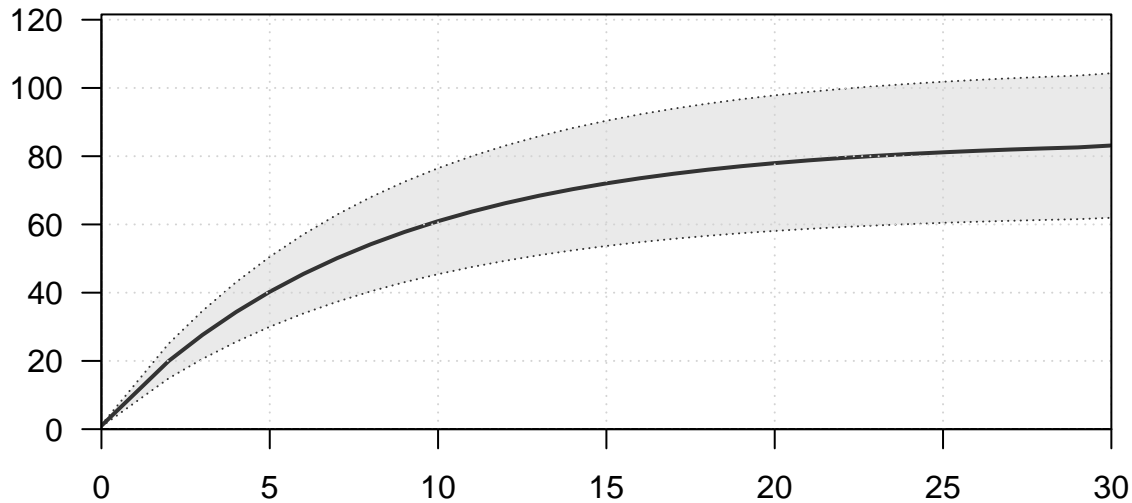
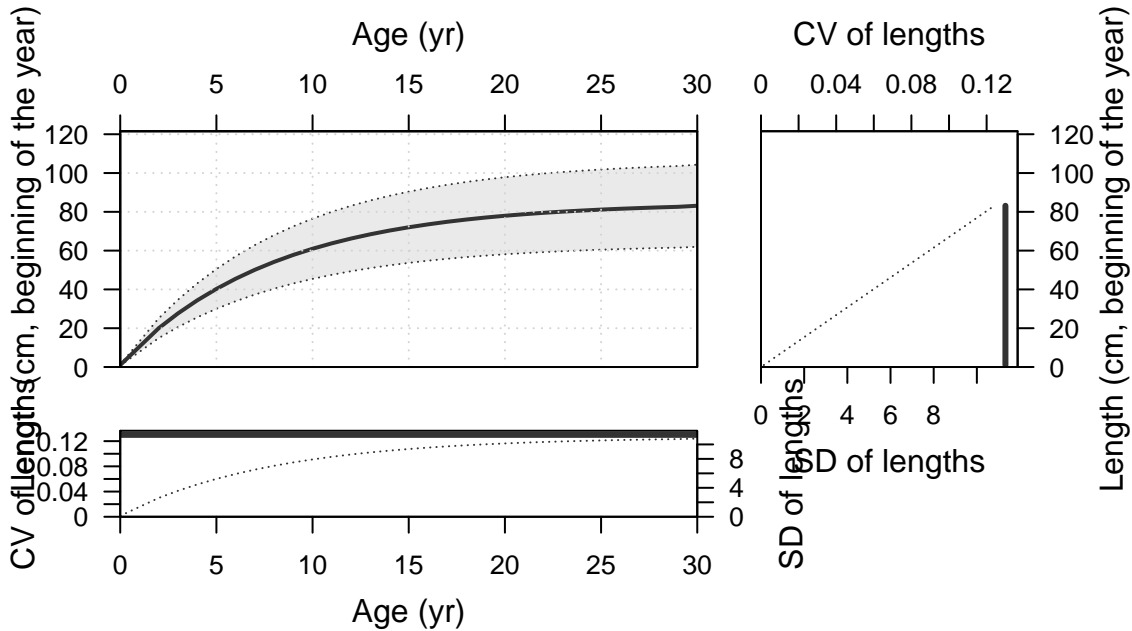


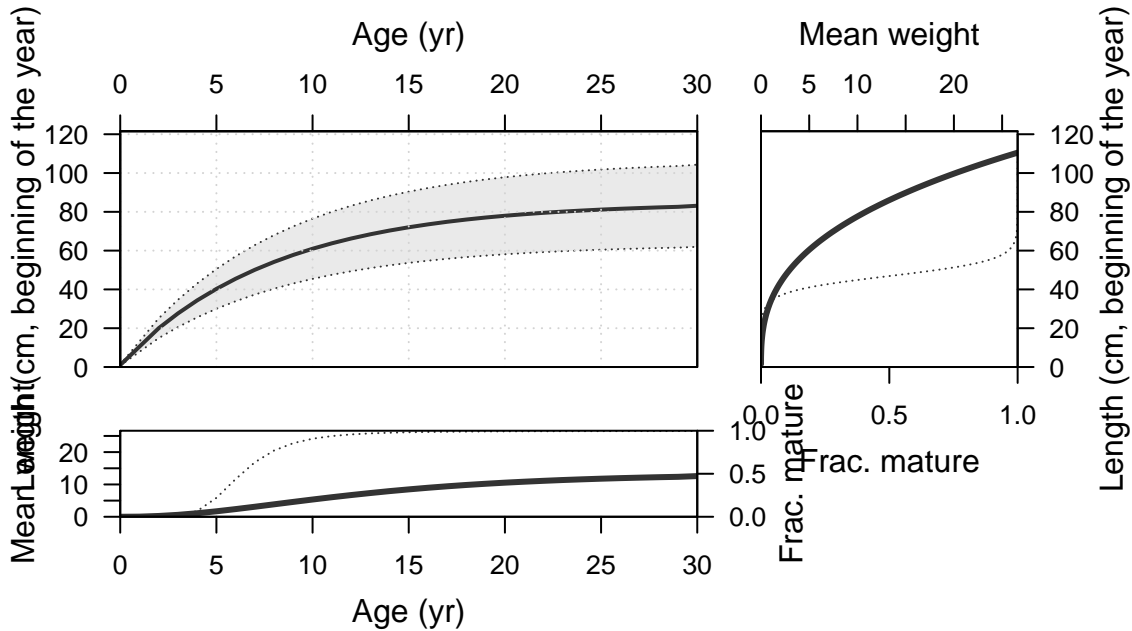
Plots created using the 'r4ss' package in R  
Stock Synthesis version: 3.30.19.0  
StartTime: Fri Jun 17 14:09:13 2022  
Data\_File: data.ss  
Control\_File: control.ss

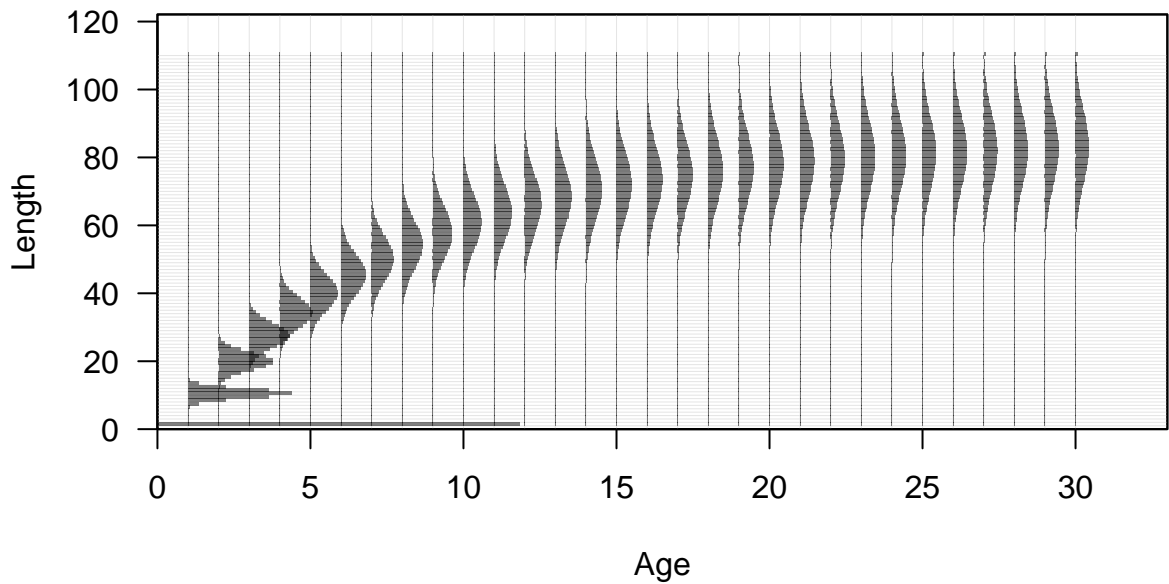
Length (cm, beginning of the year)

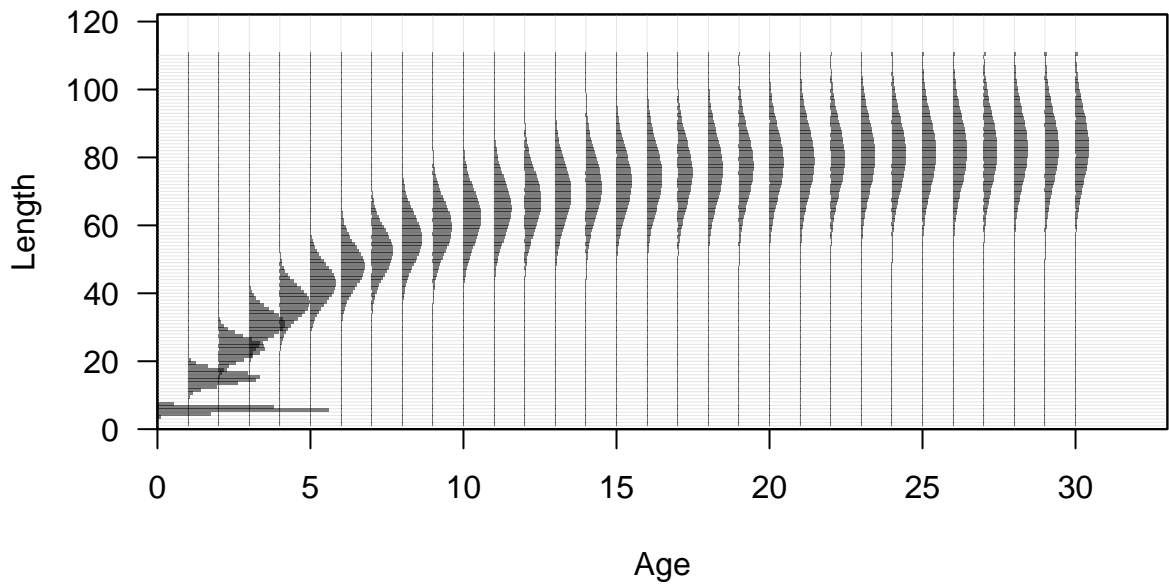


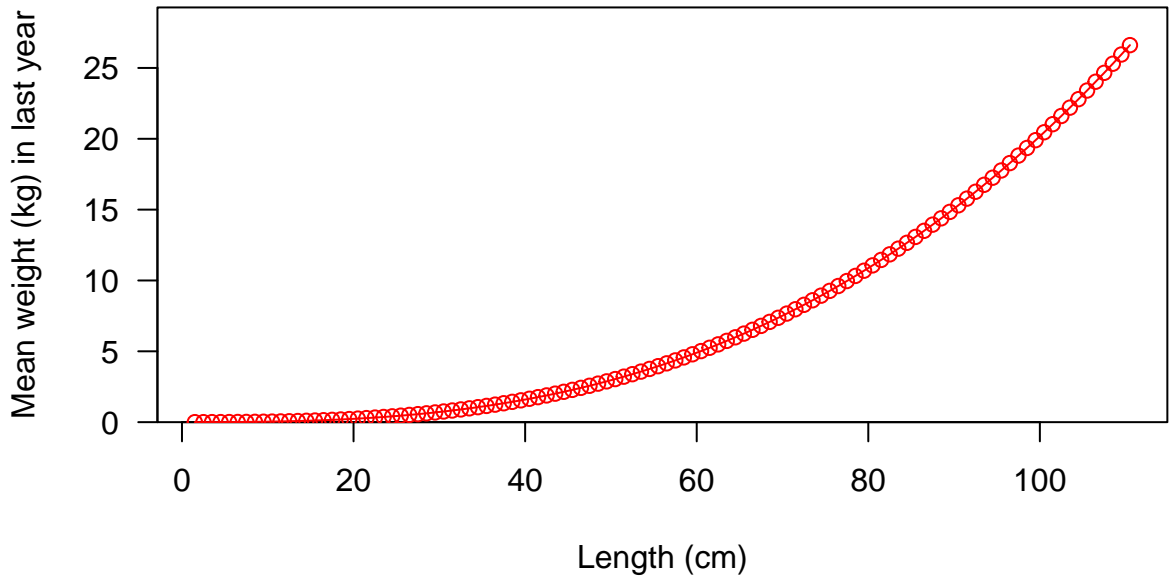
Age (yr)

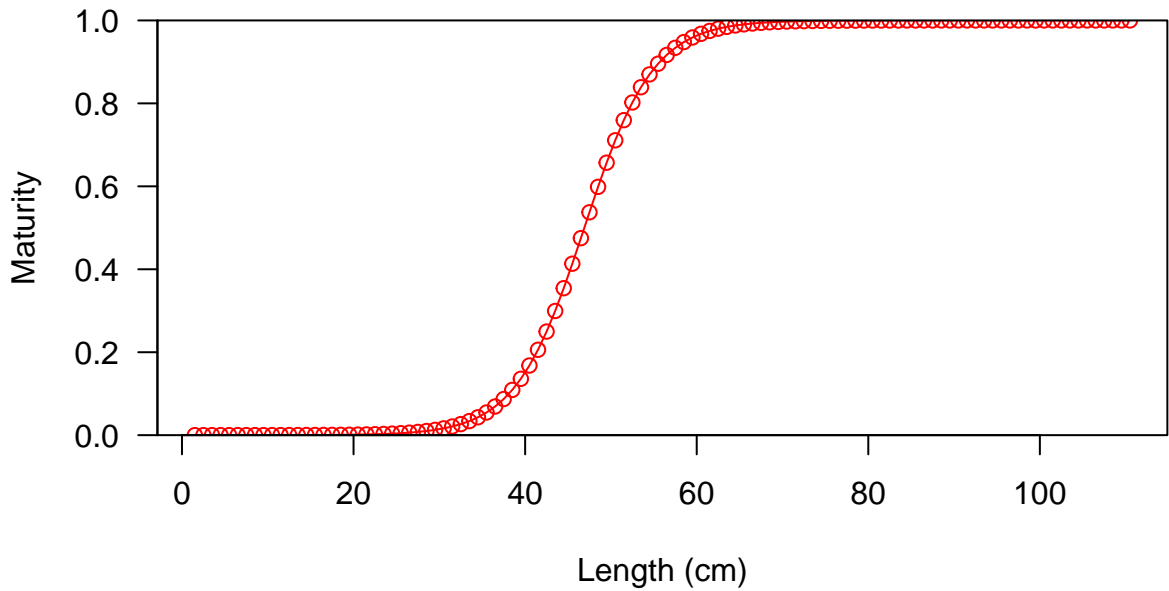




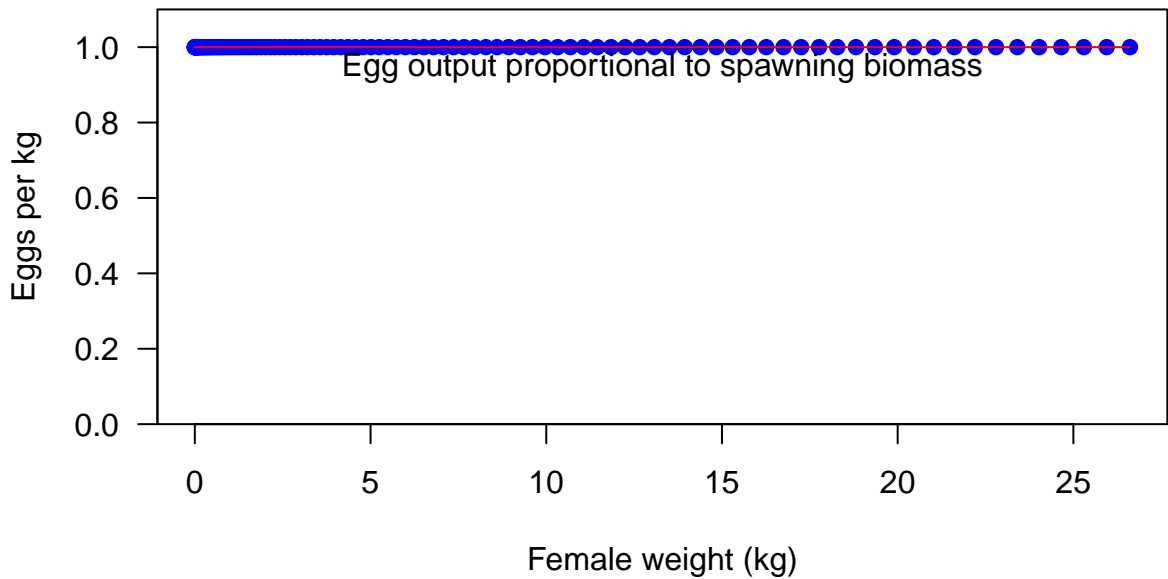


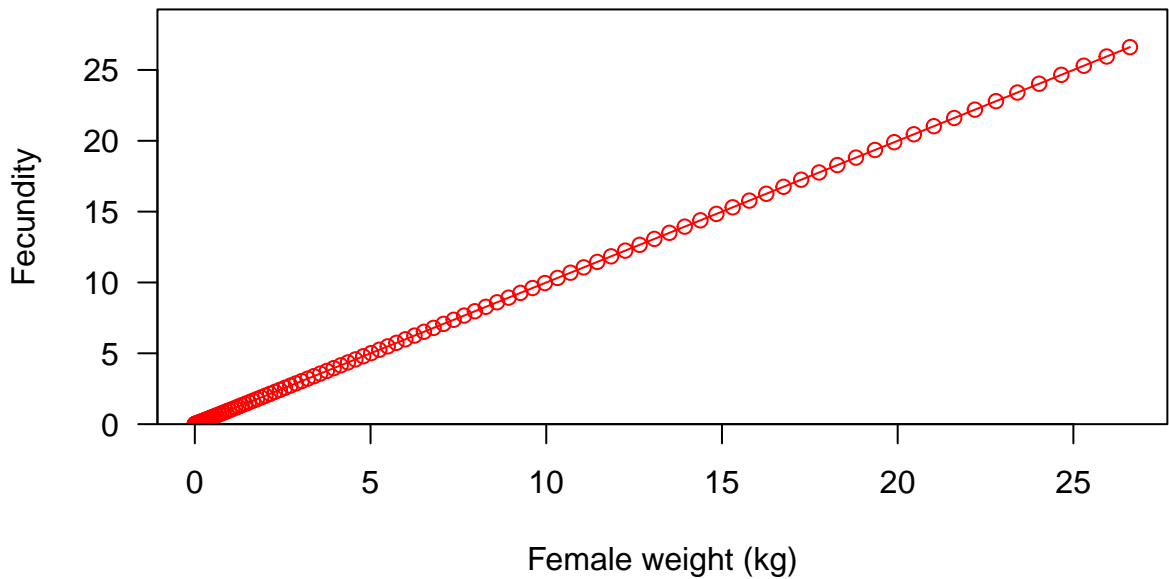




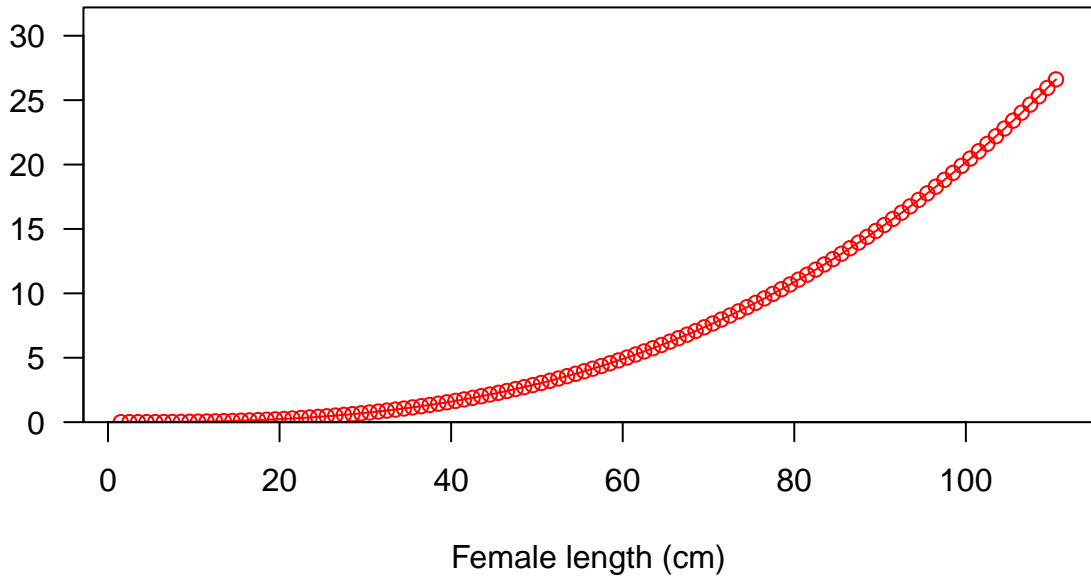








Fecundity



Spawning output

25  
20  
15  
10  
5  
0

0

20

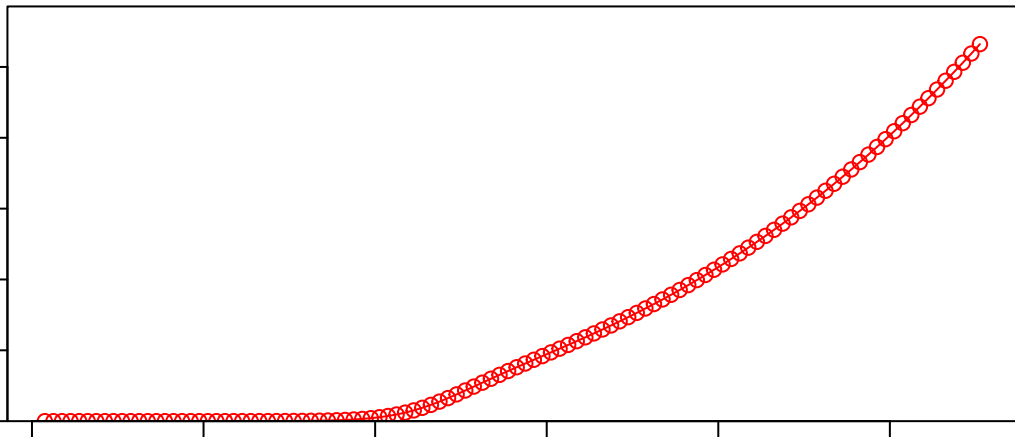
40

60

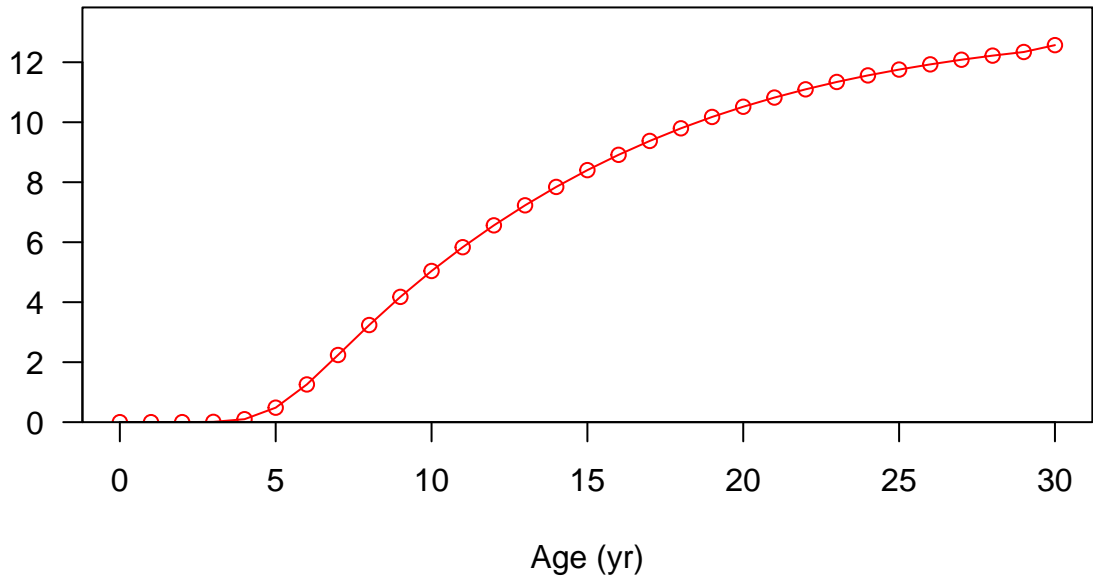
80

100

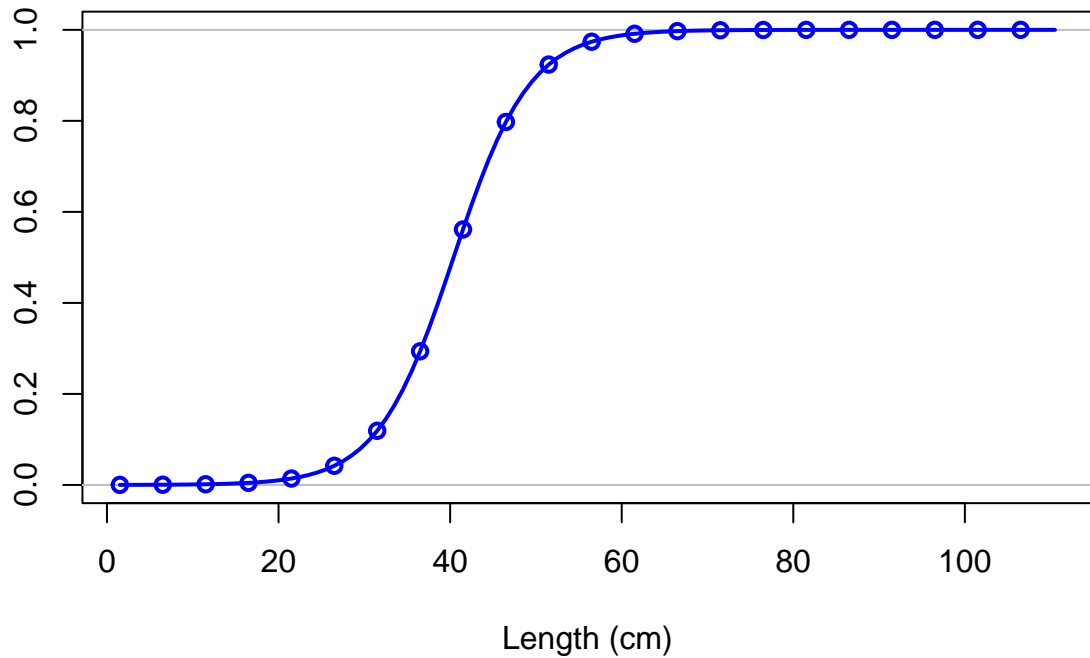
Length (cm)



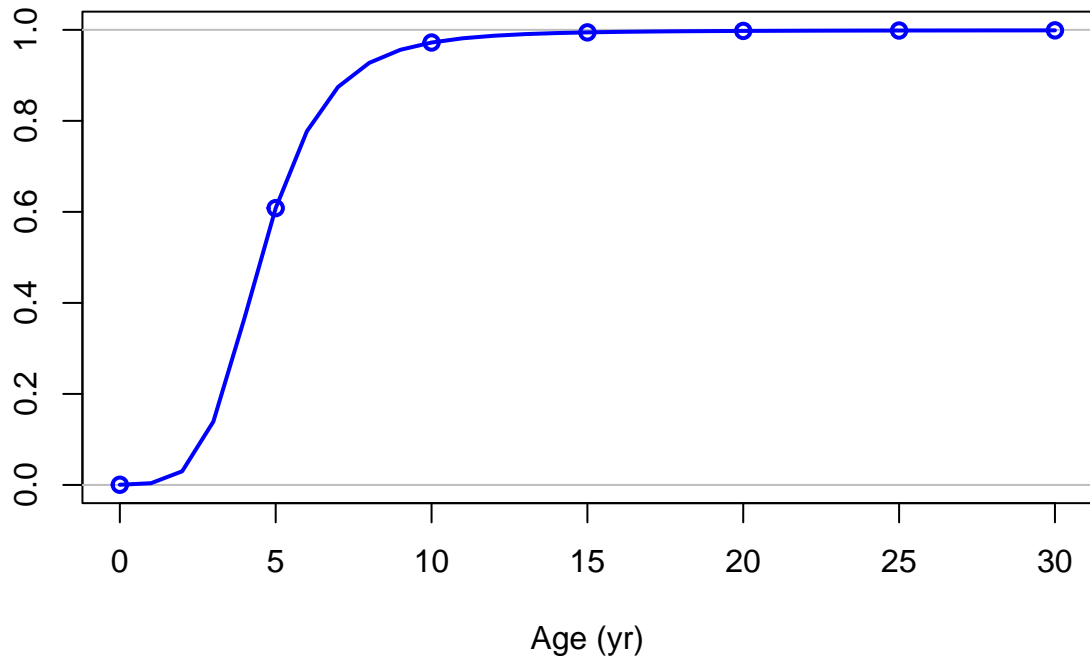
Spawning output



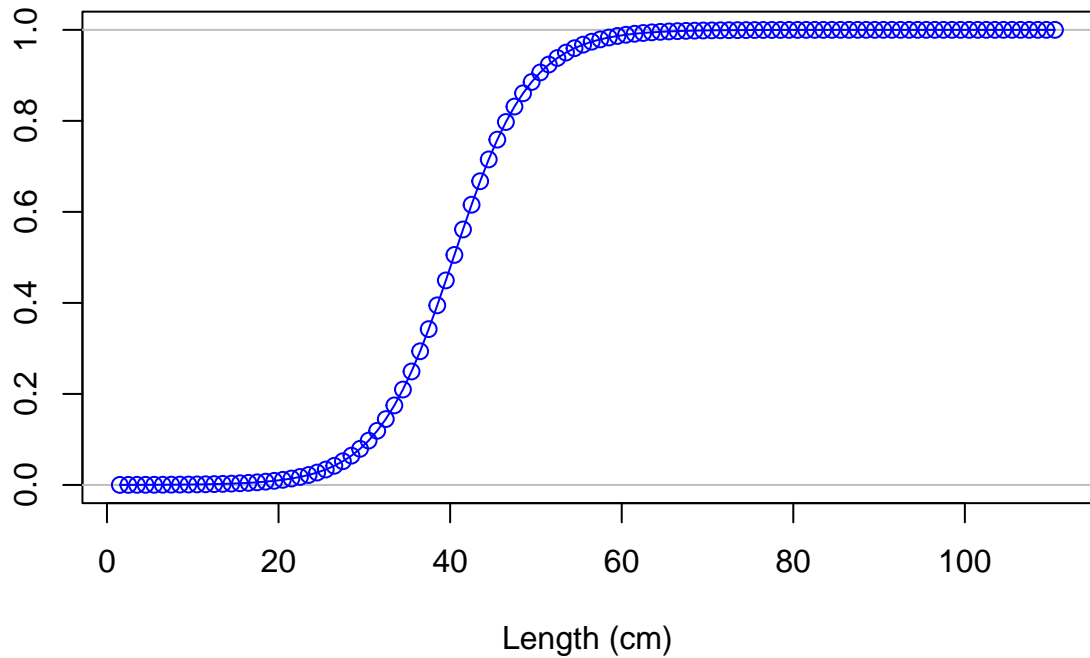
Selectivity



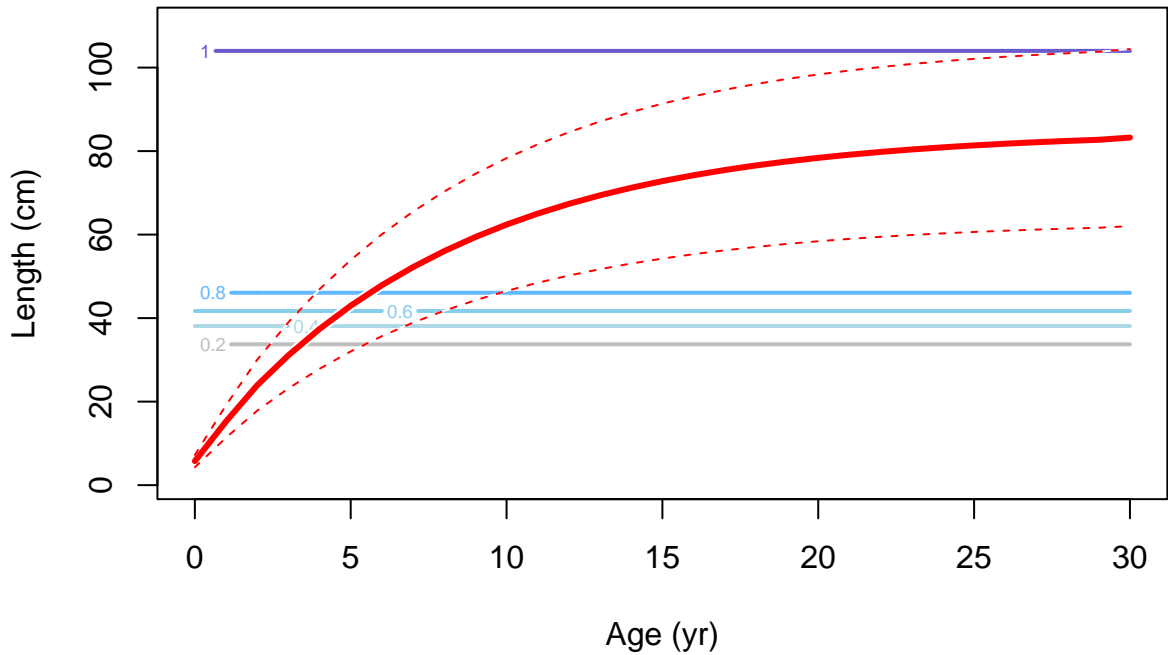
Selectivity

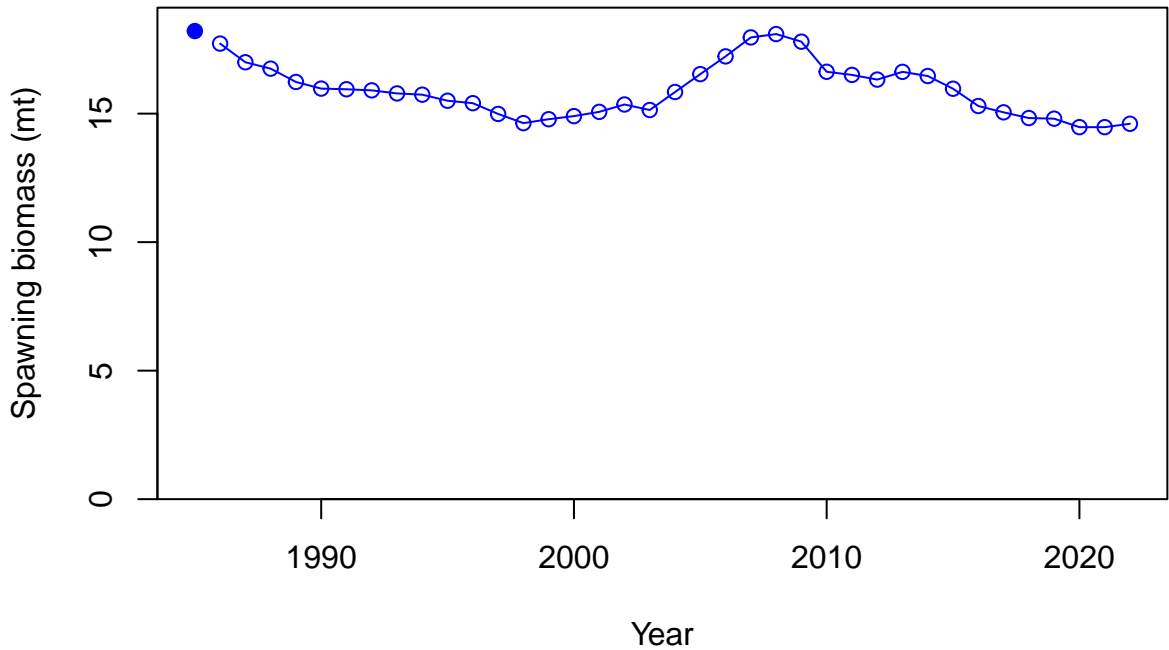


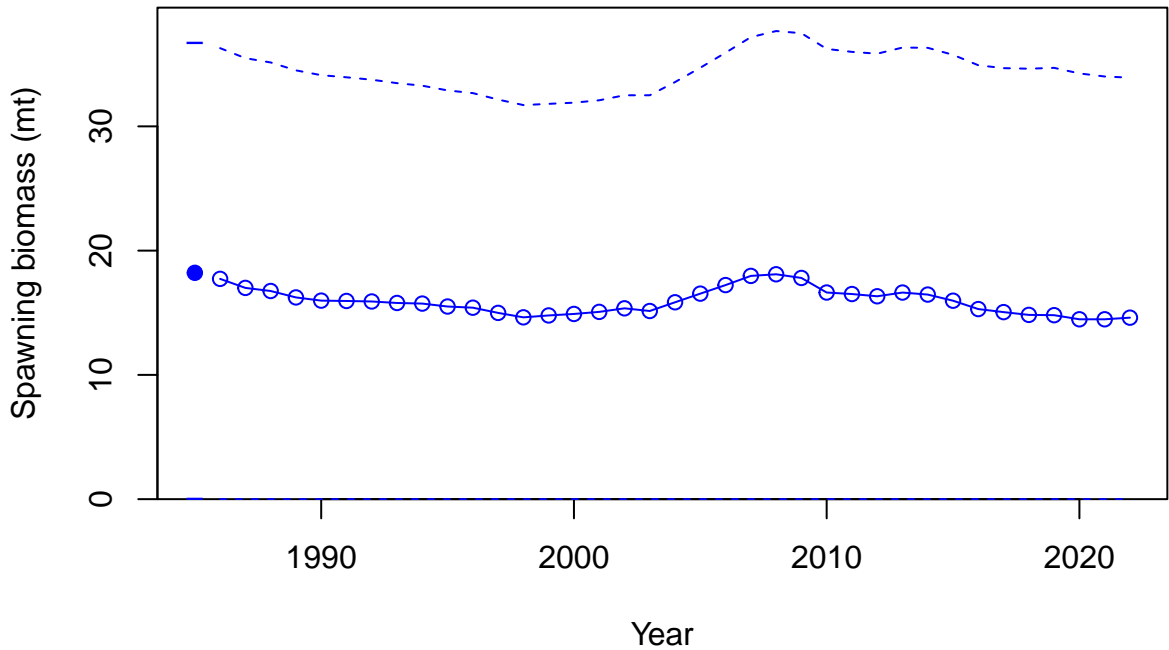
Selectivity



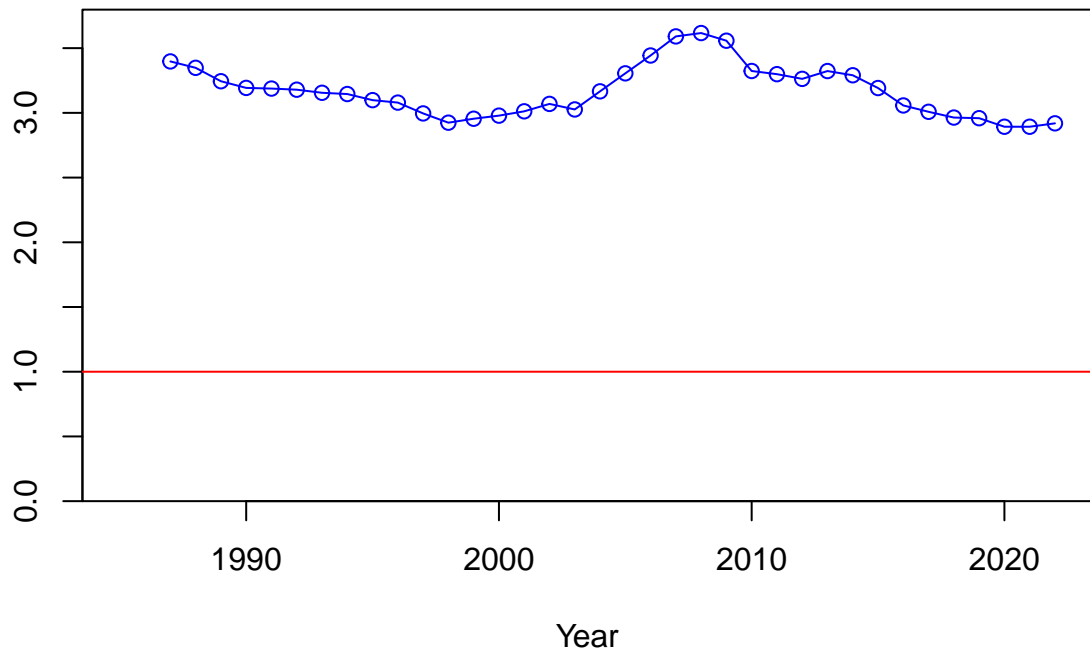




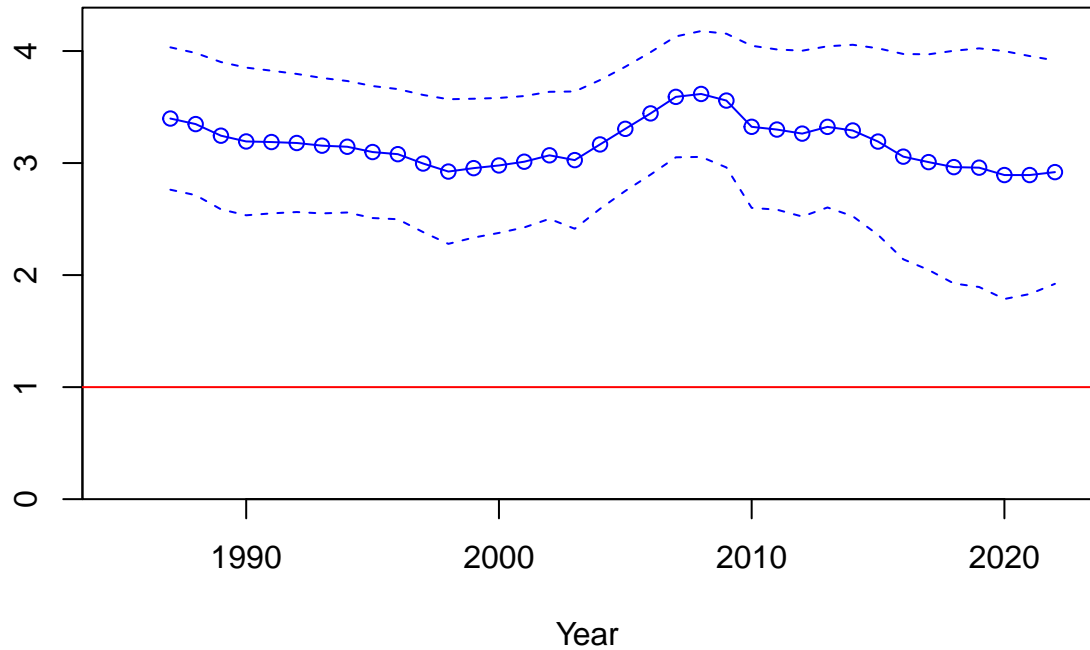


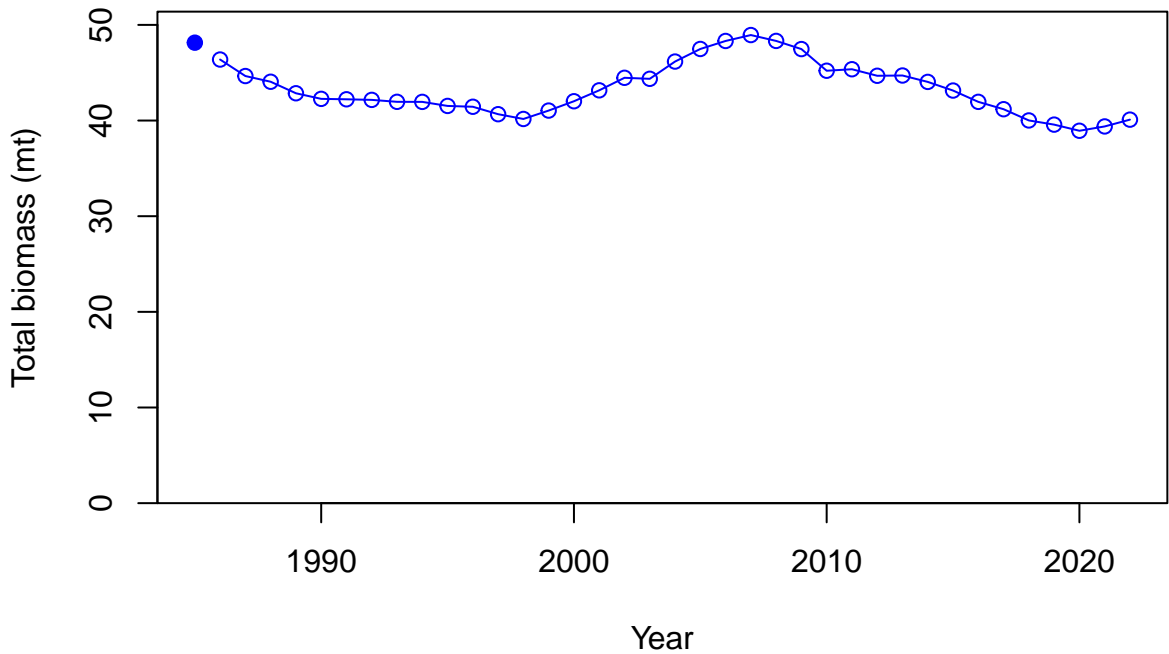


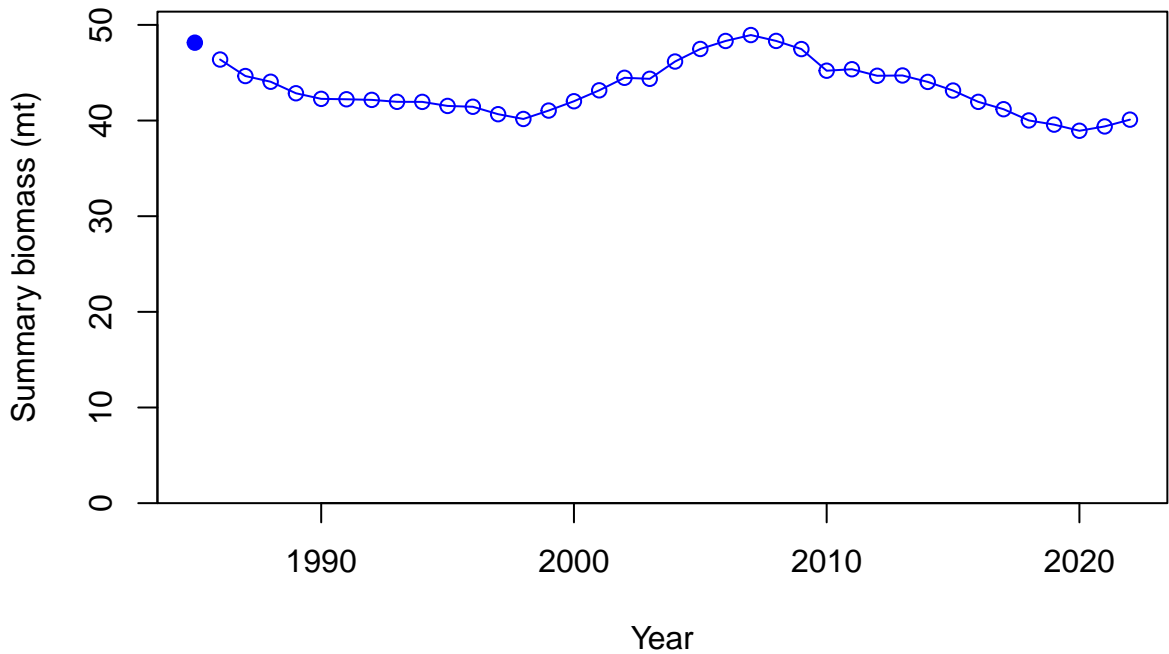
Relative spawning biomass:  $B/B_{MSY}$

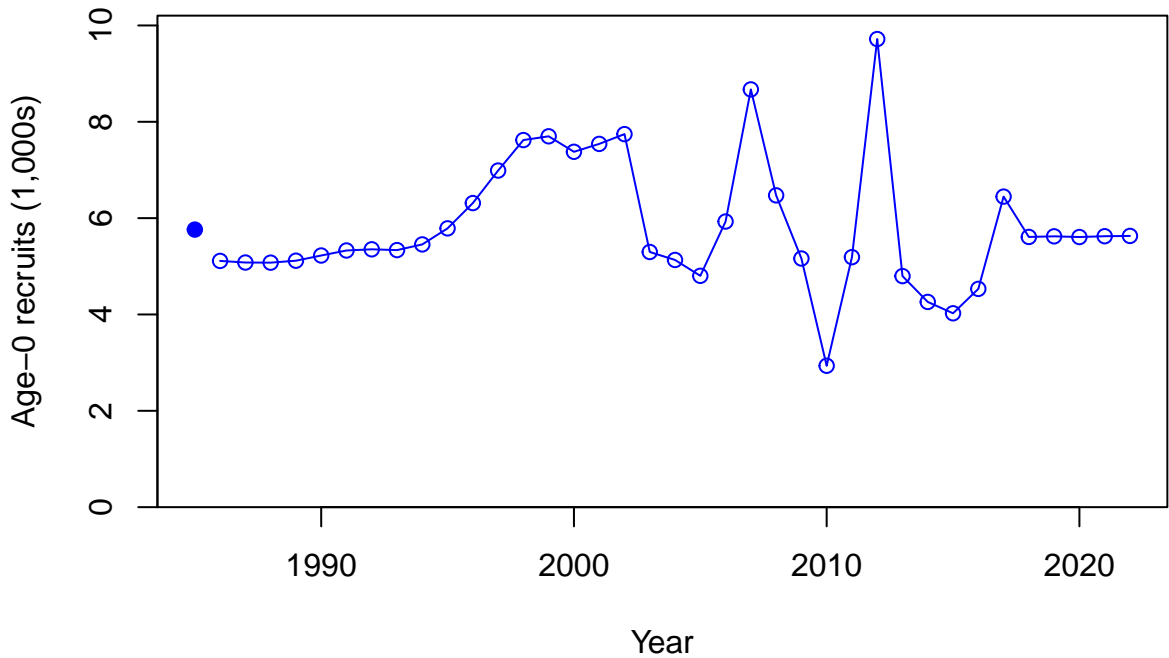


Relative spawning biomass:  $B/B_{MSY}$



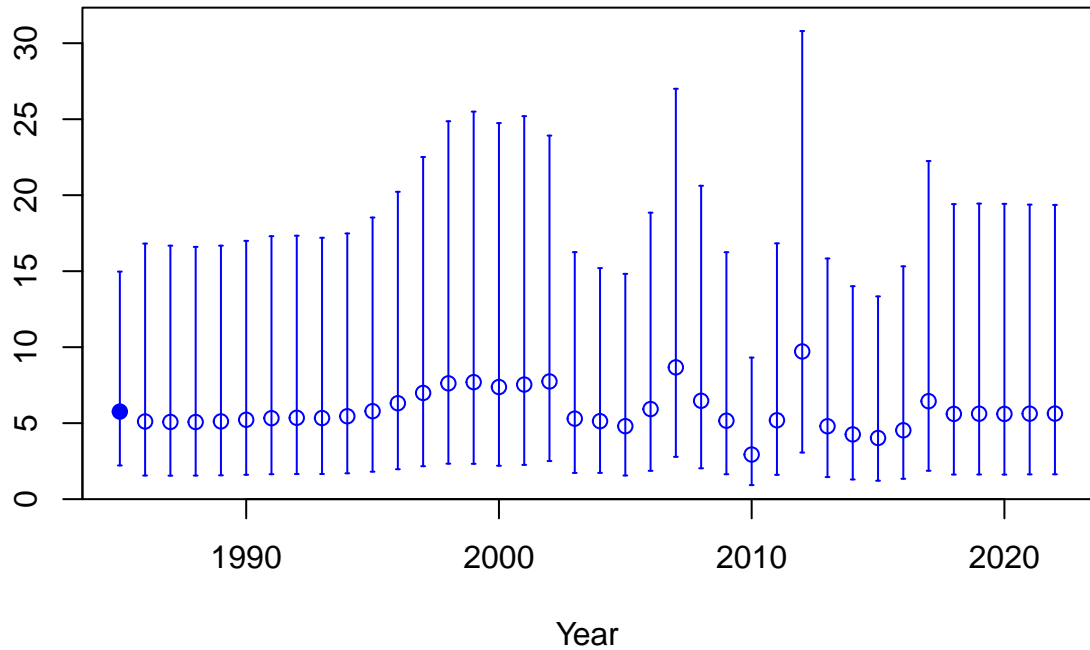




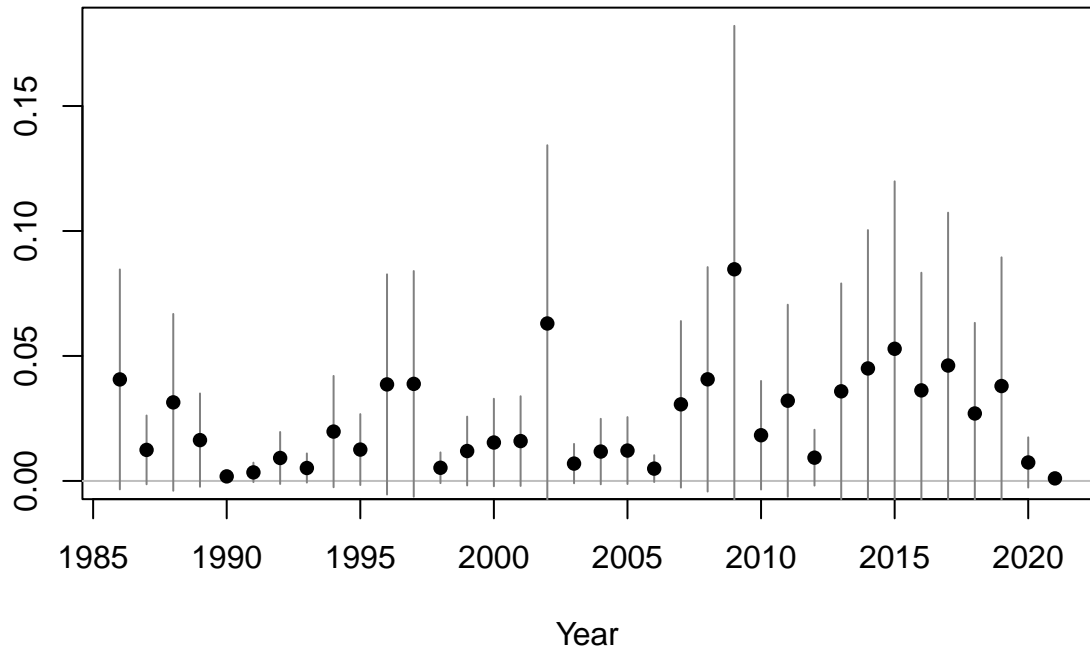


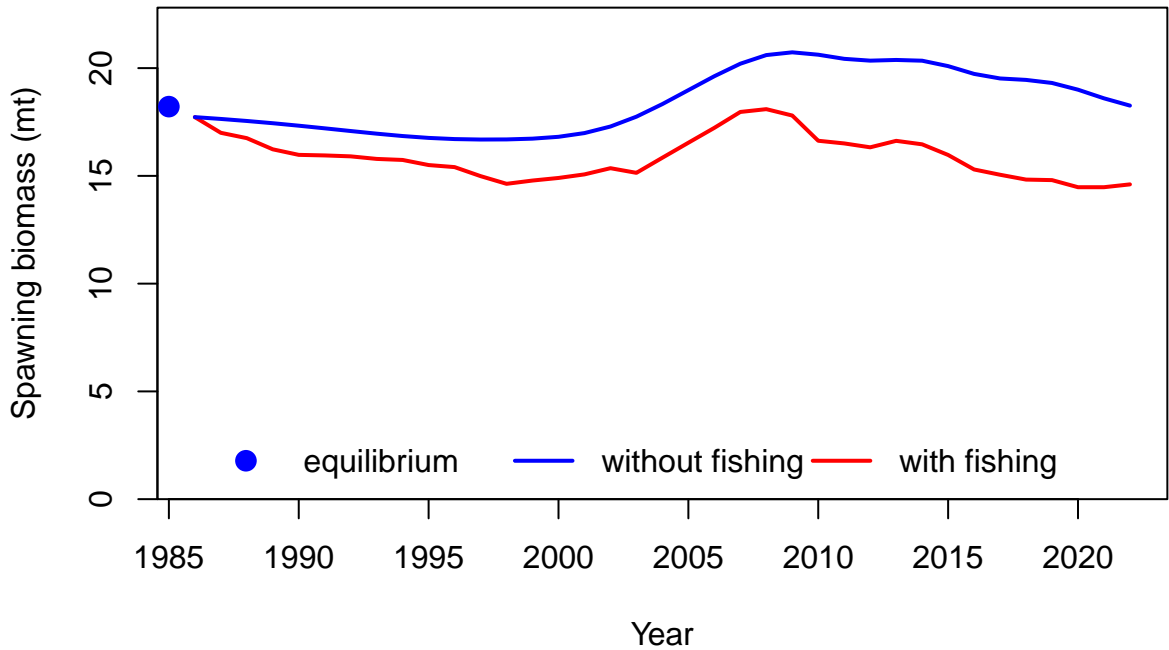


Age-0 recruits (1,000s)

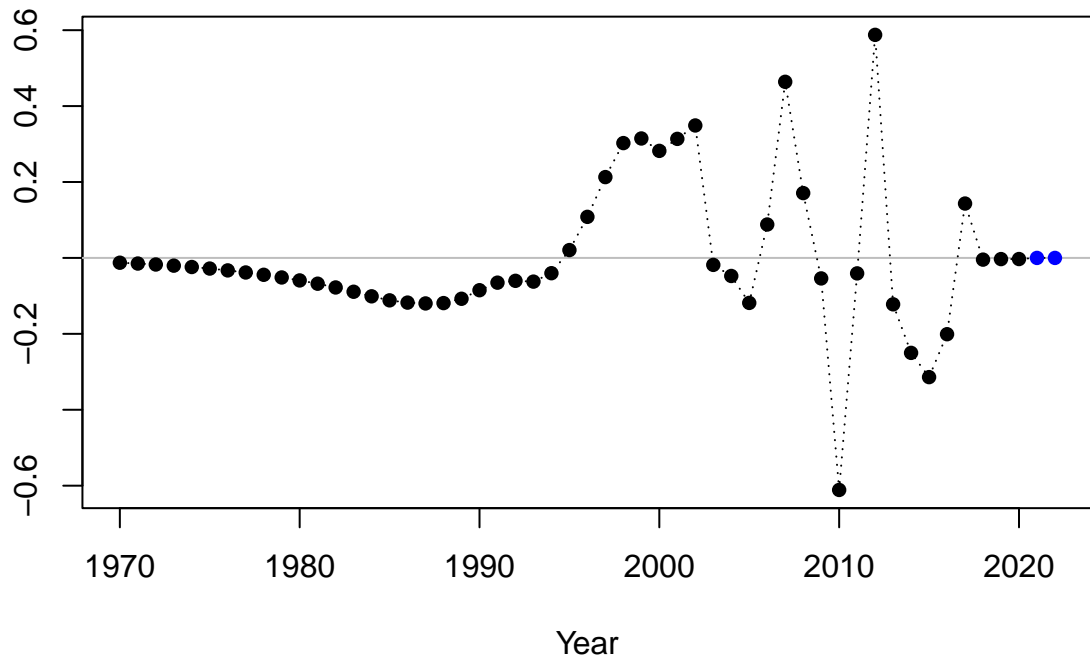


Summary Fishing Mortality





Log recruitment deviation



Log recruitment deviation

1.0  
0.5  
0.0  
-0.5  
-1.0

1970

1980

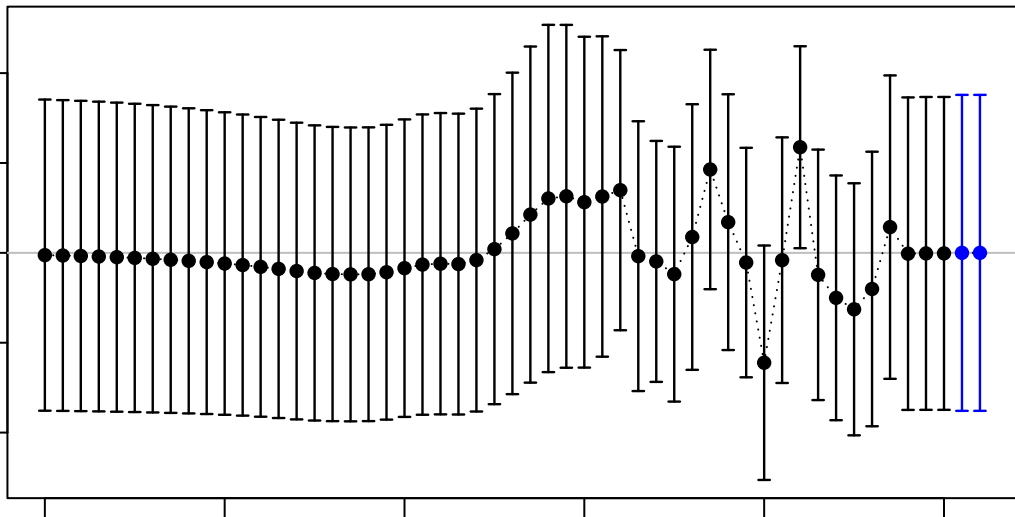
1990

2000

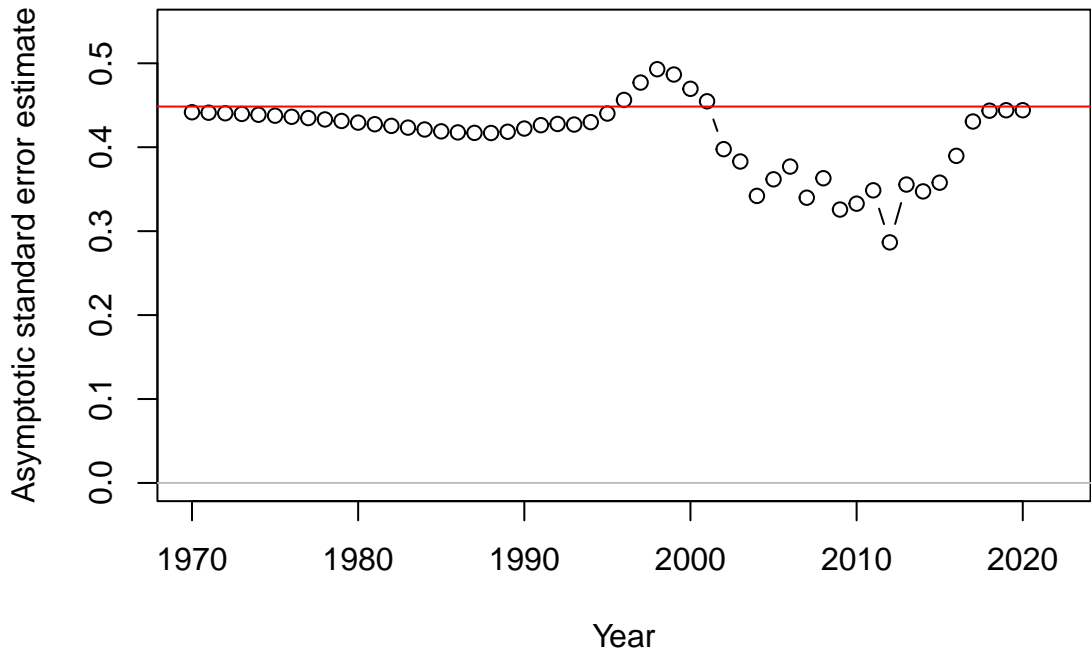
2010

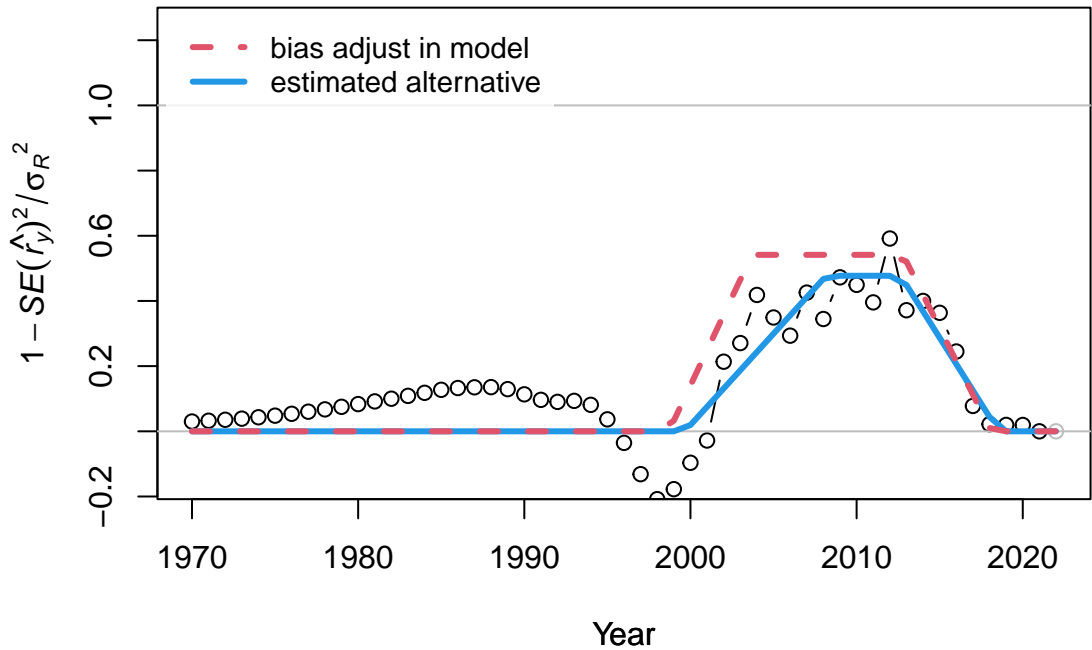
2020

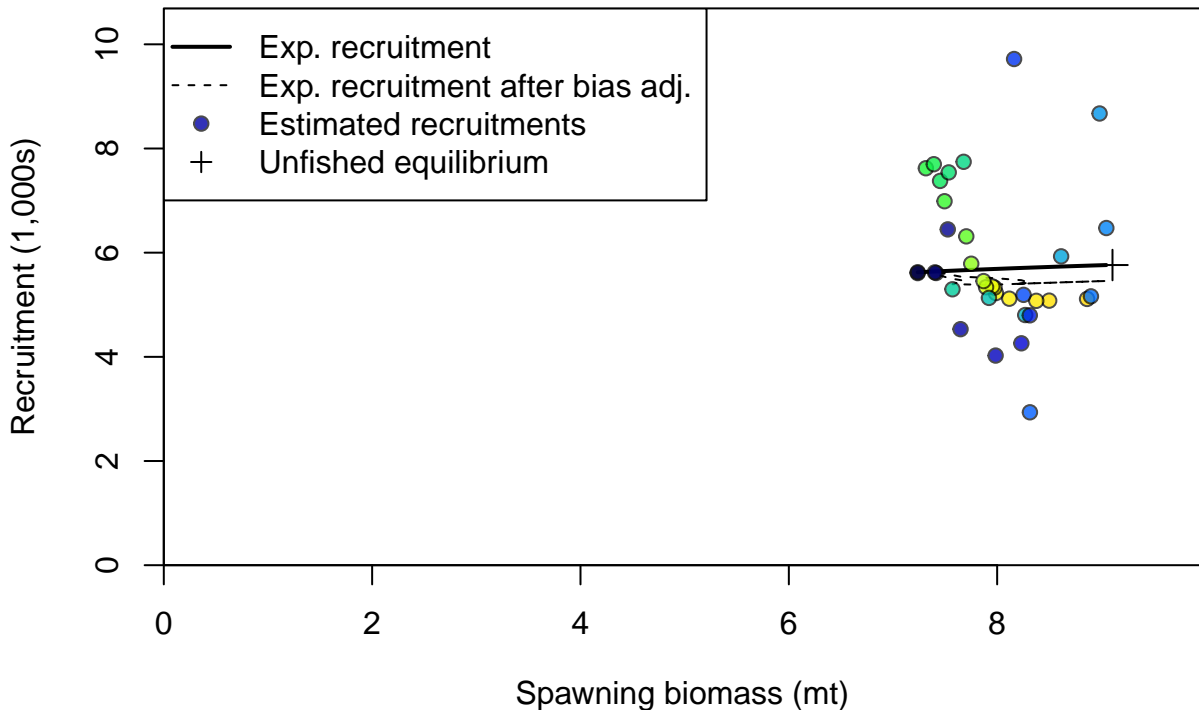
Year



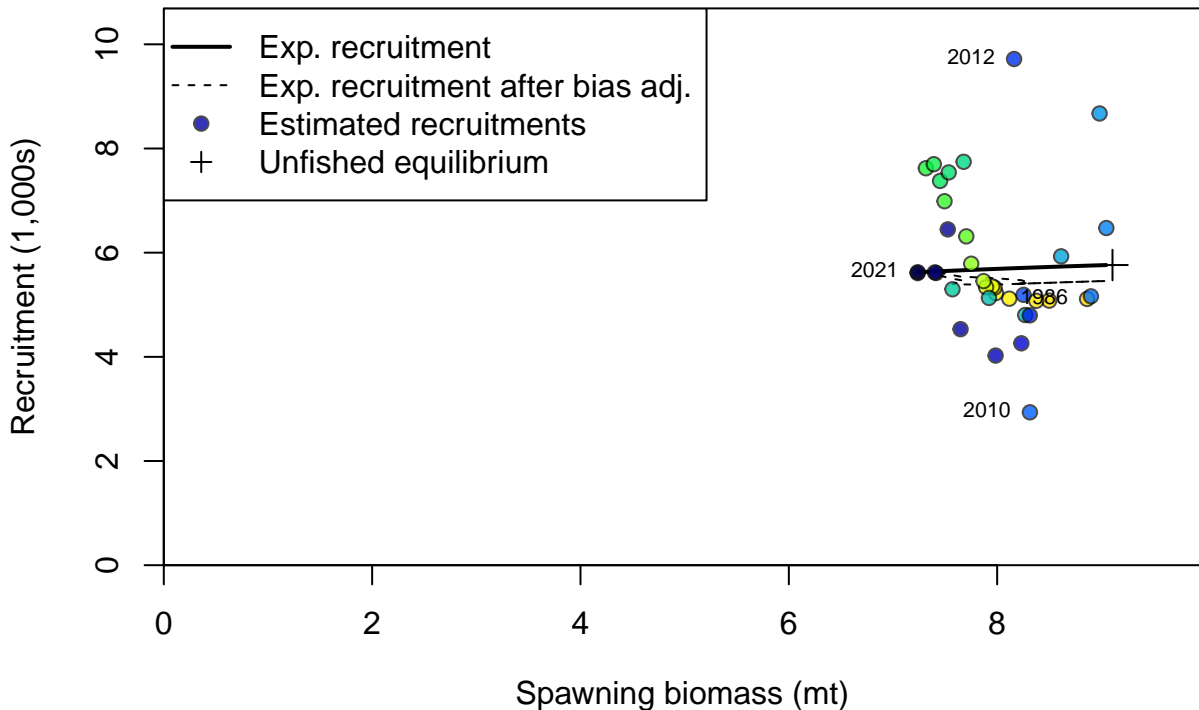
## Recruitment deviation variance

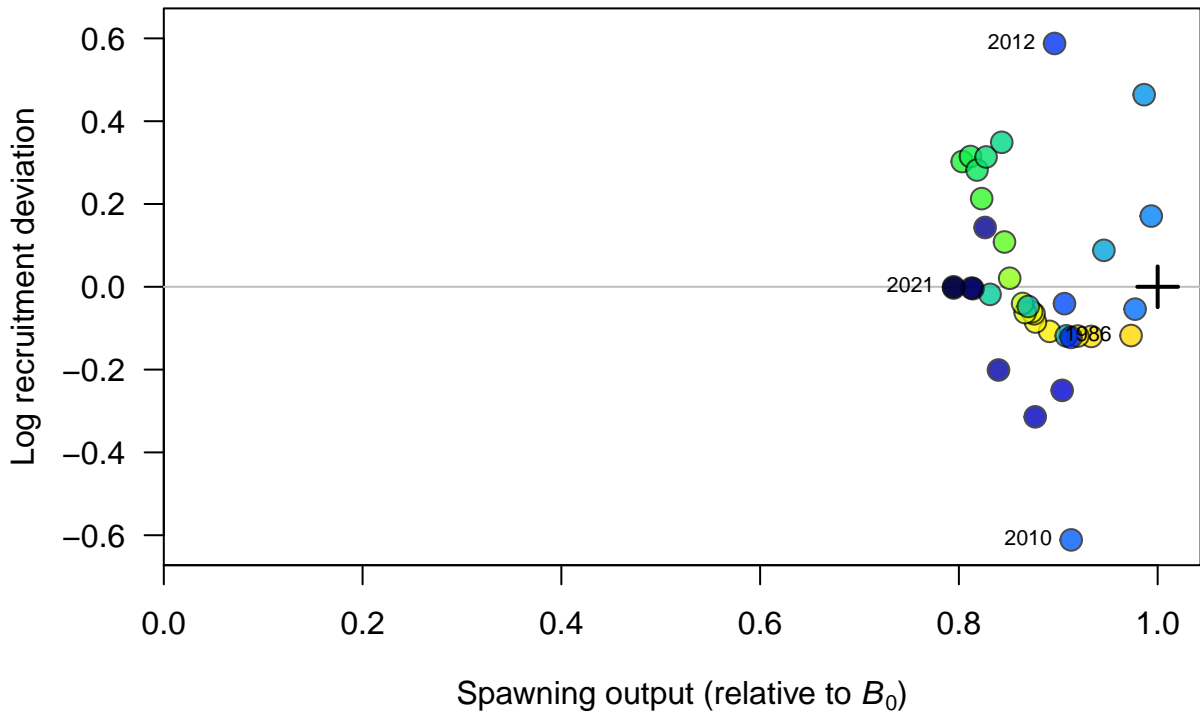


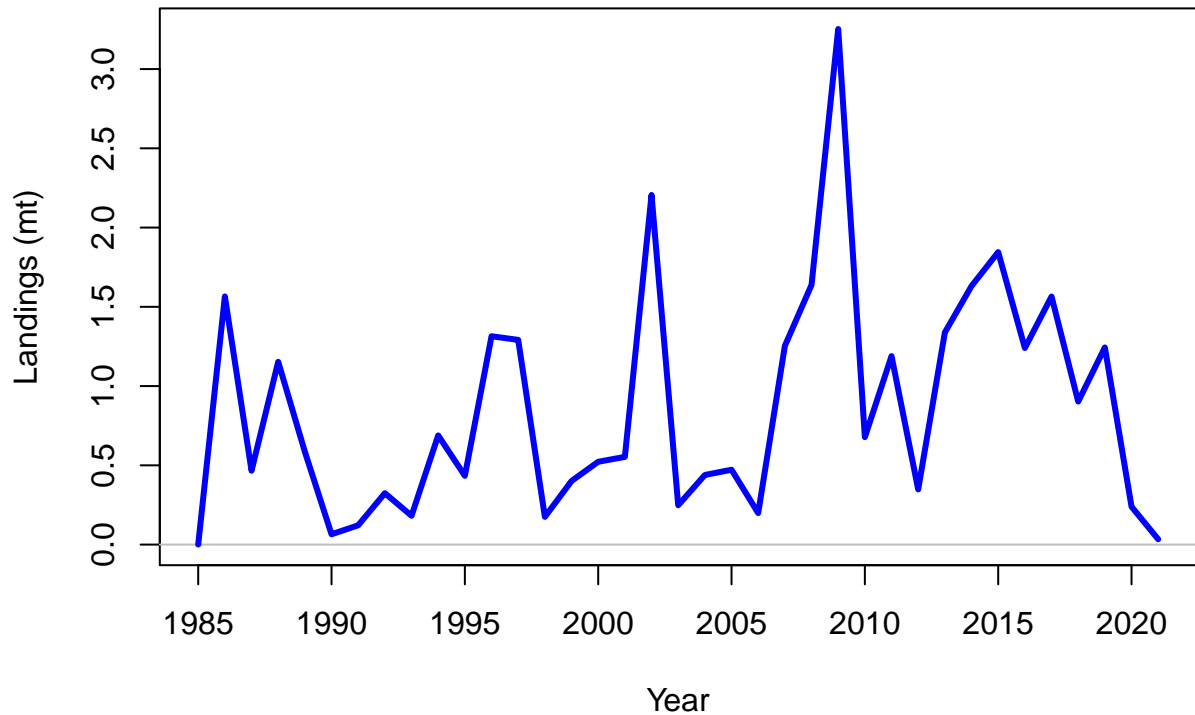


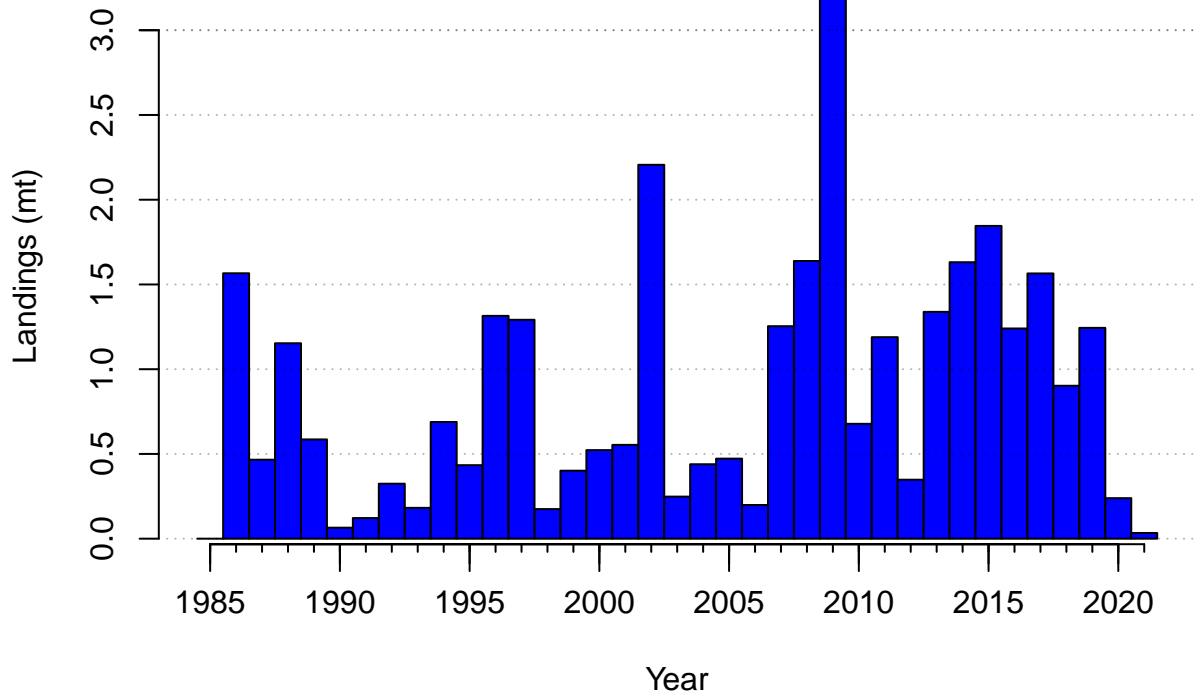


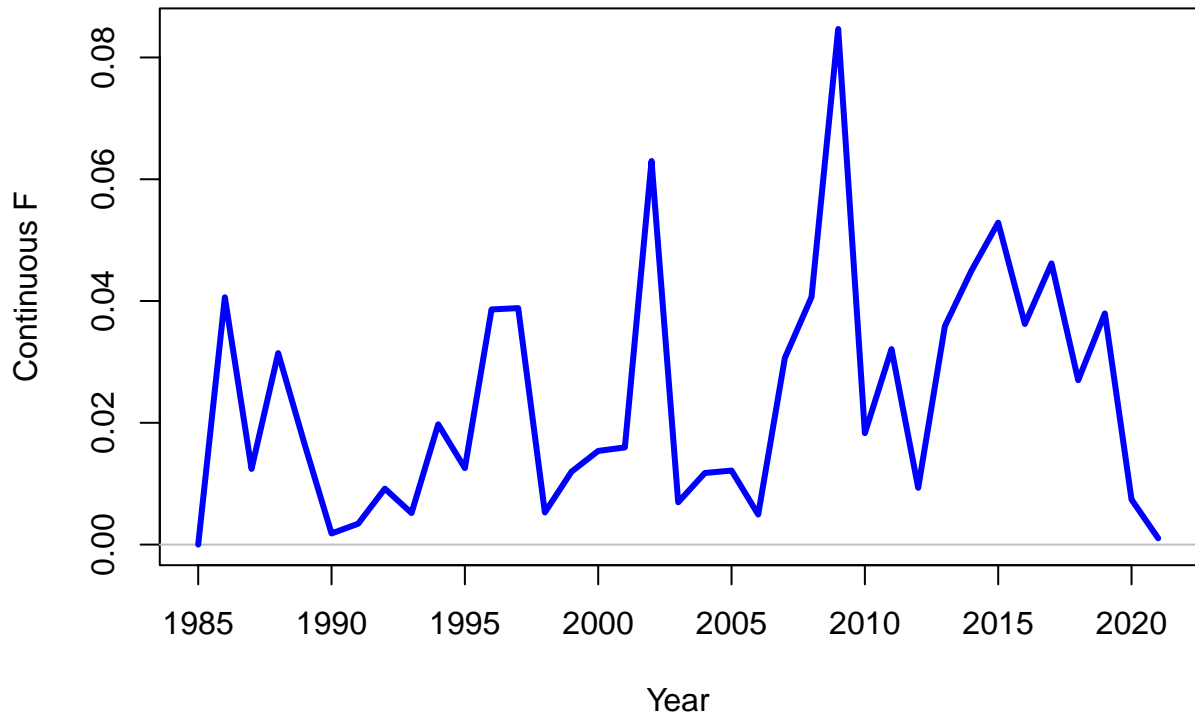




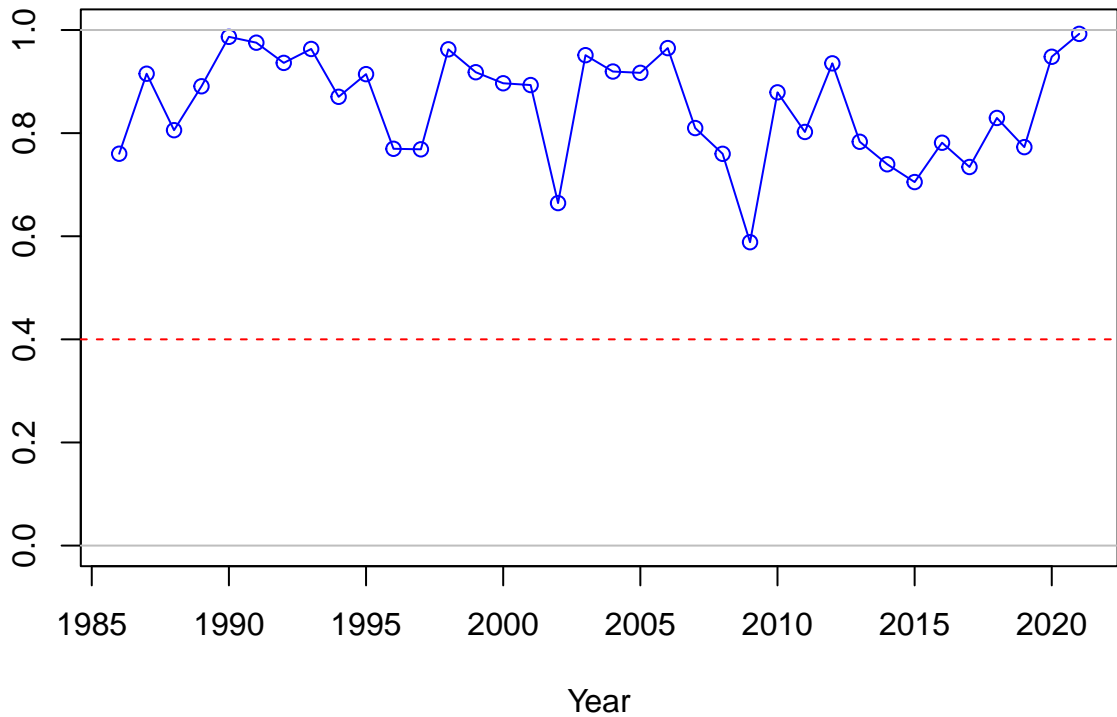




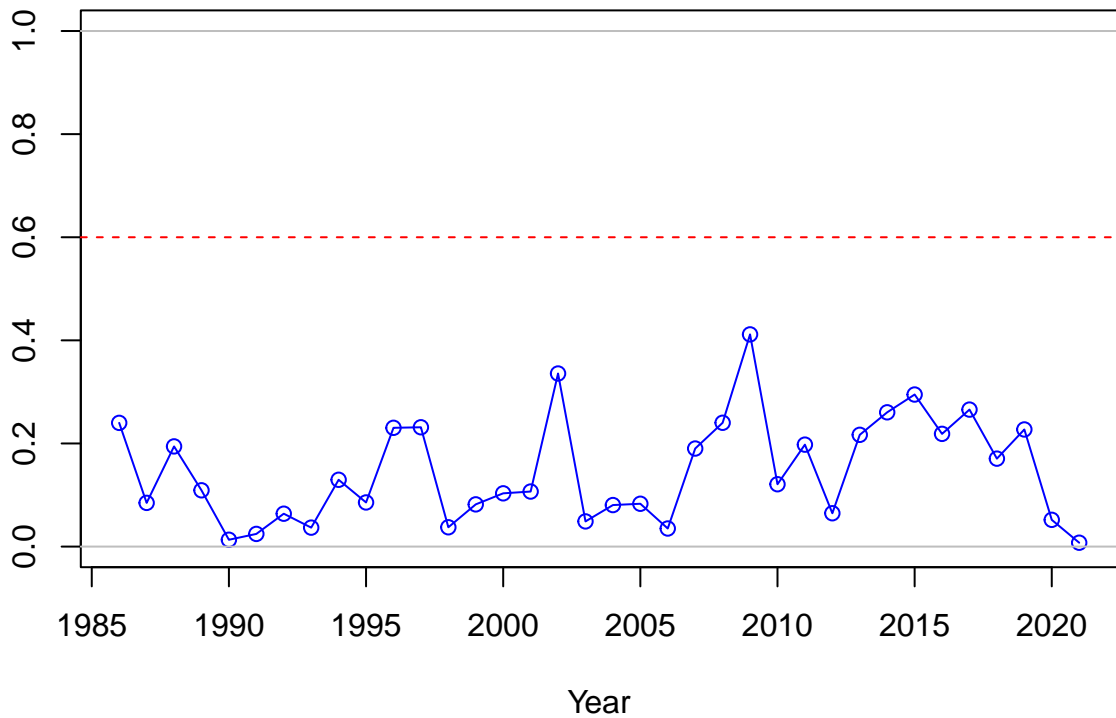




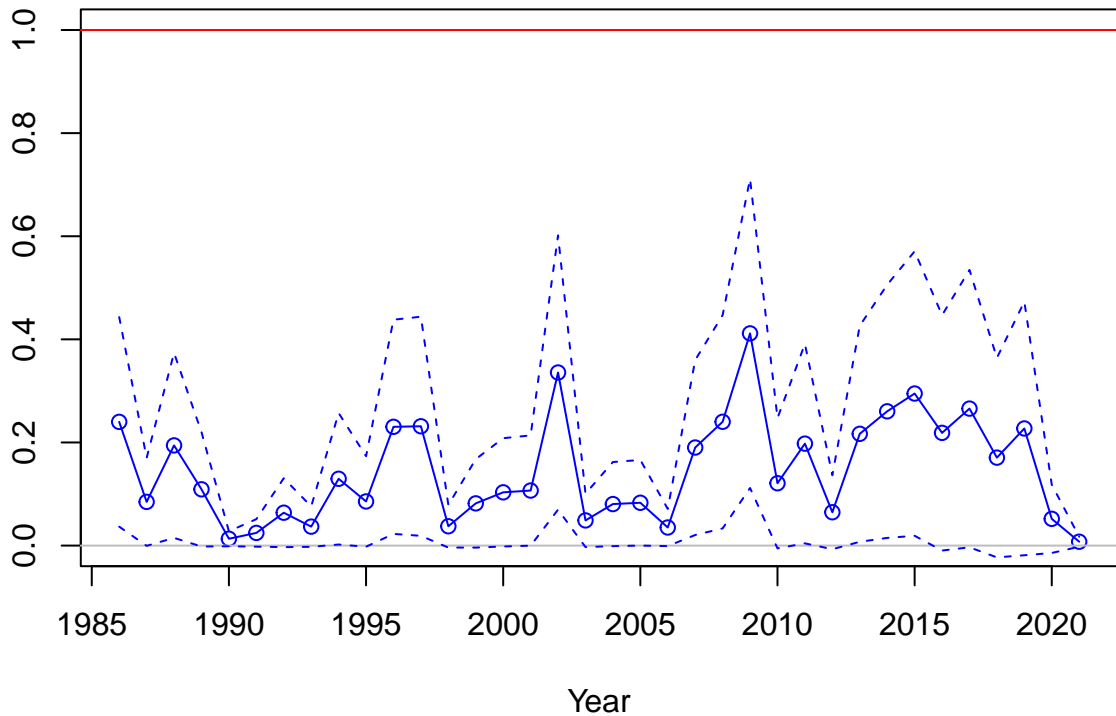
SPR



1-SPR

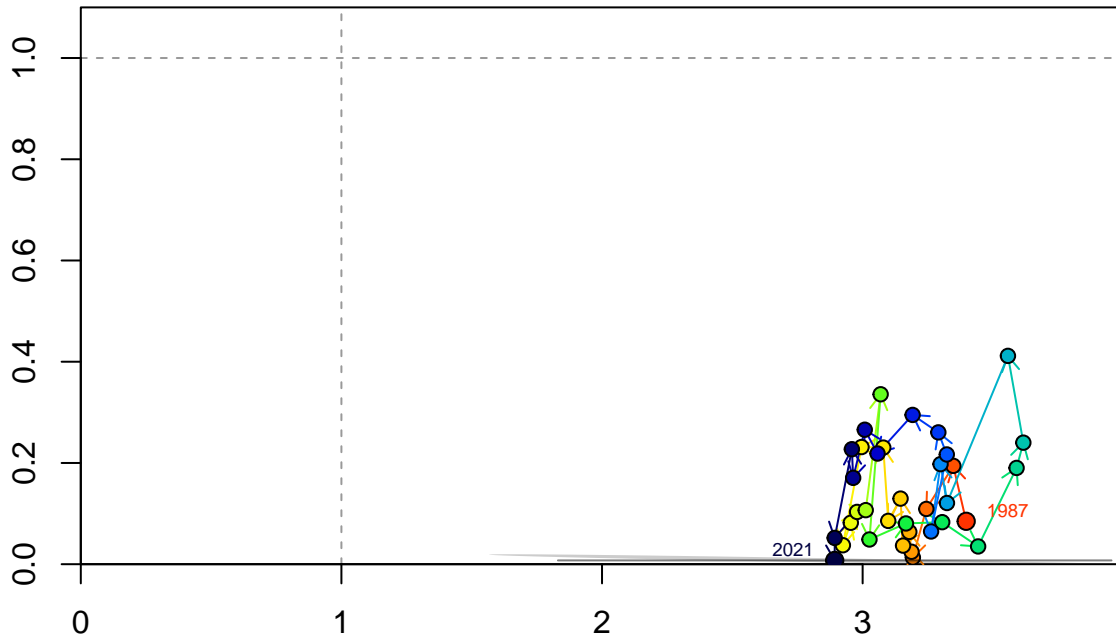


Fishing intensity: 1-SPR



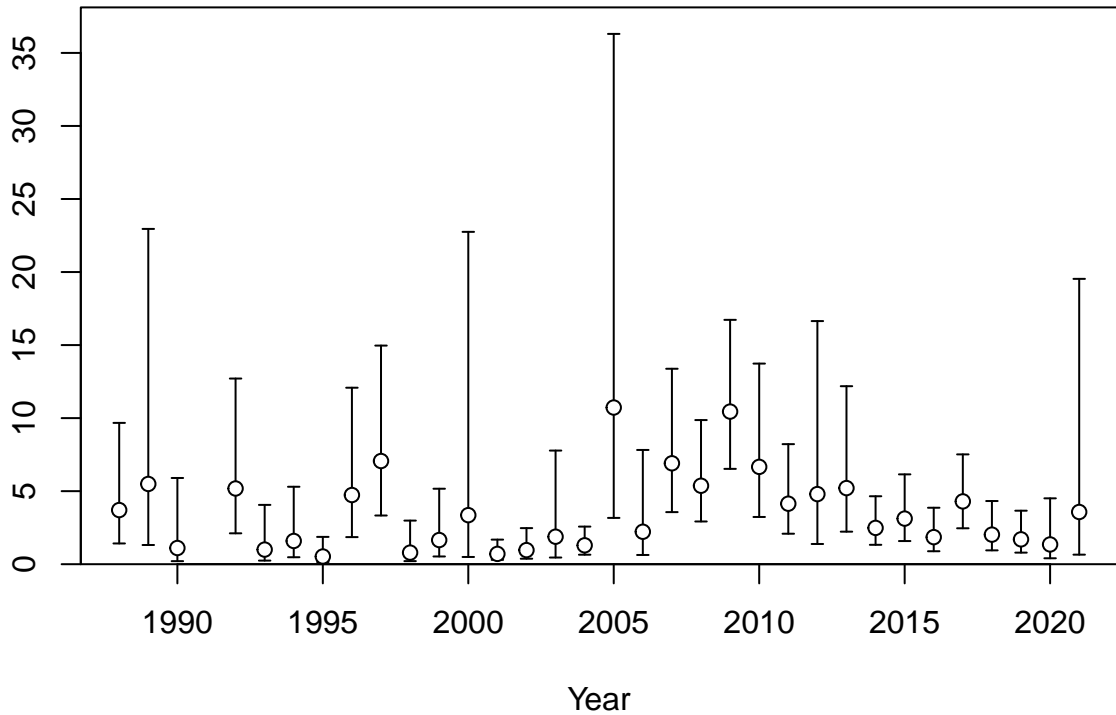


Fishing intensity: 1-SPR

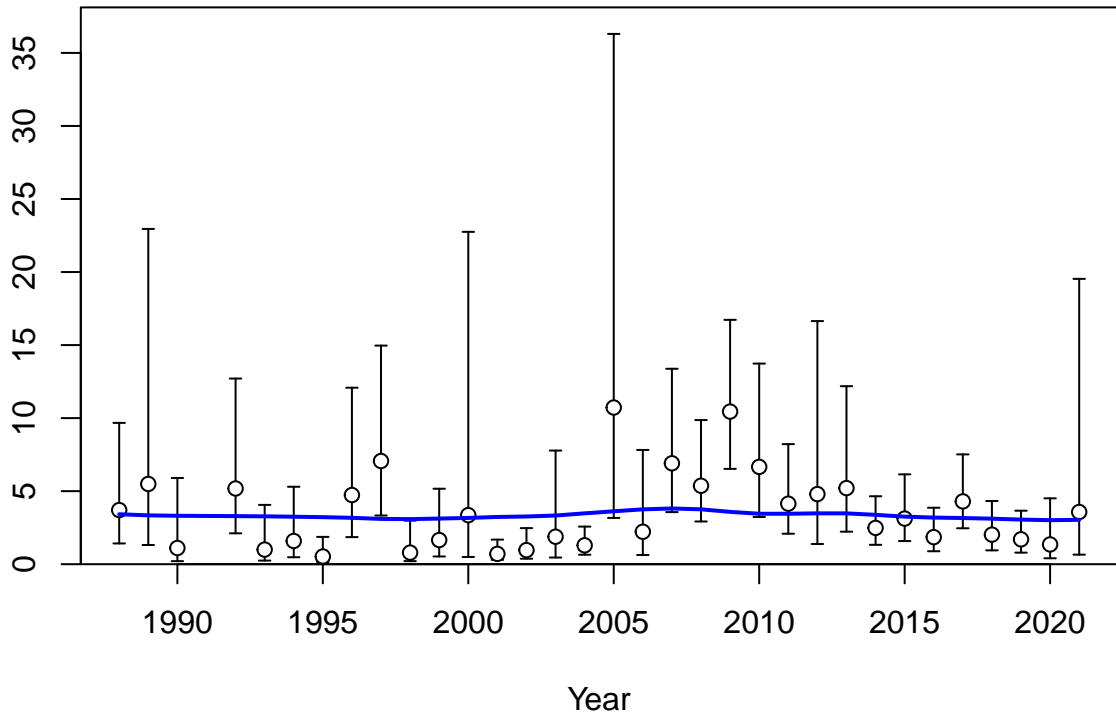


Relative spawning output:  $B/B_{MSY}$

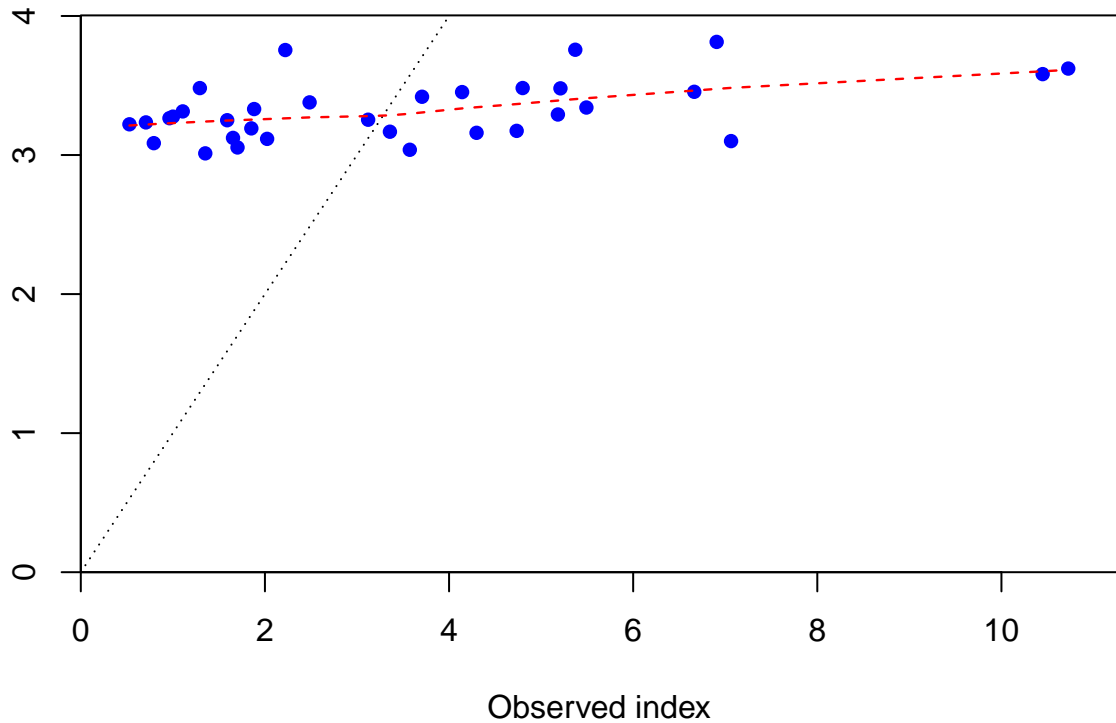
Index

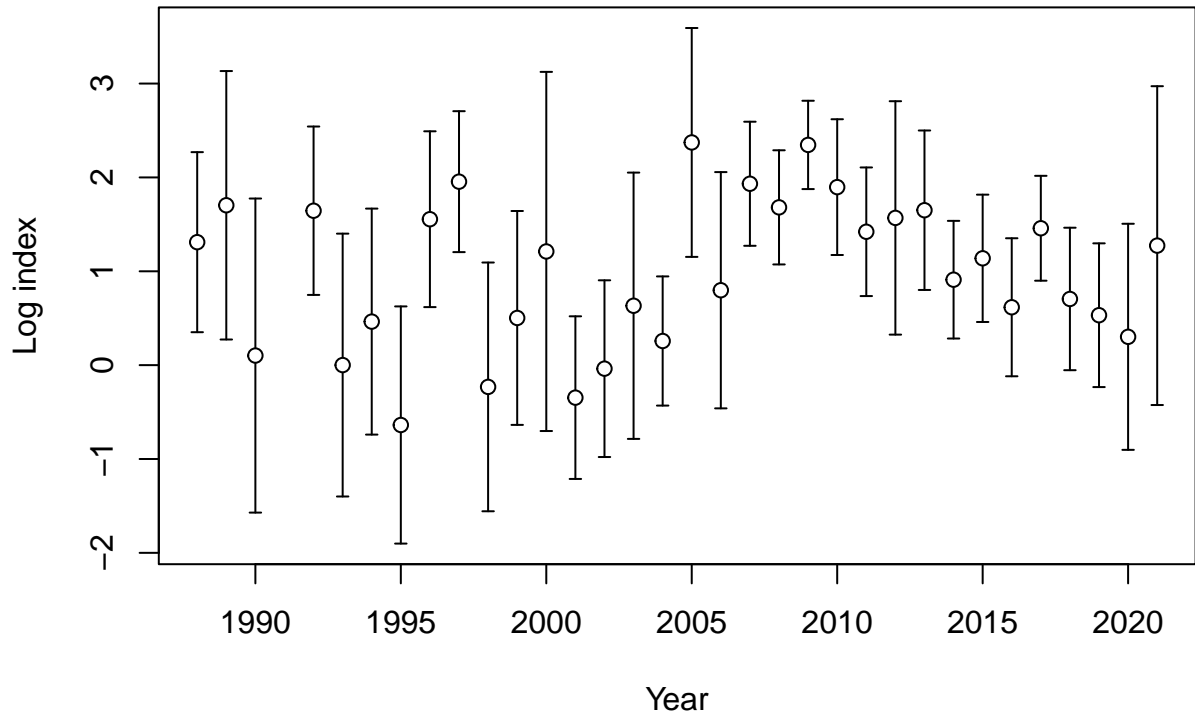


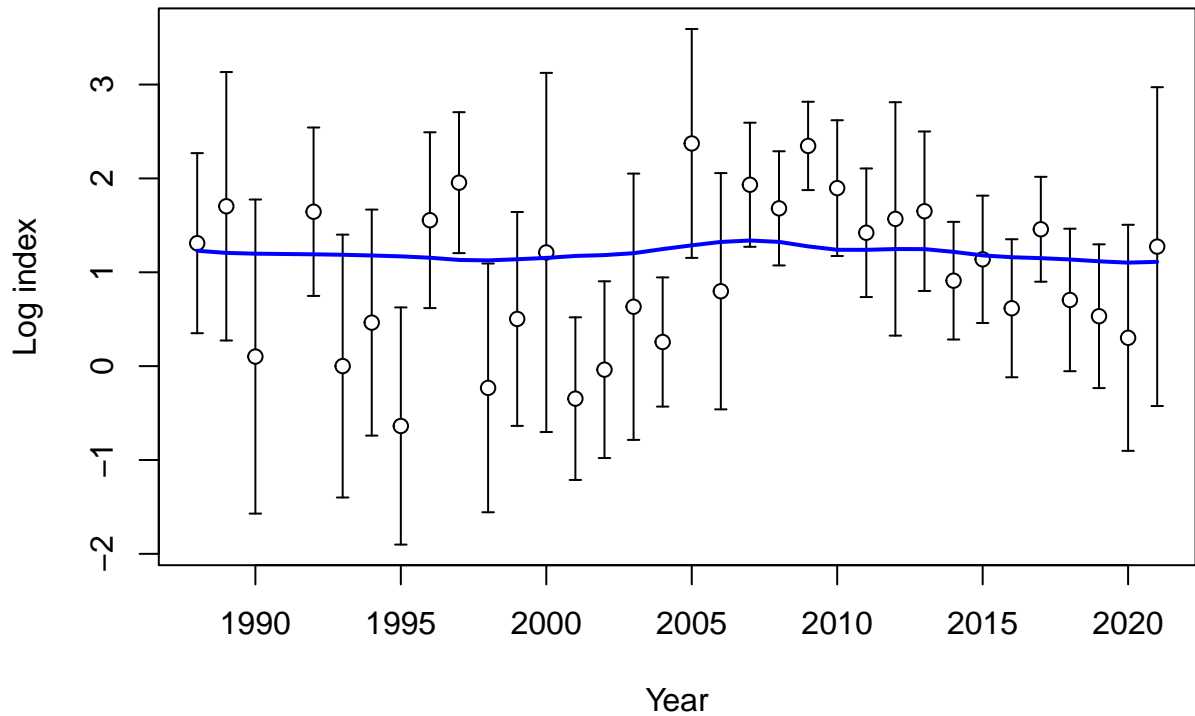
Index

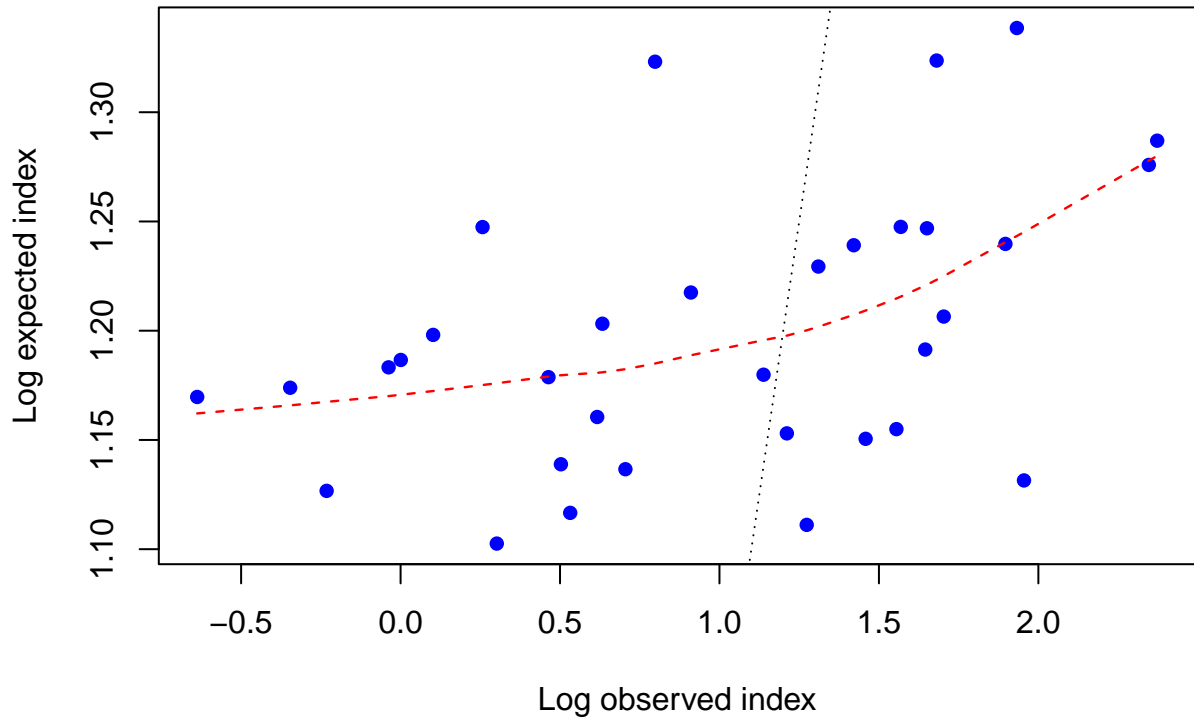


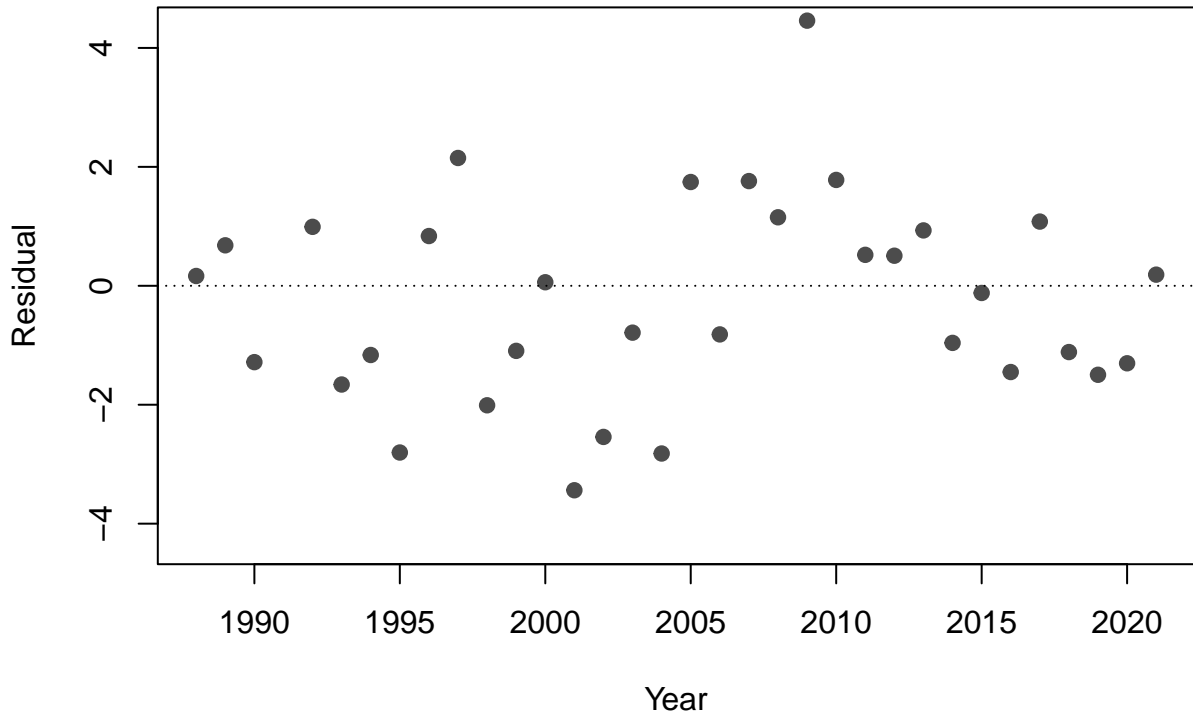
Expected index



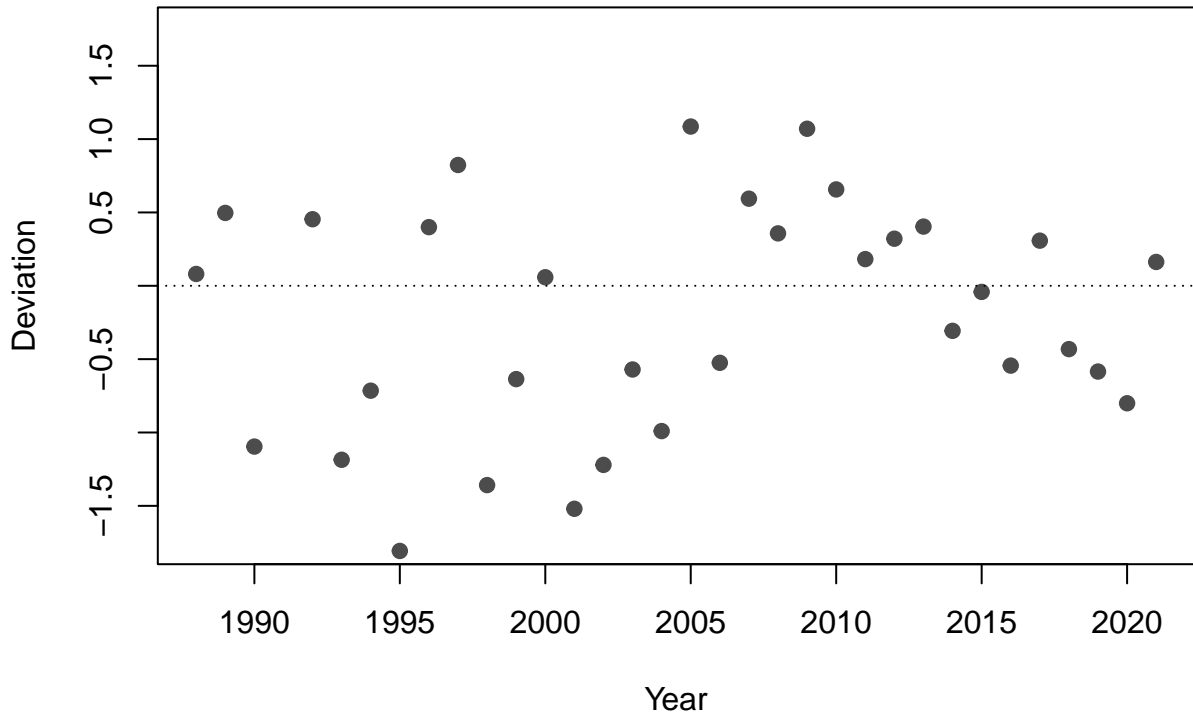


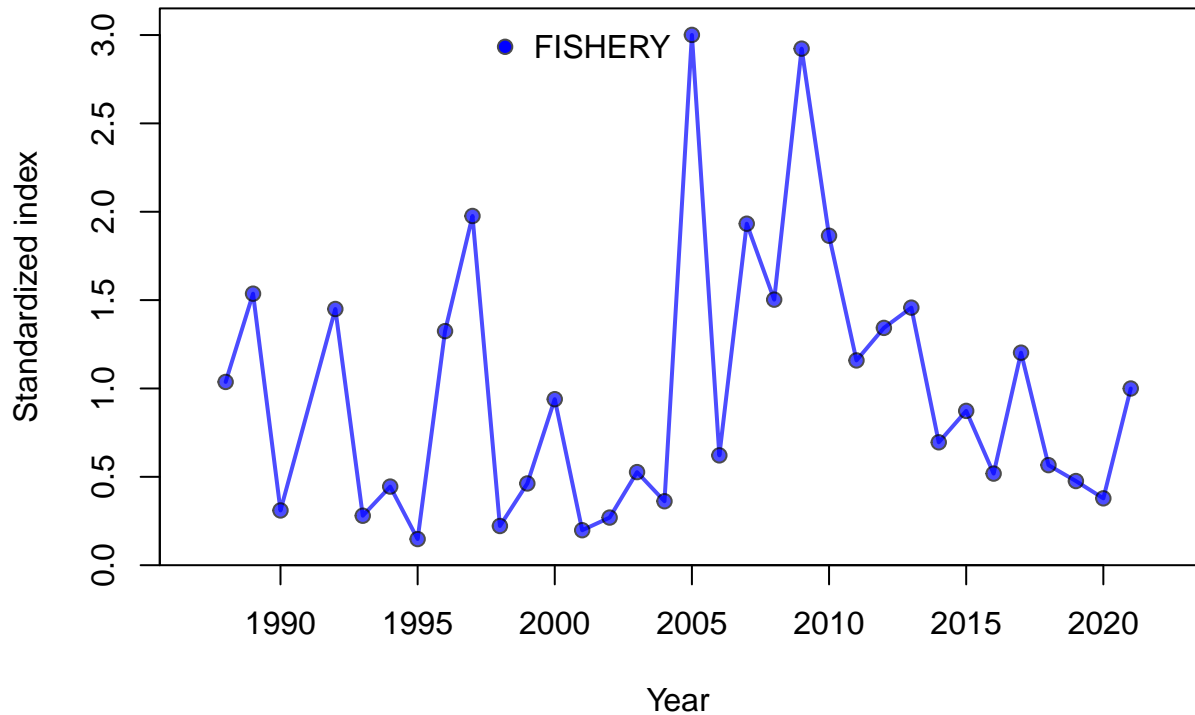


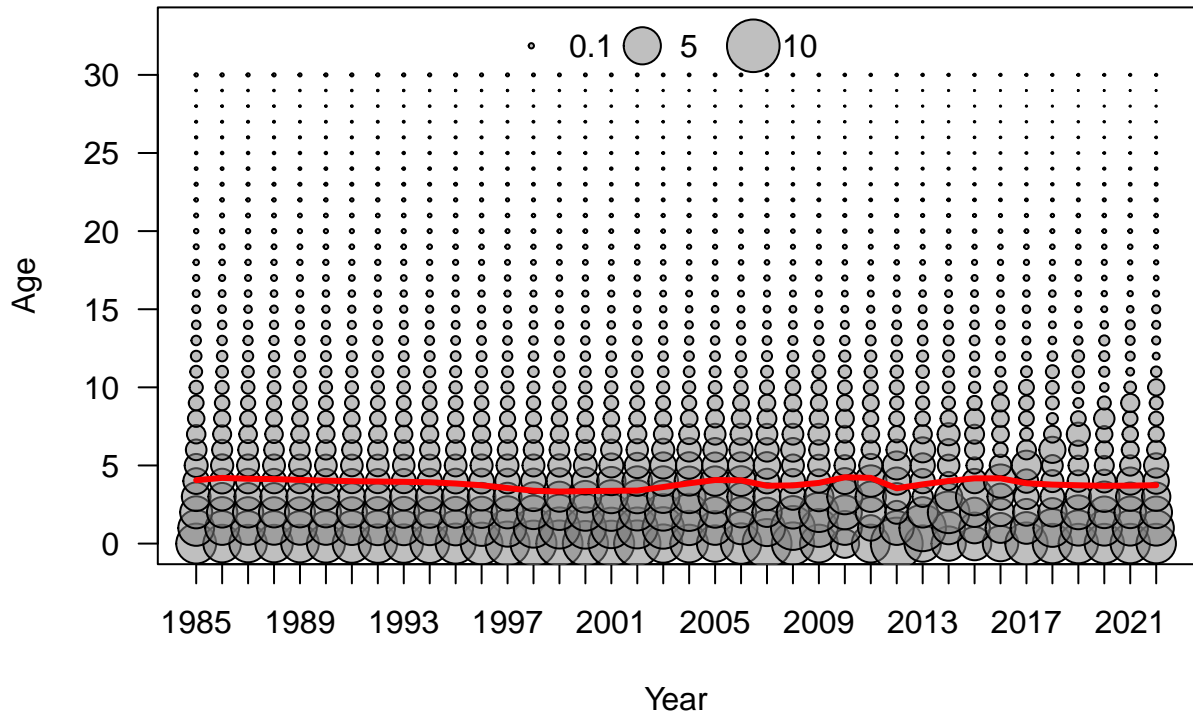


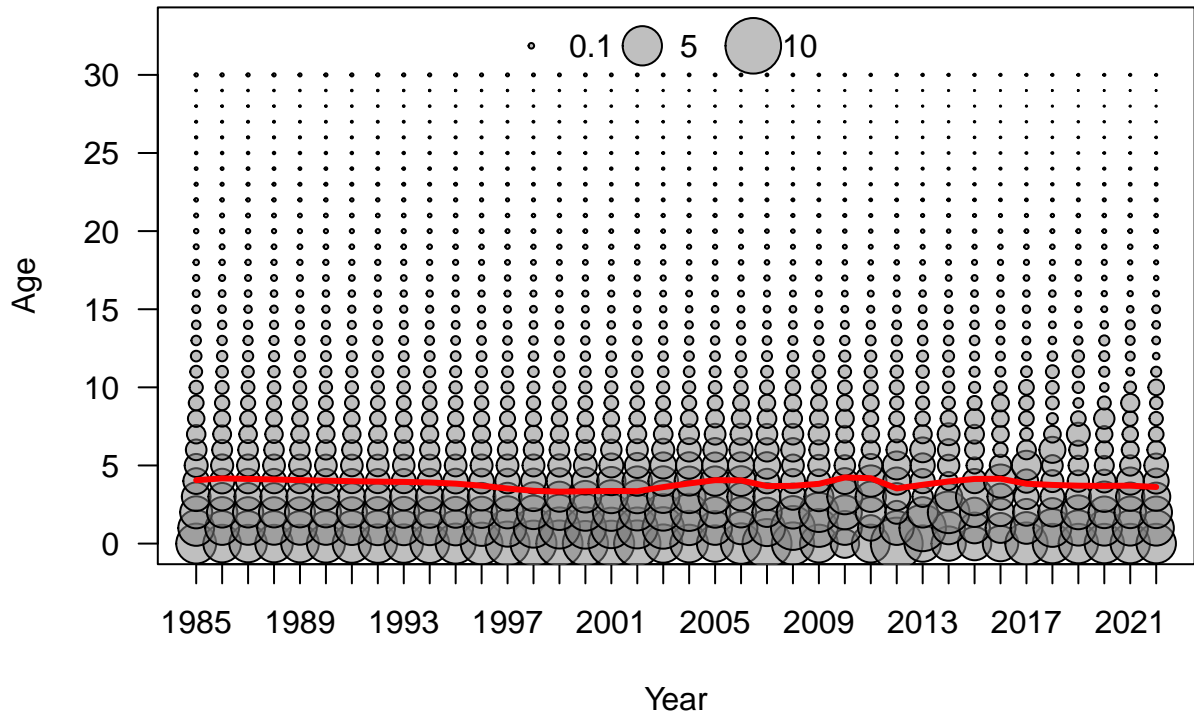




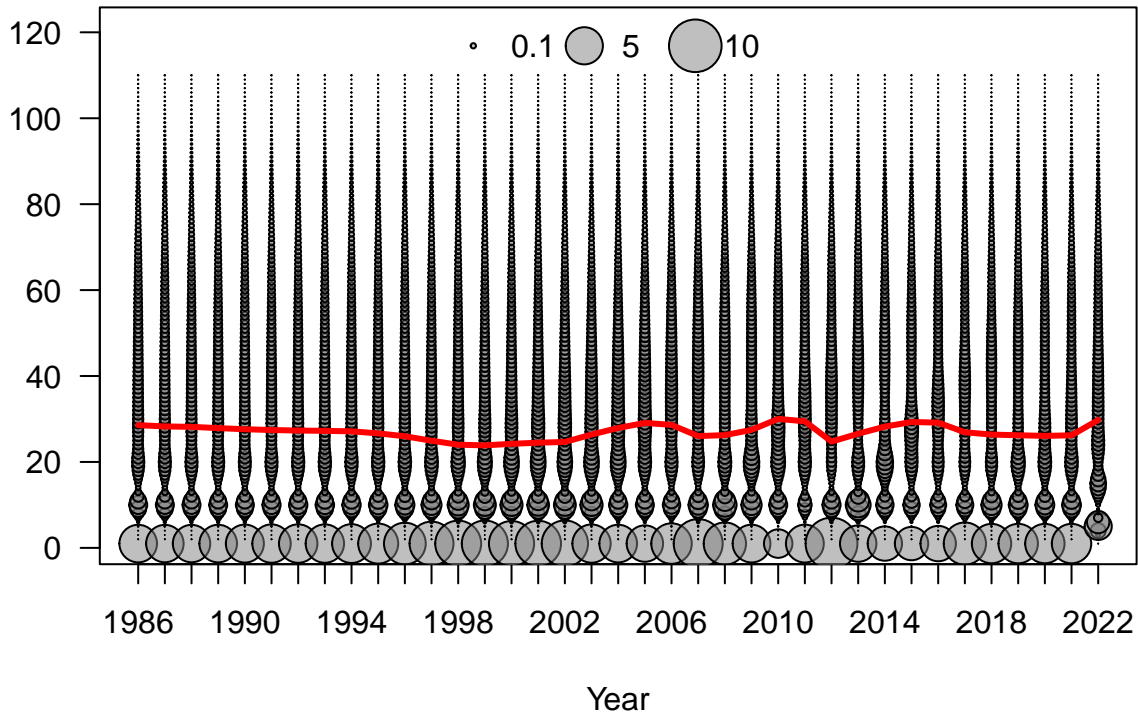






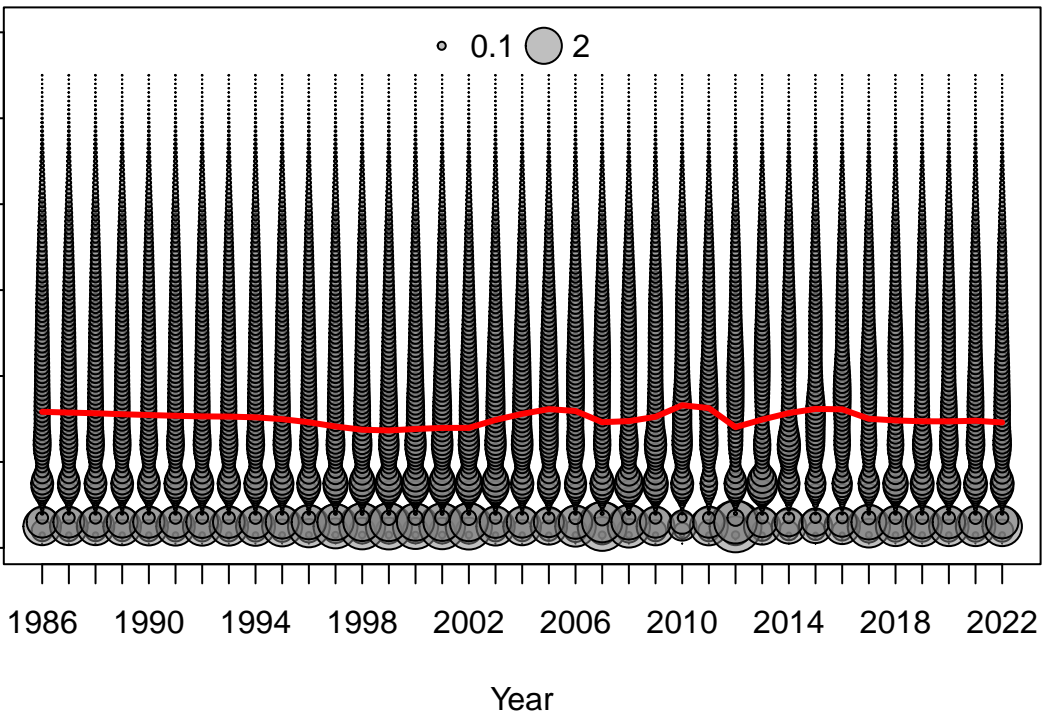


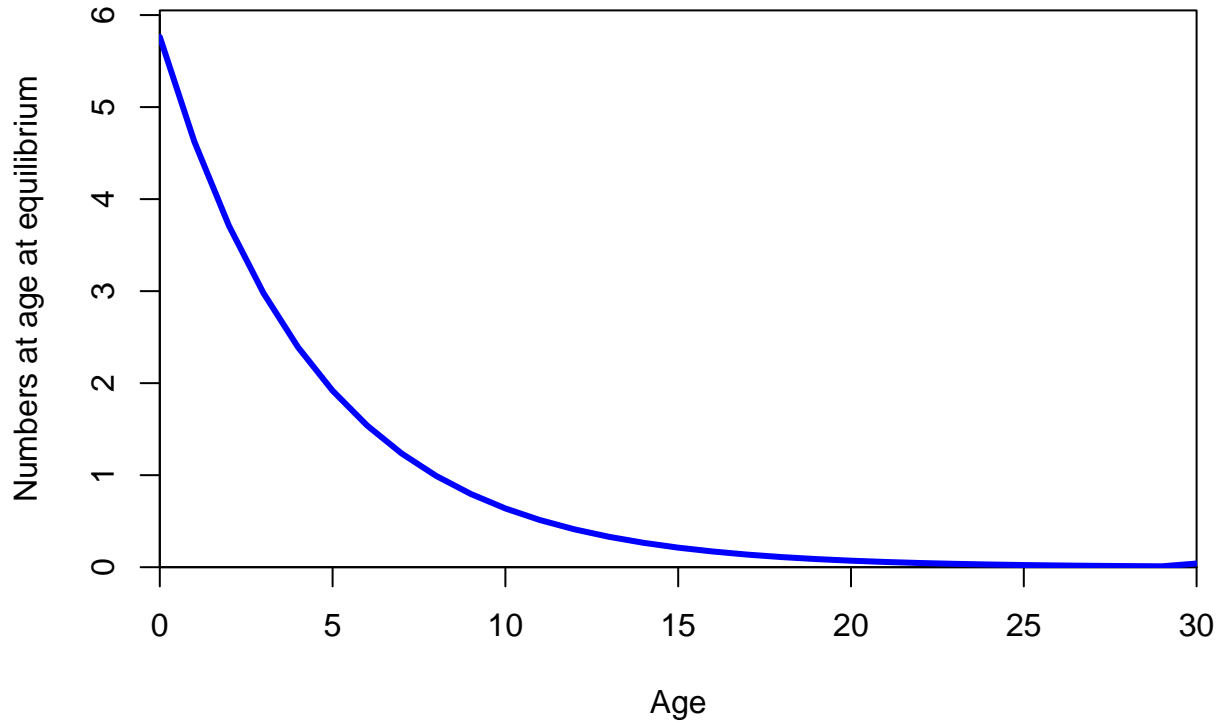
Length



Length

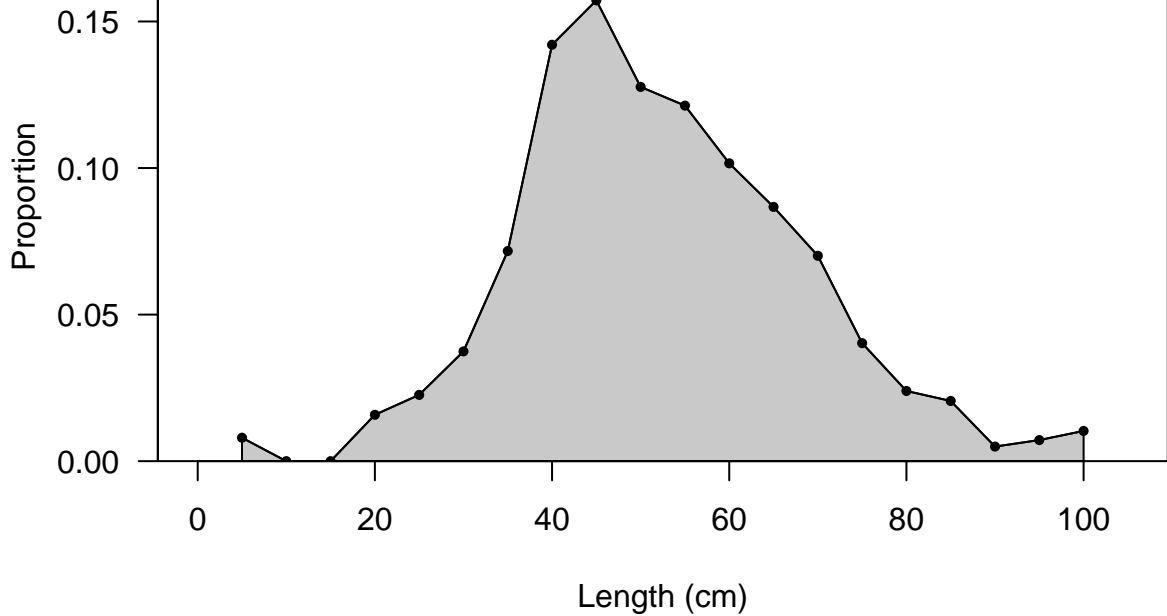
◦ 0.1    ● 2



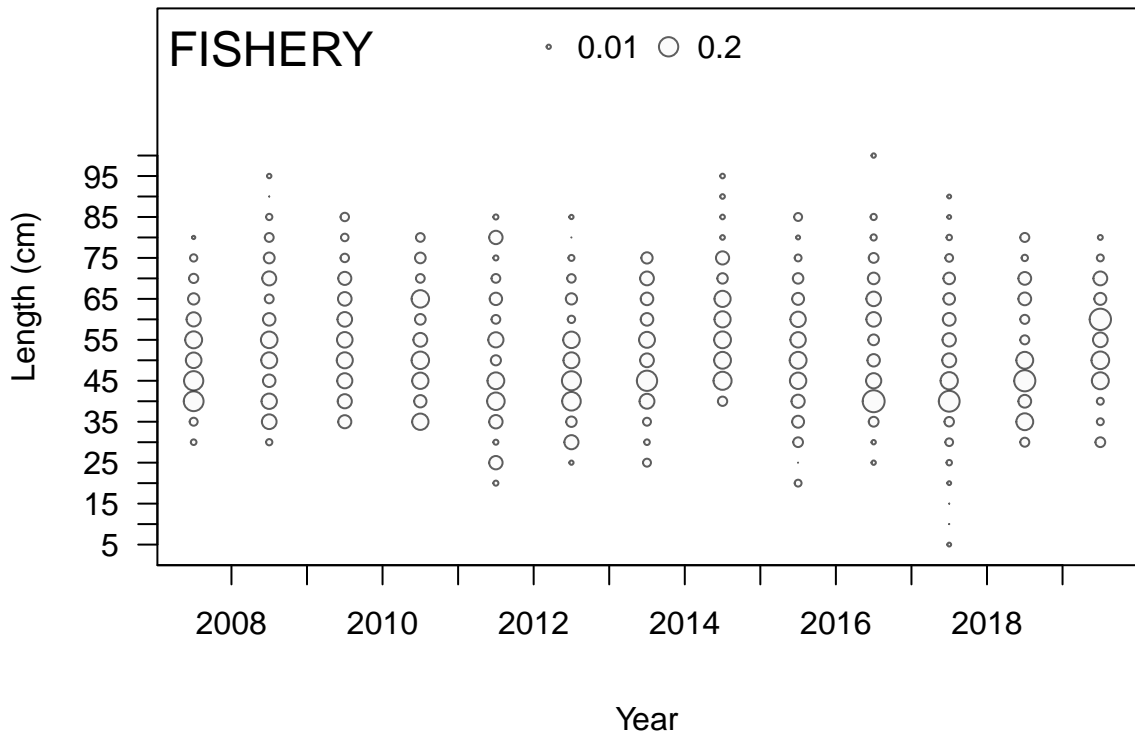


**FISHERY**

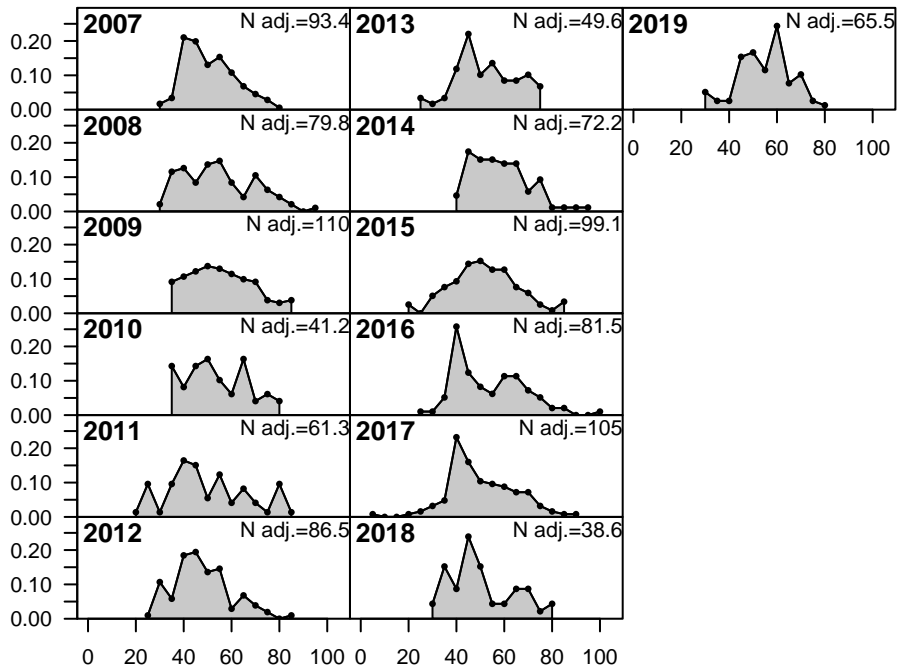
Sum of N adj.=983.8



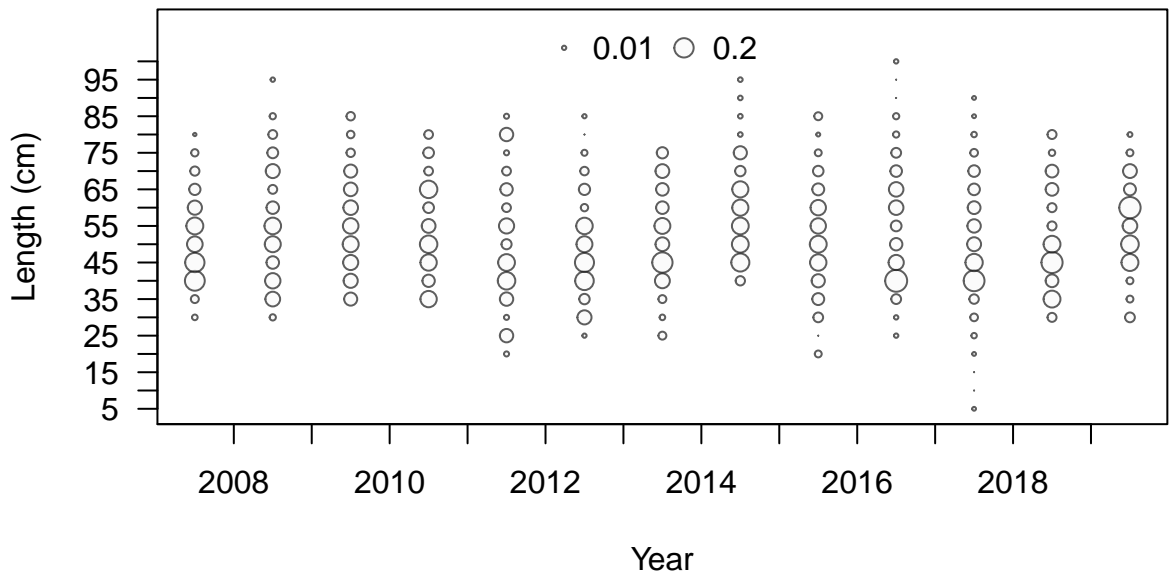




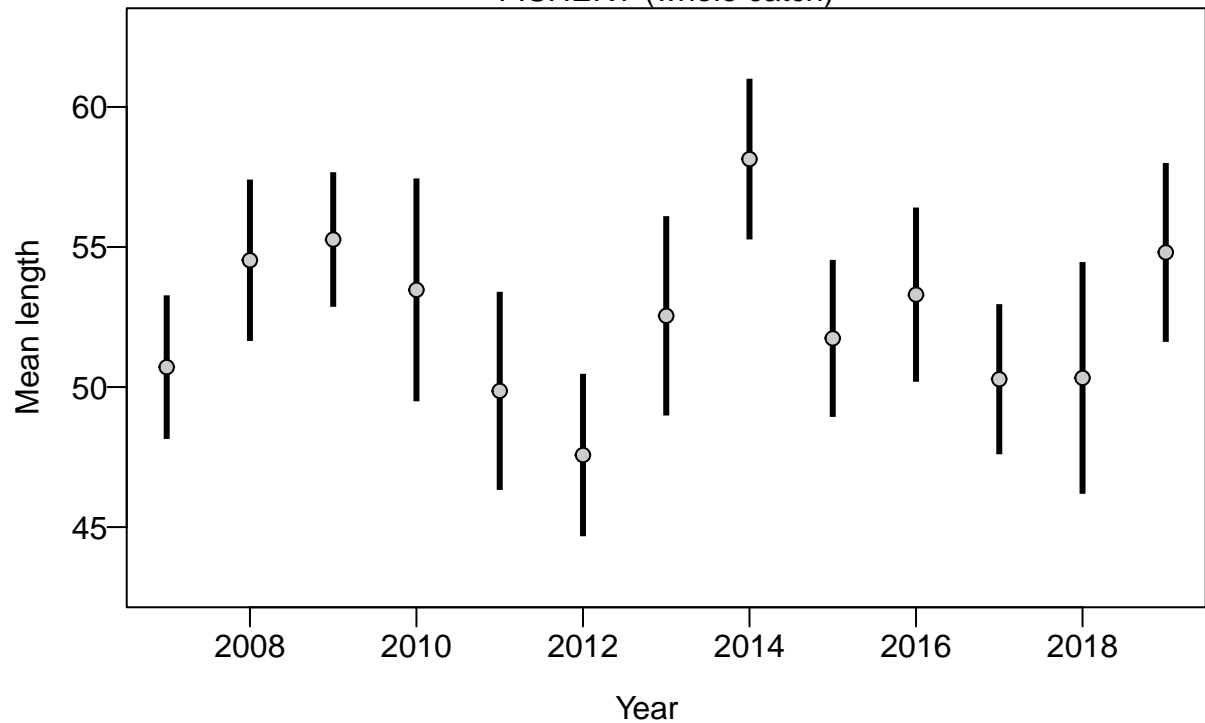
Proportion



Length (cm)

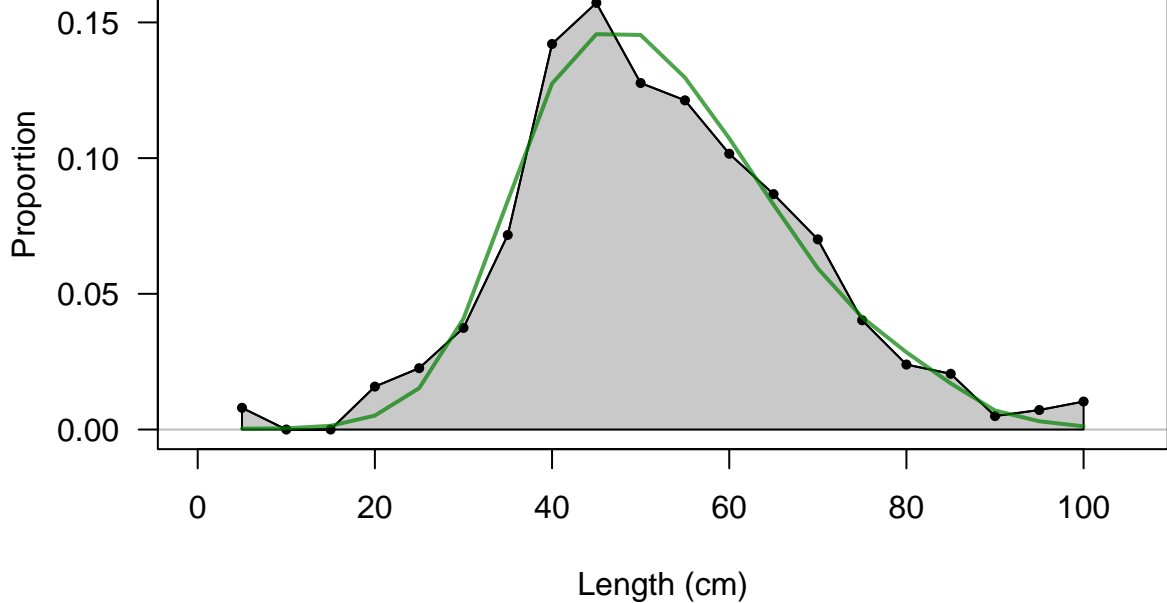


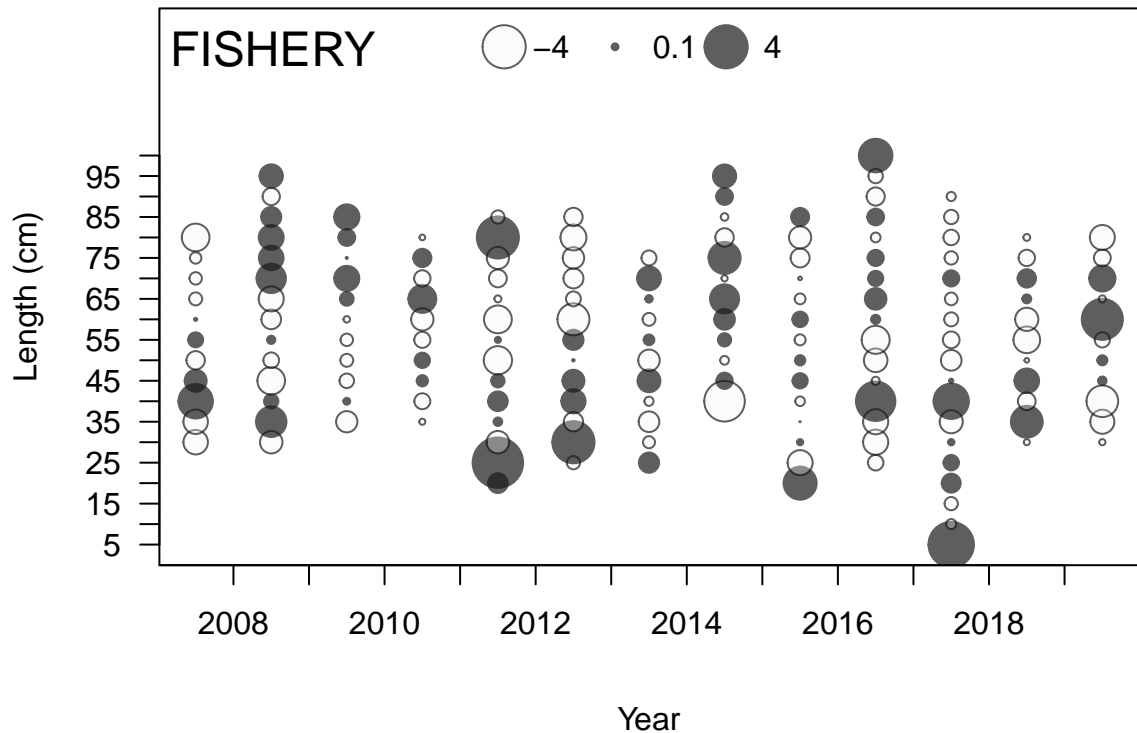
FISHERY (whole catch)



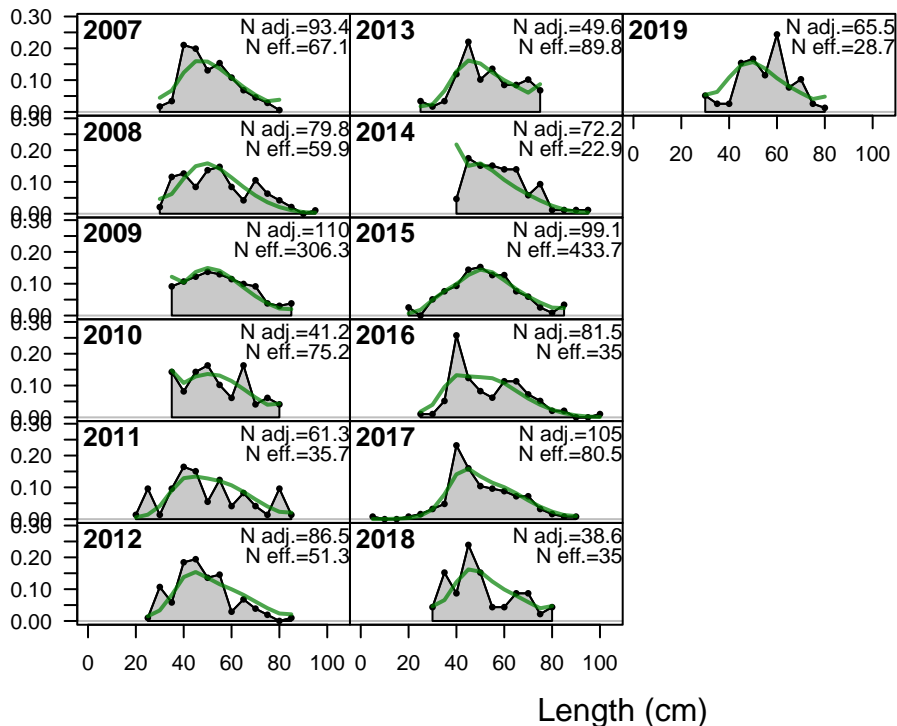
# FISHERY

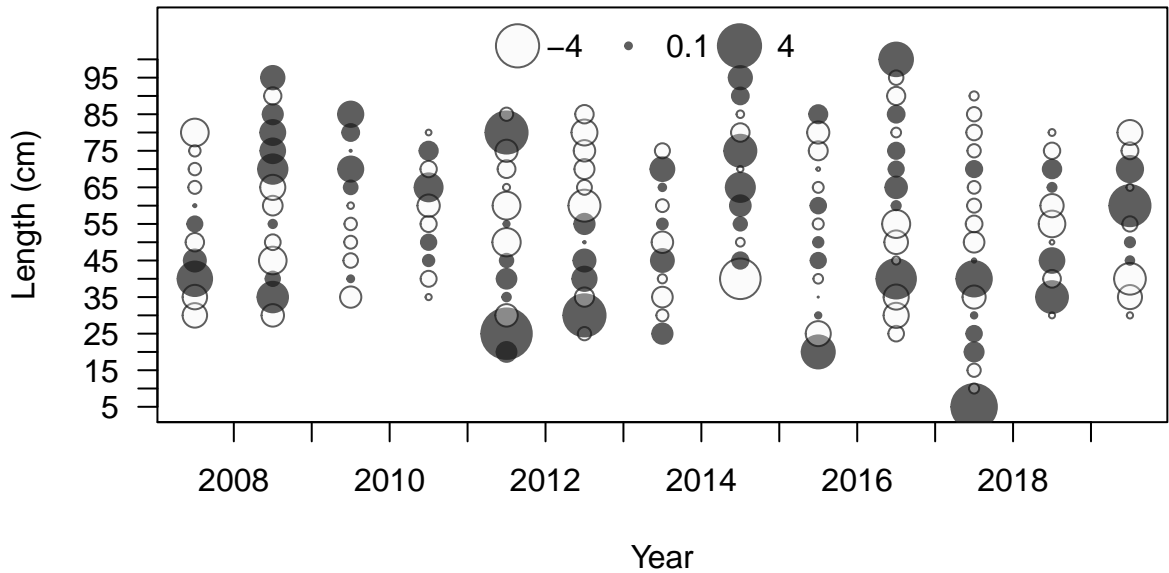
Sum of N adj.=983.8  
Sum of N eff.=1321.1





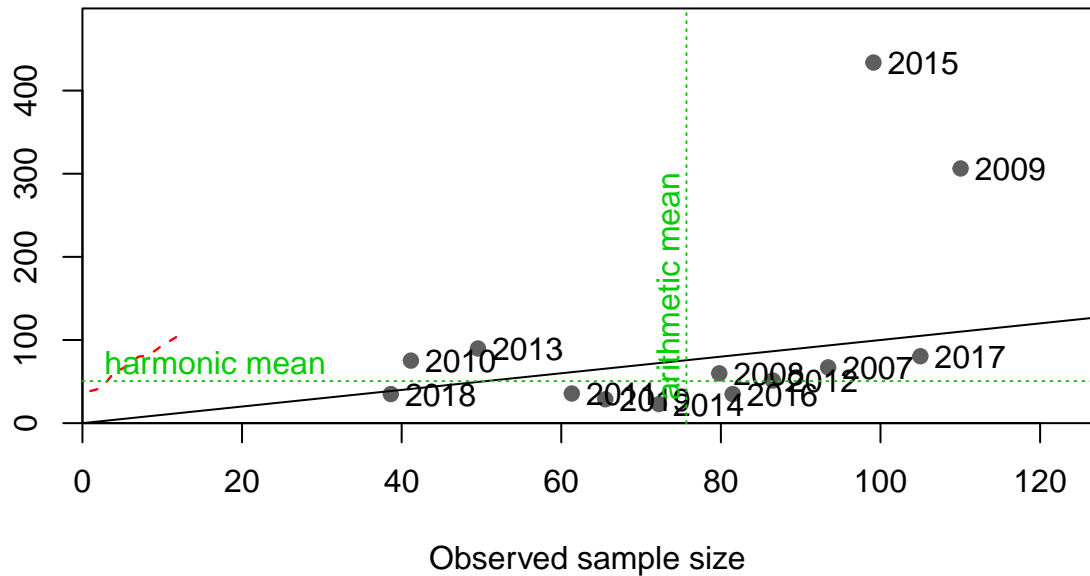
Proportion



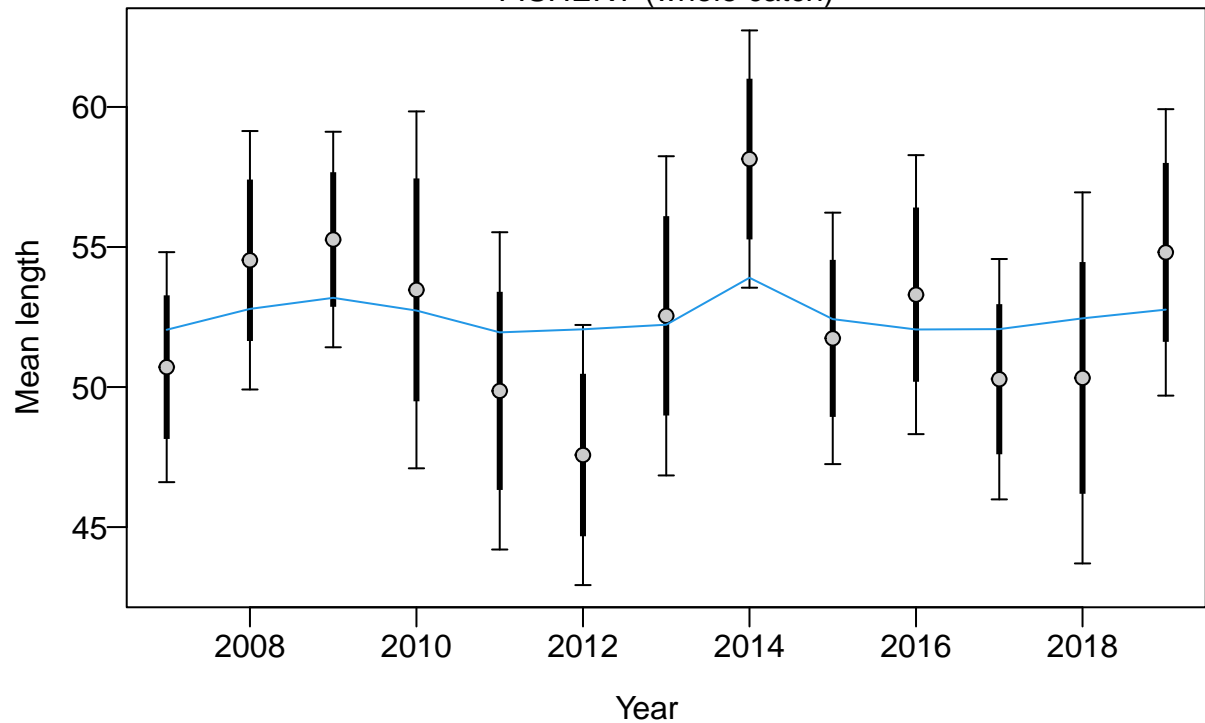


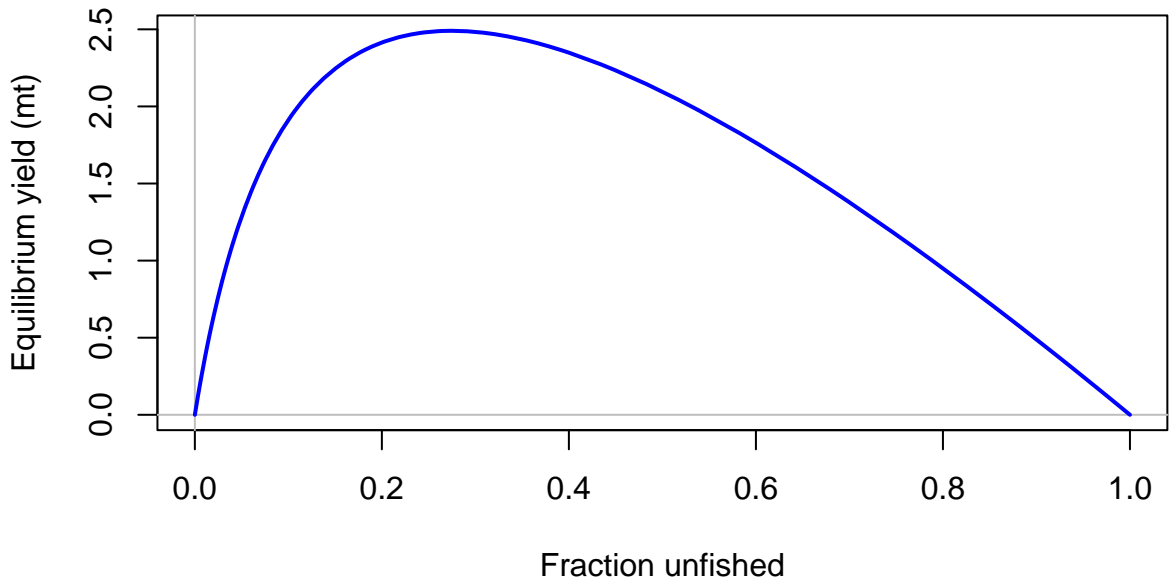


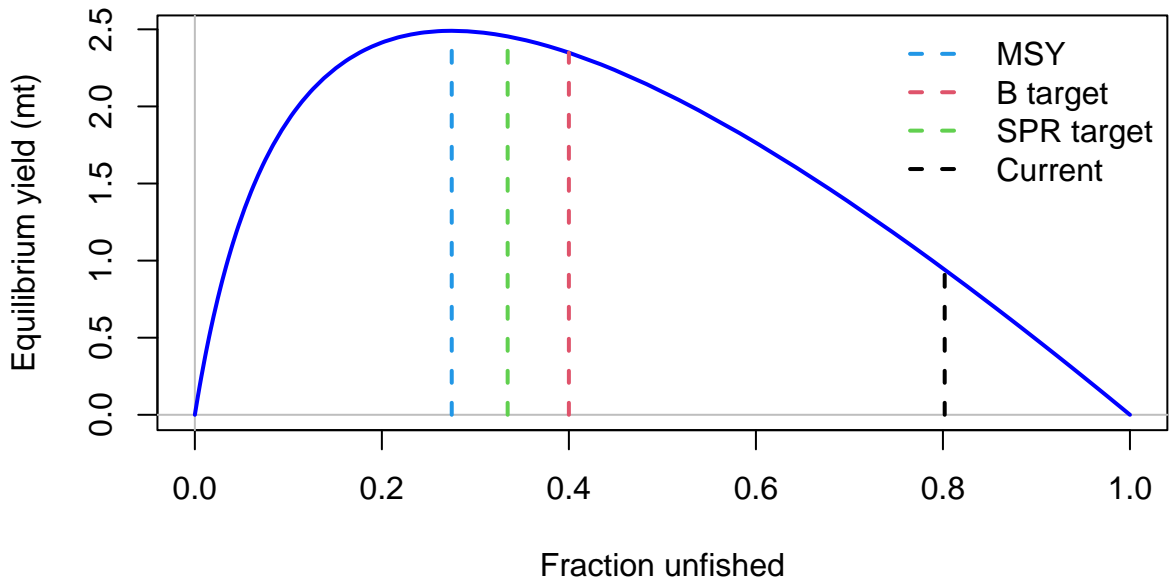
Effective sample size

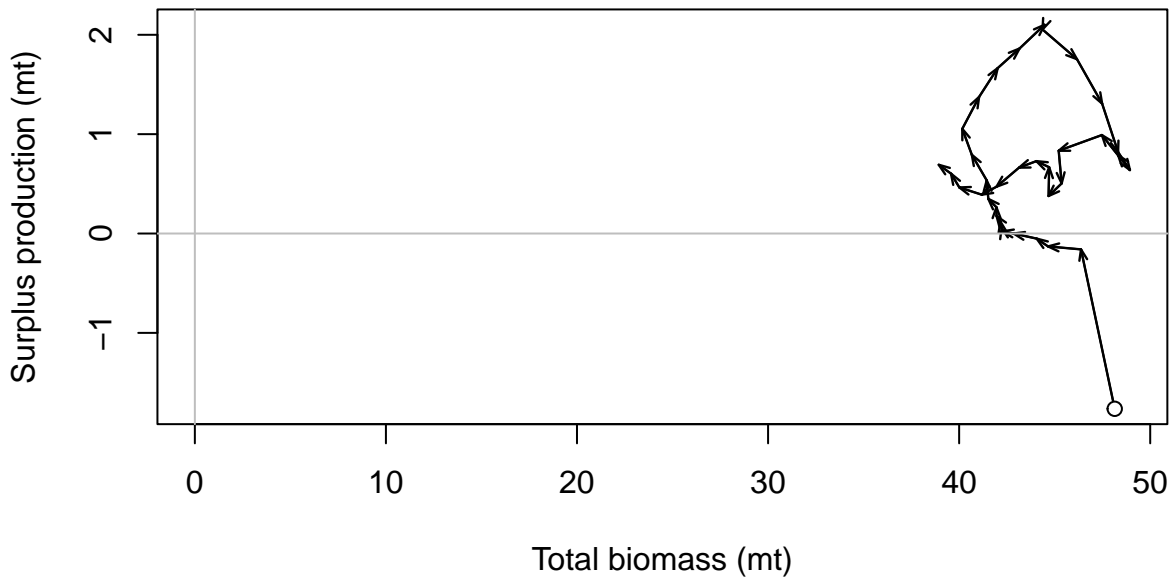


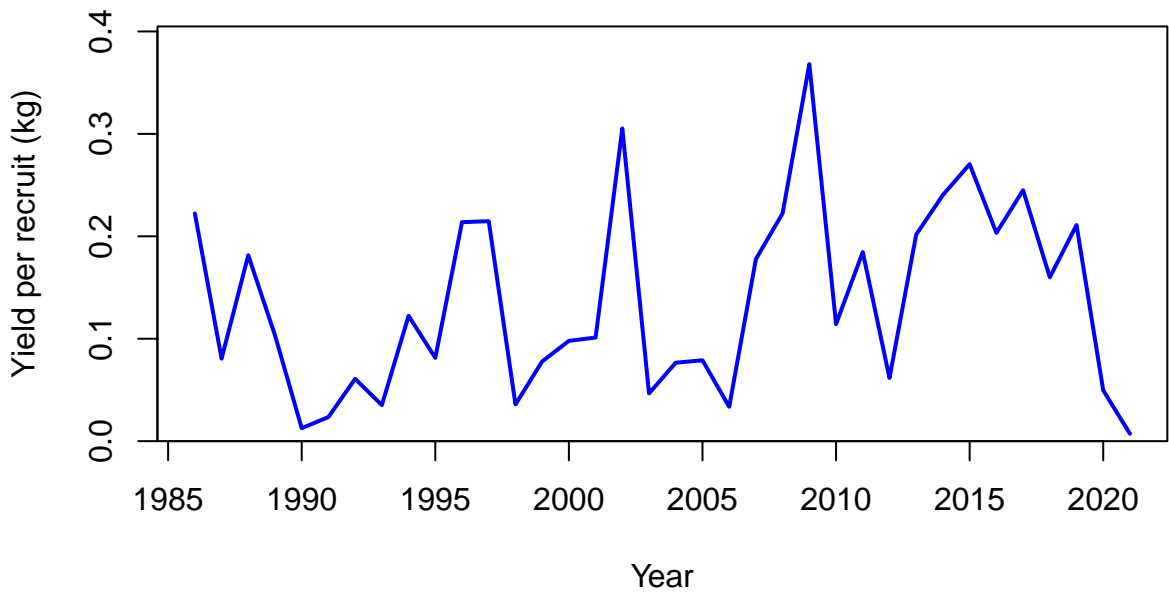
FISHERY (whole catch)

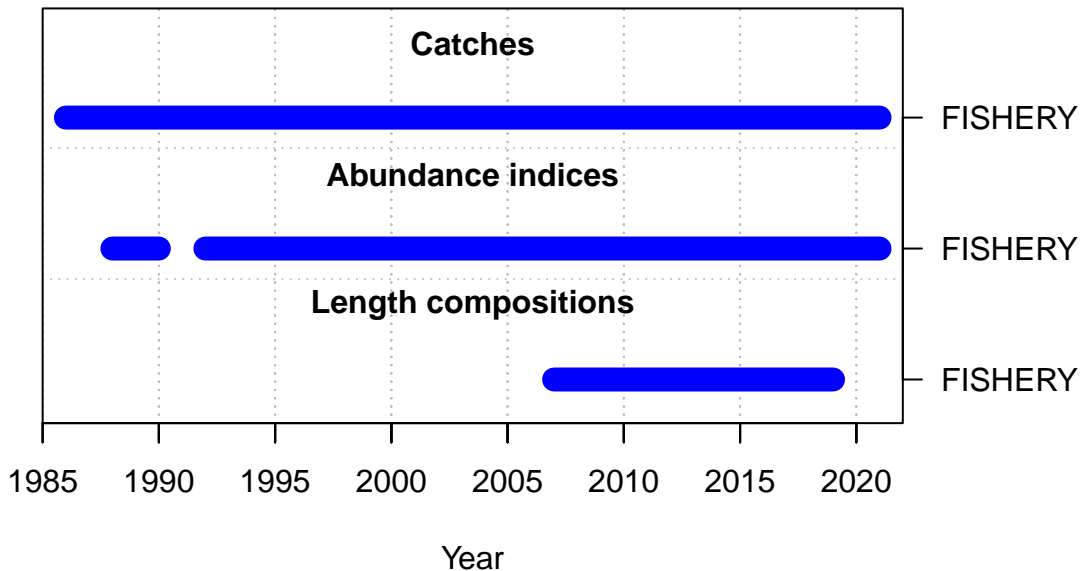


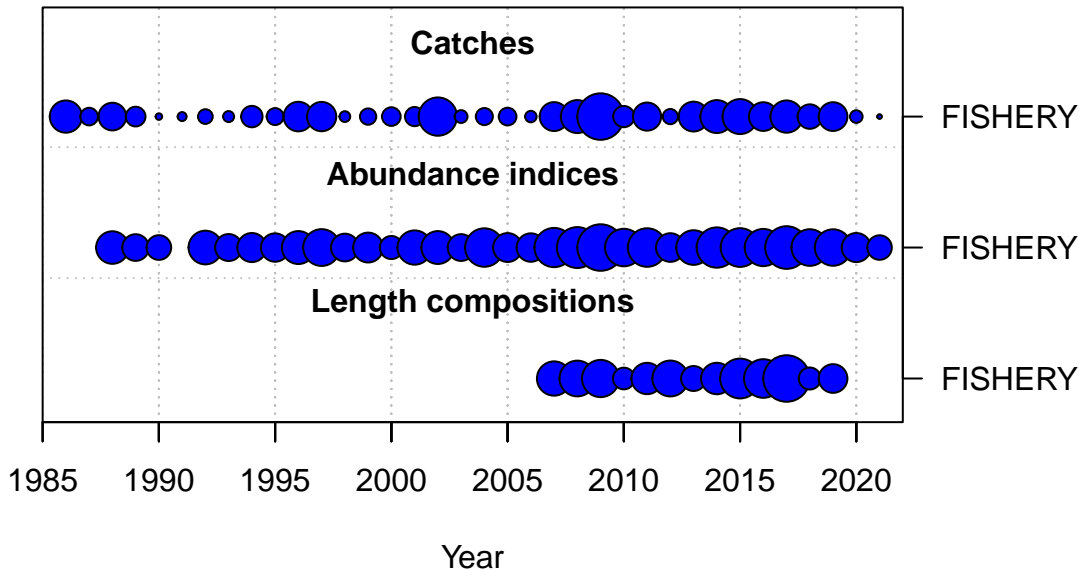






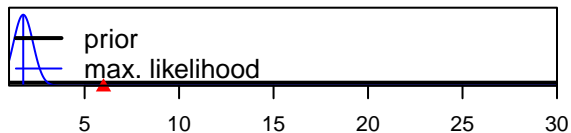




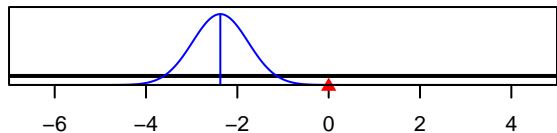




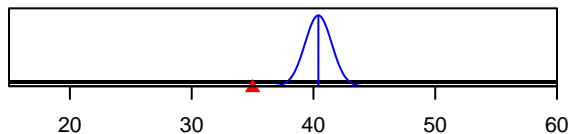
SR\_LN(R0)



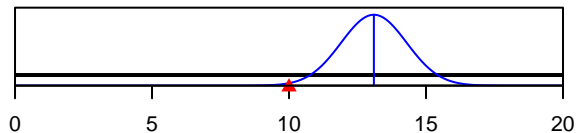
LnQ\_base\_FISHERY(1)



Size\_inflection\_FISHERY(1)



Size\_95%width\_FISHERY(1)



Parameter value