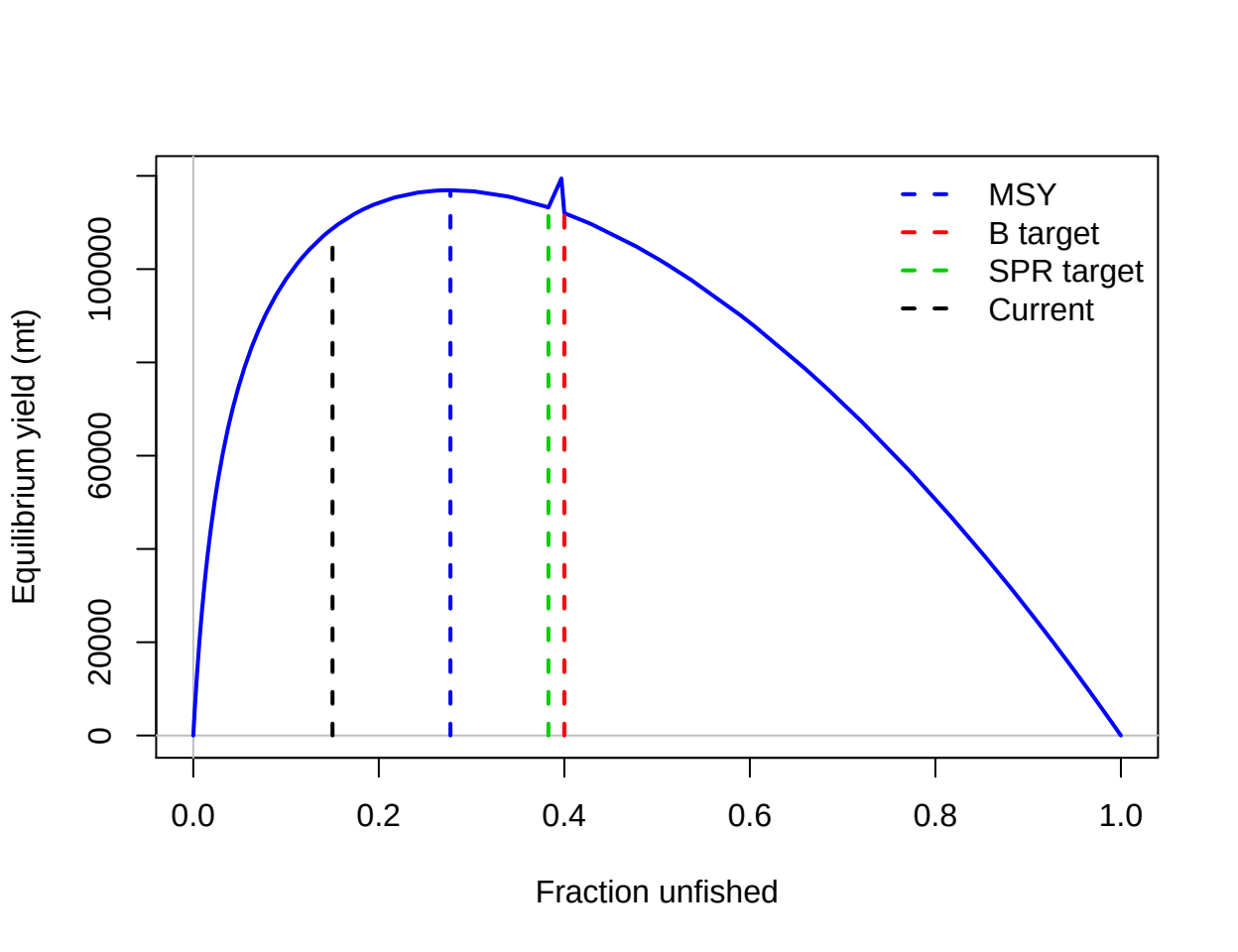

−2
0.1
2
19
17
15
13
11
9
7
5
3
1
Age (yr)
46
Year

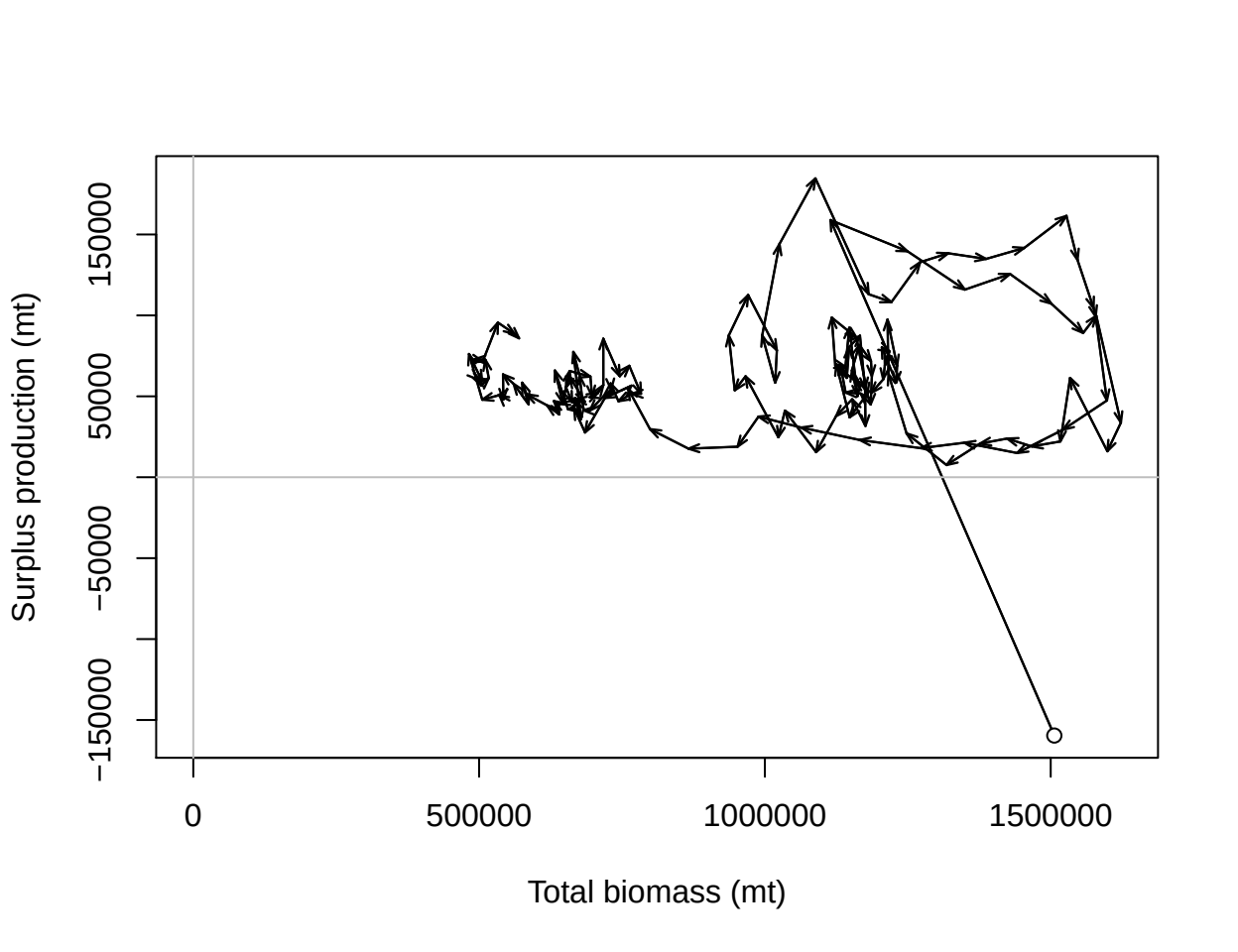

Effective sample size
0
20
40
60
80
0
5
10
15
Observed sample size
harmonic mean
arithmetic mean
46

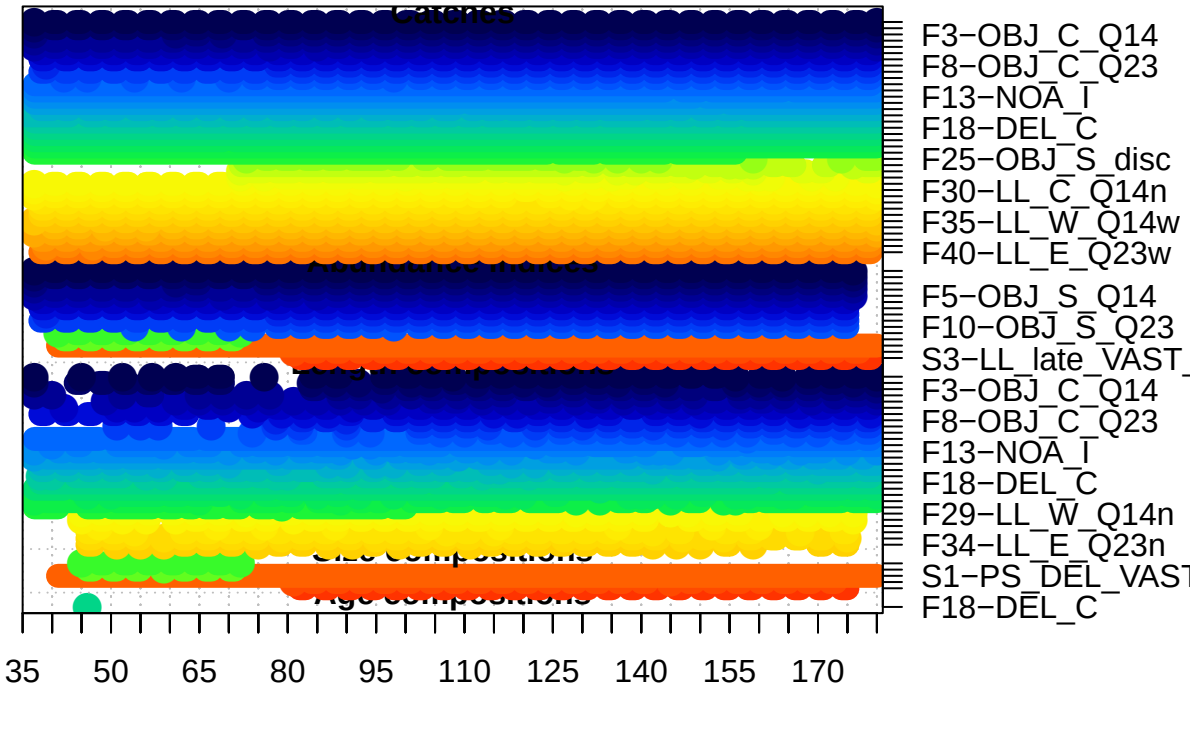

F18−DEL_C
Sum of N adj.=196
Sum of N eff.=270.1
Proportion
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0
5
10
15
20
Age (yr)

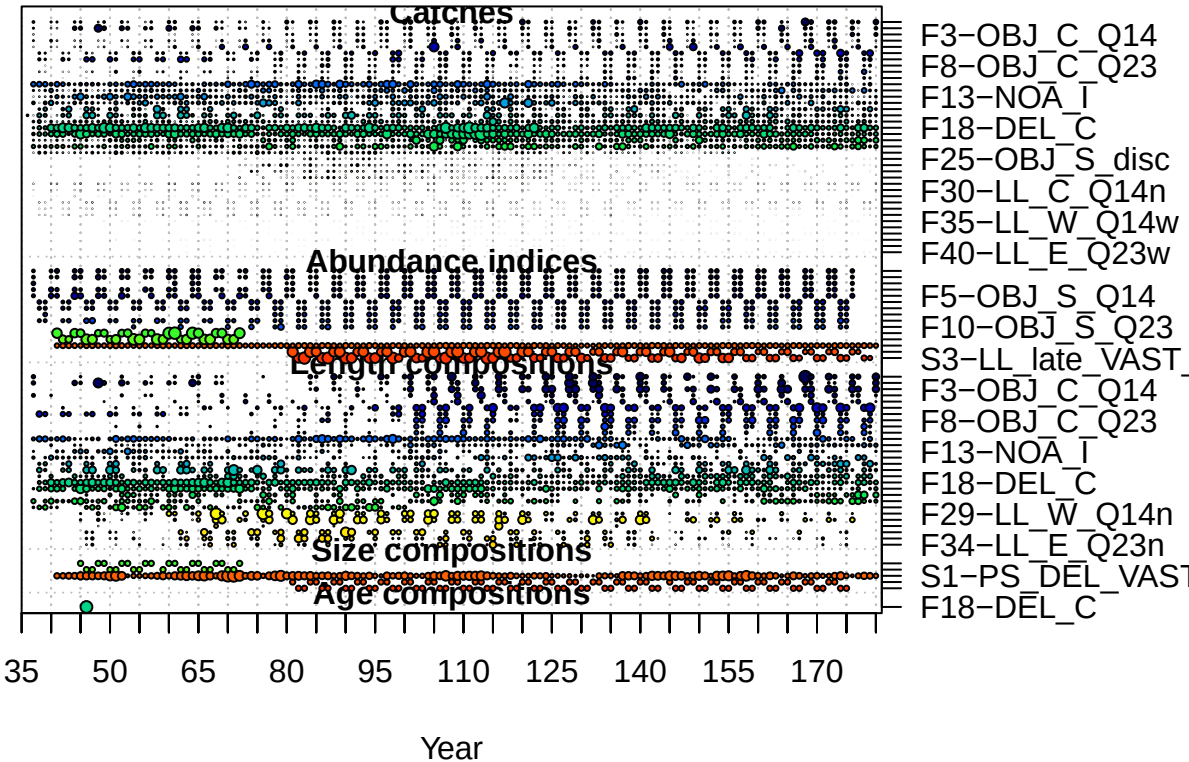

F18−DEL_C
−2
0.1
2
Age (yr)
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
46
Year

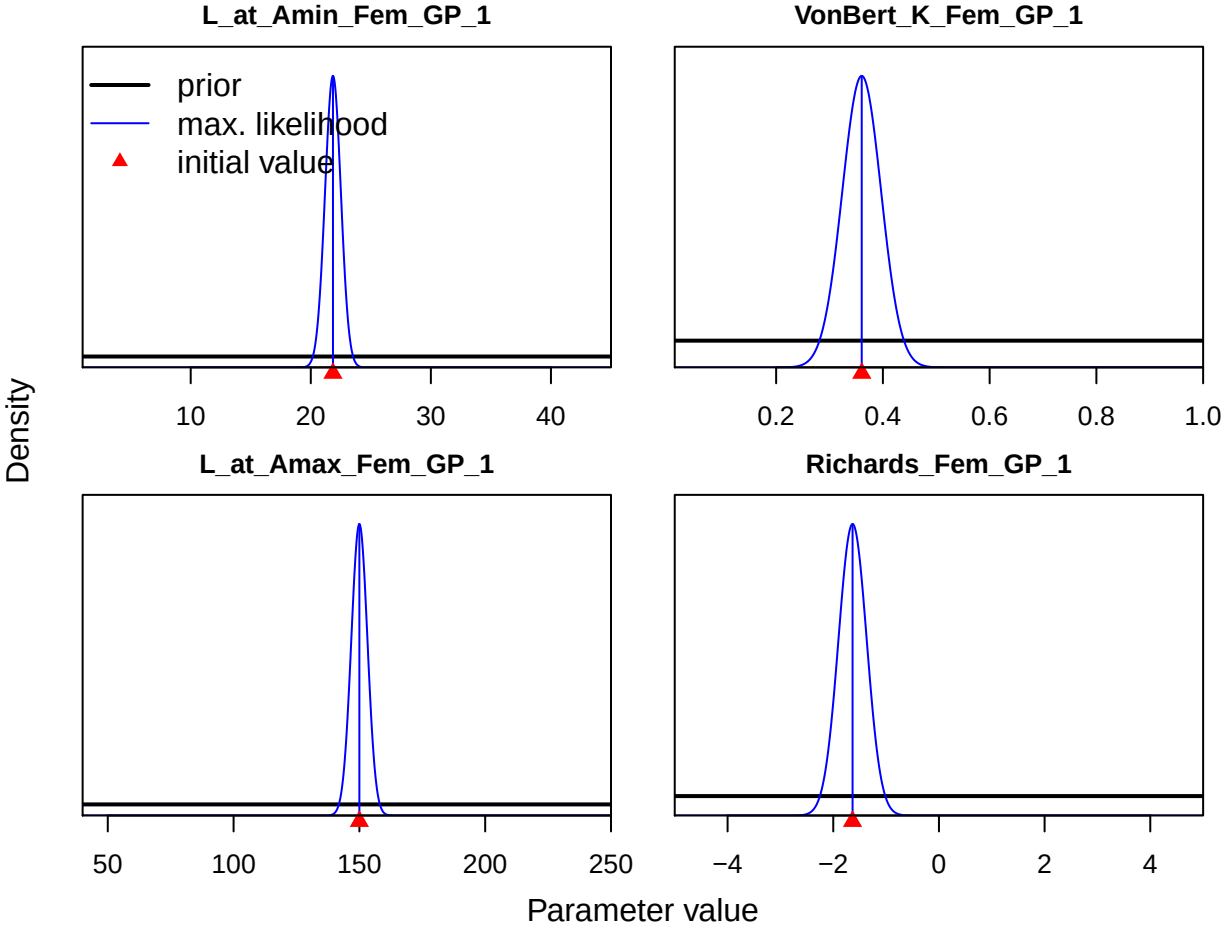

Equilibrium yield (mt)
0
20000
60000
100000
0.0
0.2
0.4
0.6
0.8
1.0
Fraction unfished

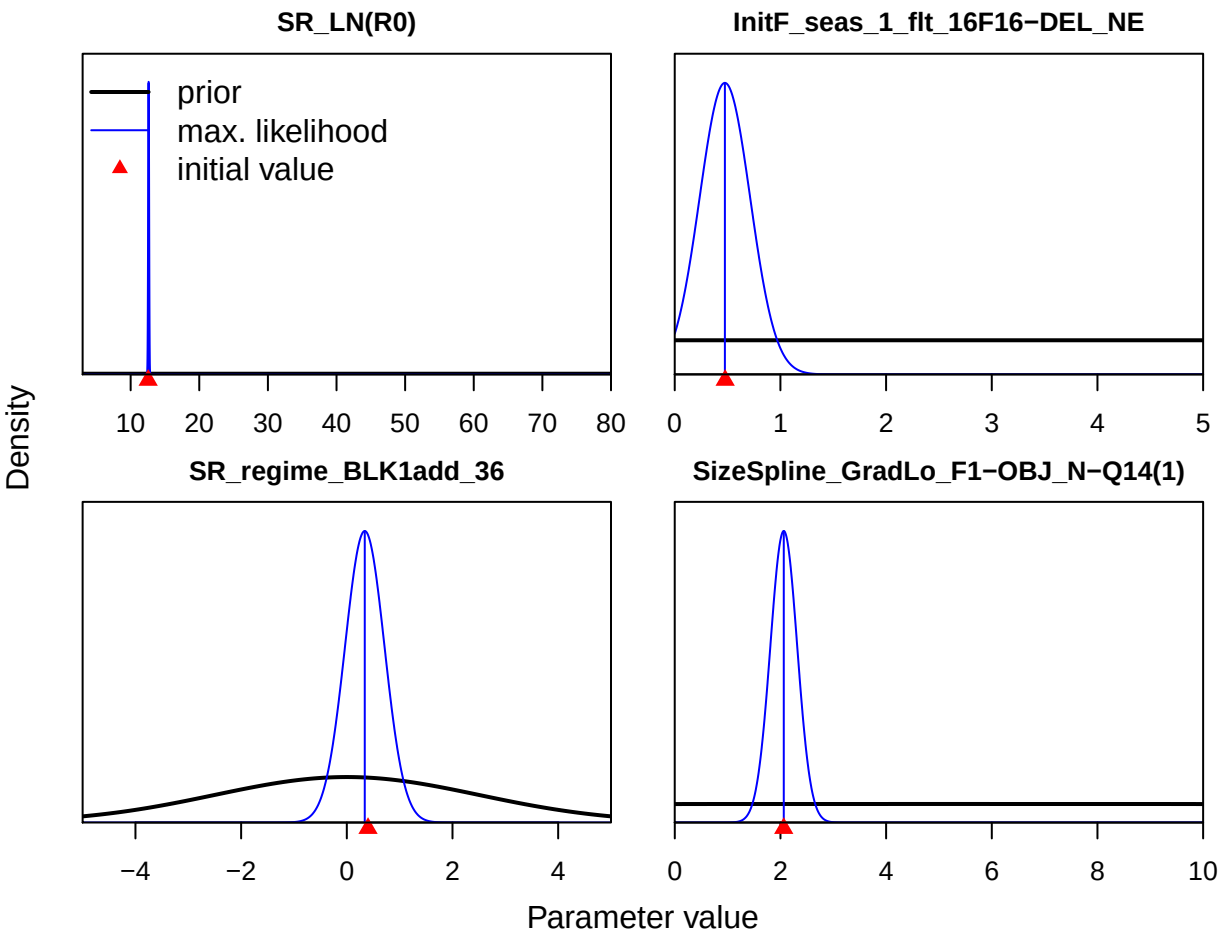

MSY
B target
SPR target
Current
Equilibrium yield (mt)
0
20000
60000
100000
0.0
0.2
0.4
0.6
0.8
1.0
Fraction unfished

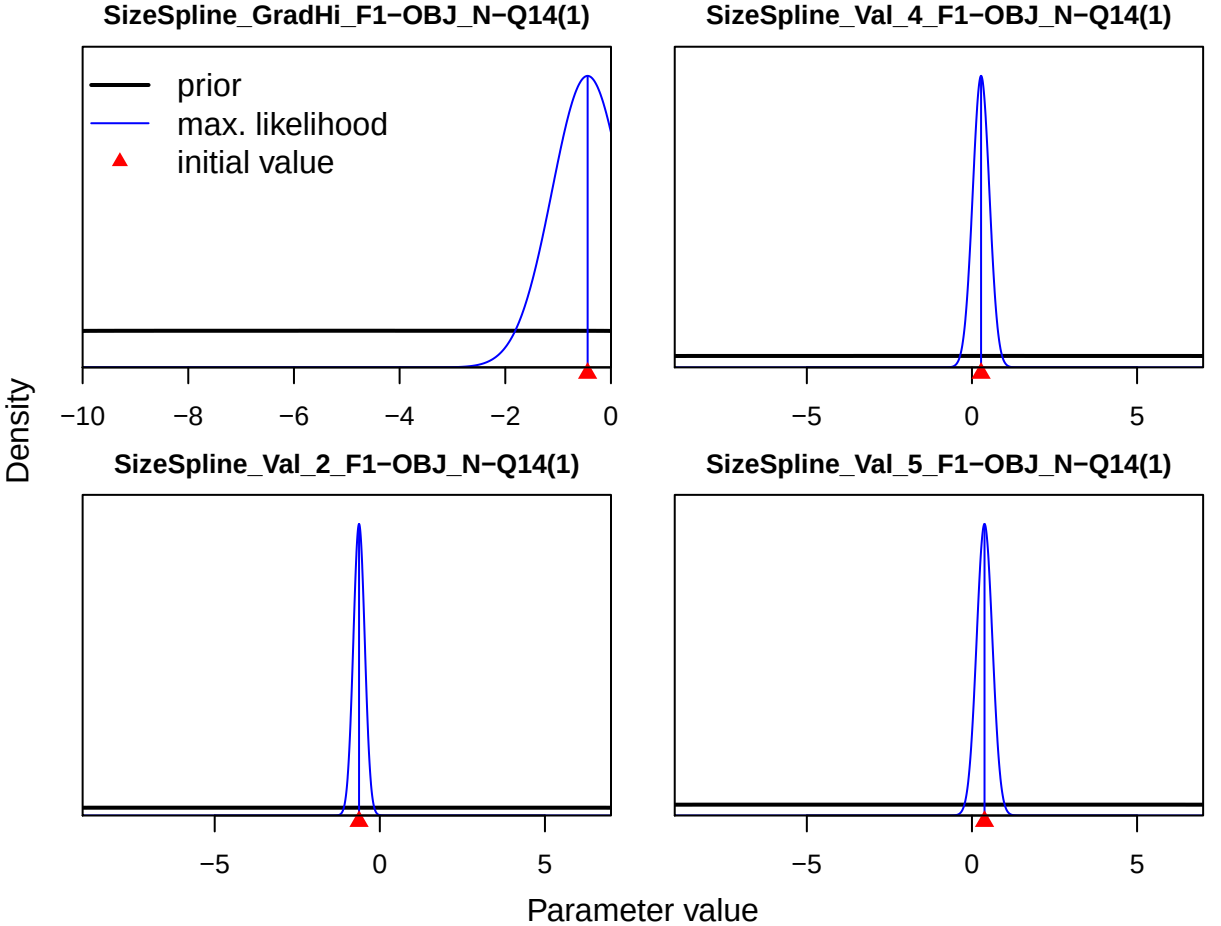

Surplus production (mt)
150000
50000
−50000
−150000
0
500000
1000000
1500000
Total biomass (mt)

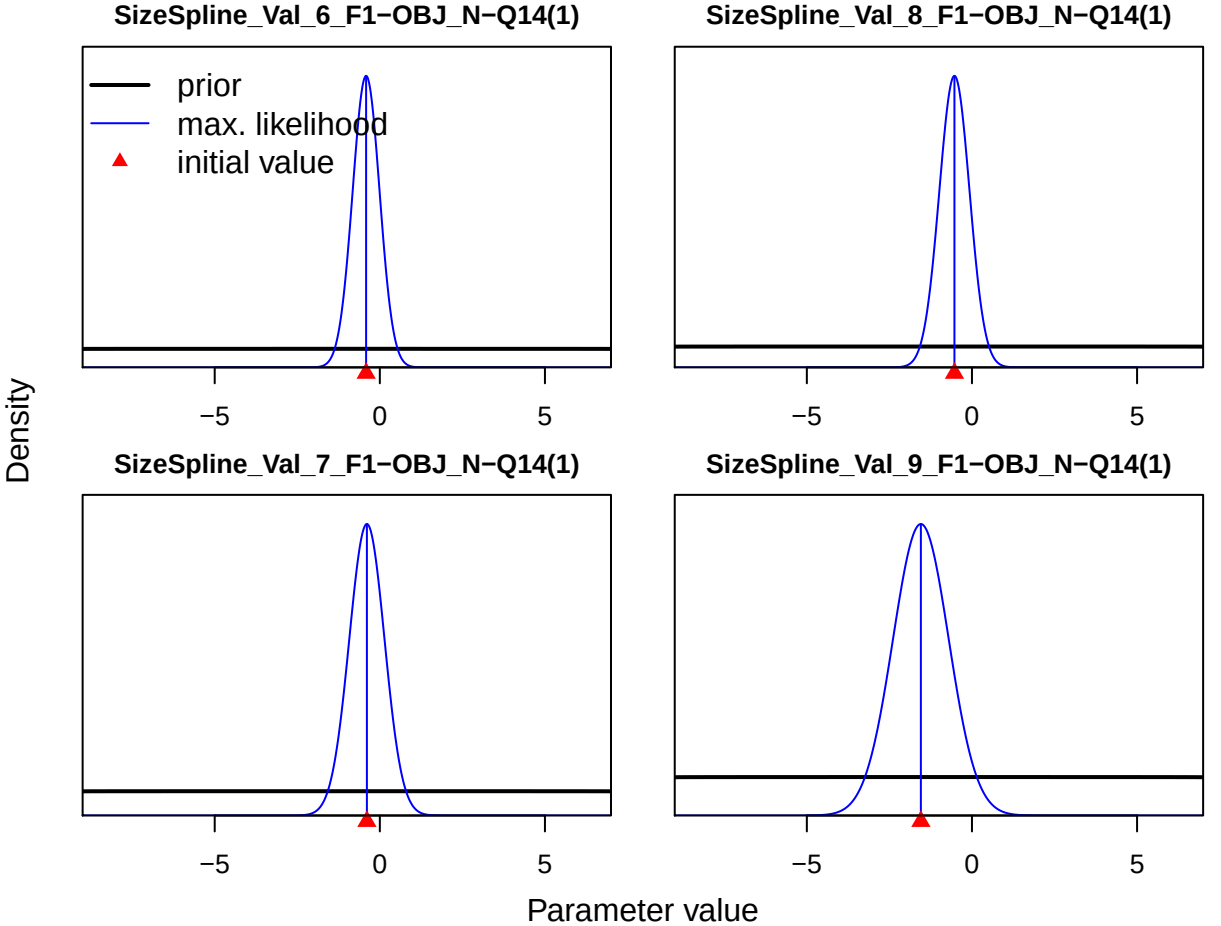

Catches
F3−OBJ_C_Q14
F8−OBJ_C_Q23
F13−NOA_I
F18−DEL_C
F25−OBJ_S_disc
F30−LL_C_Q14n
F35−LL_W_Q14w
F40−LL_E_Q23w
F5−OBJ_S_Q14
F10−OBJ_S_Q23
S3−LL_late_VAST_
F3−OBJ_C_Q14
F8−OBJ_C_Q23
F13−NOA_I
F18−DEL_C
F29−LL_W_Q14n
F34−LL_E_Q23n
S1−PS_DEL_VAST
F18−DEL_C
35
50
65
80
95
110
125
140
155
170
Year

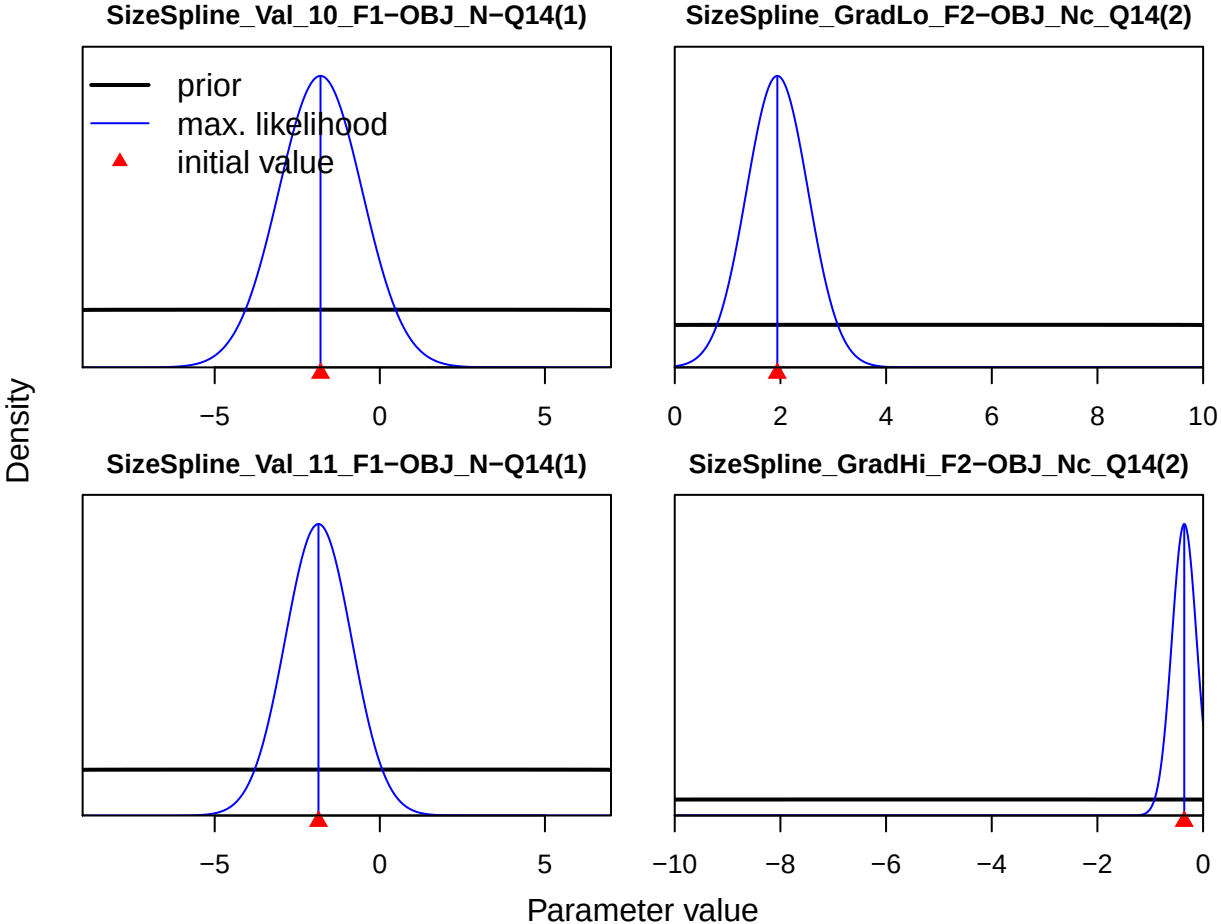

Catches
Abundance indices
Length compositions
Size compositions
Age compositions
F3−OBJ_C_Q14
F8−OBJ_C_Q23
F13−NOA_I
F18−DEL_C
F25−OBJ_S_disc
F30−LL_C_Q14n
F35−LL_W_Q14w
F40−LL_E_Q23w
F5−OBJ_S_Q14
F10−OBJ_S_Q23
S3−LL_late_VAST_
F3−OBJ_C_Q14
F8−OBJ_C_Q23
F13−NOA_I
F18−DEL_C
F29−LL_W_Q14n
F34−LL_E_Q23n
S1−PS_DEL_VAST
F18−DEL_C
35
50
65
80
95
110
125
140
155
170
Year

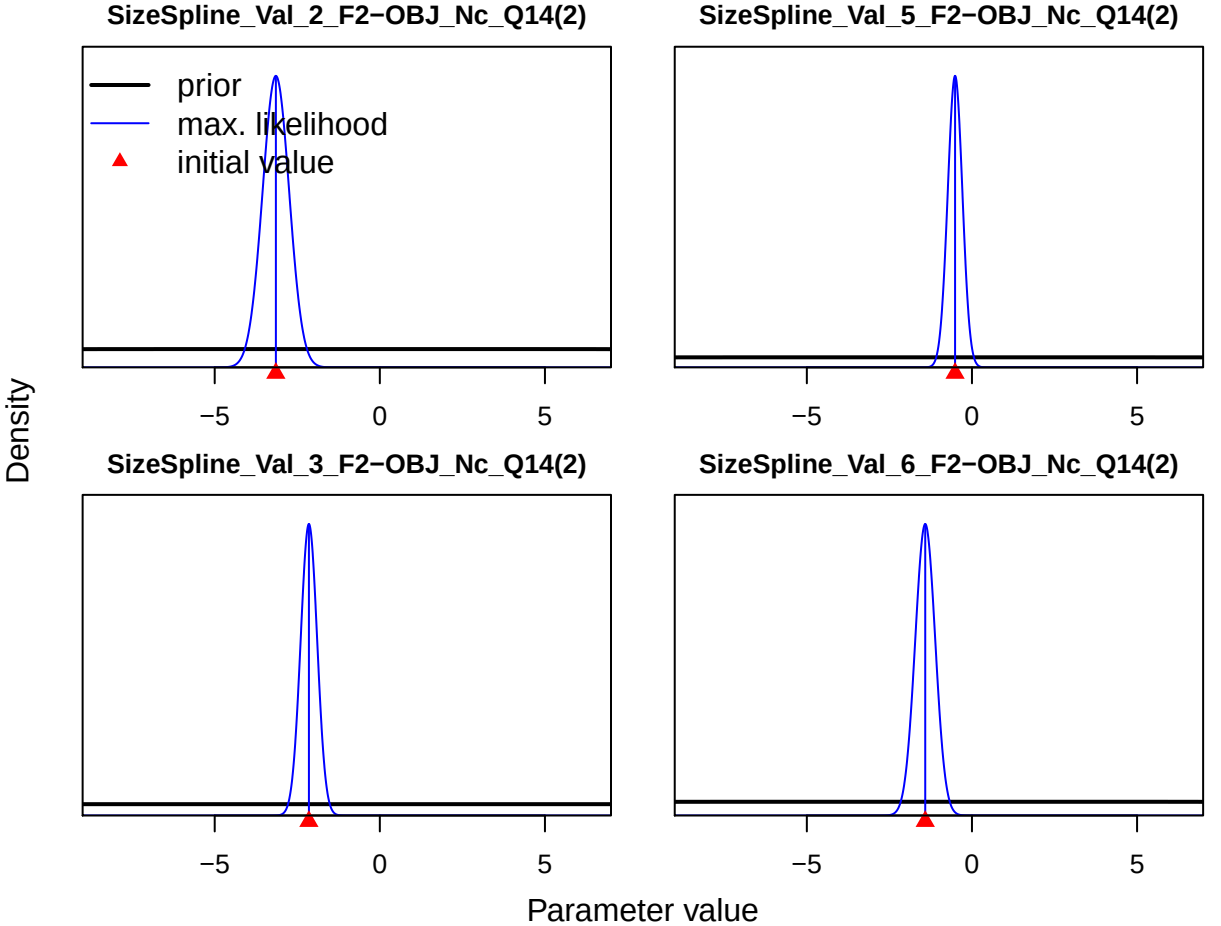

L_at_Amin_Fem_GP_1
VonBert_K_Fem_GP_1
L_at_Amax_Fem_GP_1
Richards_Fem_GP_1
prior
max. likelihood
initial value
Density
Parameter value
10
20
30
40
0.2
0.4
0.6
0.8
1.0
50
100
150
200
250
−4
−2
0
2
4

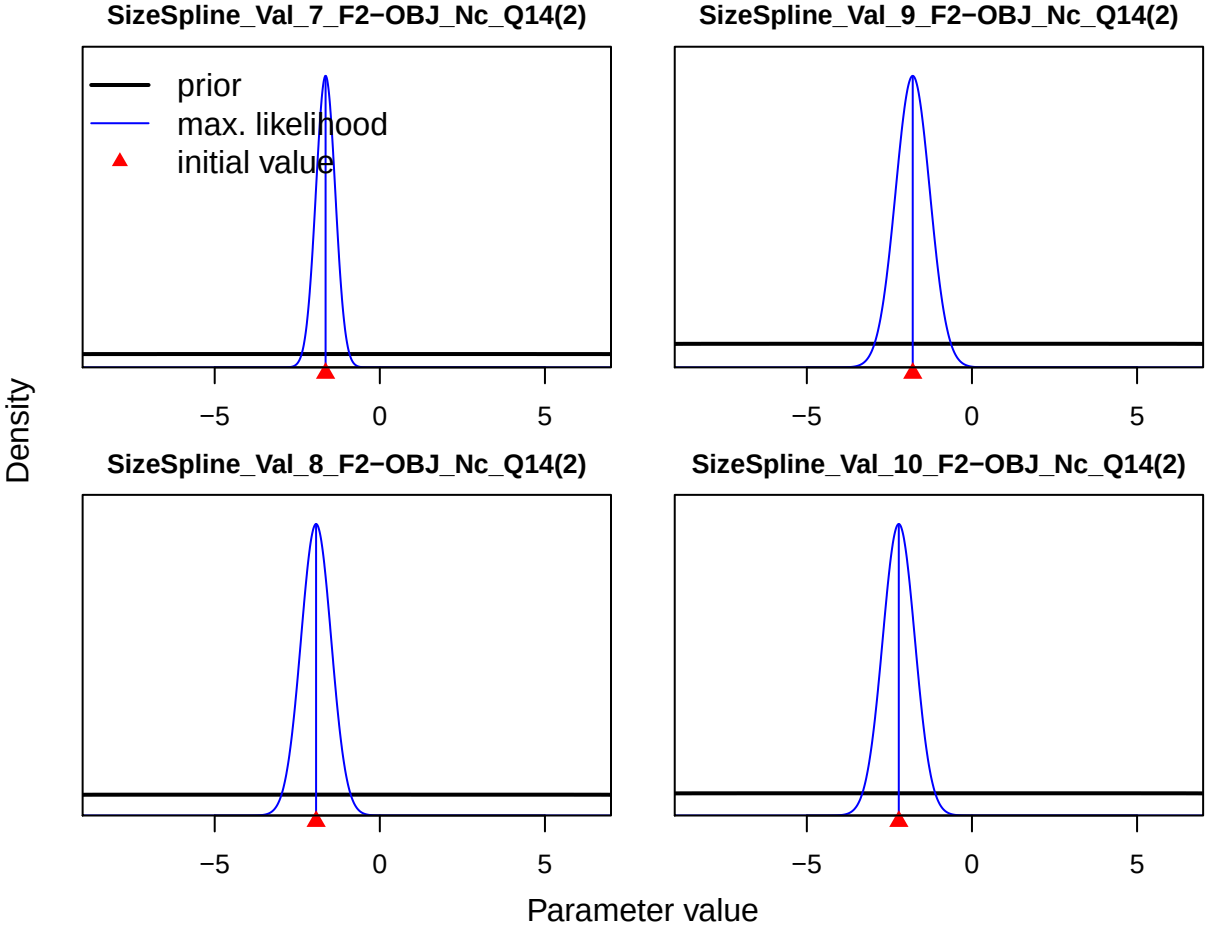

SR_LN(R0)
InitF_seas_1_flt_16F16−DEL_NE
prior
max. likelihood
initial value
Density
10 20 30 40 50 60 70 80
0 1 2 3 4 5
SR_regime_BLK1add_36
SizeSpline_GradLo_F1−OBJ_N−Q14(1)
−4 −2 0 2 4
0 2 4 6 8 10
Parameter value


SizeSpline_GradHi_F1−OBJ_N−Q14(1)
SizeSpline_Val_4_F1−OBJ_N−Q14(1)
SizeSpline_Val_2_F1−OBJ_N−Q14(1)
SizeSpline_Val_5_F1−OBJ_N−Q14(1)
prior
max. likelihood
initial value
Density
Parameter value
−10
−8
−6
−4
−2
0
−5
0
5


SizeSpline_Val_6_F1−OBJ_N−Q14(1)
SizeSpline_Val_8_F1−OBJ_N−Q14(1)
SizeSpline_Val_7_F1−OBJ_N−Q14(1)
SizeSpline_Val_9_F1−OBJ_N−Q14(1)
prior
max. likelihood
initial value
Density
−5
0
5
Parameter value


SizeSpline_Val_10_F1−OBJ_N−Q14(1)
SizeSpline_GradLo_F2−OBJ_Nc_Q14(2)
SizeSpline_Val_11_F1−OBJ_N−Q14(1)
SizeSpline_GradHi_F2−OBJ_Nc_Q14(2)
prior
max. likelihood
initial value
Density
Parameter value
−5
0
5
0
2
4
6
8
10
−10
−8
−6
−4
−2
0


SizeSpline_Val_2_F2−OBJ_Nc_Q14(2)
SizeSpline_Val_5_F2−OBJ_Nc_Q14(2)
SizeSpline_Val_3_F2−OBJ_Nc_Q14(2)
SizeSpline_Val_6_F2−OBJ_Nc_Q14(2)
prior
max. likelihood
initial value
Density
−5
0
5
Parameter value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SizeSpline_Val_8_F2−OBJ_Nc_Q14(2)
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prior
max. likelihood
initial value
Density
Parameter value
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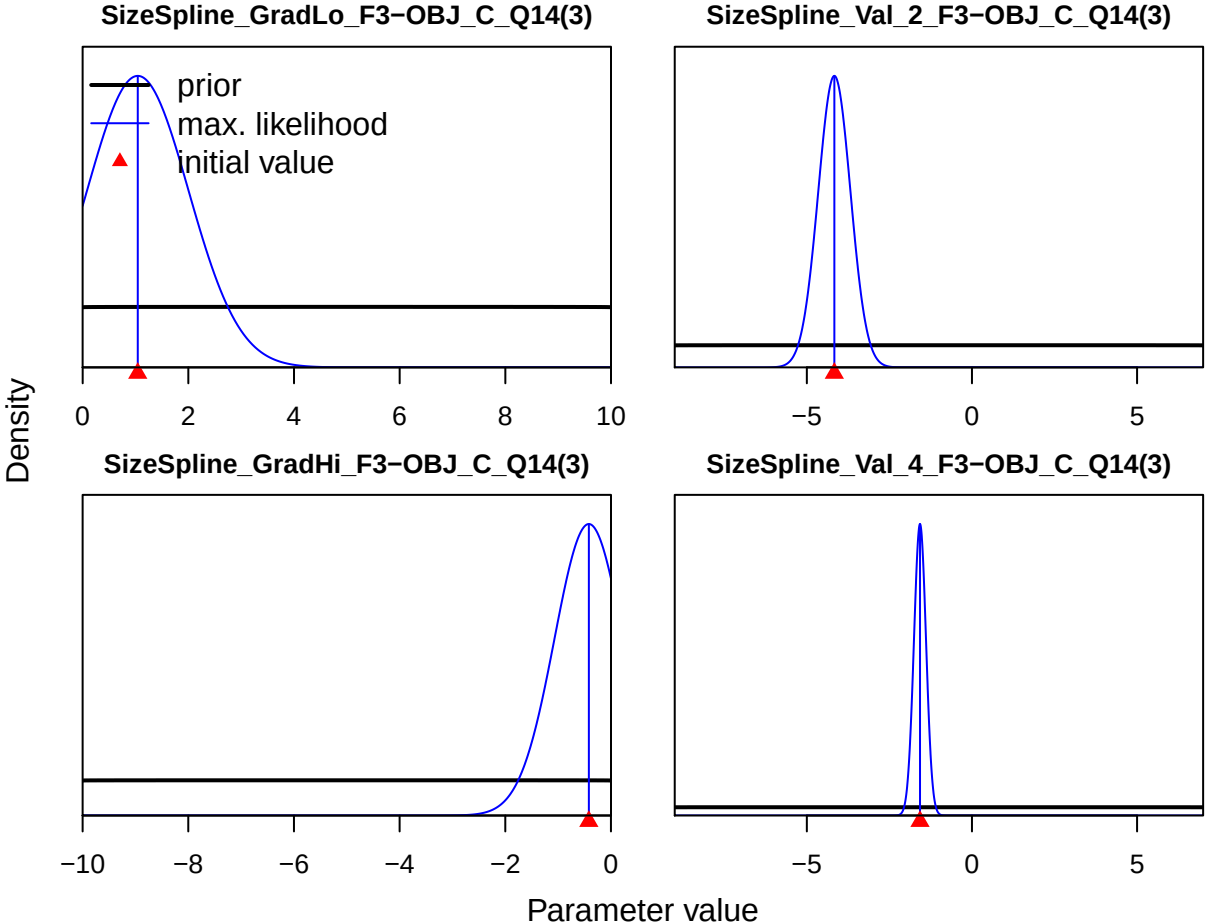
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SizeSpline_Val_2_F3−OBJ_C_Q14(3)
SizeSpline_GradHi_F3−OBJ_C_Q14(3)
SizeSpline_Val_4_F3−OBJ_C_Q14(3)
prior
max. likelihood
initial value
Density
Parameter value
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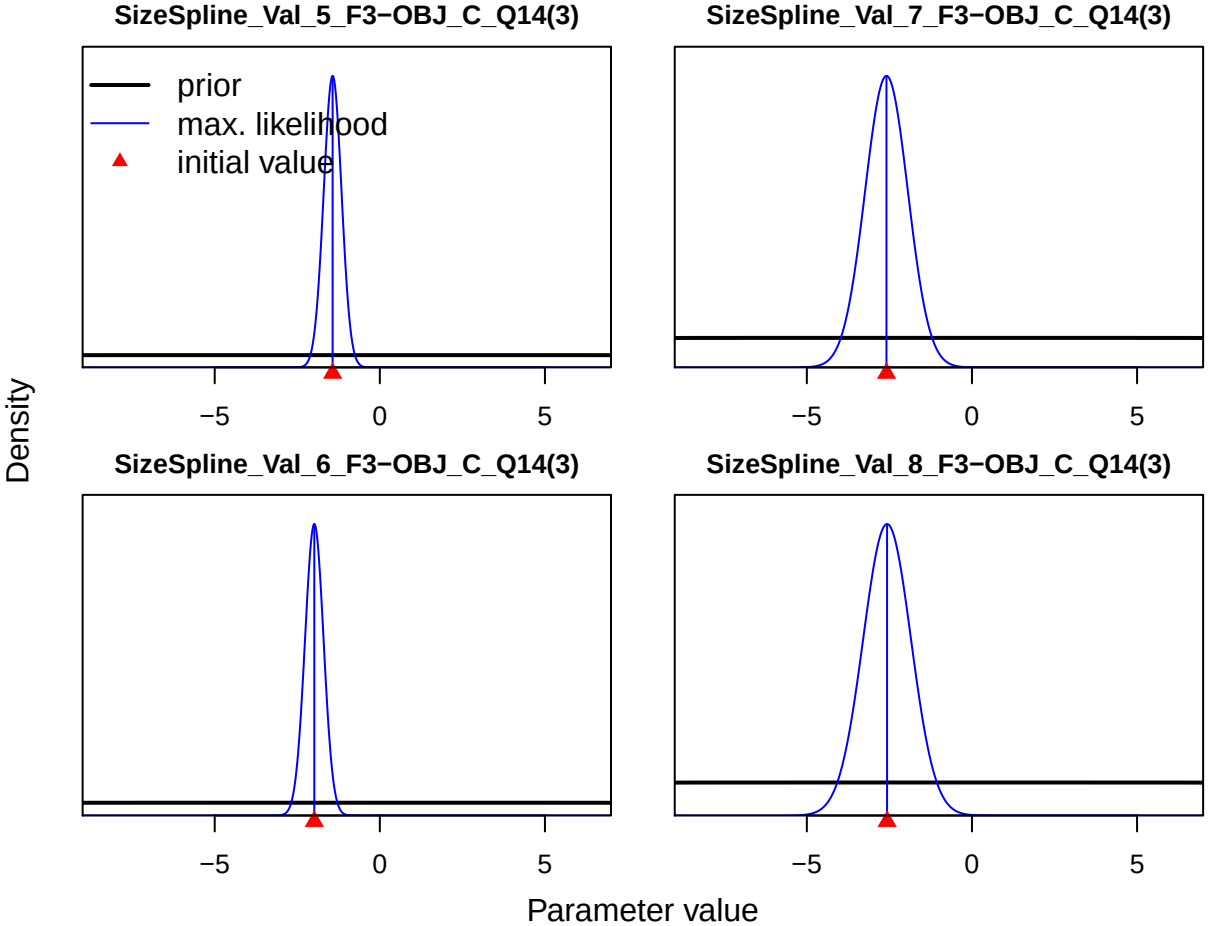
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SizeSpline_Val_6_F3−OBJ_C_Q14(3)
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prior
max. likelihood
initial value
Density
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0
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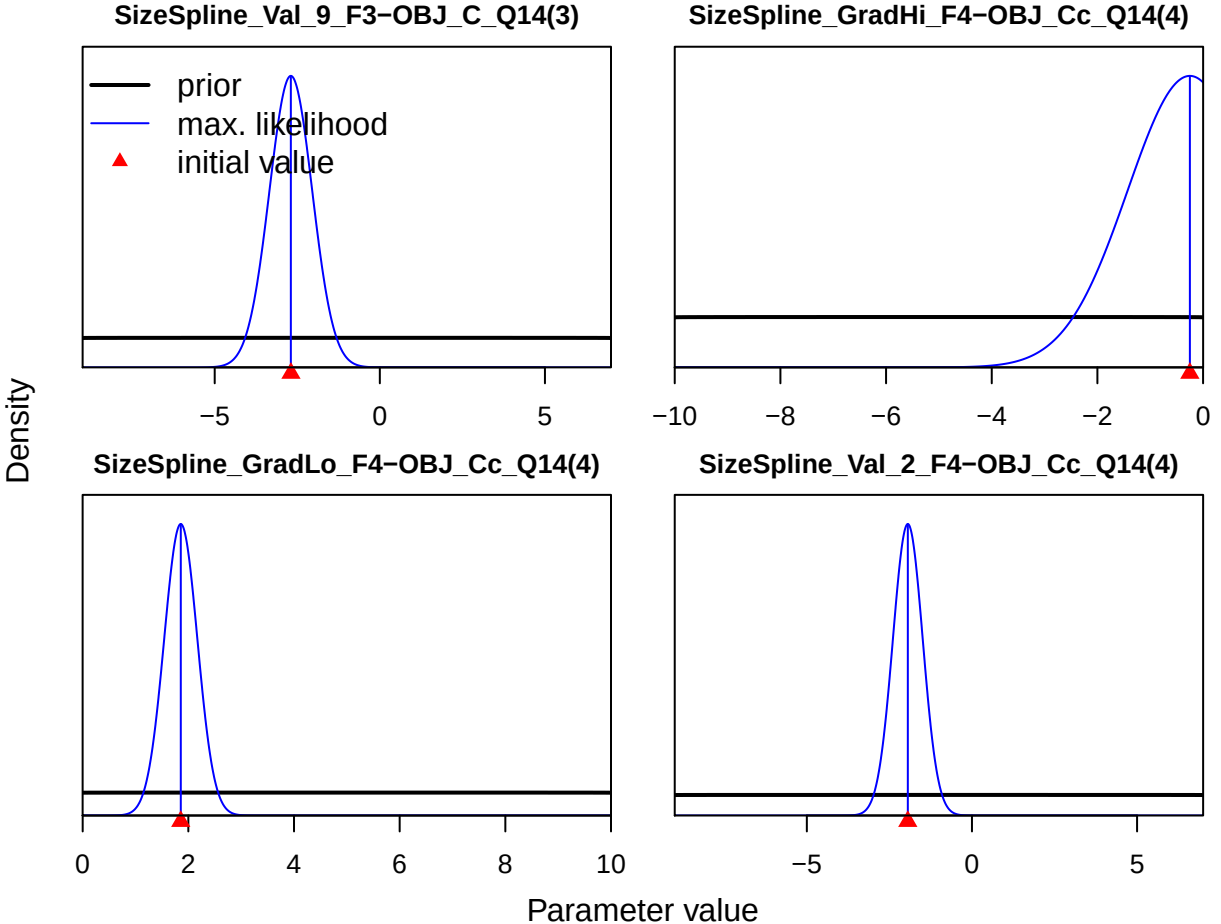
Parameter value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SizeSpline_GradLo_F4−OBJ_Cc_Q14(4)
SizeSpline_Val_2_F4−OBJ_Cc_Q14(4)
prior
max. likelihood
initial value
Density
Parameter value
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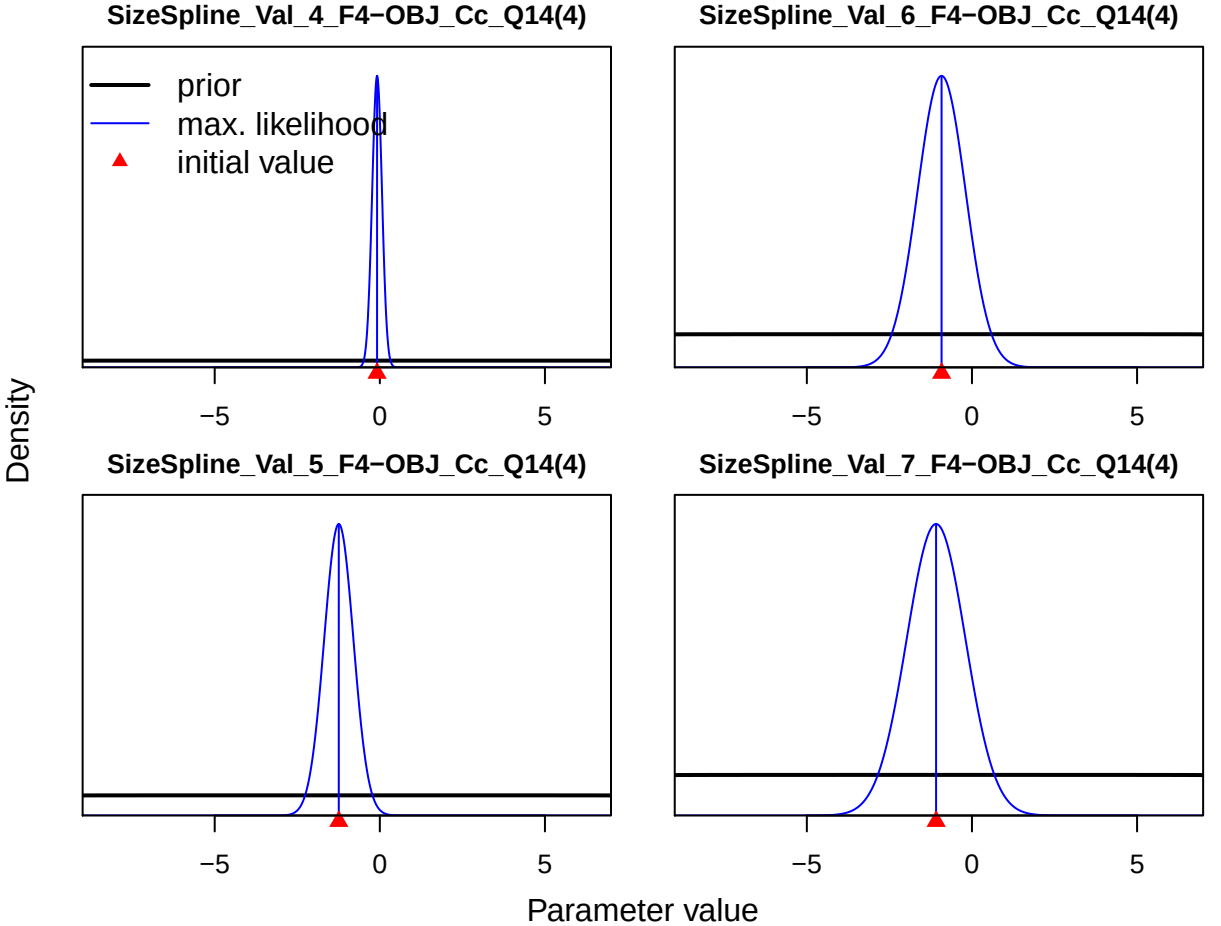
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prior
max. likelihood
initial value
Density
Parameter value
−5
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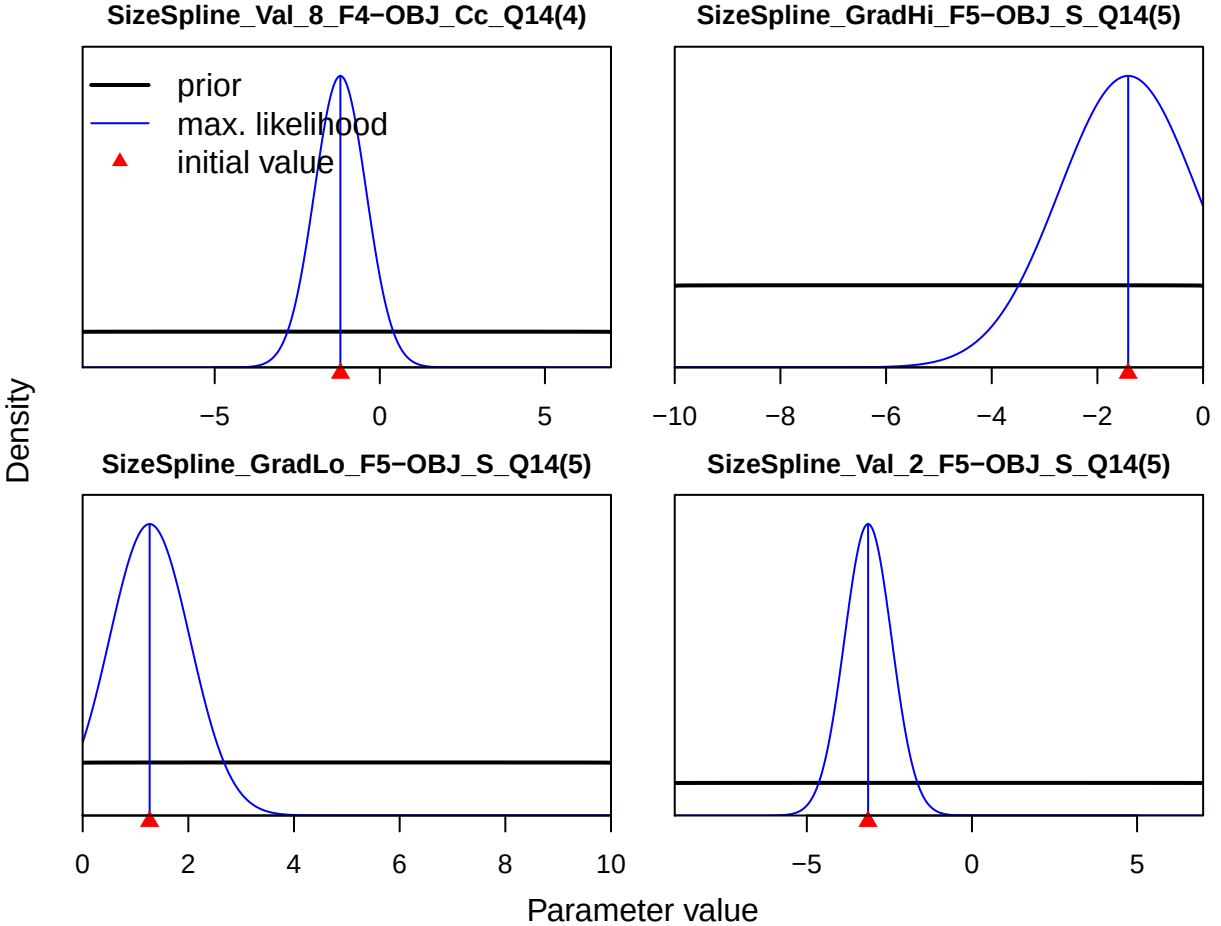
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SizeSpline_GradLo_F5−OBJ_S_Q14(5)
SizeSpline_Val_2_F5−OBJ_S_Q14(5)
prior
max. likelihood
initial value
Density
Parameter value
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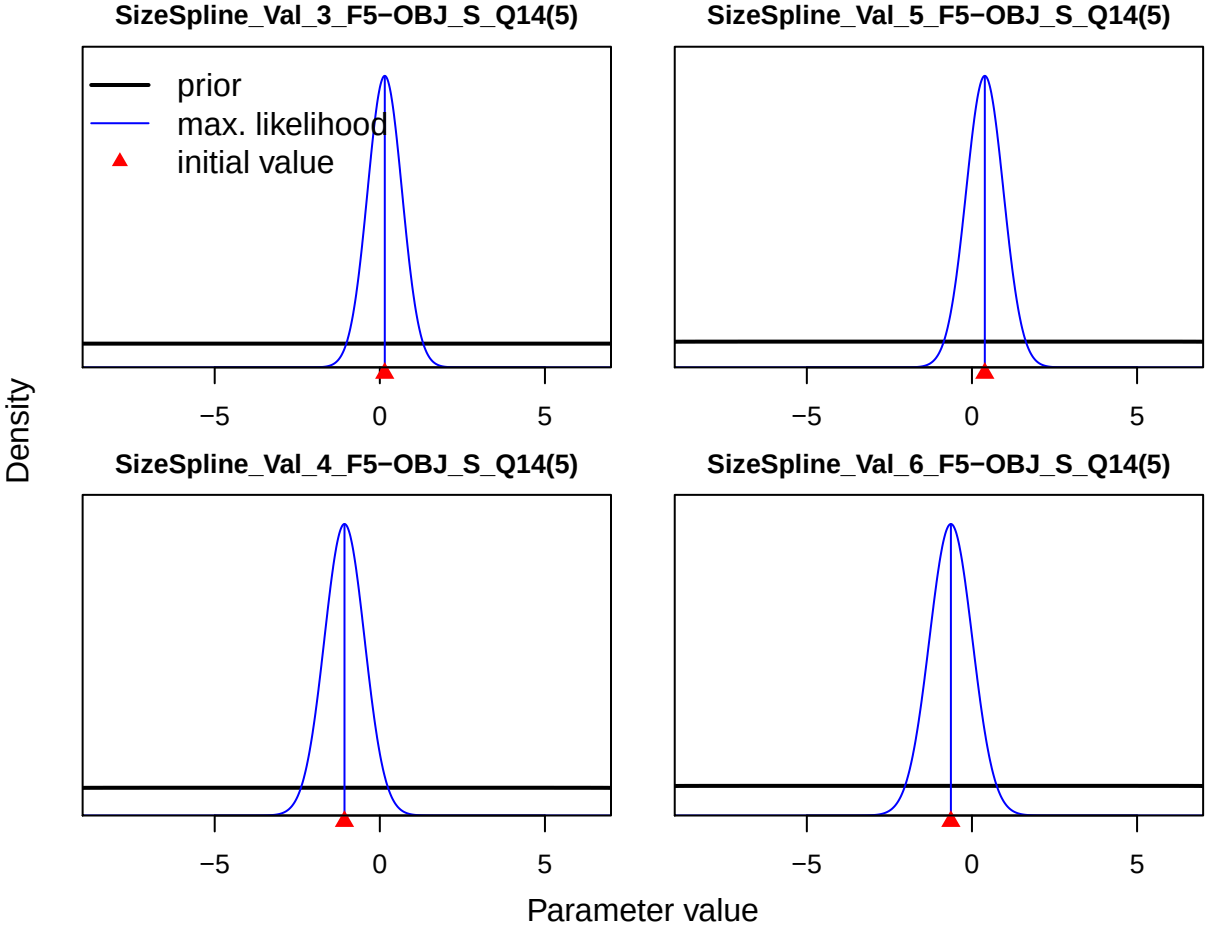
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SizeSpline_Val_4_F5−OBJ_S_Q14(5)
SizeSpline_Val_6_F5−OBJ_S_Q14(5)
prior
max. likelihood
initial value
Density
−5
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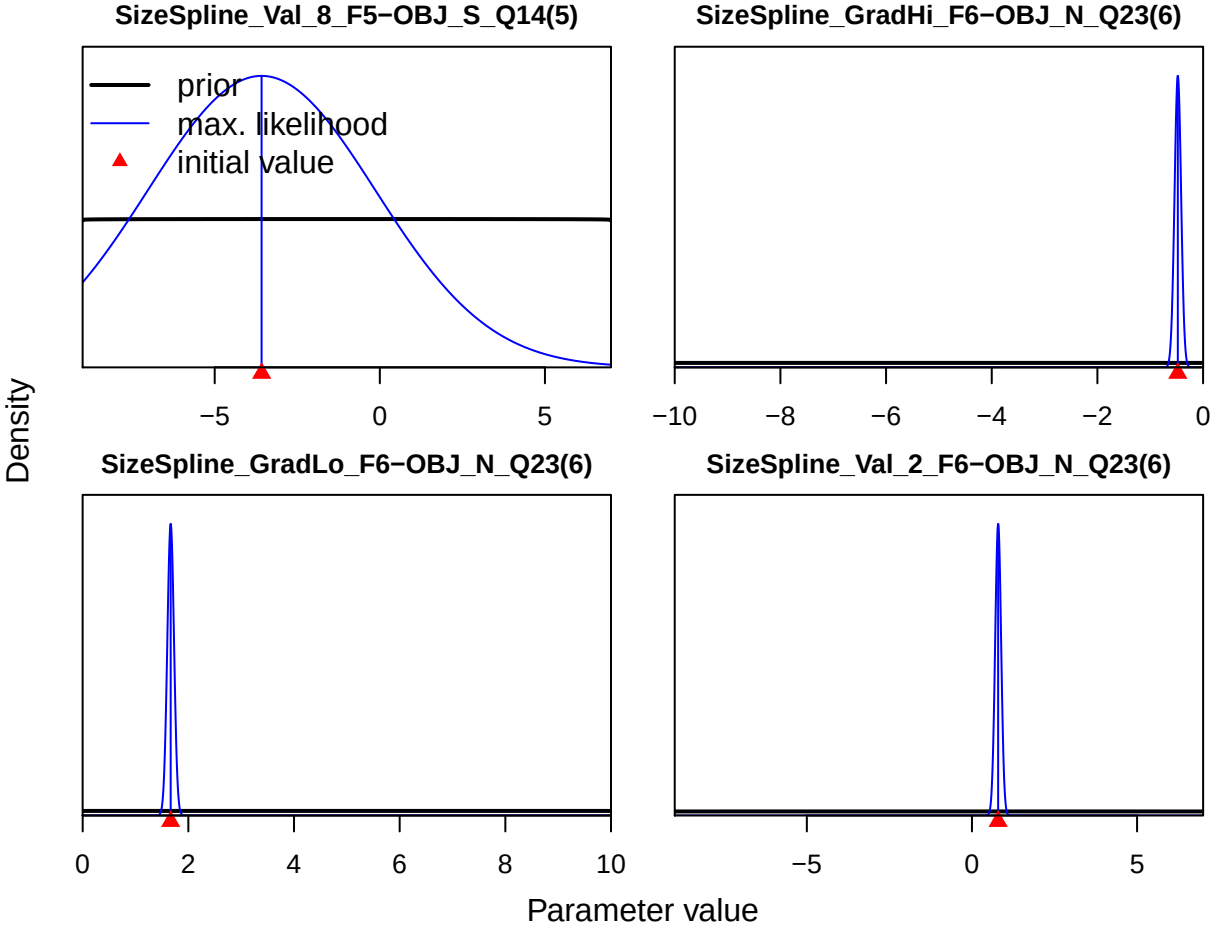
Parameter value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SizeSpline_GradLo_F6−OBJ_N_Q23(6)
SizeSpline_Val_2_F6−OBJ_N_Q23(6)
prior
max. likelihood
initial value
Density
Parameter value
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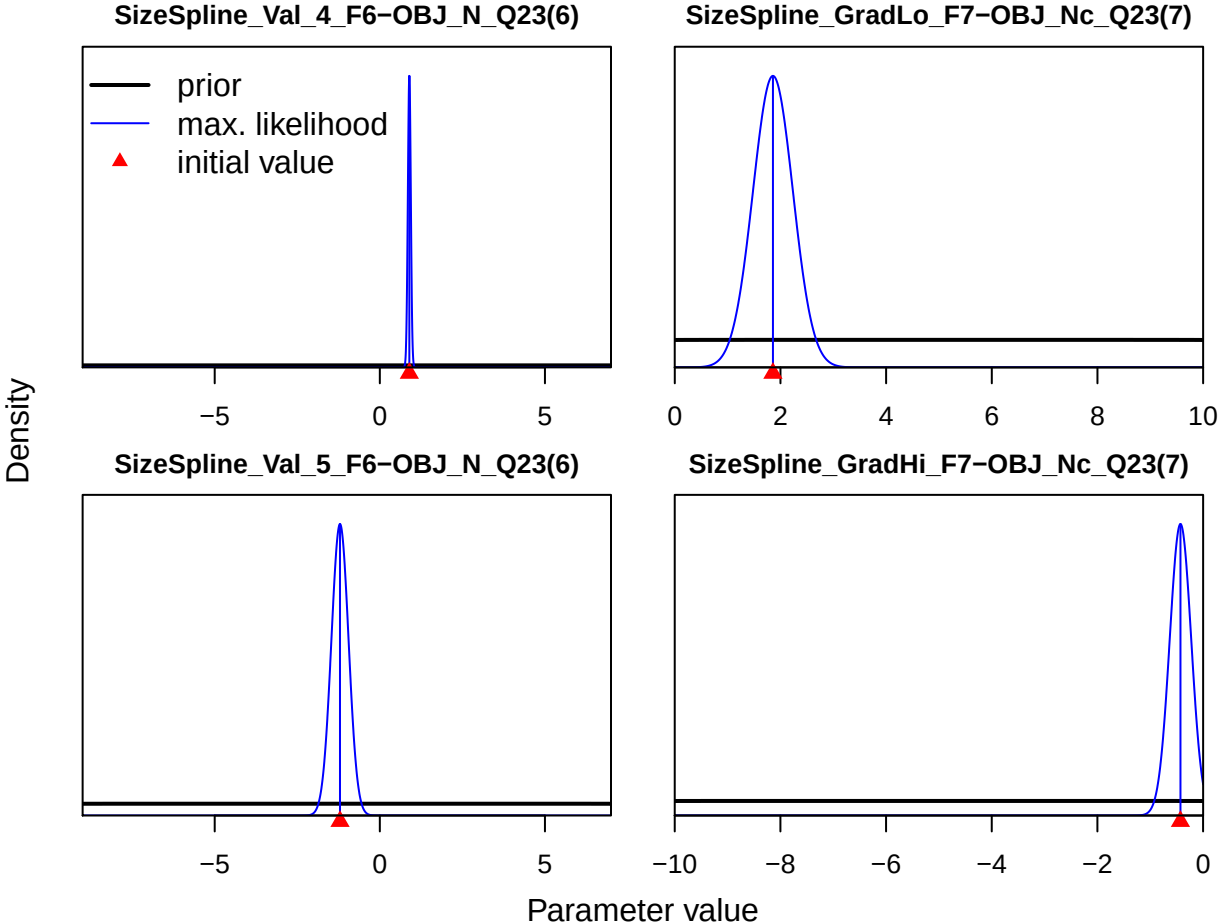
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SizeSpline_GradLo_F7−OBJ_Nc_Q23(7)
SizeSpline_Val_5_F6−OBJ_N_Q23(6)
SizeSpline_GradHi_F7−OBJ_Nc_Q23(7)
prior
max. likelihood
initial value
Density
Parameter value
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0
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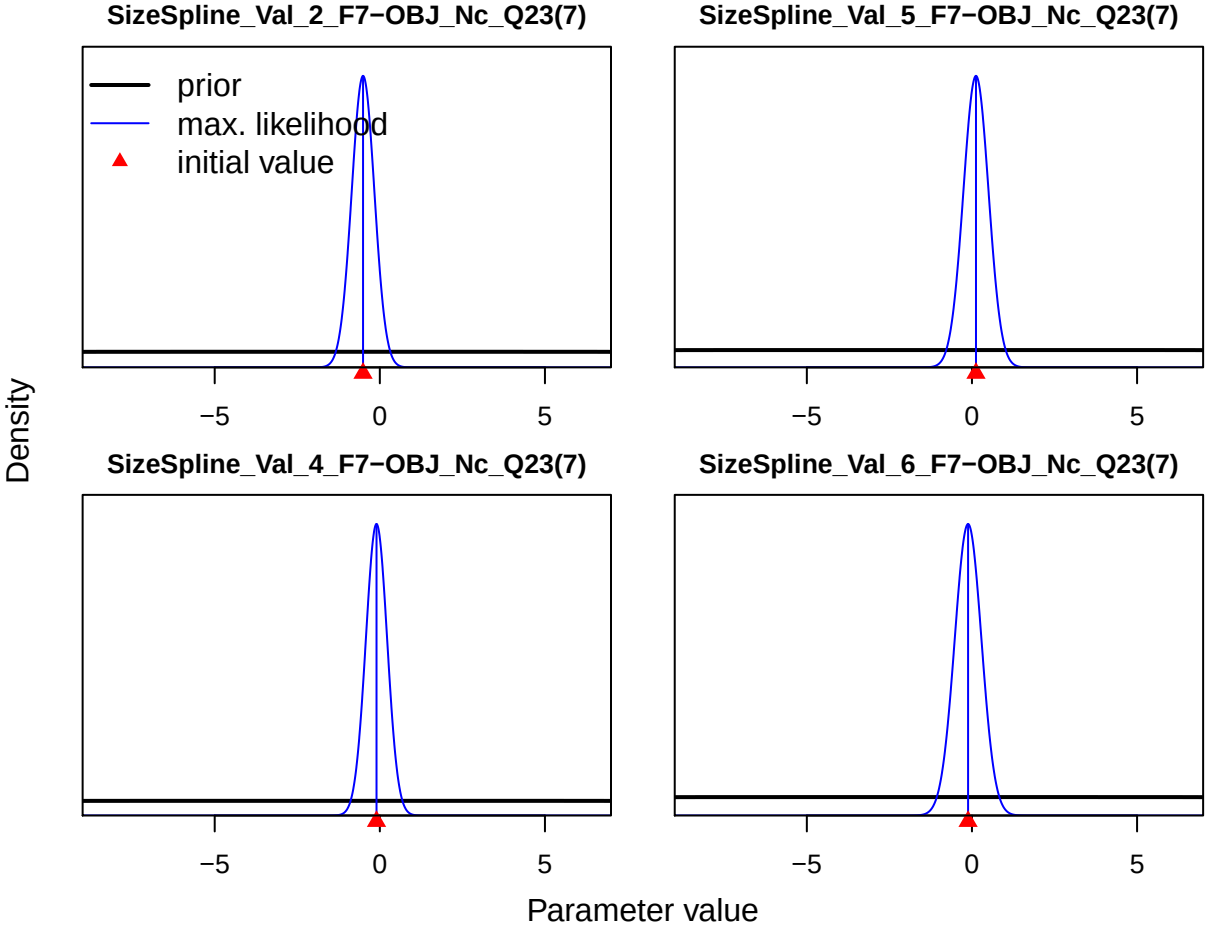
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SizeSpline_Val_5_F7−OBJ_Nc_Q23(7)
SizeSpline_Val_4_F7−OBJ_Nc_Q23(7)
SizeSpline_Val_6_F7−OBJ_Nc_Q23(7)
prior
max. likelihood
initial value
Density
−5
0
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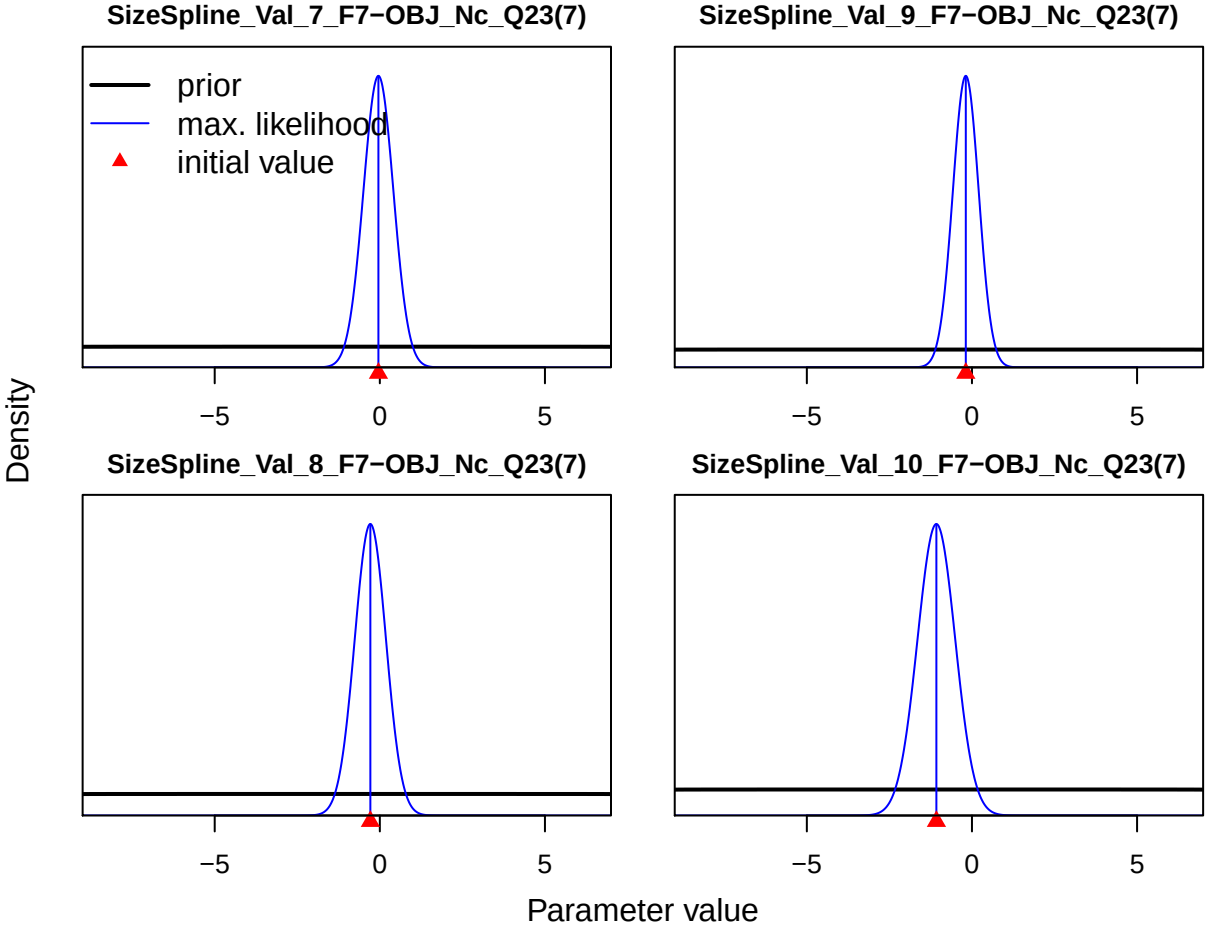
Parameter value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SizeSpline_Val_9_F7−OBJ_Nc_Q23(7)
SizeSpline_Val_8_F7−OBJ_Nc_Q23(7)
SizeSpline_Val_10_F7−OBJ_Nc_Q23(7)
prior
max. likelihood
initial value
Density
−5
0
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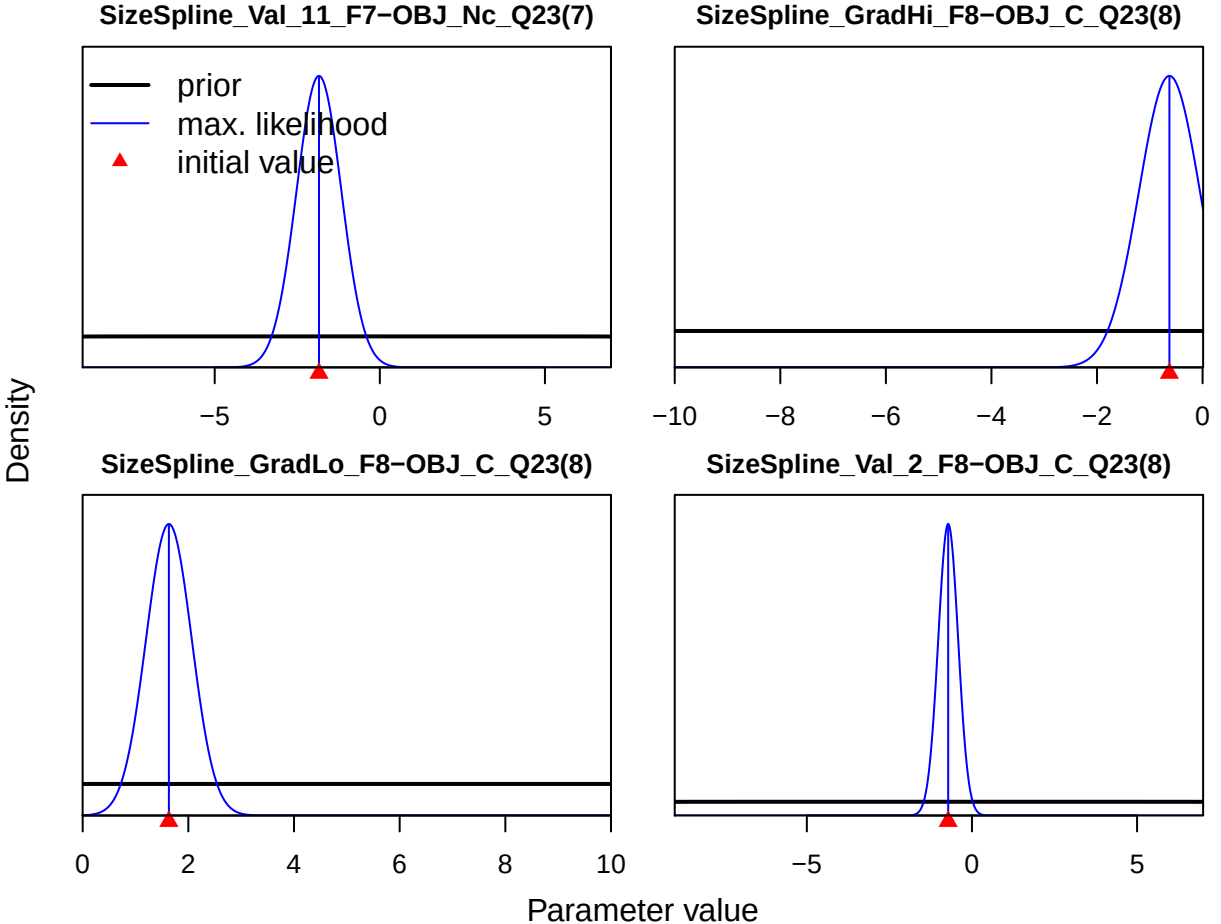
Parameter value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SizeSpline_GradHi_F8−OBJ_C_Q23(8)
SizeSpline_GradLo_F8−OBJ_C_Q23(8)
SizeSpline_Val_2_F8−OBJ_C_Q23(8)
prior
max. likelihood
initial value
Density
Parameter value
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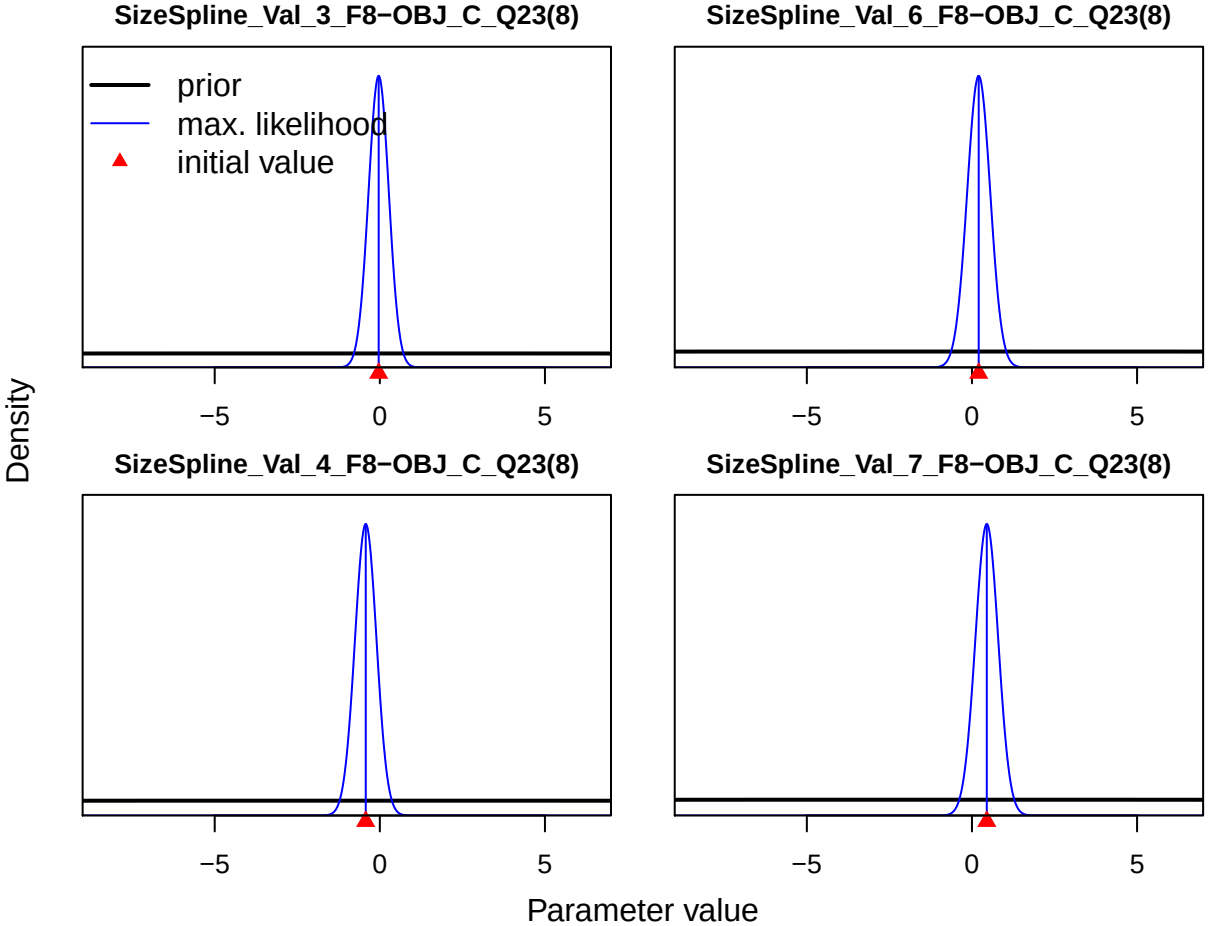
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SizeSpline_Val_6_F8−OBJ_C_Q23(8)
SizeSpline_Val_4_F8−OBJ_C_Q23(8)
SizeSpline_Val_7_F8−OBJ_C_Q23(8)
prior
max. likelihood
initial value
Density
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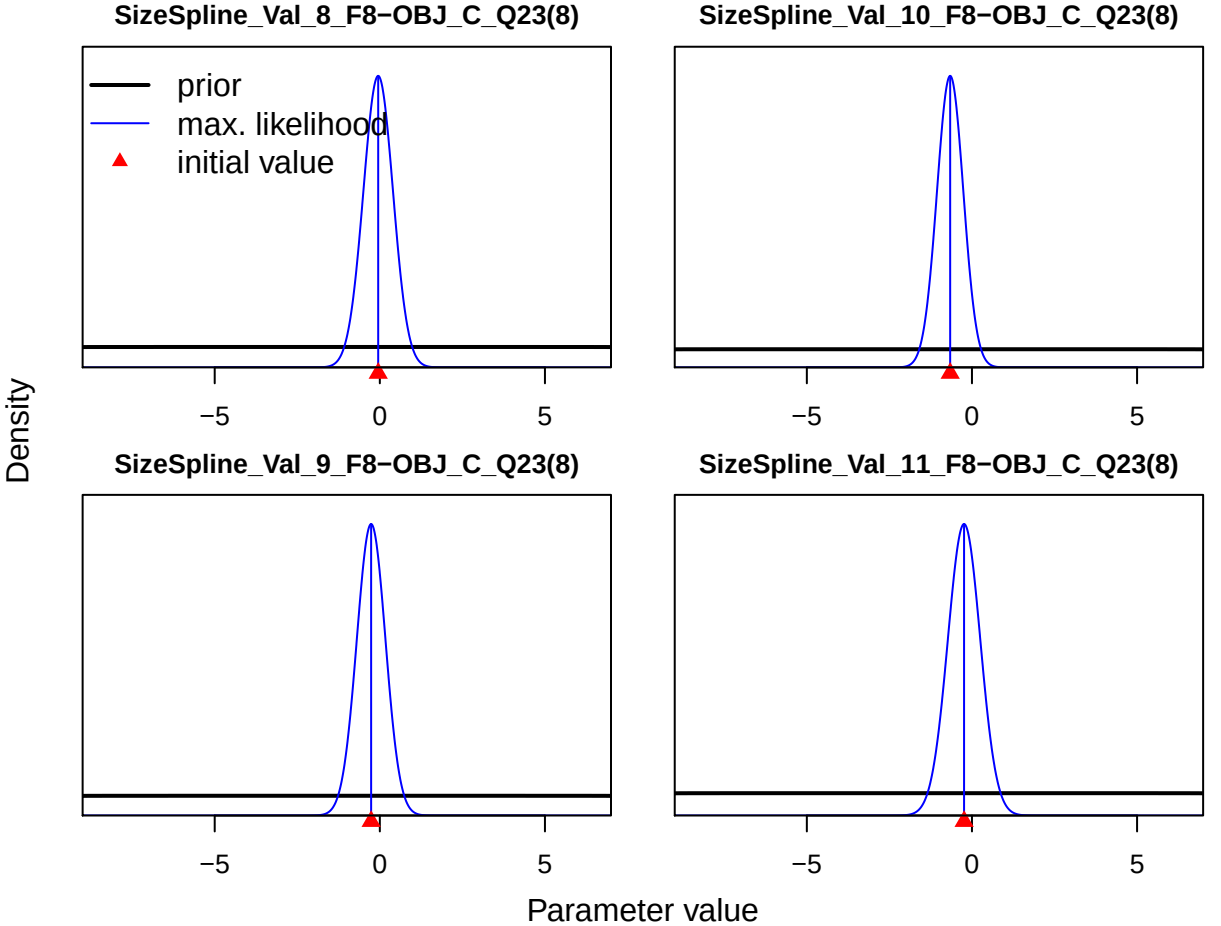
Parameter value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SizeSpline_Val_10_F8−OBJ_C_Q23(8)
SizeSpline_Val_9_F8−OBJ_C_Q23(8)
SizeSpline_Val_11_F8−OBJ_C_Q23(8)
prior
max. likelihood
initial value
Density
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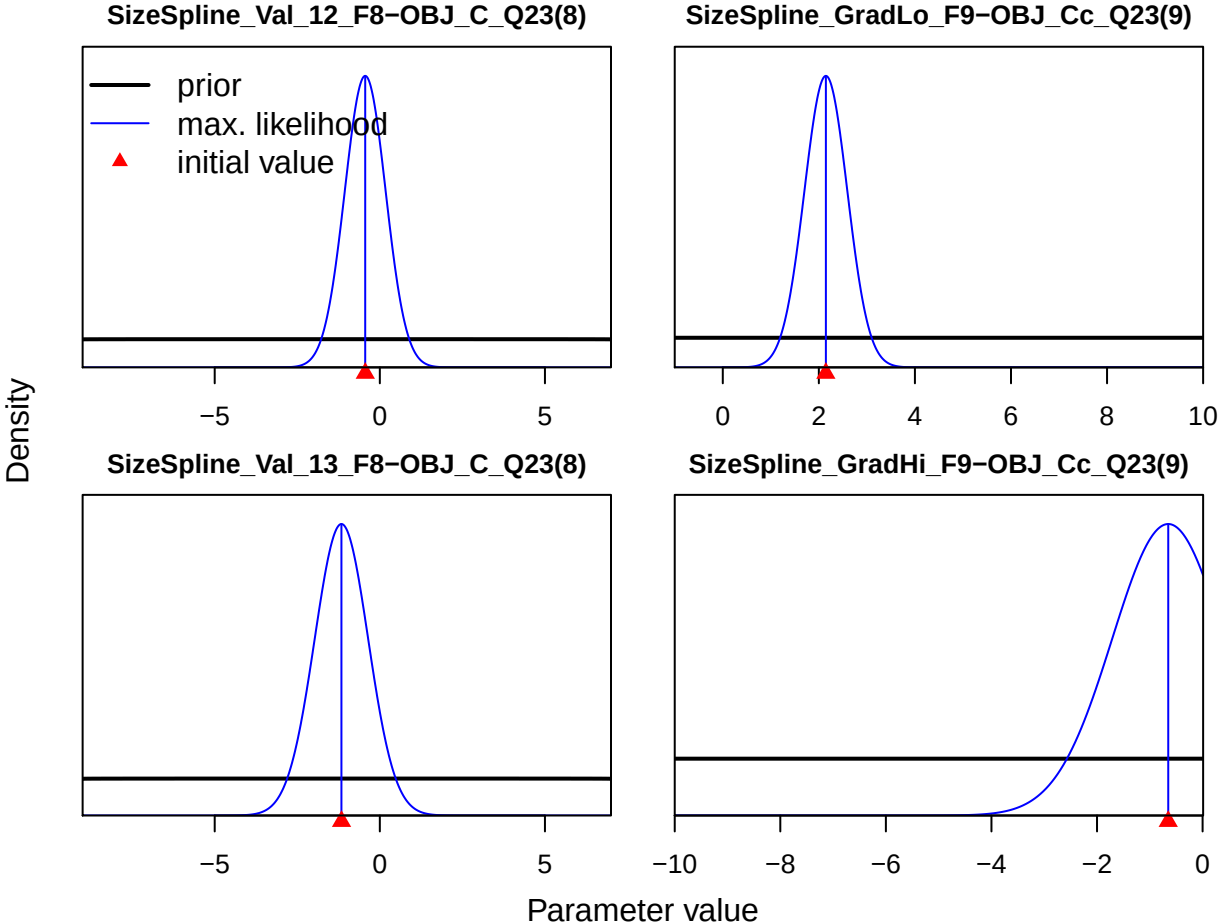
Parameter value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SizeSpline_Val_13_F8−OBJ_C_Q23(8)
SizeSpline_GradHi_F9−OBJ_Cc_Q23(9)
prior
max. likelihood
initial value
Density
Parameter value
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2
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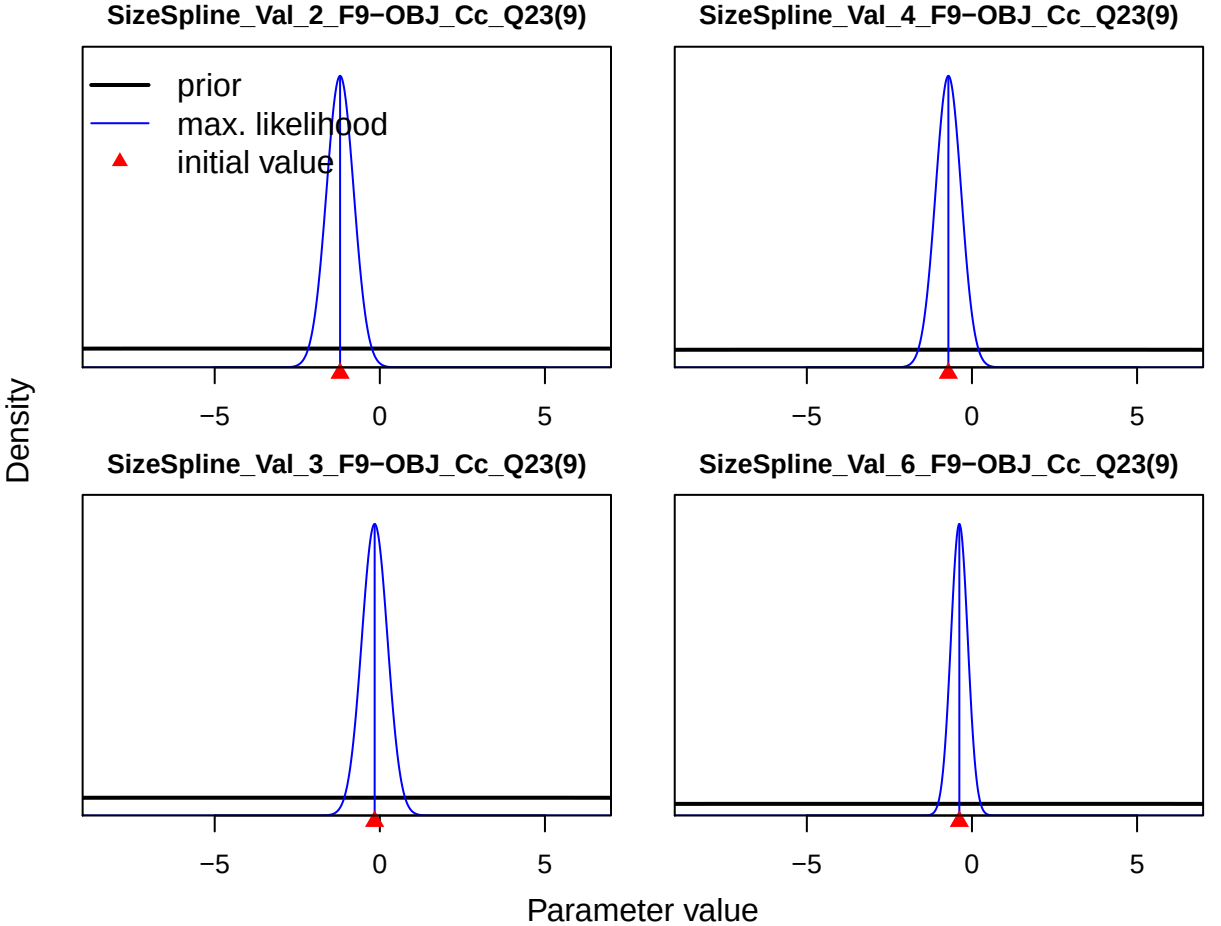
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SizeSpline_Val_4_F9−OBJ_Cc_Q23(9)
SizeSpline_Val_3_F9−OBJ_Cc_Q23(9)
SizeSpline_Val_6_F9−OBJ_Cc_Q23(9)
prior
max. likelihood
initial value
Density
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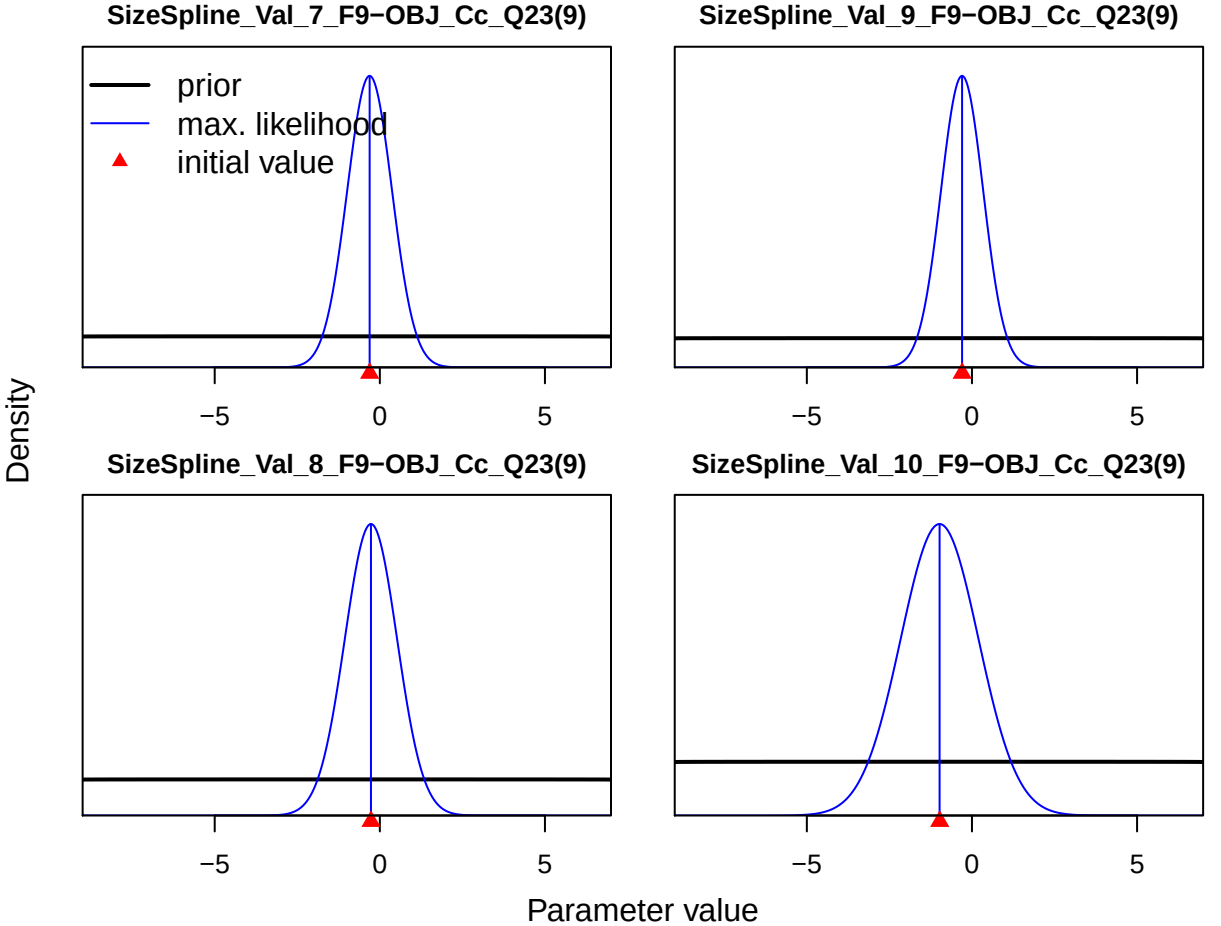
Parameter value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SizeSpline_Val_9_F9−OBJ_Cc_Q23(9)
SizeSpline_Val_8_F9−OBJ_Cc_Q23(9)
SizeSpline_Val_10_F9−OBJ_Cc_Q23(9)
prior
max. likelihood
initial value
Density
−5
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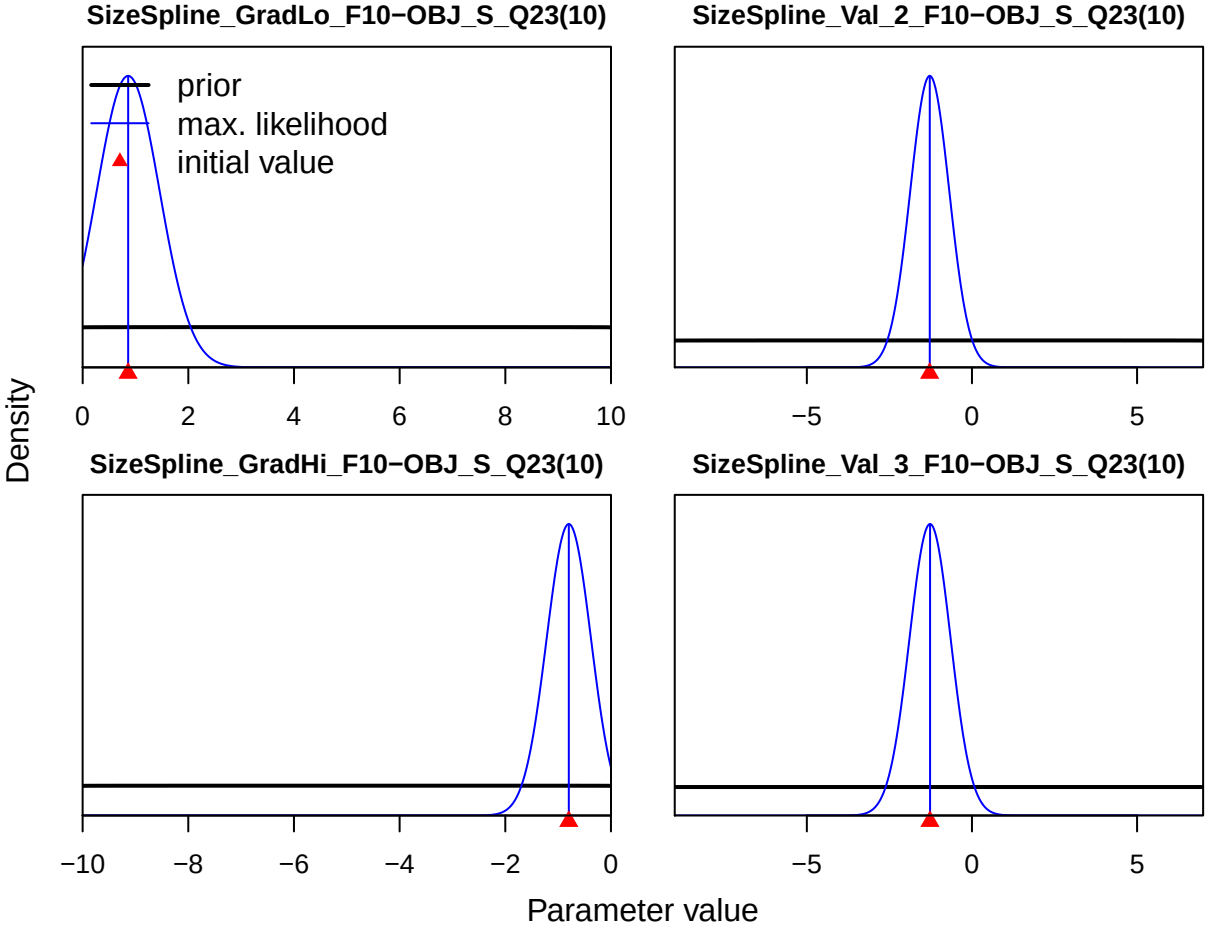
Parameter value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prior
max. likelihood
initial value
SizeSpline_Val_2_F10−OBJ_S_Q23(10)
SizeSpline_GradHi_F10−OBJ_S_Q23(10)
SizeSpline_Val_3_F10−OBJ_S_Q23(10)
Density
Parameter value
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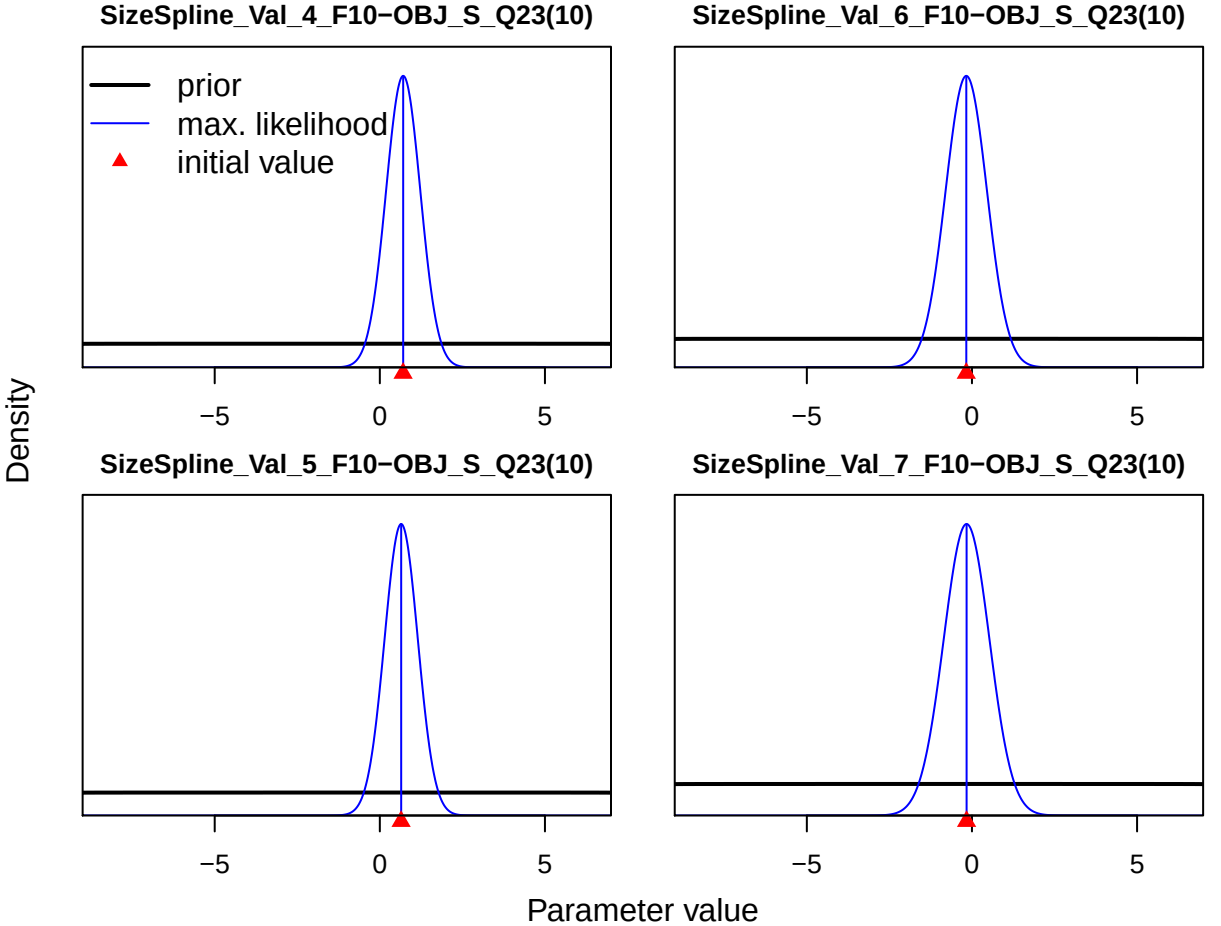
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SizeSpline_Val_6_F10−OBJ_S_Q23(10)
SizeSpline_Val_5_F10−OBJ_S_Q23(10)
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prior
max. likelihood
initial value
Density
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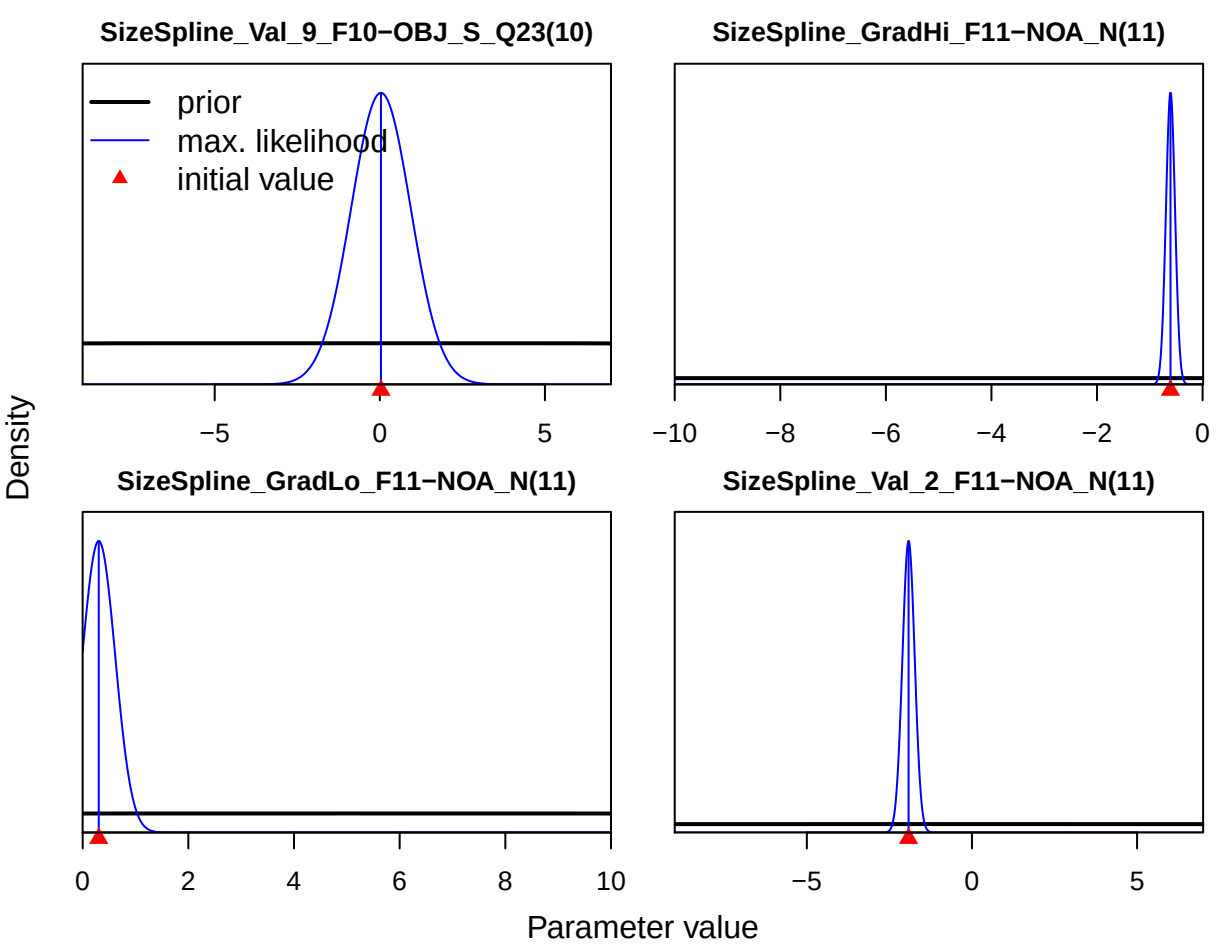
Parameter value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SizeSpline_GradHi_F11−NOA_N(11)
SizeSpline_GradLo_F11−NOA_N(11)
SizeSpline_Val_2_F11−NOA_N(11)
prior
max. likelihood
initial value
Density
Parameter value
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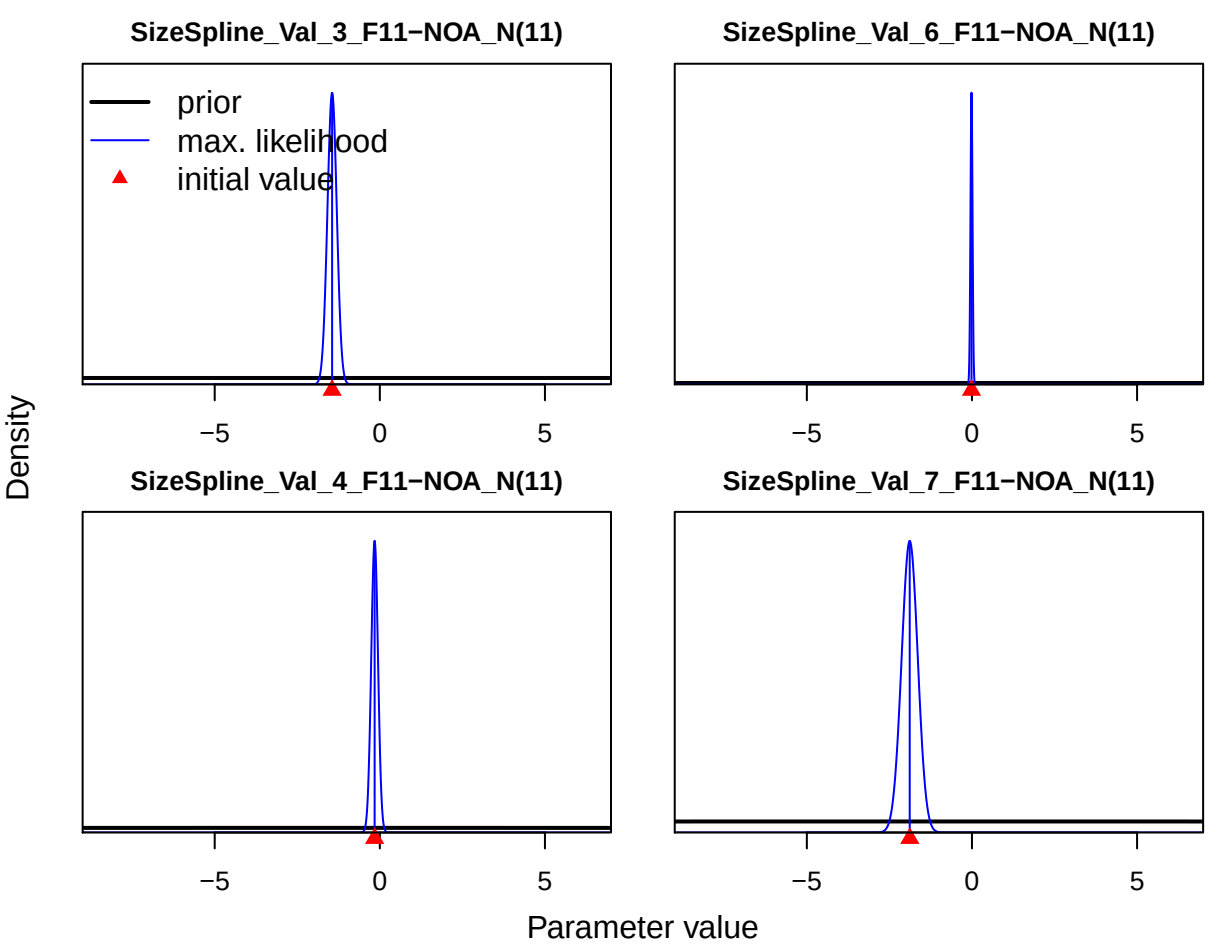
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SizeSpline_Val_4_F11−NOA_N(11)
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max. likelihood
initial value
Density
Parameter value
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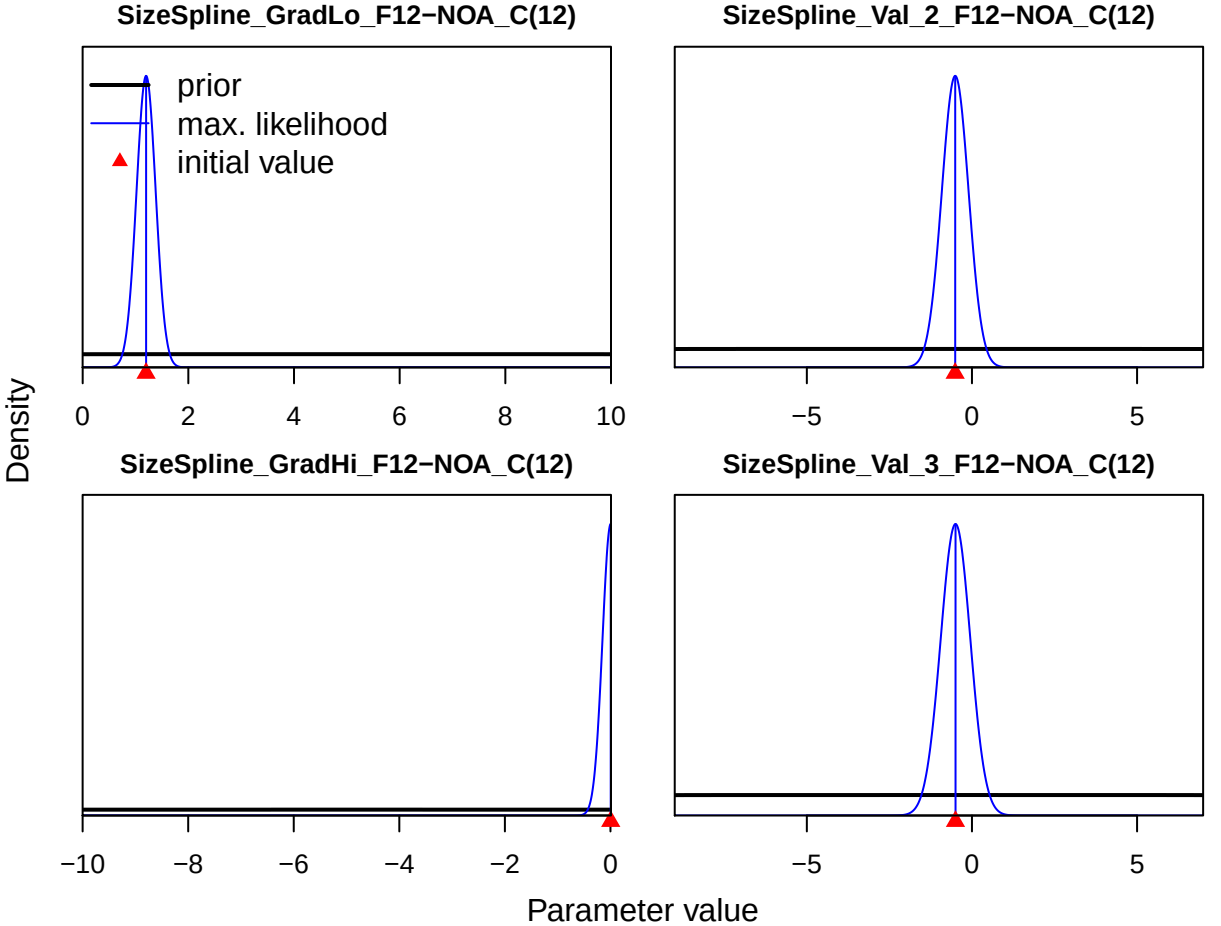
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SizeSpline_GradHi_F12−NOA_C(12)
SizeSpline_Val_3_F12−NOA_C(12)
prior
max. likelihood
initial value
Density
Parameter value
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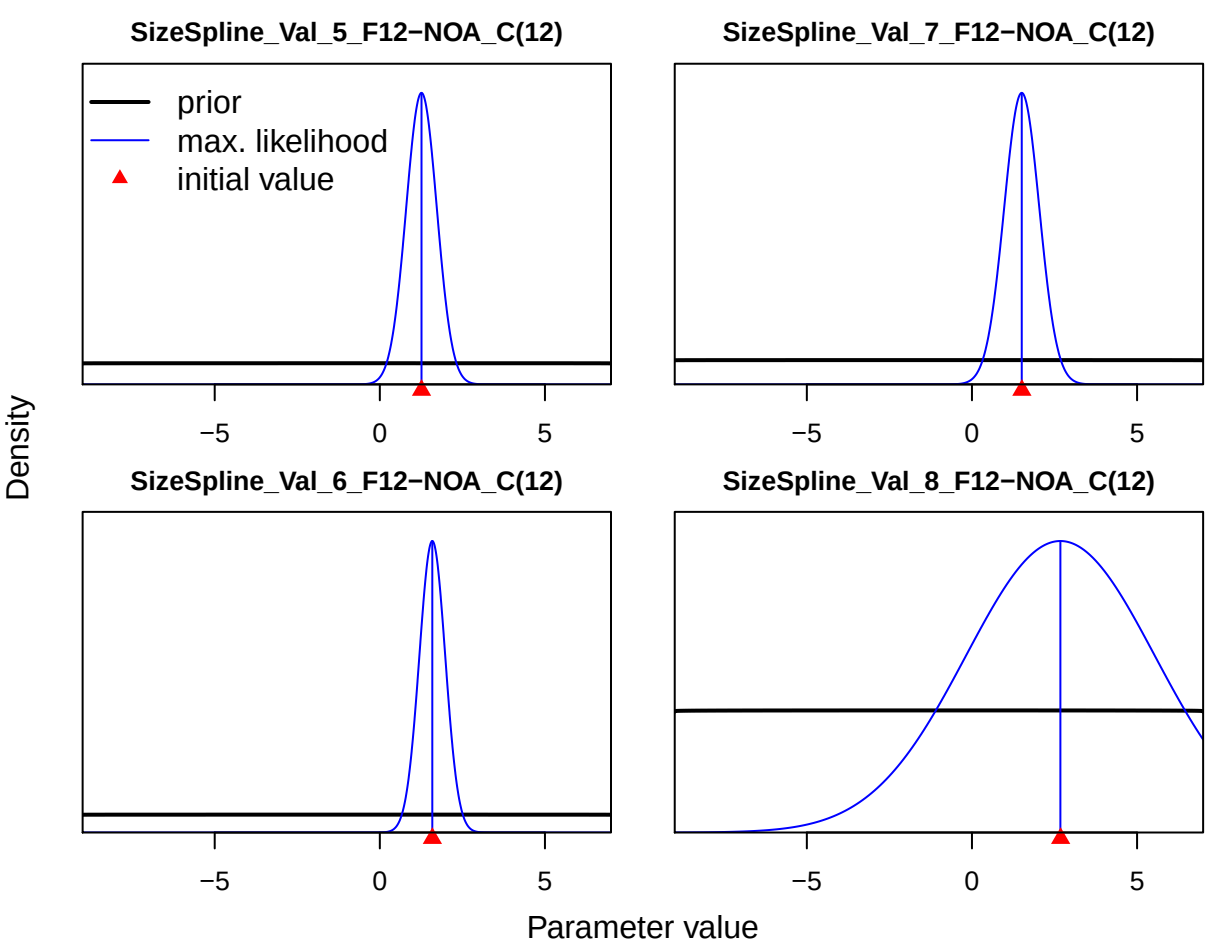
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SizeSpline_Val_6_F12−NOA_C(12)
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max. likelihood
initial value
Density
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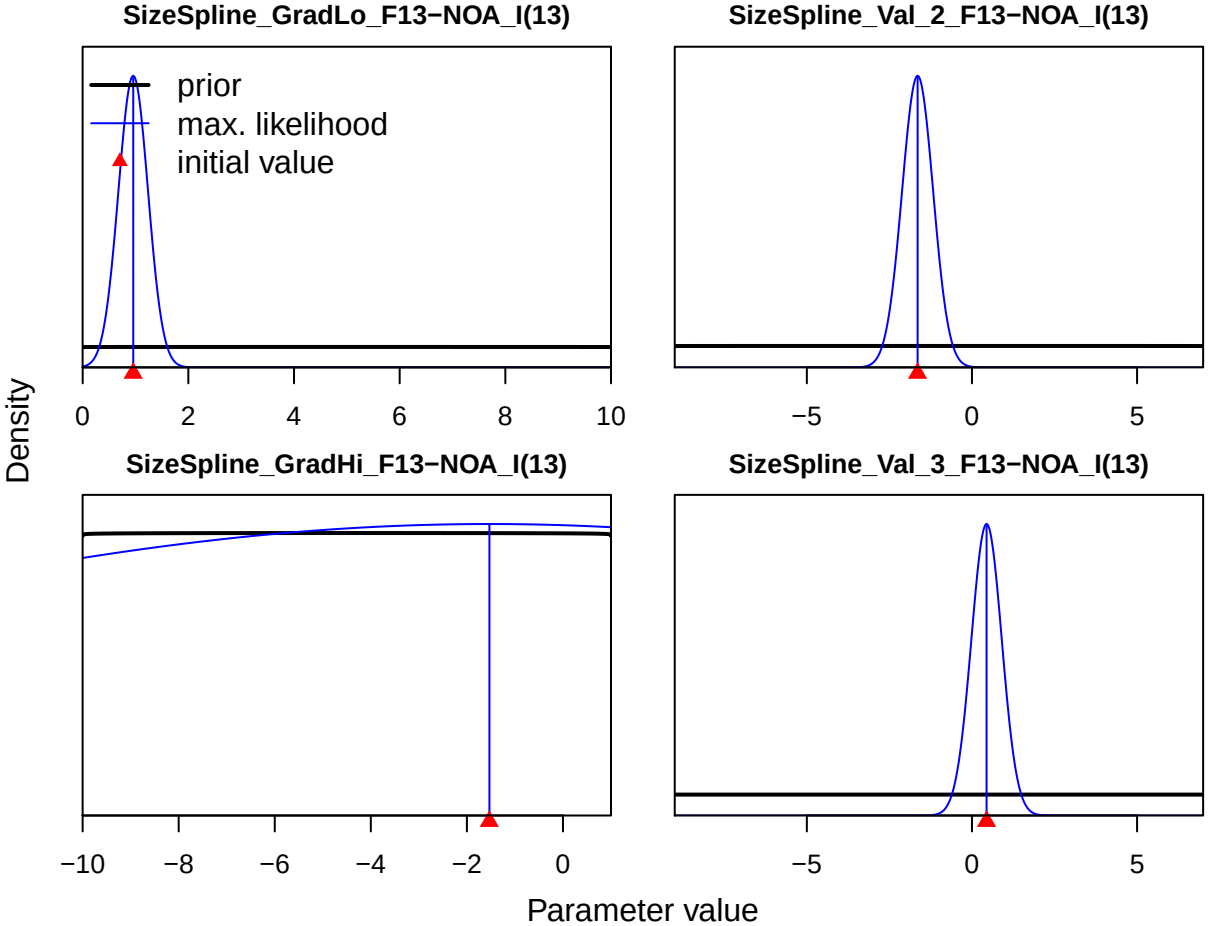
Parameter value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SizeSpline_Val_2_F13−NOA_I(13)
SizeSpline_GradHi_F13−NOA_I(13)
SizeSpline_Val_3_F13−NOA_I(13)
prior
max. likelihood
initial value
Density
Parameter value
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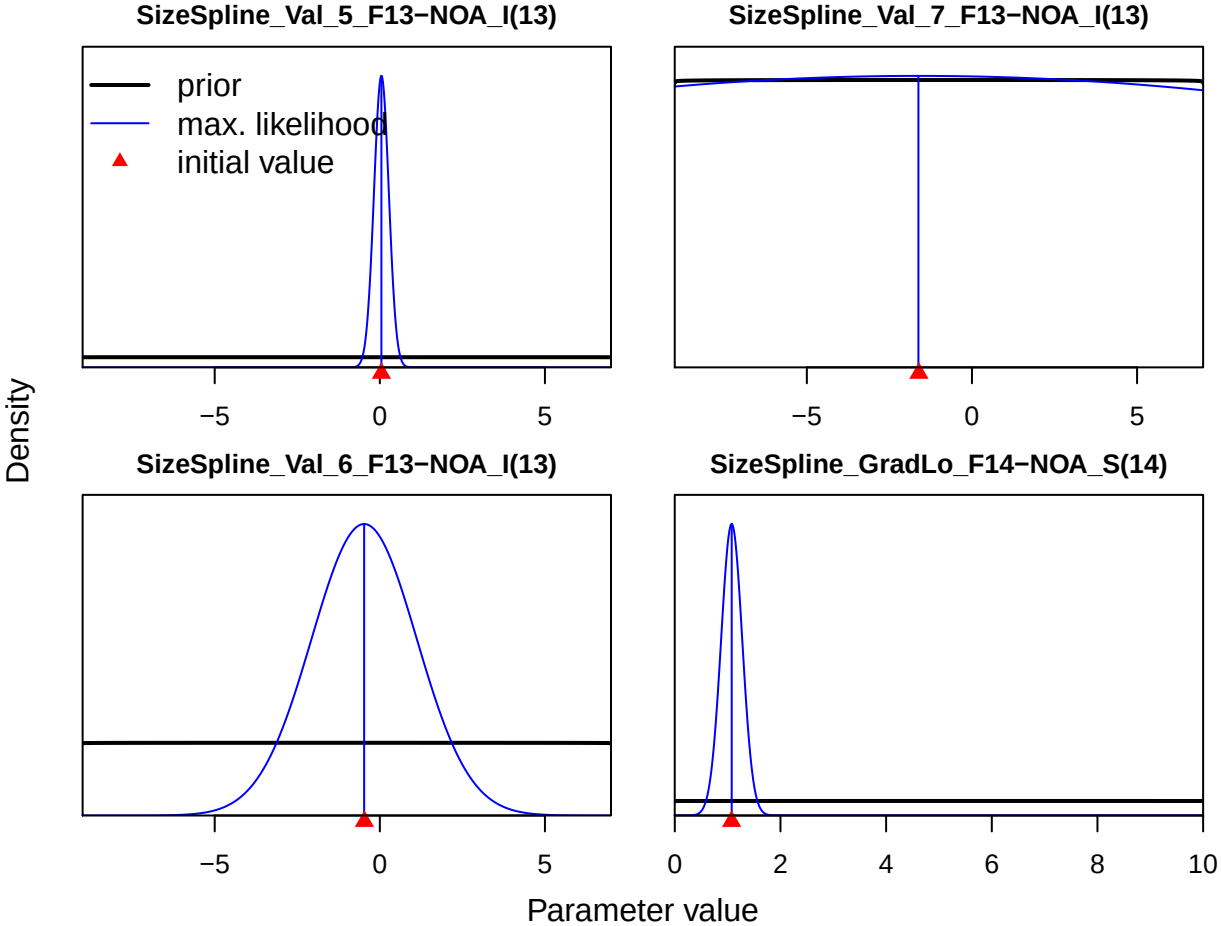
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SizeSpline_Val_7_F13−NOA_I(13)
SizeSpline_Val_6_F13−NOA_I(13)
SizeSpline_GradLo_F14−NOA_S(14)
prior
max. likelihood
initial value
Density
Parameter value
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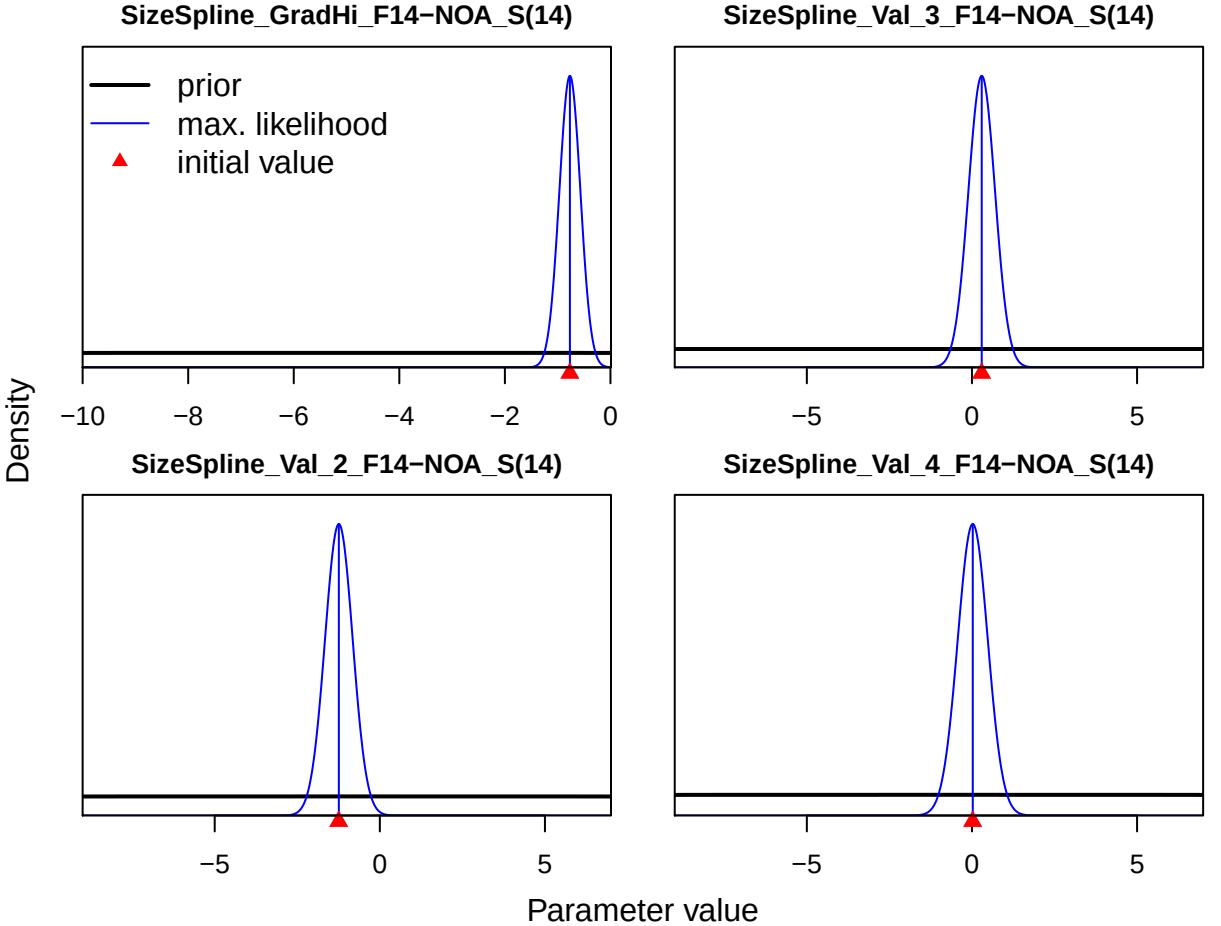
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SizeSpline_Val_3_F14−NOA_S(14)
SizeSpline_Val_2_F14−NOA_S(14)
SizeSpline_Val_4_F14−NOA_S(14)
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max. likelihood
initial value
Density
Parameter value
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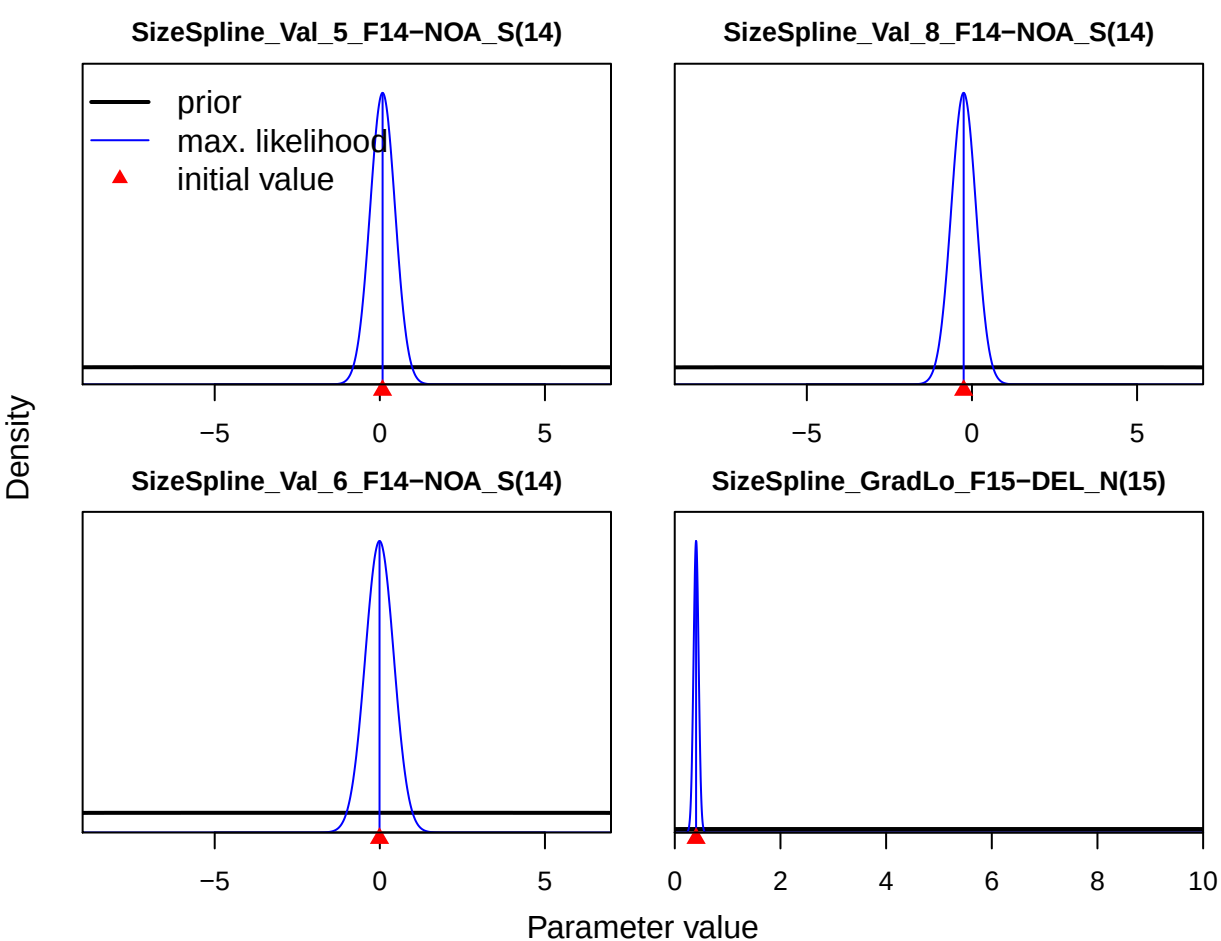
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SizeSpline_Val_8_F14−NOA_S(14)
SizeSpline_Val_6_F14−NOA_S(14)
SizeSpline_GradLo_F15−DEL_N(15)
prior
max. likelihood
initial value
Density
Parameter value
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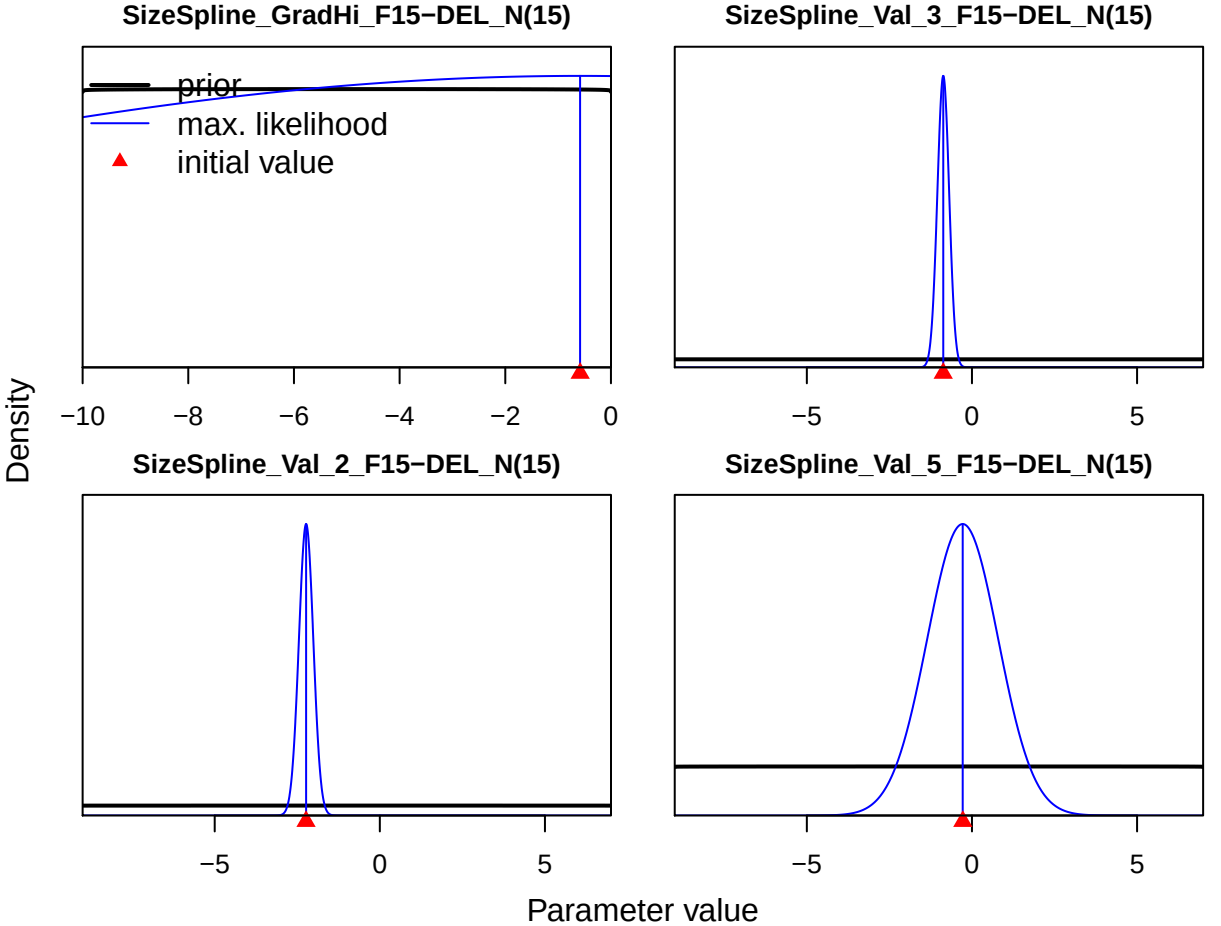
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SizeSpline_Val_2_F15−DEL_N(15)
SizeSpline_Val_5_F15−DEL_N(15)
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max. likelihood
initial value
Density
Parameter value
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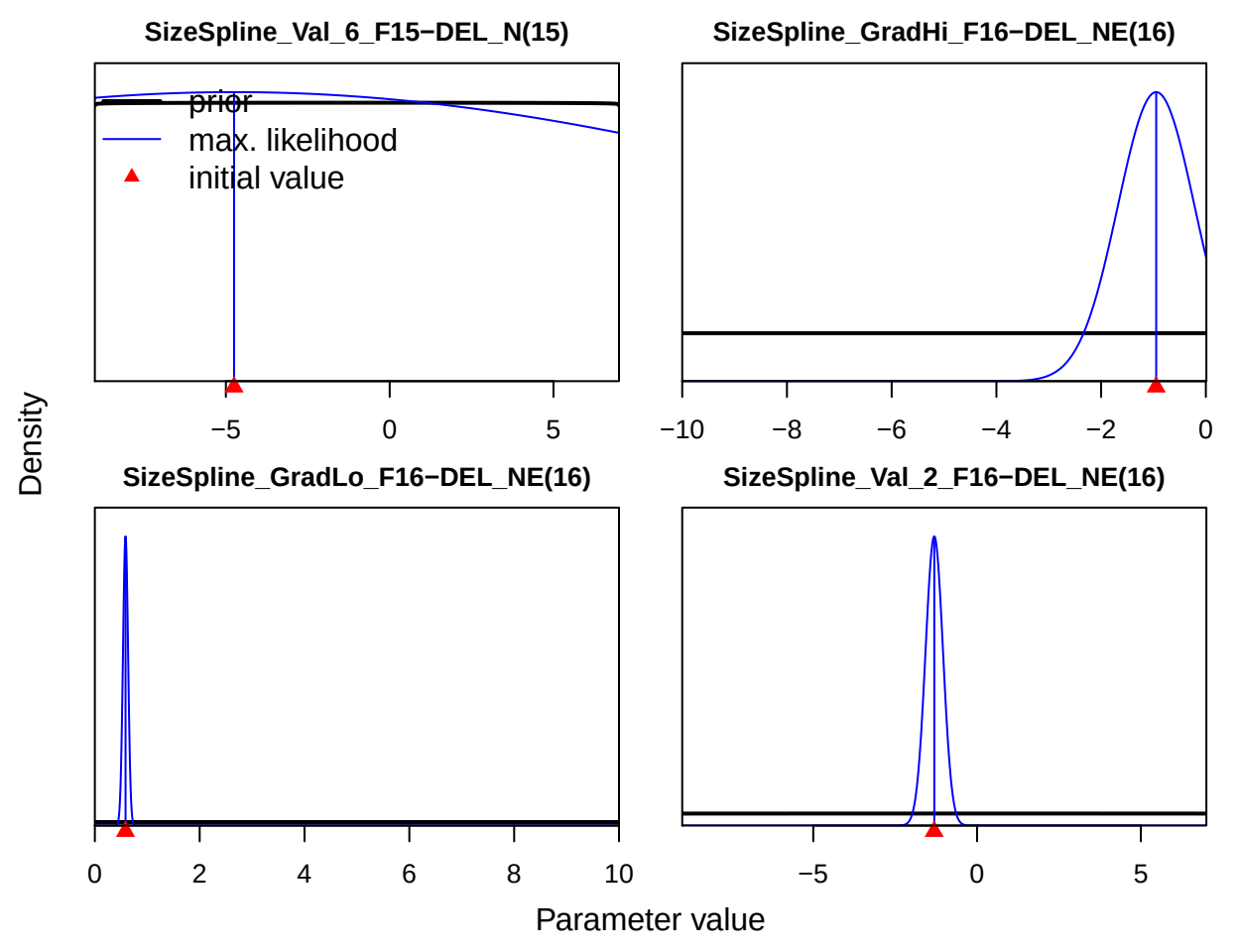
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SizeSpline_GradLo_F16−DEL_NE(16)
SizeSpline_Val_2_F16−DEL_NE(16)
prior
max. likelihood
initial value
Density
Parameter value
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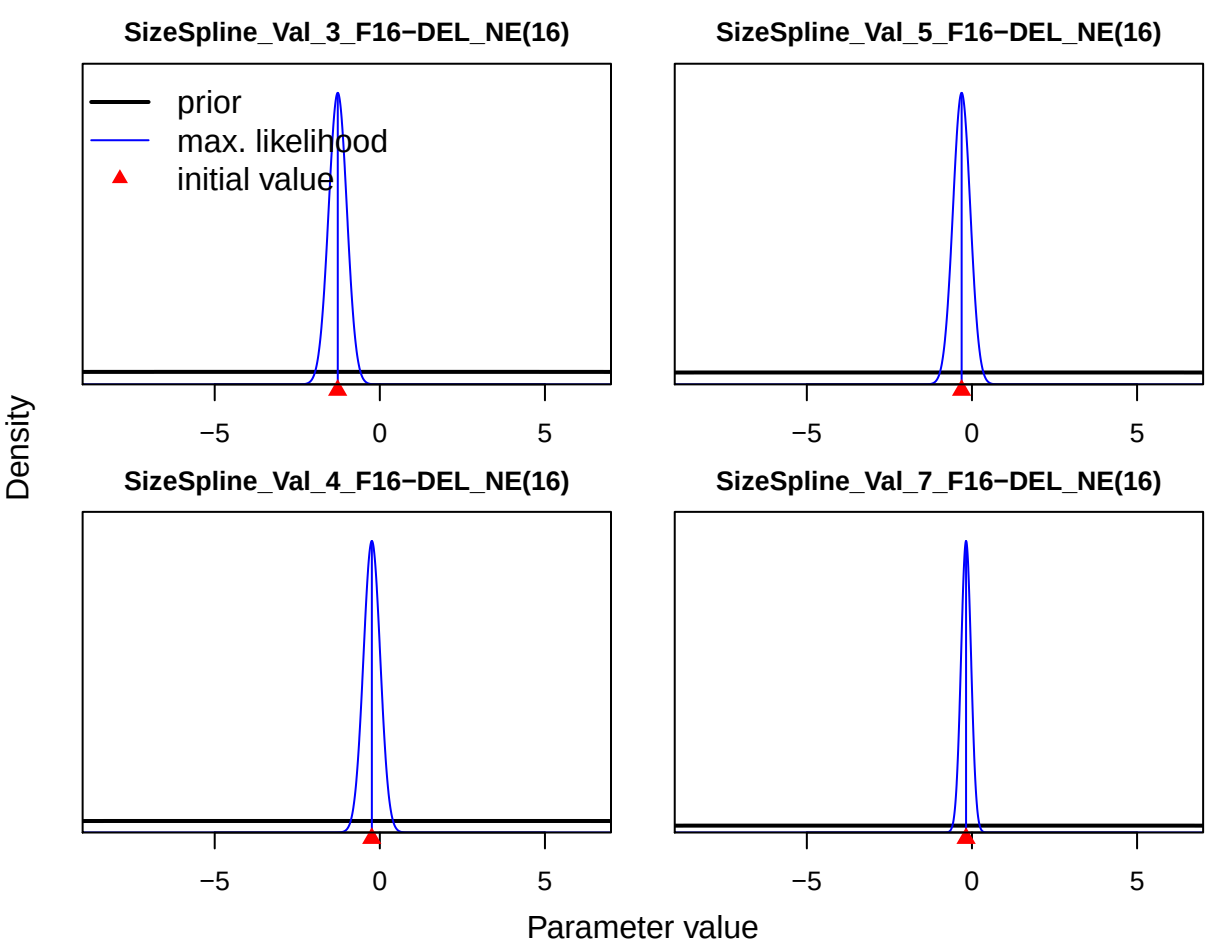
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SizeSpline_Val_5_F16−DEL_NE(16)
SizeSpline_Val_4_F16−DEL_NE(16)
SizeSpline_Val_7_F16−DEL_NE(16)
prior
max. likelihood
initial value
Density
Parameter value
−5
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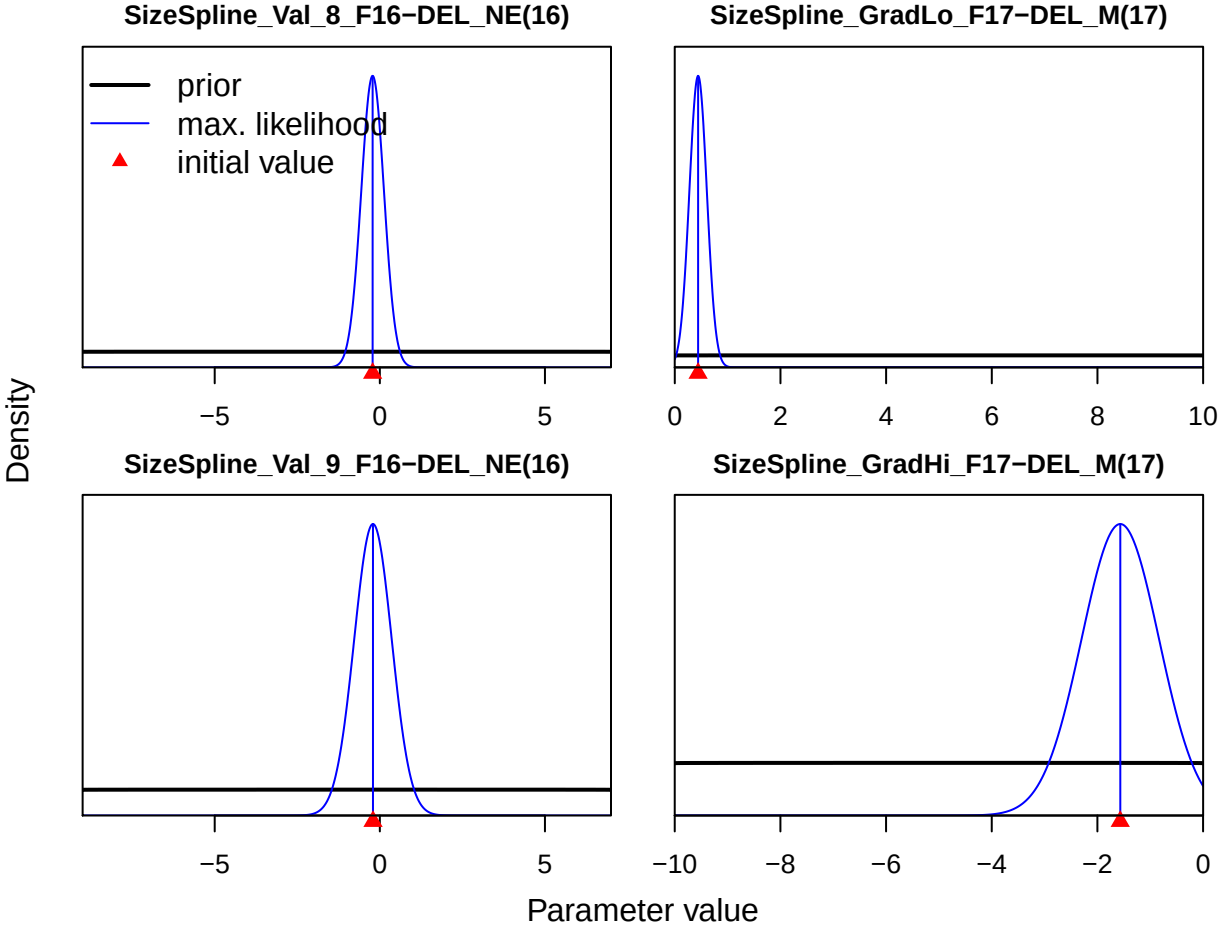
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SizeSpline_GradLo_F17−DEL_M(17)
SizeSpline_Val_9_F16−DEL_NE(16)
SizeSpline_GradHi_F17−DEL_M(17)
prior
max. likelihood
initial value
Density
Parameter value
−5
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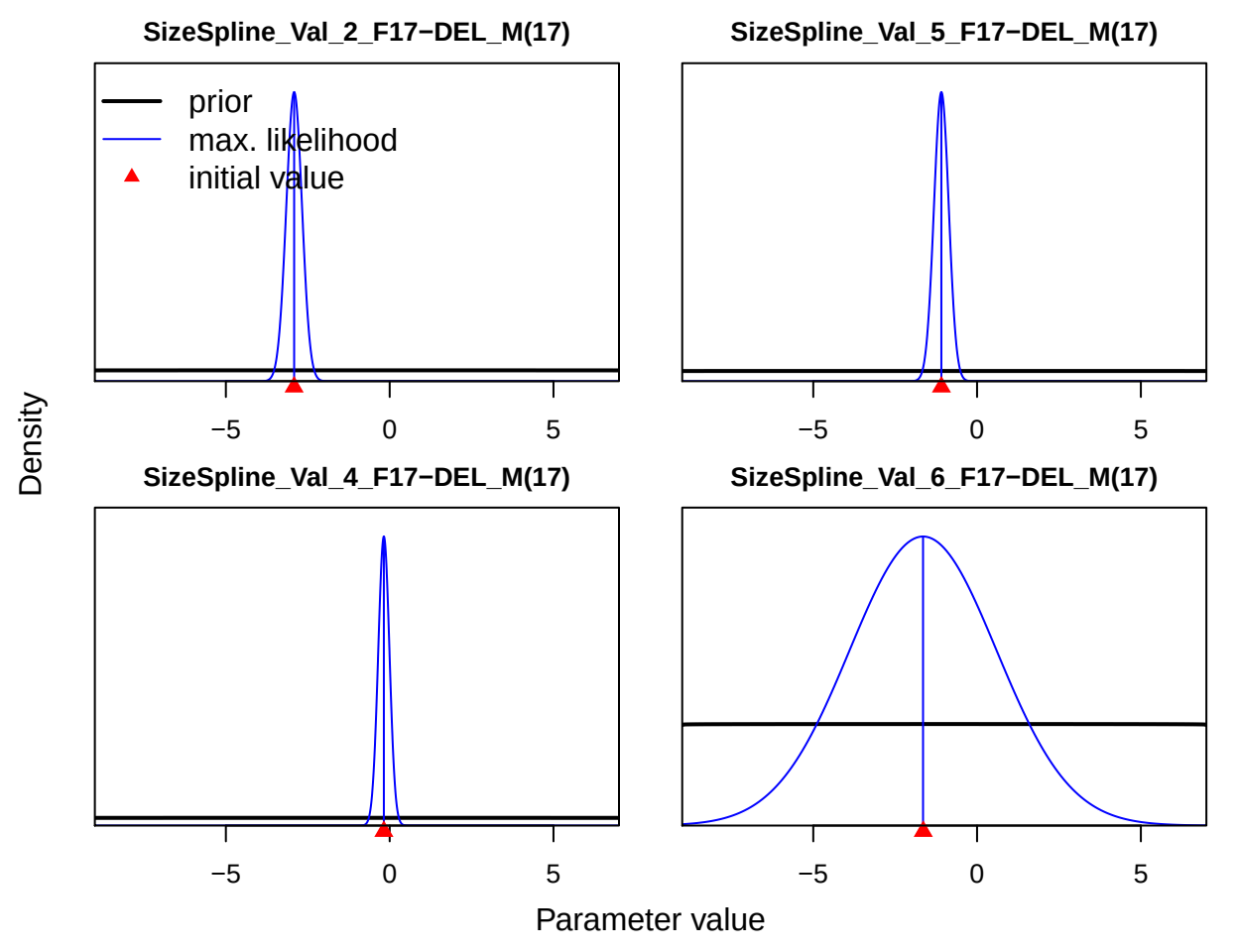
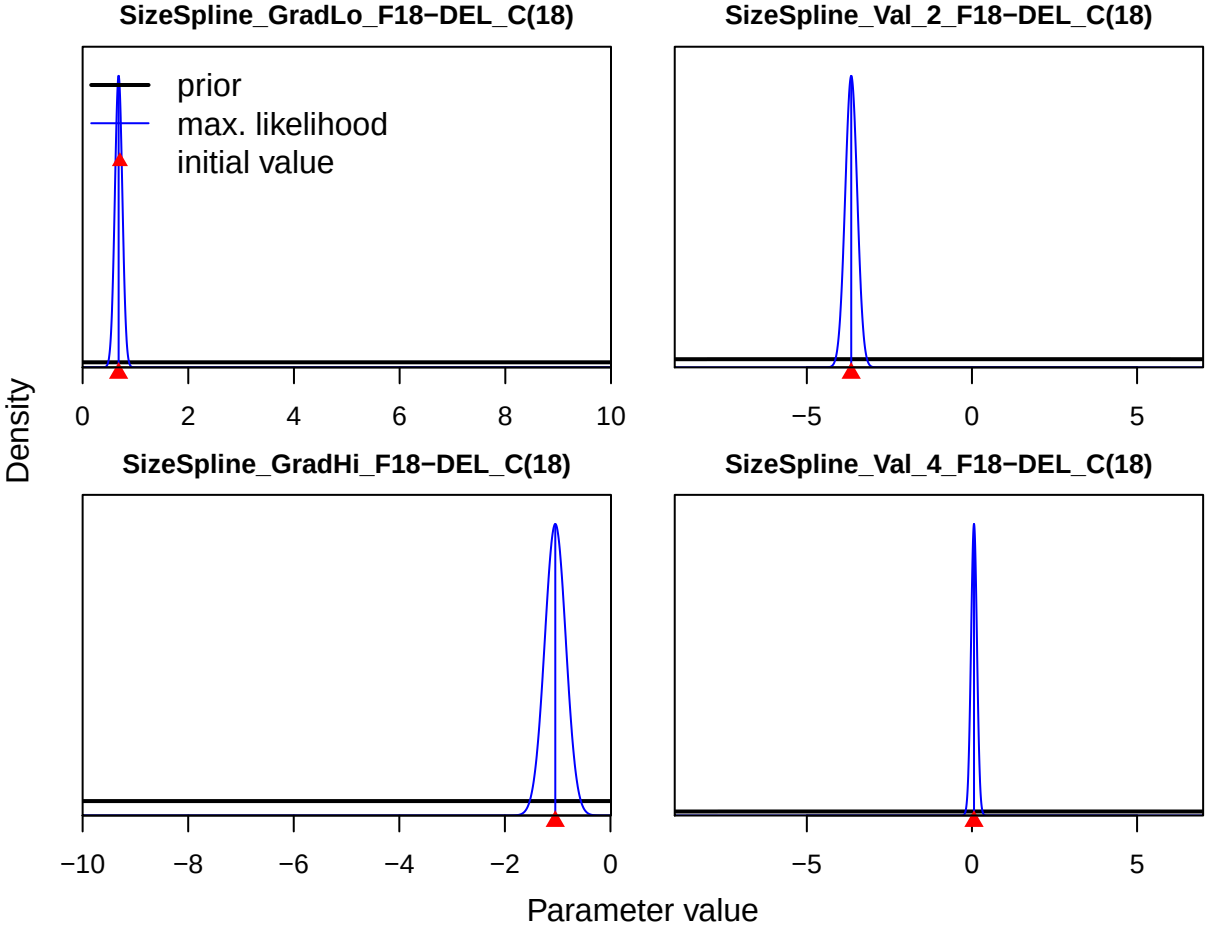
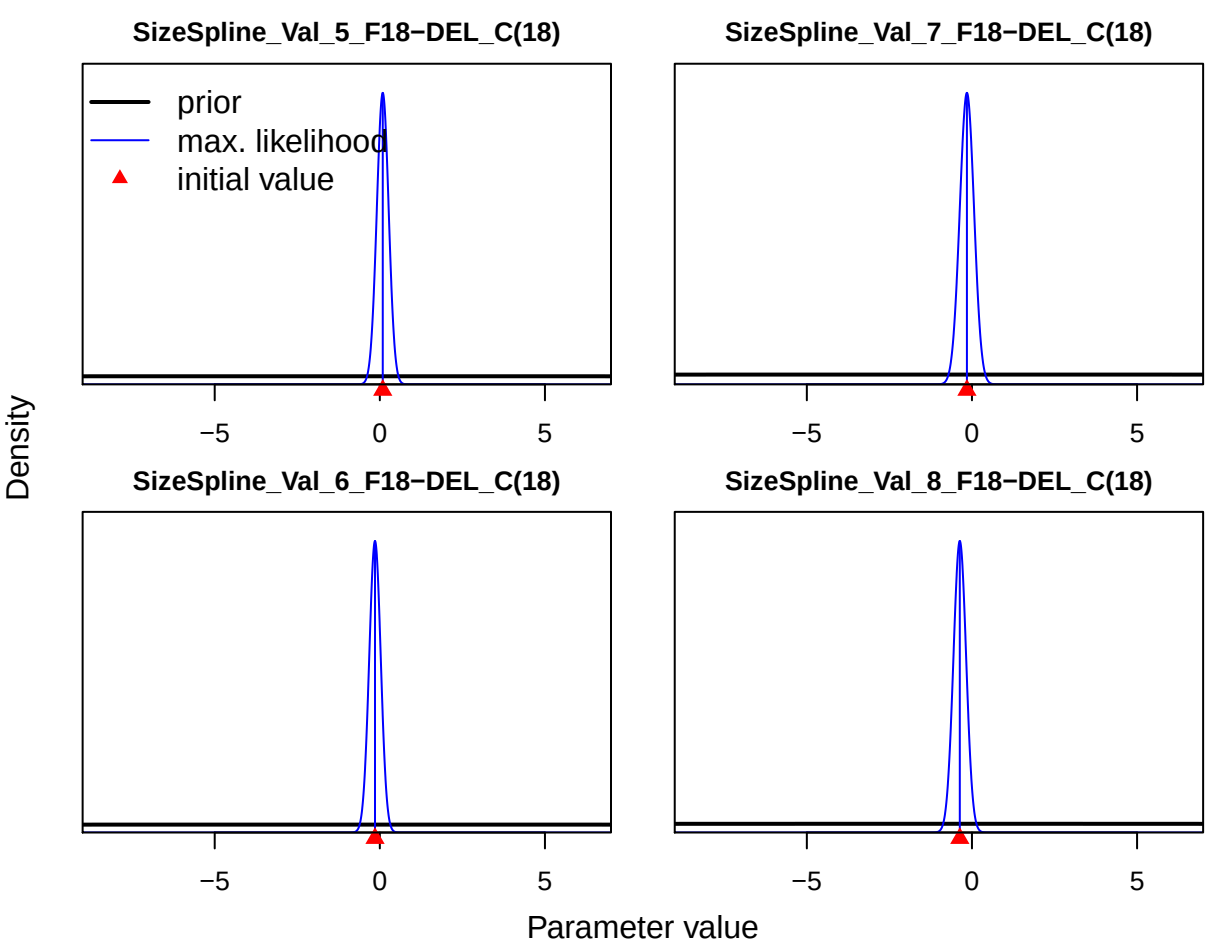
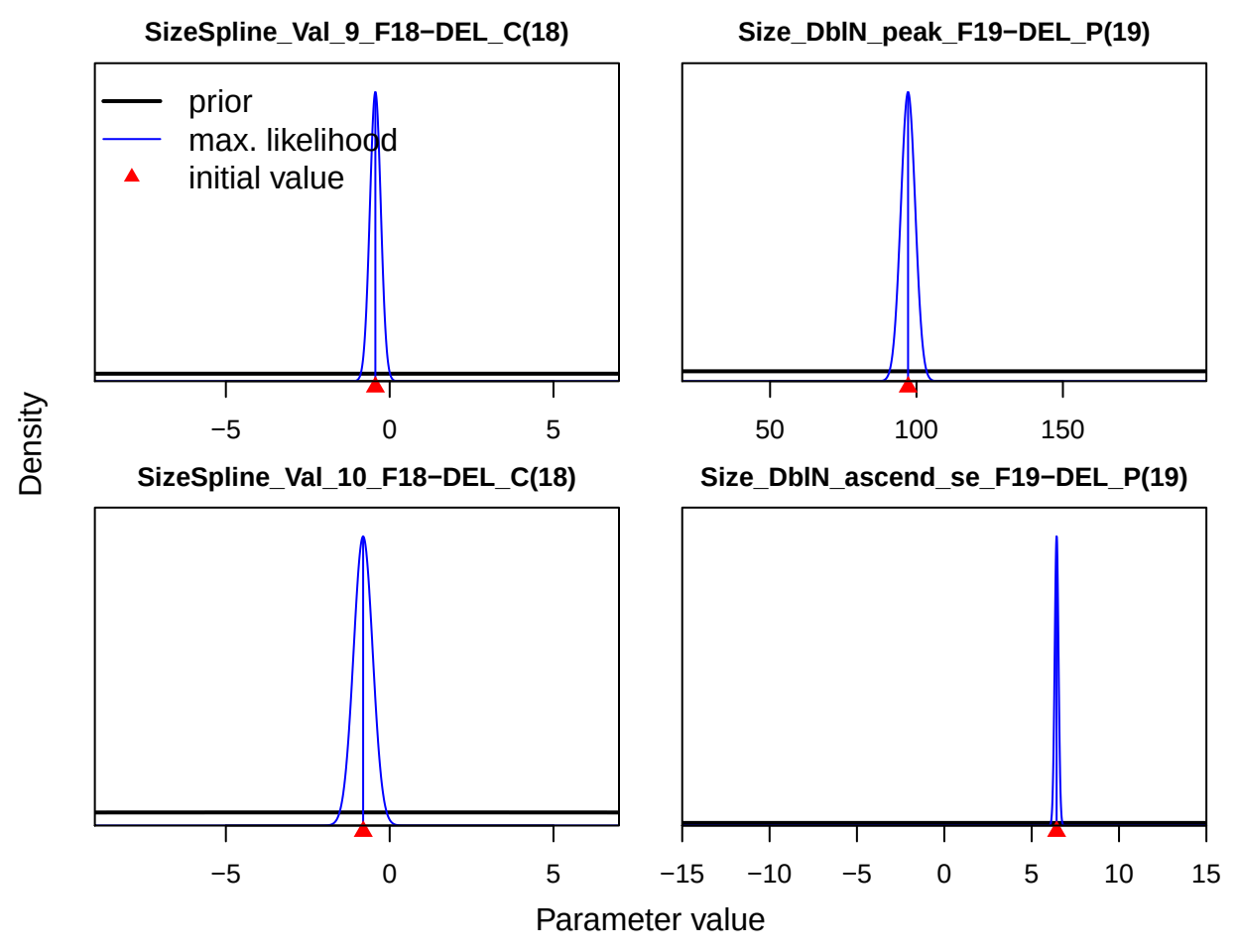
6
8
10
−10
−8
−6
−4
−2
0


SizeSpline_Val_2_F17−DEL_M(17)
SizeSpline_Val_5_F17−DEL_M(17)
SizeSpline_Val_4_F17−DEL_M(17)
SizeSpline_Val_6_F17−DEL_M(17)
prior
max. likelihood
initial value
Density
Parameter value
−5
0
5


SizeSpline_GradLo_F18−DEL_C(18)
SizeSpline_Val_2_F18−DEL_C(18)
SizeSpline_GradHi_F18−DEL_C(18)
SizeSpline_Val_4_F18−DEL_C(18)
prior
max. likelihood
initial value
Density
Parameter value
0
2
4
6
8
10
−5
0
5
−10
−8
−6
−4
−2
0
−5
0
5


SizeSpline_Val_5_F18−DEL_C(18)
SizeSpline_Val_7_F18−DEL_C(18)
SizeSpline_Val_6_F18−DEL_C(18)
SizeSpline_Val_8_F18−DEL_C(18)
prior
max. likelihood
initial value
Density
−5
0
5
Parameter value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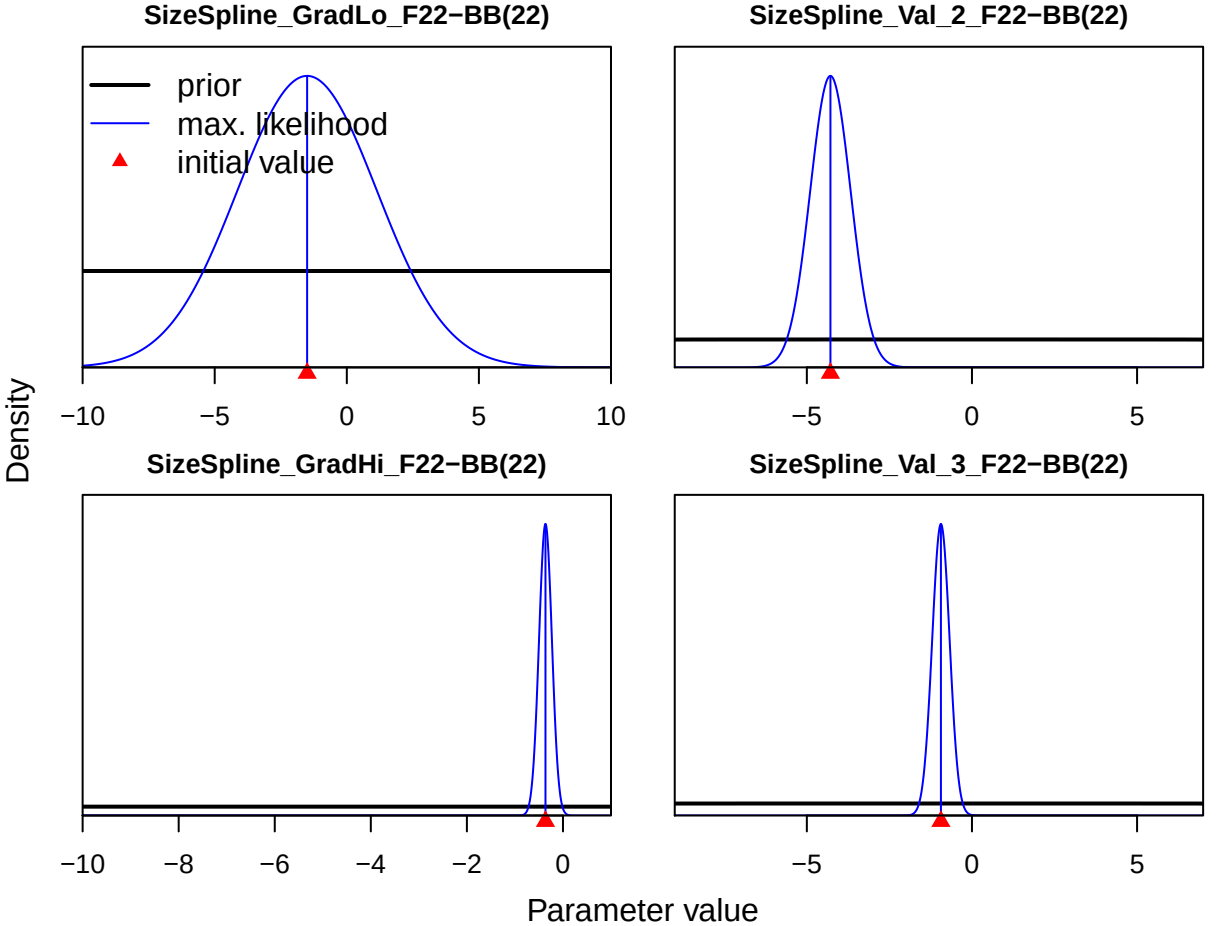
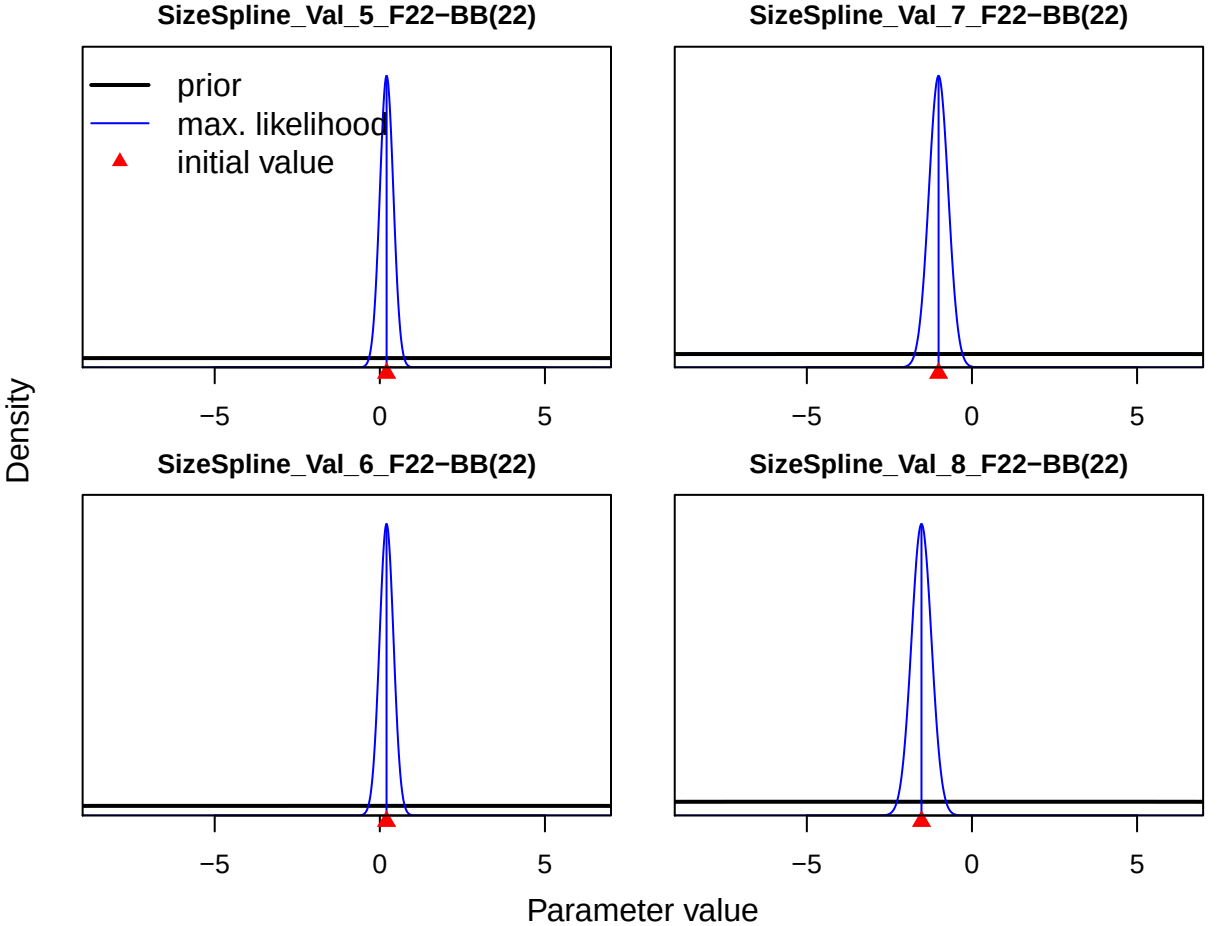
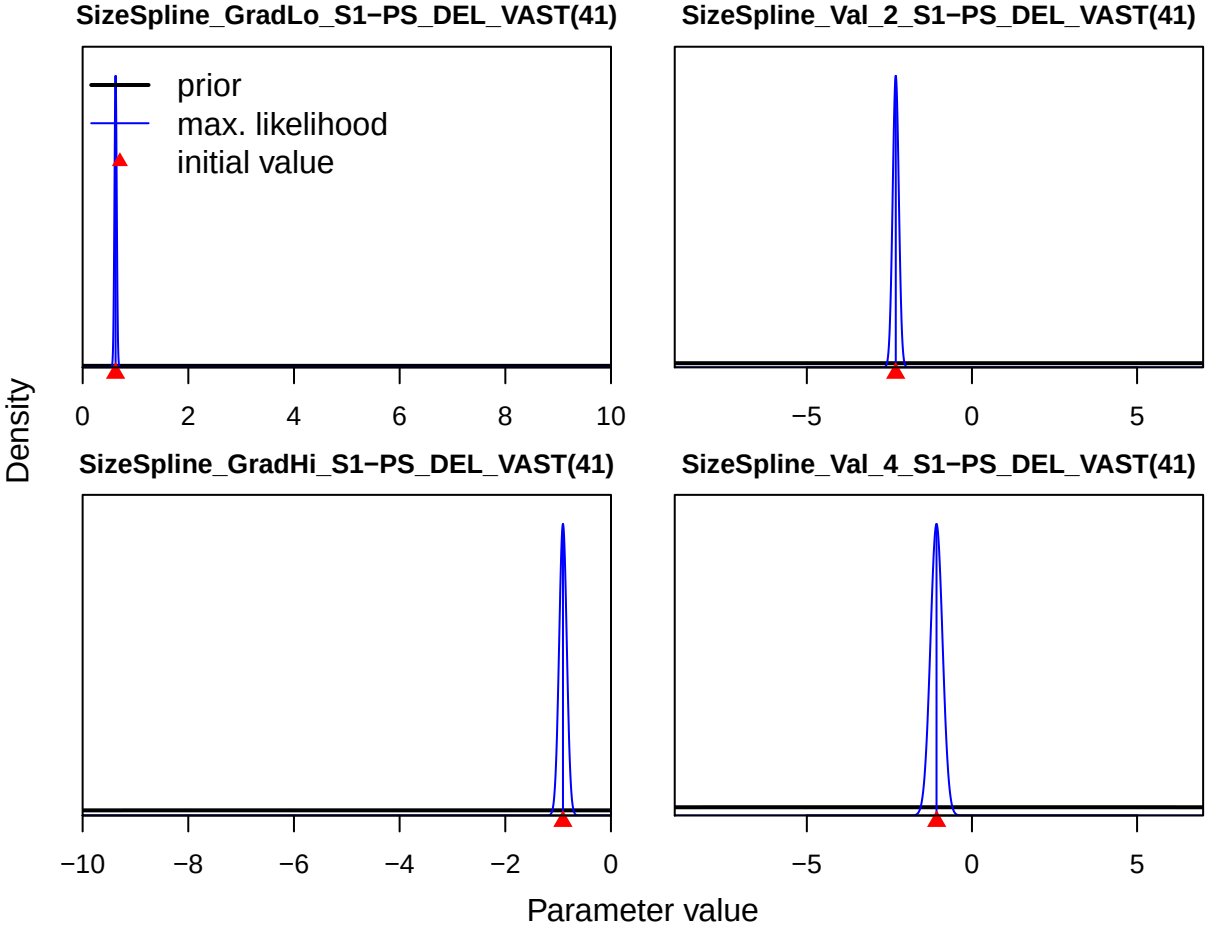
Size_DblN_peak_F19−DEL_P(19)
SizeSpline_Val_10_F18−DEL_C(18)
Size_DblN_ascend_se_F19−DEL_P(19)
prior
max. likelihood
initial value
Density
Parameter value
−5
0
5
50
100
150
−15
−10
10
15


SizeSpline_GradLo_F22−BB(22)
SizeSpline_Val_2_F22−BB(22)
SizeSpline_GradHi_F22−BB(22)
SizeSpline_Val_3_F22−BB(22)
prior
max. likelihood
initial value
Density
Parameter value
−10
−8
−6
−4
−2
0
5
10


SizeSpline_Val_5_F22−BB(22)
SizeSpline_Val_7_F22−BB(22)
SizeSpline_Val_6_F22−BB(22)
SizeSpline_Val_8_F22−BB(22)
prior
max. likelihood
initial value
Density
−5
0
5
Parameter value


SizeSpline_GradLo_S1−PS_DEL_VAST(41)
SizeSpline_Val_2_S1−PS_DEL_VAST(41)
SizeSpline_GradHi_S1−PS_DEL_VAST(41)
SizeSpline_Val_4_S1−PS_DEL_VAST(41)
prior
max. likelihood
initial value
Density
Parameter value
0
2
4
6
8
10
−5
0
5
−10
−8
−6
−4
−2
0
−5
0
5