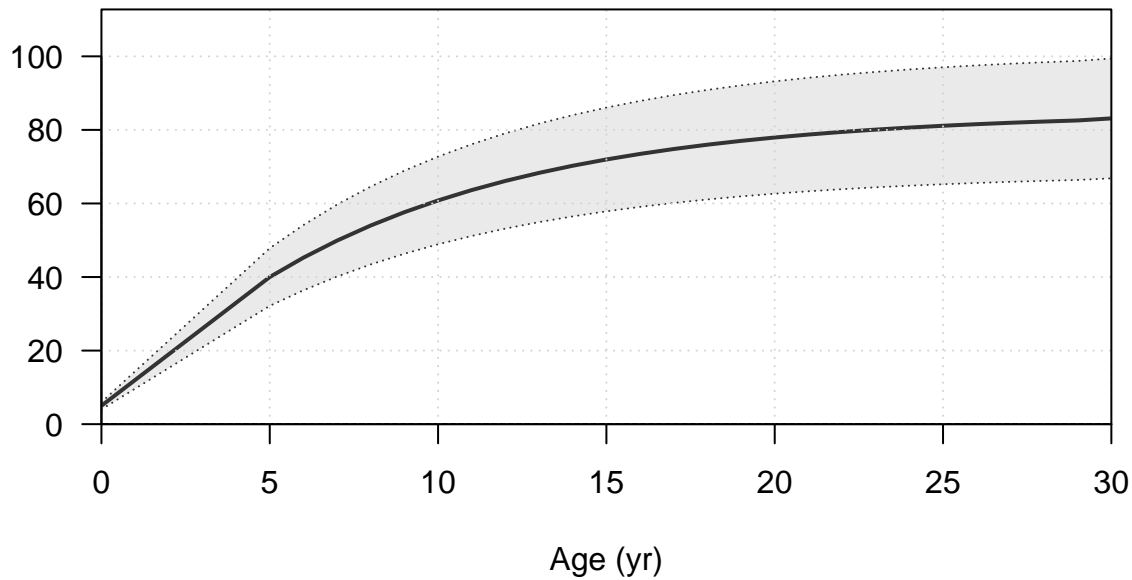
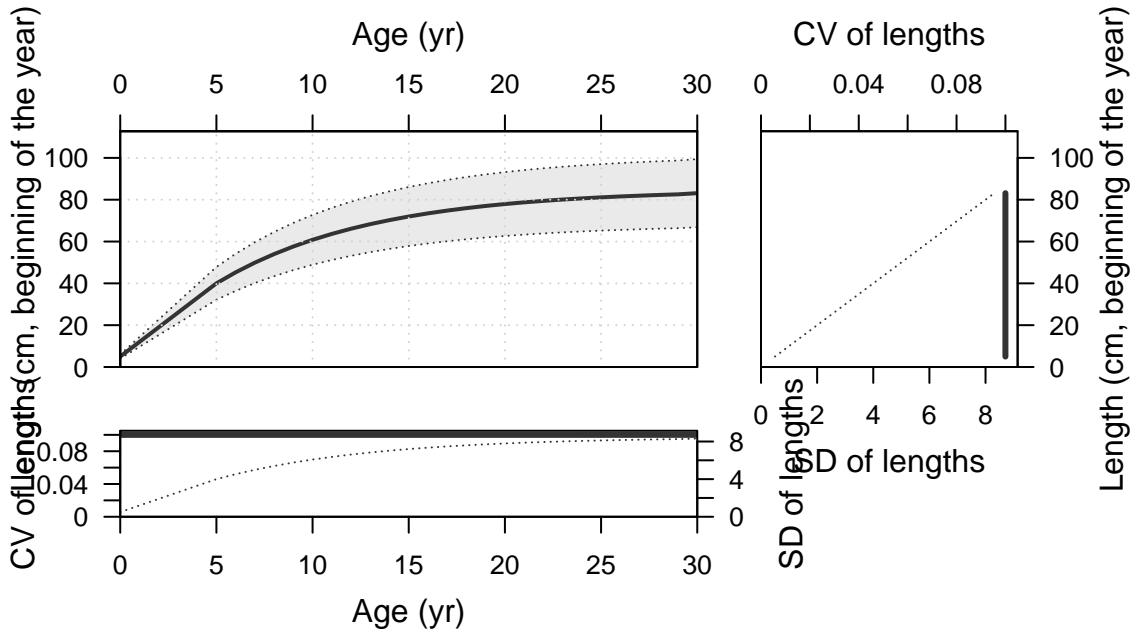
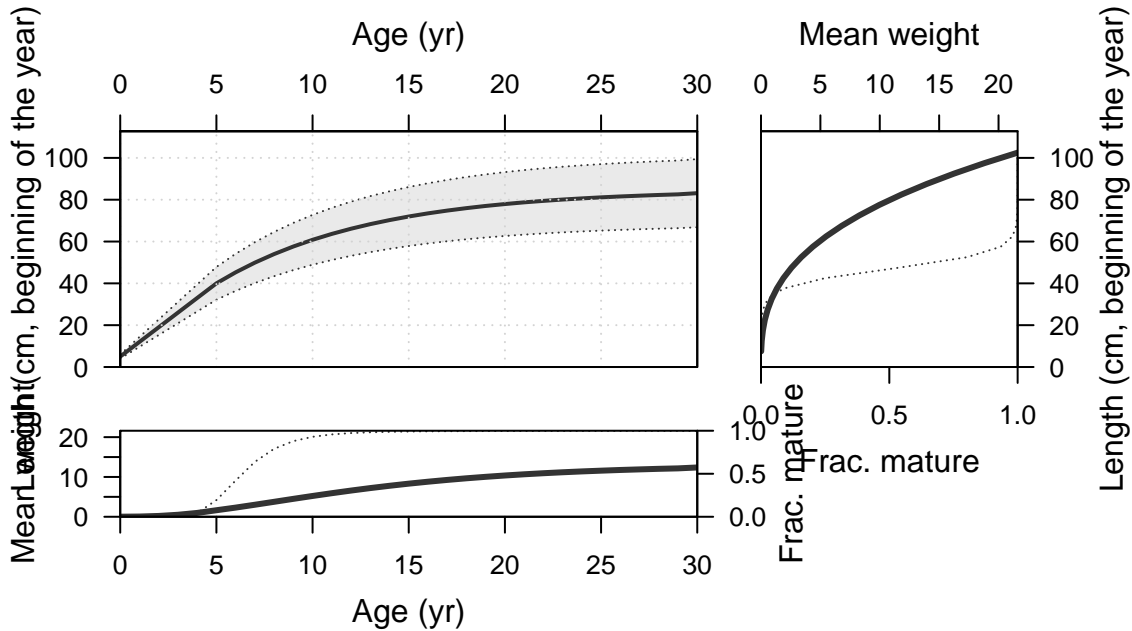


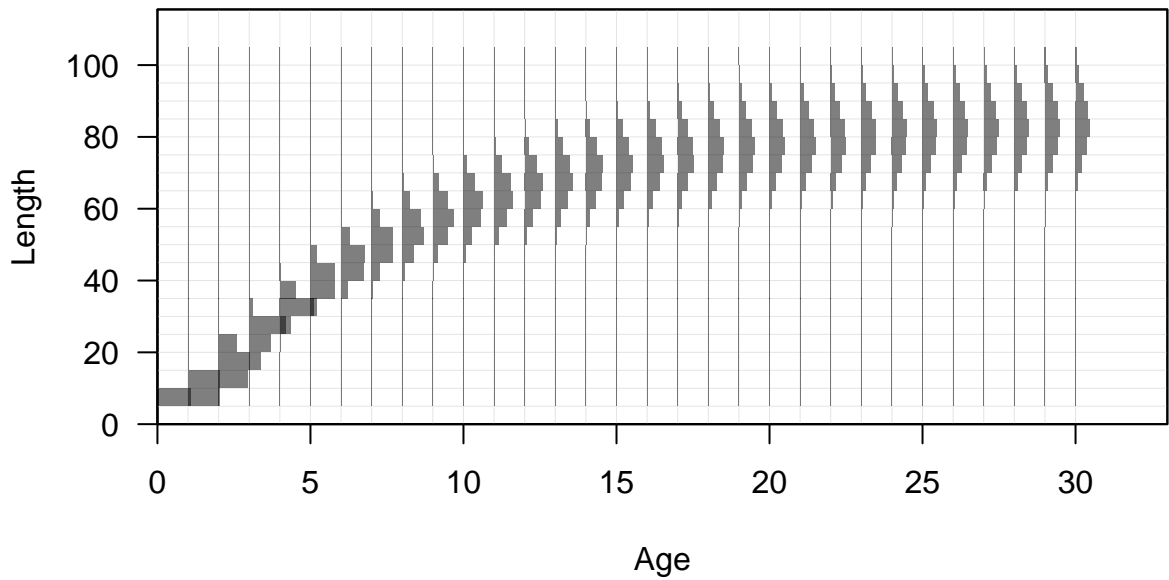
Plots created using the 'r4ss' package in R  
Stock Synthesis version: 3.30.19.0  
StartTime: Thu Jun 16 09:50:37 2022  
Data\_File: data.ss  
Control\_File: control.ss

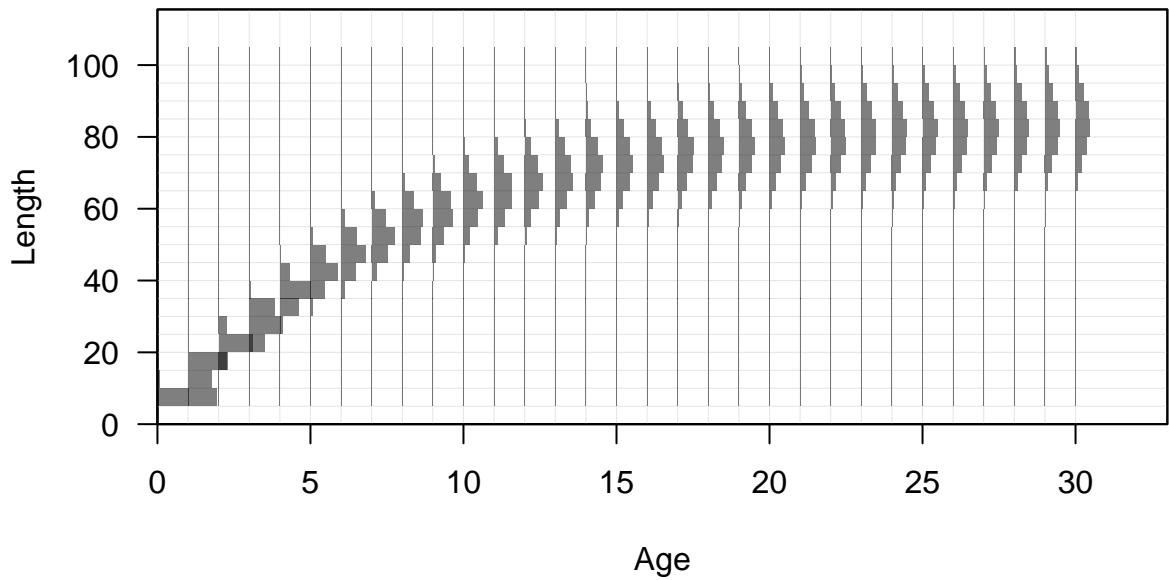
Length (cm, beginning of the year)

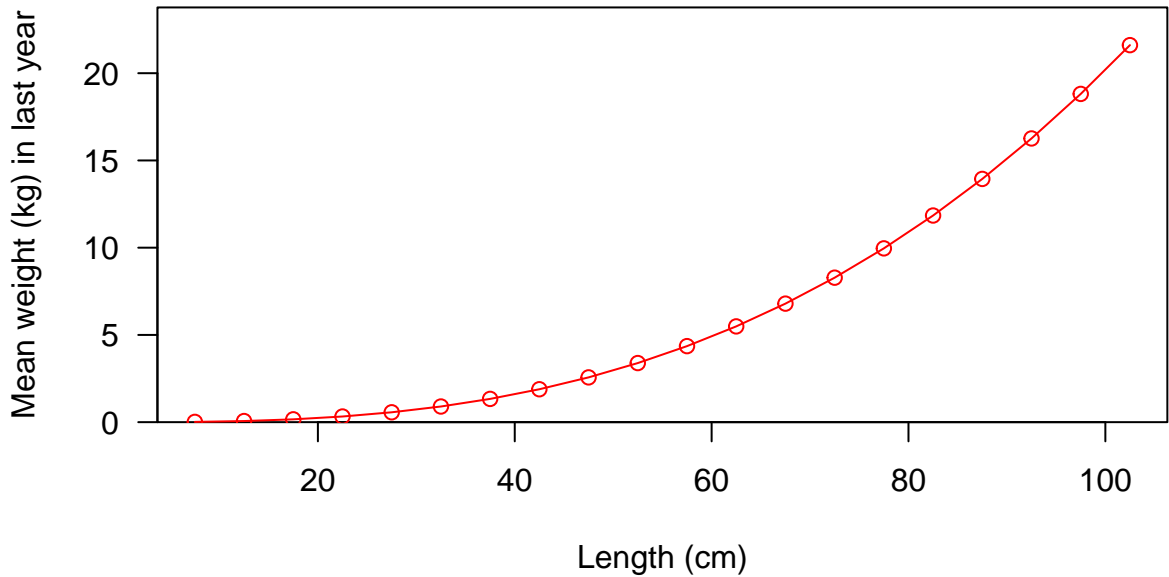




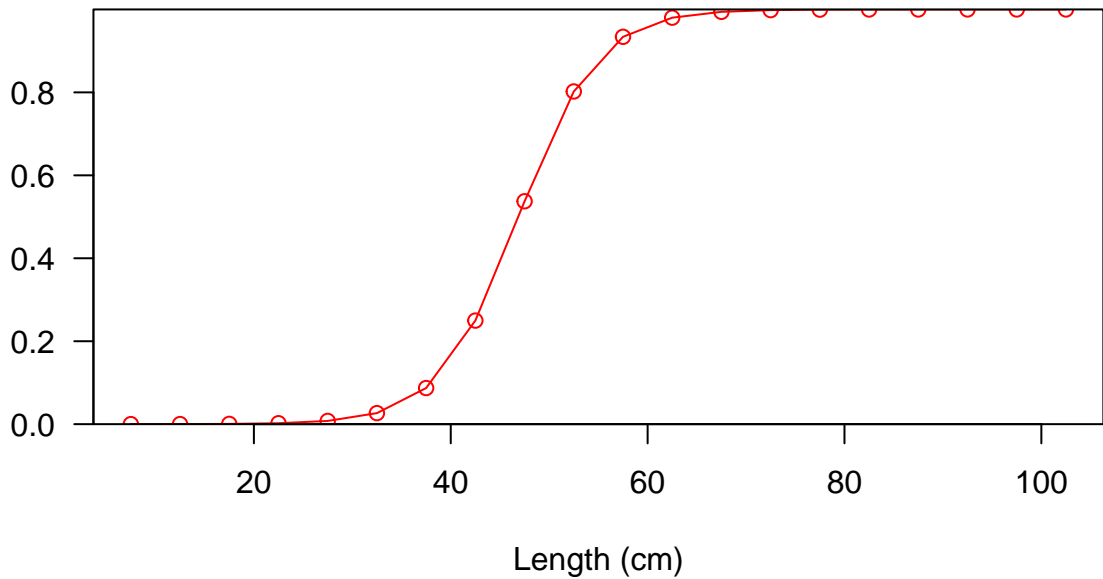




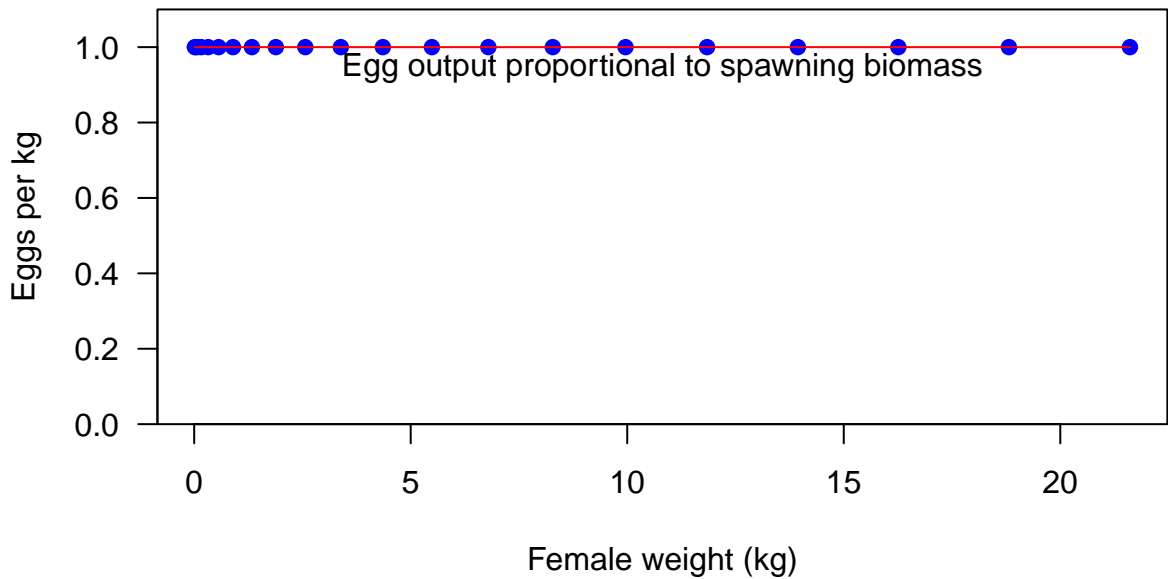




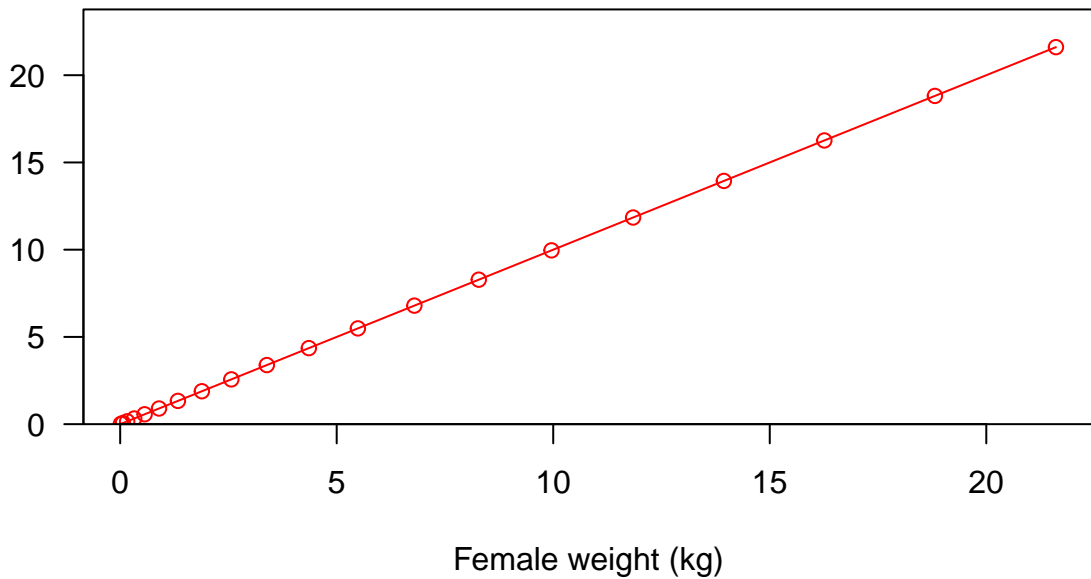
Maturity



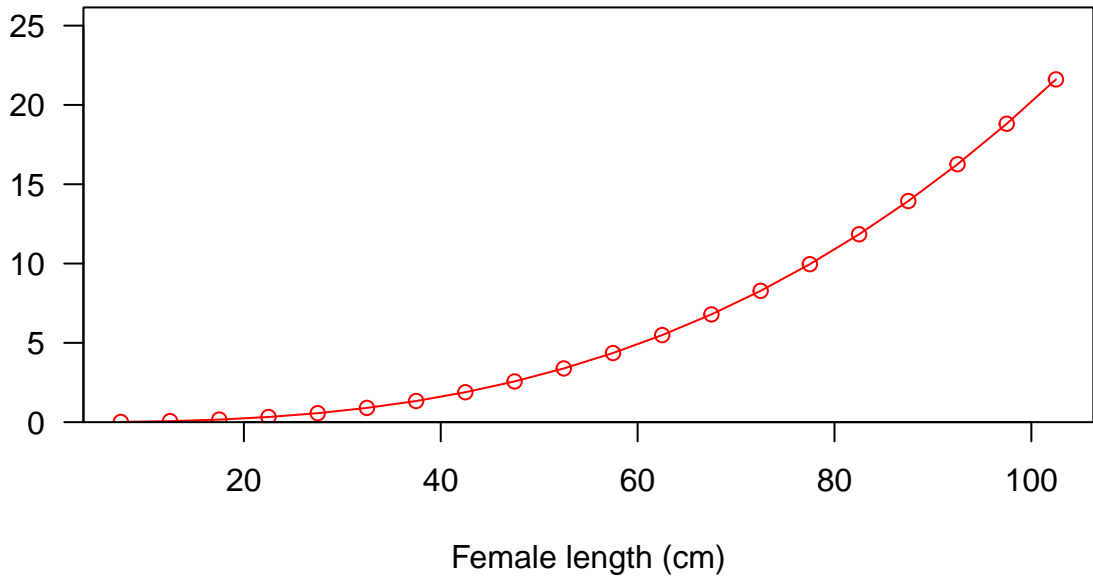




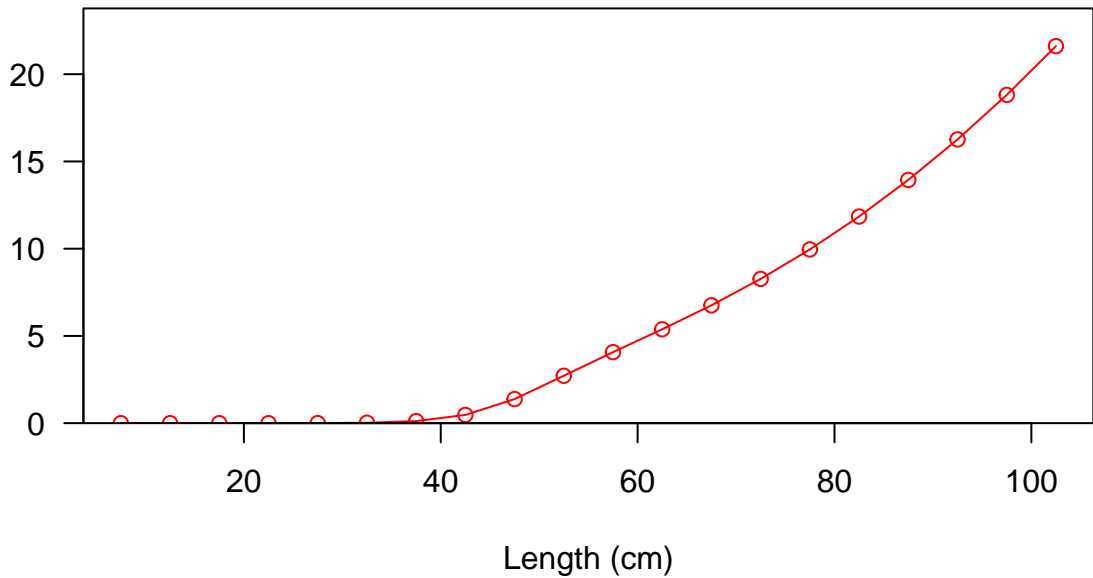
Fecundity



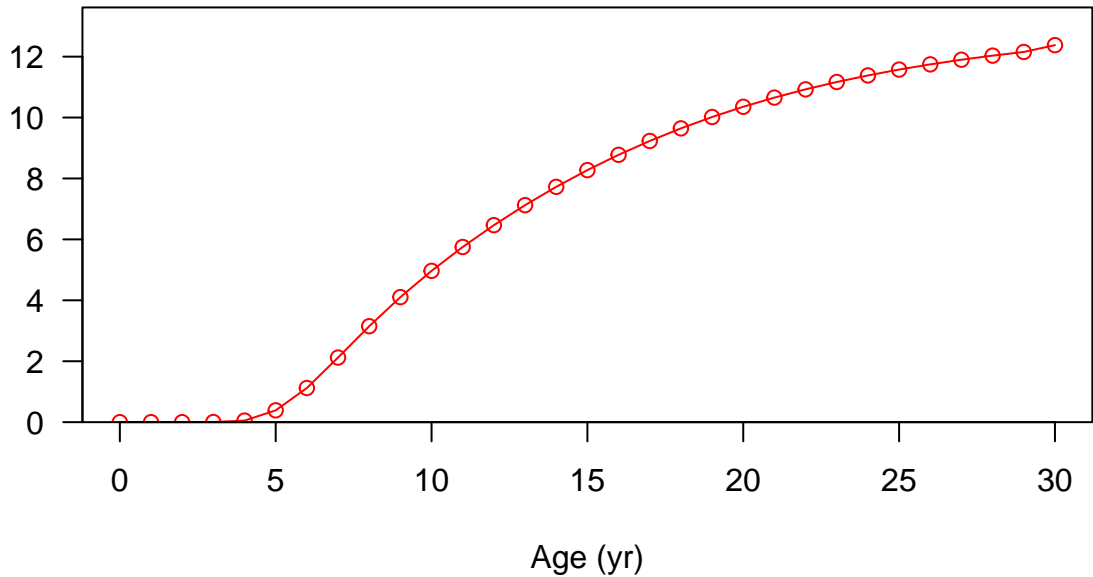
Fecundity



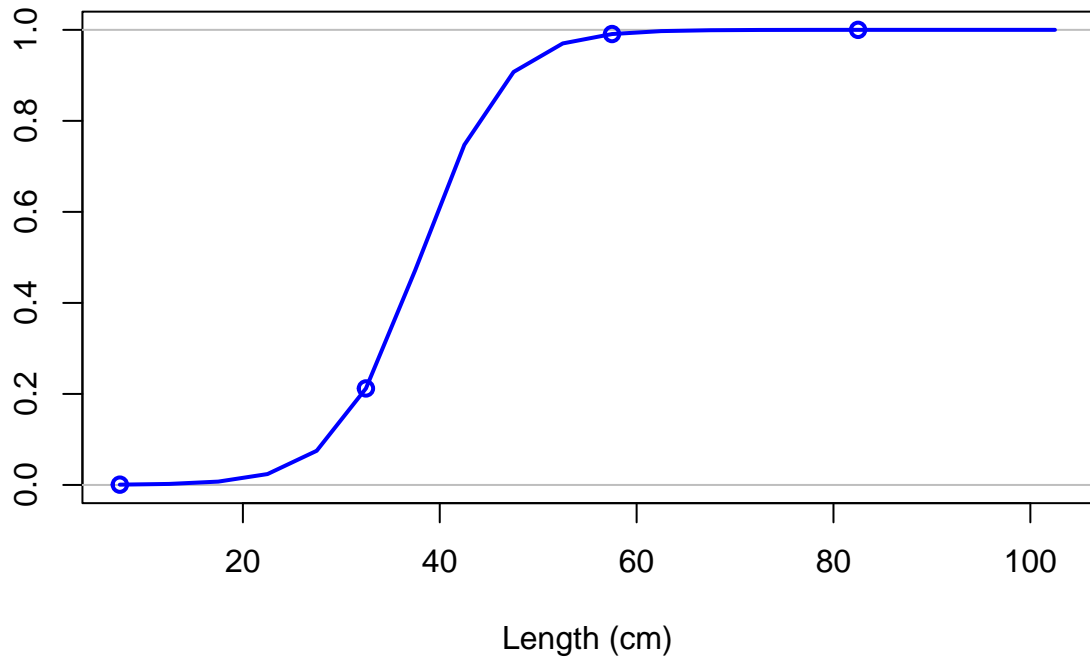
Spawning output



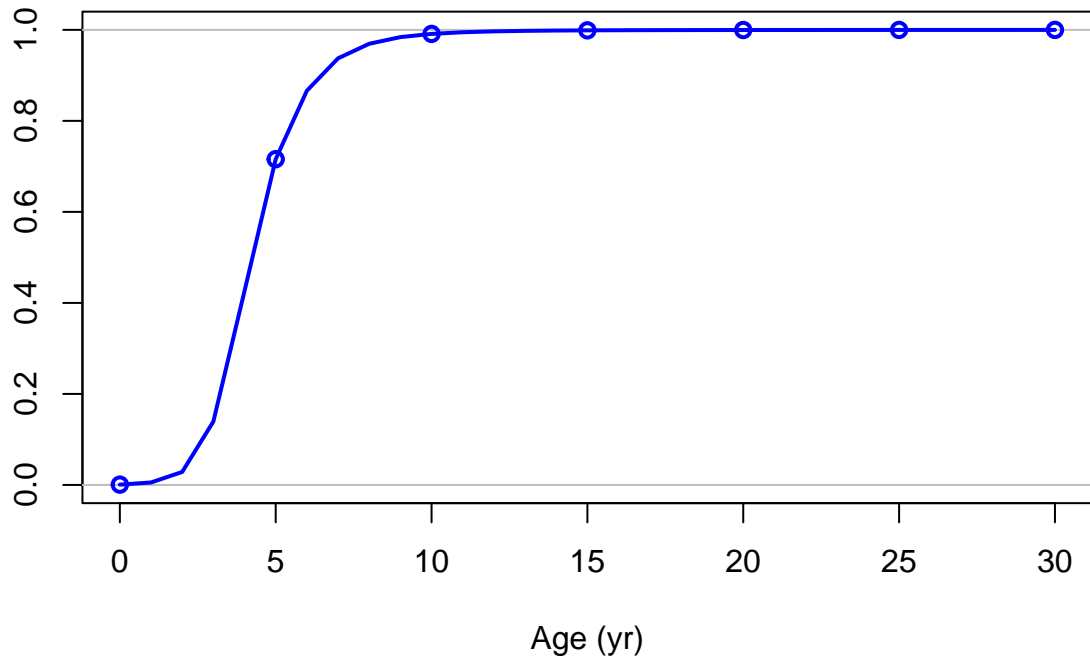
Spawning output



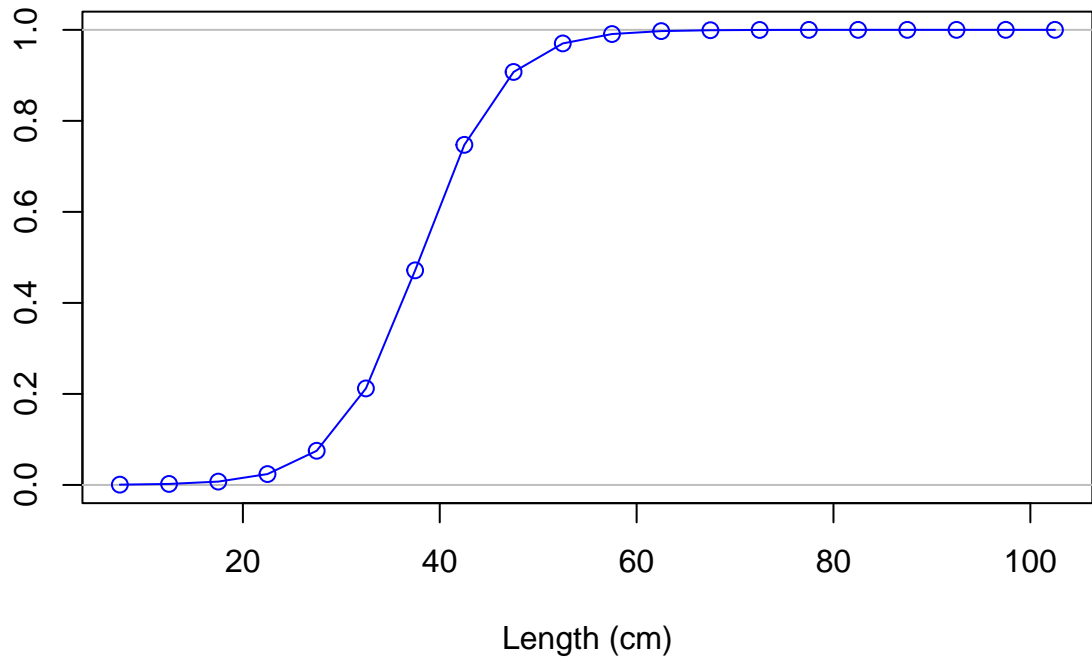
Selectivity



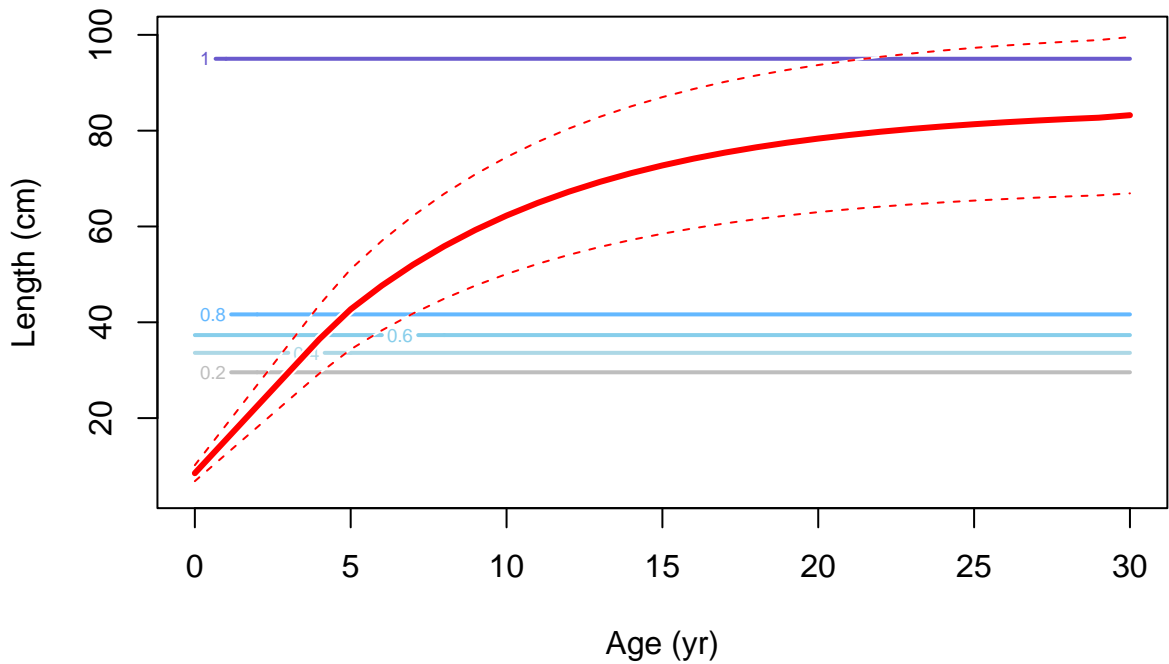
Selectivity

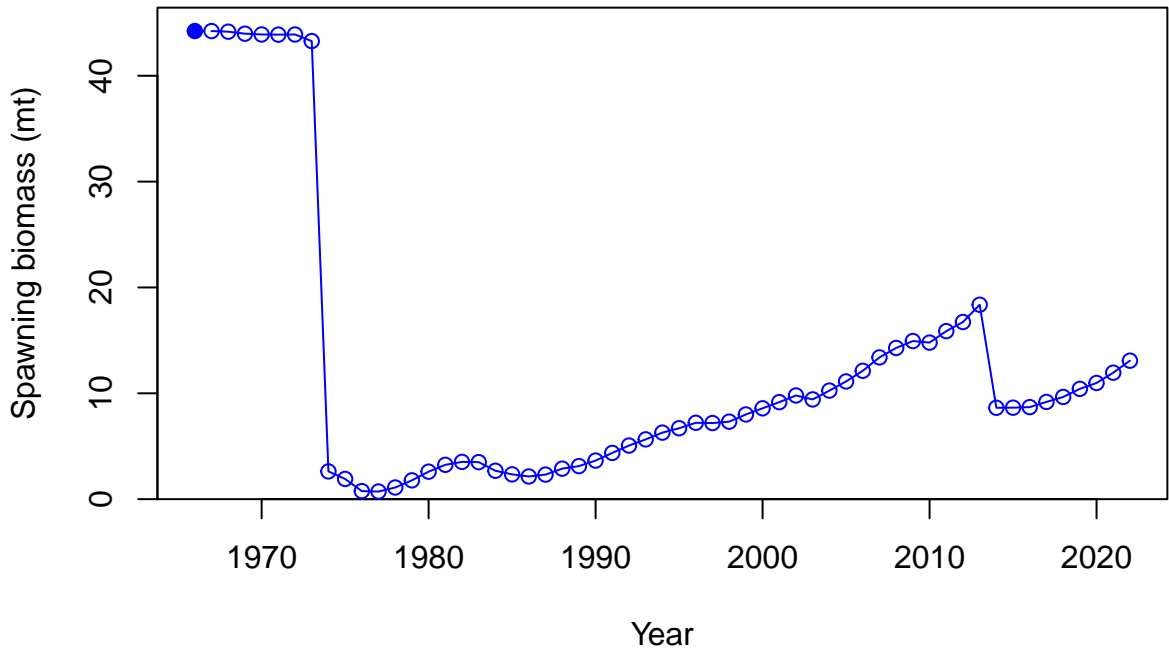


Selectivity

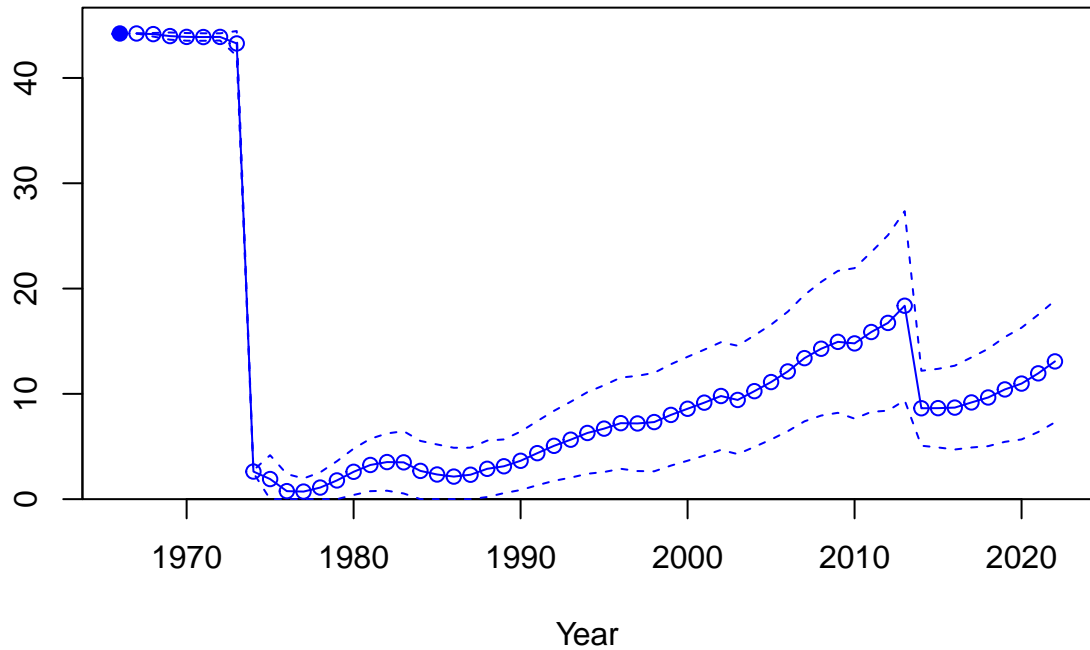




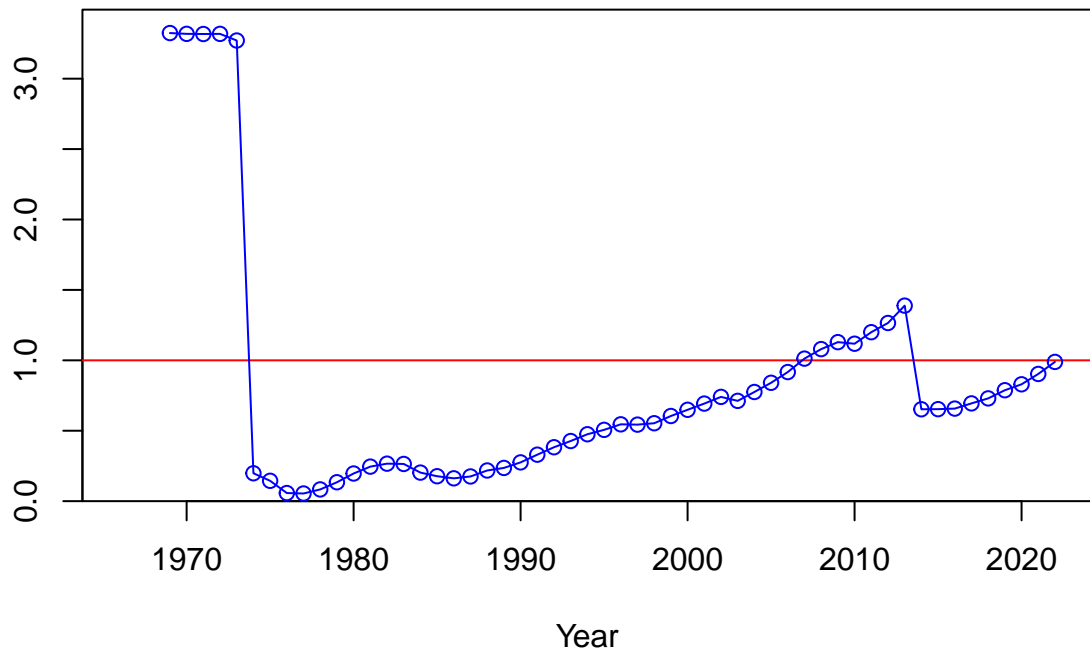




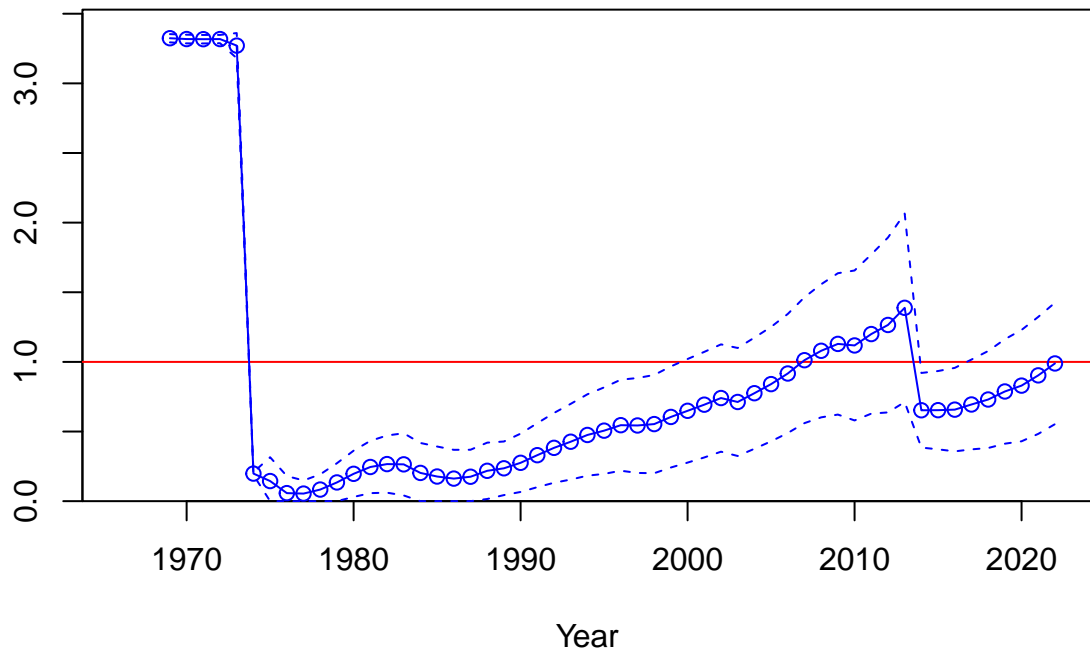
Spawning biomass (mt)

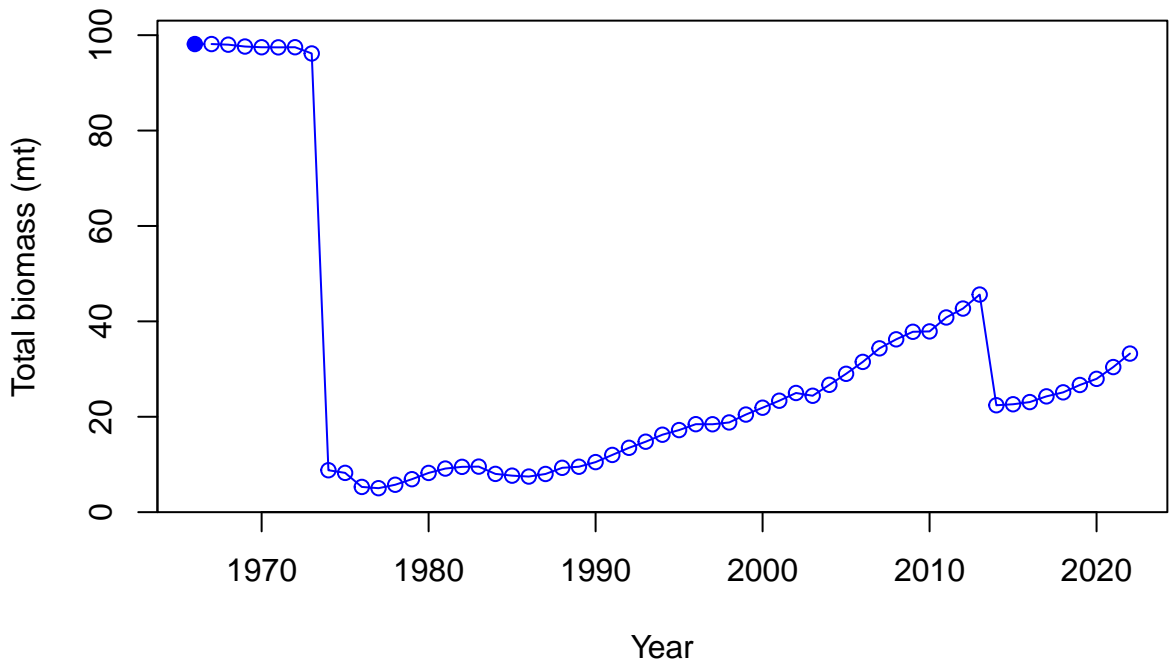


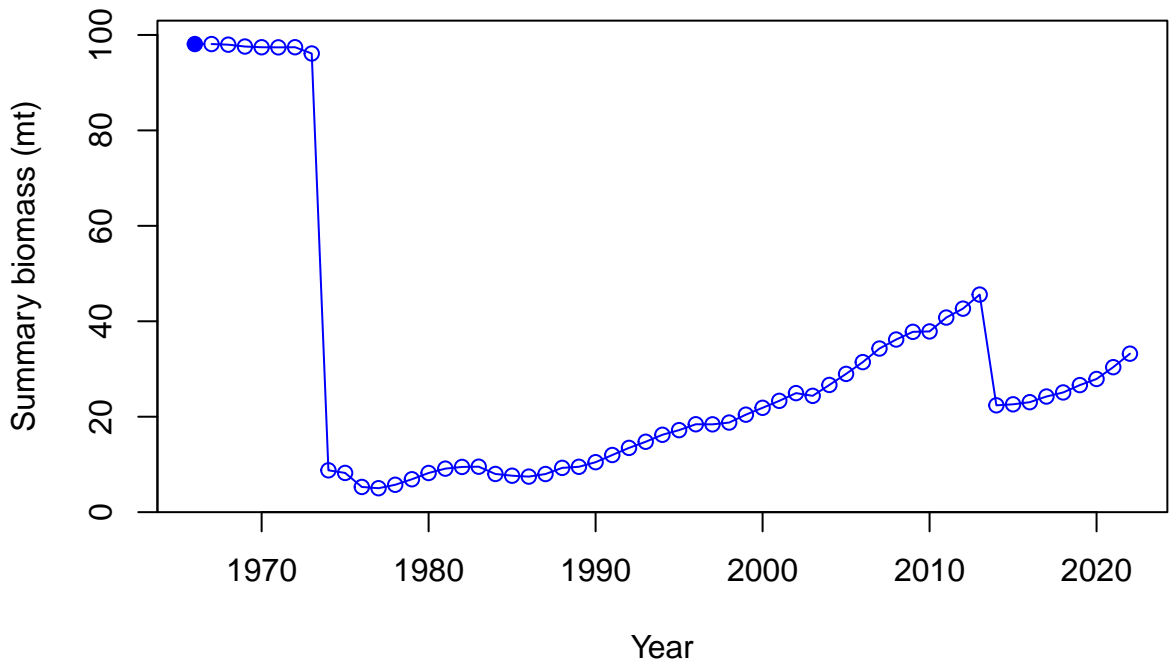
Relative spawning biomass:  $B/B_{MSY}$



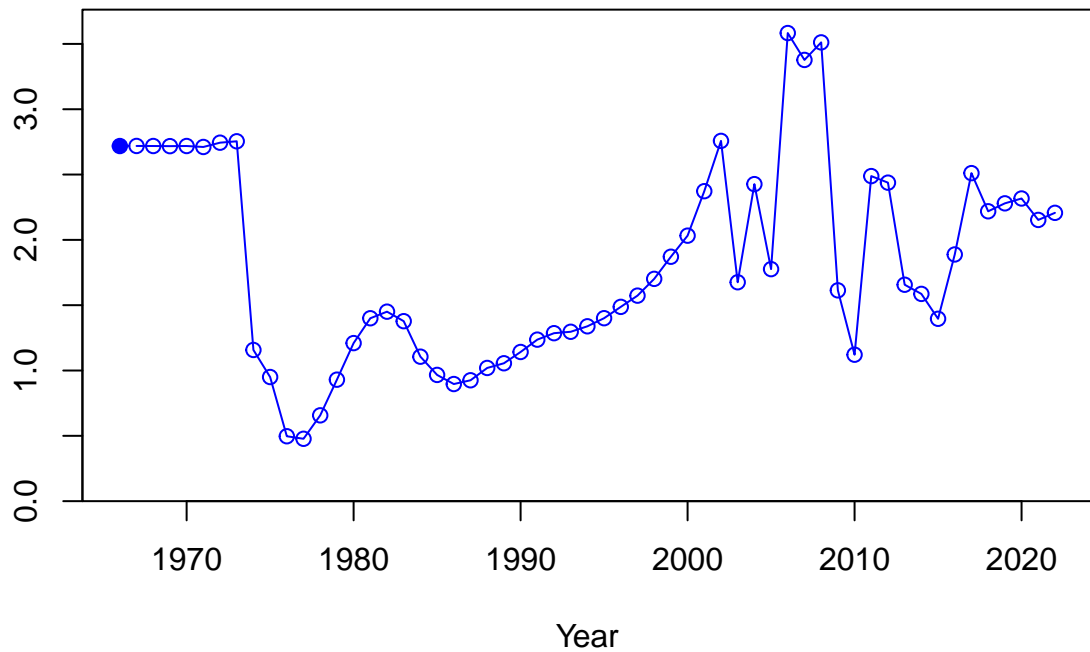
Relative spawning biomass: B/B<sub>MSY</sub>







Age-0 recruits (1,000s)





Age-0 recruits (1,000s)

7  
6  
5  
4  
3  
2  
1  
0

1970

1980

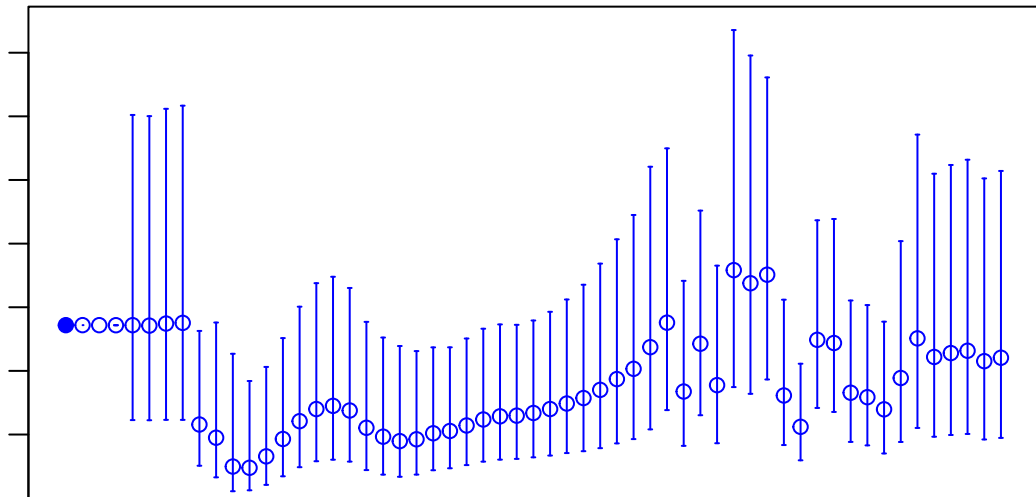
1990

2000

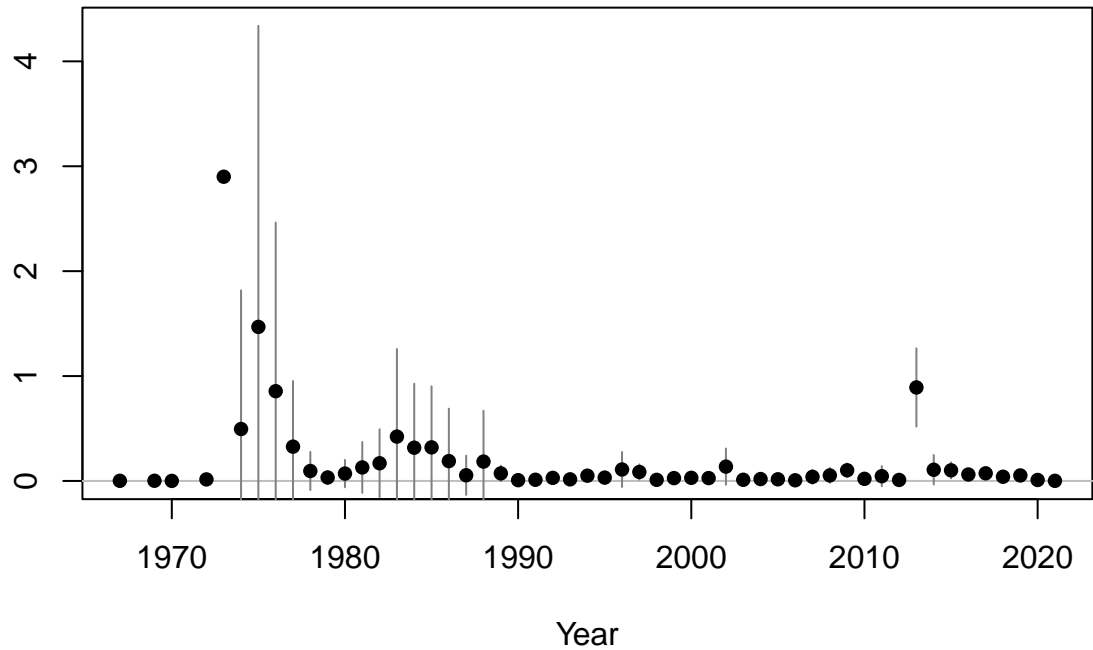
2010

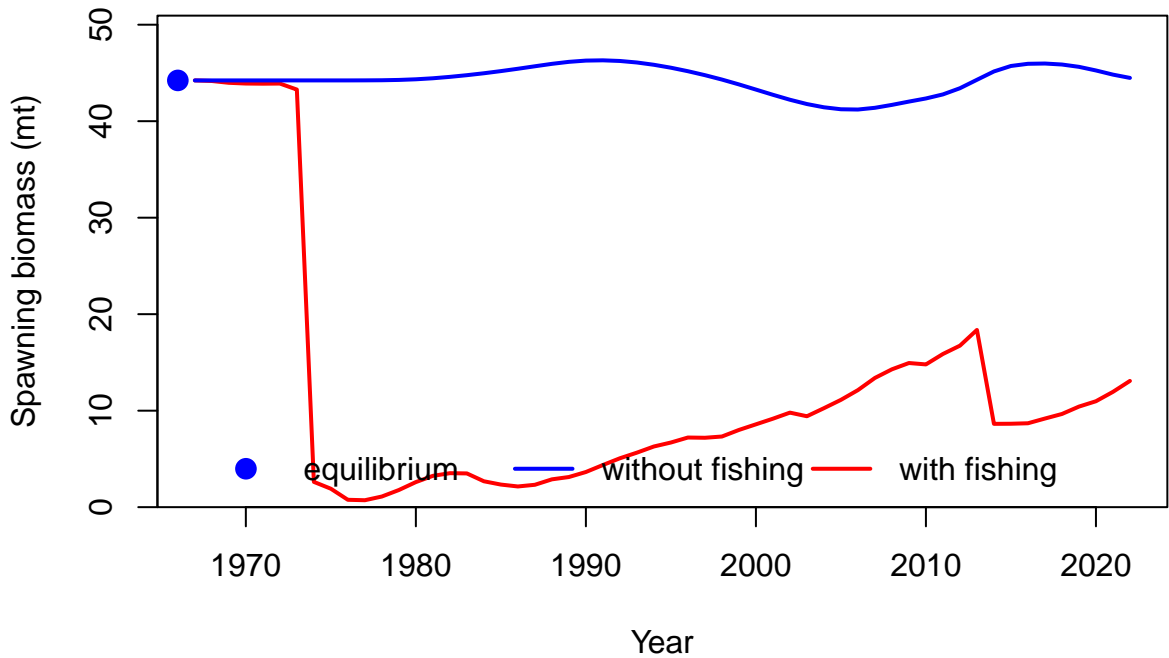
2020

Year

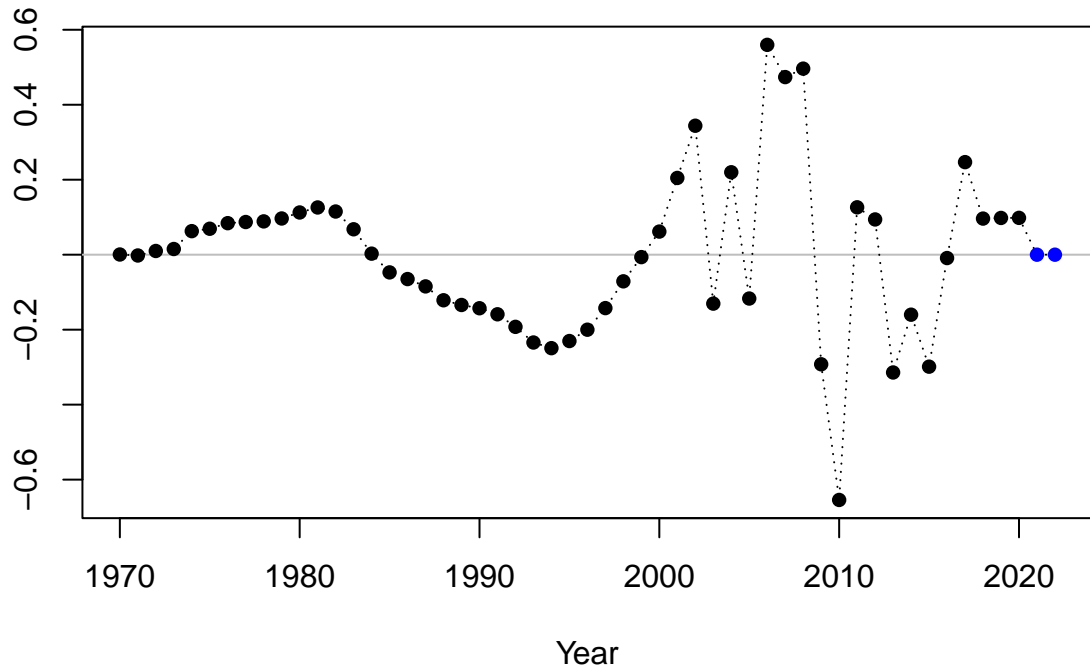


Summary Fishing Mortality





Log recruitment deviation



Log recruitment deviation

1.0  
0.5  
0.0  
-0.5  
-1.0

1970

1980

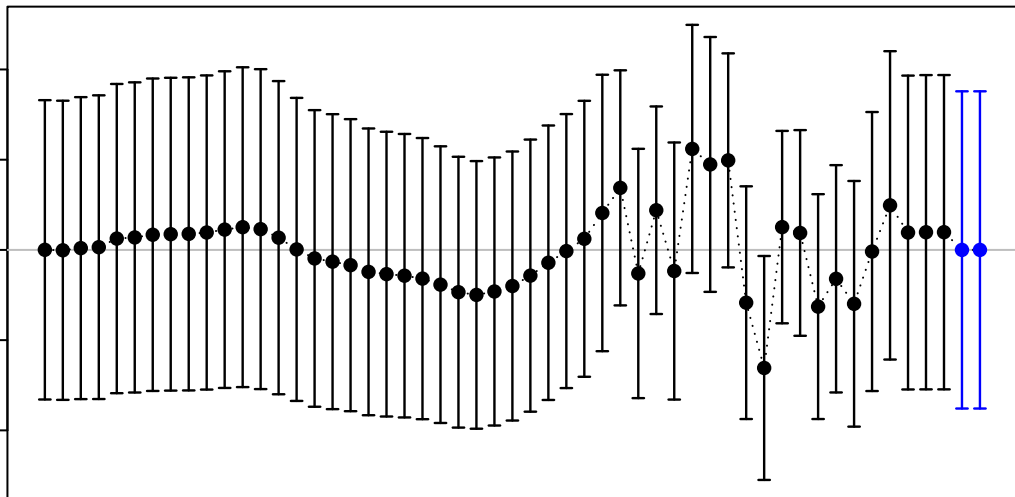
1990

2000

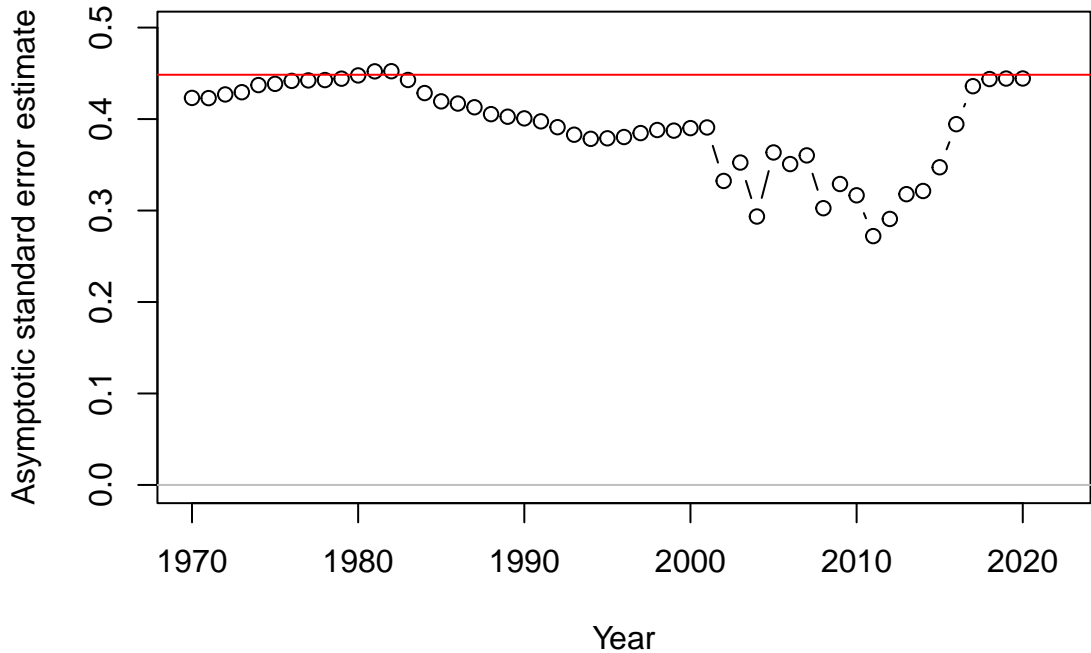
2010

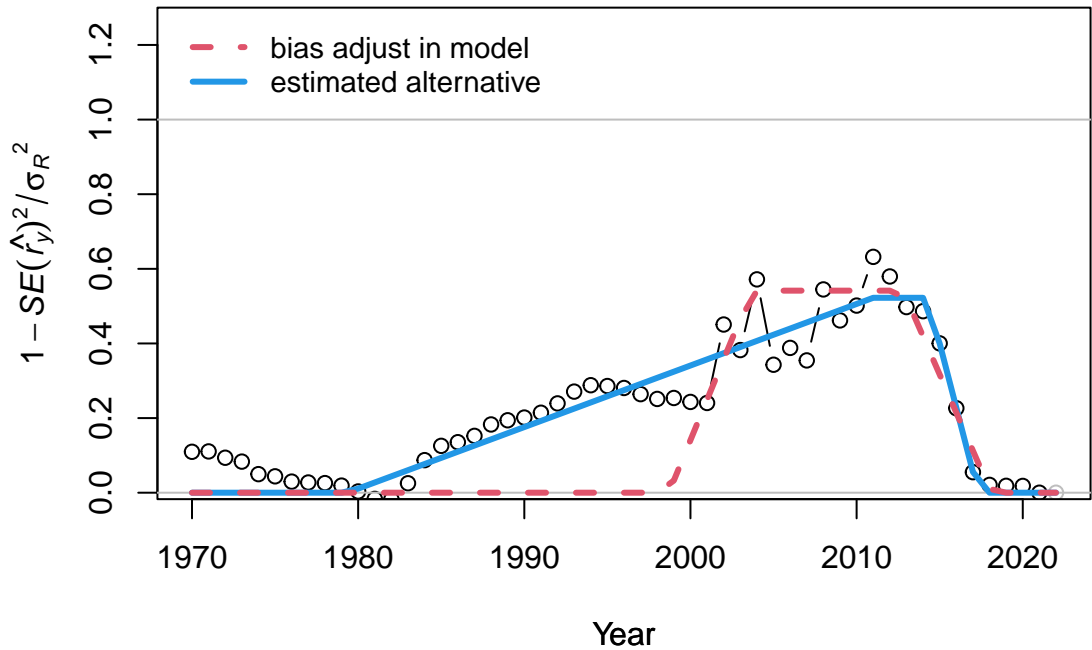
2020

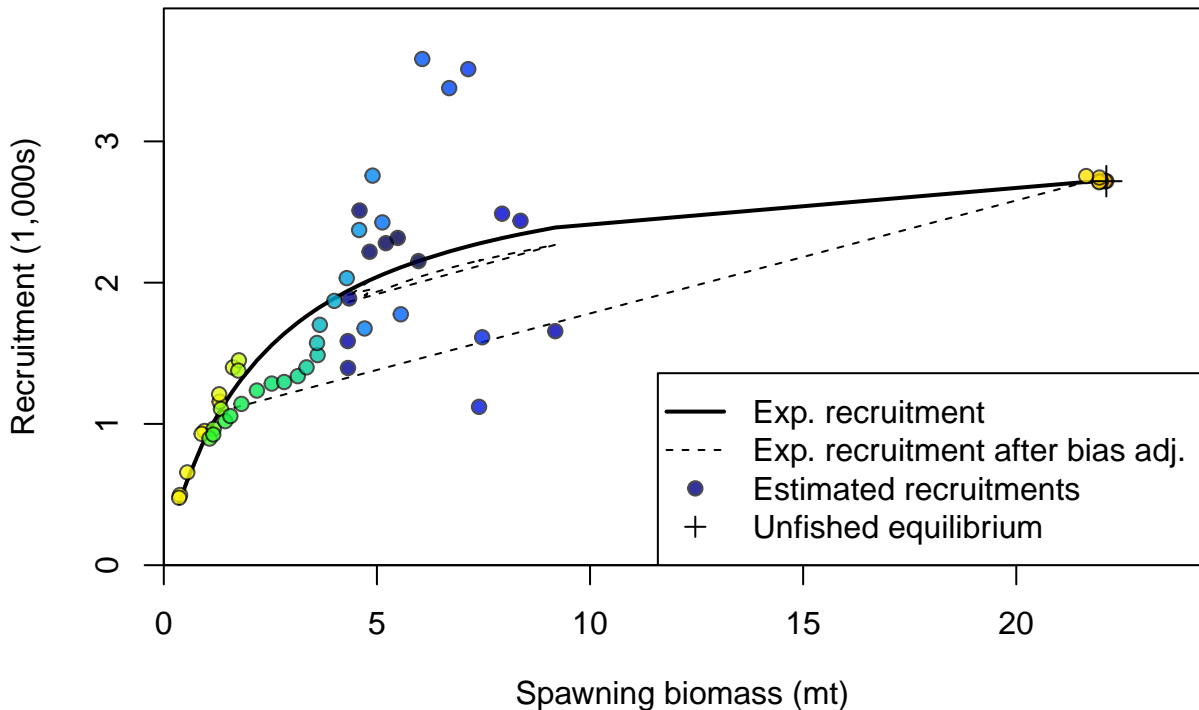
Year



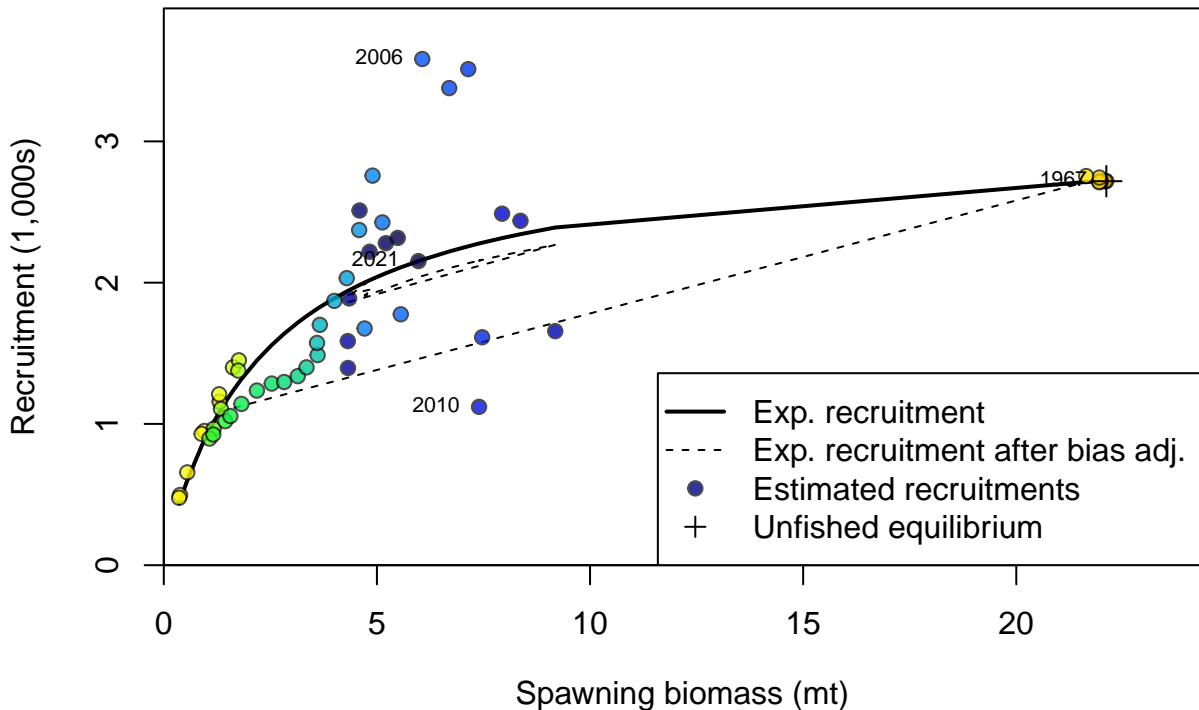
## Recruitment deviation variance

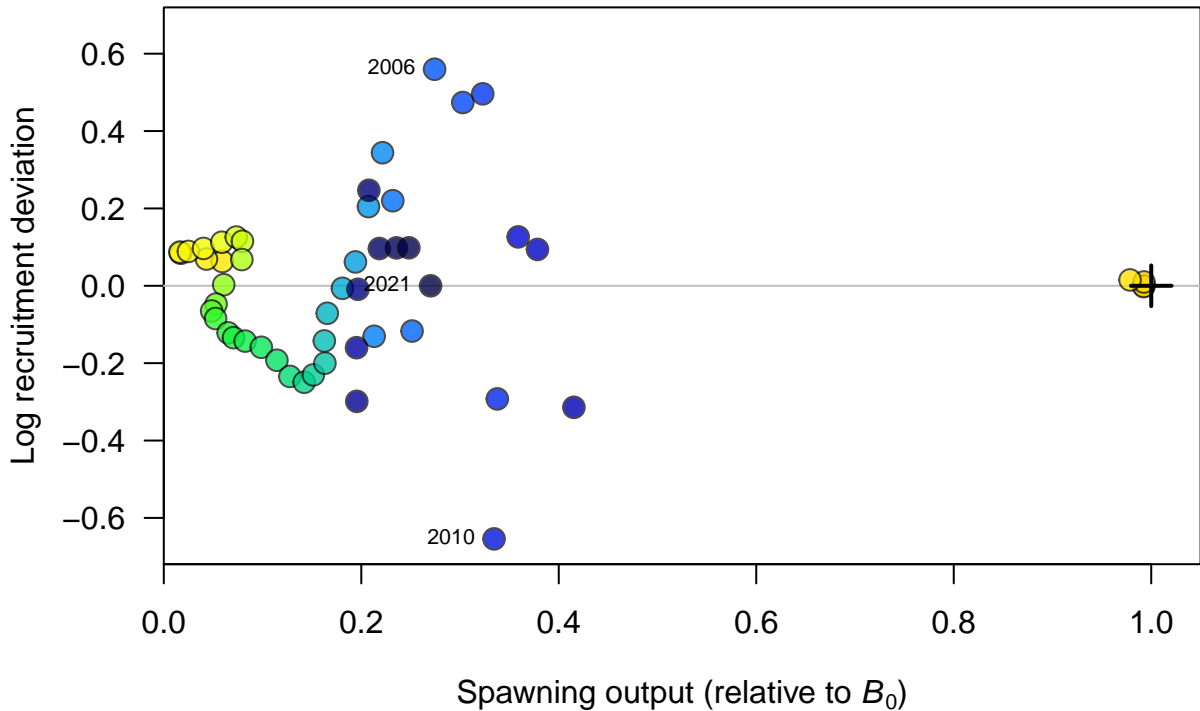


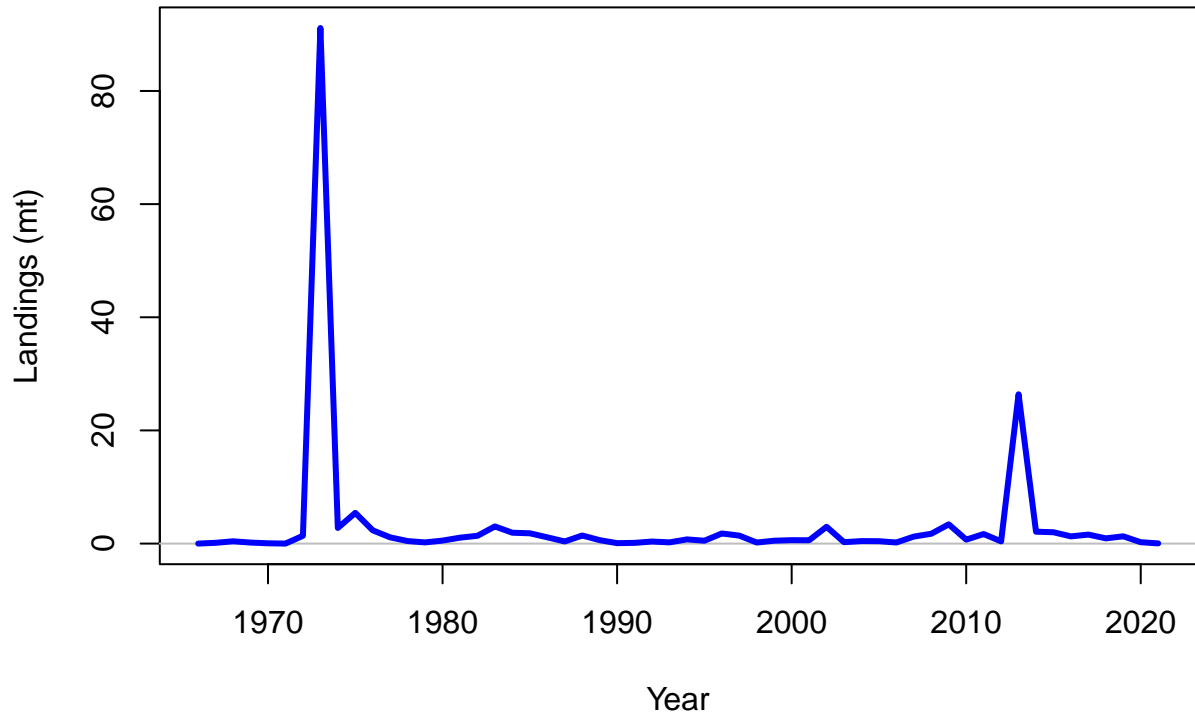


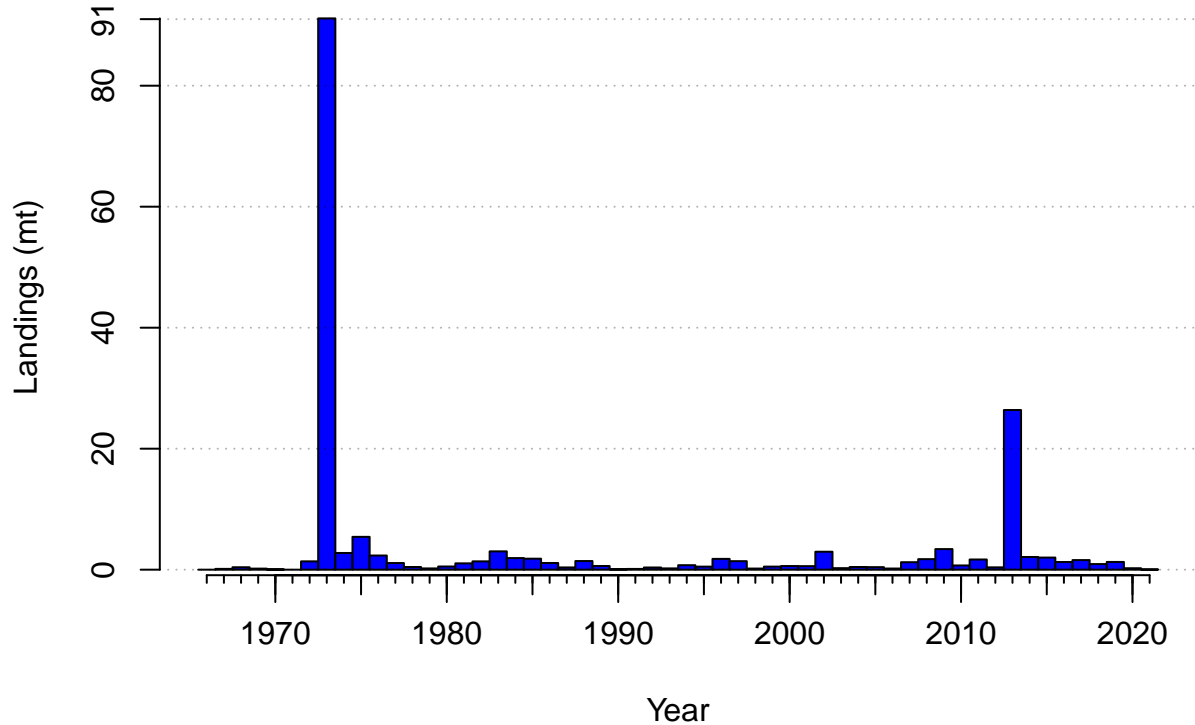


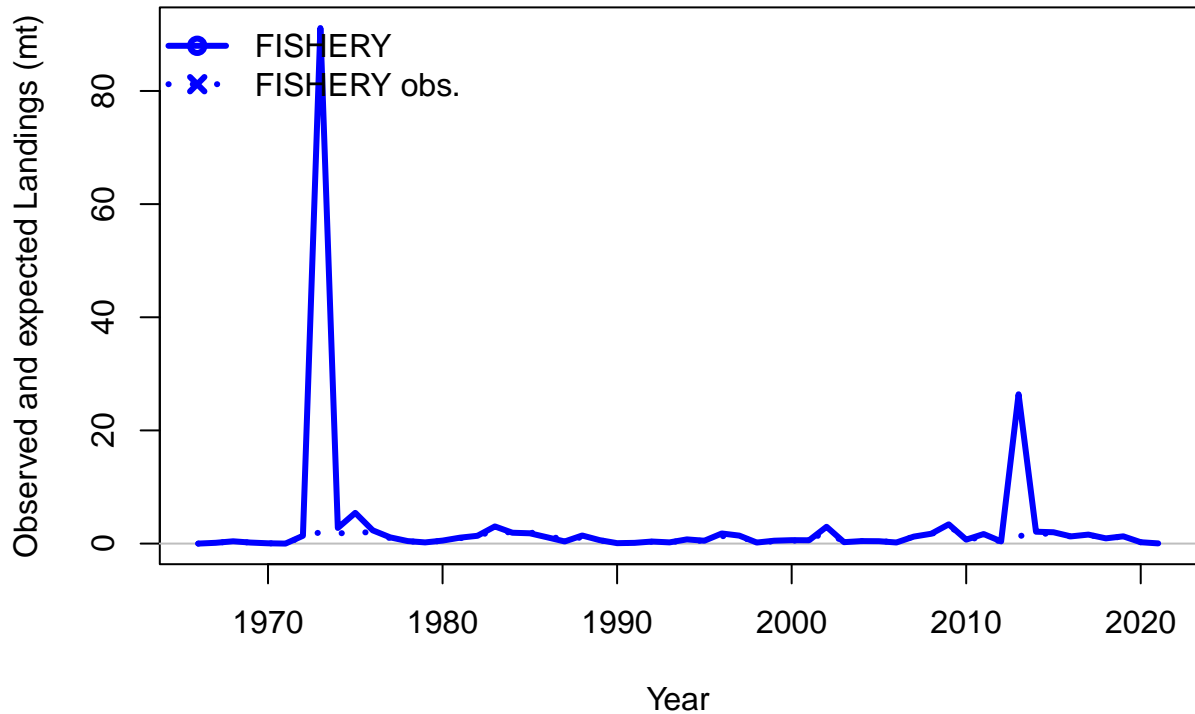


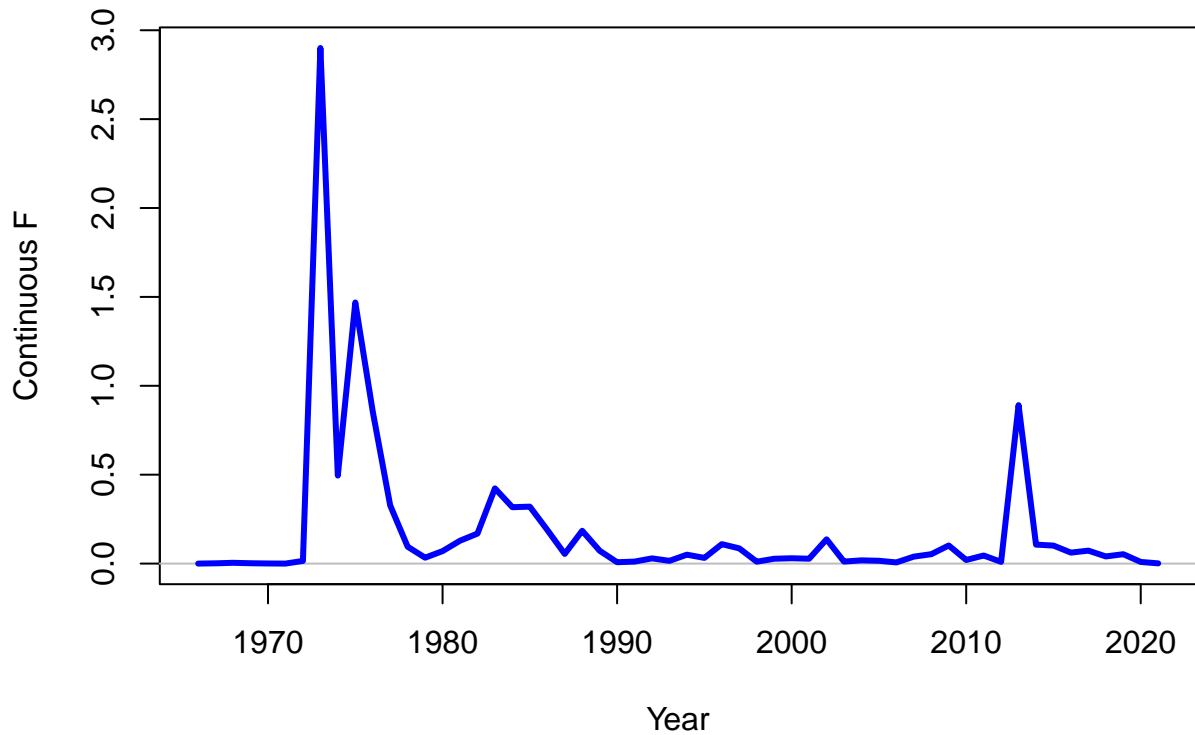




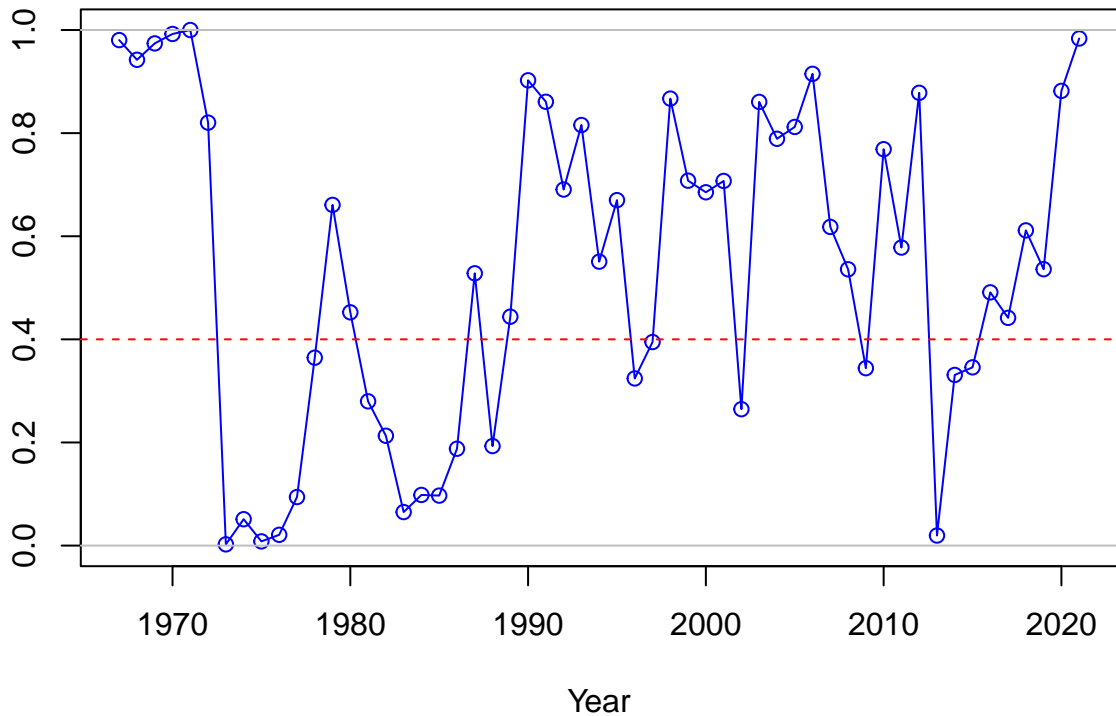




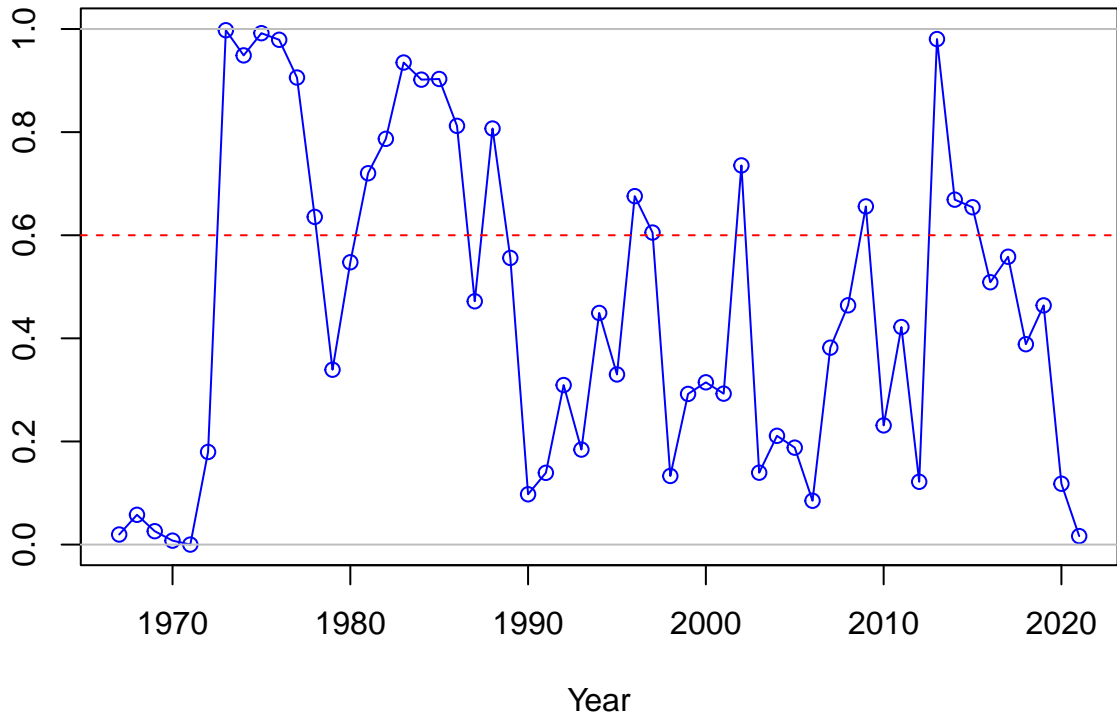




SPR

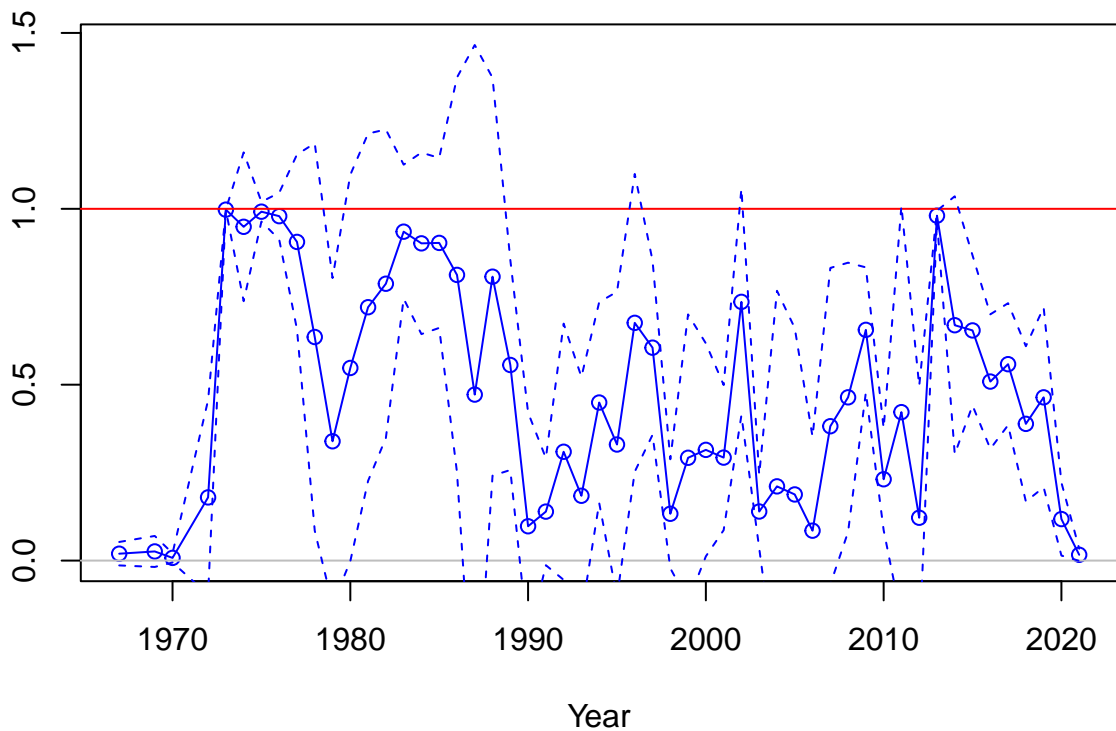


1-SPR

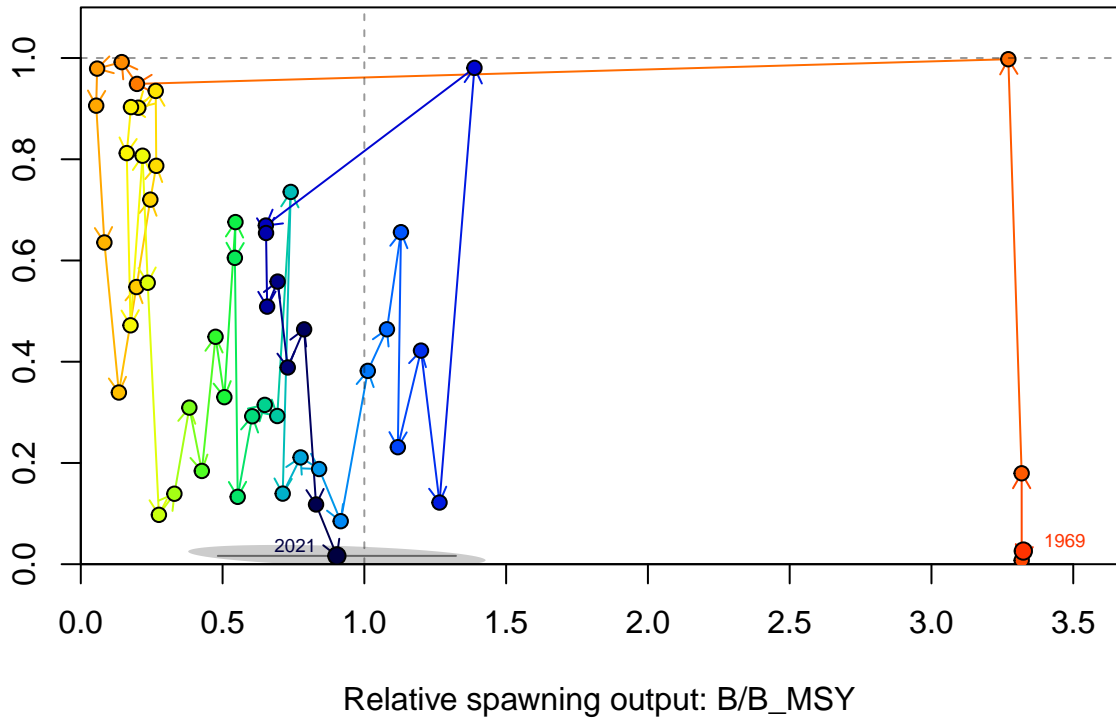




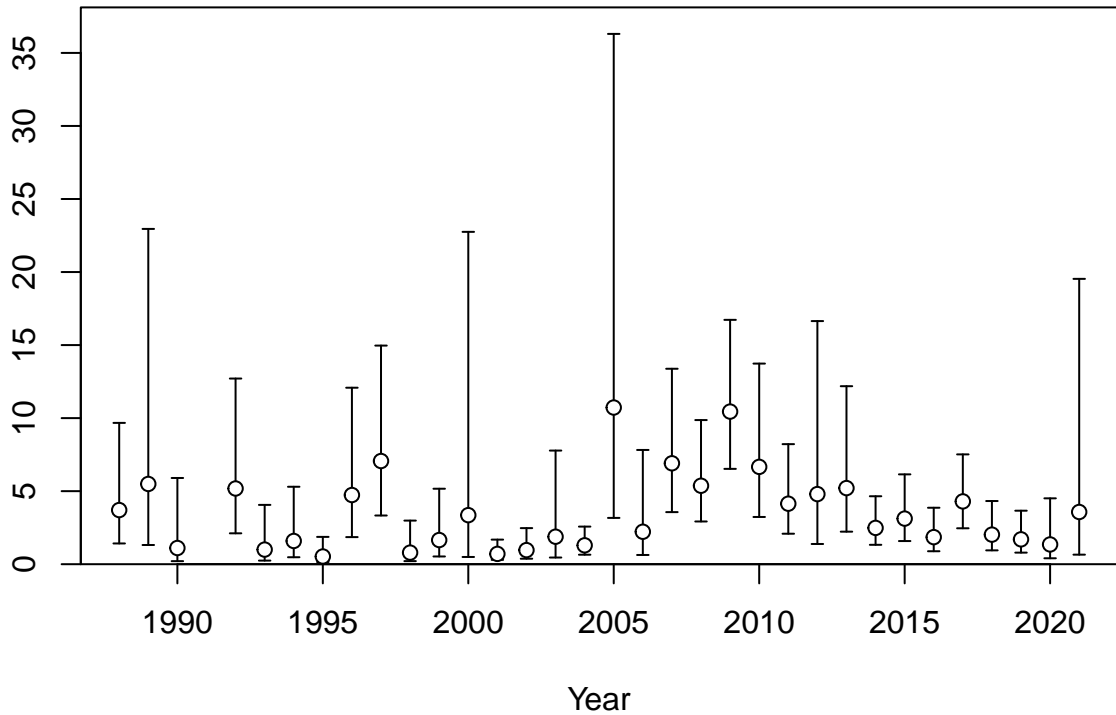
Fishing intensity: 1-SPR



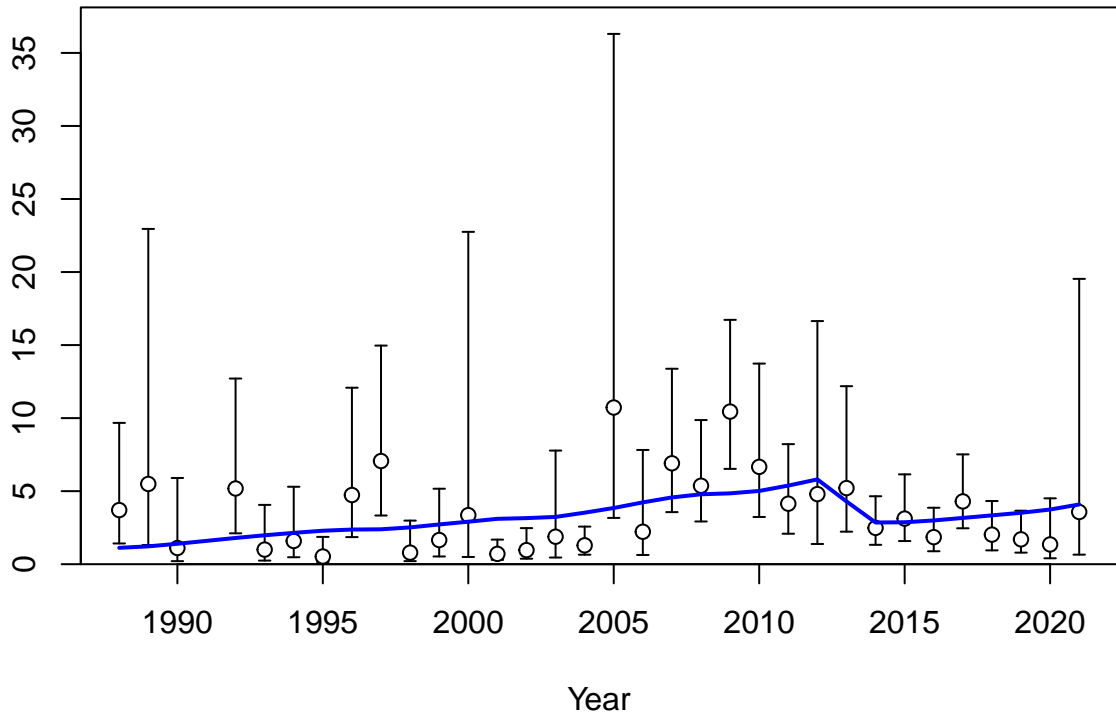
Fishing intensity: 1-SPR

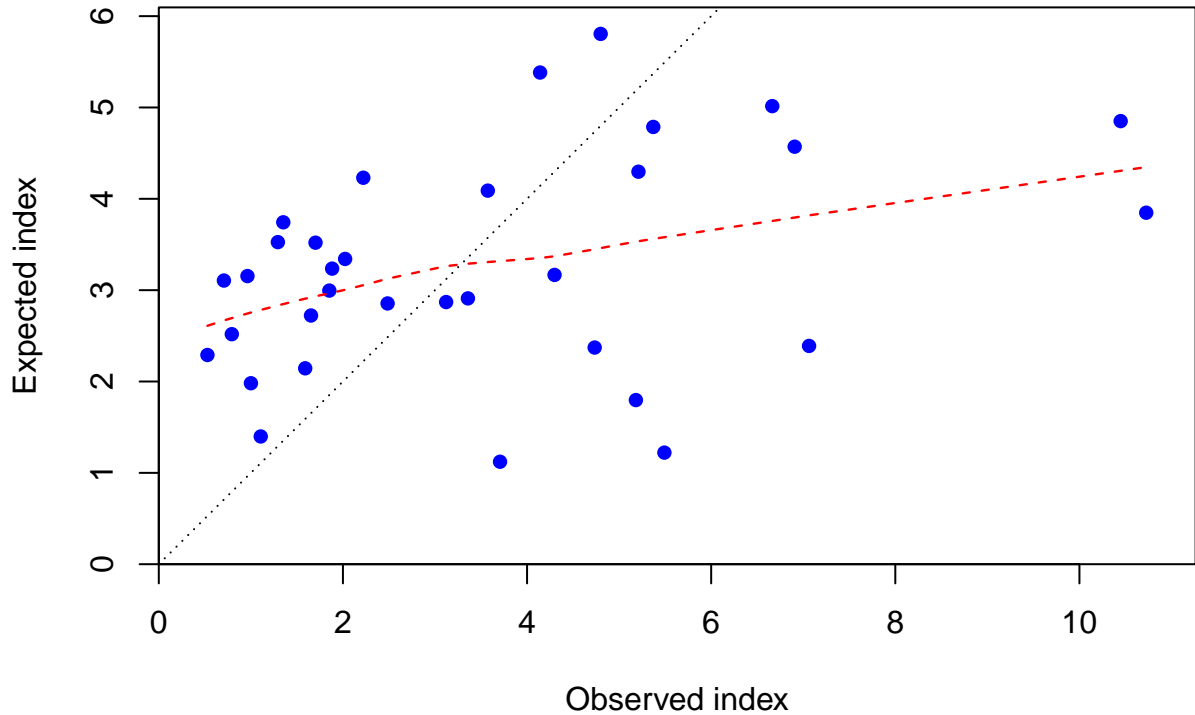


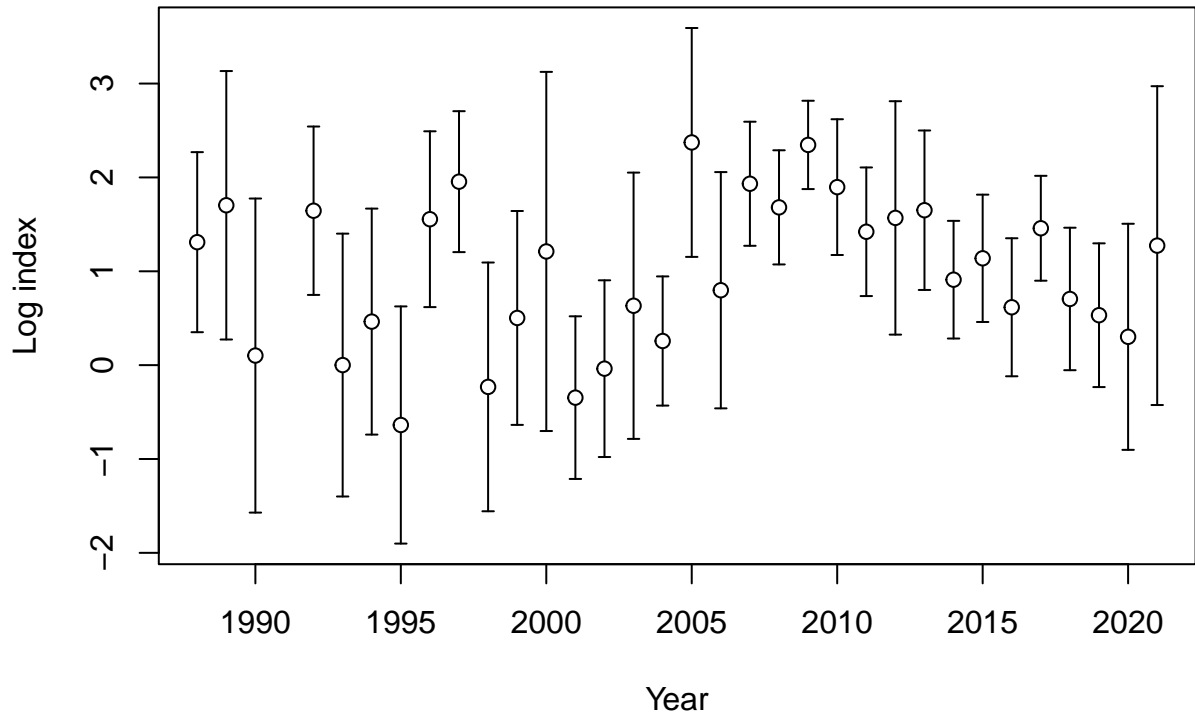
Index

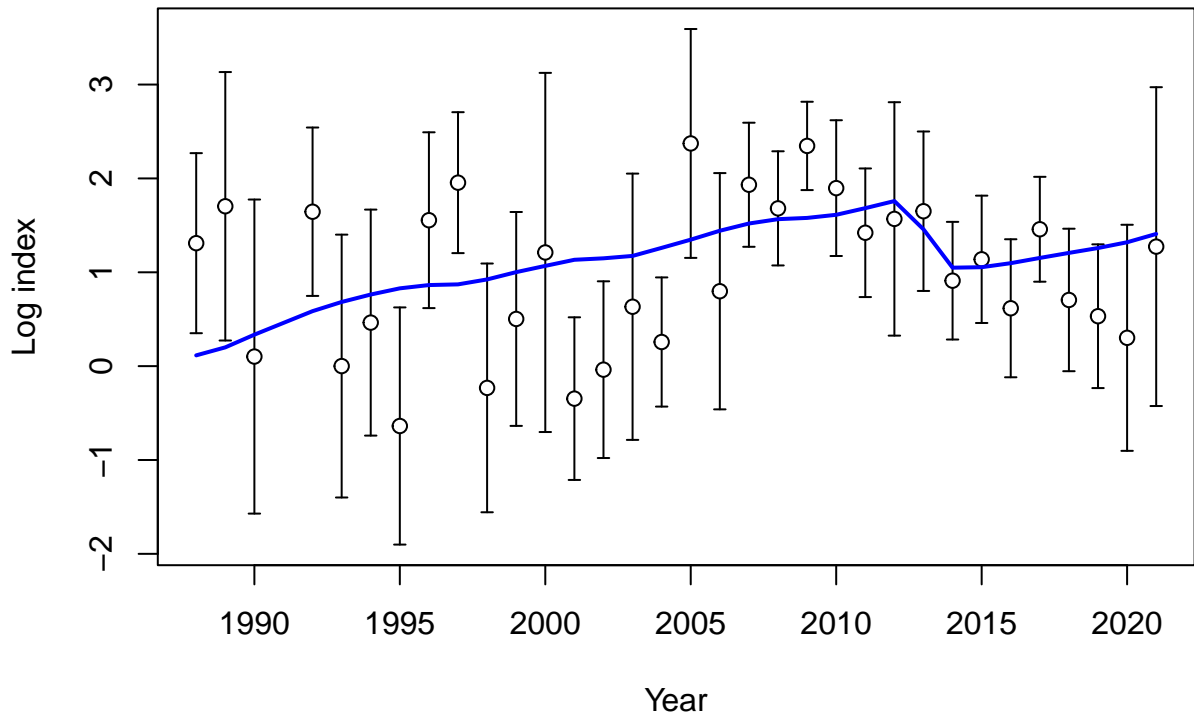


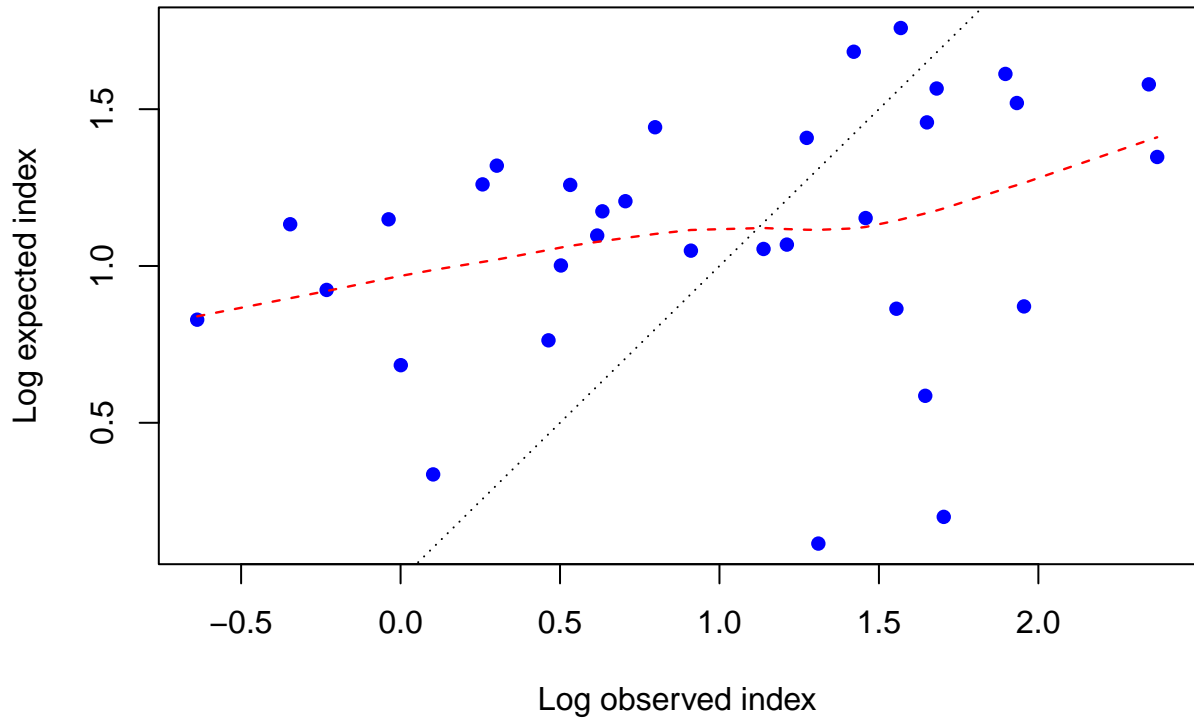
Index



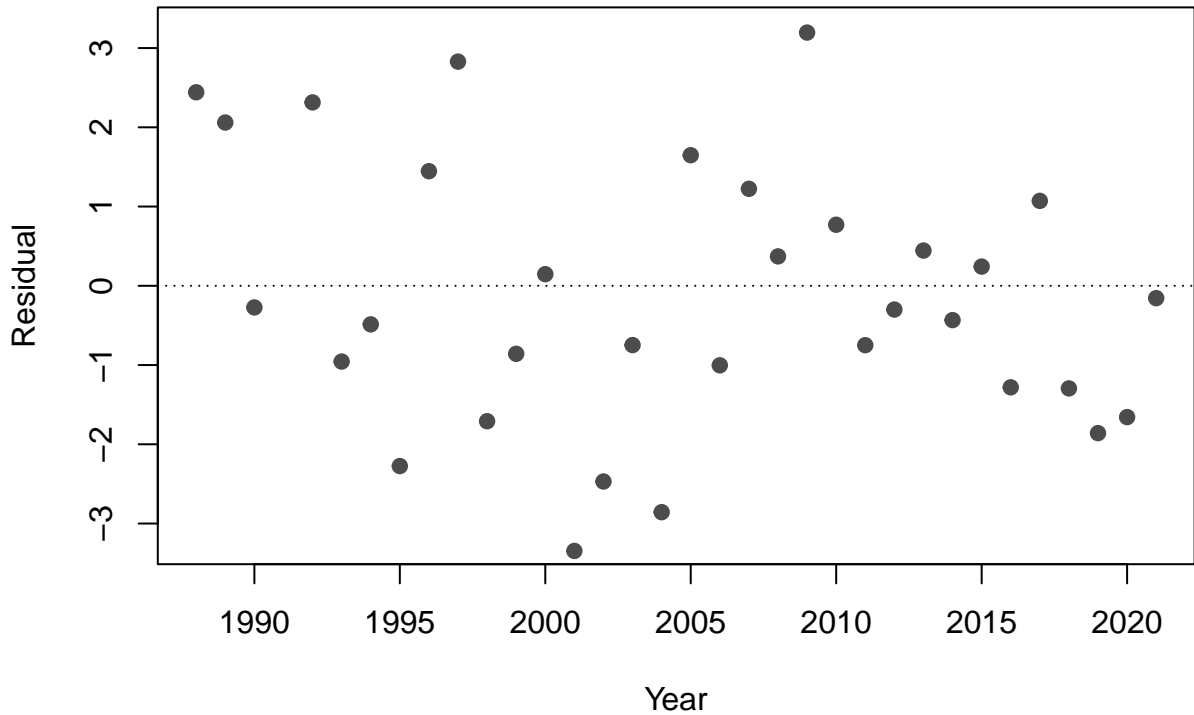




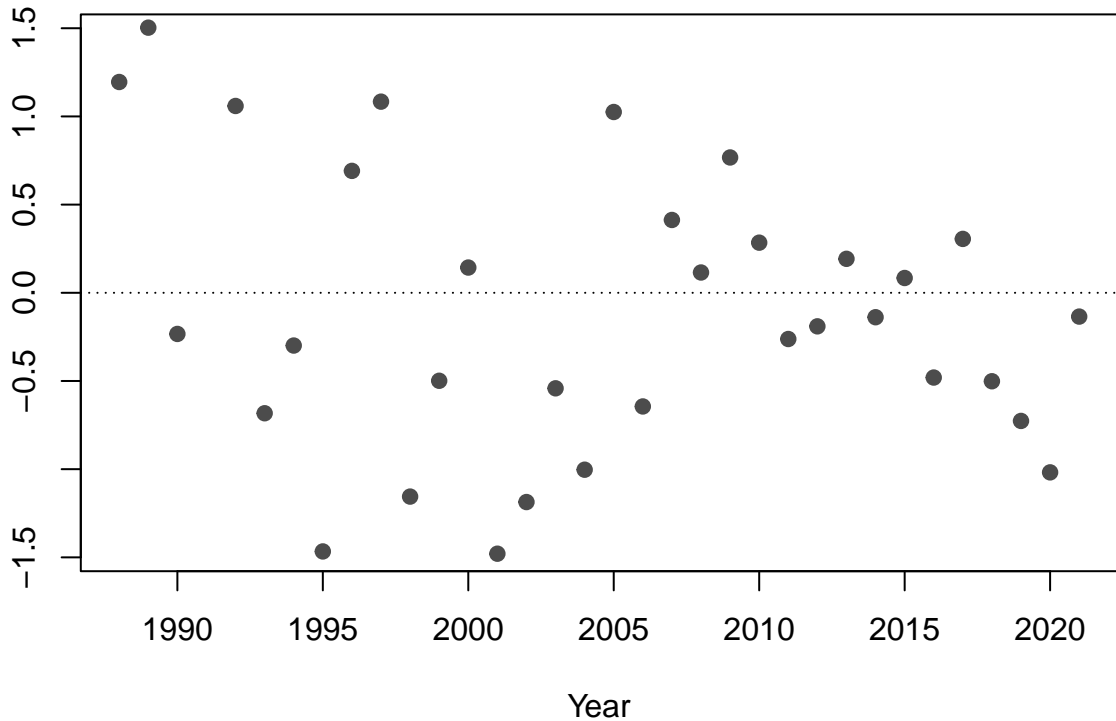


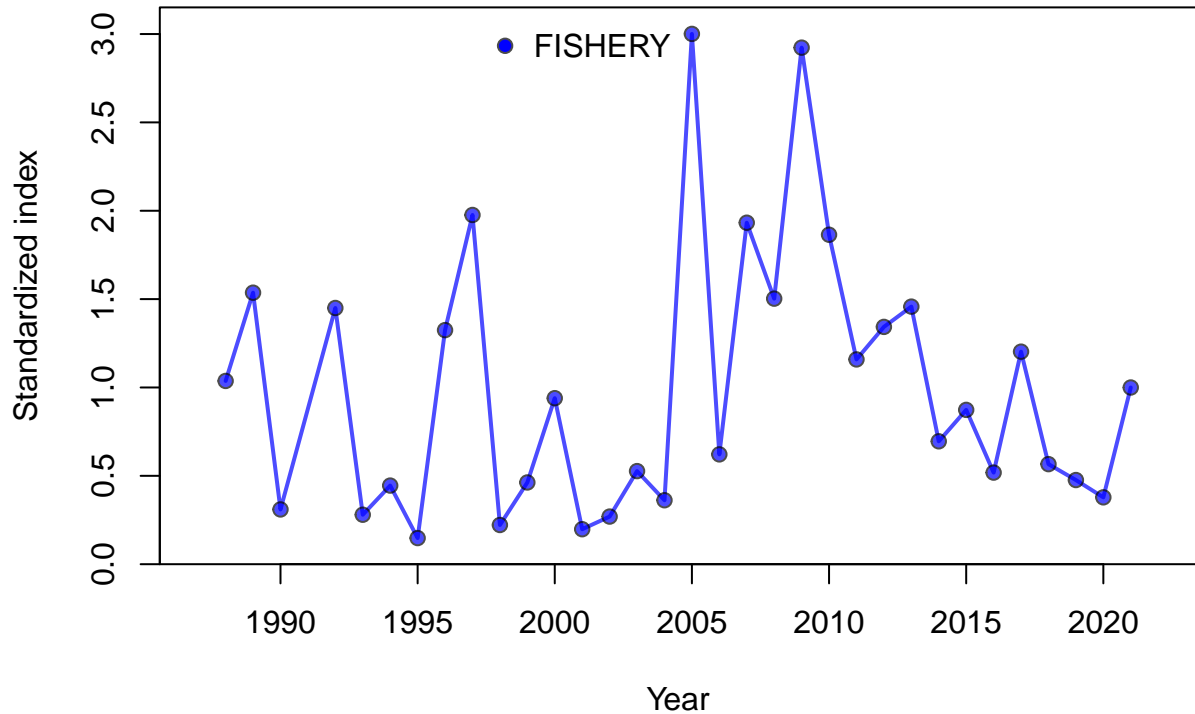


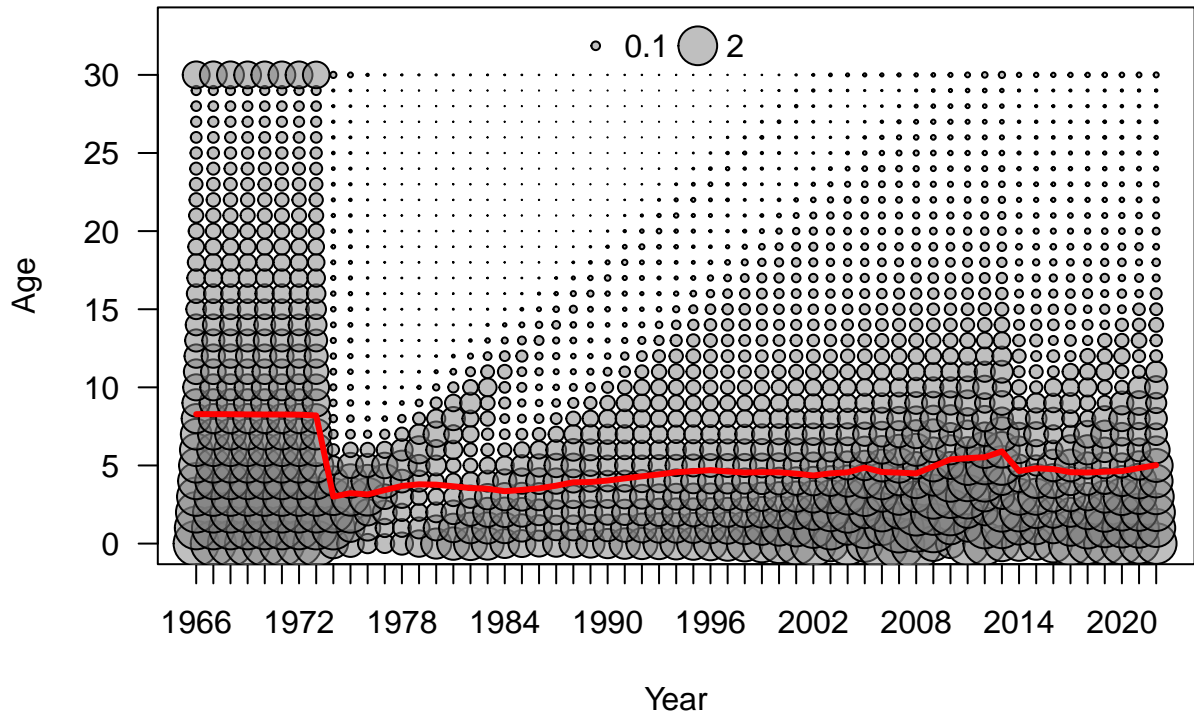


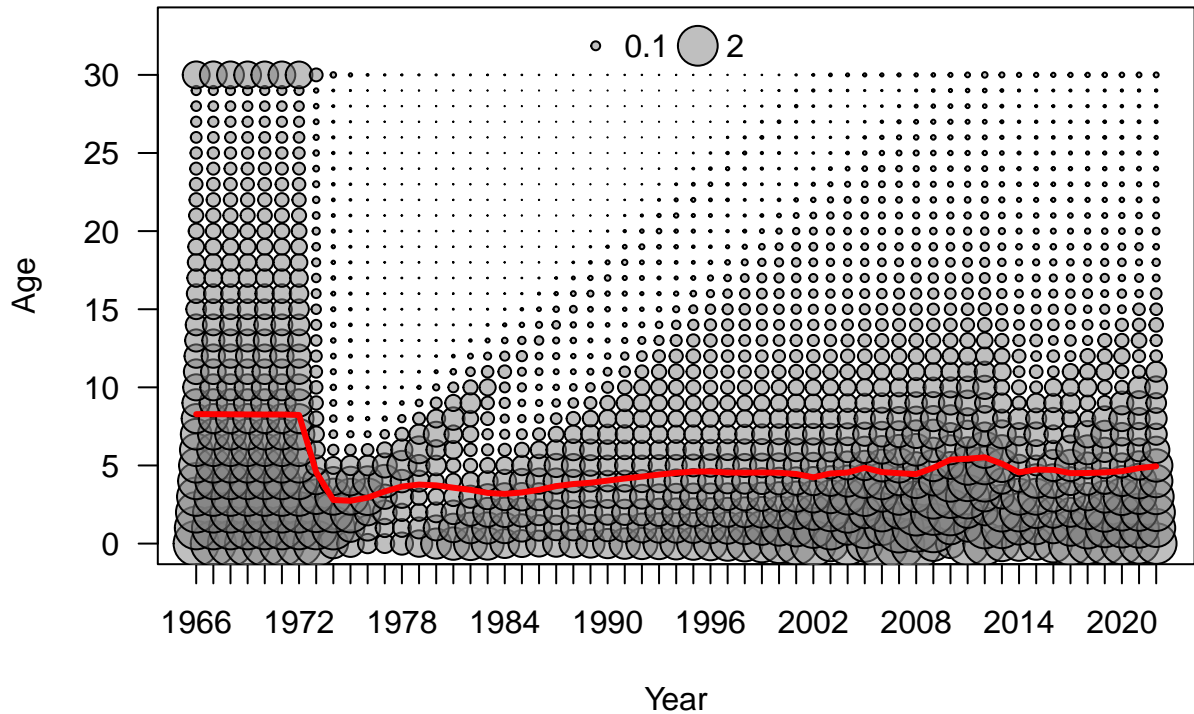


Deviation









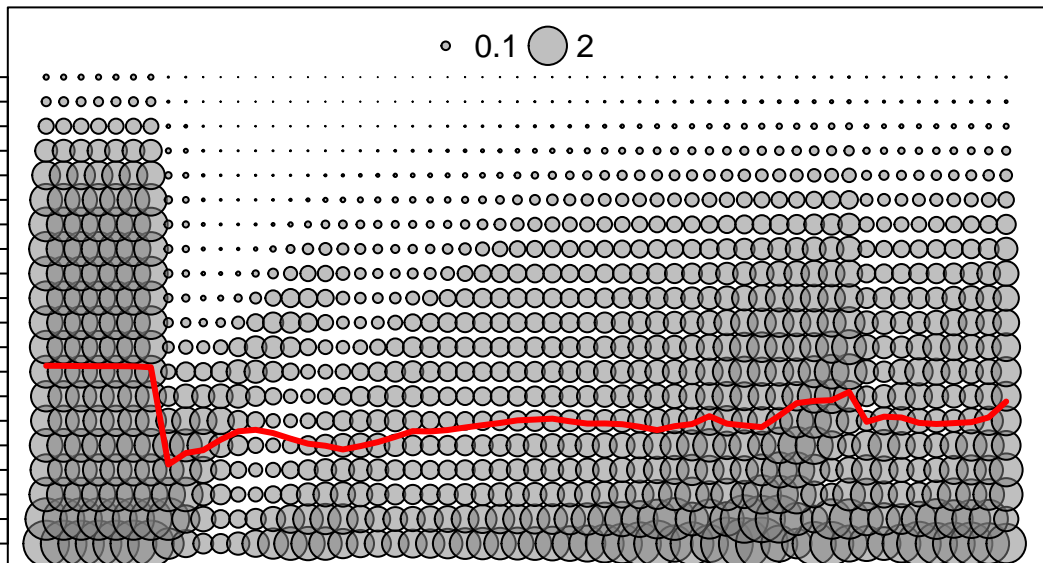
Length

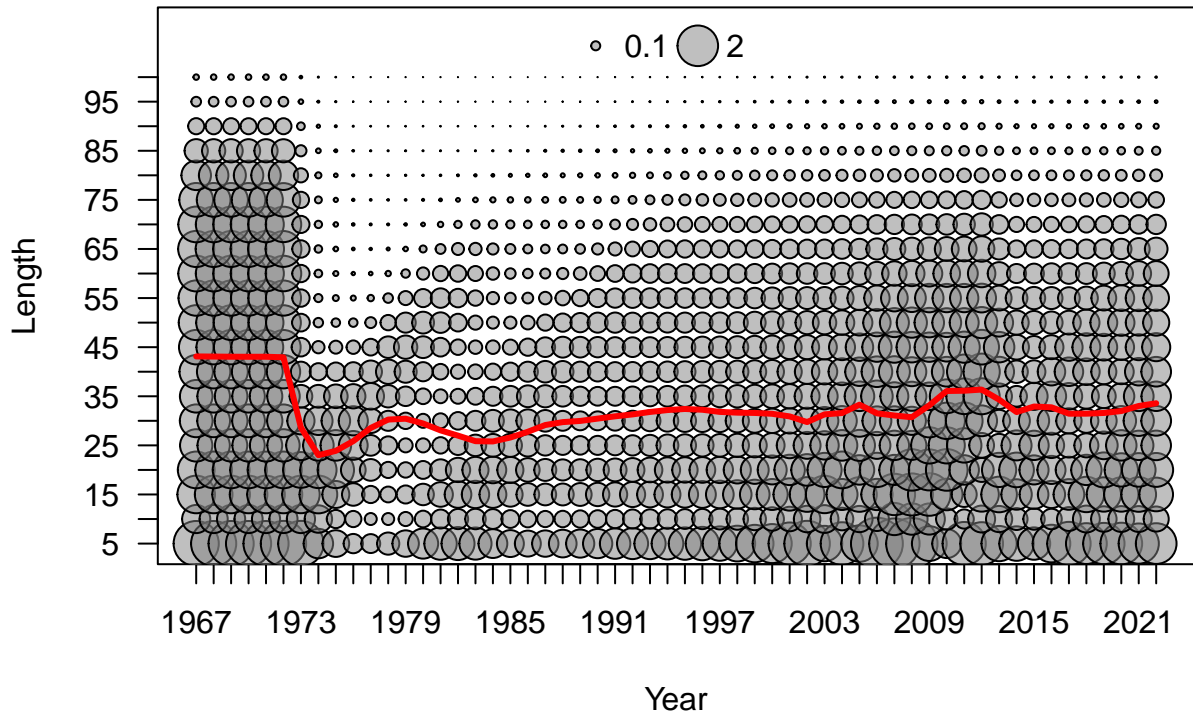
◦ 0.1    ● 2

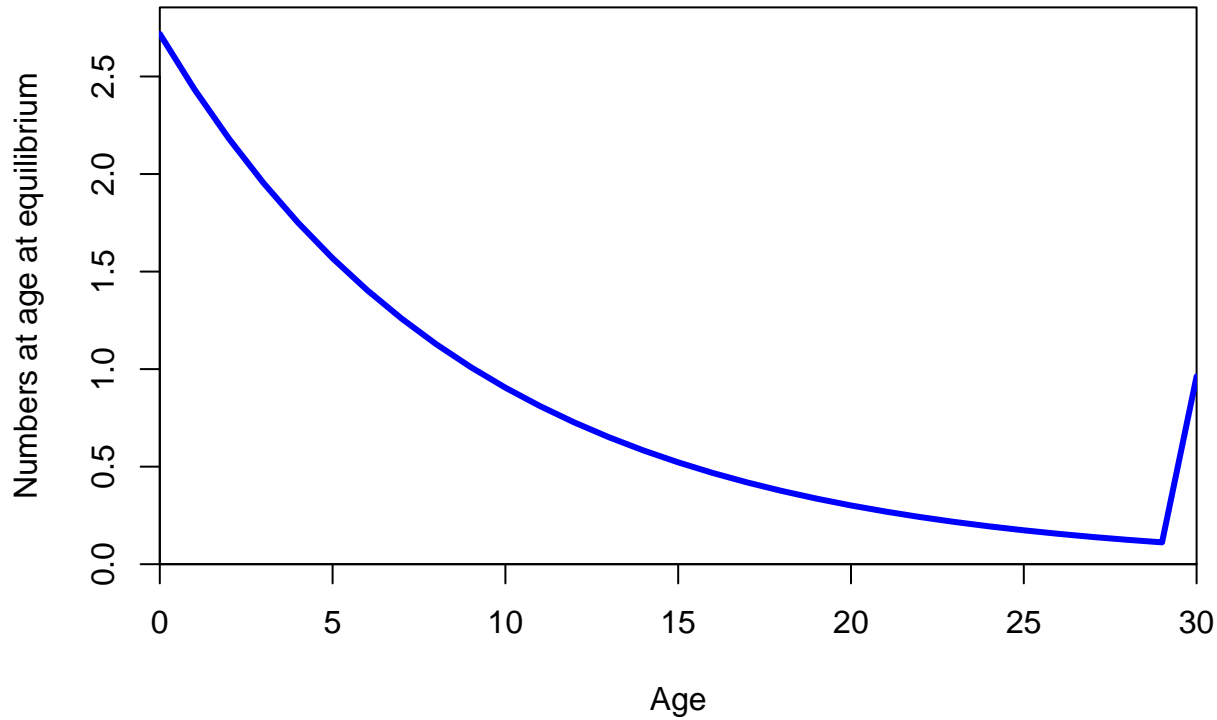
95  
85  
75  
65  
55  
45  
35  
25  
15  
5

1967 1973 1979 1985 1991 1997 2003 2009 2015 2021

Year



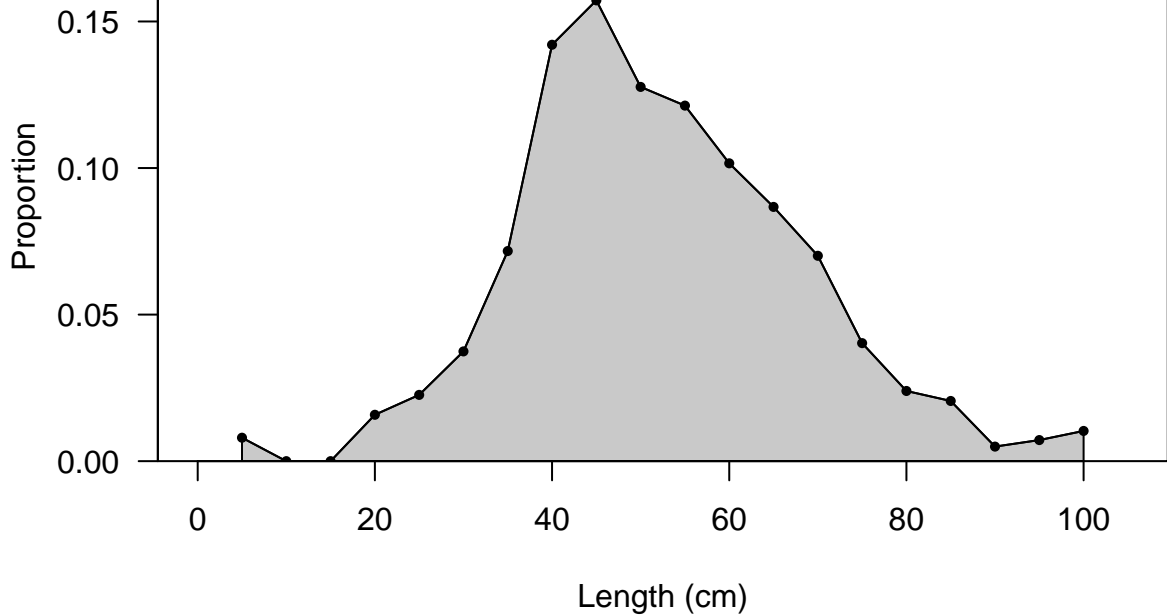


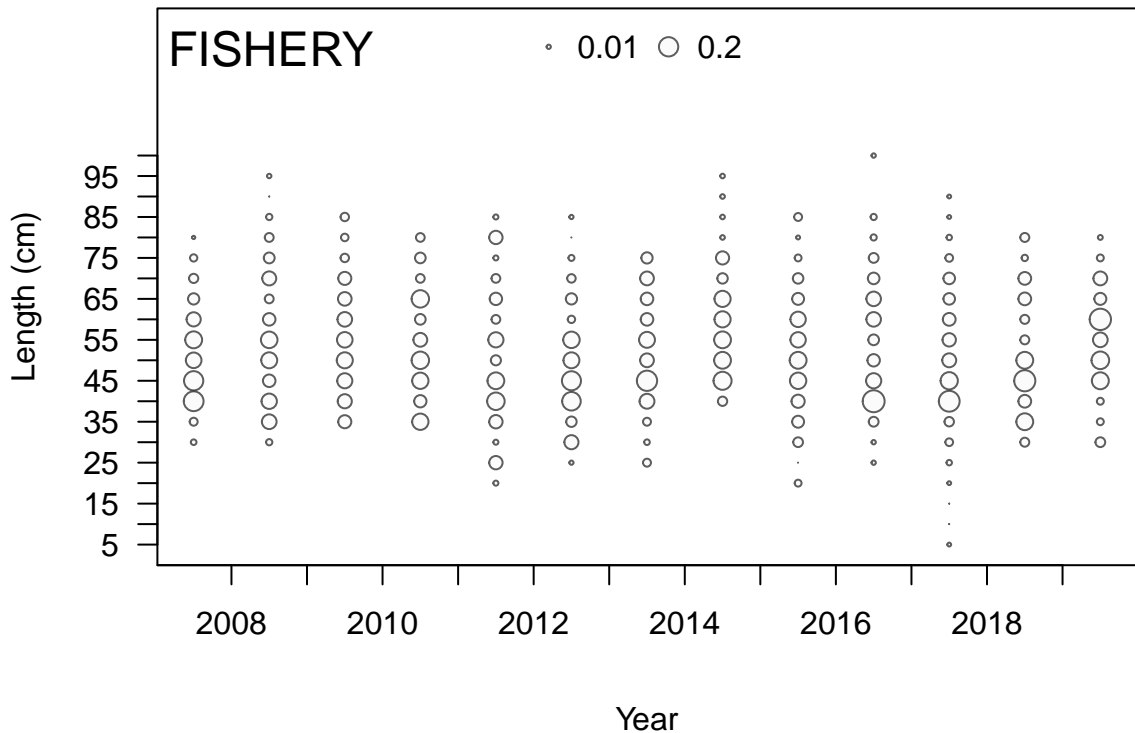




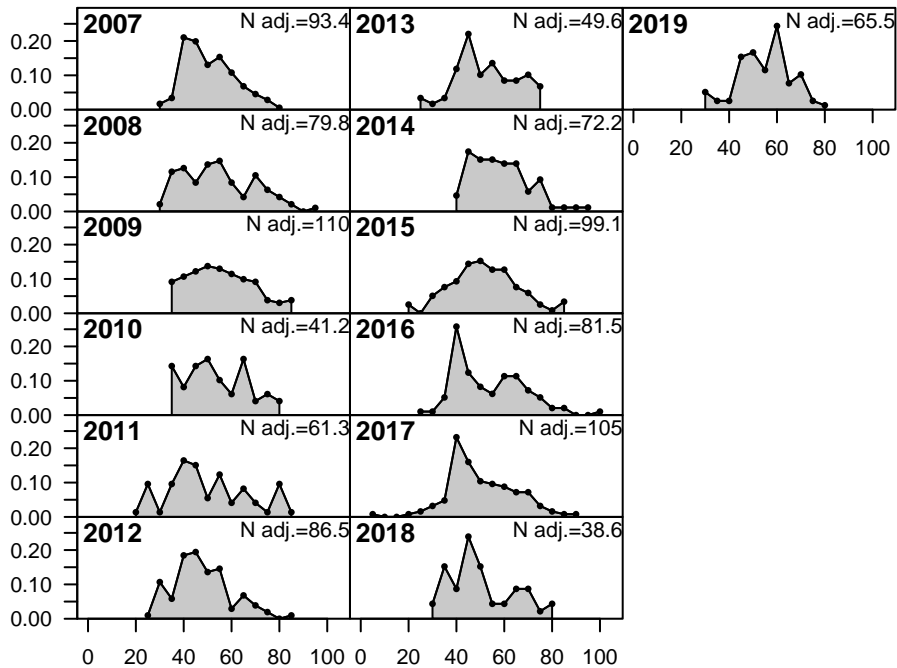
# FISHERY

Sum of N adj.=983.8

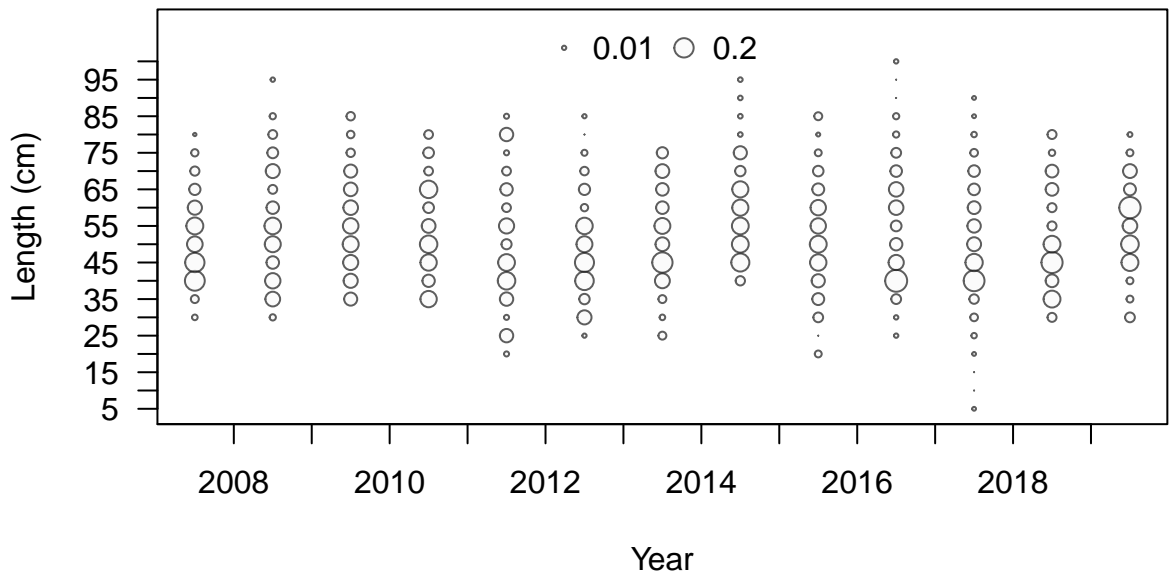




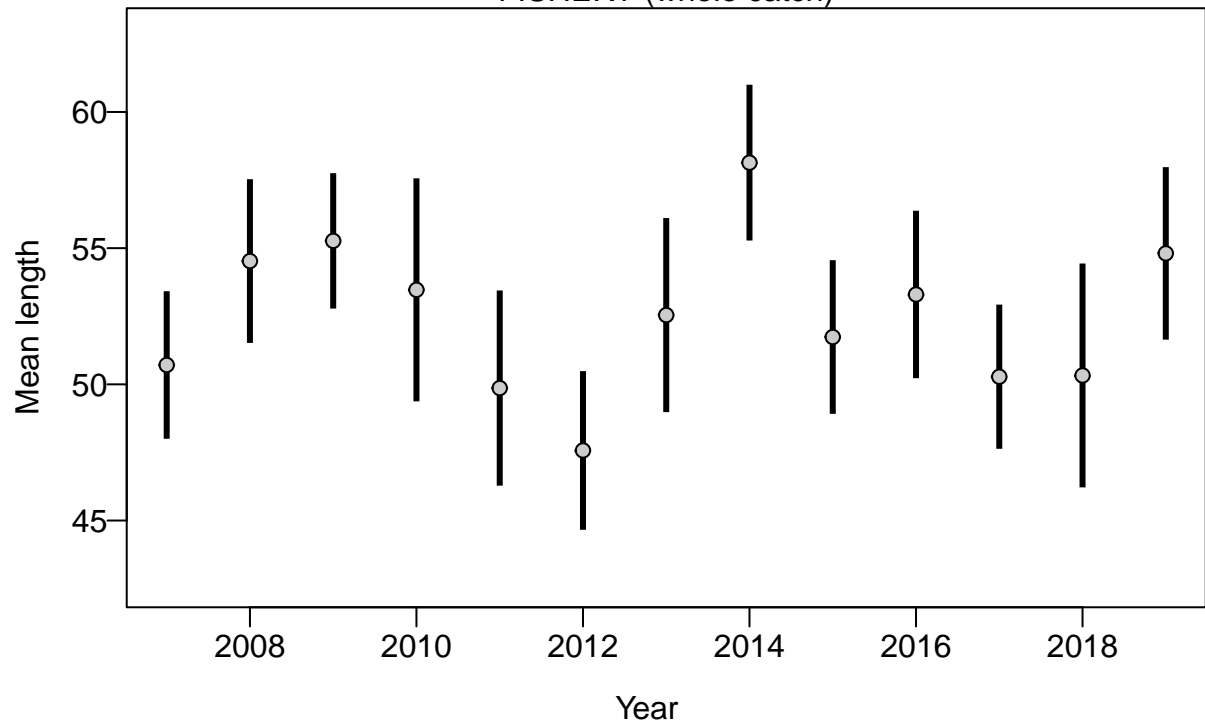
Proportion



Length (cm)

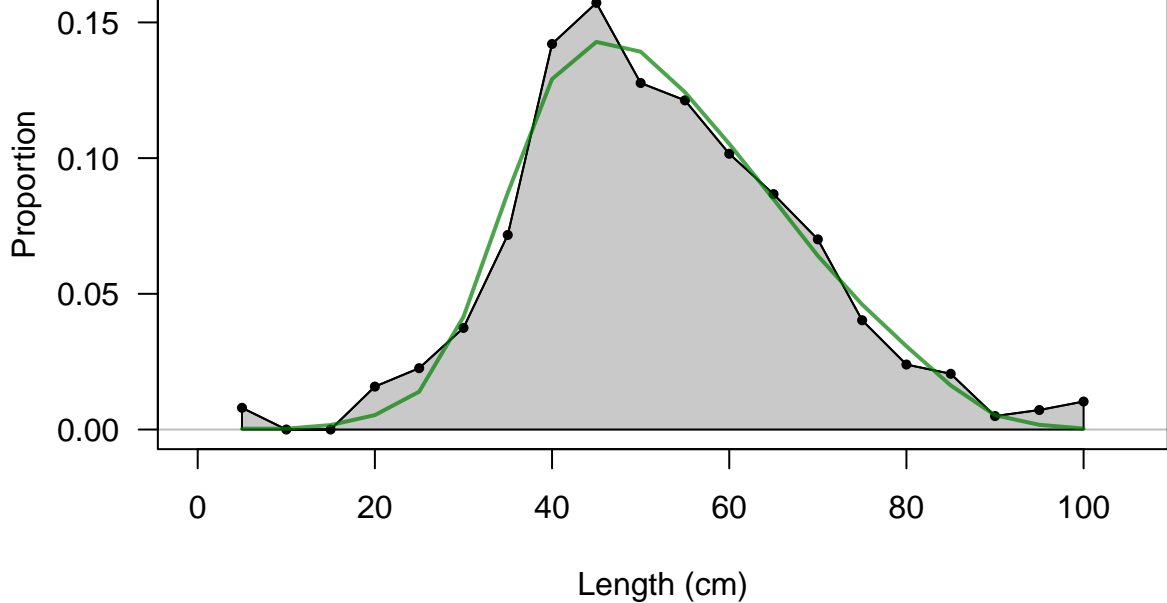


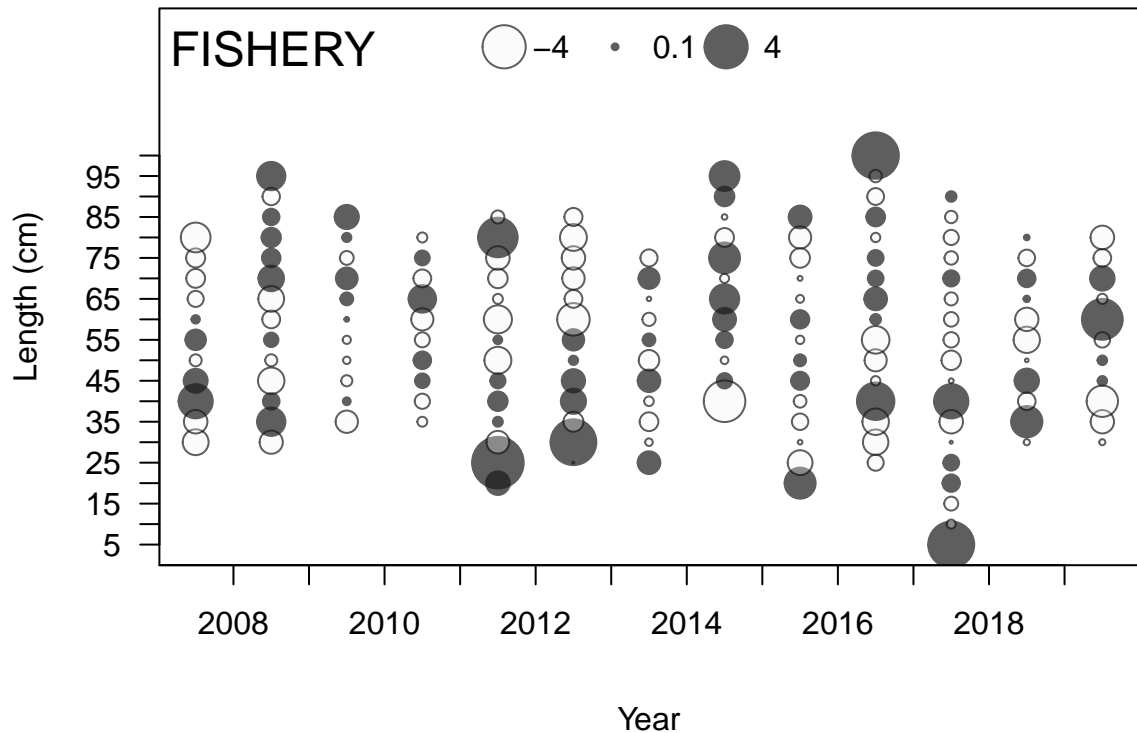
FISHERY (whole catch)

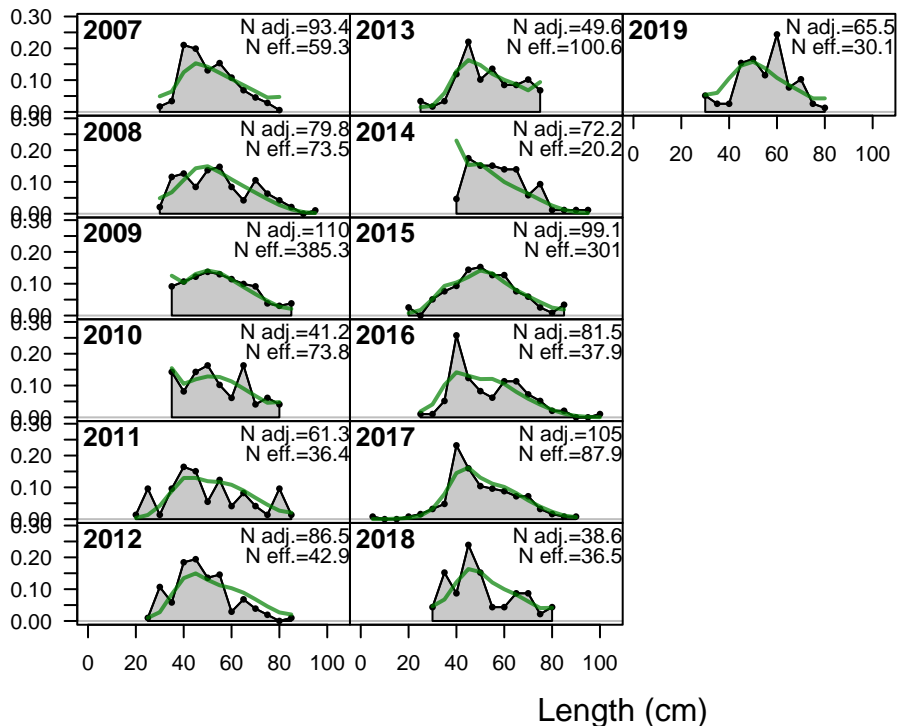


# FISHERY

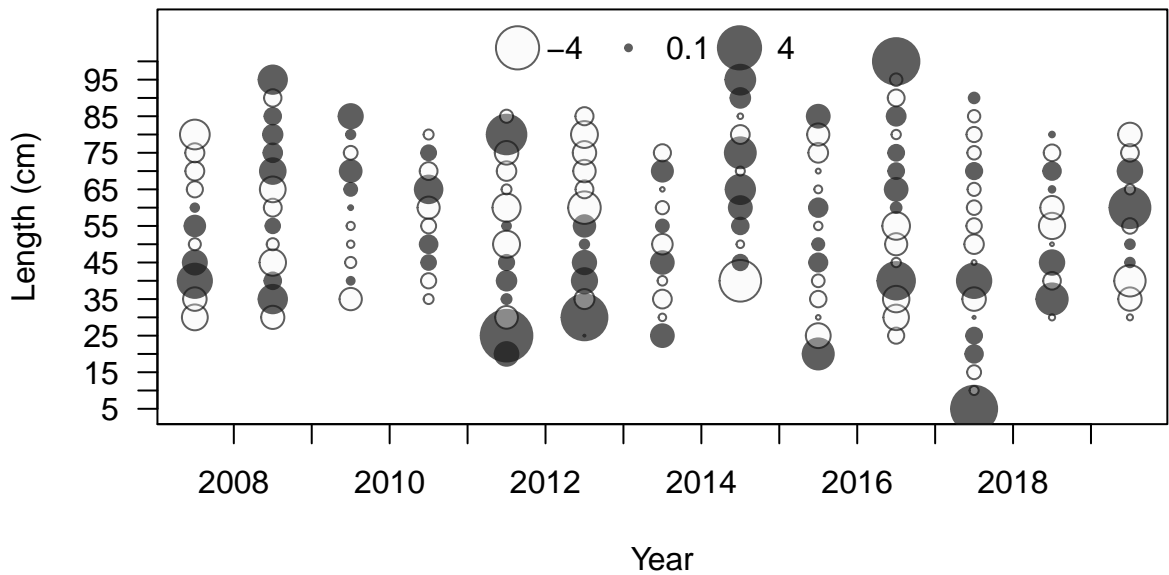
Sum of N adj.=983.8  
Sum of N eff.=1285.4



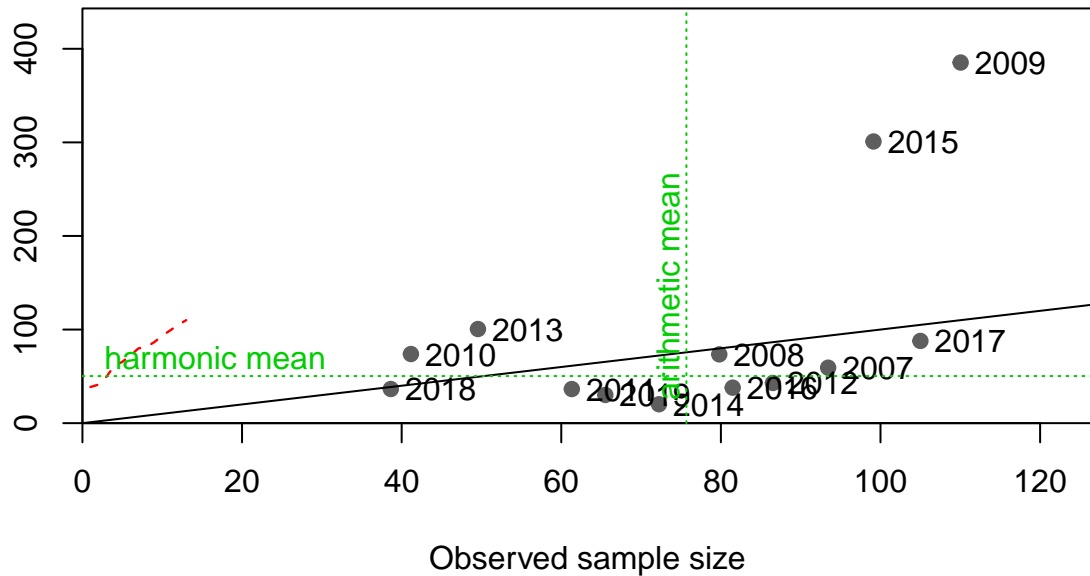




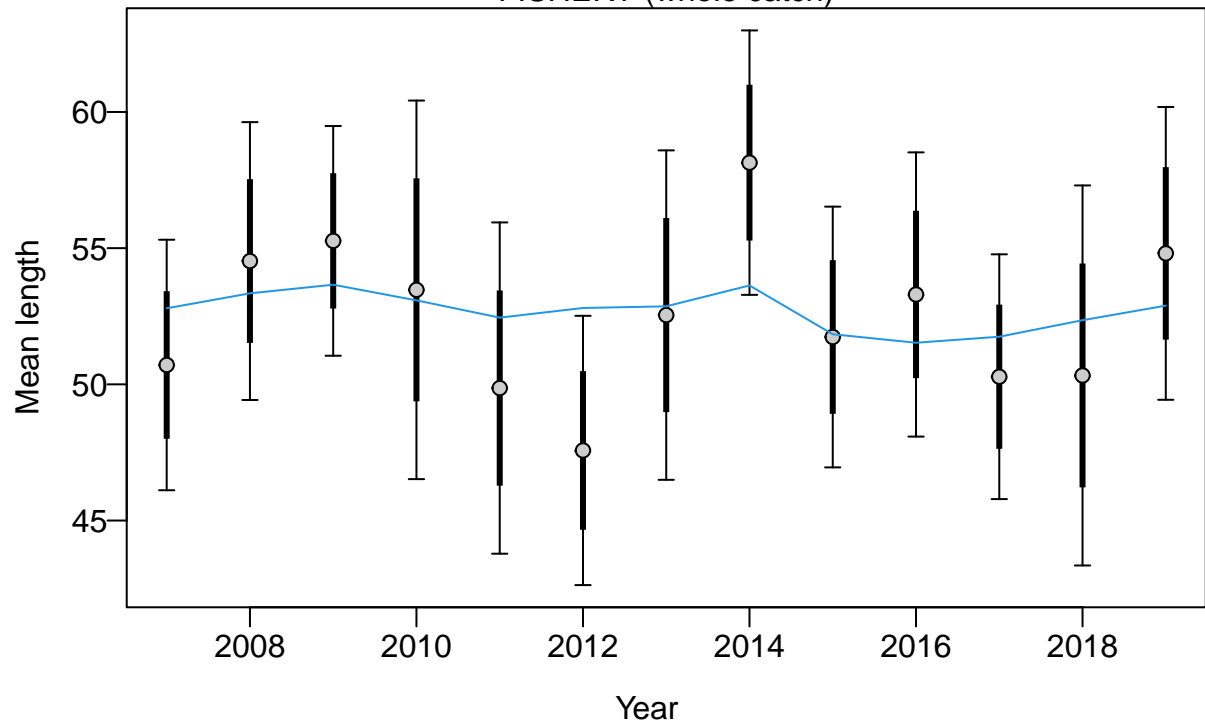


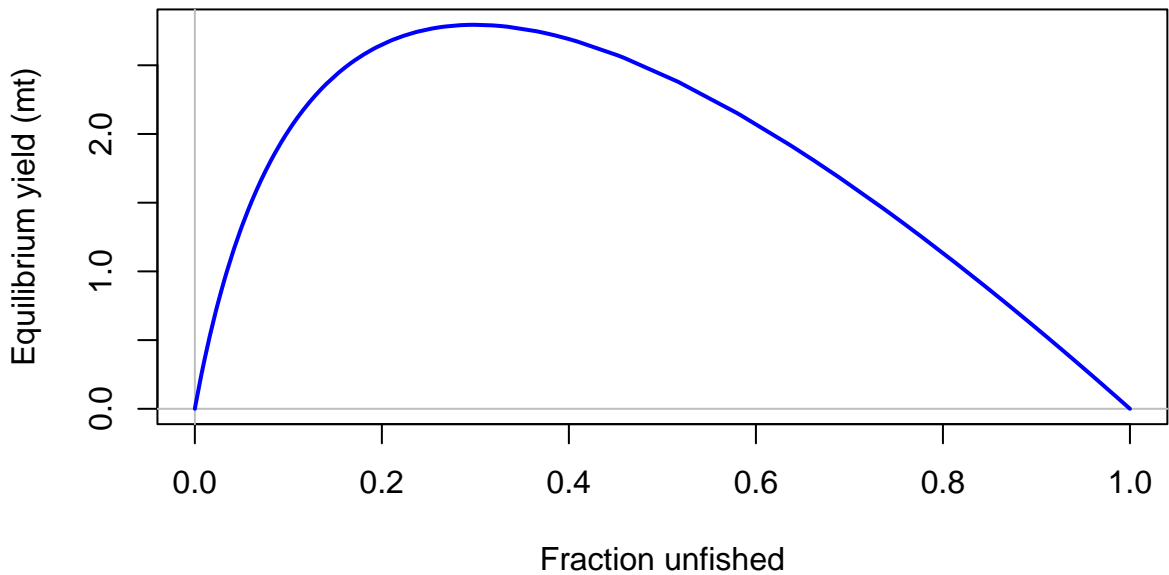


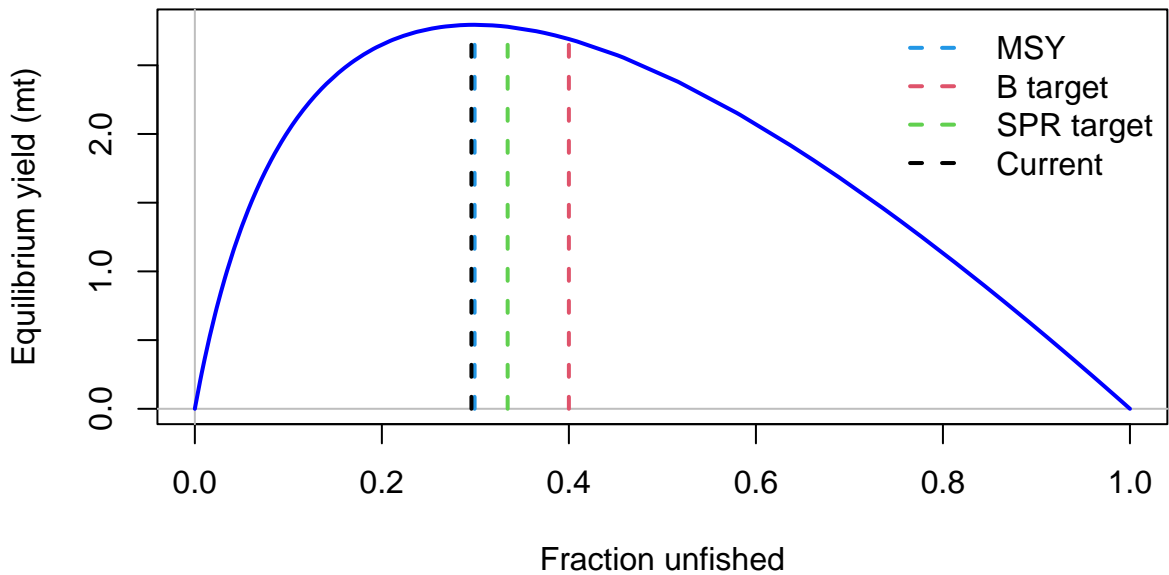
Effective sample size



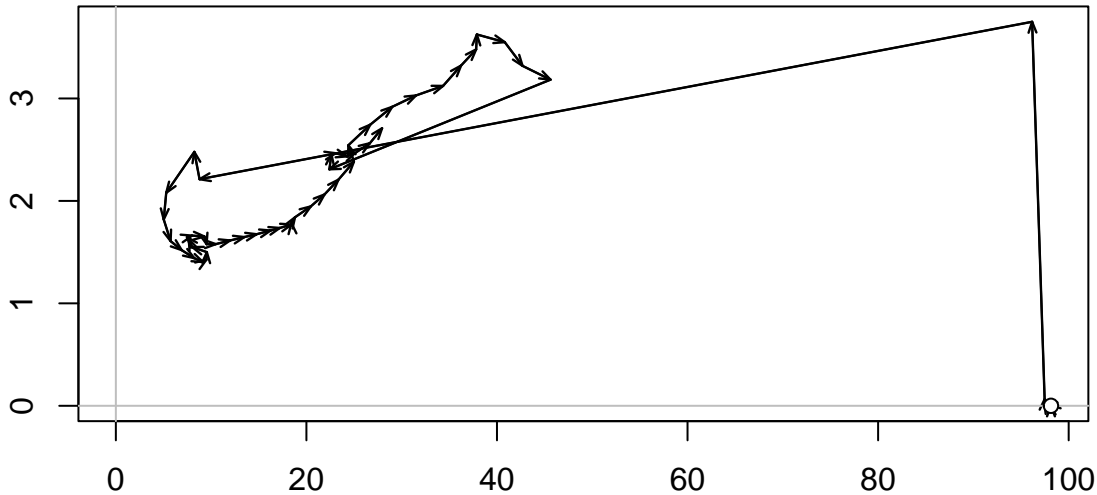
FISHERY (whole catch)



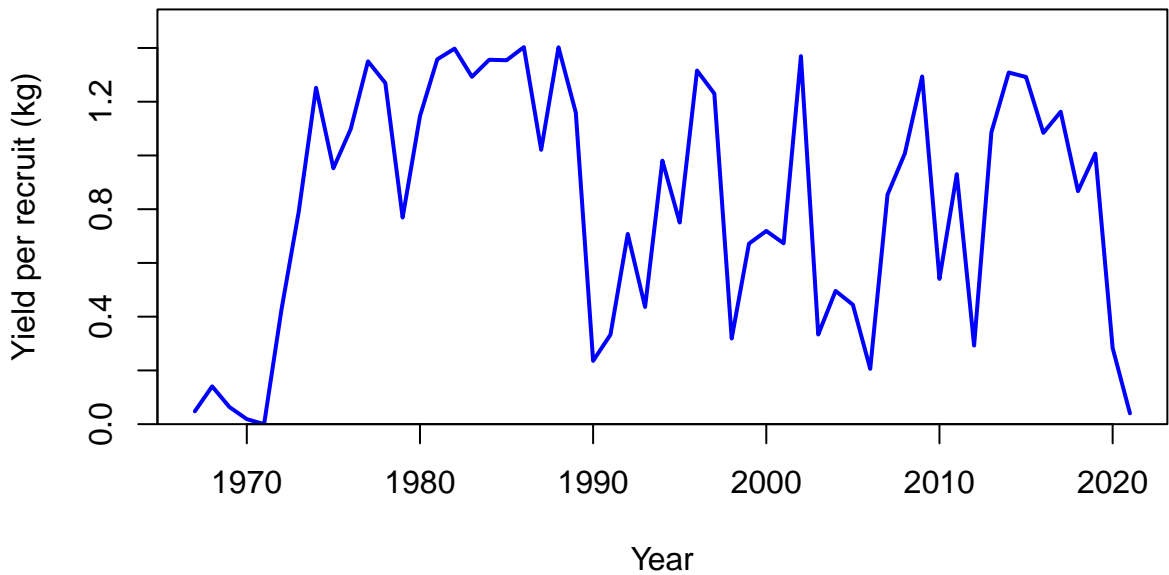


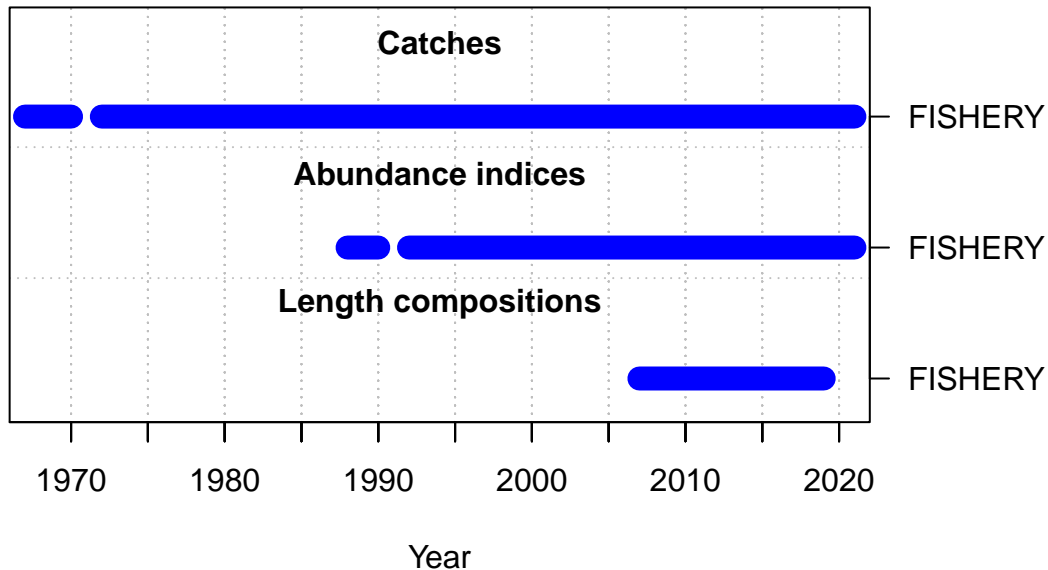


Surplus production (mt)

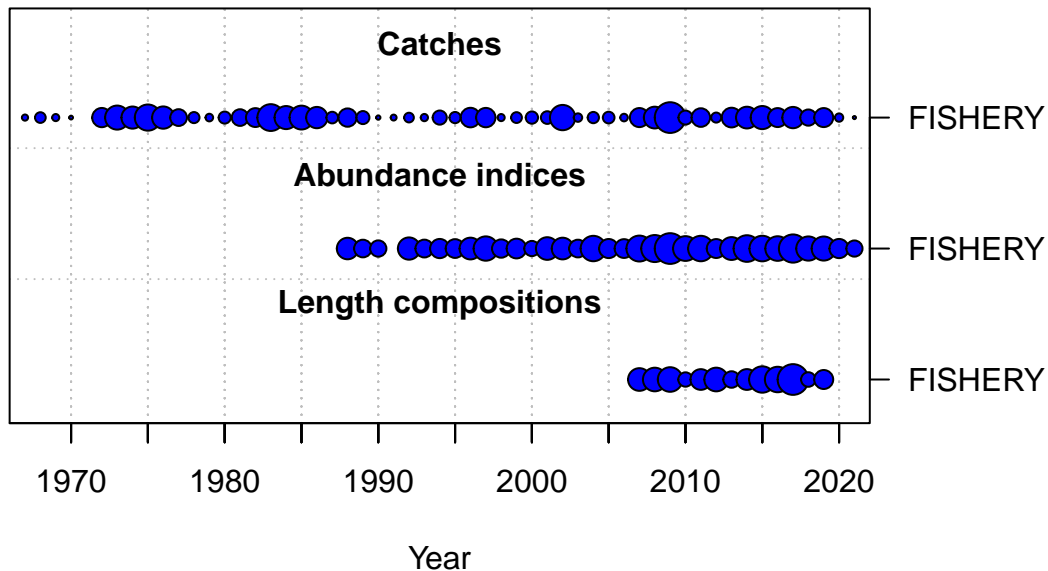


Total biomass (mt)

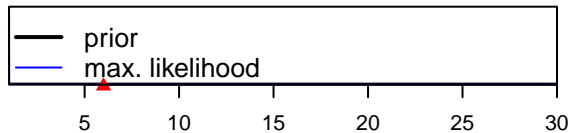




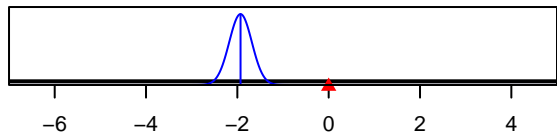




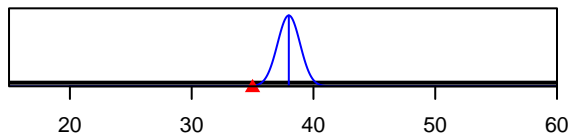
SR\_LN(R0)



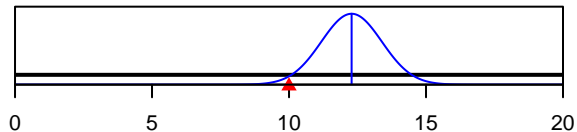
LnQ\_base\_FISHERY(1)



Size\_inflection\_FISHERY(1)



Size\_95%width\_FISHERY(1)



Parameter value