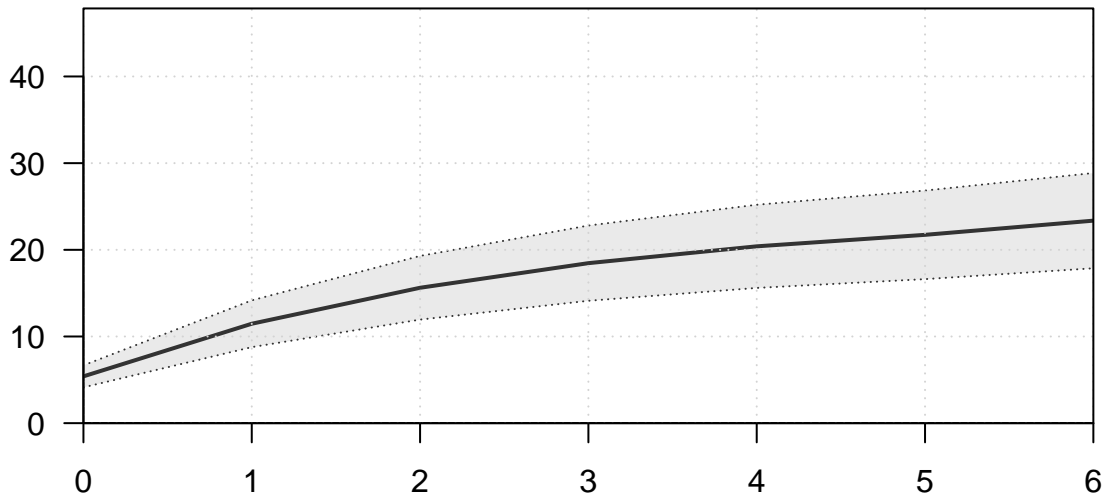
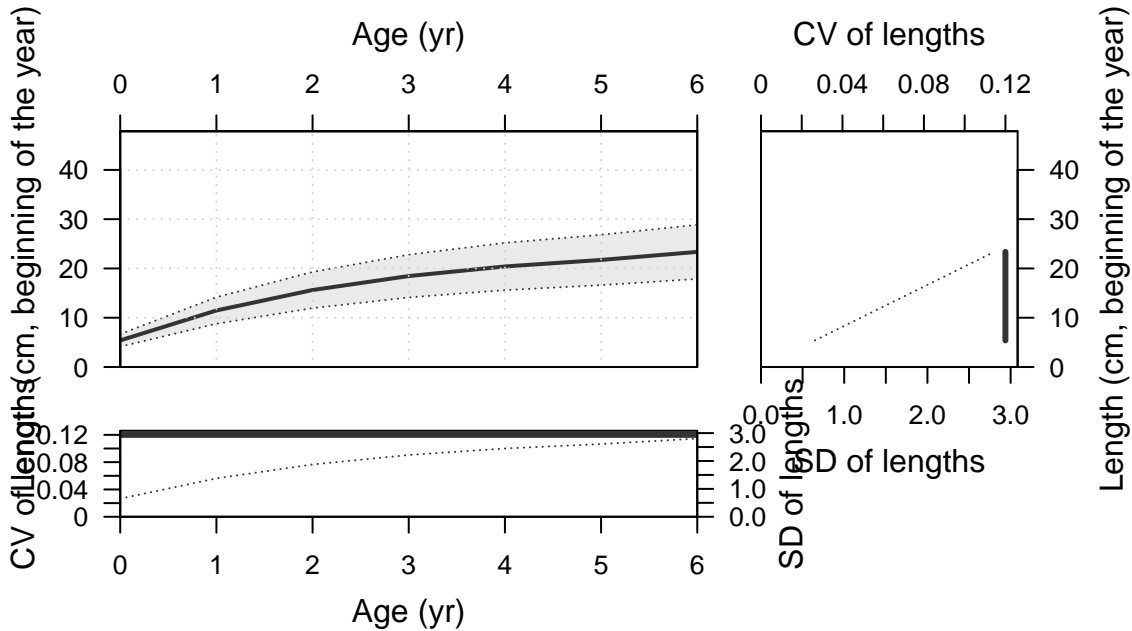


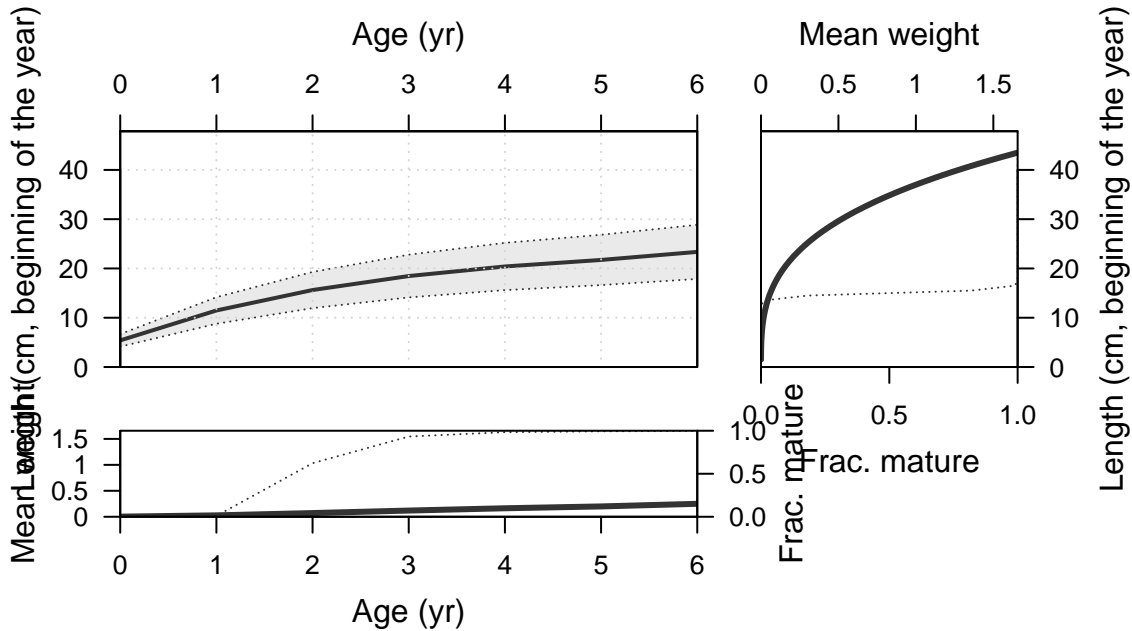
Plots created using the 'r4ss' package in R  
Stock Synthesis version: 3.30.19.0  
StartTime: Sat Jul 23 08:47:21 2022  
Data\_File: data.ss  
Control\_File: control.ss

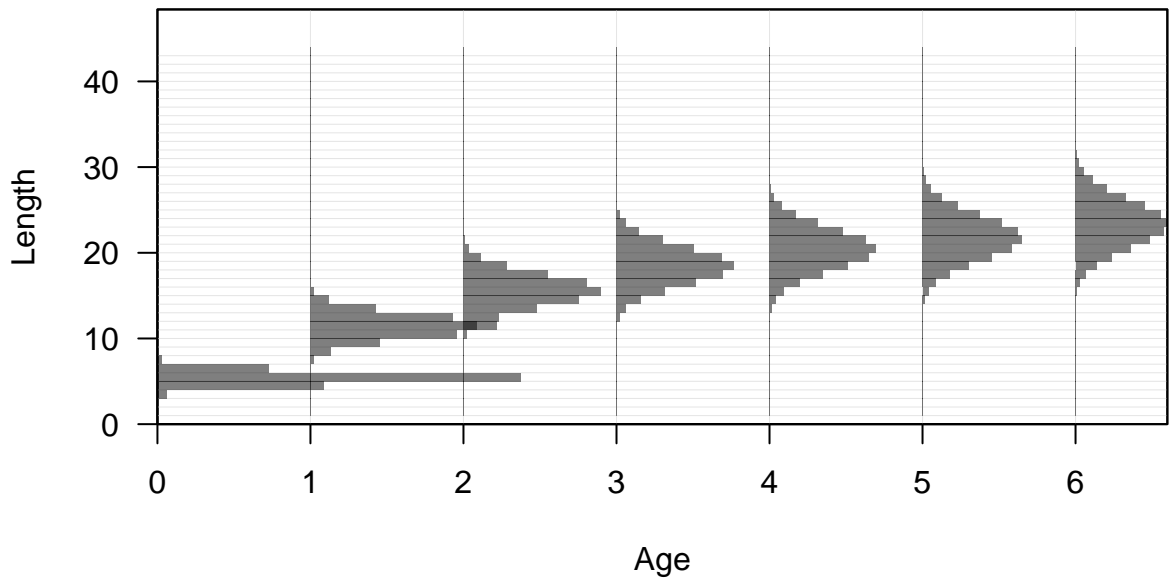
Length (cm, beginning of the year)

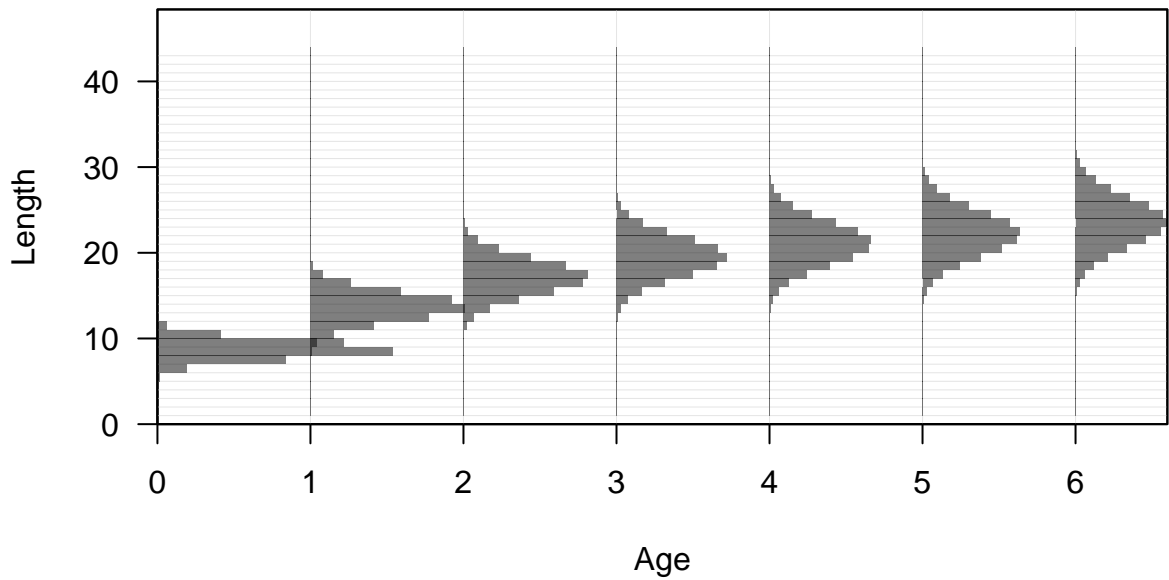


Age (yr)













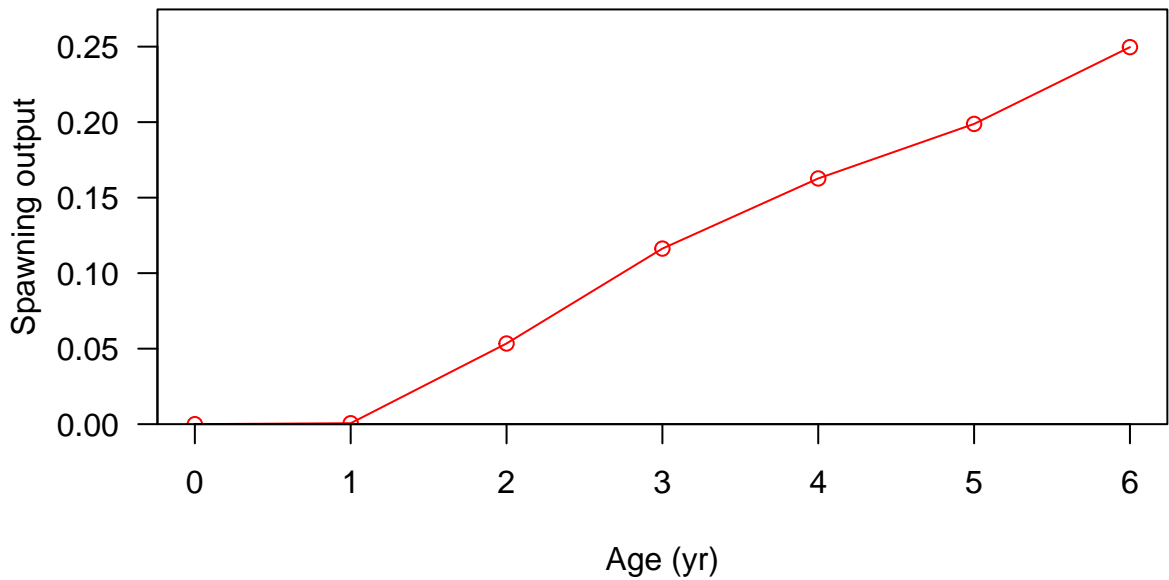




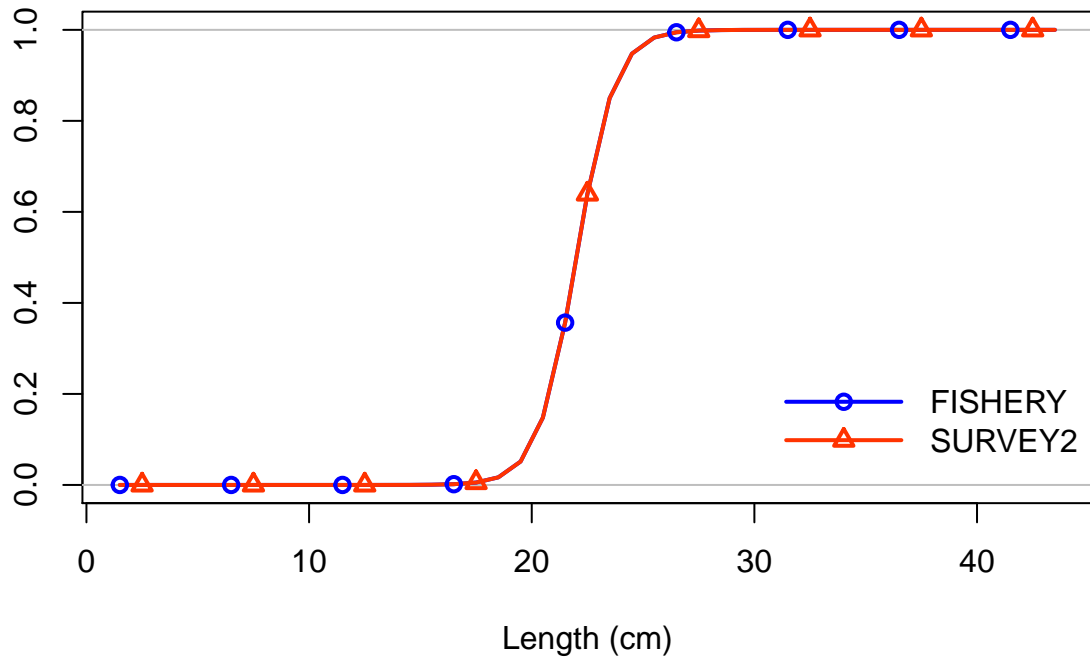




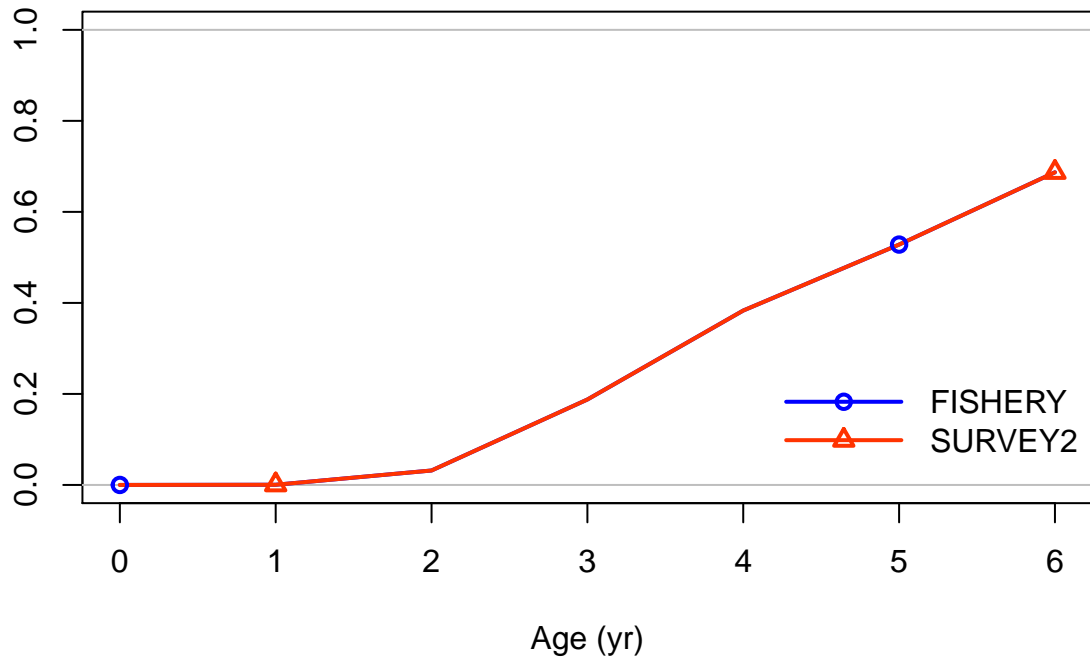




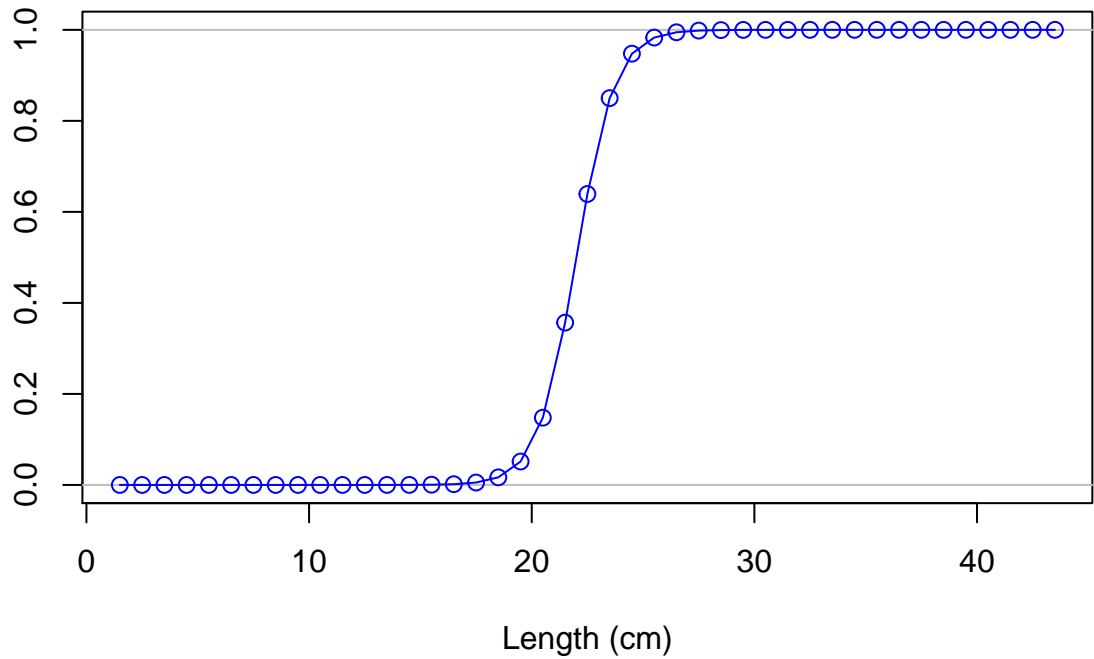
Selectivity



Selectivity

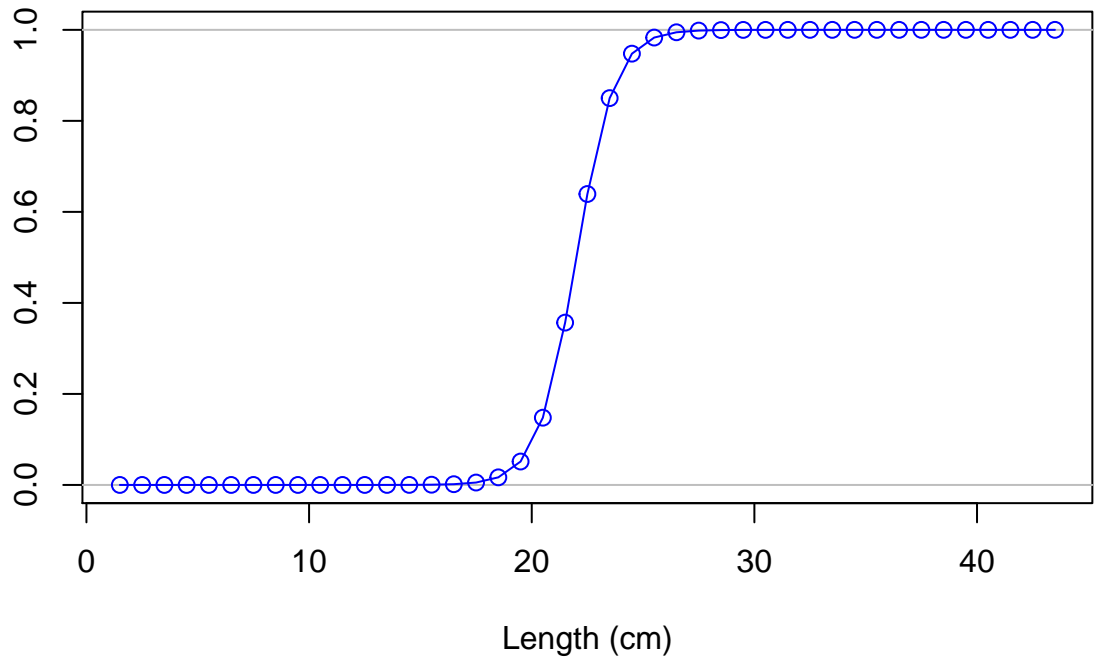


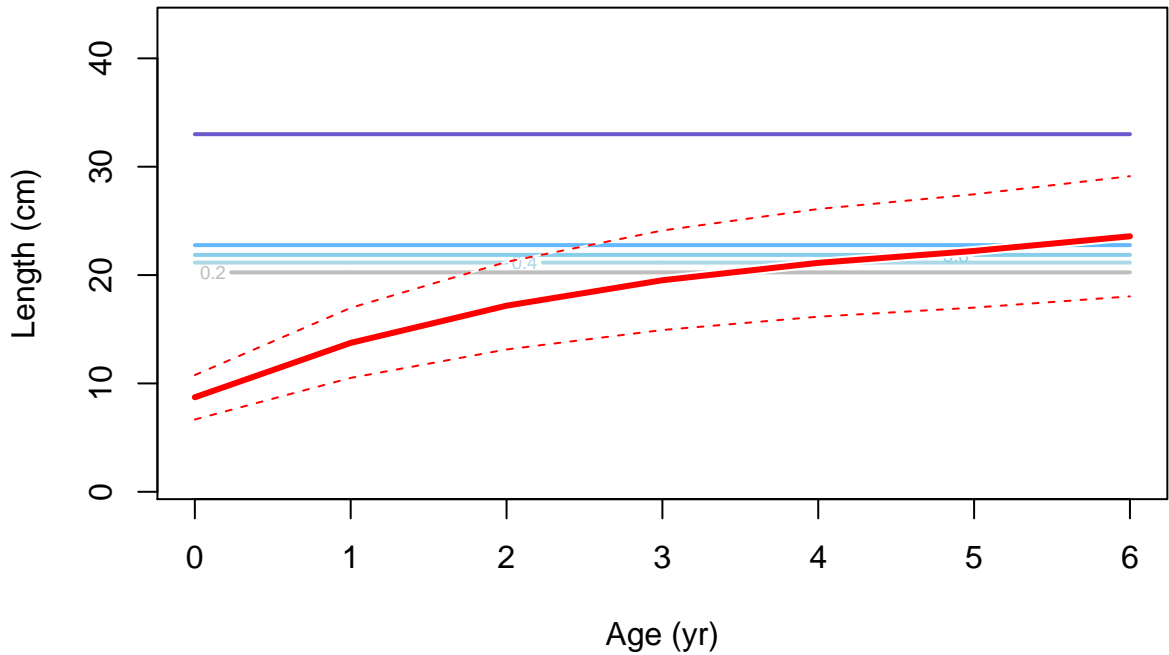
Selectivity

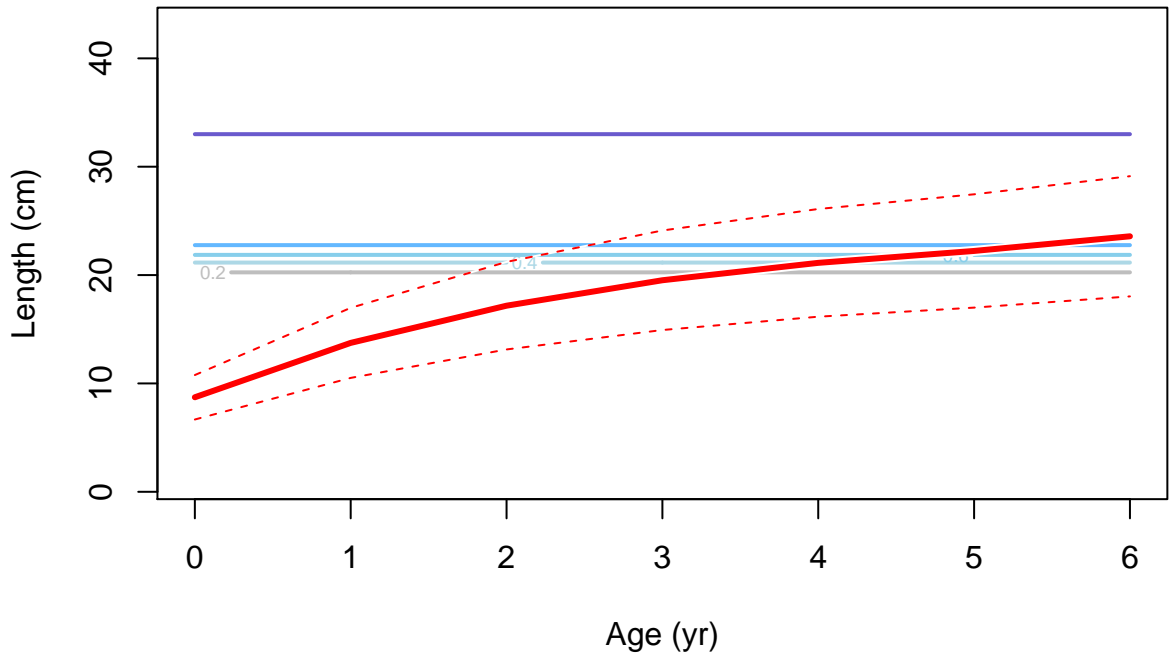




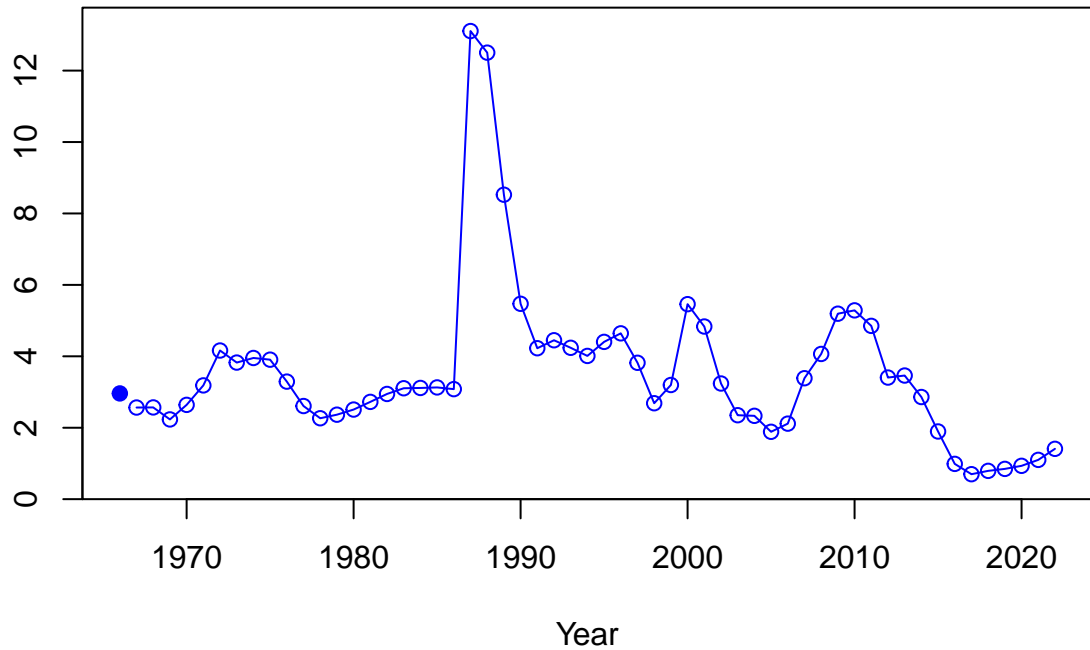
Selectivity



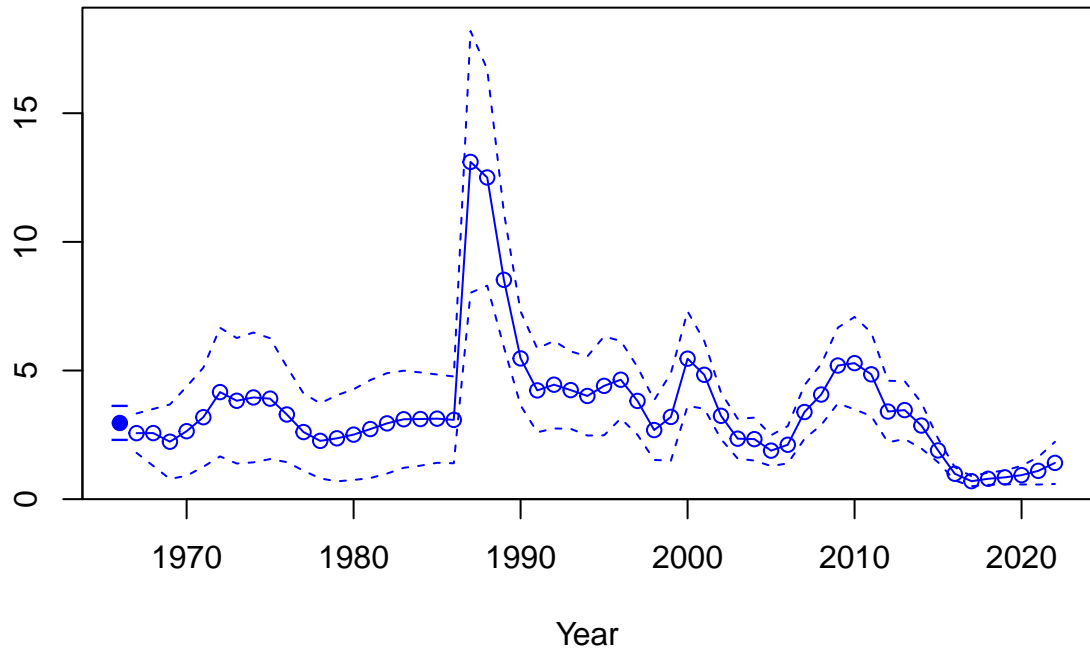




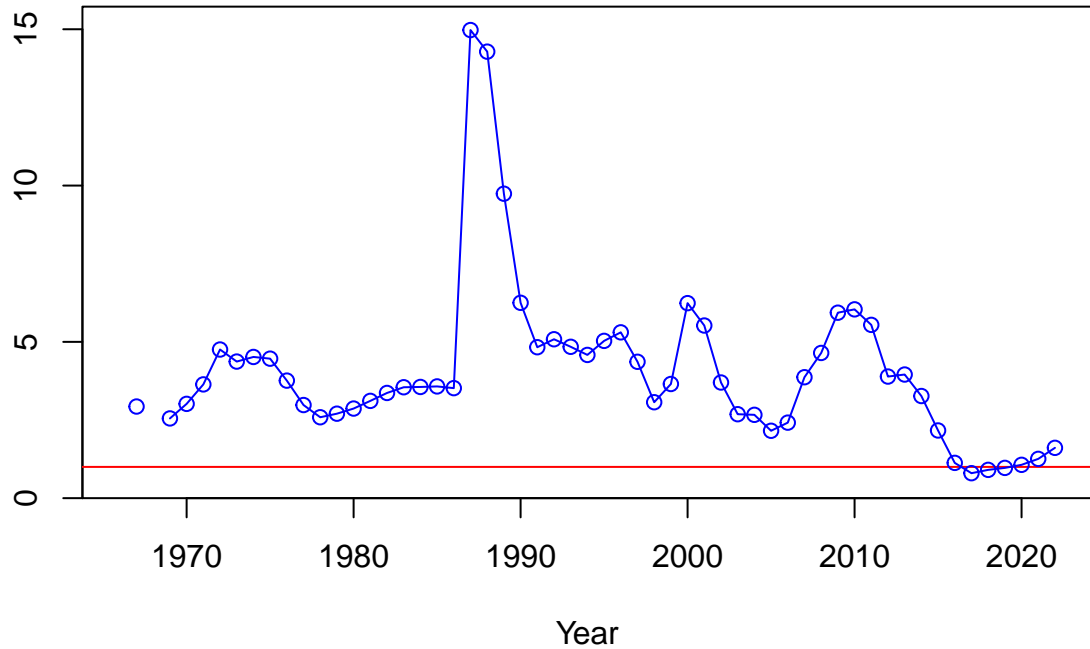
Spawning biomass (mt)



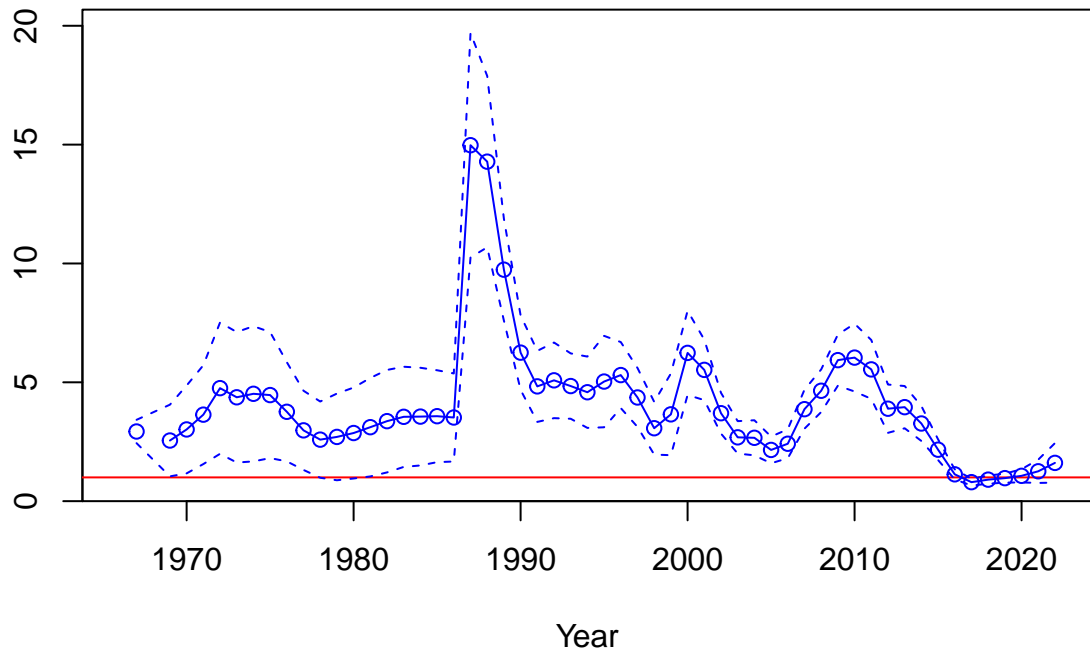
Spawning biomass (mt)

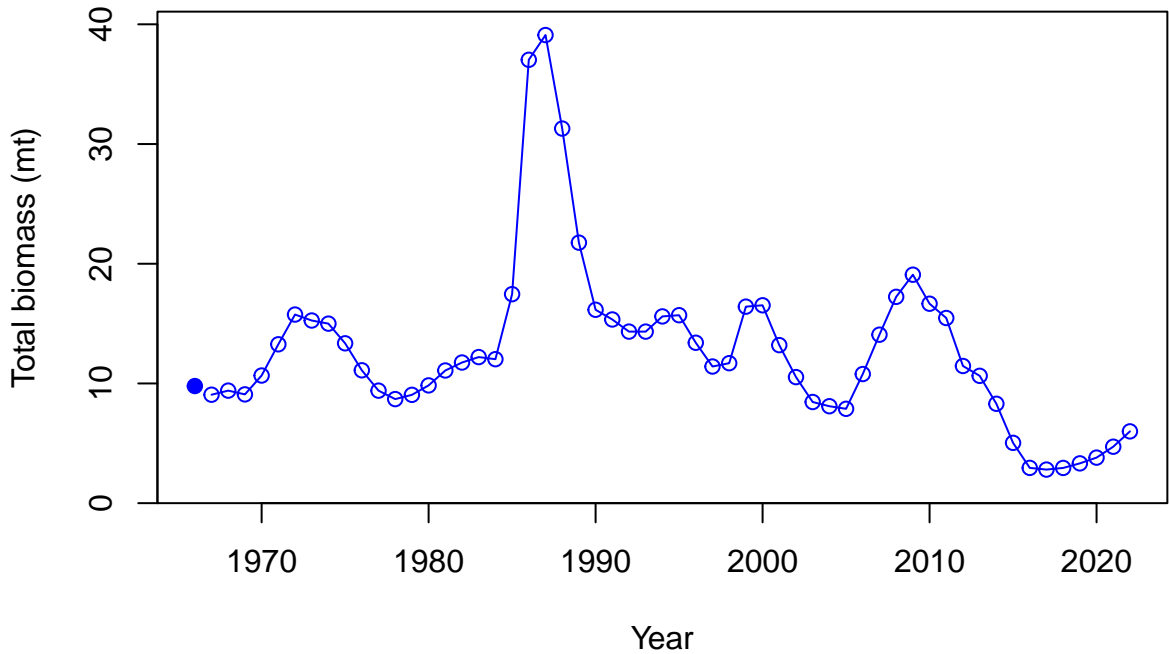


Relative spawning biomass:  $B/B_{MSY}$

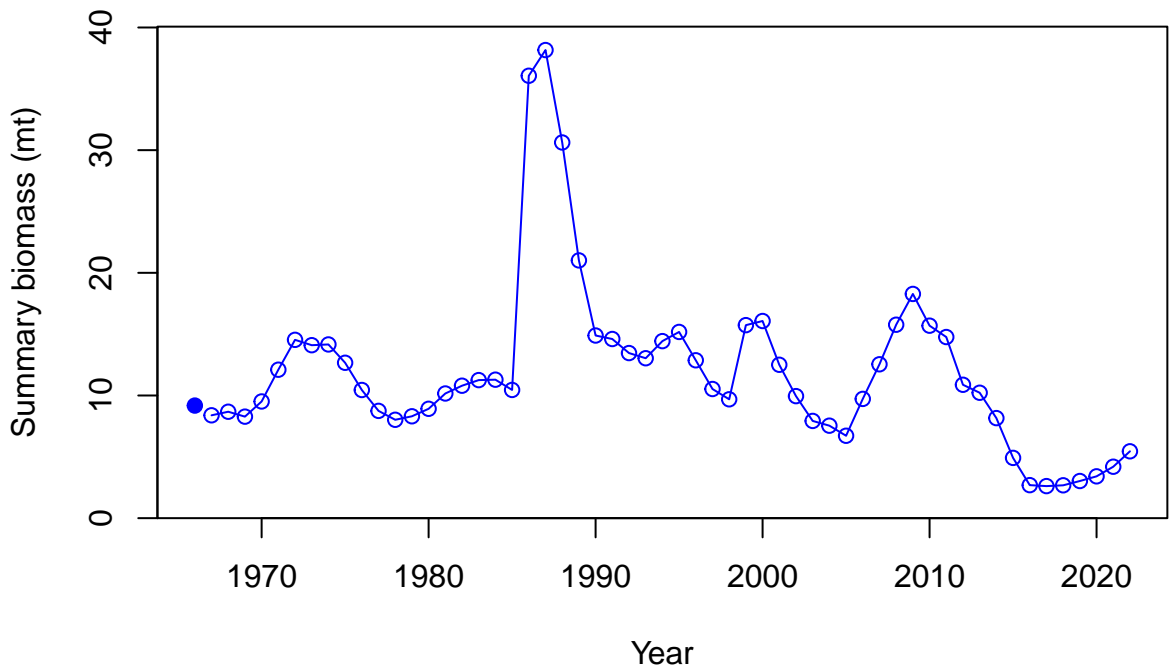


Relative spawning biomass:  $B/B_{MSY}$

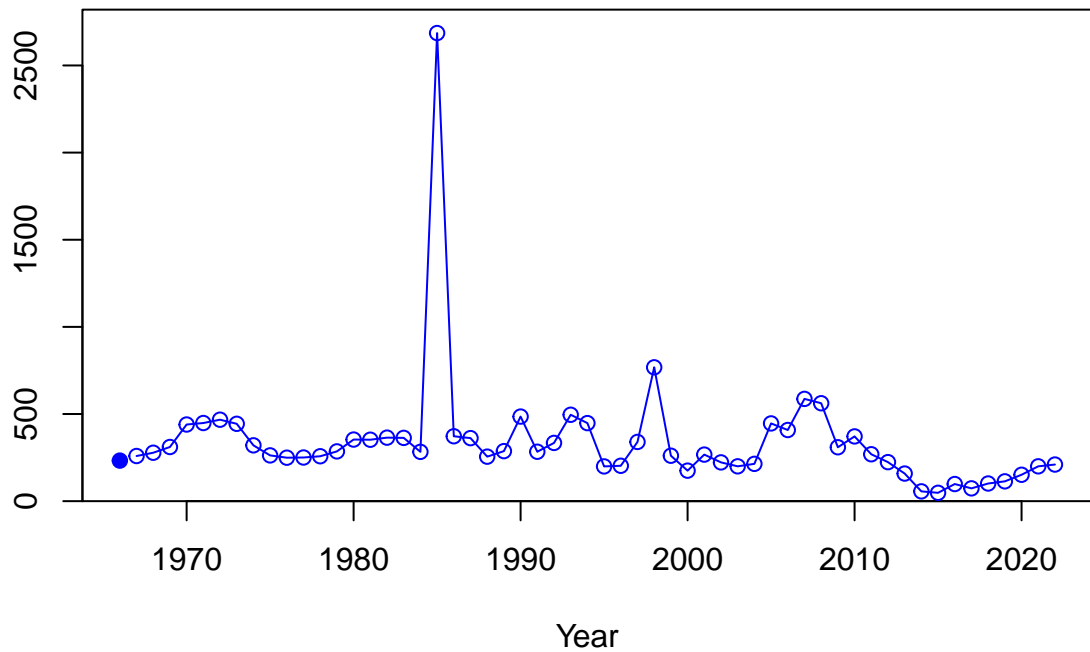




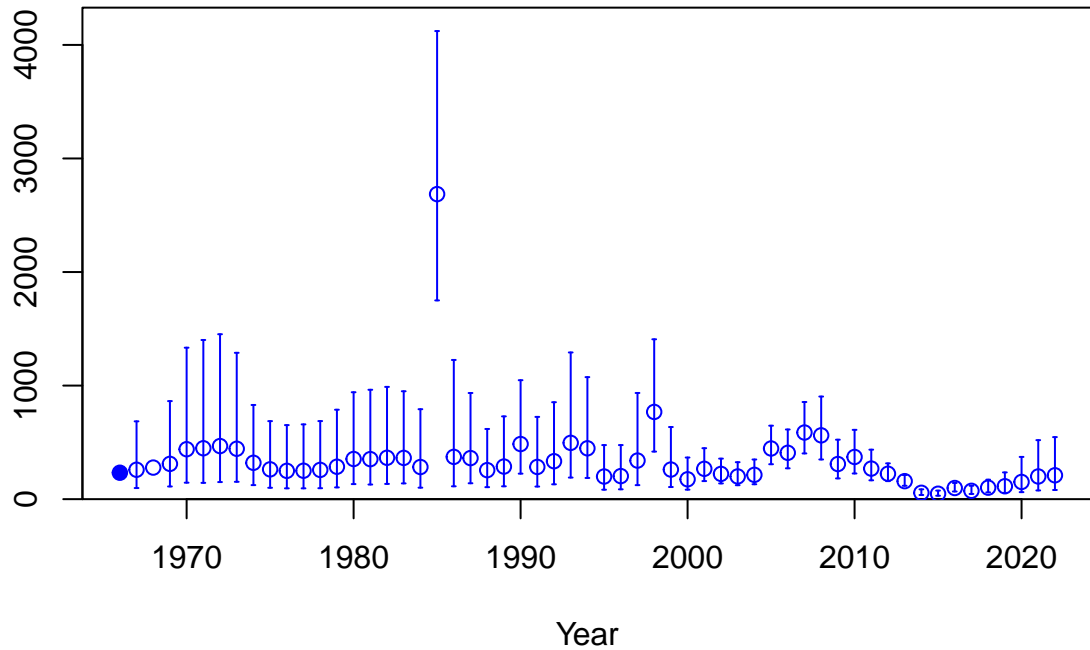




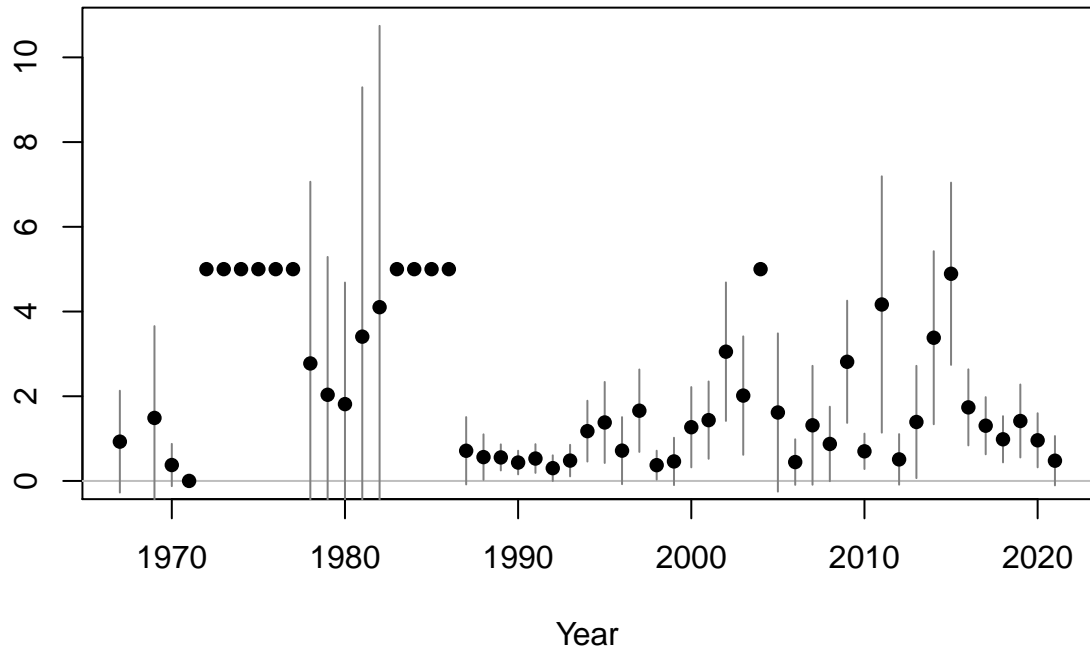
Age-0 recruits (1,000s)



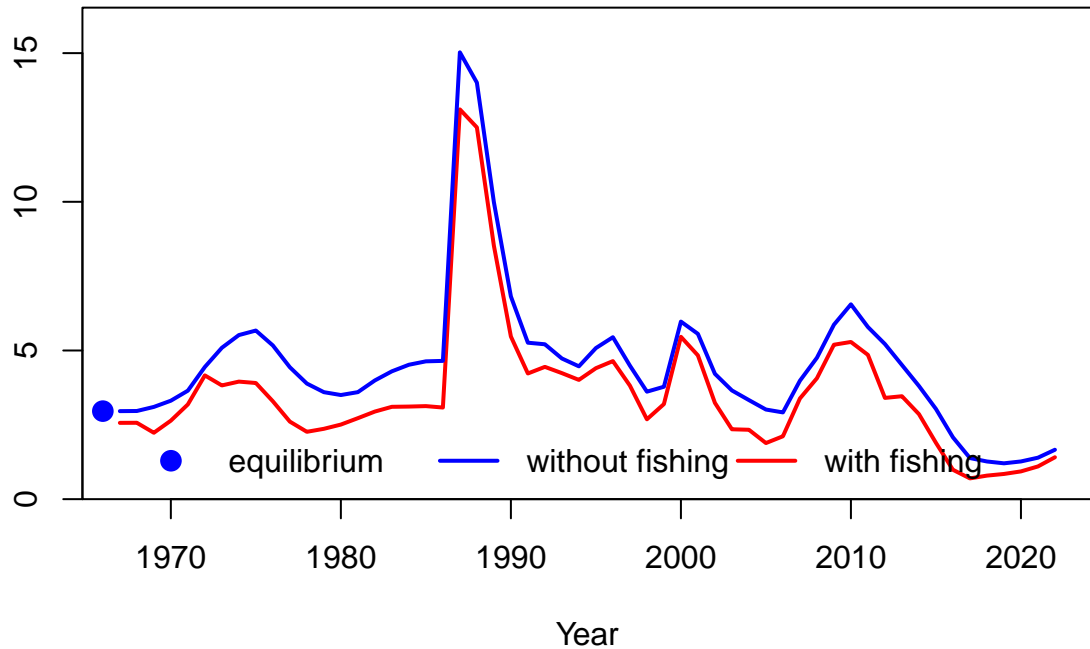
Age-0 recruits (1,000s)



Summary Fishing Mortality



Spawning biomass (mt)



Log recruitment deviation

2  
1  
0  
-1

1970

1980

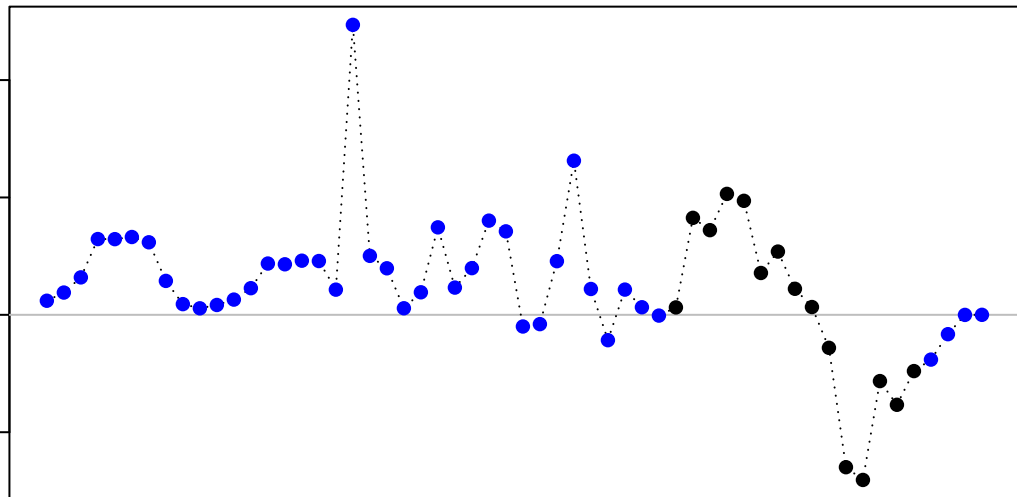
1990

2000

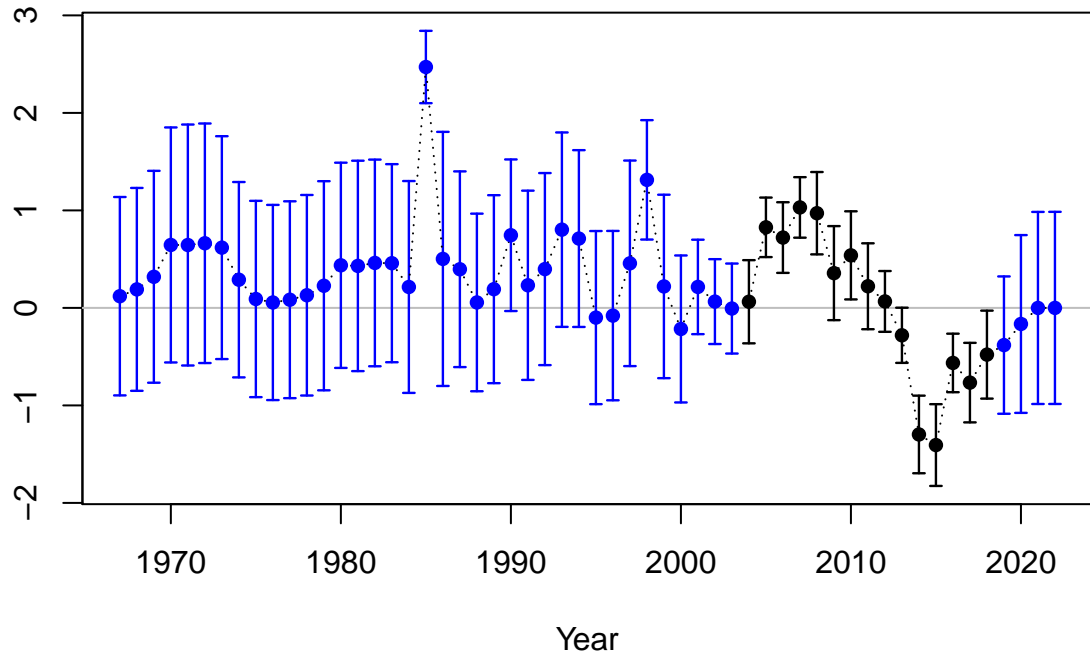
2010

2020

Year

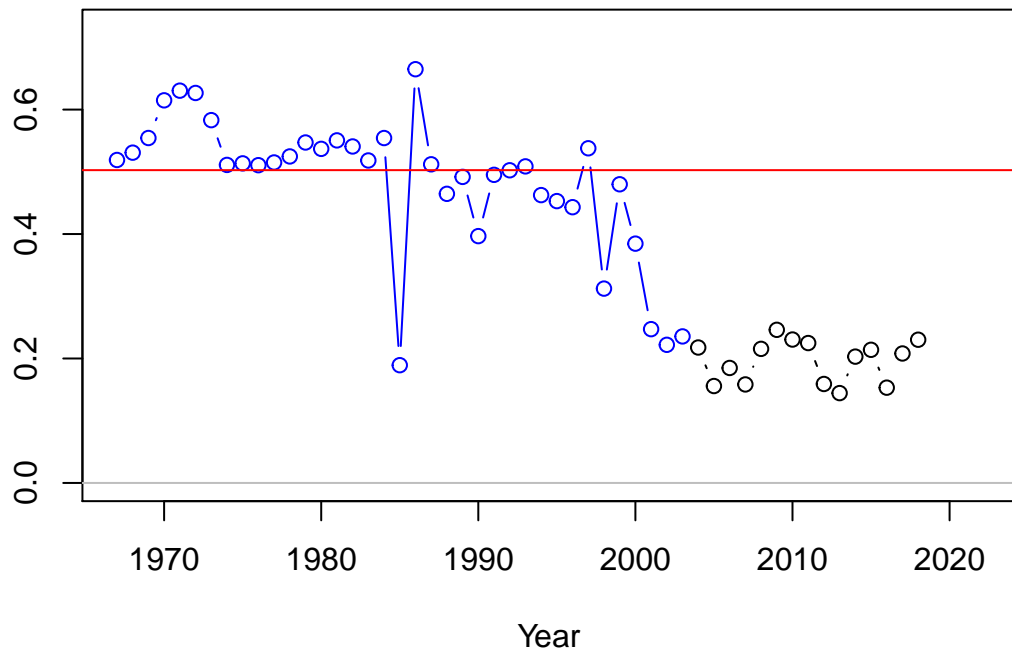


Log recruitment deviation

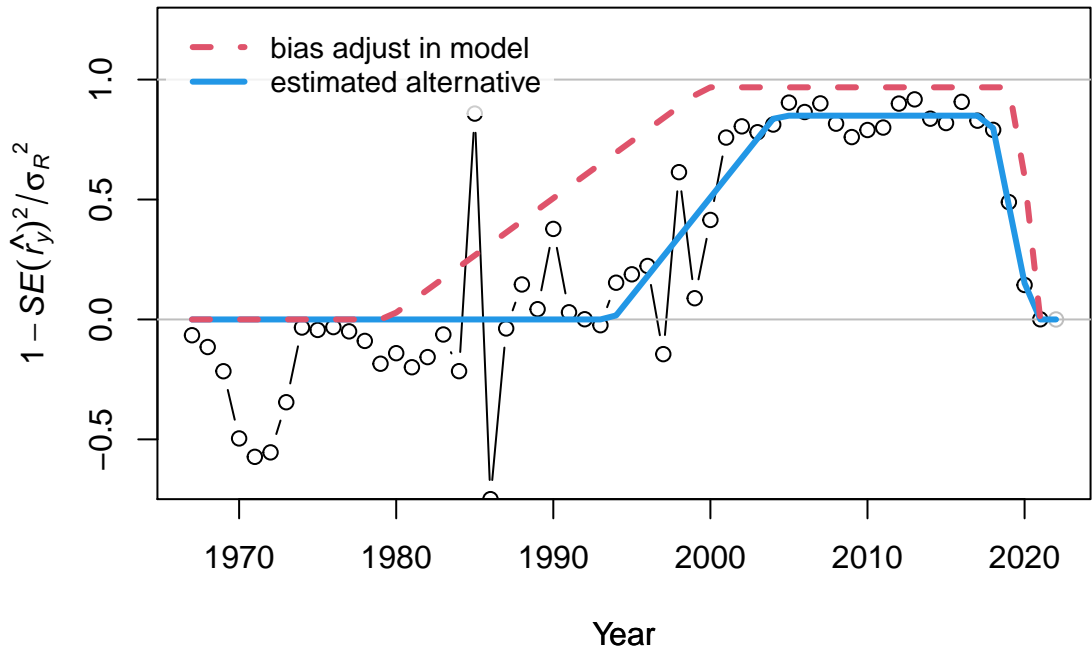


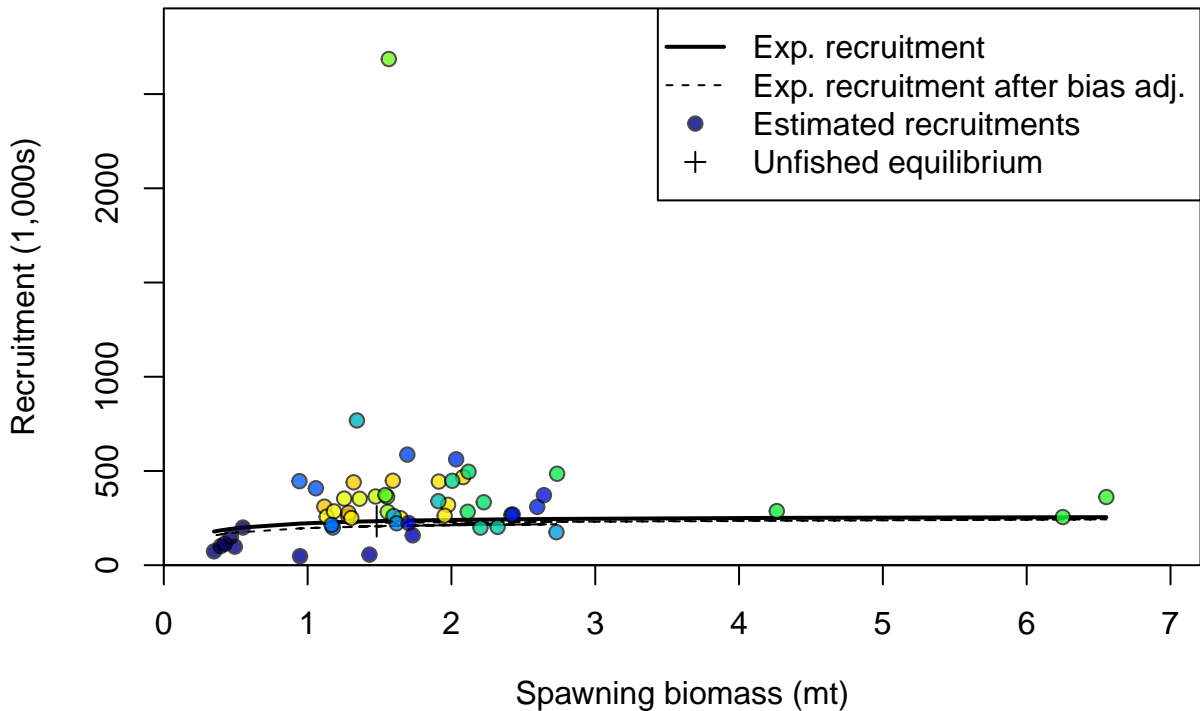
## Recruitment deviation variance

Asymptotic standard error estimate

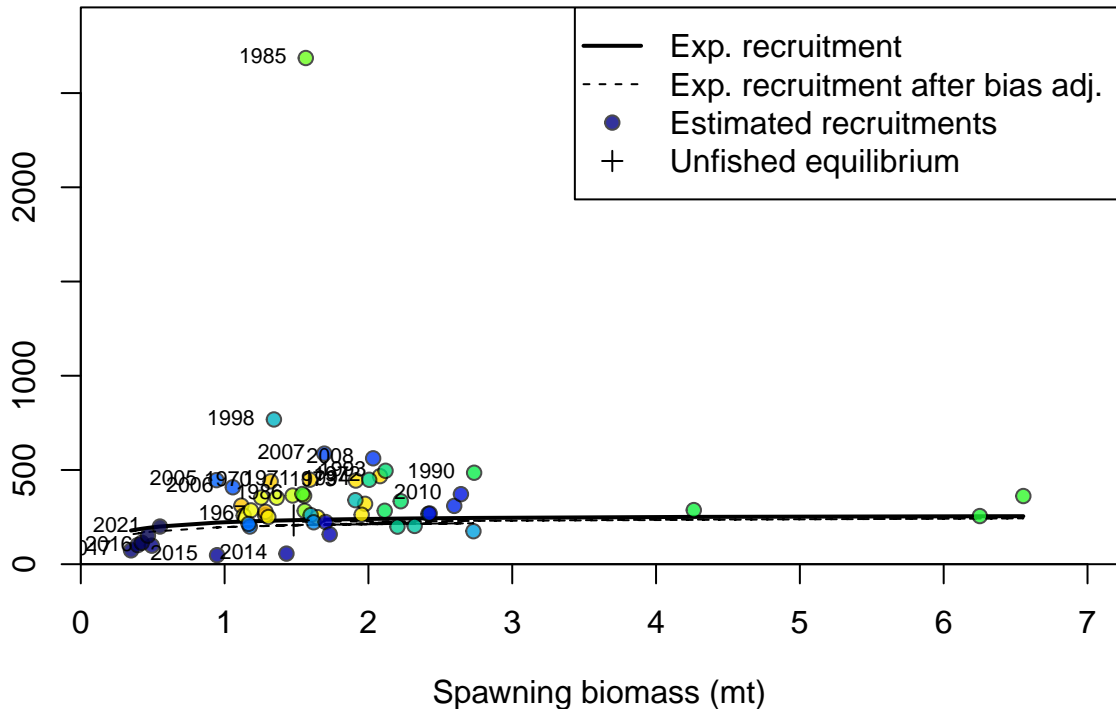




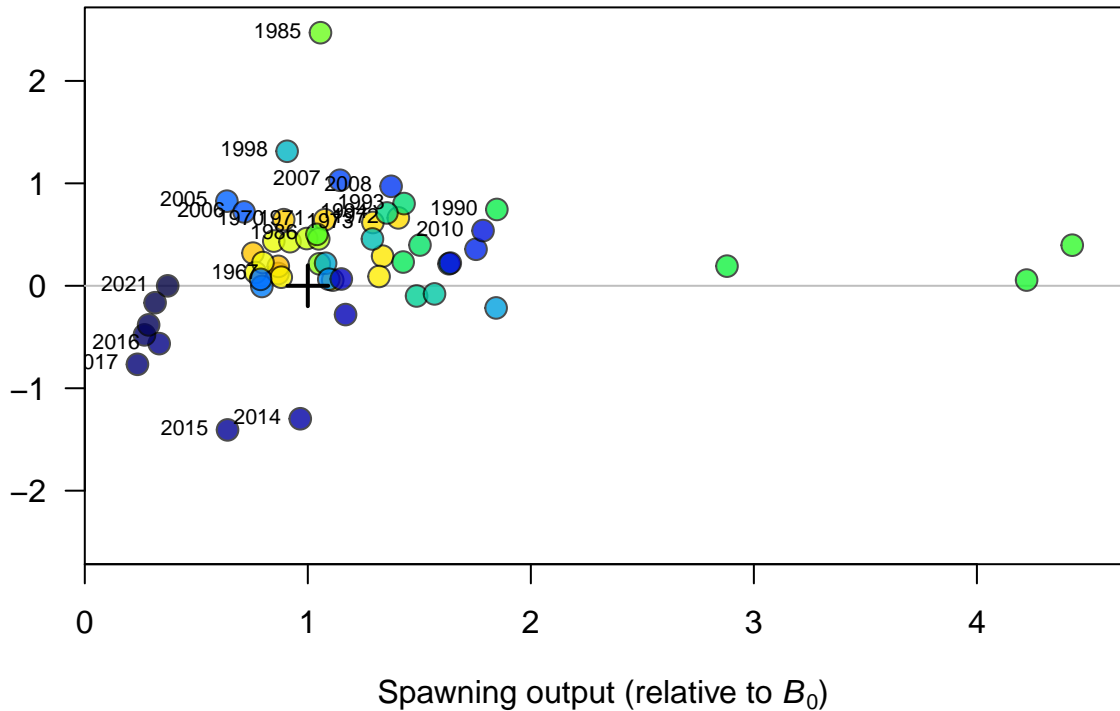


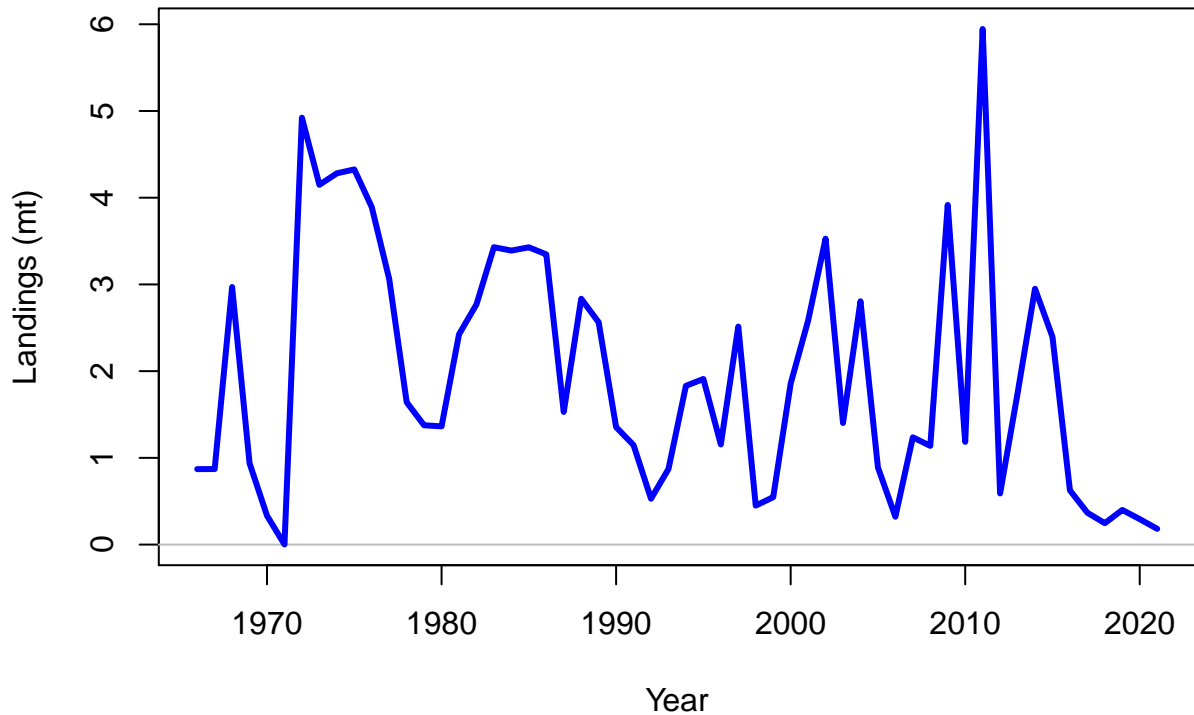


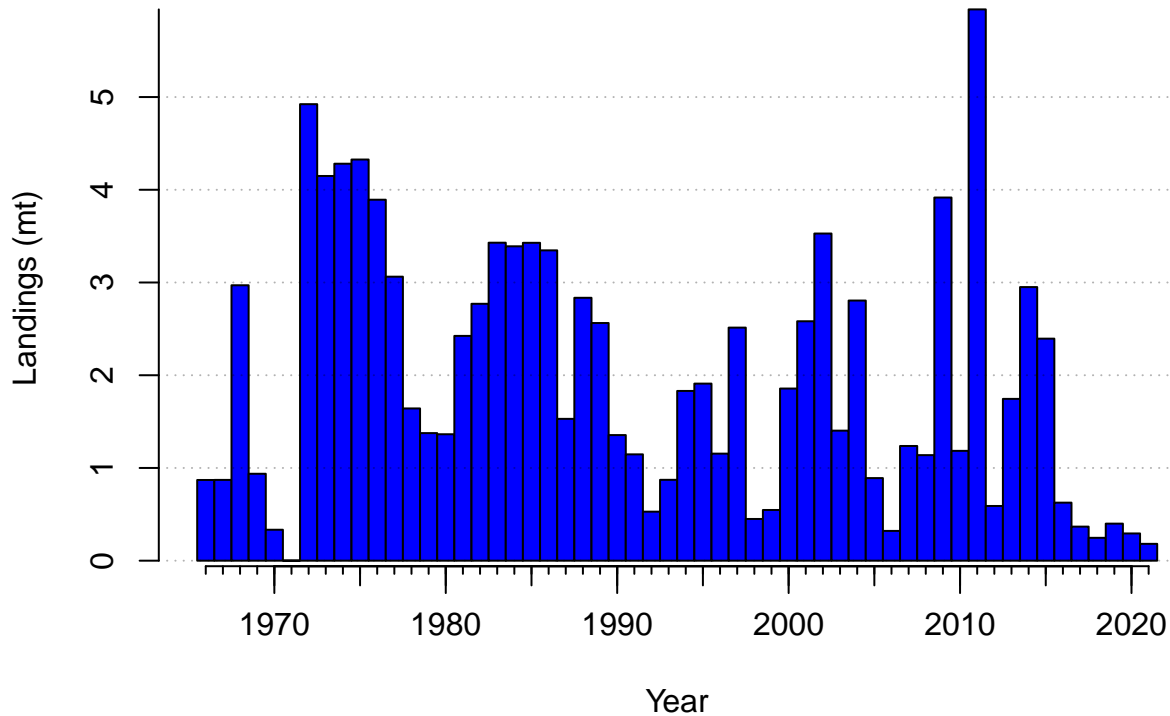
Recruitment (1,000s)

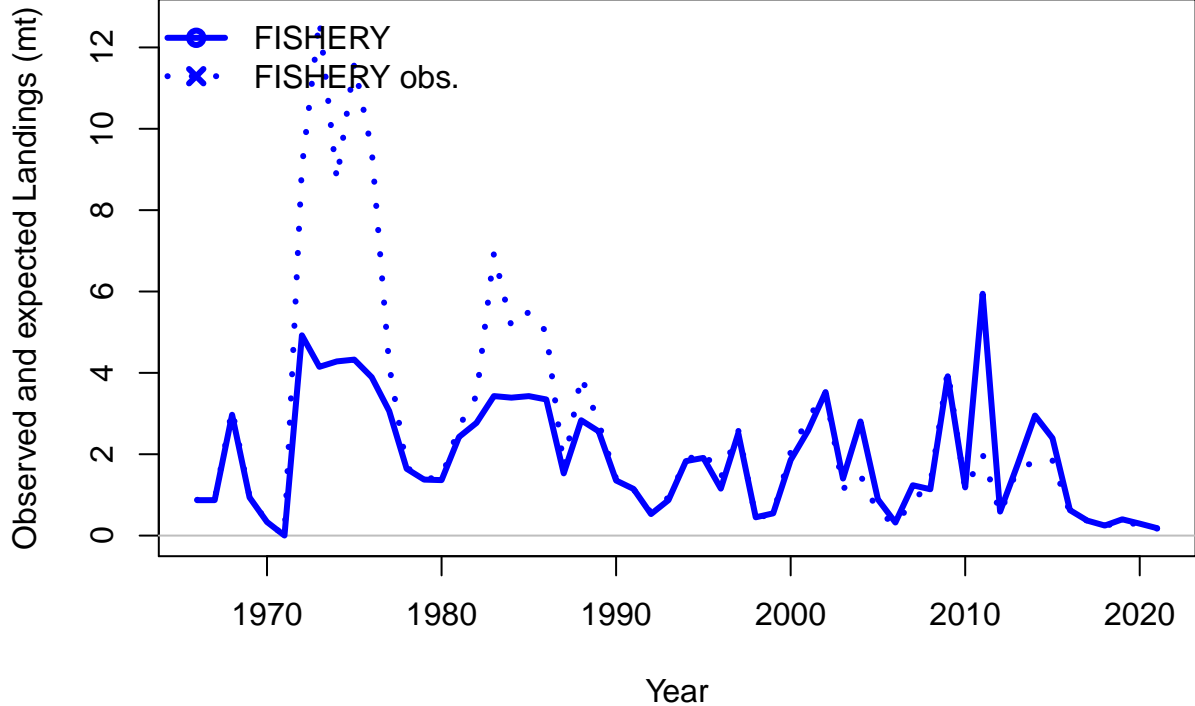


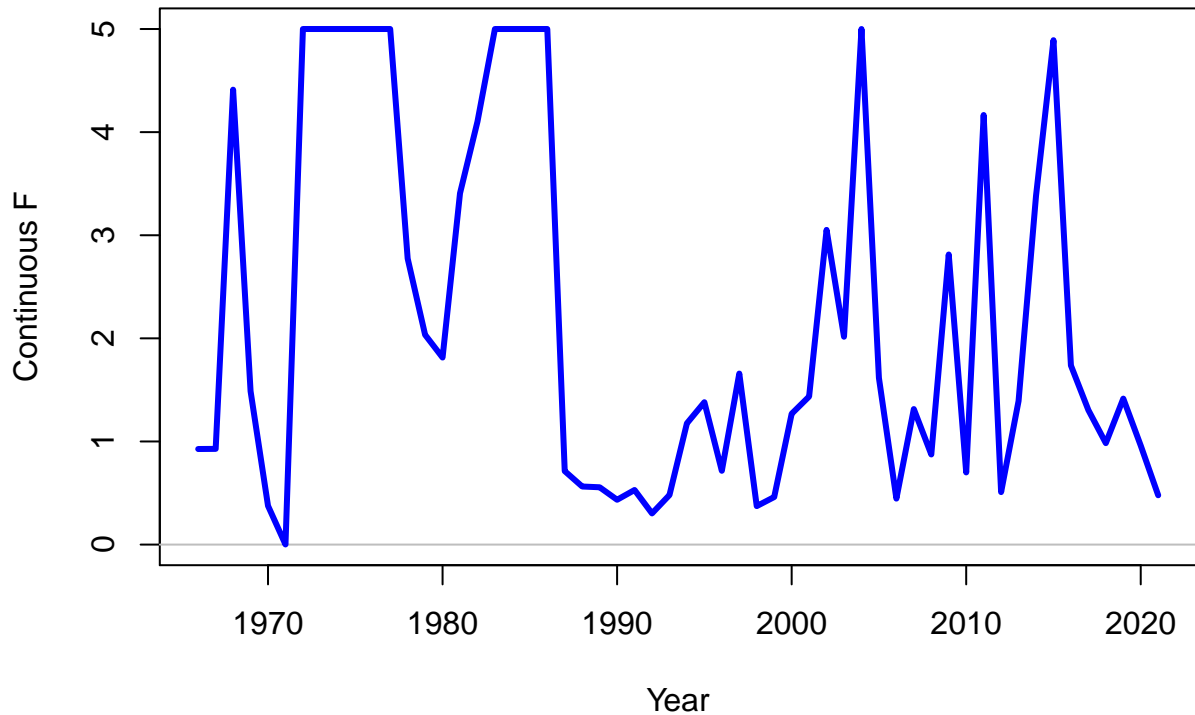
Log recruitment deviation





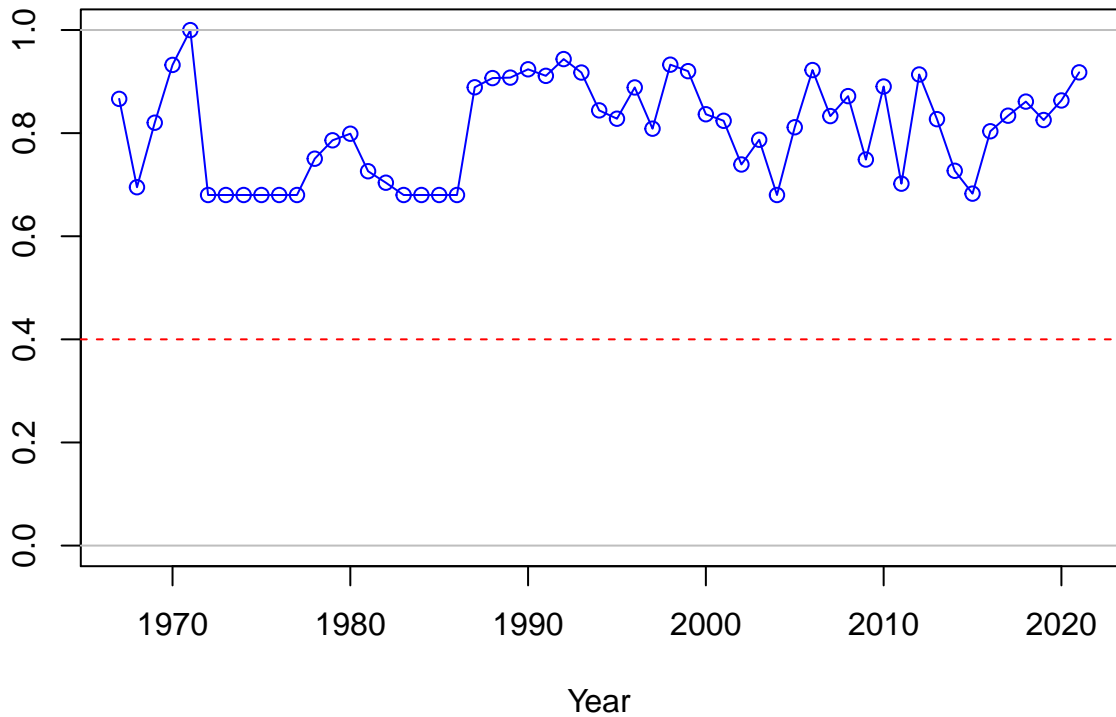




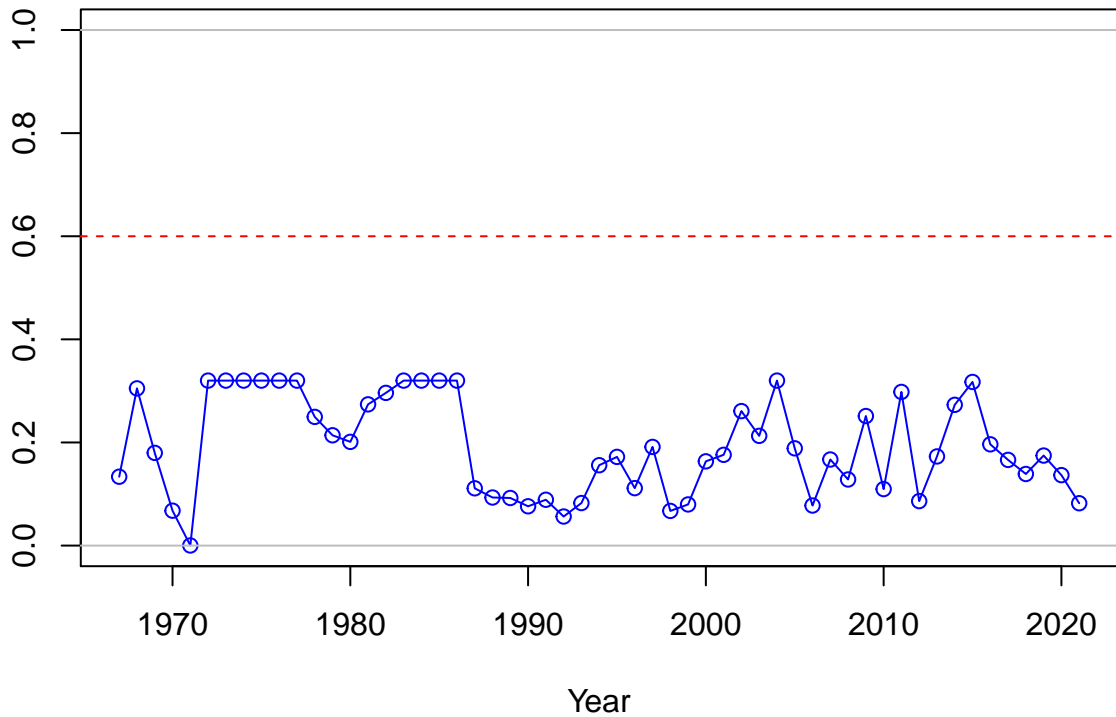




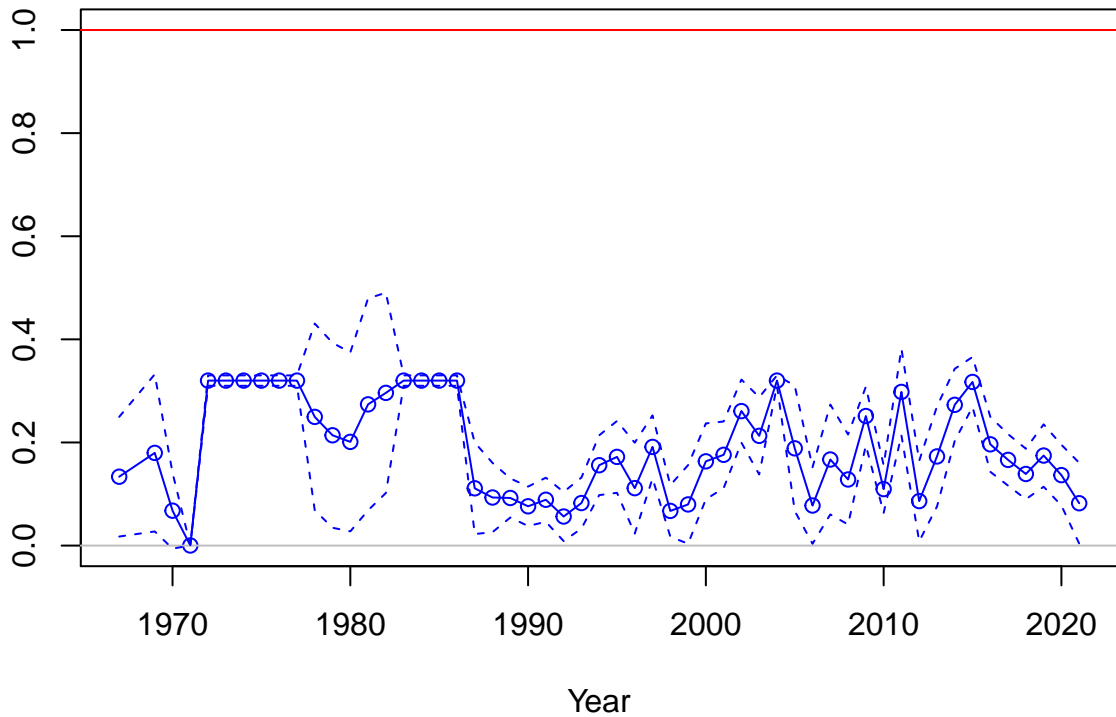
SPR



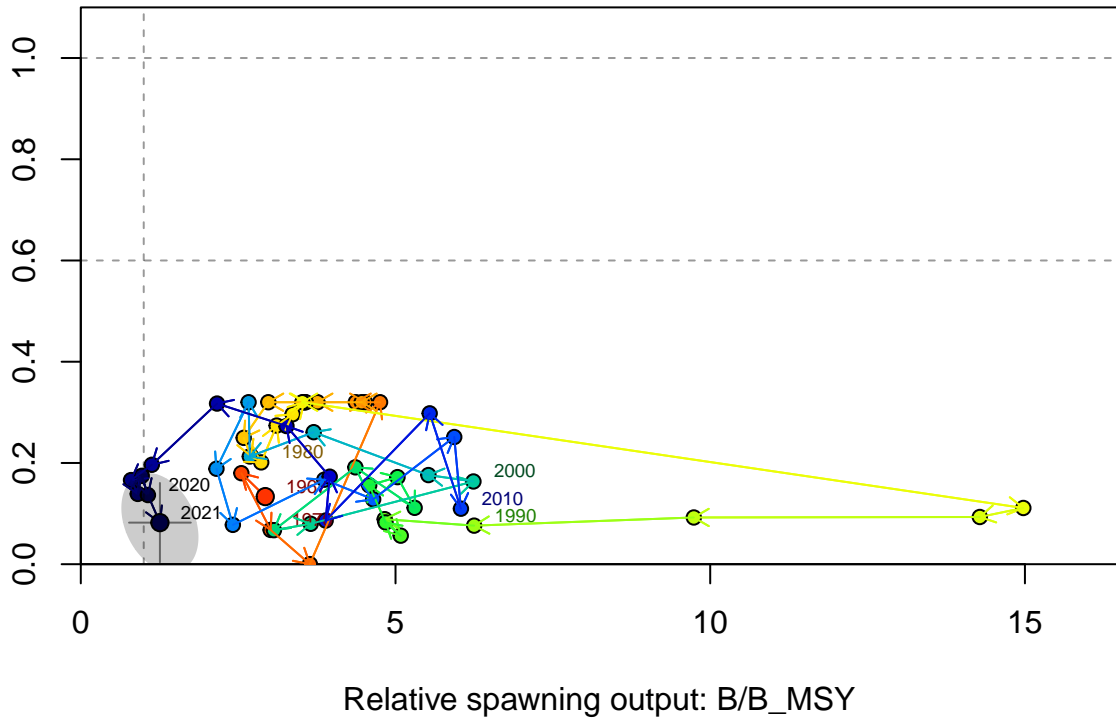
1-SPR



Fishing intensity: 1-SPR



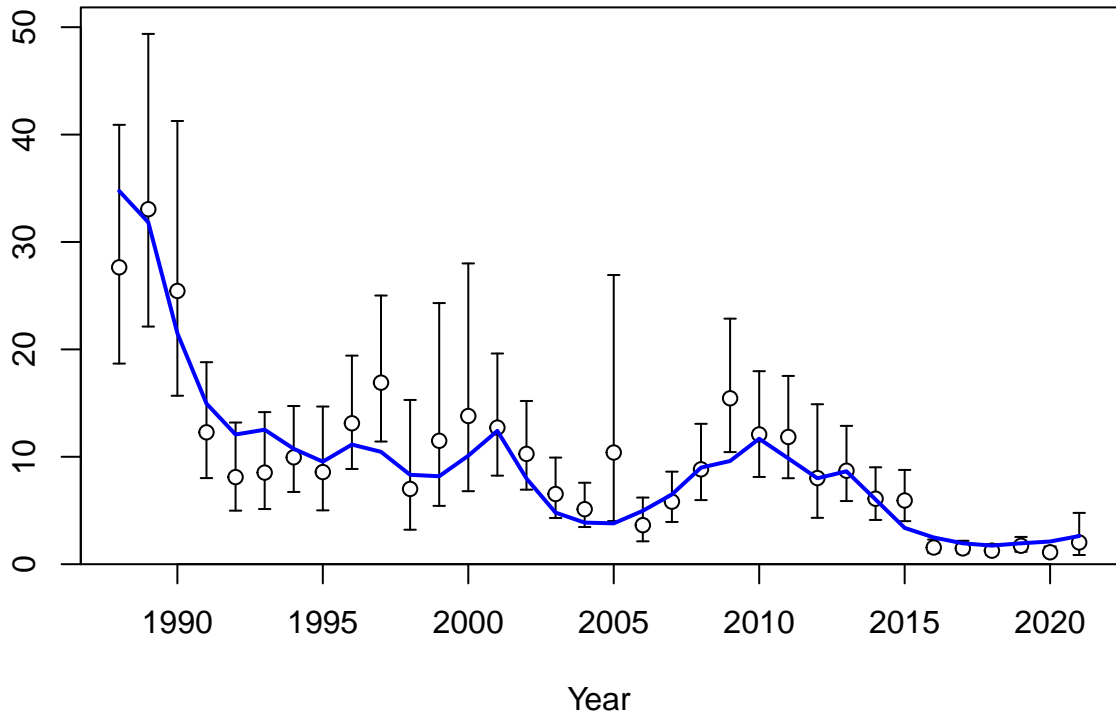
Fishing intensity: 1-SPR

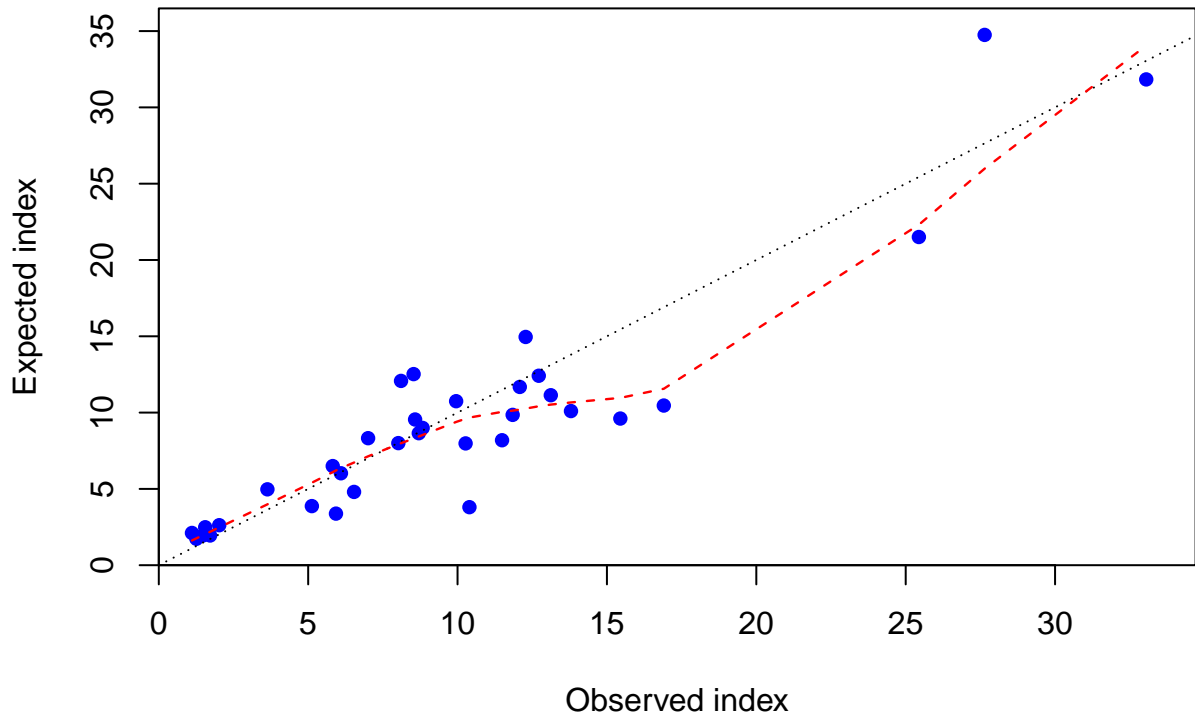


Index



Index



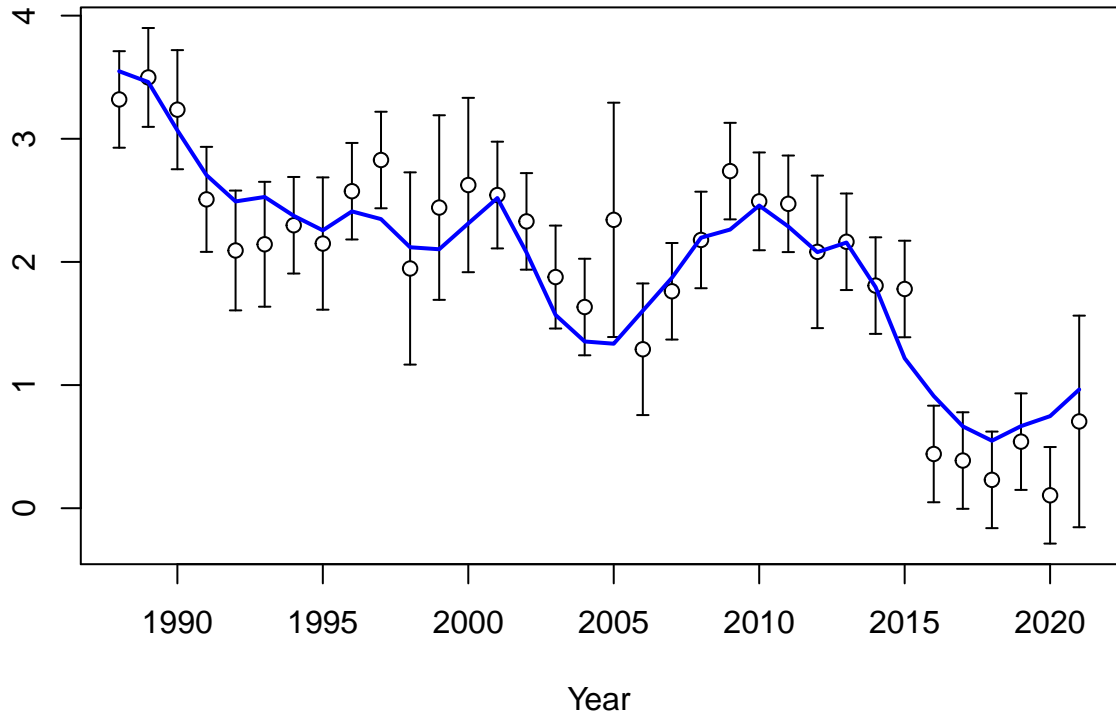


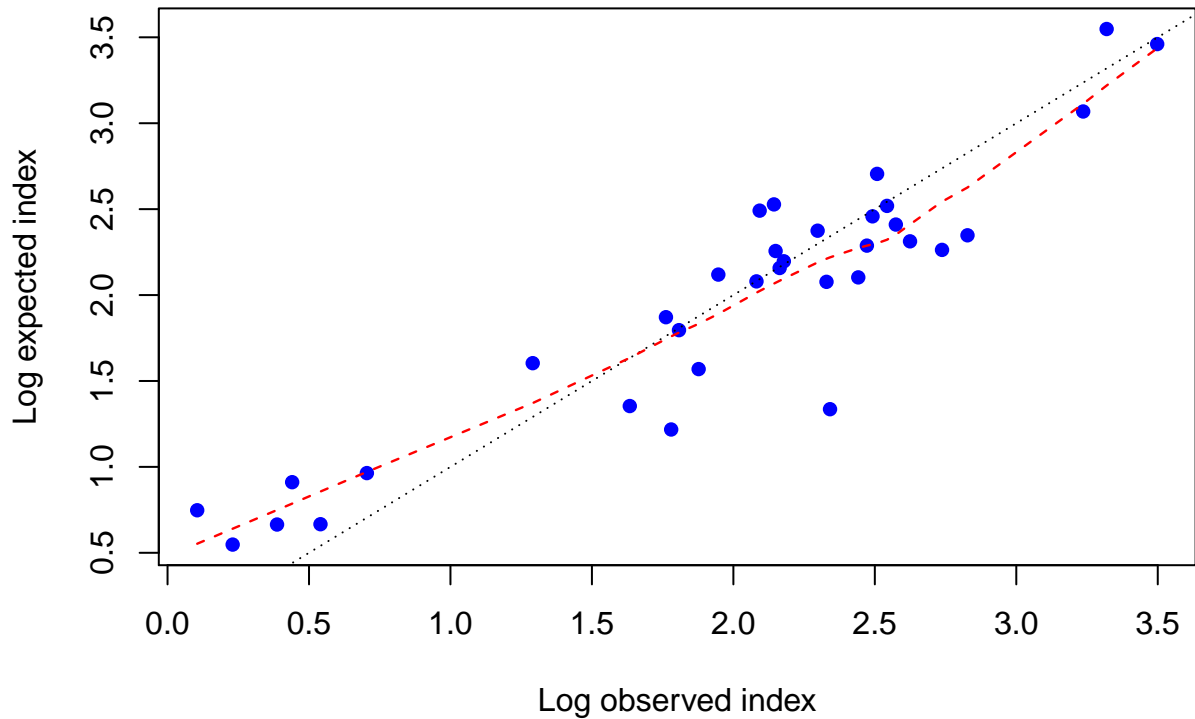
Log index



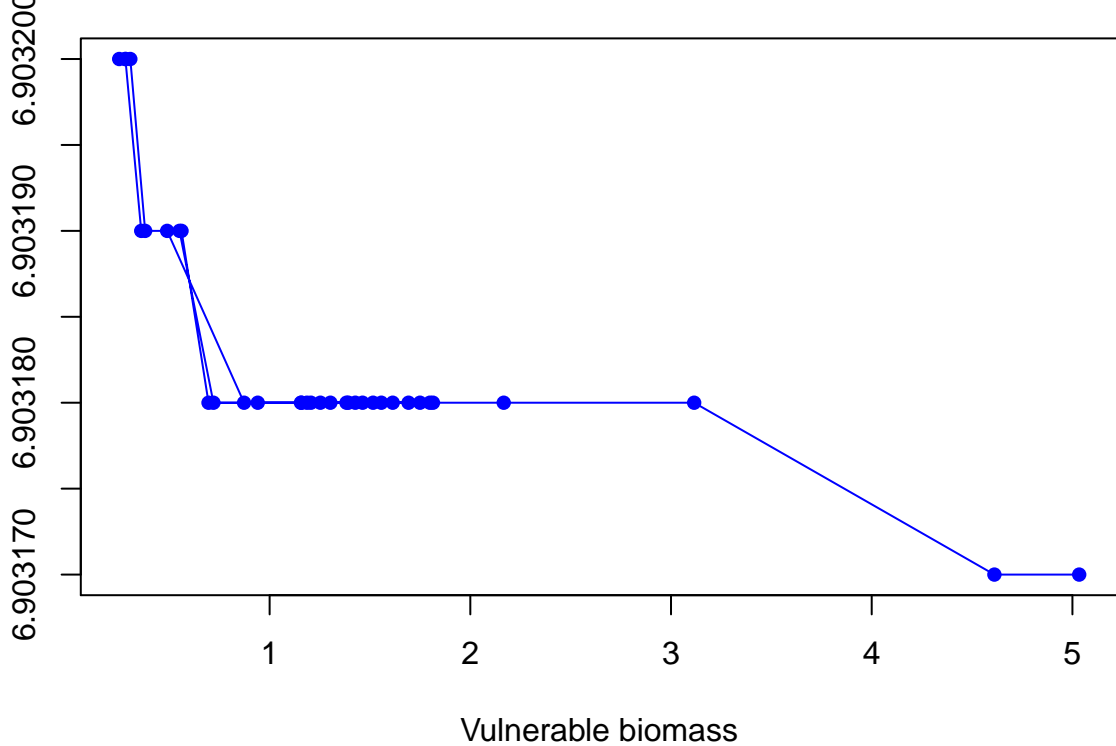


Log index

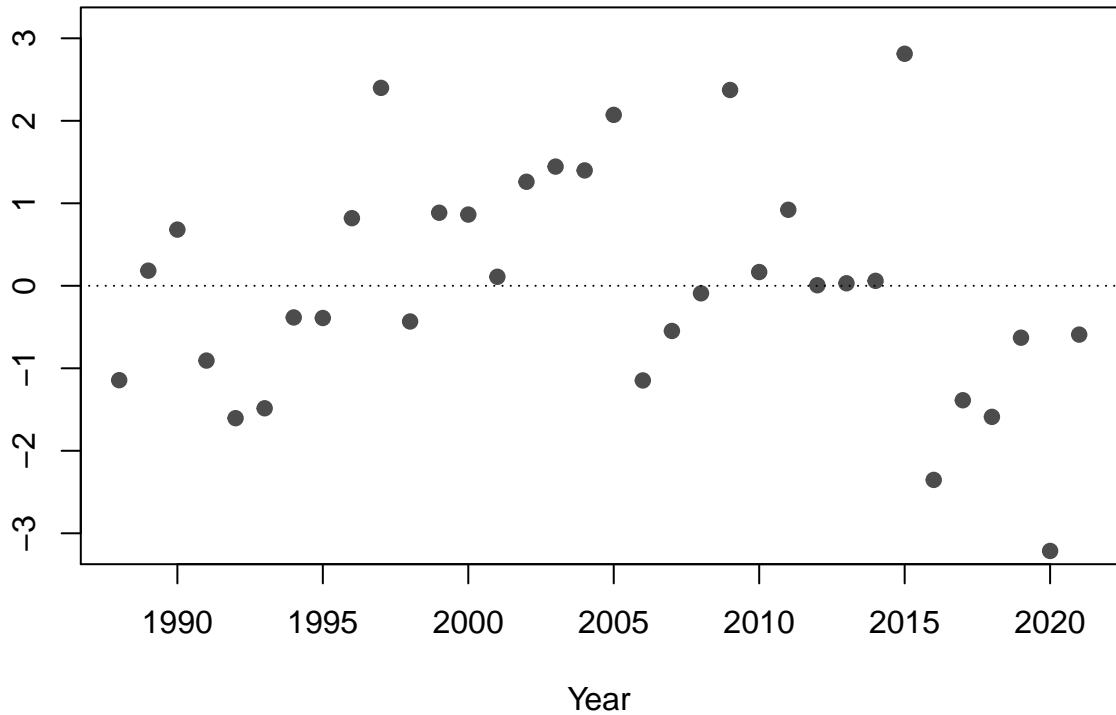




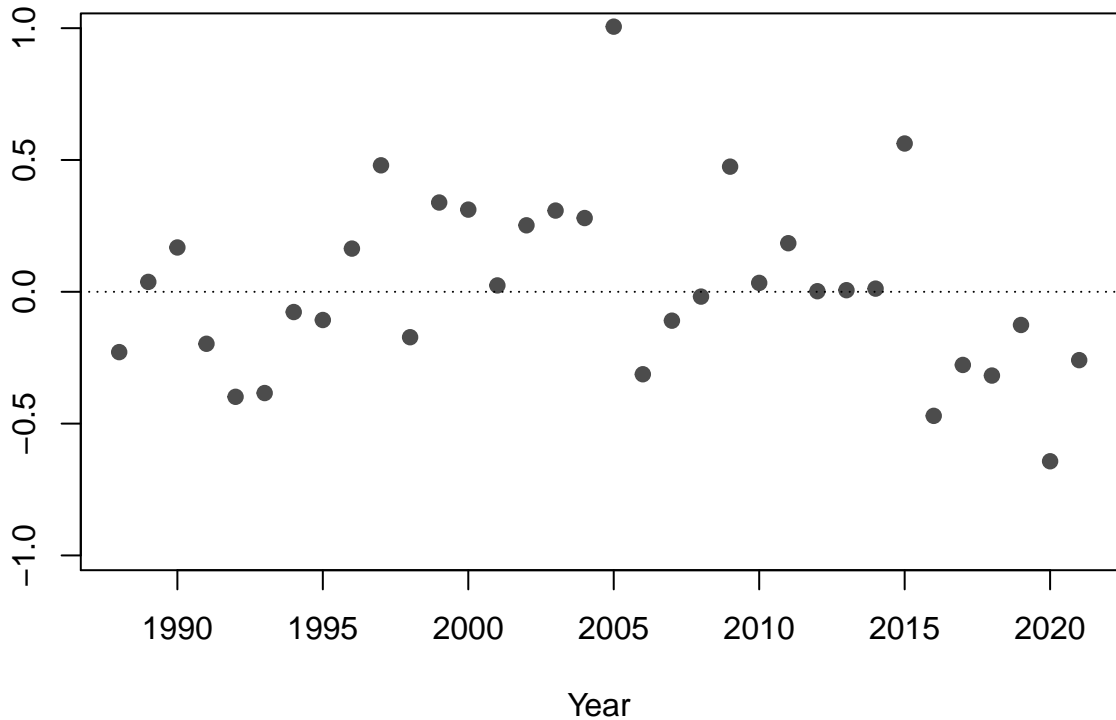
Effective catchability



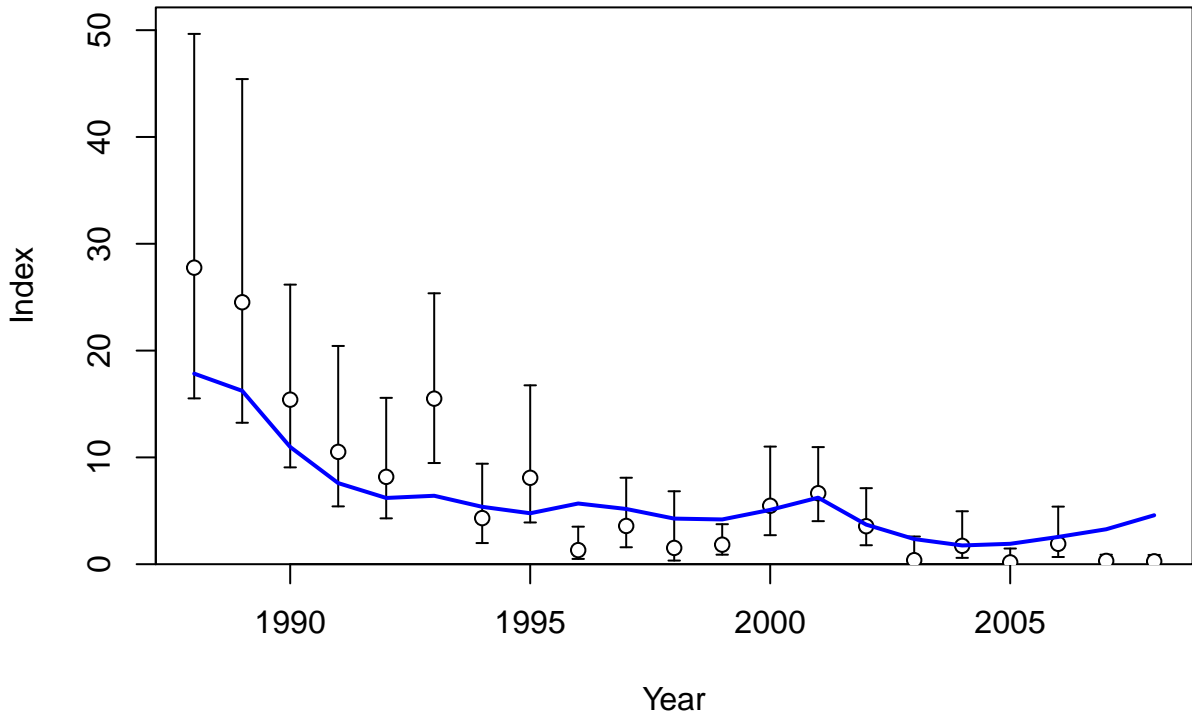
Residual

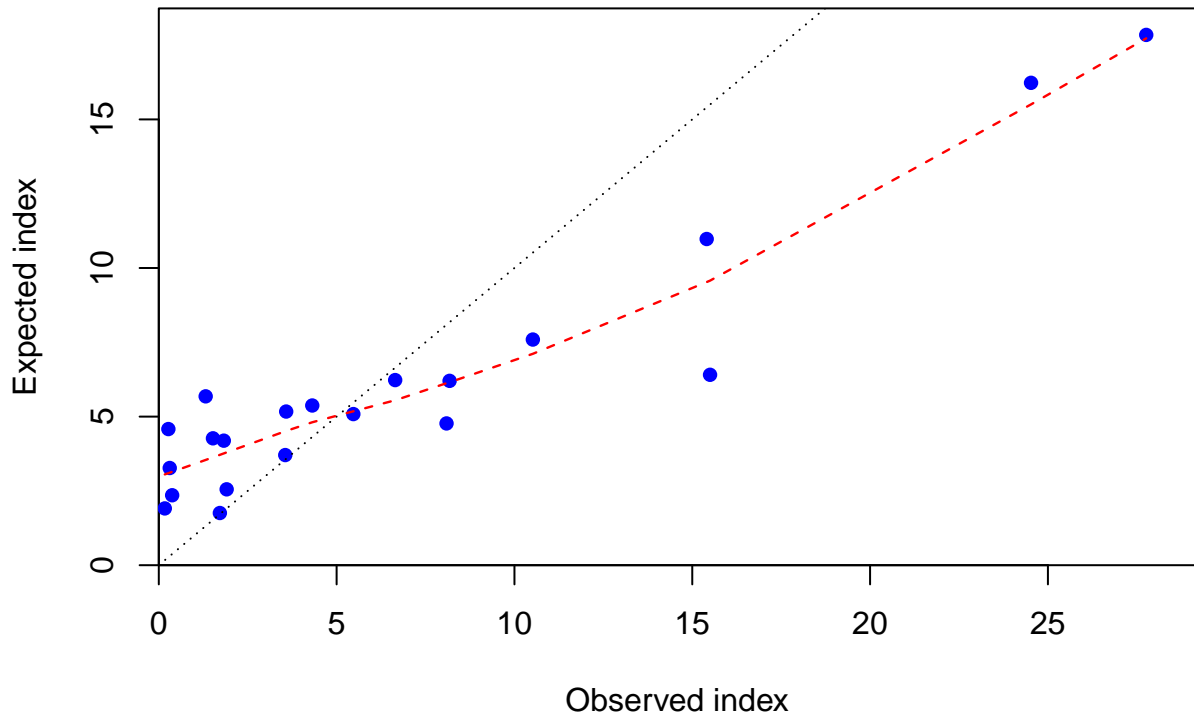


Deviation



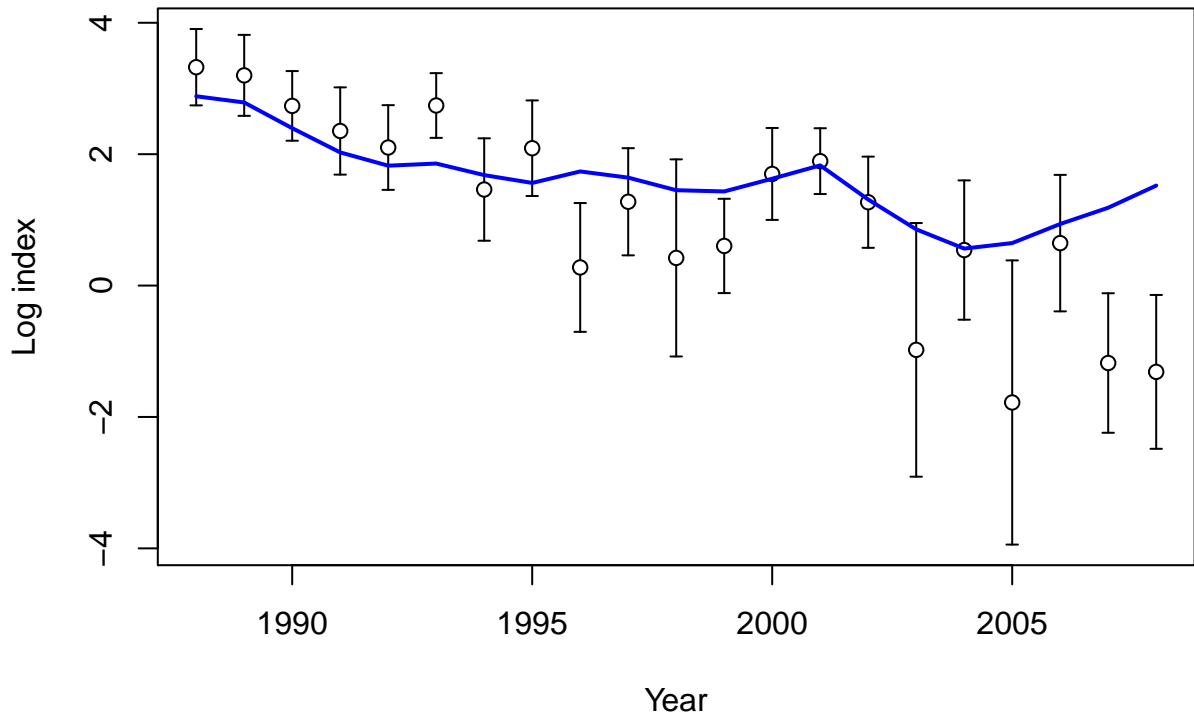


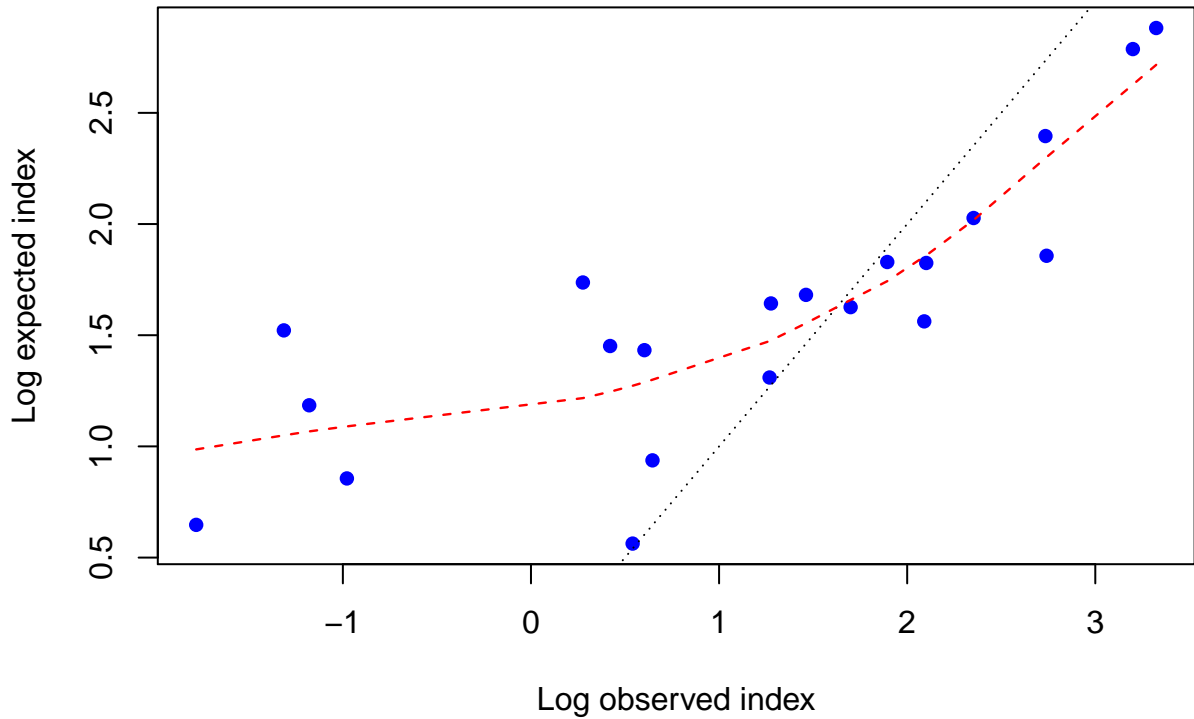












Effective catchability

3.698188  
3.698184  
3.698180

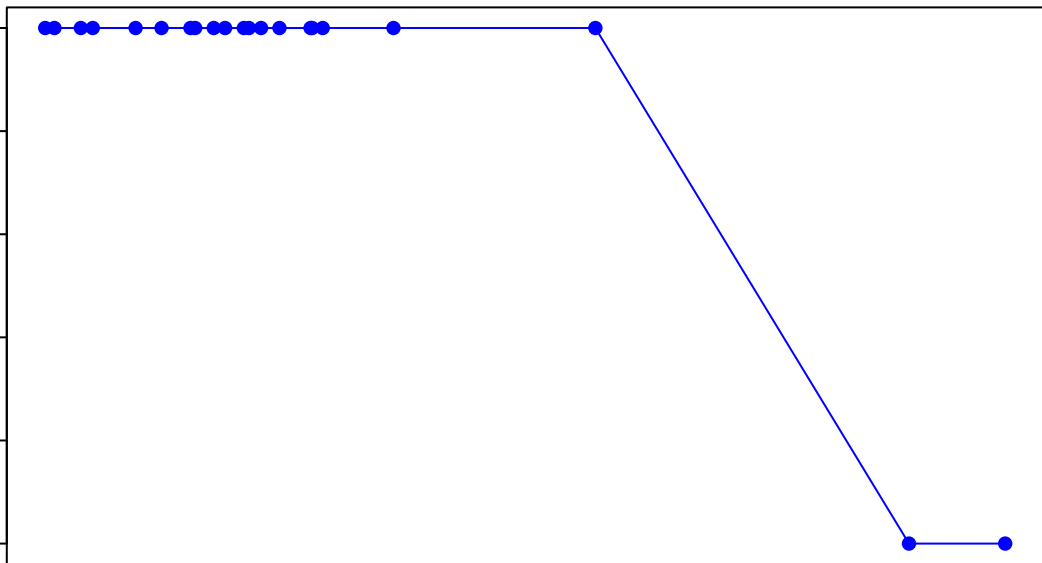
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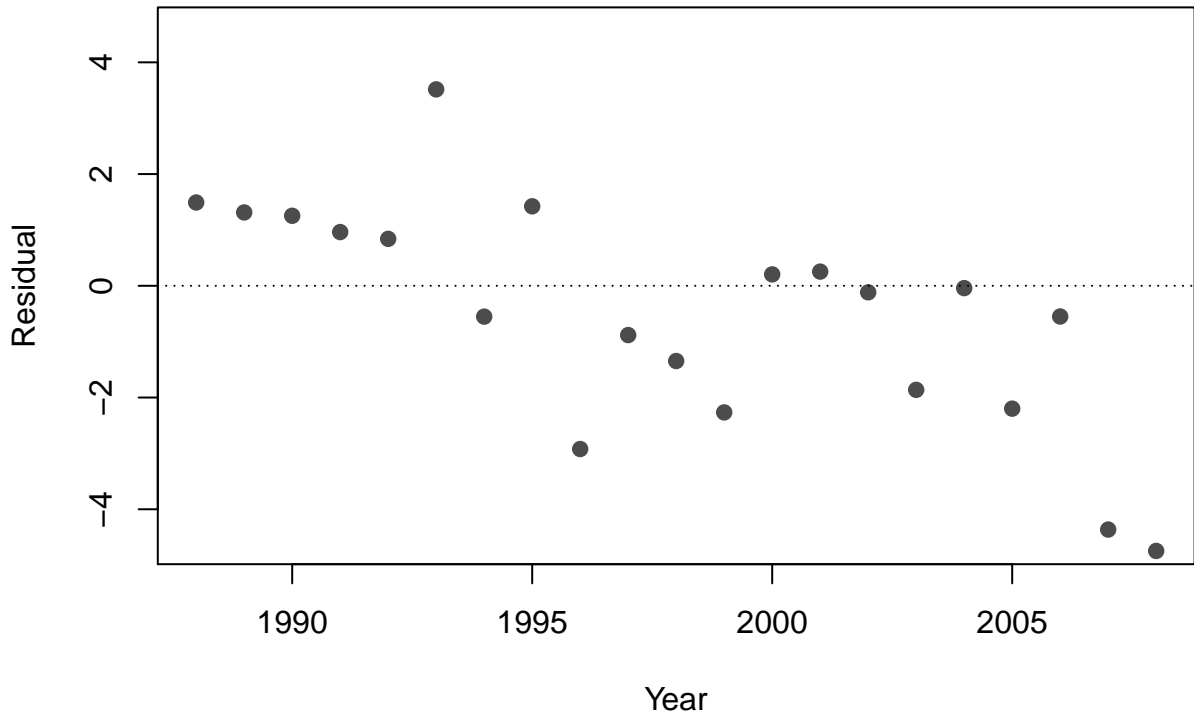
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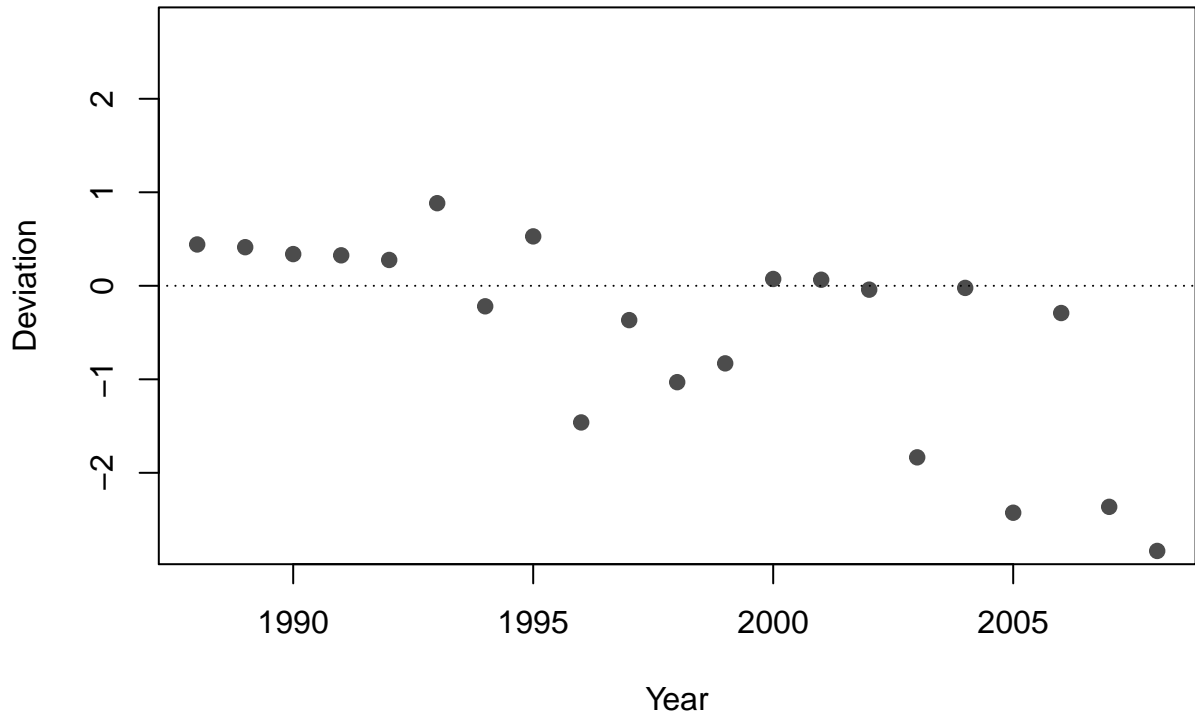
3

4

Vulnerable biomass

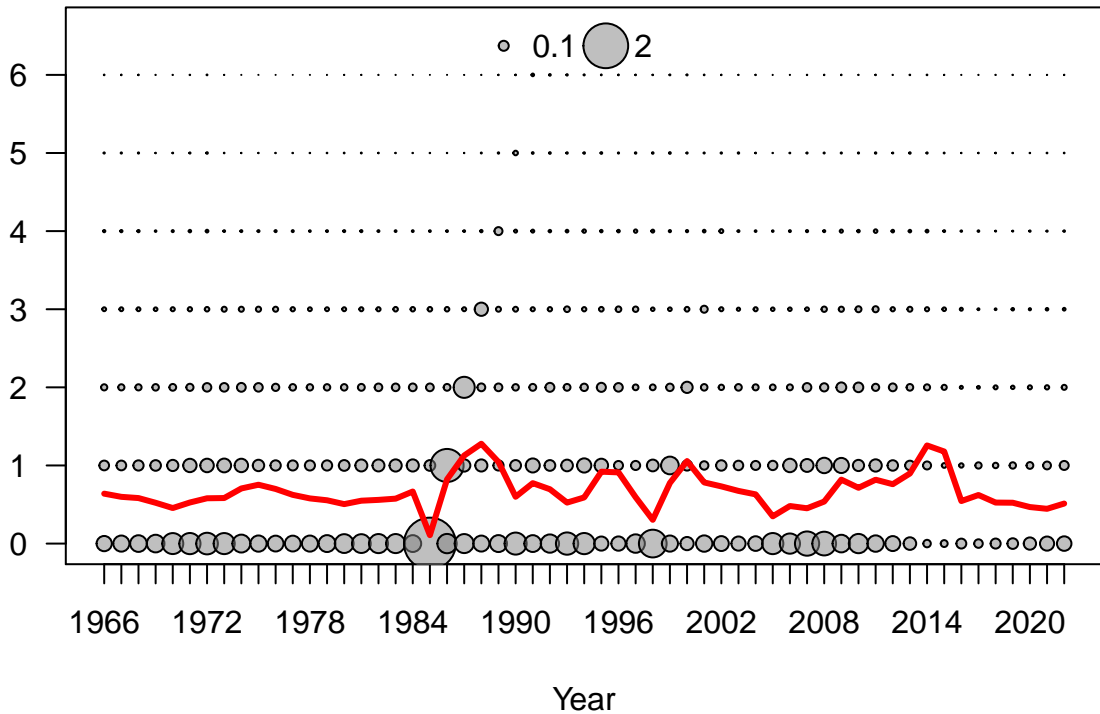






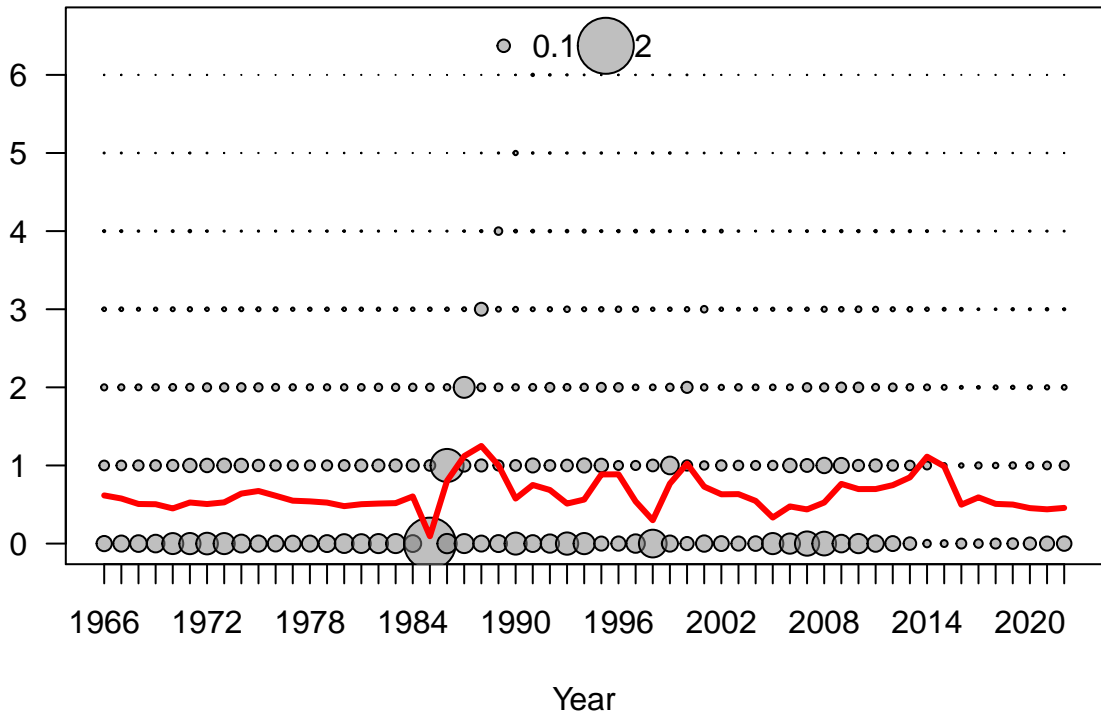


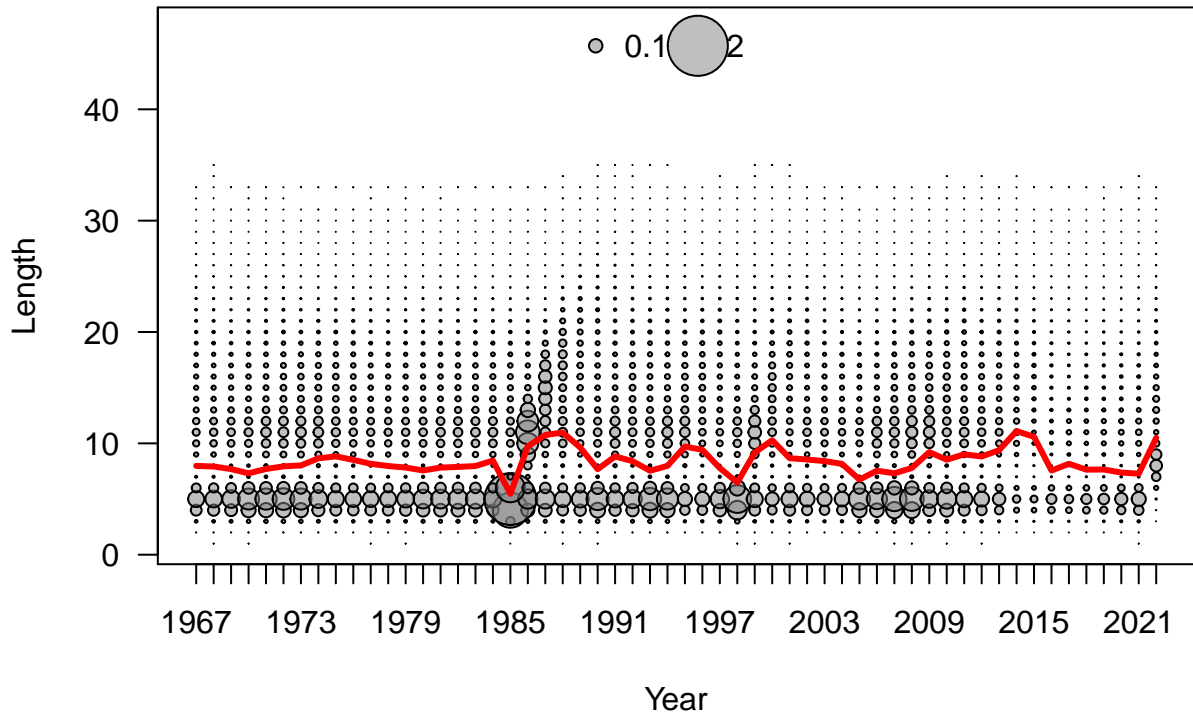
Age





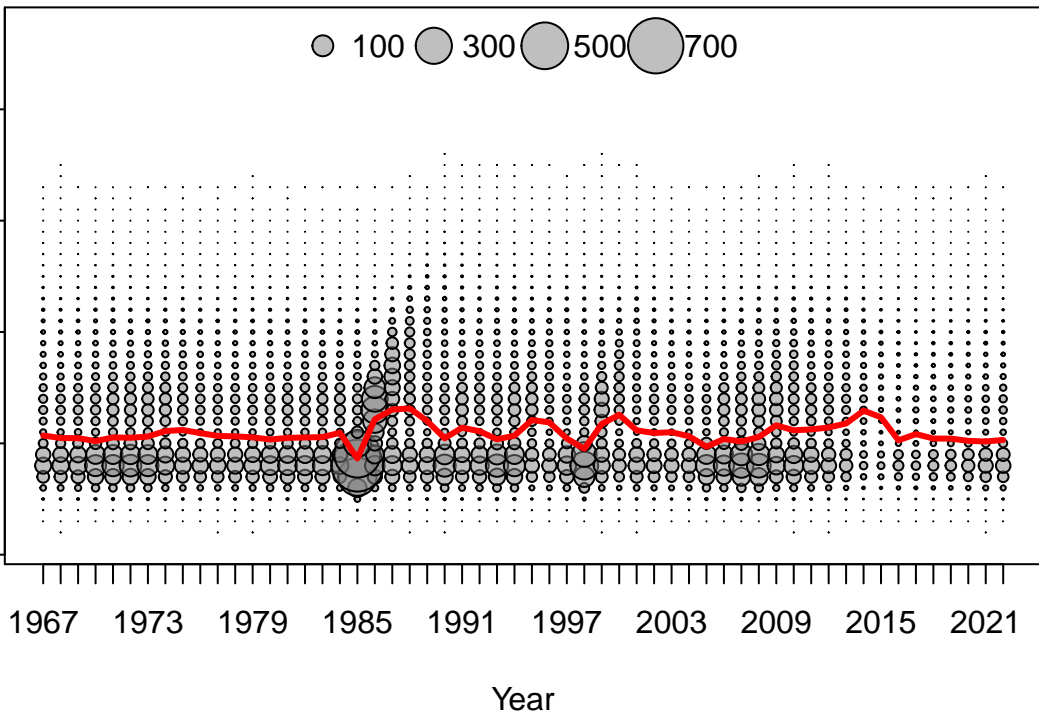
Age

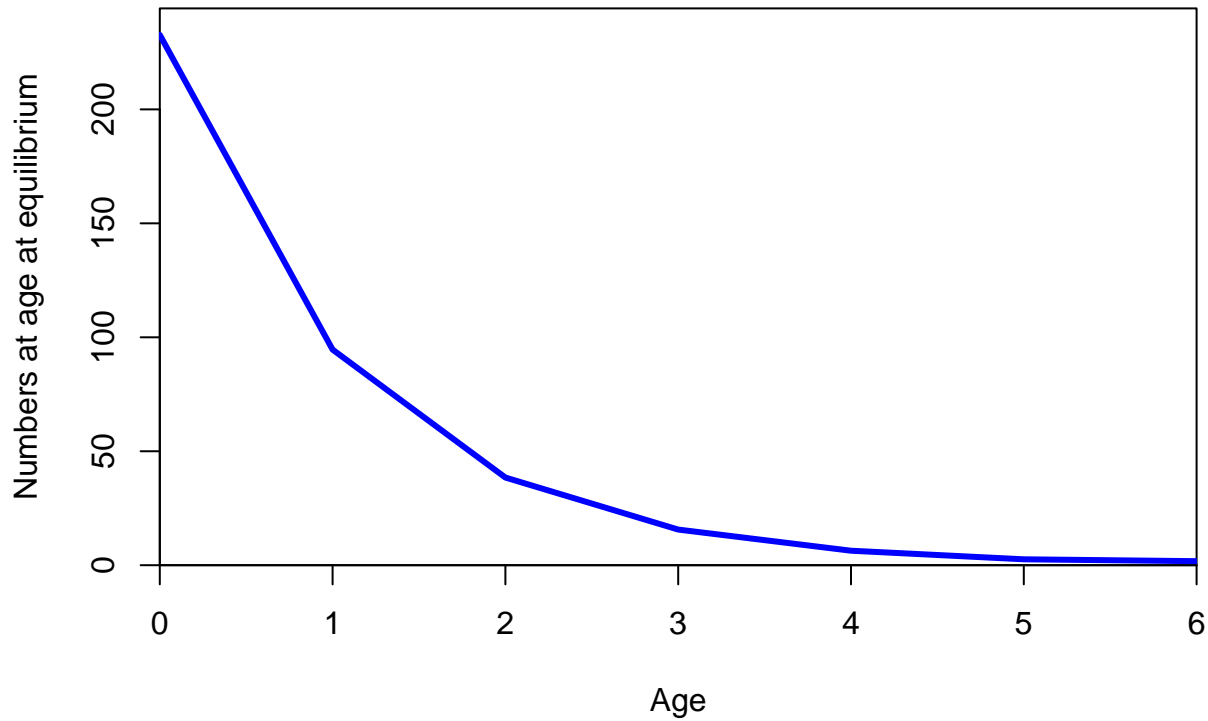




Length

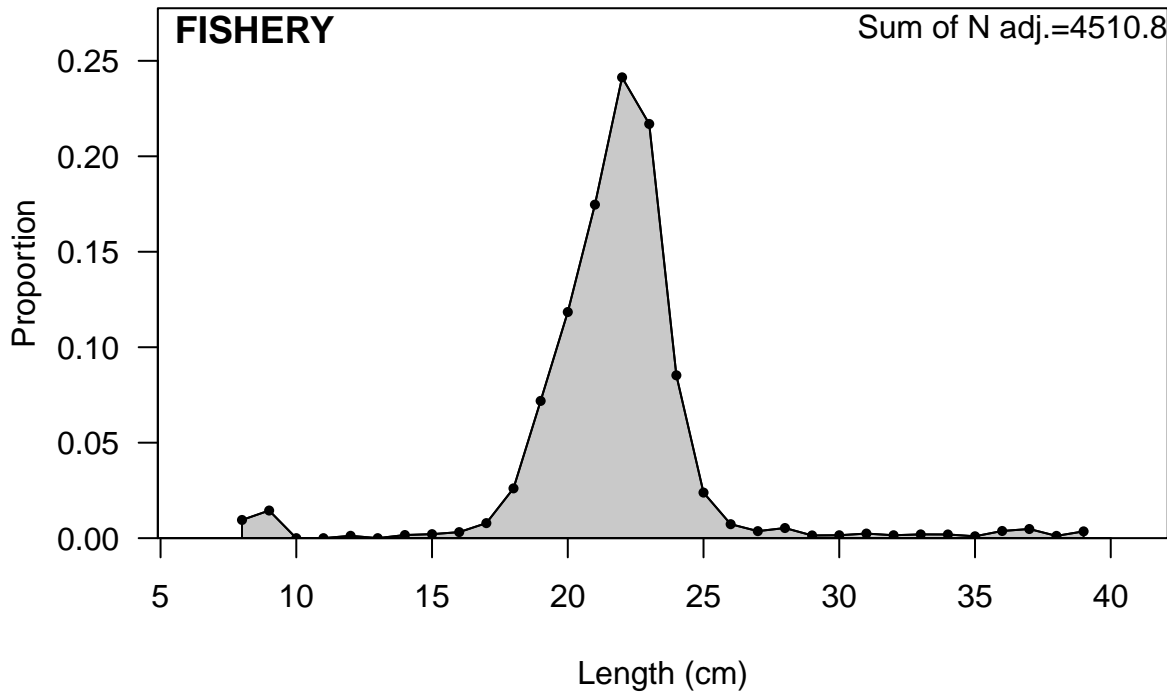
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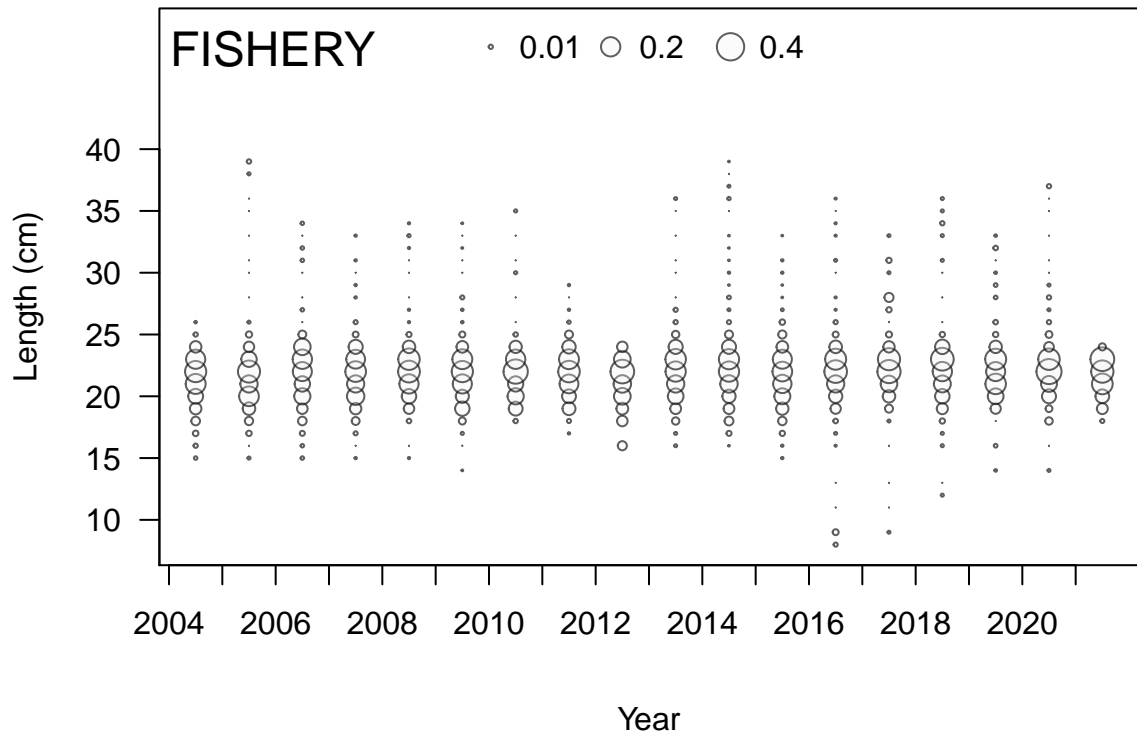


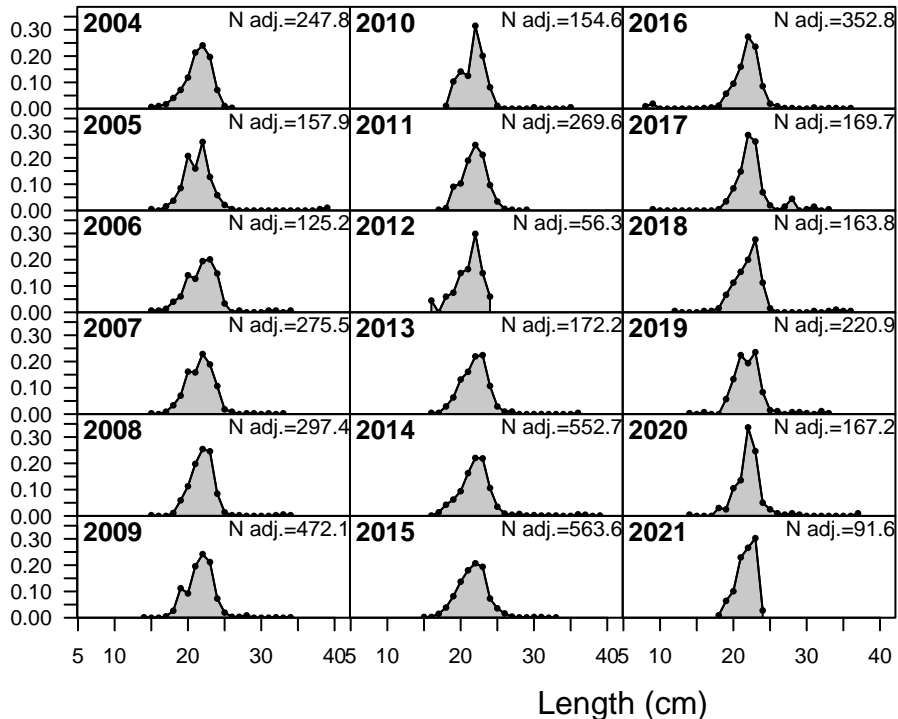


# FISHERY

Sum of N adj.=4510.8



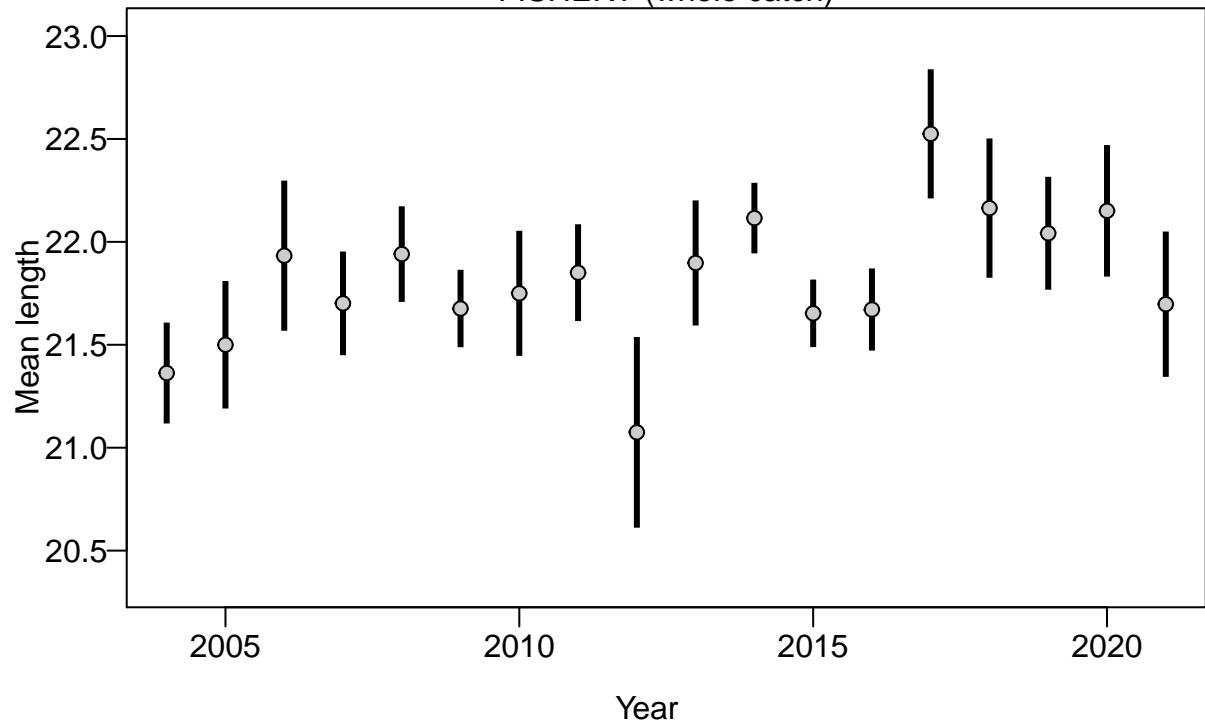






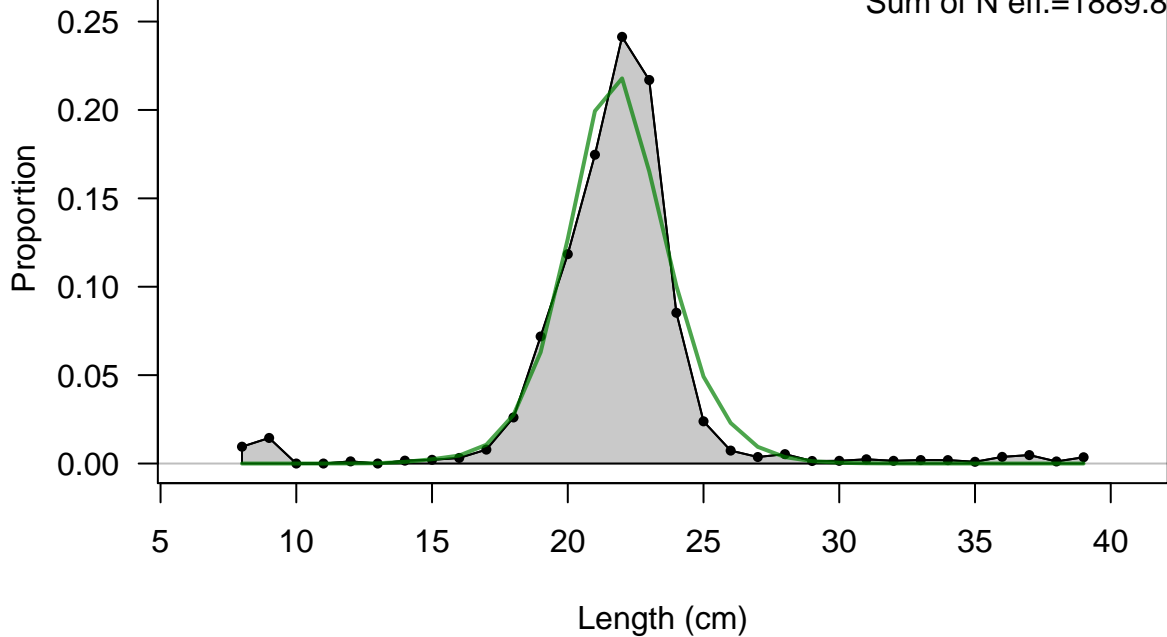


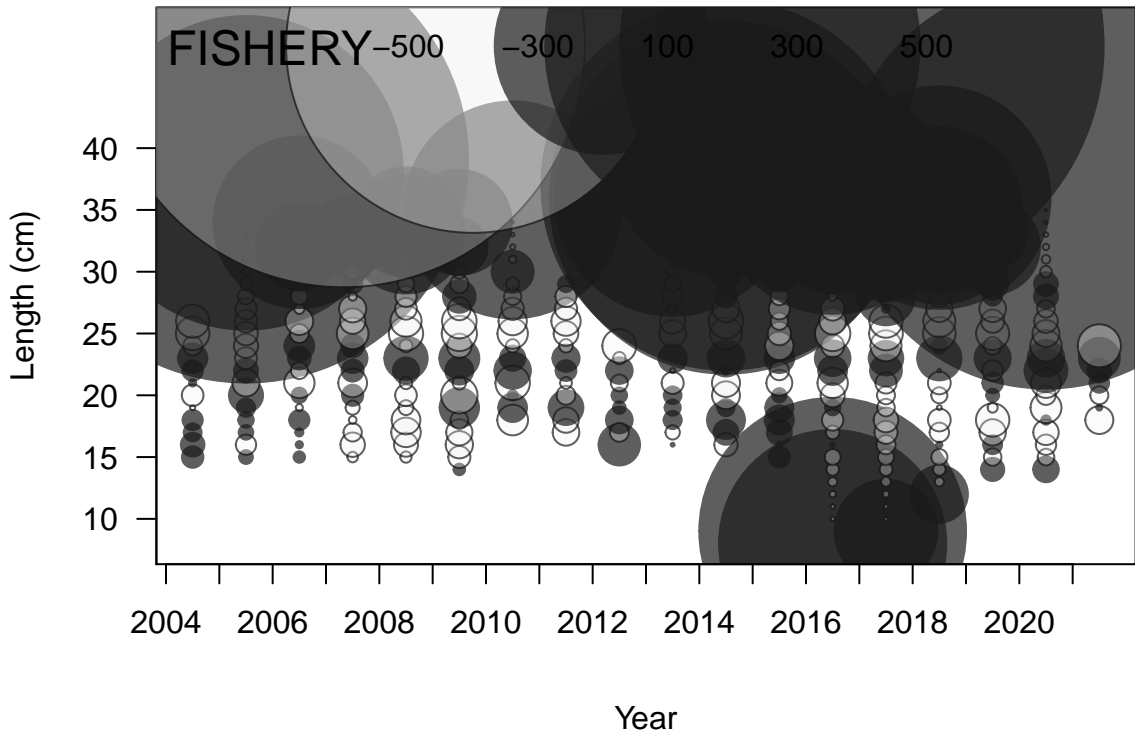
FISHERY (whole catch)

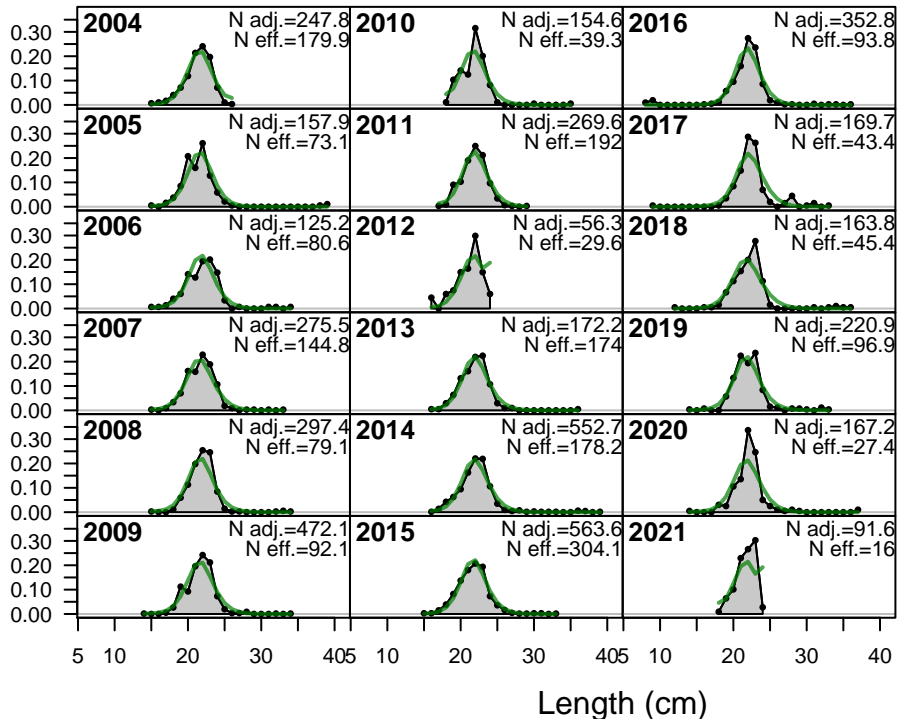


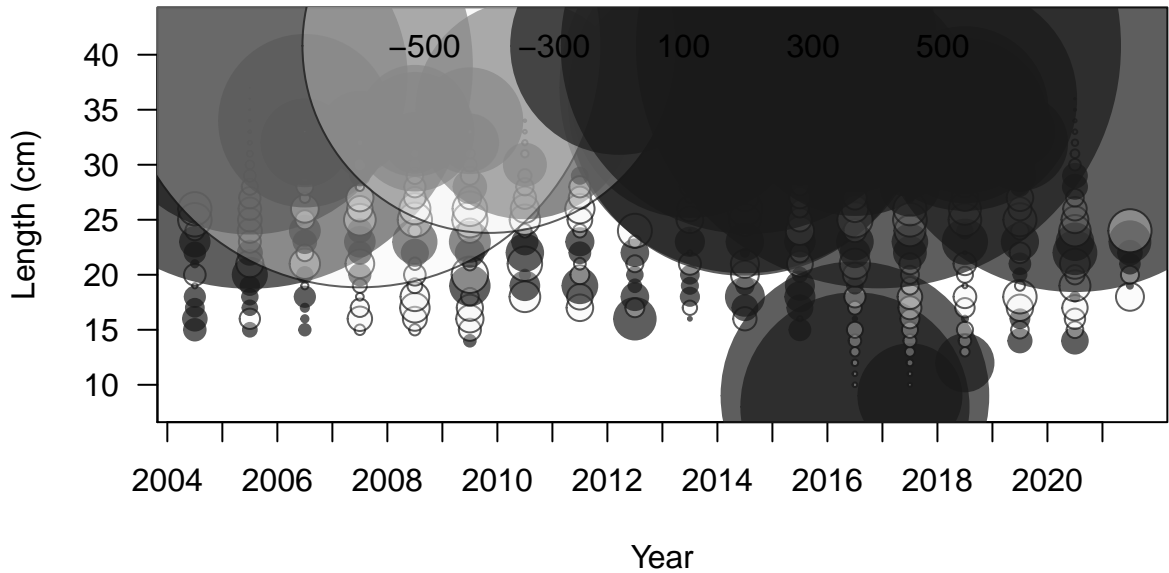
# FISHERY

Sum of N adj.=4510.8  
Sum of N eff.=1889.8

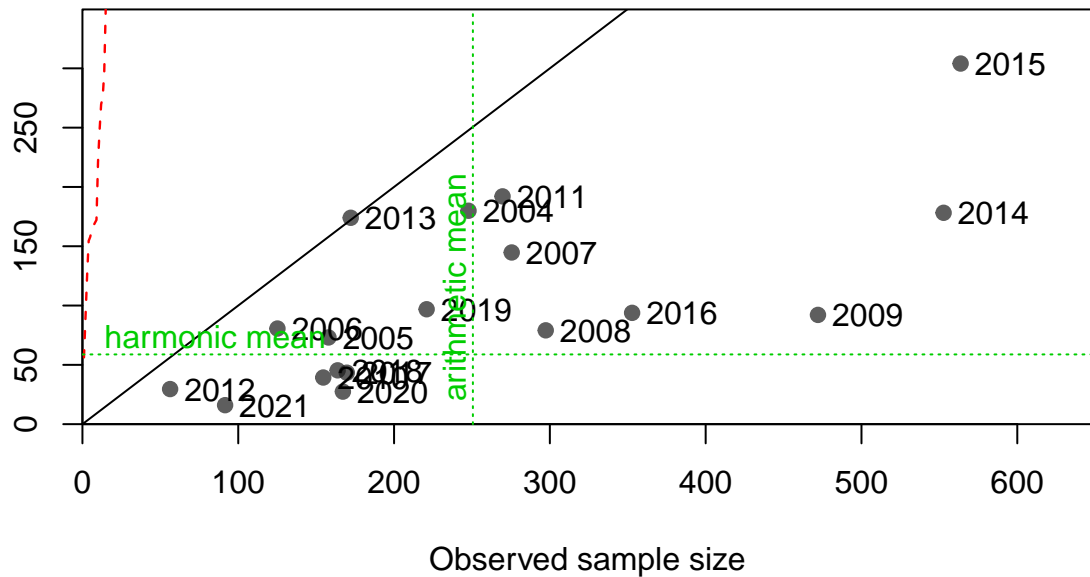




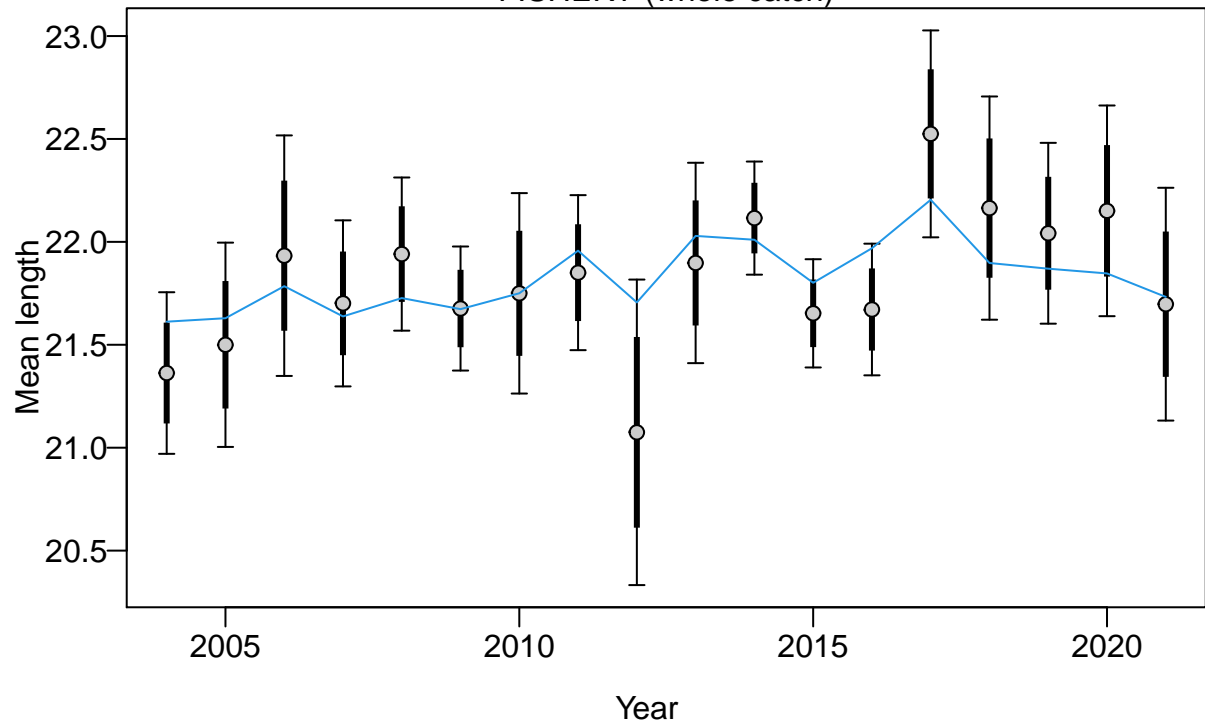


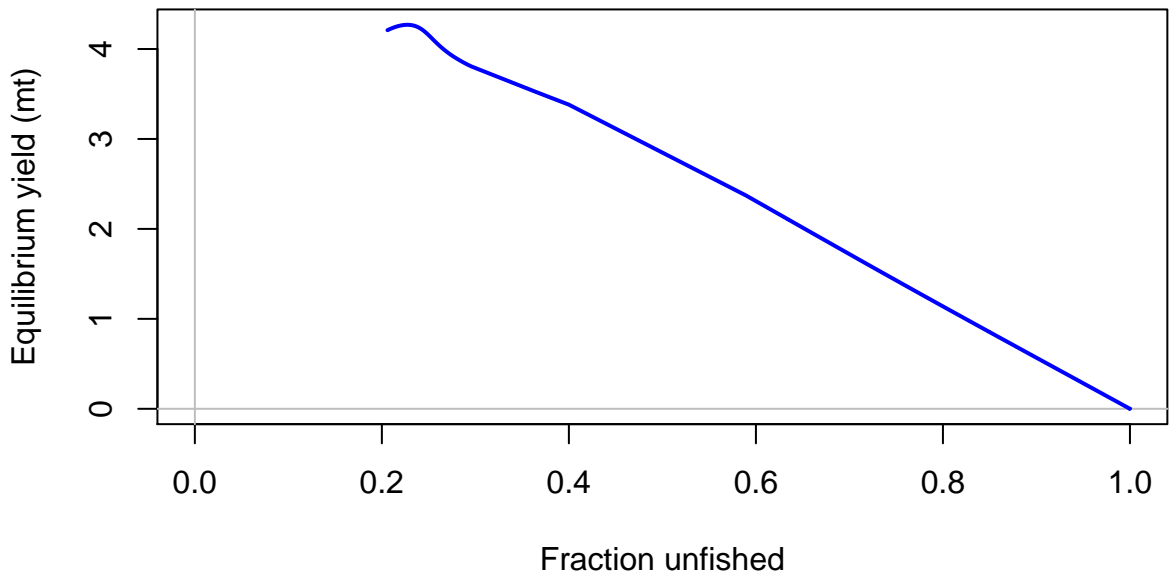


Effective sample size

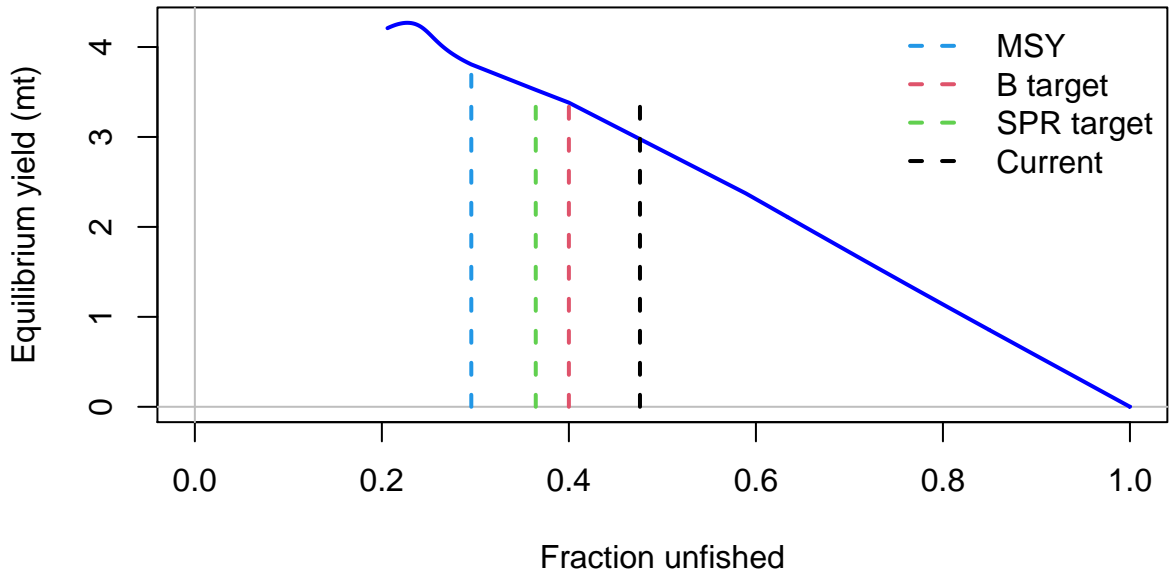


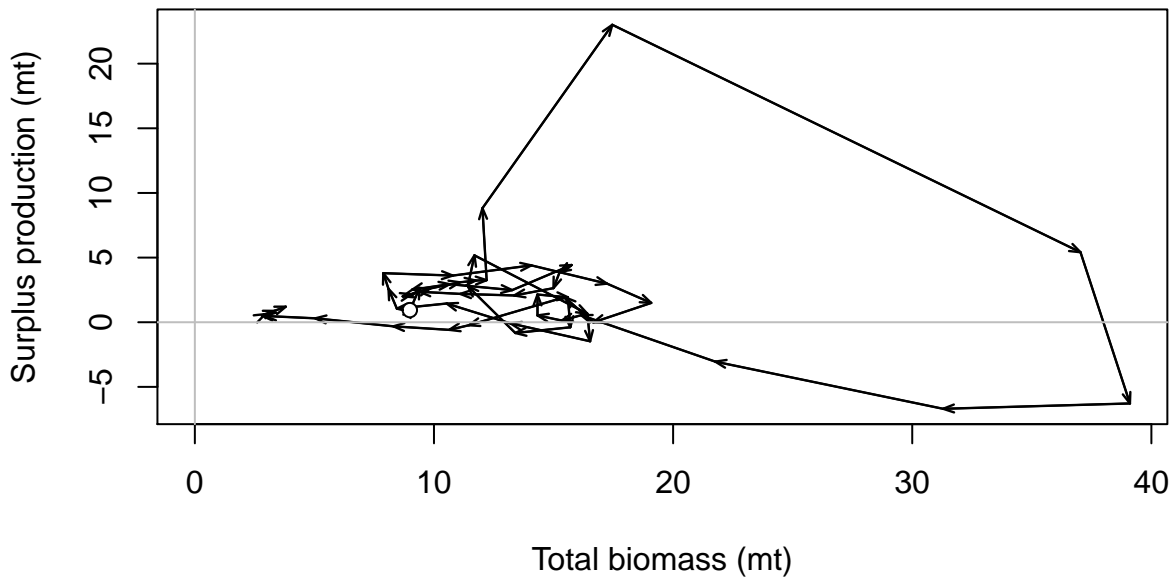
FISHERY (whole catch)

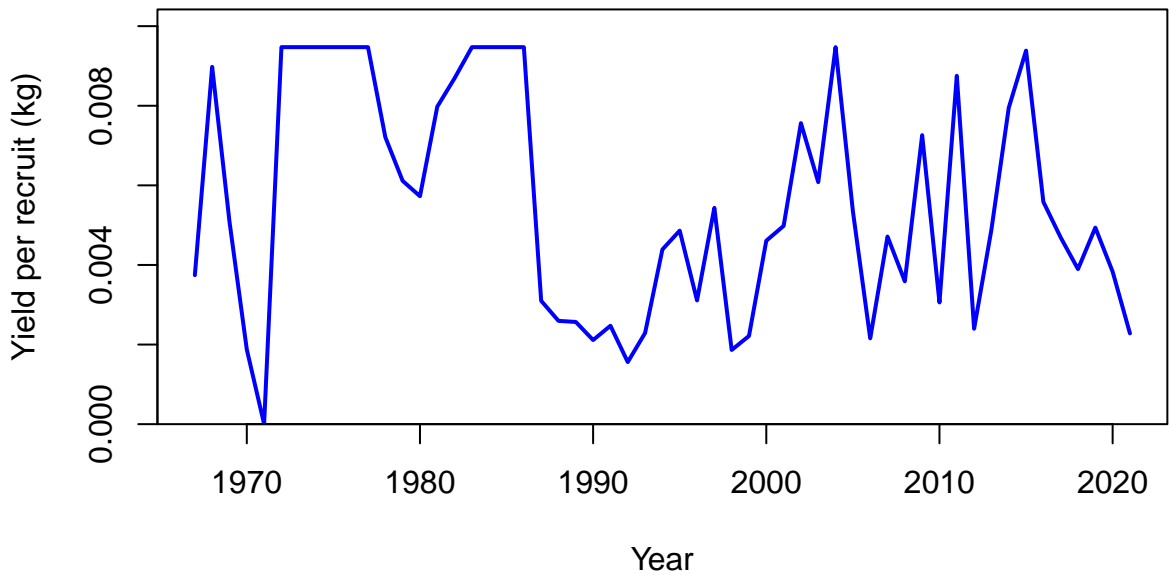




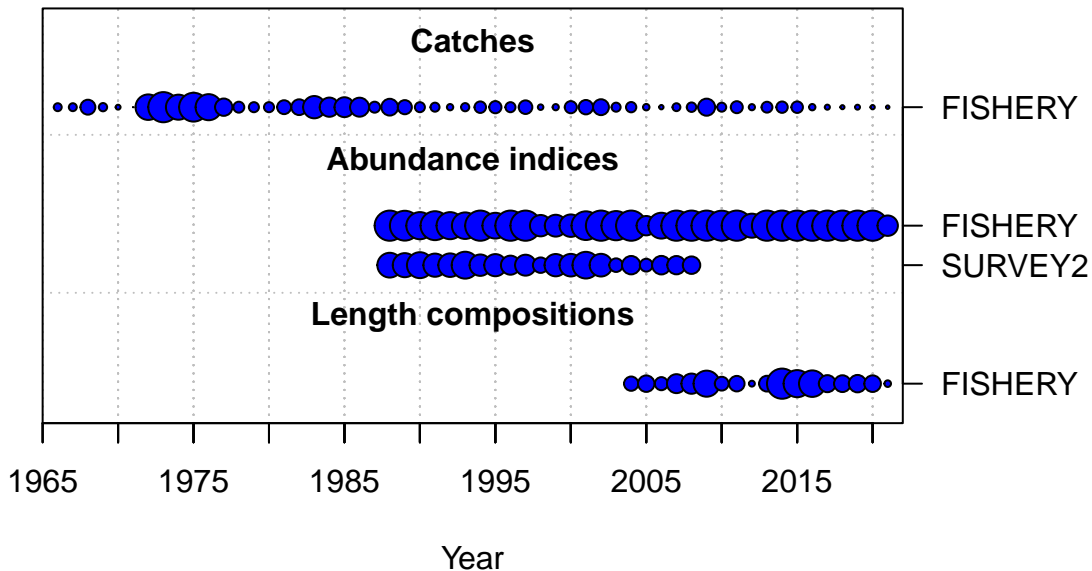




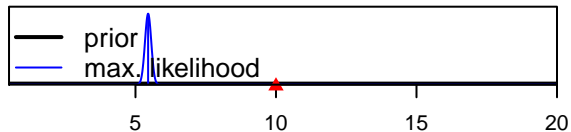




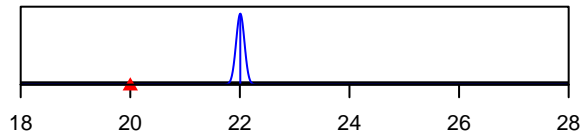




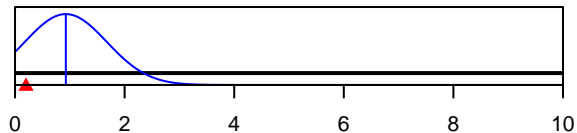
SR\_LN(R0)



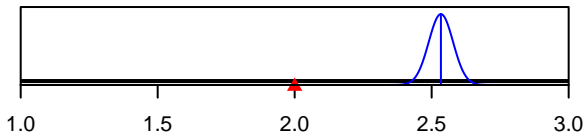
Size\_inflection\_FISHERY(1)



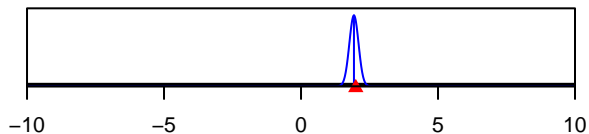
InitF\_seas\_1\_flt\_1FISHERY



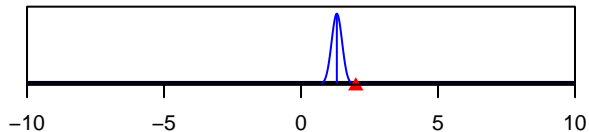
Size\_95%width\_FISHERY(1)



LnQ\_base\_FISHERY(1)



LnQ\_base\_SURVEY2(2)



Parameter value