

Plots created using the 'r4ss' package in R

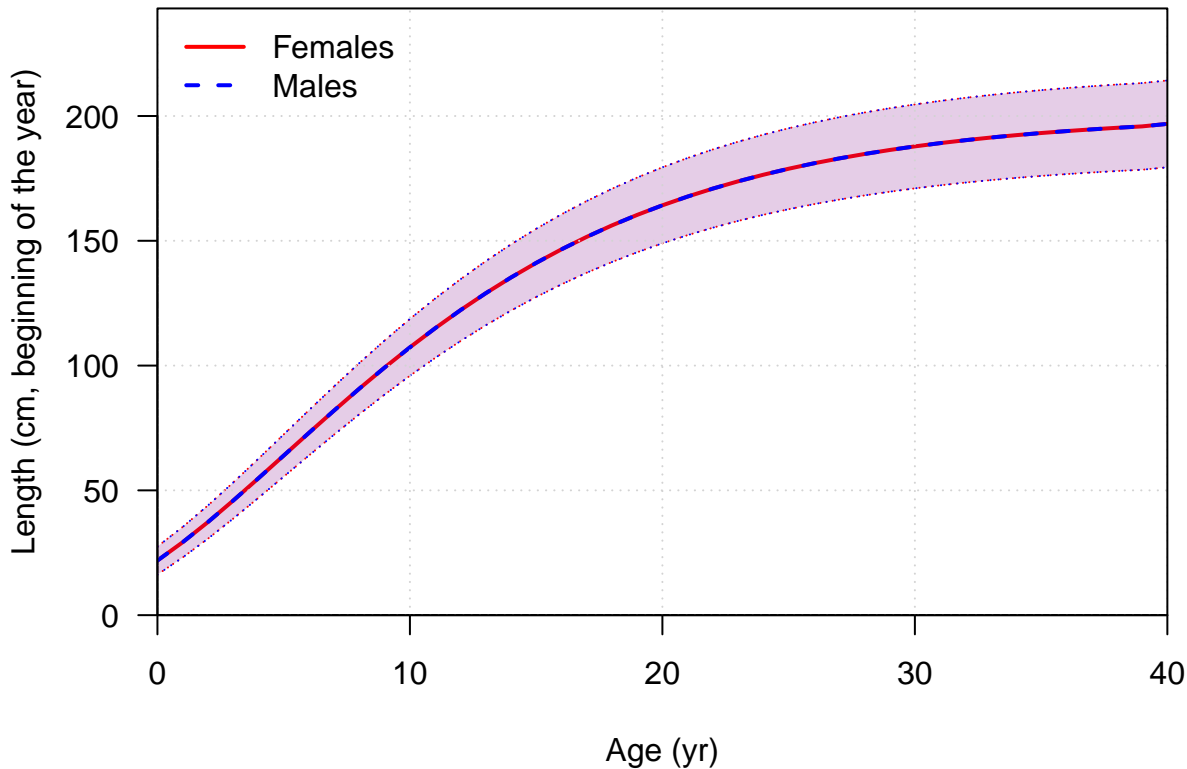
Stock Synthesis version: 3.30.15.0

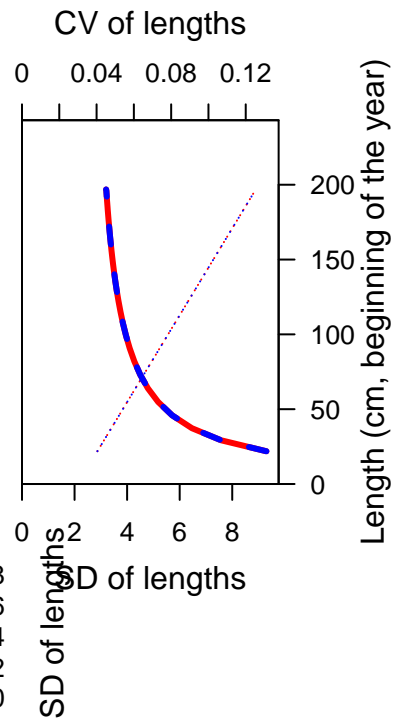
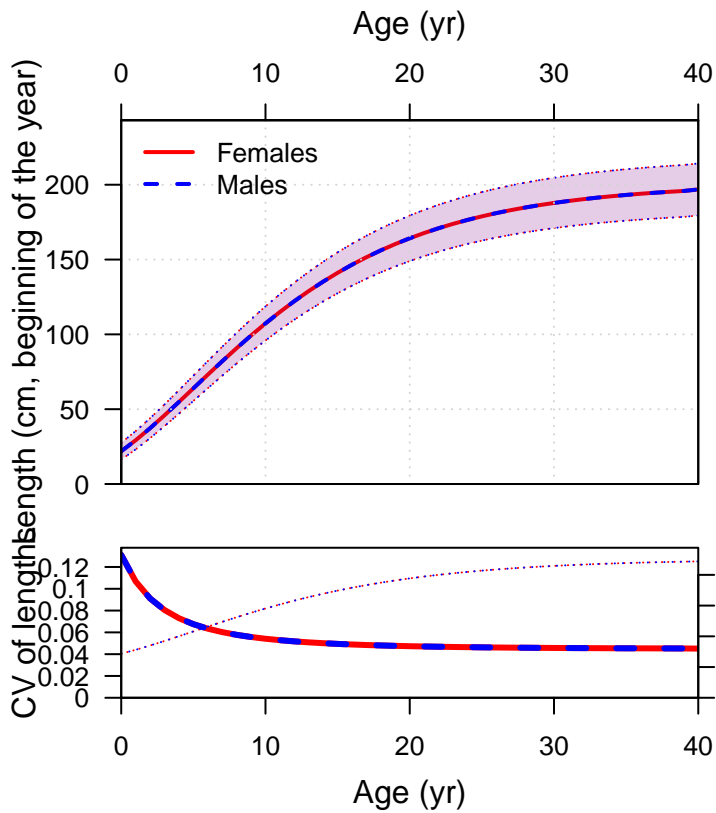
StartTime: Fri May 22 14:11:58 2020

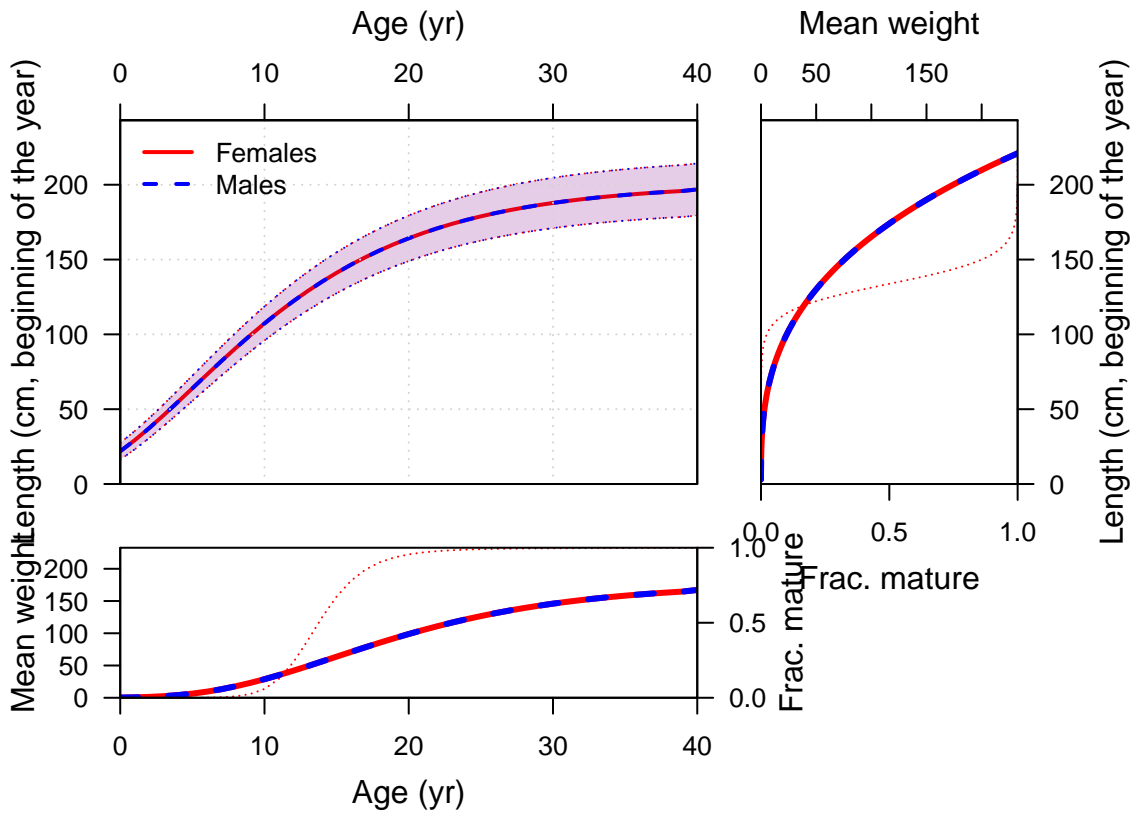
Data\_File: BET-EPO.dat

Control\_File: BET-EPO.ctl

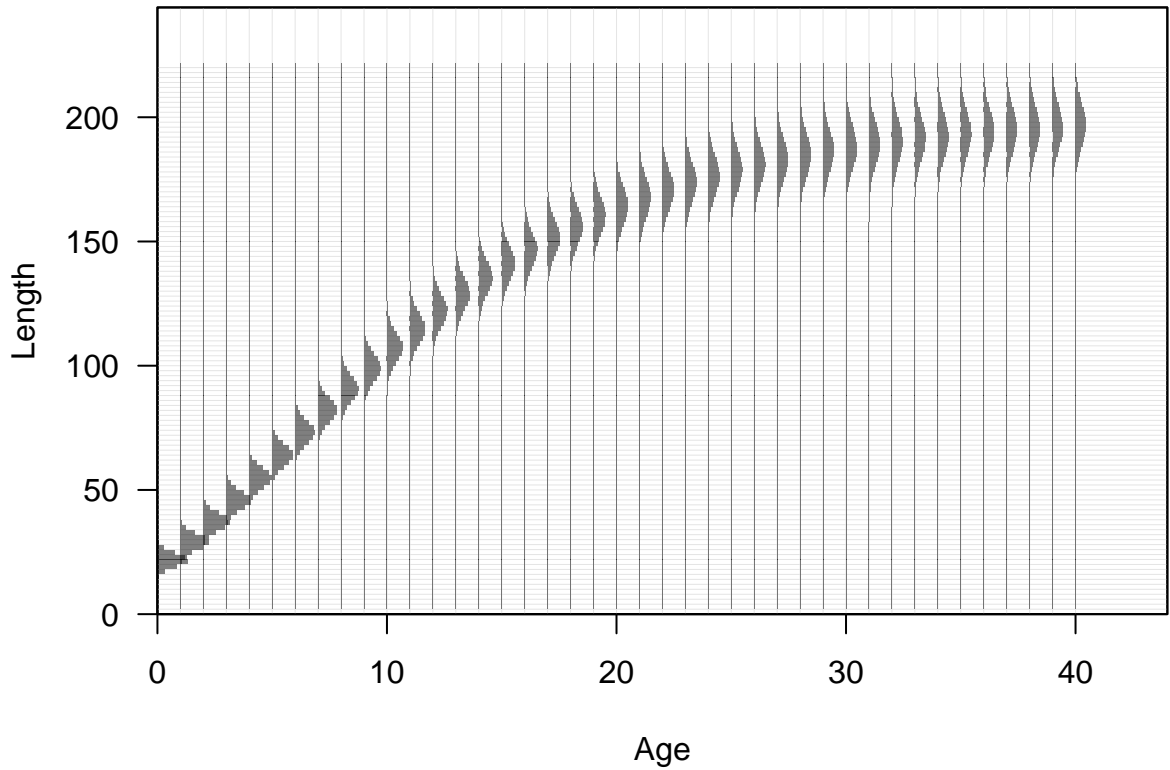
## Ending year expected growth (with 95% intervals)

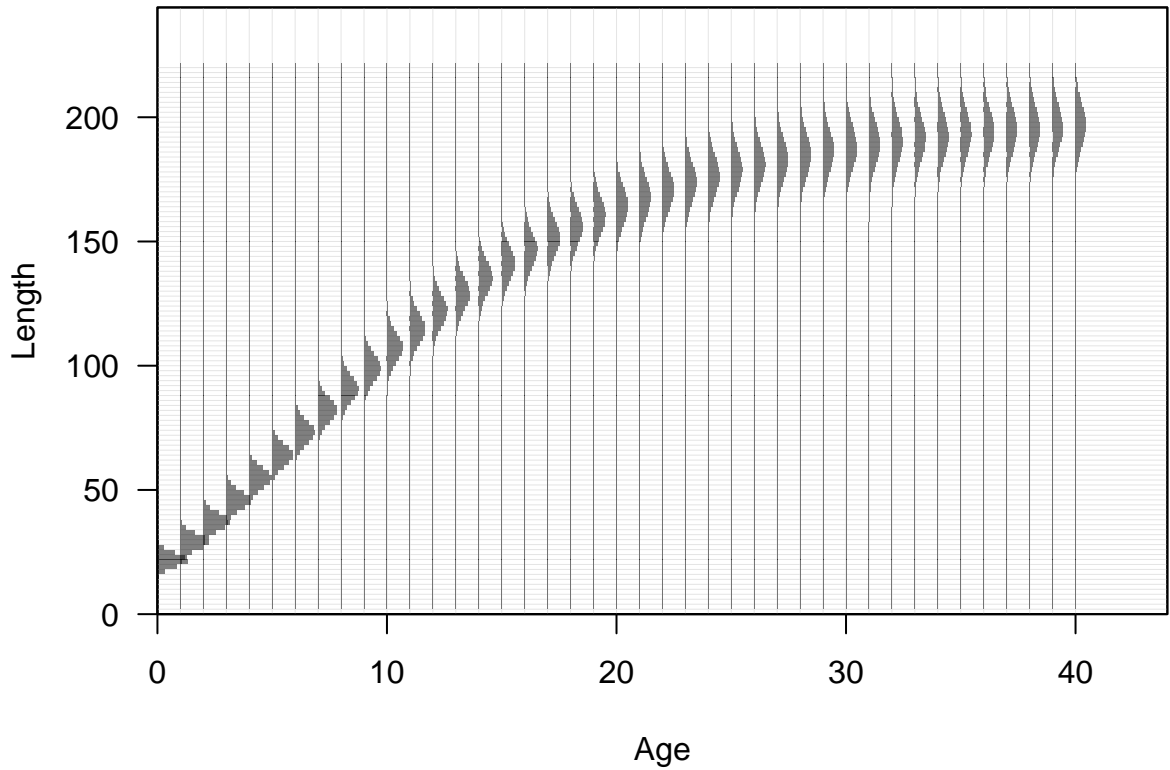


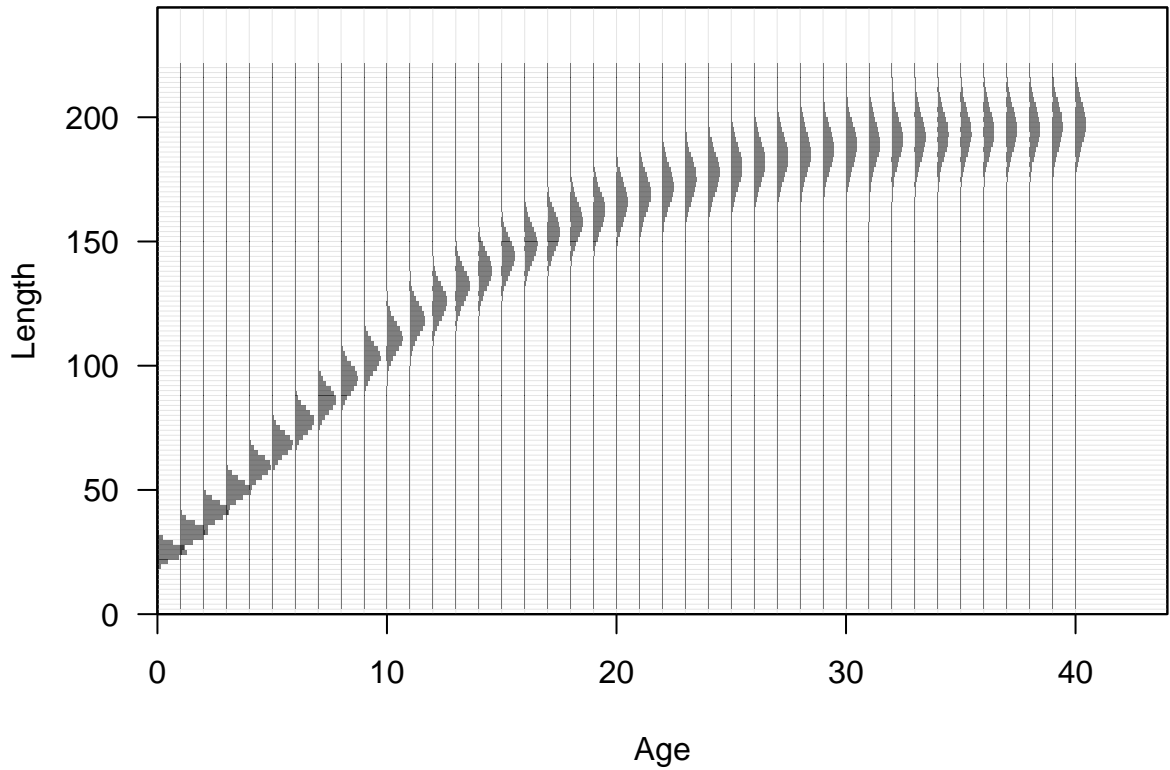


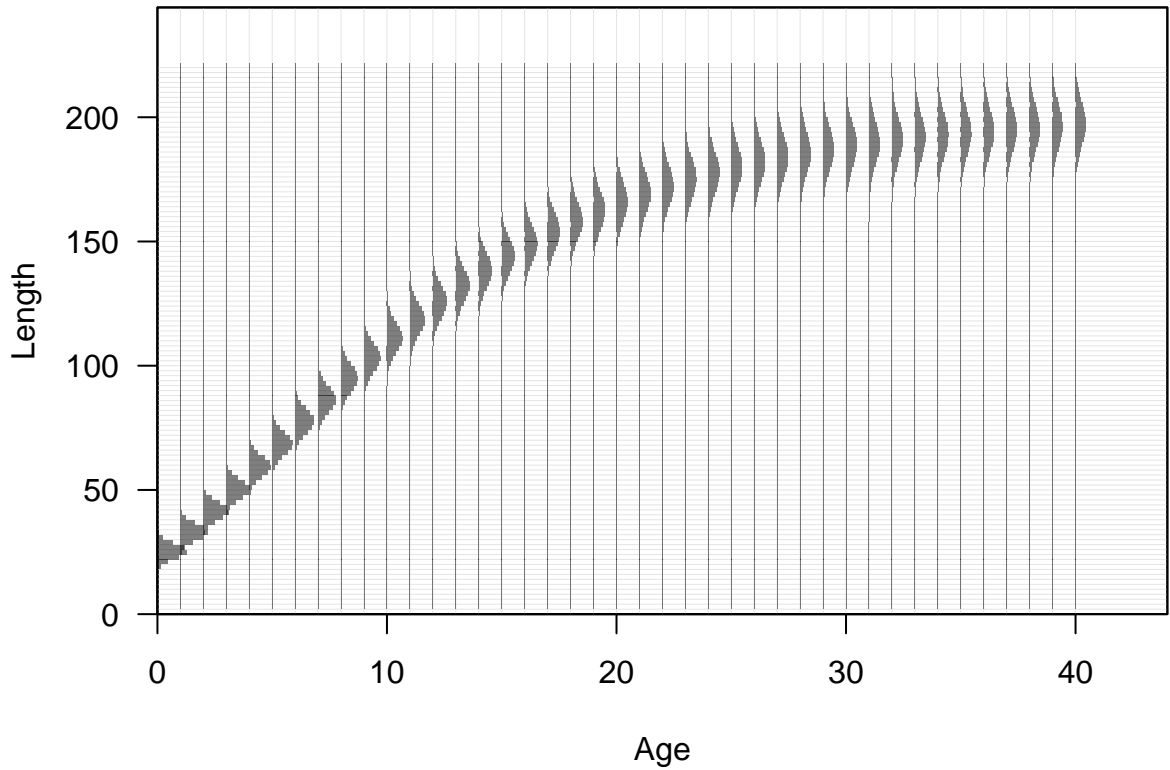


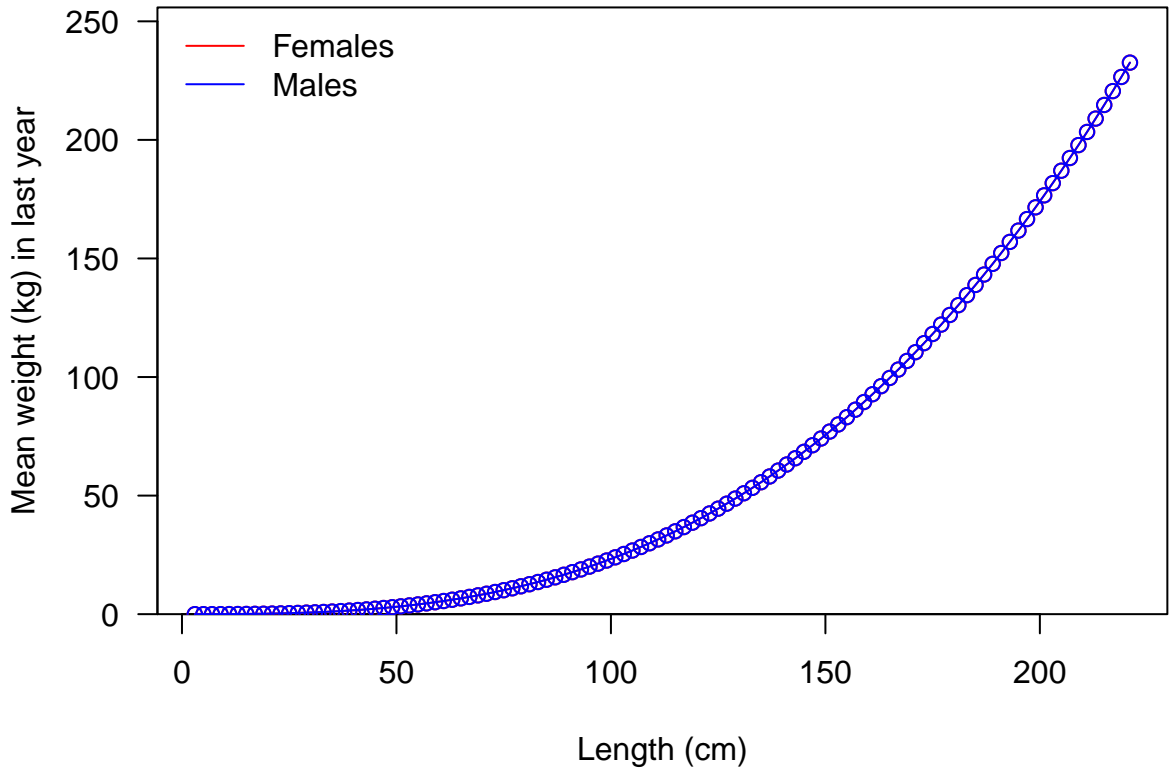


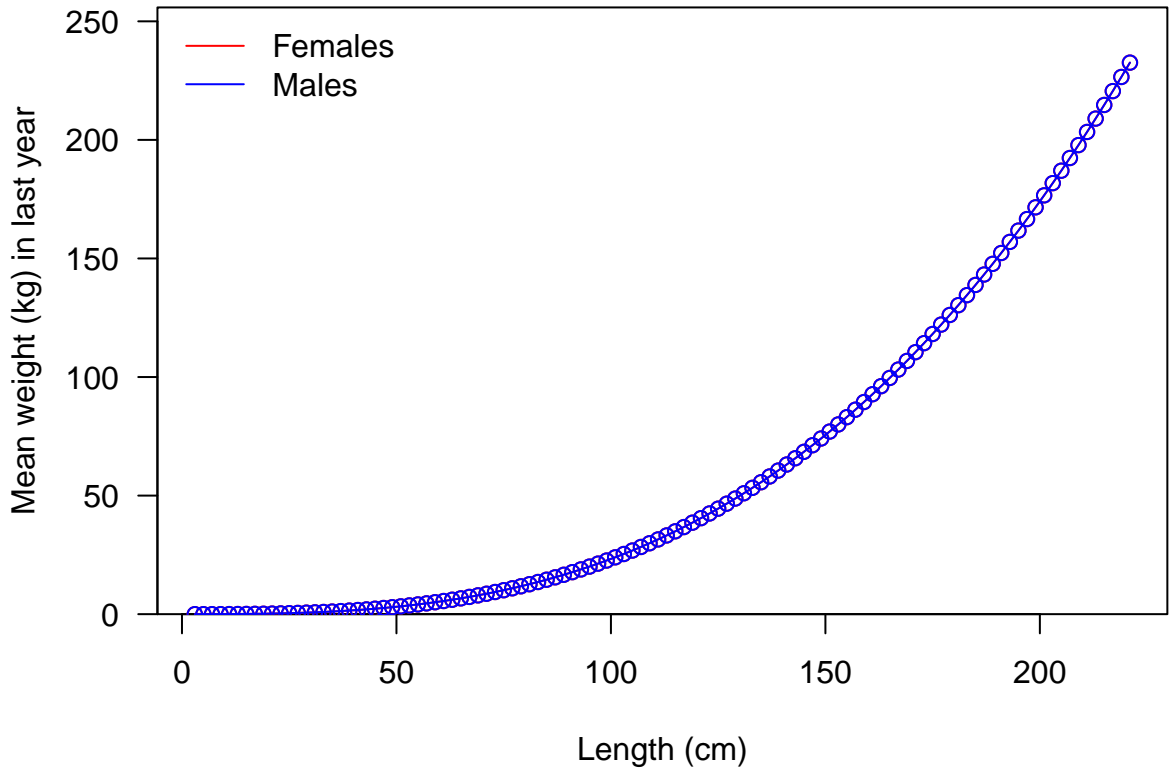


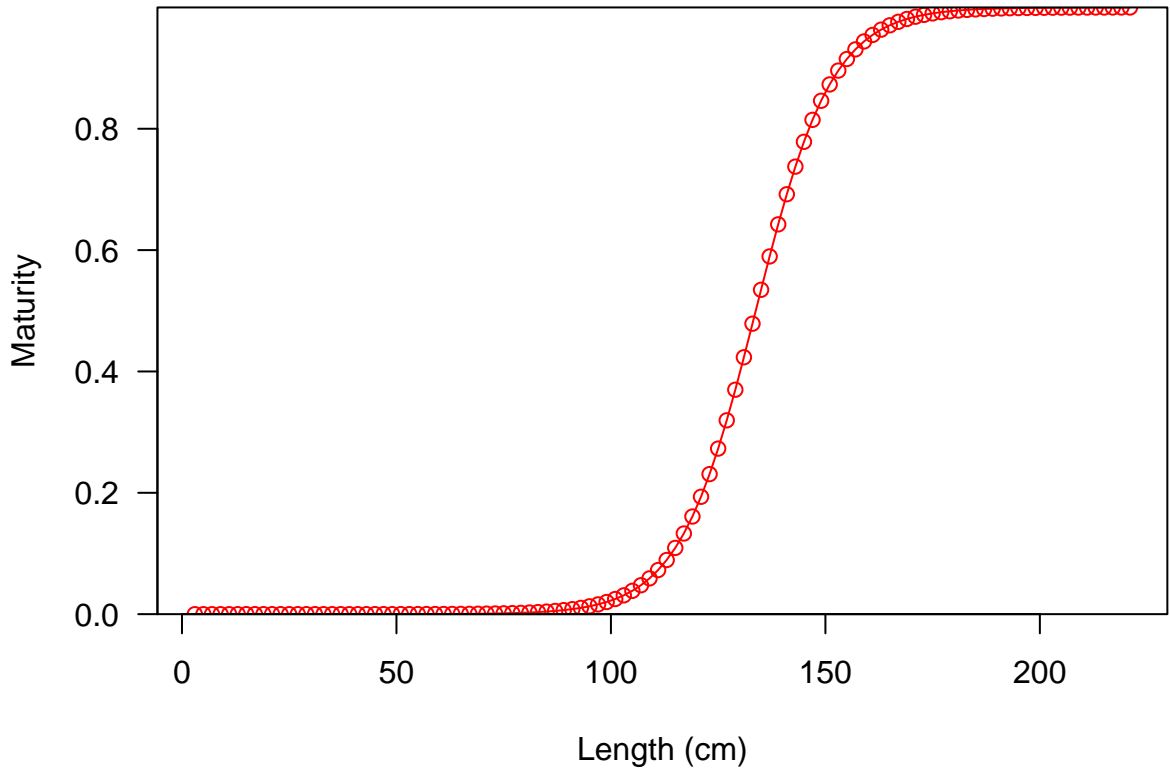


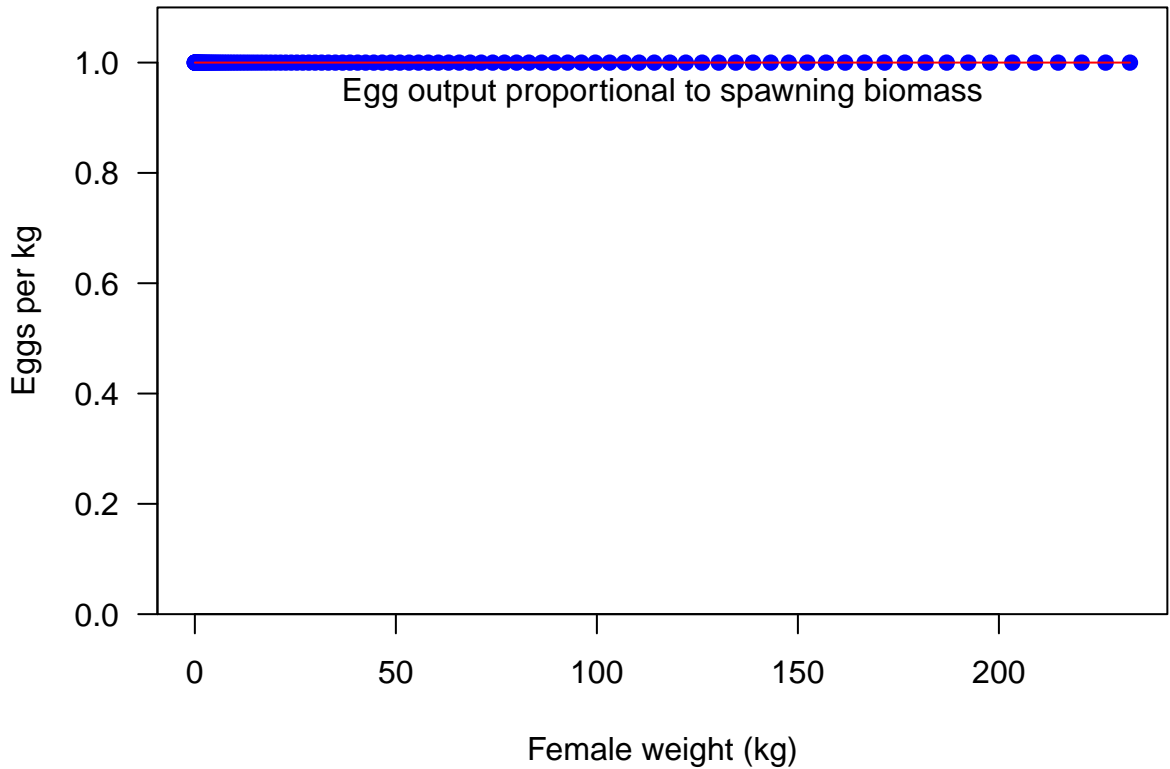




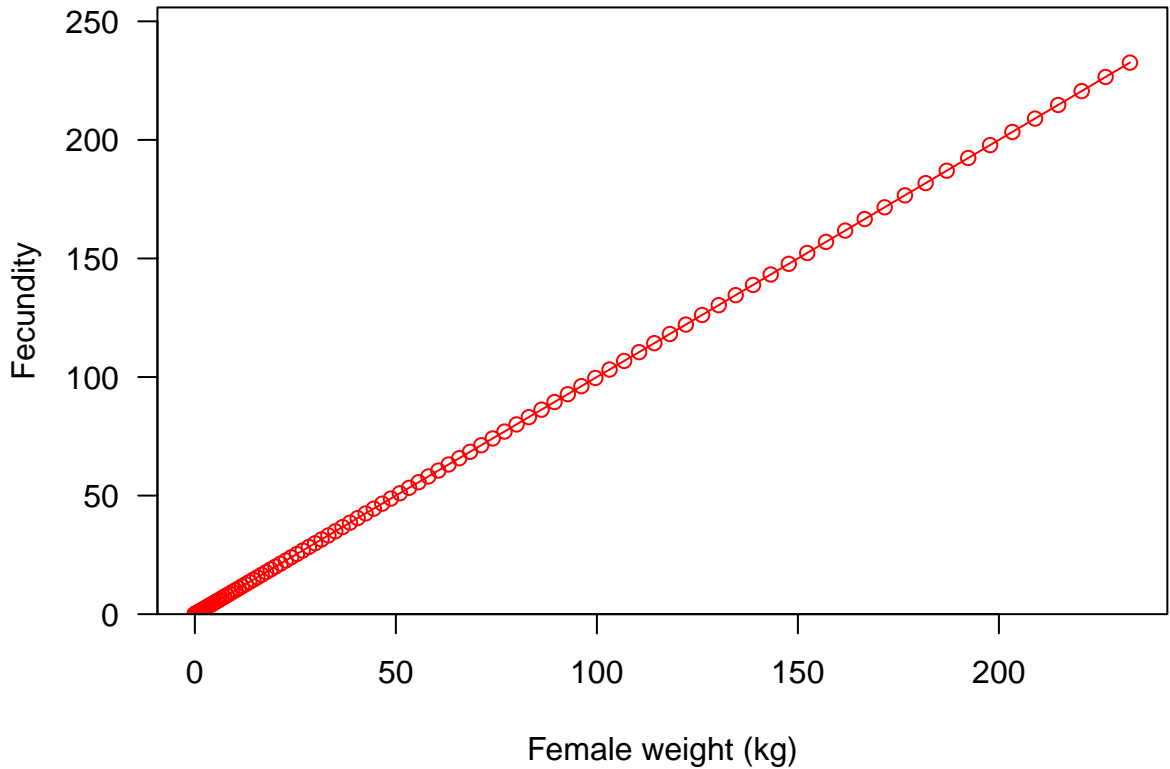


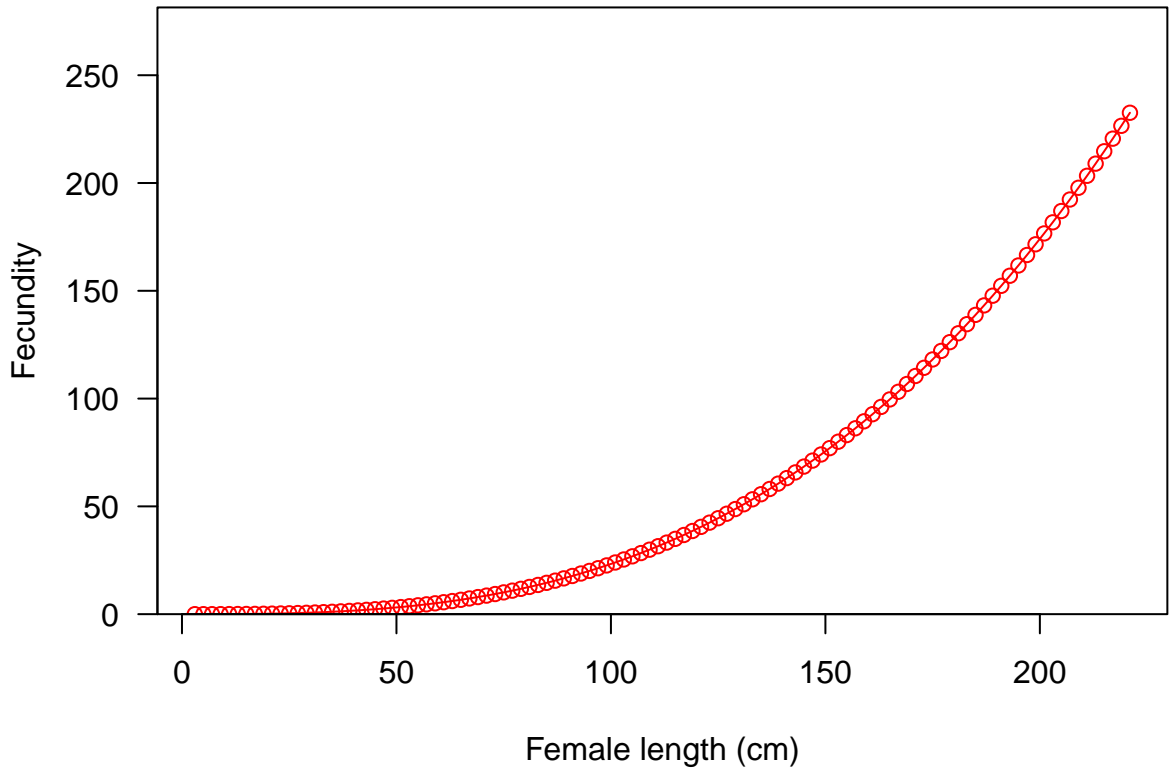


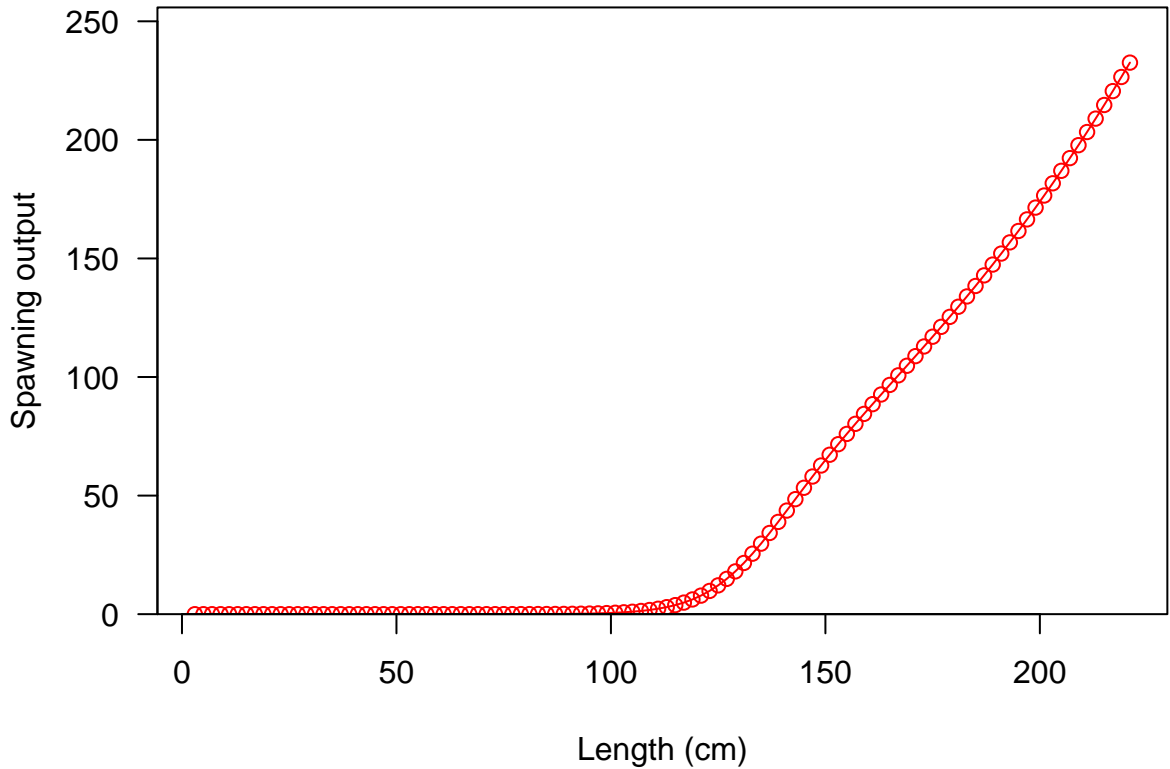


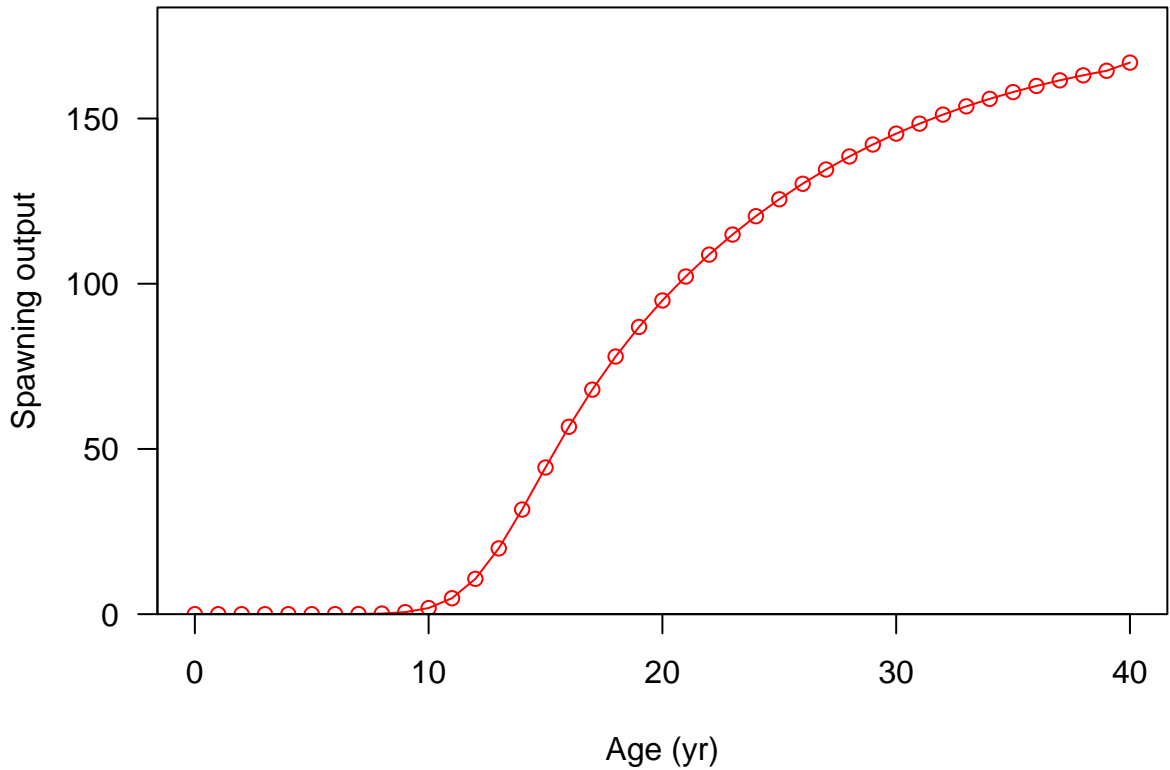


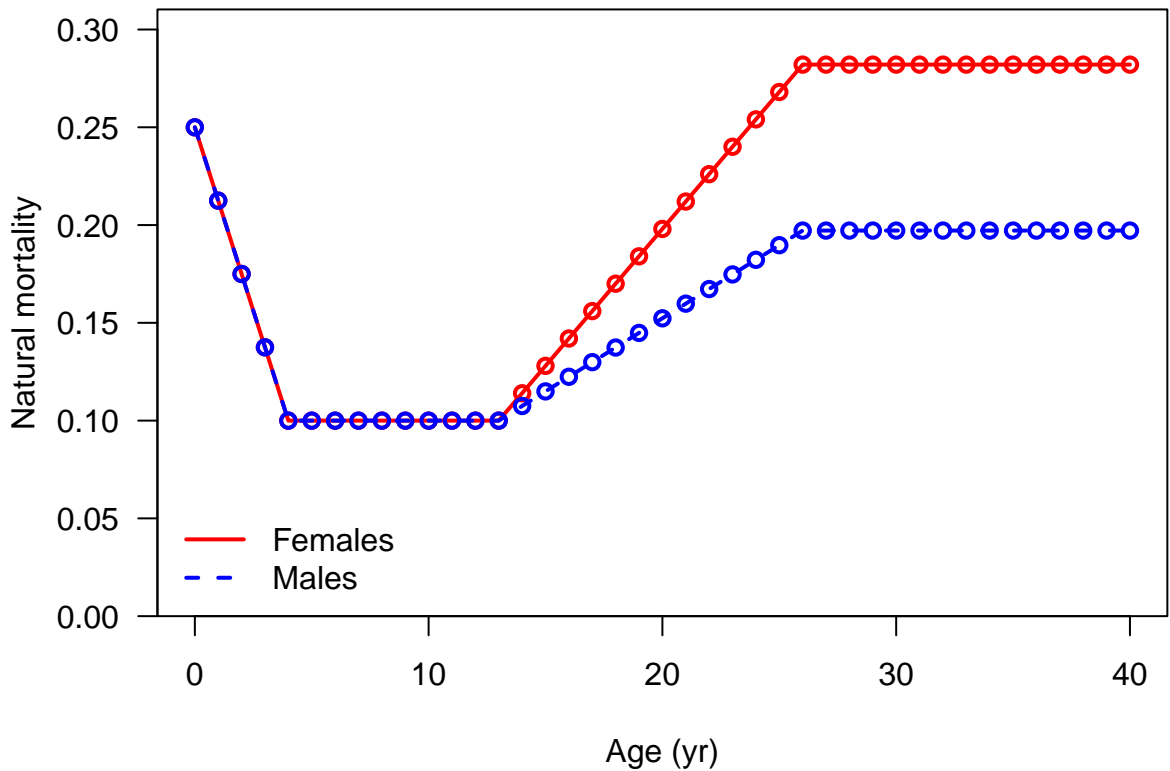




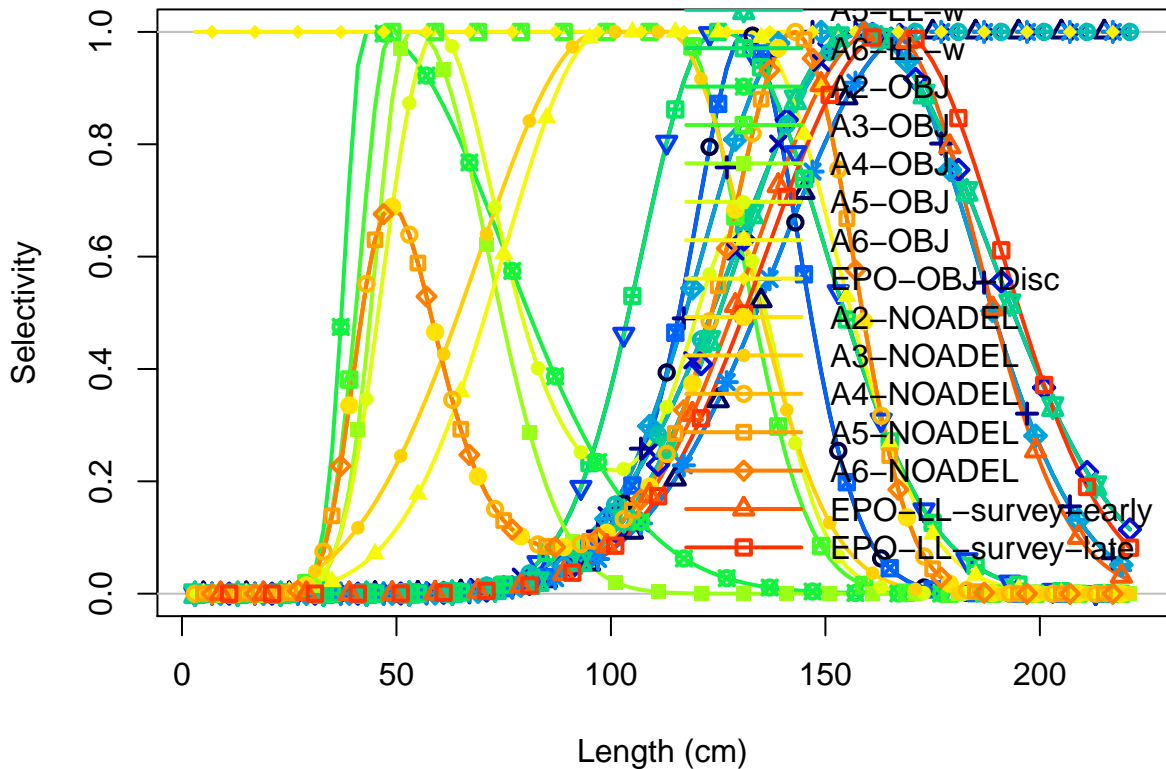






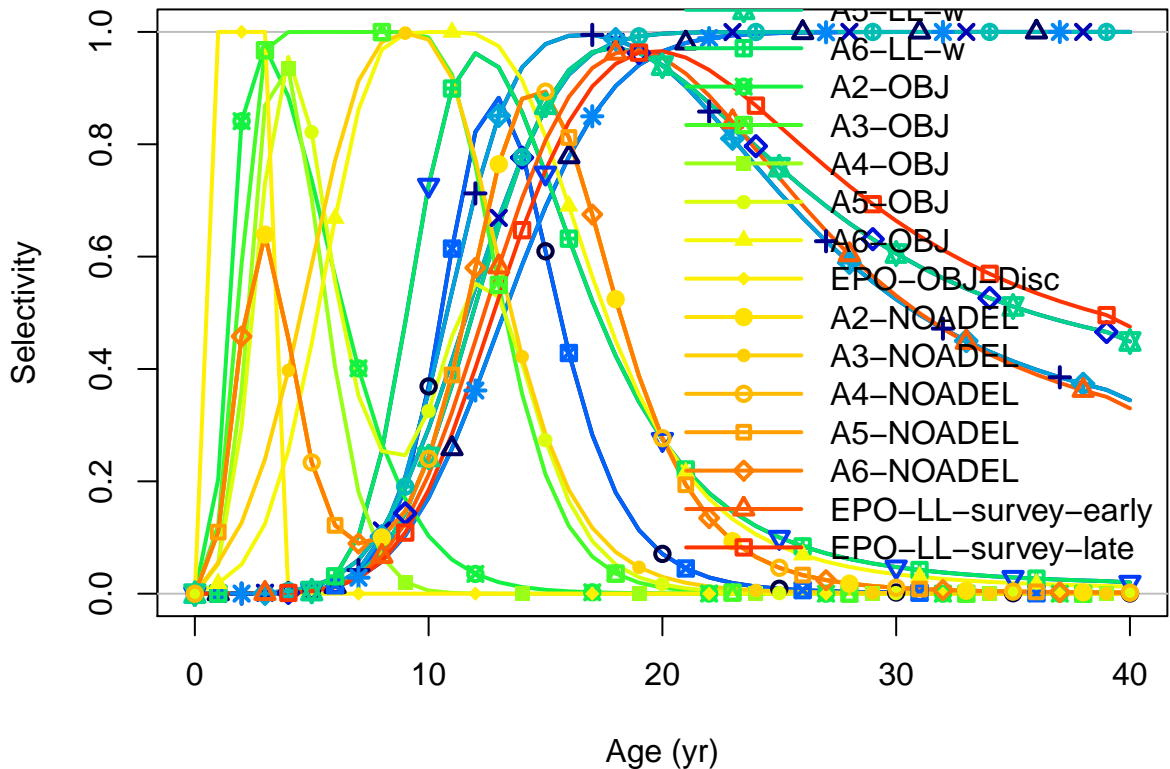


## Length-based selectivity by fleet in 180



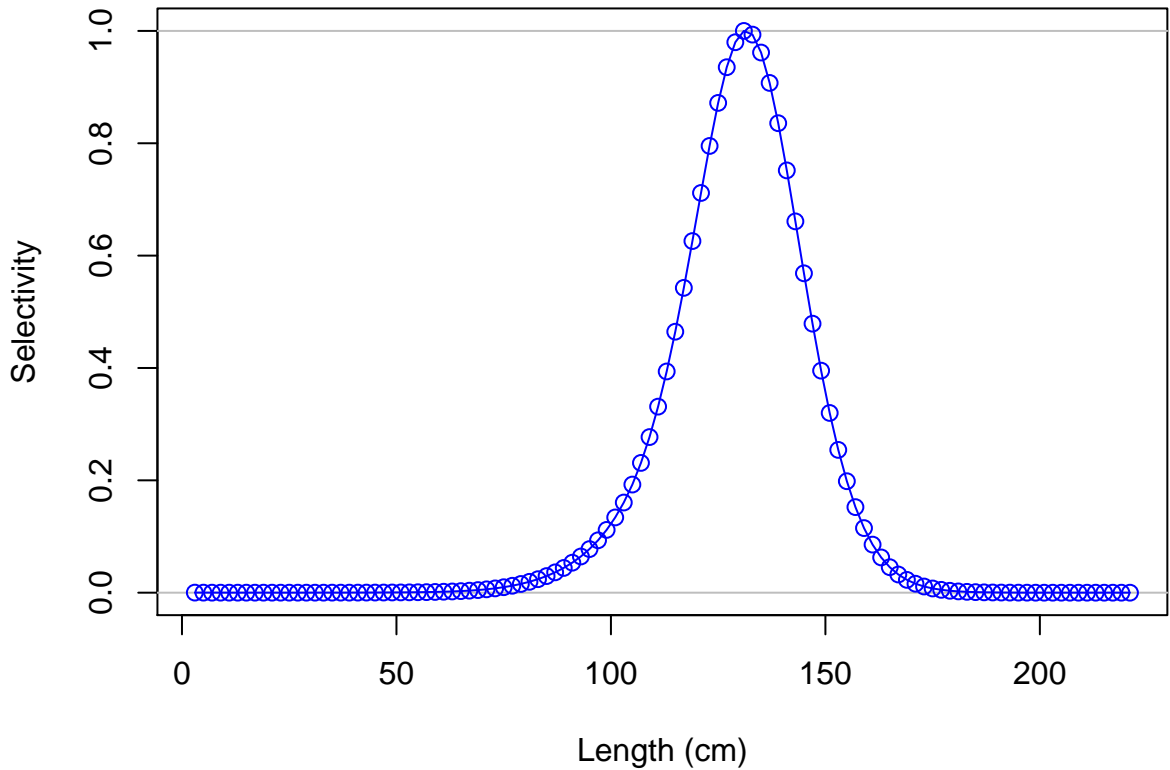


# Derived age-based from length-based selectivity by fleet in 180

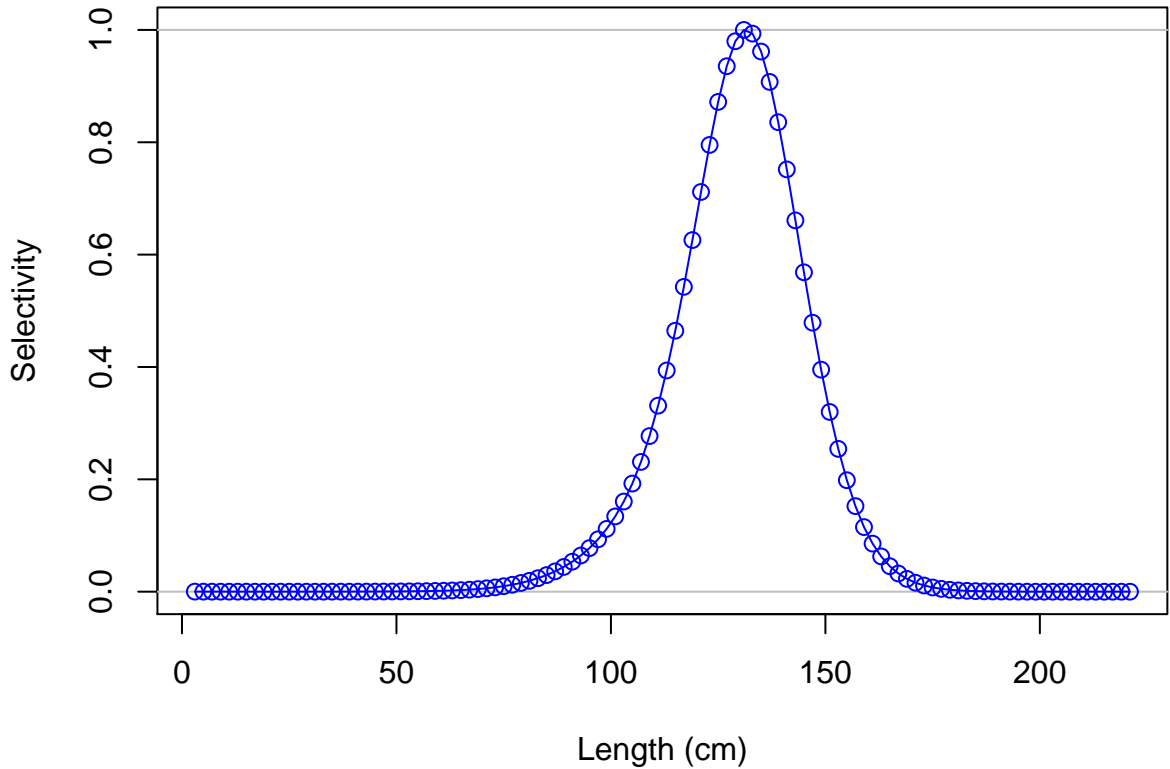




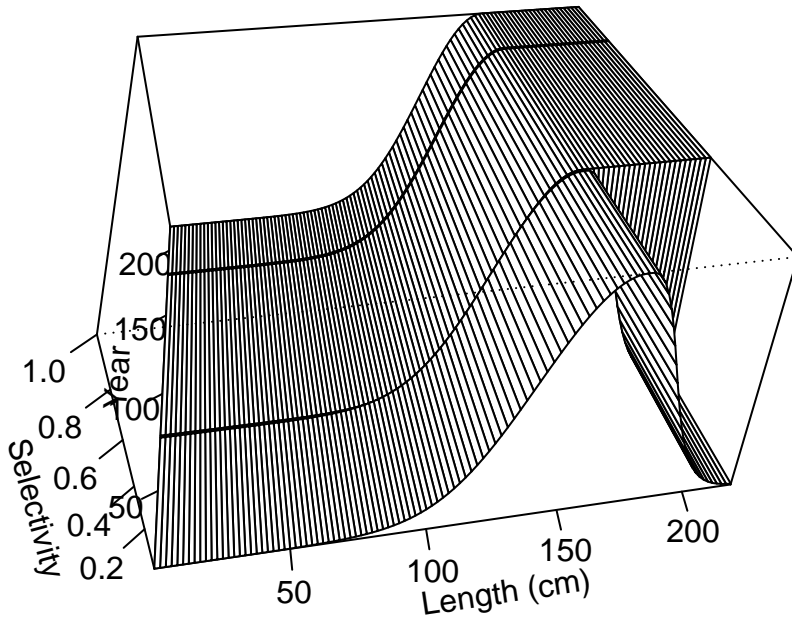
# Female ending year selectivity for A1-LL-n



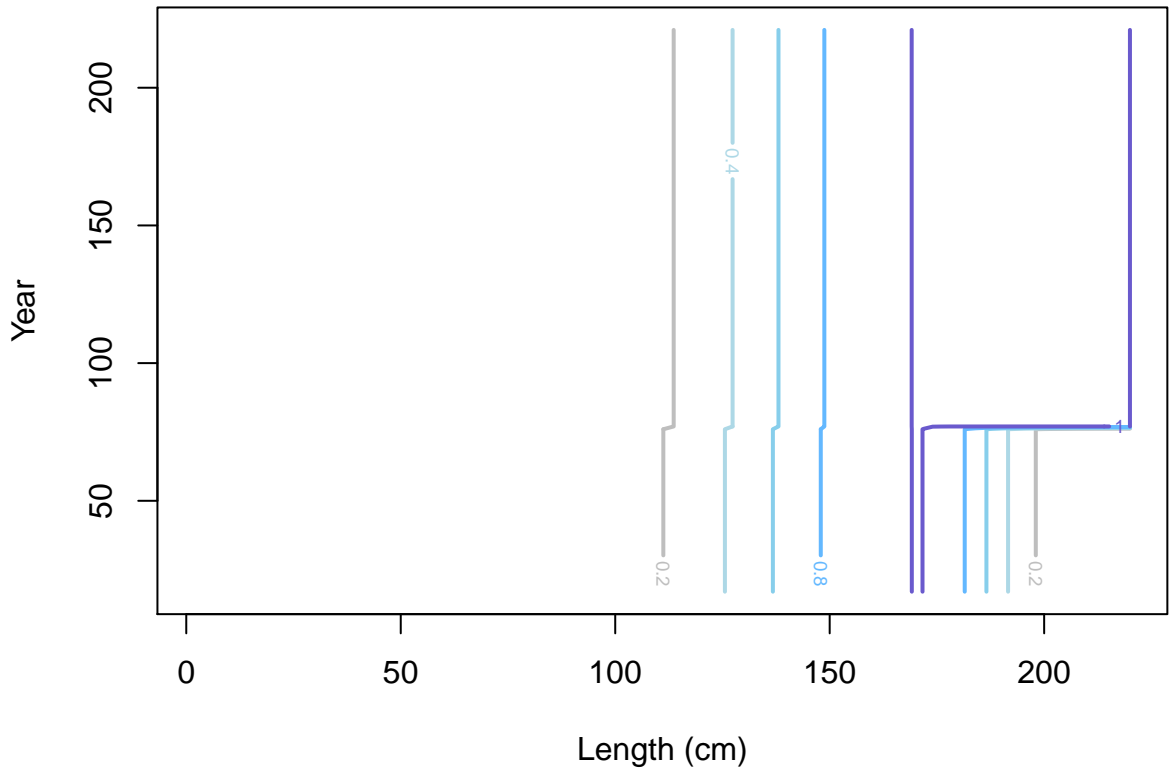
# Male ending year selectivity for A1-LL-n



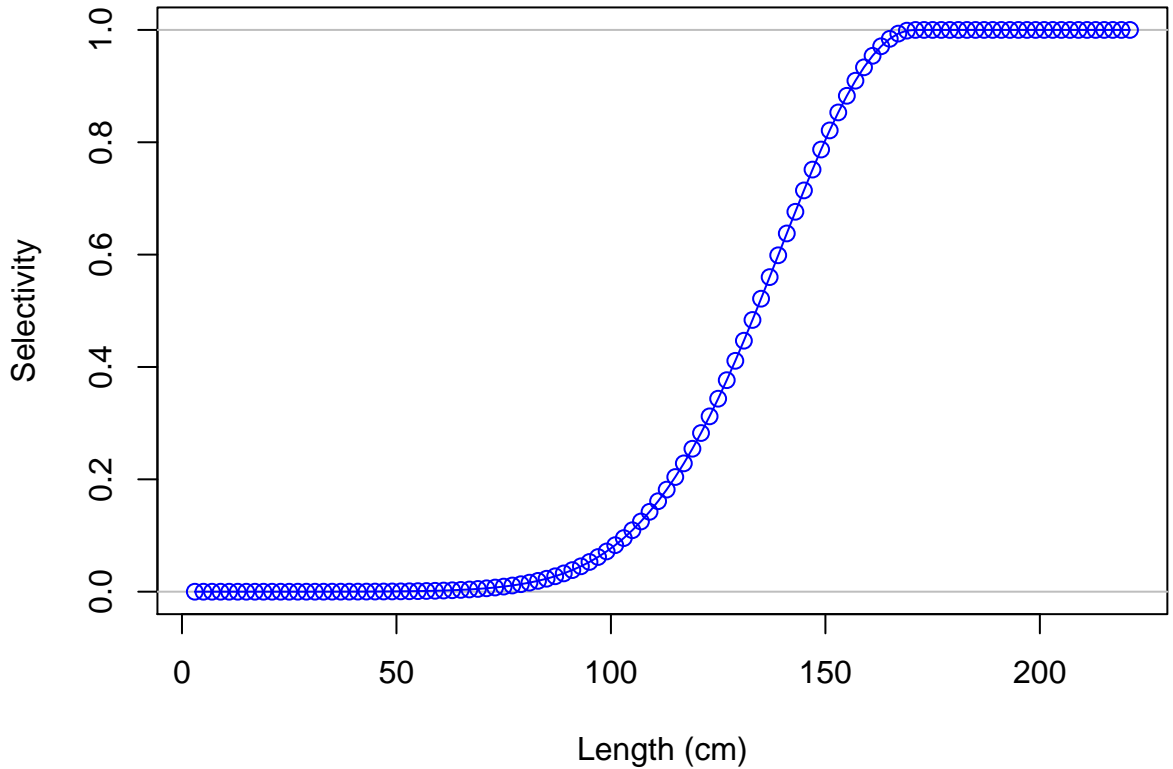
## Female time-varying selectivity for A2-LL-n



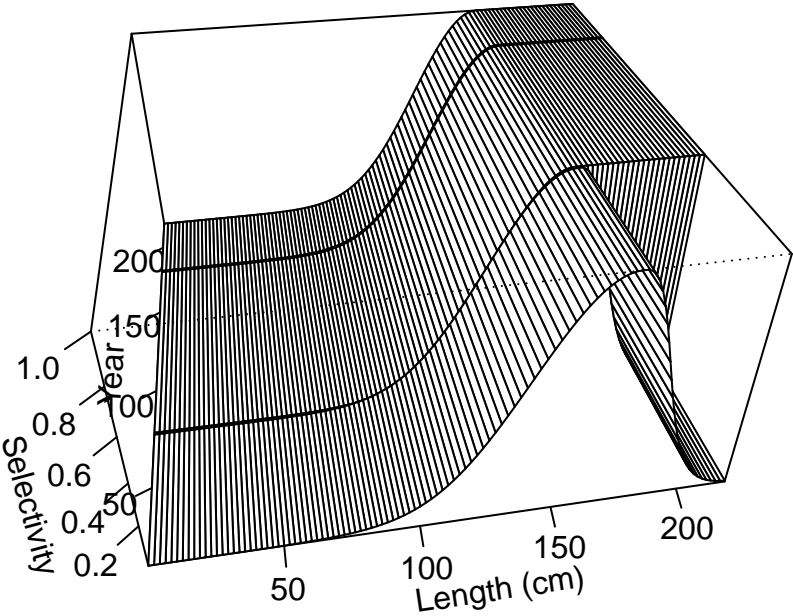
# Female time-varying selectivity for A2-LL-n



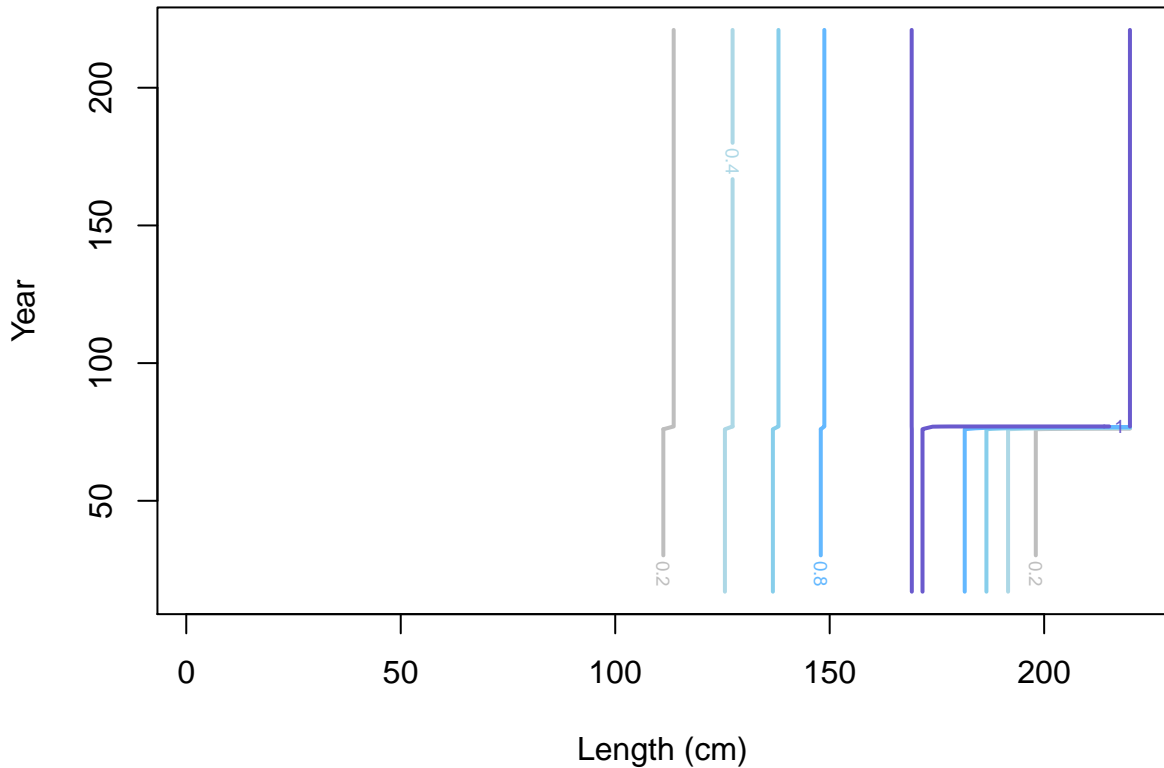
## Female ending year selectivity for A2-LL-n



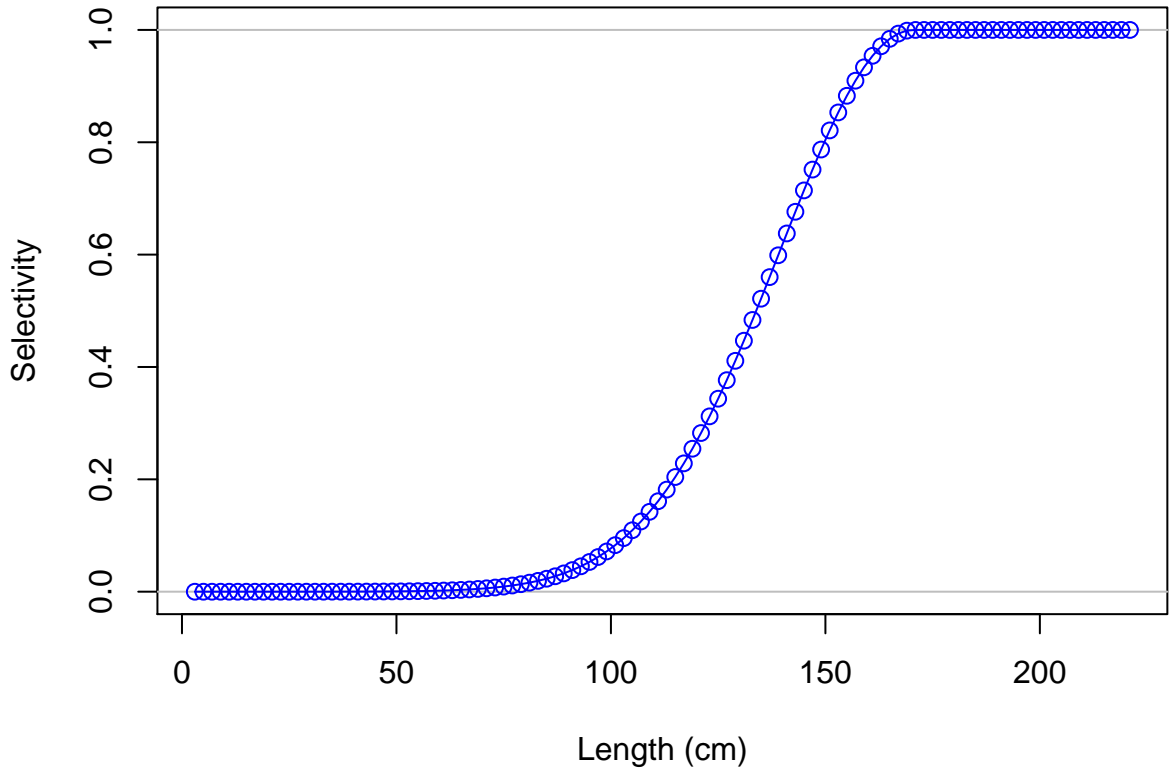
# Male time-varying selectivity for A2-LL-n



# Male time-varying selectivity for A2-LL-n

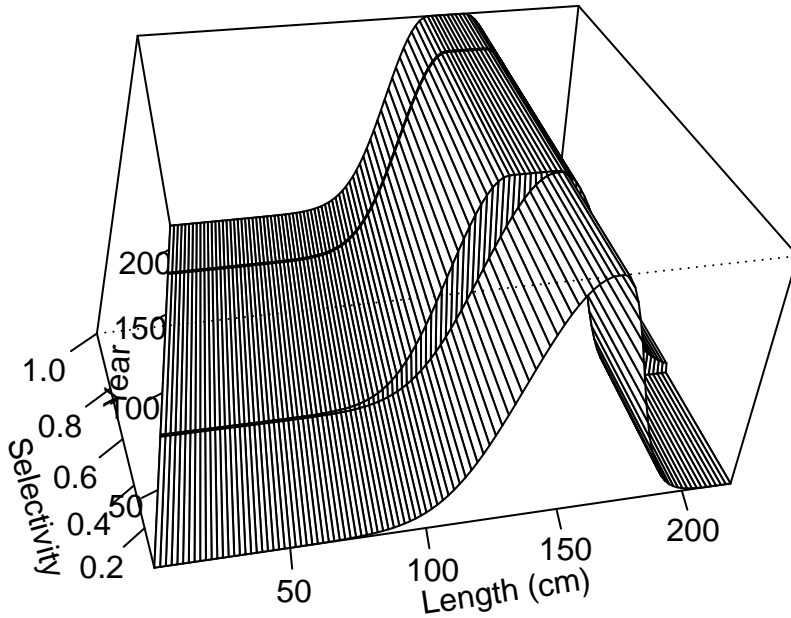


## Male ending year selectivity for A2-LL-n

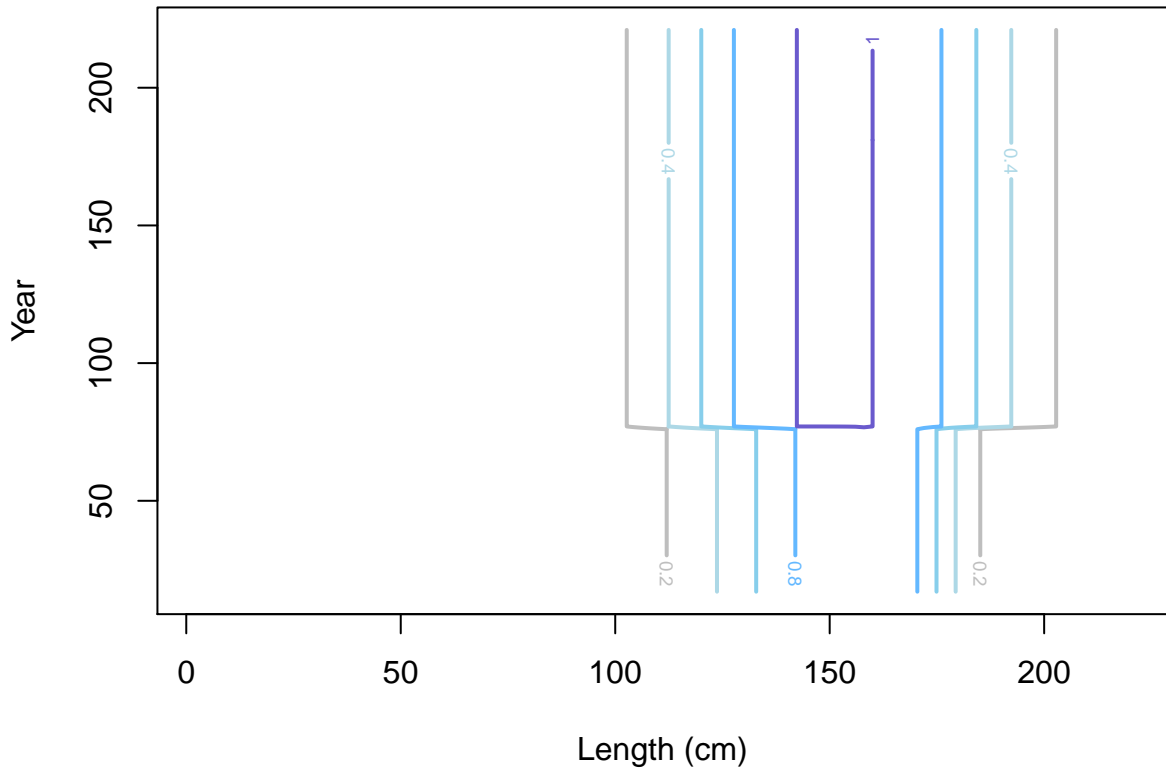




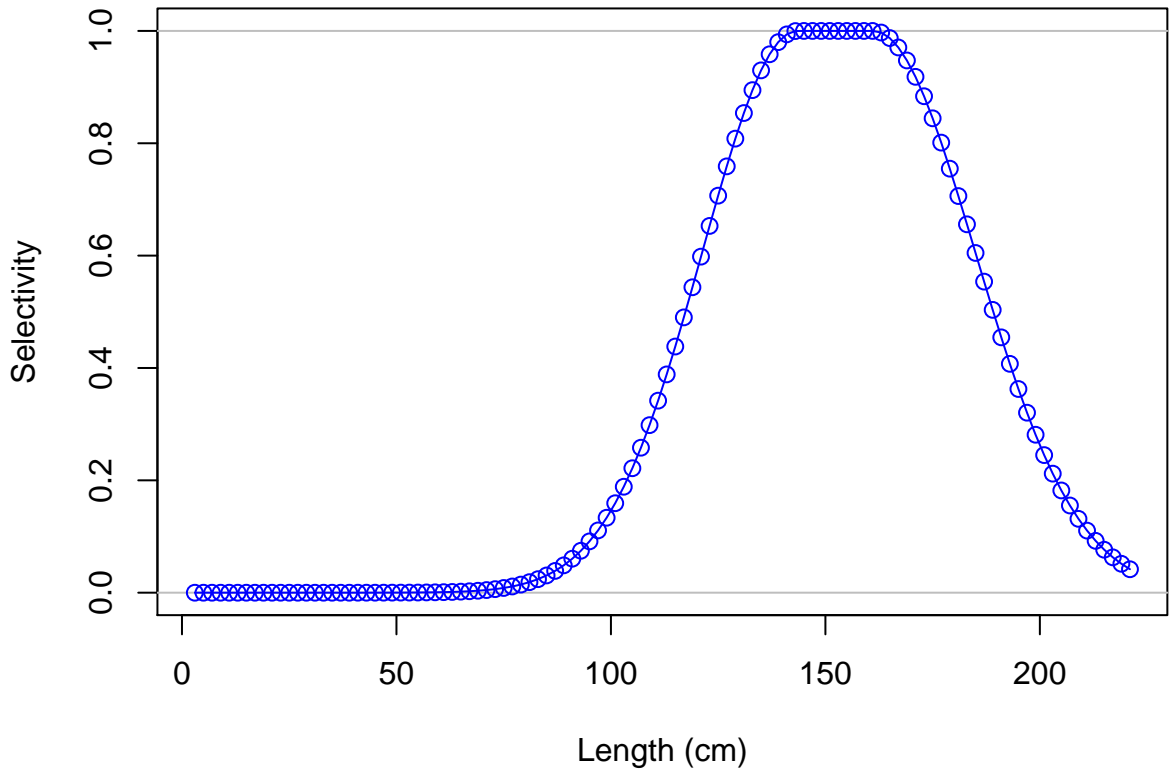
## Female time-varying selectivity for A3-LL-n



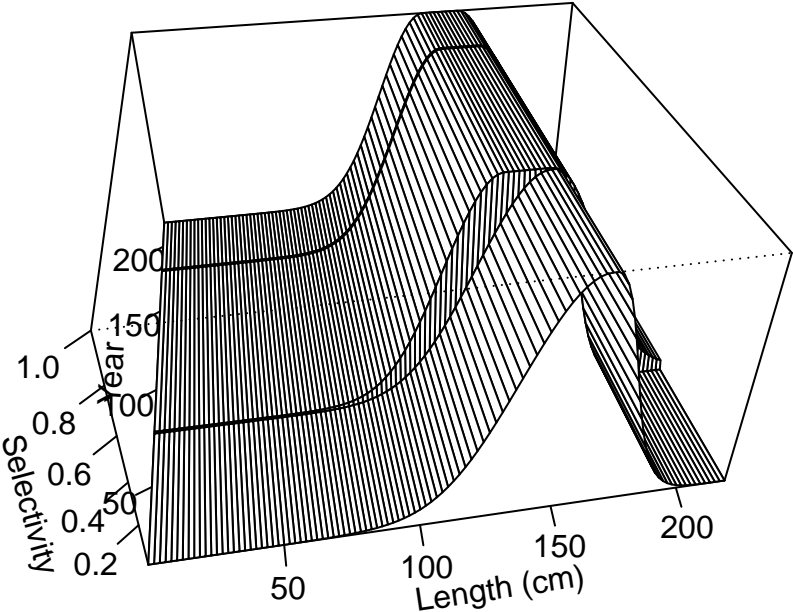
# Female time-varying selectivity for A3-LL-n



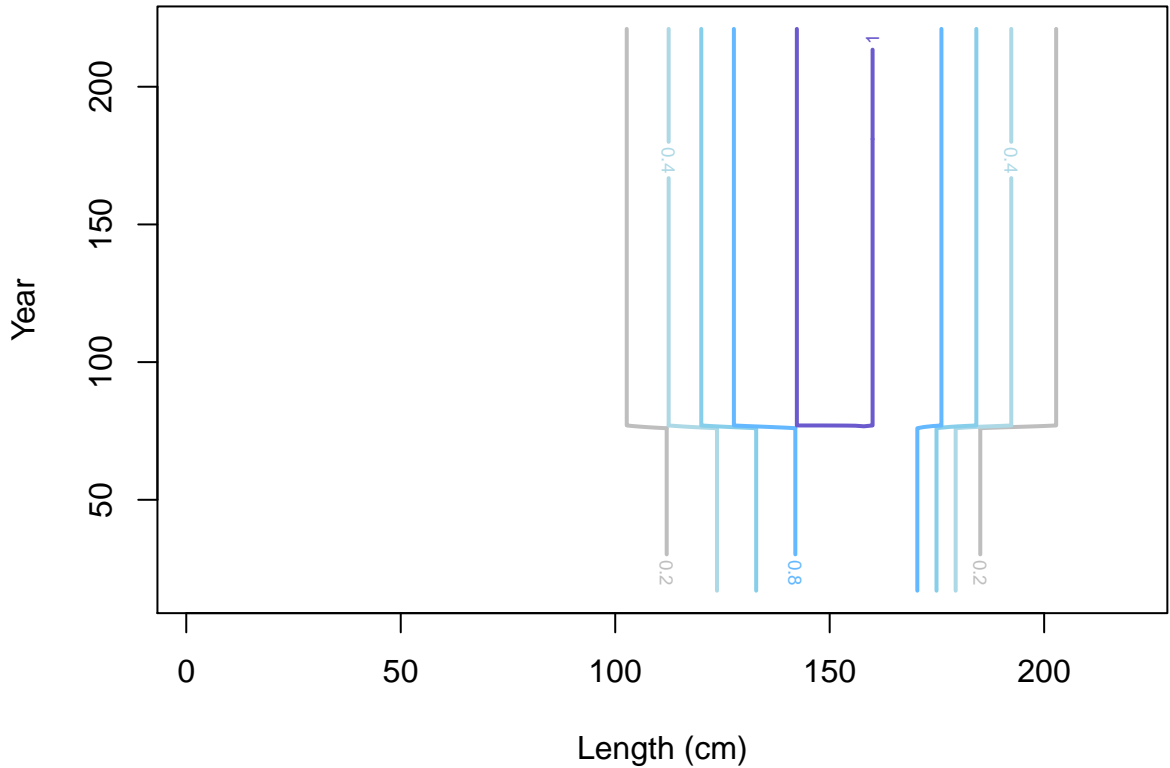
## Female ending year selectivity for A3-LL-n



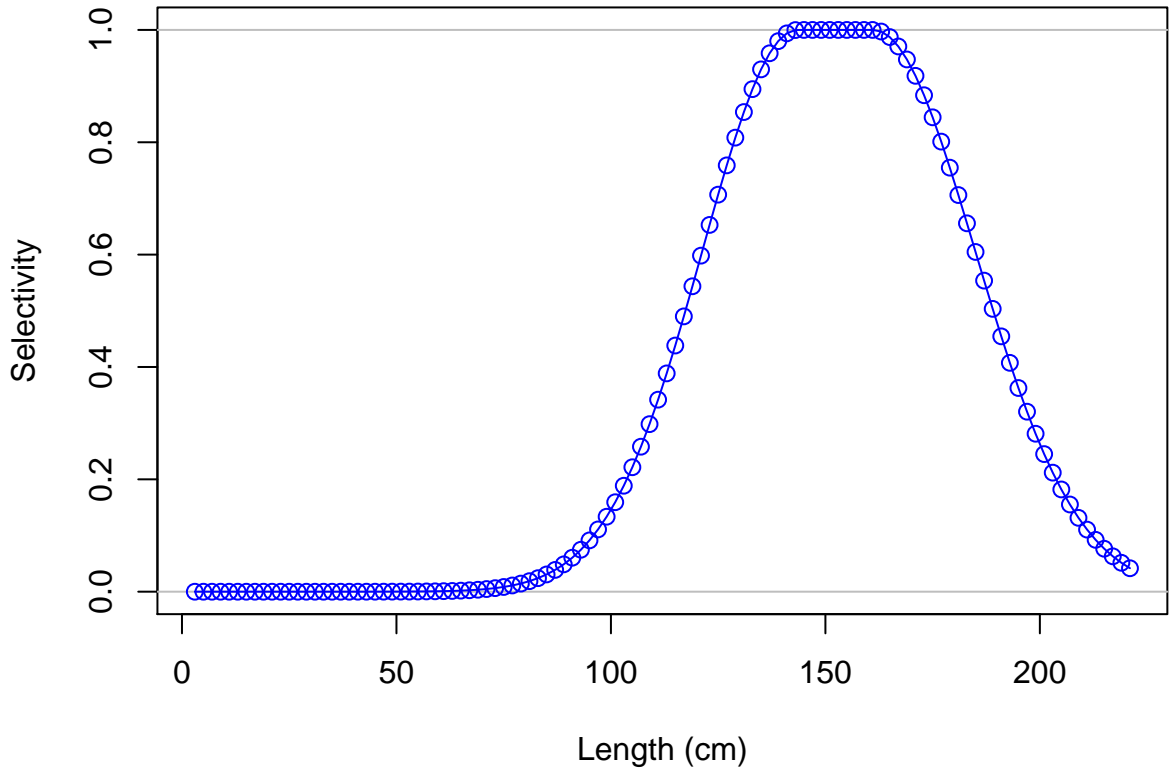
# Male time-varying selectivity for A3-LL-n



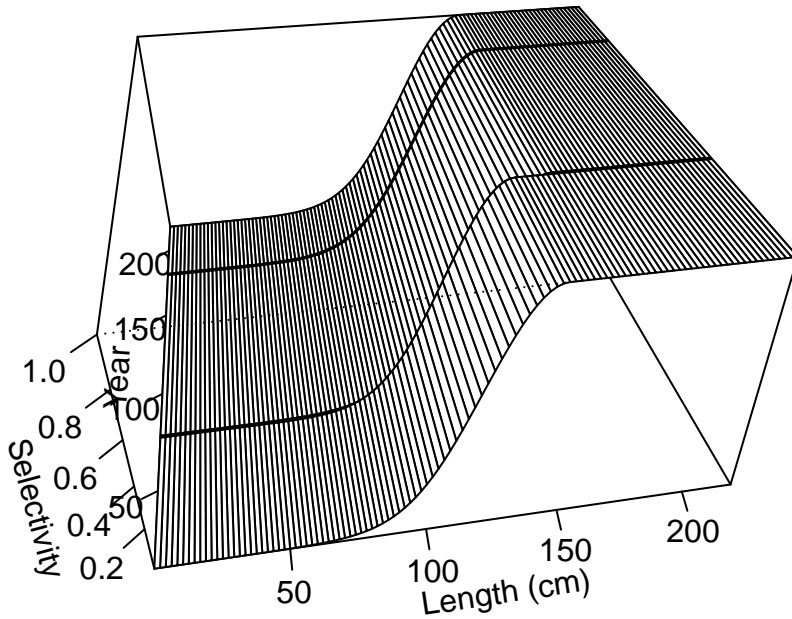
# Male time-varying selectivity for A3-LL-n



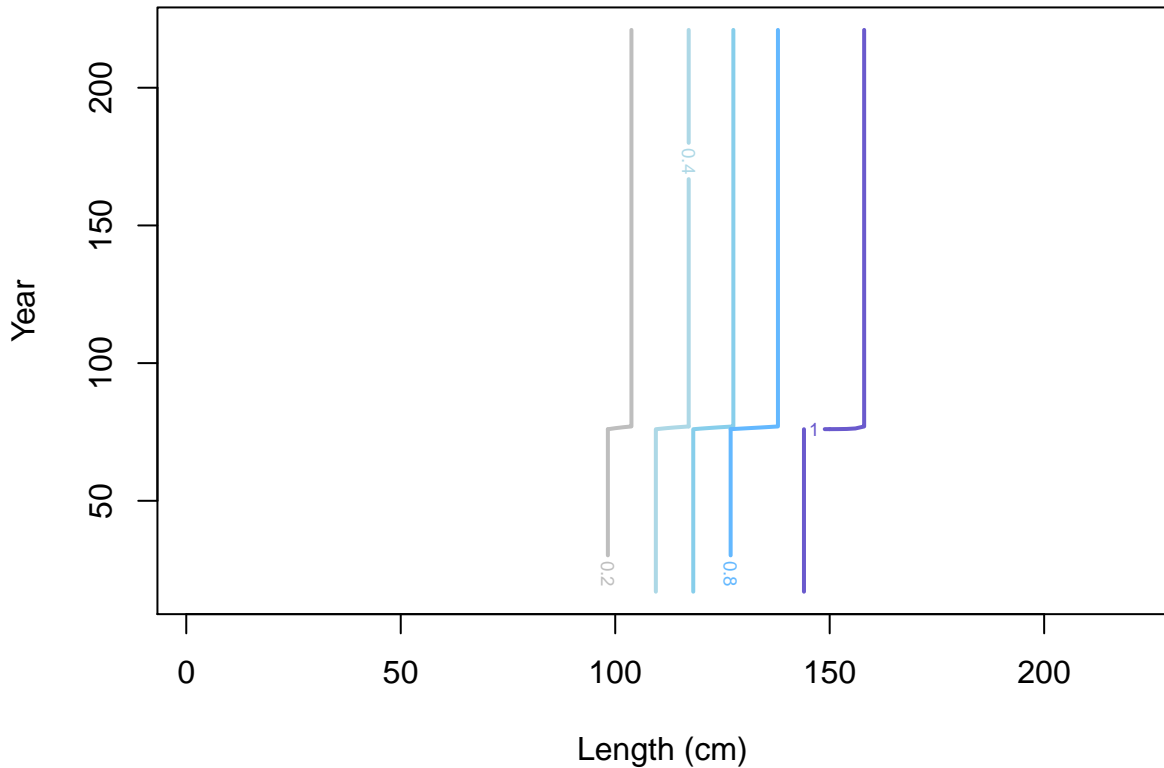
## Male ending year selectivity for A3-LL-n



## Female time-varying selectivity for A4-LL-n

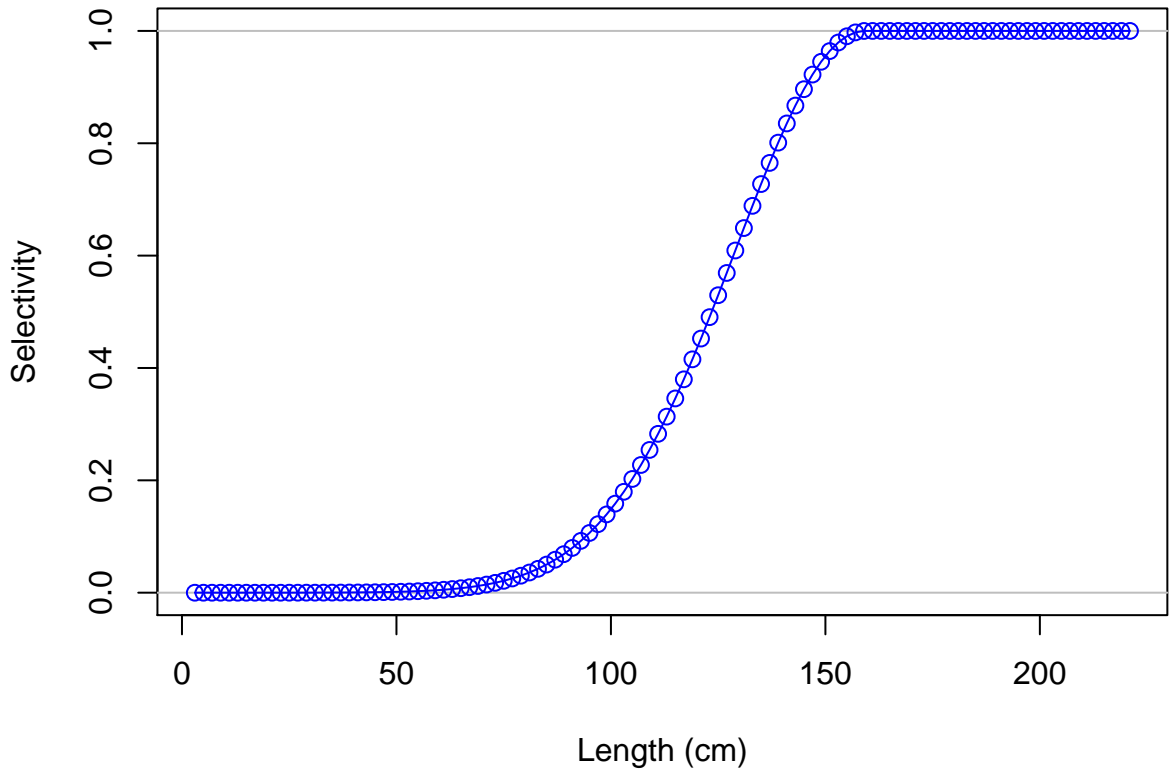


# Female time-varying selectivity for A4-LL-n

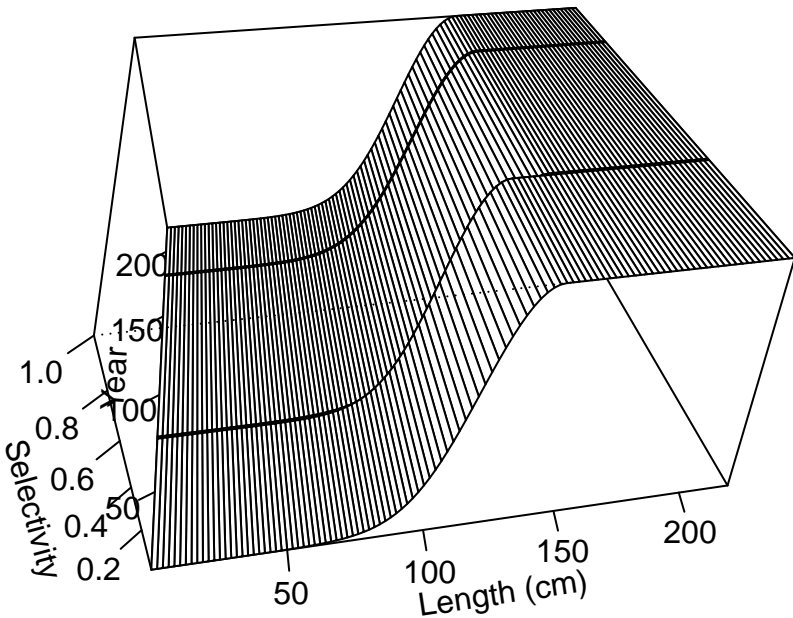




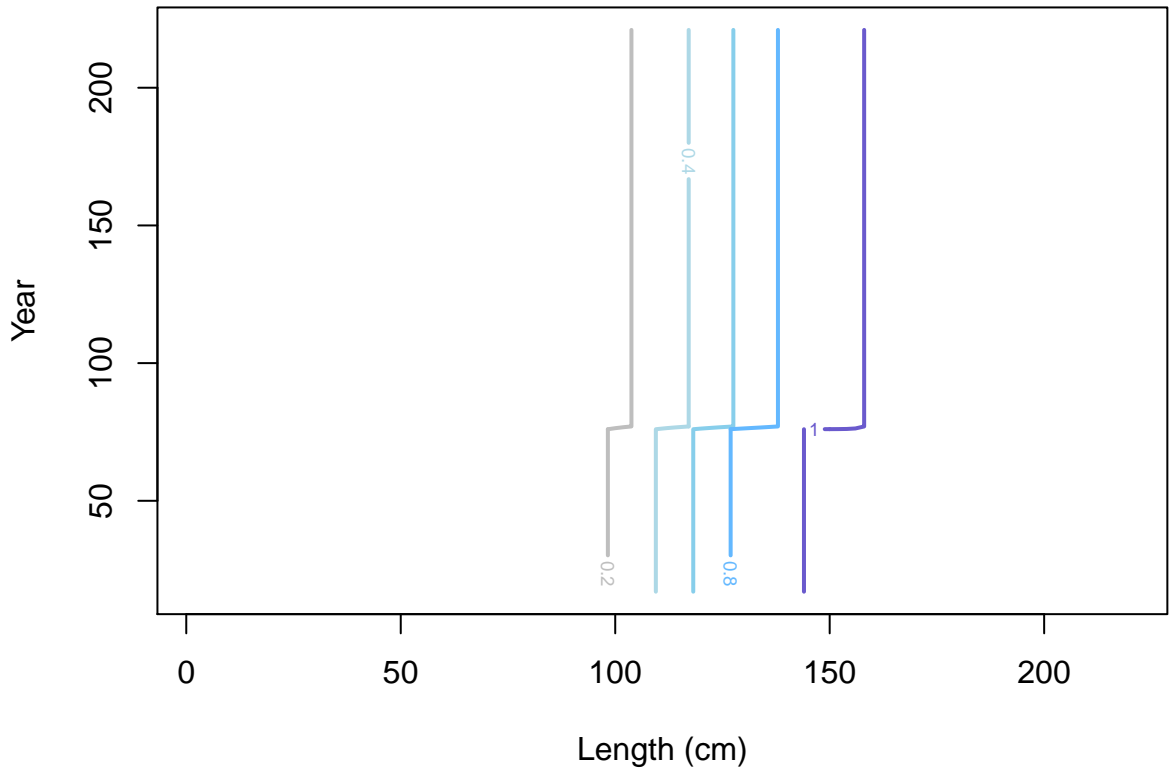
## Female ending year selectivity for A4-LL-n



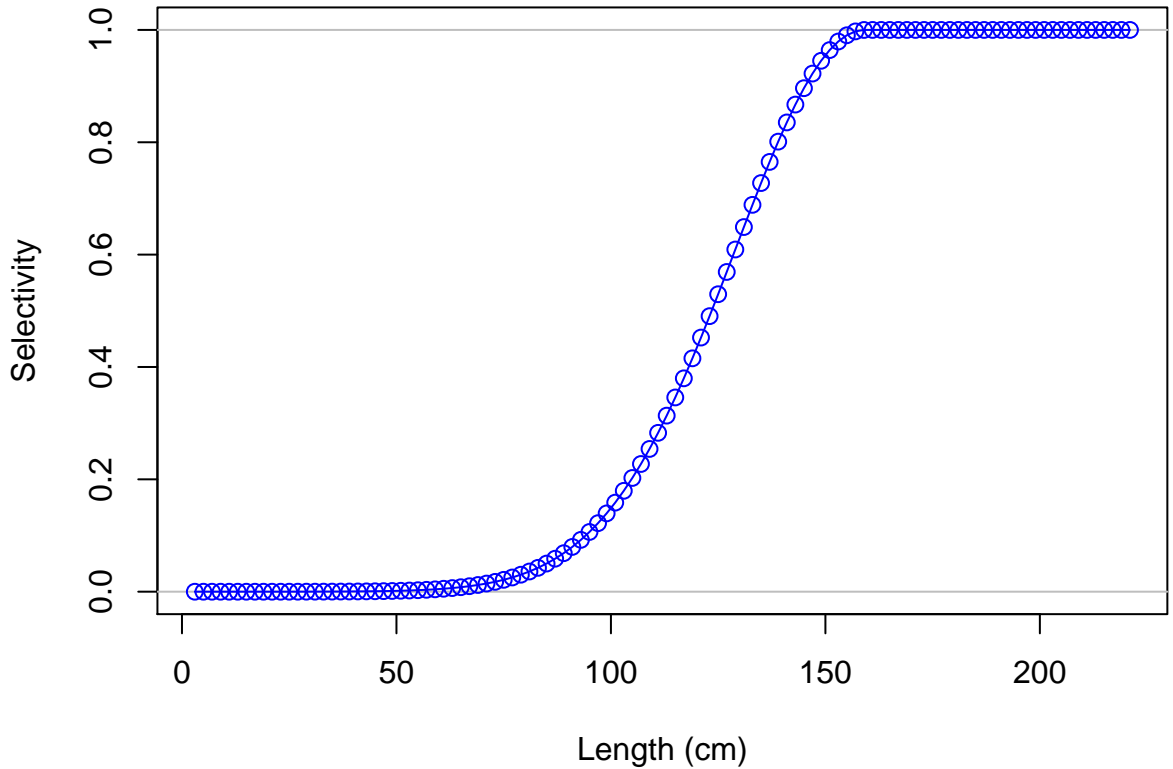
## Male time-varying selectivity for A4-LL-n



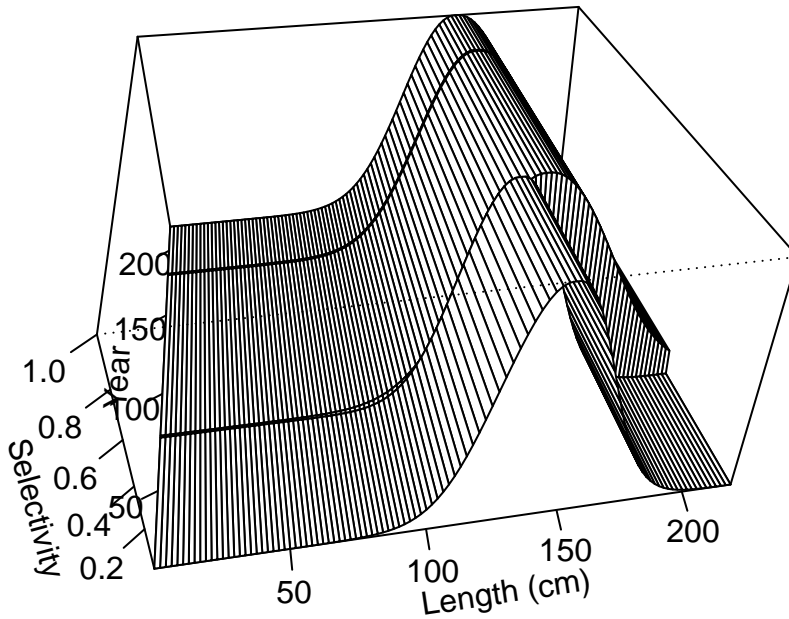
# Male time-varying selectivity for A4-LL-n



## Male ending year selectivity for A4-LL-n

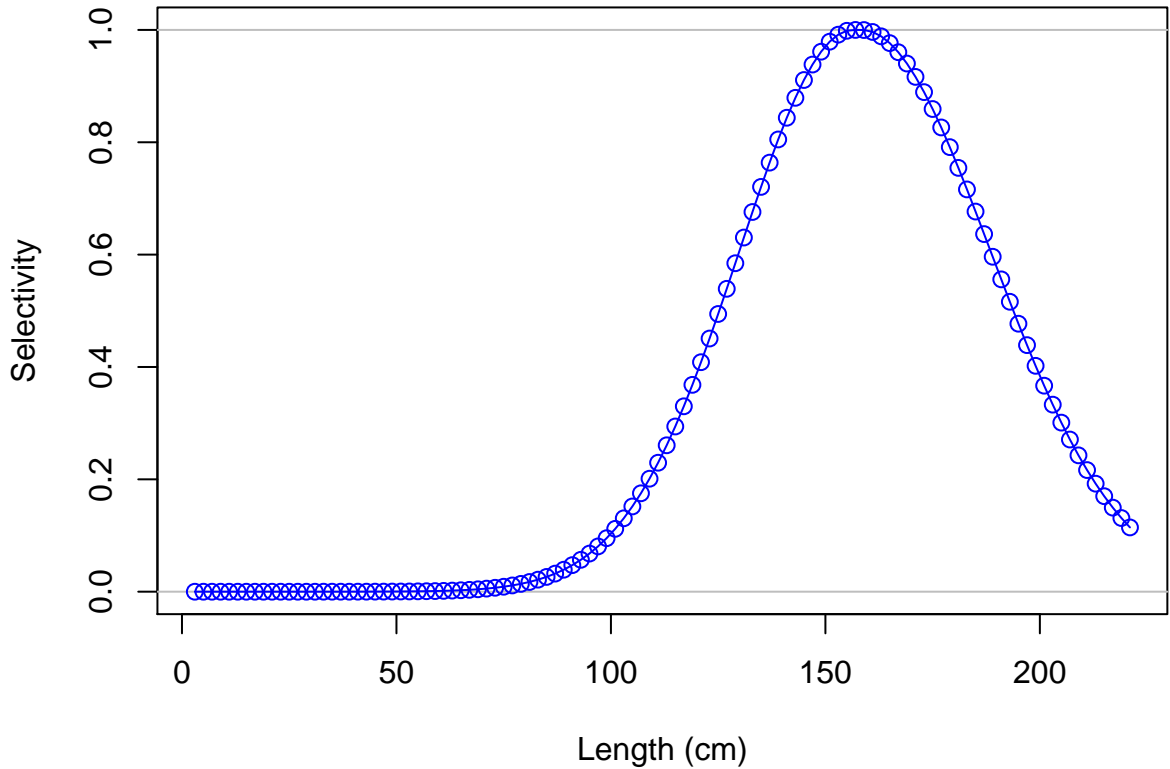


## Female time-varying selectivity for A5-LL-n

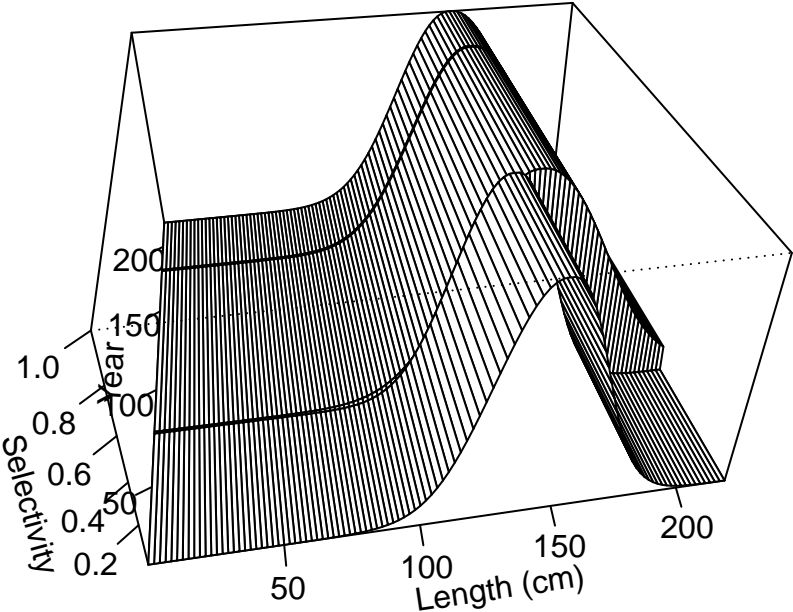




## Female ending year selectivity for A5-LL-n

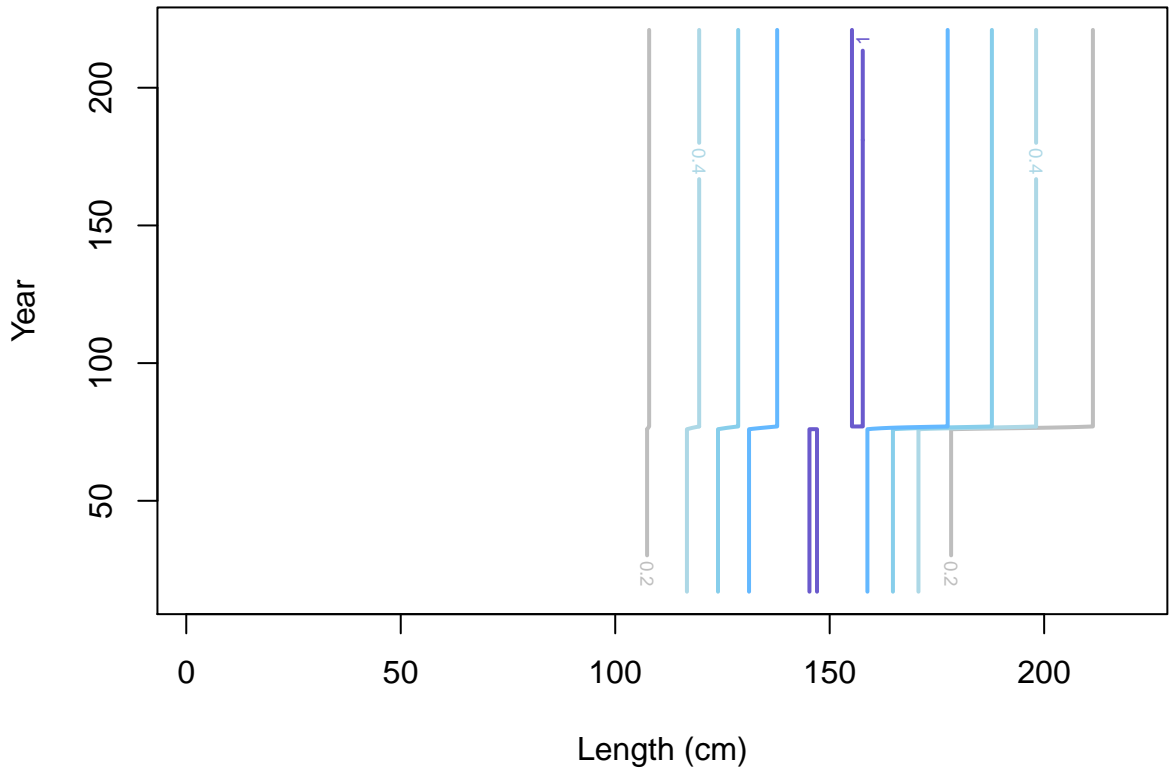


# Male time-varying selectivity for A5-LL-n

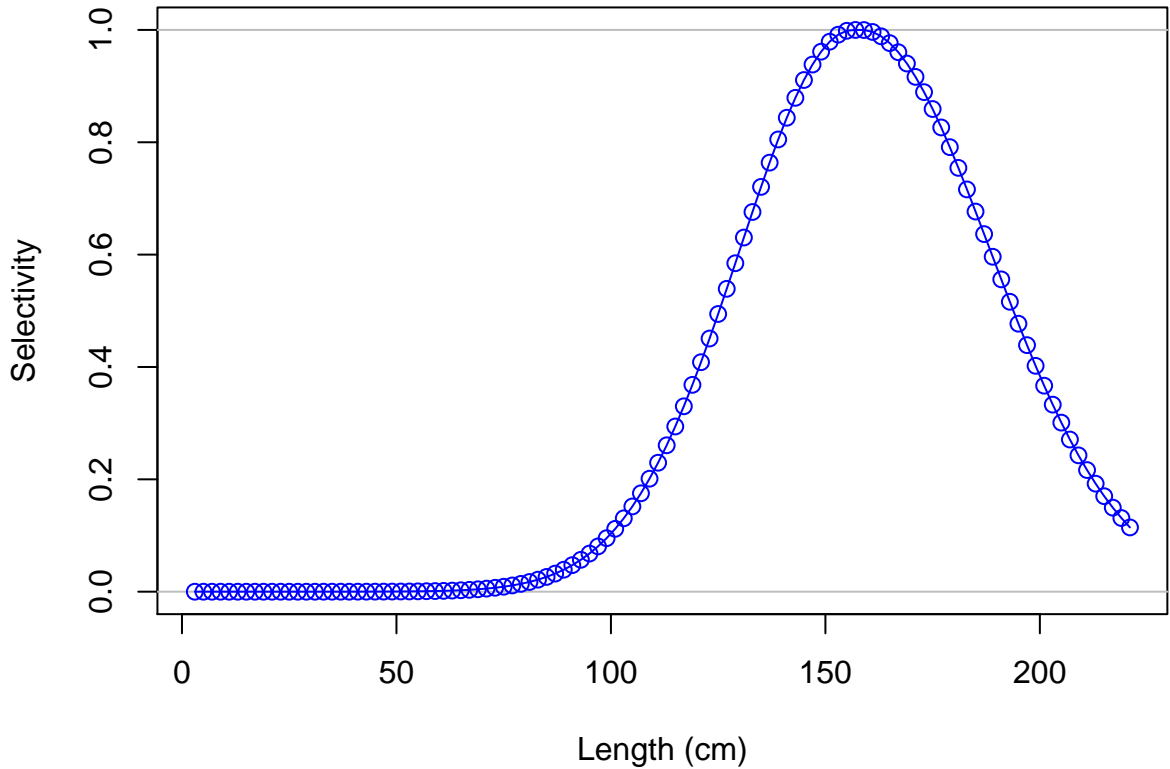




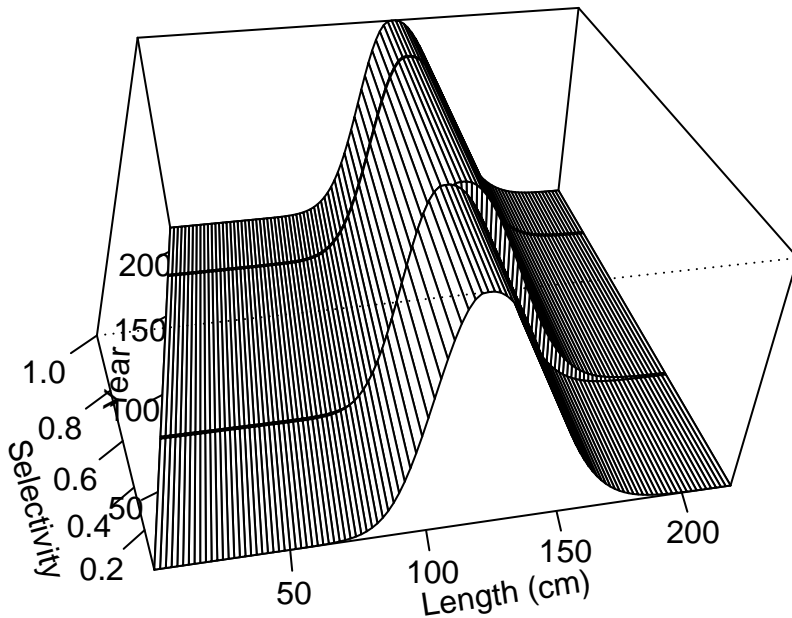
# Male time-varying selectivity for A5-LL-n



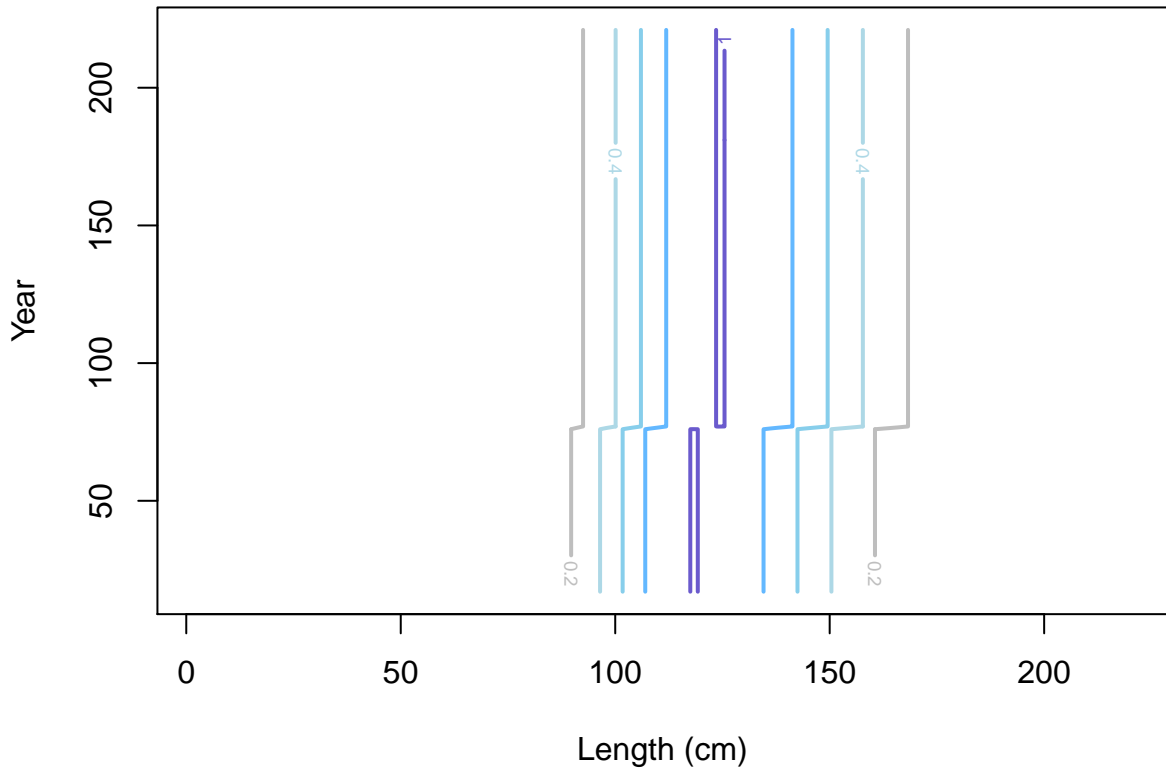
## Male ending year selectivity for A5-LL-n



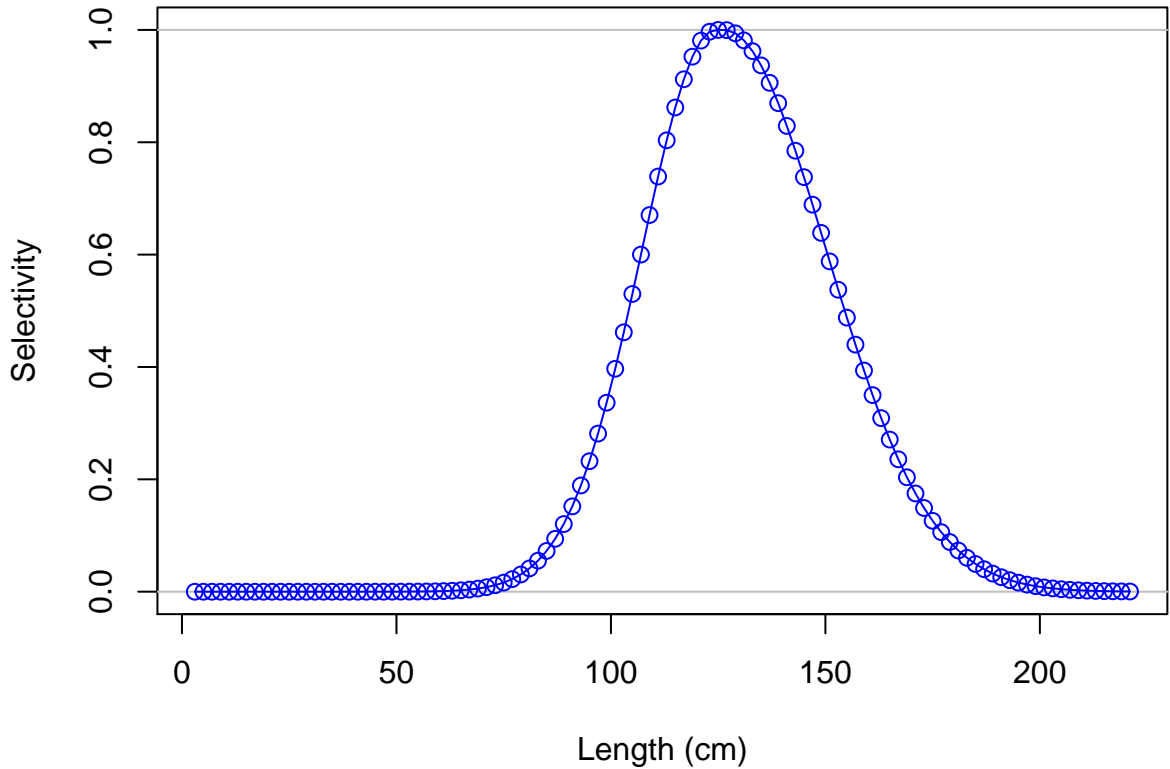
## Female time-varying selectivity for A6-LL-n



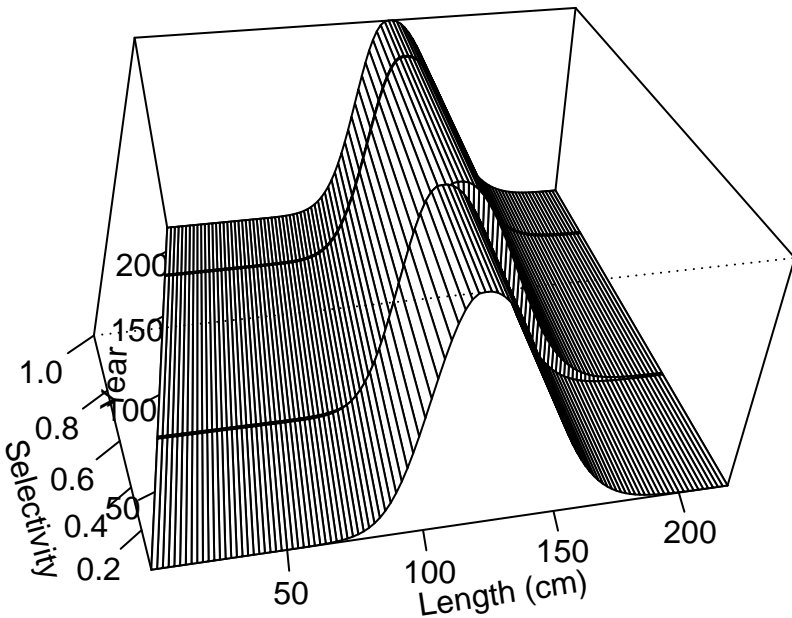
# Female time-varying selectivity for A6-LL-n



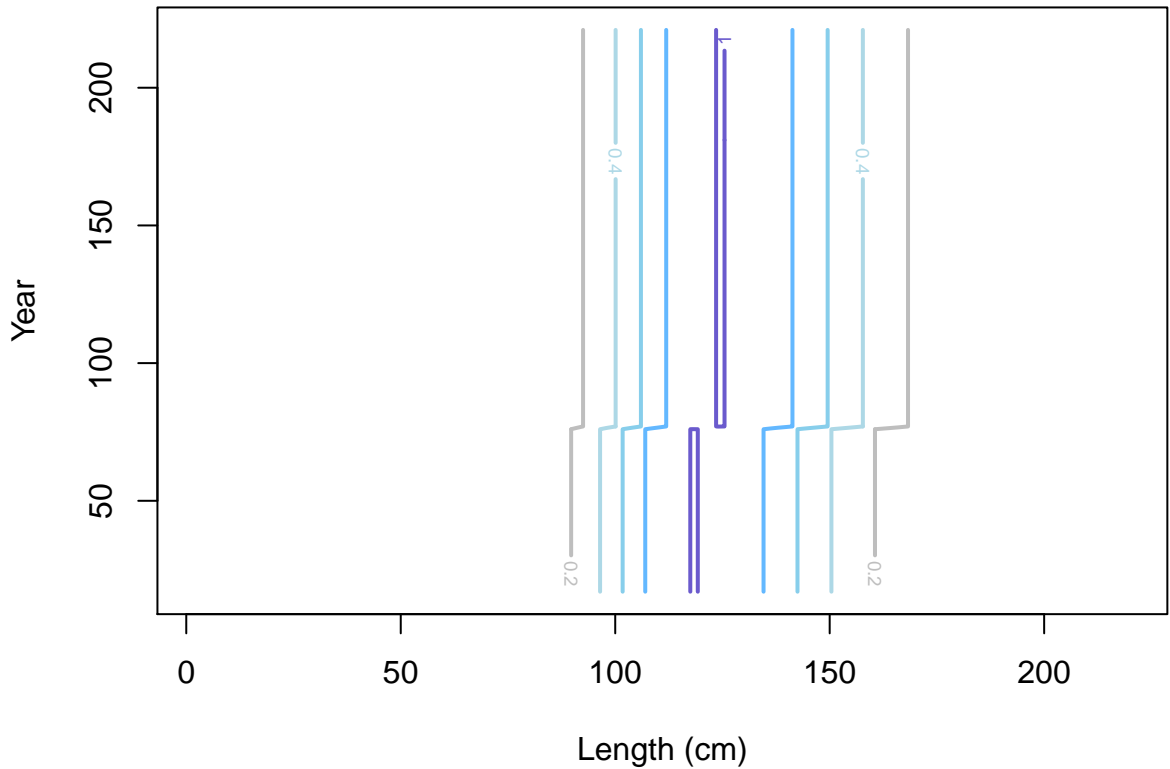
# Female ending year selectivity for A6-LL-n



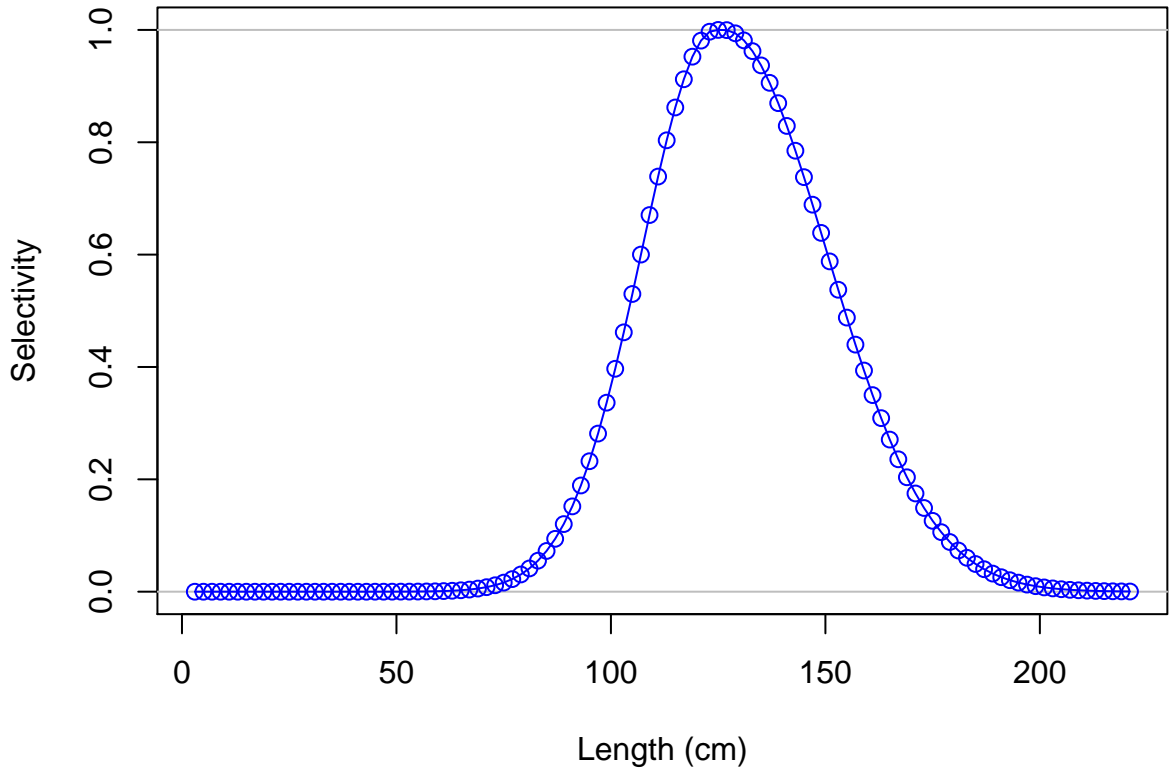
## Male time-varying selectivity for A6-LL-n



# Male time-varying selectivity for A6-LL-n

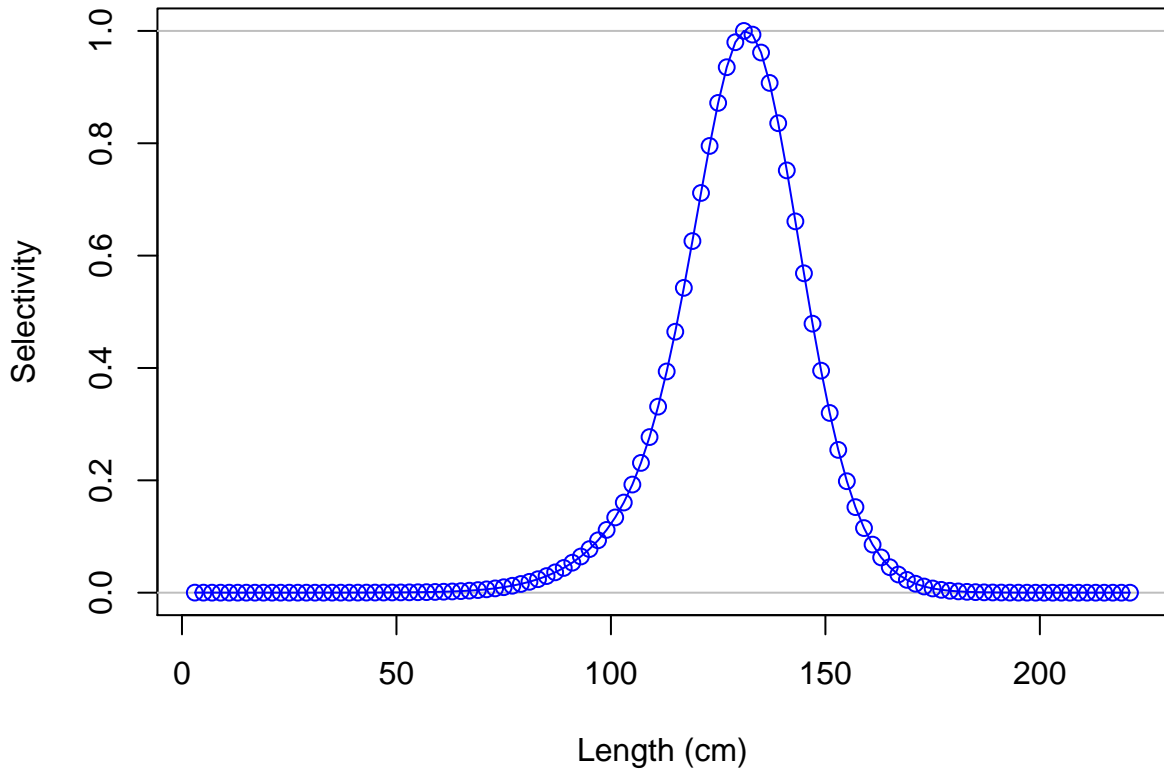


## Male ending year selectivity for A6-LL-n

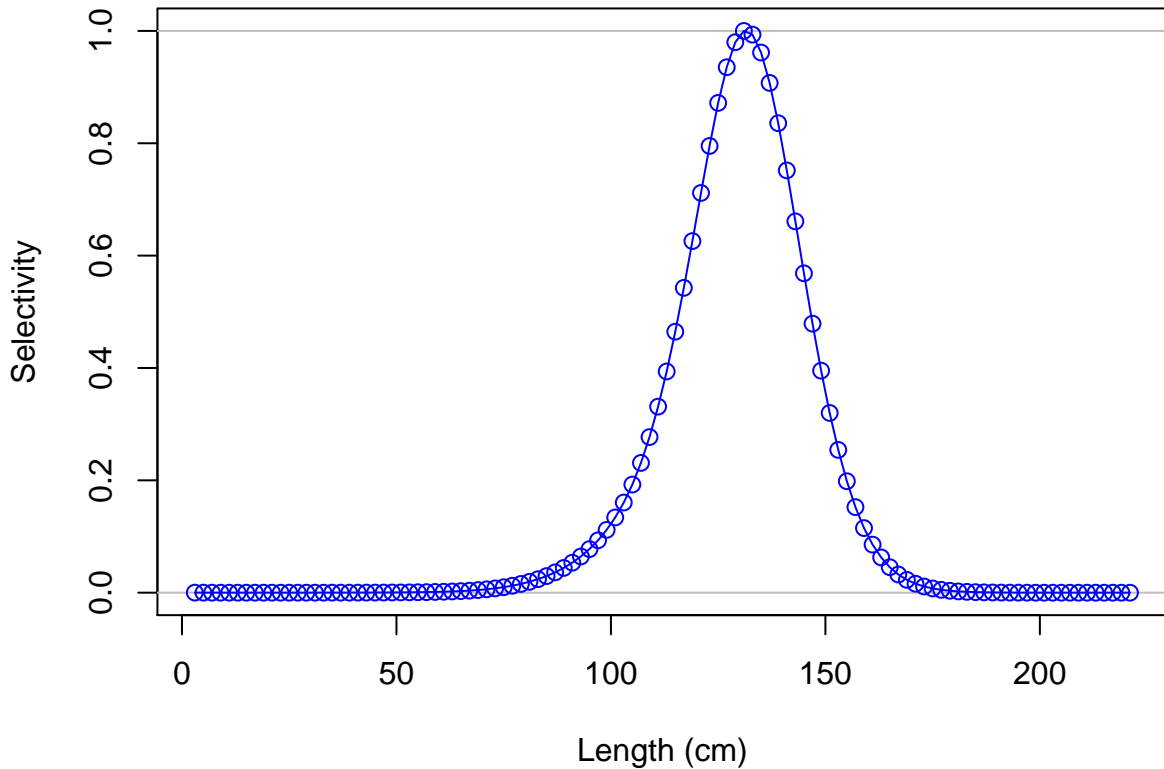




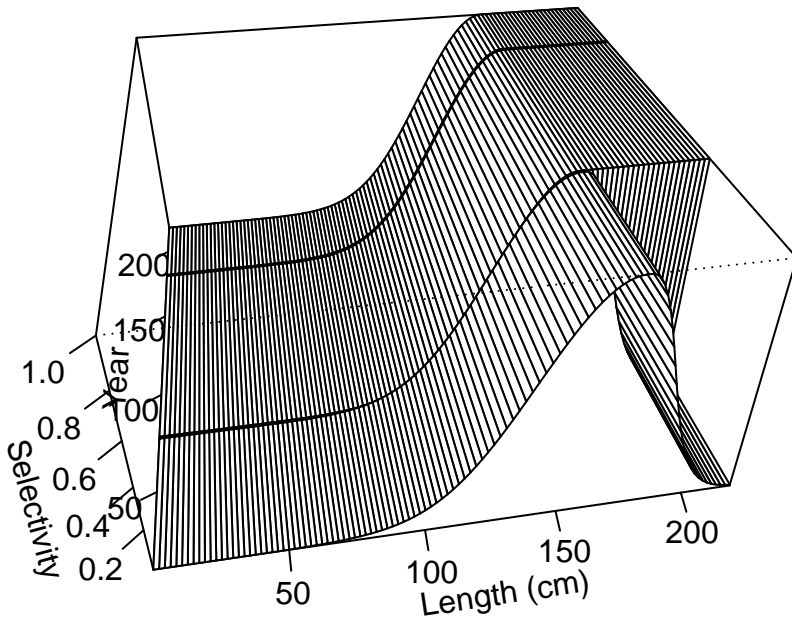
## Female ending year selectivity for A1-LL-w



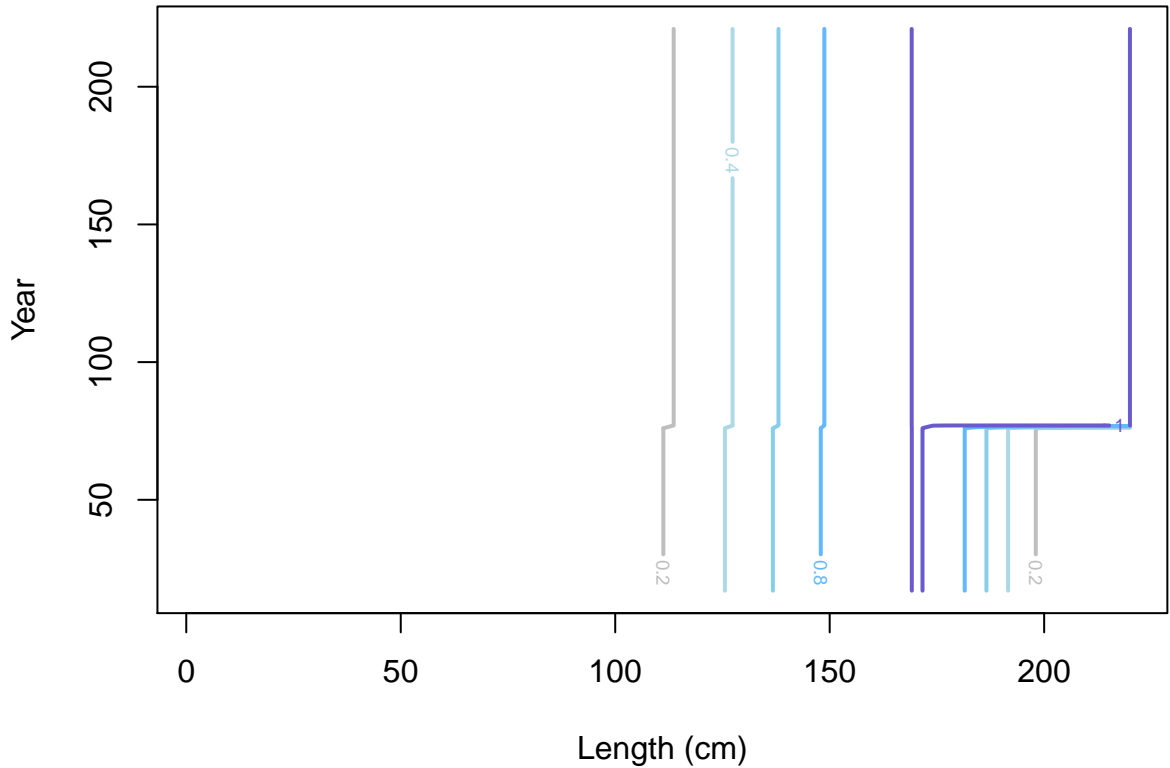
# Male ending year selectivity for A1-LL-w



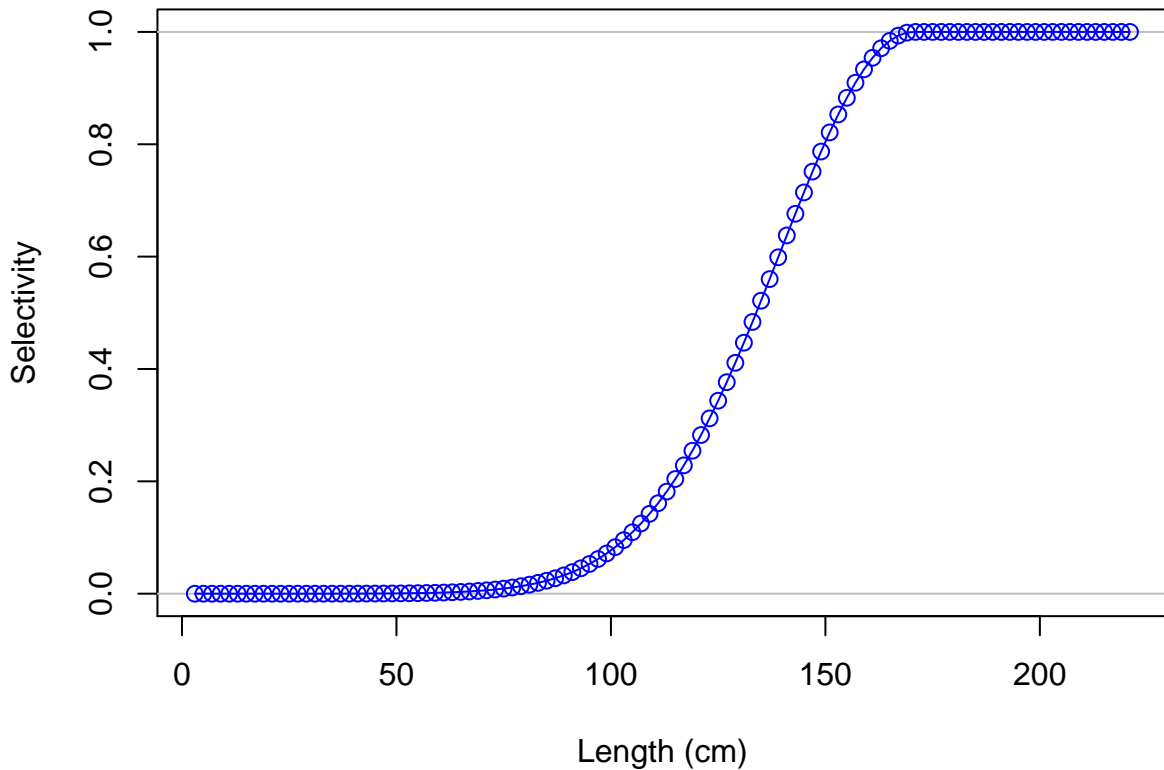
## Female time-varying selectivity for A2-LL-w



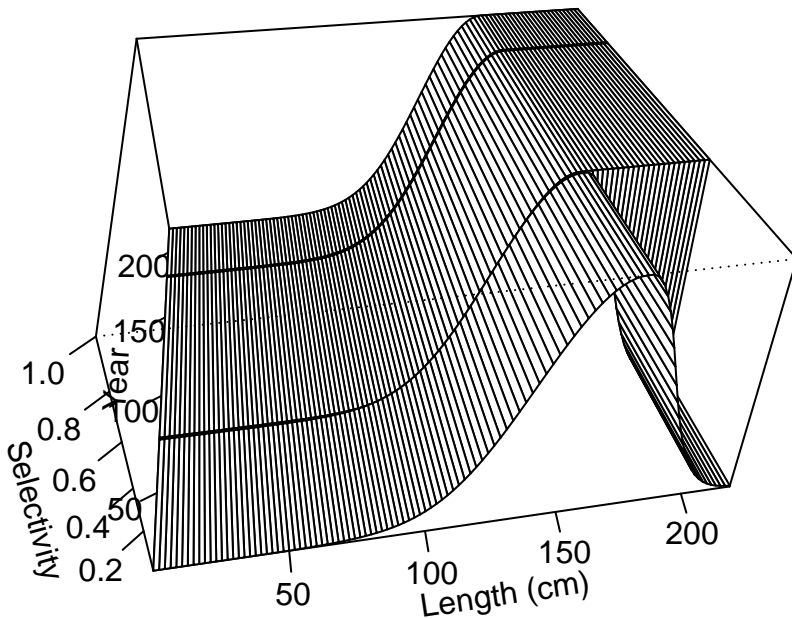
# Female time-varying selectivity for A2-LL-w



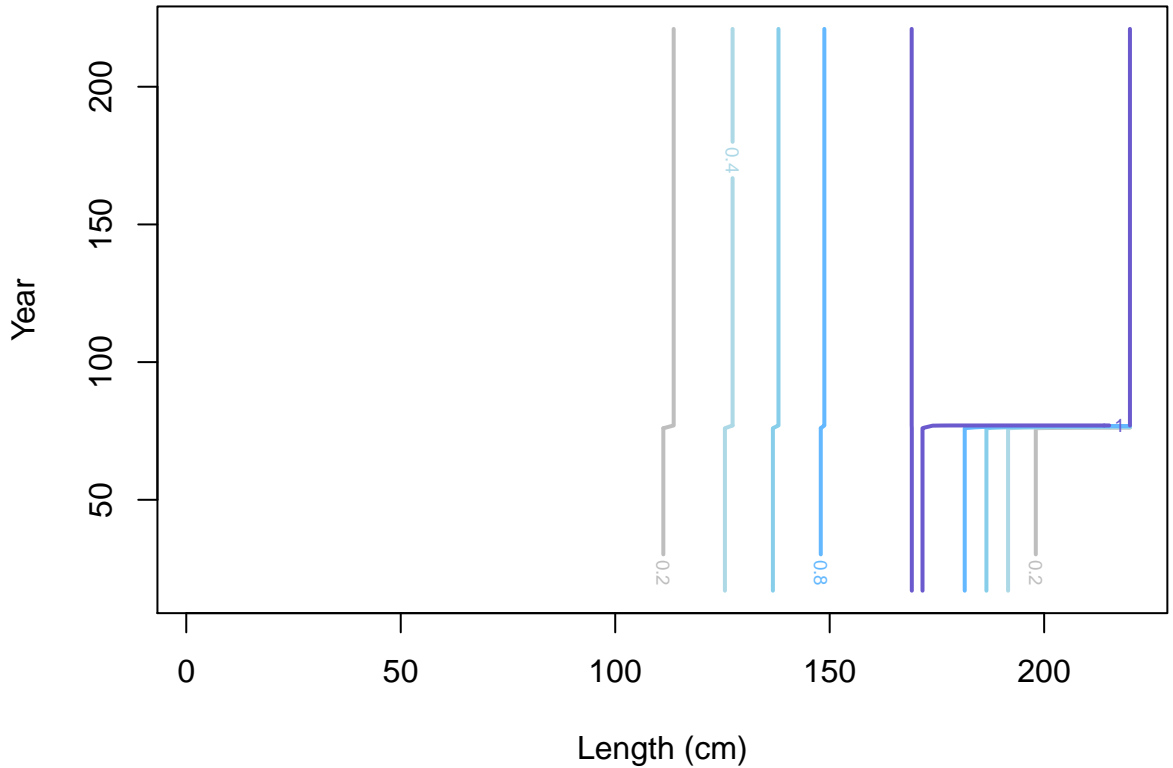
## Female ending year selectivity for A2-LL-w



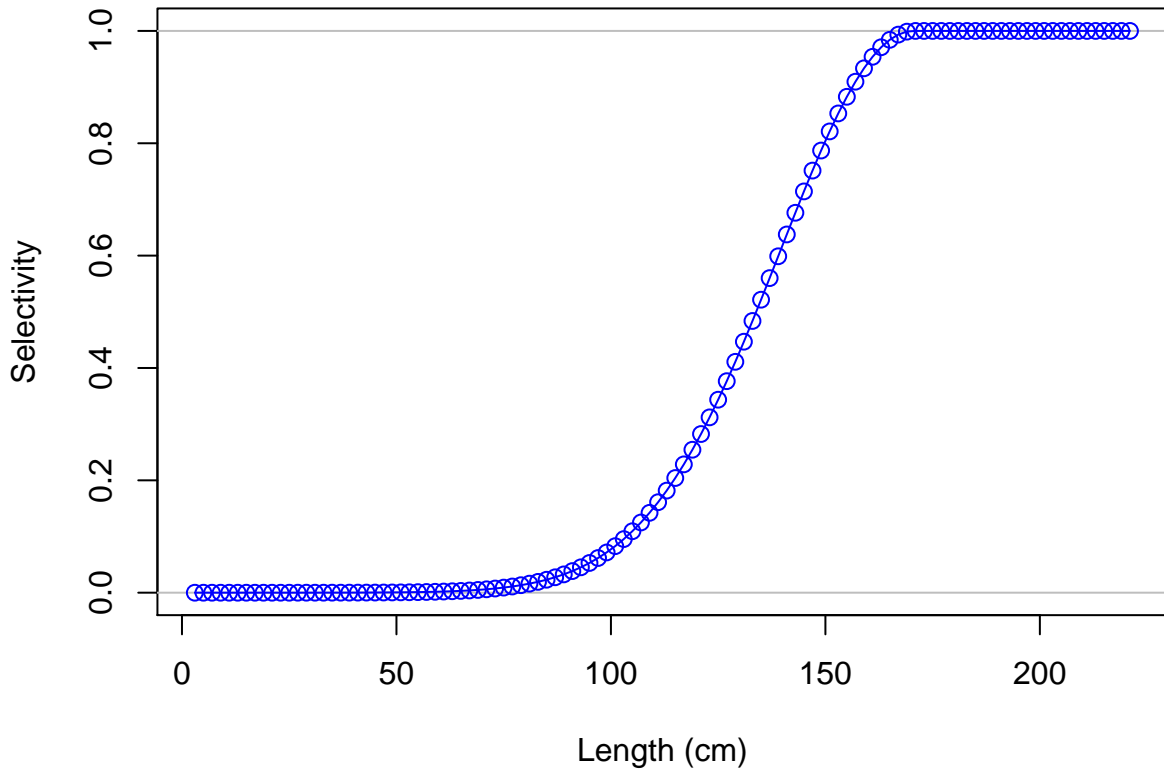
## Male time-varying selectivity for A2-LL-w



# Male time-varying selectivity for A2-LL-w

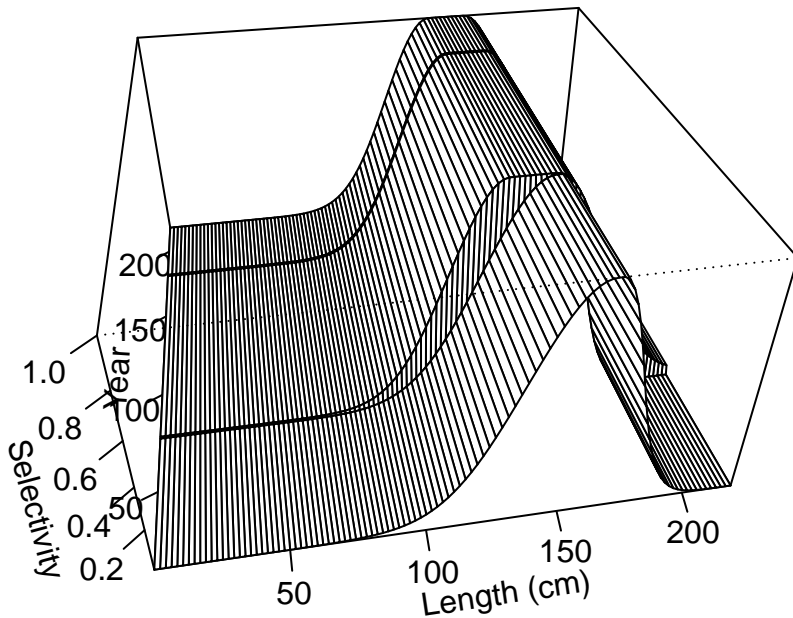


# Male ending year selectivity for A2-LL-w

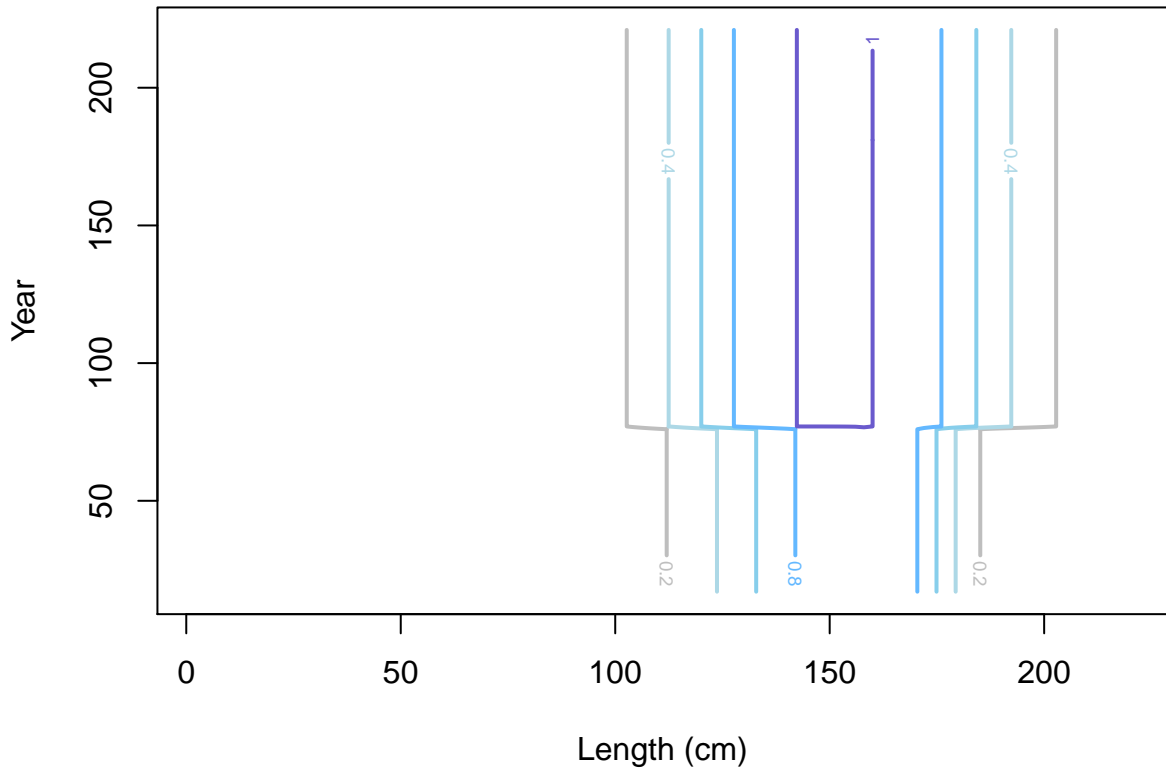




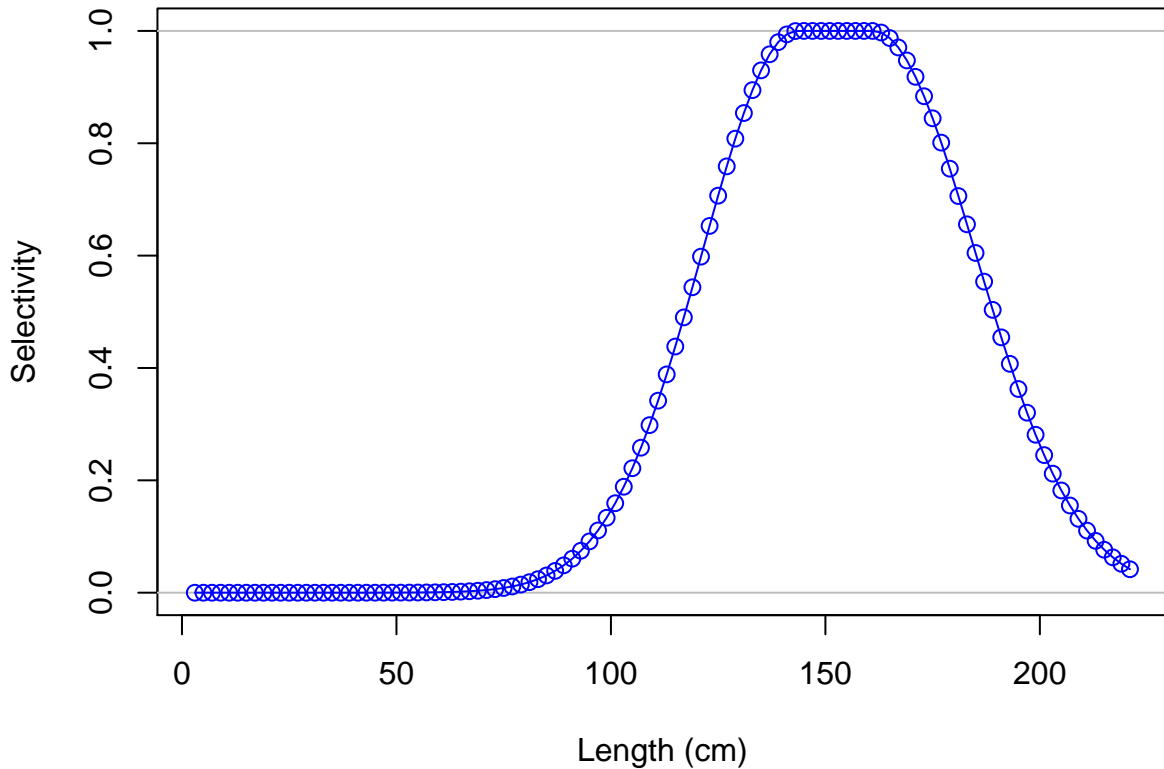
## Female time-varying selectivity for A3-LL-w



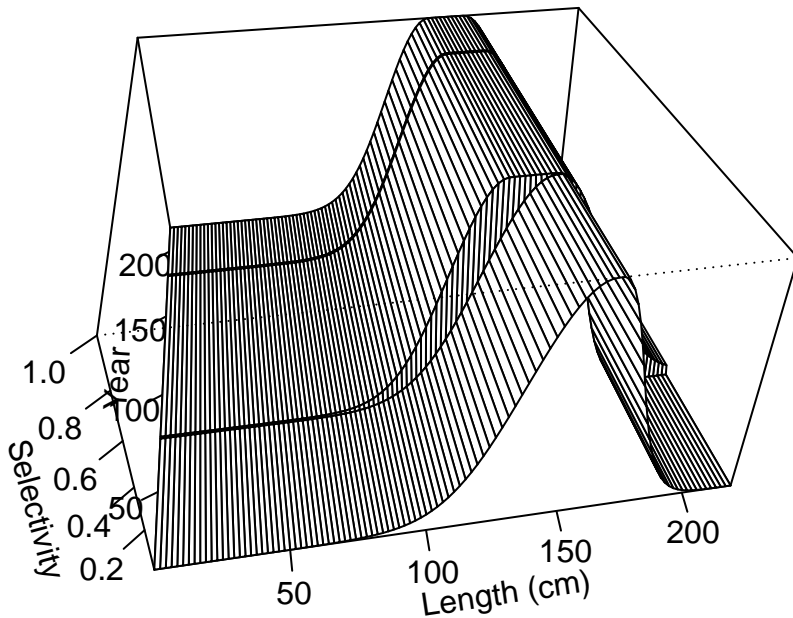
# Female time-varying selectivity for A3-LL-w



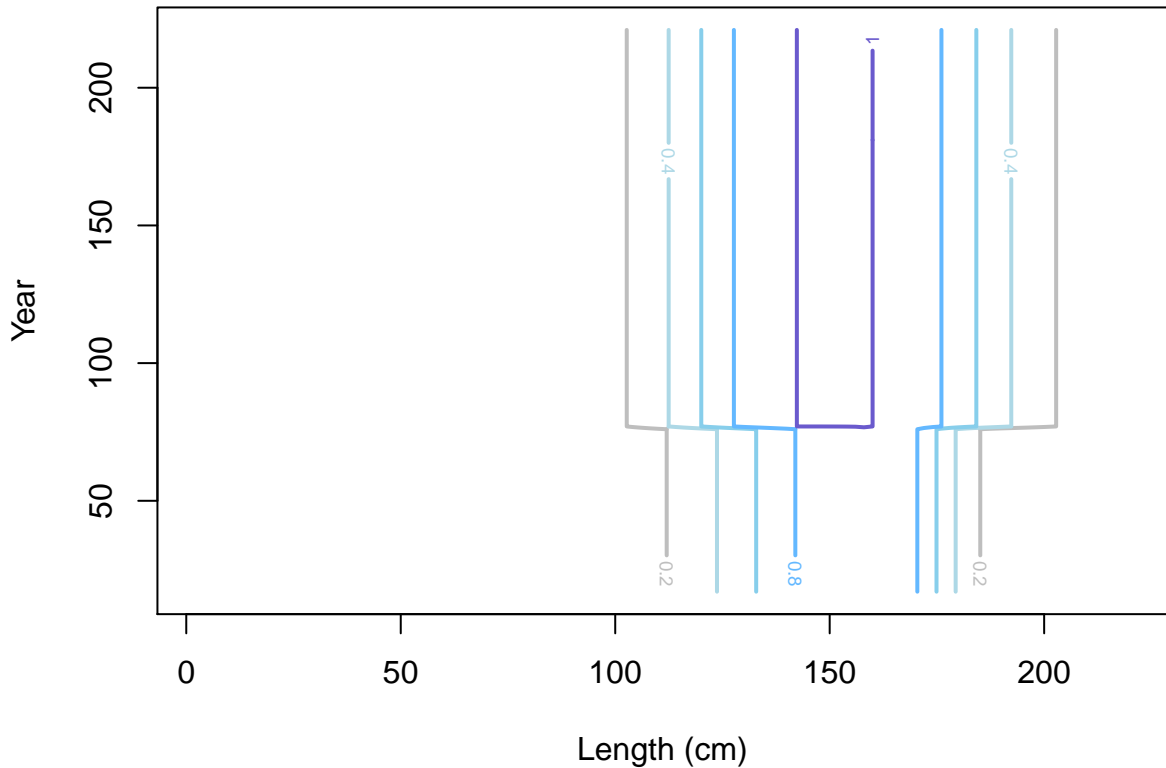
## Female ending year selectivity for A3-LL-w



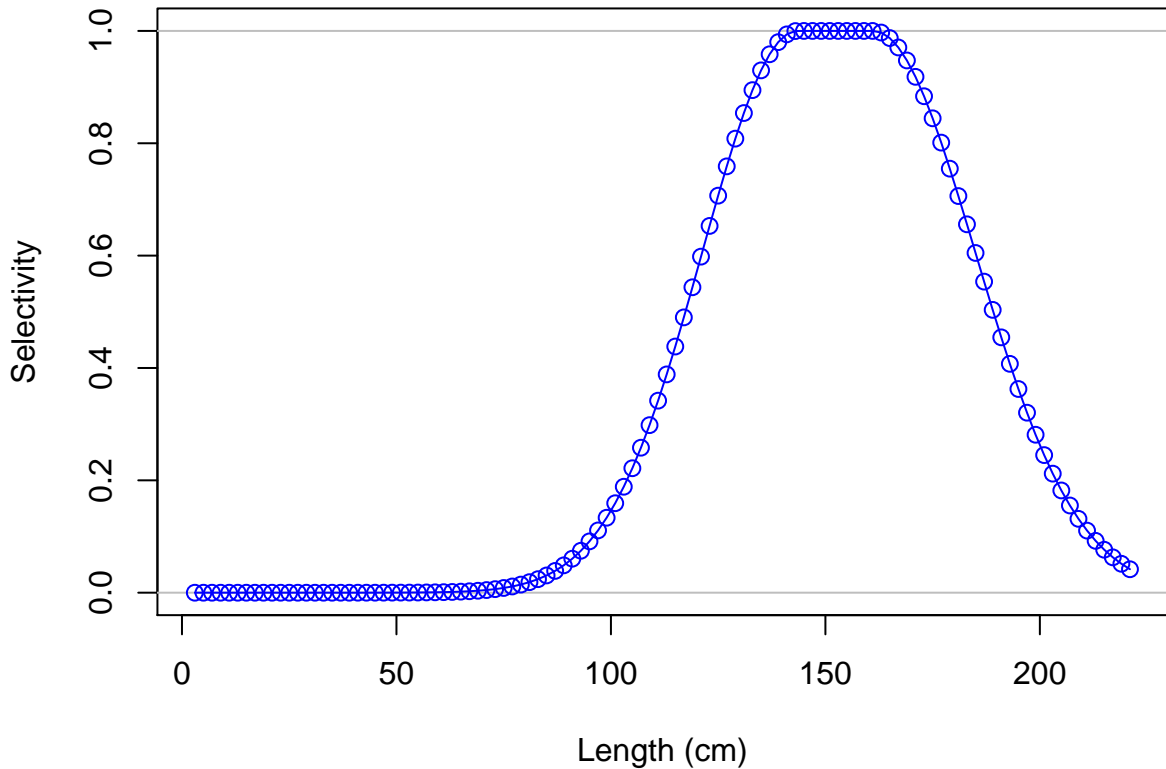
## Male time-varying selectivity for A3-LL-w



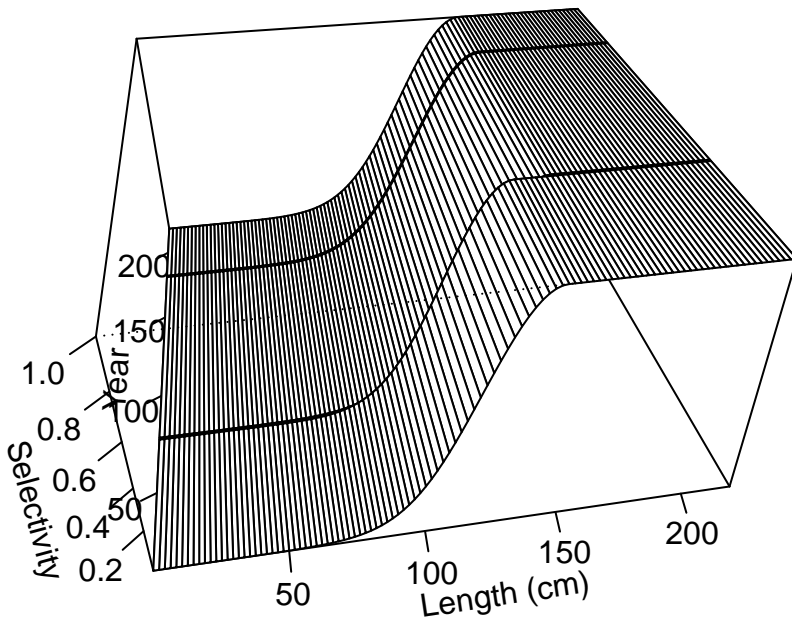
# Male time-varying selectivity for A3-LL-w



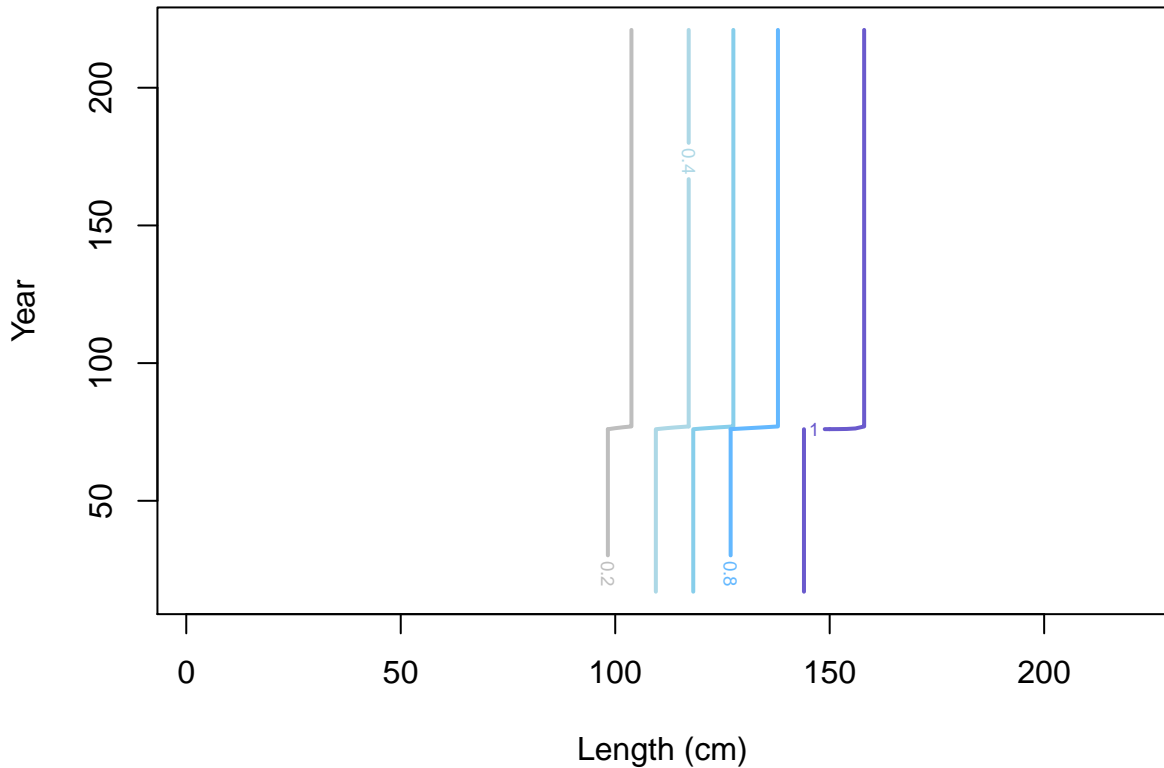
# Male ending year selectivity for A3-LL-w



## Female time-varying selectivity for A4-LL-w

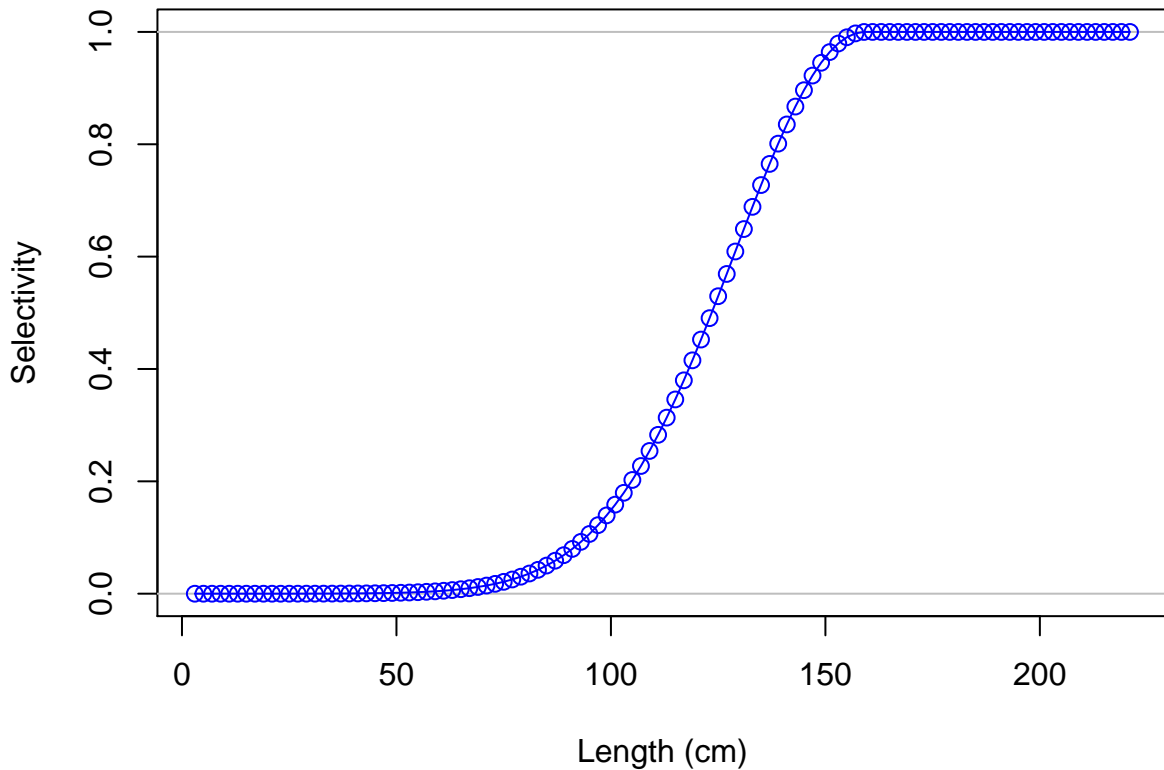


# Female time-varying selectivity for A4-LL-w

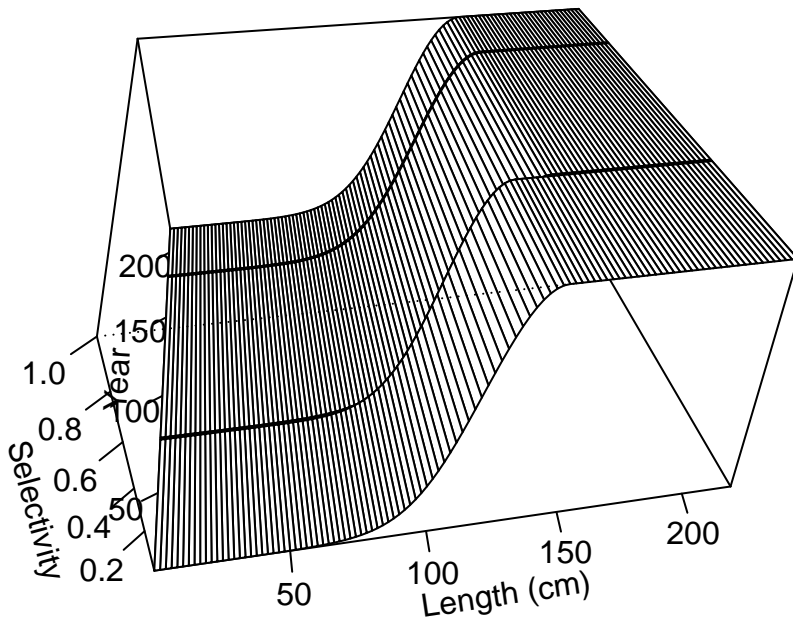




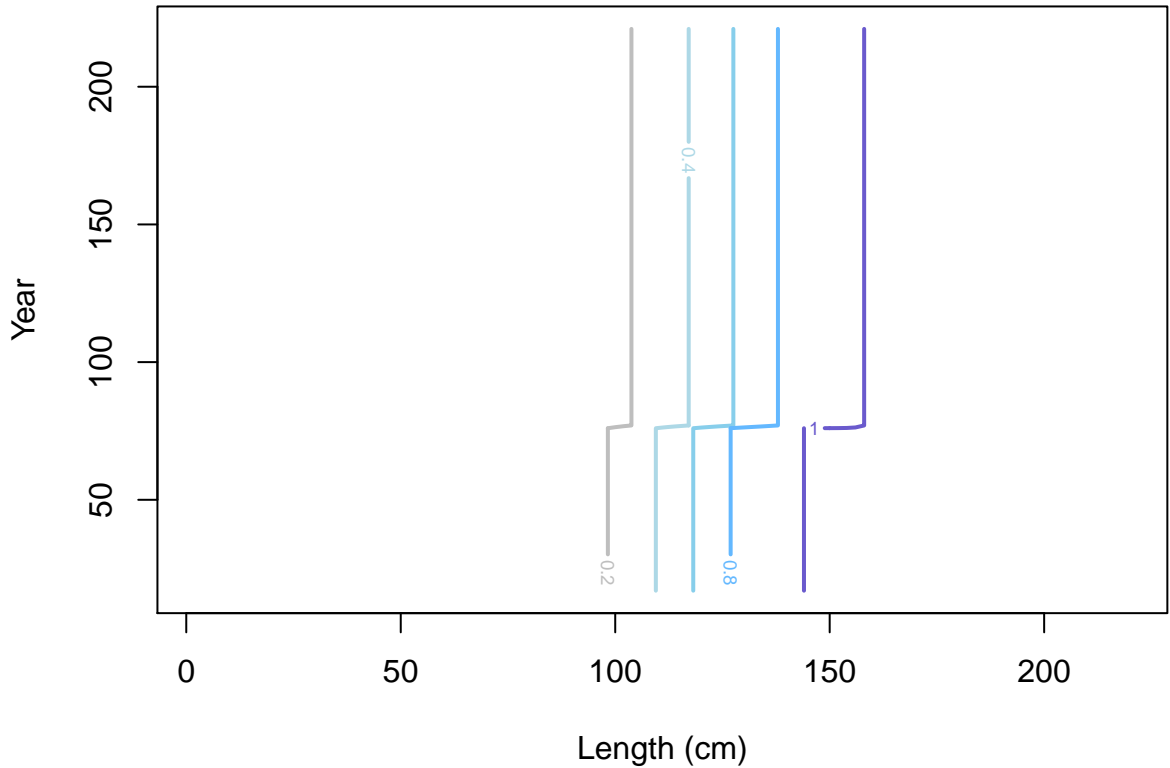
## Female ending year selectivity for A4-LL-w



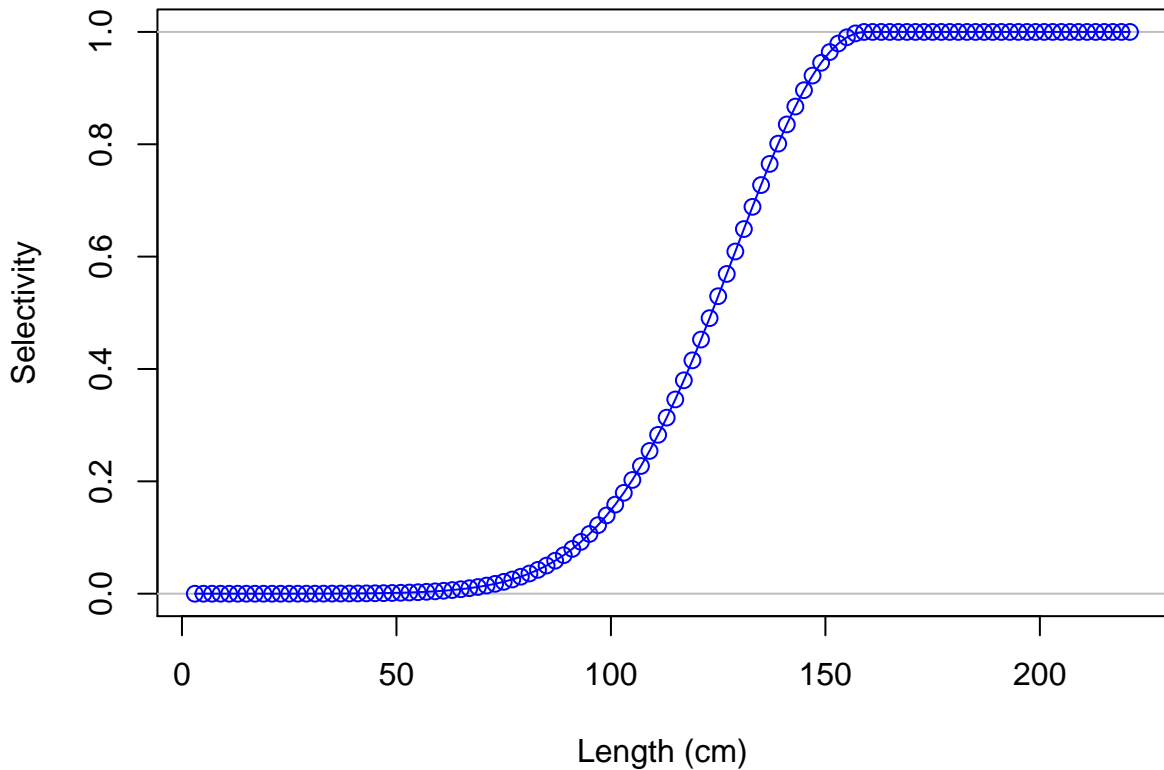
## Male time-varying selectivity for A4-LL-w



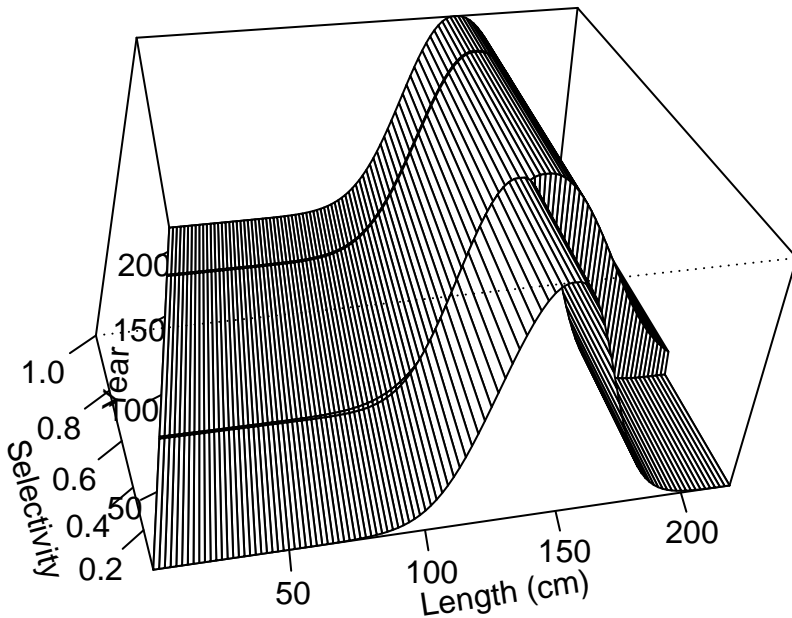
# Male time-varying selectivity for A4-LL-w



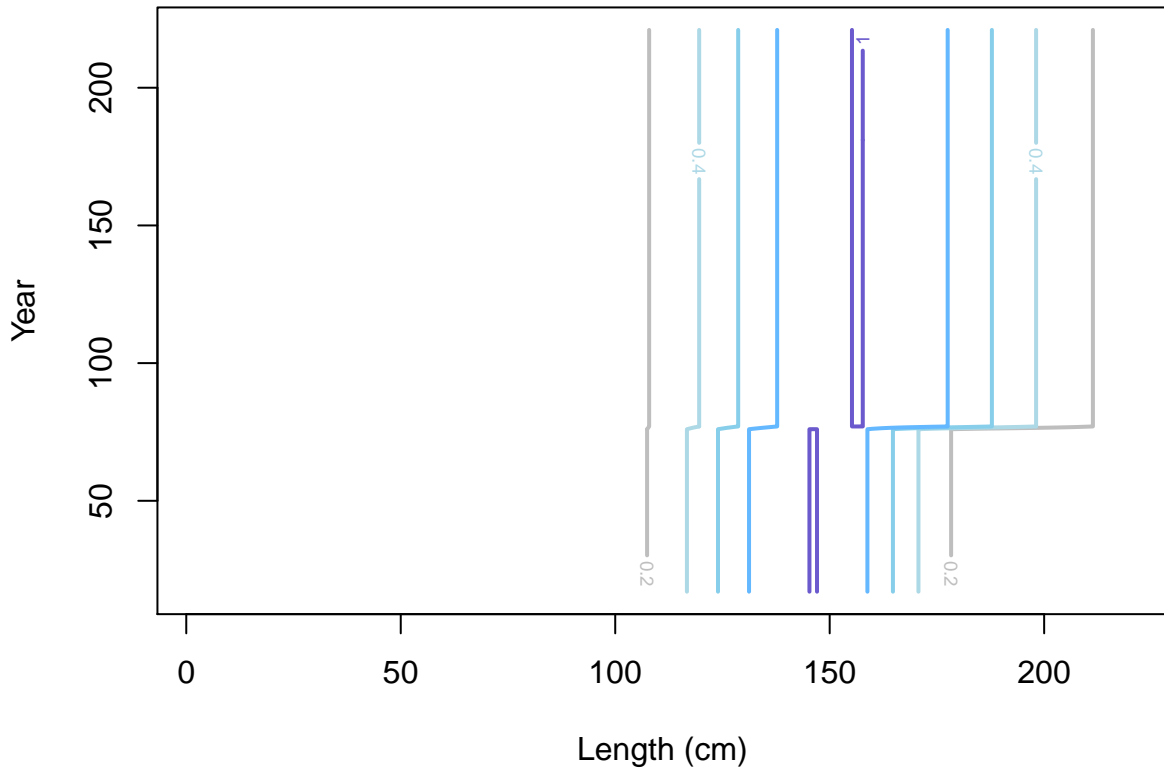
## Male ending year selectivity for A4-LL-w



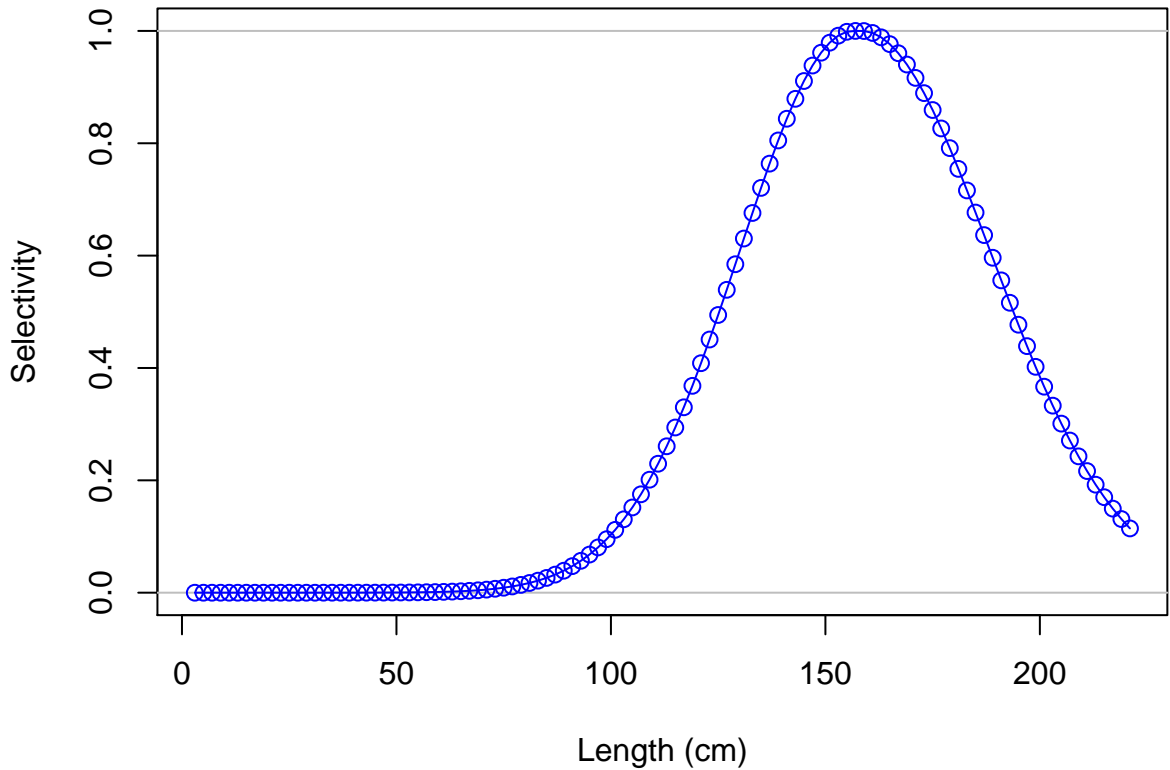
## Female time-varying selectivity for A5-LL-w



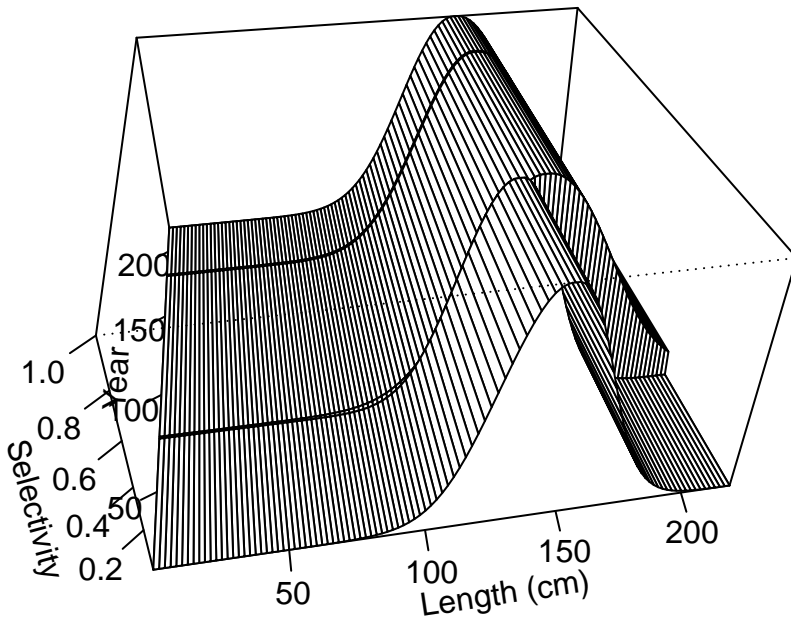
## Female time-varying selectivity for A5-LL-w



## Female ending year selectivity for A5-LL-w

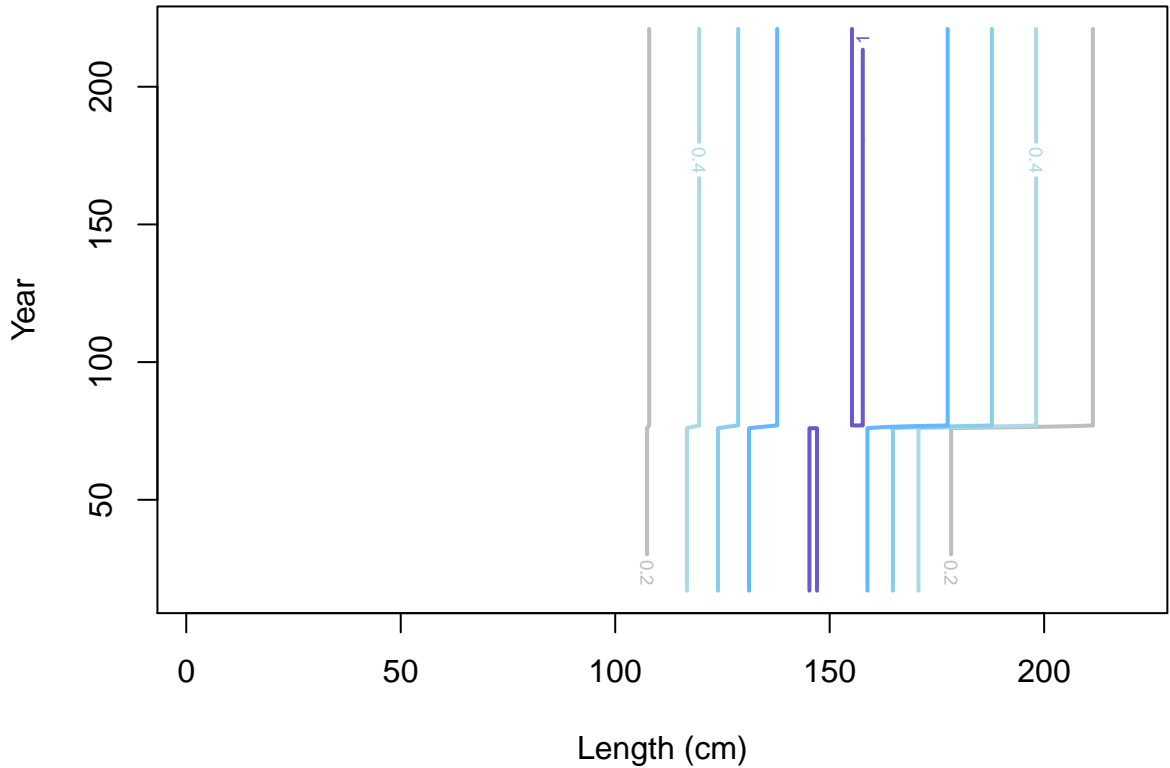


# Male time-varying selectivity for A5-LL-w

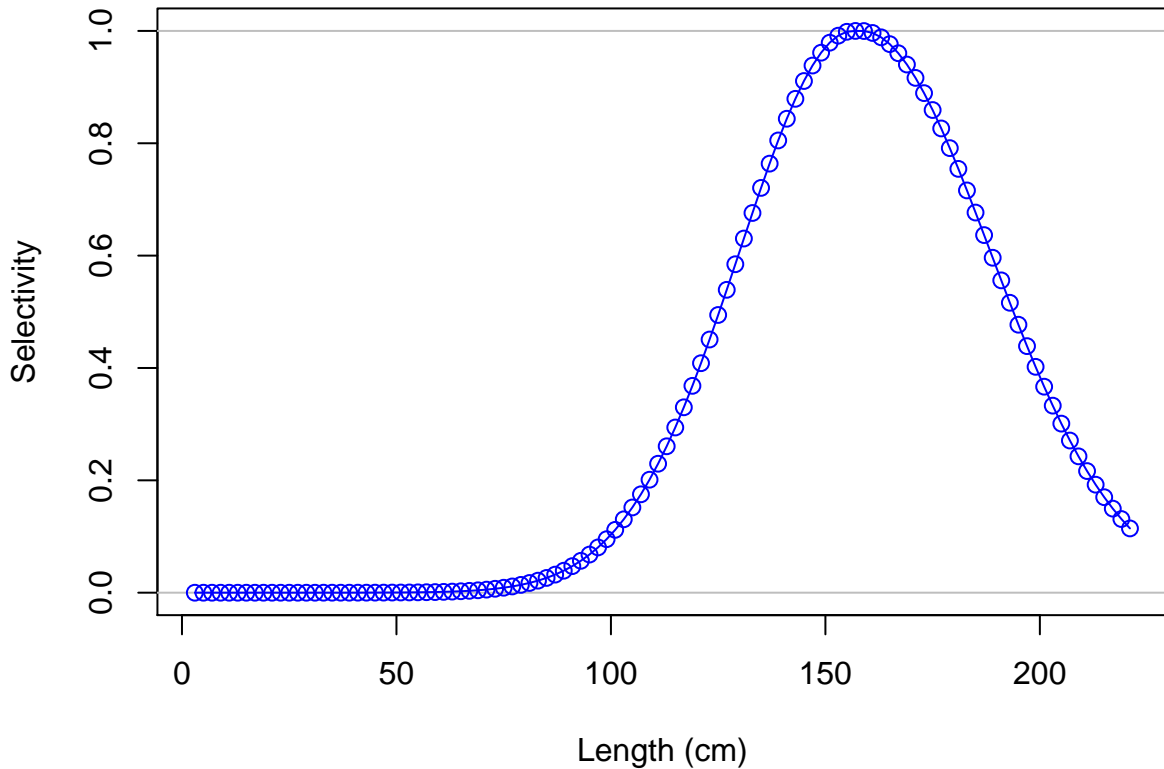




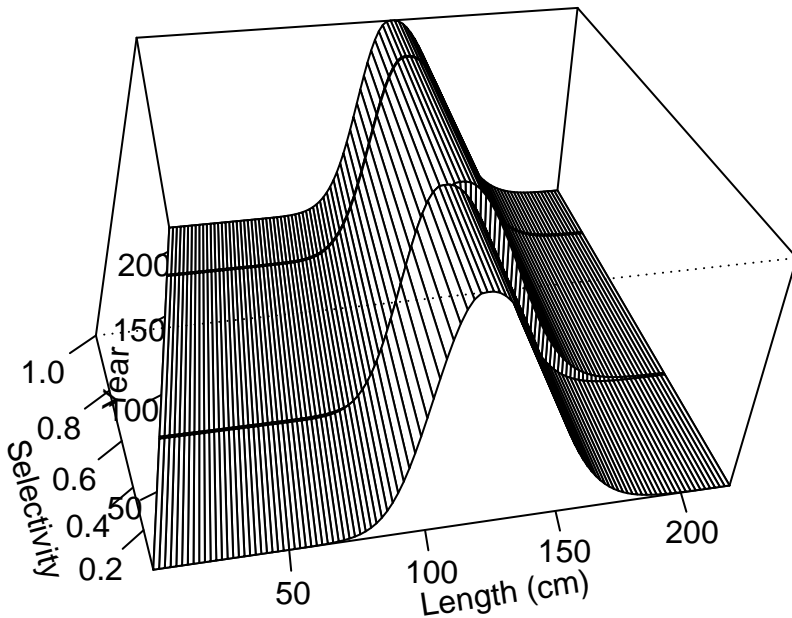
# Male time-varying selectivity for A5-LL-w



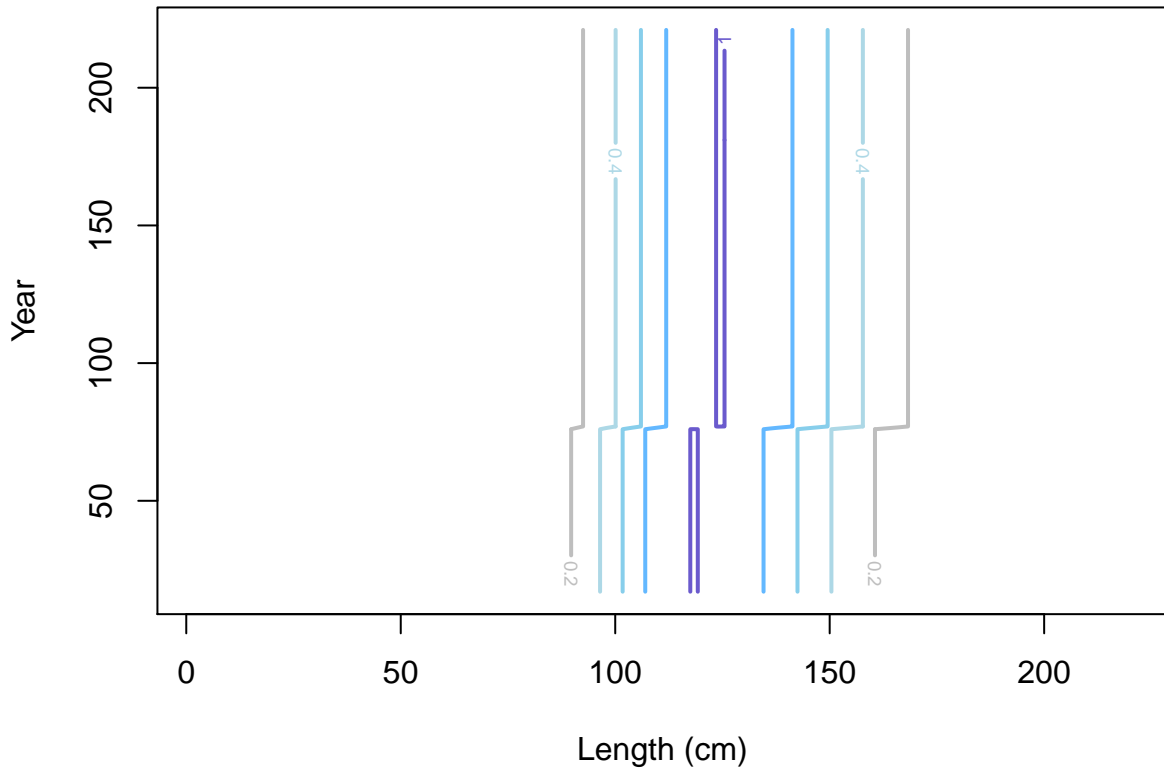
### Male ending year selectivity for A5-LL-w



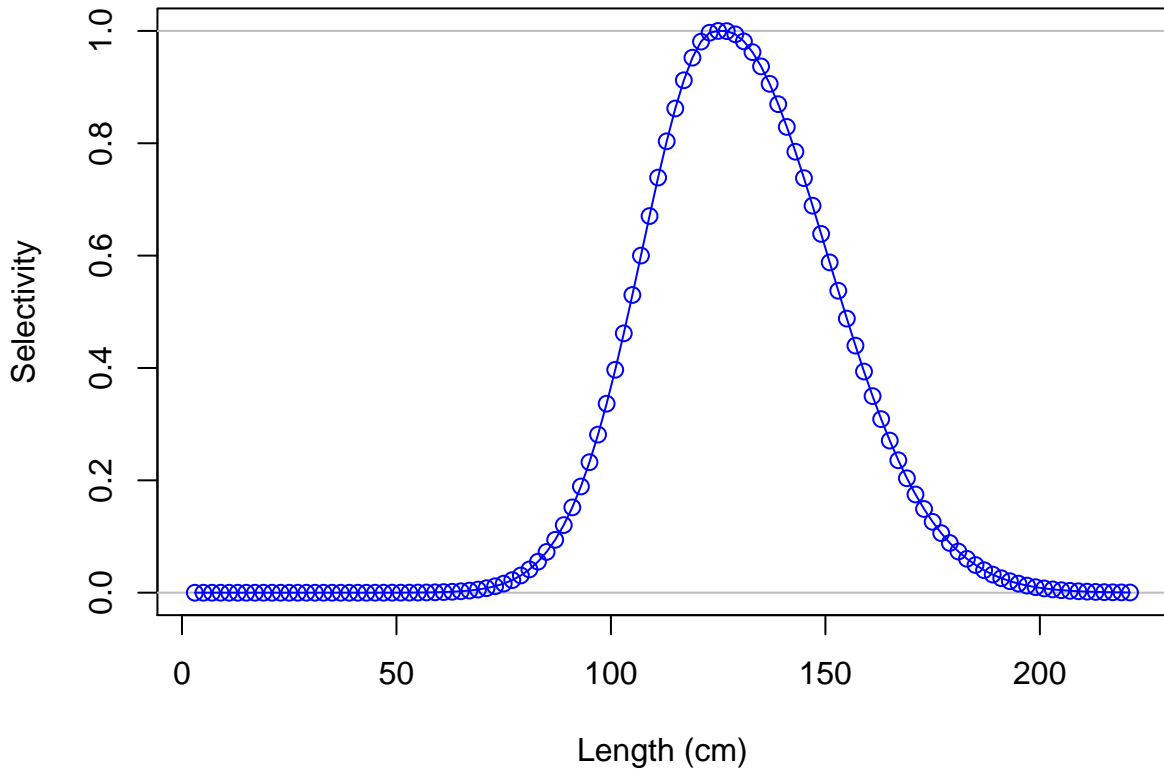
## Female time-varying selectivity for A6-LL-w



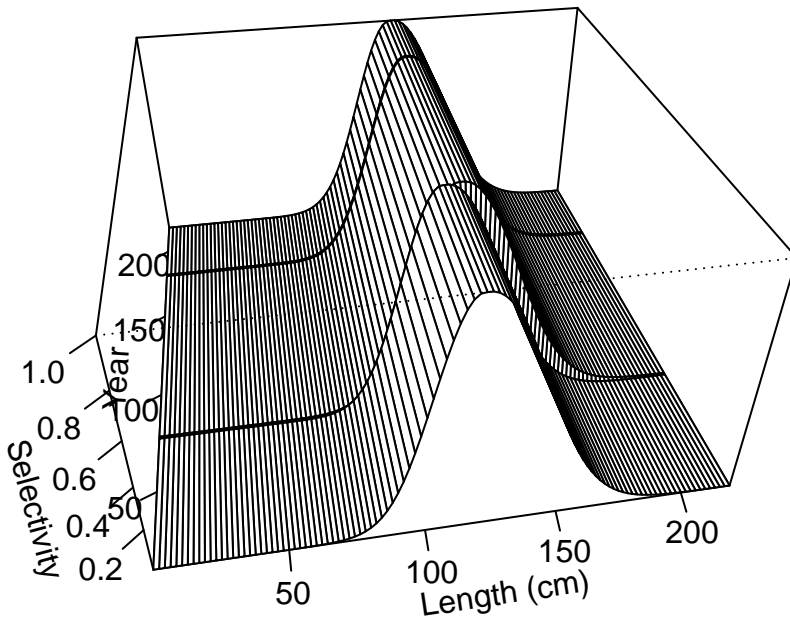
# Female time-varying selectivity for A6-LL-w



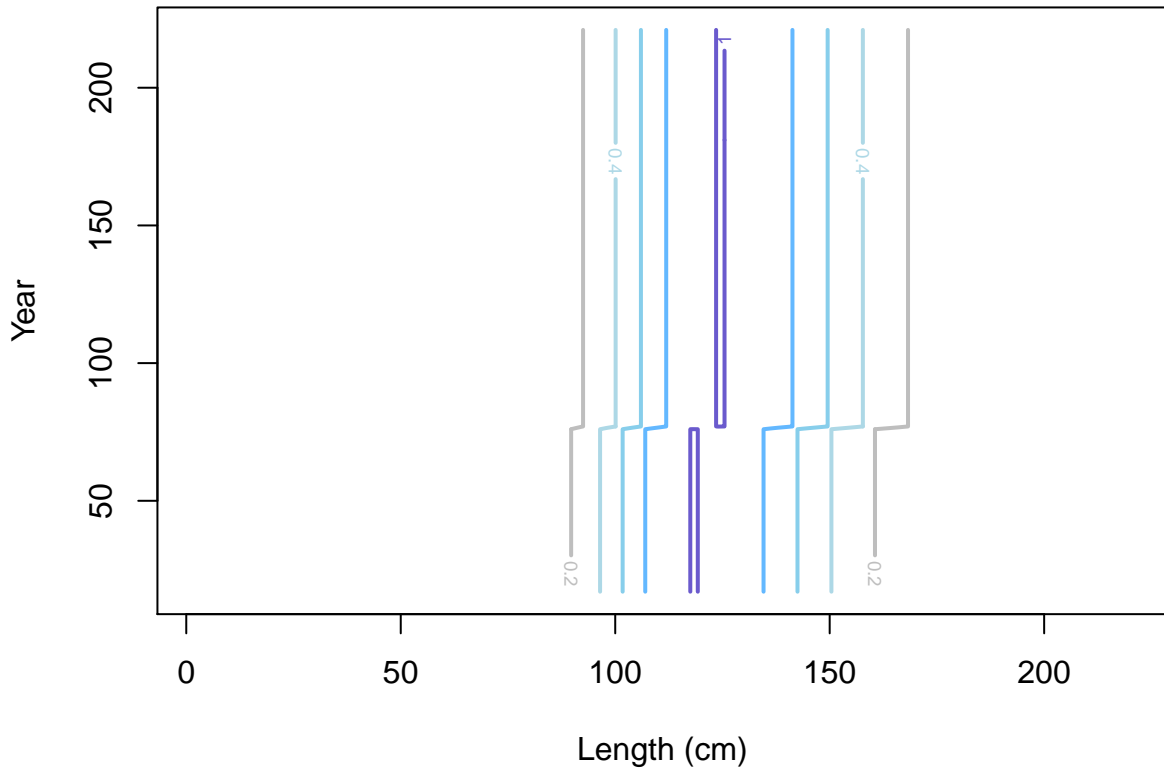
## Female ending year selectivity for A6-LL-w



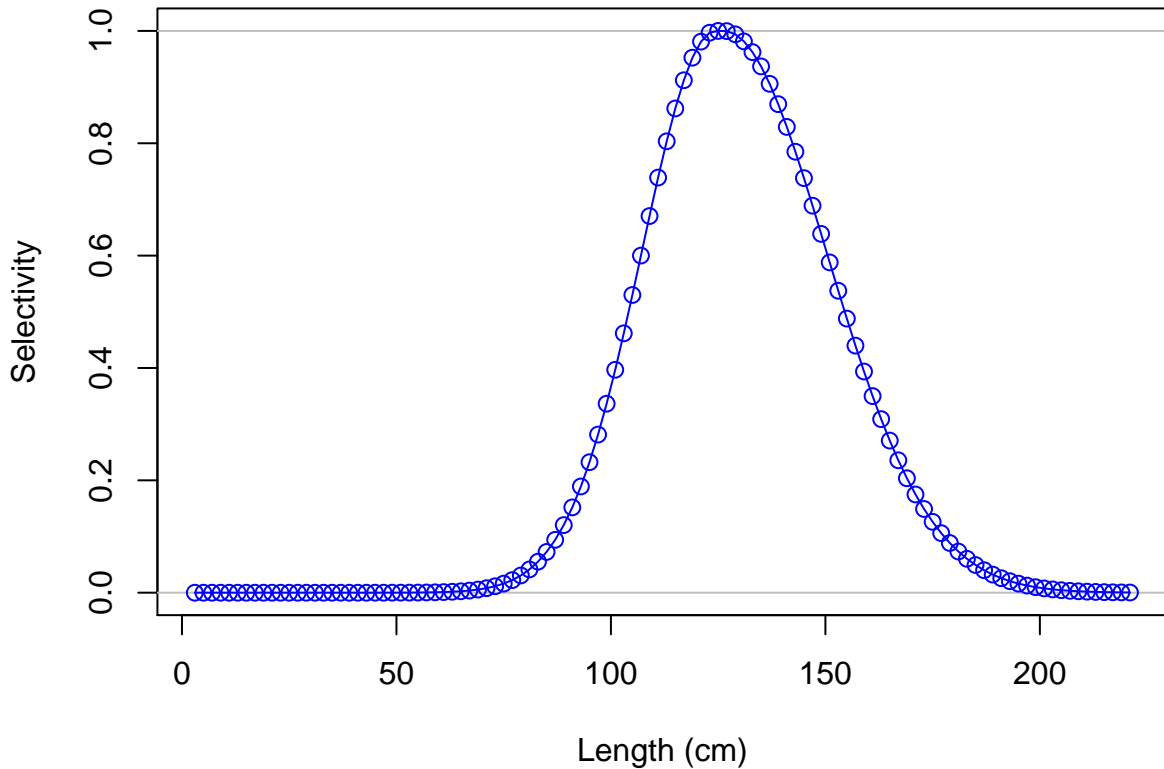
# Male time-varying selectivity for A6-LL-w



# Male time-varying selectivity for A6-LL-w

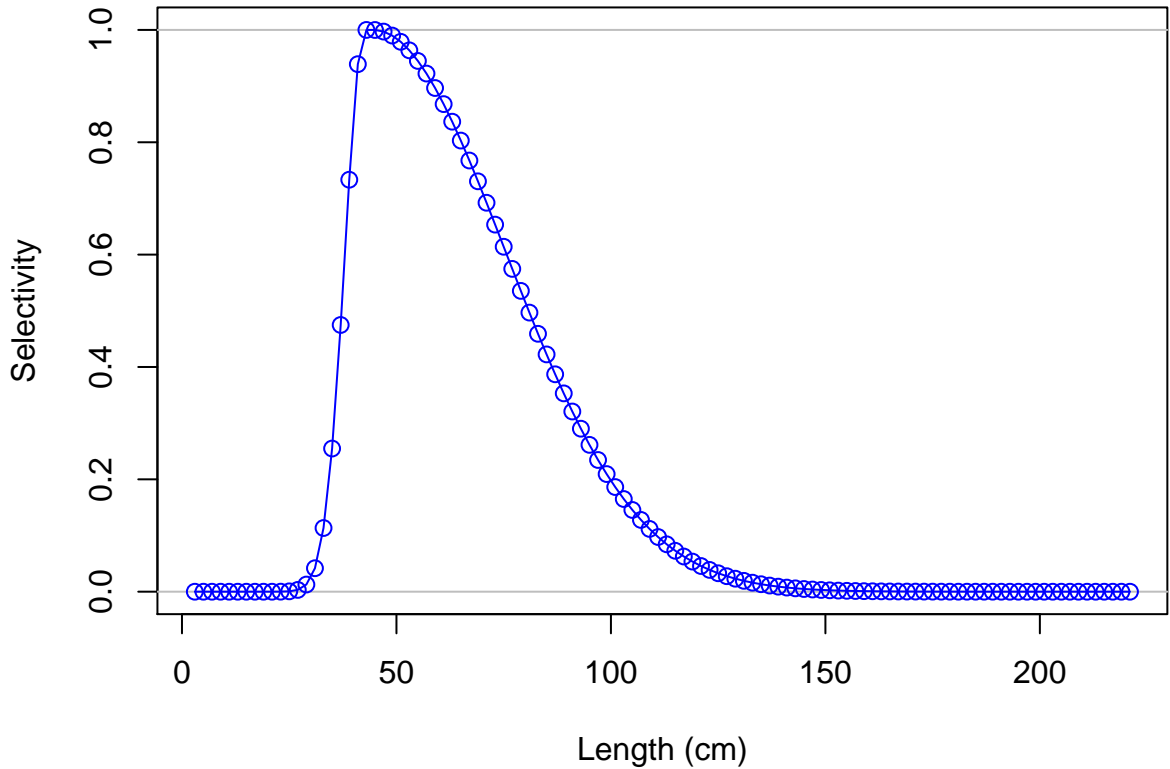


# Male ending year selectivity for A6-LL-w

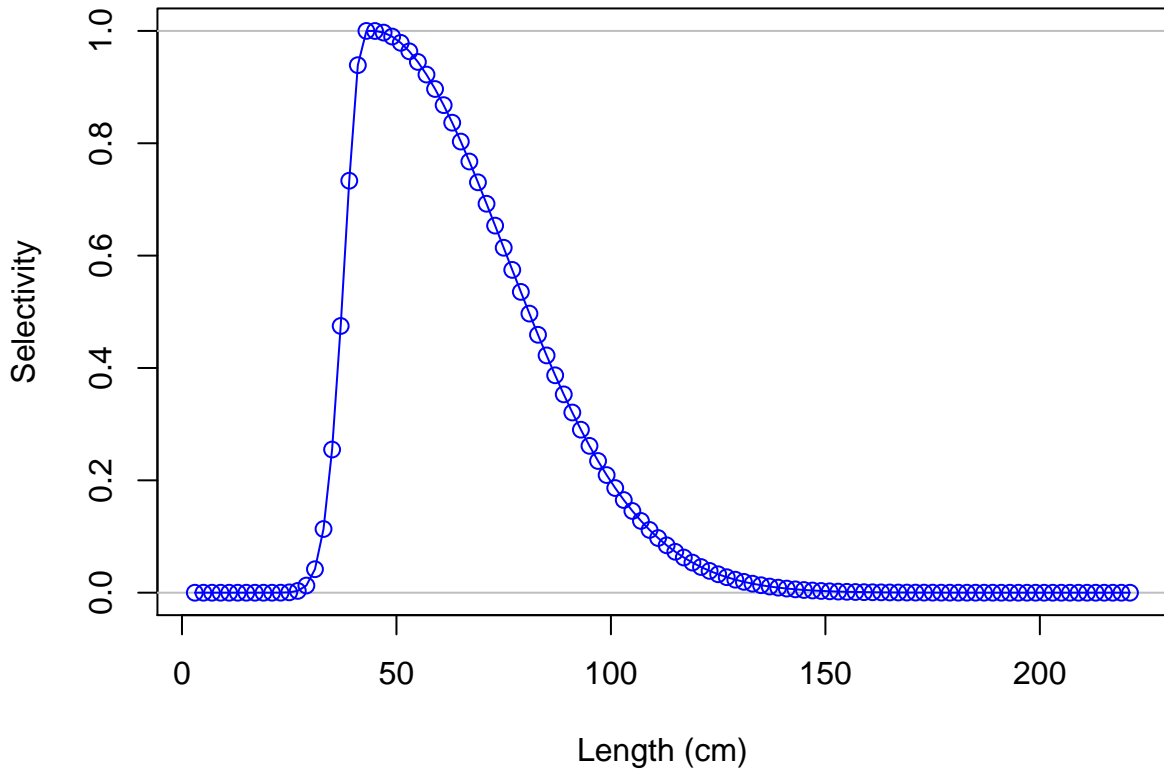




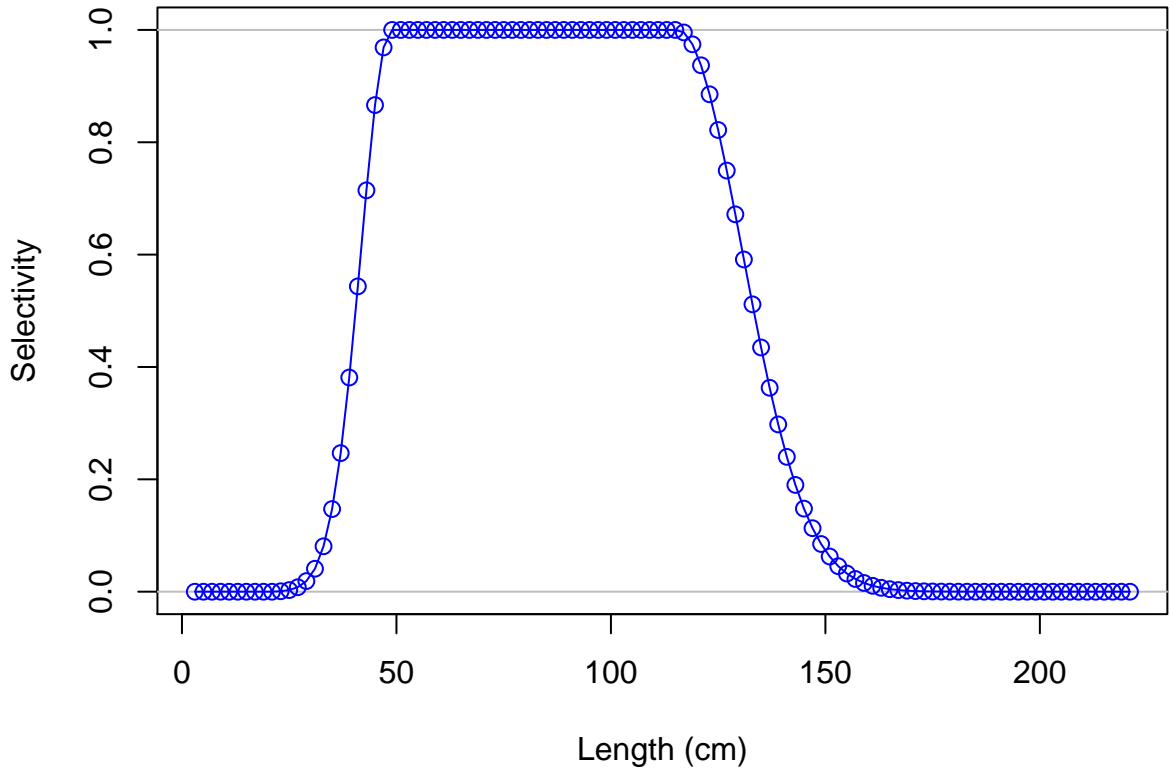
## Female ending year selectivity for A2-OBJ



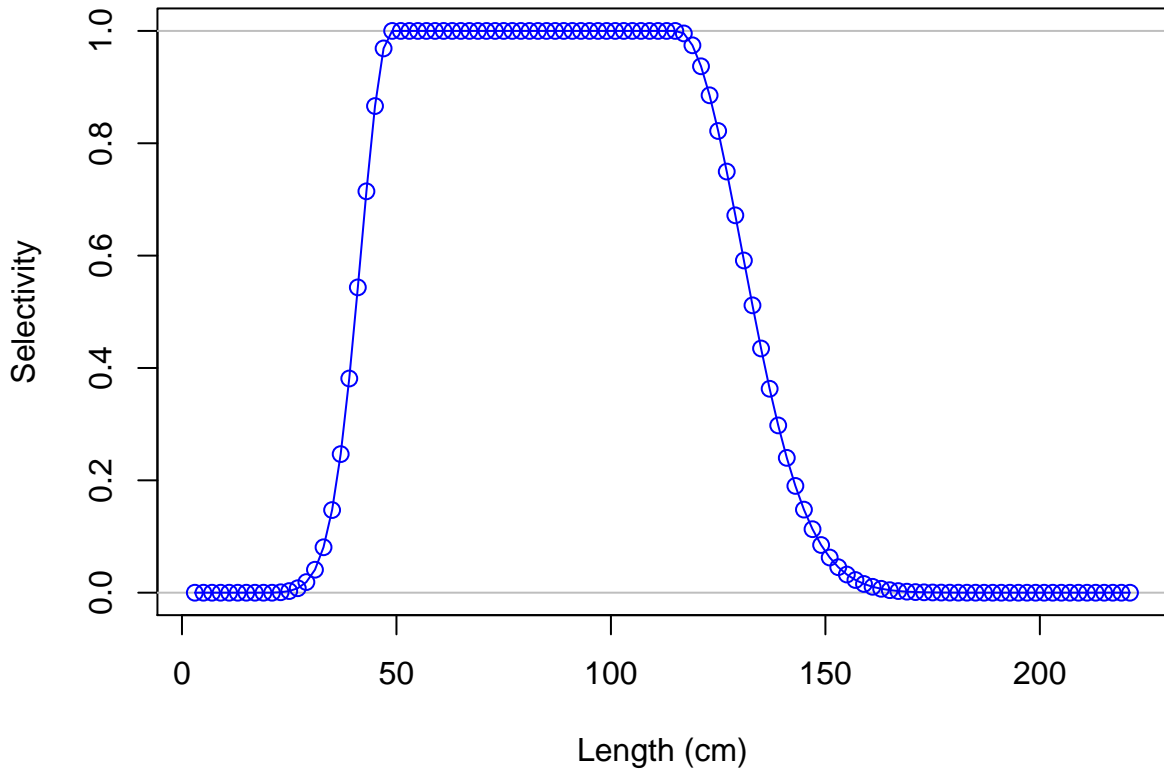
## Male ending year selectivity for A2-OBJ



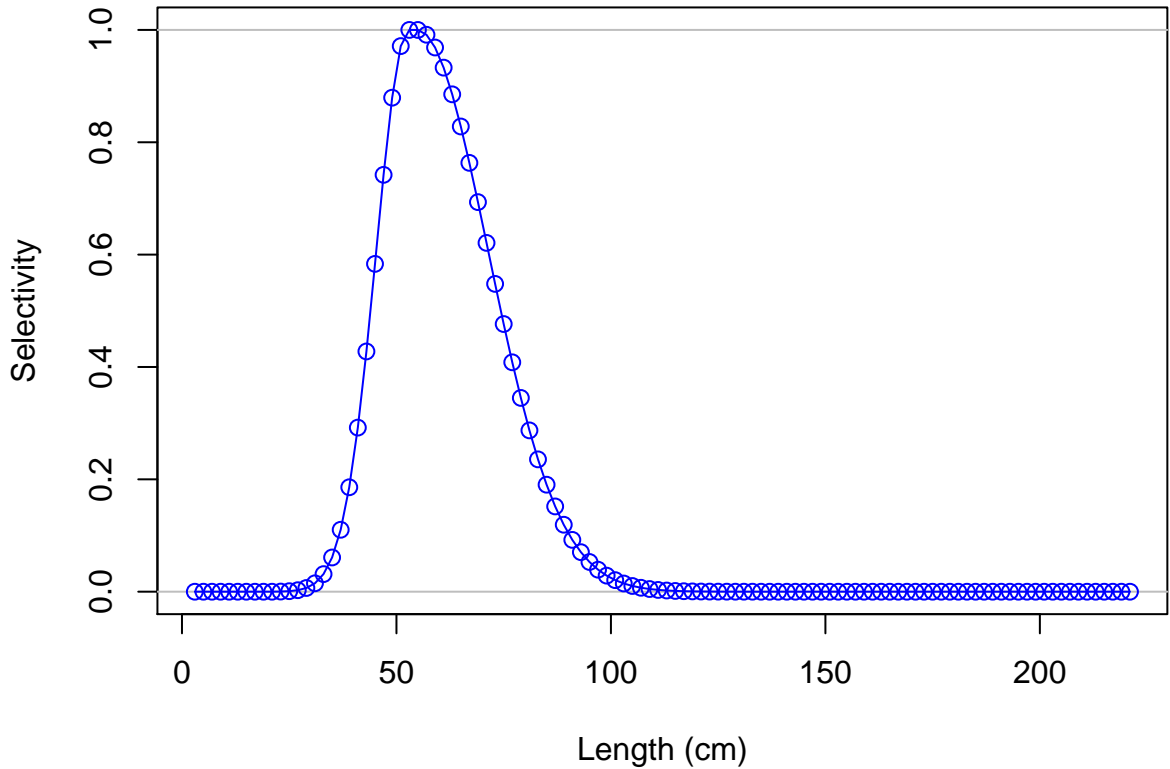
## Female ending year selectivity for A3-OBJ



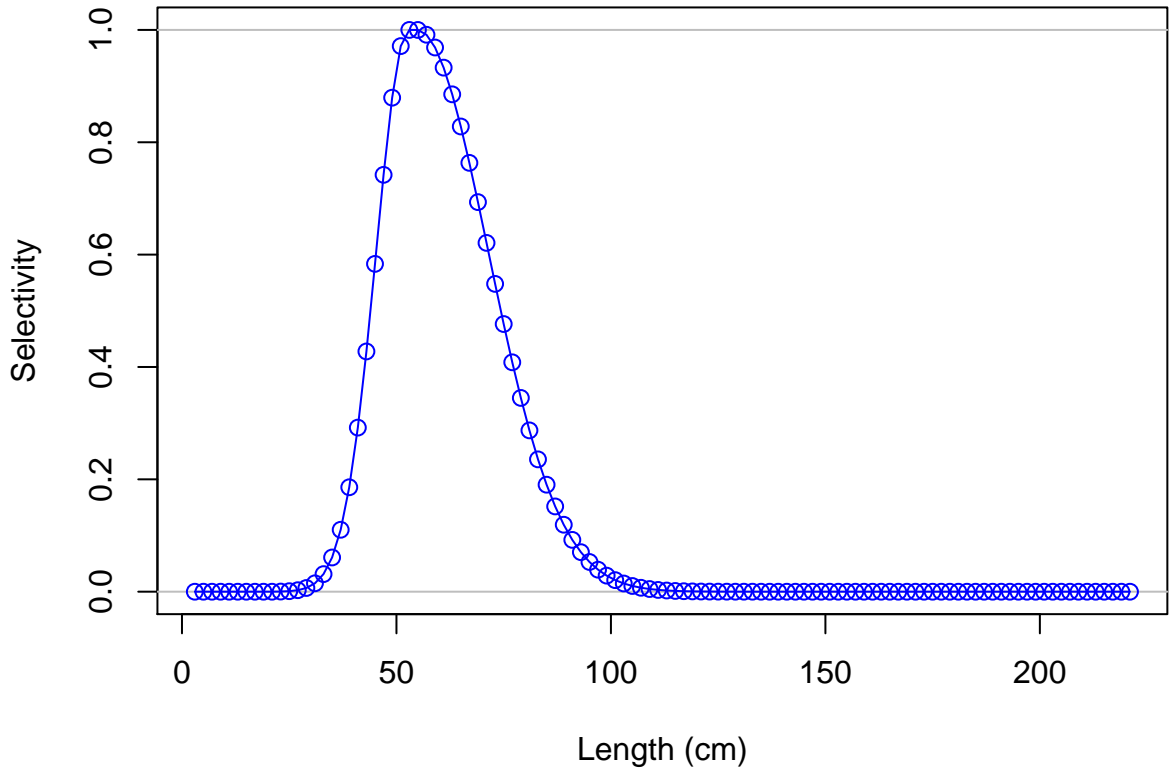
## Male ending year selectivity for A3-OBJ



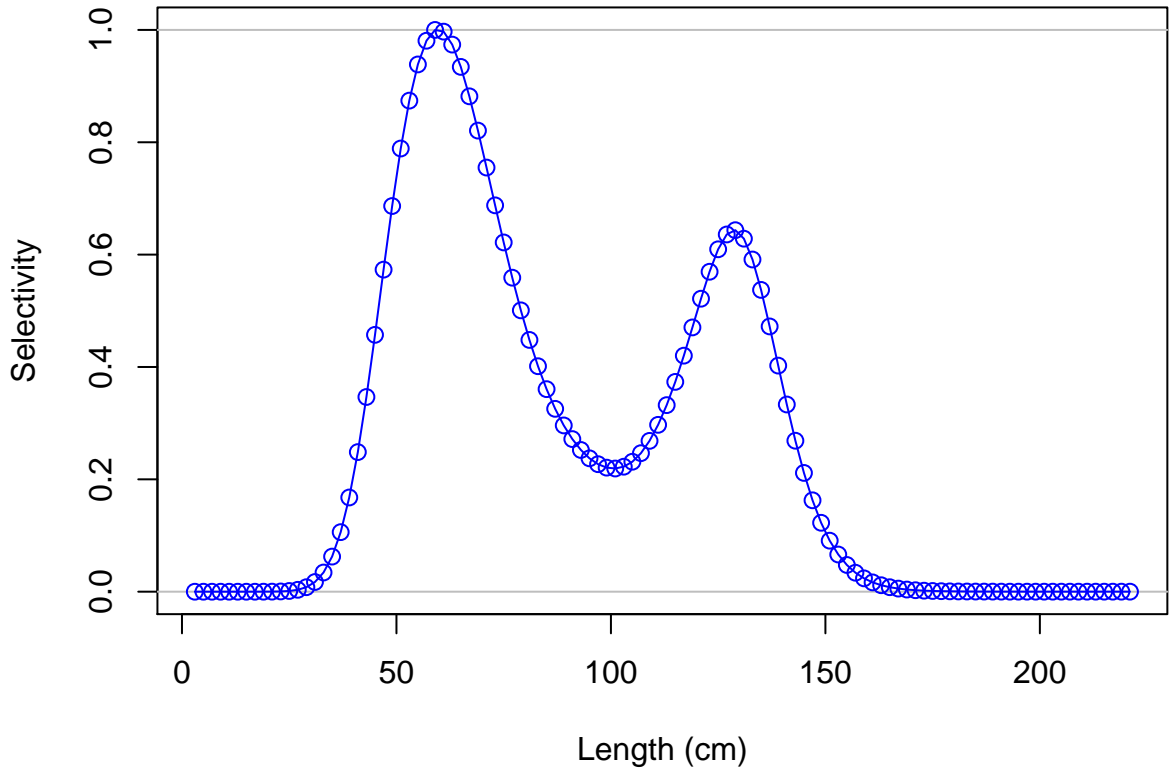
## Female ending year selectivity for A4-OBJ



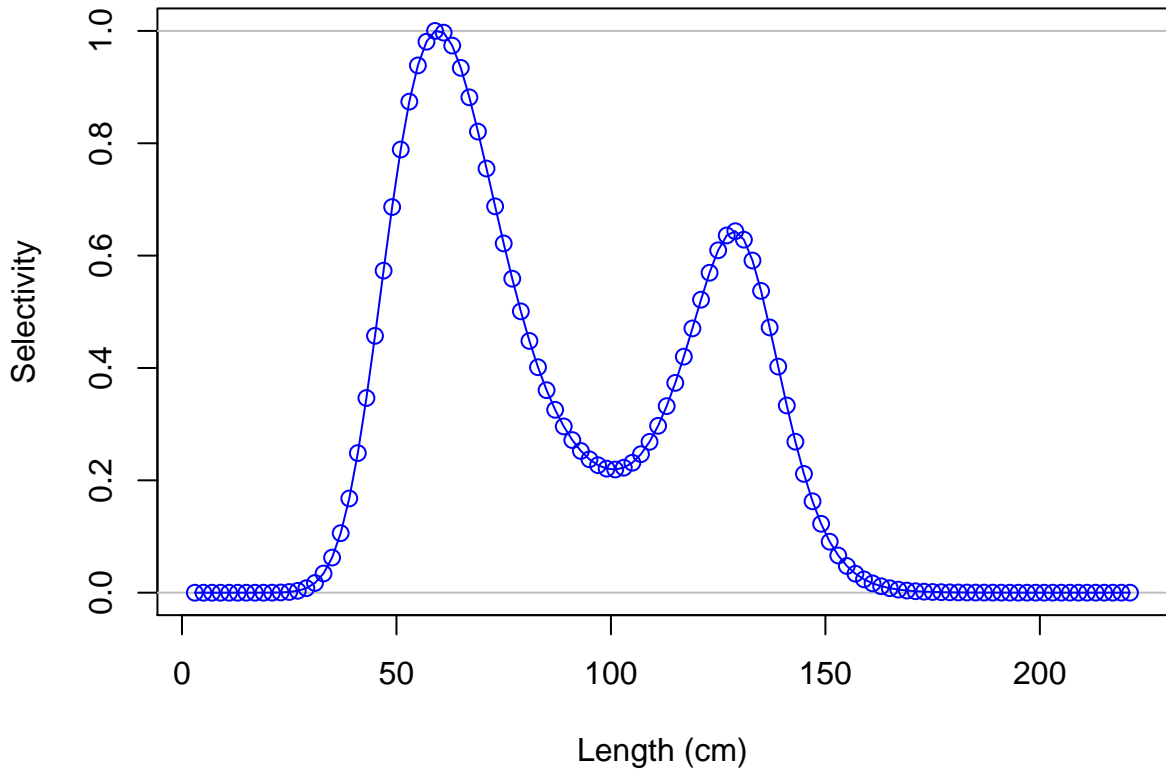
# Male ending year selectivity for A4-OBJ



## Female ending year selectivity for A5-OBJ

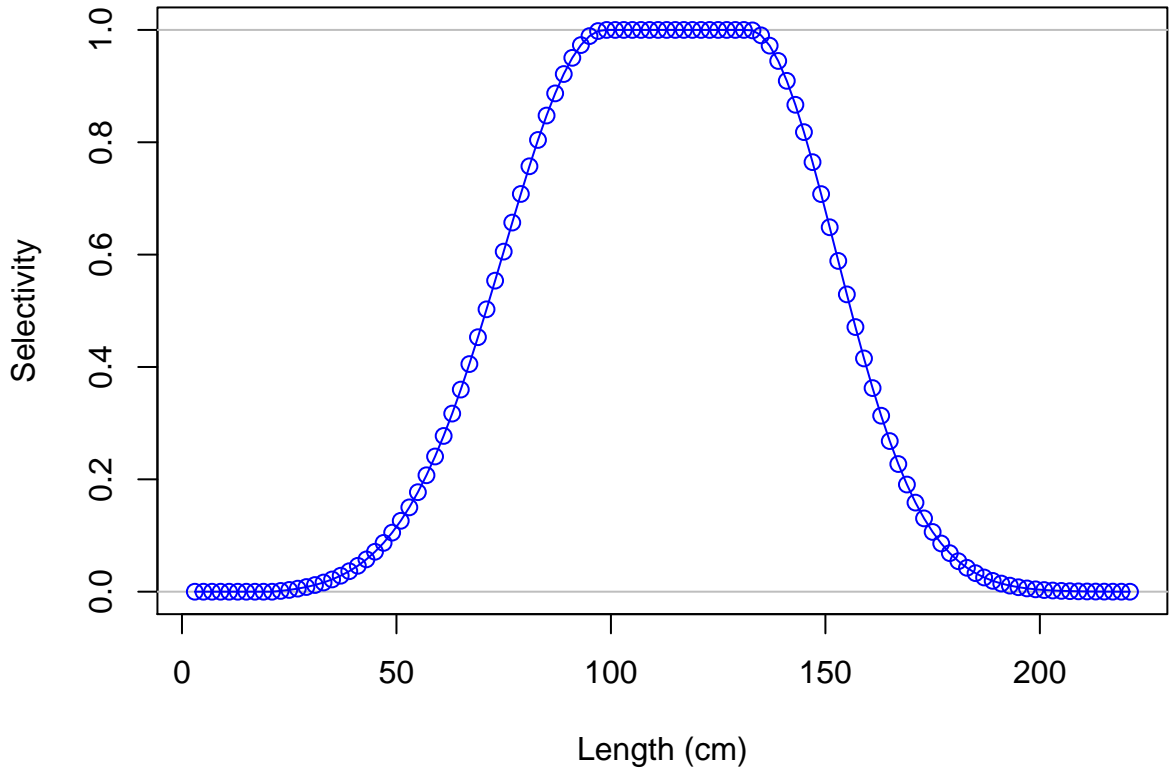


## Male ending year selectivity for A5-OBJ

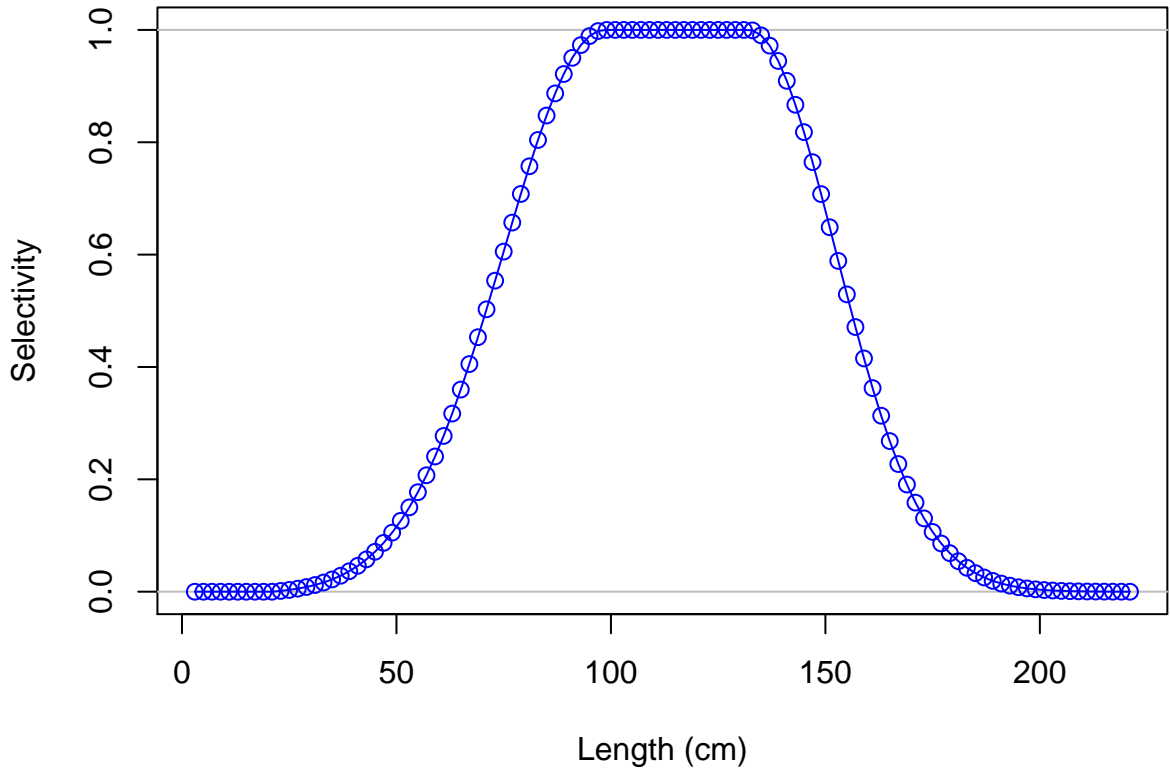




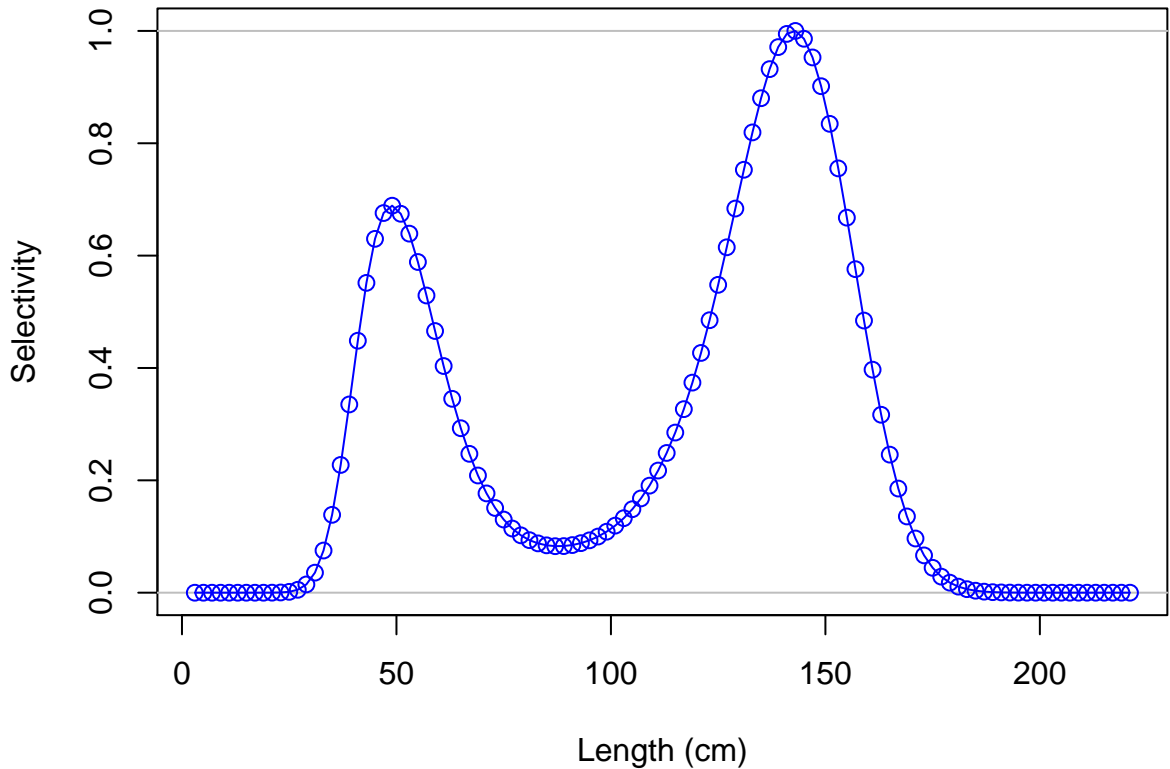
## Female ending year selectivity for A6-OBJ



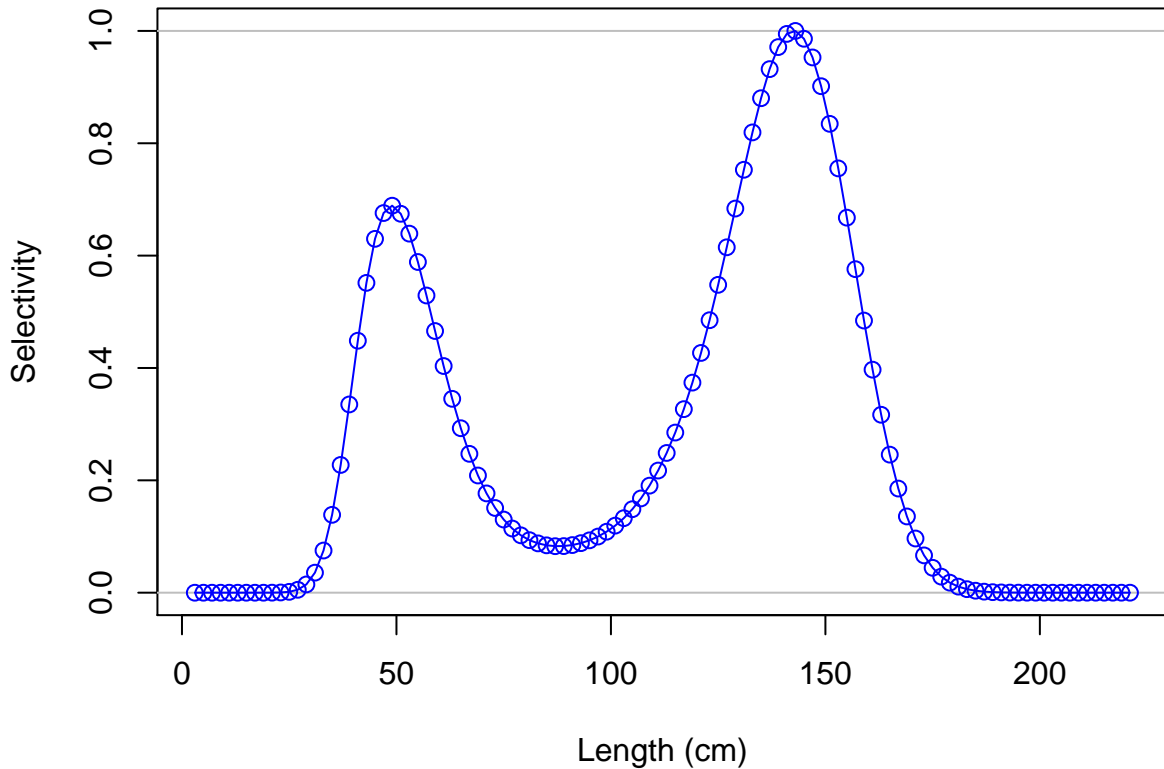
## Male ending year selectivity for A6-OBJ



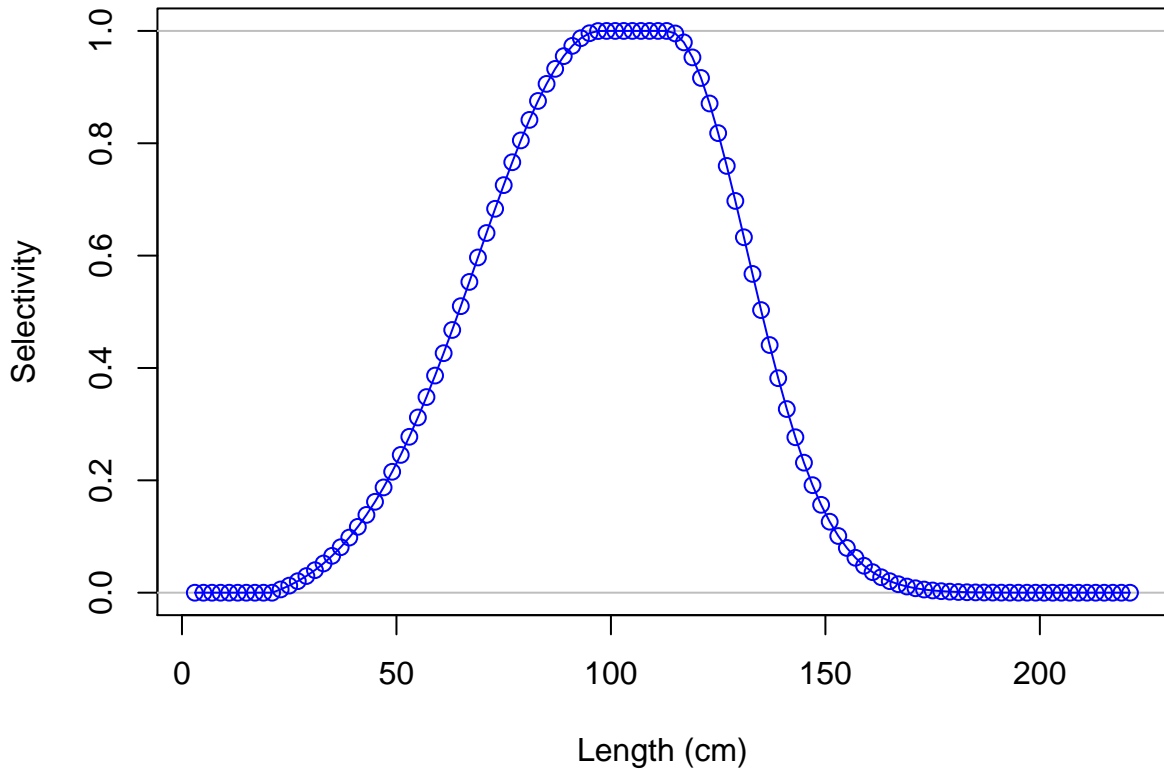
## Female ending year selectivity for A2-NOADEL



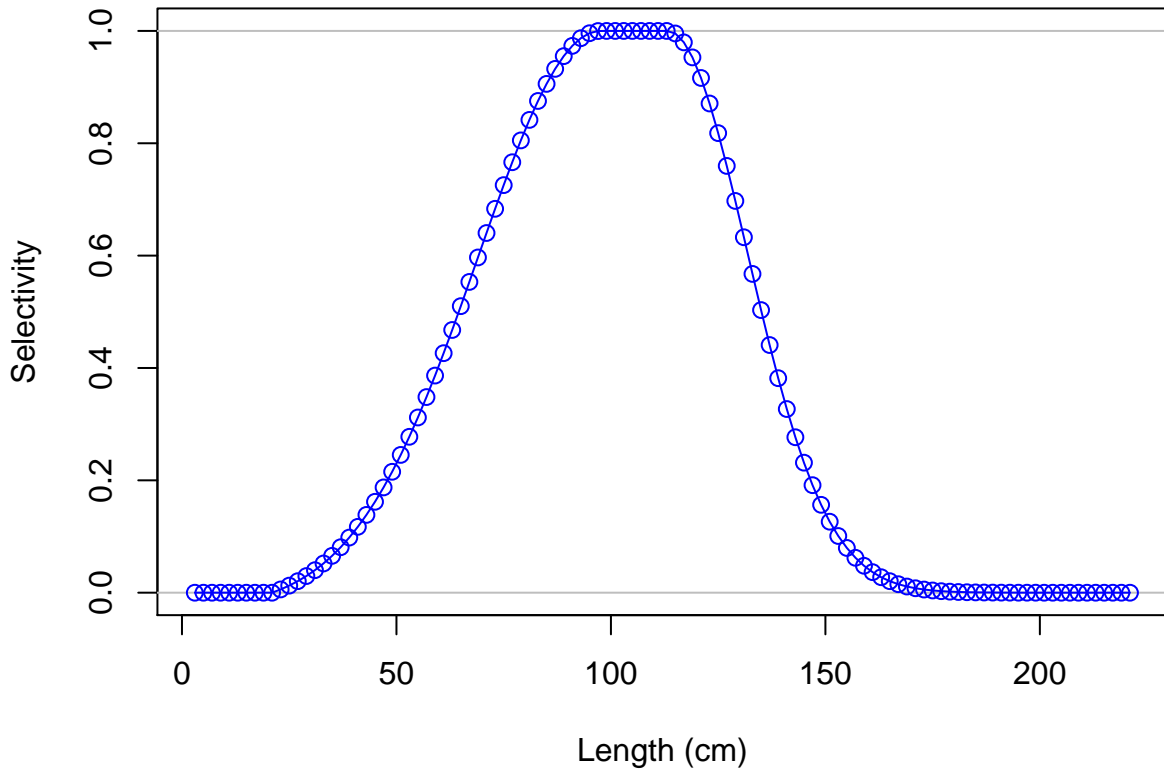
## Male ending year selectivity for A2-NOADEL



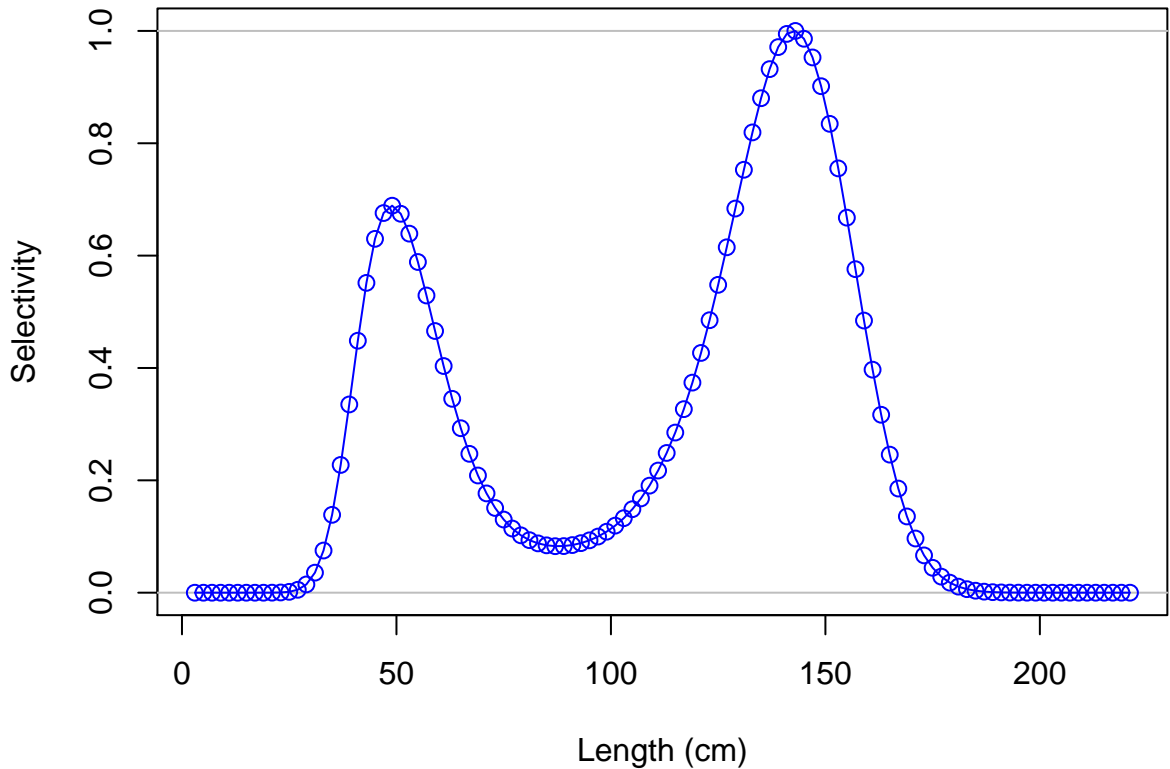
## Female ending year selectivity for A3-NOADEL



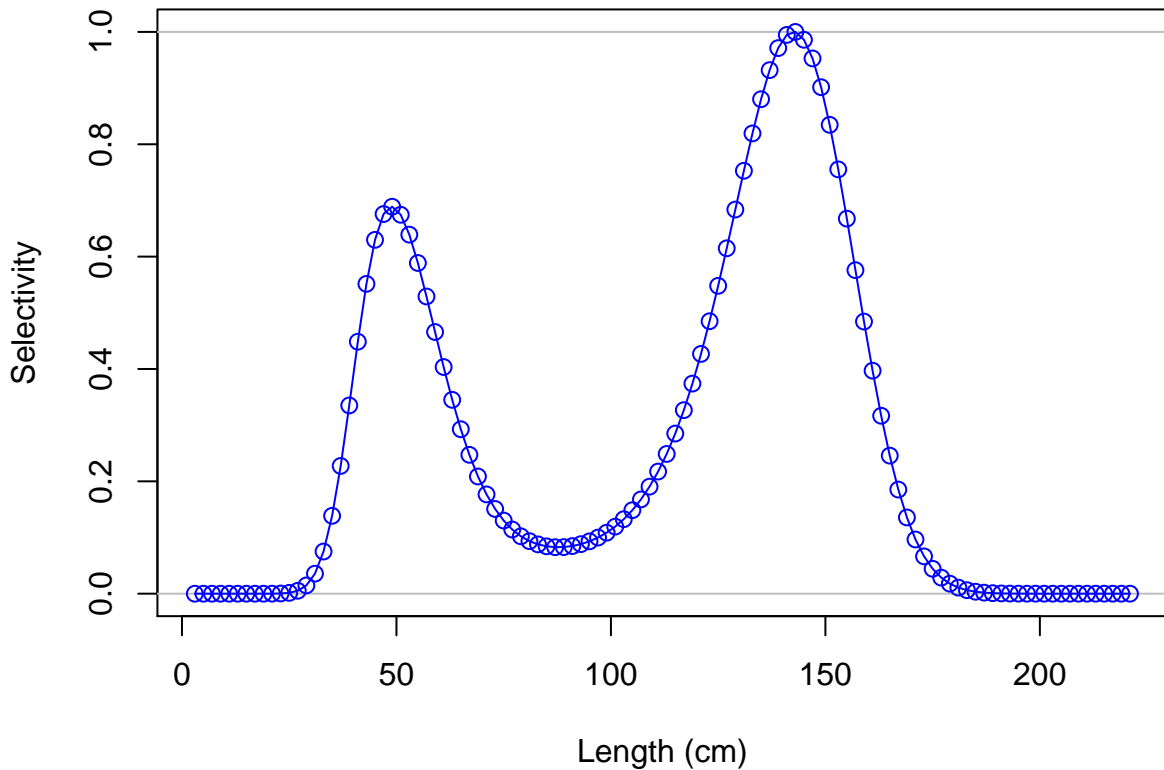
## Male ending year selectivity for A3-NOADEL



## Female ending year selectivity for A4-NOADEL

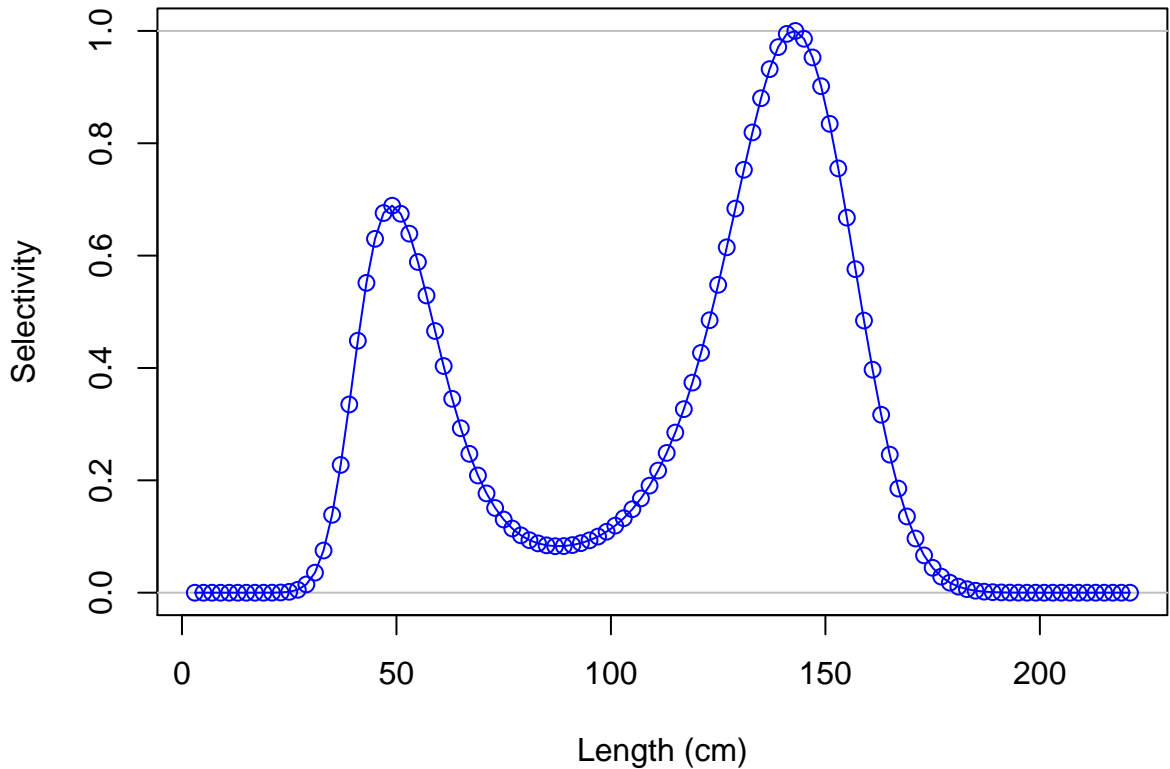


## Male ending year selectivity for A4-NOADEL

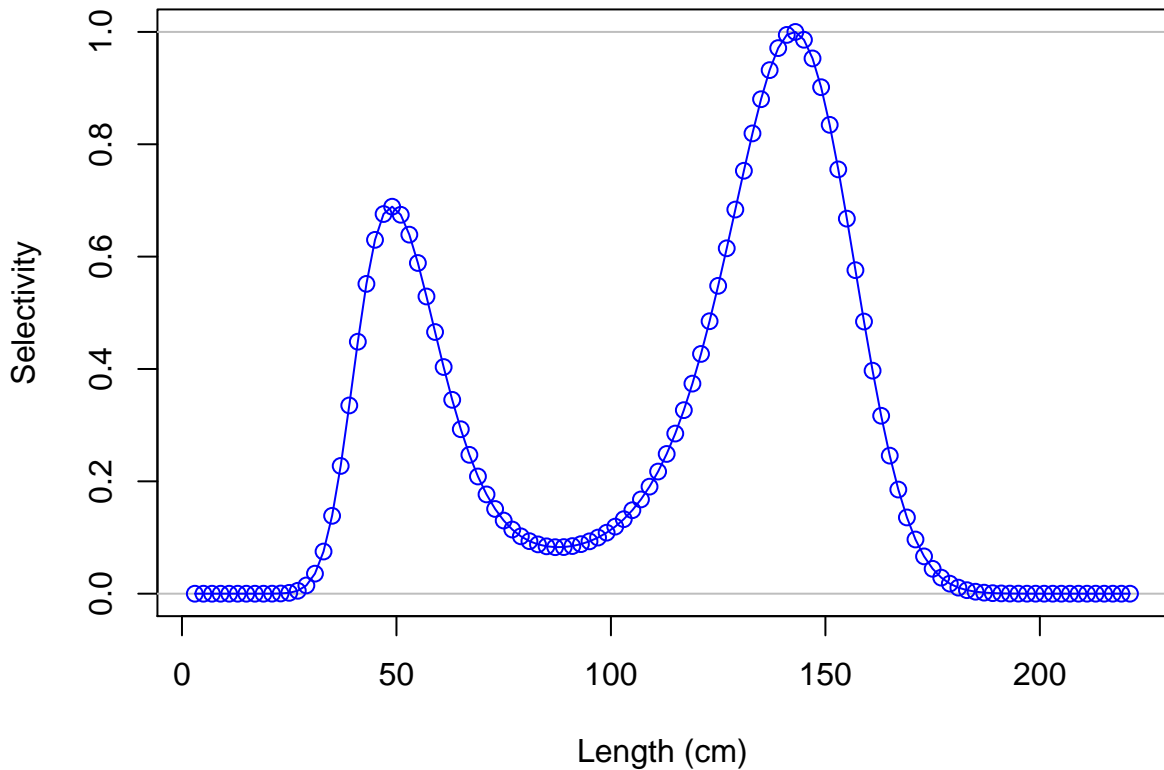




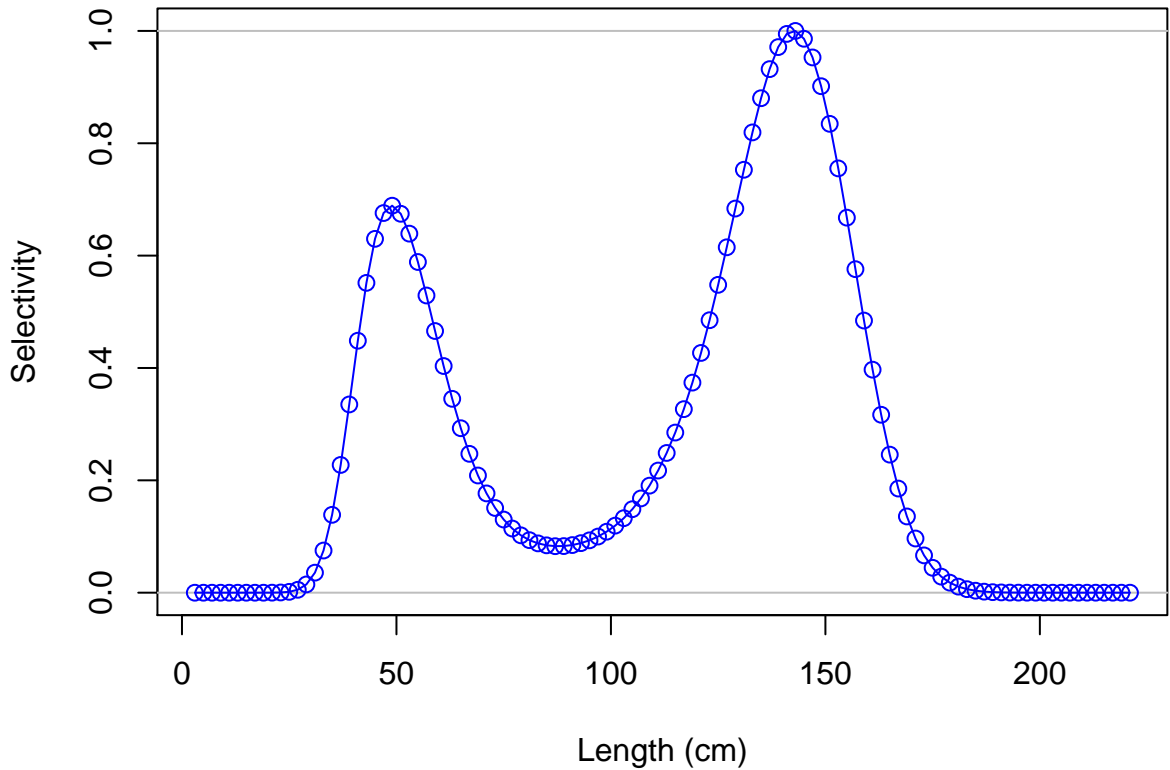
## Female ending year selectivity for A5-NOADEL



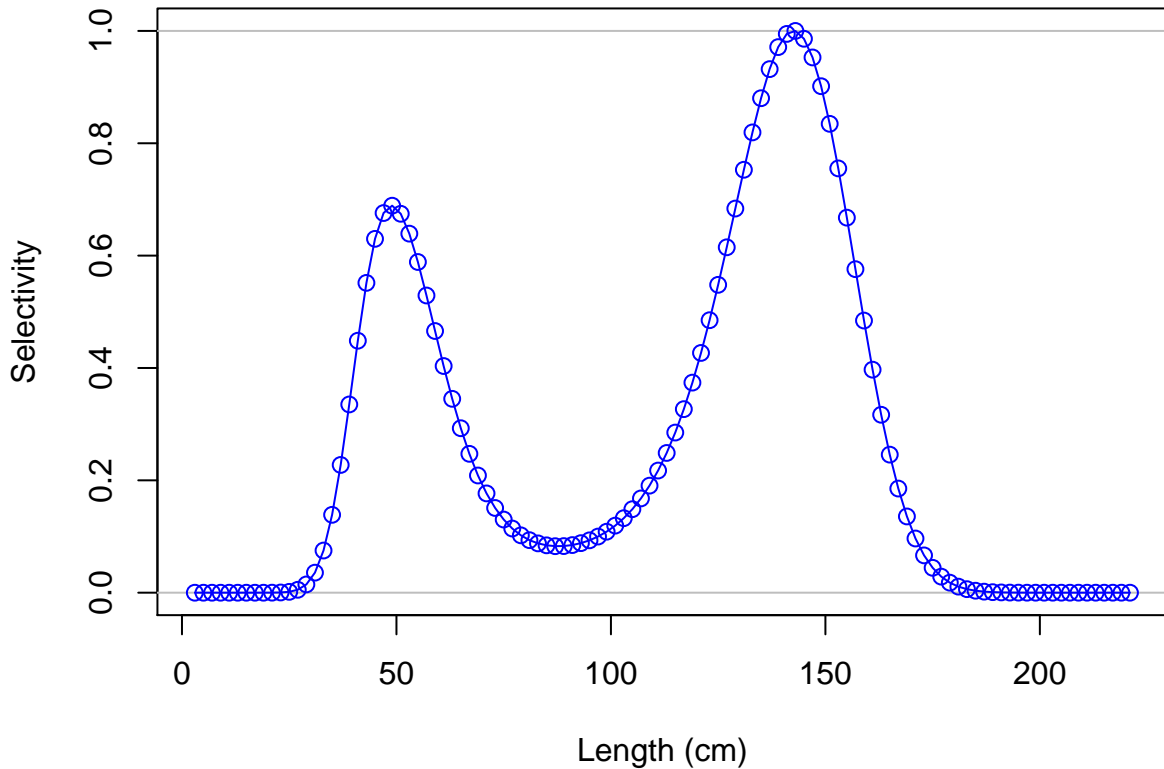
## Male ending year selectivity for A5-NOADEL



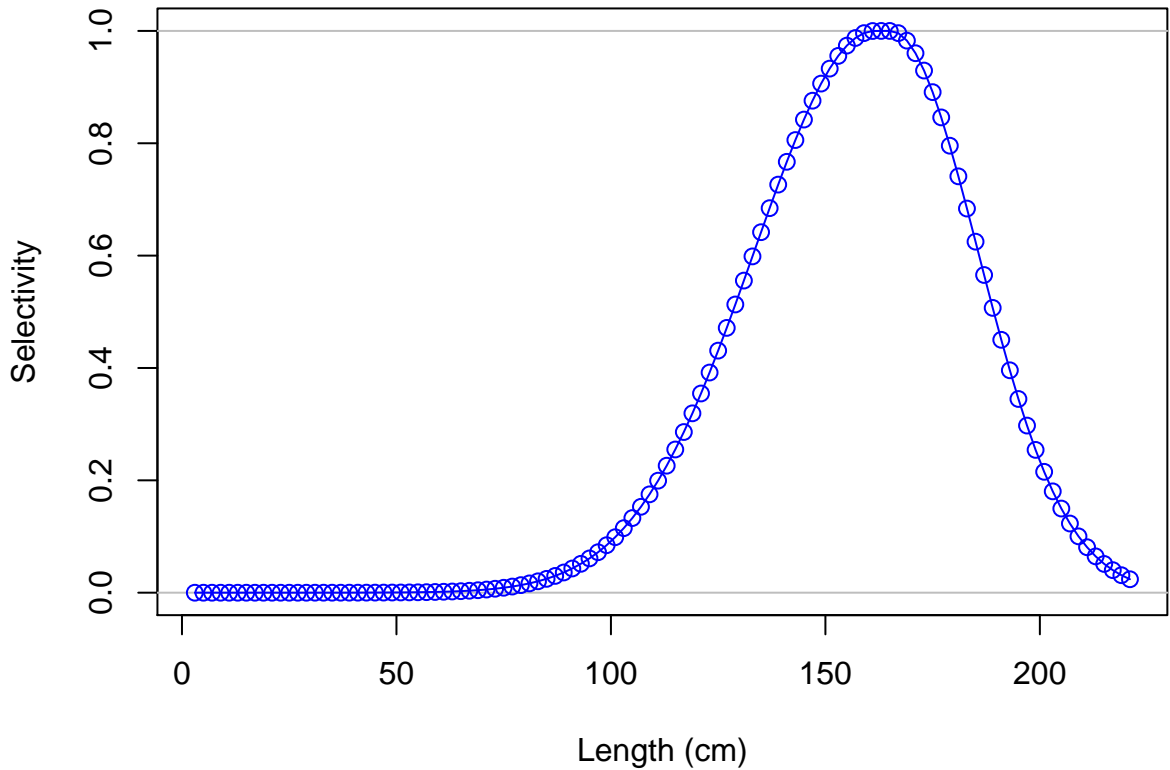
## Female ending year selectivity for A6-NOADEL



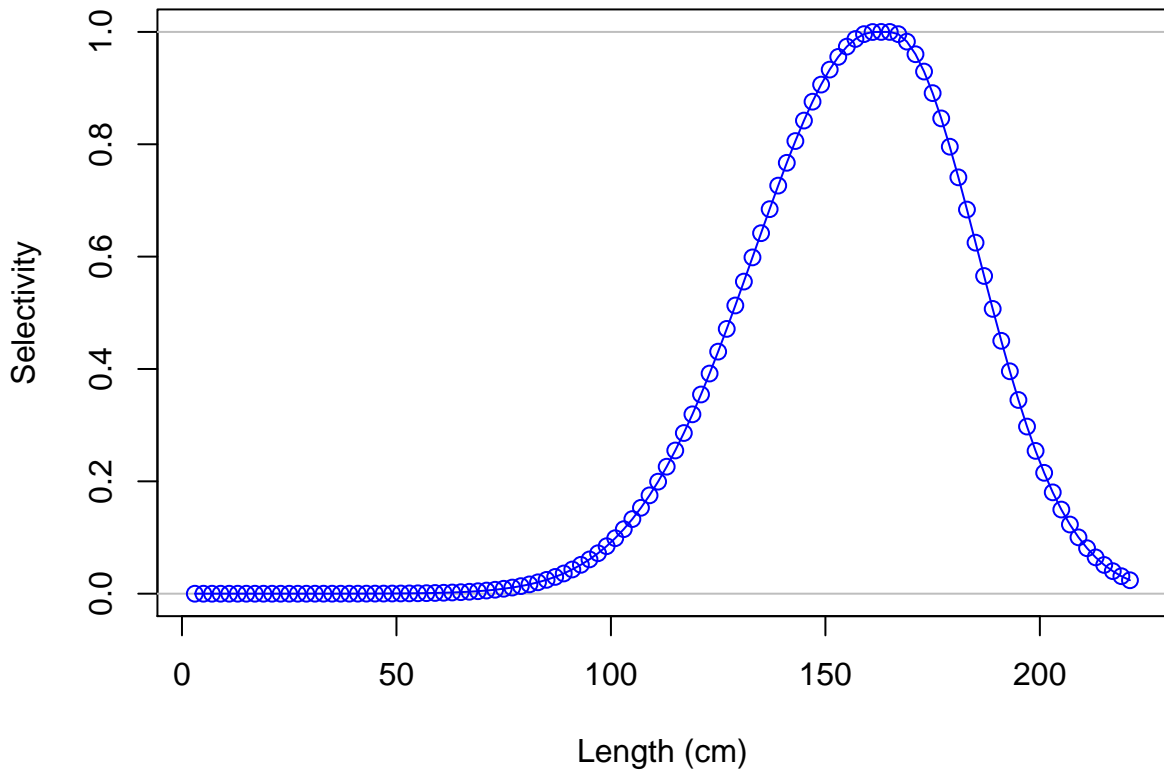
## Male ending year selectivity for A6-NOADEL



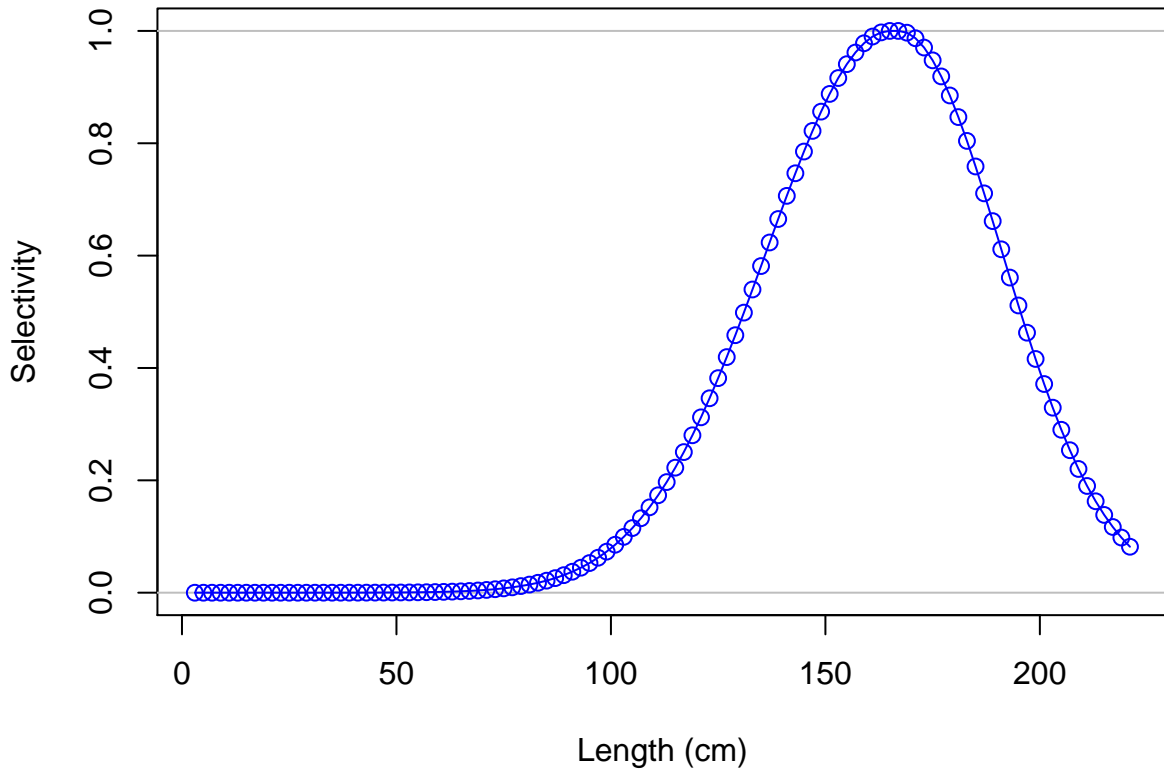
# Female ending year selectivity for EPO-LL-survey-early



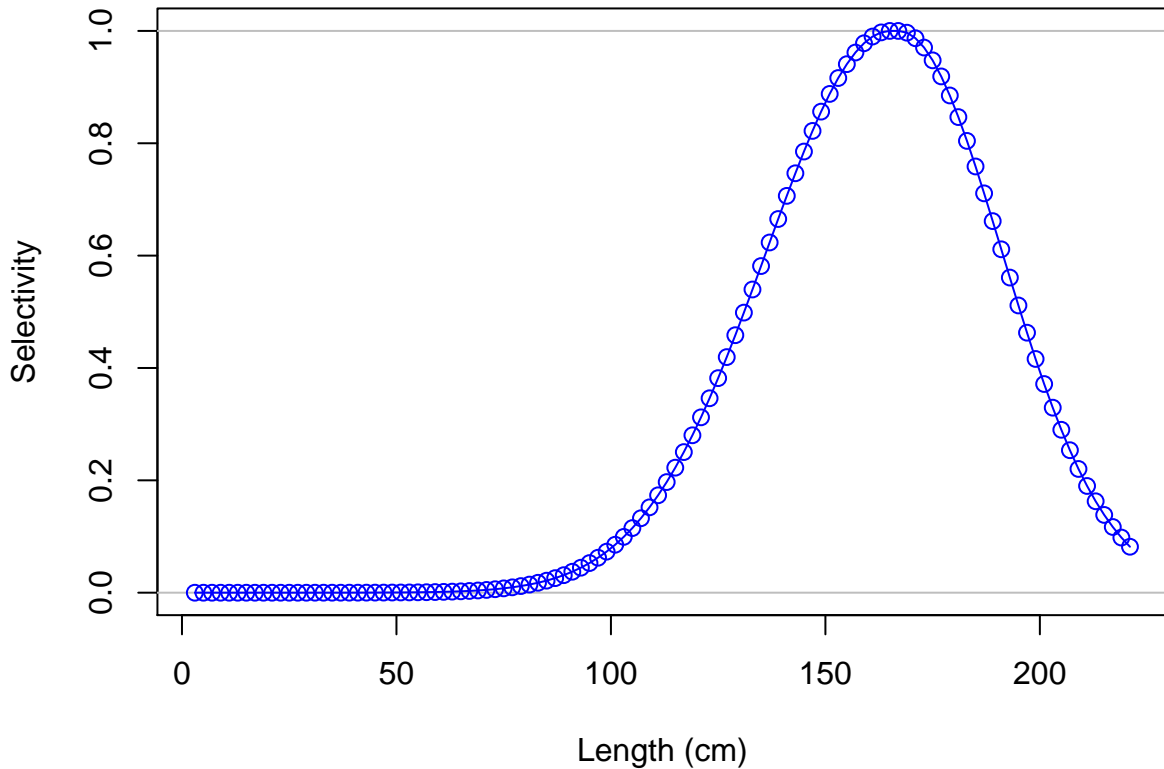
# Male ending year selectivity for EPO-LL-survey-early



# Female ending year selectivity for EPO-LL-survey-late

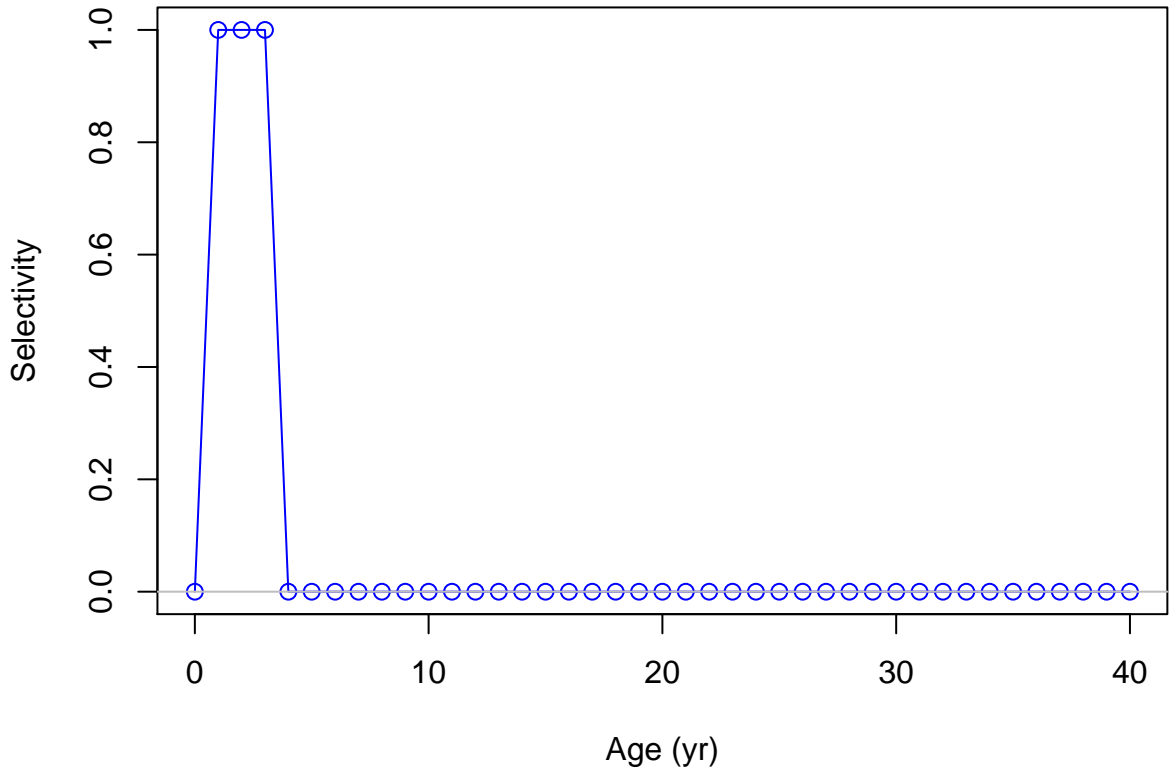


# Male ending year selectivity for EPO-LL-survey-late

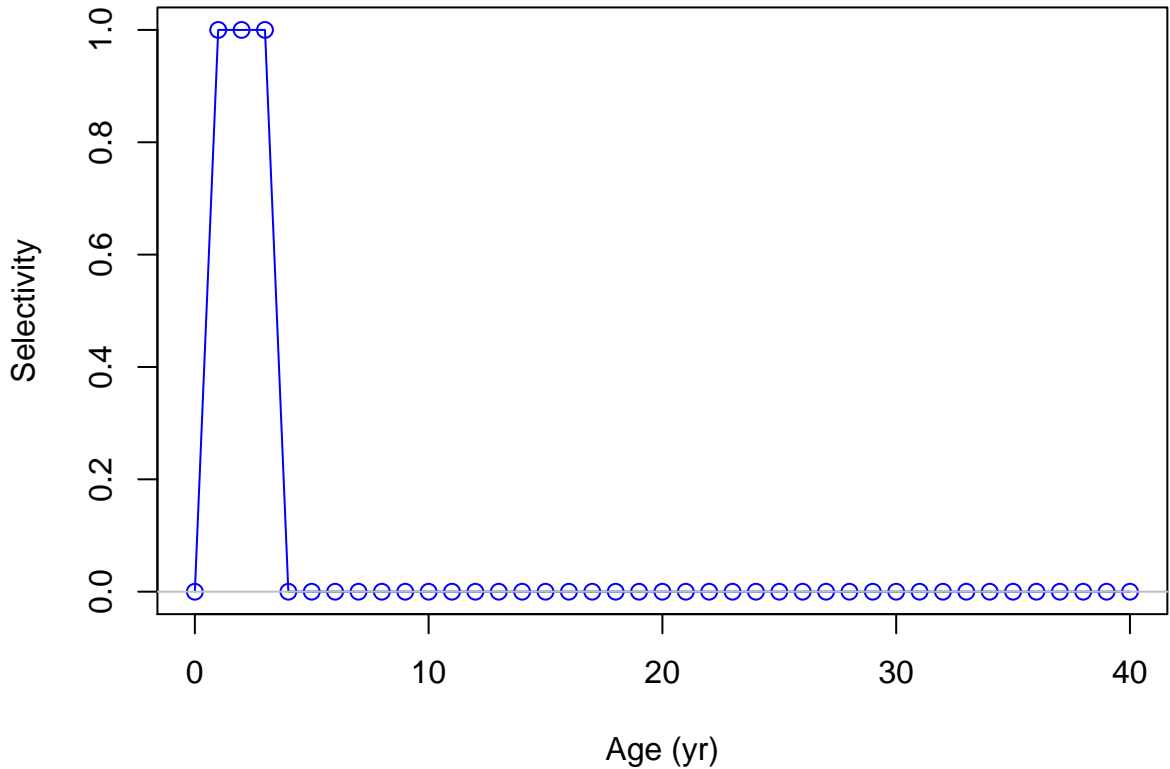




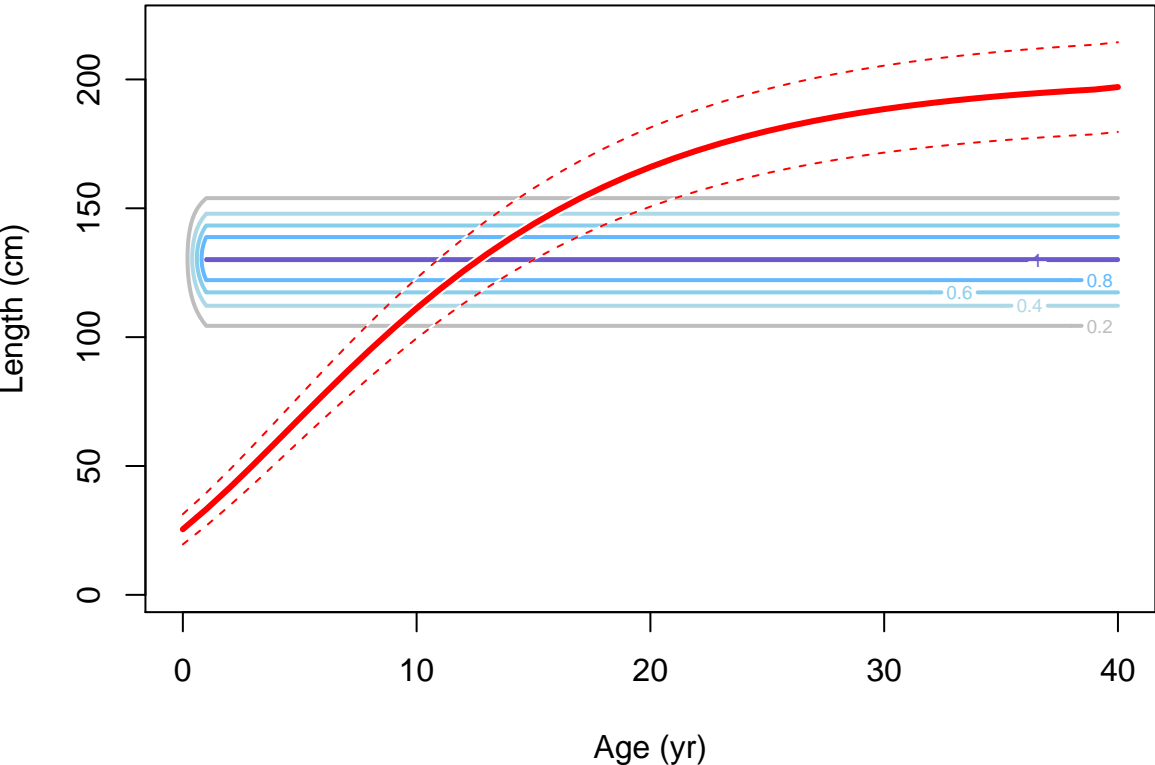
## Female ending year selectivity for EPO-OBJ-Disc



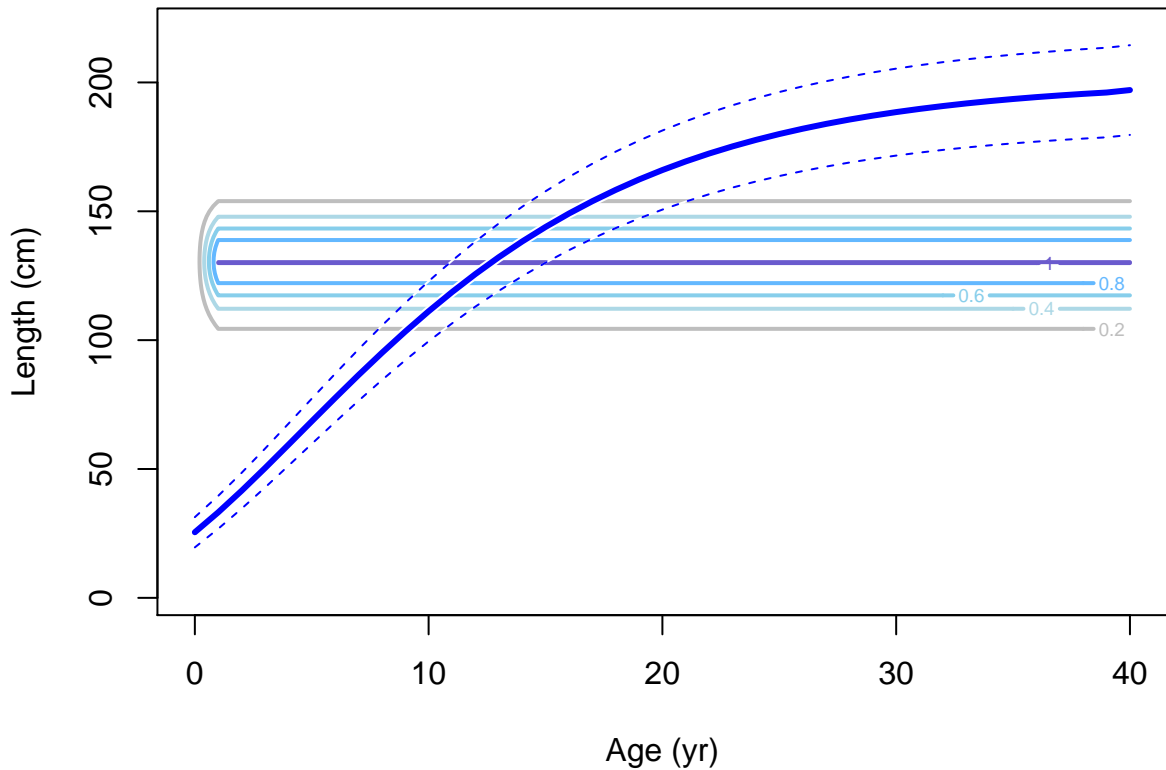
# Male ending year selectivity for EPO-Obj-Disc



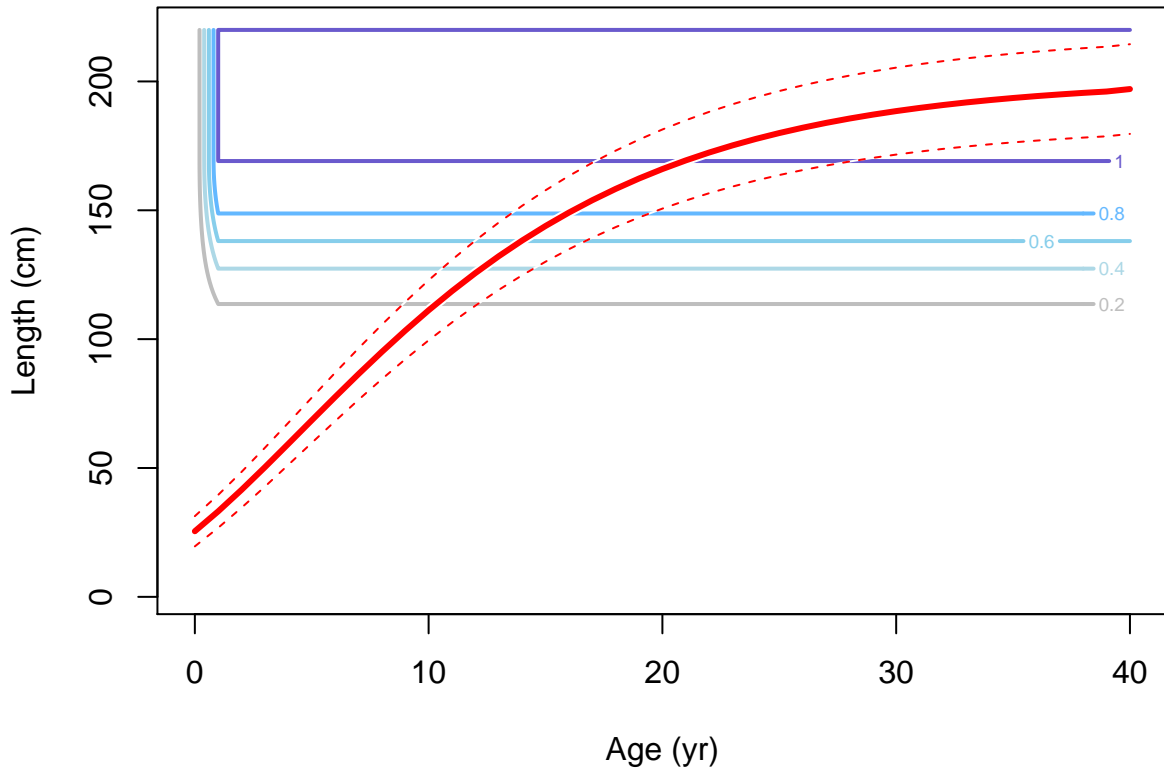
# Female ending year selectivity and growth for A1-LL-n



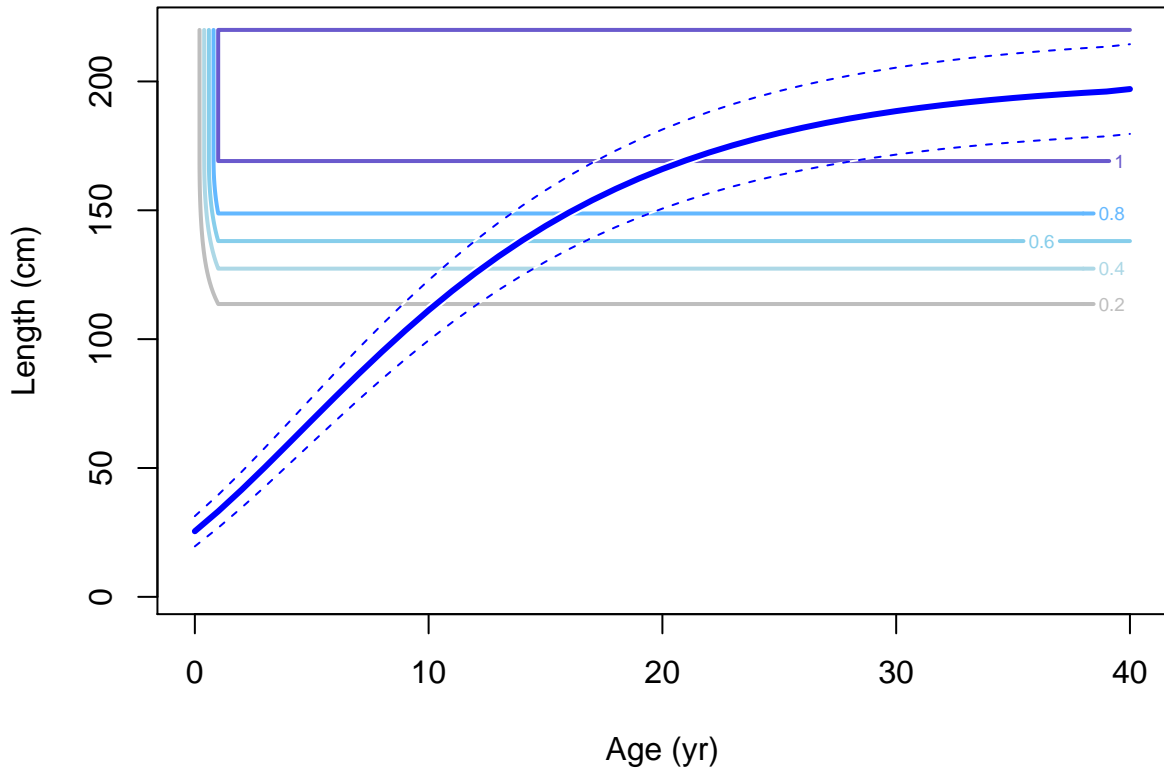
# Male ending year selectivity and growth for A1-LL-n



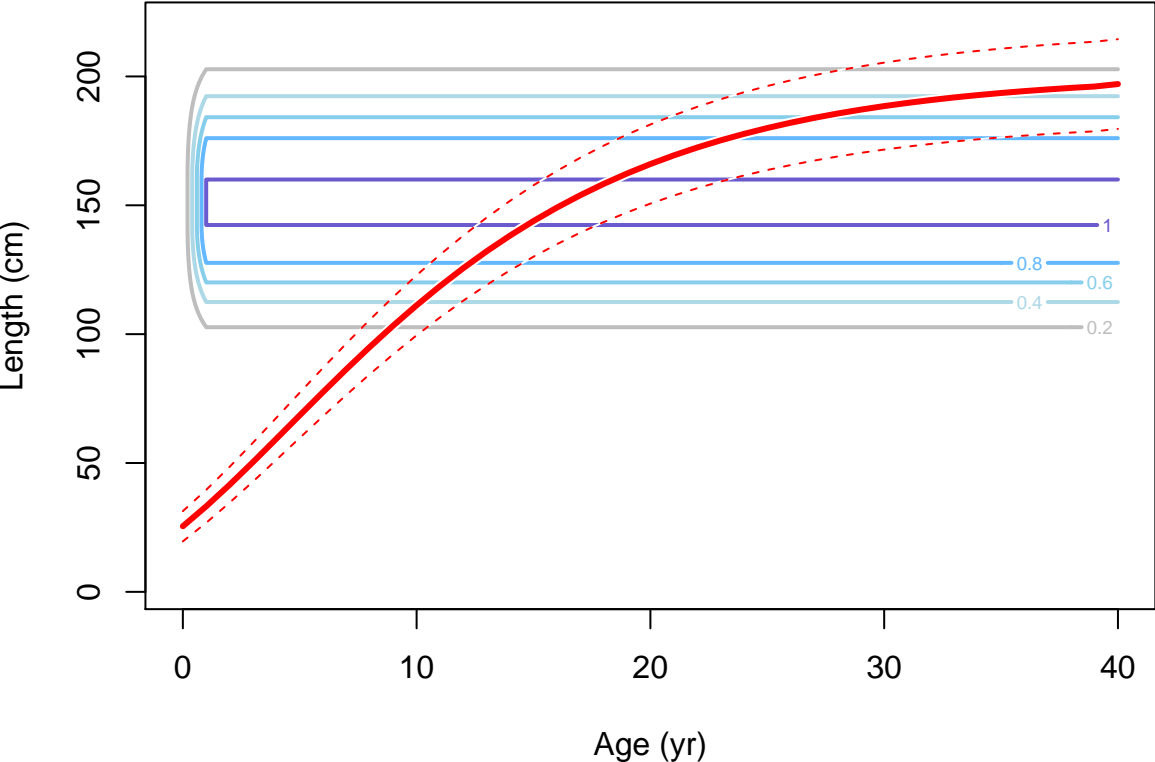
## Female ending year selectivity and growth for A2-LL-n



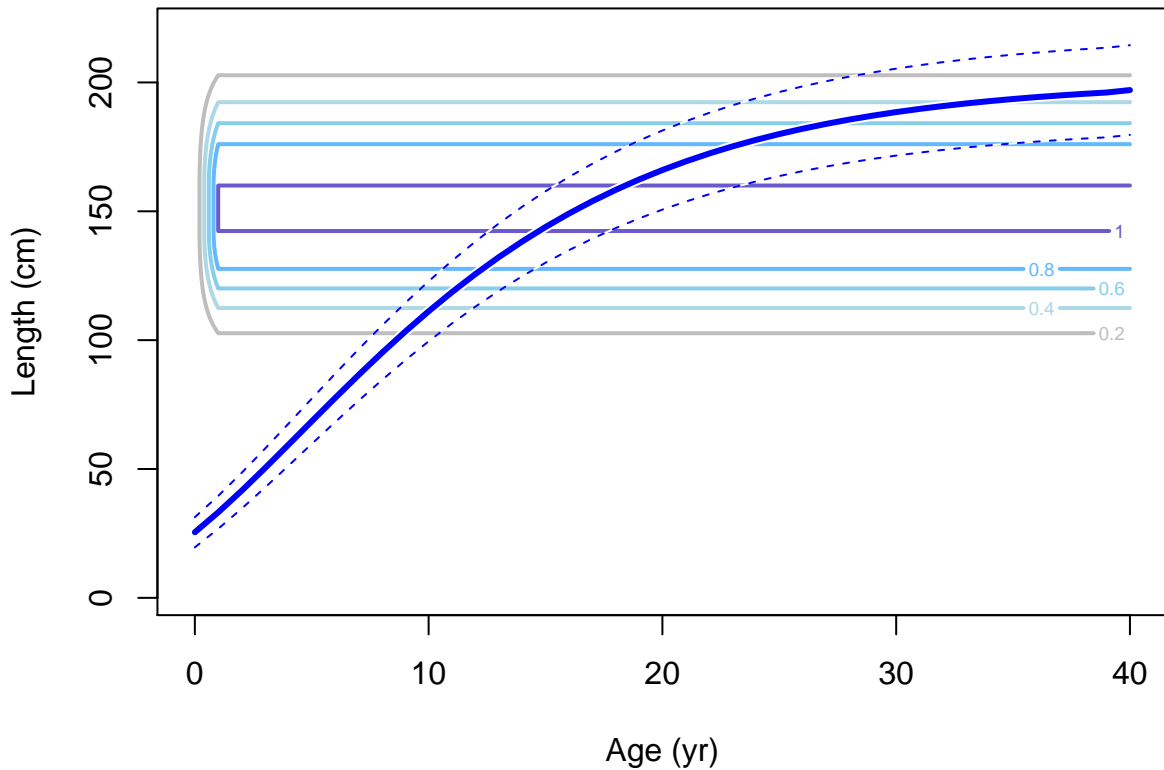
# Male ending year selectivity and growth for A2-LL-n



# Female ending year selectivity and growth for A3-LL-n

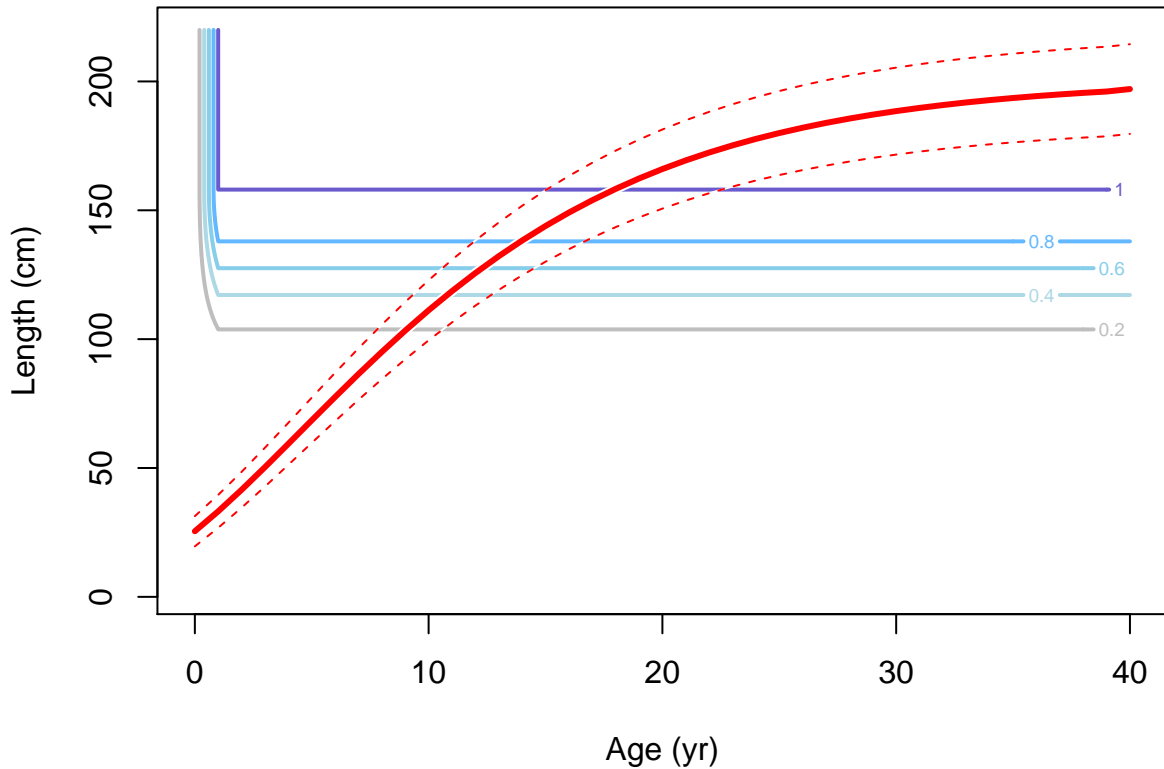


## Male ending year selectivity and growth for A3-LL-n

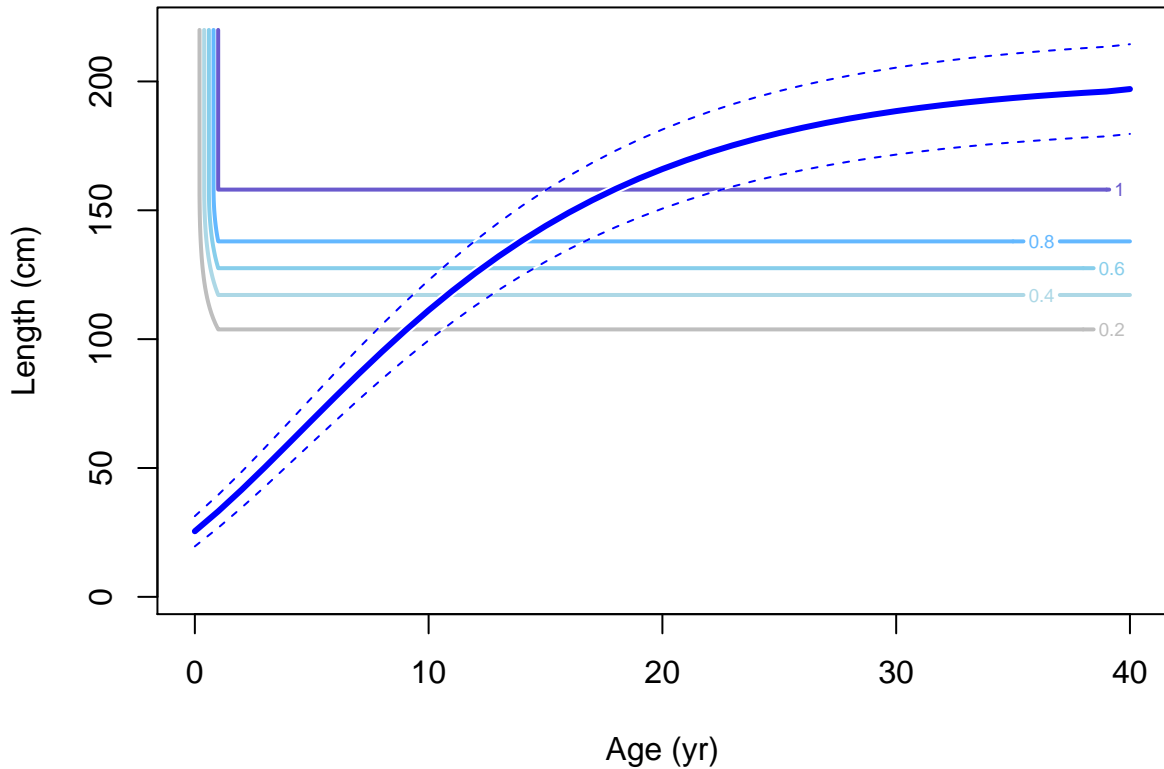




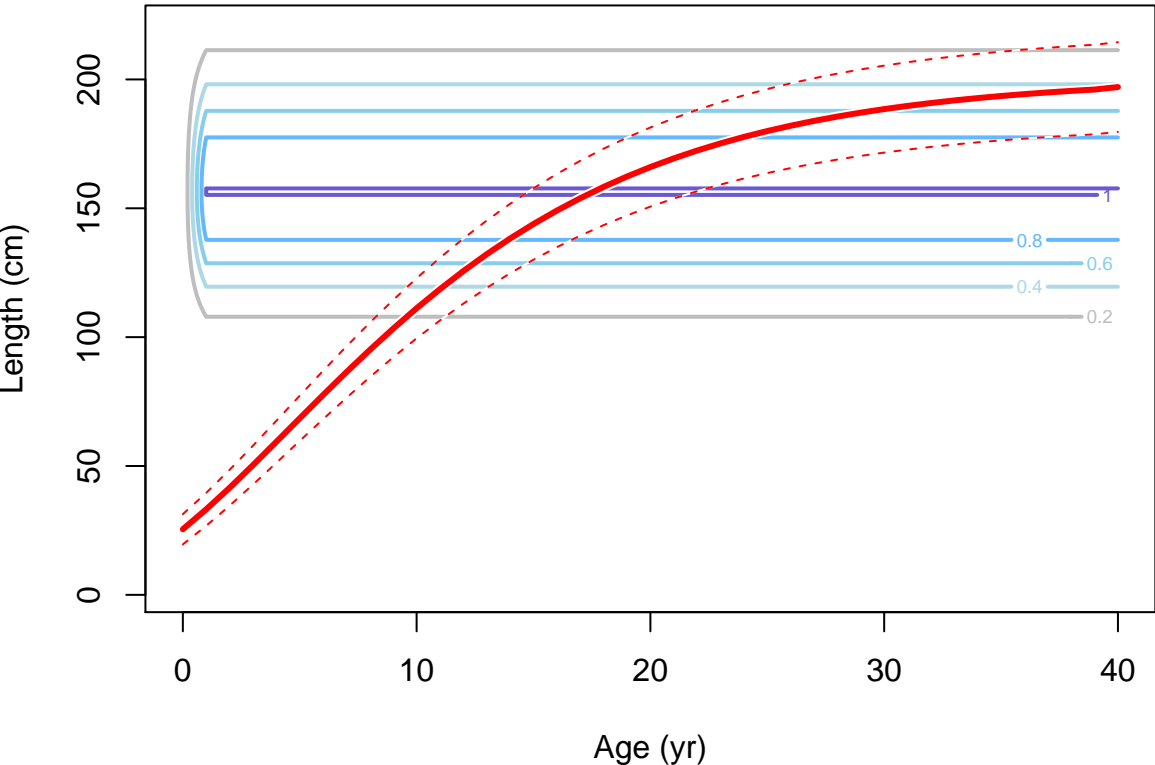
## Female ending year selectivity and growth for A4-LL-n



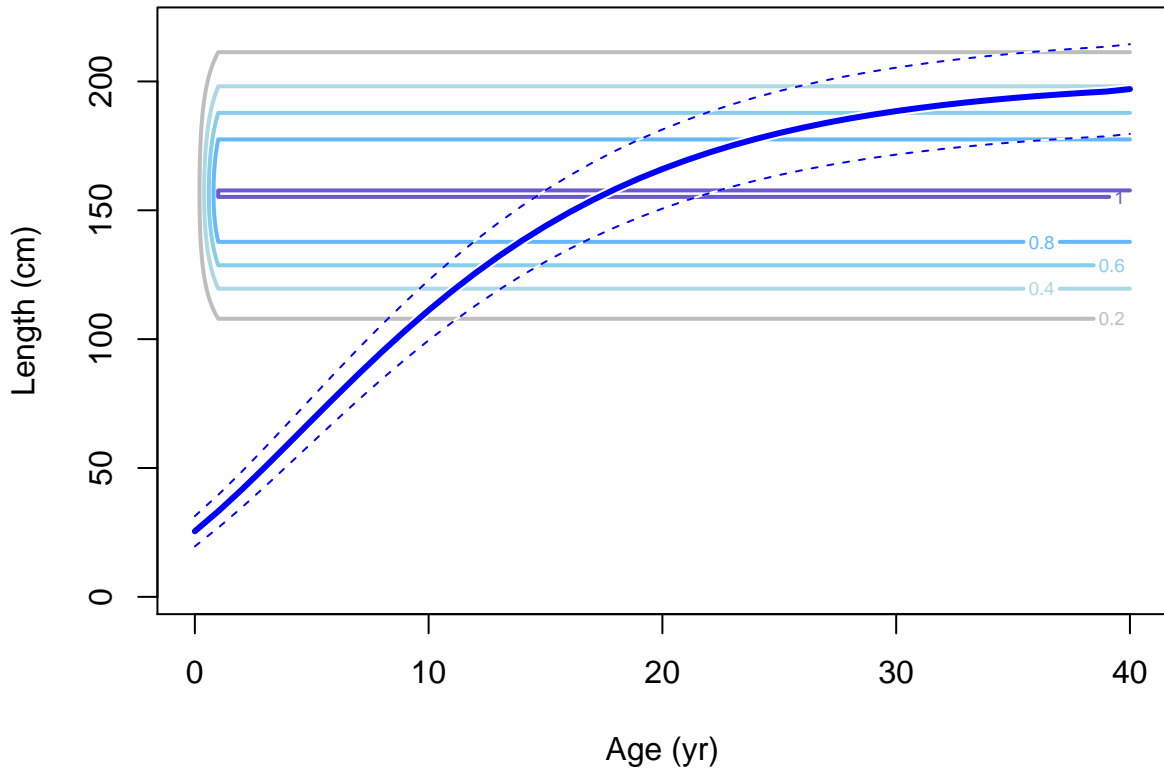
# Male ending year selectivity and growth for A4-LL-n



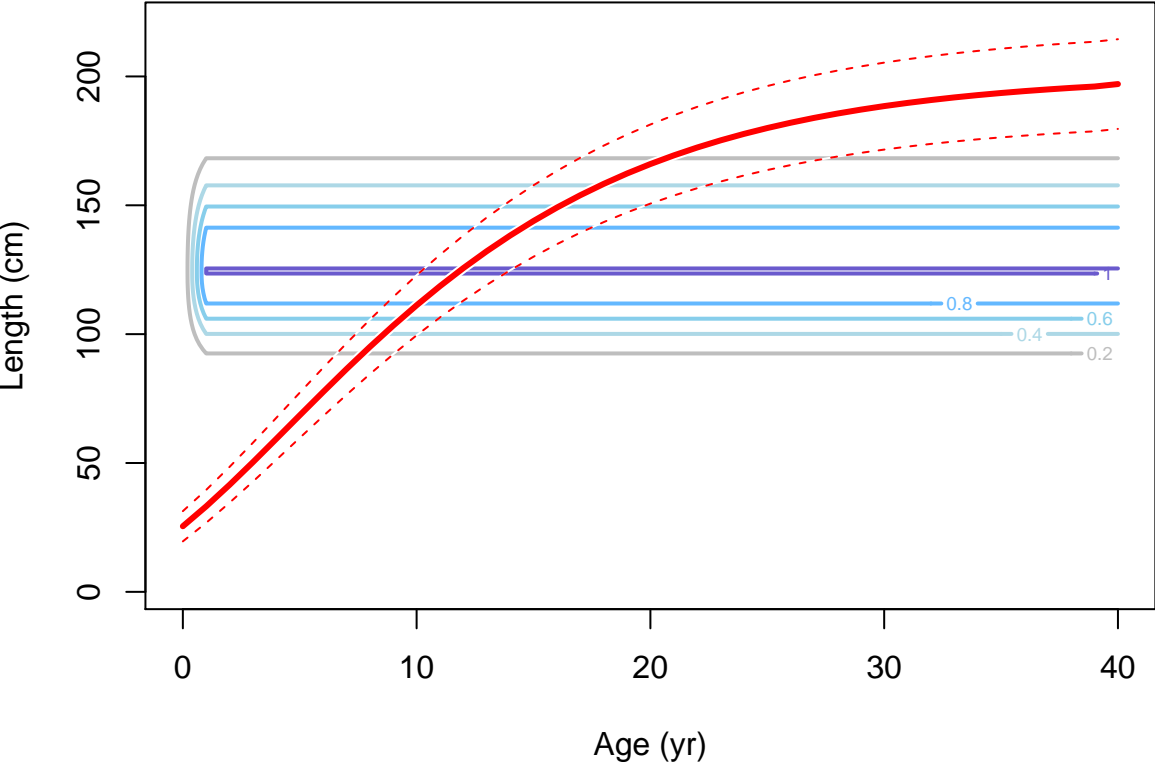
# Female ending year selectivity and growth for A5-LL-n



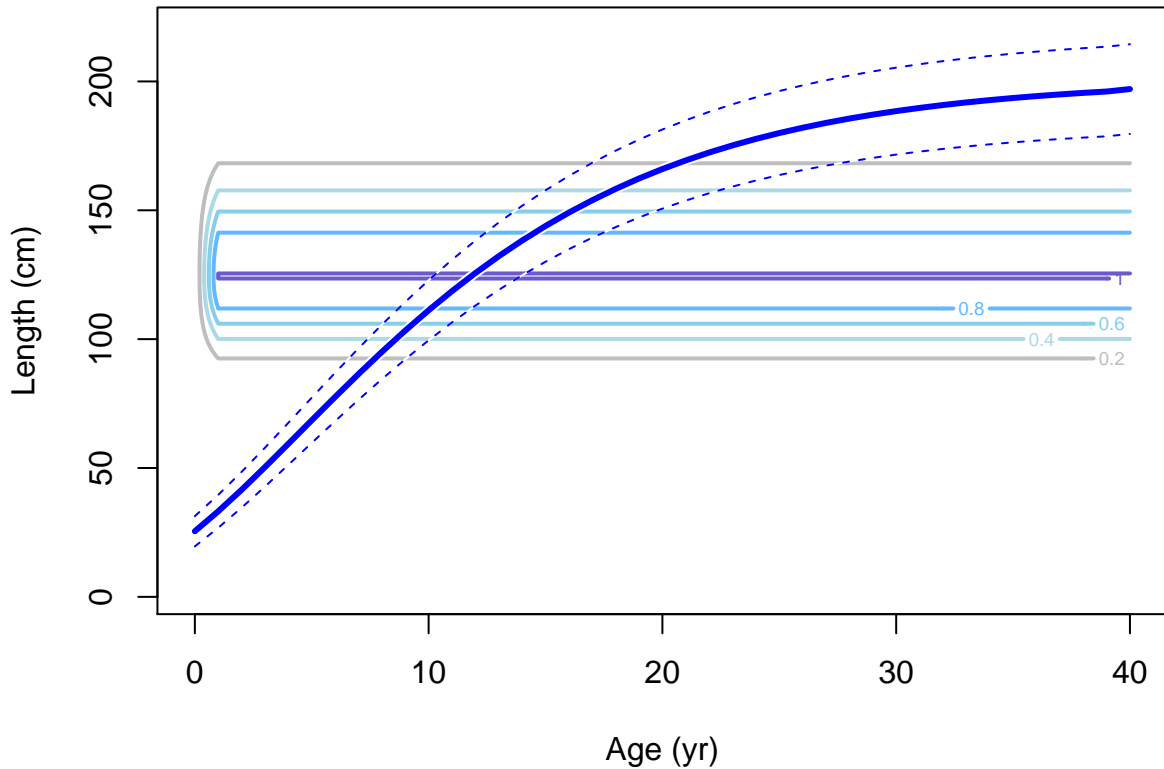
# Male ending year selectivity and growth for A5-LL-n



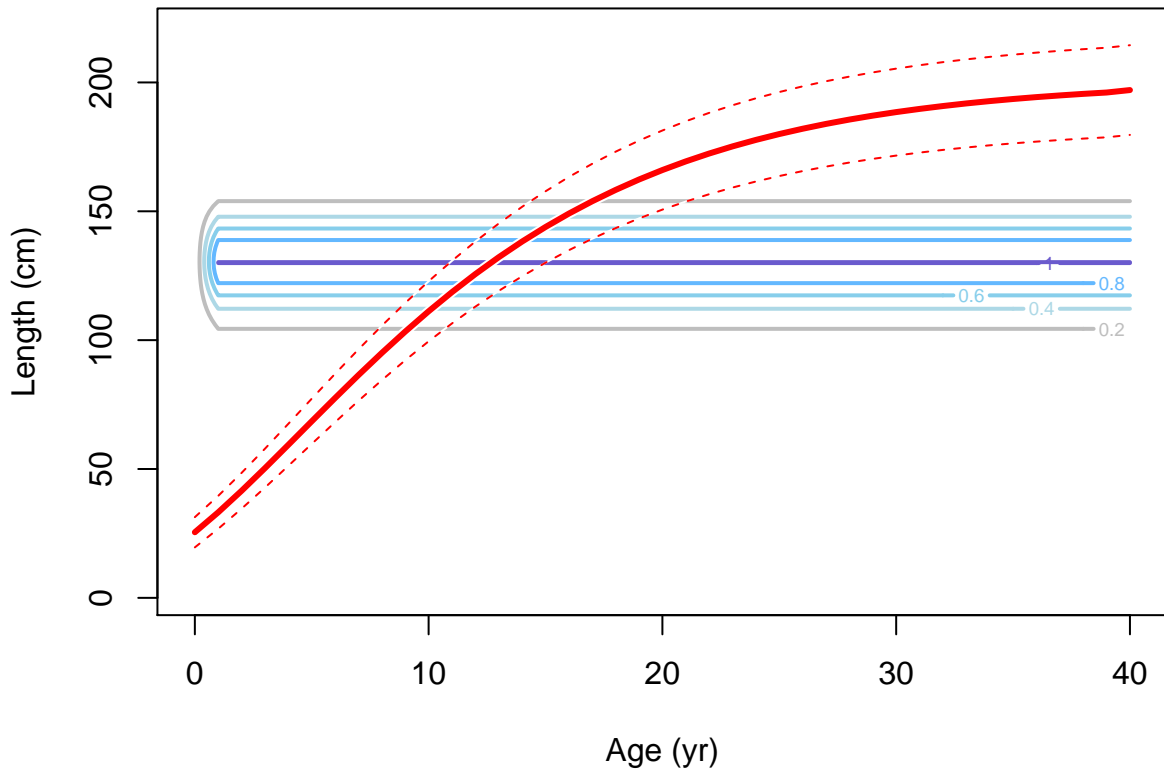
# Female ending year selectivity and growth for A6-LL-n



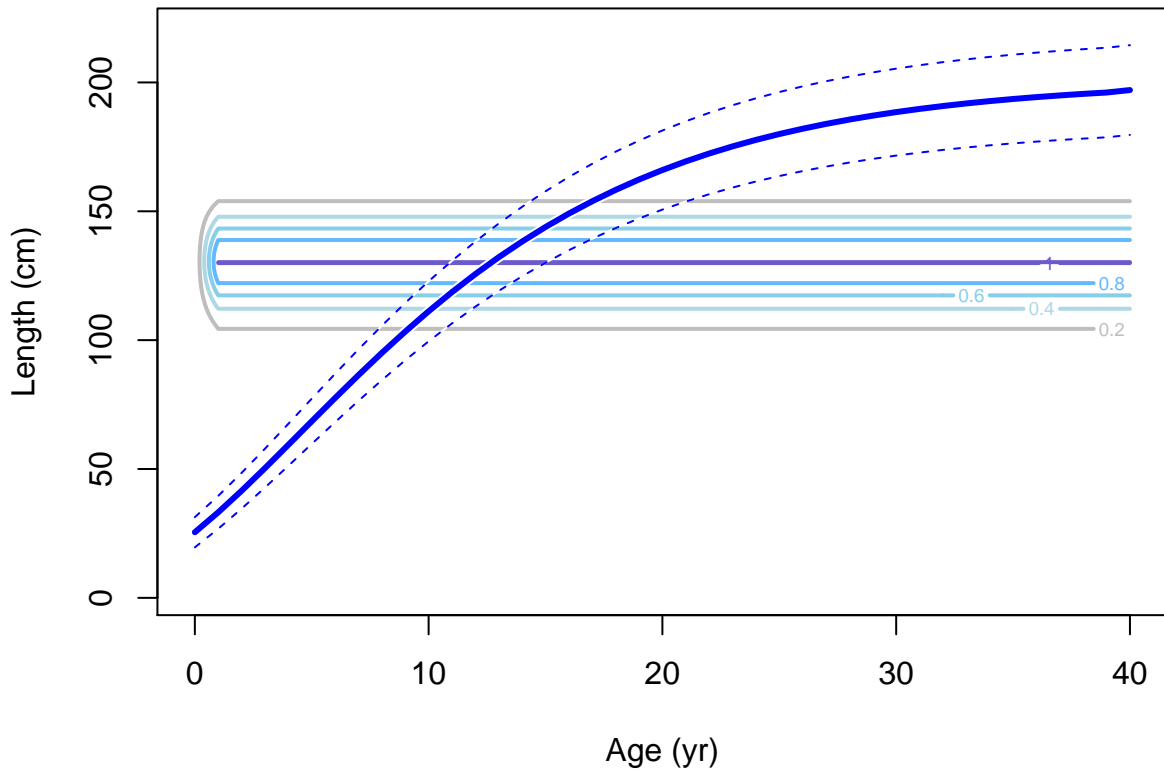
# Male ending year selectivity and growth for A6-LL-n



## Female ending year selectivity and growth for A1-LL-w

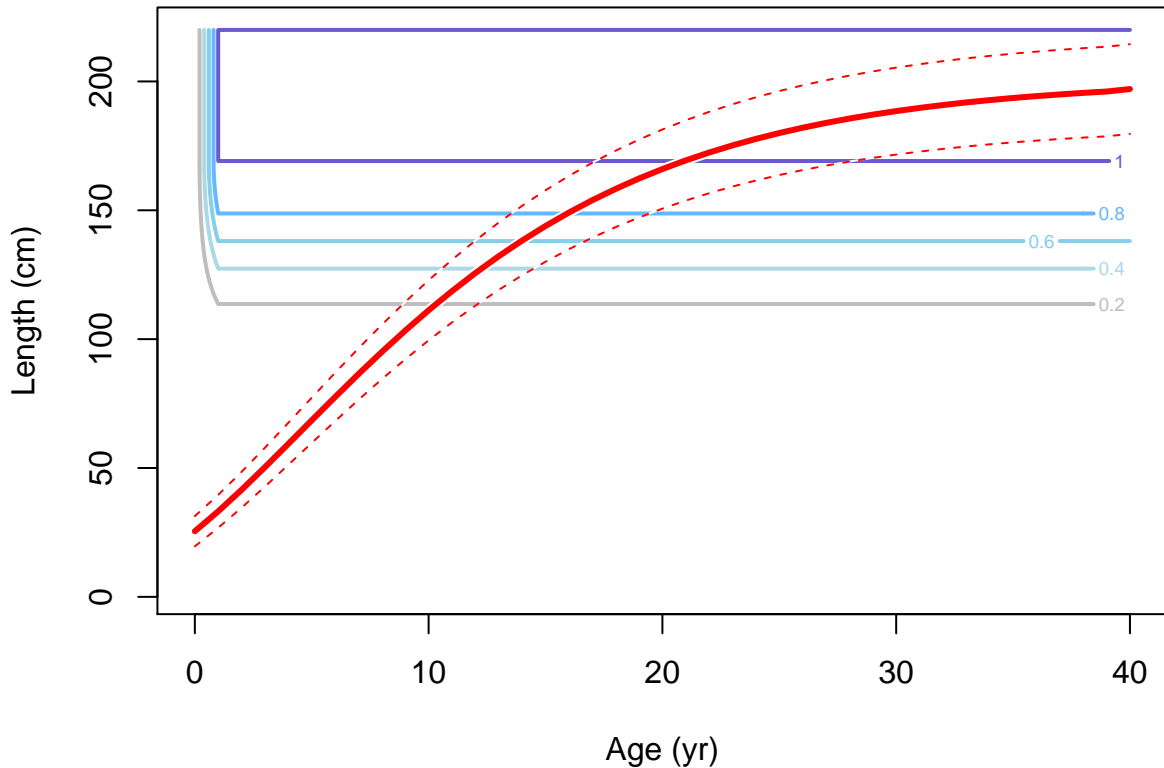


# Male ending year selectivity and growth for A1-LL-w

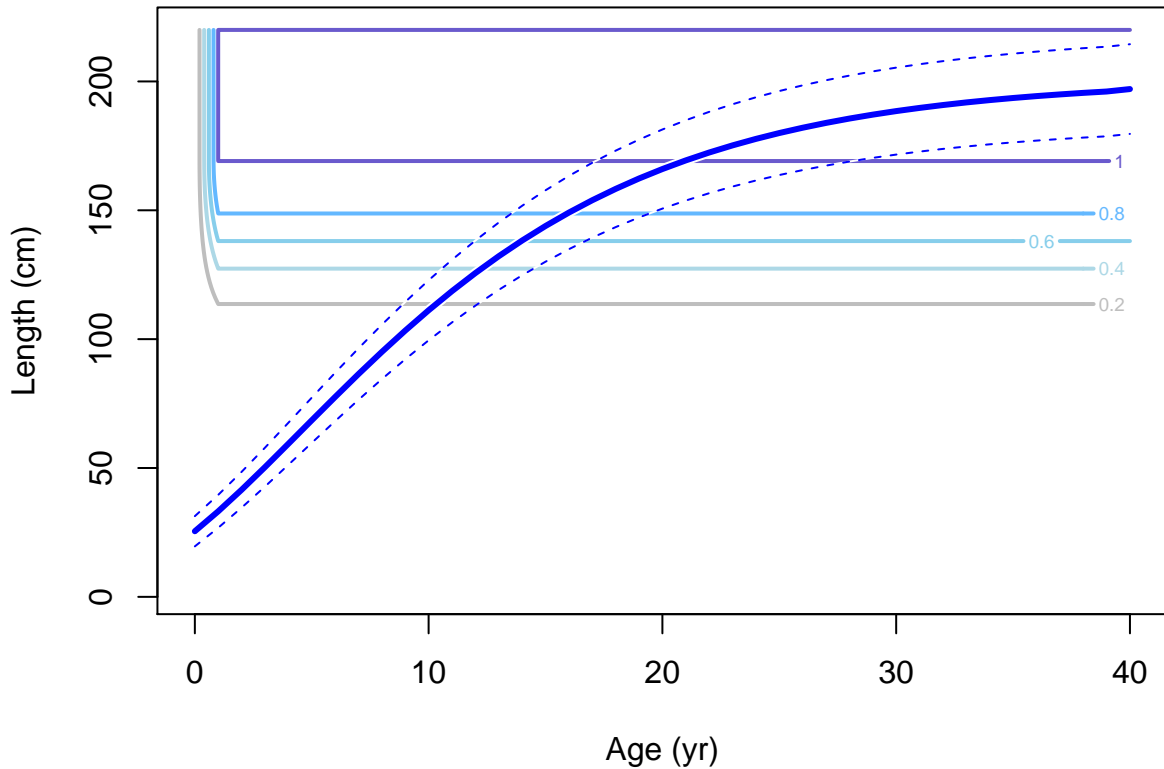




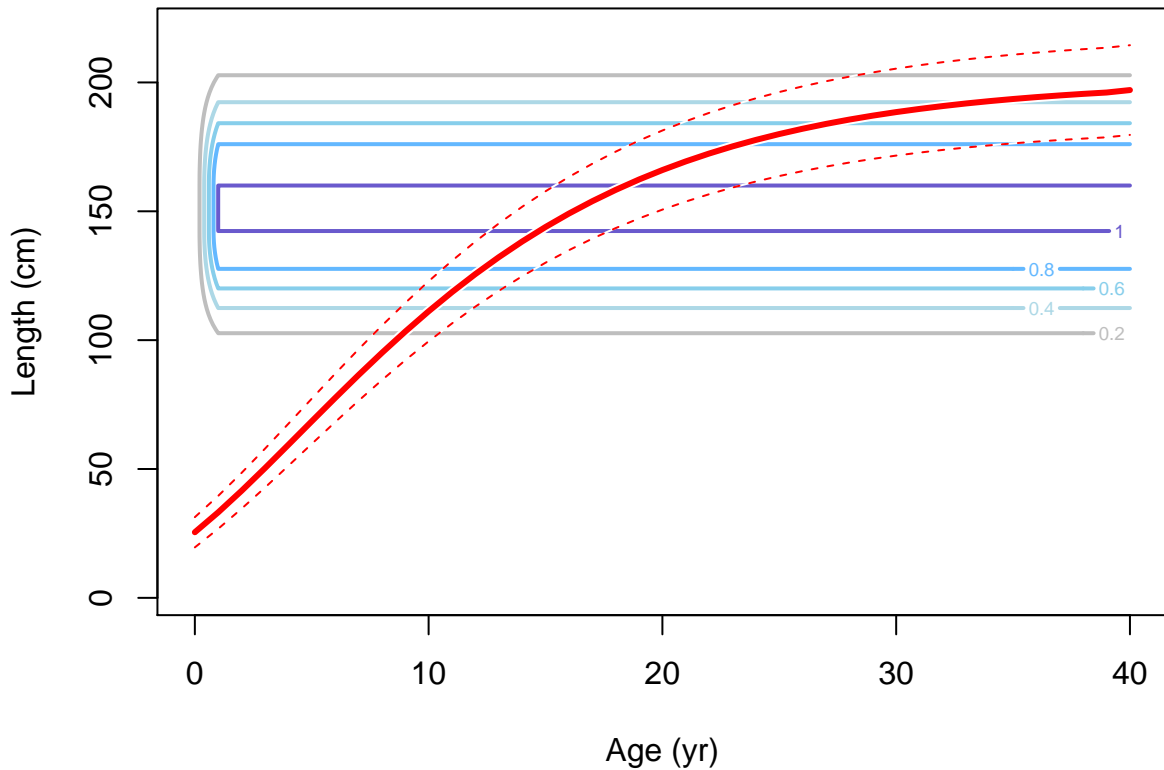
## Female ending year selectivity and growth for A2-LL-w



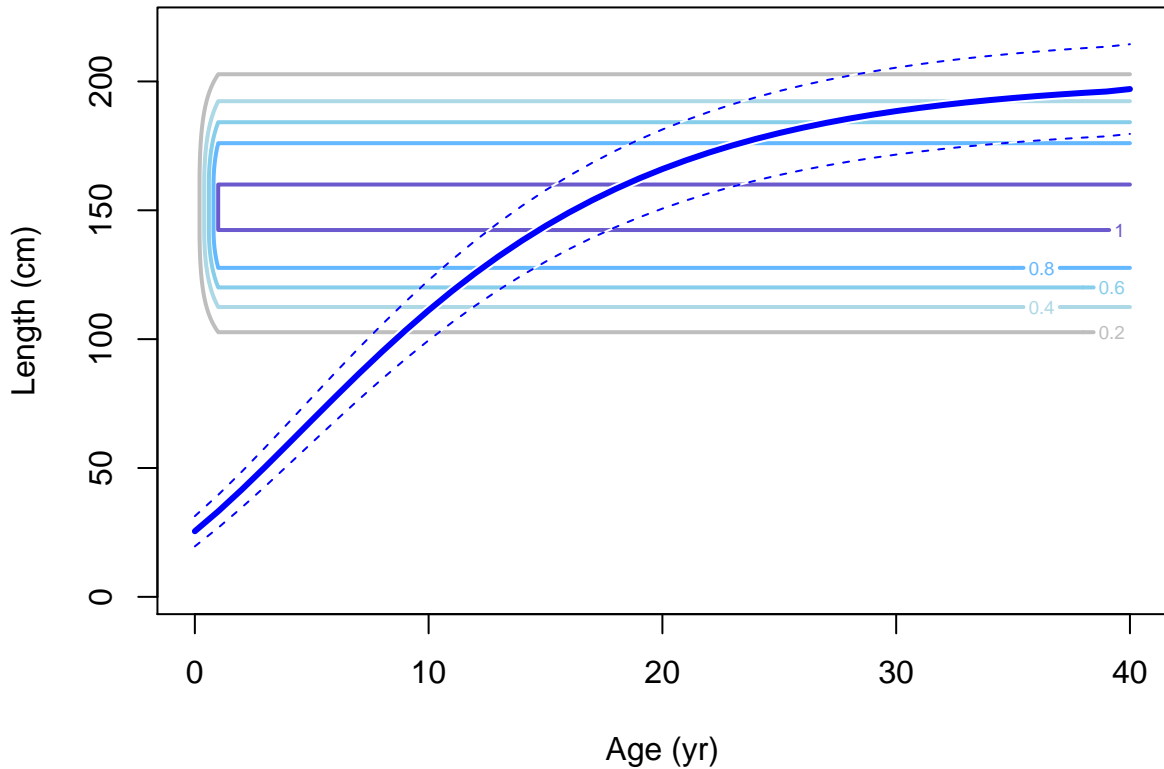
## Male ending year selectivity and growth for A2-LL-w



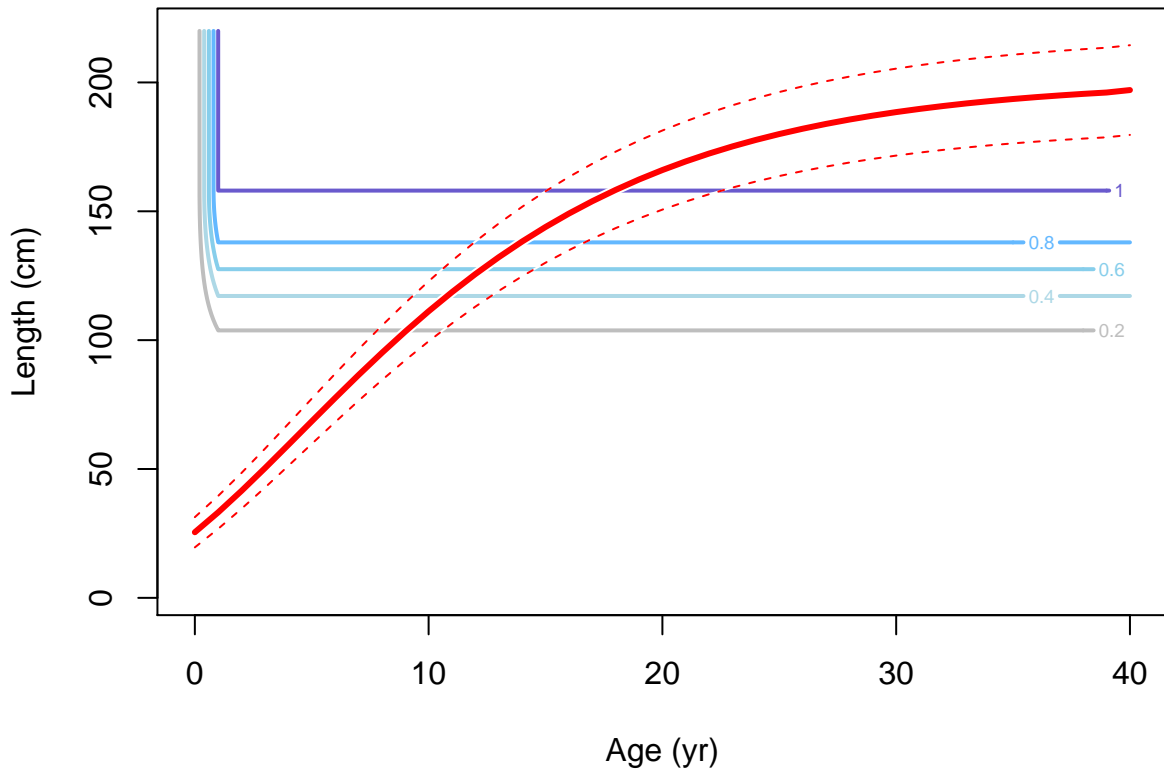
## Female ending year selectivity and growth for A3-LL-w



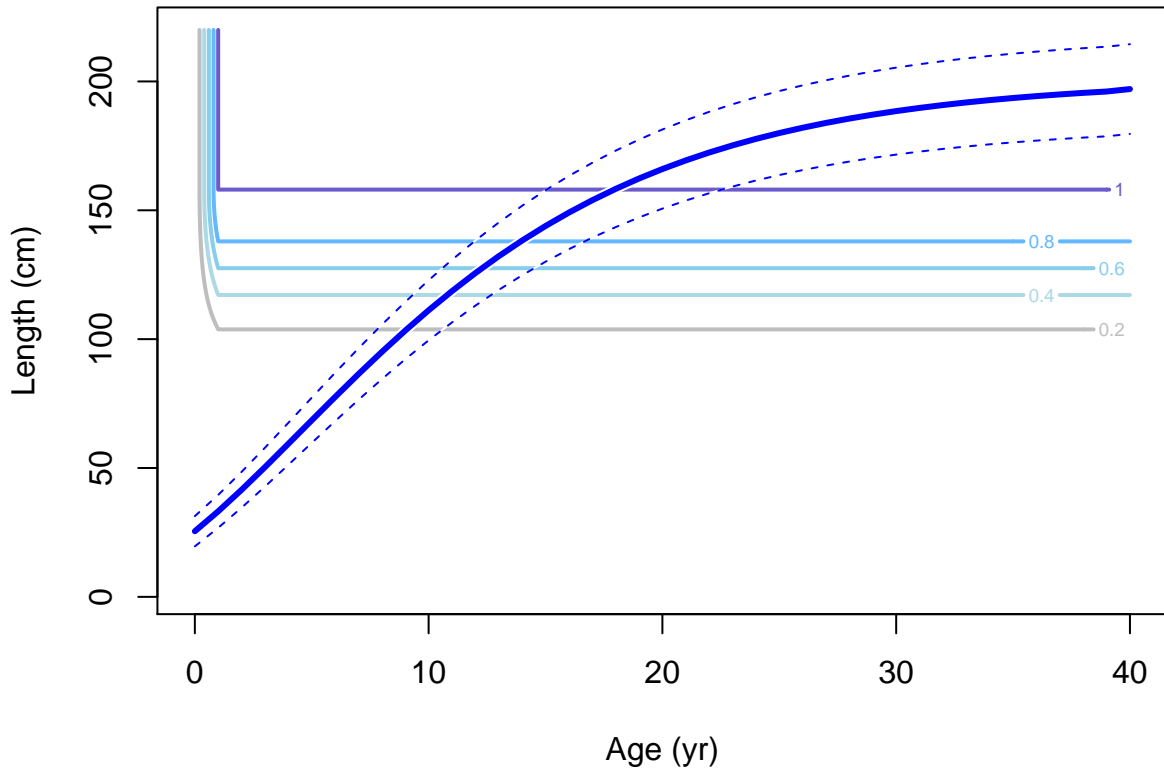
## Male ending year selectivity and growth for A3-LL-w



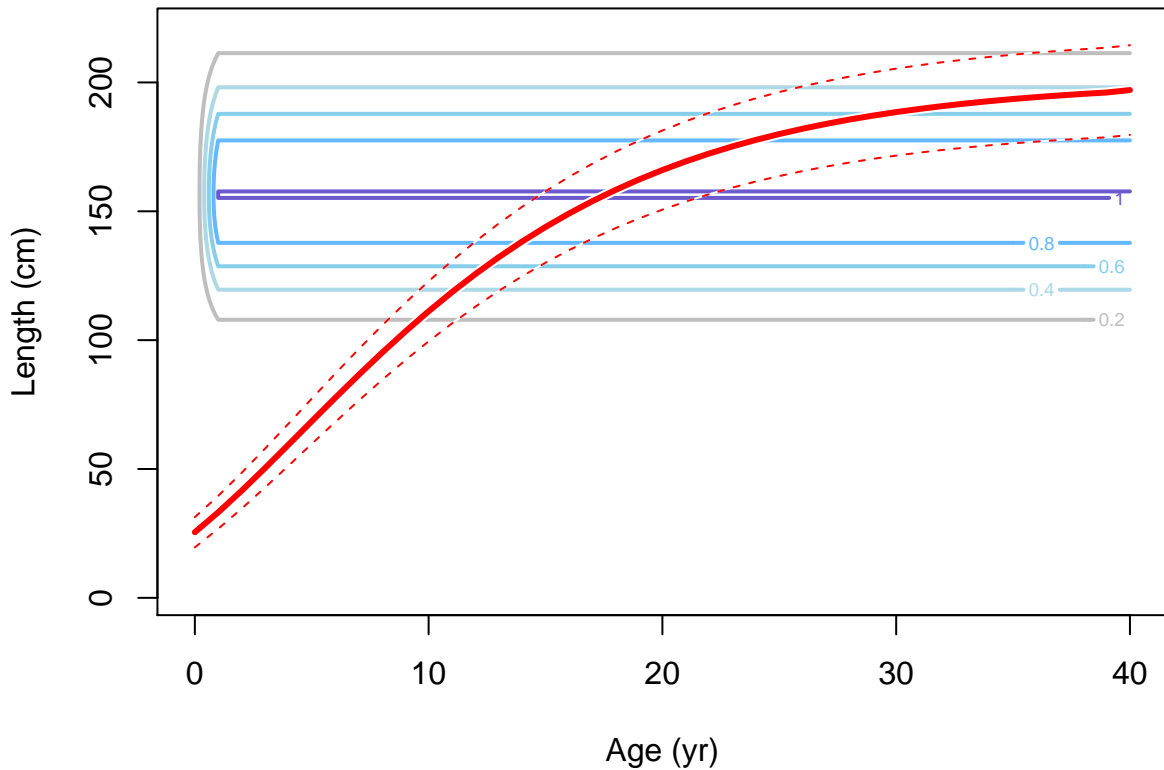
## Female ending year selectivity and growth for A4-LL-w



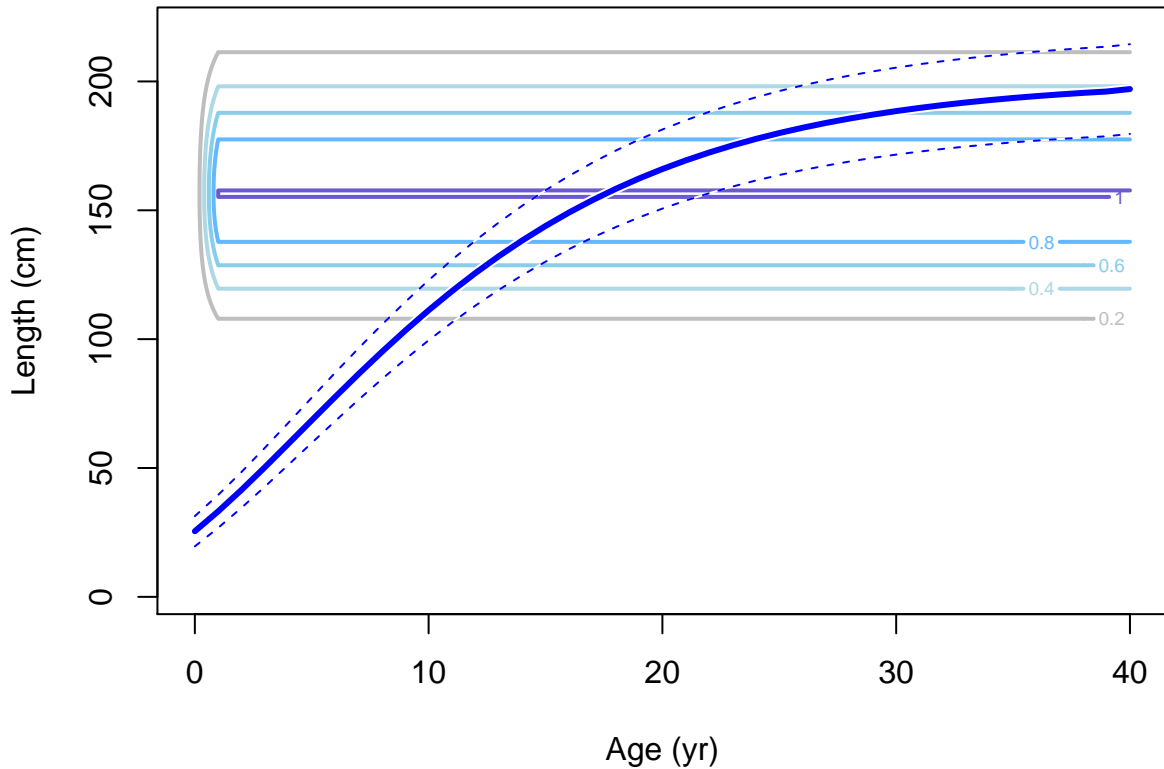
## Male ending year selectivity and growth for A4-LL-w



## Female ending year selectivity and growth for A5-LL-w

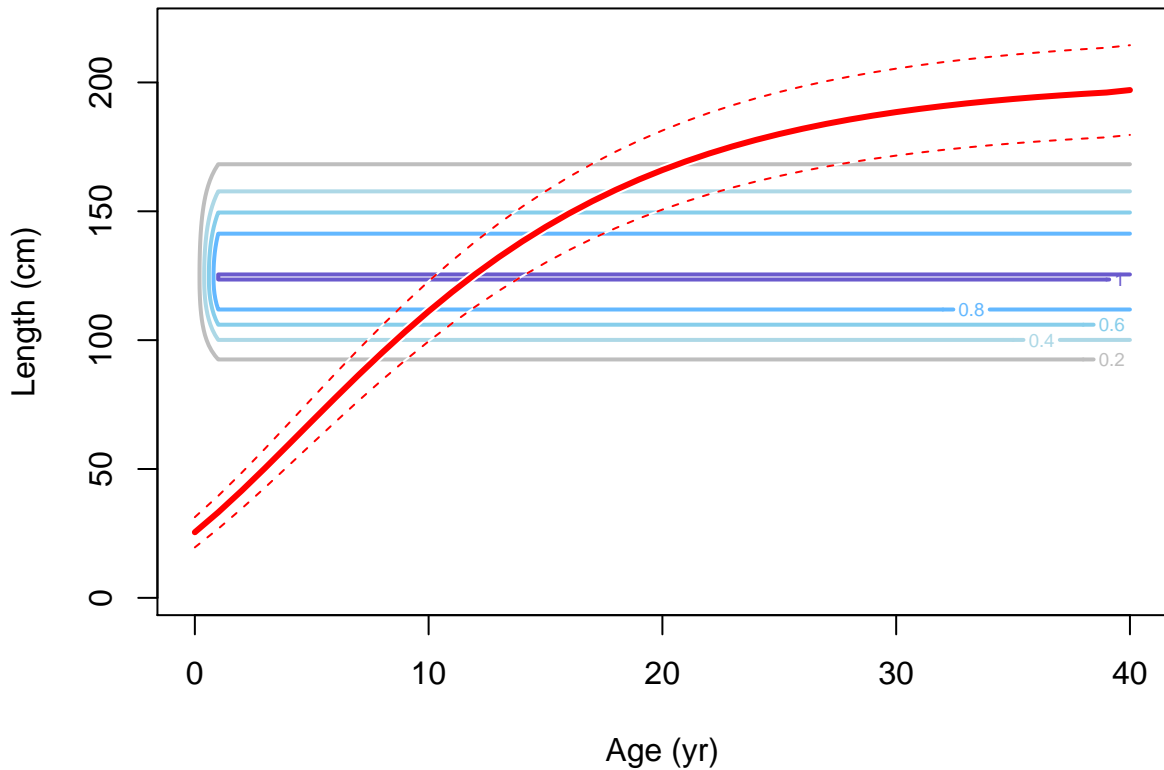


## Male ending year selectivity and growth for A5-LL-w

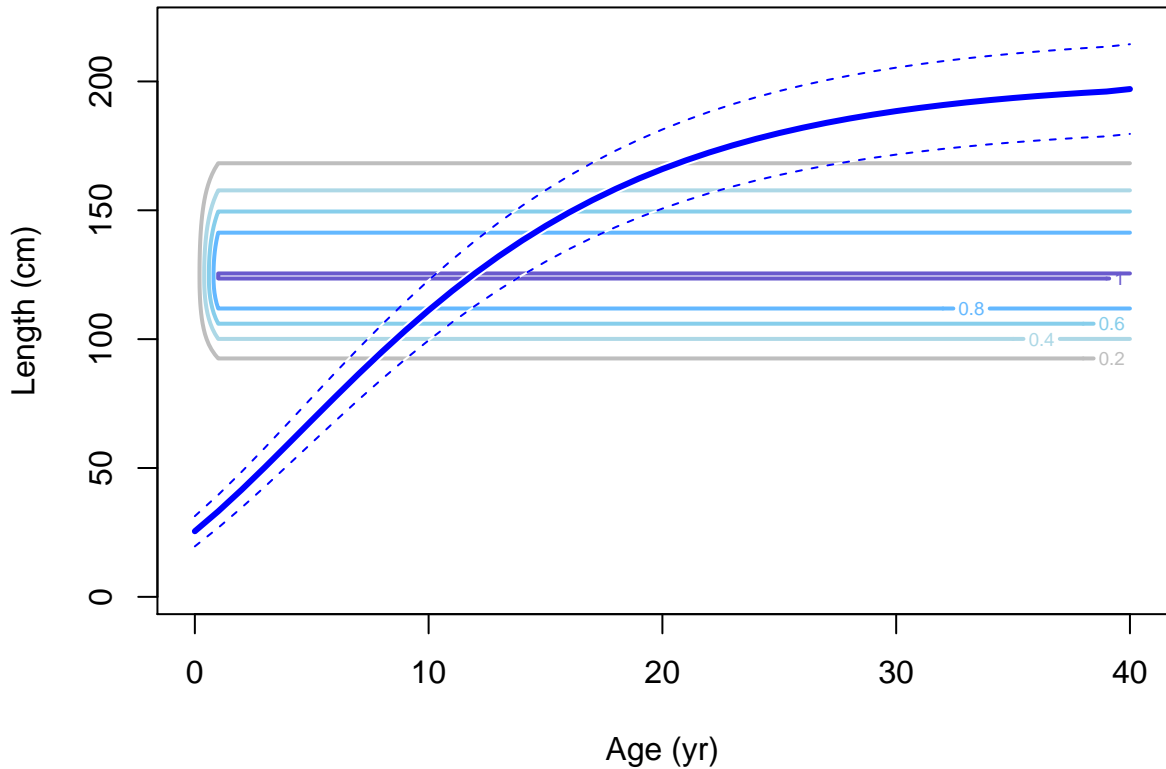




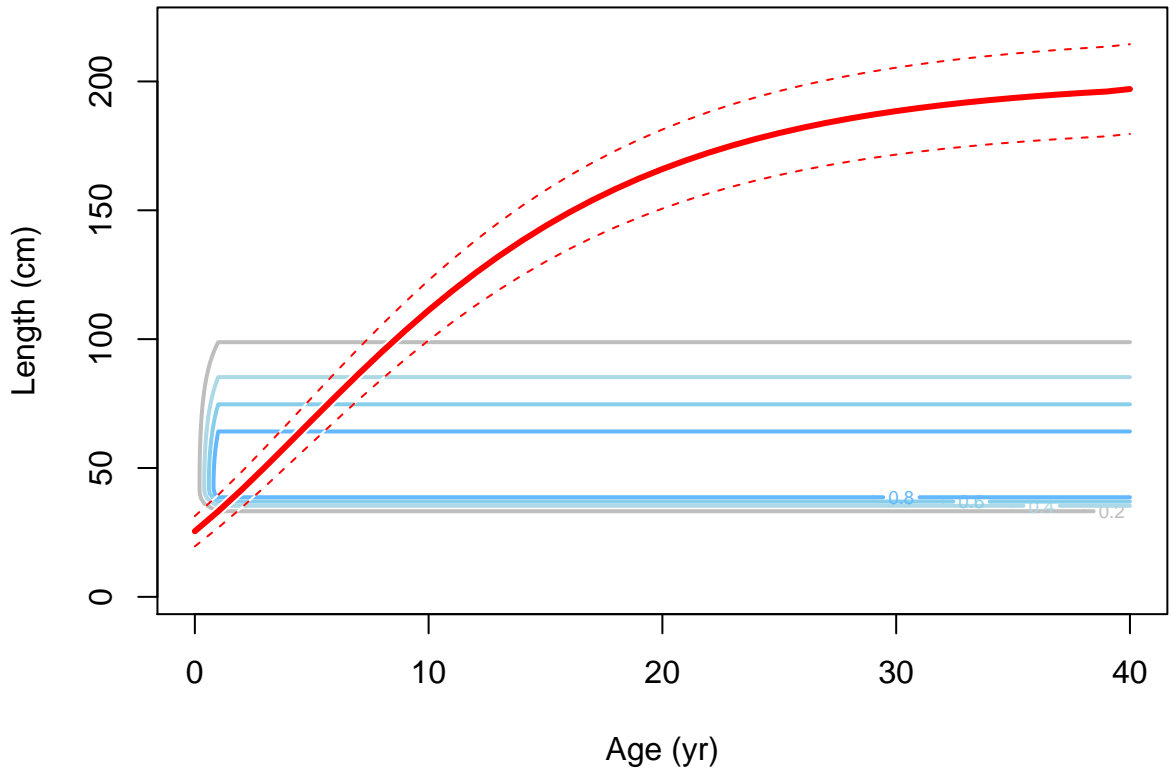
## Female ending year selectivity and growth for A6-LL-w



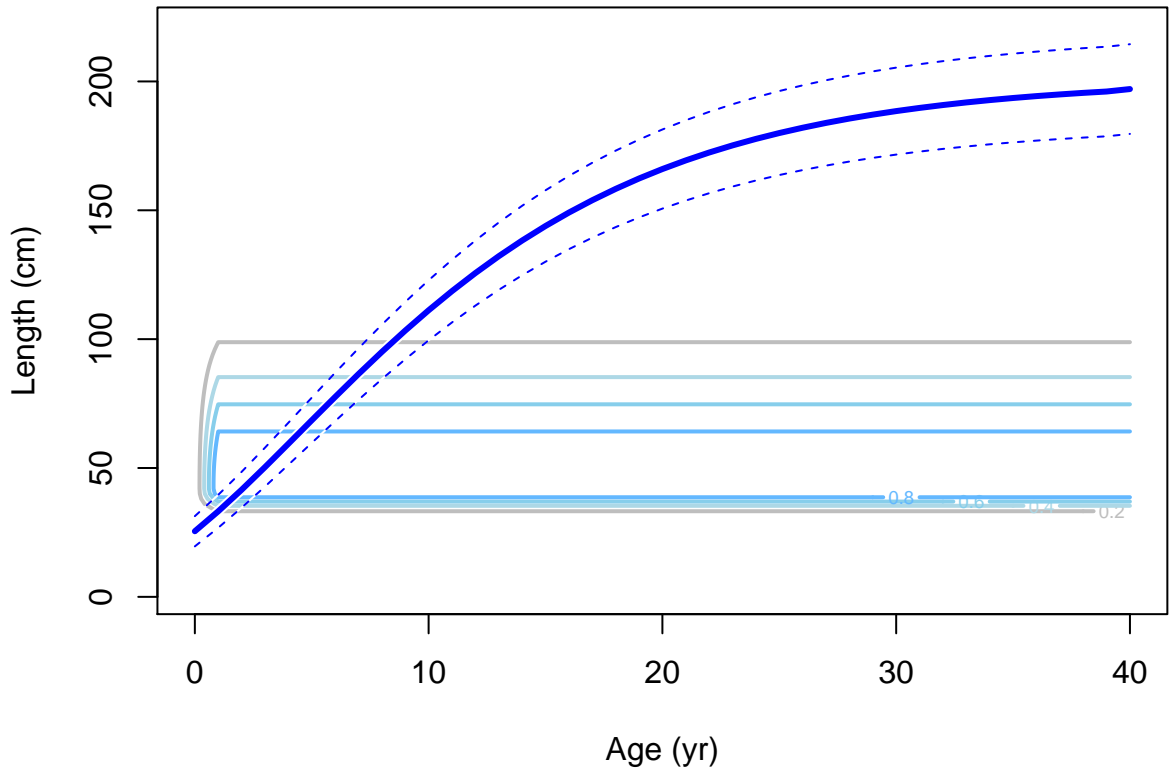
# Male ending year selectivity and growth for A6-LL-w



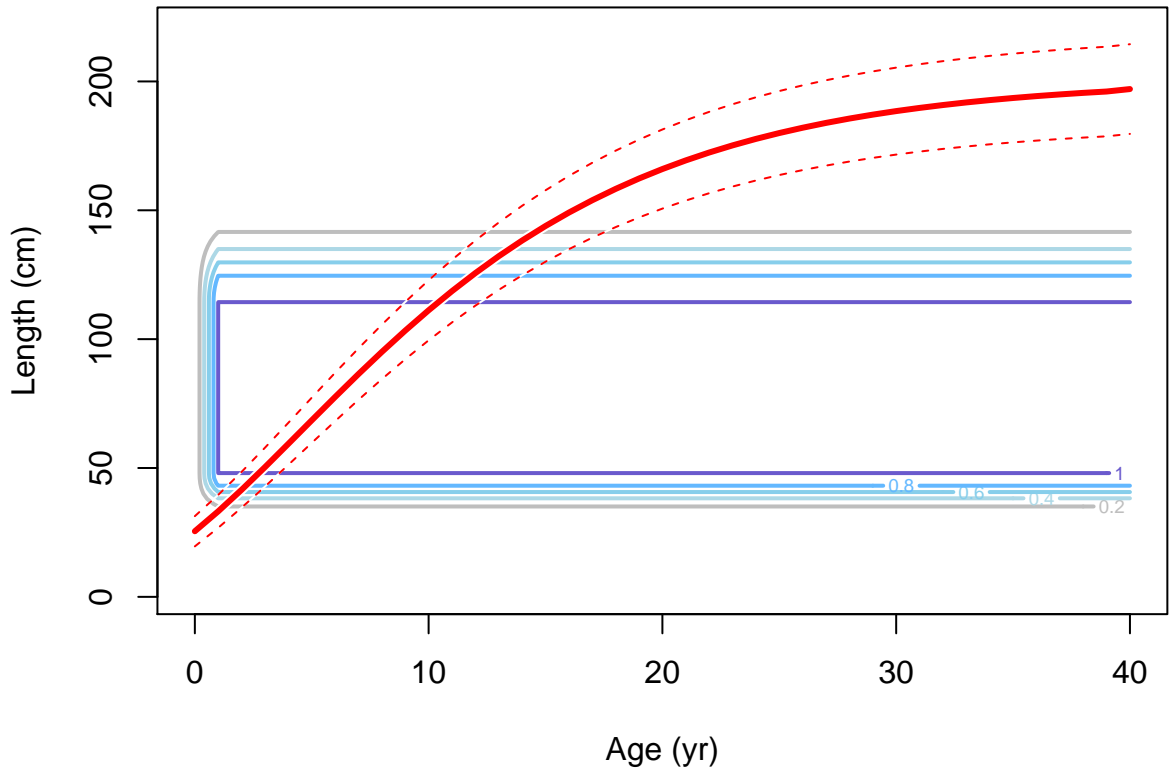
## Female ending year selectivity and growth for A2-OBJ



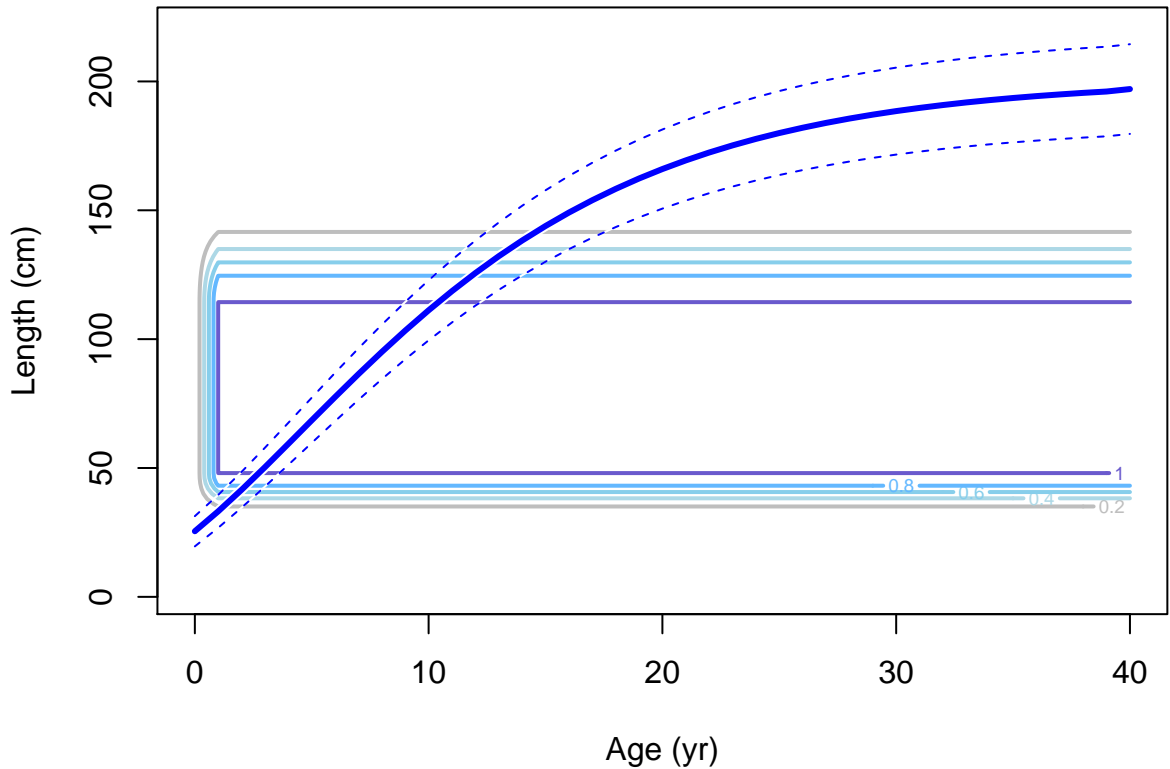
# Male ending year selectivity and growth for A2-OBJ



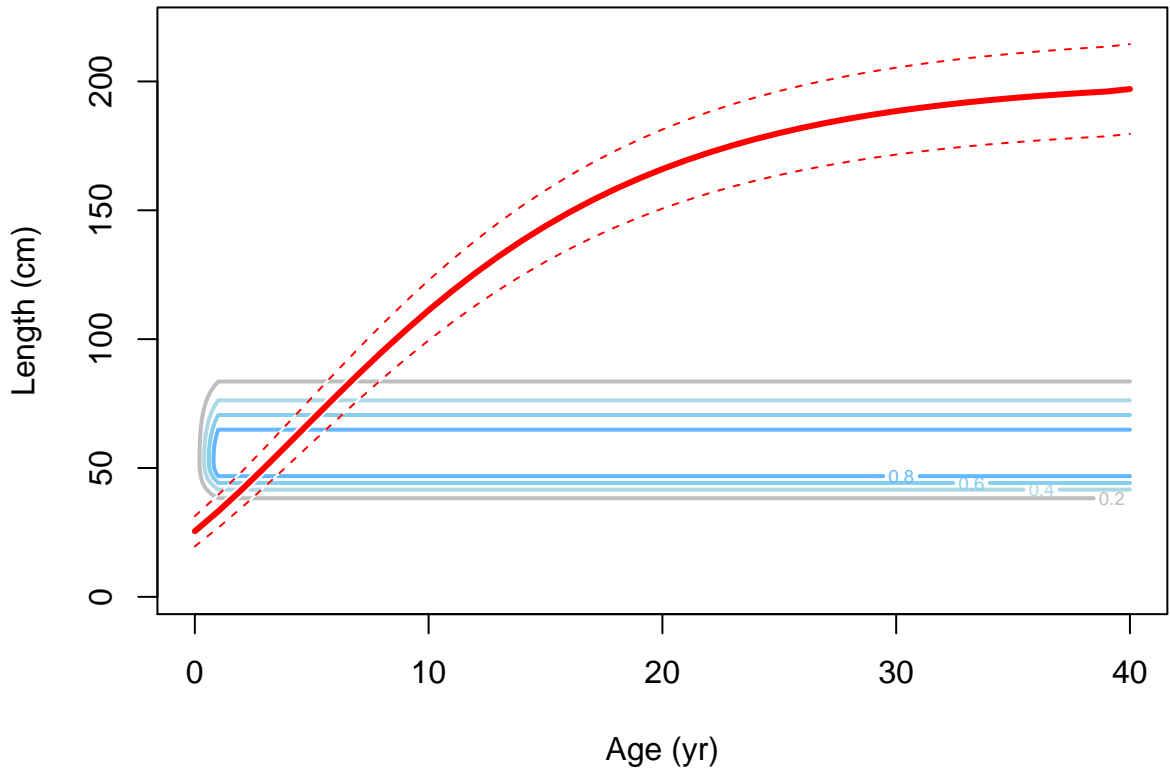
# Female ending year selectivity and growth for A3-OBJ



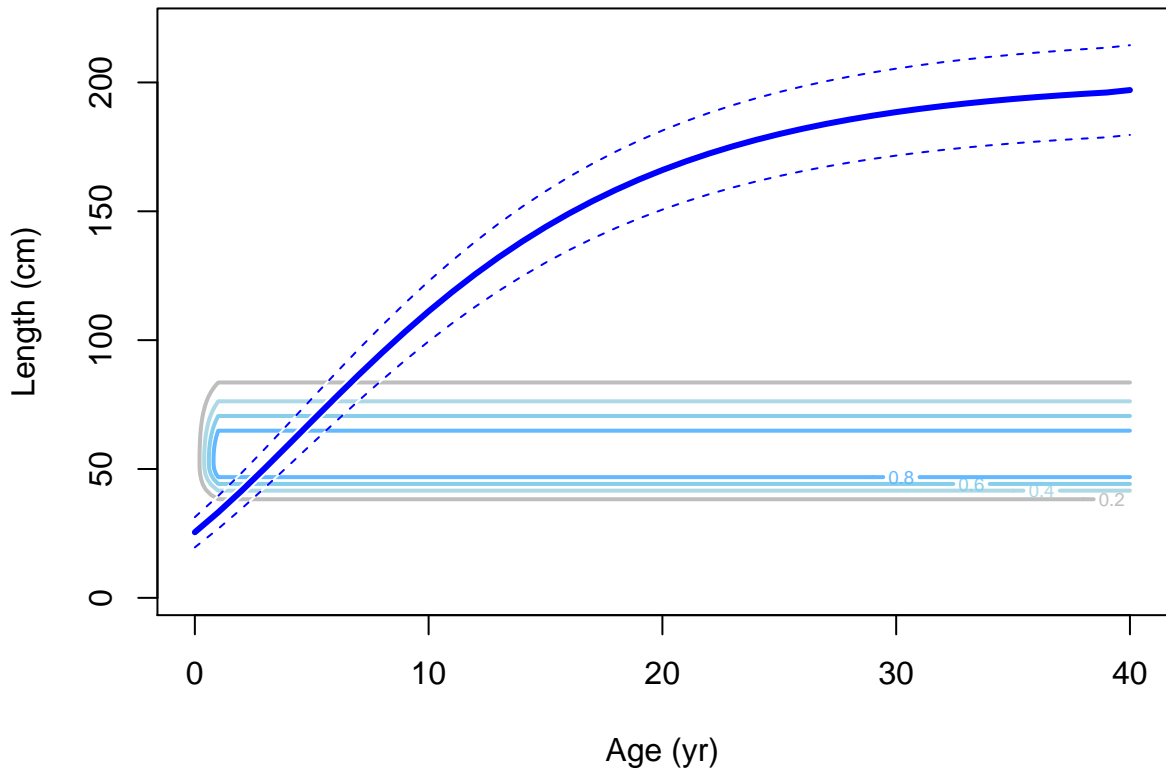
# Male ending year selectivity and growth for A3-OBJ



# Female ending year selectivity and growth for A4-OBJ

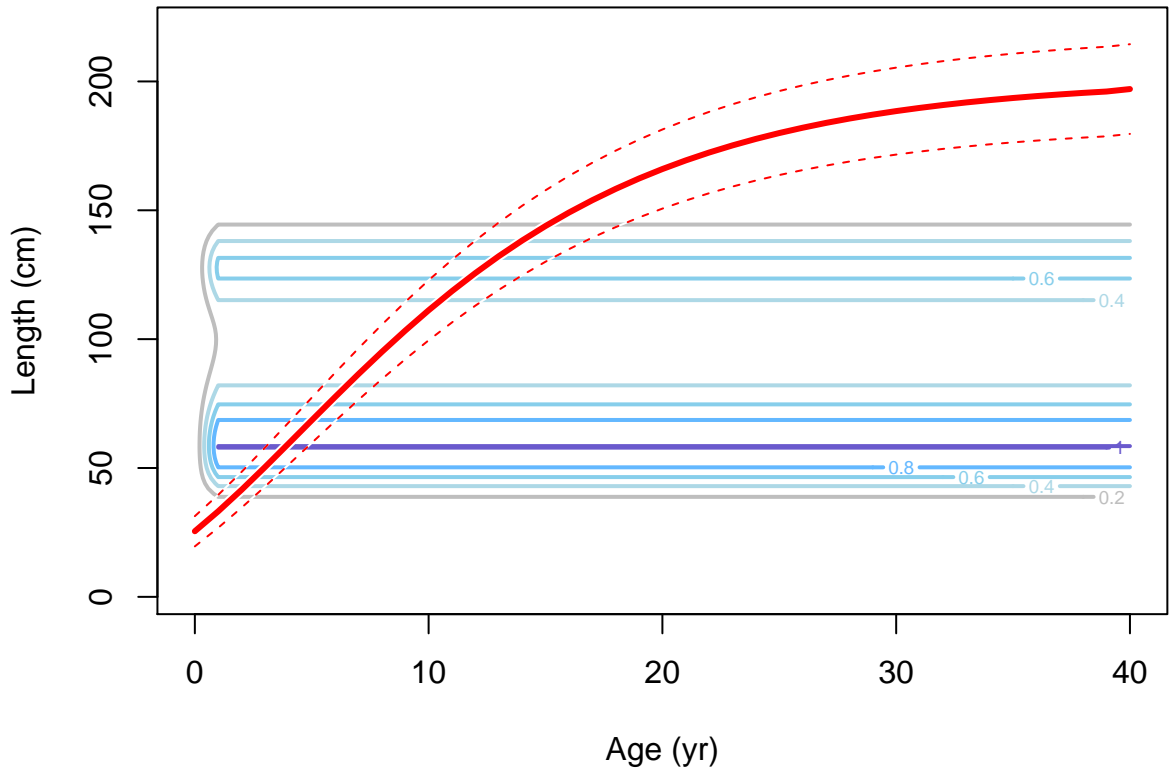


# Male ending year selectivity and growth for A4-OBJ

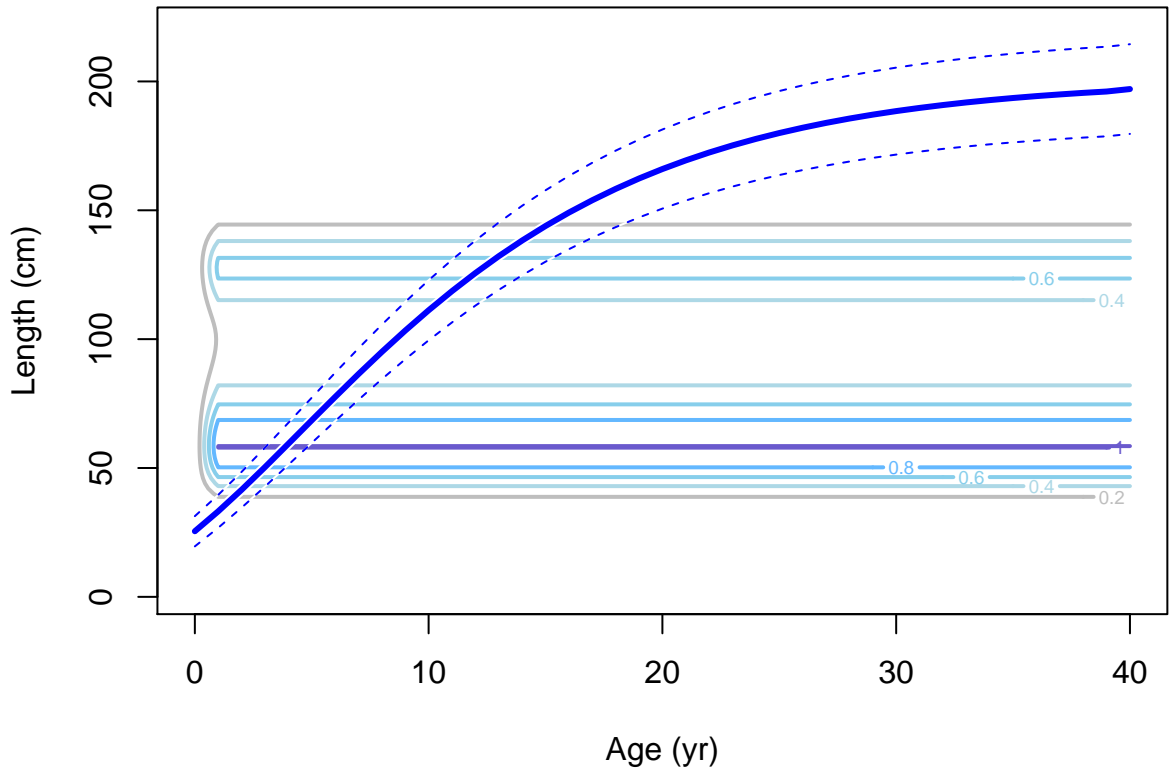




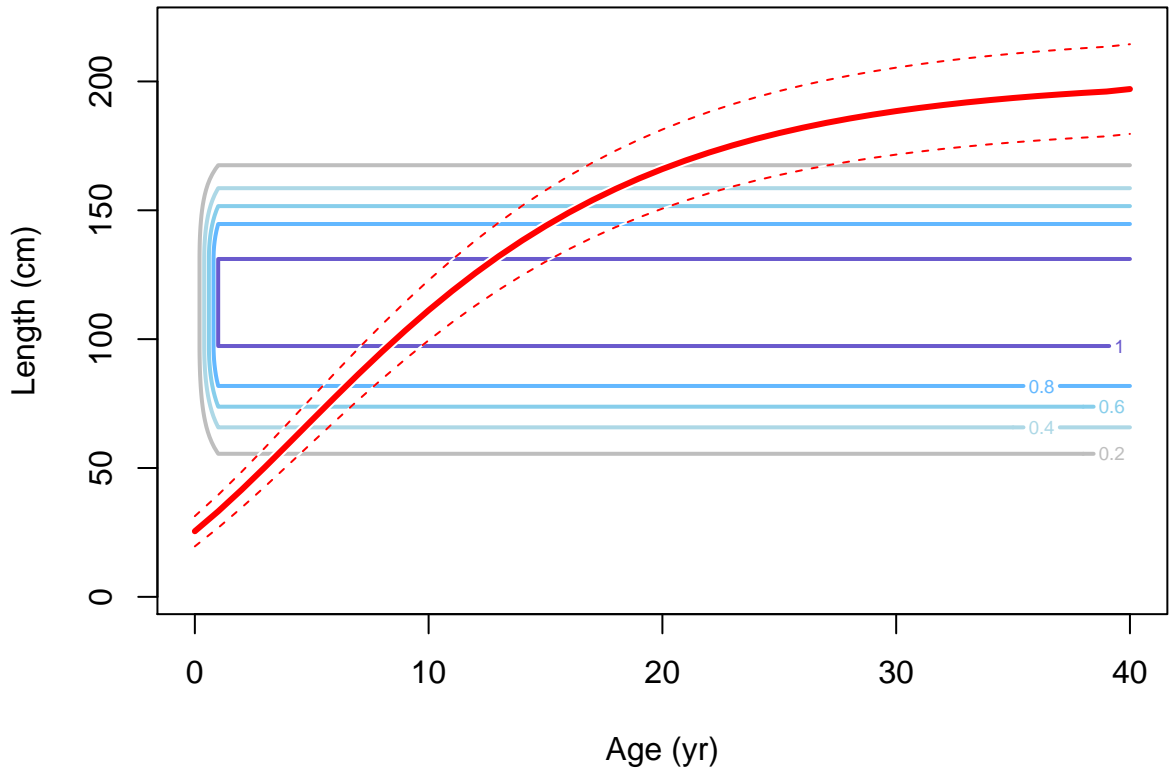
## Female ending year selectivity and growth for A5-OBJ



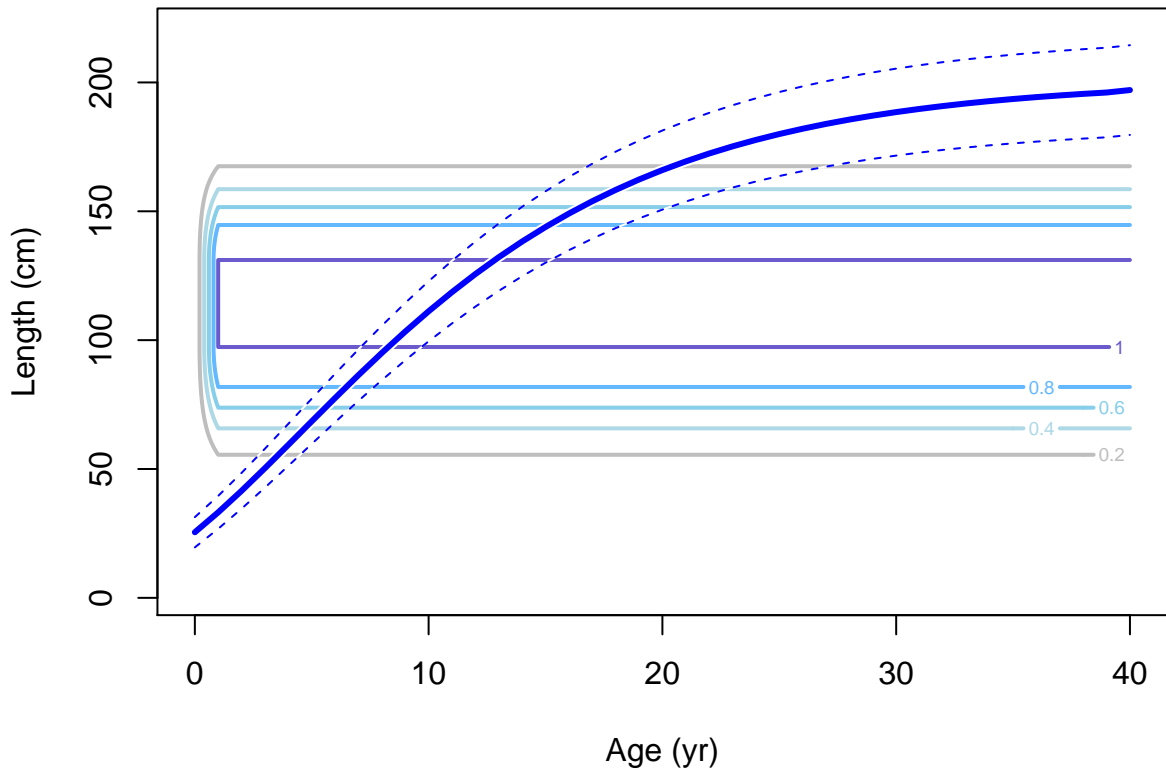
# Male ending year selectivity and growth for A5-OBJ



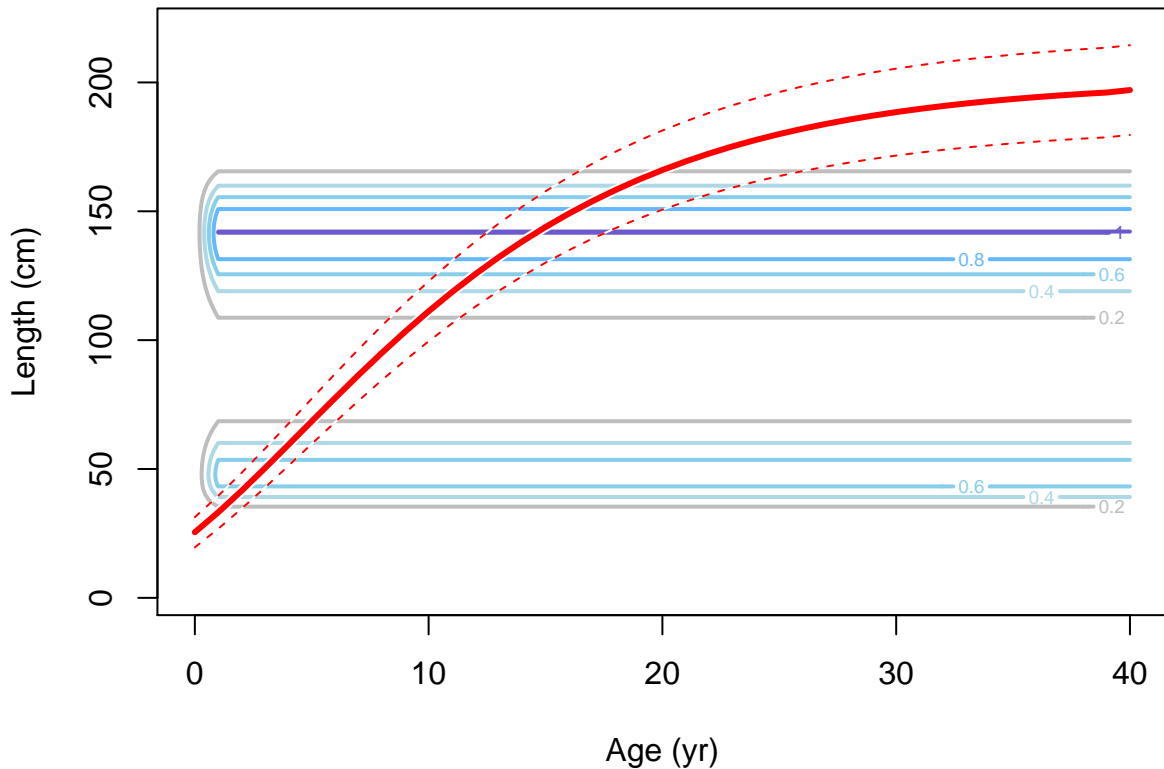
## Female ending year selectivity and growth for A6-OBJ



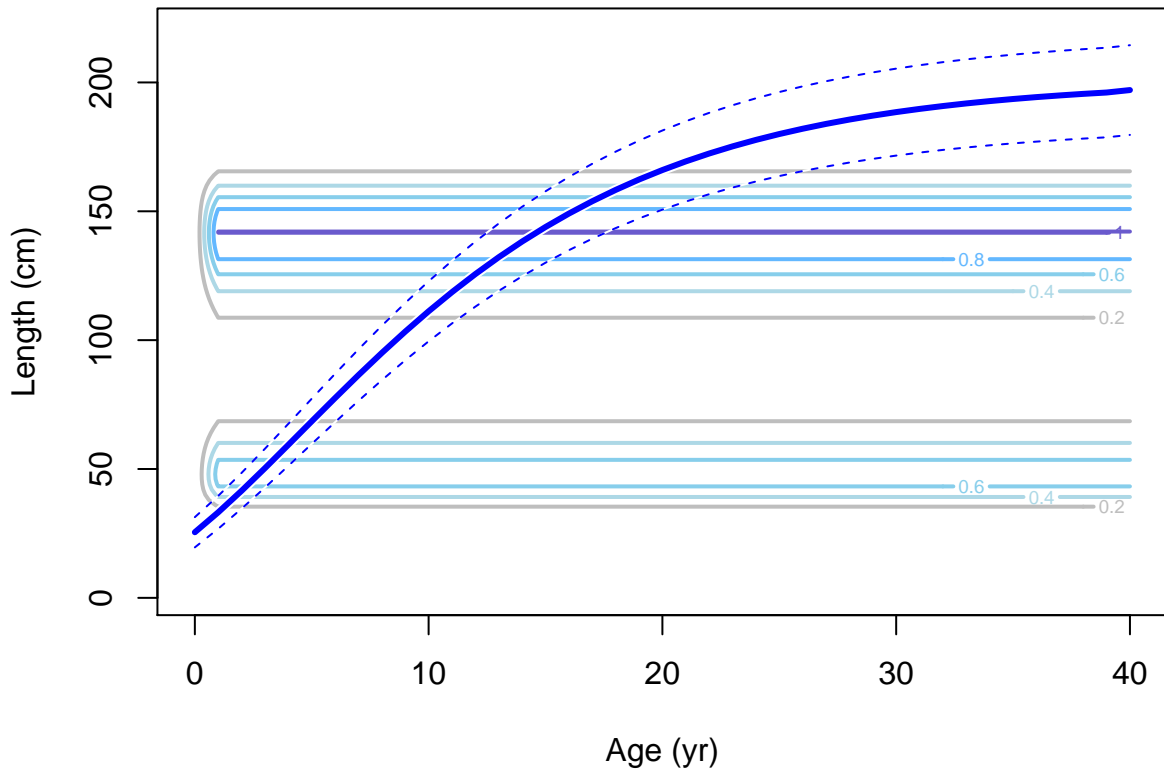
# Male ending year selectivity and growth for A6-OBJ



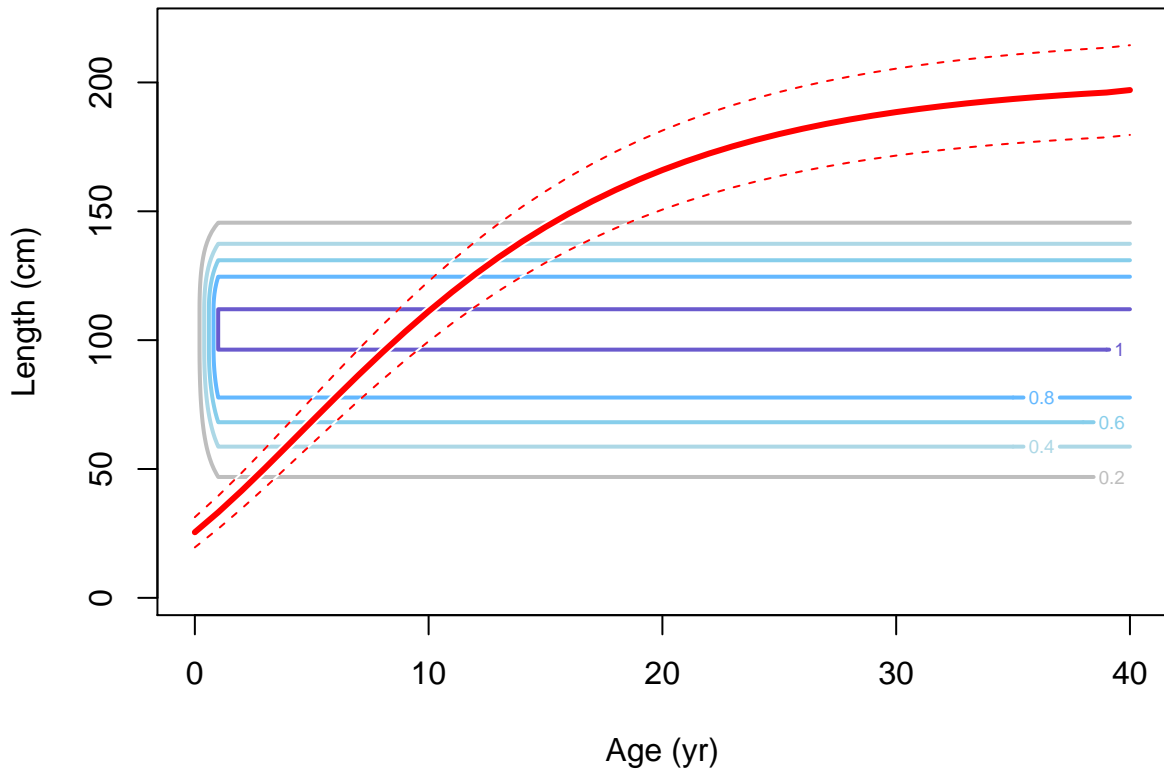
# Female ending year selectivity and growth for A2-NOADEL



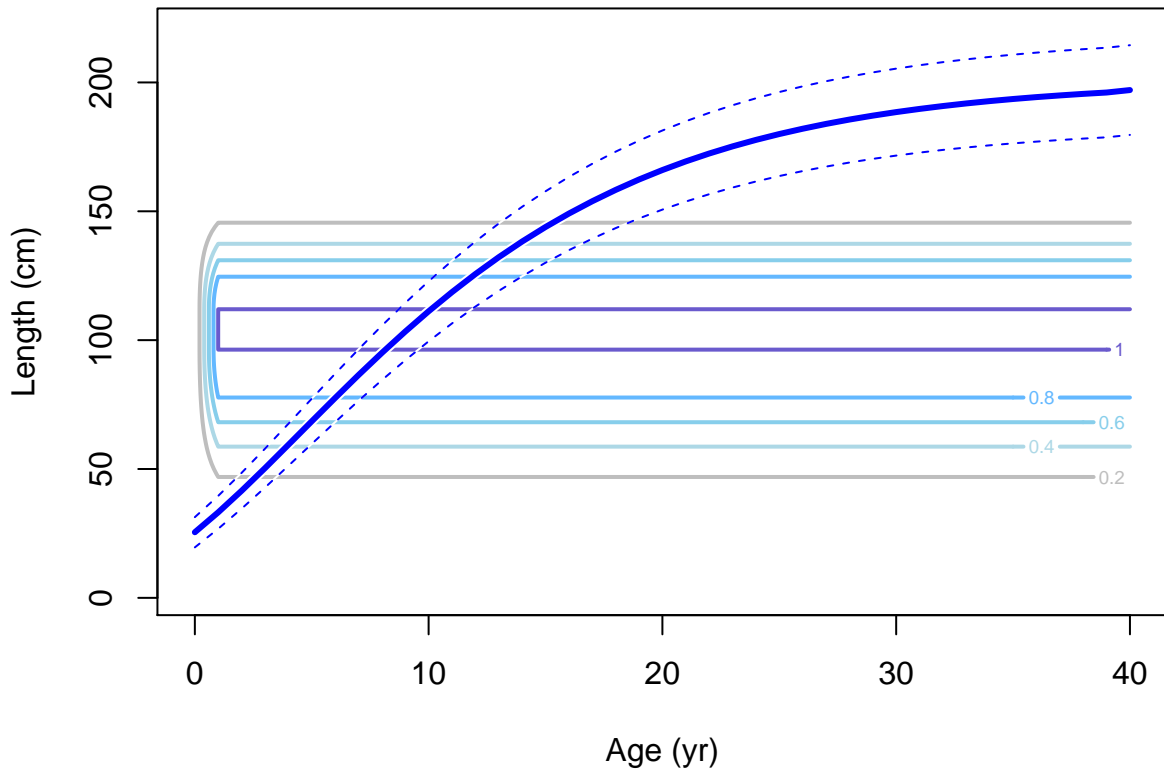
# Male ending year selectivity and growth for A2-NOADEL



## Female ending year selectivity and growth for A3-NOADEL

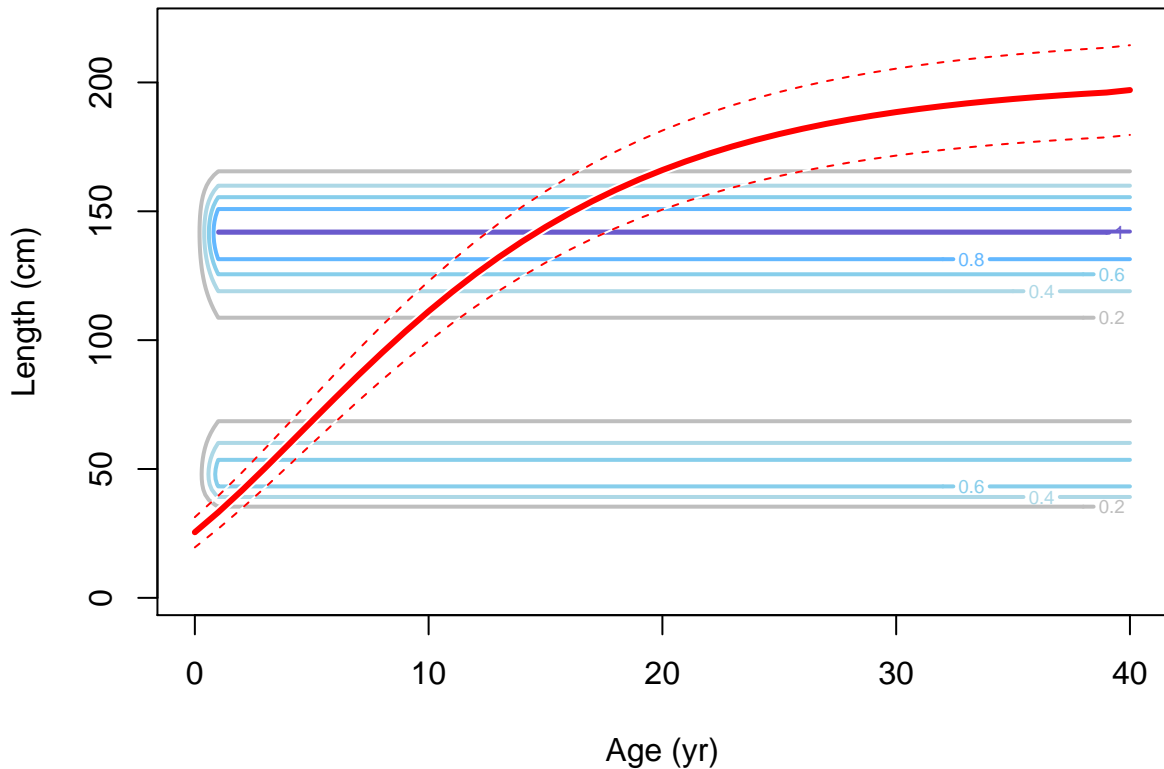


# Male ending year selectivity and growth for A3-NOADEL

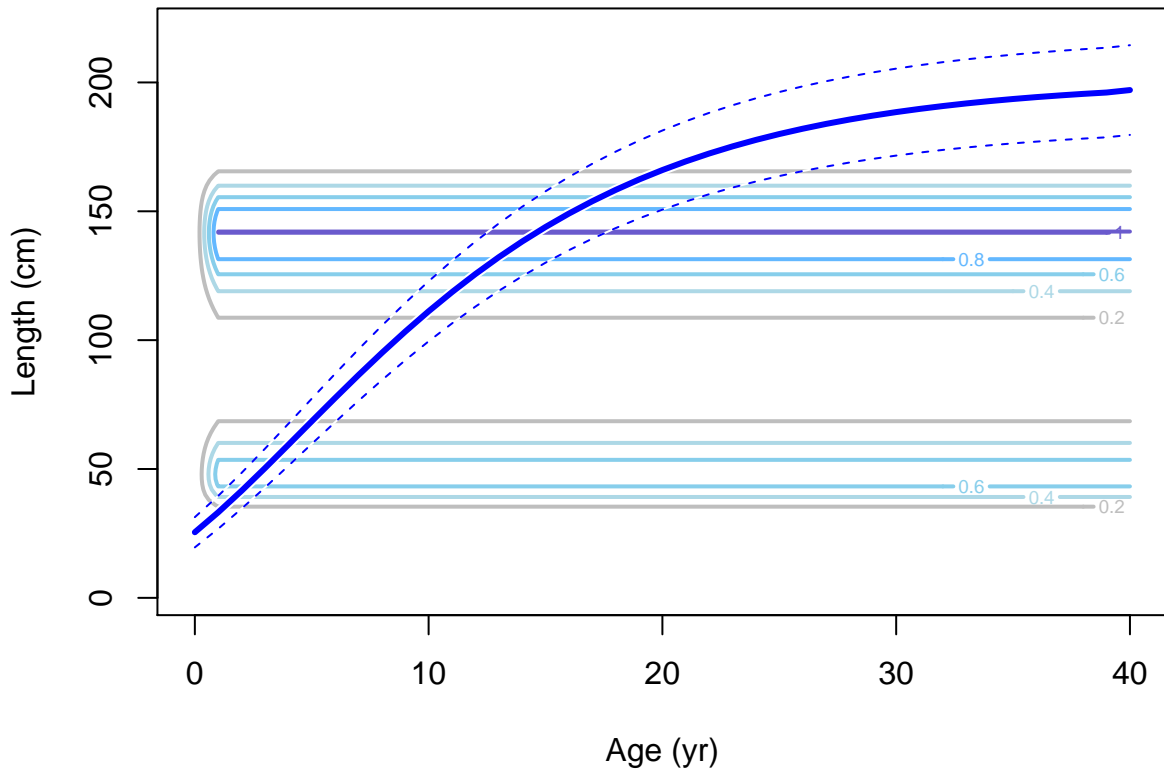




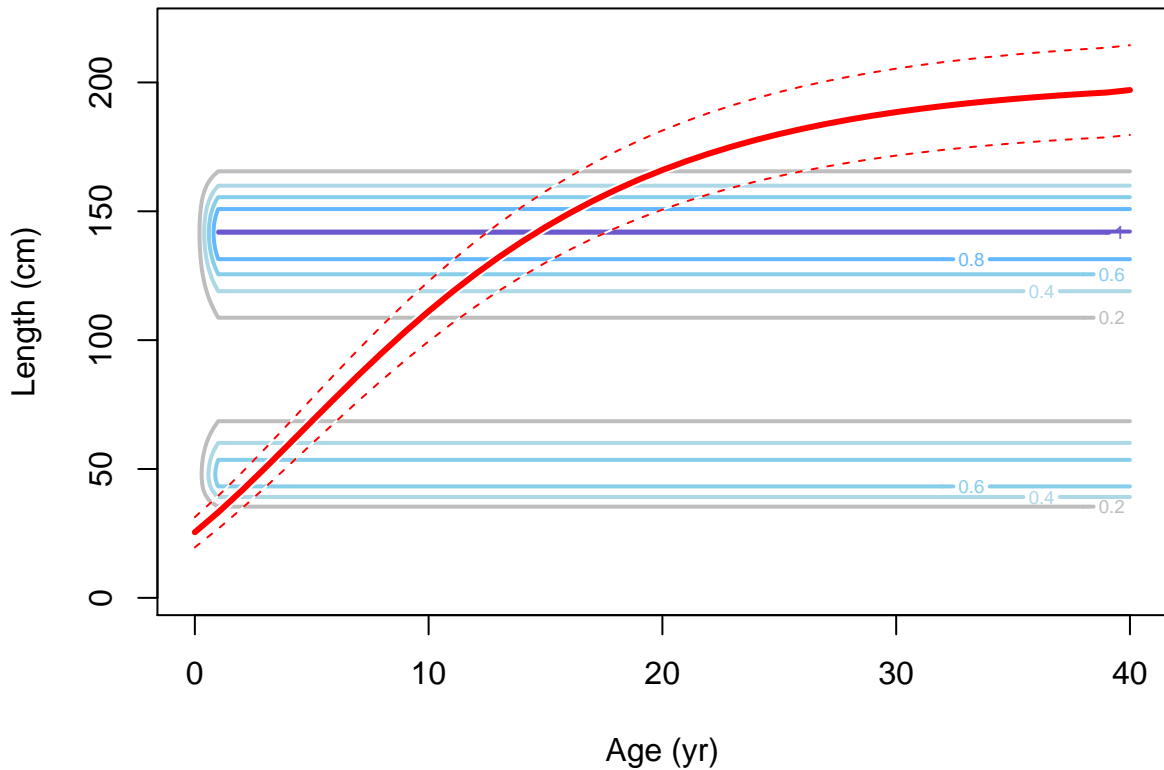
# Female ending year selectivity and growth for A4-NOADEL



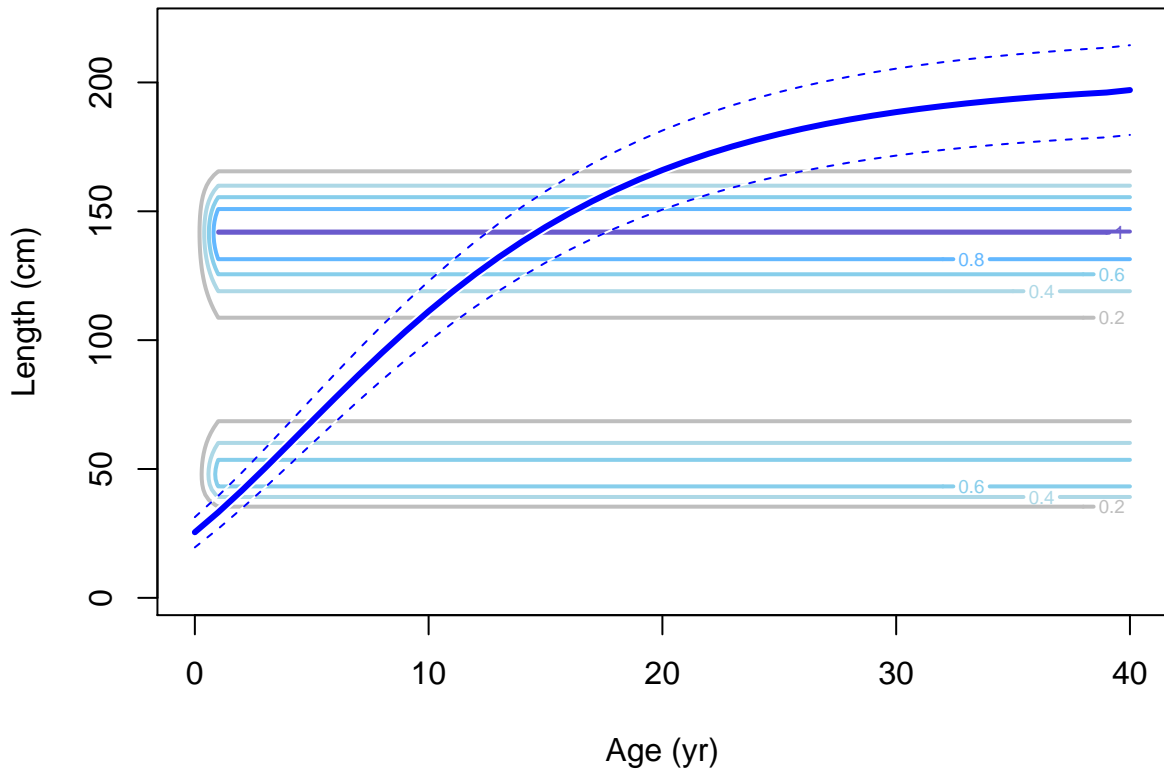
# Male ending year selectivity and growth for A4-NOADEL



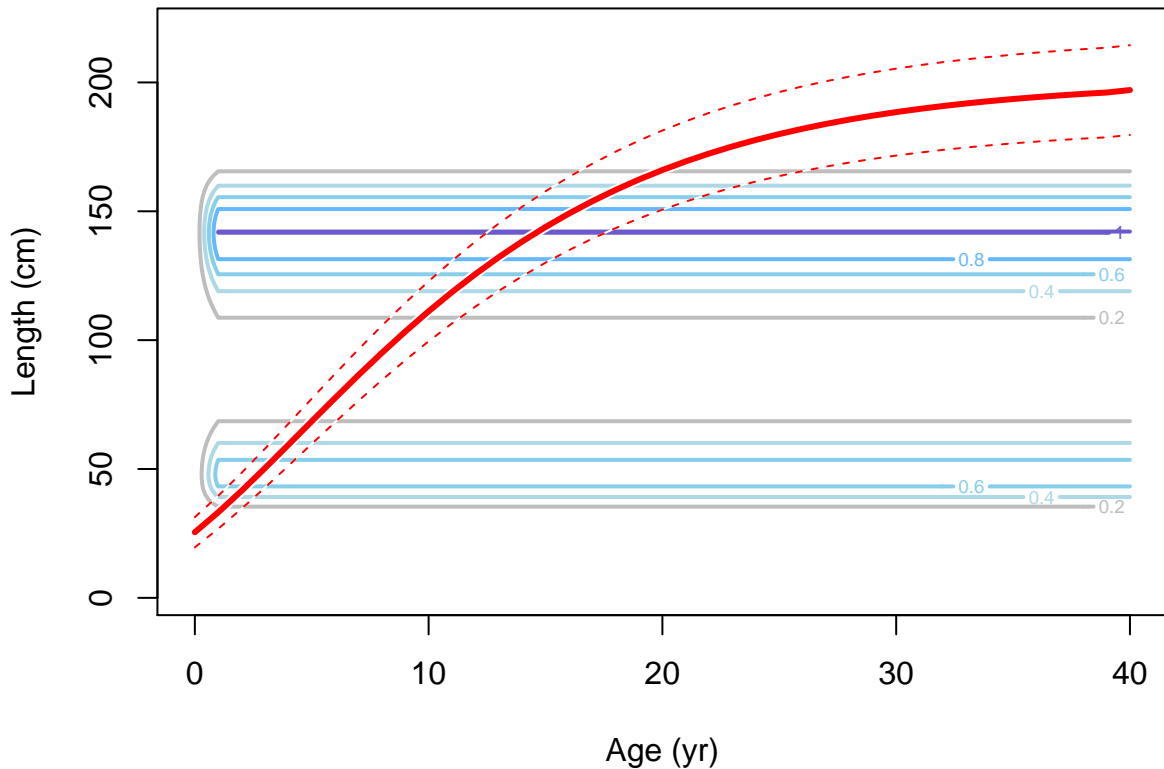
## Female ending year selectivity and growth for A5-NOADEL



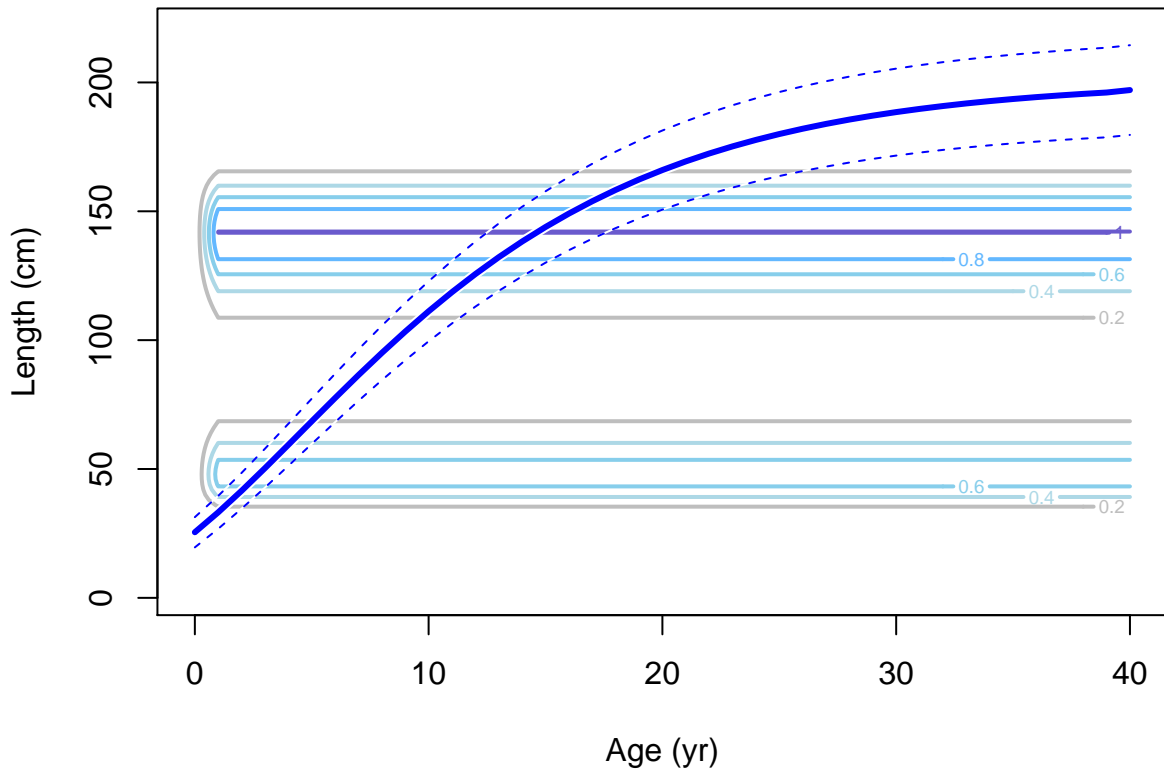
# Male ending year selectivity and growth for A5-NOADEL



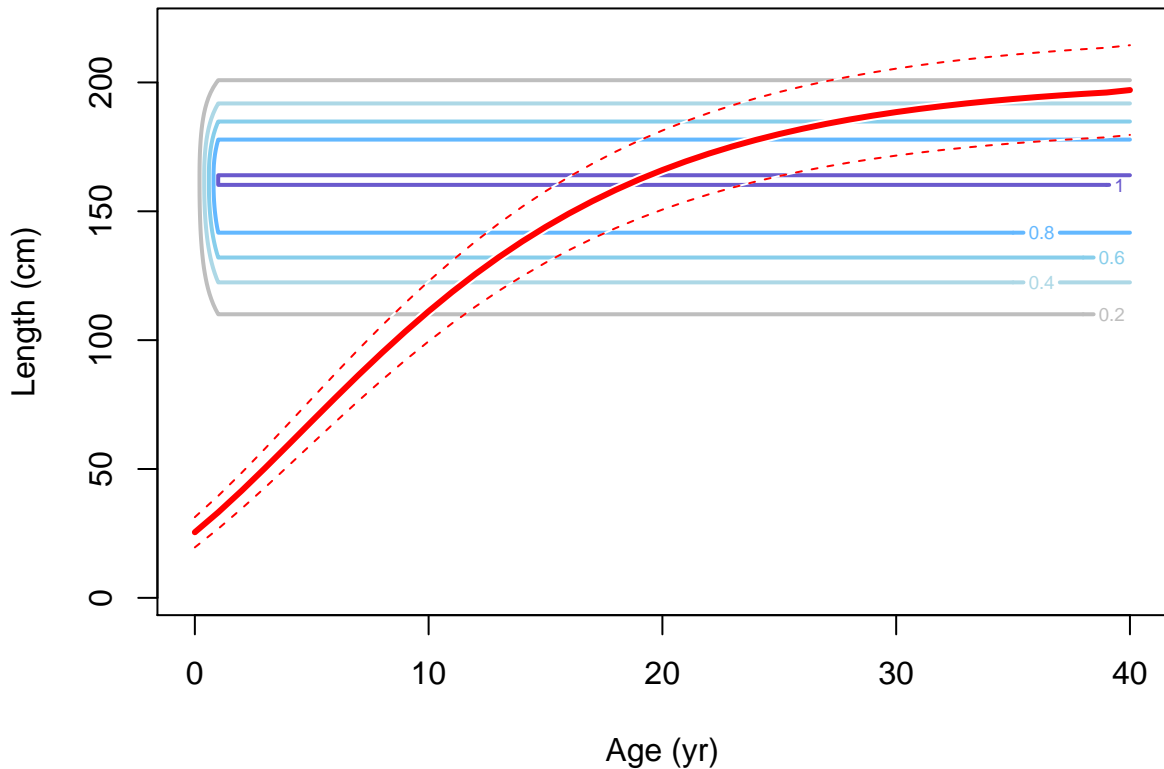
# Female ending year selectivity and growth for A6-NOADEL



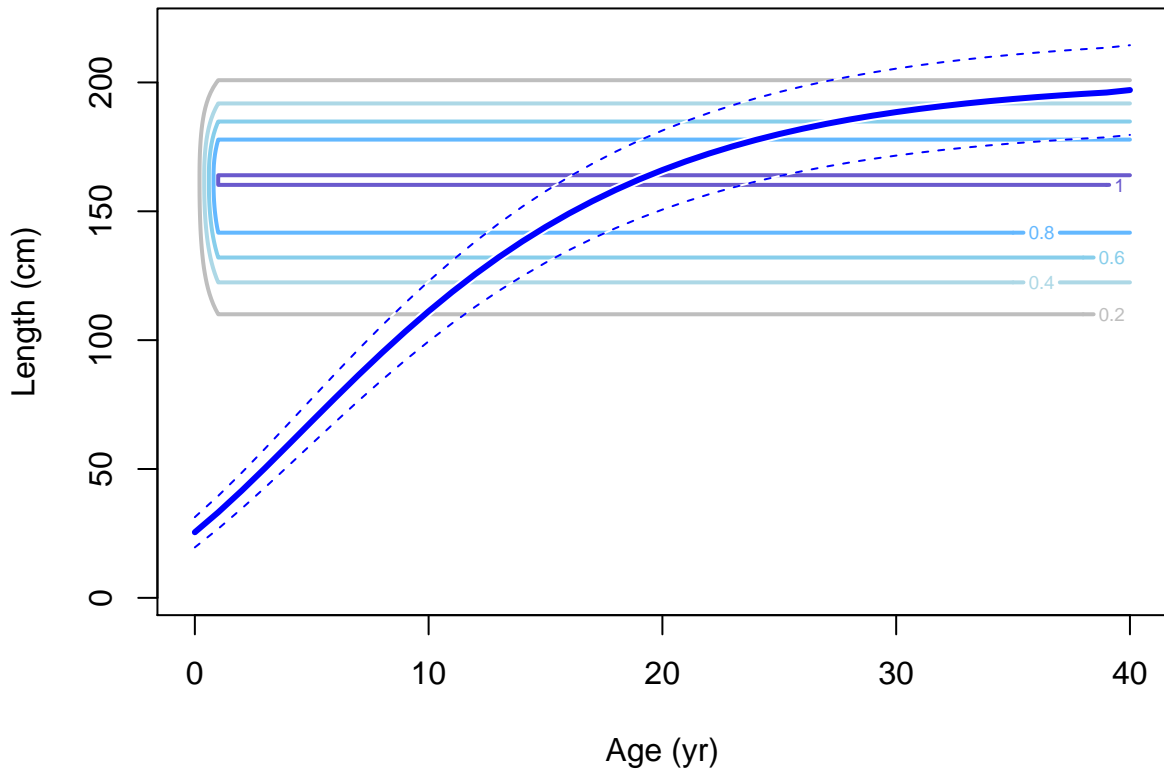
# Male ending year selectivity and growth for A6-NOADEL



# Female ending year selectivity and growth for EPO-LL-survey-early

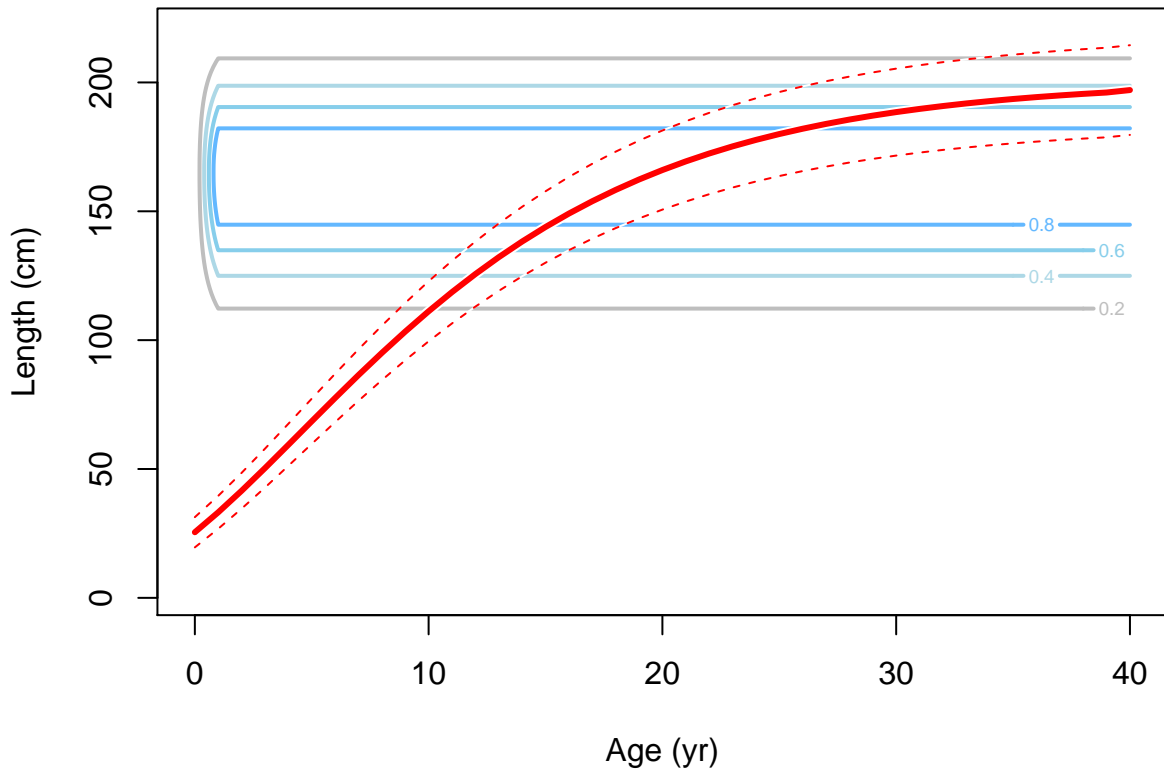


# Male ending year selectivity and growth for EPO-LL-survey-early

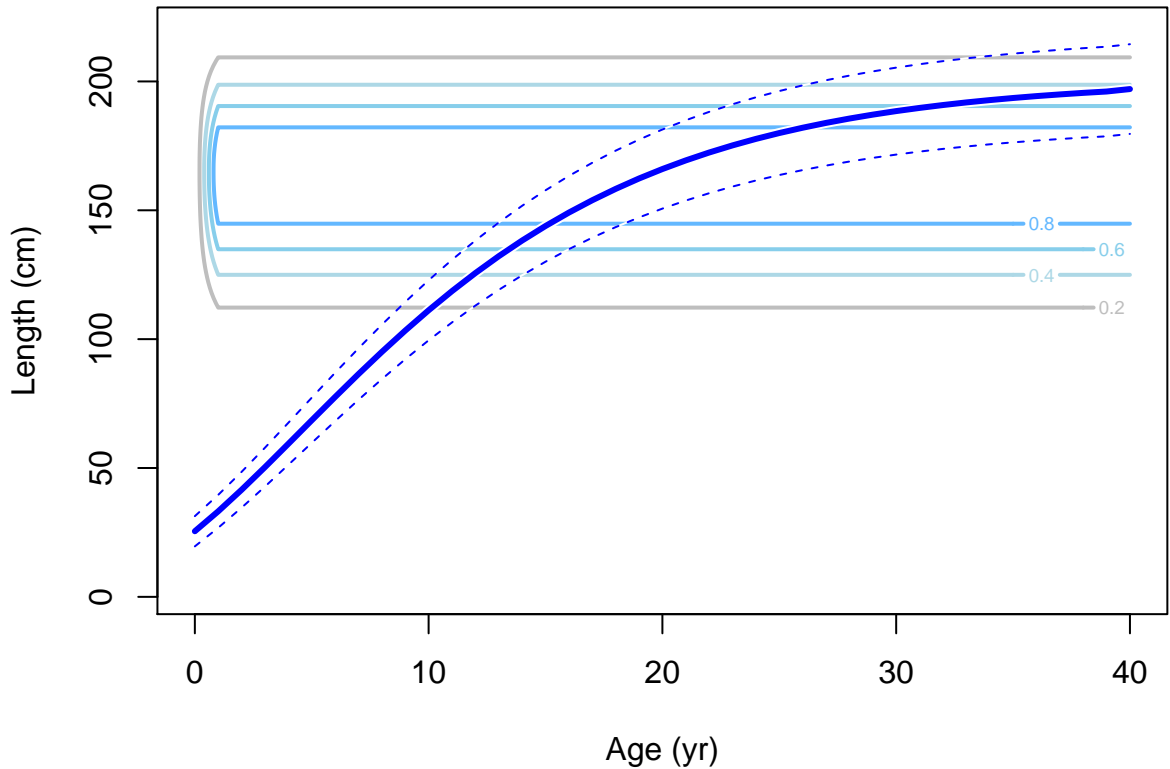




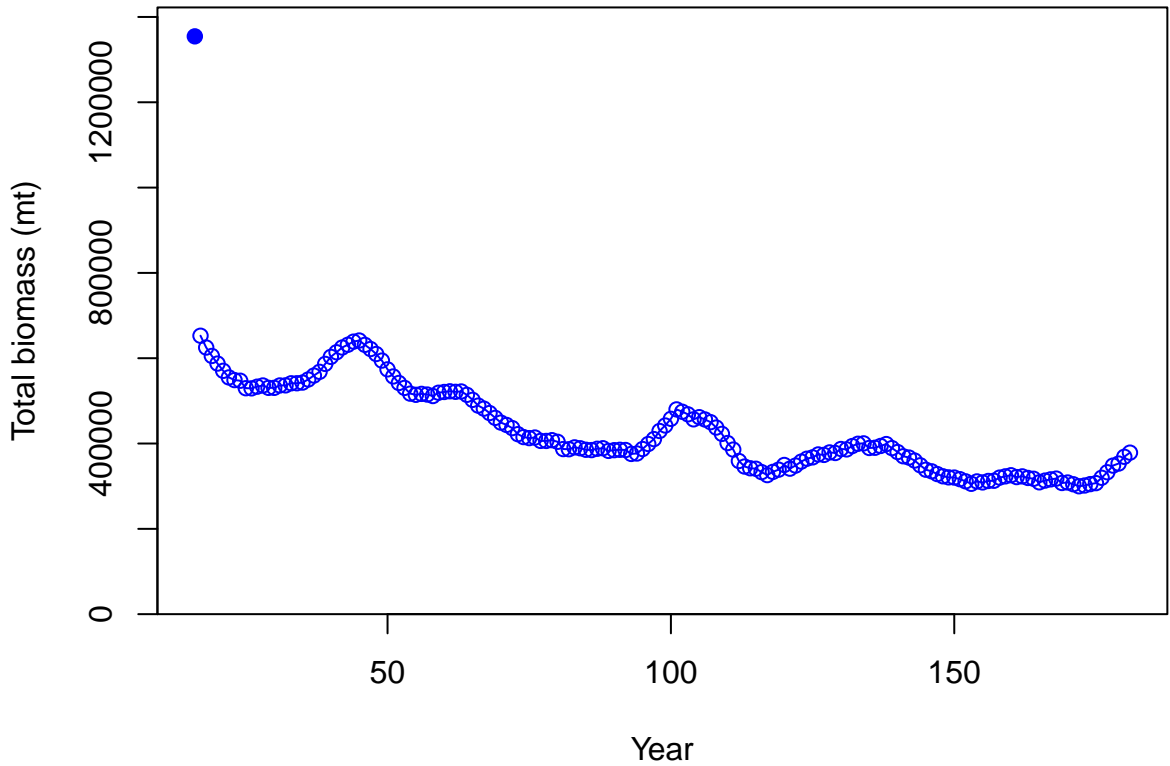
# Female ending year selectivity and growth for EPO-LL-survey-late



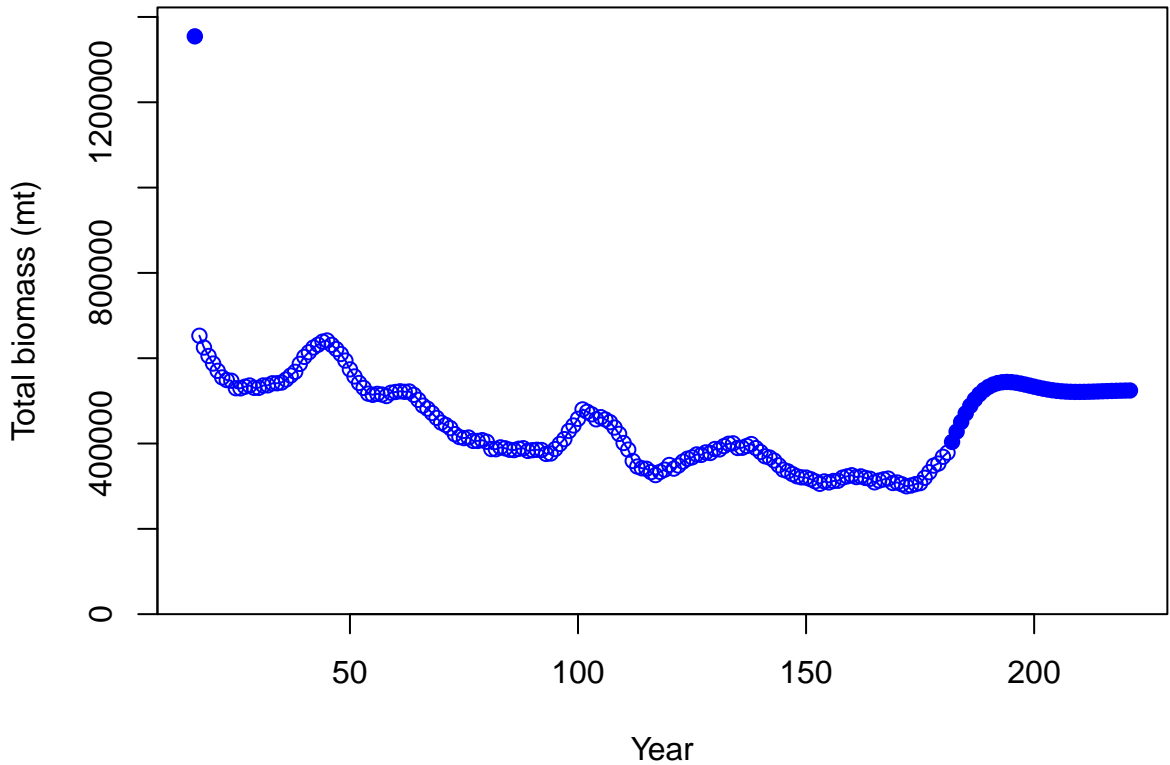
# Male ending year selectivity and growth for EPO-LL-survey-late



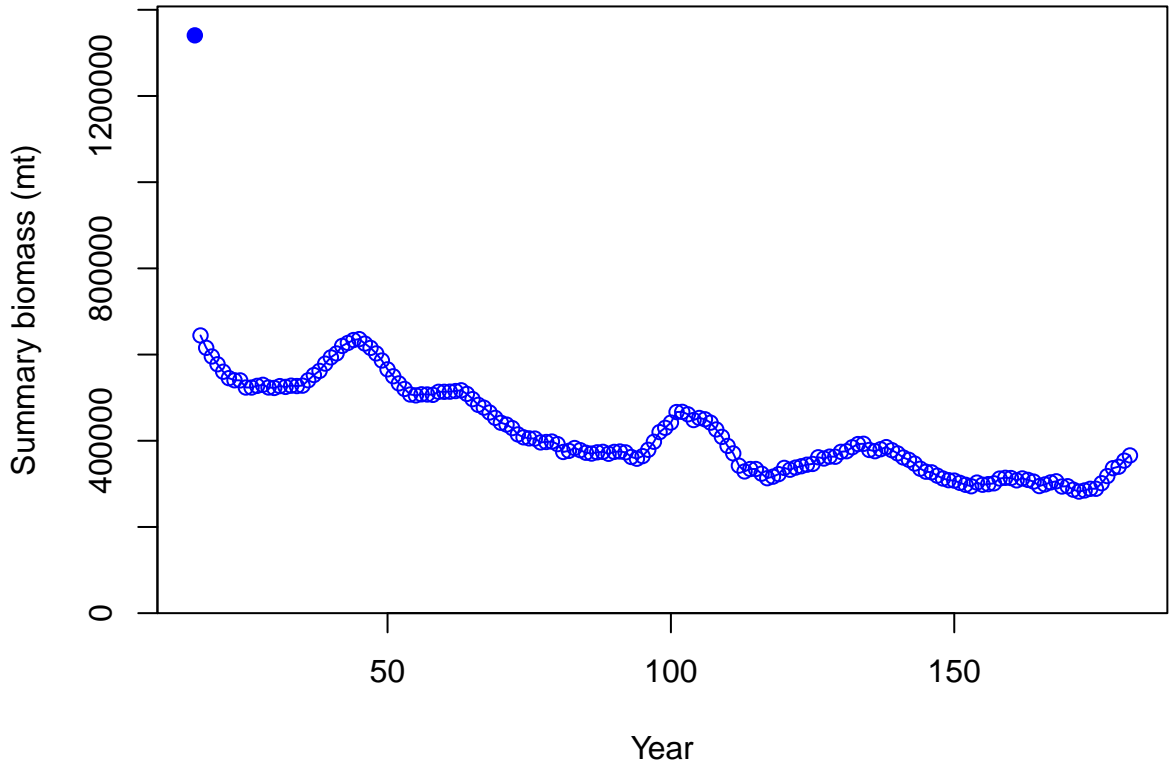
# Total biomass (mt)



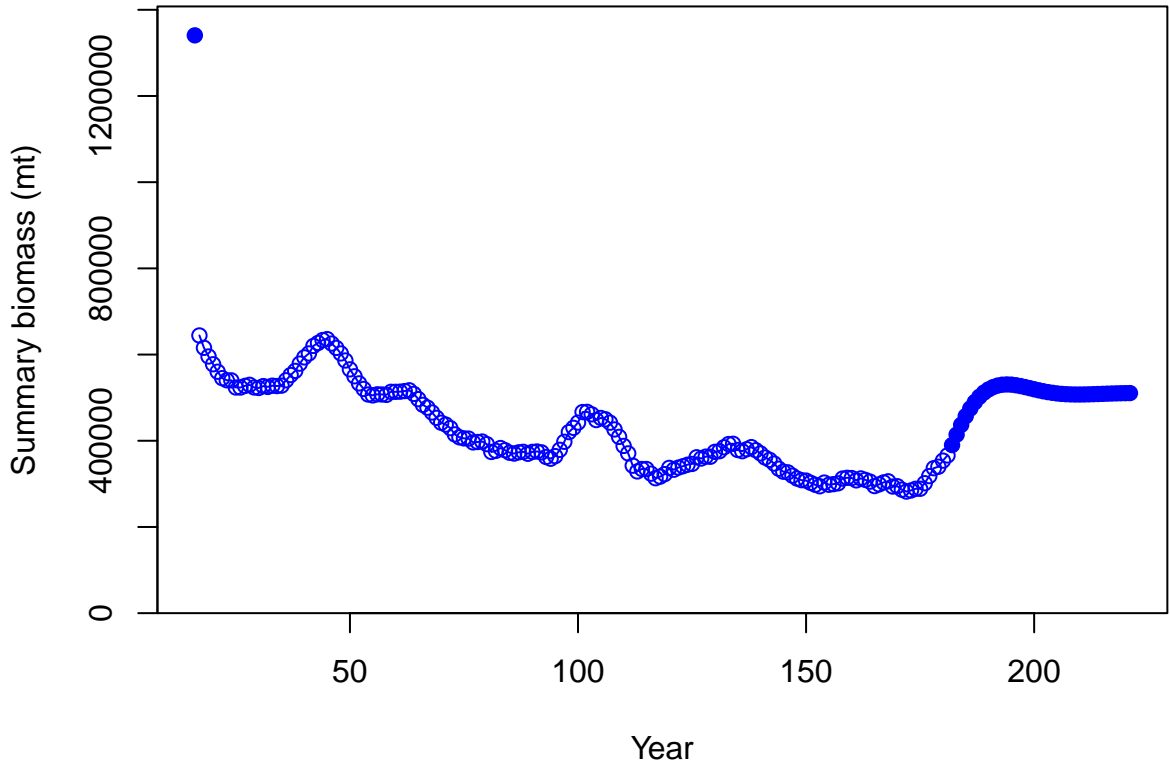
Total biomass (mt) with forecast



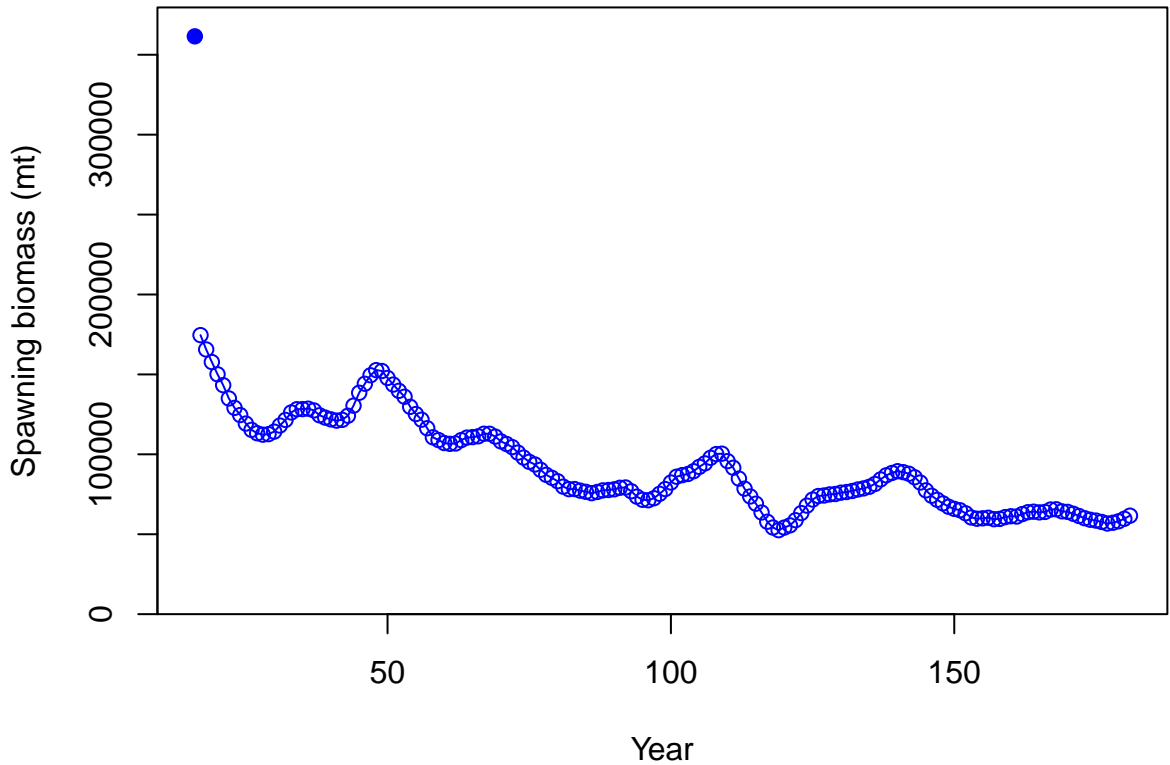
# Summary biomass (mt)



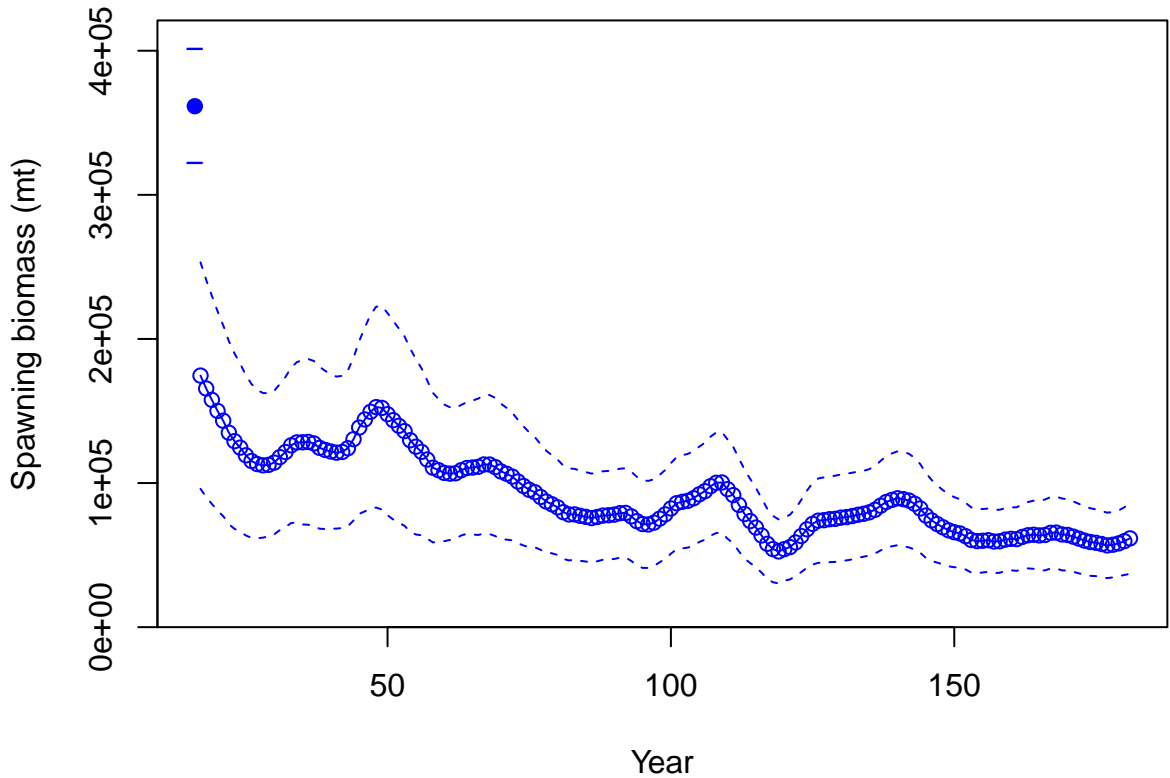
## Summary biomass (mt) with forecast



## Spawning biomass (mt)

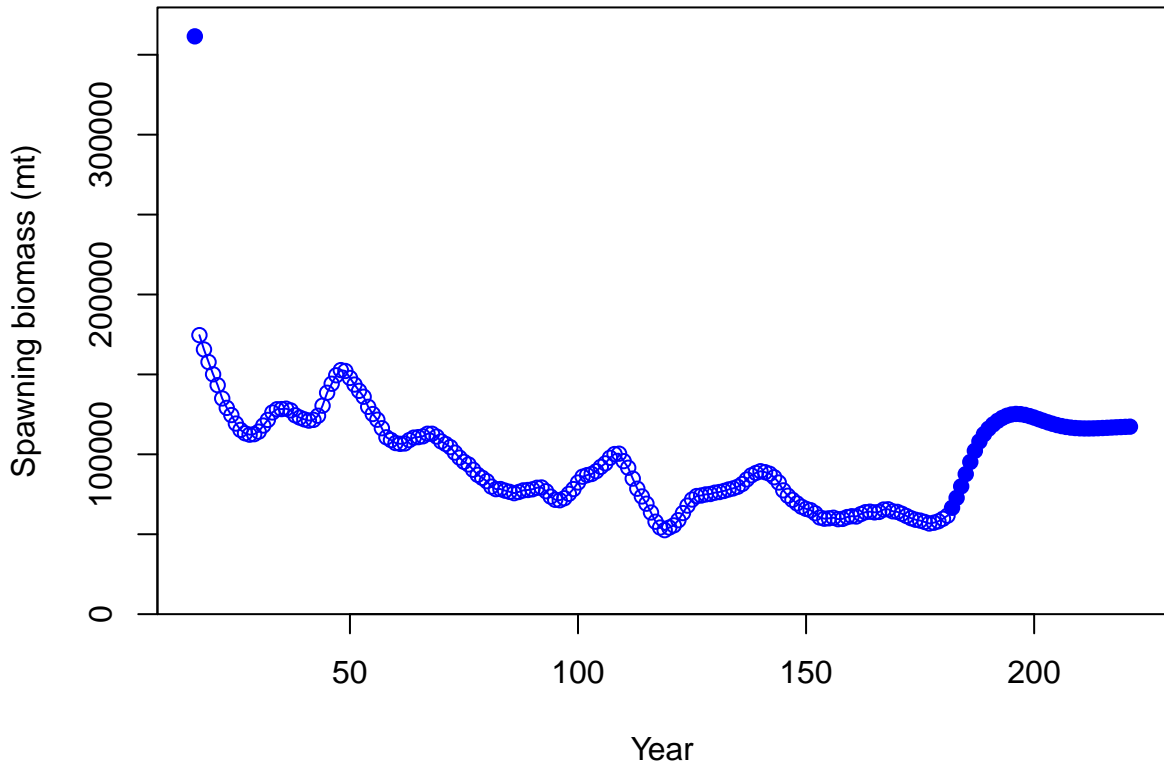


# Spawning biomass (mt) with ~95% asymptotic intervals

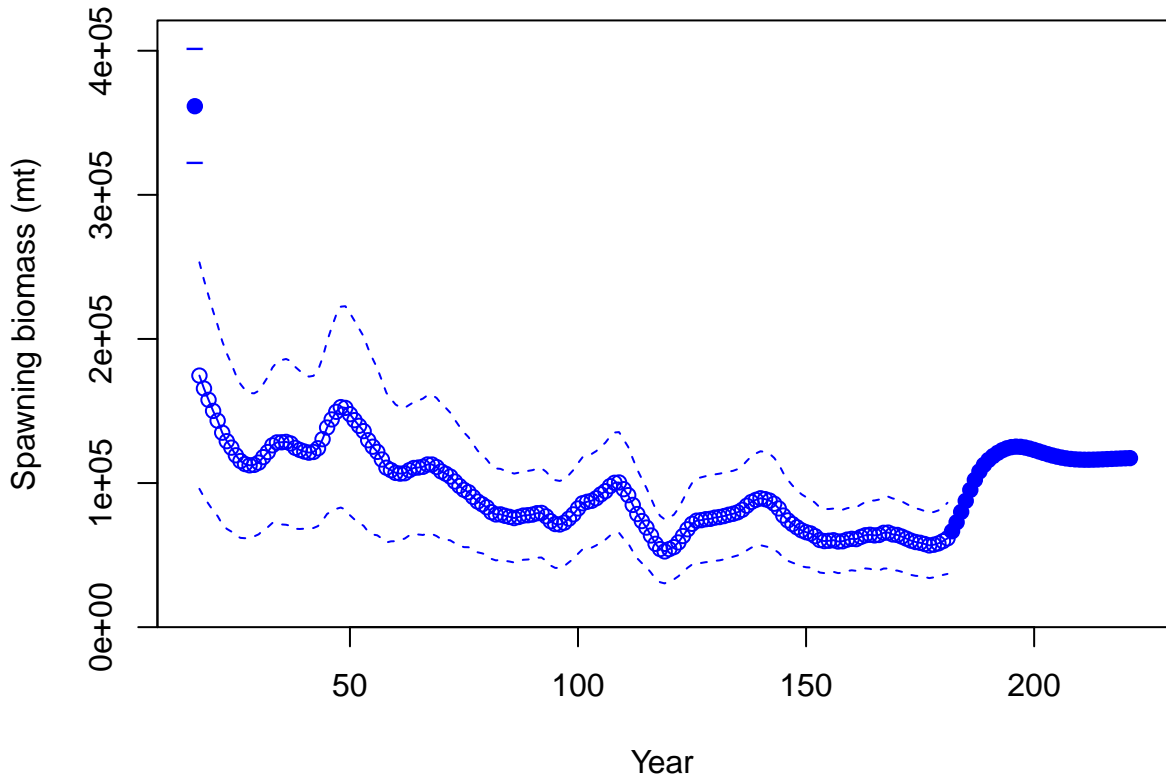




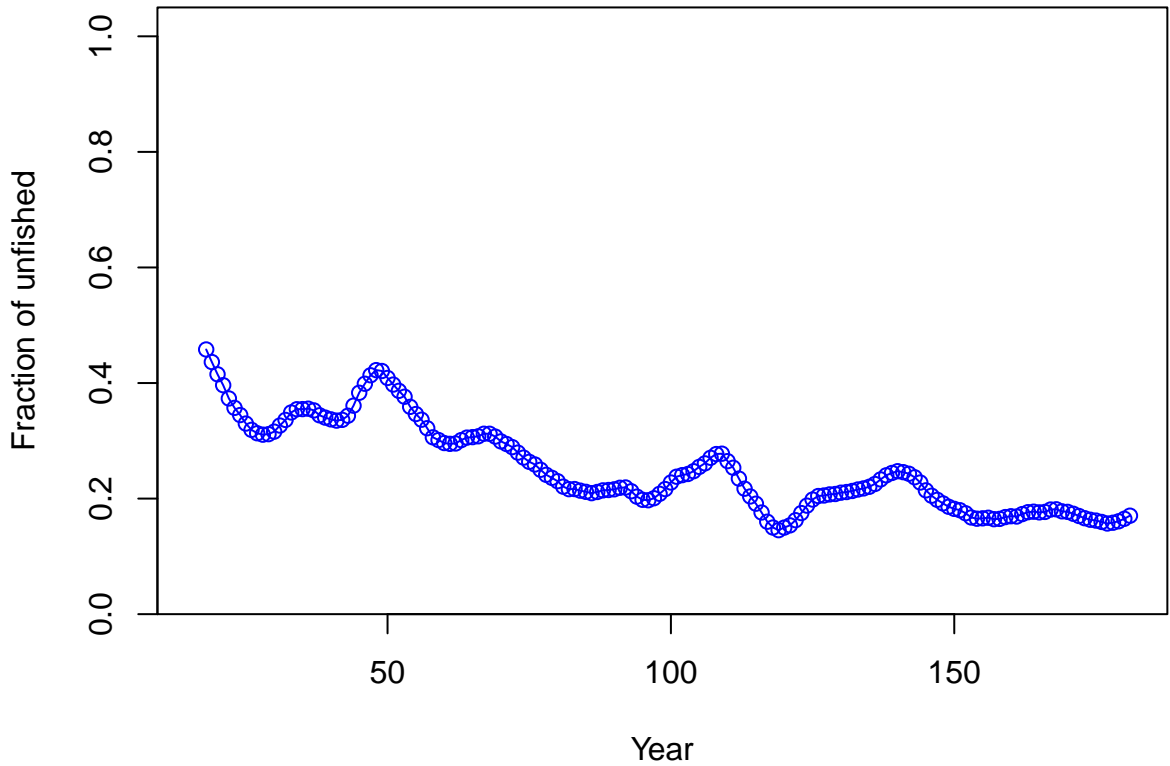
## Spawning biomass (mt) with forecast



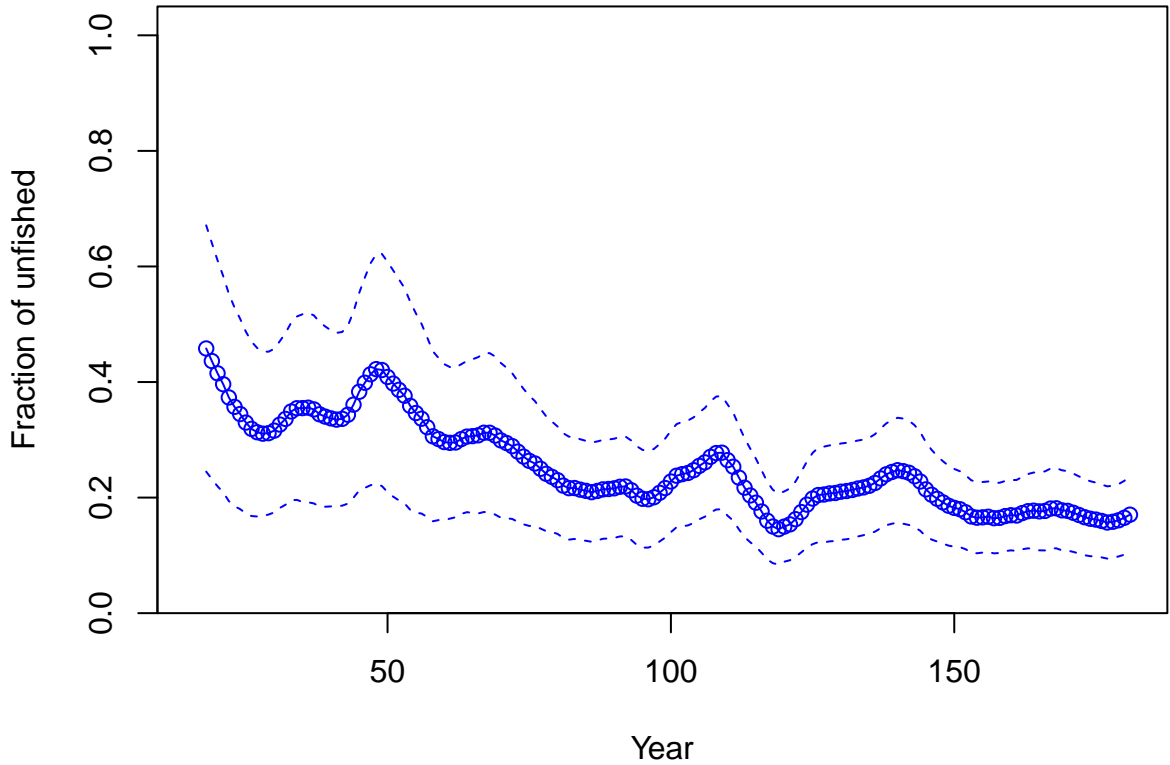
# Spawning biomass (mt) with forecast with ~95% asymptotic intervals



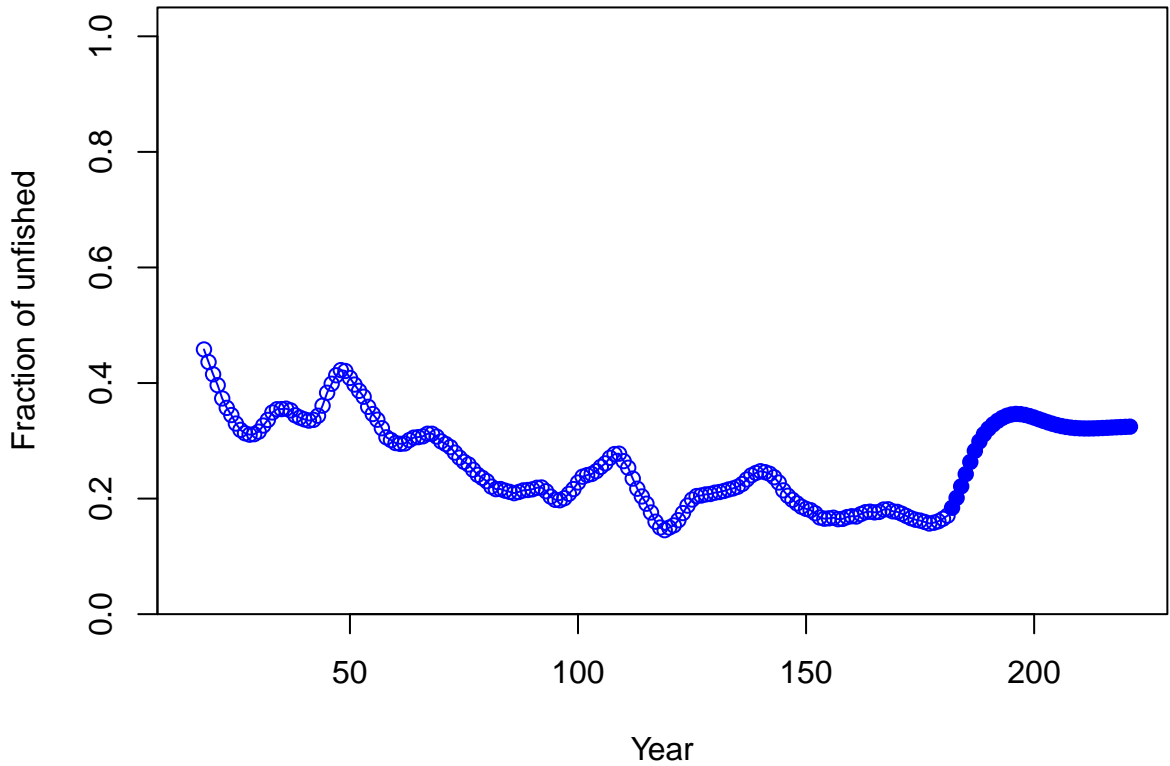
# Fraction of unfished



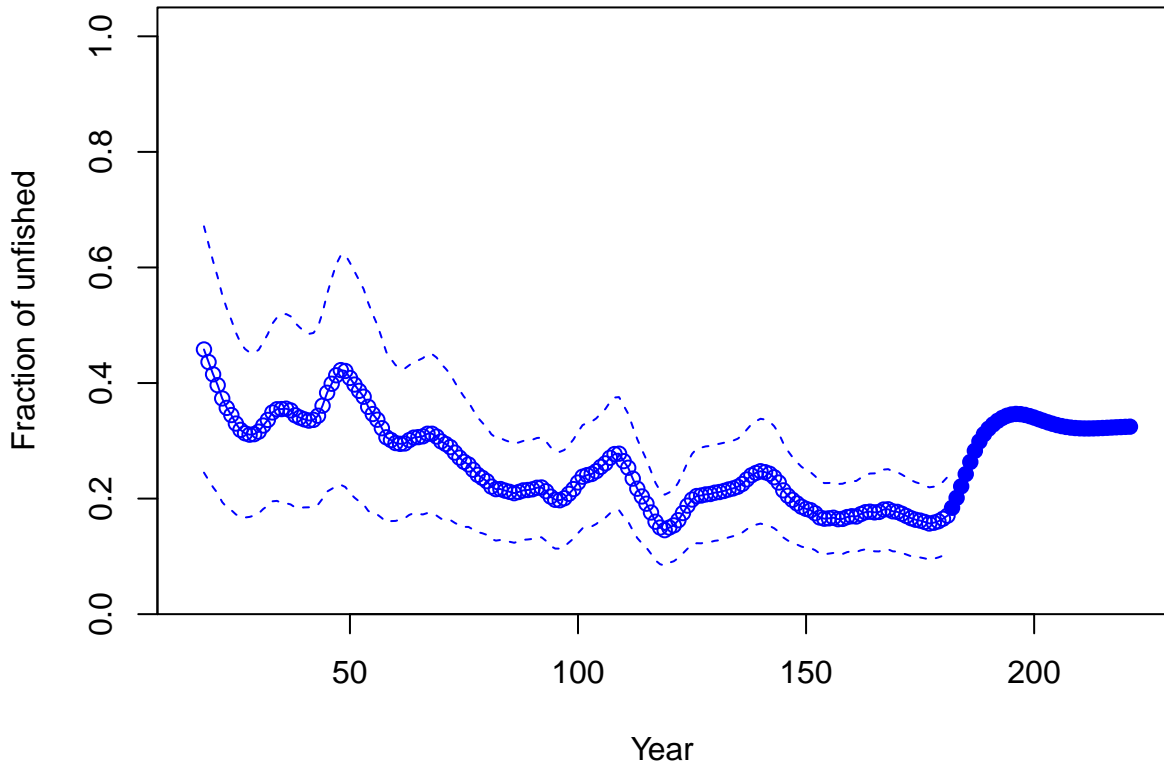
Fraction of unfished with ~95% asymptotic intervals



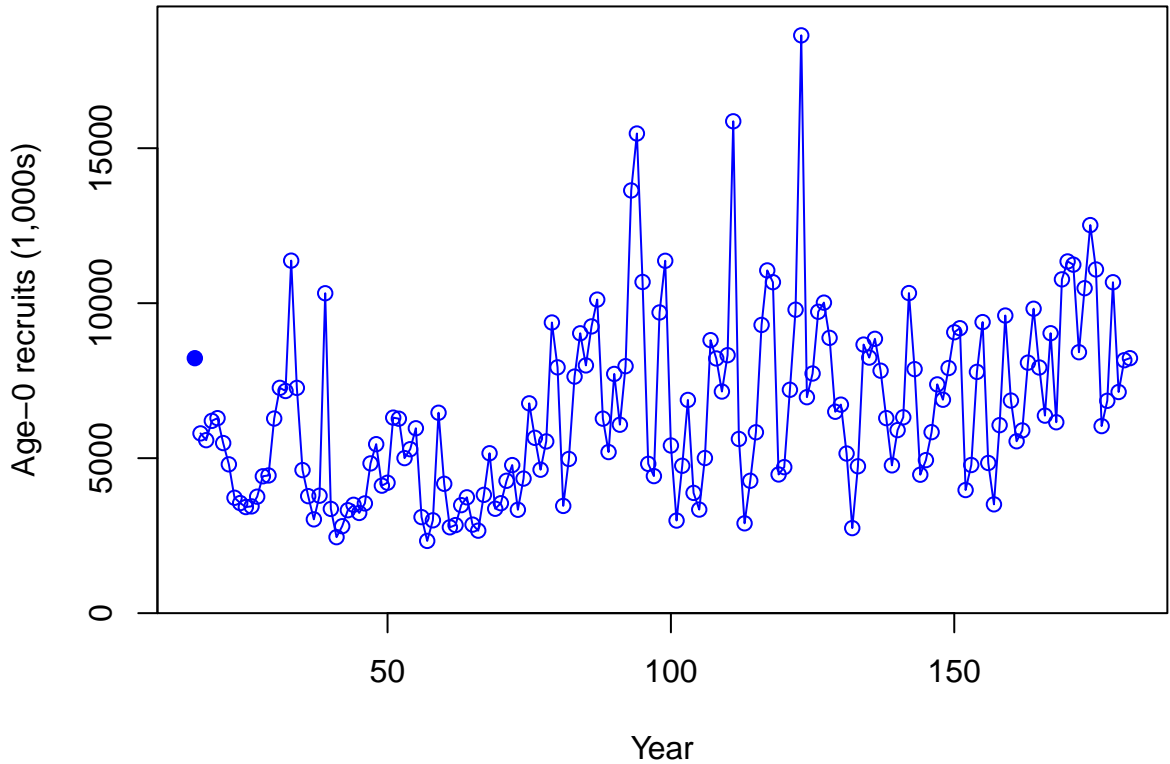
**Fraction of unfished with forecast**



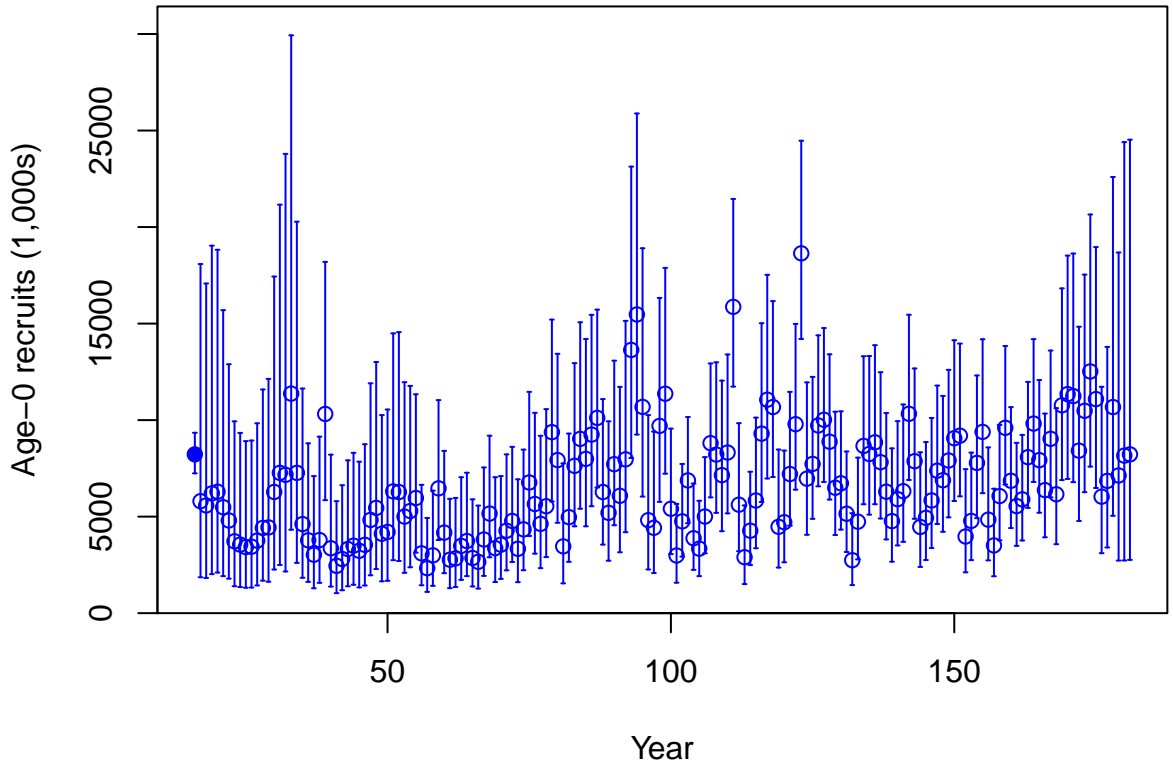
# Fraction of unfished with forecast with ~95% asymptotic intervals



# Age-0 recruits (1,000s)

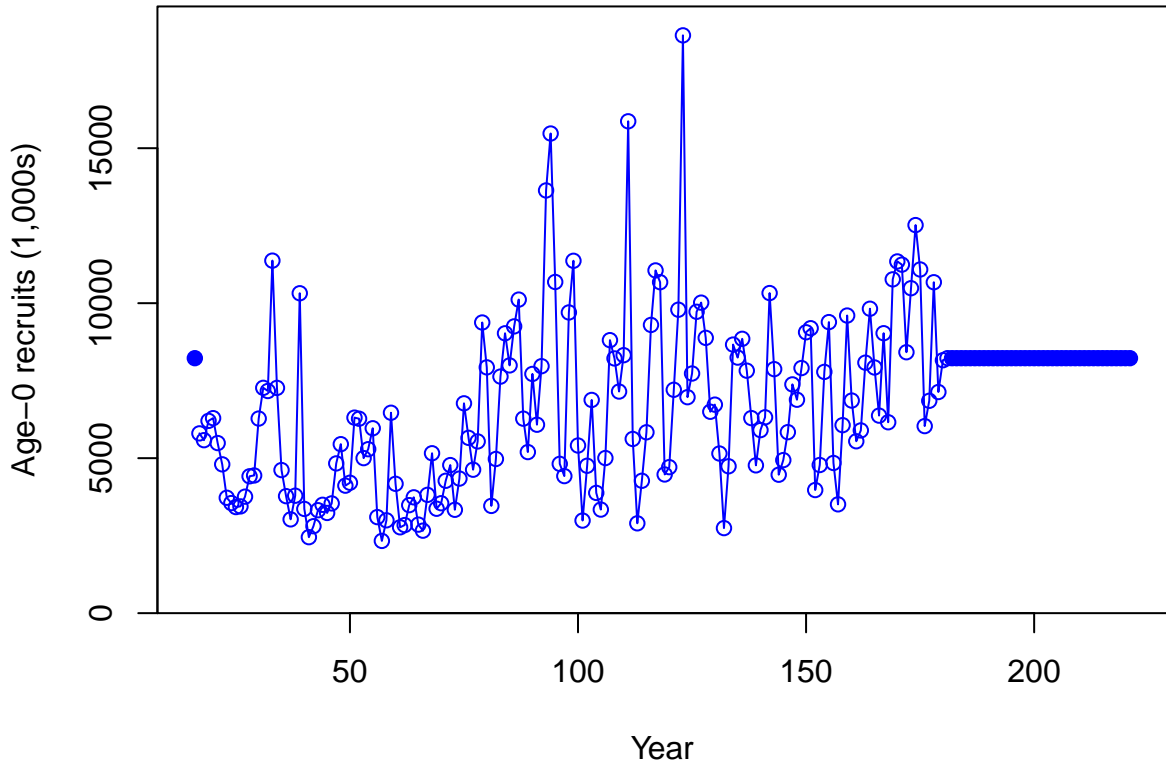


# Age-0 recruits (1,000s) with ~95% asymptotic intervals

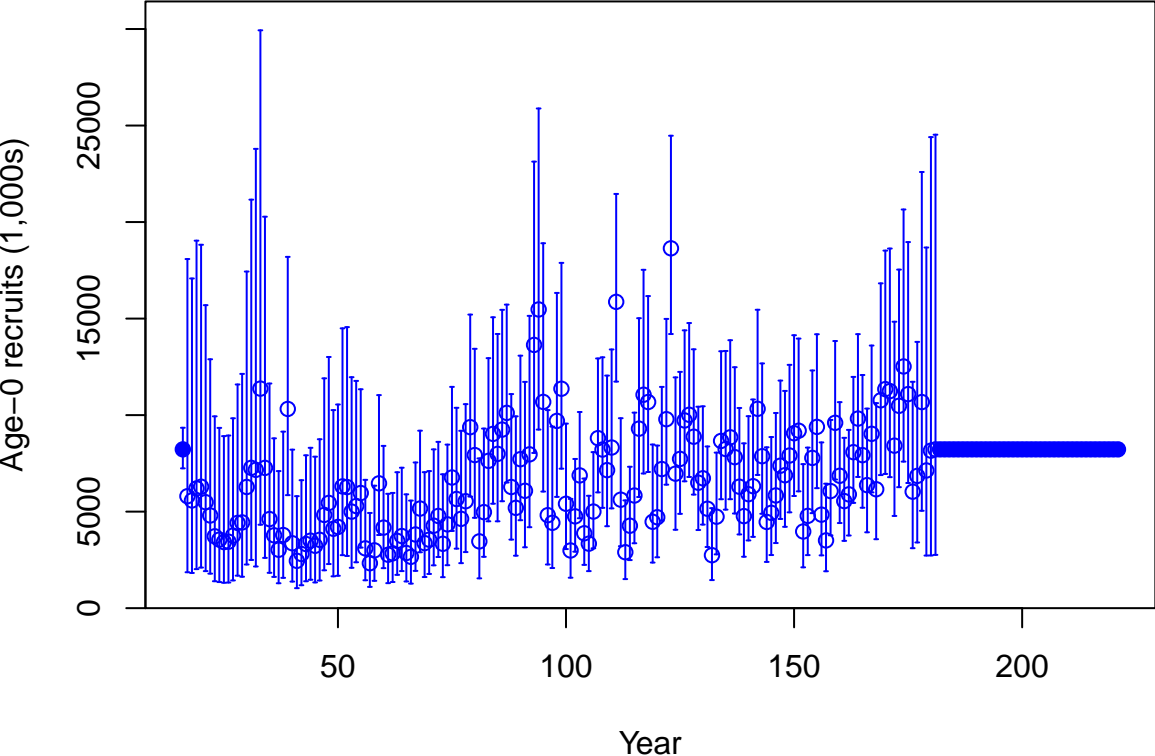




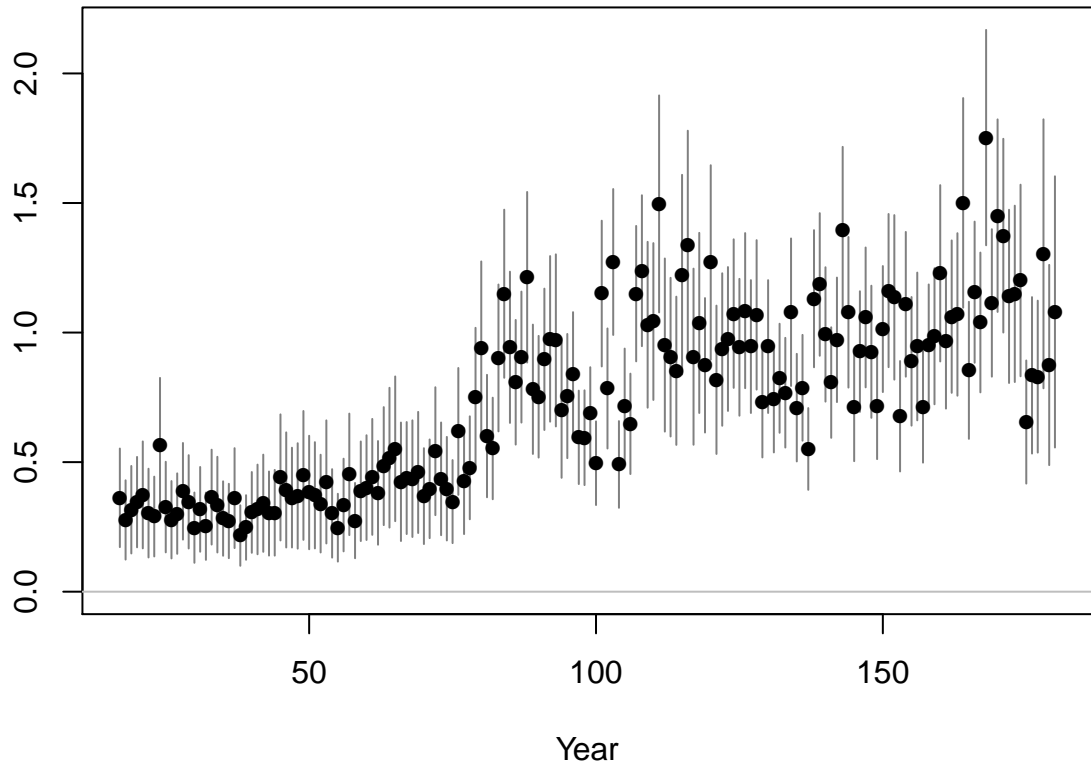
**Age-0 recruits (1,000s) with forecast**

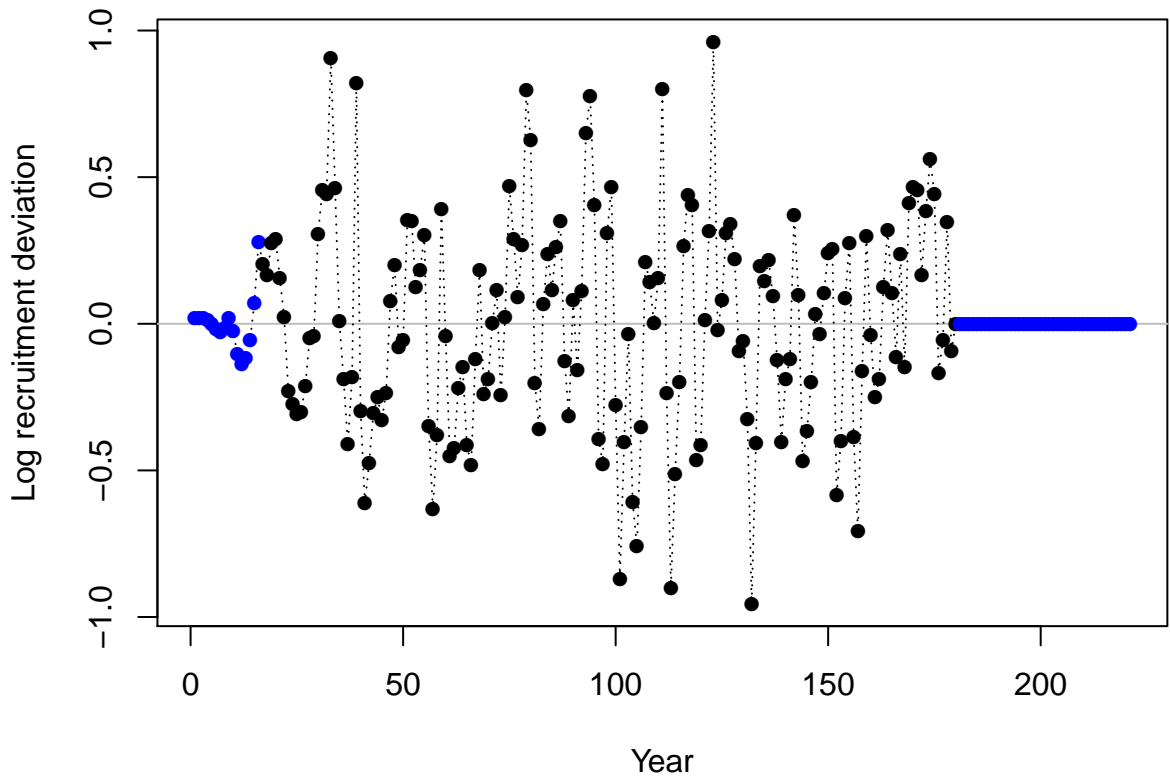


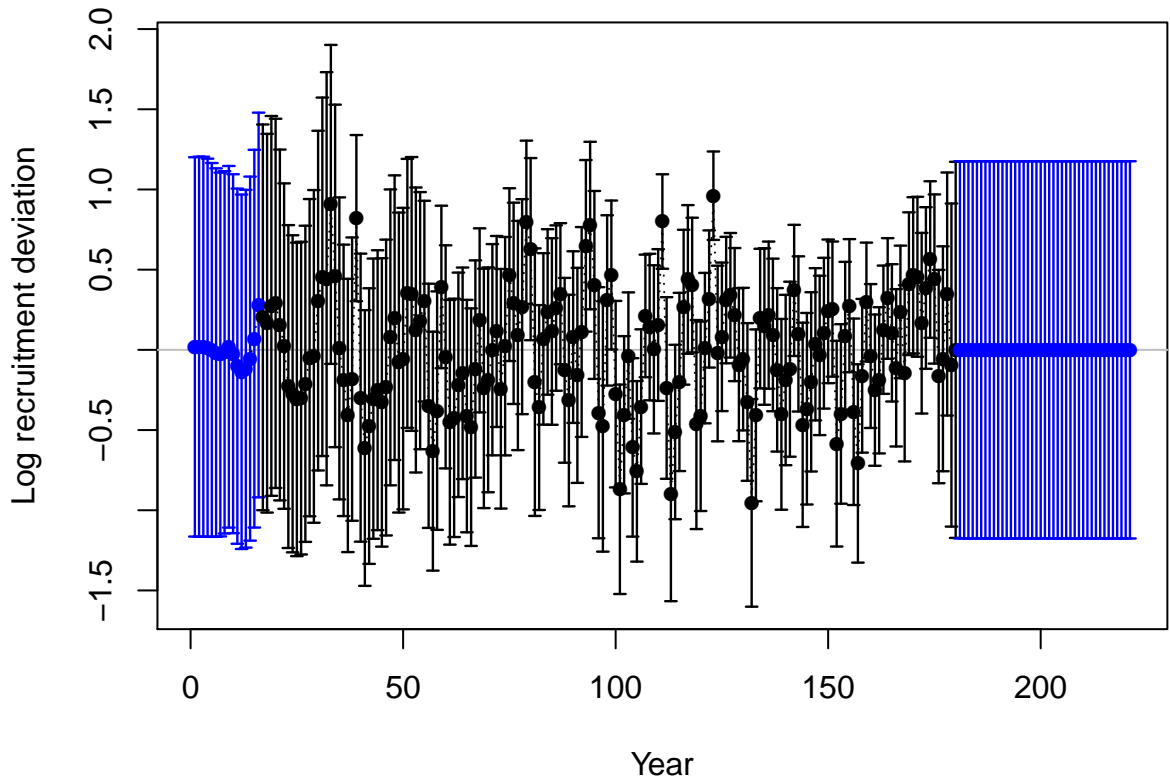
**Age-0 recruits (1,000s) with forecast with ~95% asymptotic intervals**



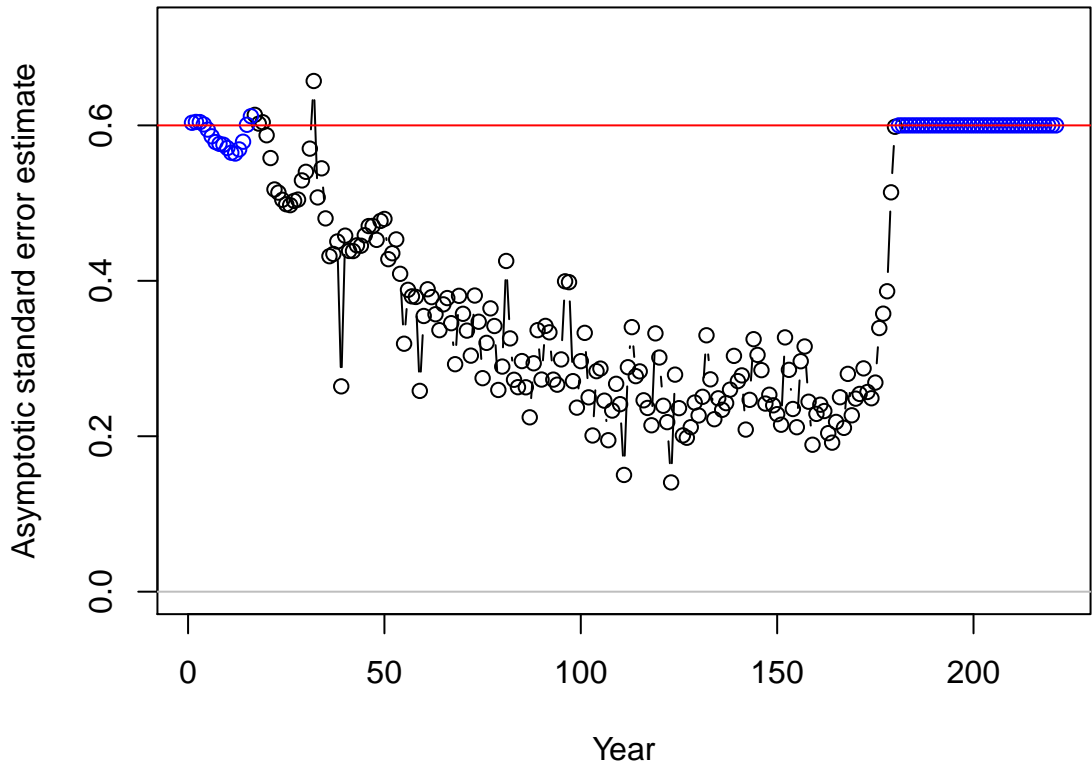
Summary Fishing Mortality

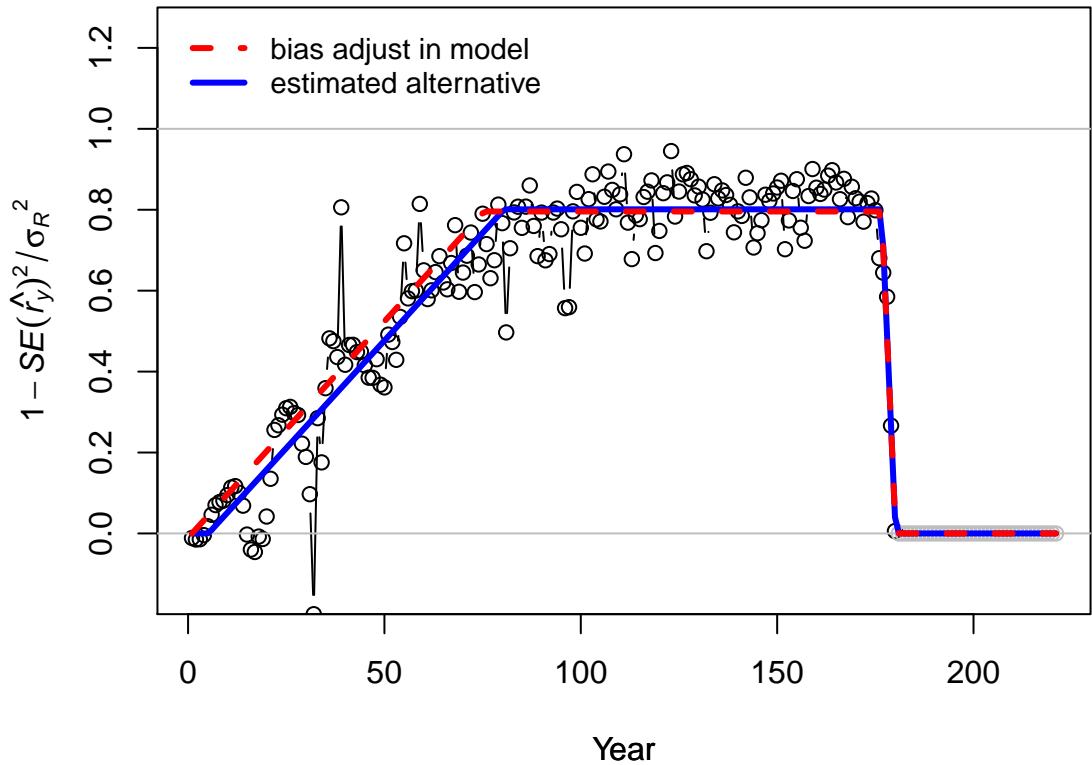


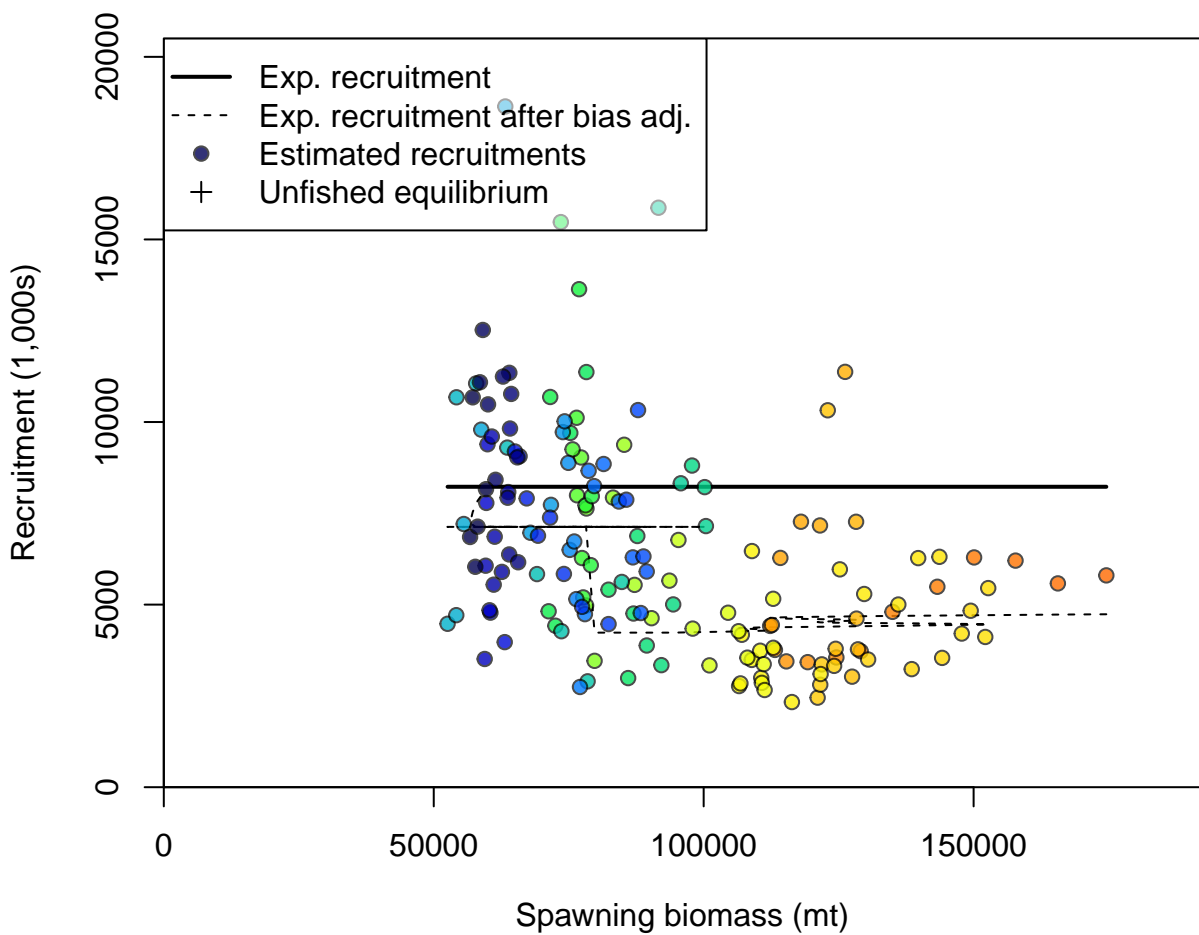




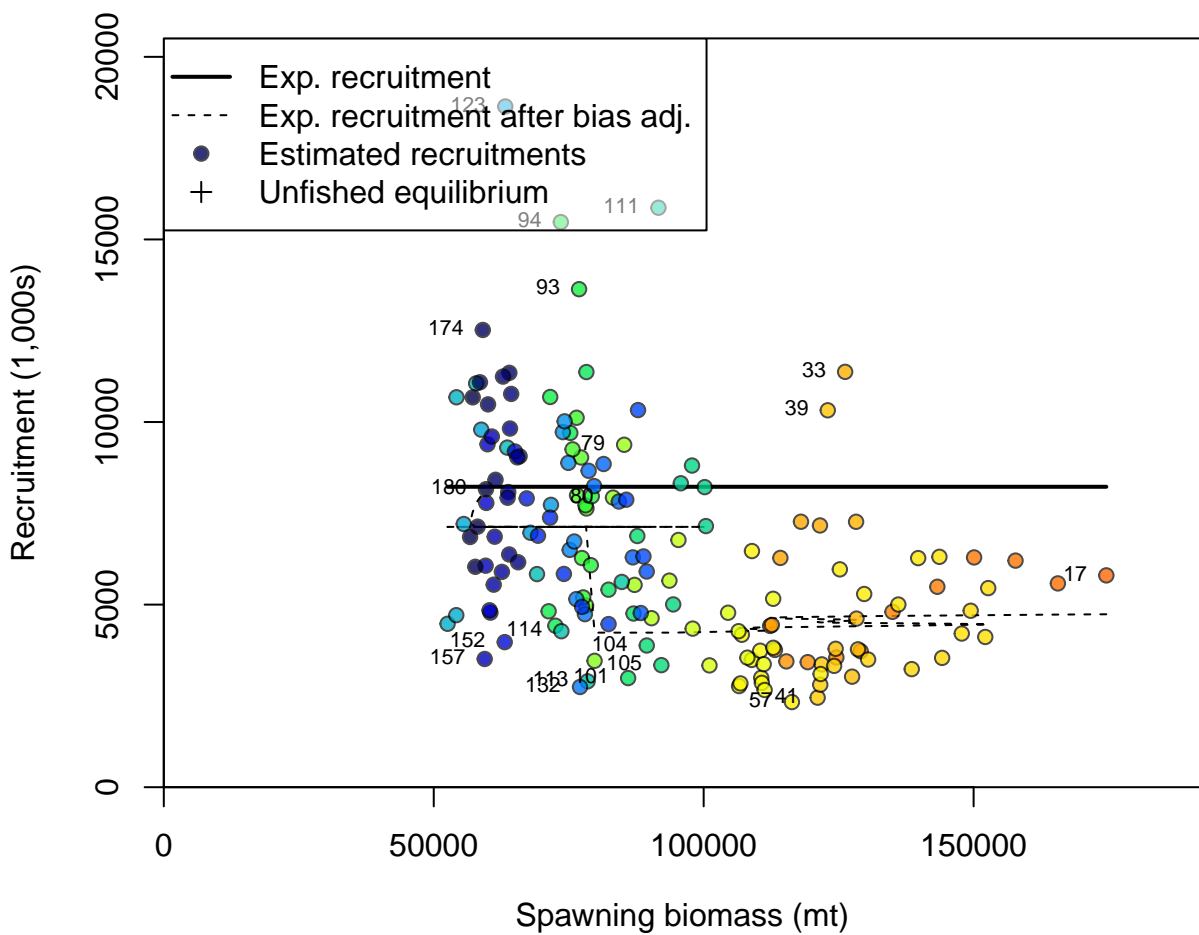
# Recruitment deviation variance

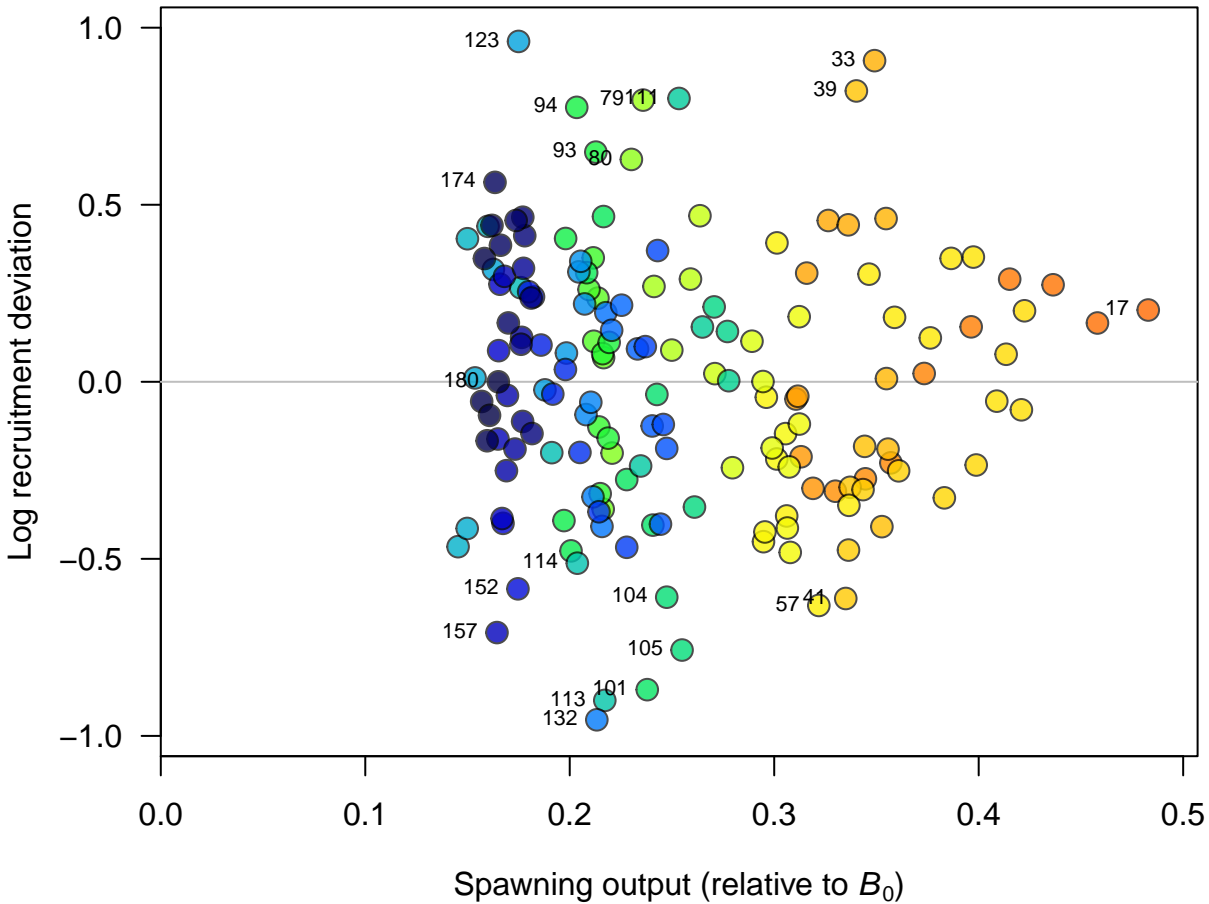




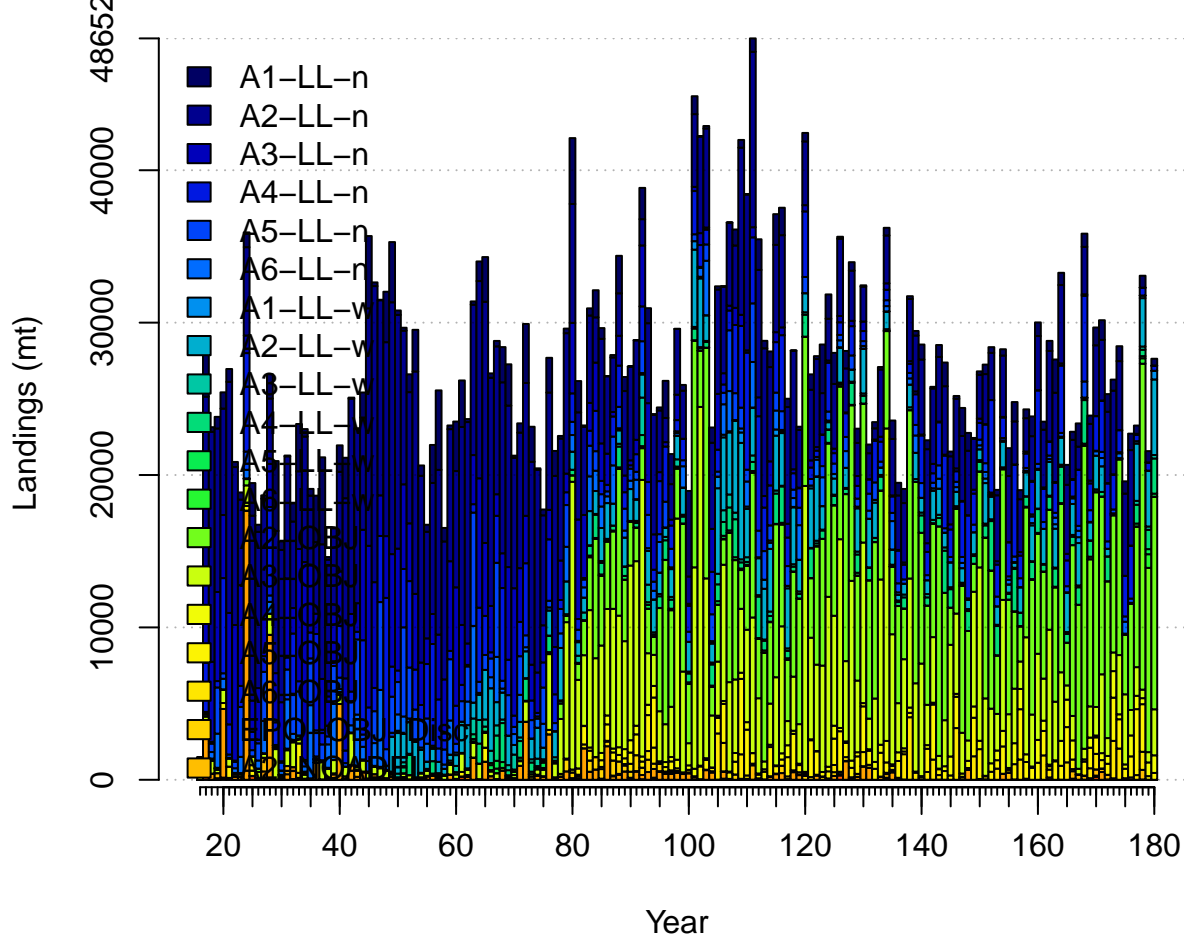




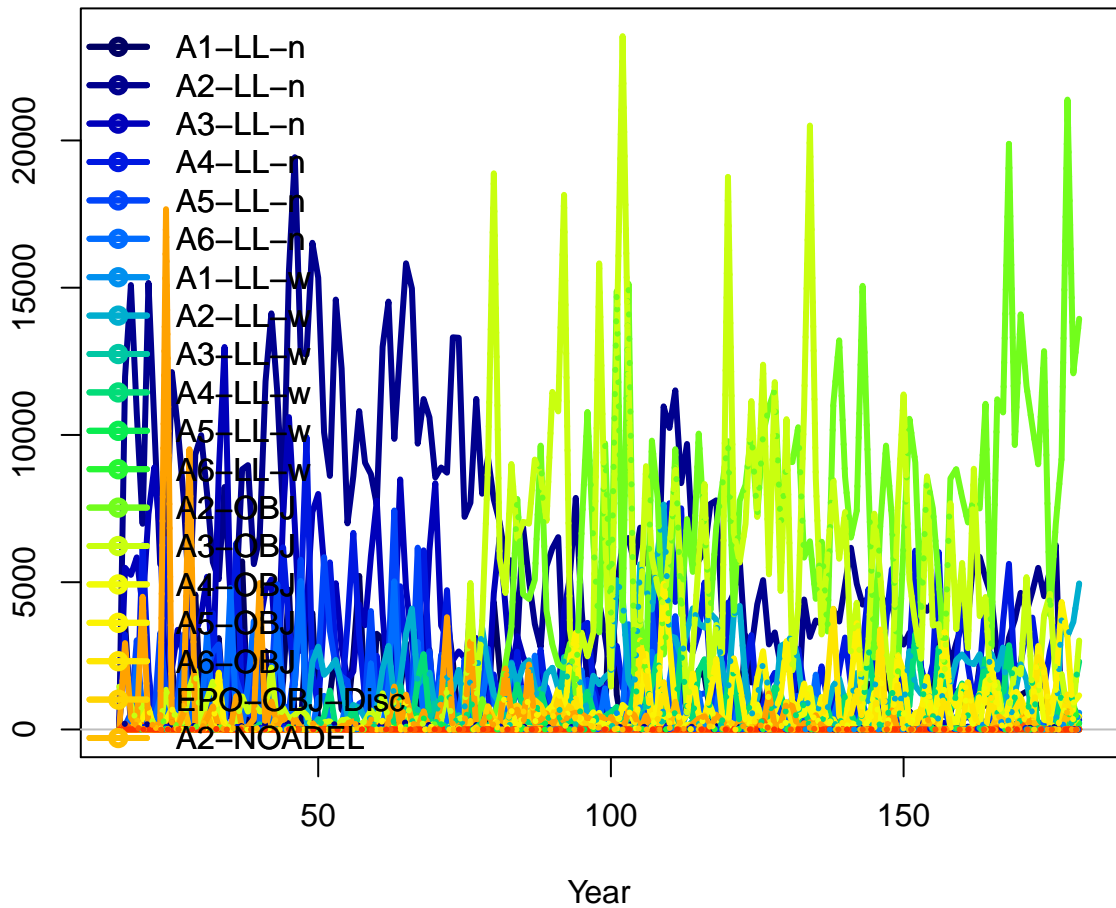






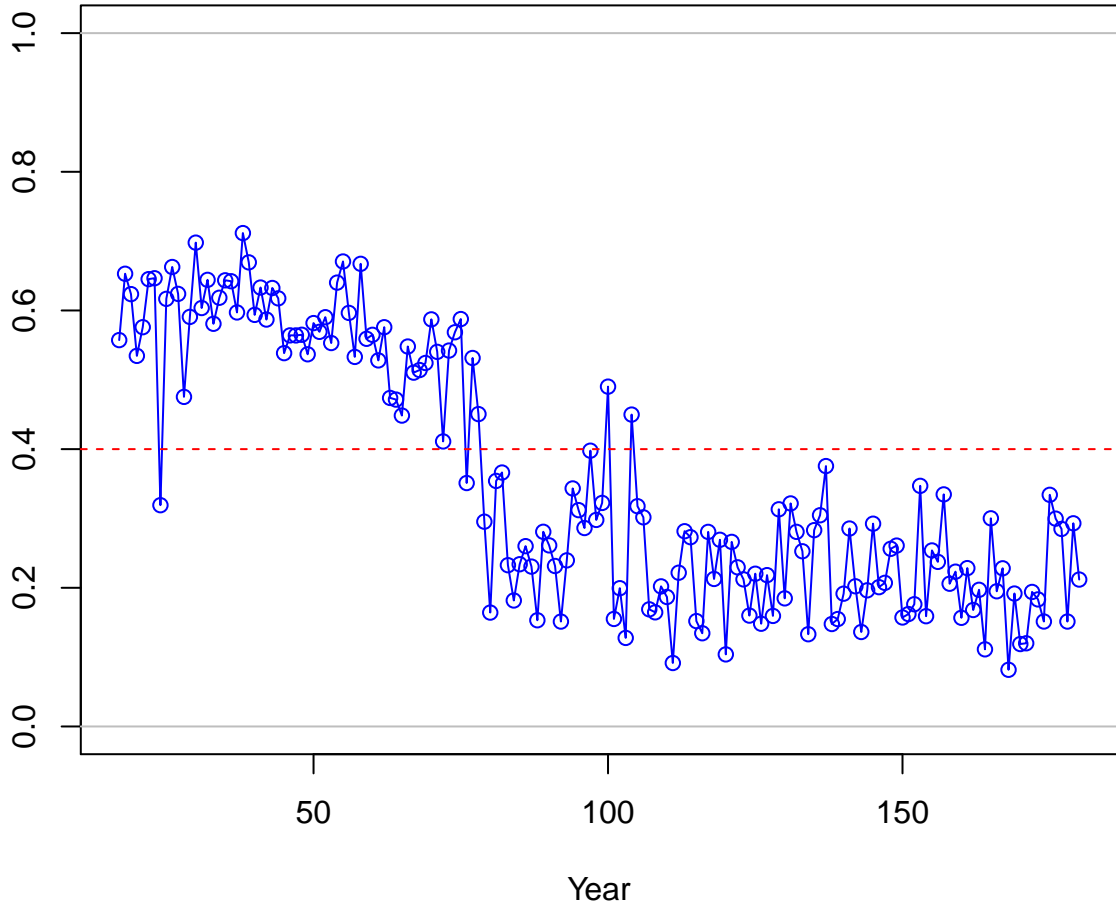


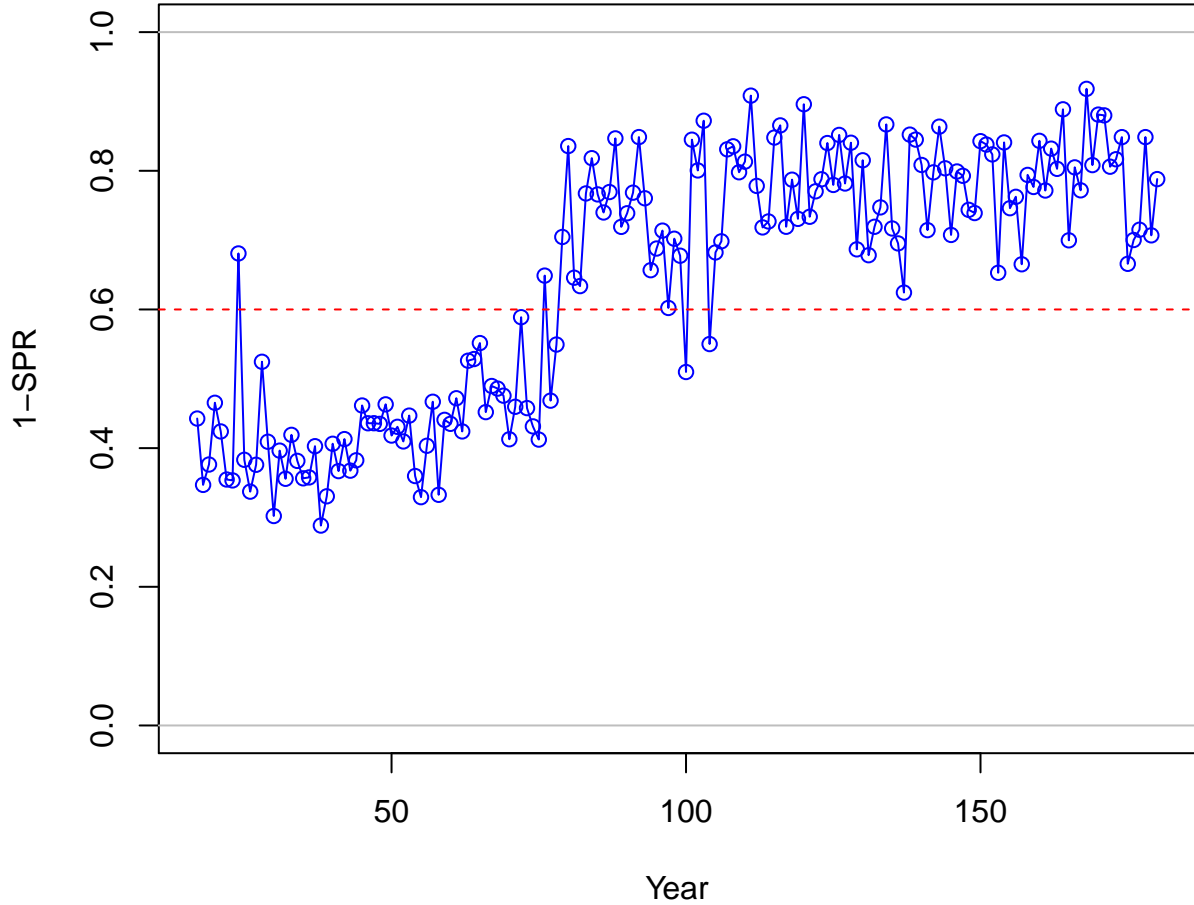
Observed and expected Landings (mt)



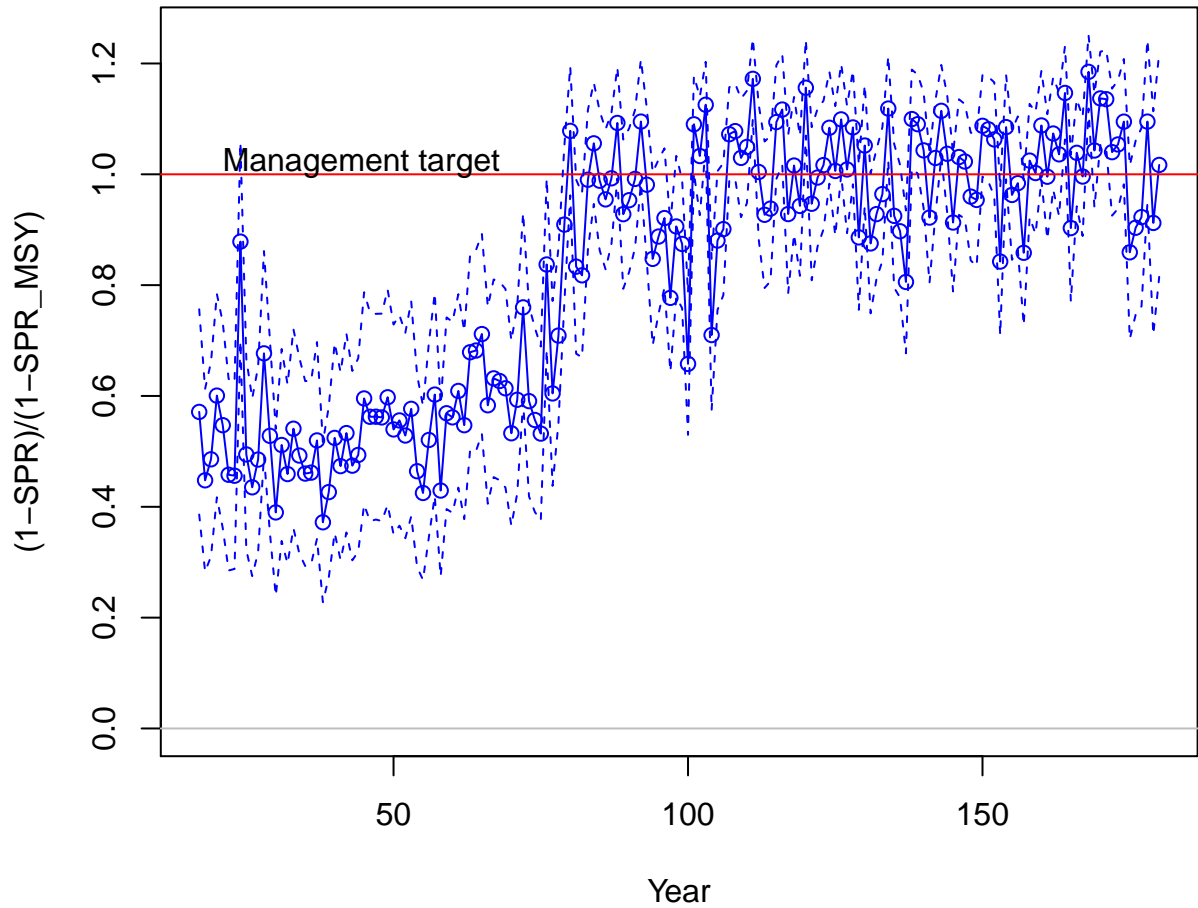


SPR

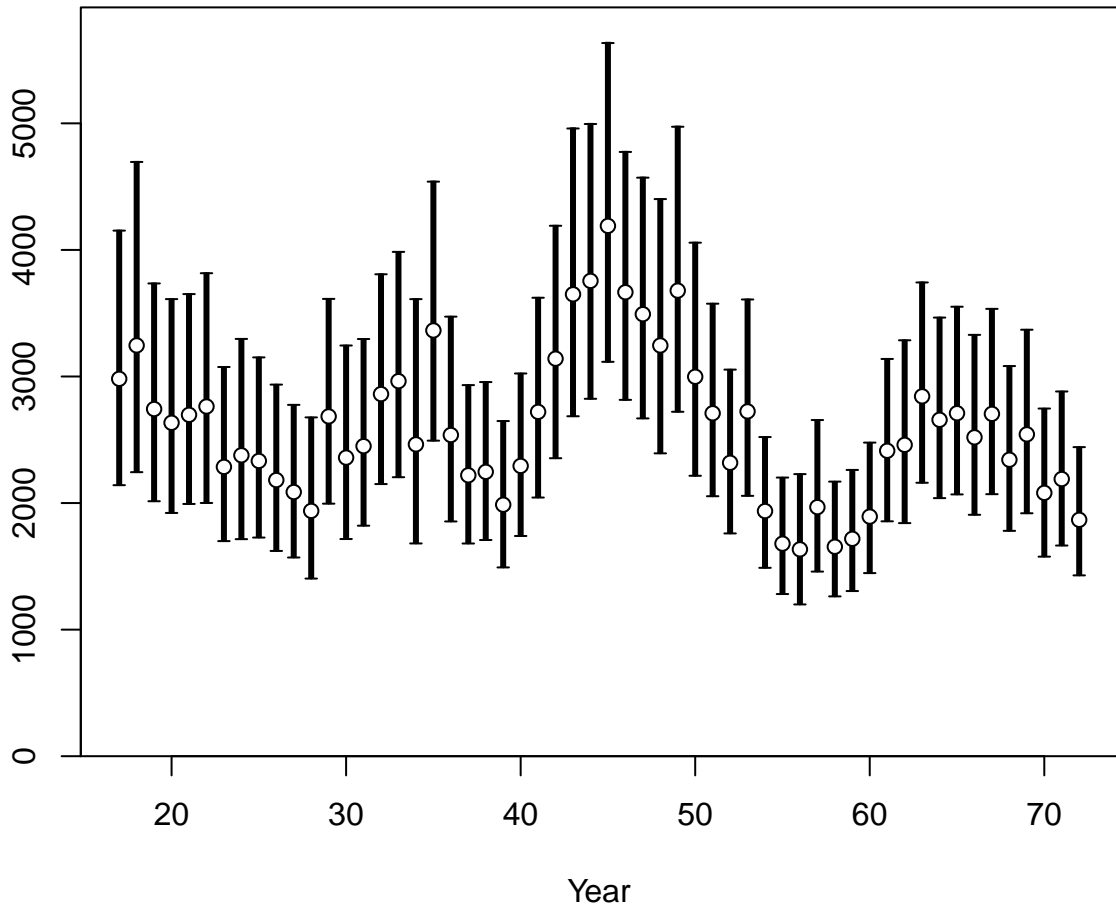




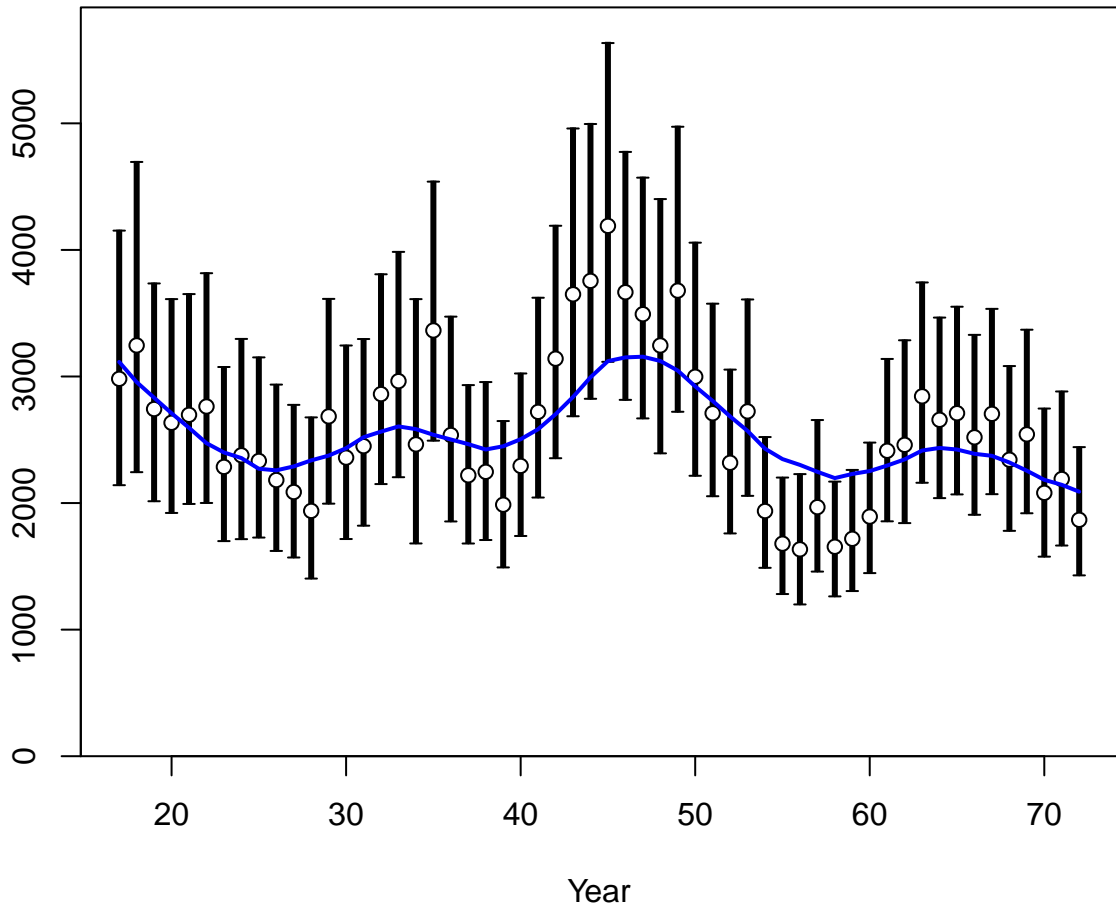




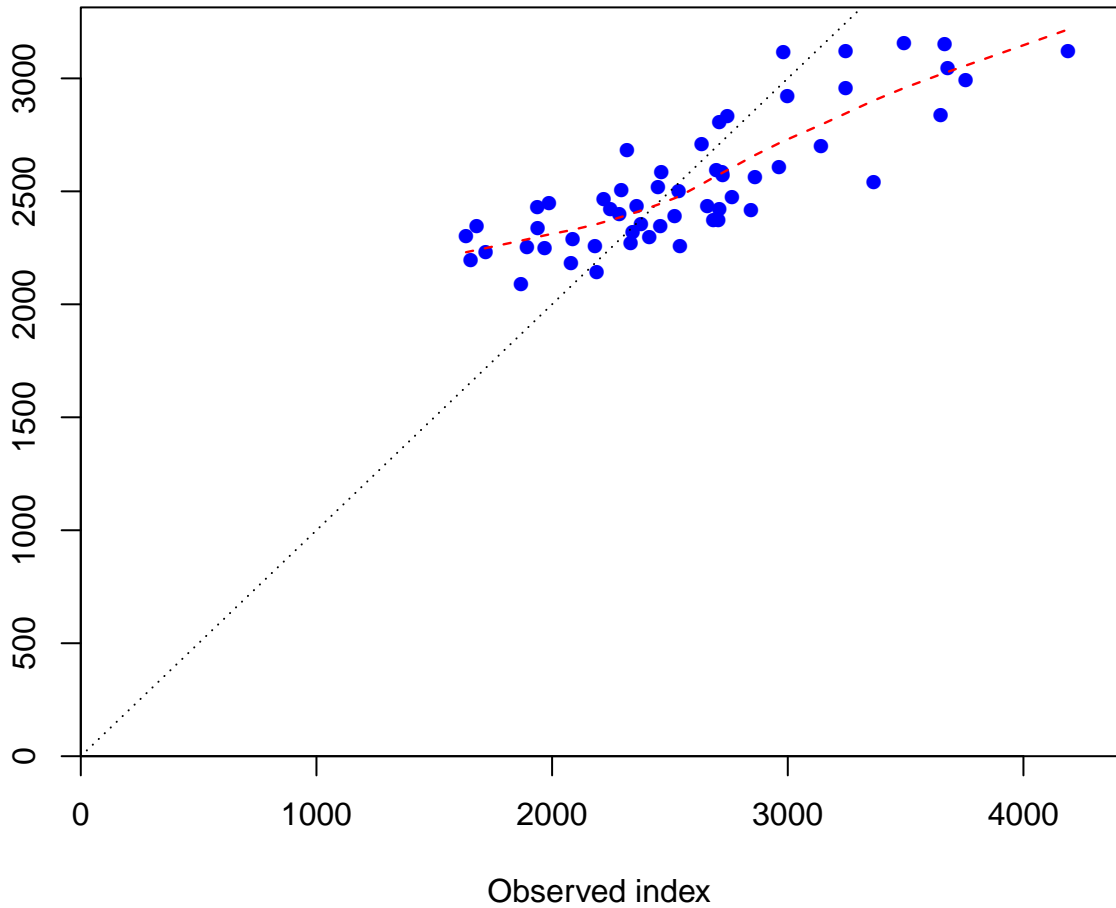
Index



Index



Expected index



Log index

8.5

8.0

7.5

20

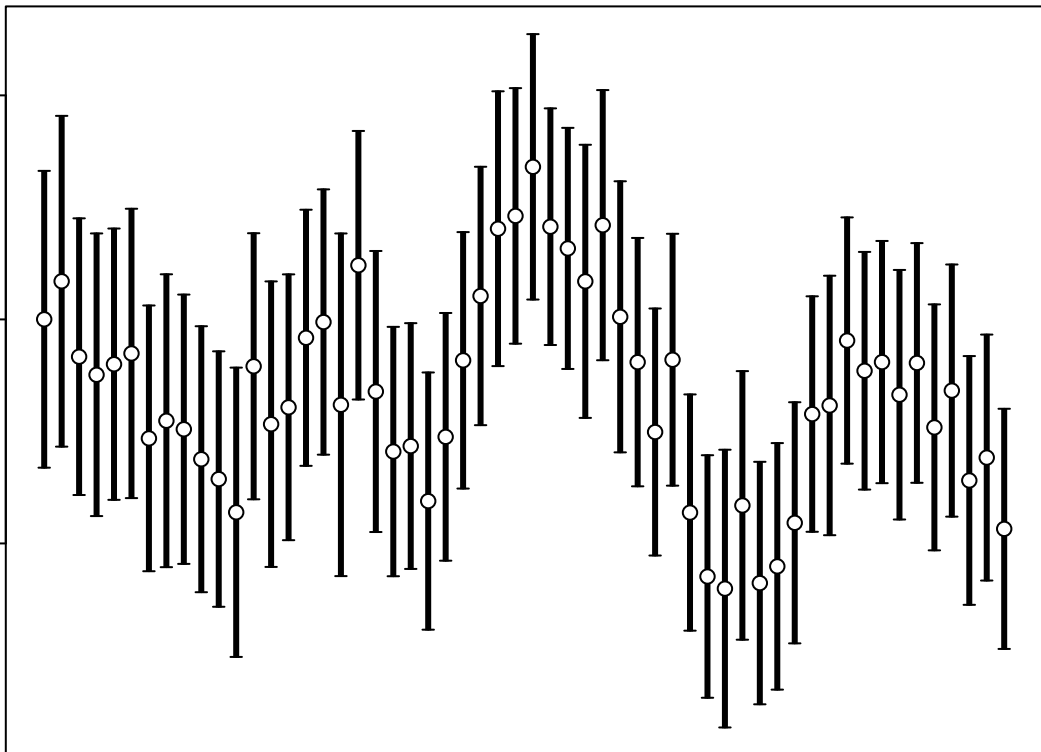
30

40

60

70

Year



Log index

8.5

8.0

7.5

20

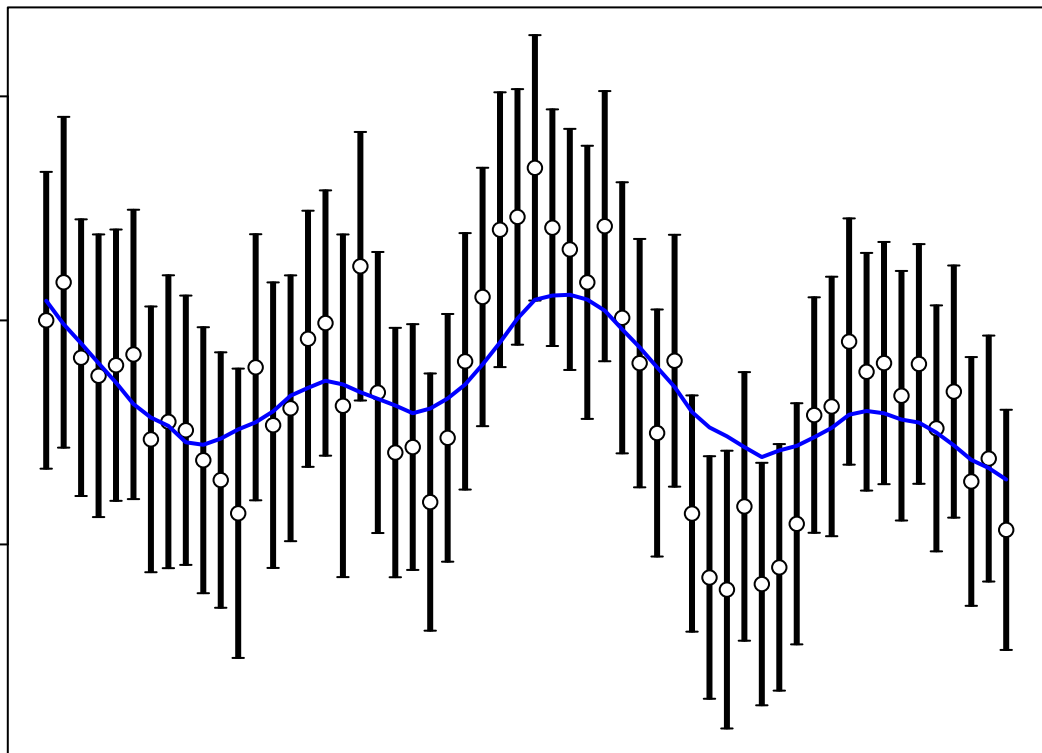
30

40

60

70

Year



Log expected index

7.7  
7.8  
7.9  
8.0

7.4

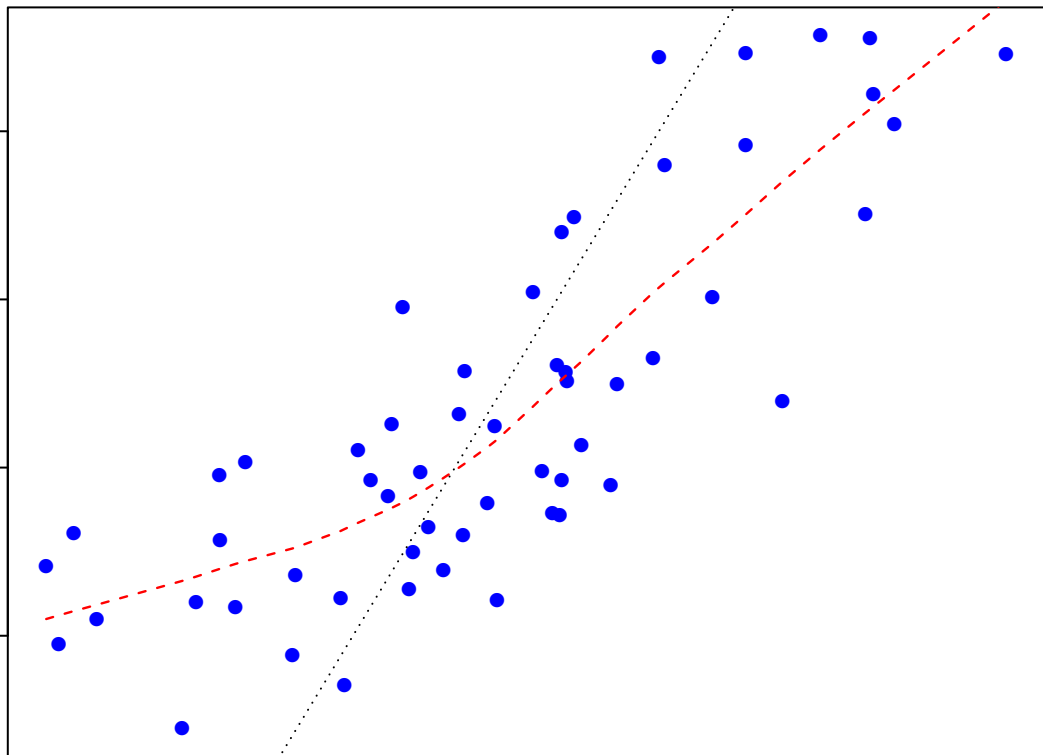
7.6

7.8

8.0

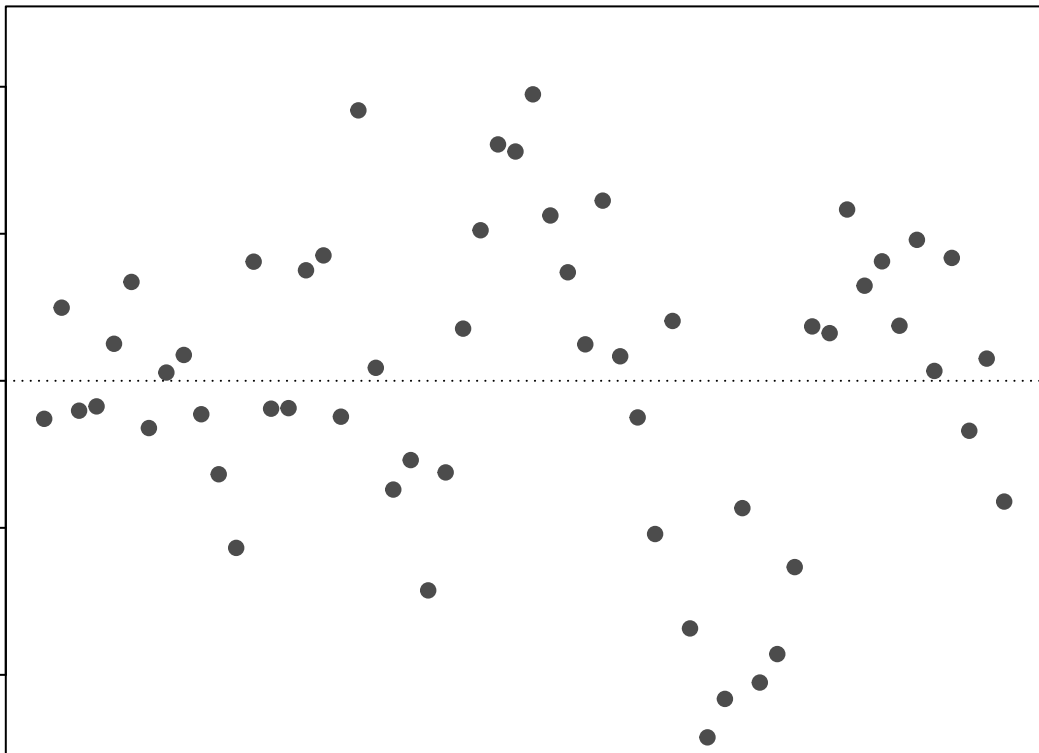
8.2

Log observed index



Residual

2  
1  
0  
-1  
-2

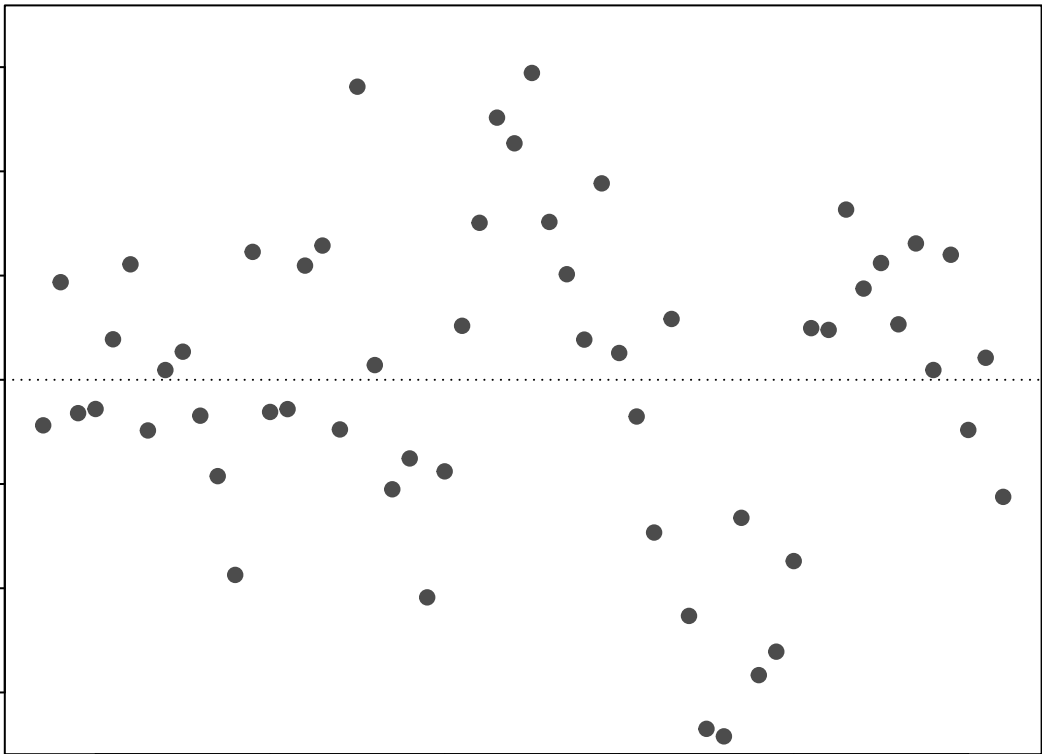


Year

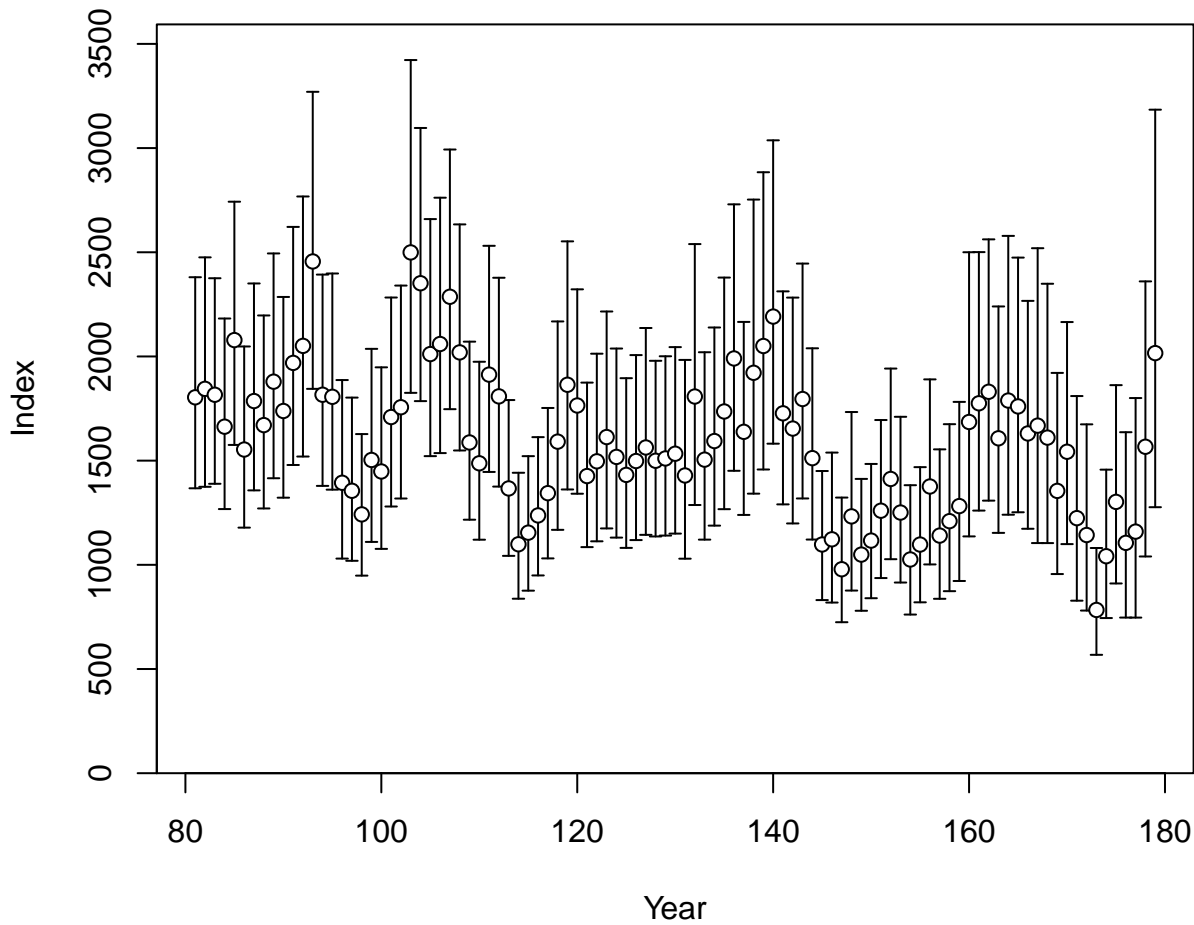


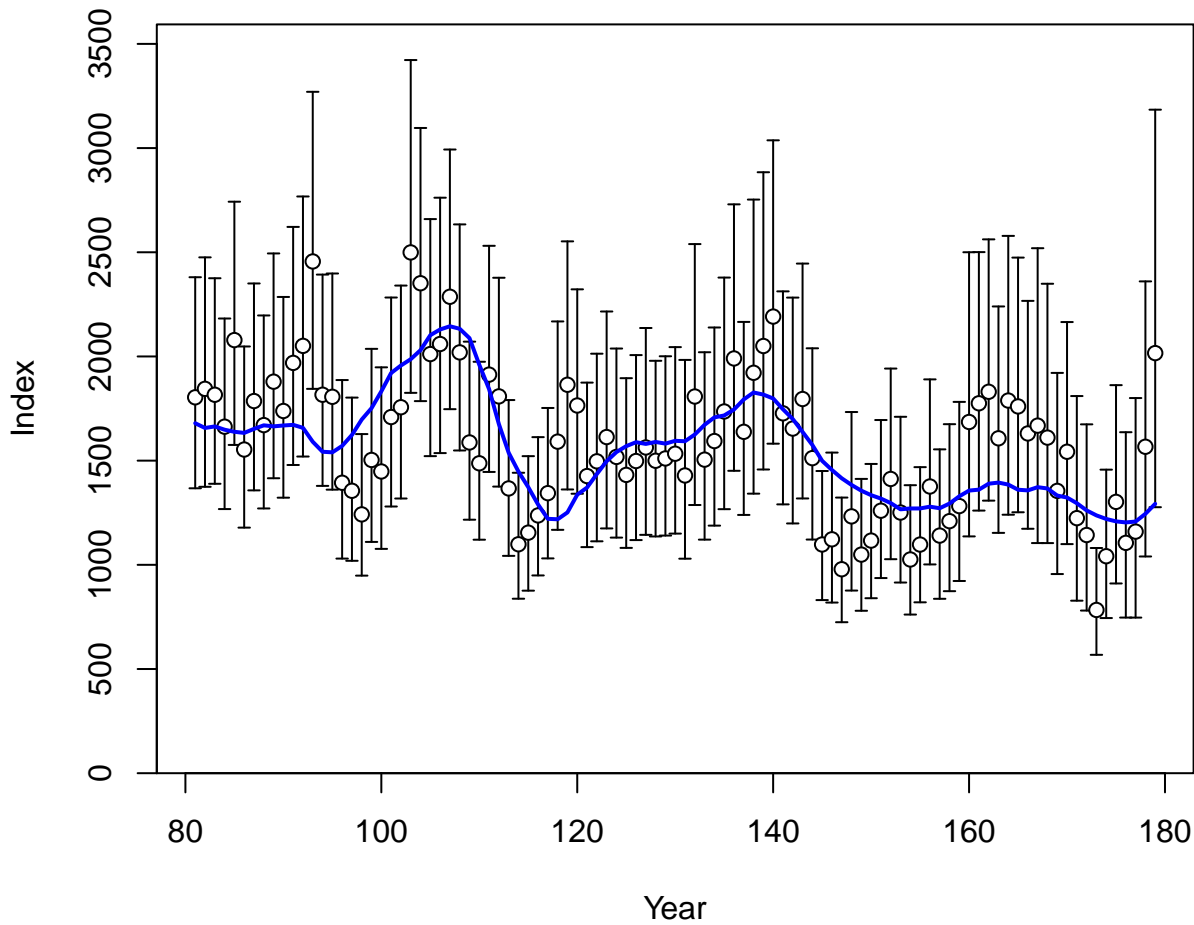
Deviation

0.3  
0.2  
0.1  
0.0  
-0.1  
-0.2  
-0.3

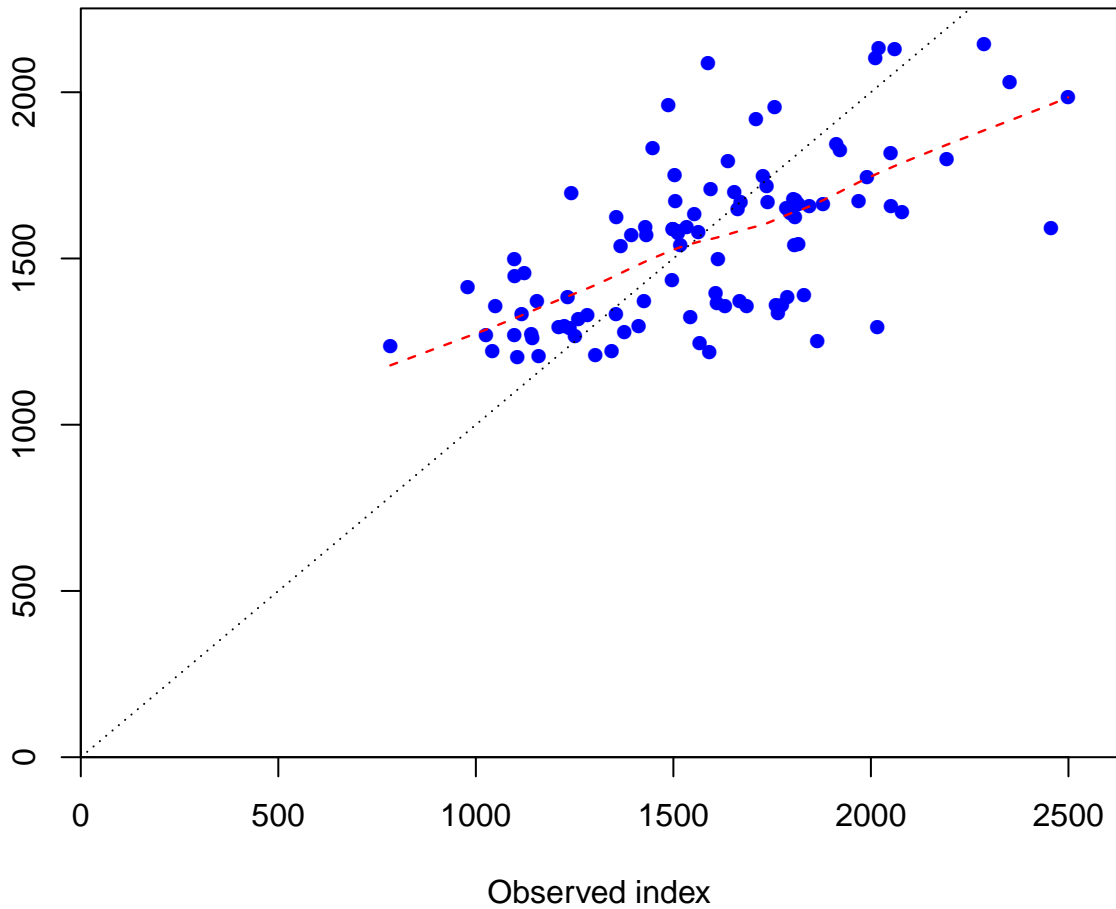


Year





Expected index



Observed index

Log index

8.0  
7.5  
7.0  
6.5

80

100

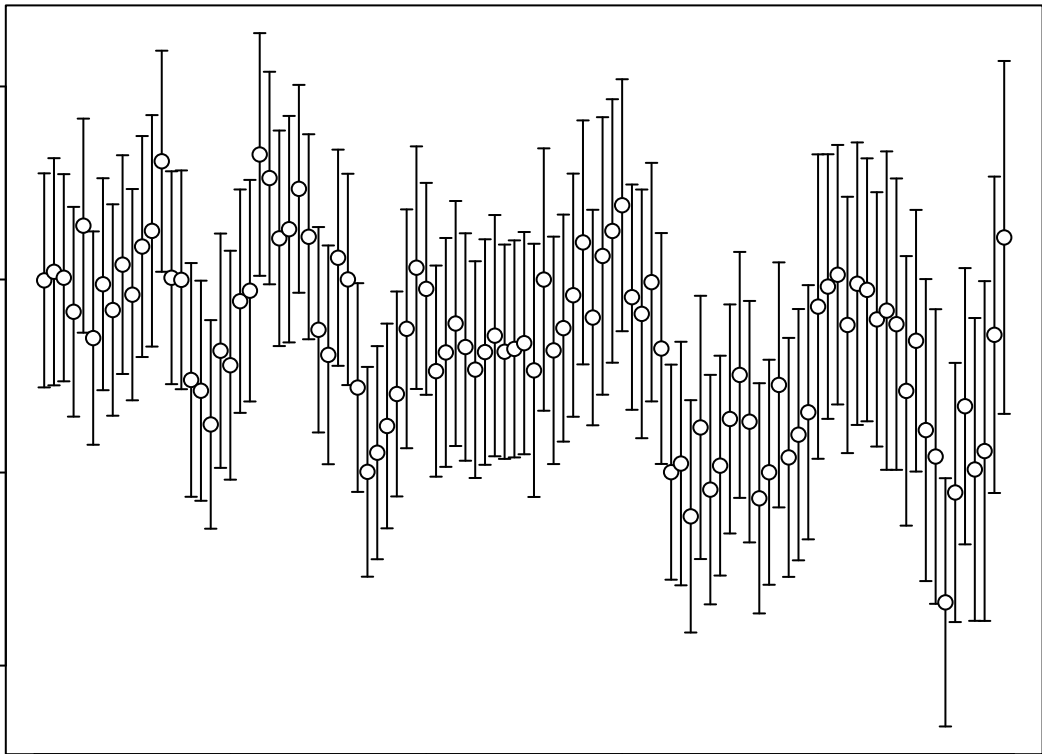
120

140

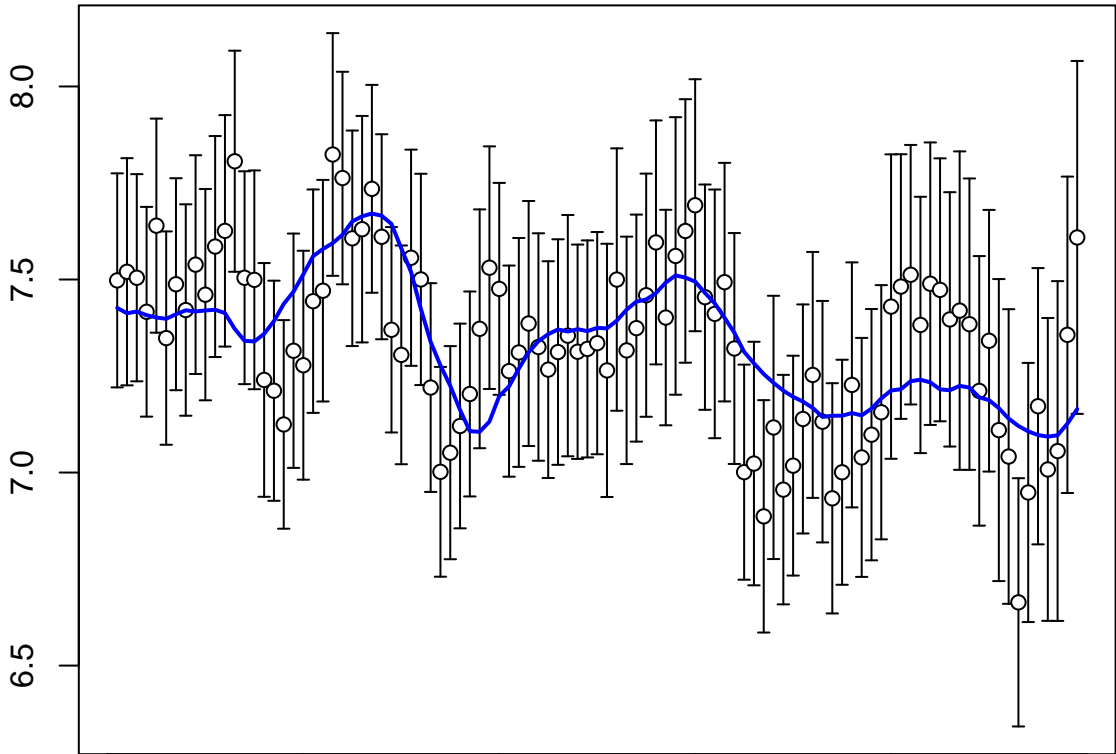
160

180

Year

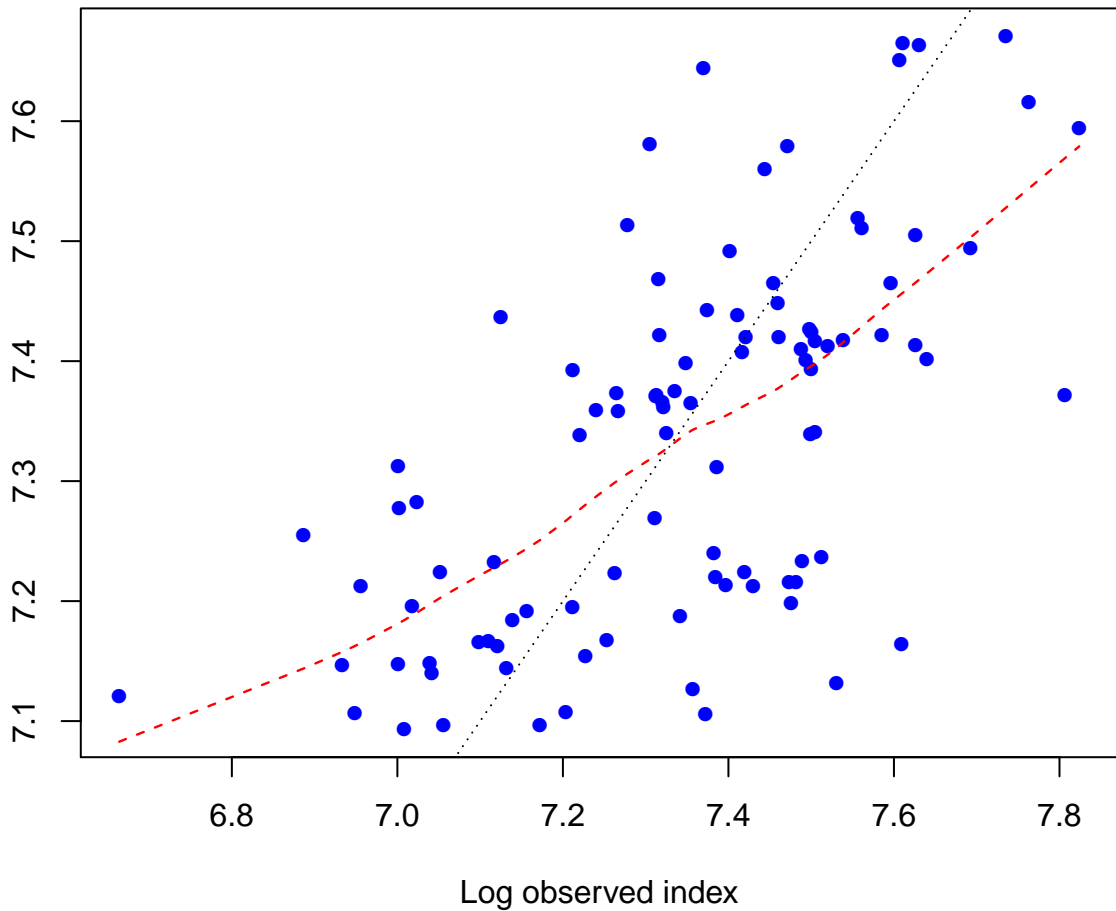


Log index

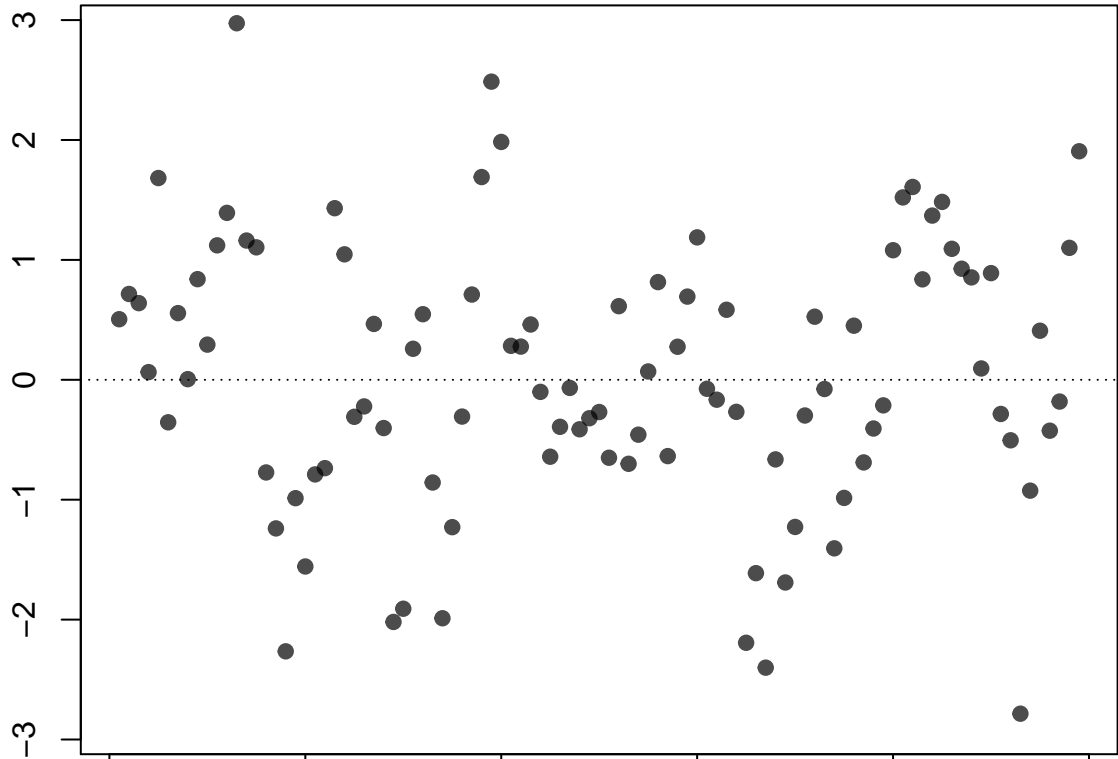


Year

Log expected index



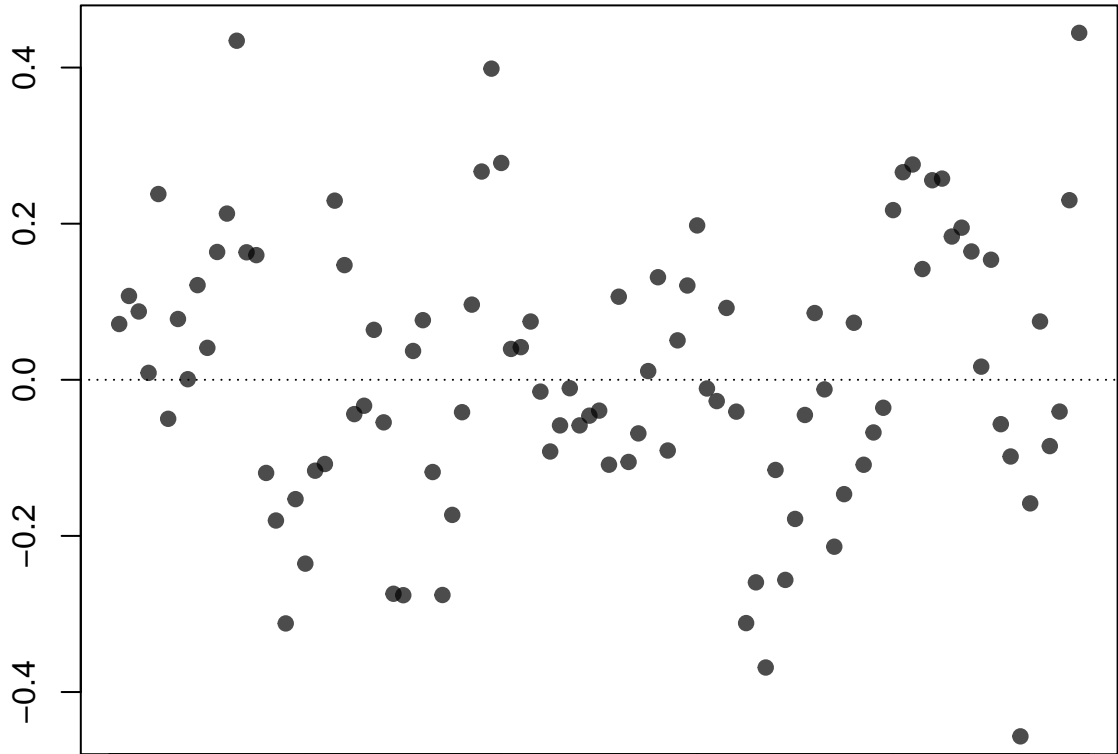
Residual



Year



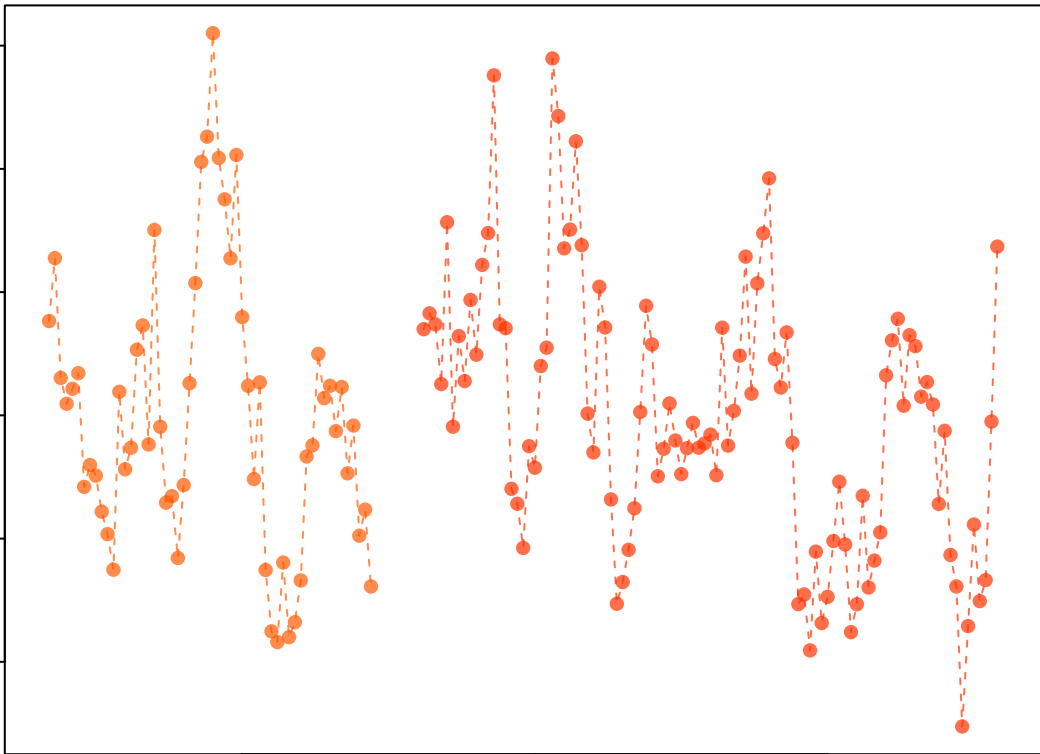
Deviation



Year

Standardized index

1.6  
1.4  
1.2  
1.0  
0.8  
0.6



50

100

150

Year

Age

○ 0.1 ○ 5 ○ 10

40

30

20

10

0

16

27

38

49

60

71

82

93

106

120

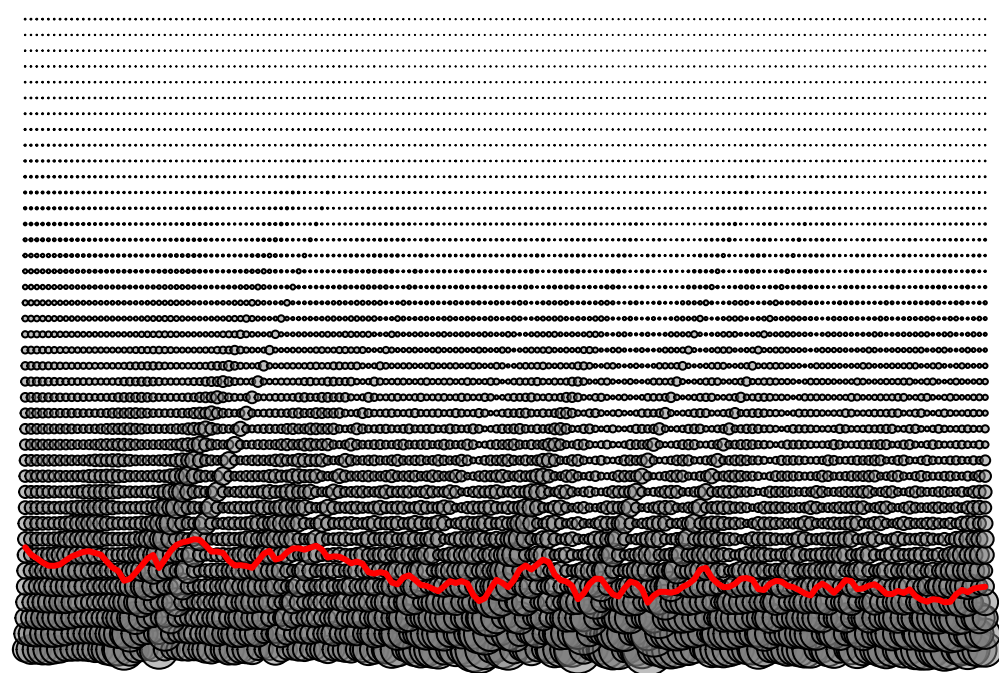
134

148

162

176

Year



Age

○ 0.1 ○ 5 ○ 10

40

30

20

10

0

16

27

38

49

60

71

82

93

106

120

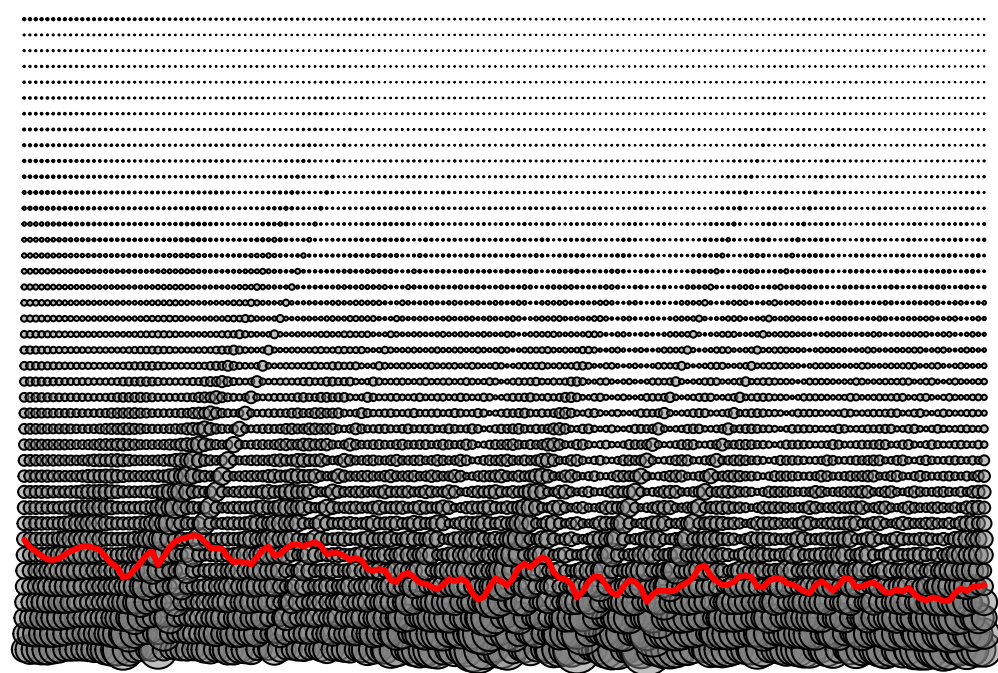
134

148

162

176

Year



Mean age (yr)

6

4

2

0

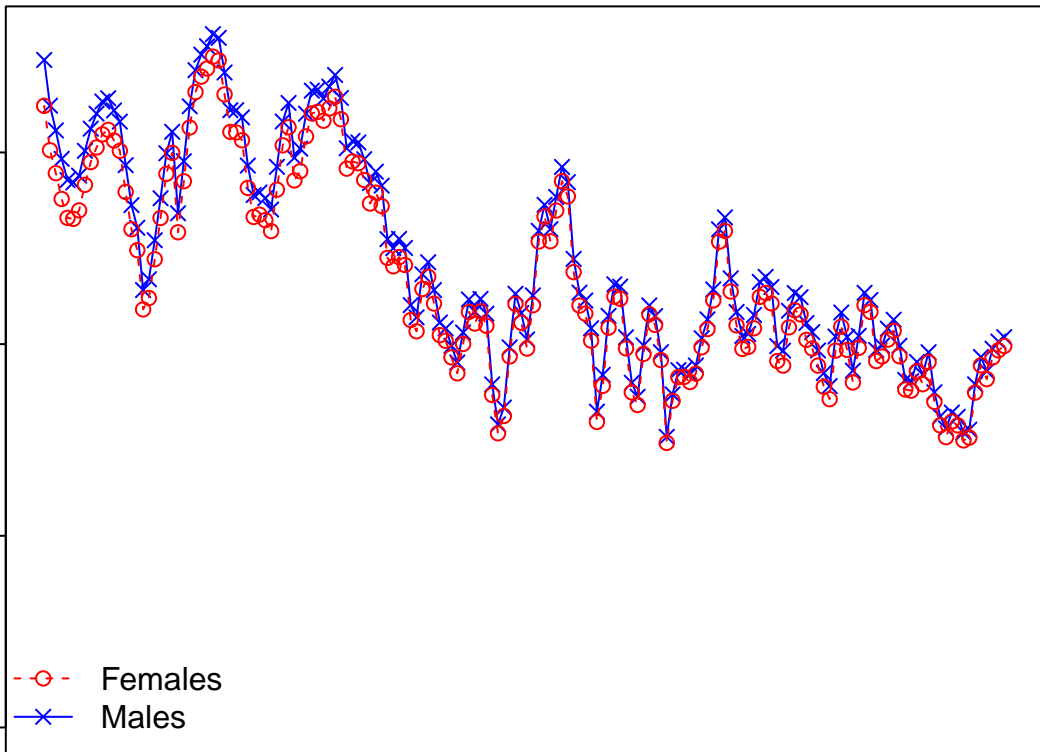
-o- Females  
-x- Males

50

100

150

Year



Age

○ 0.1 ○ 5 ○ 10

40

30

20

10

0

16

27

38

49

60

71

82

93

106

120

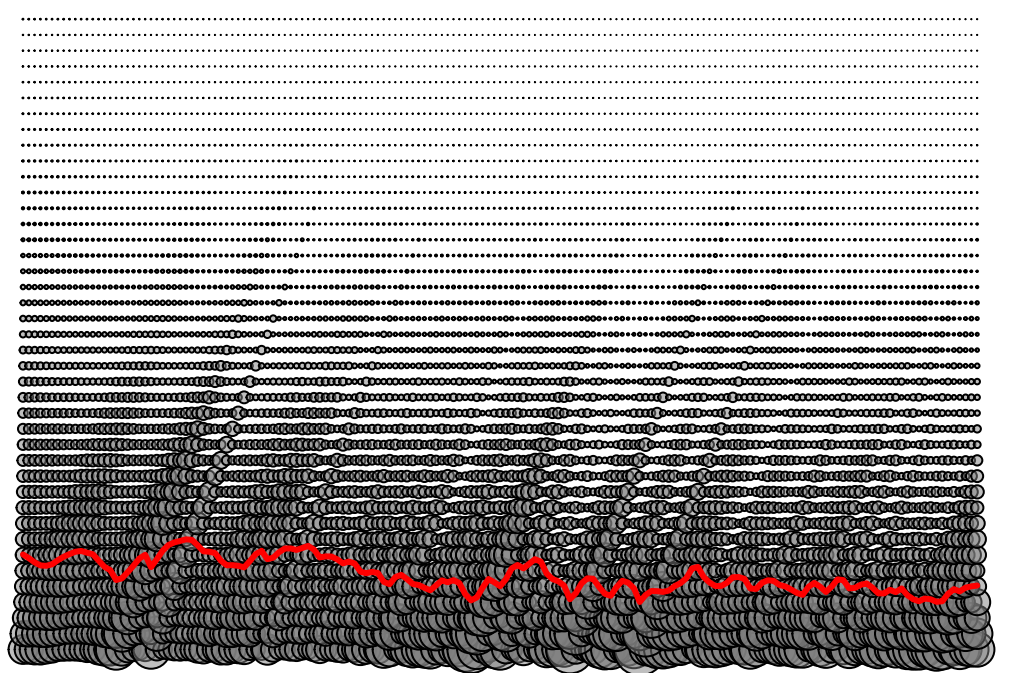
134

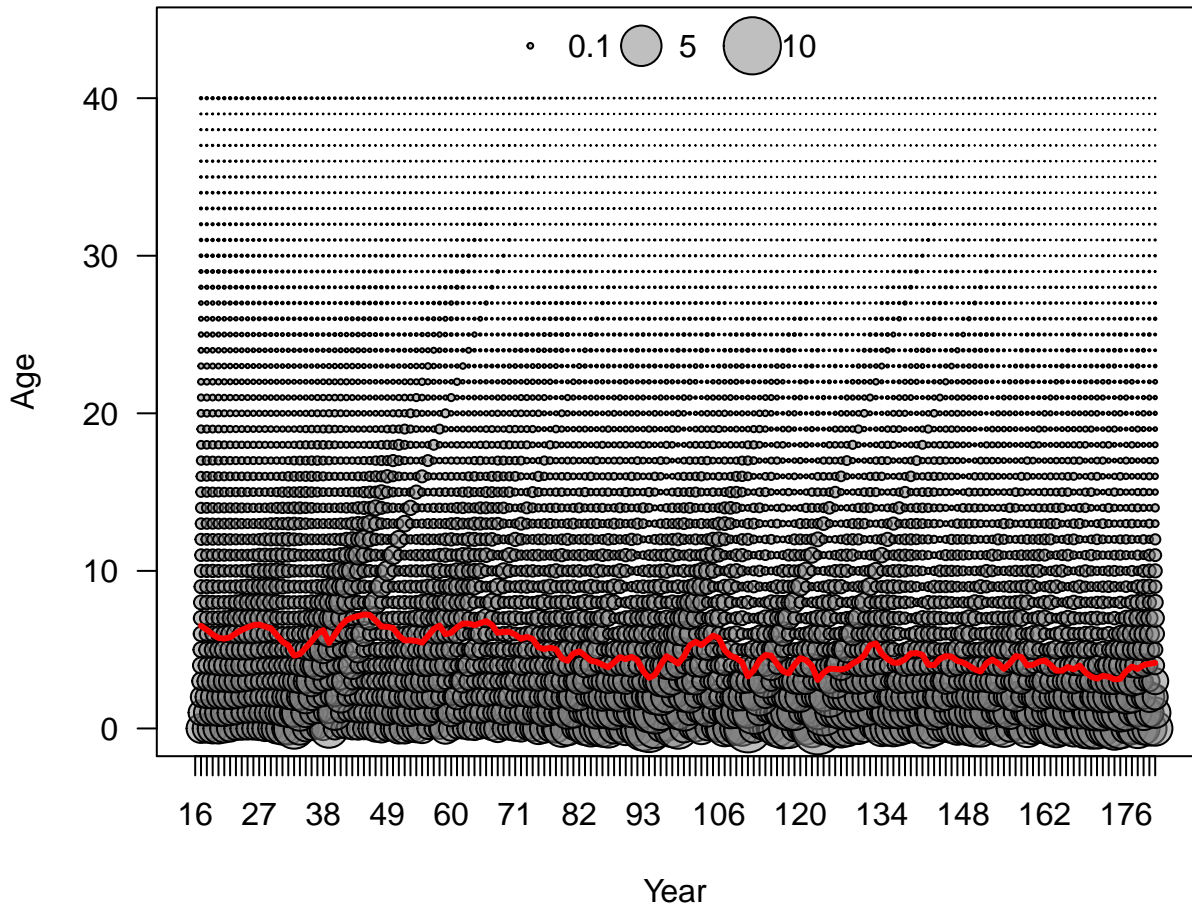
148

162

176

Year





Mean age (yr)

6

4

2

0

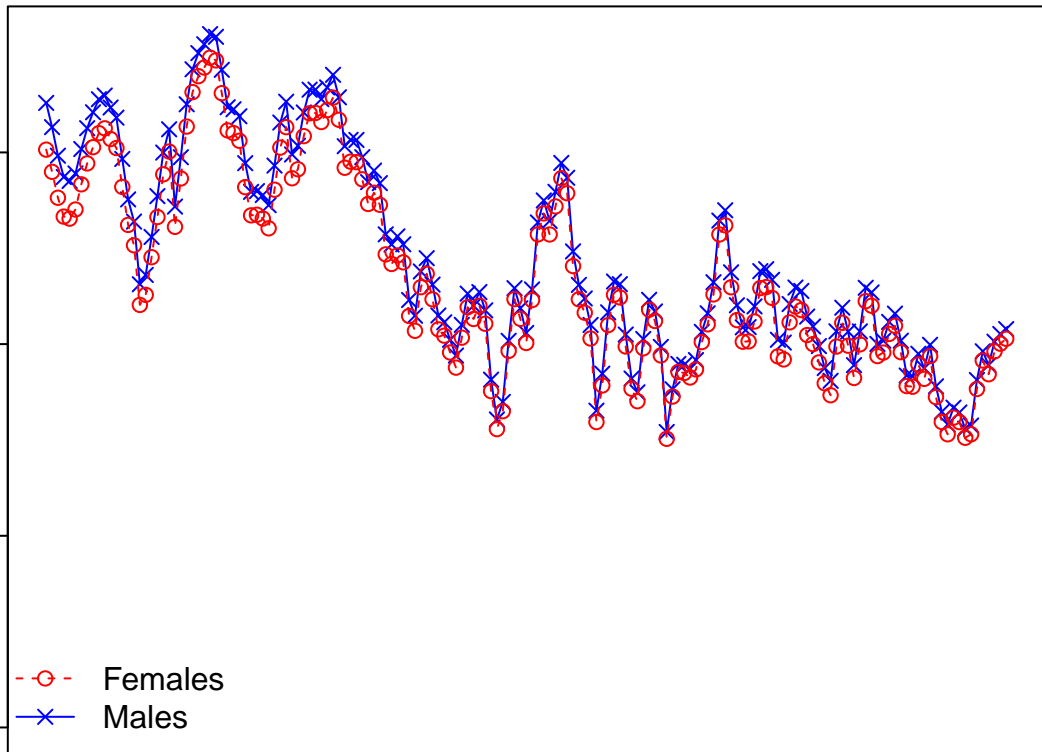
-o- Females  
-x- Males

50

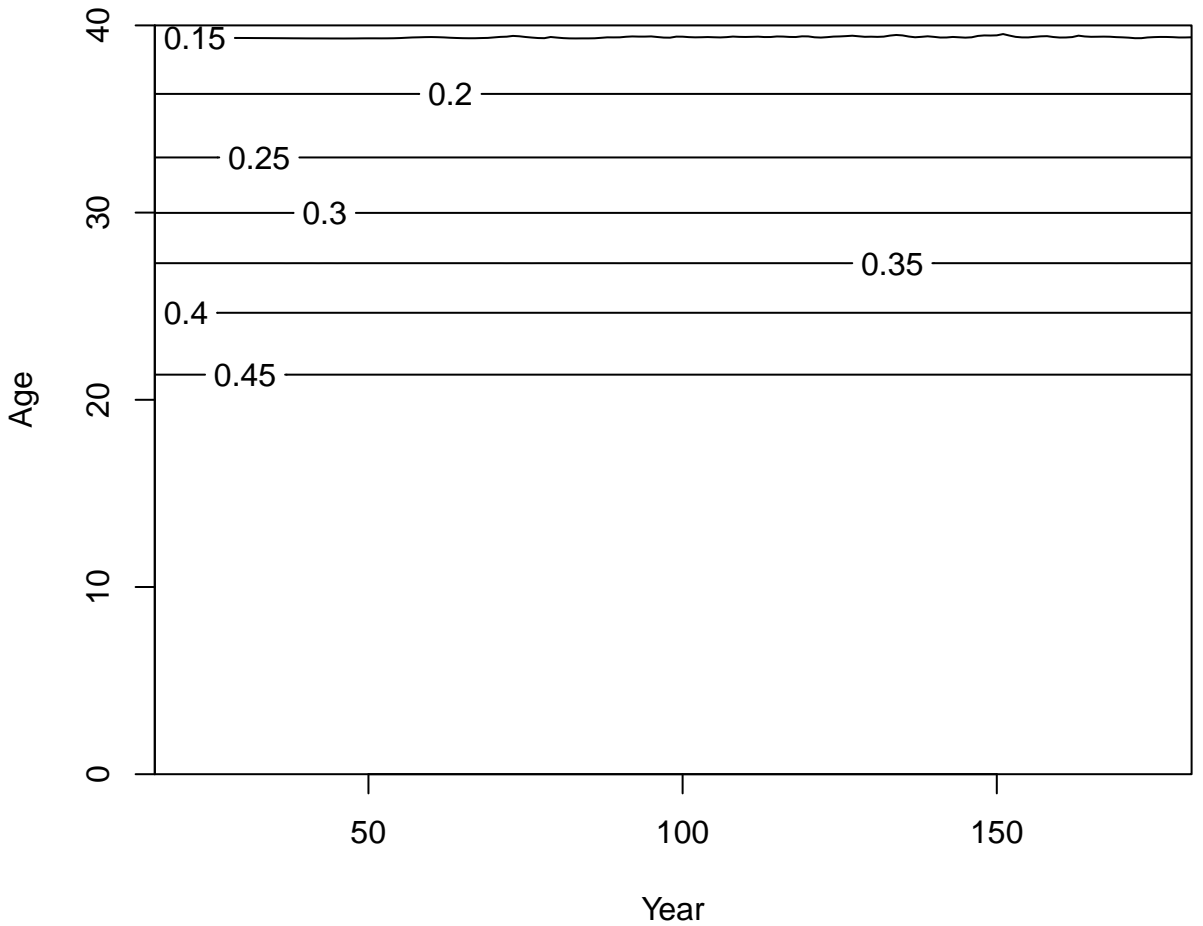
100

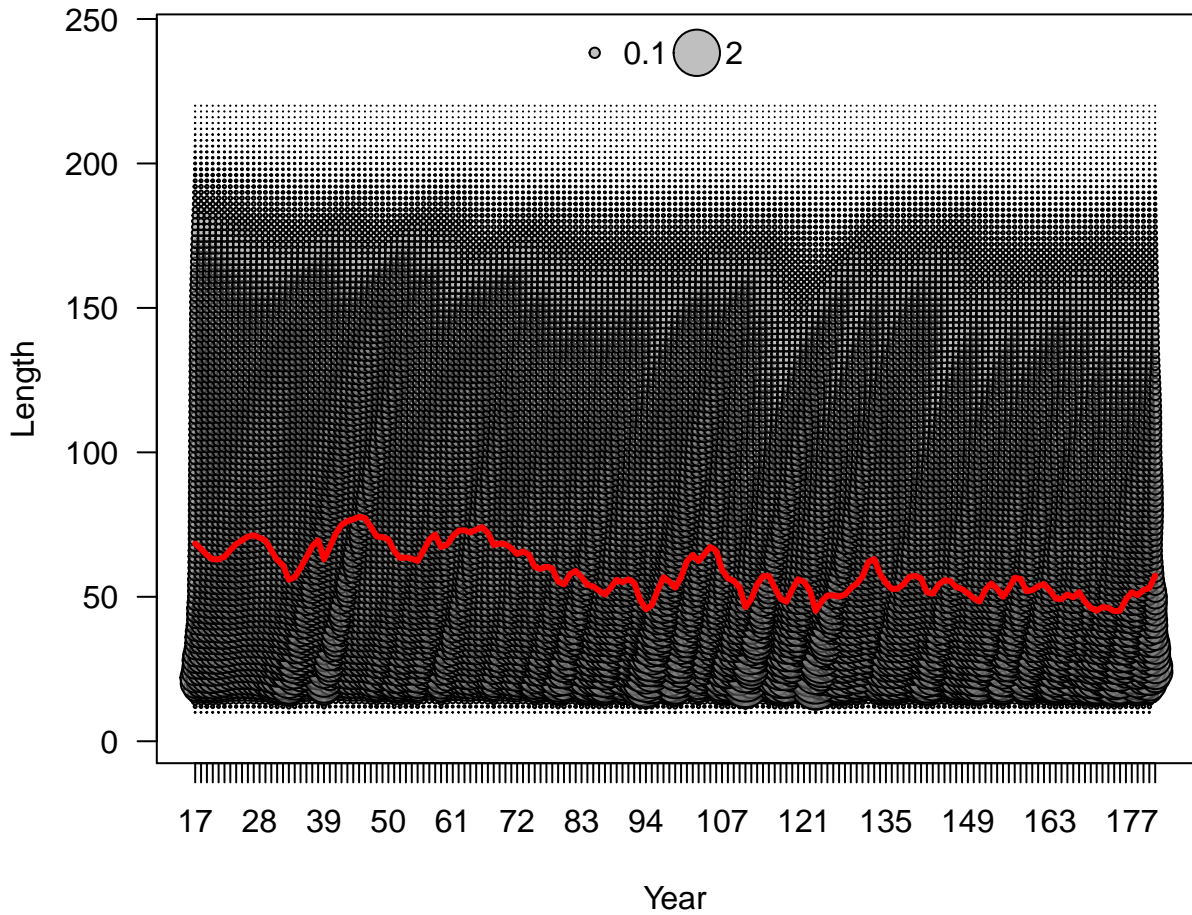
150

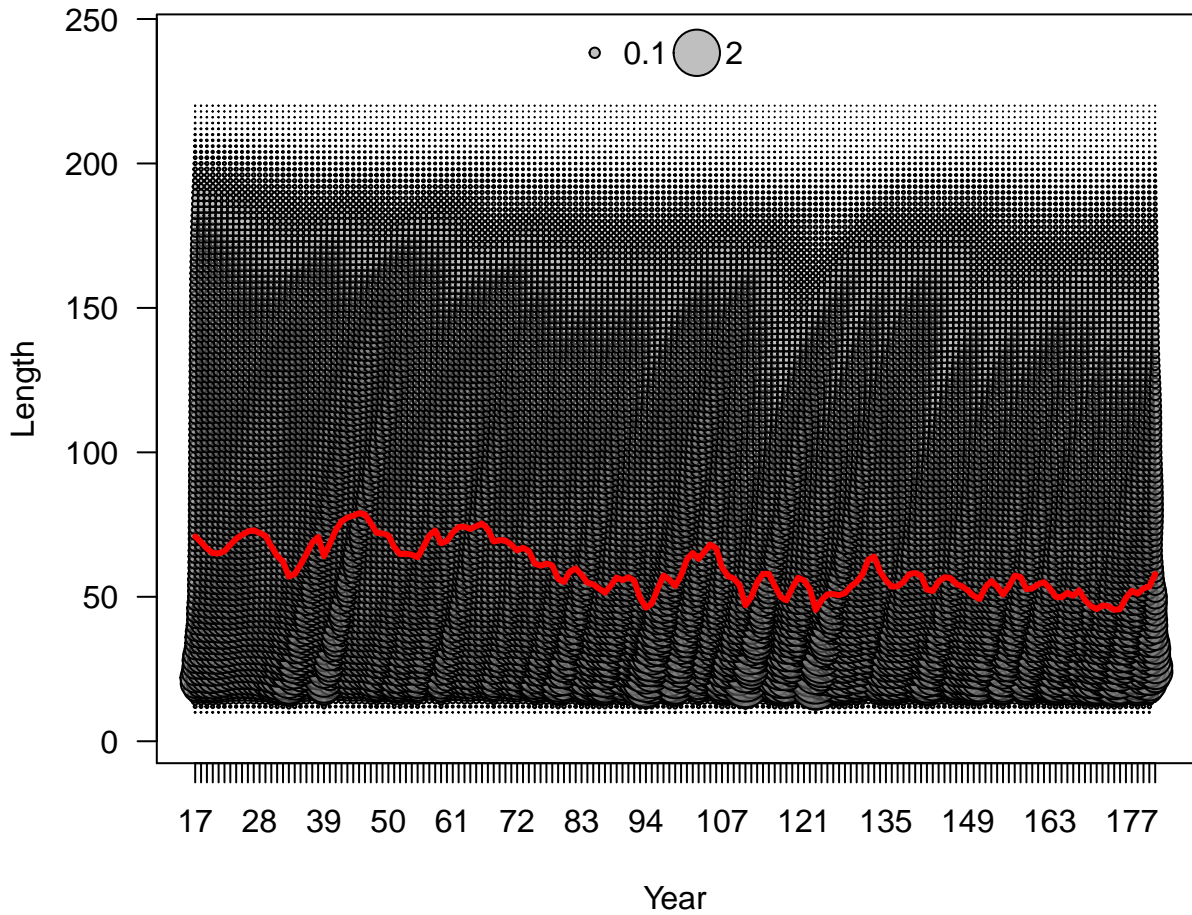
Year

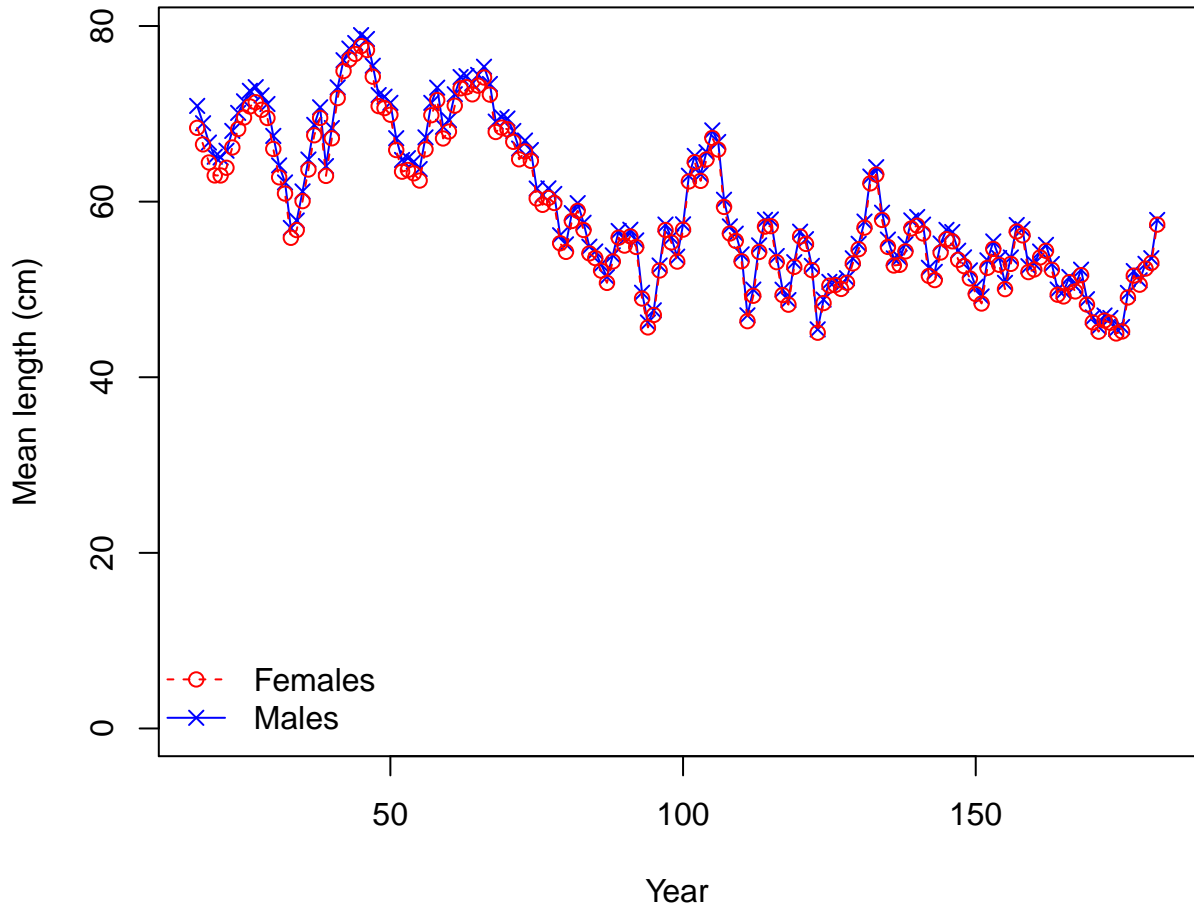


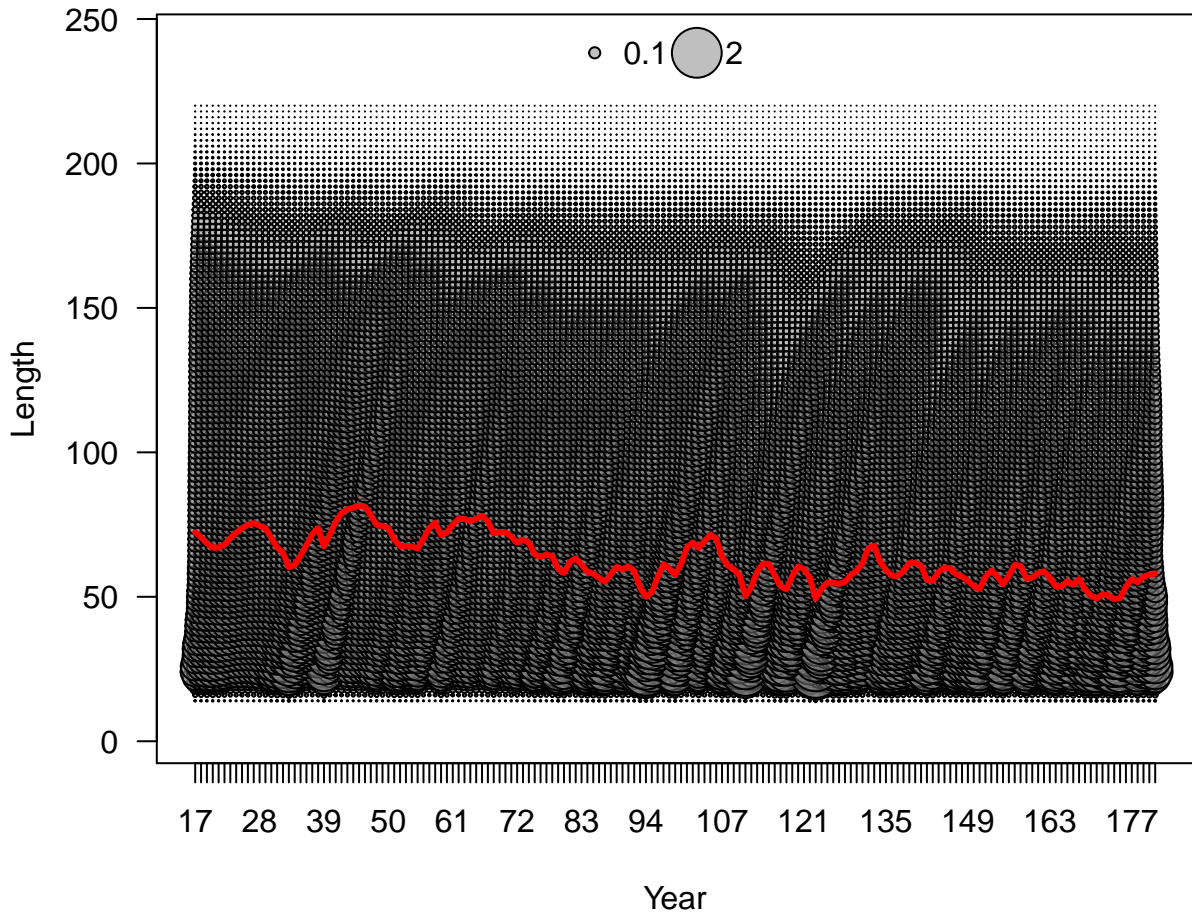




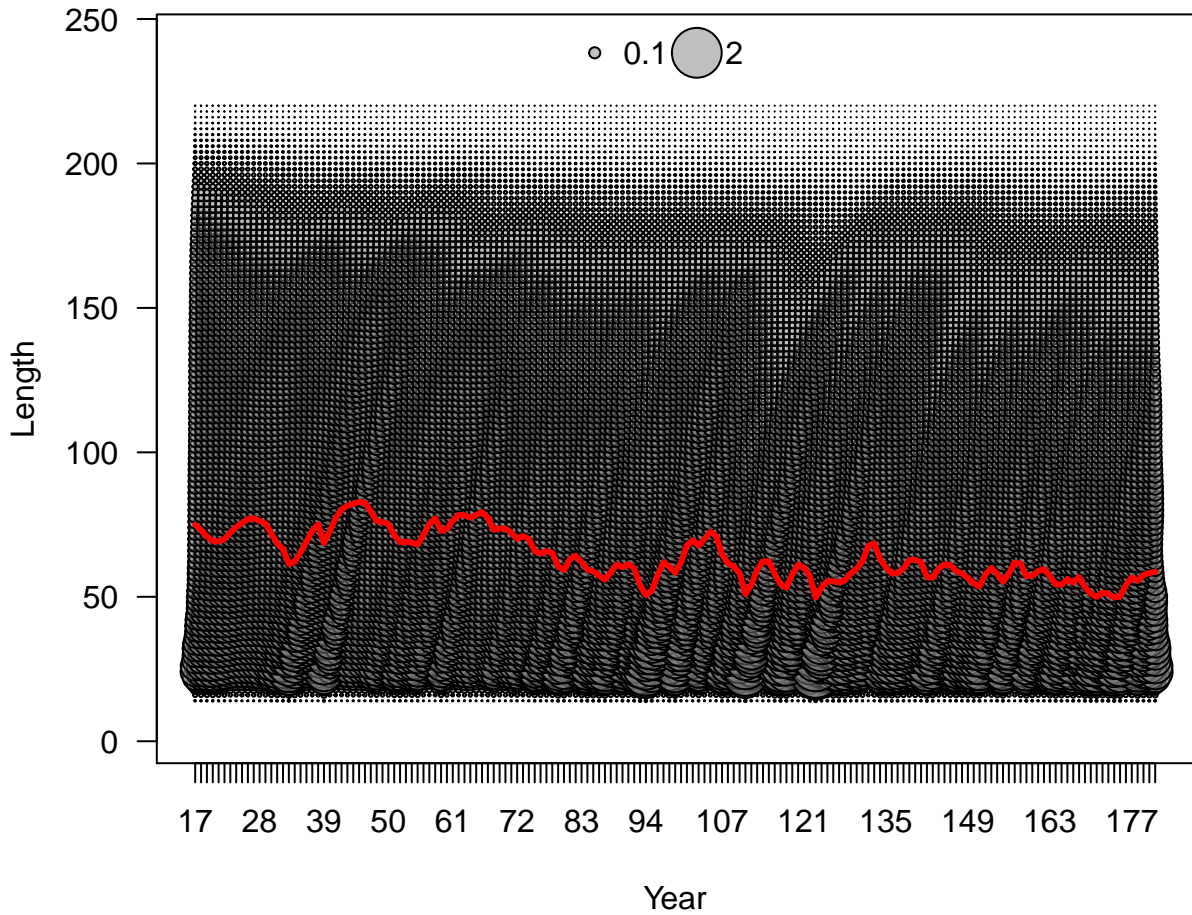


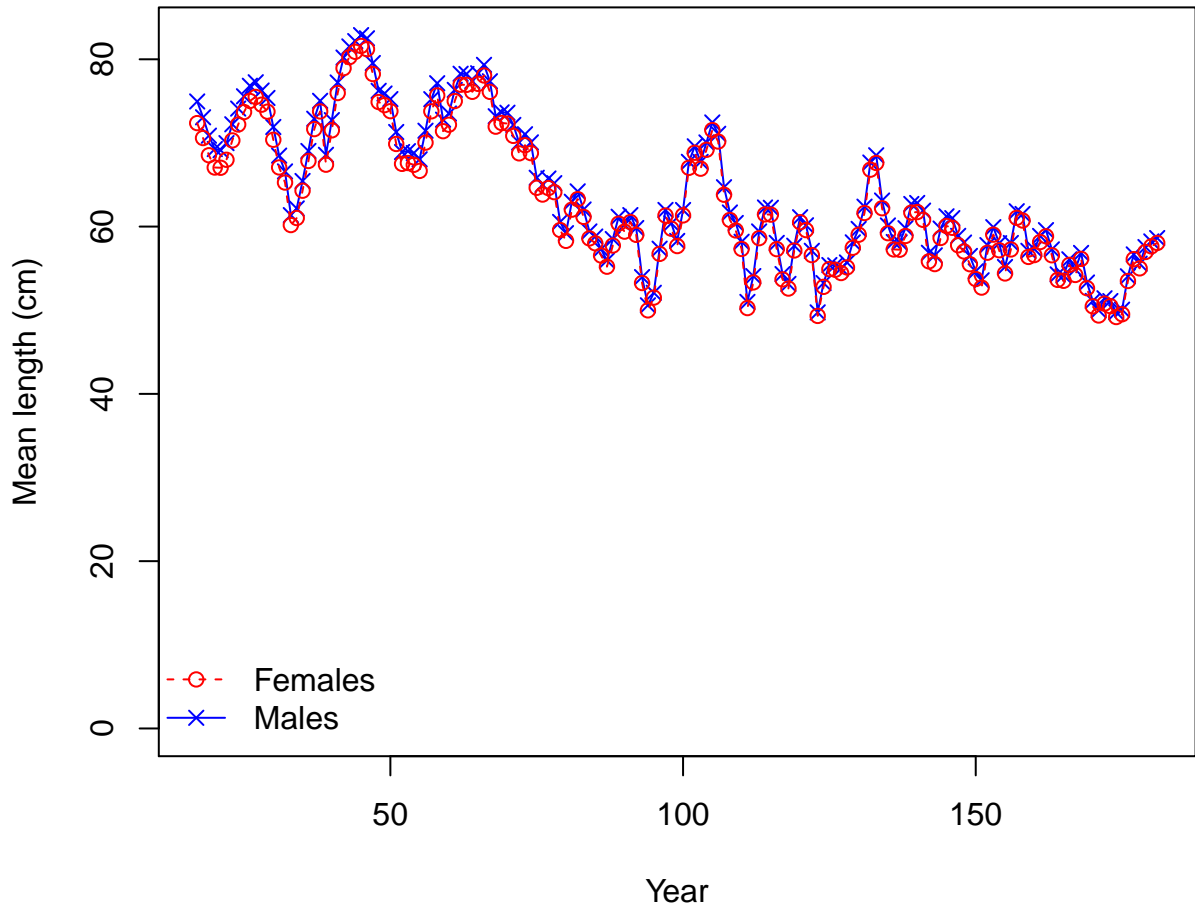




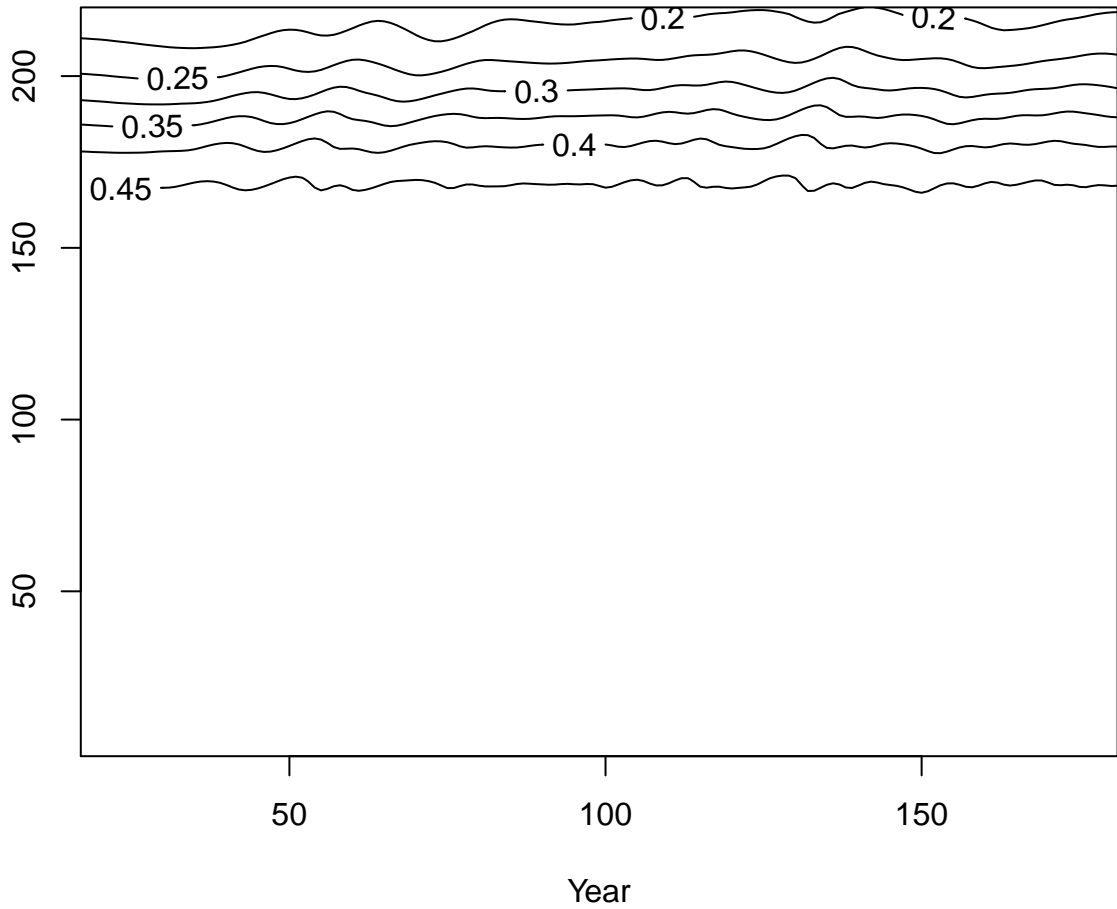




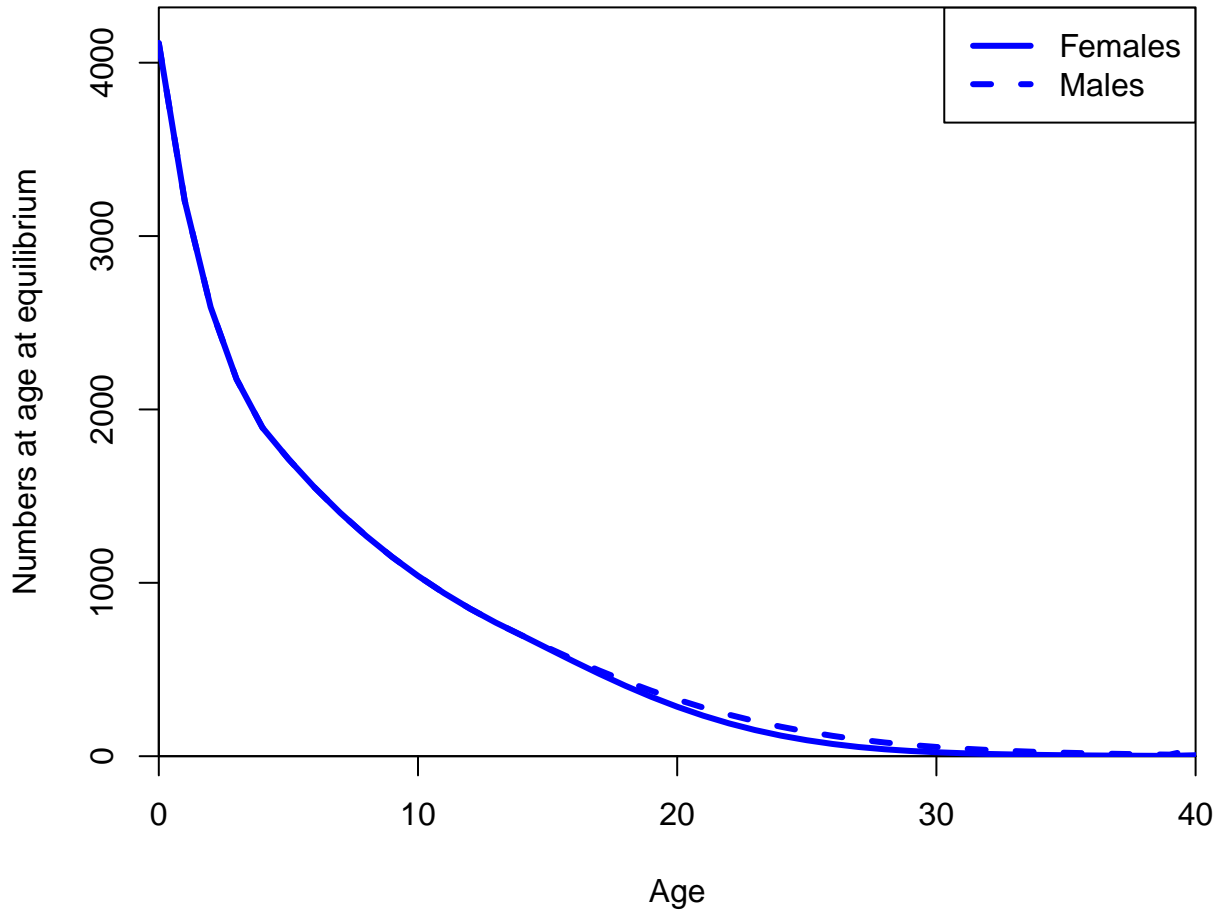


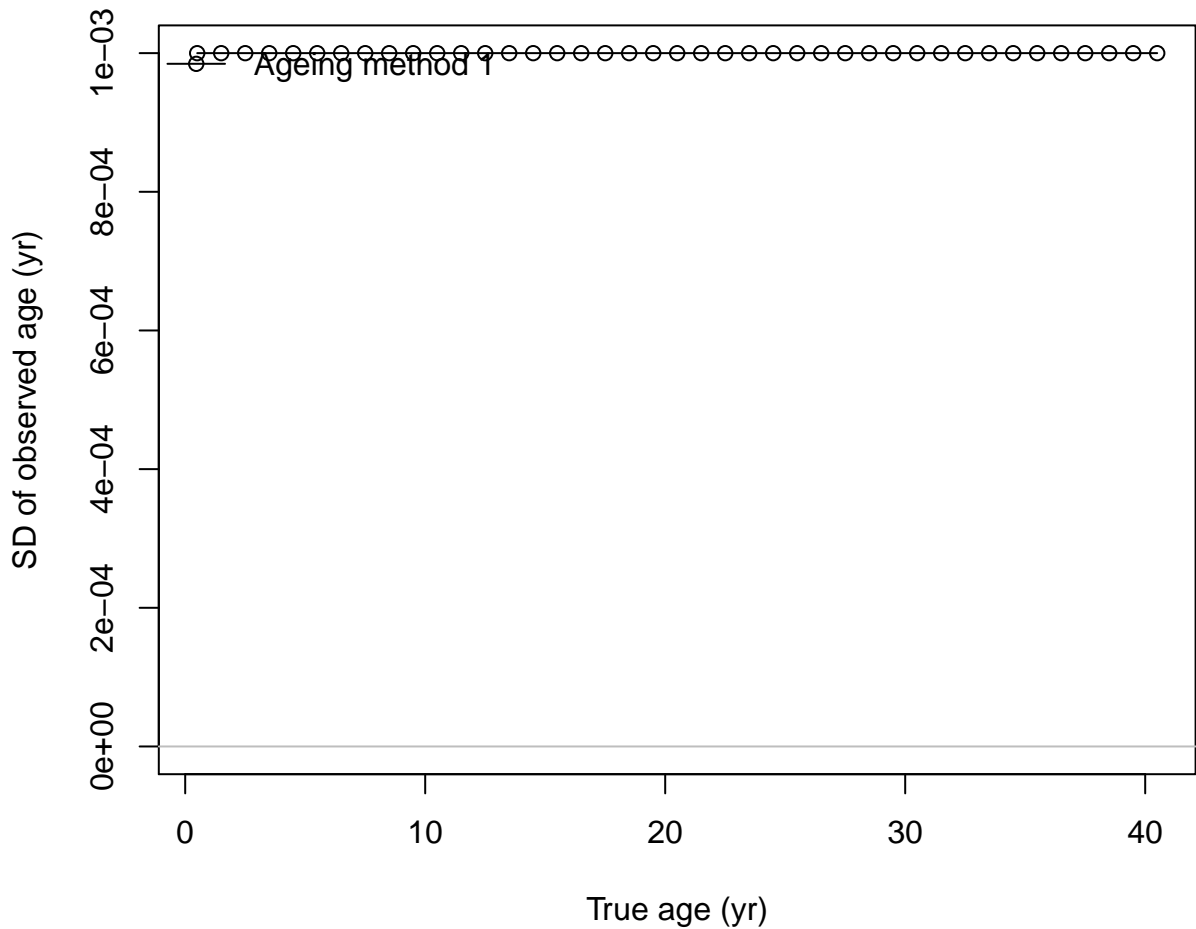


Length

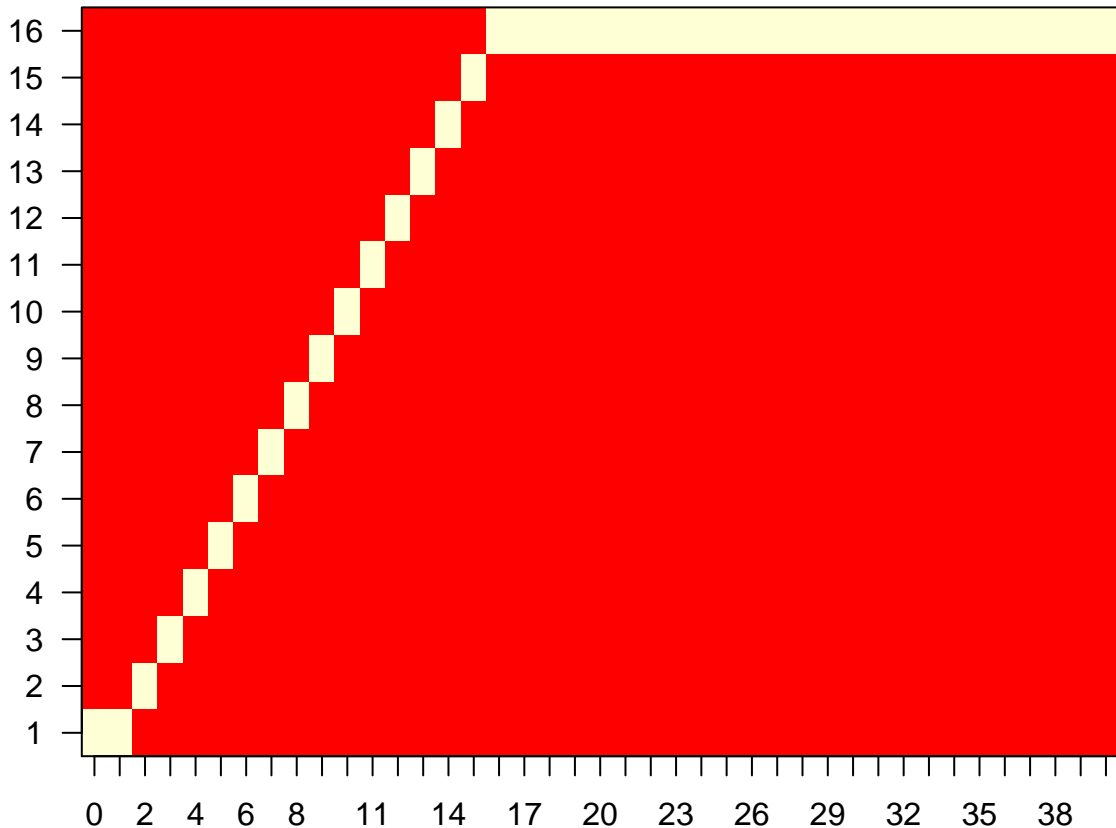






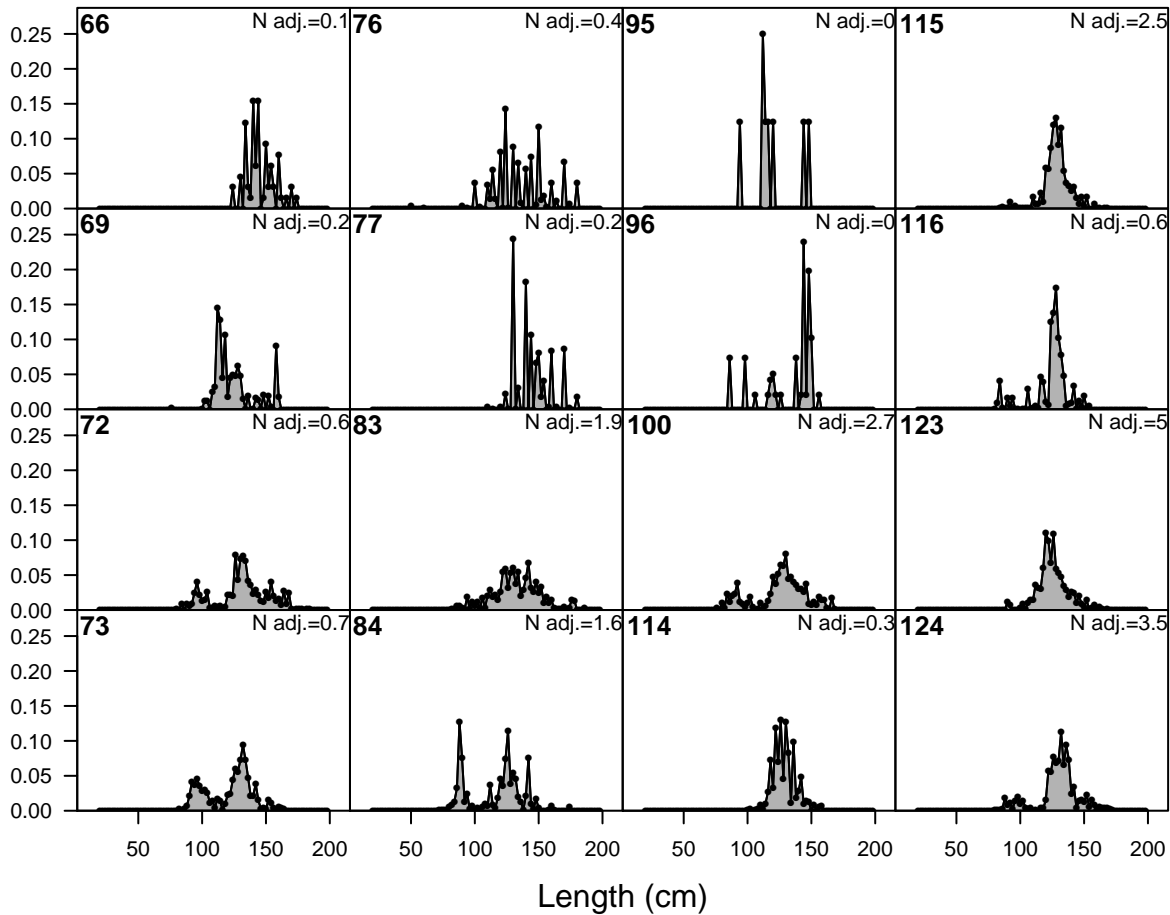


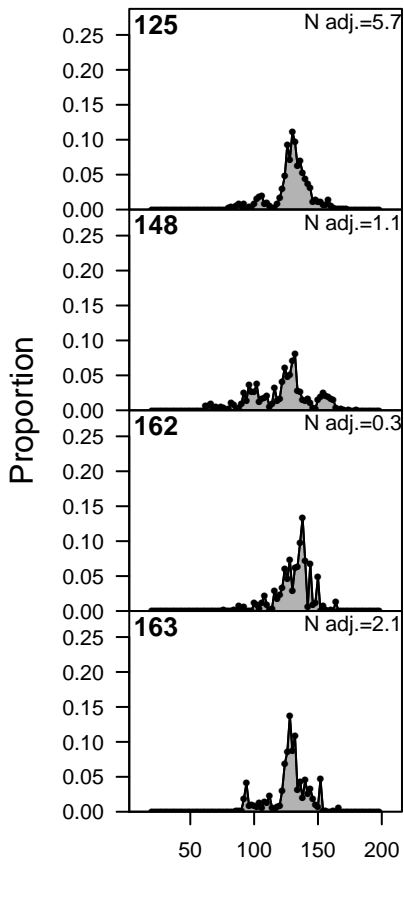
Observed age (yr)



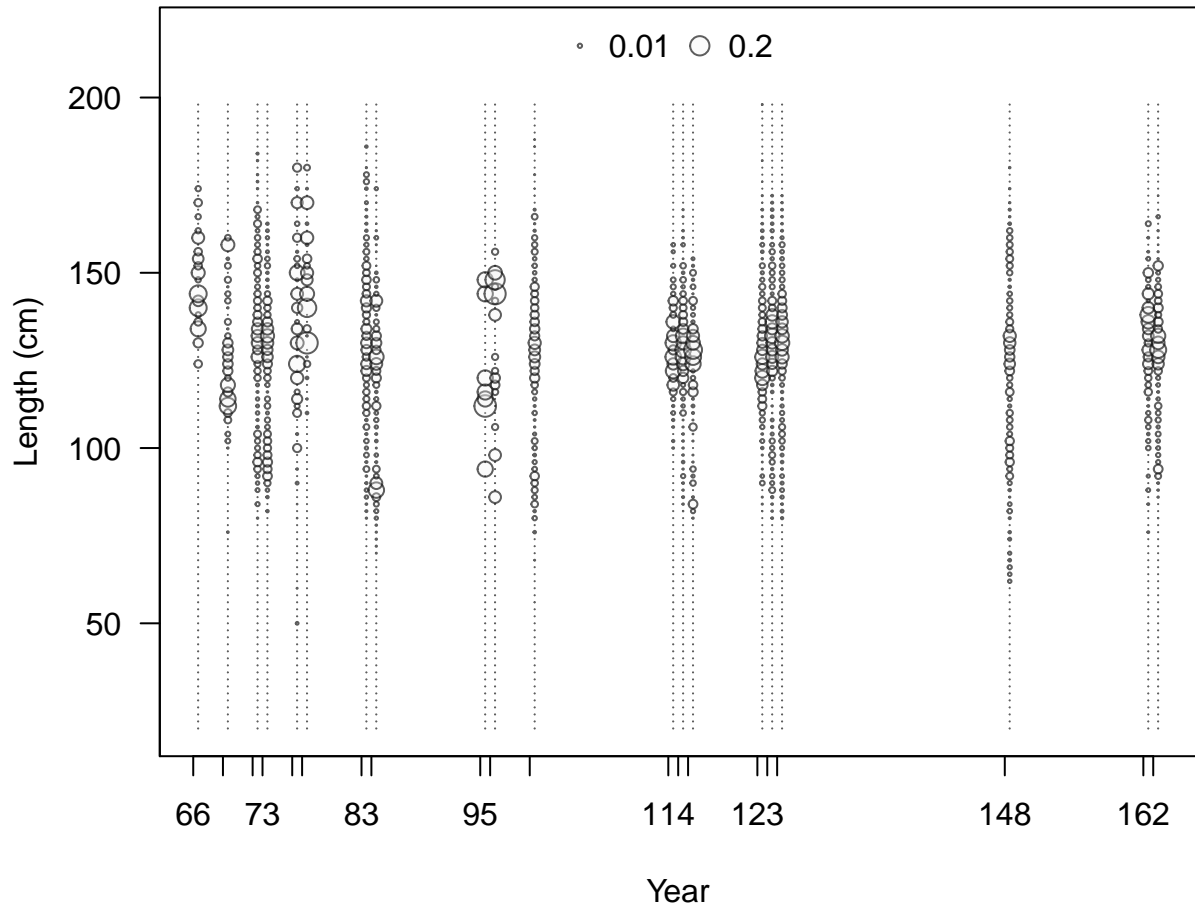
True age (yr)

Proportion

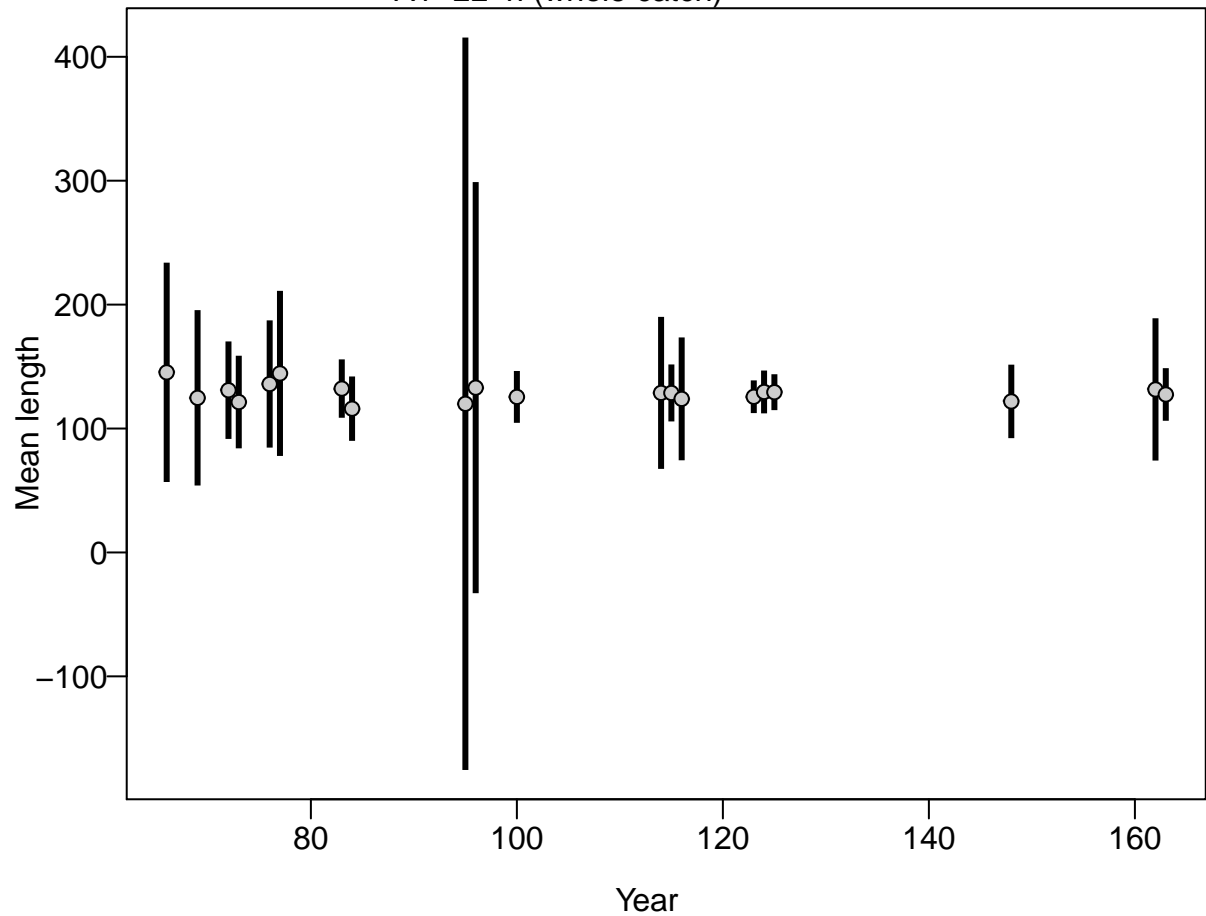




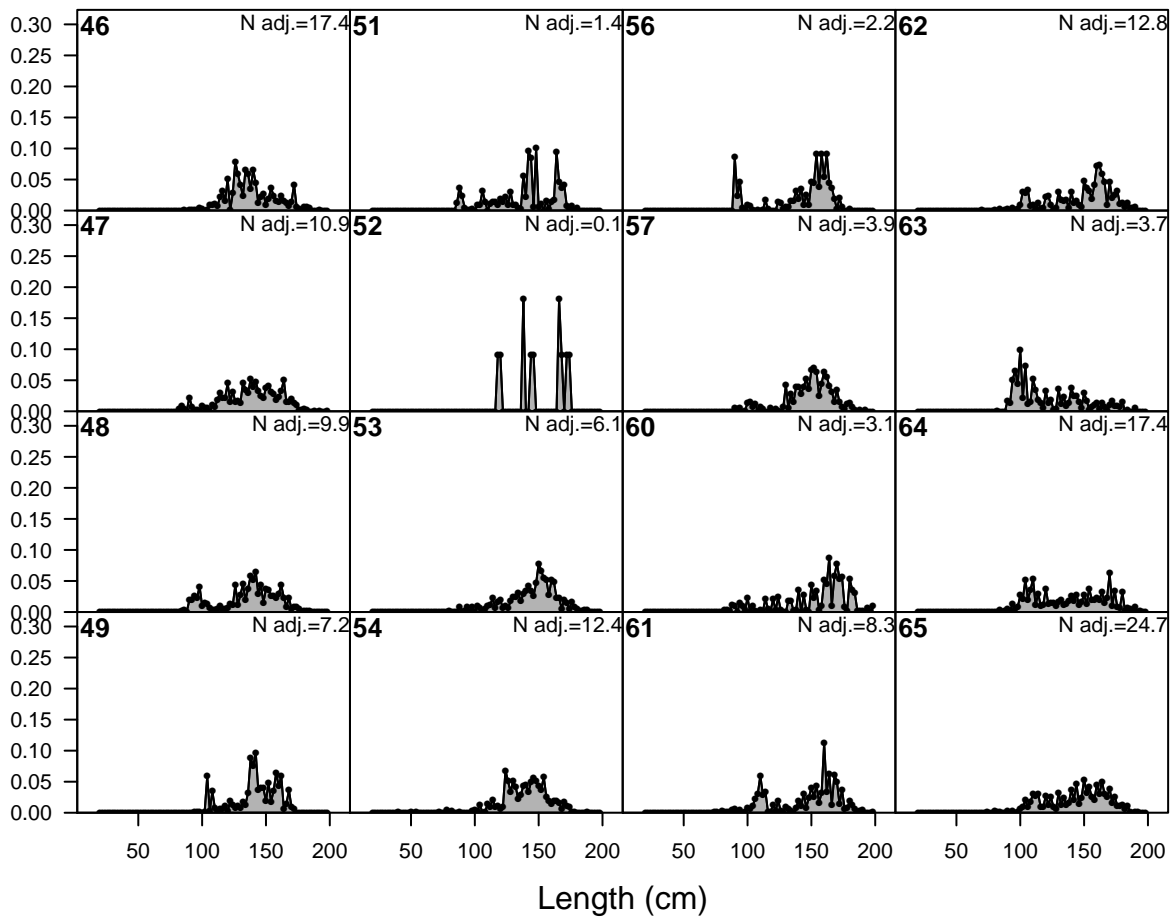
Length (cm)



A1-LL-n (whole catch)

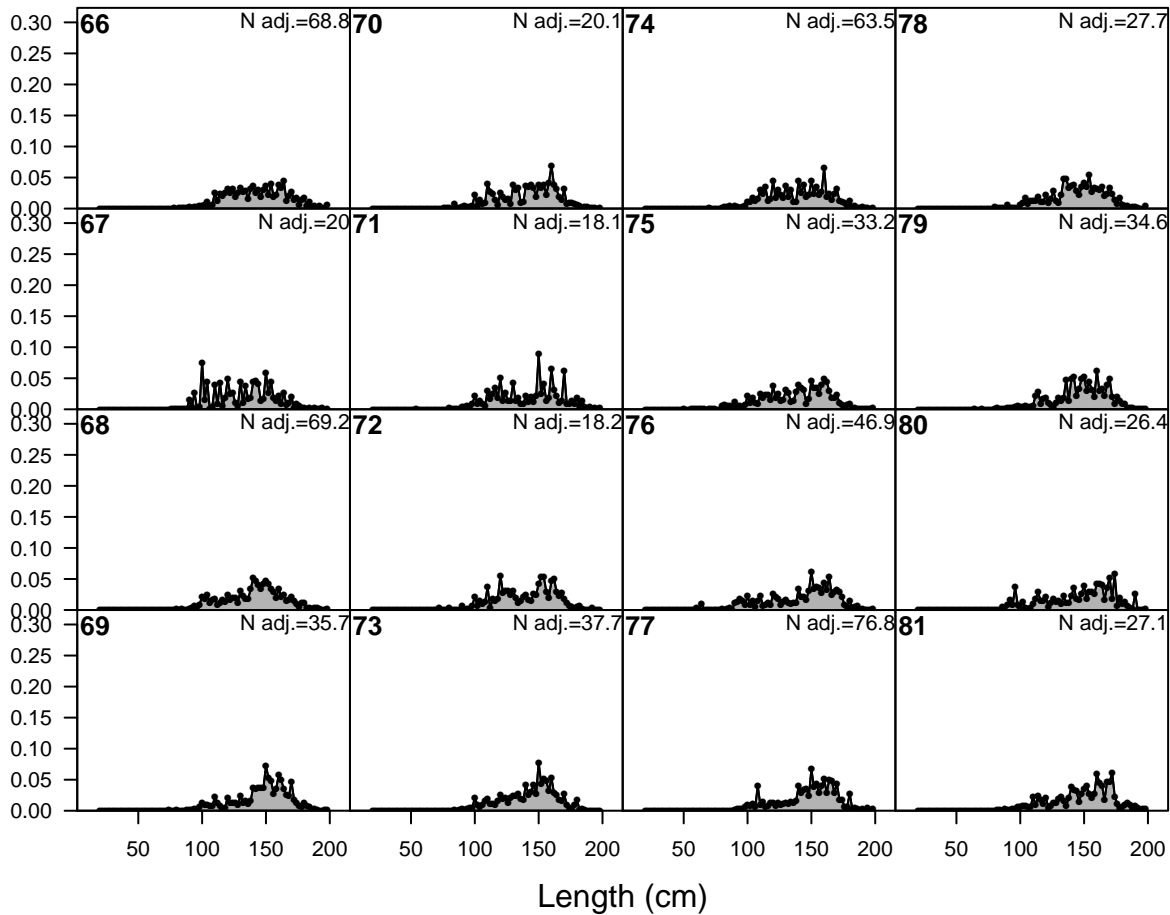


Proportion

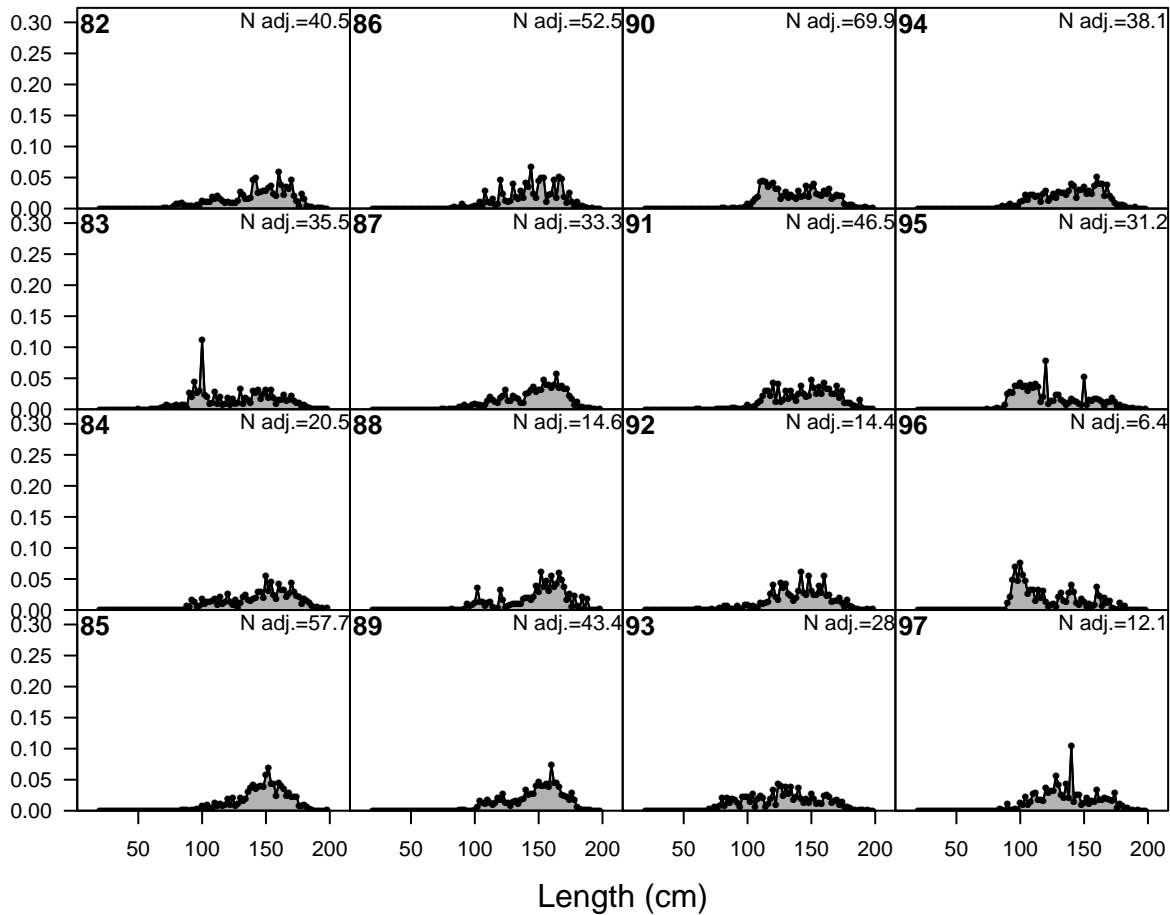




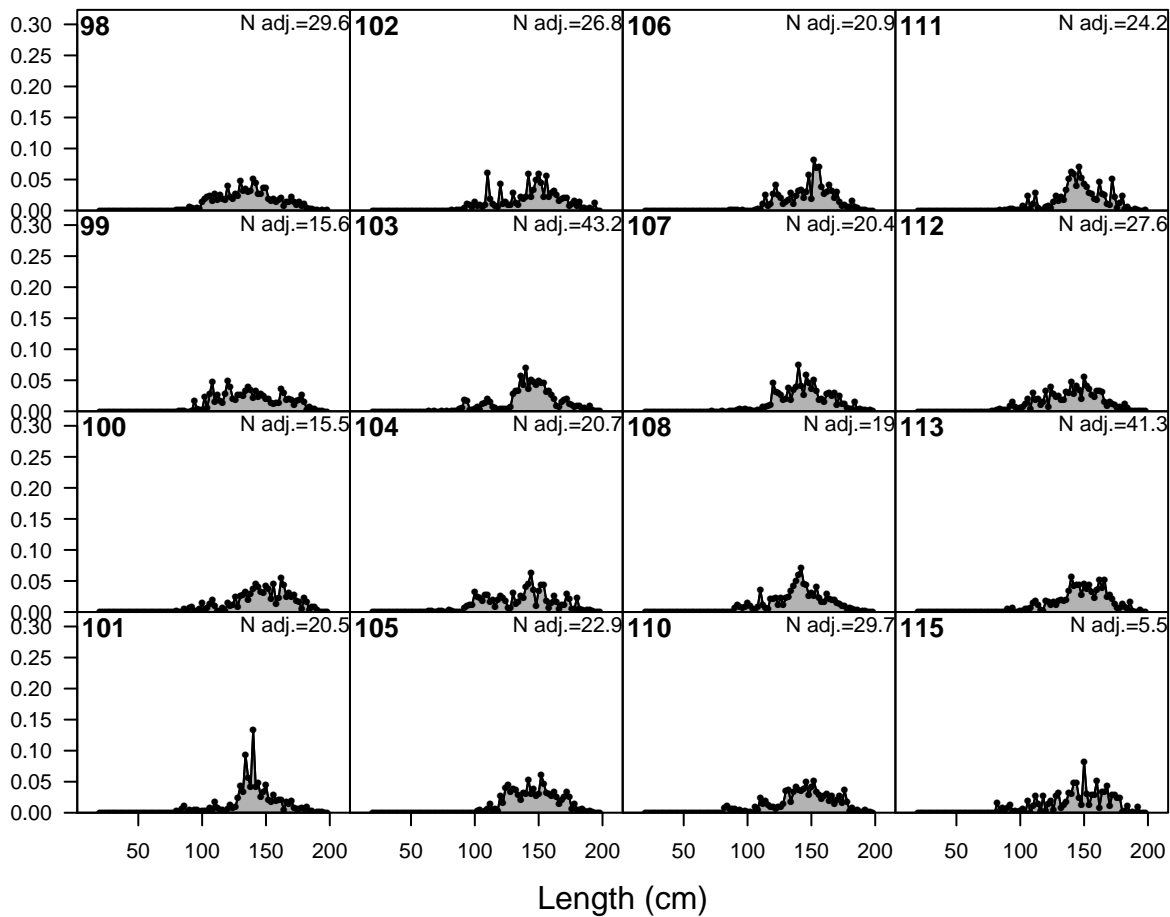
Proportion



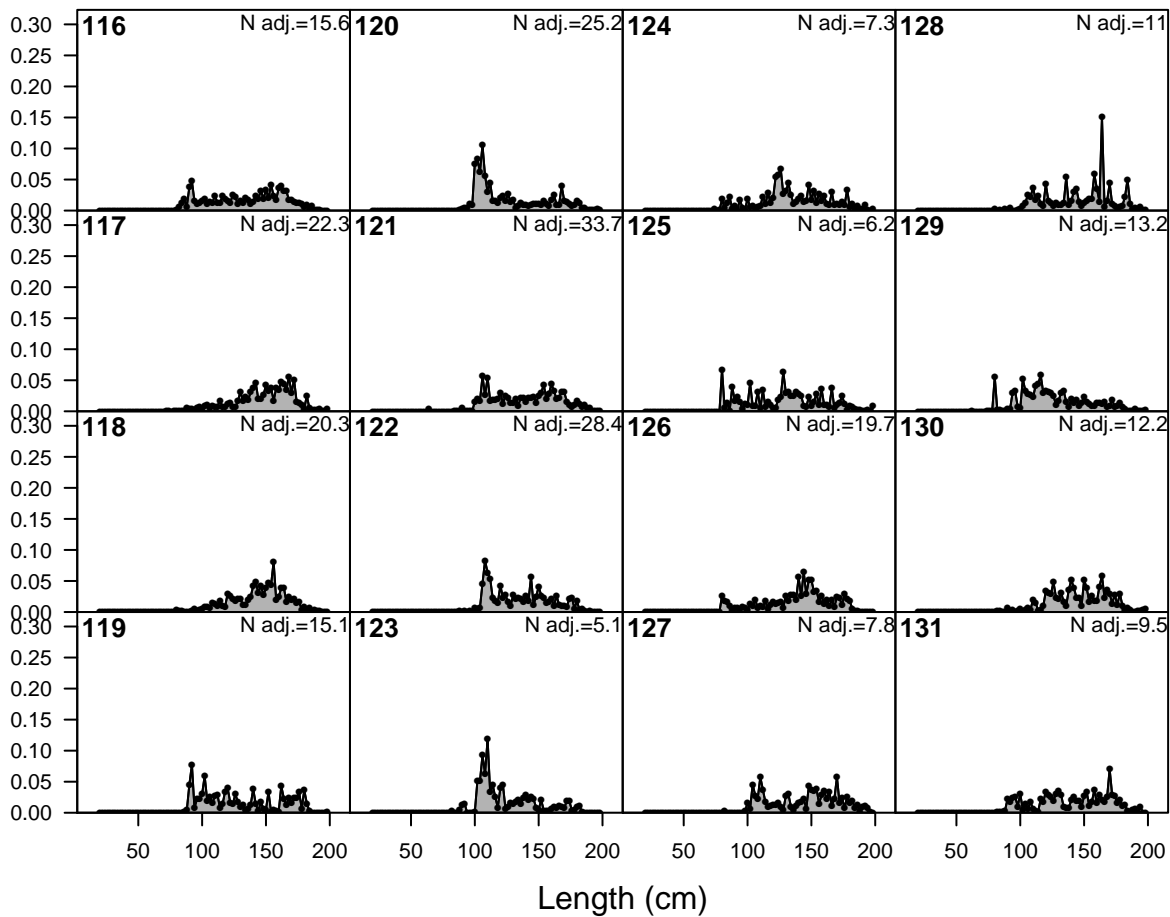
Proportion



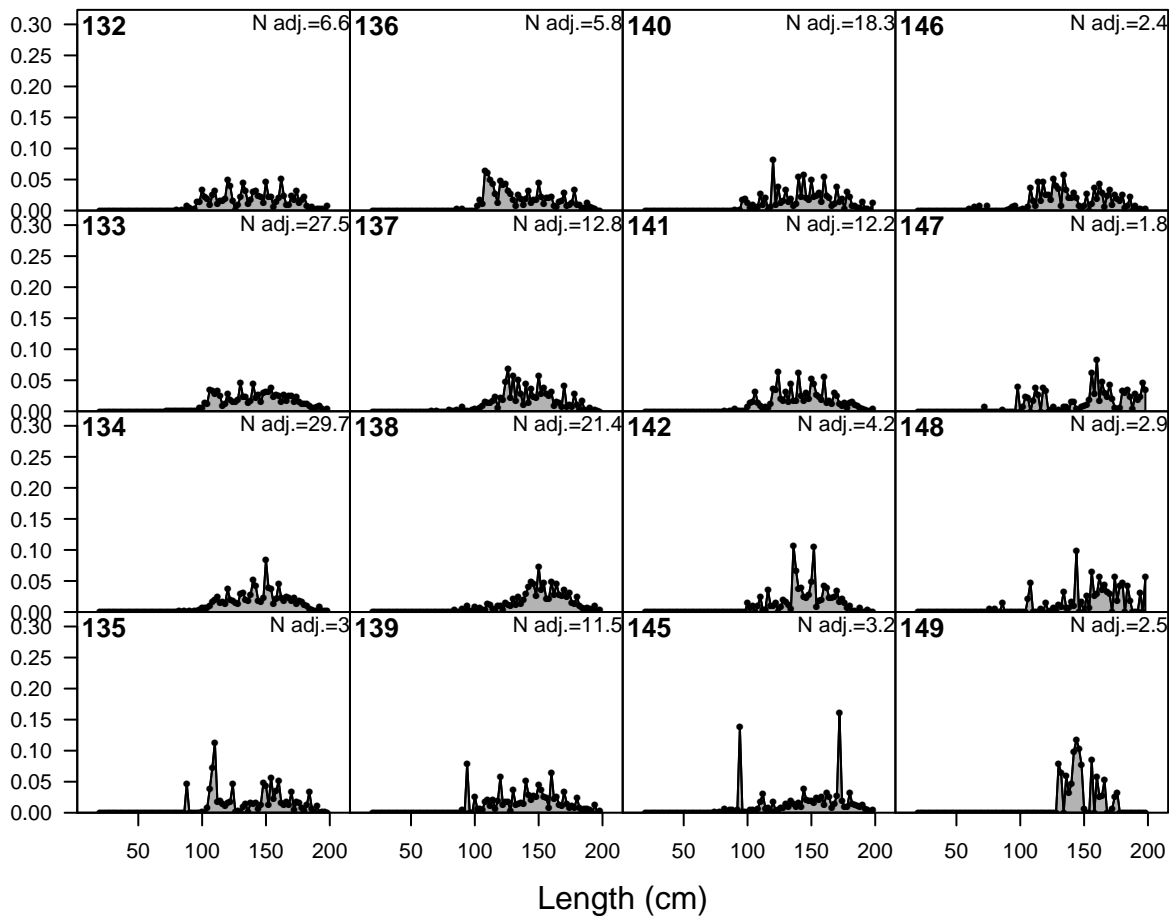
Proportion



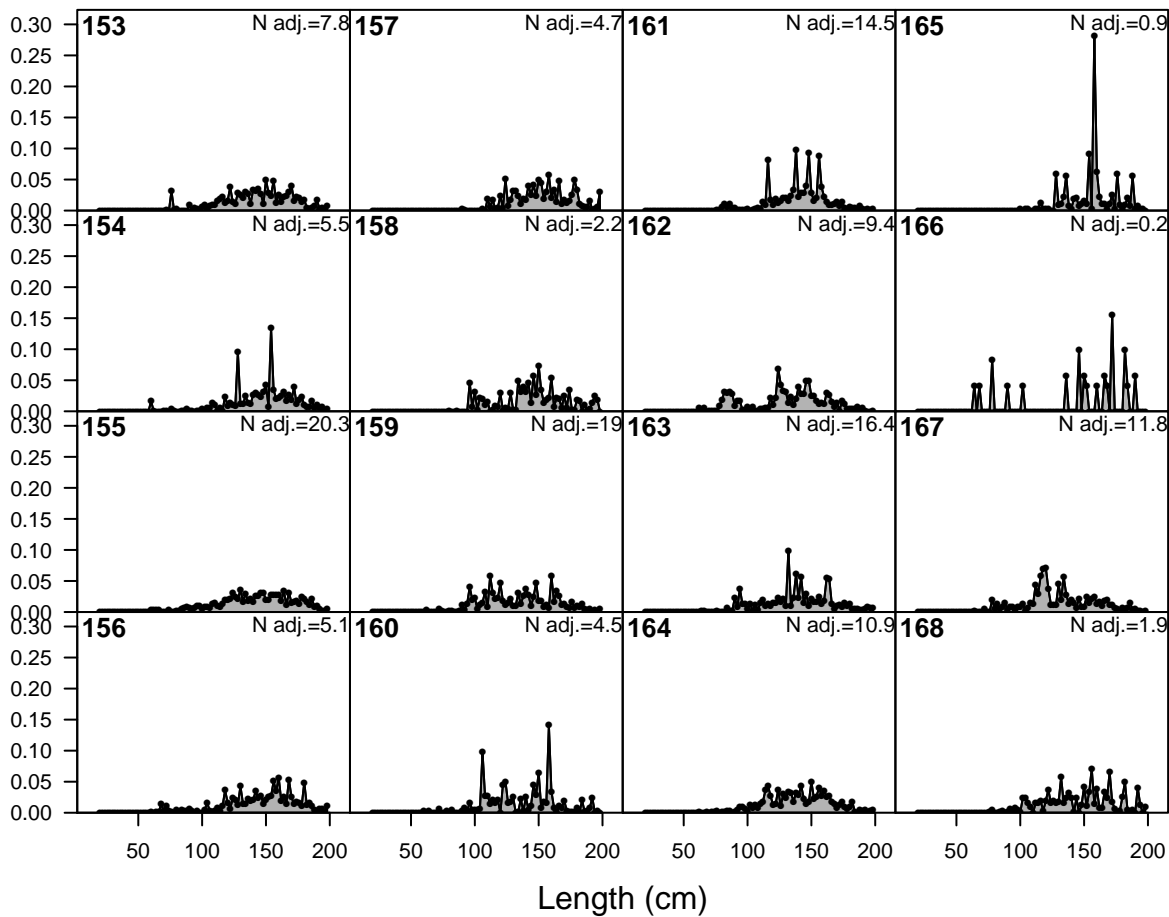
Proportion



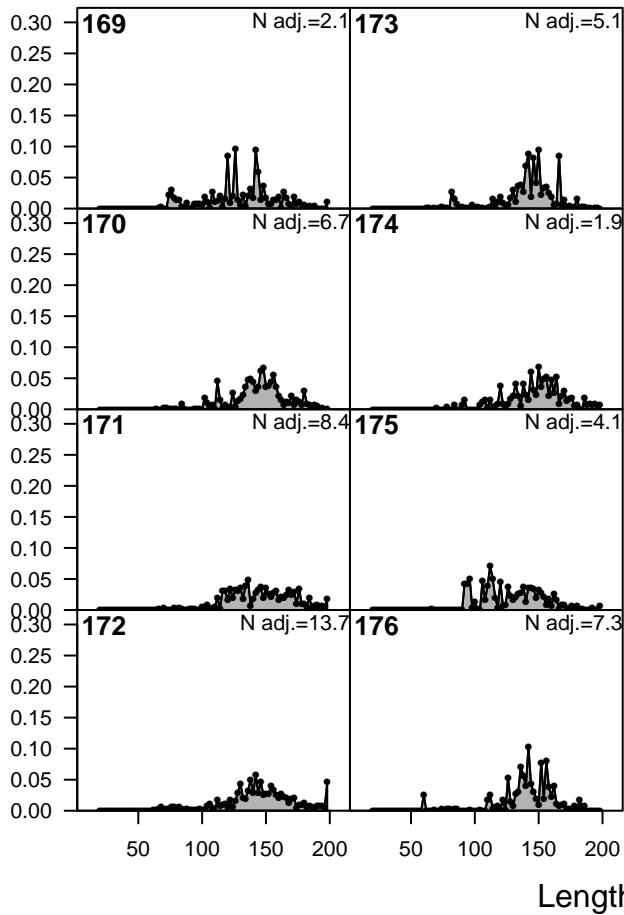
Proportion

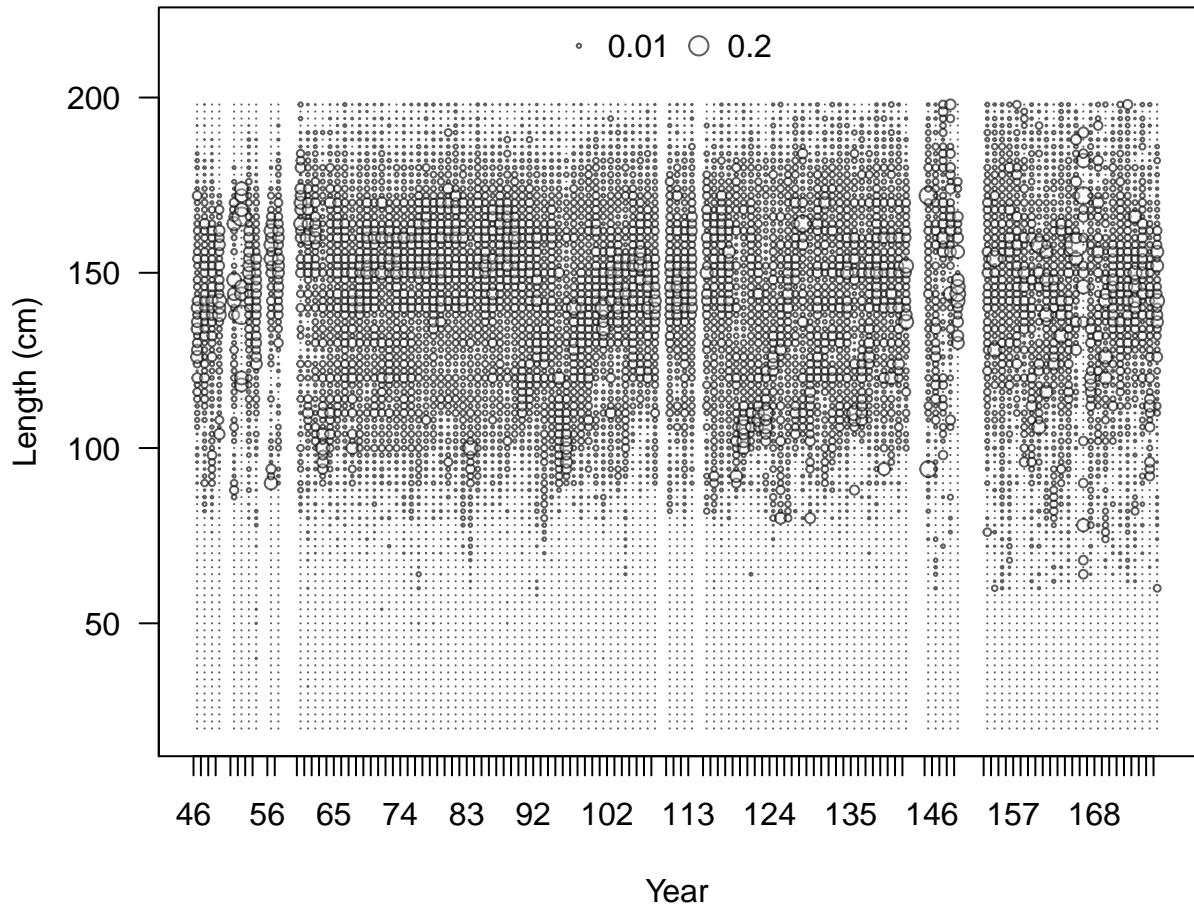


Proportion



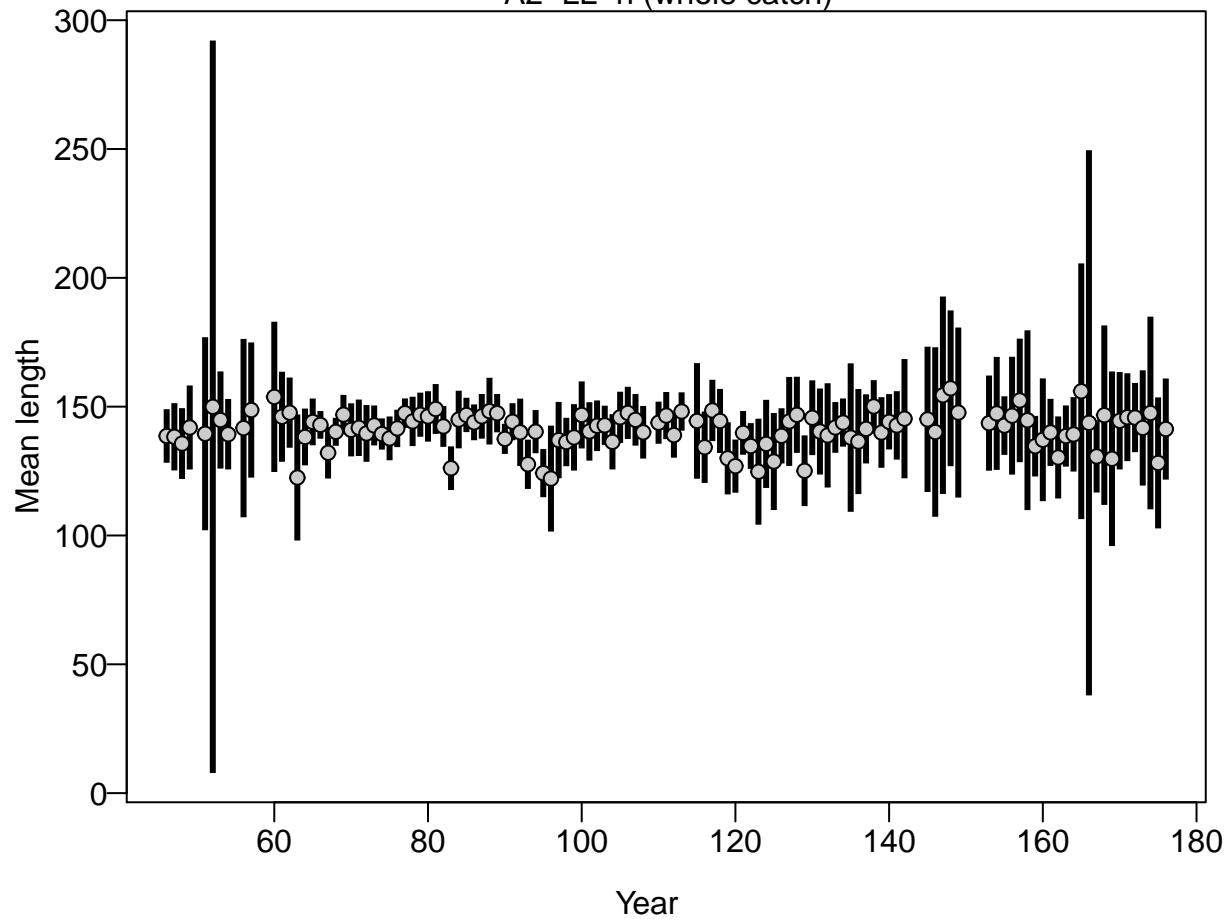
Proportion



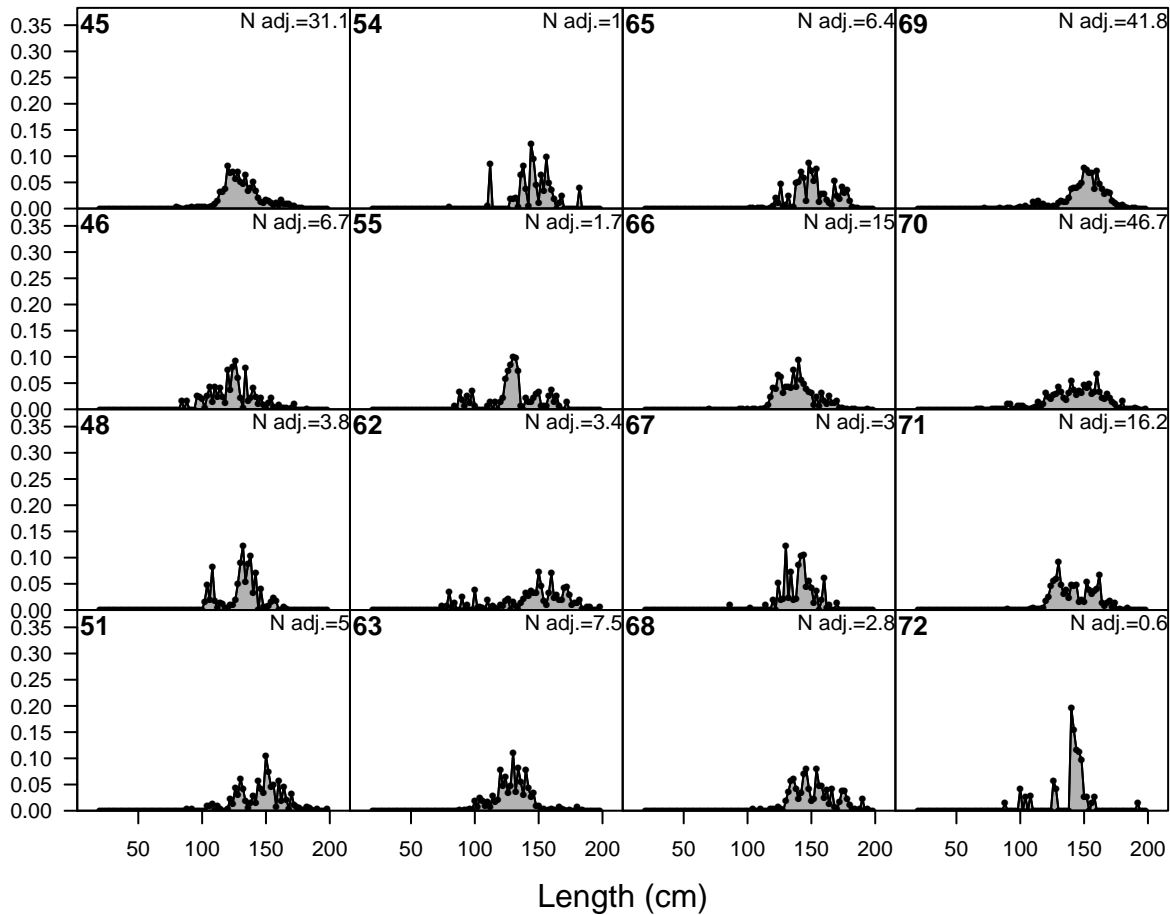




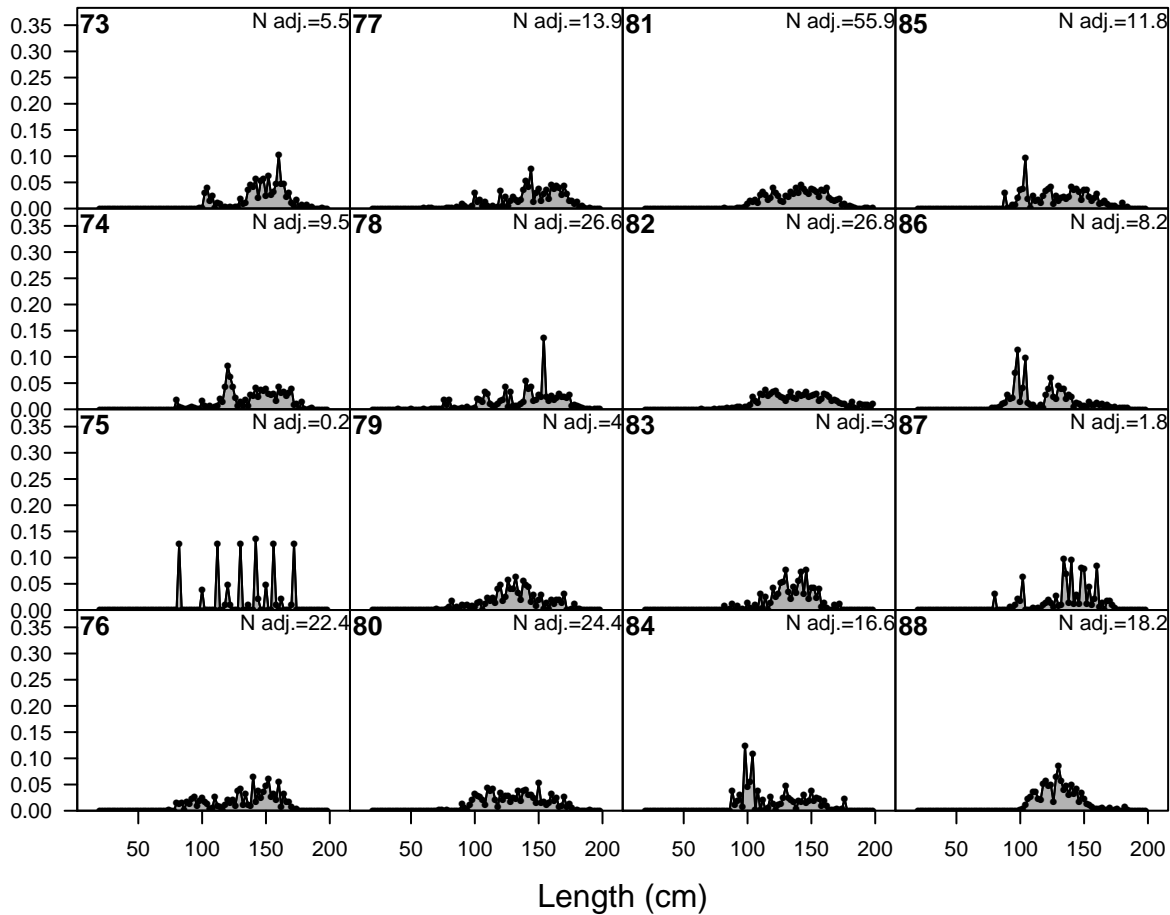
## A2-LL-n (whole catch)



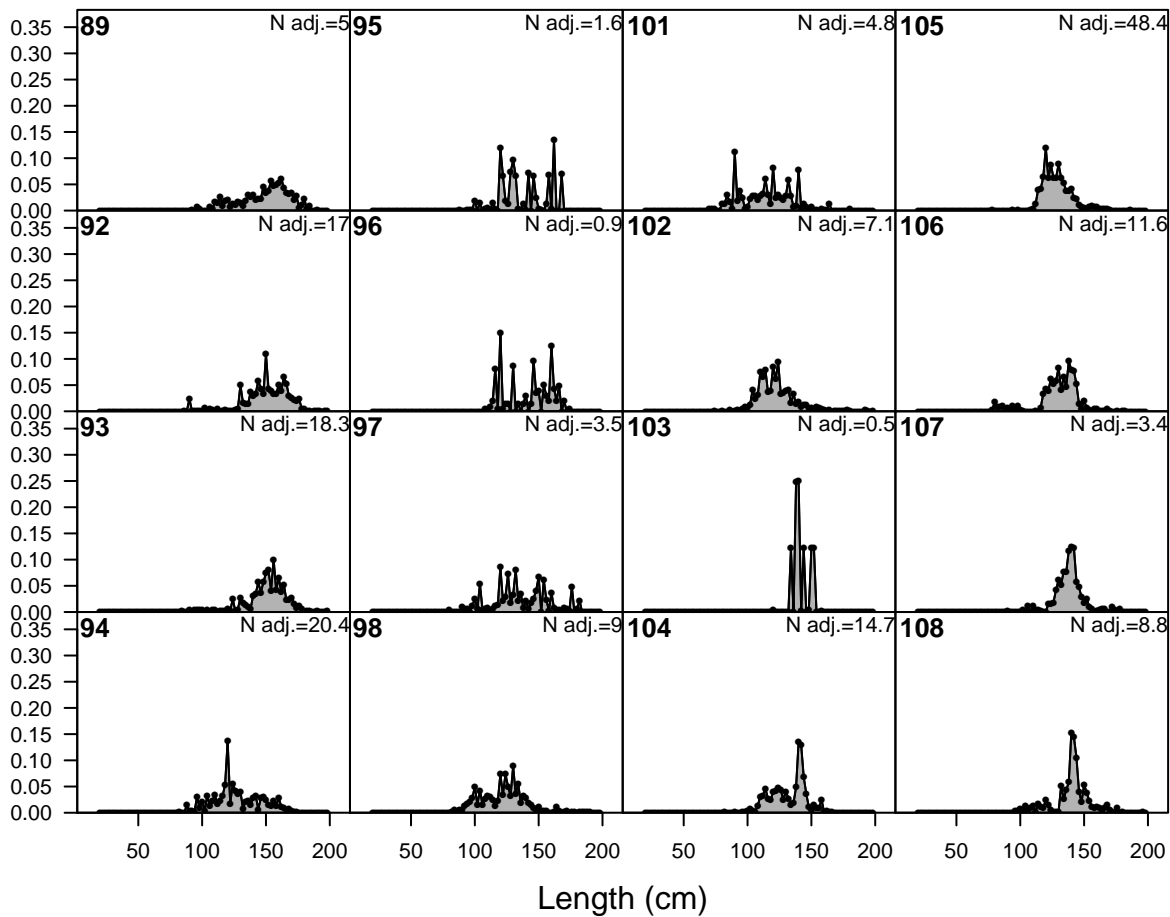
Proportion



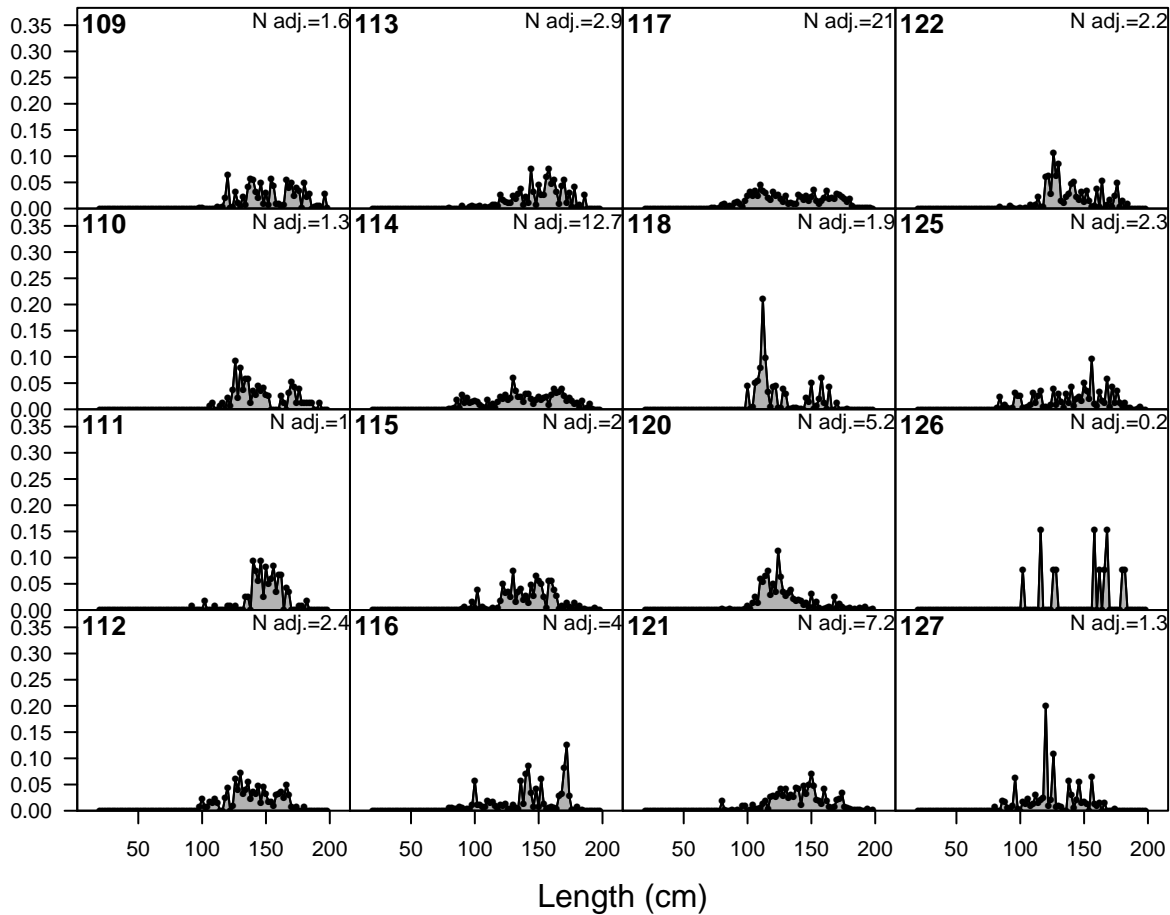
Proportion



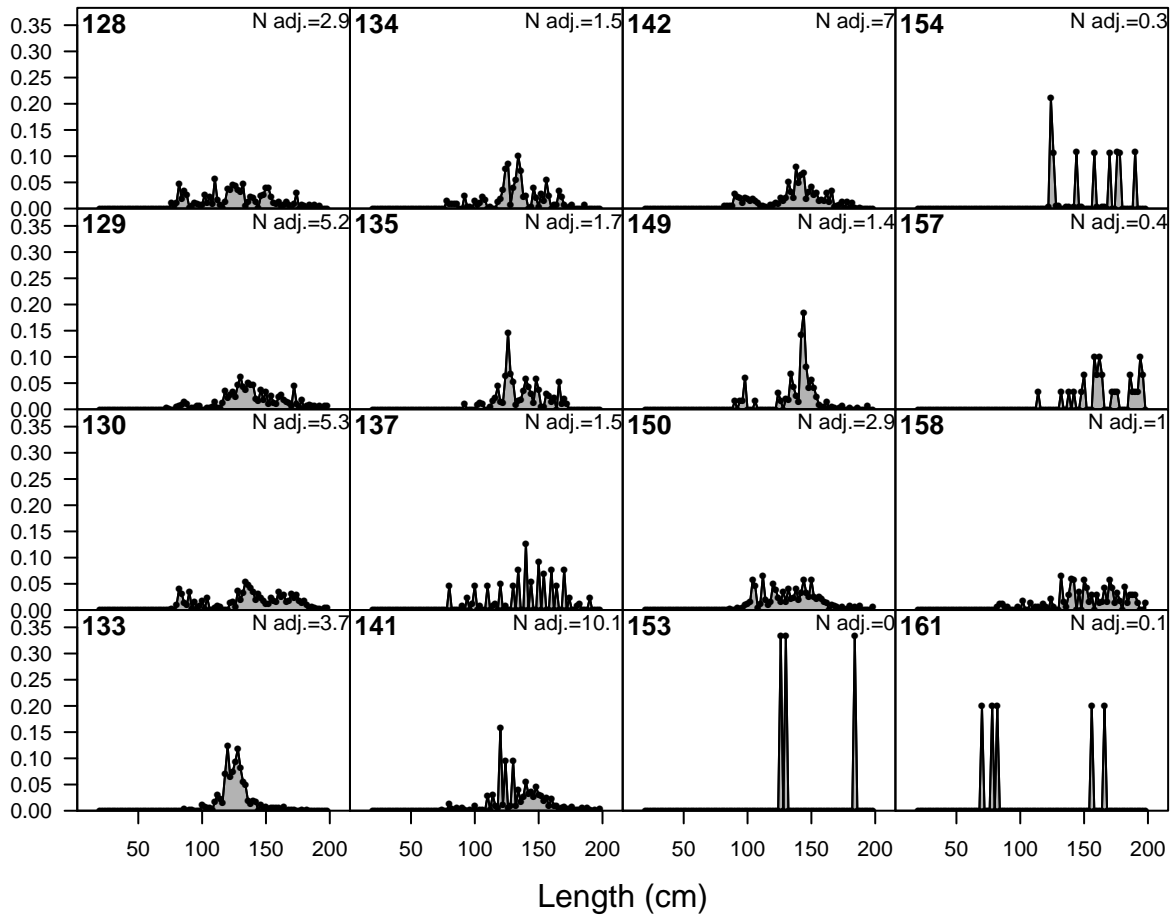
Proportion



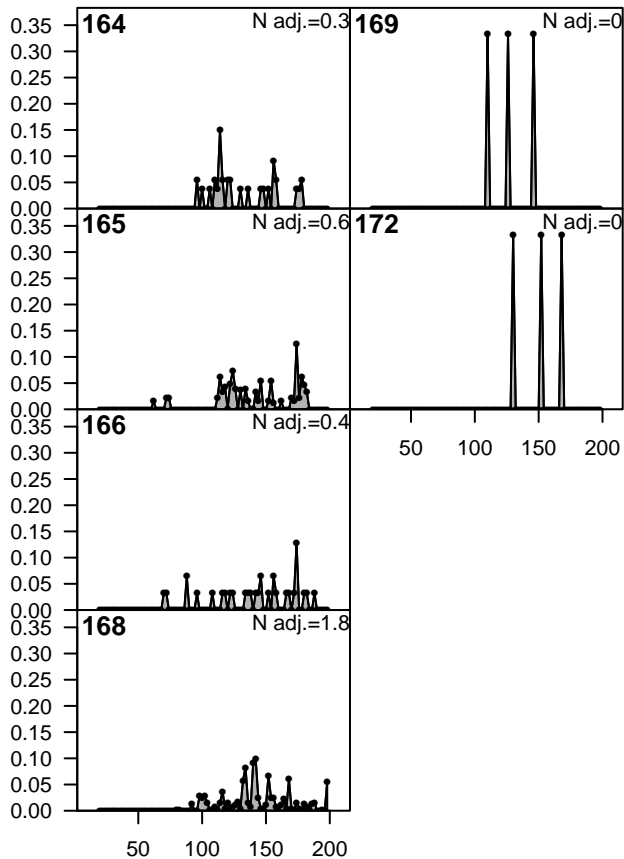
Proportion



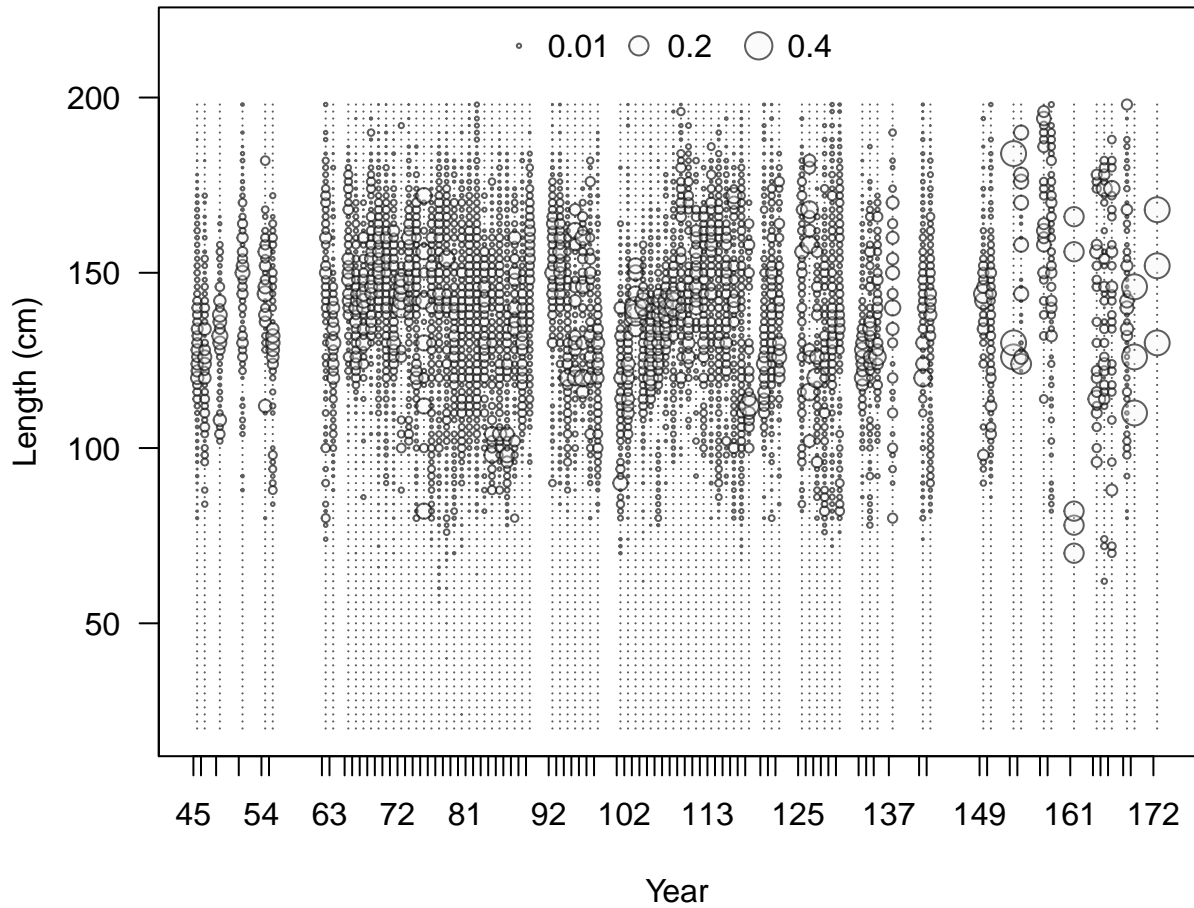
Proportion



Proportion

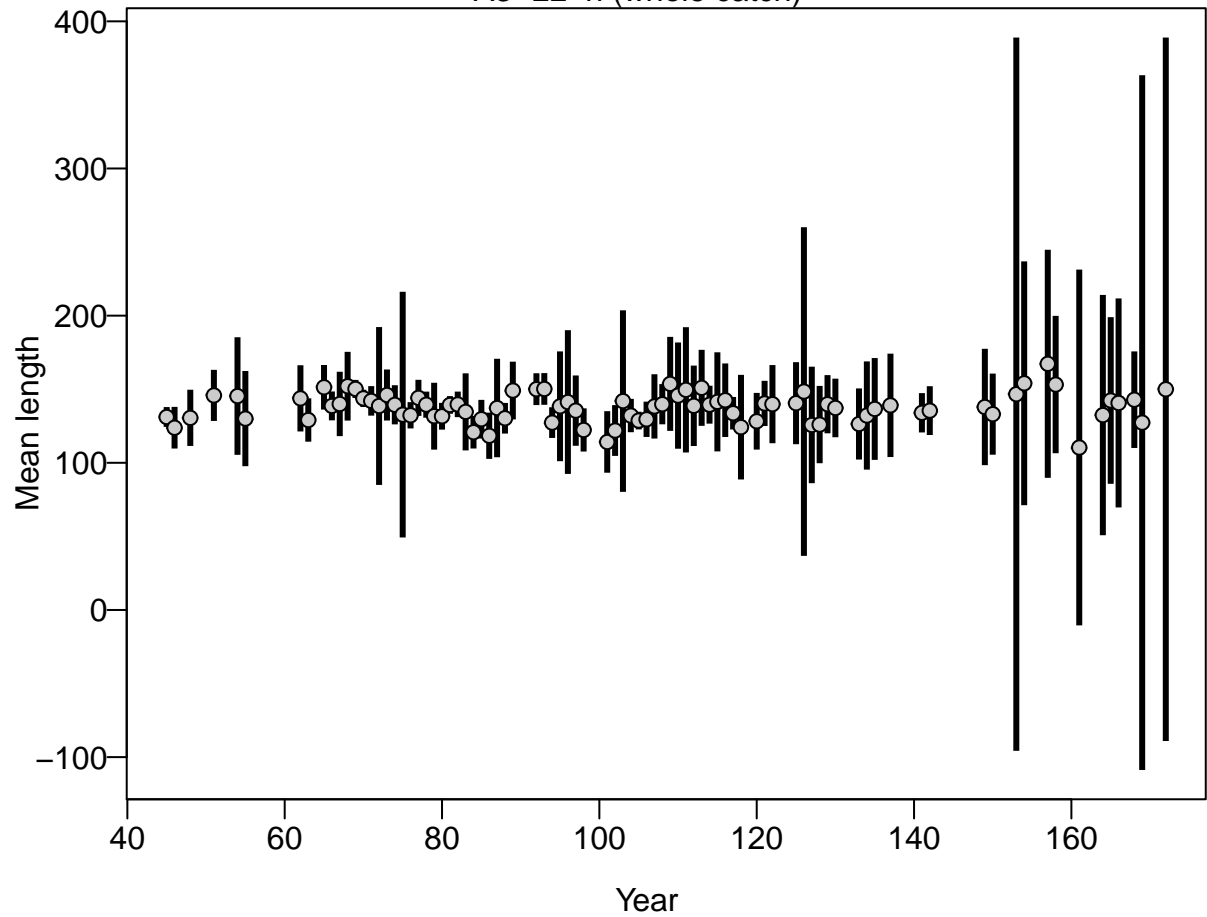


Length (cm)

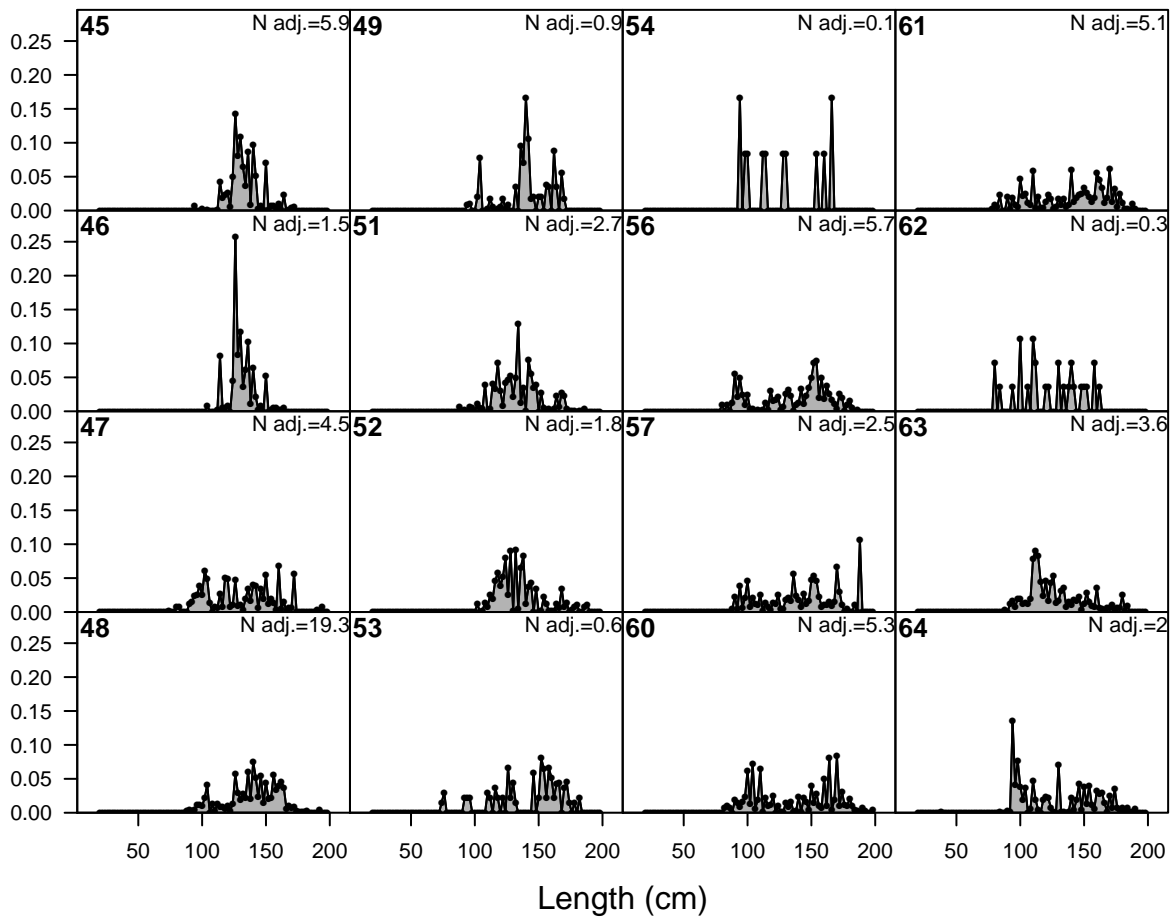


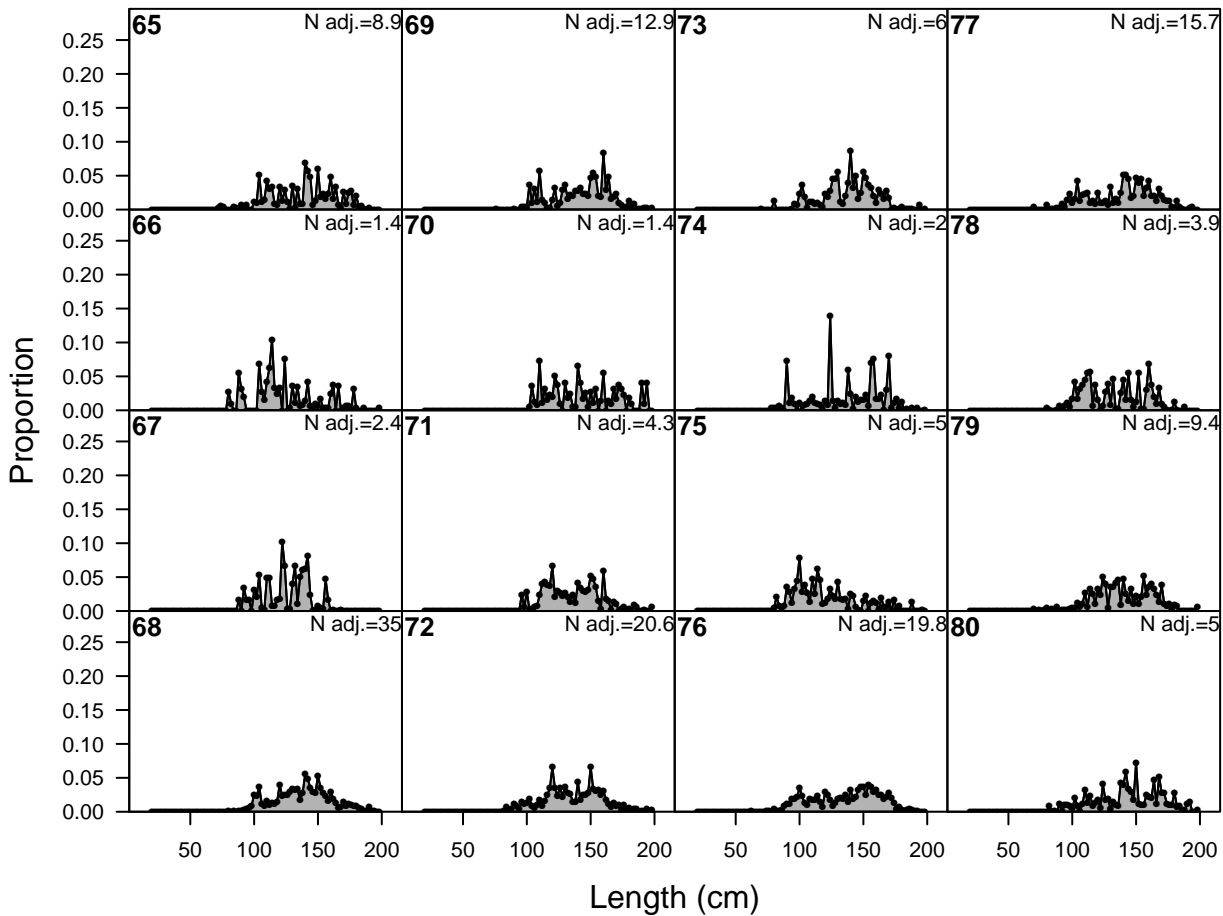


A3-LL-n (whole catch)

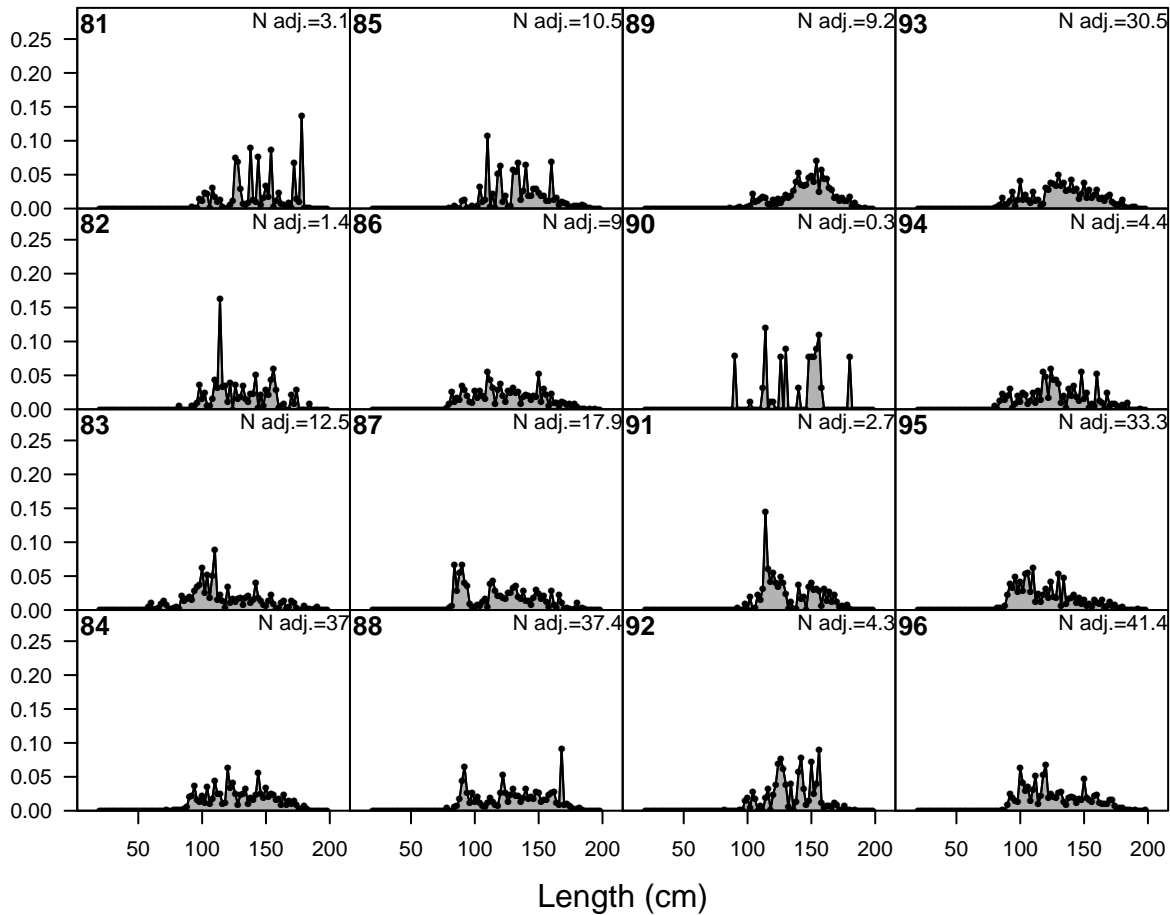


Proportion

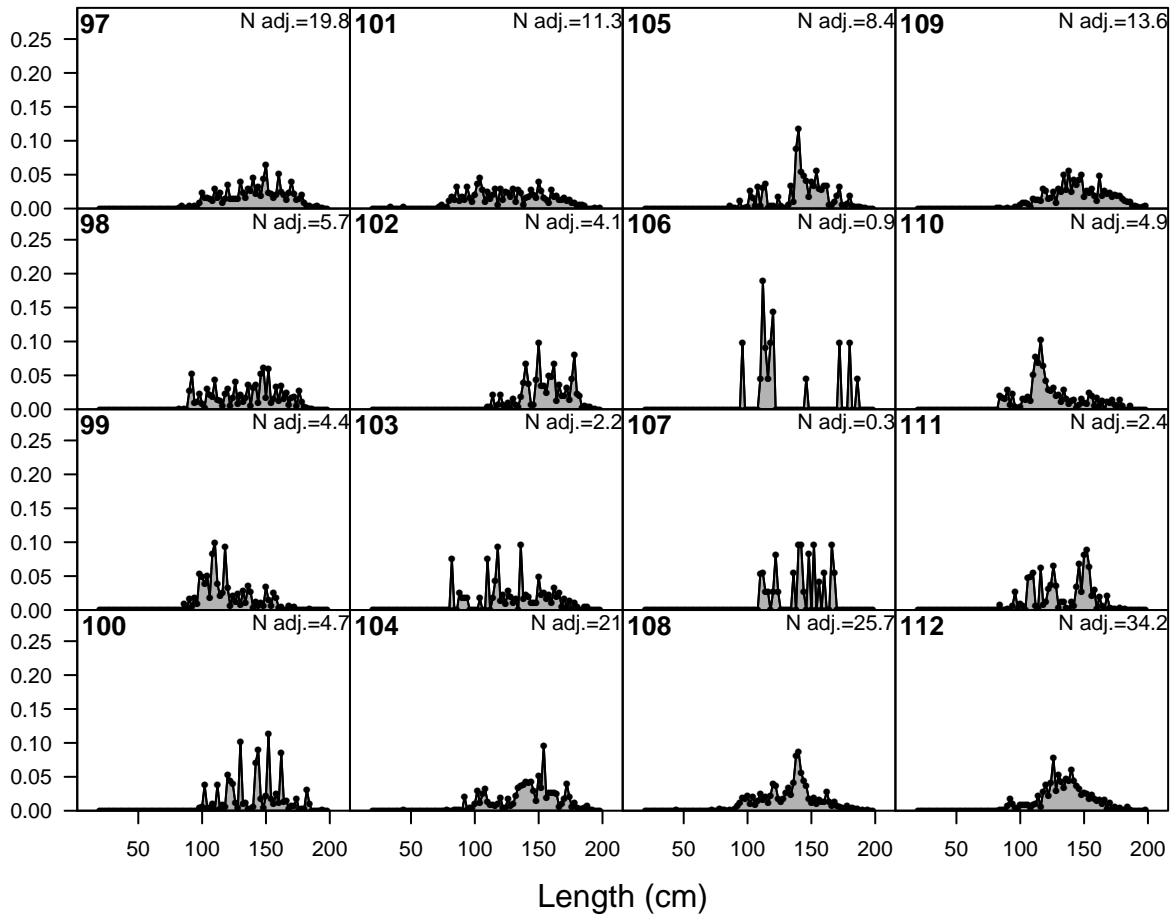




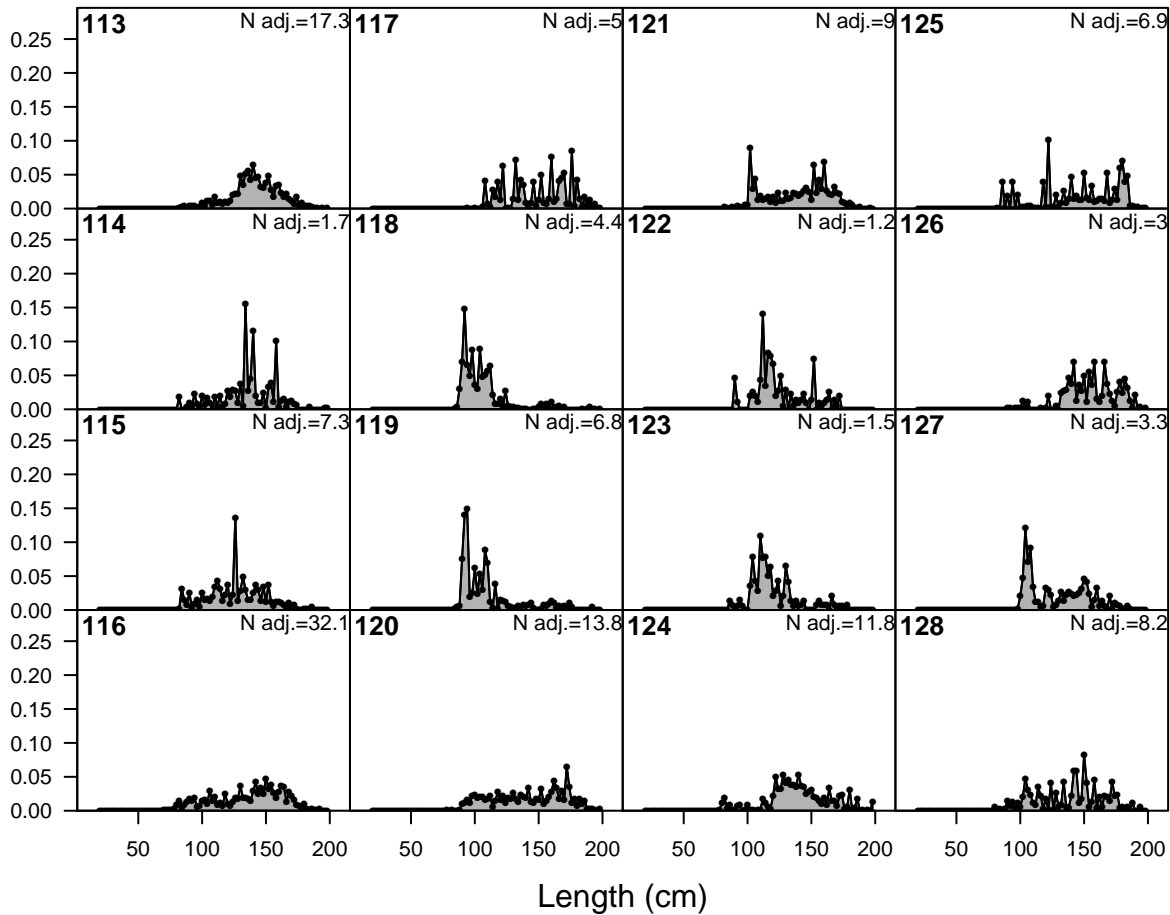
Proportion



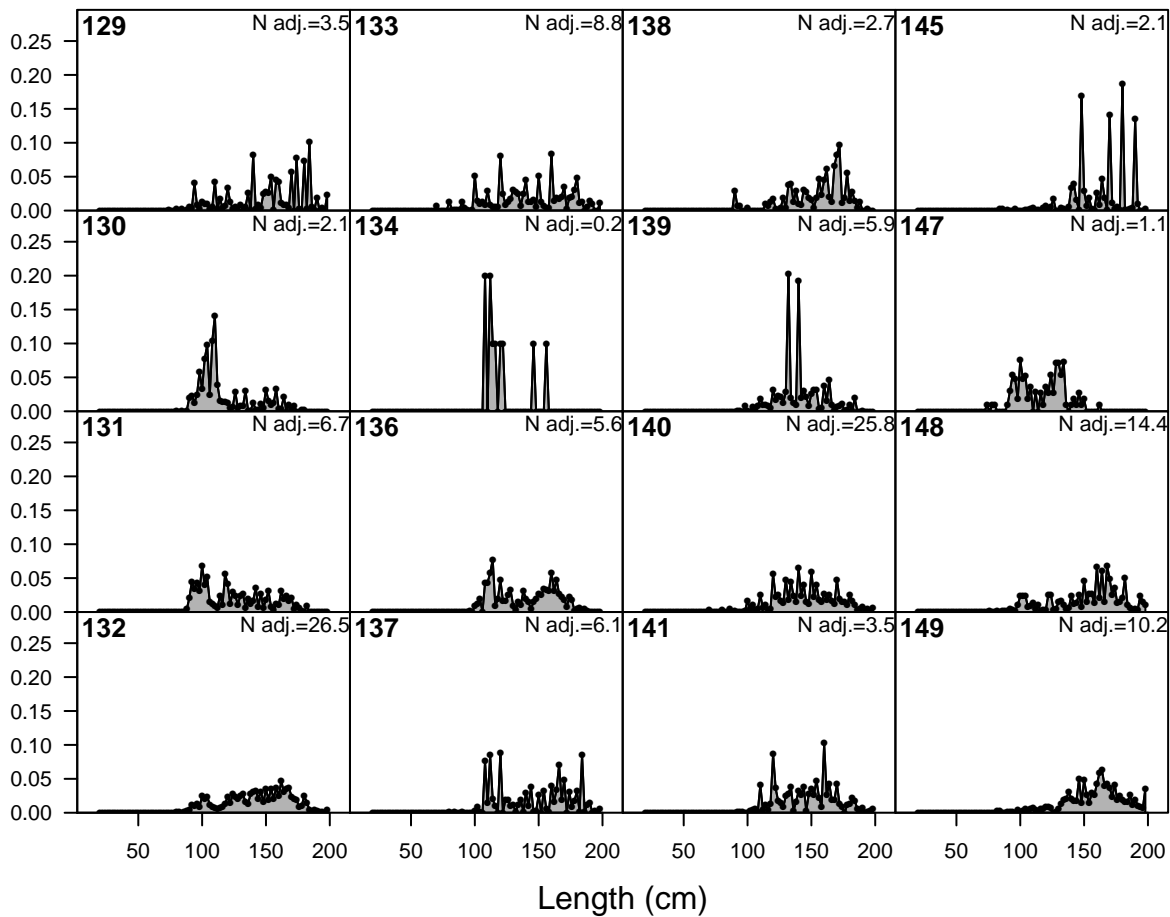
Proportion



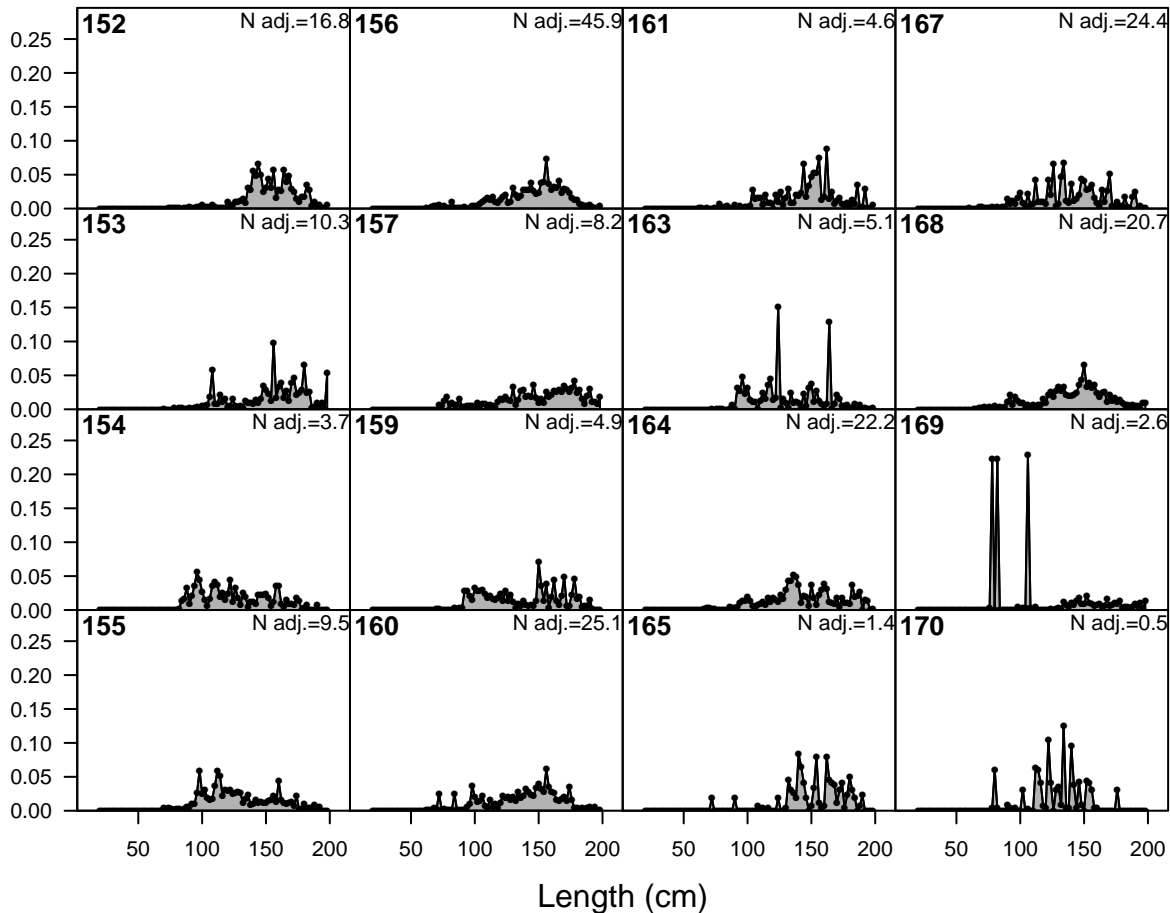
Proportion



Proportion

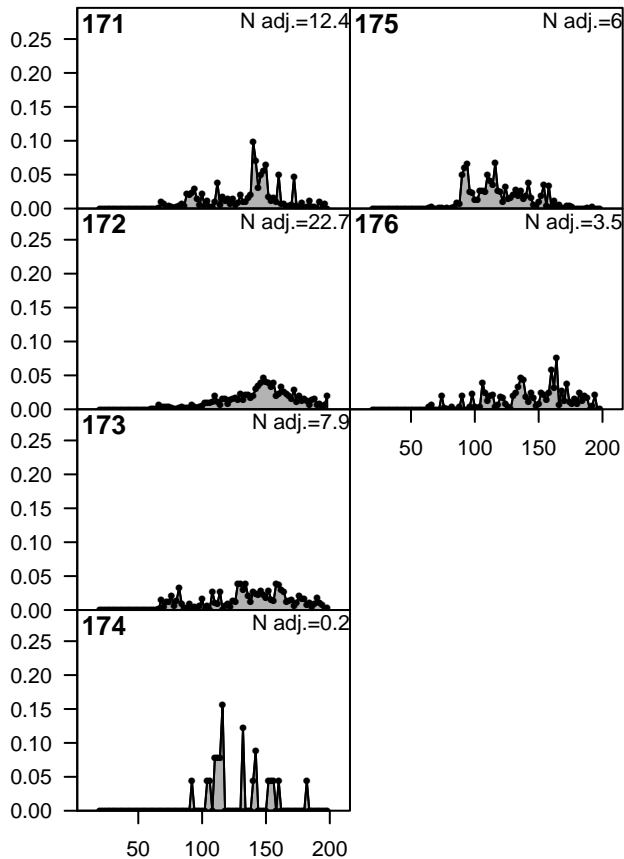


Proportion

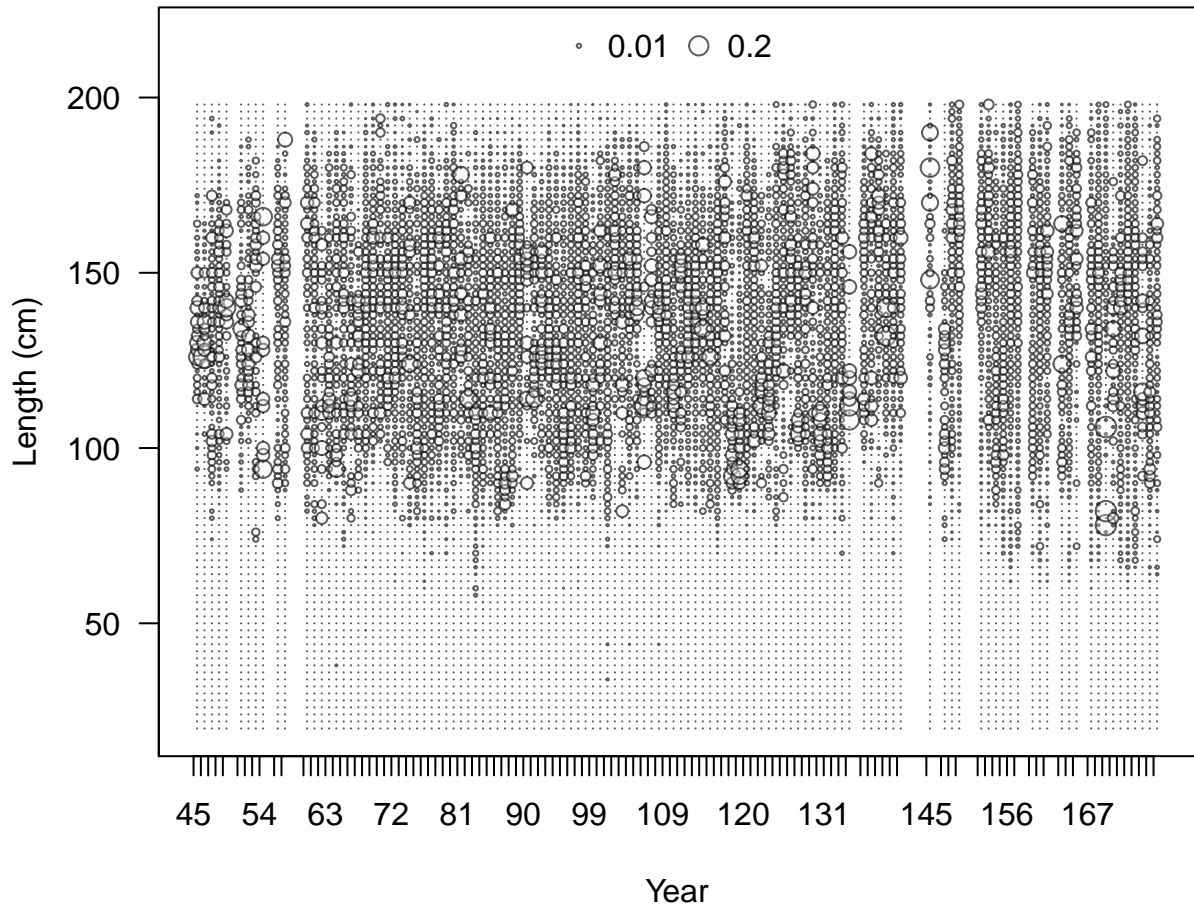




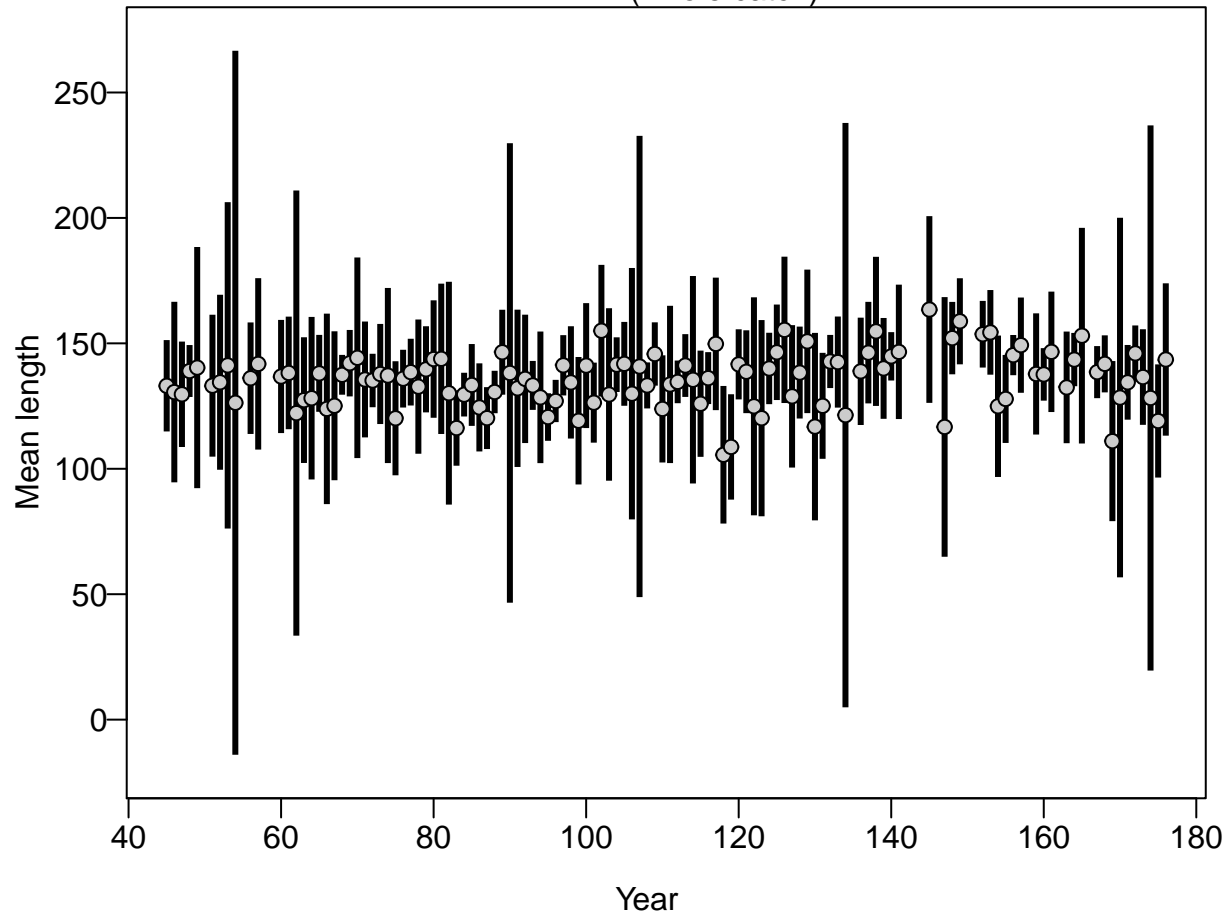
Proportion



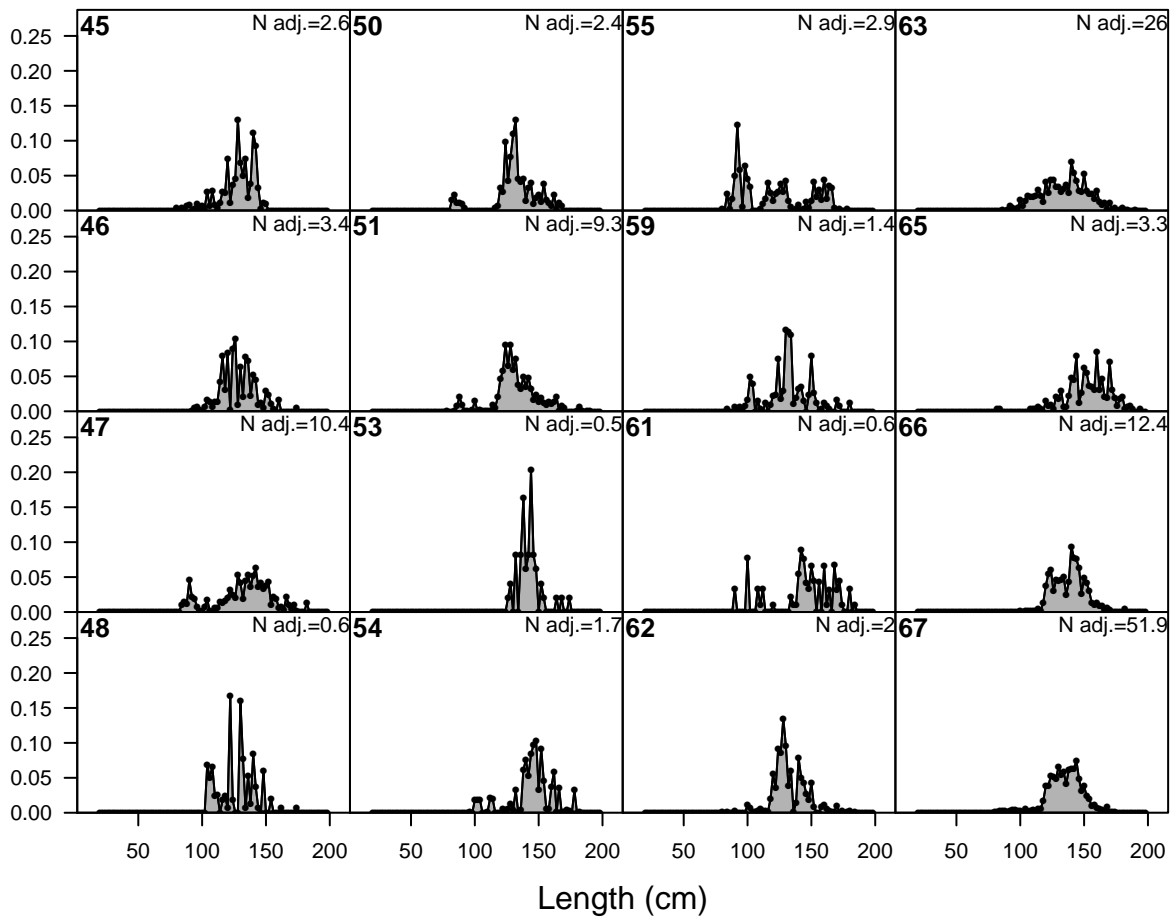
Length (cm)



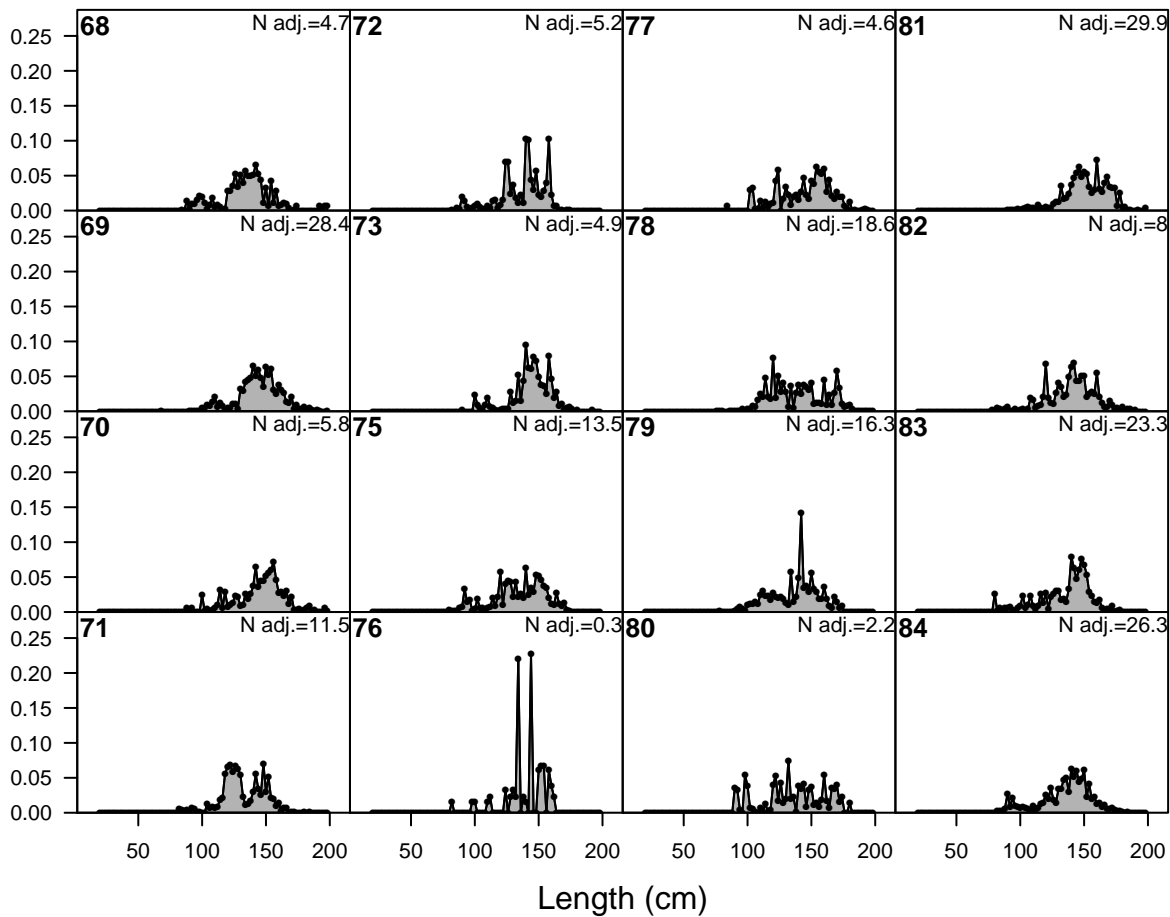
A4-LL-n (whole catch)



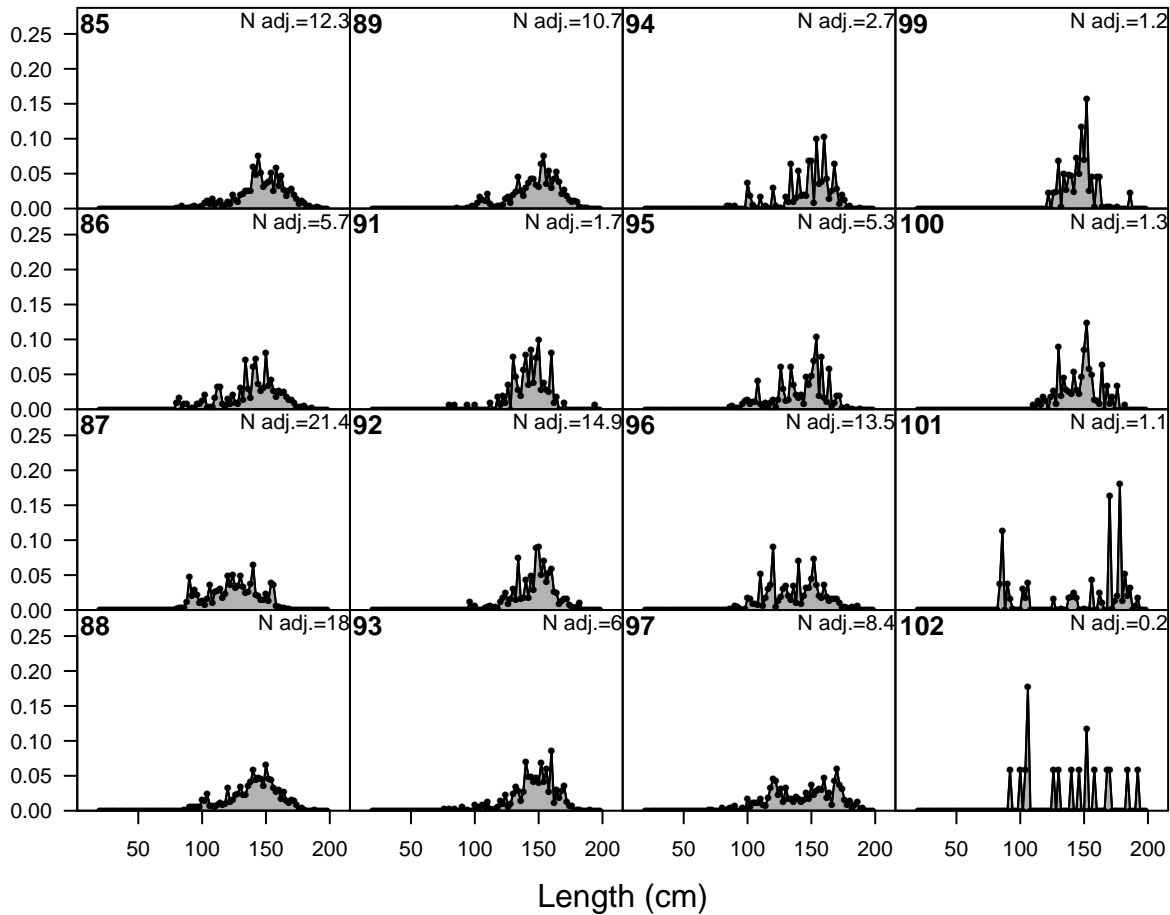
Proportion



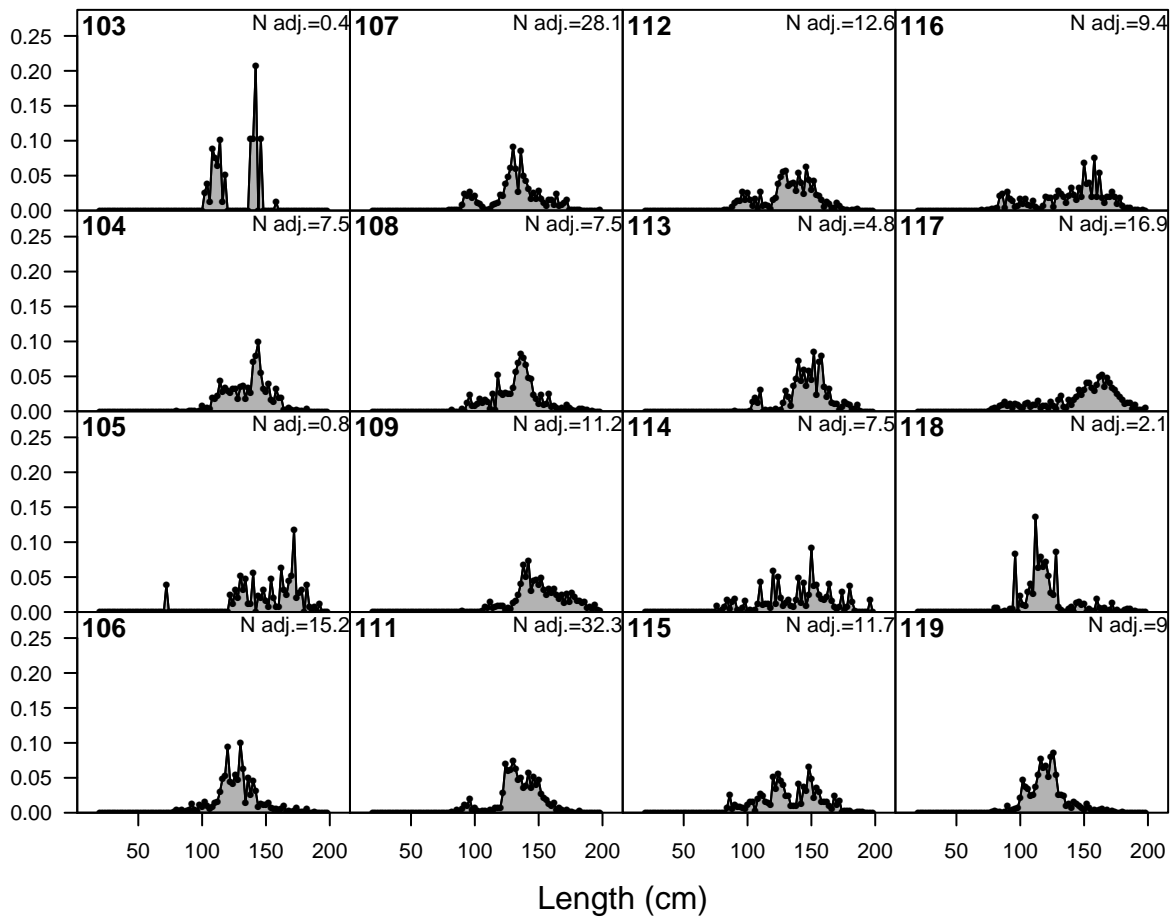
Proportion



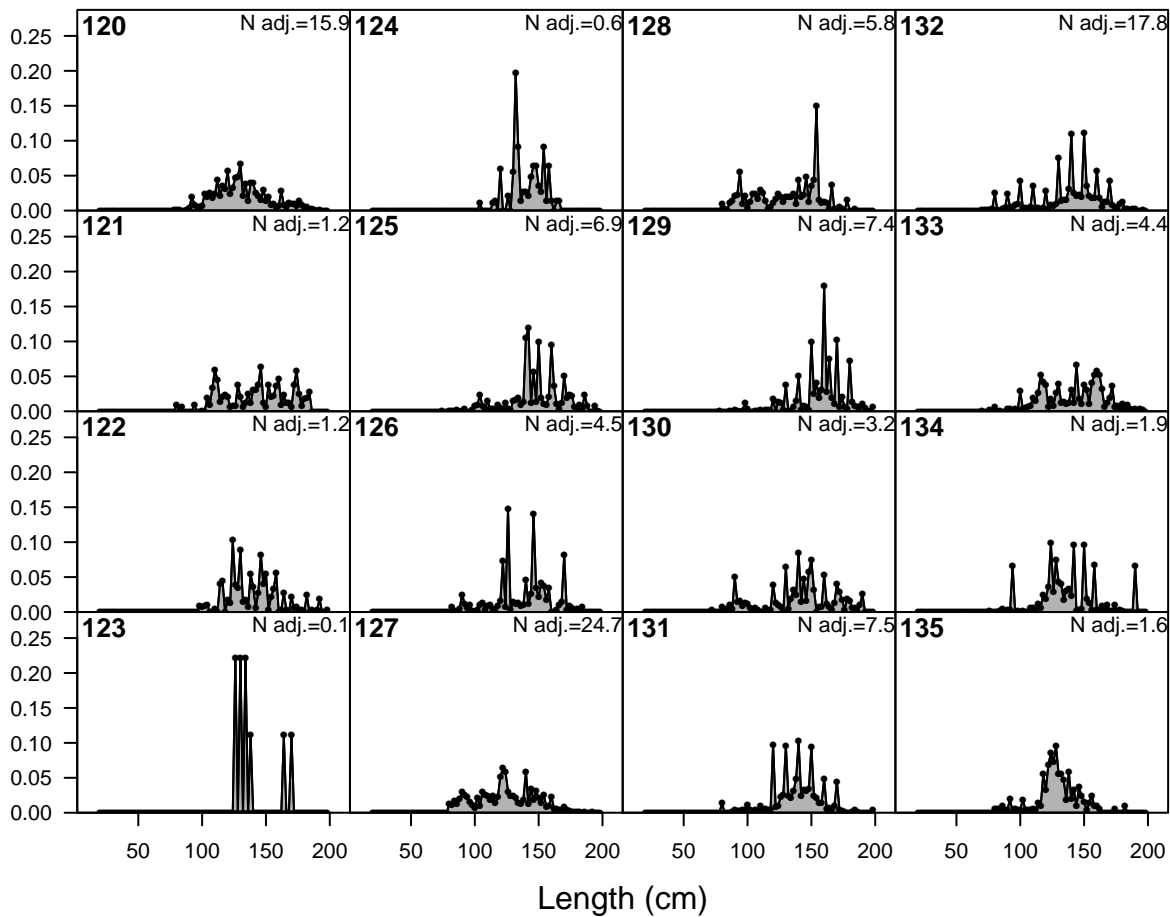
Proportion



Proportion

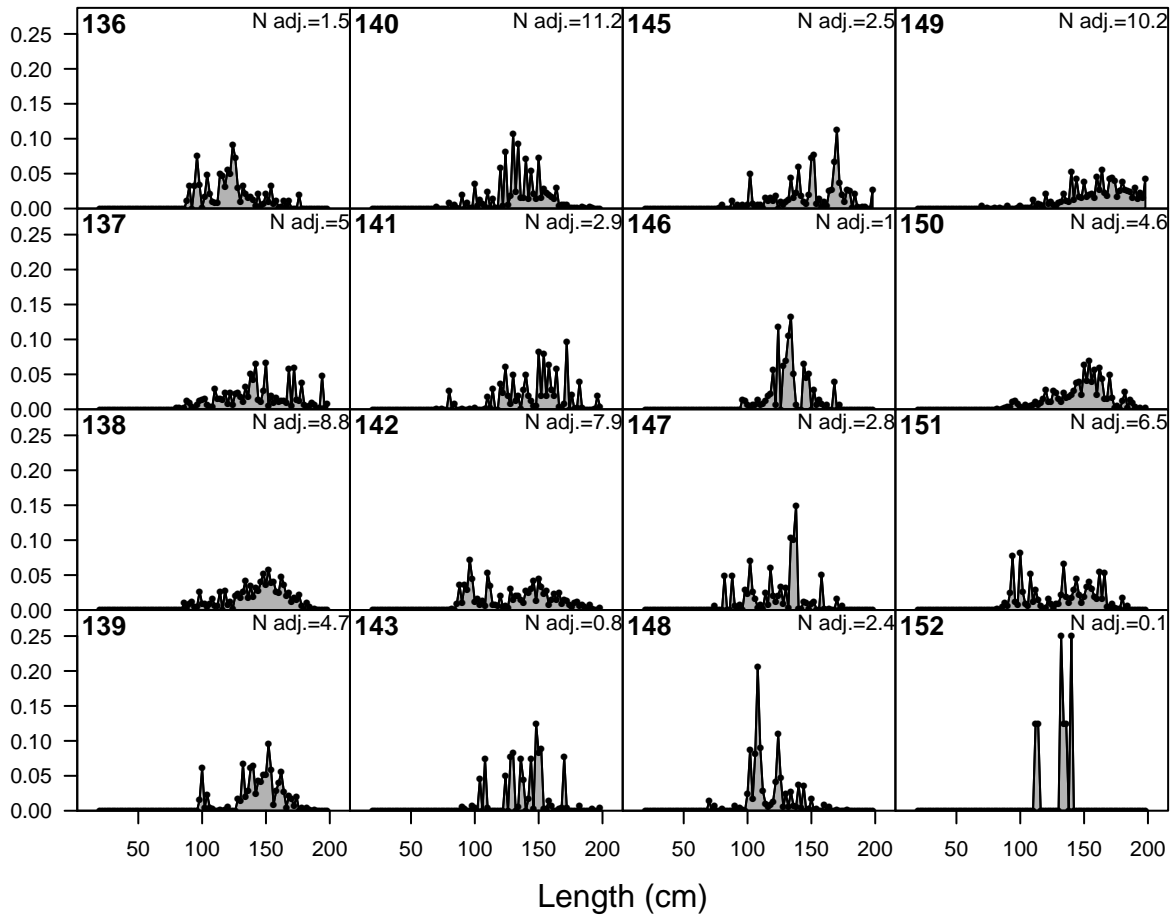


Proportion

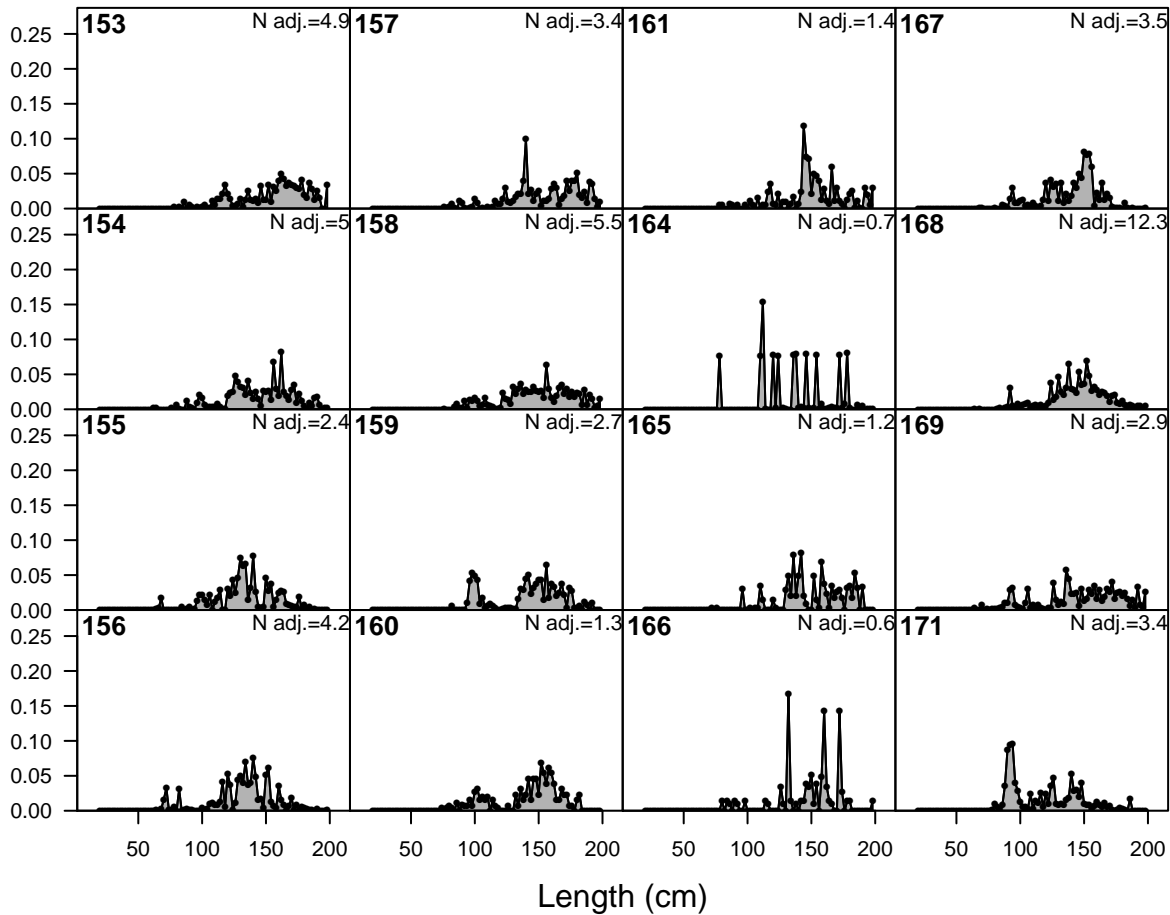


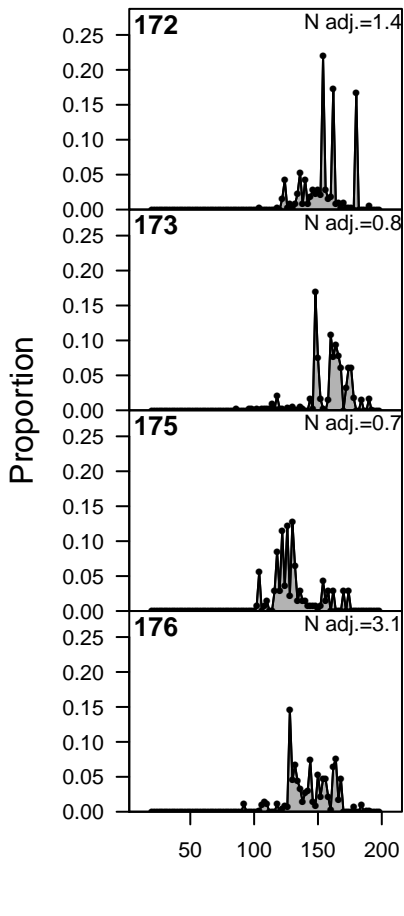


Proportion

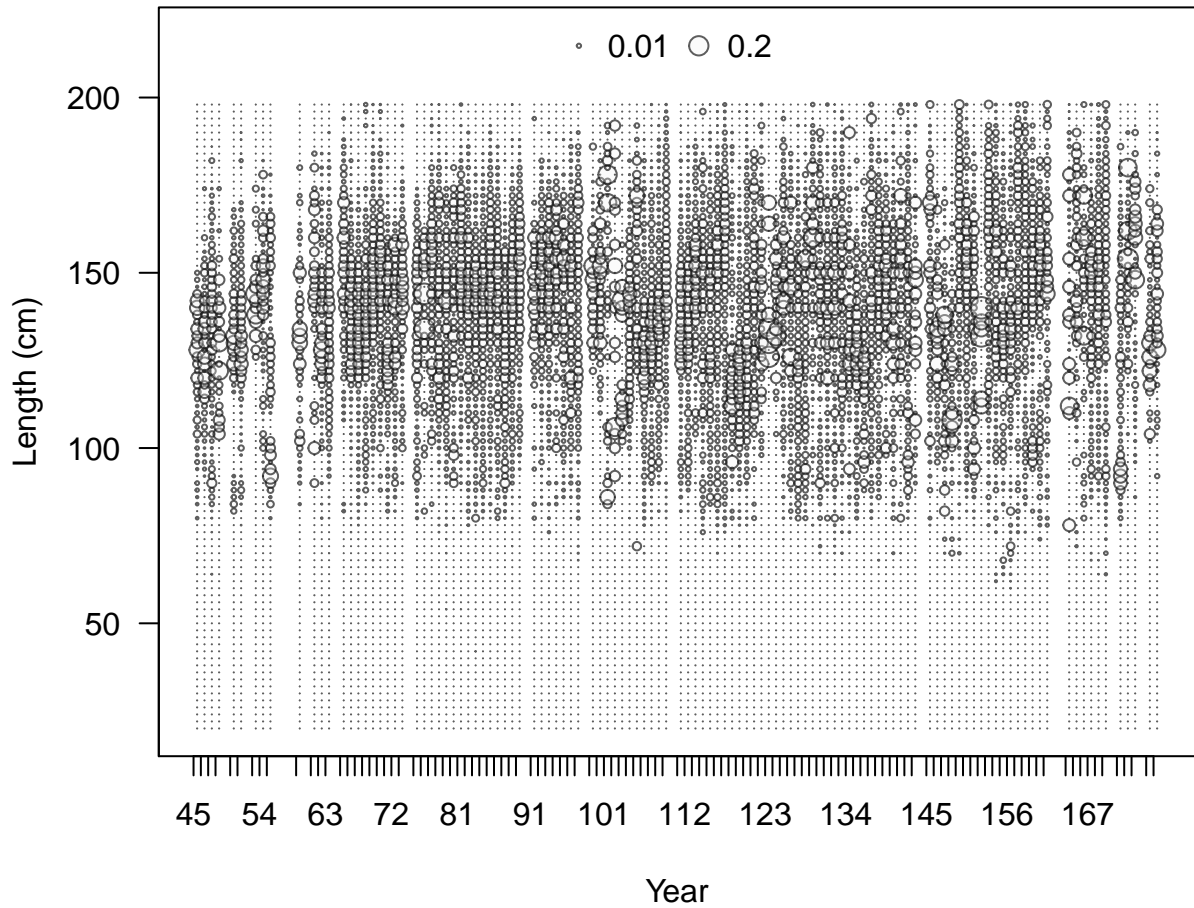


Proportion

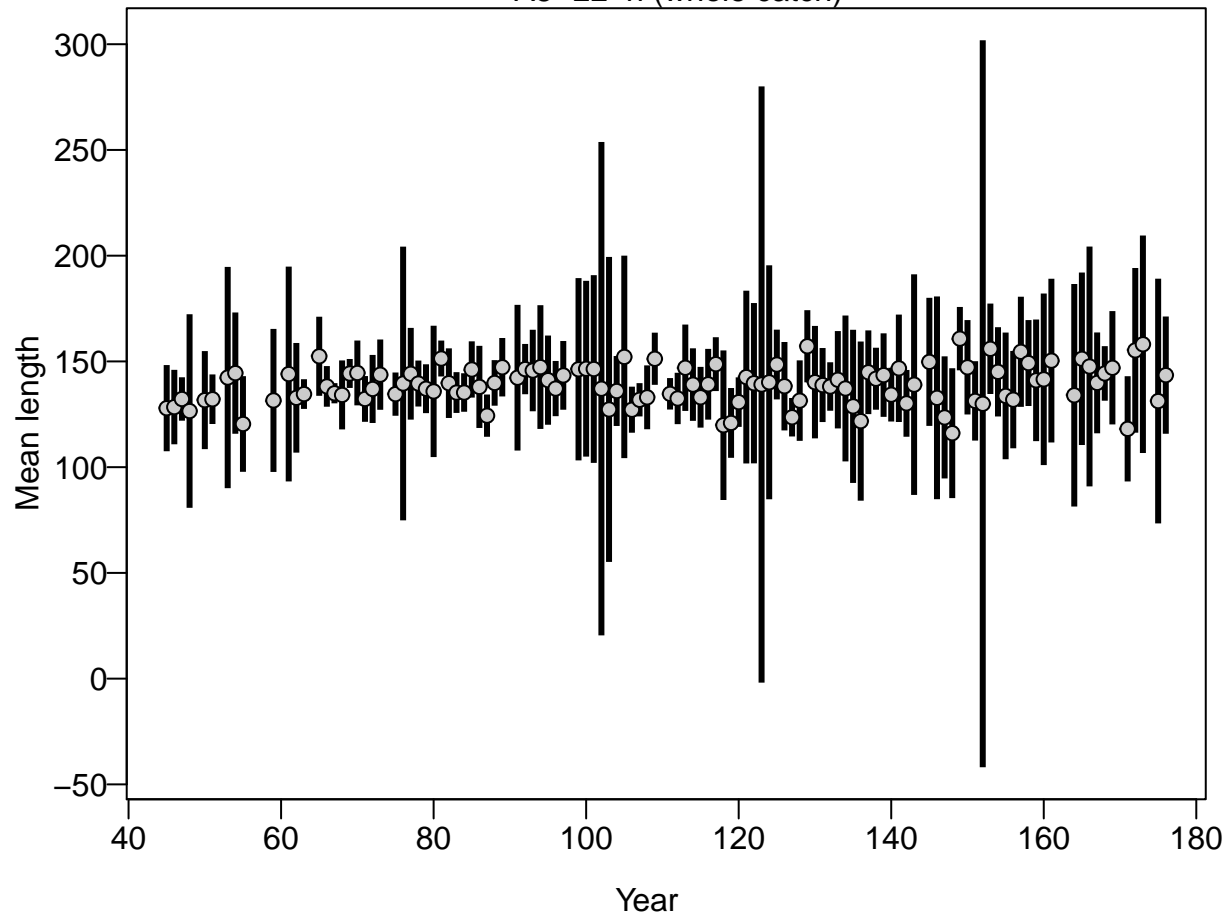


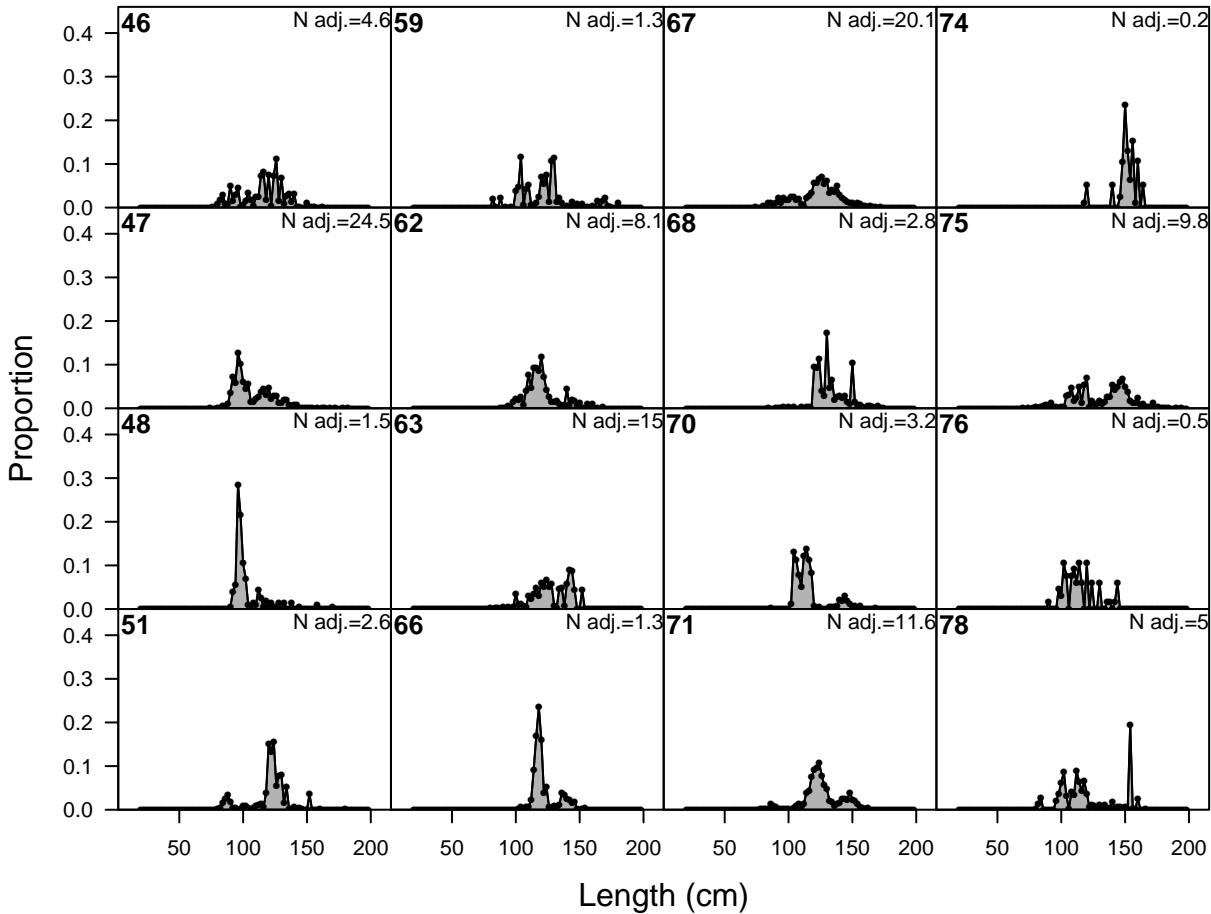


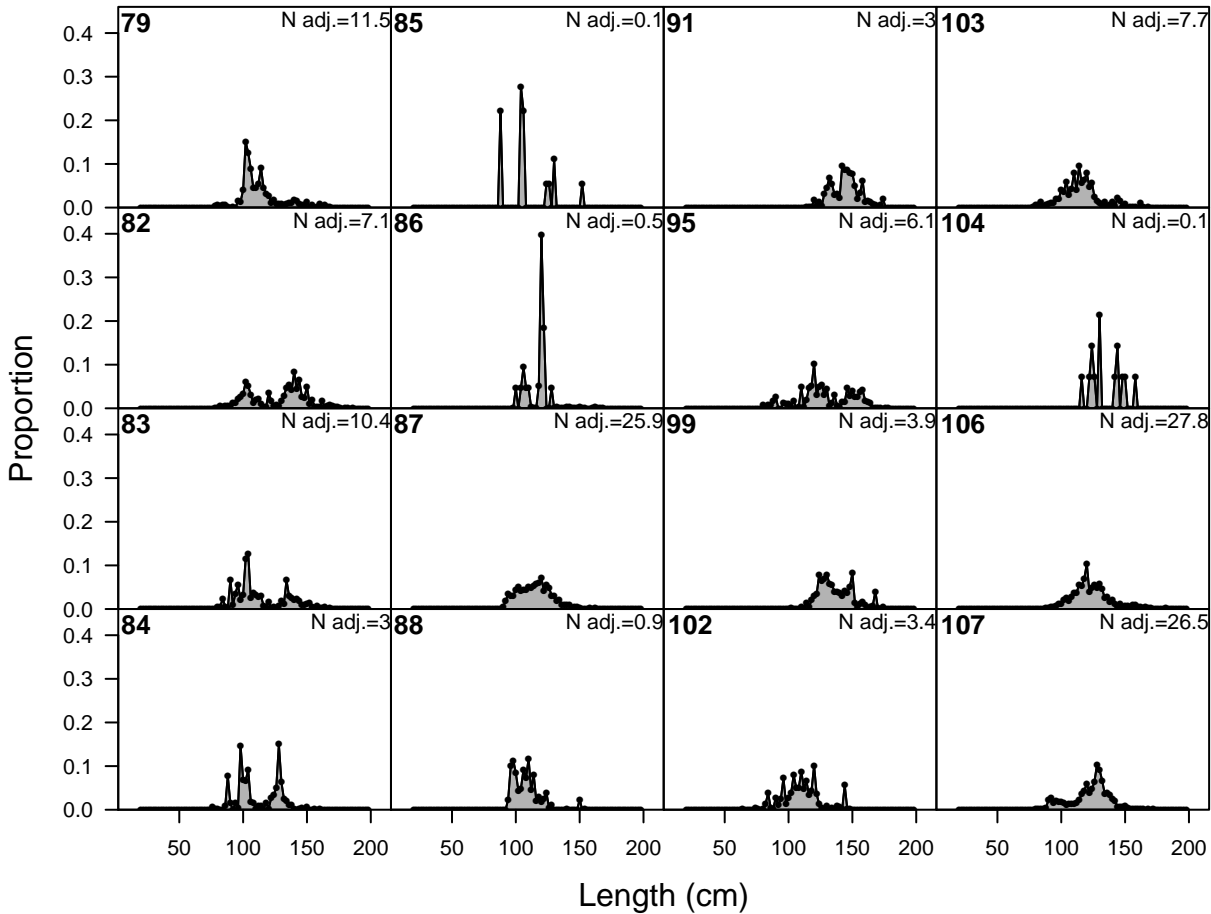
Length (cm)

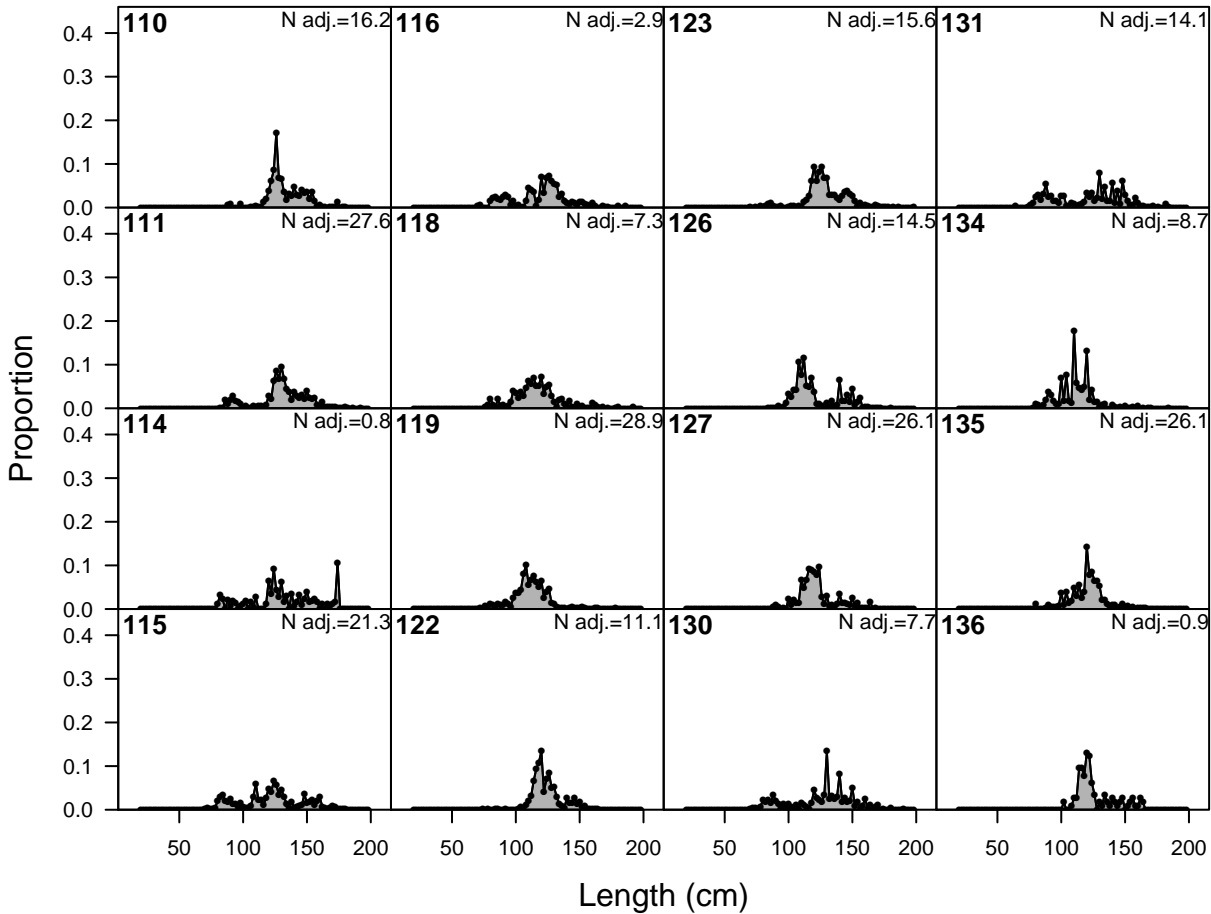


A5-LL-n (whole catch)

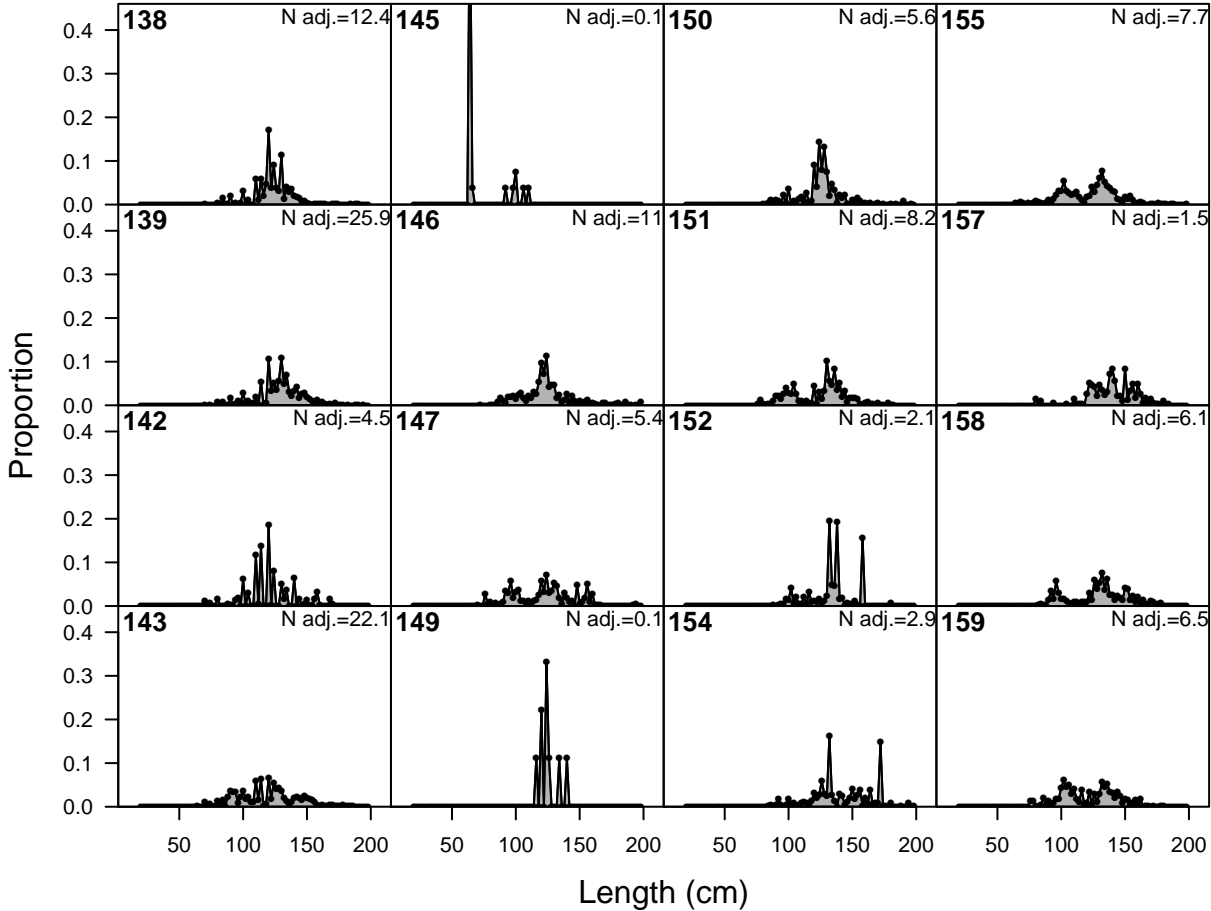


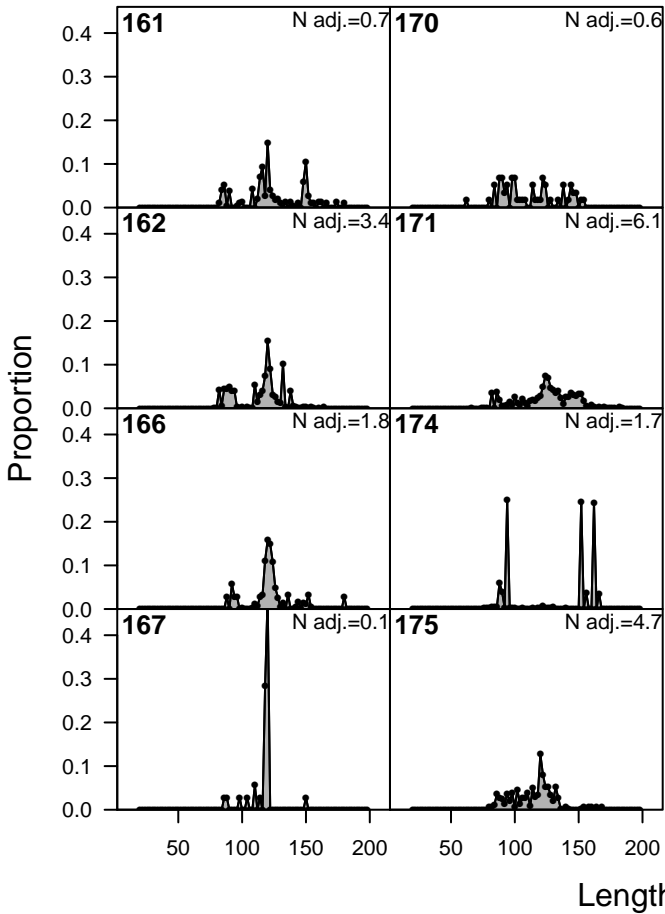


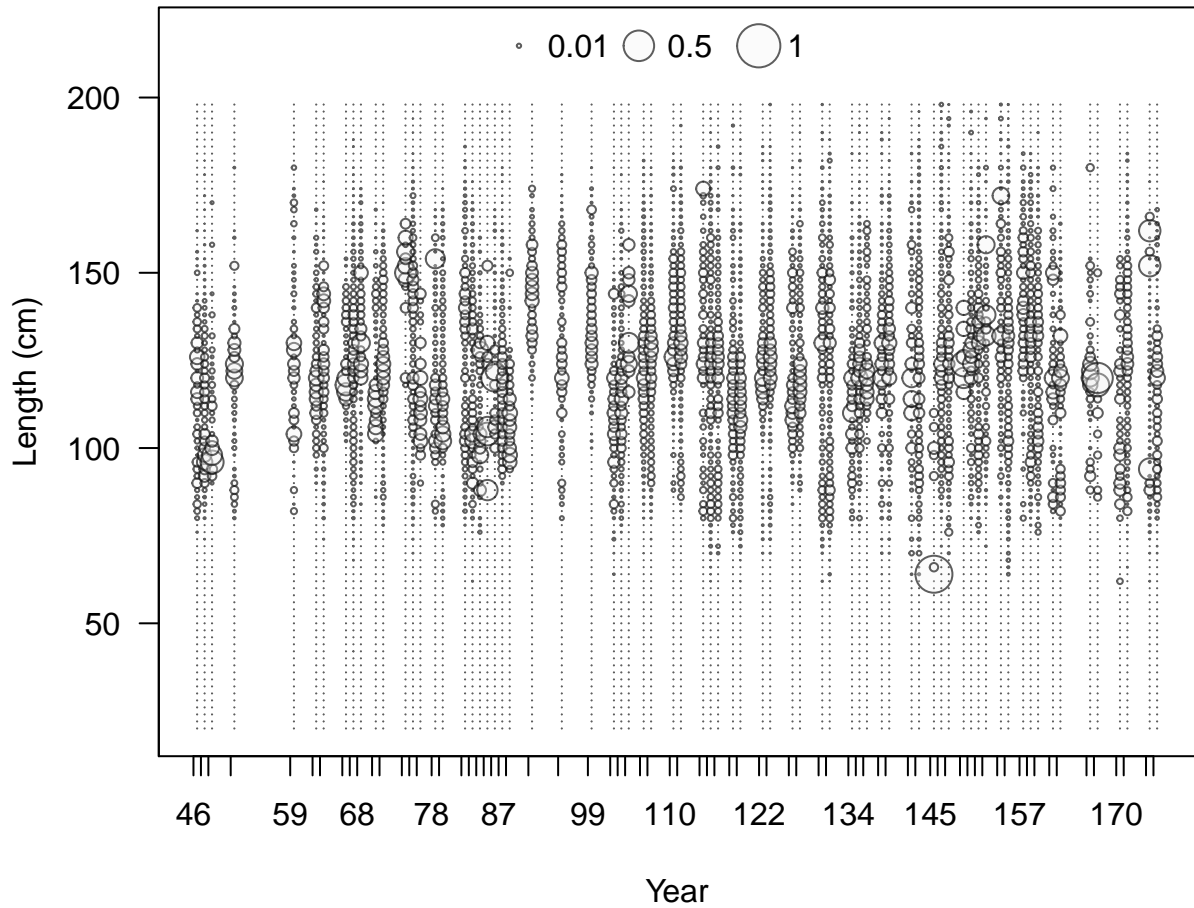




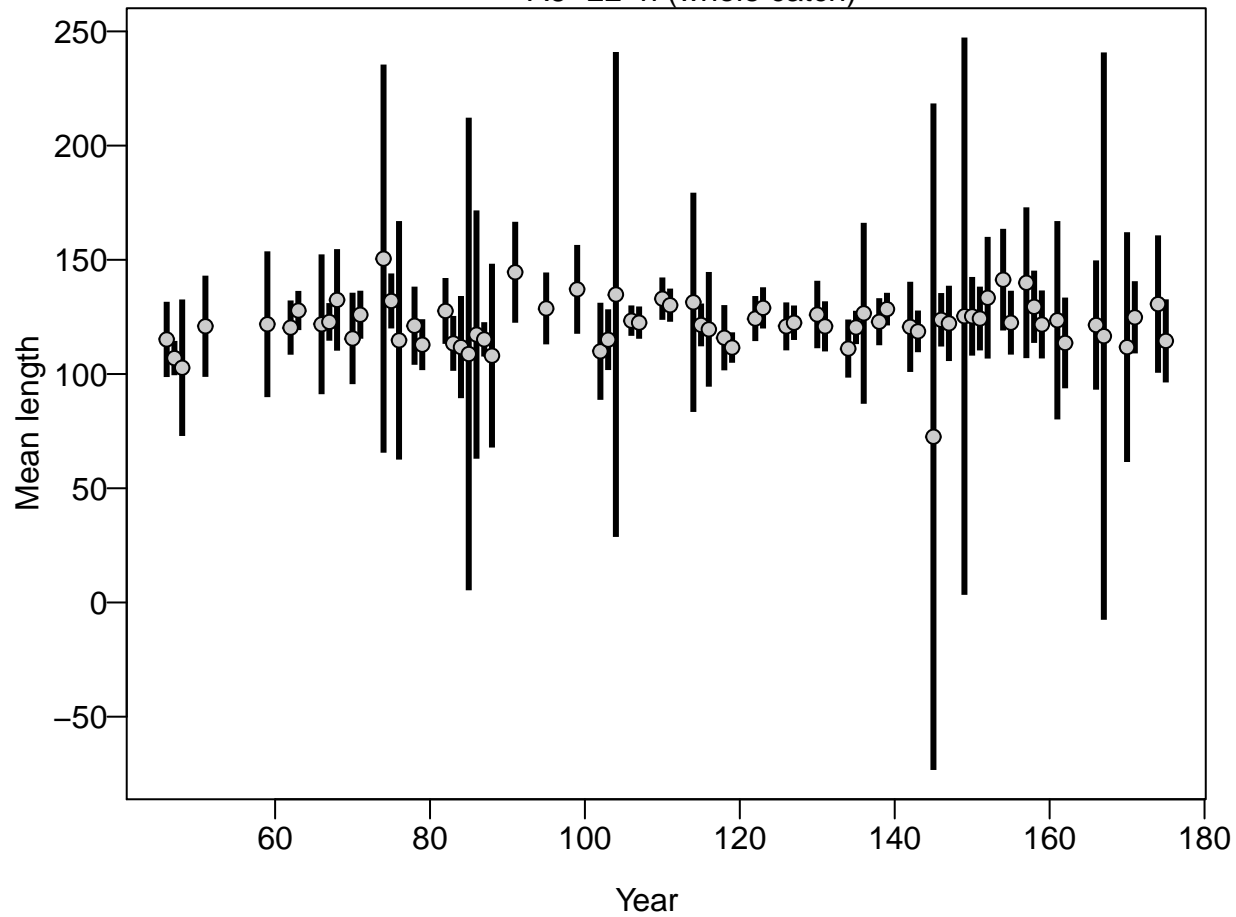


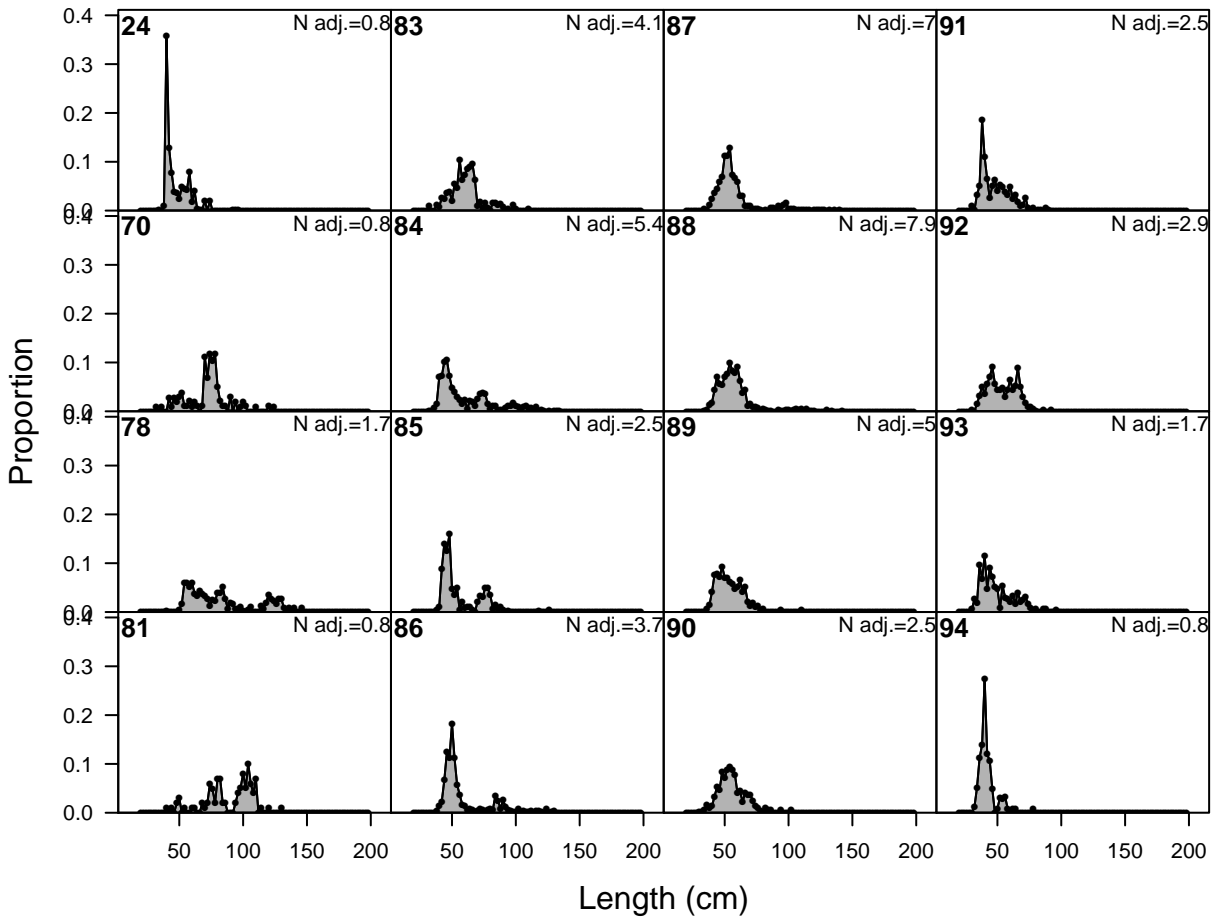


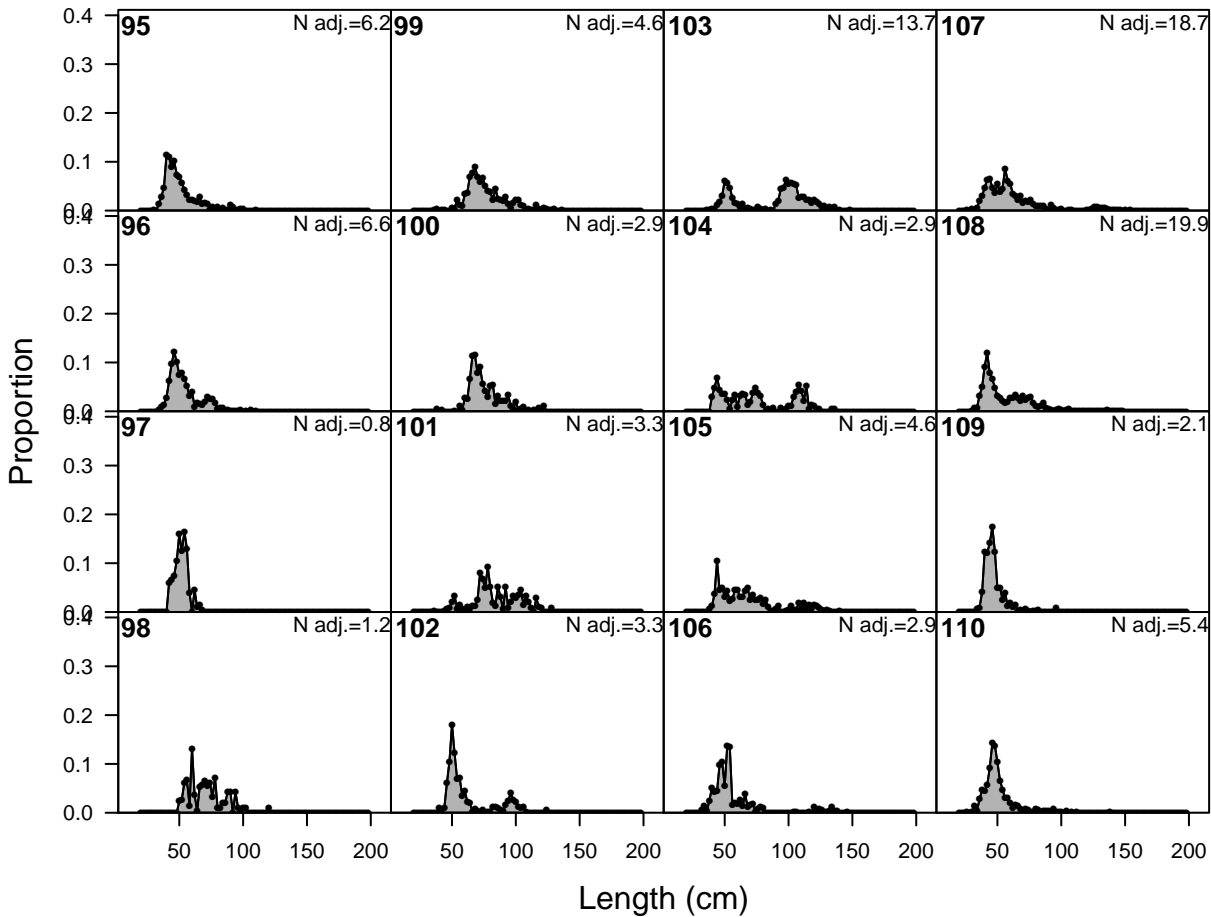


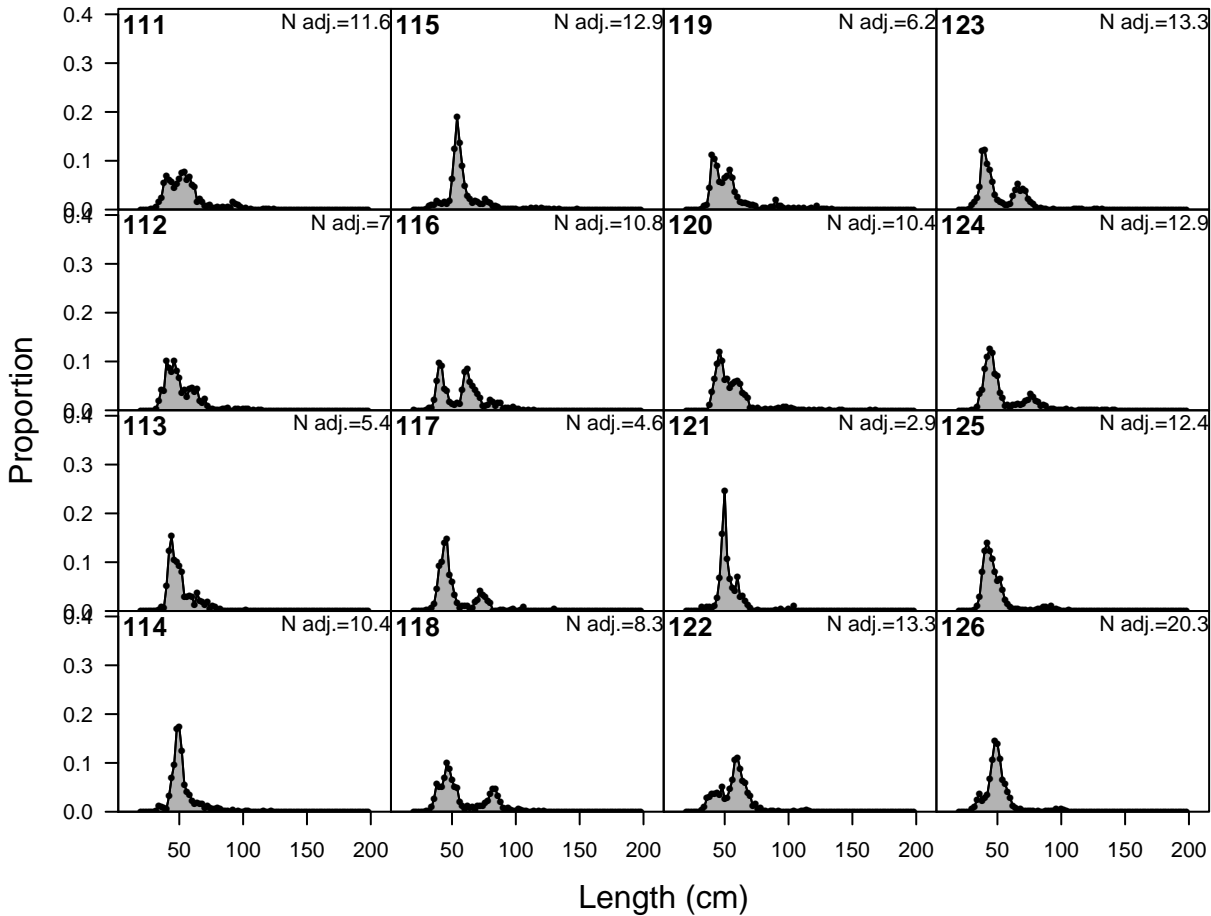


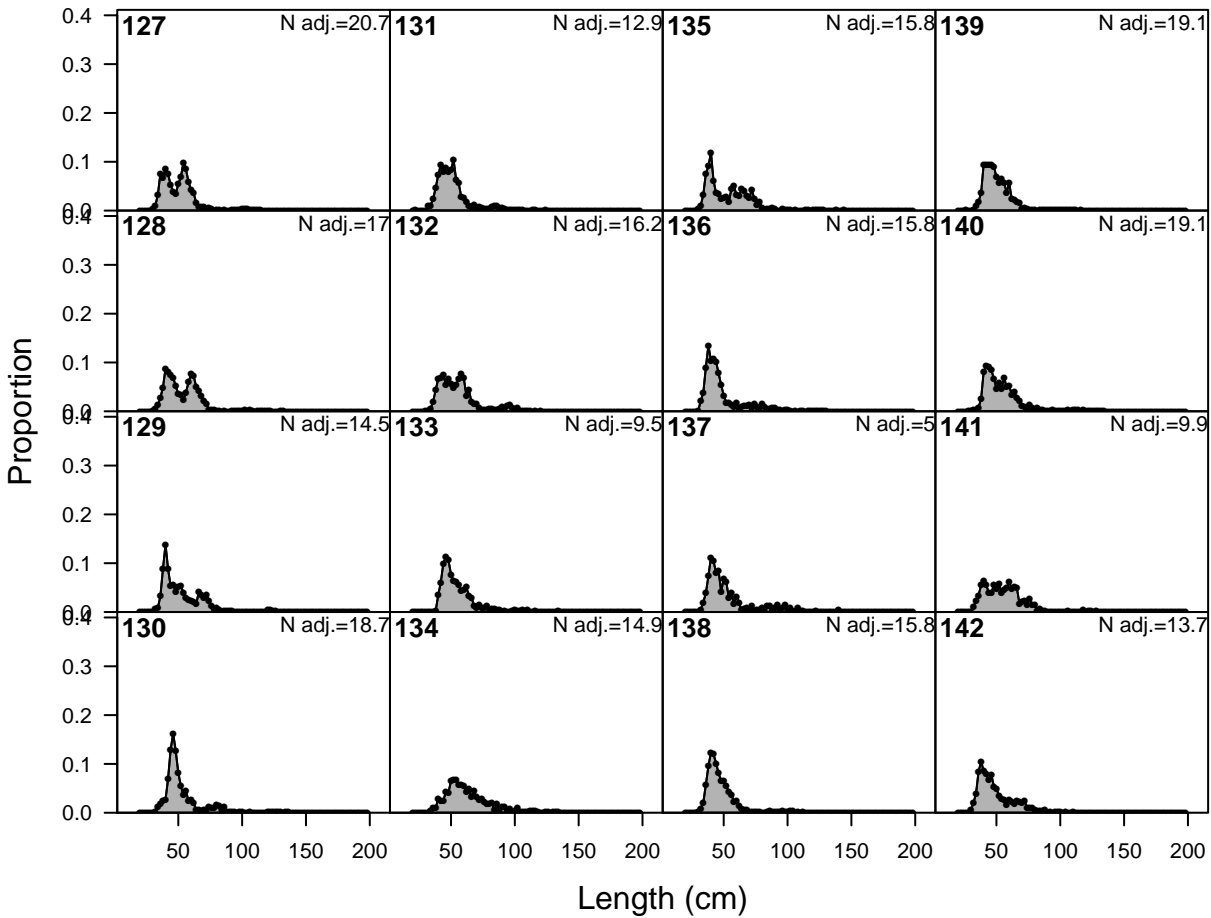
A6-LL-n (whole catch)



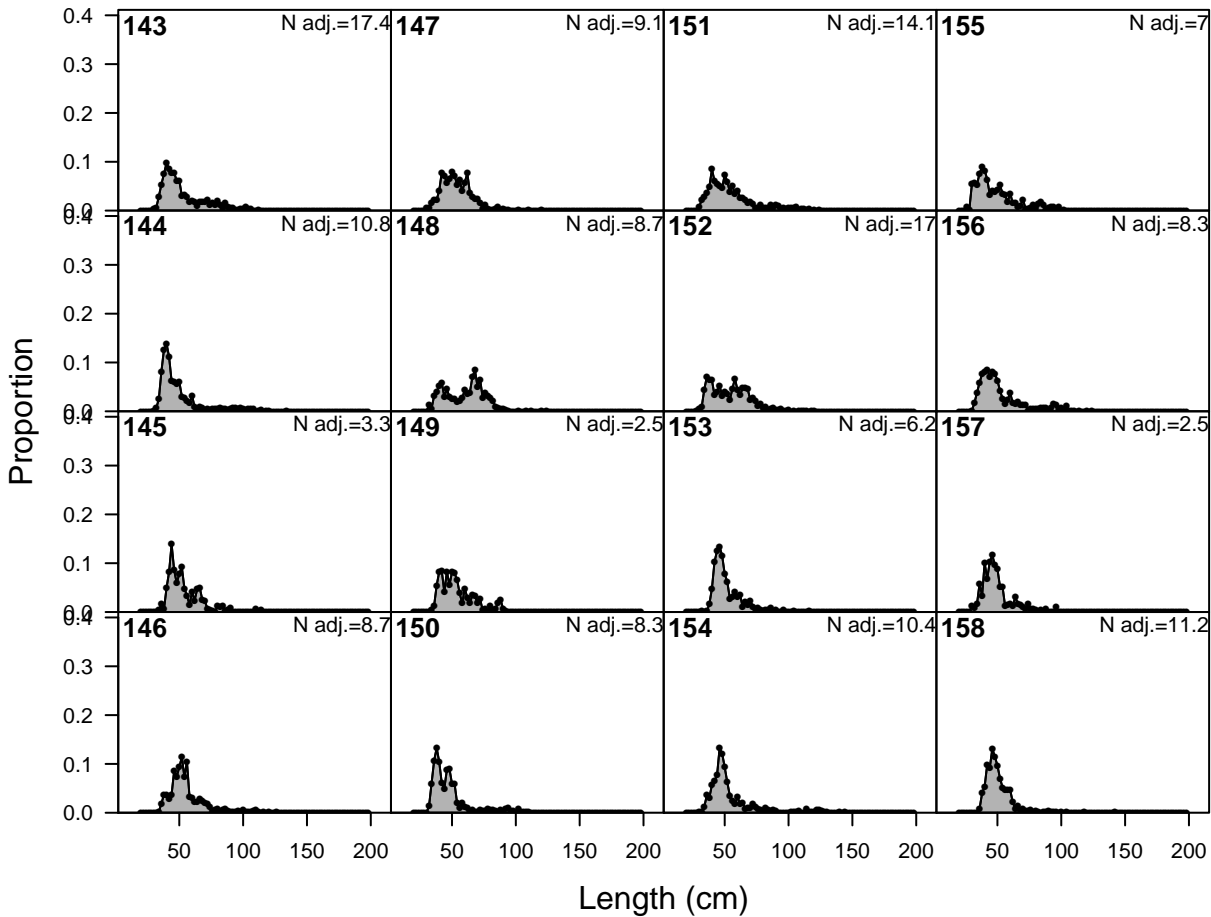


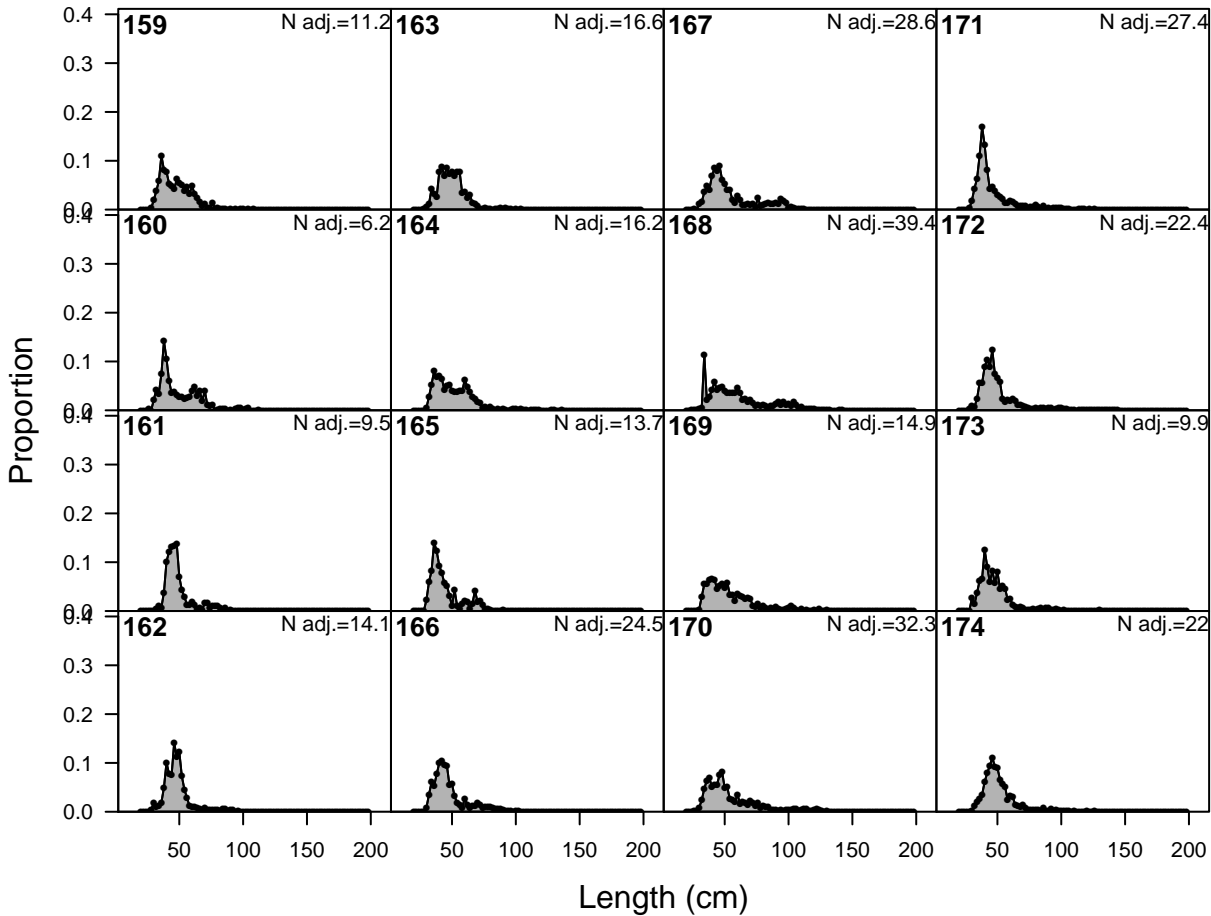


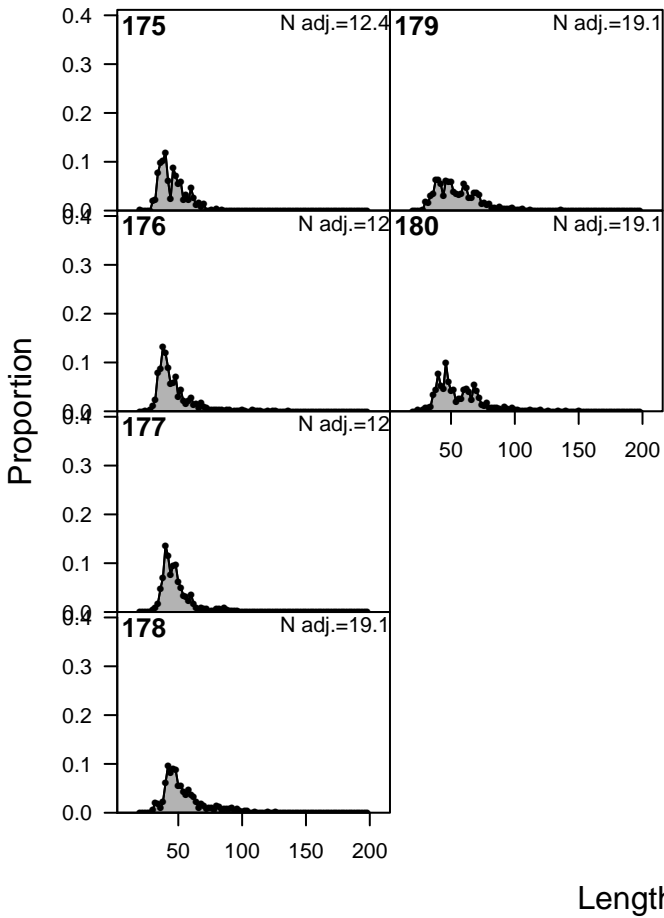


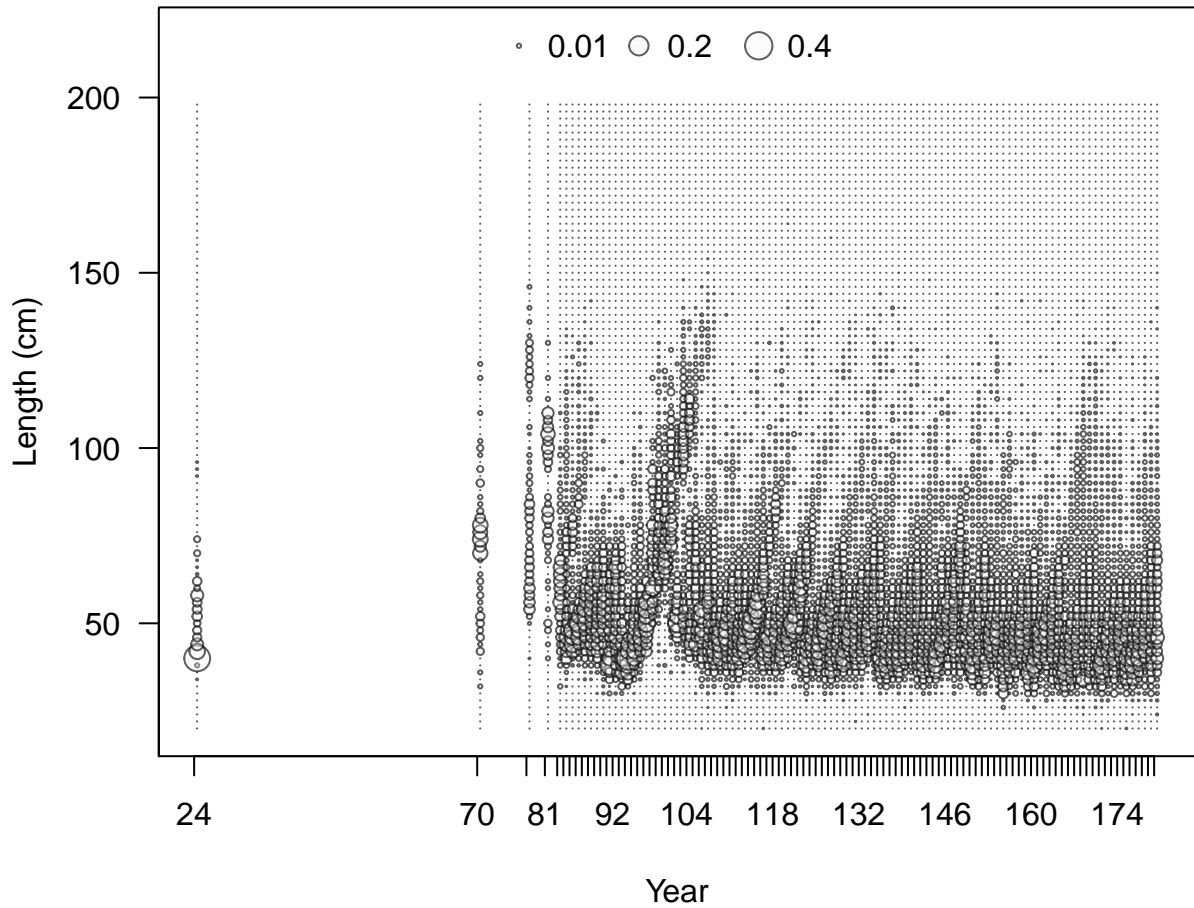




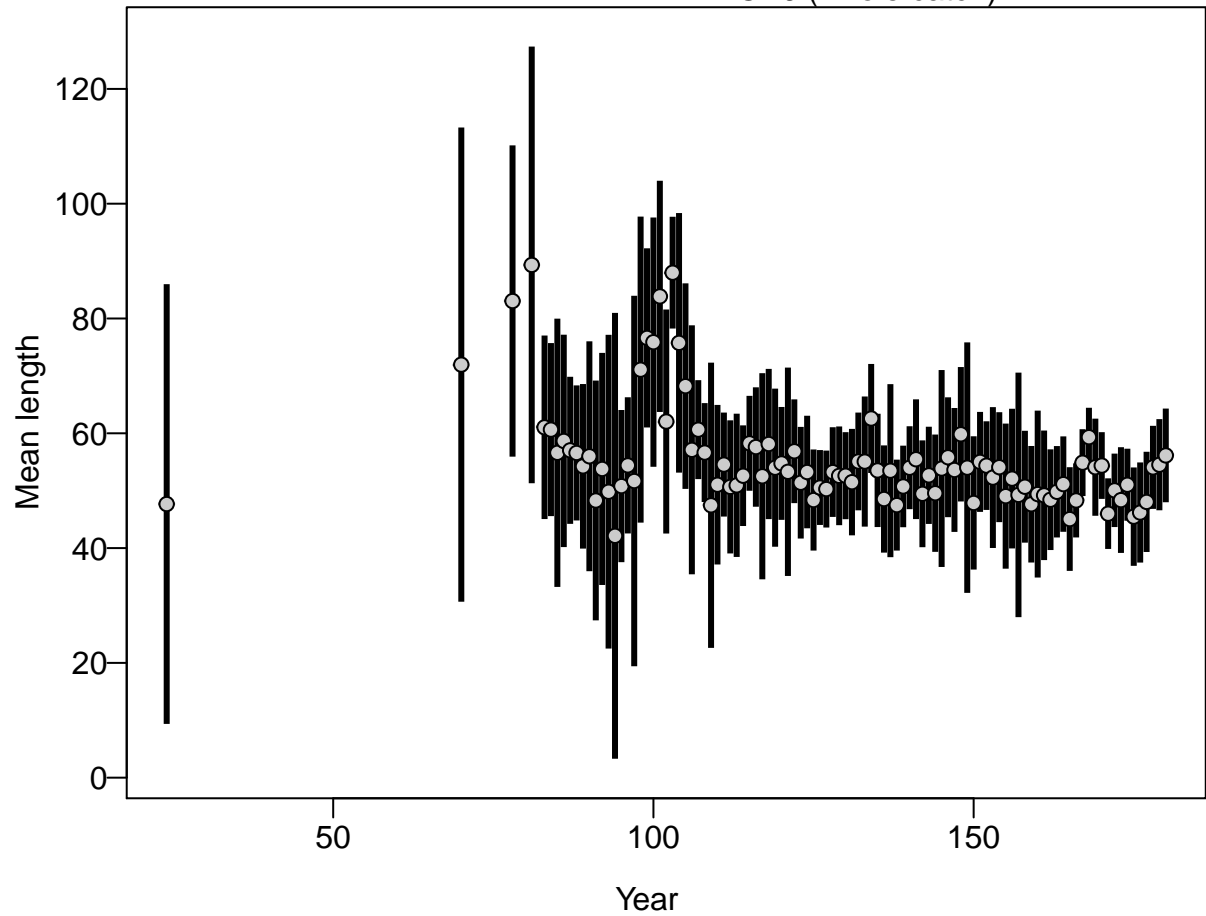


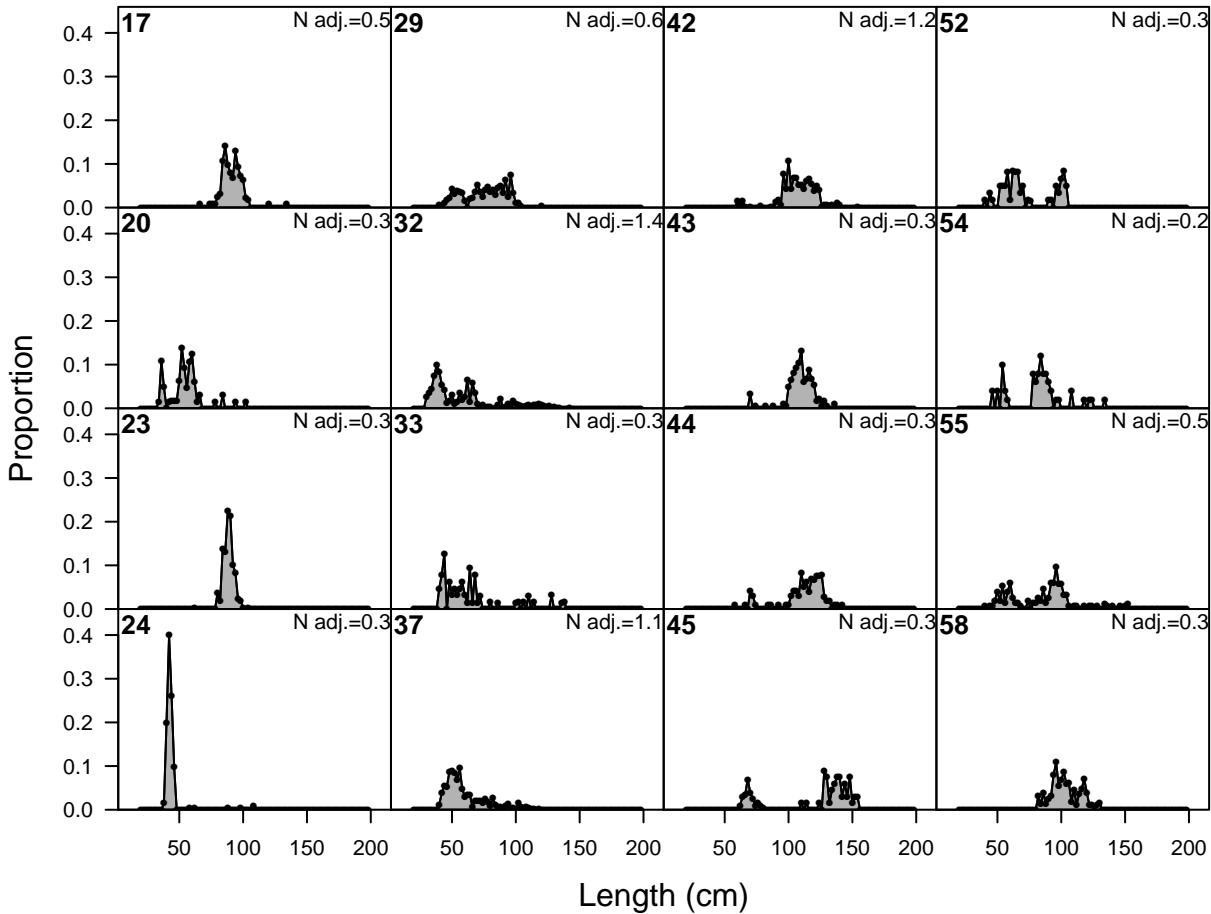


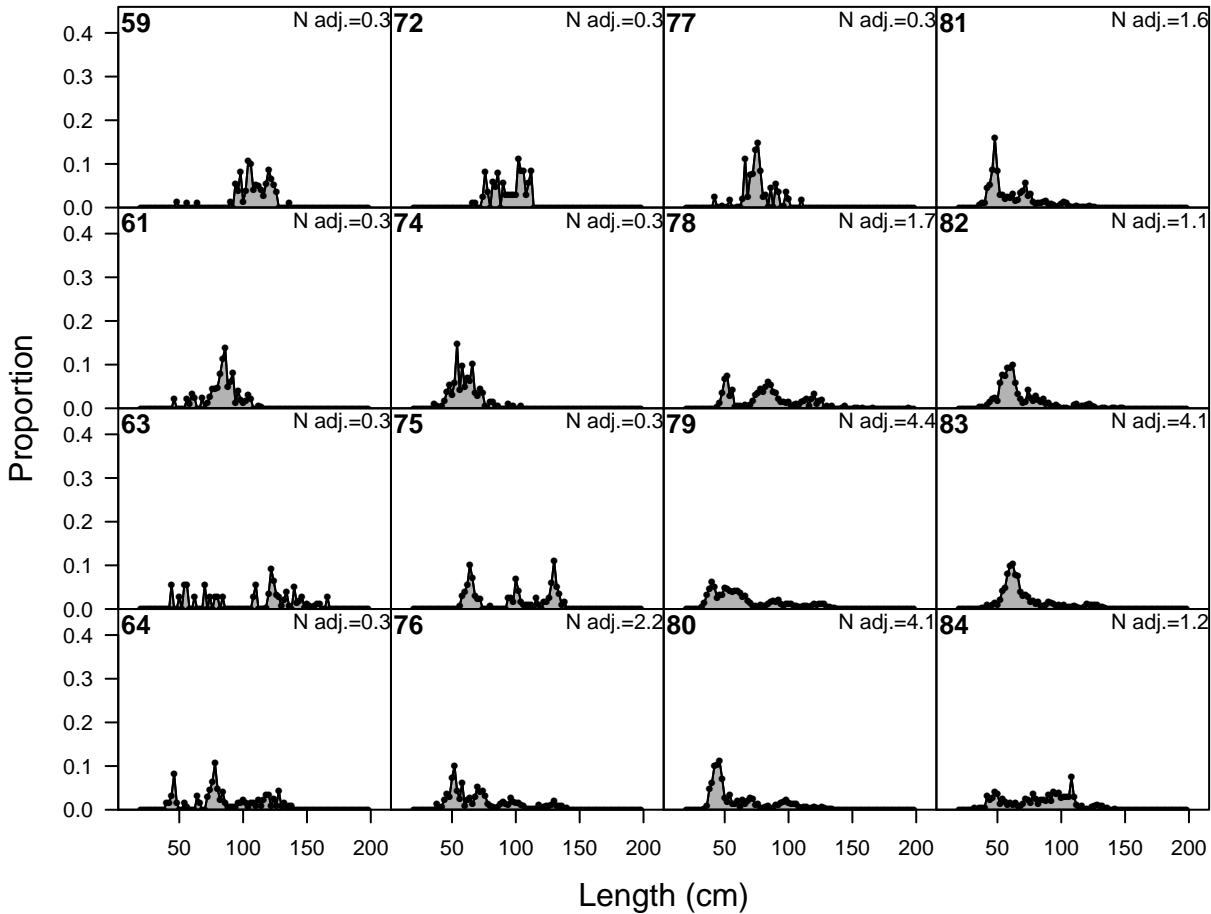


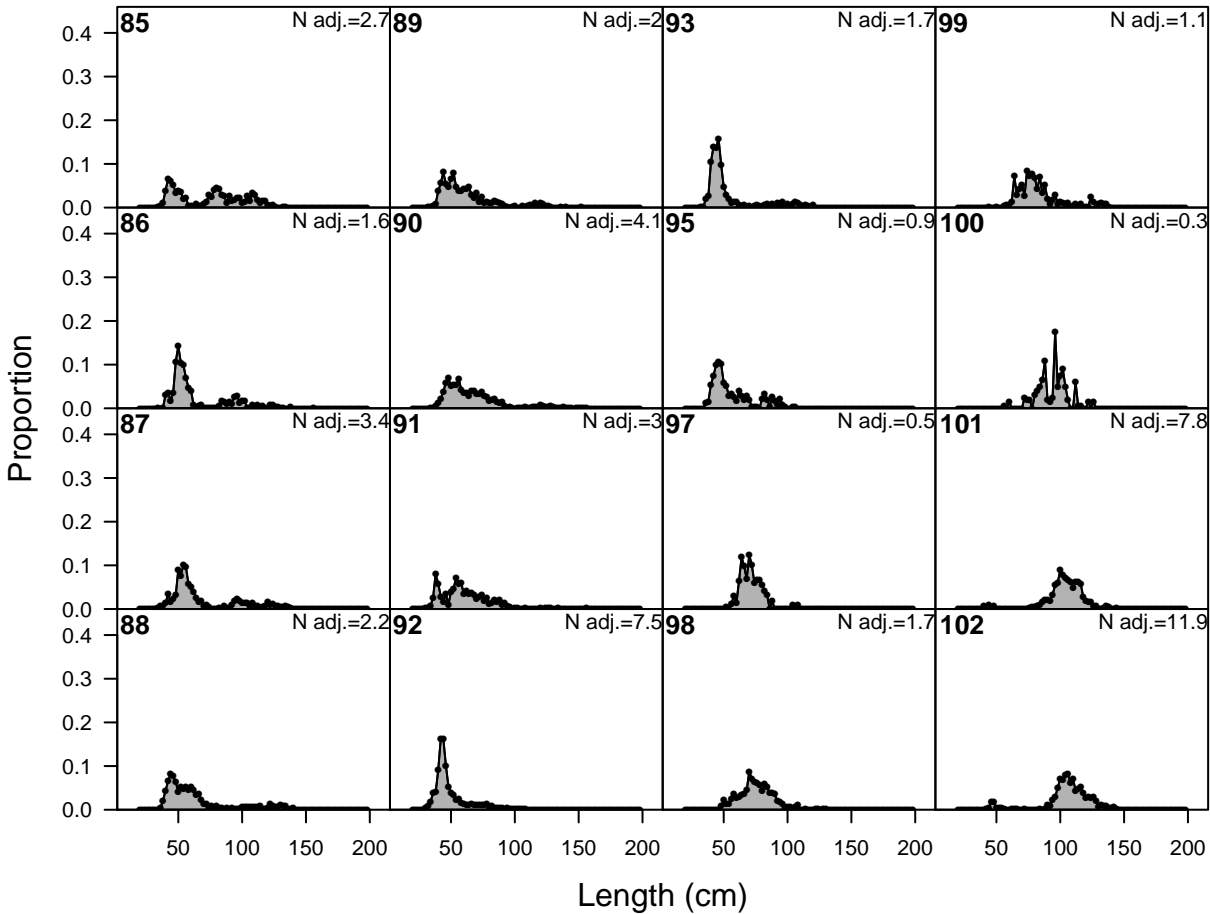


## A2-OBJ (whole catch)

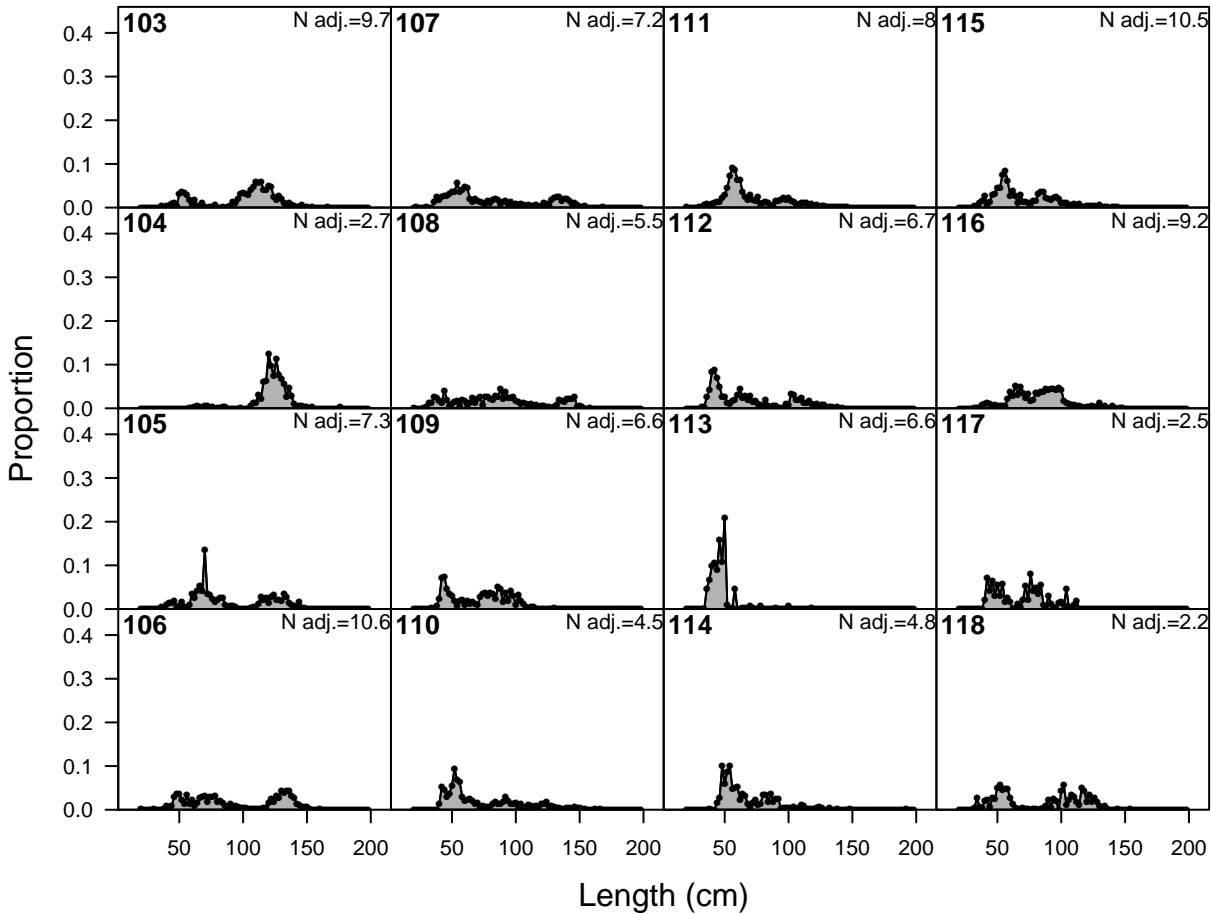


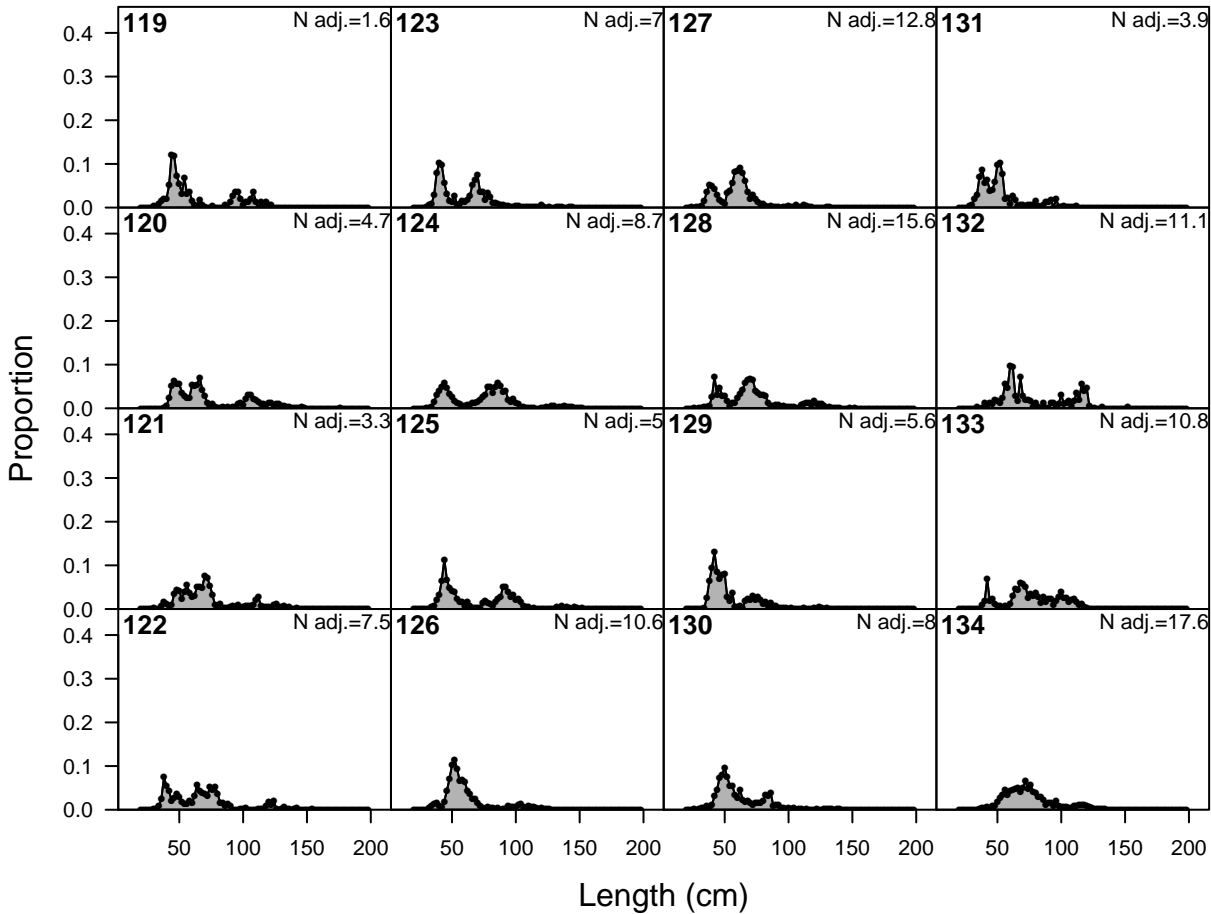


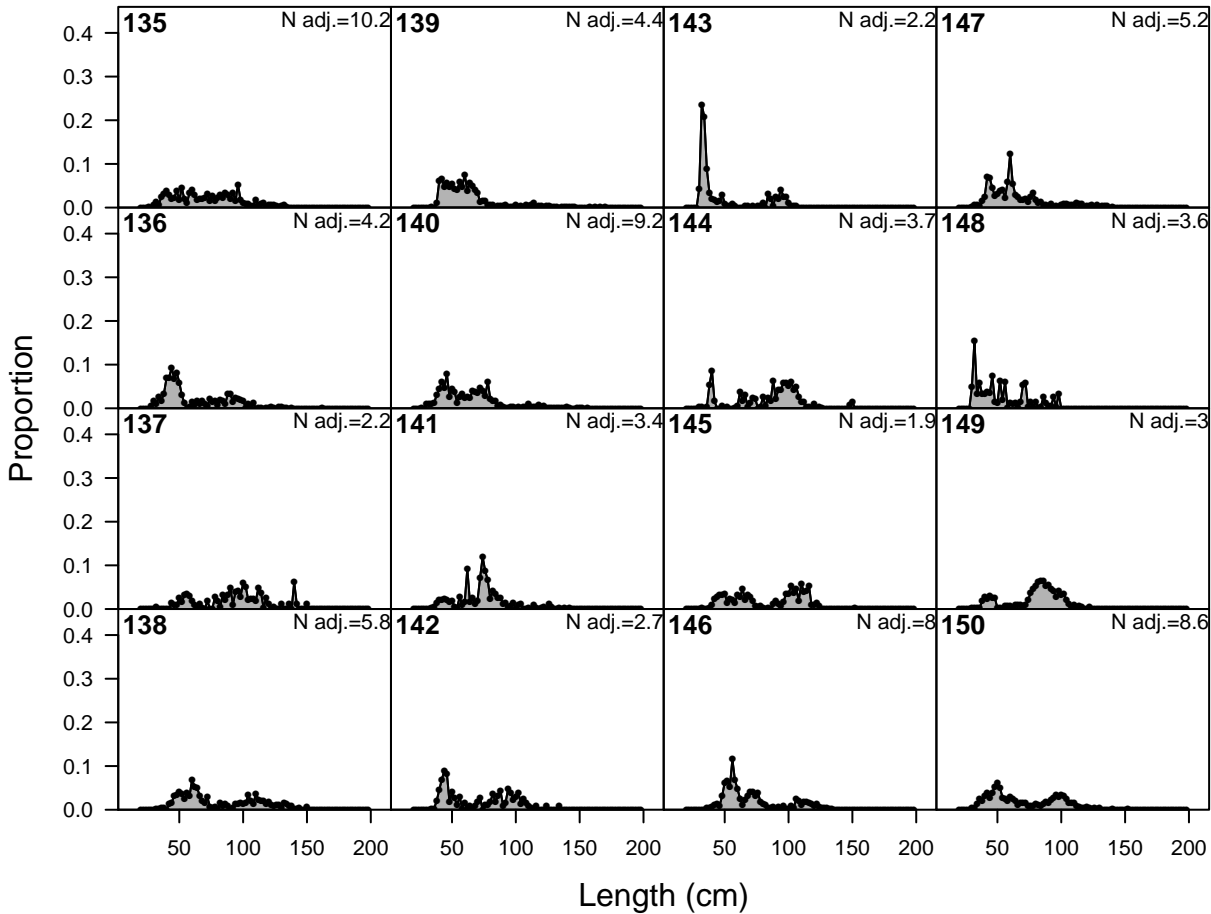


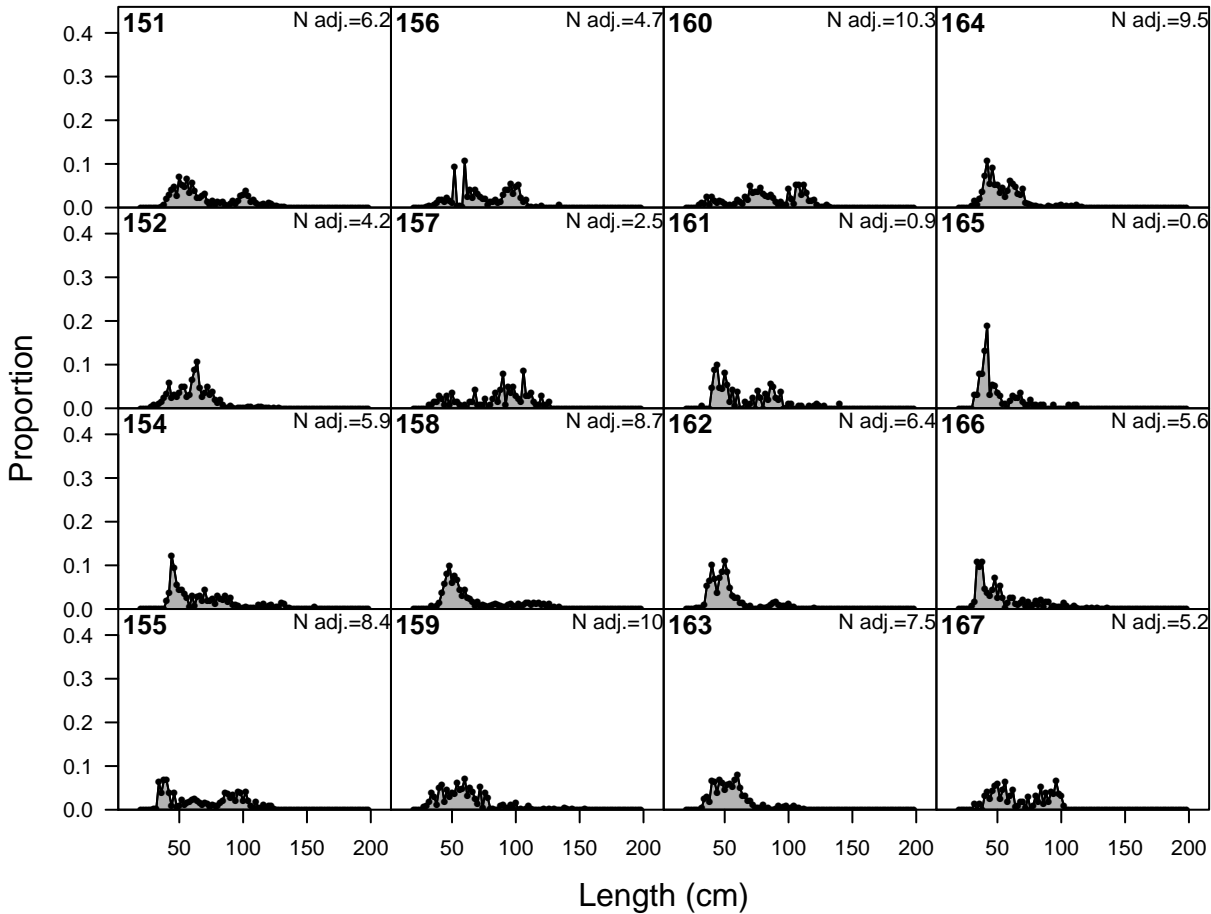


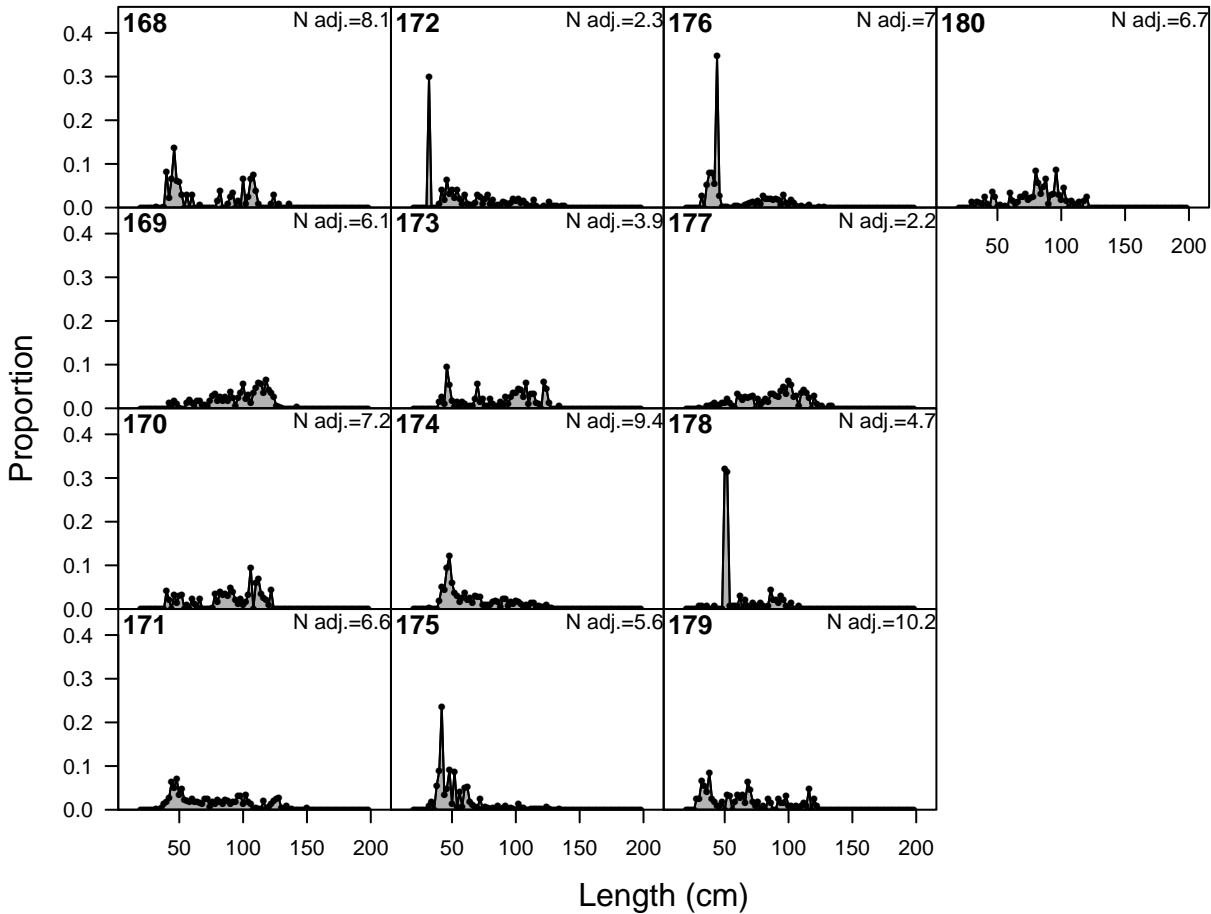


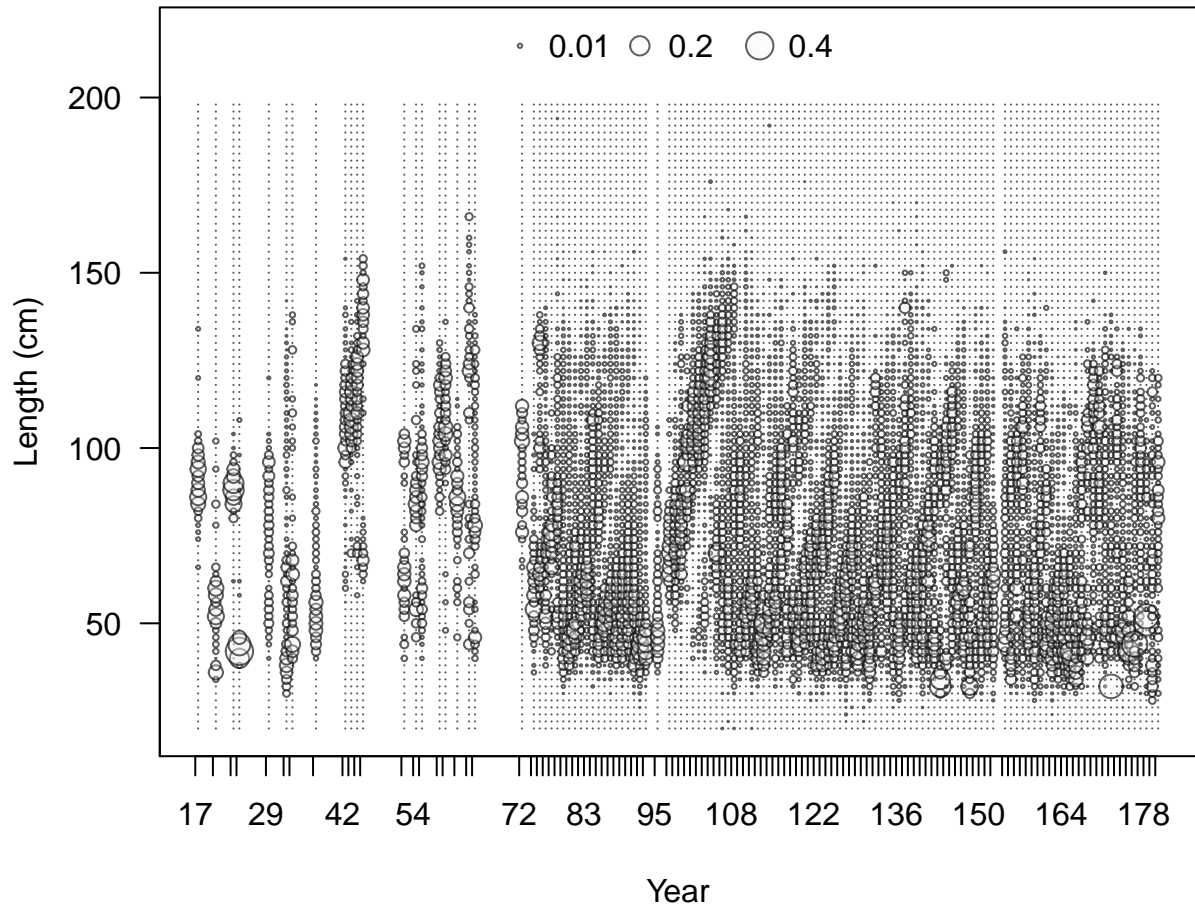




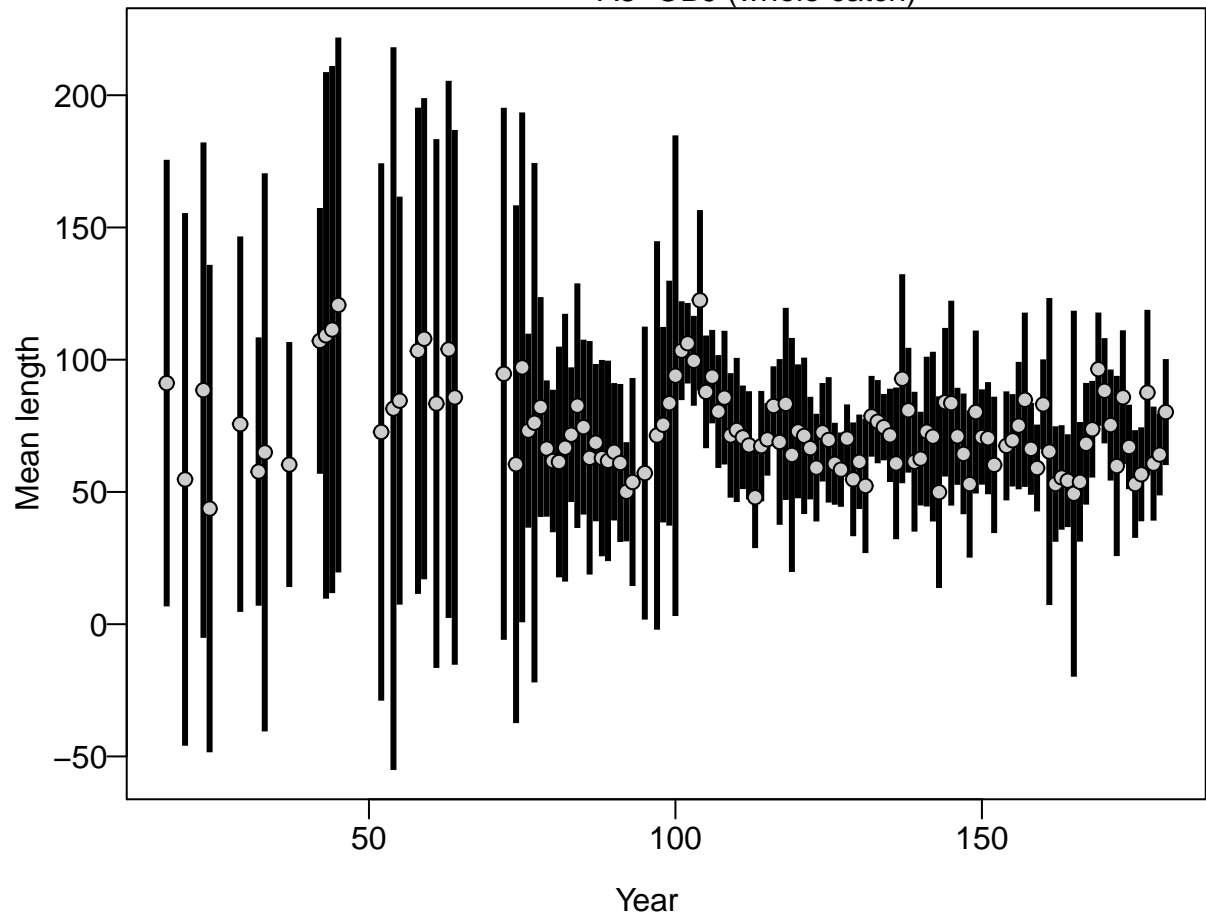




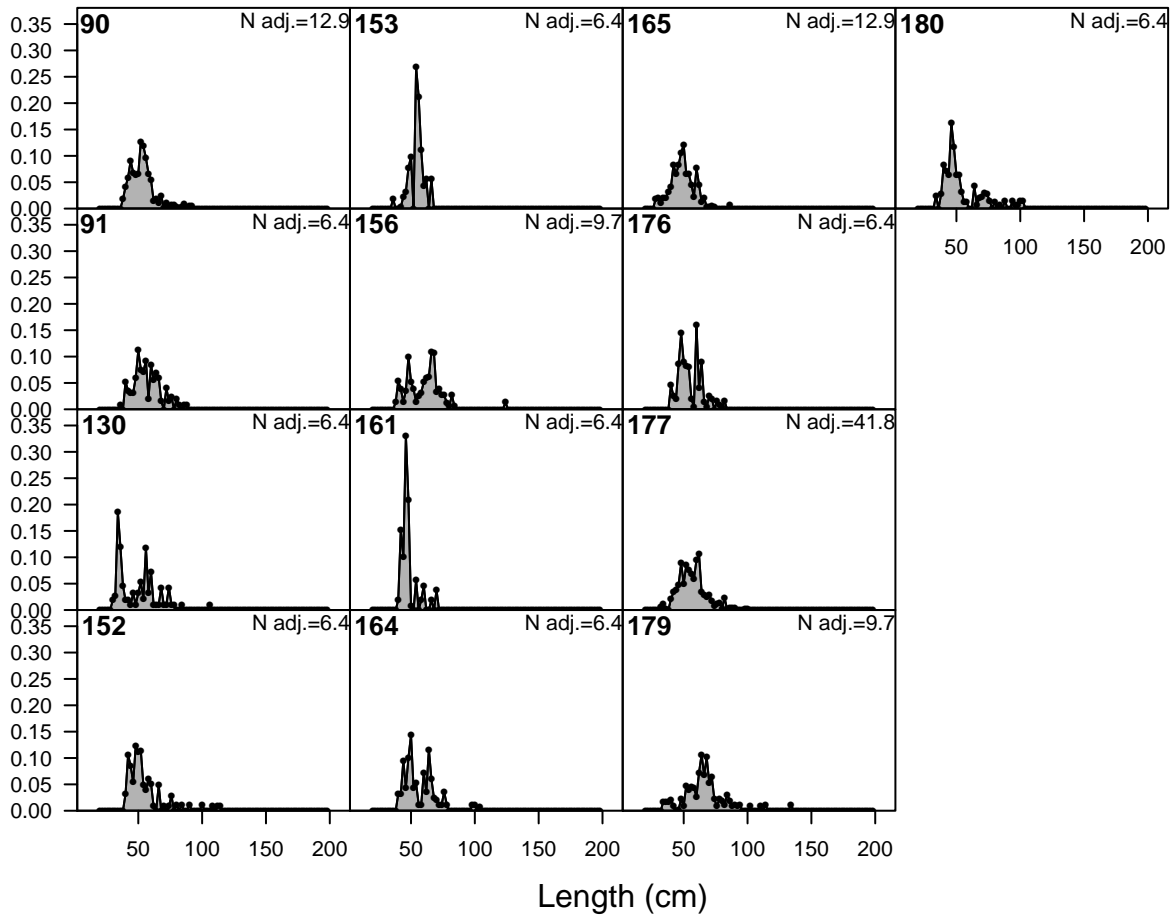




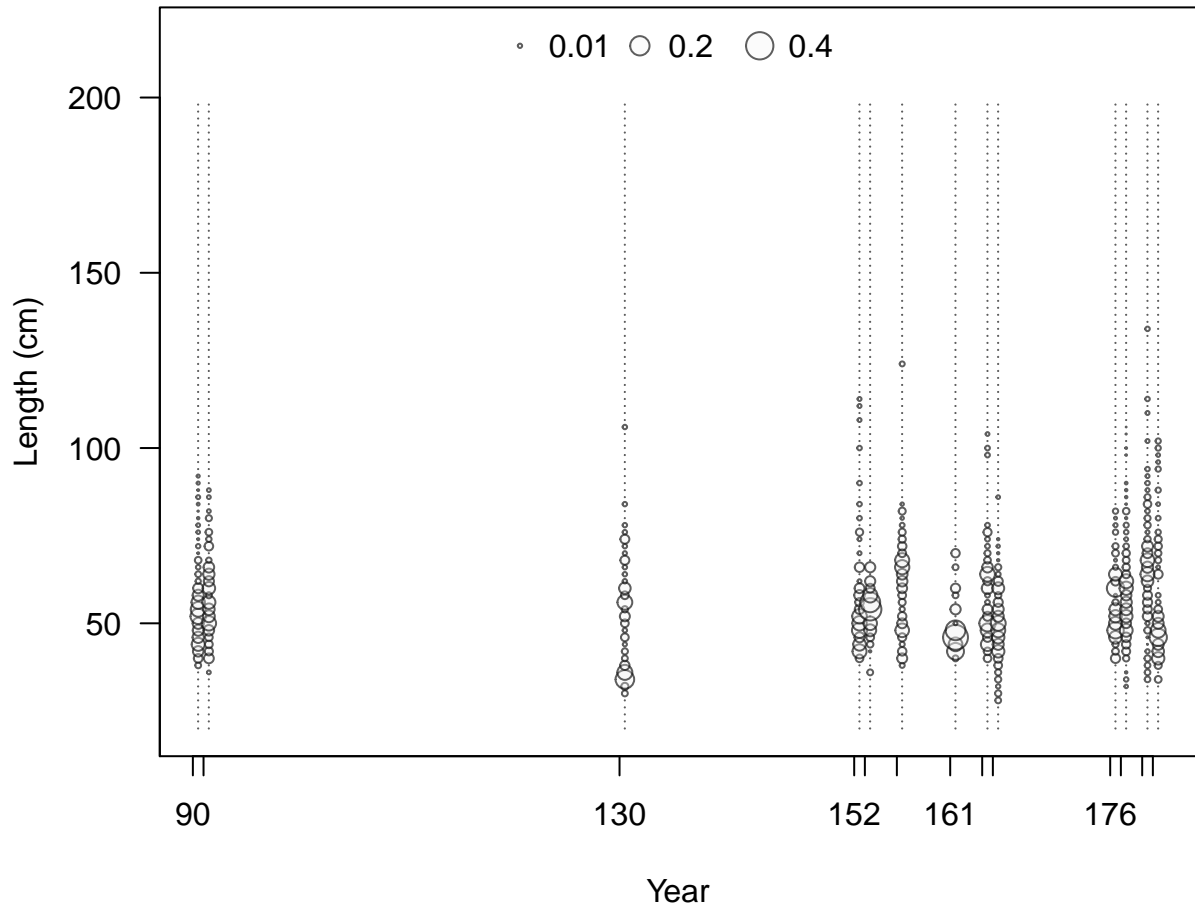
## A3-Obj (whole catch)



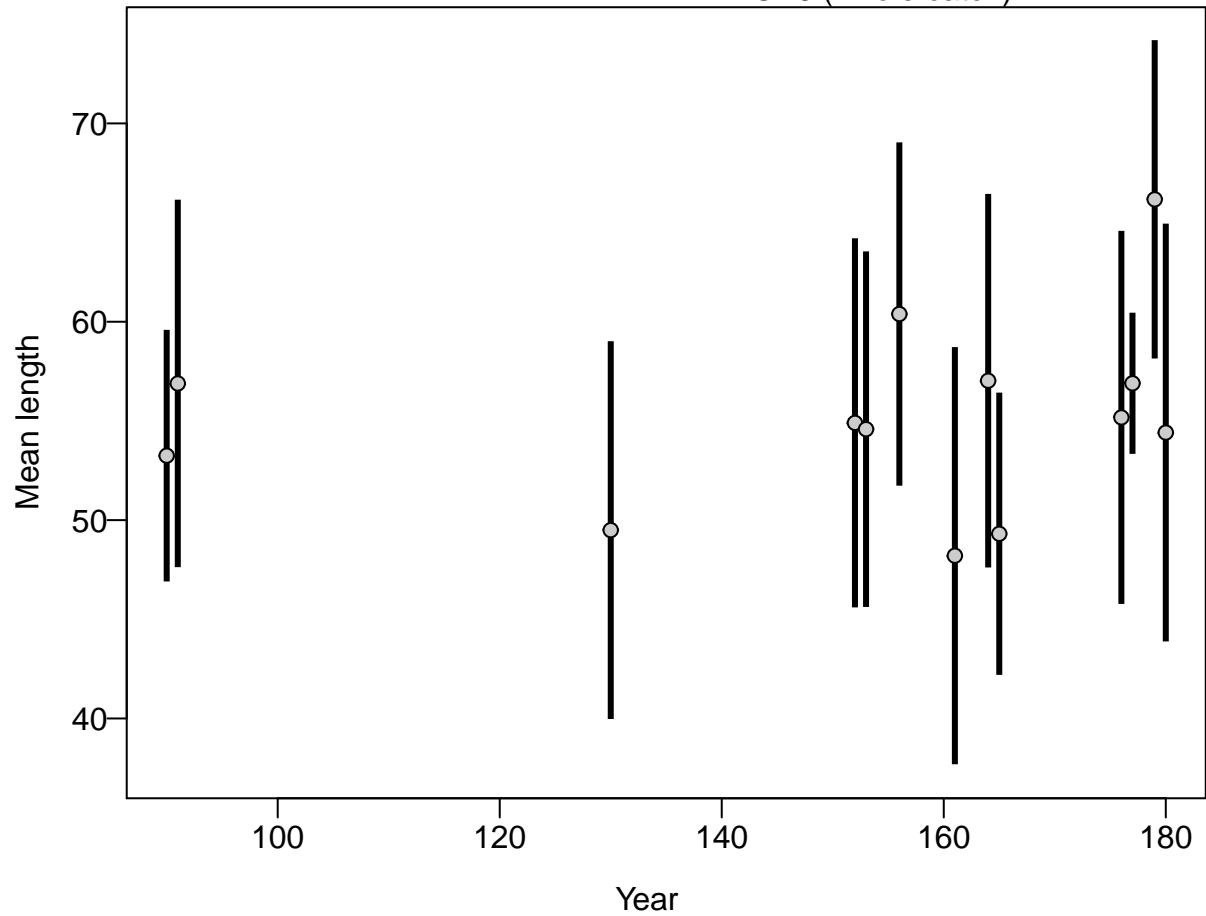
Proportion



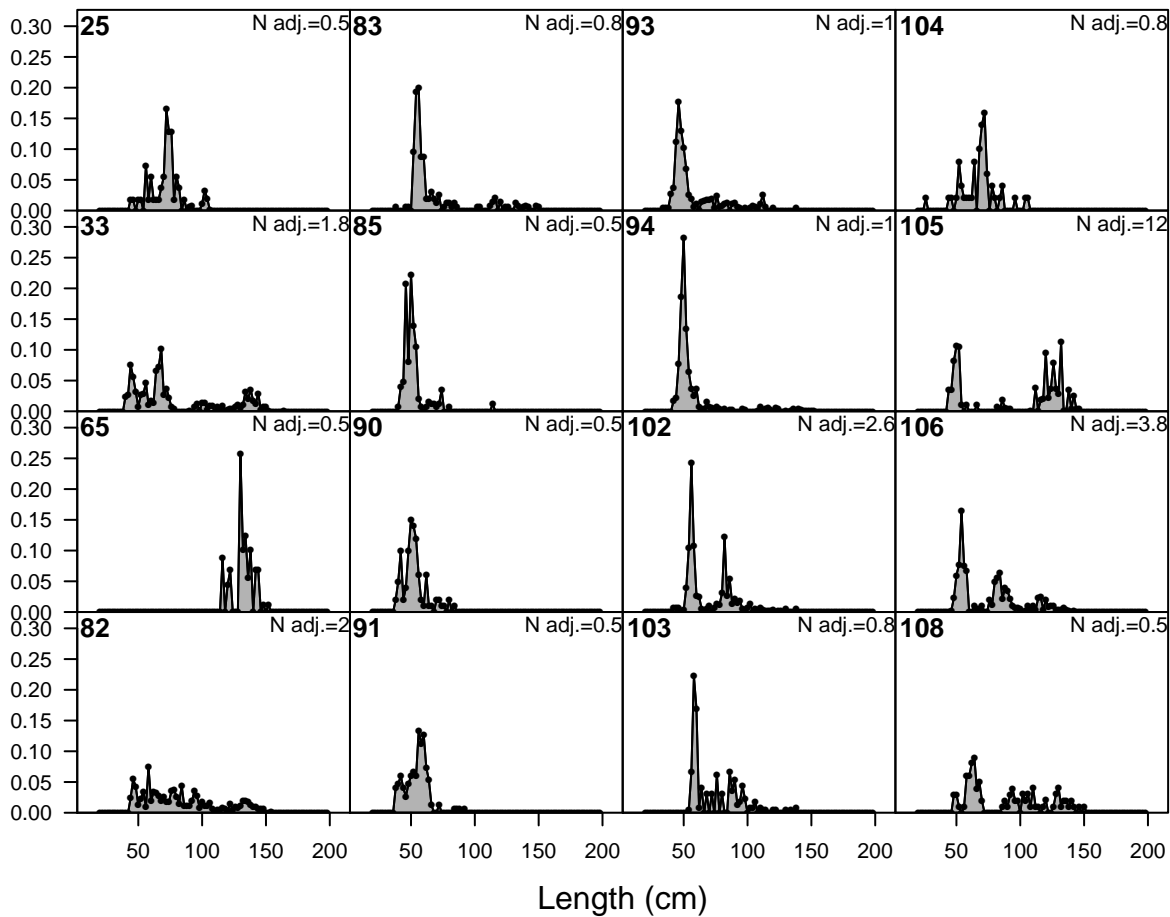




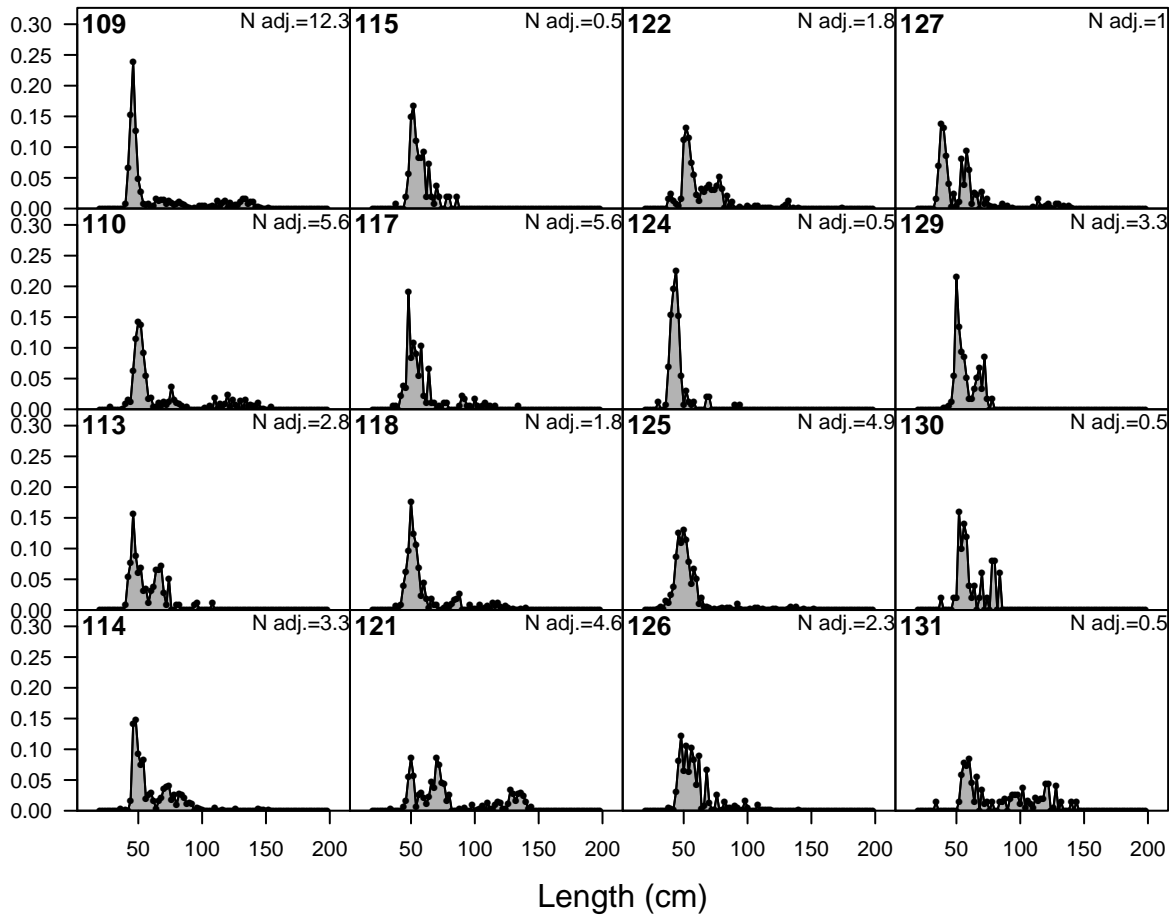
## A4-OBJ (whole catch)



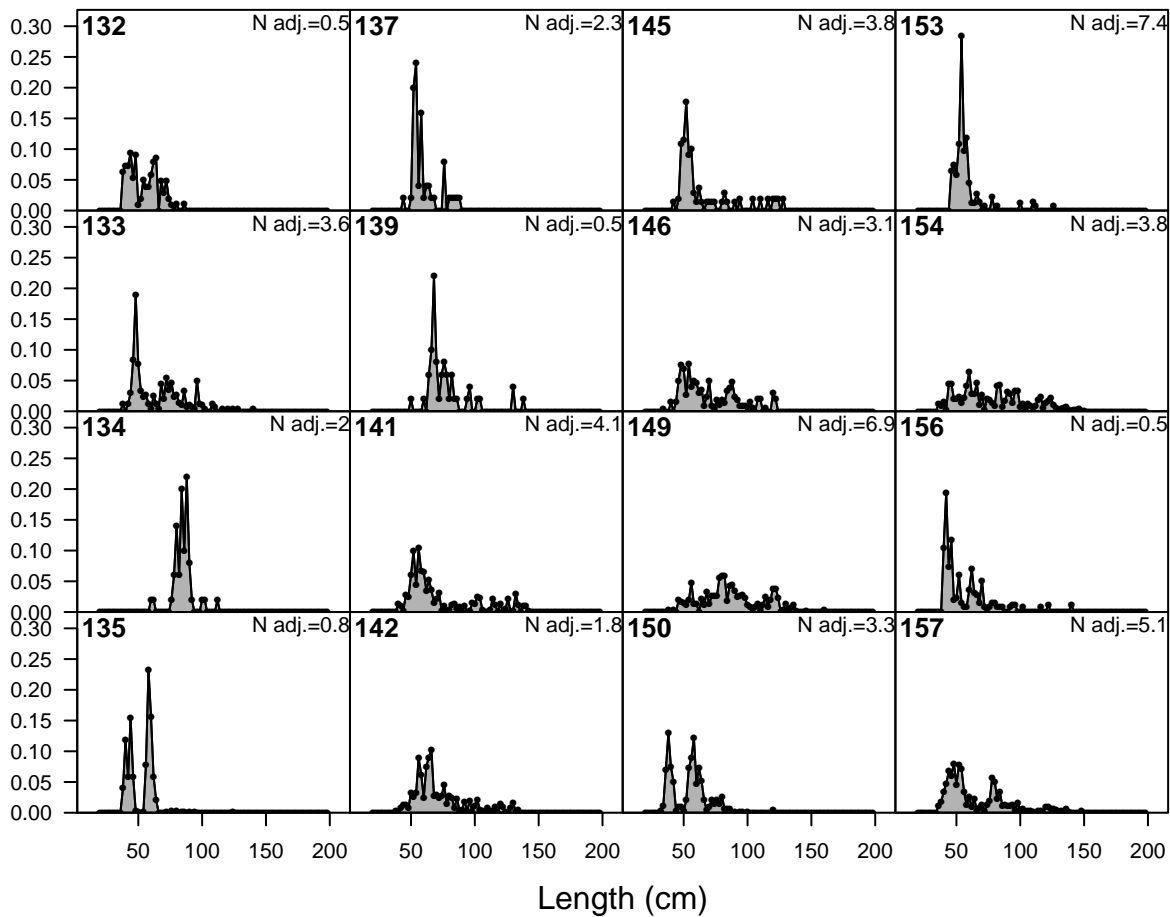
Proportion



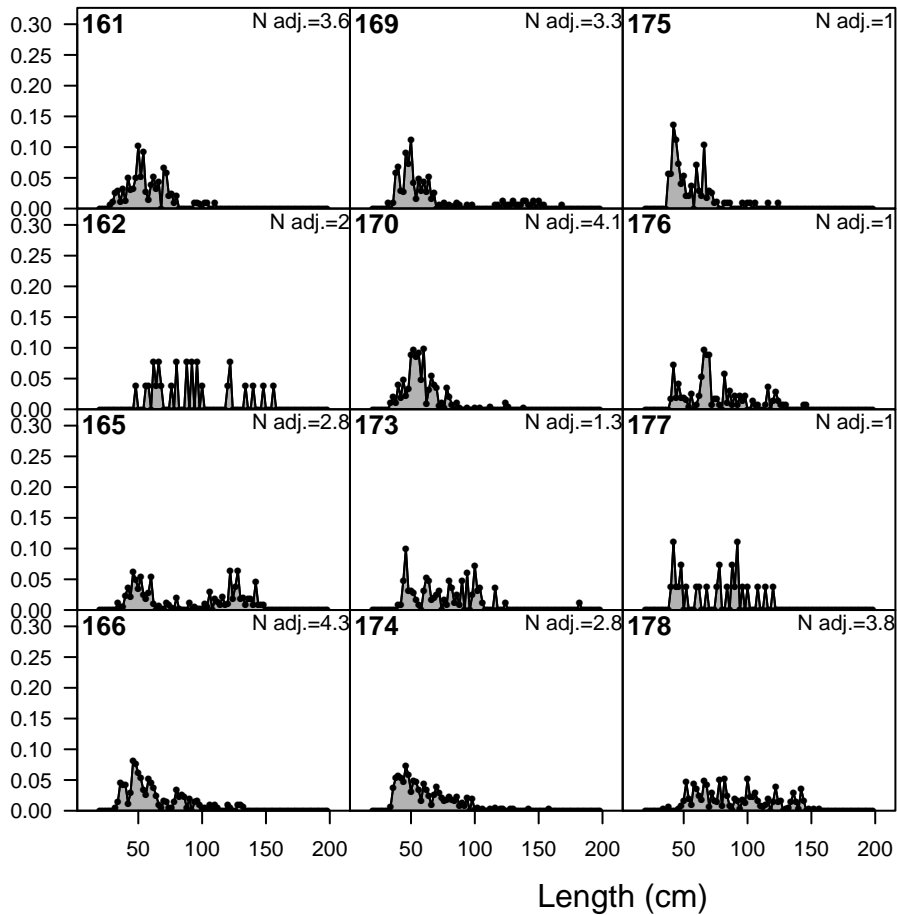
Proportion

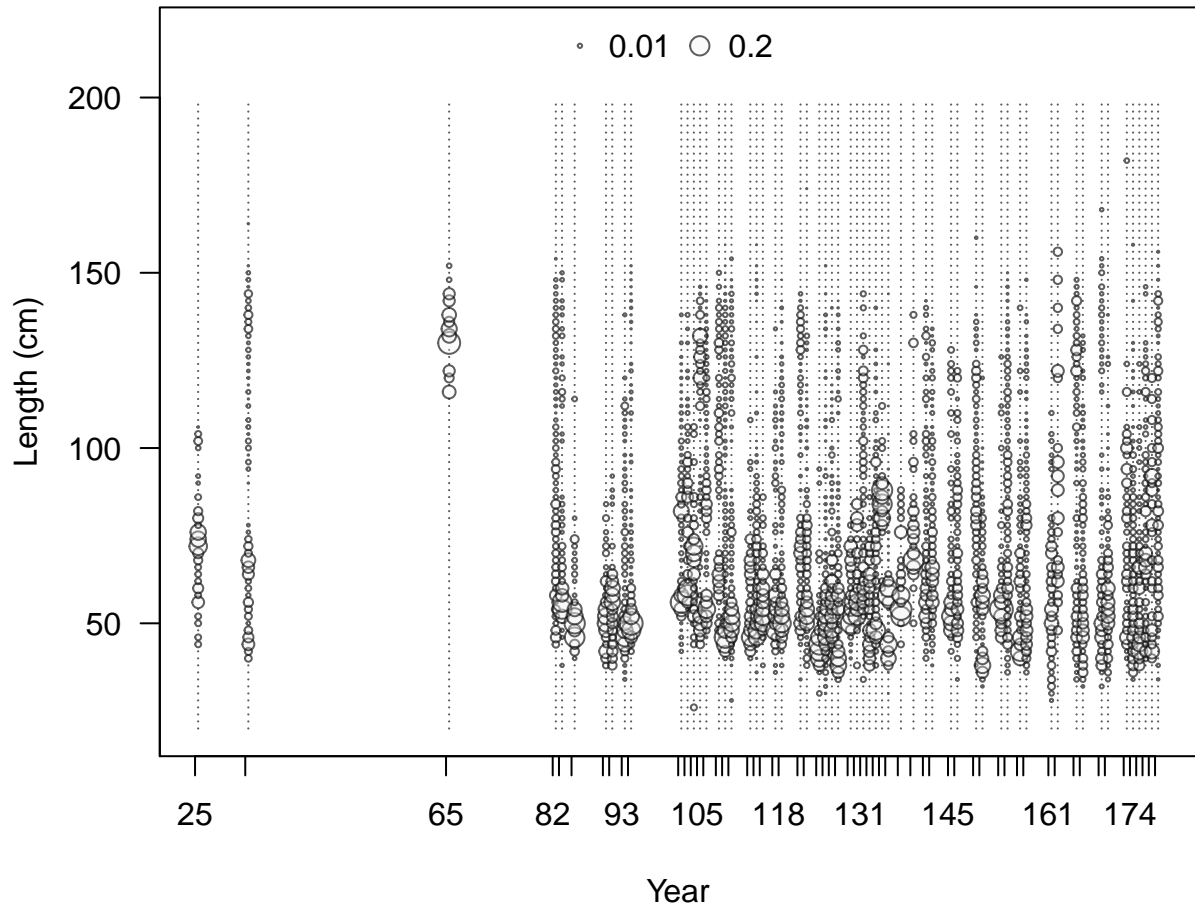


Proportion

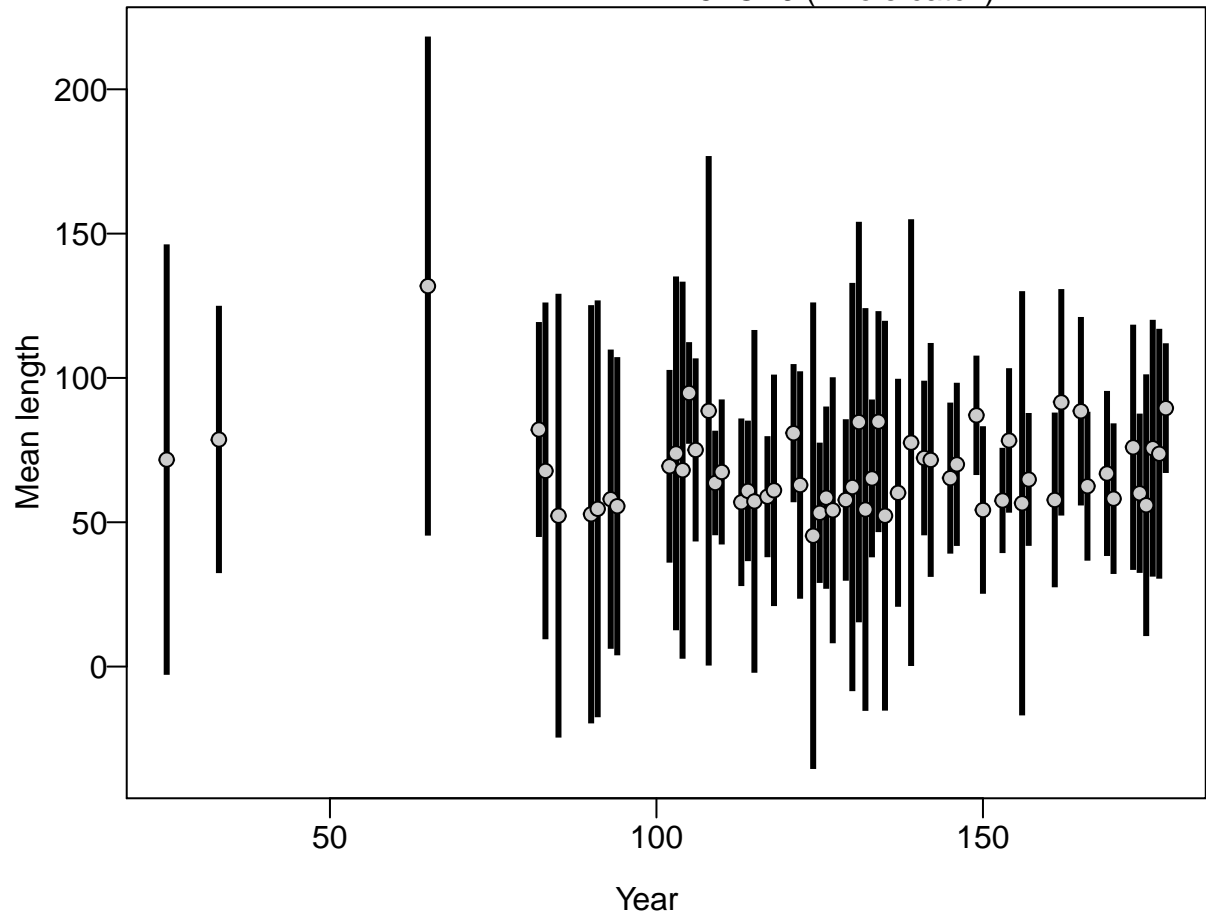


Proportion



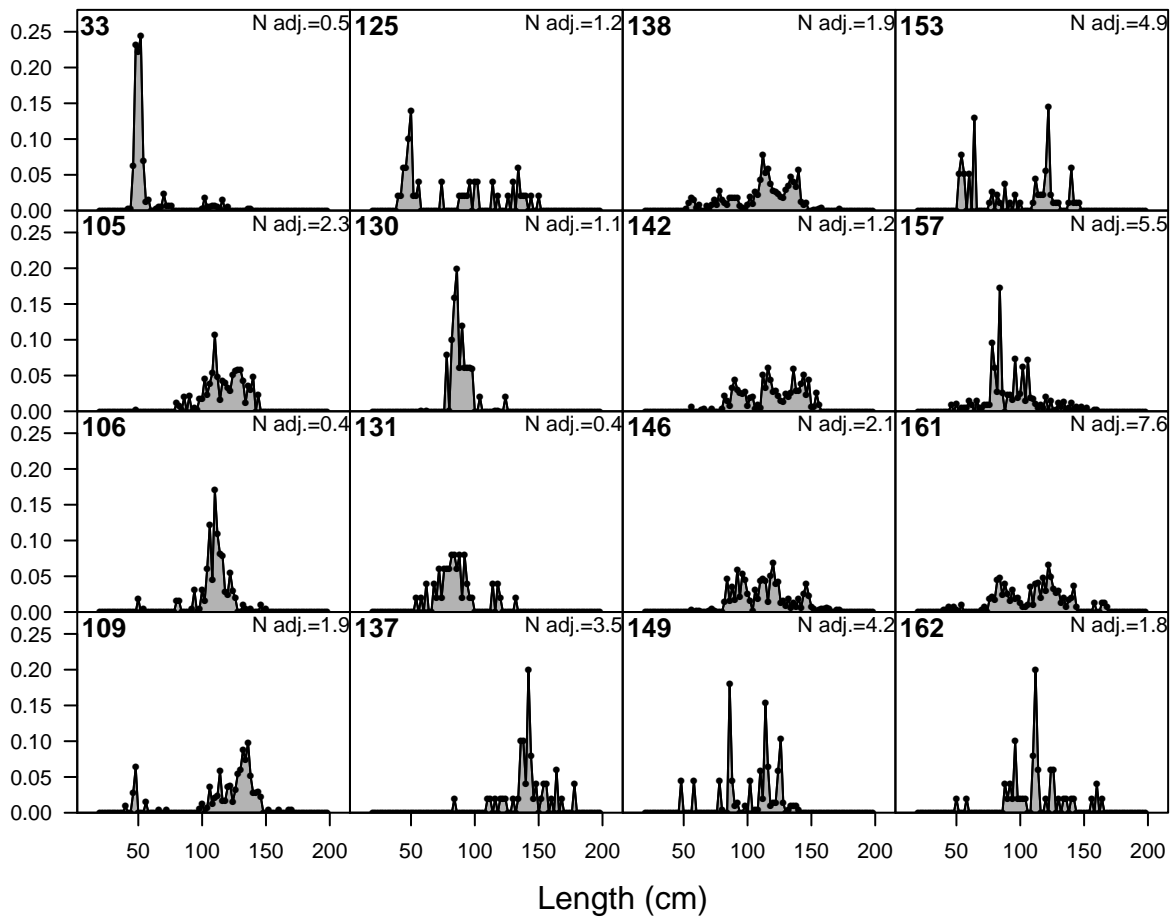


## A5-OBJ (whole catch)

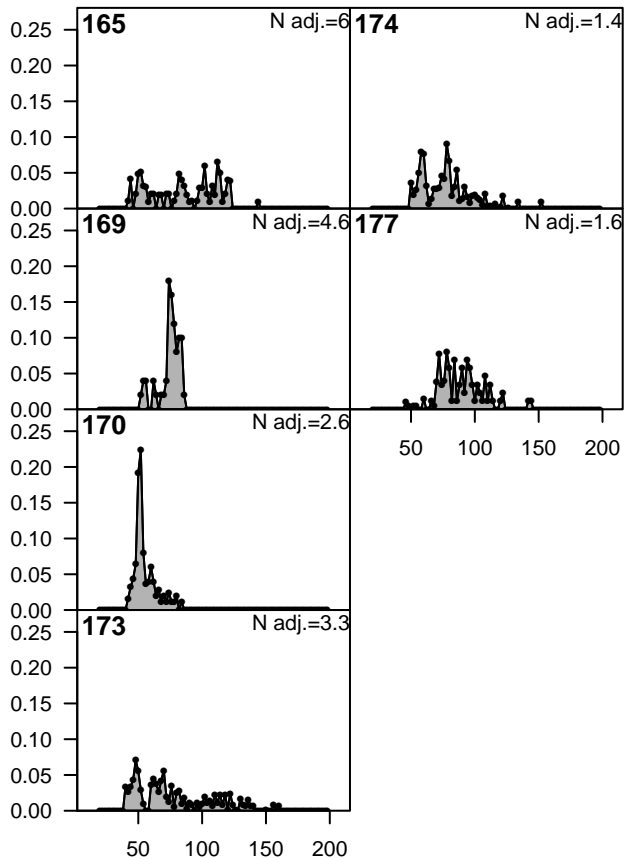




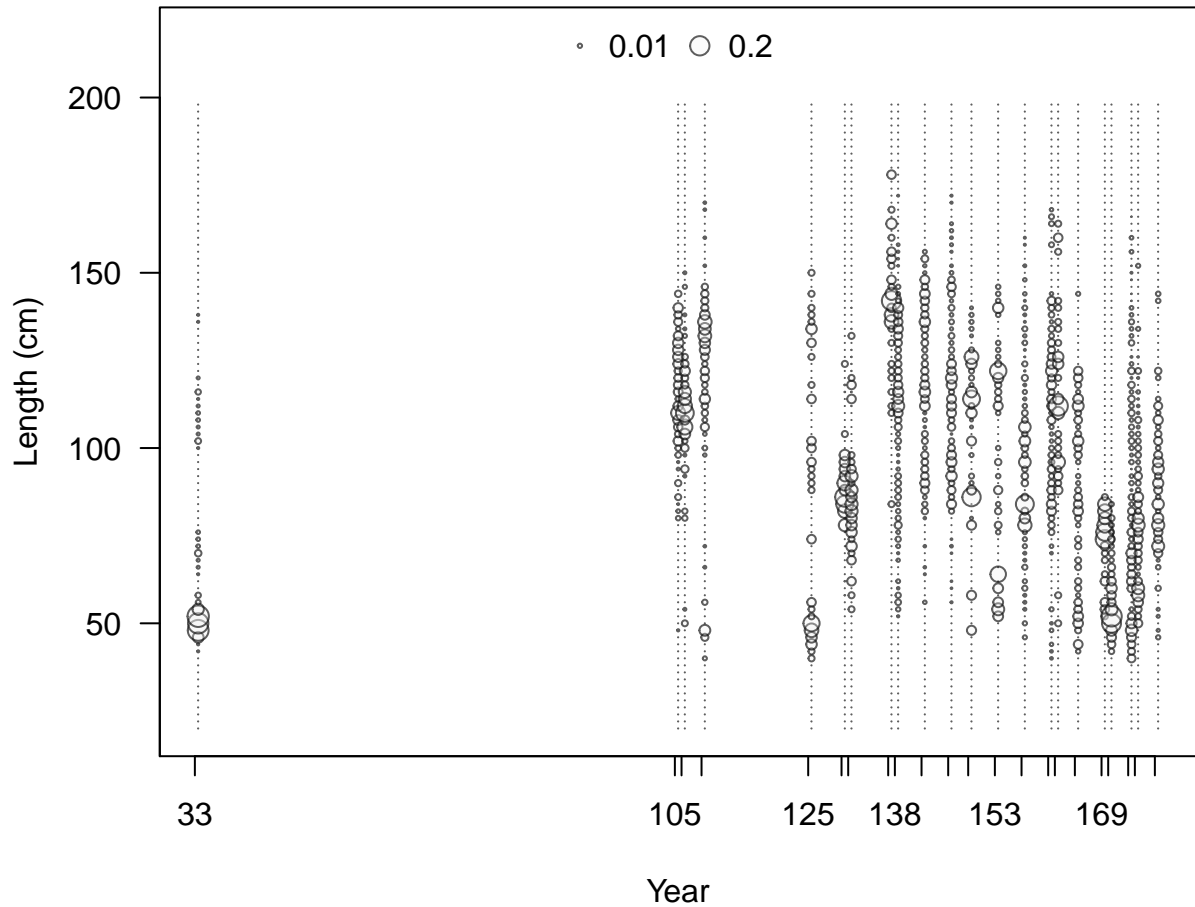
Proportion



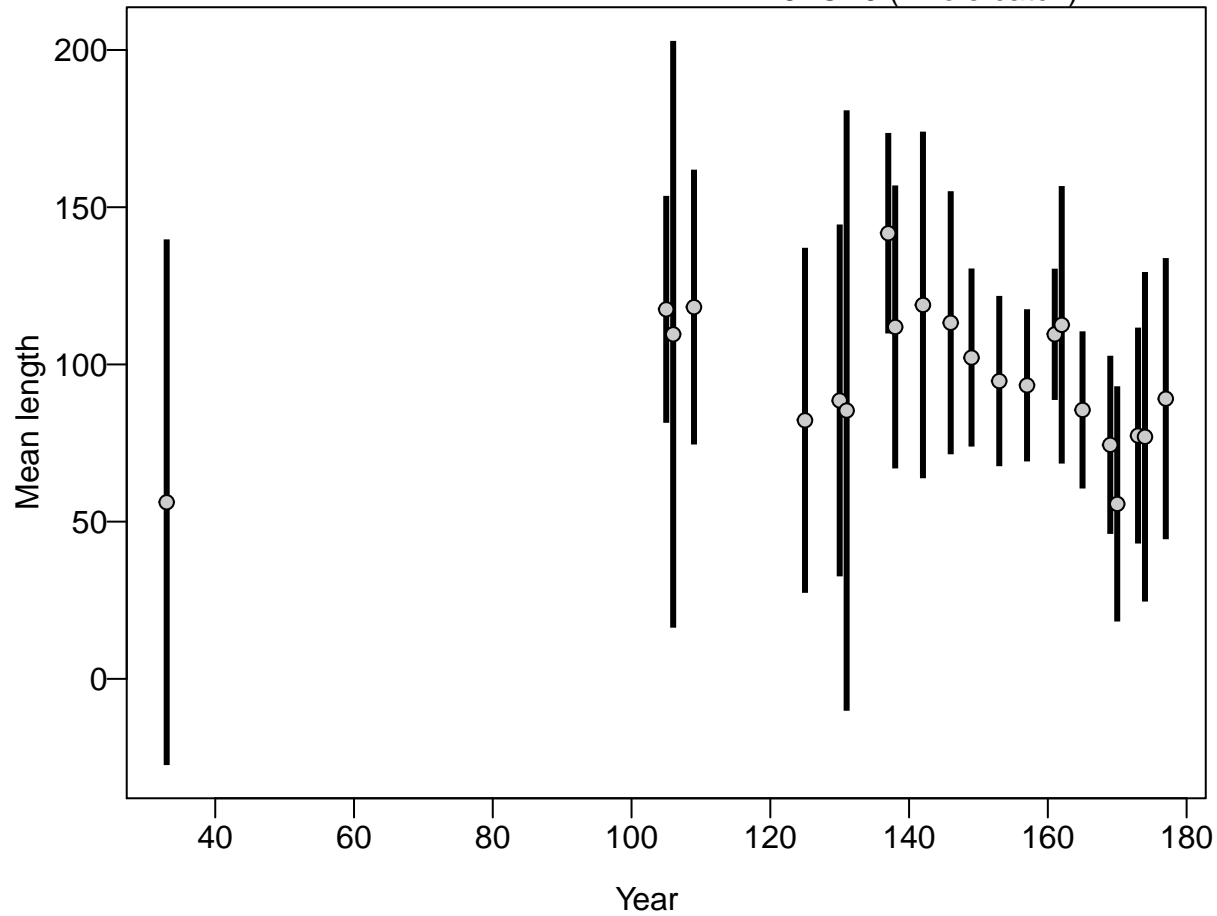
Proportion

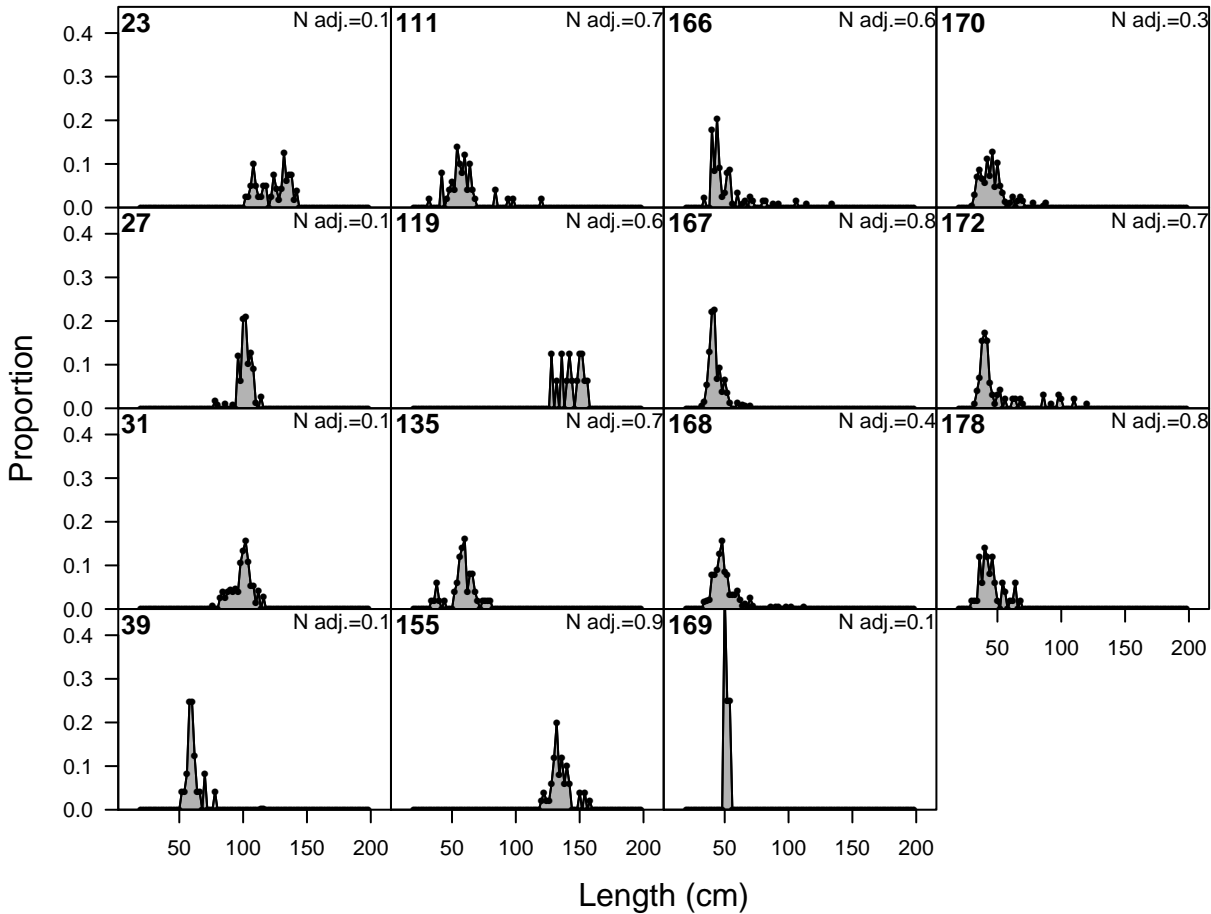


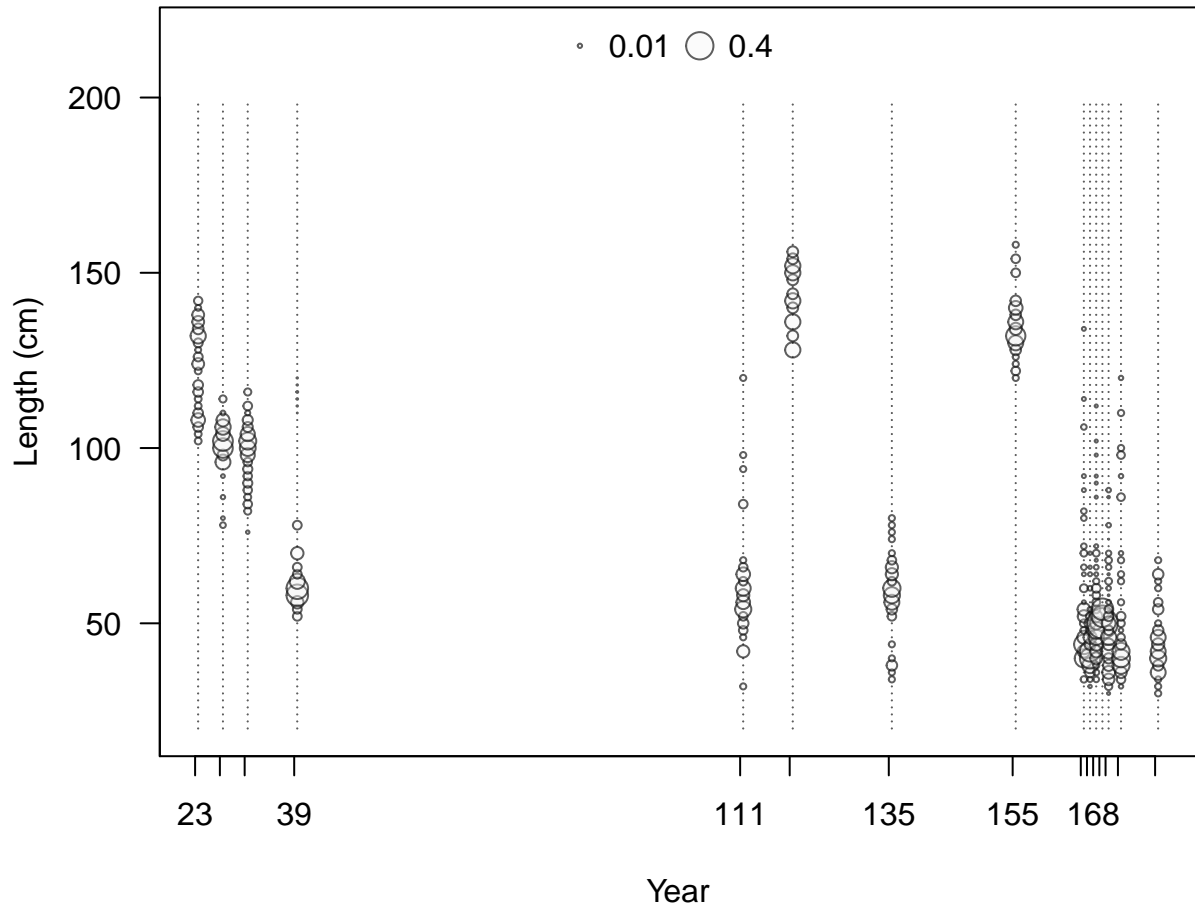
Length (cm)



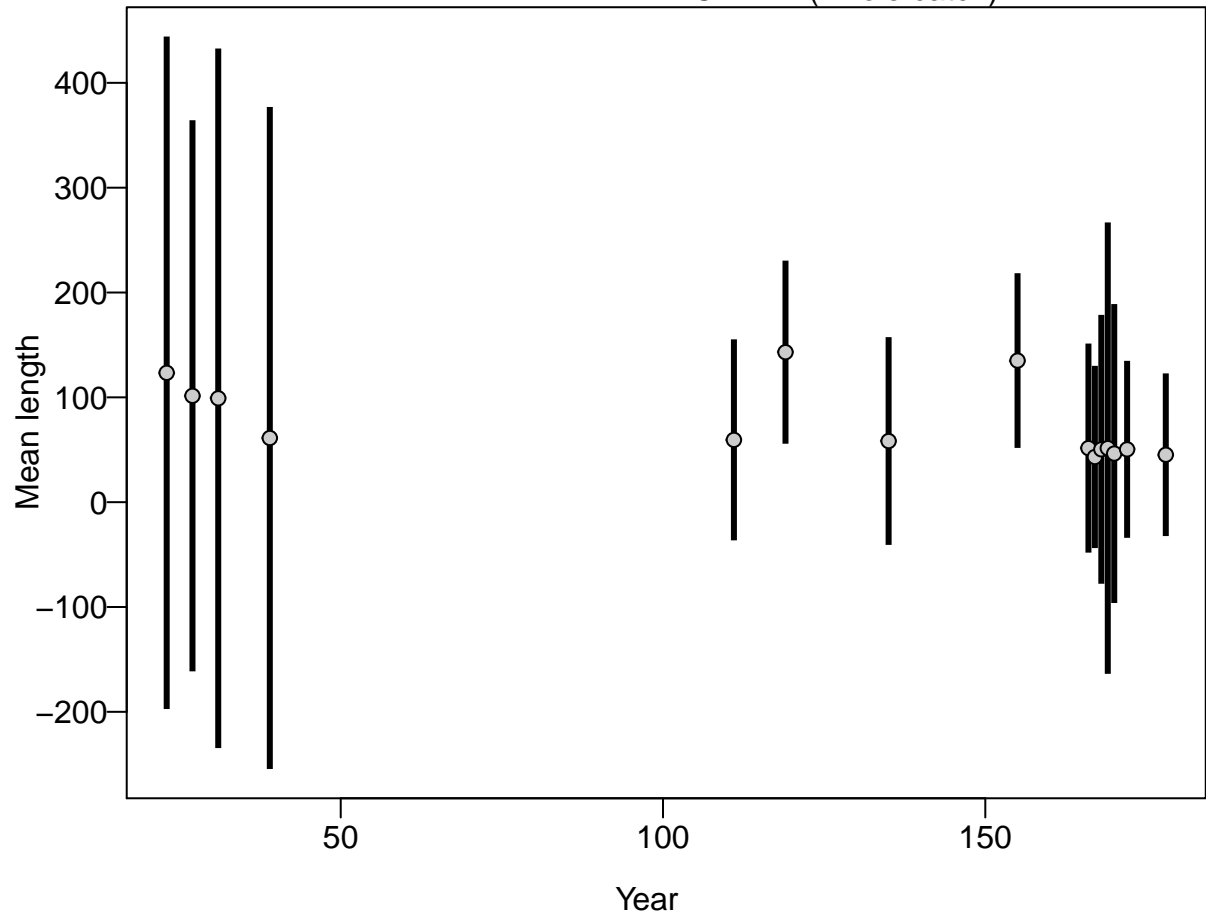
## A6-OBJ (whole catch)

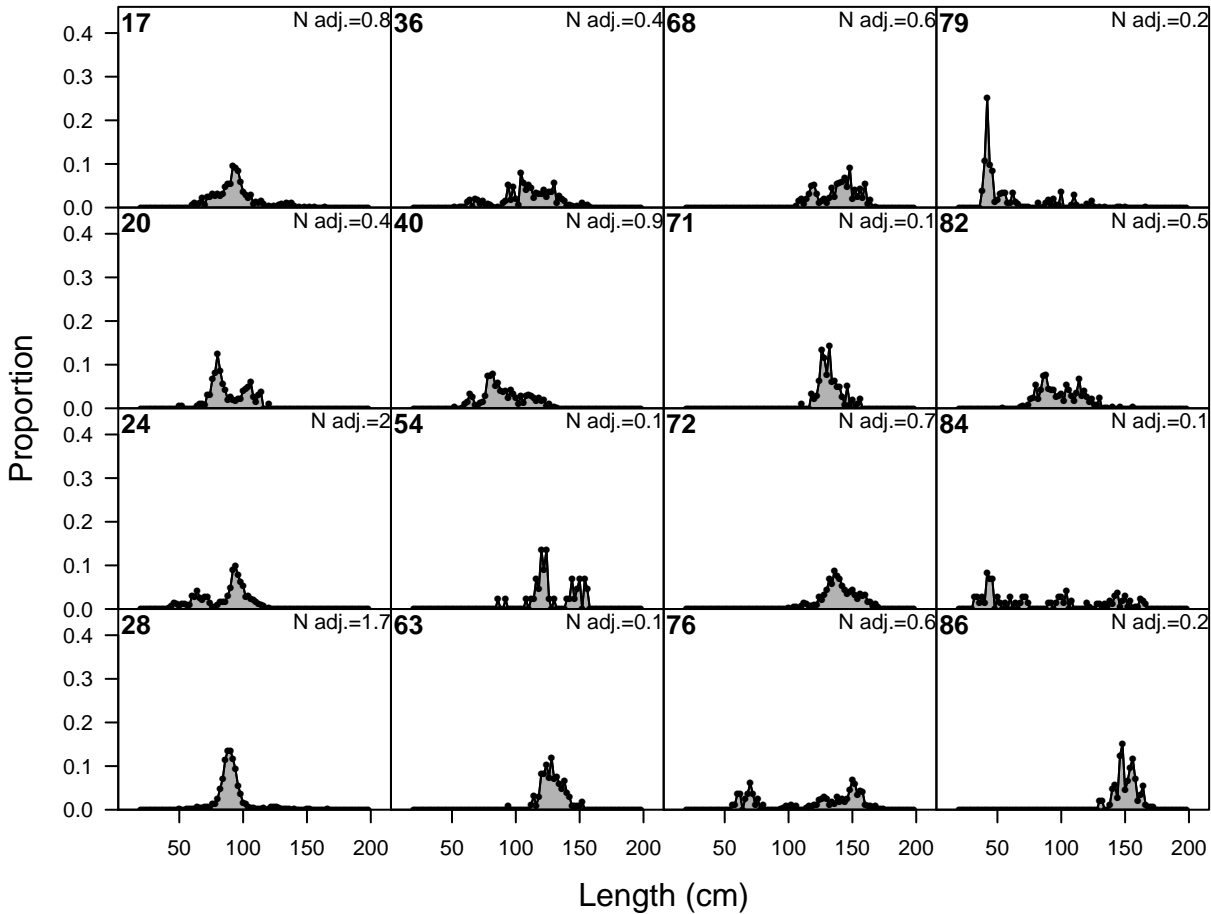




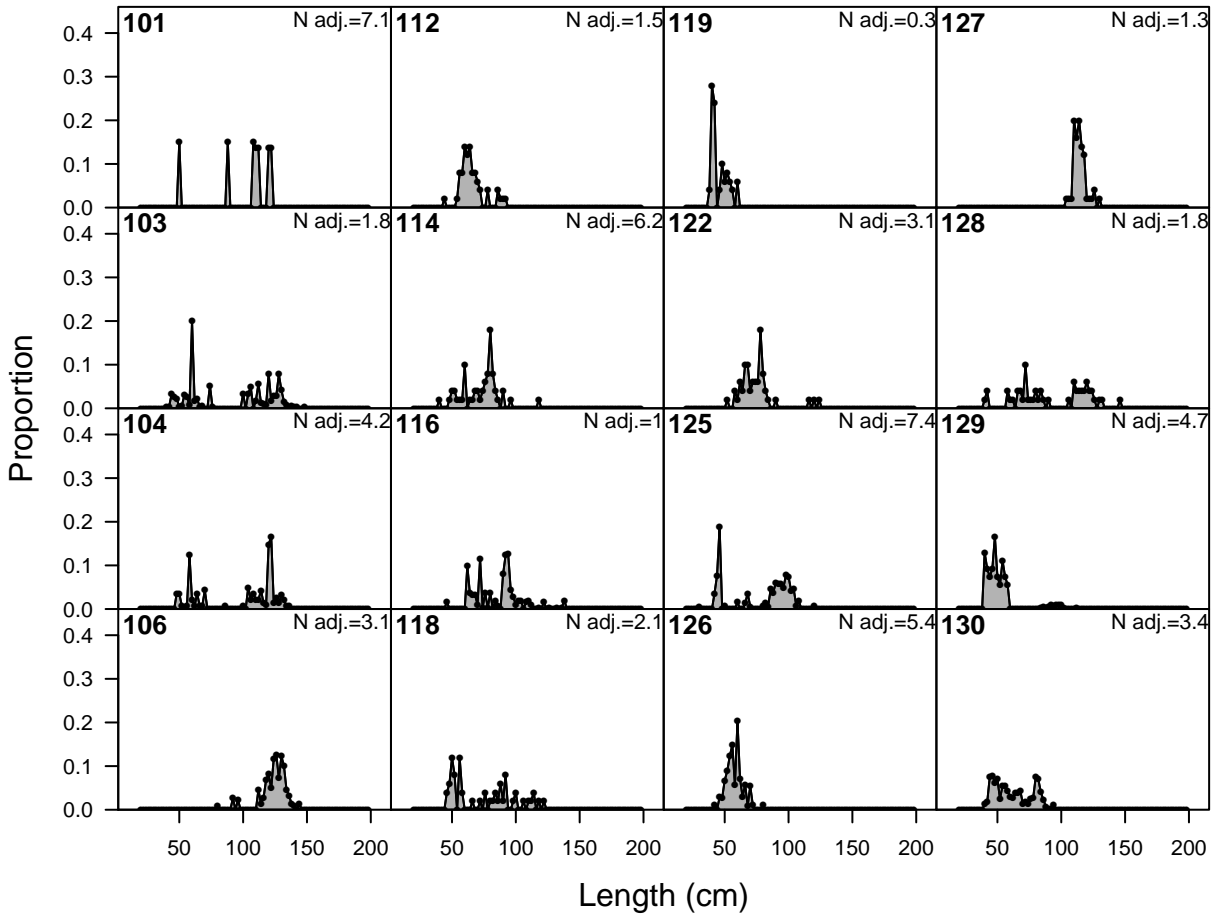


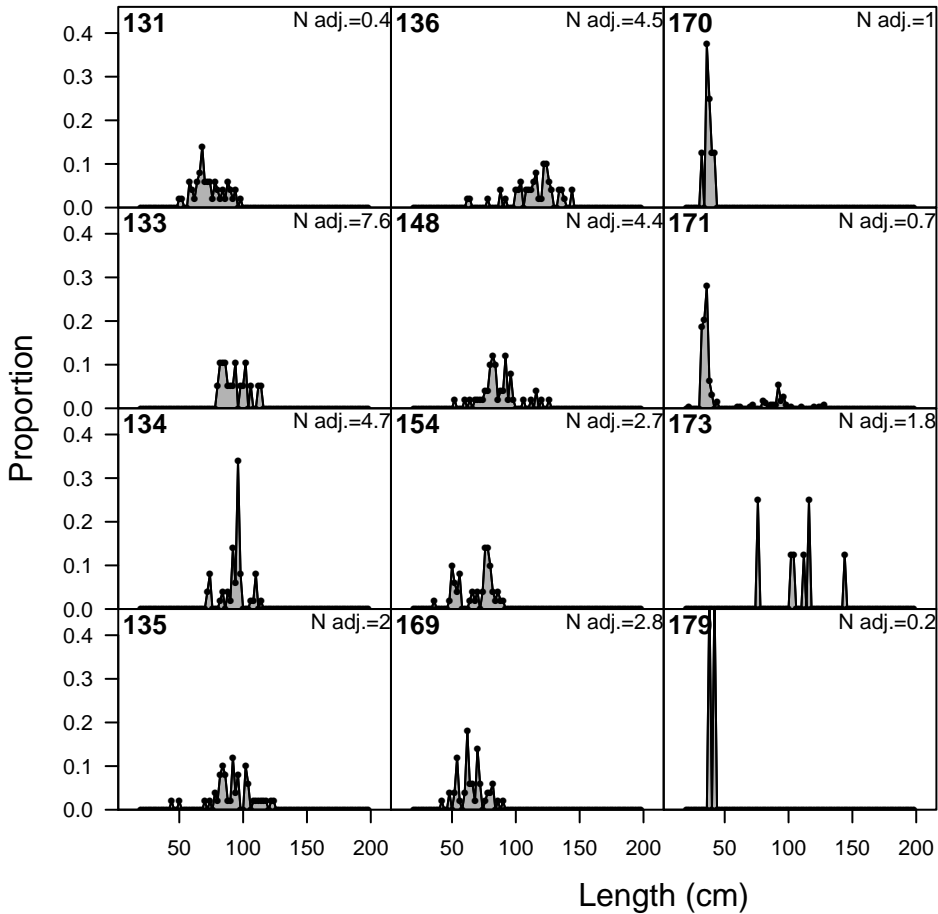
## A2-NOADEL (whole catch)

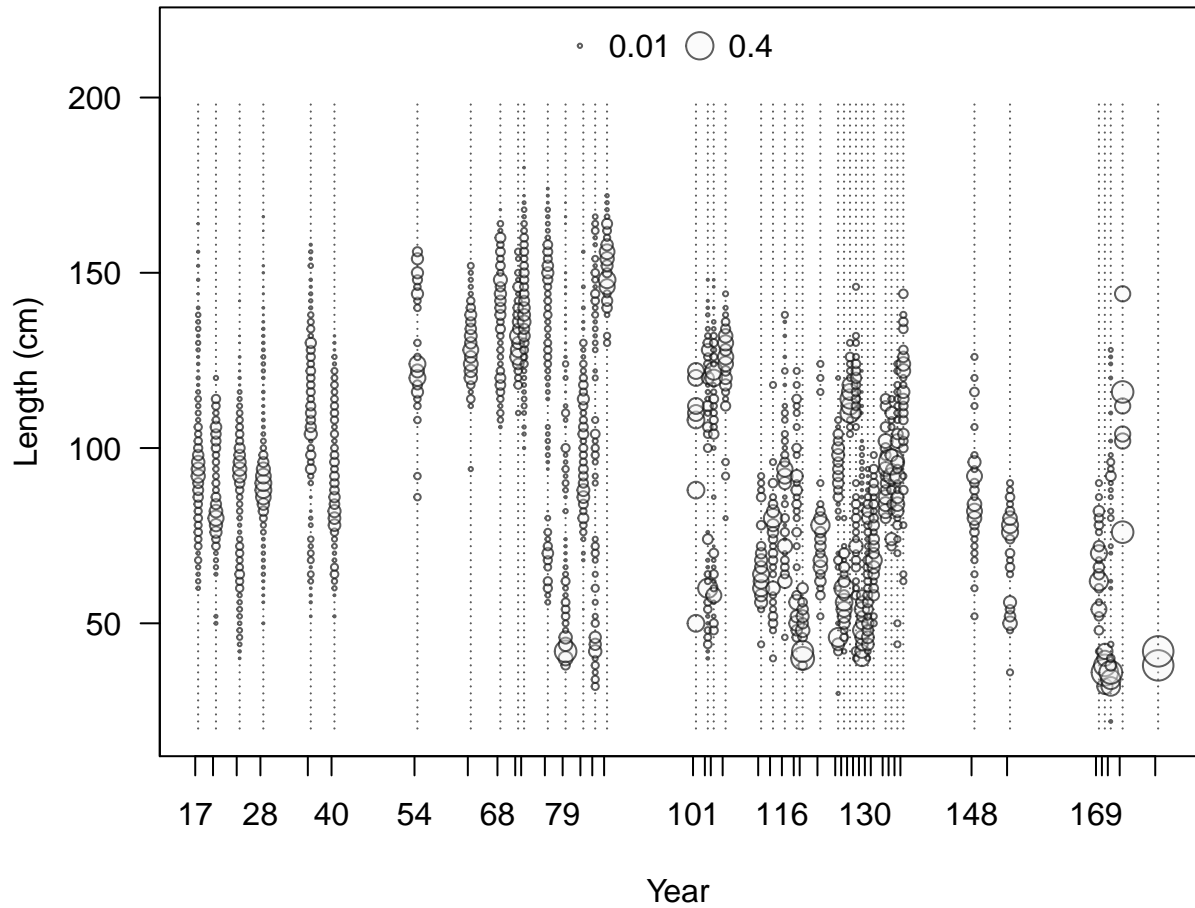




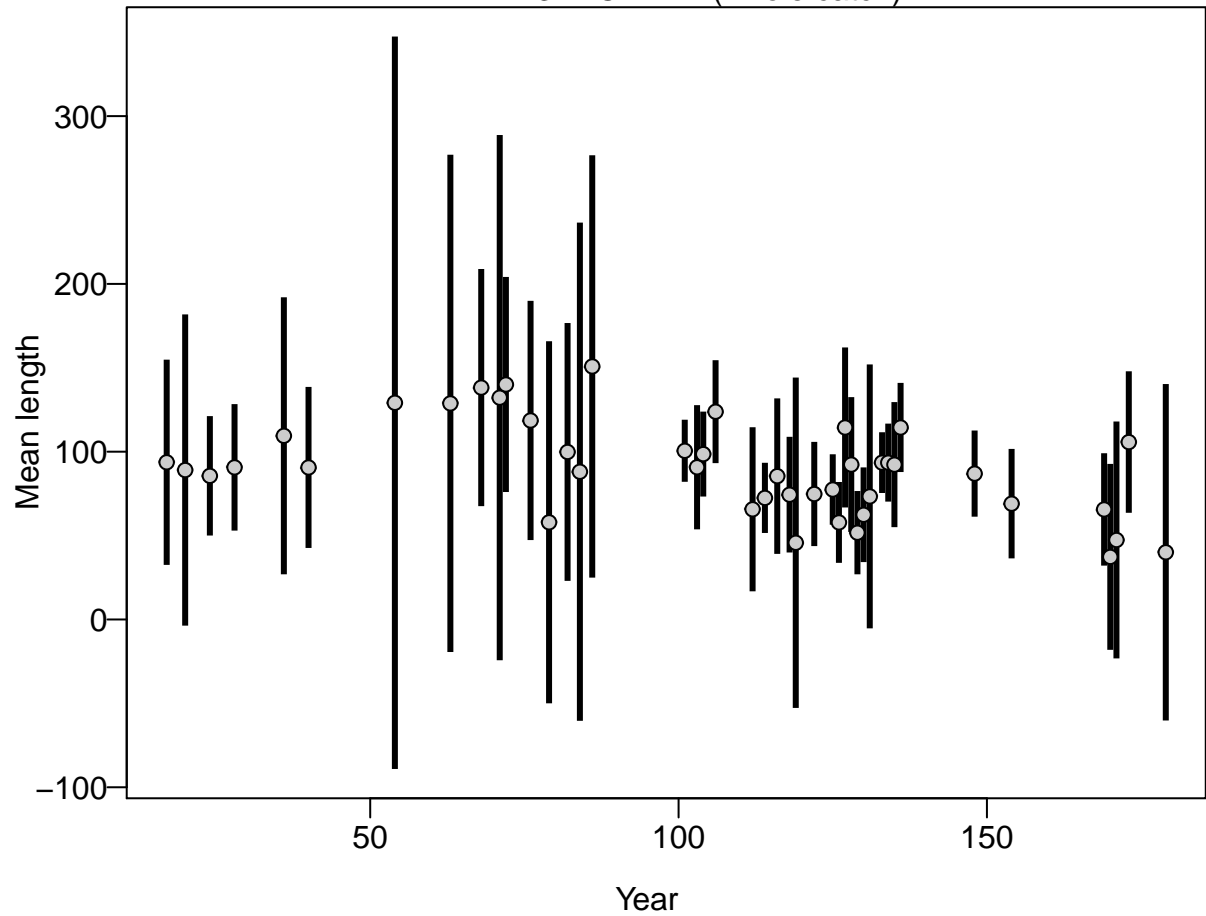


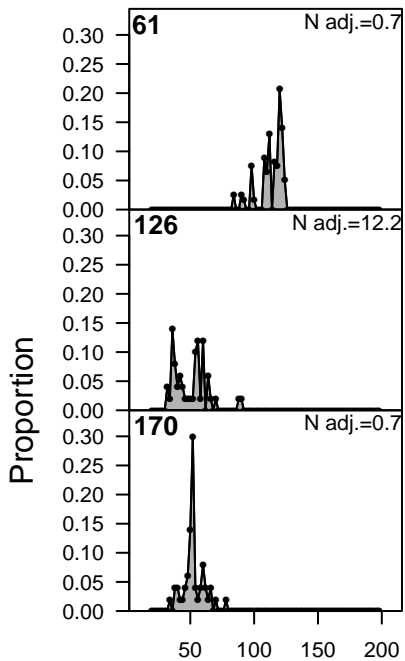




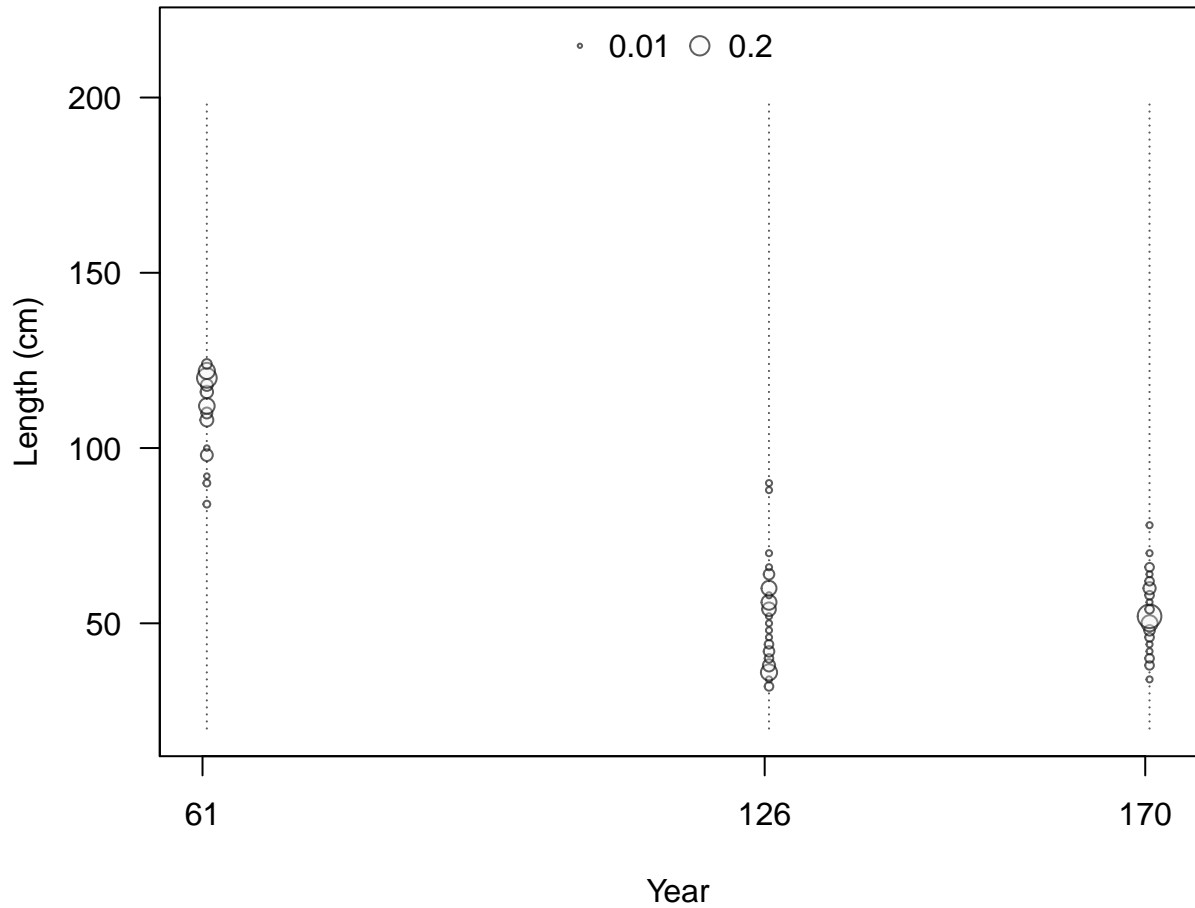


## A3-NOADEL (whole catch)

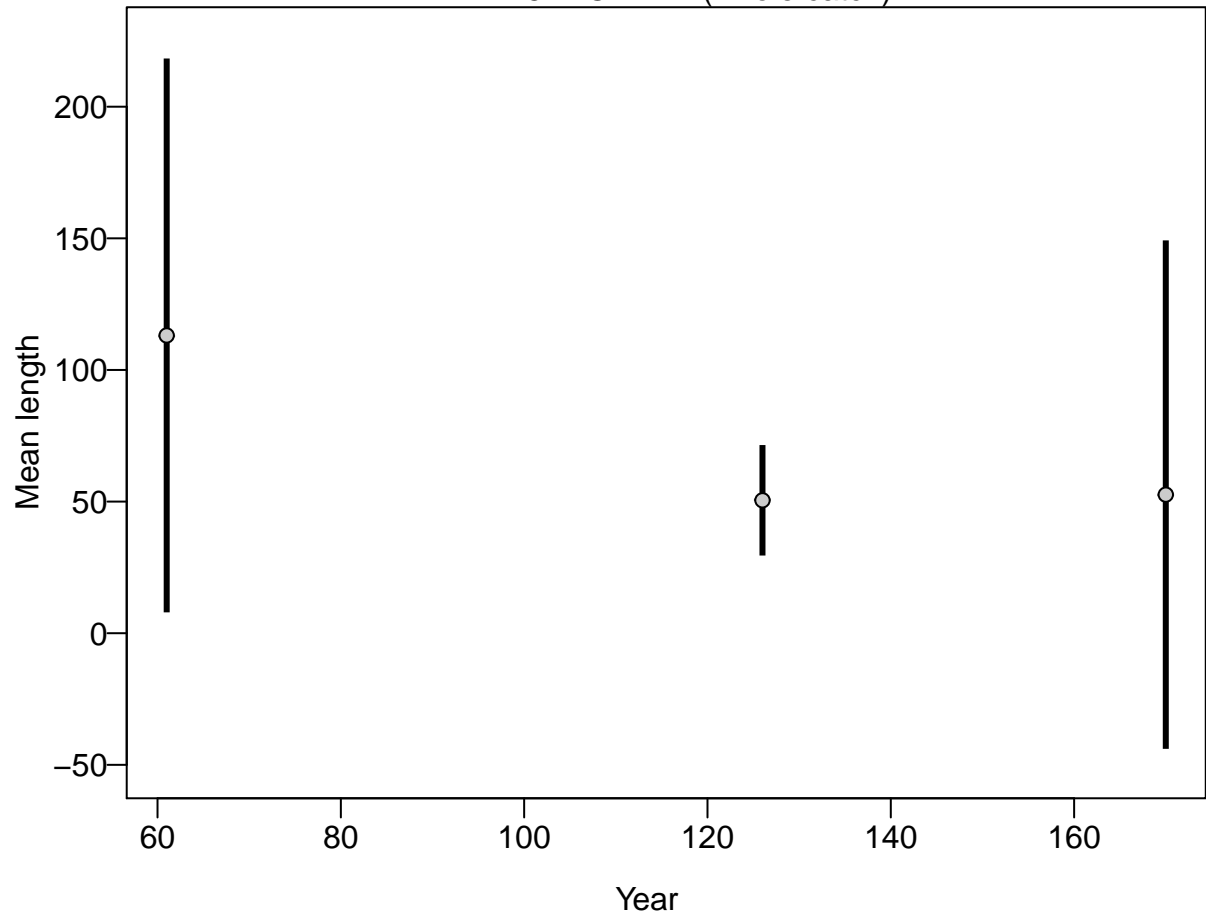




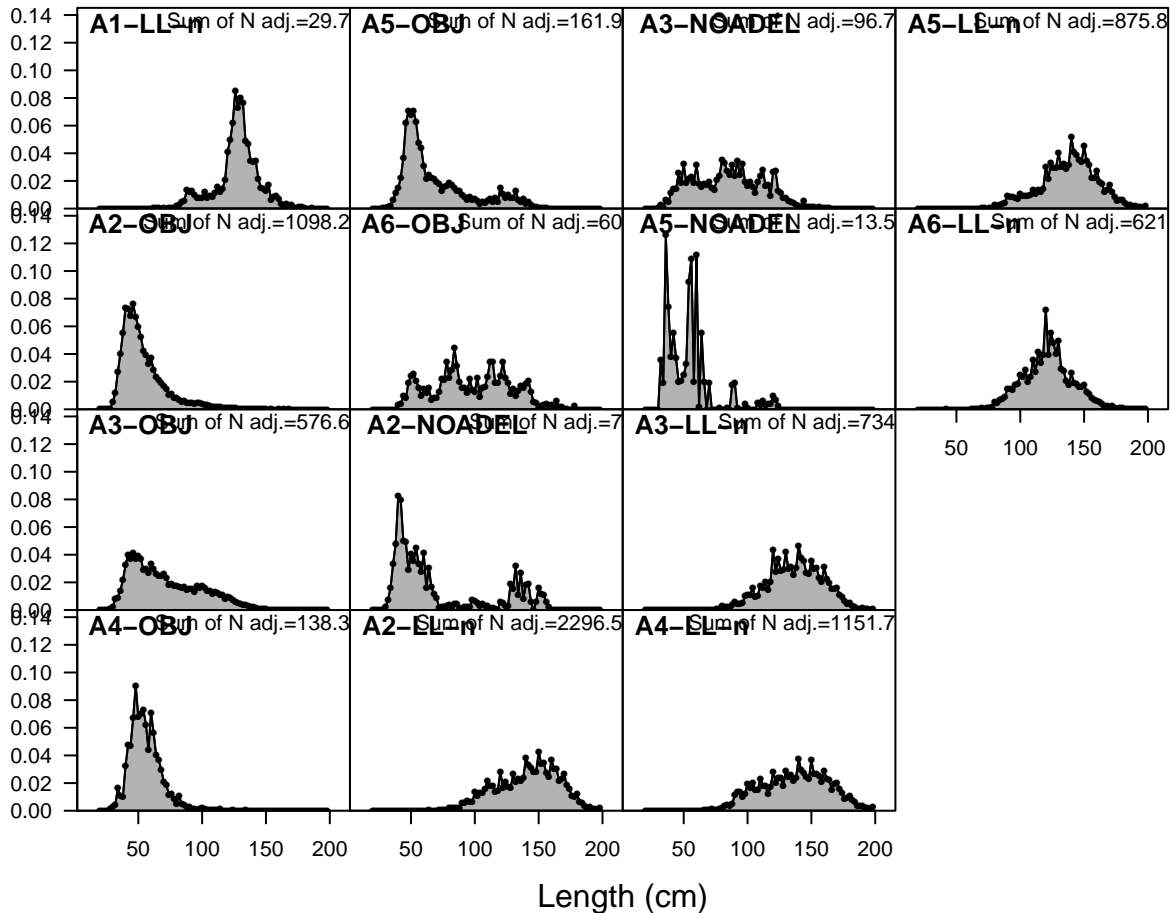
Length (cm)



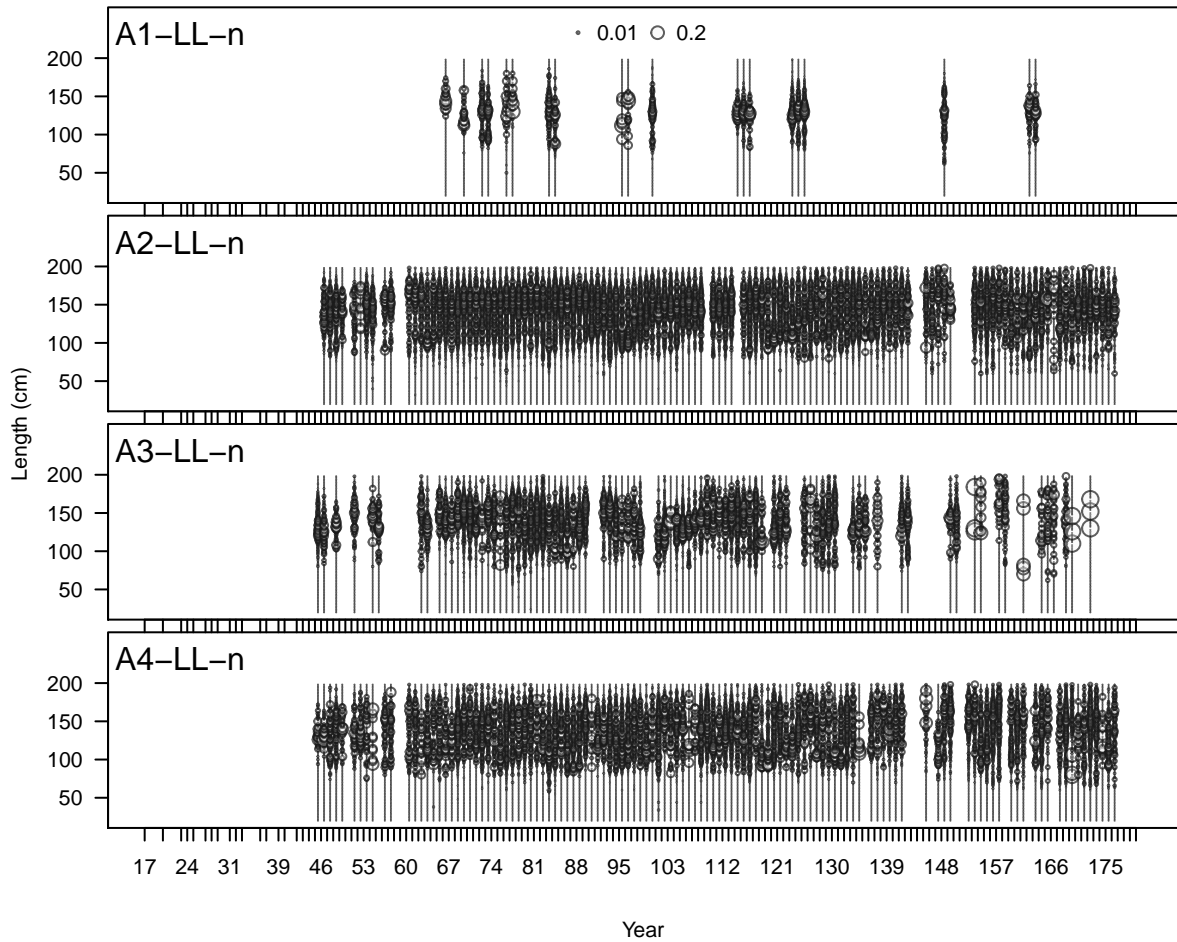
A5-NOADEL (whole catch)

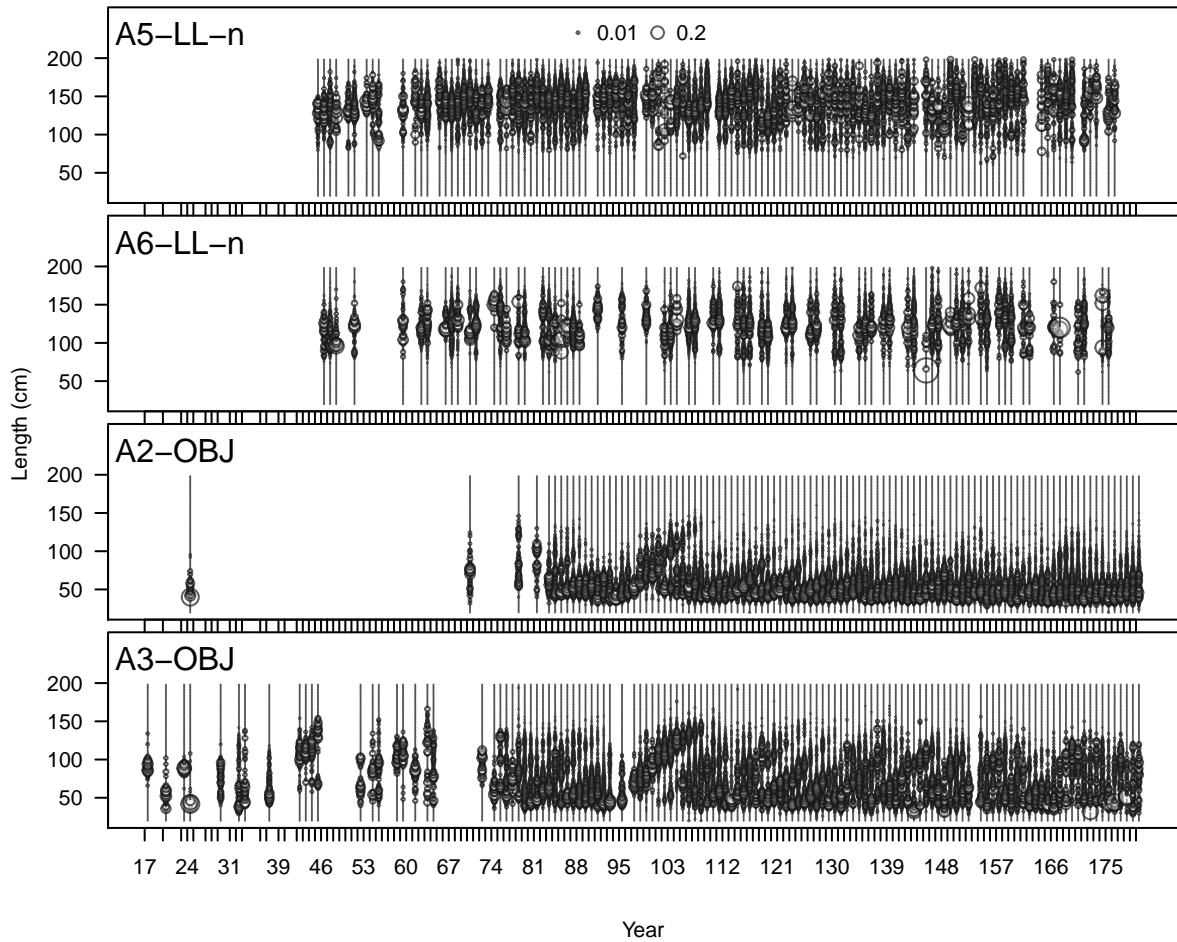


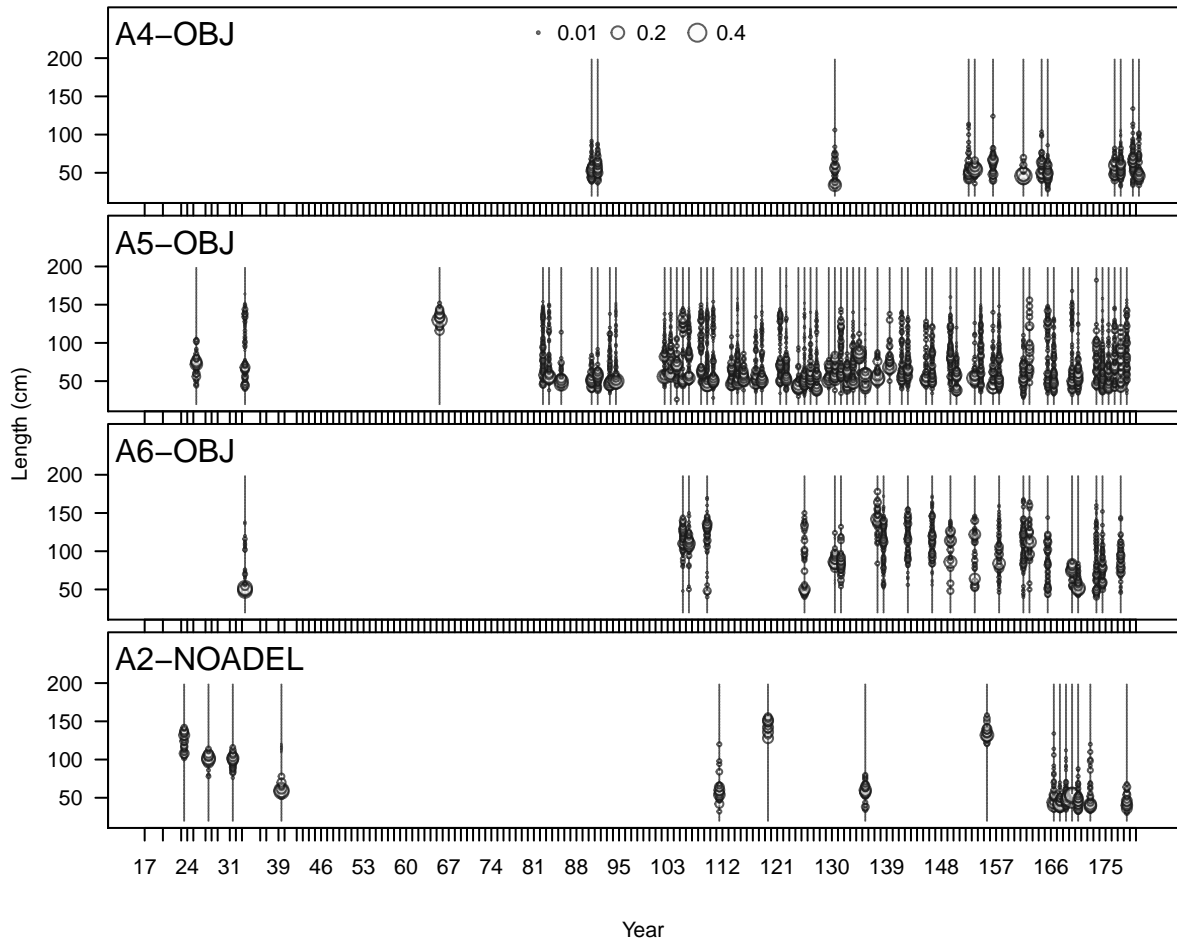
Proportion

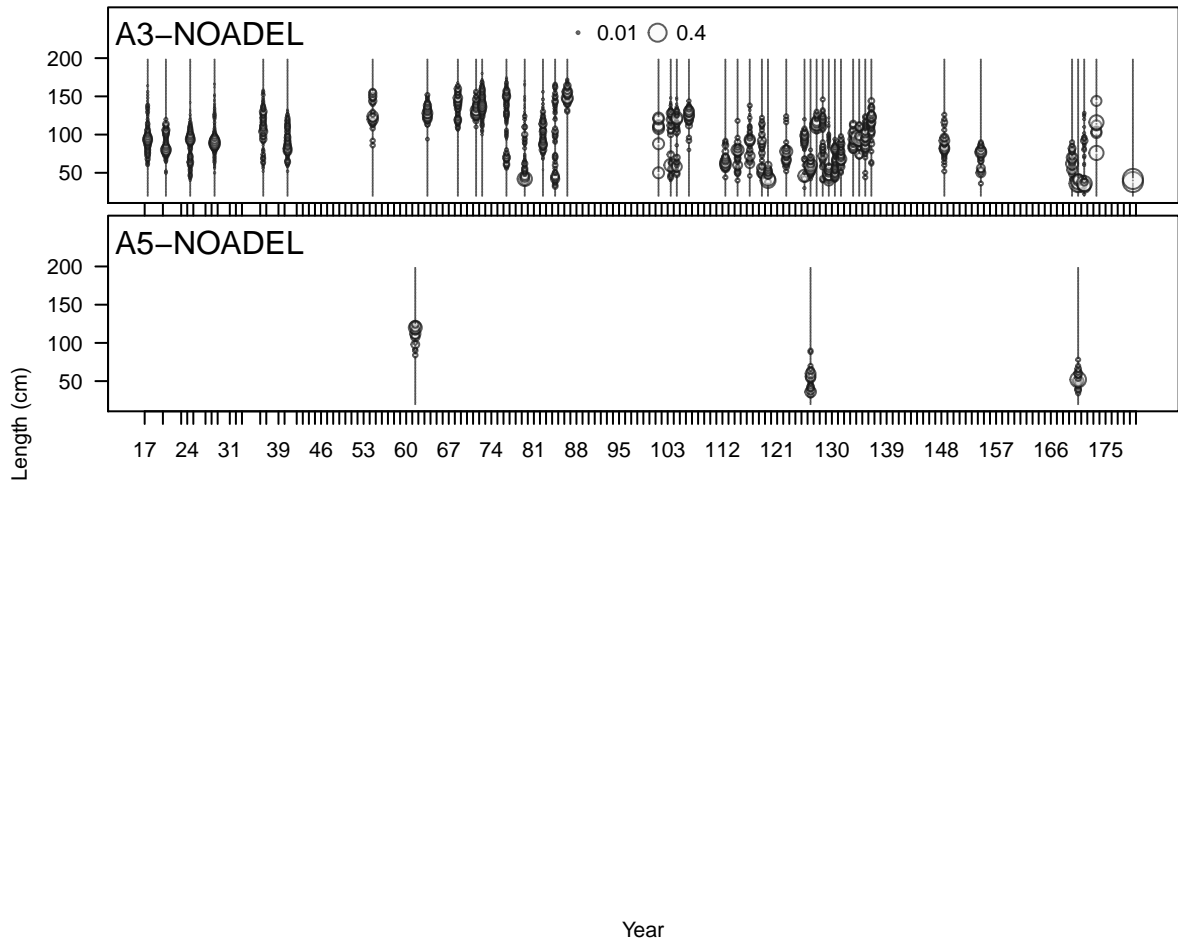




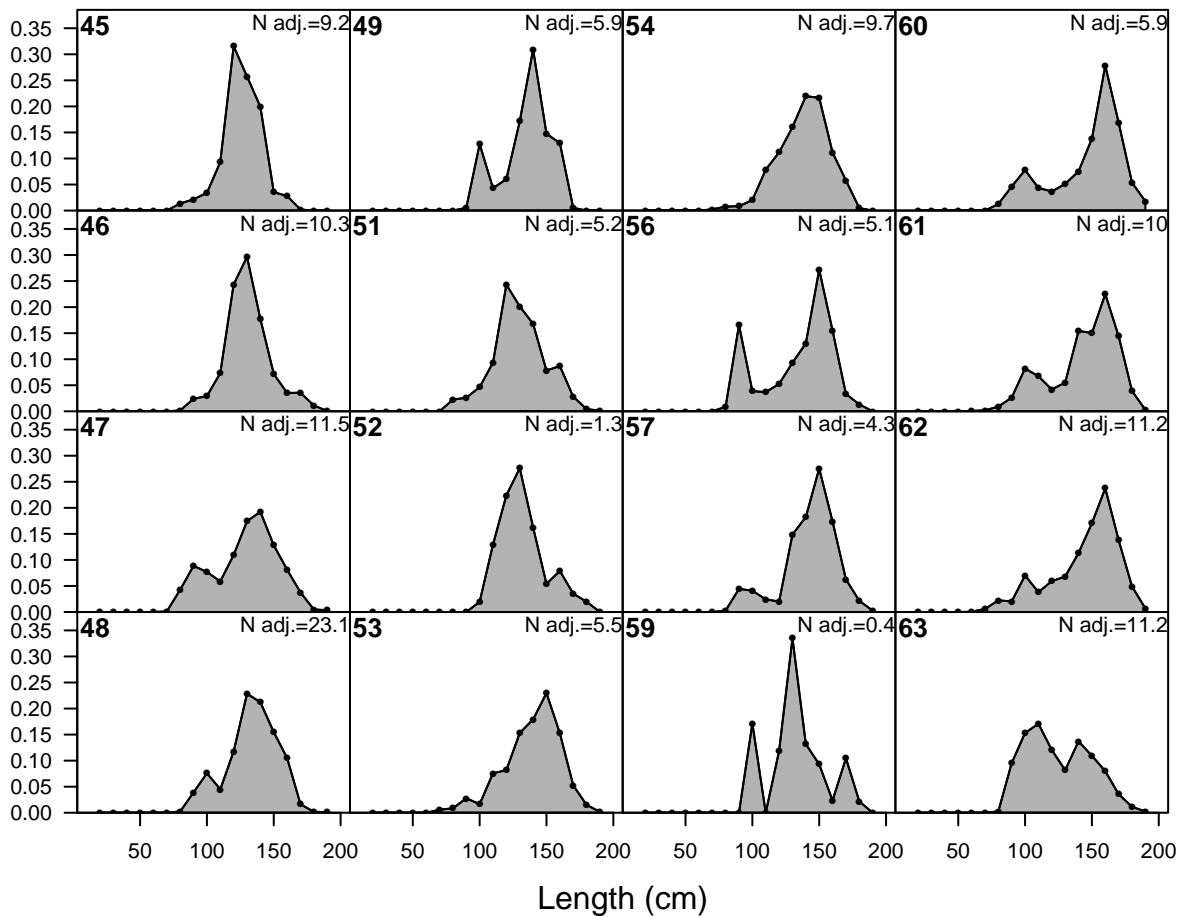




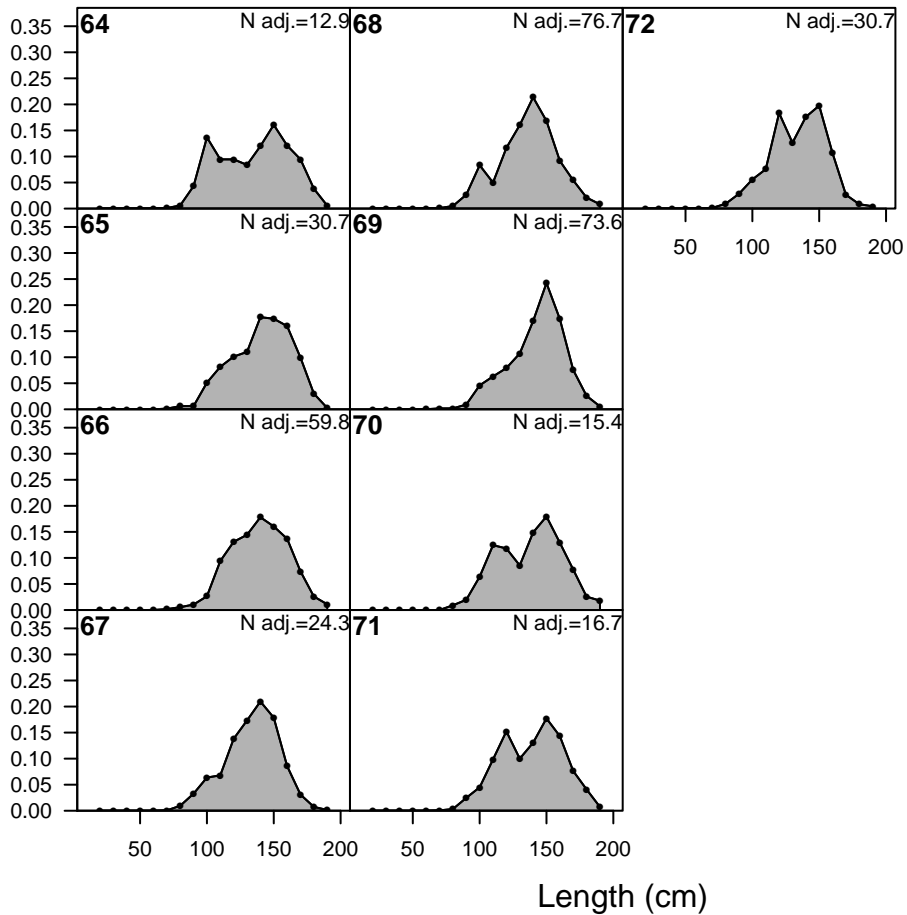


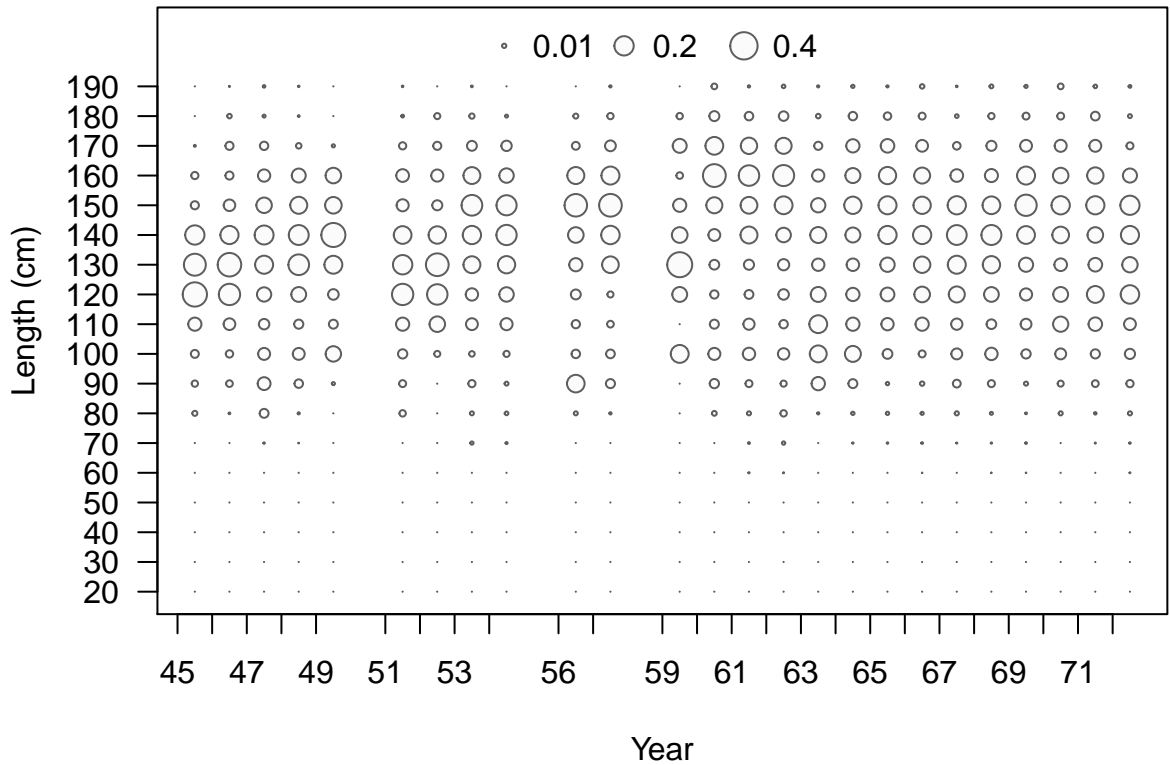


Proportion

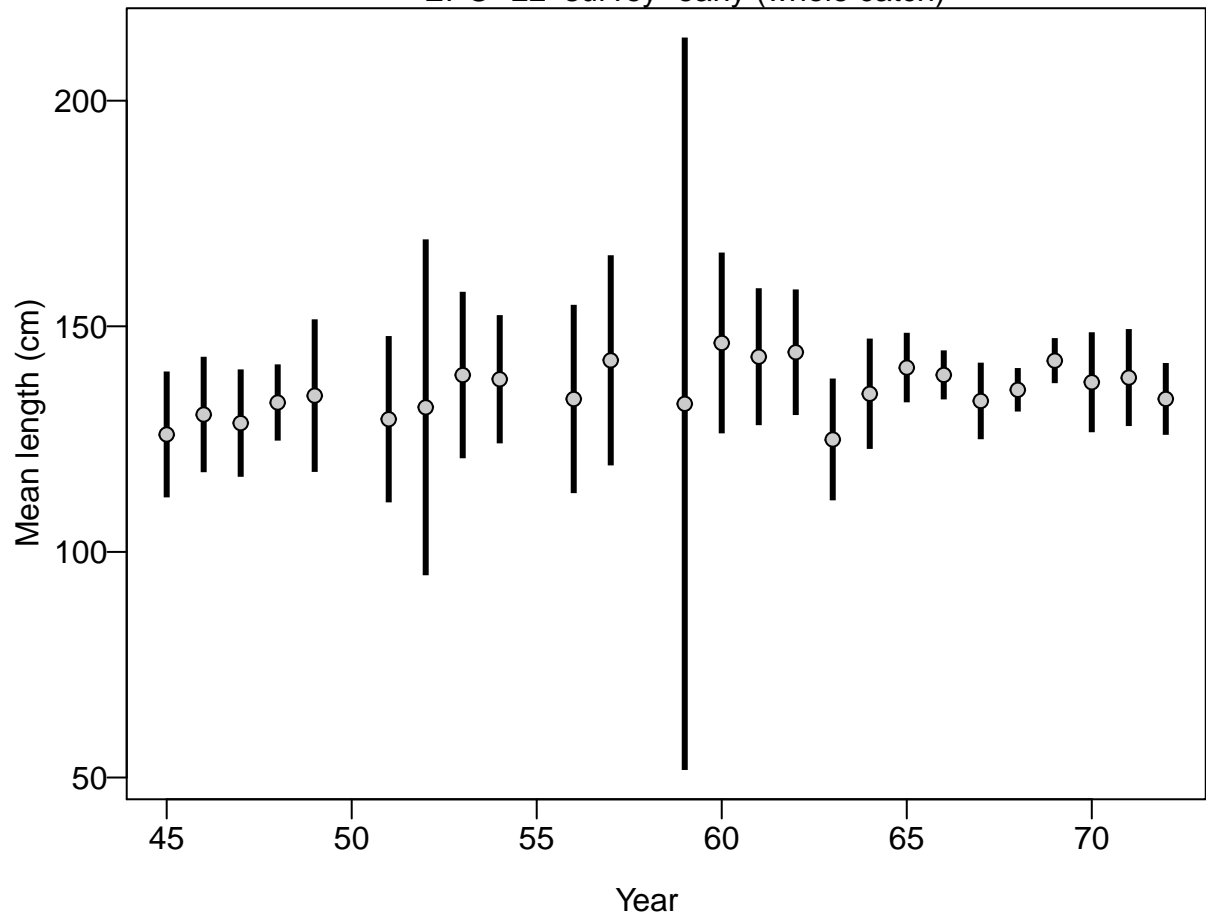


Proportion

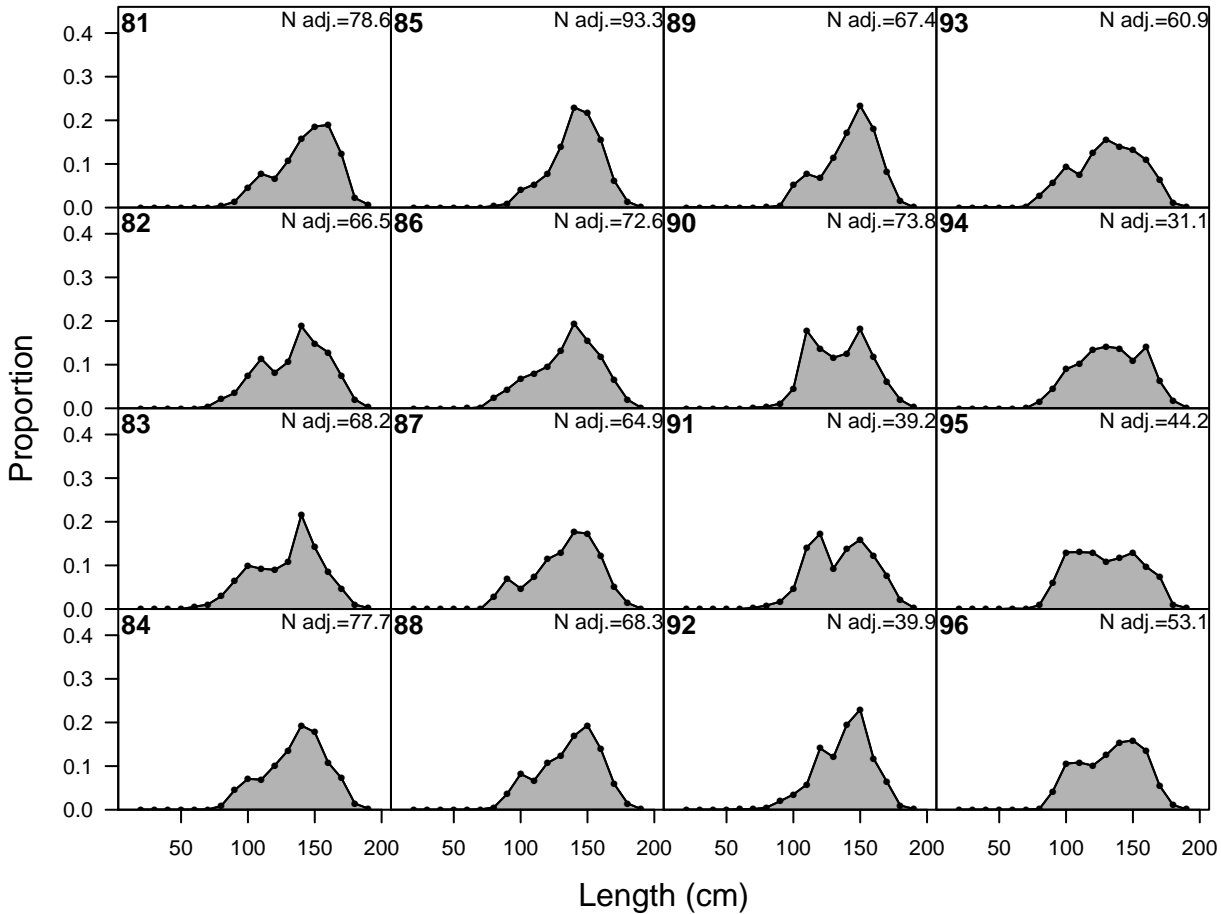


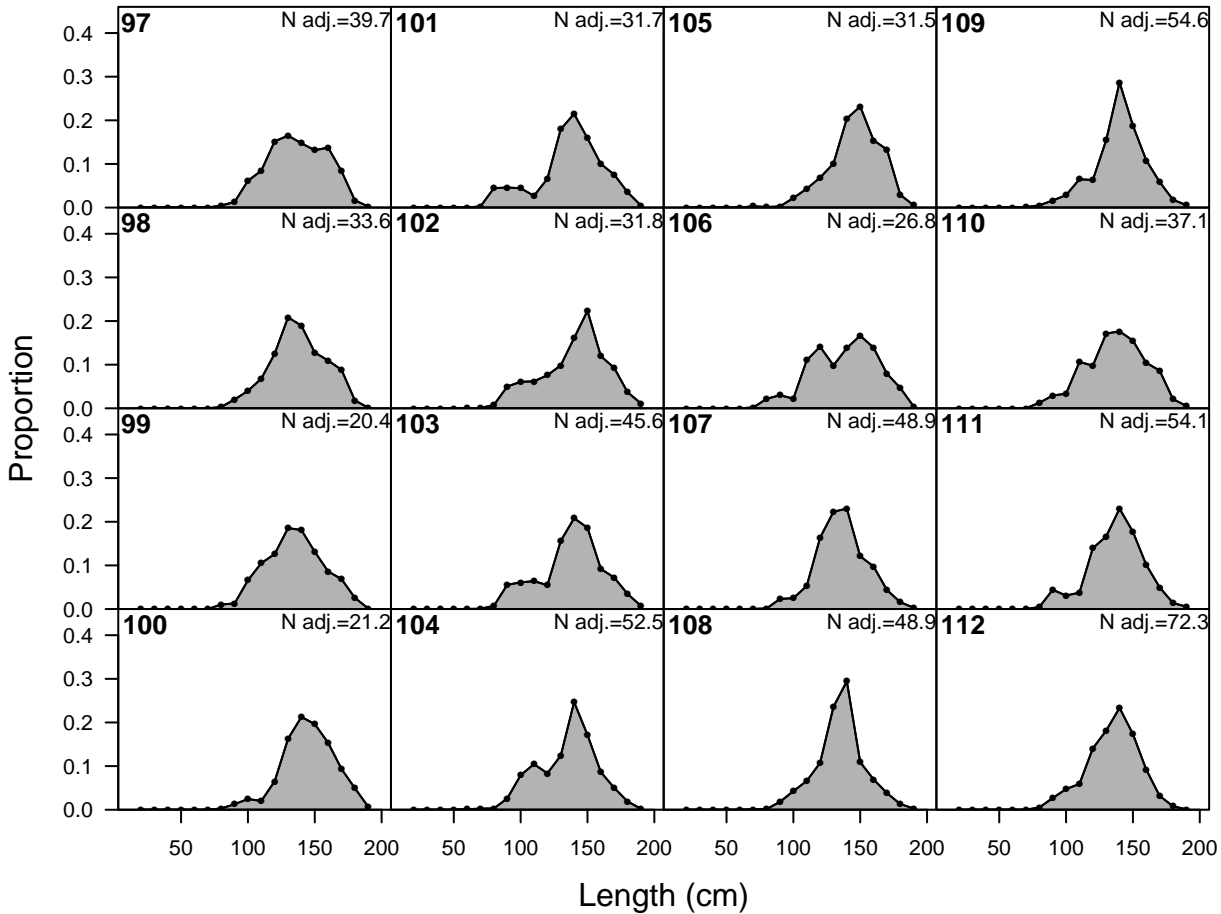


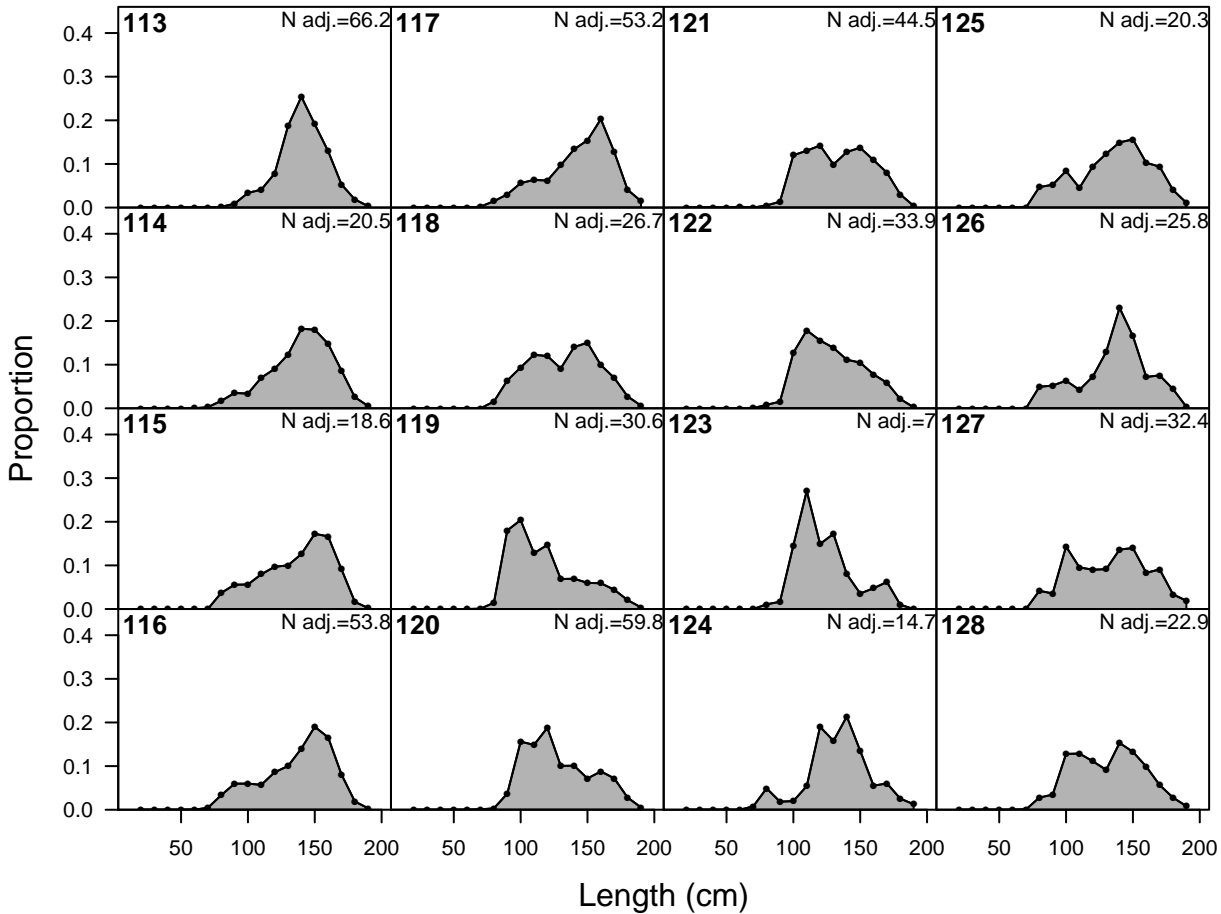
EPO-LL-survey-early (whole catch)

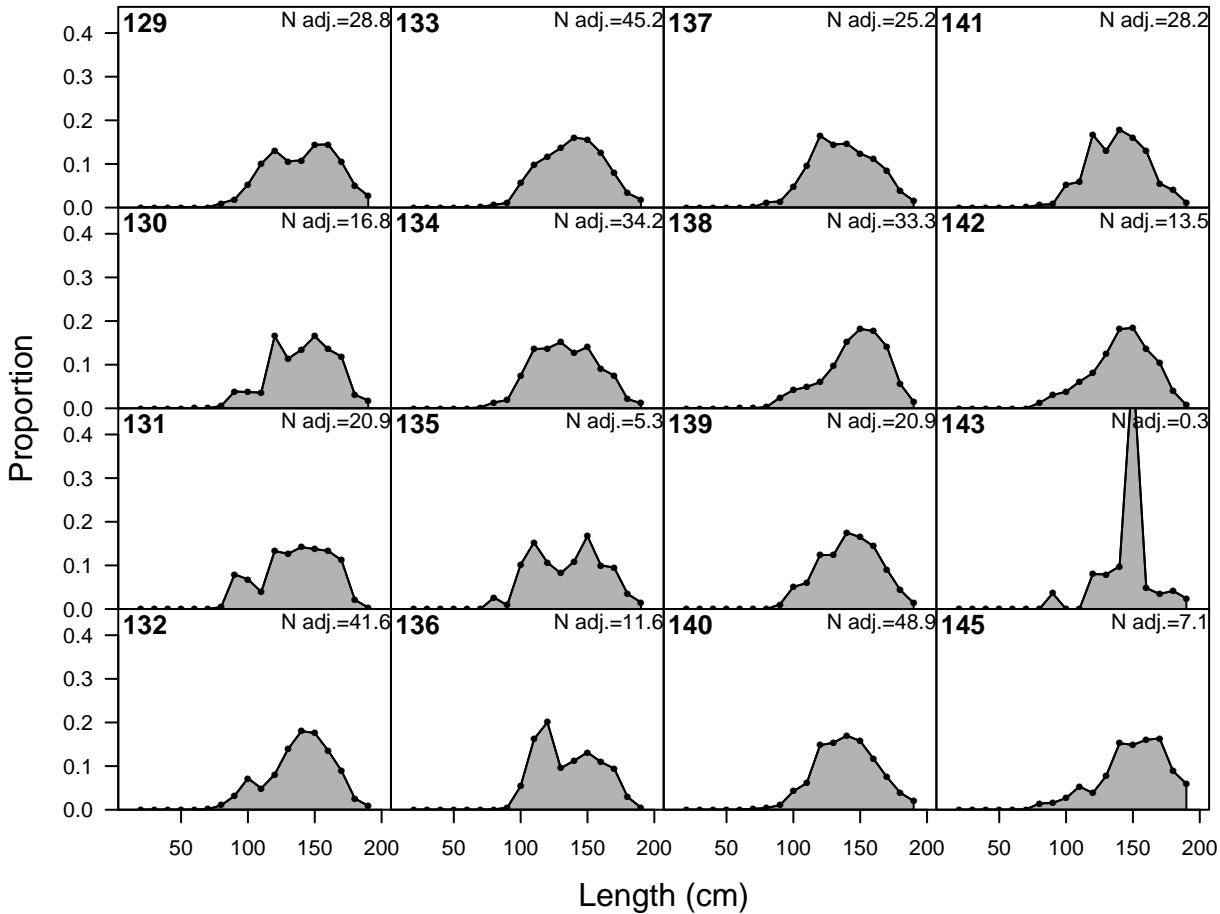


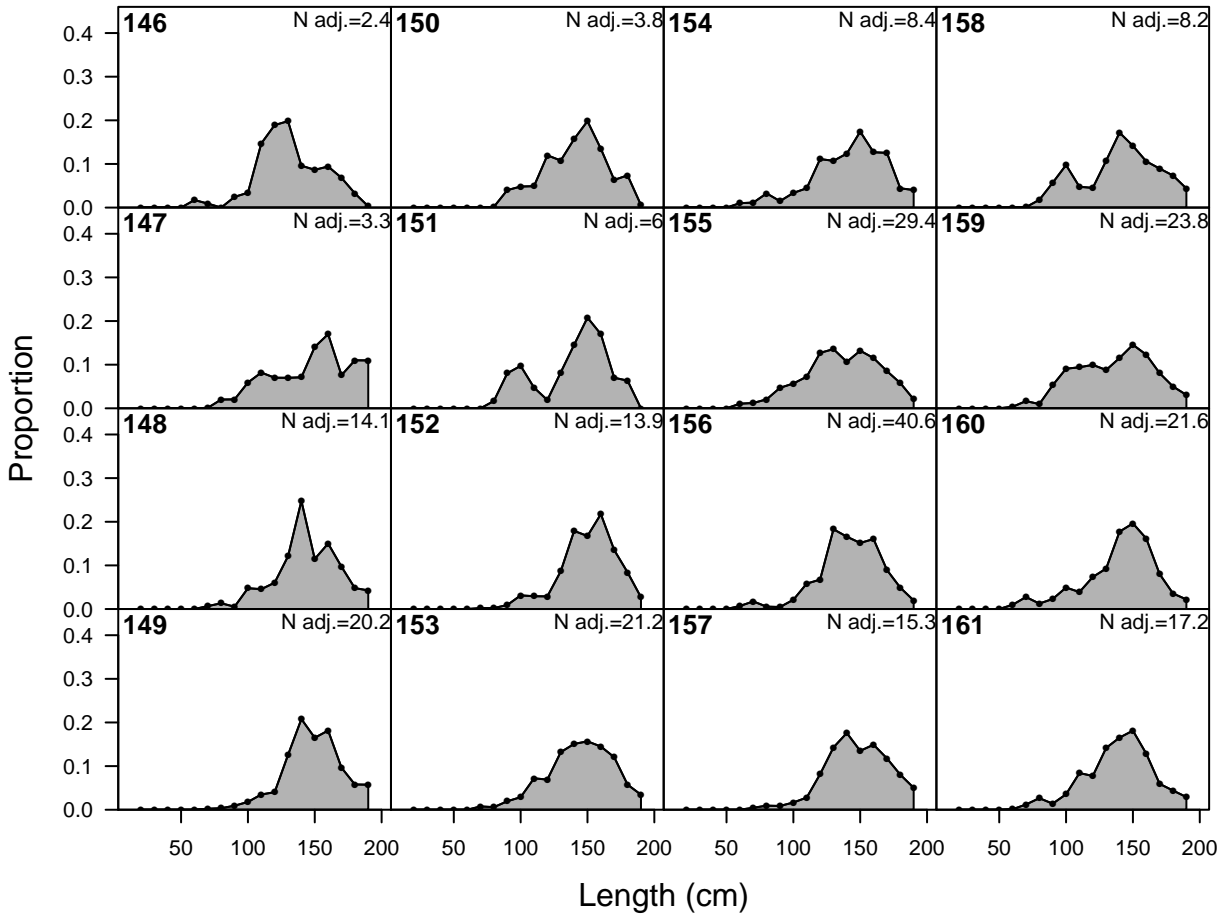


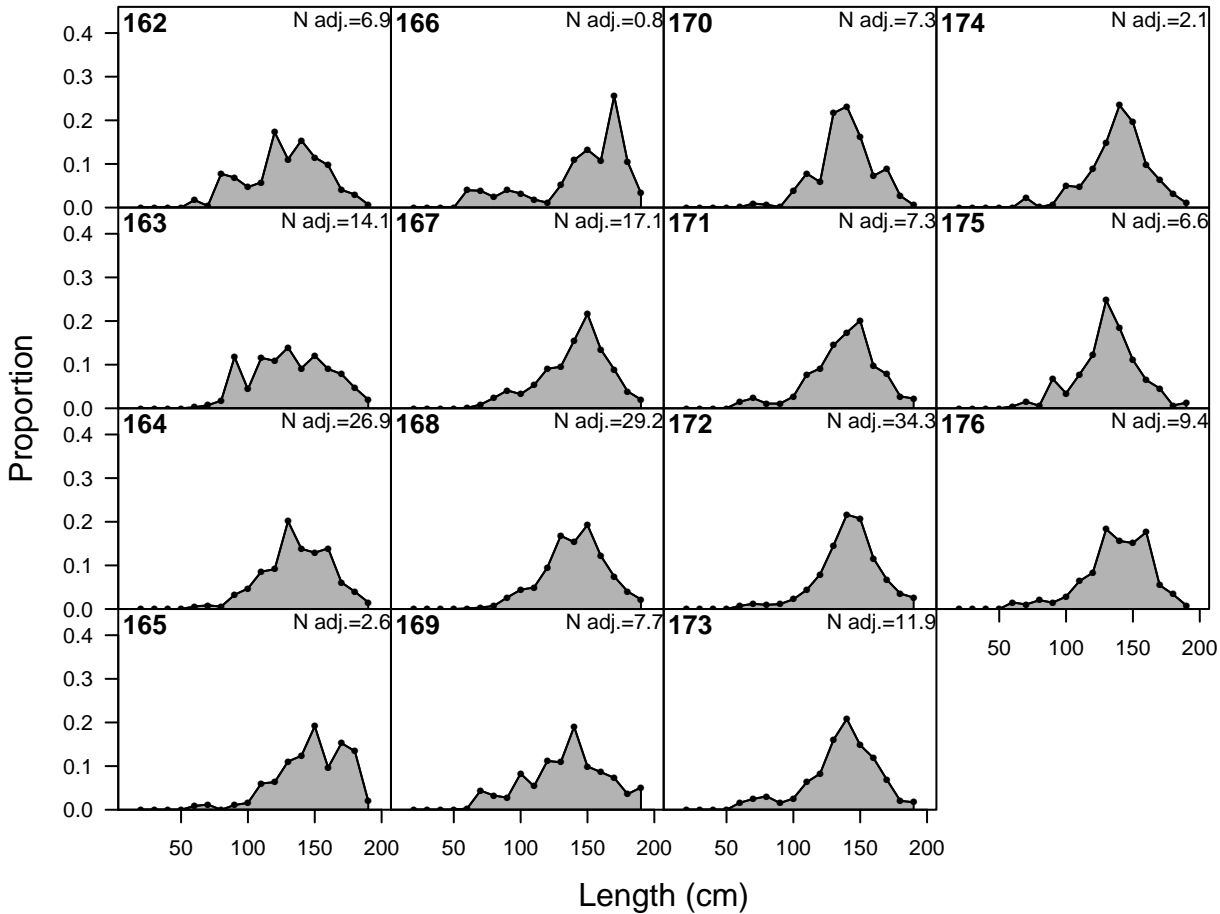


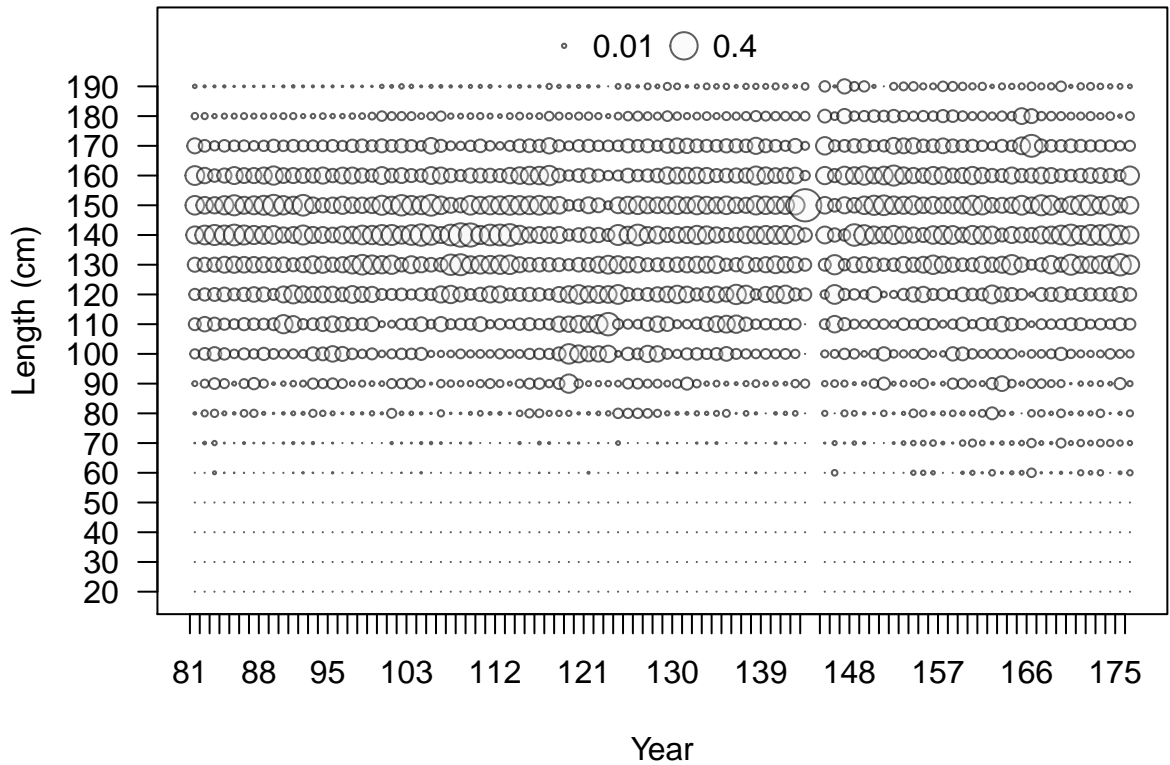




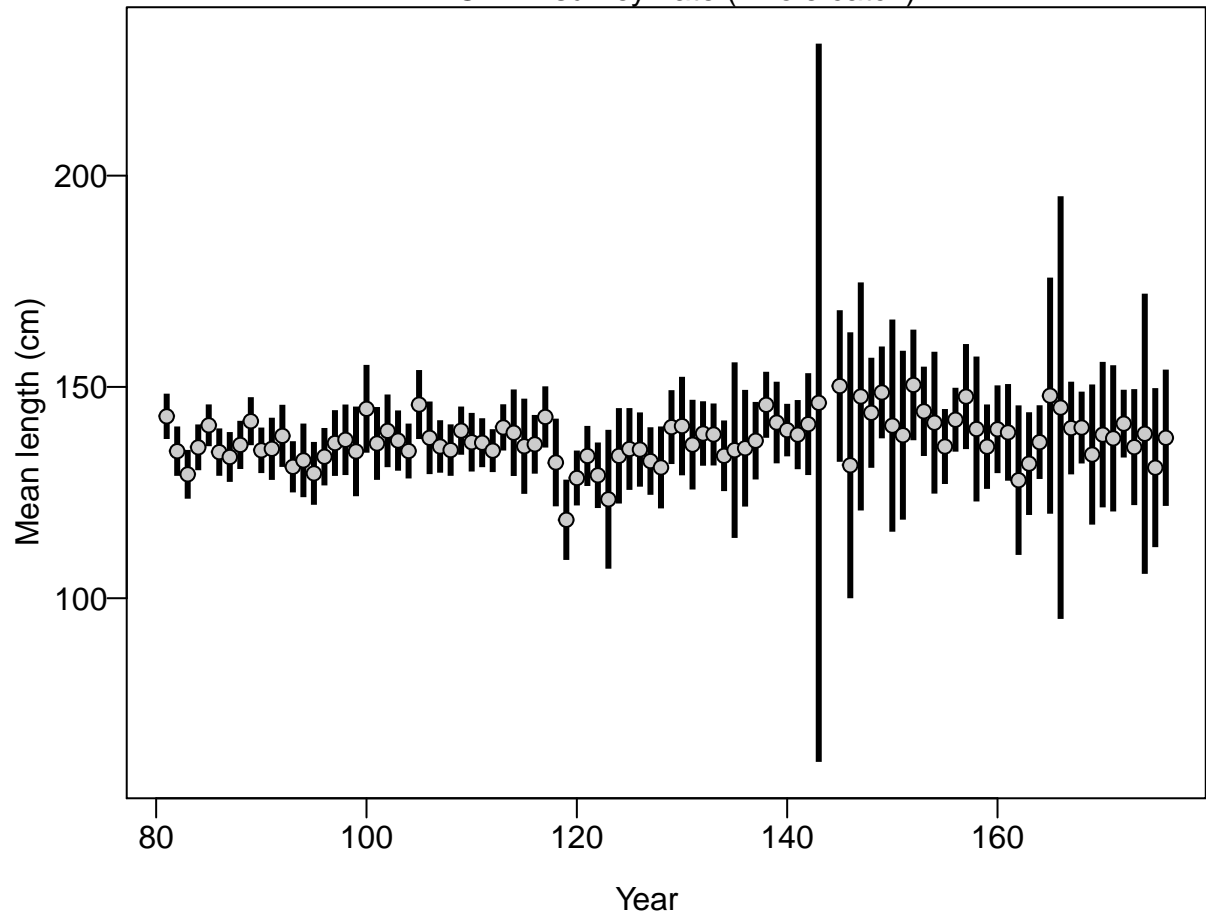








EPO-LL-survey-late (whole catch)





**EPO-LL-survey-early**

Sum of N adj.=470.6

0.20

0.15

0.10

0.05

0.00

Proportion

**EPO-LL-survey-late**

Sum of N adj.=2996.3

0.20

0.15

0.10

0.05

0.00

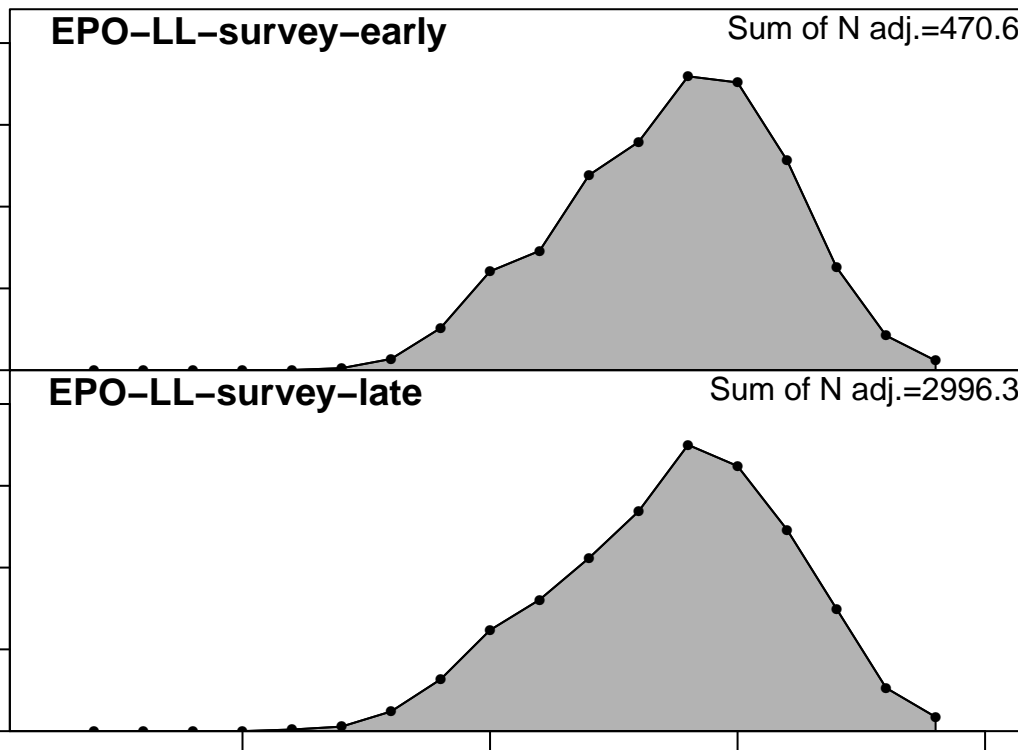
50

100

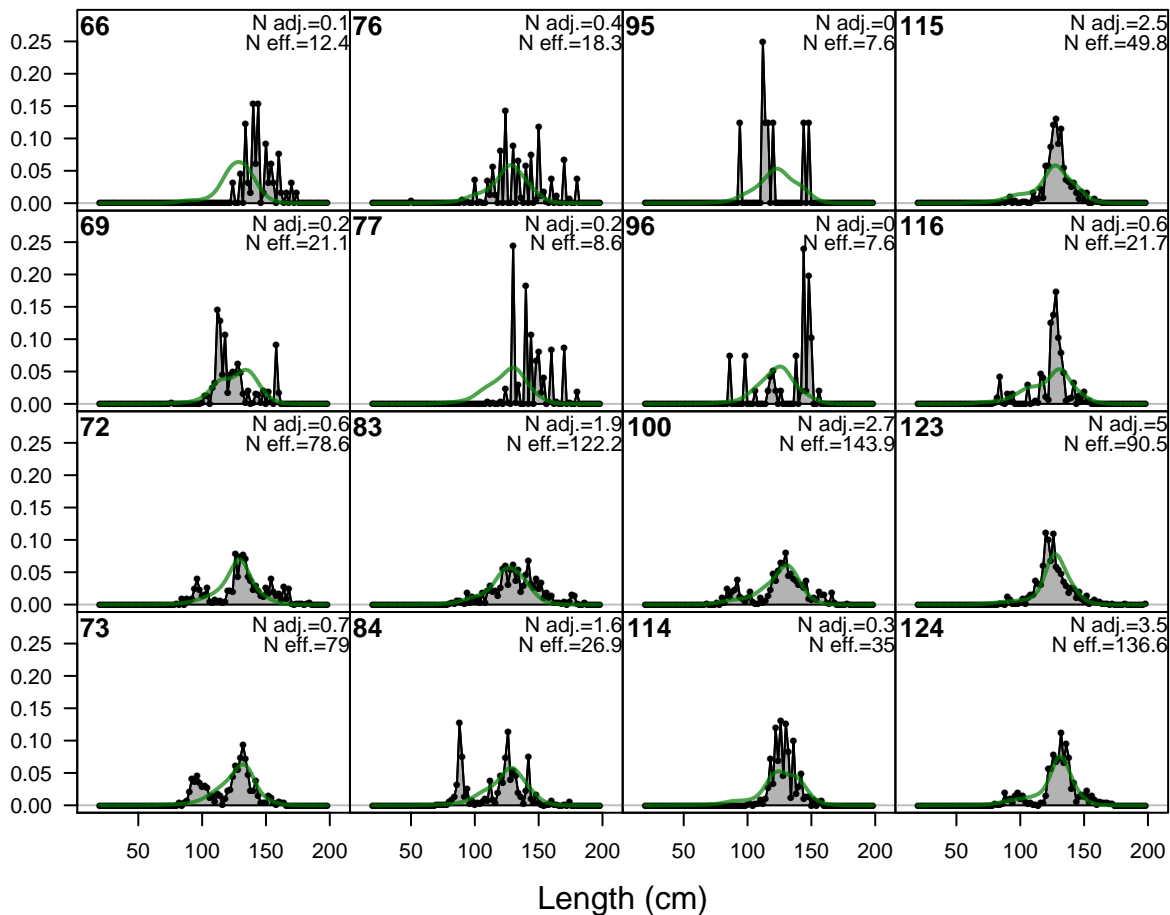
150

200

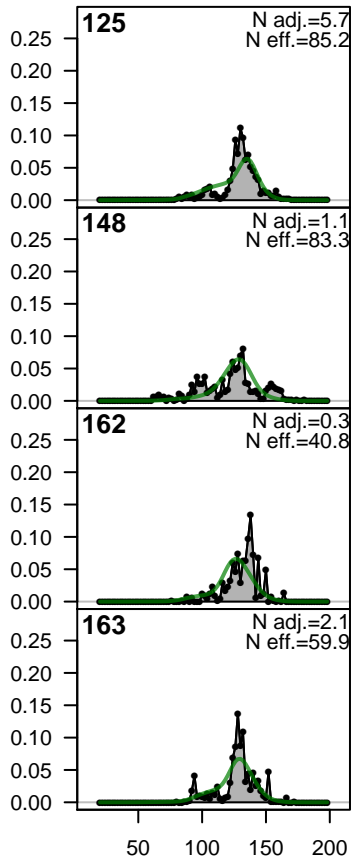
Length (cm)



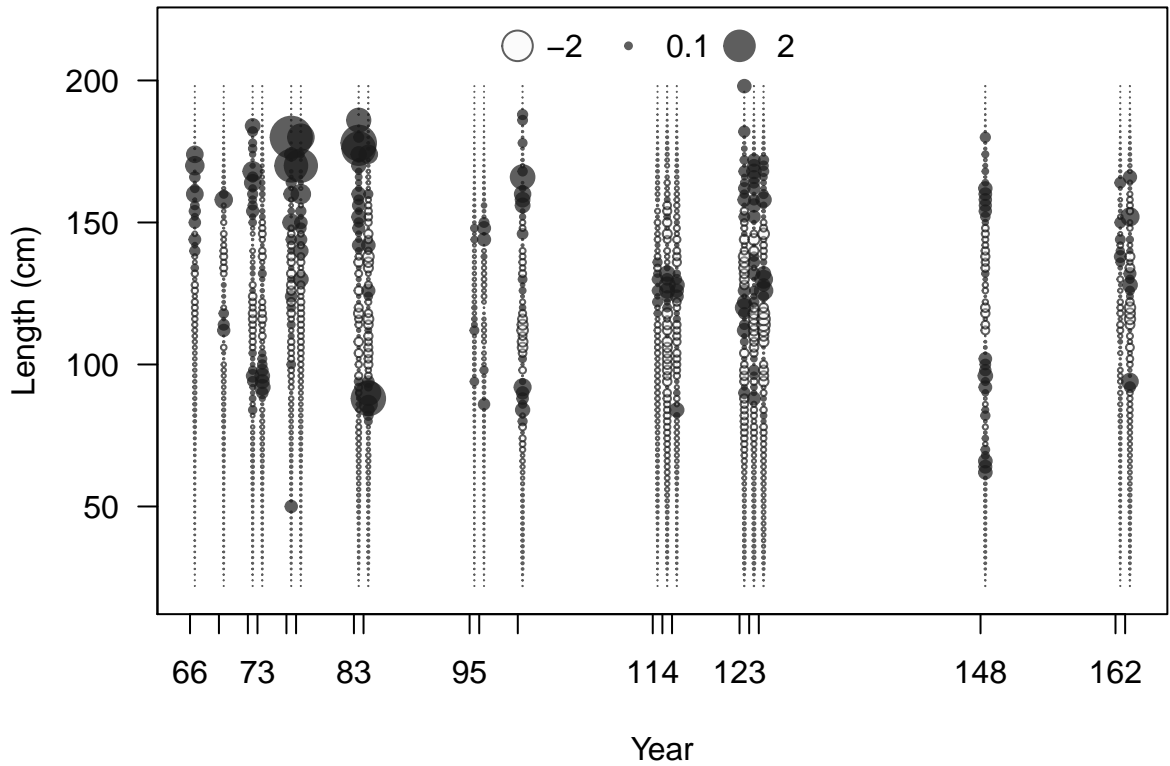
Proportion

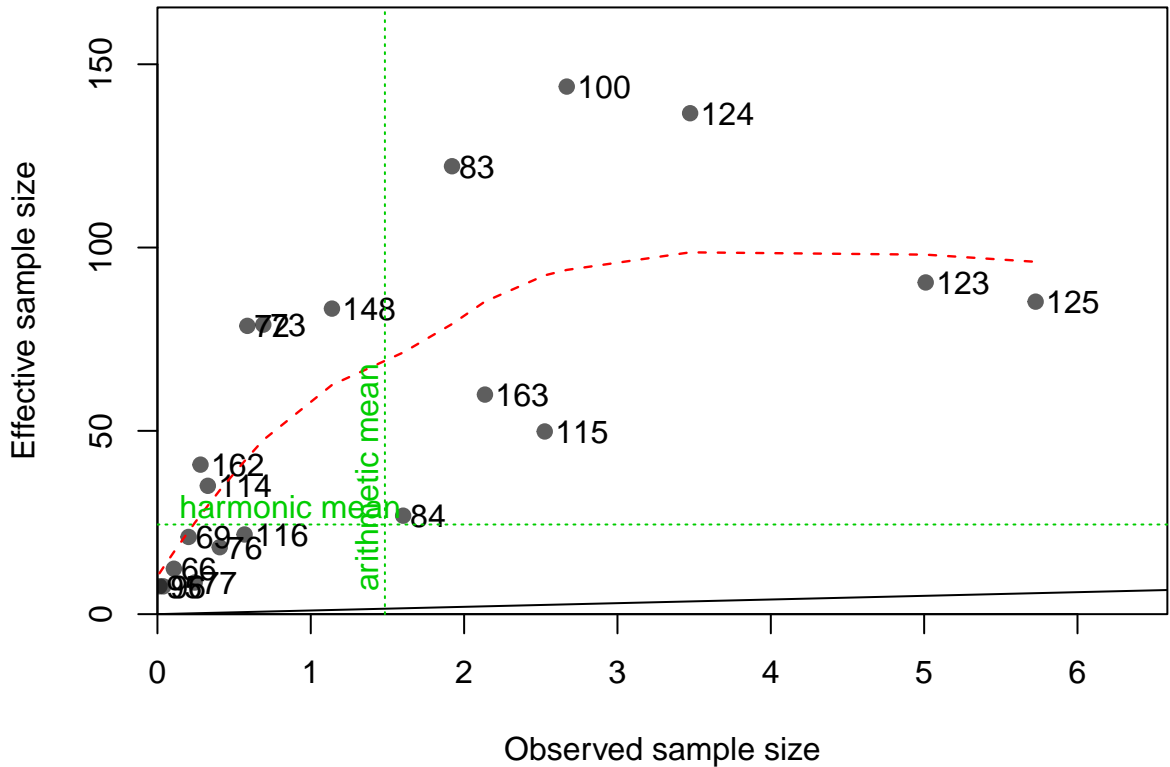


Proportion

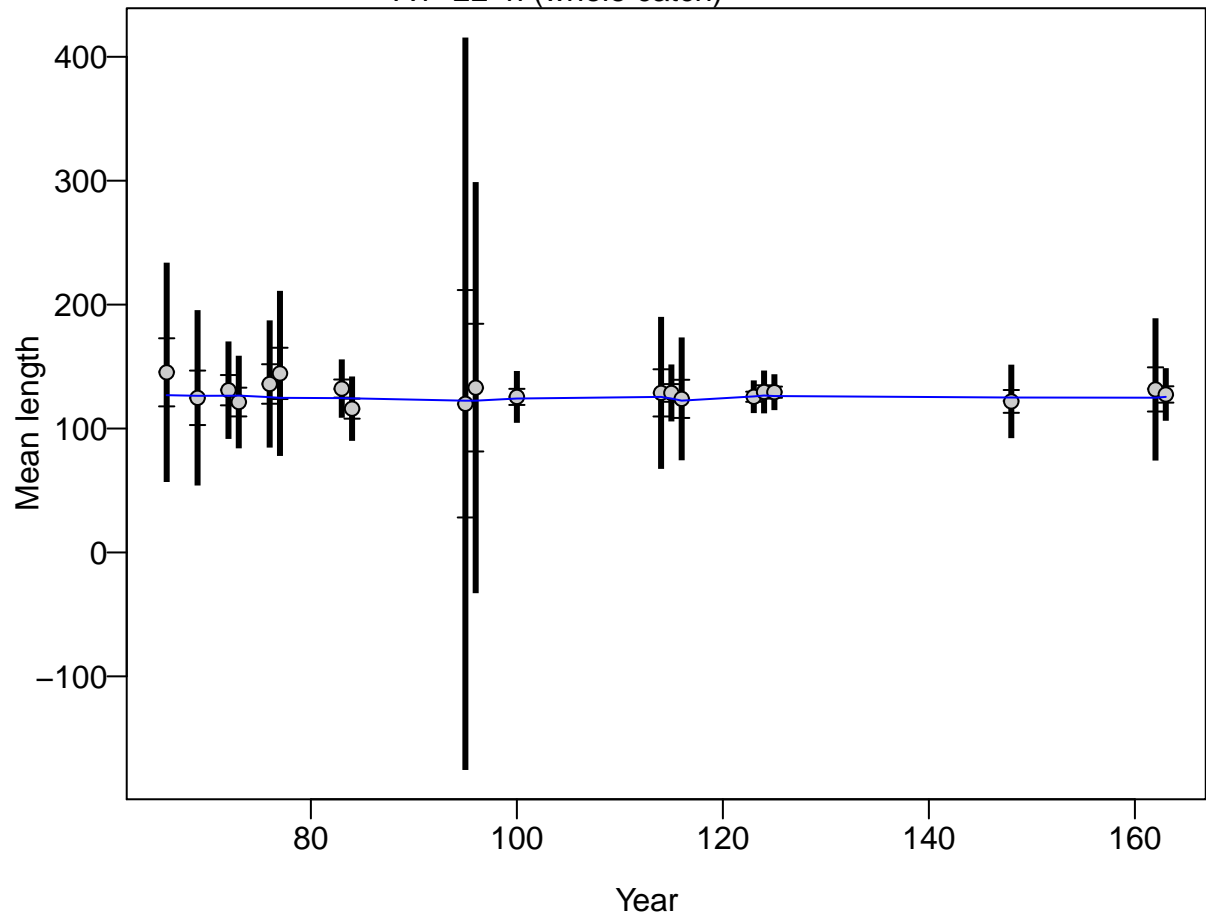


Length (cm)

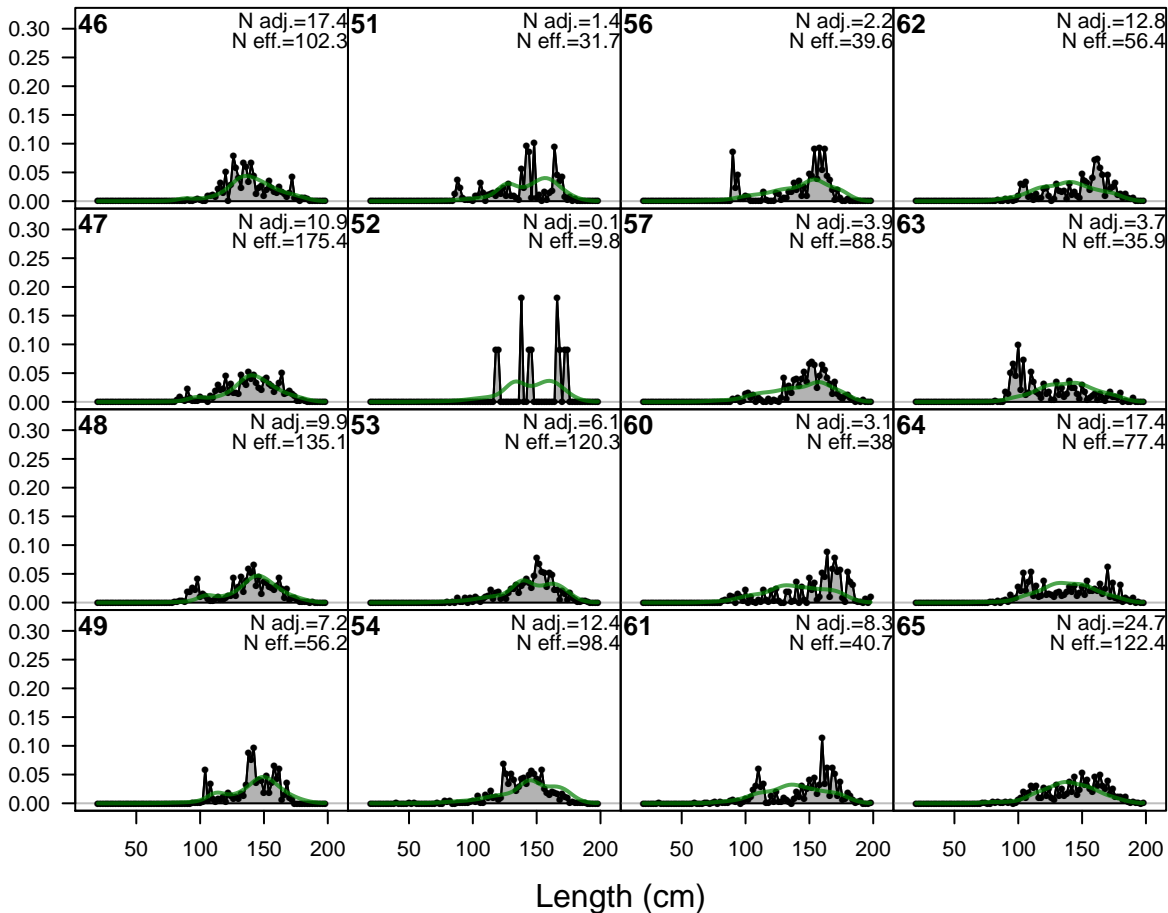




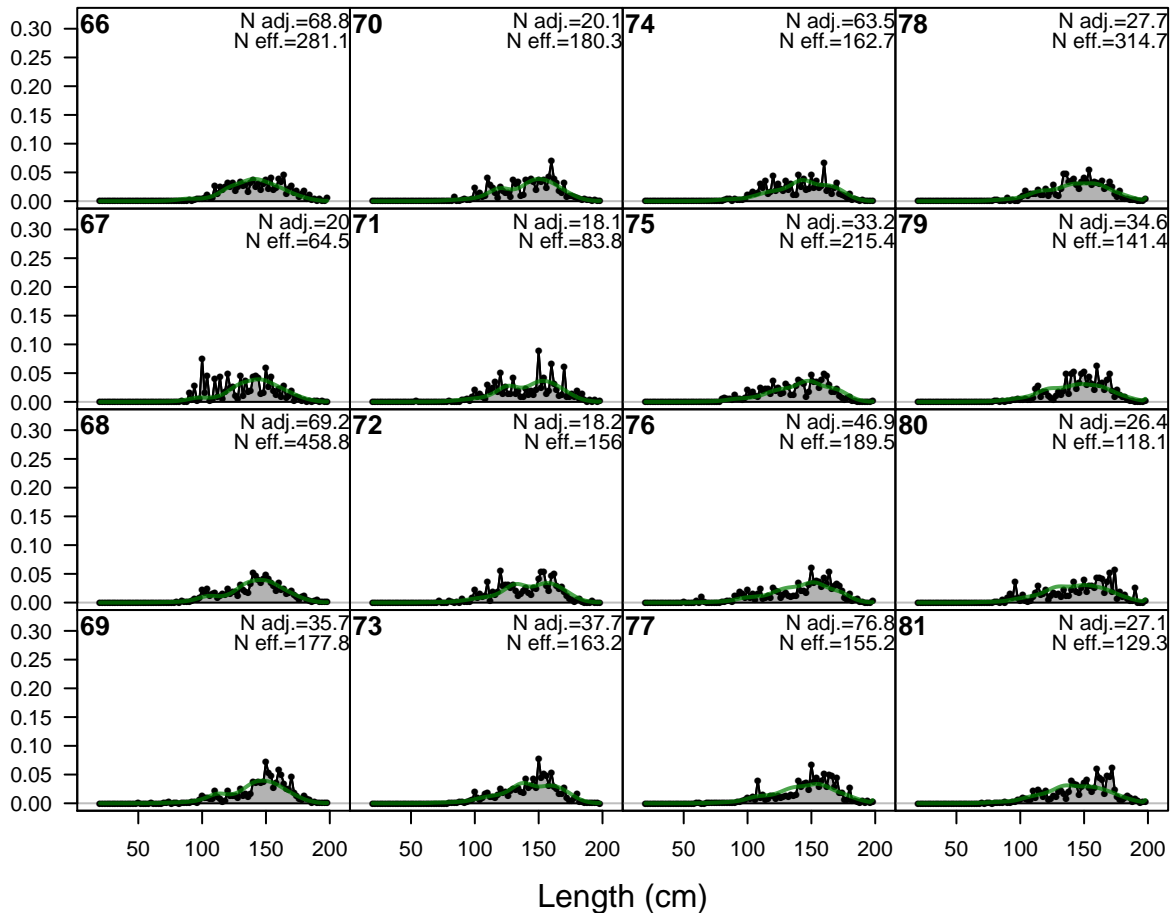
A1-LL-n (whole catch)



Proportion

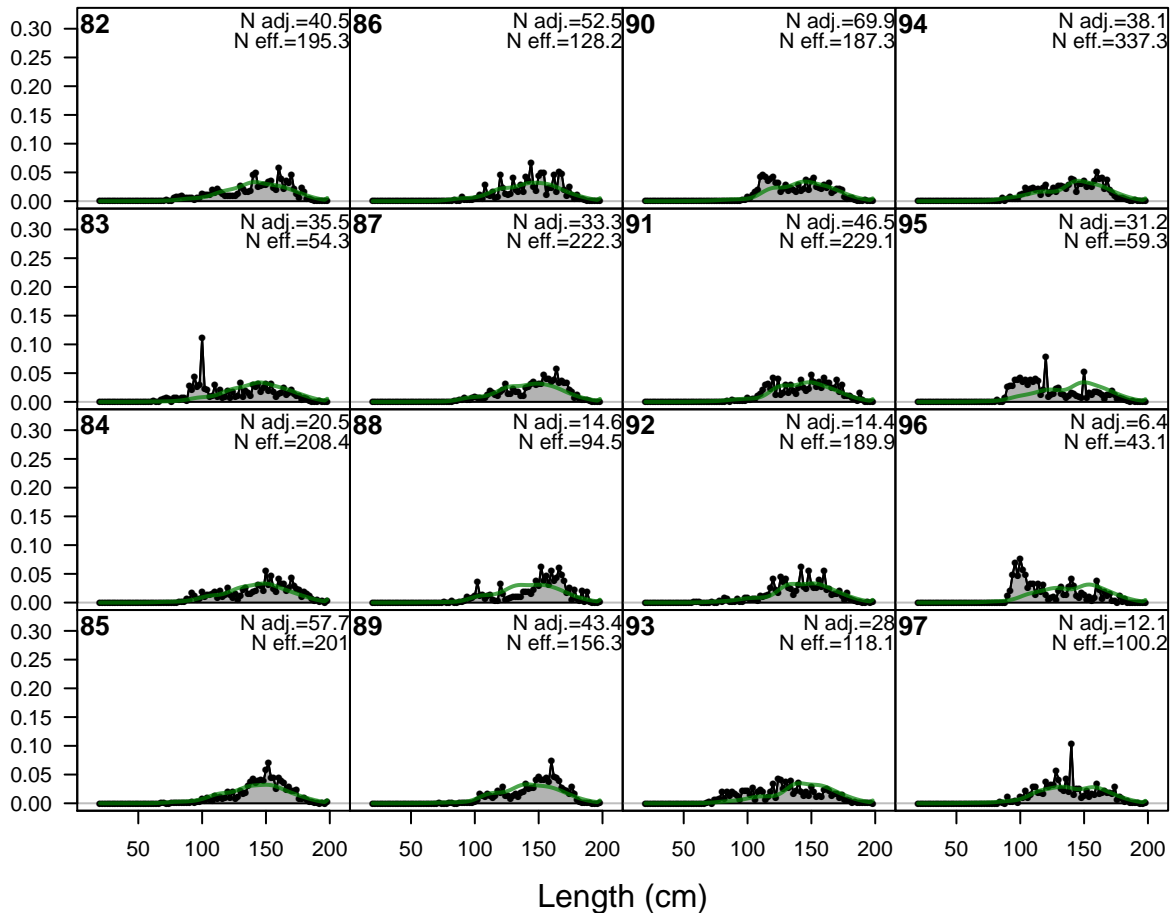


Proportion

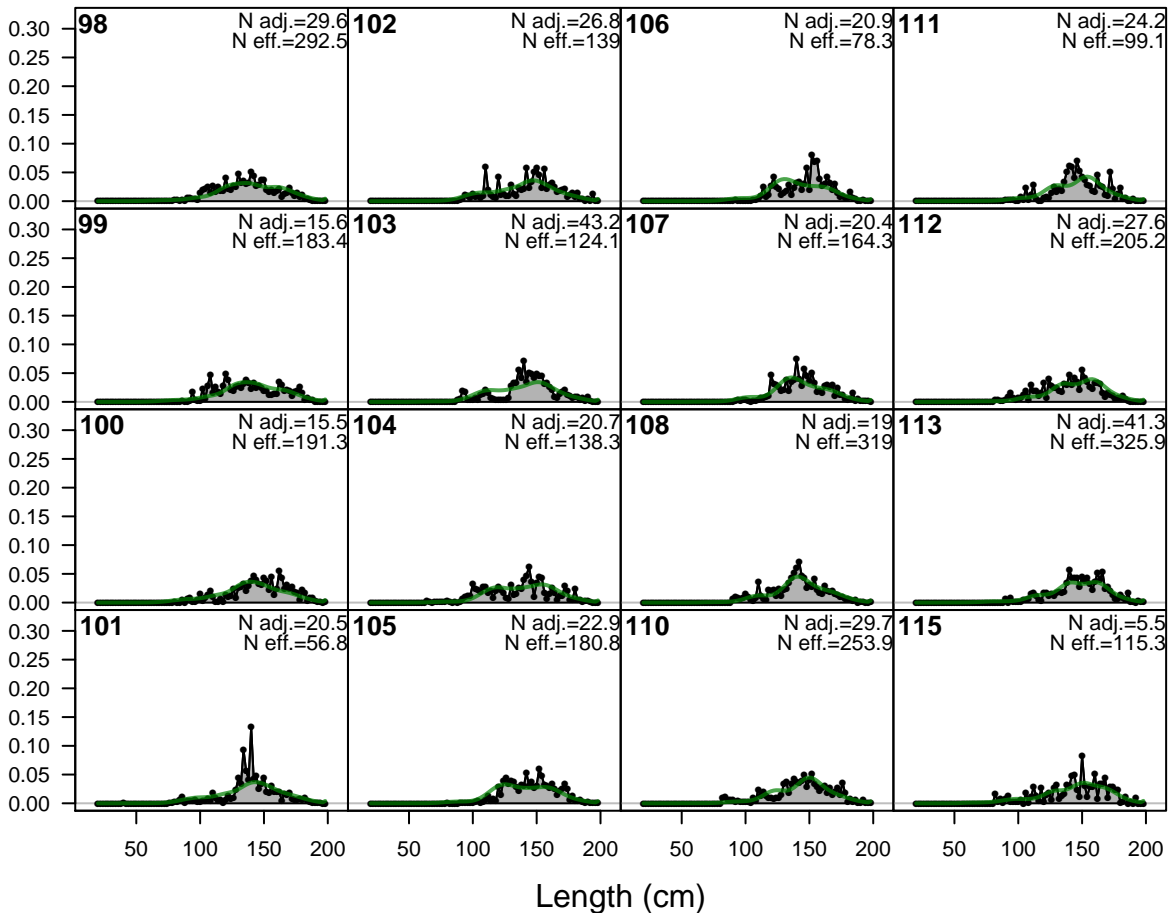




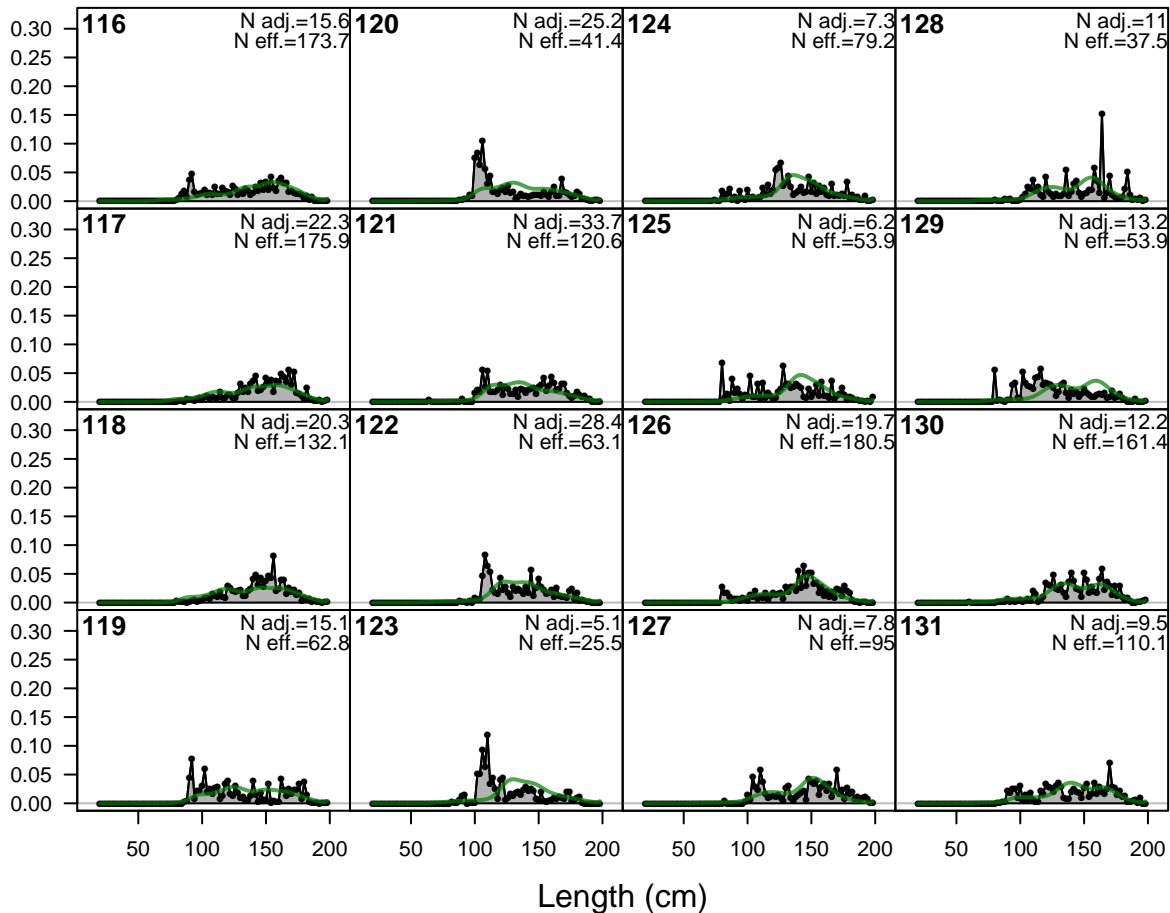
Proportion



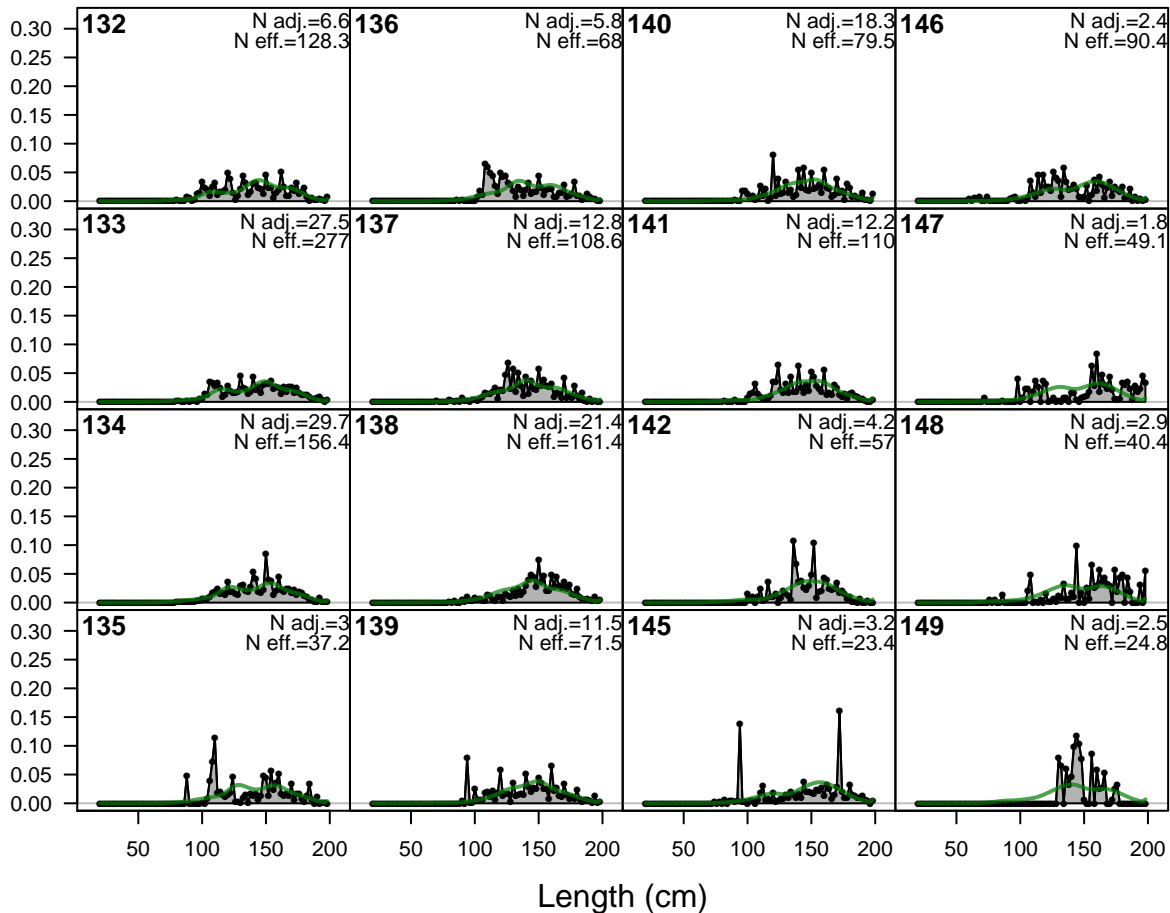
Proportion



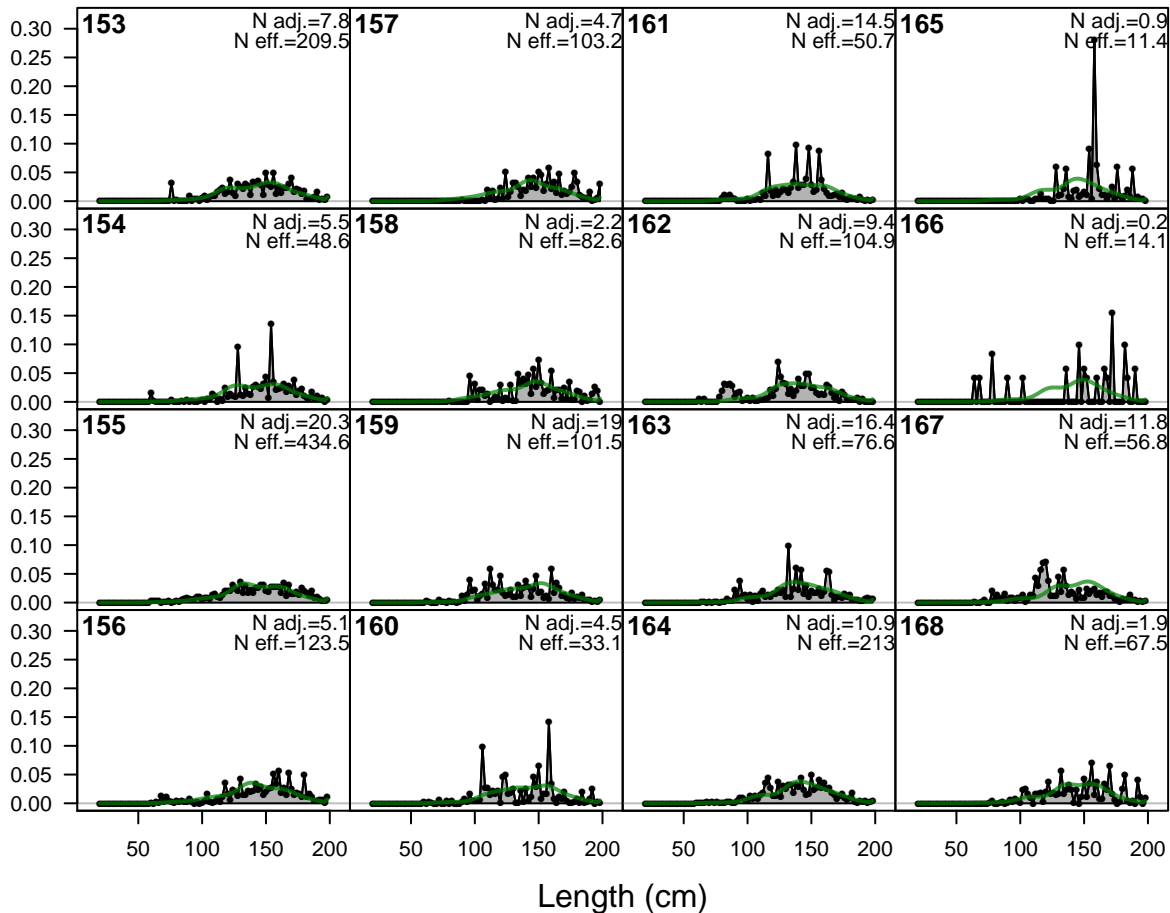
Proportion



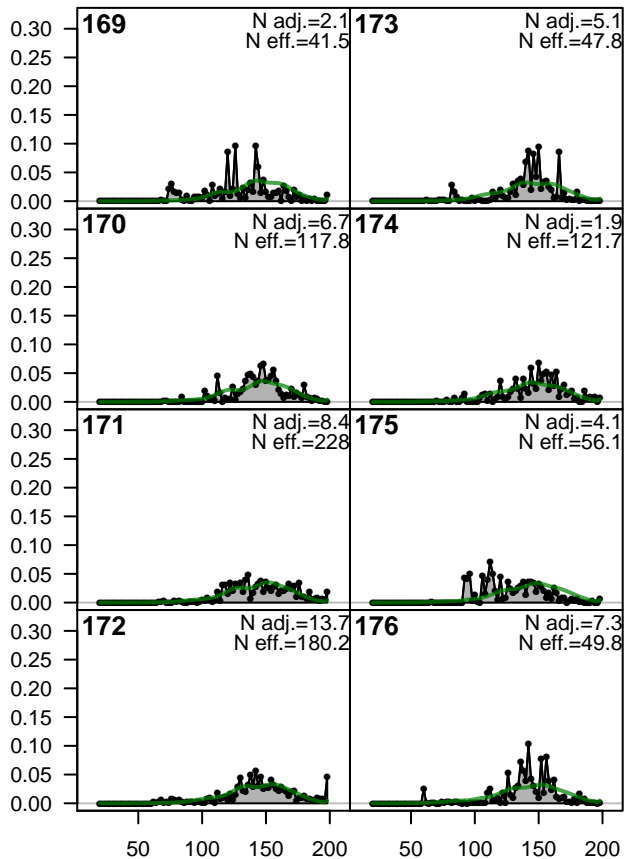
Proportion



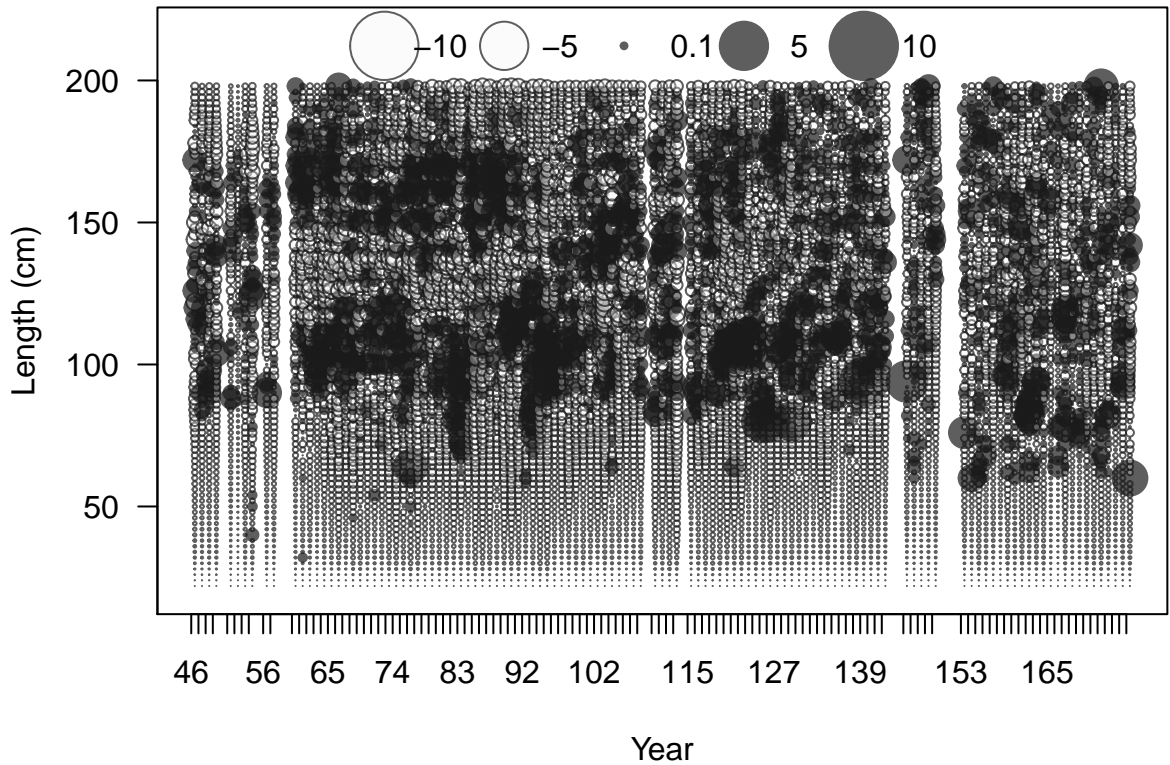
Proportion

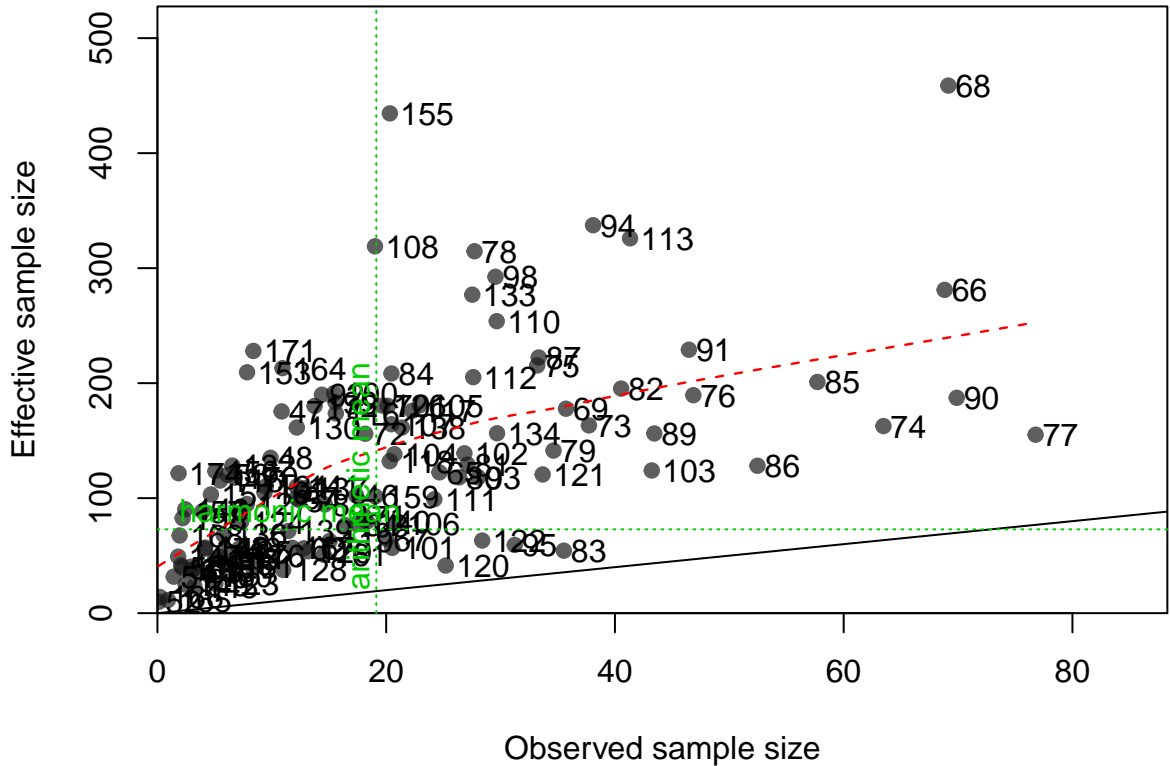


Proportion



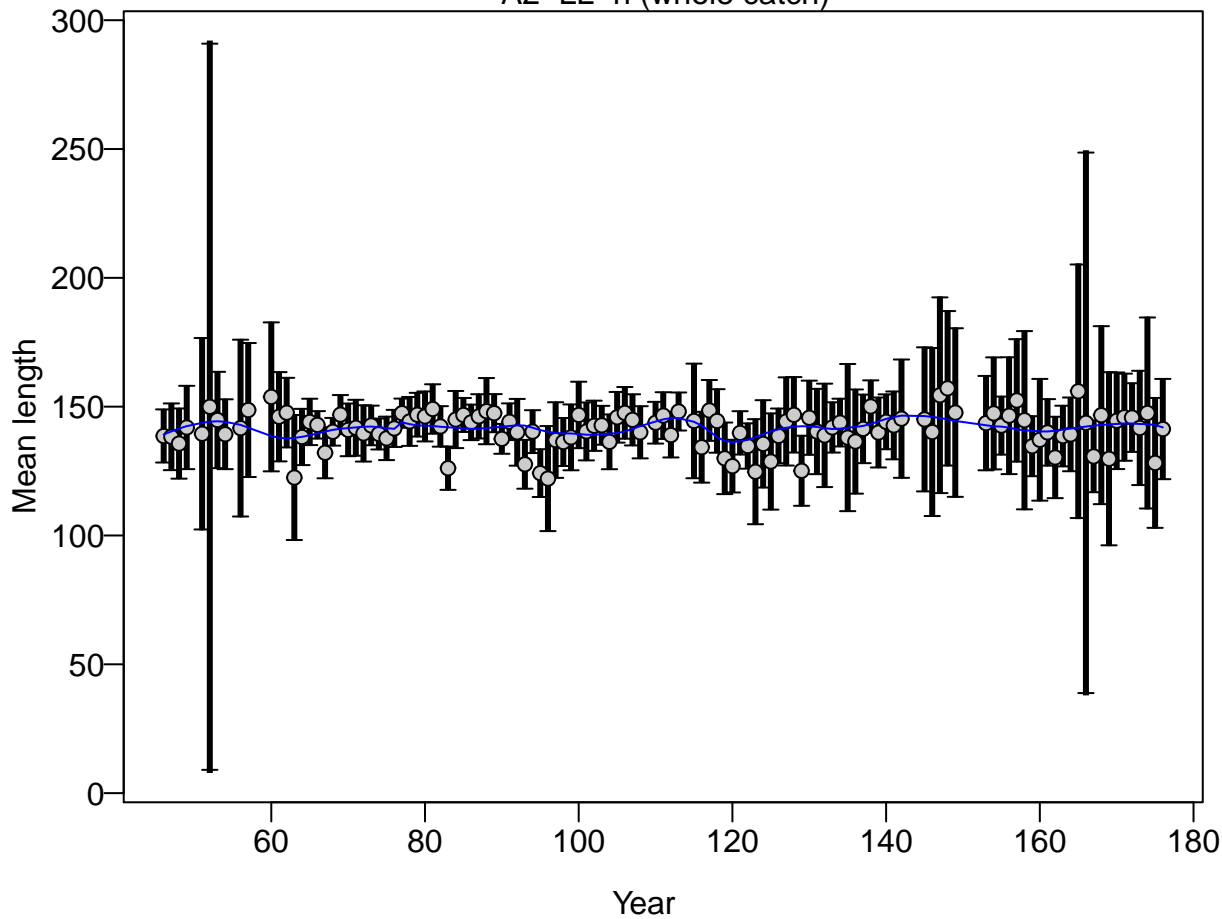
Length (cm)



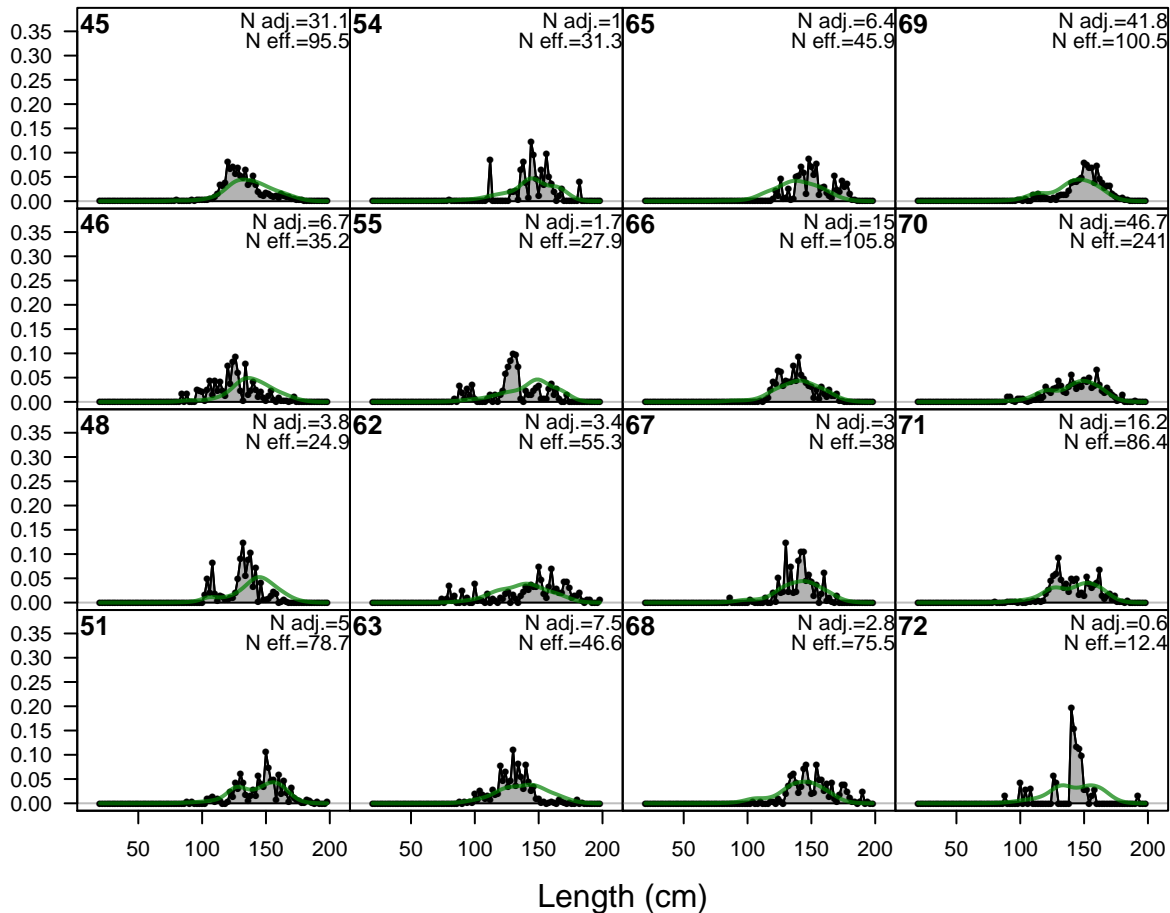




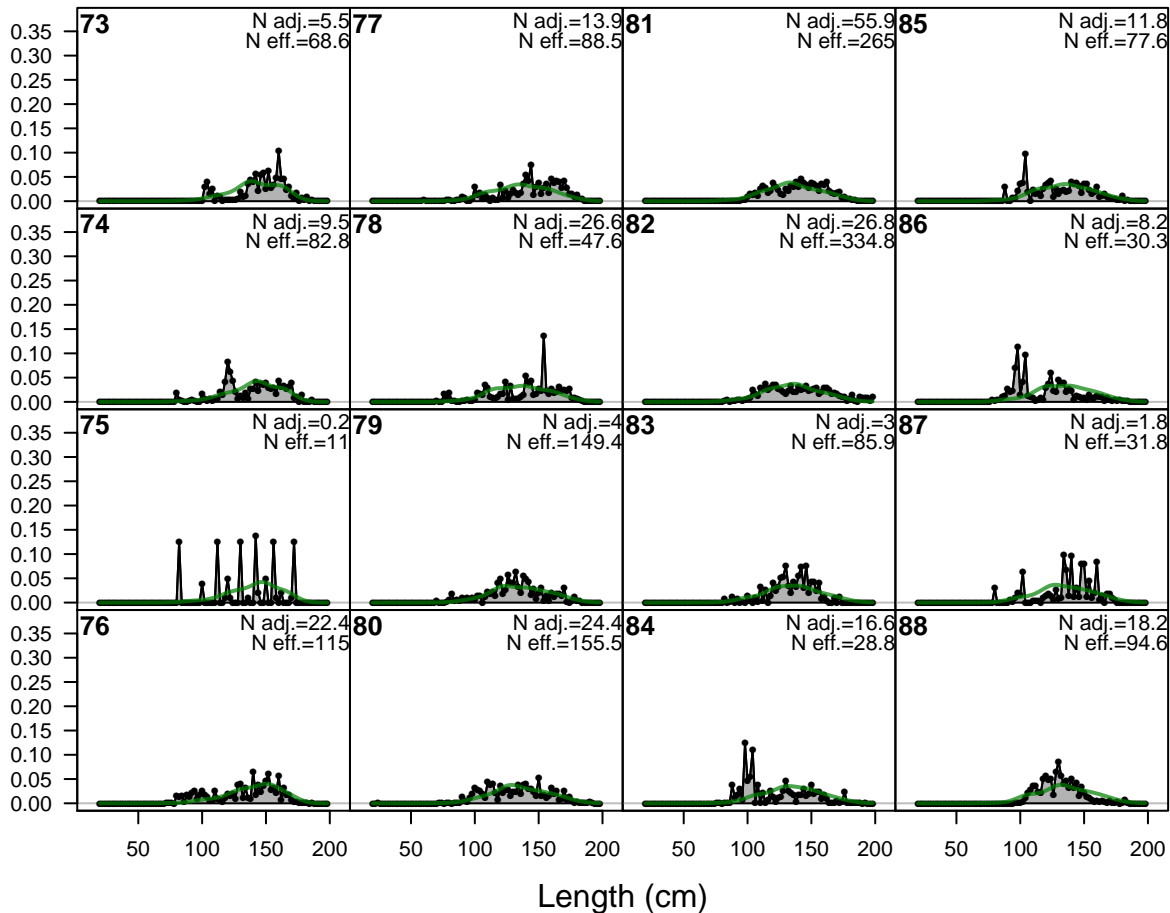
## A2-LL-n (whole catch)



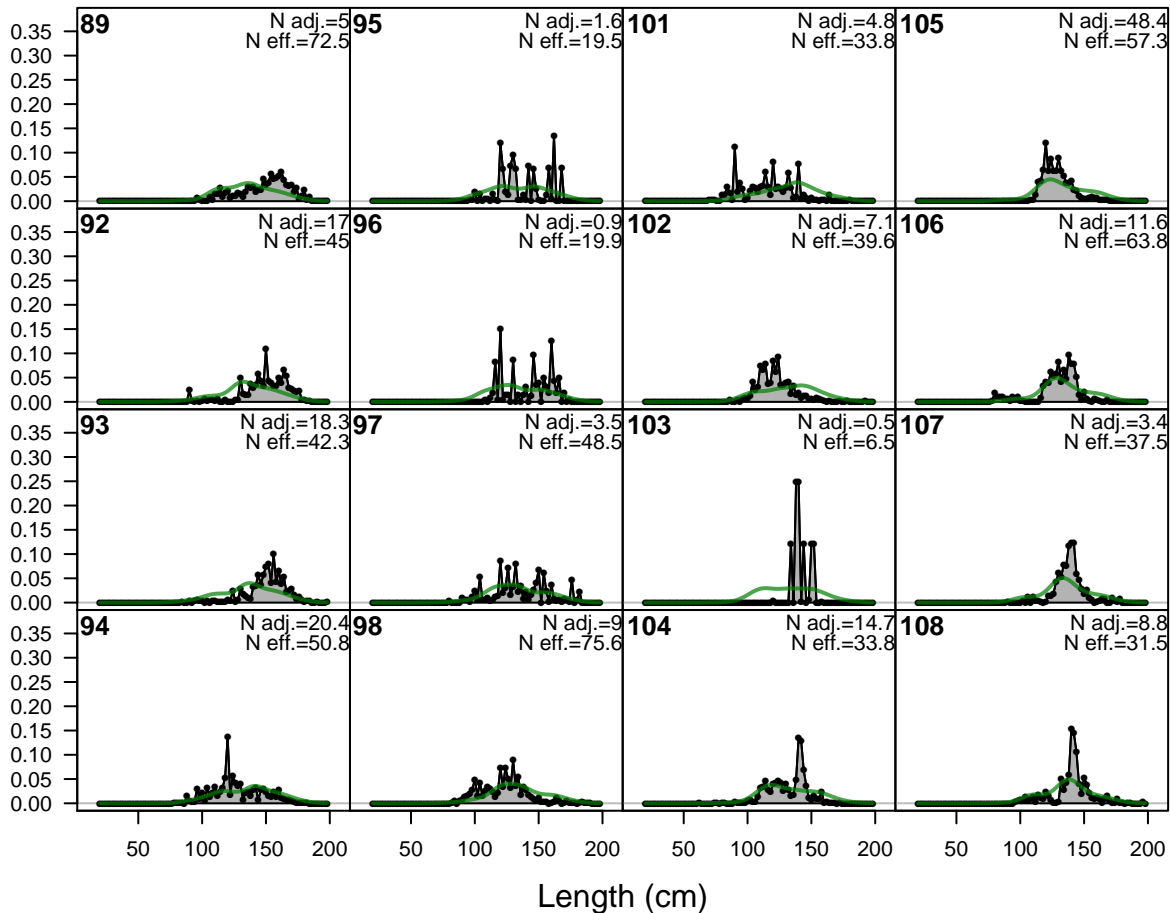
Proportion



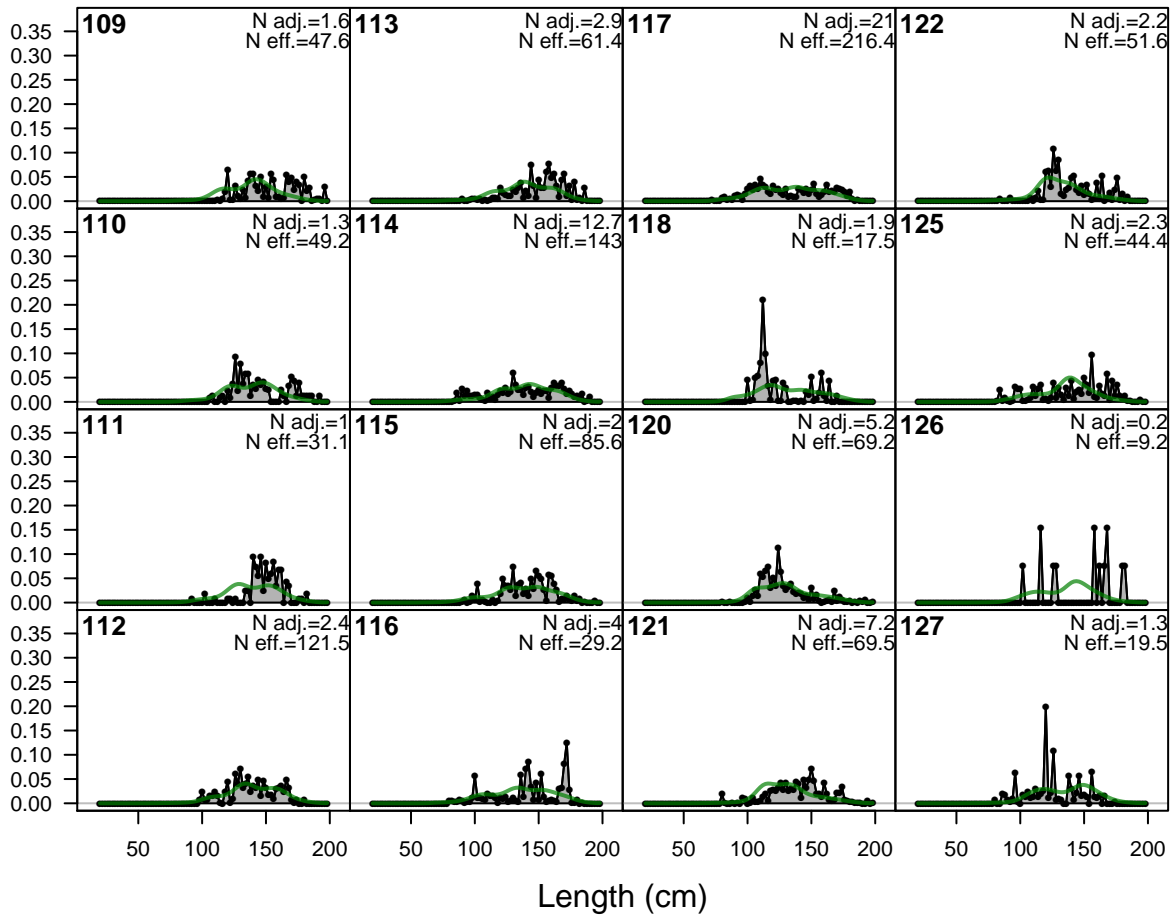
Proportion



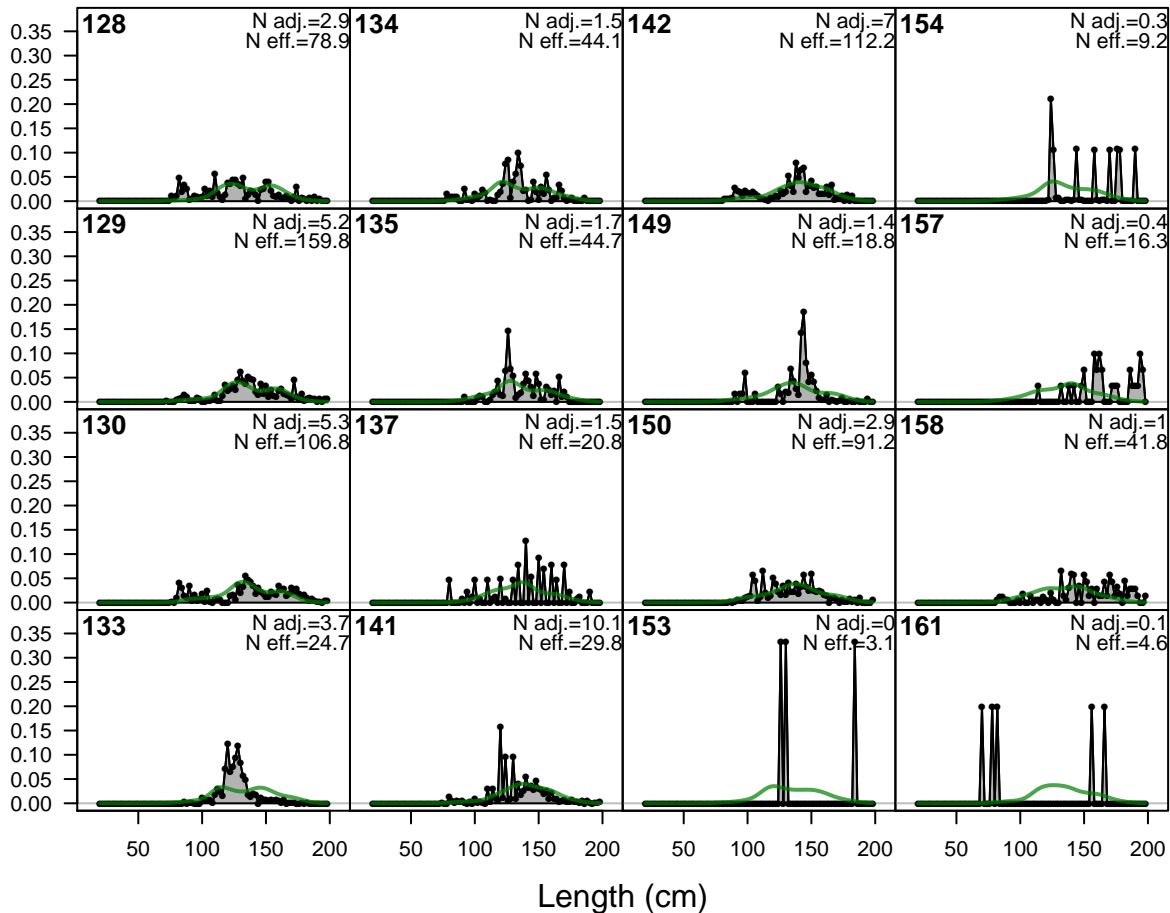
Proportion



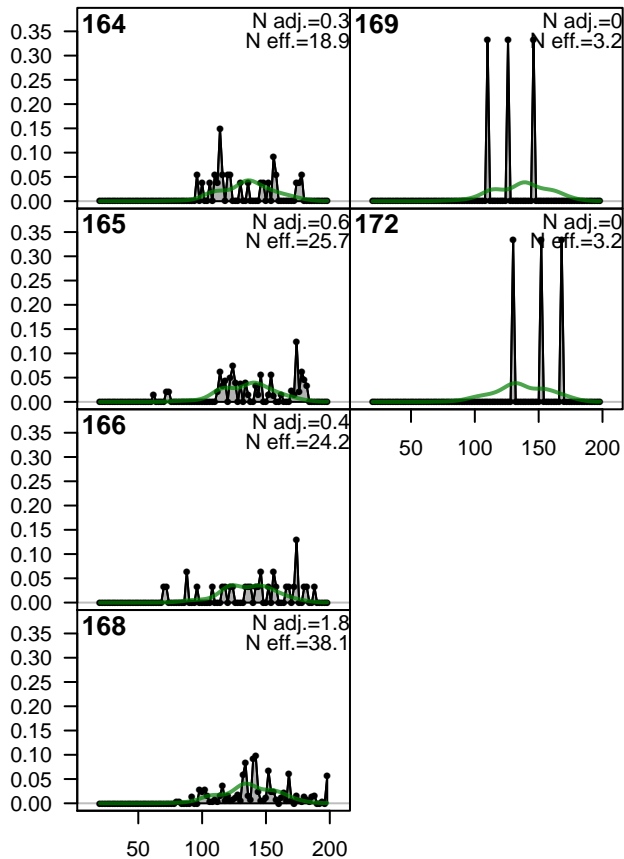
Proportion



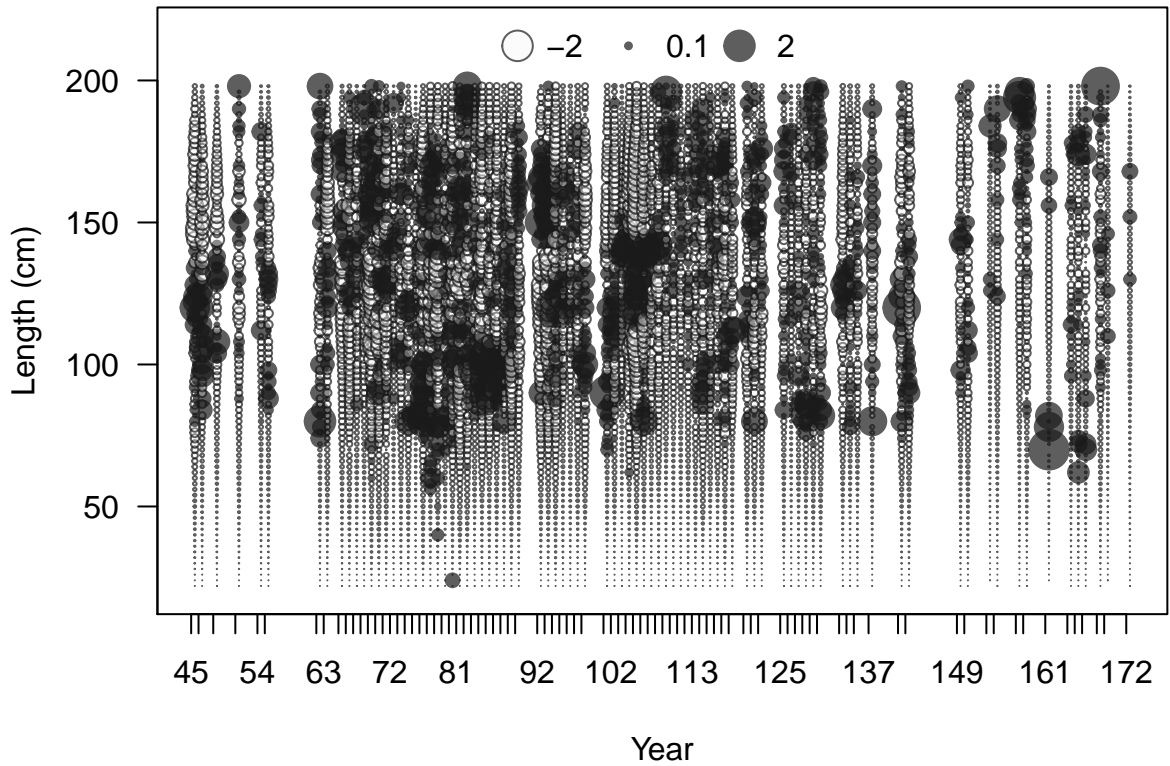
Proportion



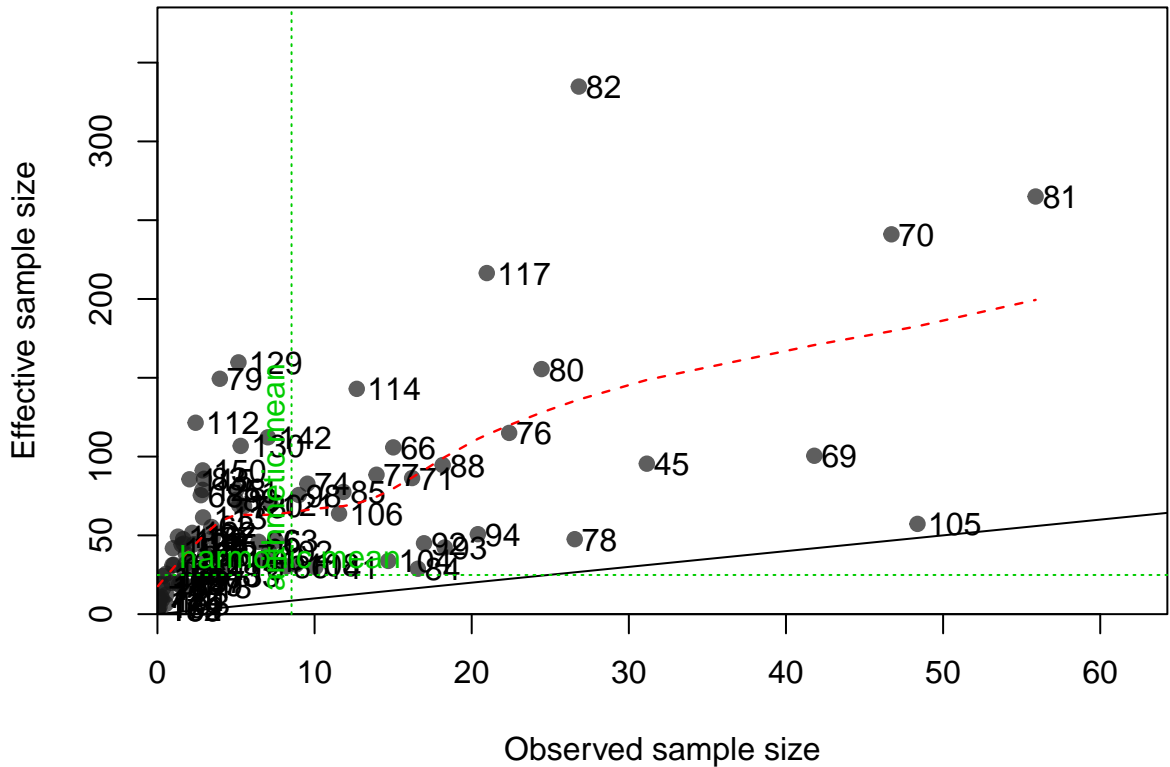
Proportion



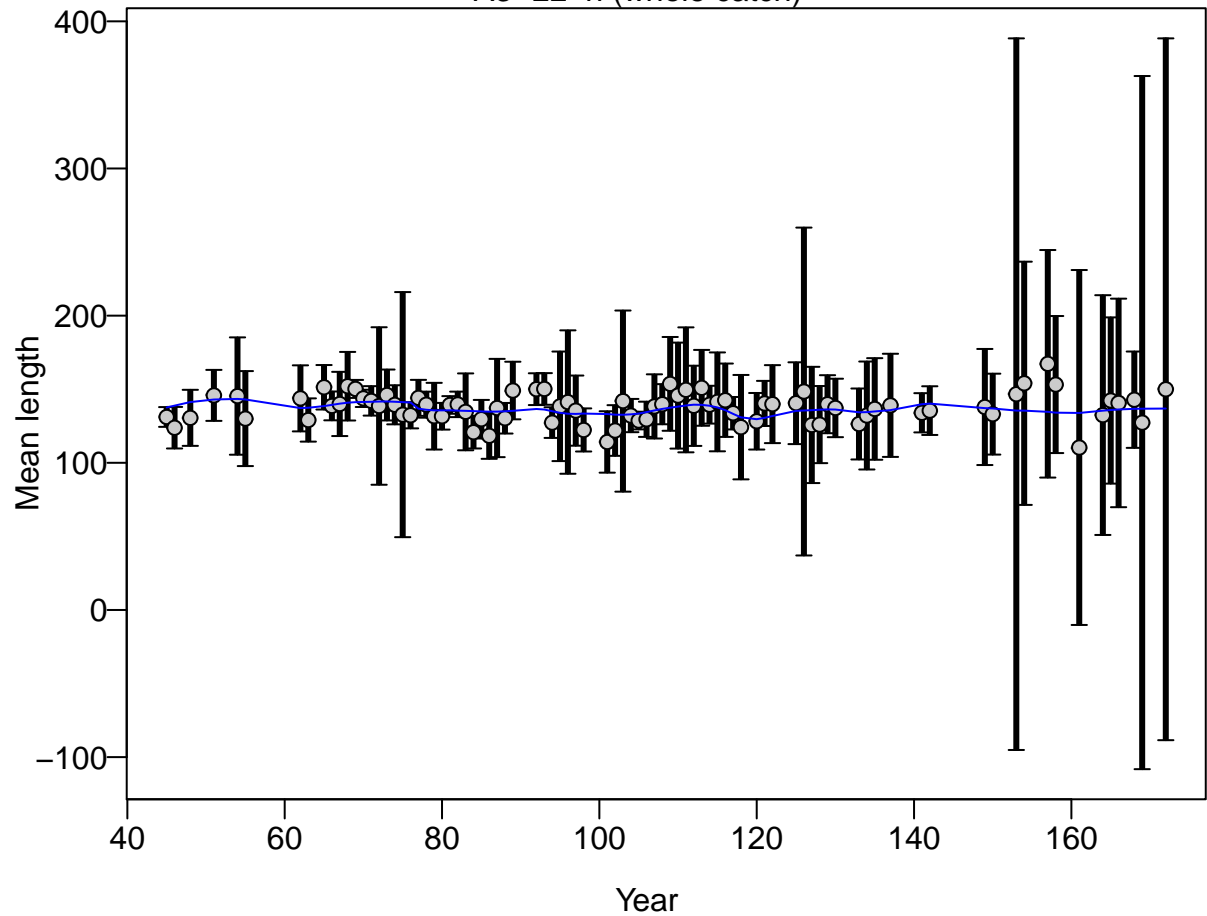
Length (cm)



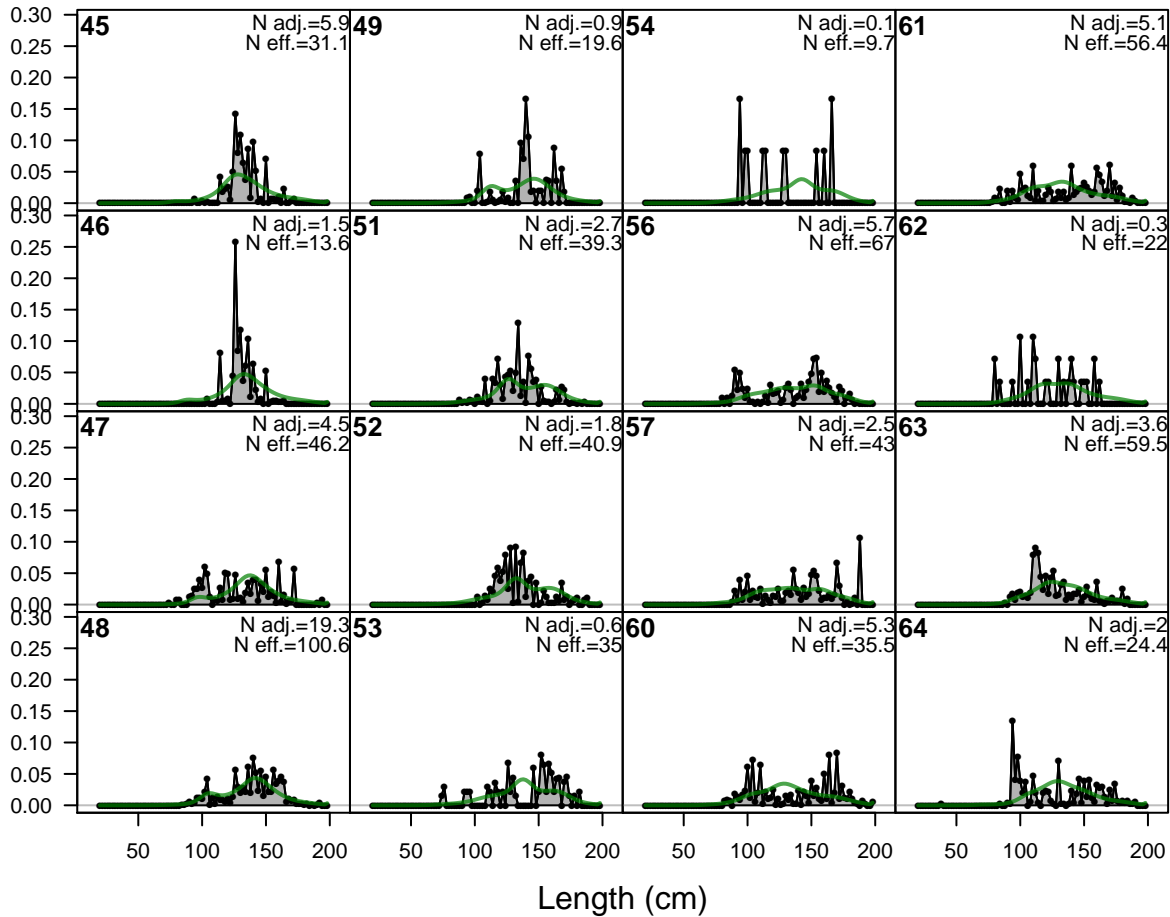




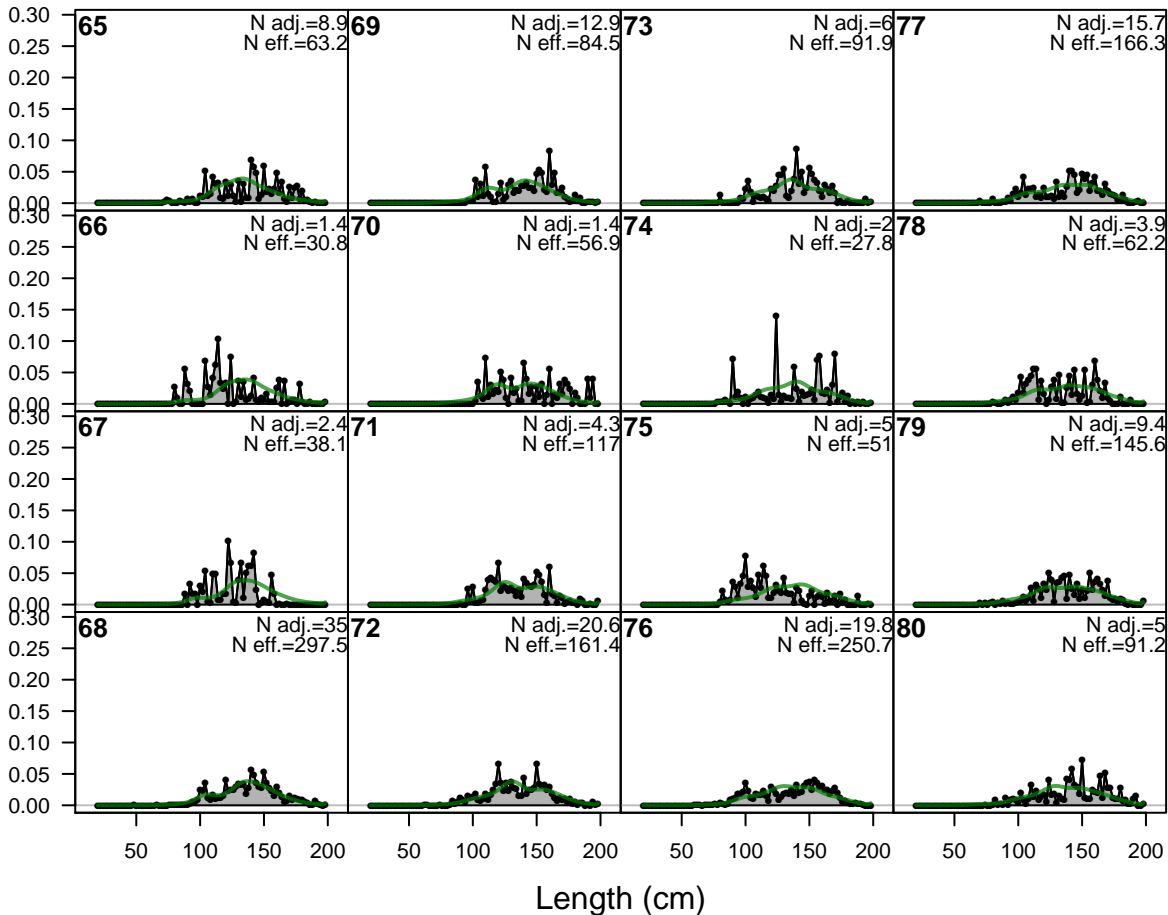
A3-LL-n (whole catch)



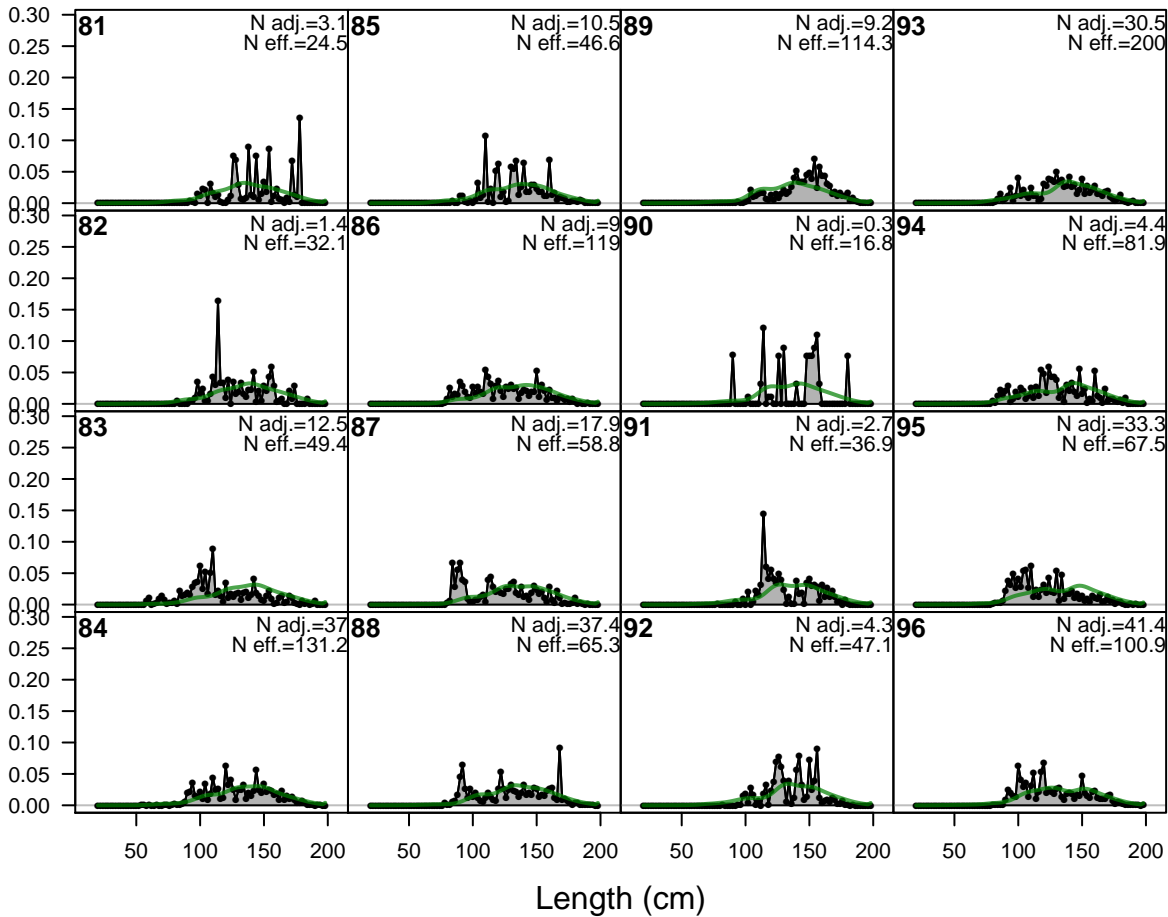
Proportion



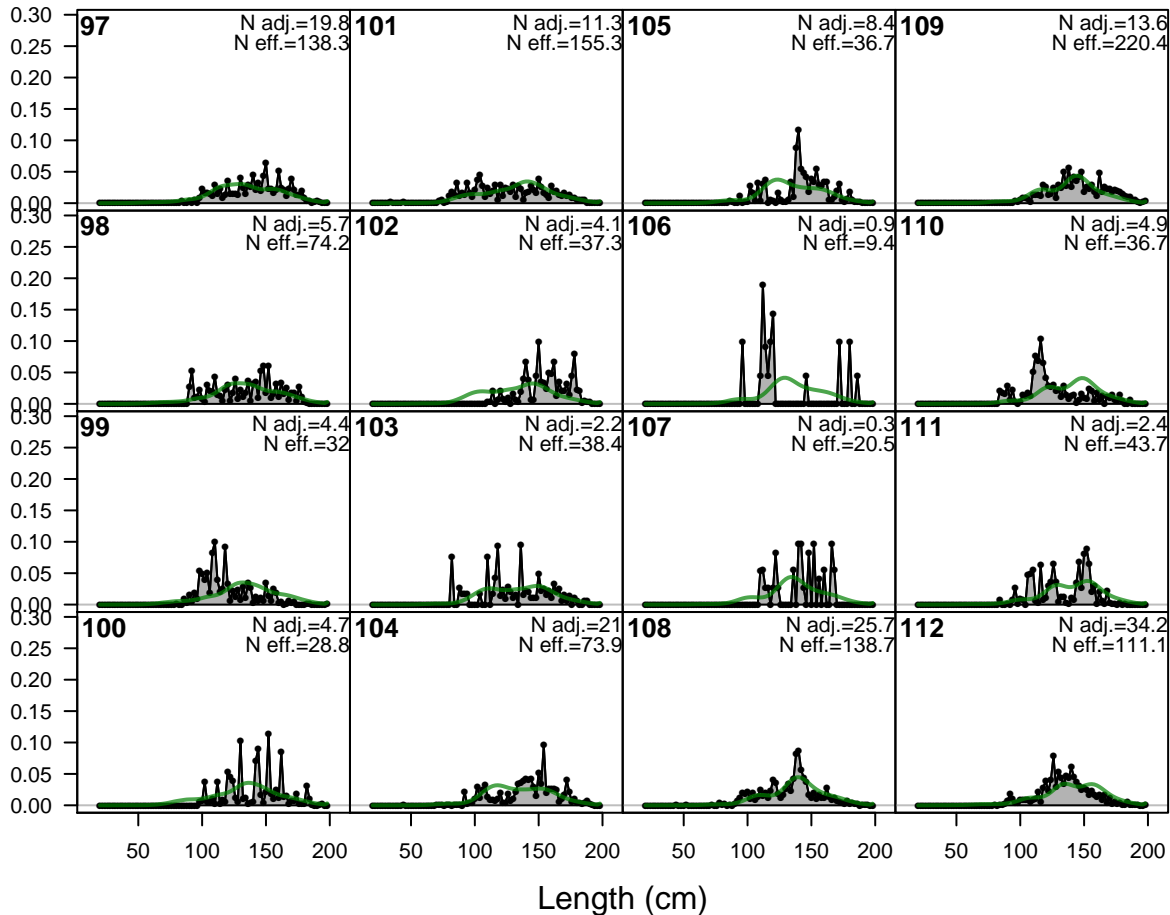
Proportion



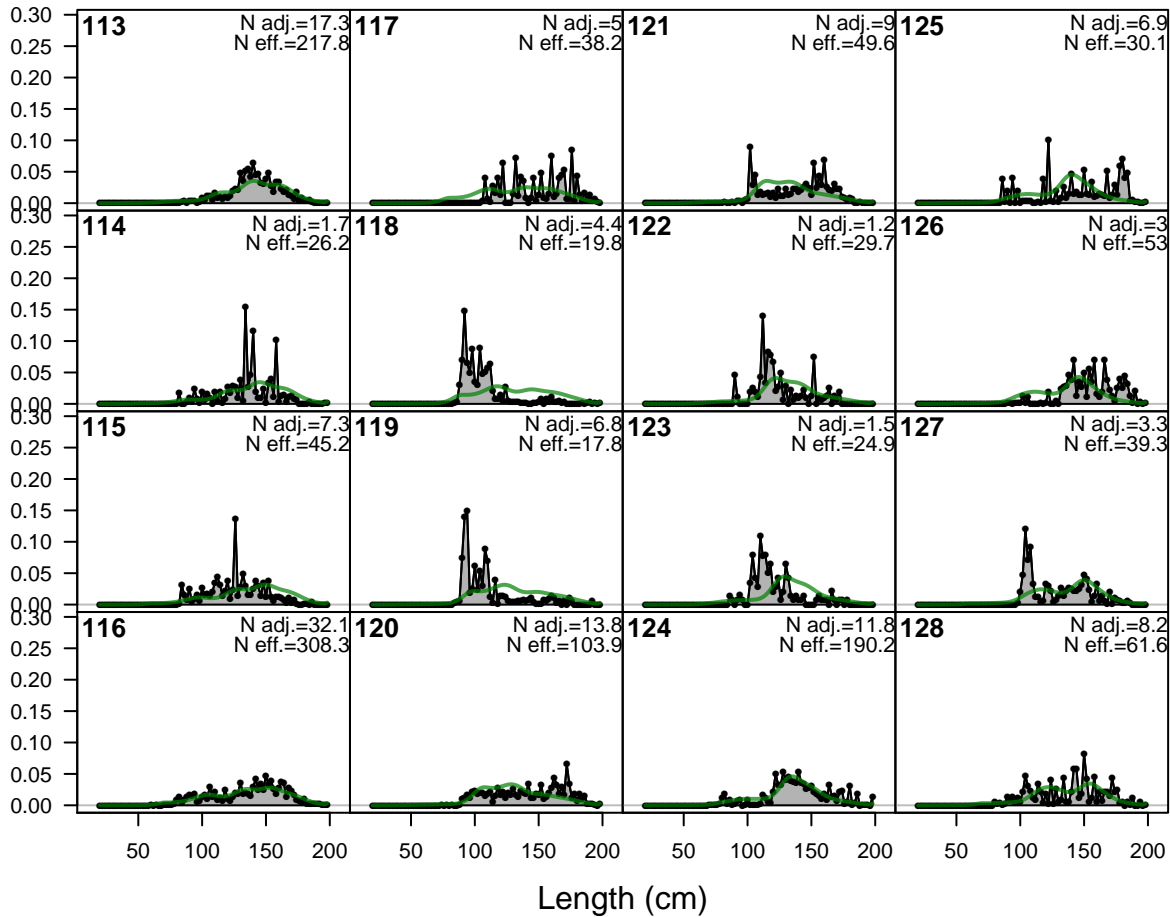
Proportion



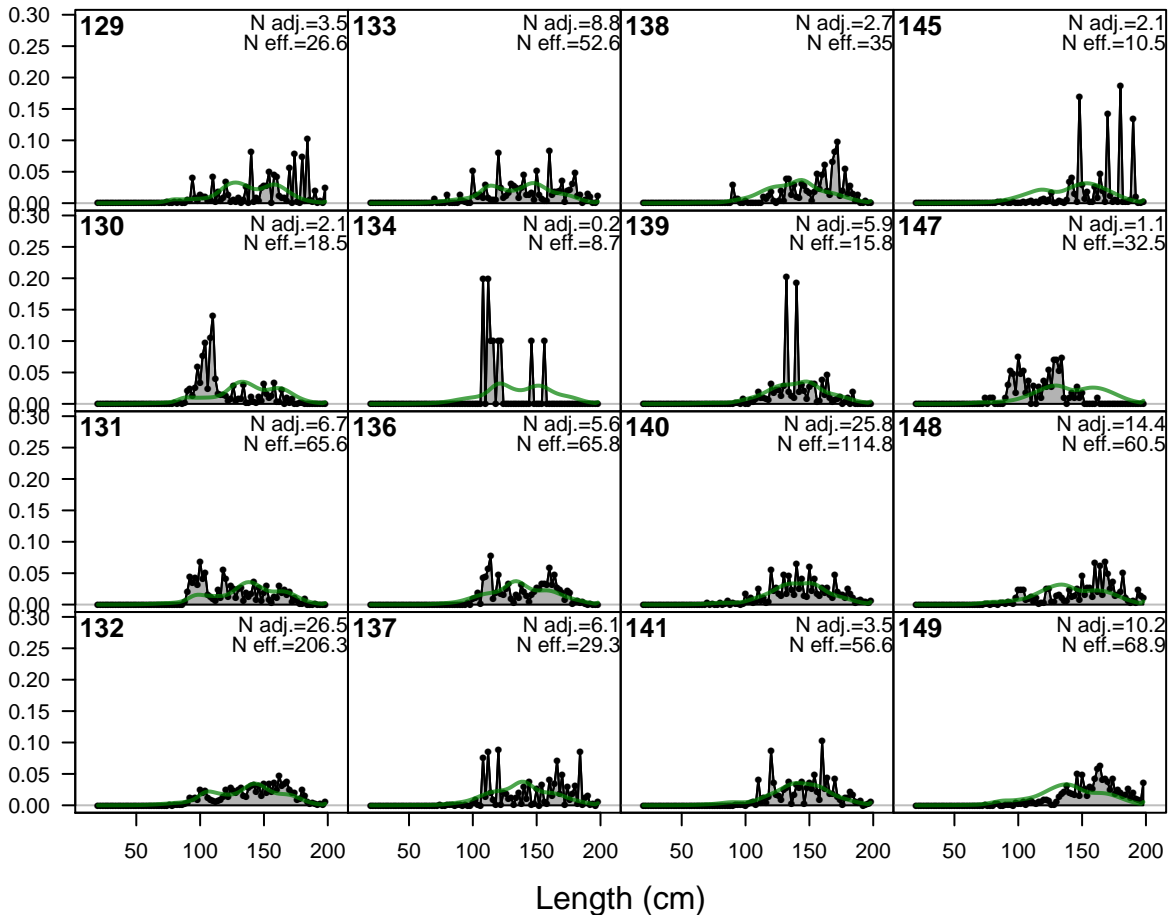
Proportion



Proportion

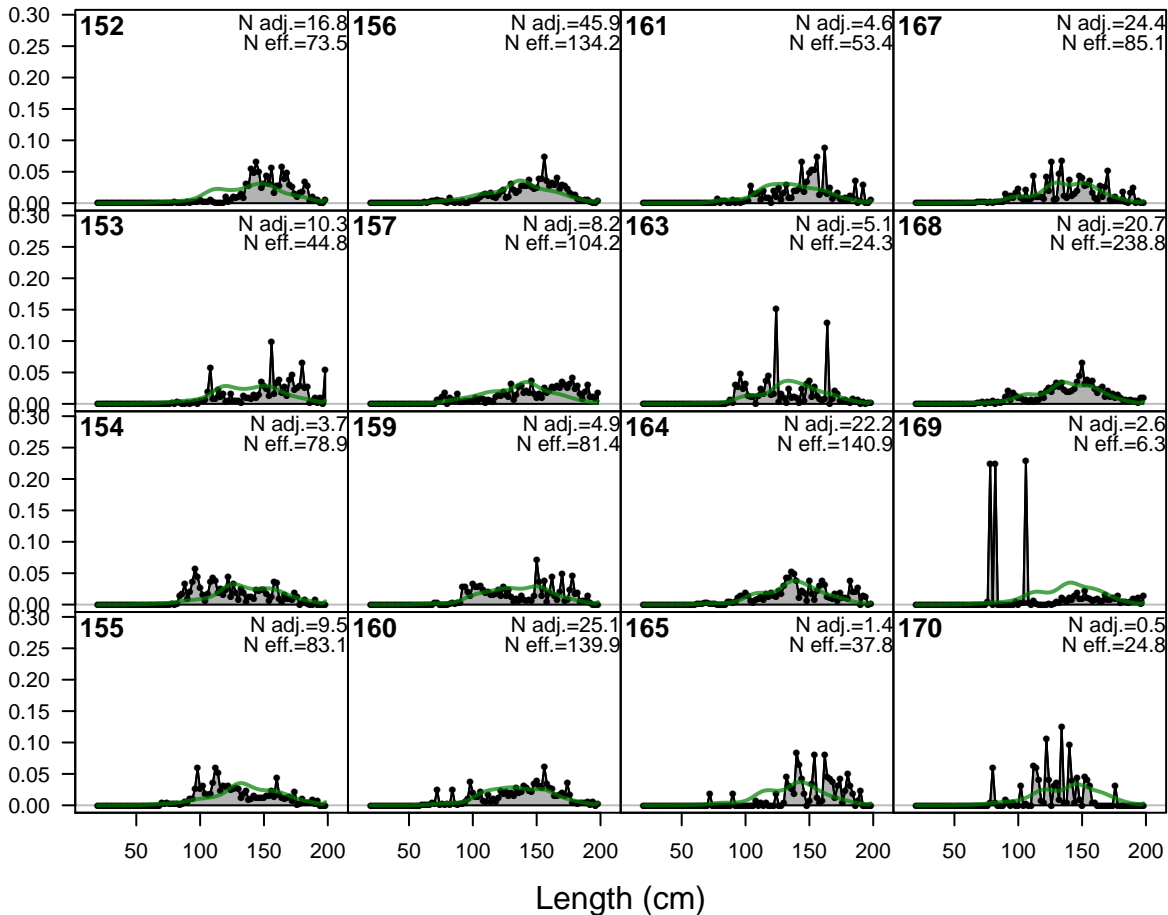


Proportion

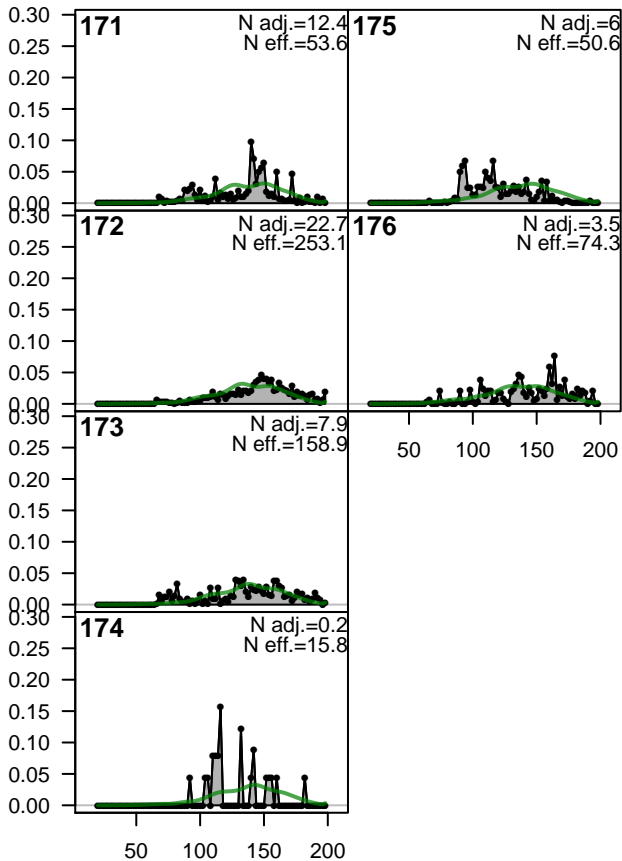




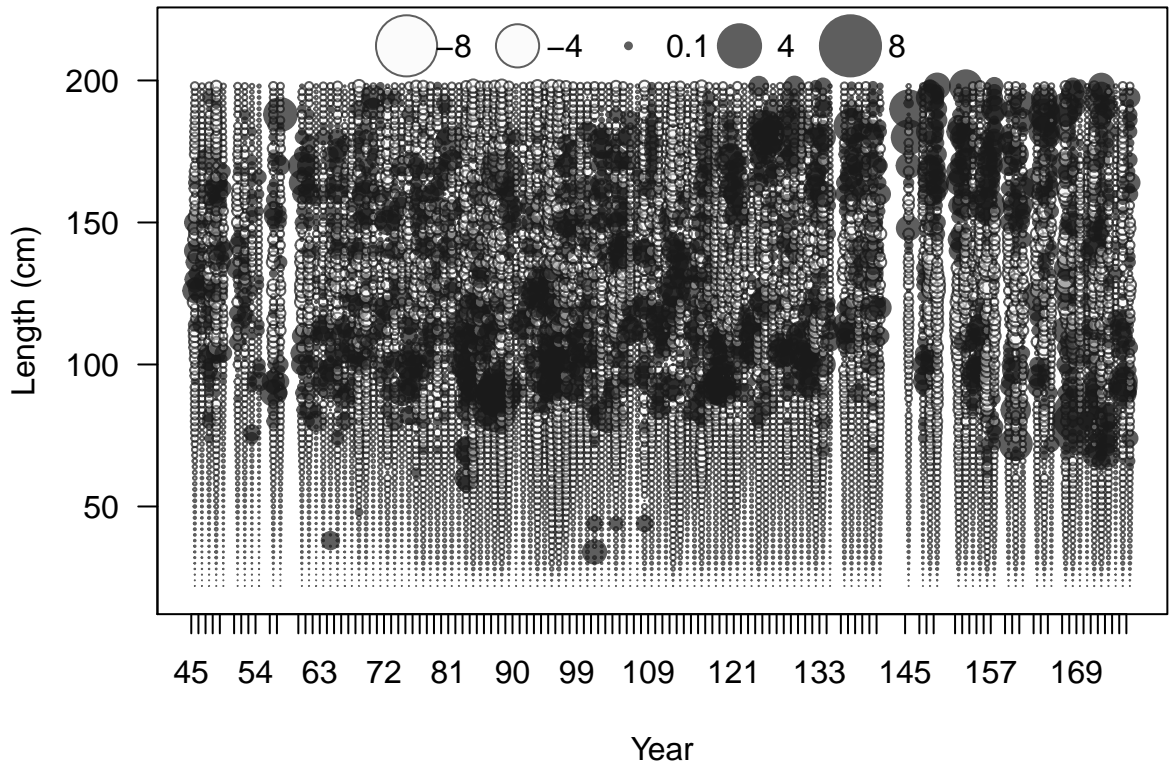
Proportion

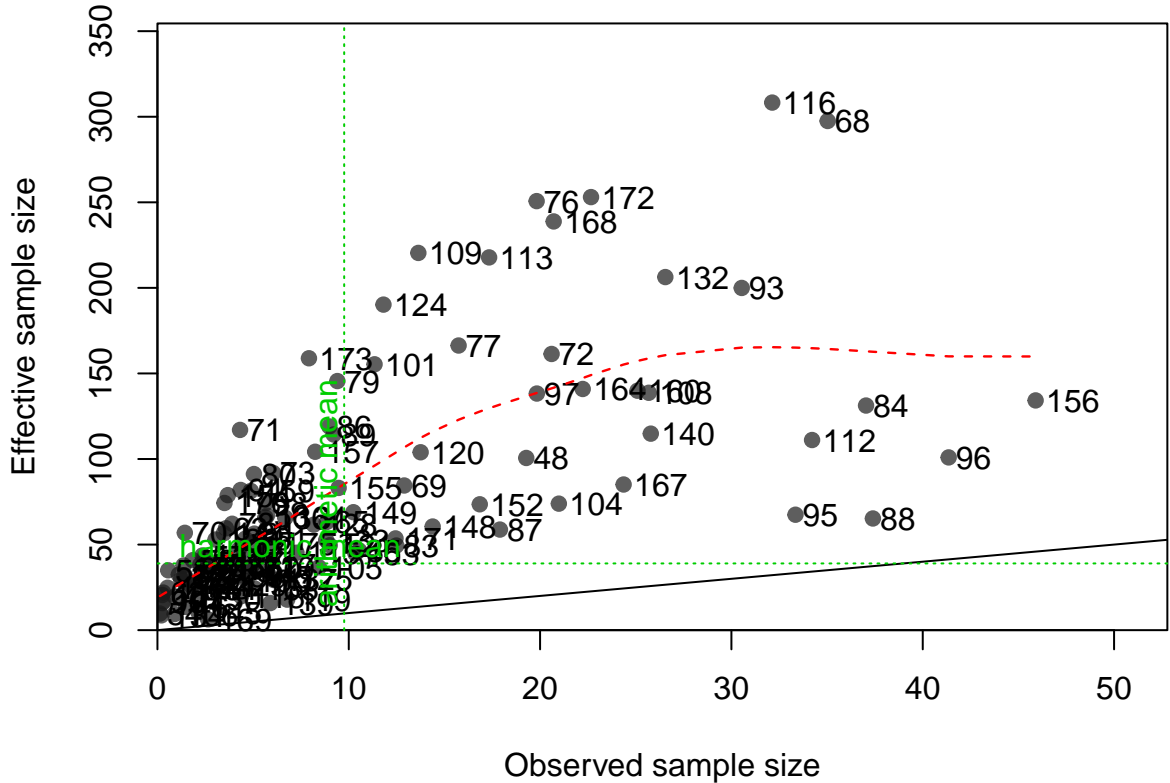


Proportion

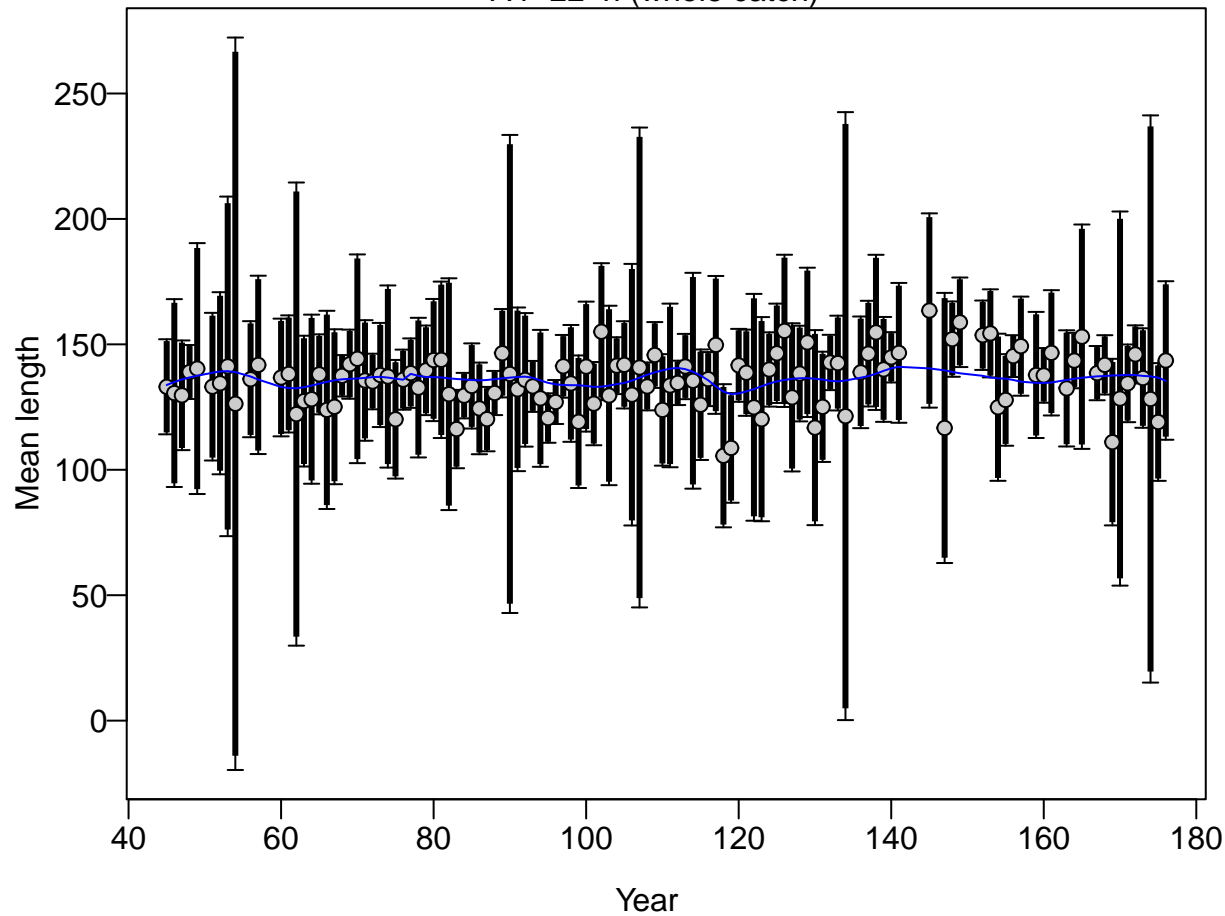


Length (cm)

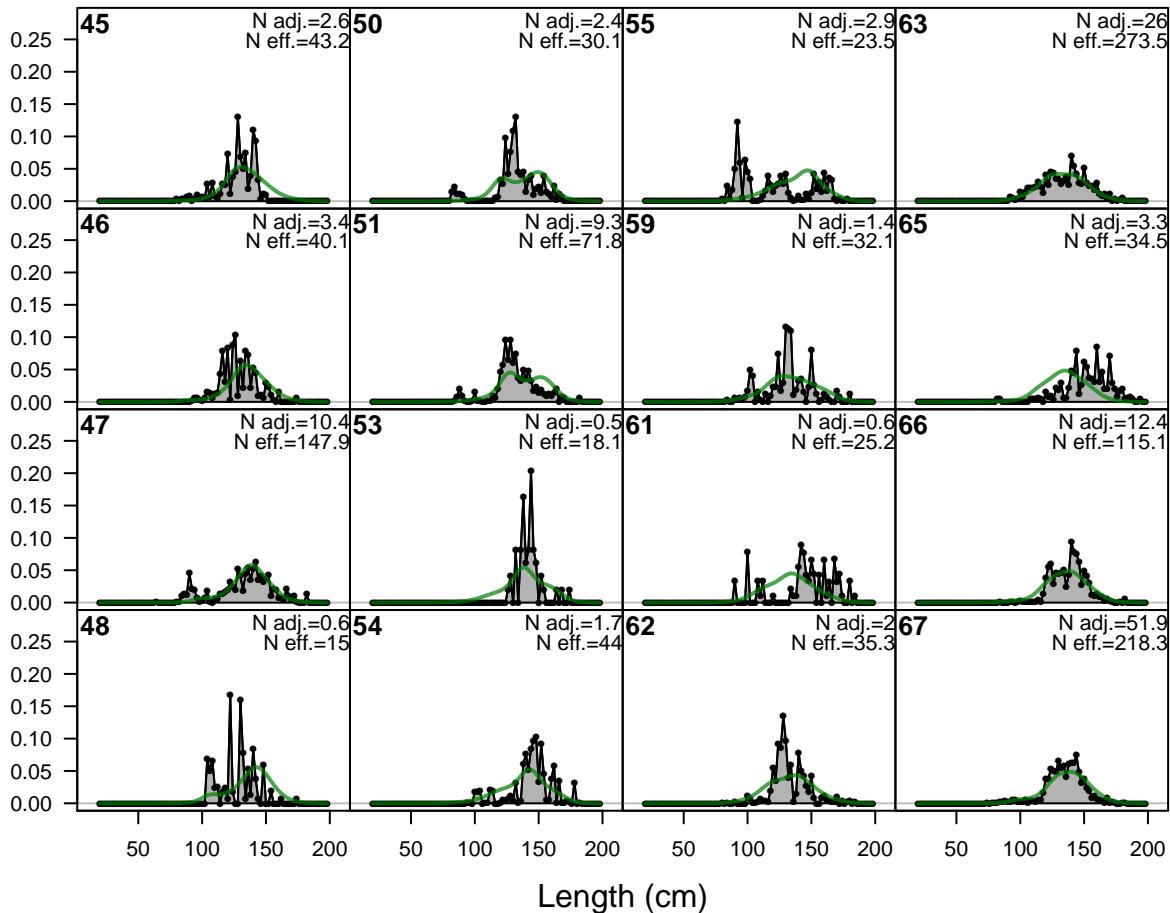




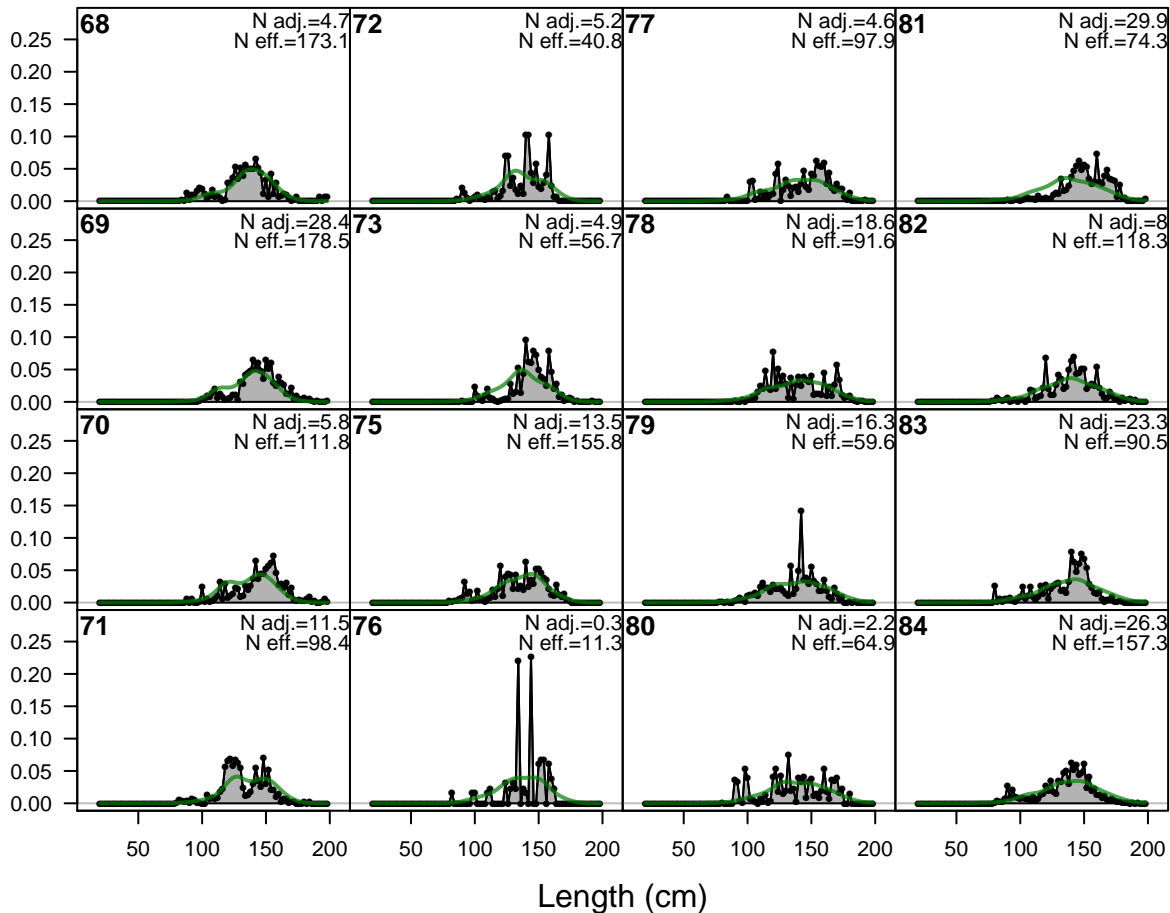
A4-LL-n (whole catch)



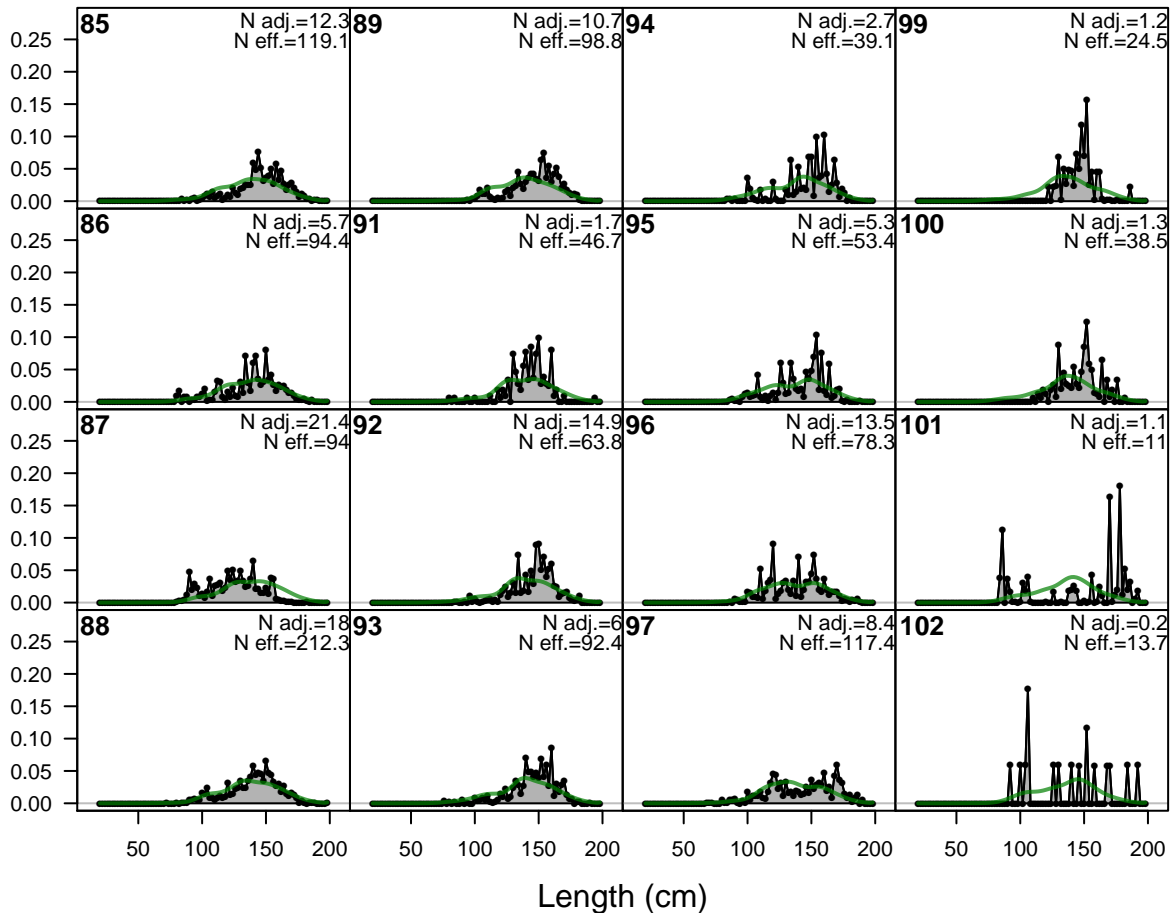
Proportion



Proportion

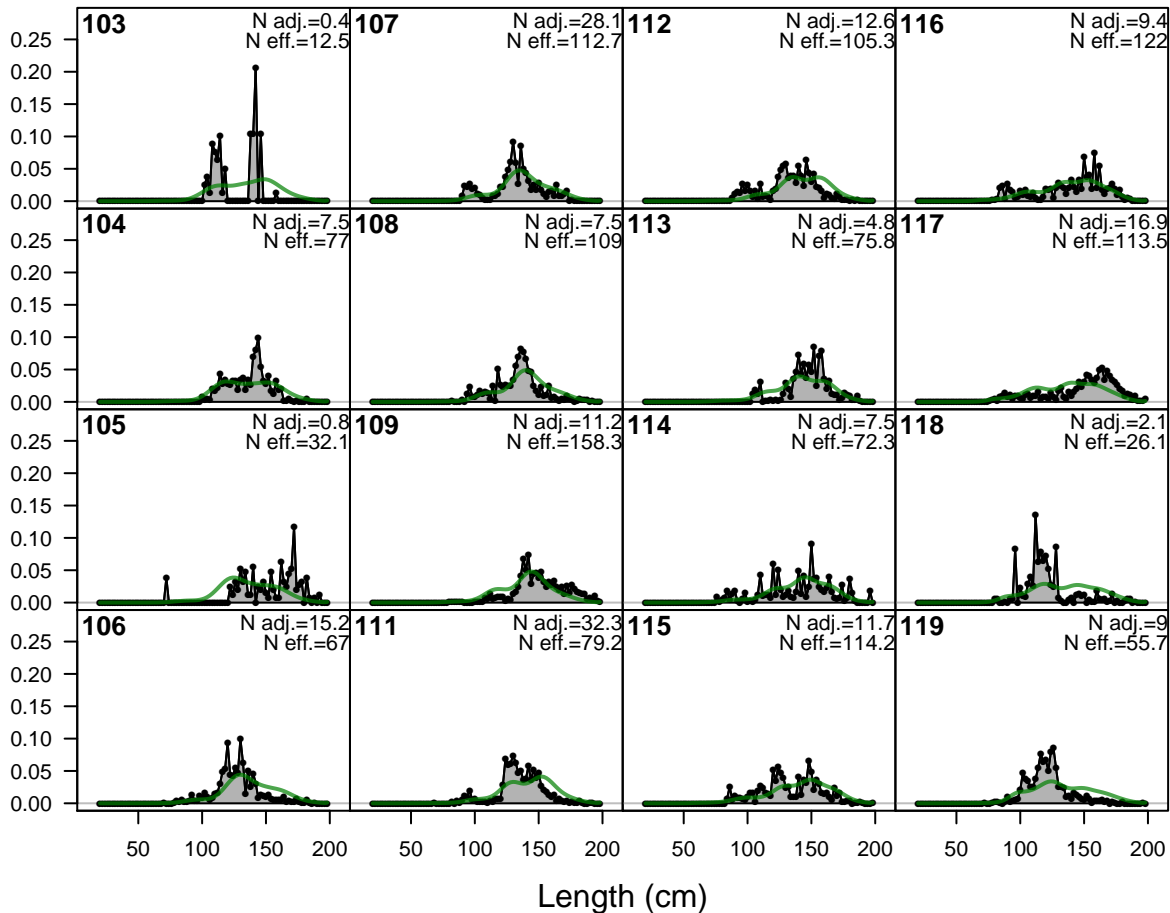


Proportion

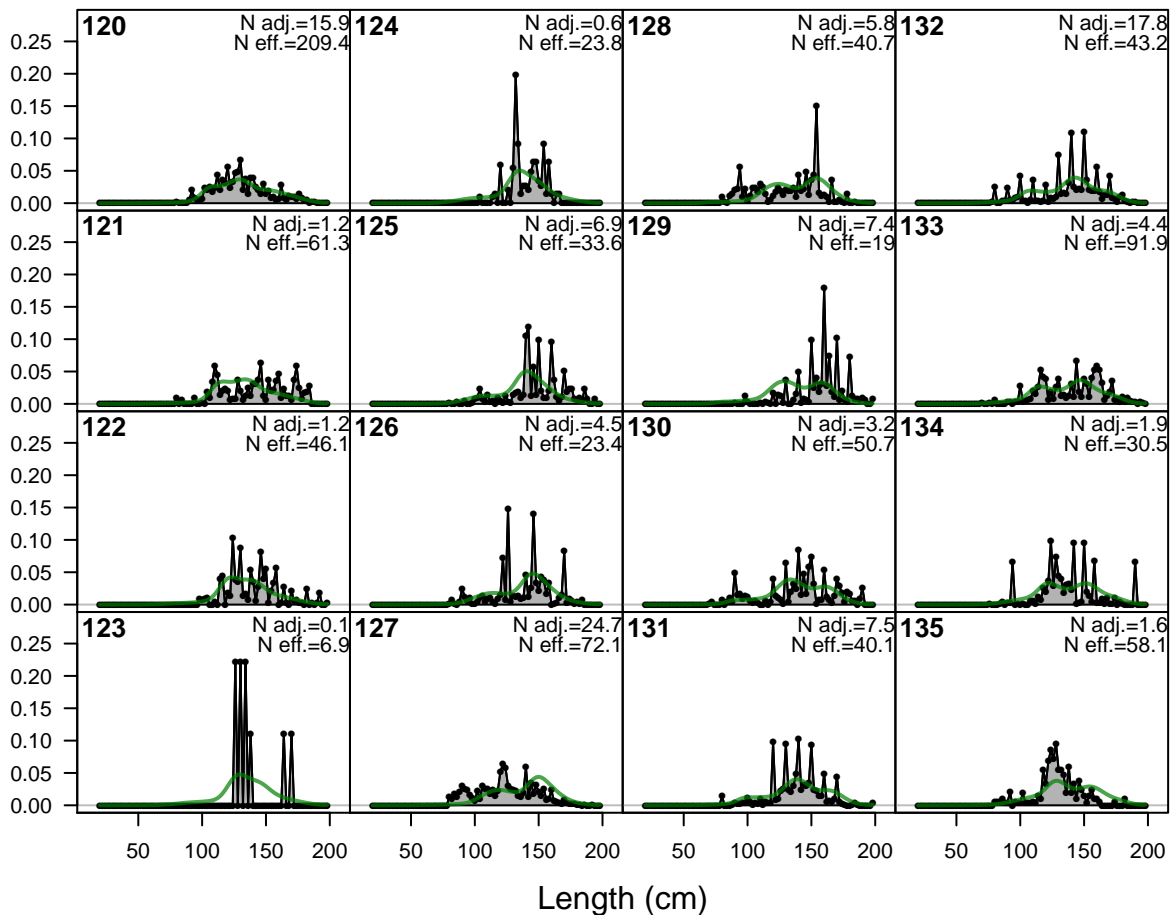




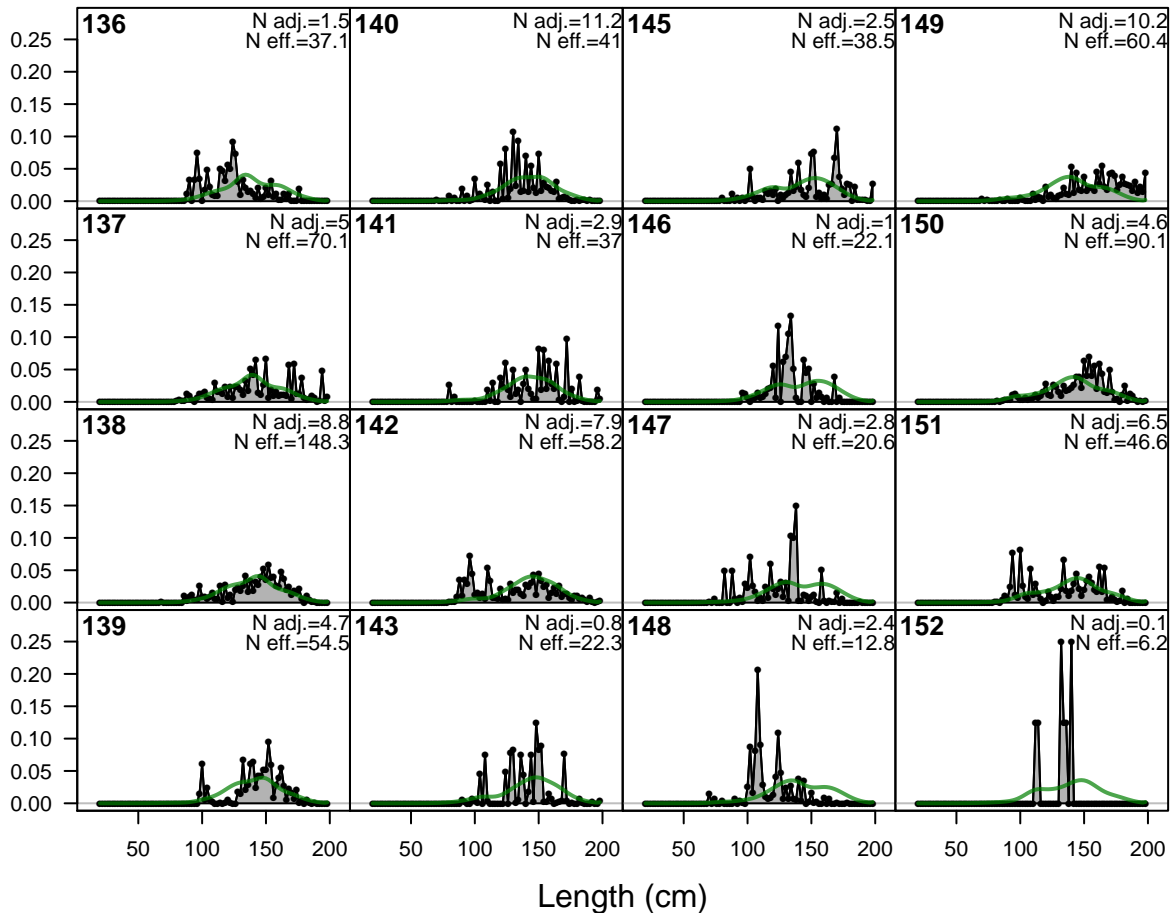
Proportion



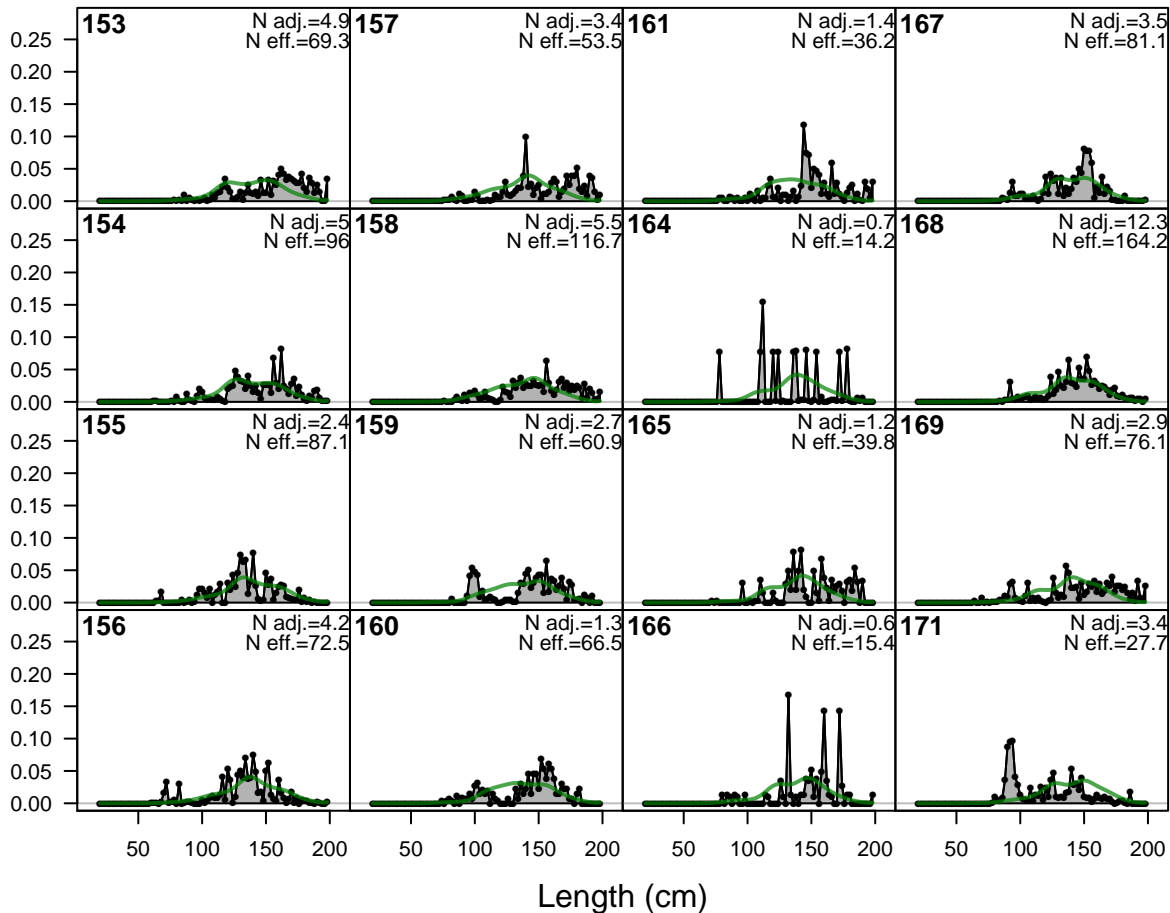
Proportion



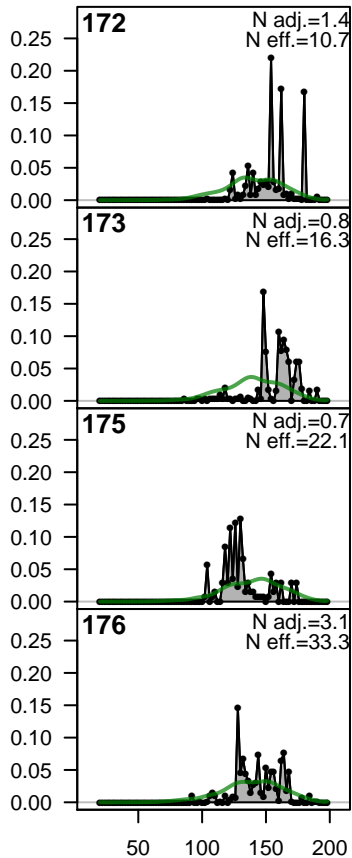
Proportion



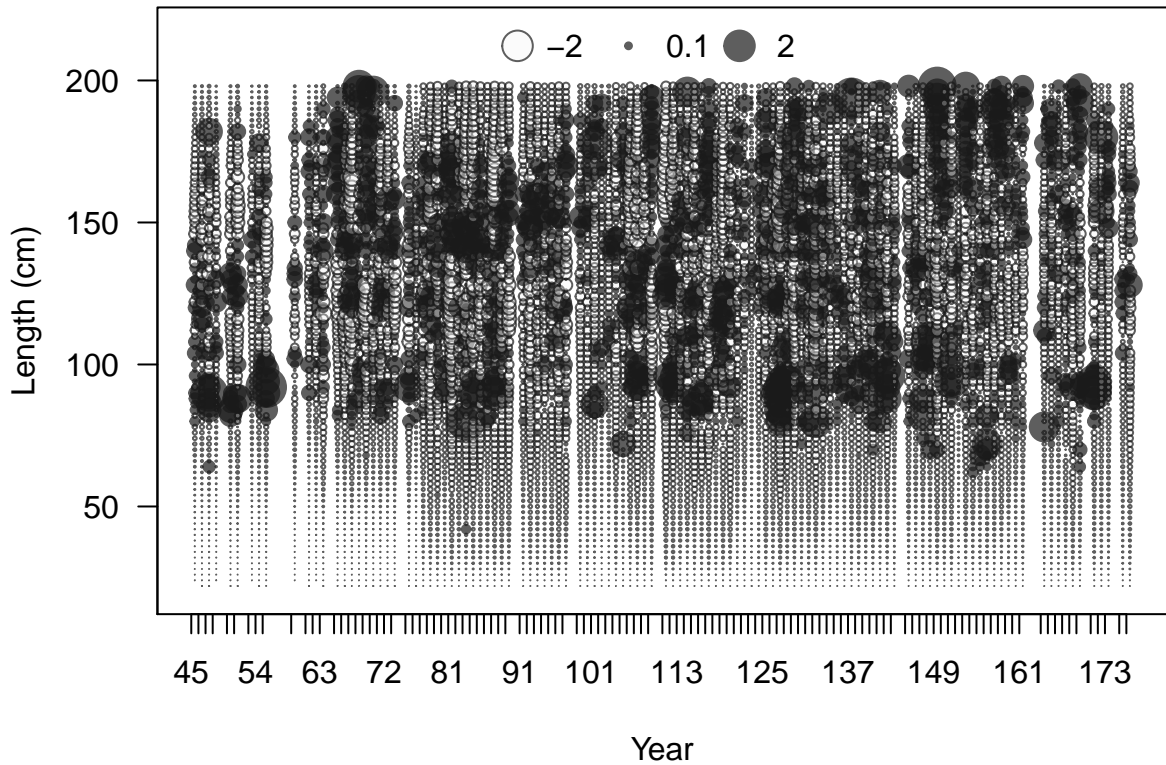
Proportion

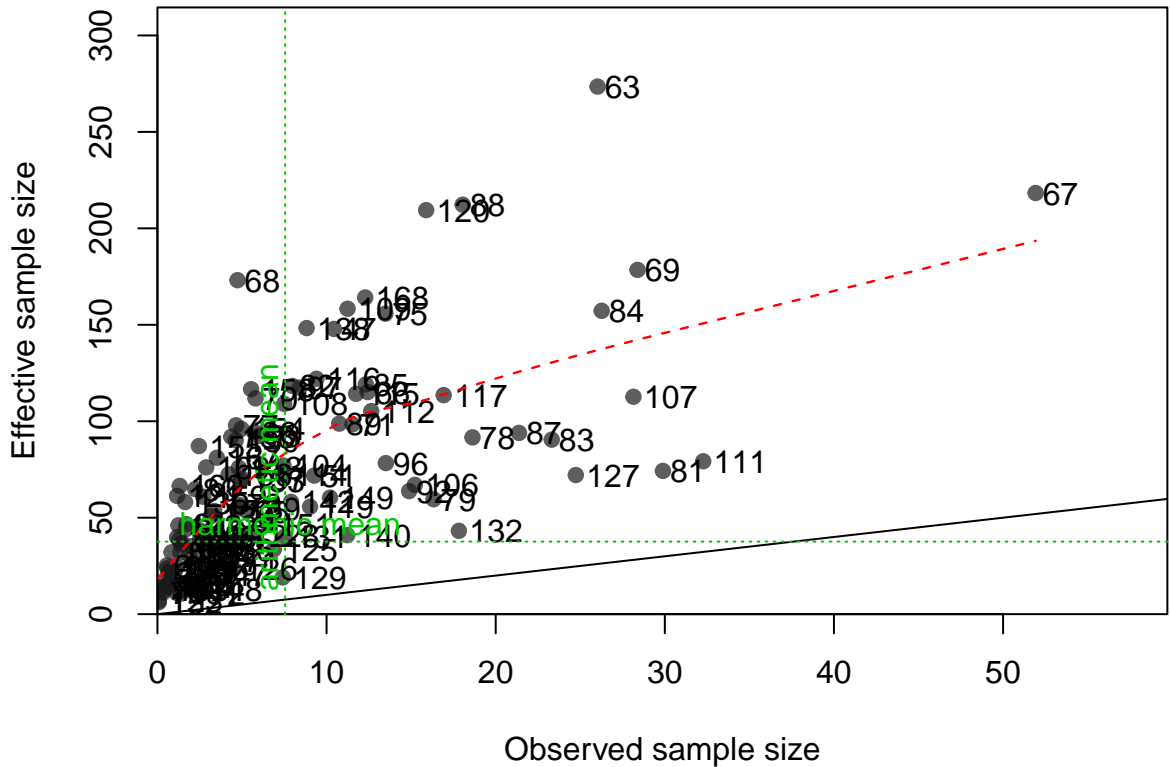


Proportion

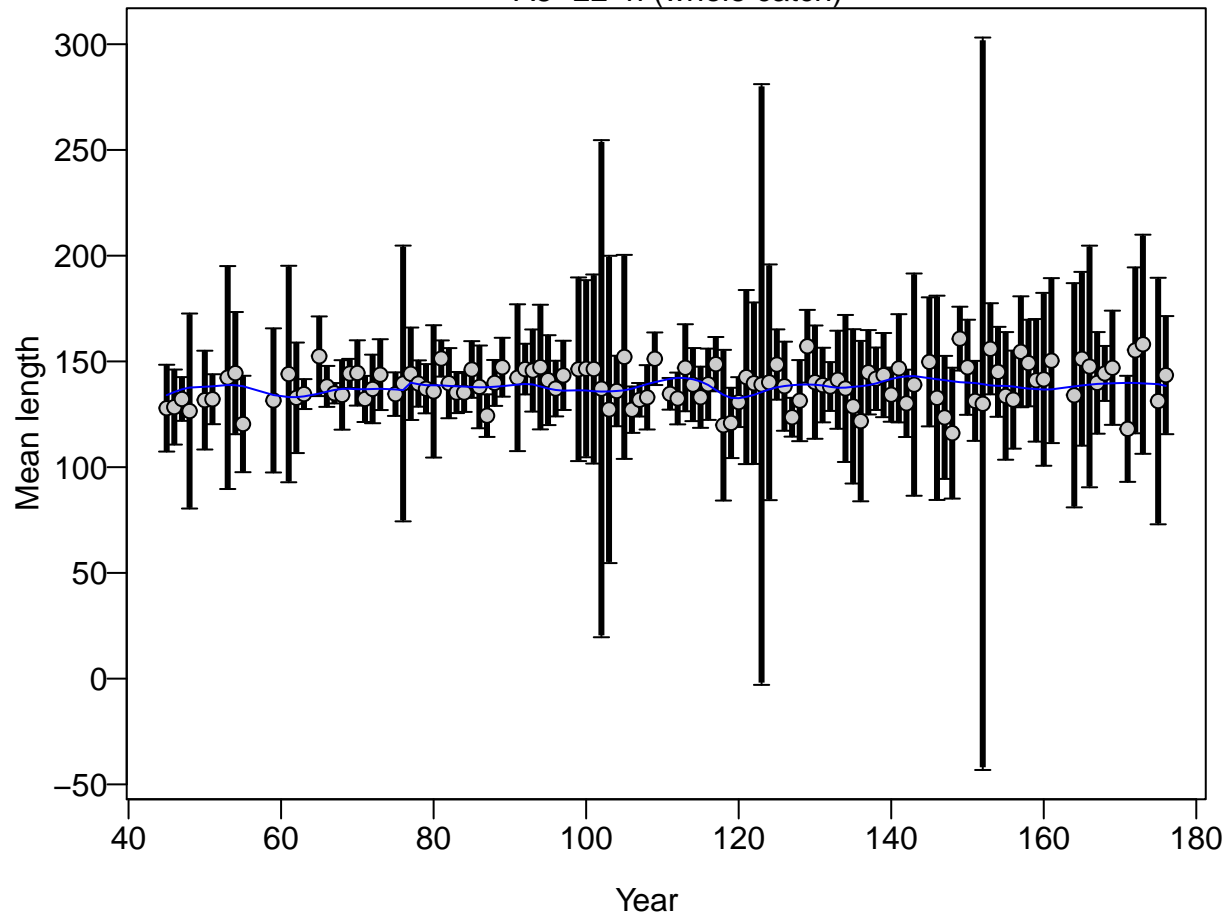


Length (cm)



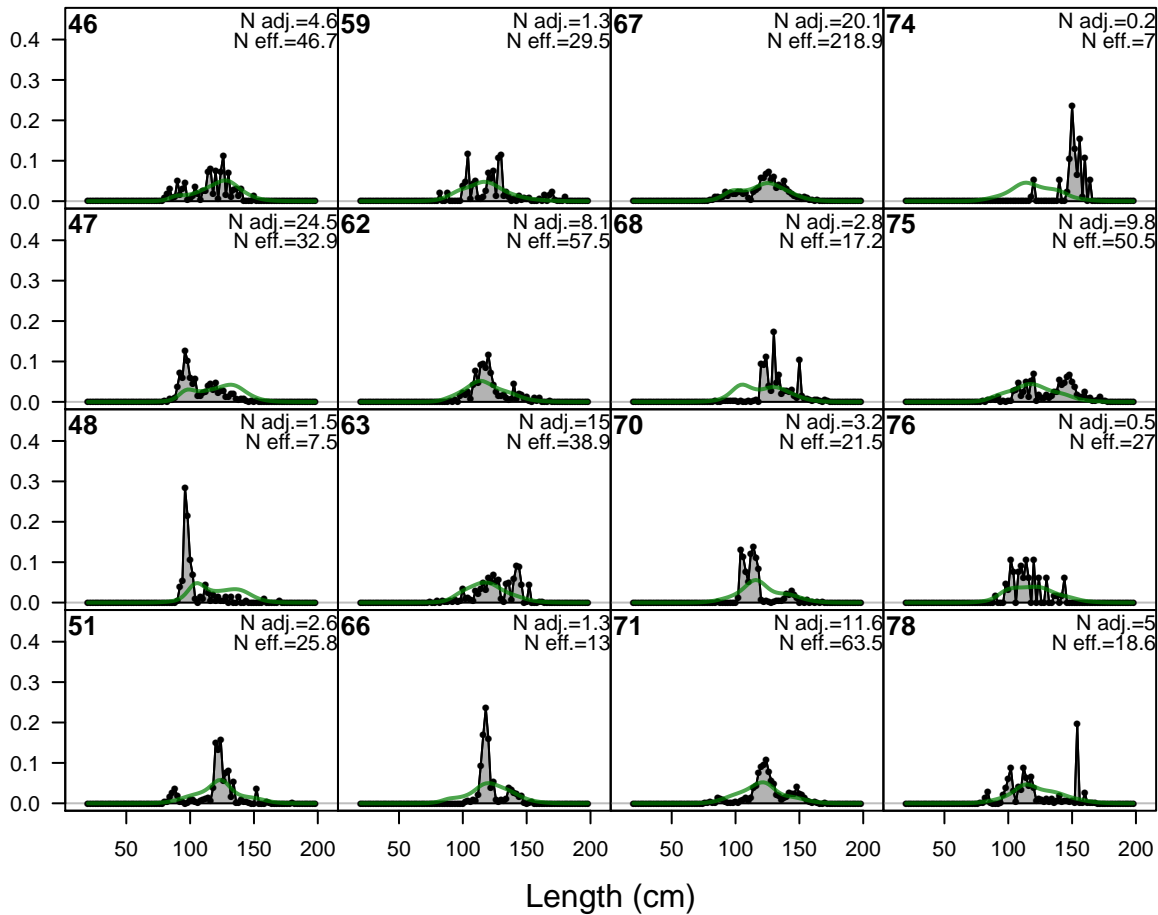


A5-LL-n (whole catch)

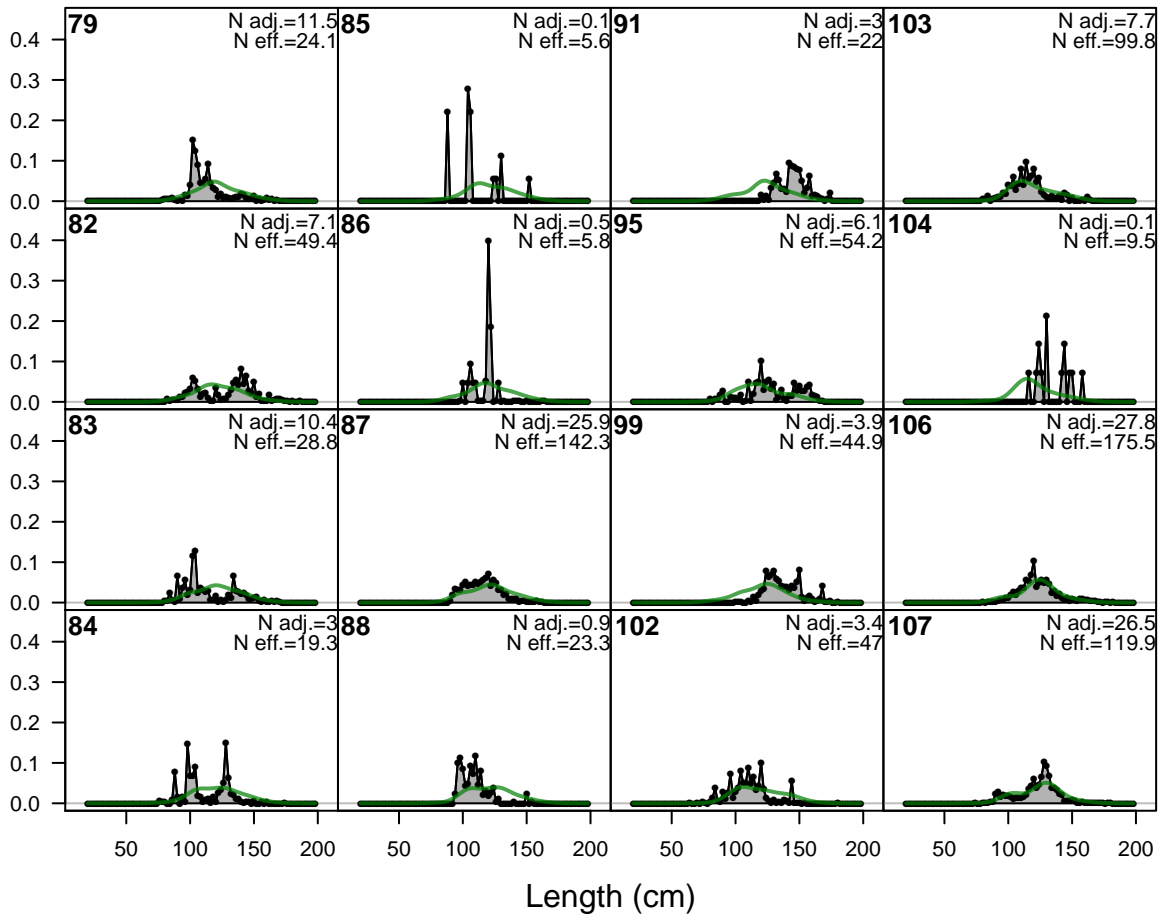




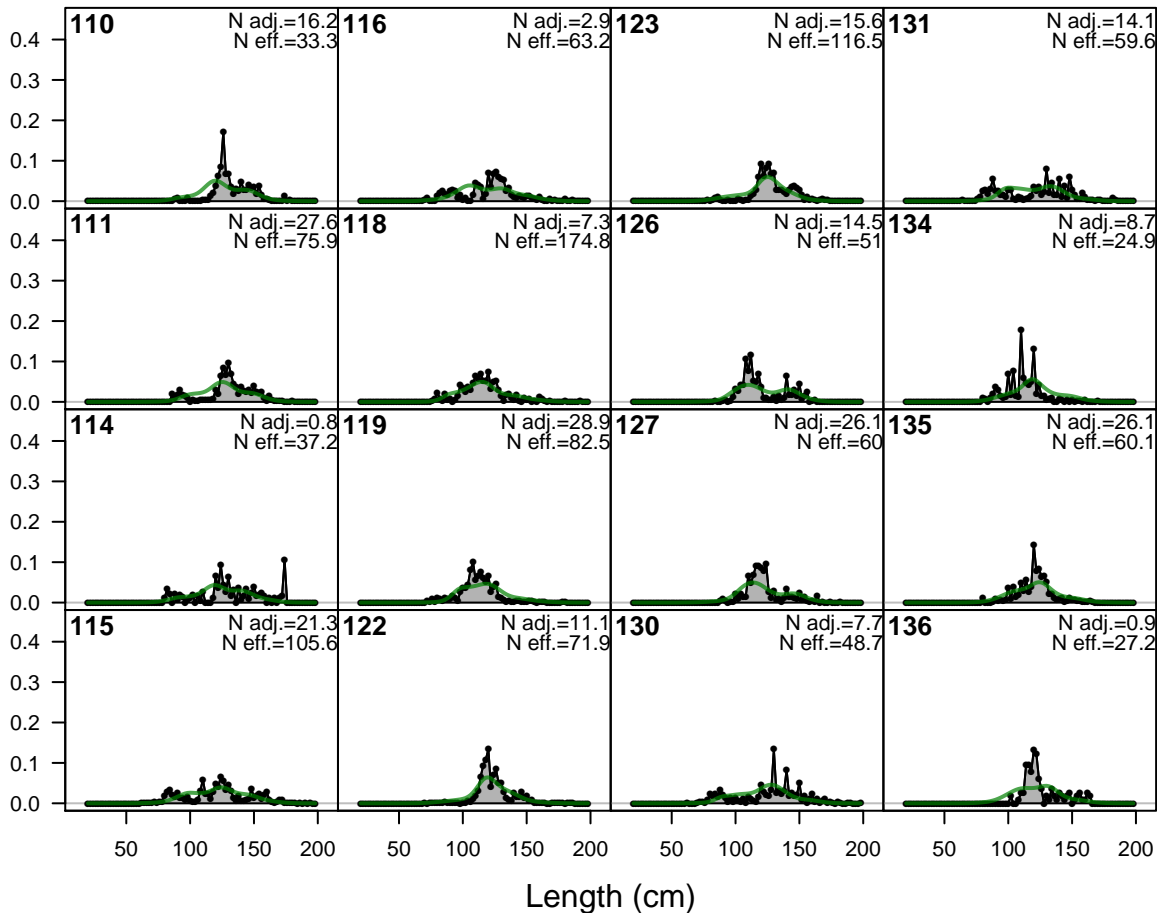
Proportion



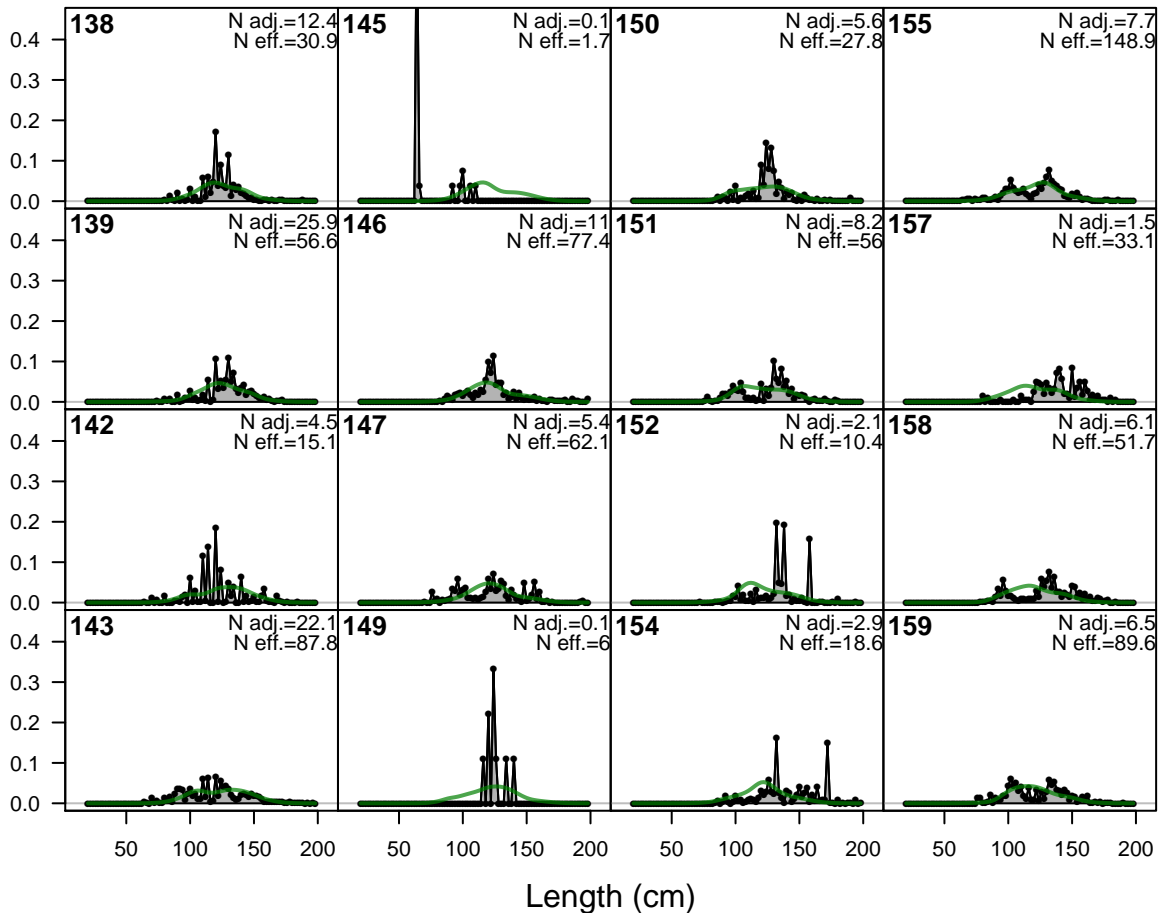
Proportion



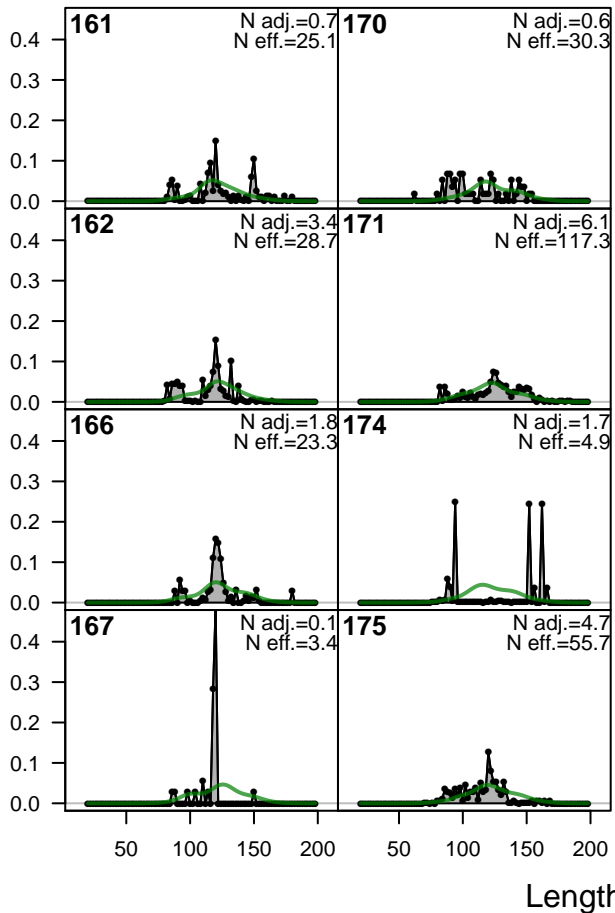
Proportion

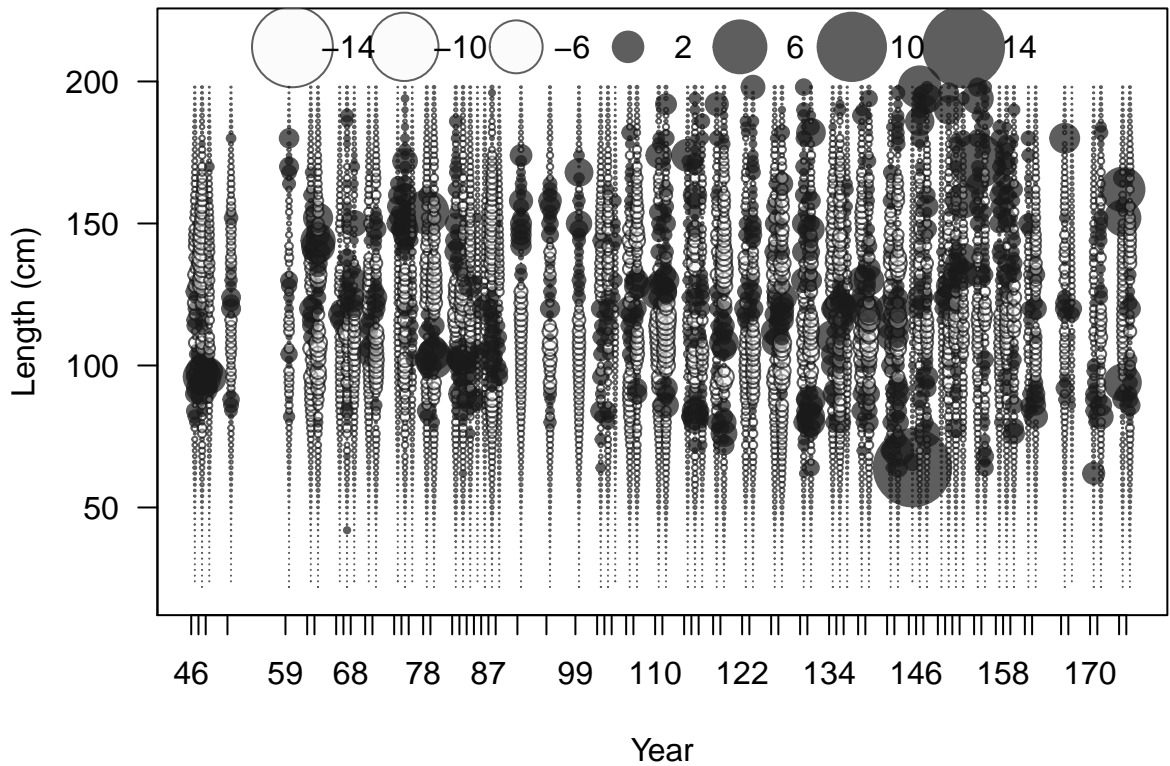


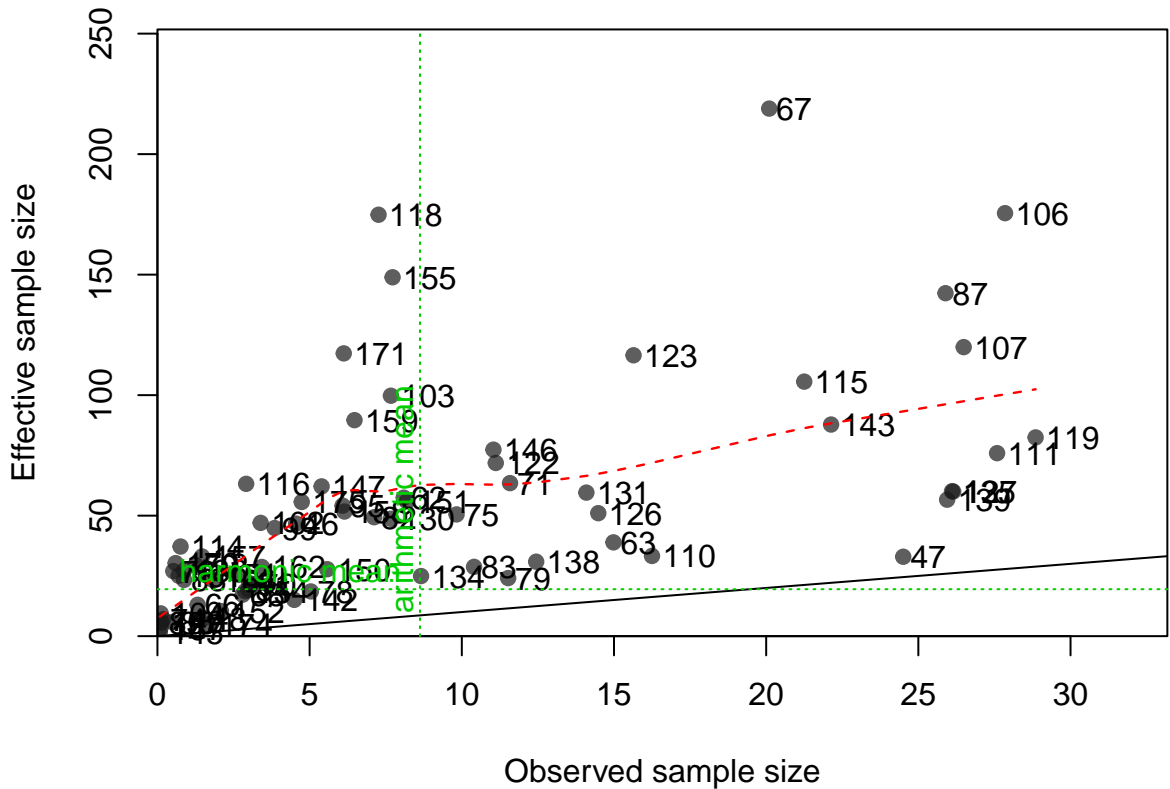
Proportion



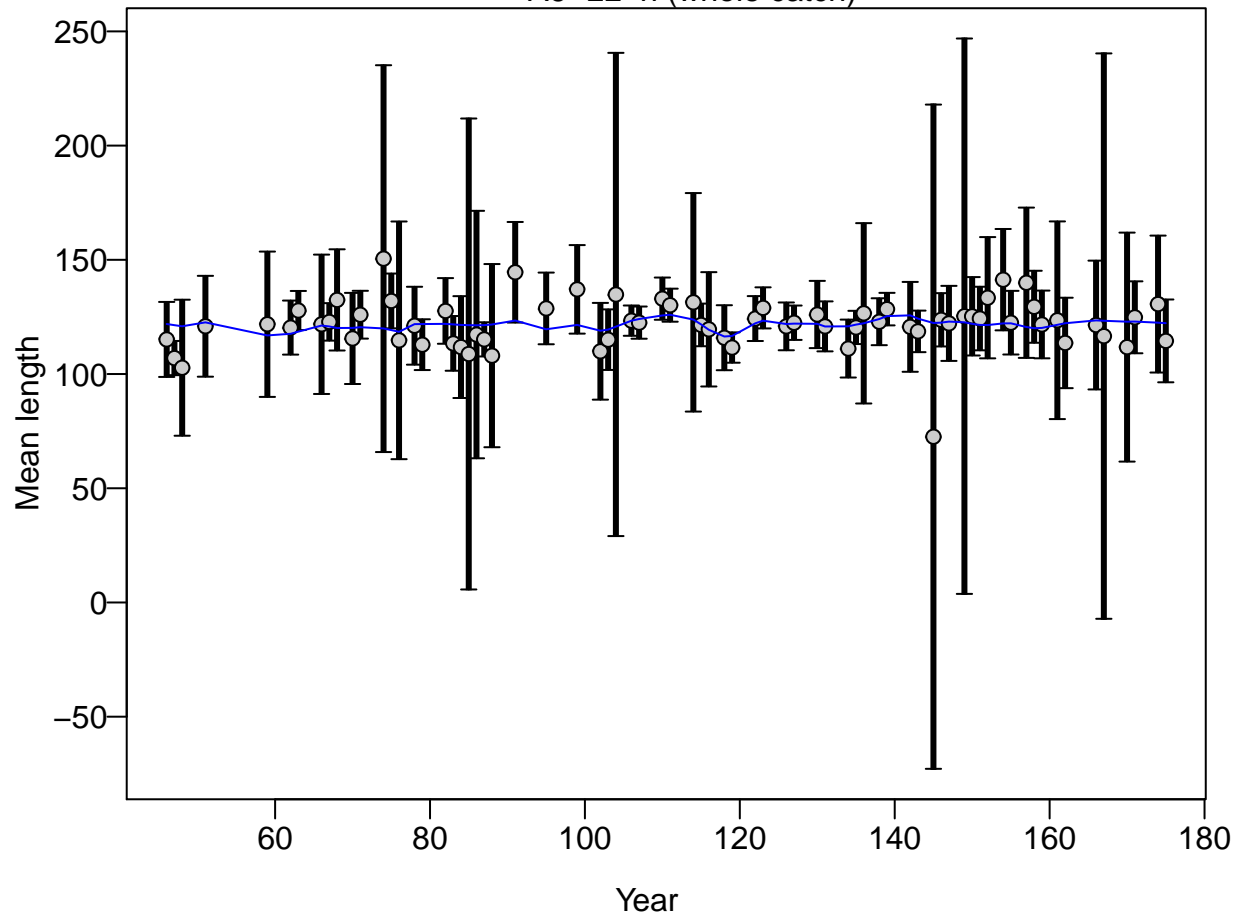
Proportion



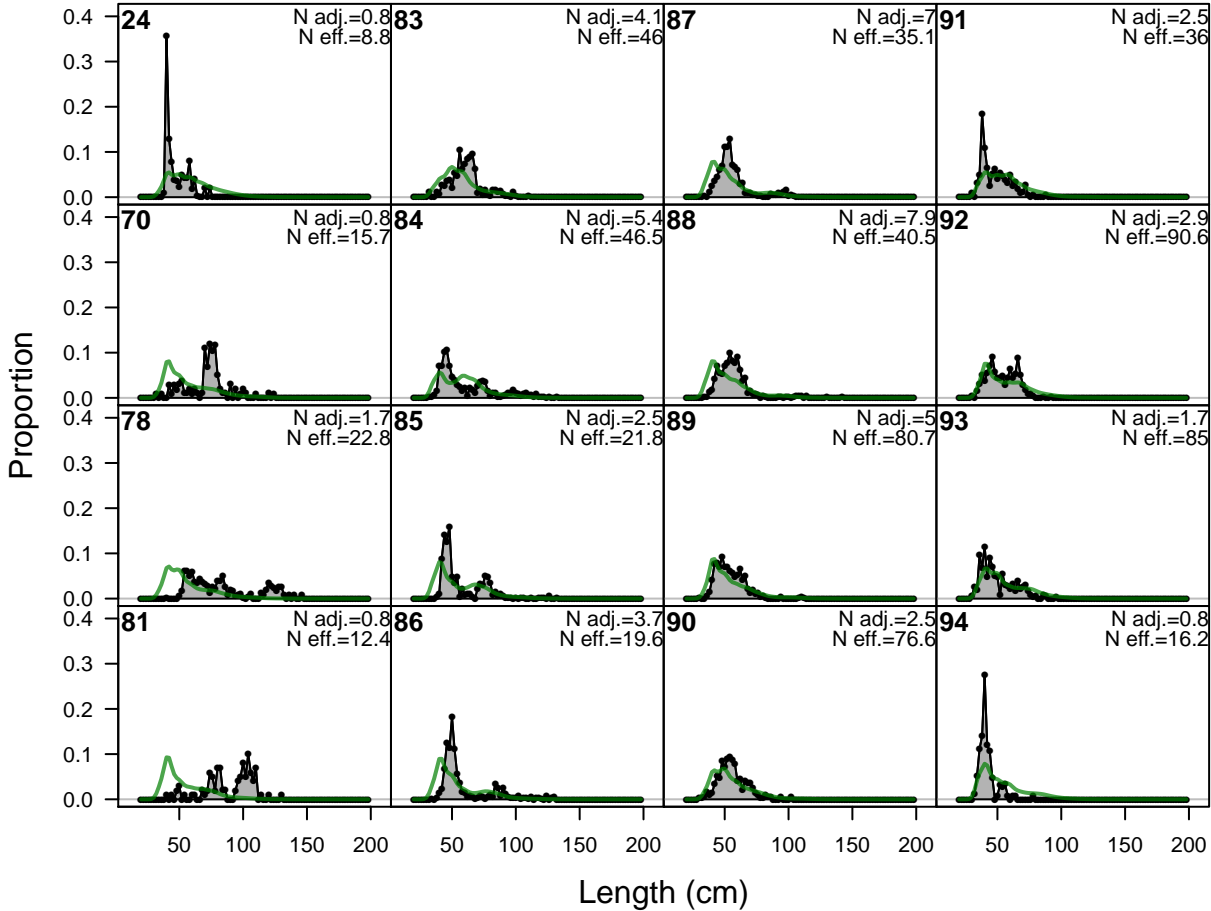


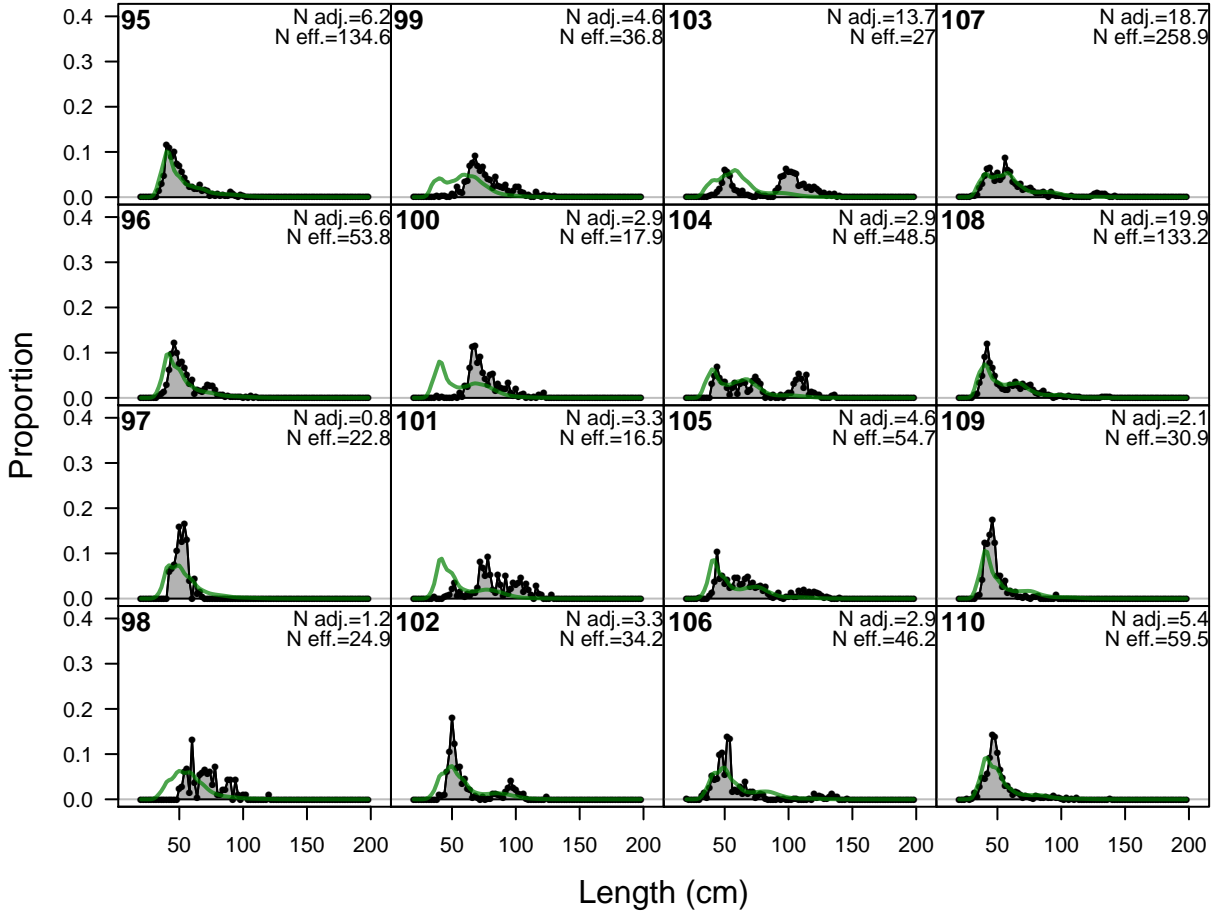


A6-LL-n (whole catch)

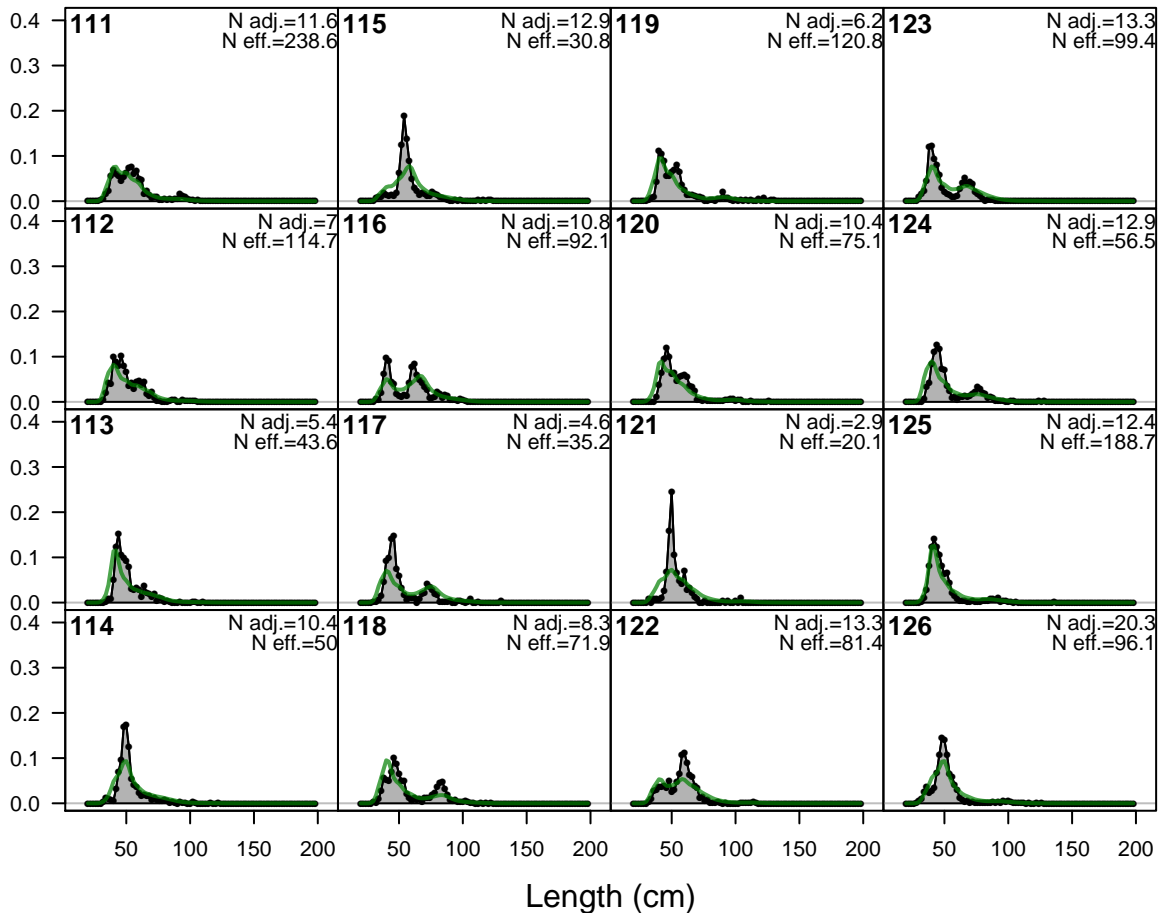




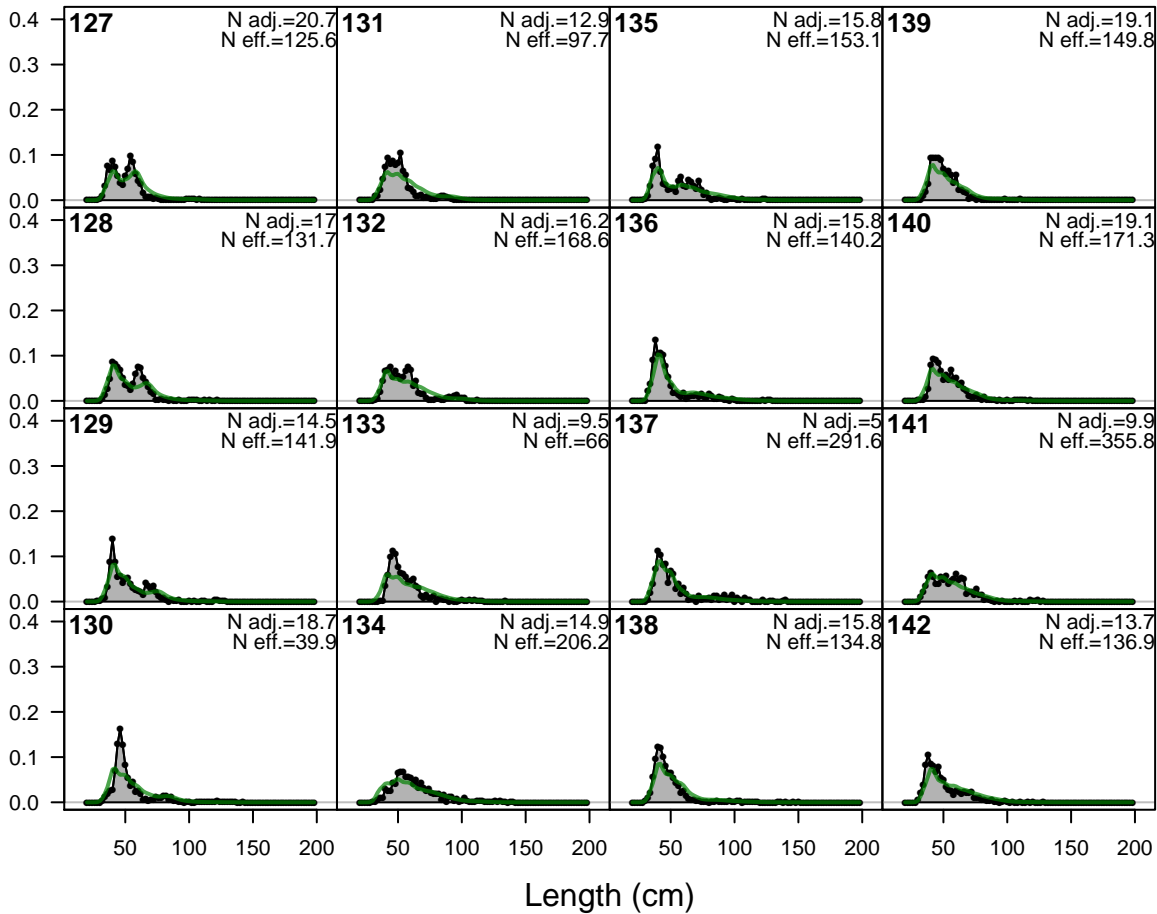




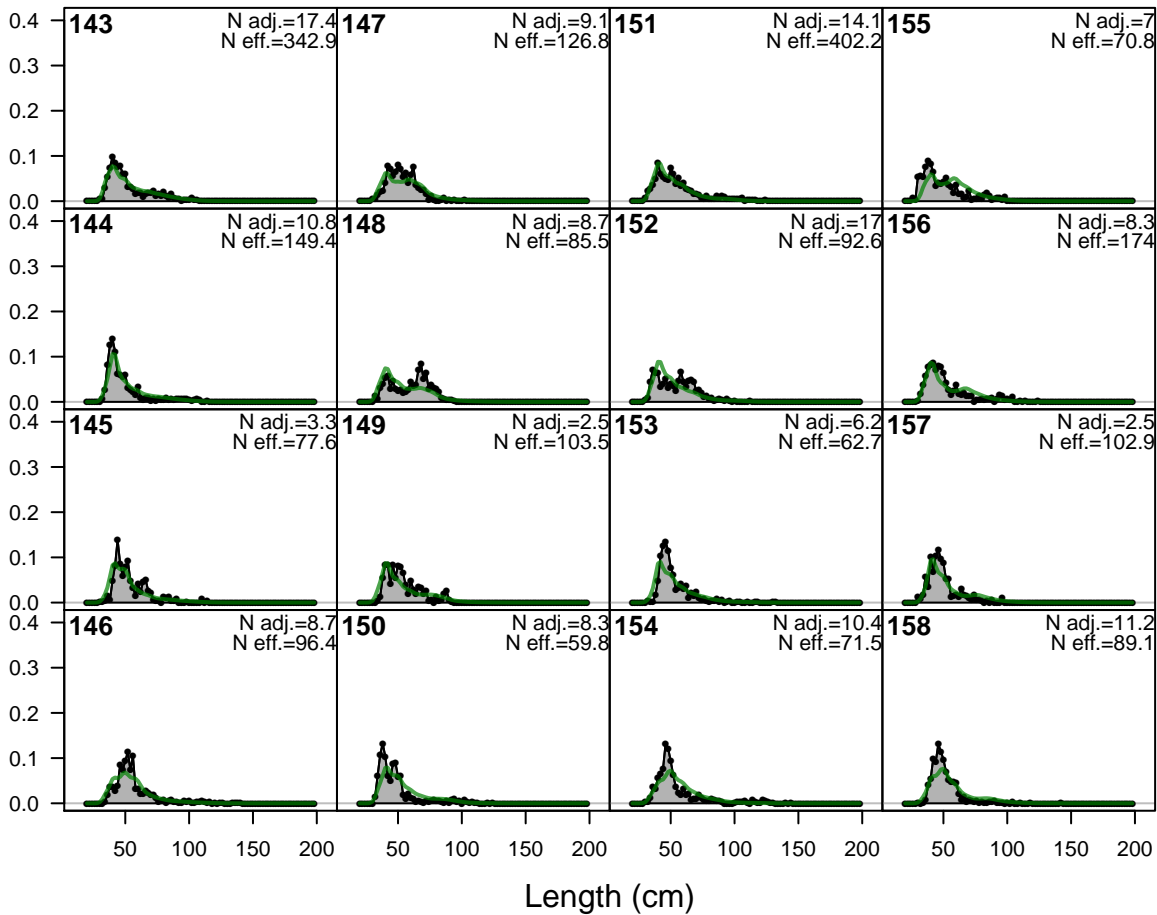
Proportion



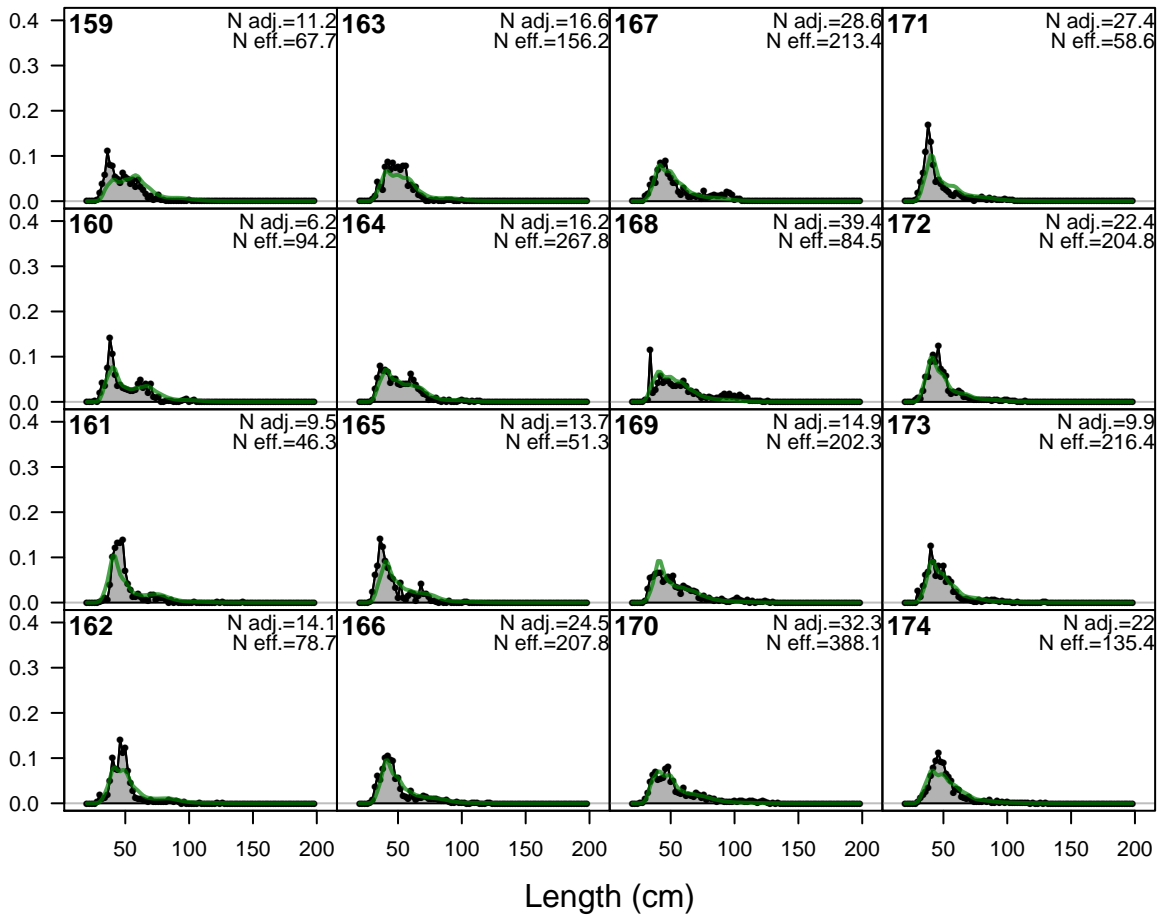
Proportion

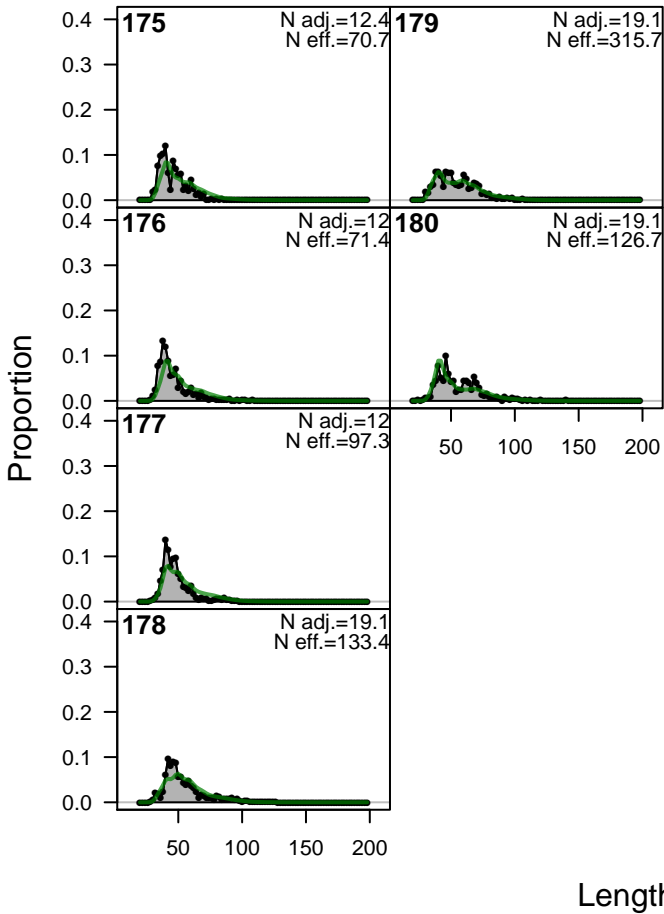


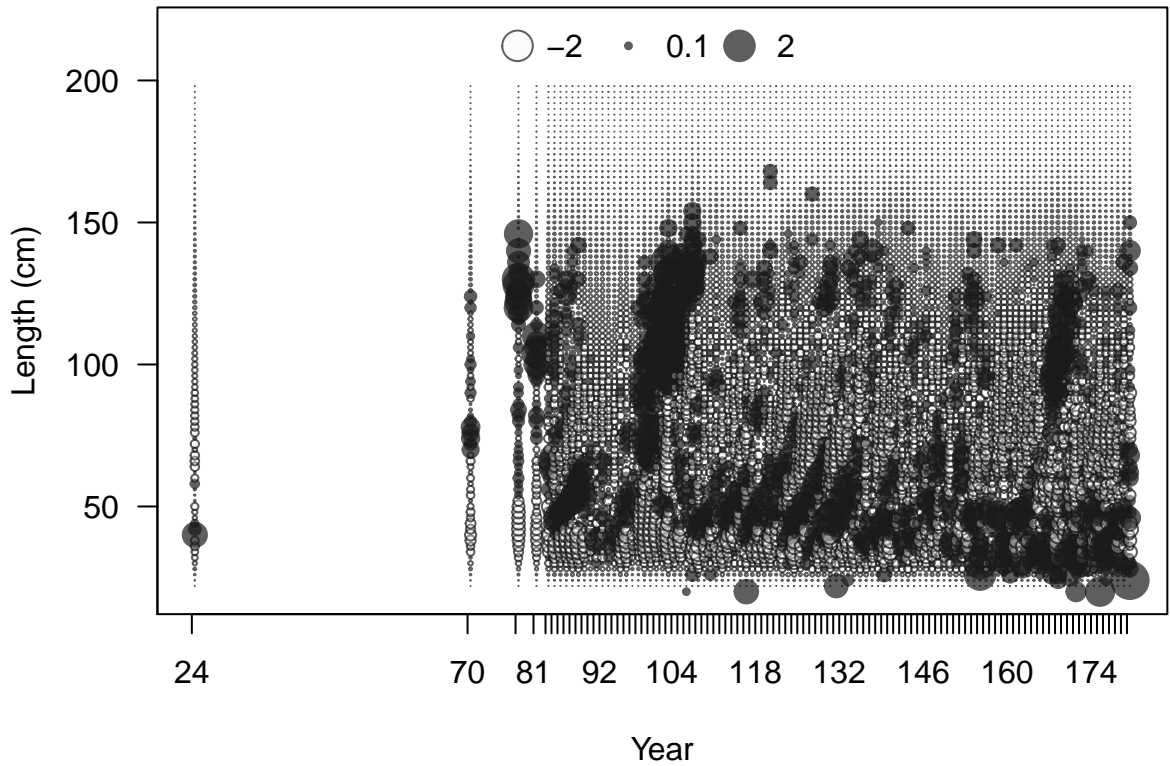
Proportion



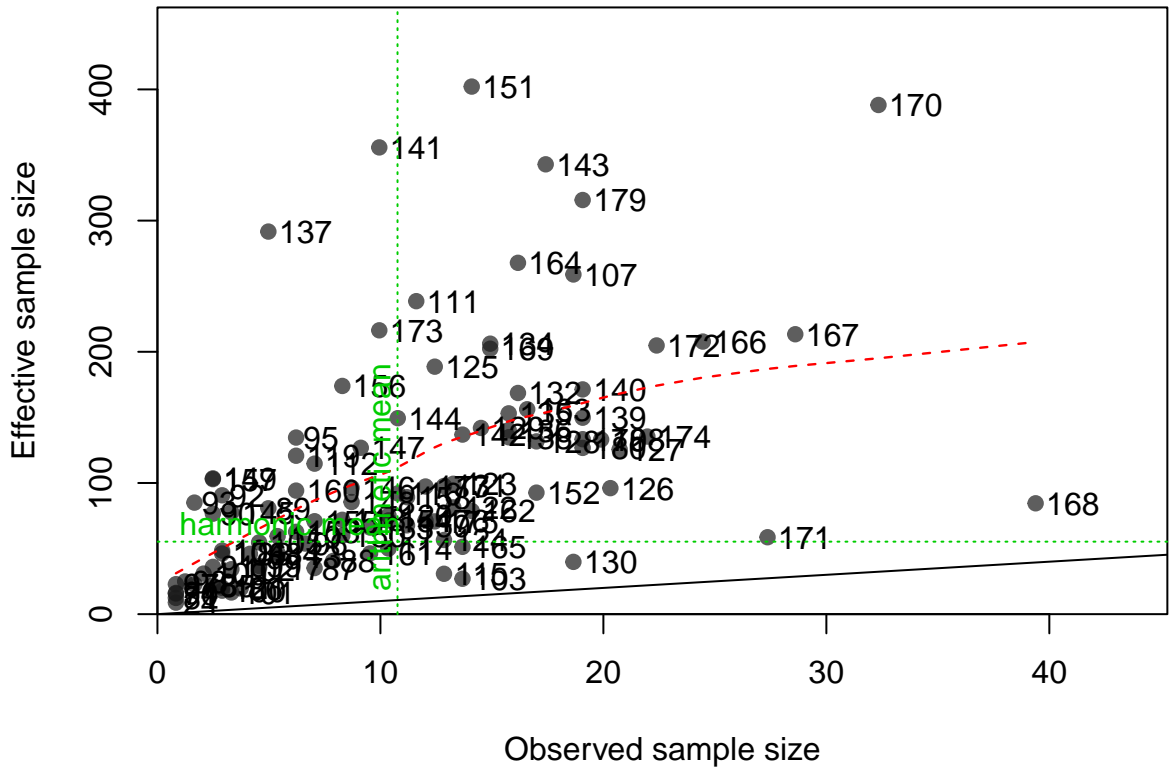
Proportion



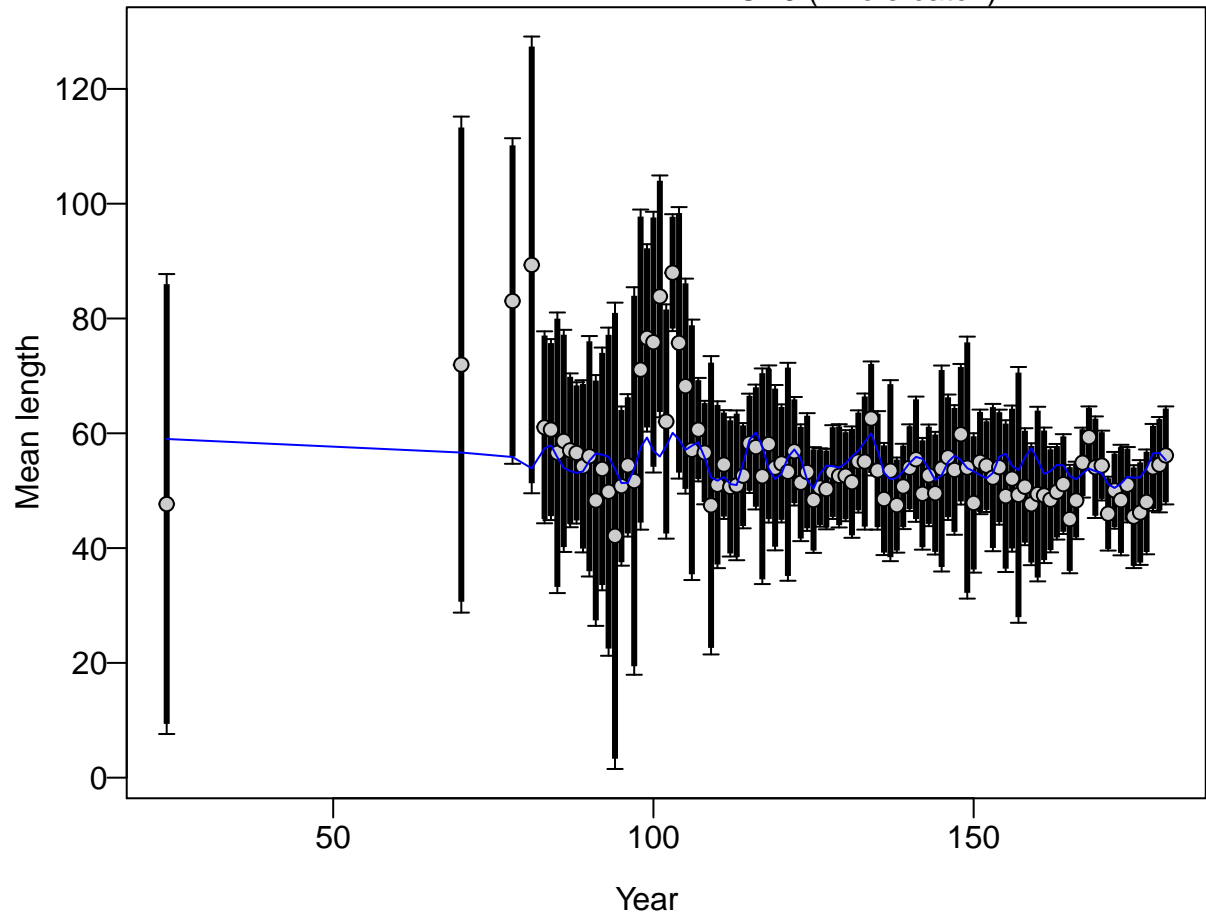




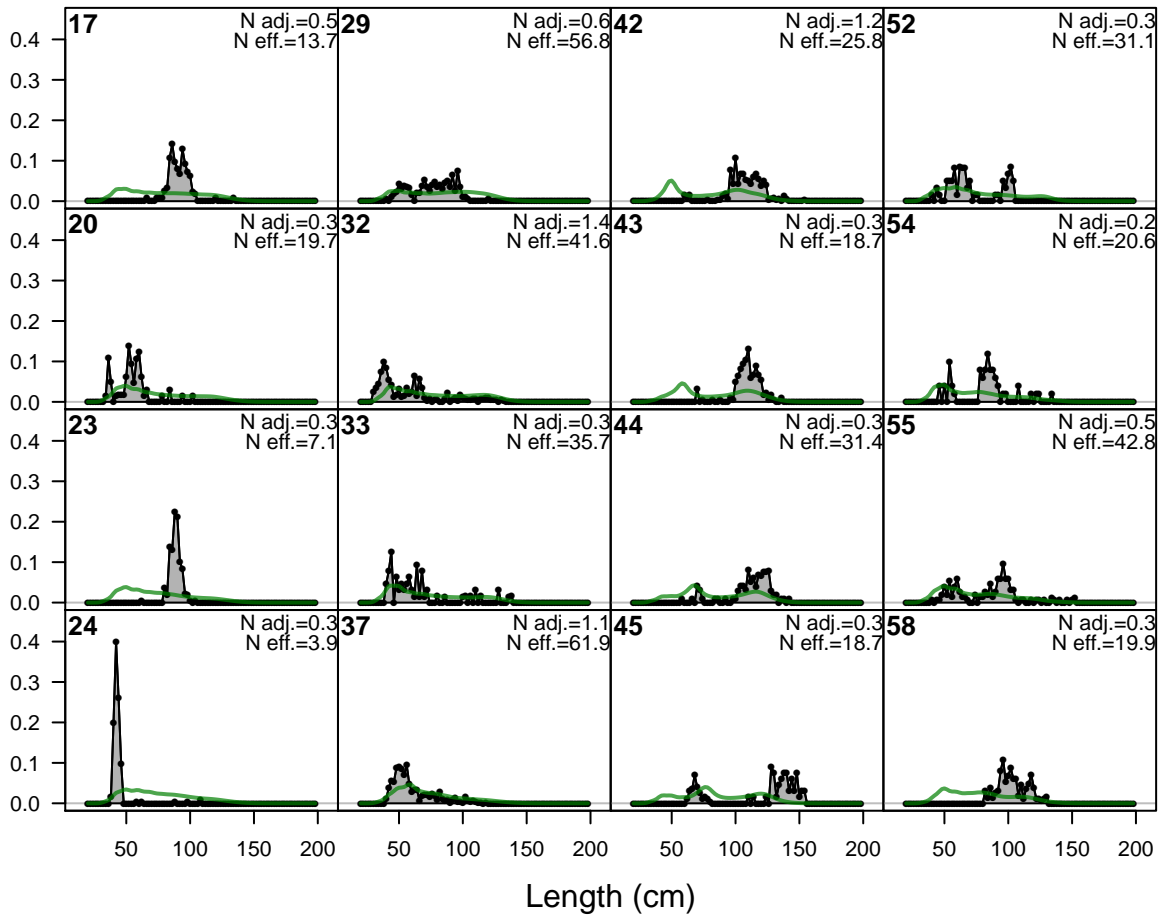




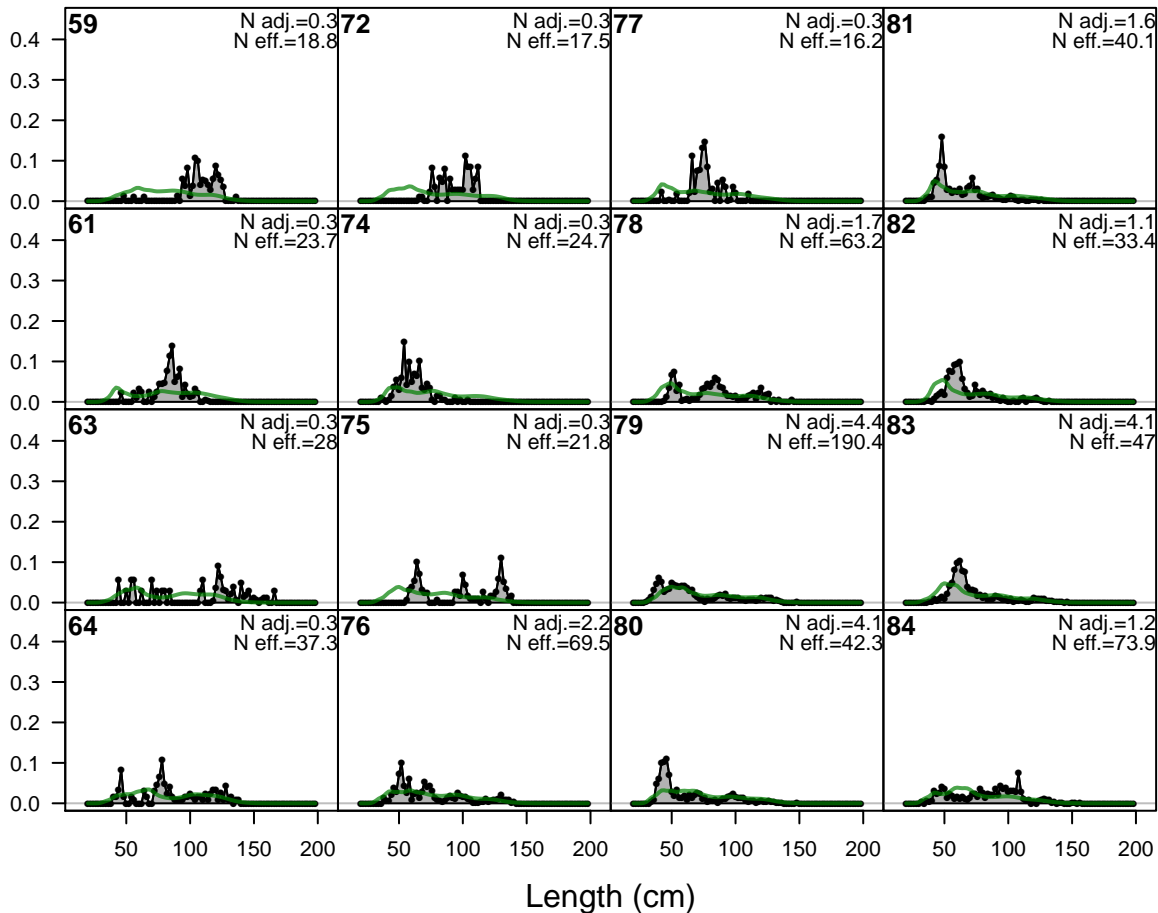
## A2-OBJ (whole catch)



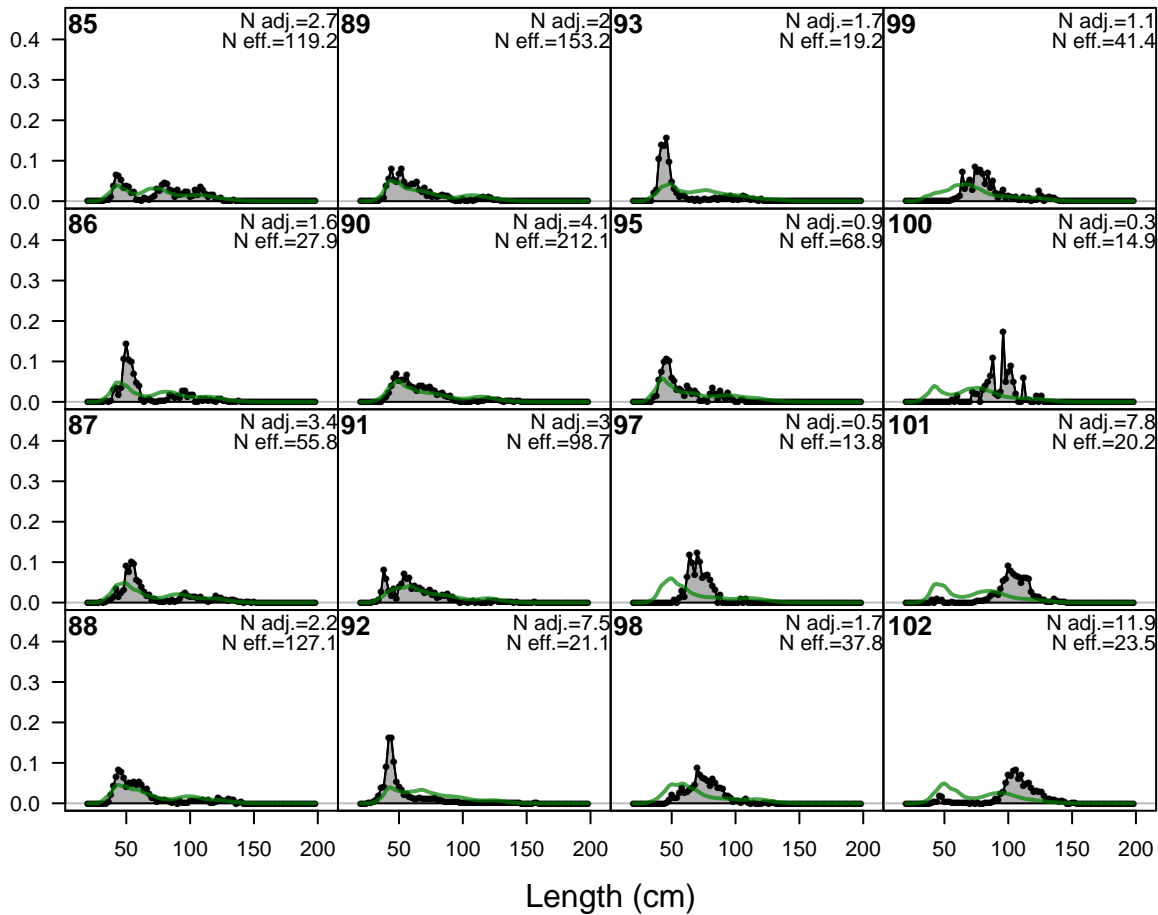
Proportion



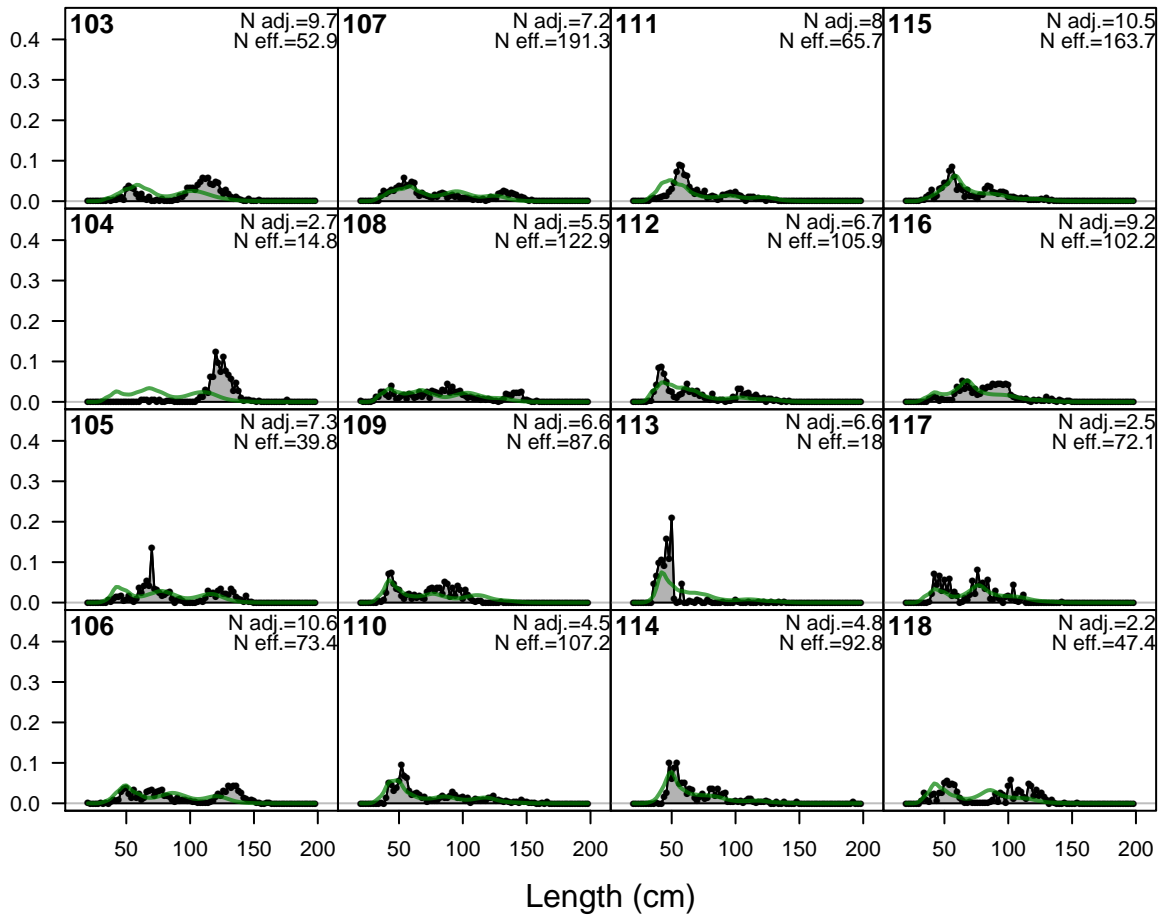
Proportion



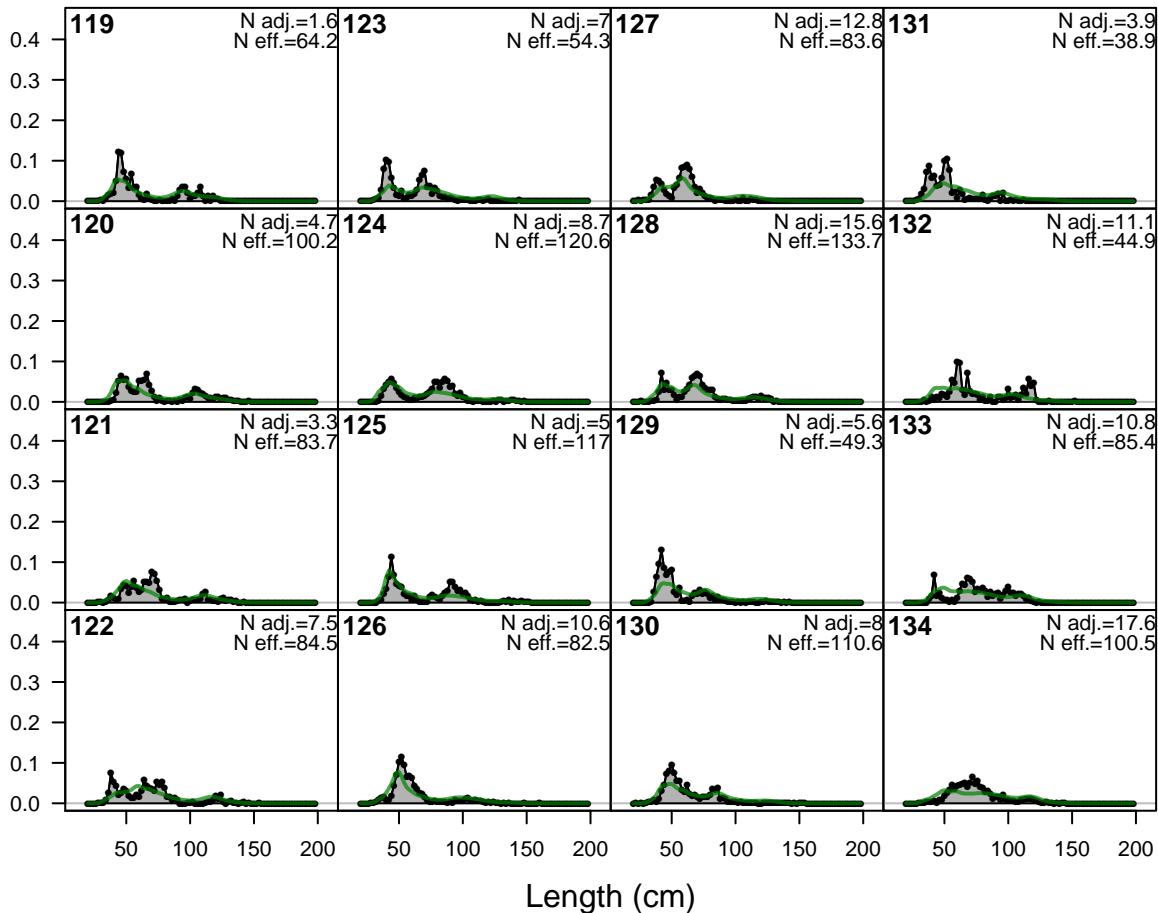
Proportion



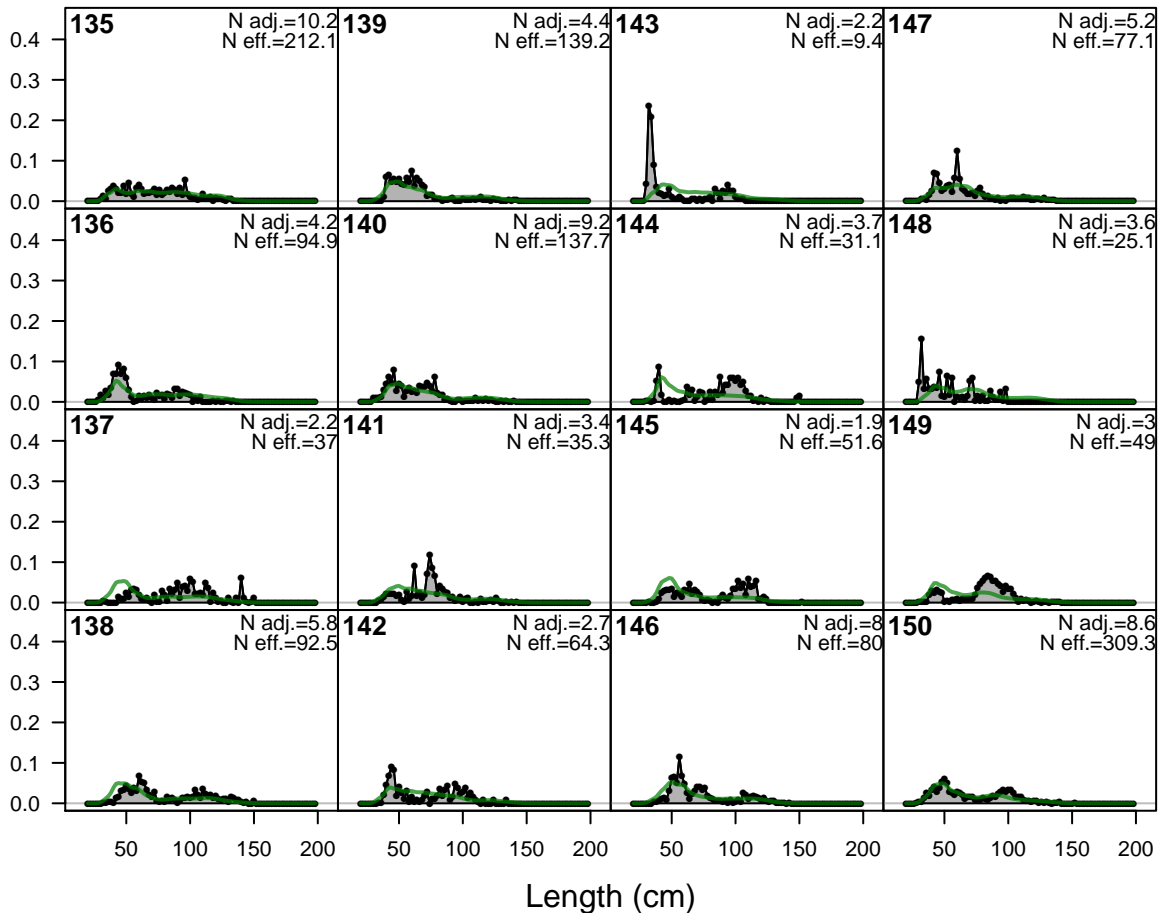
Proportion



Proportion

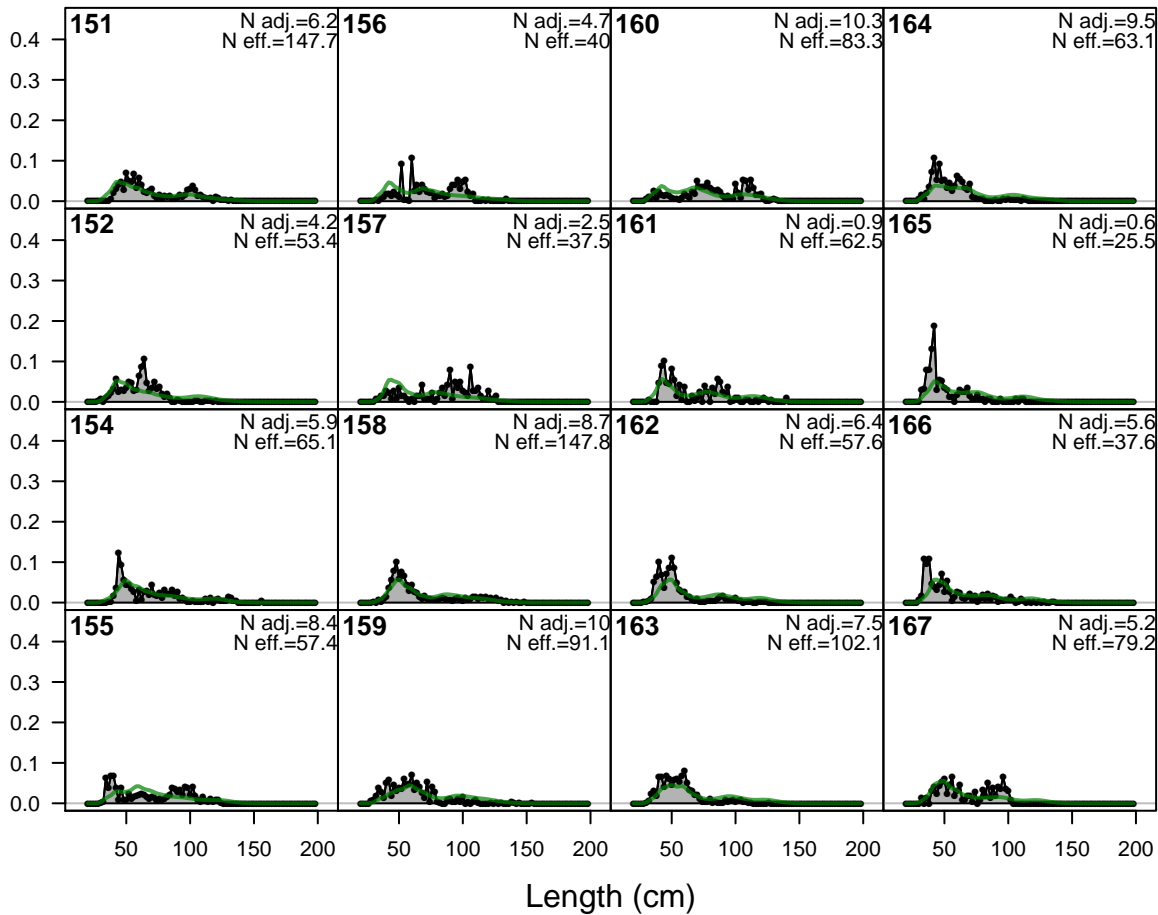


Proportion

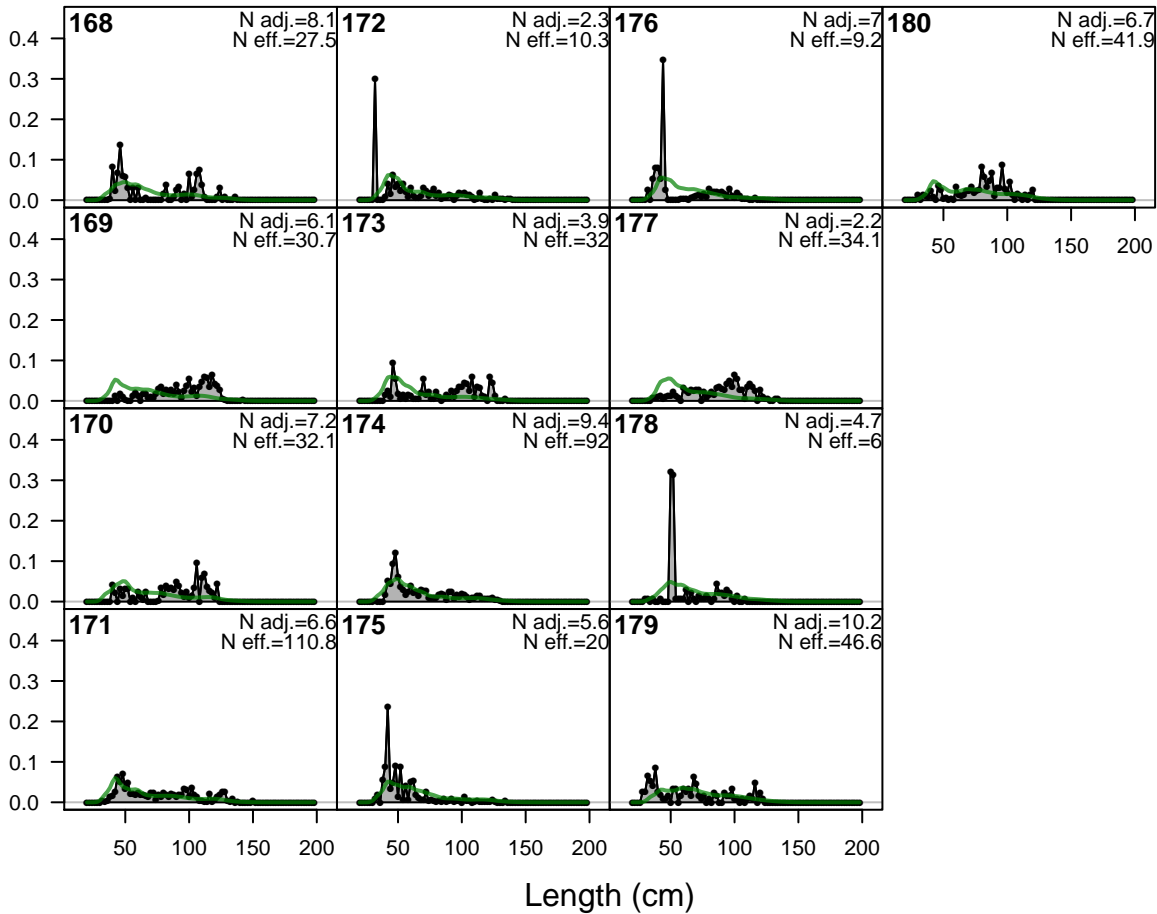


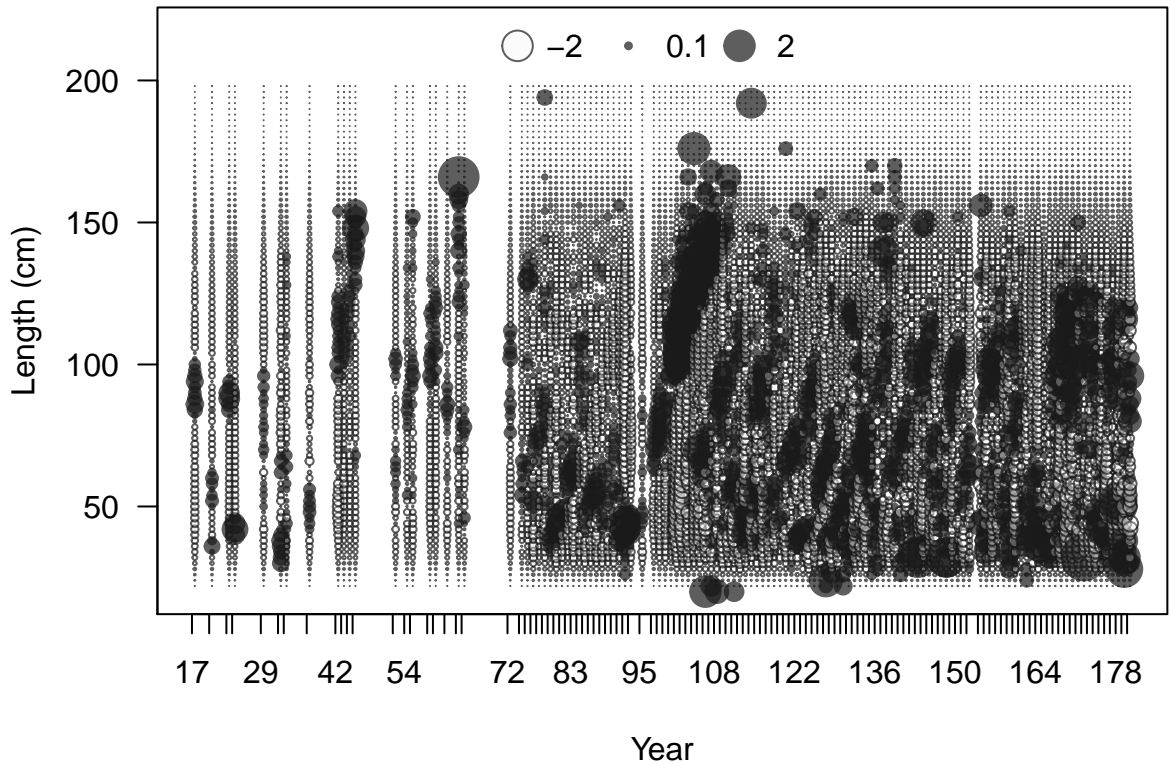


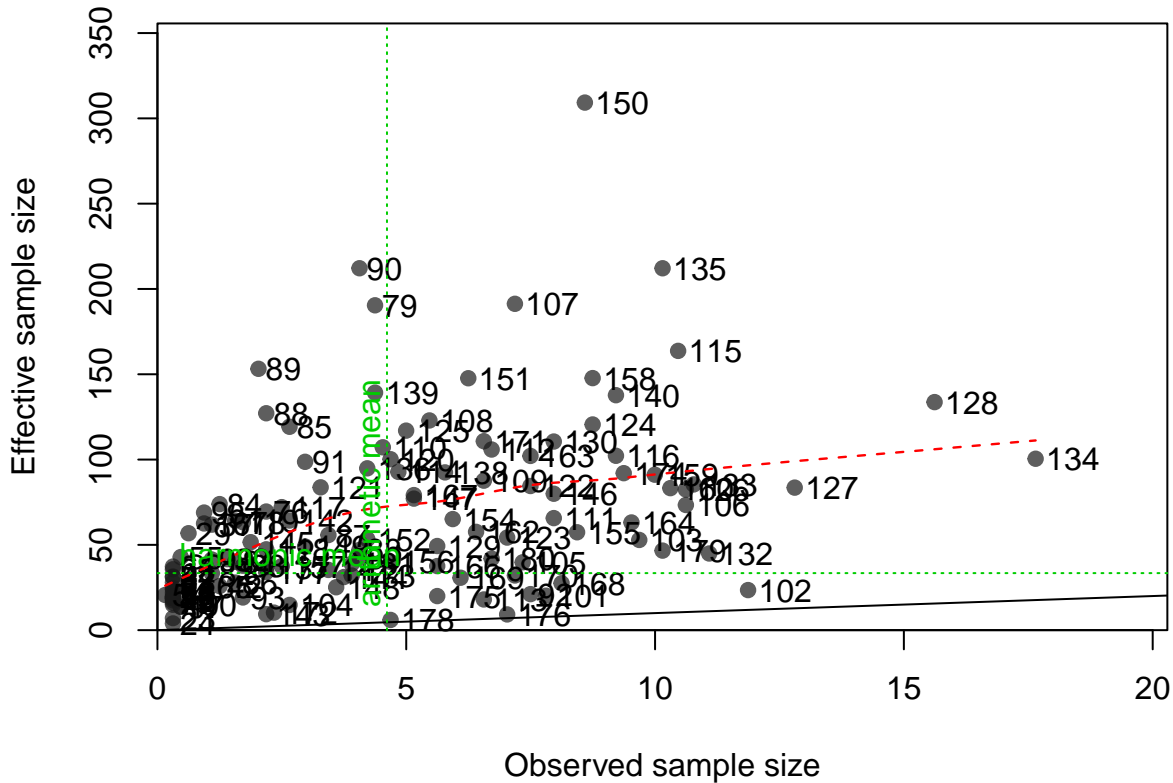
Proportion



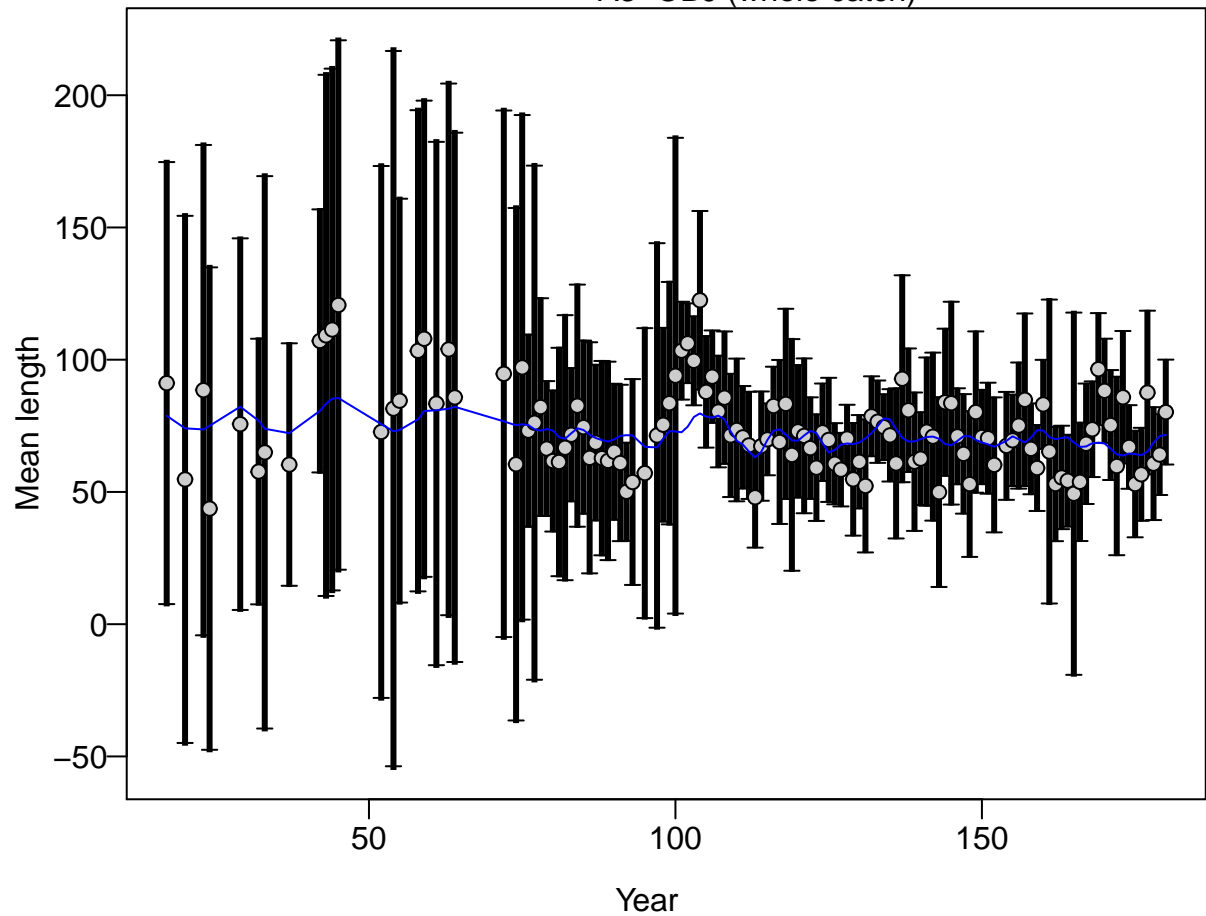
Proportion



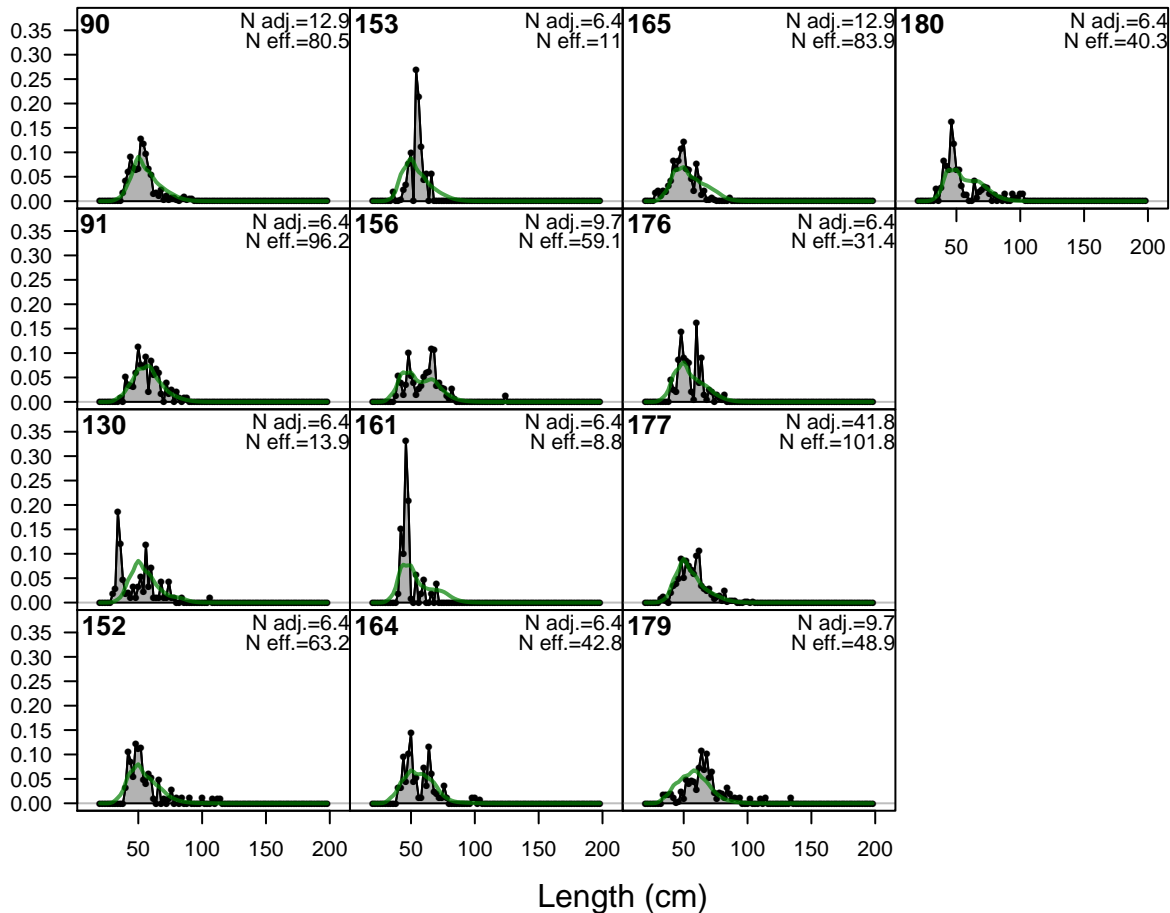


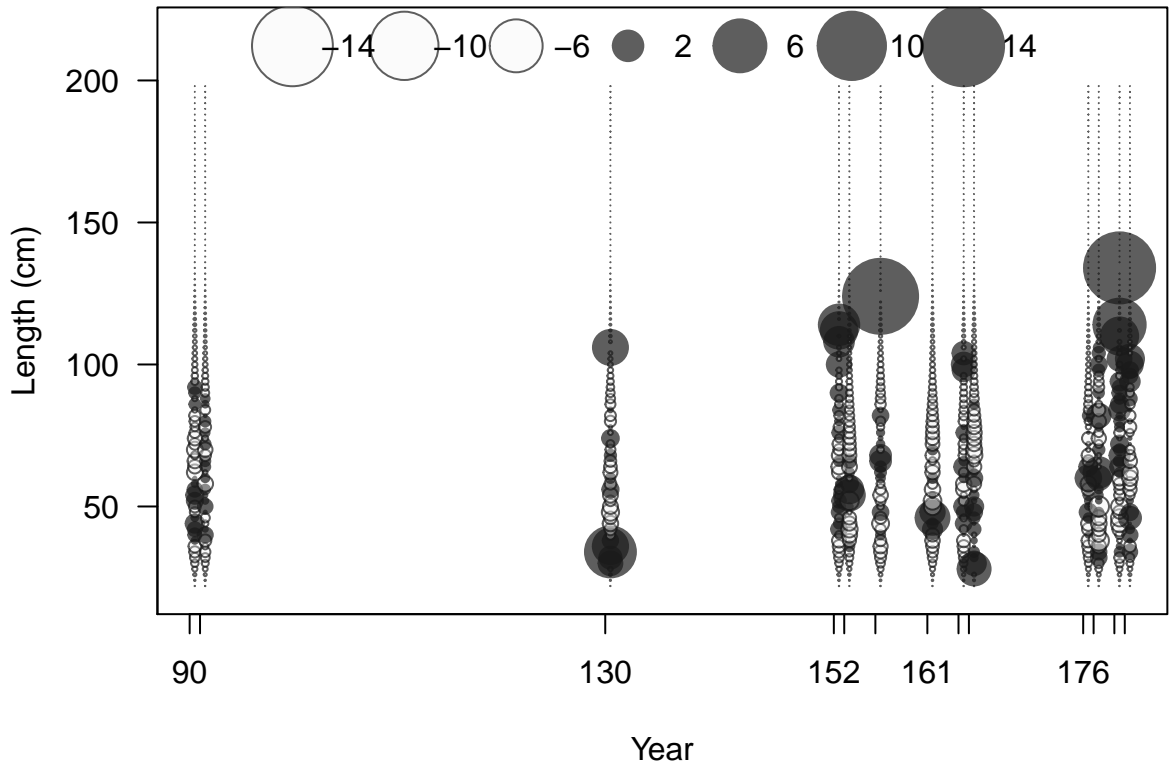


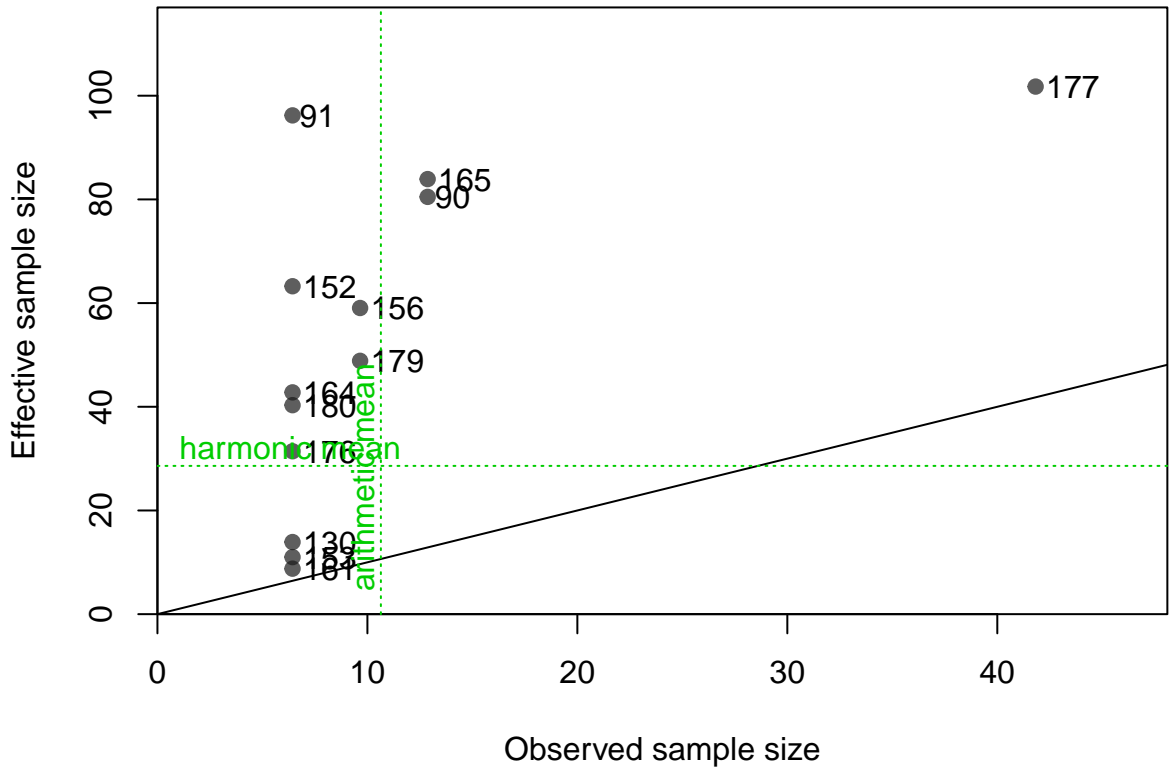
## A3-Obj (whole catch)



Proportion

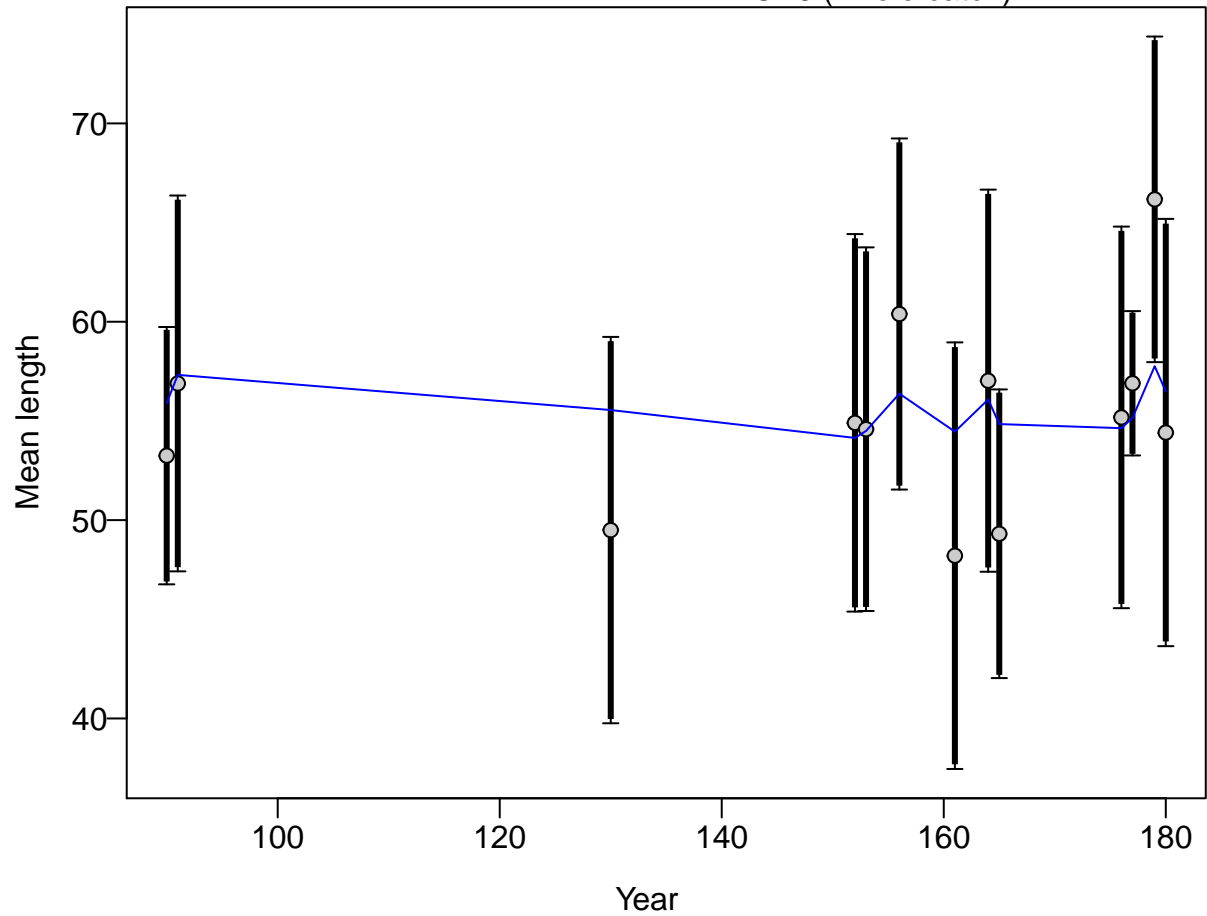




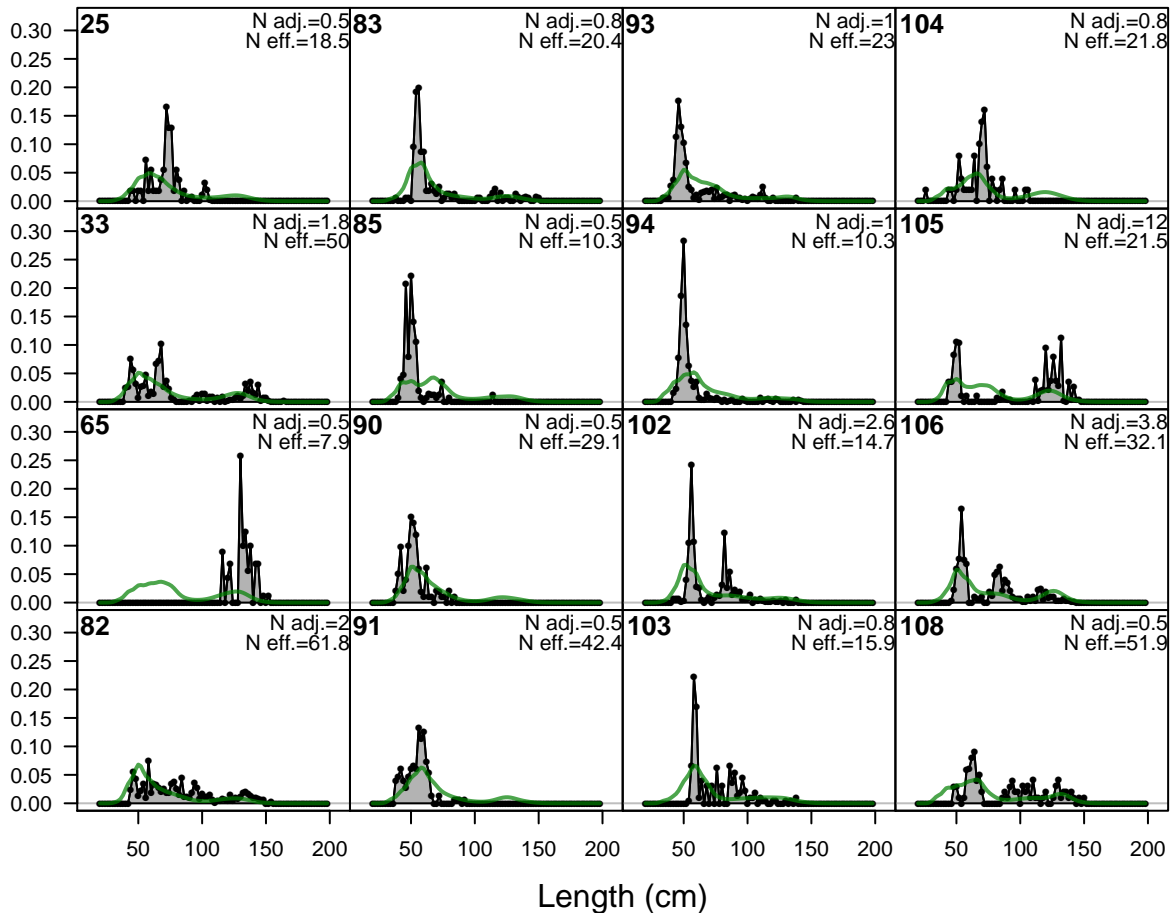




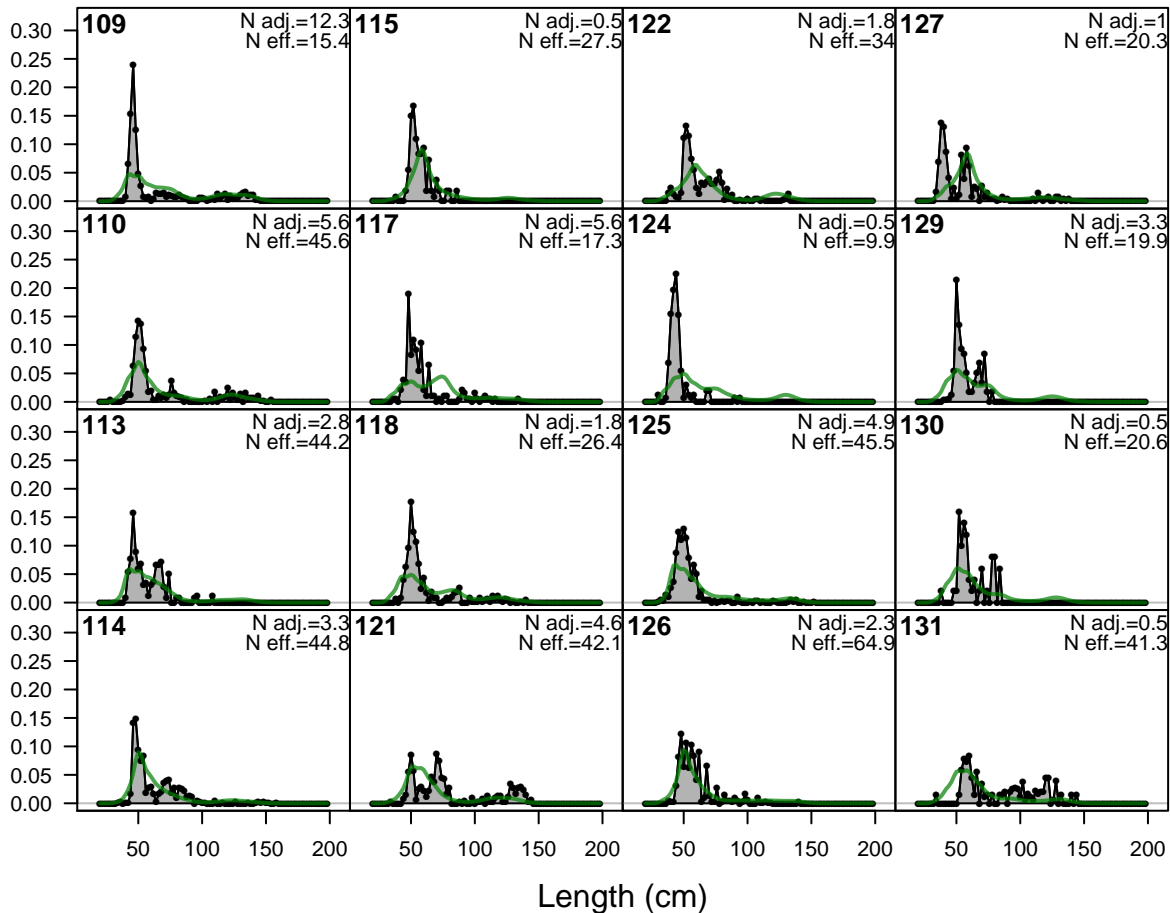
## A4-OBJ (whole catch)



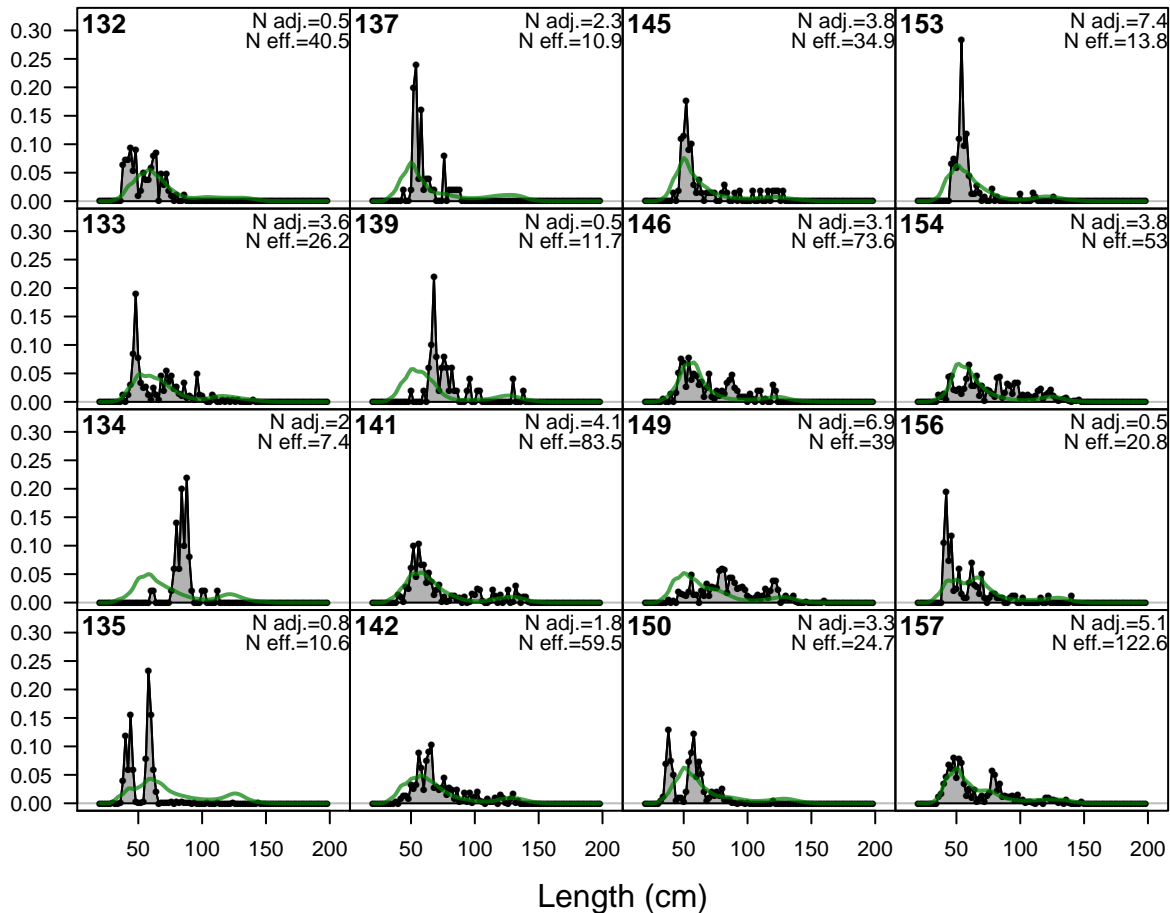
Proportion



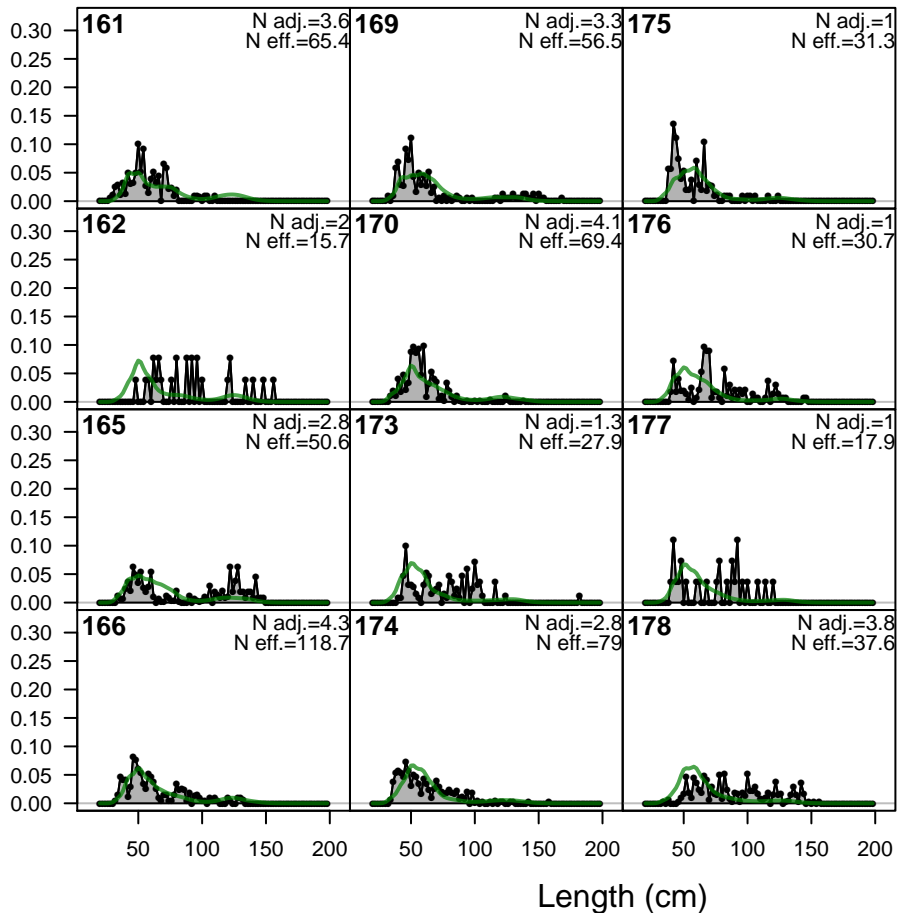
Proportion

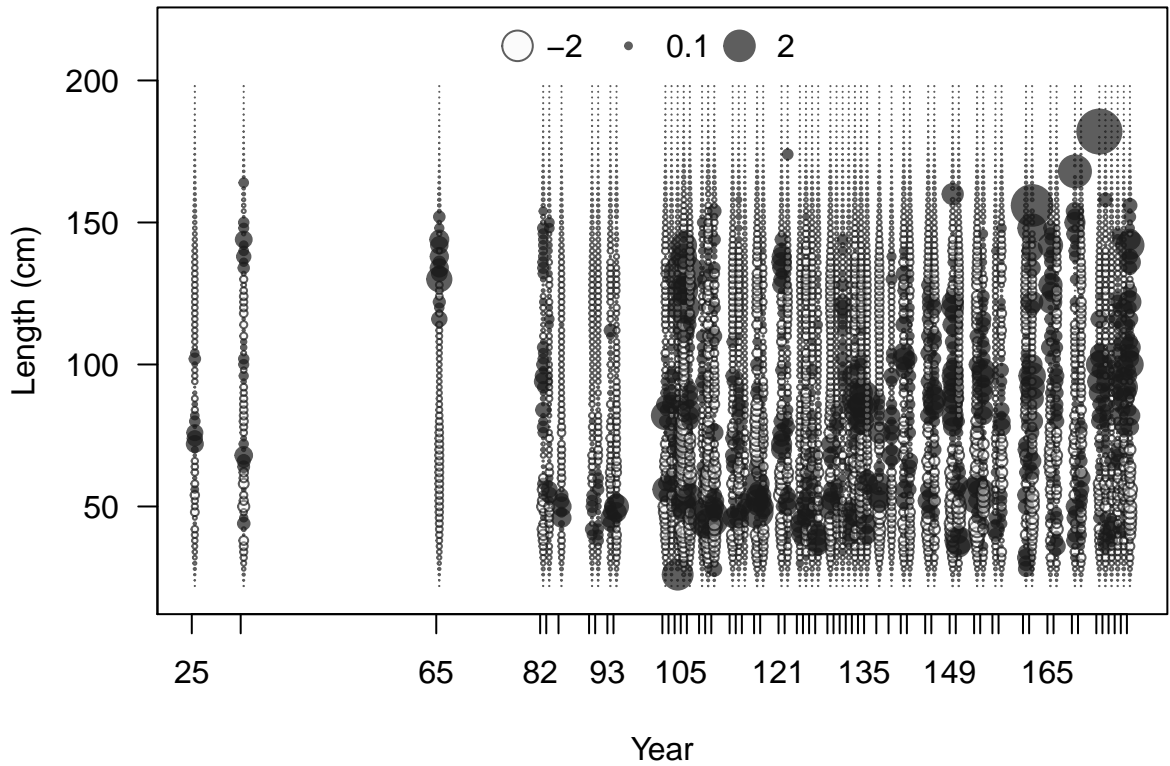


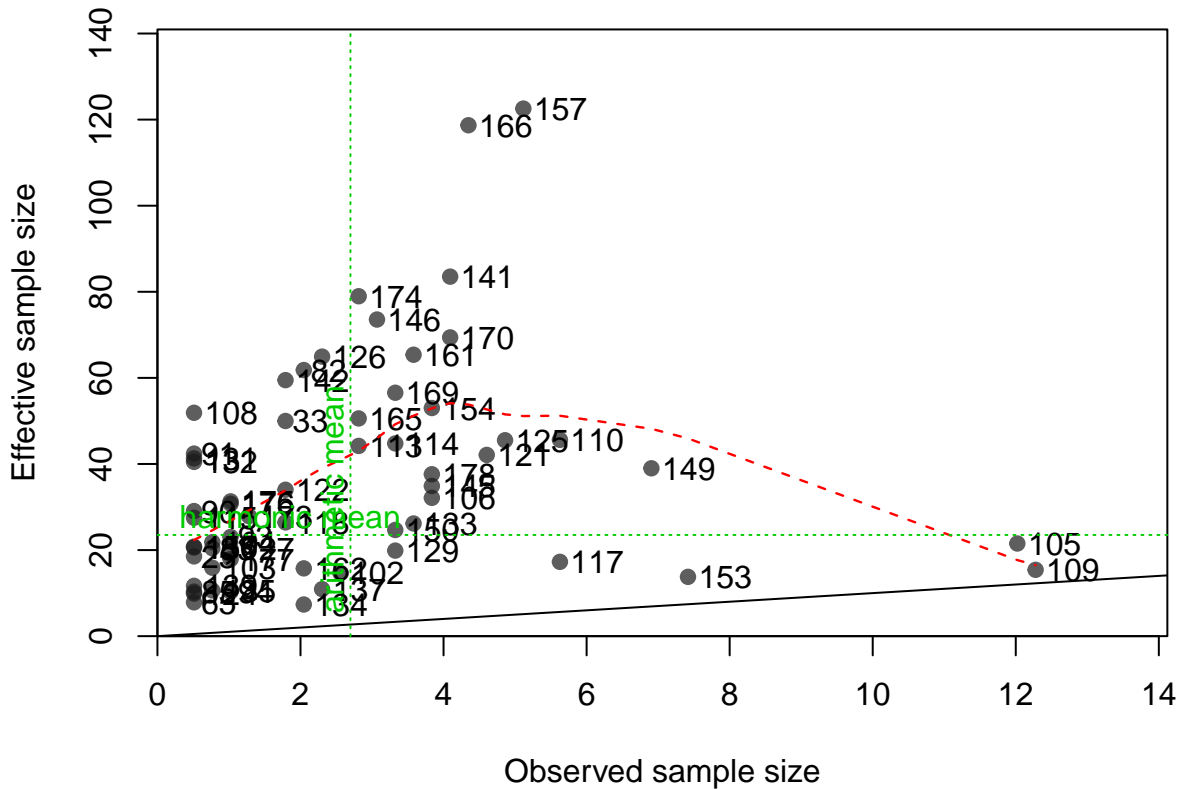
Proportion



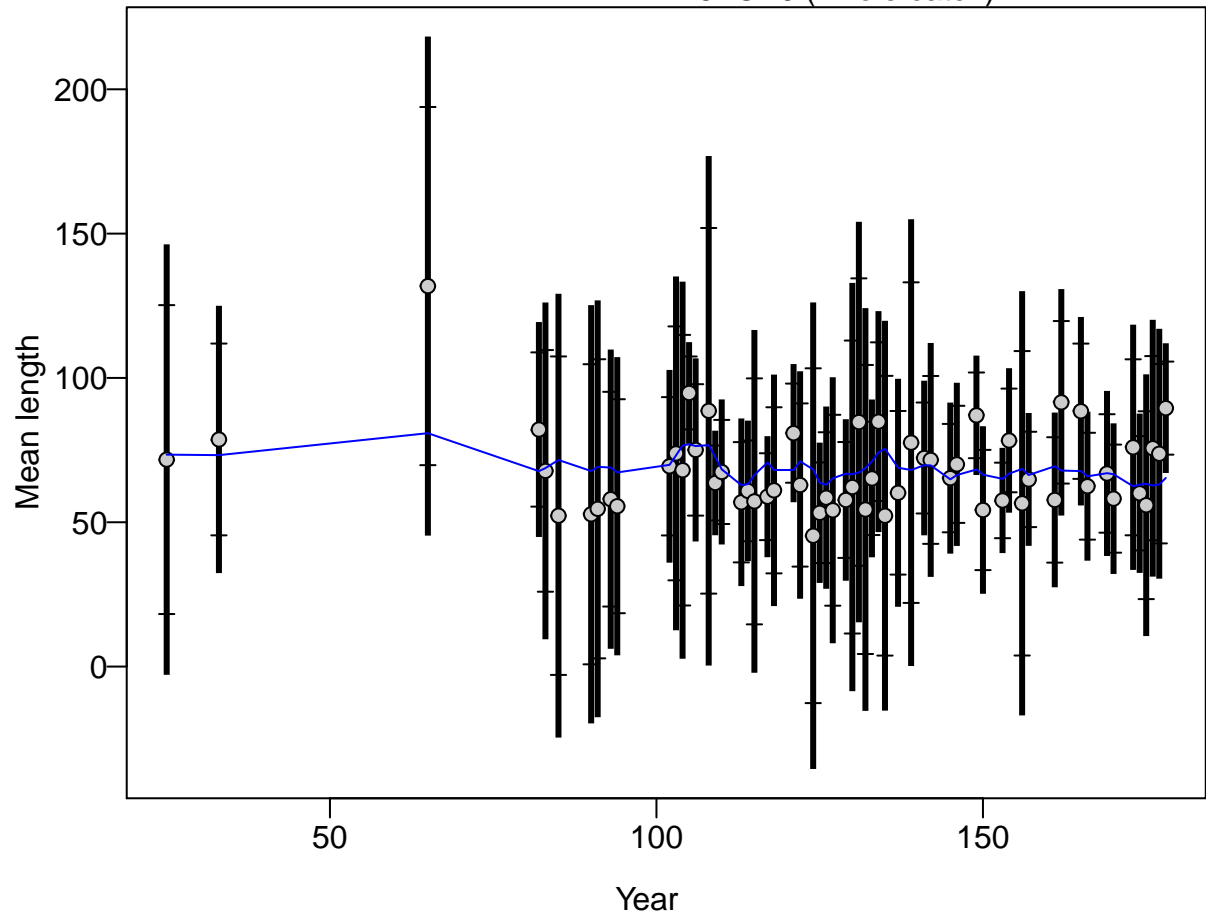
Proportion





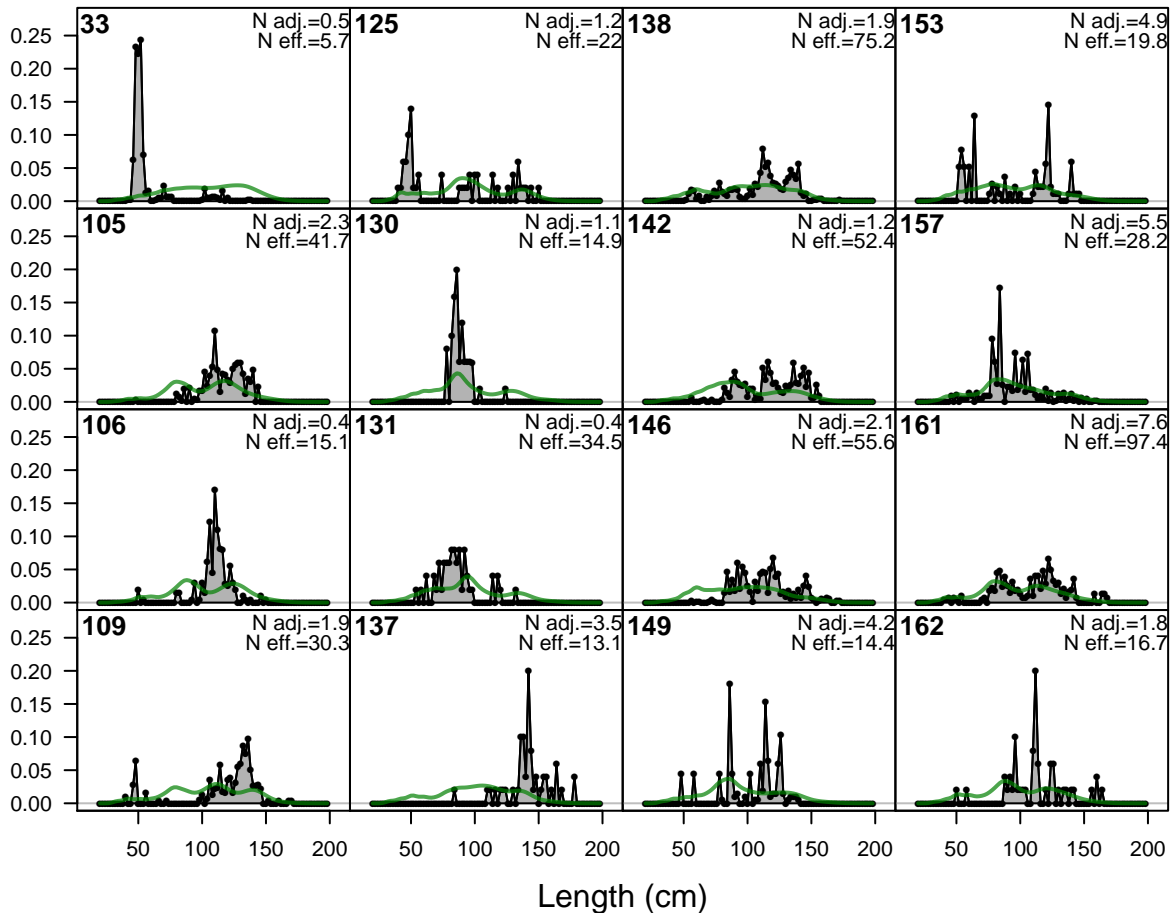


## A5-OBJ (whole catch)

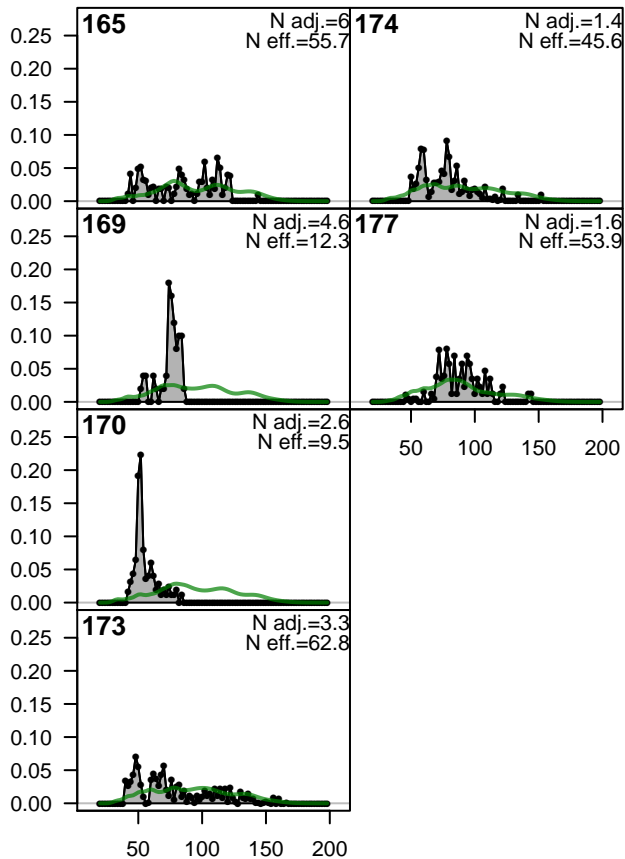




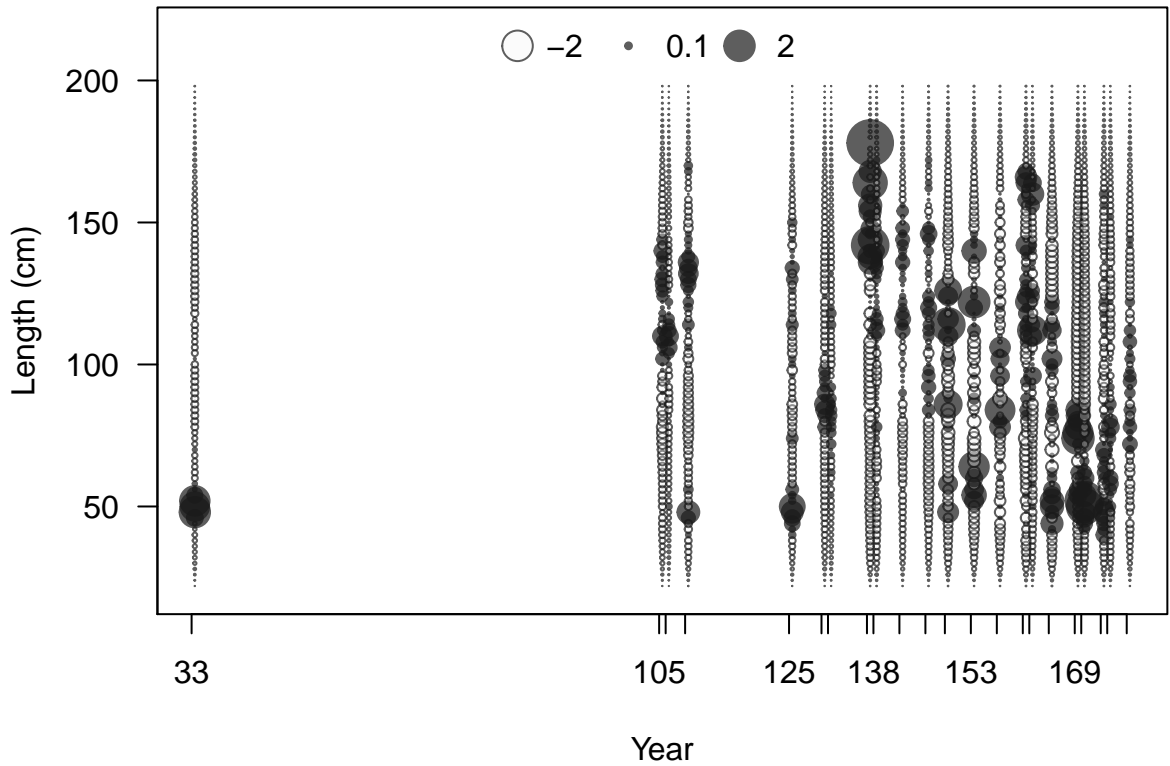
Proportion

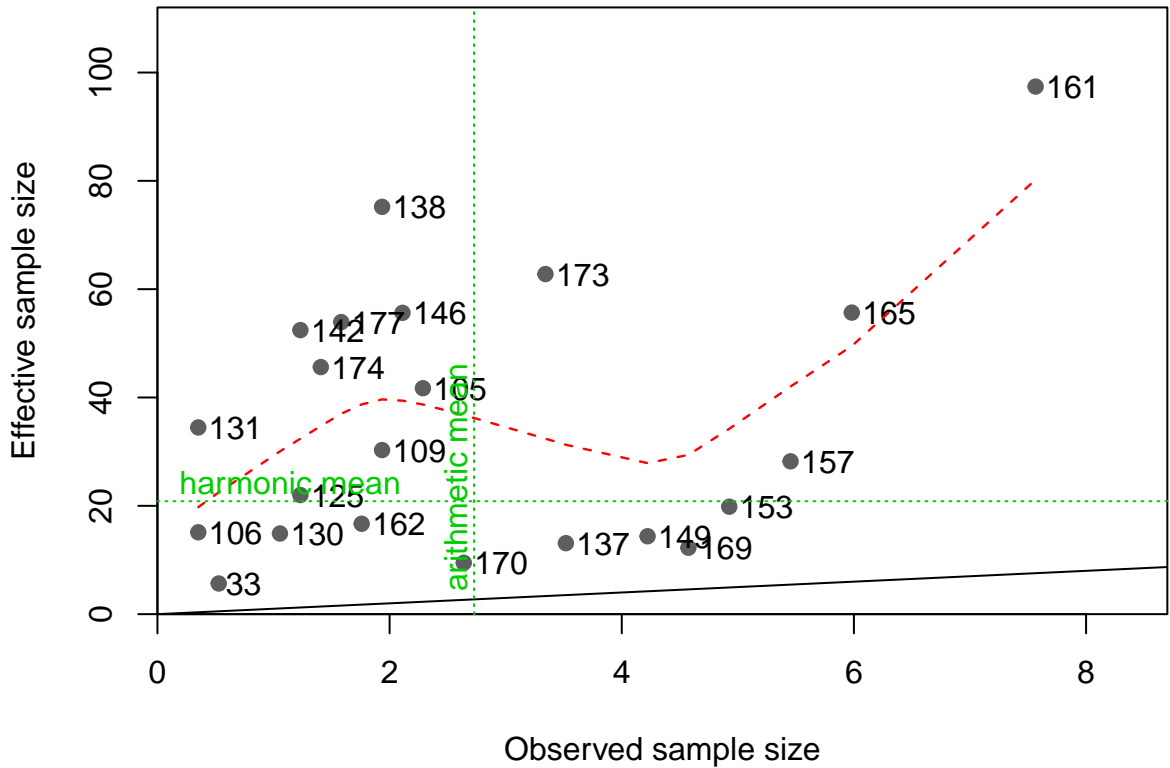


Proportion

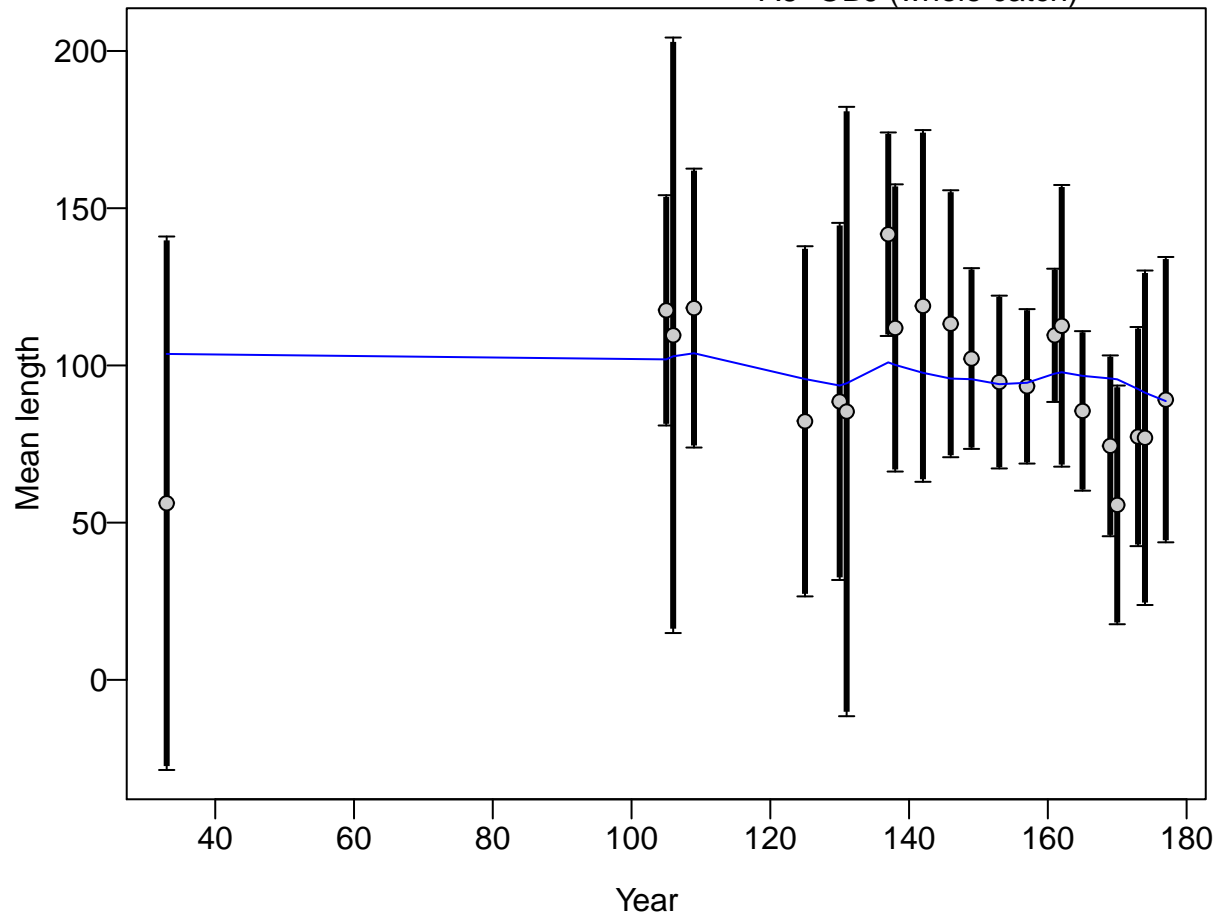


Length (cm)

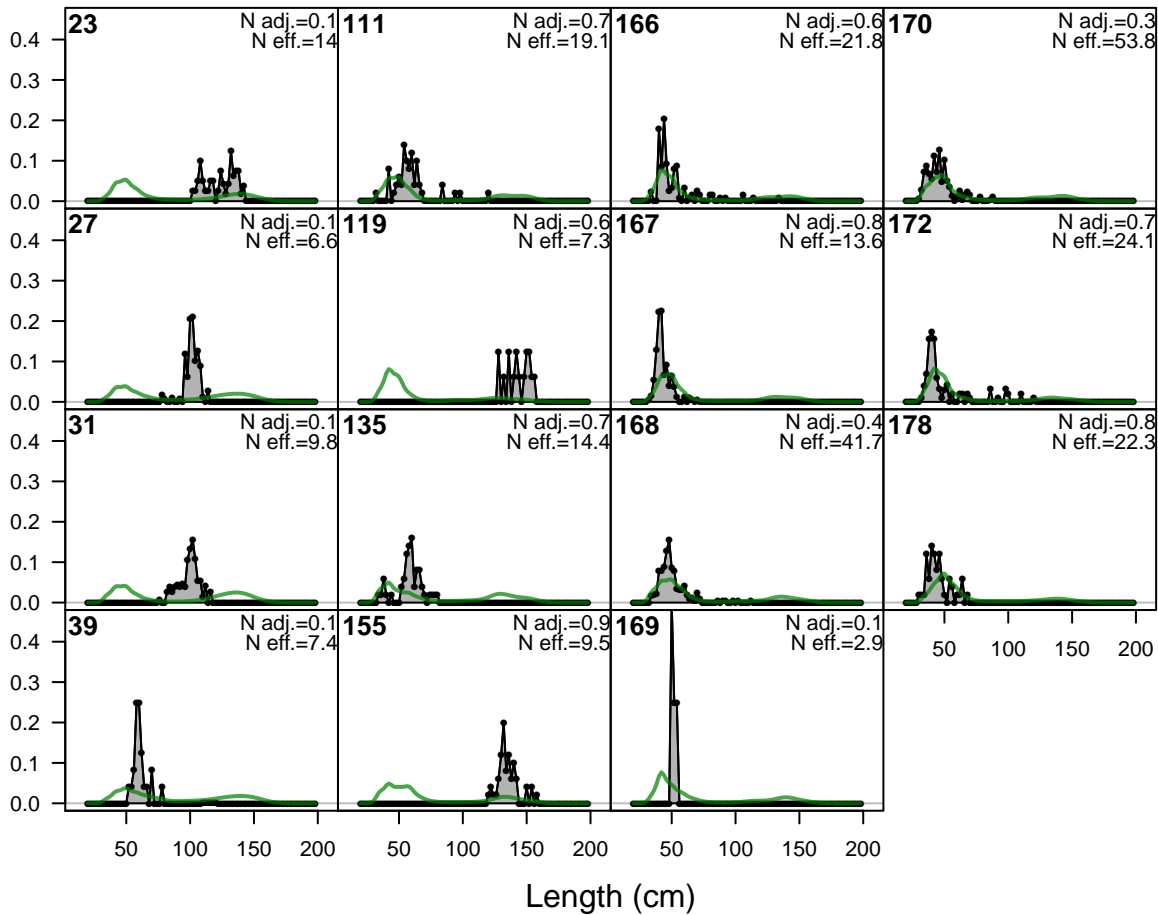


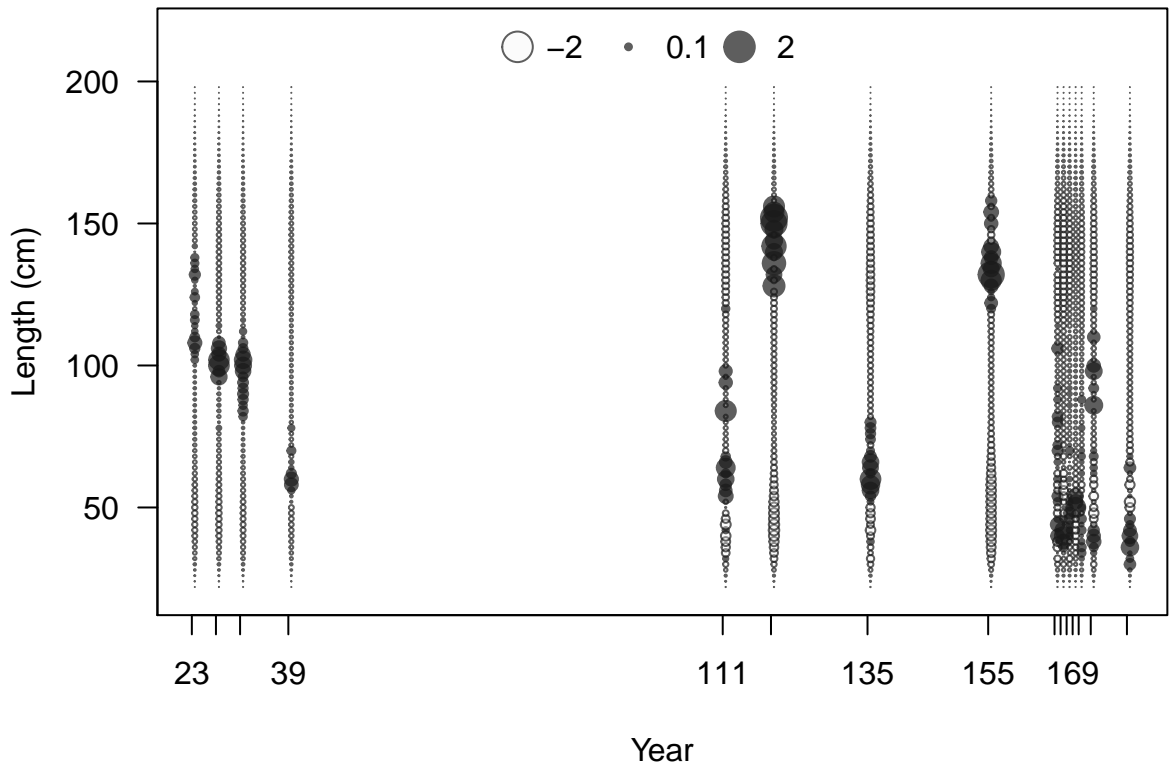


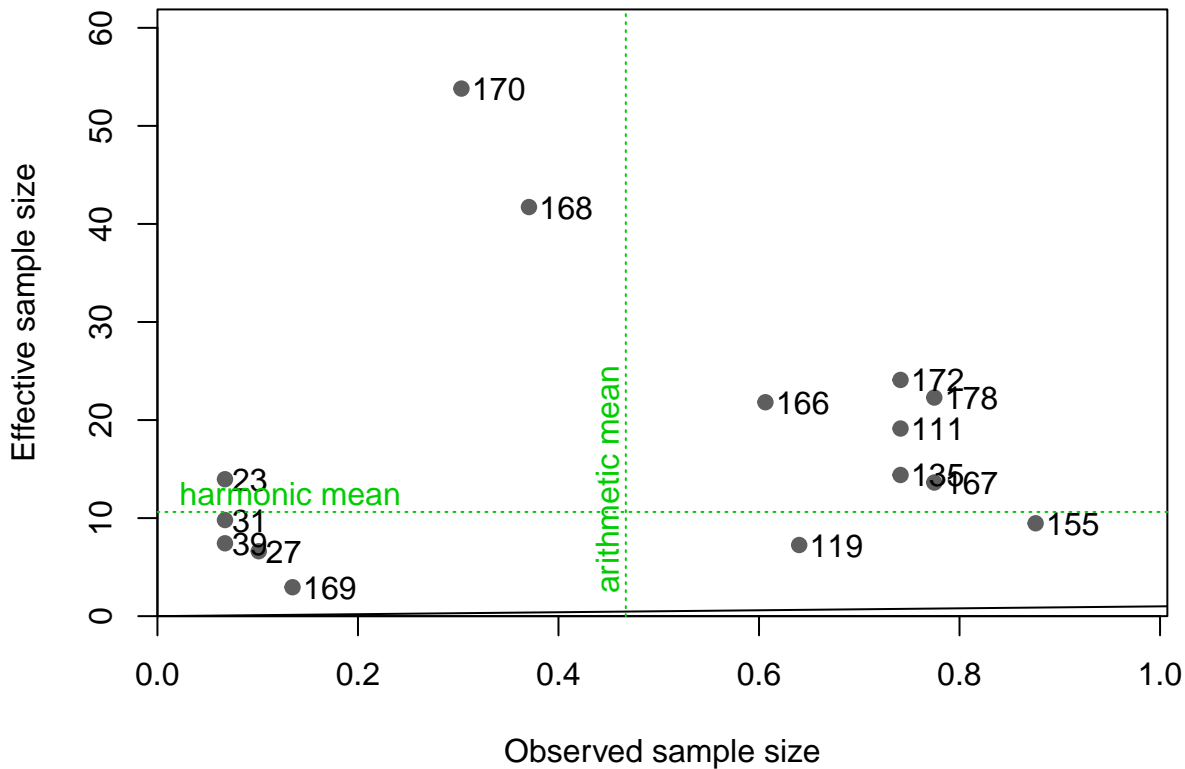
## A6-OBJ (whole catch)



Proportion

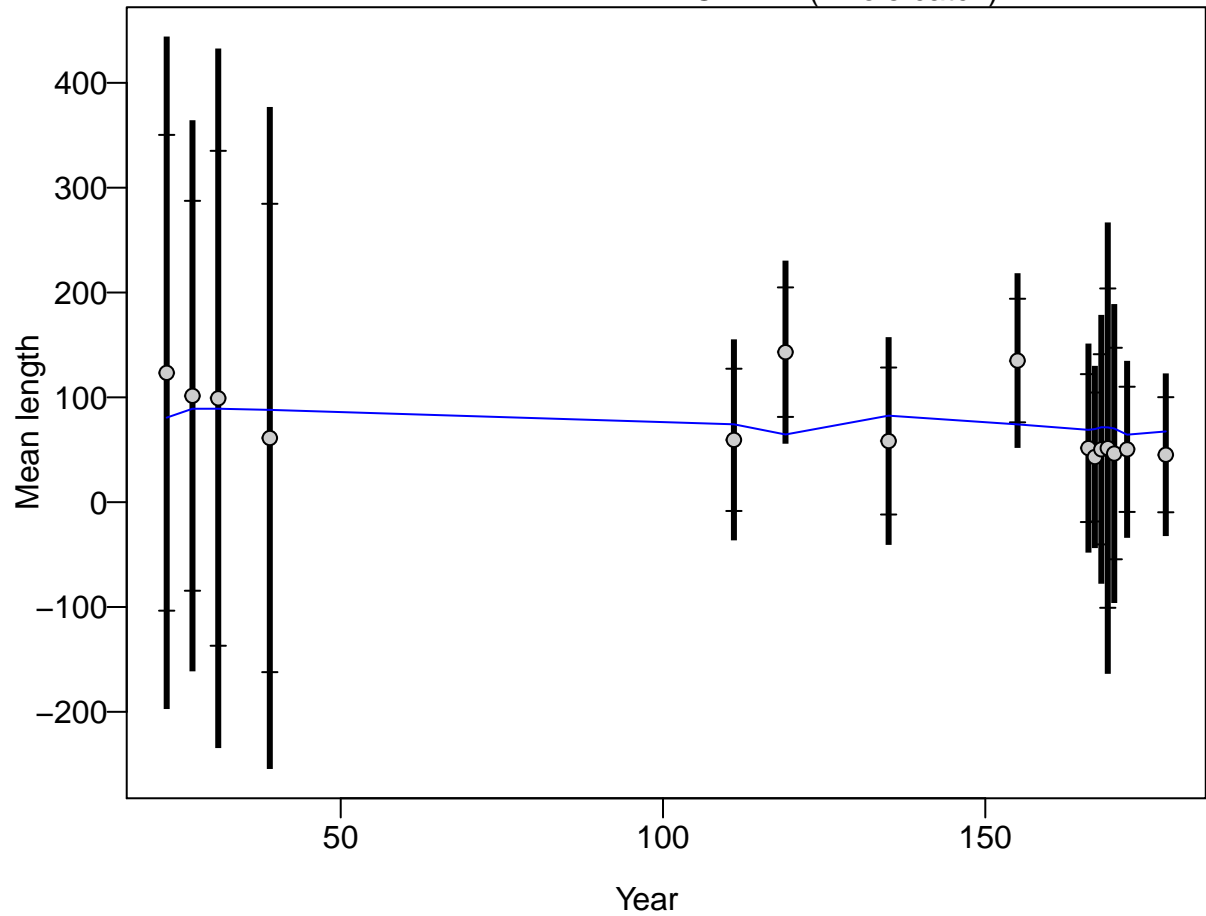




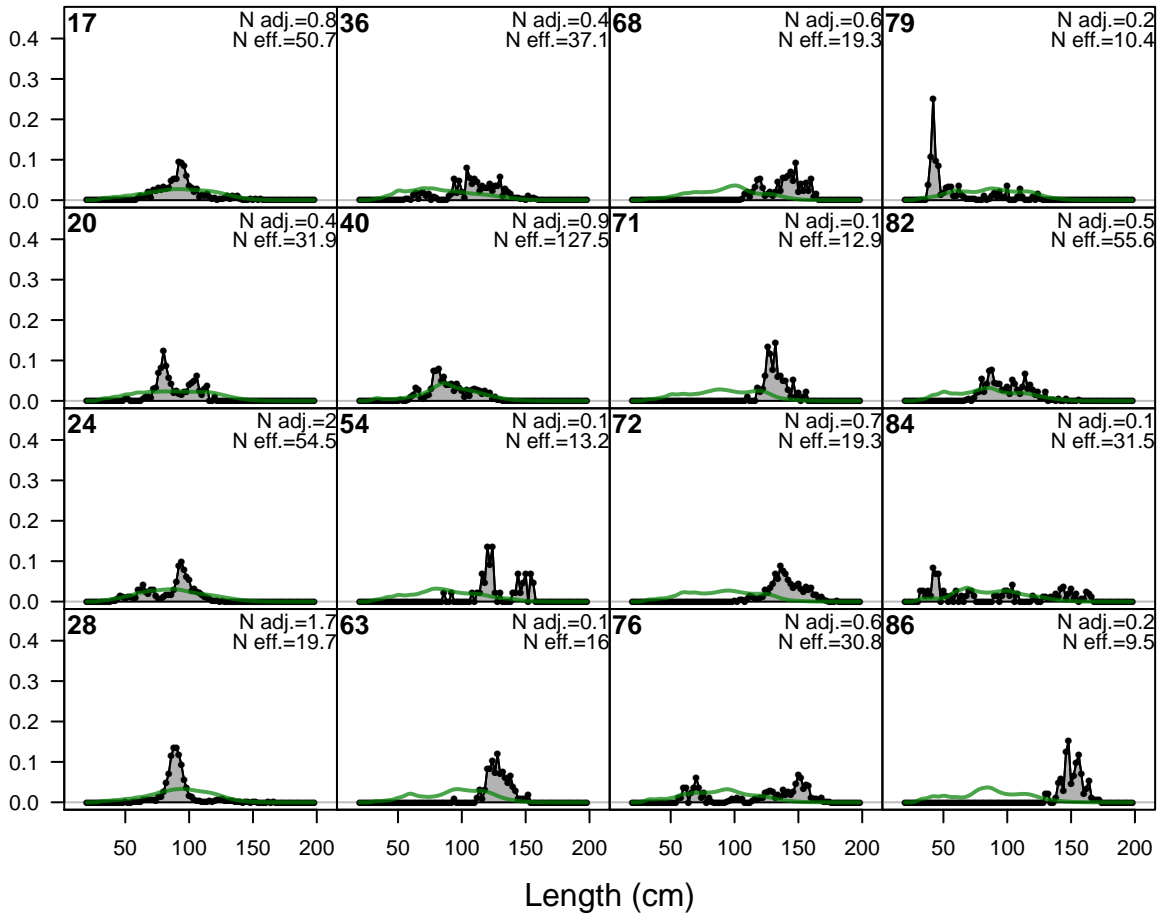




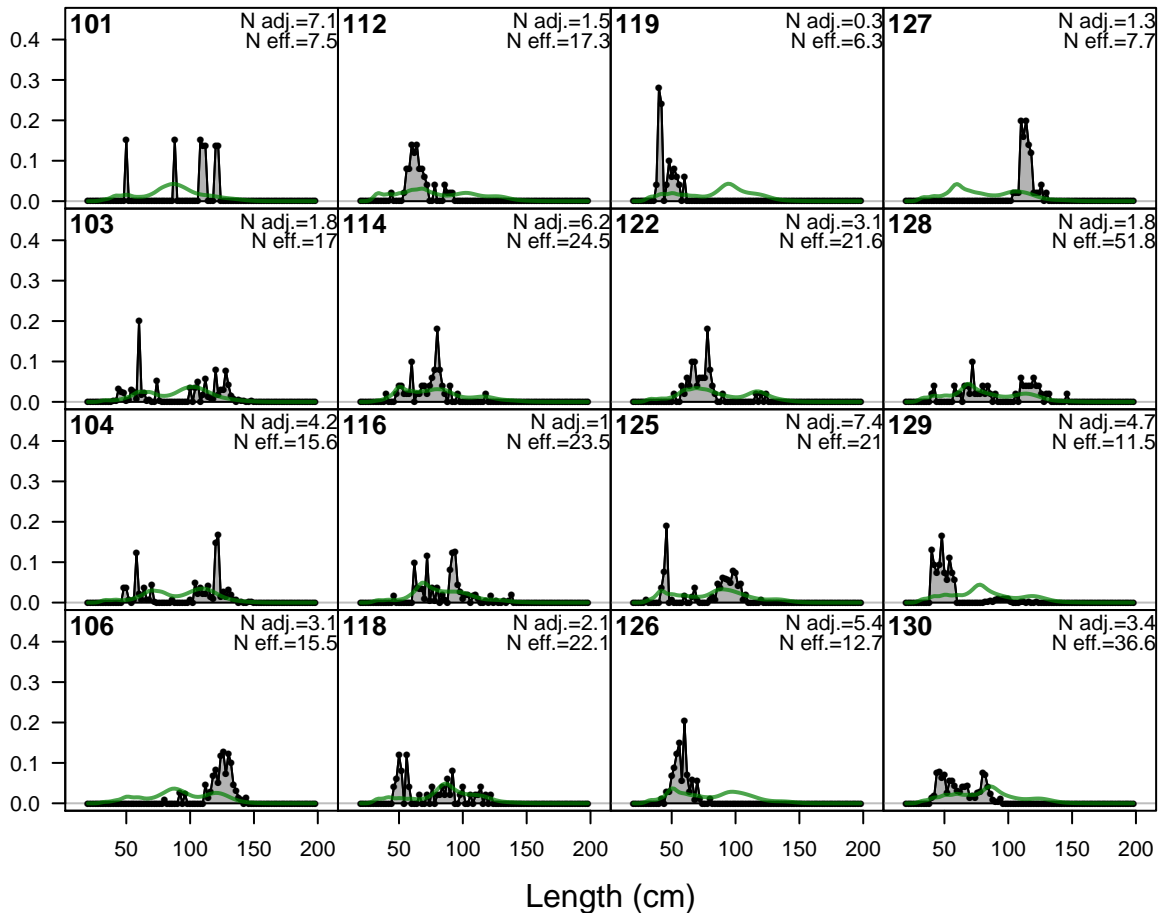
## A2-NOADEL (whole catch)



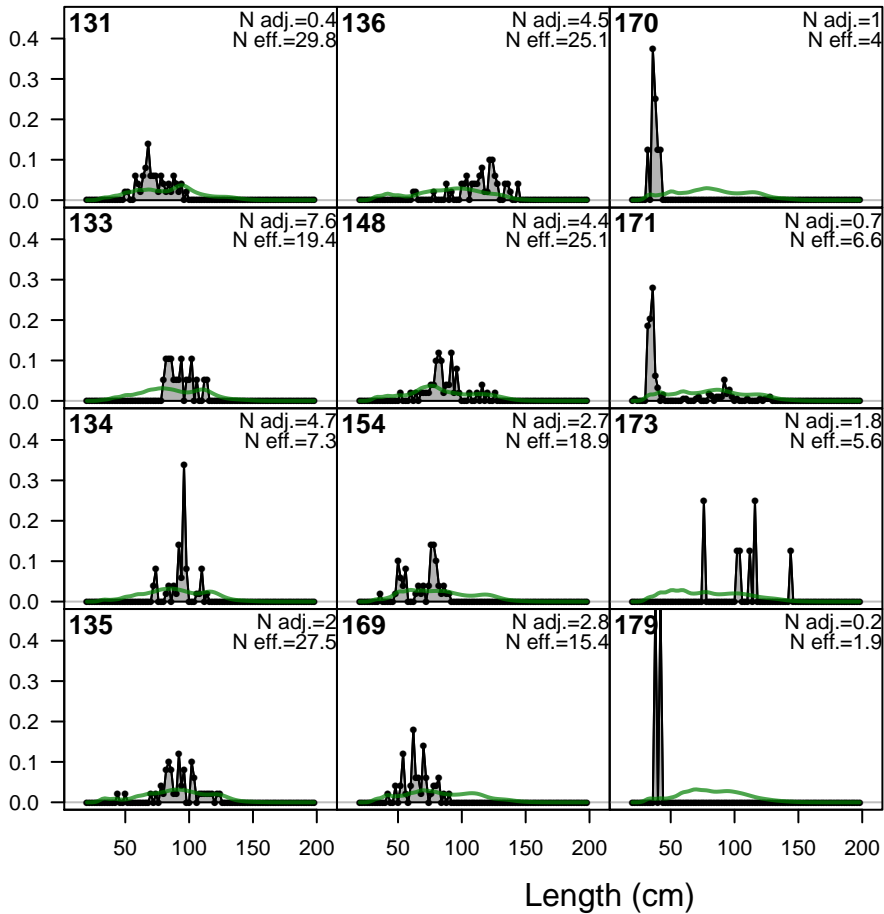
Proportion

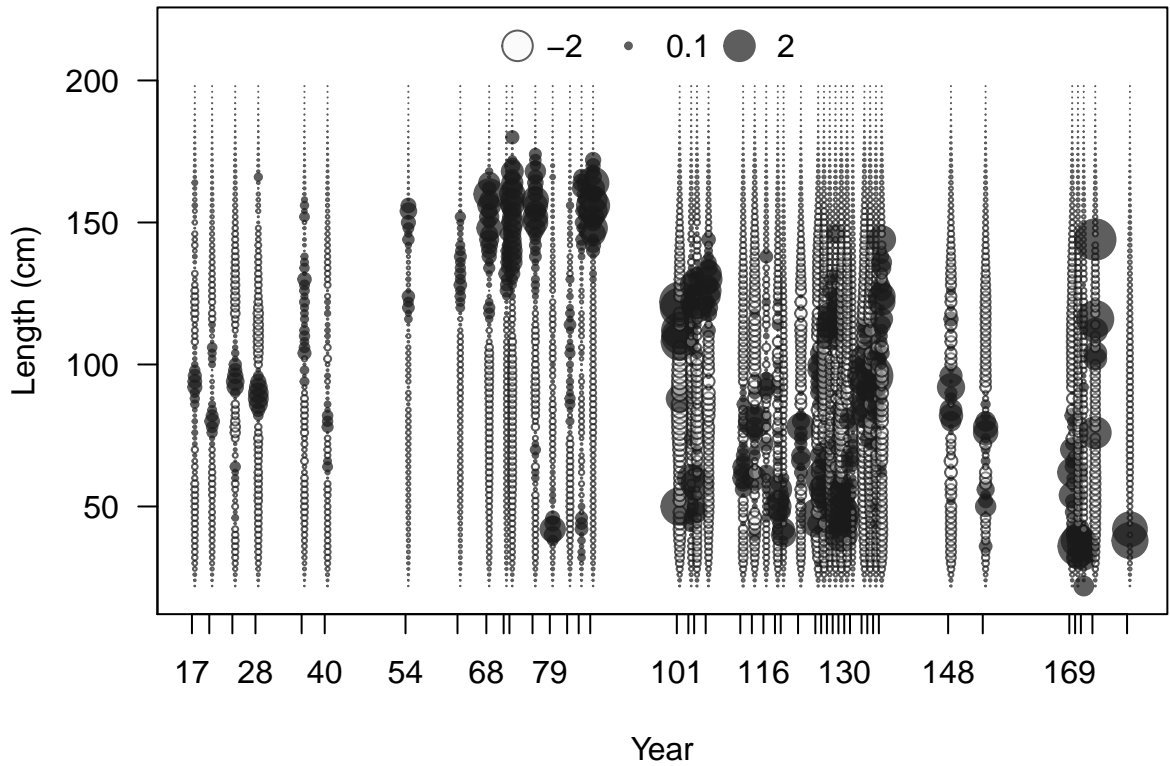


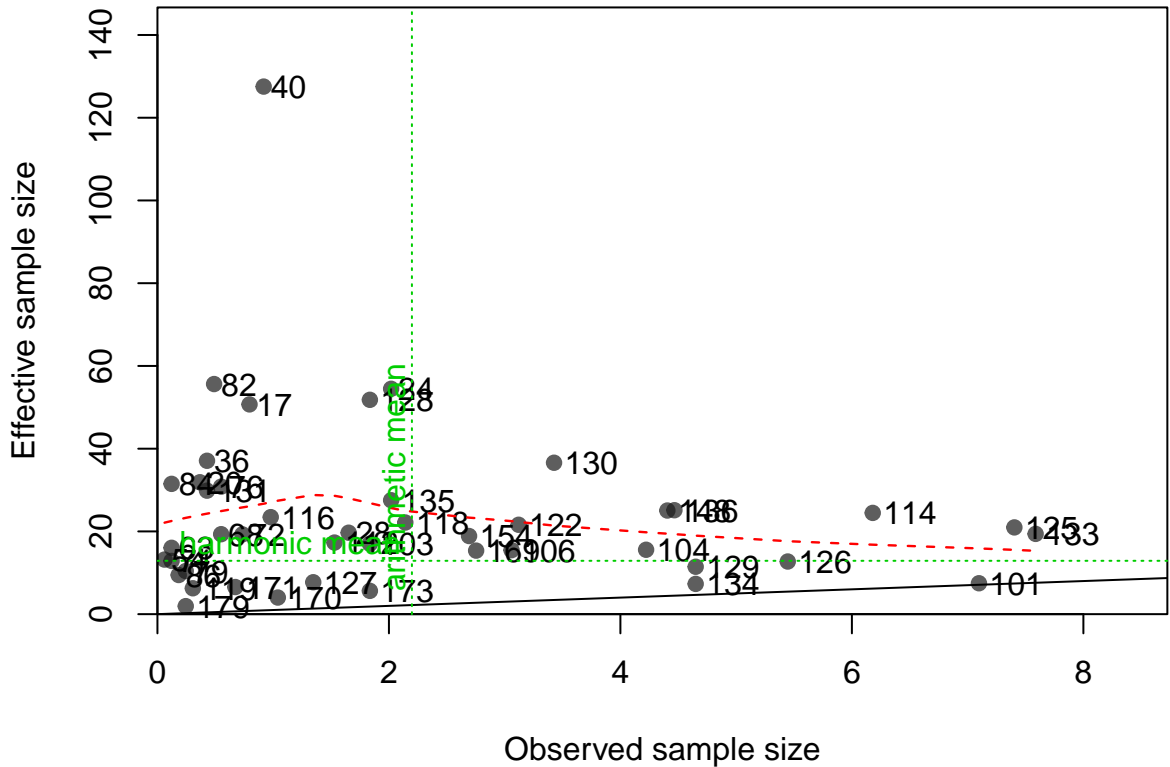
Proportion



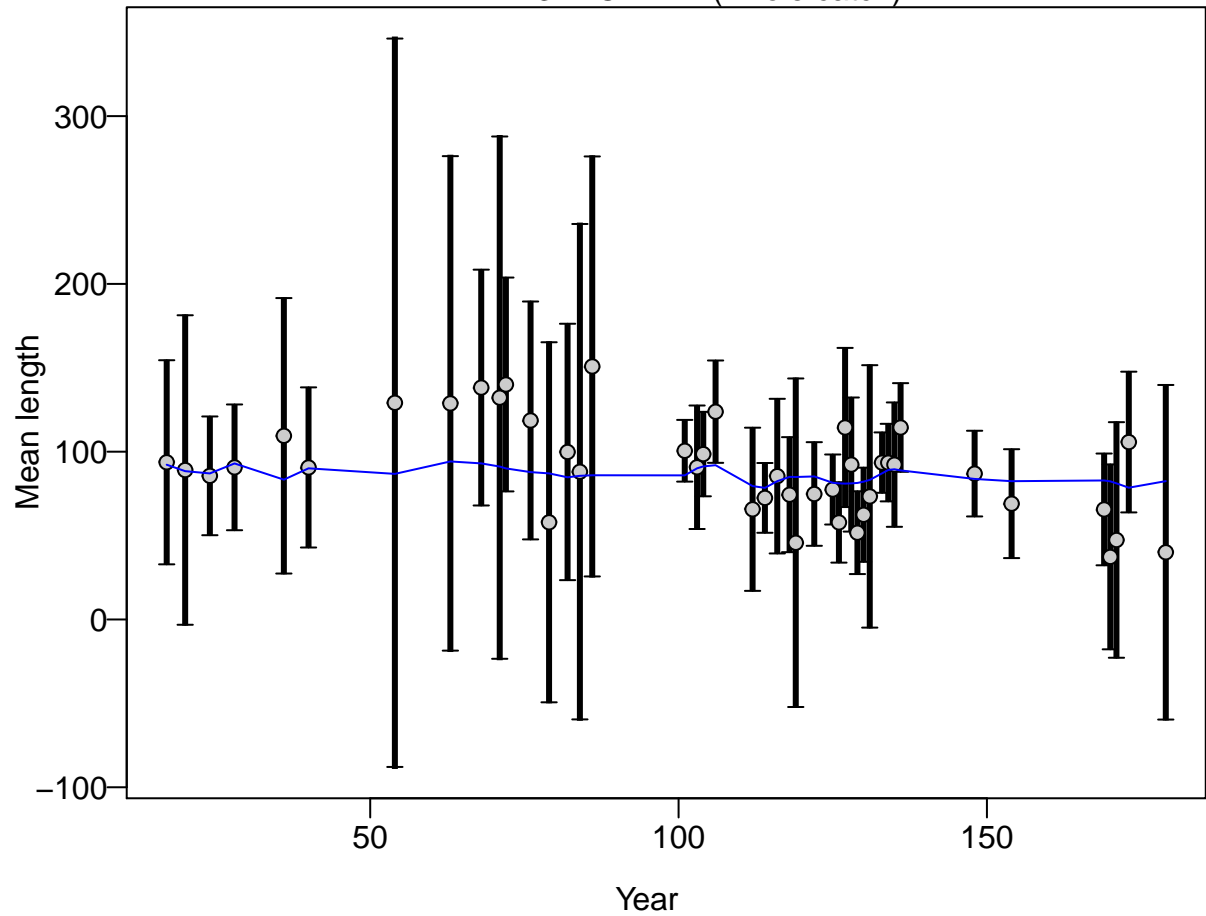
Proportion

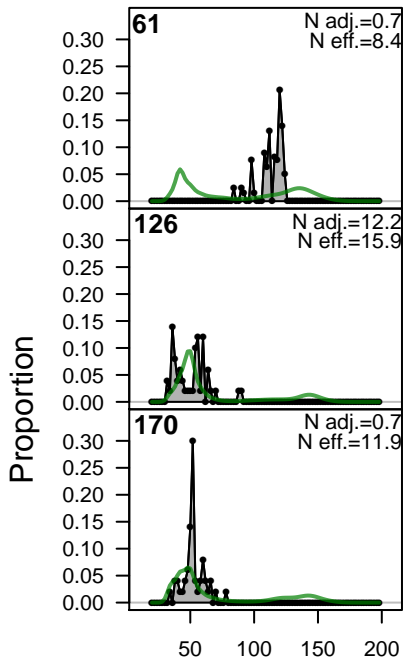






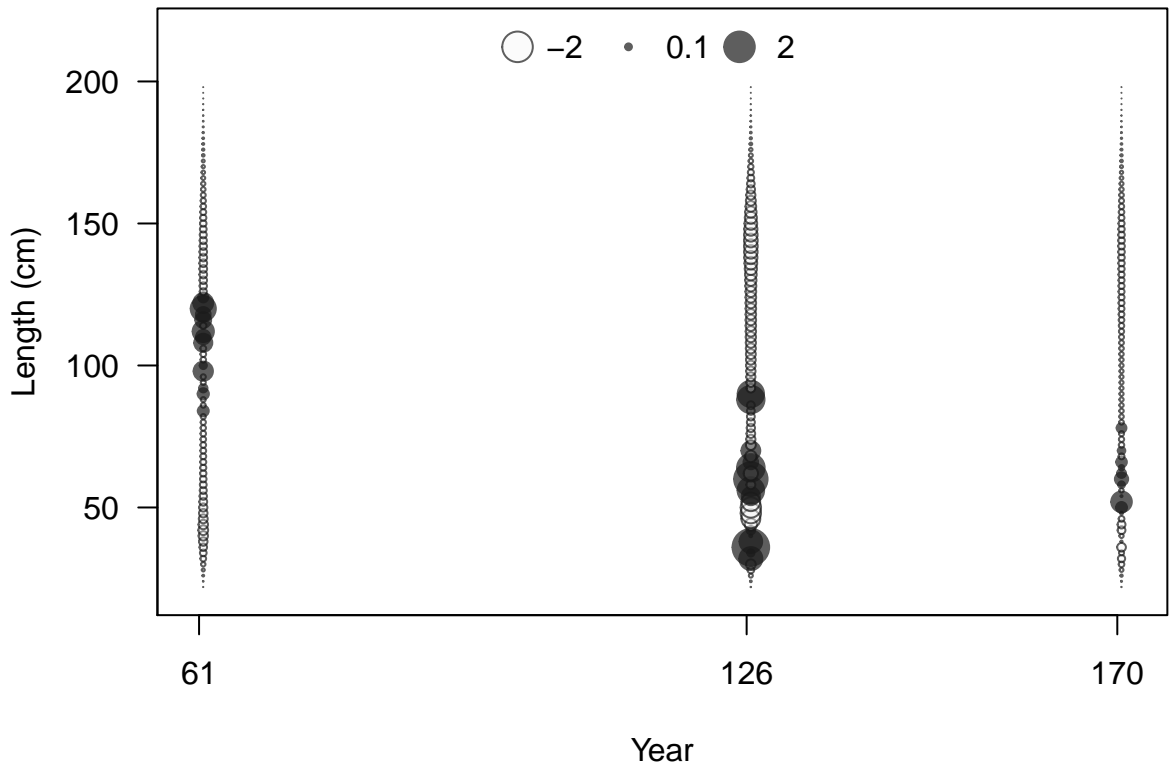
A3-NOADEL (whole catch)

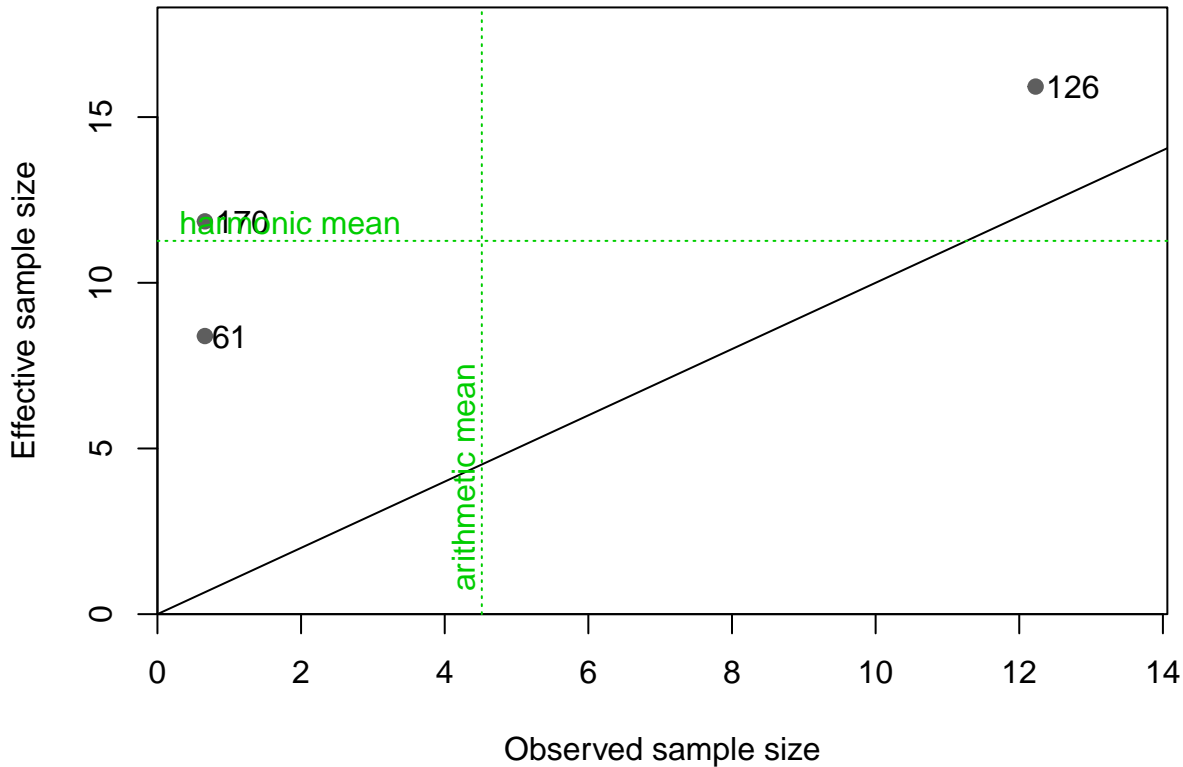




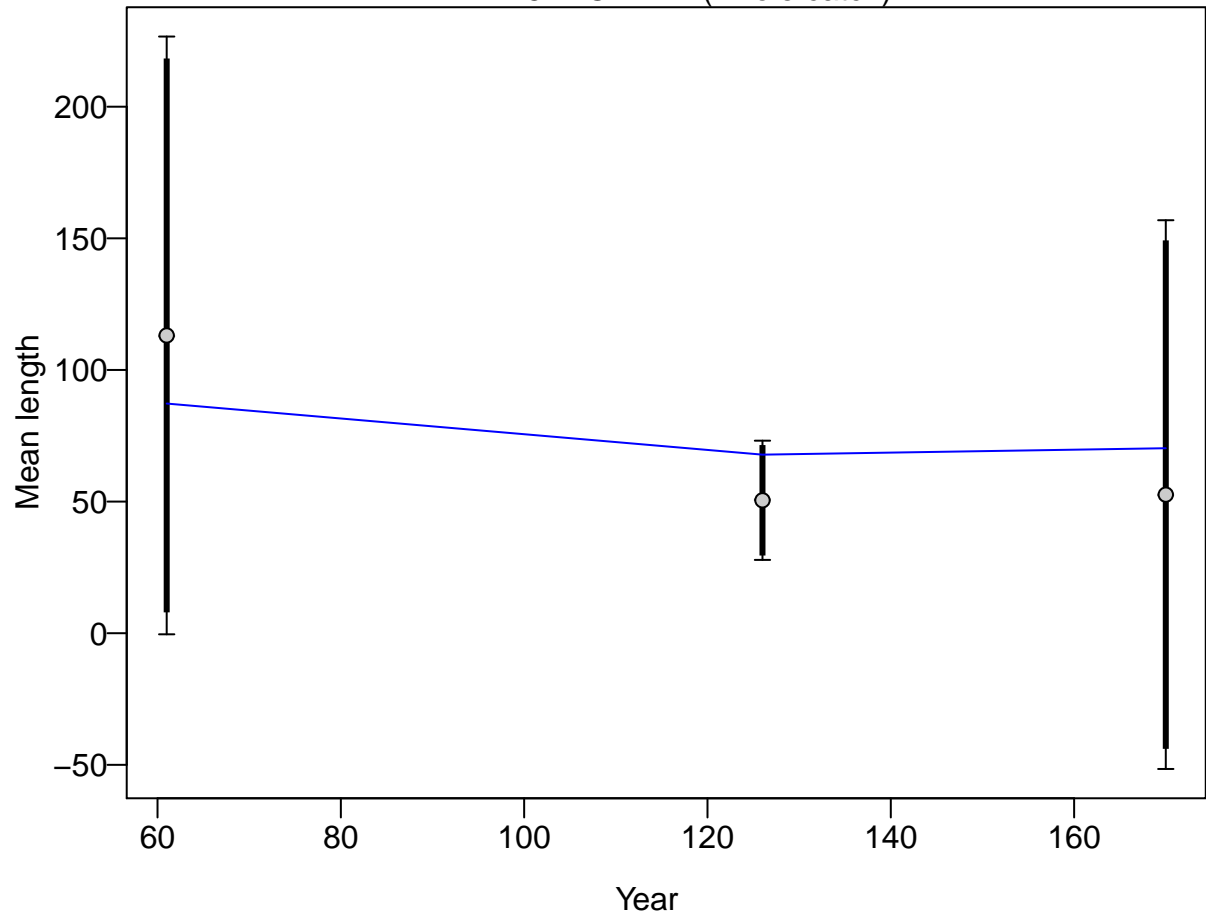
Length (cm)



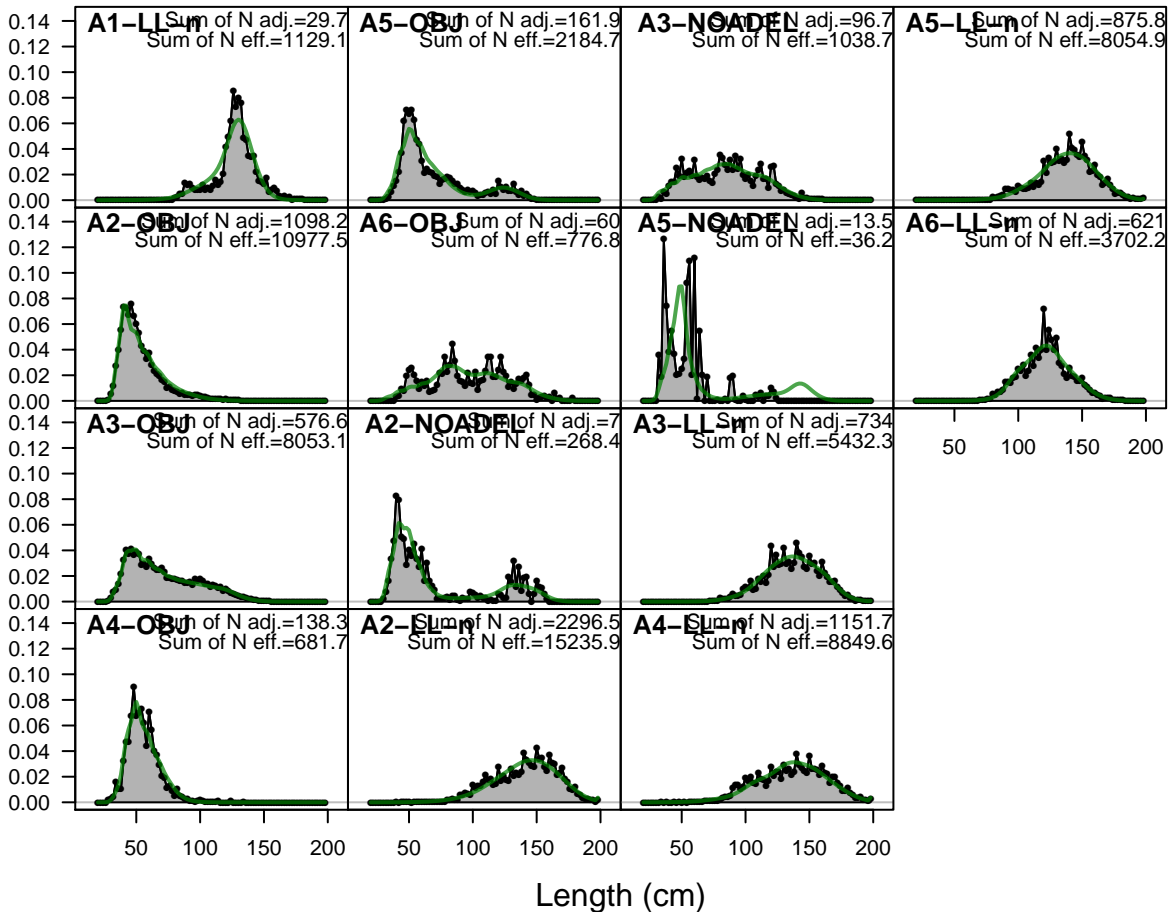


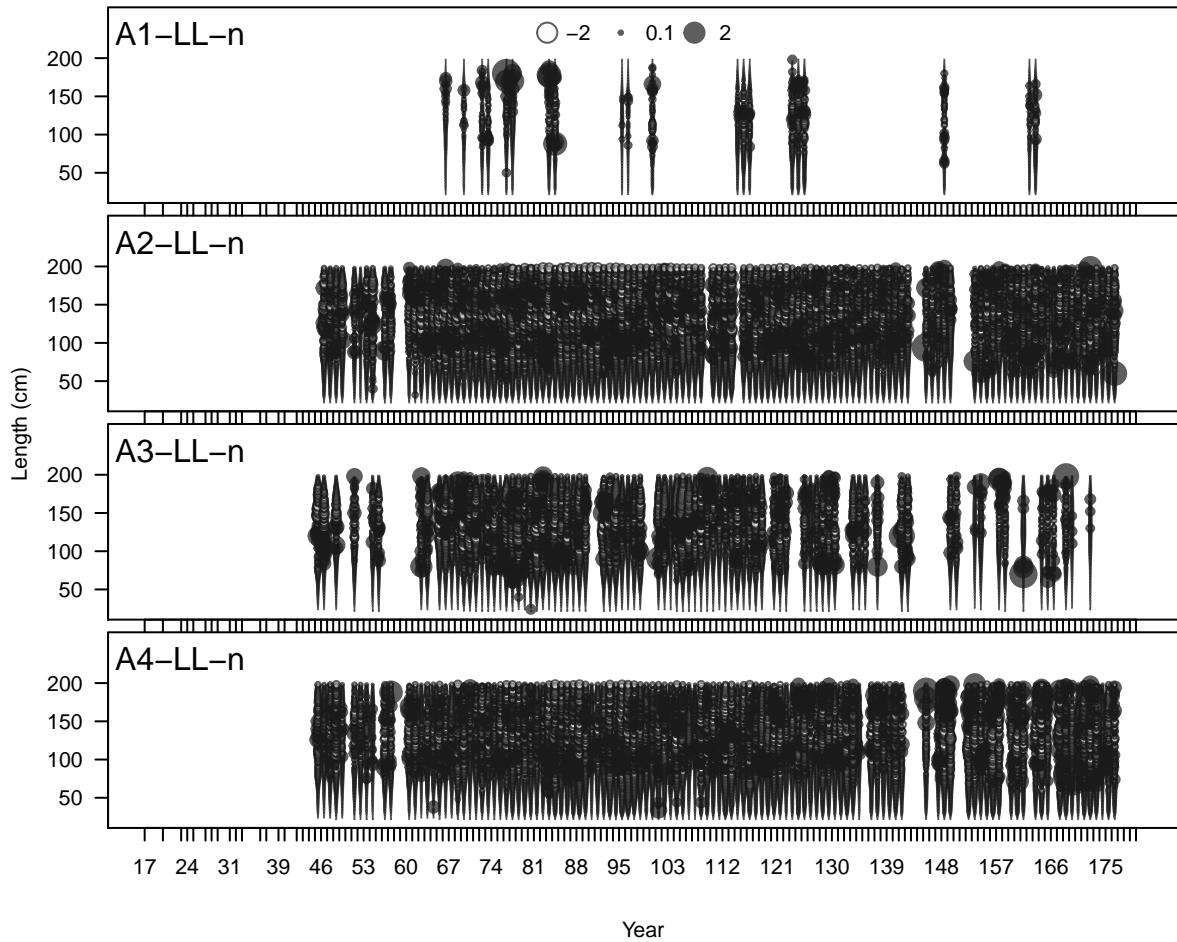


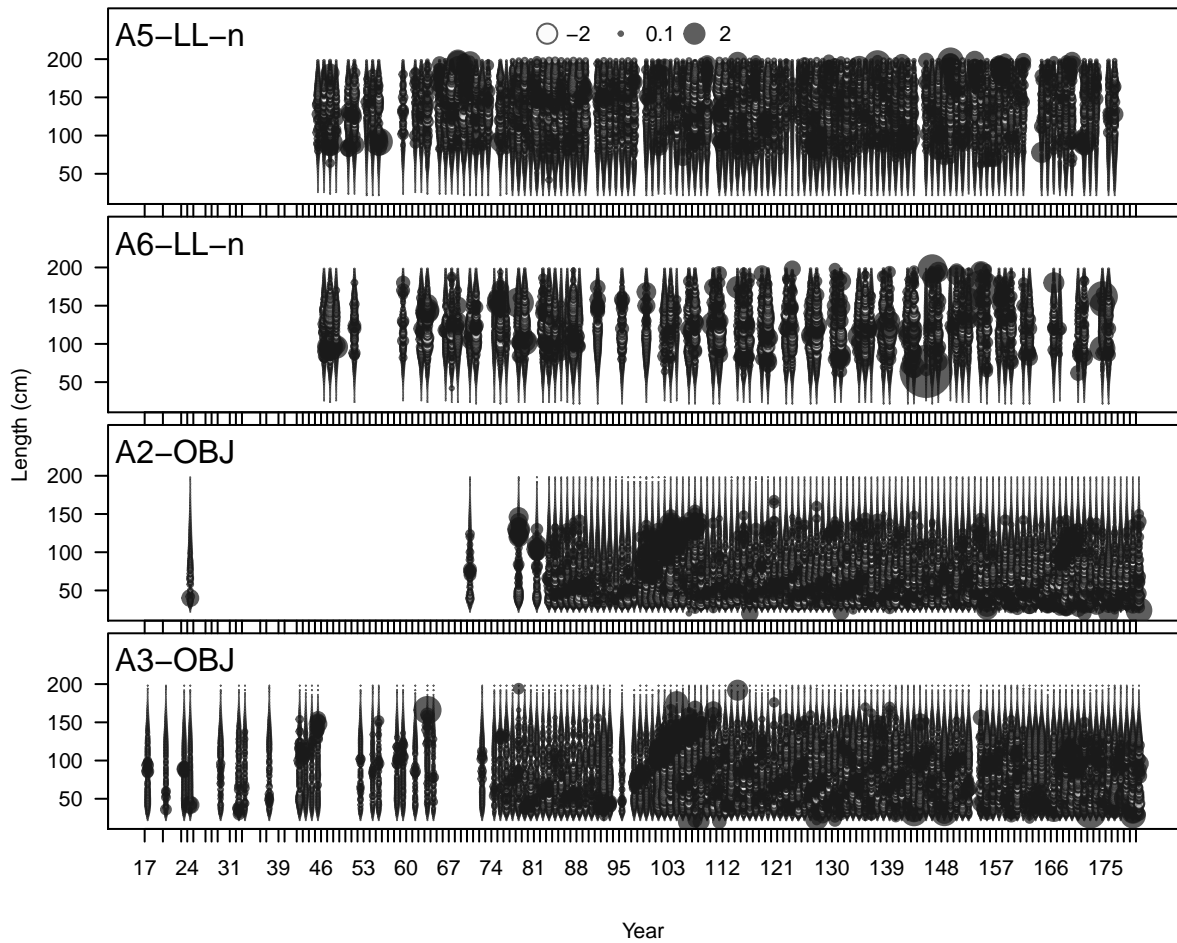
## A5-NOADEL (whole catch)

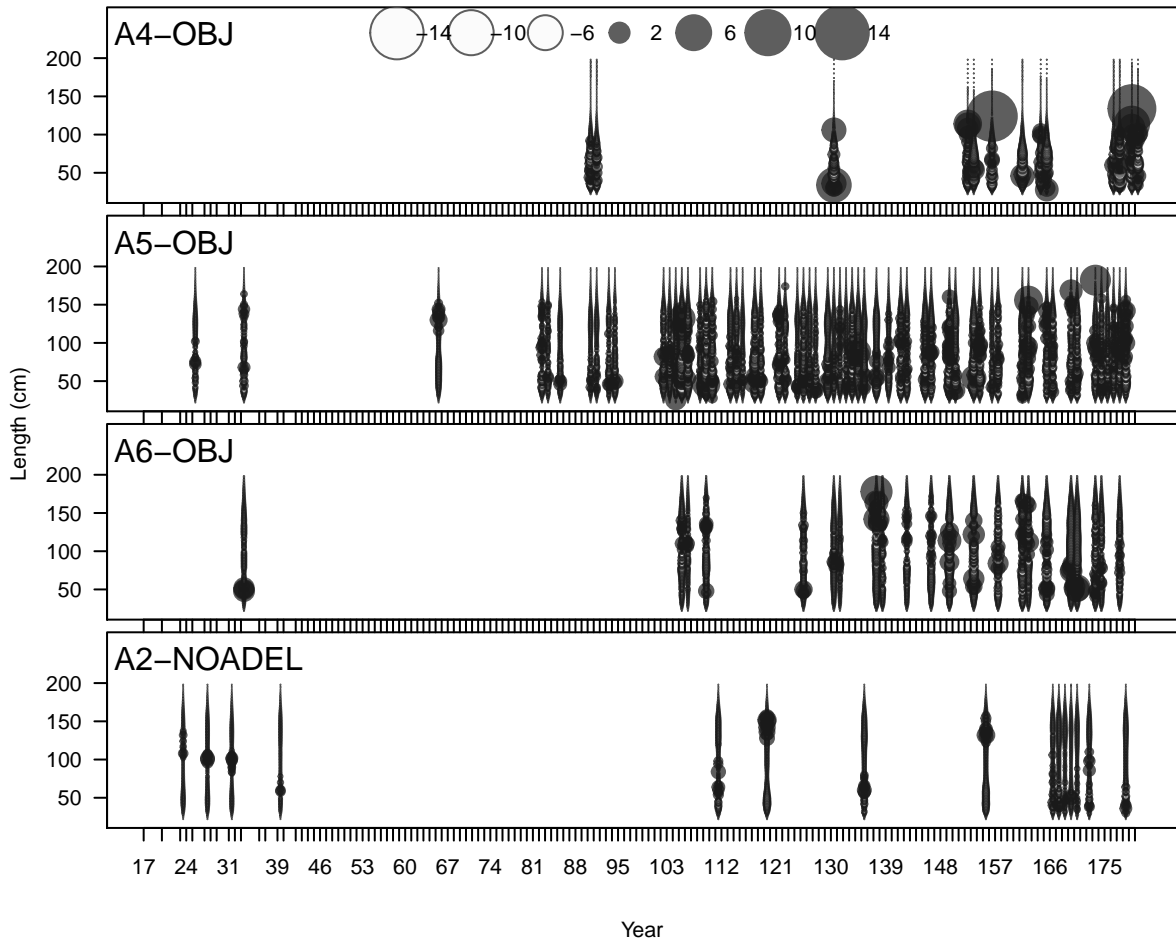


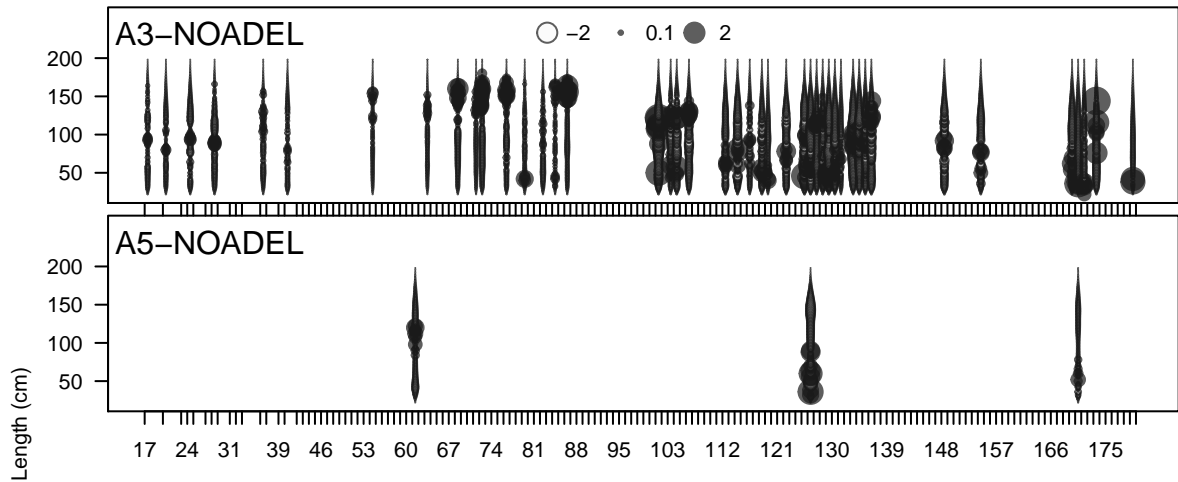
Proportion







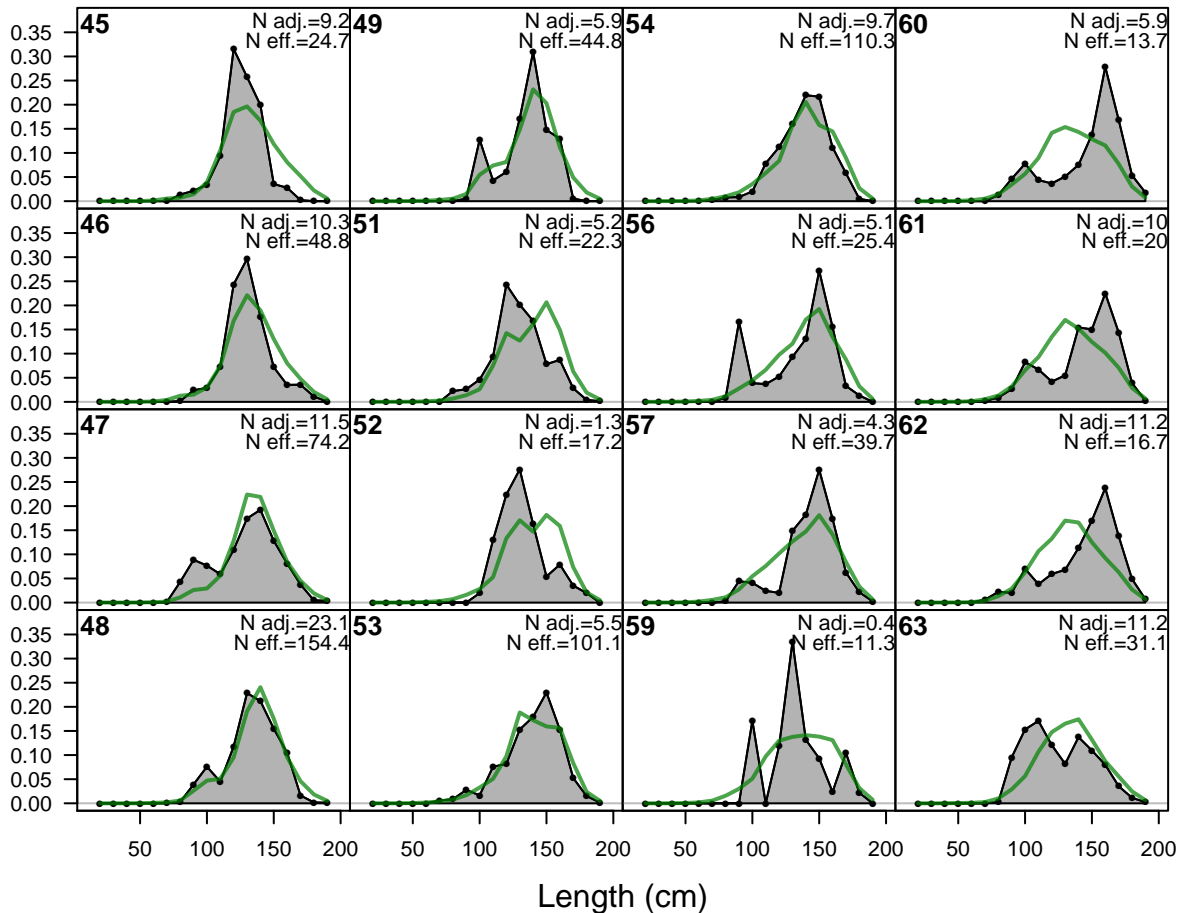




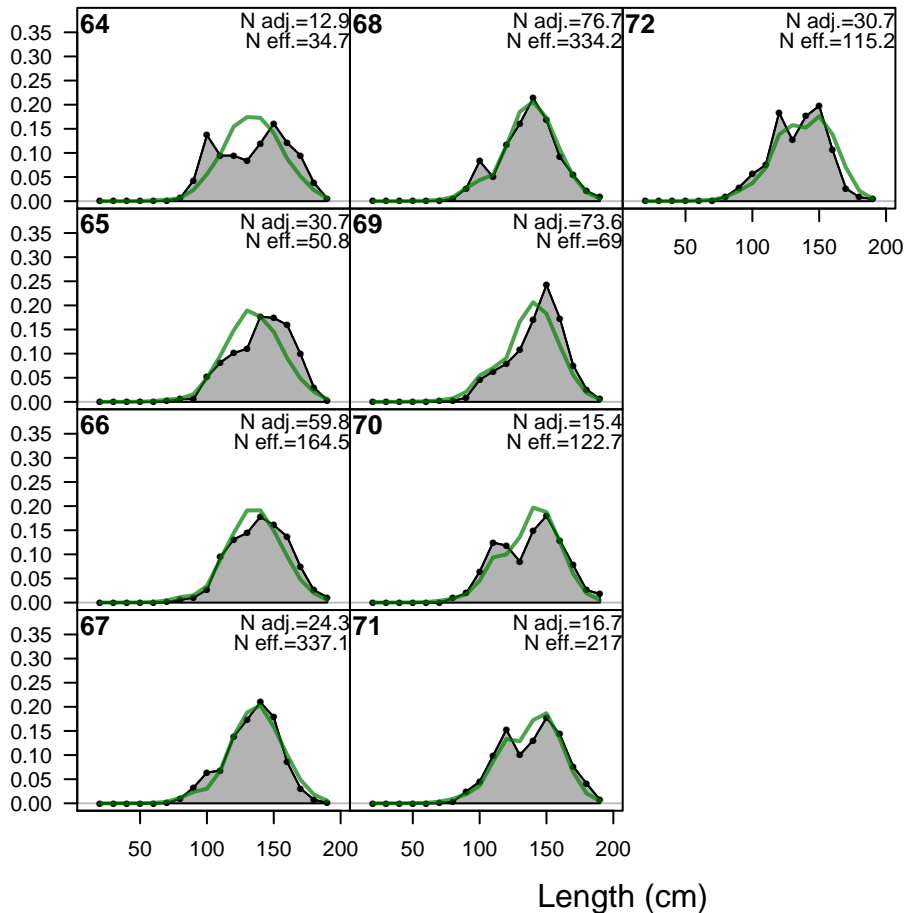
Year

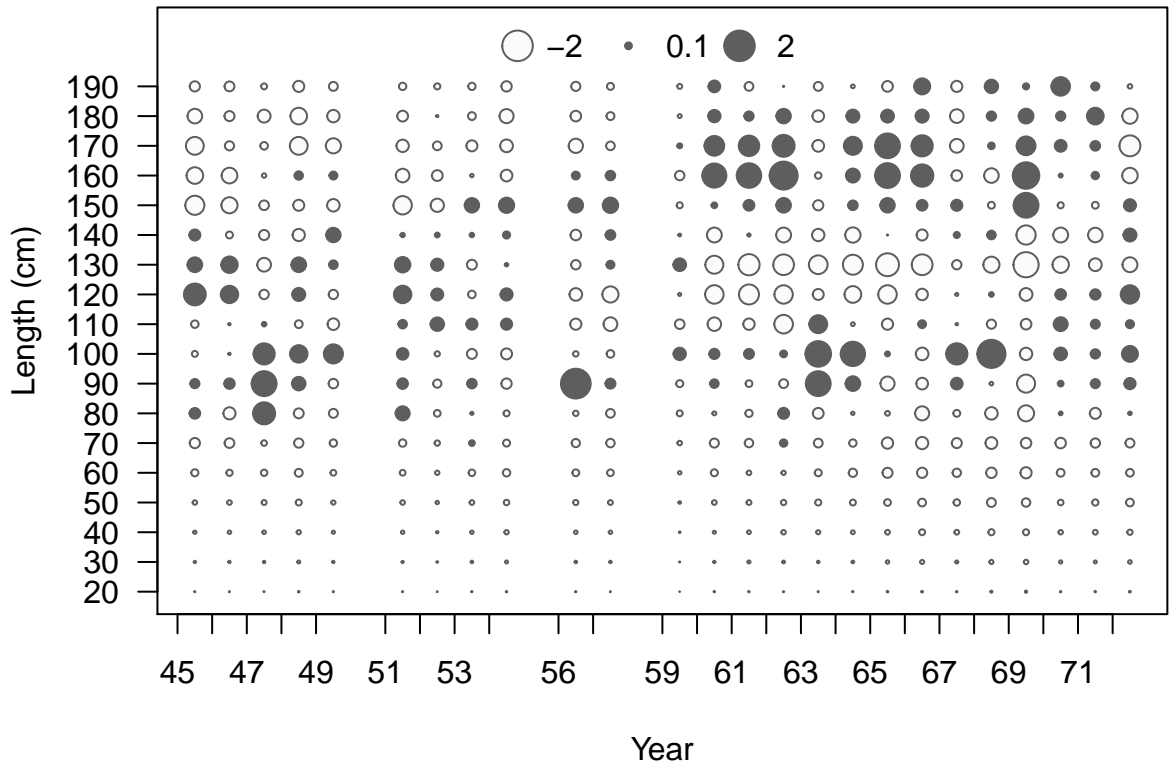


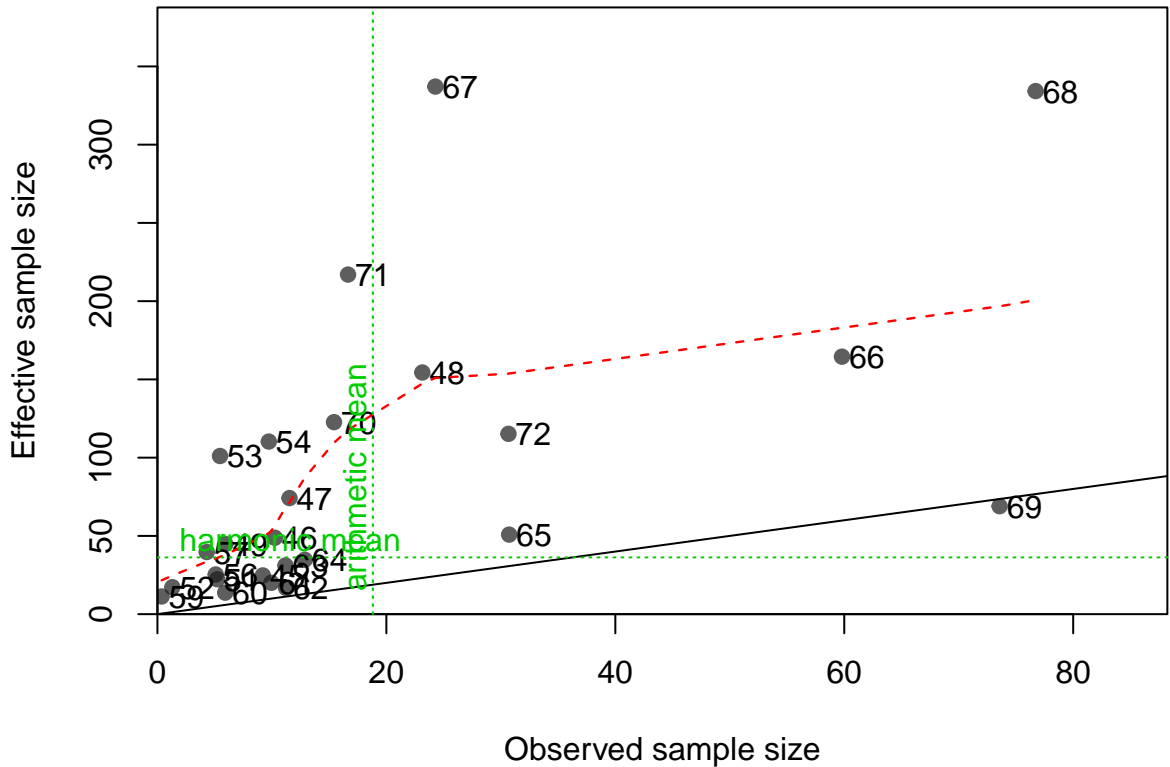
Proportion



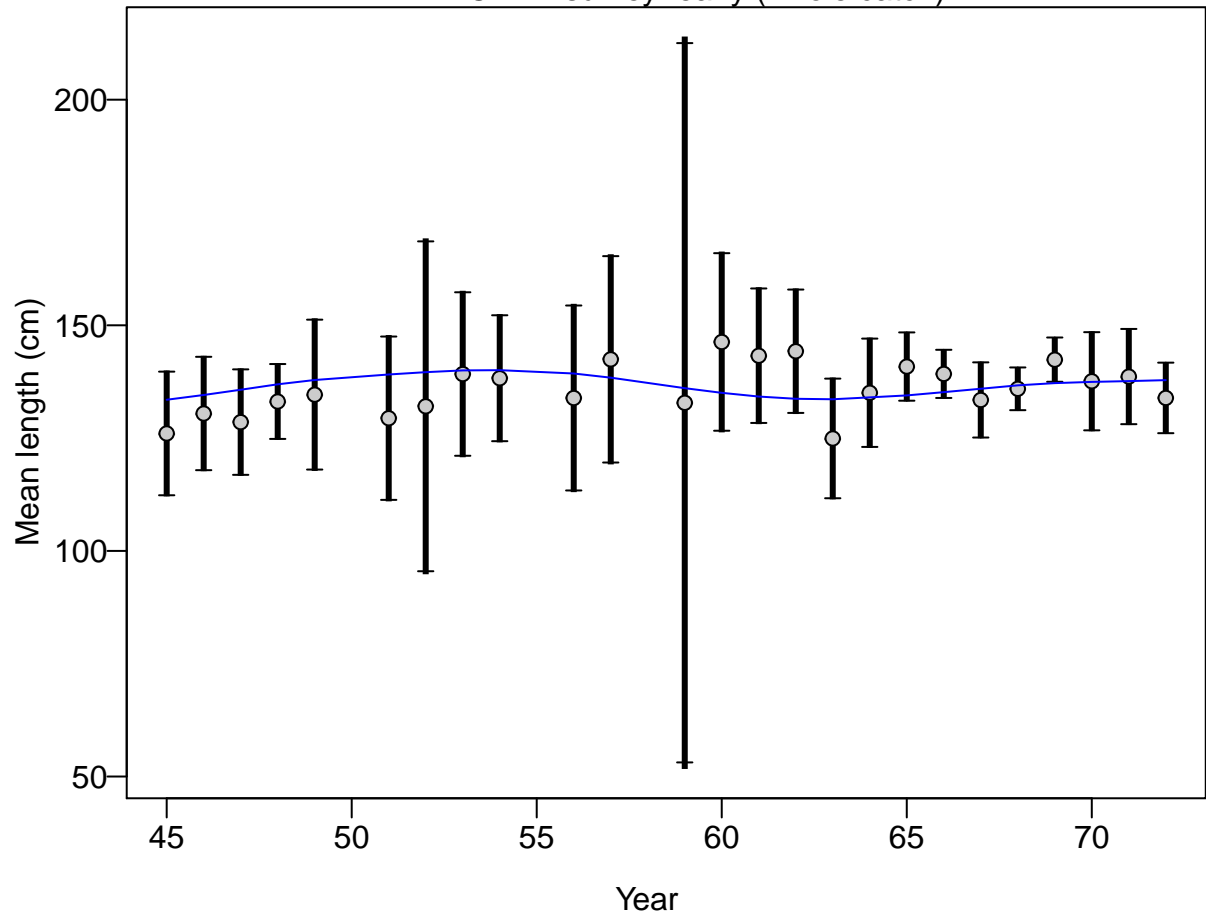
Proportion



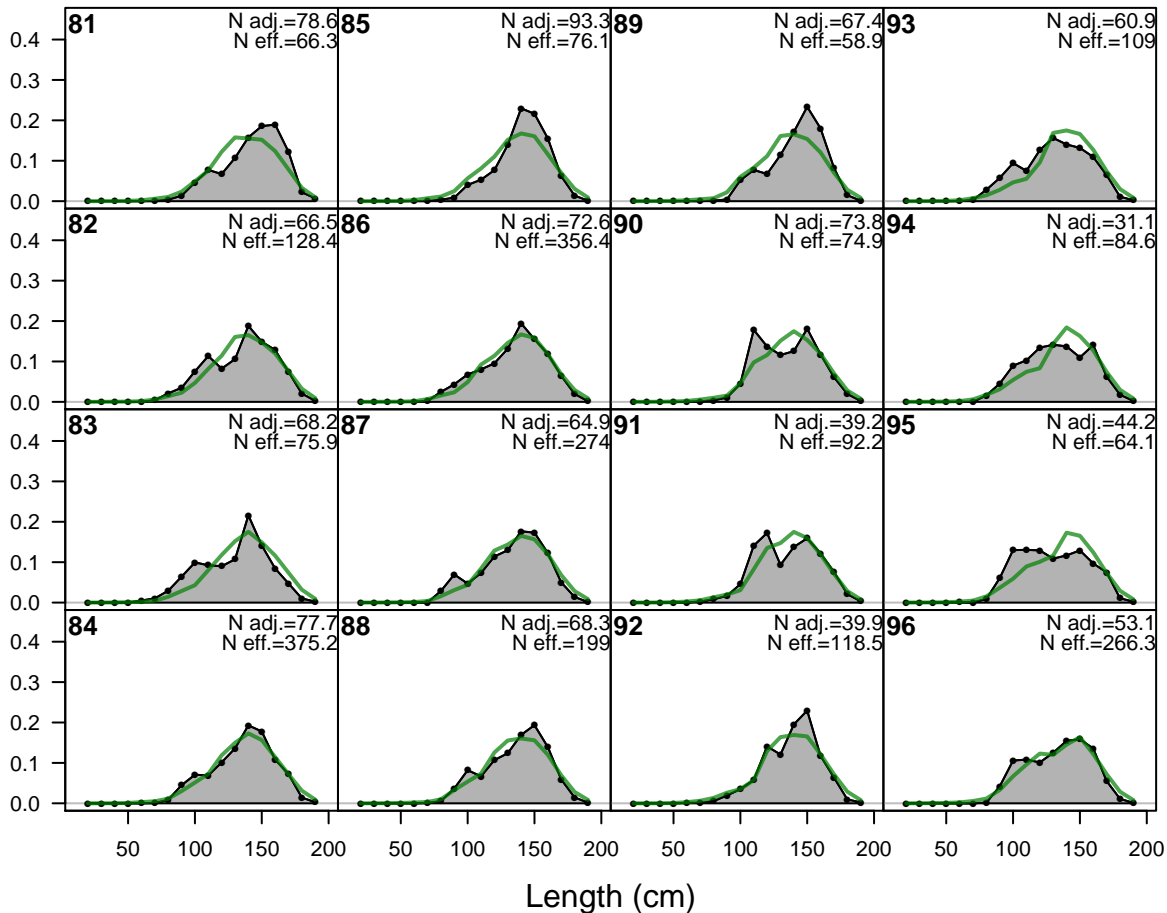




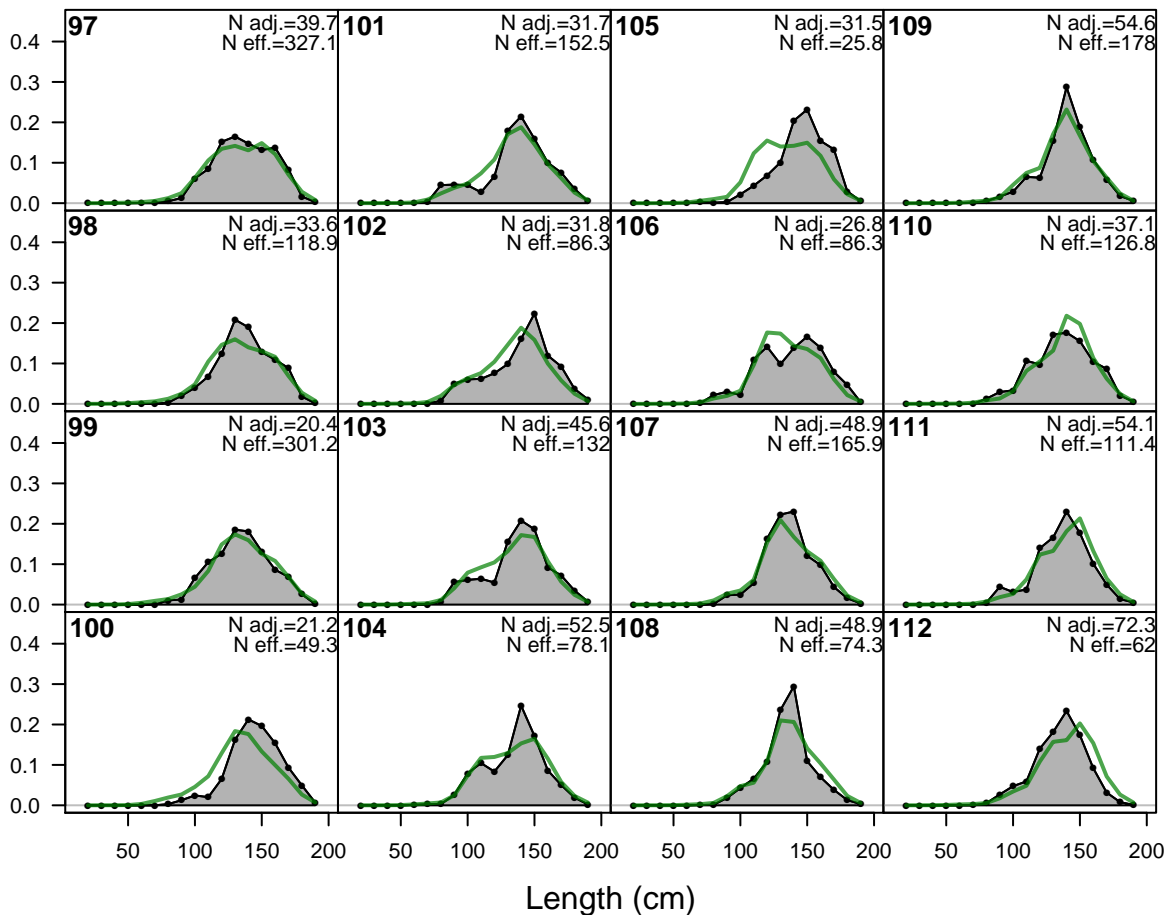
EPO-LL-survey-early (whole catch)



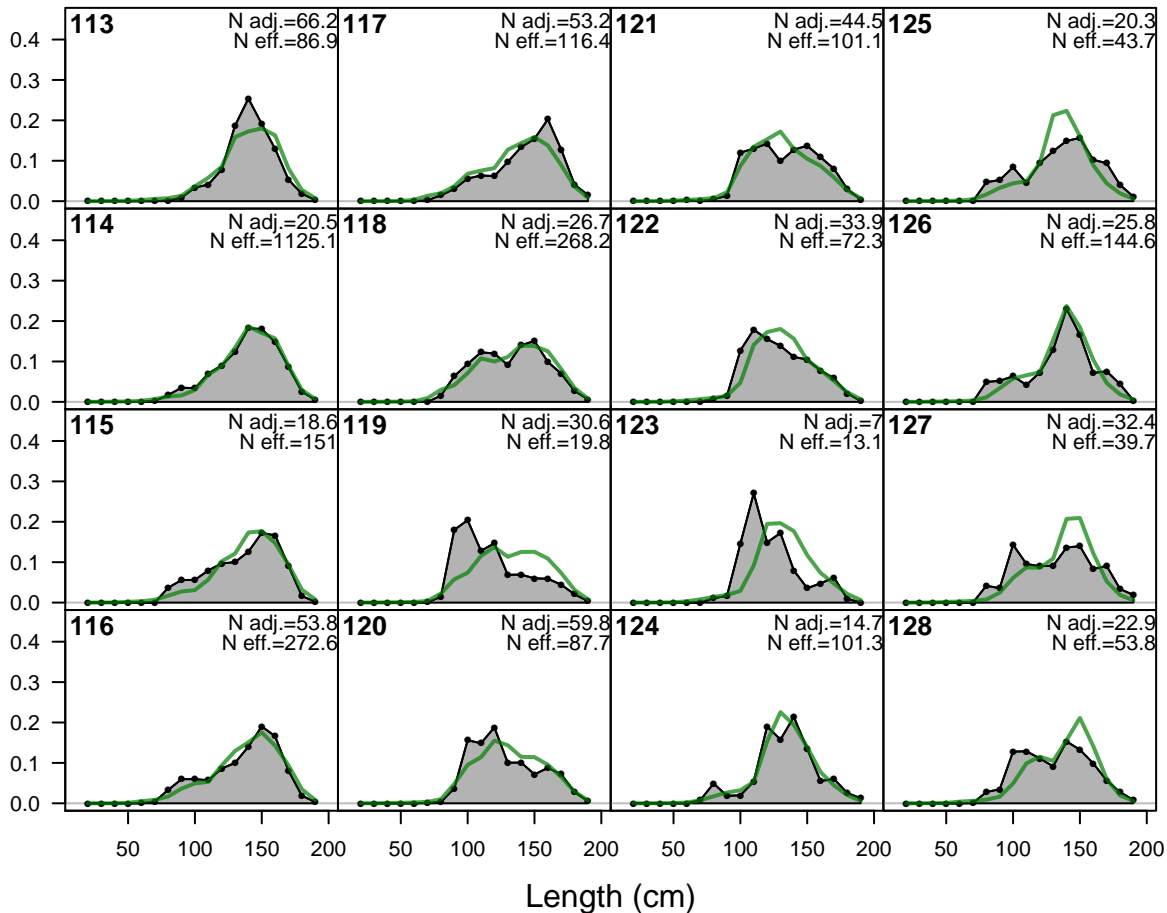
Proportion



Proportion

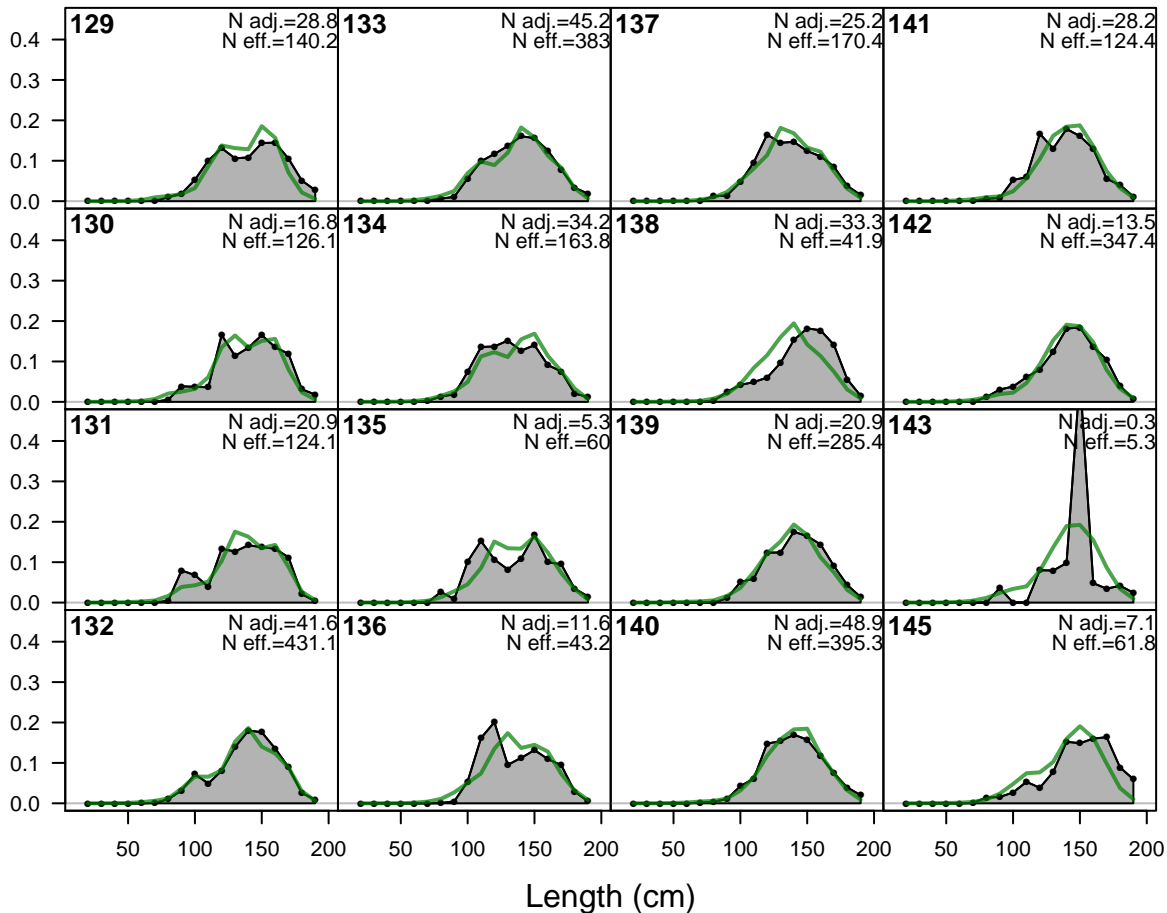


Proportion

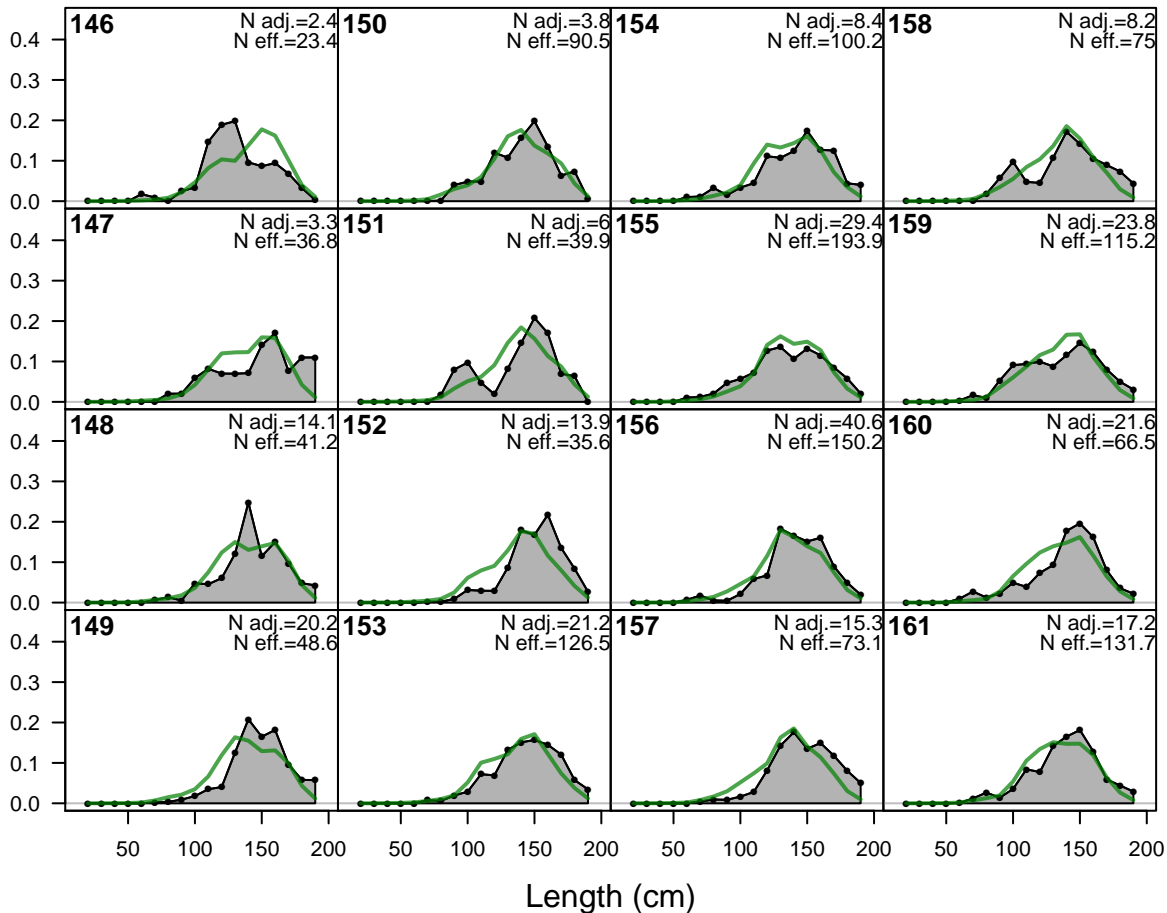




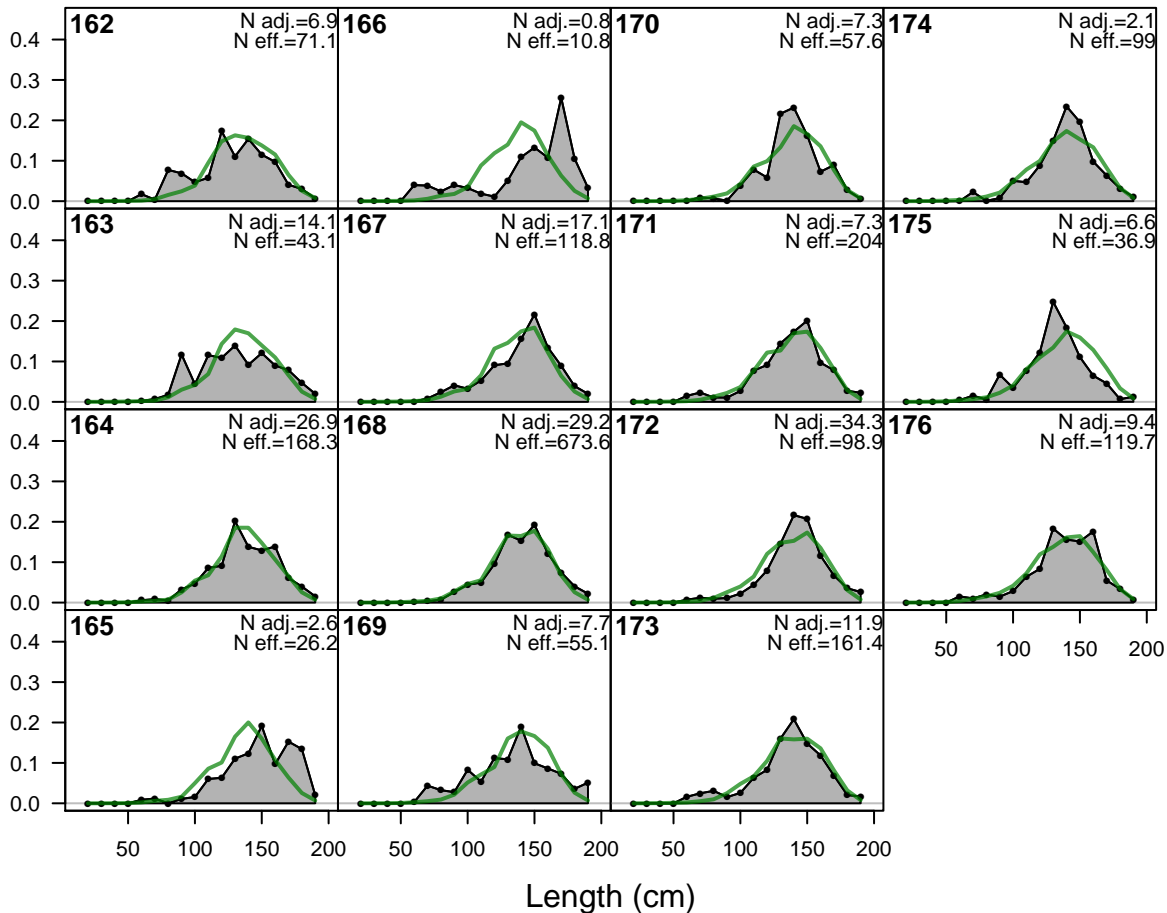
Proportion

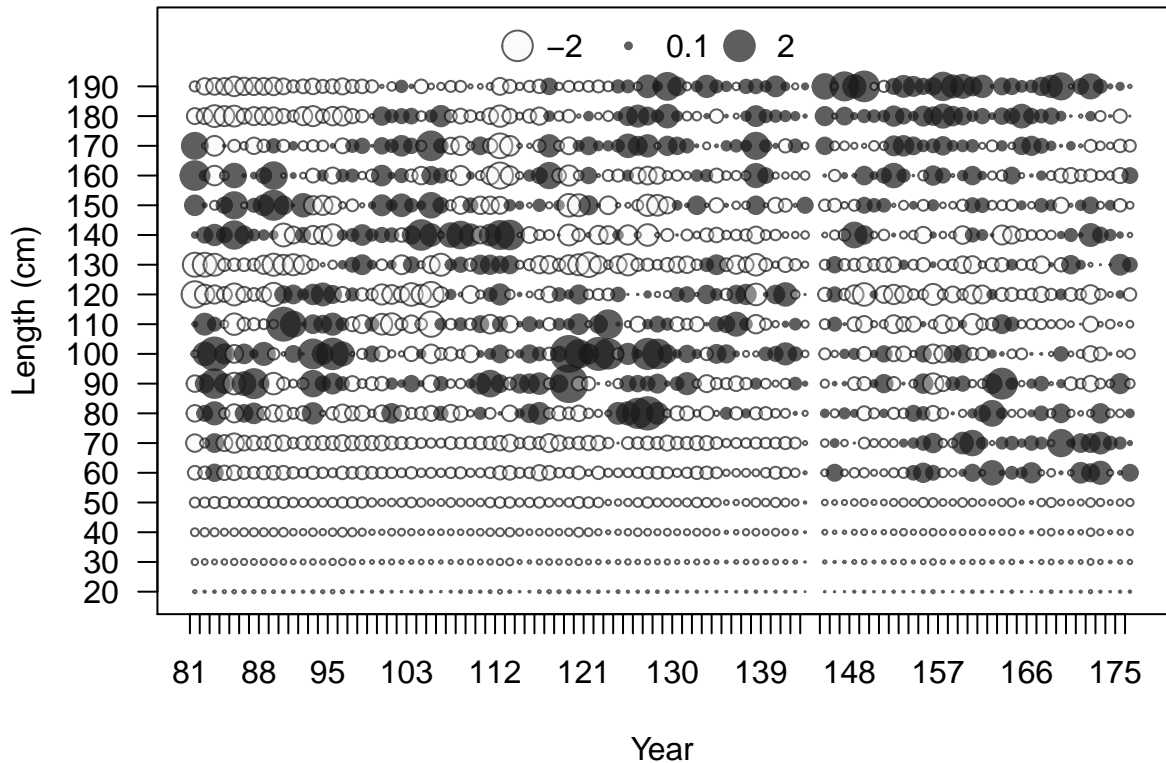


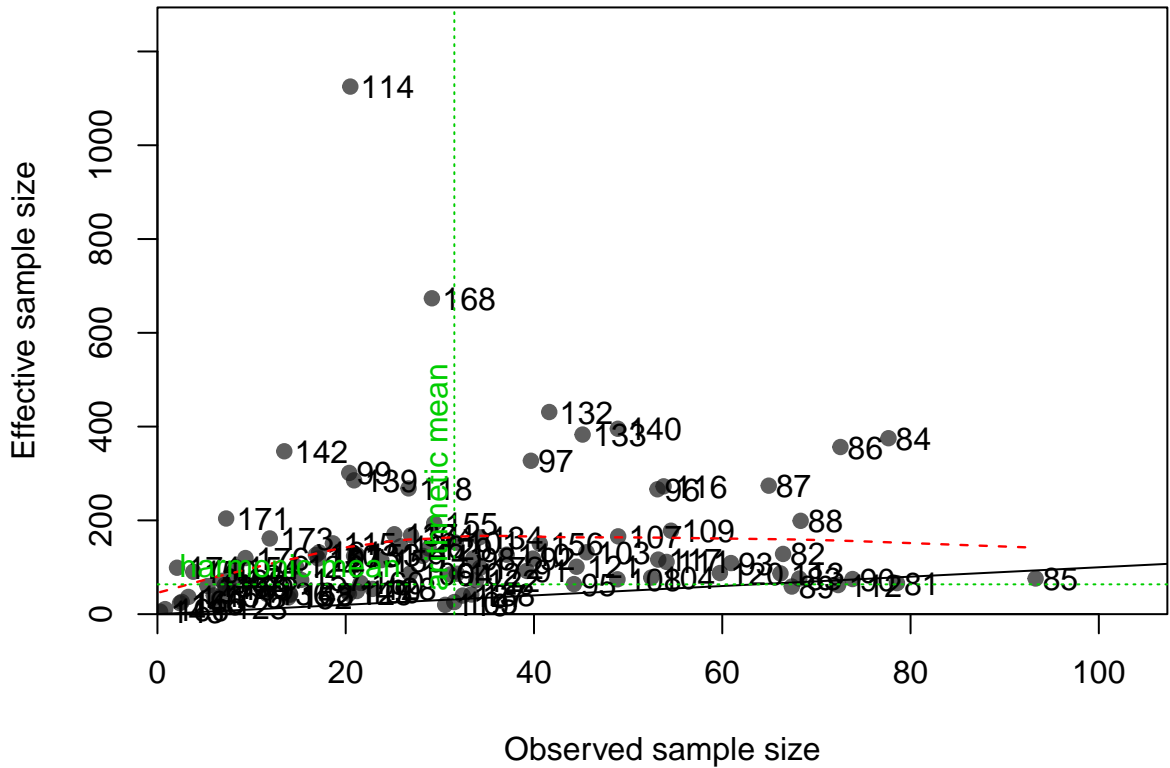
Proportion



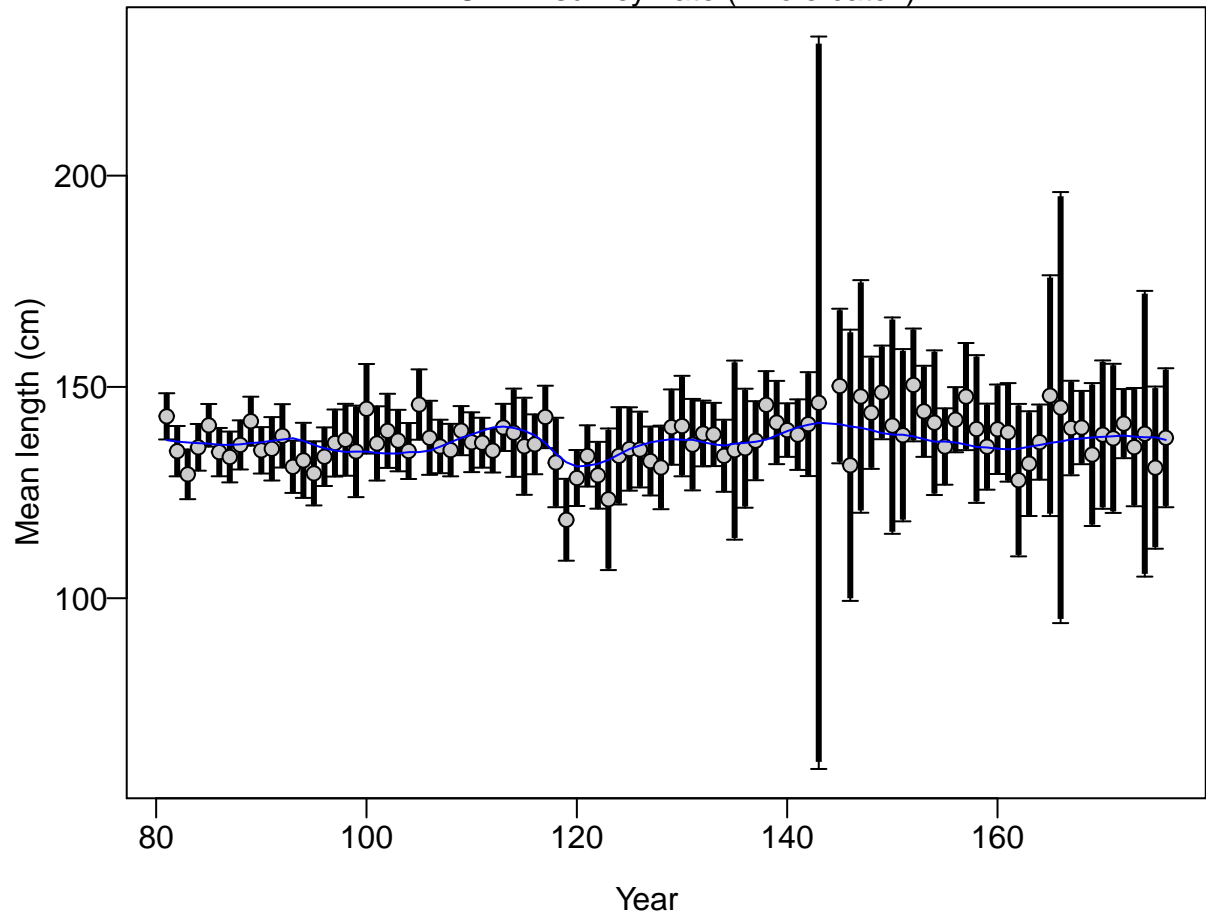
Proportion







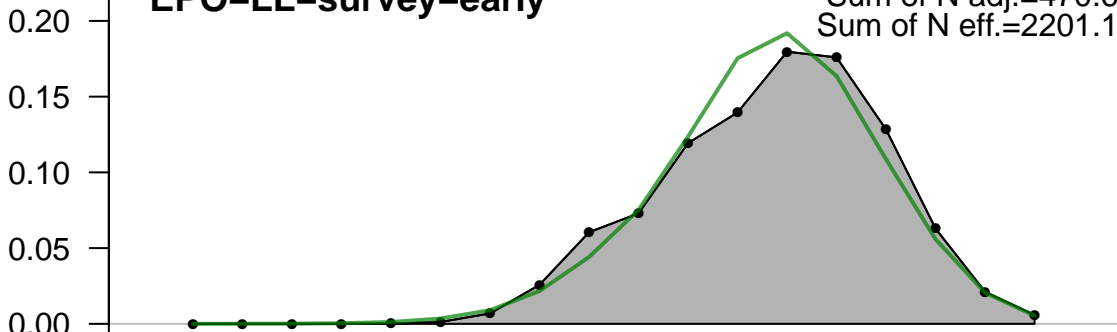
EPO-LL-survey-late (whole catch)



### EPO-LL-survey-early

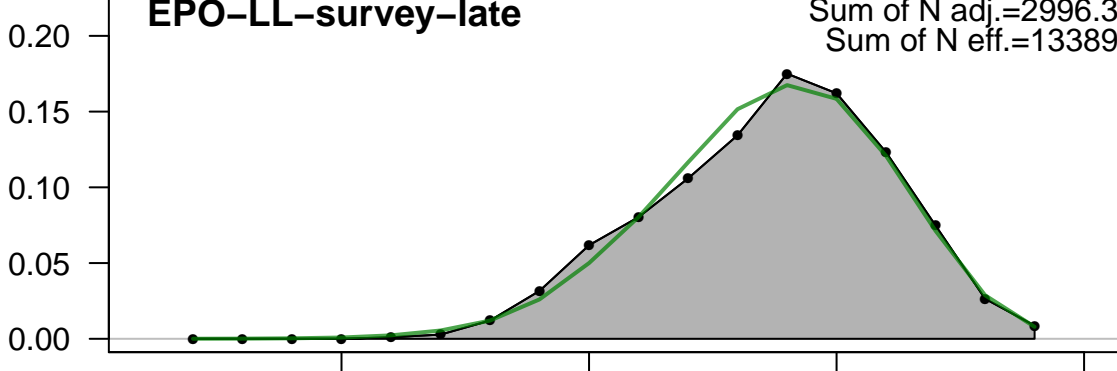
Sum of N adj.=470.6  
Sum of N eff.=2201.1

Proportion

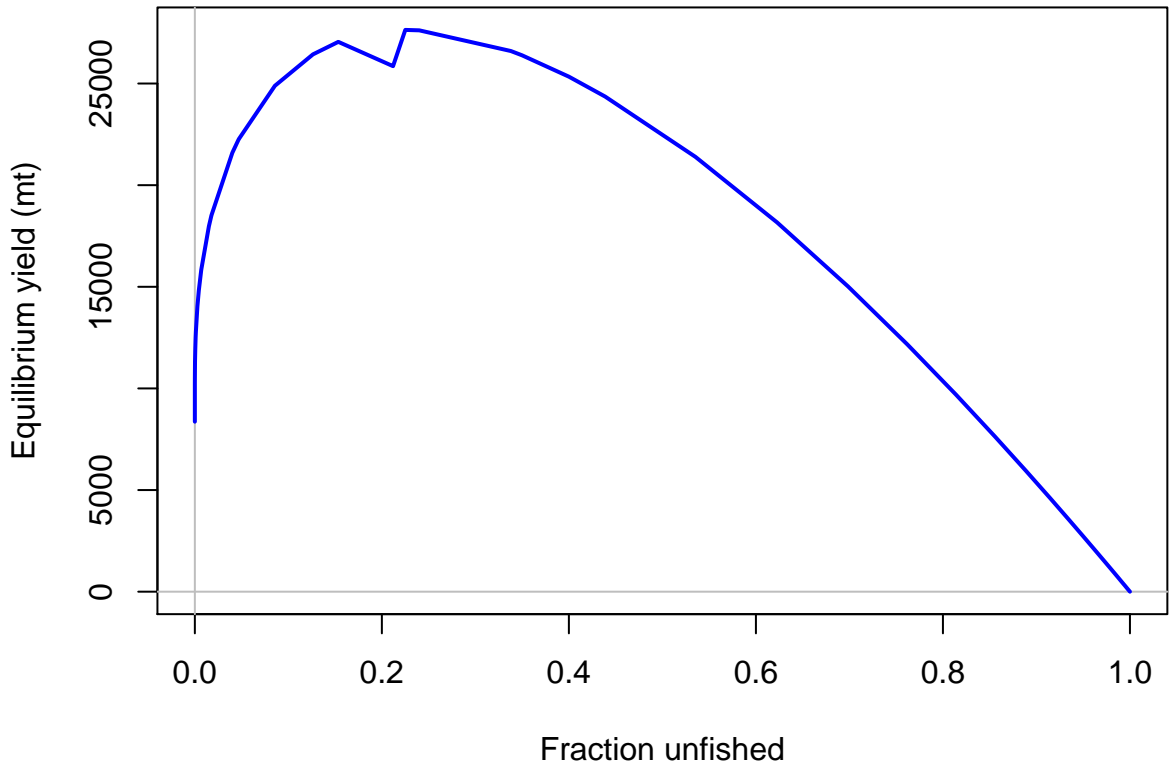


### EPO-LL-survey-late

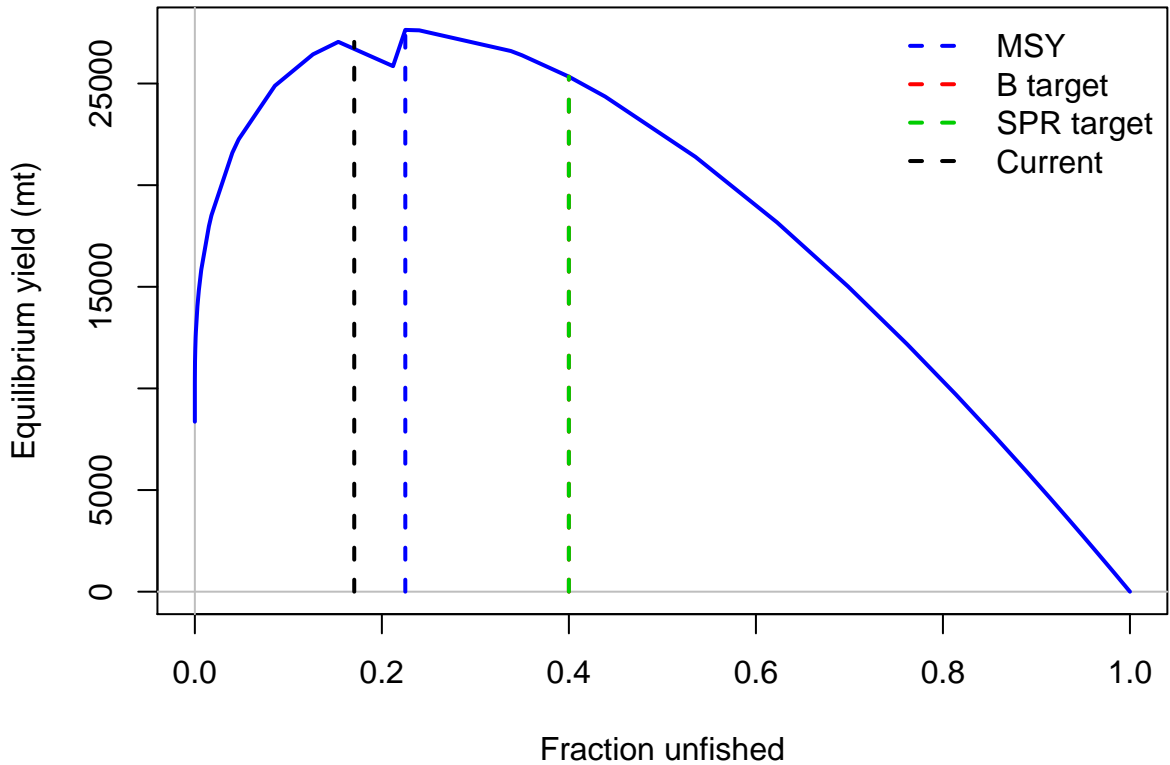
Sum of N adj.=2996.3  
Sum of N eff.=13389

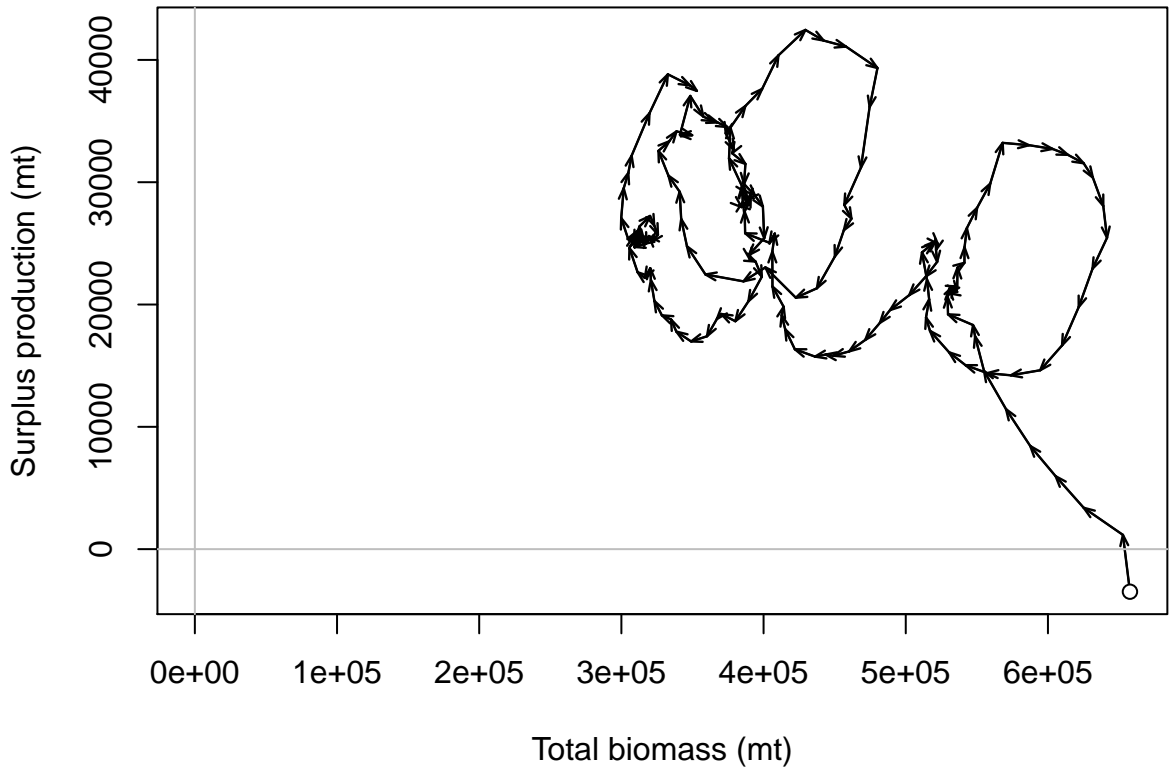


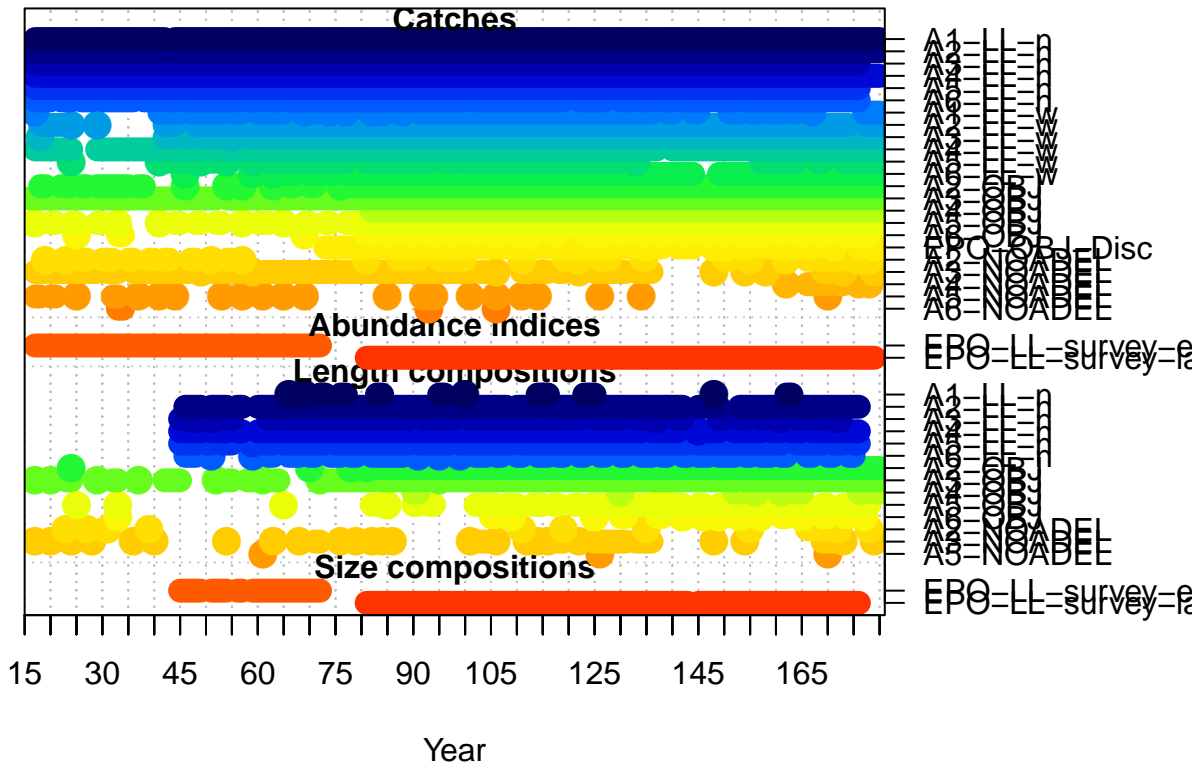
Length (cm)

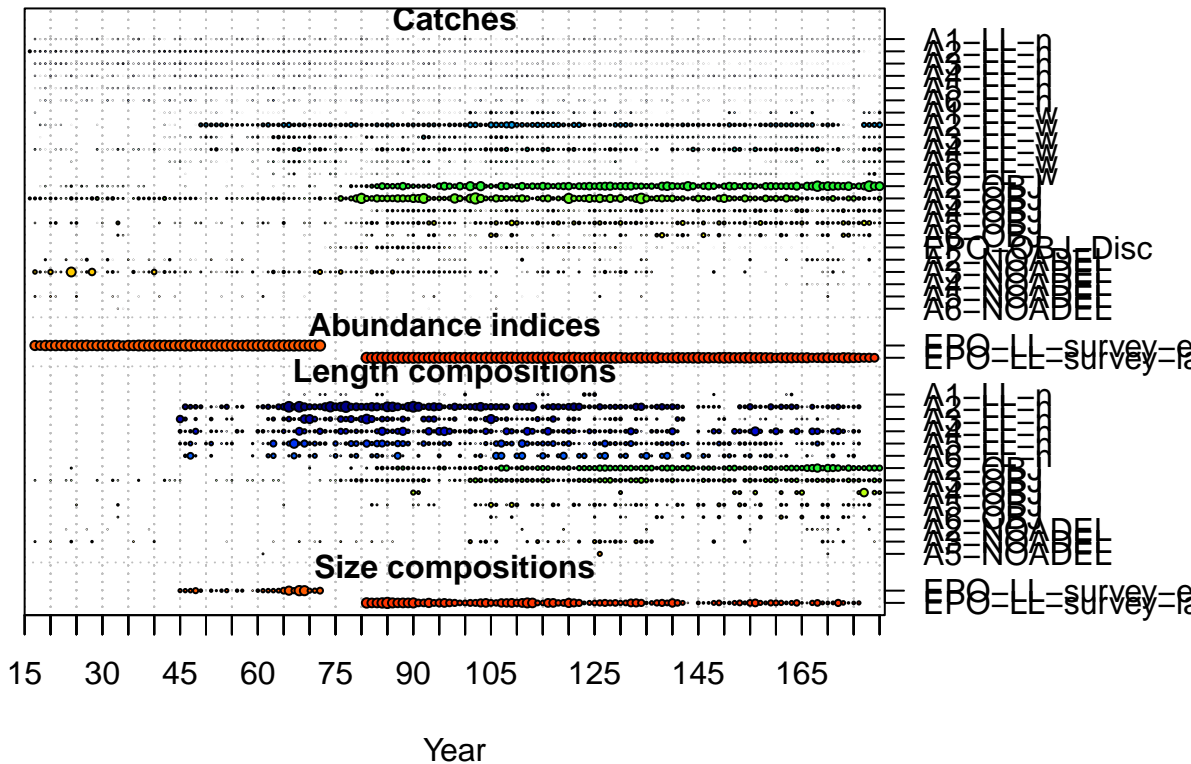


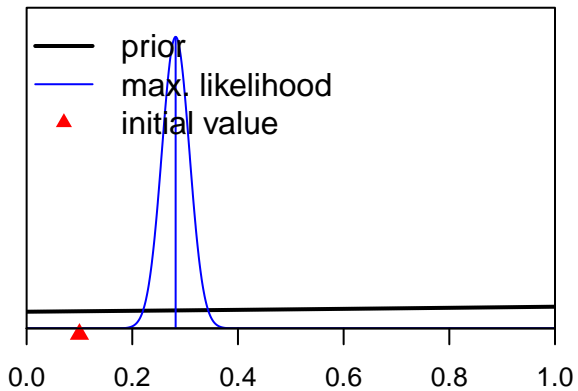
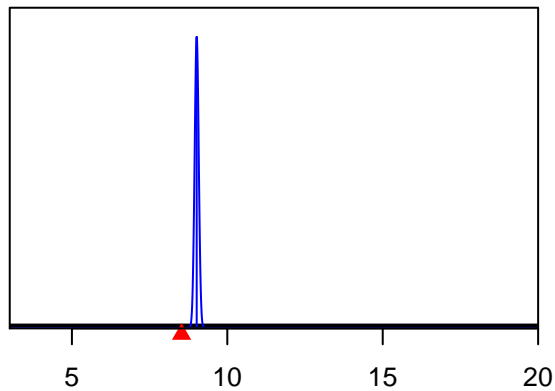
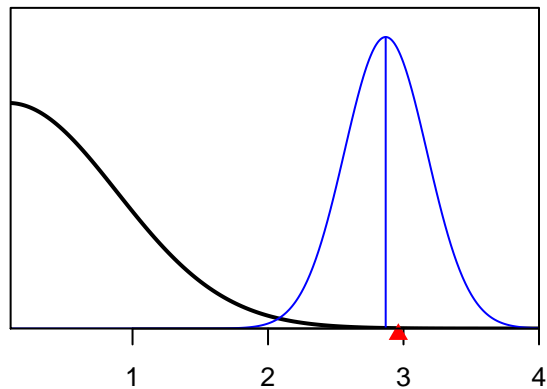
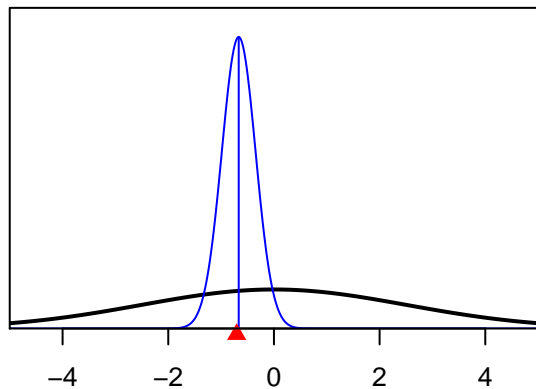






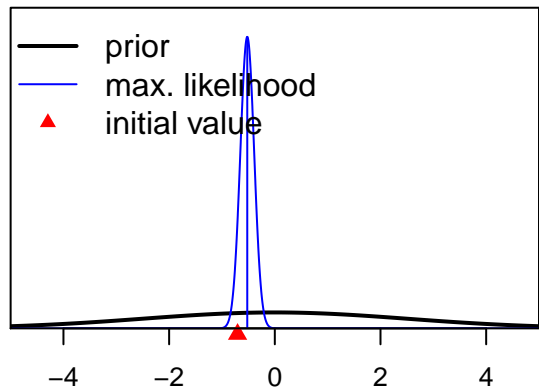




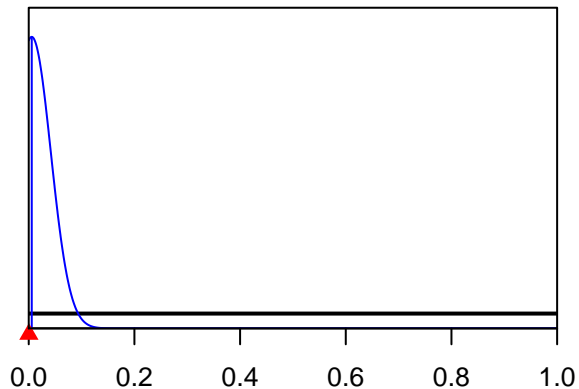
**NatM\_p\_4\_Fem\_GP\_1****SR\_LN(R0)****SD\_young\_Fem\_GP\_1****SR\_regime\_BLK1add\_16**

Parameter value

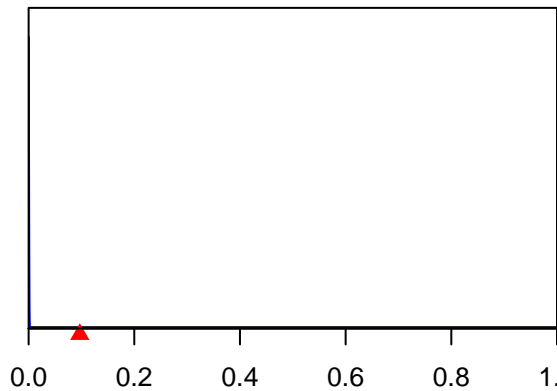
SR\_regime\_BLK1add\_17



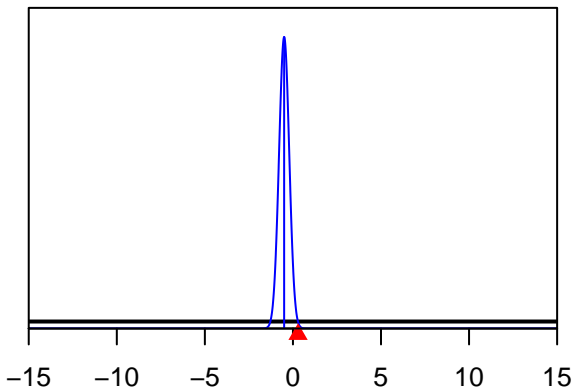
InitF\_seas\_1\_flt\_14A3-OBJ



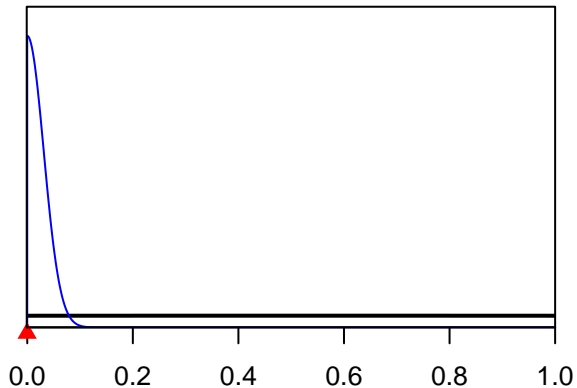
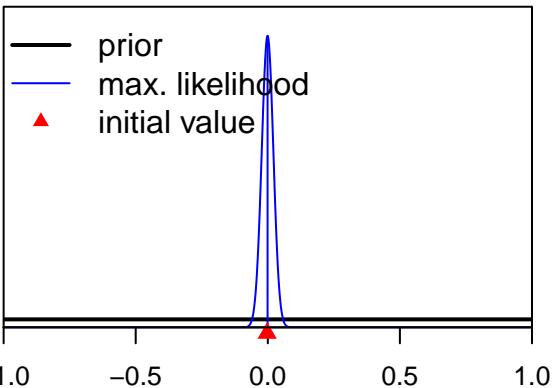
InitF\_seas\_1\_flt\_2A2-LL-n



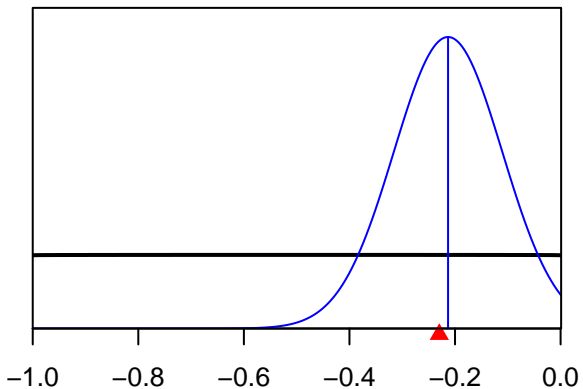
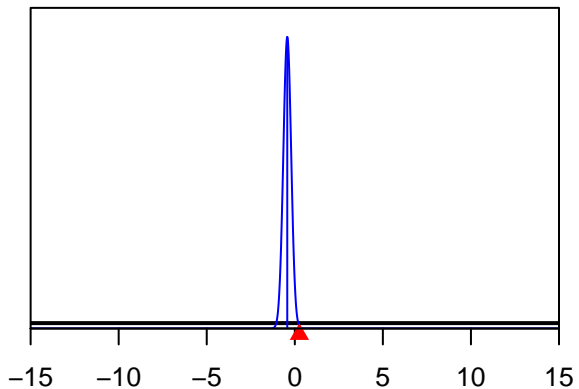
LnQ\_base\_EPO-LL-survey-early(24)



Parameter value

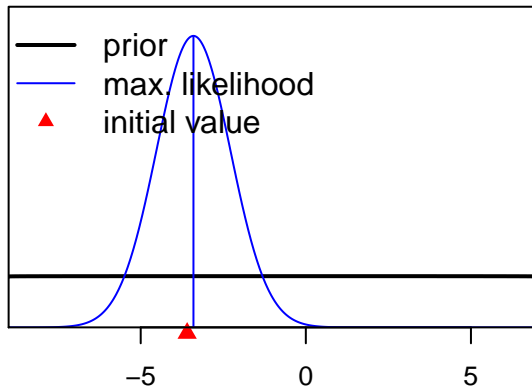
**Q\_extraSD\_EPO-LL-survey-early(24)****SizeSpline\_GradLo\_A1-LL-n(1)**

Density

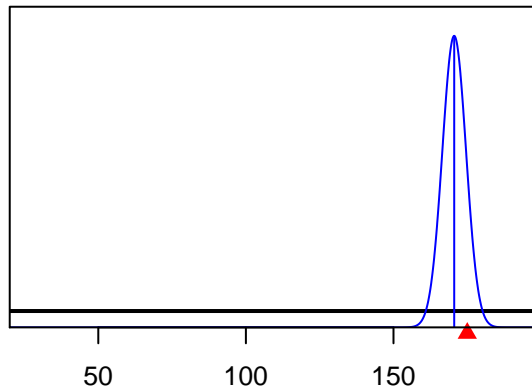
**LnQ\_base\_EPO-LL-survey-late(25)****SizeSpline\_GradHi\_A1-LL-n(1)**

Parameter value

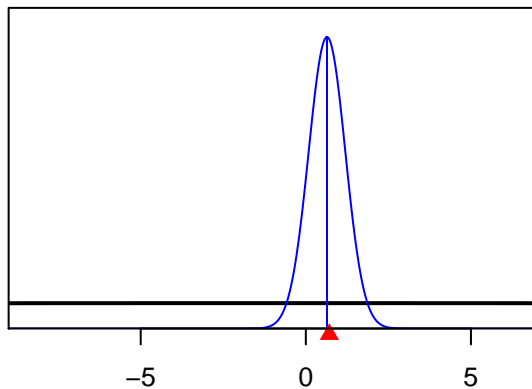
SizeSpline\_Val\_2\_A1-LL-n(1)



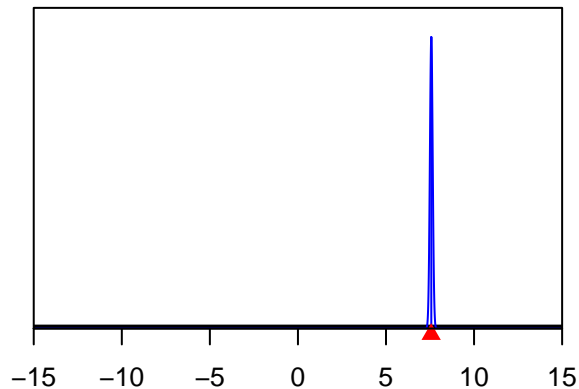
Size\_DbIN\_peak\_A2-LL-n(2)



SizeSpline\_Val\_4\_A1-LL-n(1)



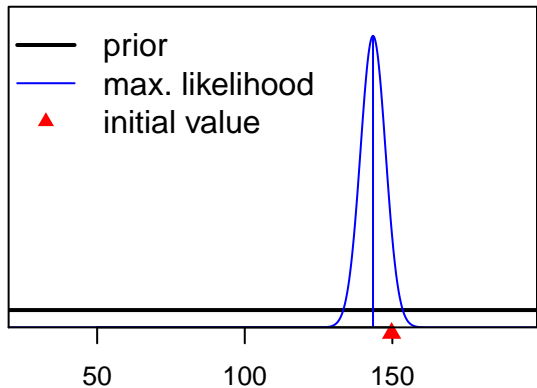
Size\_DbIN\_ascend\_se\_A2-LL-n(2)



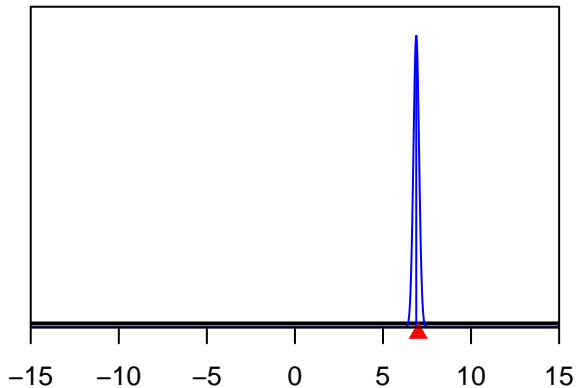
Parameter value



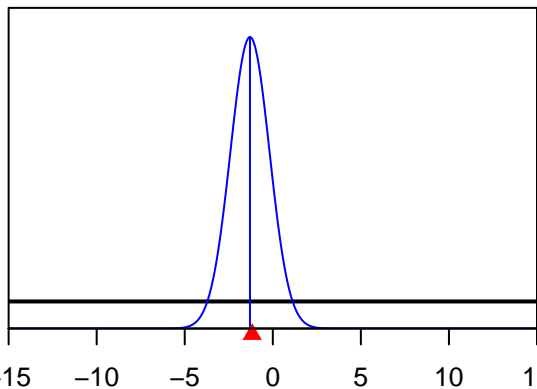
Size\_DbIN\_peak\_A3-LL-n(3)



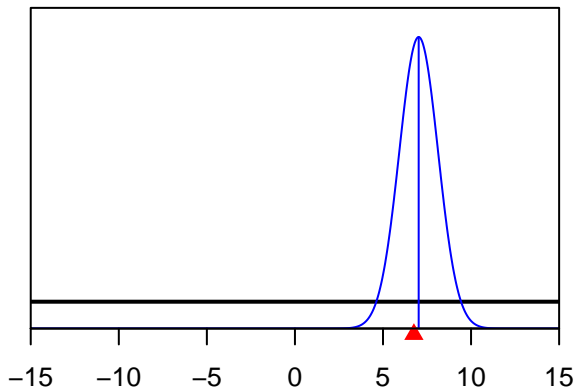
Size\_DbIN\_ascend\_se\_A3-LL-n(3)



Size\_DbIN\_top\_logit\_A3-LL-n(3)



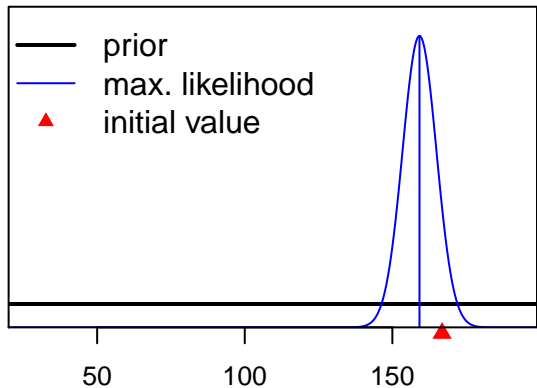
Size\_DbIN\_descend\_se\_A3-LL-n(3)



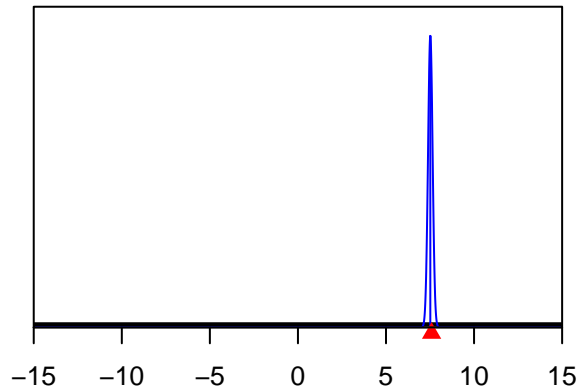
Parameter value

Density

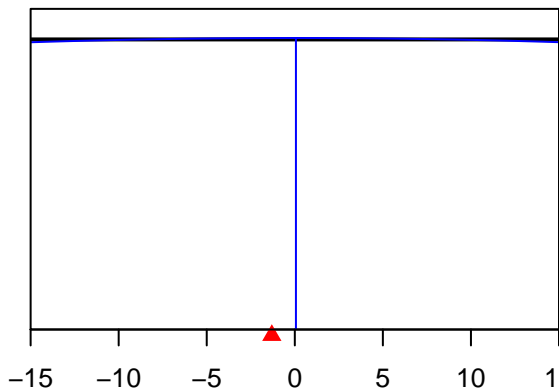
Size\_DbIN\_peak\_A4-LL-n(4)



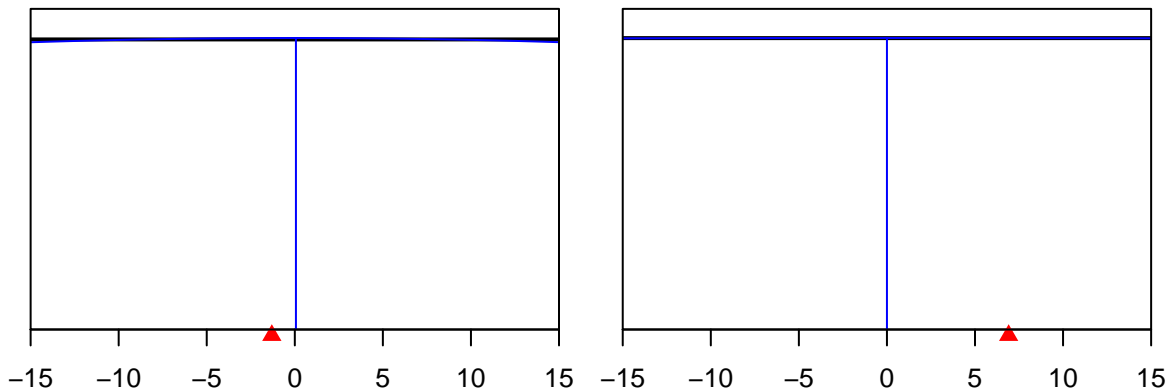
Size\_DbIN\_ascend\_se\_A4-LL-n(4)



Size\_DbIN\_top\_logit\_A4-LL-n(4)

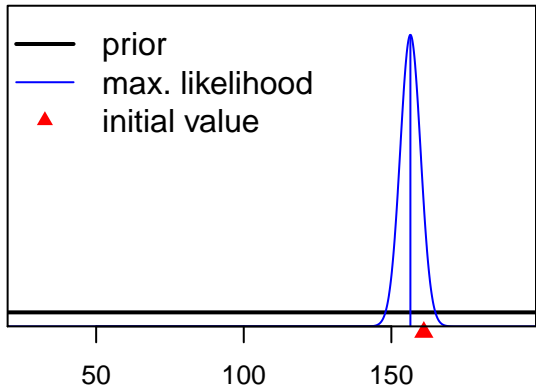


Size\_DbIN\_descend\_se\_A4-LL-n(4)

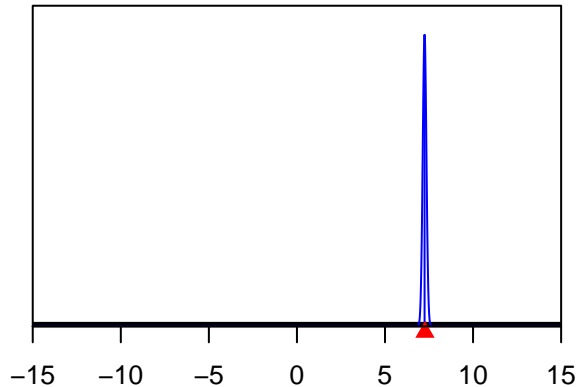


Parameter value

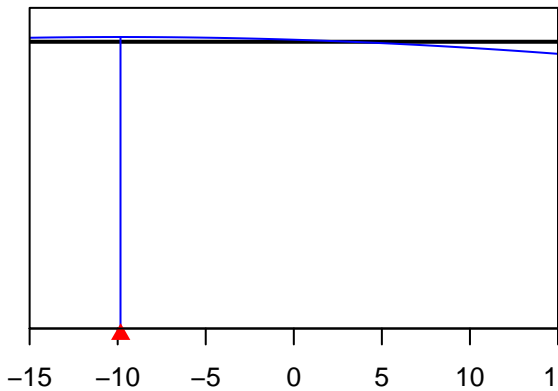
Size\_DbIN\_peak\_A5-LL-n(5)



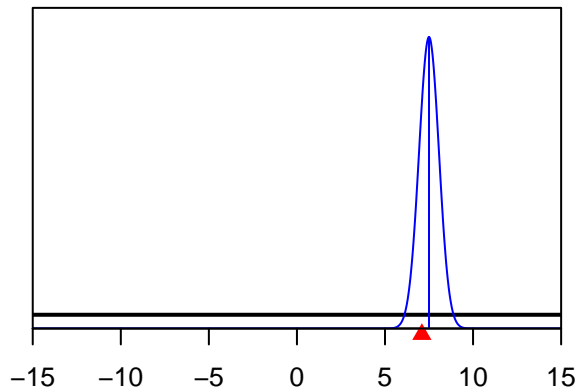
Size\_DbIN\_ascend\_se\_A5-LL-n(5)



Size\_DbIN\_top\_logit\_A5-LL-n(5)

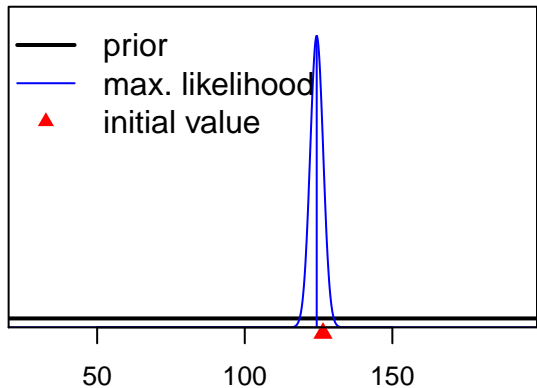


Size\_DbIN\_descend\_se\_A5-LL-n(5)

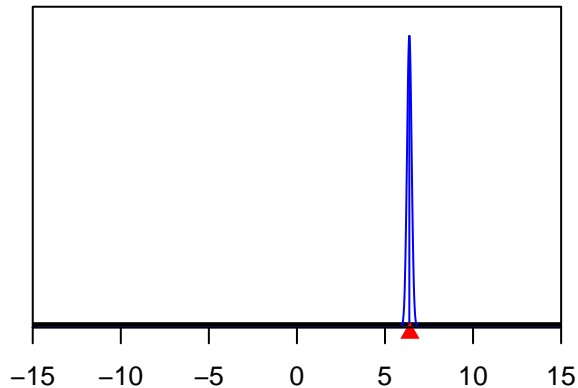


Parameter value

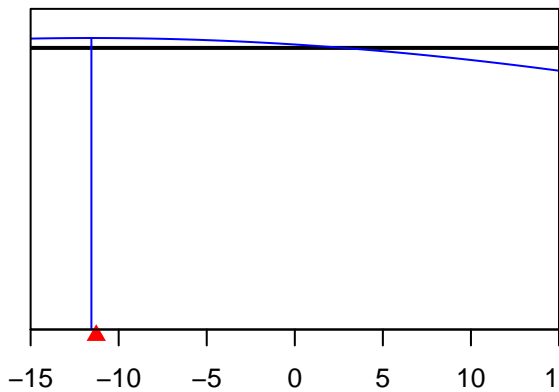
Size\_DbIN\_peak\_A6-LL-n(6)



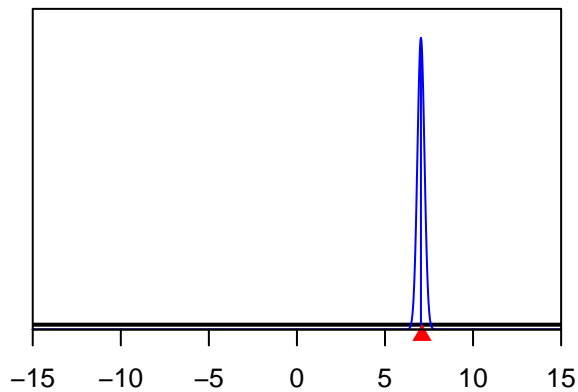
Size\_DbIN\_ascend\_se\_A6-LL-n(6)



Size\_DbIN\_top\_logit\_A6-LL-n(6)

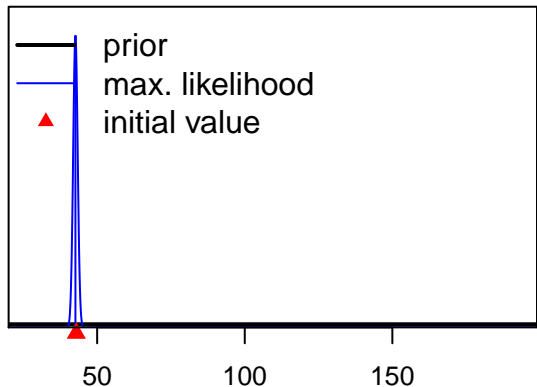


Size\_DbIN\_descend\_se\_A6-LL-n(6)

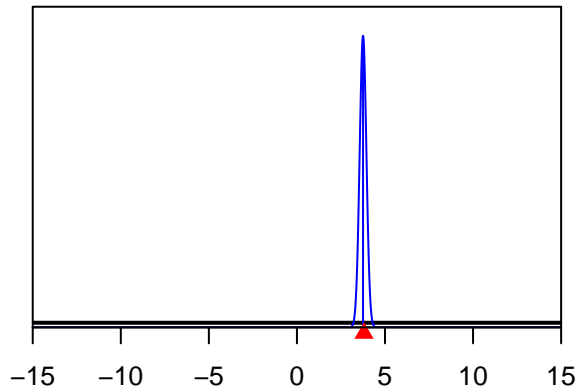


Parameter value

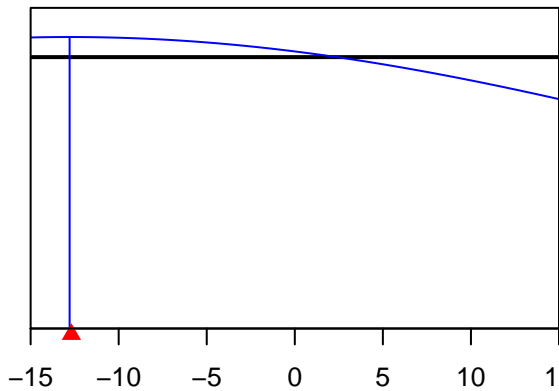
Size\_DbIN\_peak\_A2-OBJ(13)



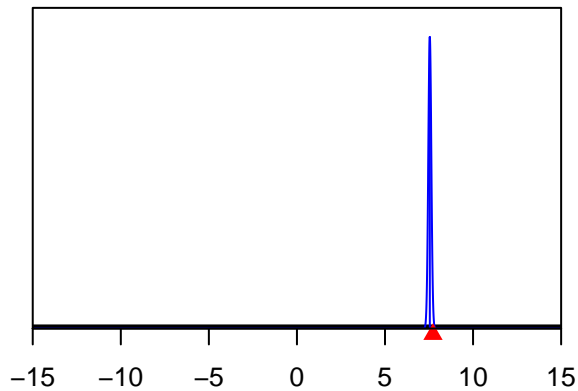
Size\_DbIN\_ascend\_se\_A2-OBJ(13)



Size\_DbIN\_top\_logit\_A2-OBJ(13)

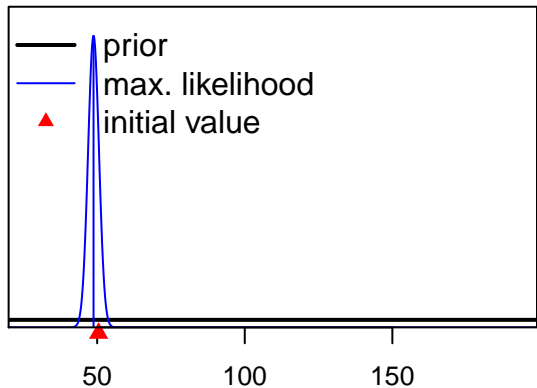


Size\_DbIN\_descend\_se\_A2-OBJ(13)

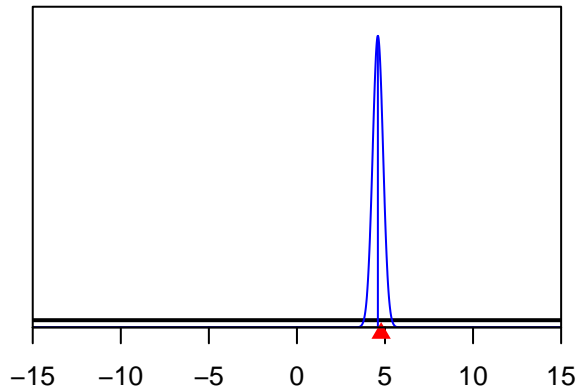


Parameter value

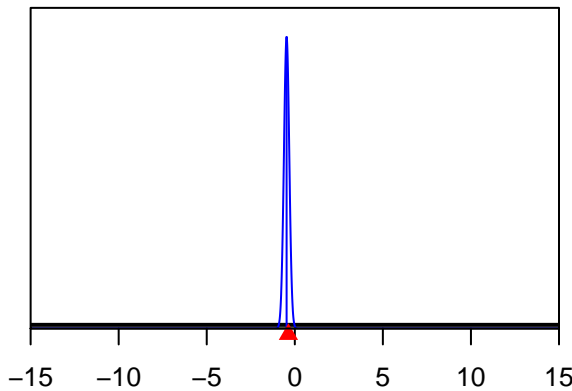
Size\_DbIN\_peak\_A3-OBJ(14)



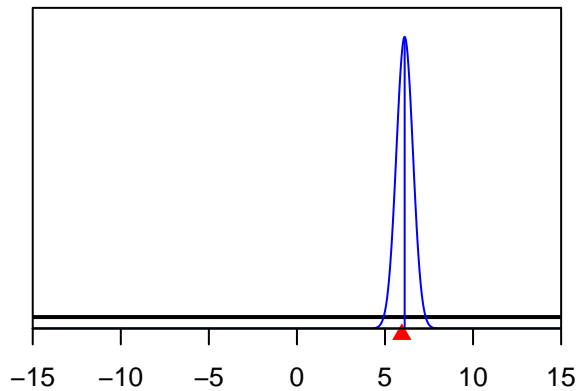
Size\_DbIN\_ascend\_se\_A3-OBJ(14)



Size\_DbIN\_top\_logit\_A3-OBJ(14)

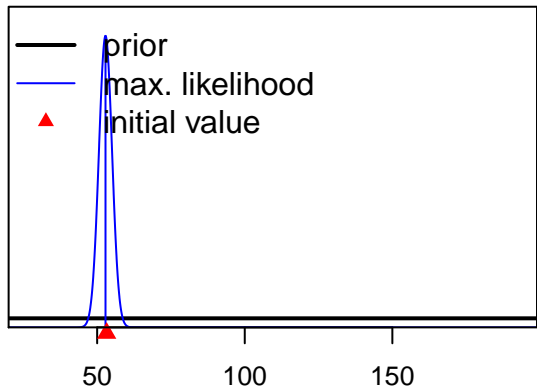


Size\_DbIN\_descend\_se\_A3-OBJ(14)

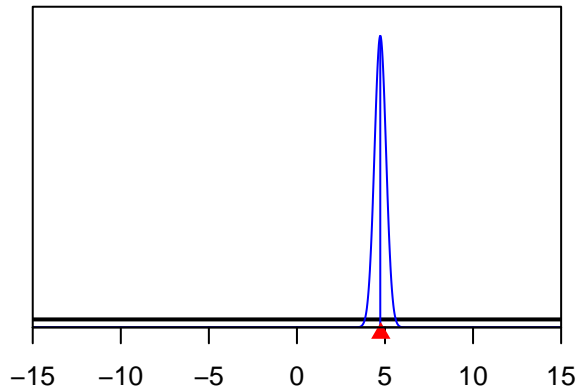


Parameter value

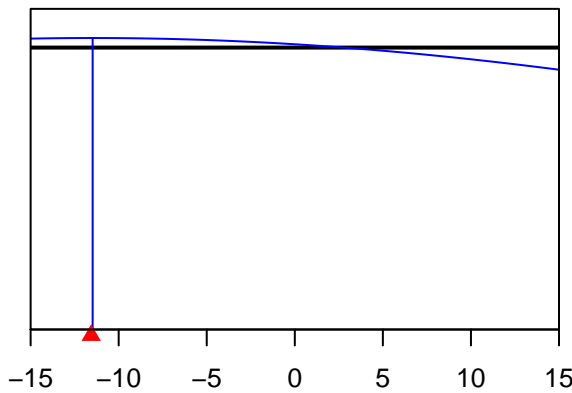
Size\_DbIN\_peak\_A4-Obj(15)



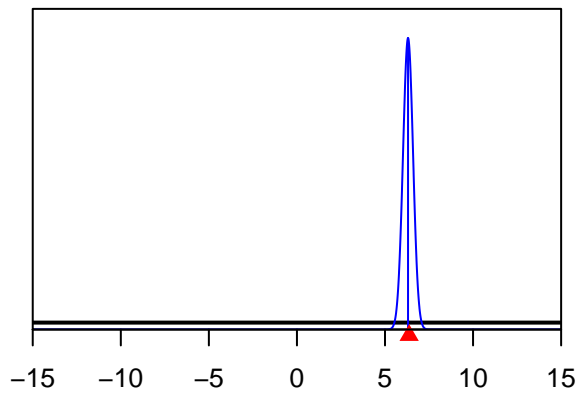
Size\_DbIN\_ascend\_se\_A4-Obj(15)



Size\_DbIN\_top\_logit\_A4-Obj(15)

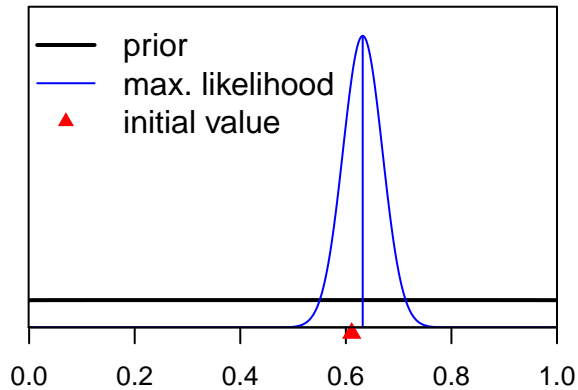


Size\_DbIN\_descend\_se\_A4-Obj(15)

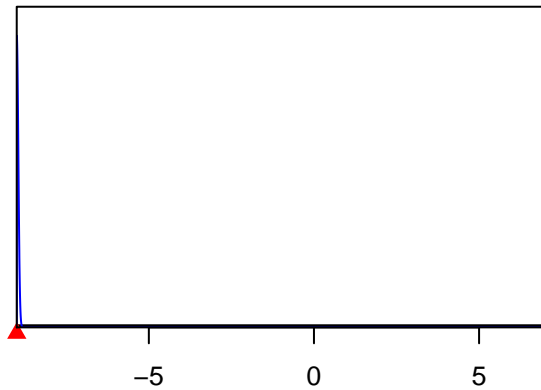


Parameter value

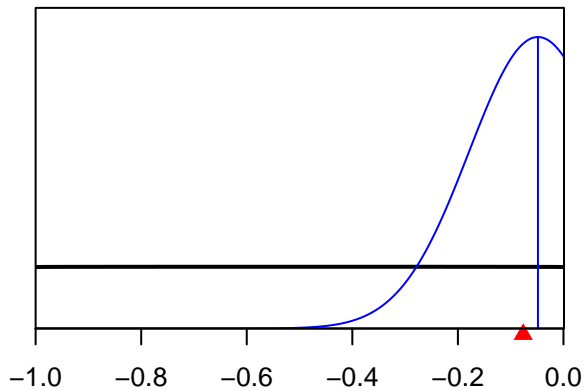
SizeSpline\_GradLo\_A5-Obj(16)



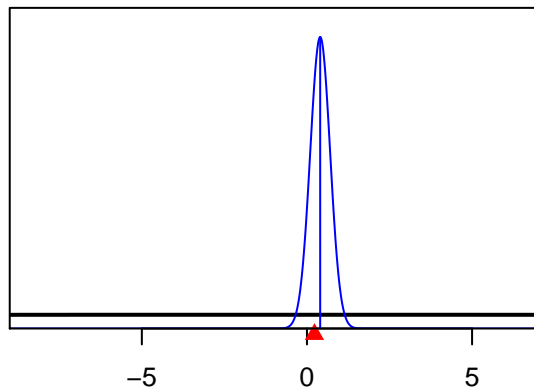
SizeSpline\_Val\_1\_A5-Obj(16)



SizeSpline\_GradHi\_A5-Obj(16)



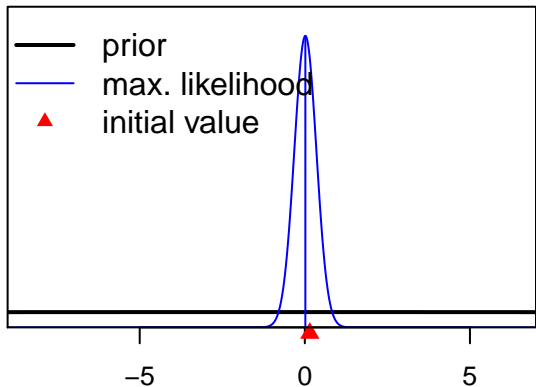
SizeSpline\_Val\_2\_A5-Obj(16)



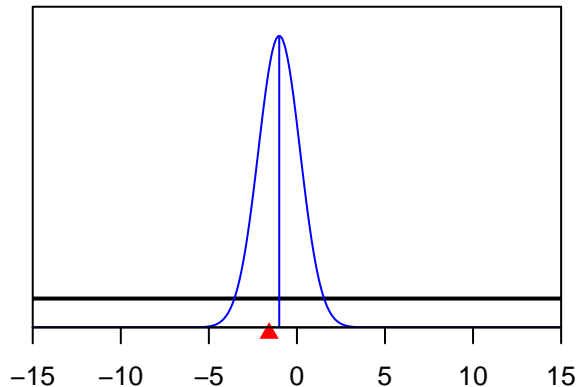
Parameter value



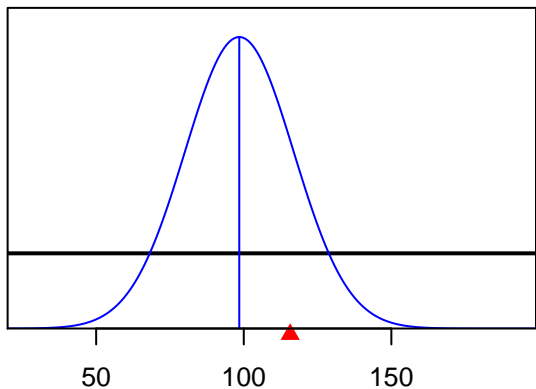
SizeSpline\_Val\_4\_A5-Obj(16)



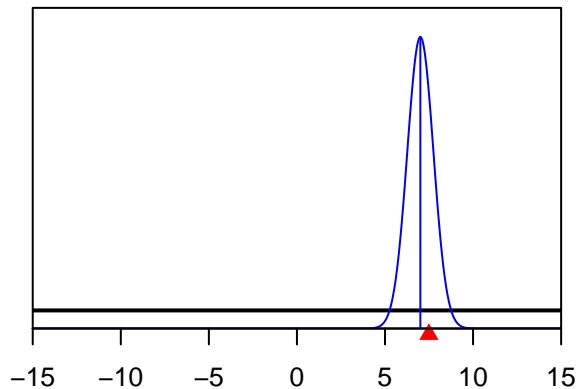
Size\_DbIN\_top\_logit\_A6-Obj(17)



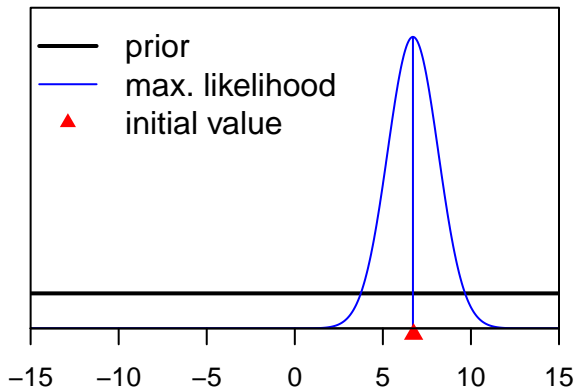
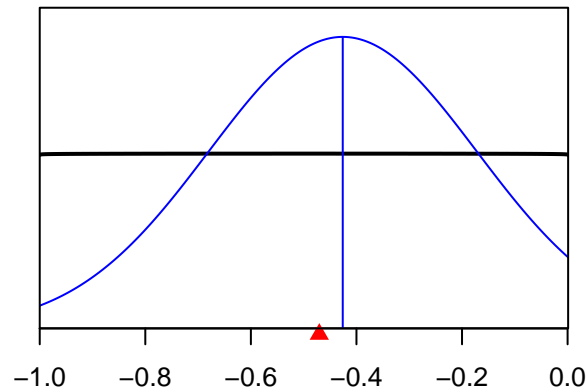
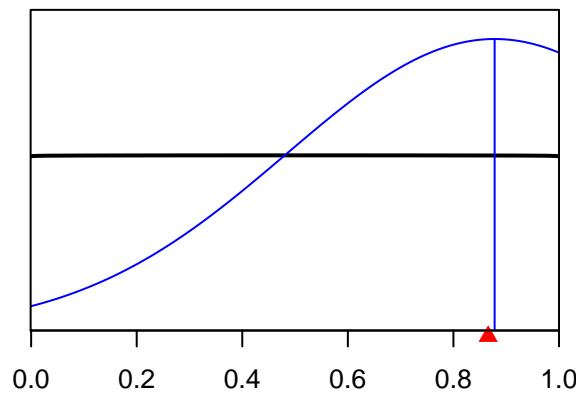
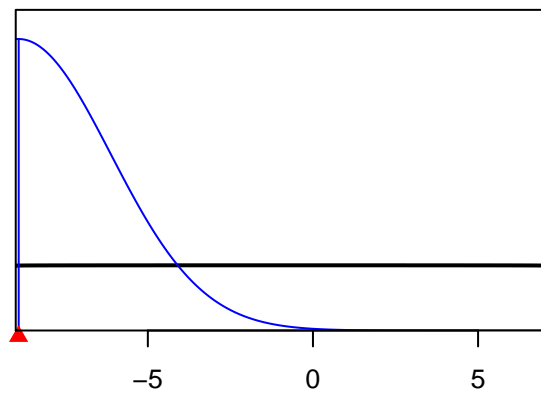
Size\_DbIN\_peak\_A6-Obj(17)



Size\_DbIN\_ascend\_se\_A6-Obj(17)

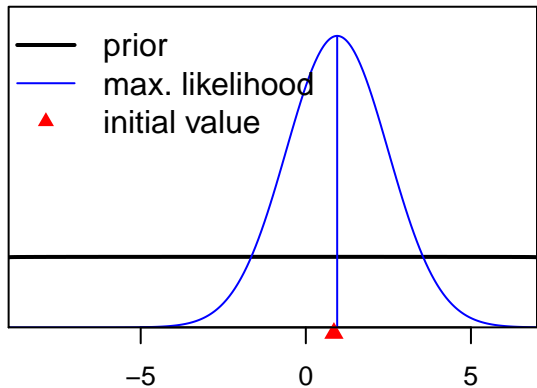


Parameter value

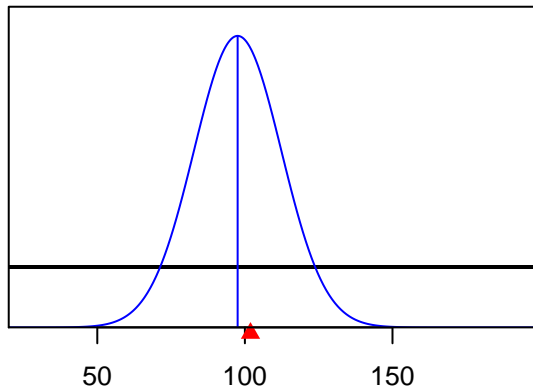
**Size\_DblN\_descend\_se\_A6-Obj(17)****SizeSpline\_GradHi\_A2-NOADEL(19)****SizeSpline\_GradLo\_A2-NOADEL(19)****SizeSpline\_Val\_1\_A2-NOADEL(19)**

Parameter value

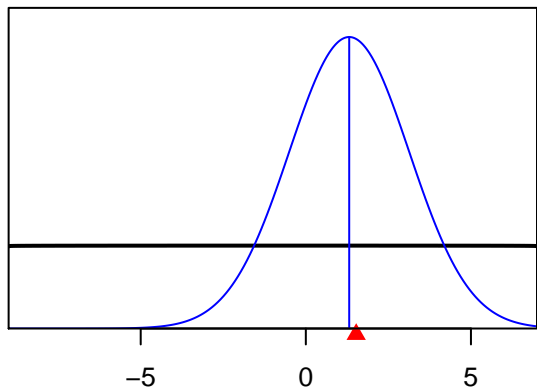
SizeSpline\_Val\_2\_A2-NOADEL(19)



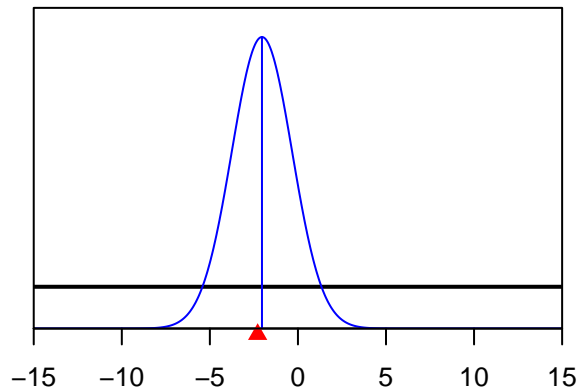
Size\_DbIN\_peak\_A3-NOADEL(20)



SizeSpline\_Val\_4\_A2-NOADEL(19)



Size\_DbIN\_top\_logit\_A3-NOADEL(20)

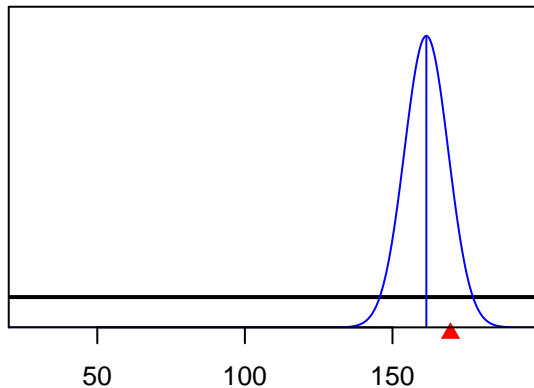
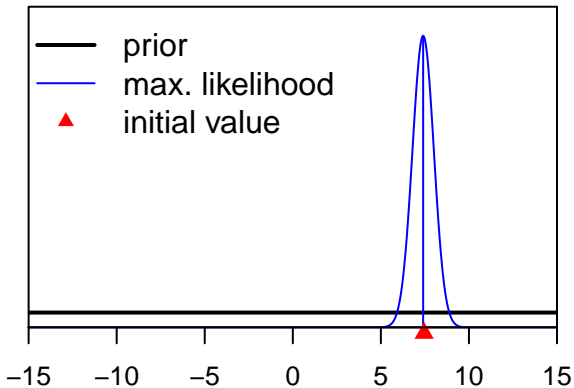


Parameter value

Density

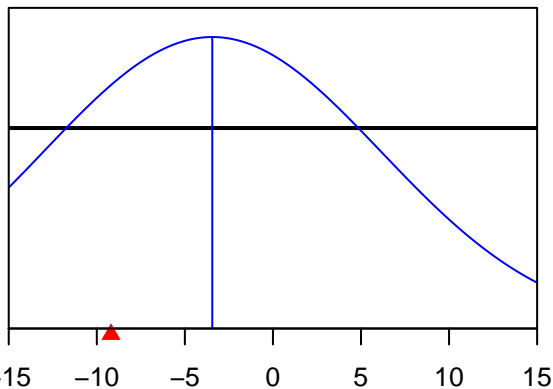
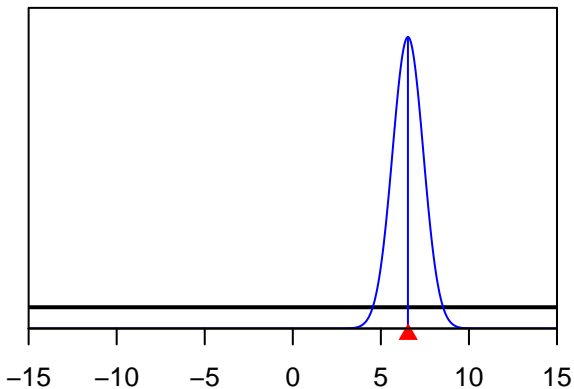
Size\_DbIN\_ascend\_se\_A3-NOADEL(20)

Size\_DbIN\_peak\_EPO-LL-survey-early(24)



Size\_DbIN\_descend\_se\_A3-NOADEL(20)

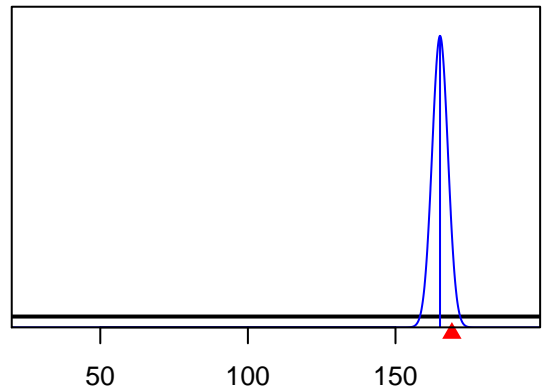
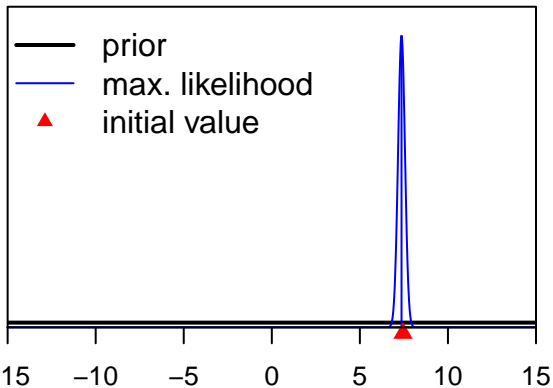
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Parameter value

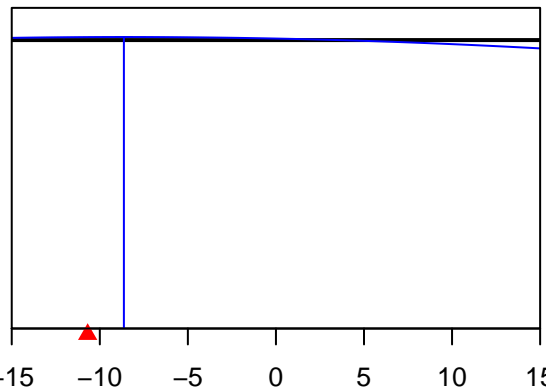
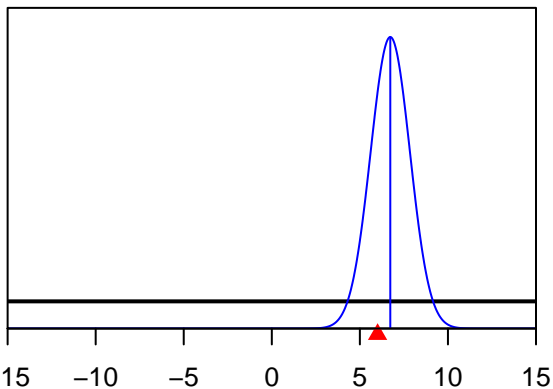
ize\_DbIN\_ascend\_se\_EPO-LL-survey-early(2)

Size\_DbIN\_peak\_EPO-LL-survey-late(25)



ze\_DbIN\_descend\_se\_EPO-LL-survey-early(2)

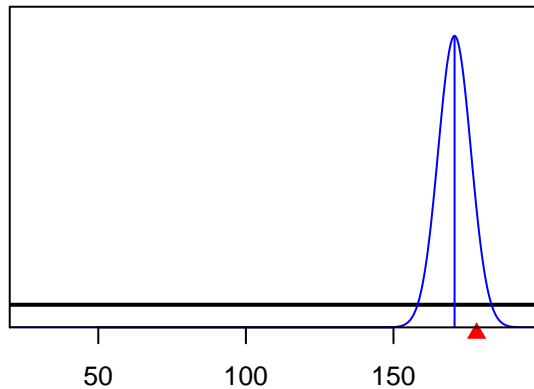
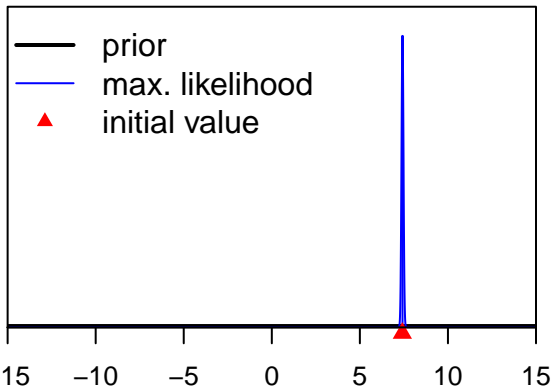
Size\_DbIN\_top\_logit\_EPO-LL-survey-late(25)



Parameter value

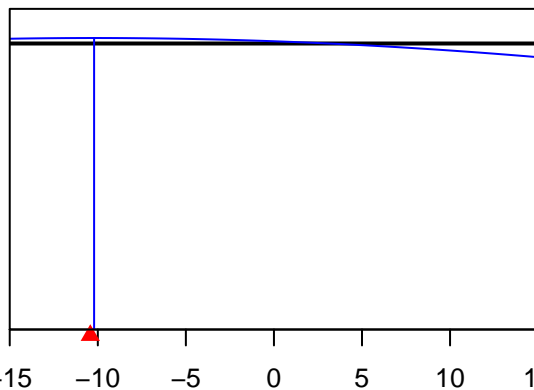
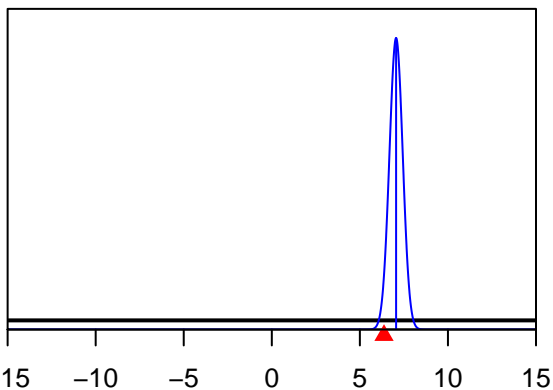
size\_DblN\_ascend\_se\_EPO-LL-survey-late(25

Size\_DblN\_peak\_A2-LL-n(2)\_BLK2repl\_17



ize\_DblN\_descend\_se\_EPO-LL-survey-late(25

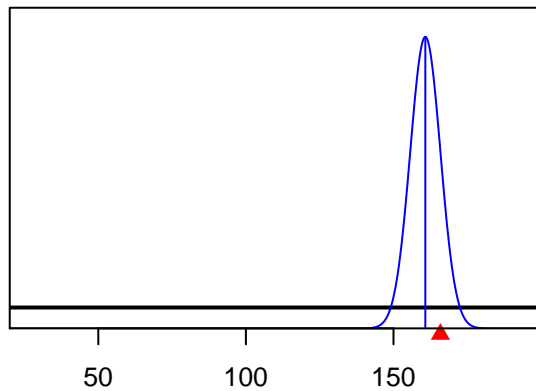
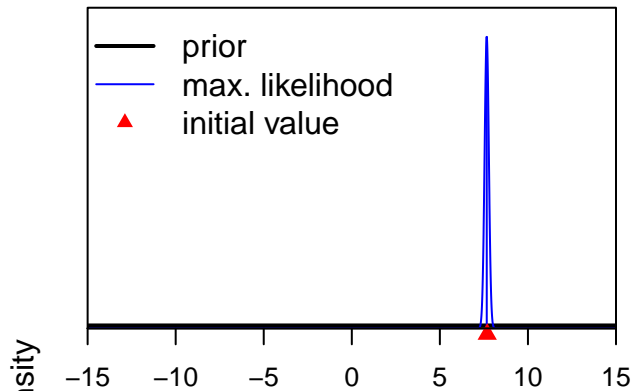
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Parameter value

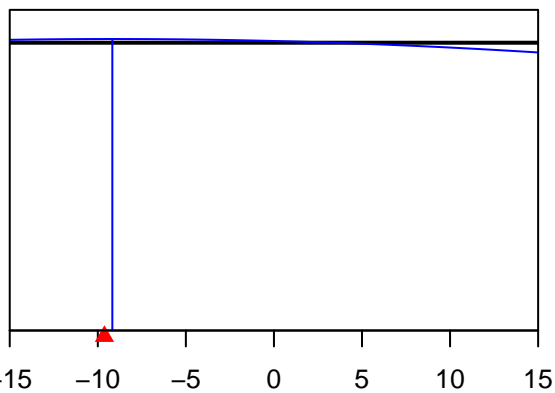
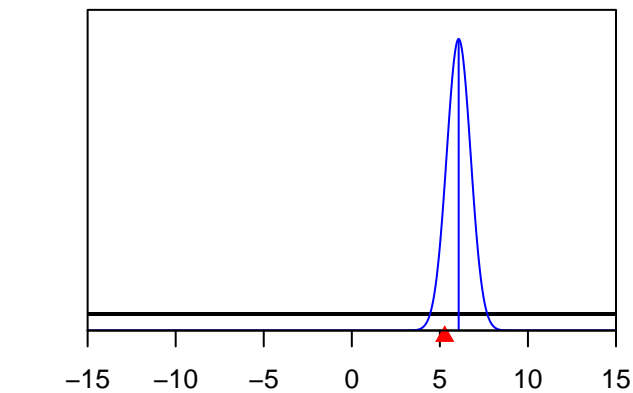
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Size\_DbIN\_peak\_A3-LL-n(3)\_BLK2repl\_17



ize\_DbIN\_descend\_se\_A2-LL-n(2)\_BLK2repl\_1

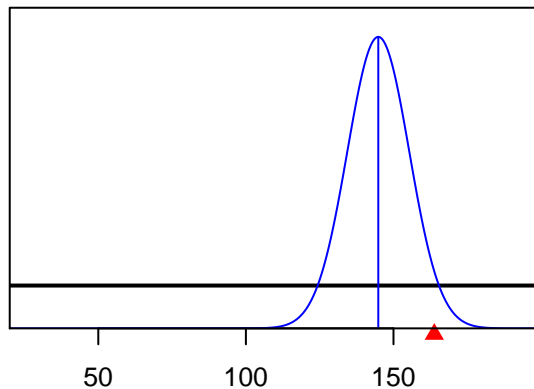
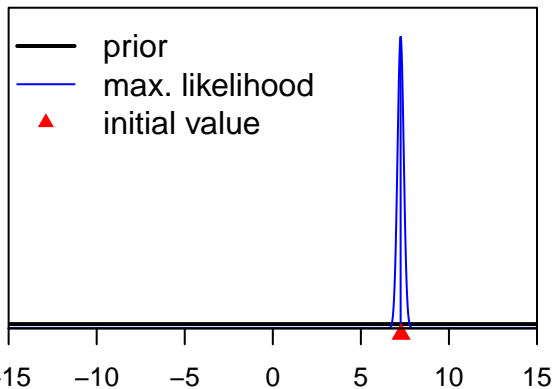
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Parameter value

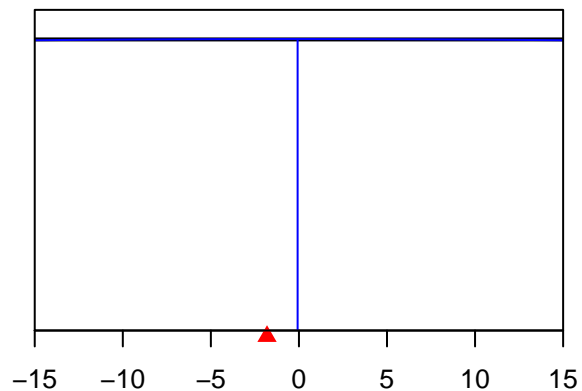
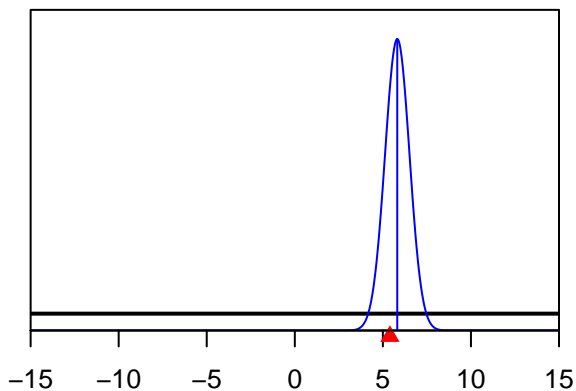
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Size\_DbIN\_peak\_A4-LL-n(4)\_BLK2repl\_17



ize\_DbIN\_descend\_se\_A3-LL-n(3)\_BLK2repl\_1

Size\_DbIN\_top\_logit\_A4-LL-n(4)\_BLK2repl\_17

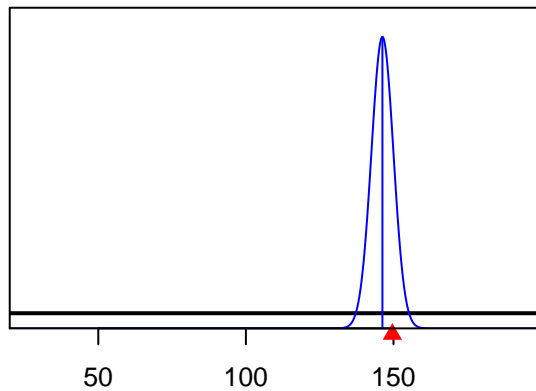
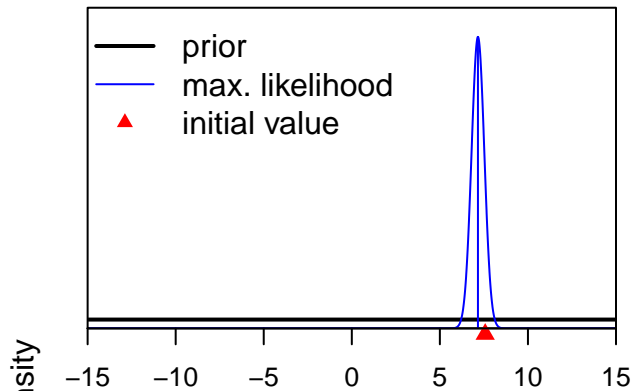


Parameter value



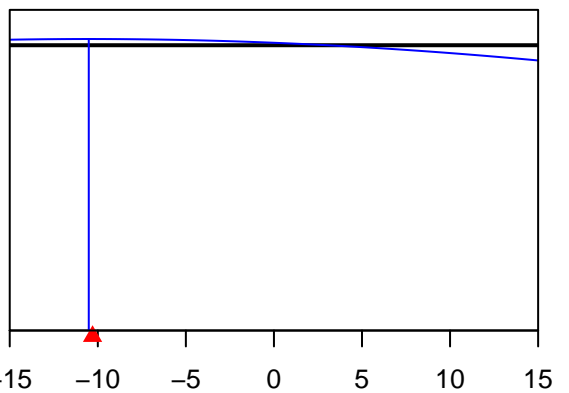
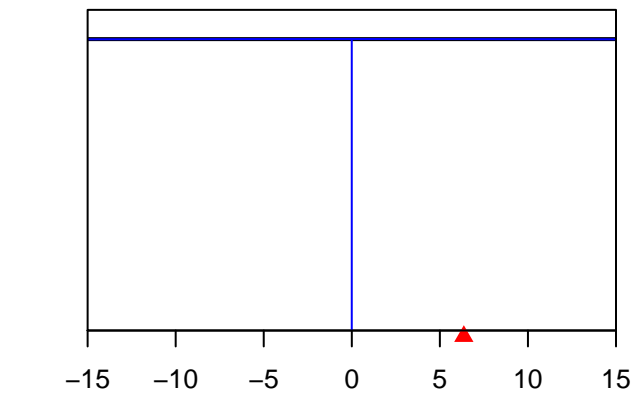
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Size\_DbIN\_peak\_A5-LL-n(5)\_BLK2repl\_17



ize\_DbIN\_descend\_se\_A4-LL-n(4)\_BLK2repl\_1

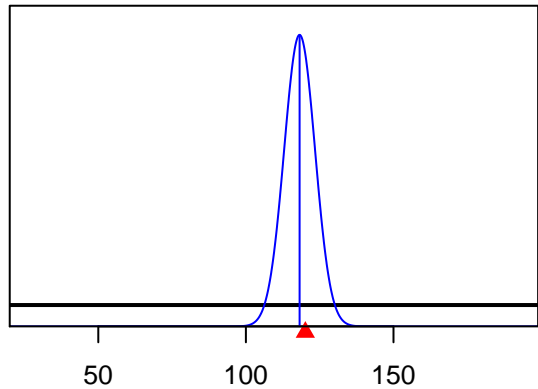
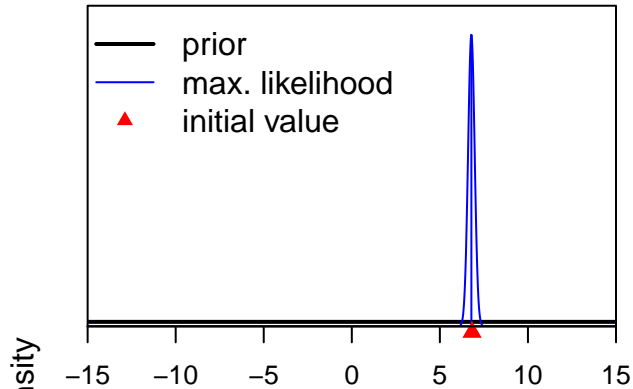
Size\_DbIN\_top\_logit\_A5-LL-n(5)\_BLK2repl\_17



Parameter value

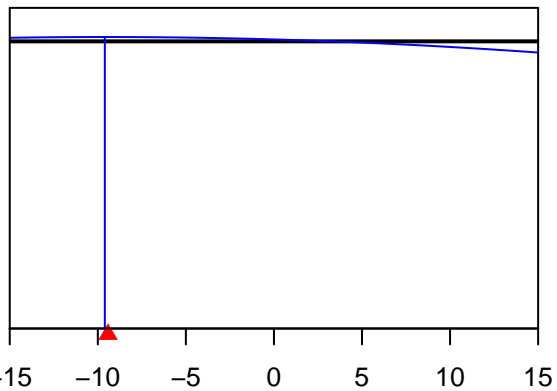
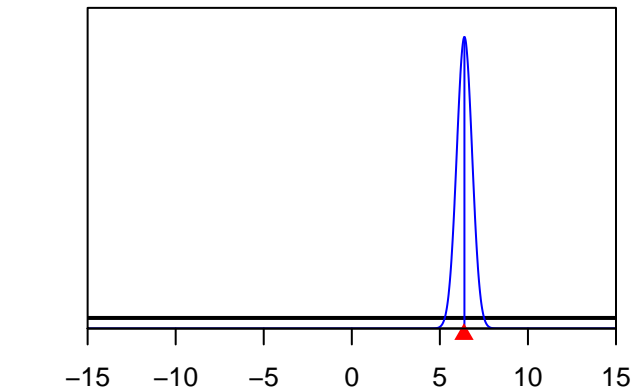
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Size\_DbIN\_peak\_A6-LL-n(6)\_BLK2repl\_17



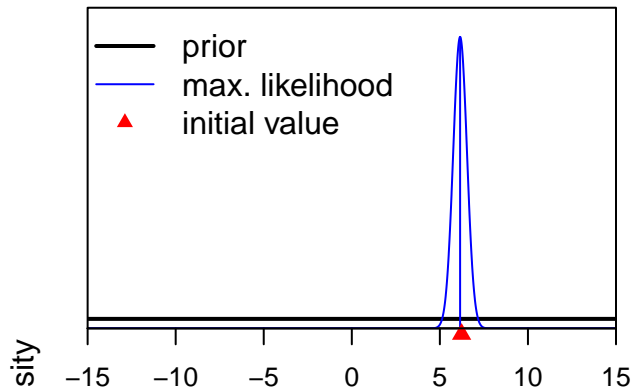
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Size\_DbIN\_top\_logit\_A6-LL-n(6)\_BLK2repl\_17



Parameter value

ize\_DbIN\_ascend\_se\_A6-LL-n(6)\_BLK2repl\_1



ize\_DbIN\_descend\_se\_A6-LL-n(6)\_BLK2repl\_1

