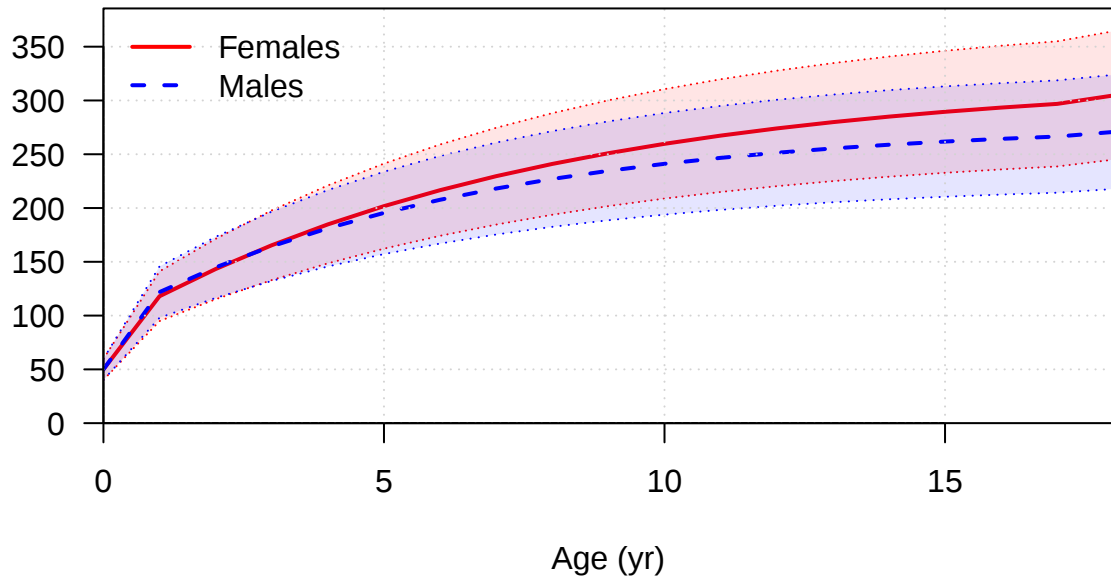
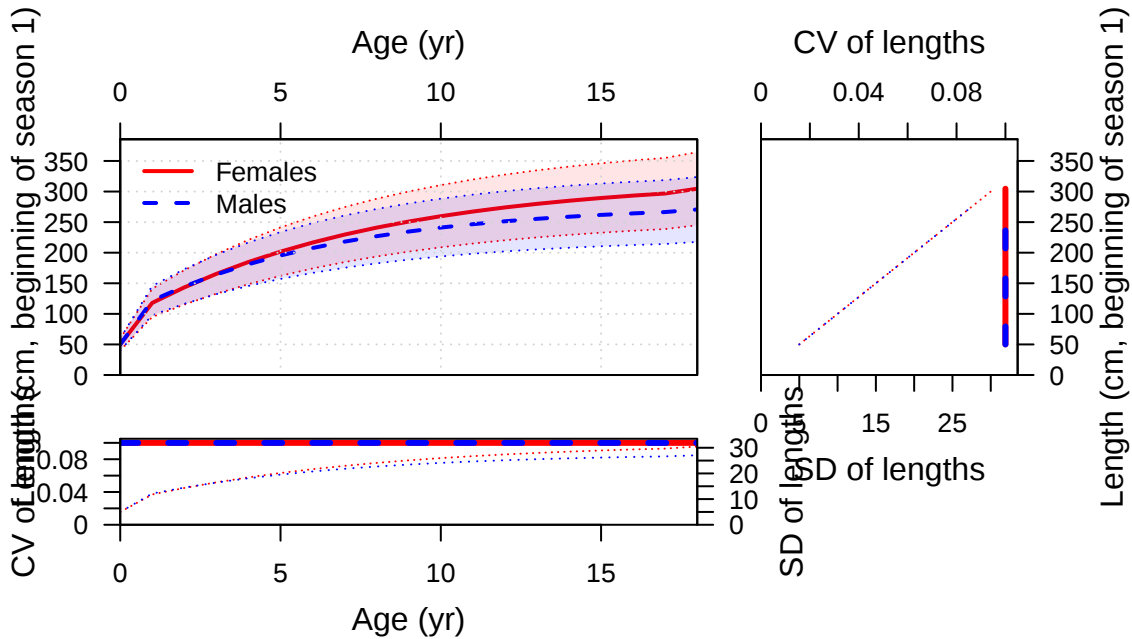
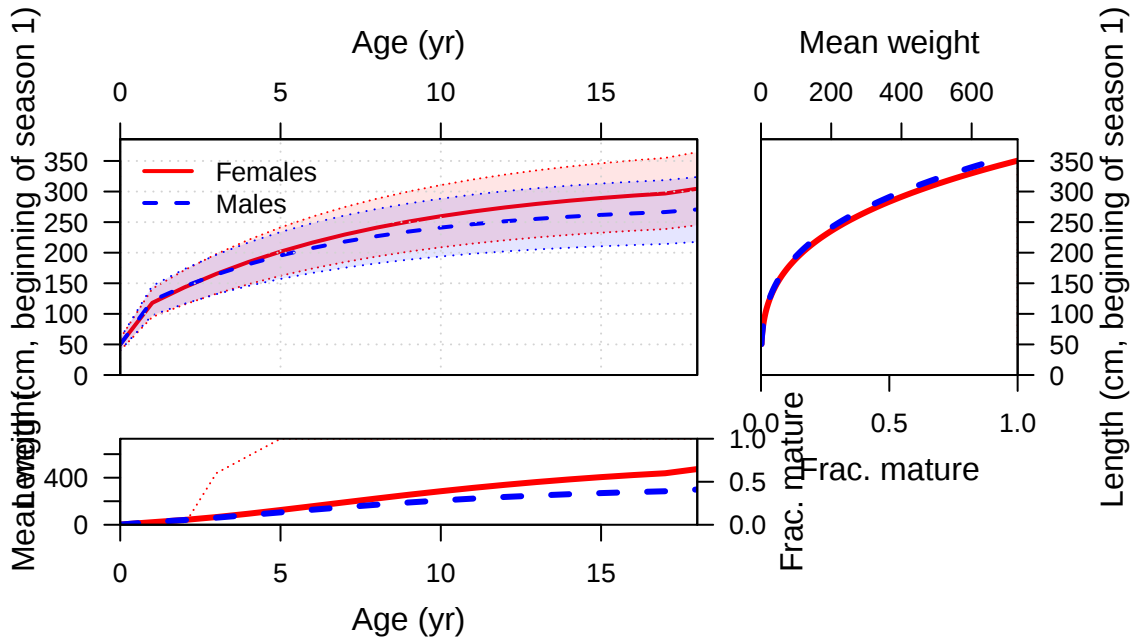


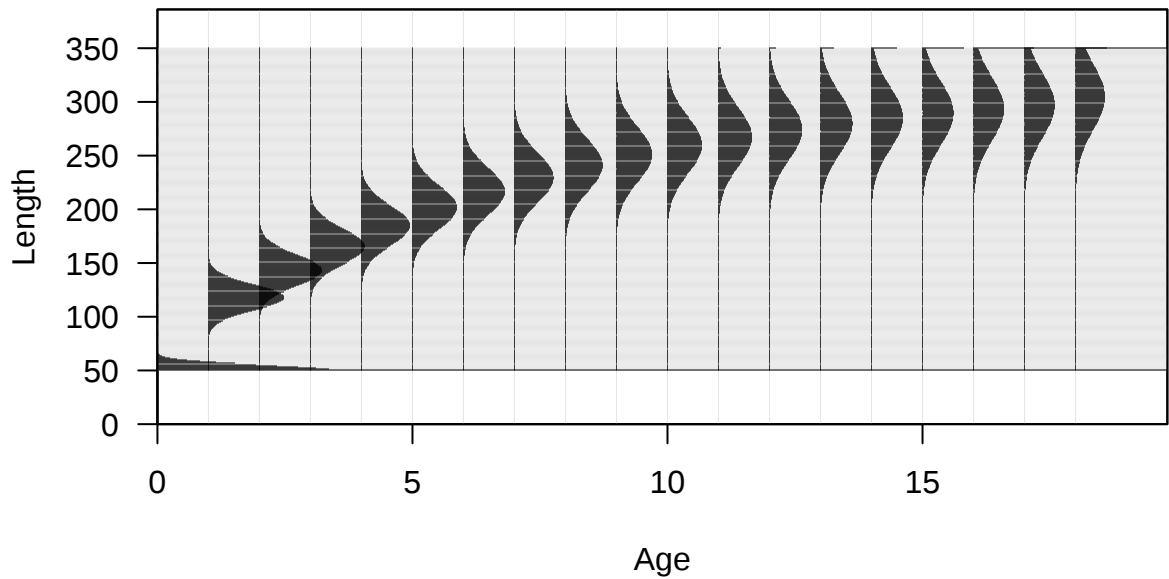
Plots created using the 'r4ss' package in R
Stock Synthesis version: 3.30.19.0
StartTime: Sat Jul 09 17:09:29 2022
Data_File: SWO_data.ss
Control_File: SWO_control.ss

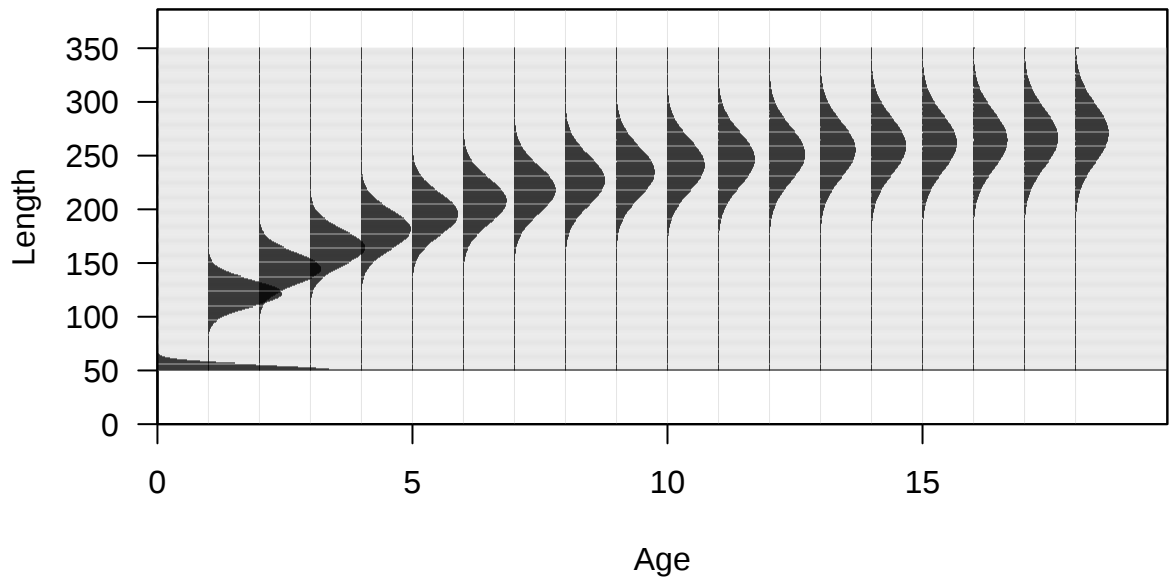
Length (cm, beginning of season 1)

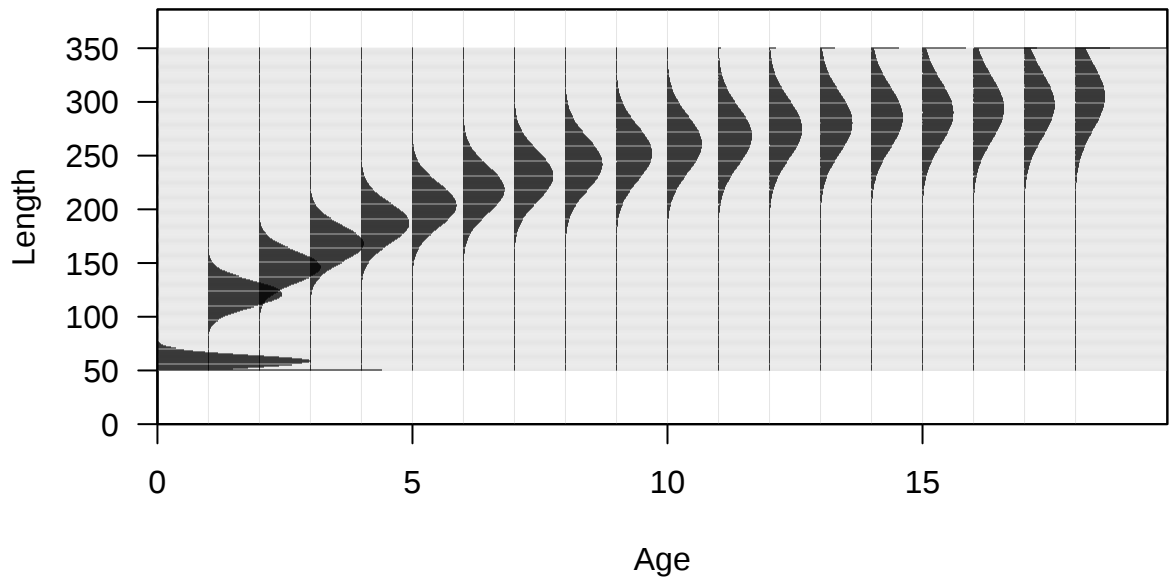


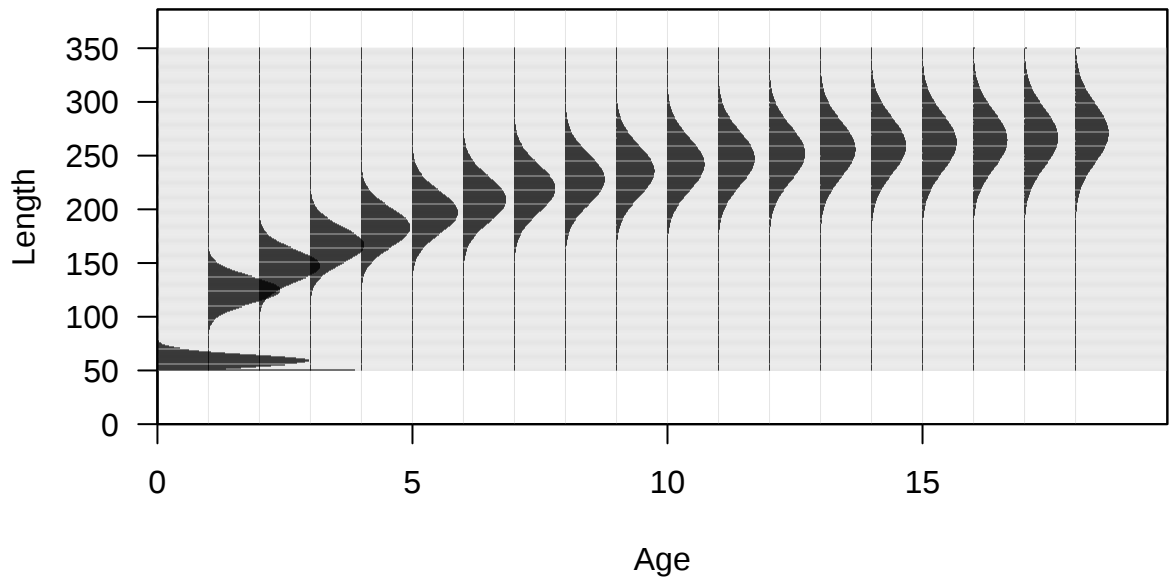


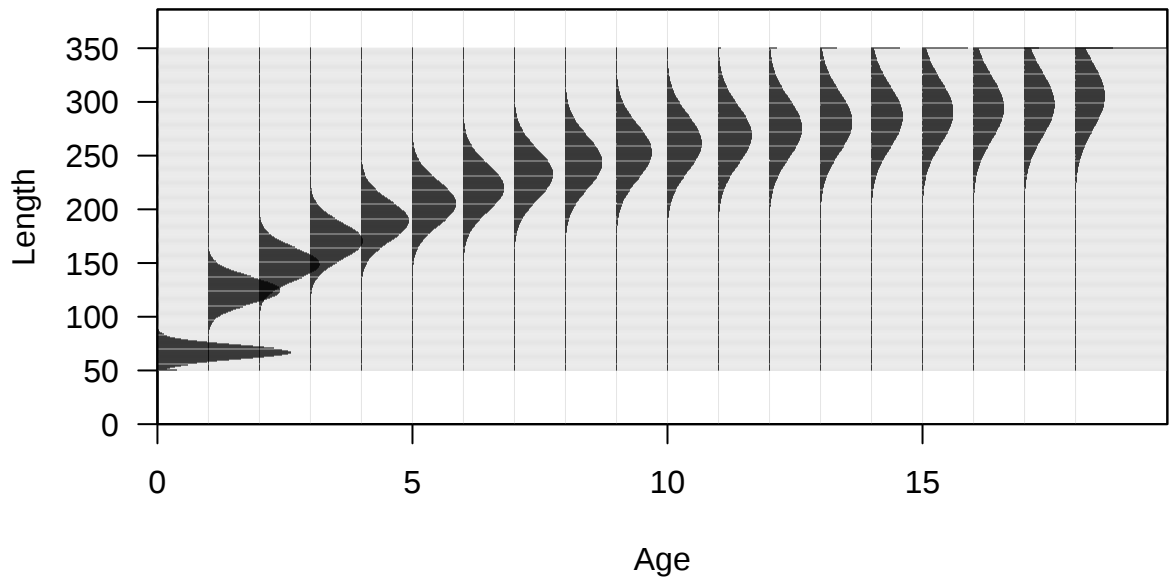


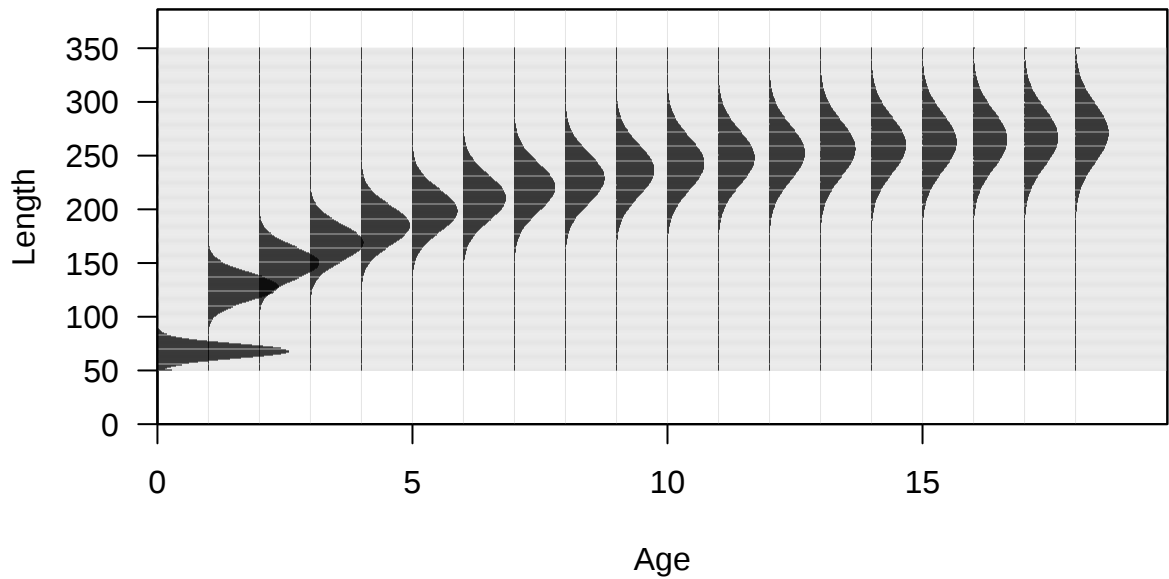


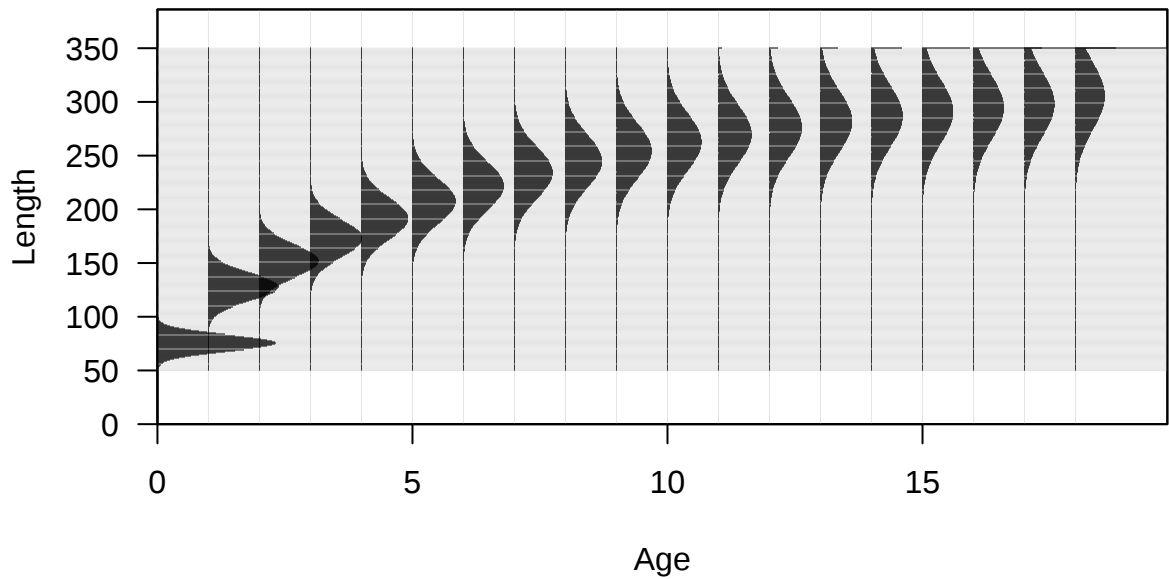


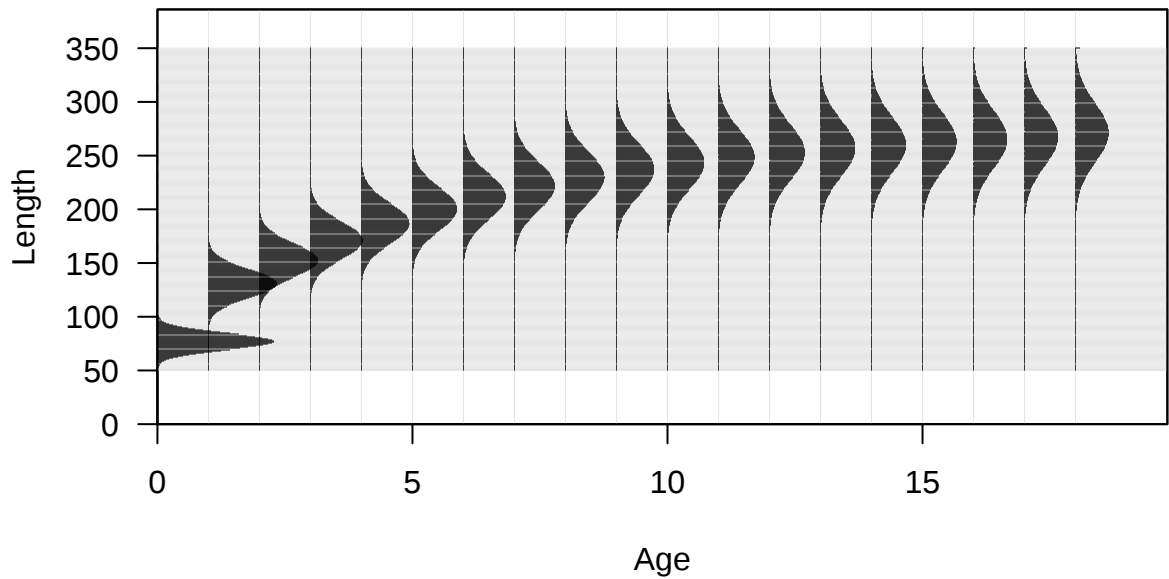


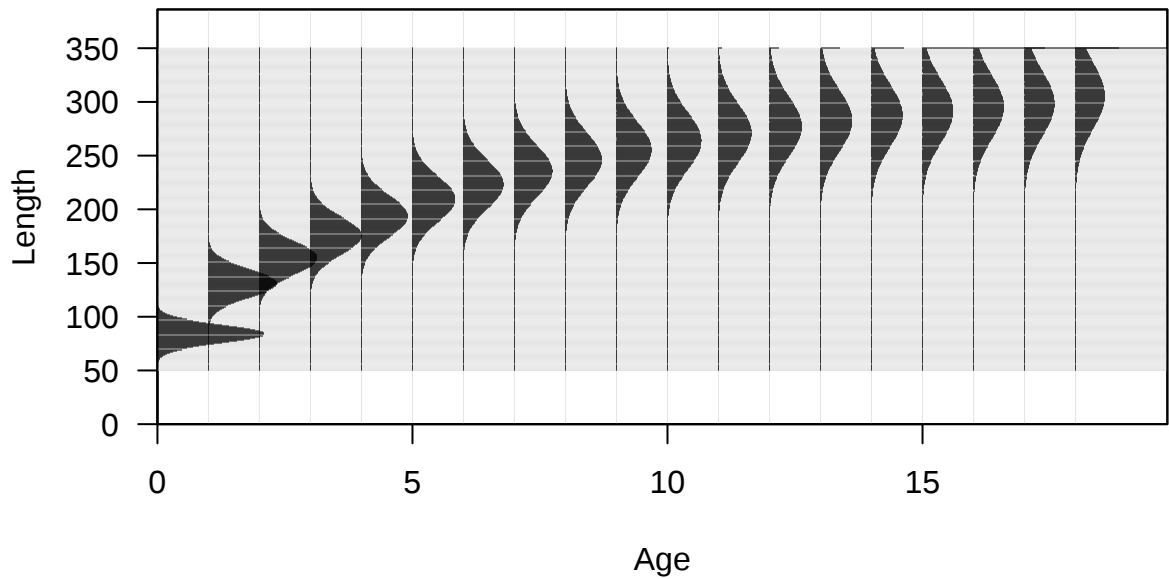


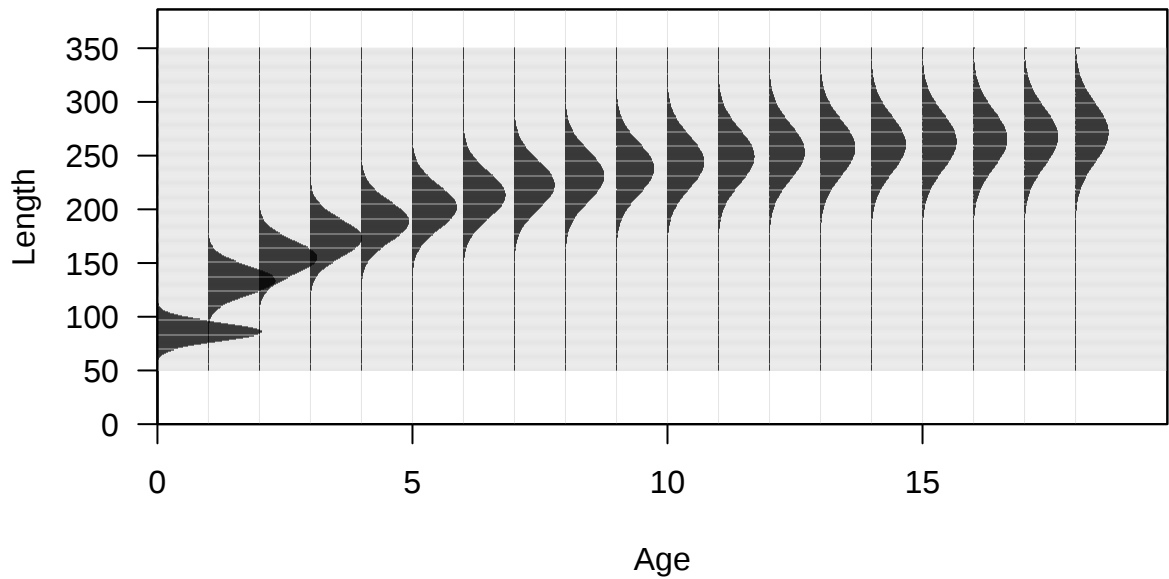


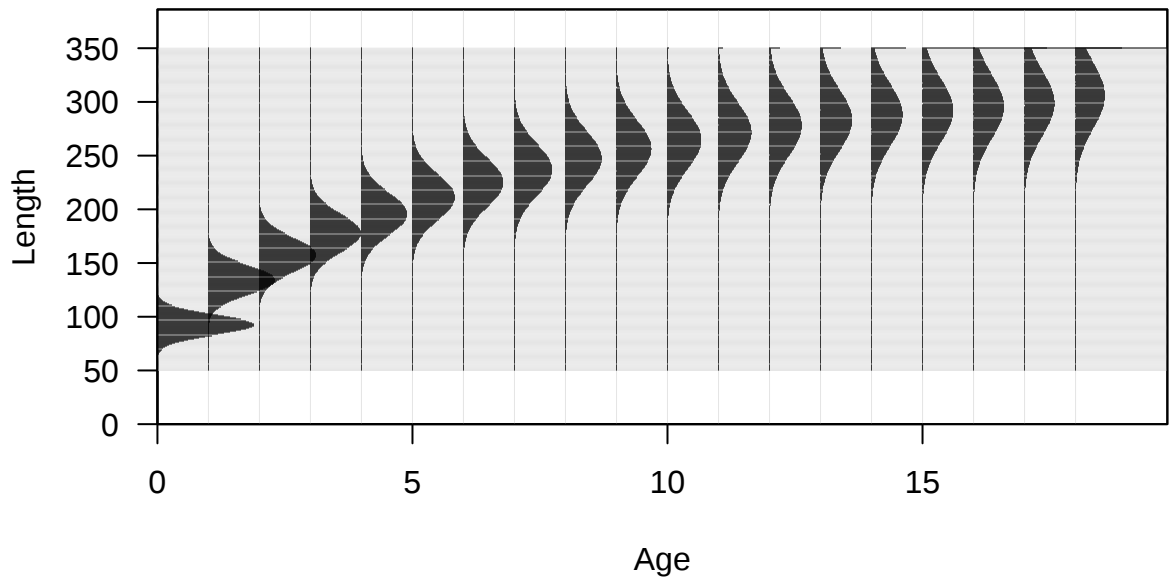


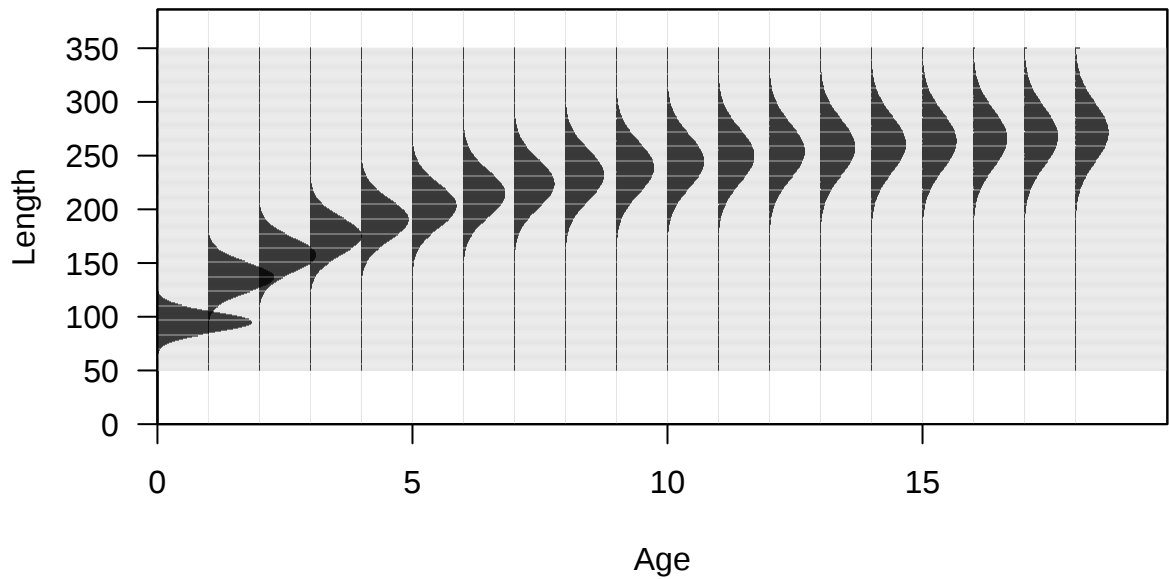


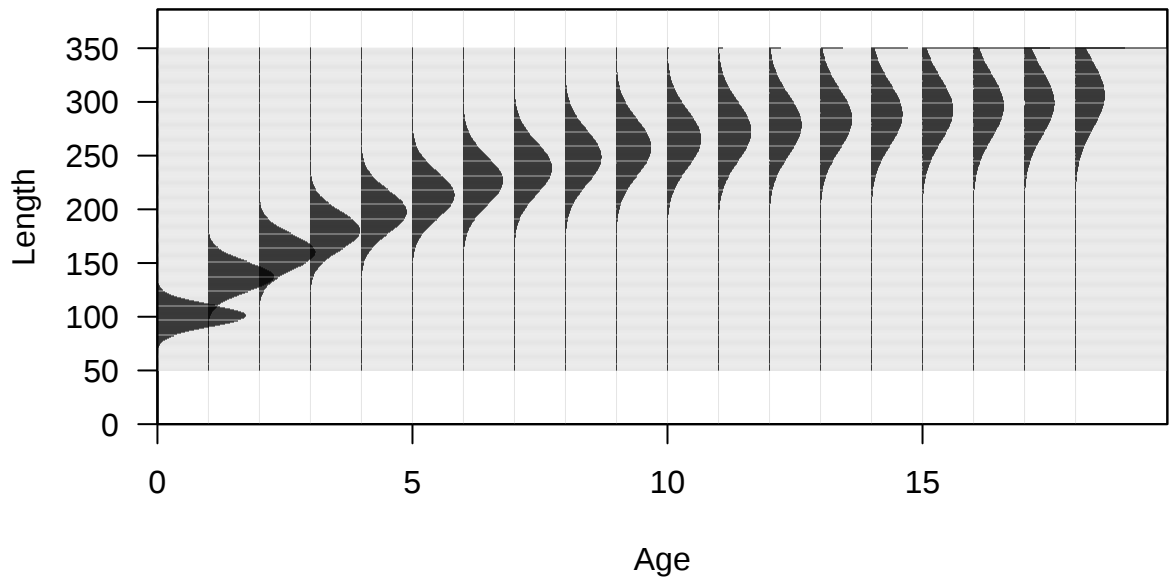


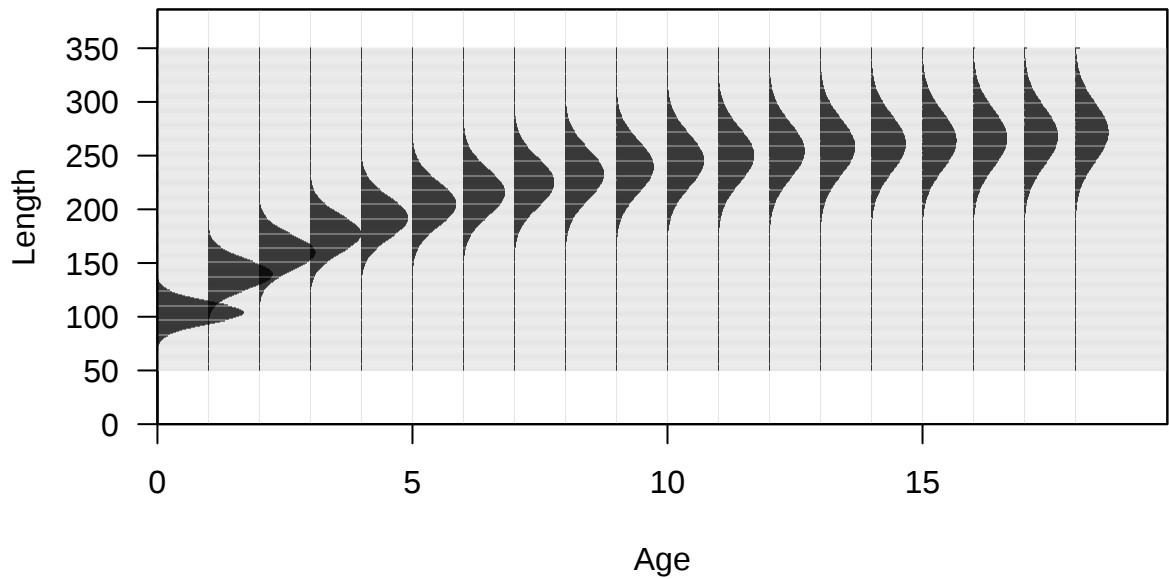


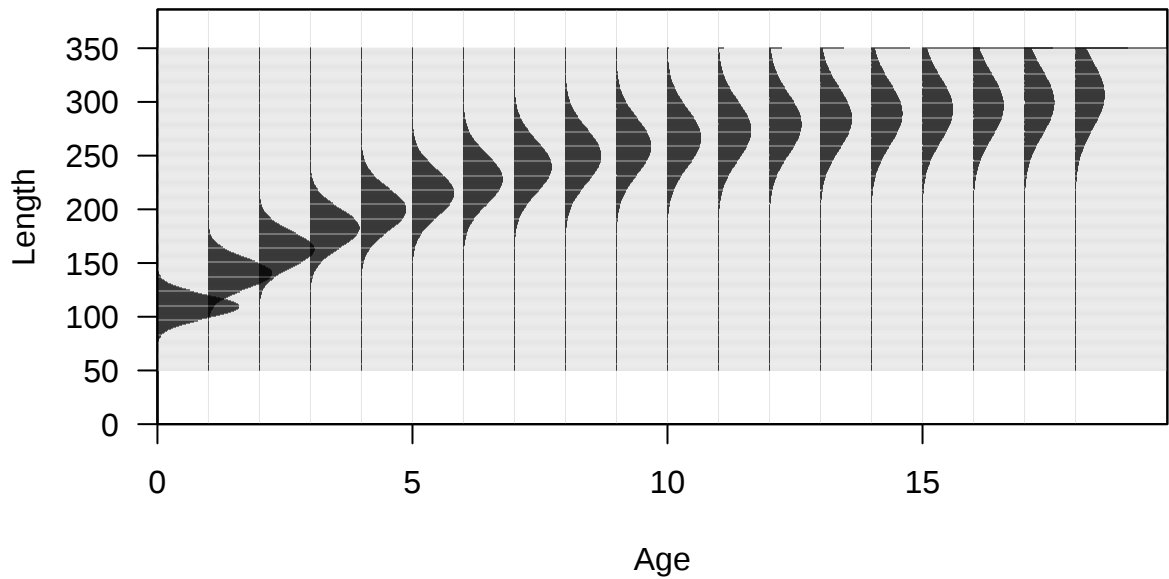


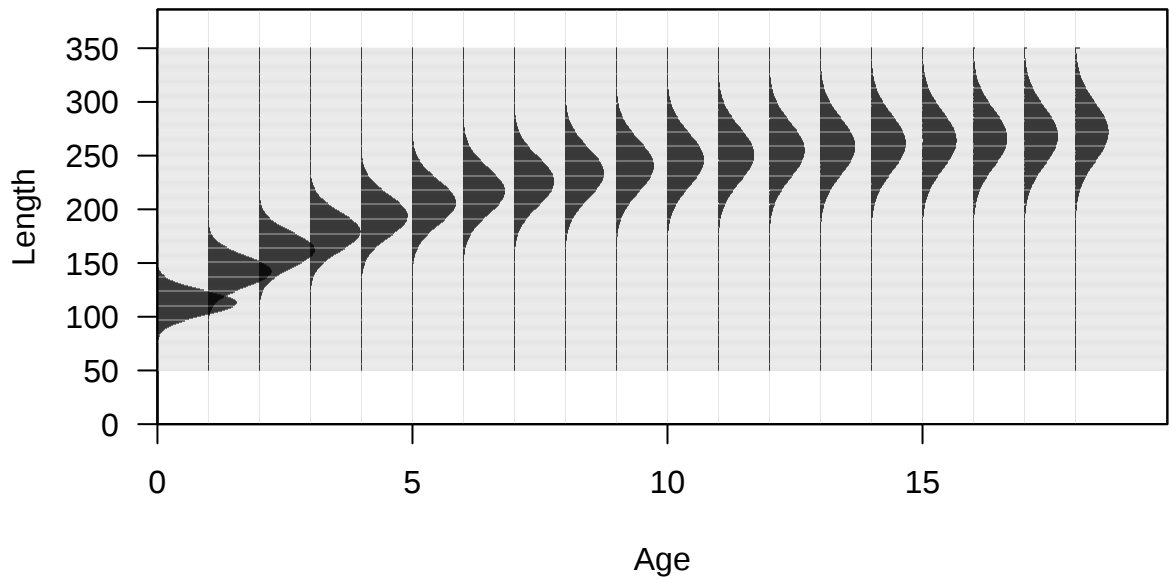


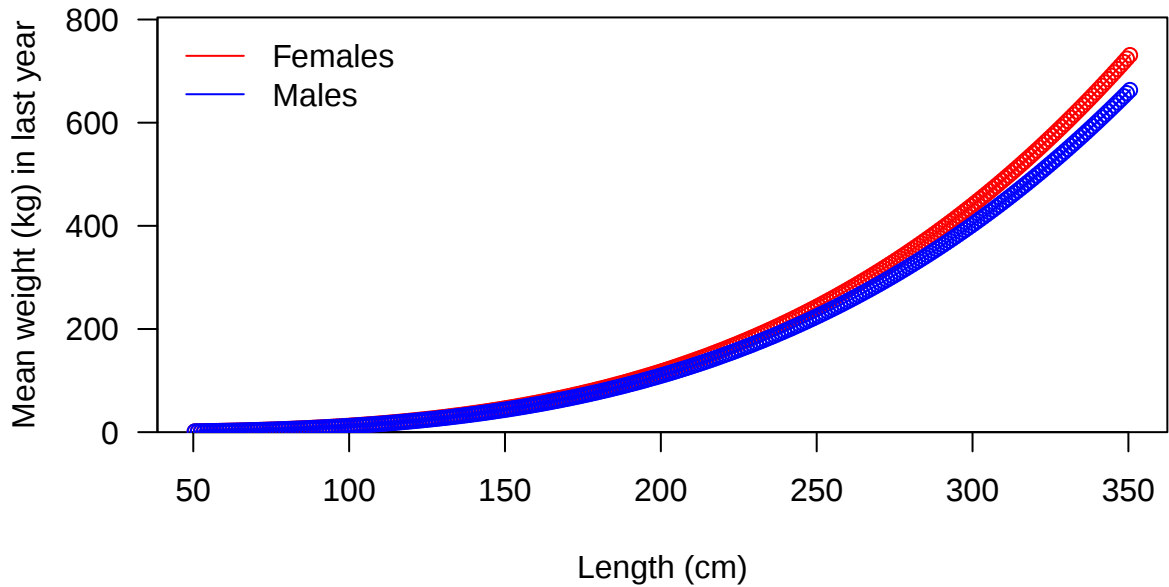


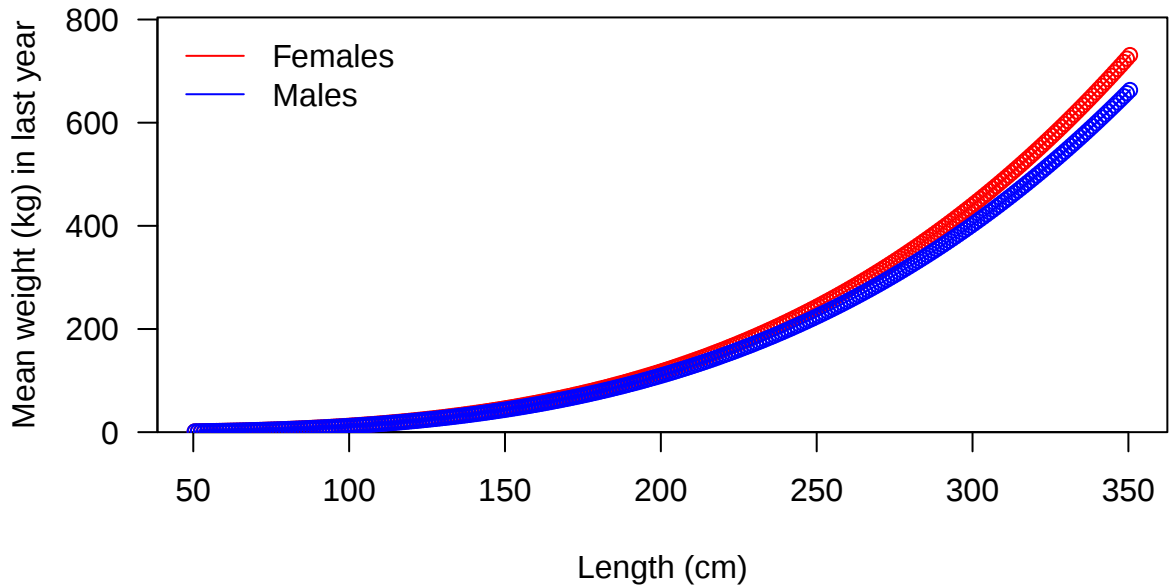


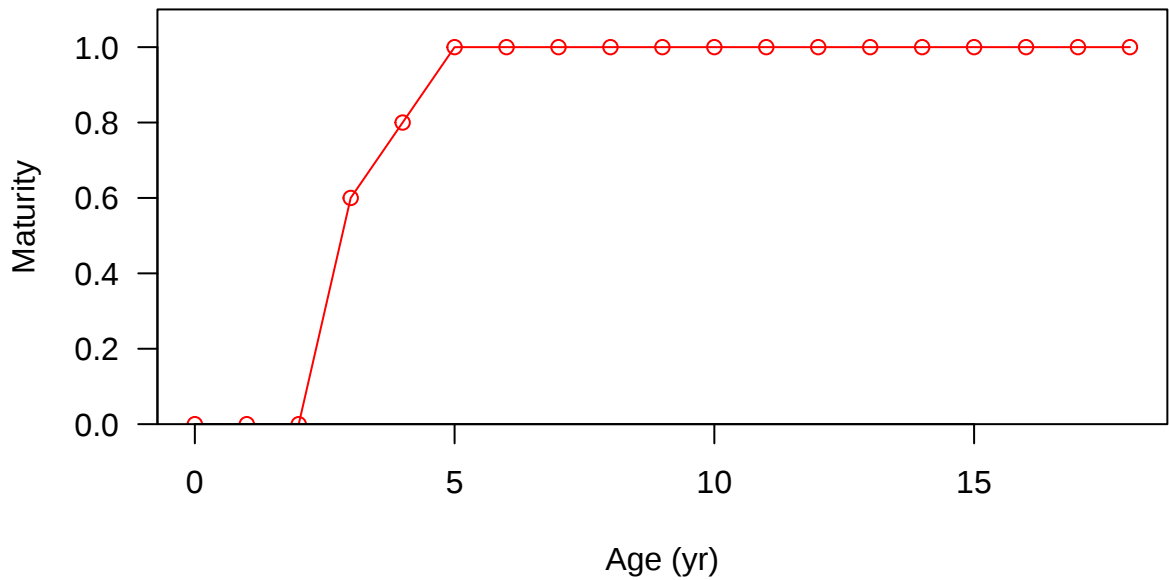


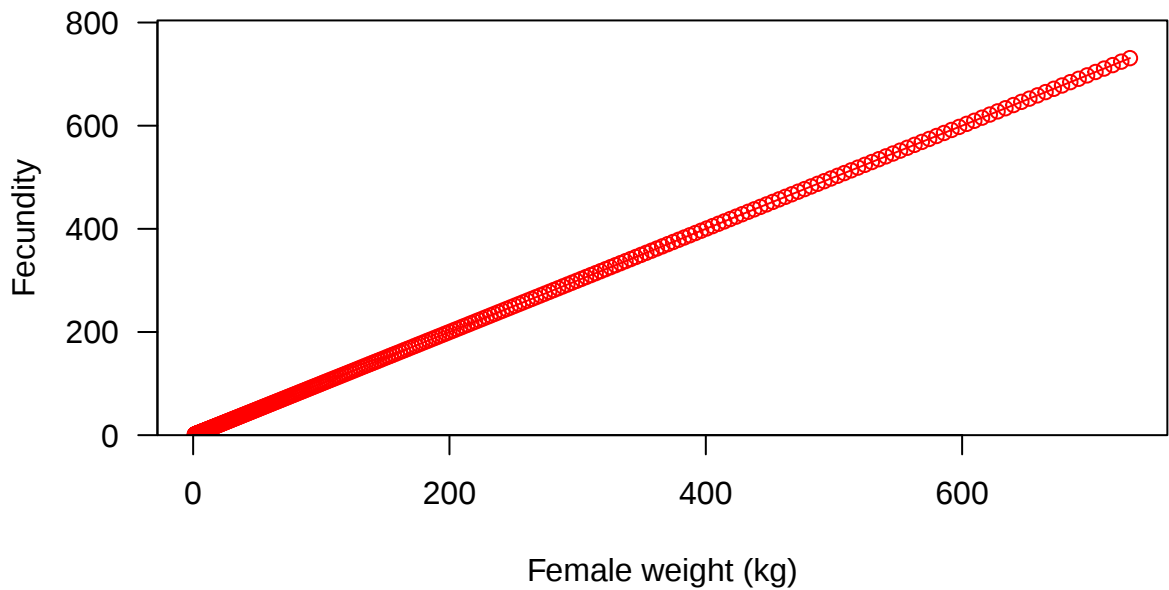


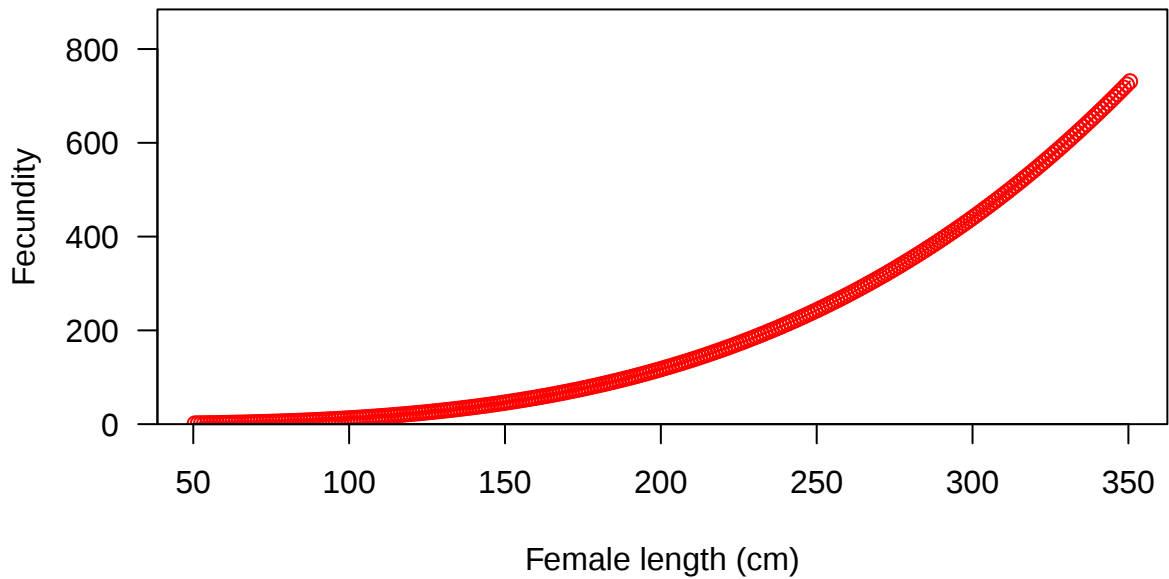


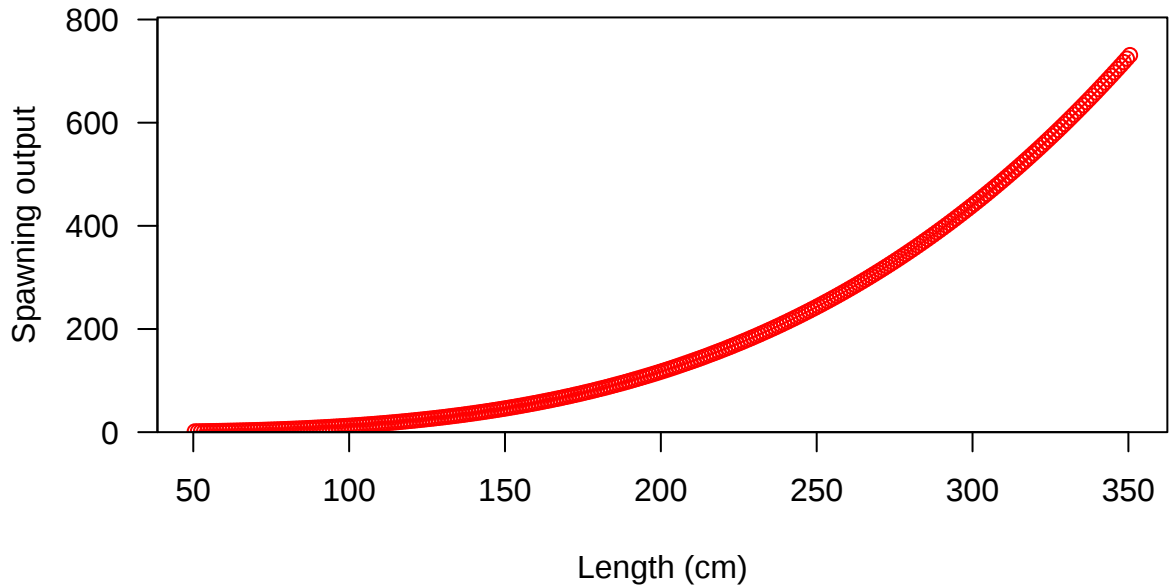


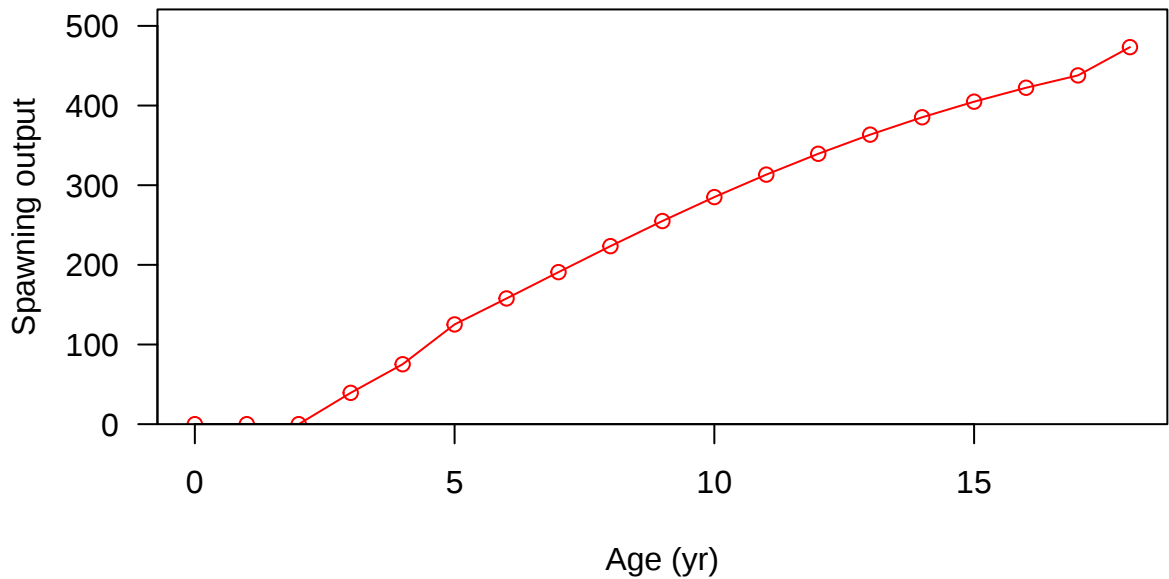




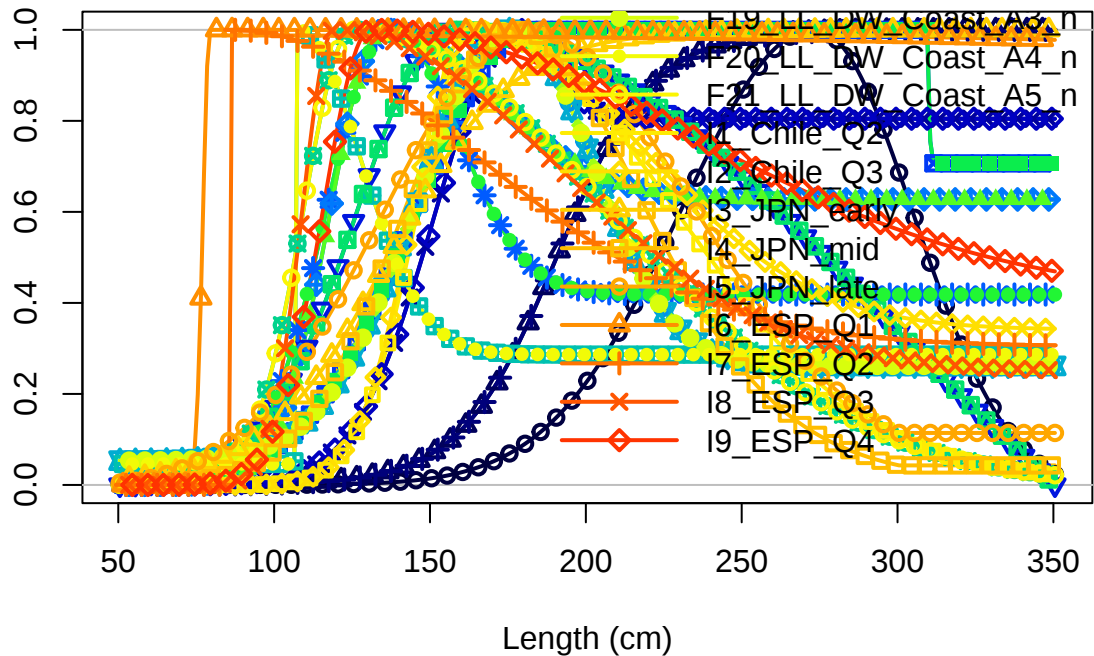




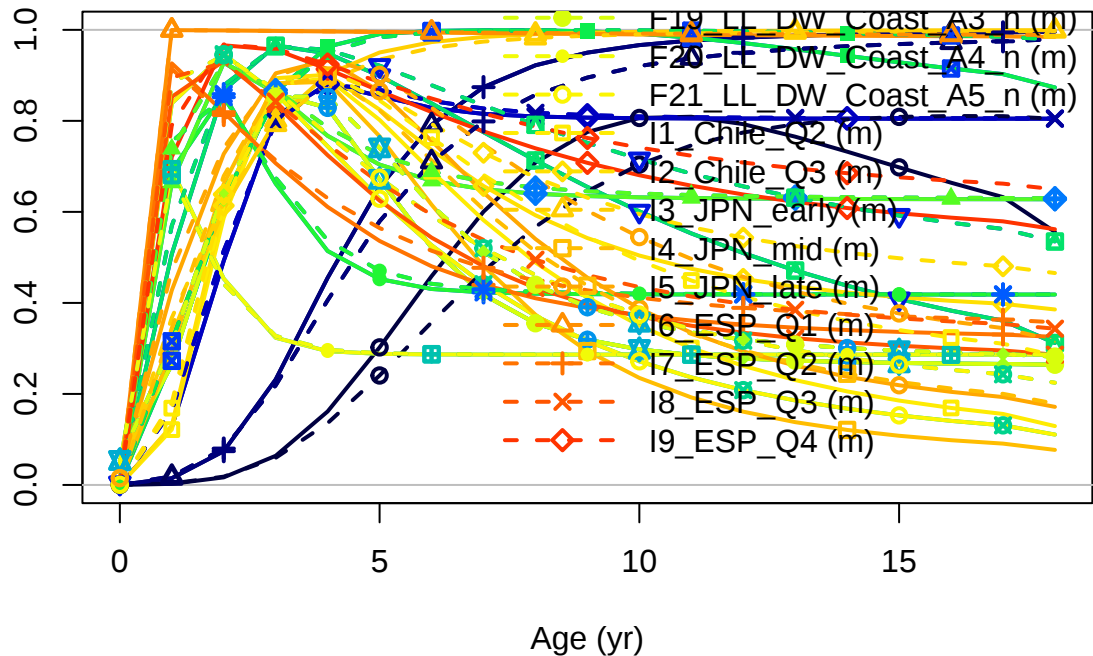




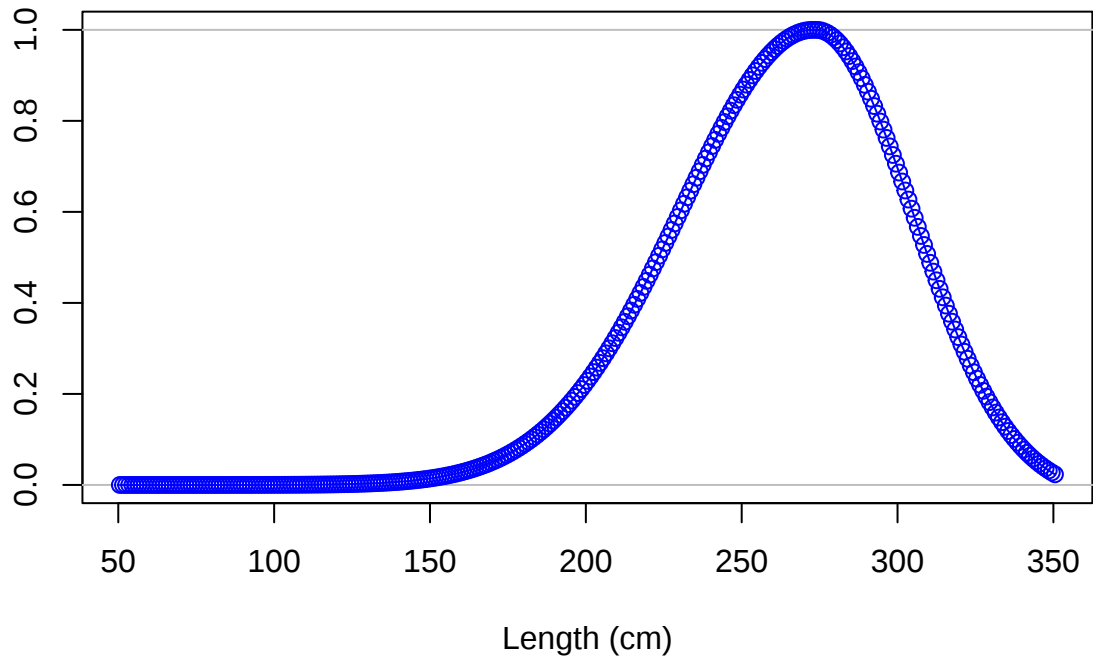
Selectivity



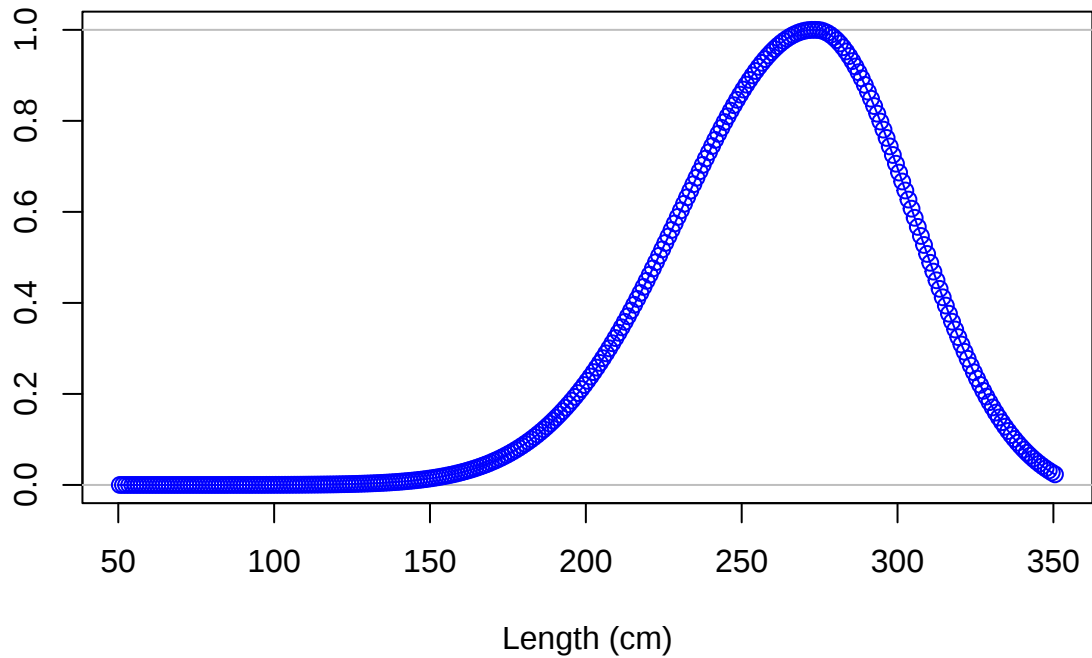
Selectivity



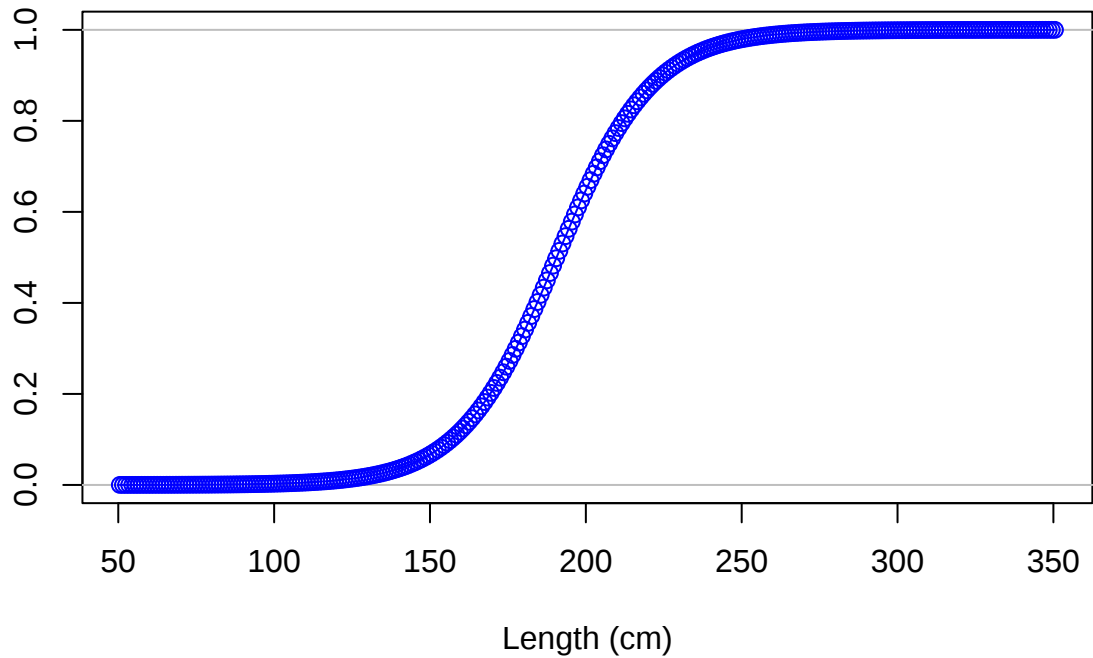
Selectivity



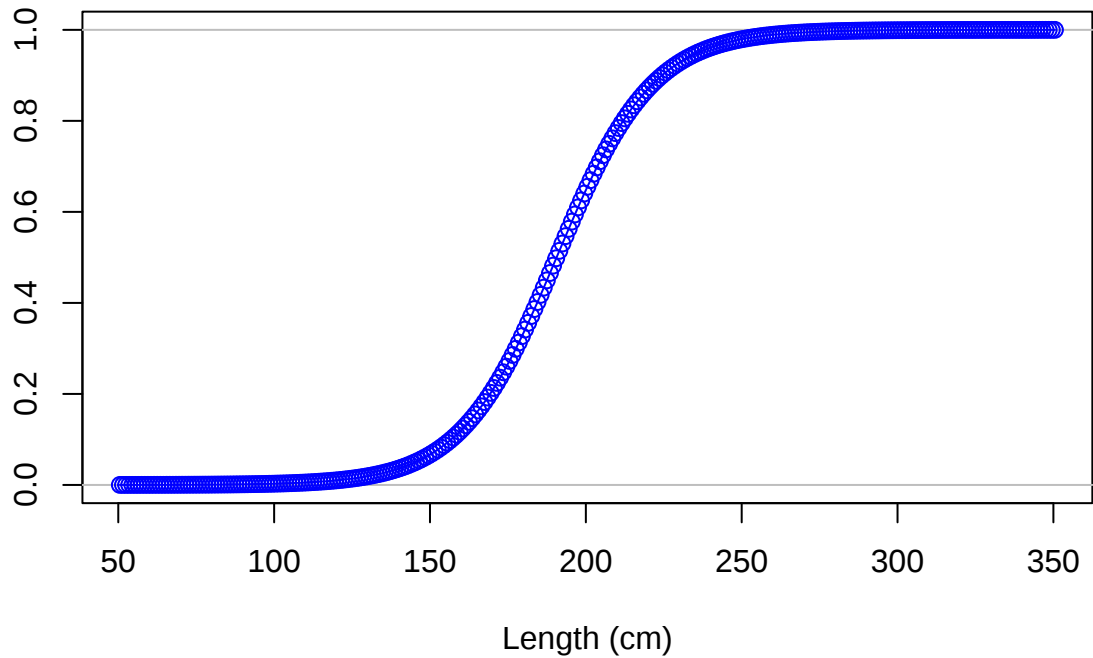
Selectivity



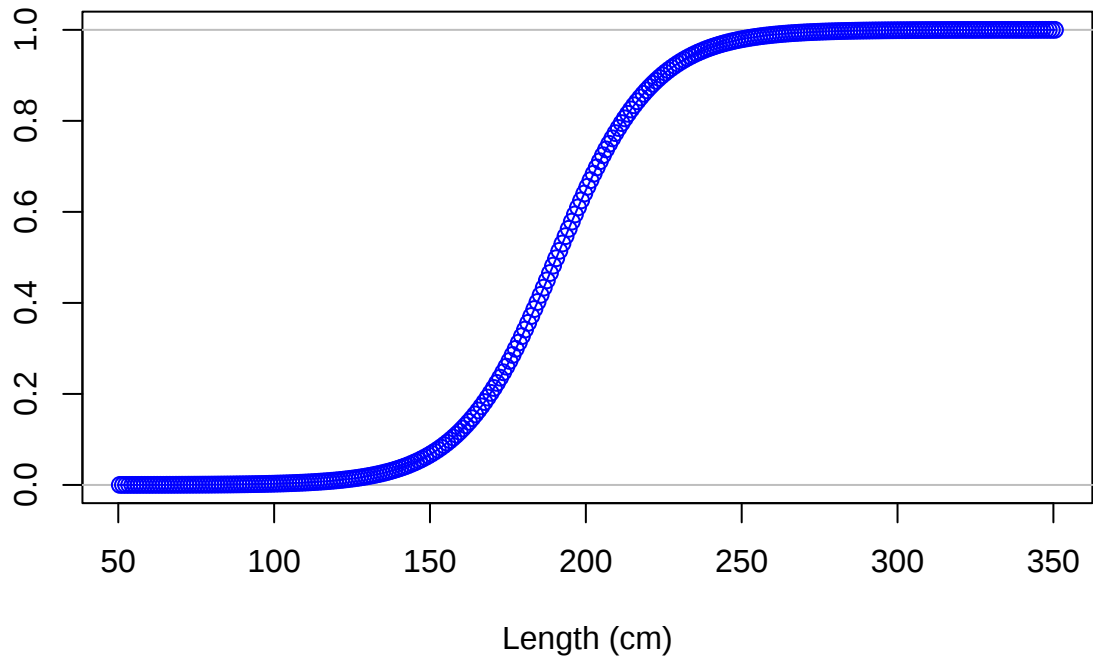
Selectivity



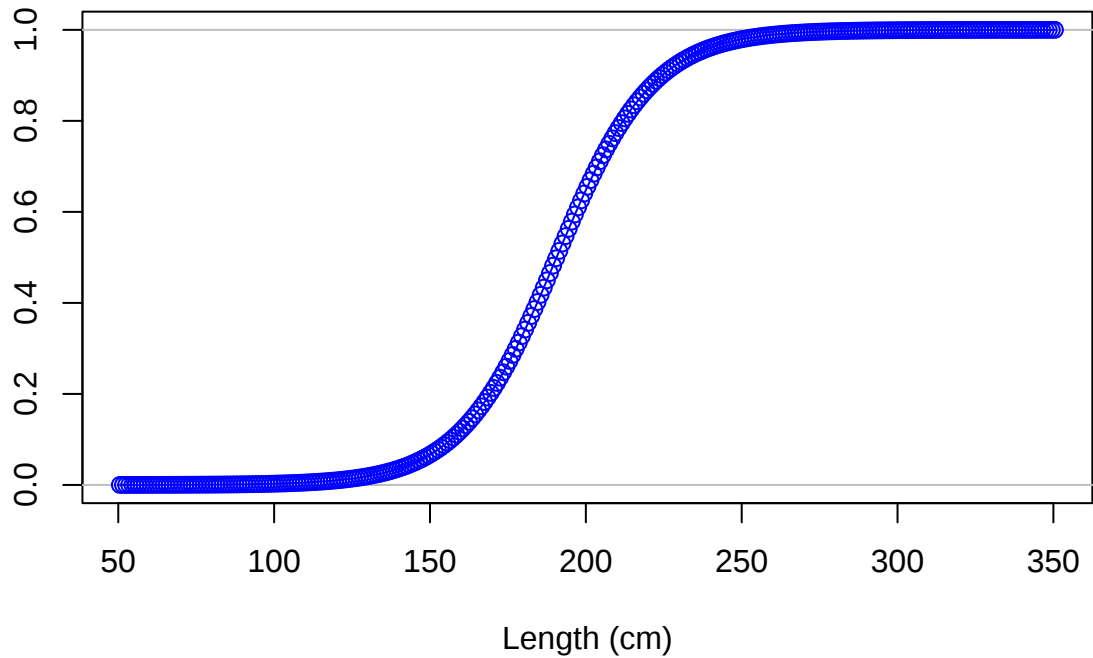
Selectivity



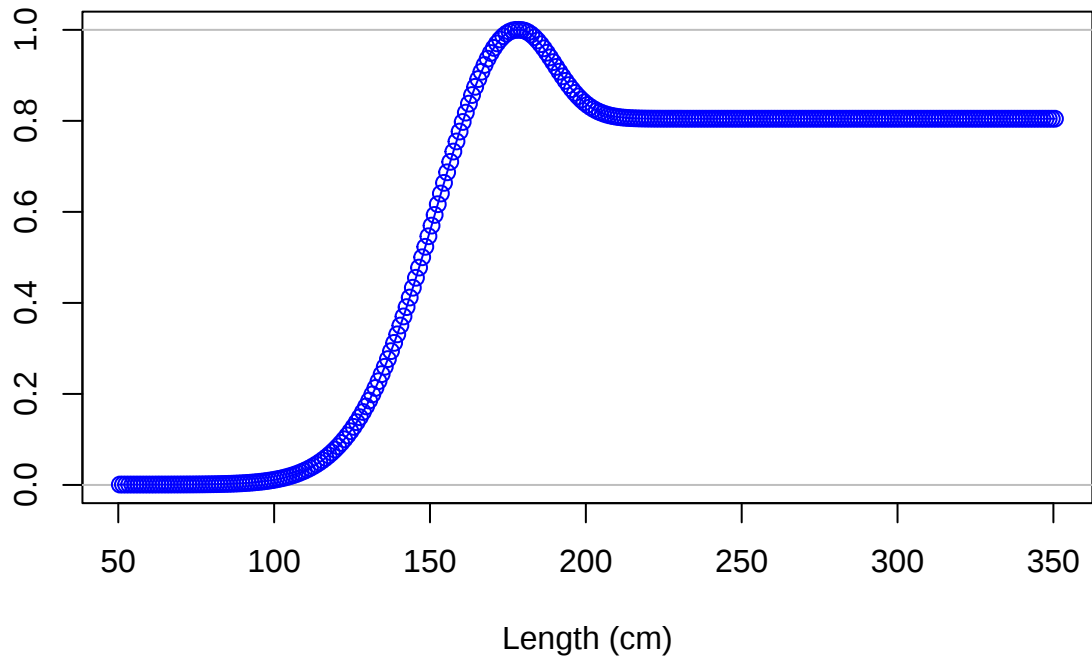
Selectivity



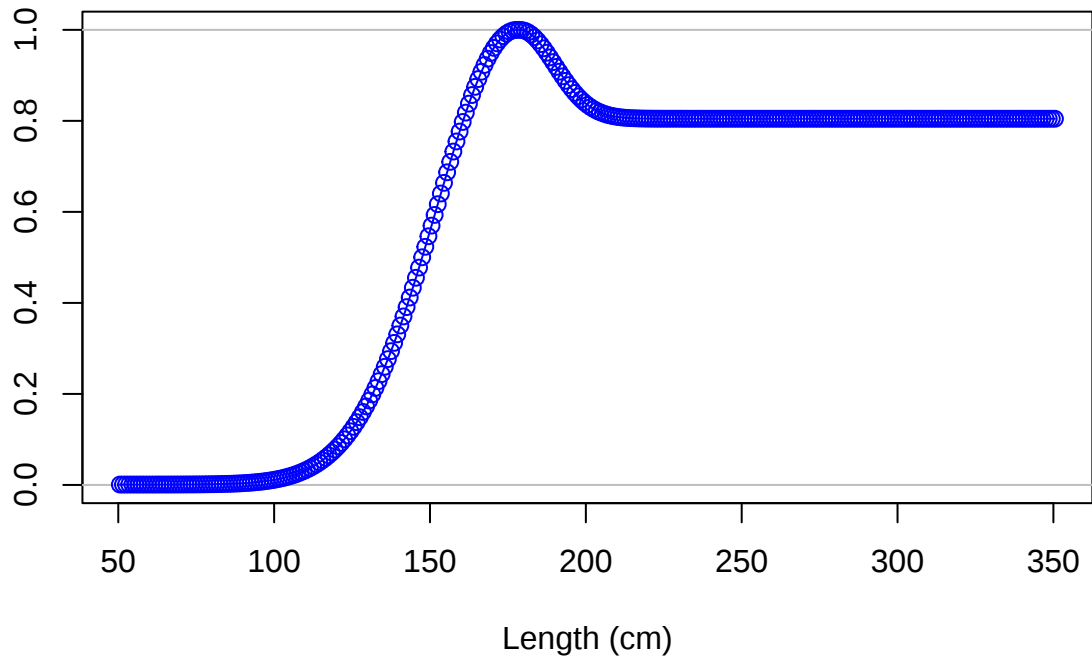
Selectivity



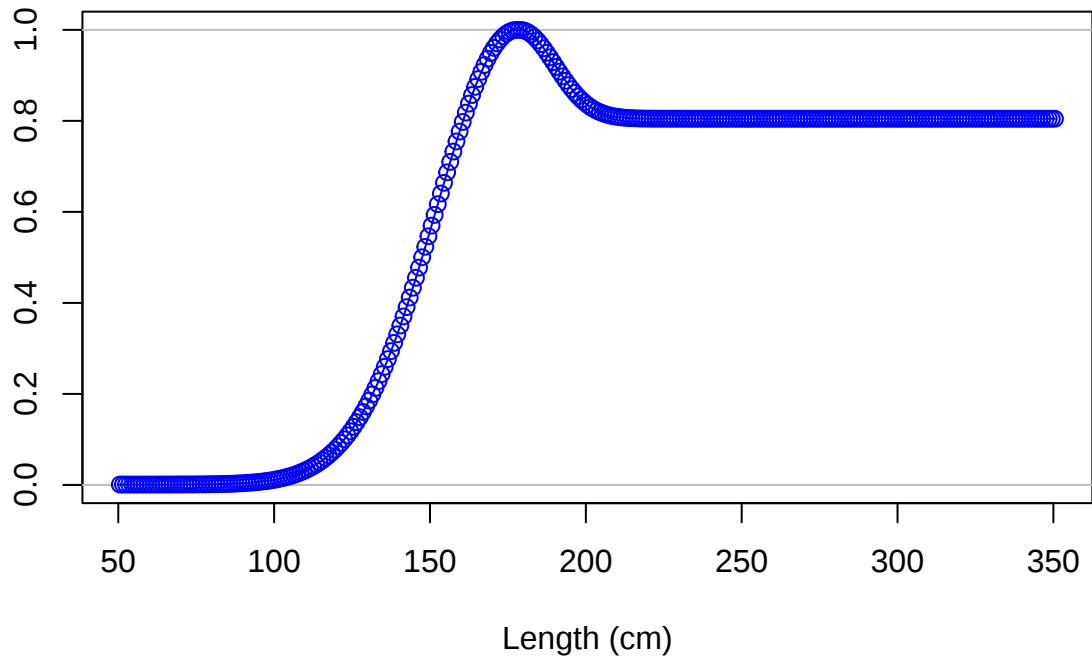
Selectivity



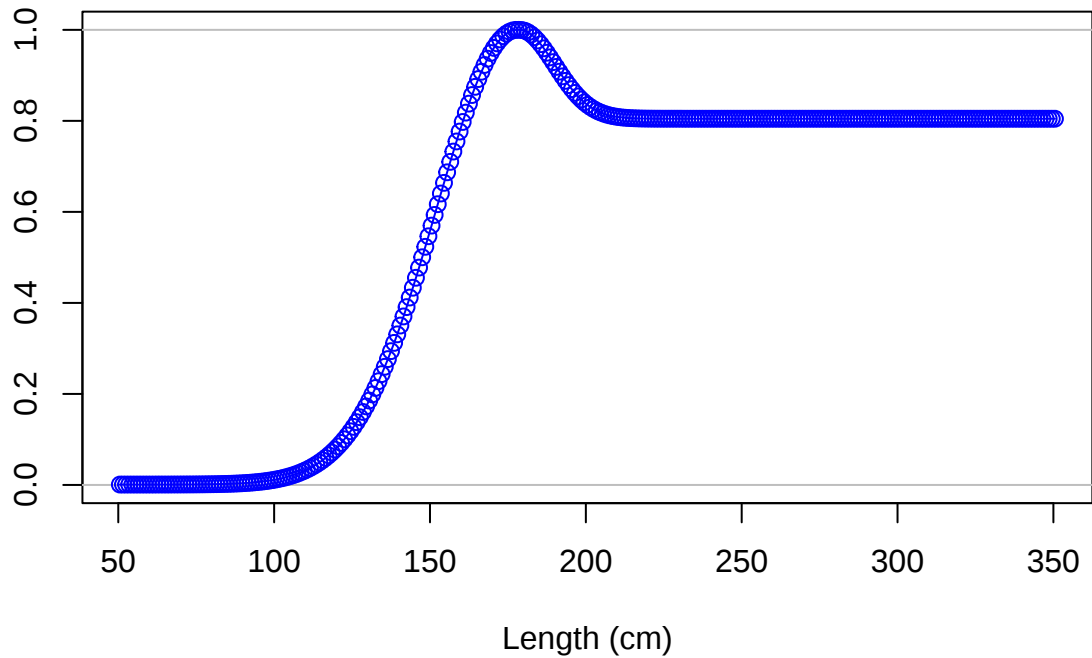
Selectivity



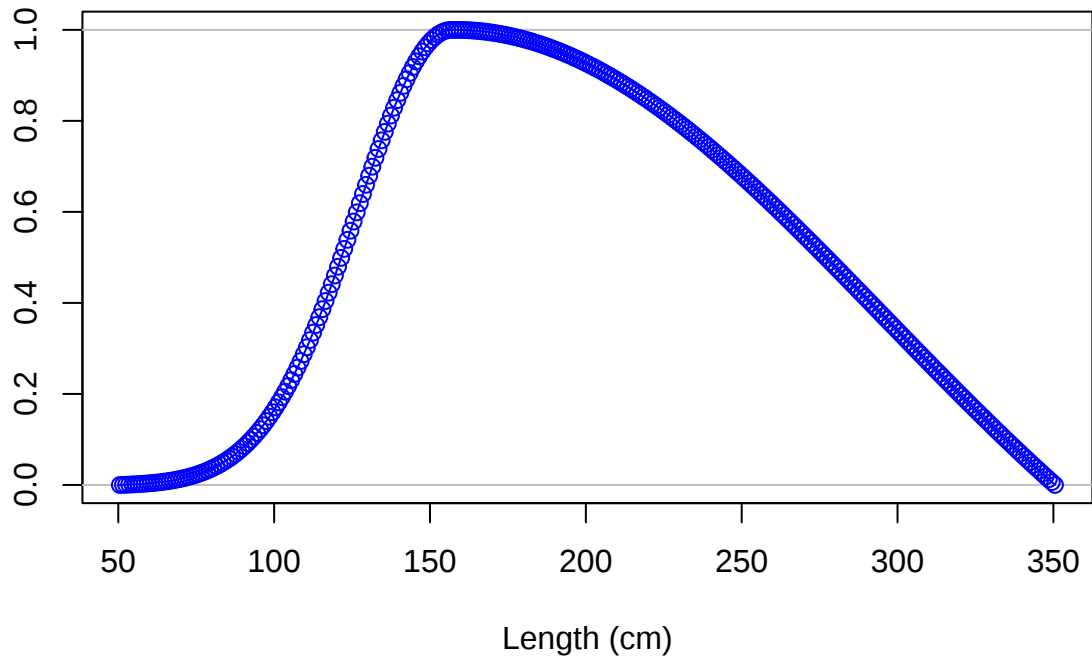
Selectivity



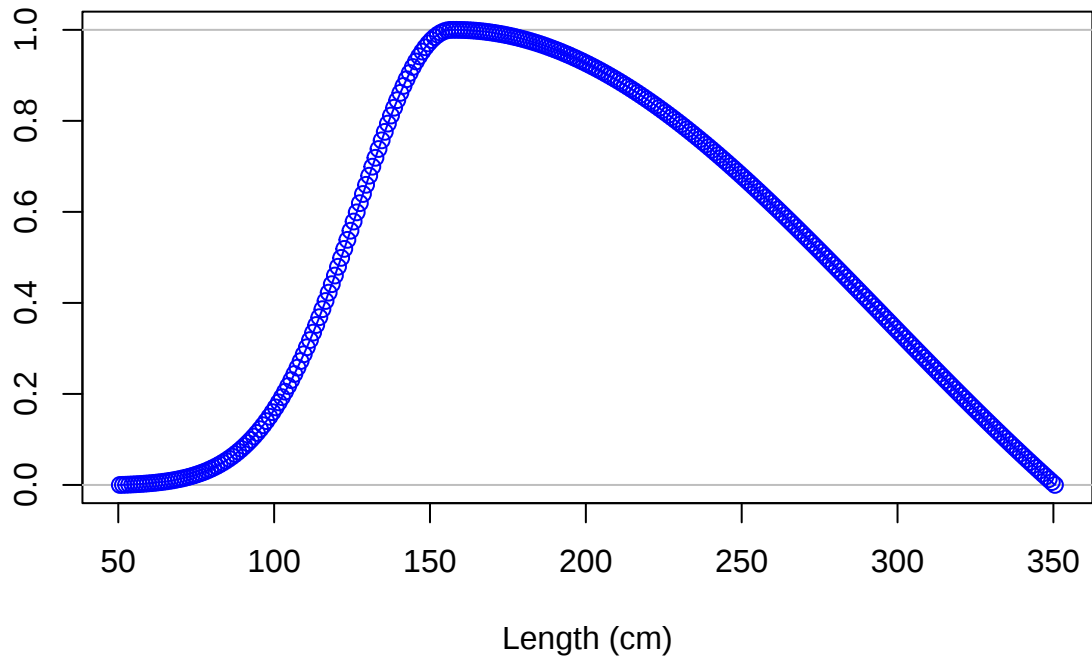
Selectivity



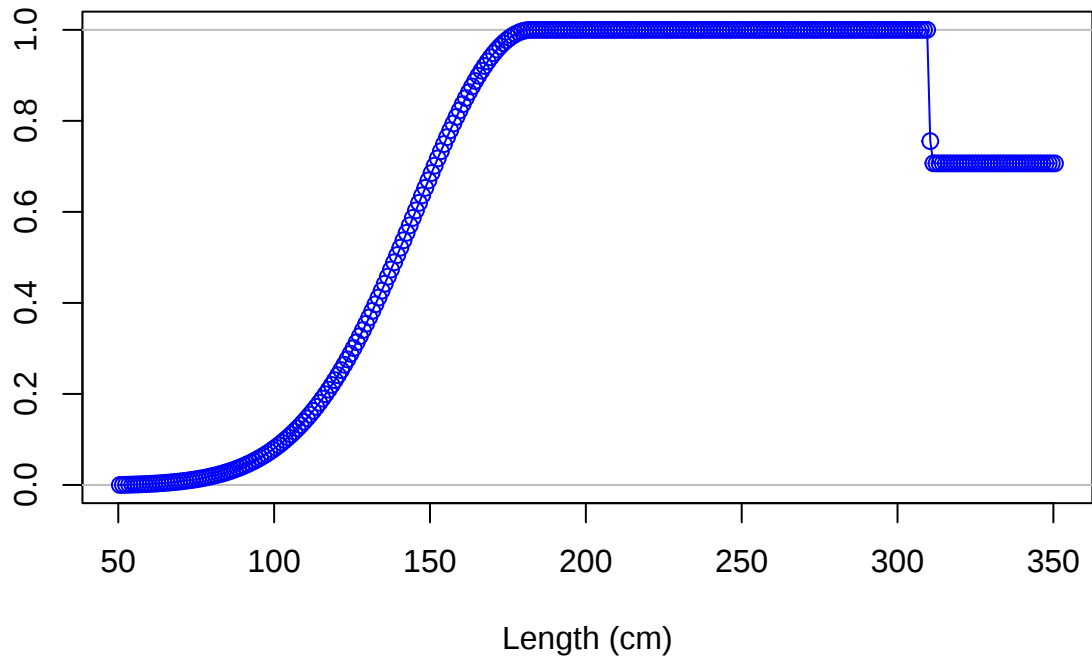
Selectivity



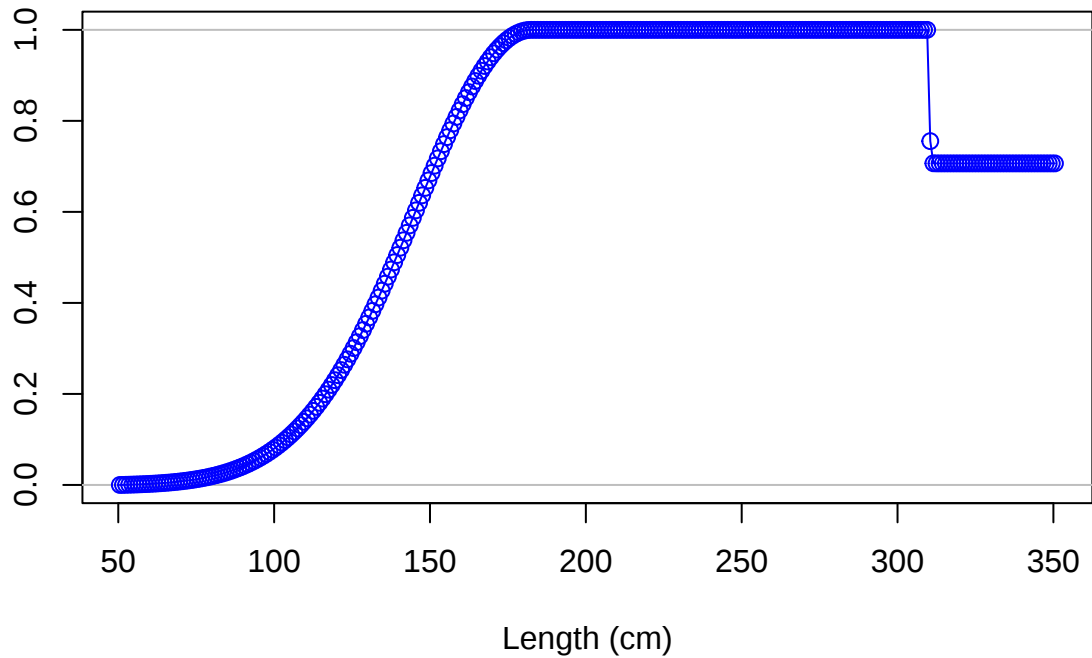
Selectivity

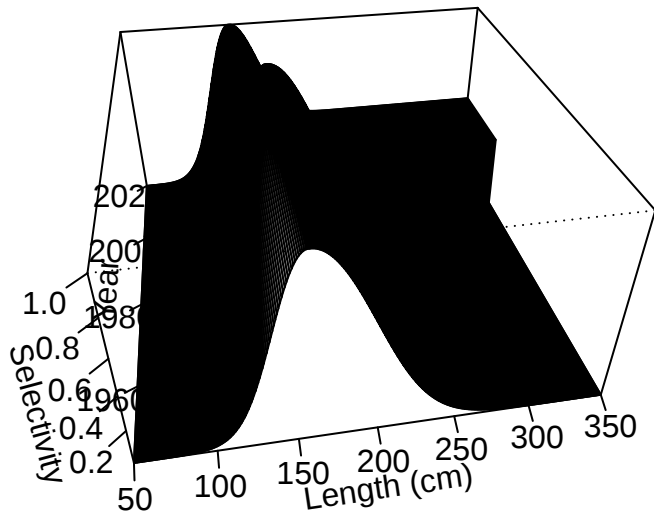


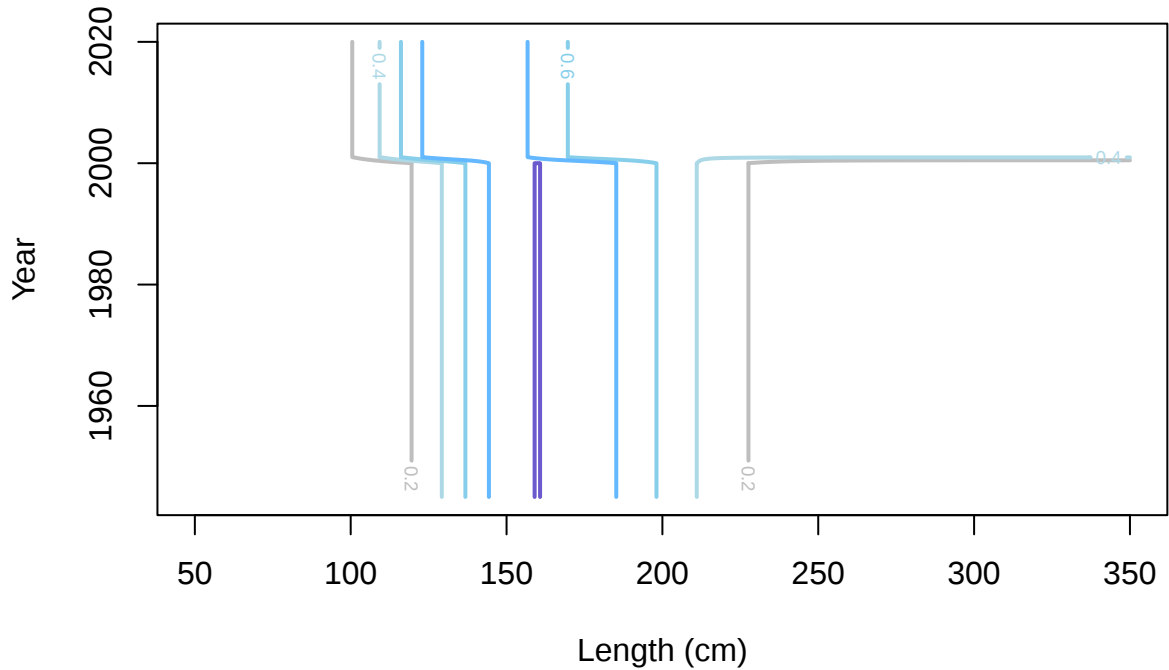
Selectivity



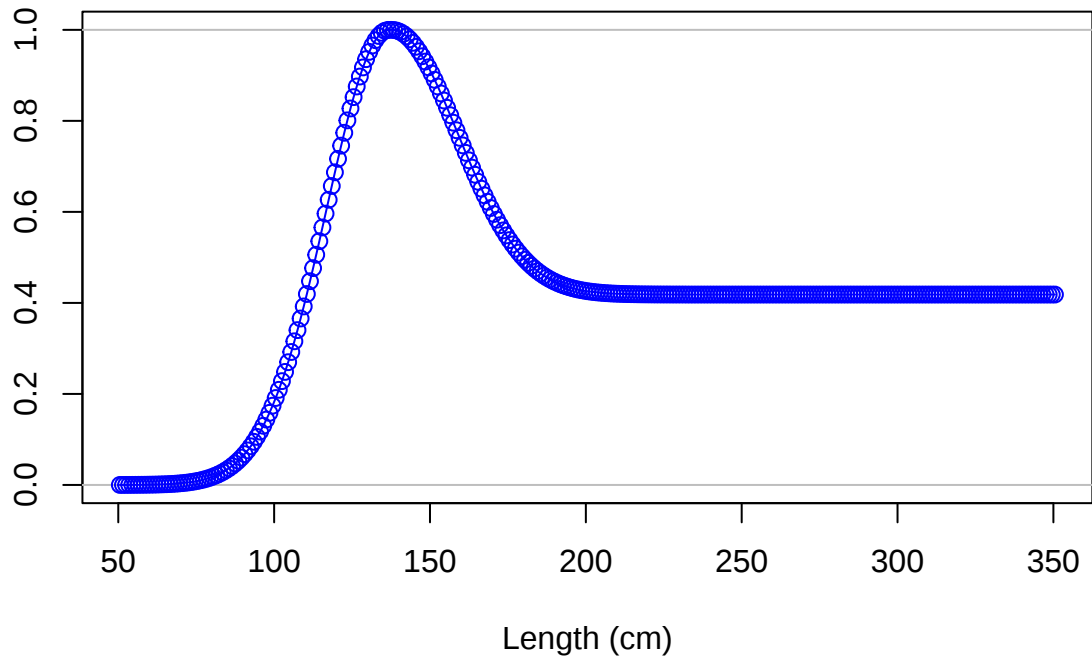
Selectivity

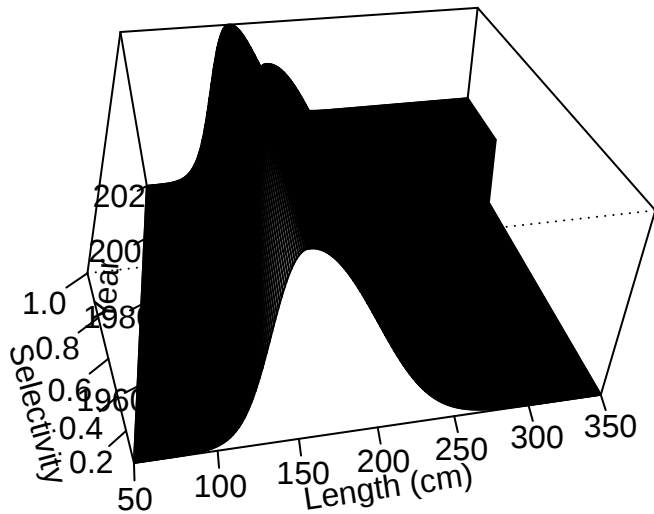


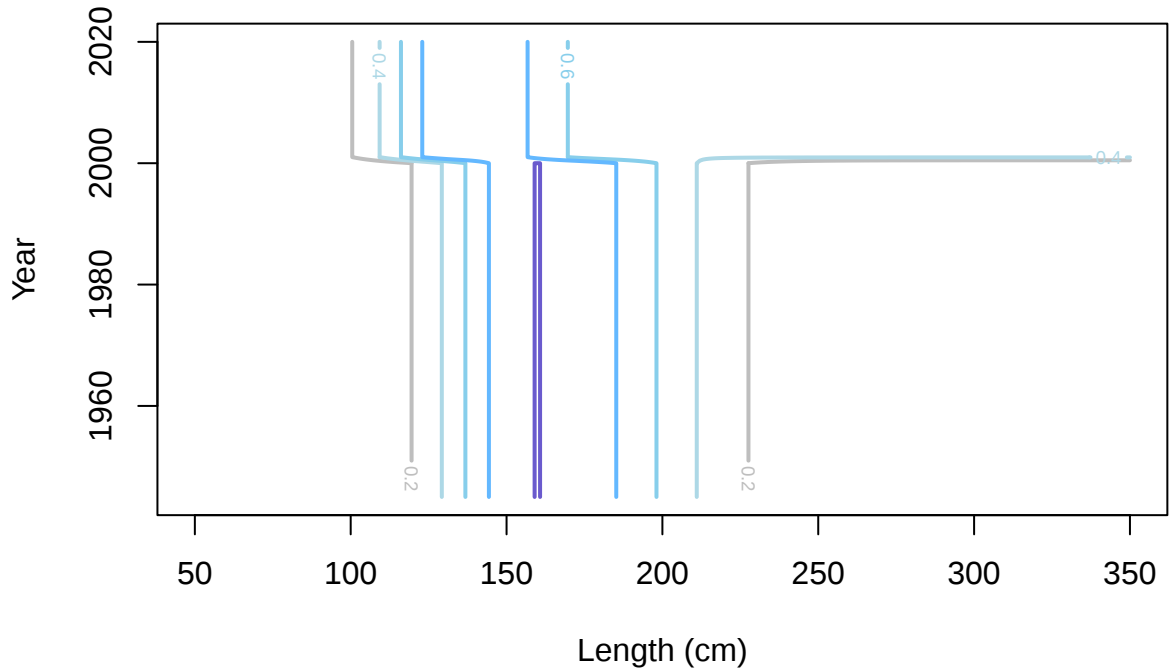




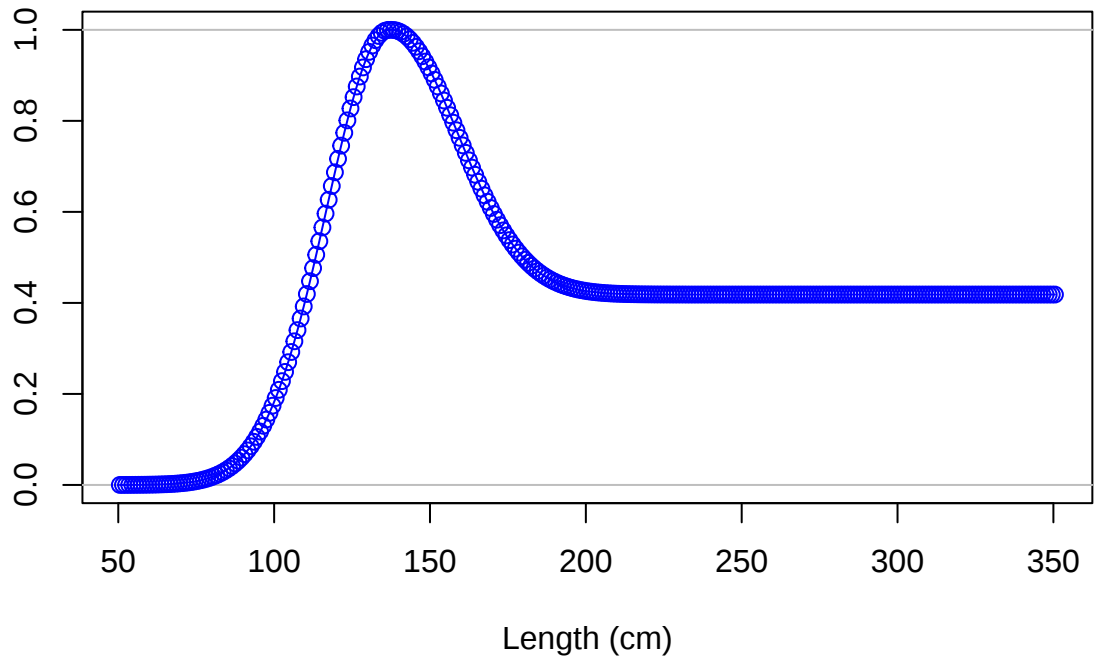
Selectivity

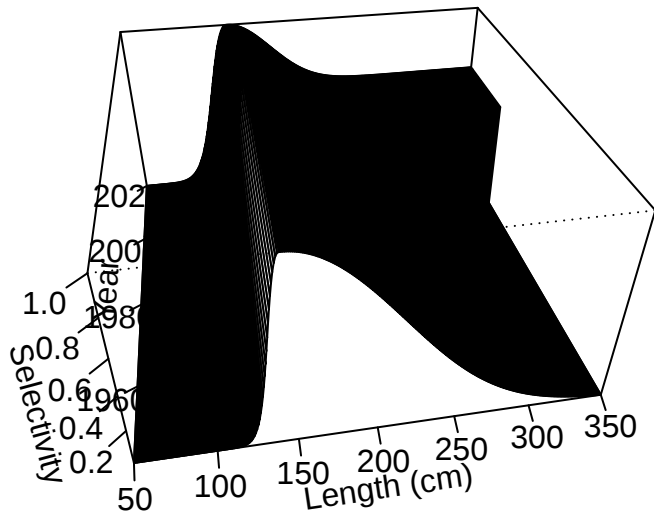




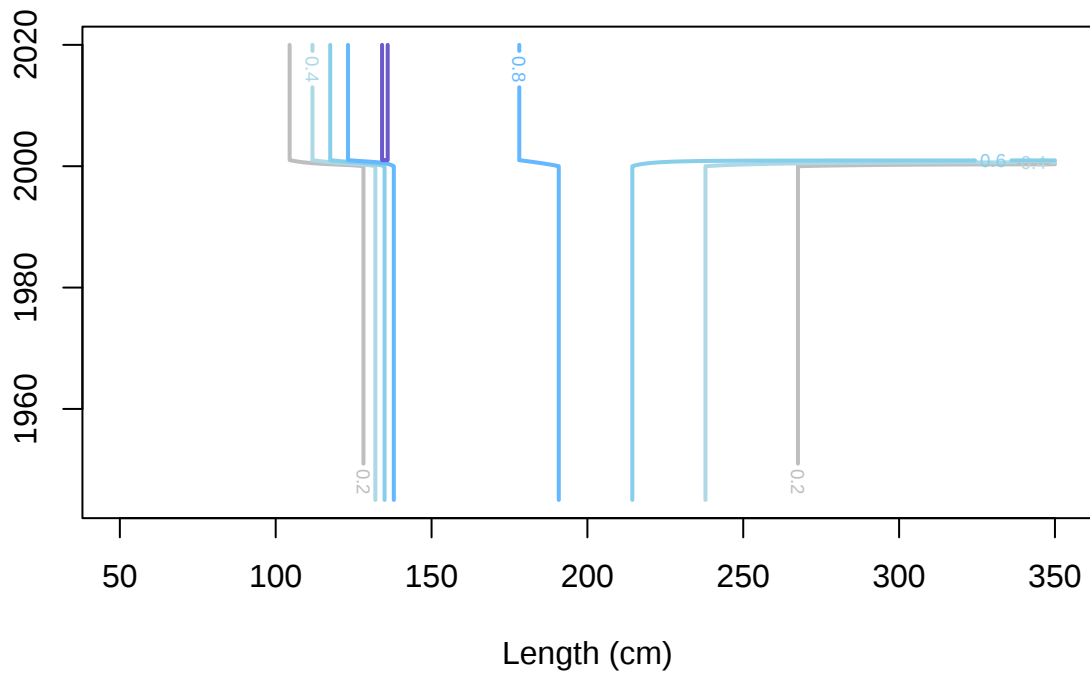


Selectivity

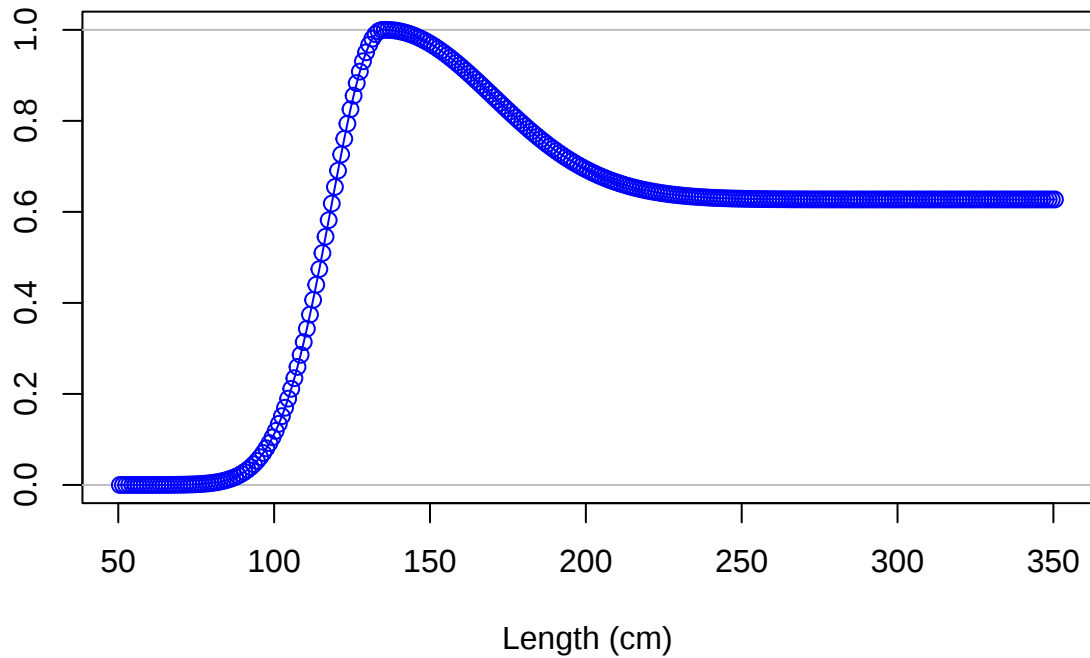


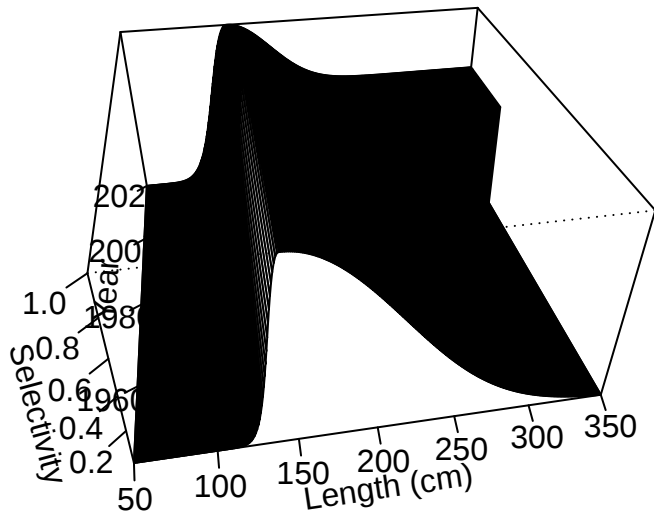


Year

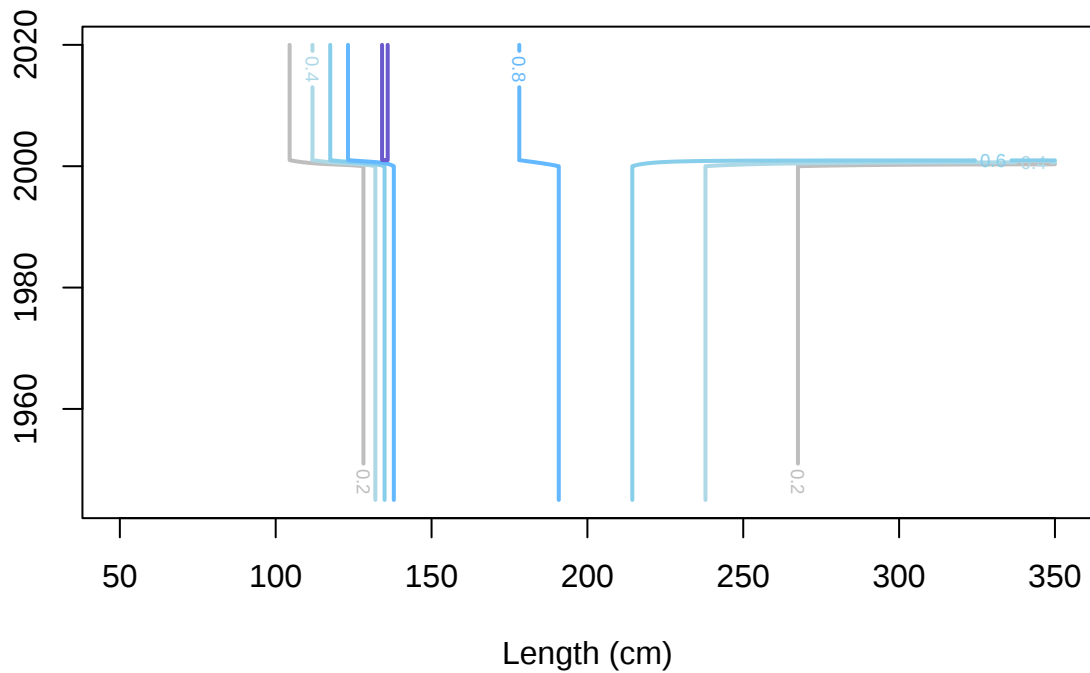


Selectivity

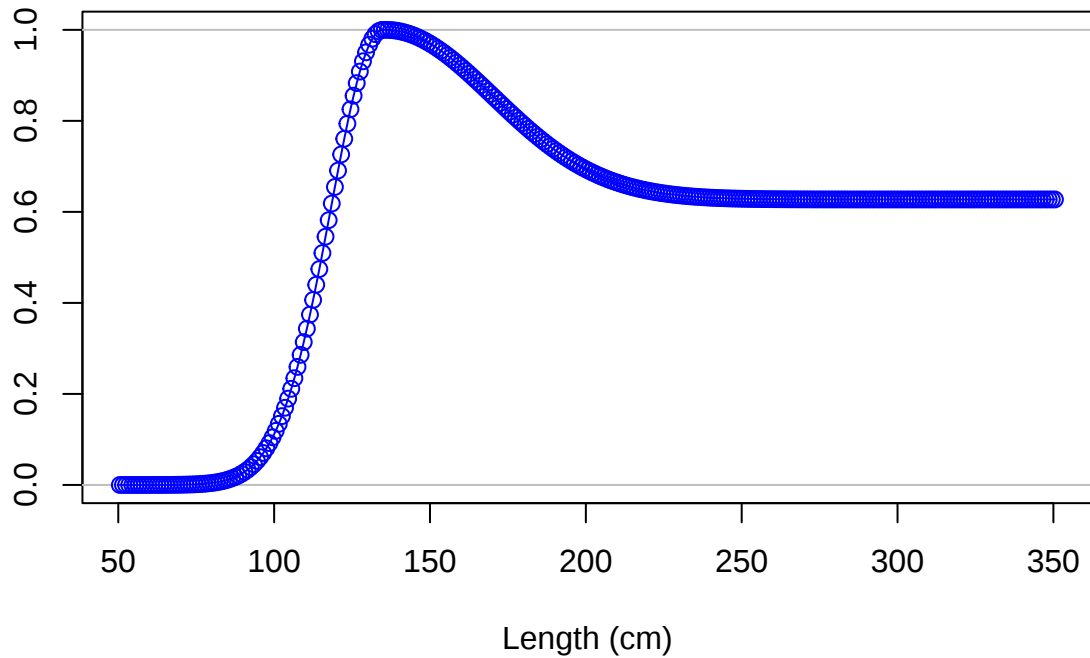




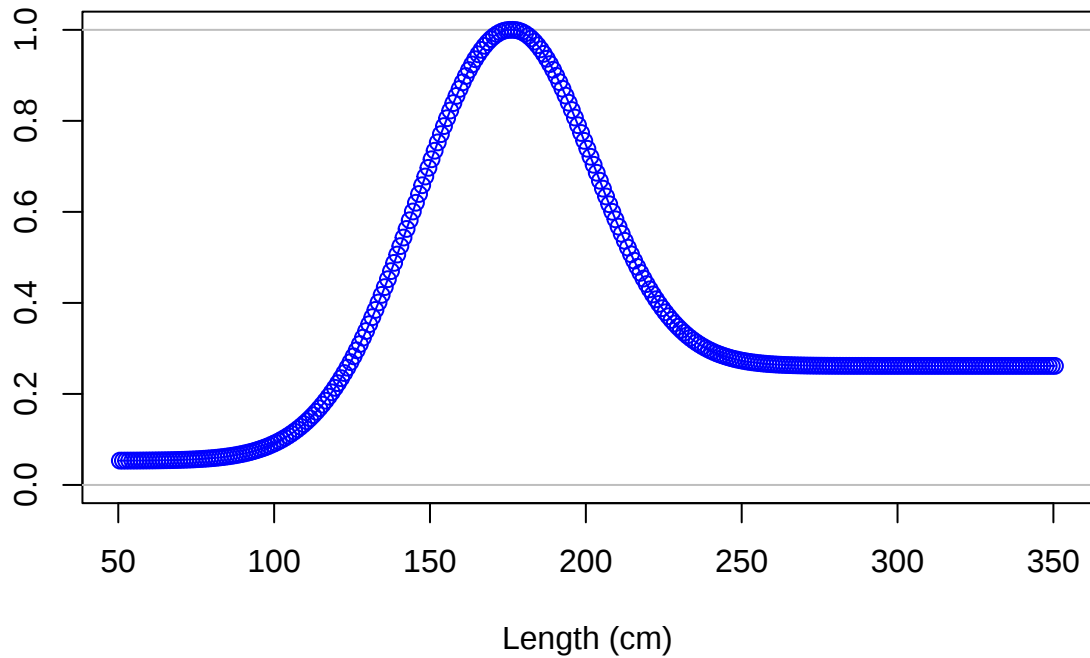
Year



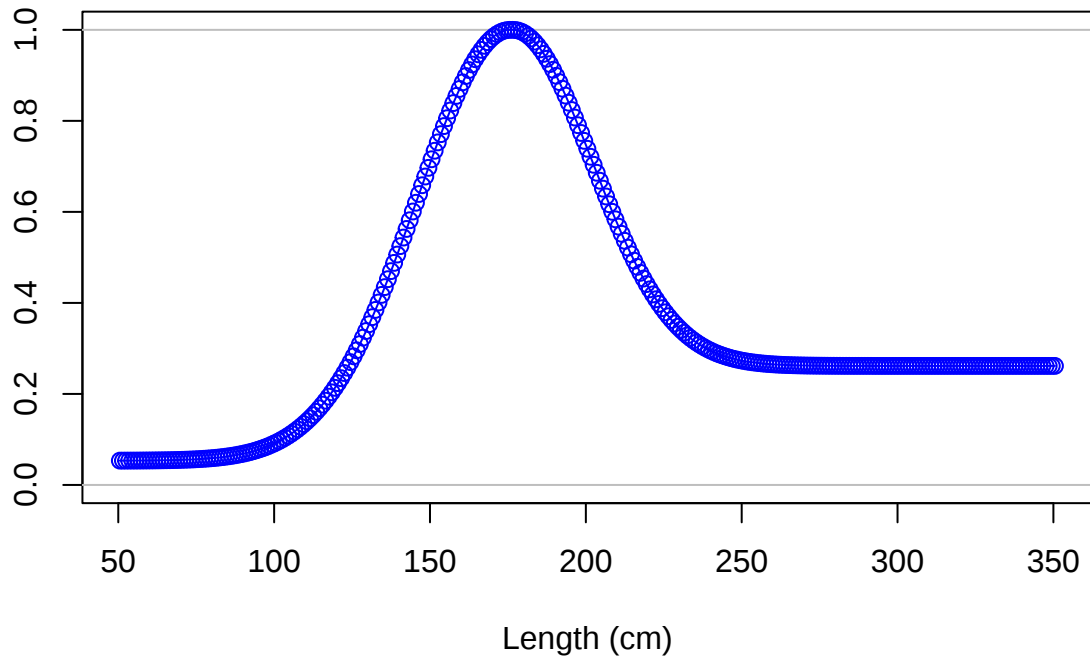
Selectivity



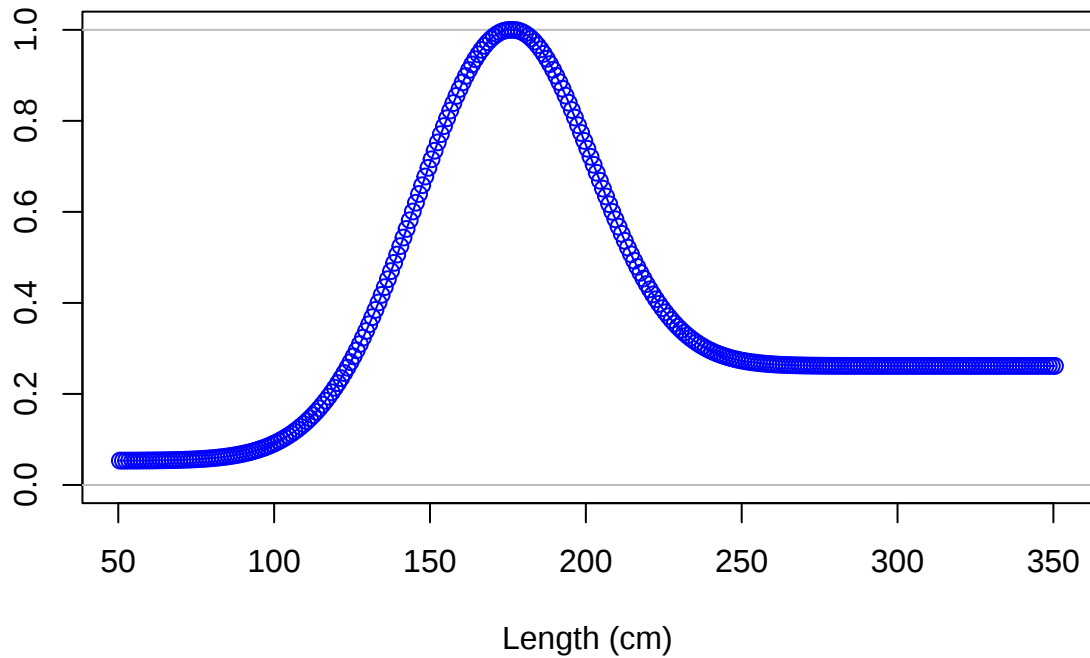
Selectivity



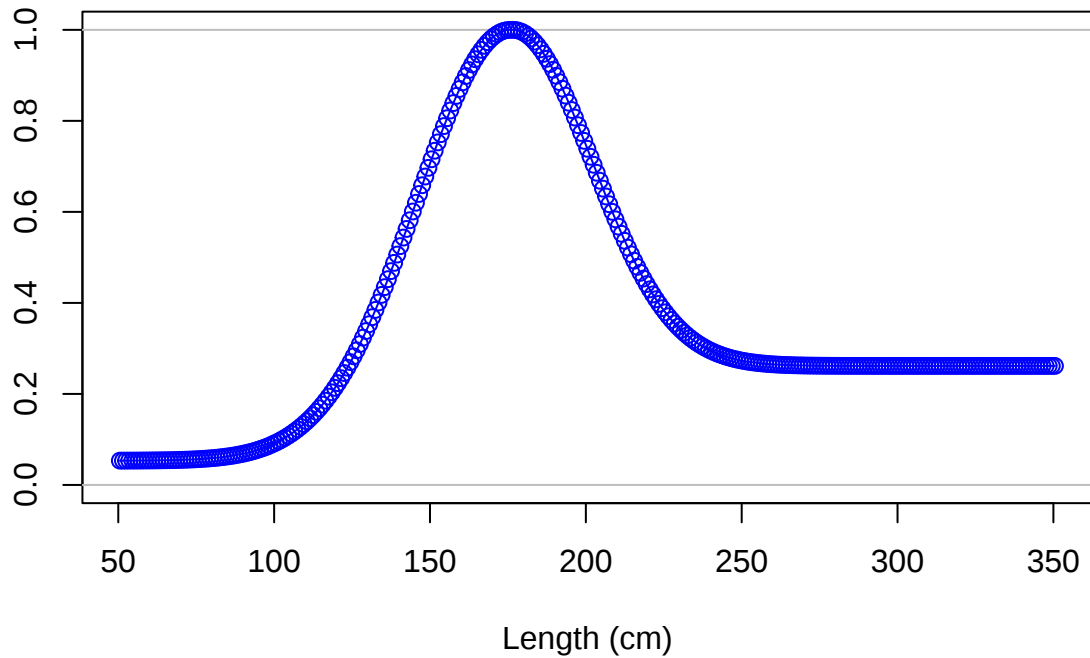
Selectivity

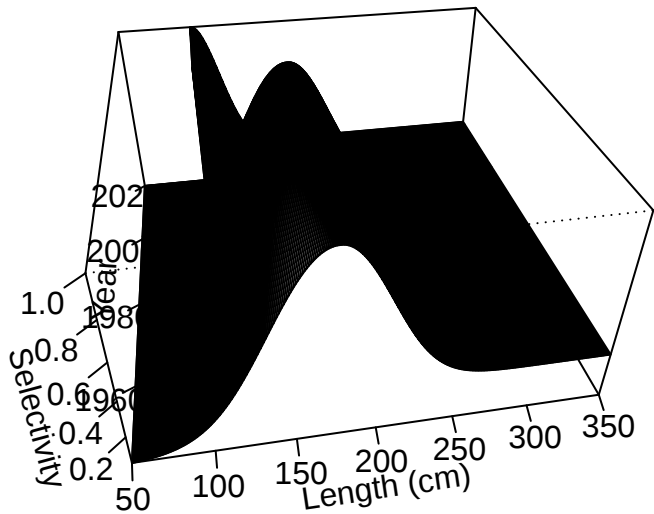


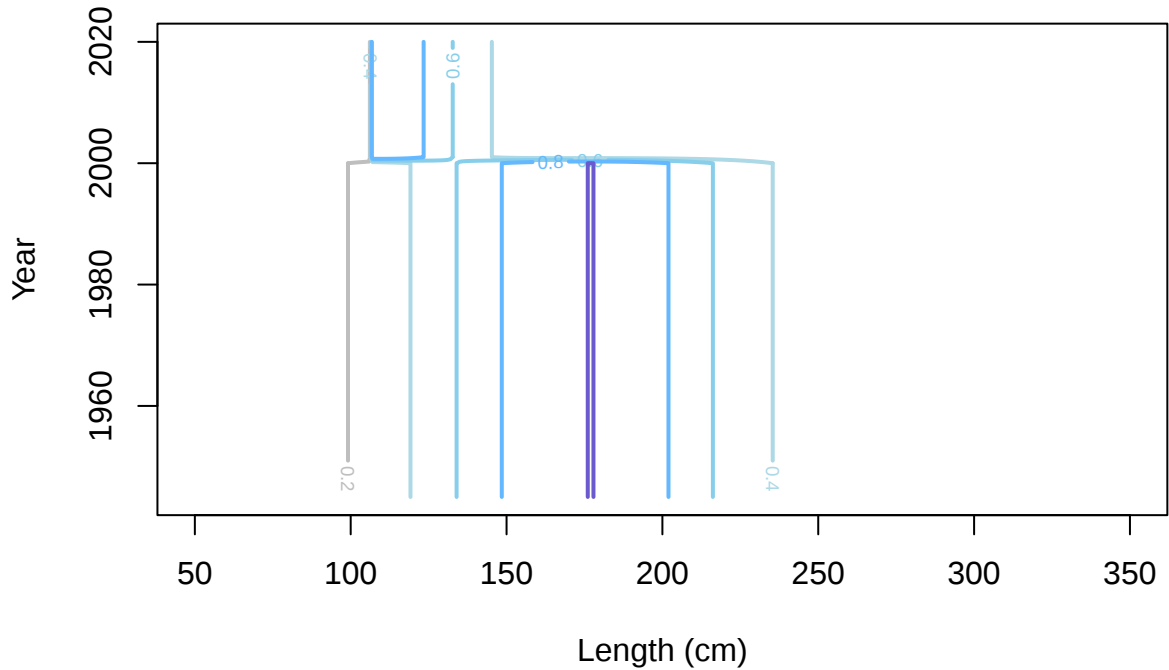
Selectivity



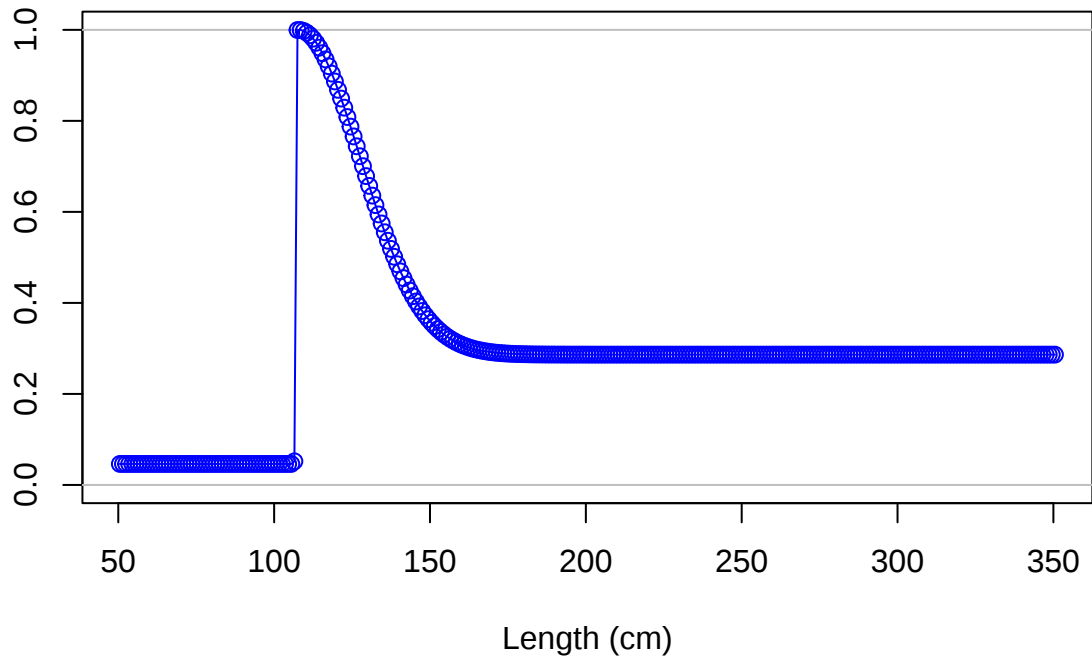
Selectivity

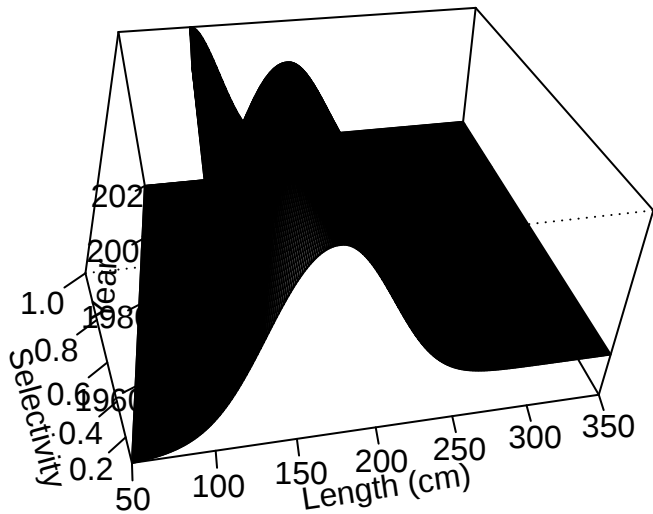


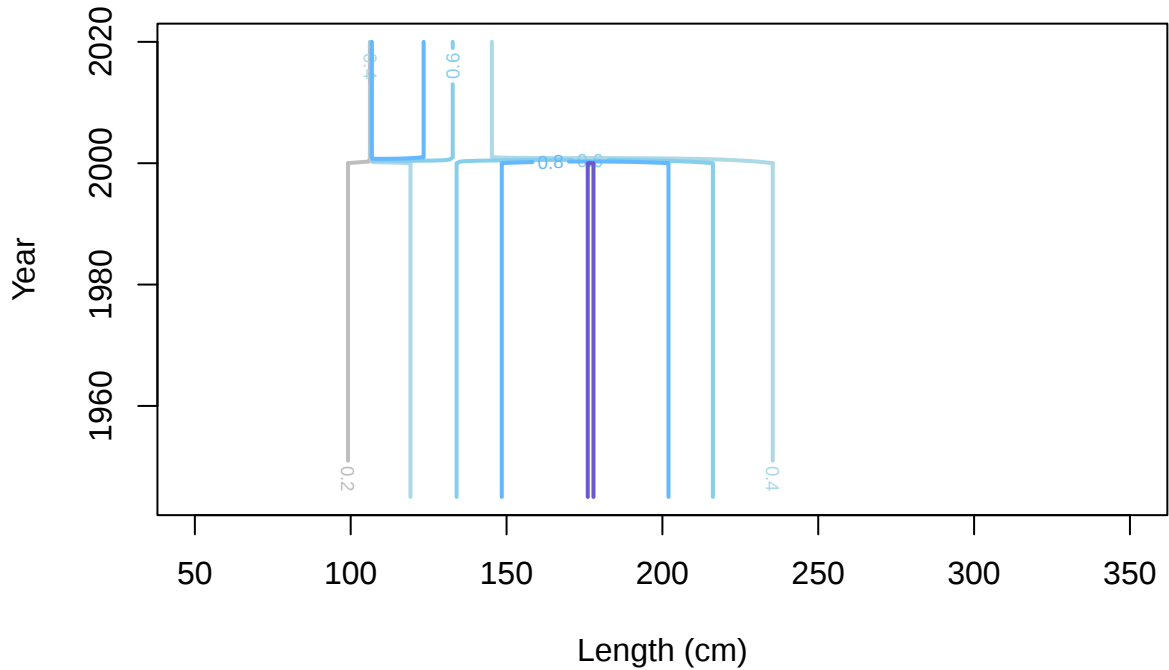




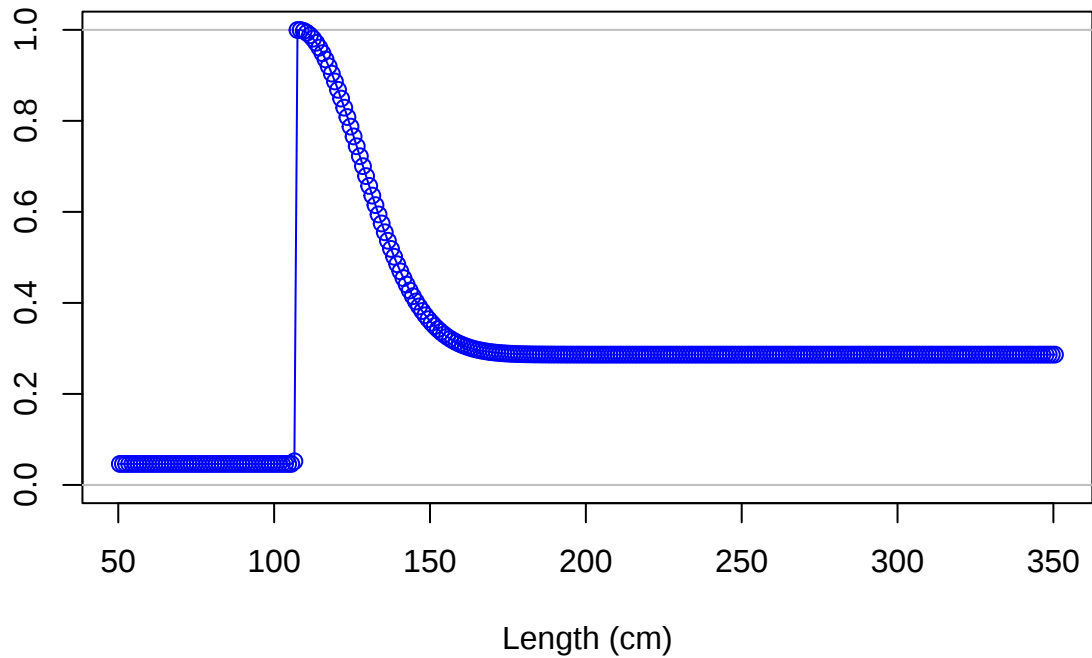
Selectivity



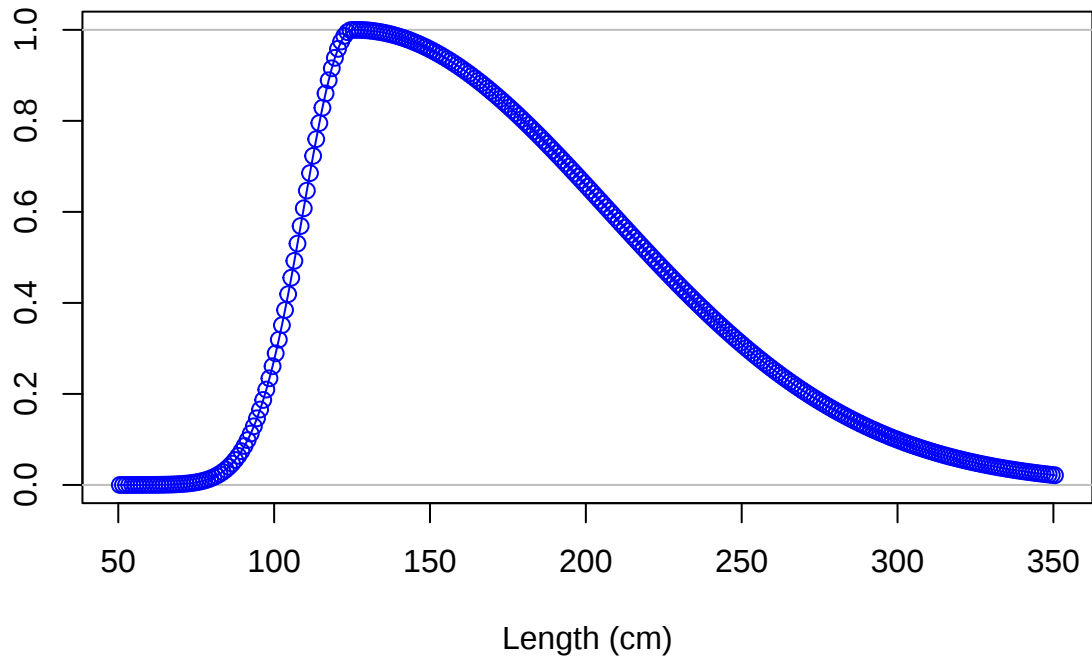




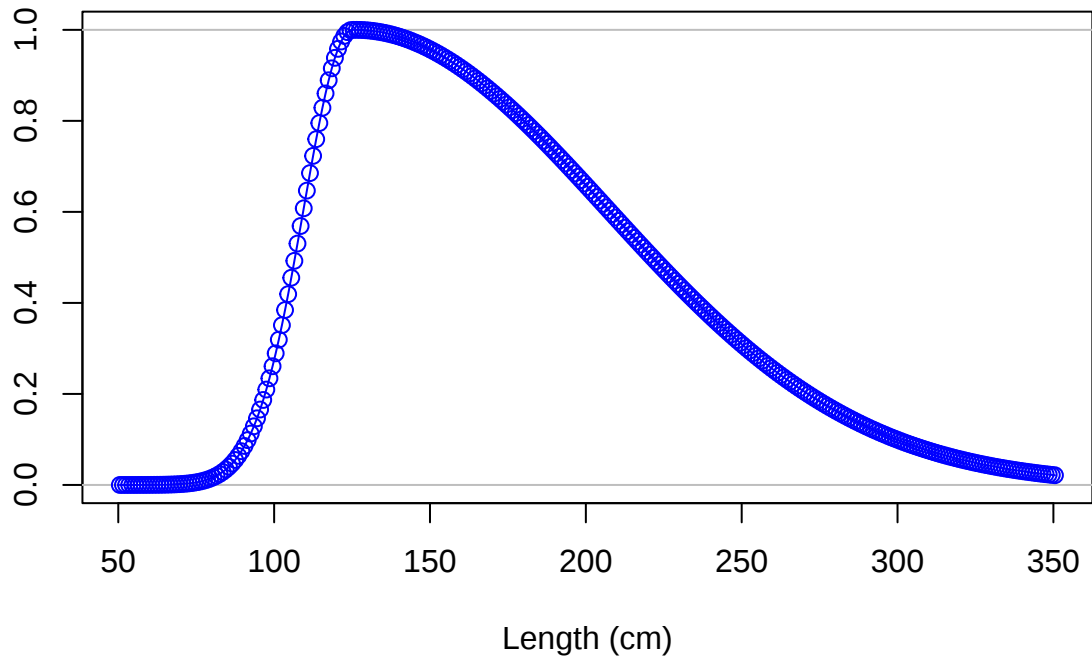
Selectivity



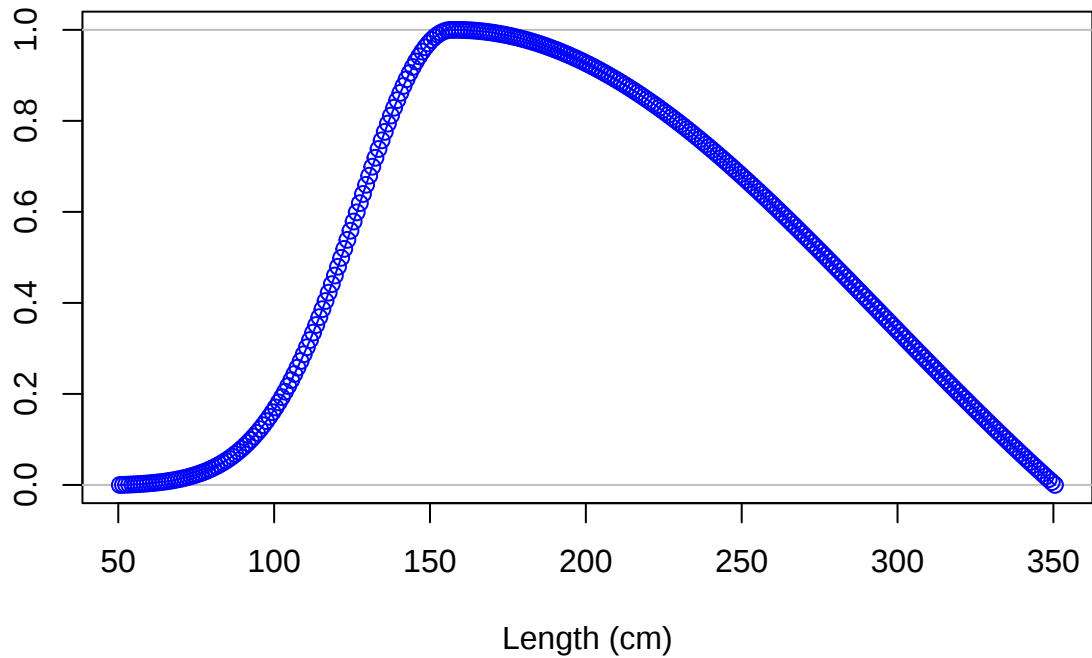
Selectivity



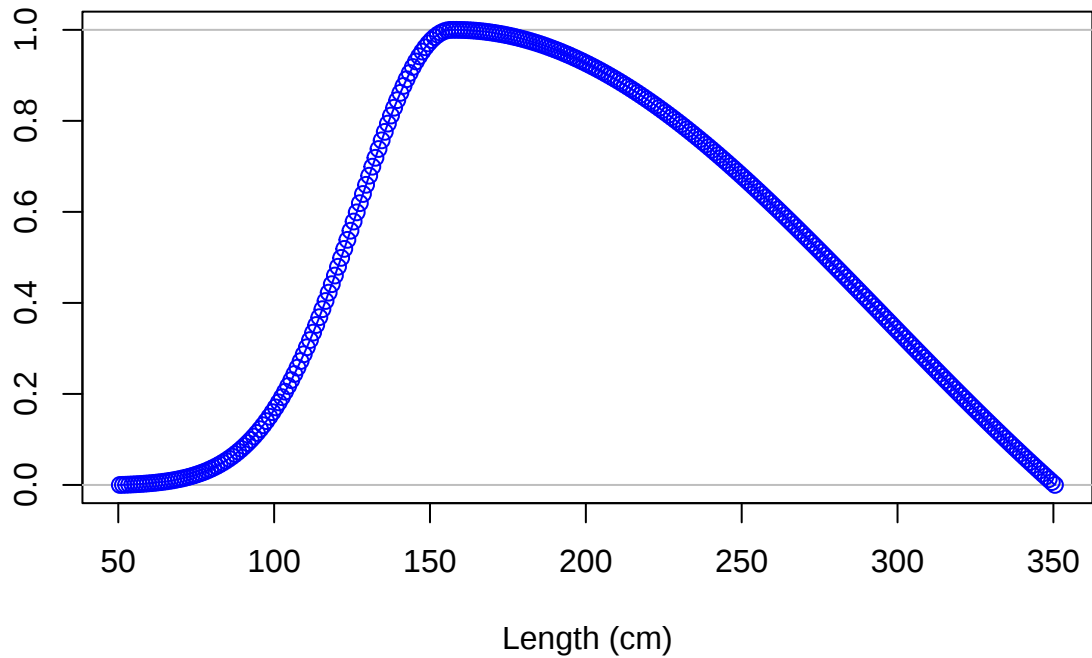
Selectivity



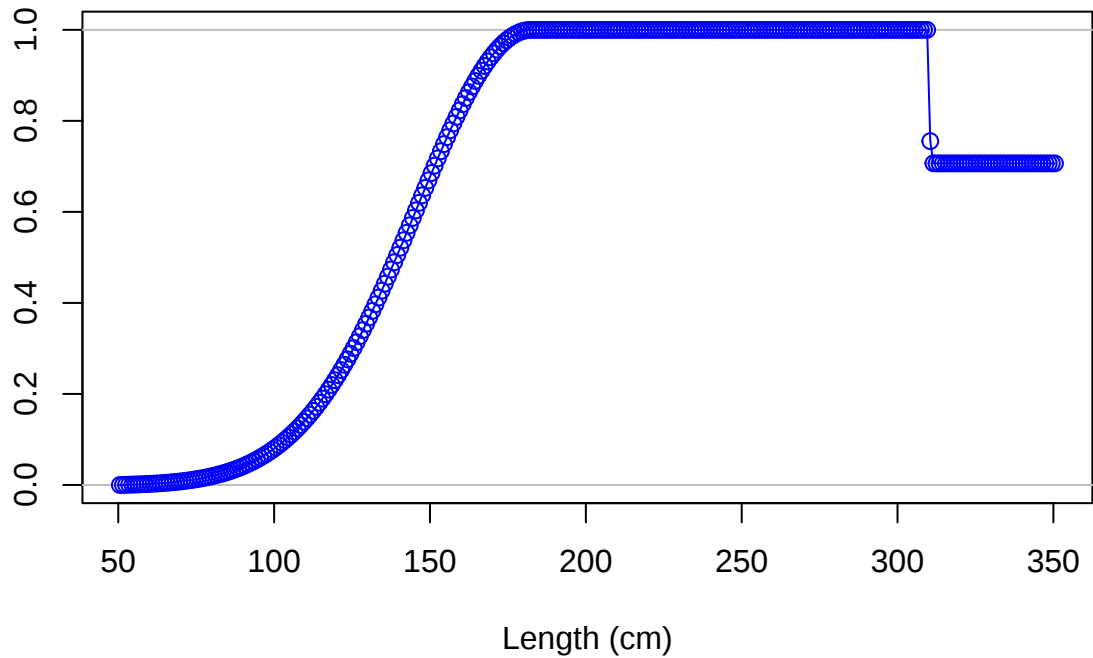
Selectivity



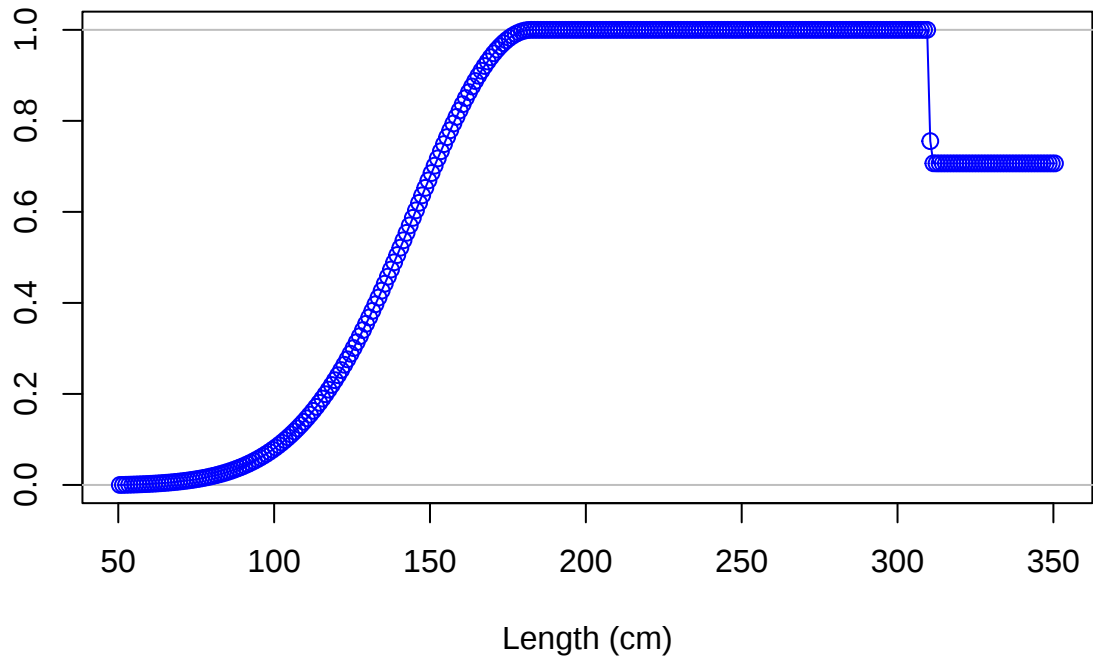
Selectivity

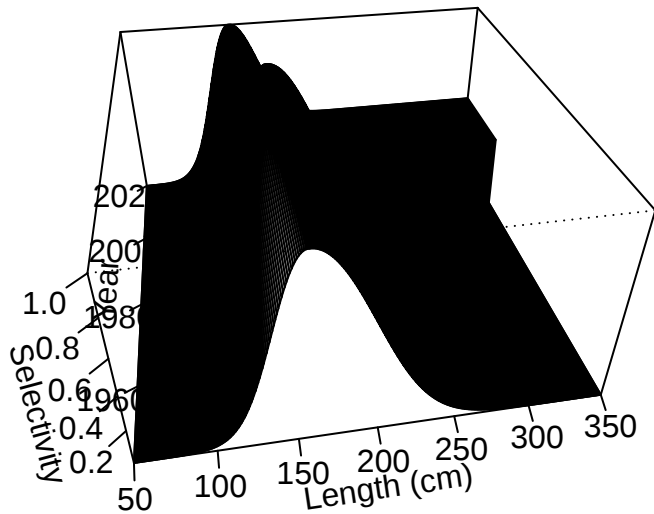


Selectivity

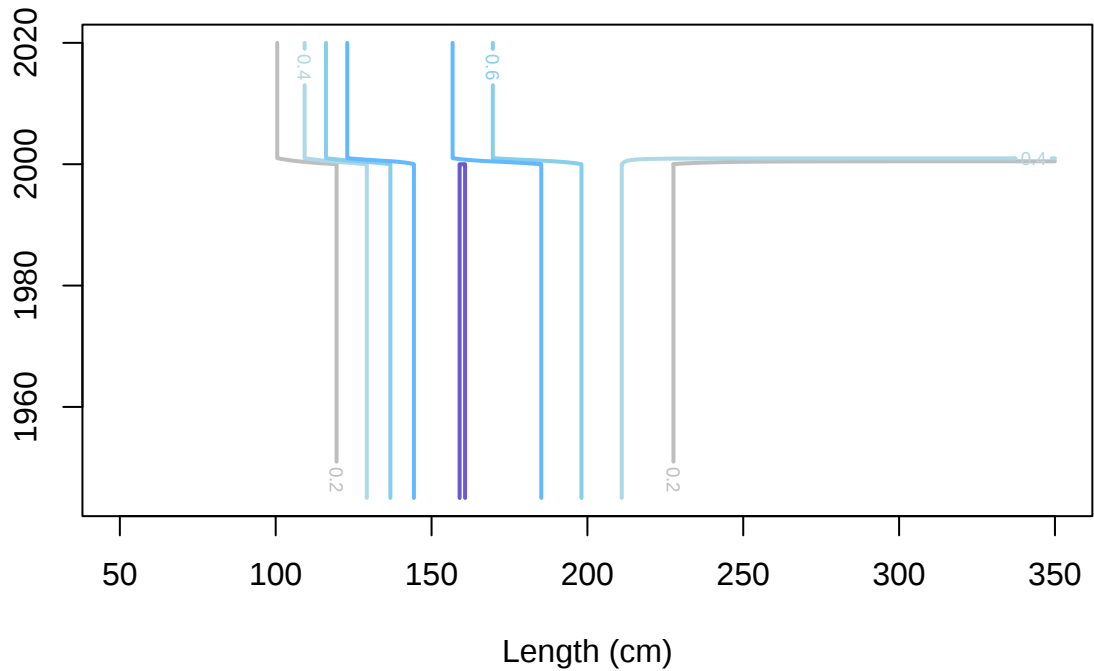


Selectivity

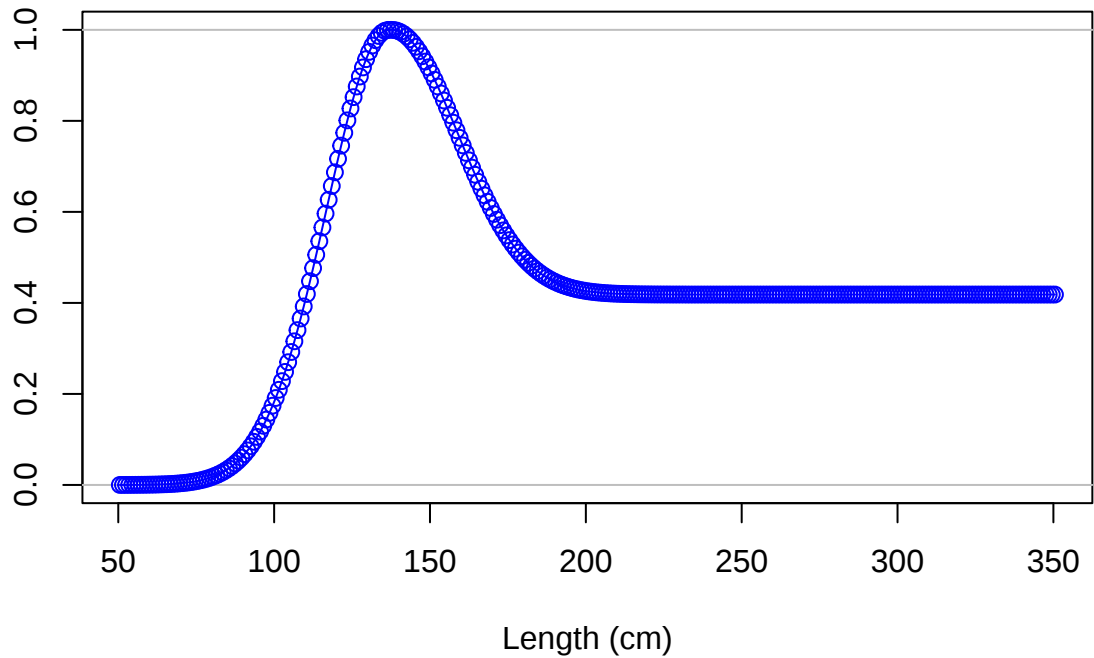


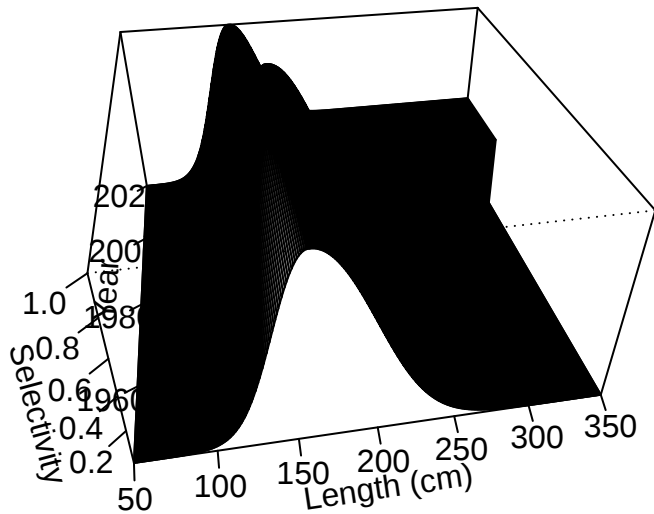


Year

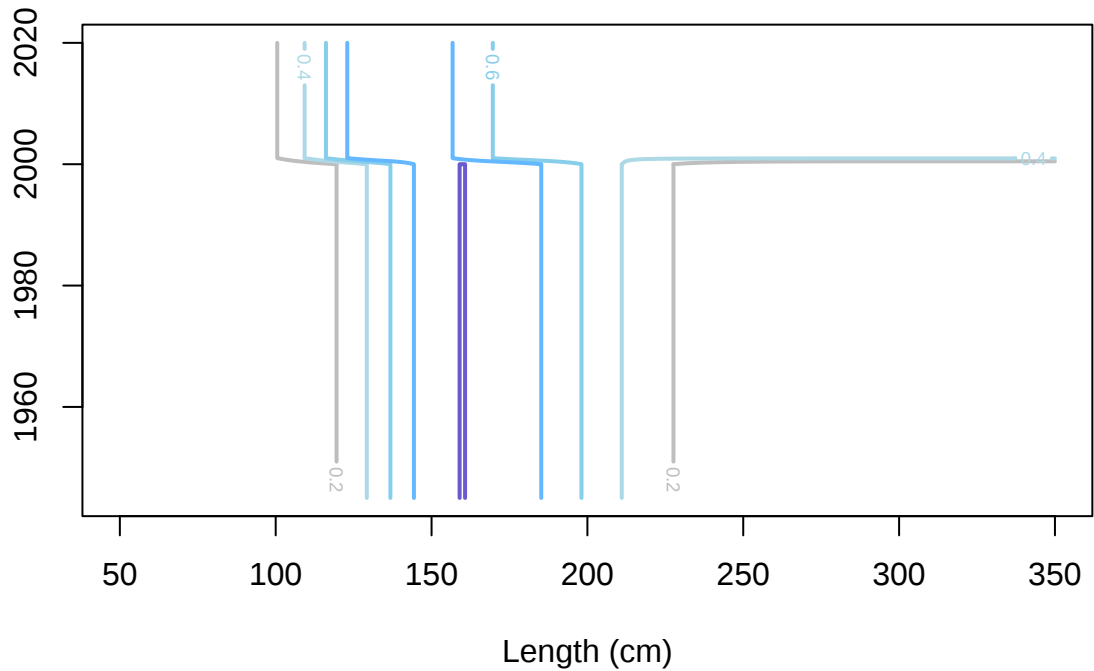


Selectivity

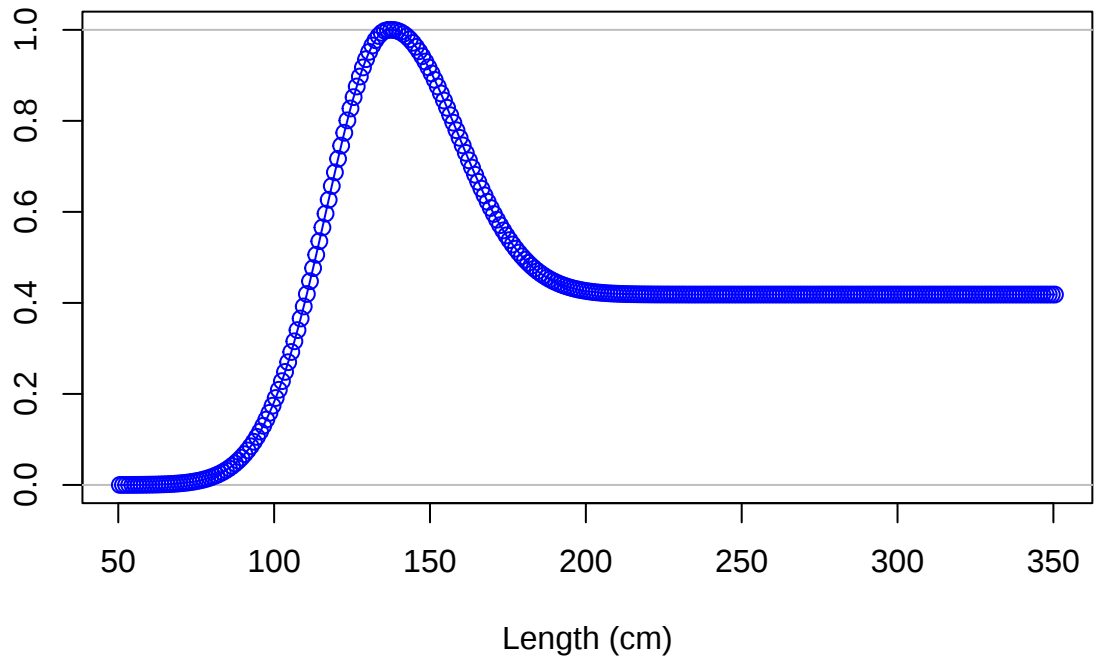


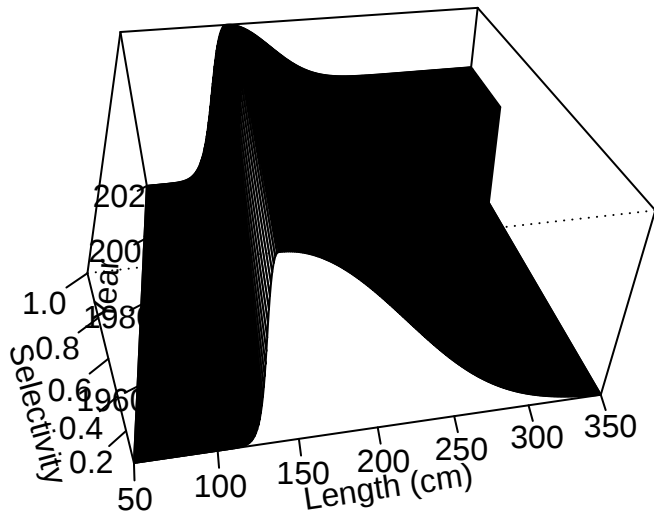


Year

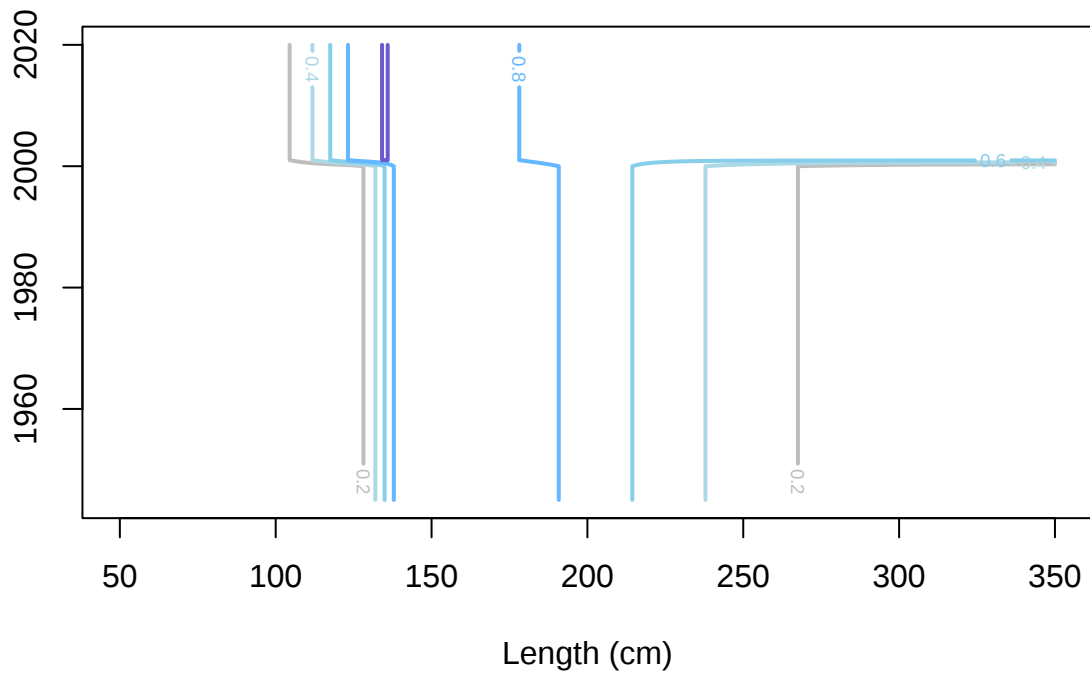


Selectivity

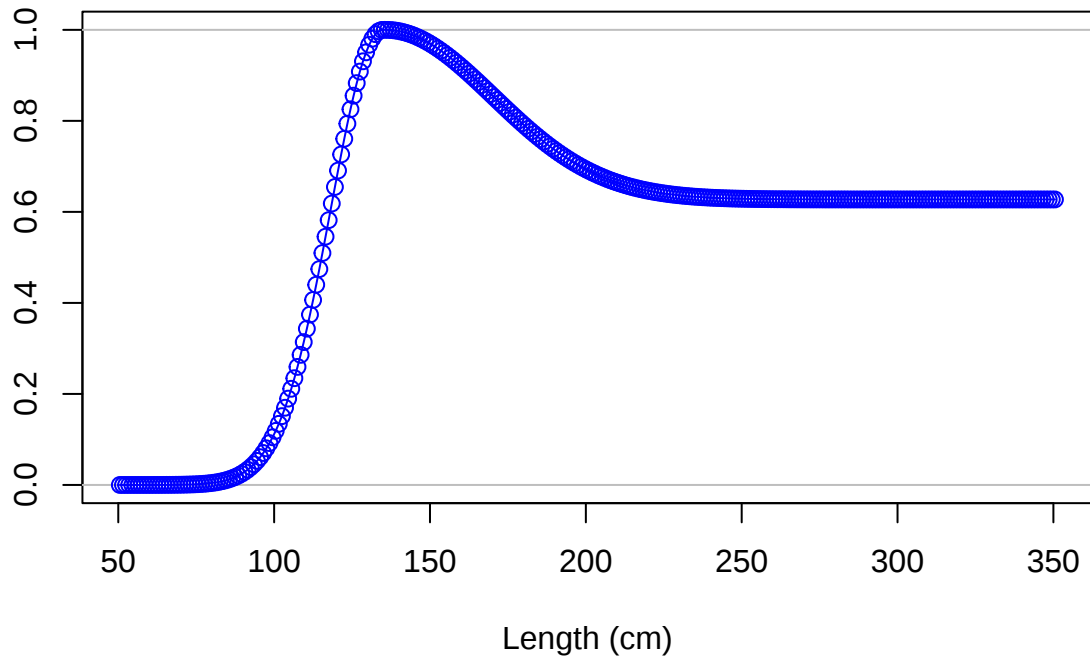


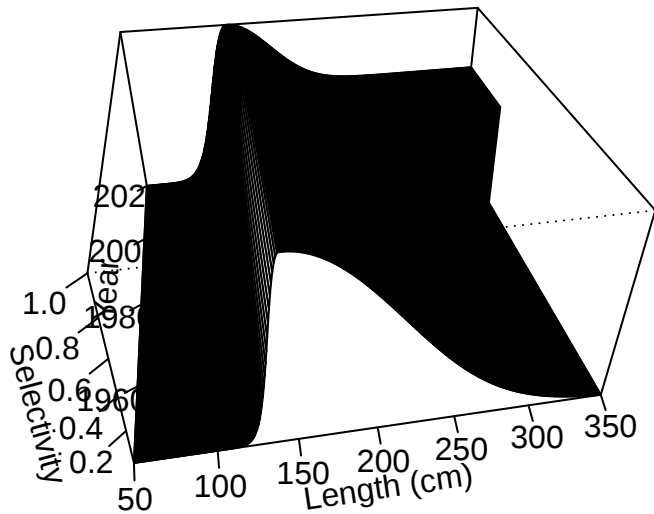


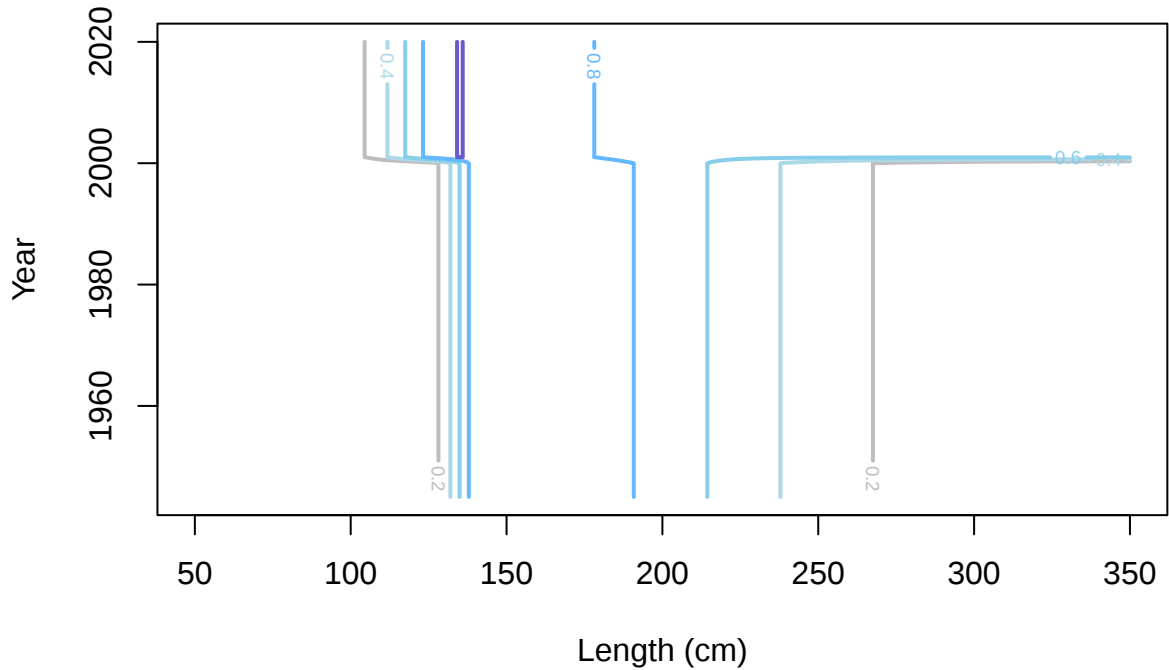
Year



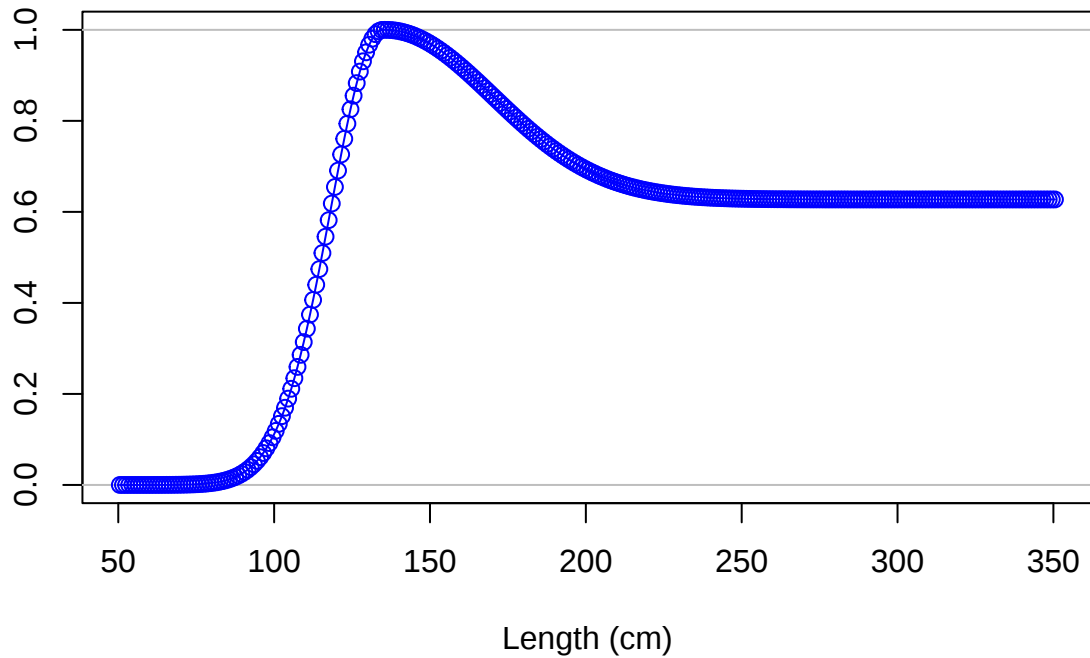
Selectivity



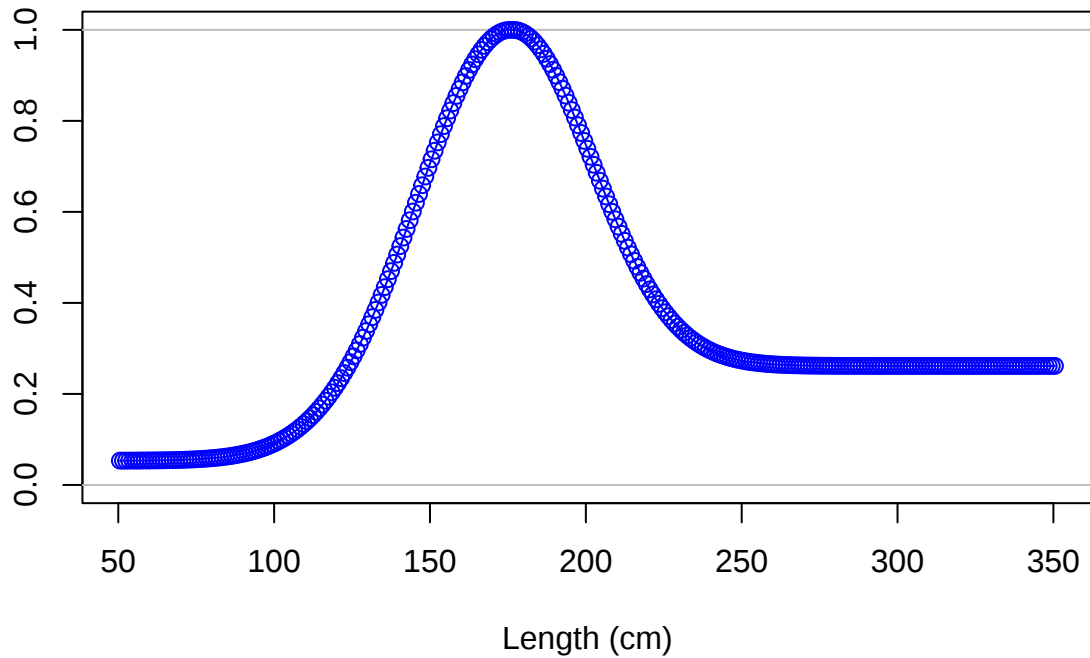




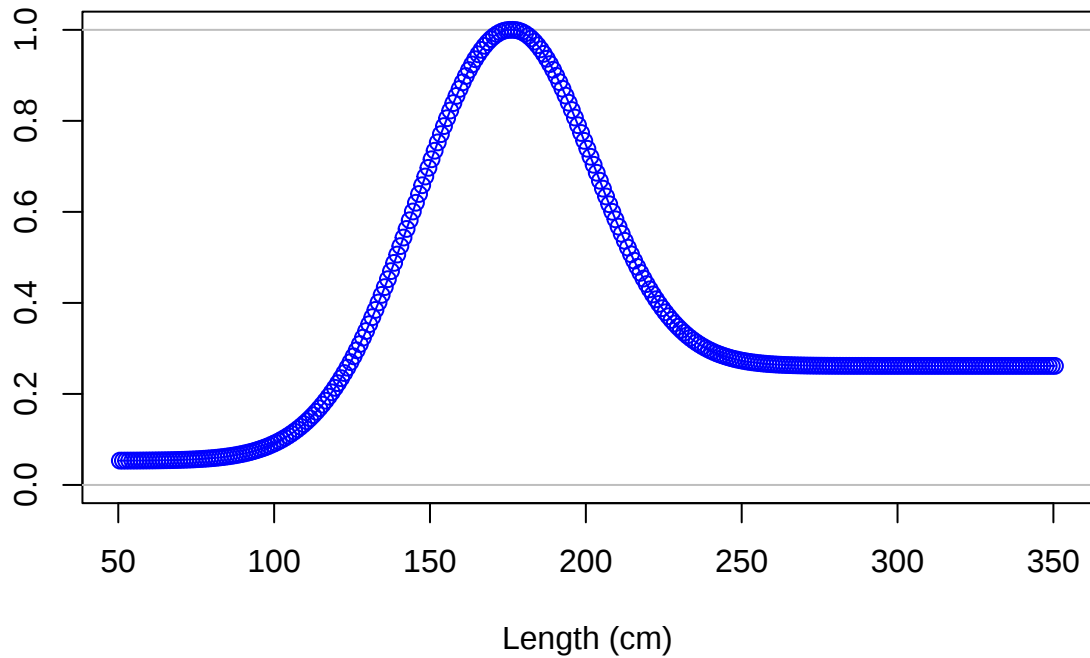
Selectivity



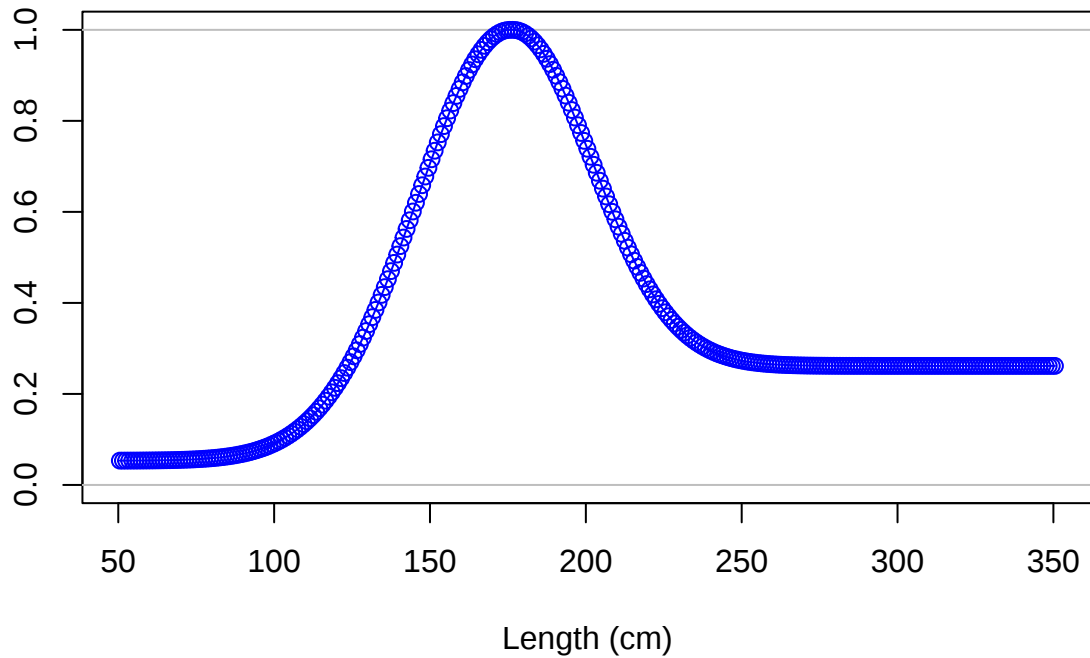
Selectivity



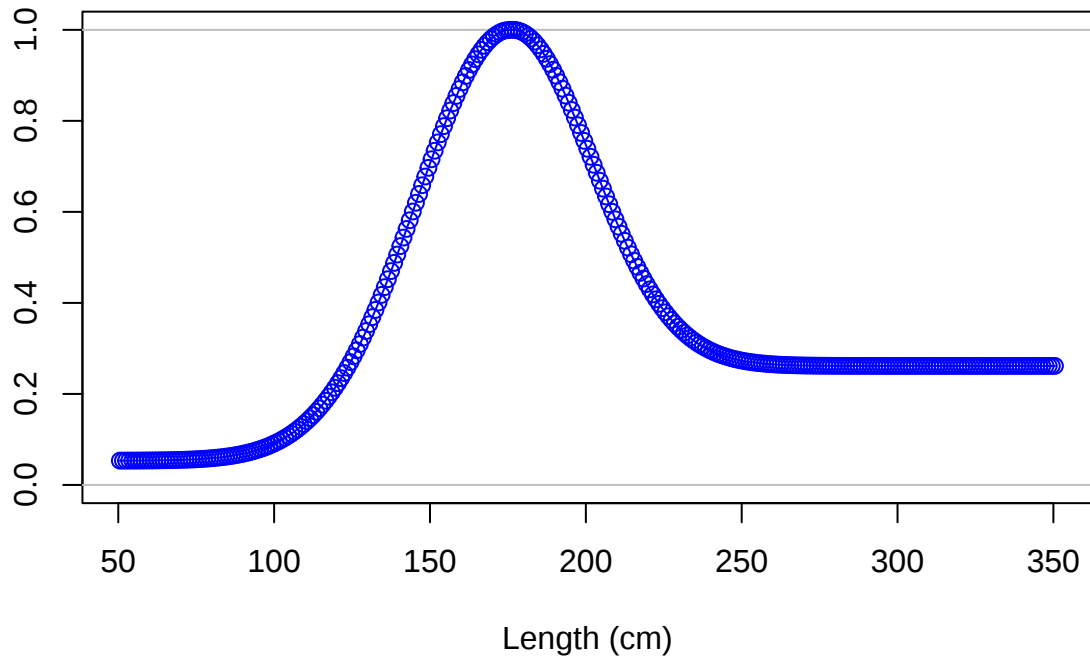
Selectivity

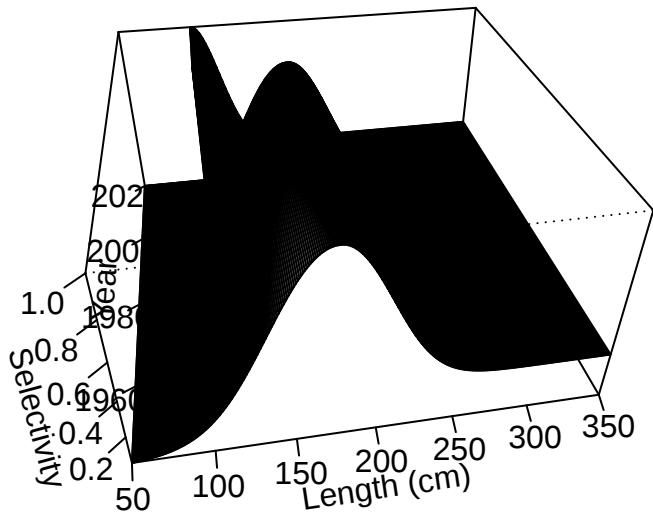


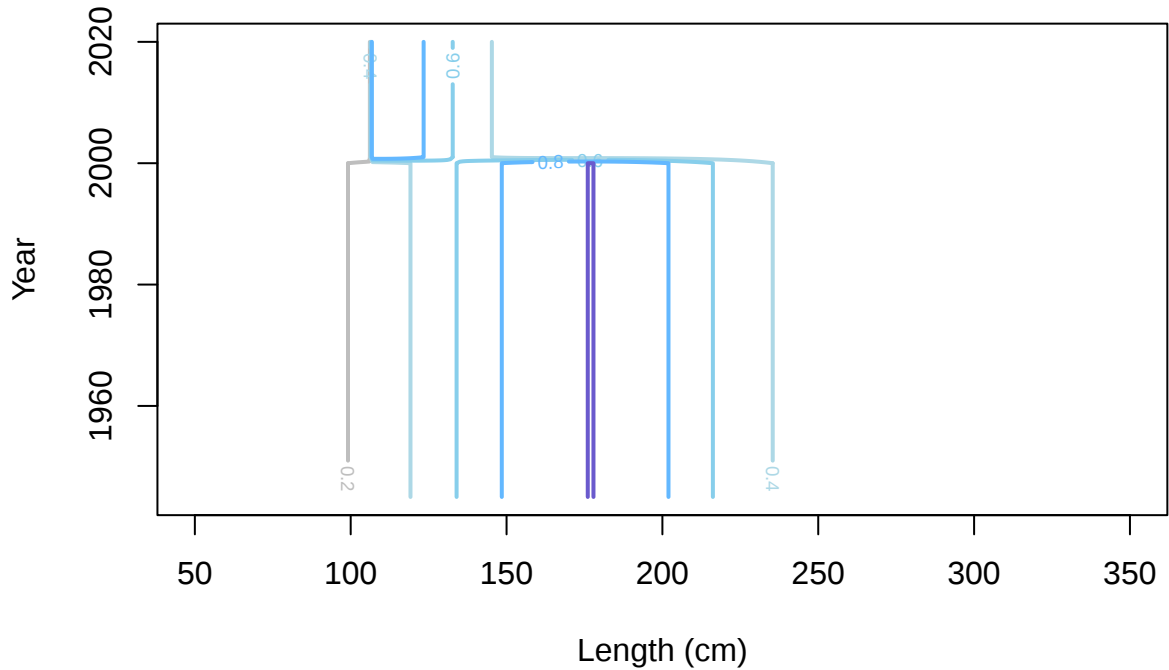
Selectivity



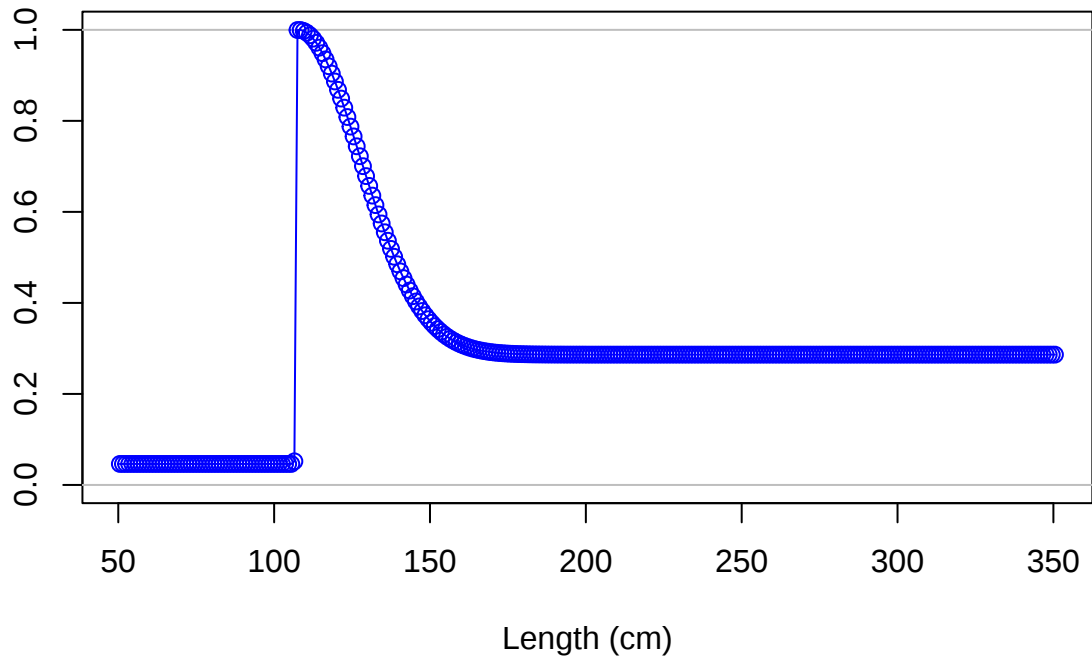
Selectivity

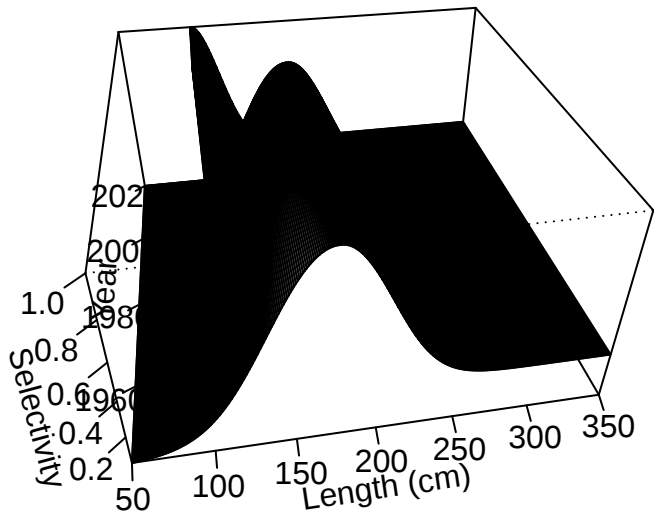


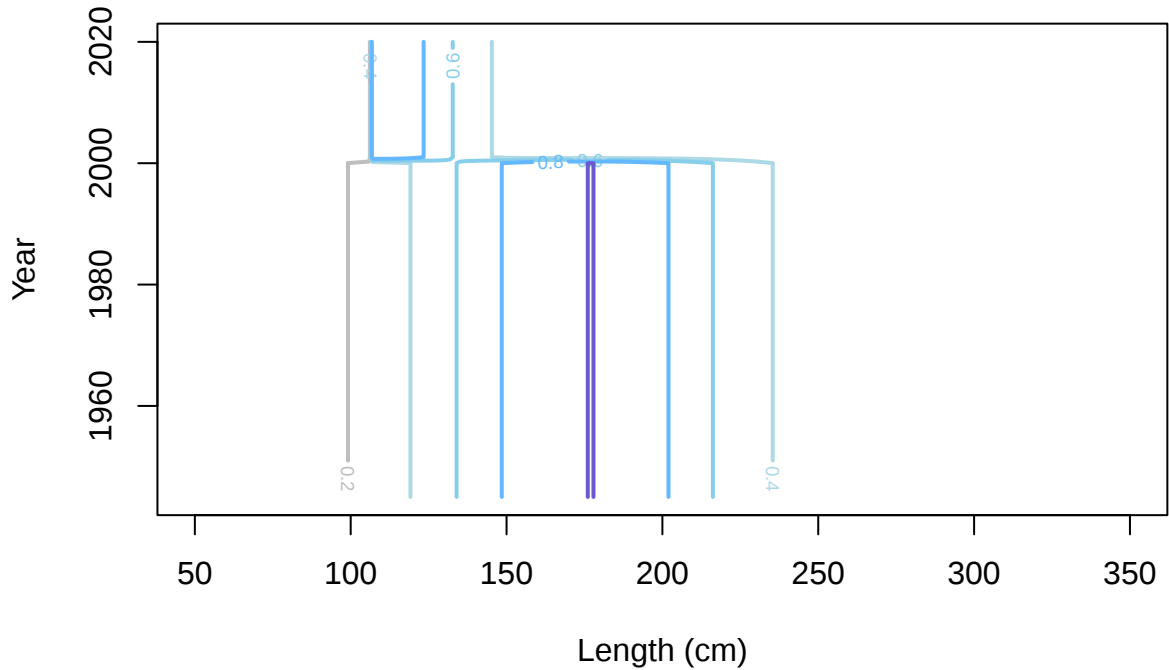




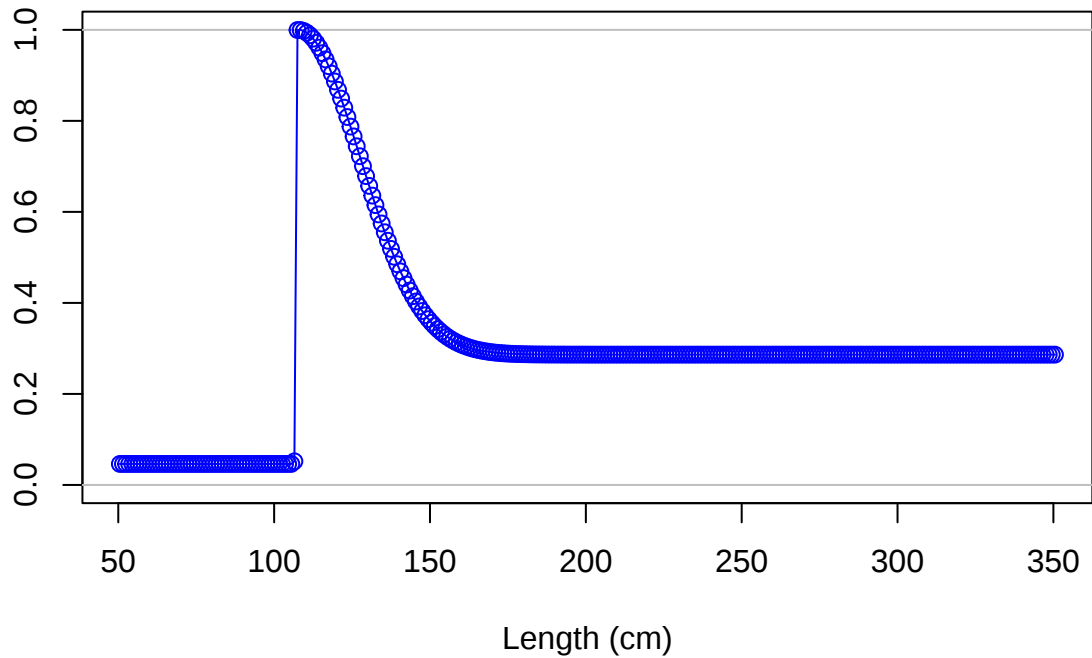
Selectivity



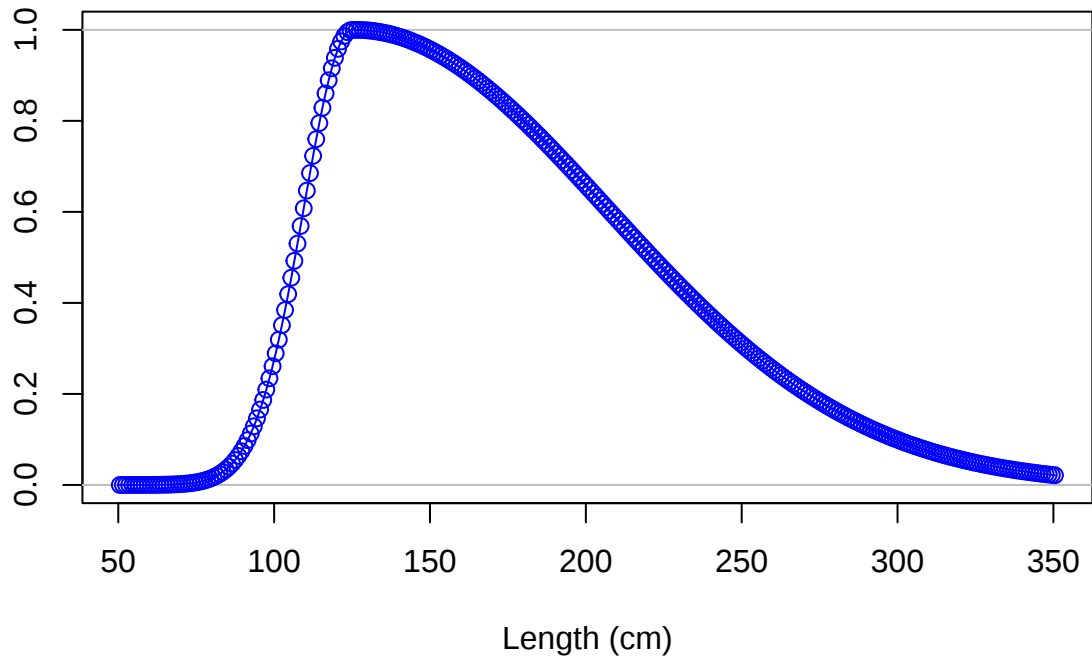




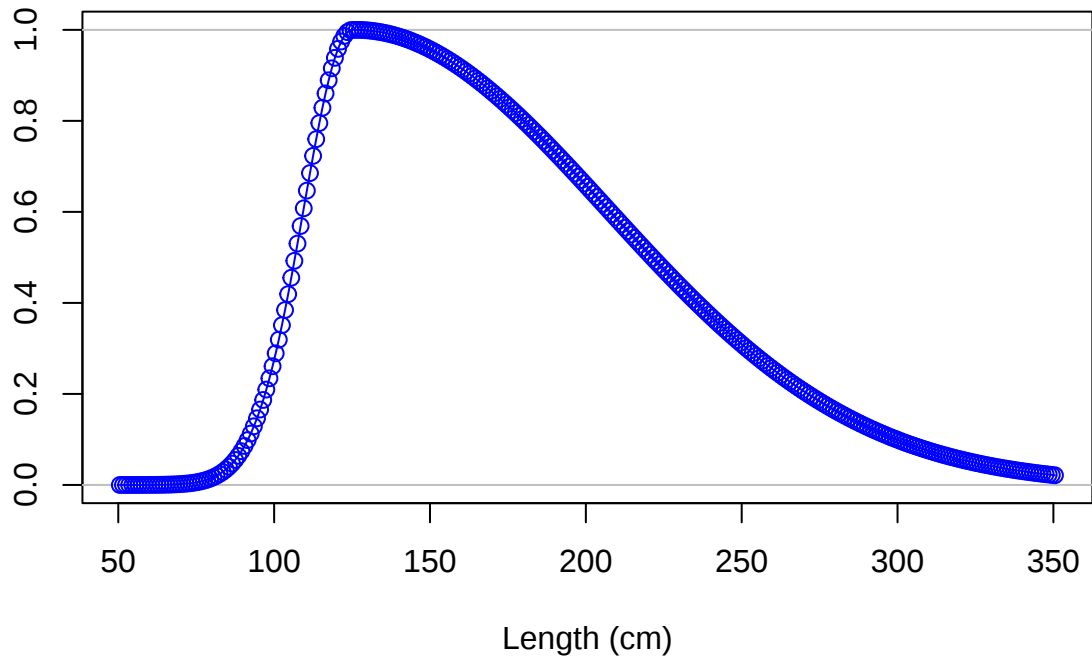
Selectivity



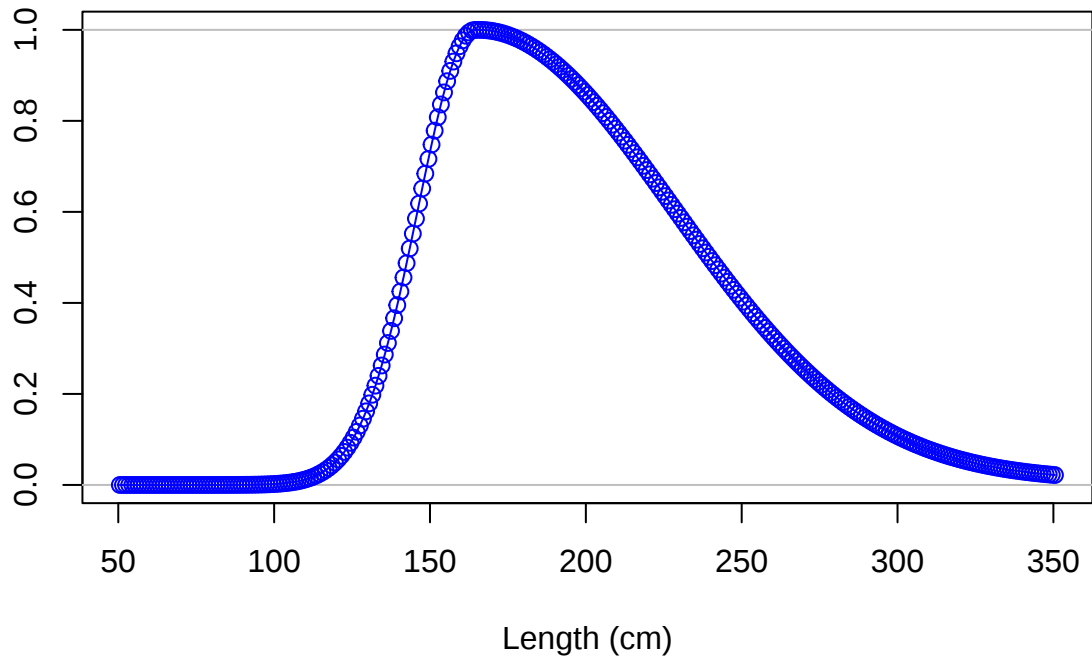
Selectivity



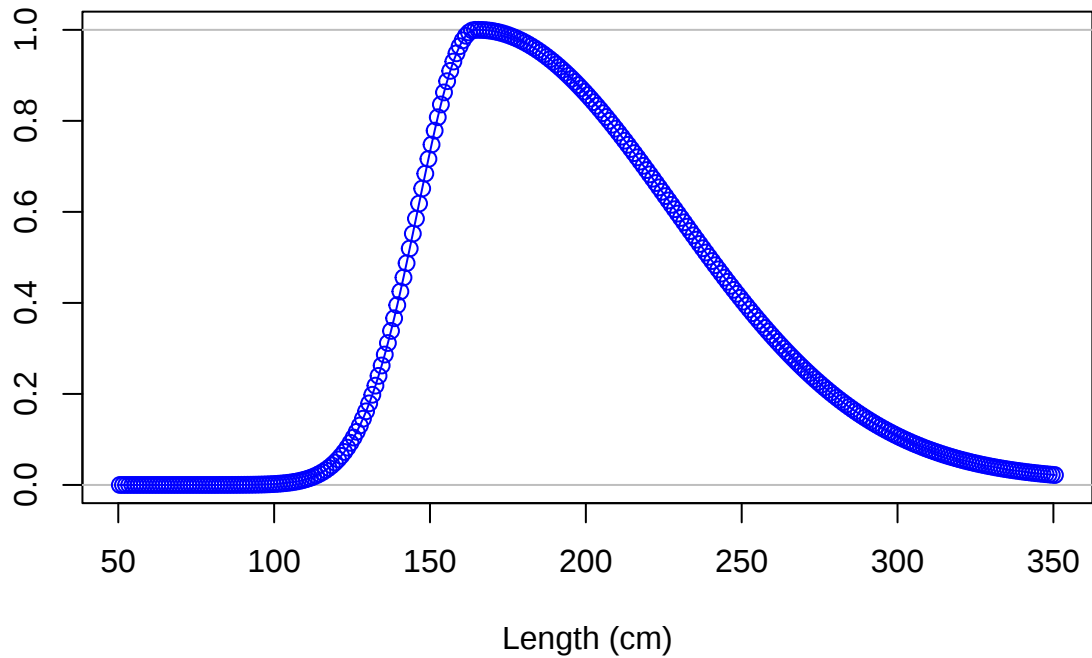
Selectivity



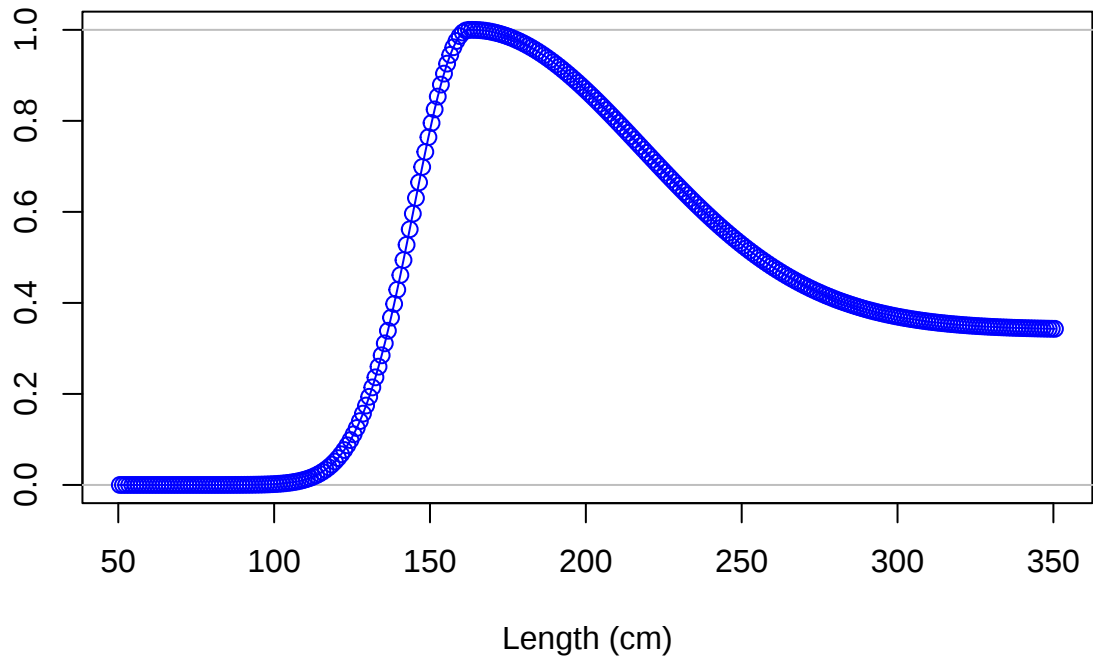
Selectivity



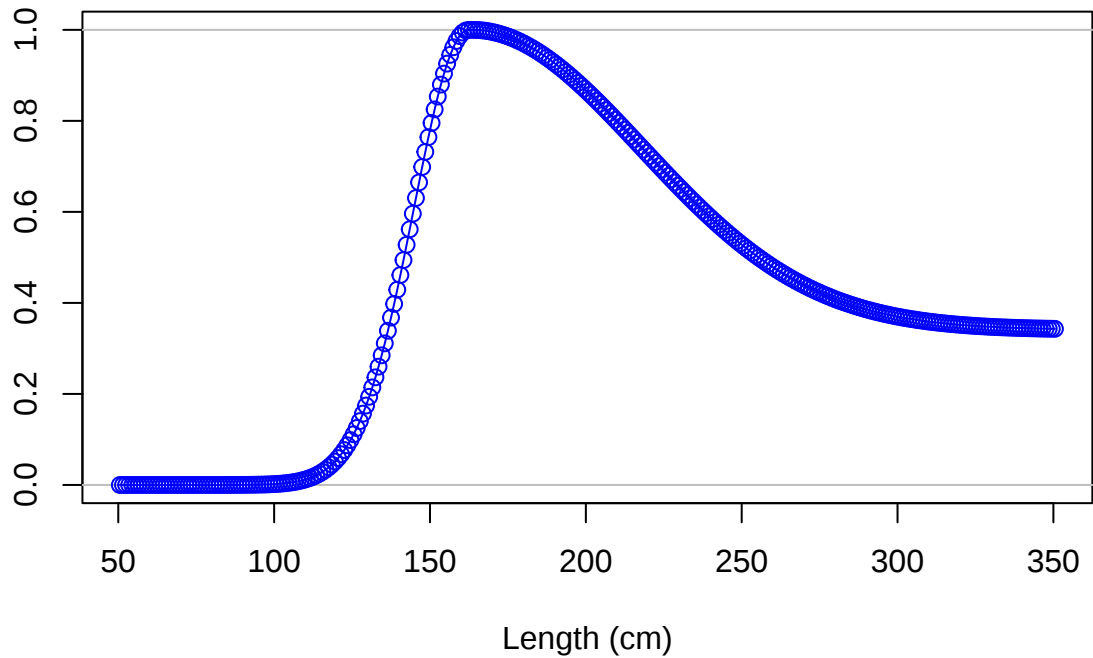
Selectivity



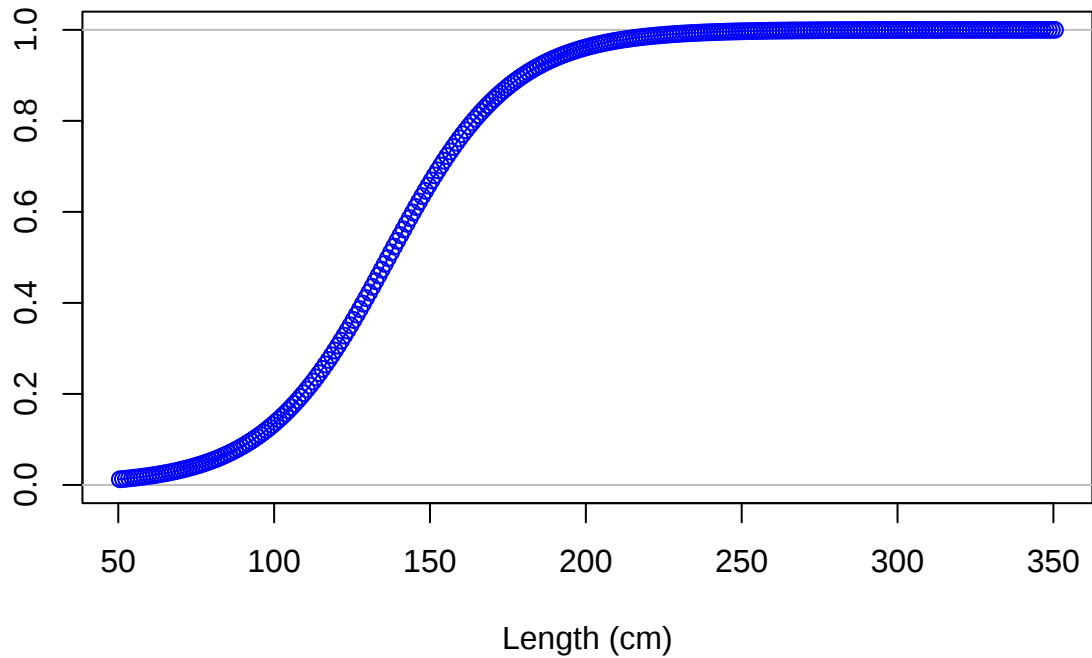
Selectivity



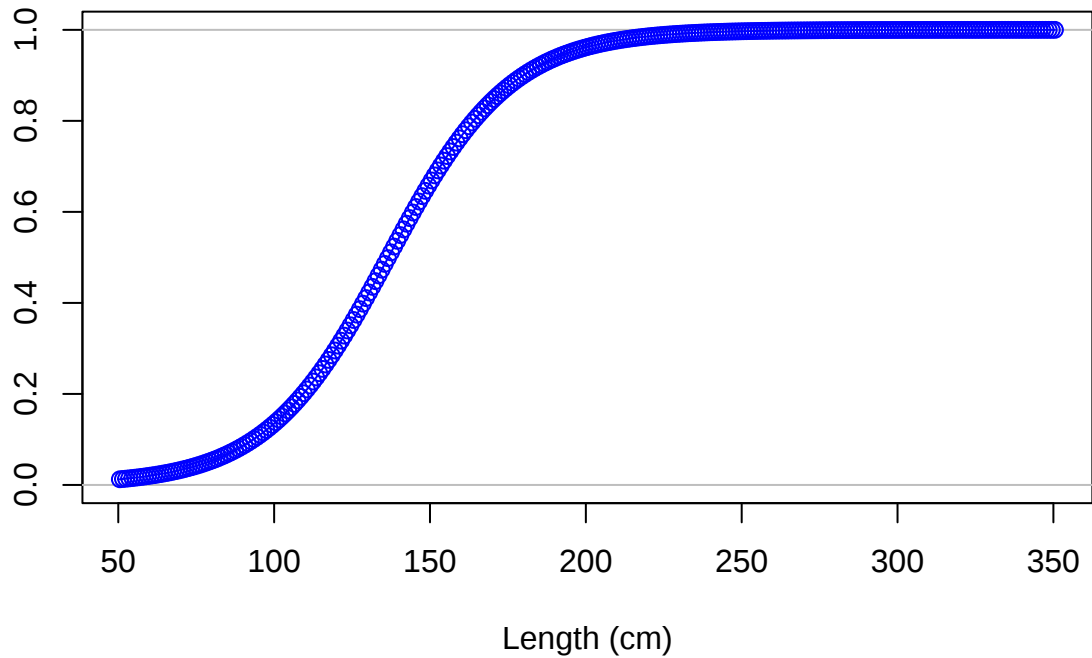
Selectivity



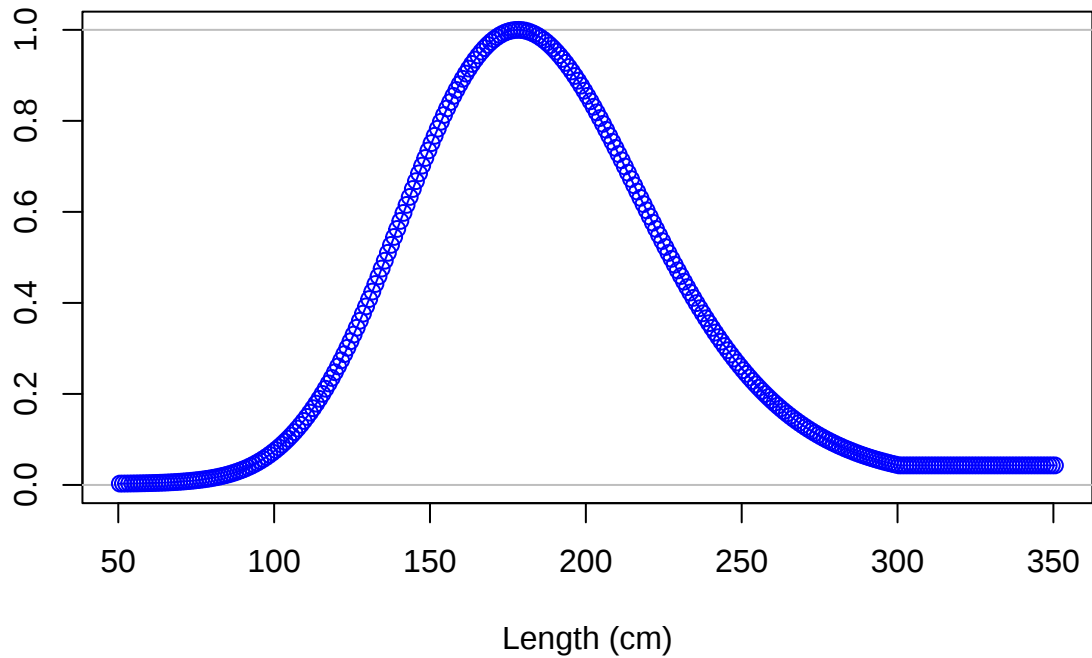
Selectivity



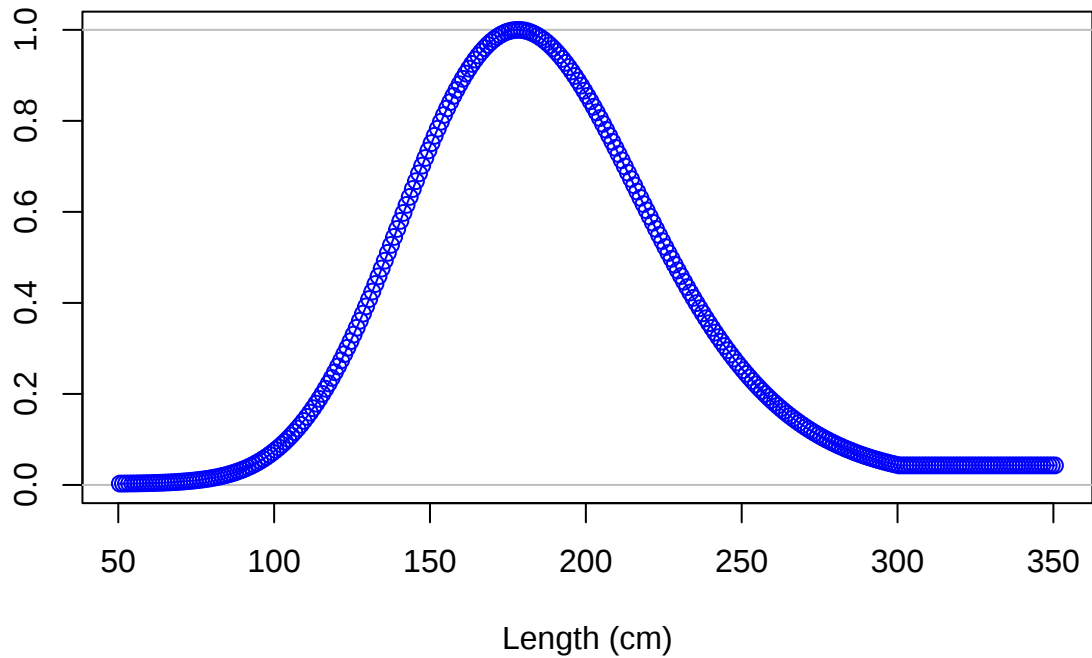
Selectivity



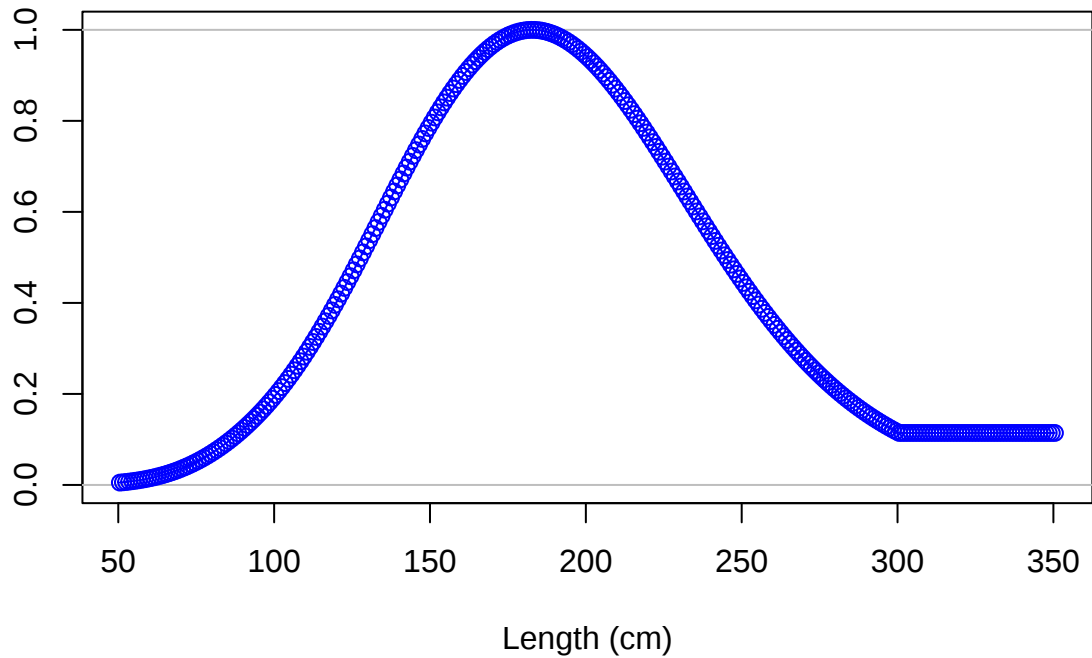
Selectivity



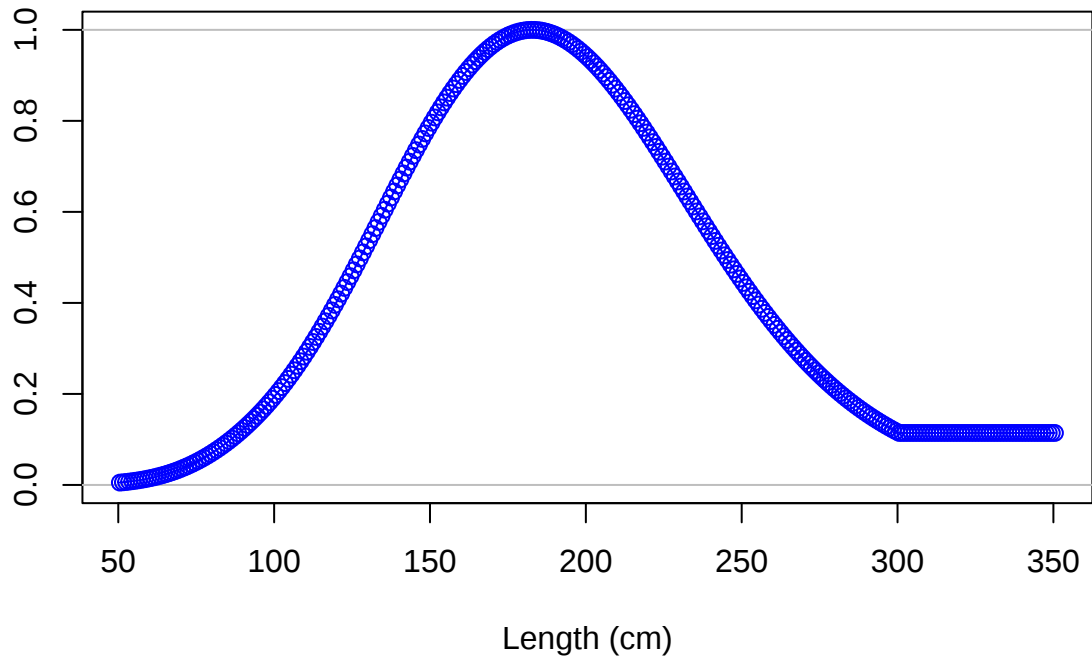
Selectivity



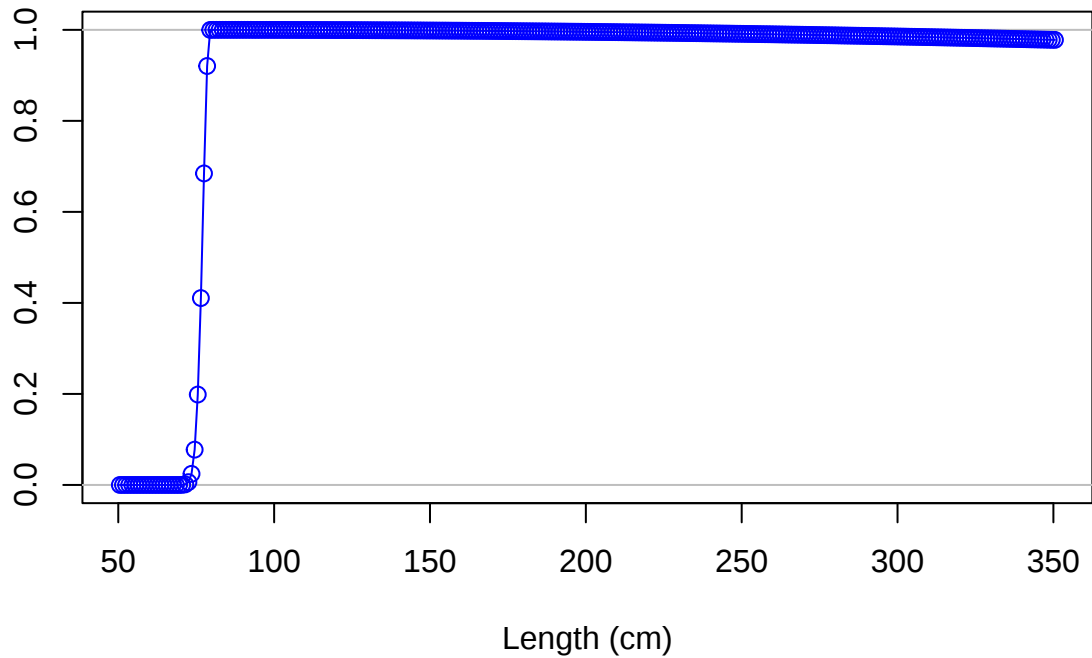
Selectivity



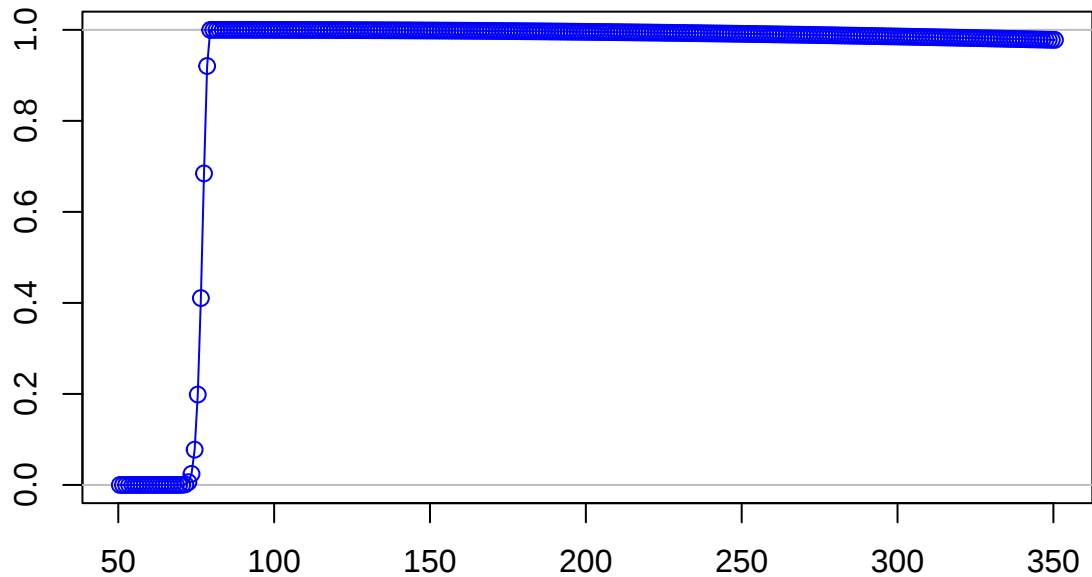
Selectivity



Selectivity

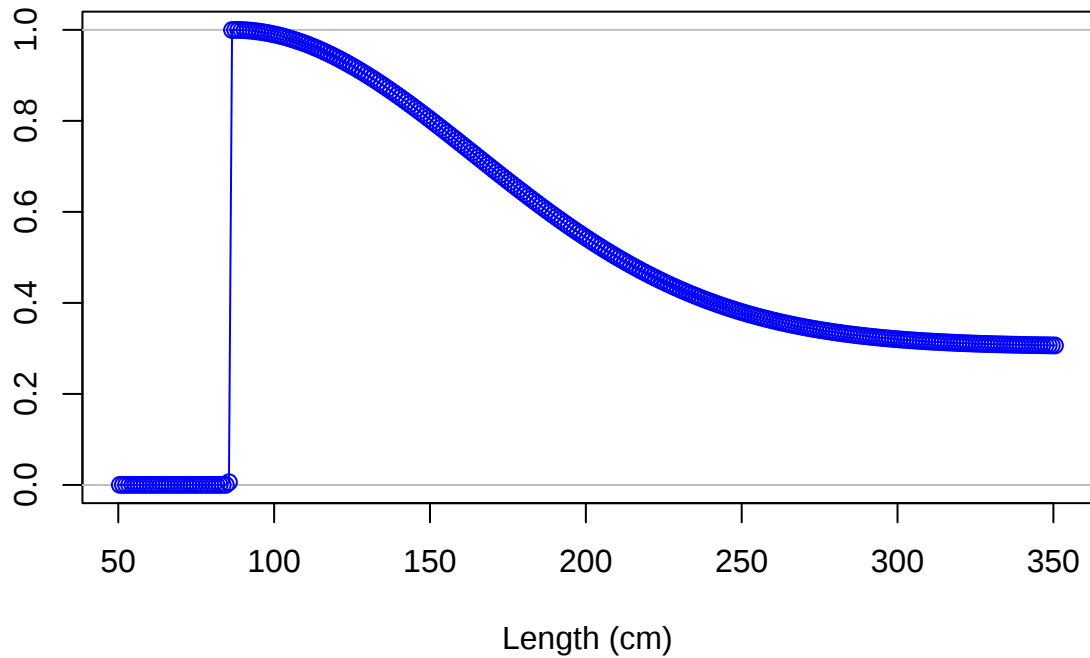


Selectivity

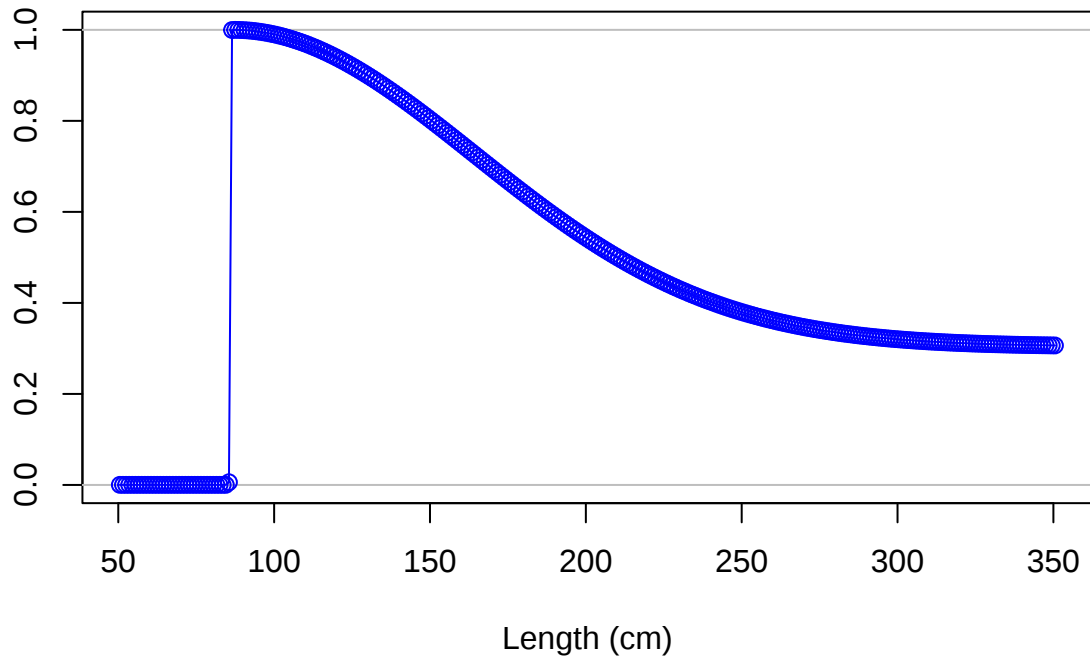


Length (cm)

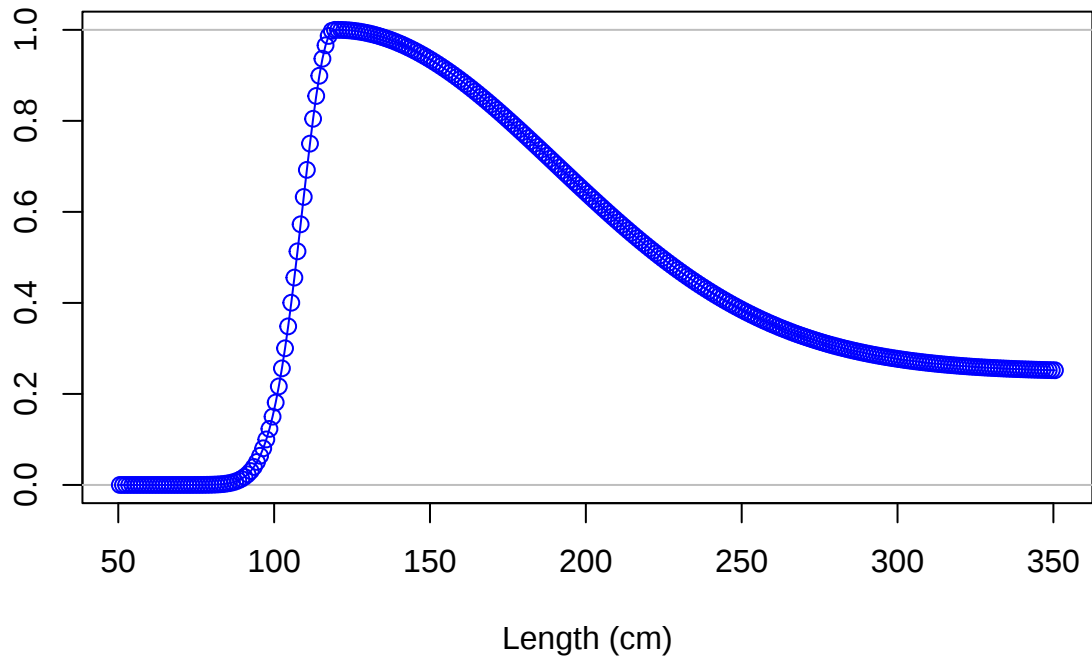
Selectivity



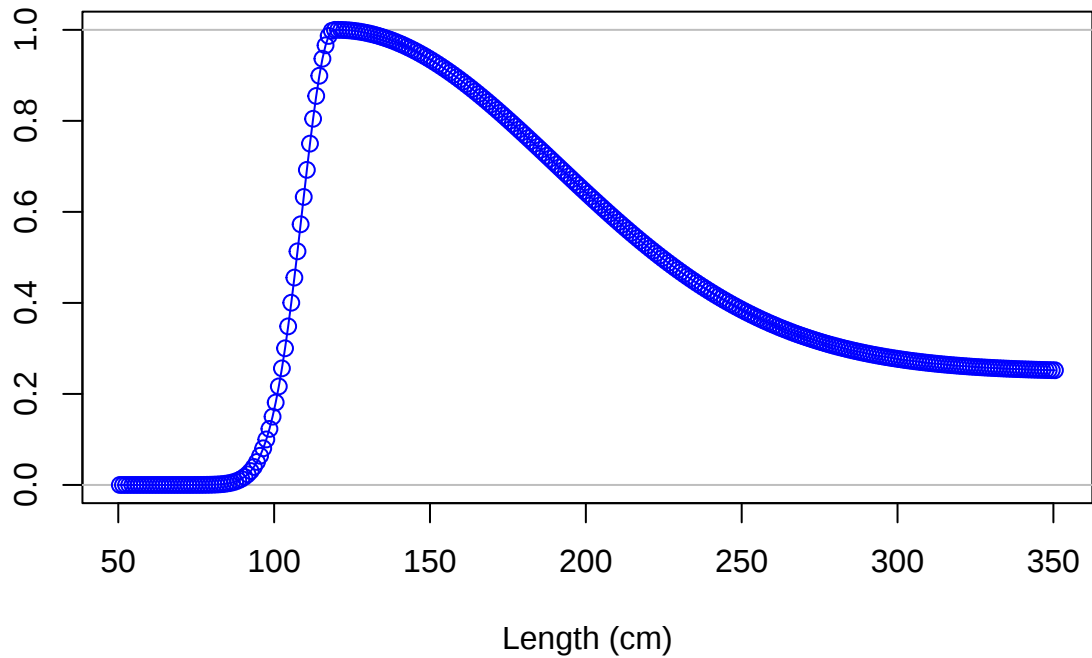
Selectivity



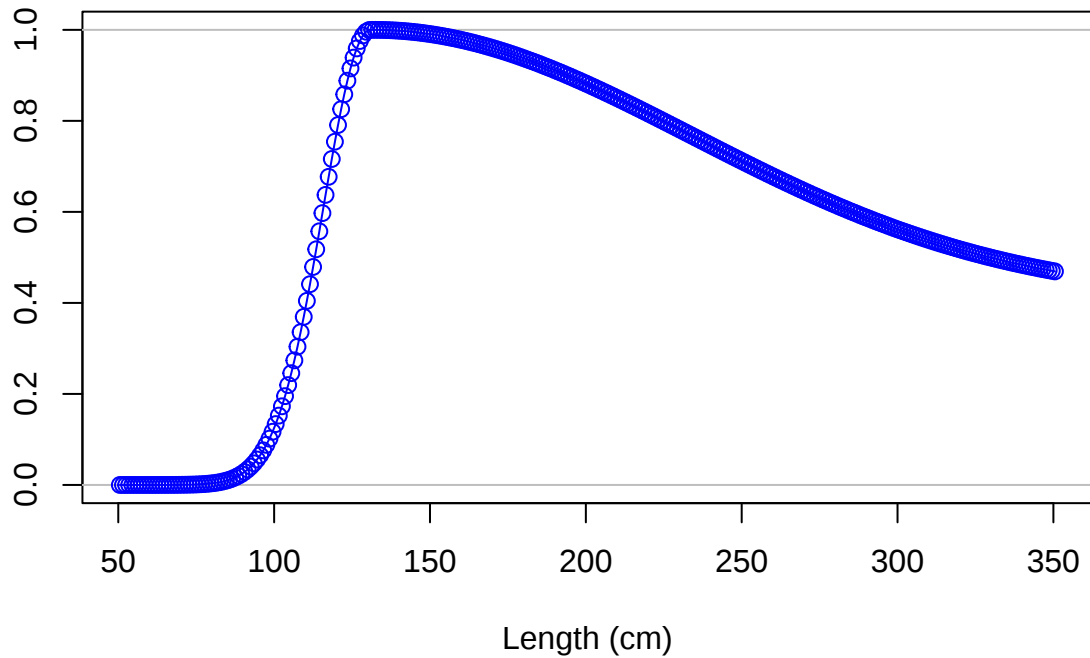
Selectivity



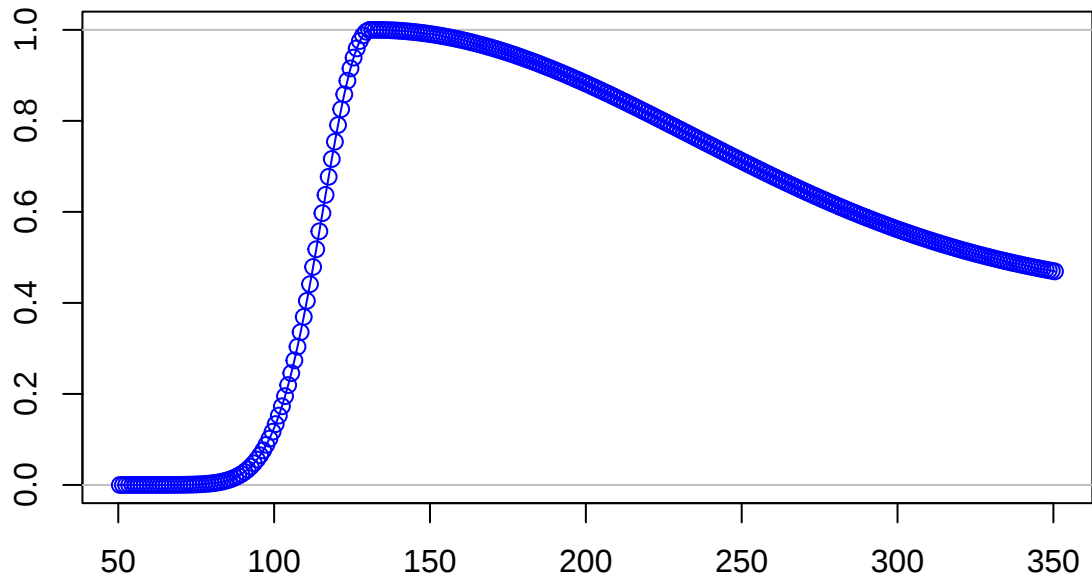
Selectivity



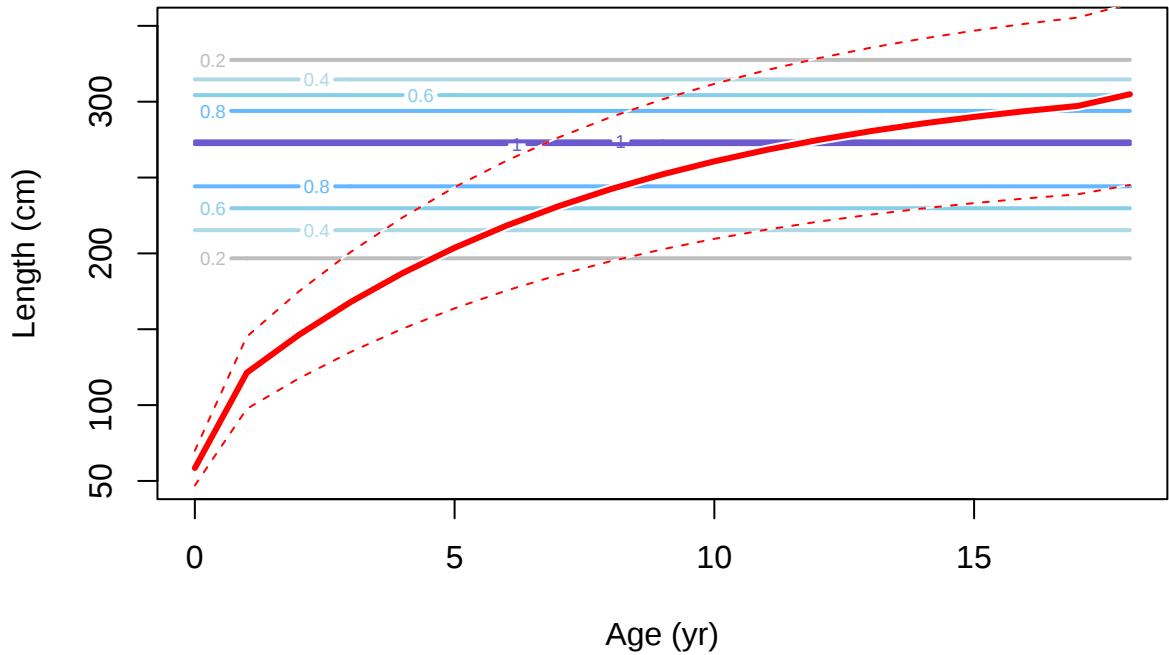
Selectivity

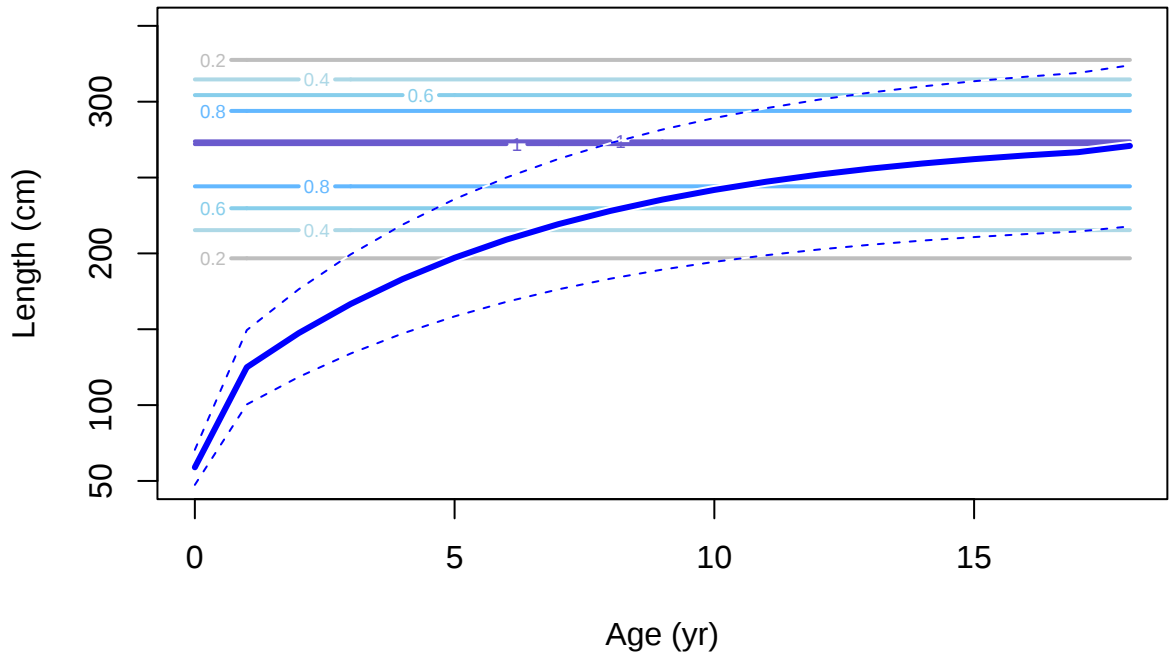


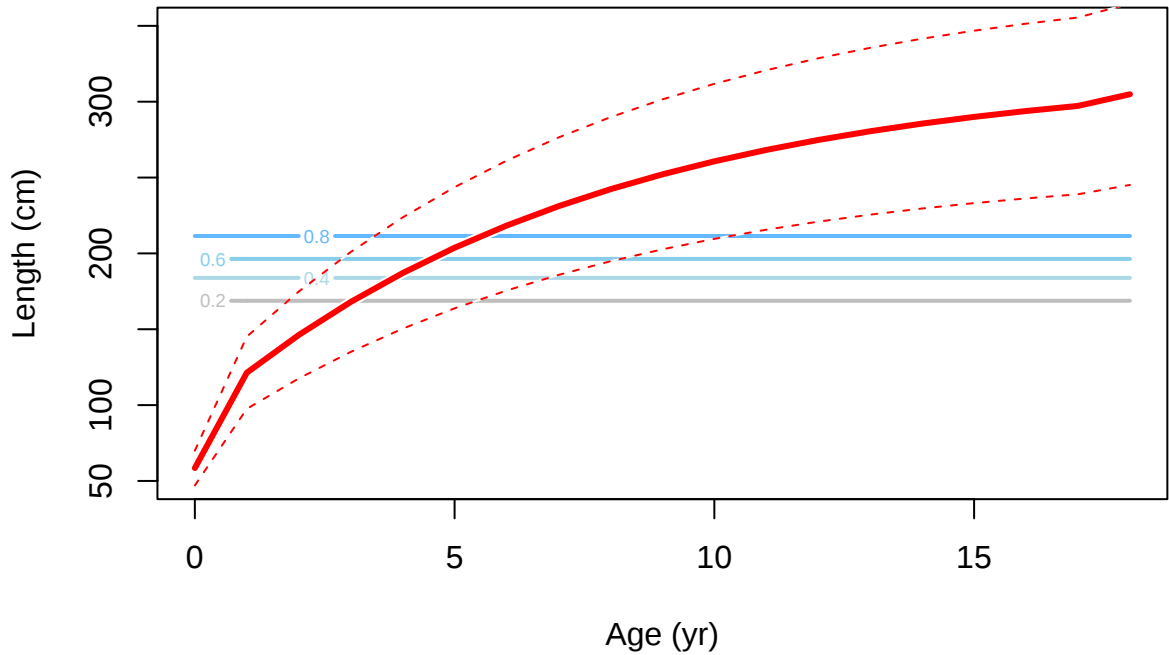
Selectivity

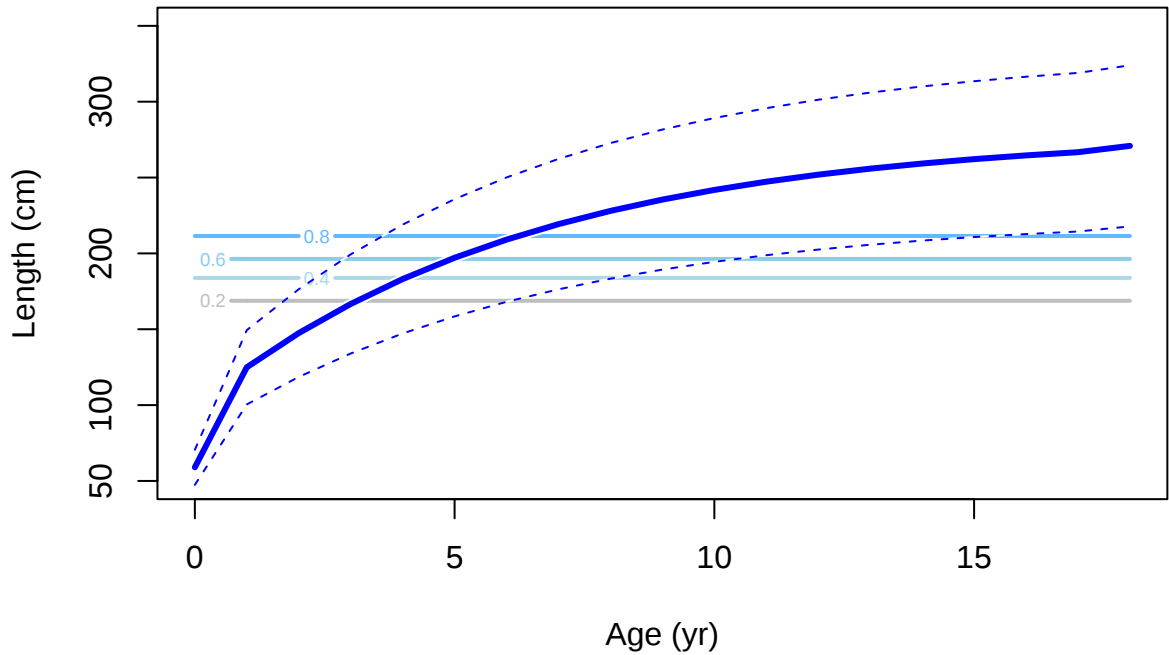


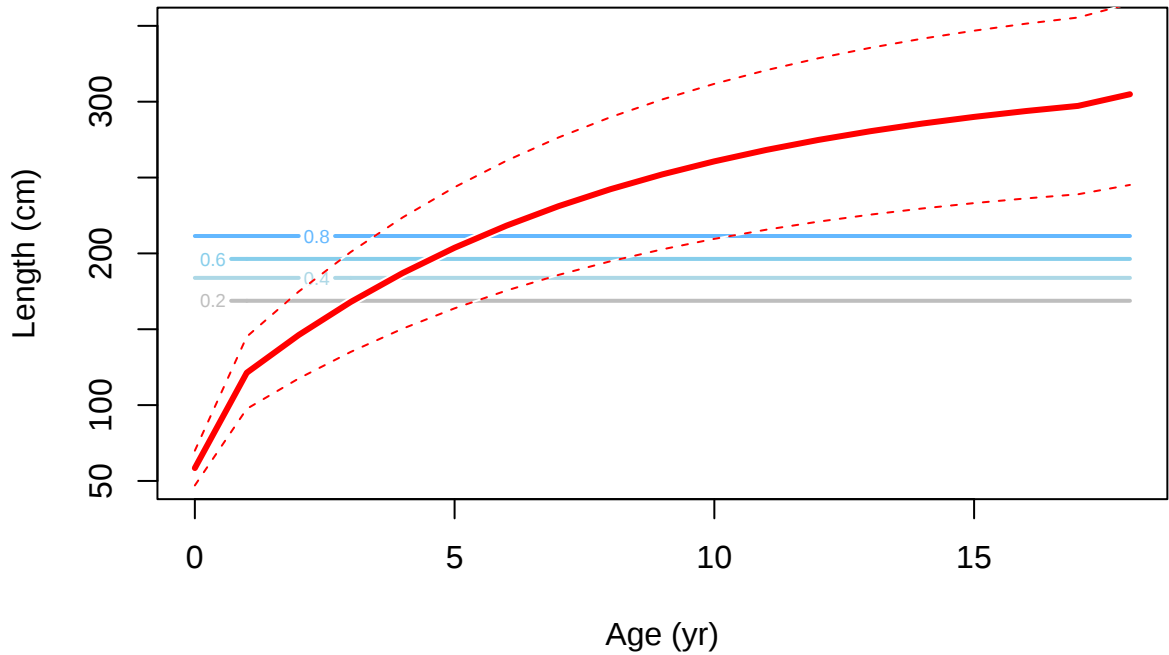
Length (cm)

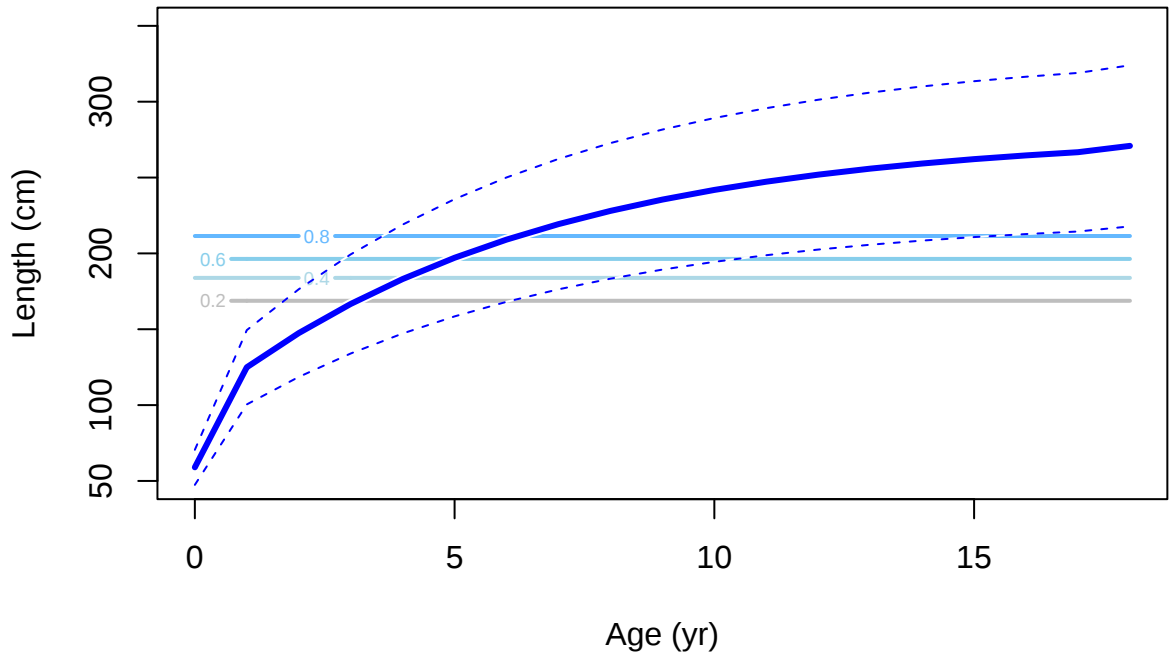


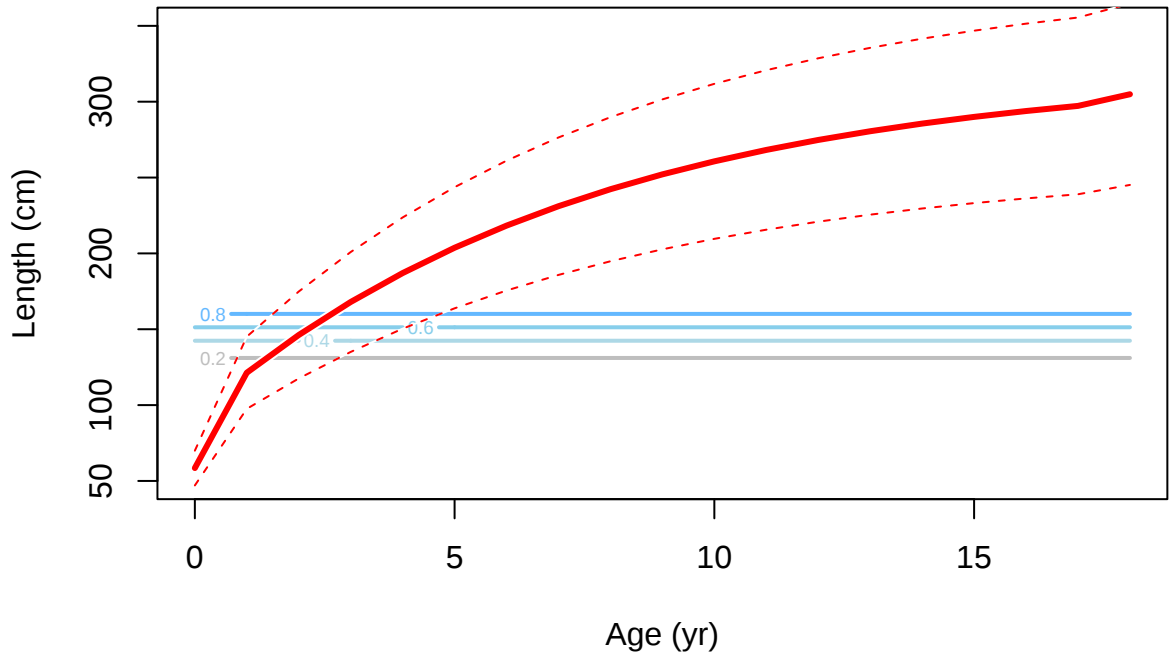


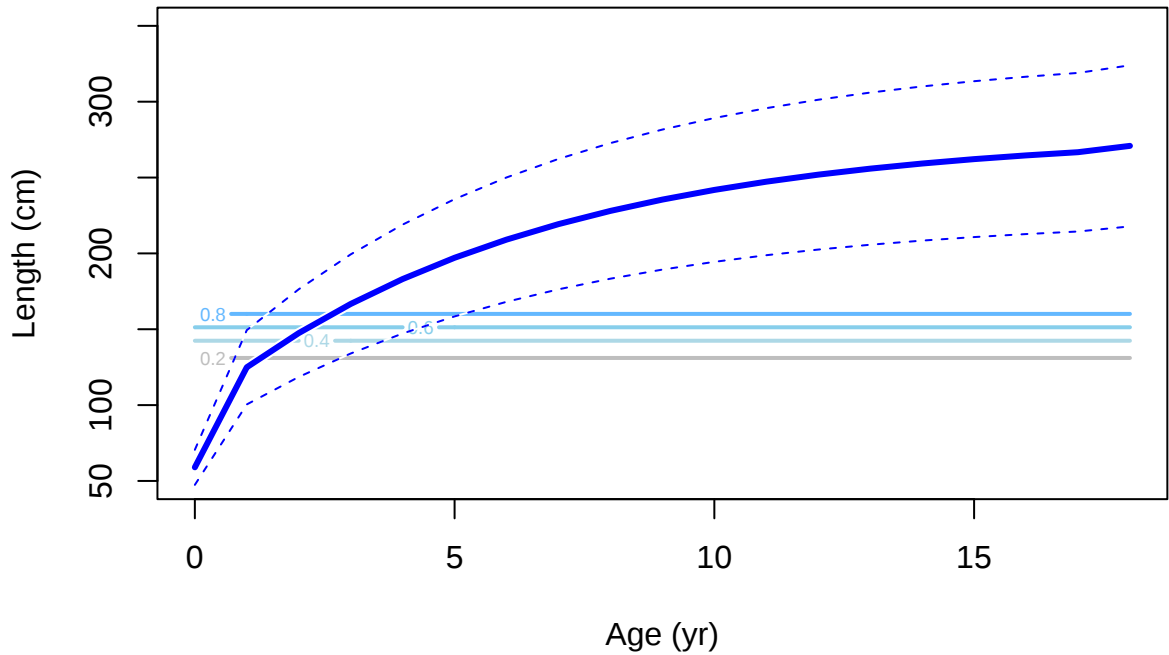


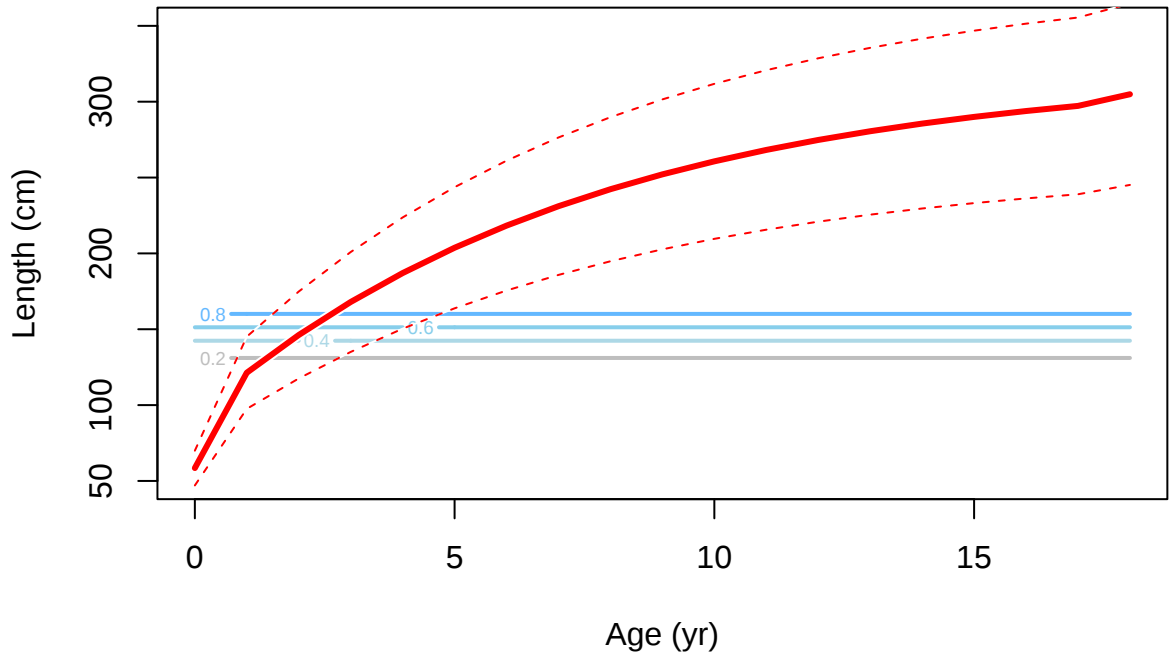


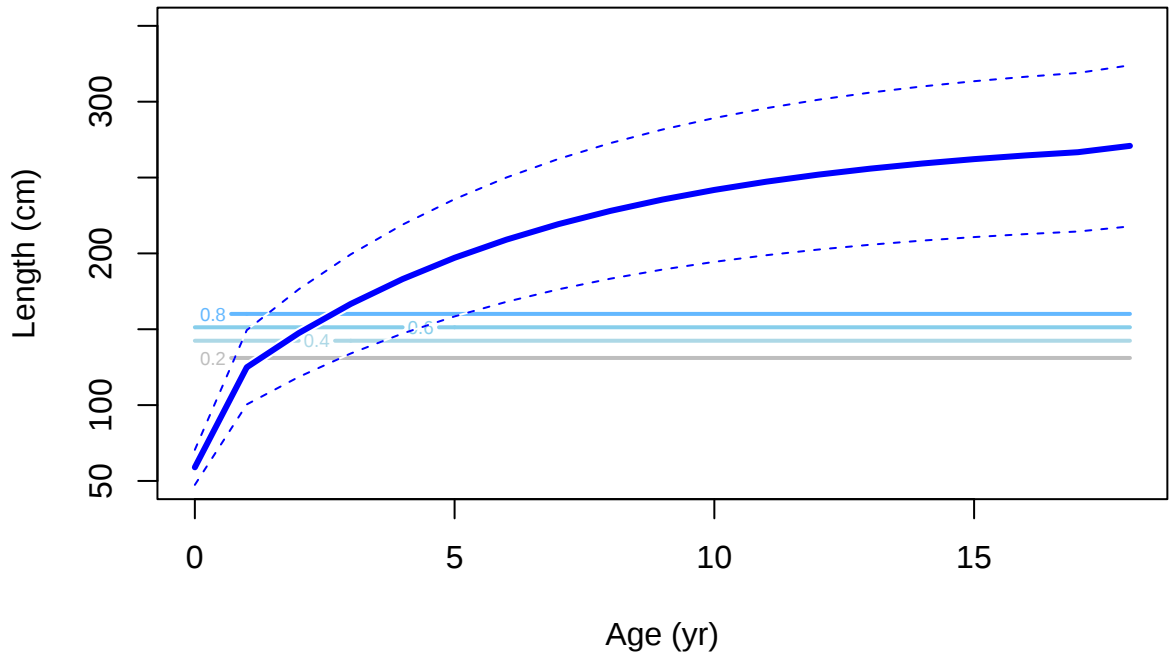


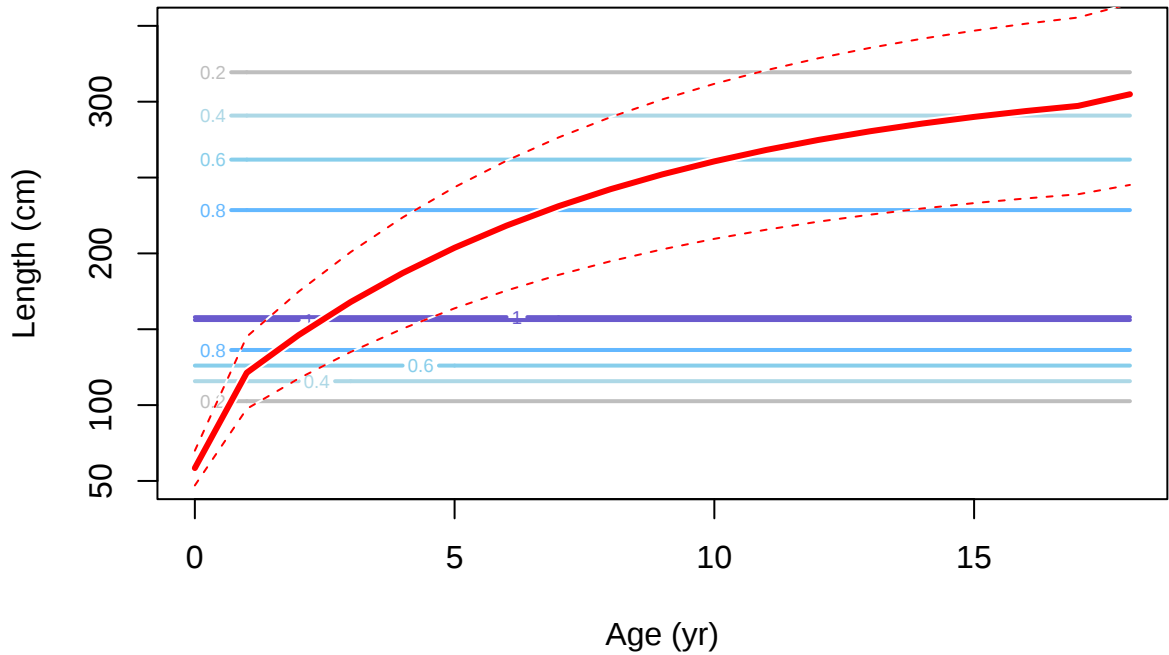


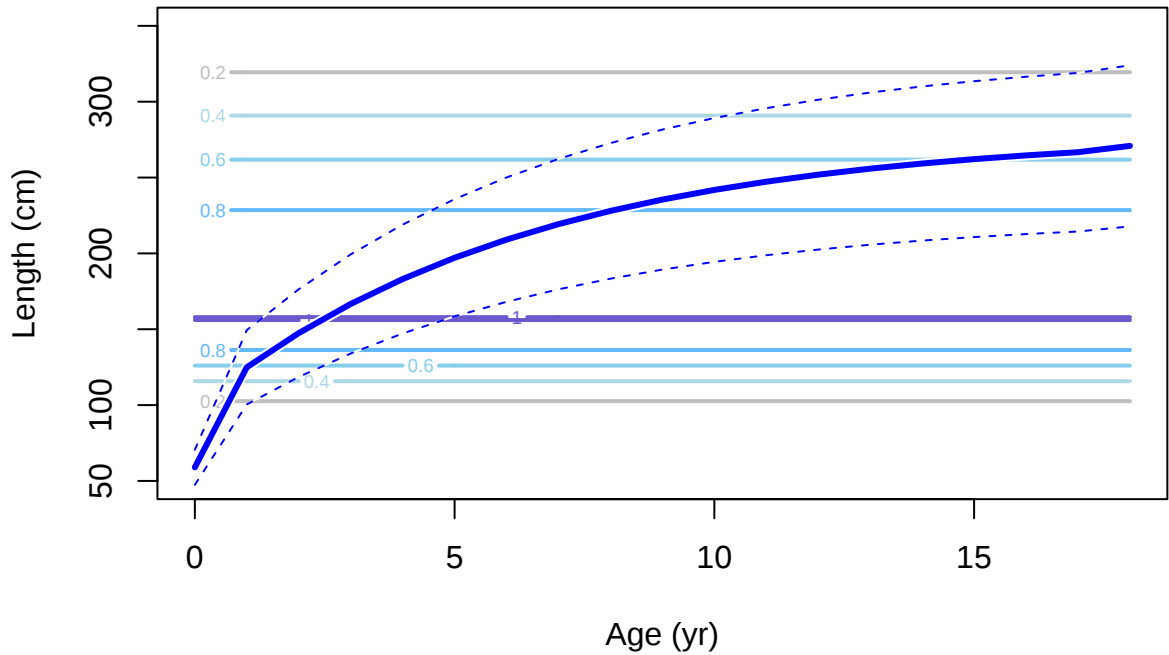


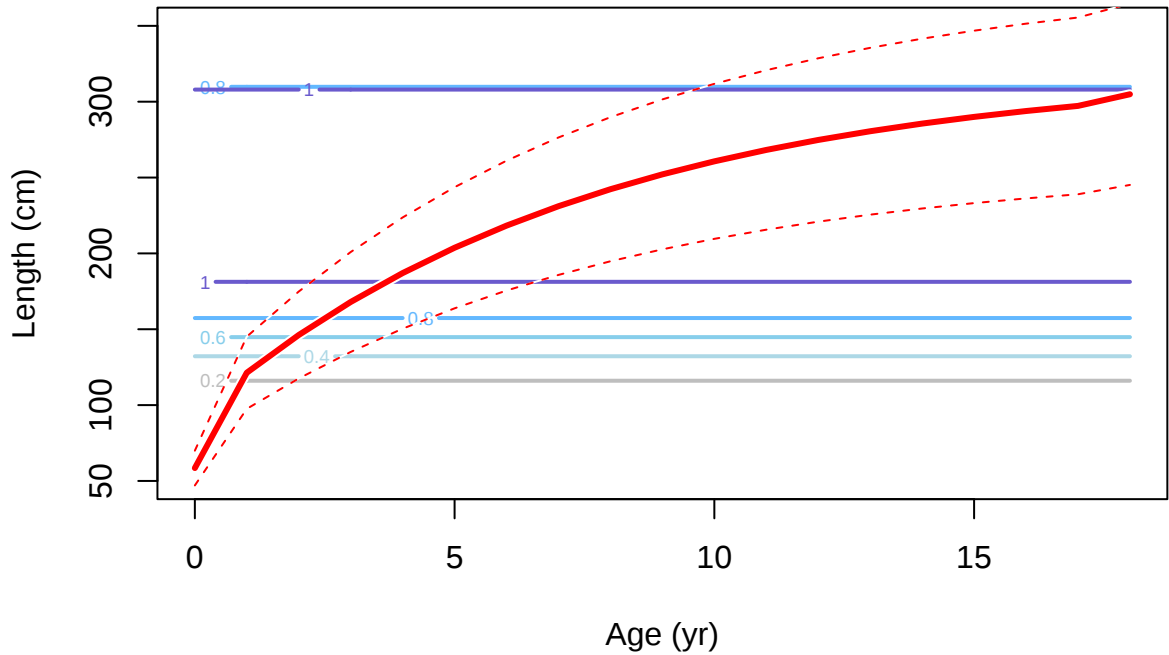


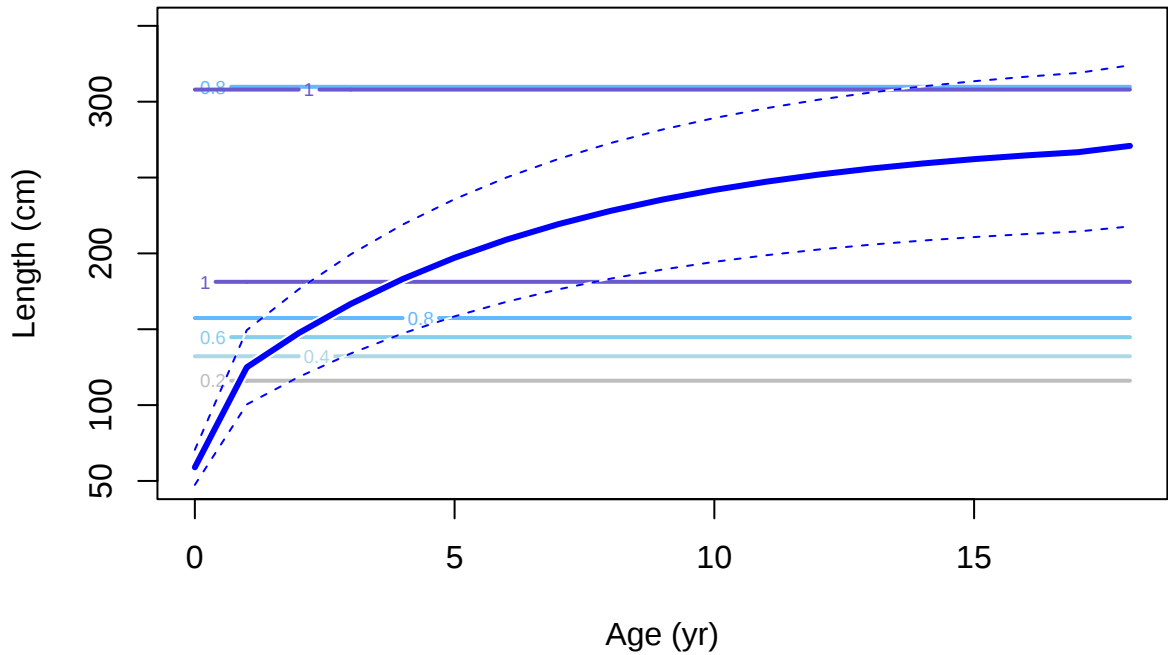


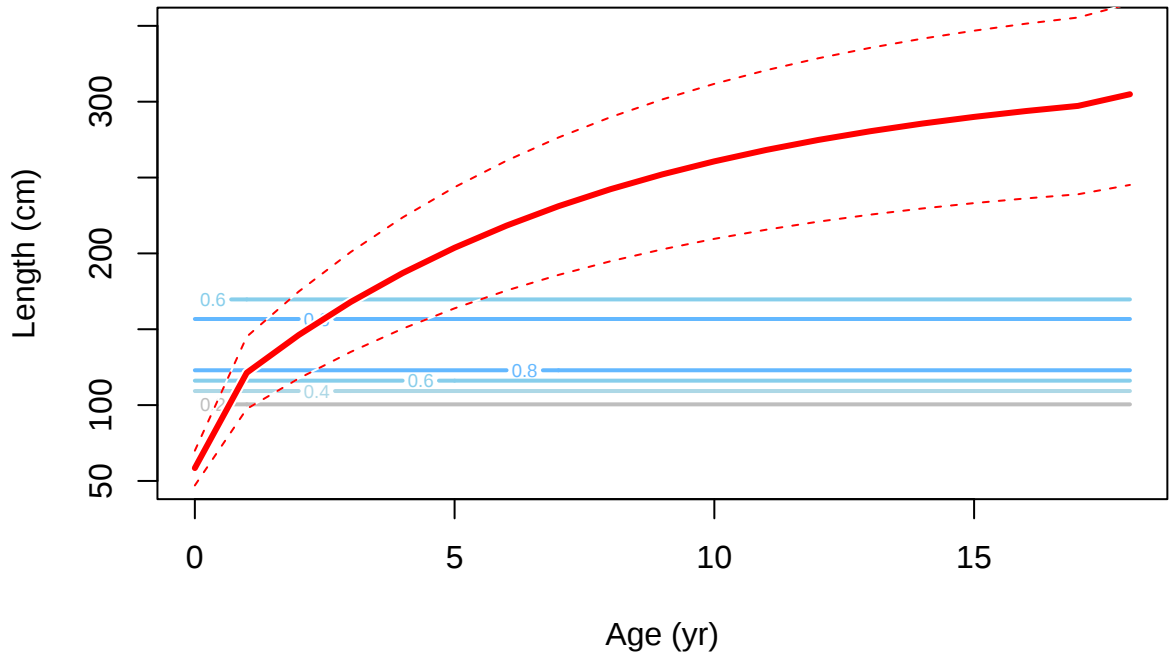


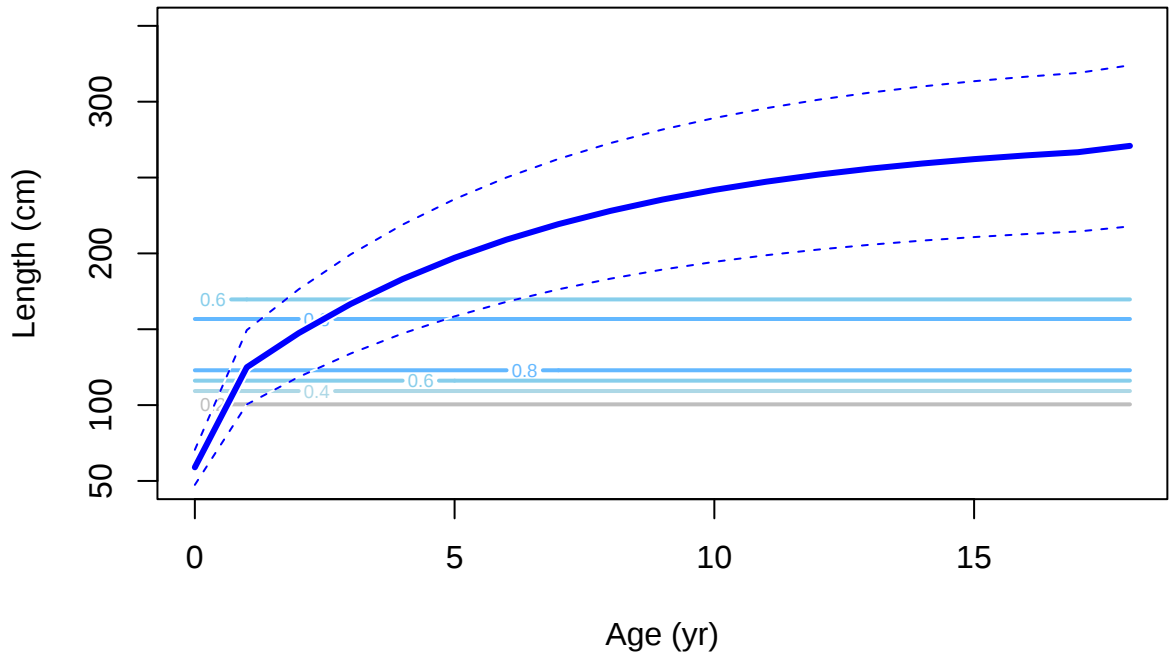


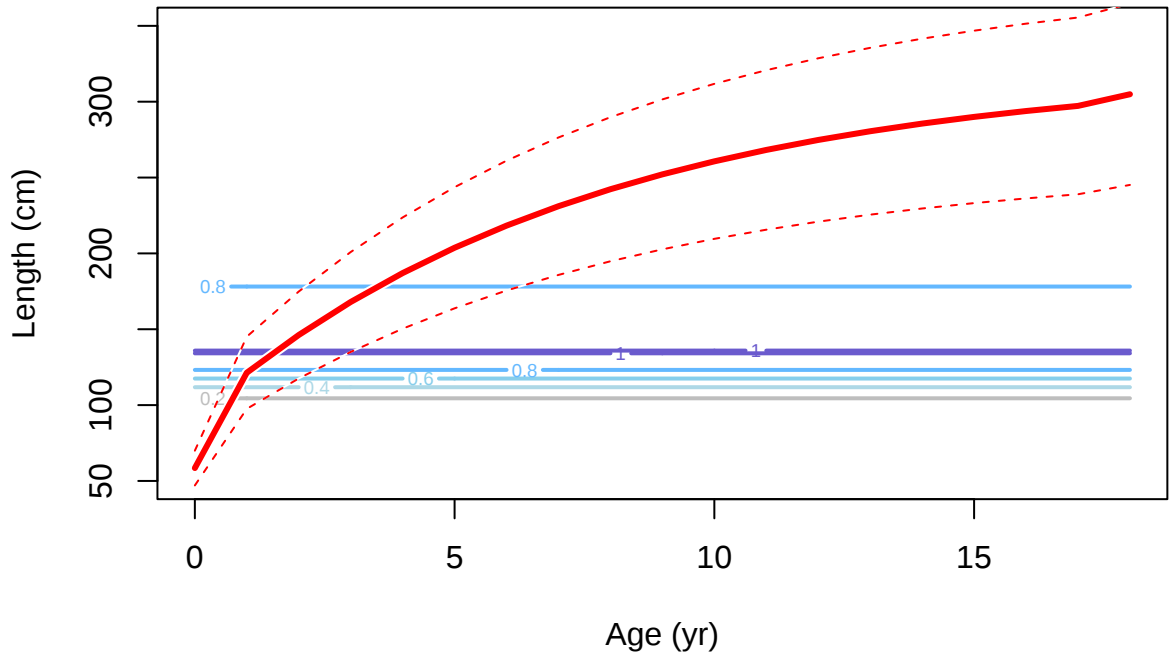


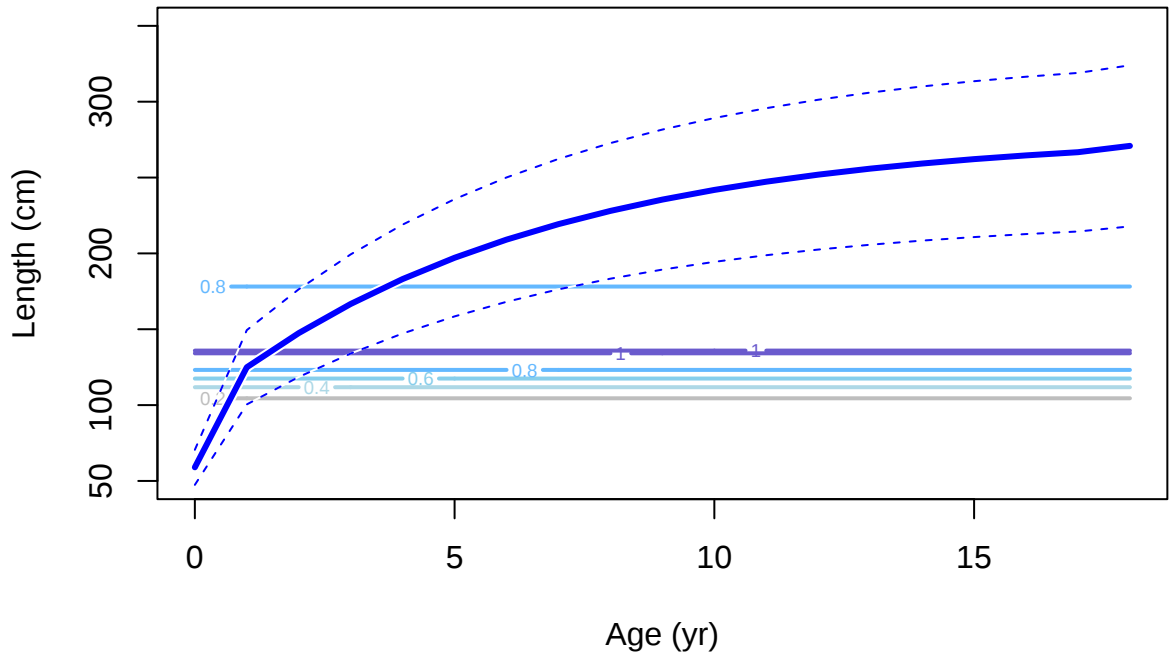


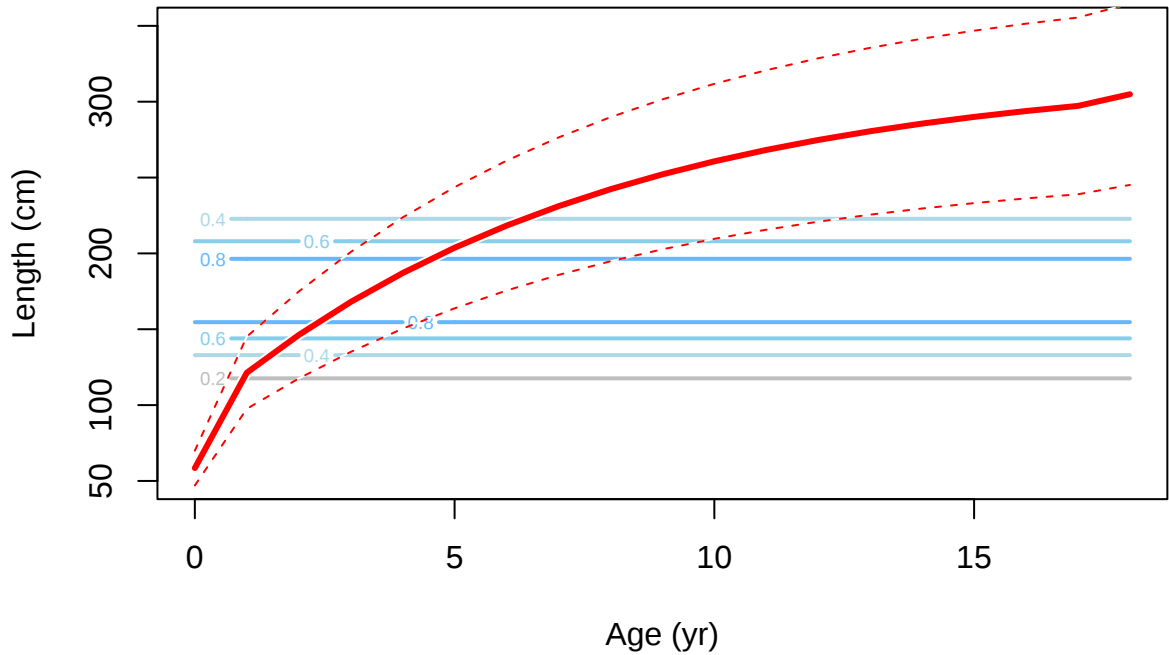


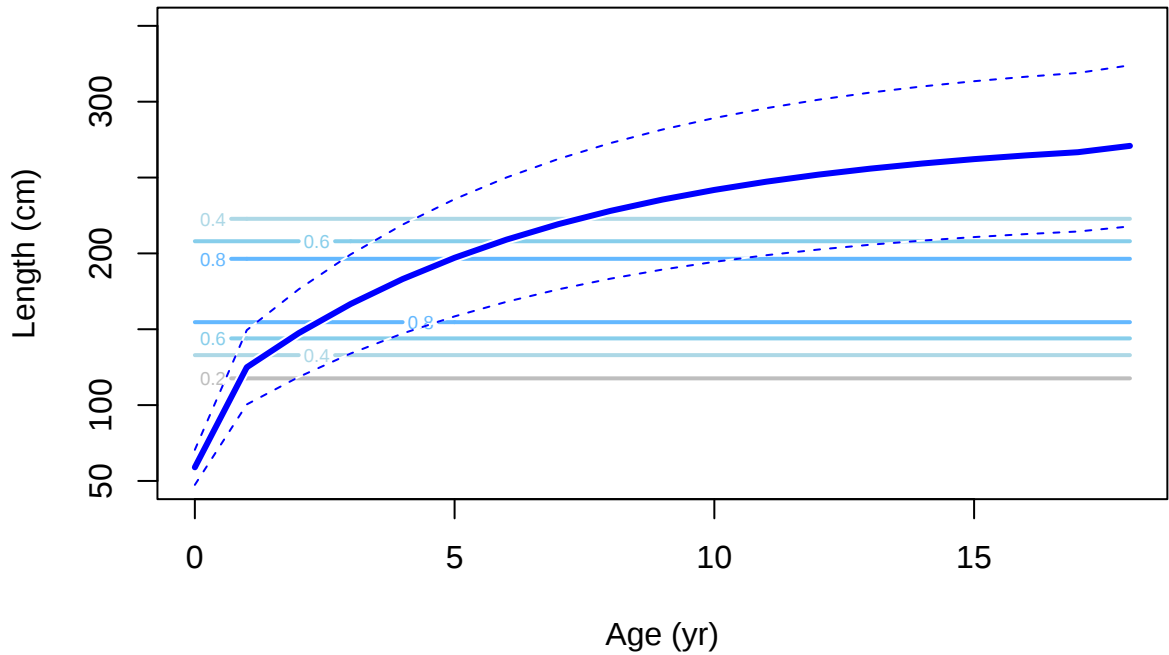


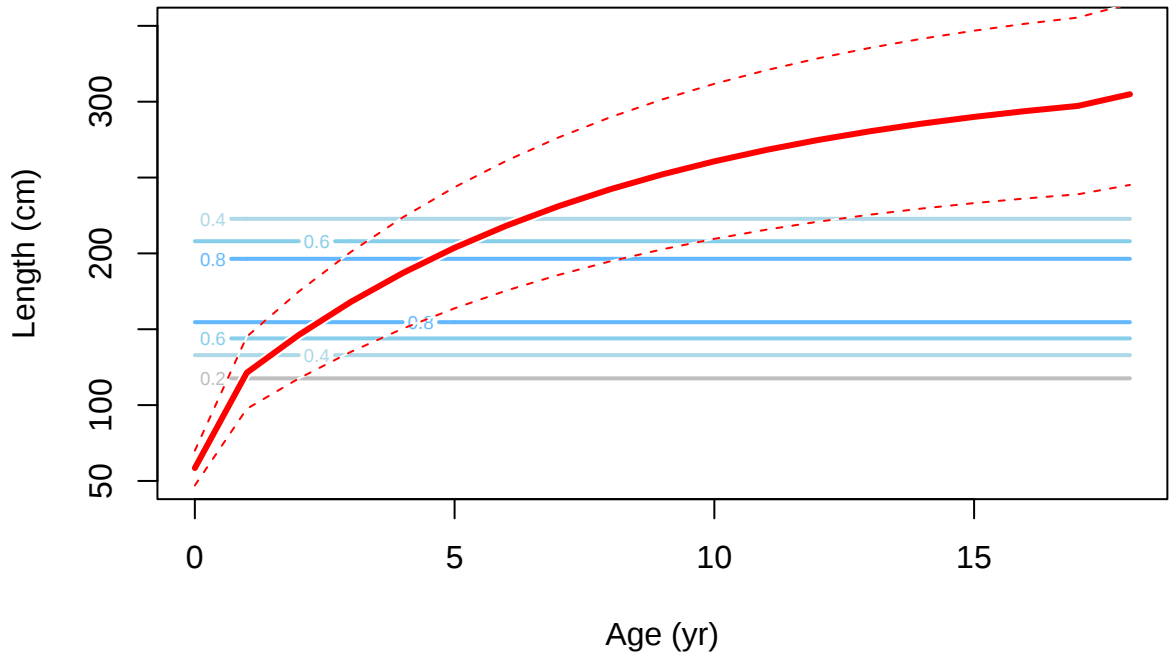


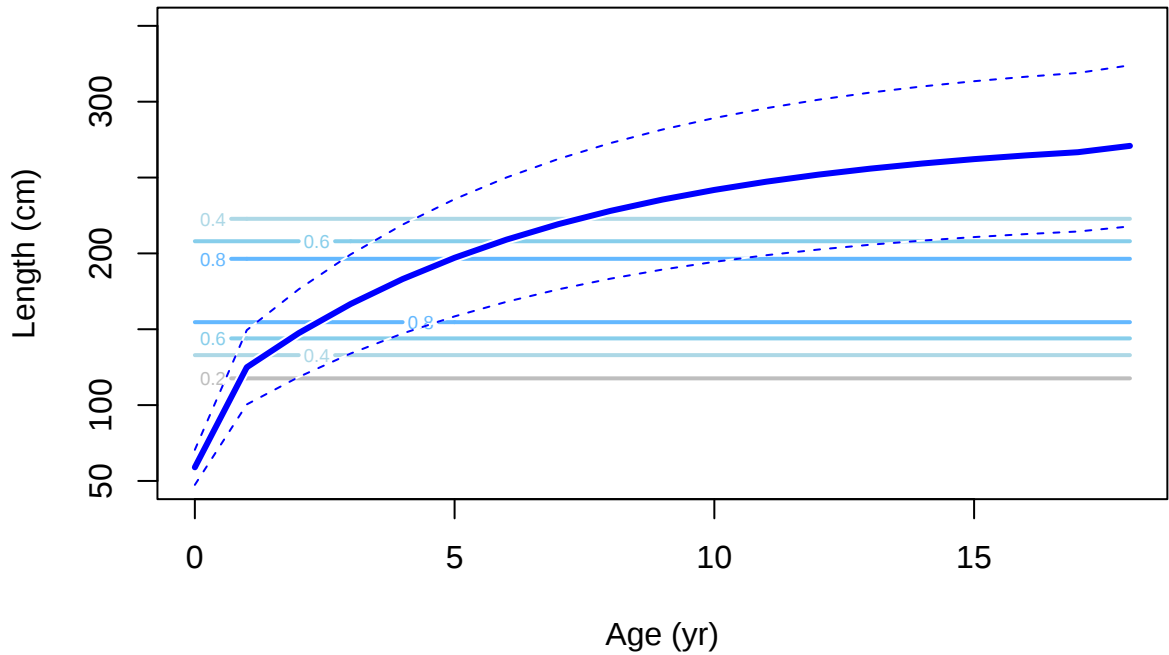


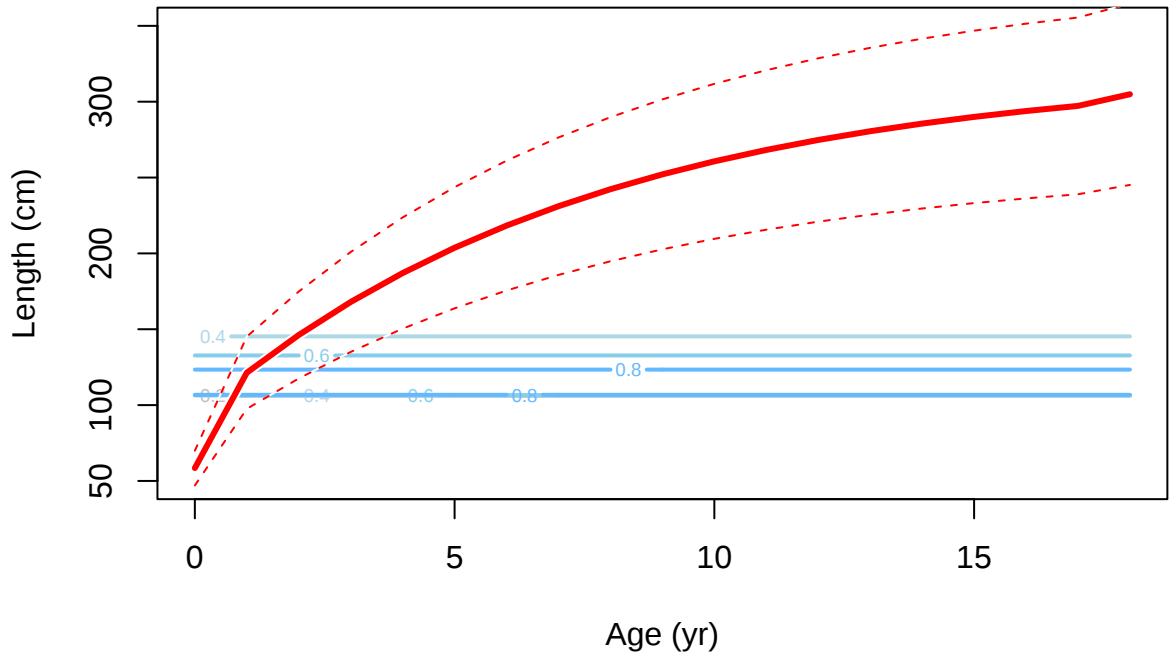


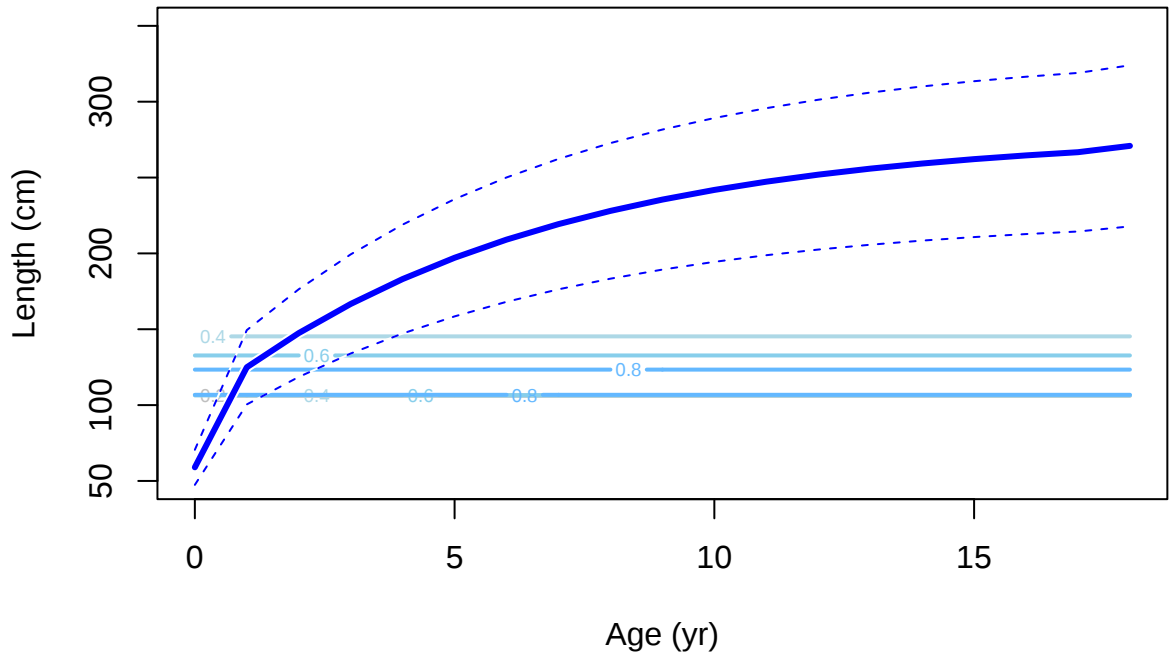


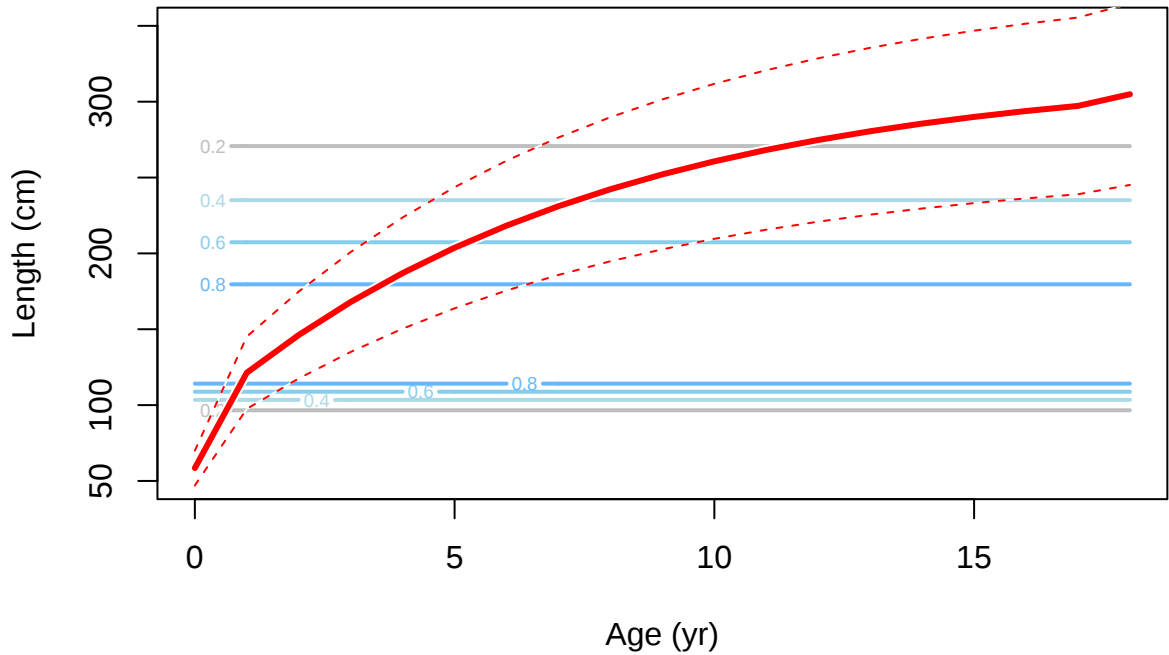


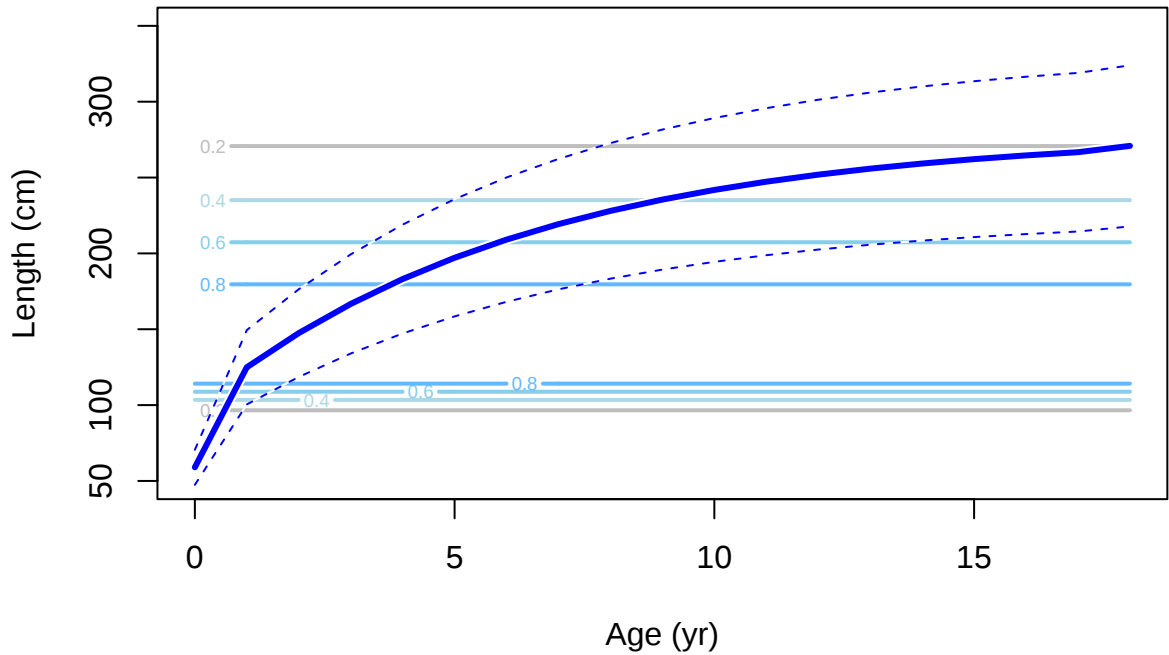


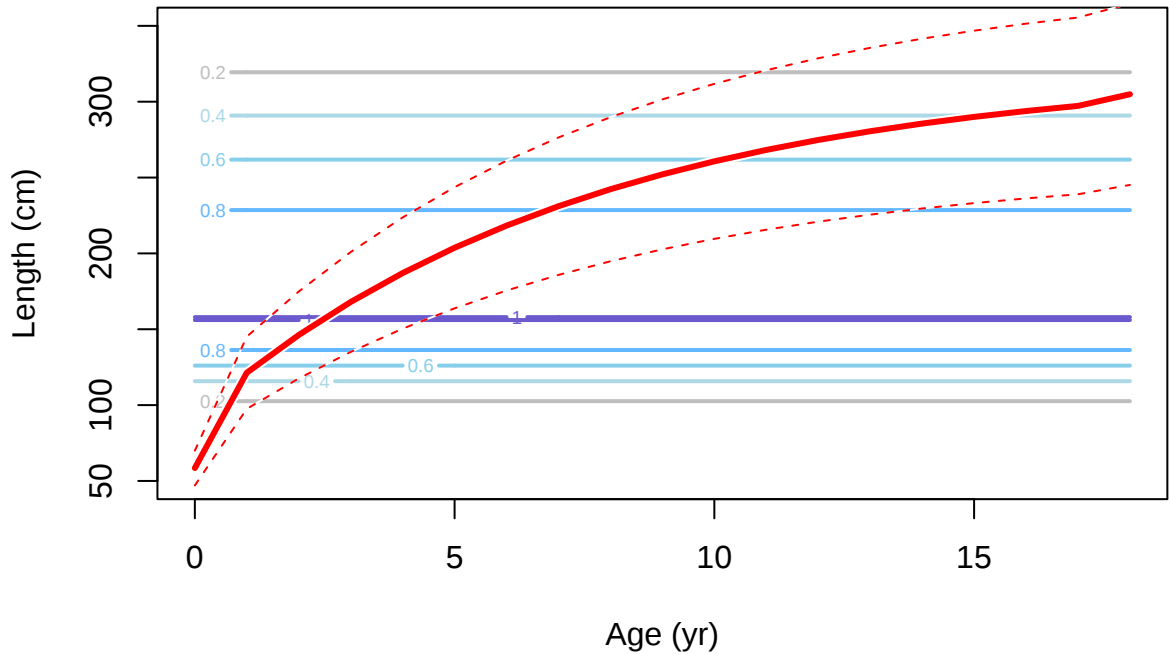


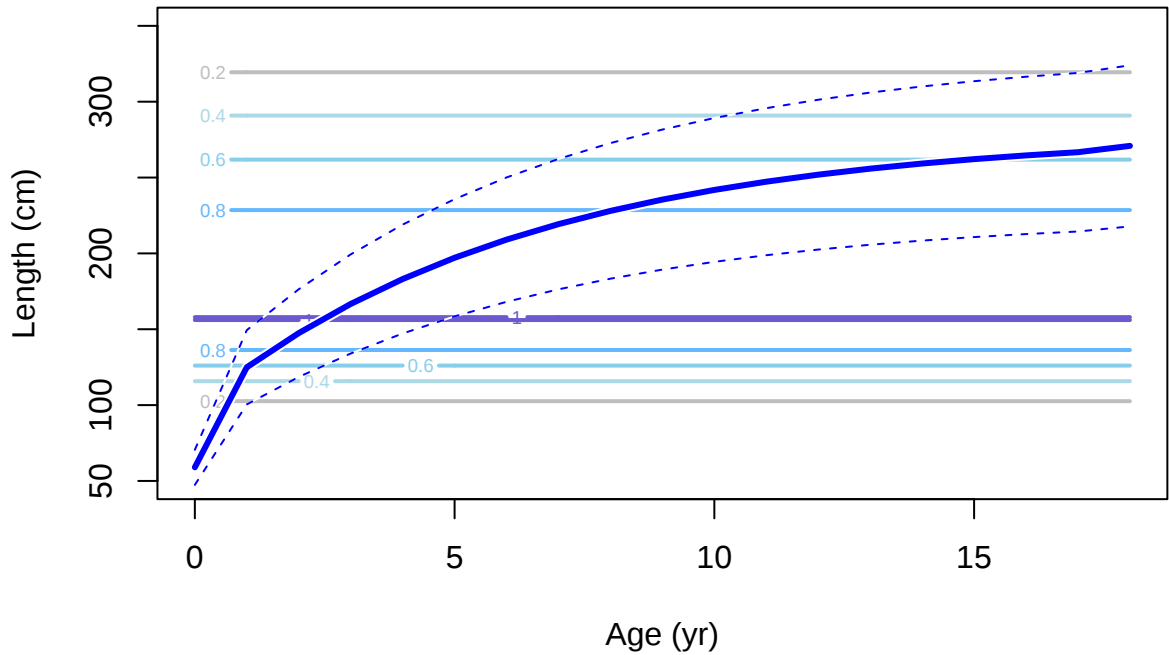


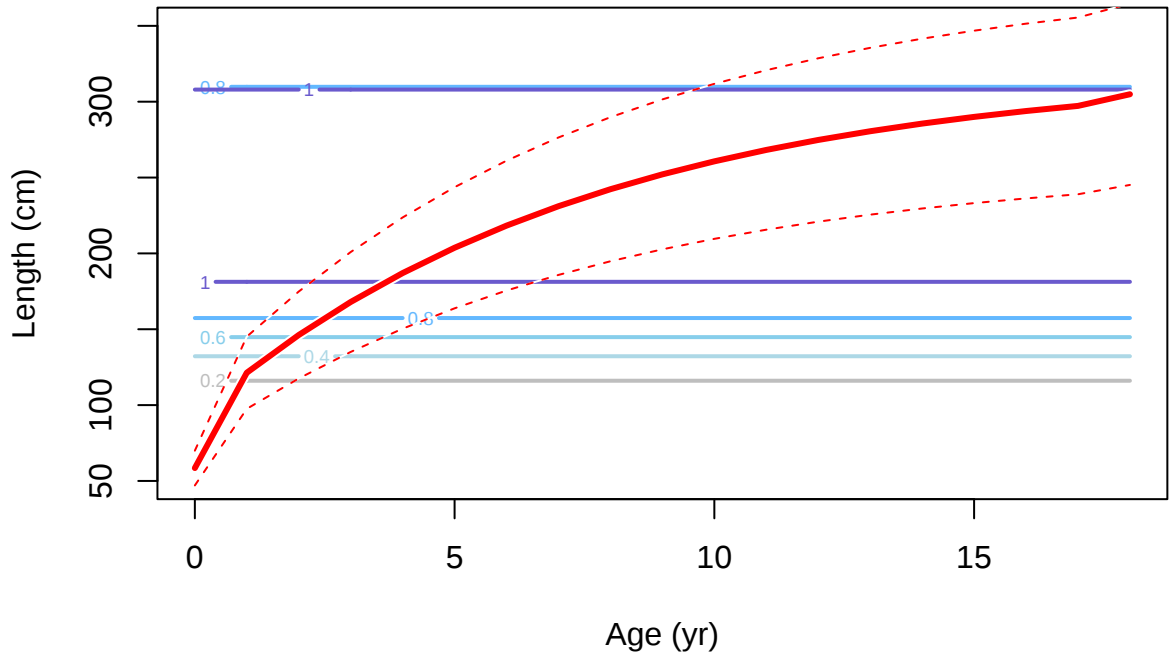


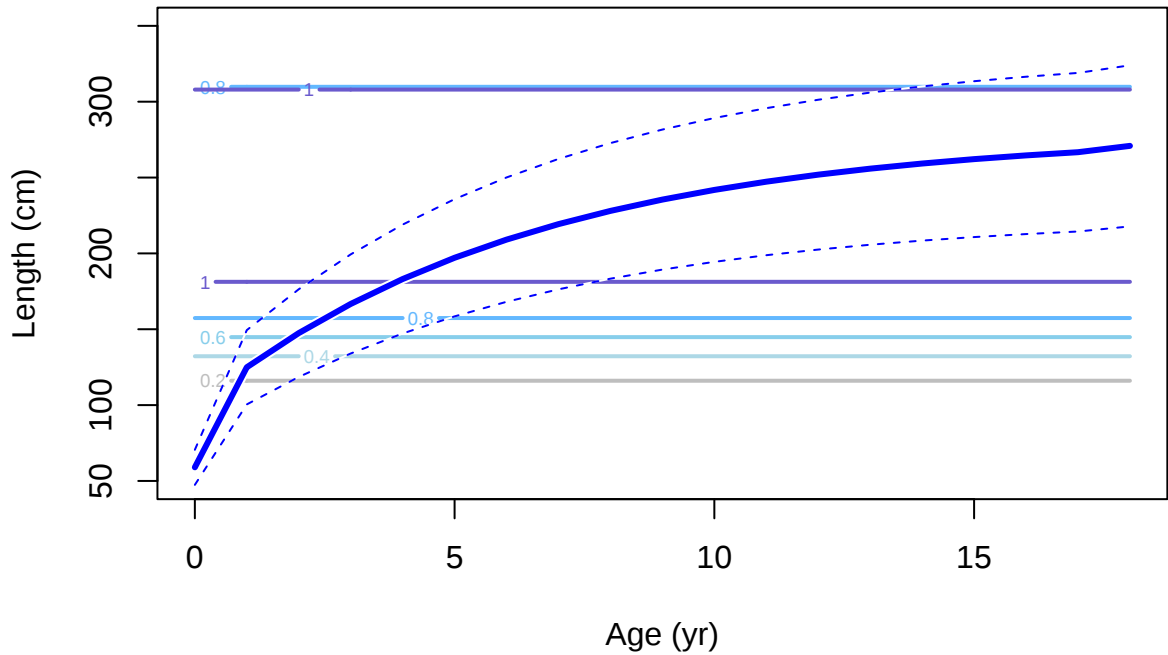


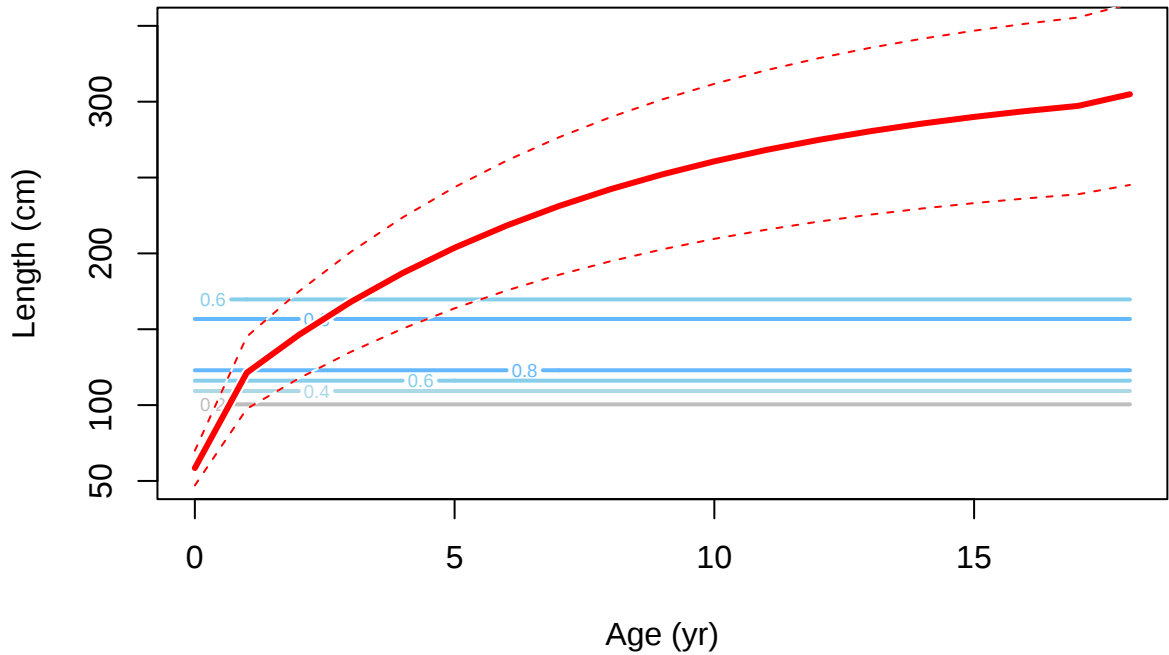


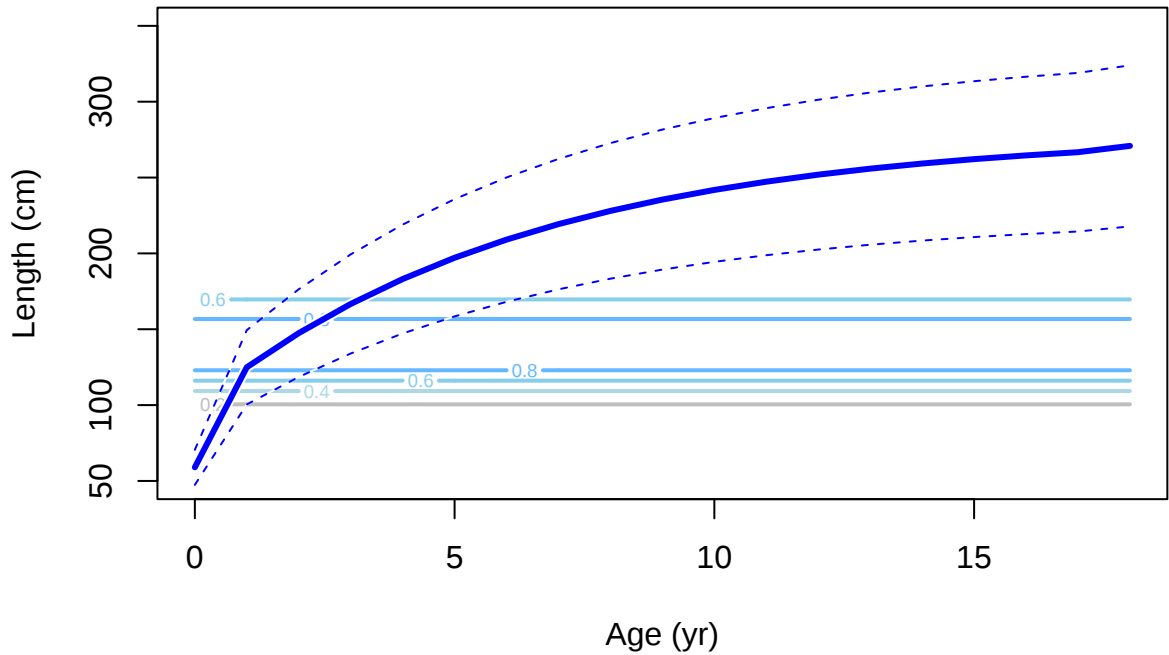


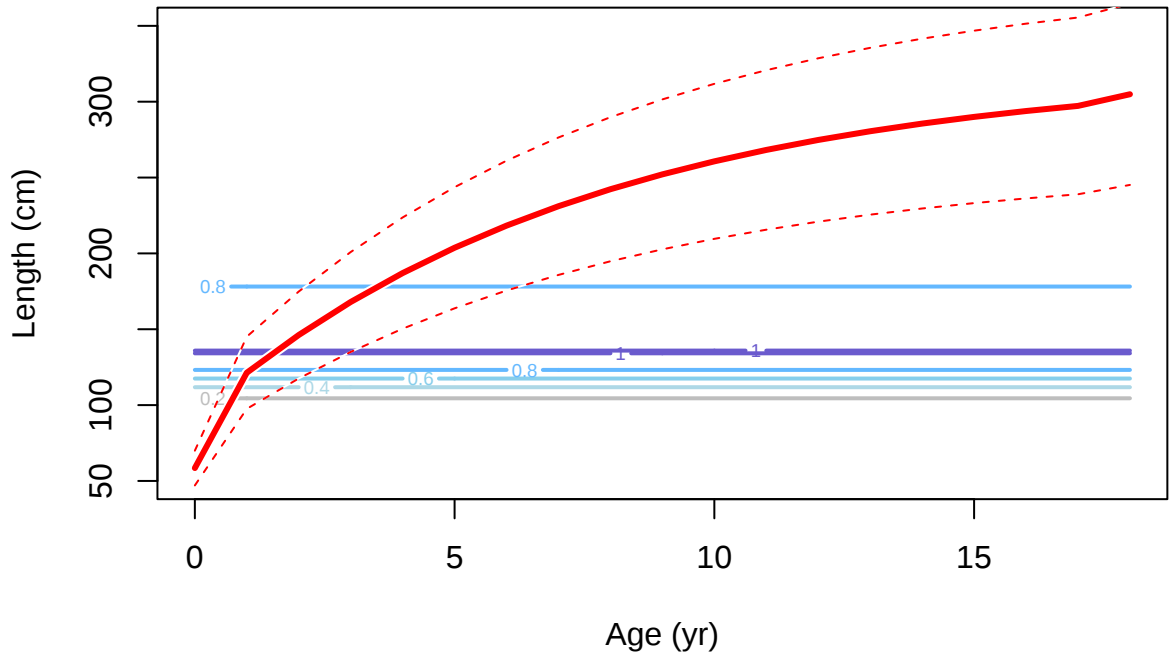


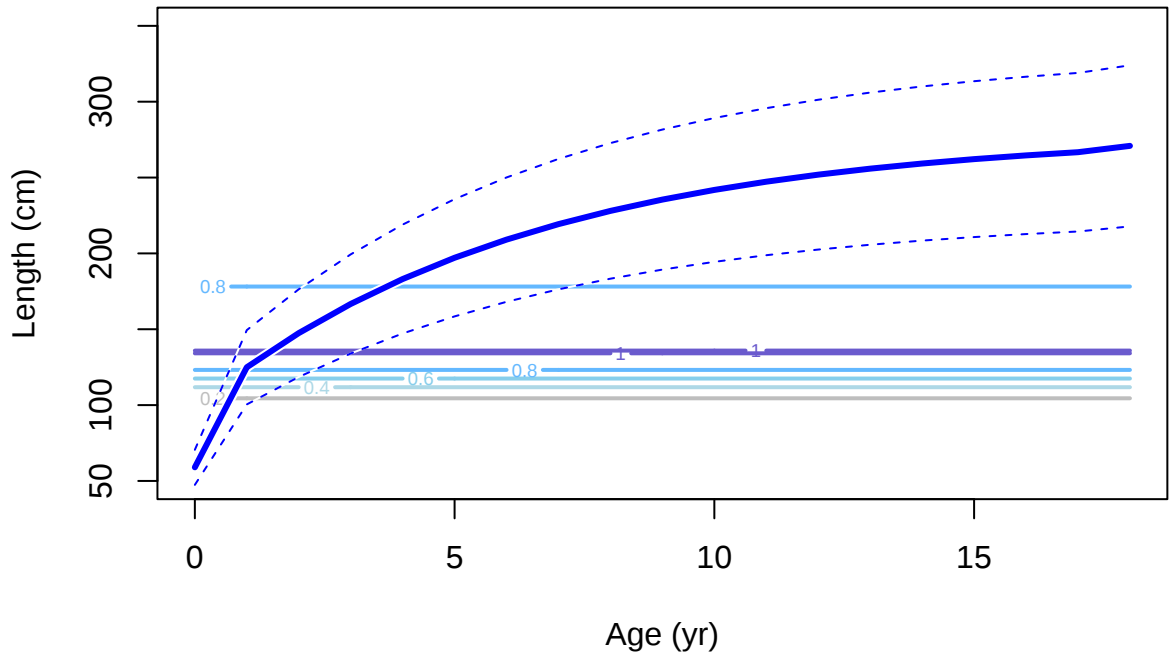


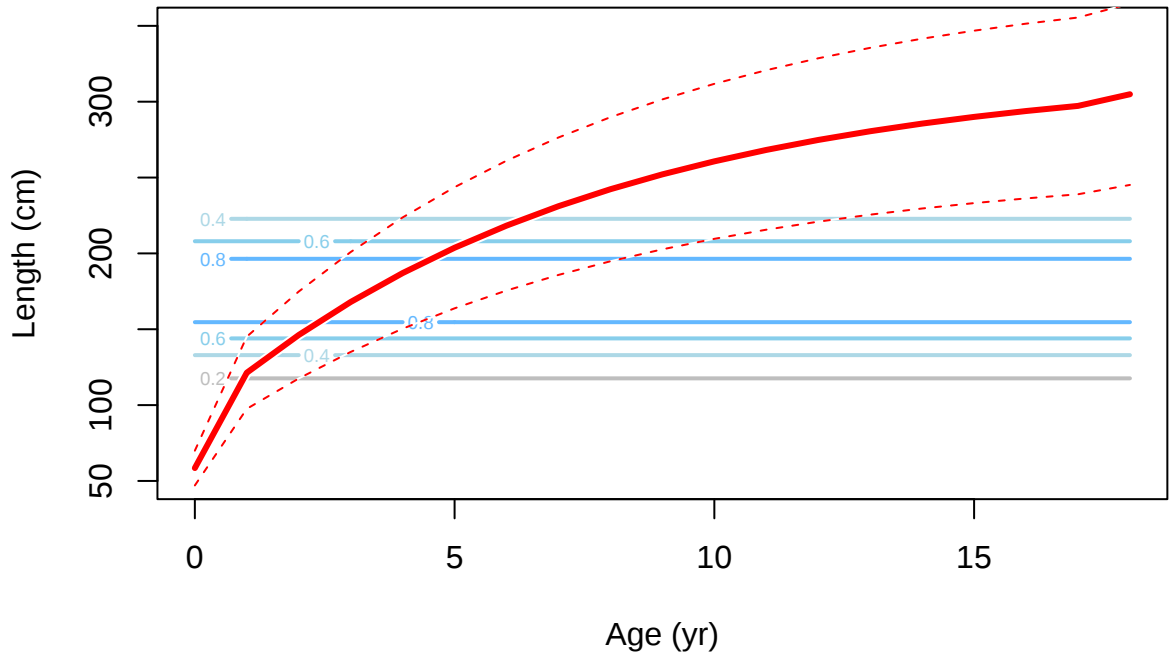


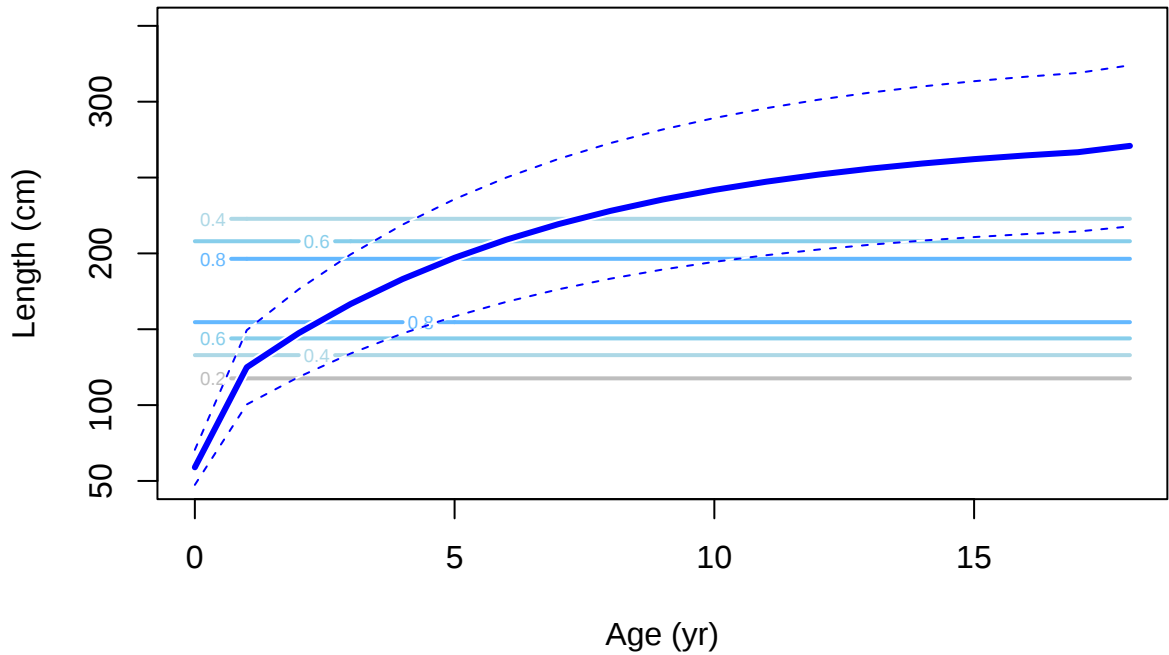


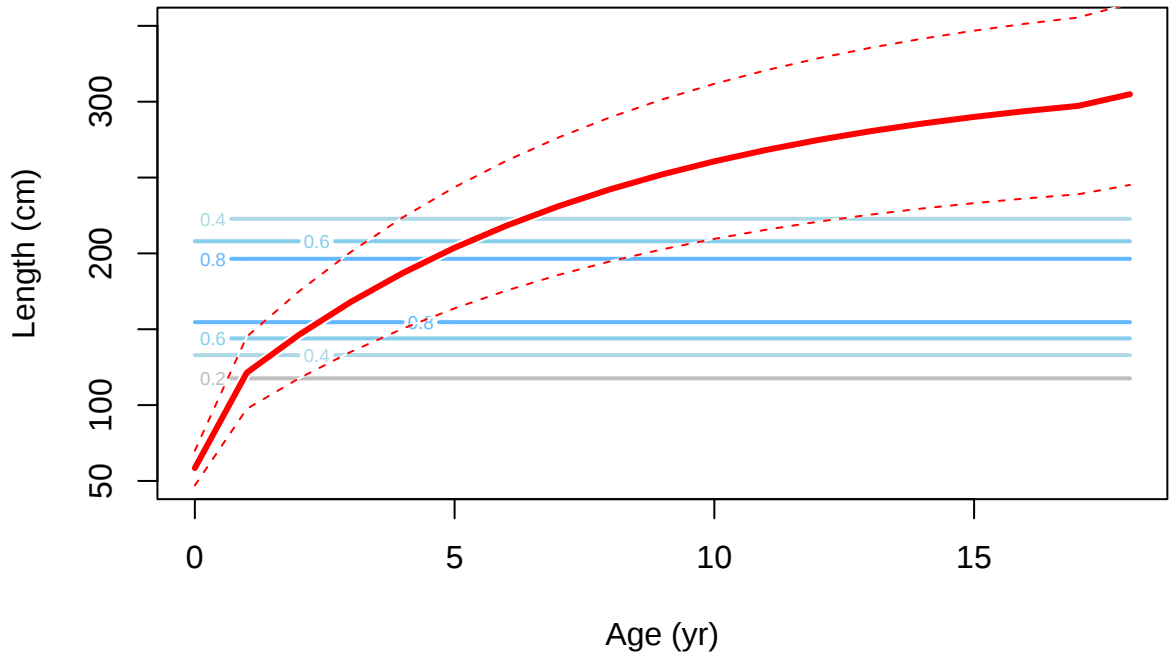


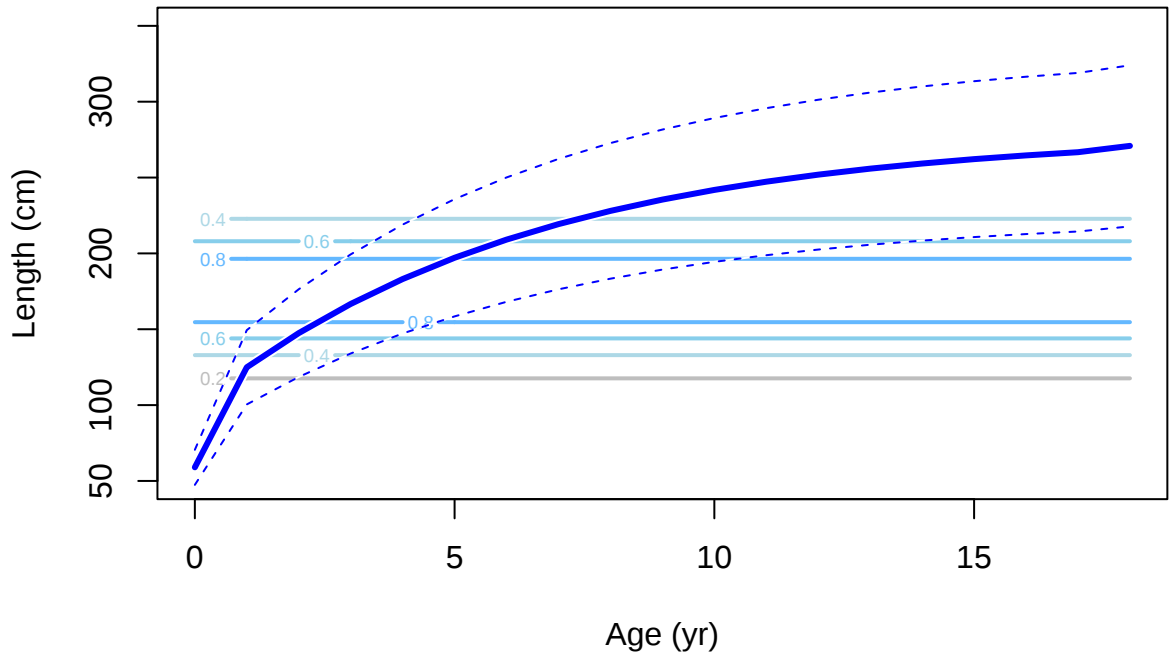


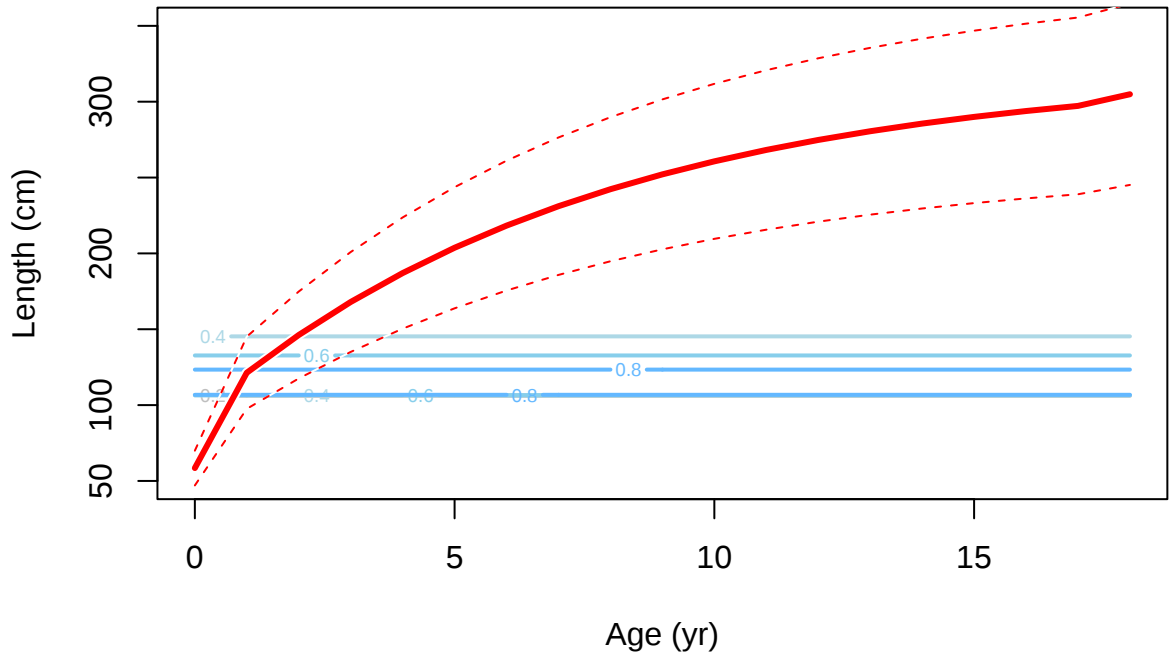


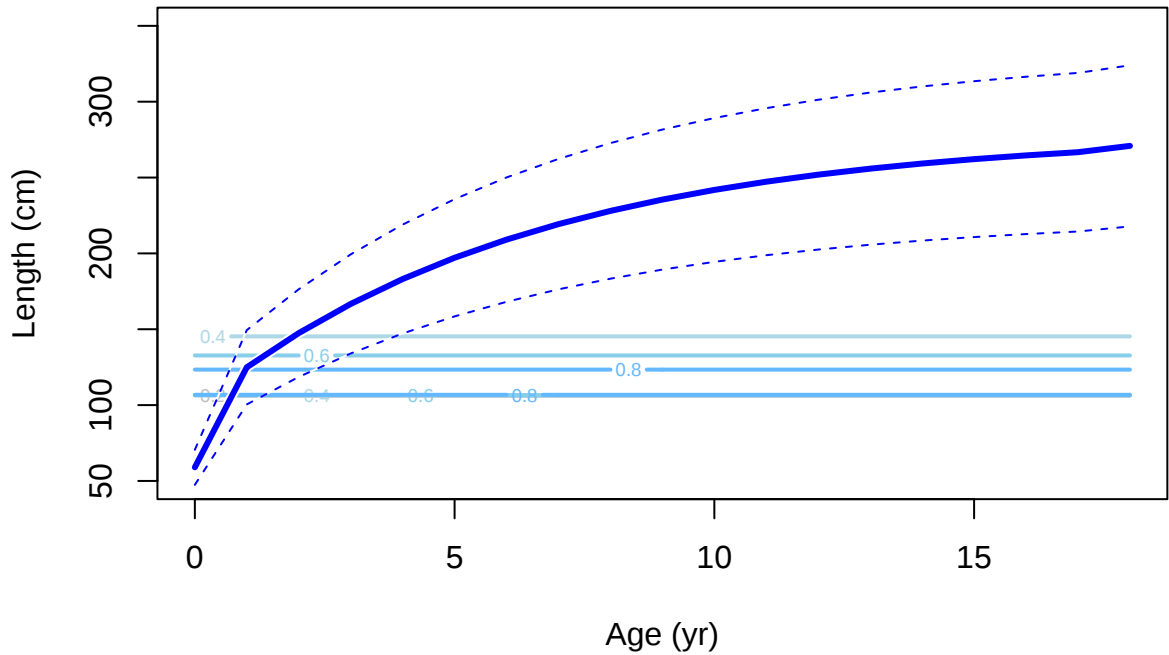


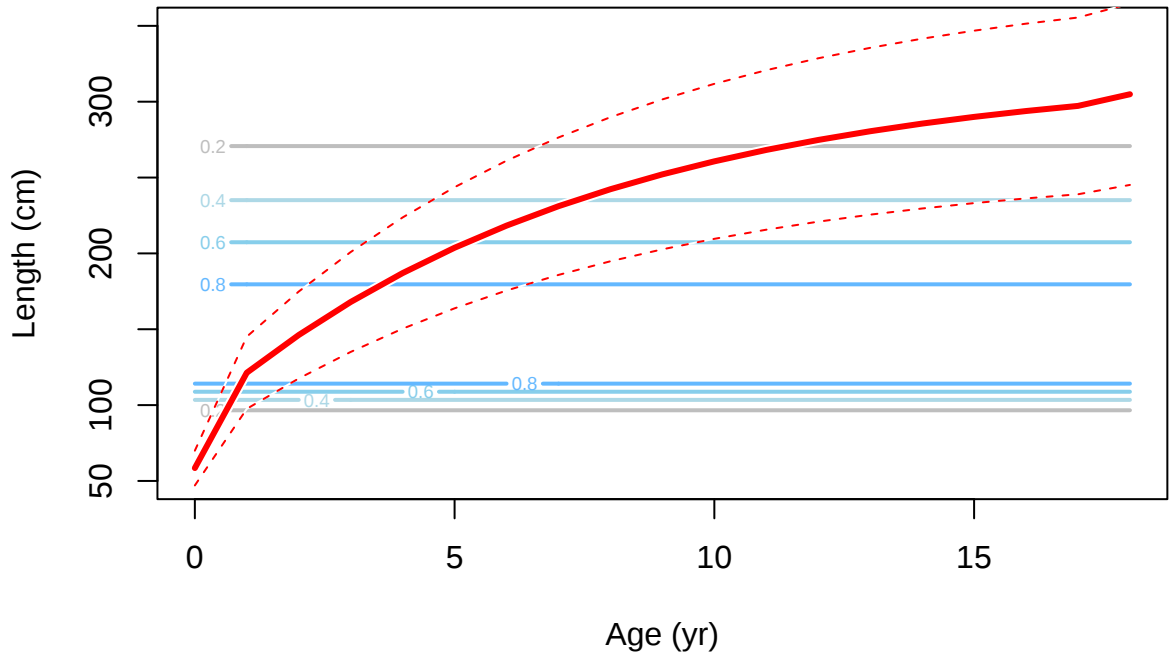


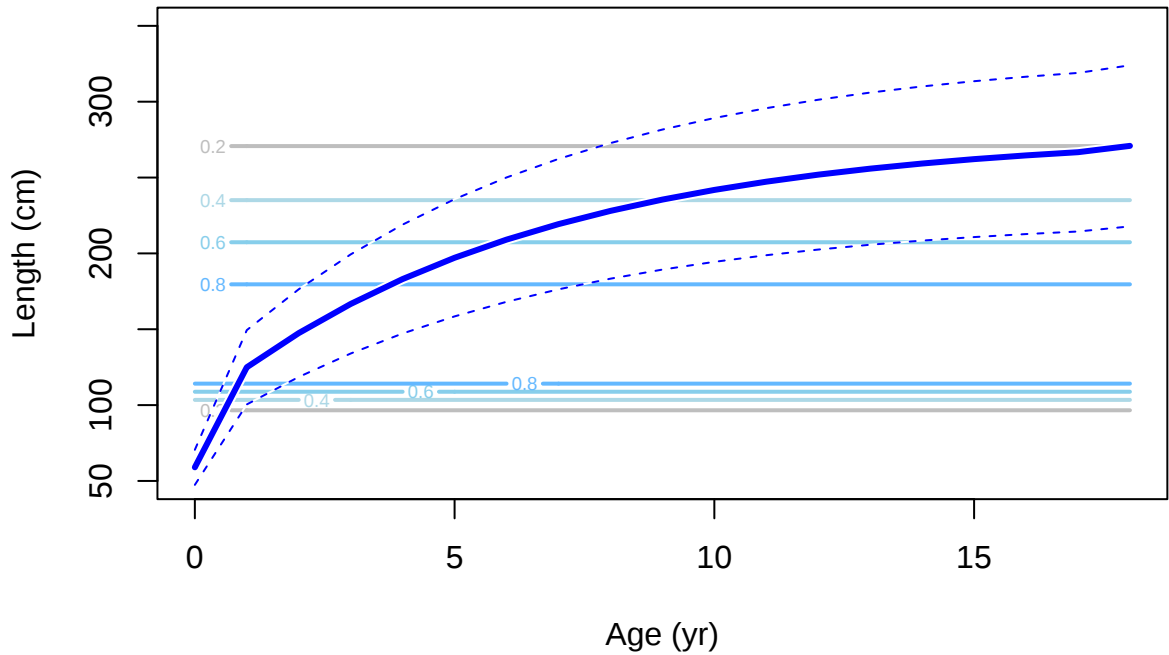


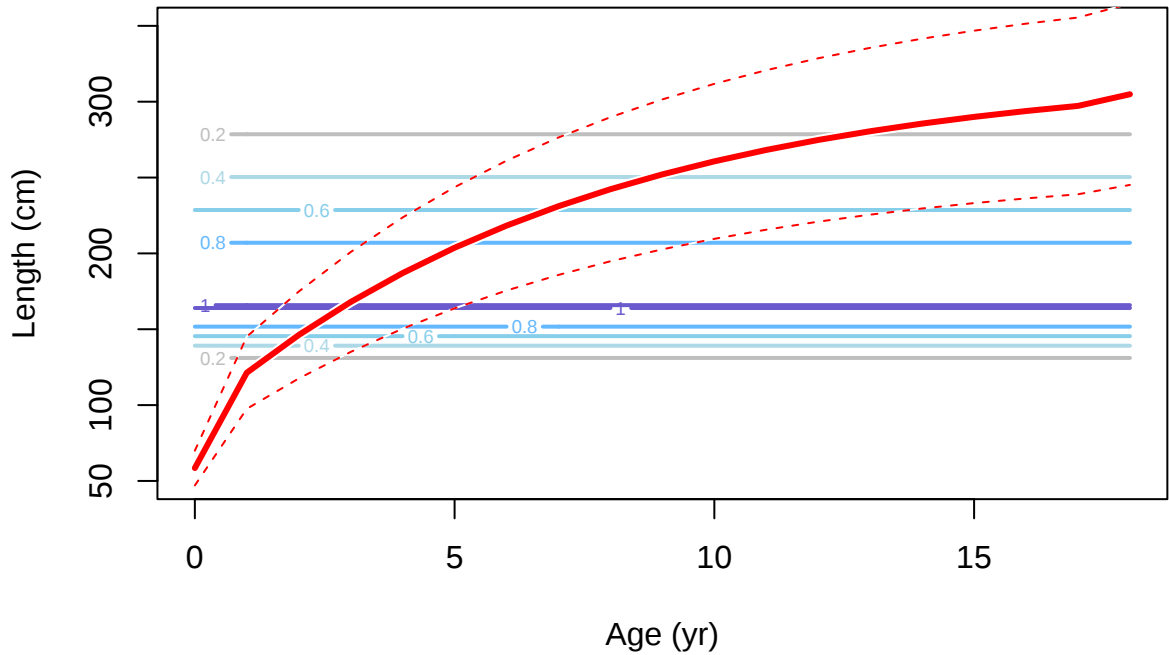


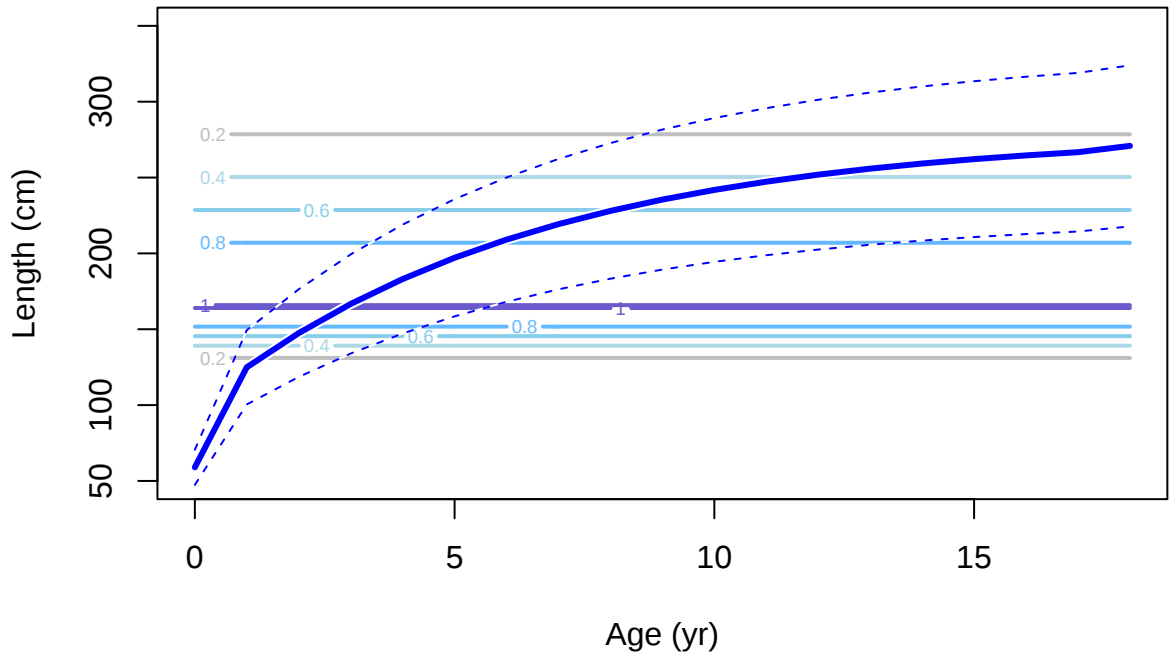


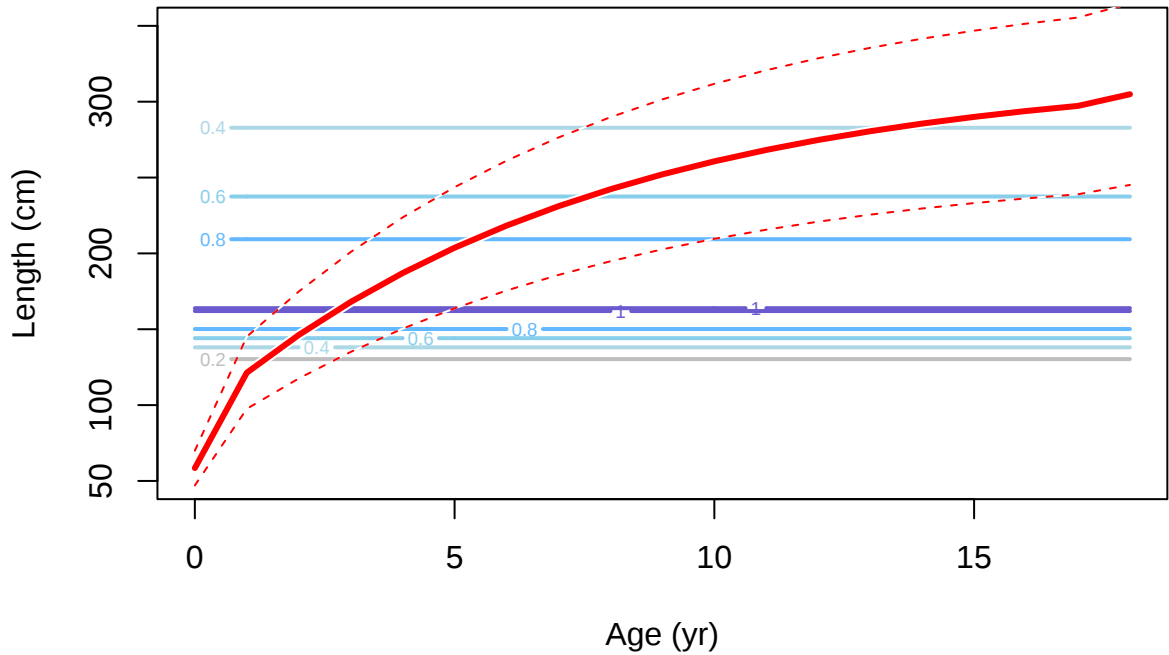


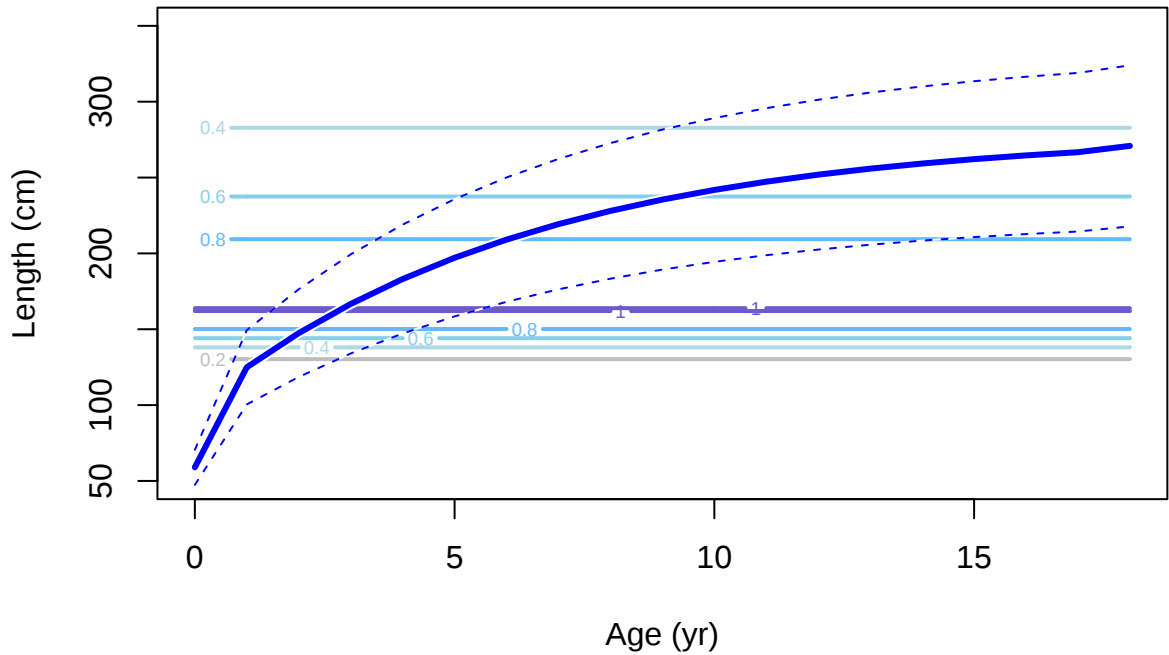


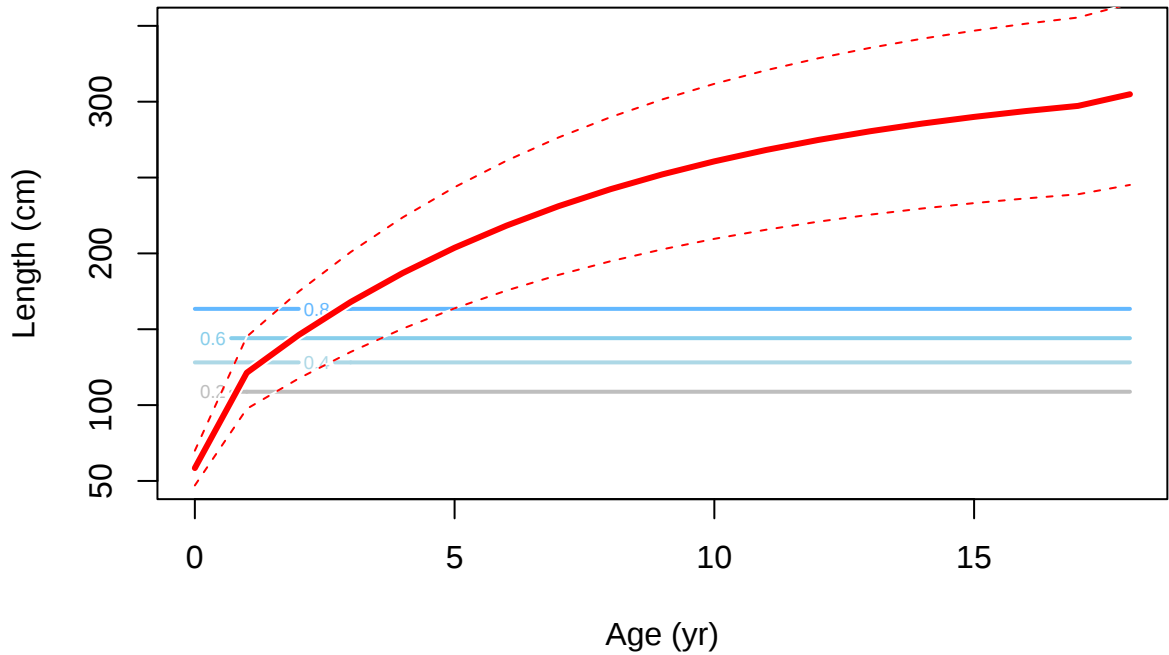


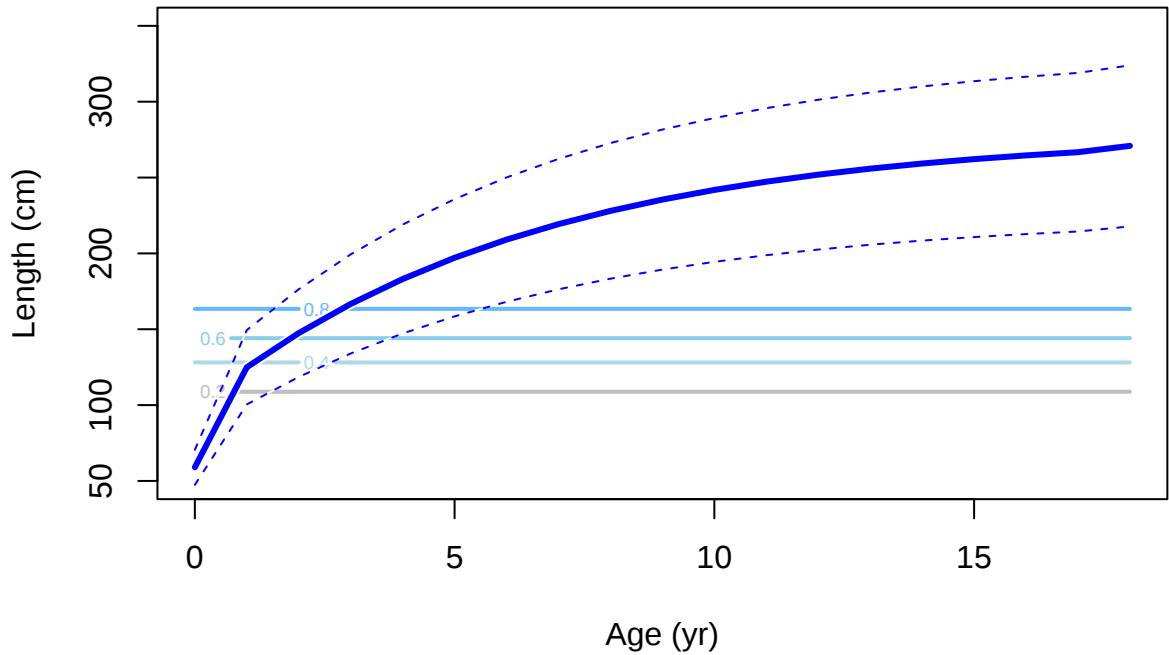


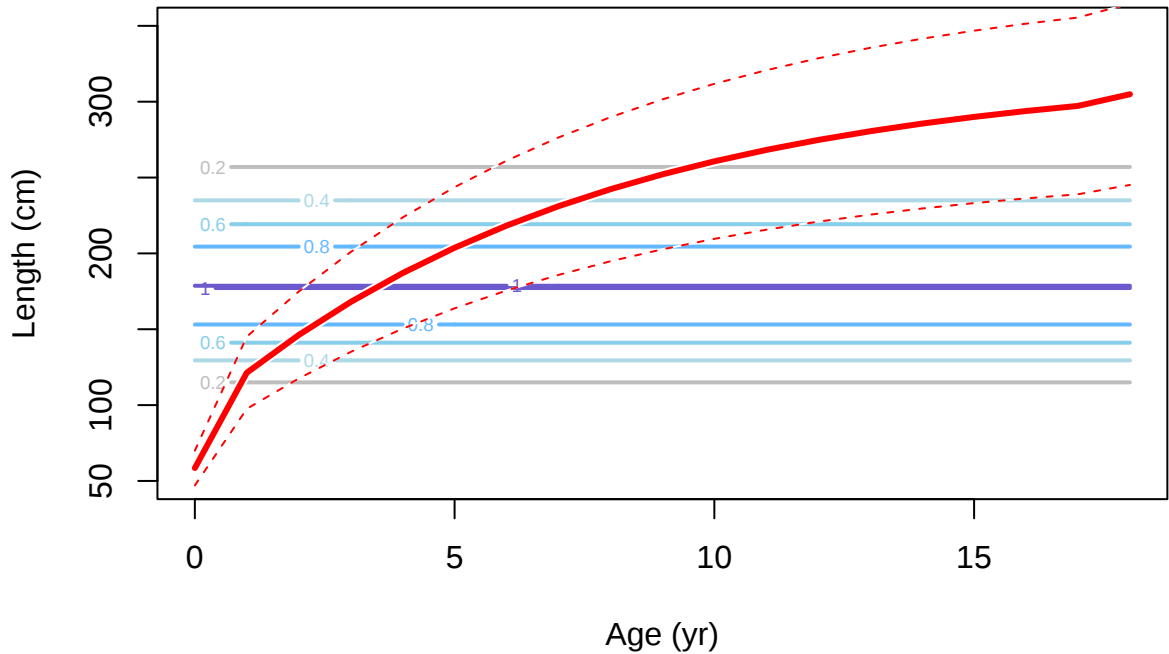


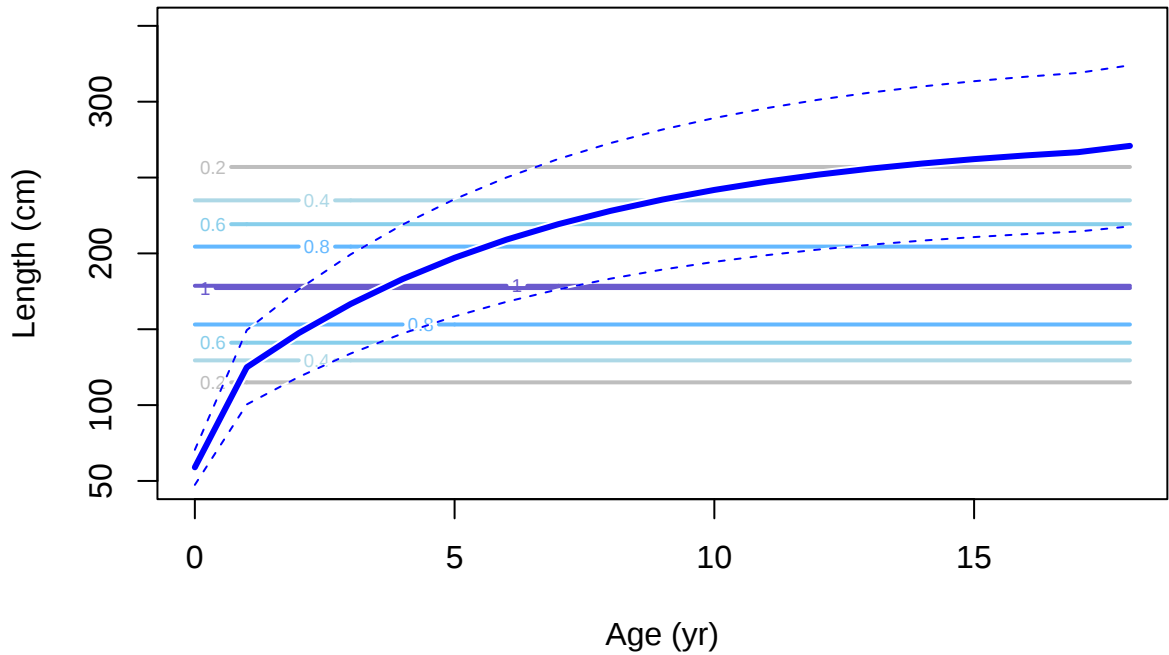


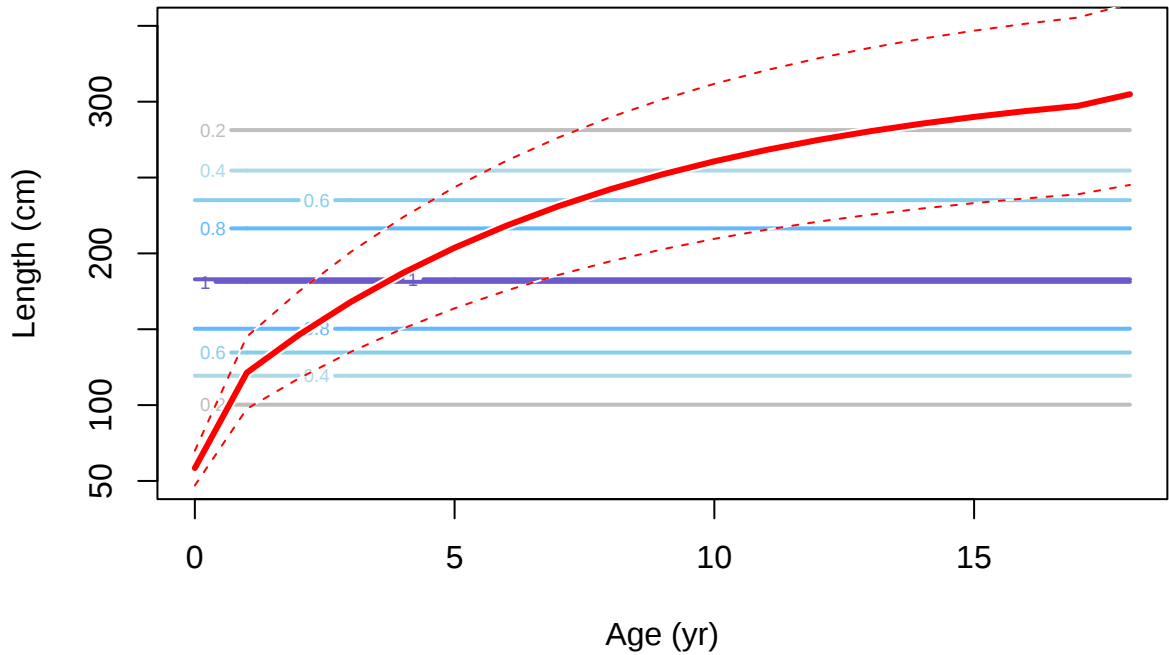


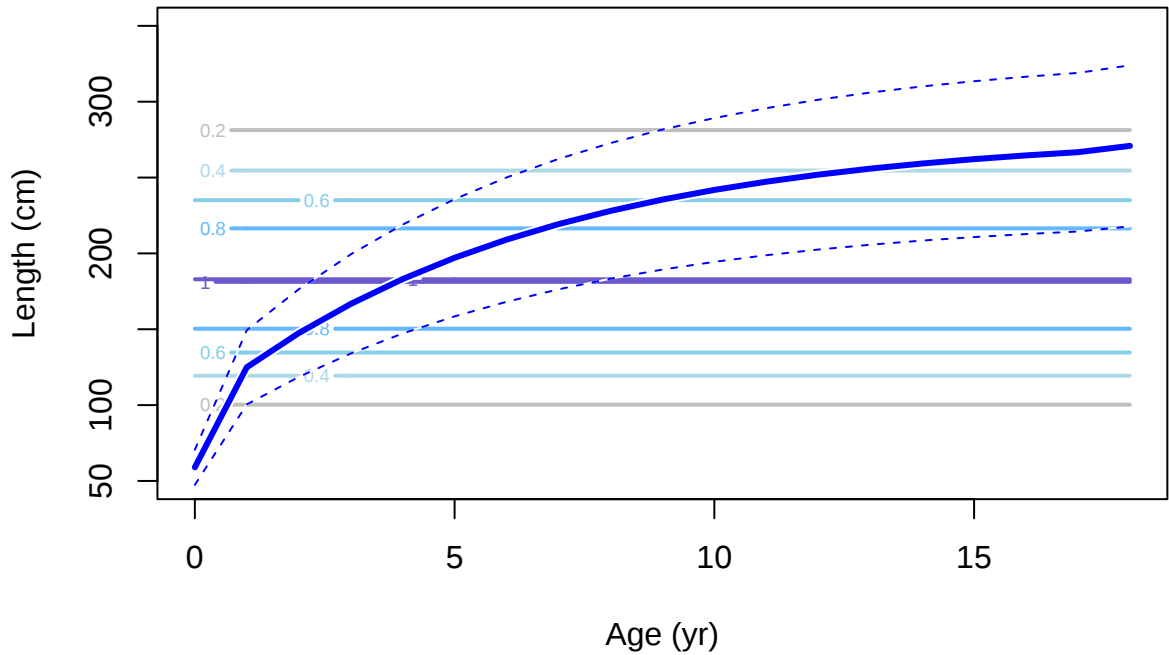


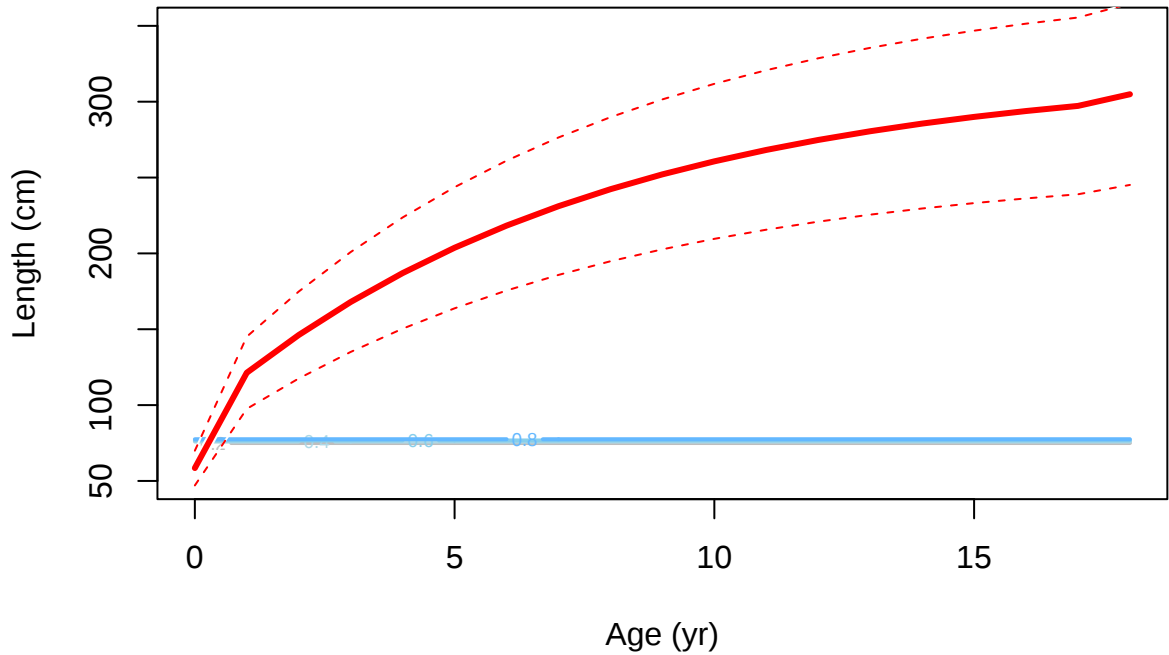


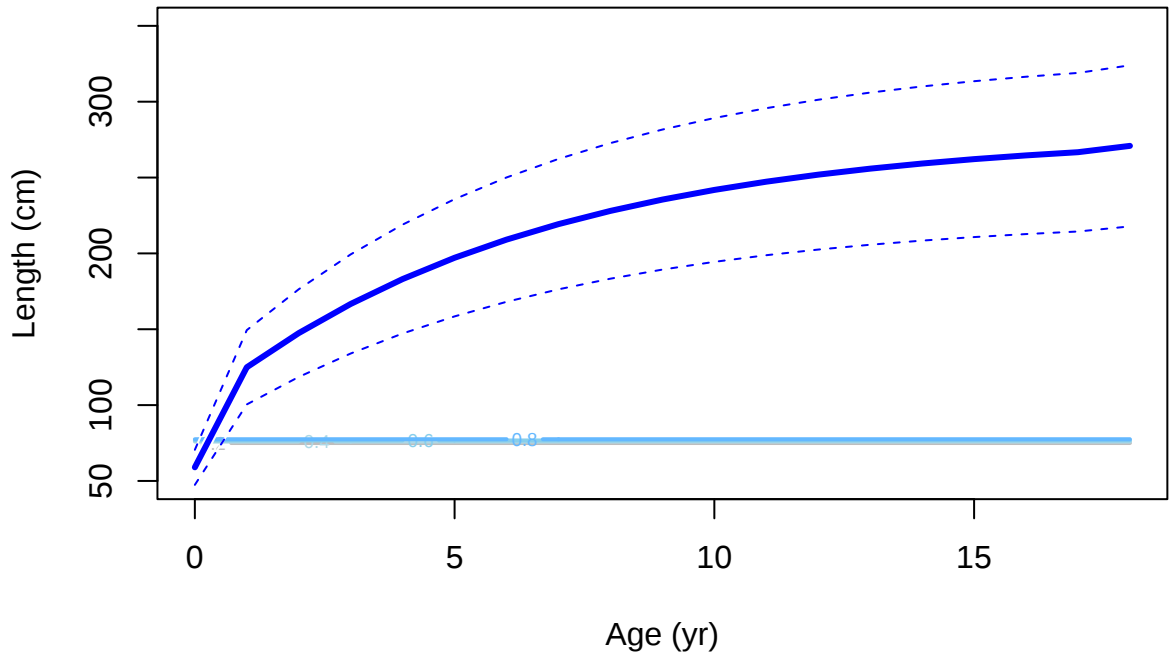


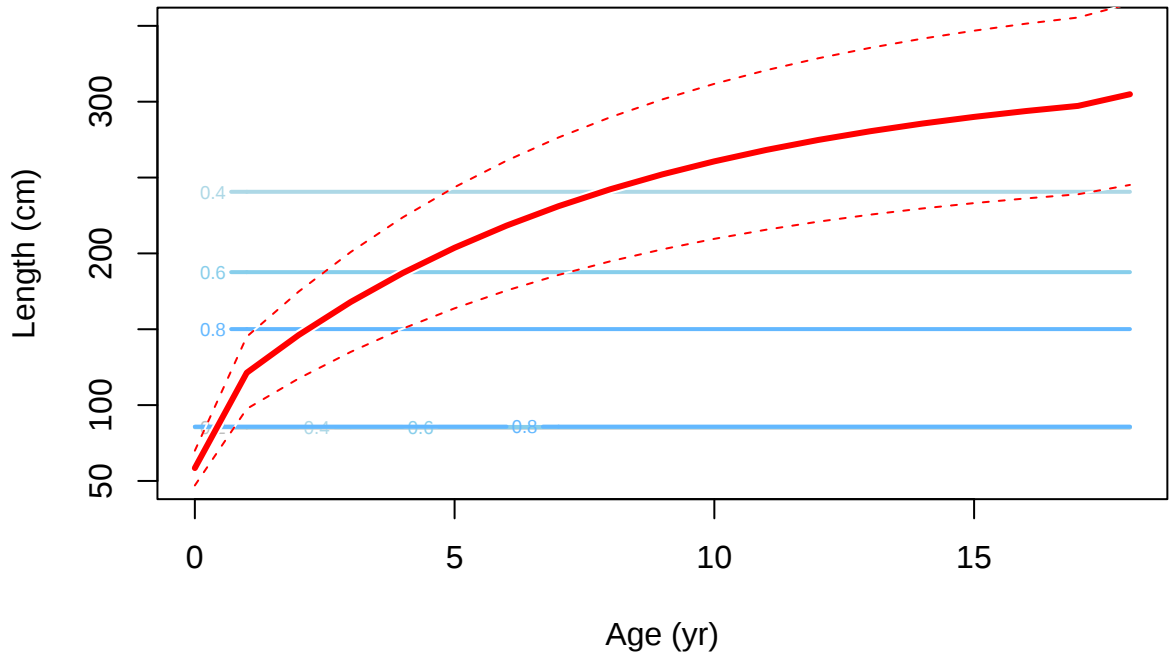


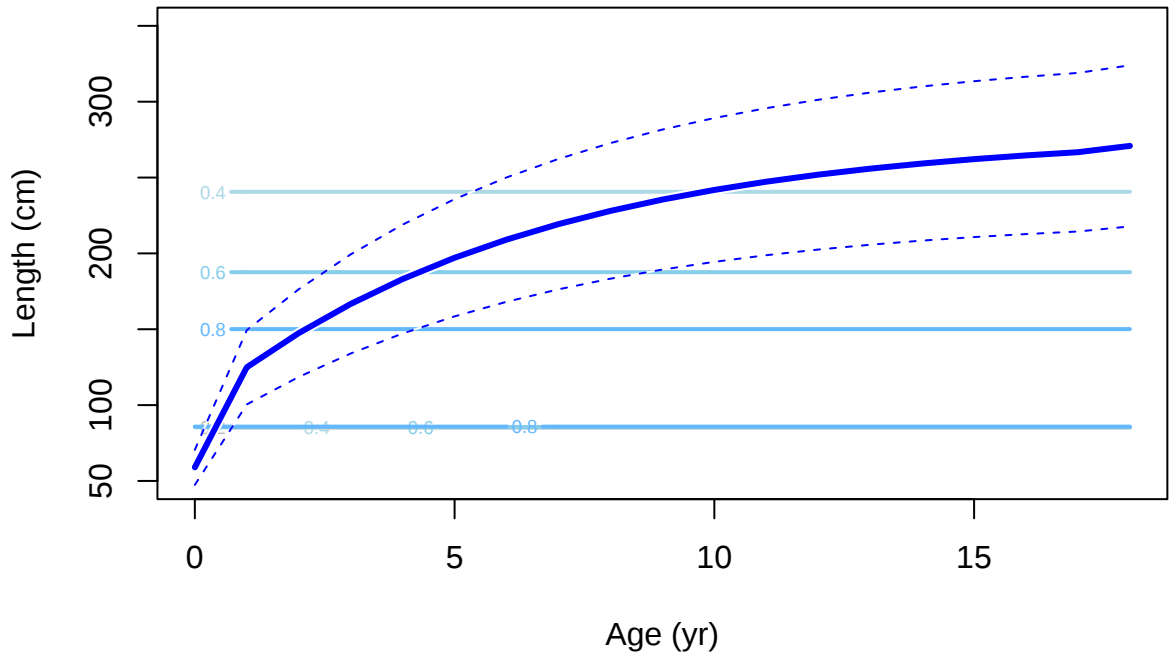


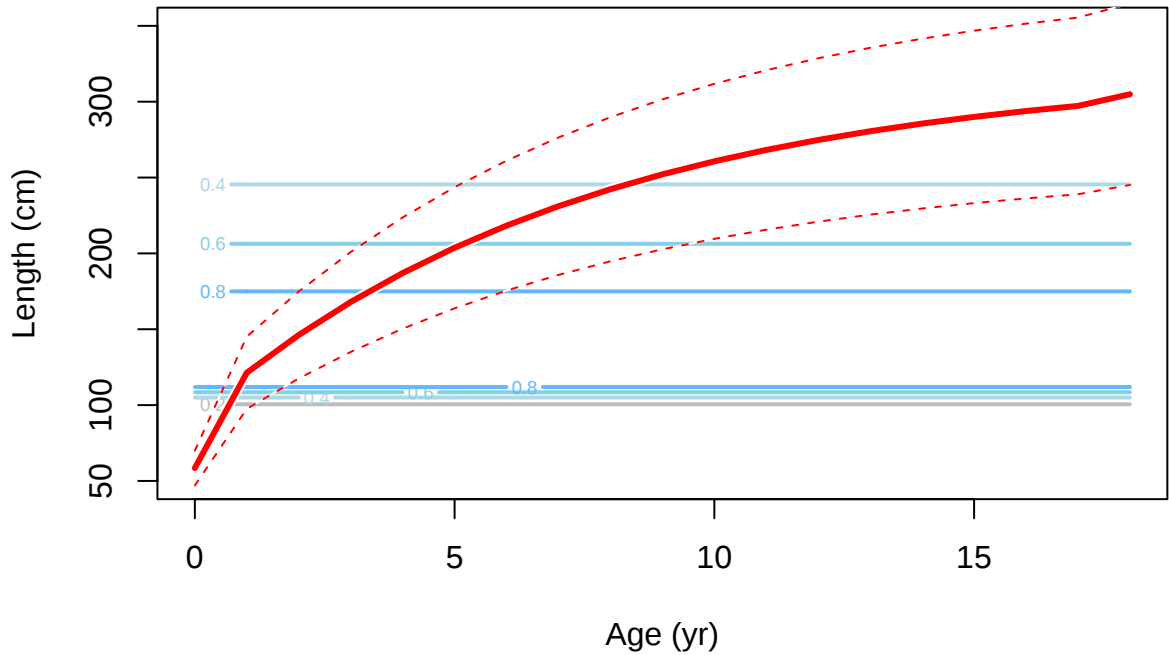


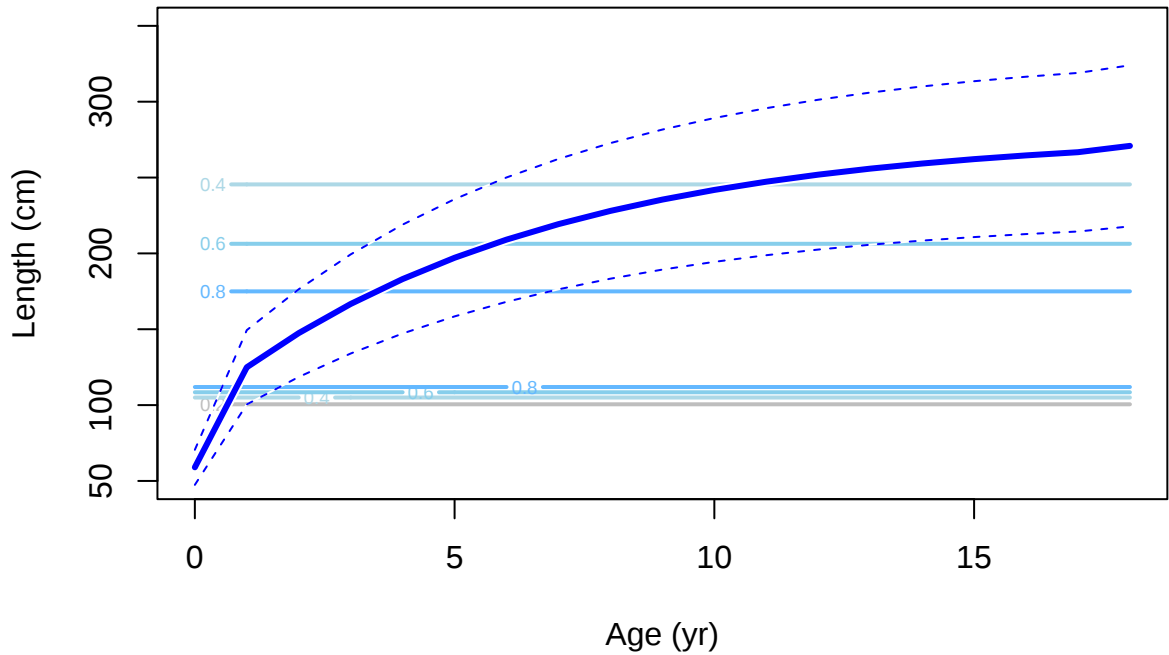


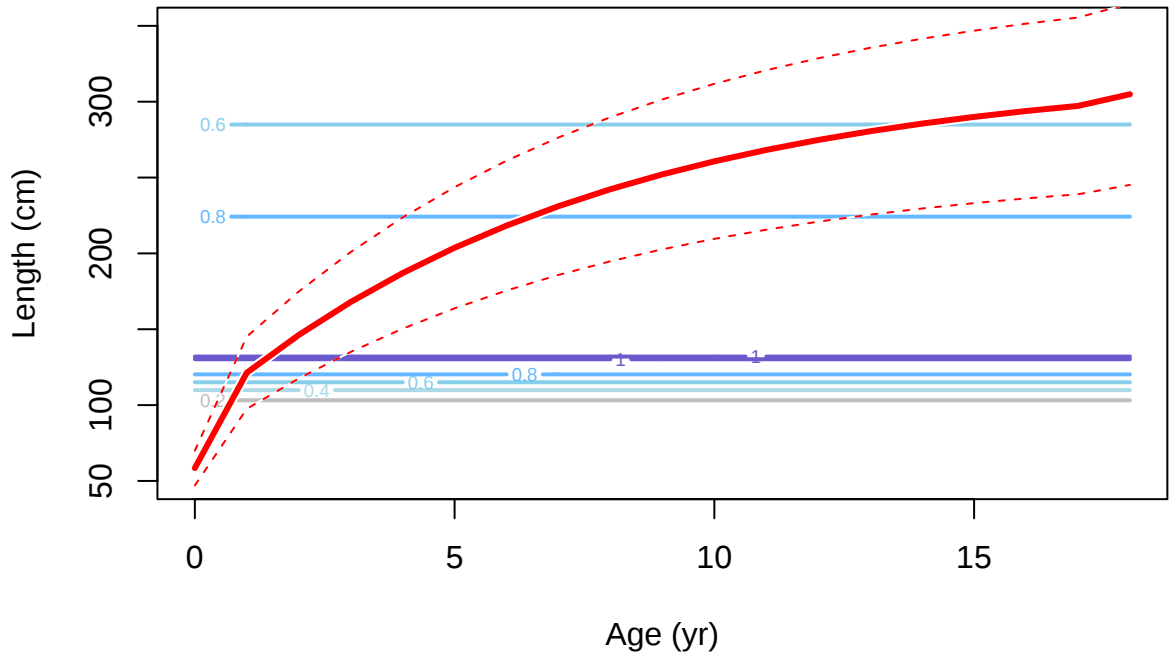


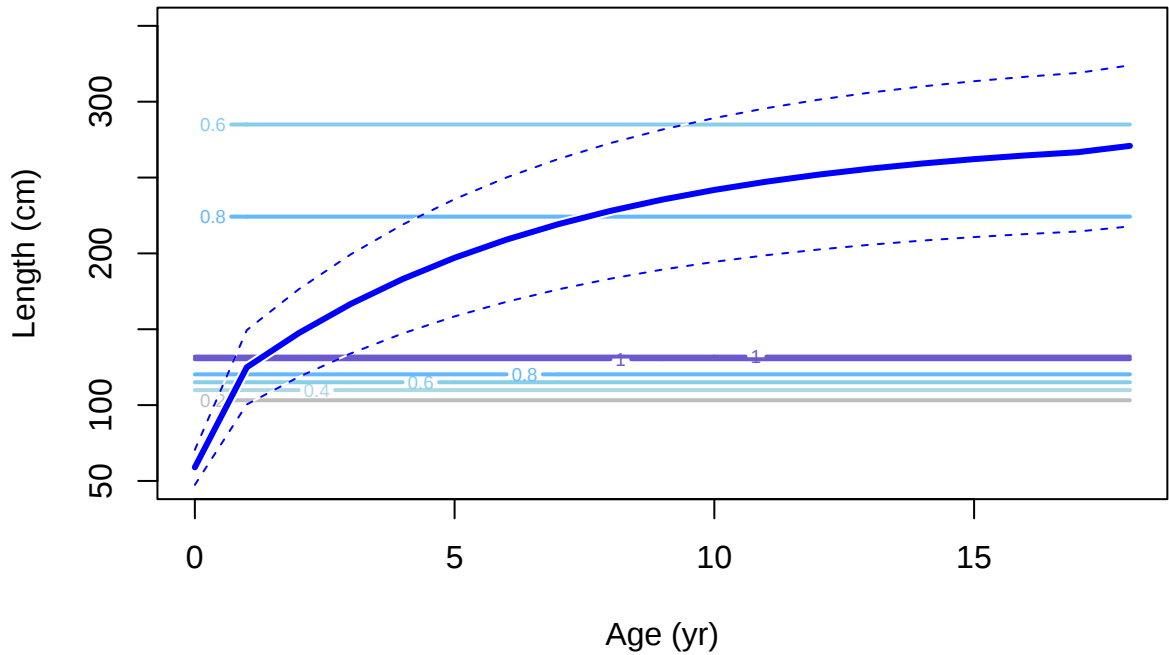




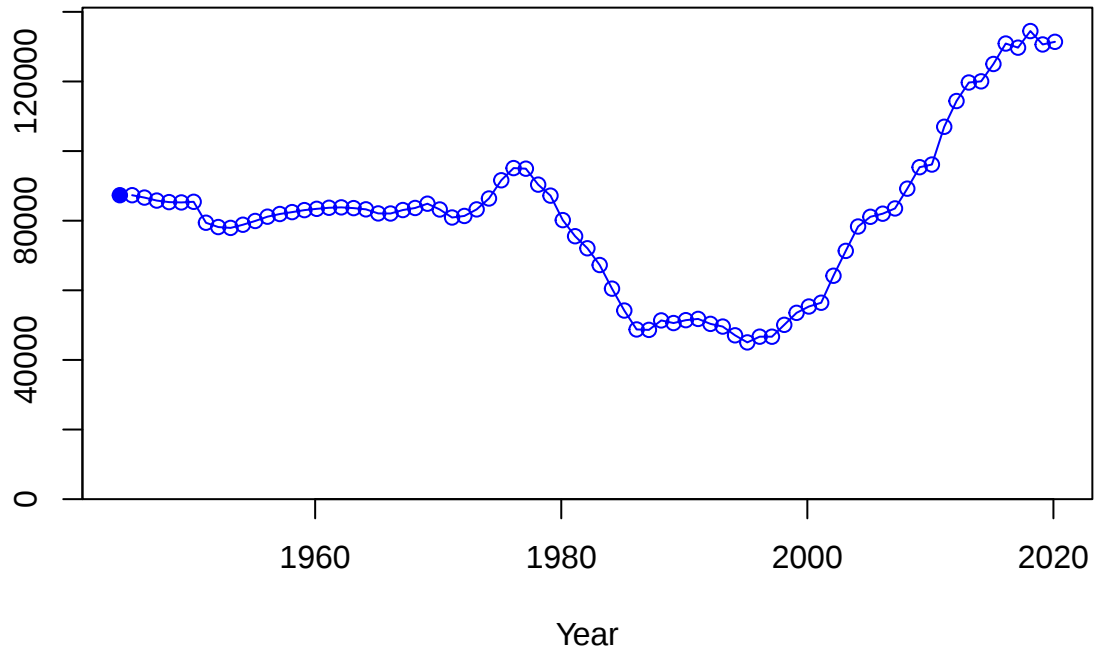




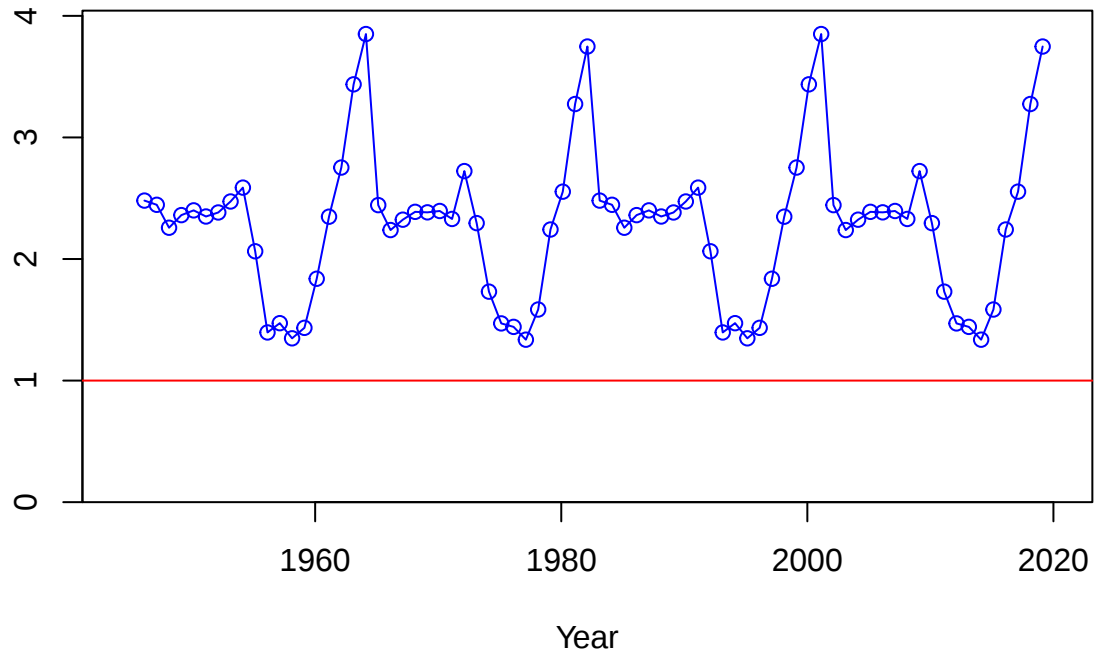


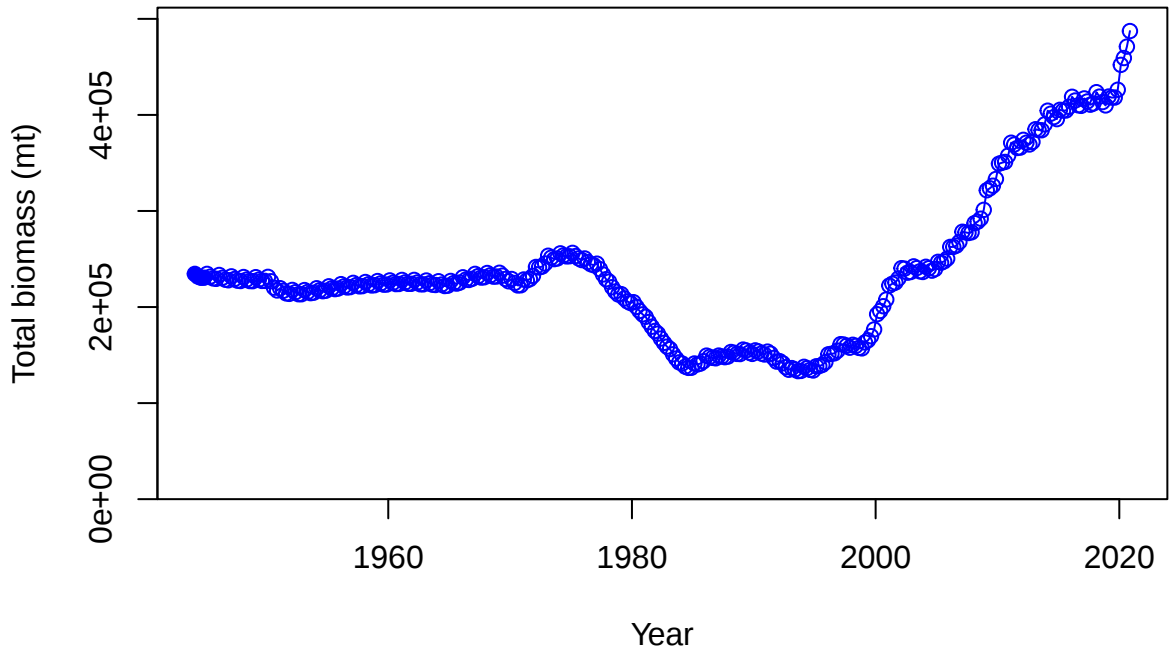


Spawning biomass (mt)

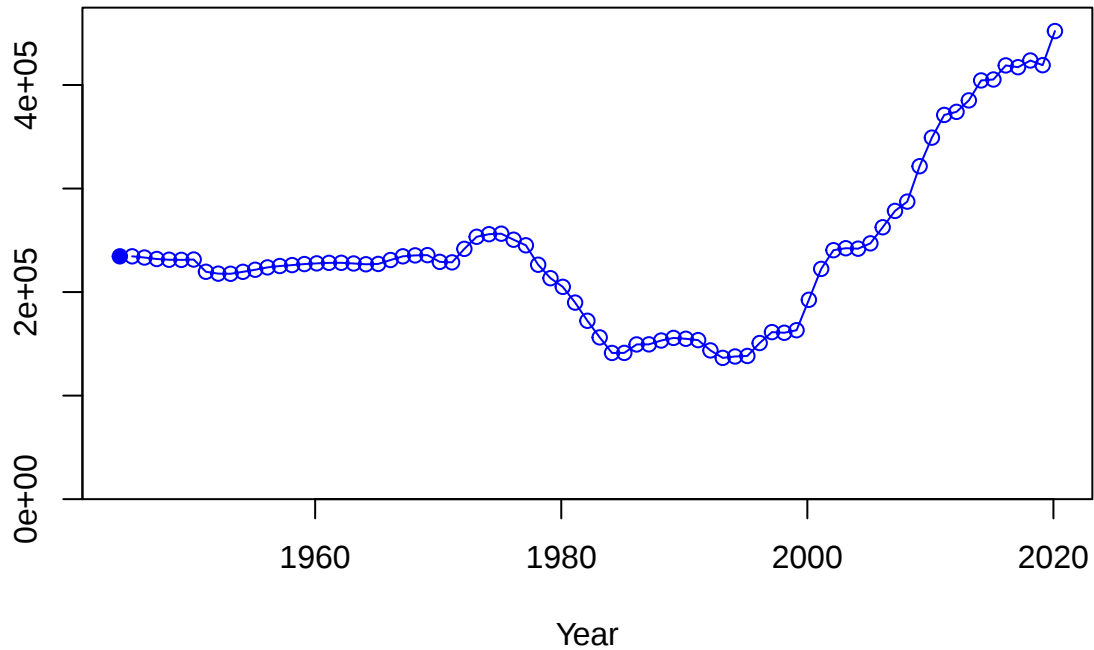


Relative spawning biomass: $B/(40\% \cdot \text{Virgin_Biomass})$

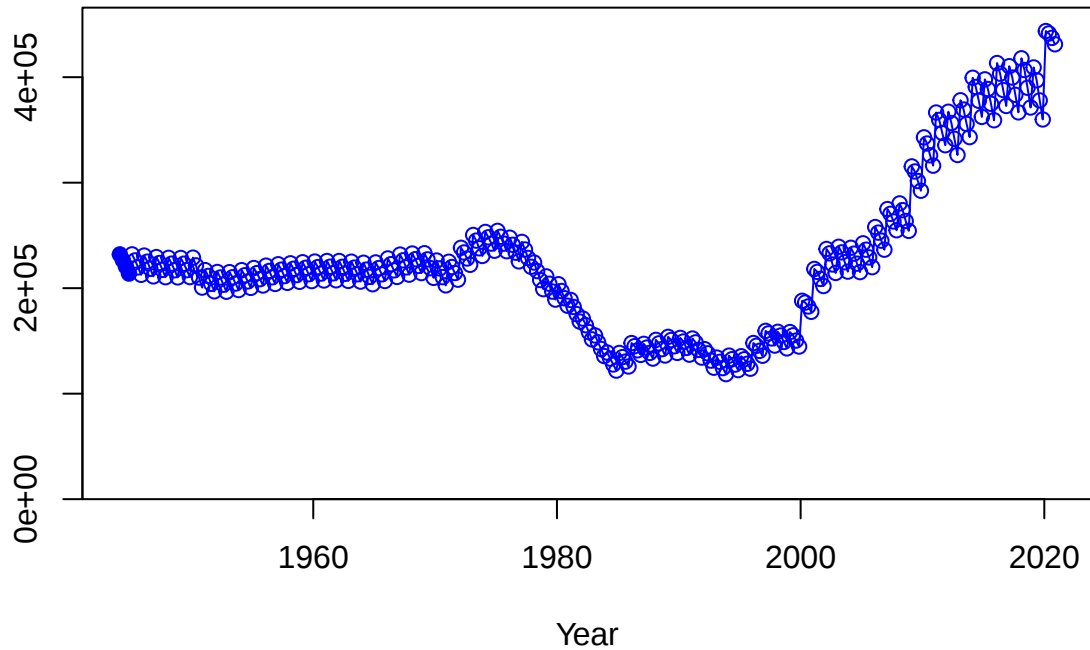




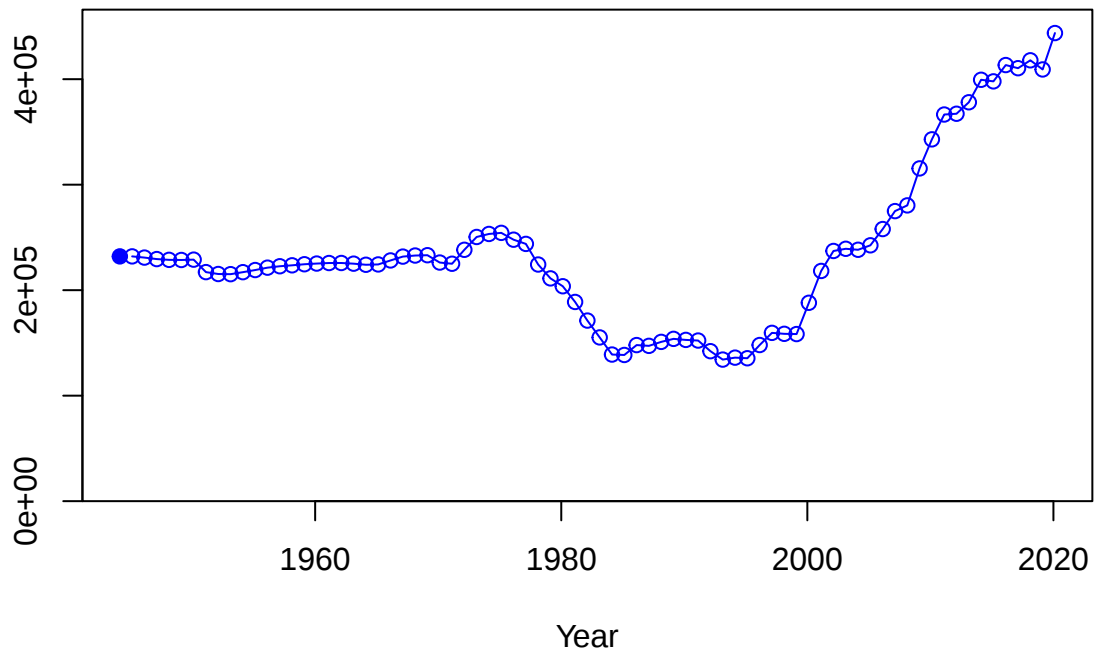
Total biomass (mt) at beginning of season 1



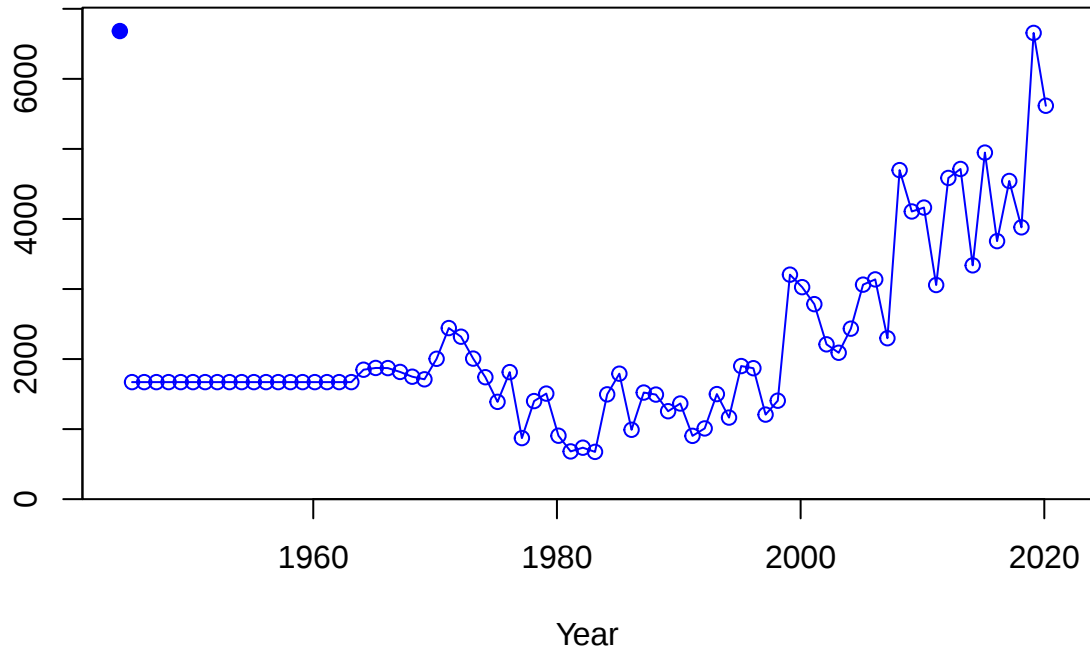
Summary biomass (mt)



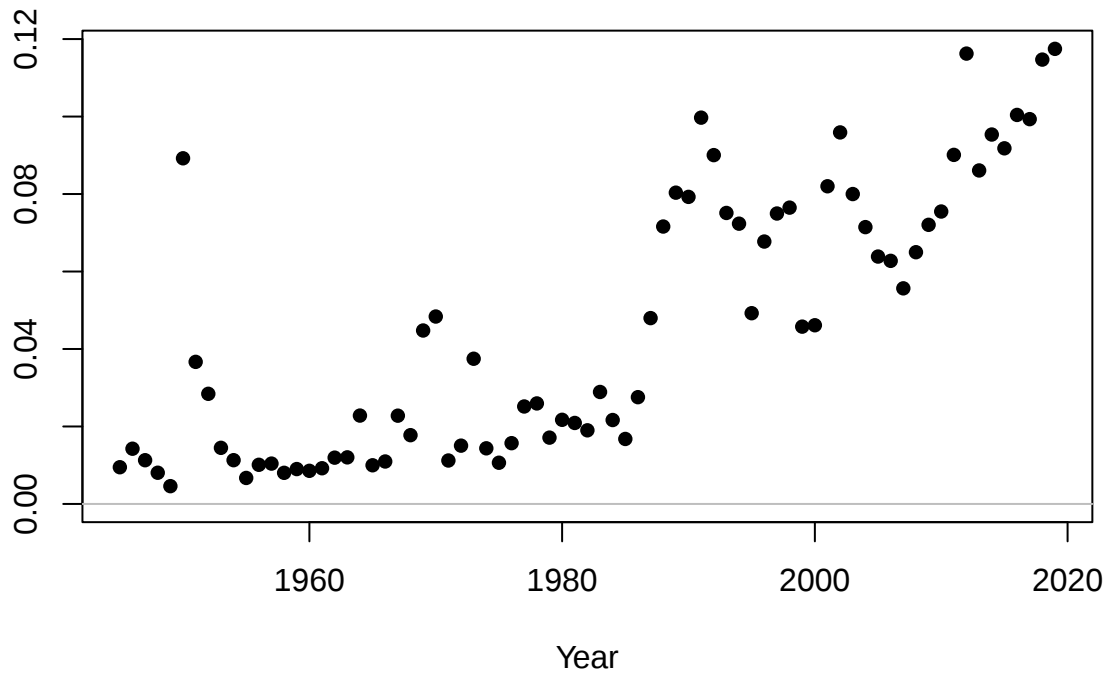
Summary biomass (mt) at beginning of season



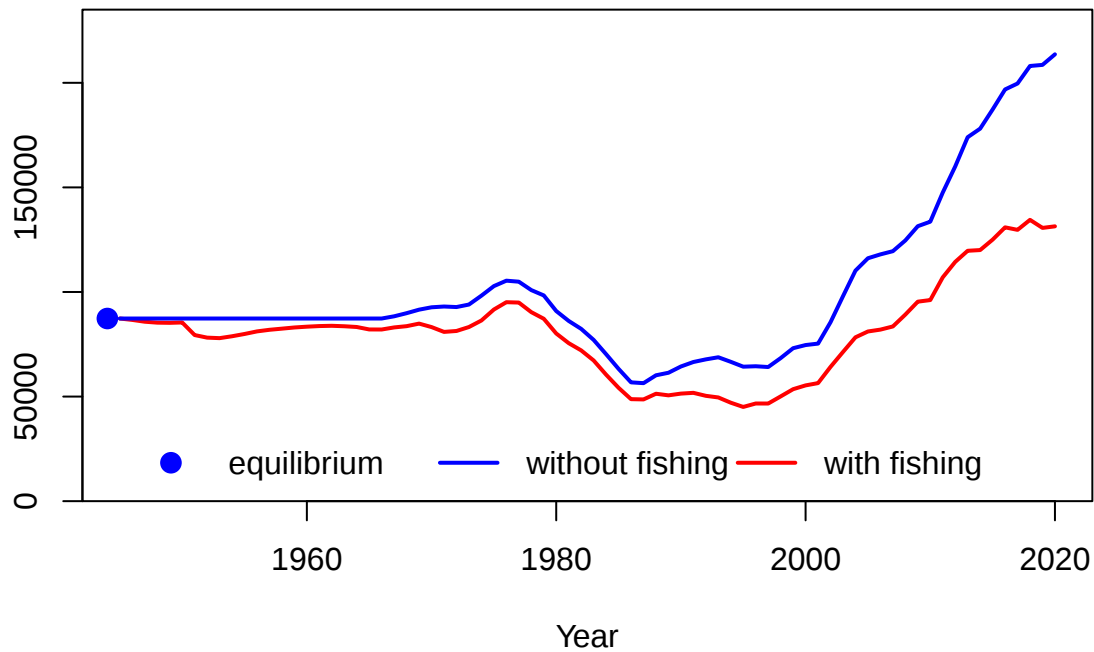
Age-0 recruits (1,000s)



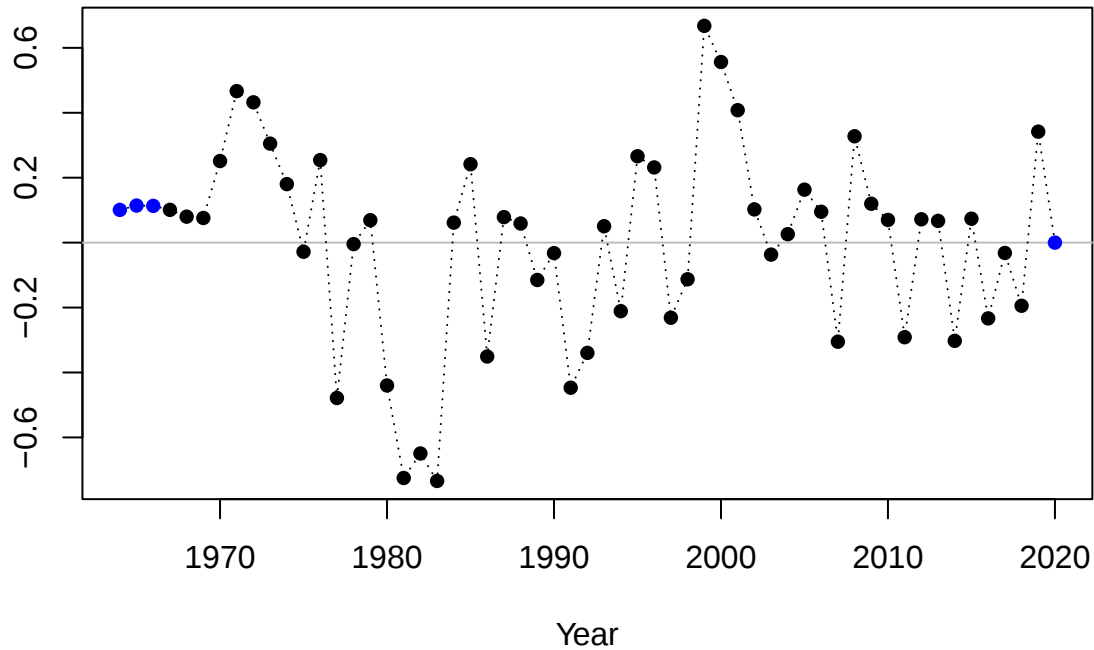
Summary Fishing Mortality



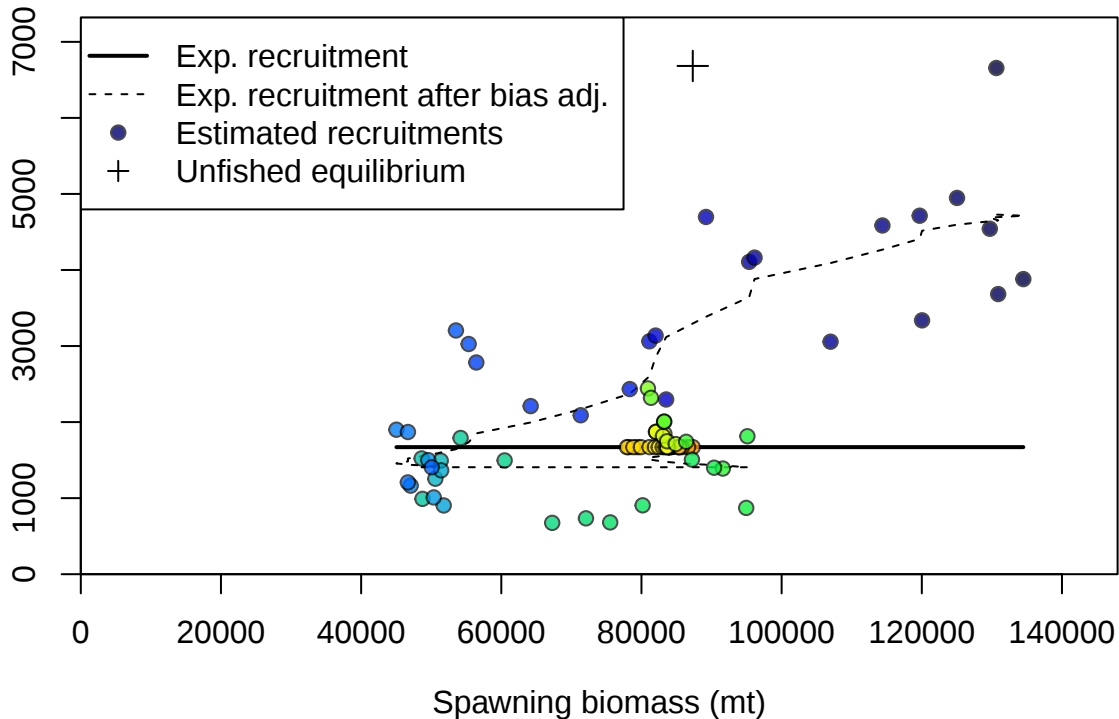
Spawning biomass (mt)



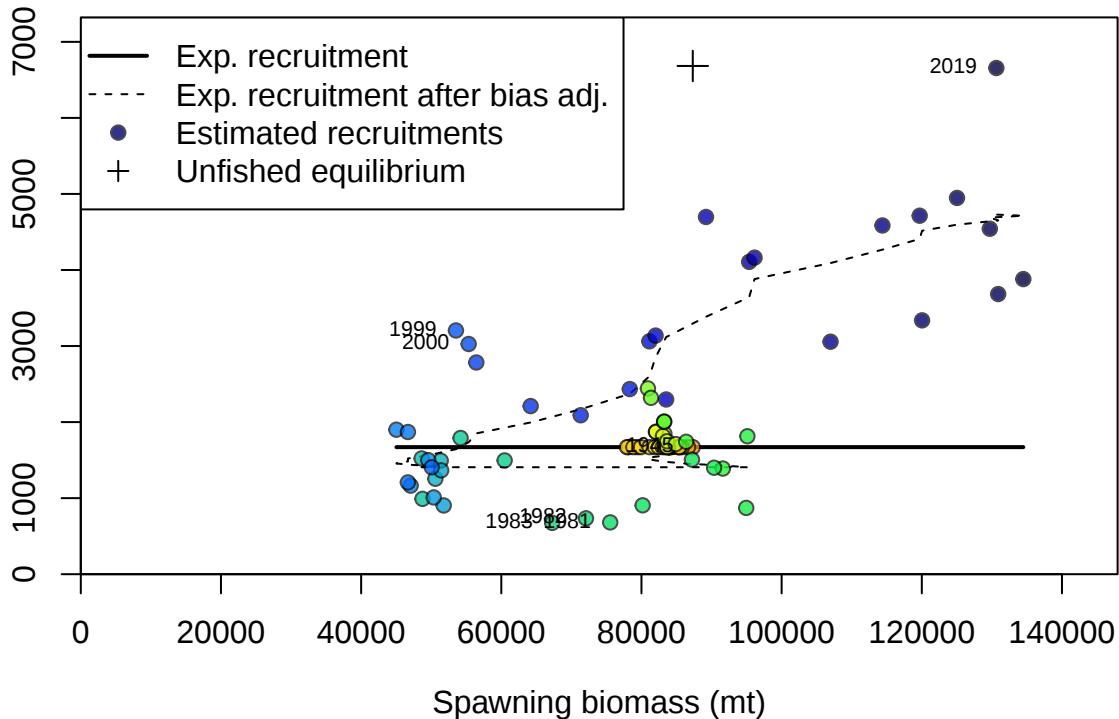
Log recruitment deviation



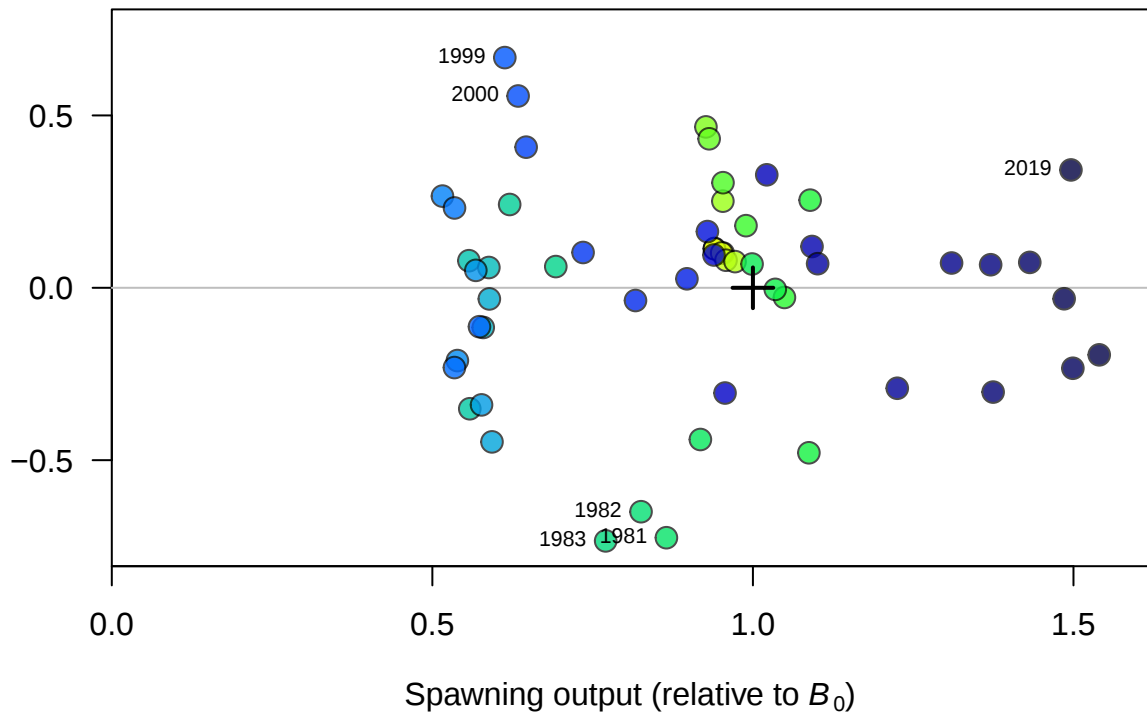
Recruitment (1,000s)

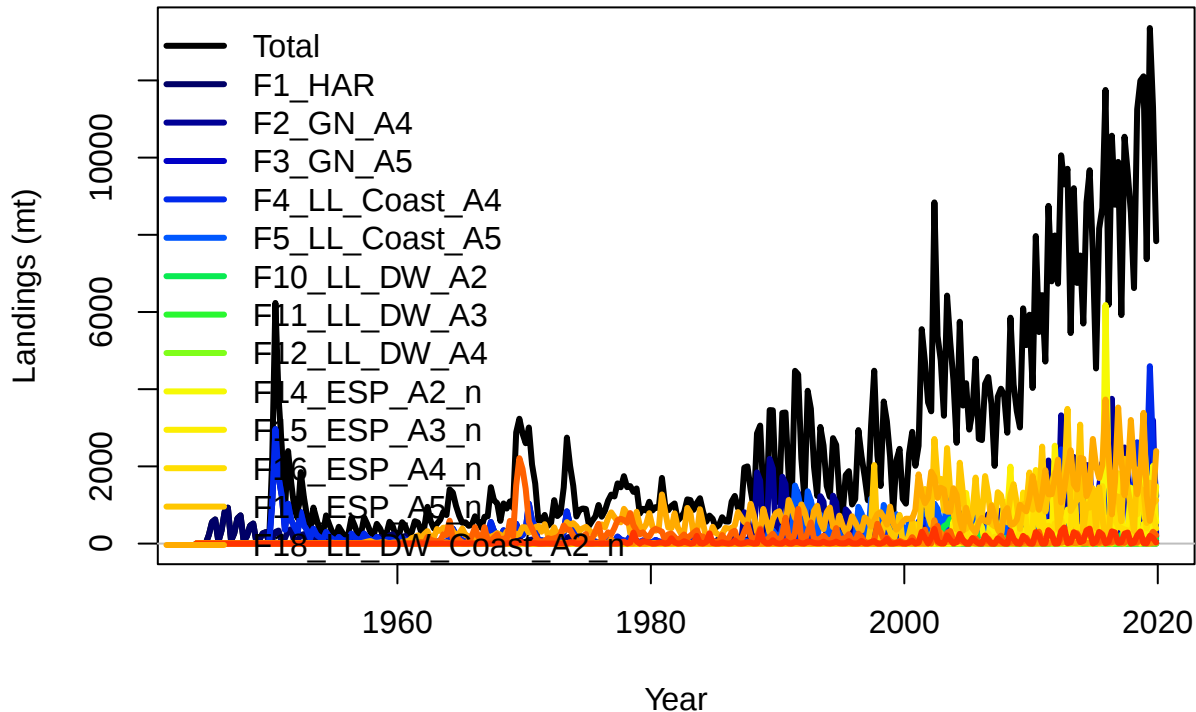


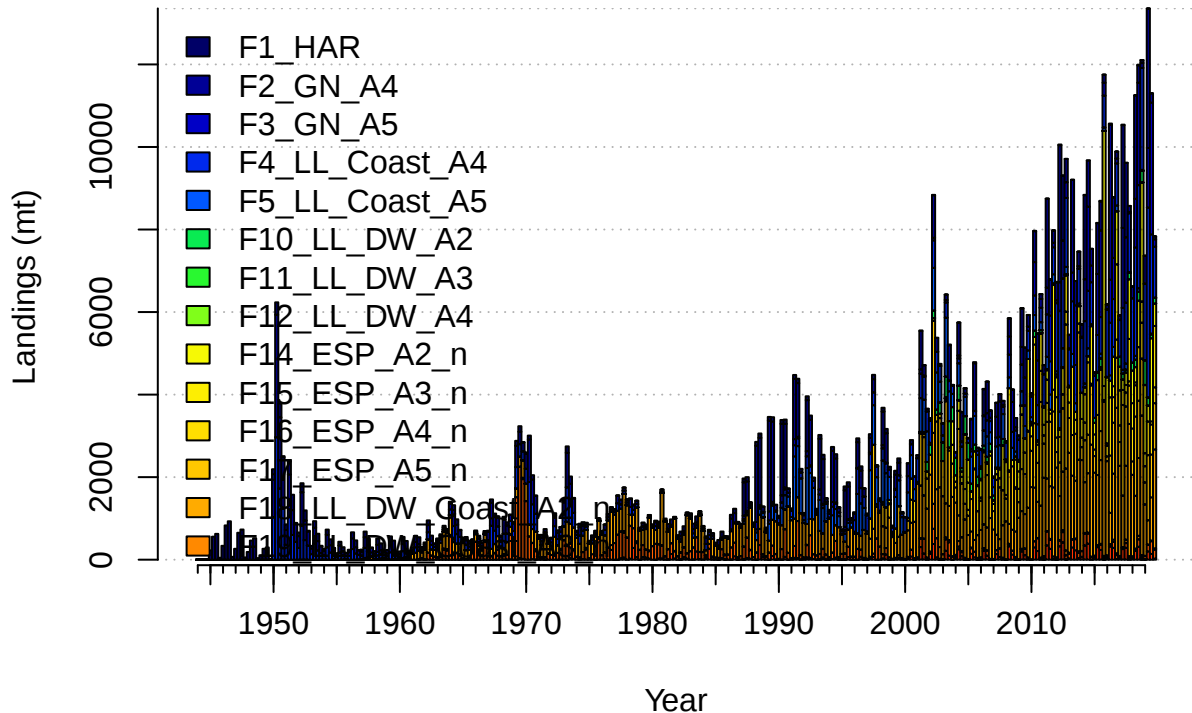
Recruitment (1,000s)



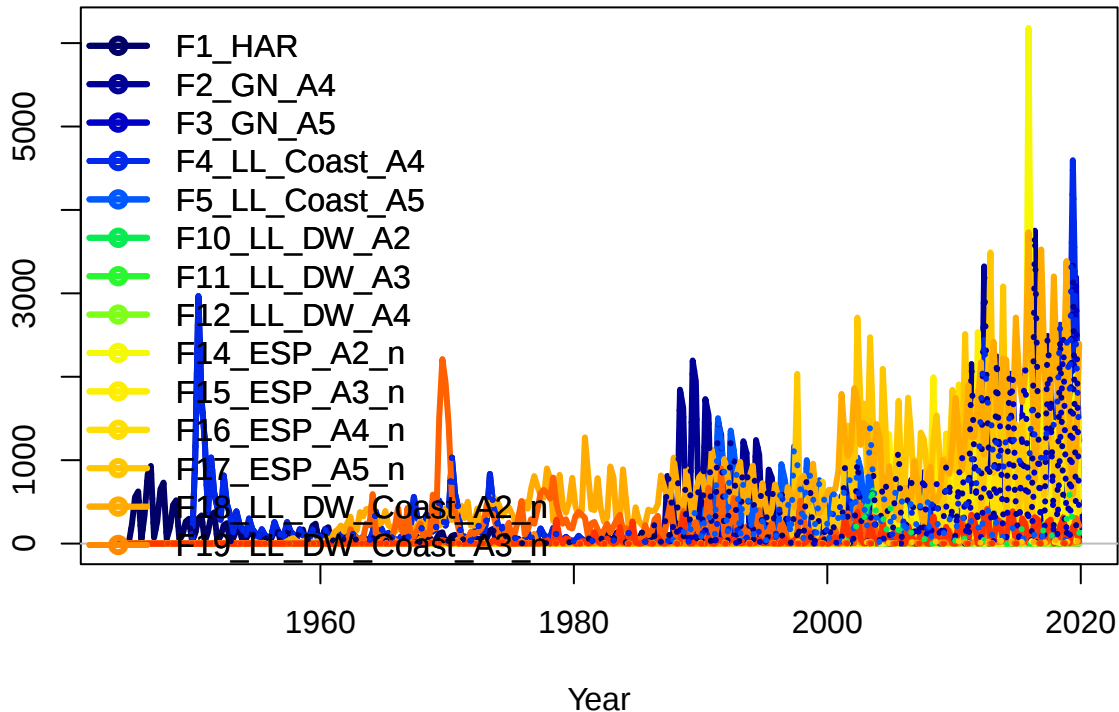
Log recruitment deviation

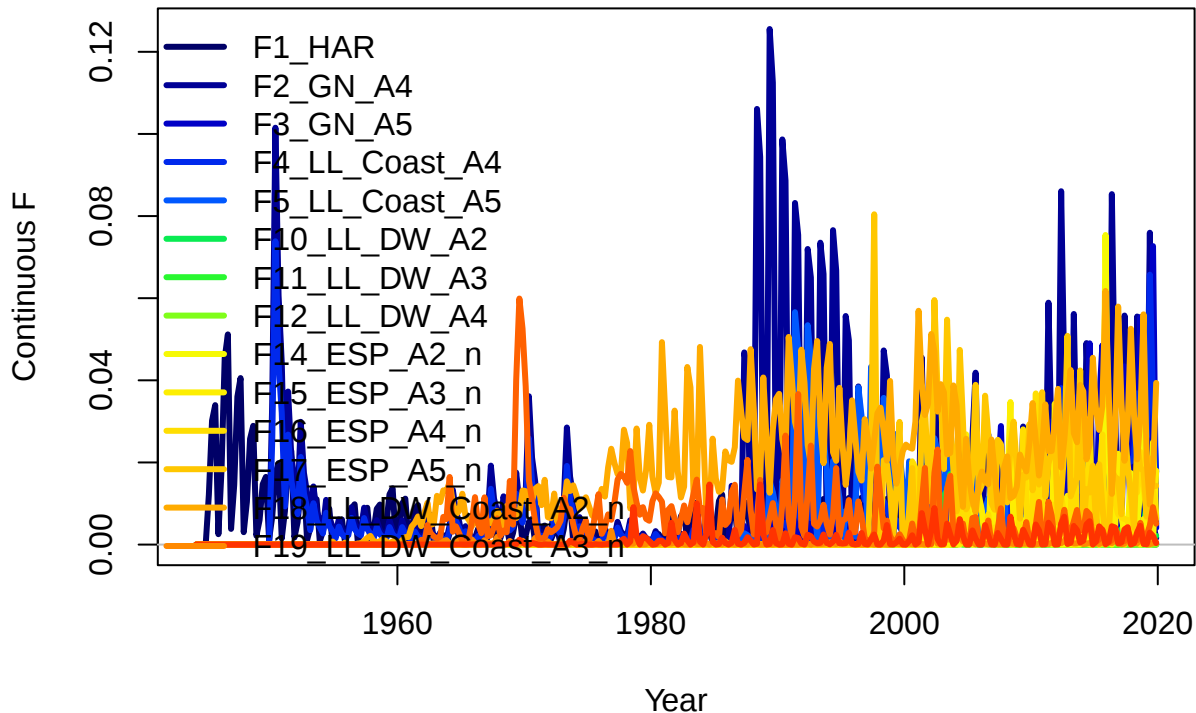


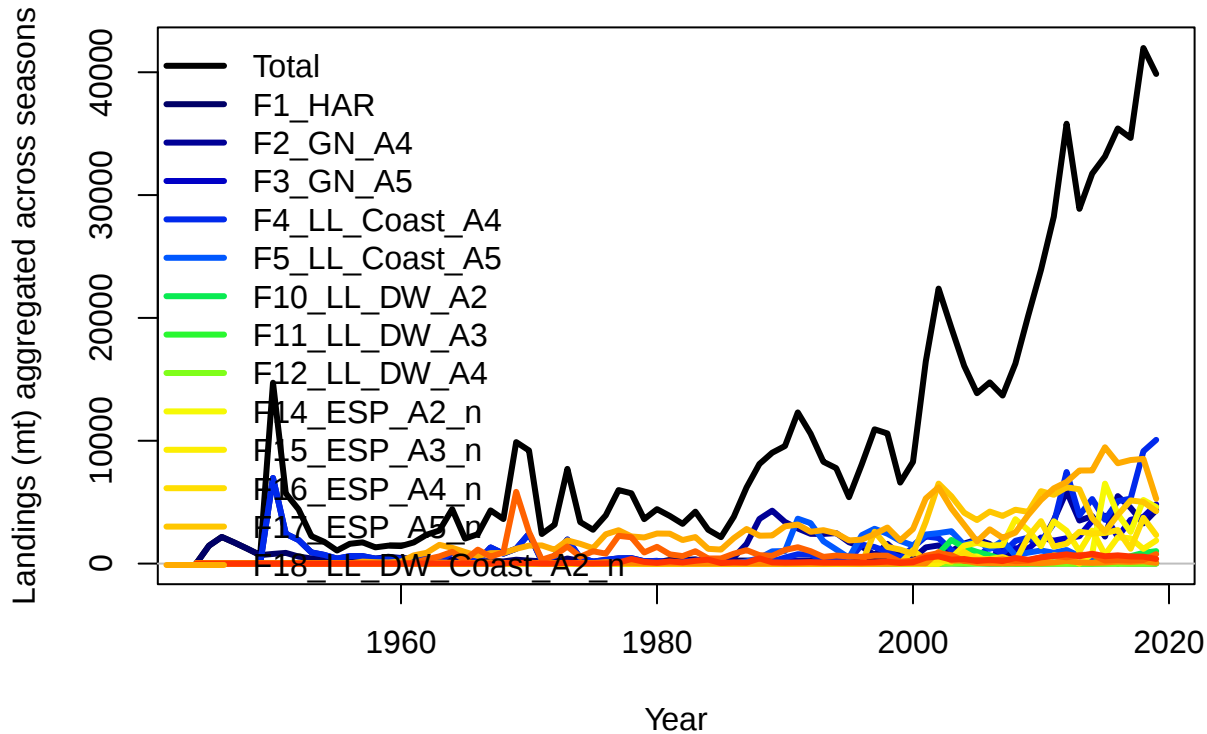




Observed and expected Landings (mt)







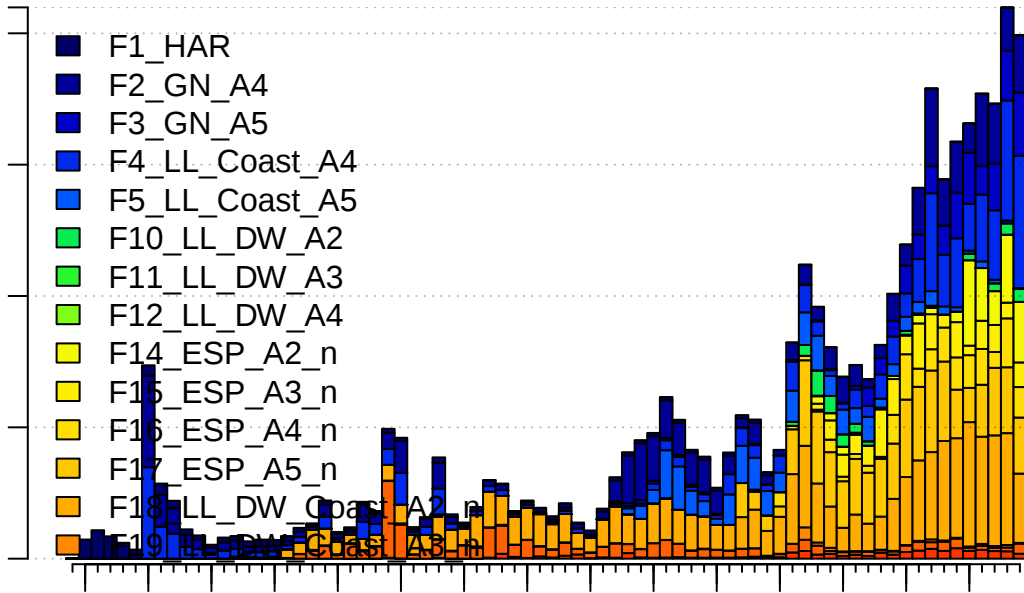
Landings (mt) aggregated across seasons

40000
30000
20000
10000
0

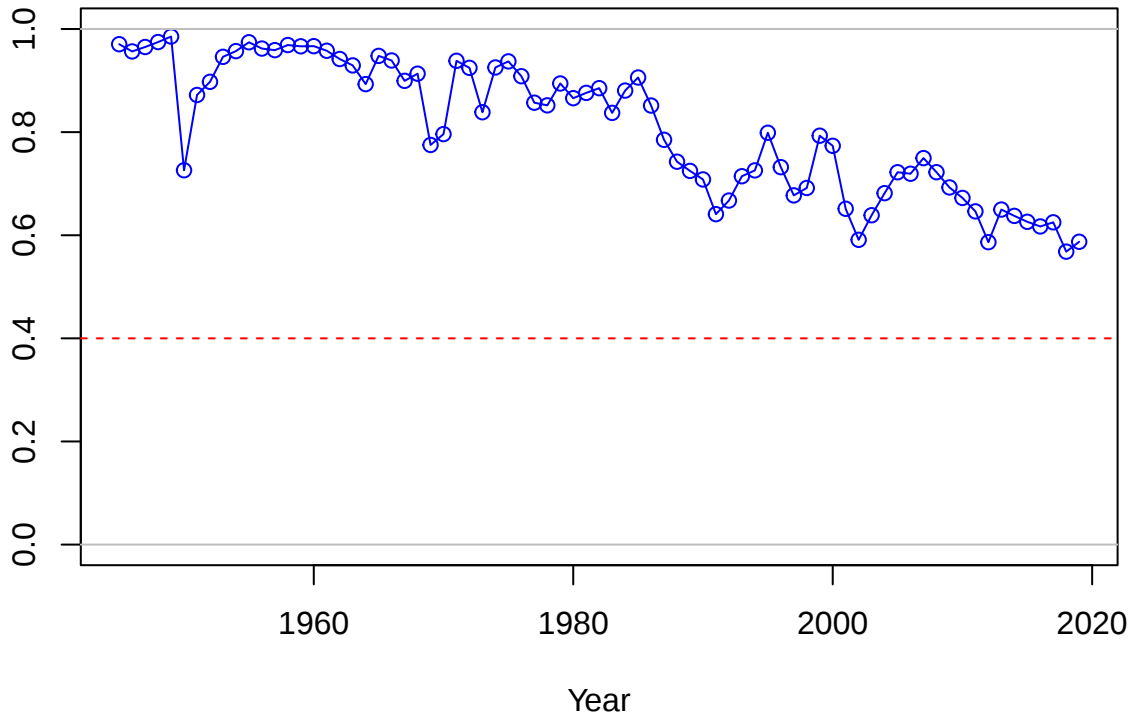
- F1_HAR
- F2_GN_A4
- F3_GN_A5
- F4_LL_Coast_A4
- F5_LL_Coast_A5
- F10_LL_DW_A2
- F11_LL_DW_A3
- F12_LL_DW_A4
- F14_ESP_A2_n
- F15_ESP_A3_n
- F16_ESP_A4_n
- F17_ESP_A5_n
- F18_LL_DW_Coast_A2_n
- F19_LL_DW_Coast_A3_n

1945 1955 1965 1975 1985 1995 2005 2015

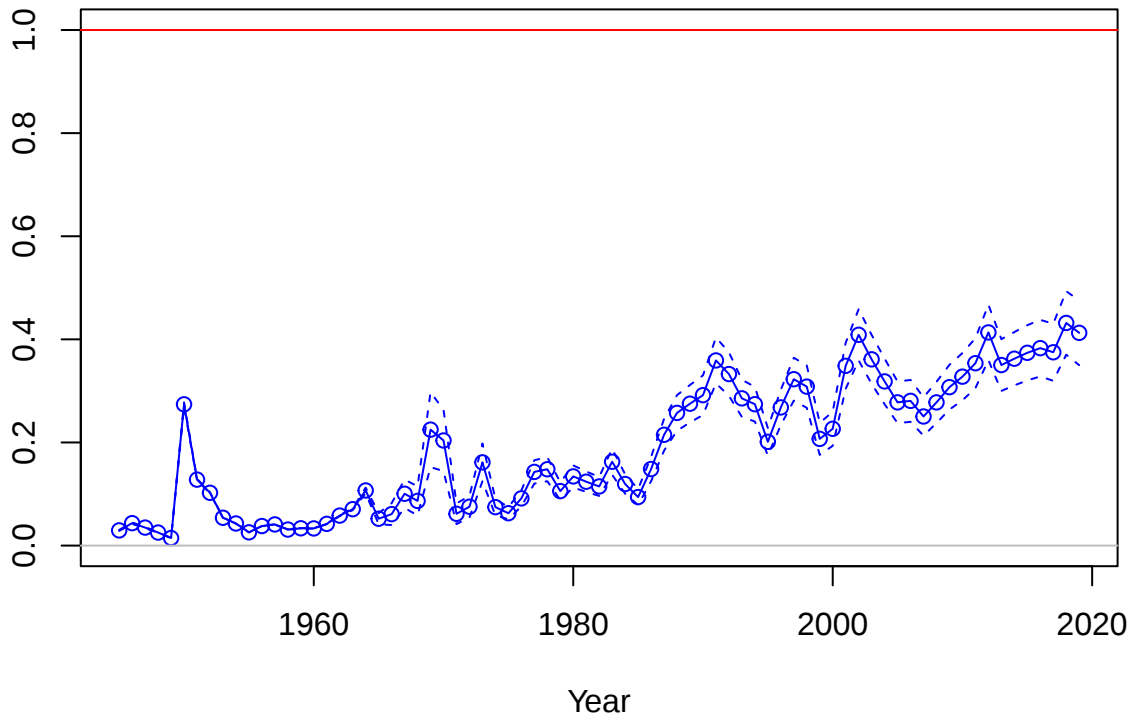
Year



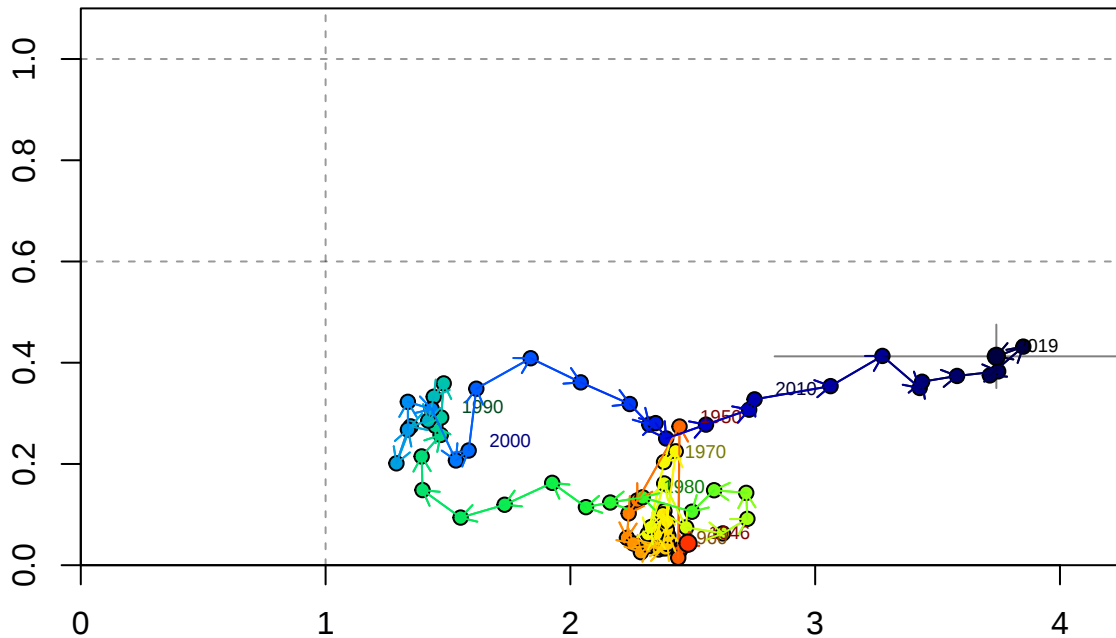
SPR



Fishing intensity: 1-SPR

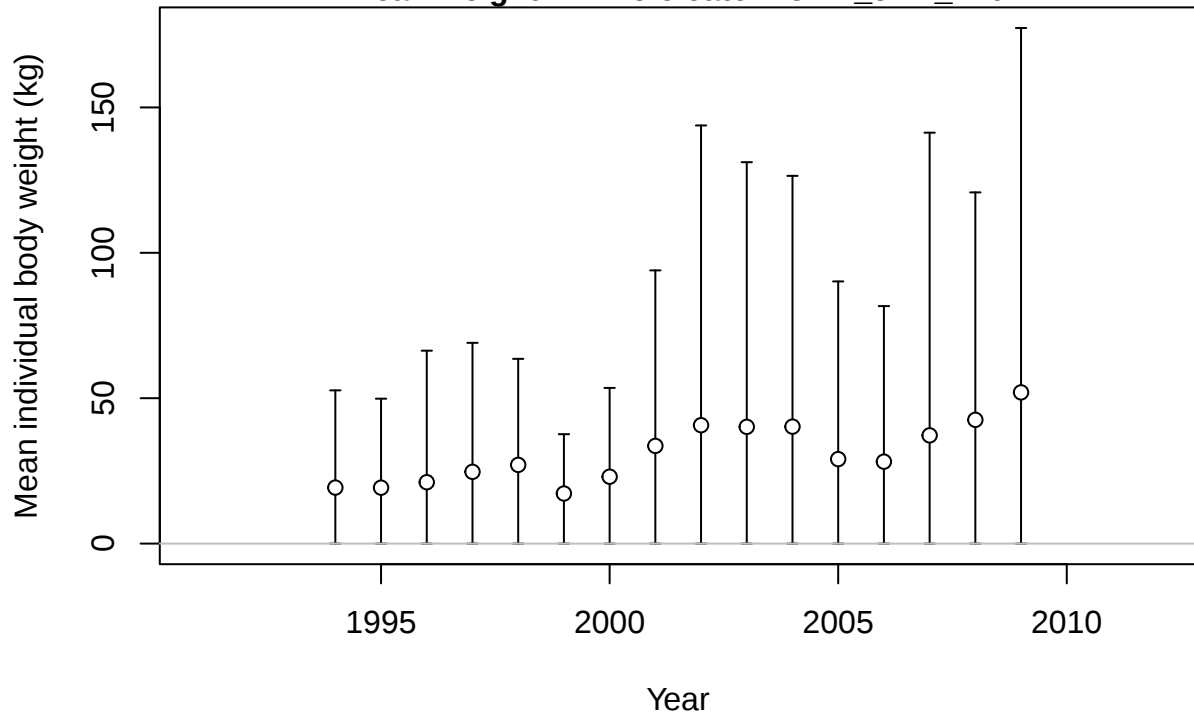


Fishing intensity: 1-SPR

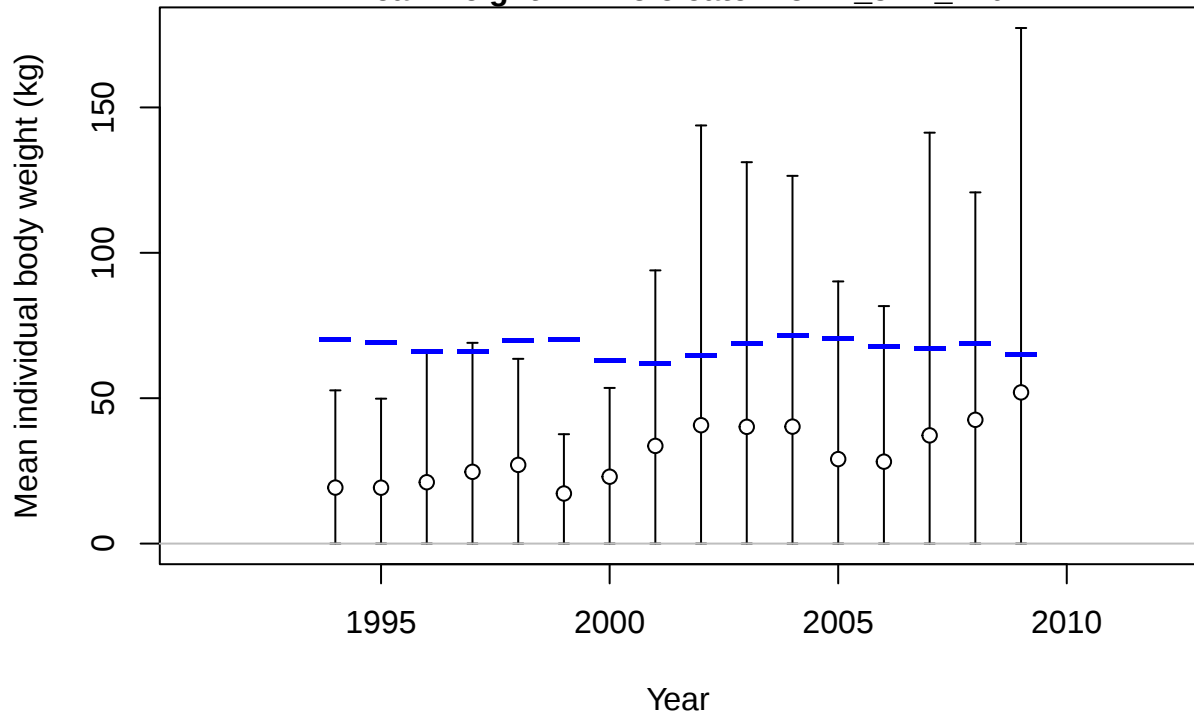


Relative spawning output: $B/(40\% \cdot \text{Virgin_Biomass})$

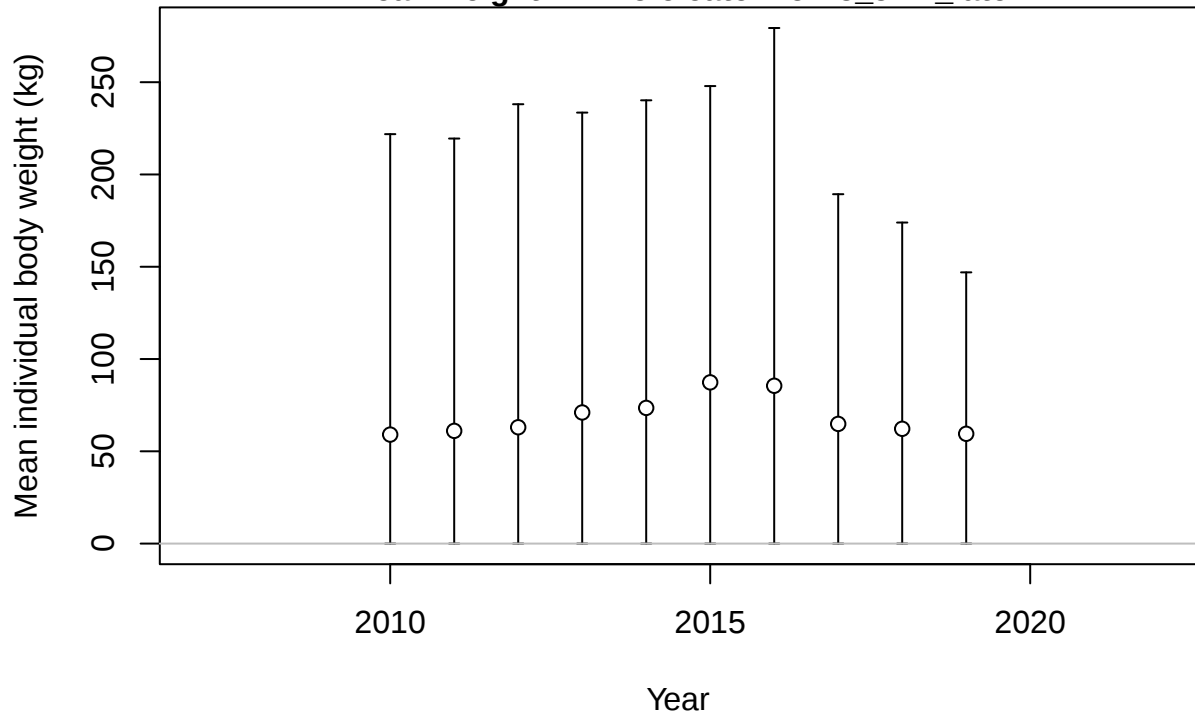
Mean weight in whole catch for I4_JPN_mid



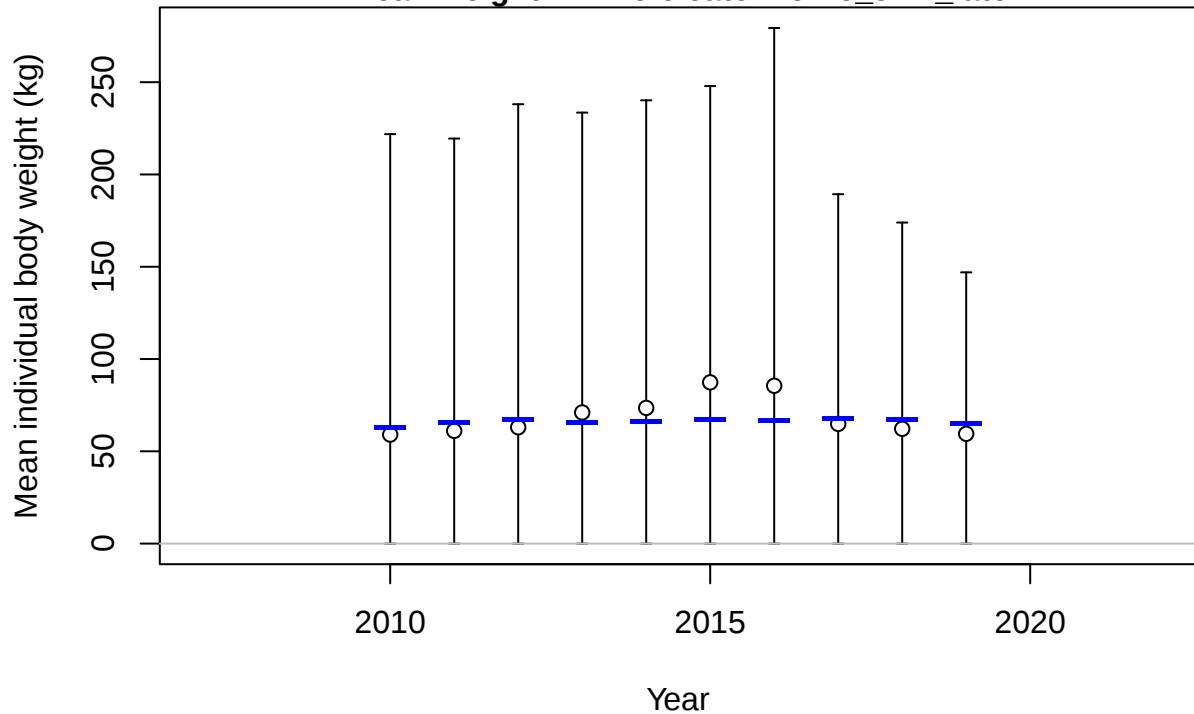
Mean weight in whole catch for I4_JPN_mid



Mean weight in whole catch for I5_JPN_late



Mean weight in whole catch for I5_JPN_late



Index

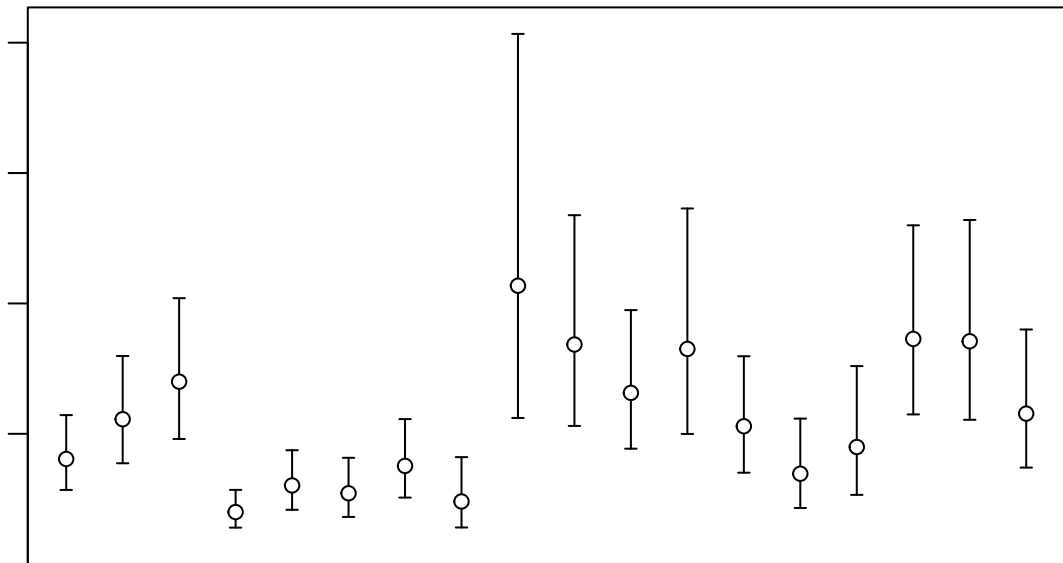
0.4
0.3
0.2
0.1
0.0

2005

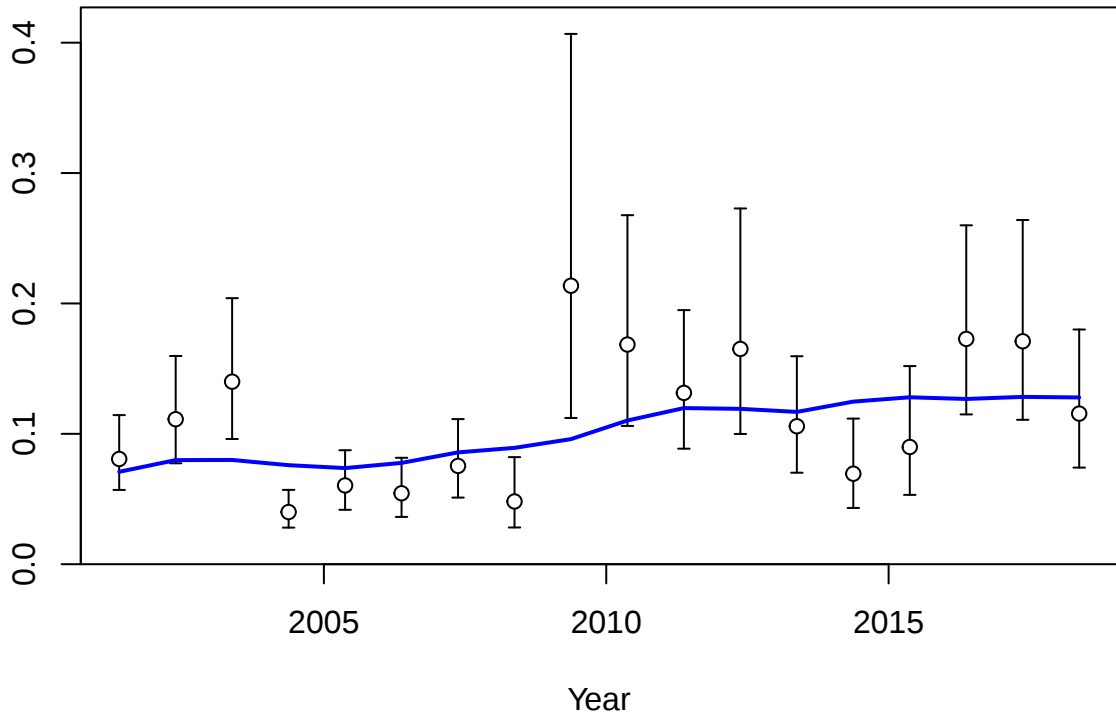
2010

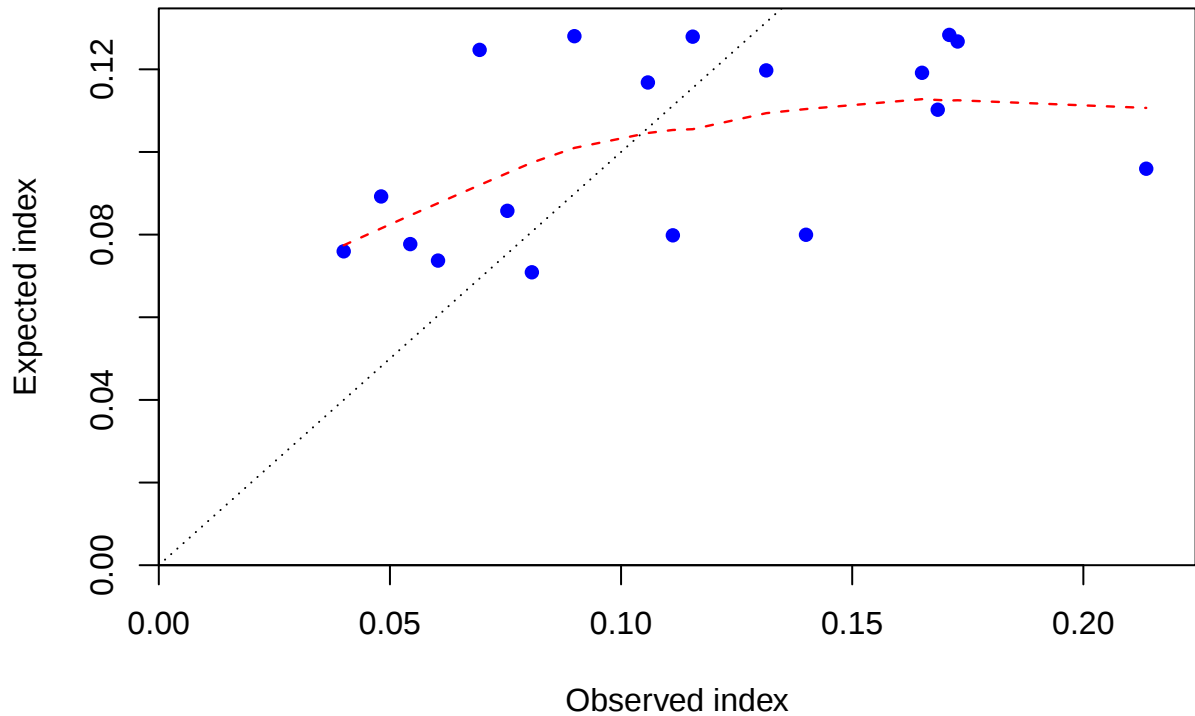
2015

Year

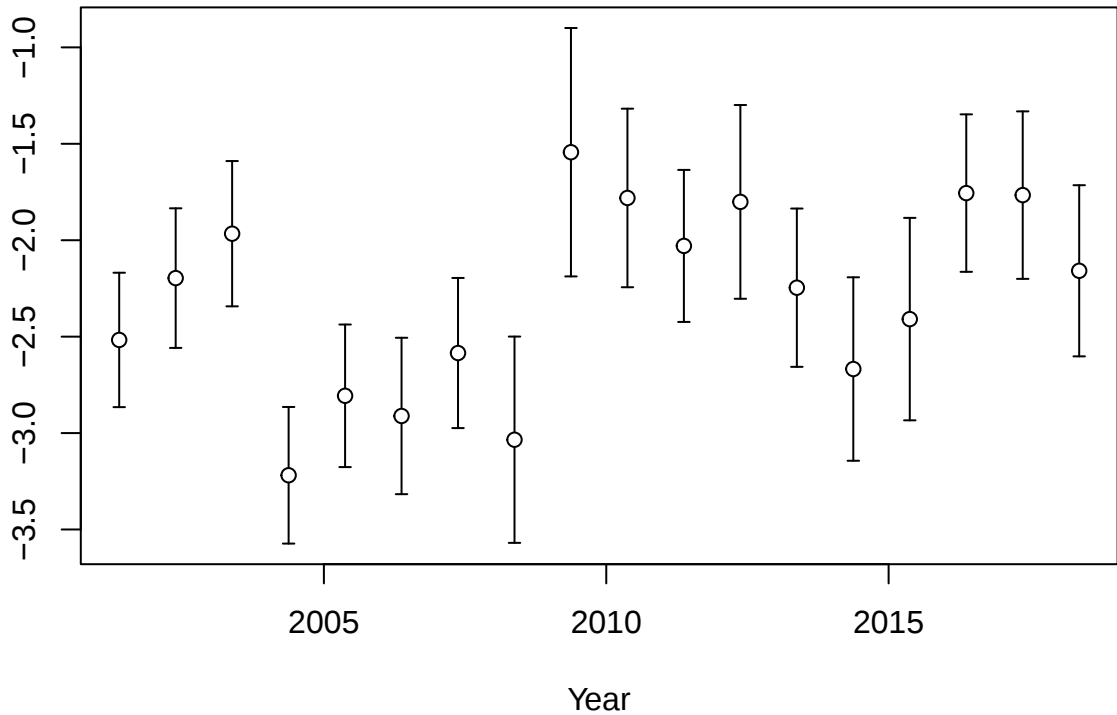


Index

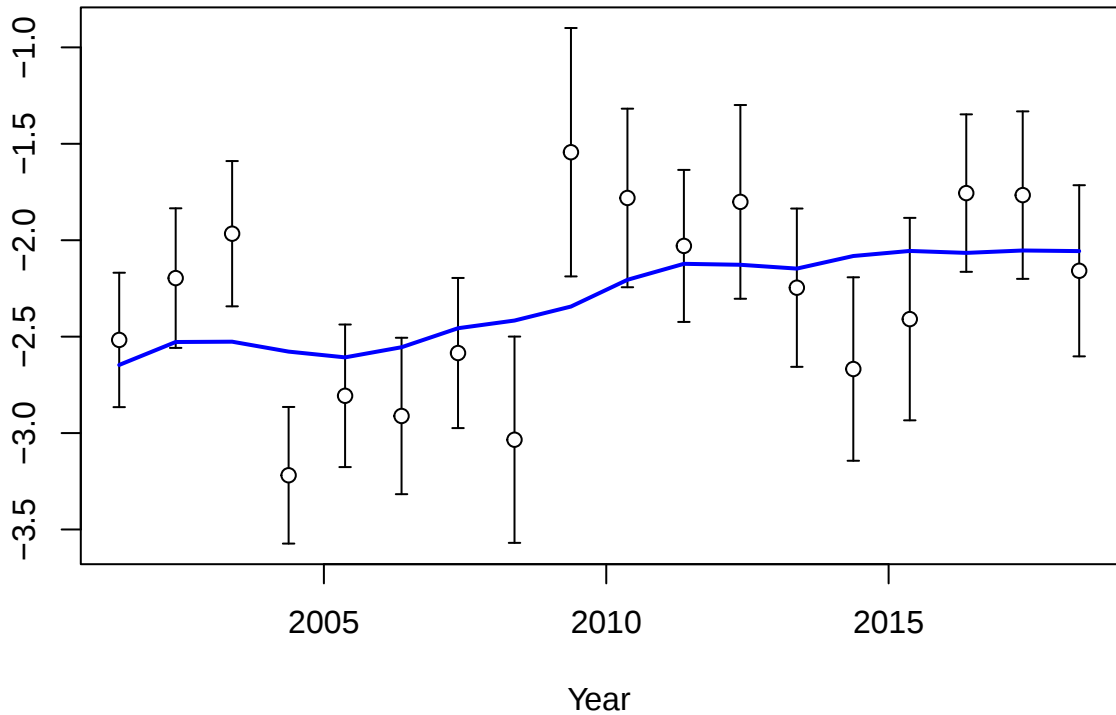


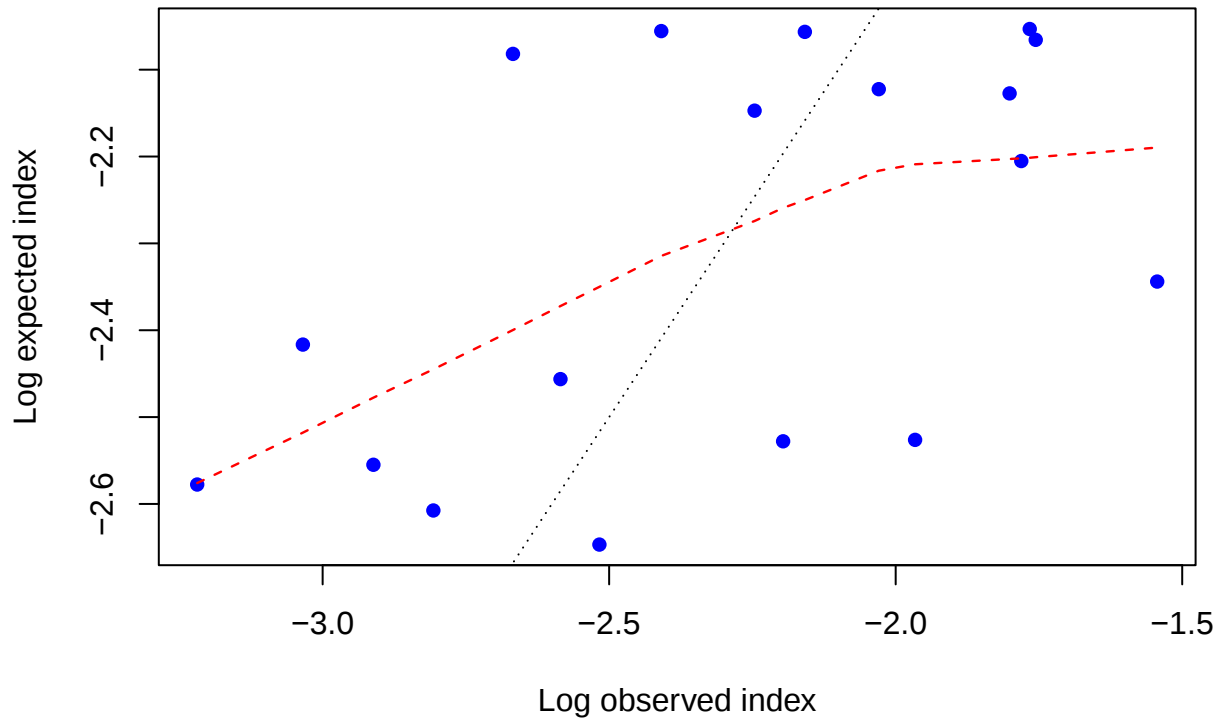


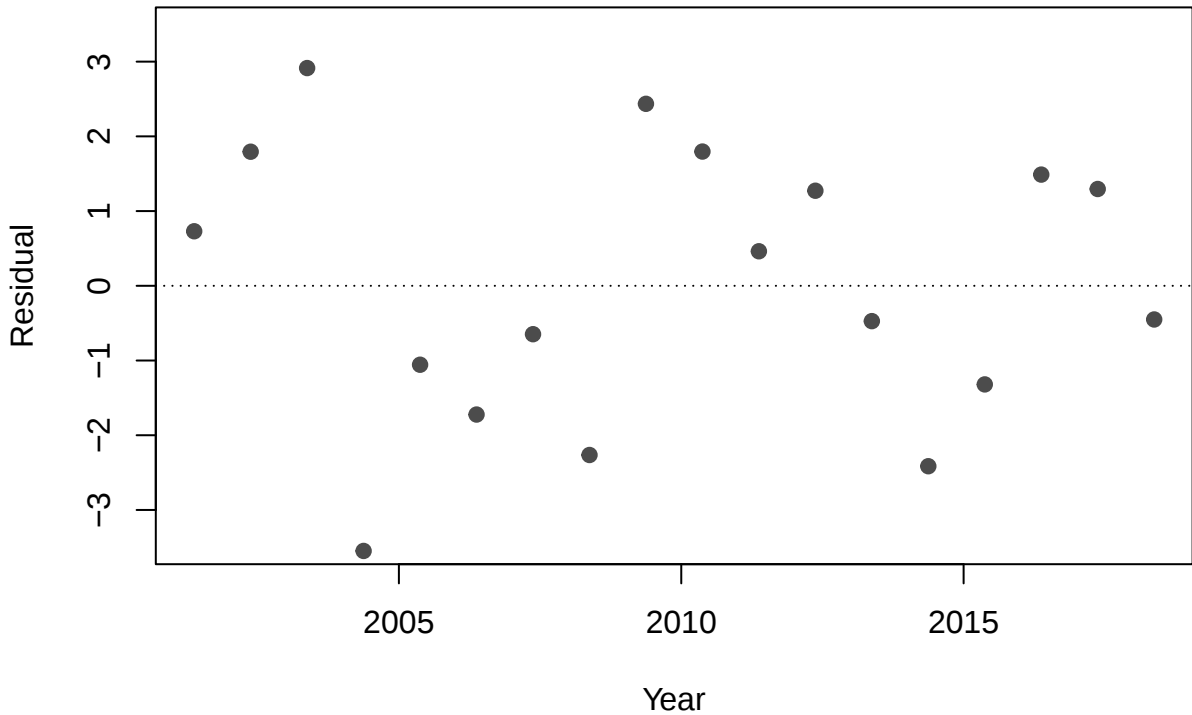
Log index

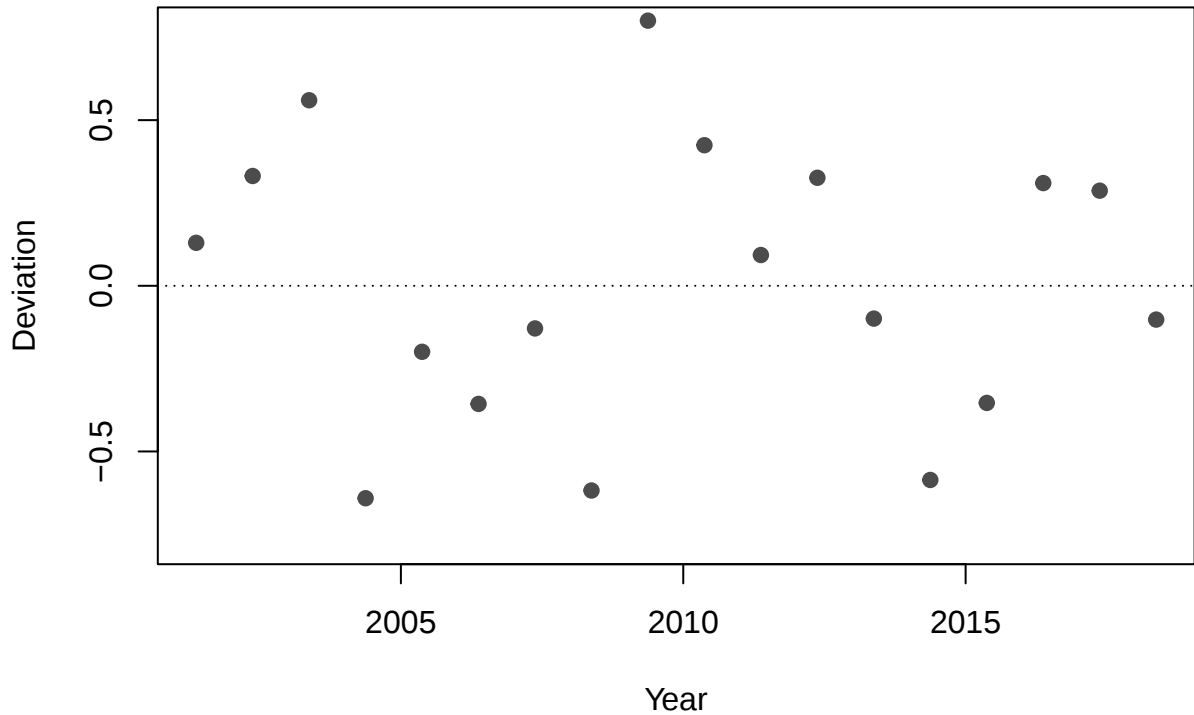


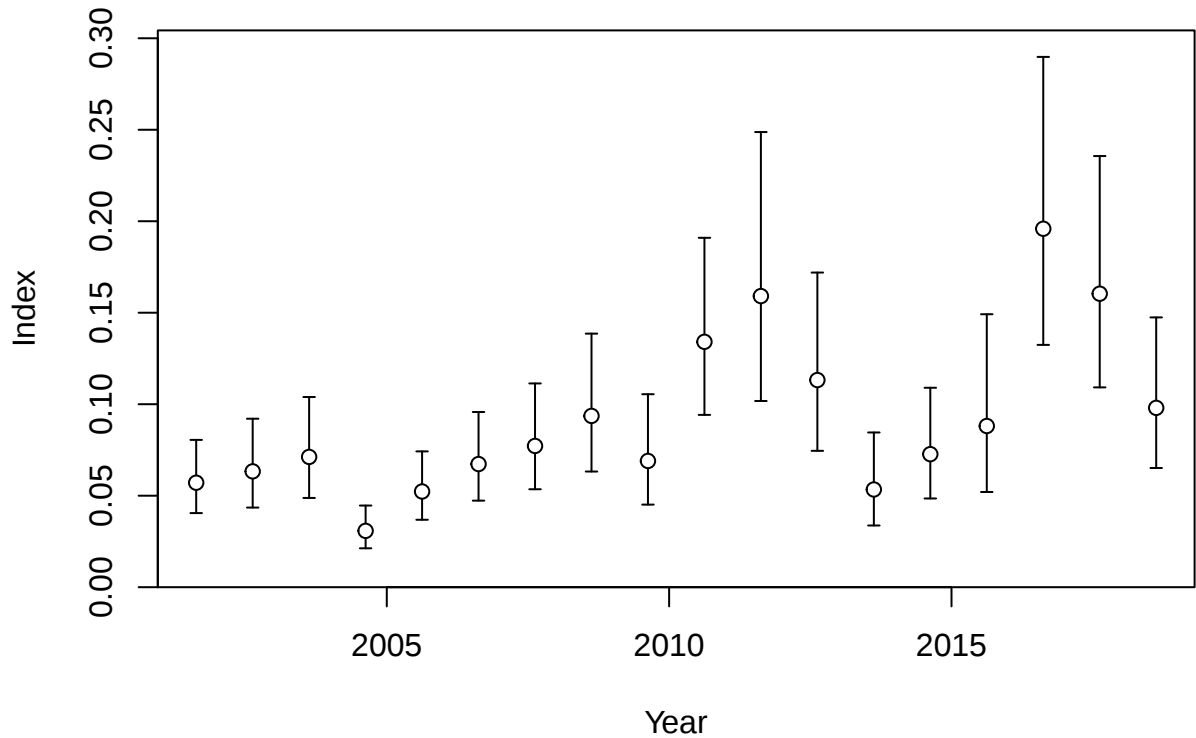
Log index

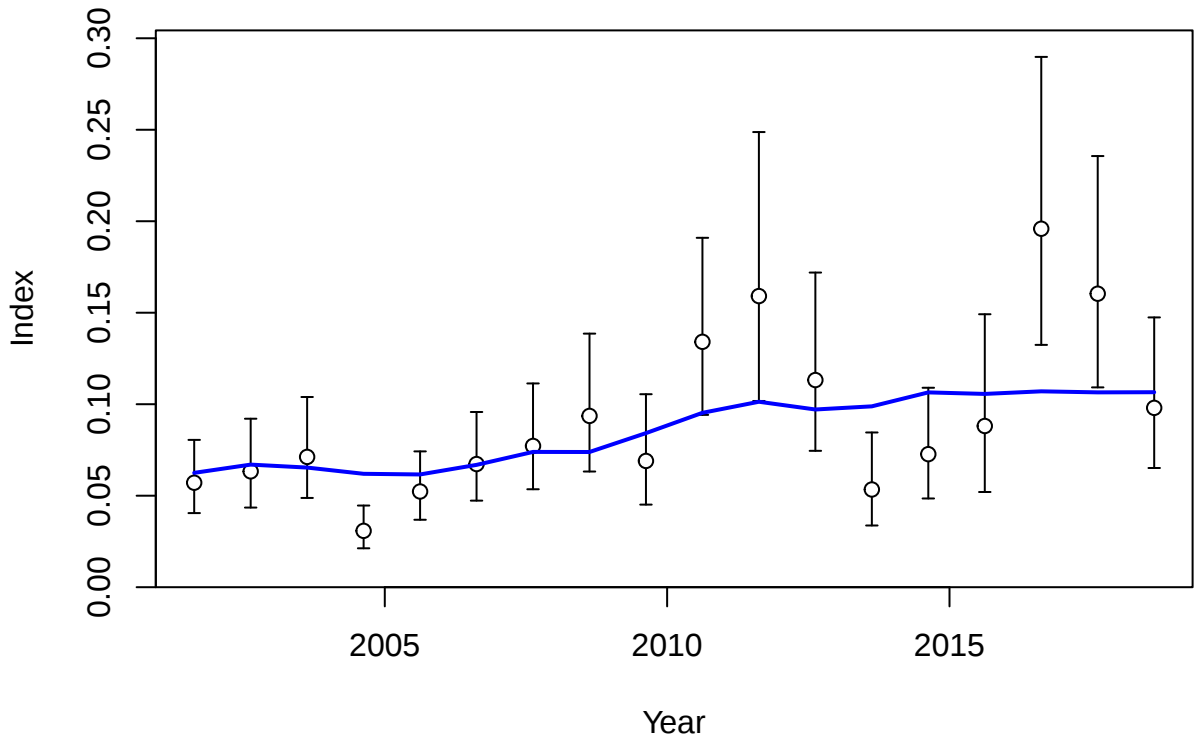




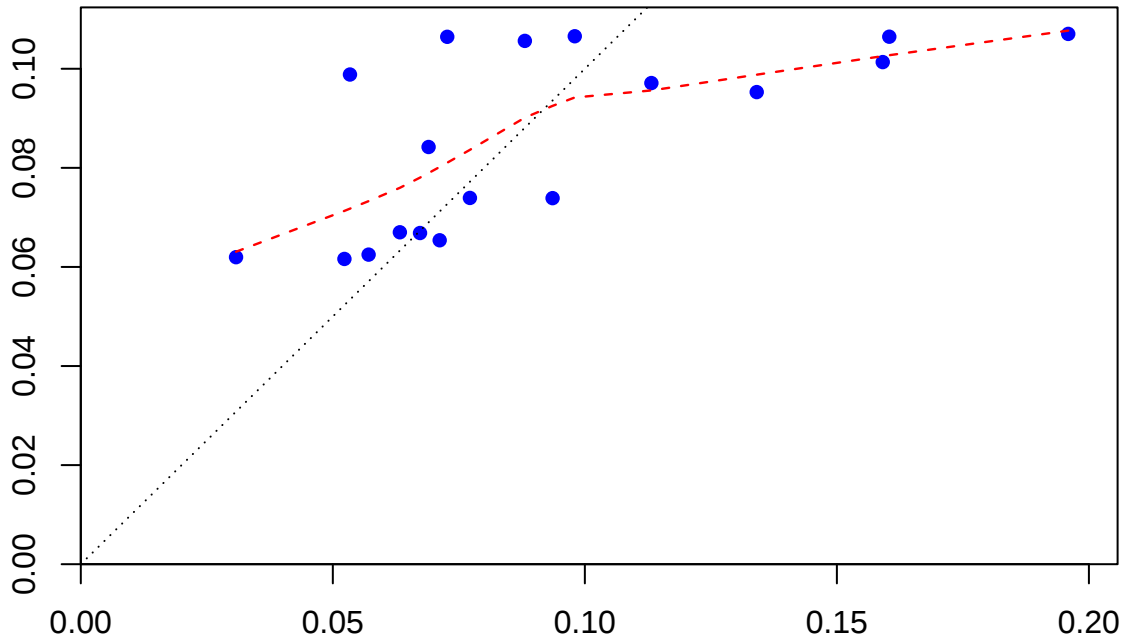








Expected index



Observed index

Log index

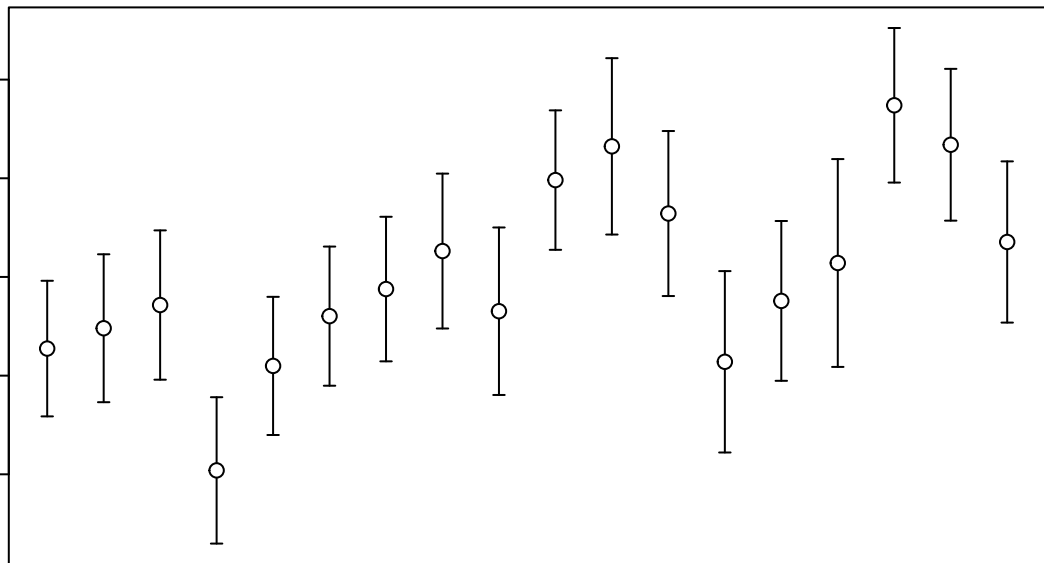
-3.5
-3.0
-2.5
-2.0
-1.5

2005

2010

2015

Year



Log index

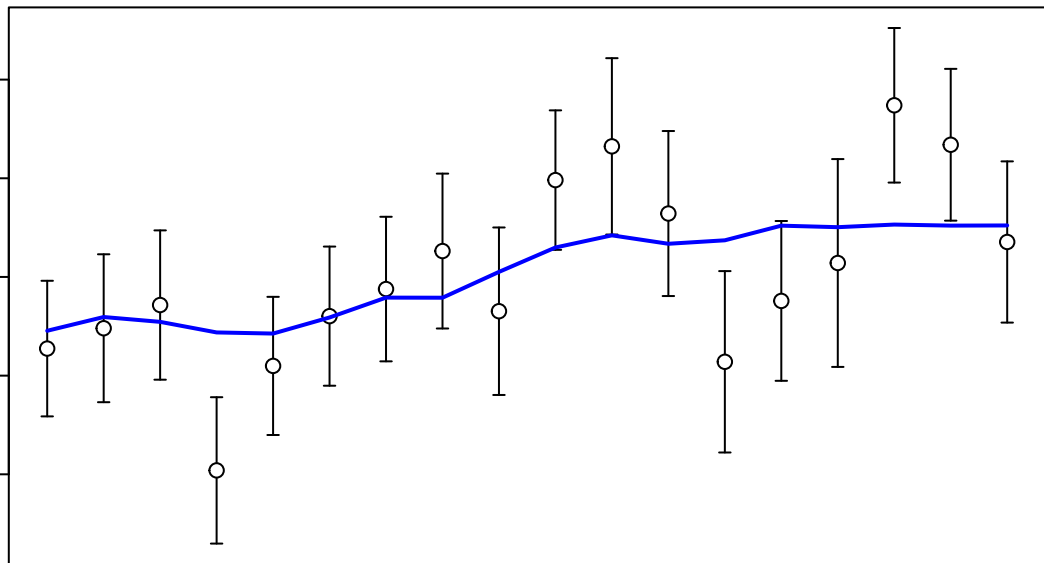
-3.5
-3.0
-2.5
-2.0
-1.5

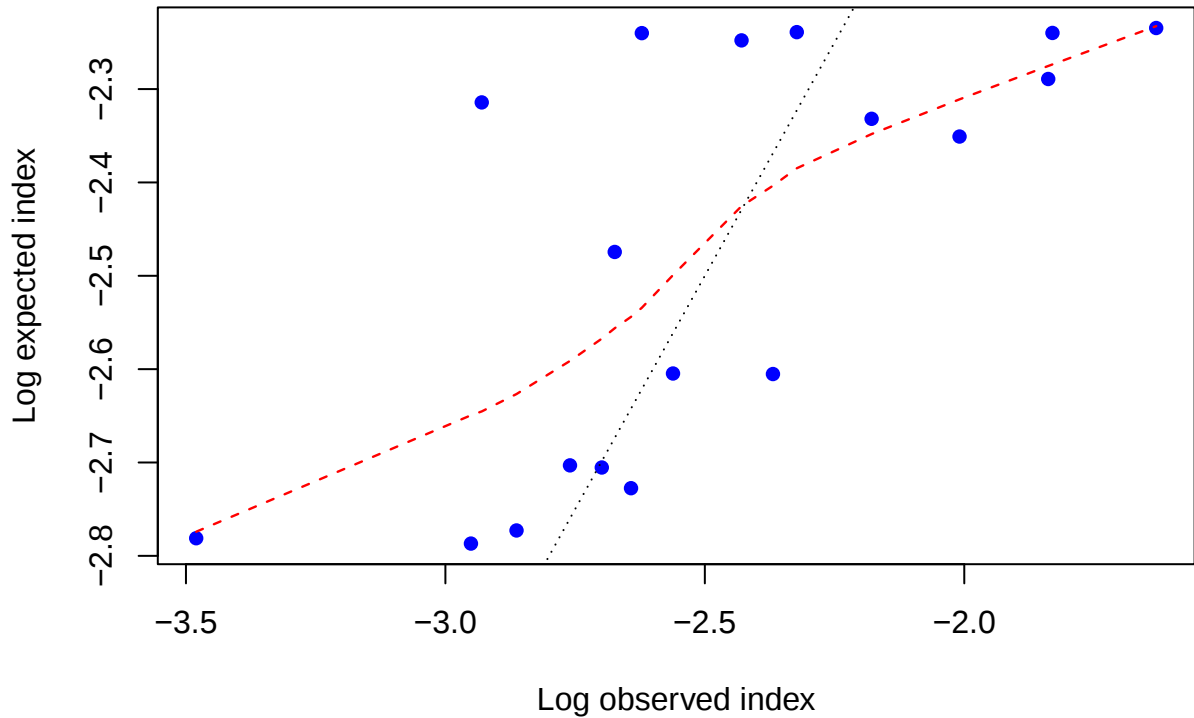
2005

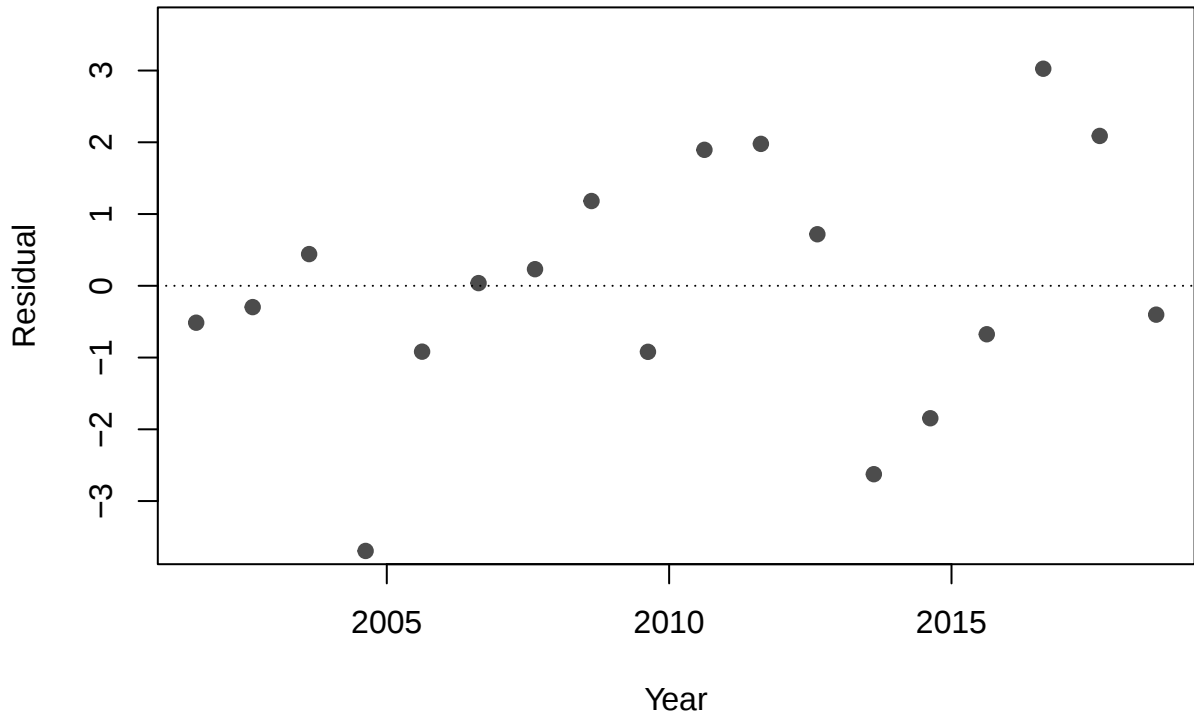
2010

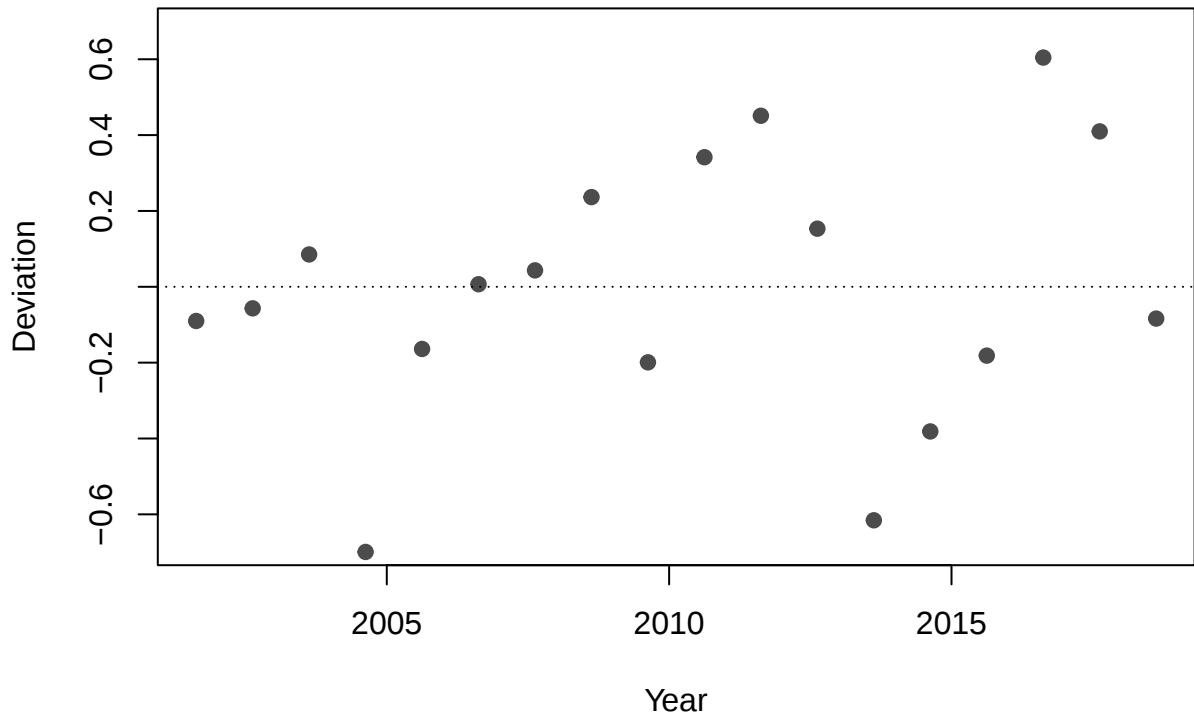
2015

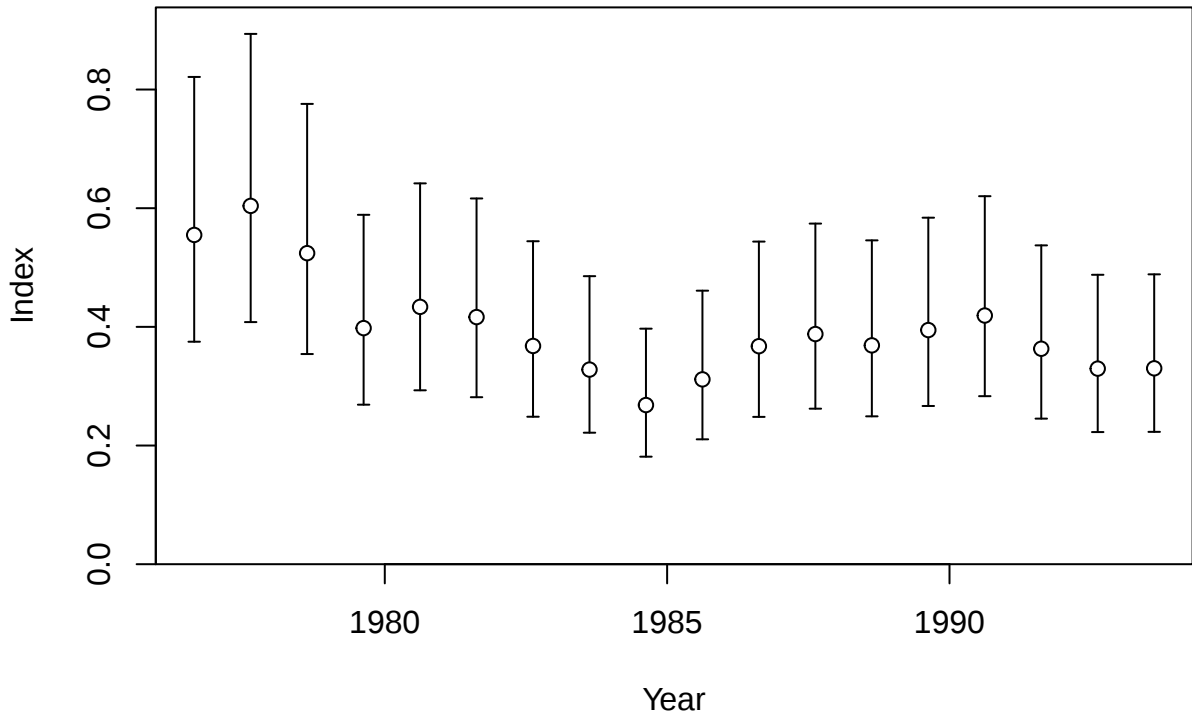
Year

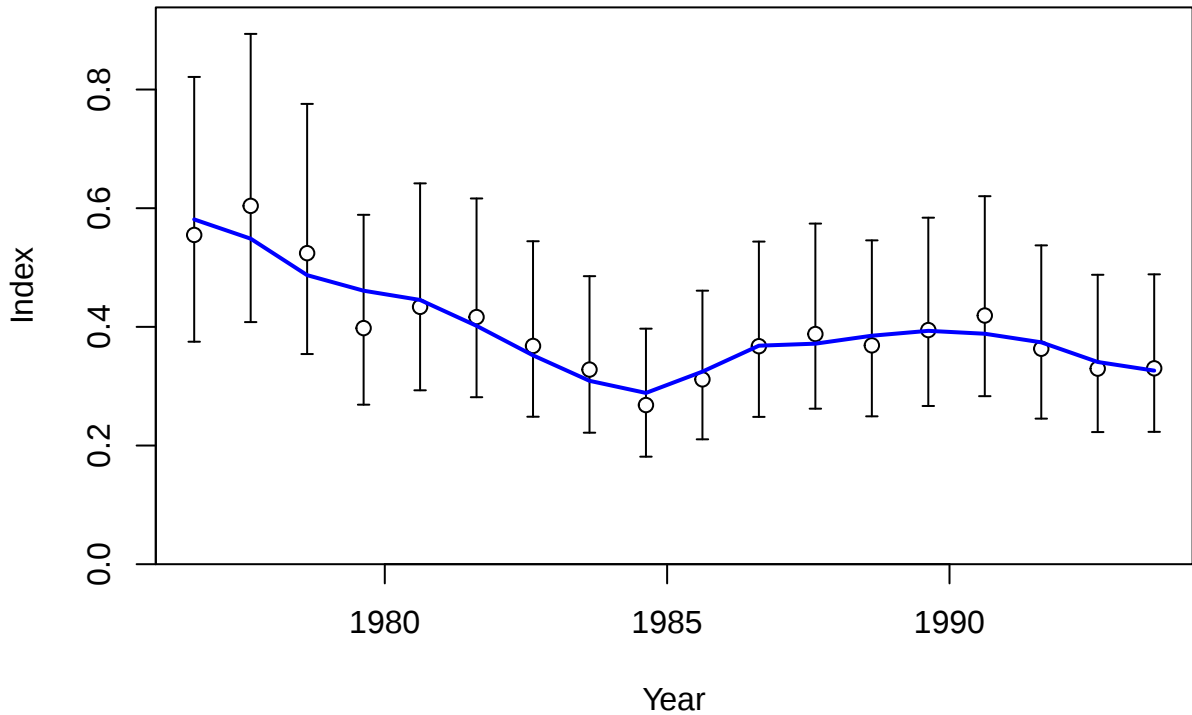




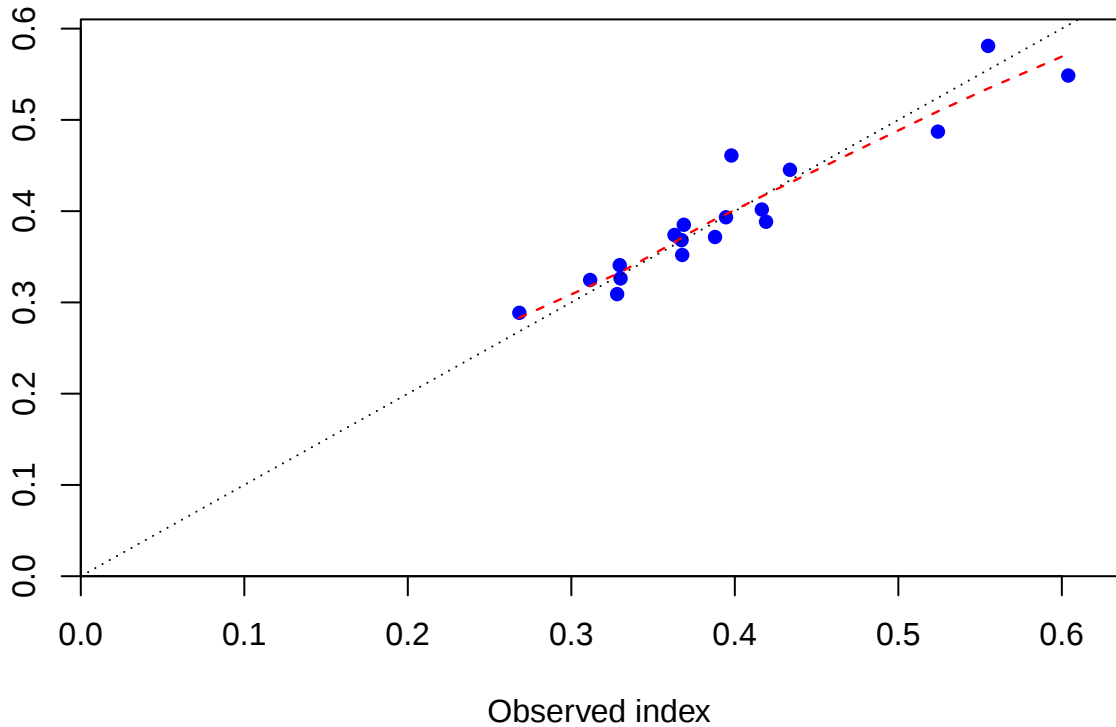


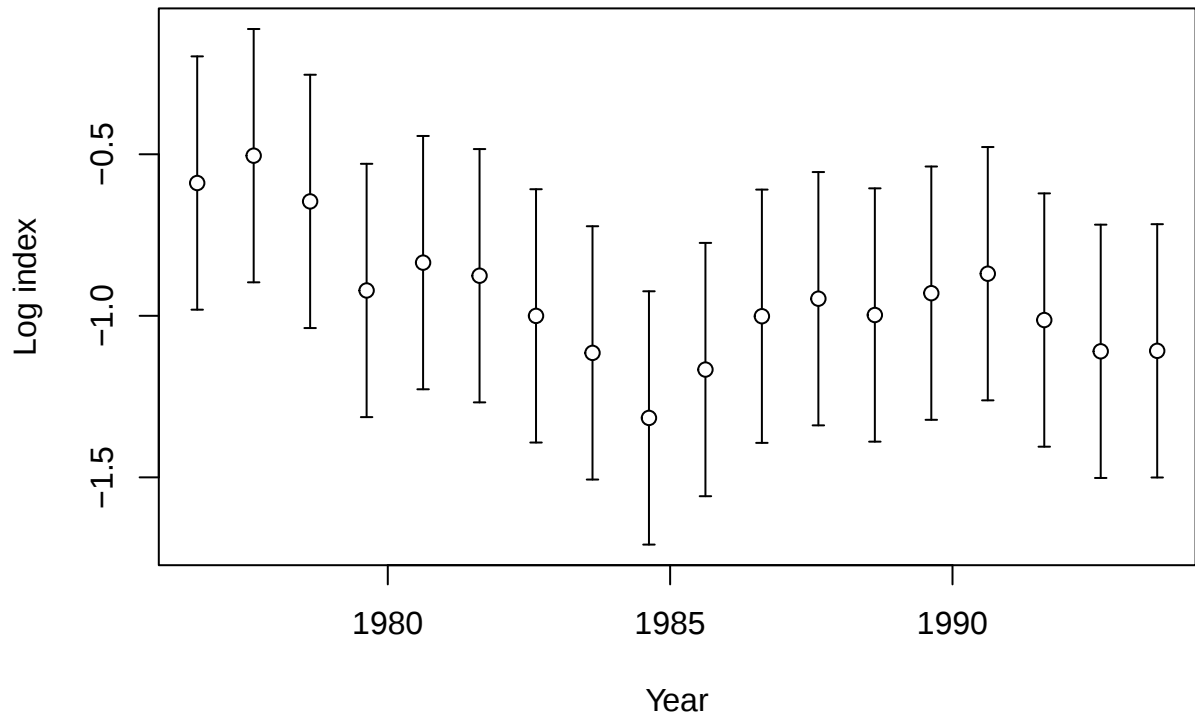


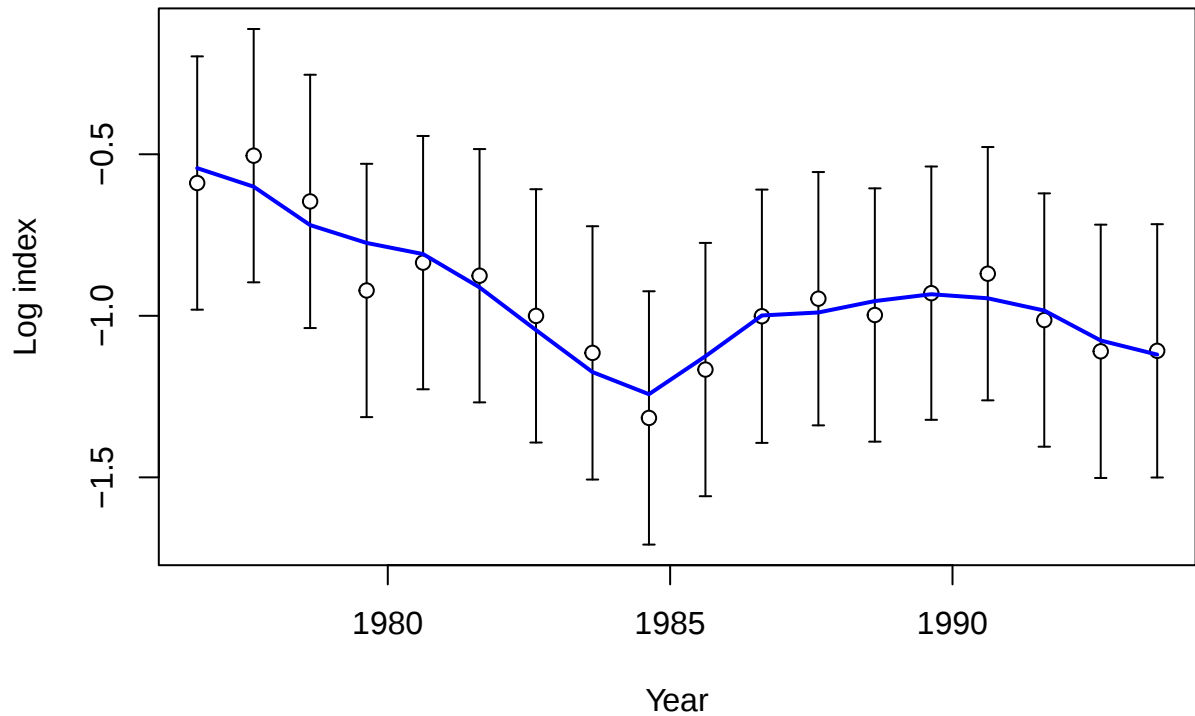


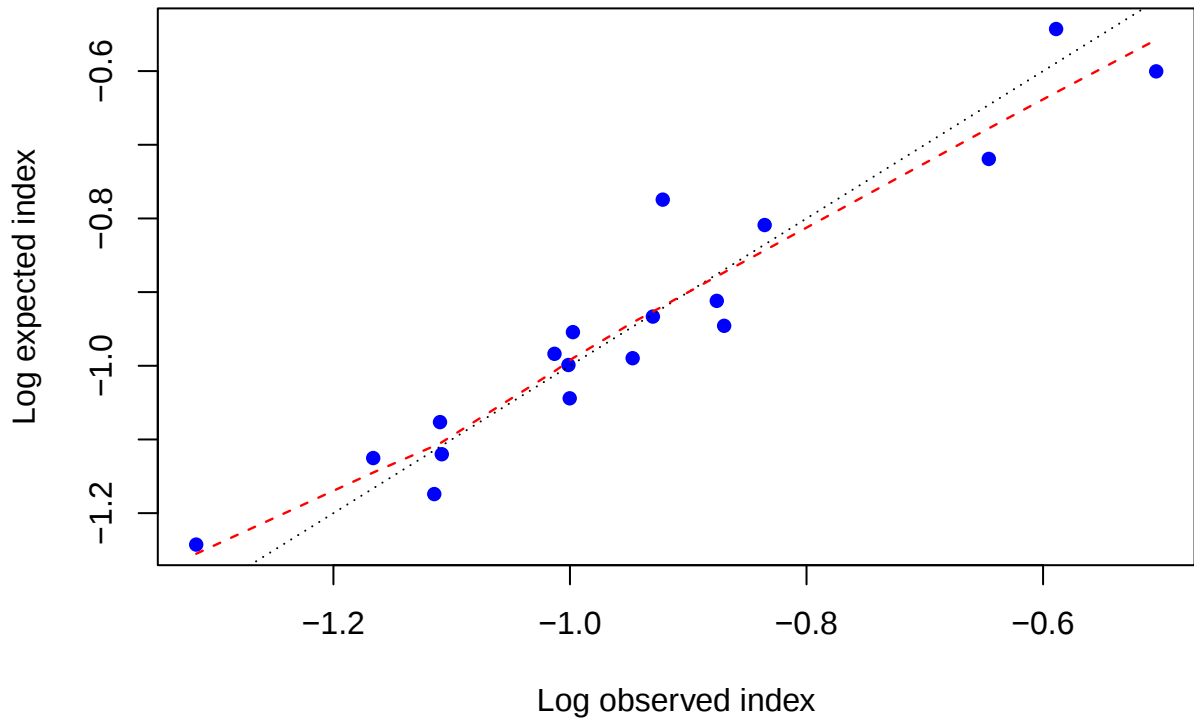


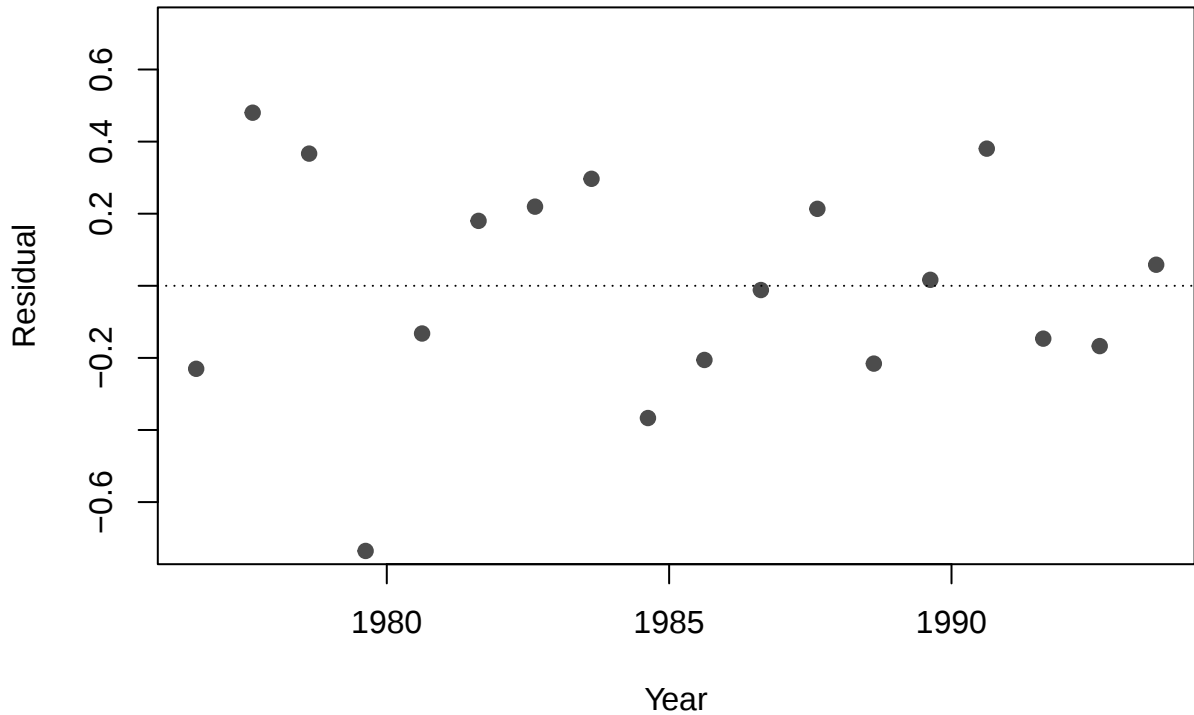
Expected index





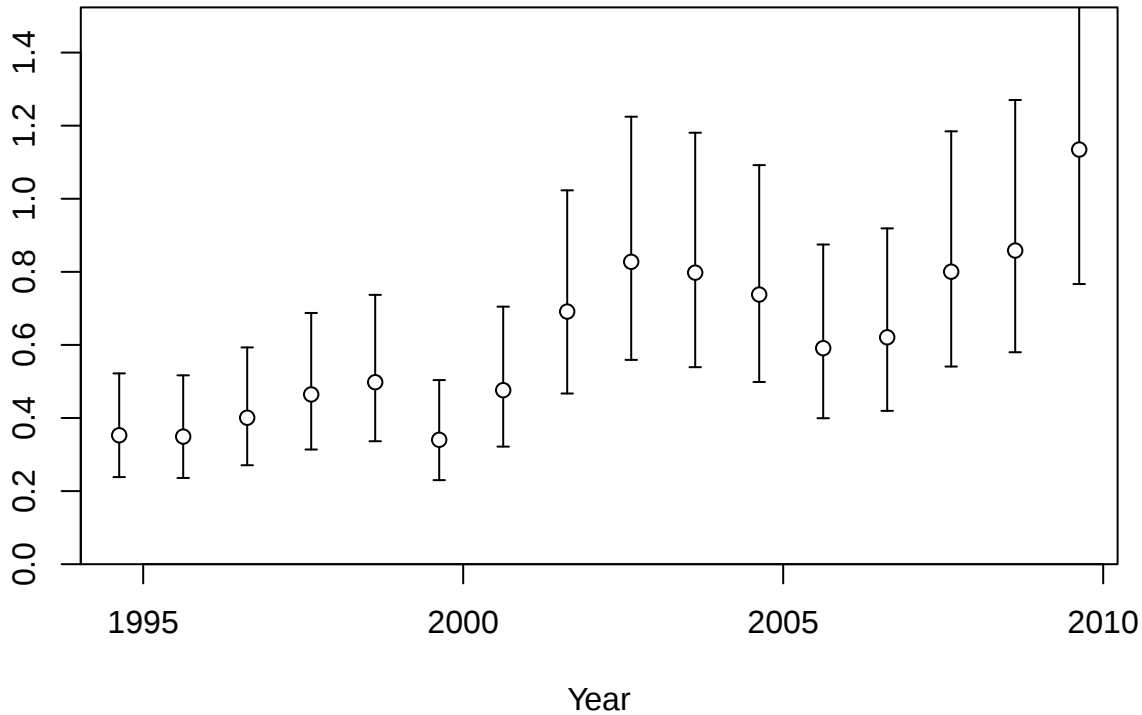




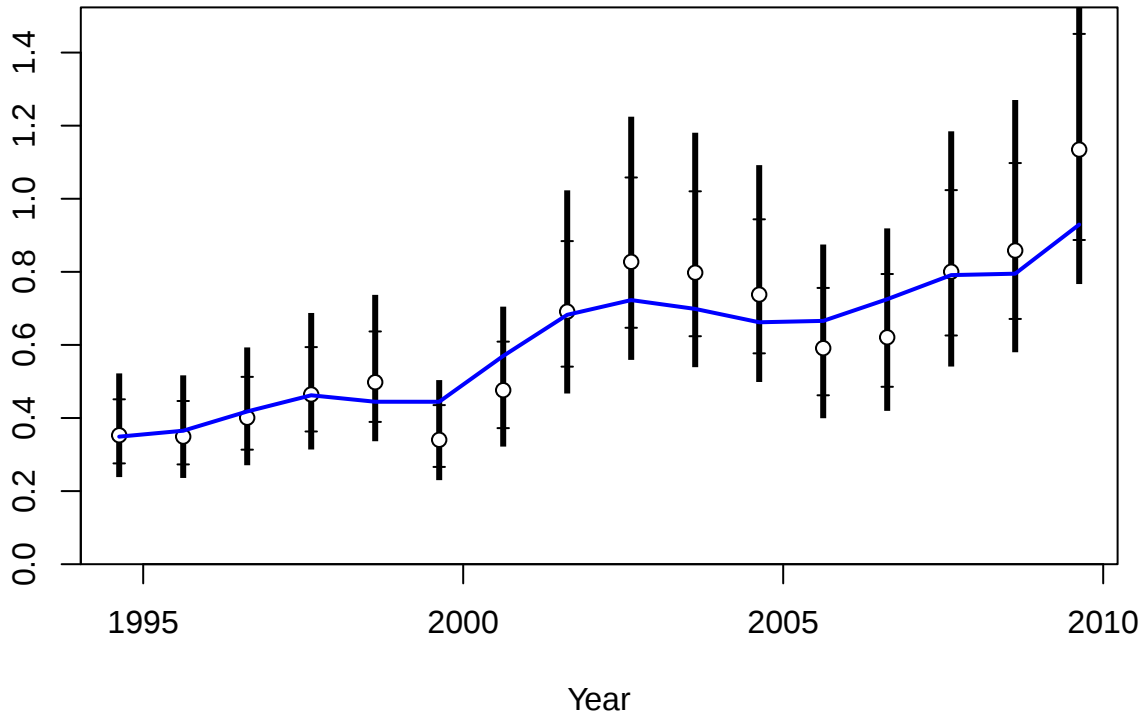




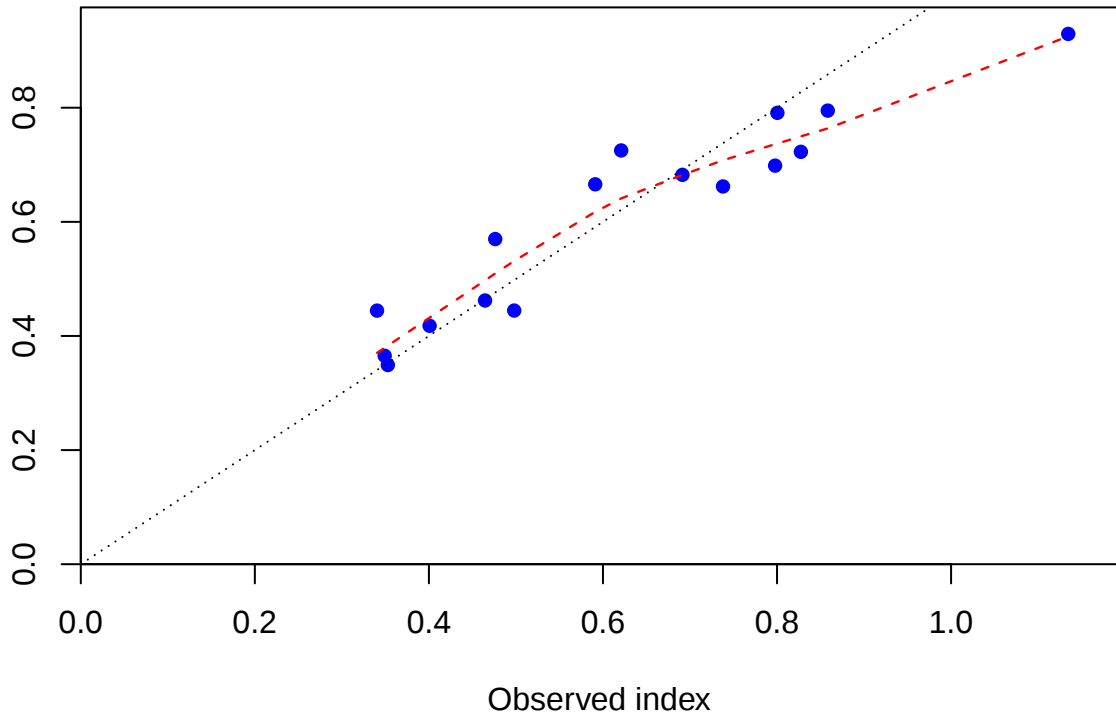
Index



Index



Expected index



Log index

0.0
-0.5
-1.0

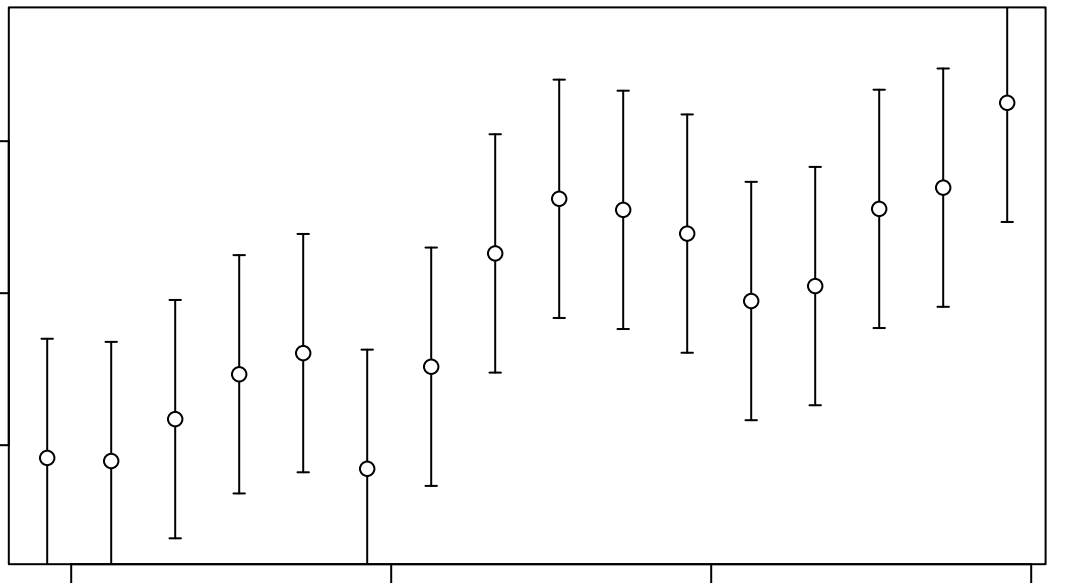
1995

2000

2005

2010

Year



Log index

-1.0
-0.5
0.0

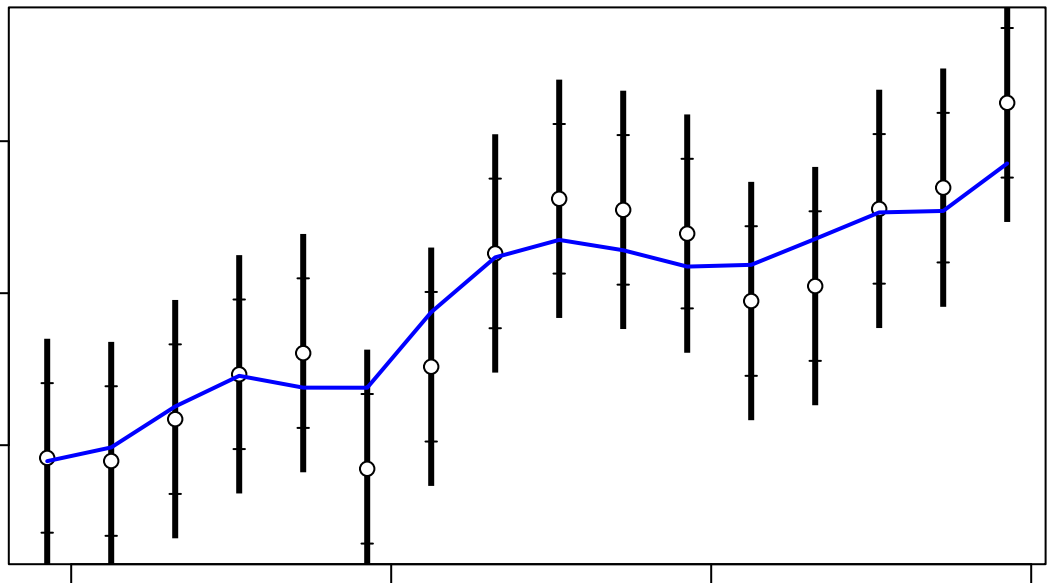
1995

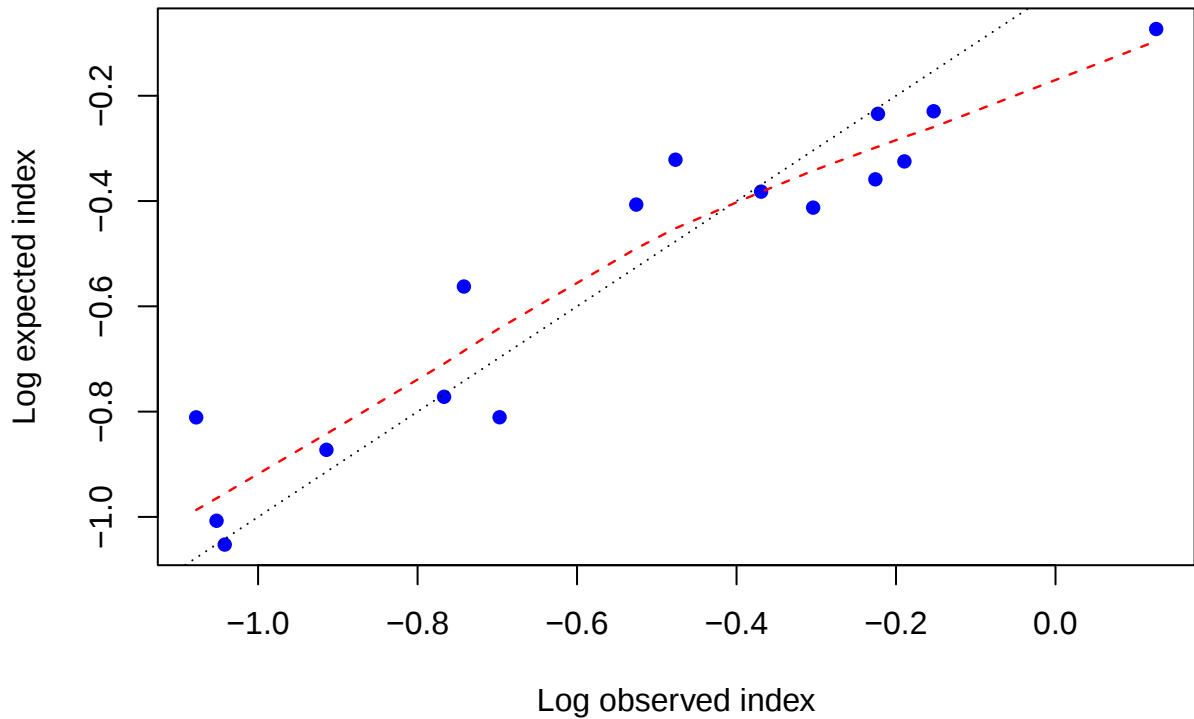
2000

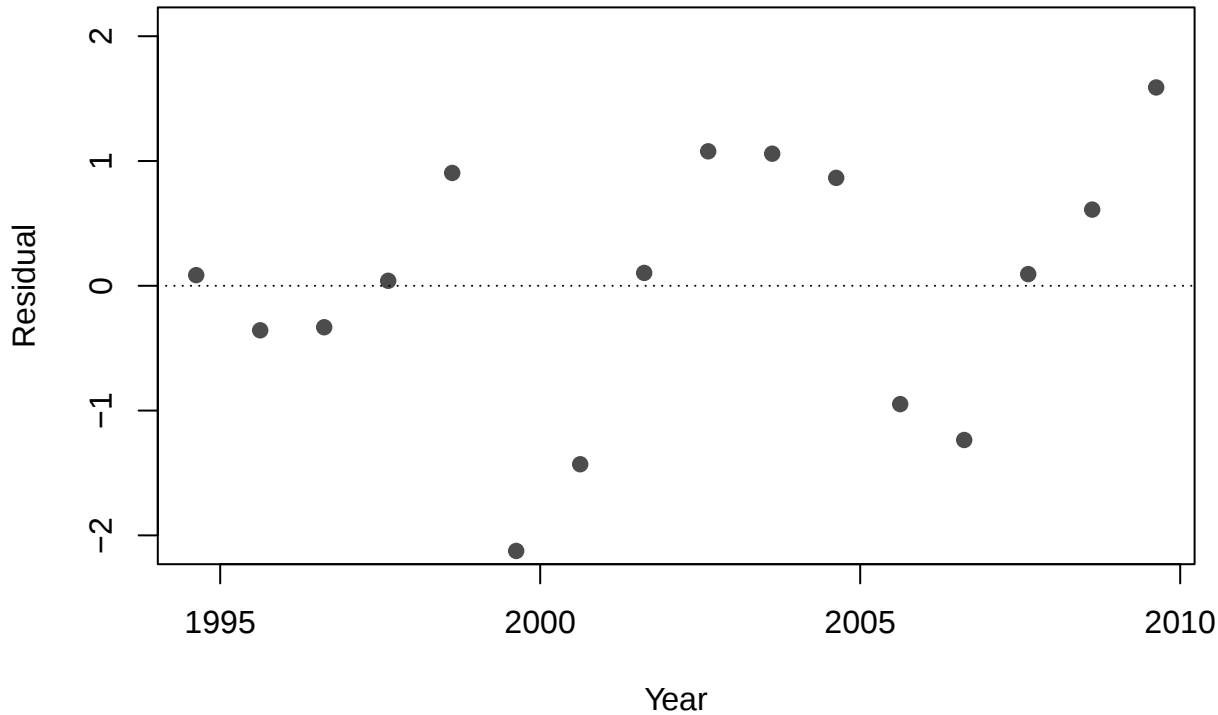
2005

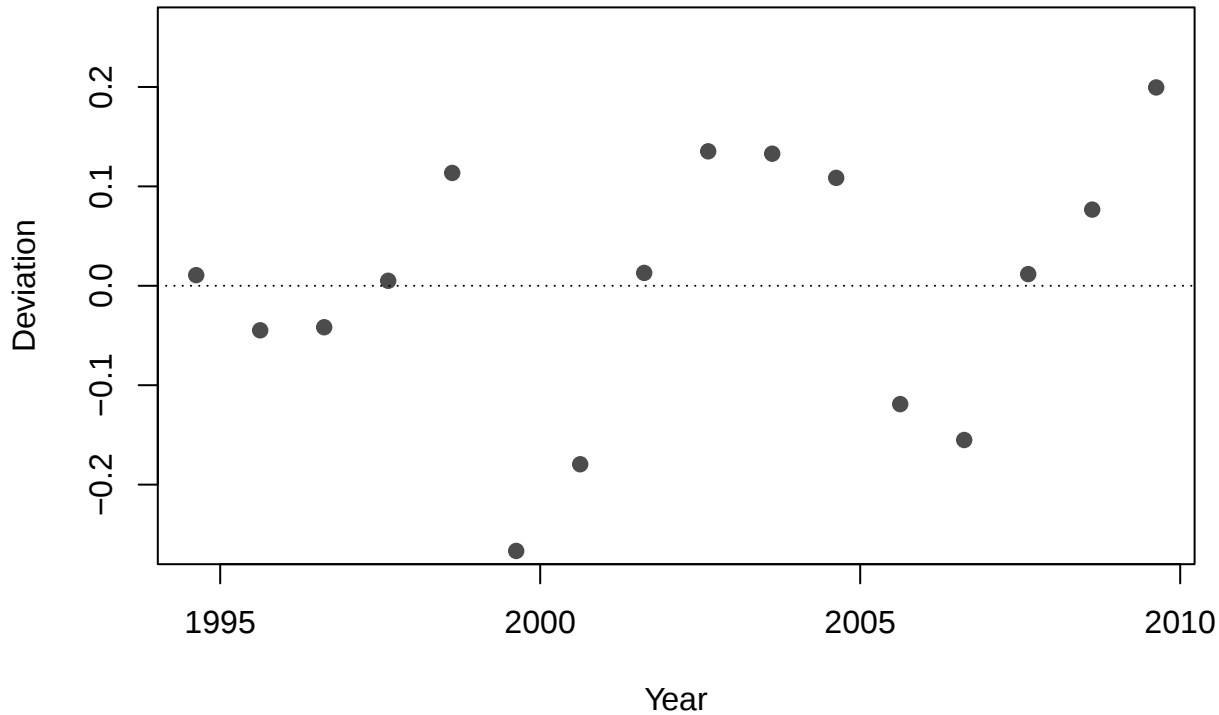
2010

Year









Index

2.5
2.0
1.5
1.0
0.5
0.0

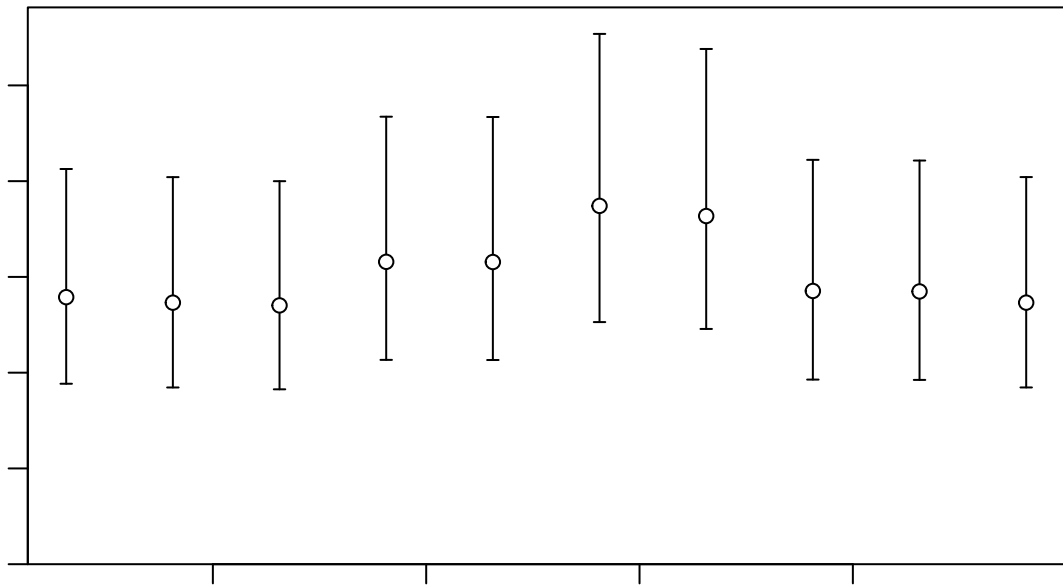
2012

2014

2016

2018

Year



Index

2.5
2.0
1.5
1.0
0.5
0.0

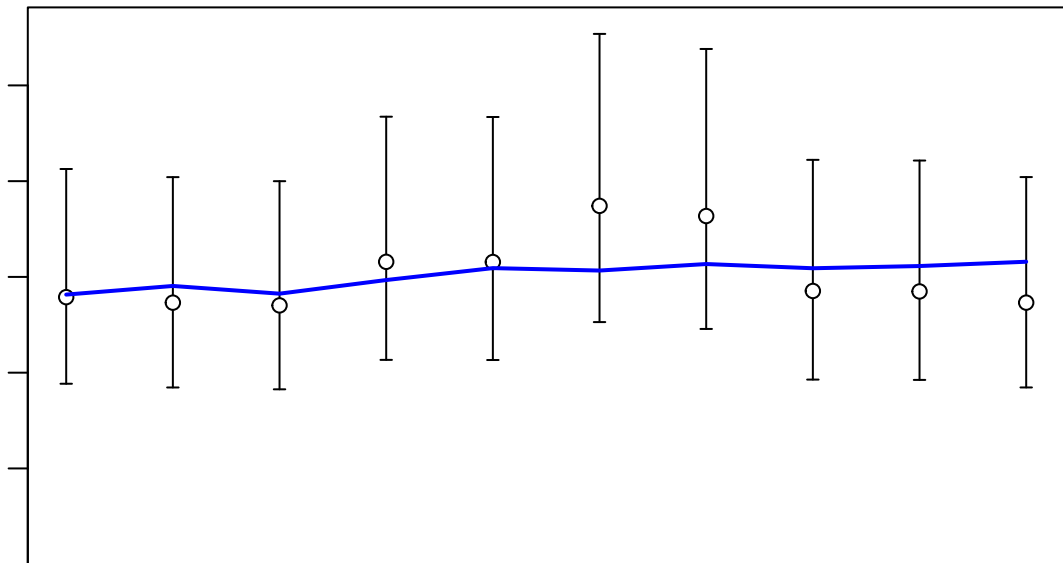
2012

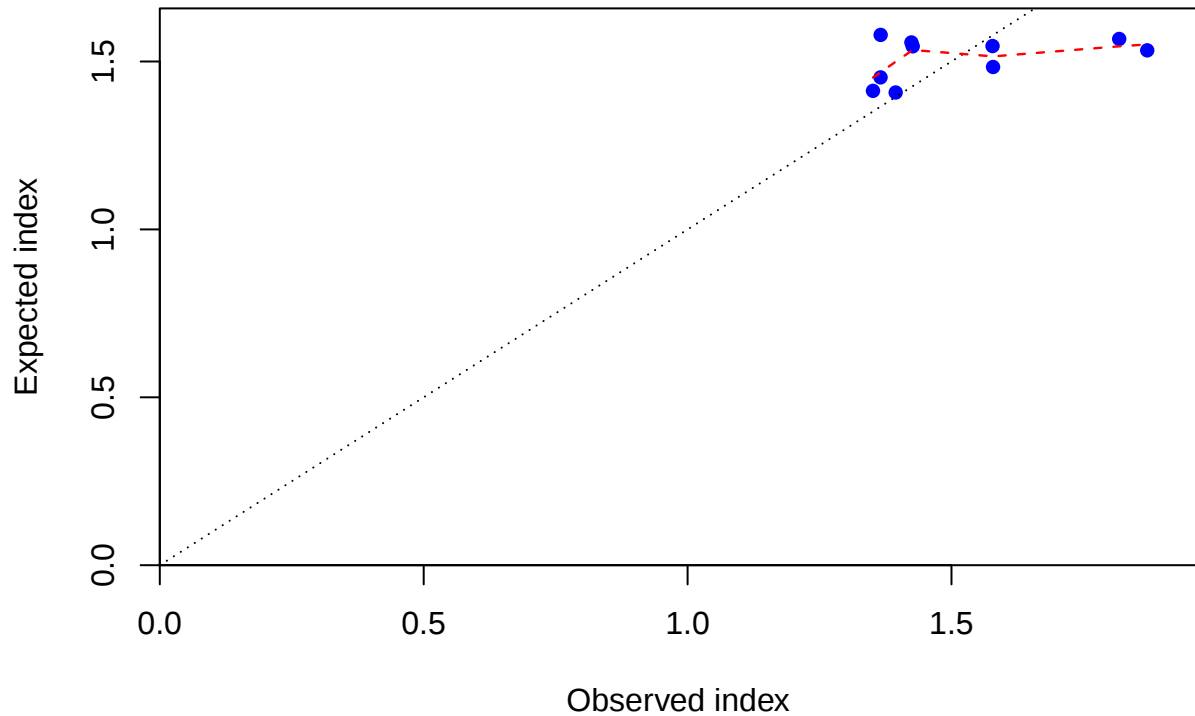
2014

2016

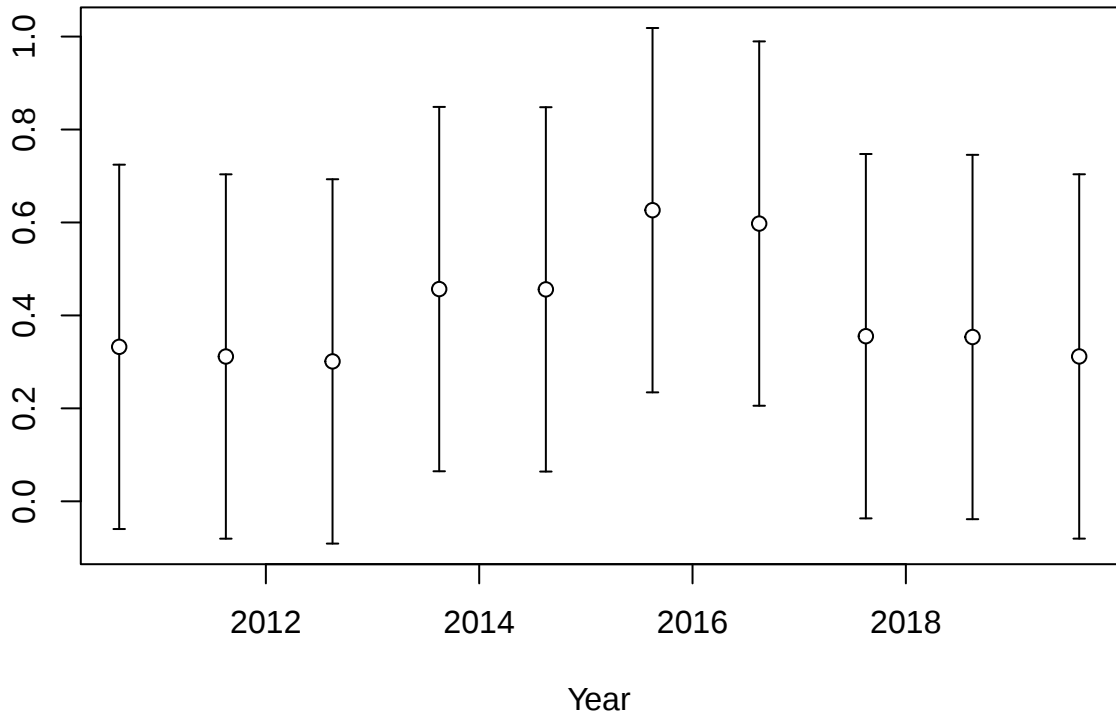
2018

Year

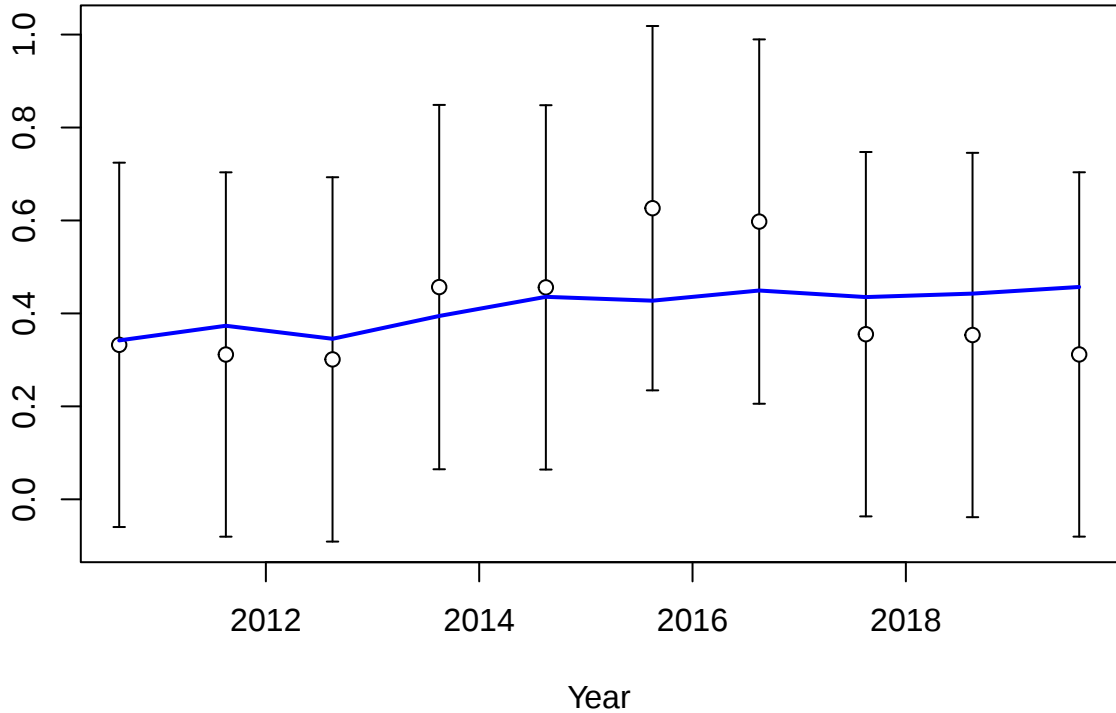


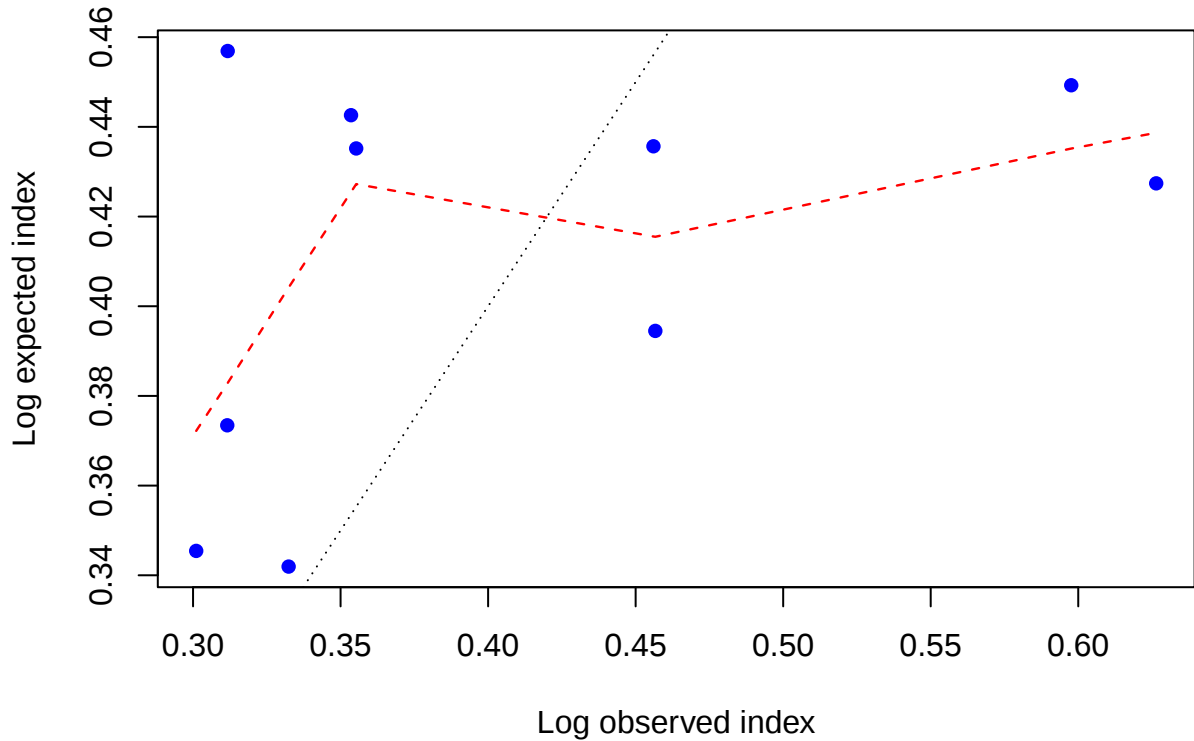


Log index

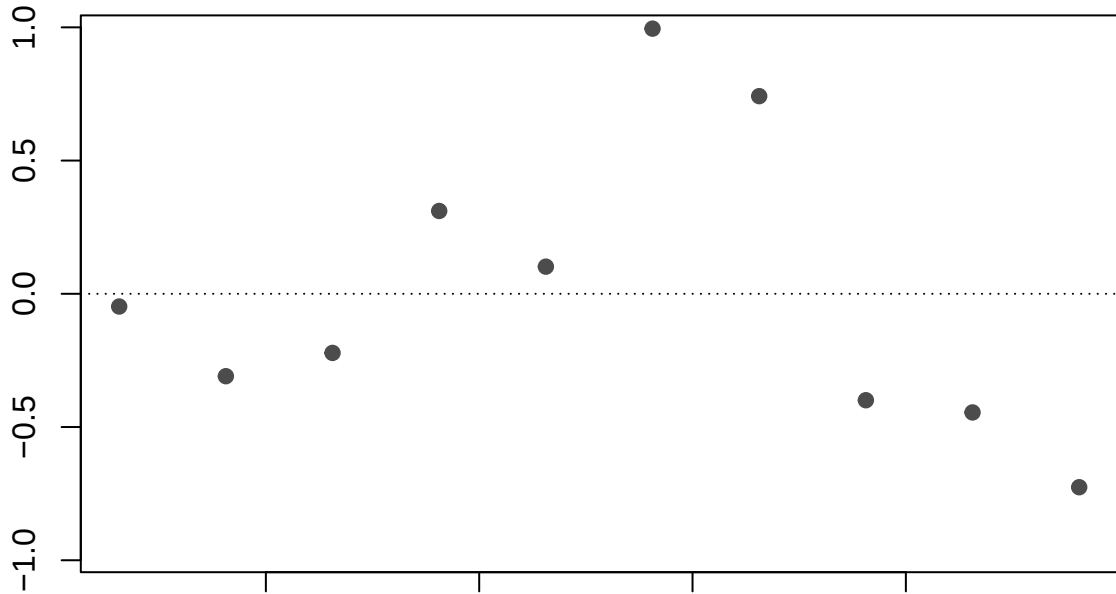


Log index

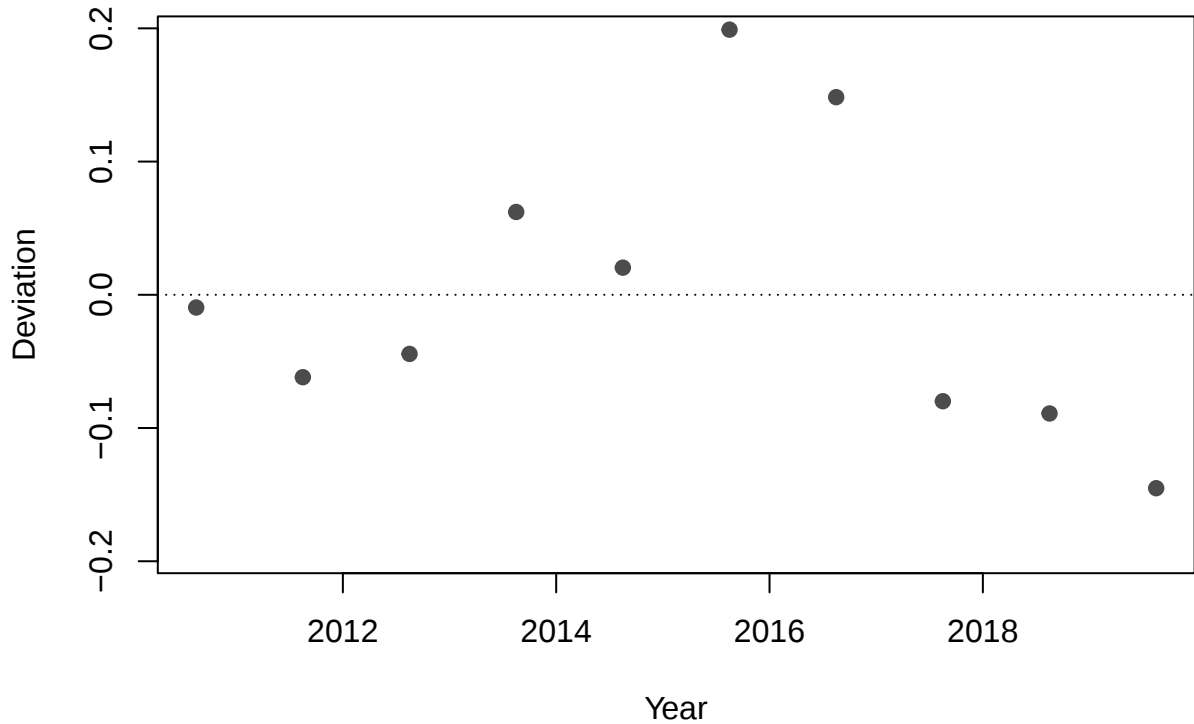


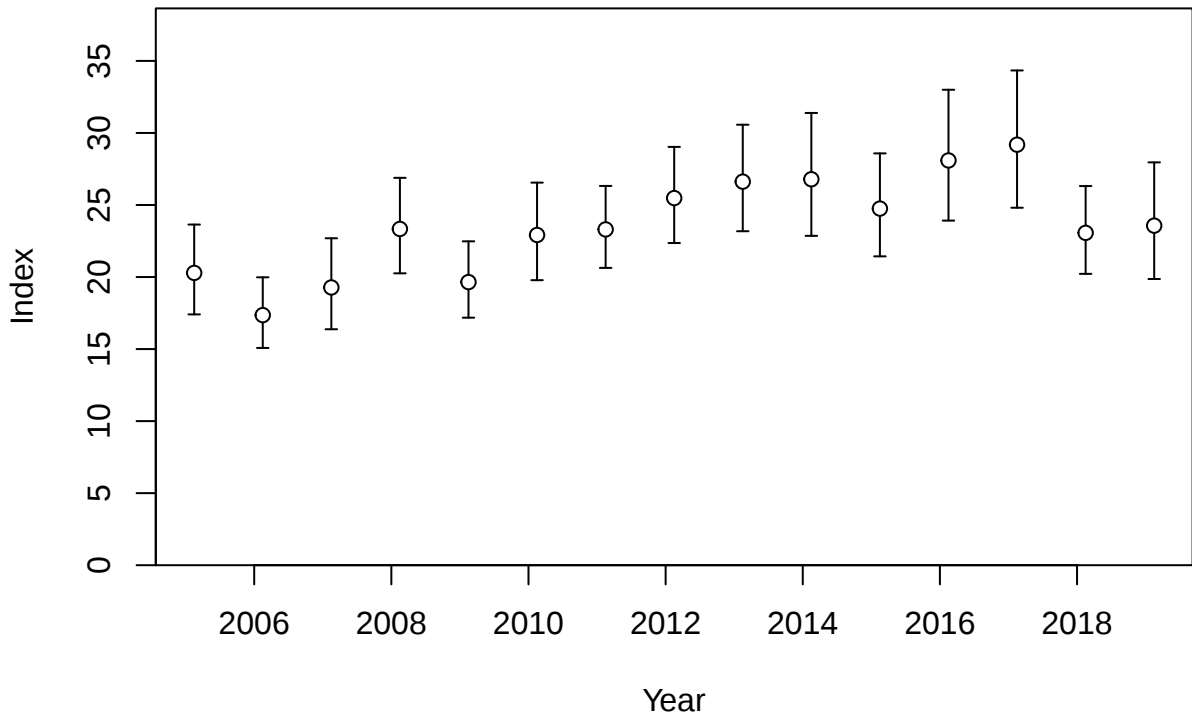


Residual

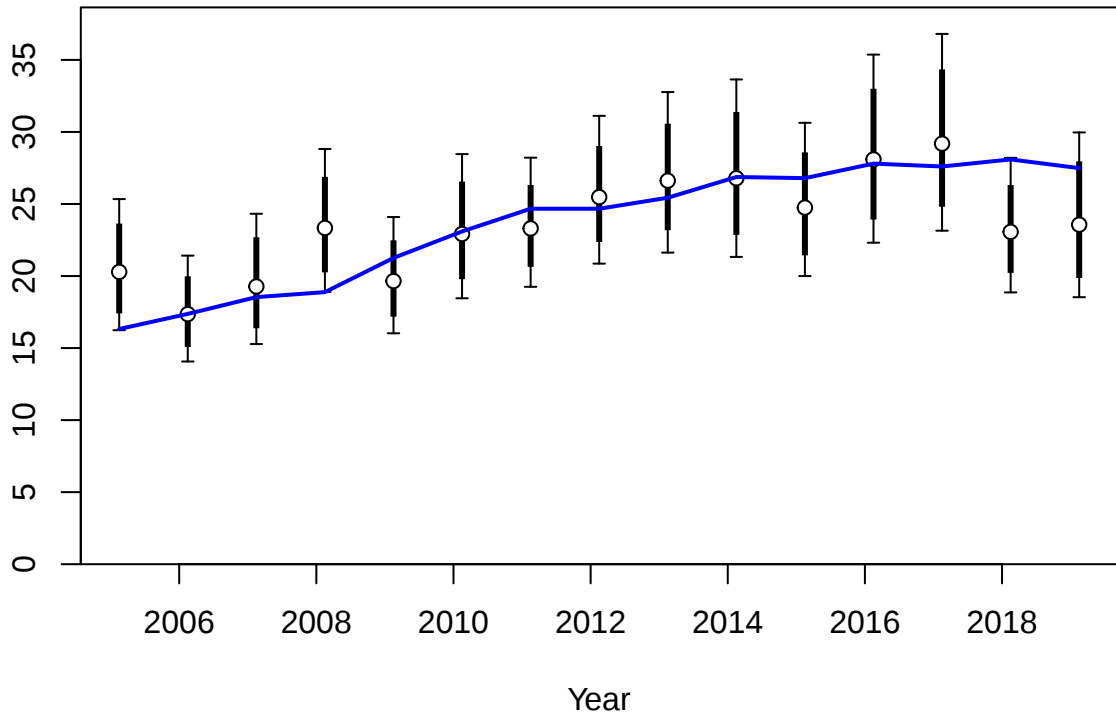


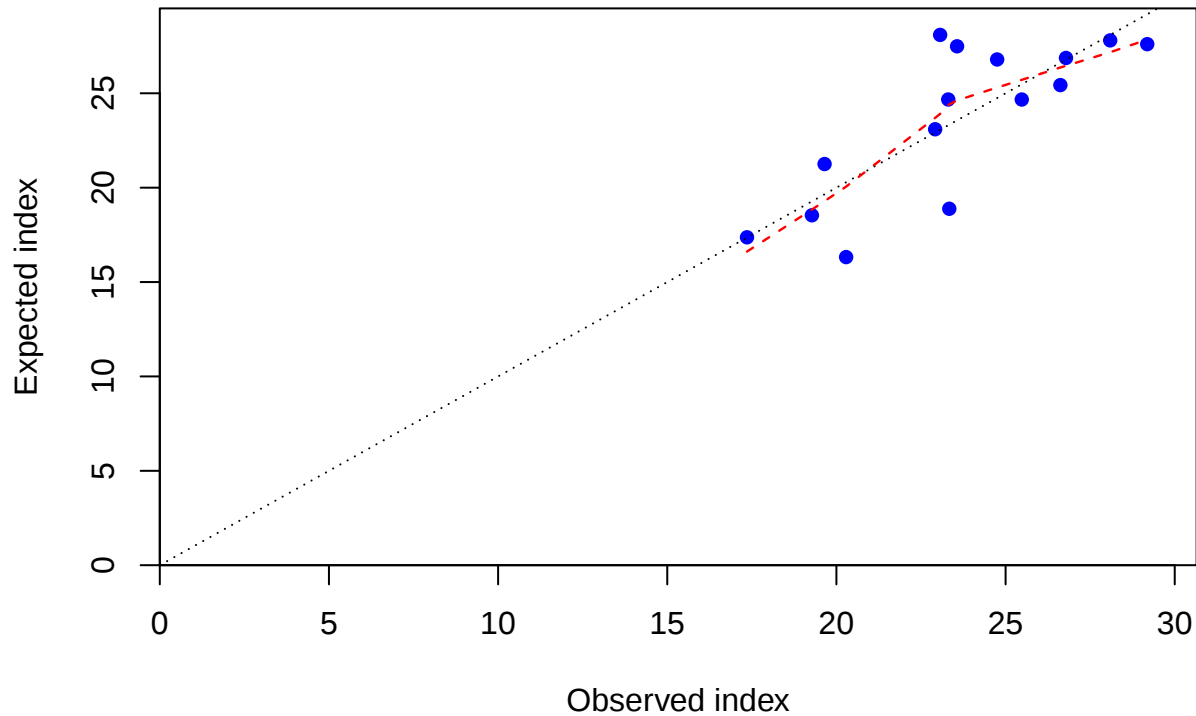
Year



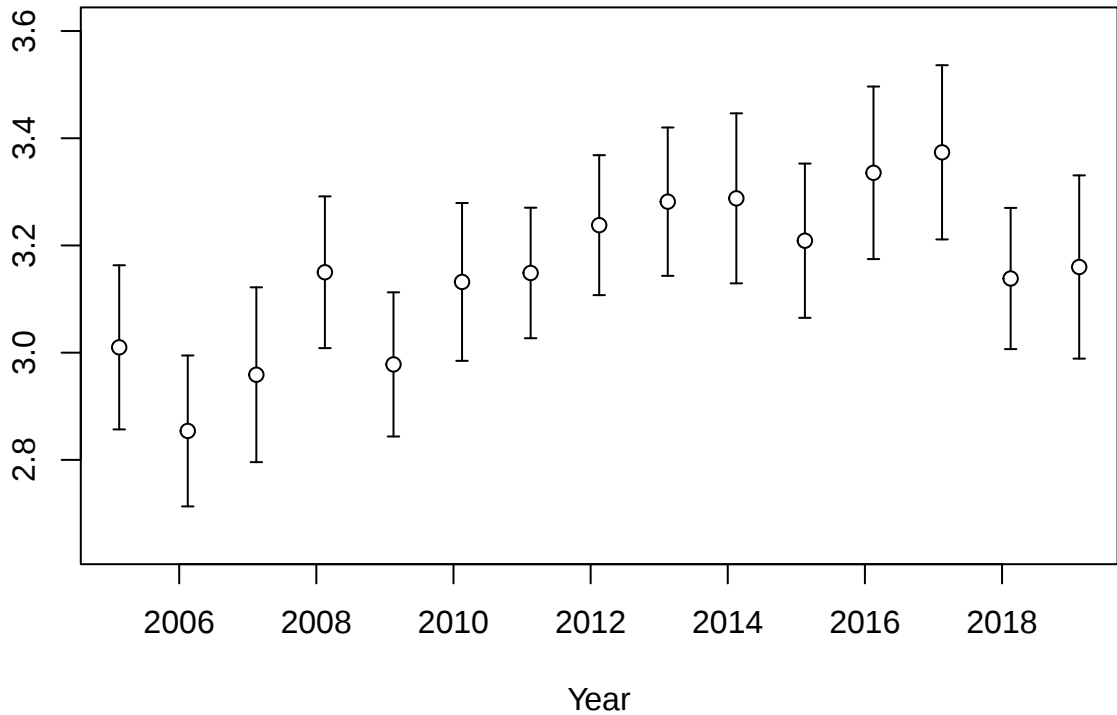


Index

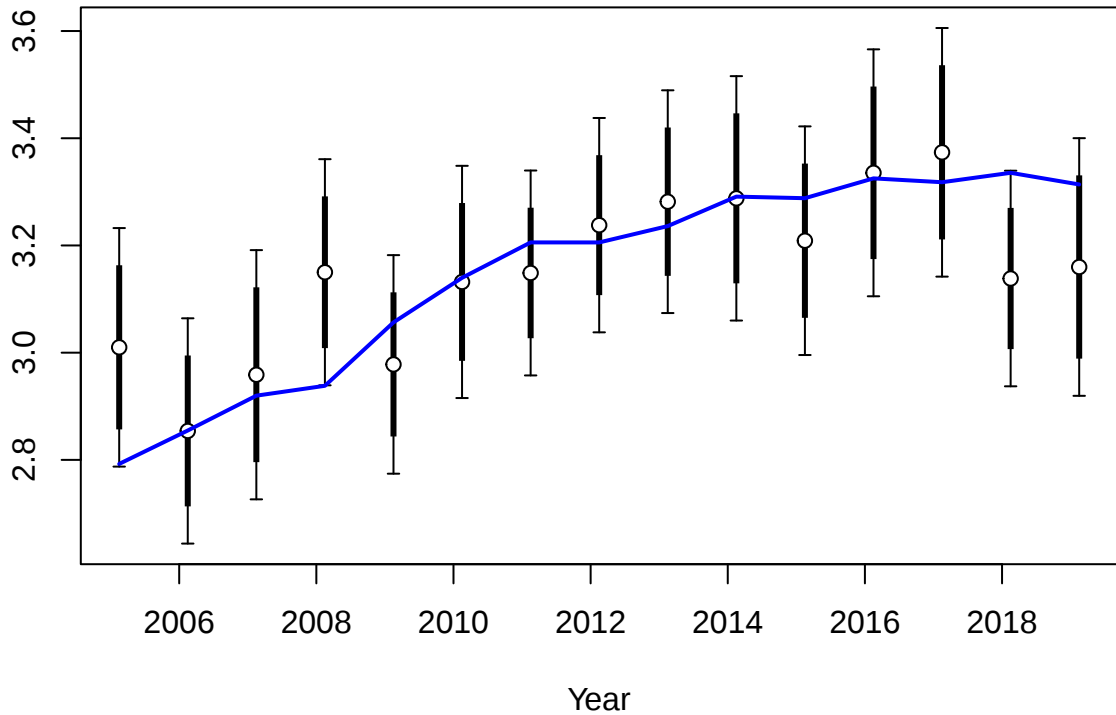


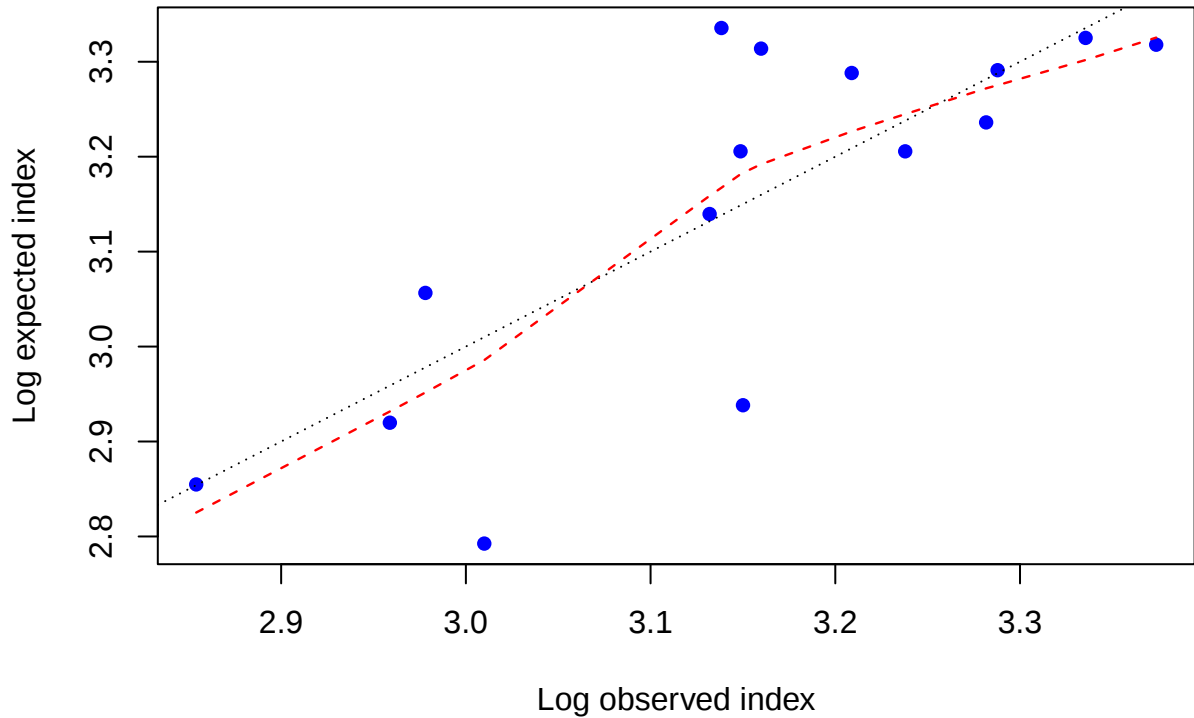


Log index

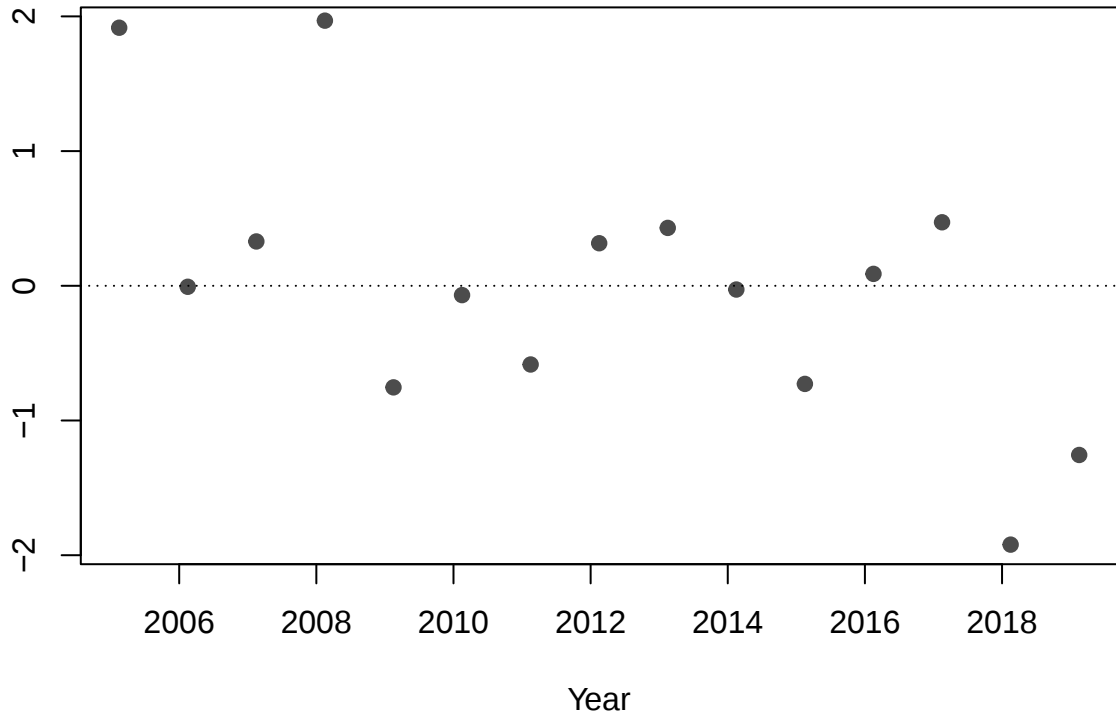


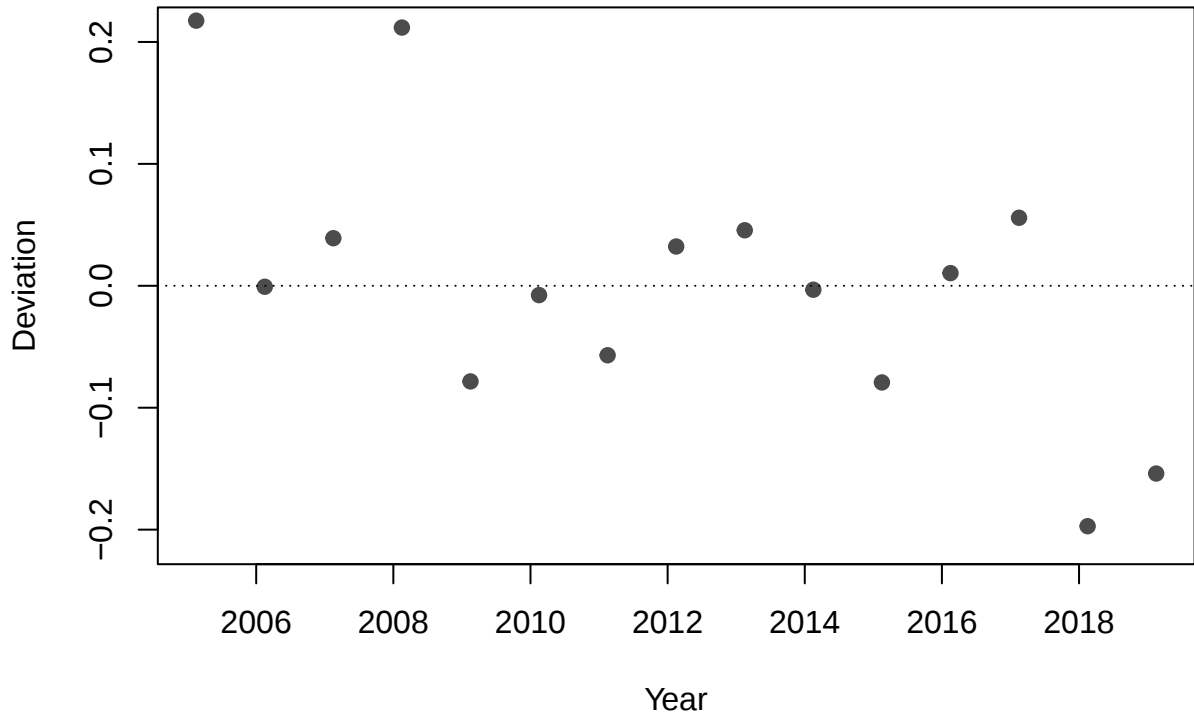
Log index

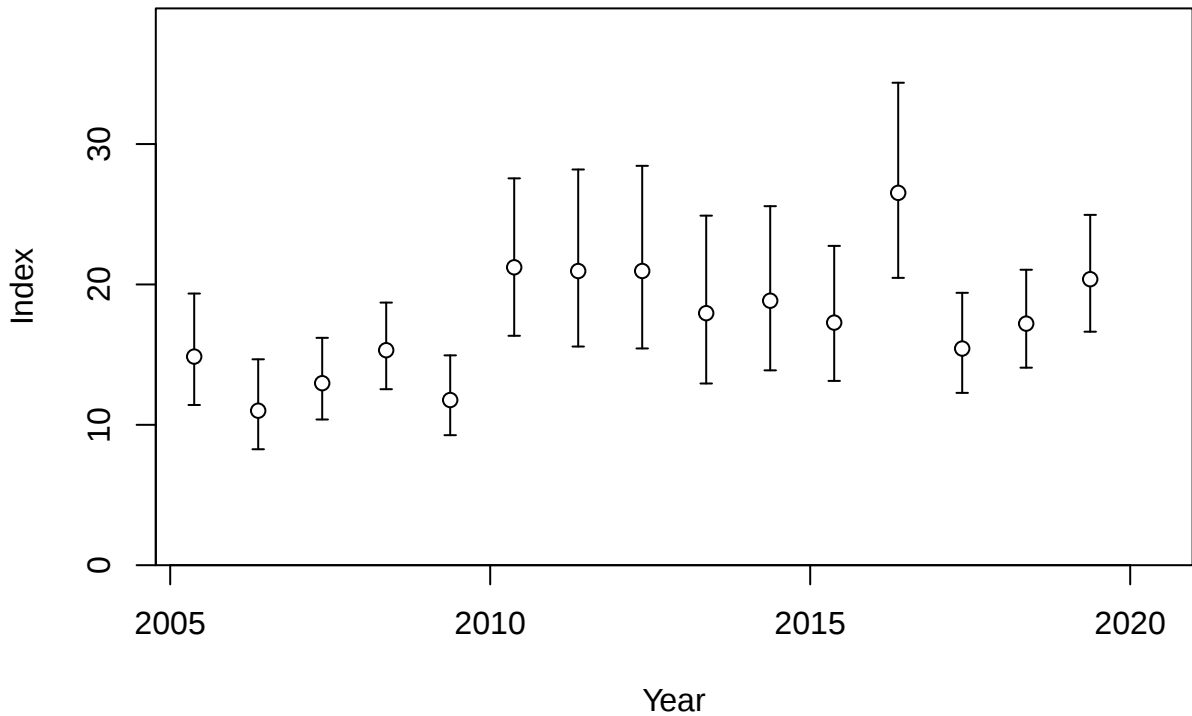


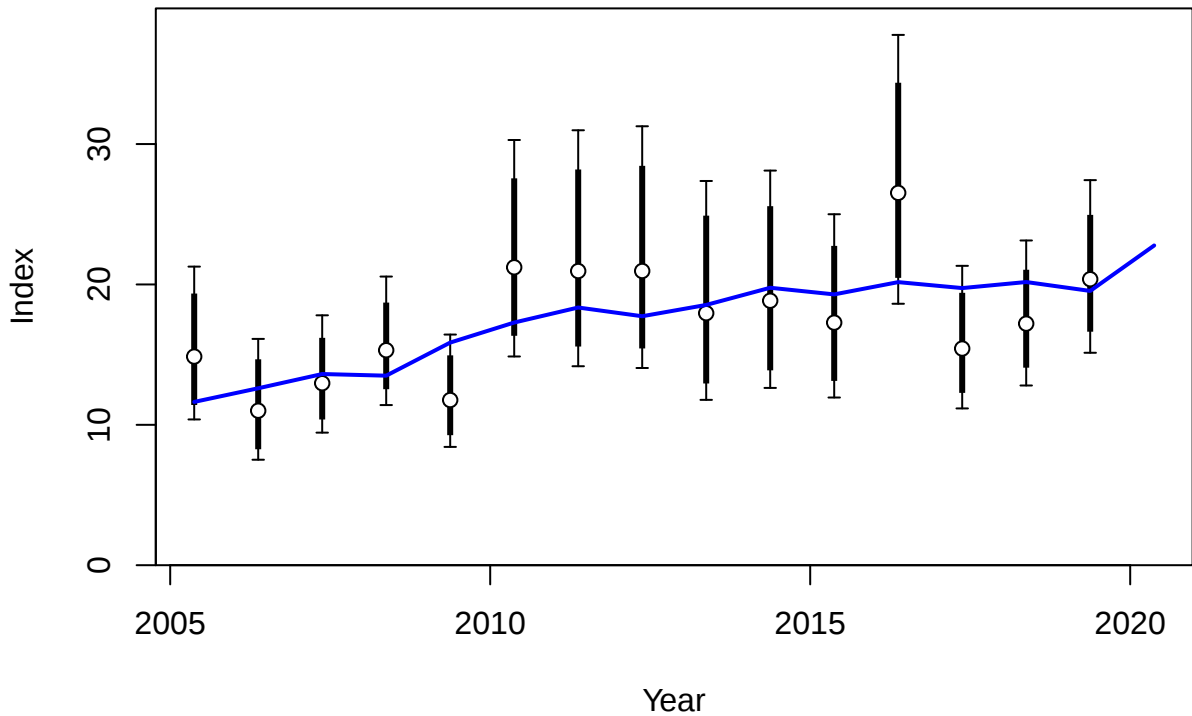


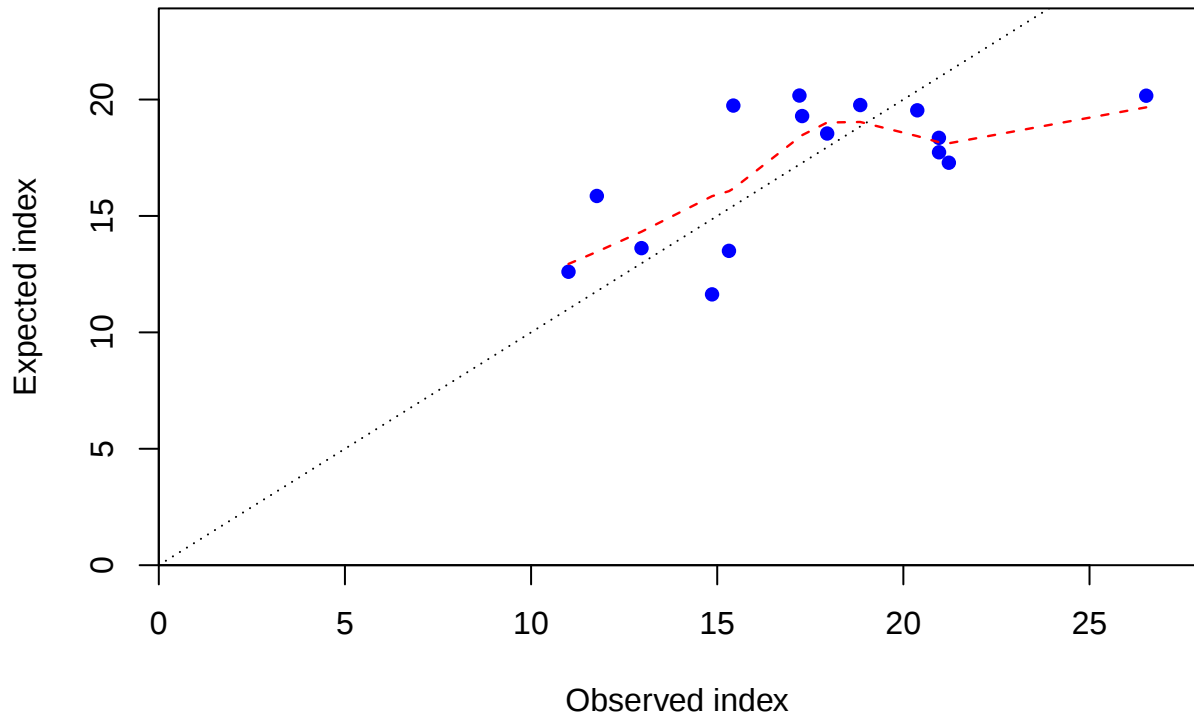
Residual











Log index

3.5
3.0
2.5
2.0

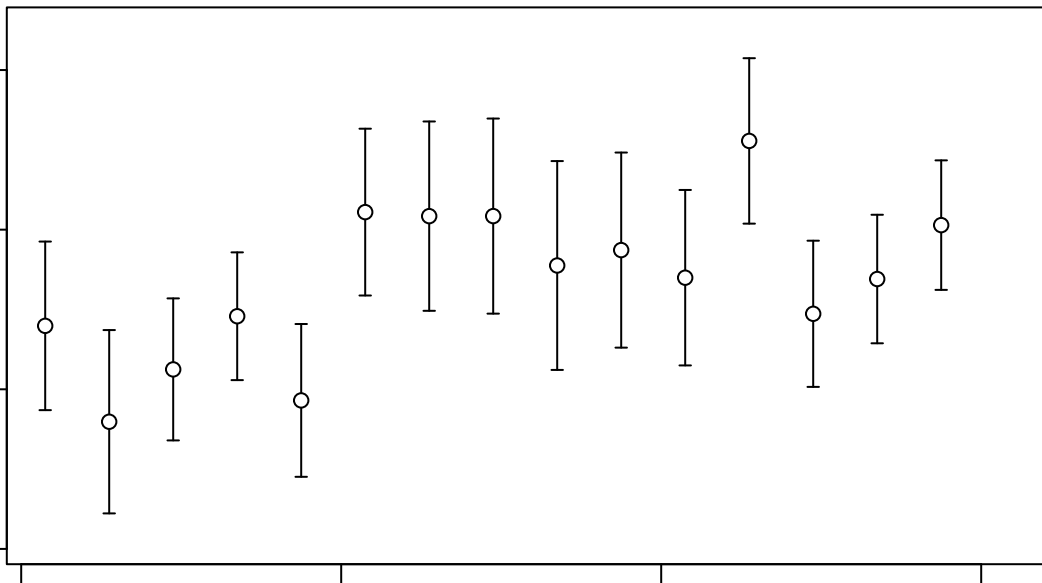
2005

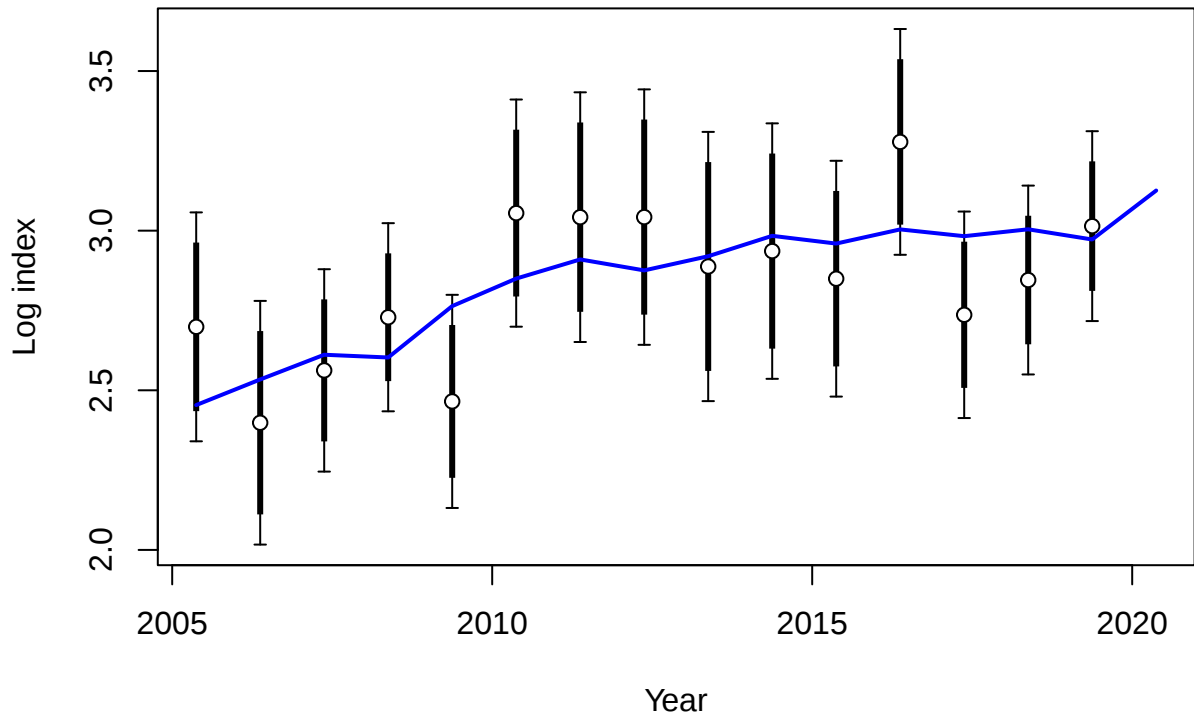
2010

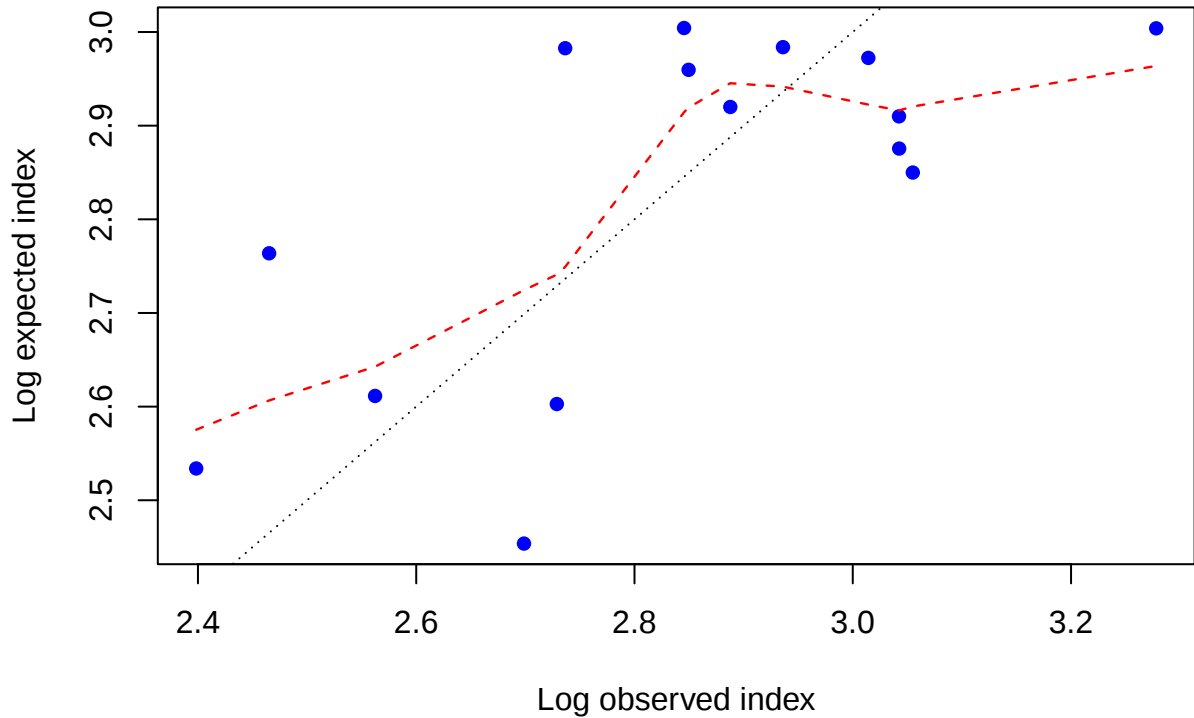
2015

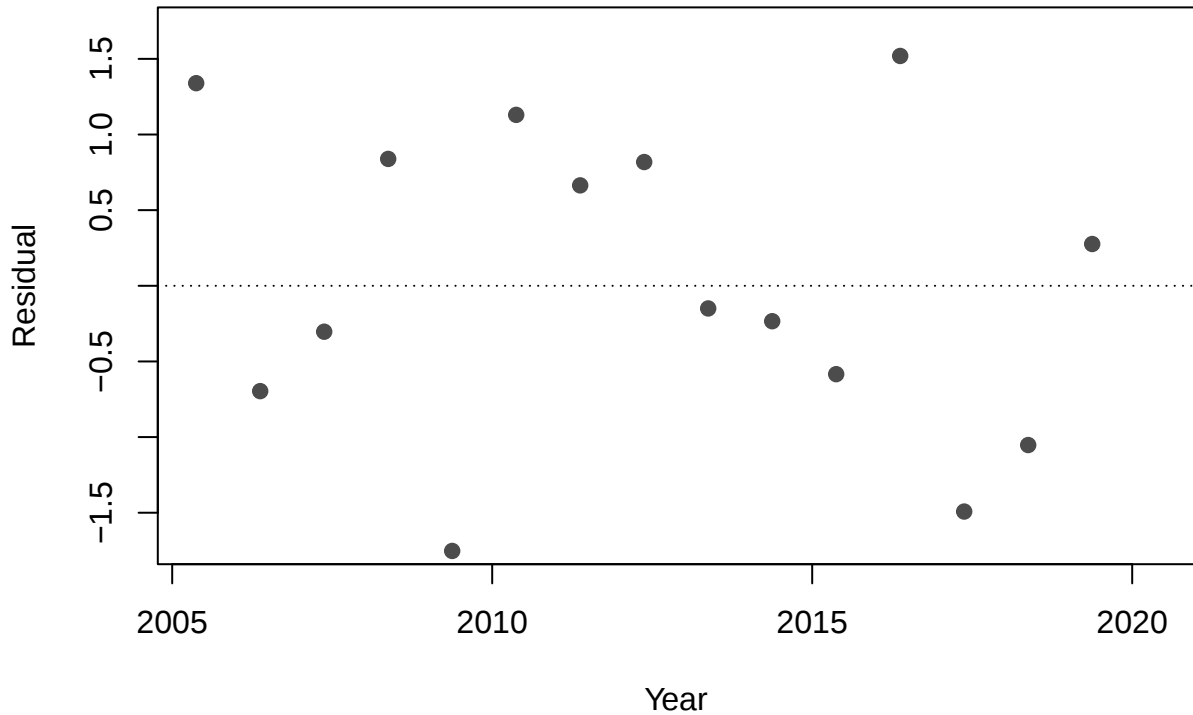
2020

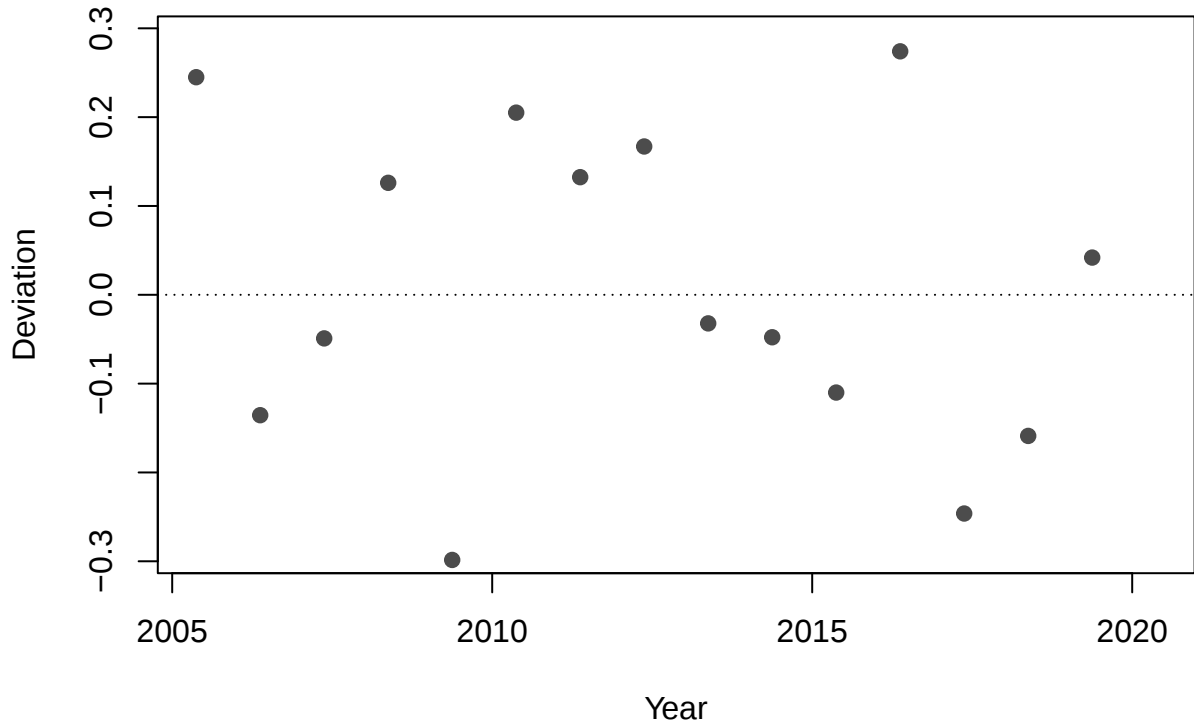
Year



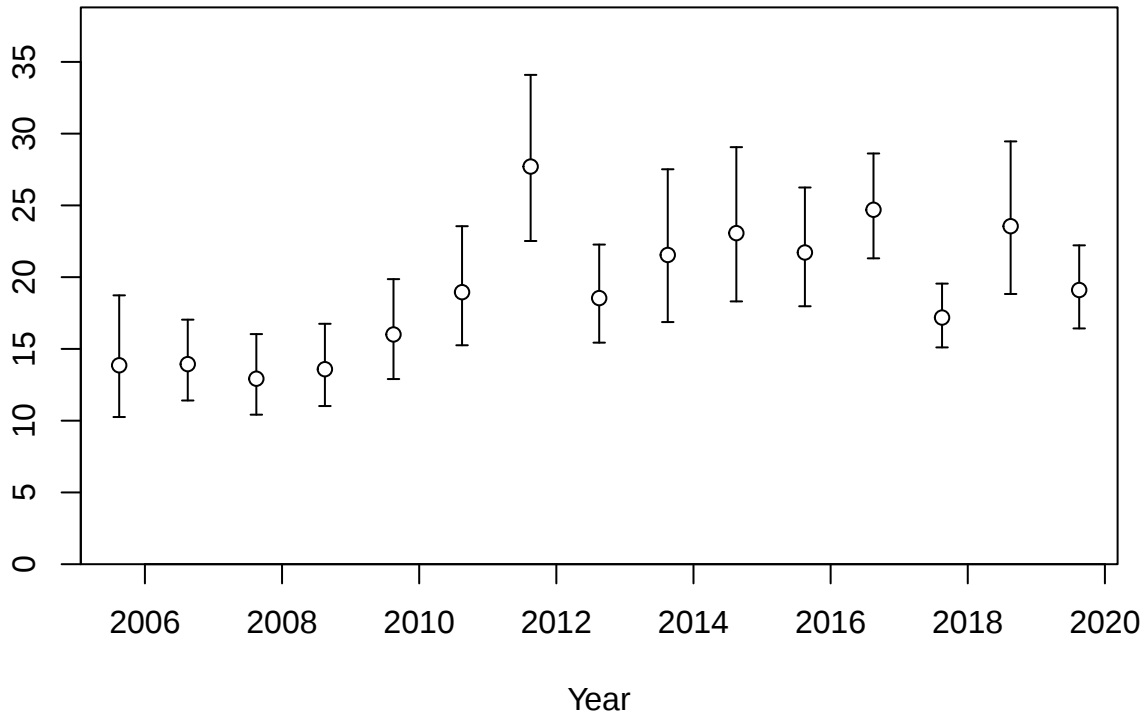




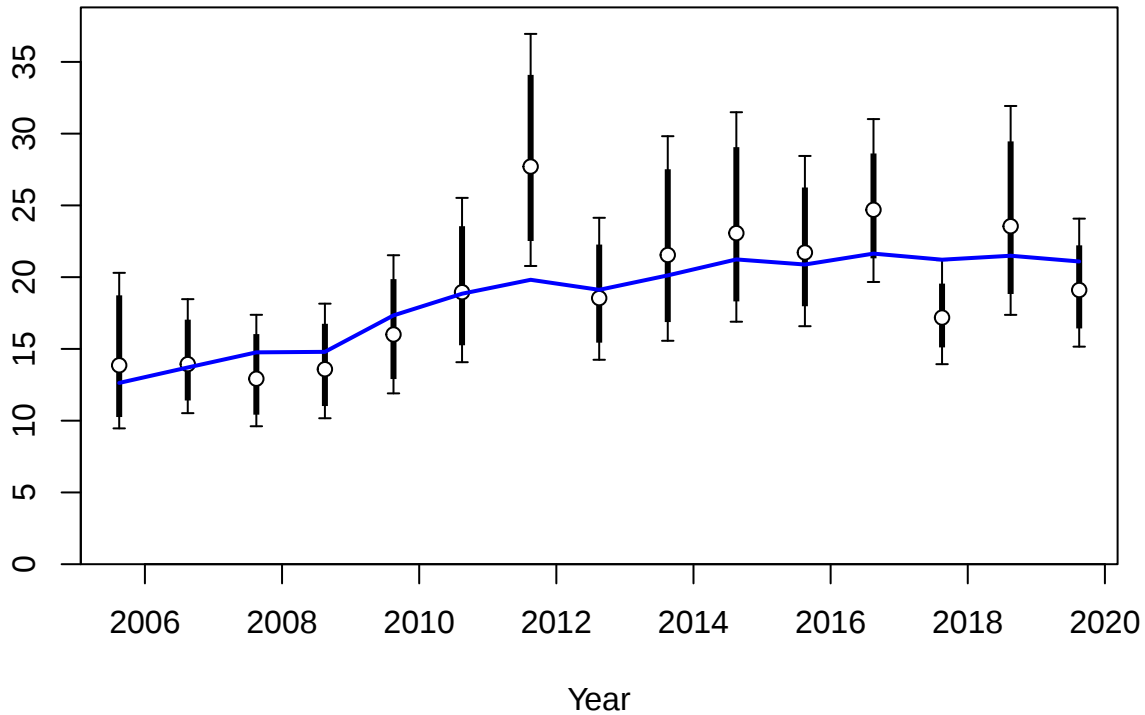


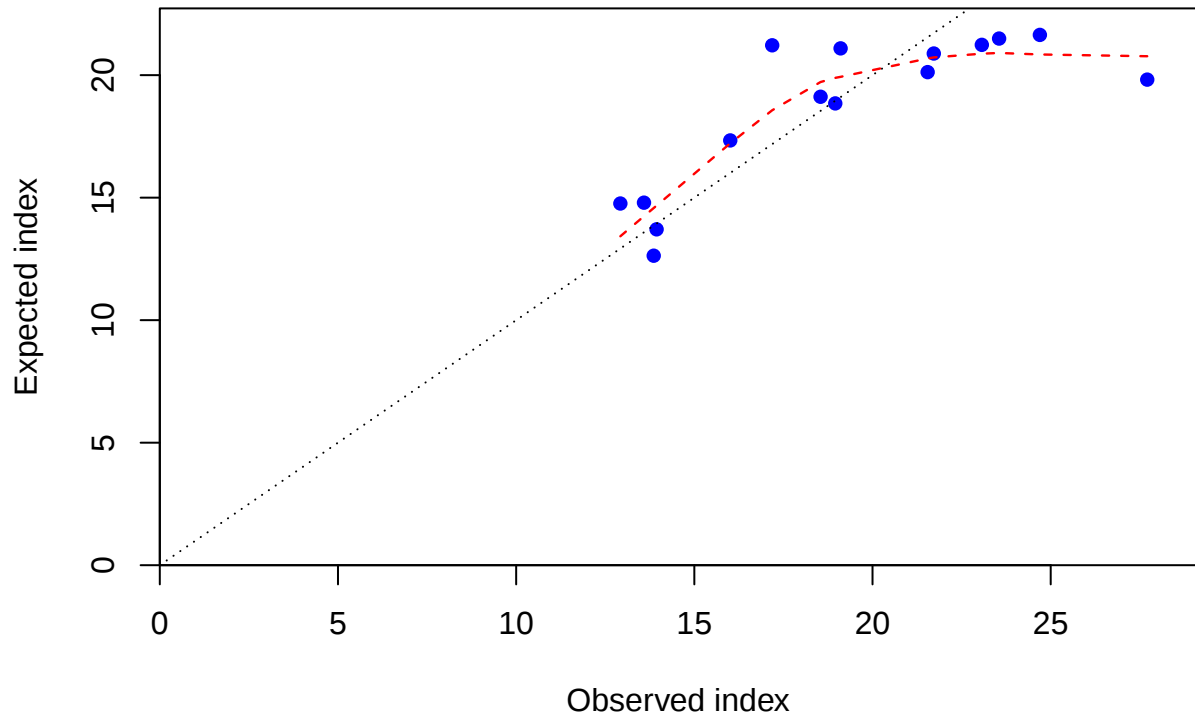


Index

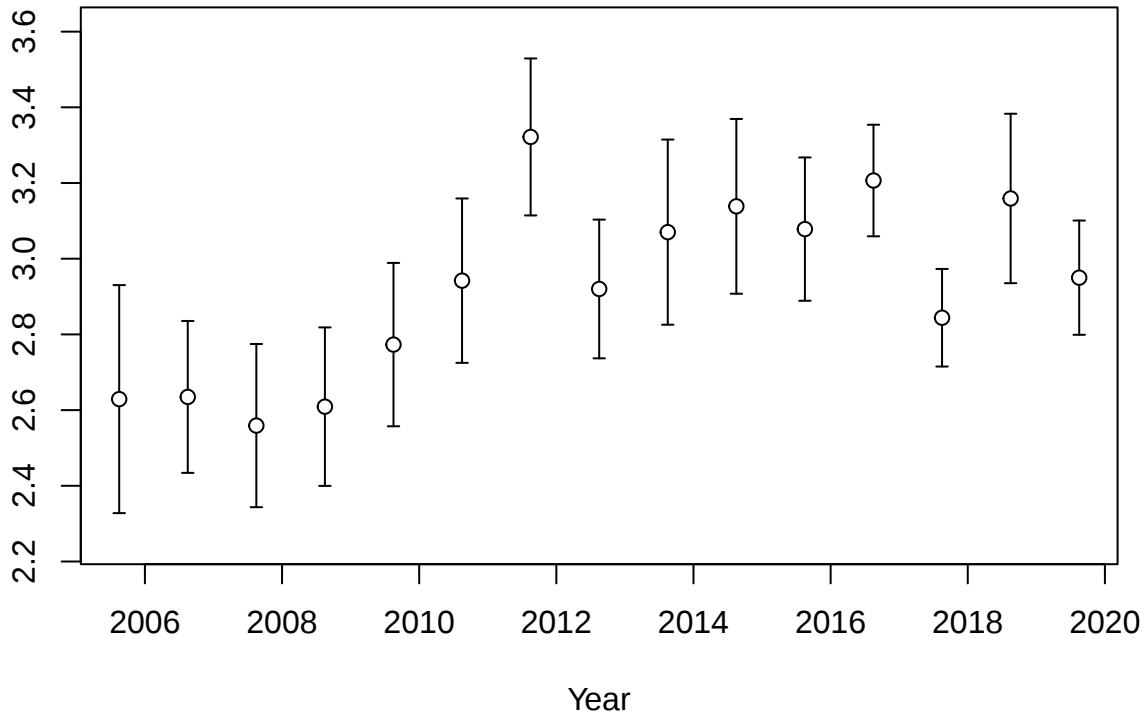


Index

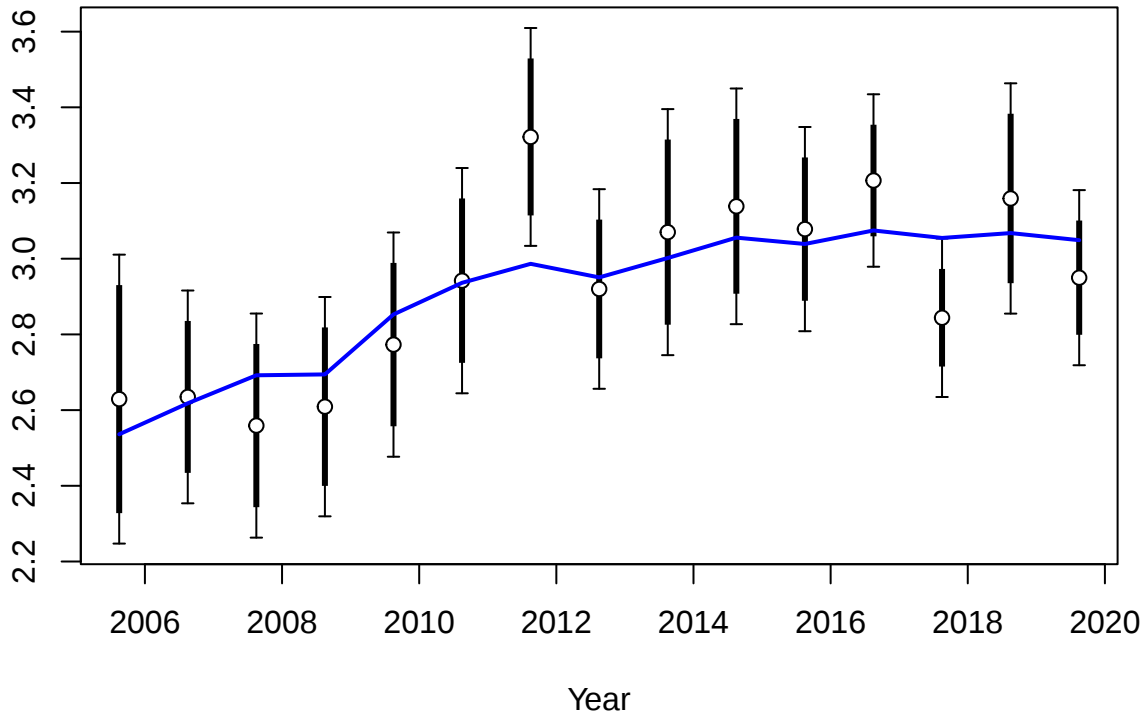


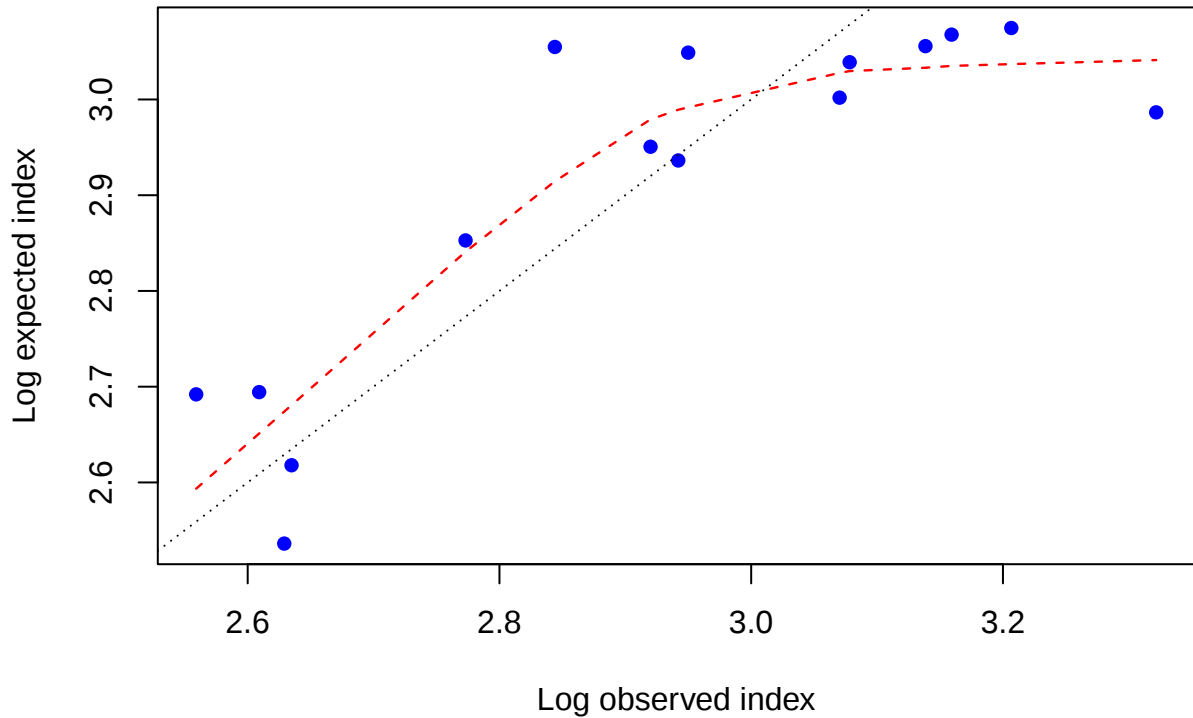


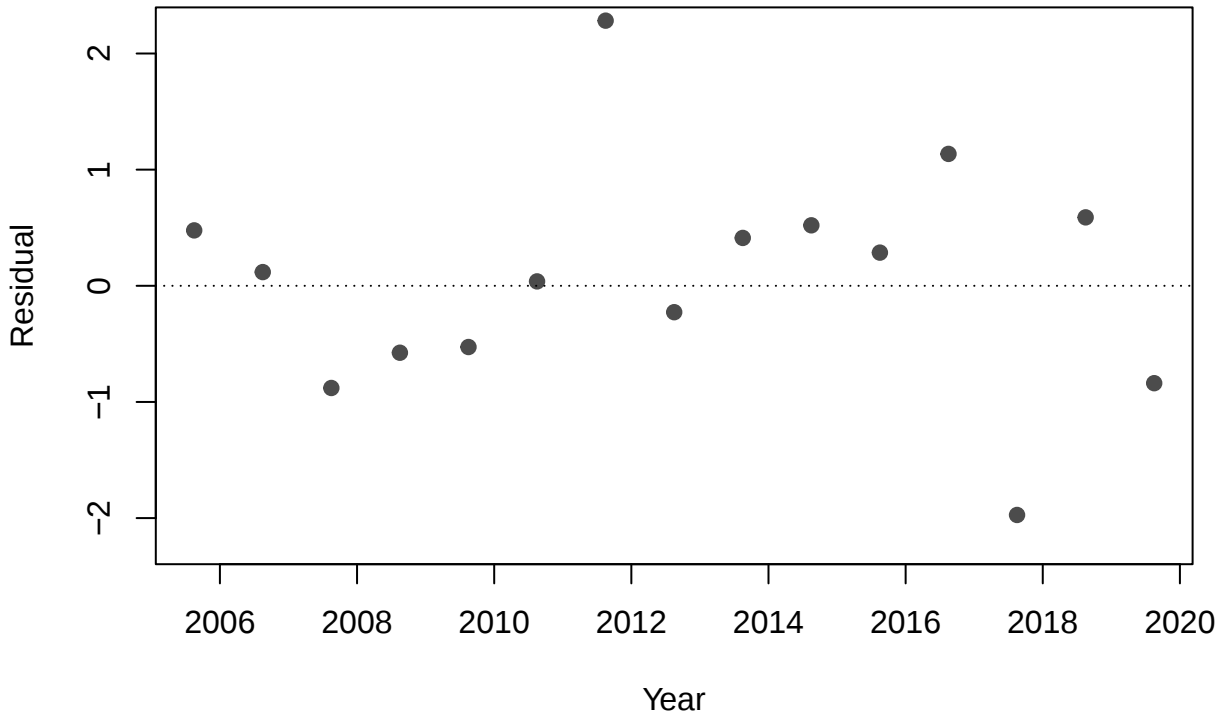
Log index

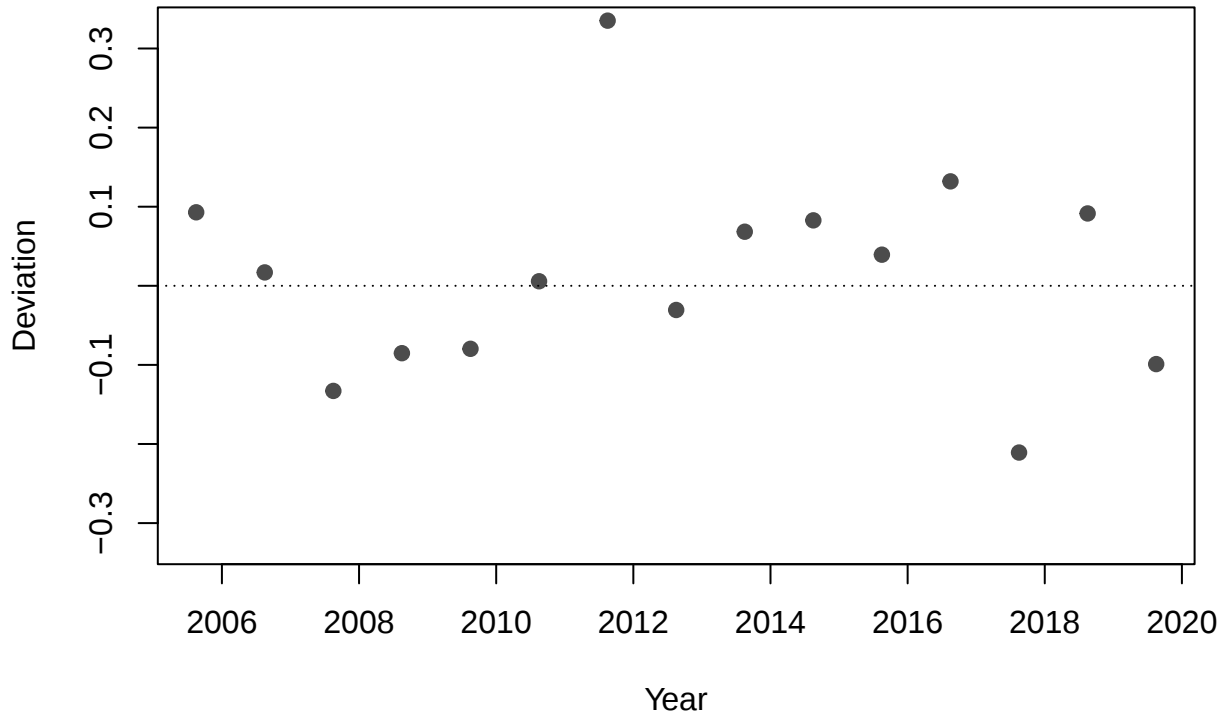


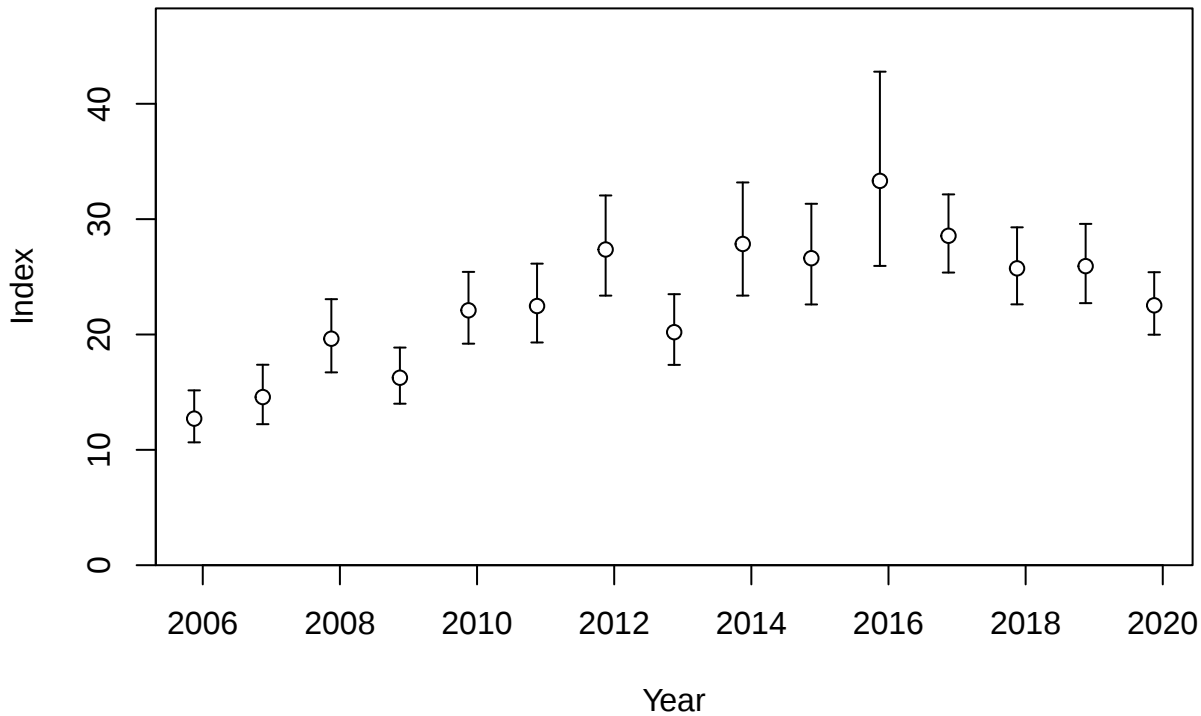
Log index

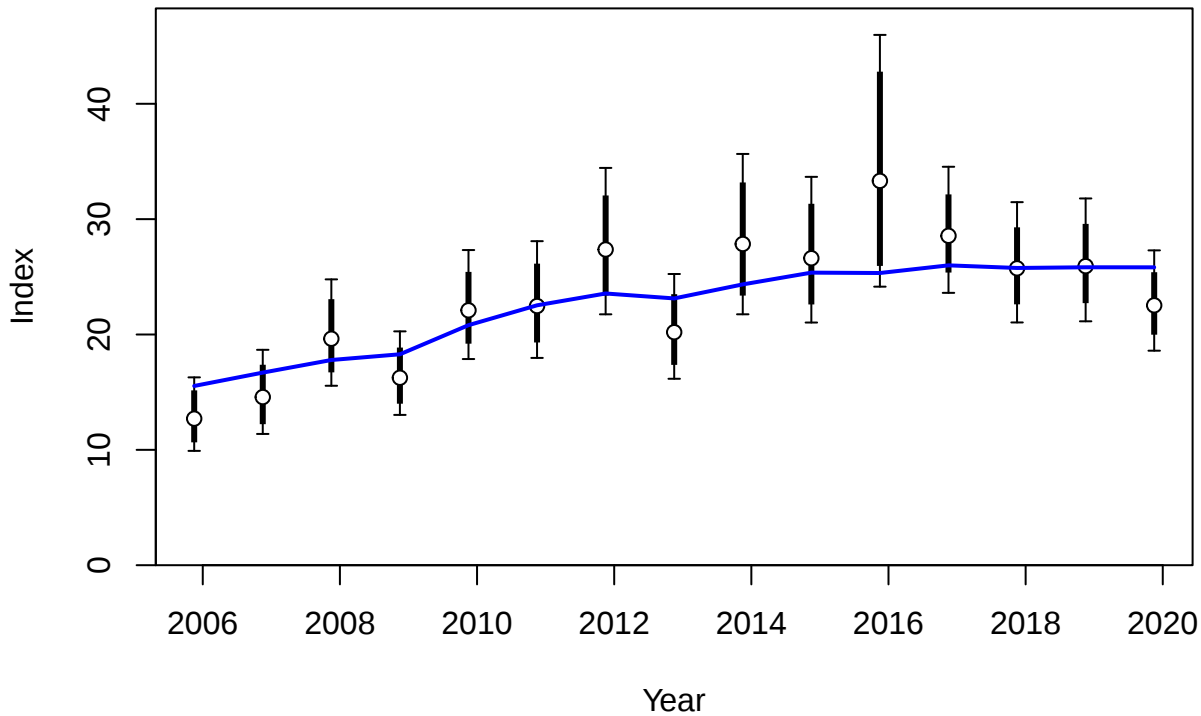


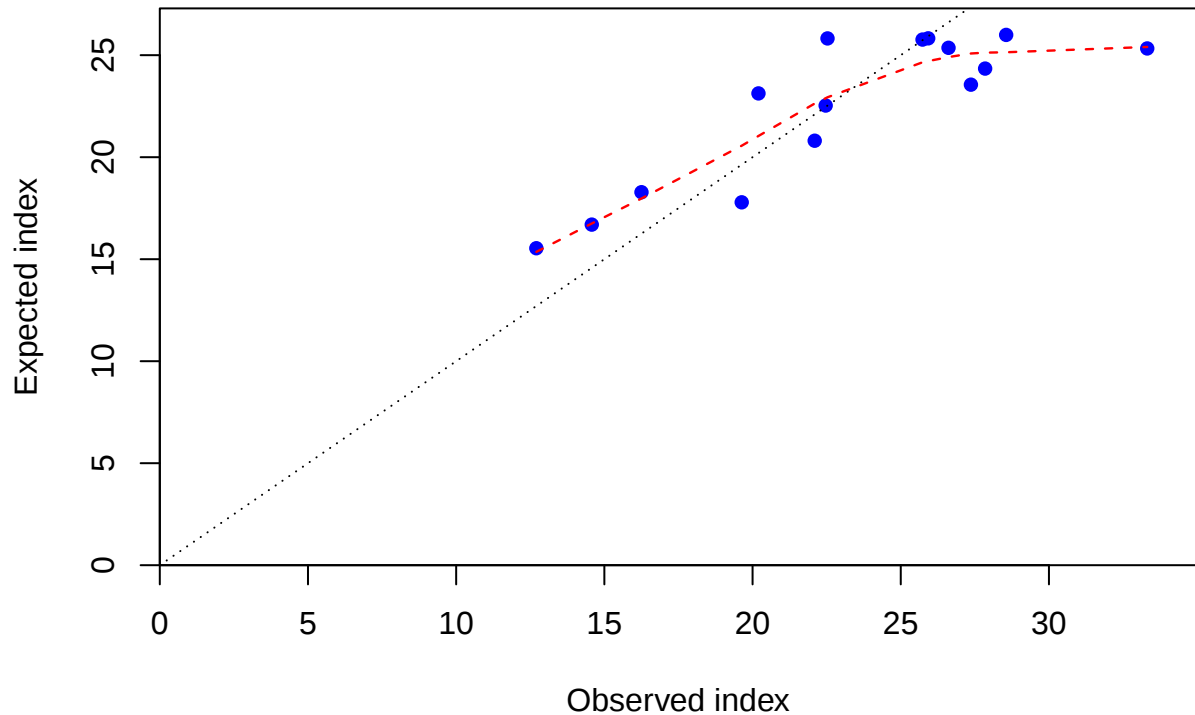












Log index

2.5
3.0
3.5

2006

2008

2010

2012

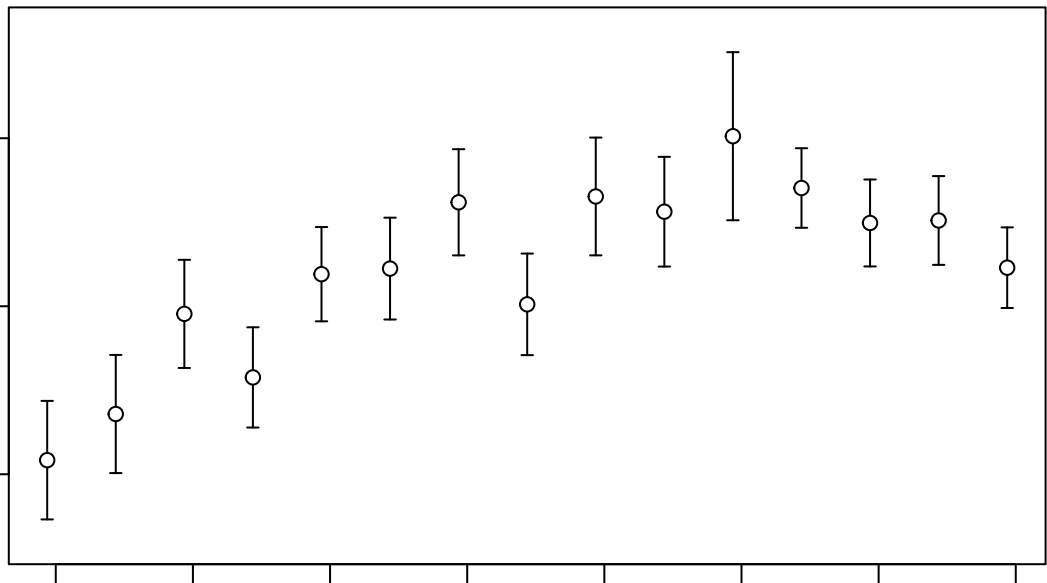
2014

2016

2018

2020

Year



Log index

2.5
3.0
3.5

2006

2008

2010

2012

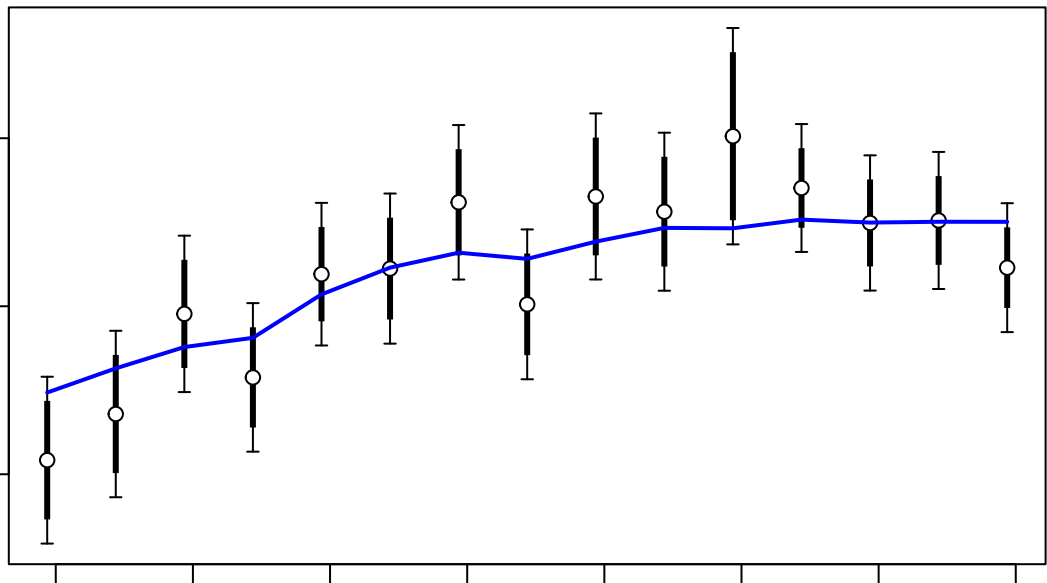
2014

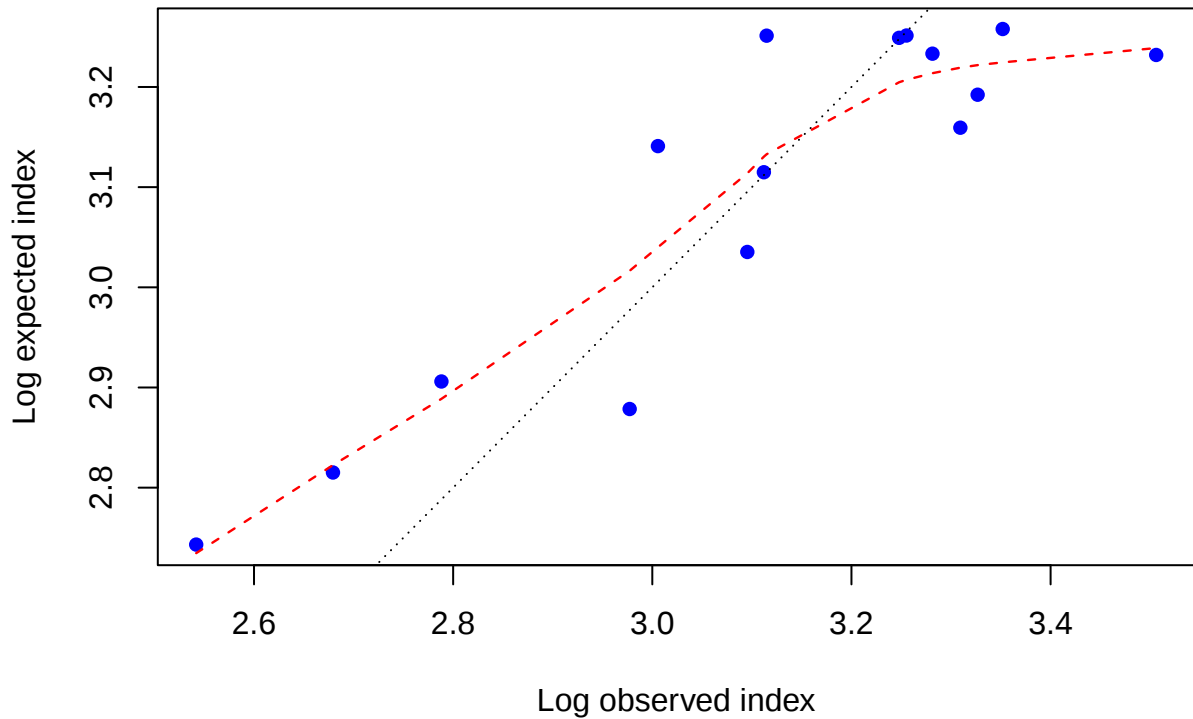
2016

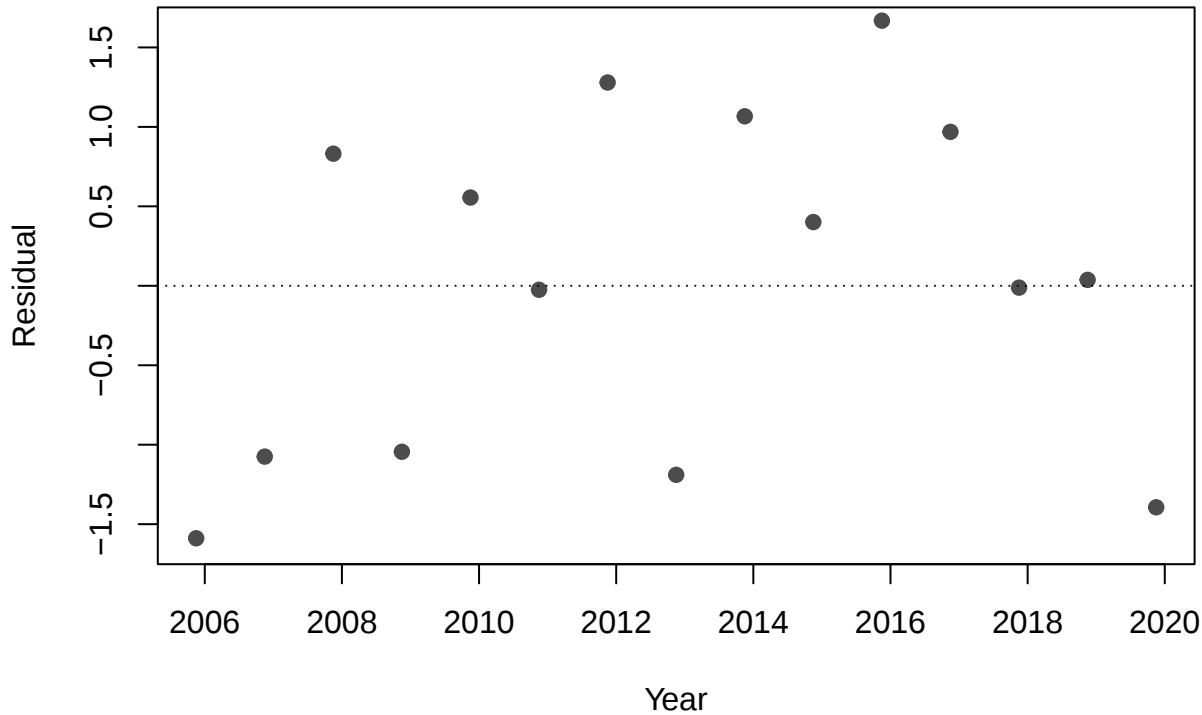
2018

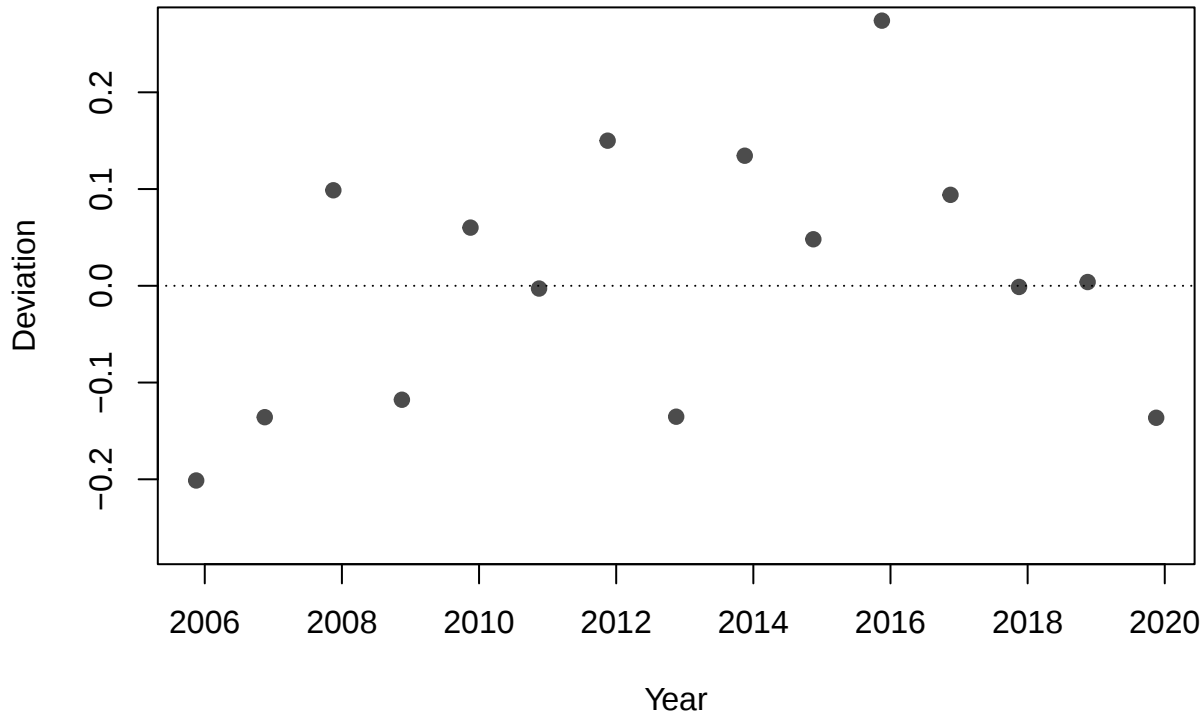
2020

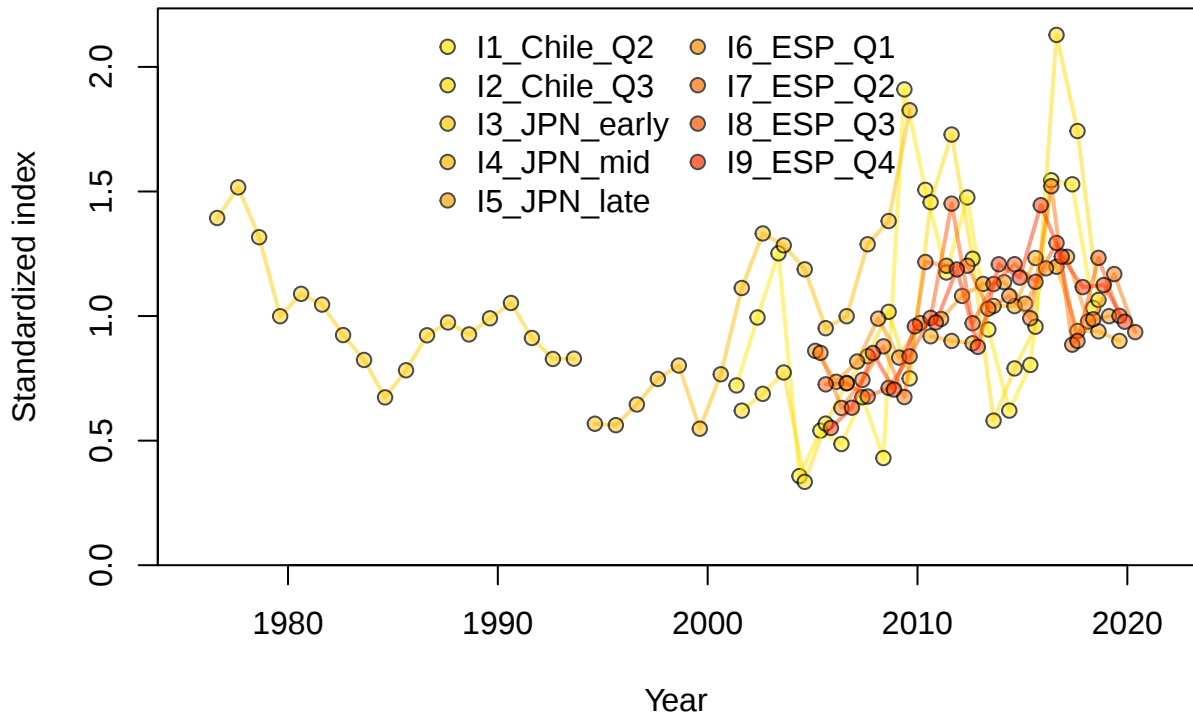
Year



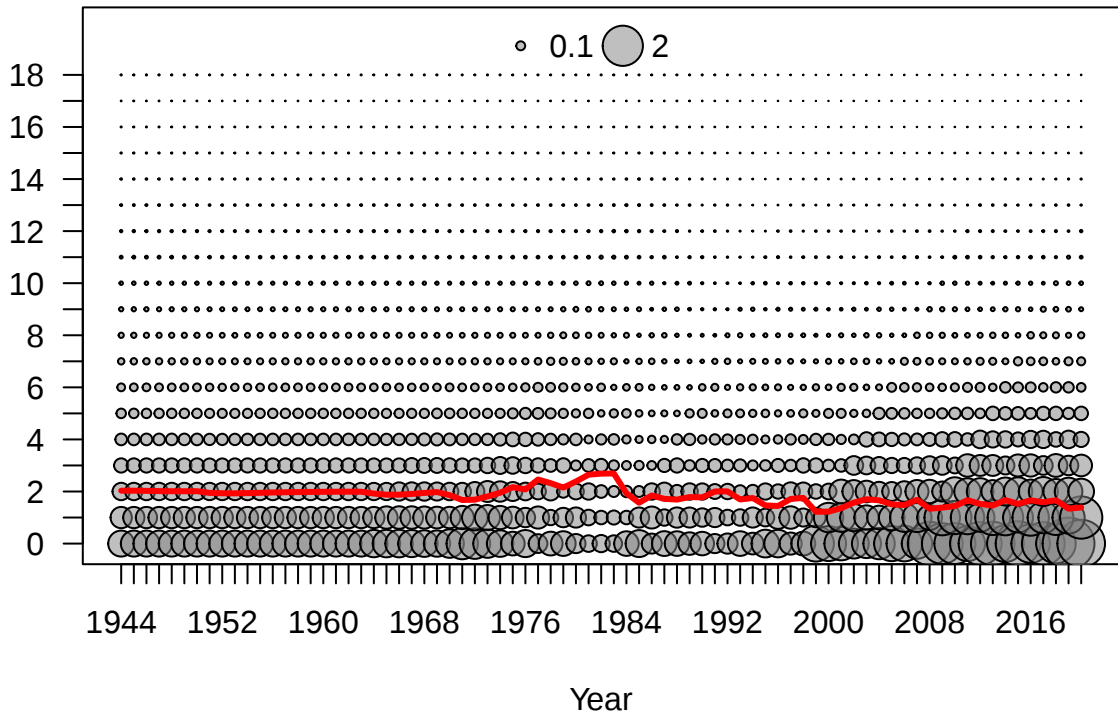




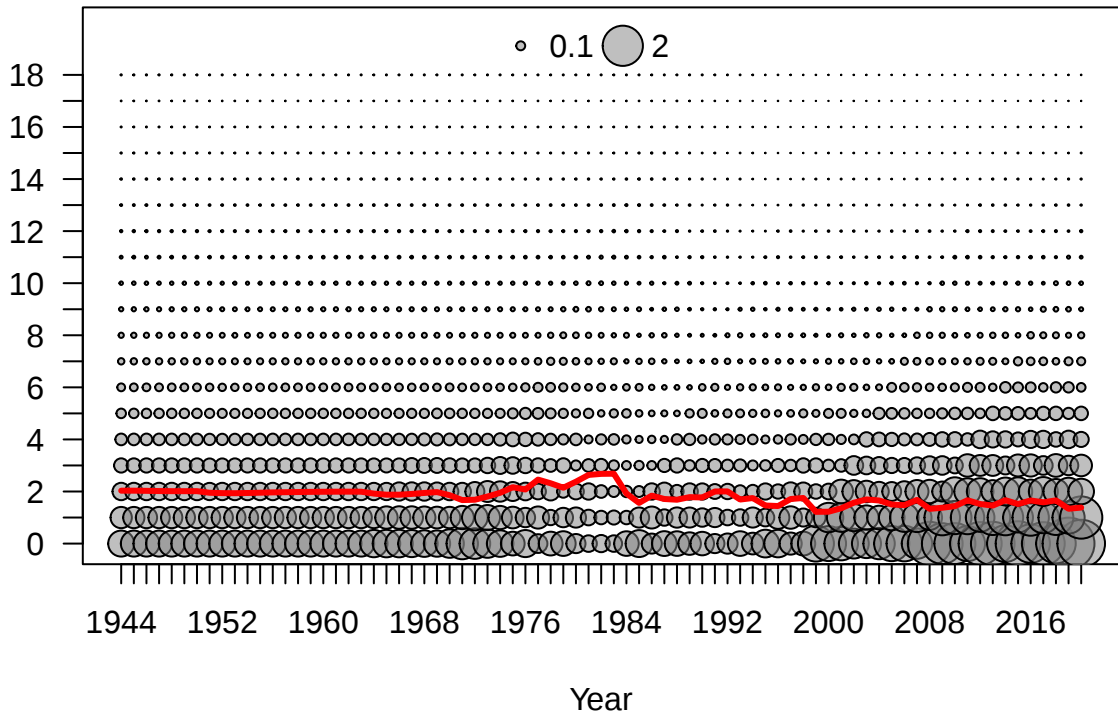


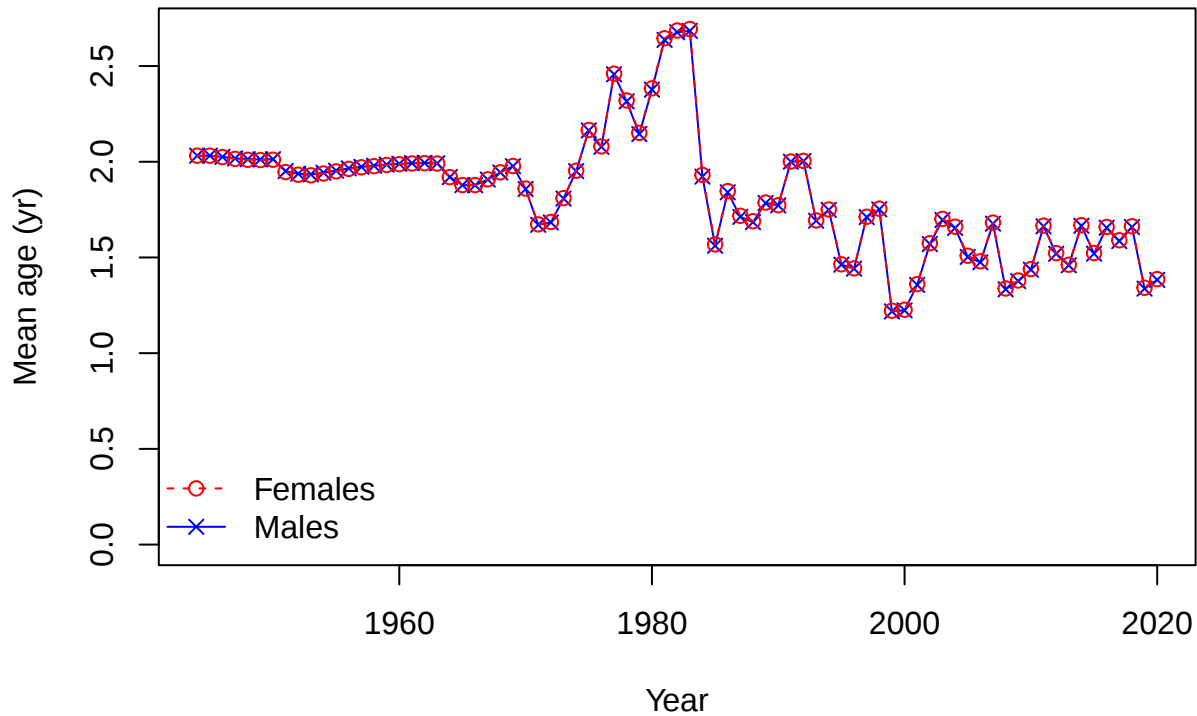


Age

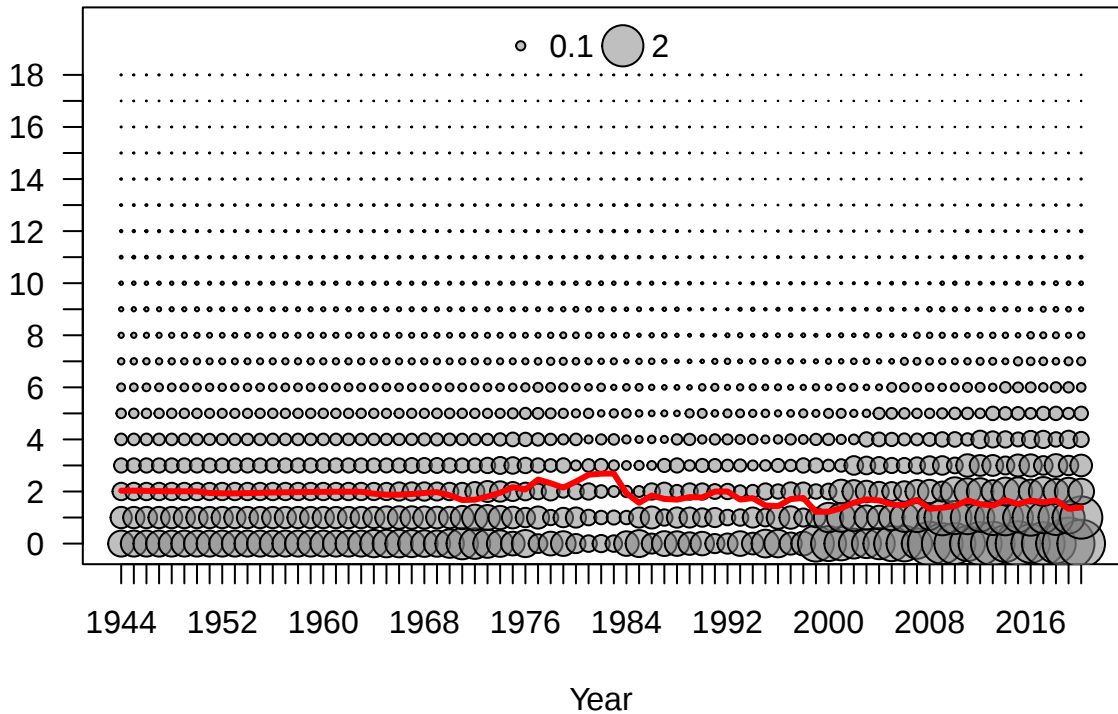


Age

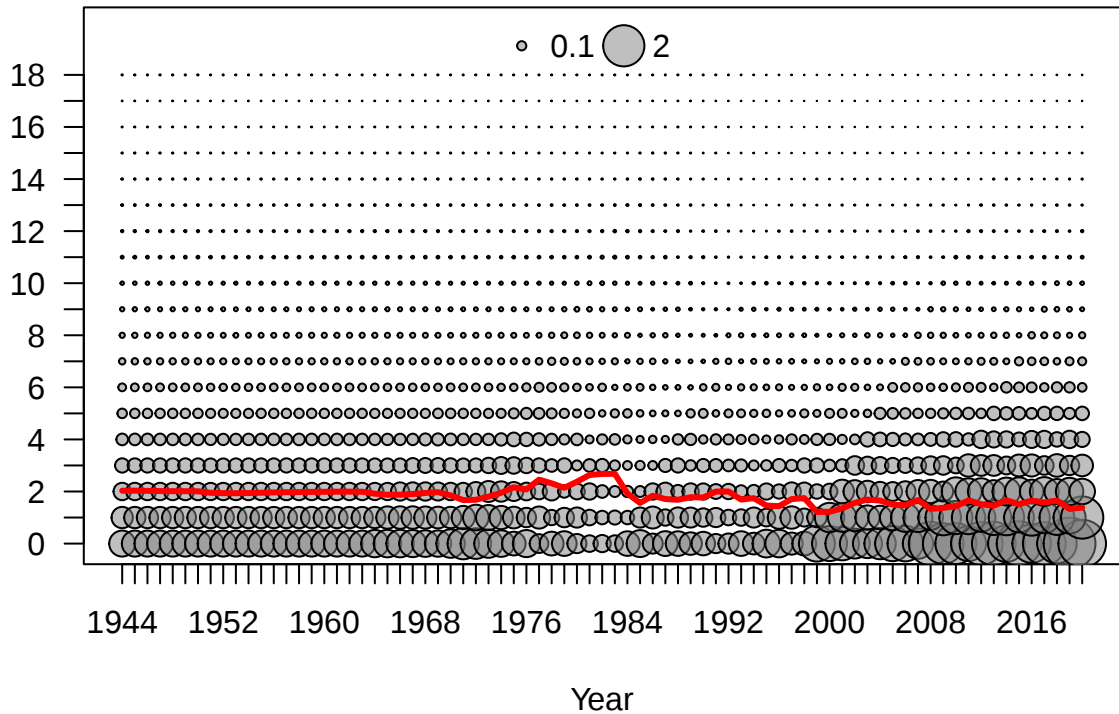


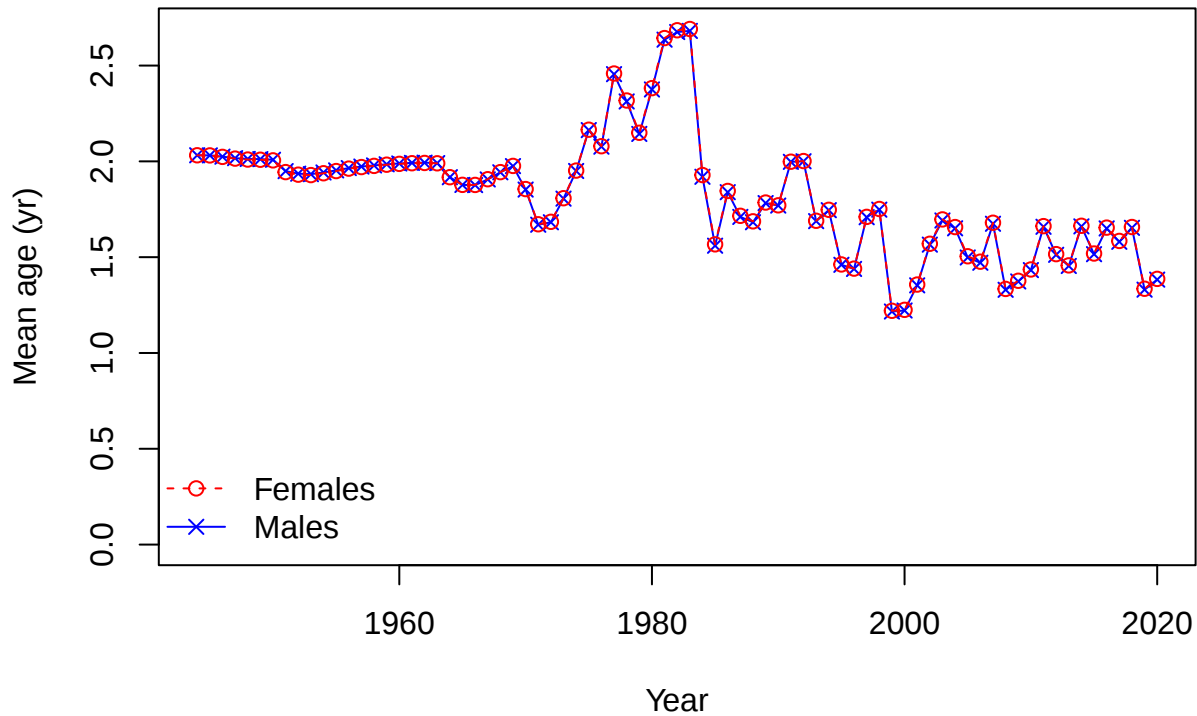


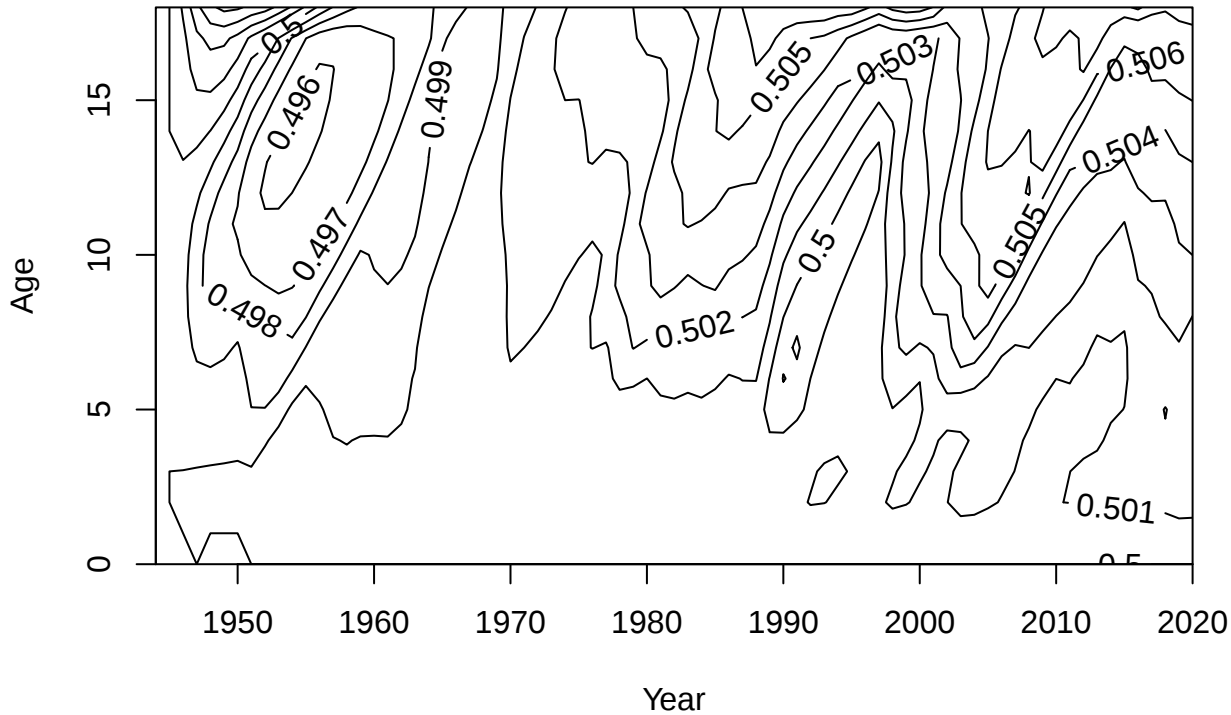
Age

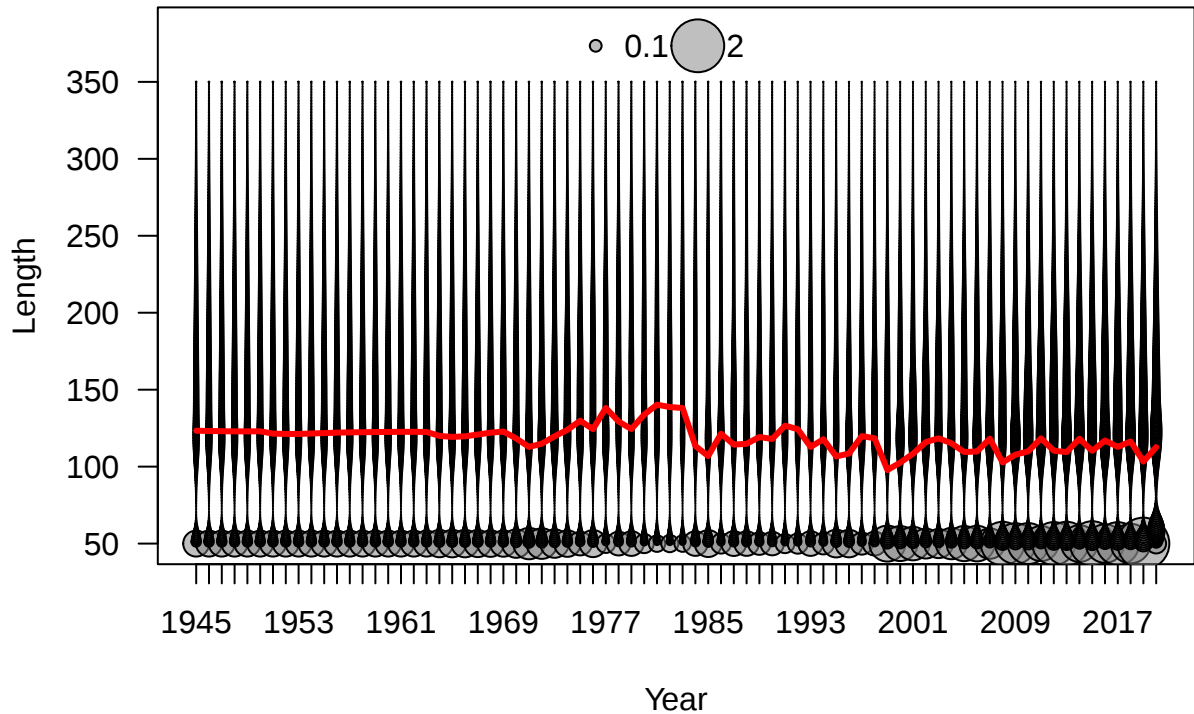


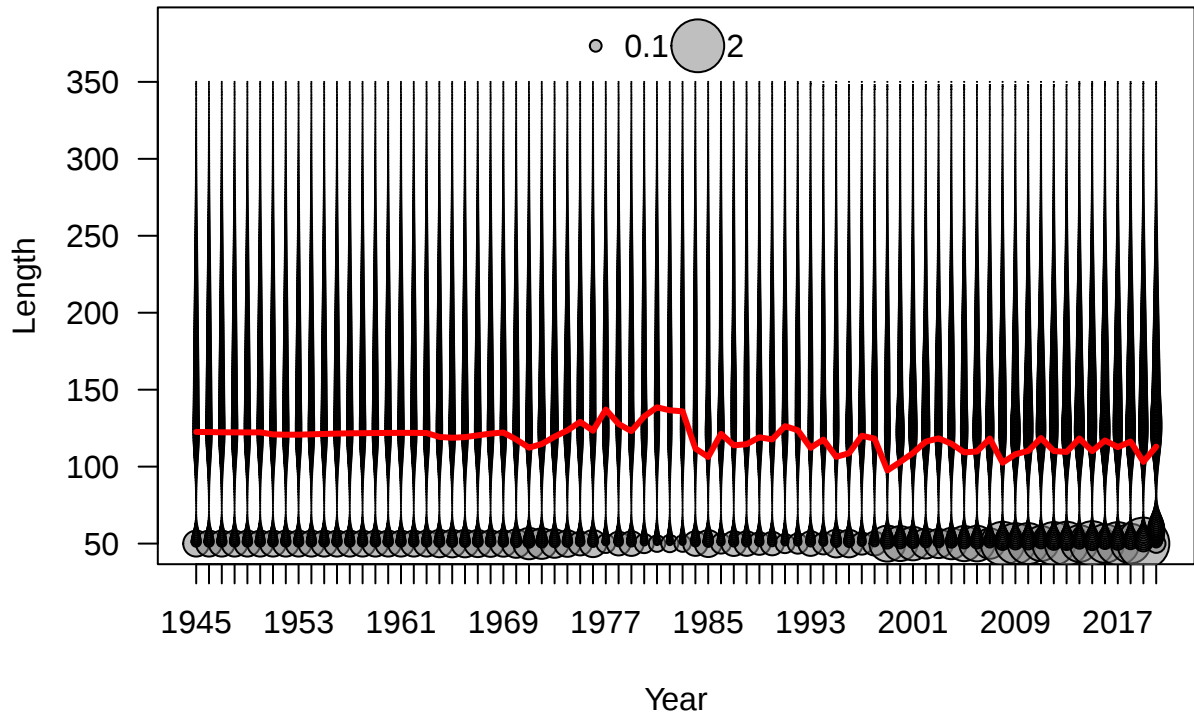
Age

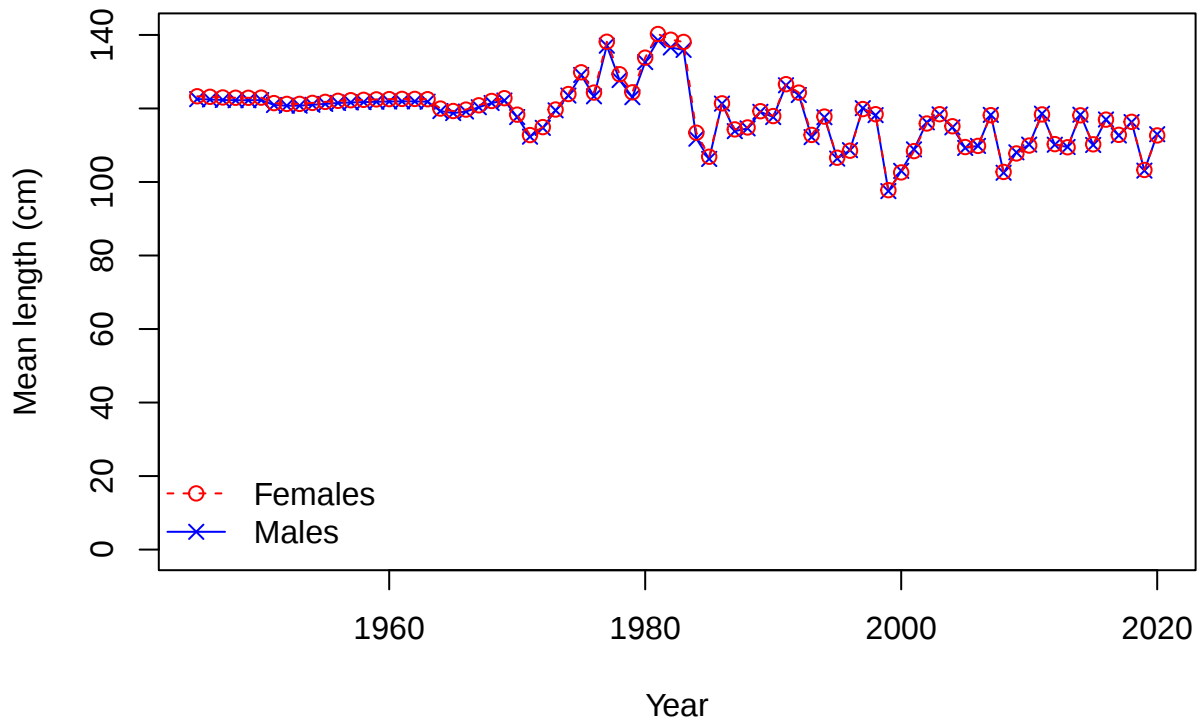


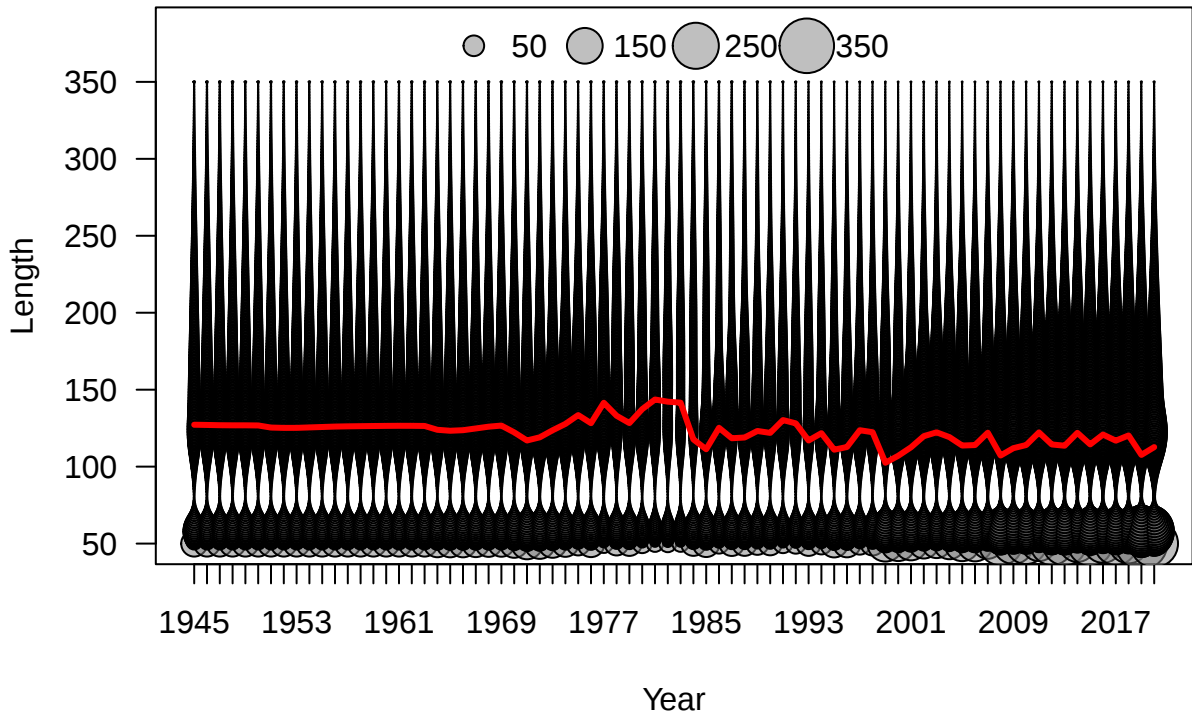


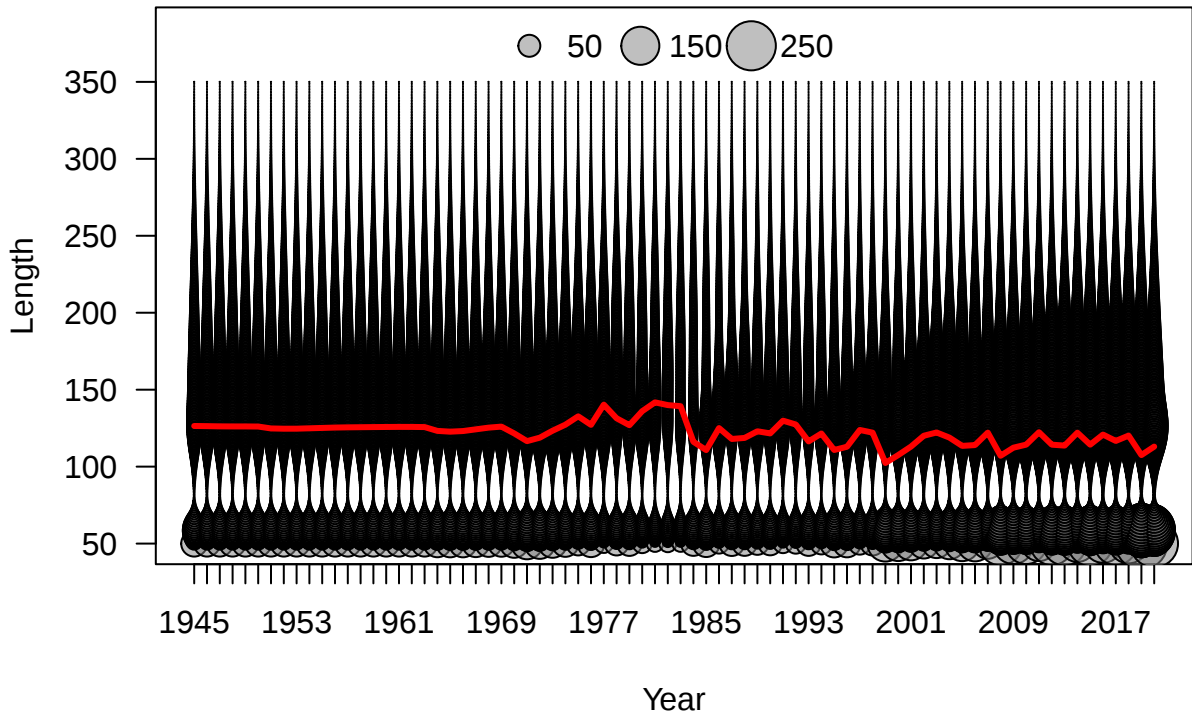


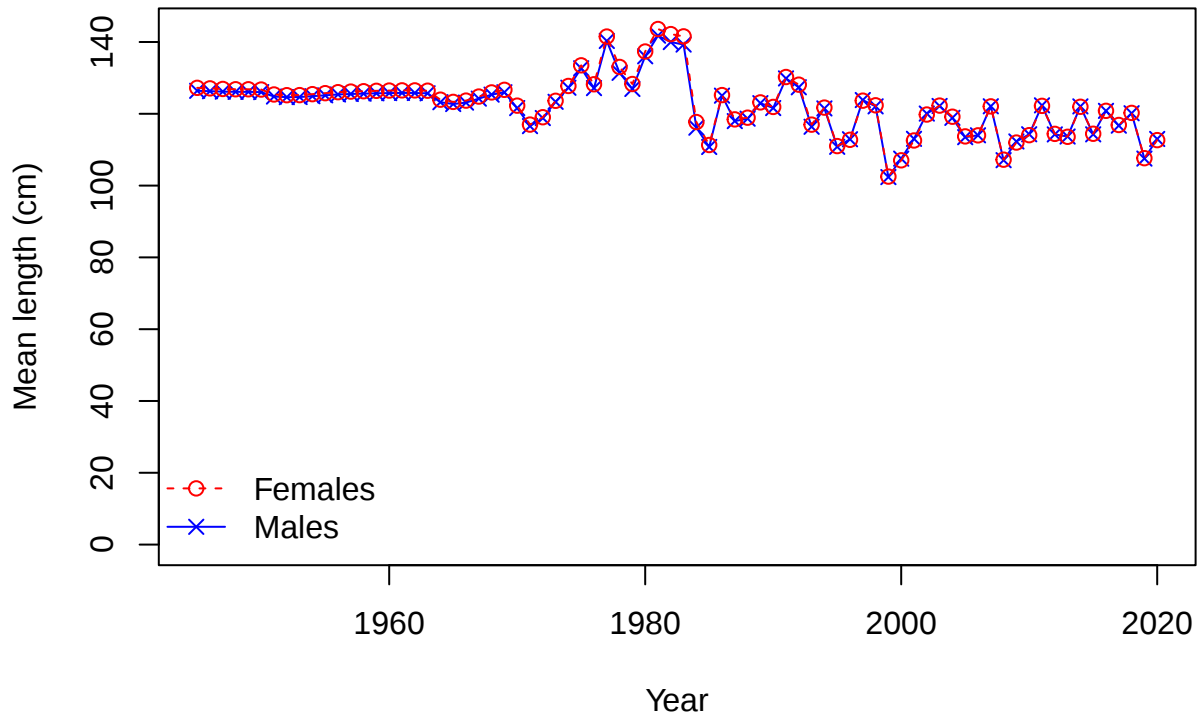


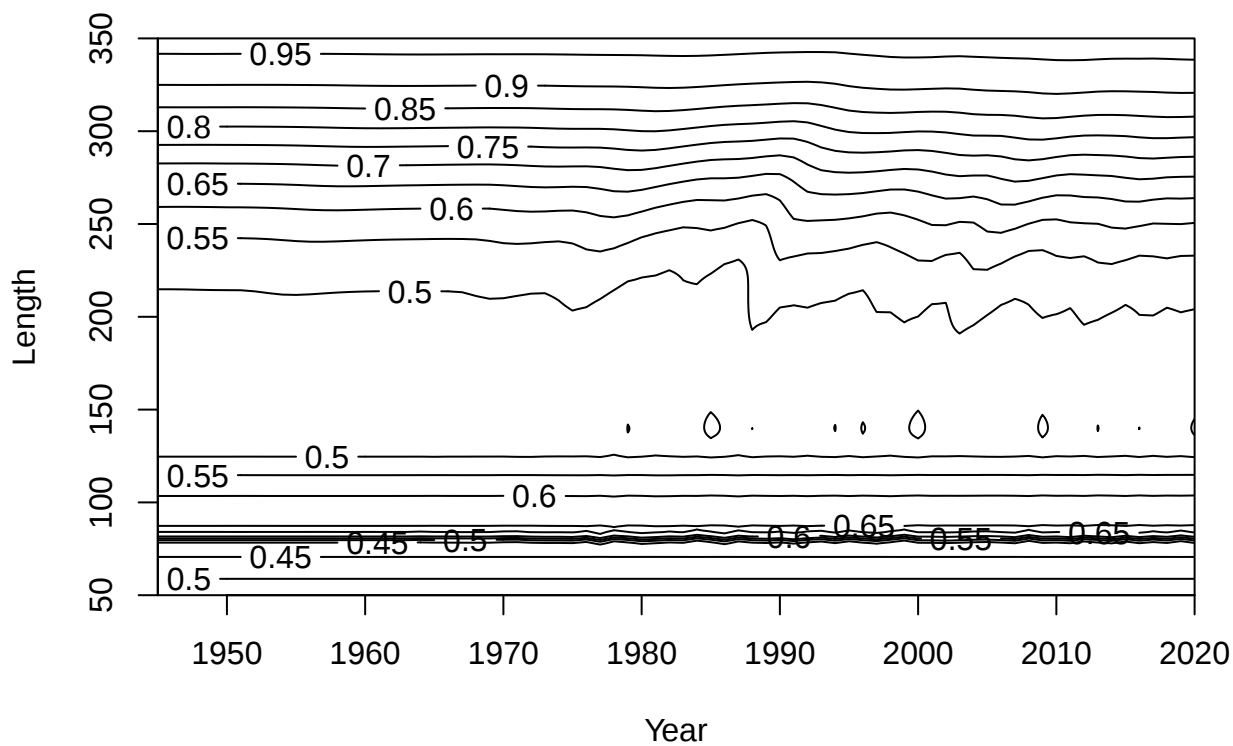


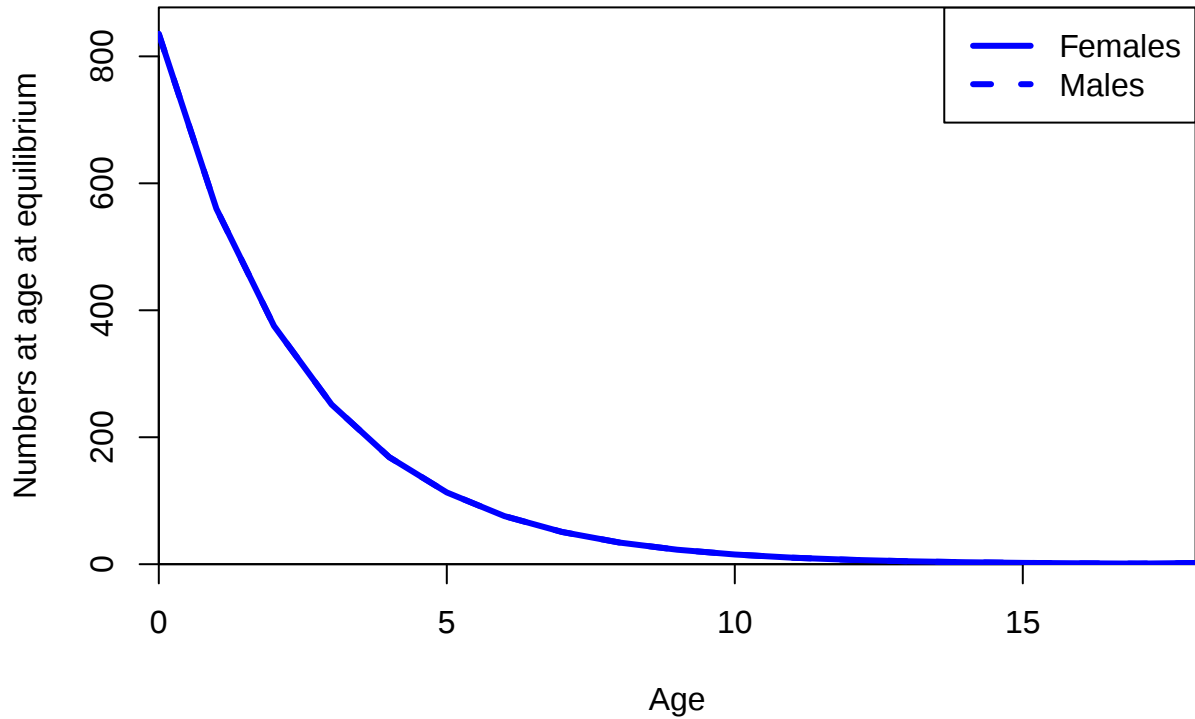


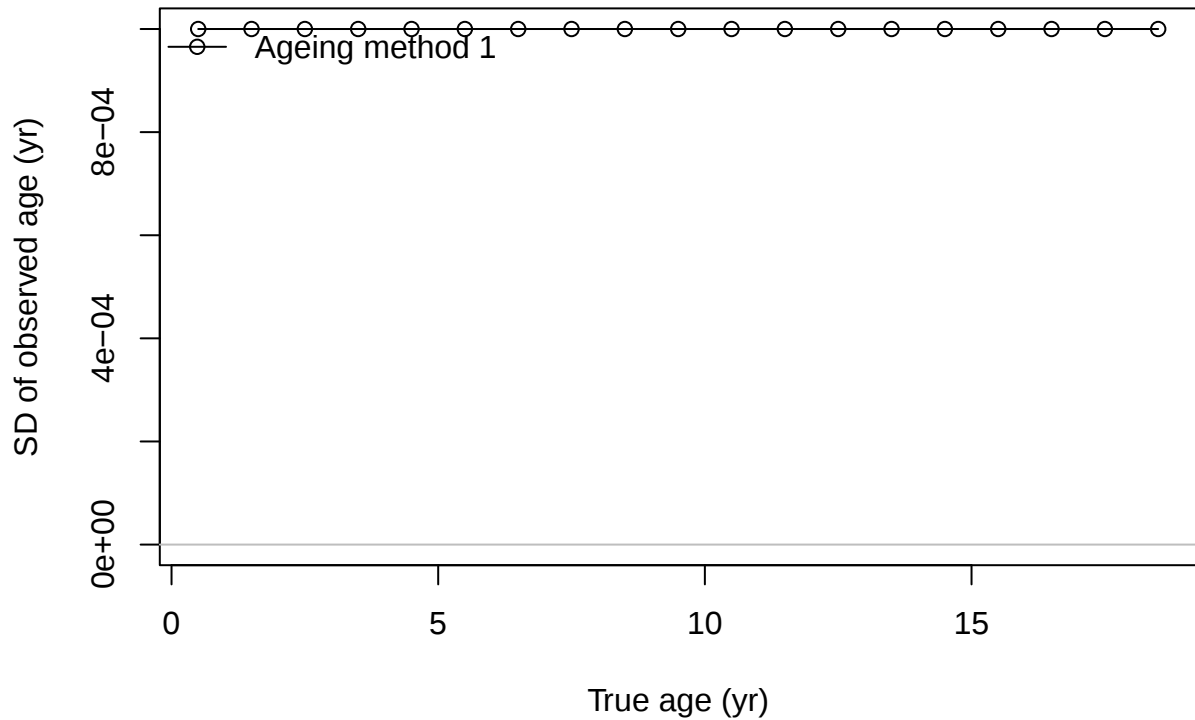


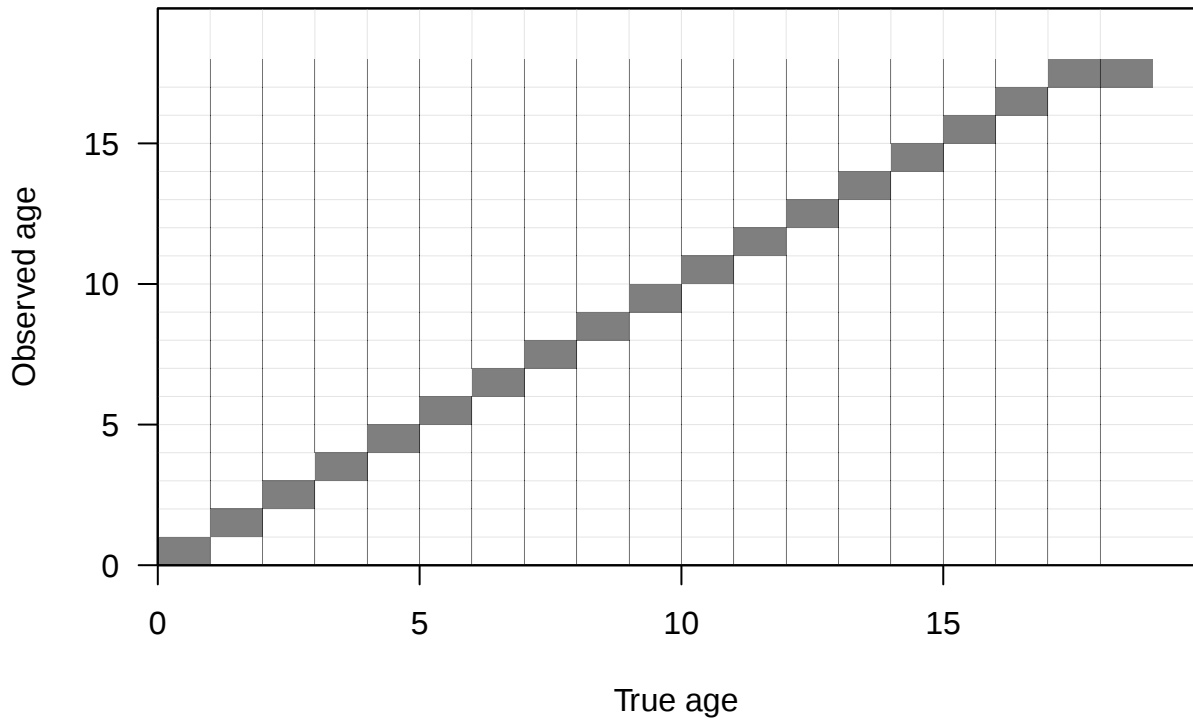


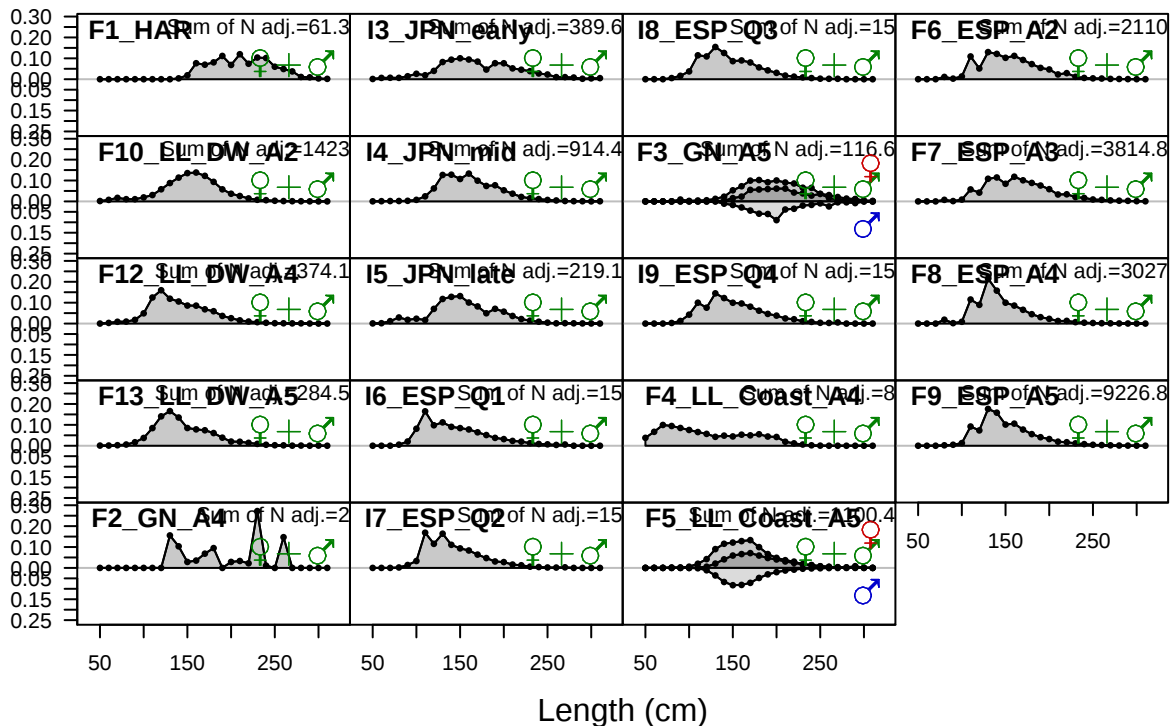


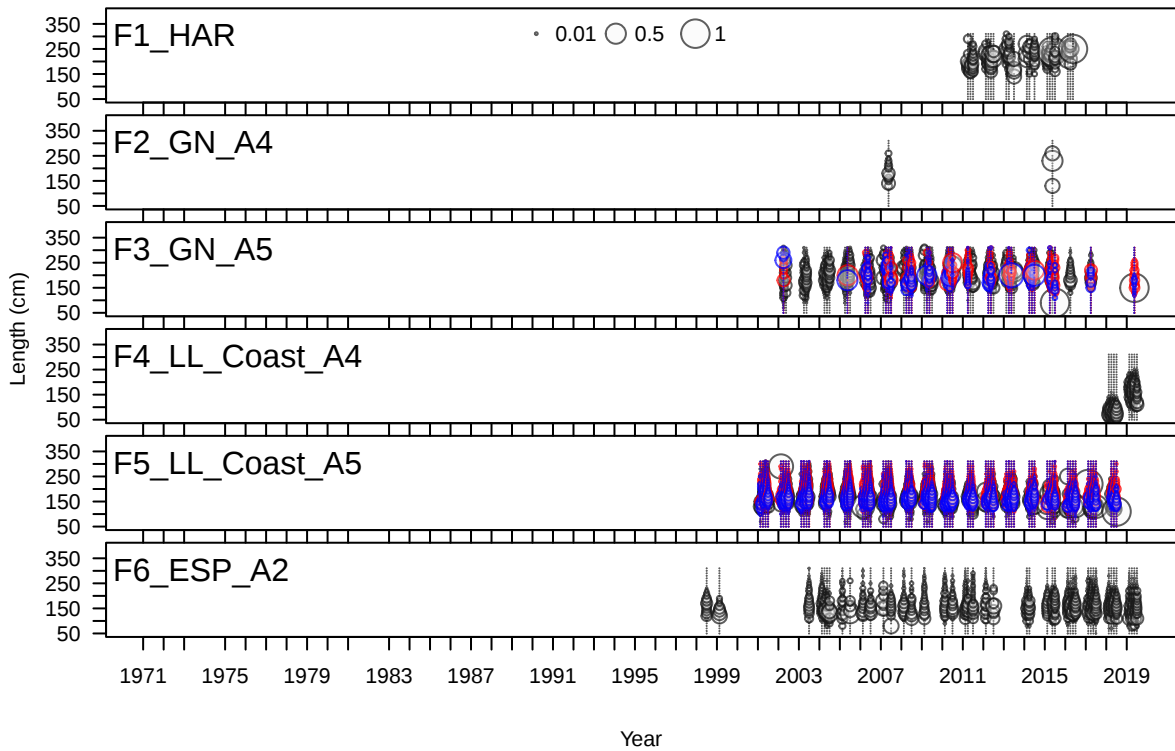


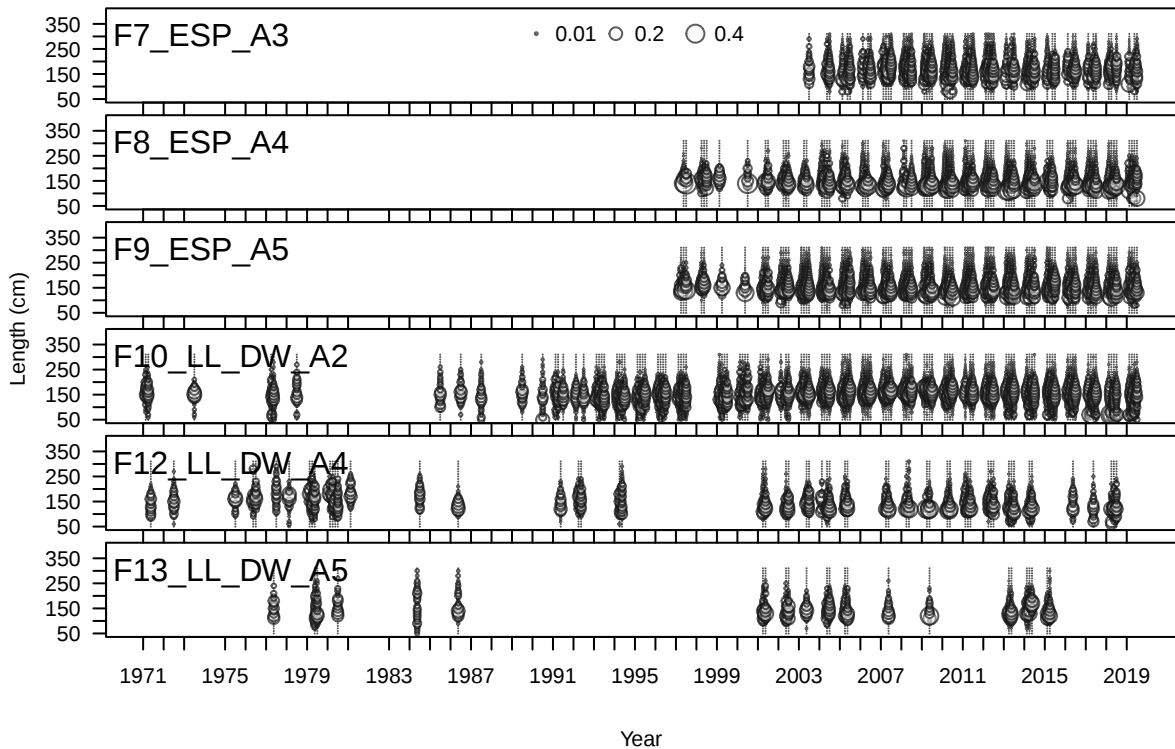


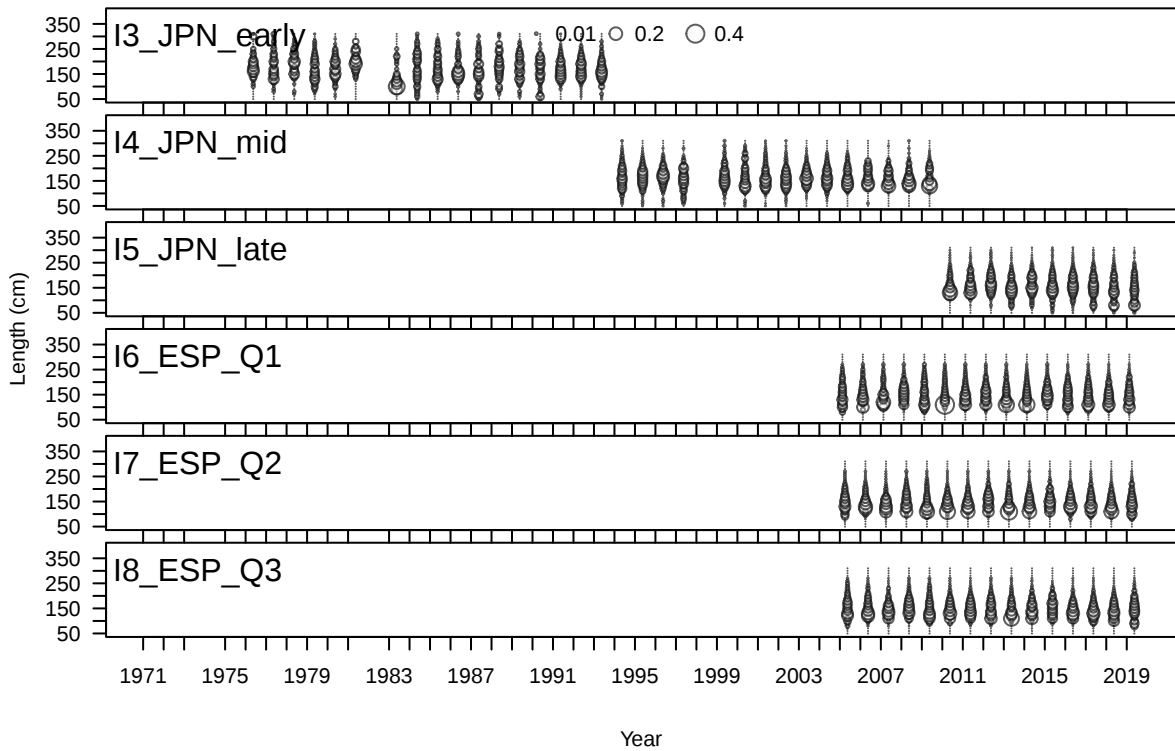




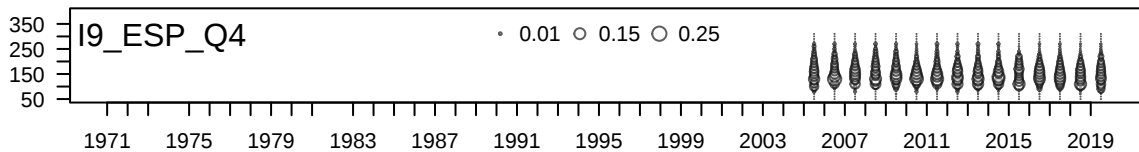






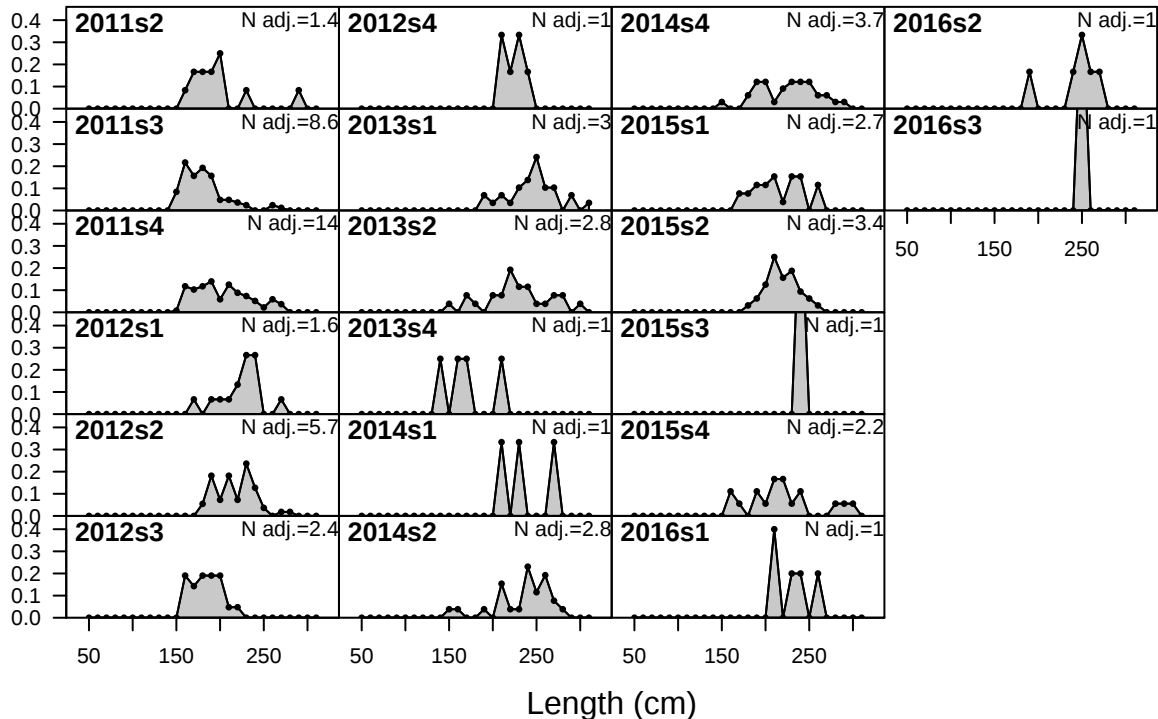


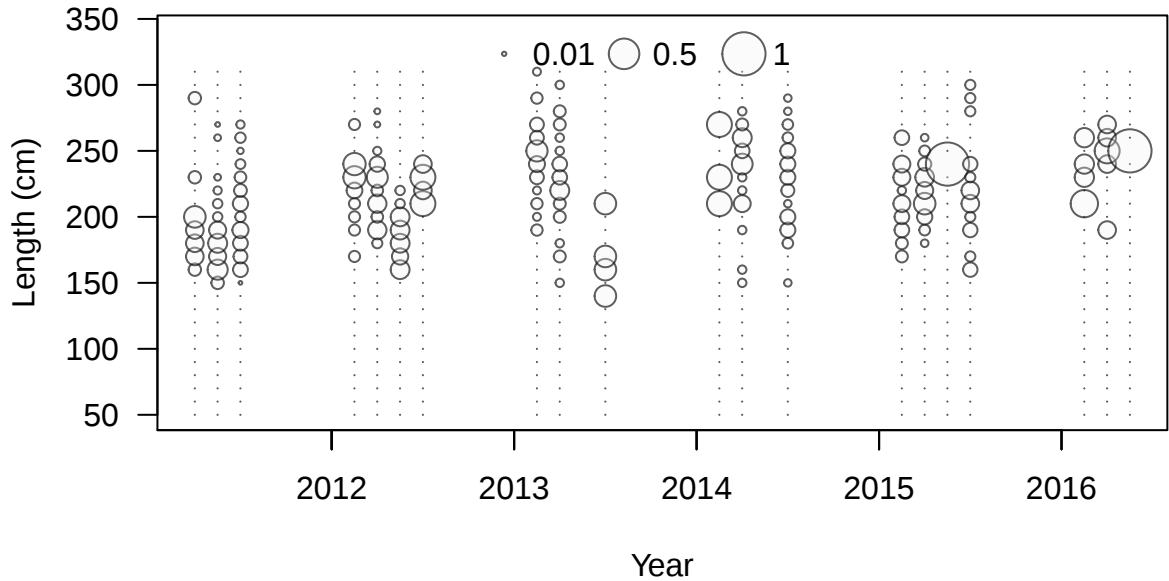
Length (cm)



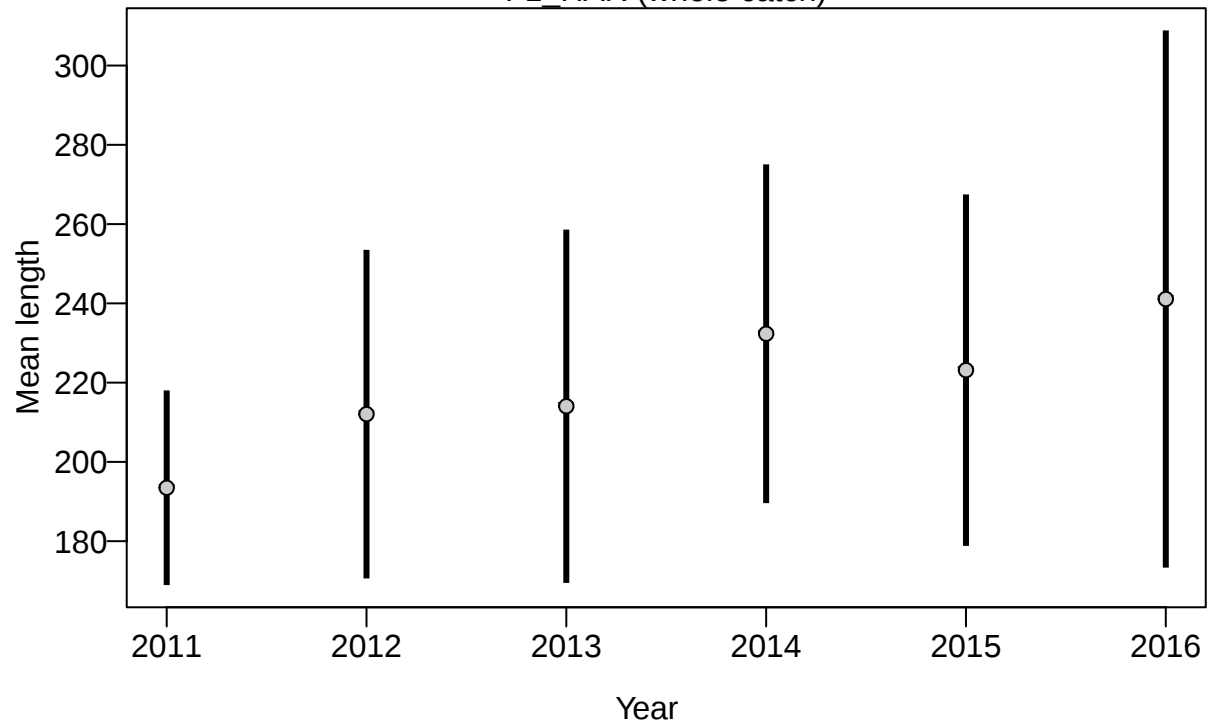
Year

Proportion

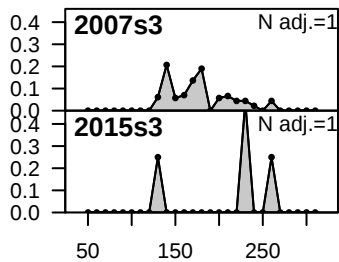




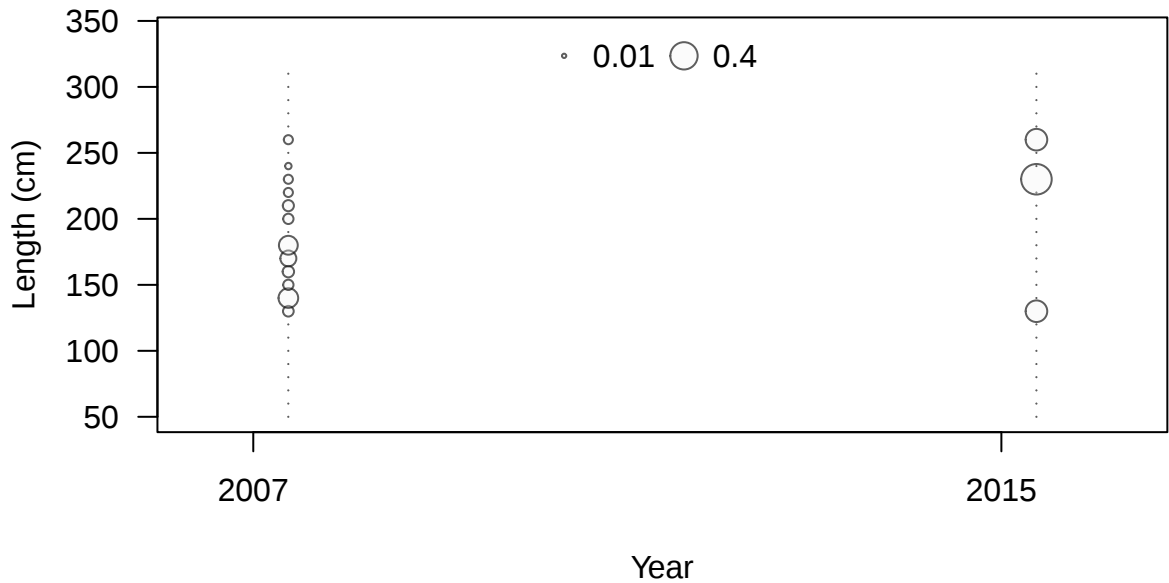
F1_HAR (whole catch)



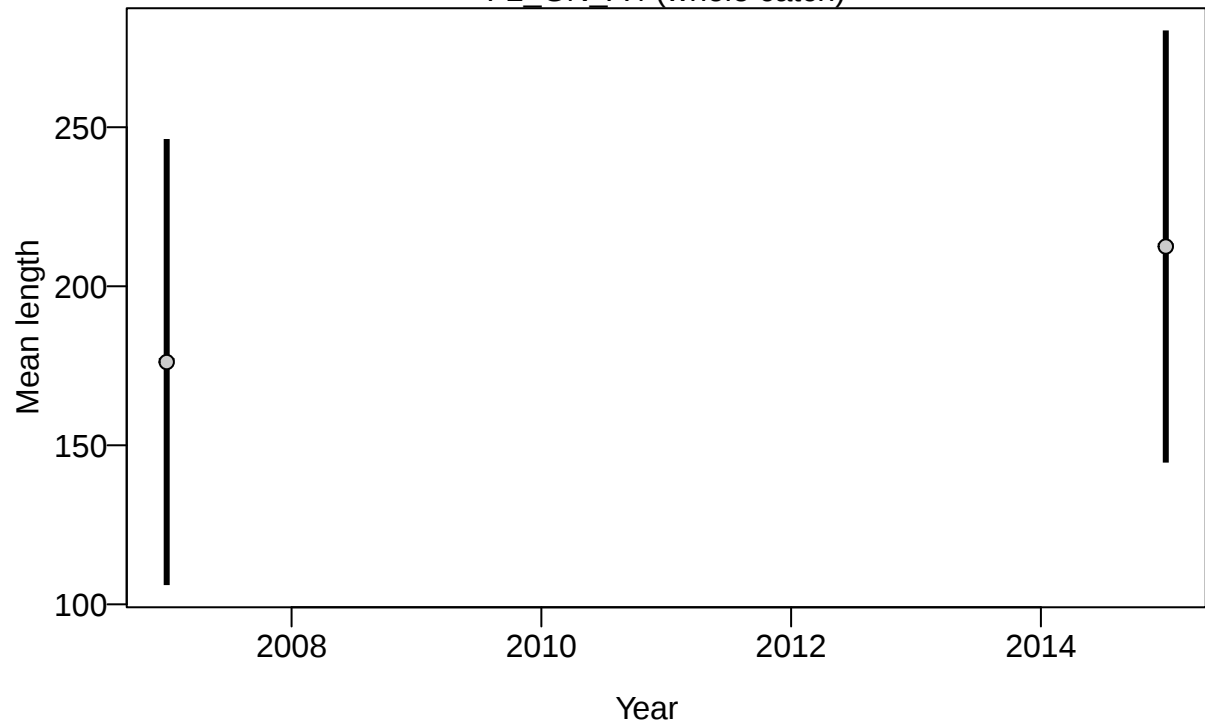
Proportion



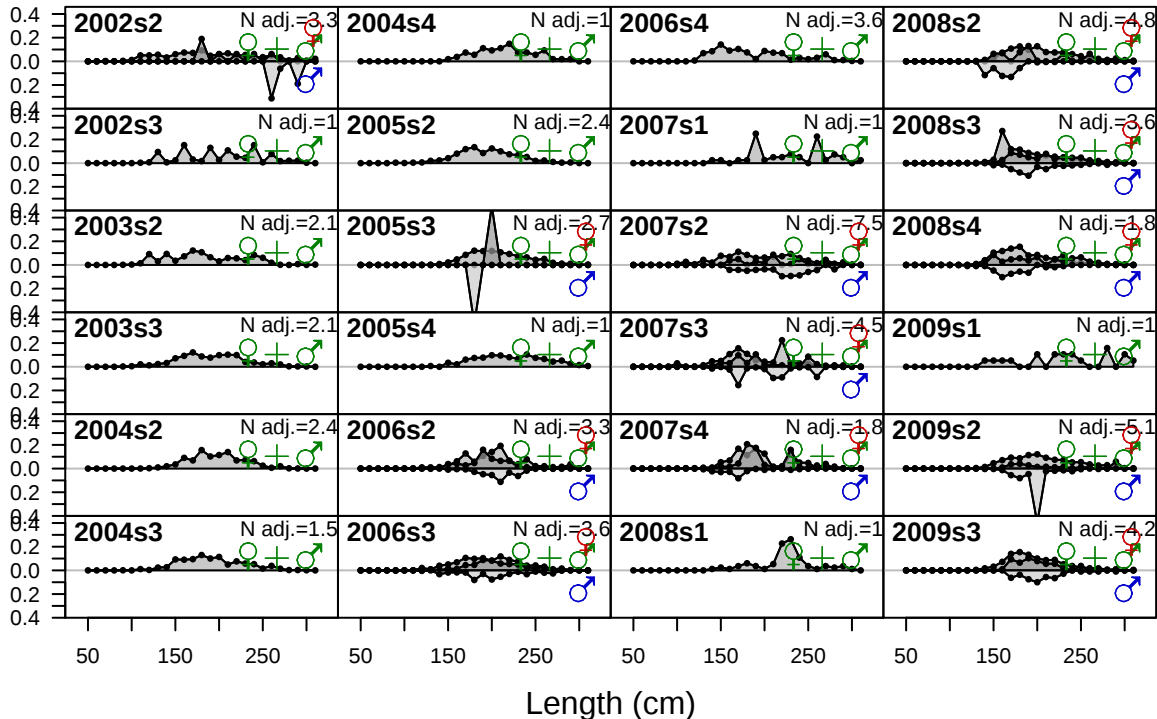
Length (cm)



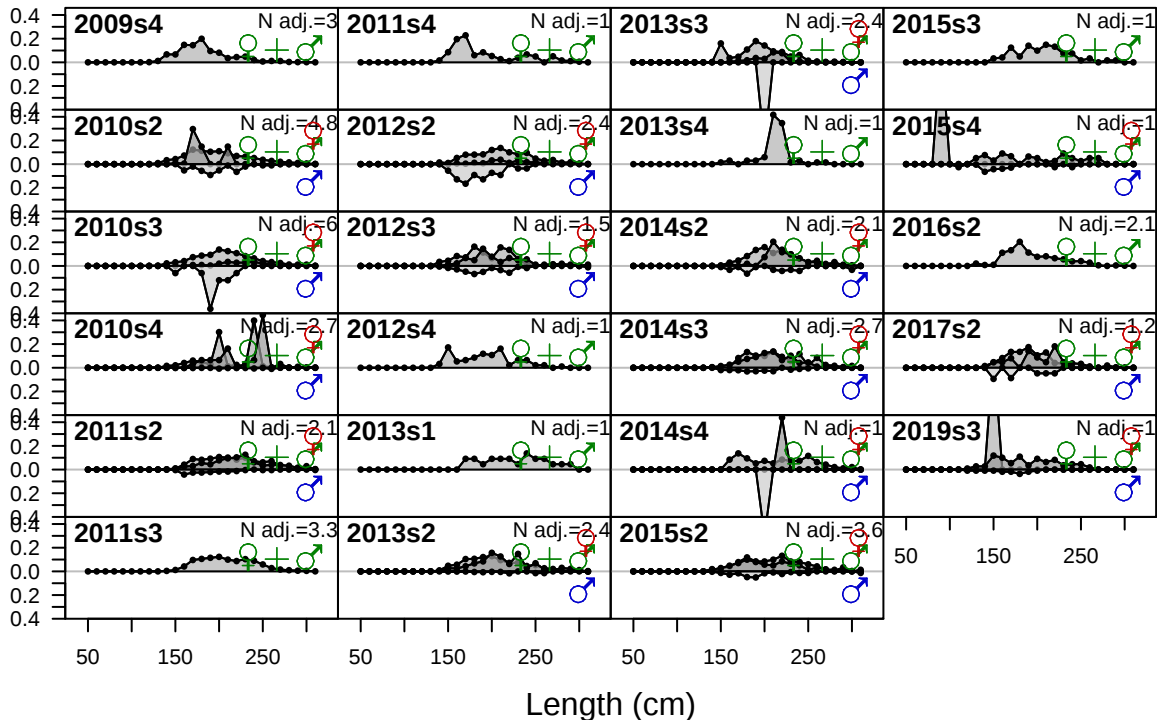
F2_GN_A4 (whole catch)

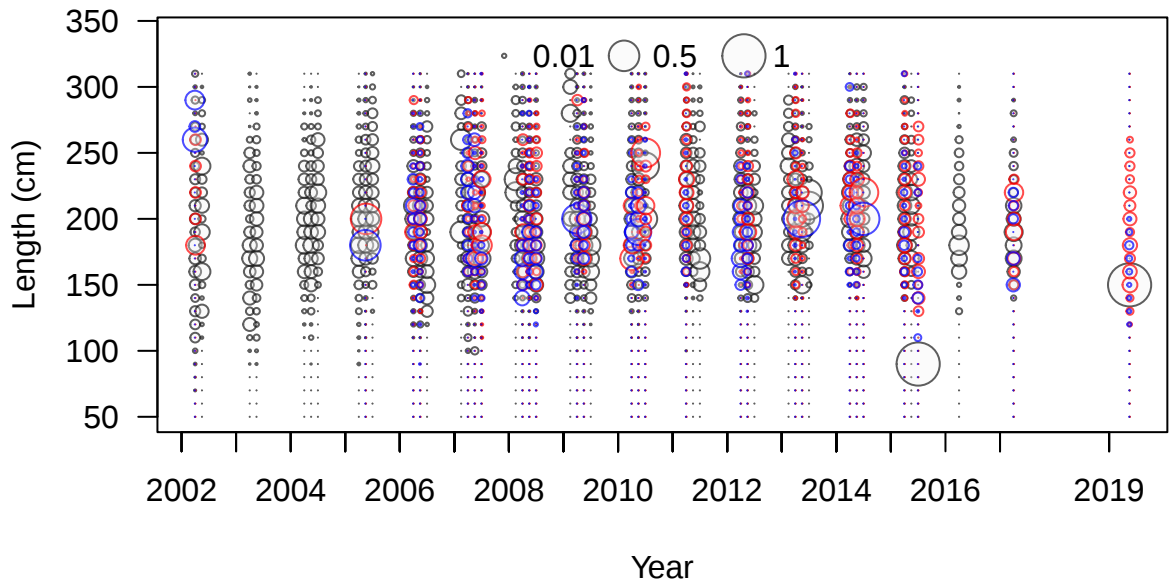


Proportion

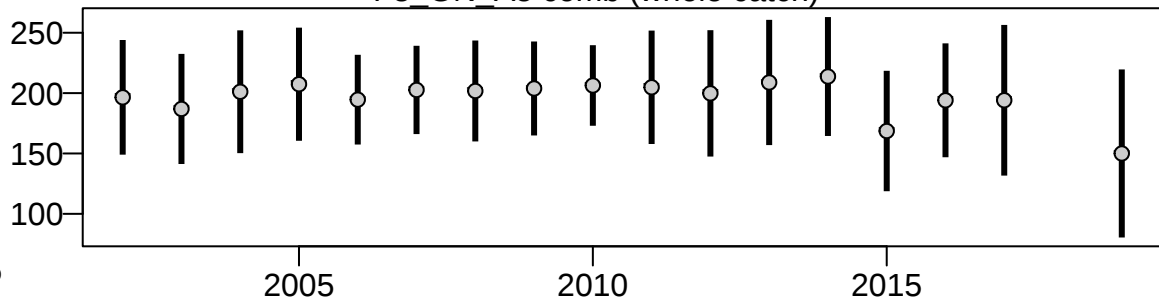


Proportion

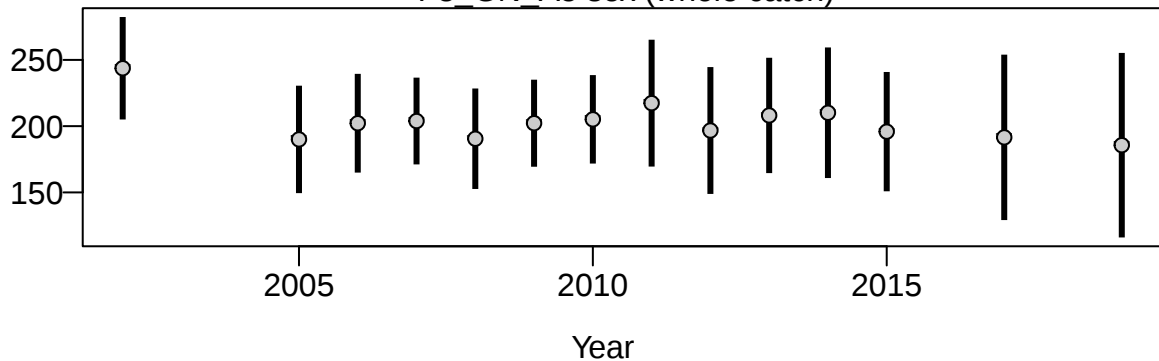




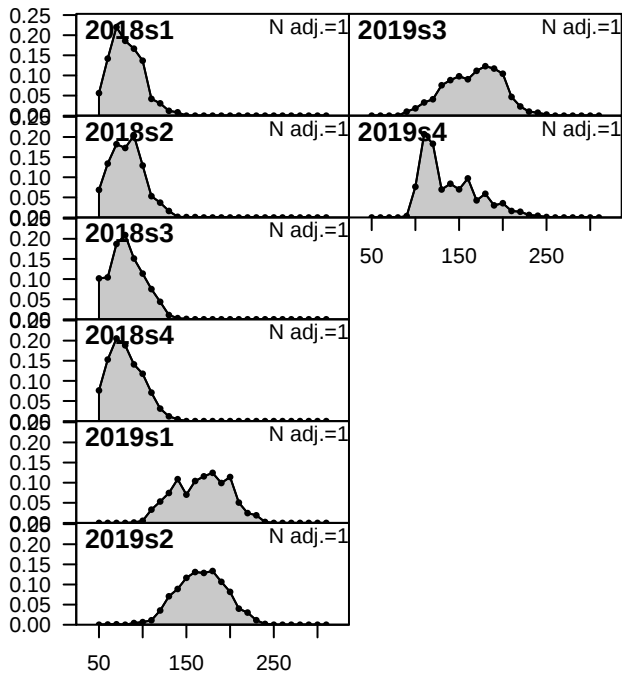
F3_GN_A5 comb (whole catch)



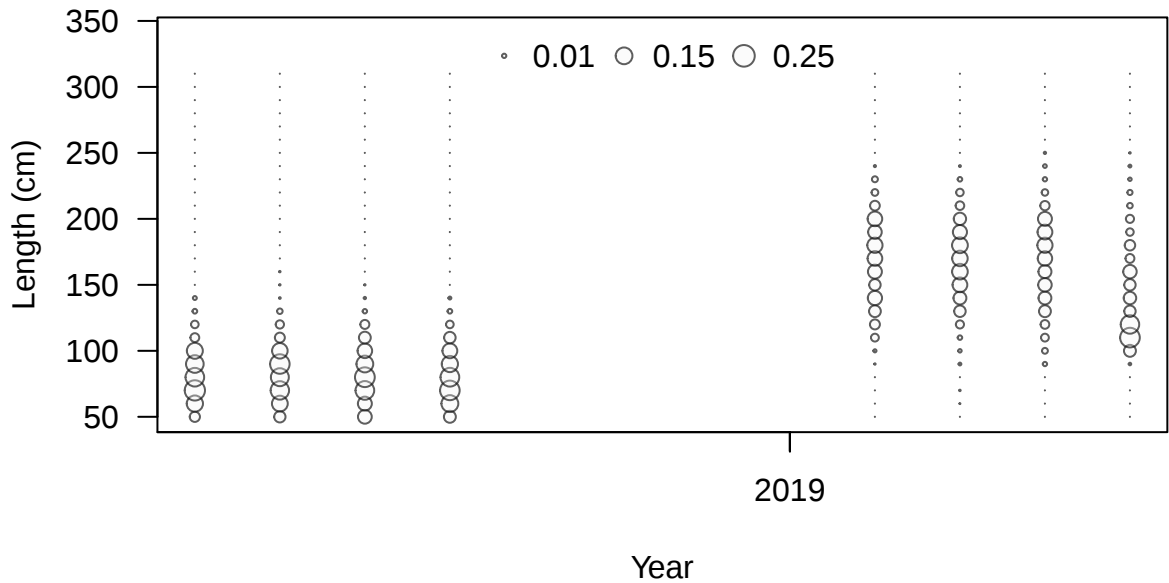
F3_GN_A5 sex (whole catch)



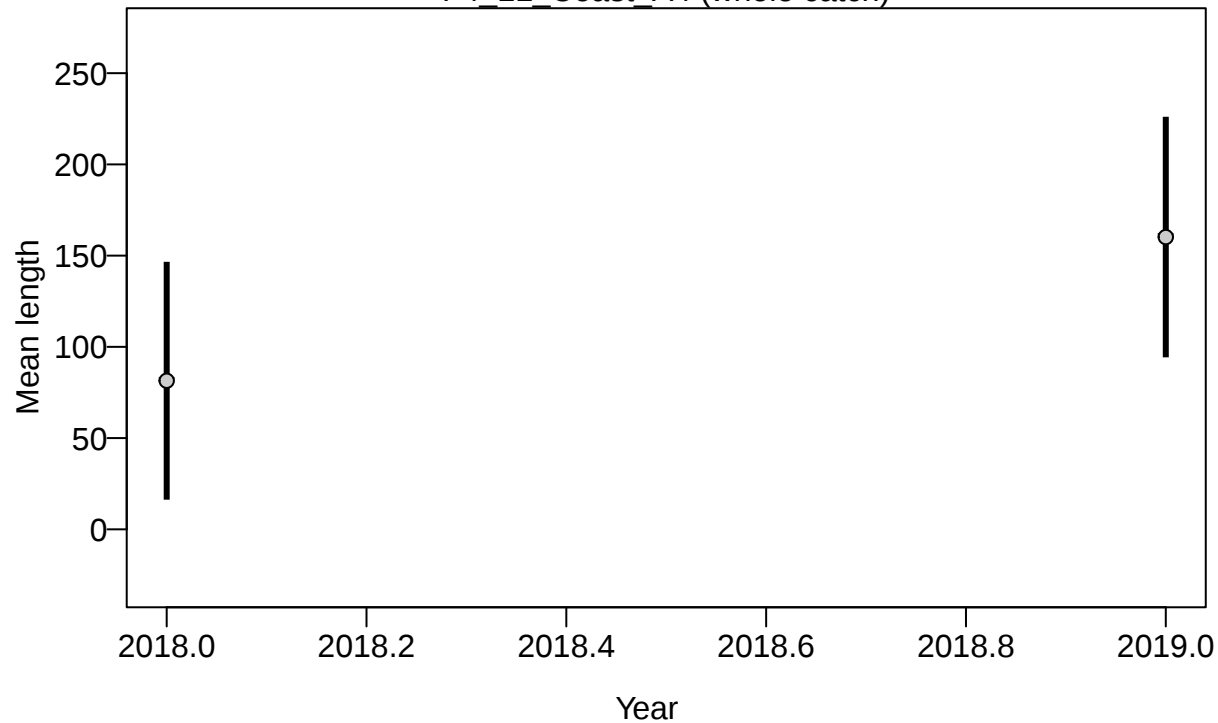
Proportion



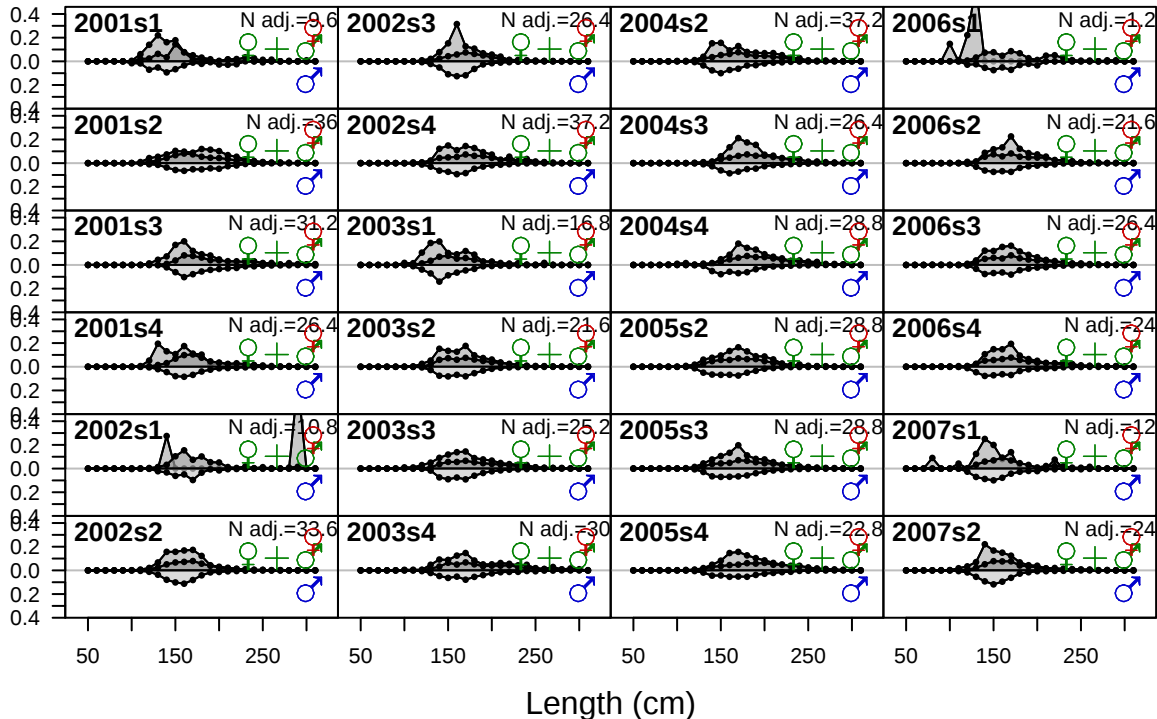
Length (cm)



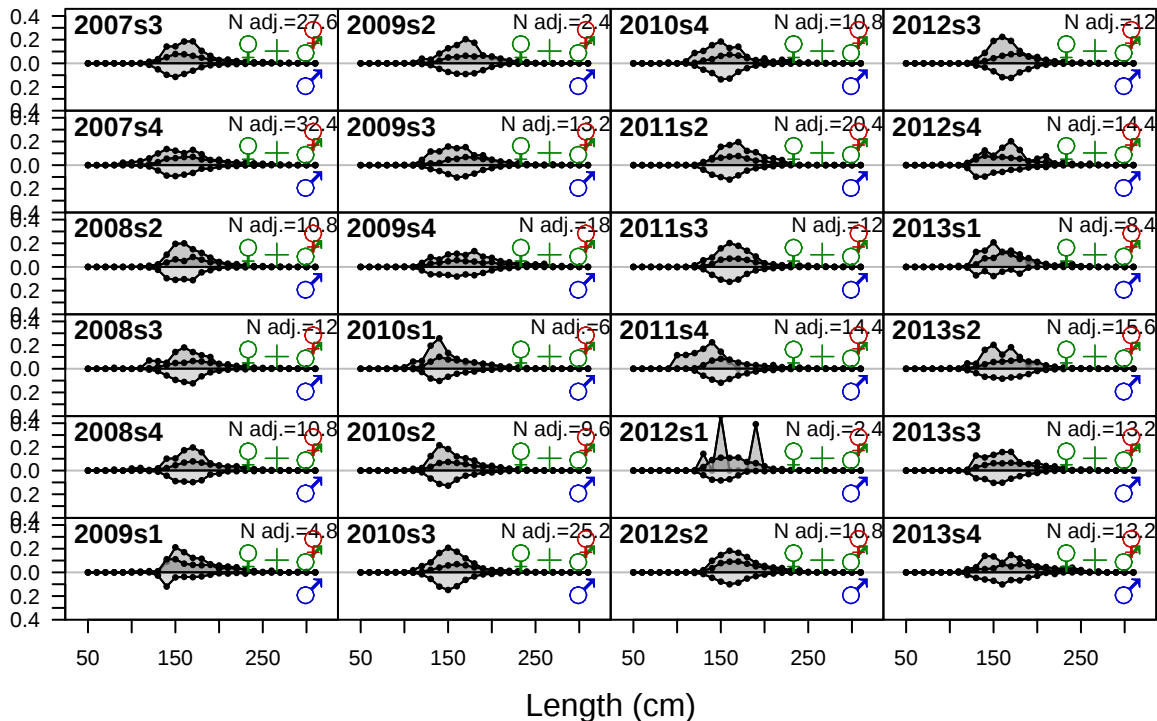
F4_LL_Coast_A4 (whole catch)



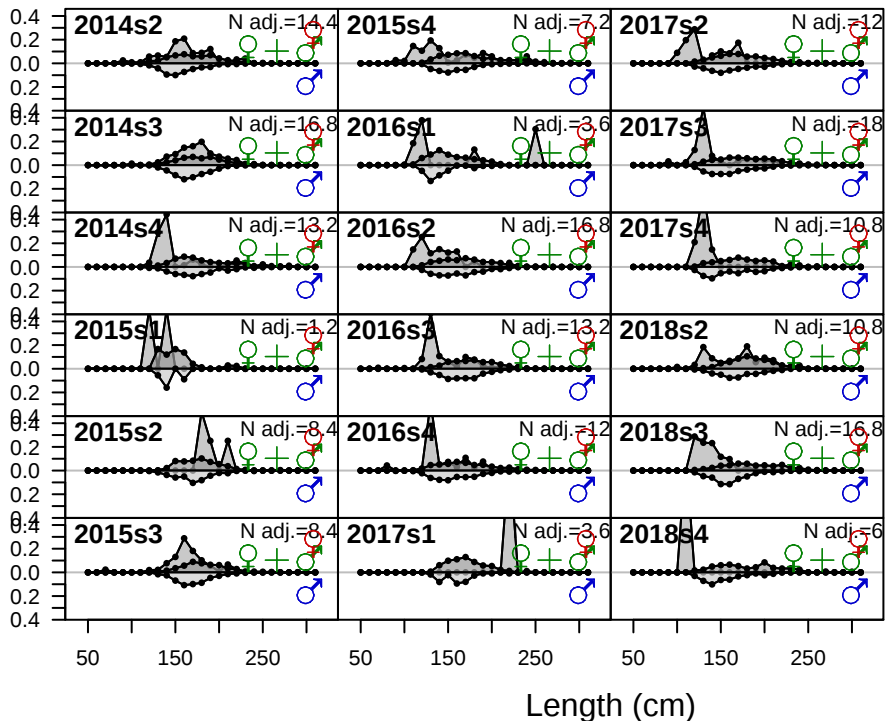
Proportion

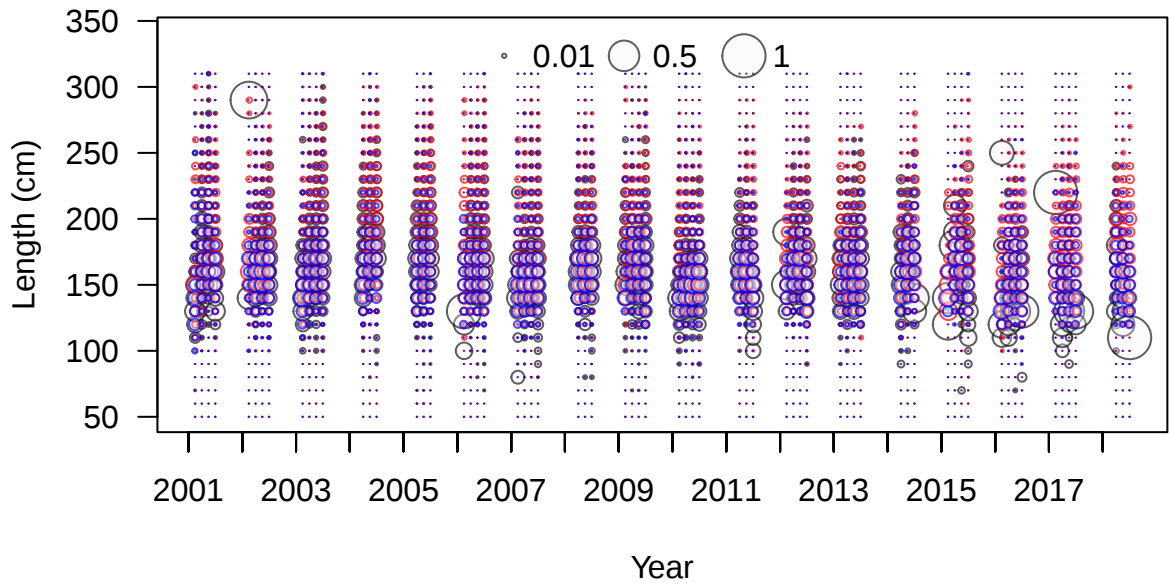


Proportion

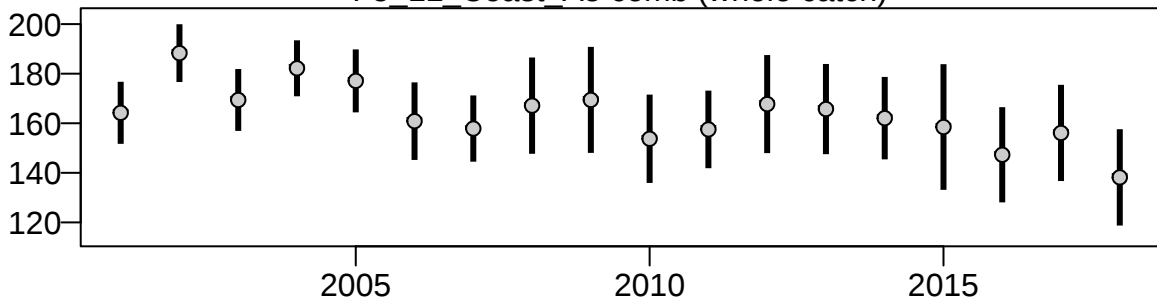


Proportion

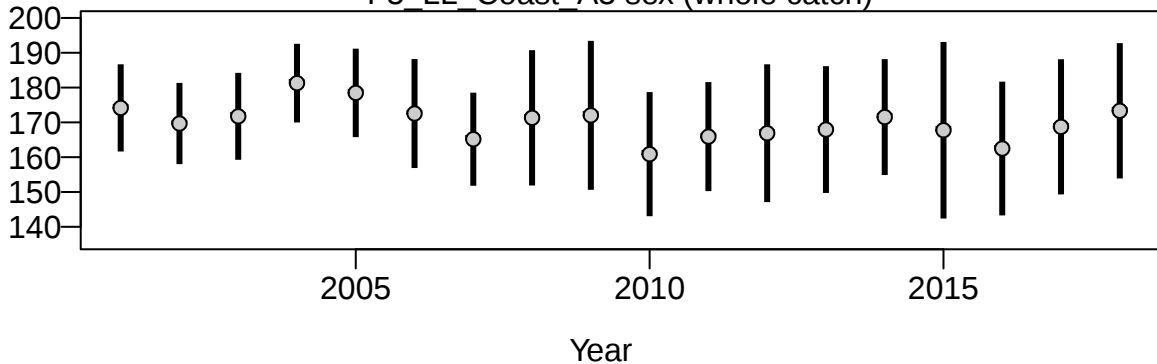




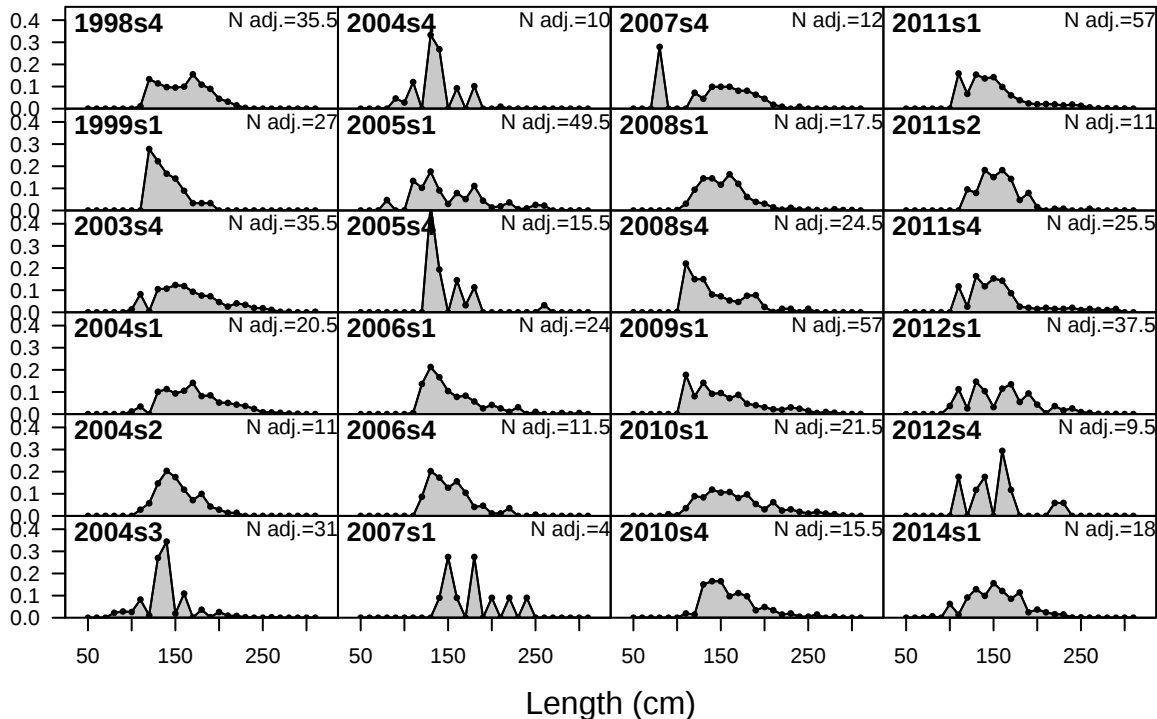
F5_LL_Coast_A5 comb (whole catch)



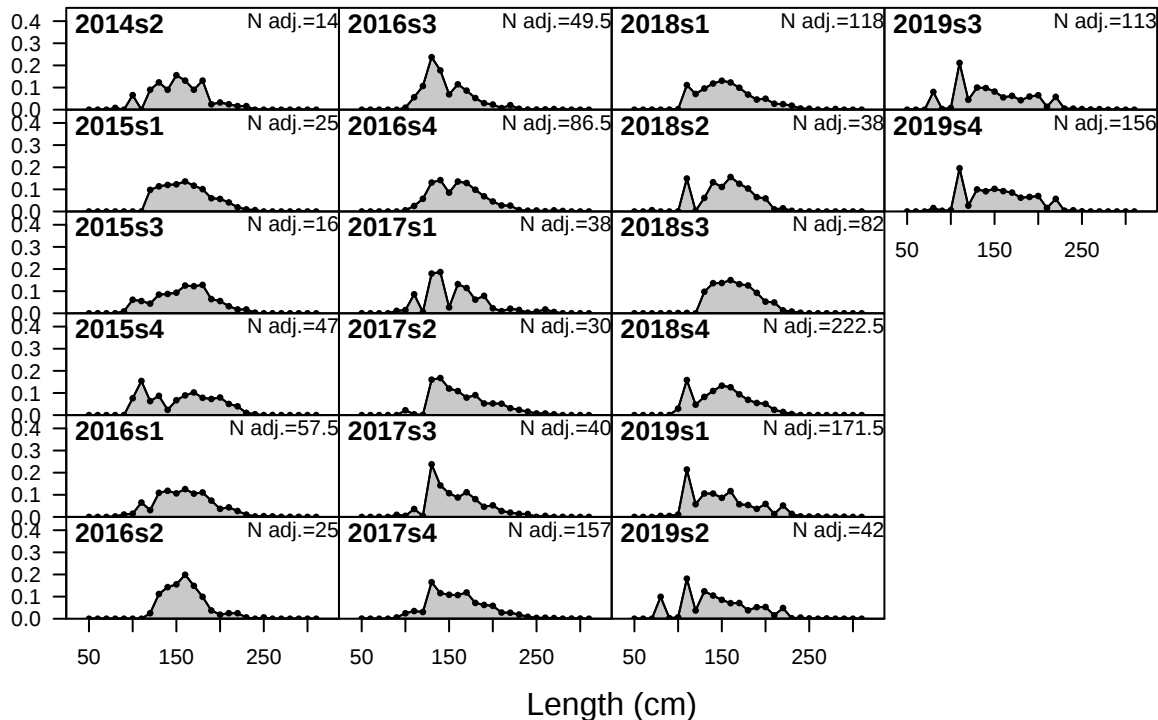
F5_LL_Coast_A5 sex (whole catch)

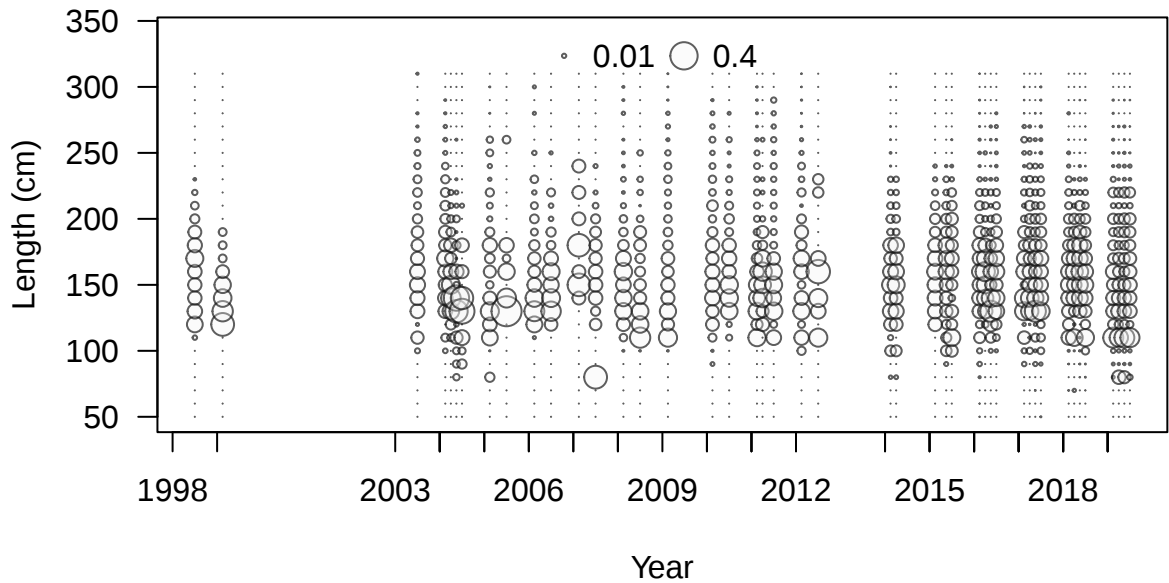


Proportion

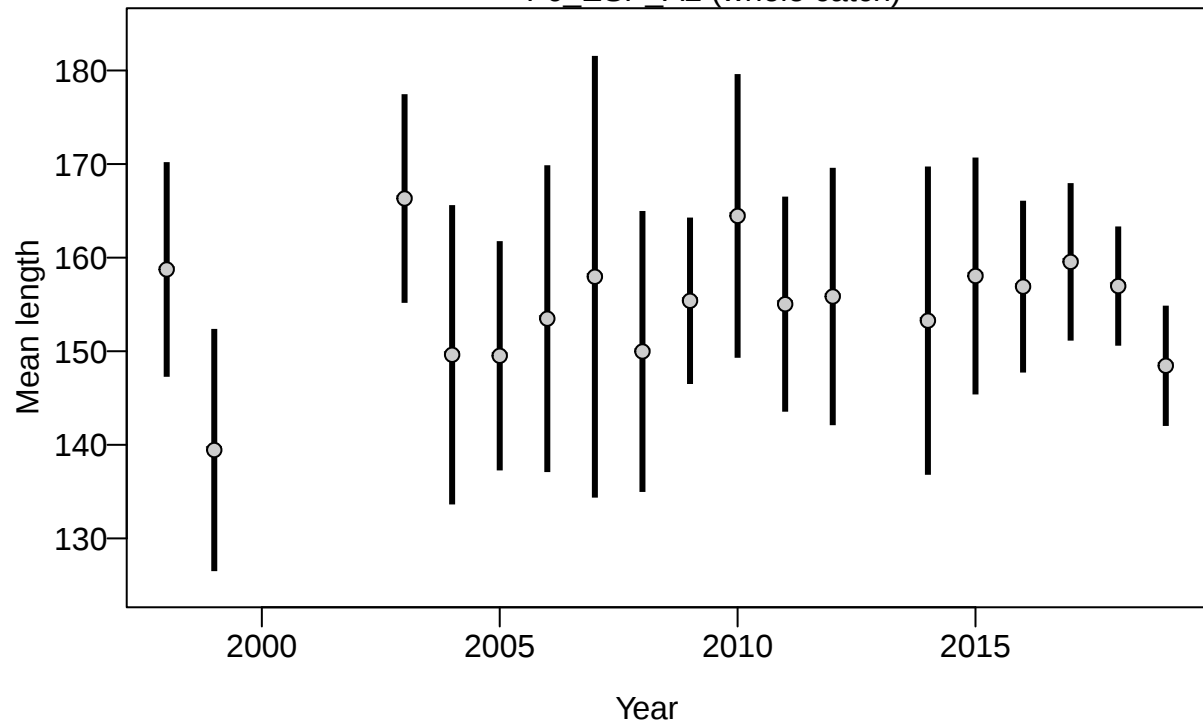


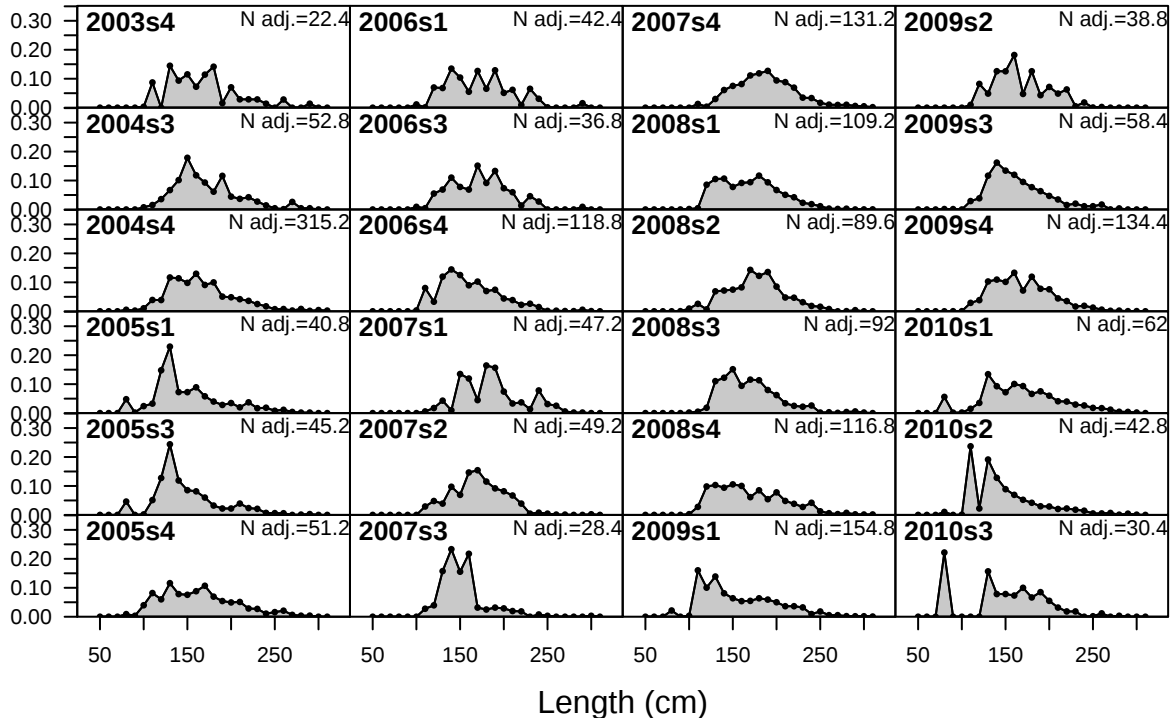
Proportion

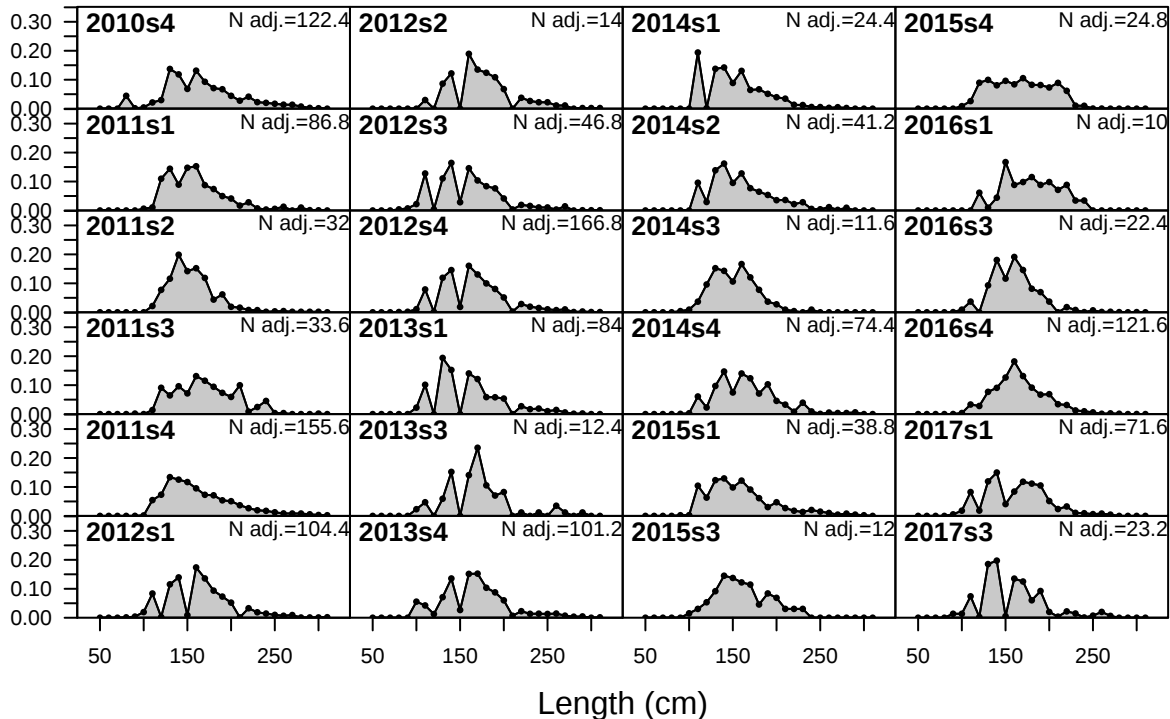




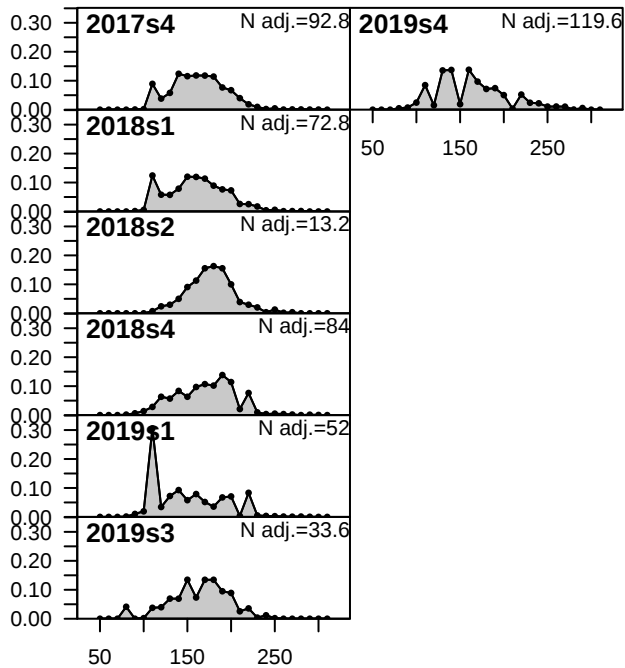
F6_ESP_A2 (whole catch)



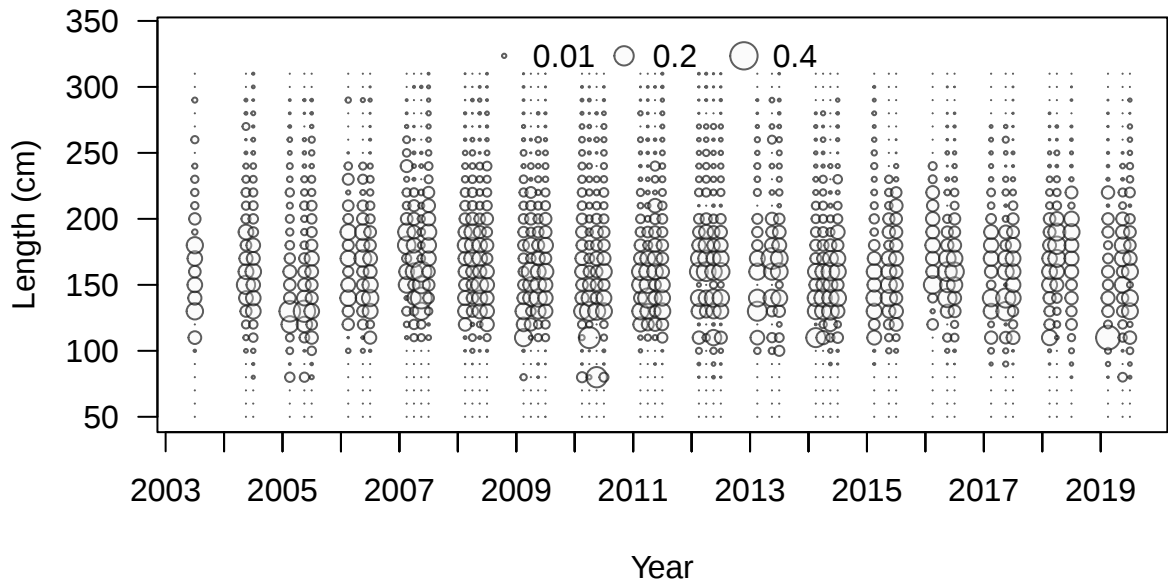




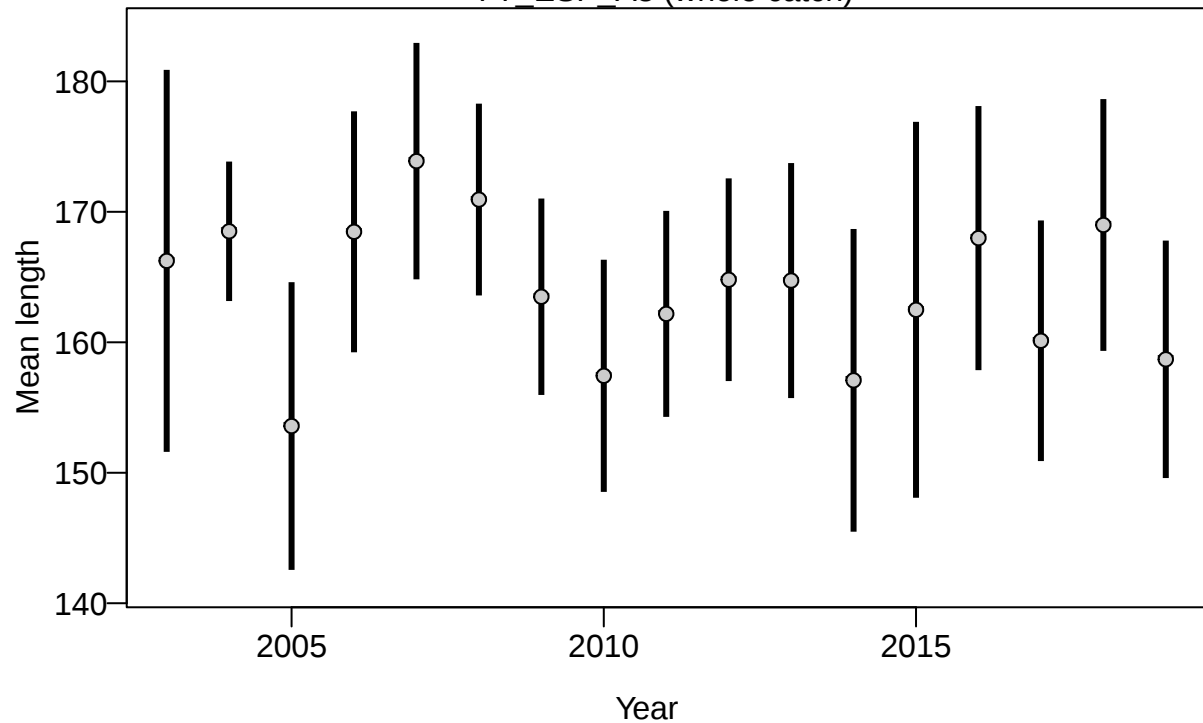
Proportion



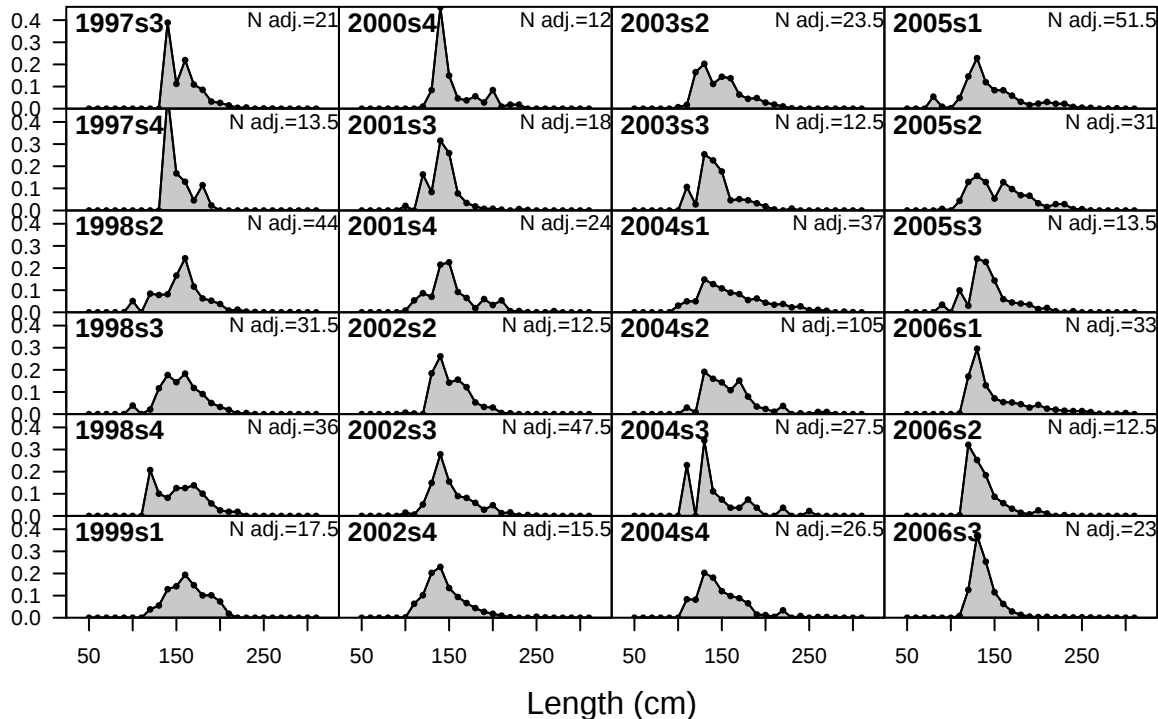
Length (cm)

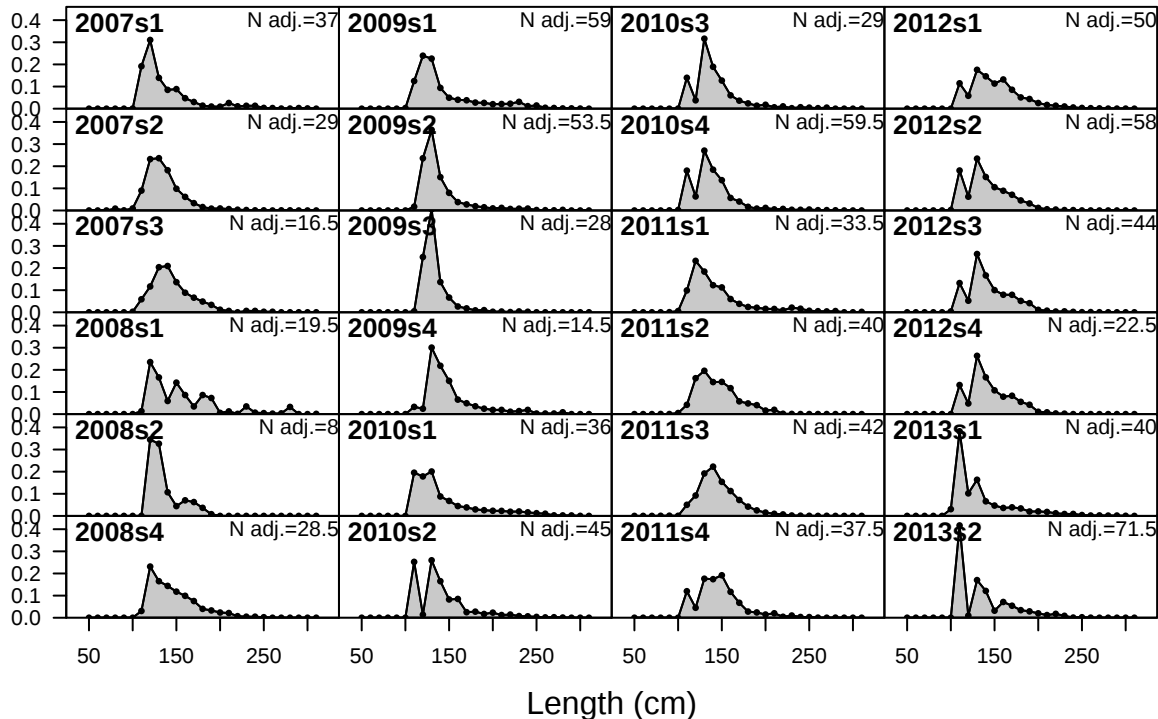


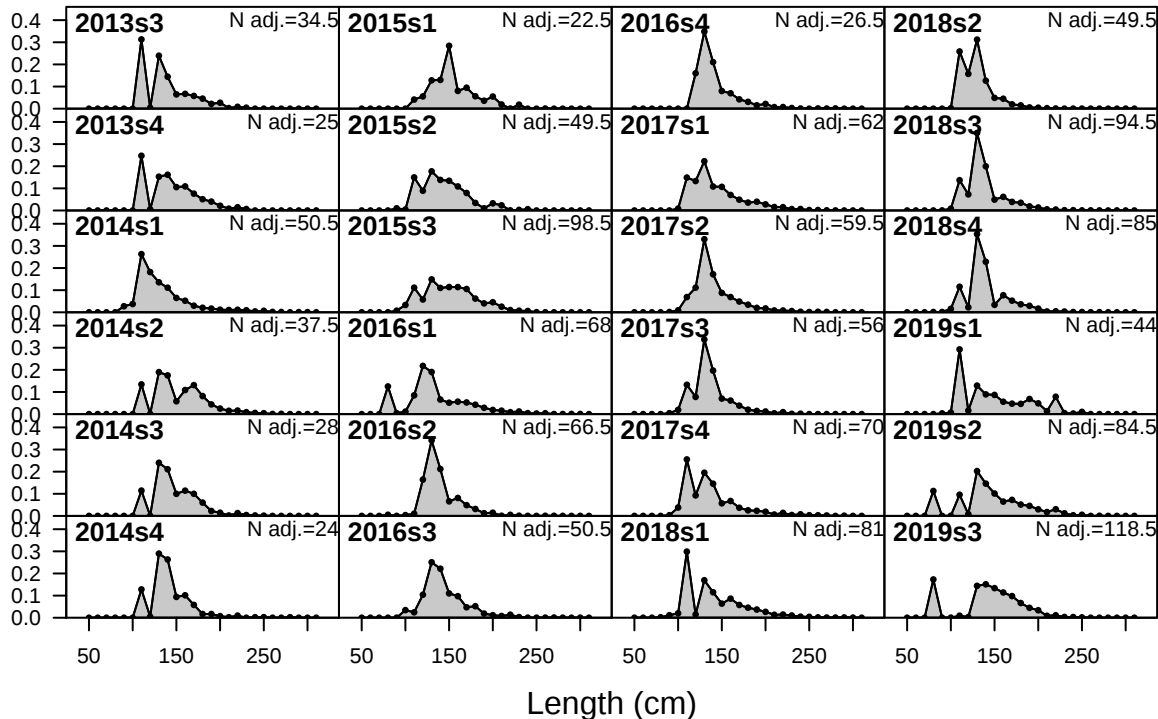
F7_ESP_A3 (whole catch)

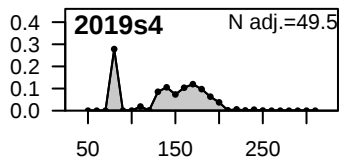


Proportion

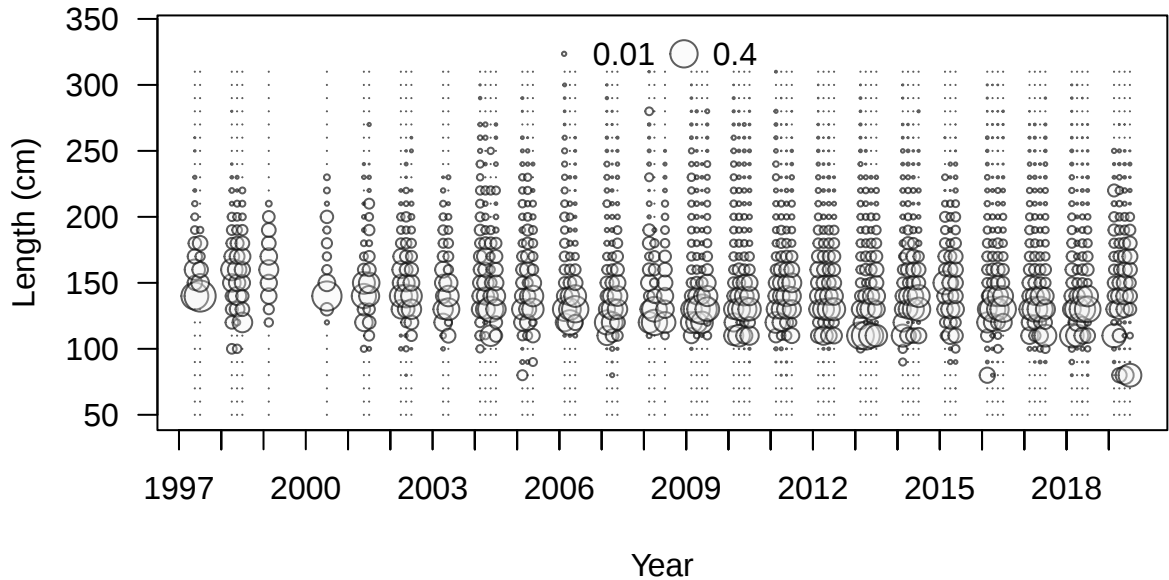




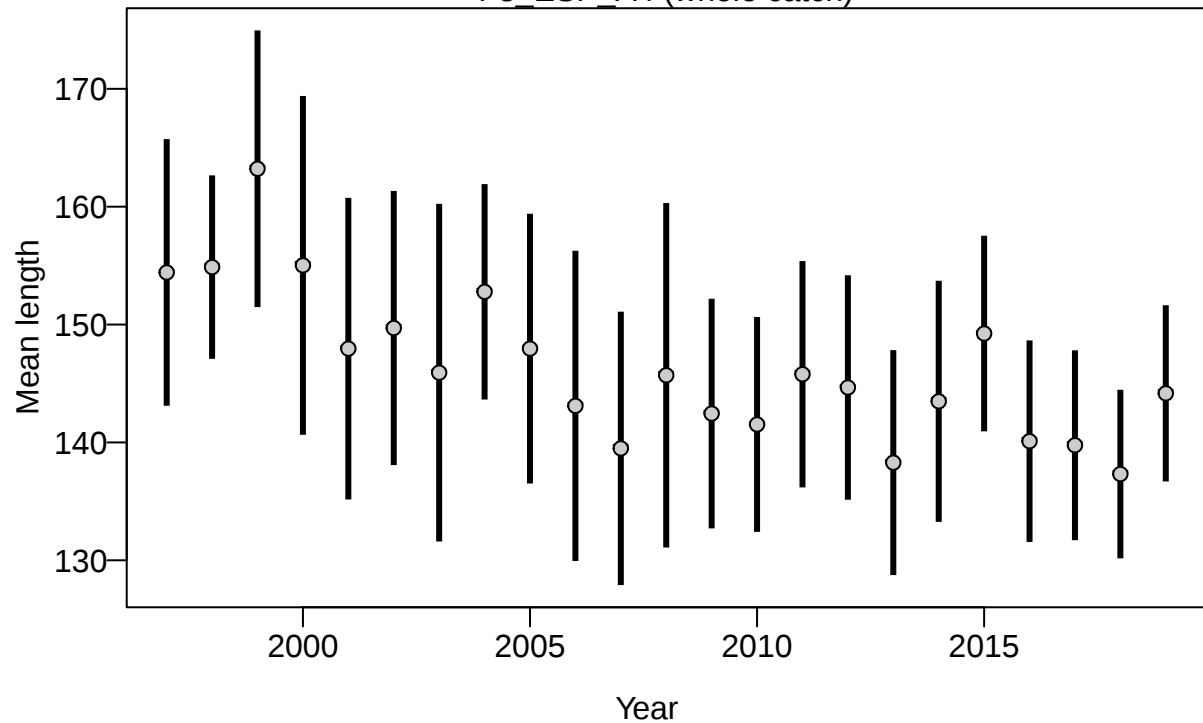




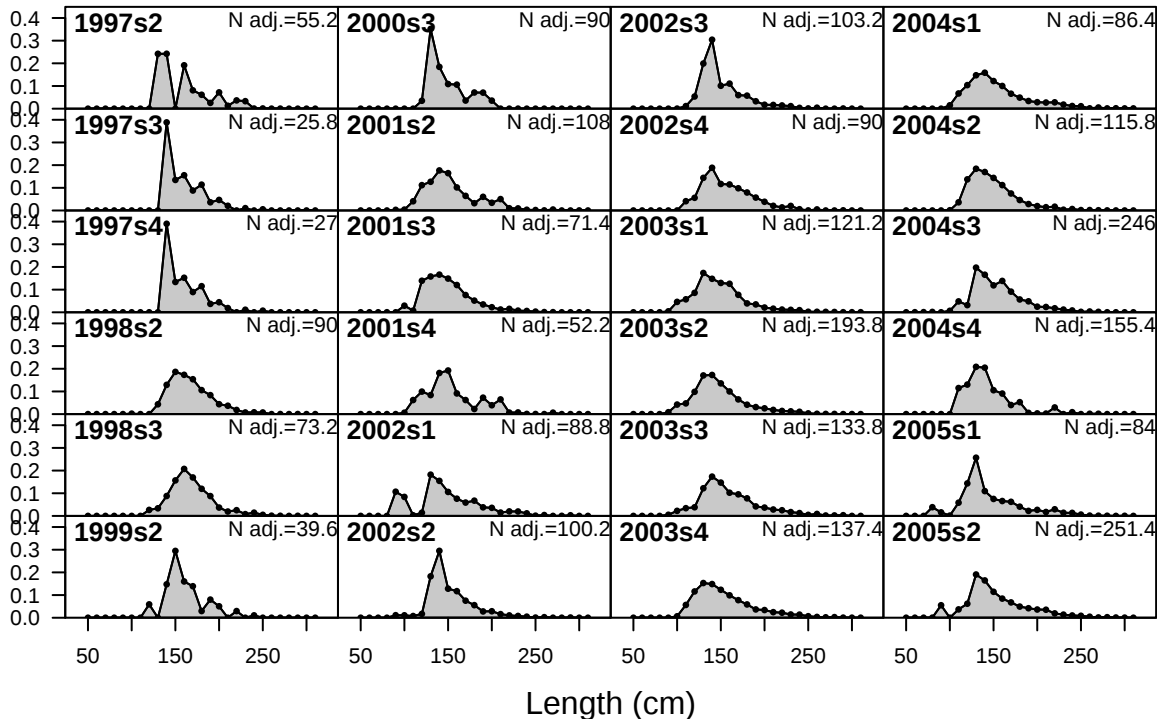
Length (cm)



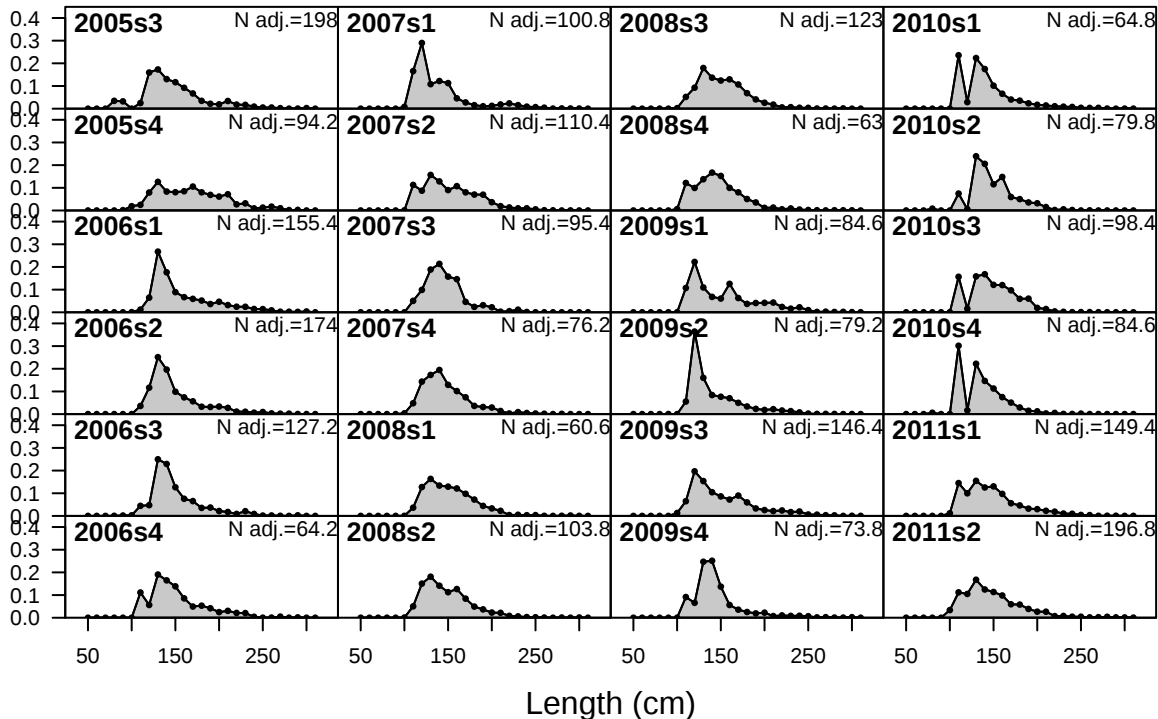
F8_ESP_A4 (whole catch)

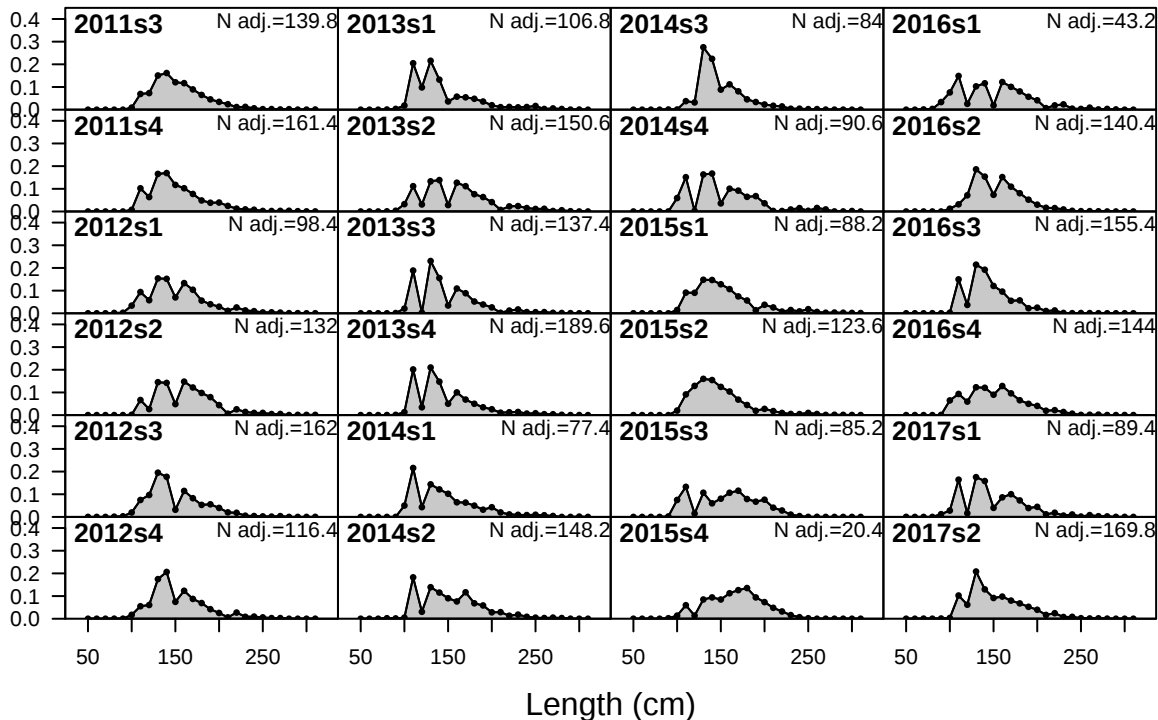


Proportion

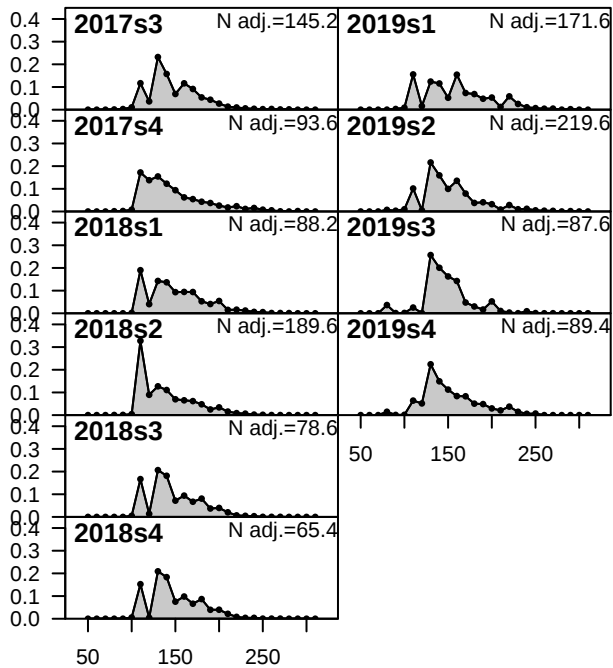


Proportion

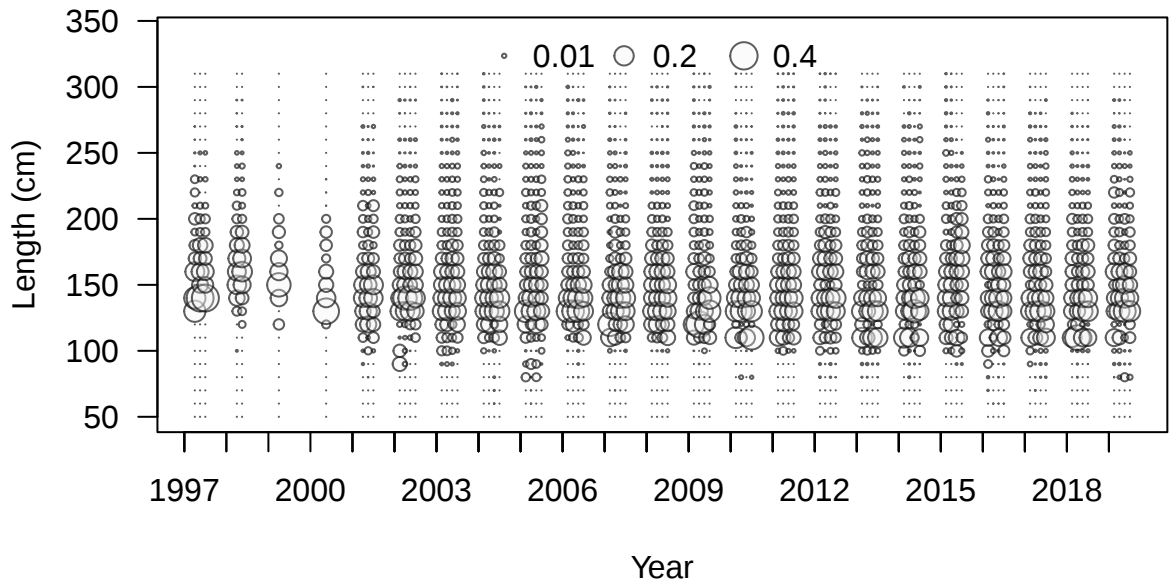




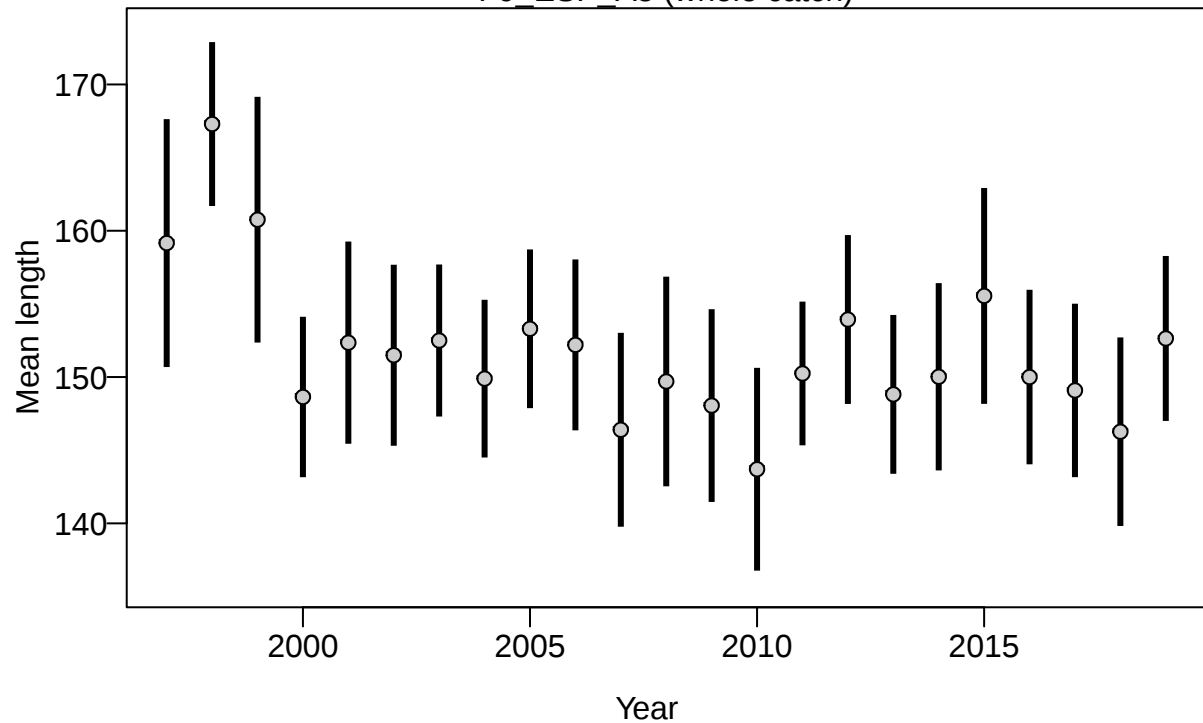
Proportion



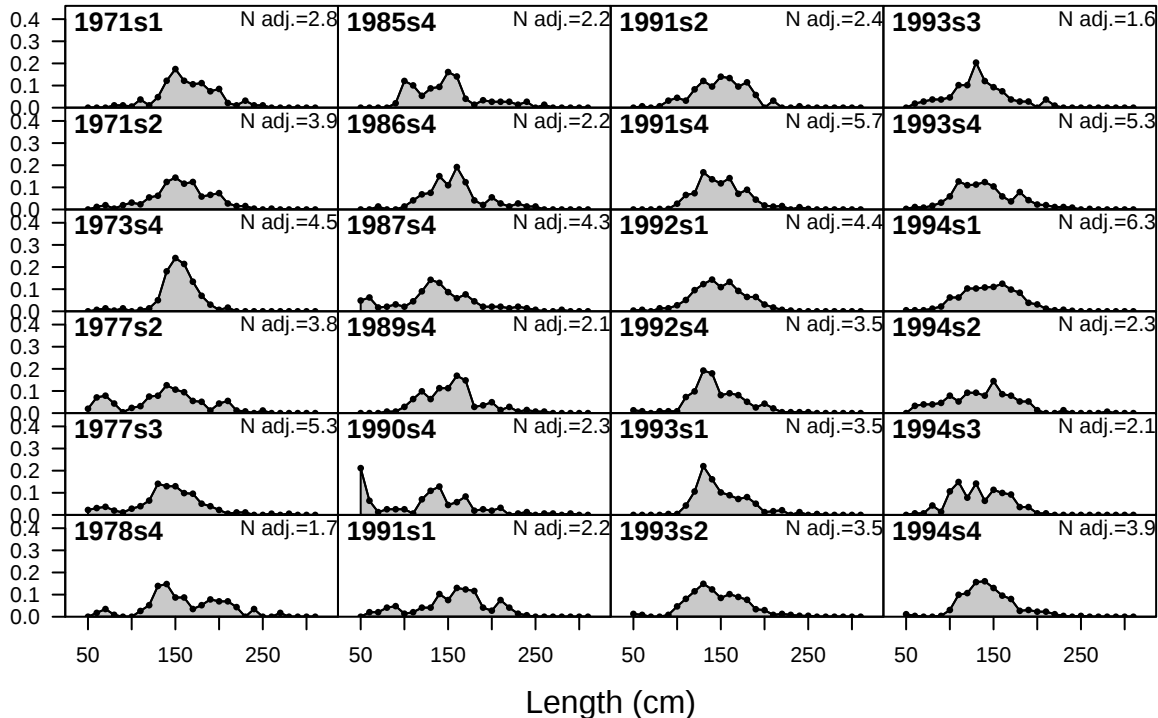
Length (cm)



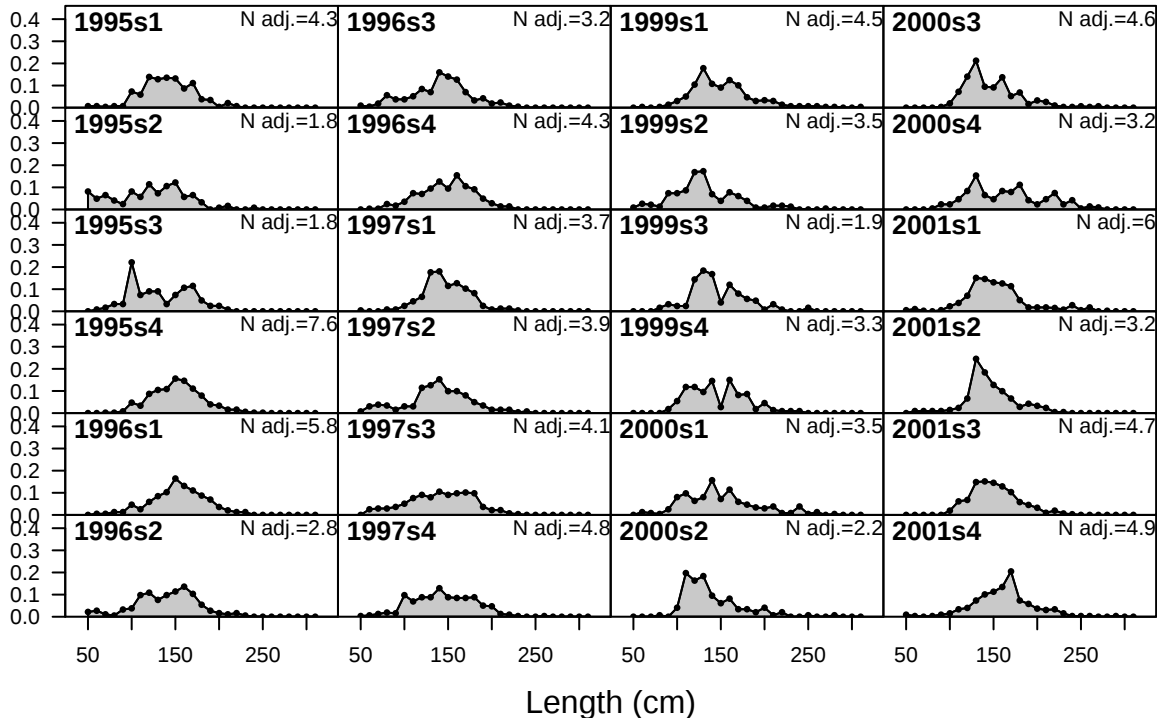
F9_ESP_A5 (whole catch)

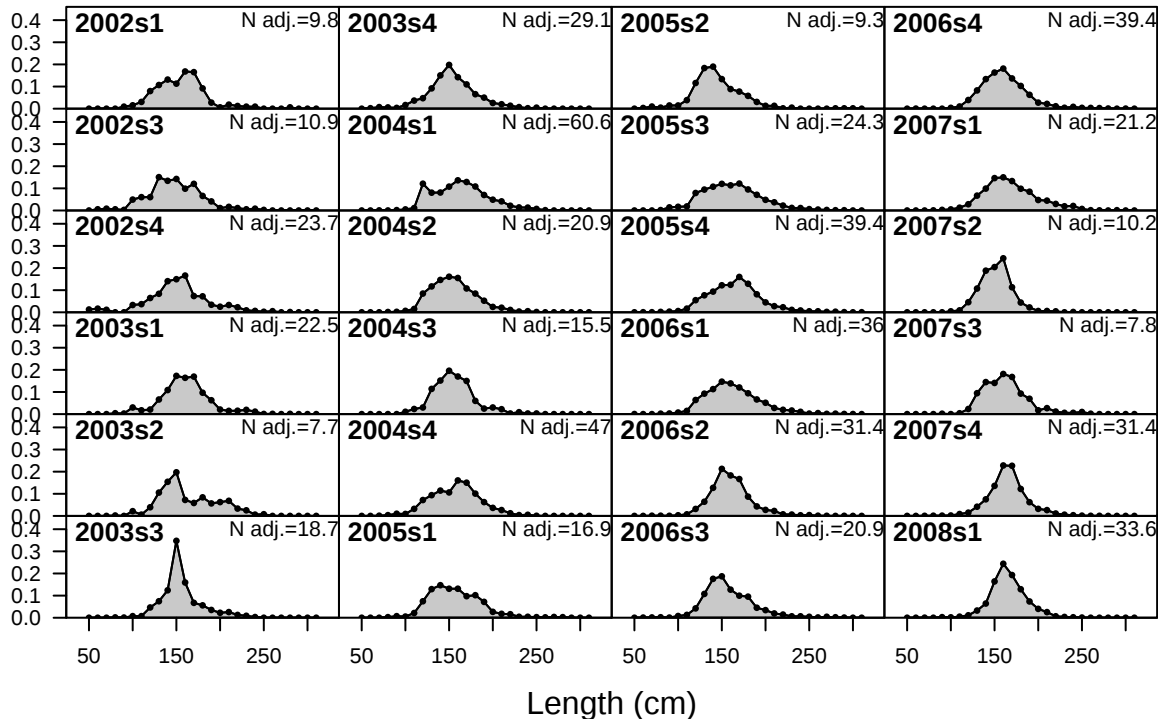


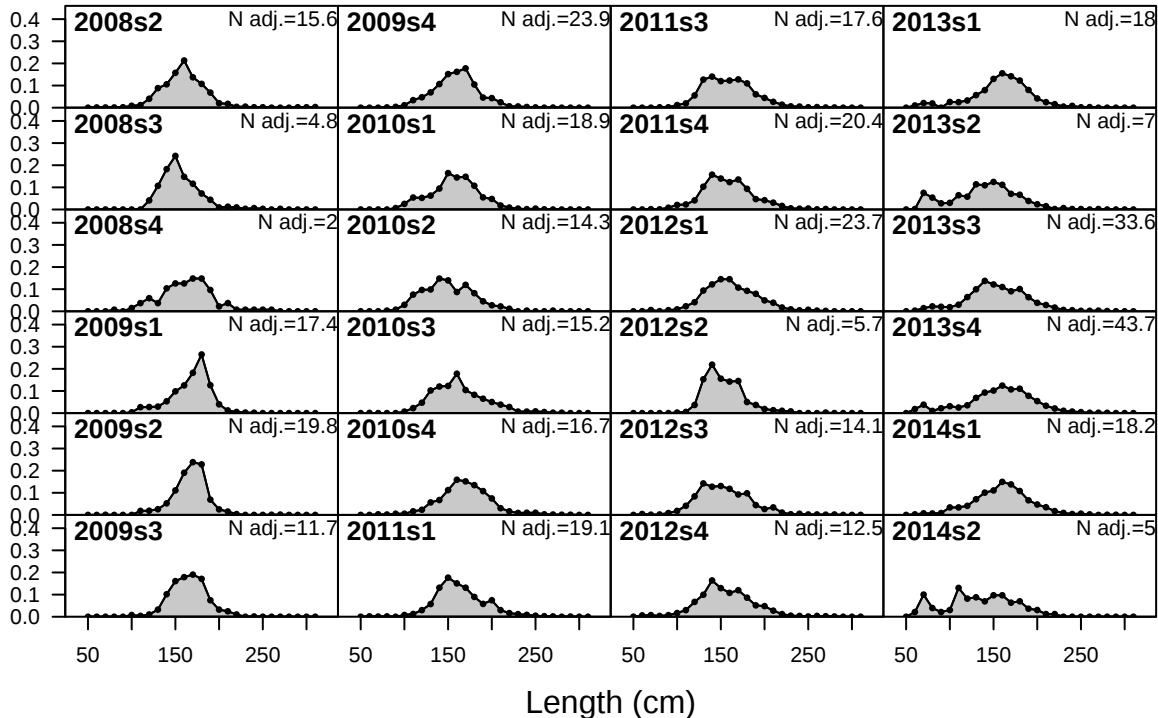
Proportion



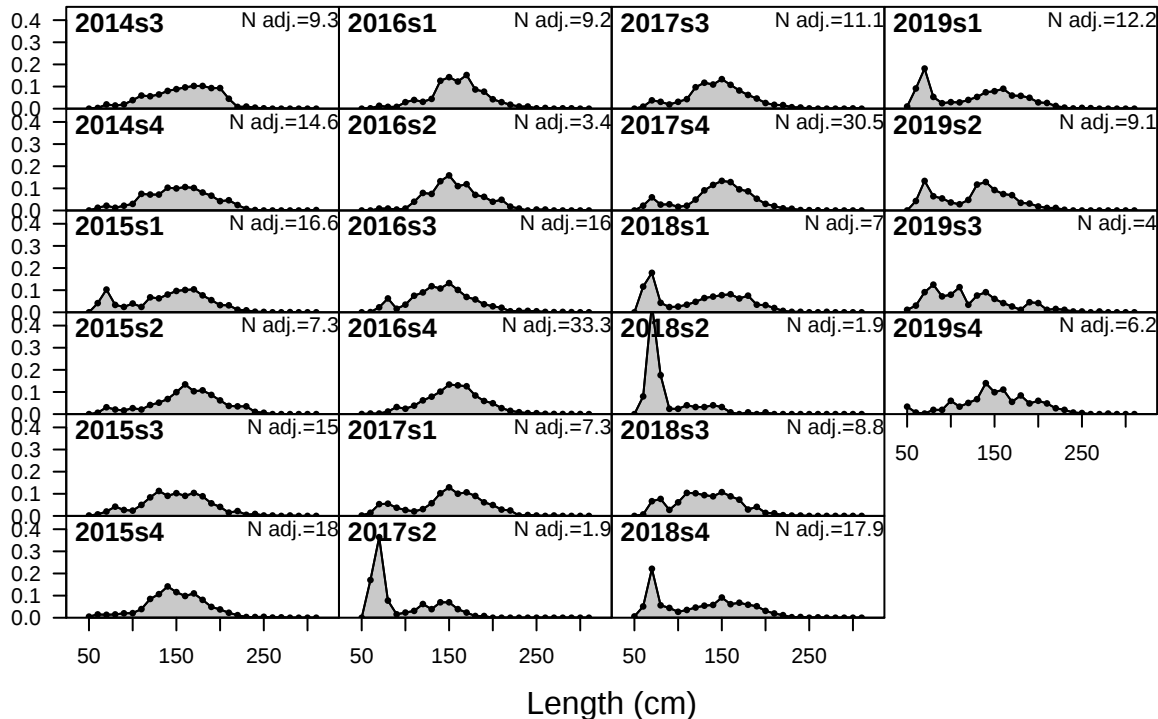
Proportion

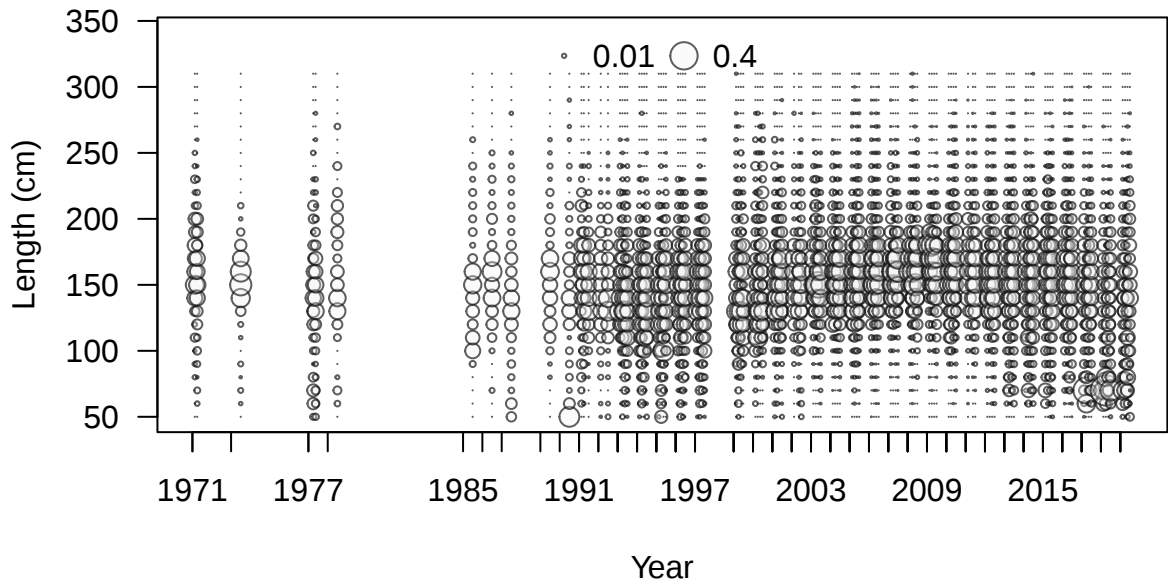




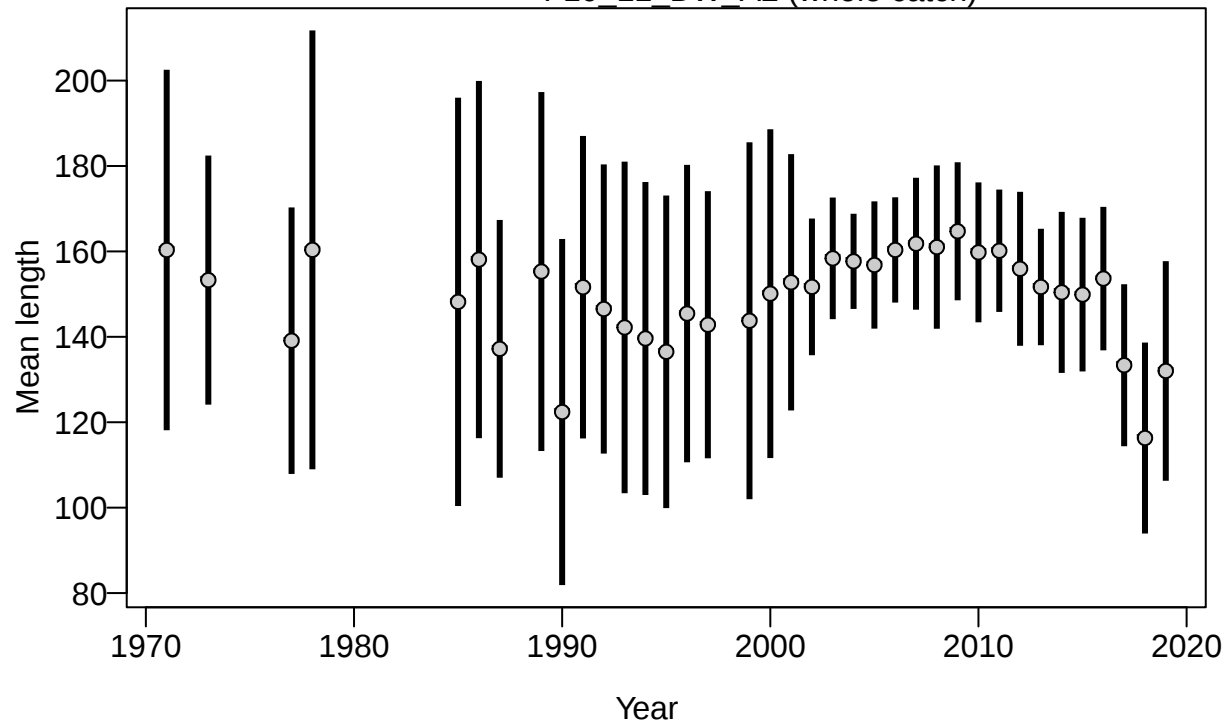


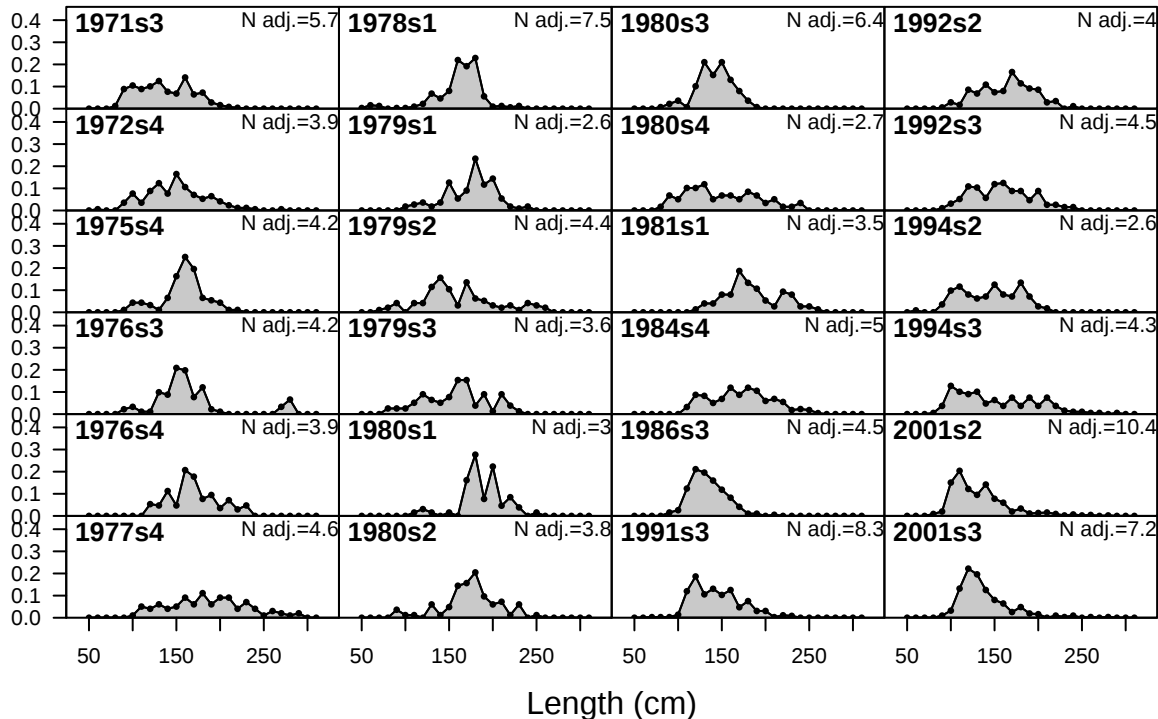
Proportion

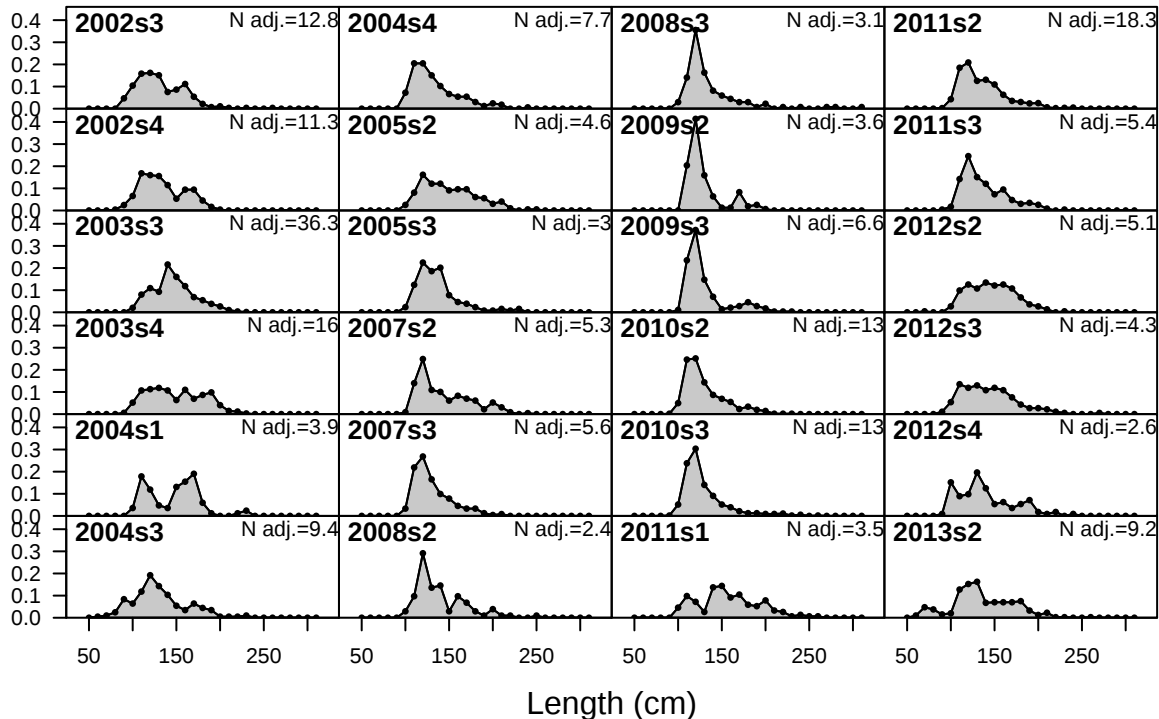




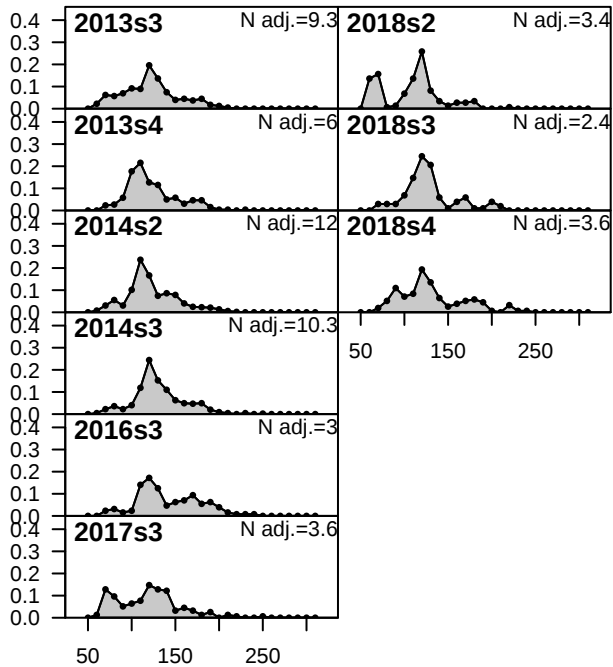
F10_LL_DW_A2 (whole catch)



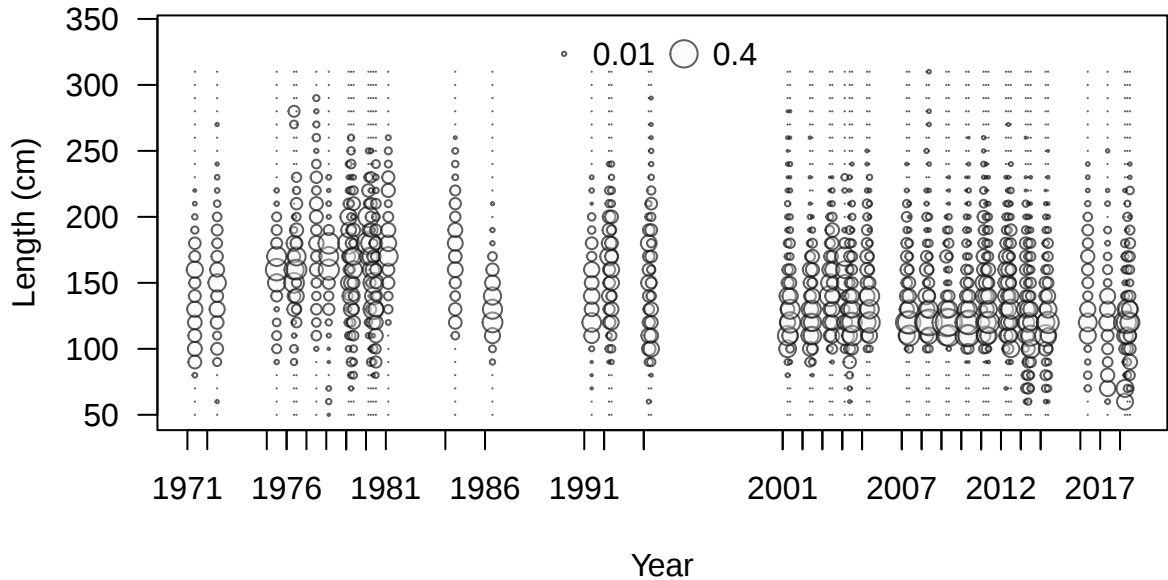




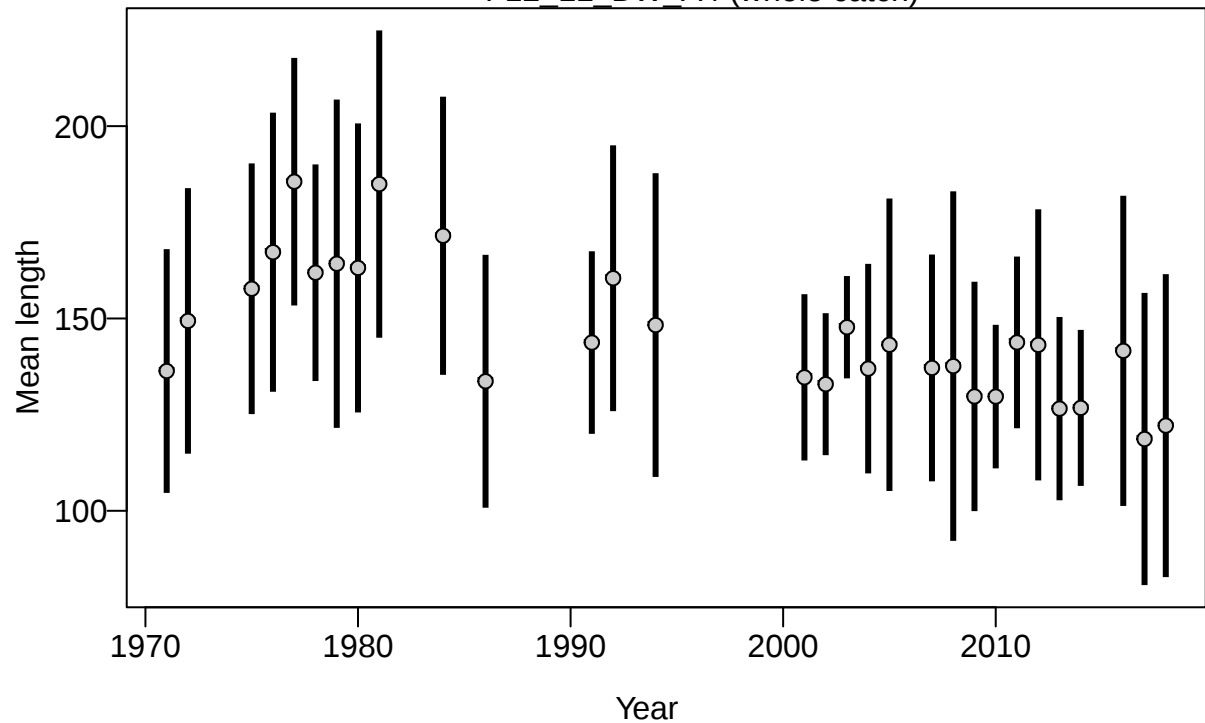
Proportion

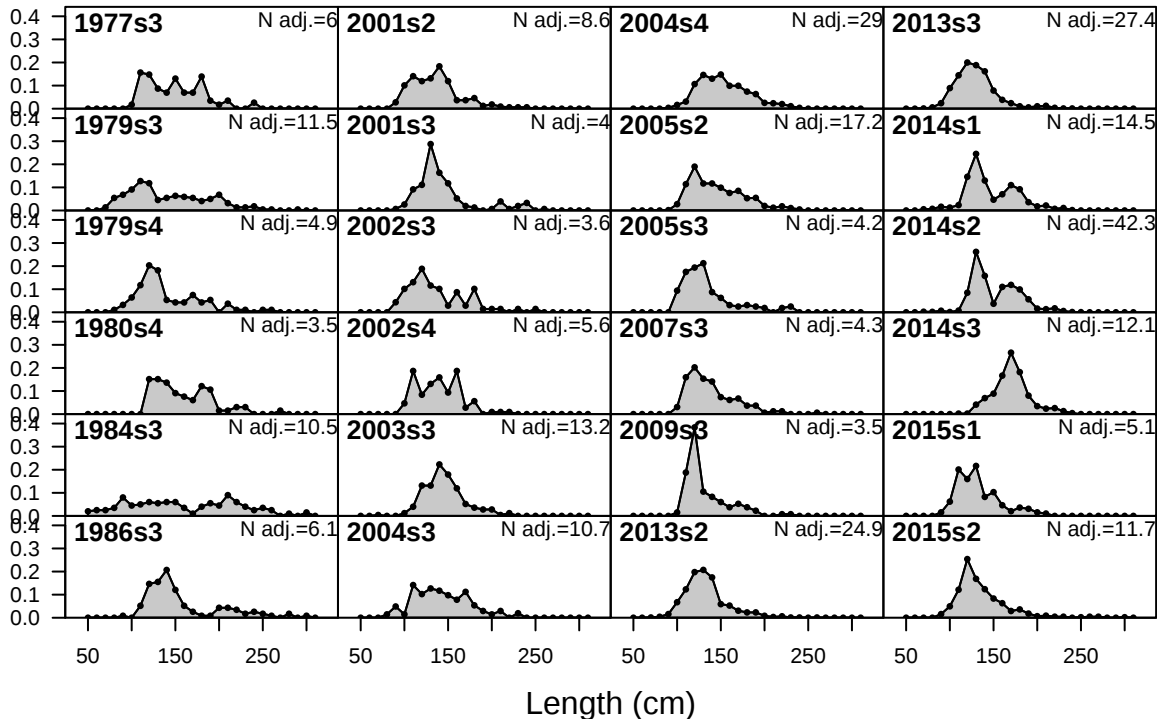


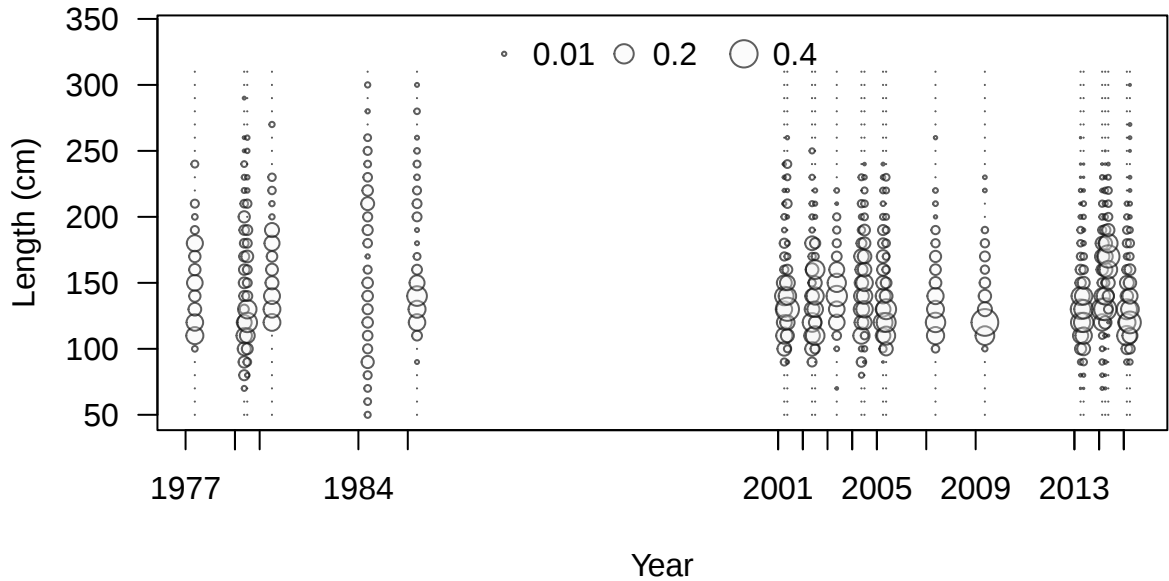
Length (cm)



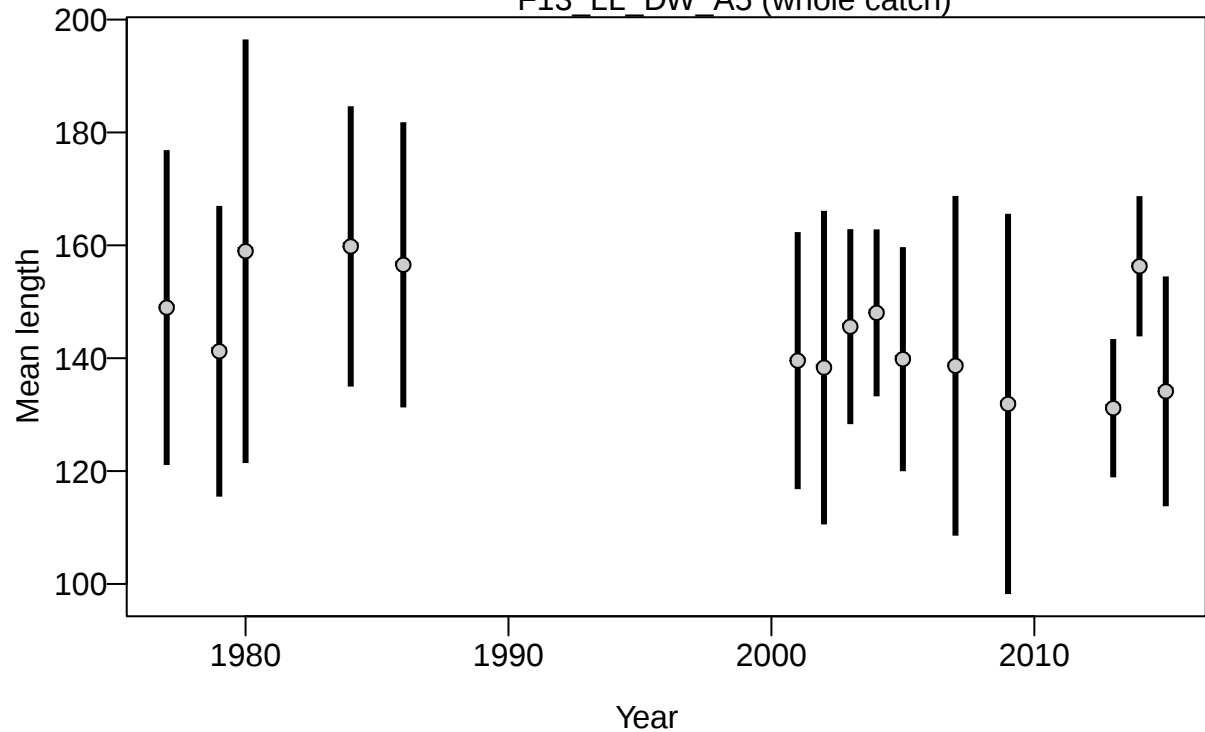
F12_LL_DW_A4 (whole catch)



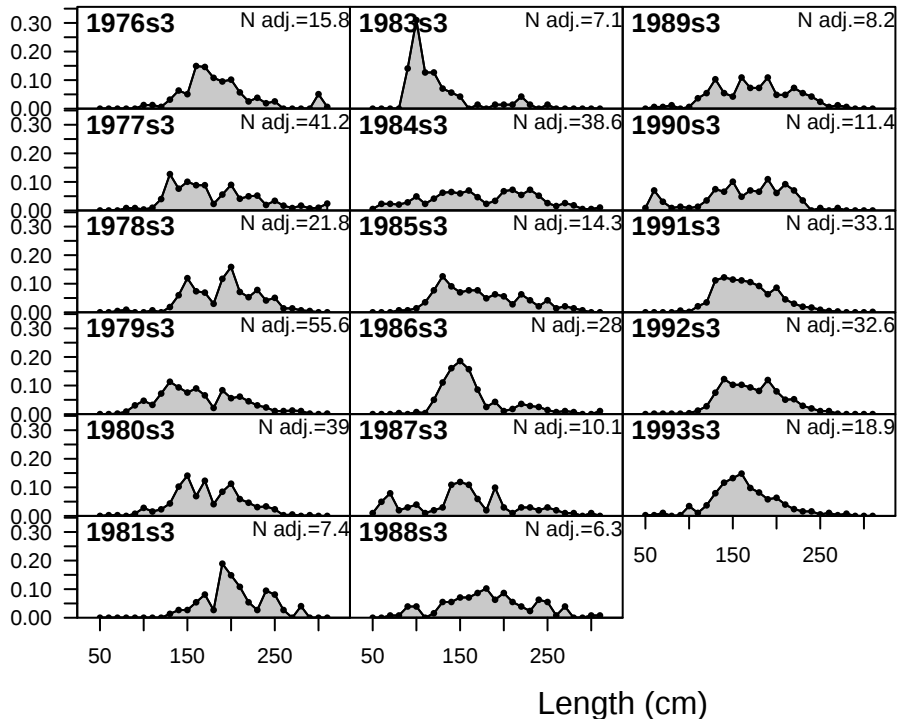


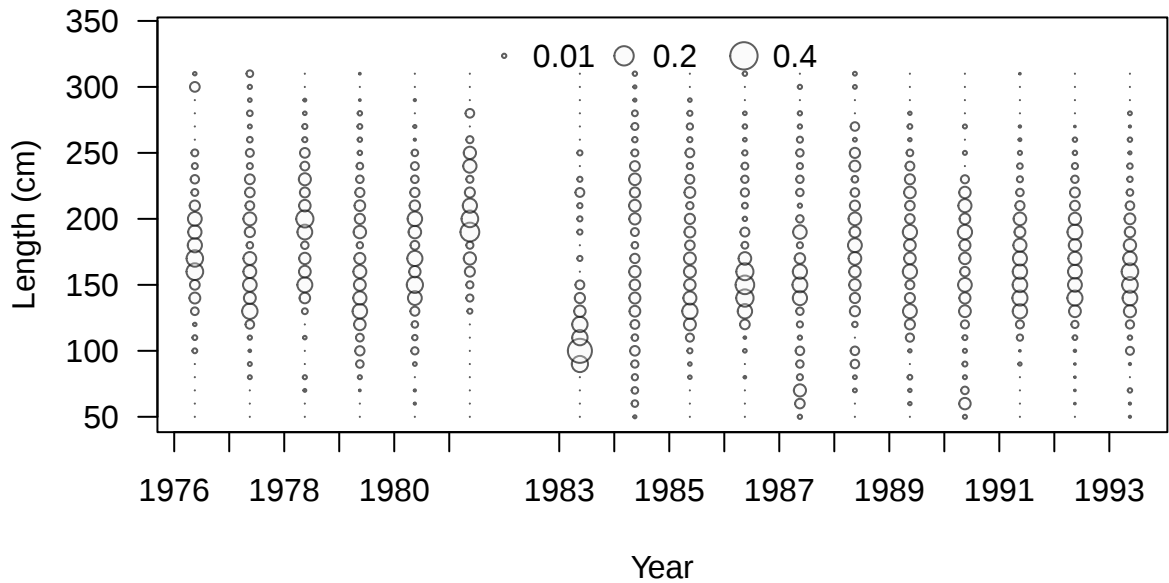


F13_LL_DW_A5 (whole catch)

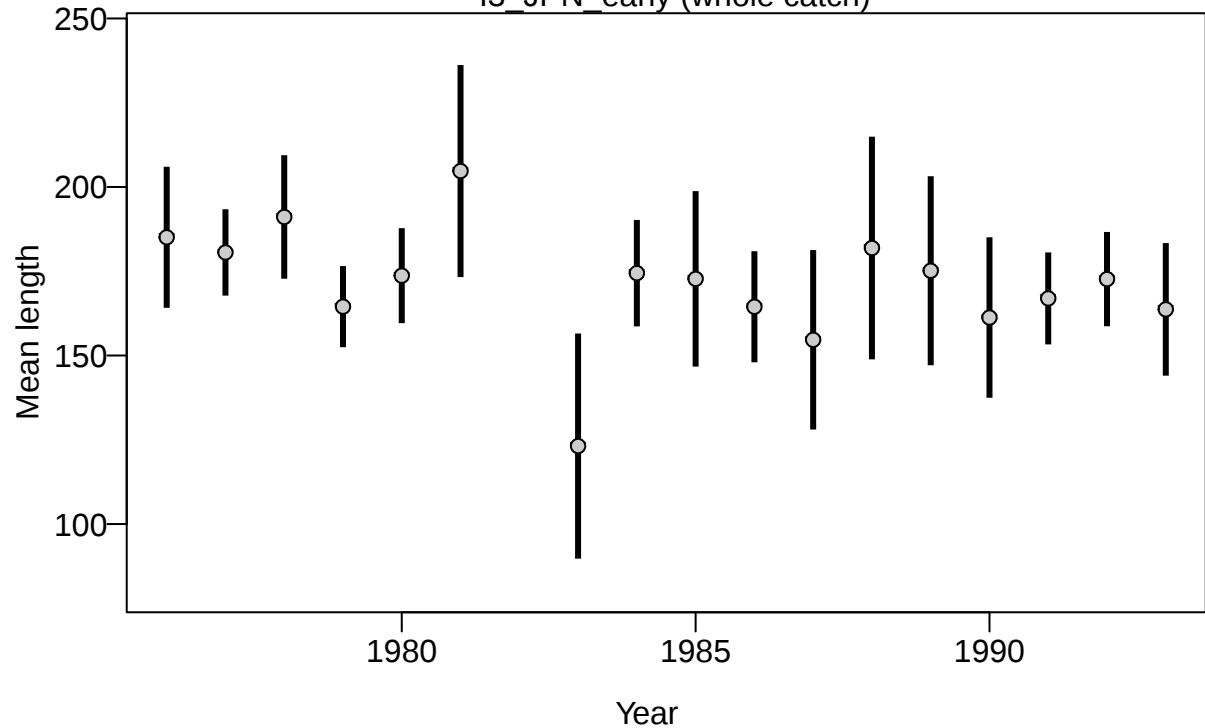


Proportion

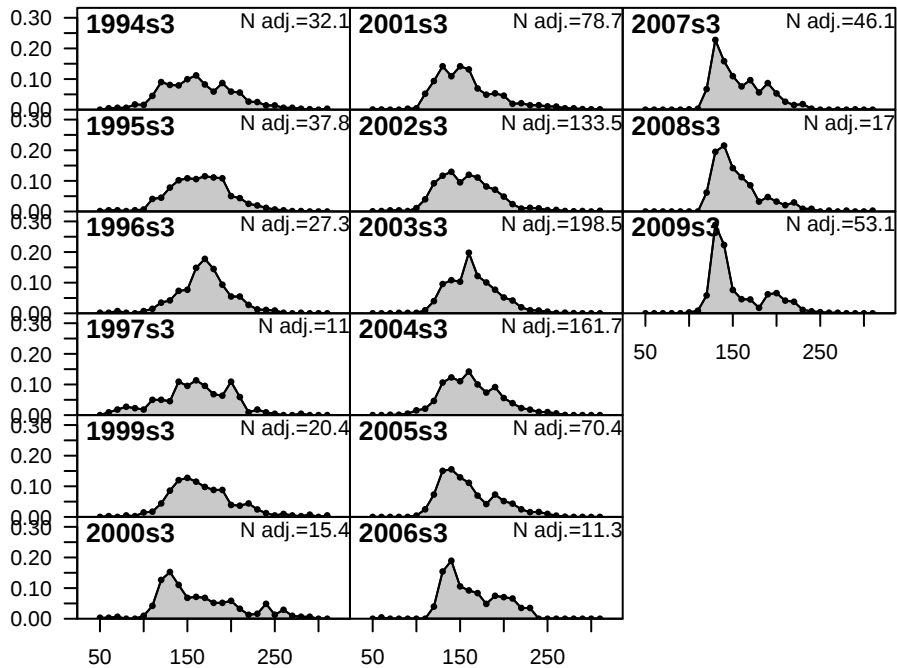




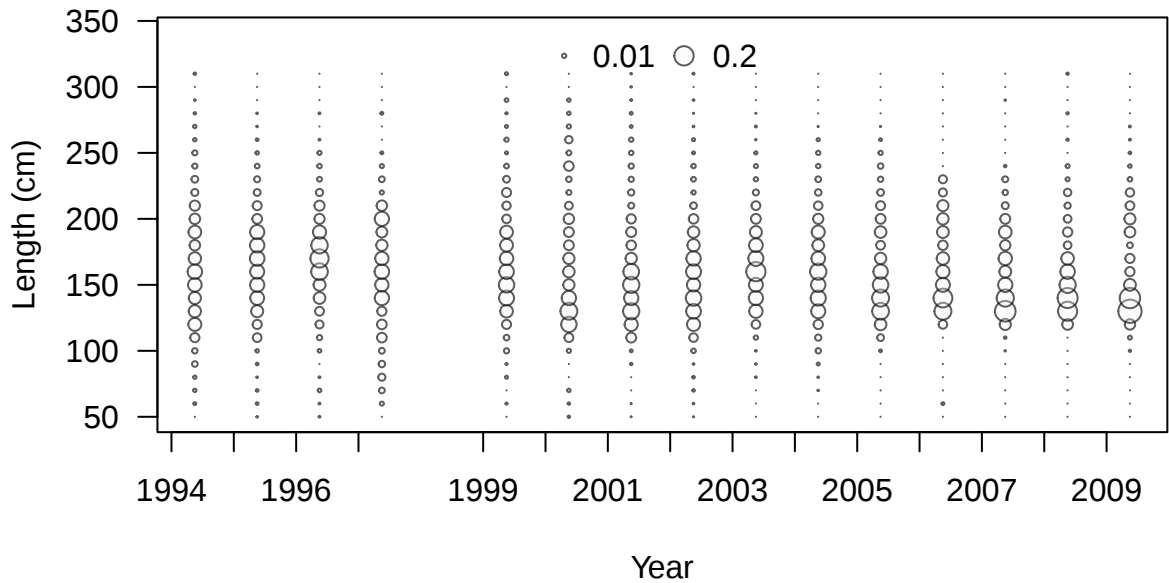
I3_JPN_early (whole catch)



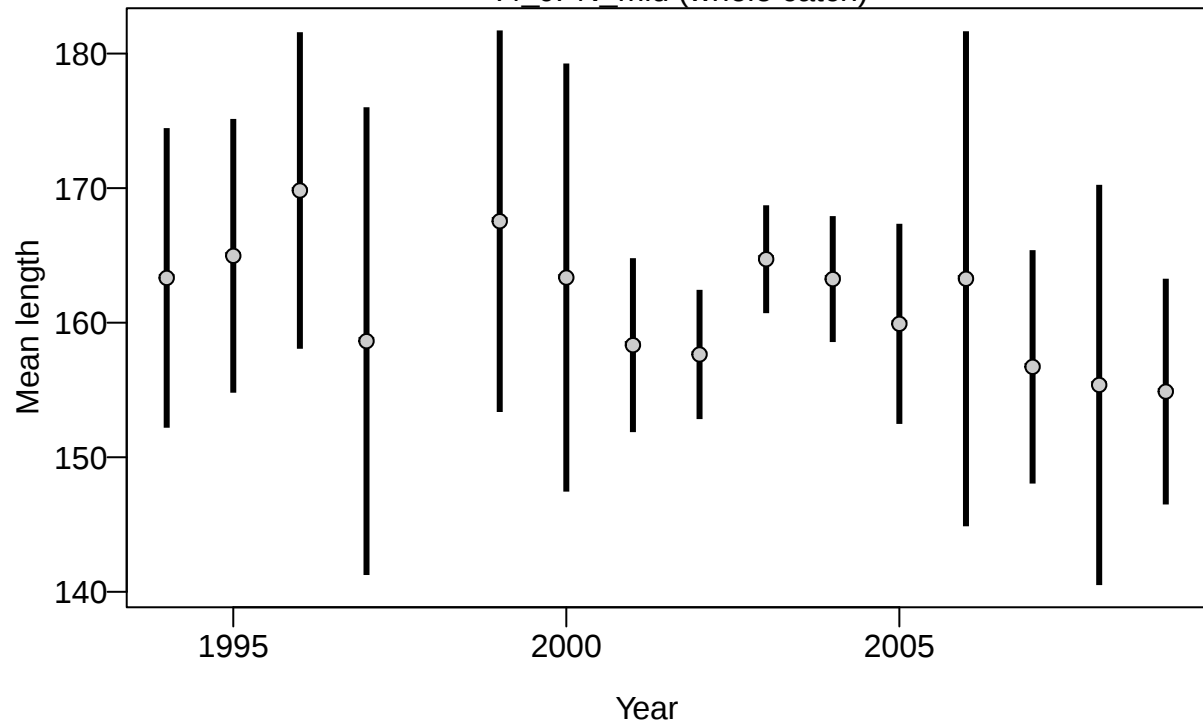
Proportion



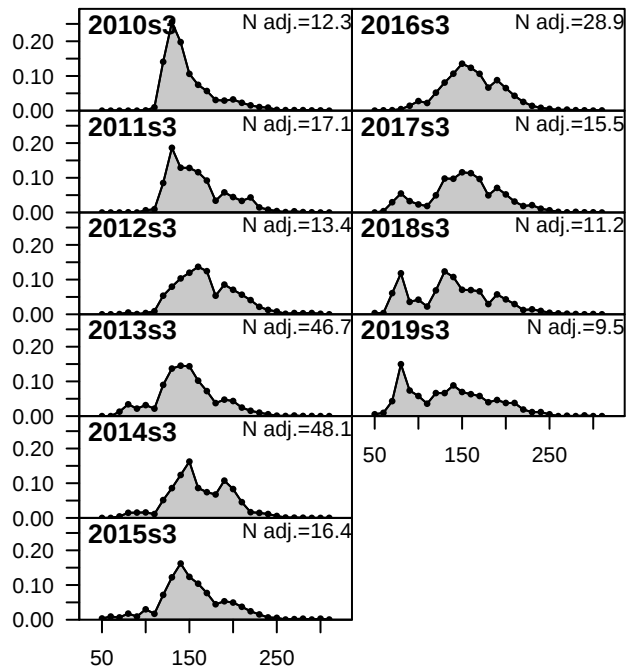
Length (cm)



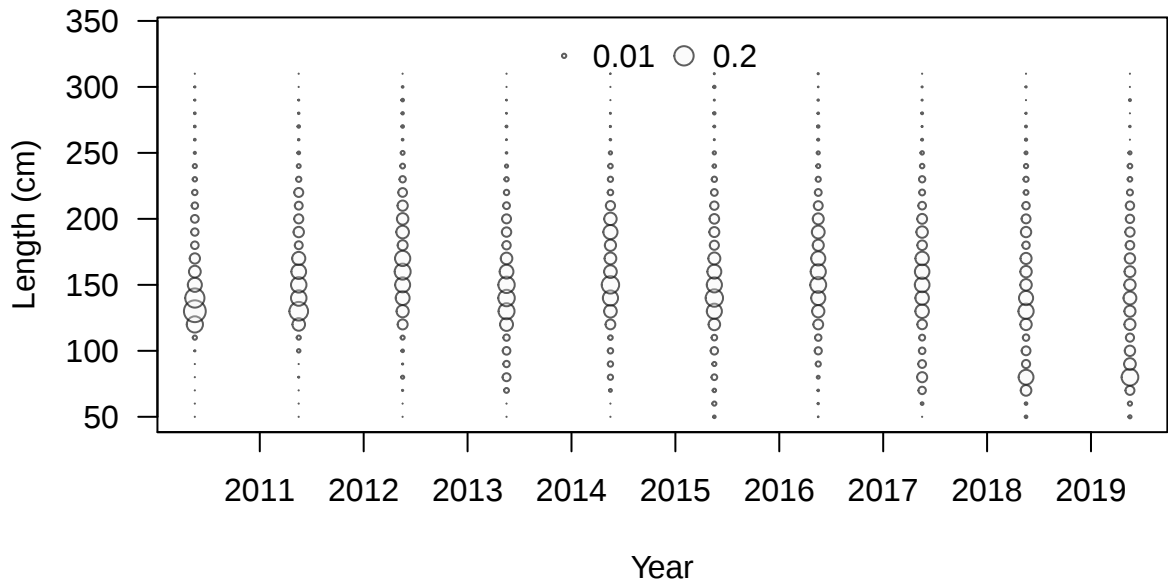
l4_JPN_mid (whole catch)



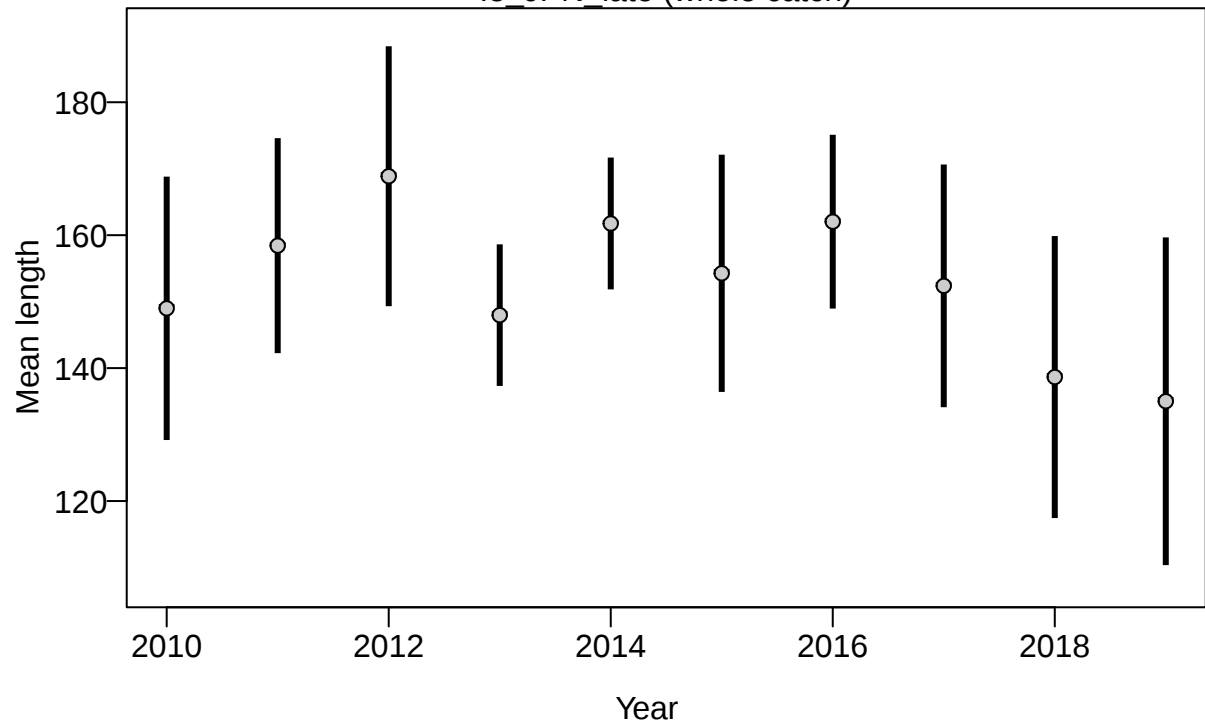
Proportion



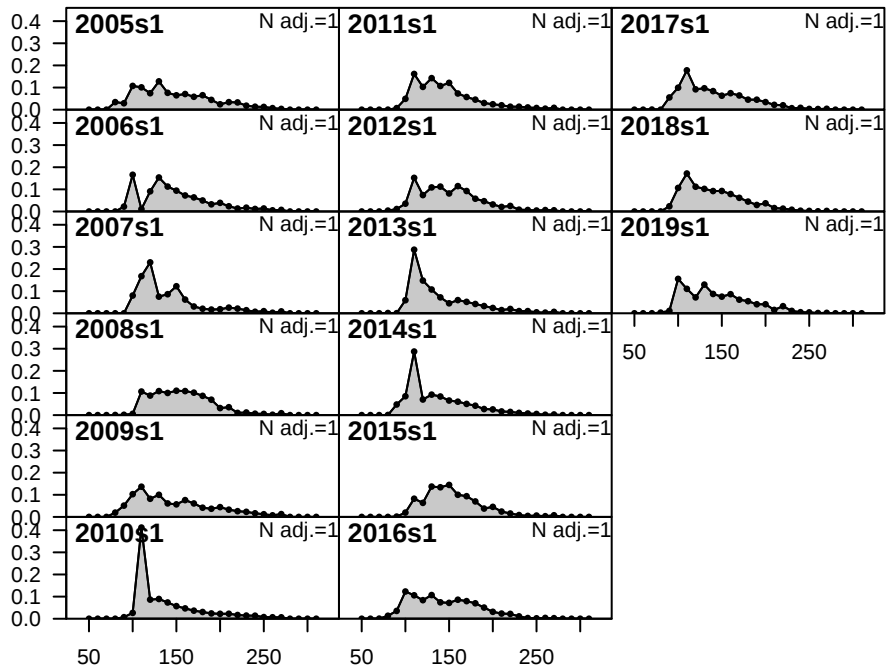
Length (cm)



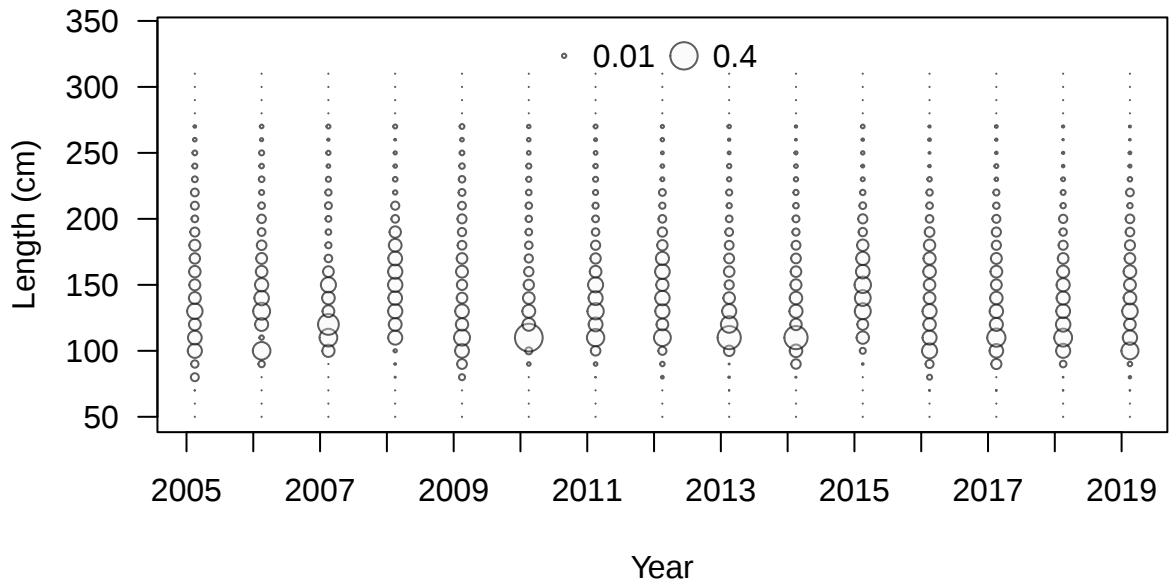
I5_JPN_late (whole catch)



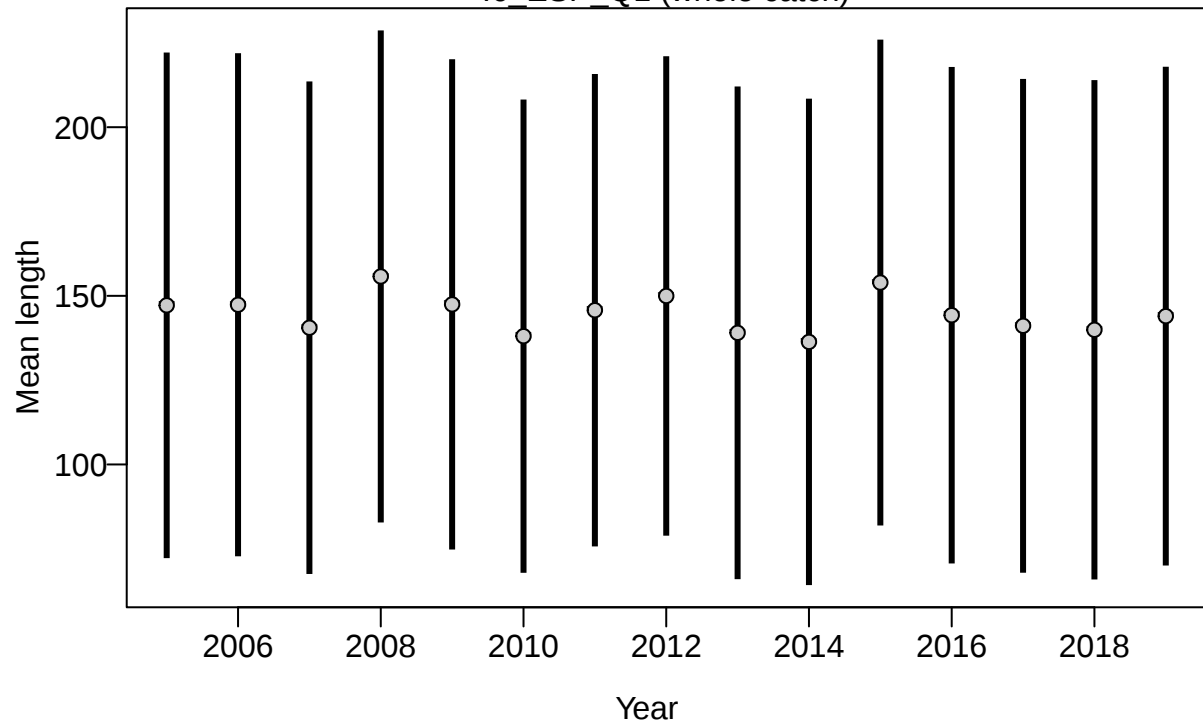
Proportion



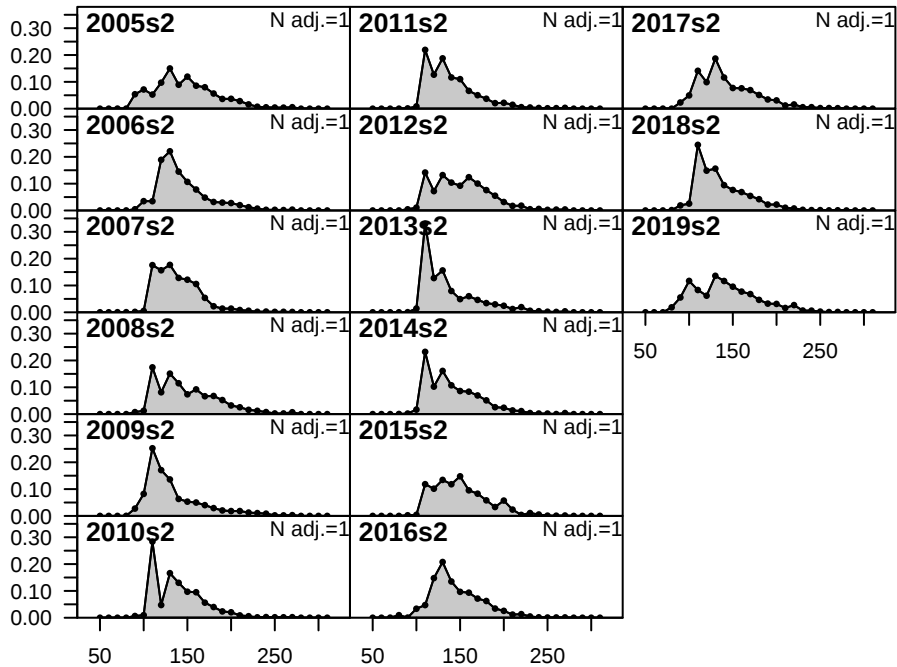
Length (cm)



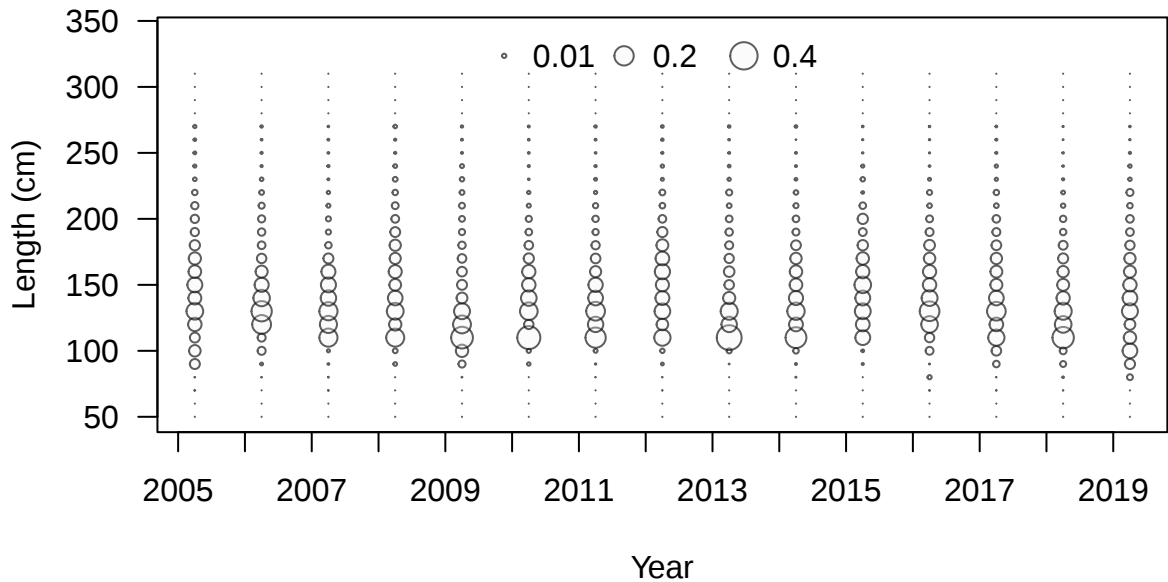
I6_ESP_Q1 (whole catch)



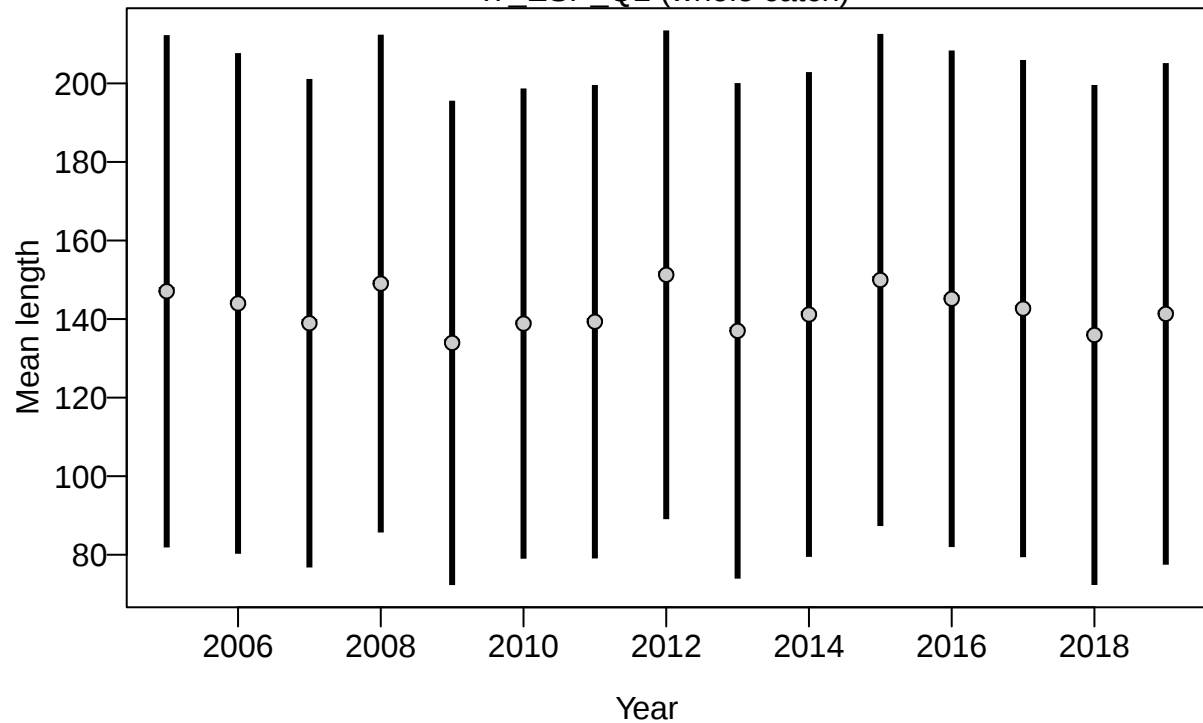
Proportion



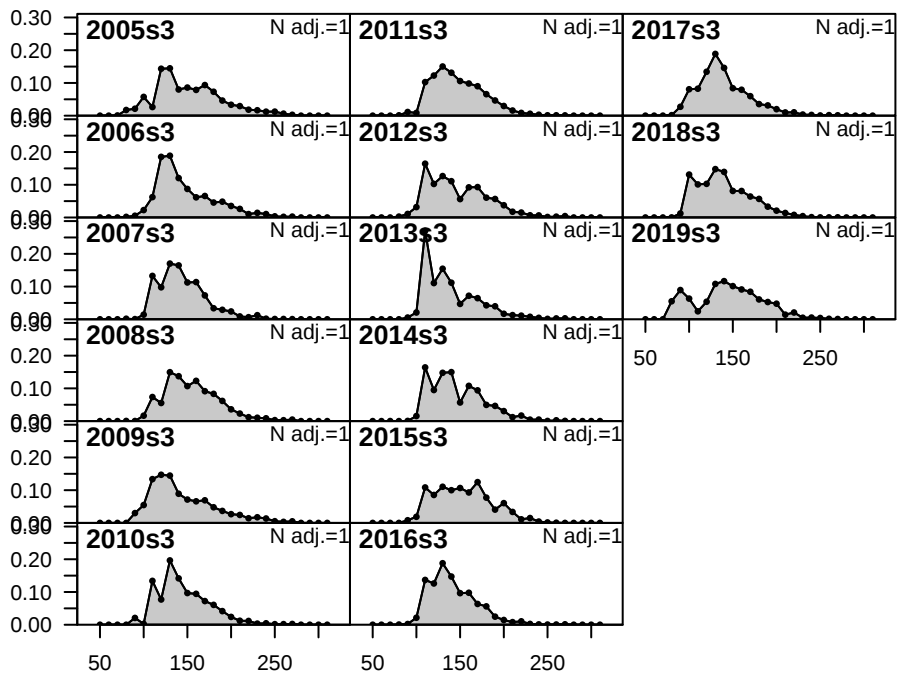
Length (cm)



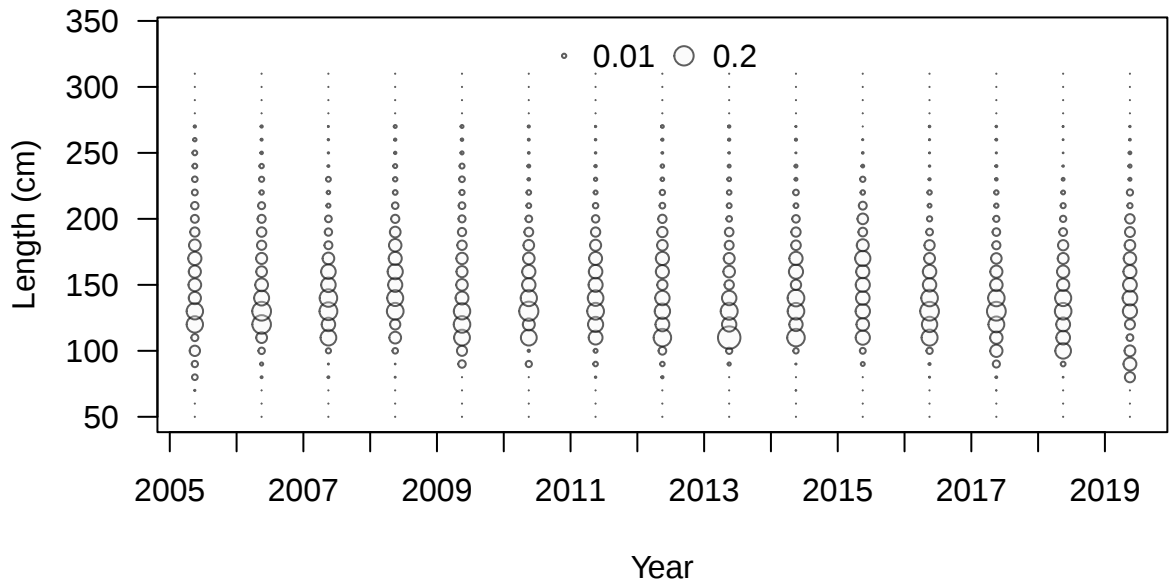
I7_ESP_Q2 (whole catch)



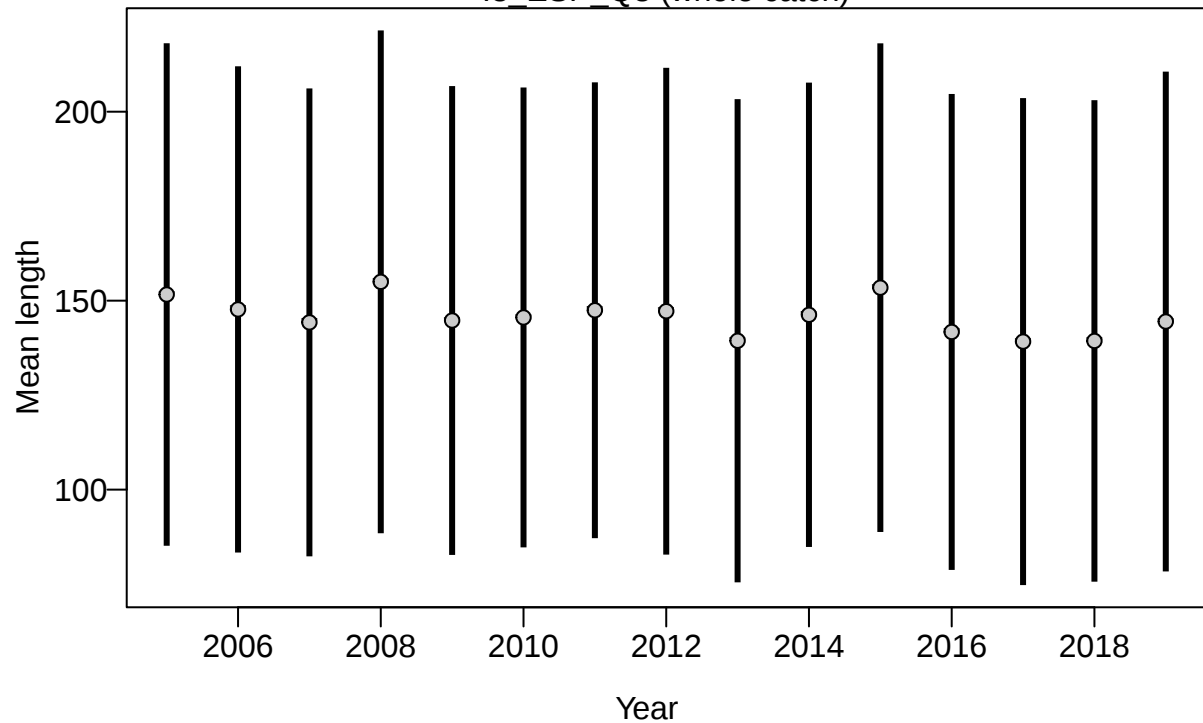
Proportion



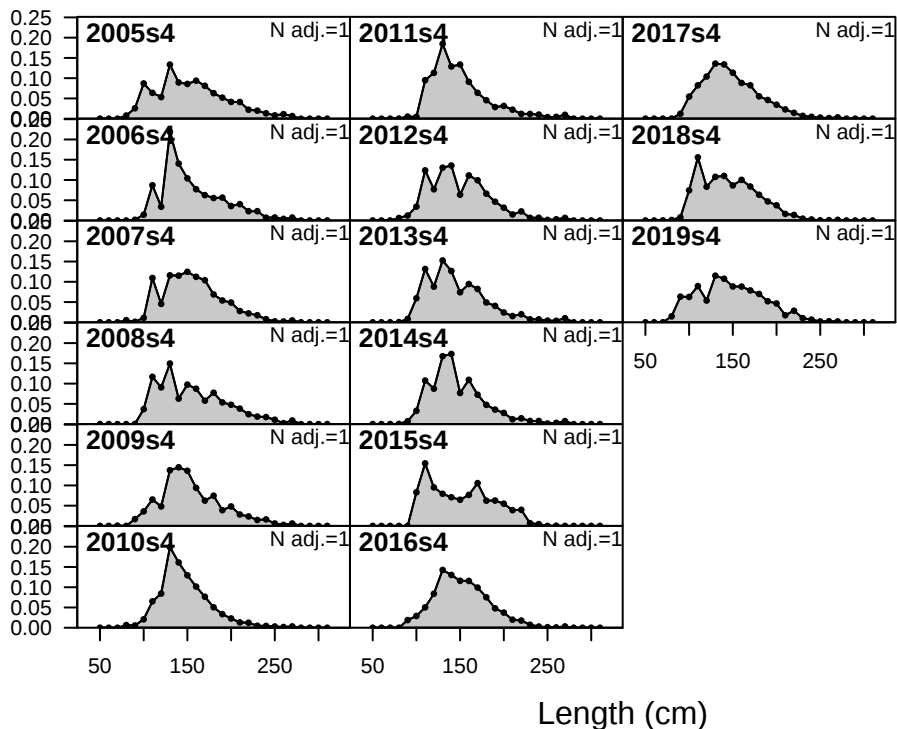
Length (cm)

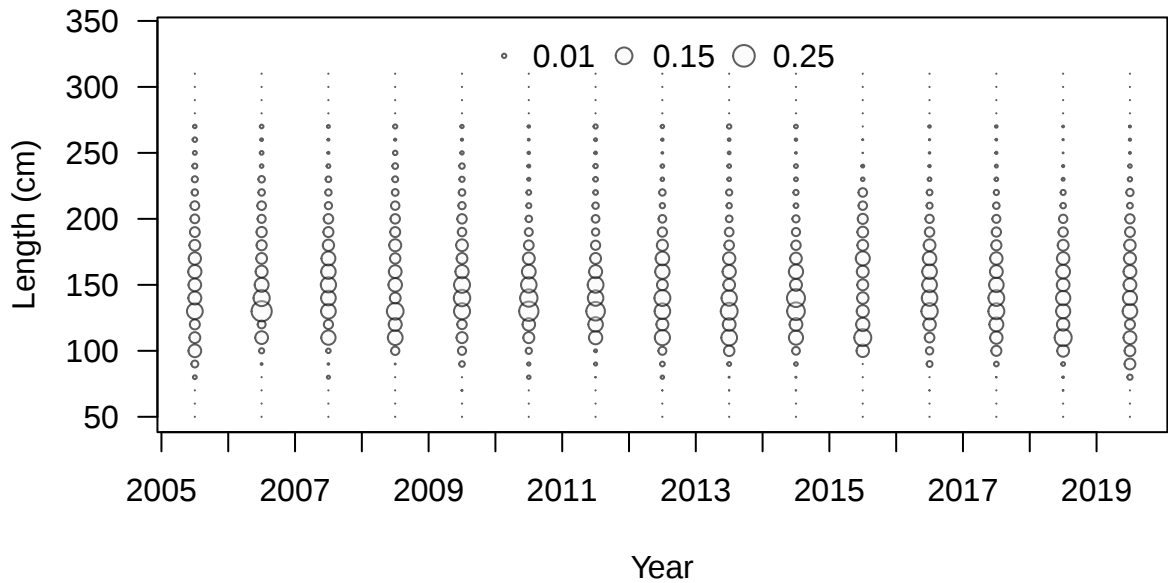


I8_ESP_Q3 (whole catch)

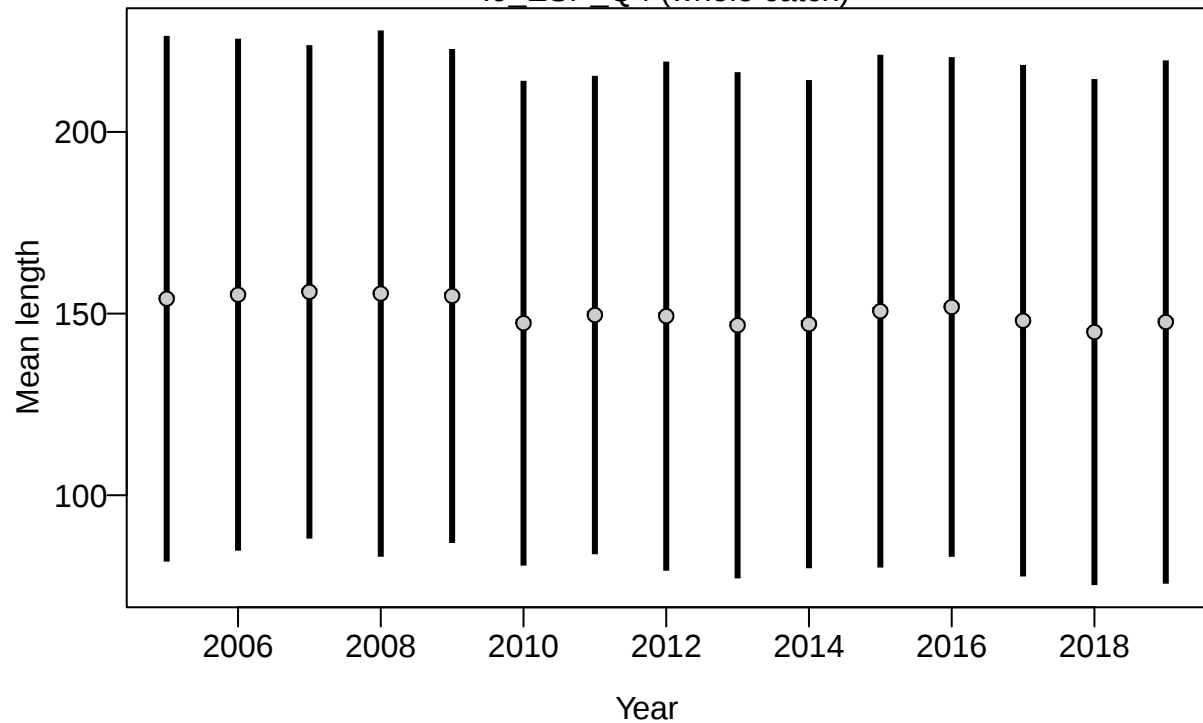


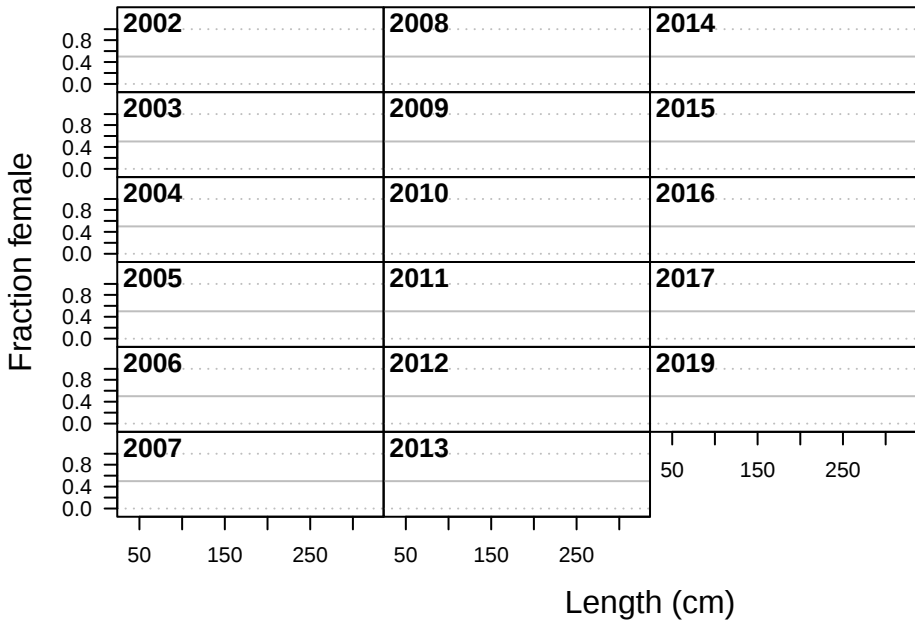
Proportion



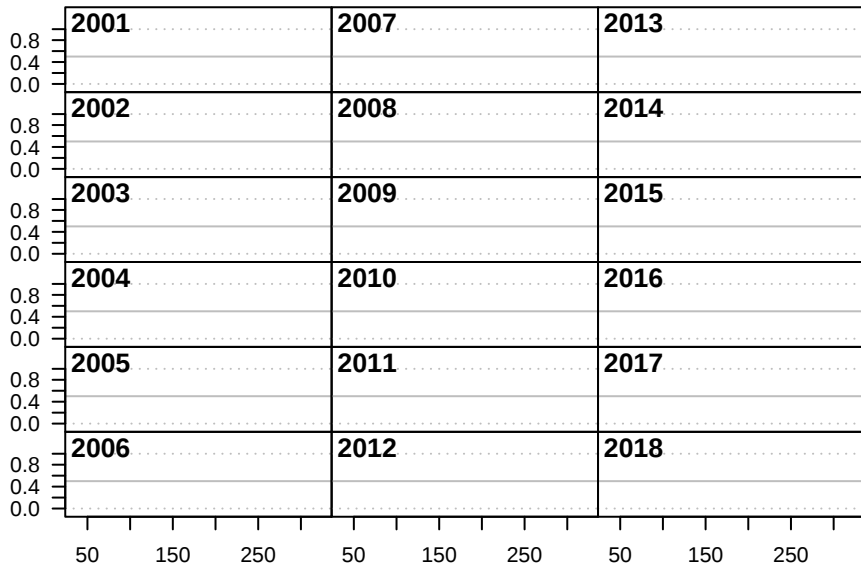


I9_ESP_Q4 (whole catch)





Fraction female



Length (cm)

Proportion

I1_Chile_Q2

Sum of N adj.=641.3

I2_Chile_Q3

Sum of N adj.=485.6

100

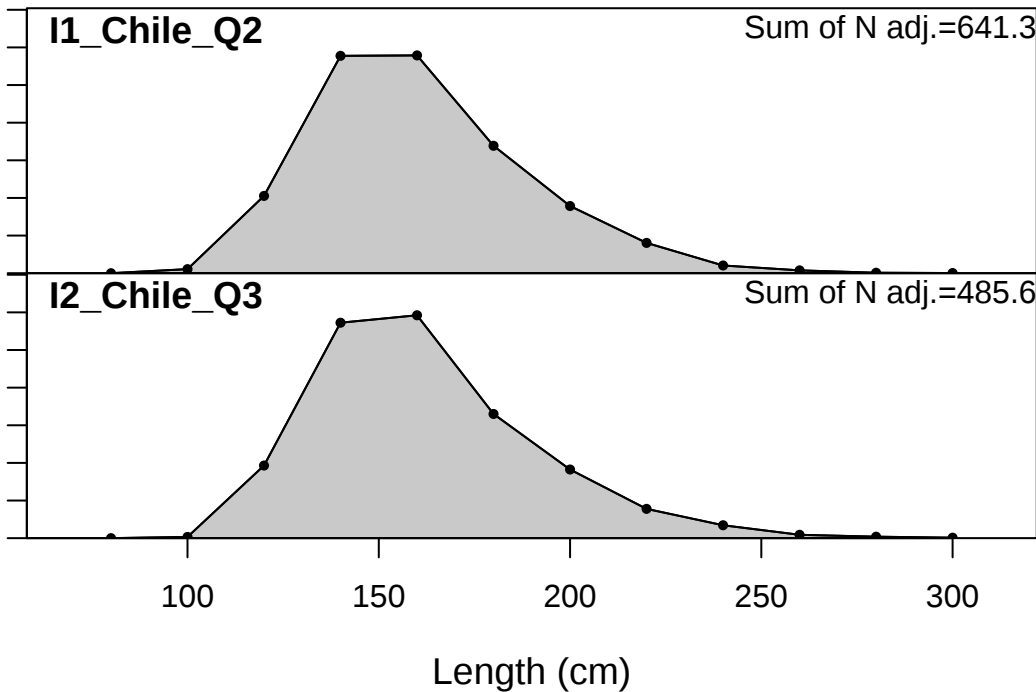
150

200

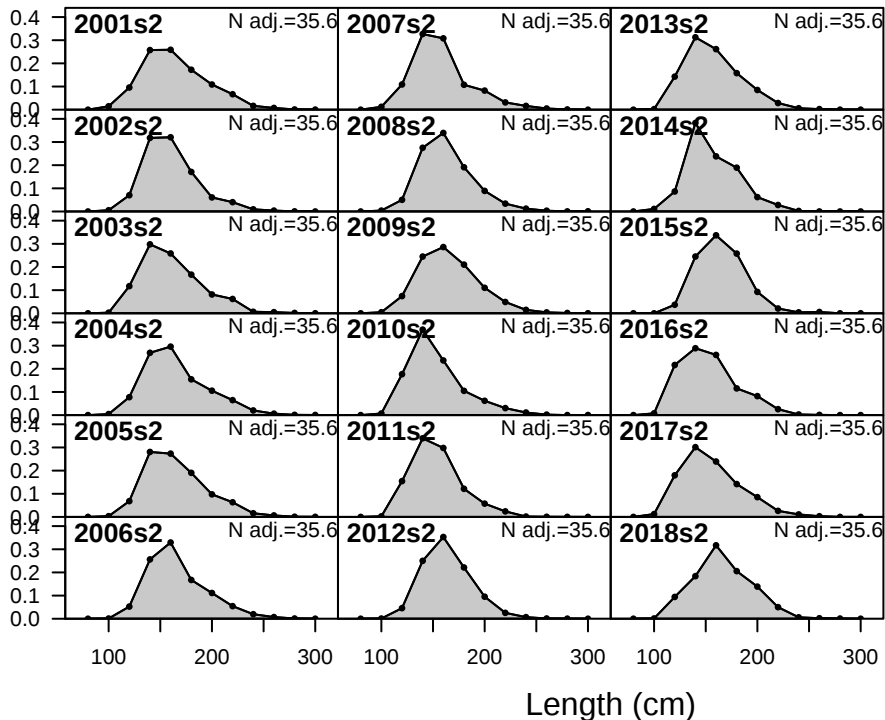
250

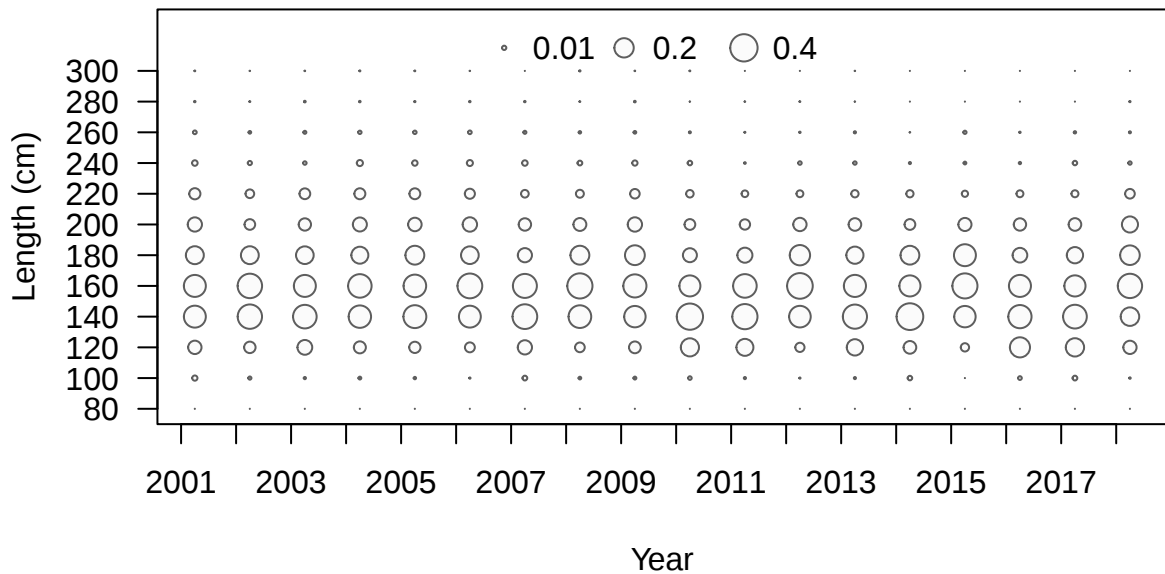
300

Length (cm)

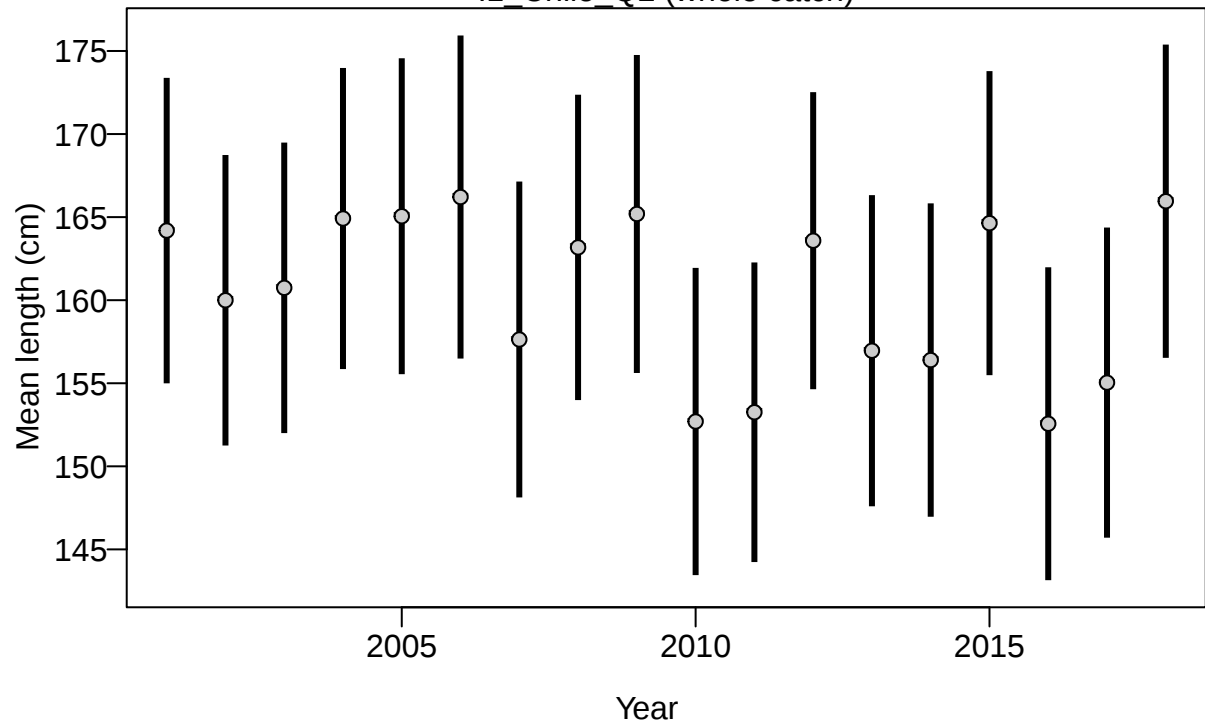


Proportion

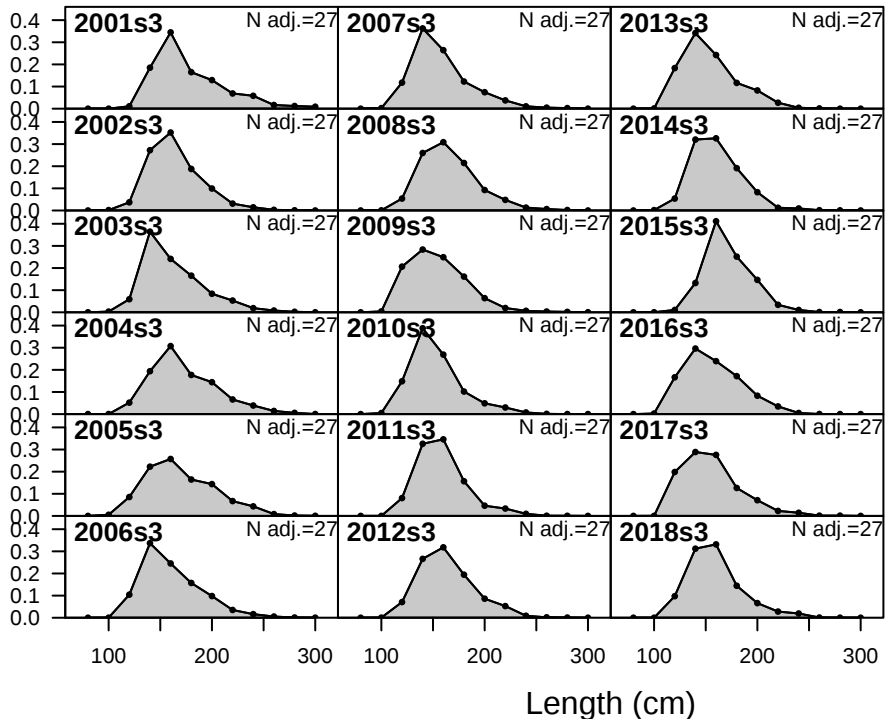


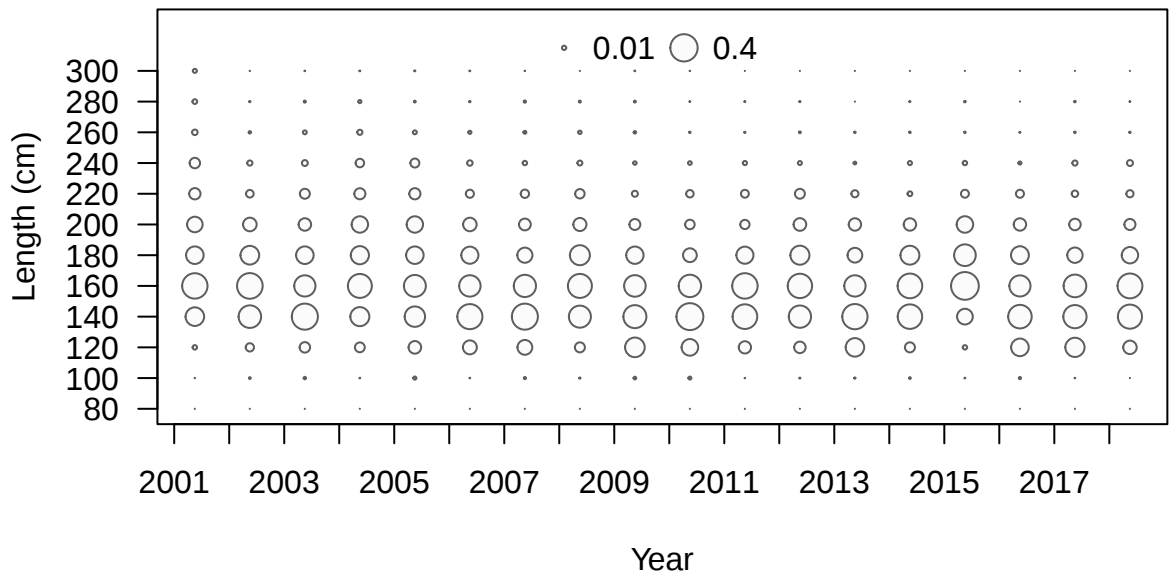


I1_Chile_Q2 (whole catch)

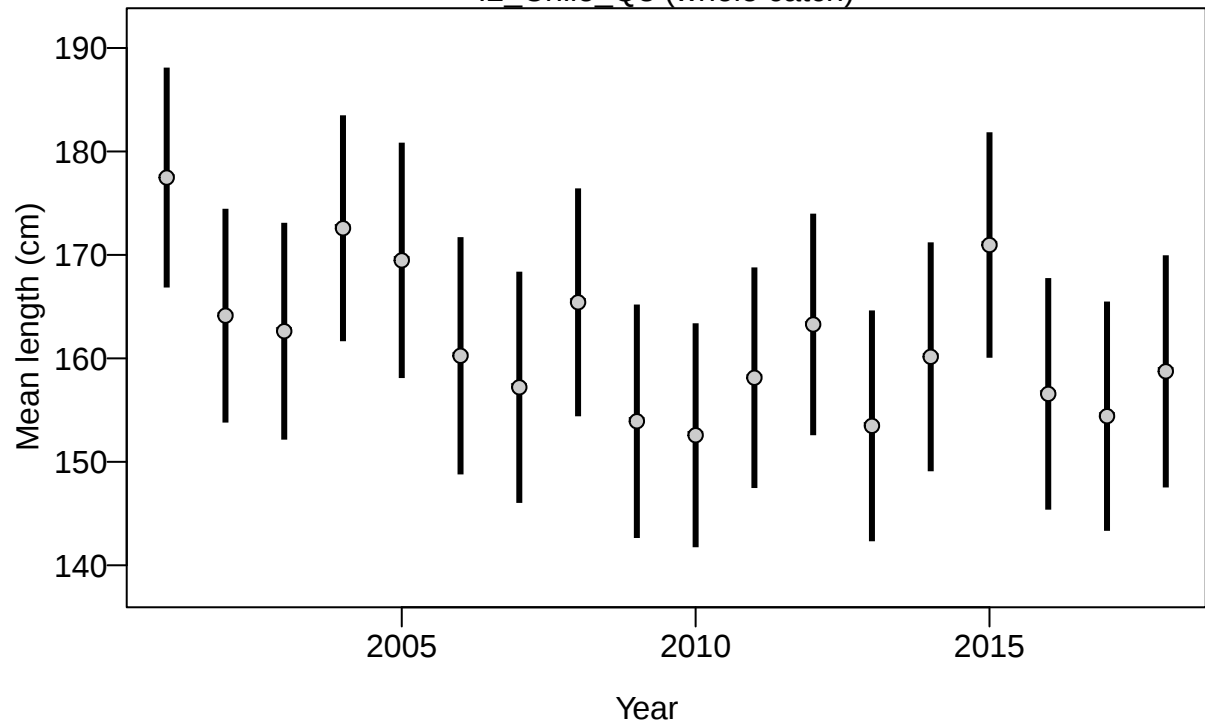


Proportion





I2_Chile_Q3 (whole catch)



Proportion

I4_JPN_mid

Sum of N adj.=10

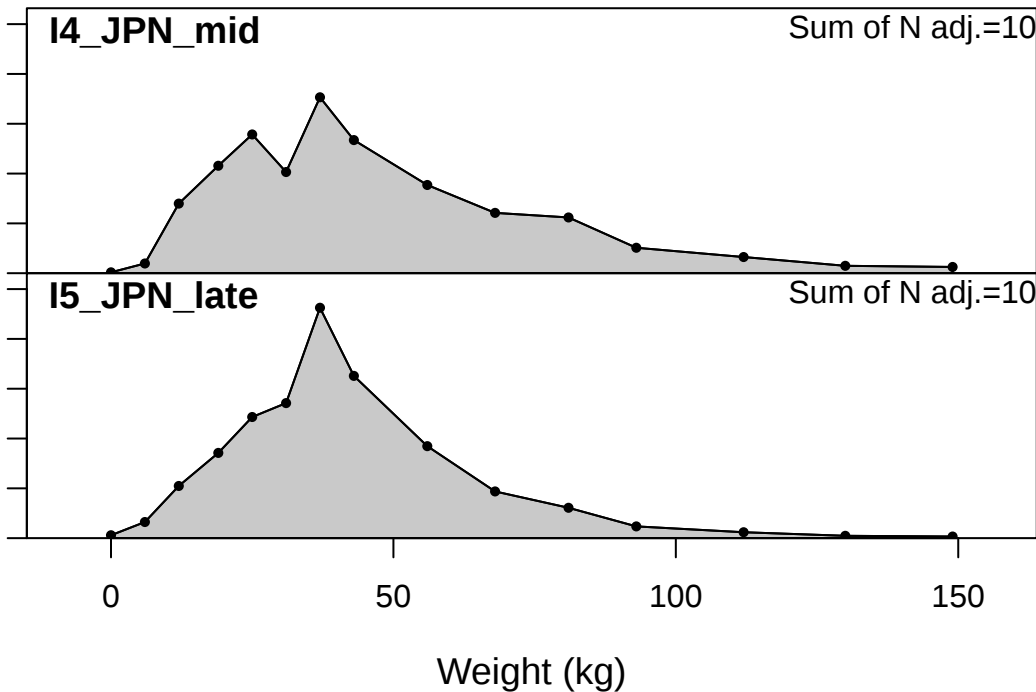
0.25
0.20
0.15
0.10
0.05
0.00
0.25
0.20
0.15
0.10
0.05
0.00

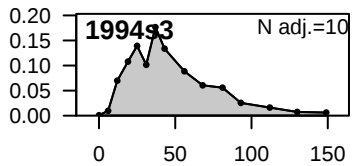
I5_JPN_late

Sum of N adj.=10

0 50 100 150

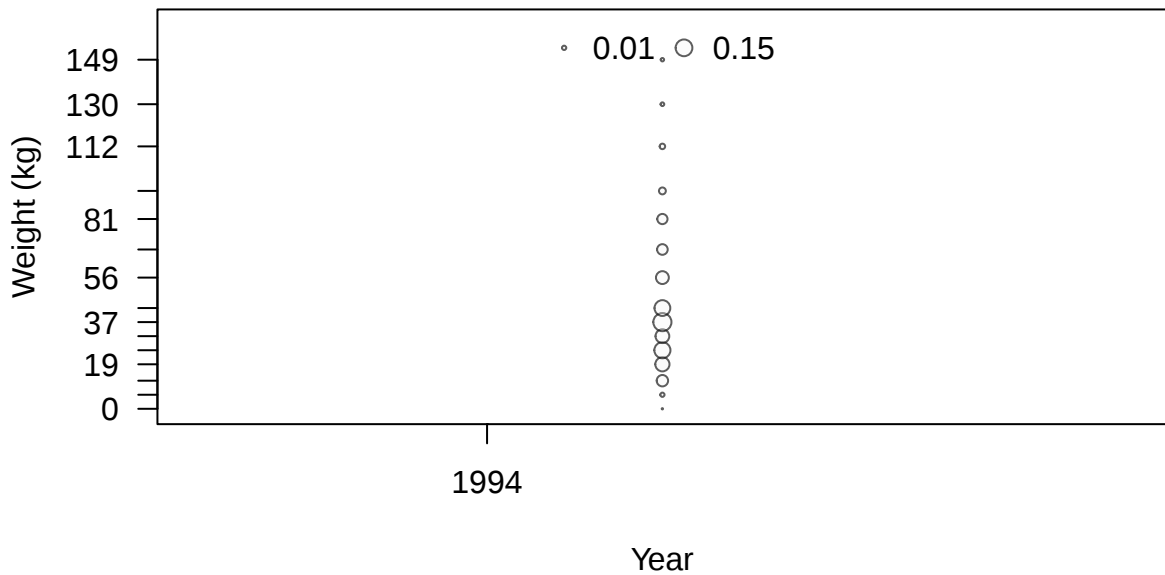
Weight (kg)

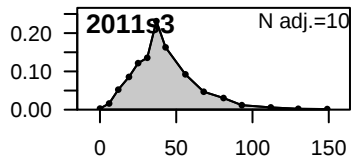




Proportion

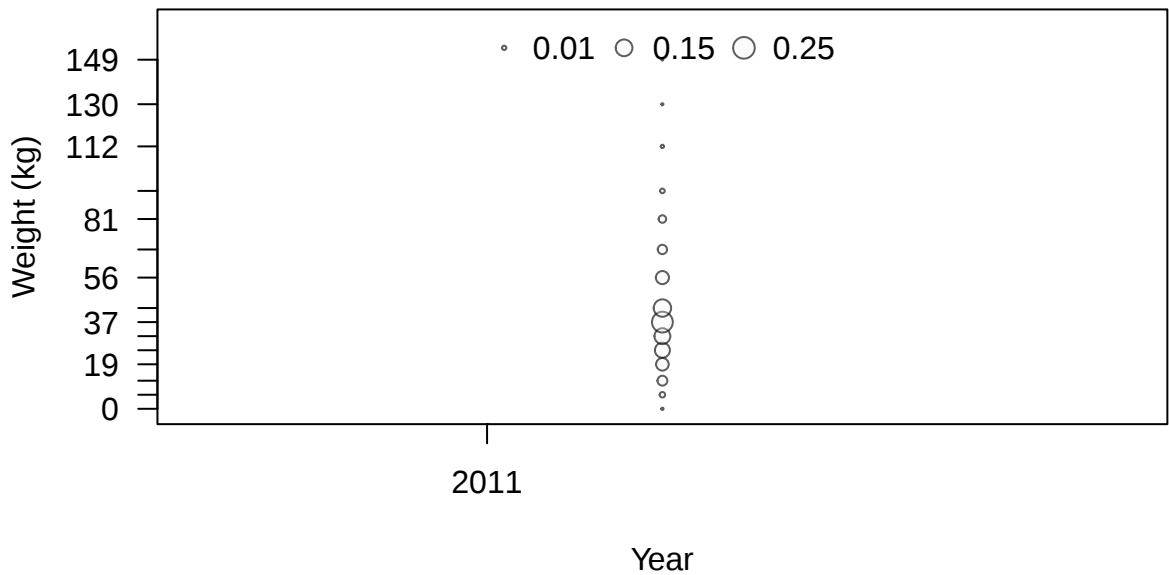
Weight (kg)





Proportion

Weight (kg)



Proportion

I6_ESP_Q1

Sum of N adj.=750

I8_ESP_Q3

Sum of N adj.=750

I7_ESP_Q2

Sum of N adj.=750

I9_ESP_Q4

Sum of N adj.=750

Length (cm)

0.15
0.10
0.05
0.00
0.00
0.05
0.10
0.15

50

100

150

200

250

50

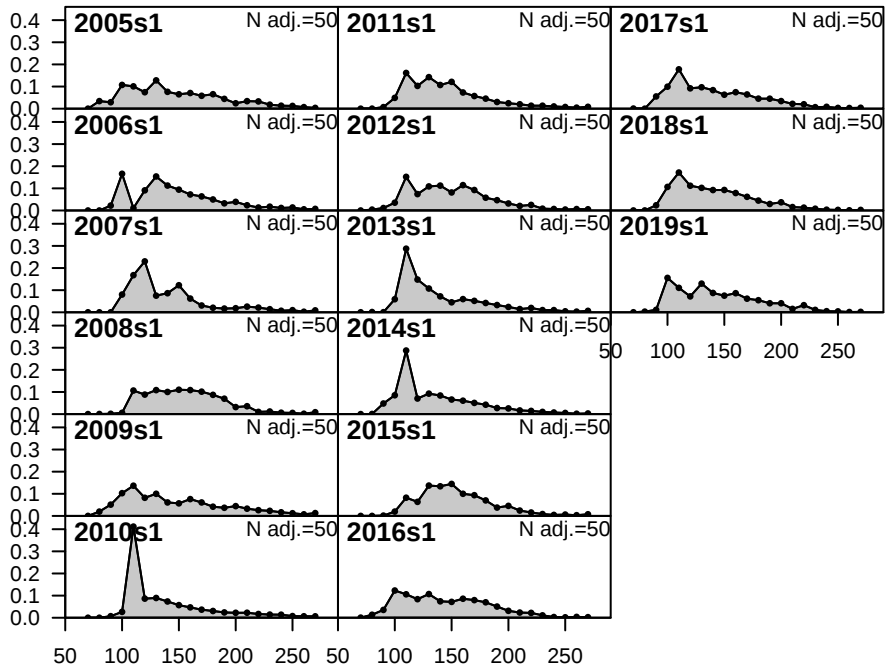
100

150

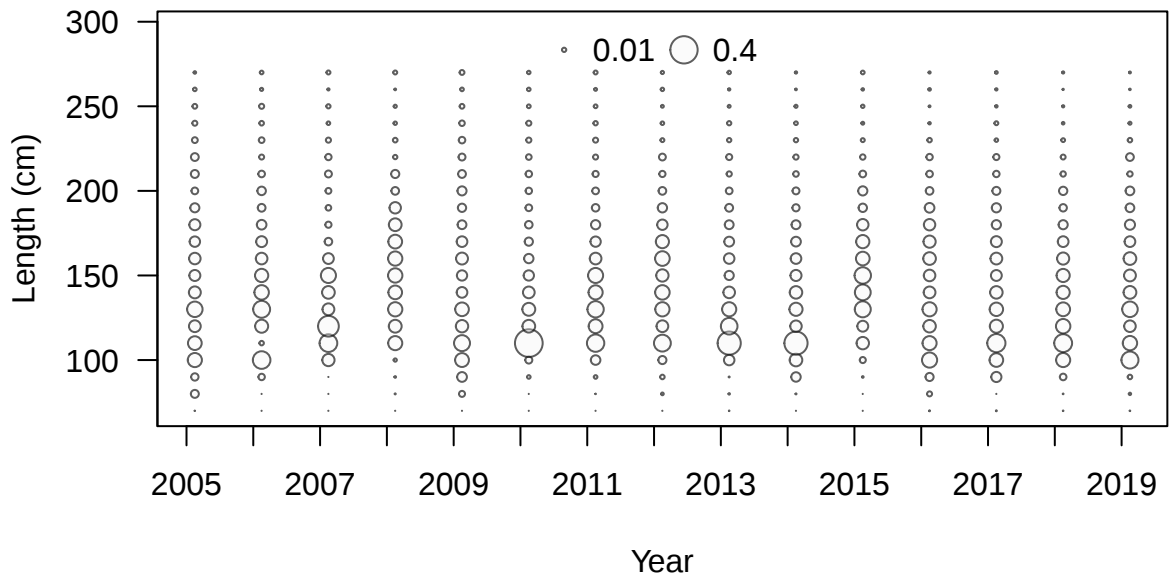
200

250

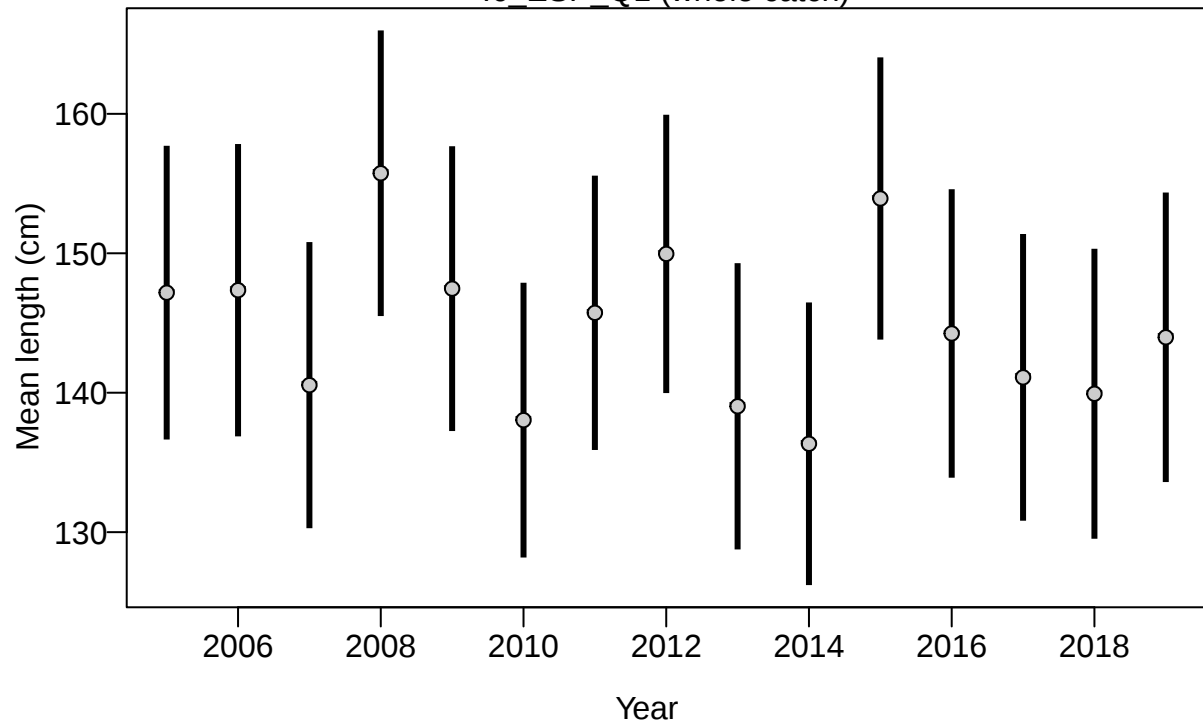
Proportion



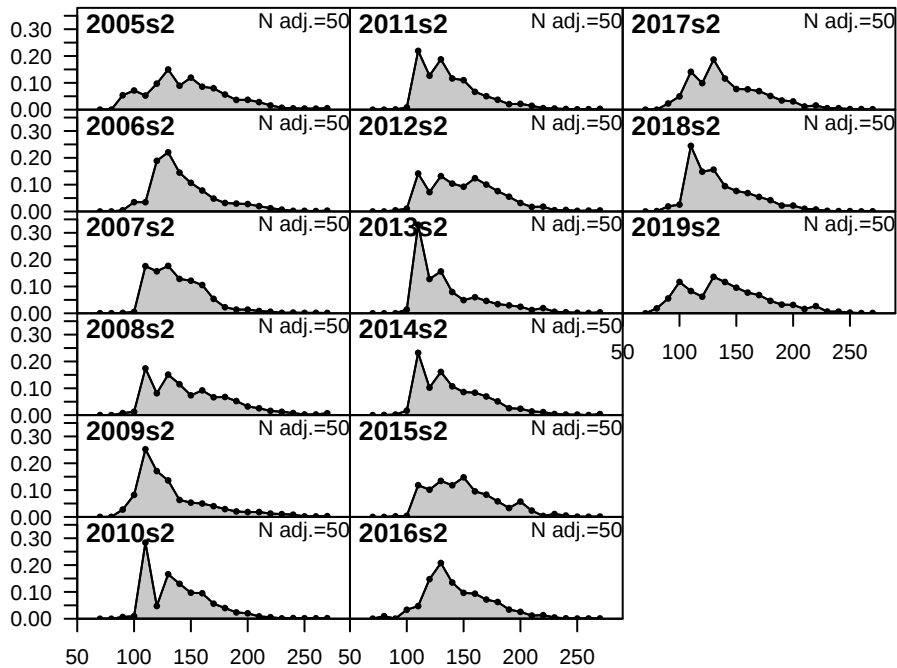
Length (cm)



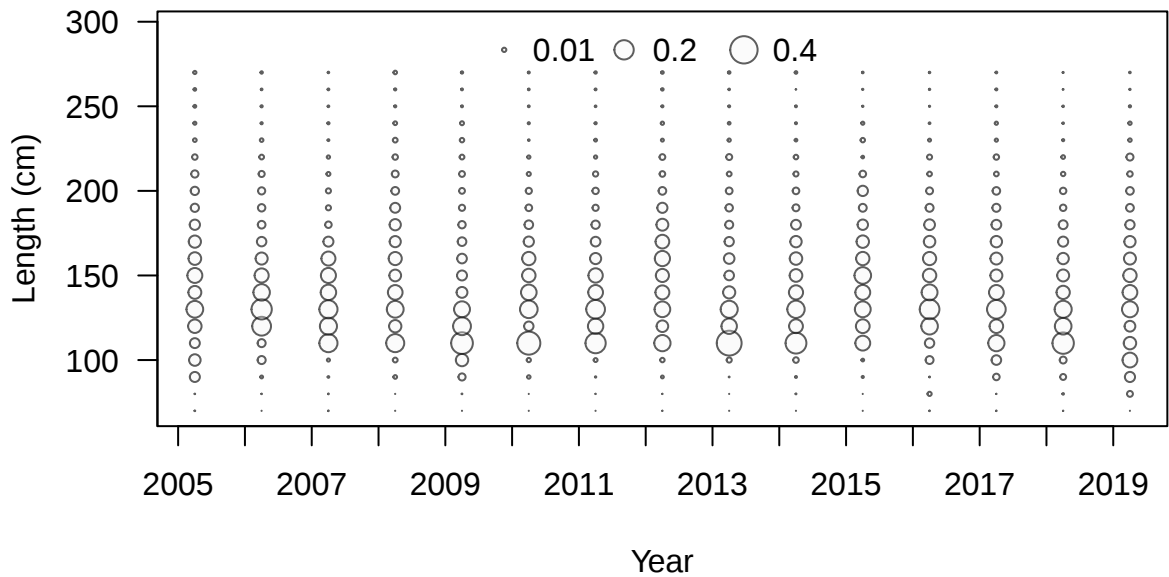
I6_ESP_Q1 (whole catch)



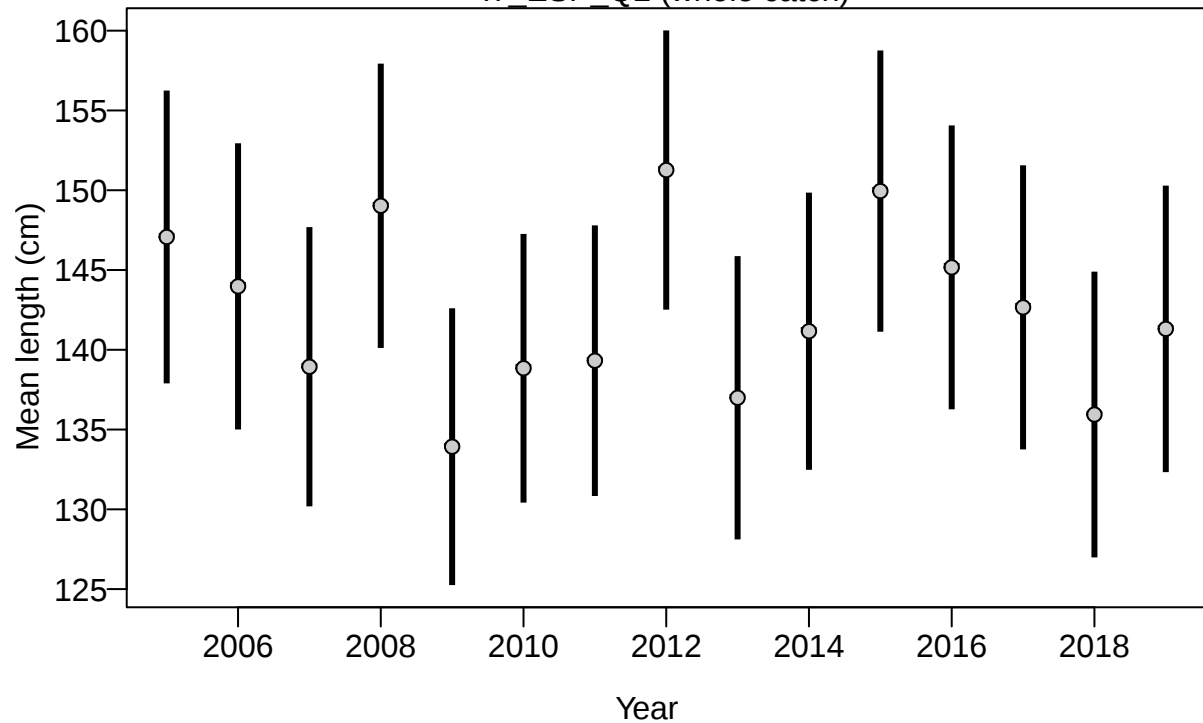
Proportion



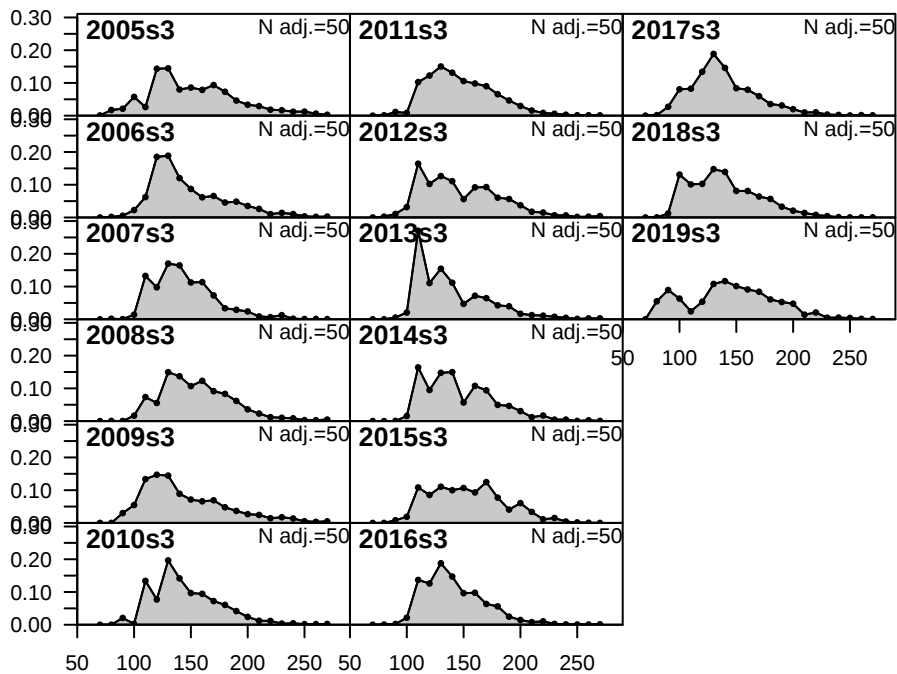
Length (cm)



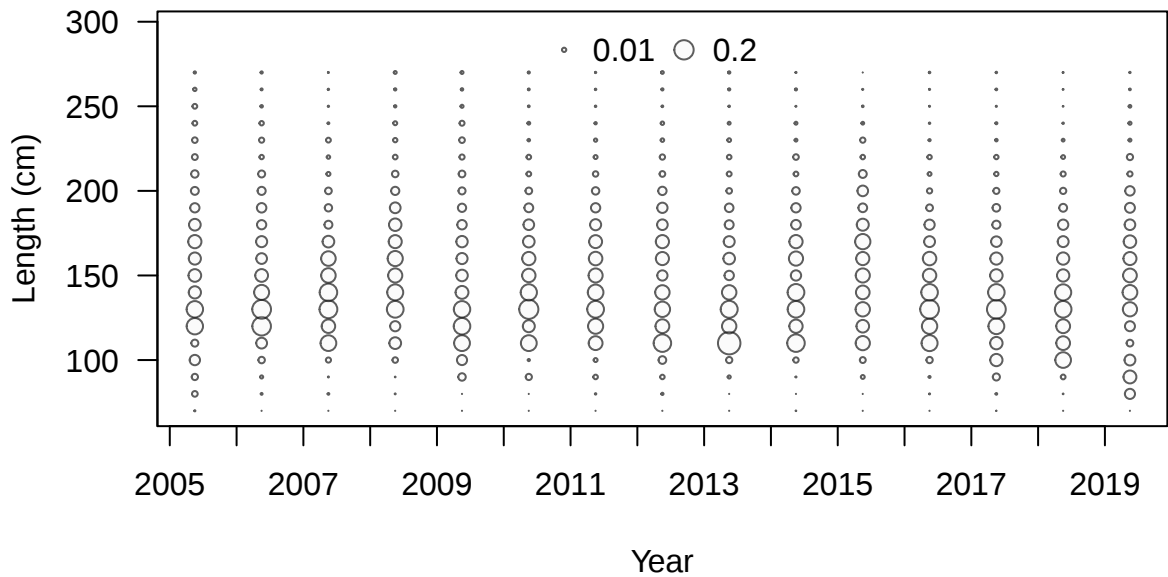
I7_ESP_Q2 (whole catch)



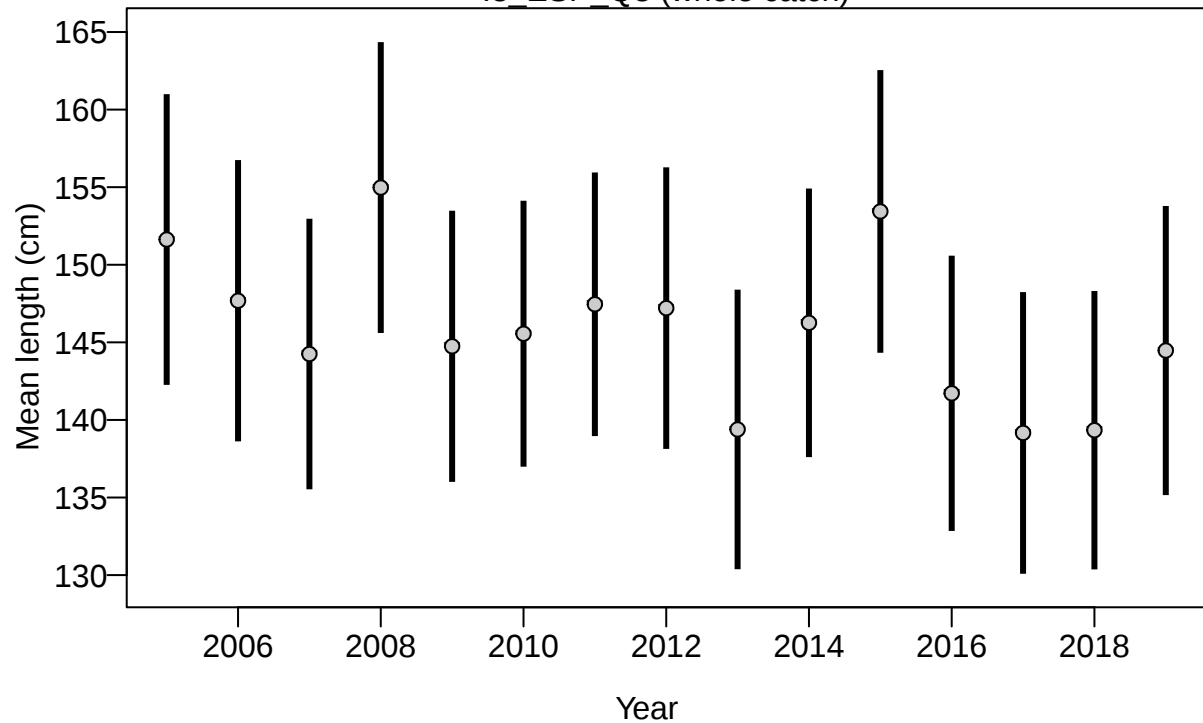
Proportion



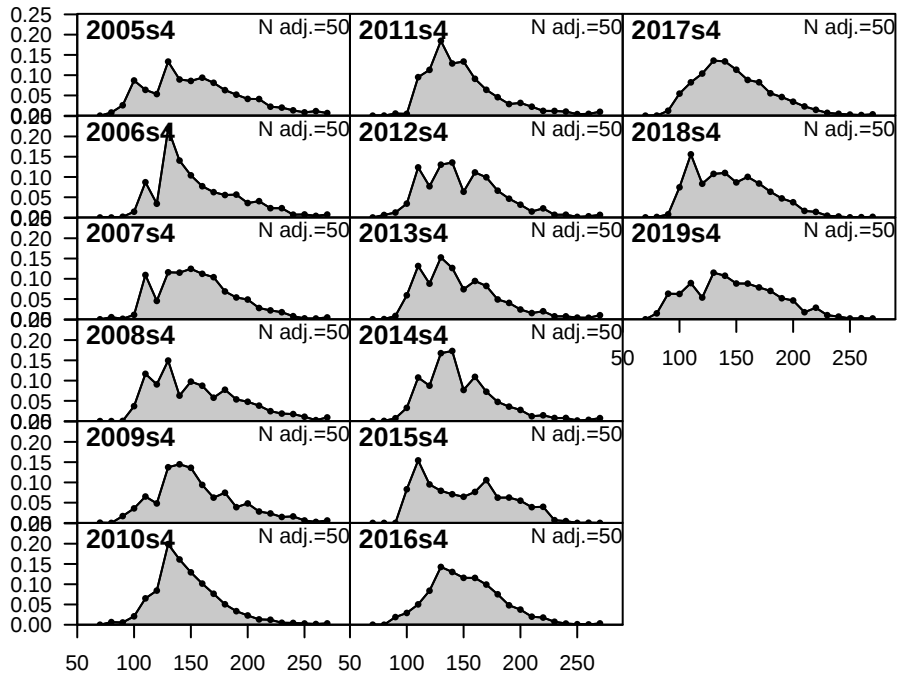
Length (cm)



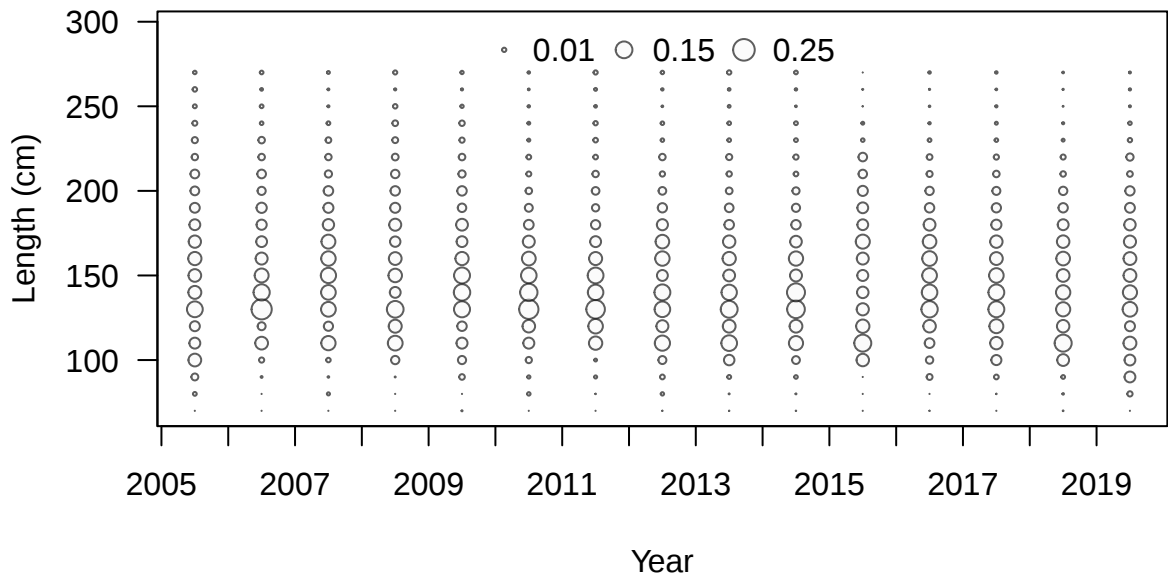
I8_ESP_Q3 (whole catch)



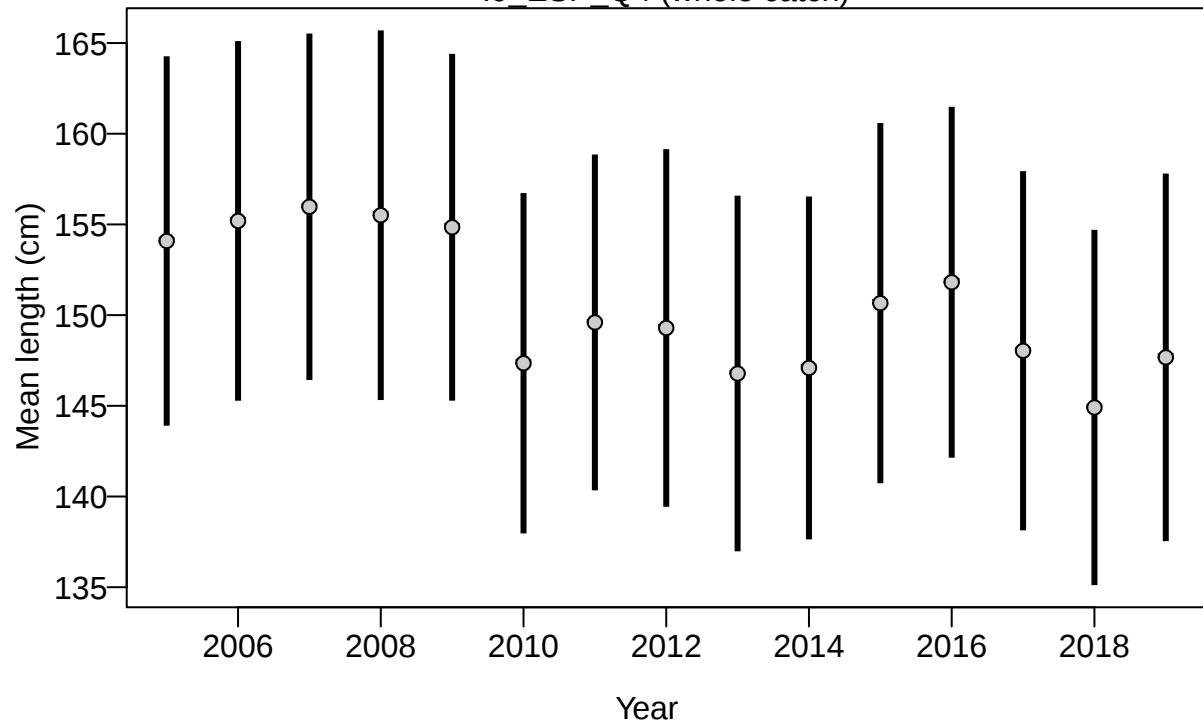
Proportion

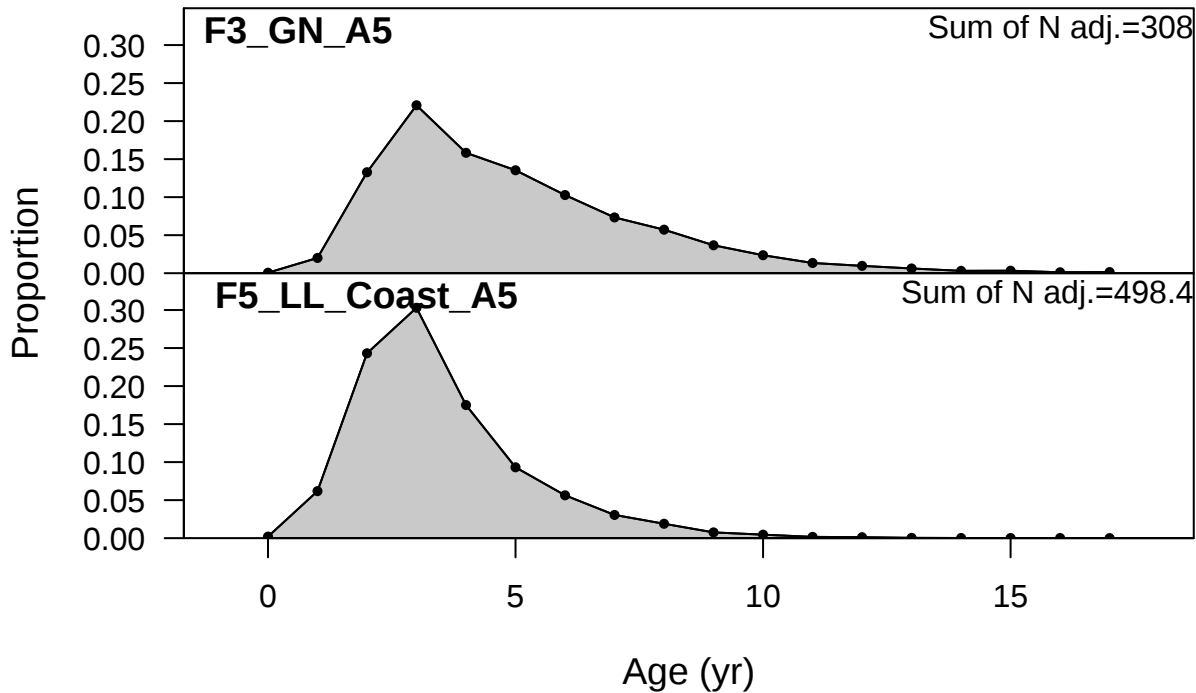


Length (cm)

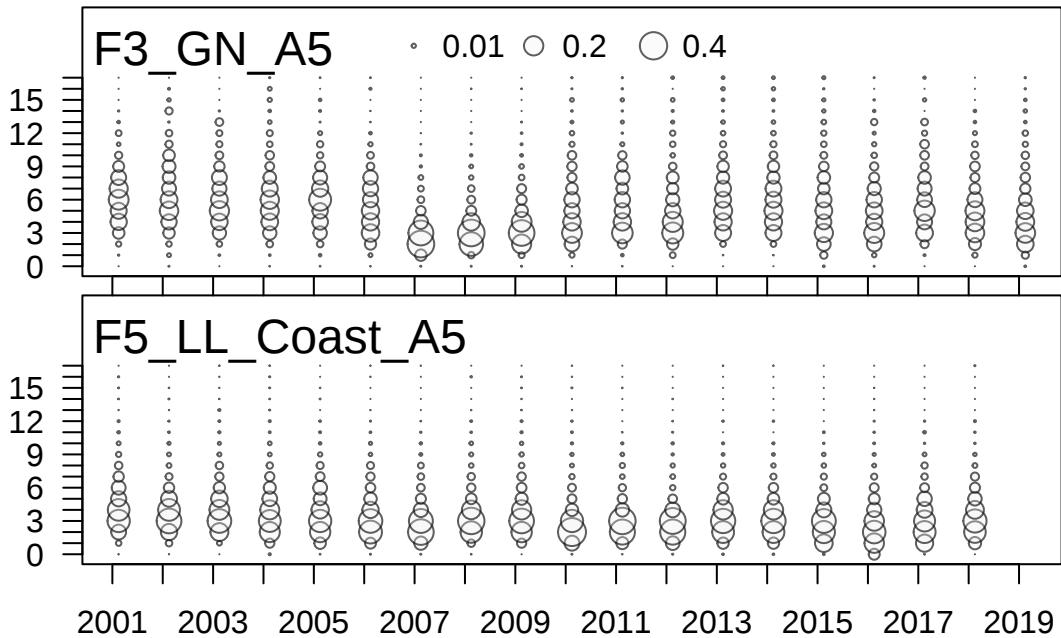


I9_ESP_Q4 (whole catch)



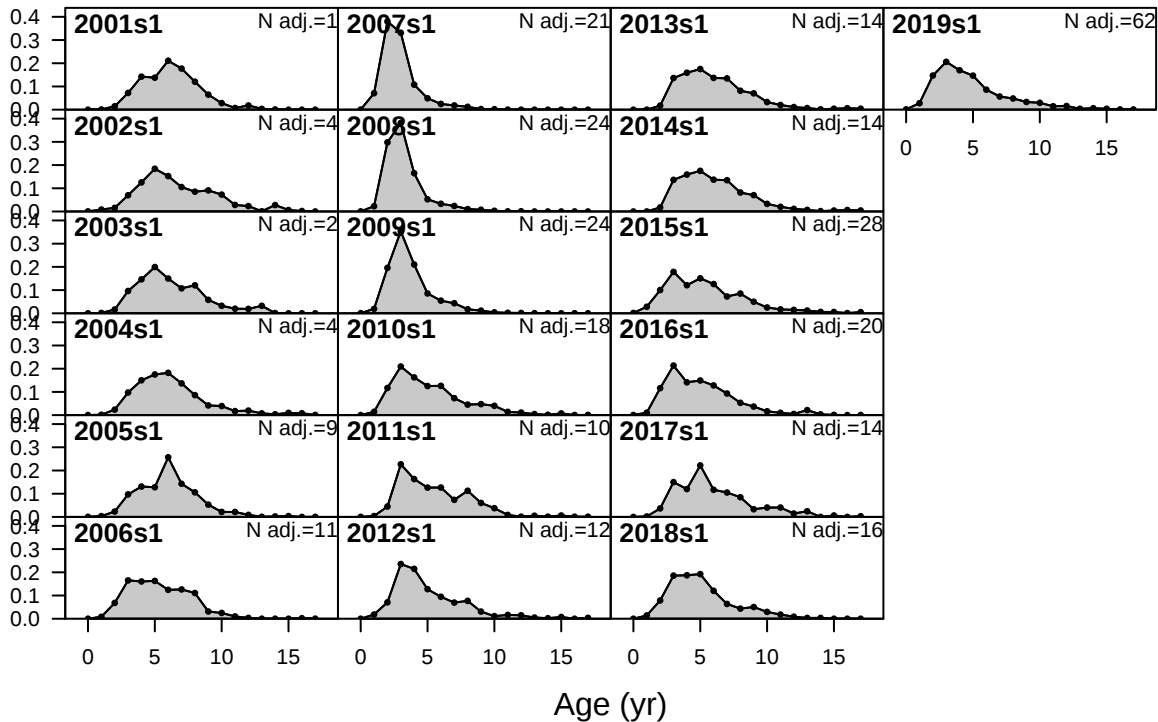


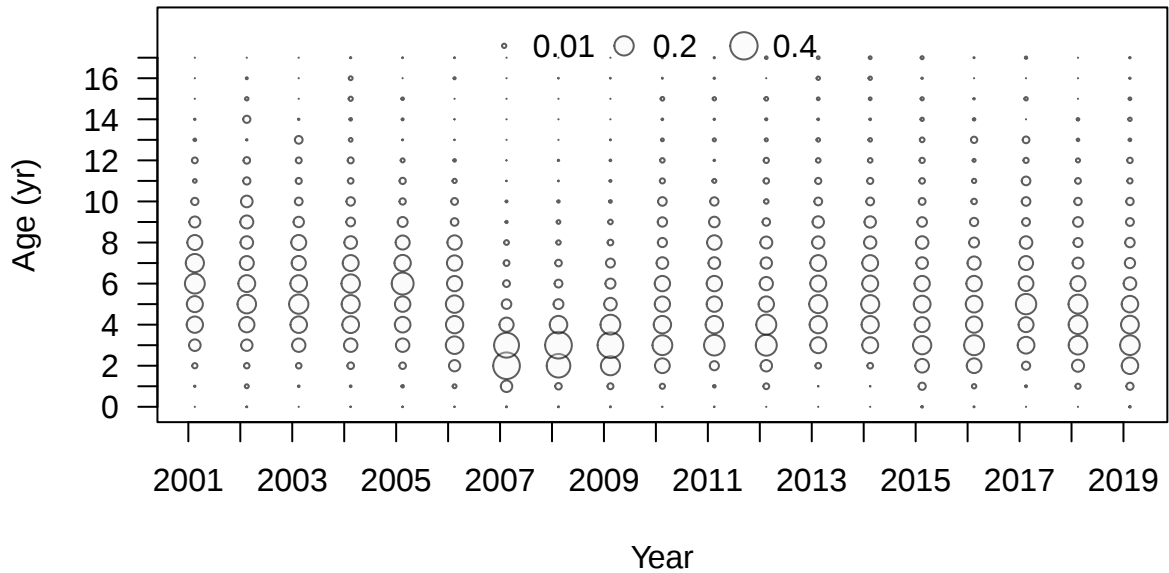
Age (yr)



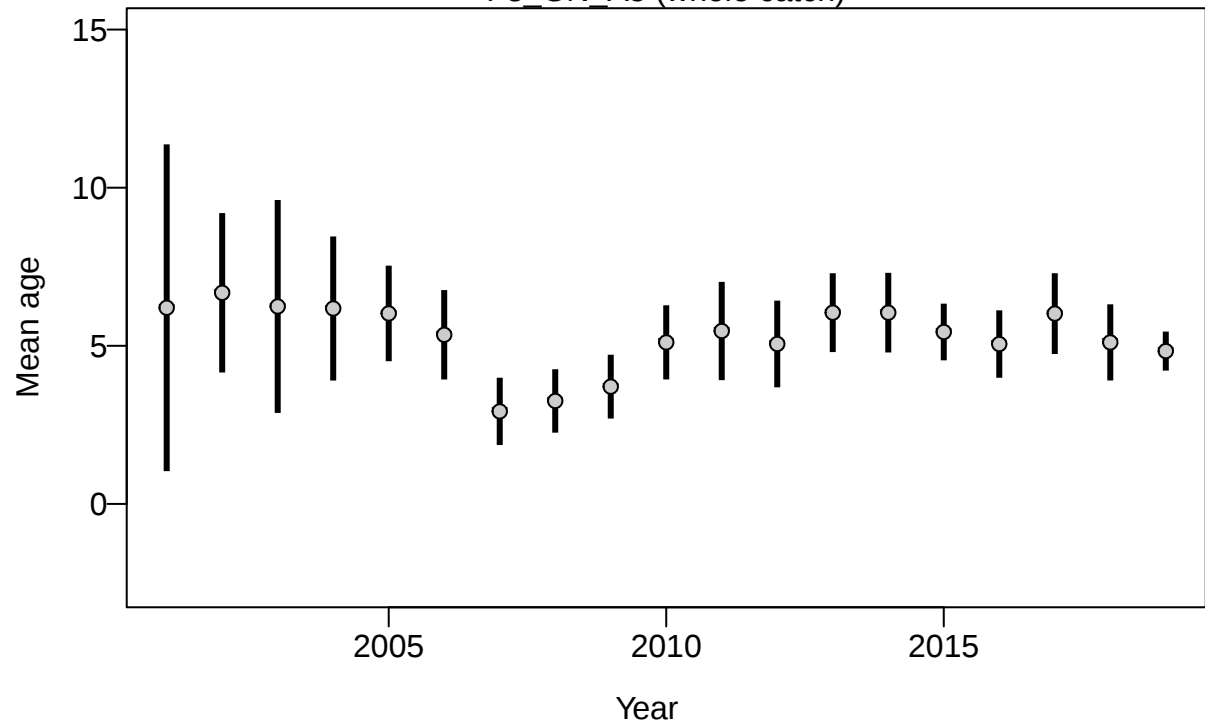
Year

Proportion

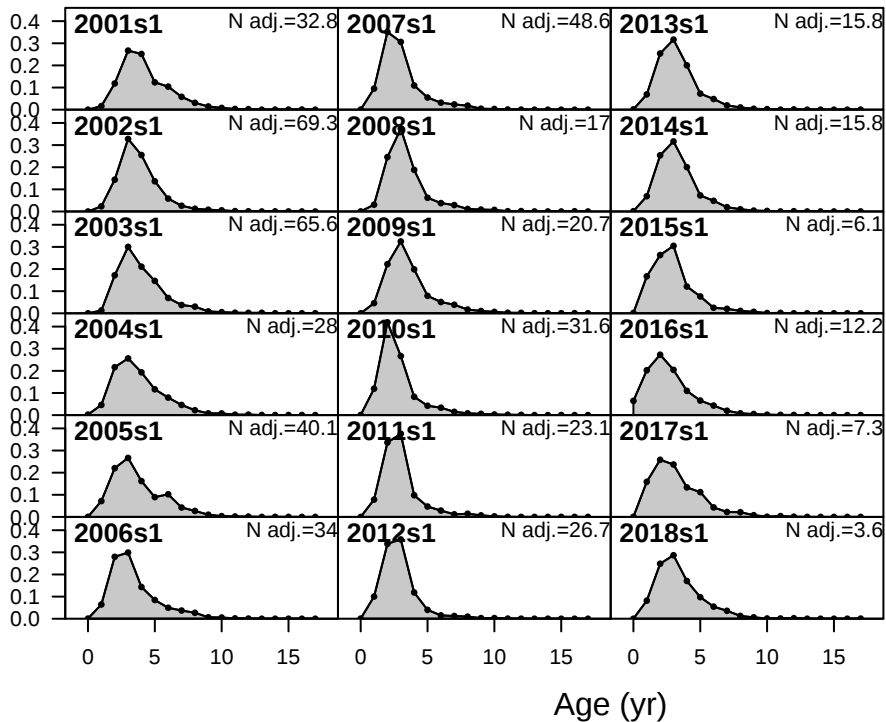


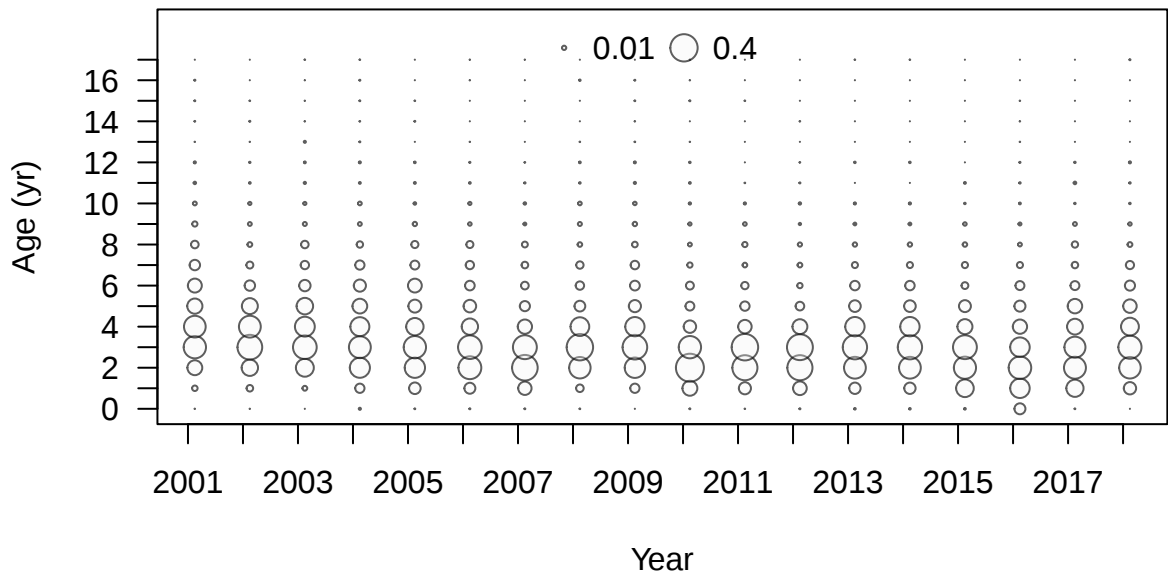


F3_GN_A5 (whole catch)

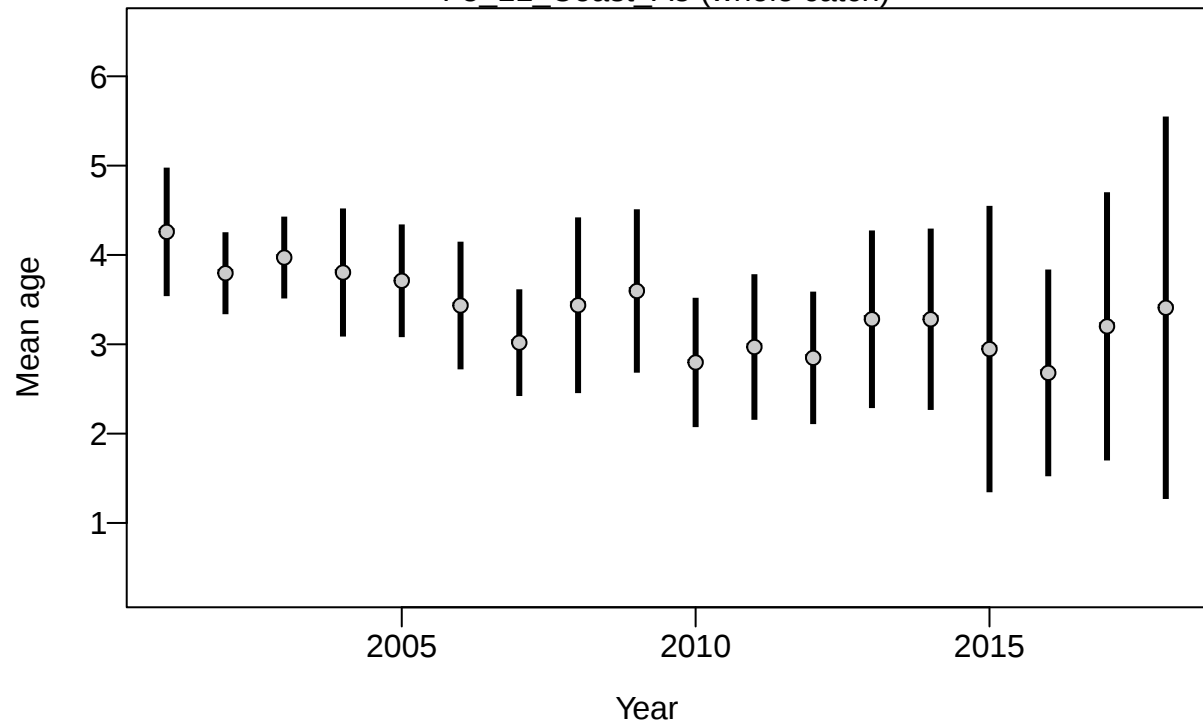


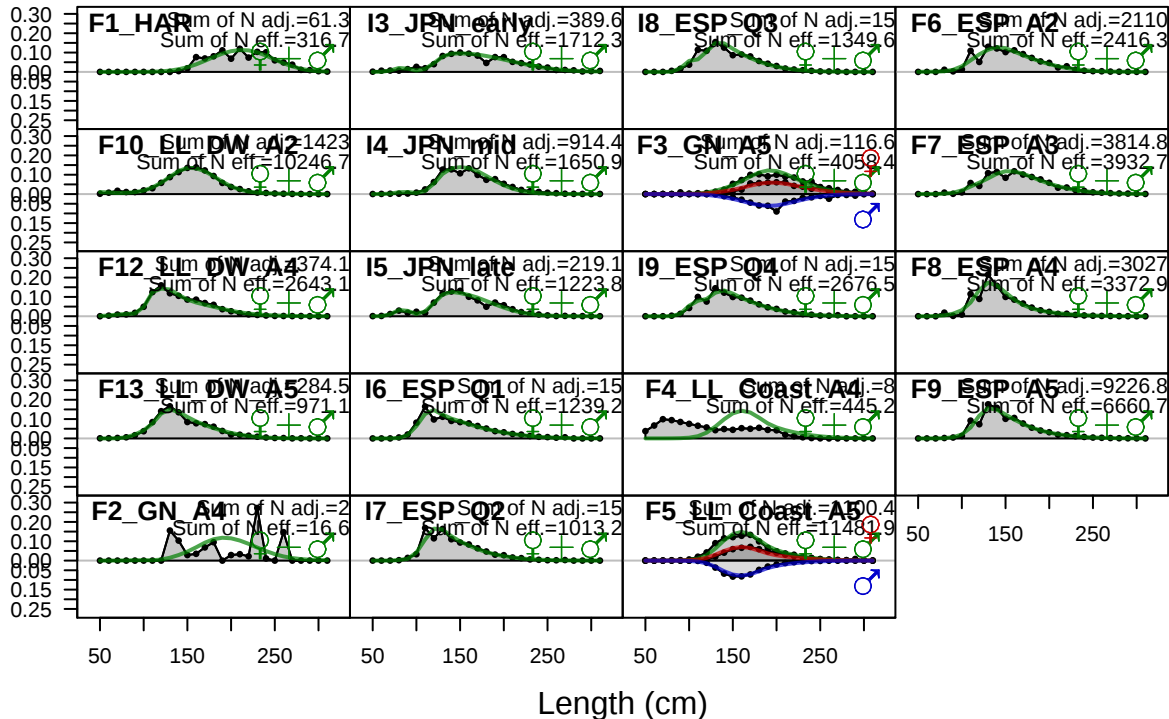
Proportion

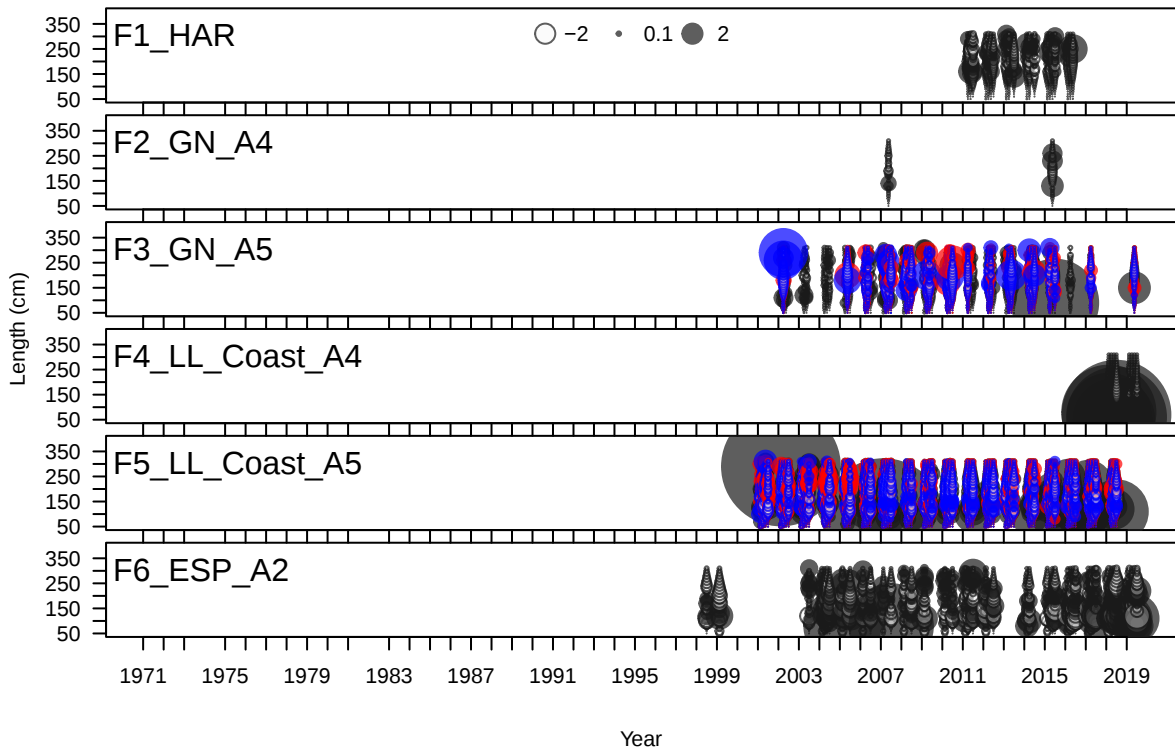


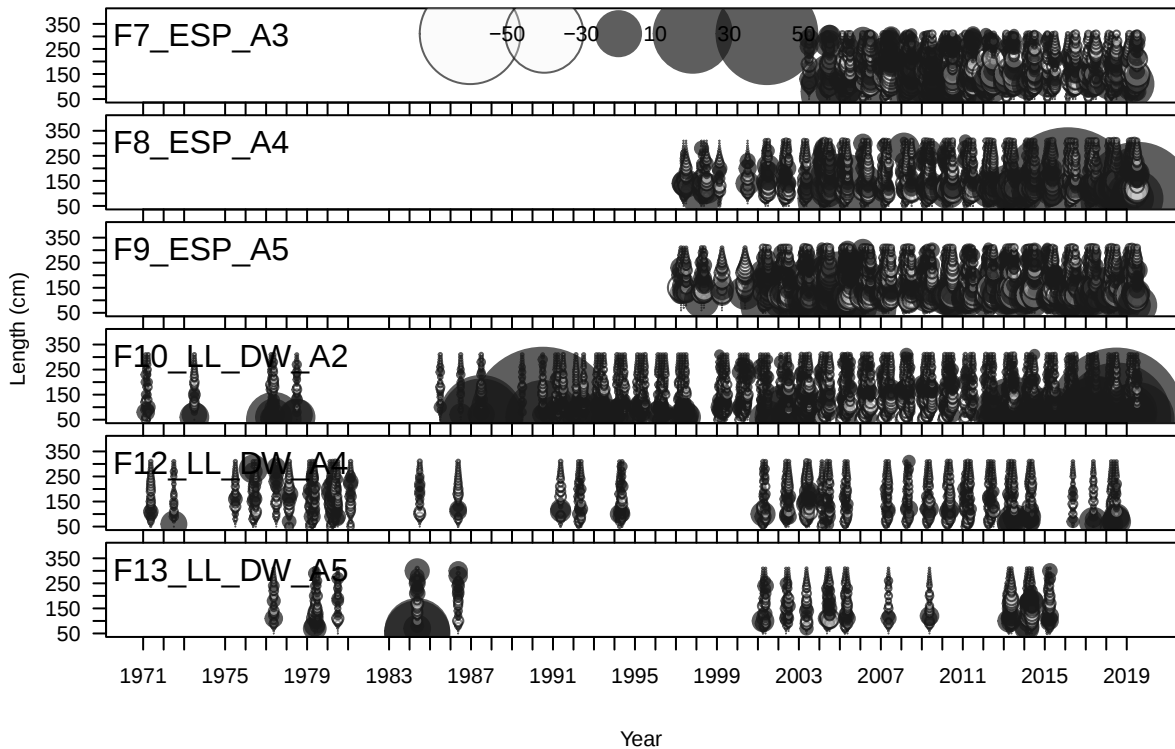


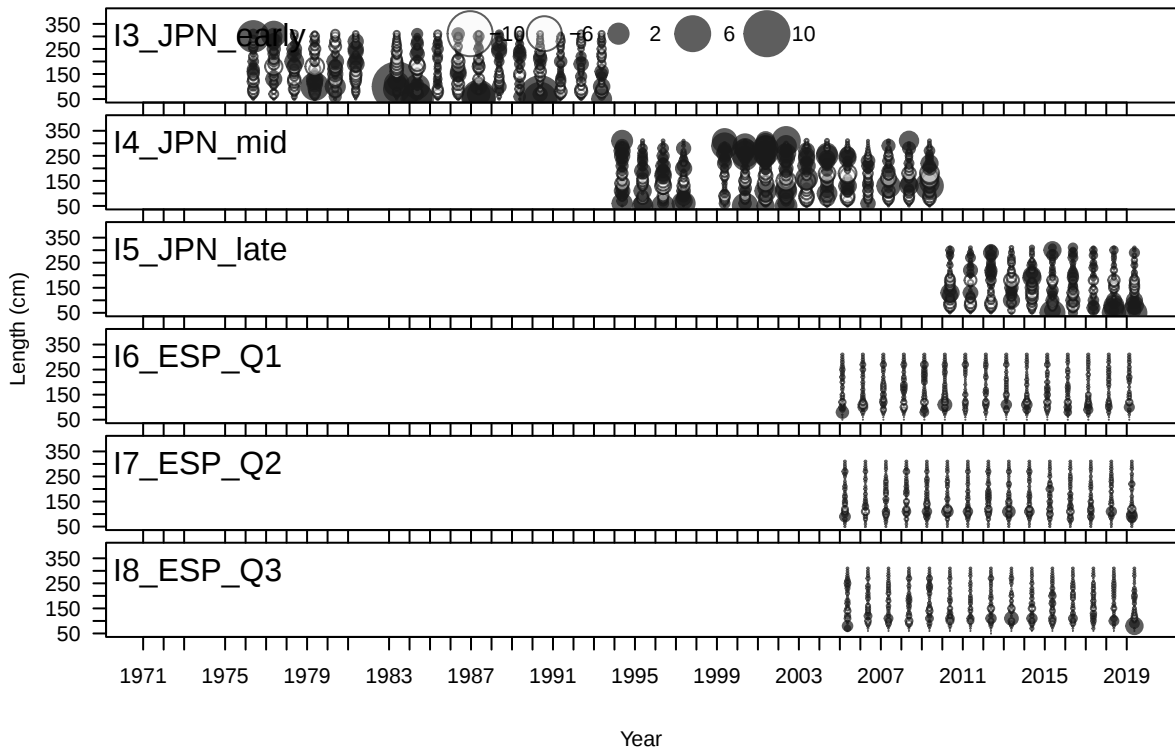
F5_LL_Coast_A5 (whole catch)



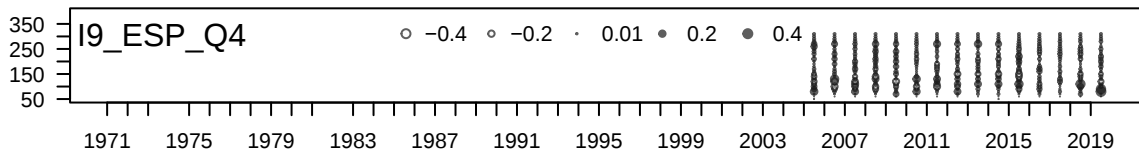






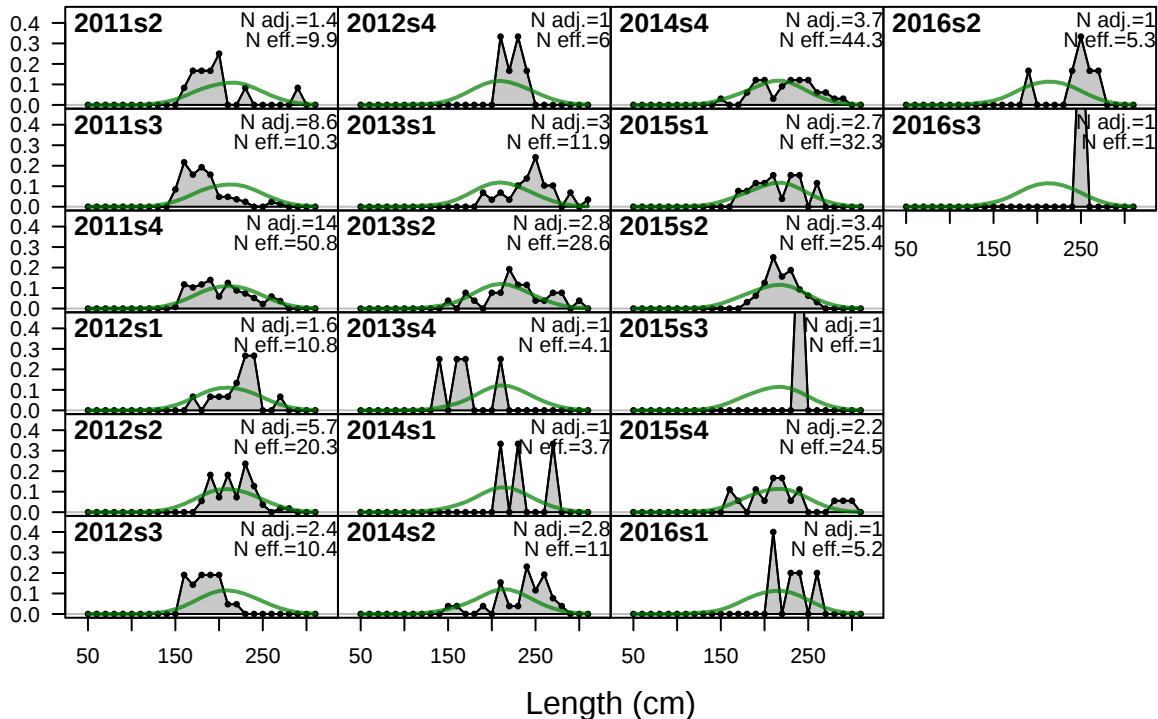


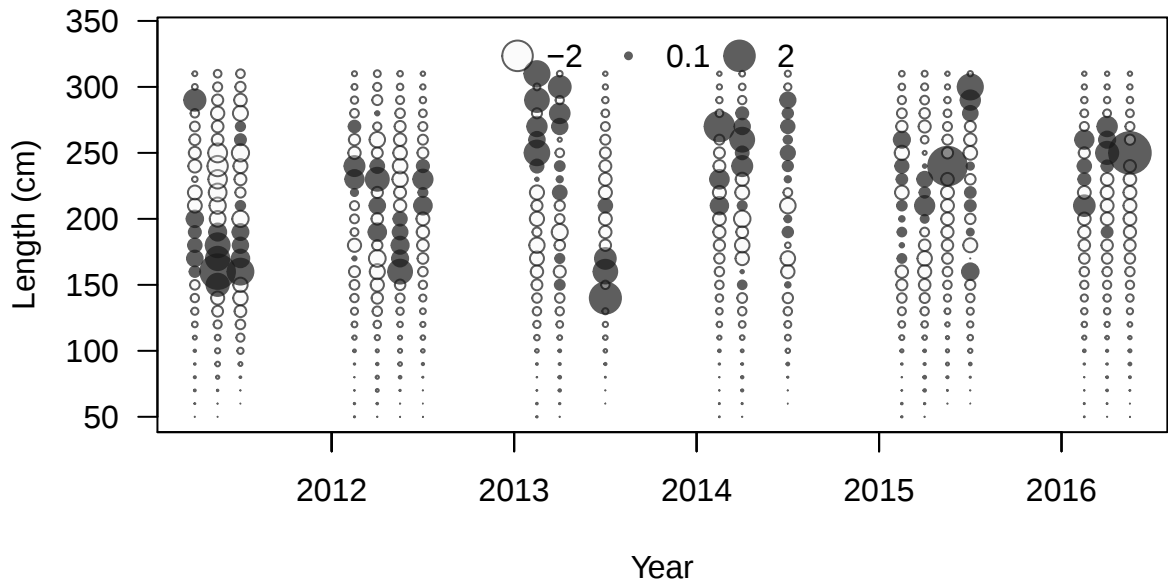
Length (cm)



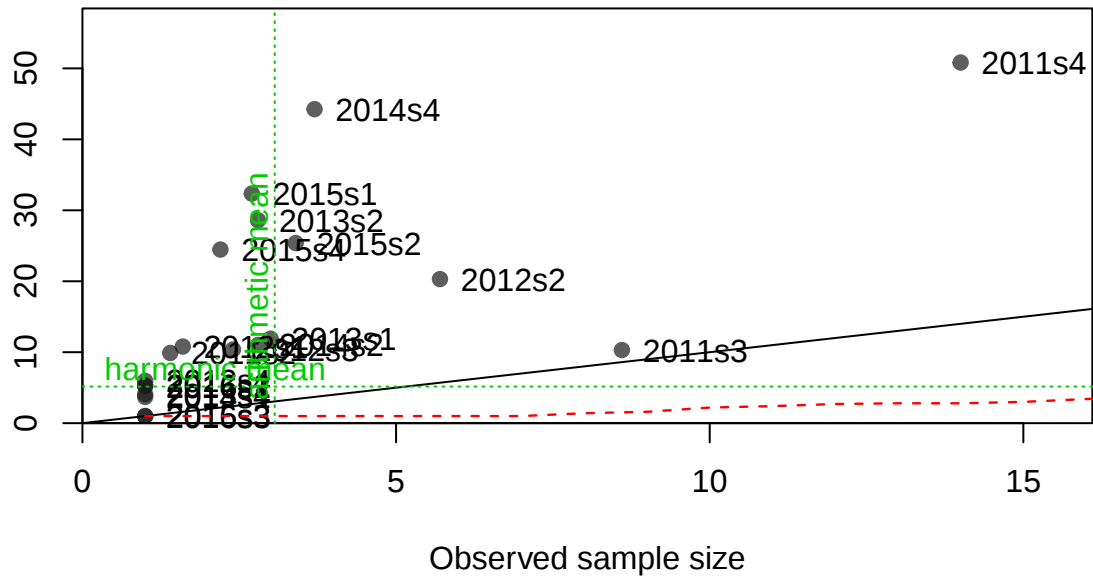
Year

Proportion

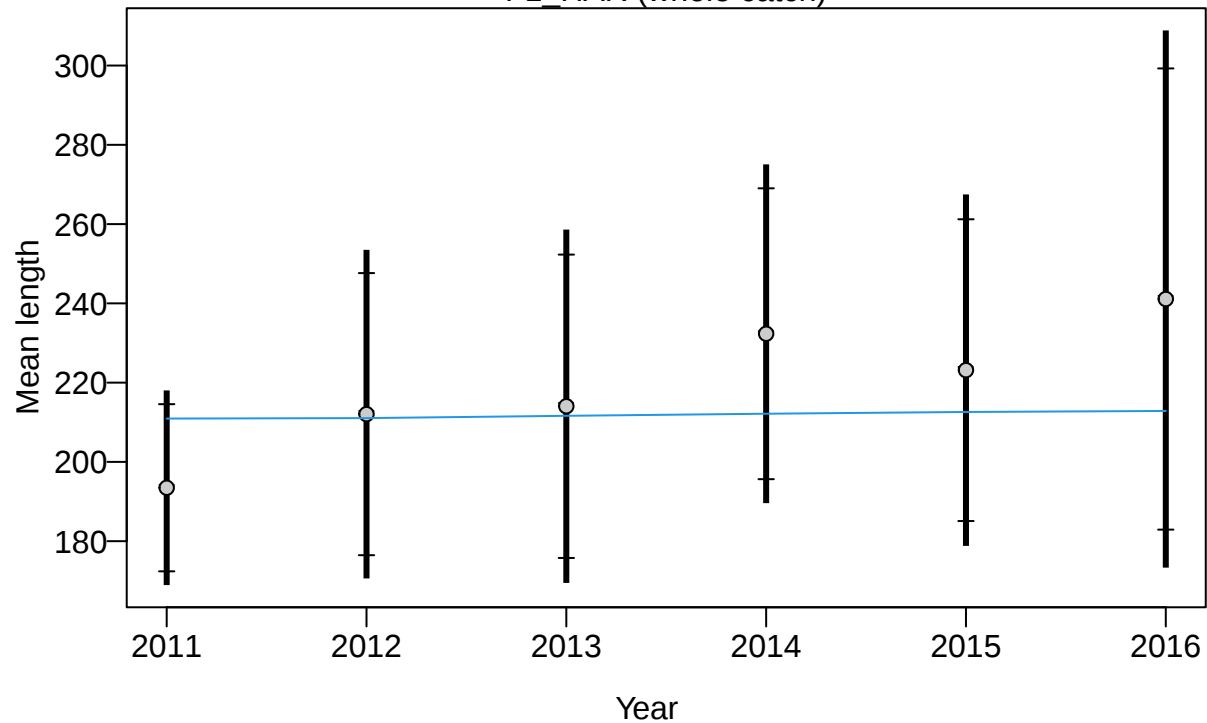




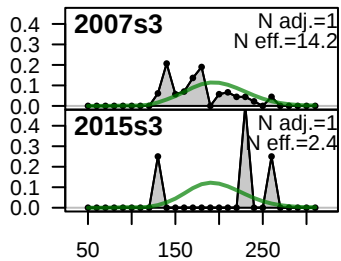
Effective sample size



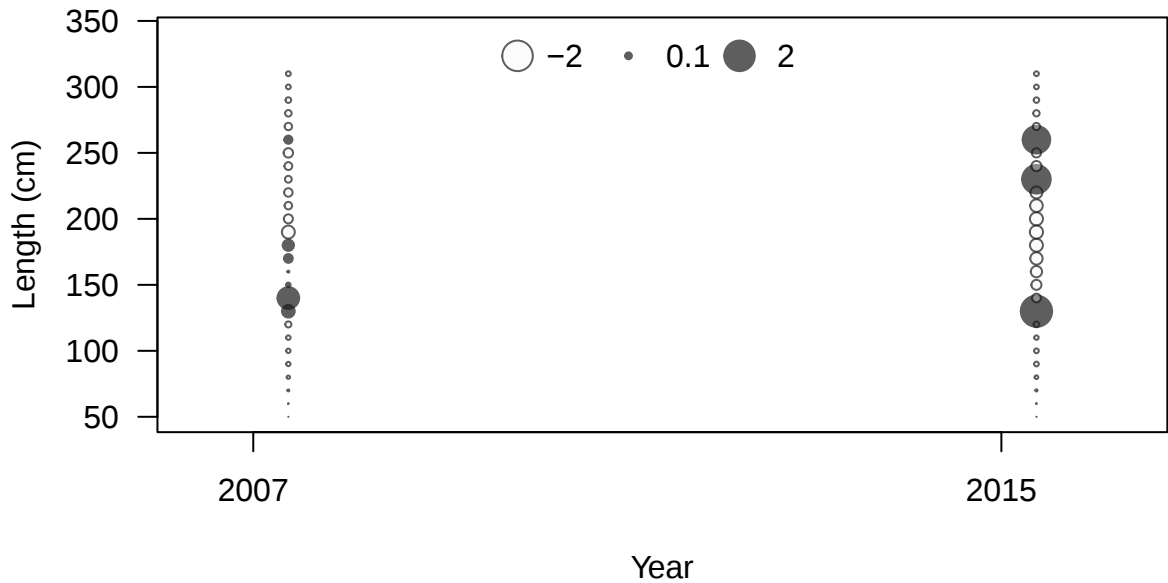
F1_HAR (whole catch)



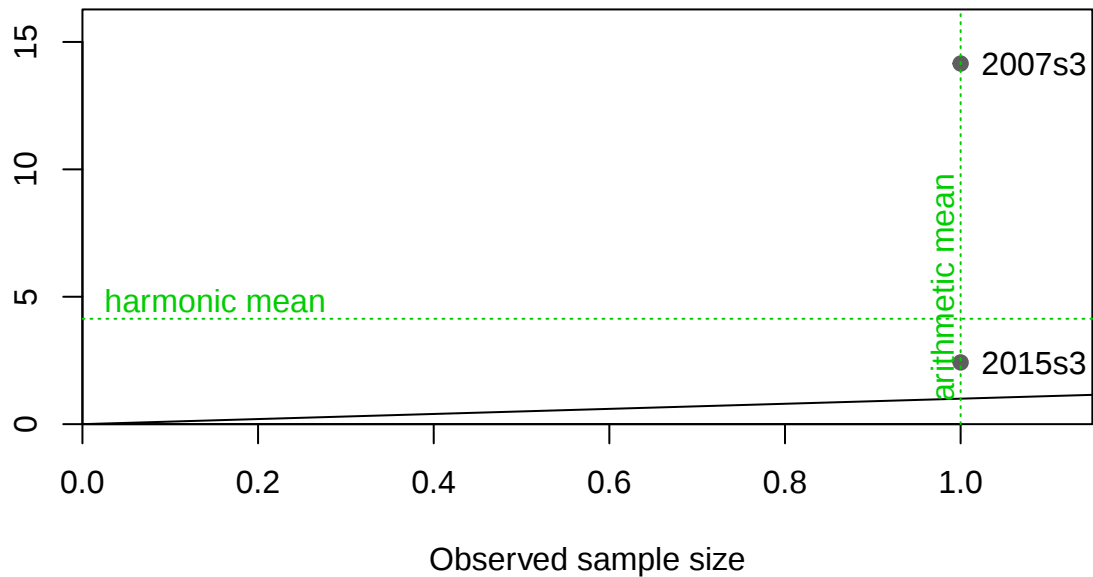
Proportion



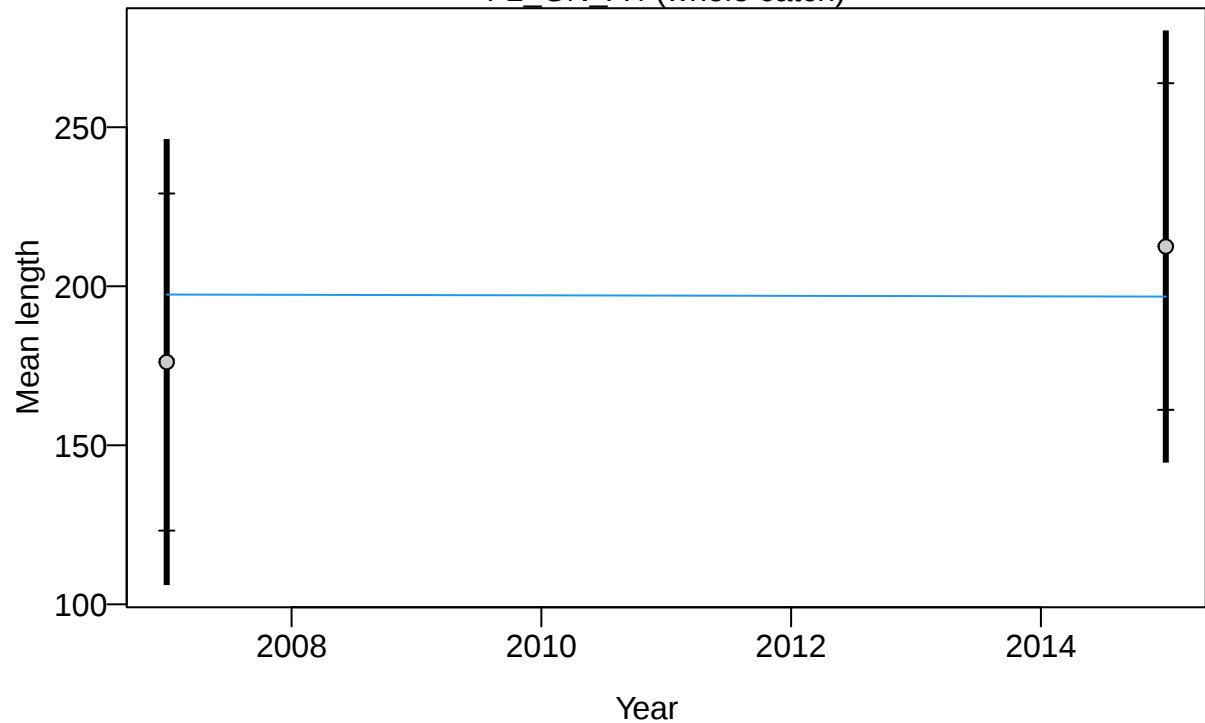
Length (cm)



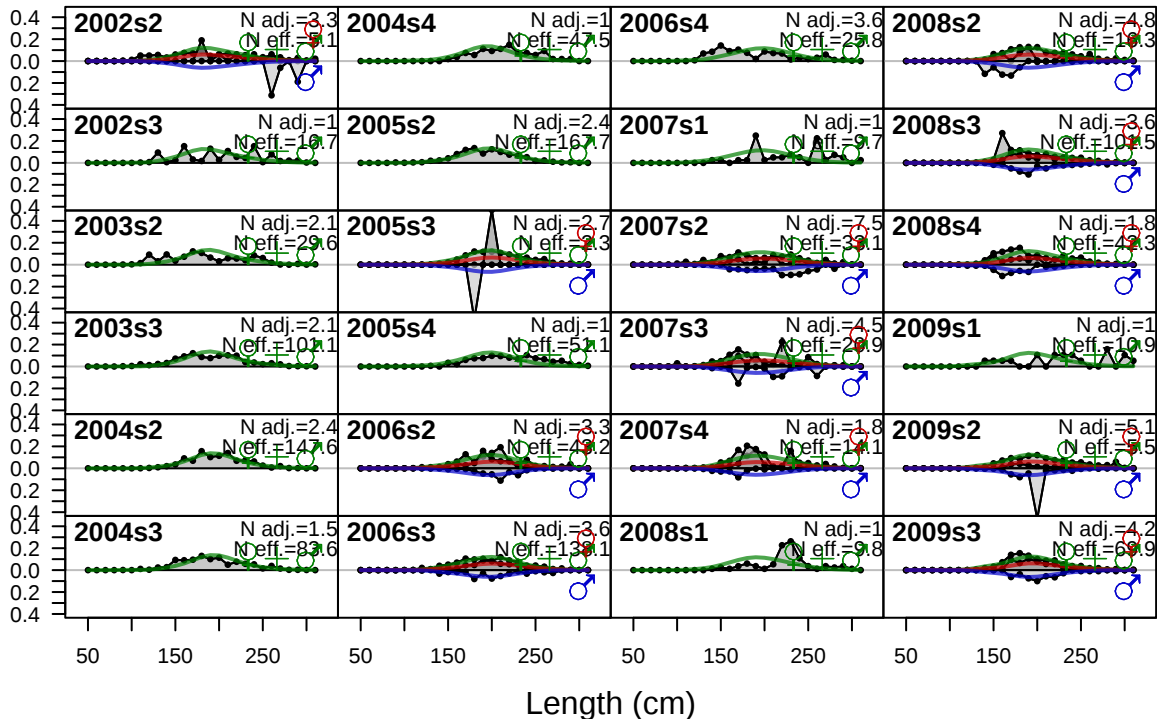
Effective sample size



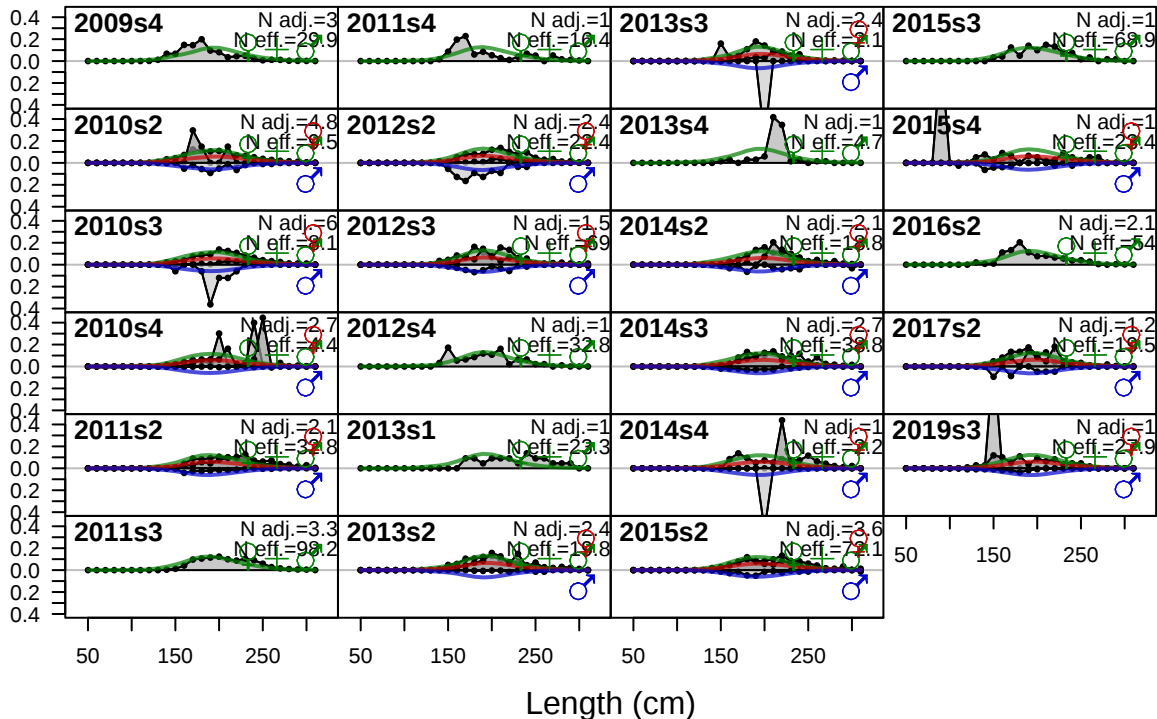
F2_GN_A4 (whole catch)

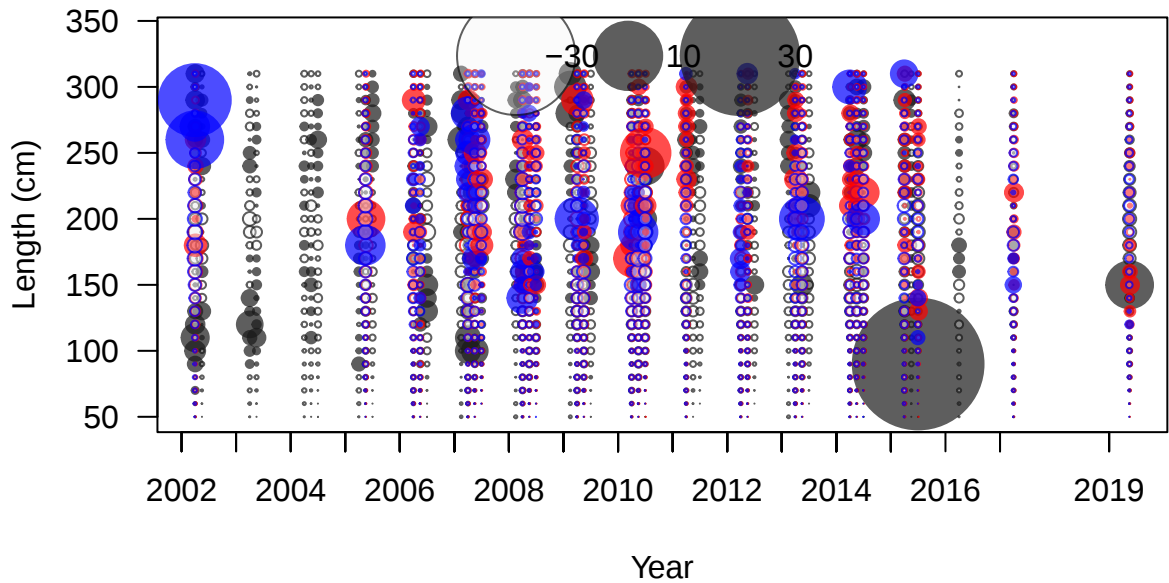


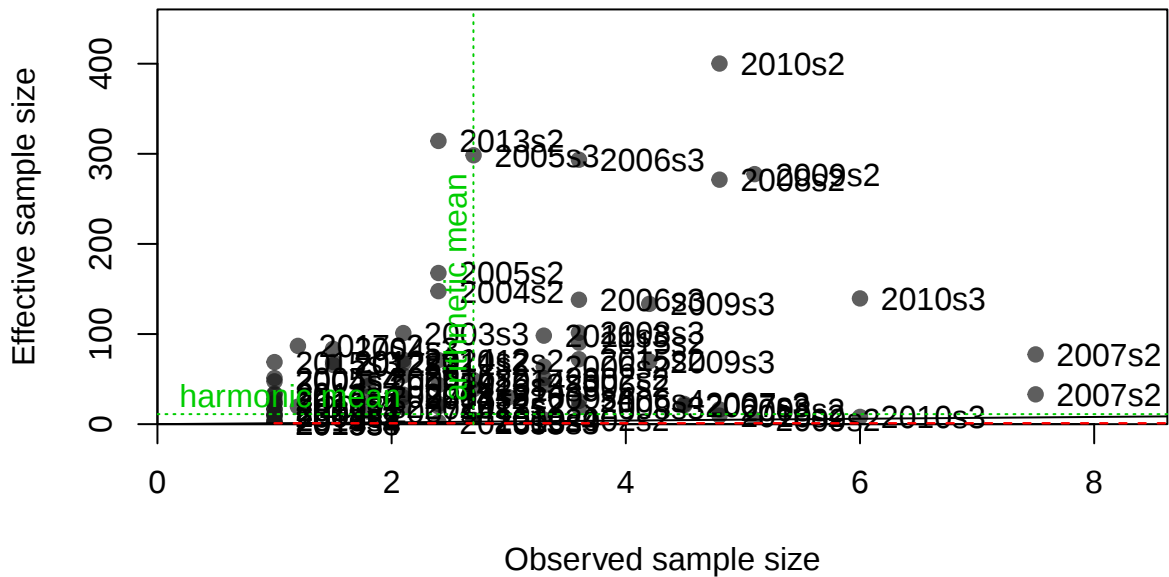
Proportion



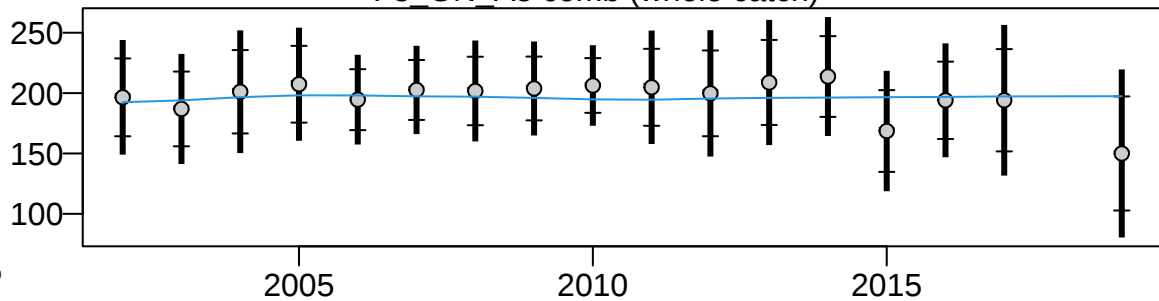
Proportion



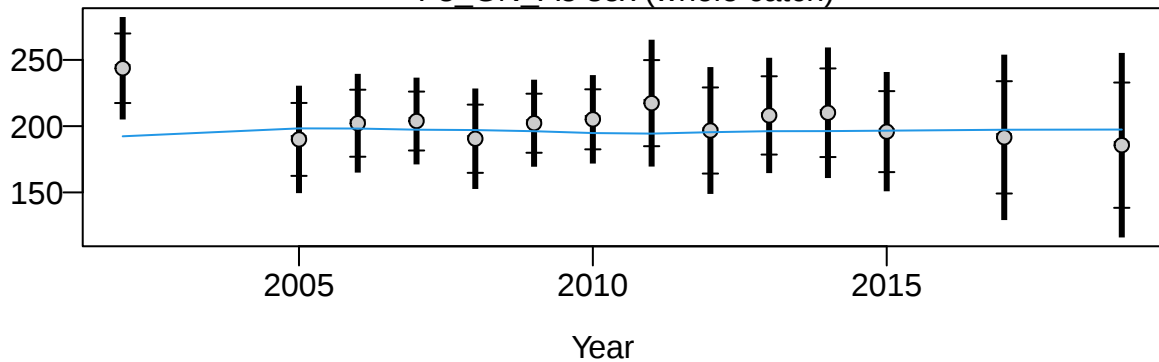




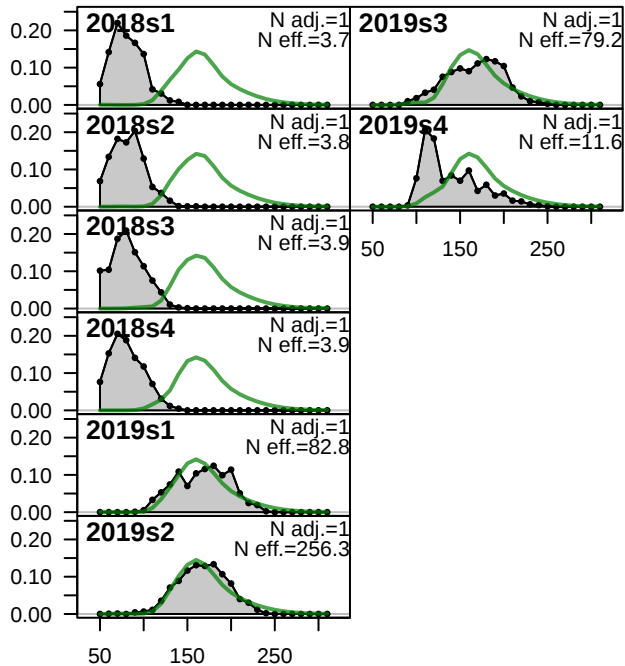
F3_GN_A5 comb (whole catch)



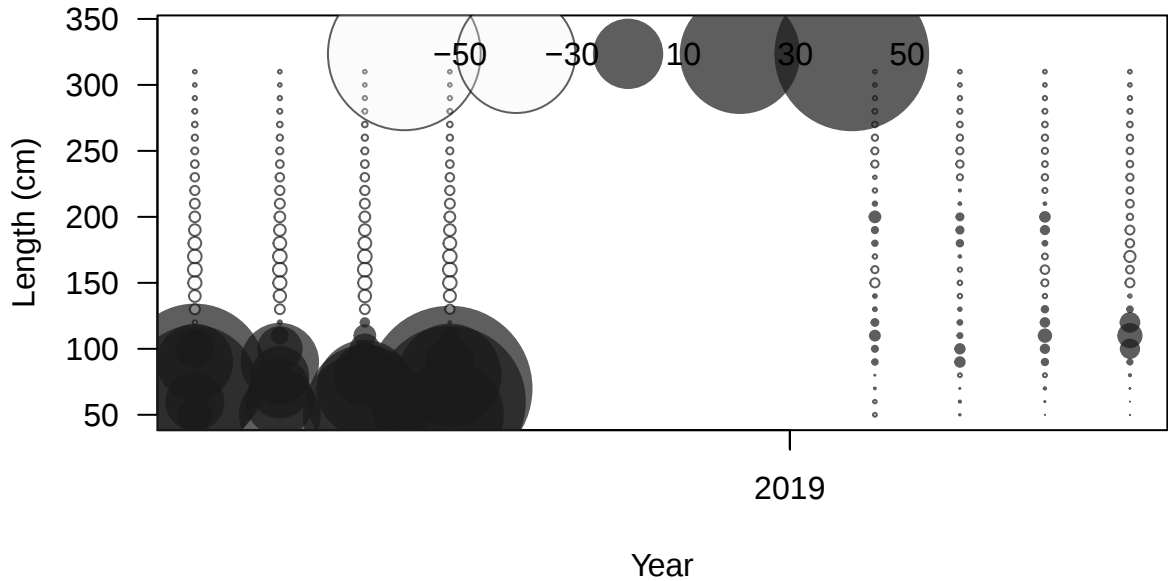
F3_GN_A5 sex (whole catch)



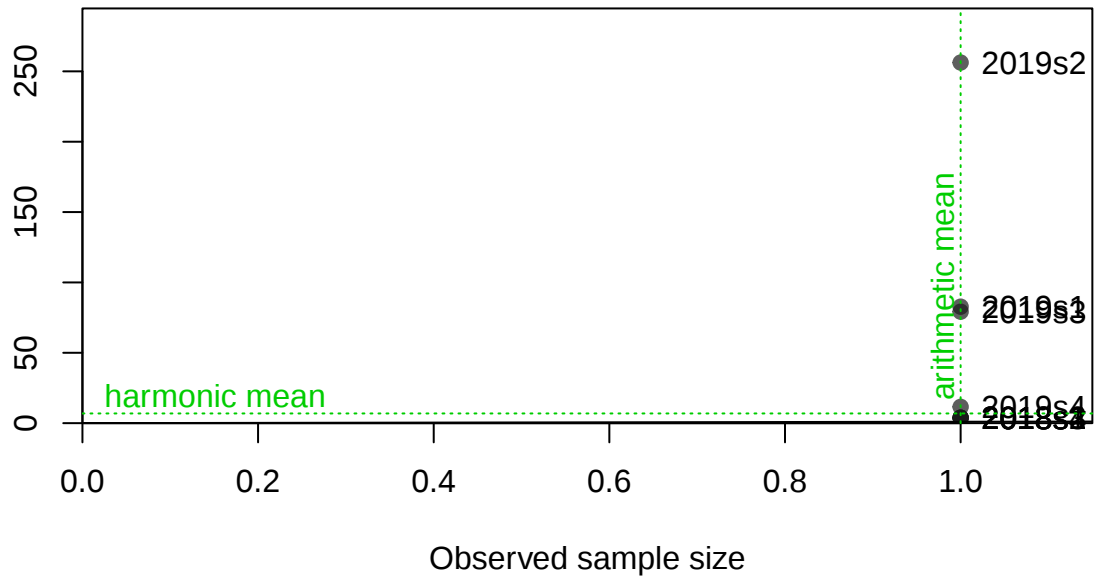
Proportion



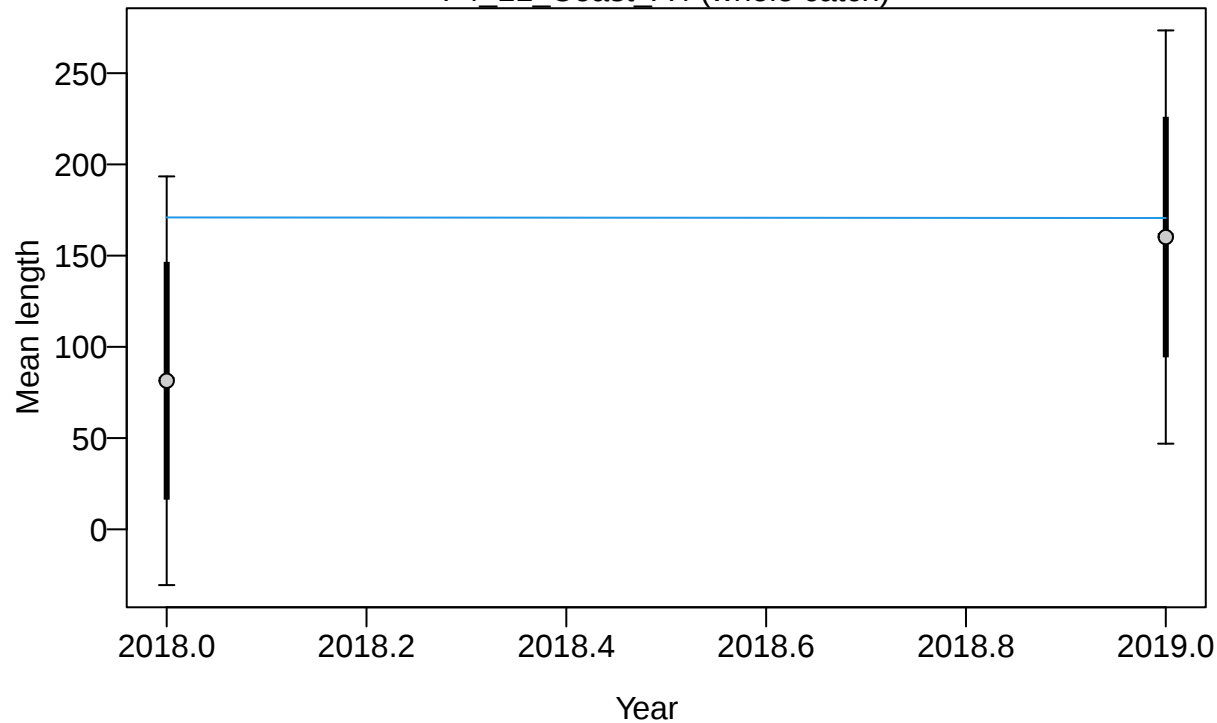
Length (cm)



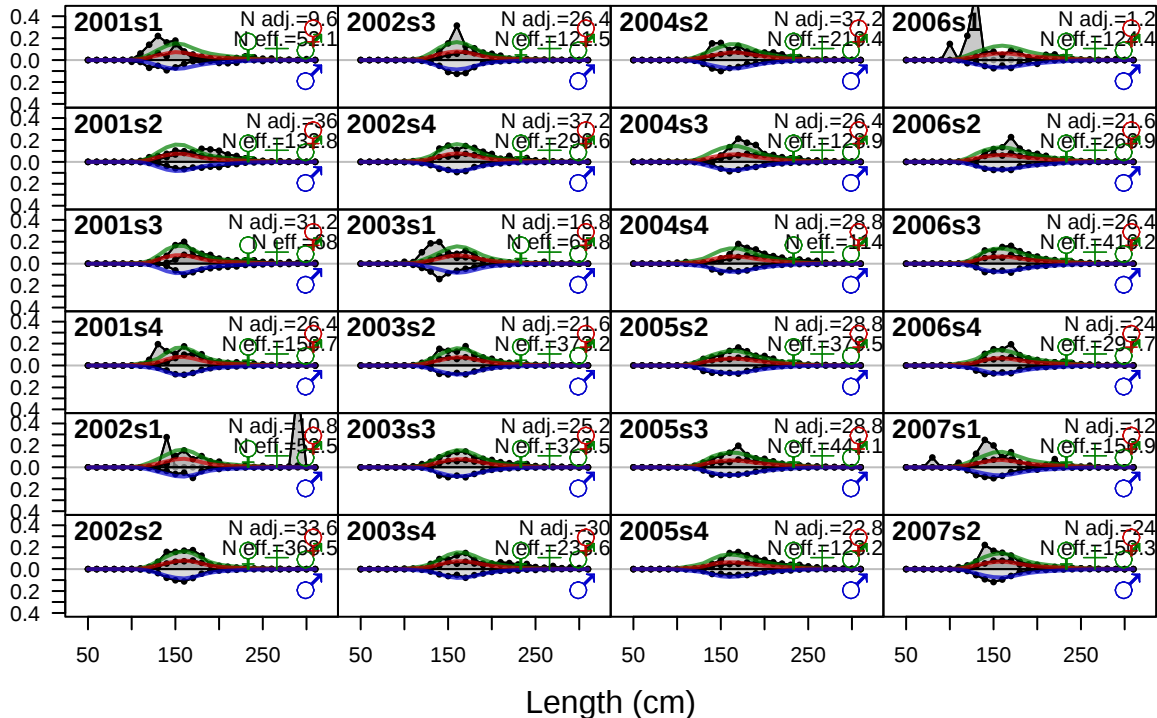
Effective sample size



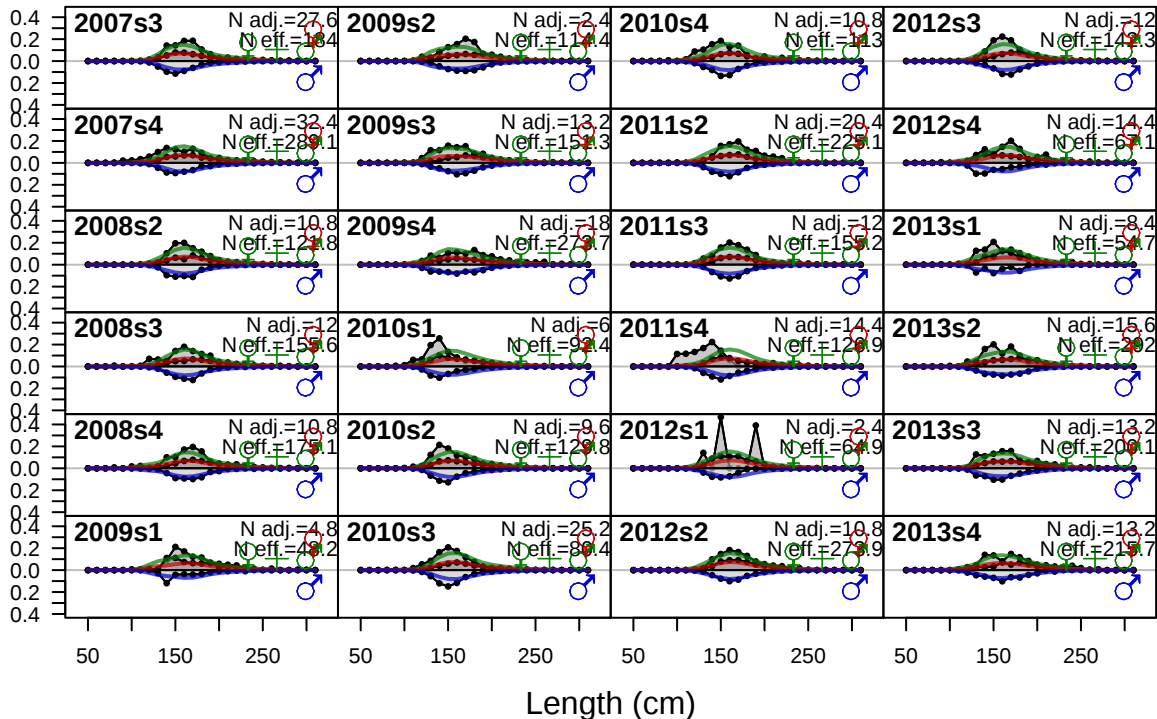
F4_LL_Coast_A4 (whole catch)



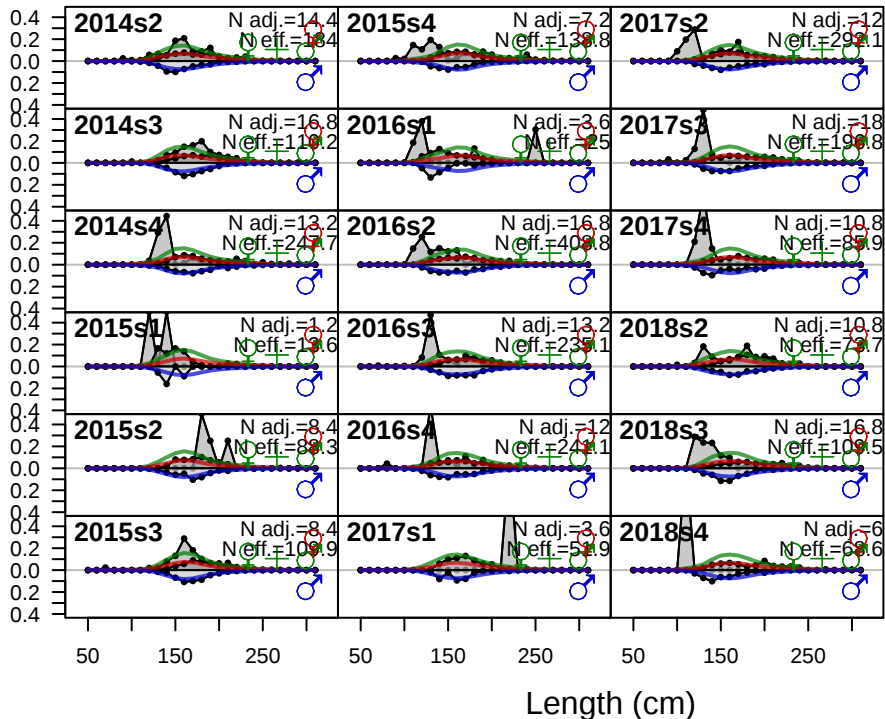
Proportion

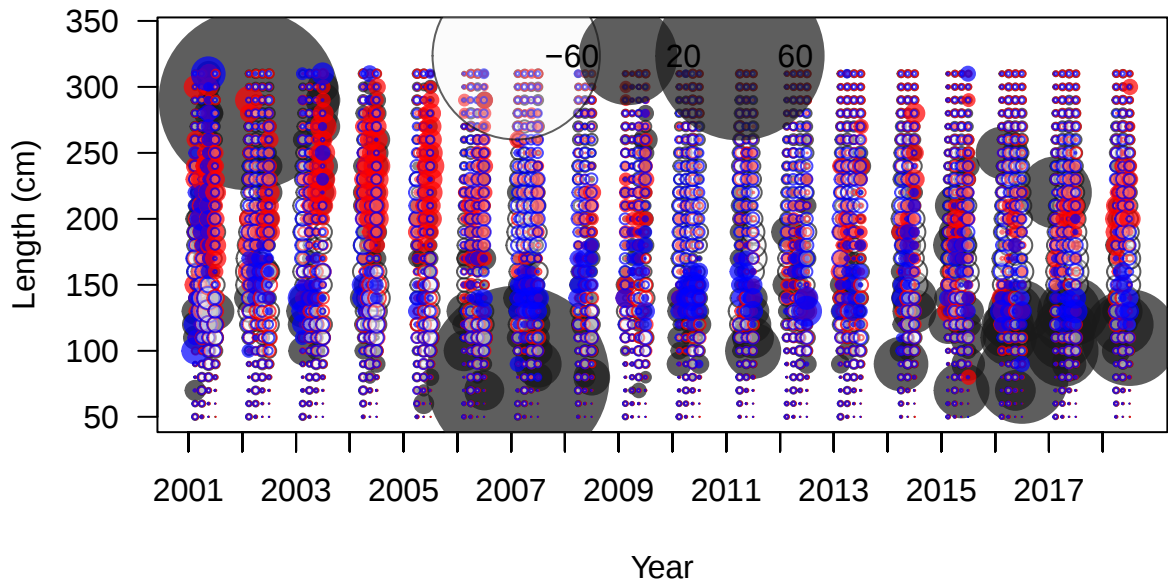


Proportion

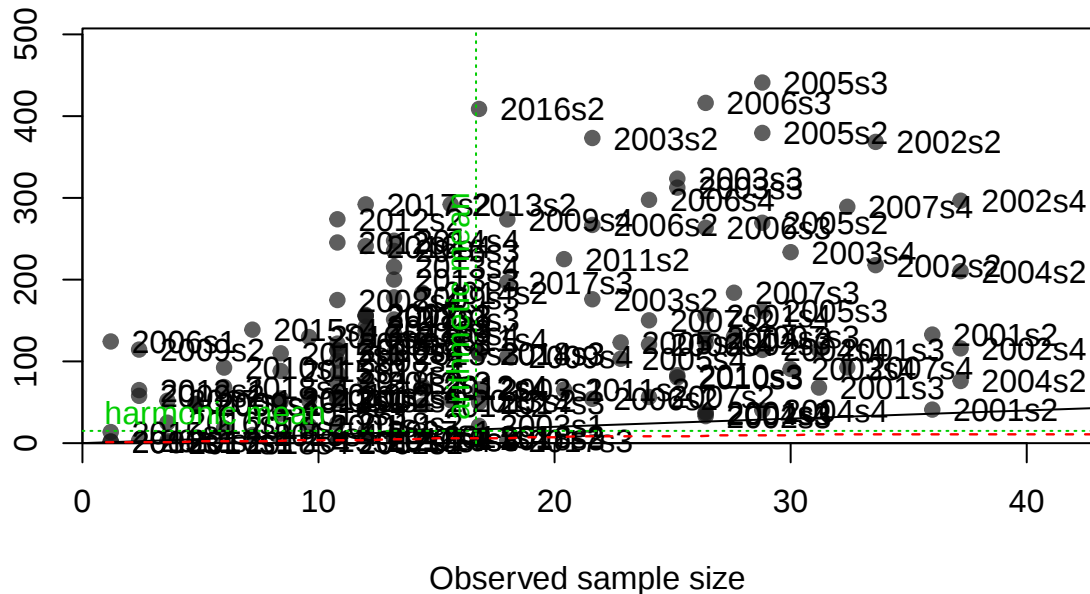


Proportion

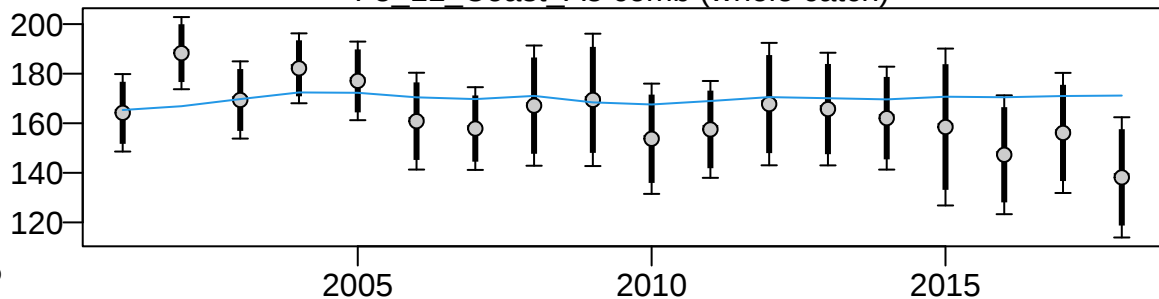




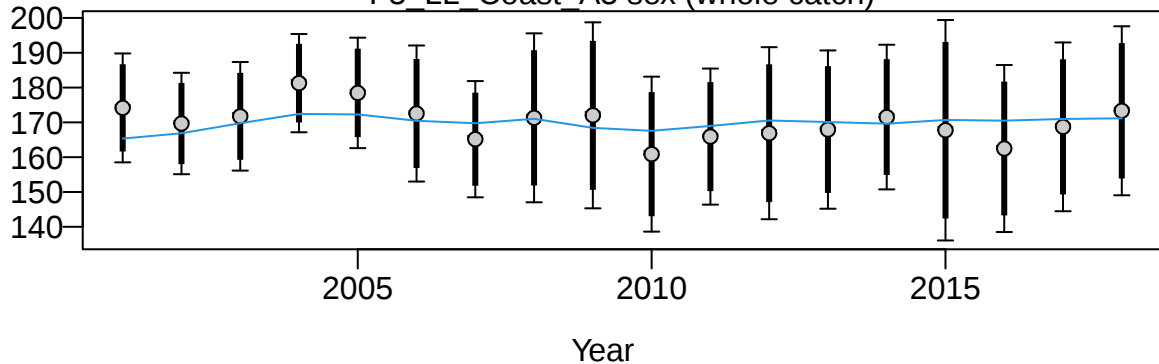
Effective sample size



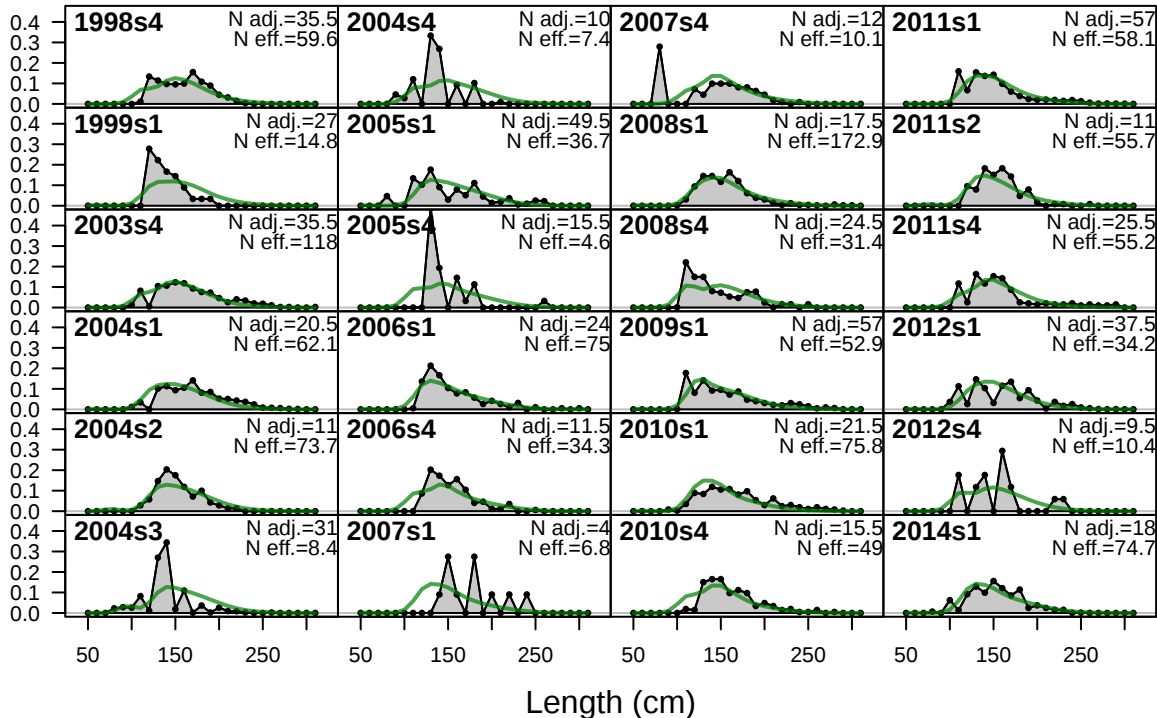
F5_LL_Coast_A5 comb (whole catch)



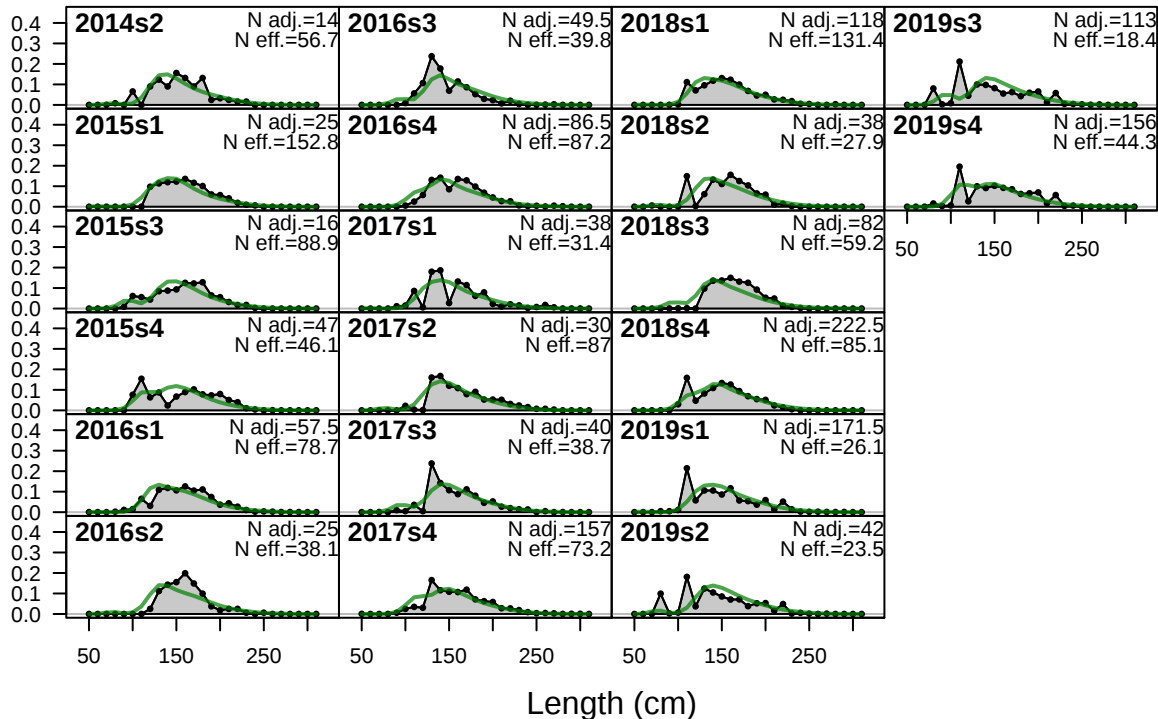
F5_LL_Coast_A5 sex (whole catch)

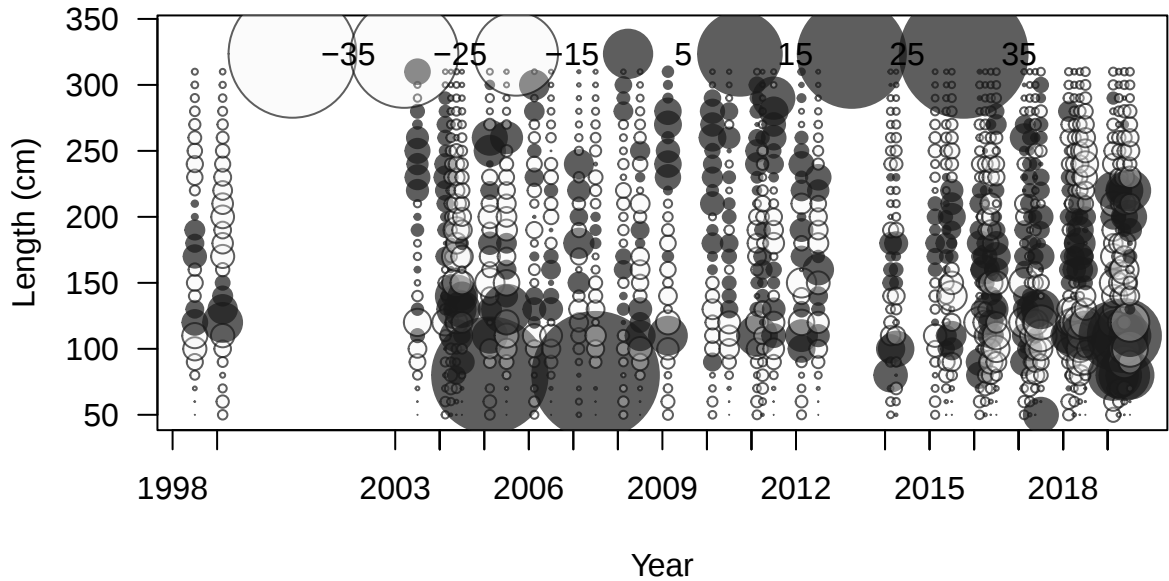


Proportion

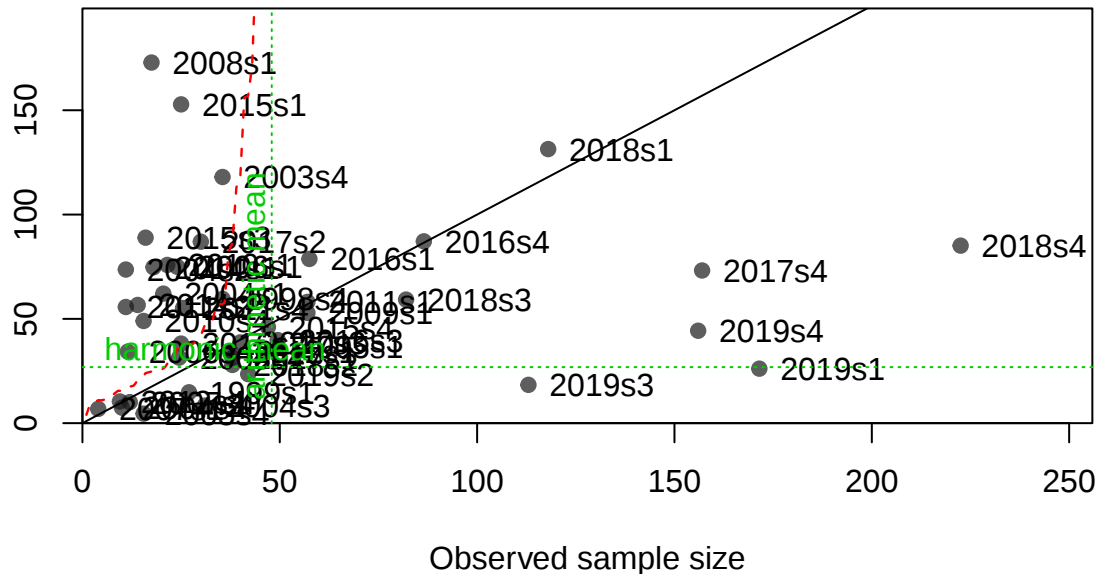


Proportion

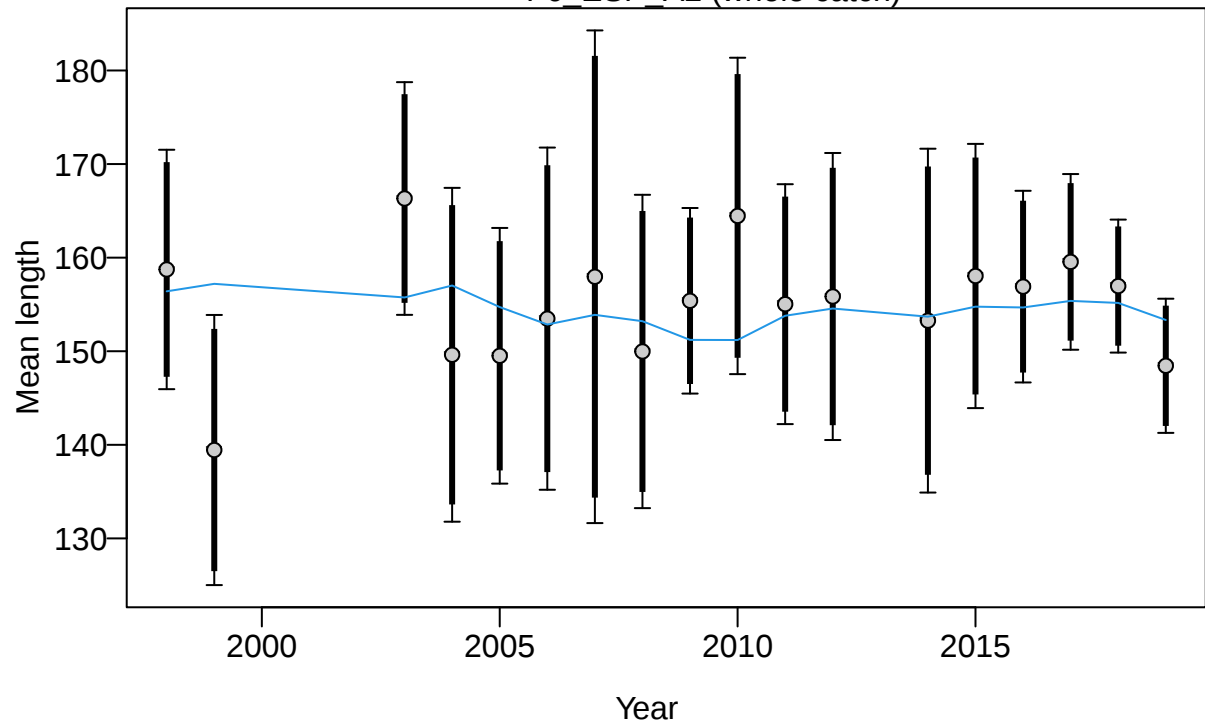


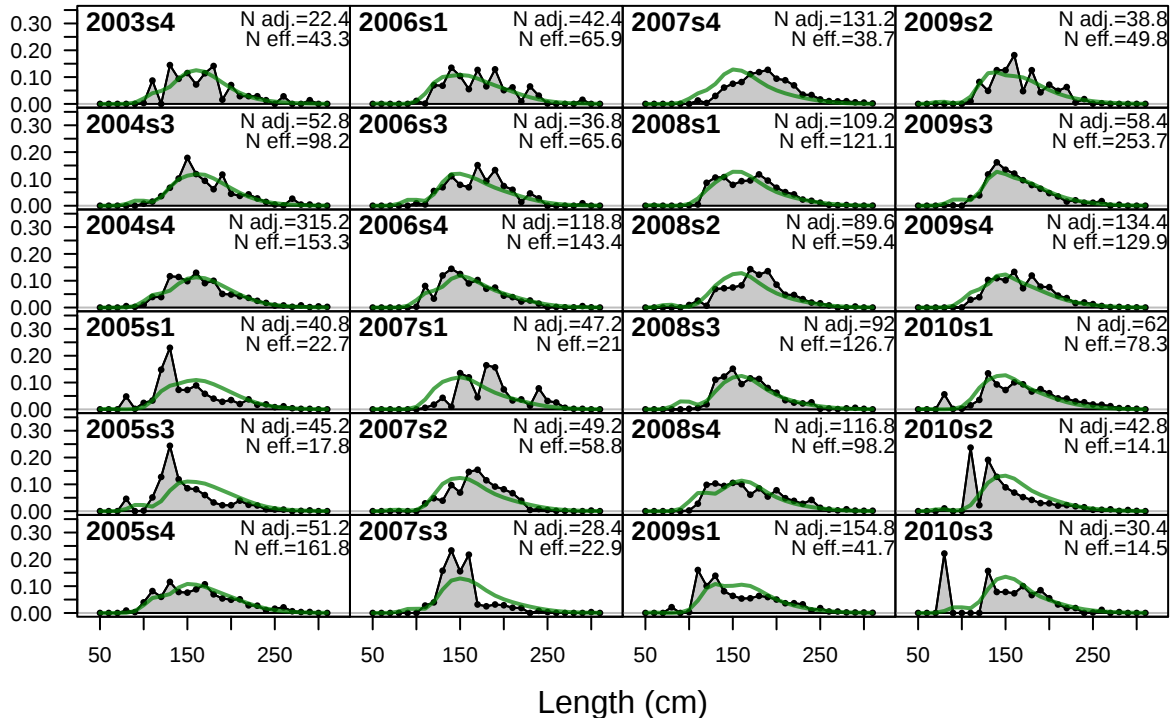


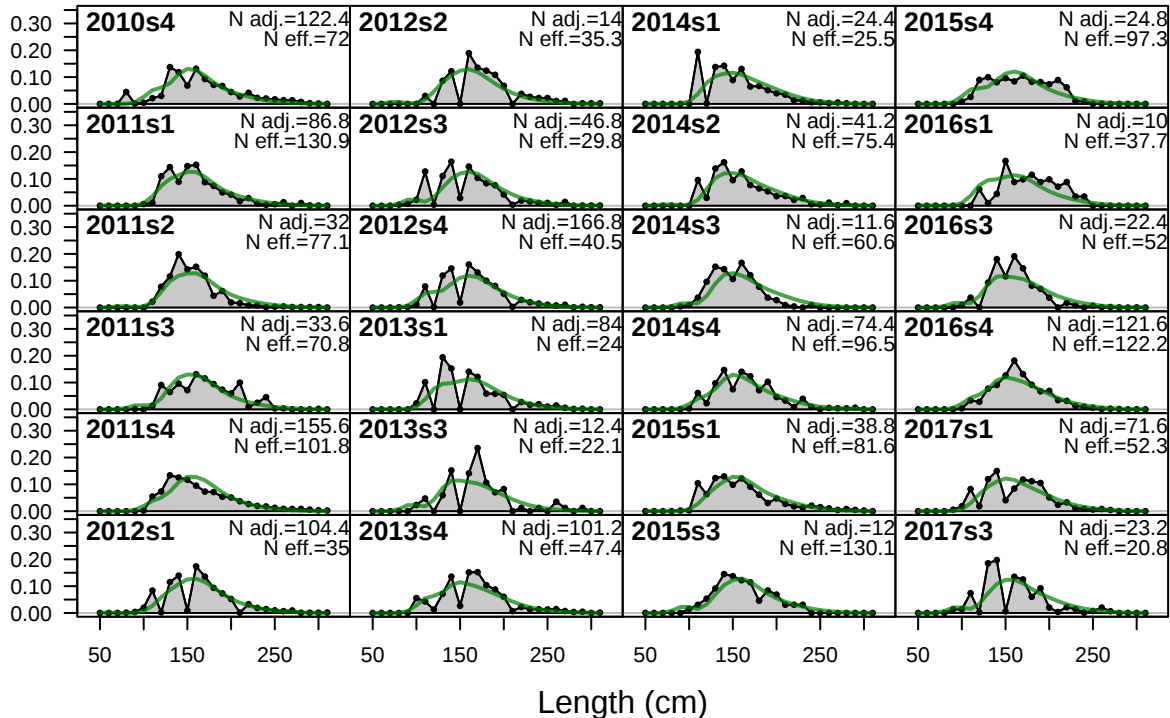
Effective sample size



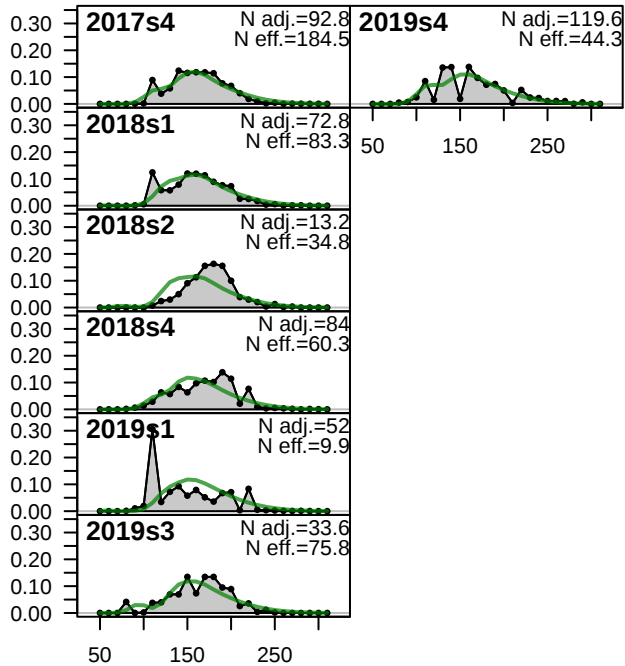
F6_ESP_A2 (whole catch)



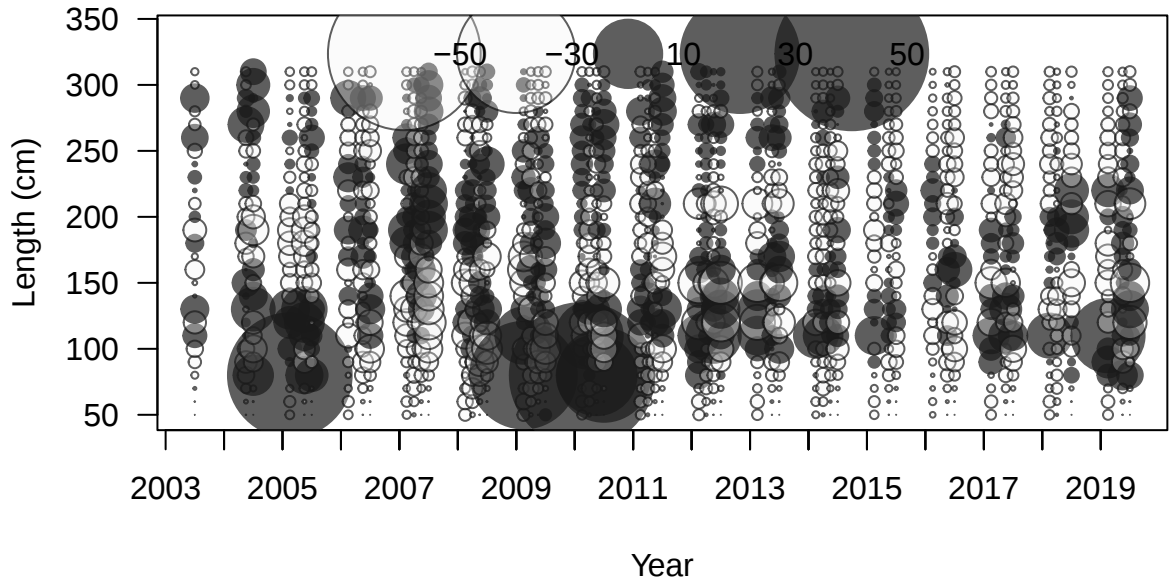




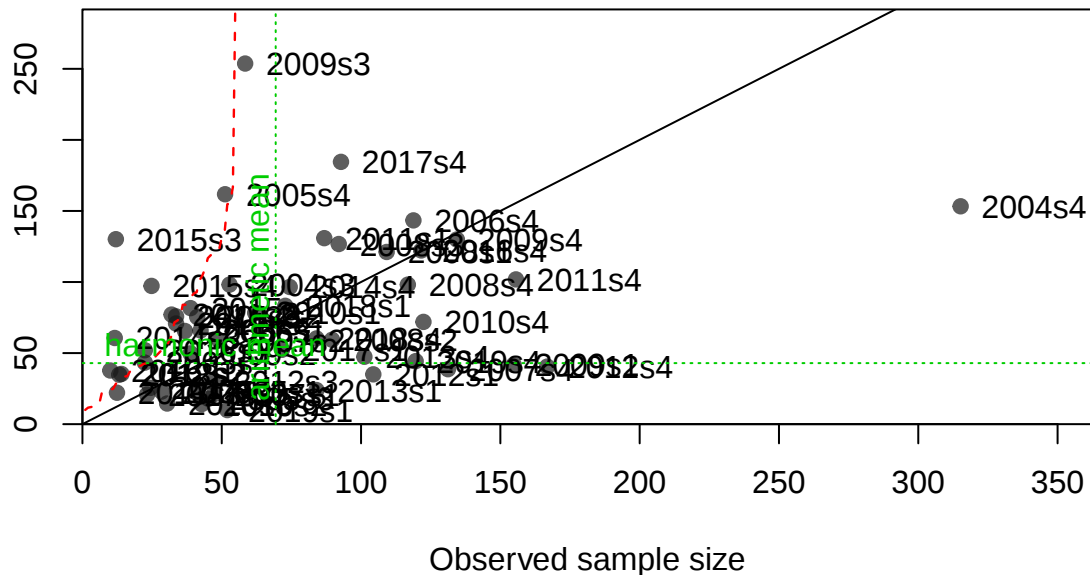
Proportion



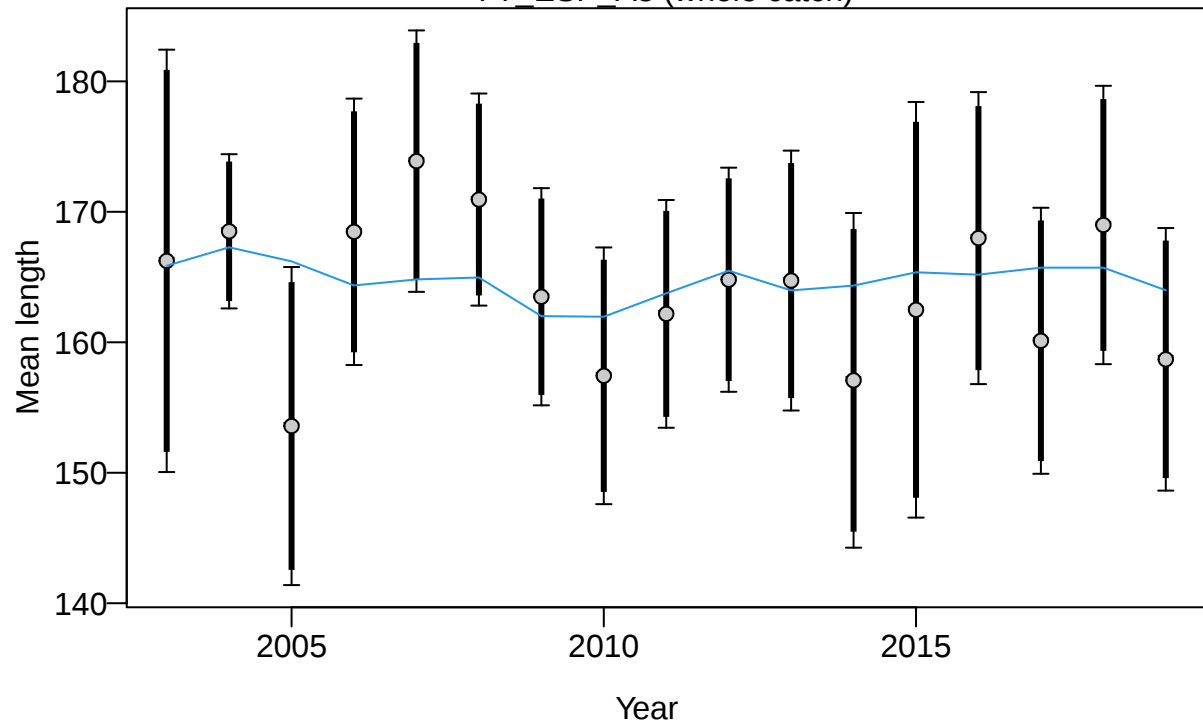
Length (cm)

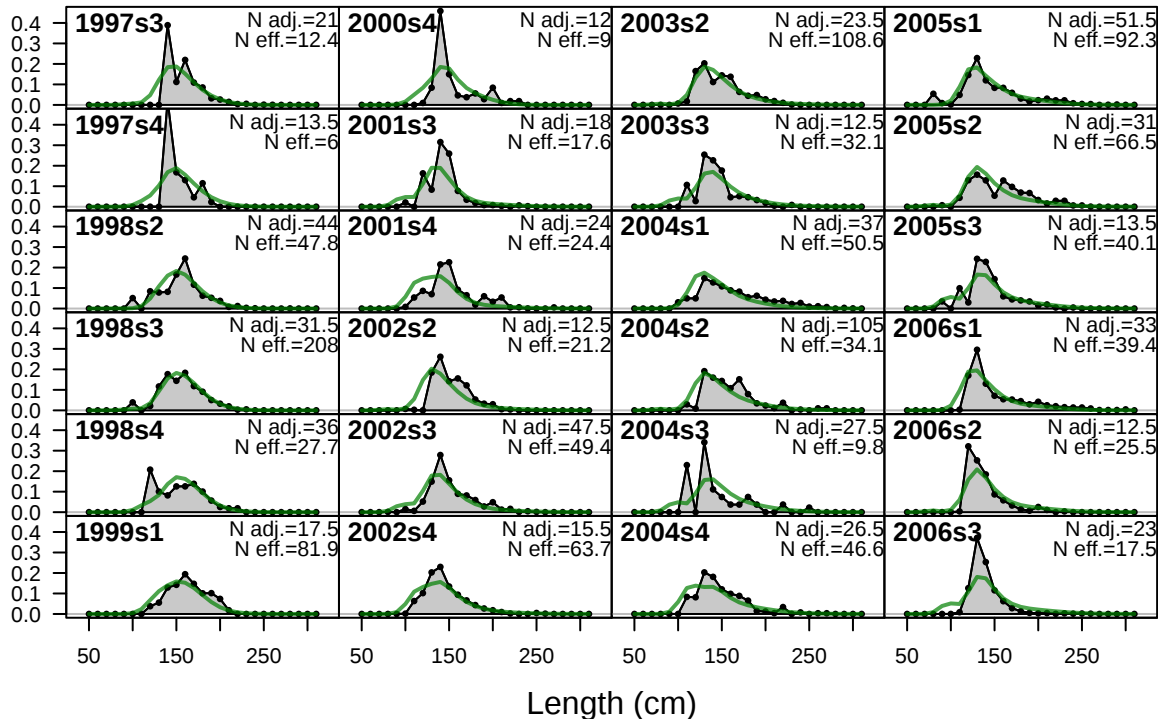


Effective sample size

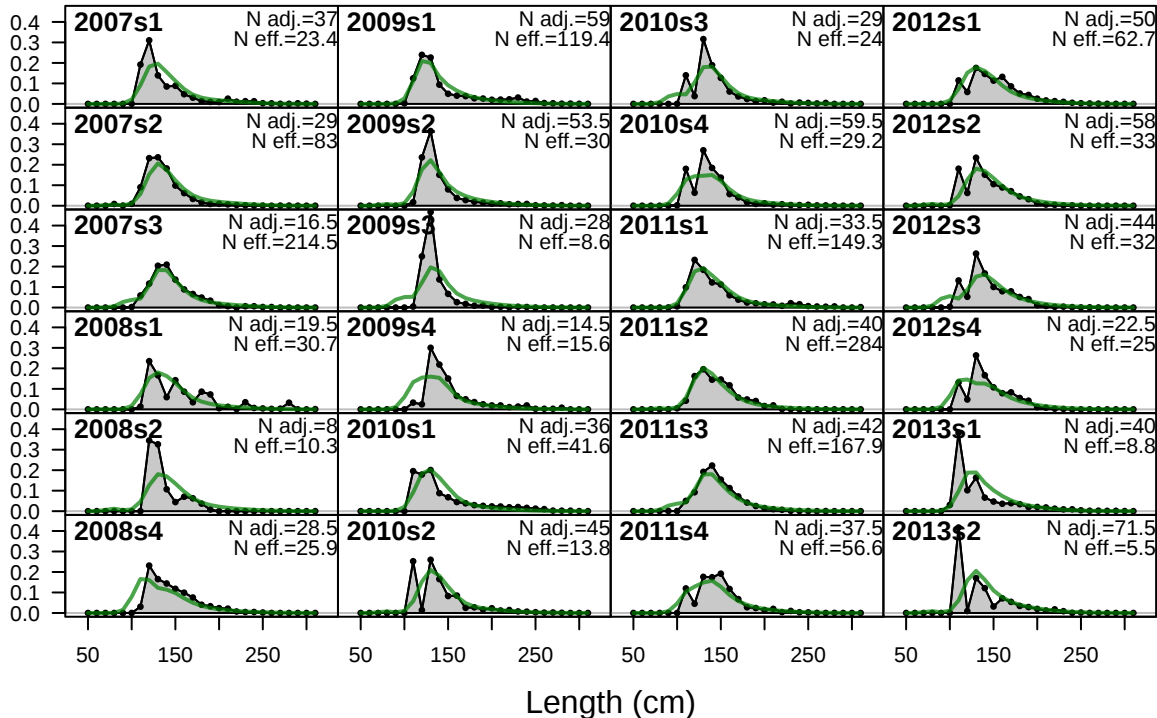


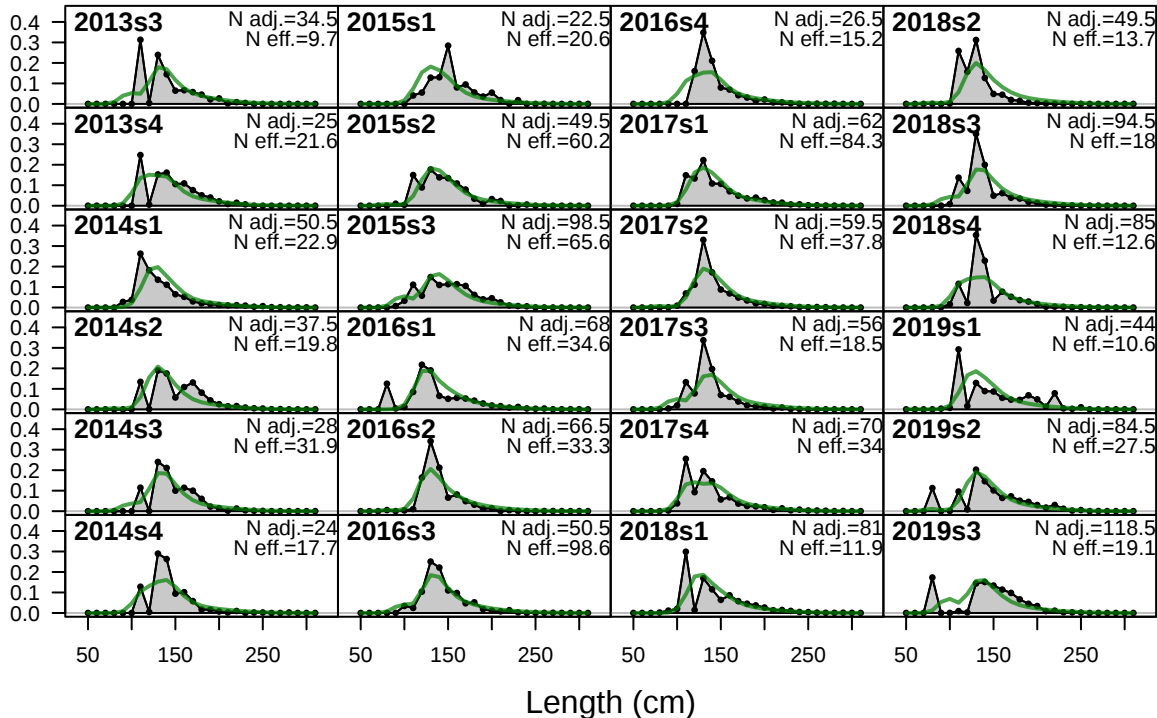
F7_ESP_A3 (whole catch)

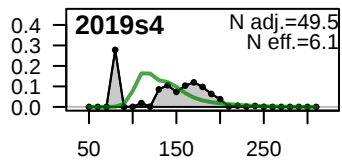




Proportion

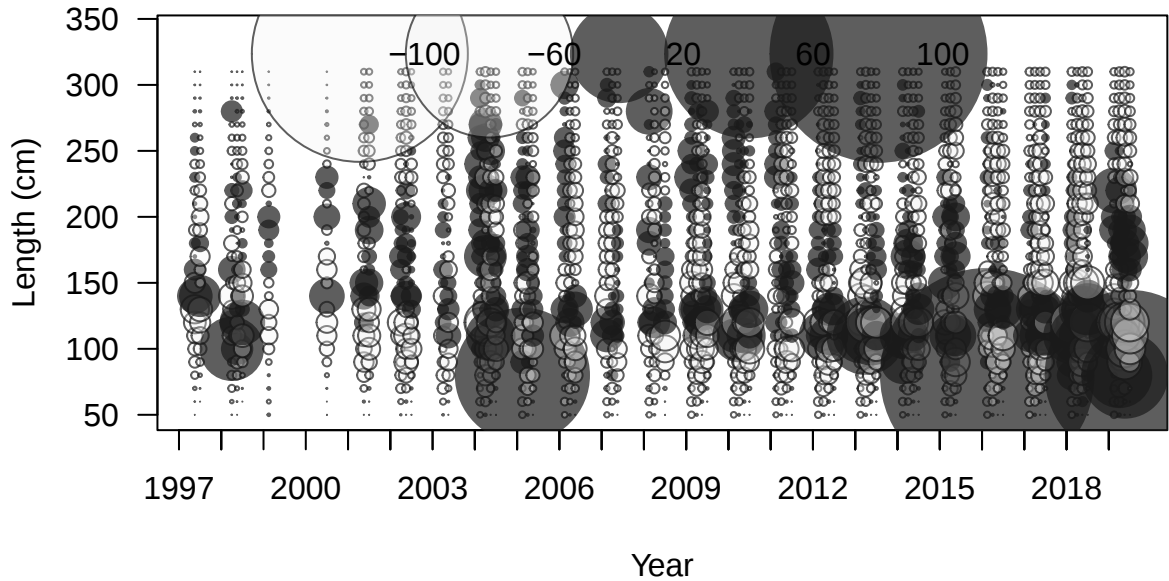




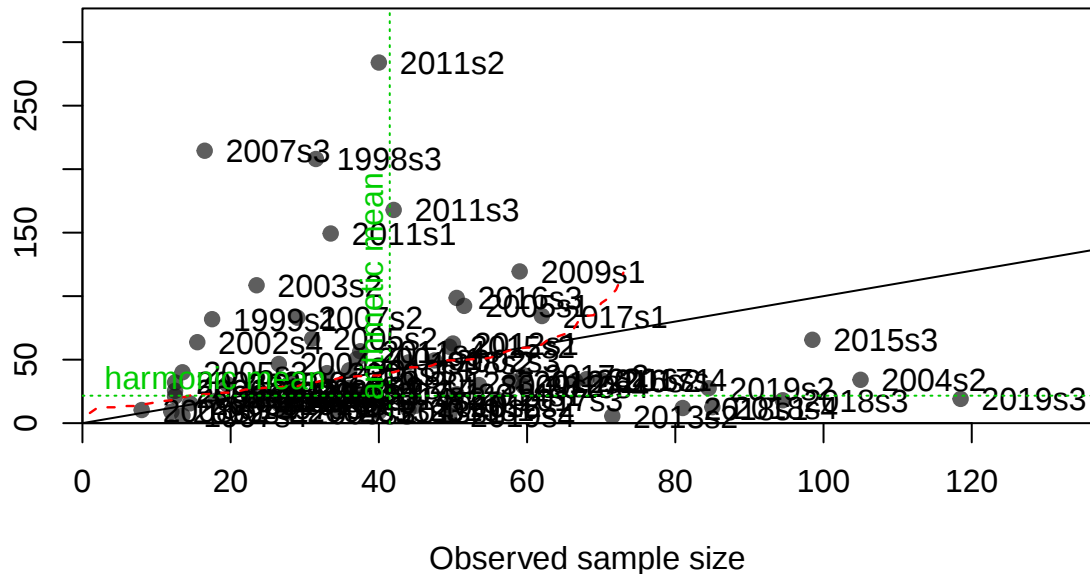


Proportion

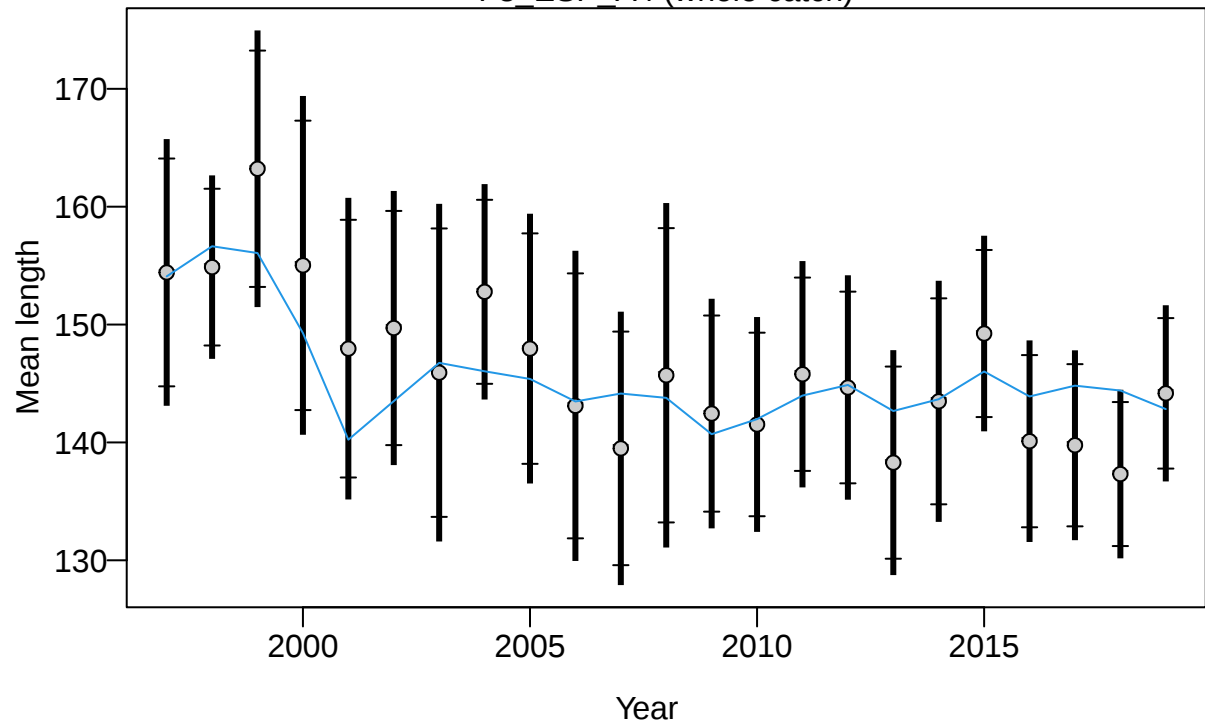
Length (cm)



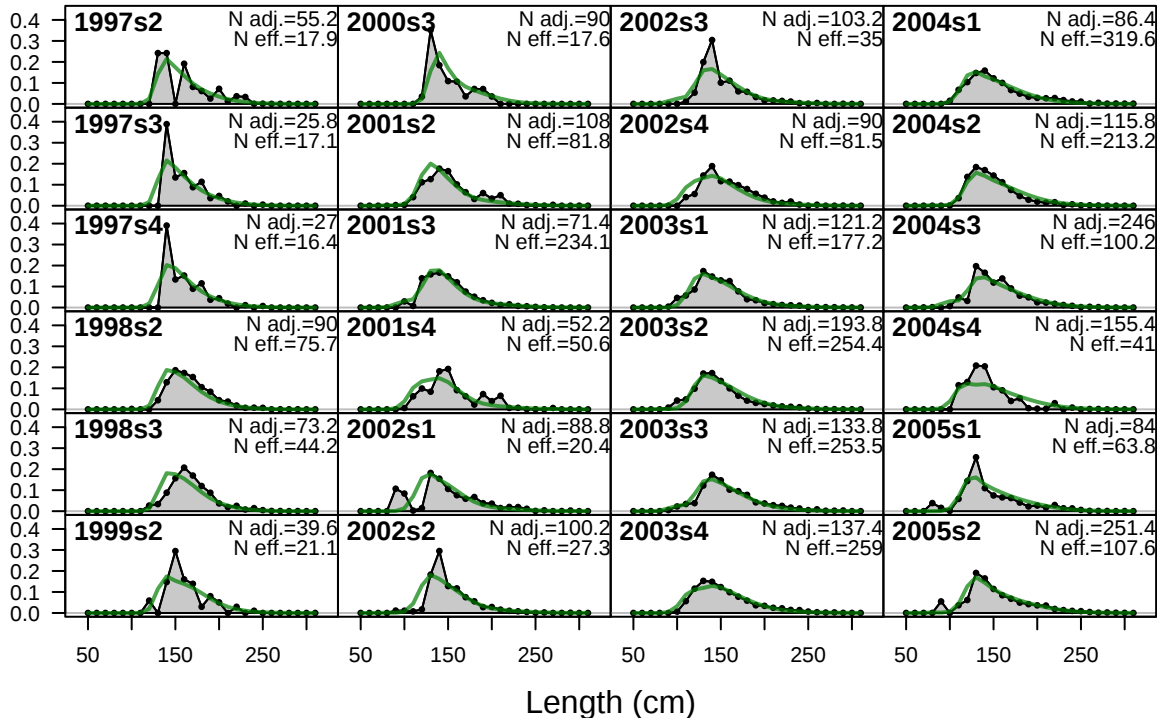
Effective sample size

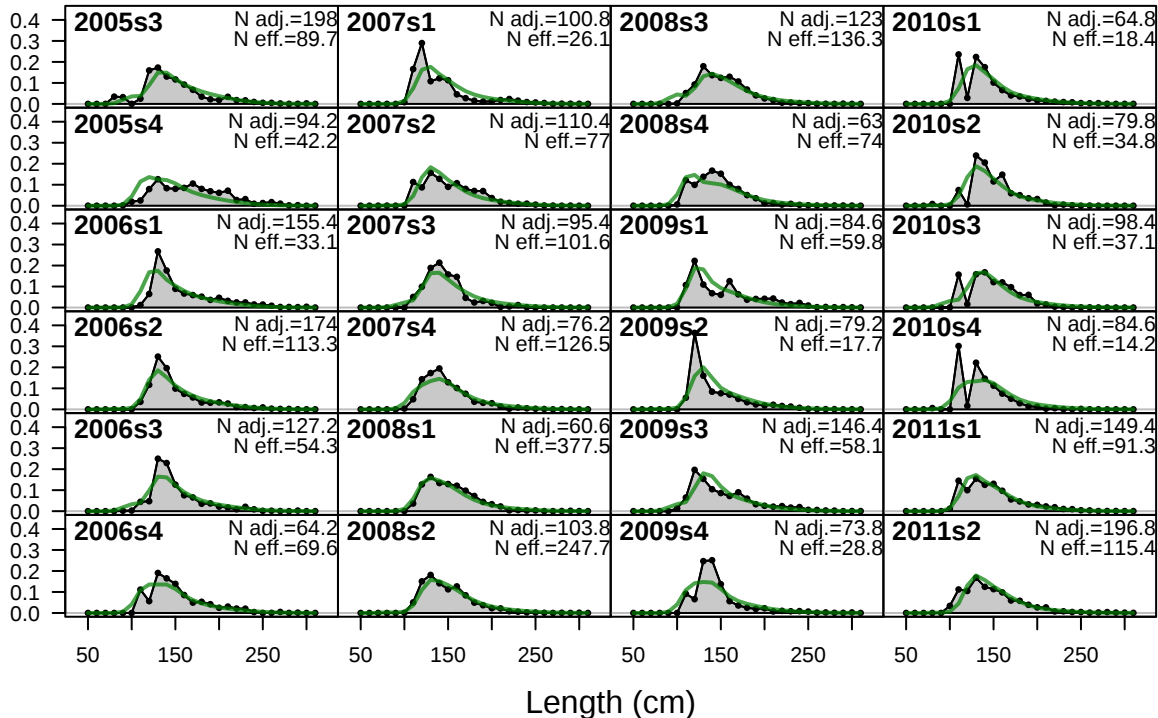


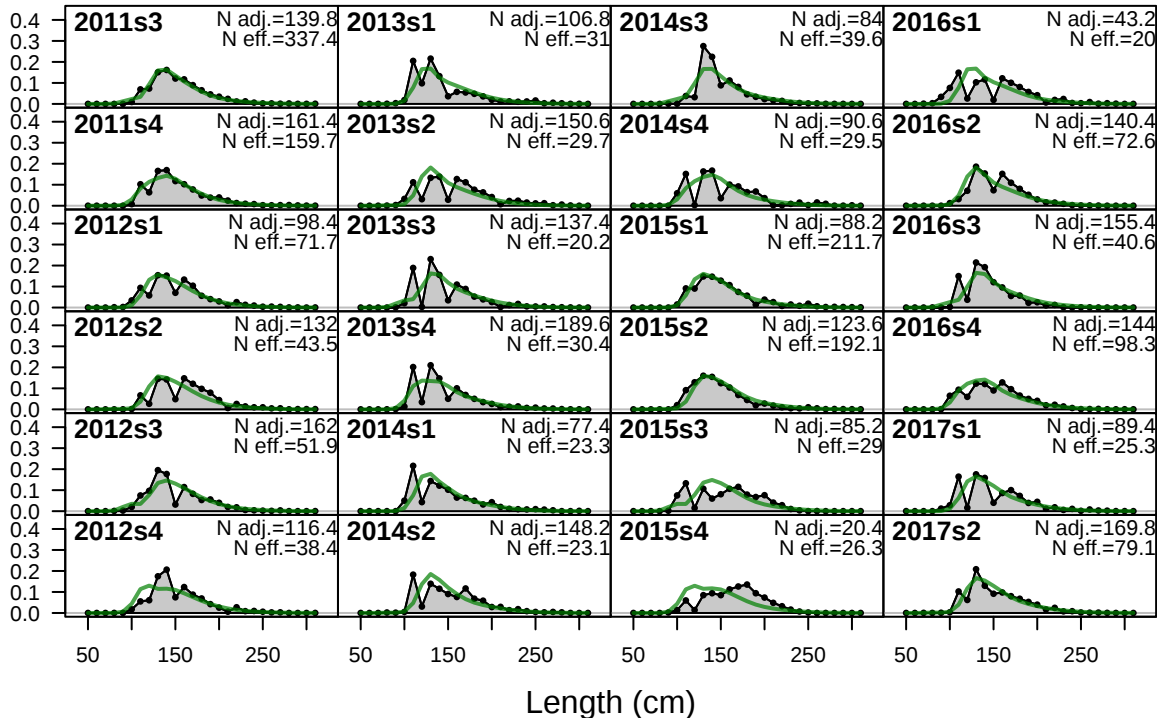
F8_ESP_A4 (whole catch)



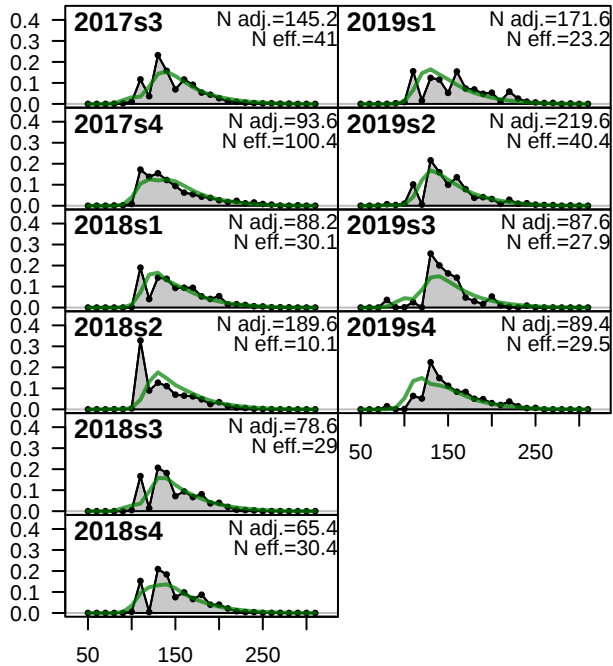
Proportion



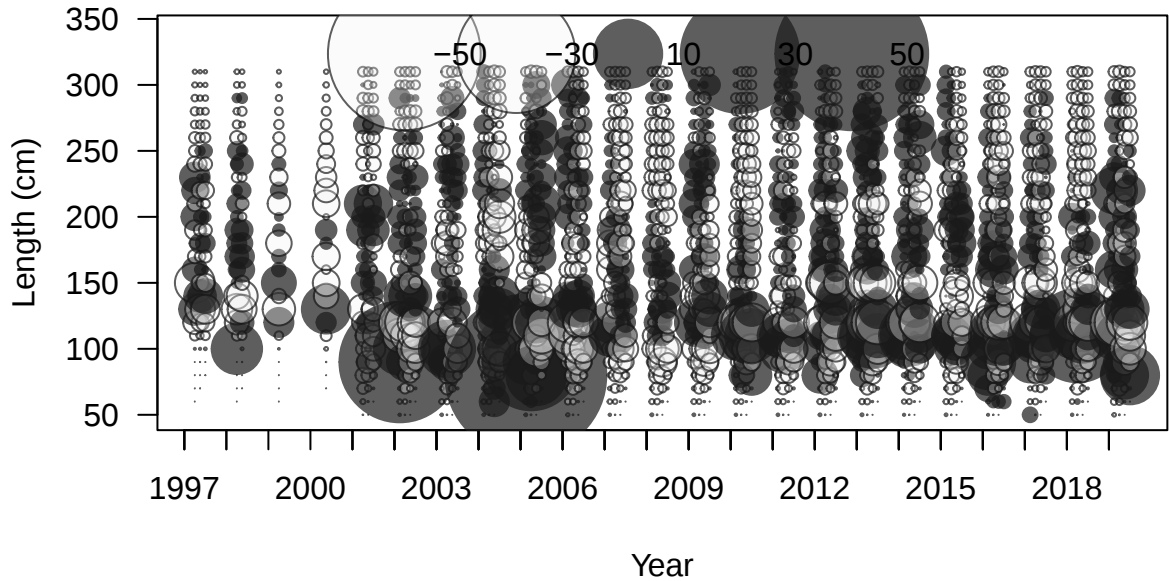




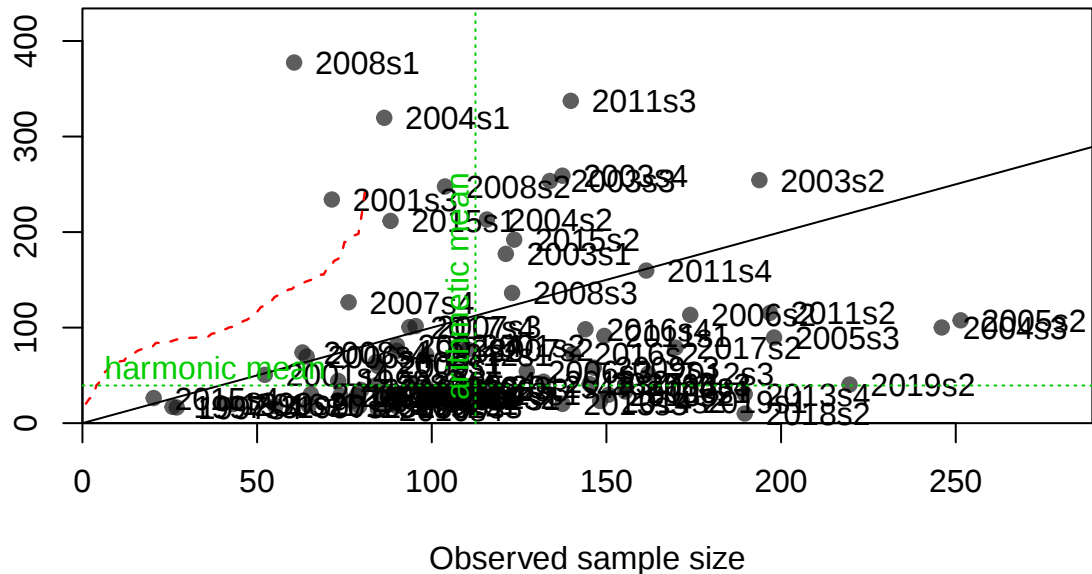
Proportion



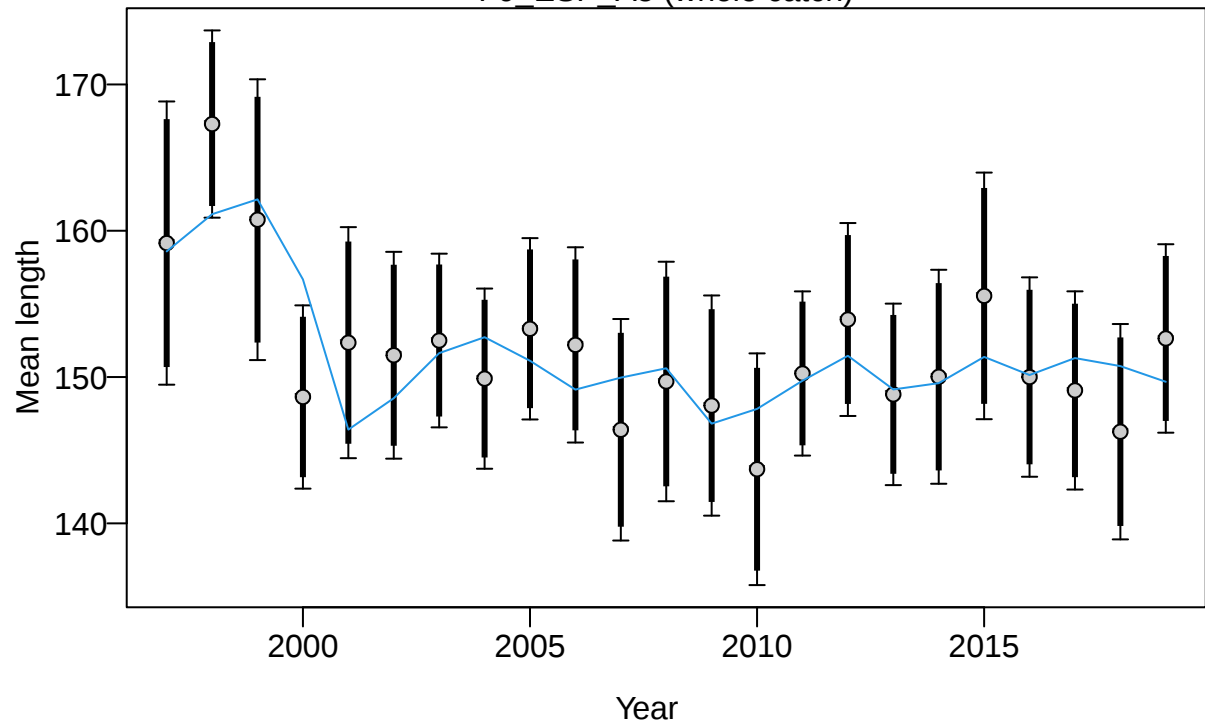
Length (cm)



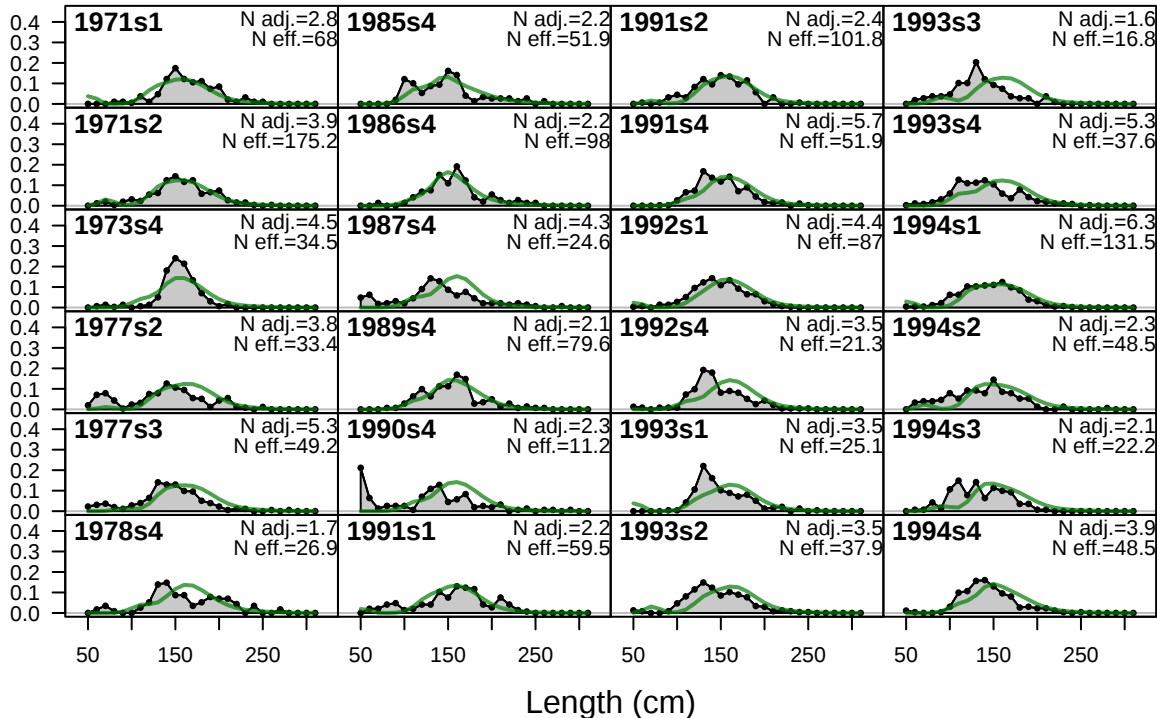
Effective sample size



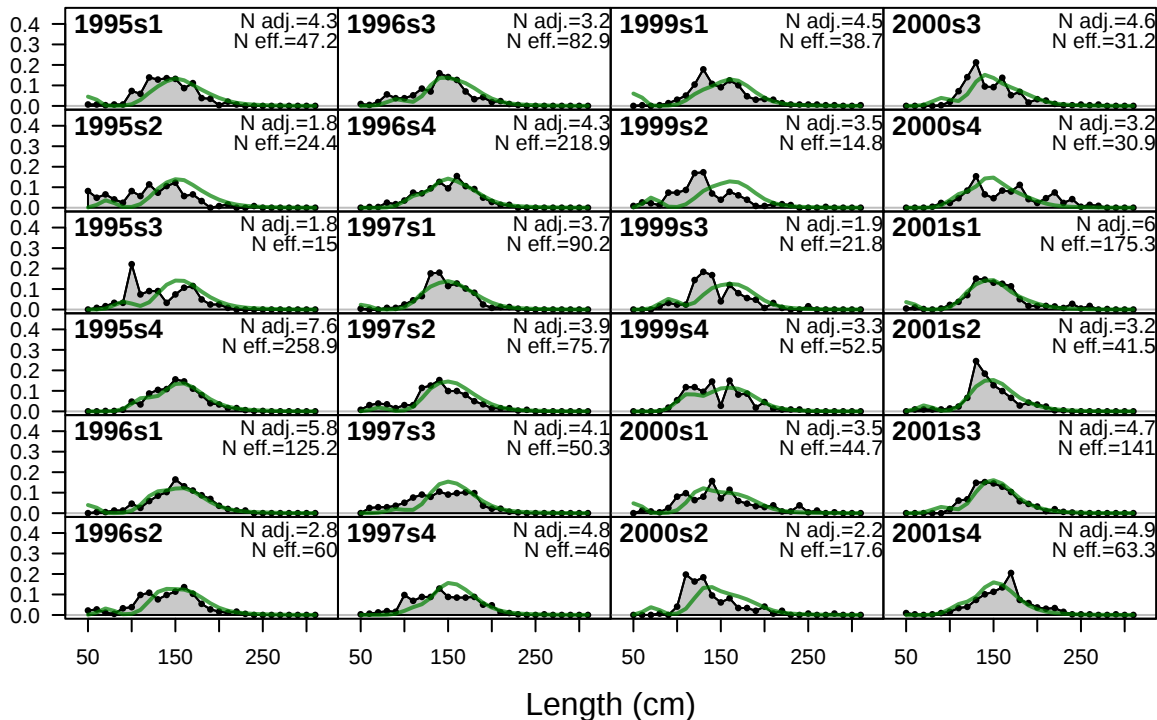
F9_ESP_A5 (whole catch)

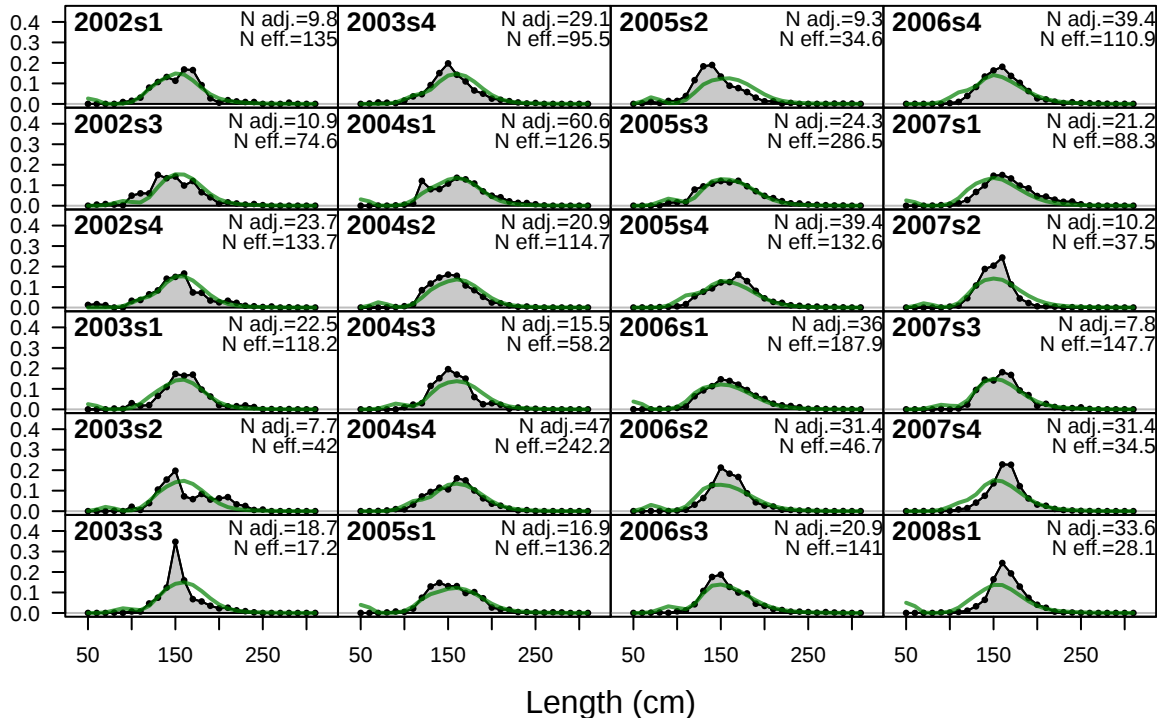


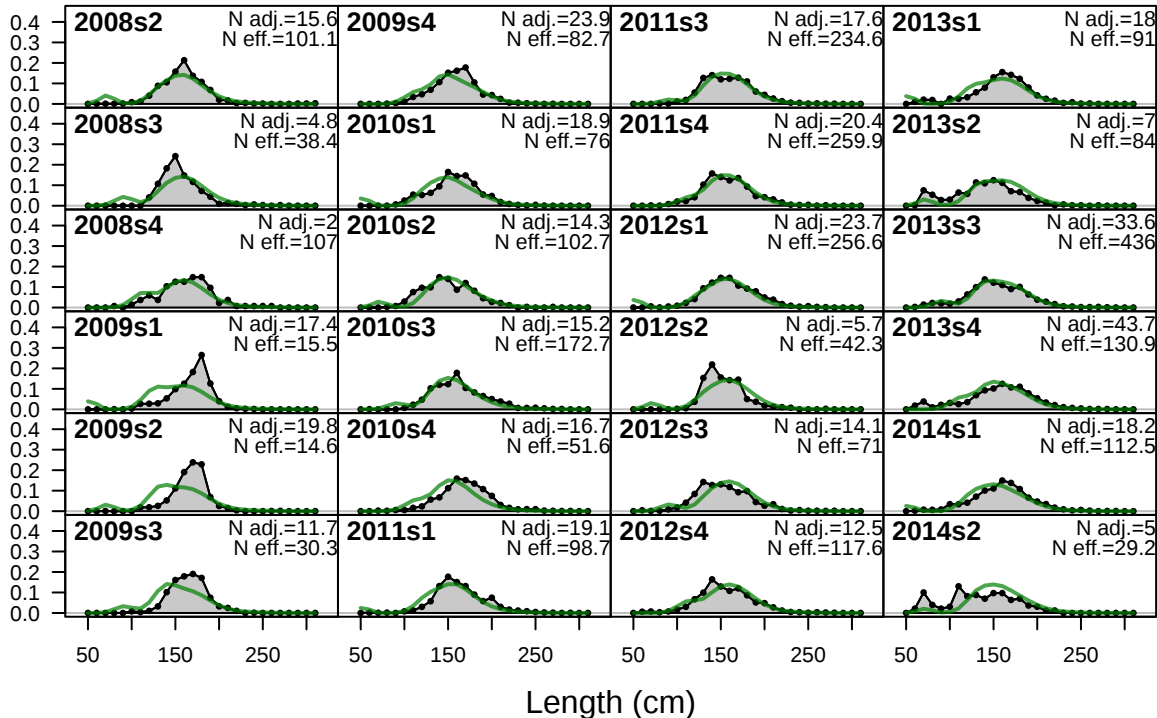
Proportion



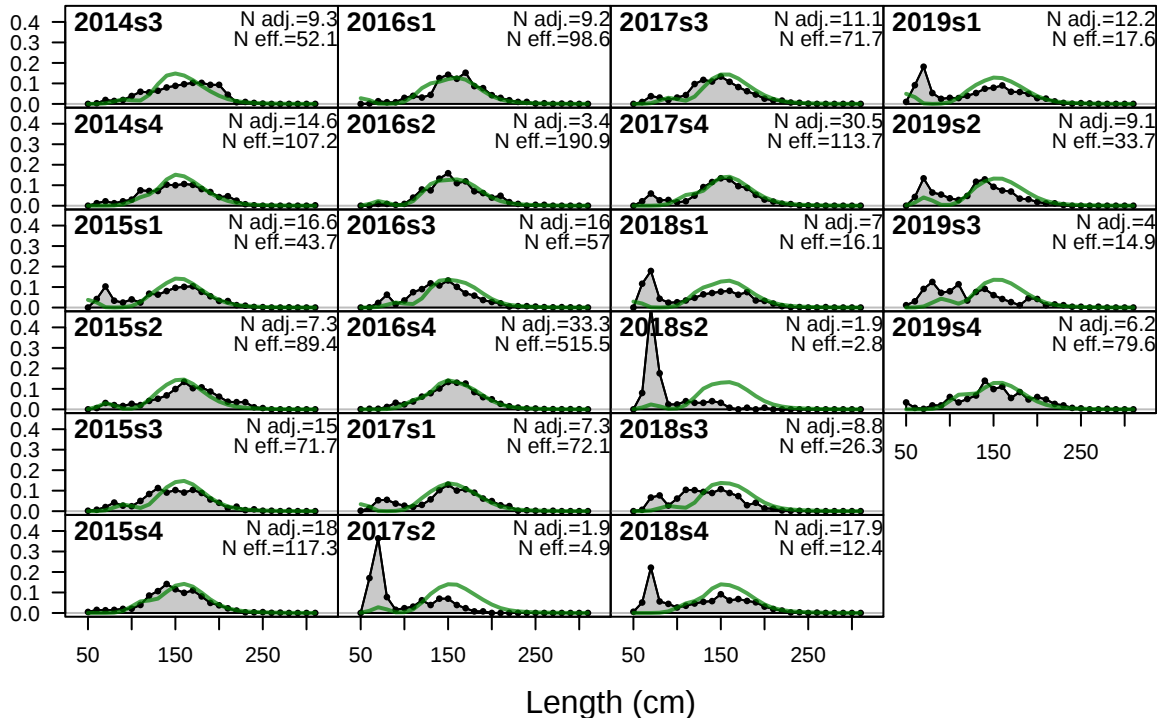
Proportion

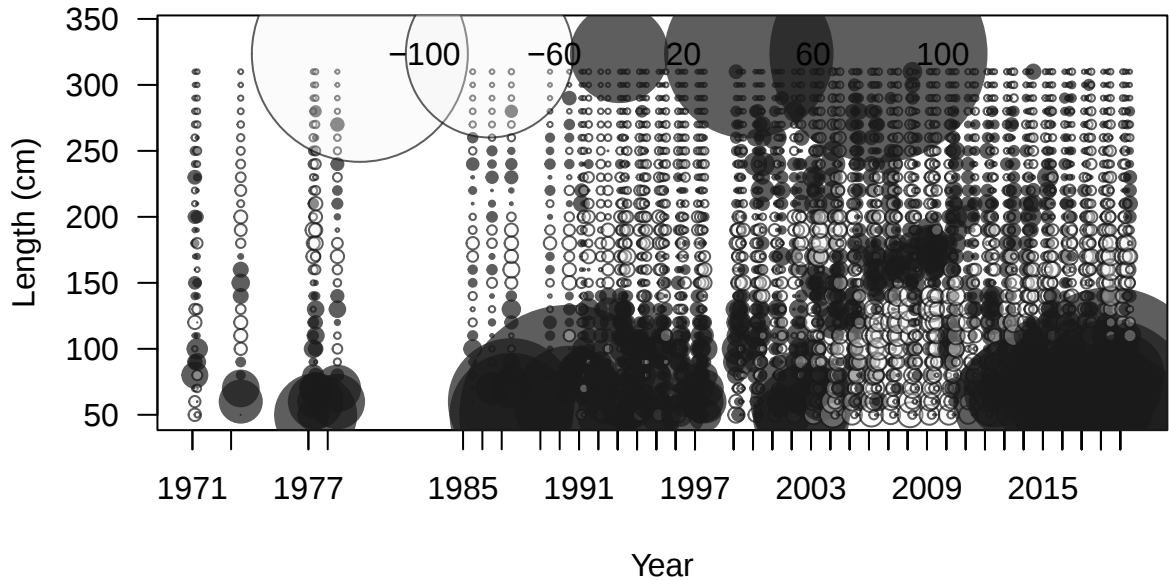




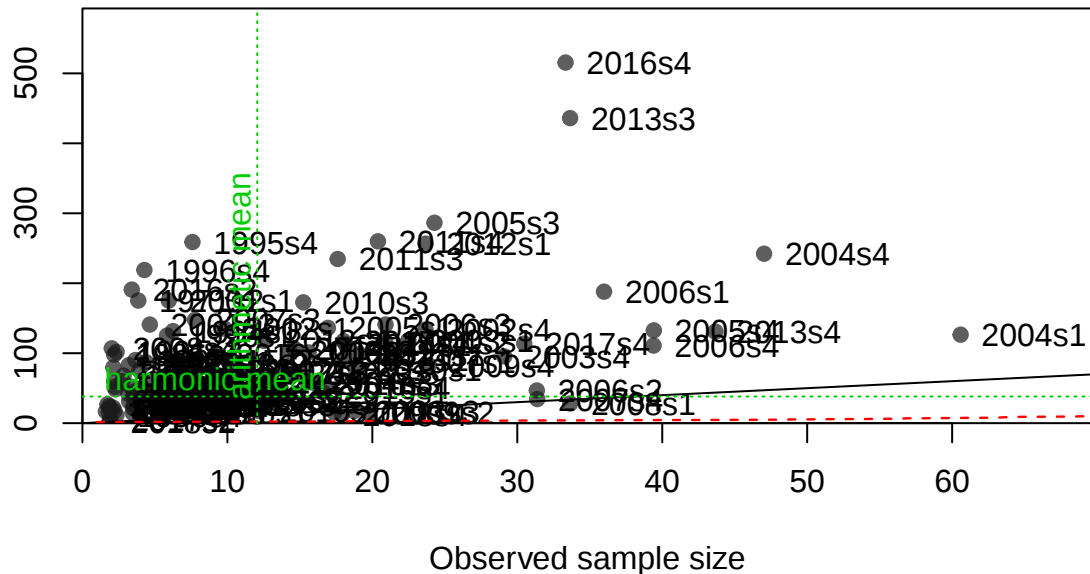


Proportion

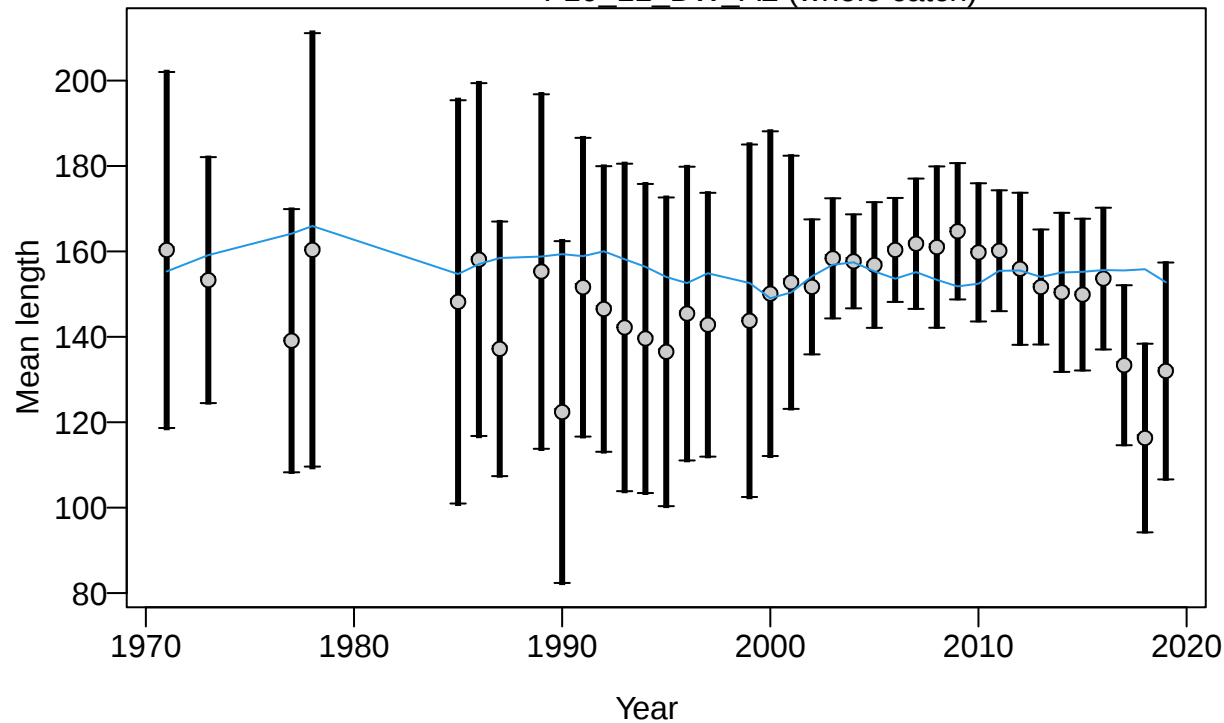


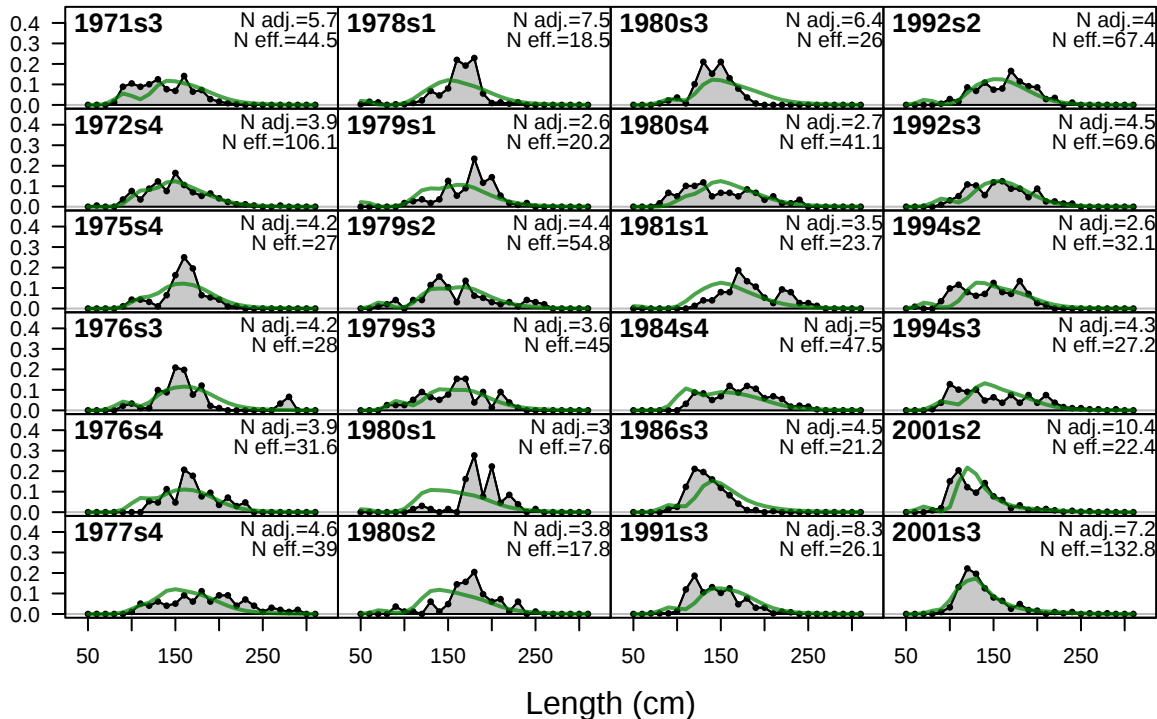


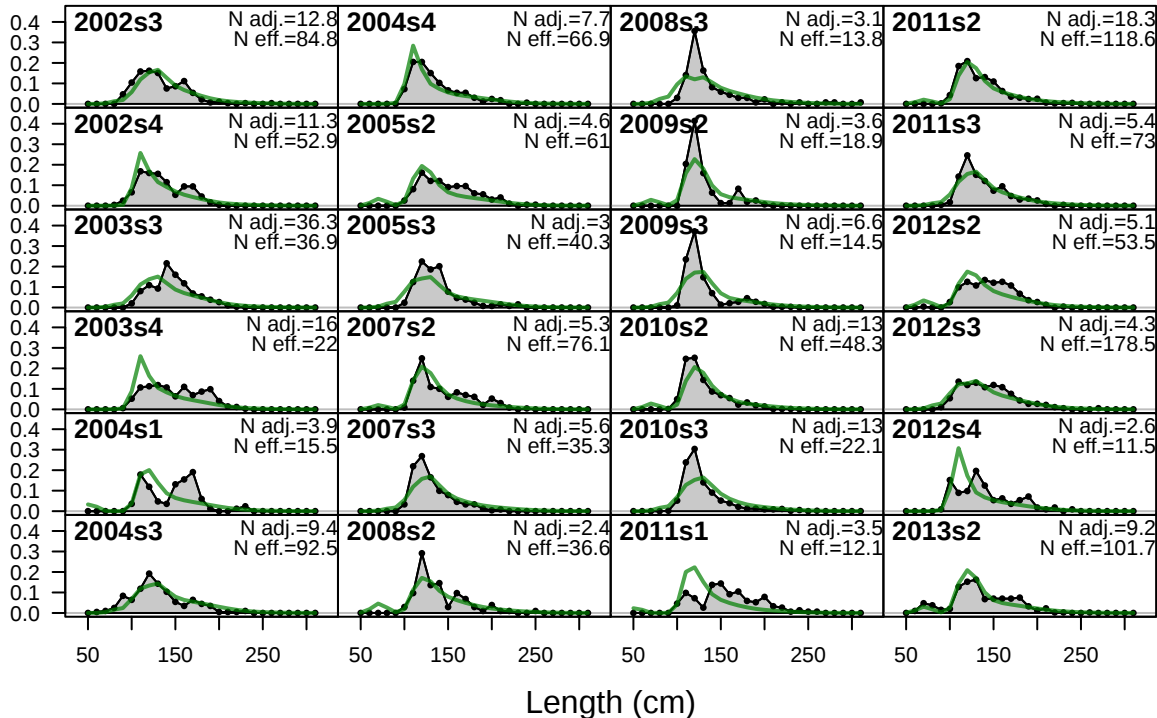
Effective sample size



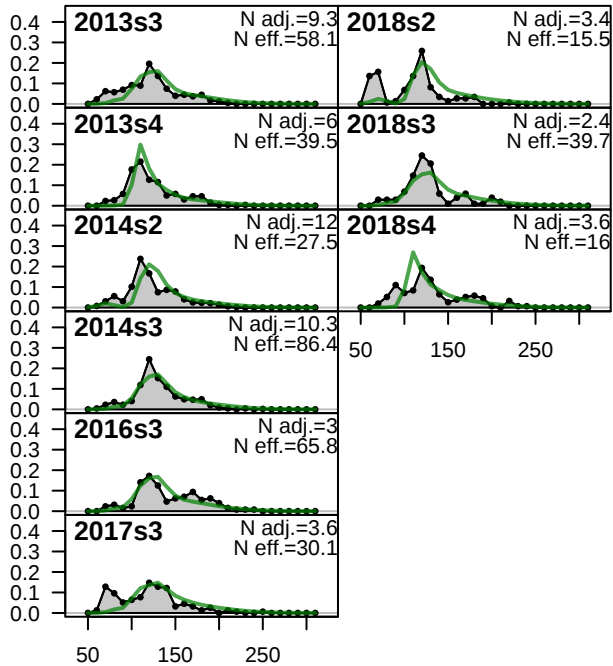
F10_LL_DW_A2 (whole catch)



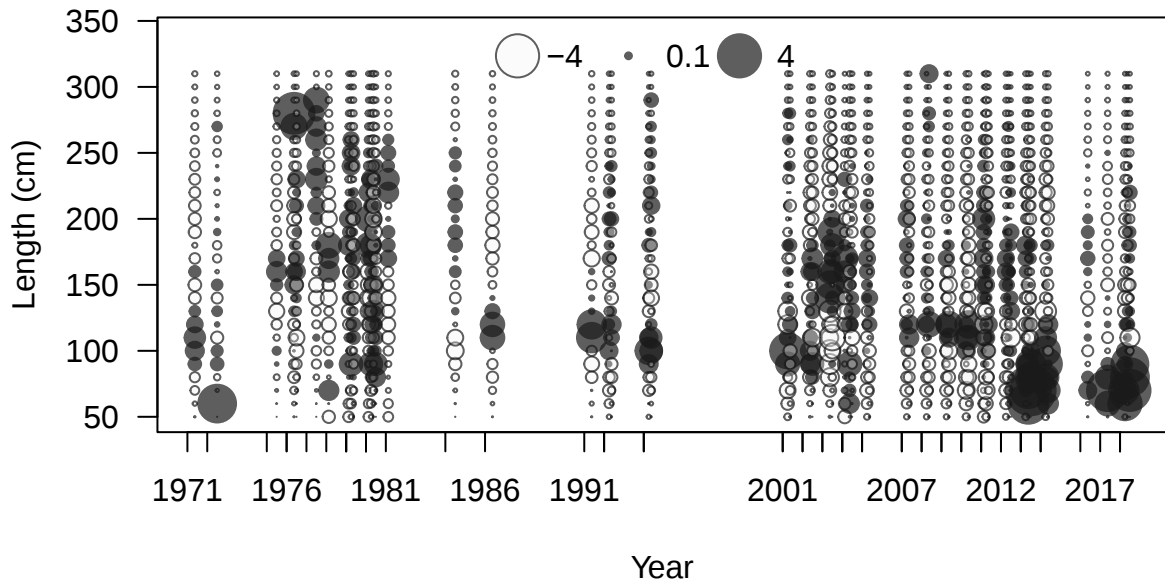




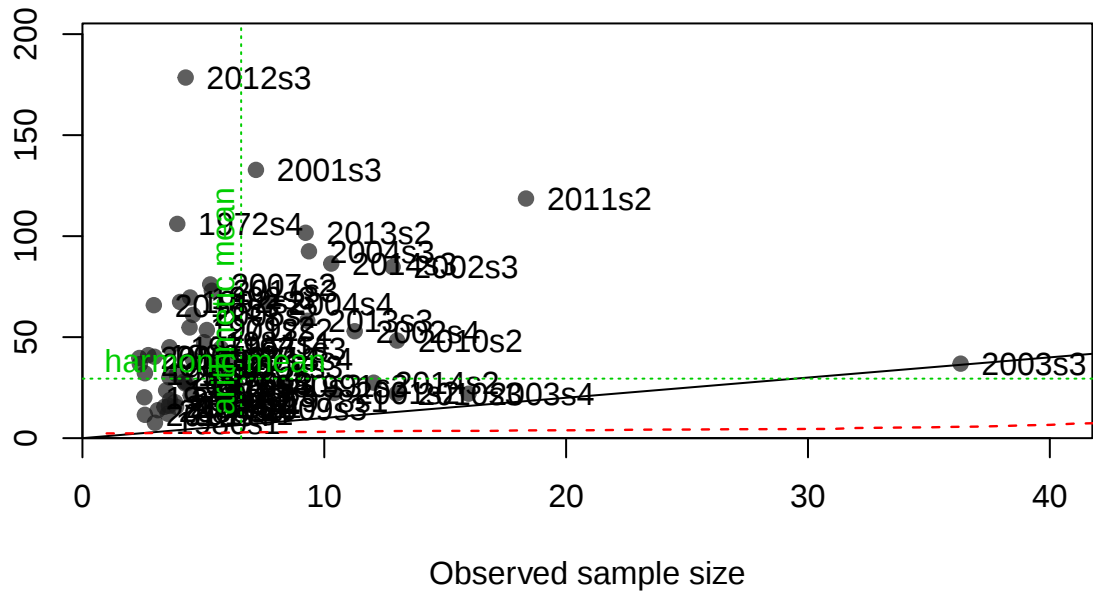
Proportion



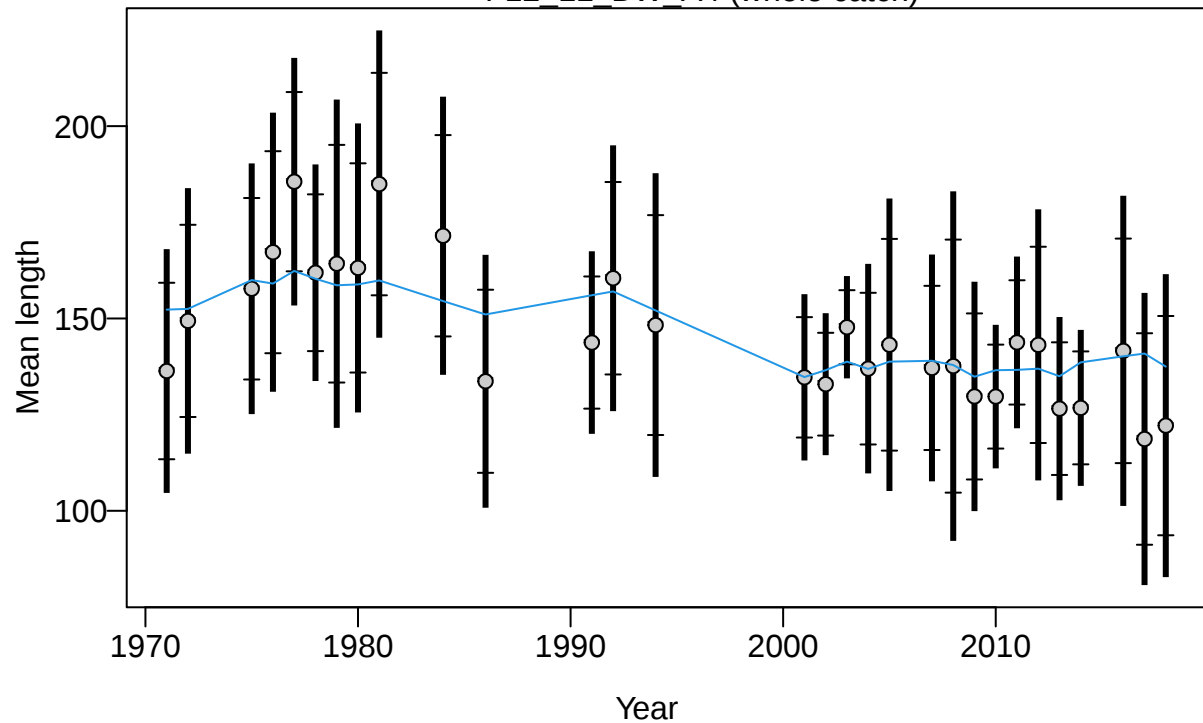
Length (cm)

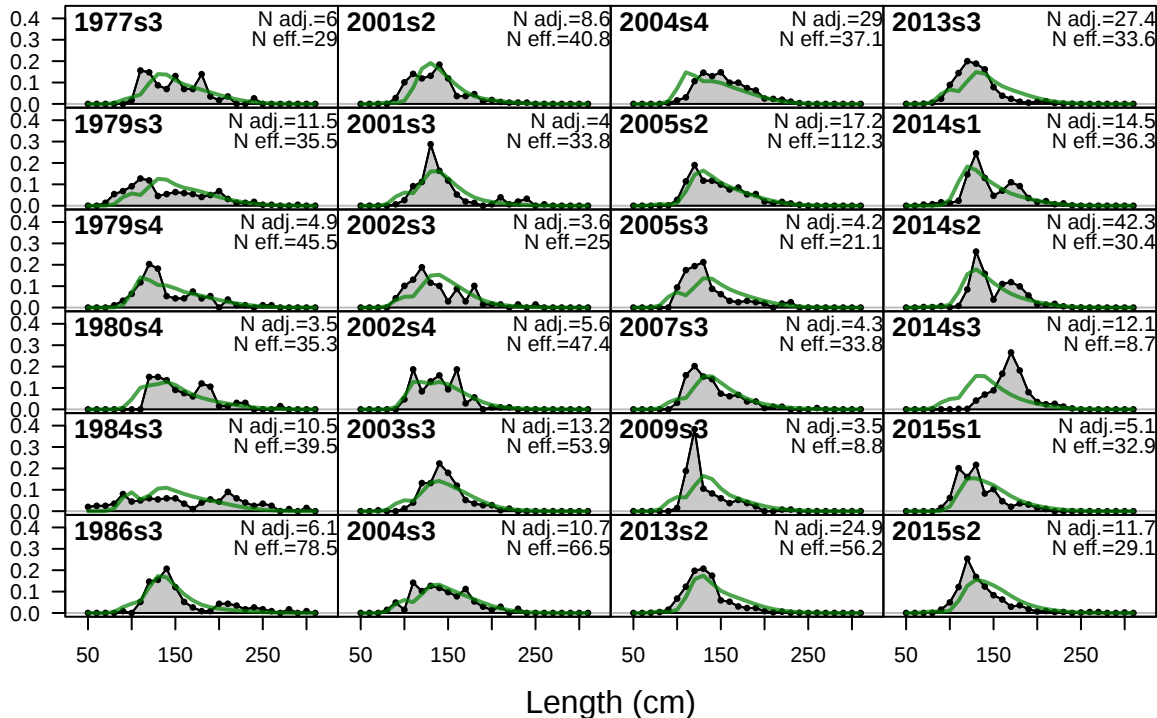


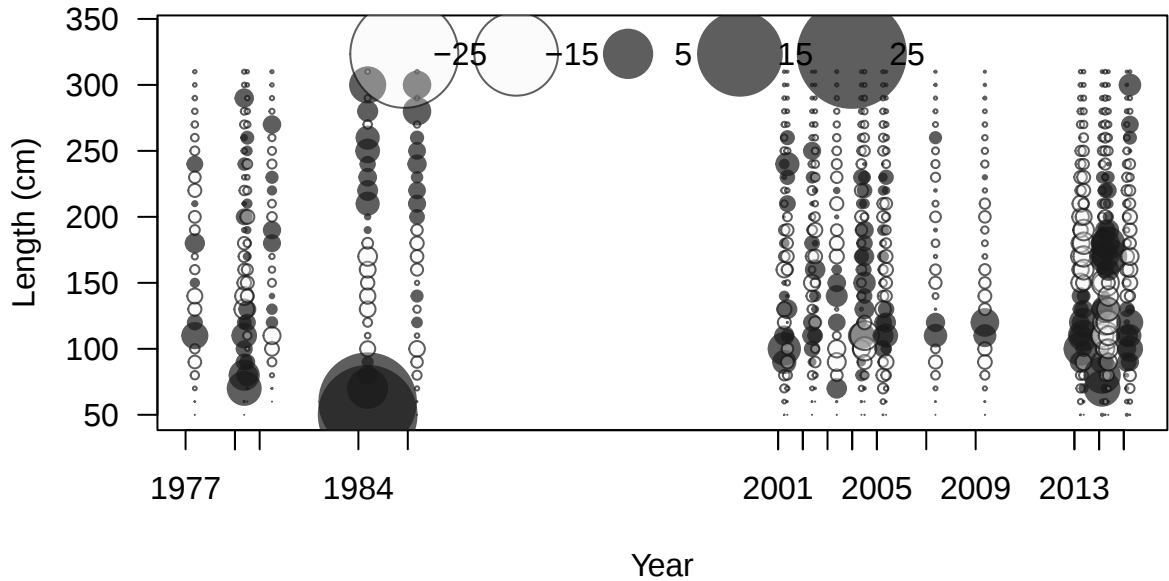
Effective sample size



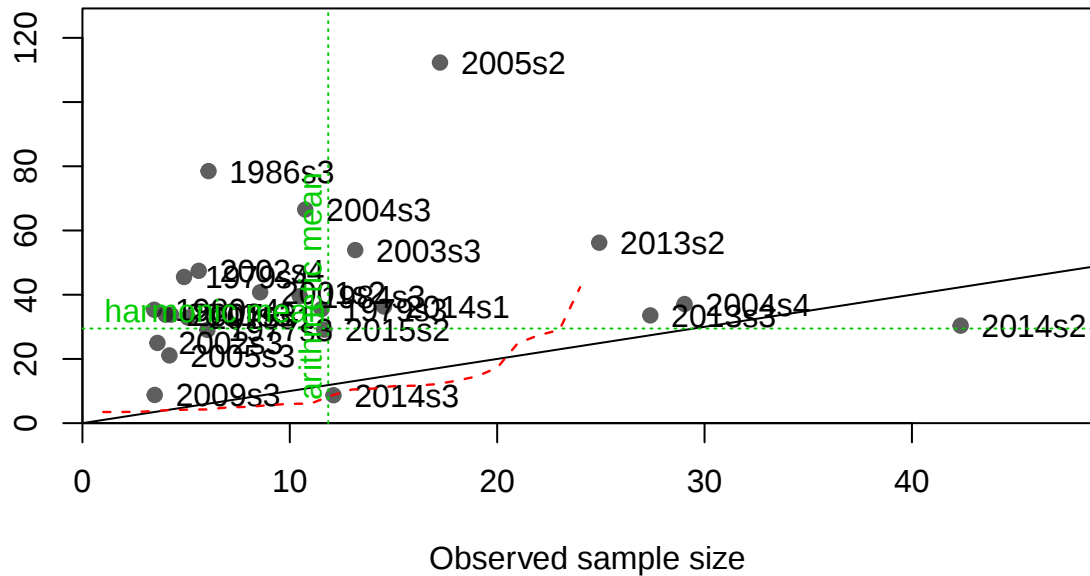
F12_LL_DW_A4 (whole catch)



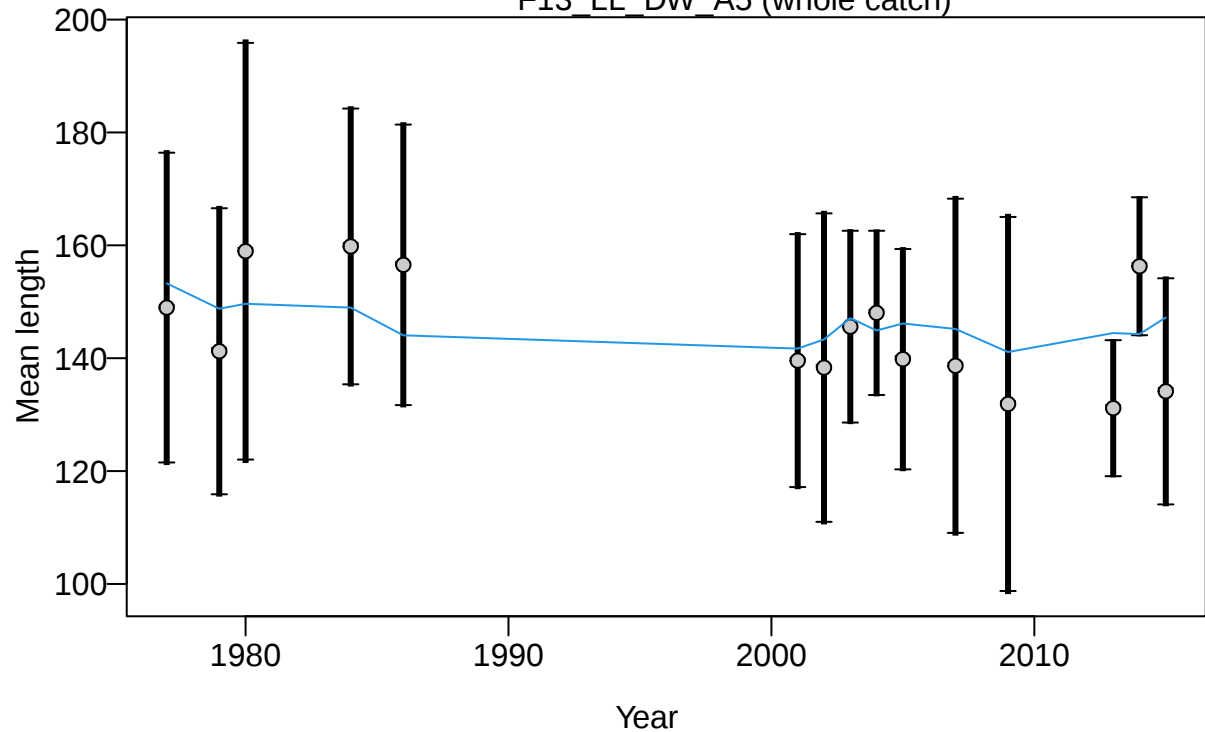




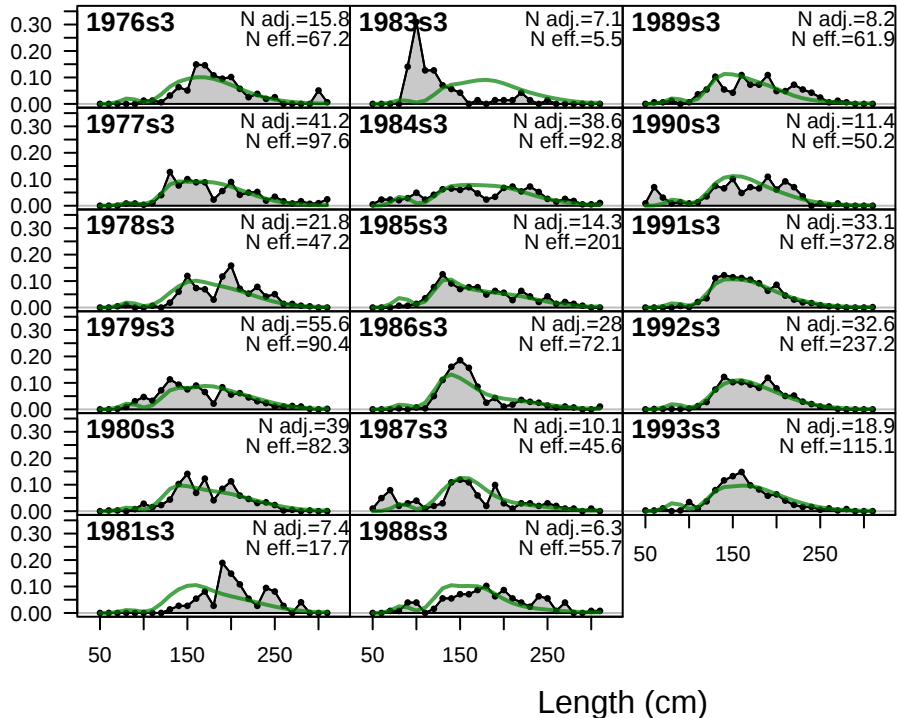
Effective sample size

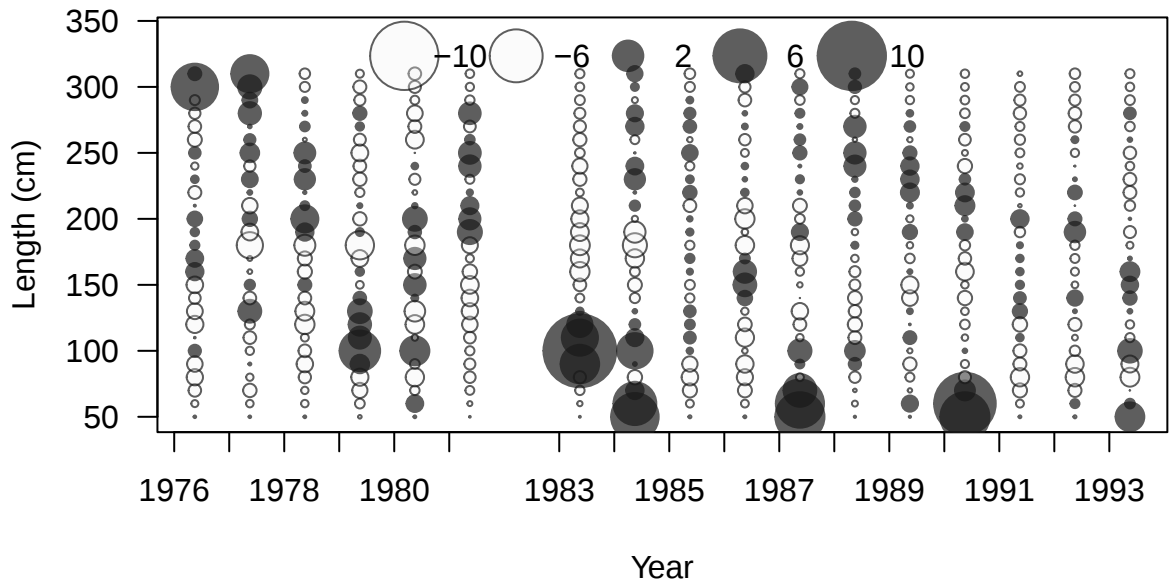


F13_LL_DW_A5 (whole catch)

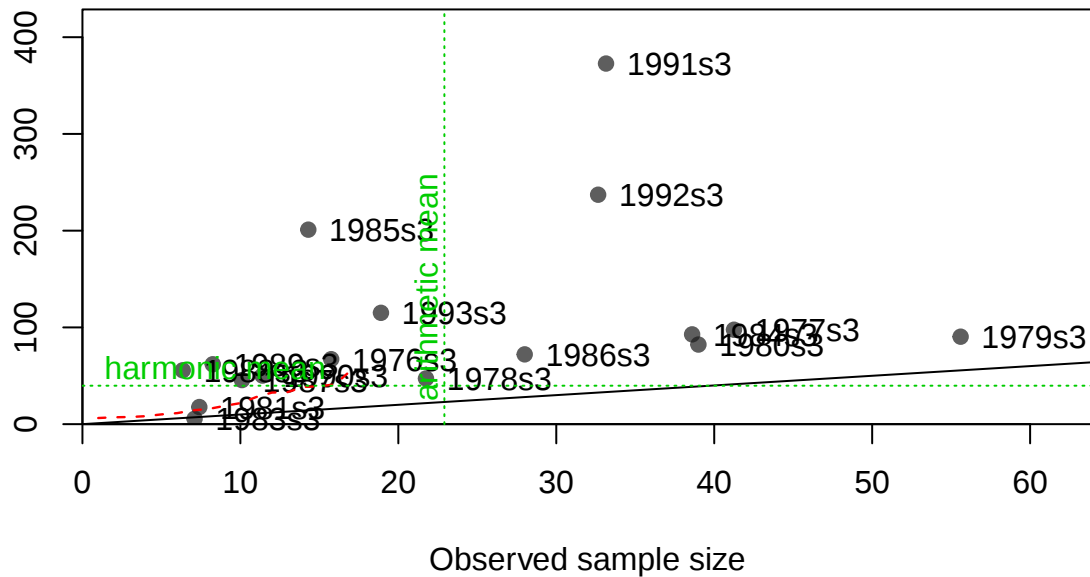


Proportion

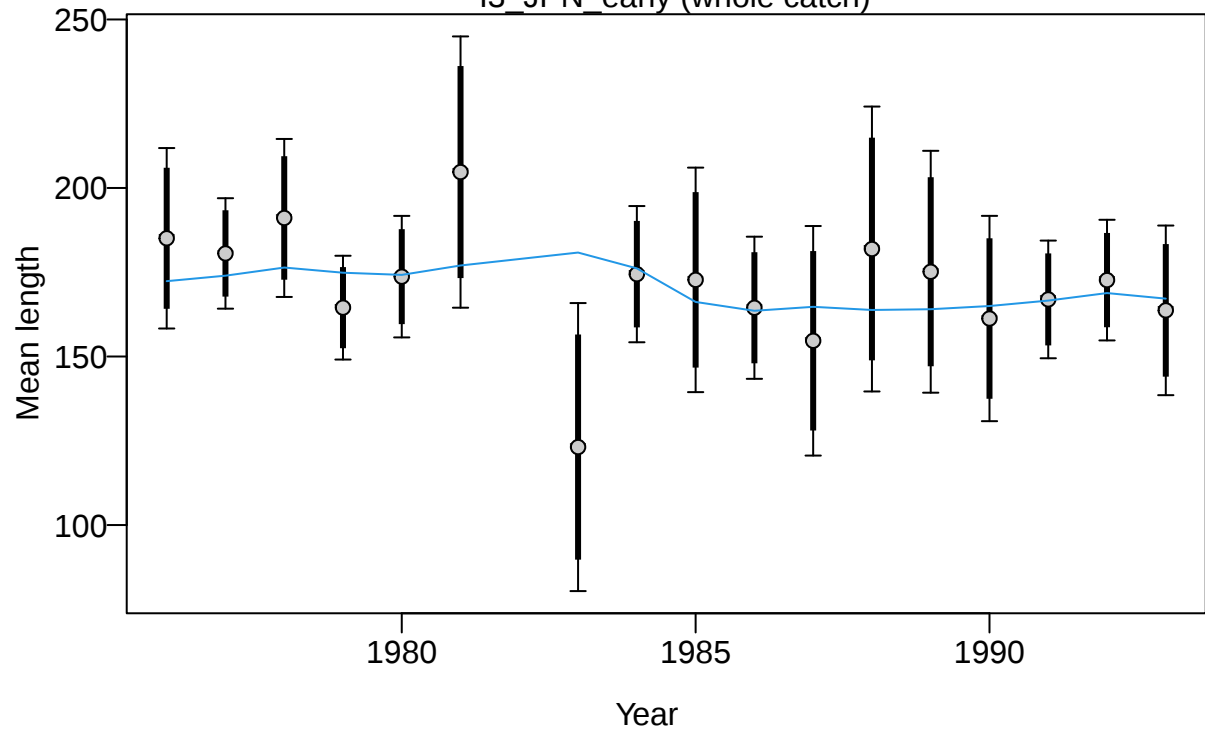




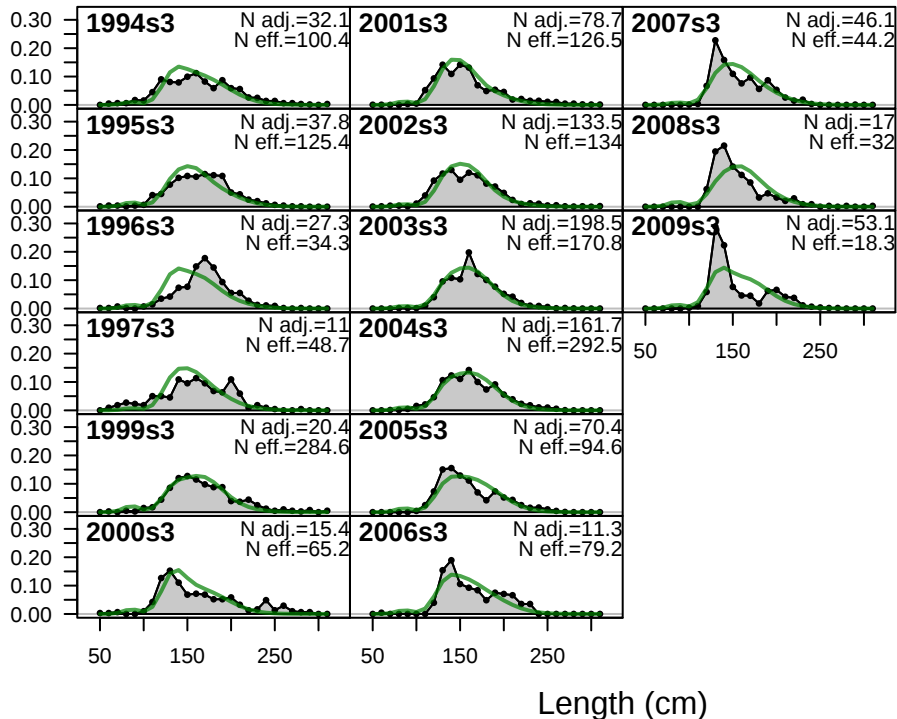
Effective sample size

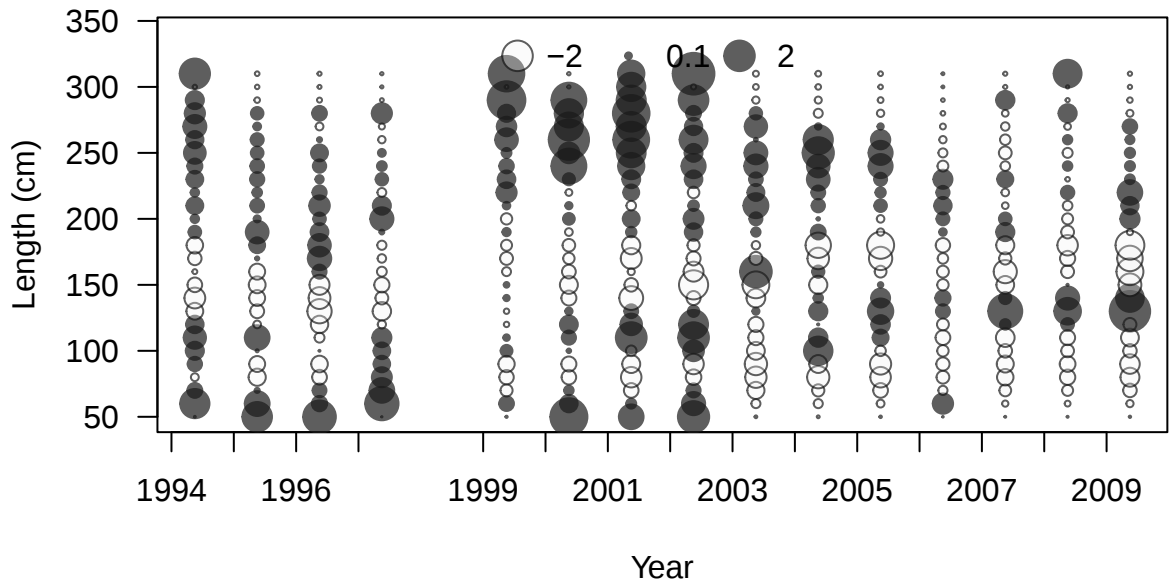


I3_JPN_early (whole catch)

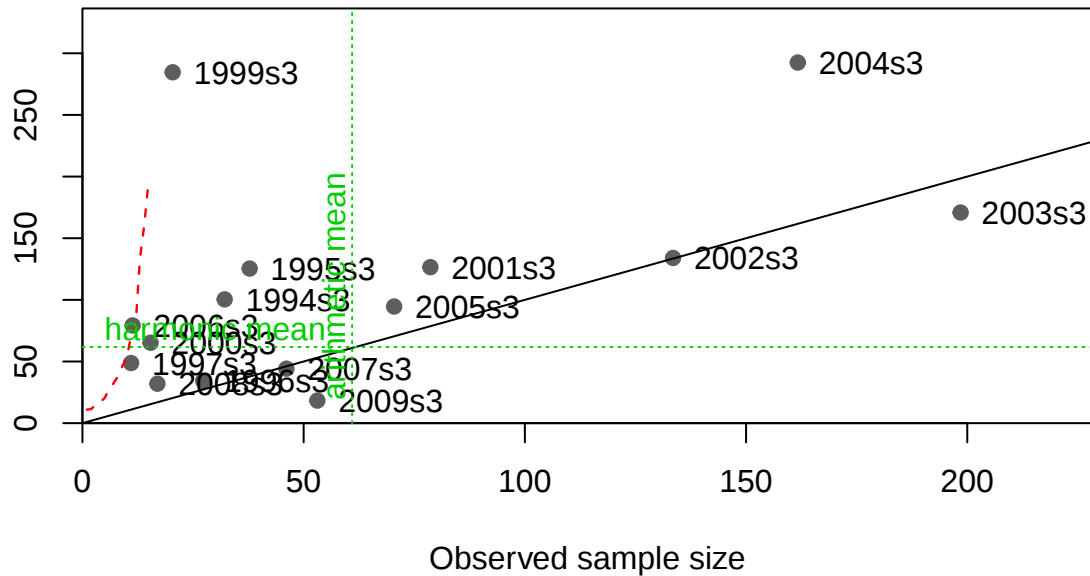


Proportion

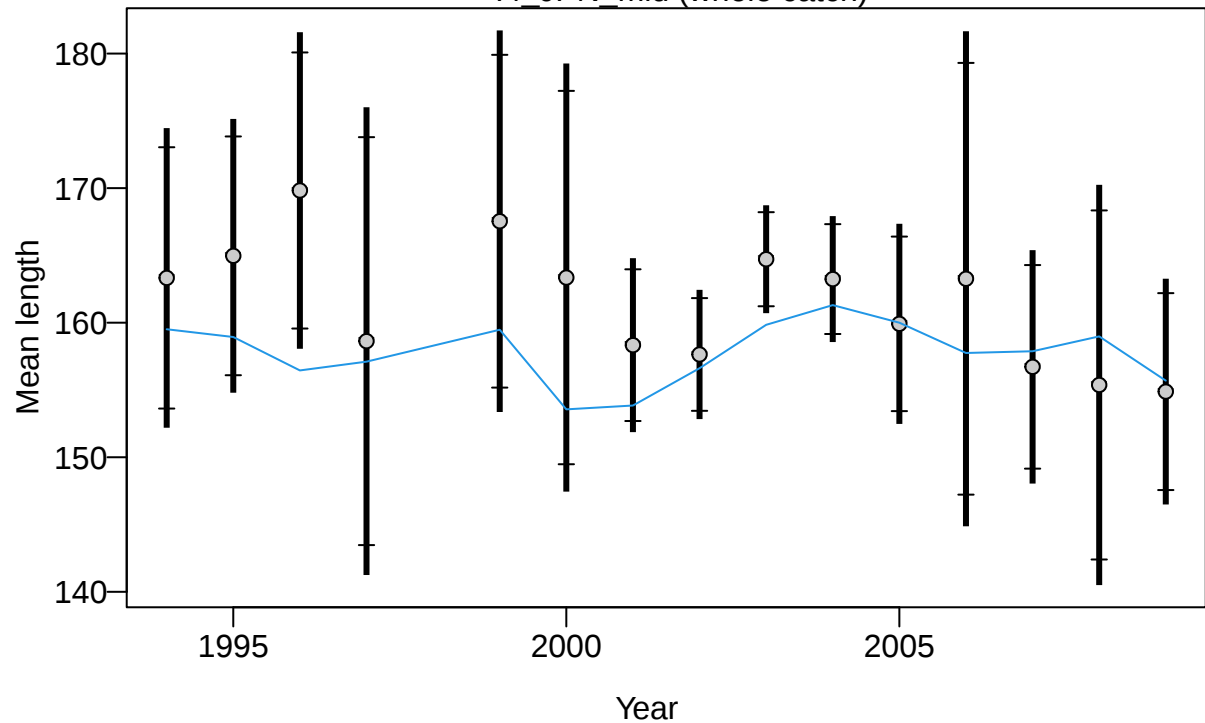




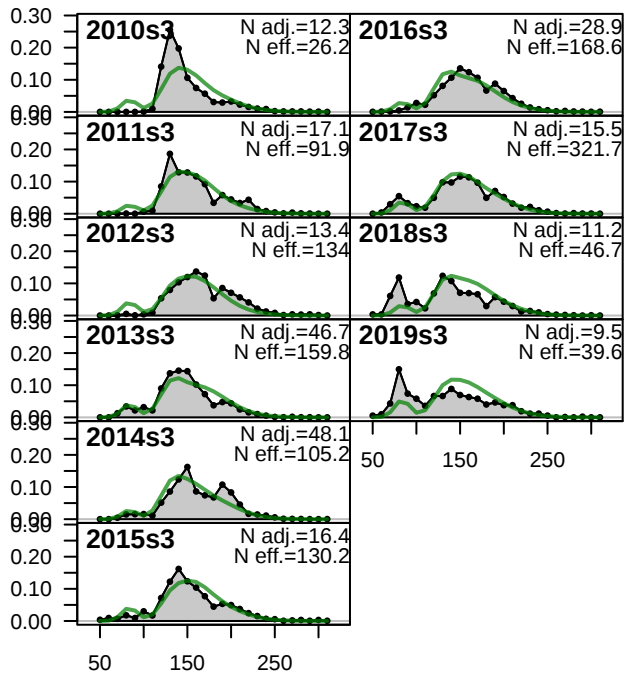
Effective sample size



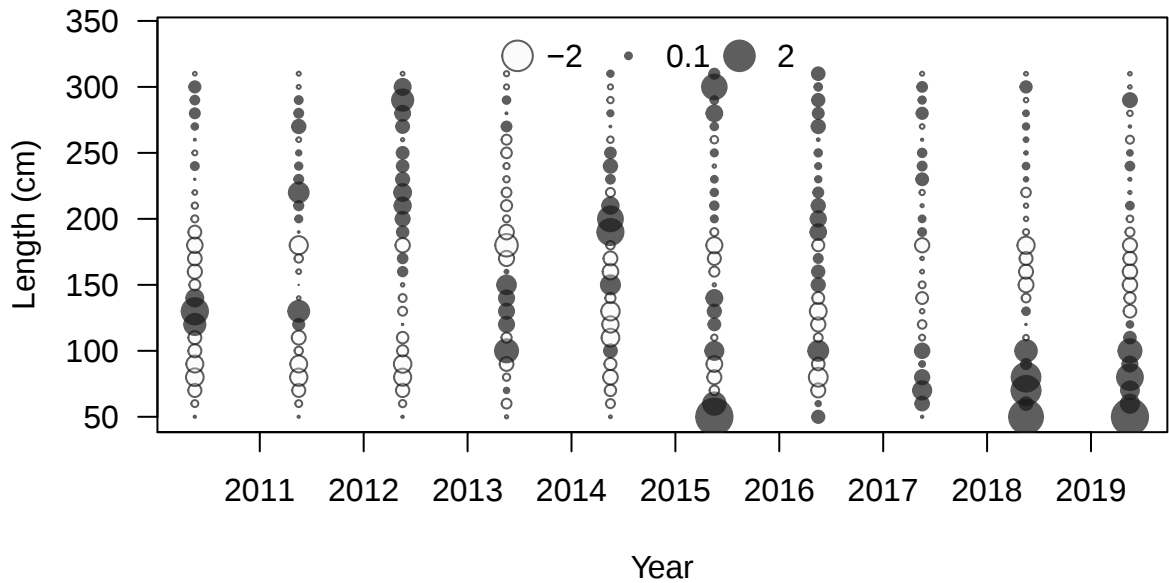
l4_JPN_mid (whole catch)



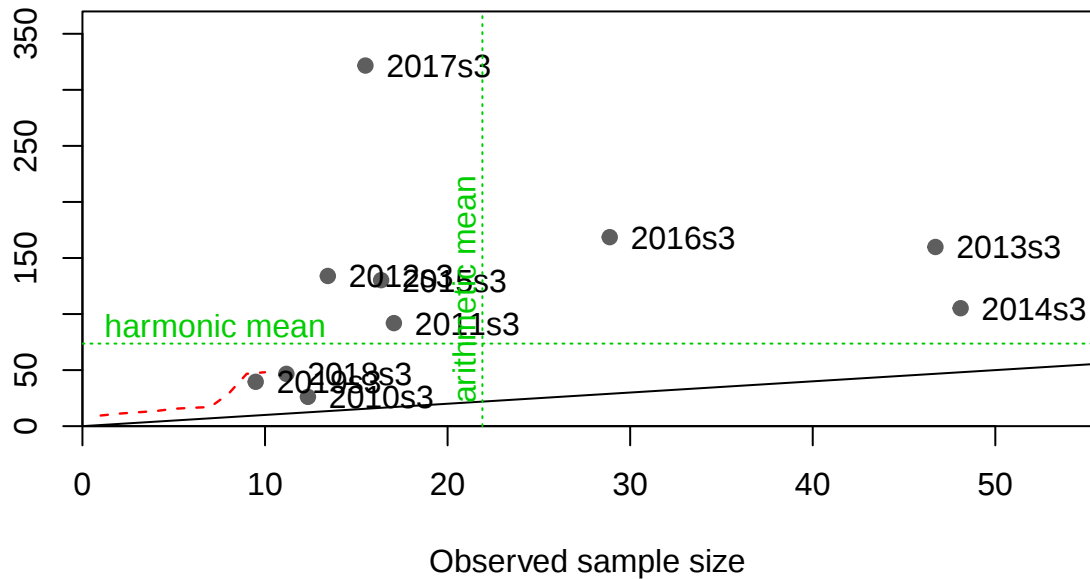
Proportion



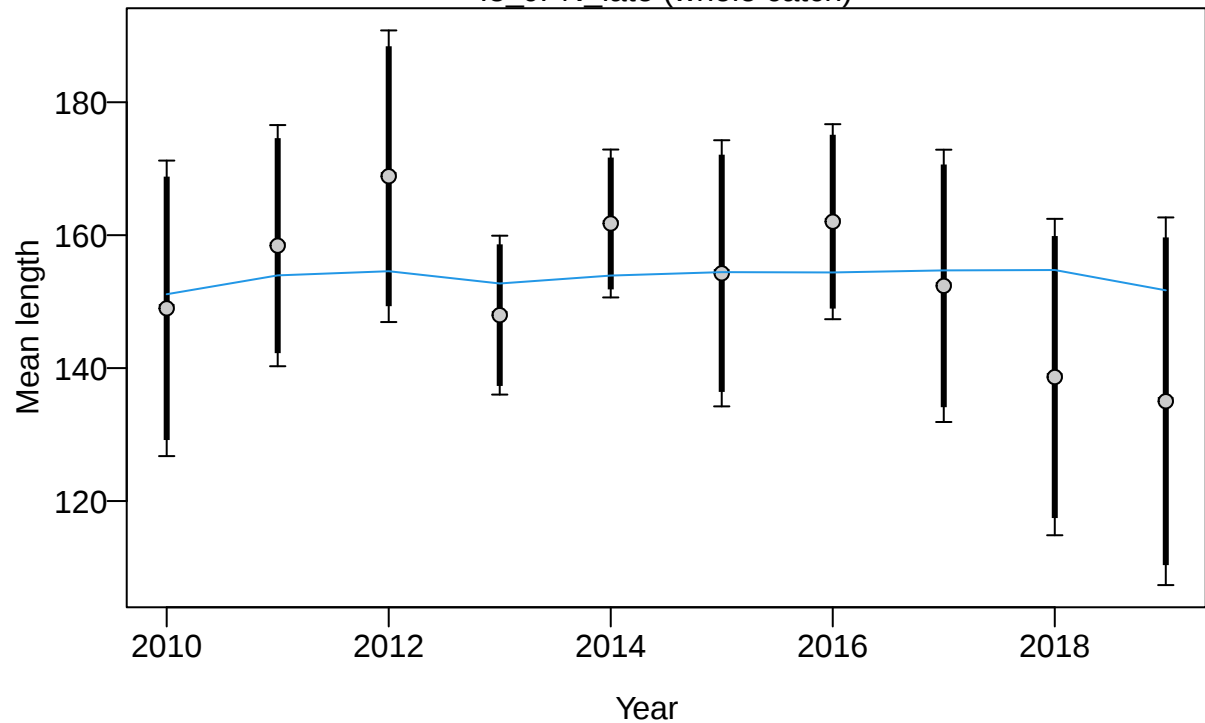
Length (cm)



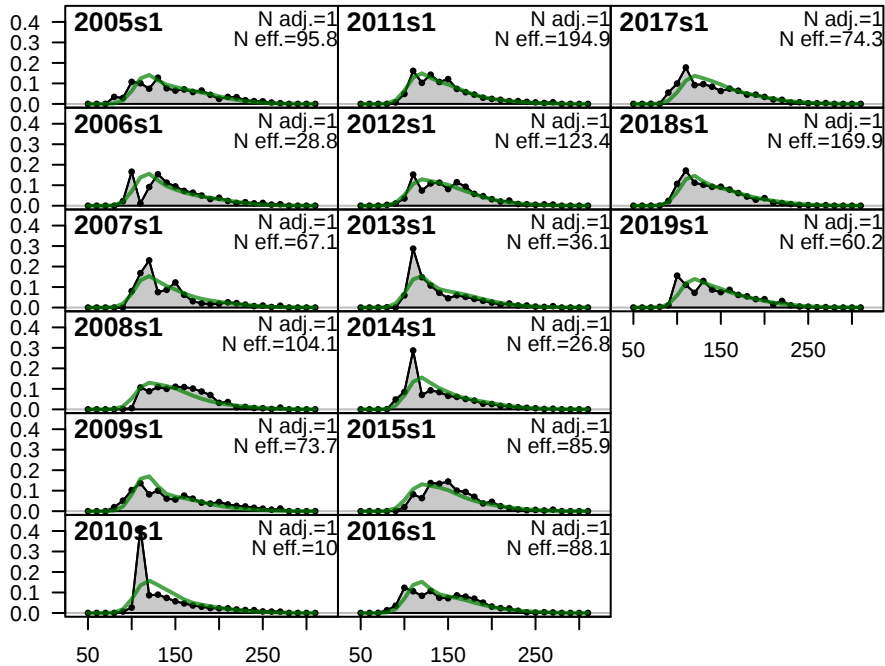
Effective sample size



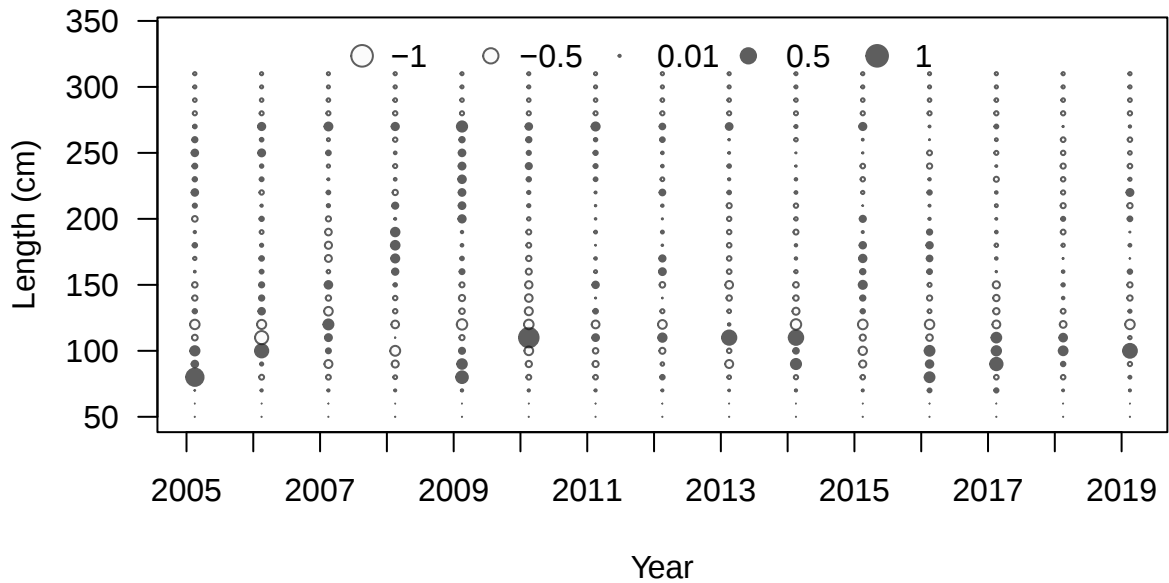
I5_JPN_late (whole catch)



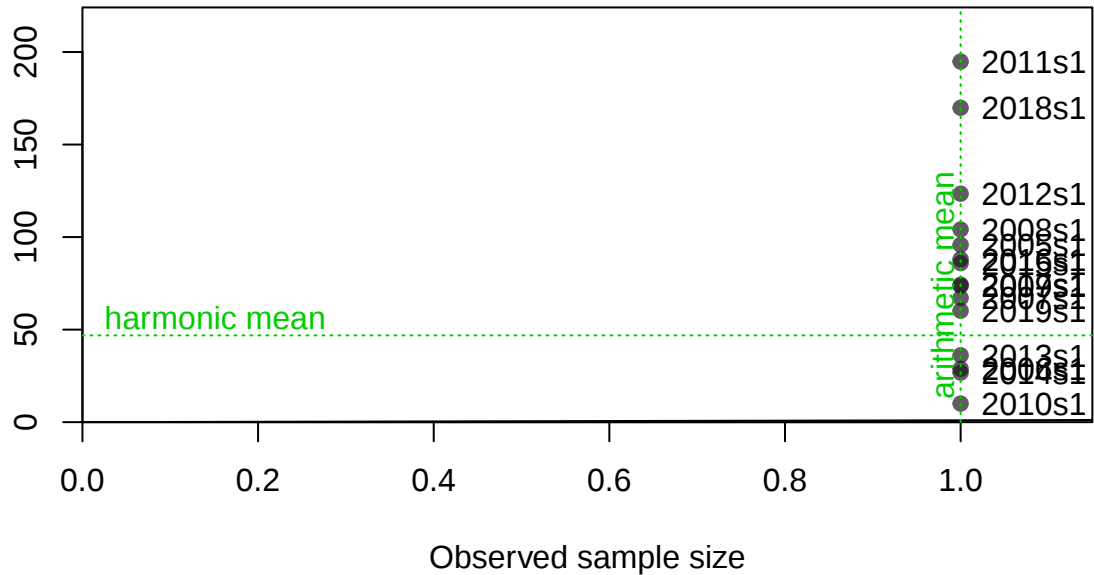
Proportion



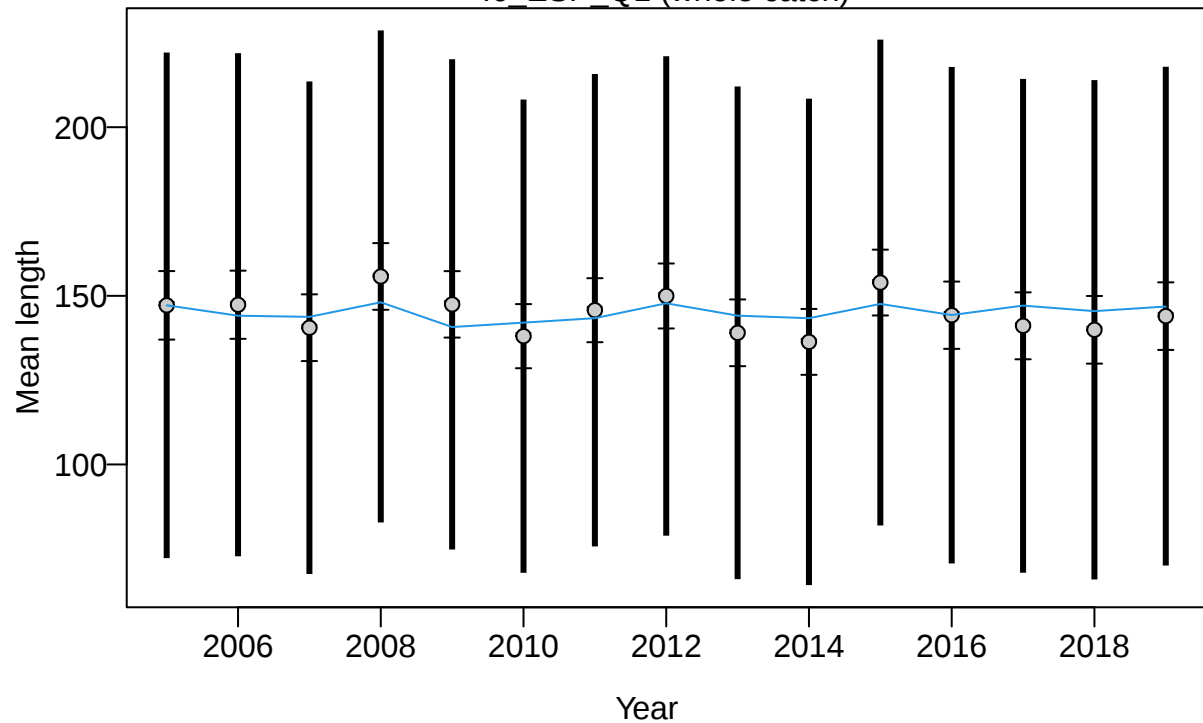
Length (cm)



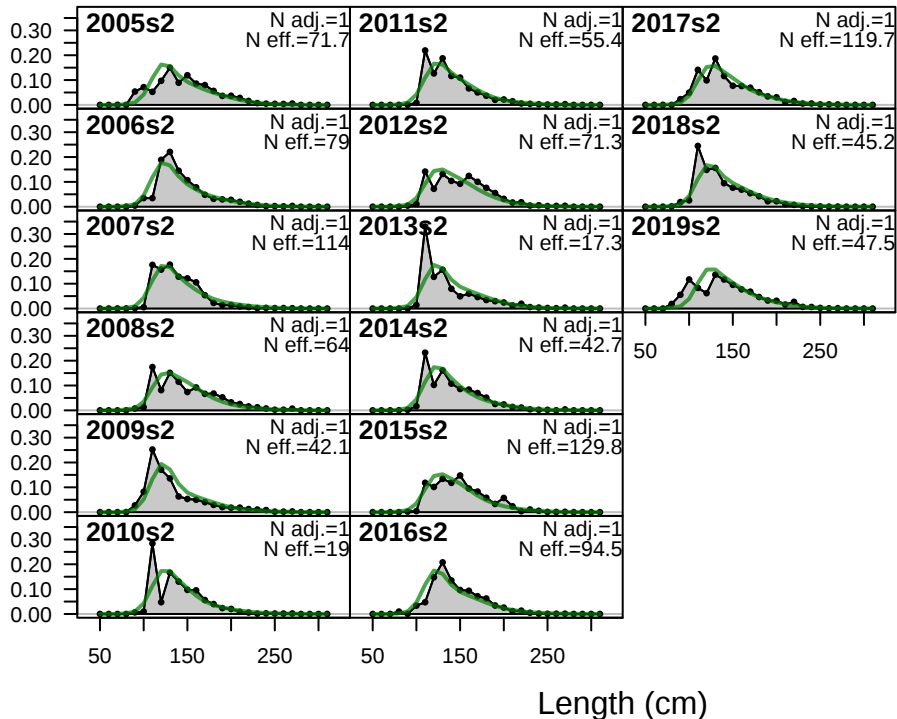
Effective sample size

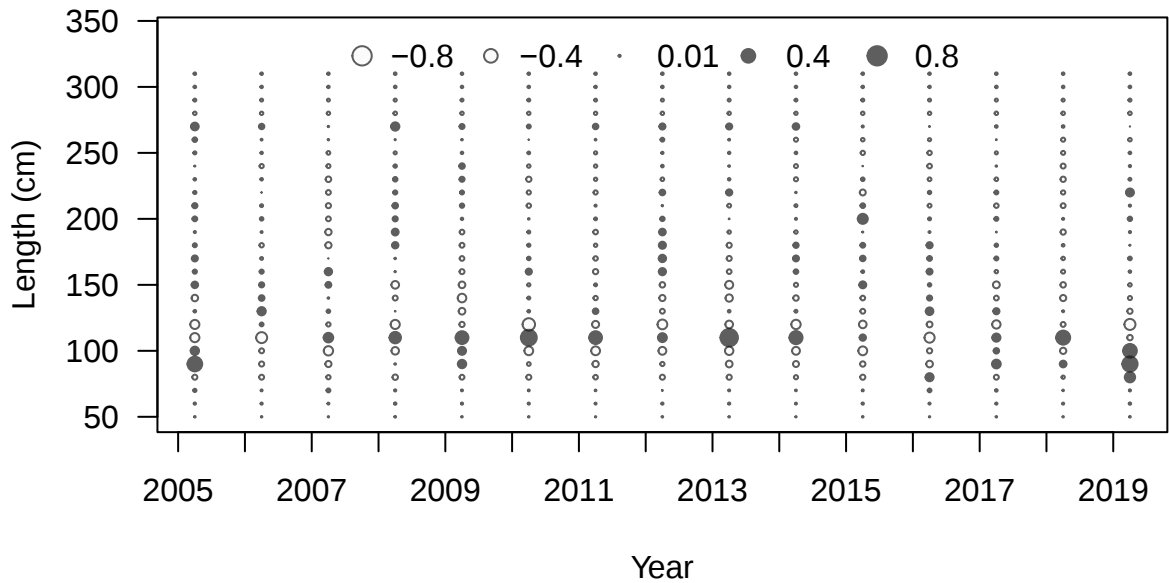


I6_ESP_Q1 (whole catch)

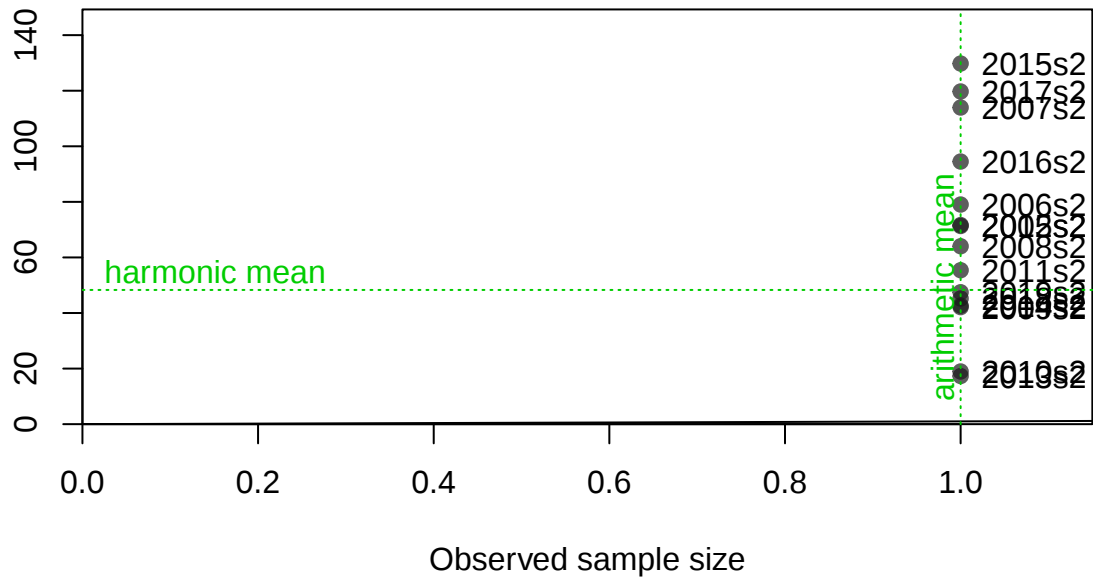


Proportion

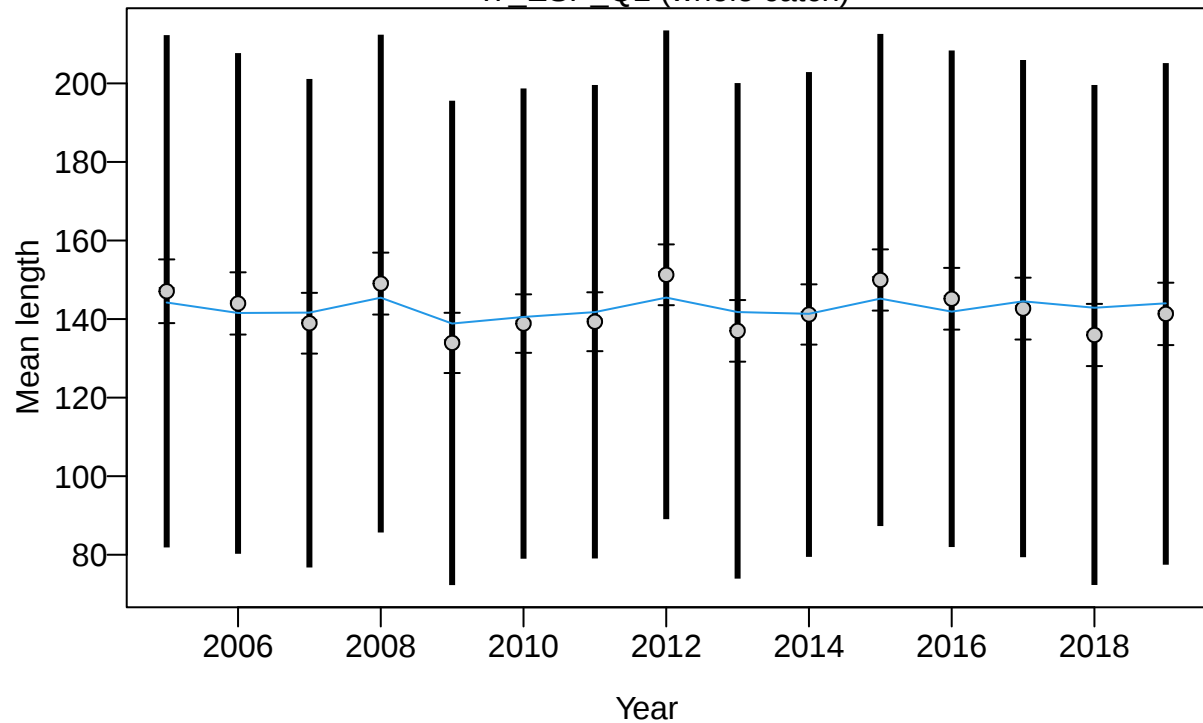




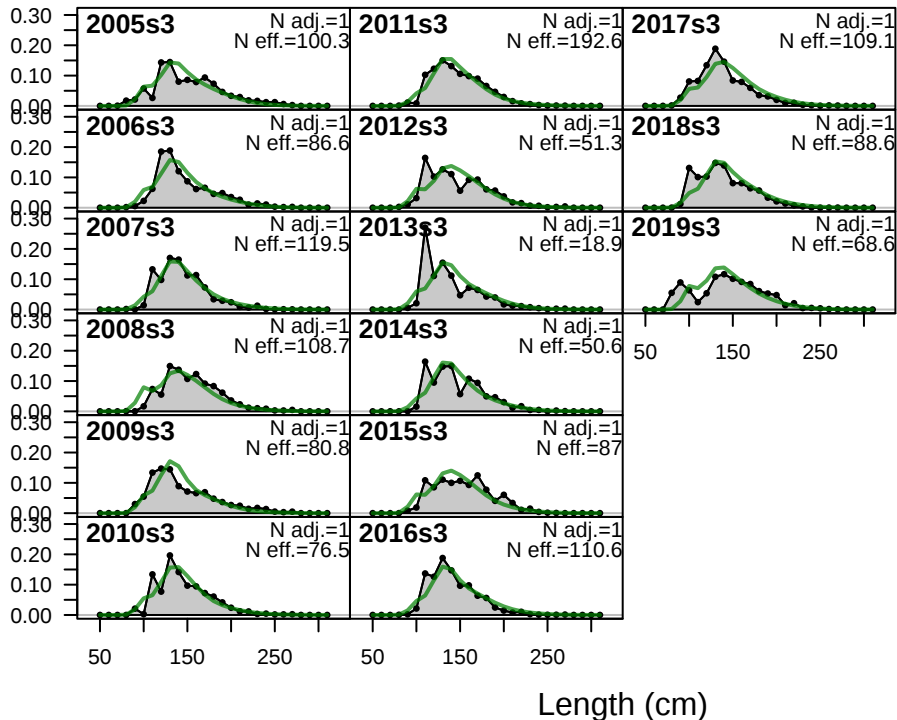
Effective sample size

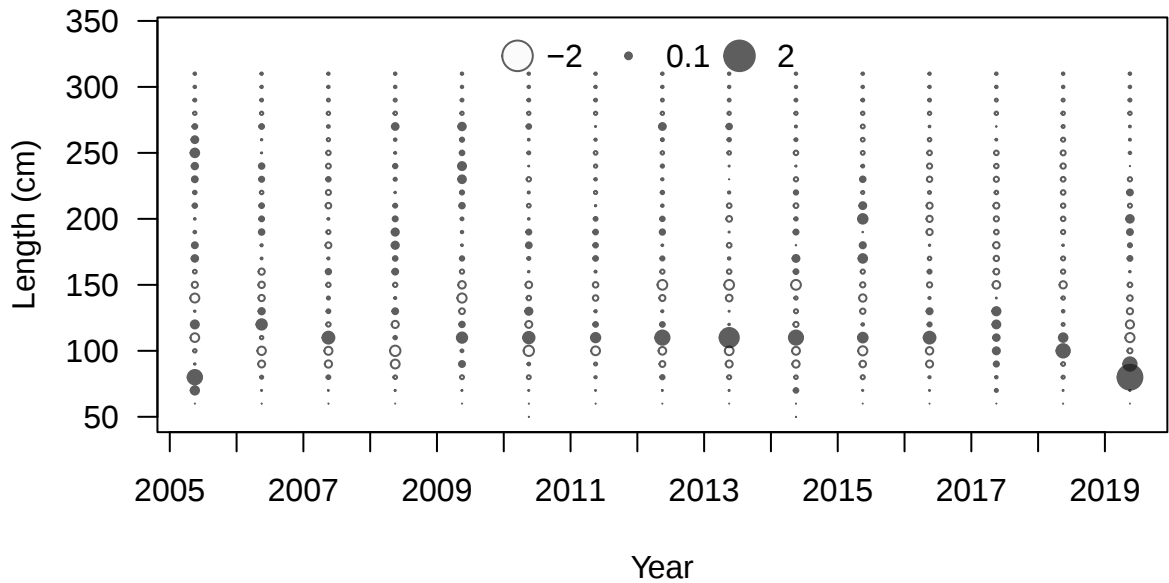


I7_ESP_Q2 (whole catch)

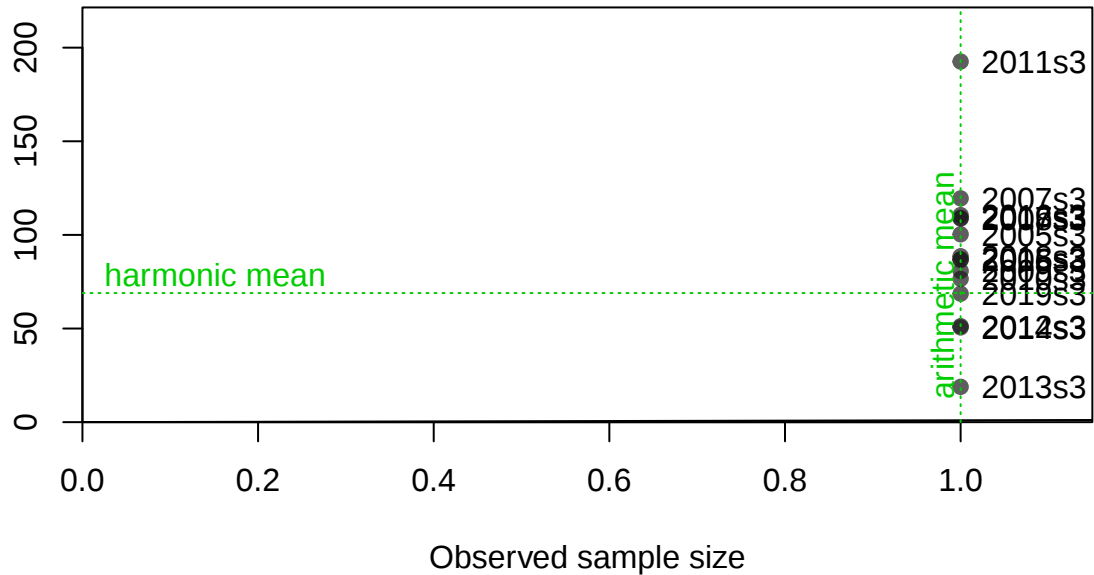


Proportion

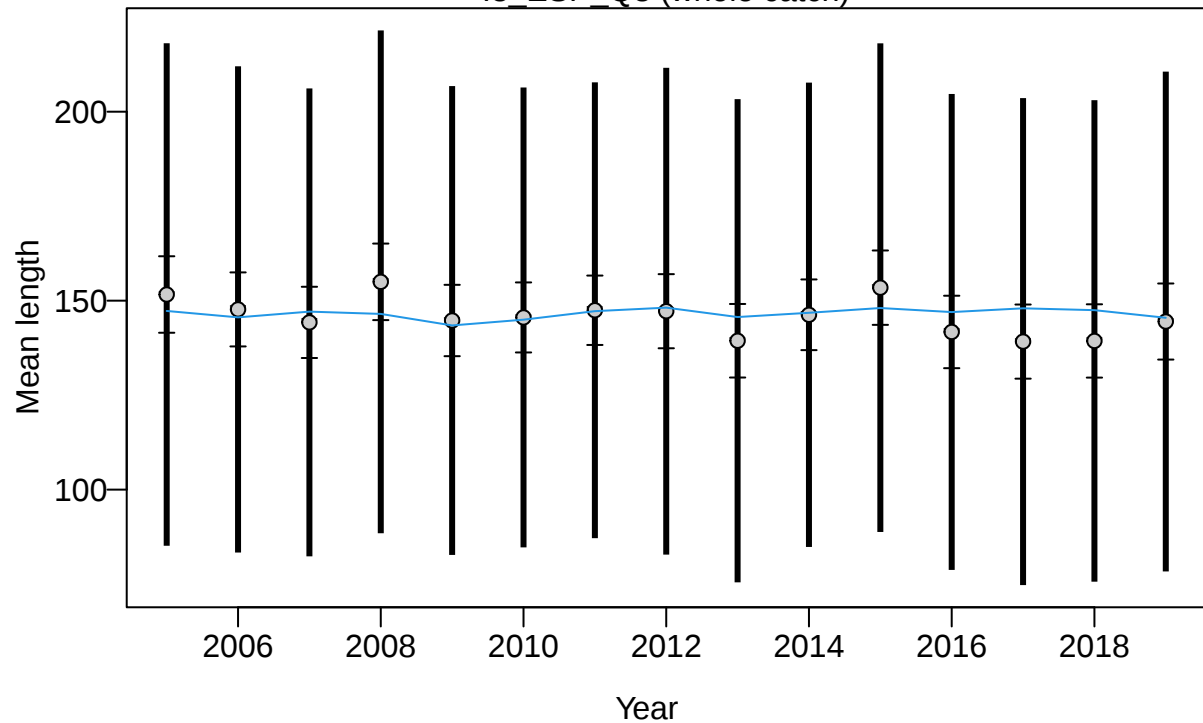




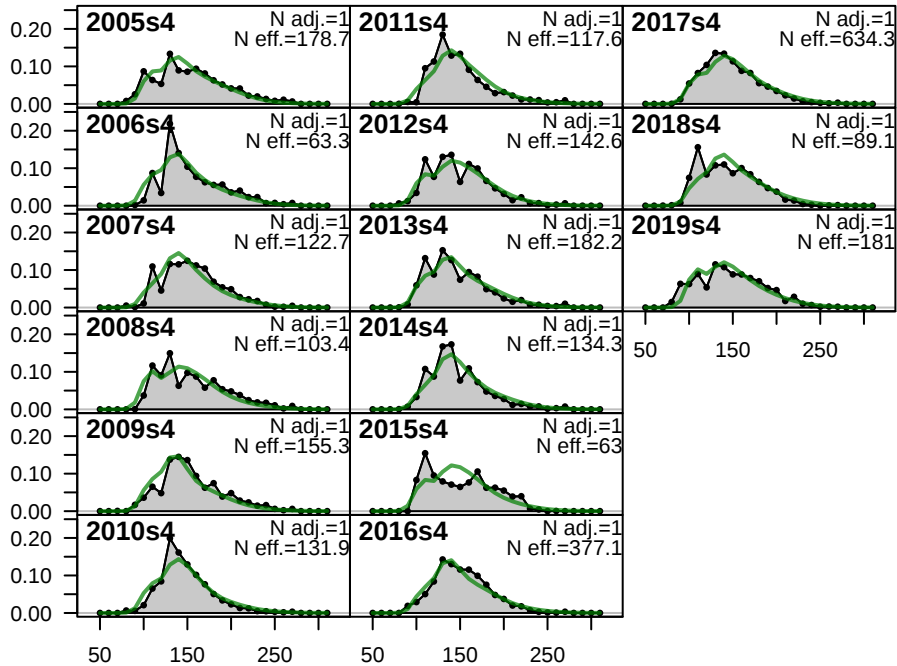
Effective sample size



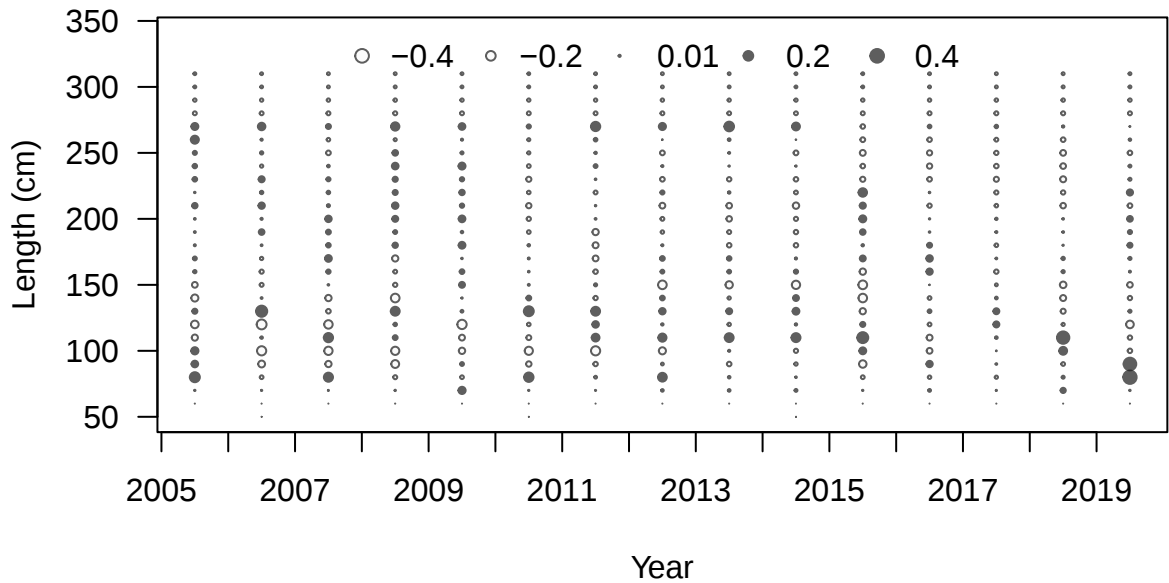
I8_ESP_Q3 (whole catch)



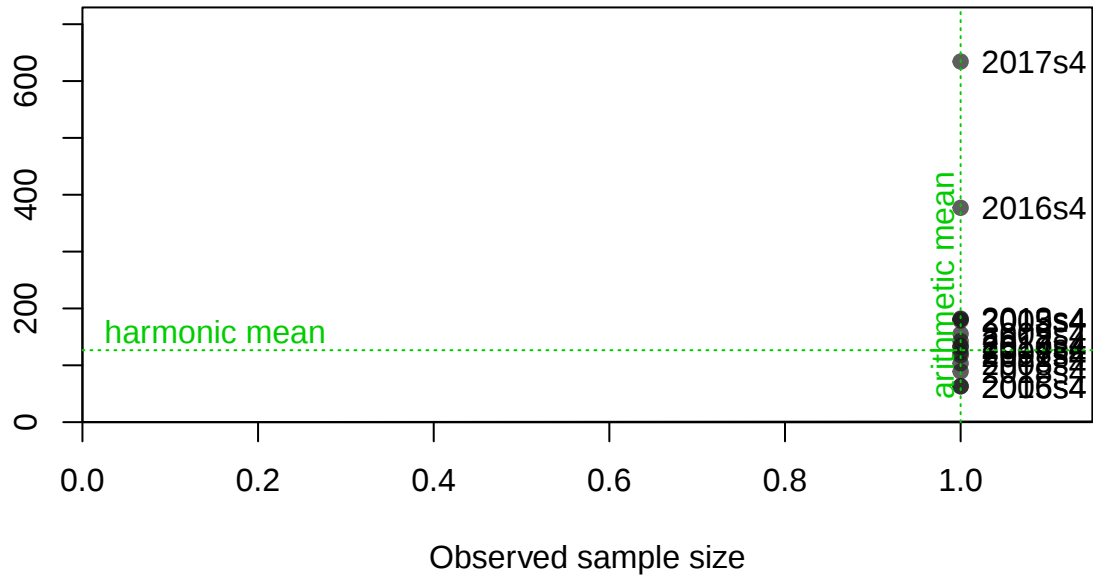
Proportion



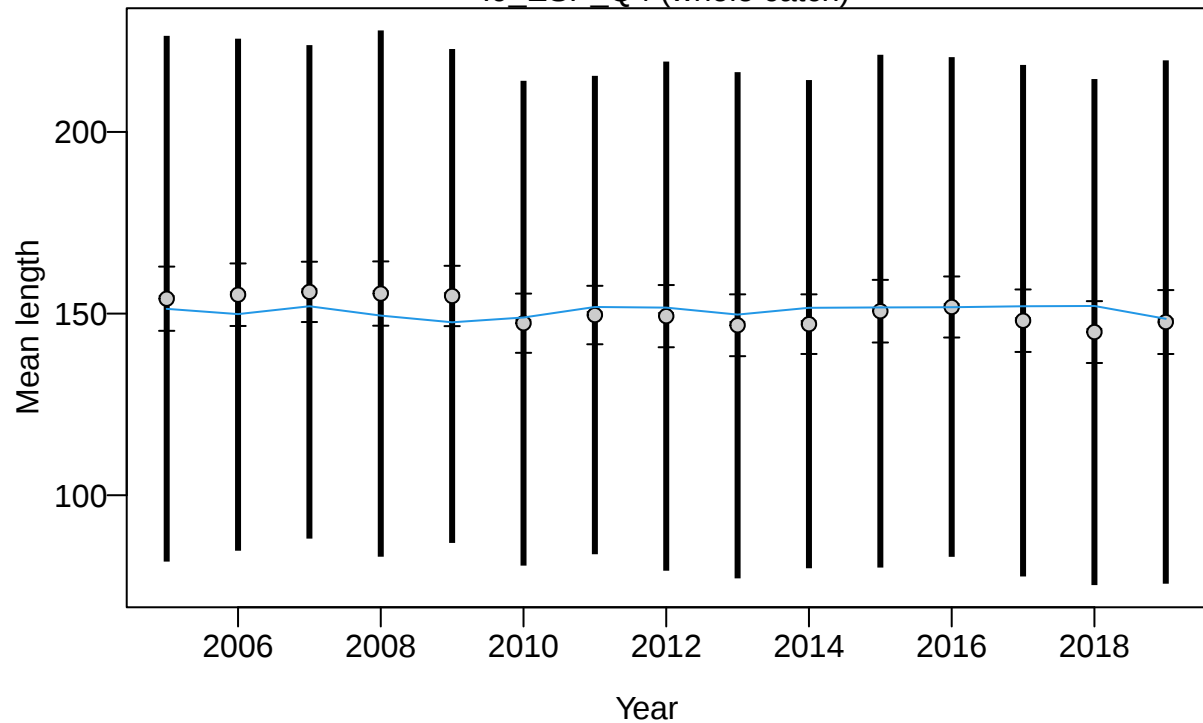
Length (cm)



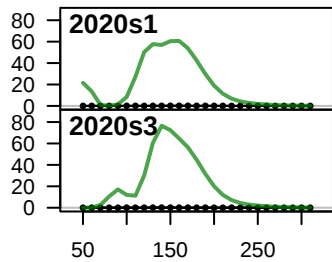
Effective sample size



I9_ESP_Q4 (whole catch)

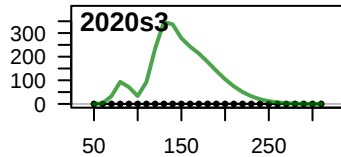


Proportion



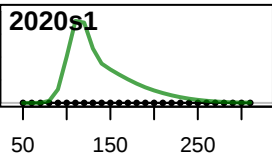
Length (cm)

2020s3



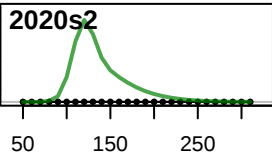
Proportion

Length (cm)



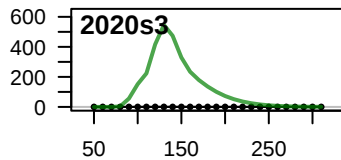
Proportion

Length (cm)



Proportion

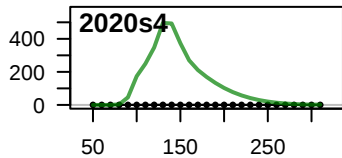
Length (cm)



Proportion

Length (cm)

Proportion



Length (cm)

Proportion

I1_Chile_Q2

Sum of N adj.=641.3
Sum of N eff.=2741.4

I2_Chile_Q3

Sum of N adj.=485.6
Sum of N eff.=3069.1

100

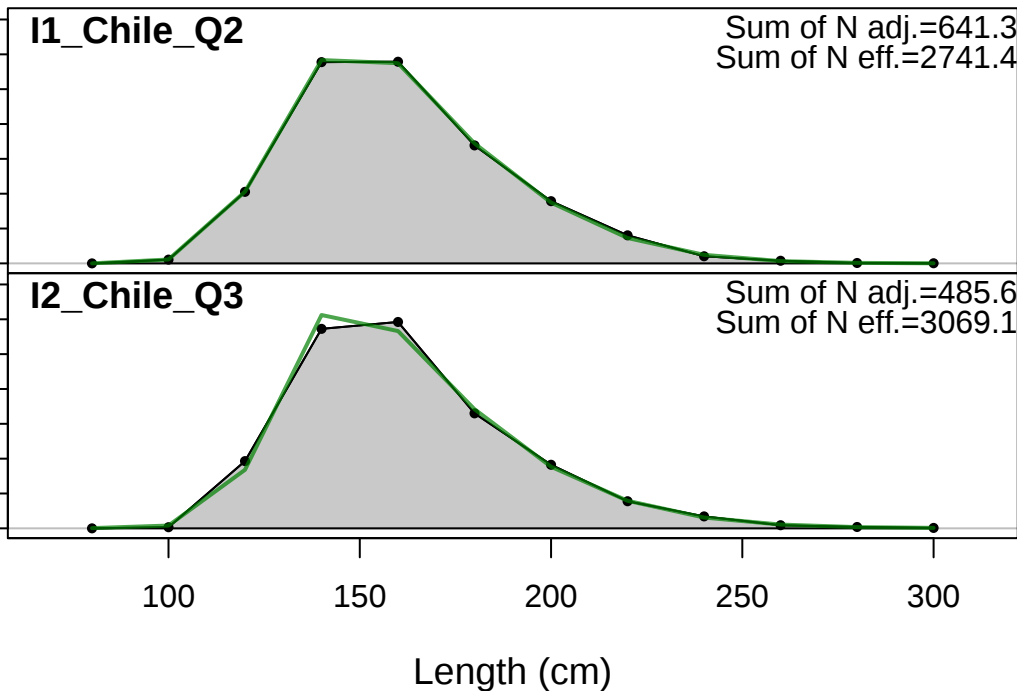
150

200

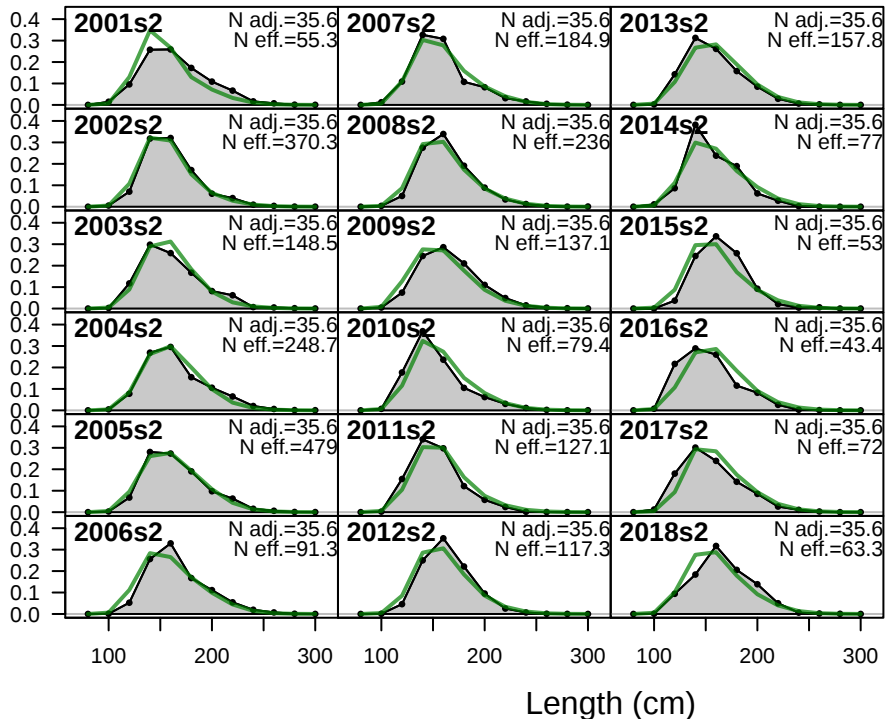
250

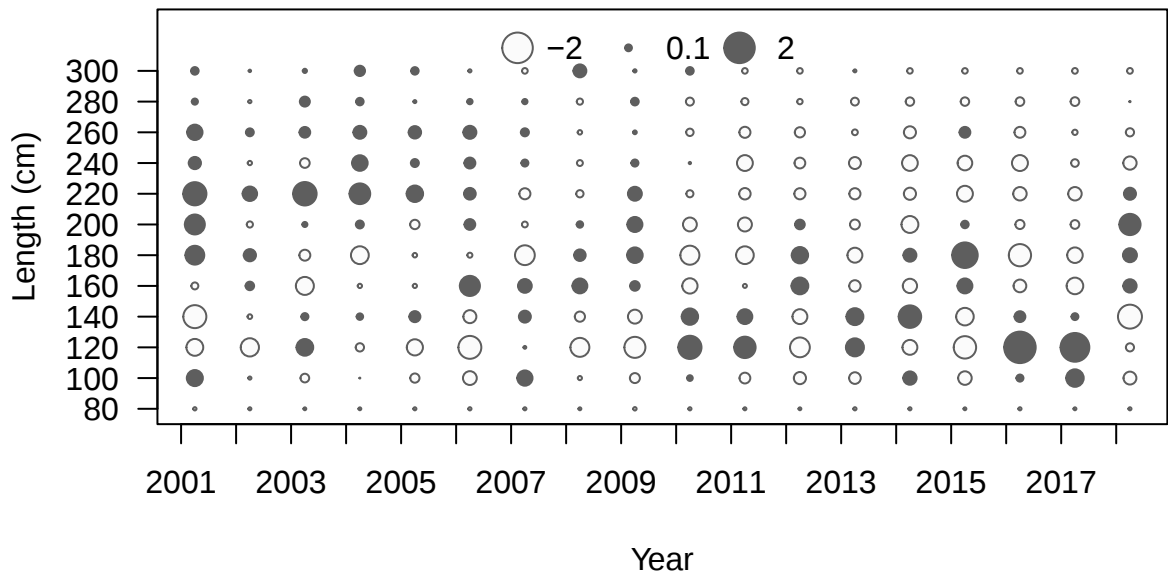
300

Length (cm)

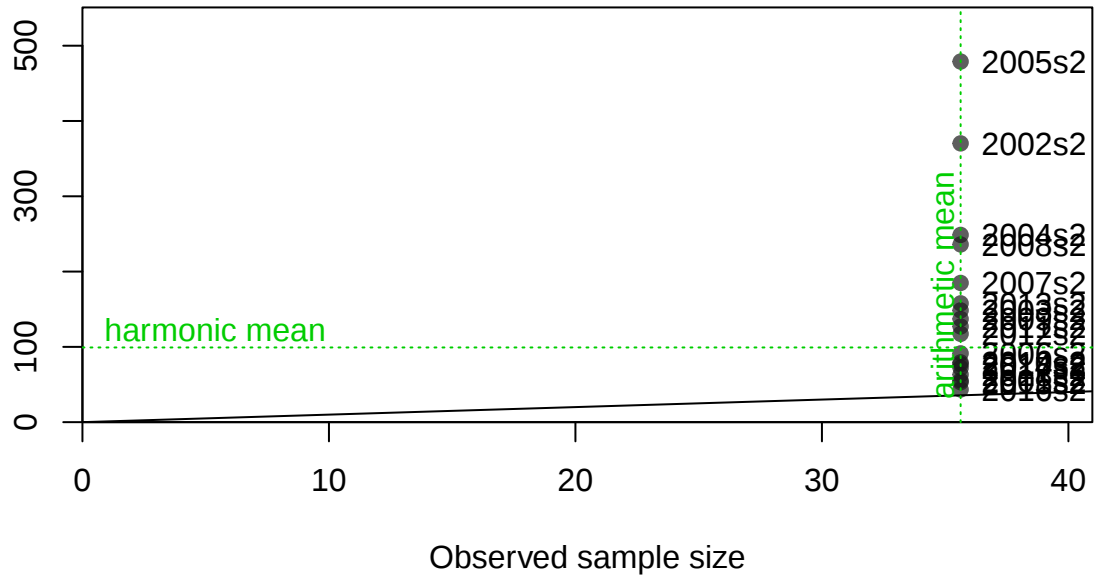


Proportion

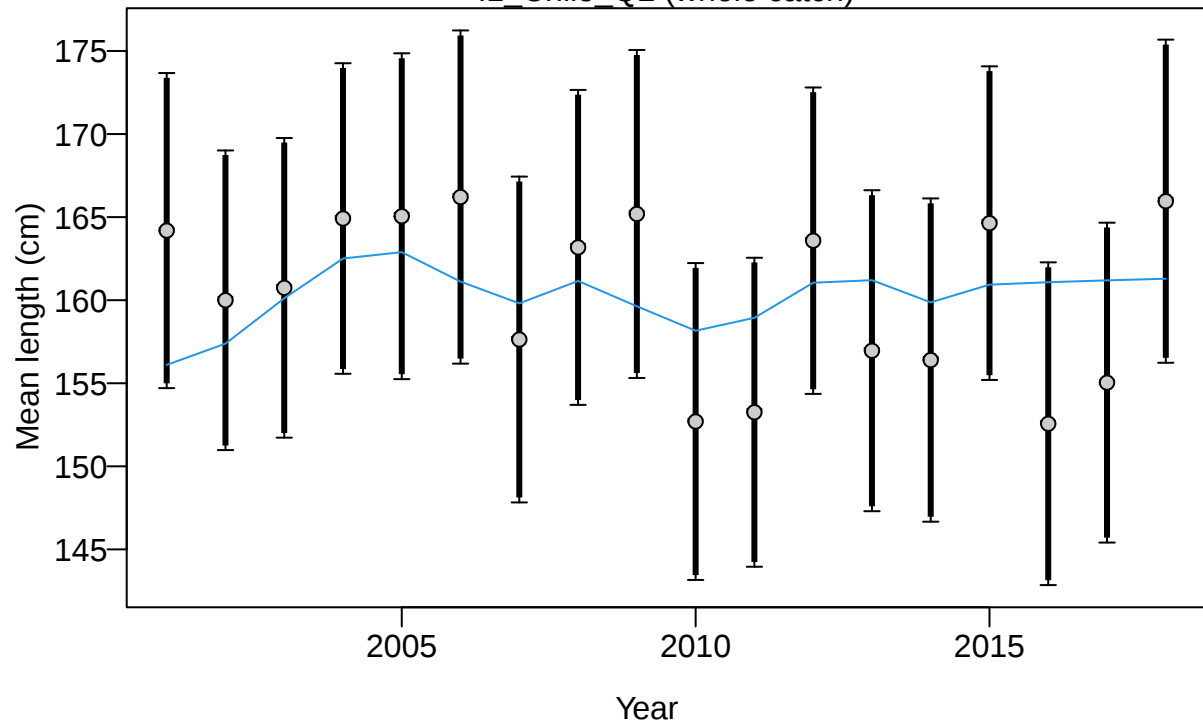




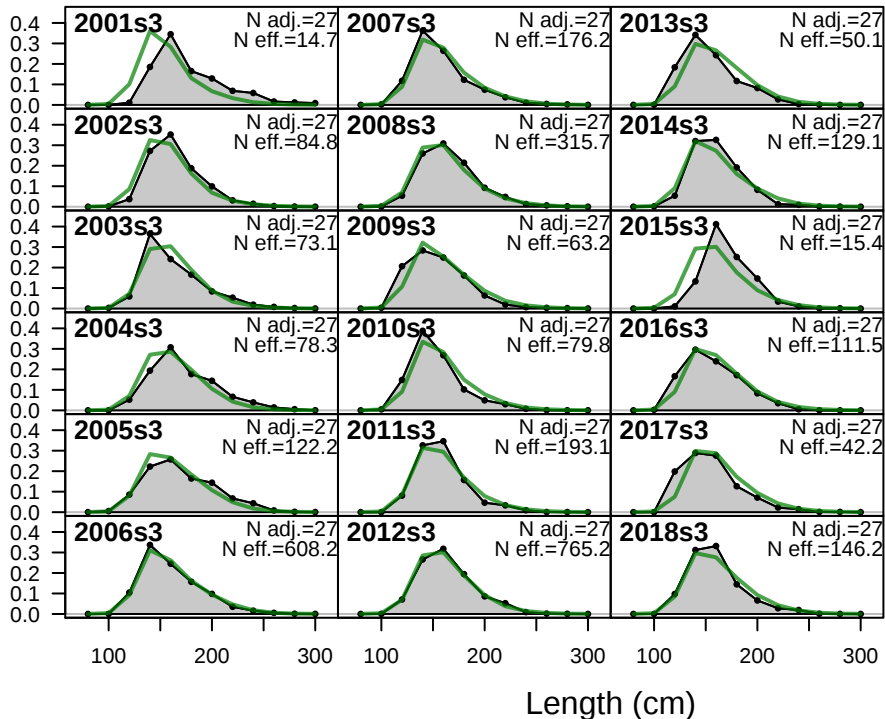
Effective sample size

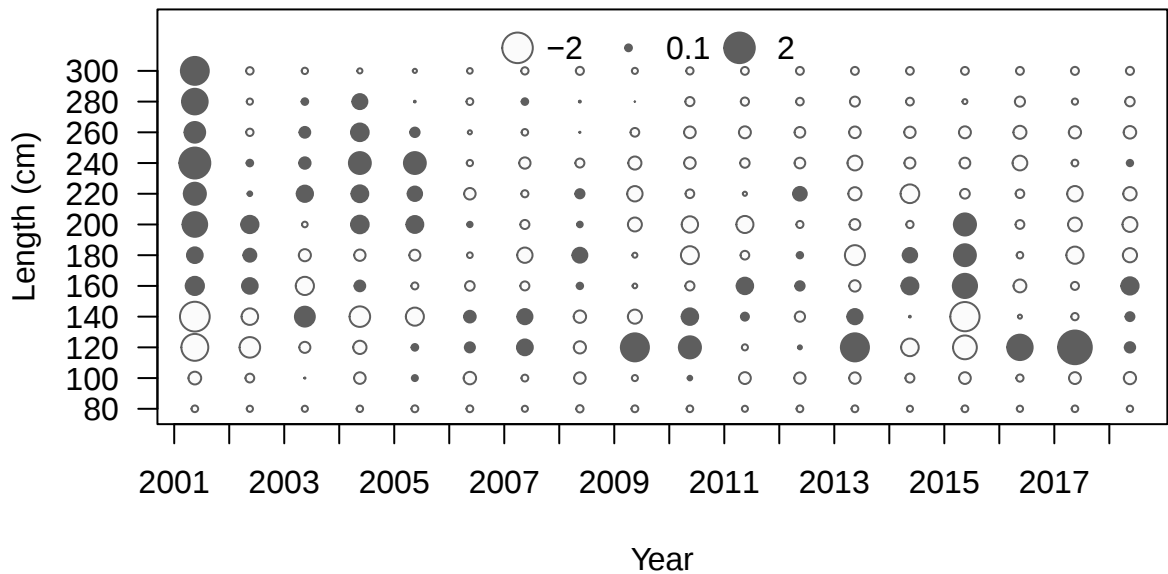


I1_Chile_Q2 (whole catch)

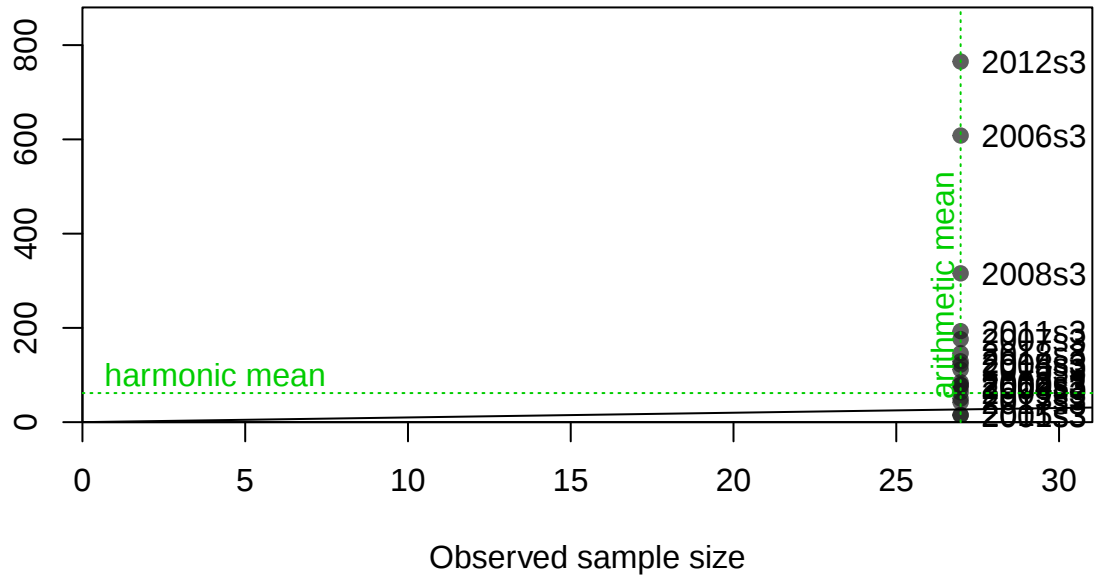


Proportion

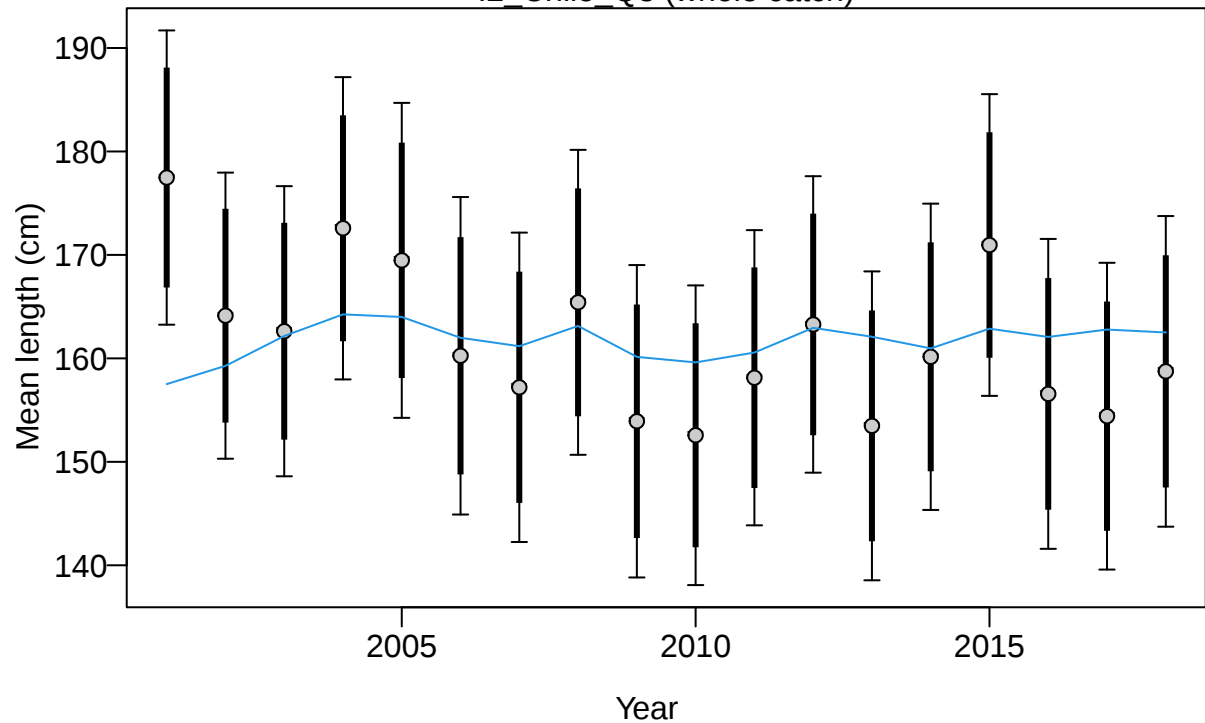




Effective sample size



I2_Chile_Q3 (whole catch)

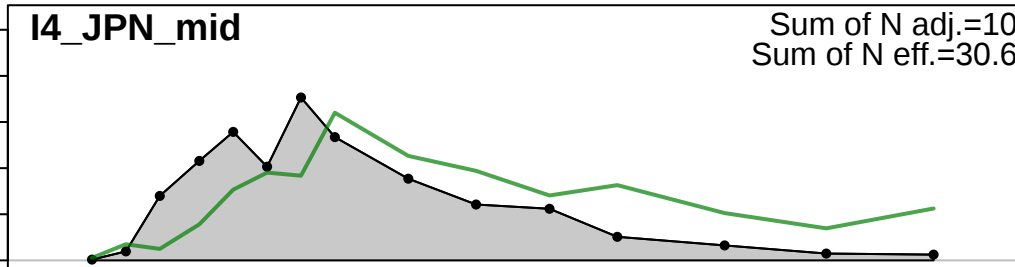


Proportion

I4_JPN_mid

Sum of N adj.=10
Sum of N eff.=30.6

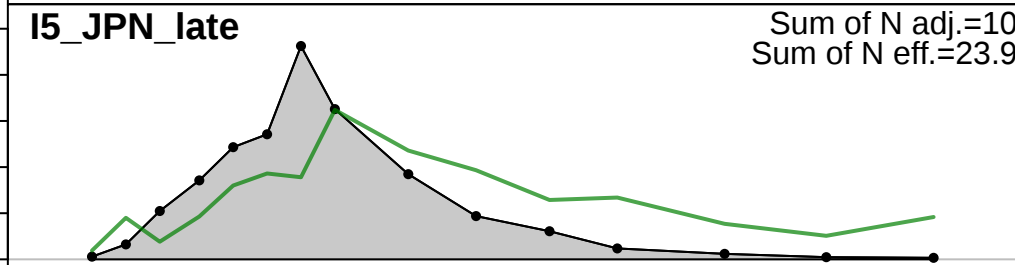
0.25
0.20
0.15
0.10
0.05
0.00



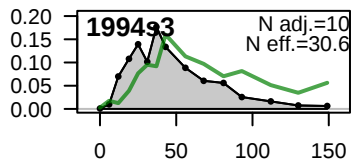
I5_JPN_late

Sum of N adj.=10
Sum of N eff.=23.9

0.25
0.20
0.15
0.10
0.05
0.00

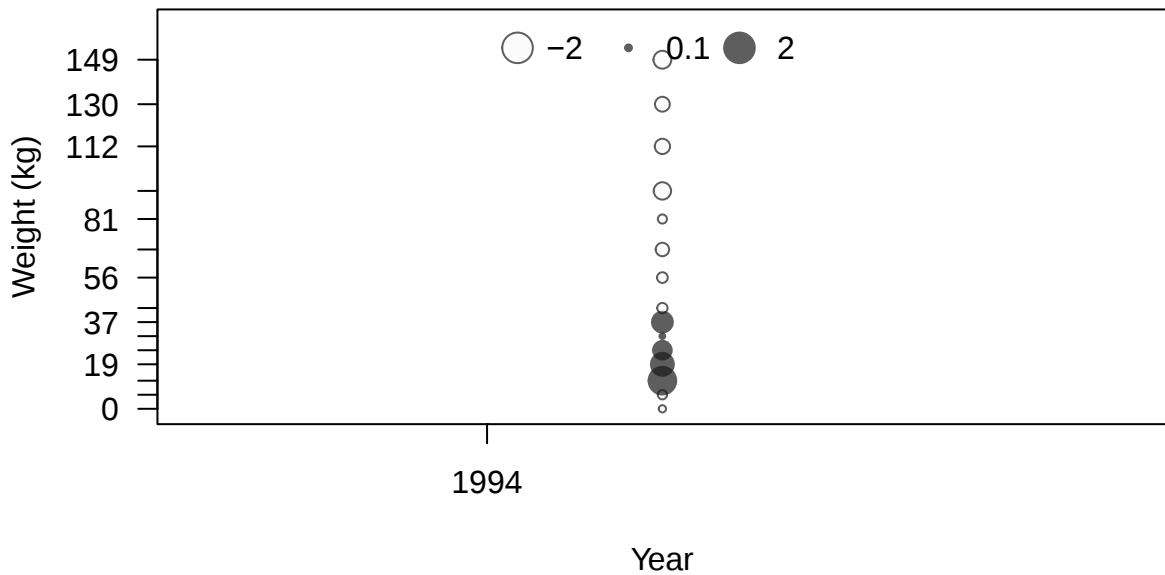


Weight (kg)

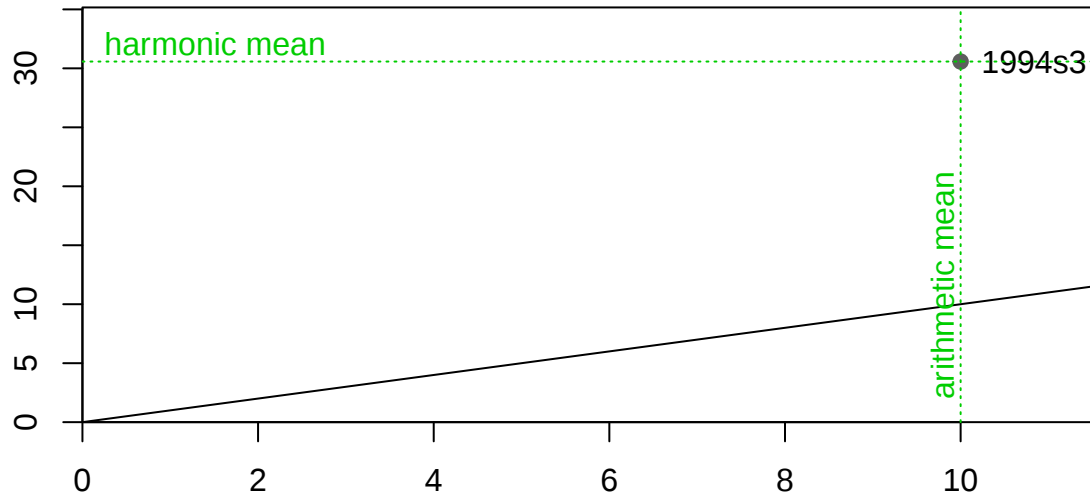


Proportion

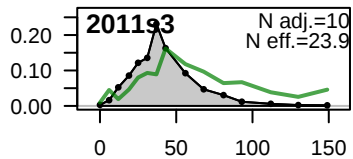
Weight (kg)



Effective sample size

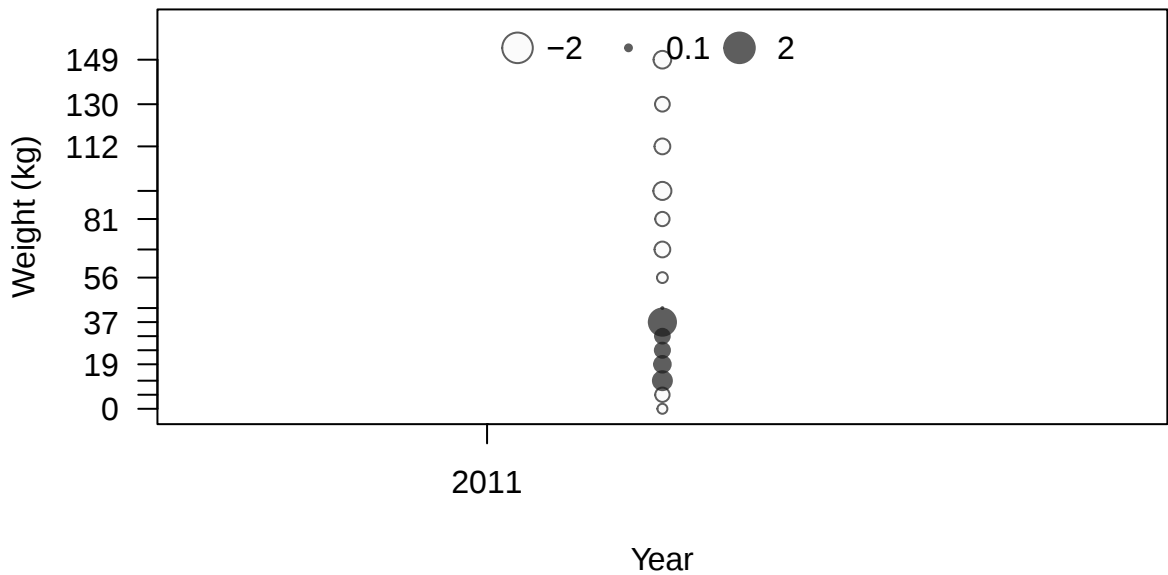


Observed sample size

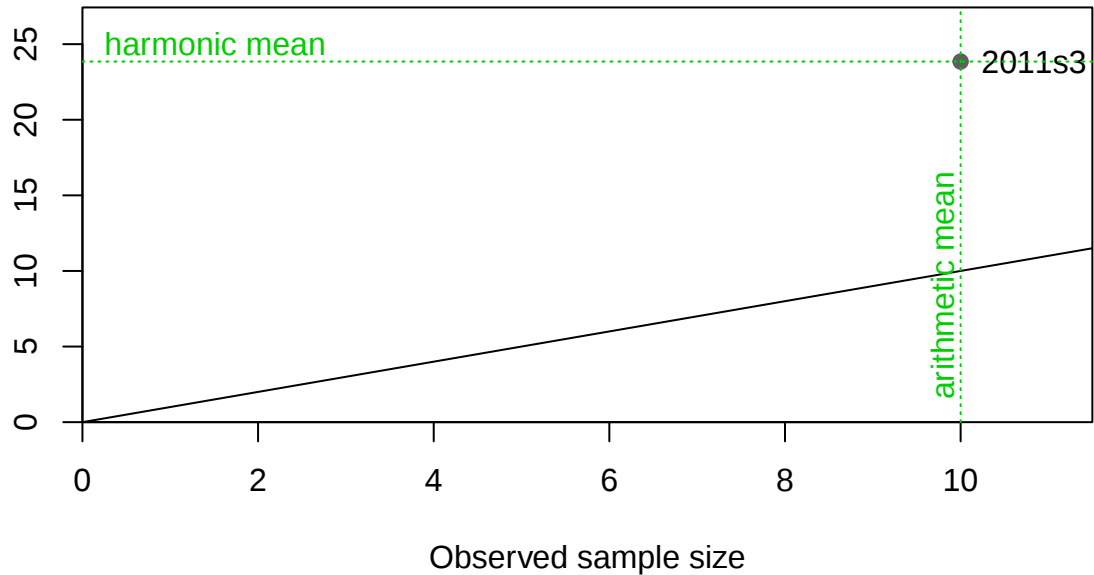


Proportion

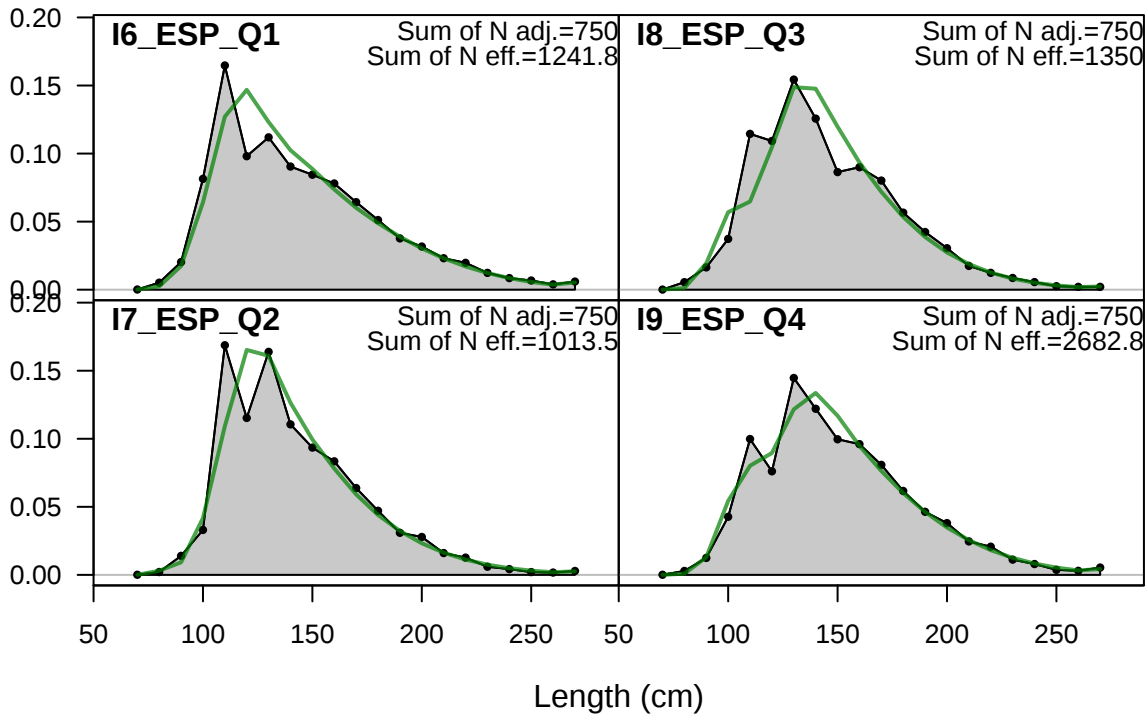
Weight (kg)



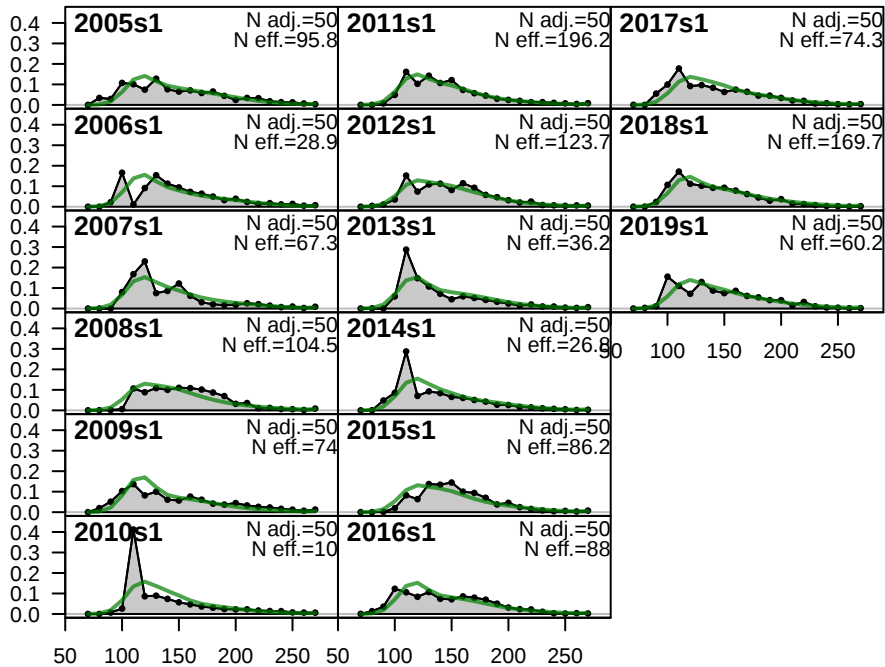
Effective sample size



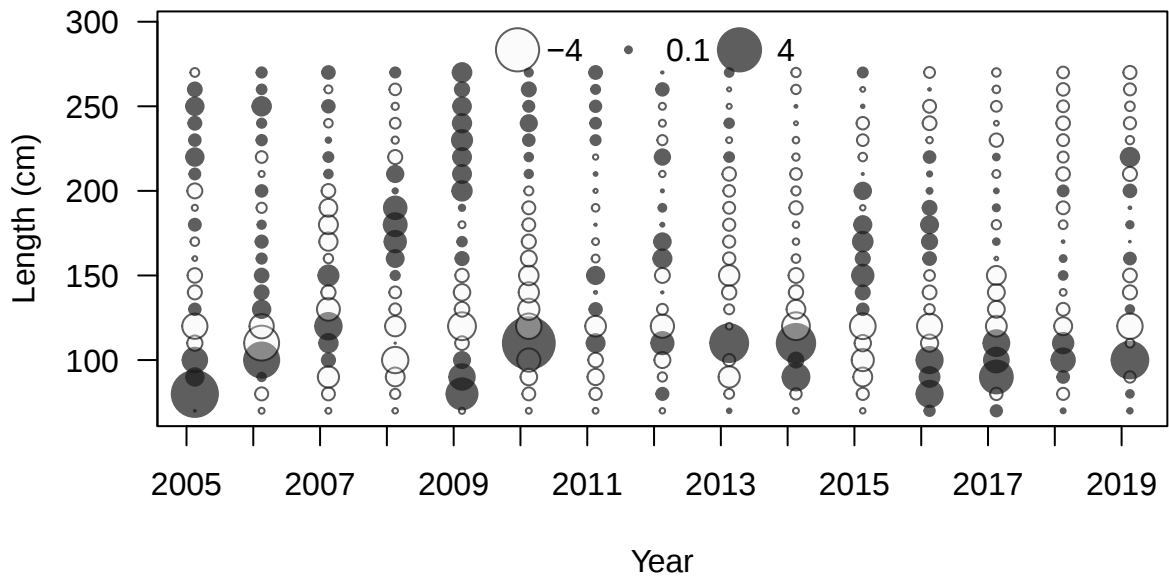
Proportion



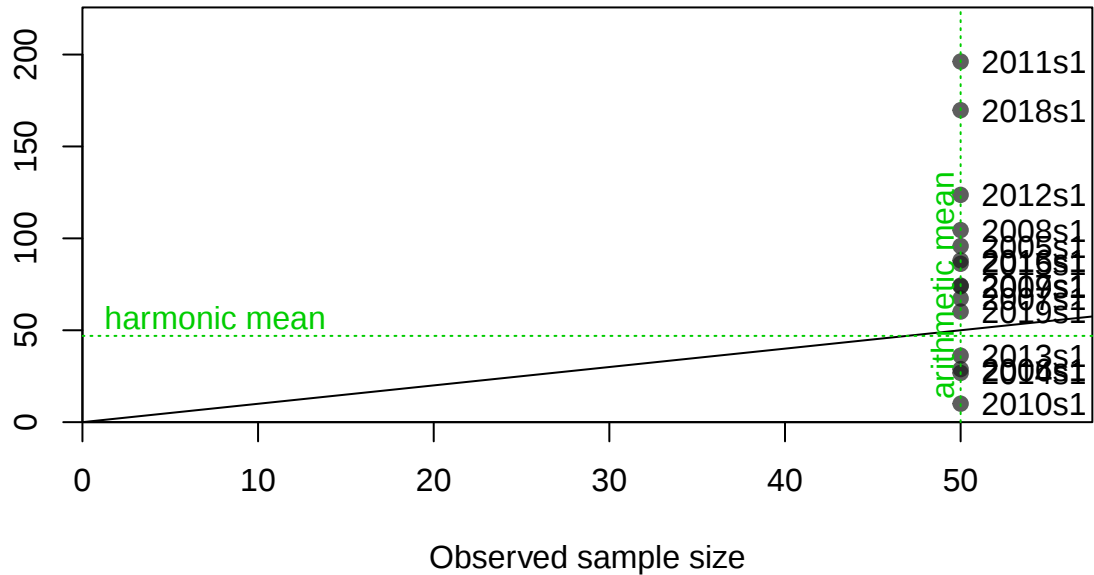
Proportion



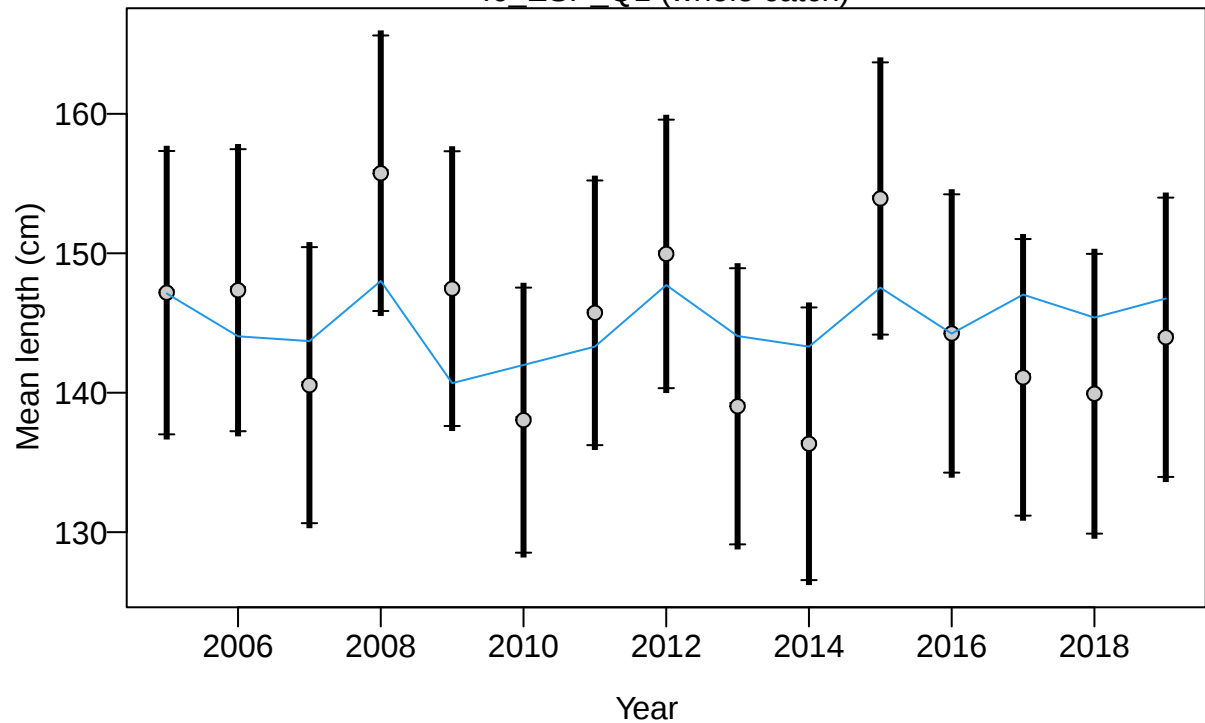
Length (cm)



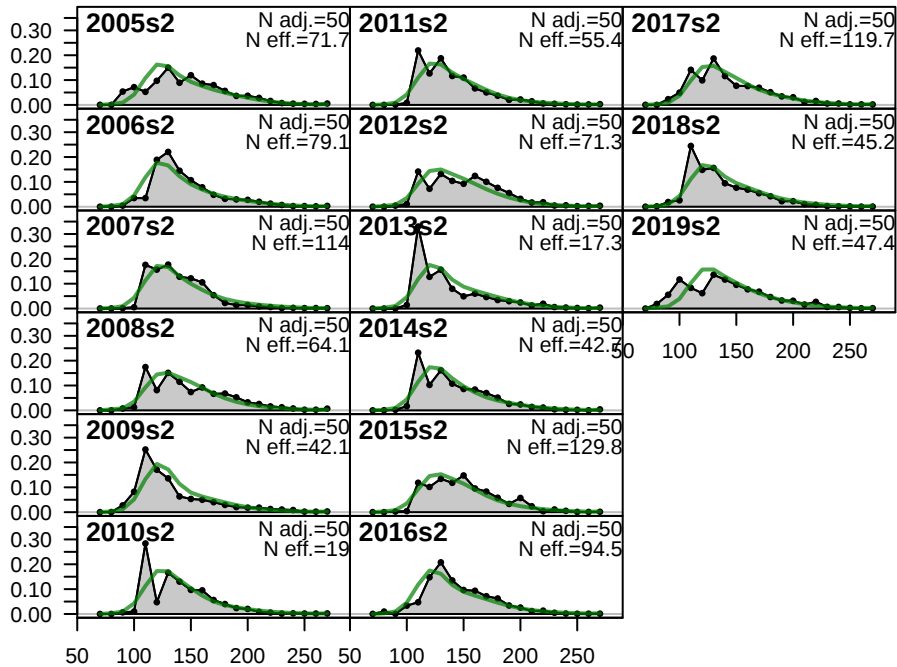
Effective sample size



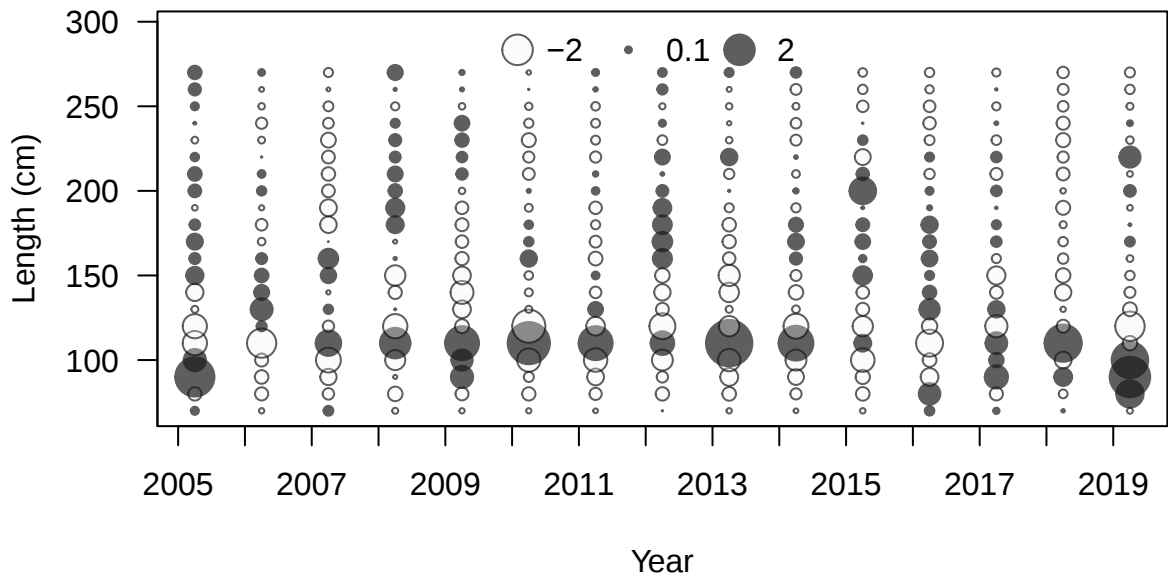
I6_ESP_Q1 (whole catch)



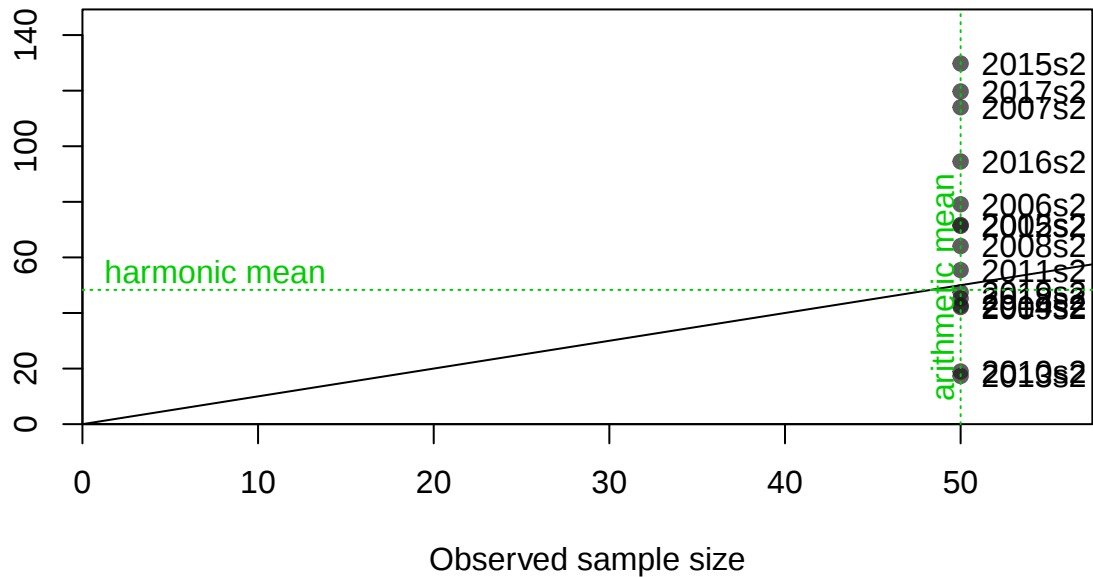
Proportion



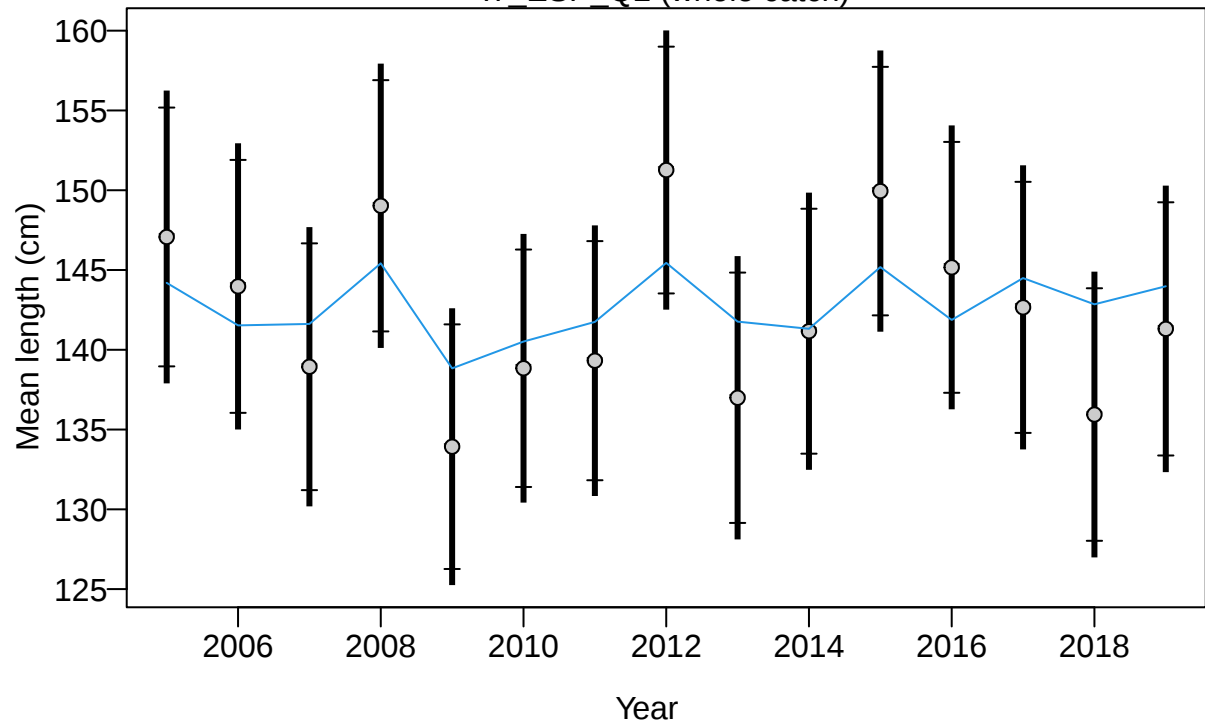
Length (cm)



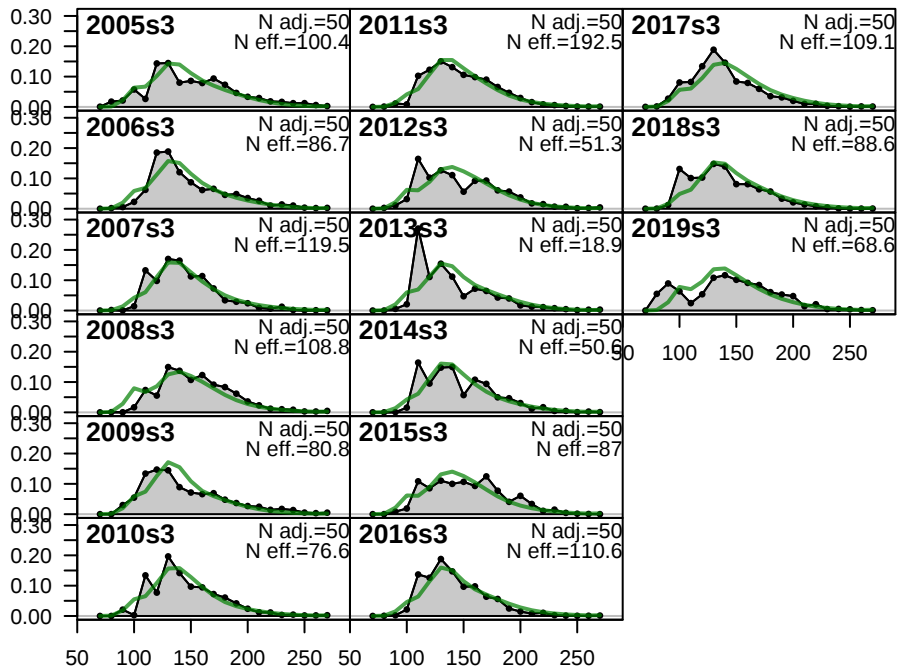
Effective sample size



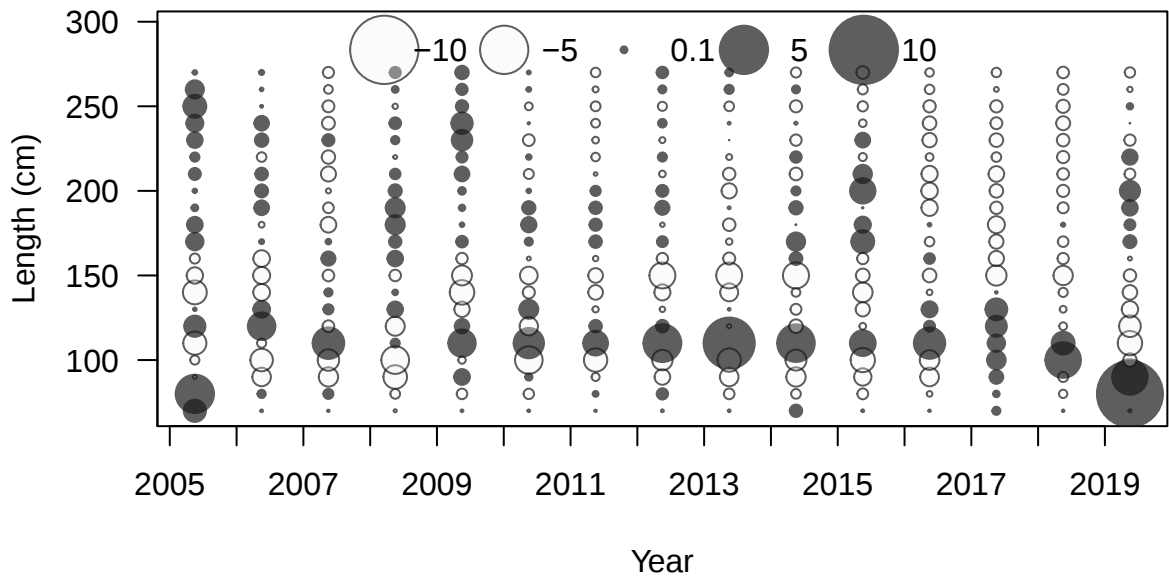
I7_ESP_Q2 (whole catch)



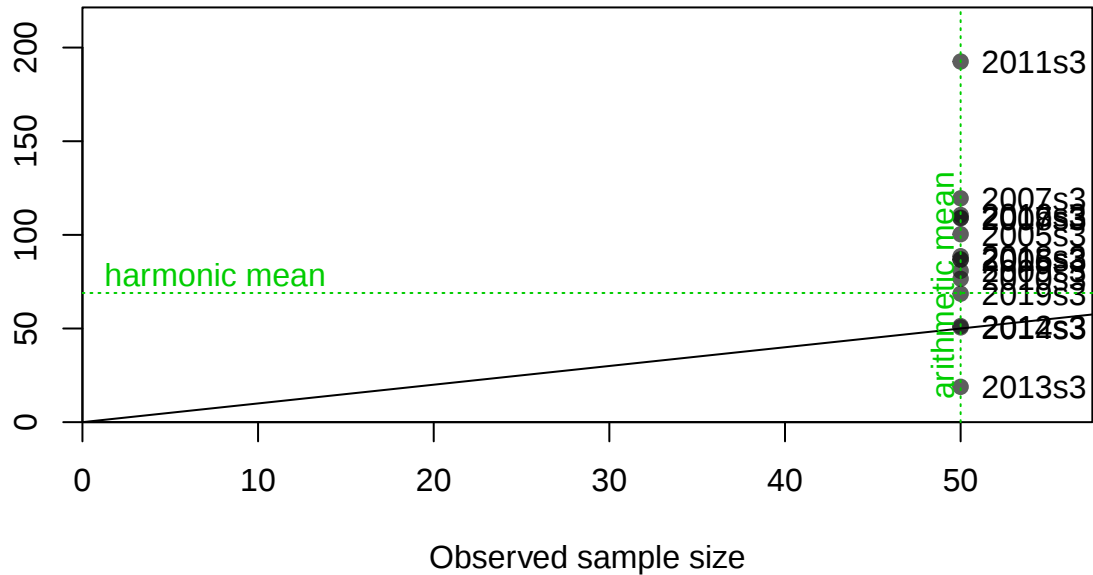
Proportion



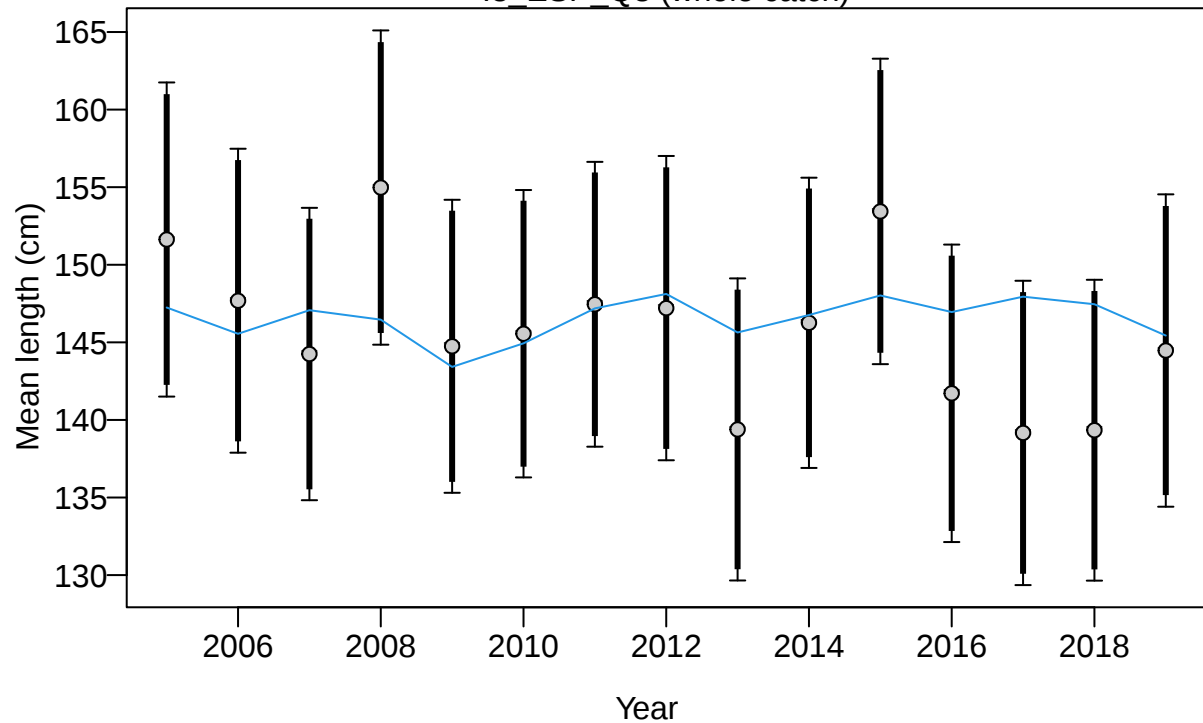
Length (cm)



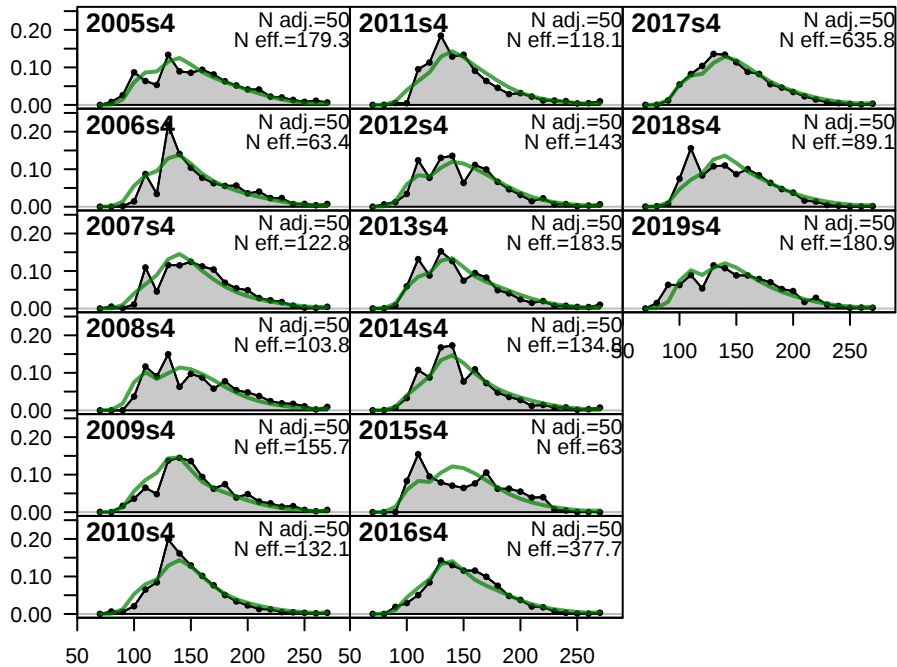
Effective sample size



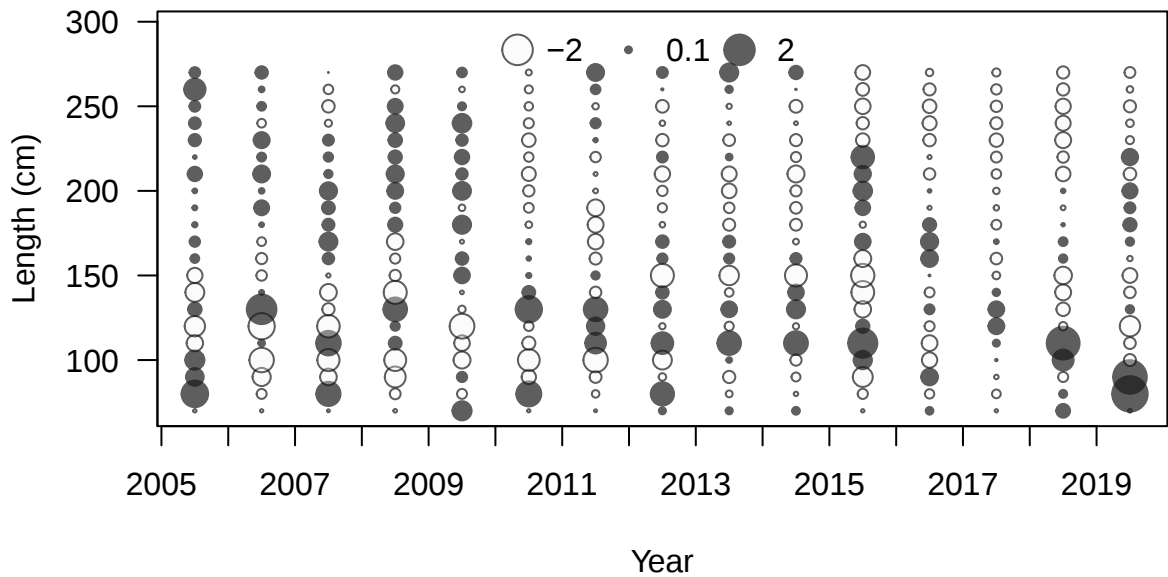
I8_ESP_Q3 (whole catch)

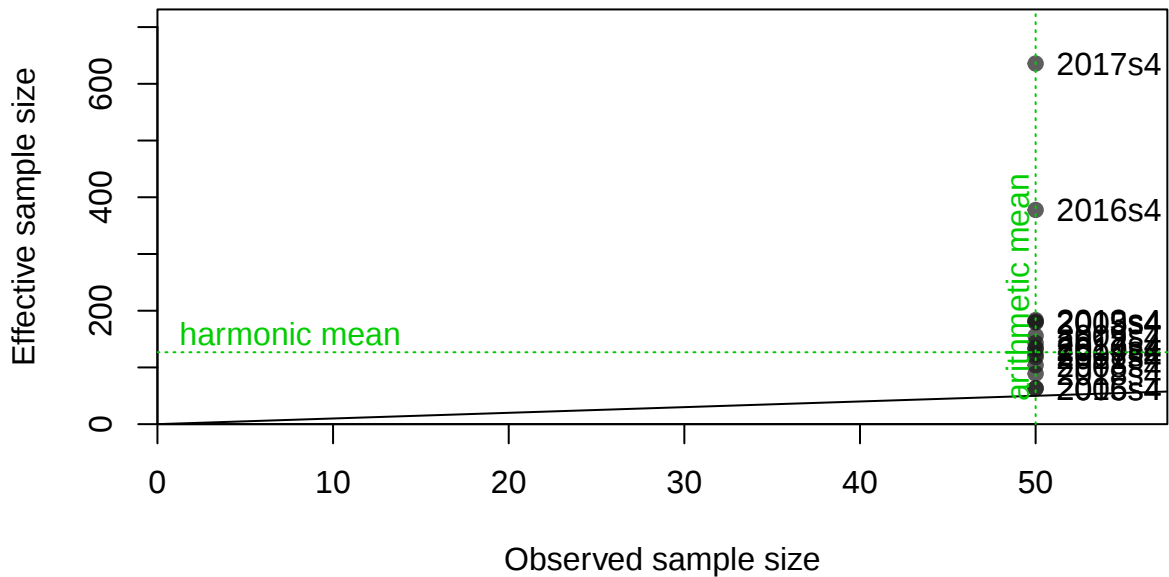


Proportion

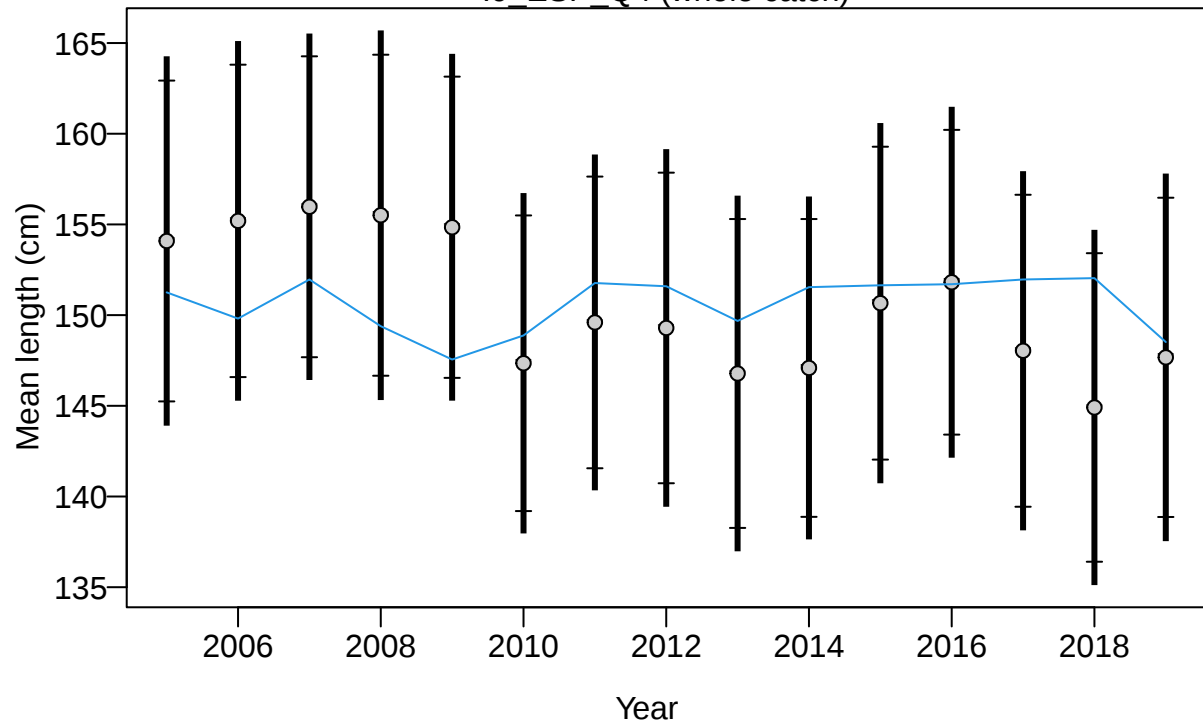


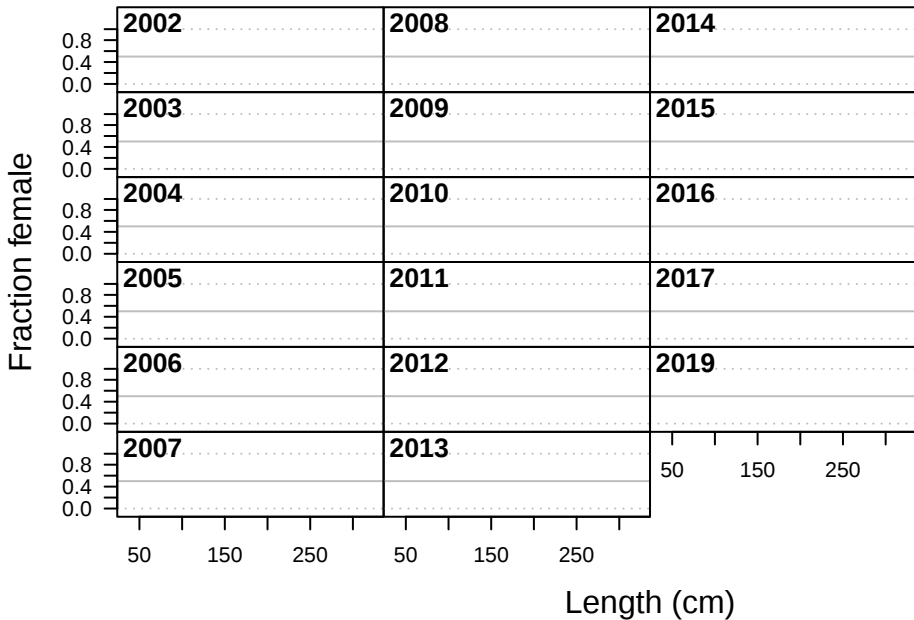
Length (cm)



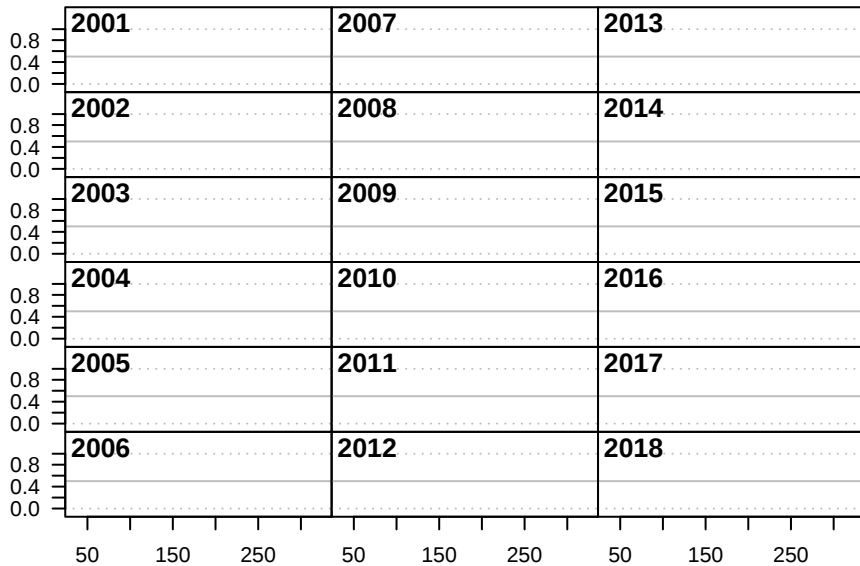


I9_ESP_Q4 (whole catch)





Fraction female



Length (cm)

Proportion

F3_GN_A5

Sum of N adj.=308
Sum of N eff.=1193

F5_LL_Coast_A5

Sum of N adj.=498.4
Sum of N eff.=1109.3

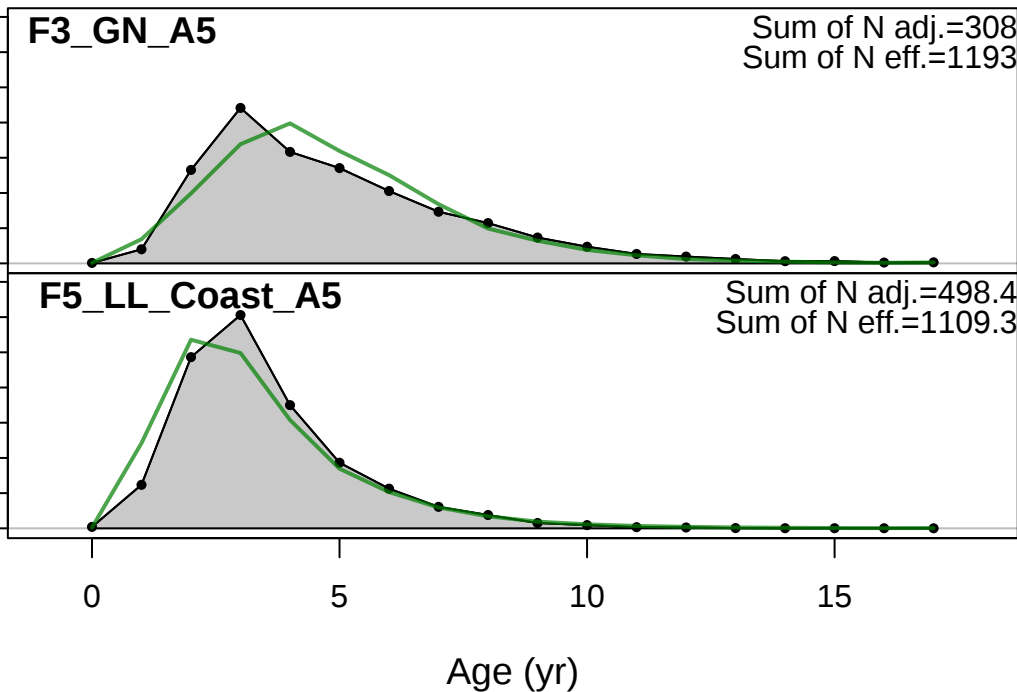
0

5

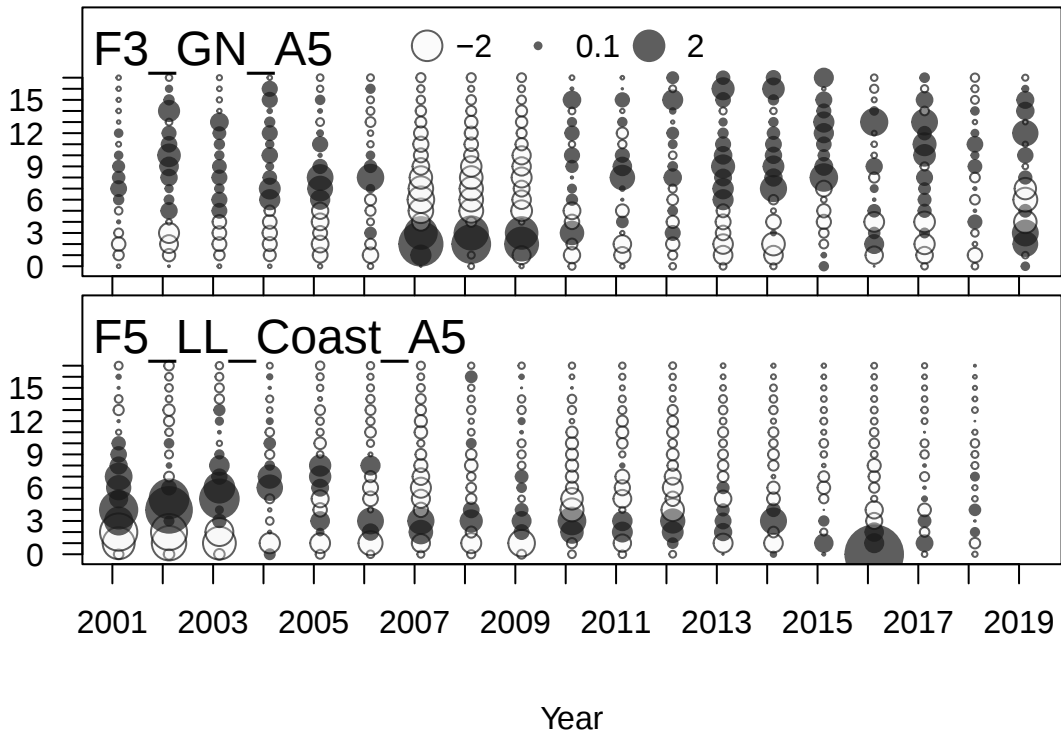
10

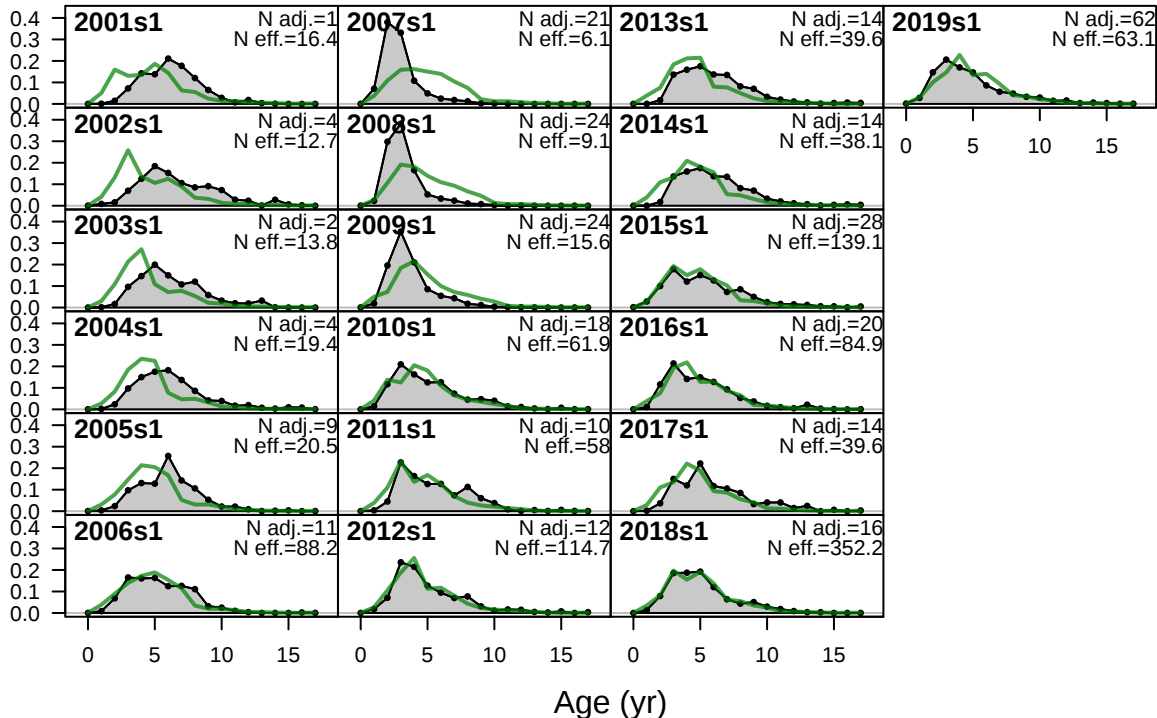
15

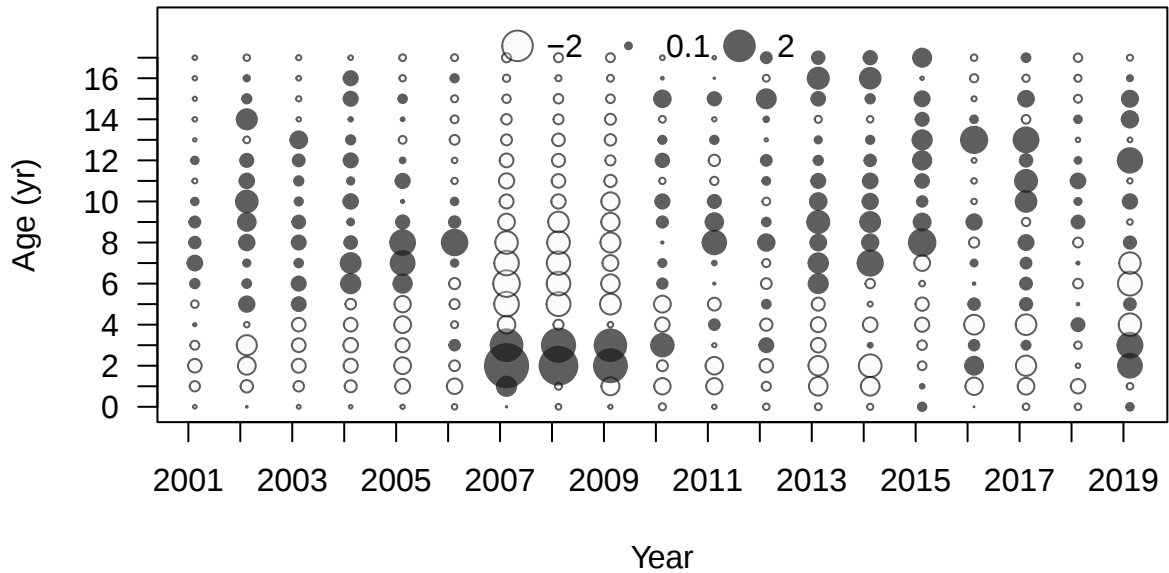
Age (yr)



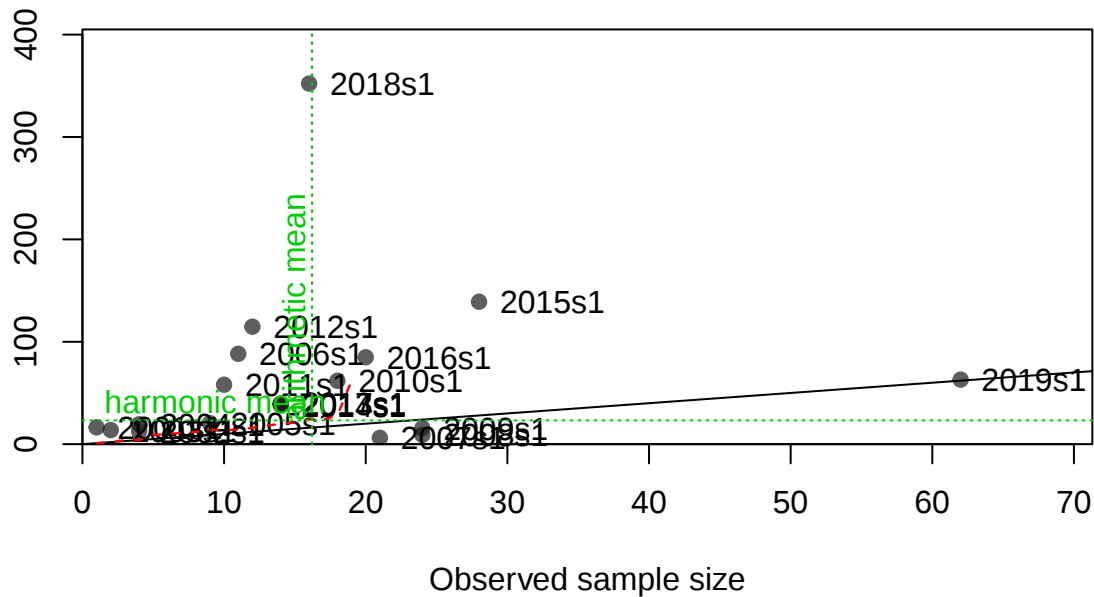
Age (yr)



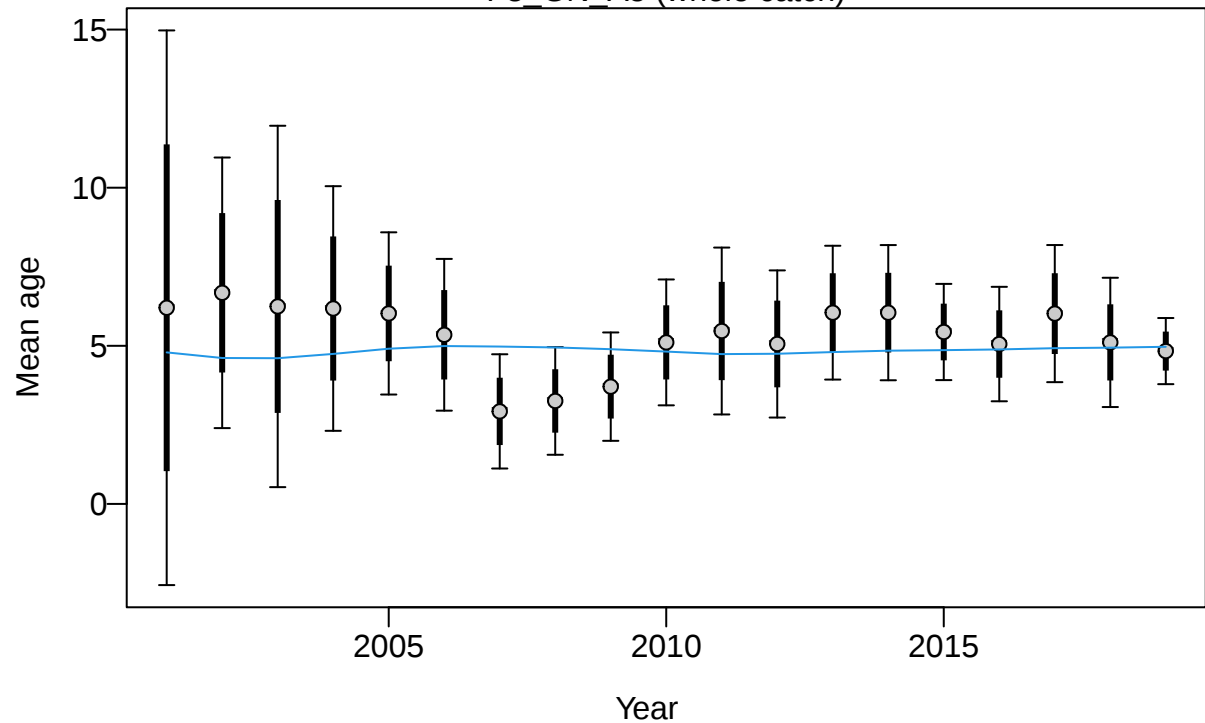




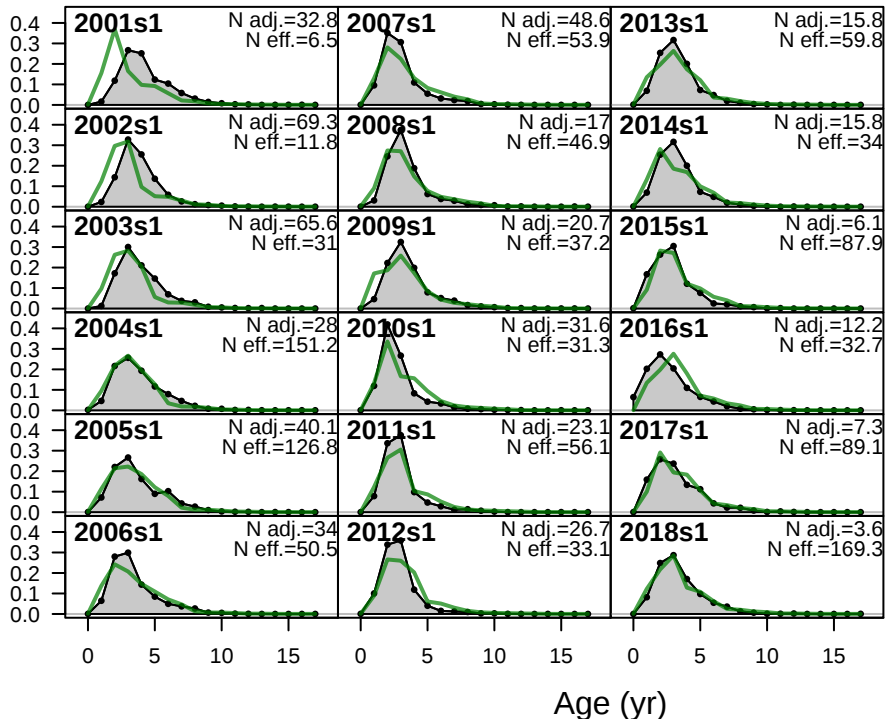
Effective sample size

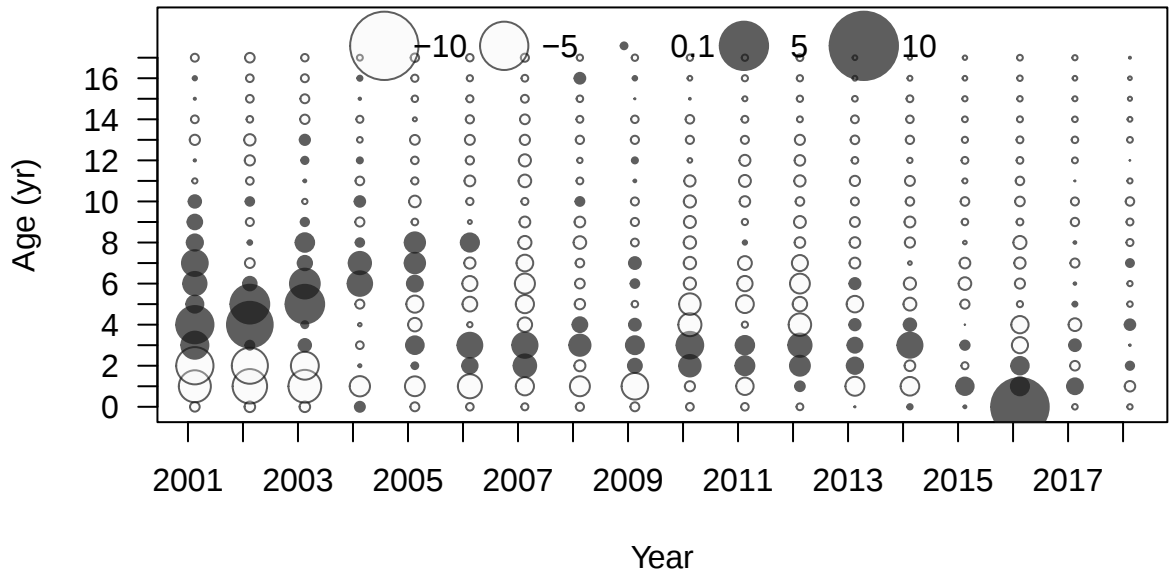


F3_GN_A5 (whole catch)

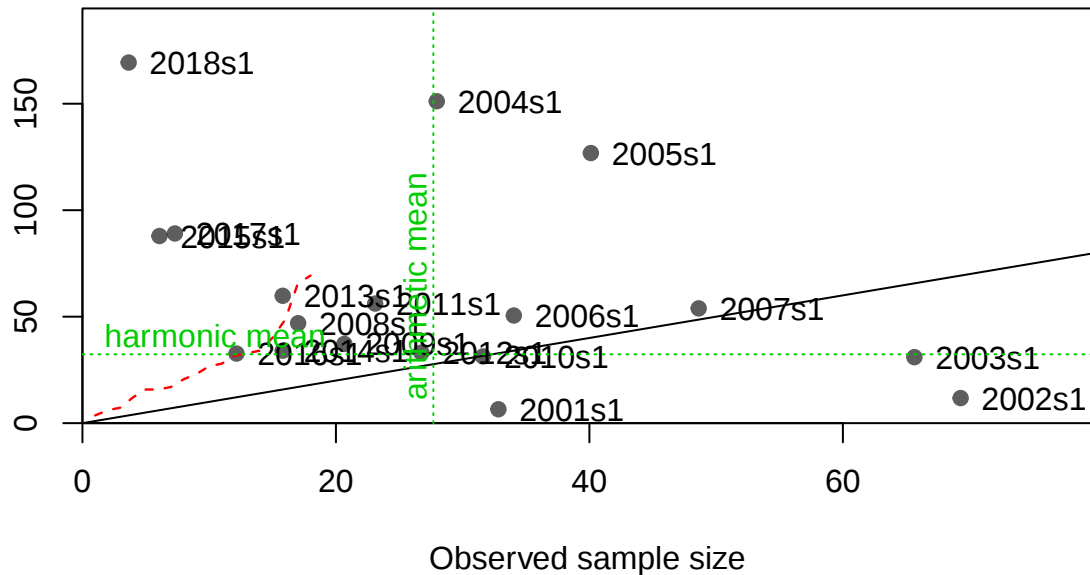


Proportion

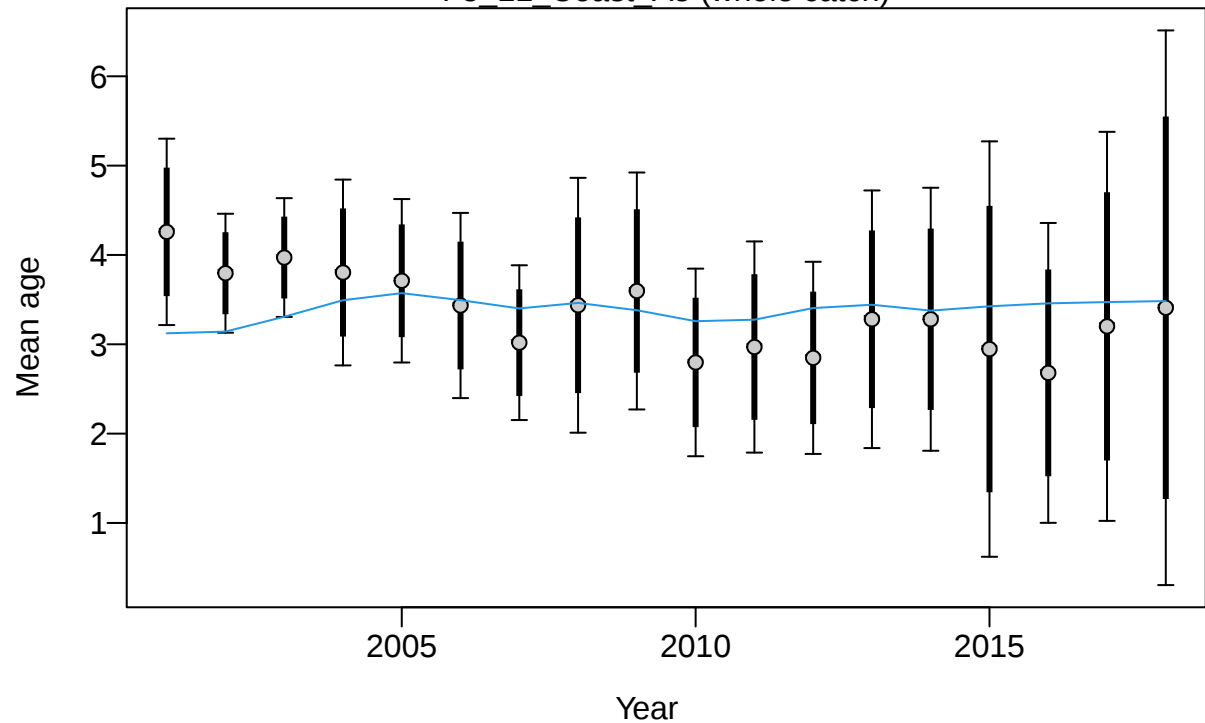


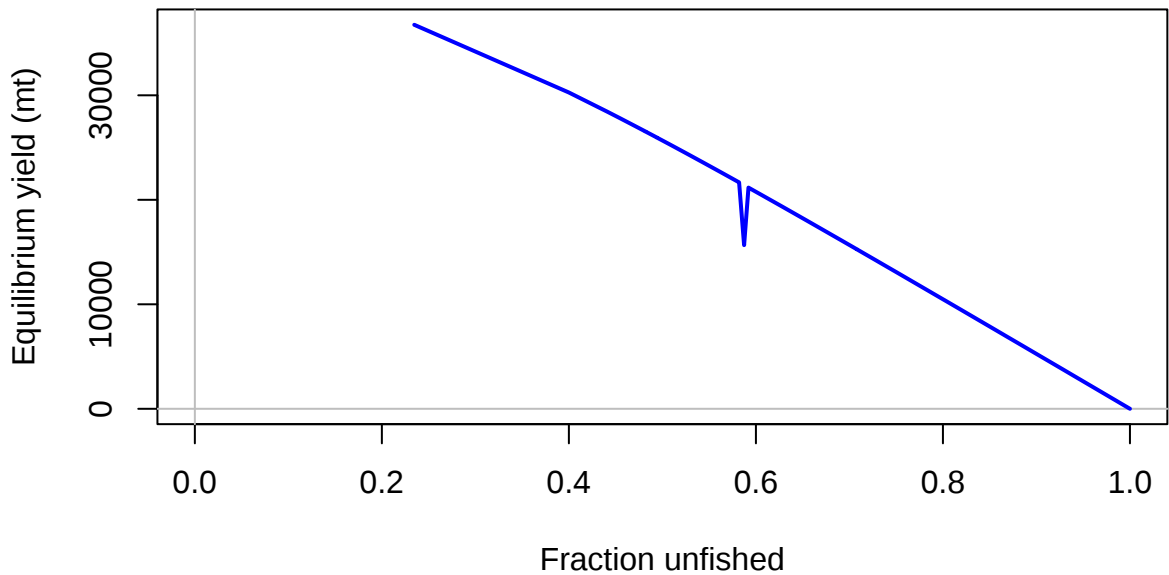


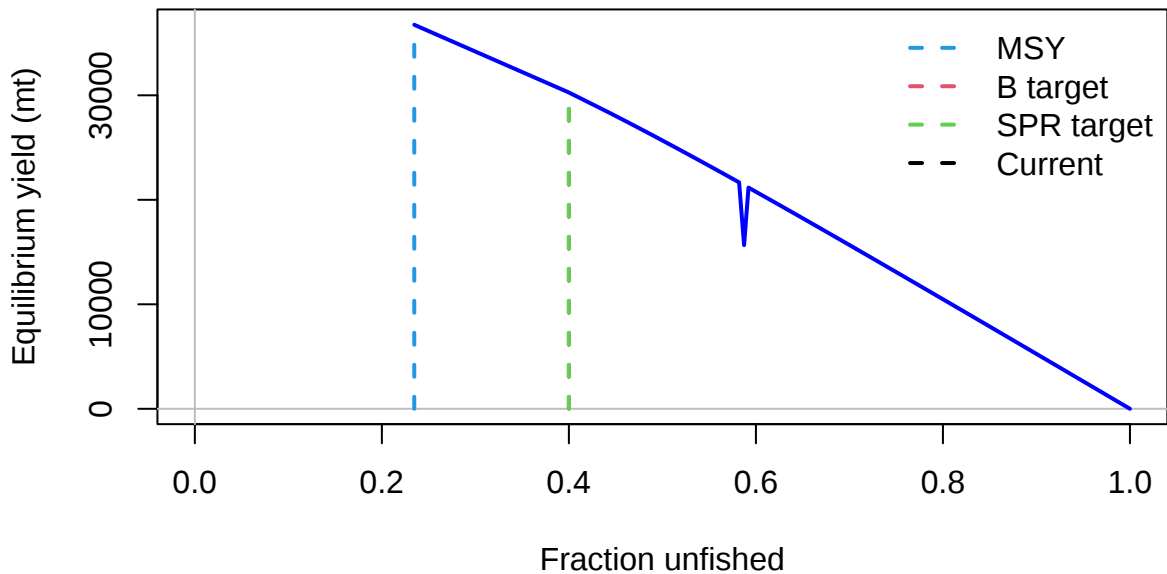
Effective sample size

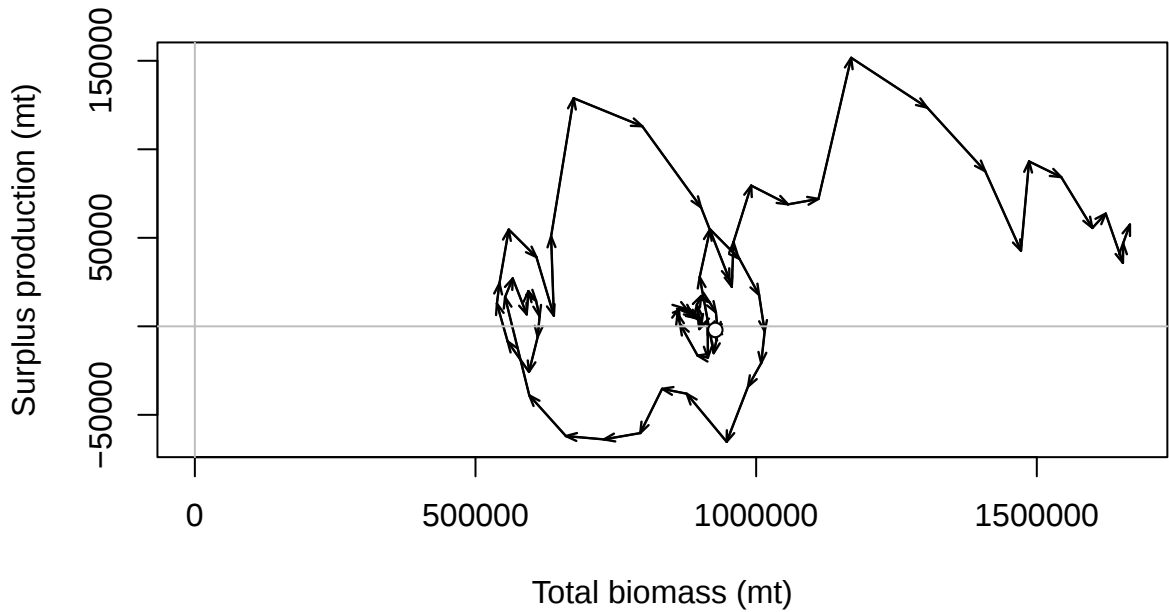


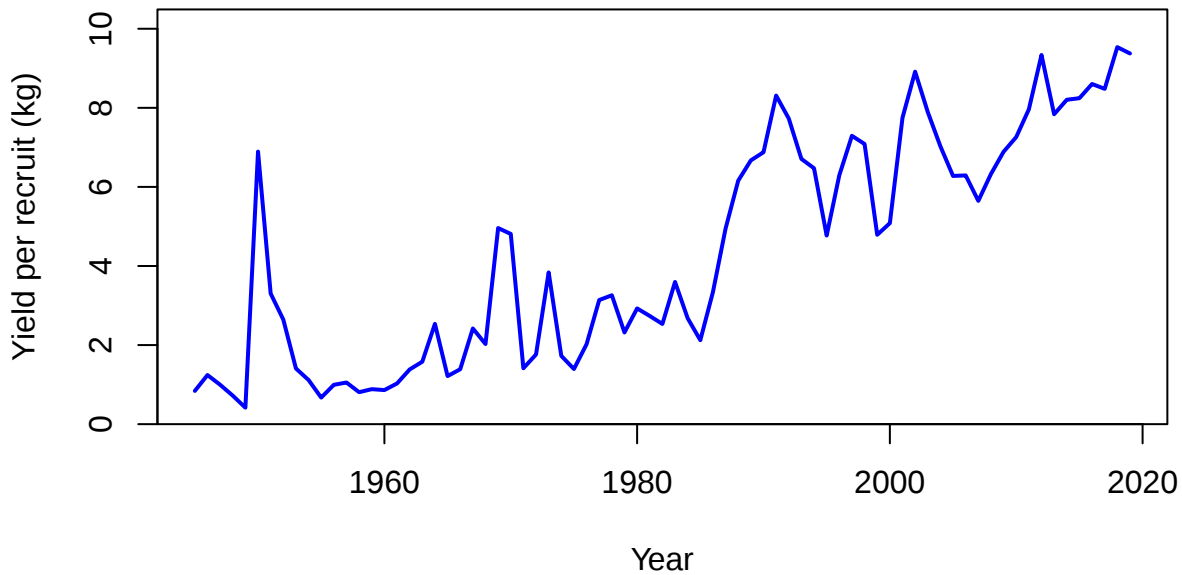
F5_LL_Coast_A5 (whole catch)

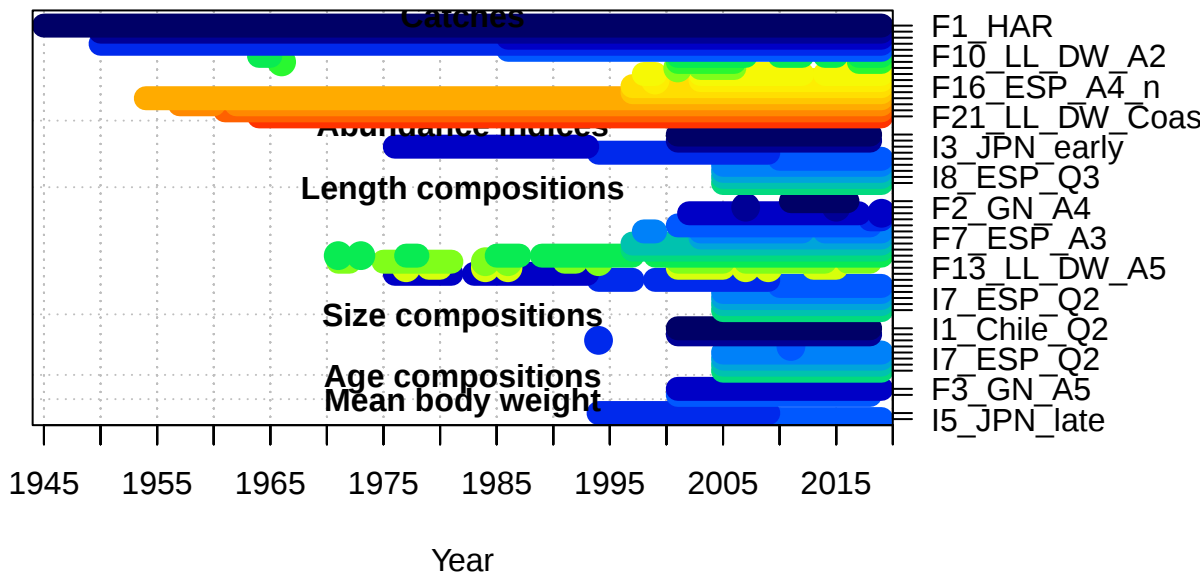


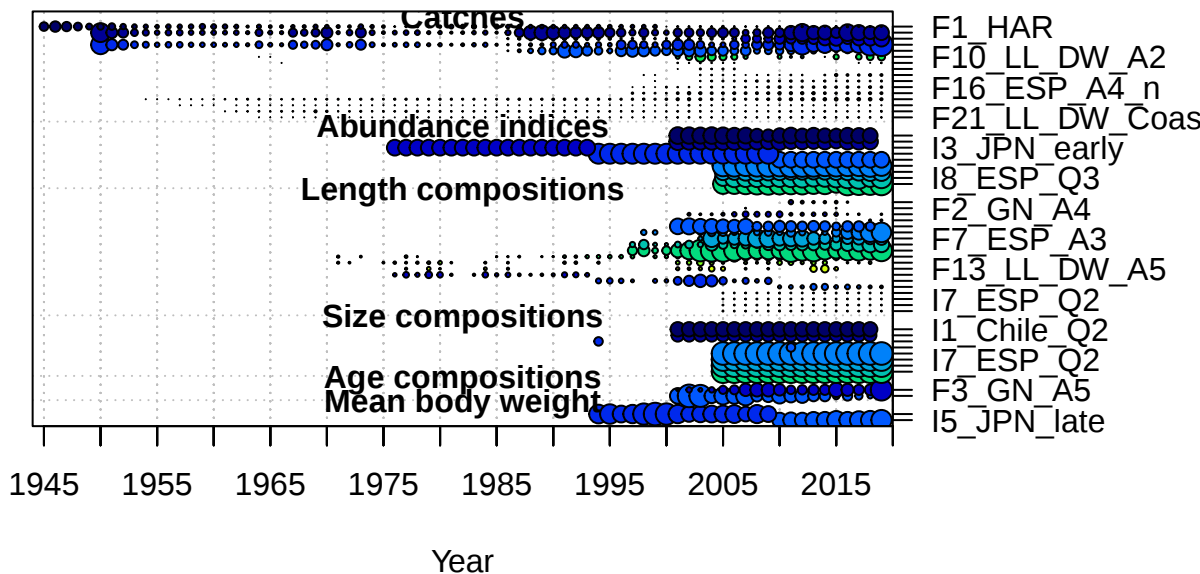


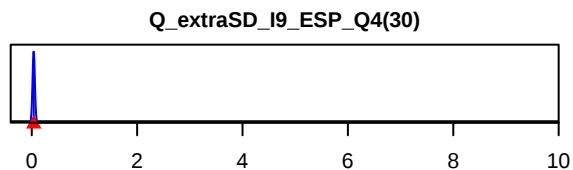
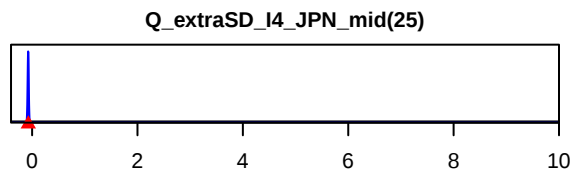
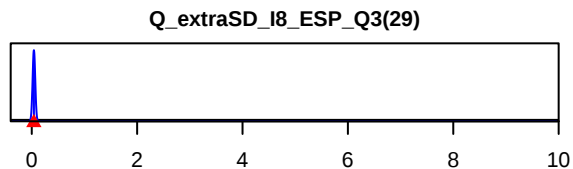
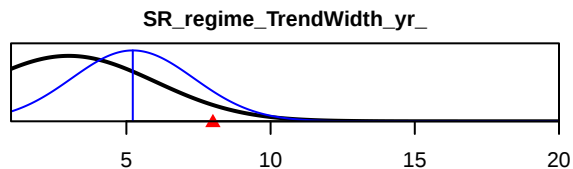
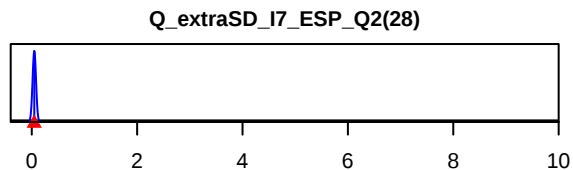
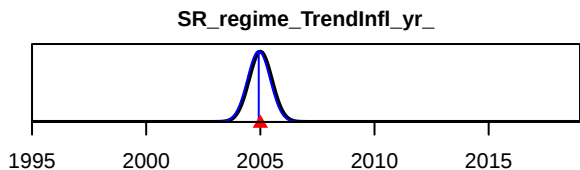
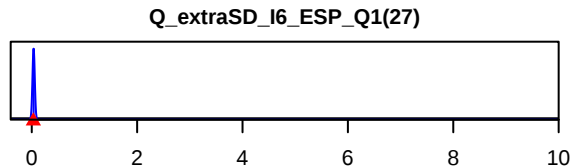
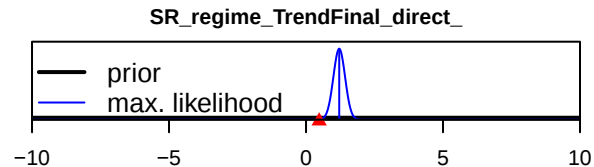






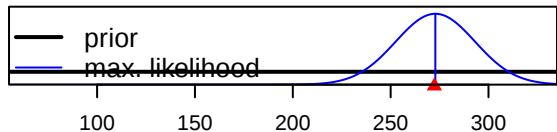




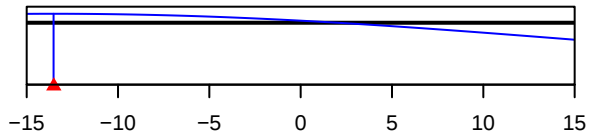


Parameter value

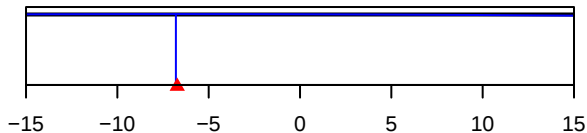
Size_DbIN_peak_F1_HAR(1)



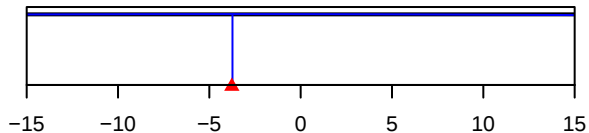
Size_DbIN_start_logit_F1_HAR(1)



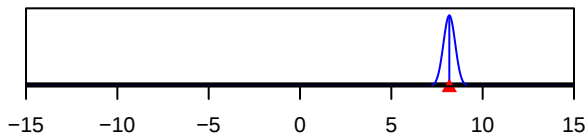
Size_DbIN_top_logit_F1_HAR(1)



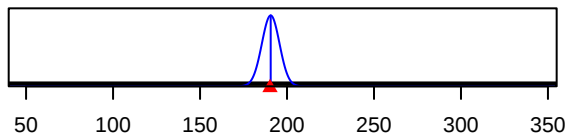
Size_DbIN_end_logit_F1_HAR(1)



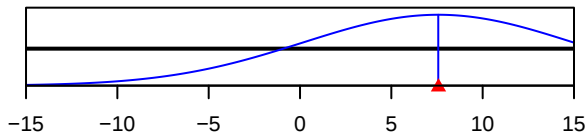
Size_DbIN_ascend_se_F1_HAR(1)



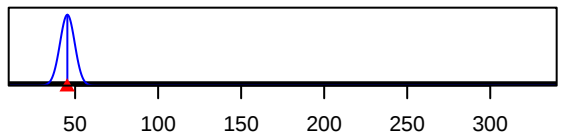
Size_inflection_F2_GN_A4(2)



Size_DbIN_descend_se_F1_HAR(1)

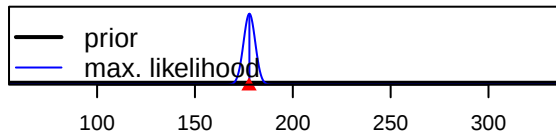


Size_95%width_F2_GN_A4(2)

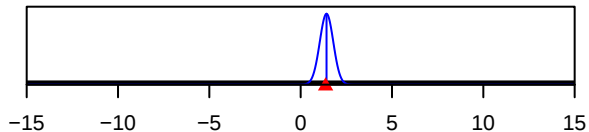


Parameter value

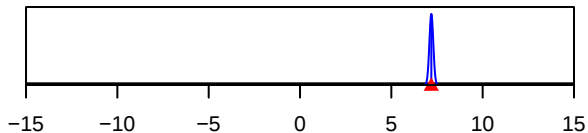
Size_DbIN_peak_F4_LL_Coast_A4(4)



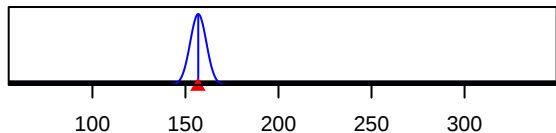
Size_DbIN_end_logit_F4_LL_Coast_A4(4)



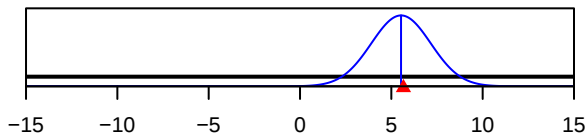
Size_DbIN_ascend_se_F4_LL_Coast_A4(4)



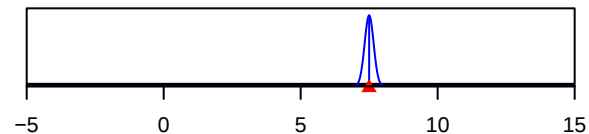
Size_DbIN_peak_F6_ESP_A2(6)



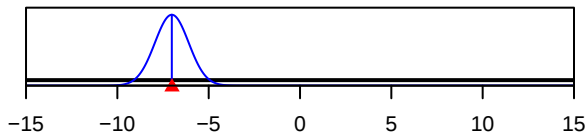
Size_DbIN_descend_se_F4_LL_Coast_A4(4)



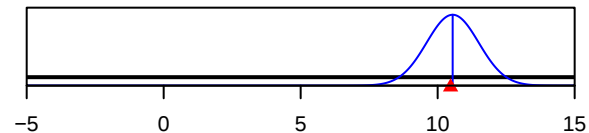
Size_DbIN_ascend_se_F6_ESP_A2(6)



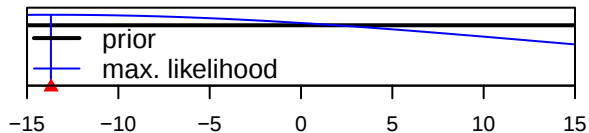
Size_DbIN_start_logit_F4_LL_Coast_A4(4)



Size_DbIN_descend_se_F6_ESP_A2(6)



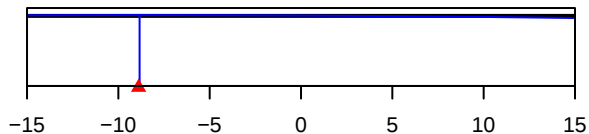
Size_DbIN_start_logit_F6_ESP_A2(6)



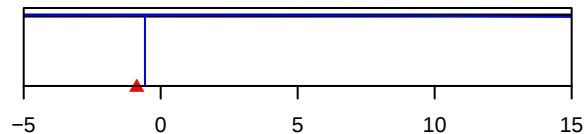
Size_DbIN_ascend_se_F7_ESP_A3(7)



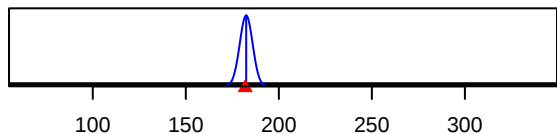
Size_DbIN_end_logit_F6_ESP_A2(6)



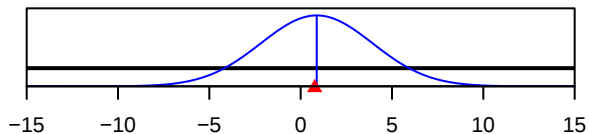
Size_DbIN_descend_se_F7_ESP_A3(7)



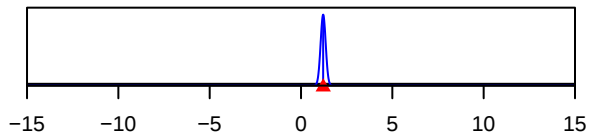
Size_DbIN_peak_F7_ESP_A3(7)



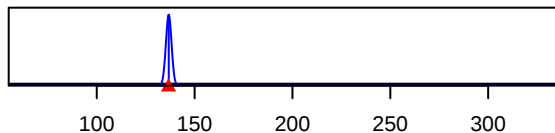
Size_DbIN_end_logit_F7_ESP_A3(7)

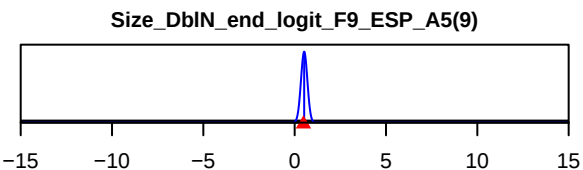
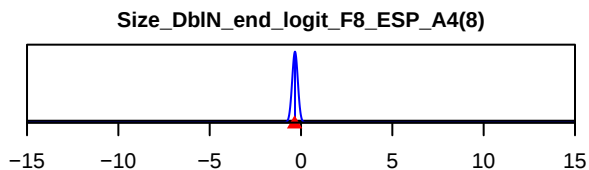
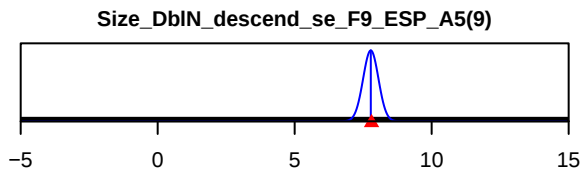
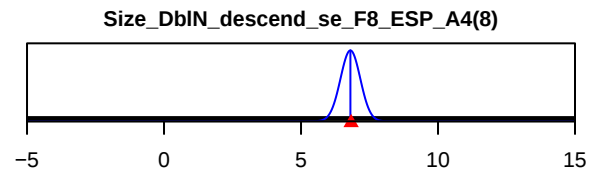
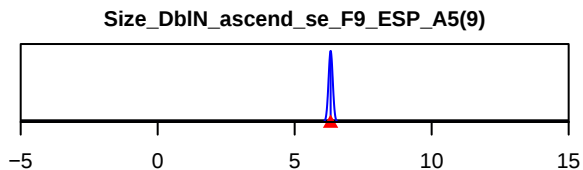
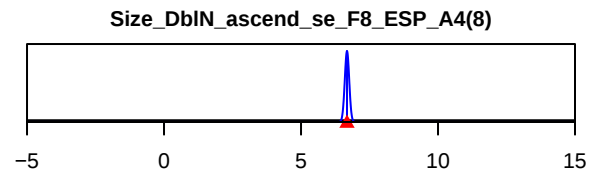
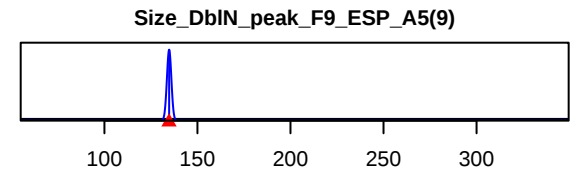
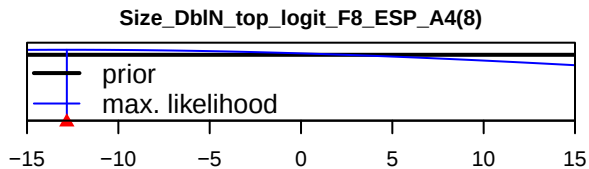


Size_DbIN_top_logit_F7_ESP_A3(7)

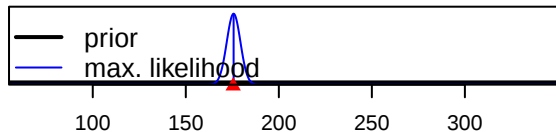


Size_DbIN_peak_F8_ESP_A4(8)

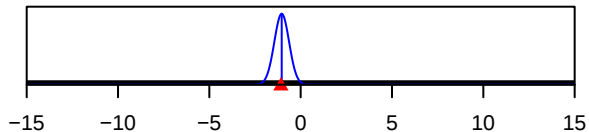




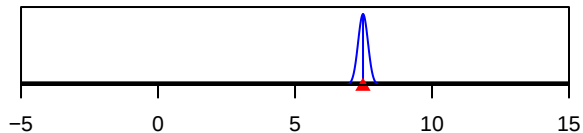
Size_DblN_peak_F10_LL_DW_A2(10)



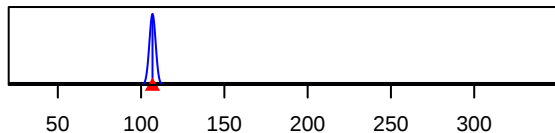
Size_DblN_end_logit_F10_LL_DW_A2(10)



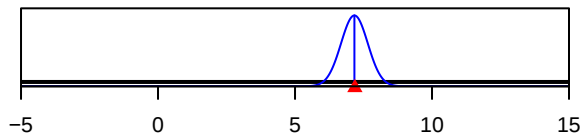
Size_DblN_ascend_se_F10_LL_DW_A2(10)



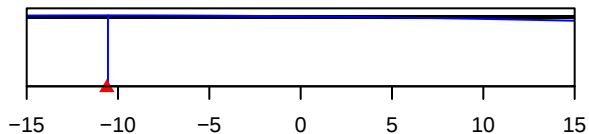
Size_DblN_peak_F12_LL_DW_A4(12)



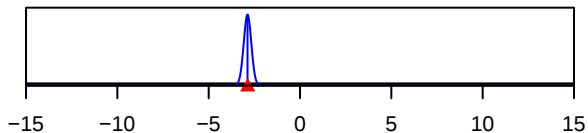
Size_DblN_descend_se_F10_LL_DW_A2(10)



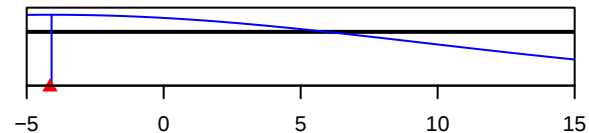
Size_DblN_top_logit_F12_LL_DW_A4(12)



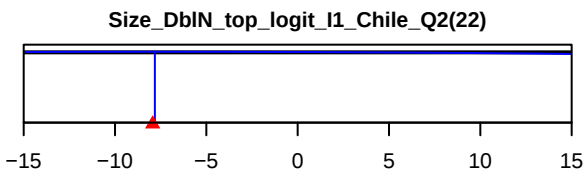
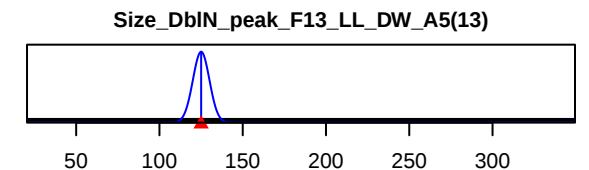
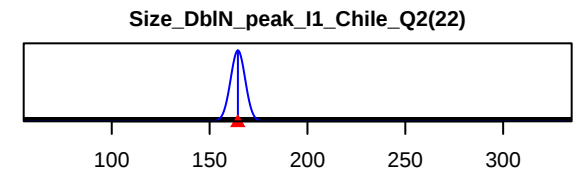
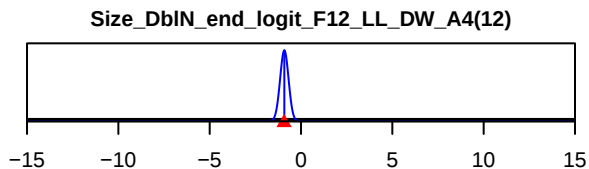
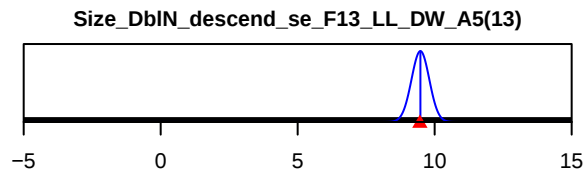
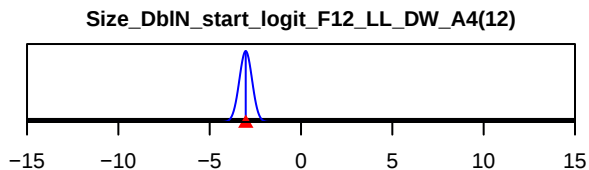
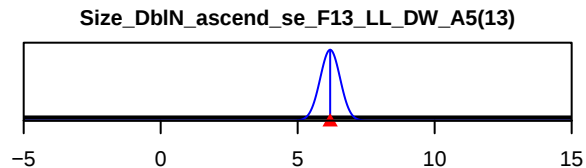
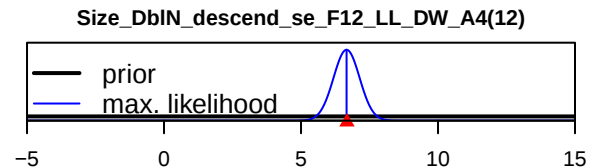
Size_DblN_start_logit_F10_LL_DW_A2(10)



Size_DblN_ascend_se_F12_LL_DW_A4(12)

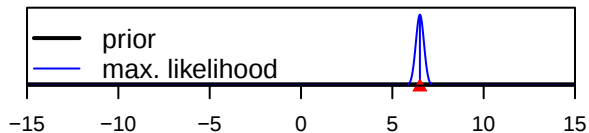


Parameter value

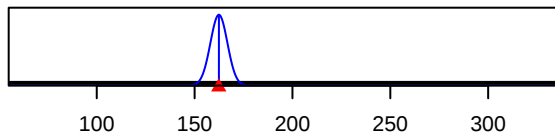


Parameter value

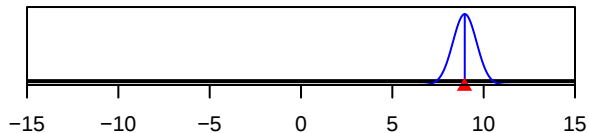
Size_DbIN_ascend_se_I1_Chile_Q2(22)



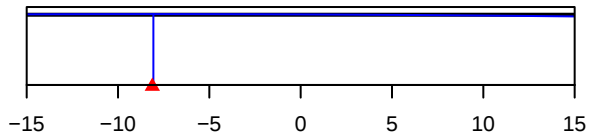
Size_DbIN_peak_I2_Chile_Q3(23)



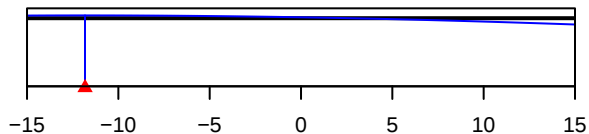
Size_DbIN_descend_se_I1_Chile_Q2(22)



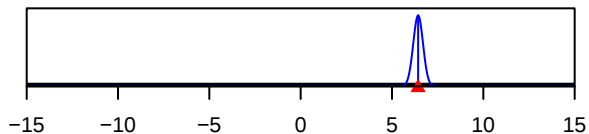
Size_DbIN_top_logit_I2_Chile_Q3(23)



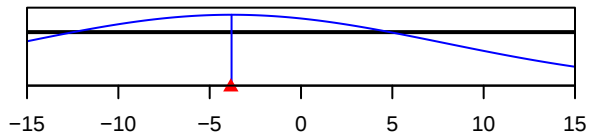
Size_DbIN_start_logit_I1_Chile_Q2(22)



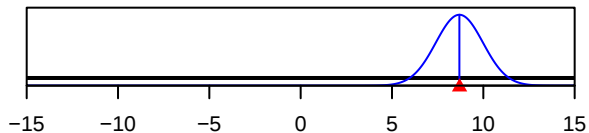
Size_DbIN_ascend_se_I2_Chile_Q3(23)

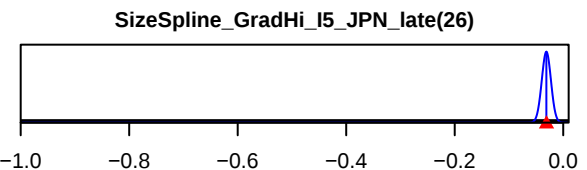
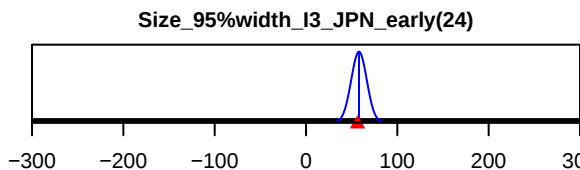
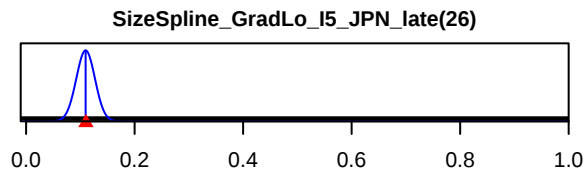
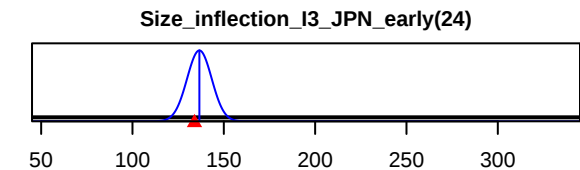
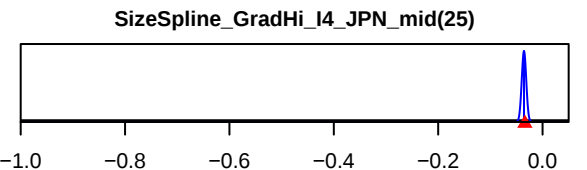
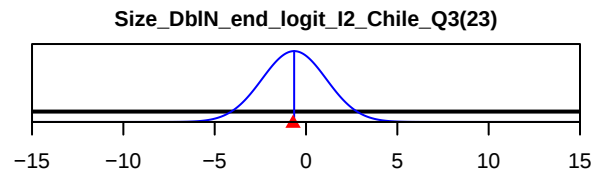
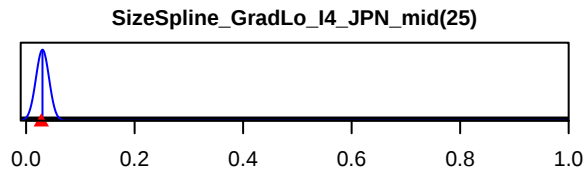
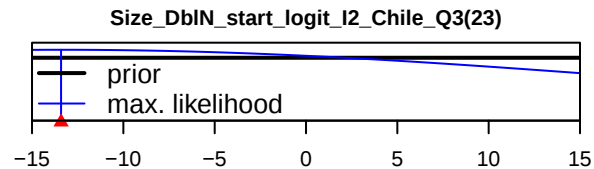


Size_DbIN_end_logit_I1_Chile_Q2(22)



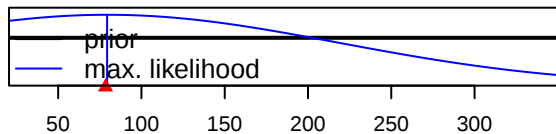
Size_DbIN_descend_se_I2_Chile_Q3(23)



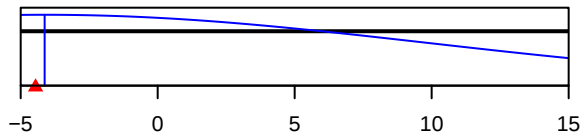


Parameter value

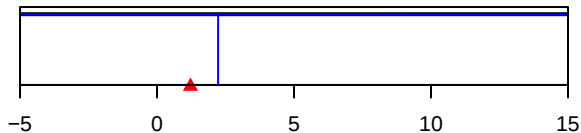
Size_DbIN_peak_I6_ESP_Q1(27)



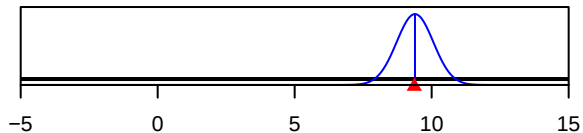
Size_DbIN_ascend_se_I7_ESP_Q2(28)



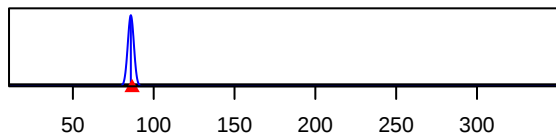
Size_DbIN_ascend_se_I6_ESP_Q1(27)



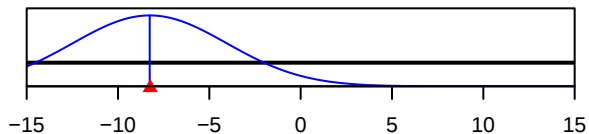
Size_DbIN_descend_se_I7_ESP_Q2(28)



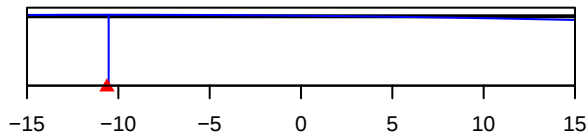
Size_DbIN_peak_I7_ESP_Q2(28)



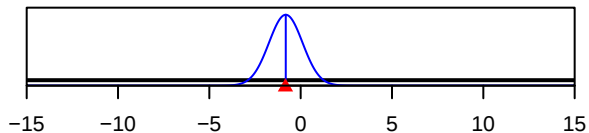
Size_DbIN_start_logit_I7_ESP_Q2(28)



Size_DbIN_top_logit_I7_ESP_Q2(28)

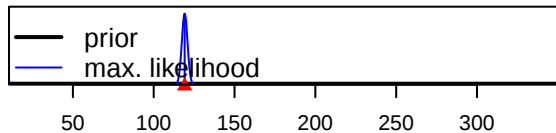


Size_DbIN_end_logit_I7_ESP_Q2(28)

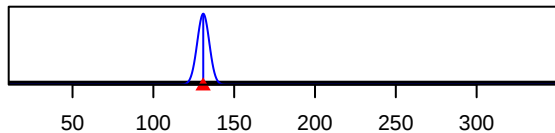


Parameter value

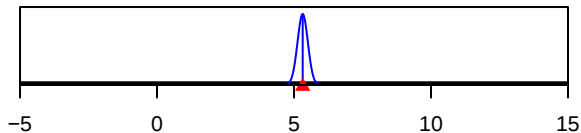
Size_DbIN_peak_I8_ESP_Q3(29)



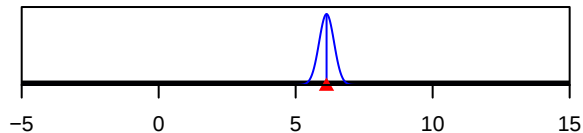
Size_DbIN_peak_I9_ESP_Q4(30)



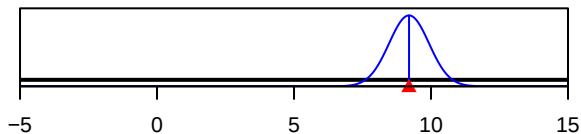
Size_DbIN_ascend_se_I8_ESP_Q3(29)



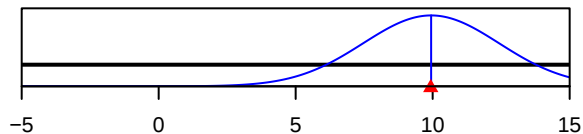
Size_DbIN_ascend_se_I9_ESP_Q4(30)



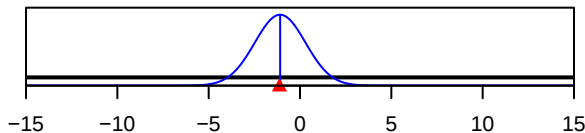
Size_DbIN_descend_se_I8_ESP_Q3(29)



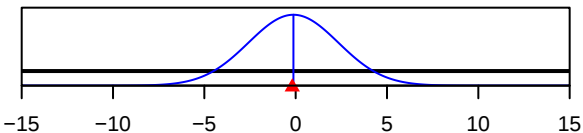
Size_DbIN_descend_se_I9_ESP_Q4(30)



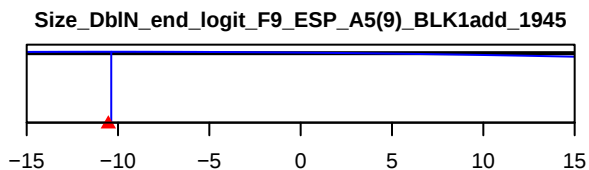
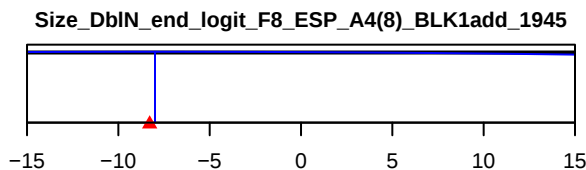
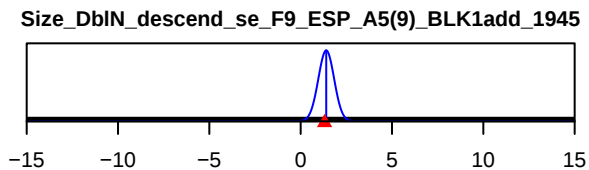
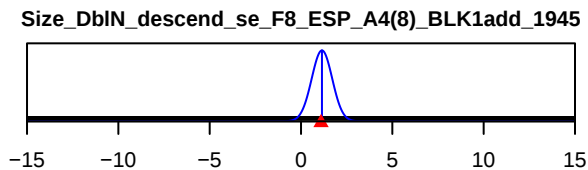
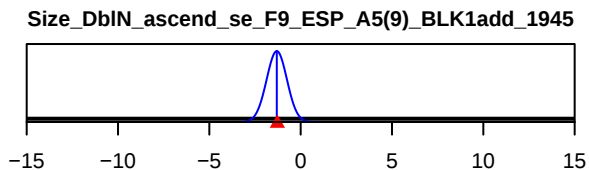
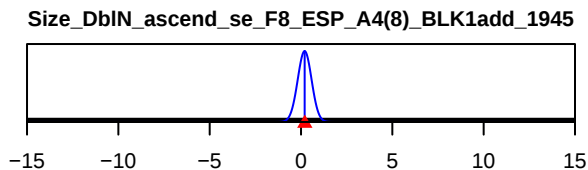
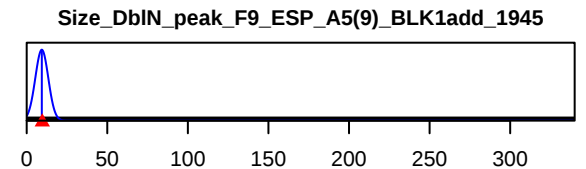
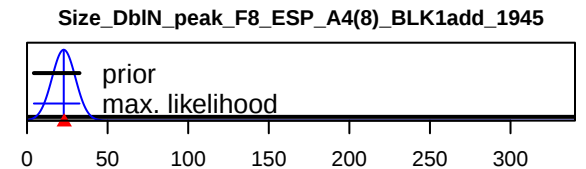
Size_DbIN_end_logit_I8_ESP_Q3(29)



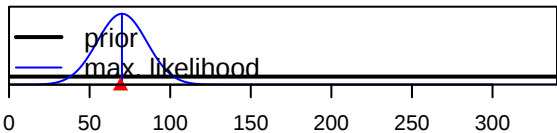
Size_DbIN_end_logit_I9_ESP_Q4(30)



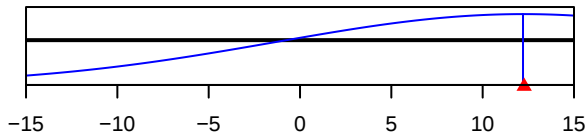
Parameter value



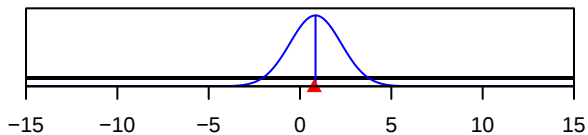
Size_DblN_peak_F12_LL_DW_A4(12)_BLK1delta_1945



Size_DblN_ascend_se_F12_LL_DW_A4(12)_BLK1delta_1945



Size_DblN_descend_se_F12_LL_DW_A4(12)_BLK1delta_1945



Parameter value