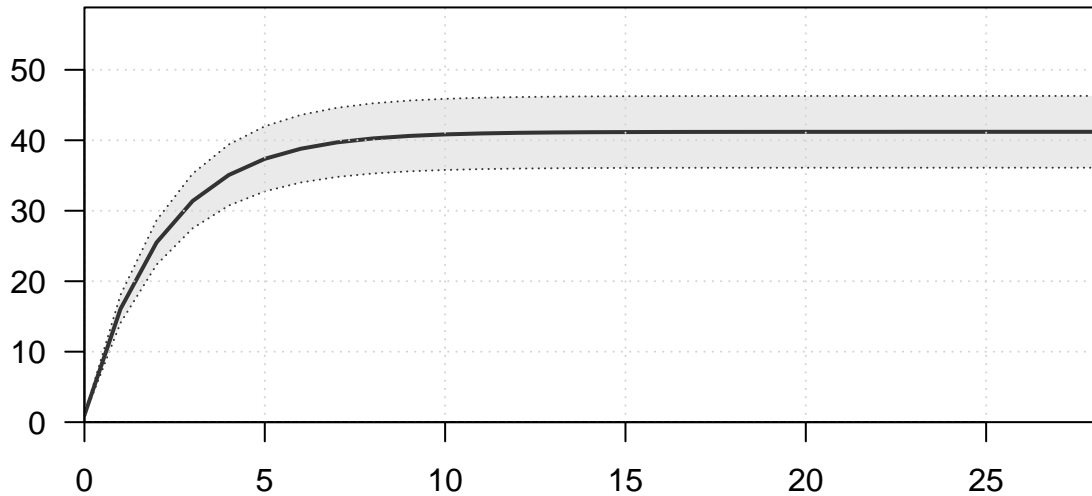


Plots created using the 'r4ss' package in R  
Stock Synthesis version: 3.30.19.0  
StartTime: Tue Feb 14 13:34:08 2023  
Data\_File: data.ss  
Control\_File: control.ss

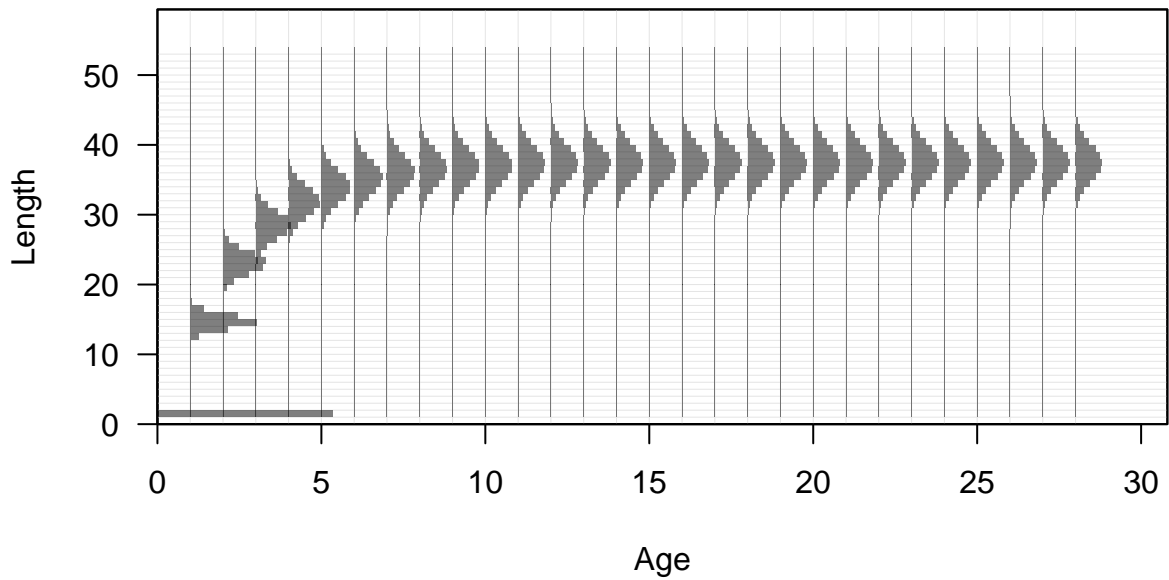
Length (cm, beginning of the year)



Age (yr)

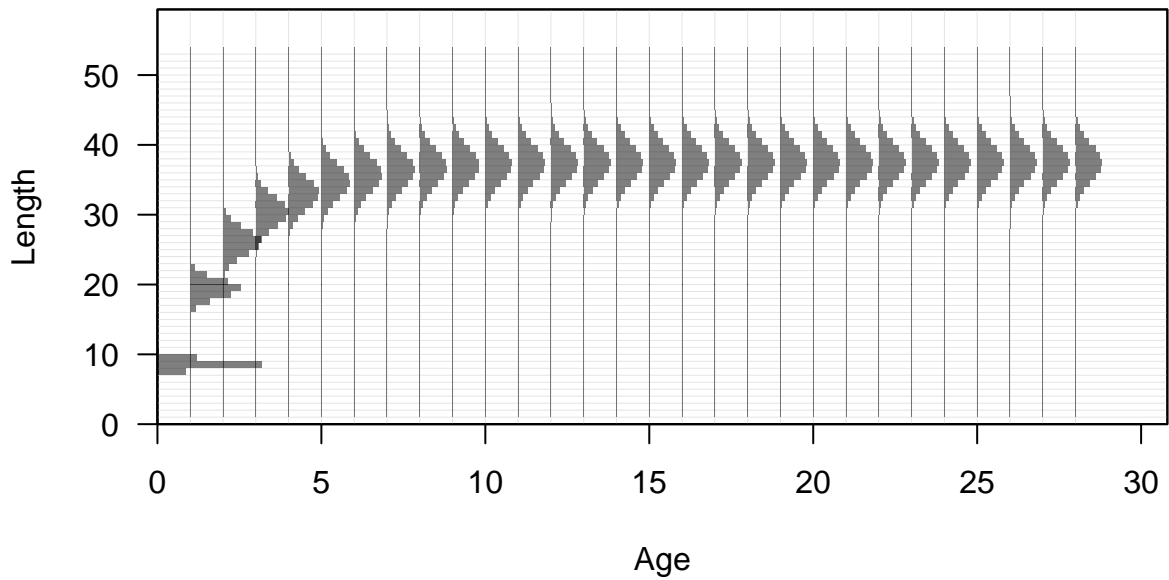










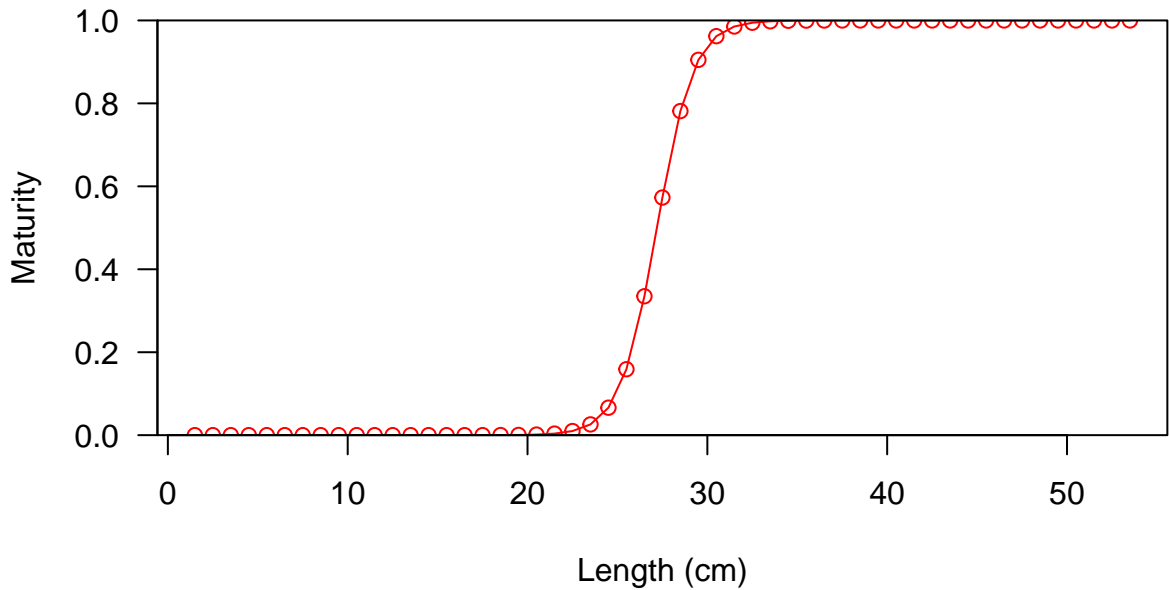














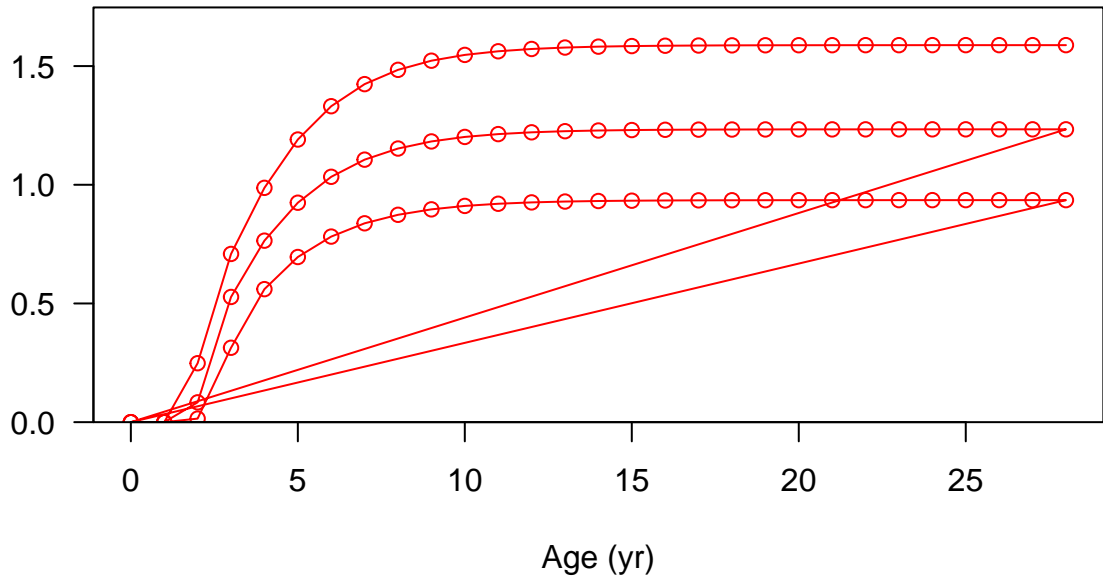




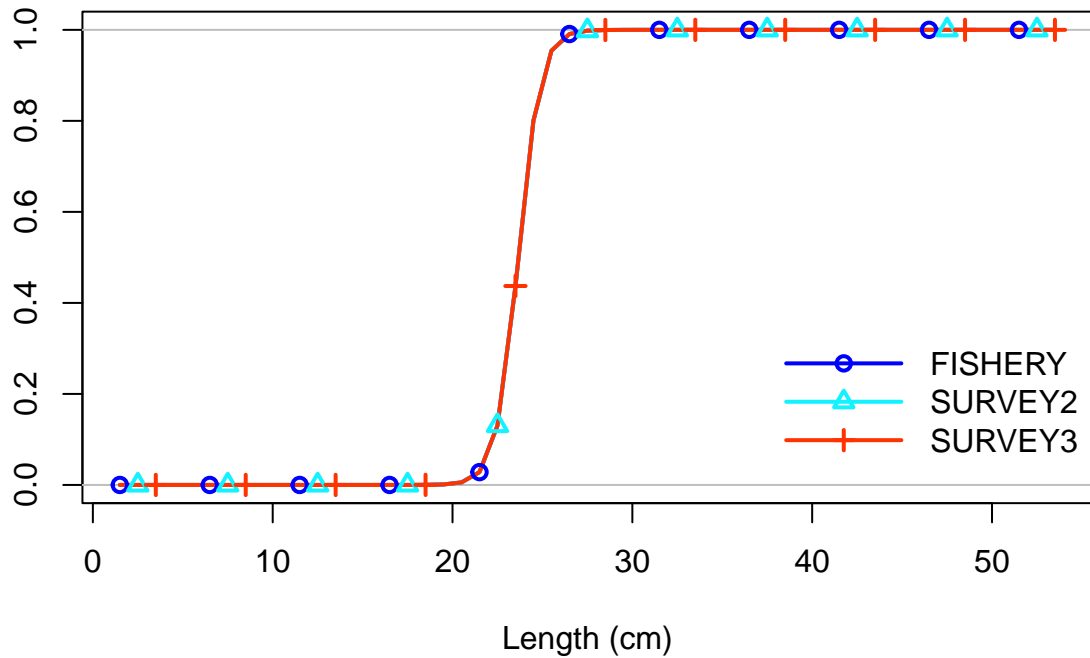




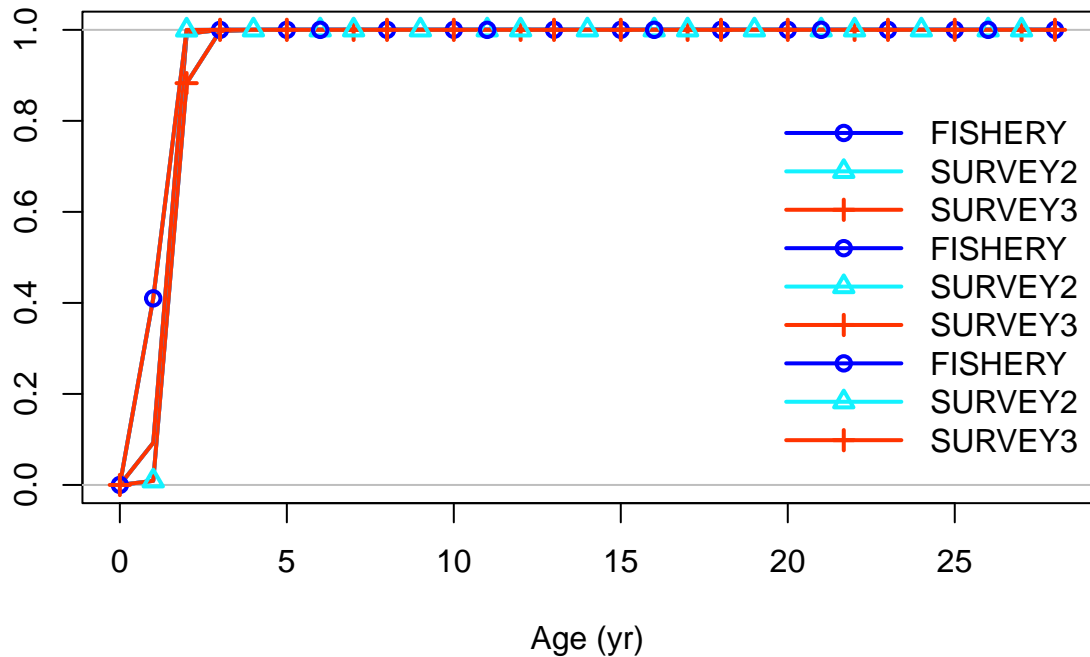
Spawning output



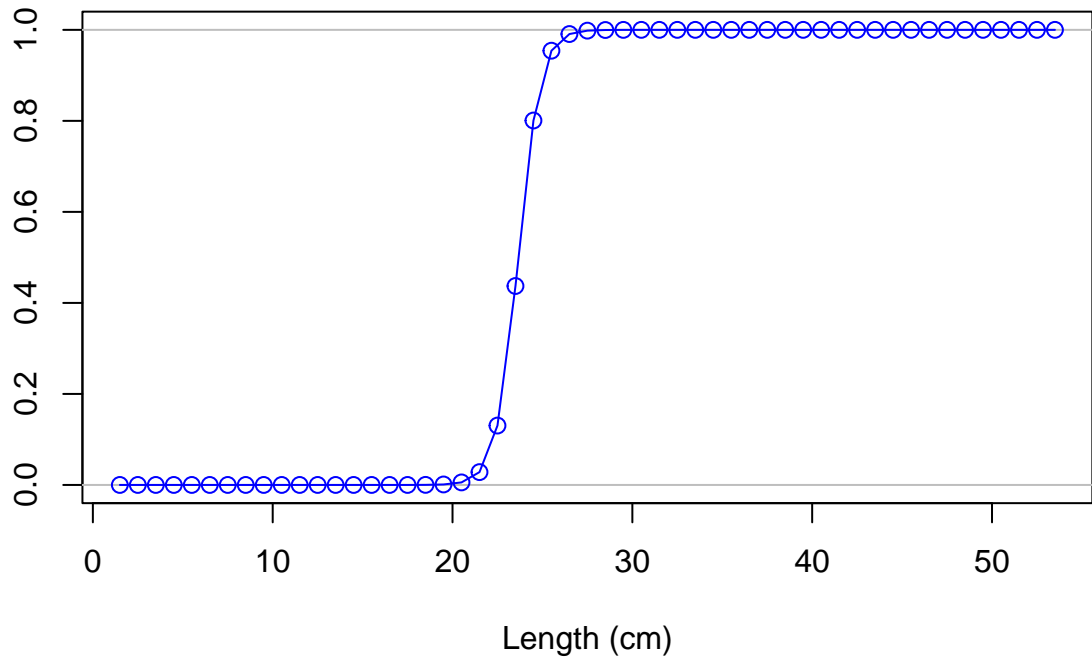
Selectivity



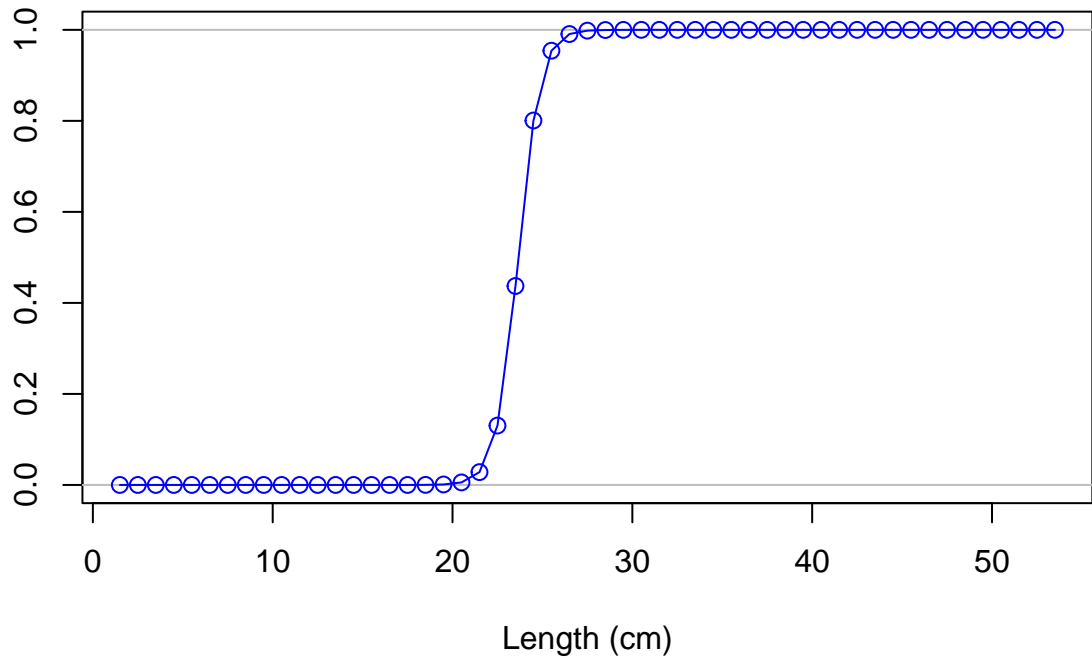
Selectivity



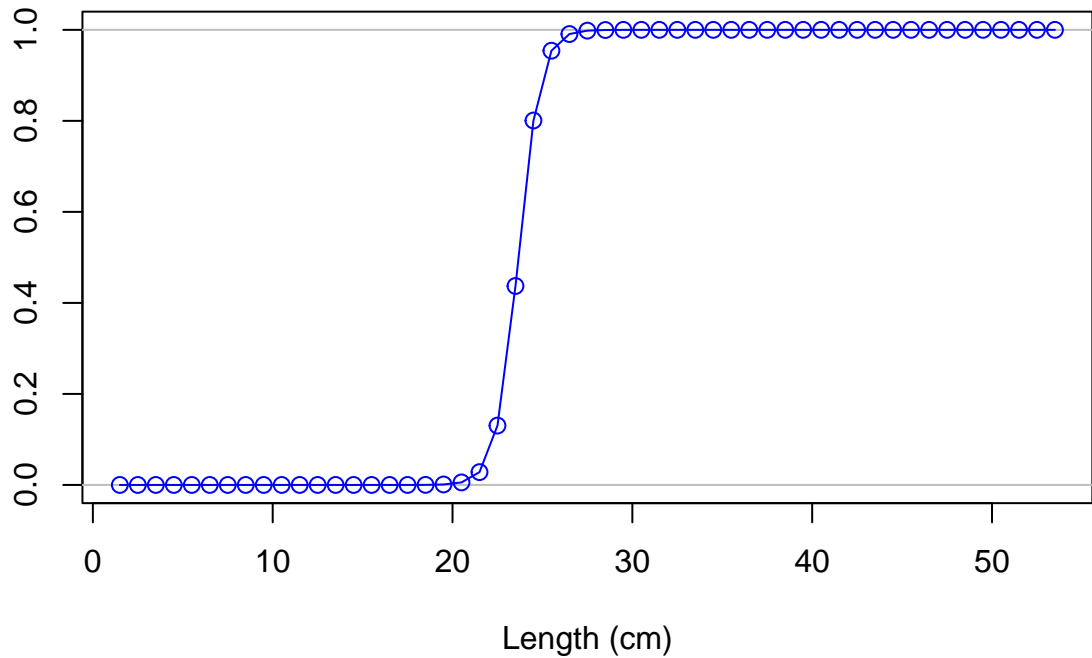
Selectivity

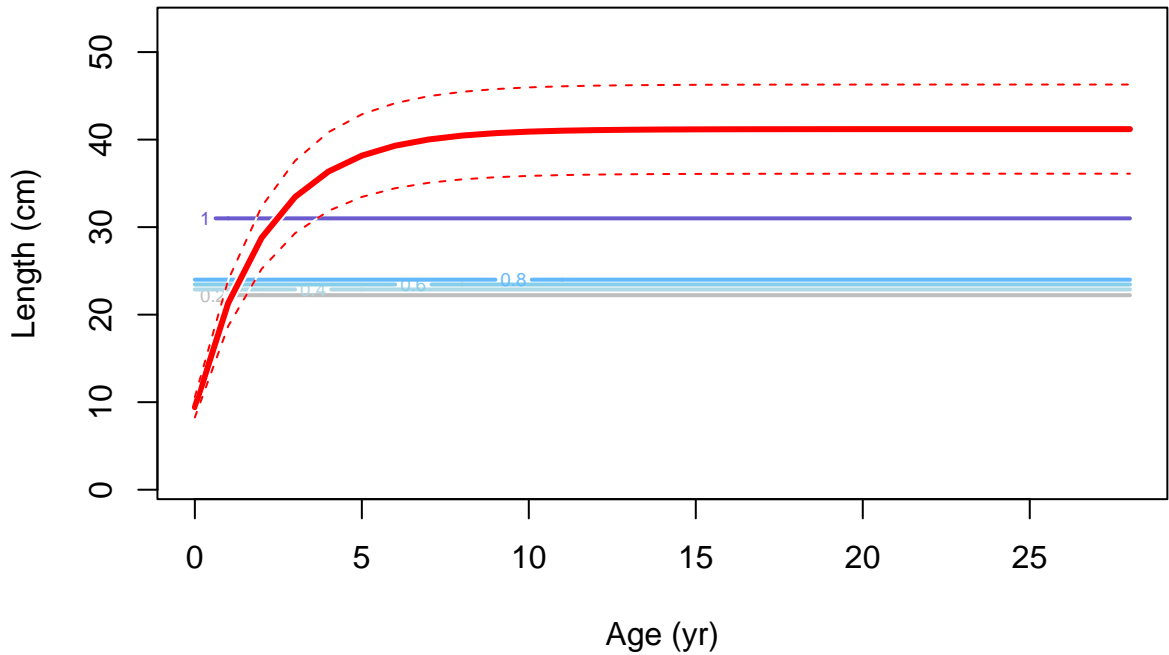


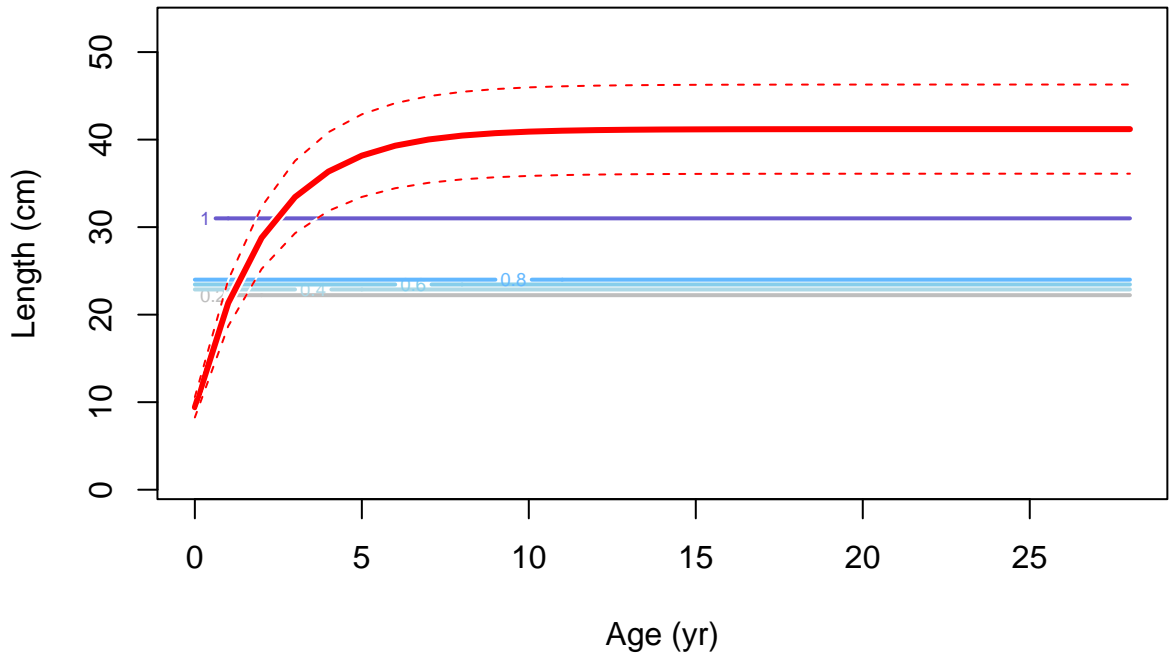
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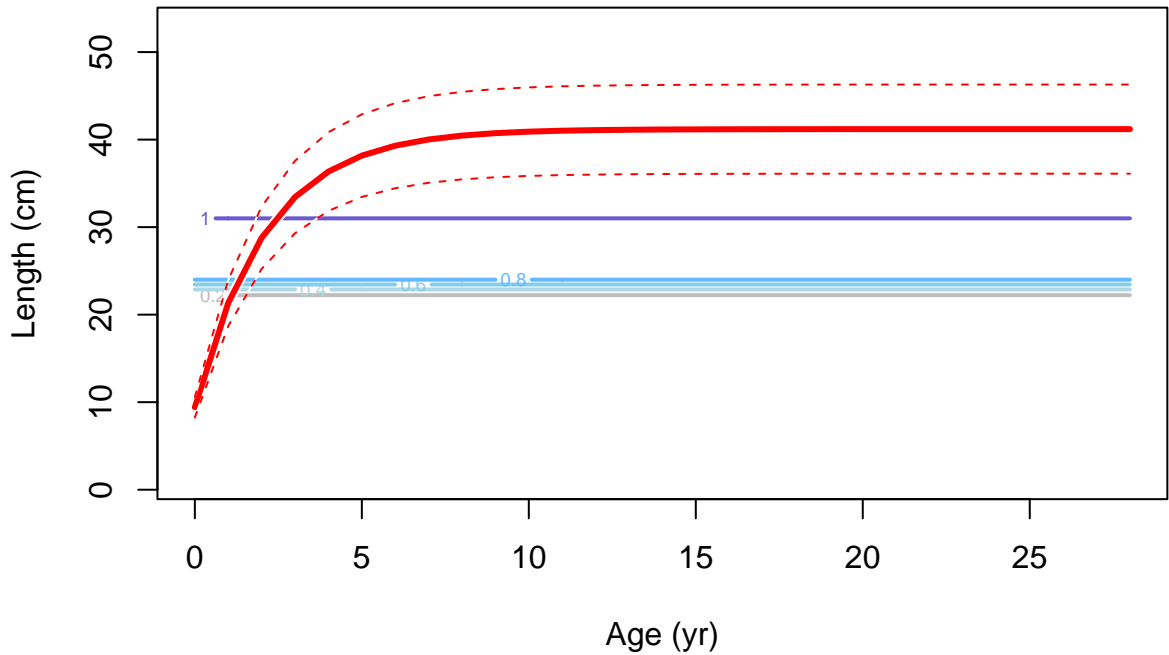
Selectivity



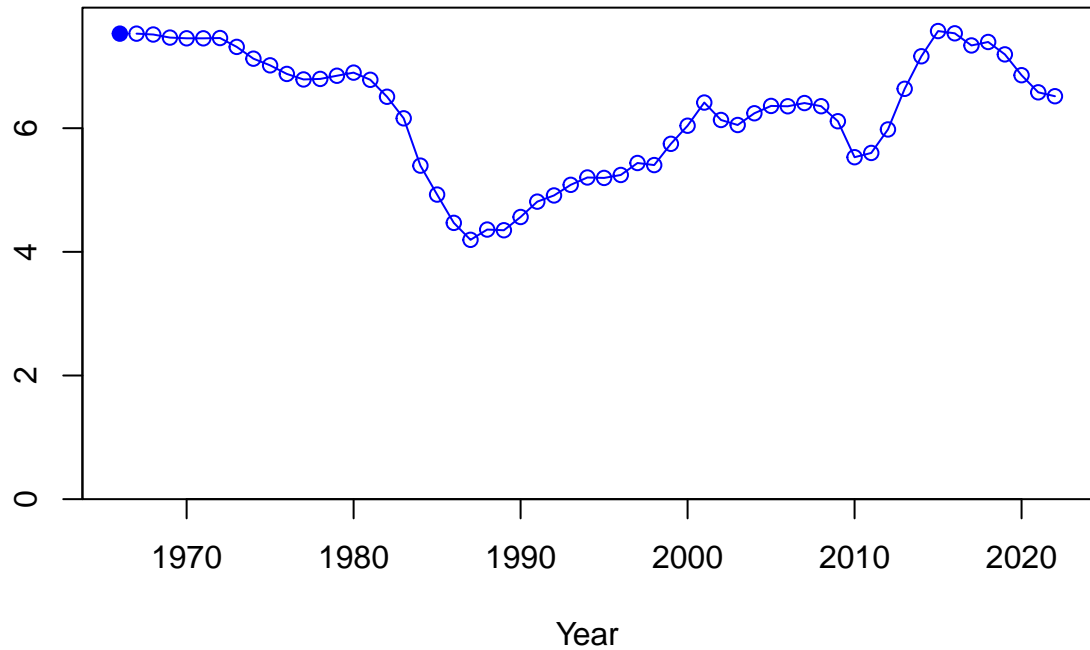


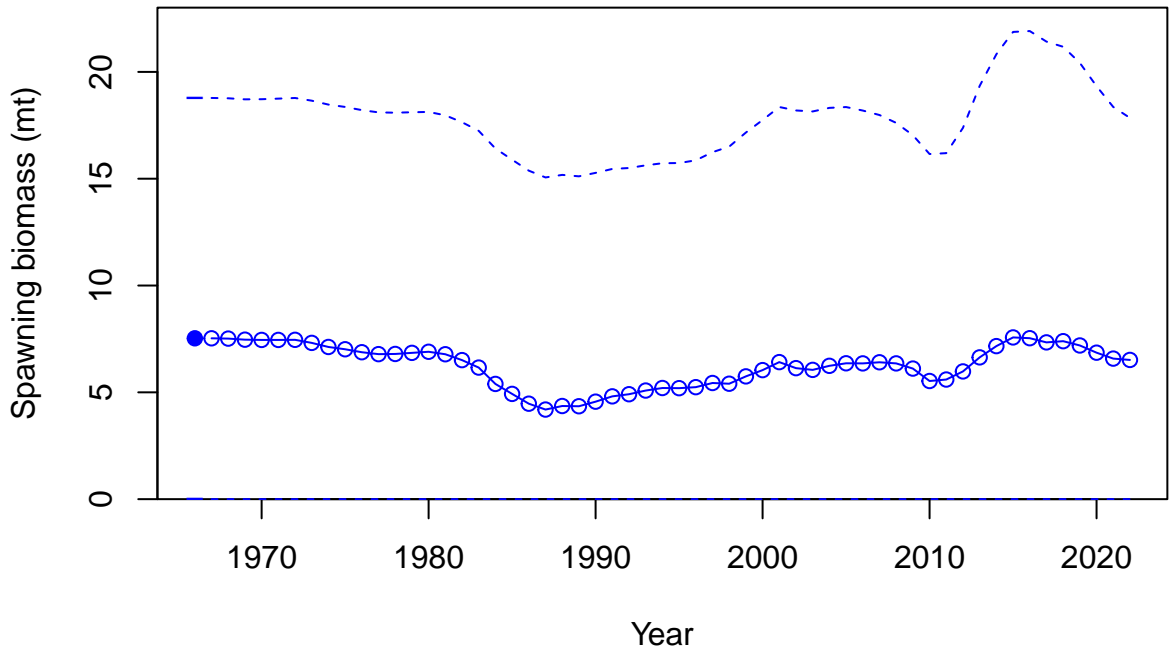




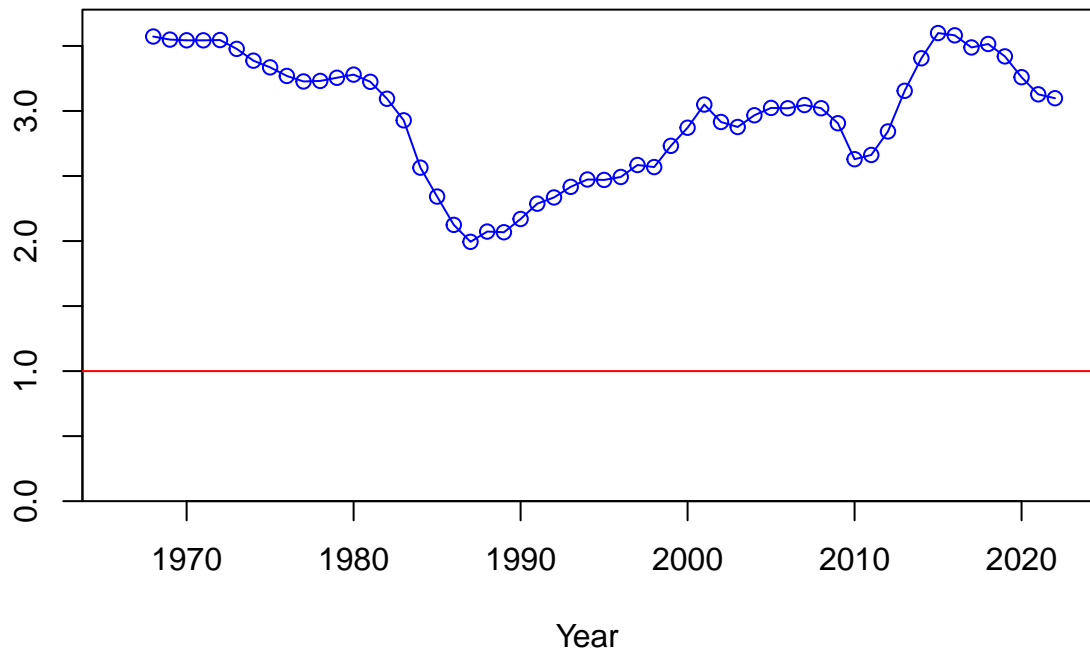


Spawning biomass (mt)

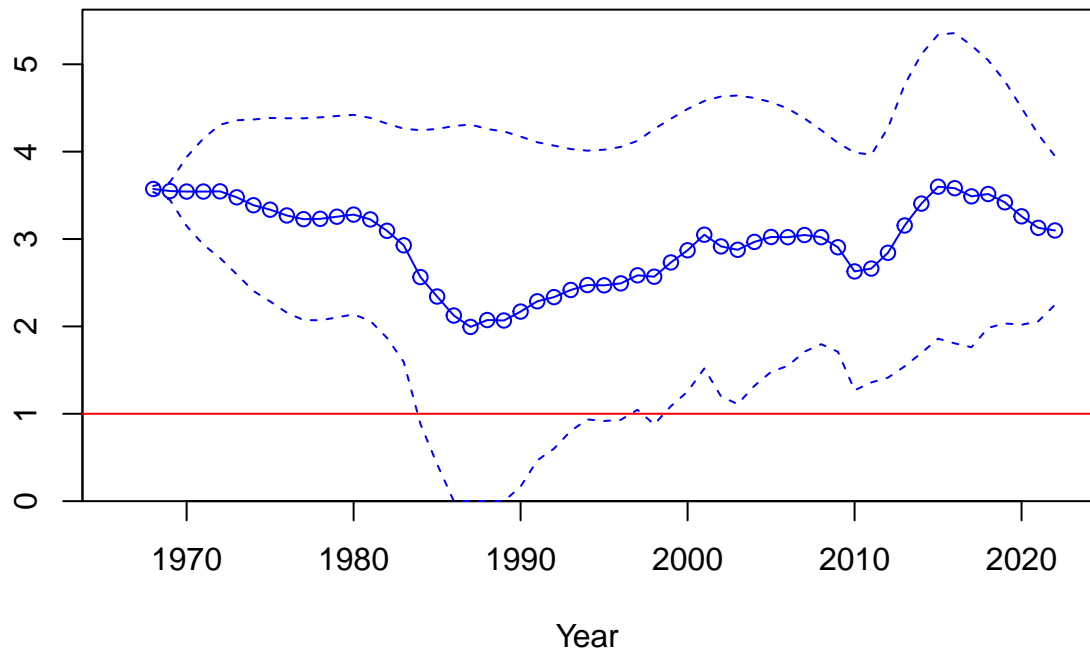


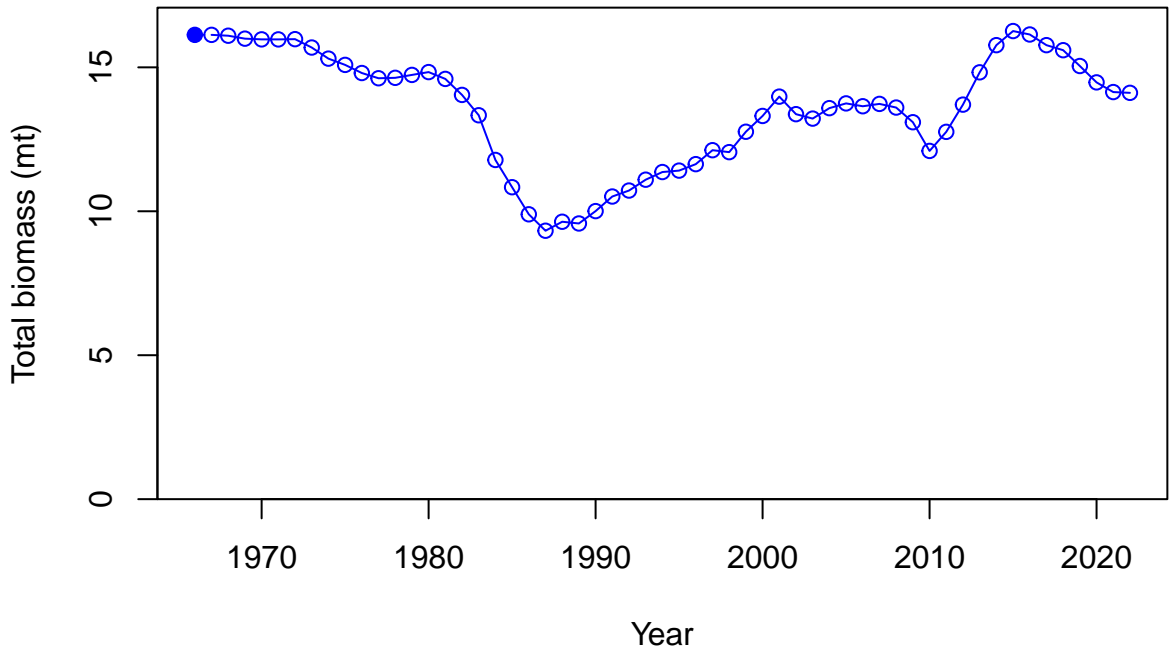


Relative spawning biomass:  $B/B_{MSY}$

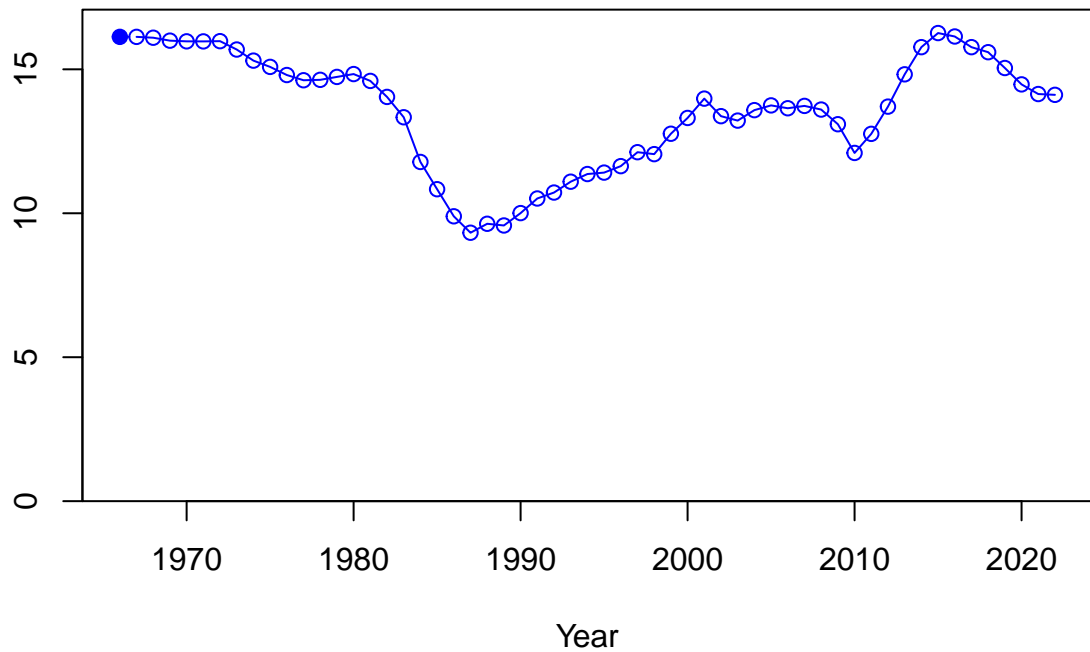


Relative spawning biomass:  $B/B_{MSY}$

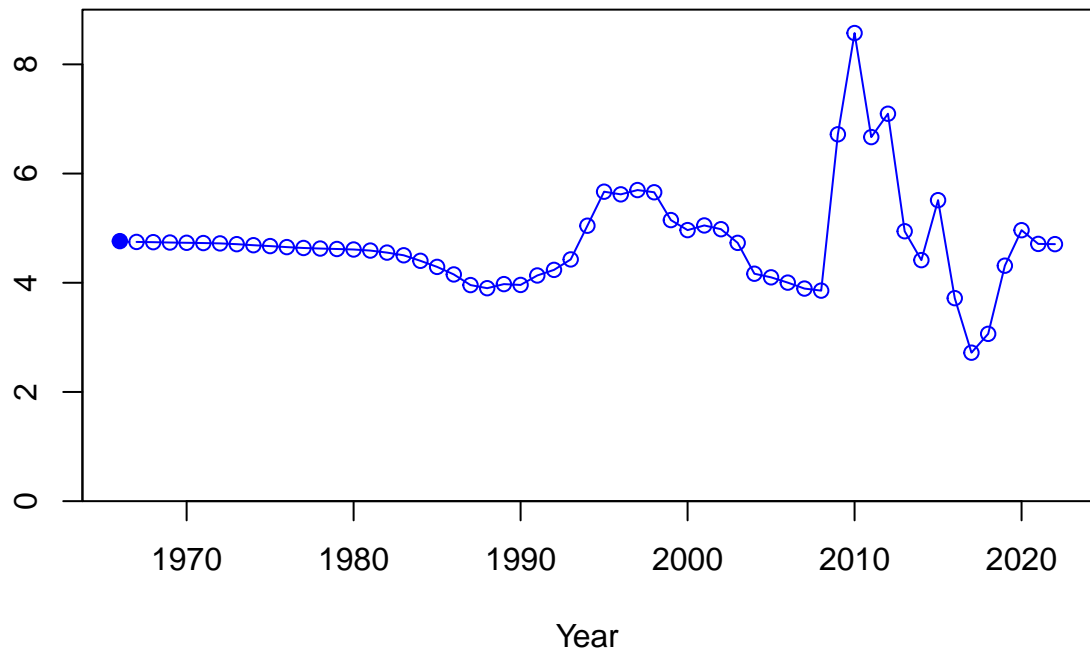




Summary biomass (mt)

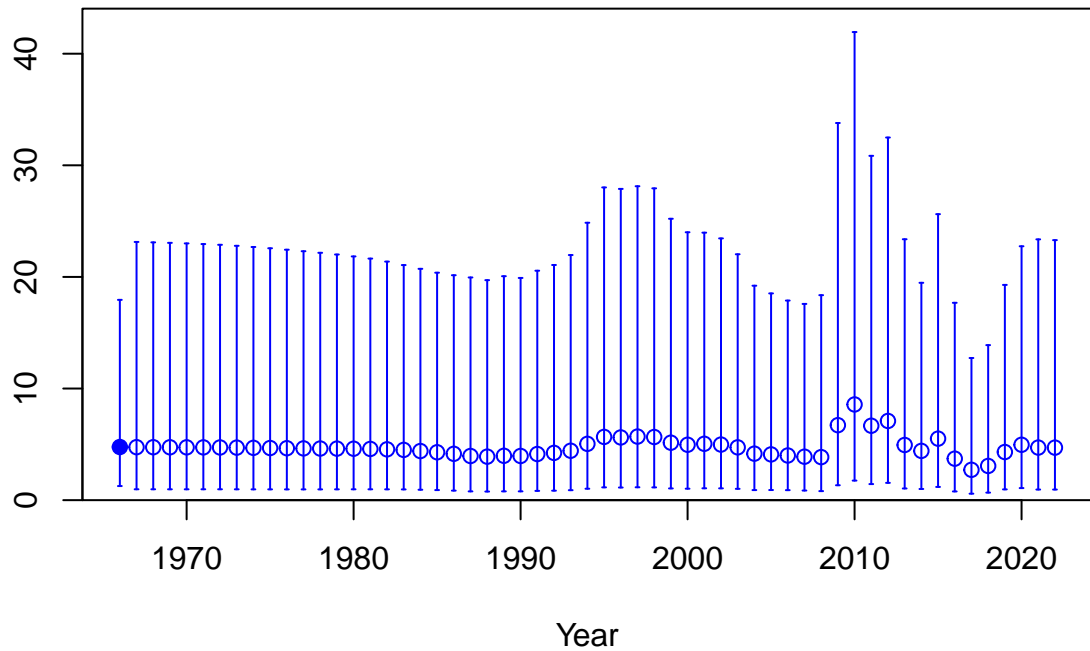


Age-0 recruits (1,000s)

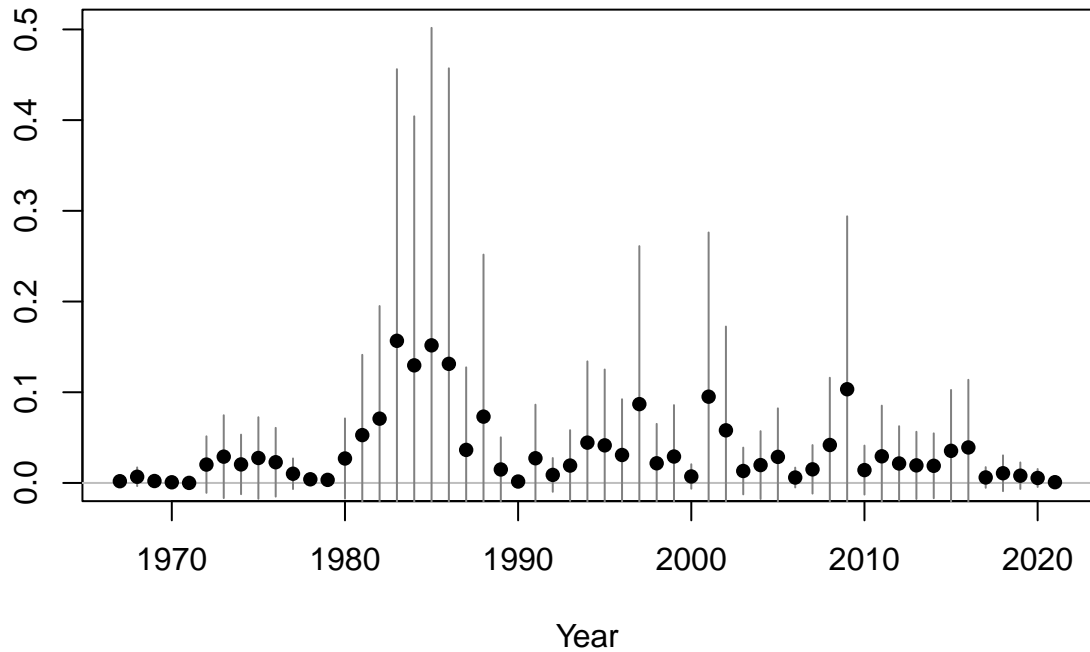


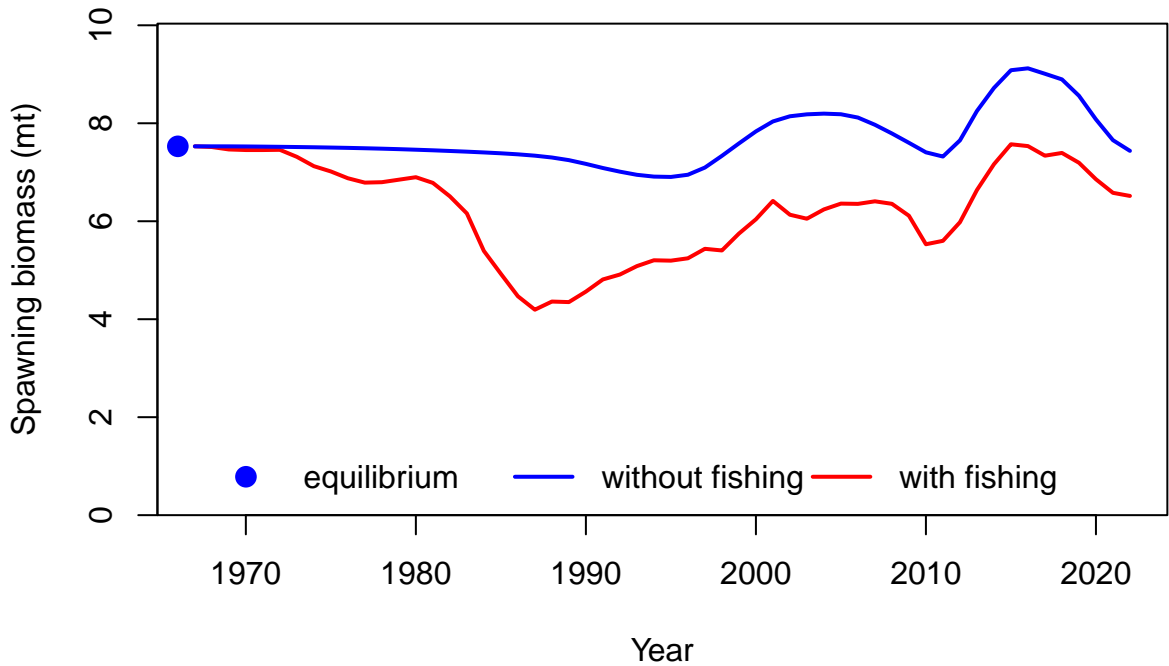


Age-0 recruits (1,000s)

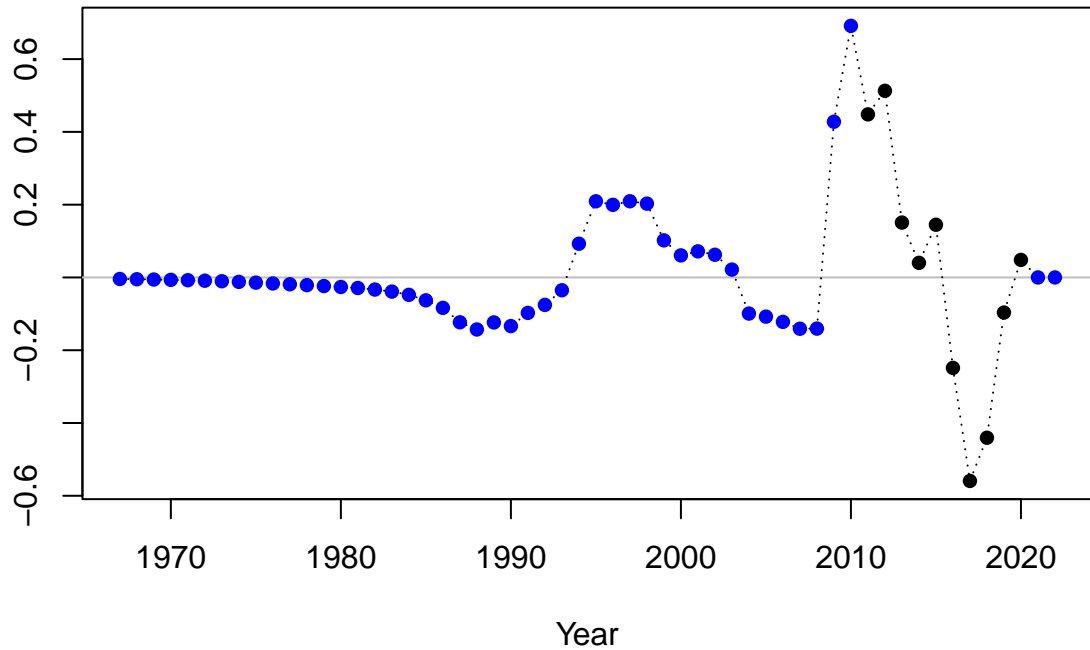


Summary Fishing Mortality

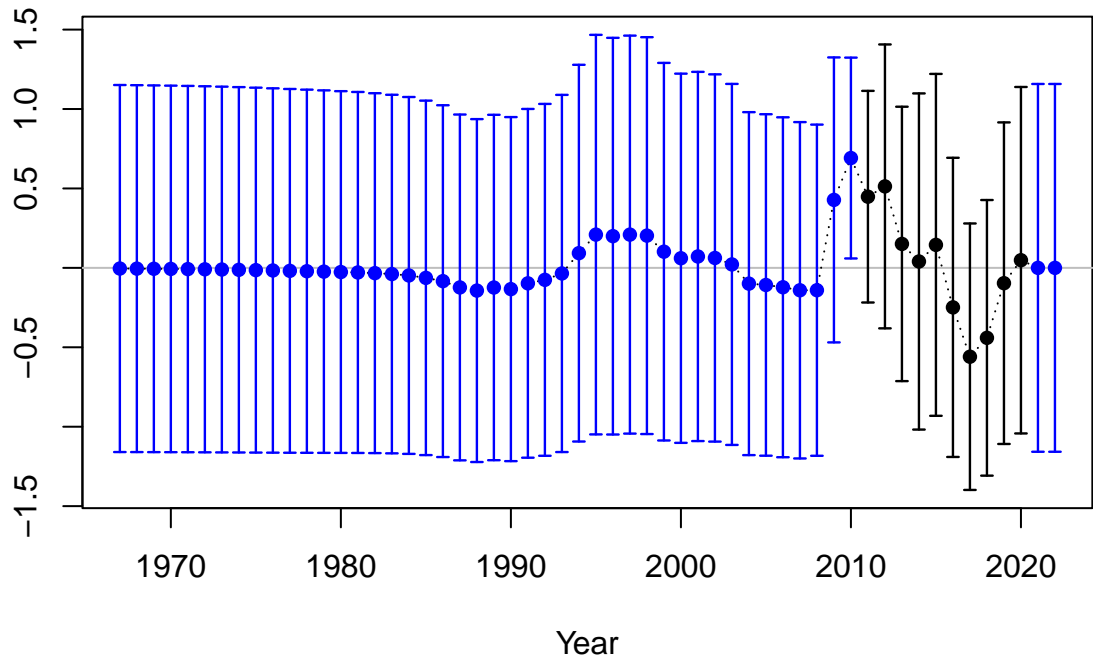




Log recruitment deviation

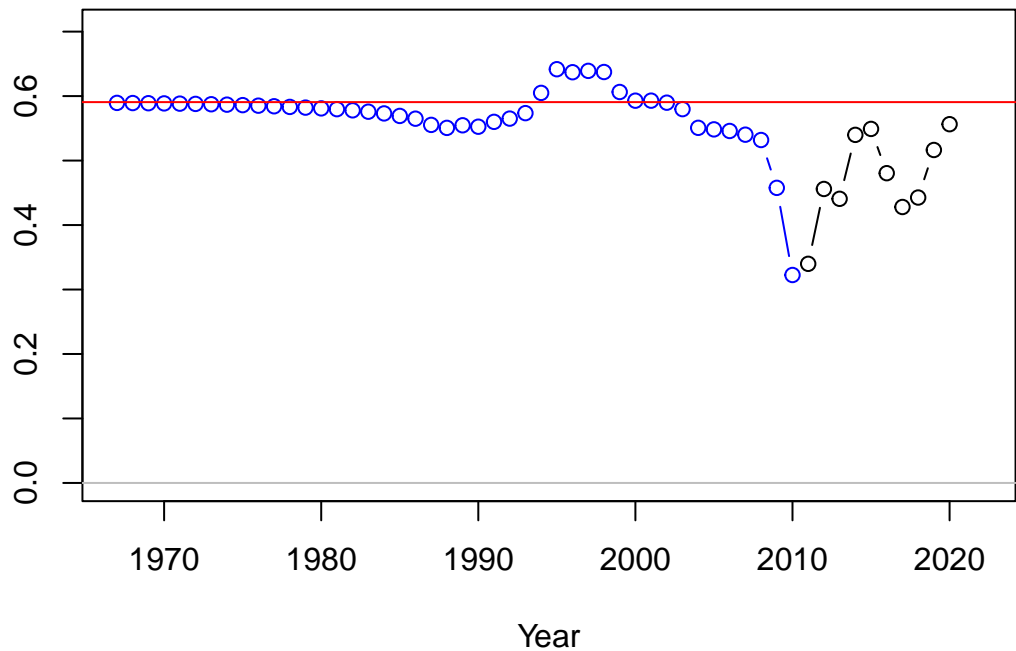


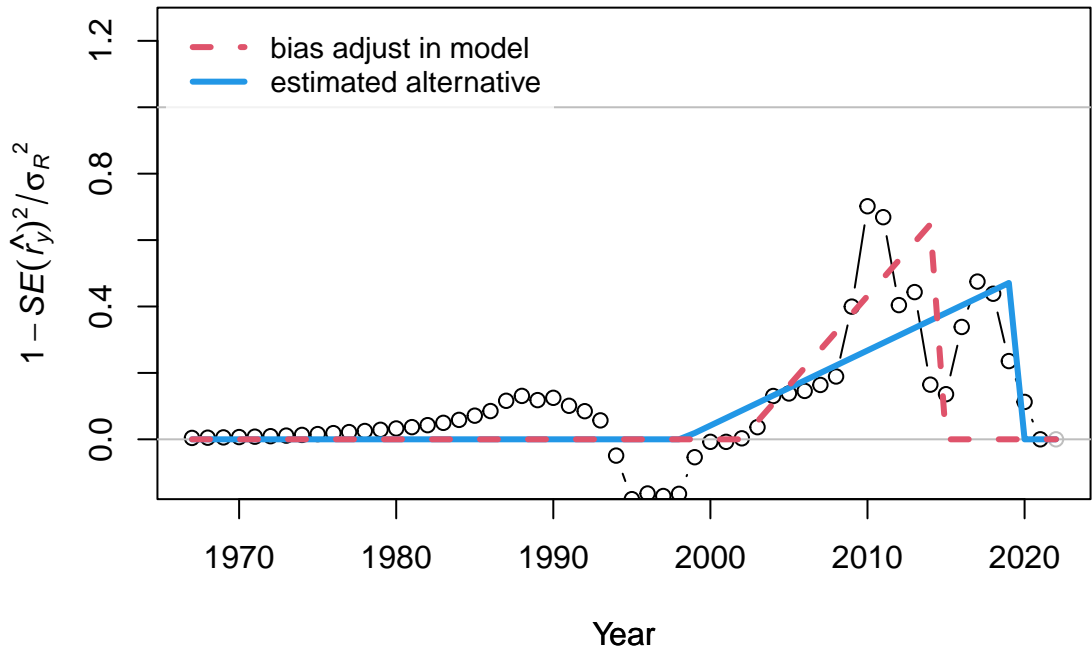
Log recruitment deviation

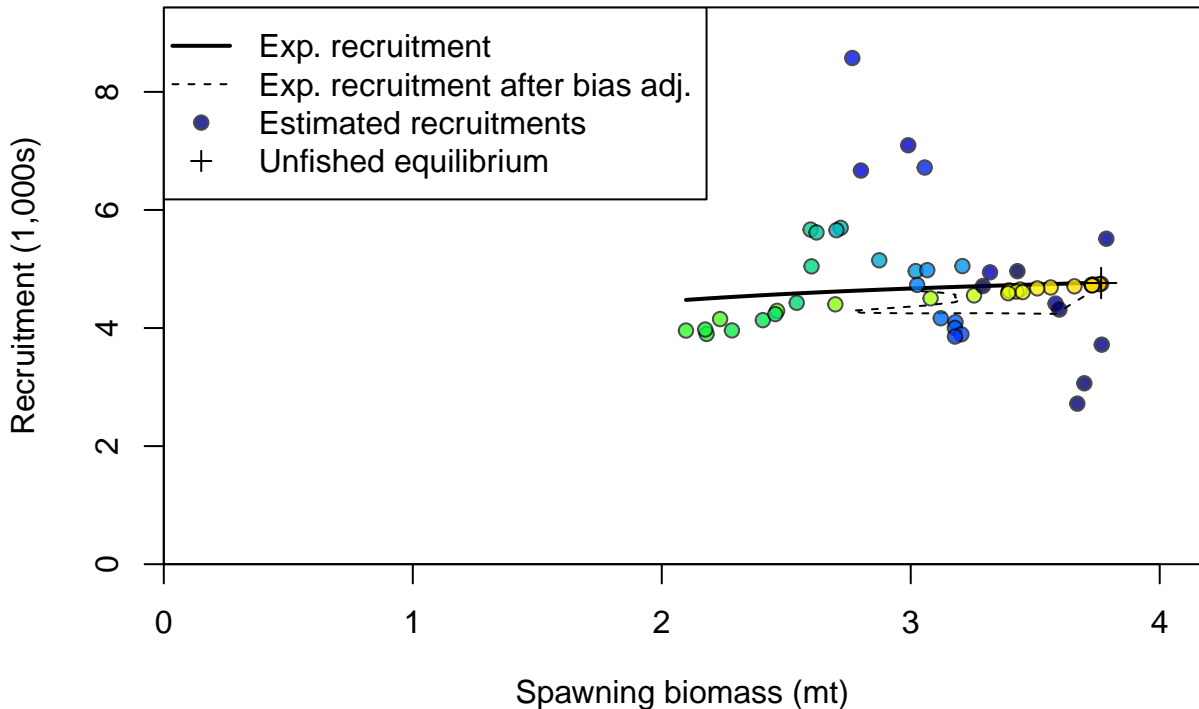


## Recruitment deviation variance

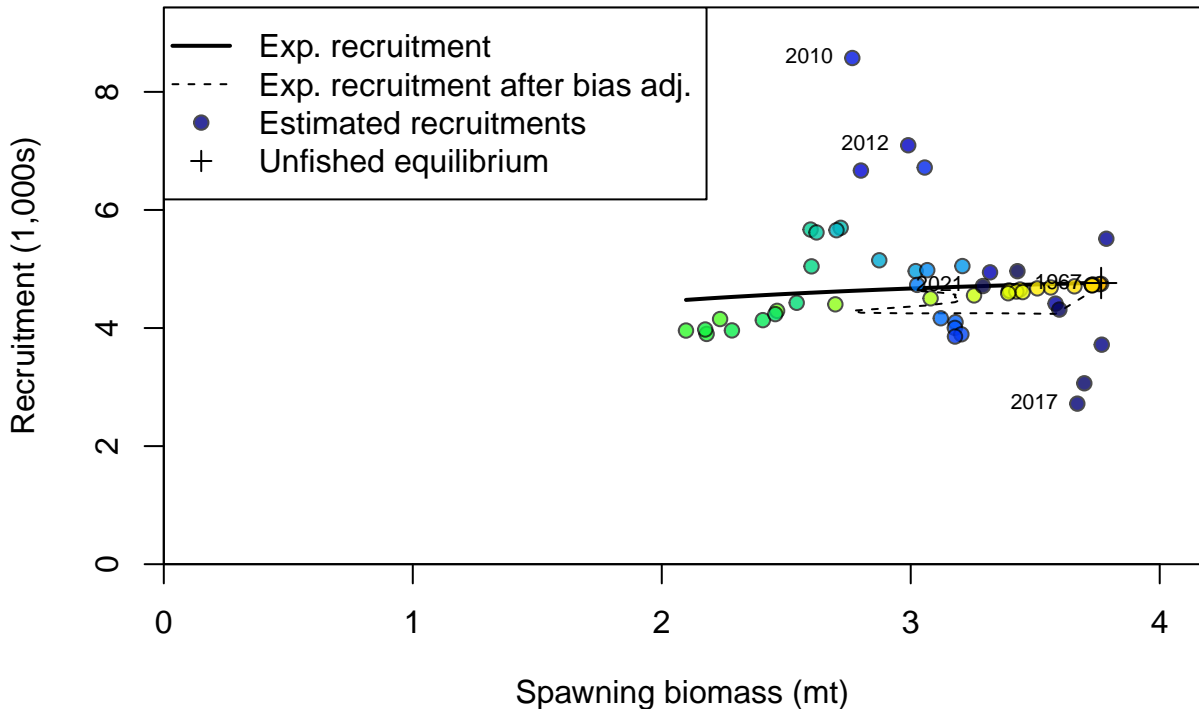
Asymptotic standard error estimate

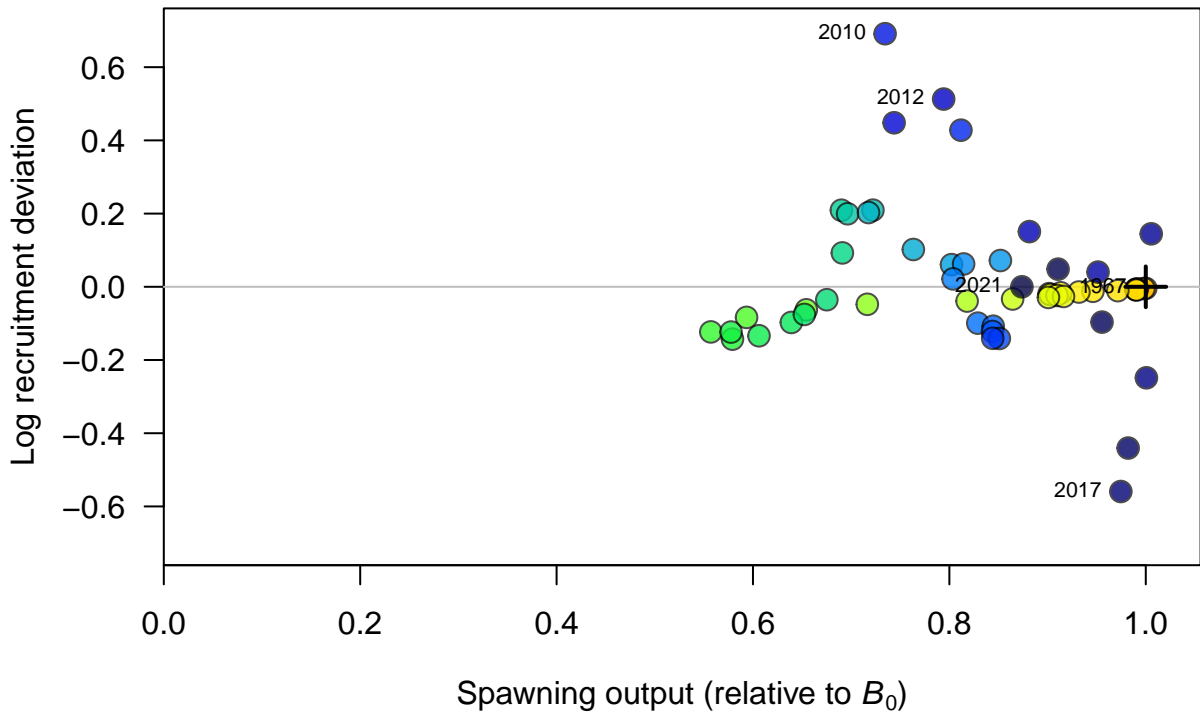


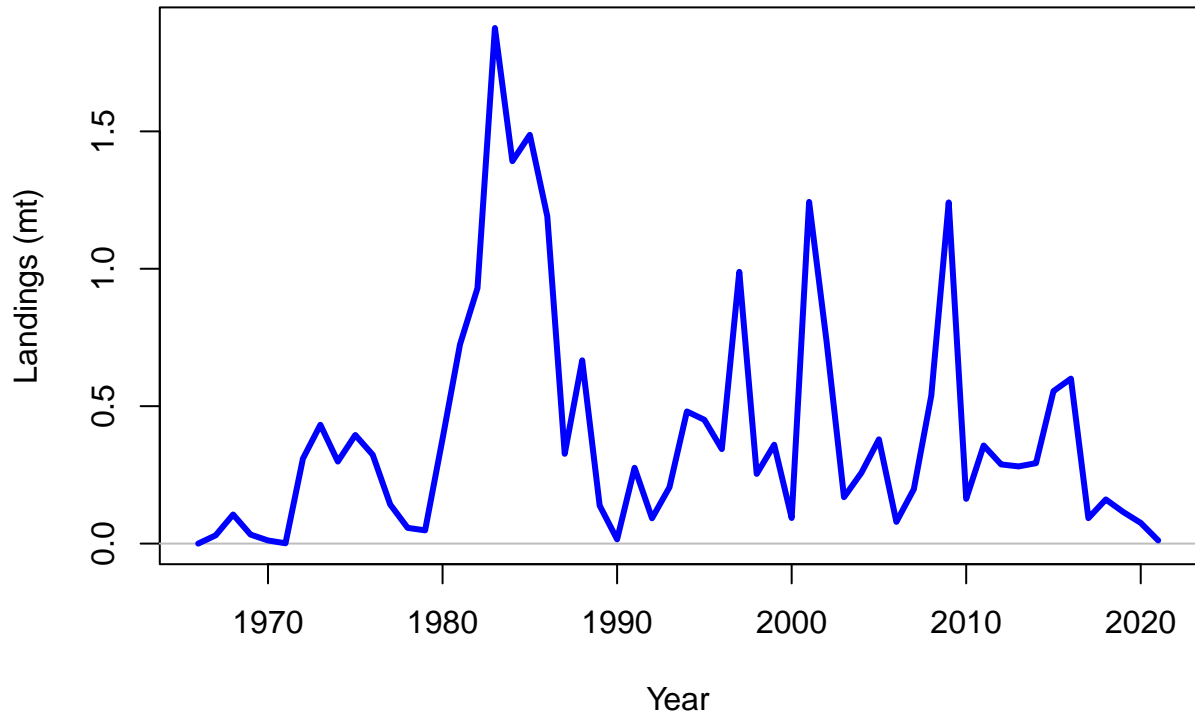


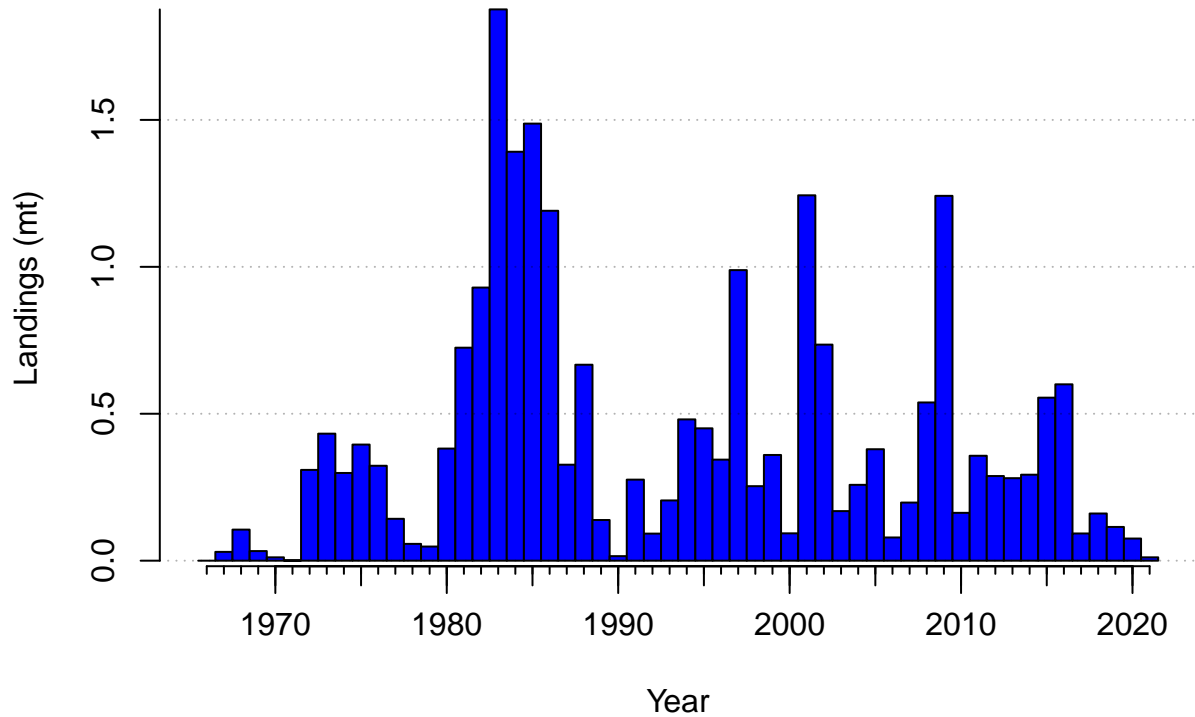


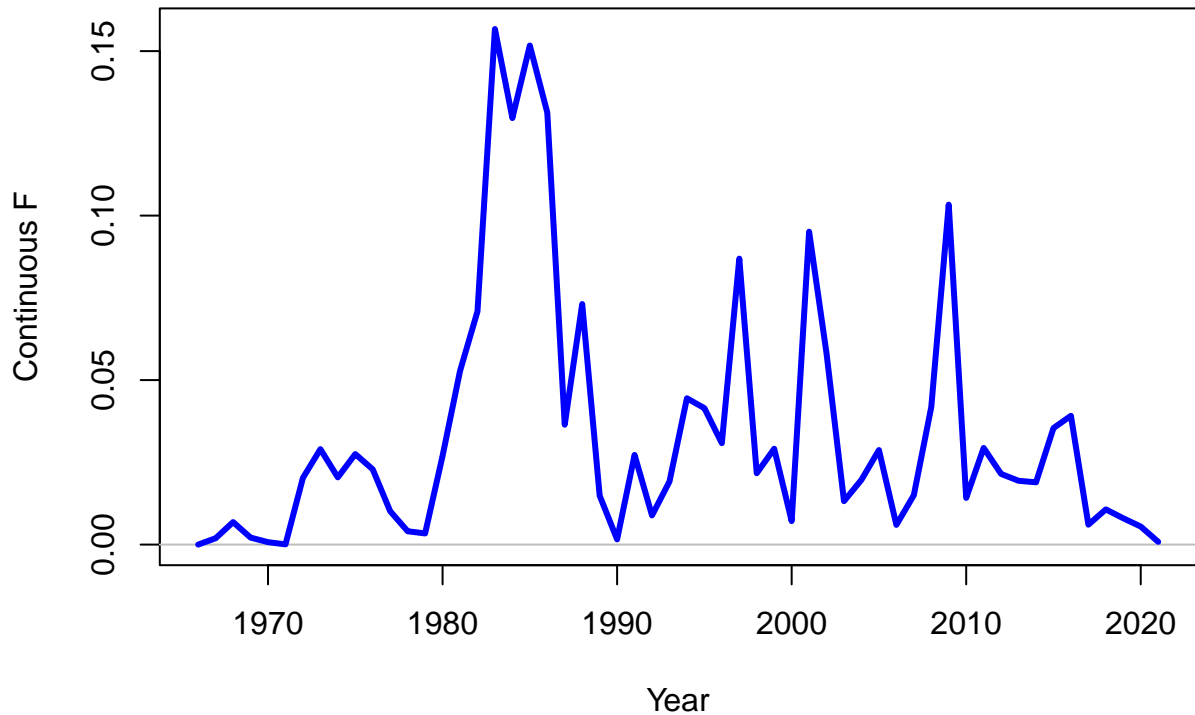




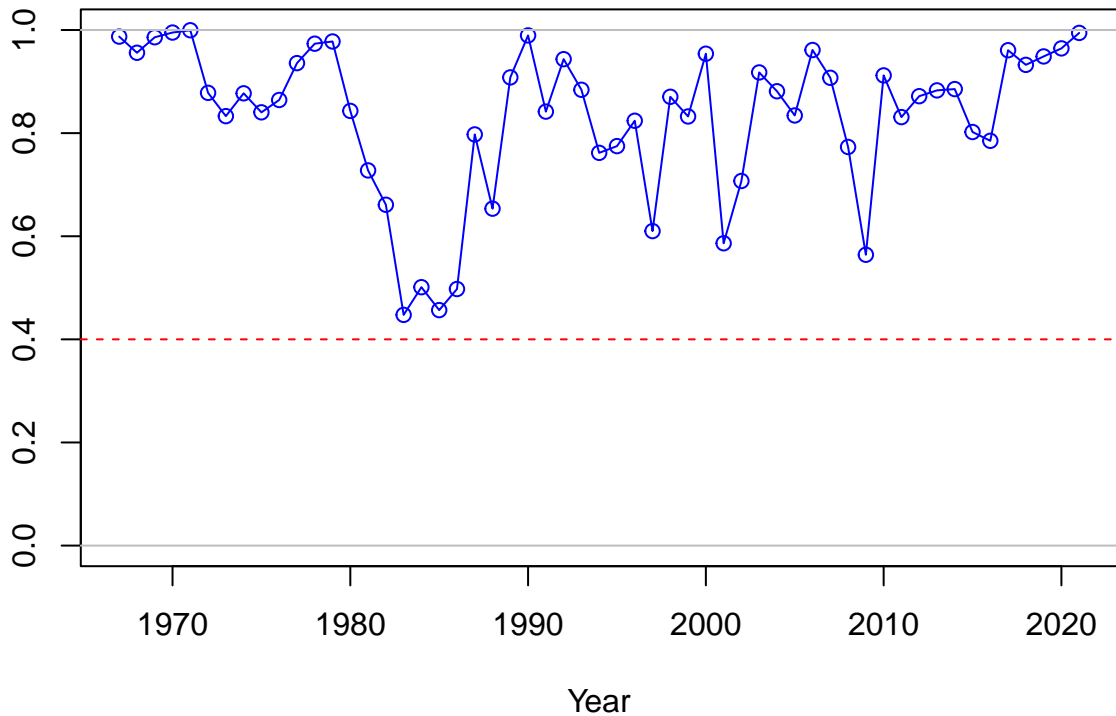




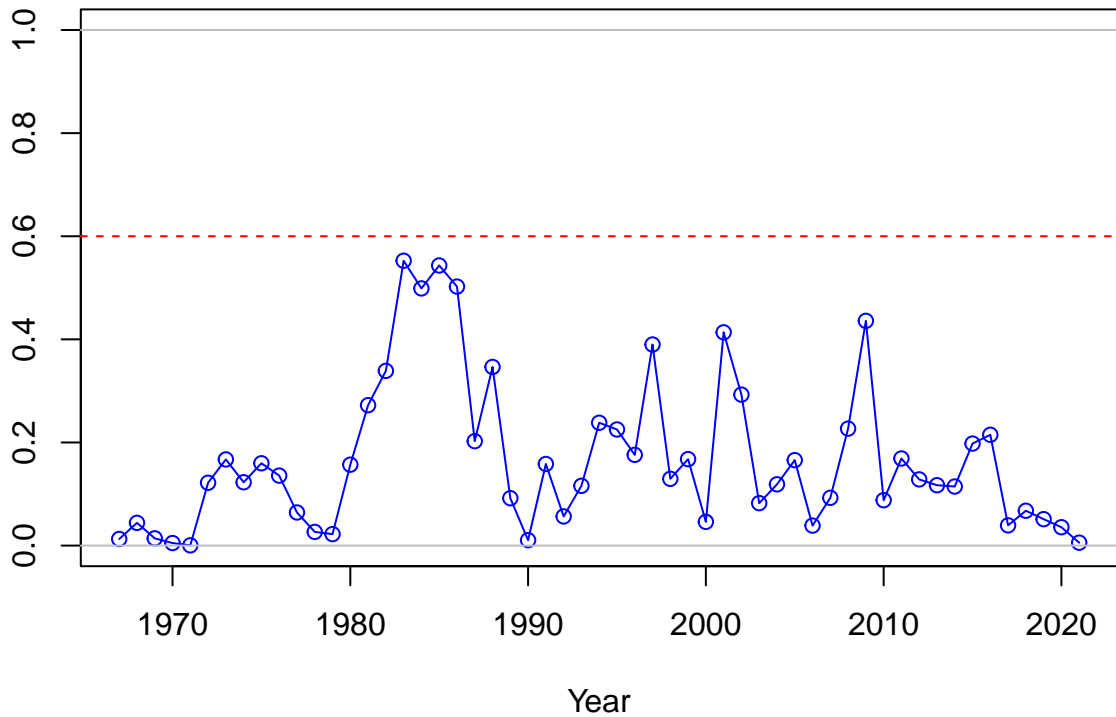




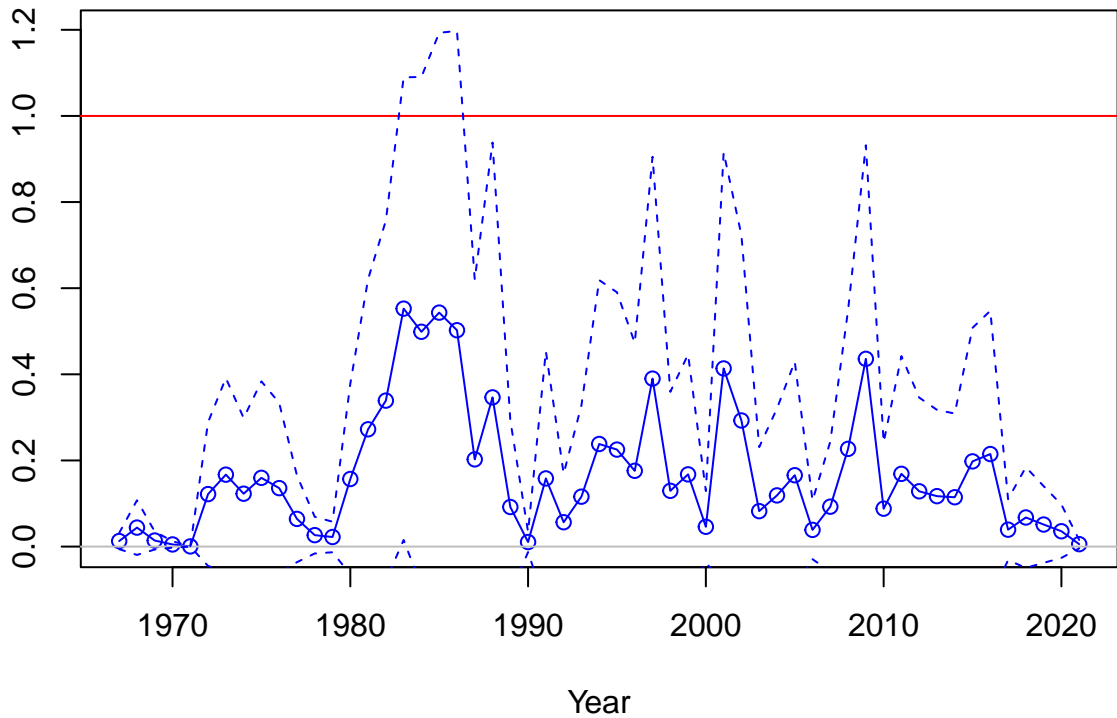
SPR



1-SPR

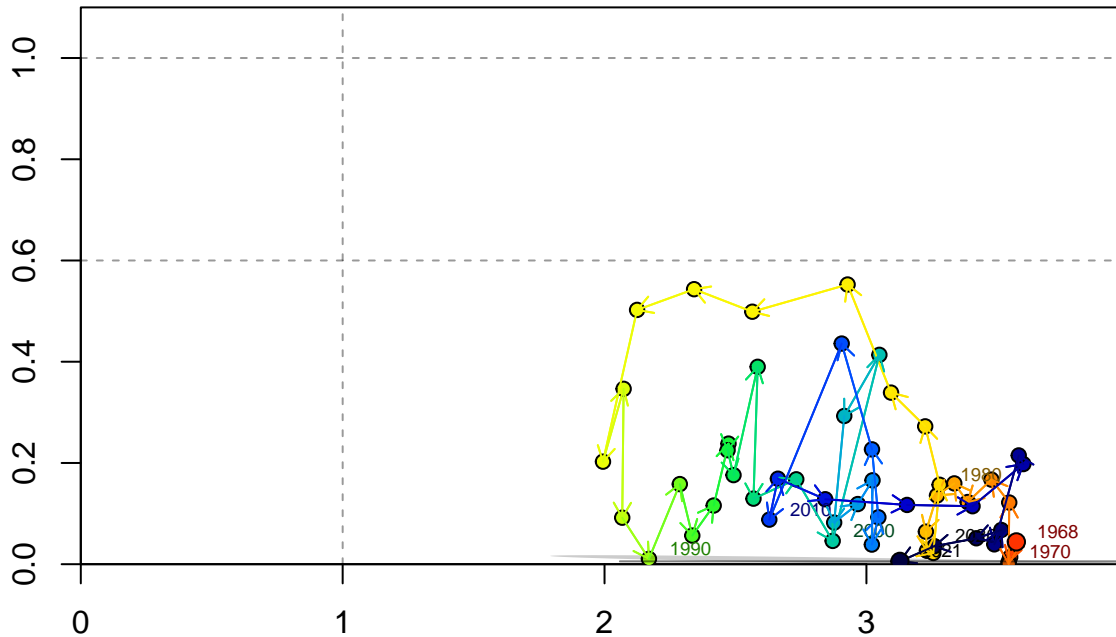


Fishing intensity: 1-SPR





Fishing intensity: 1-SPR



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

Index

15  
10  
5  
0

1990

1995

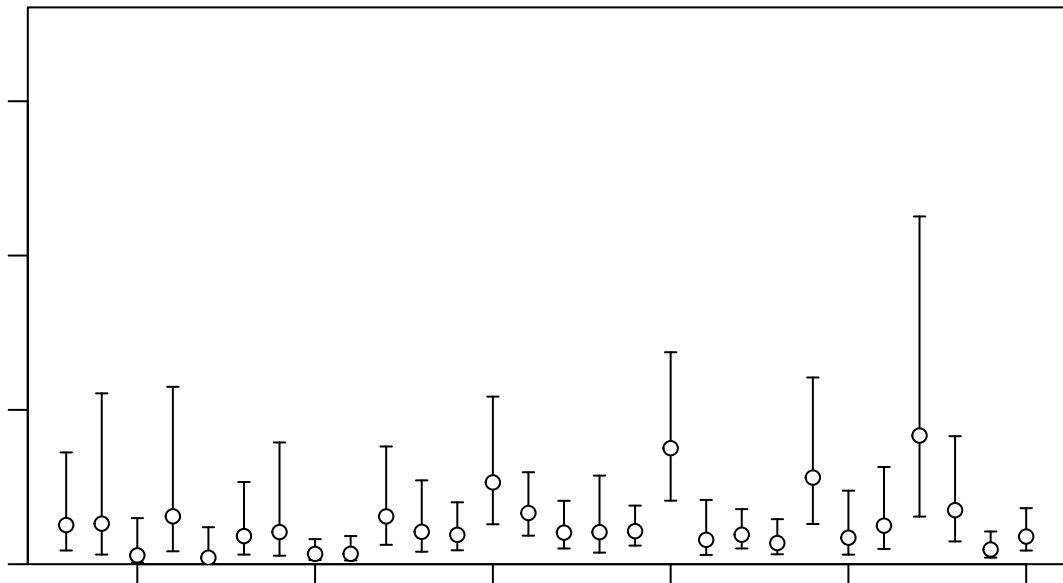
2000

2005

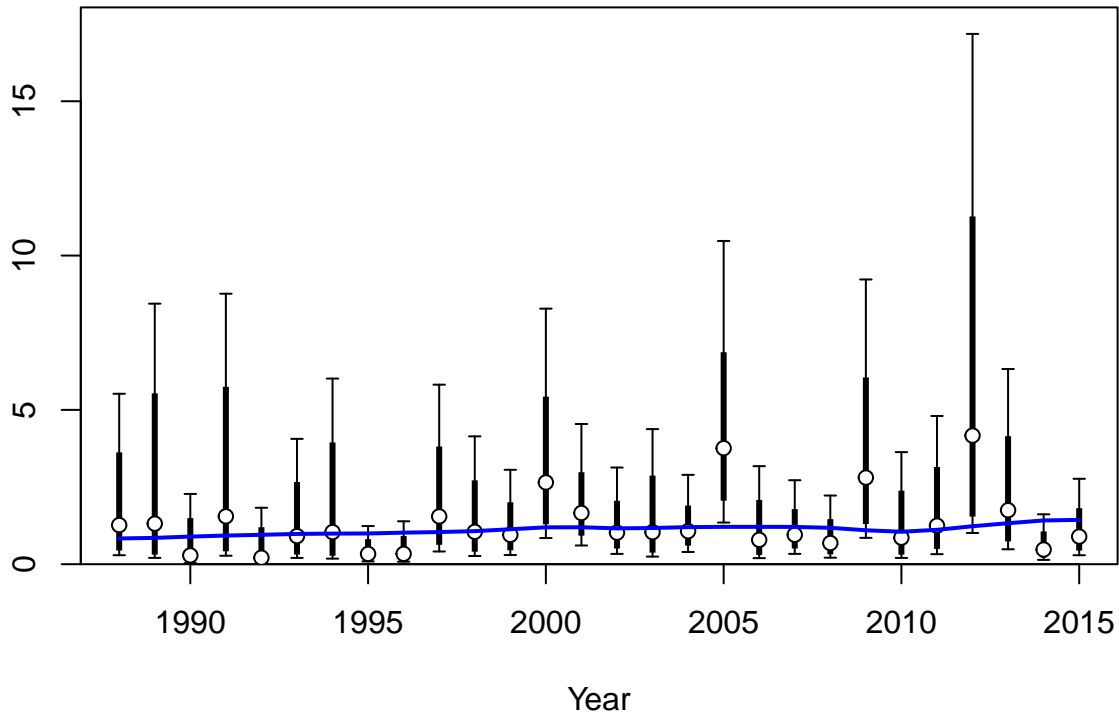
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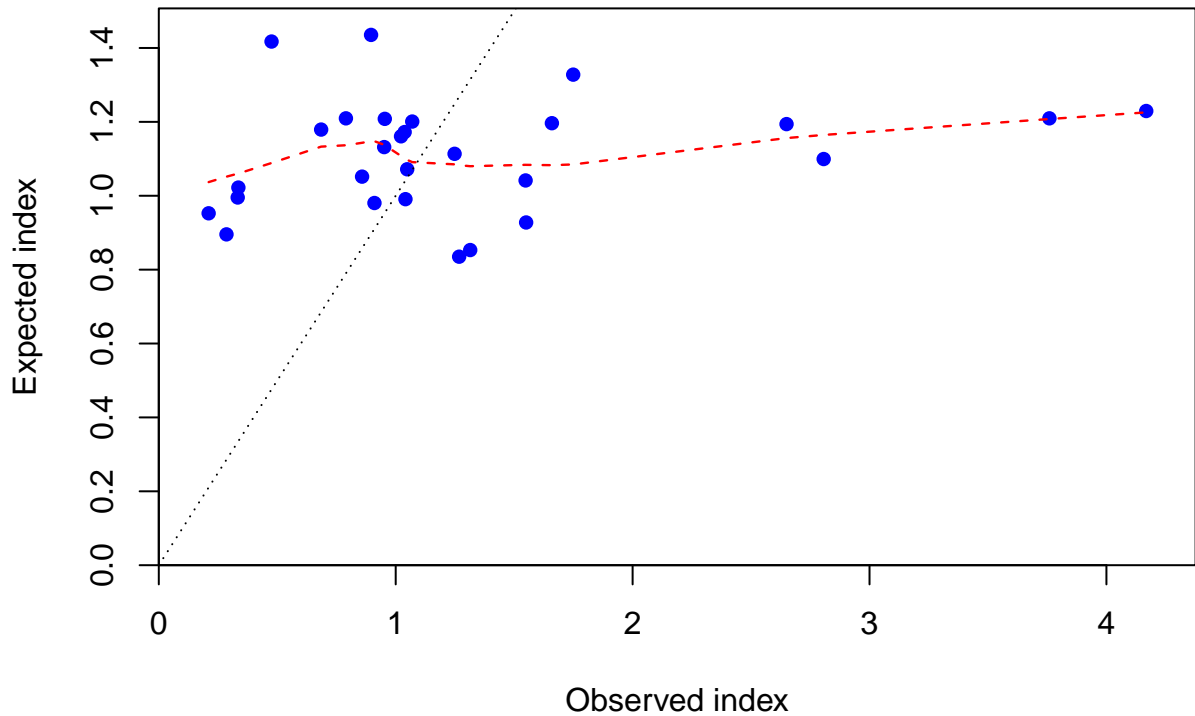
2015

Year

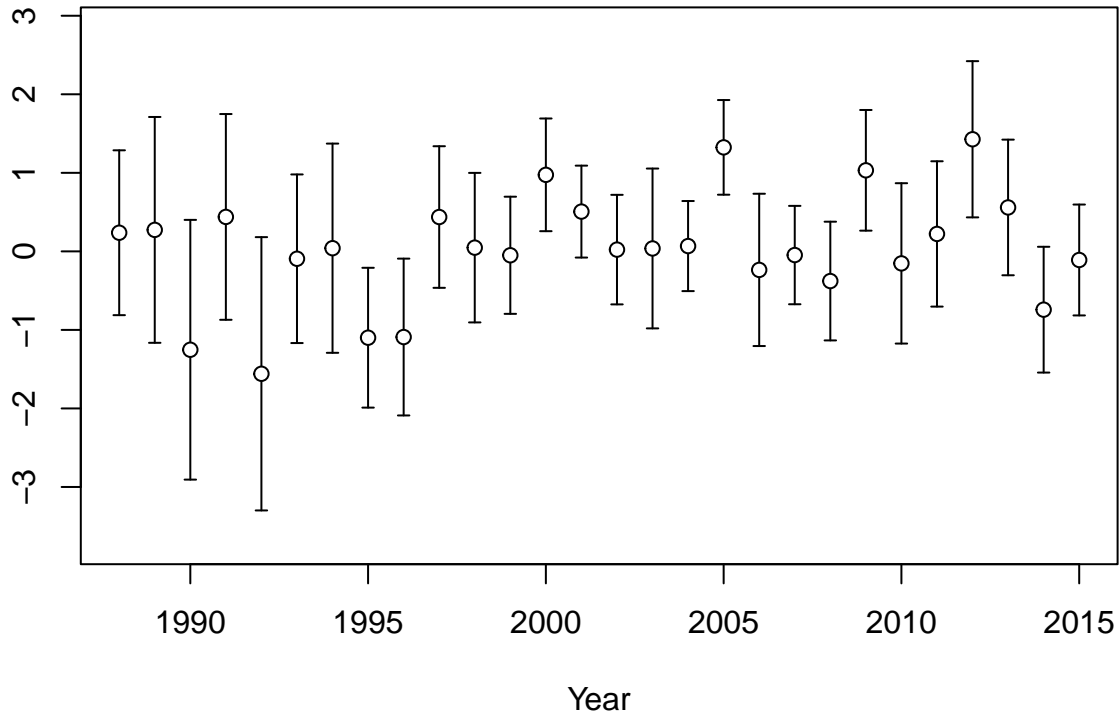


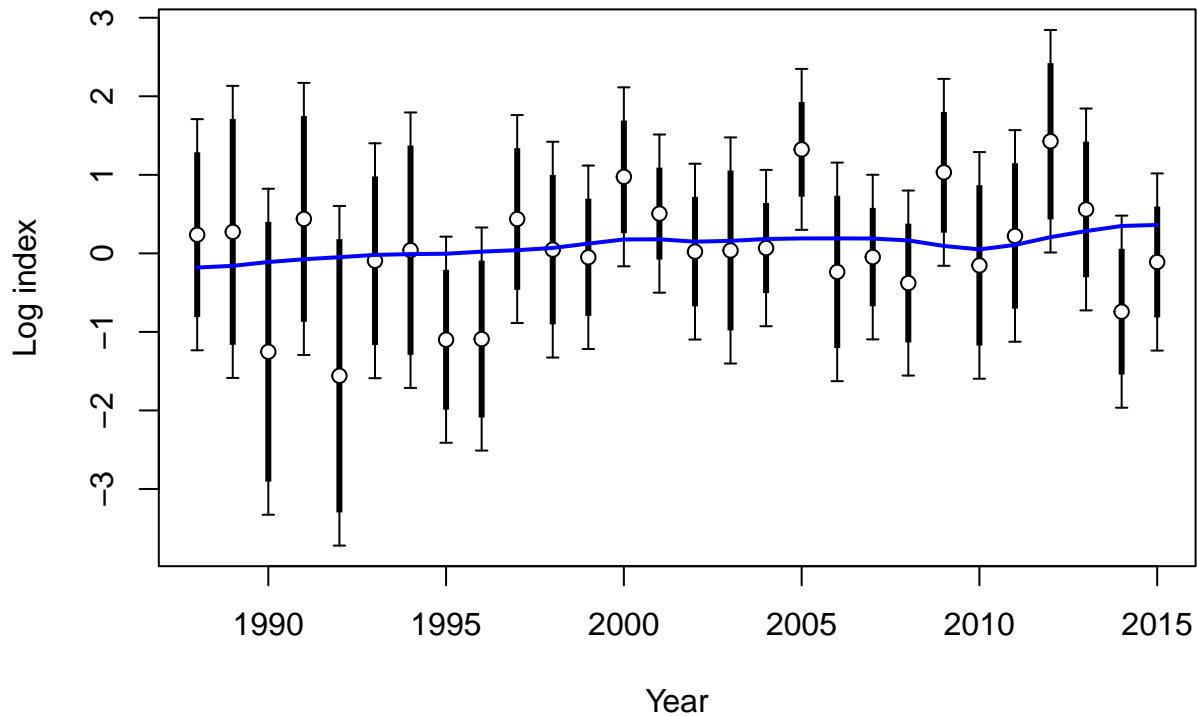
Index

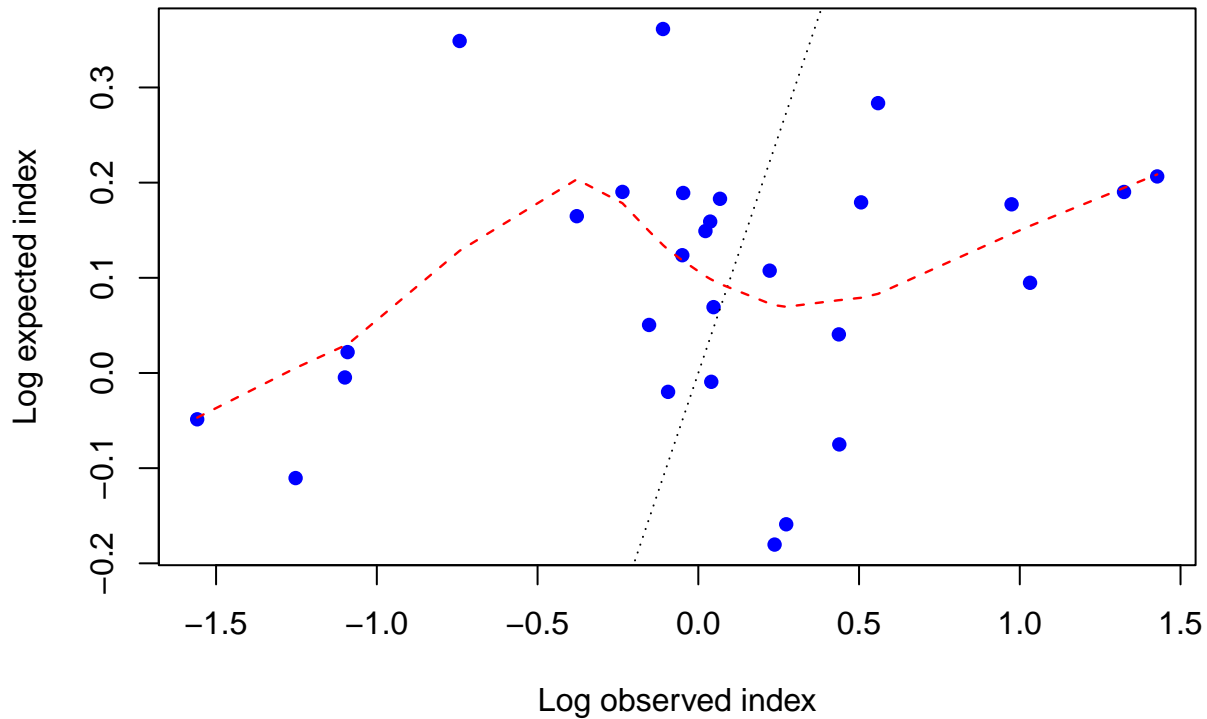


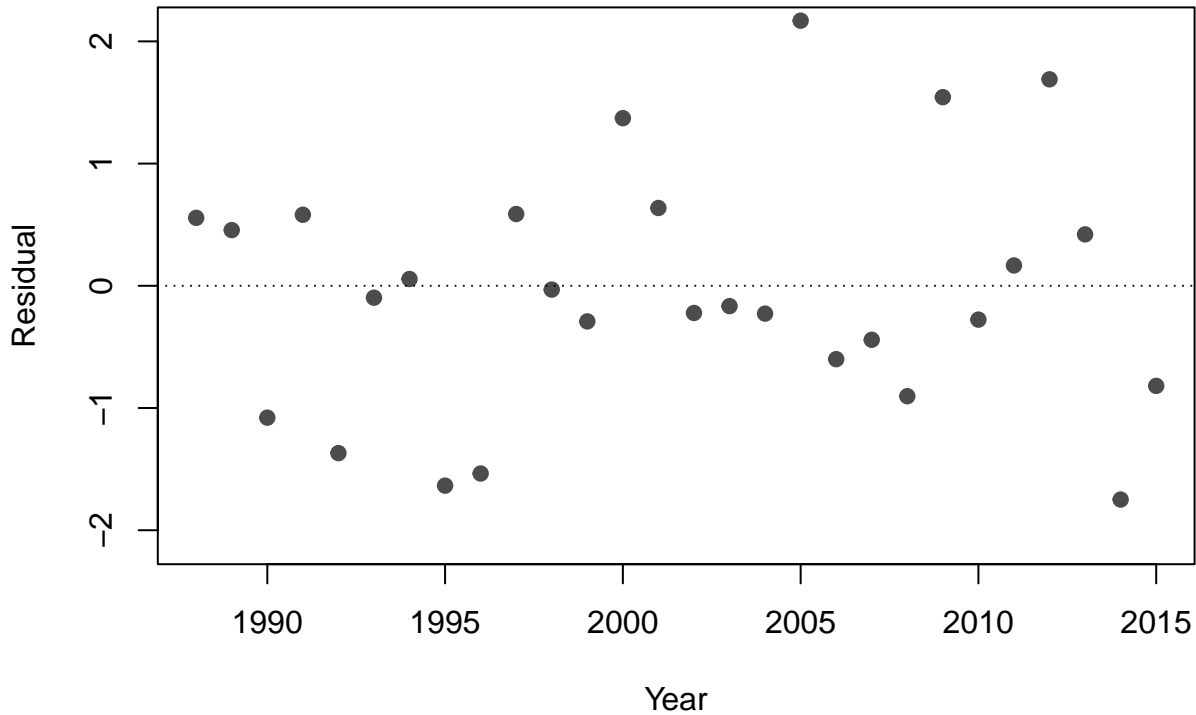


Log index



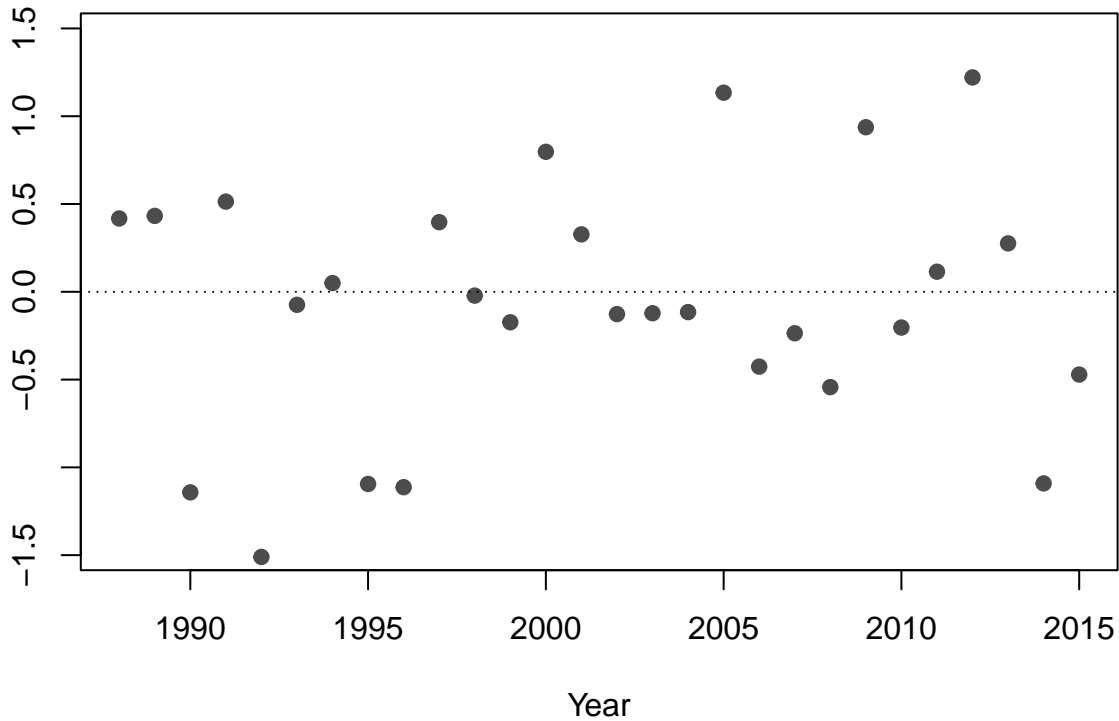


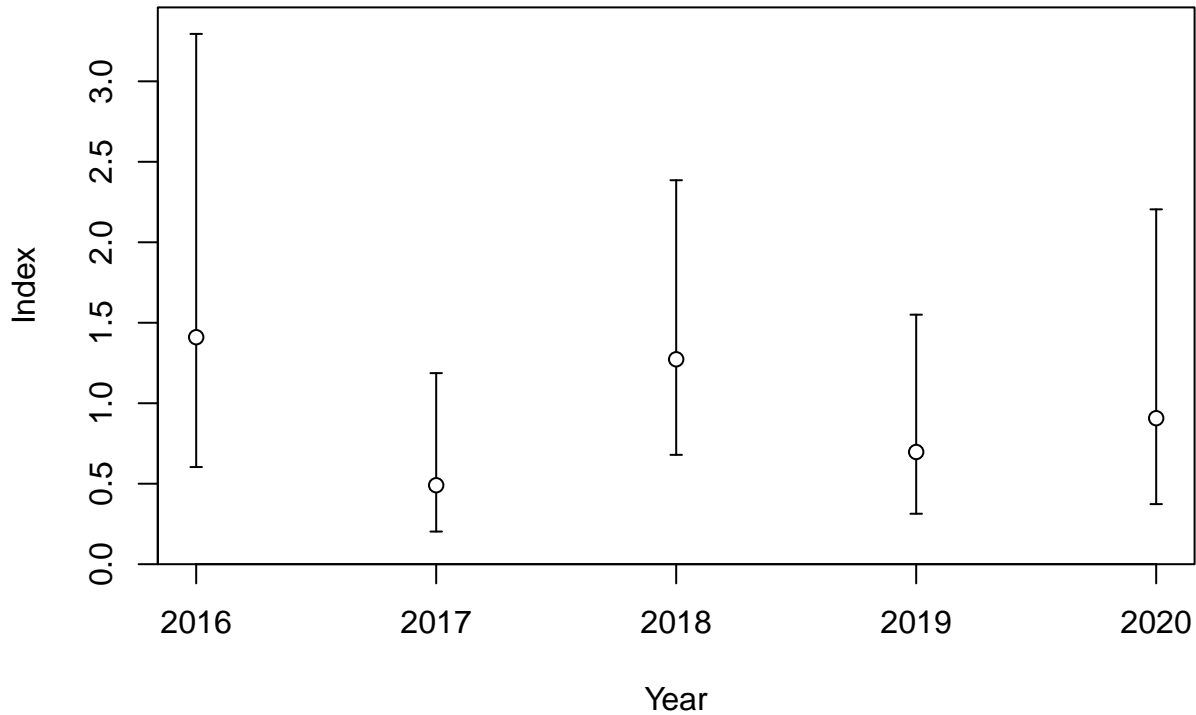


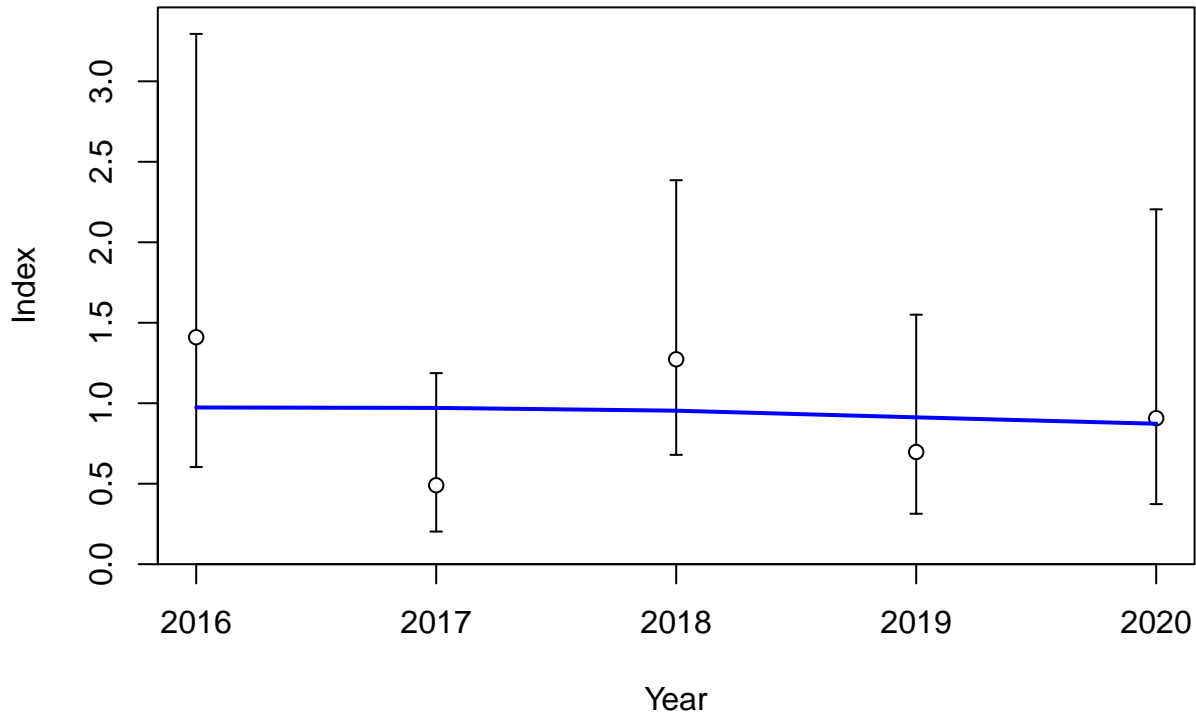




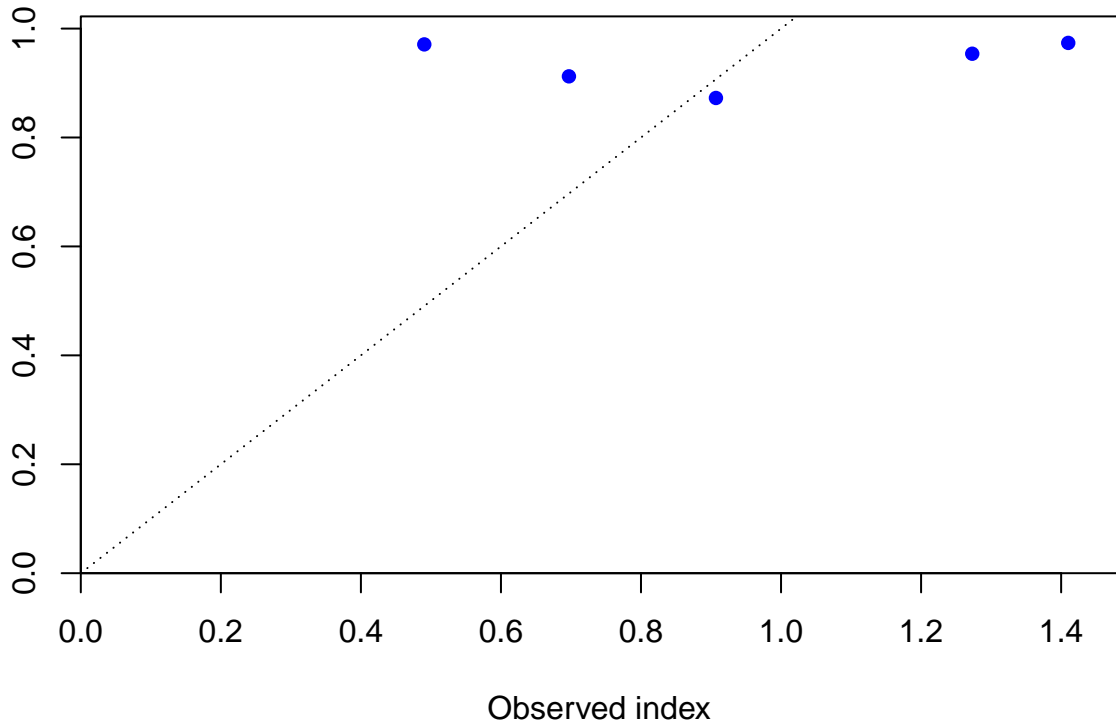
Deviation

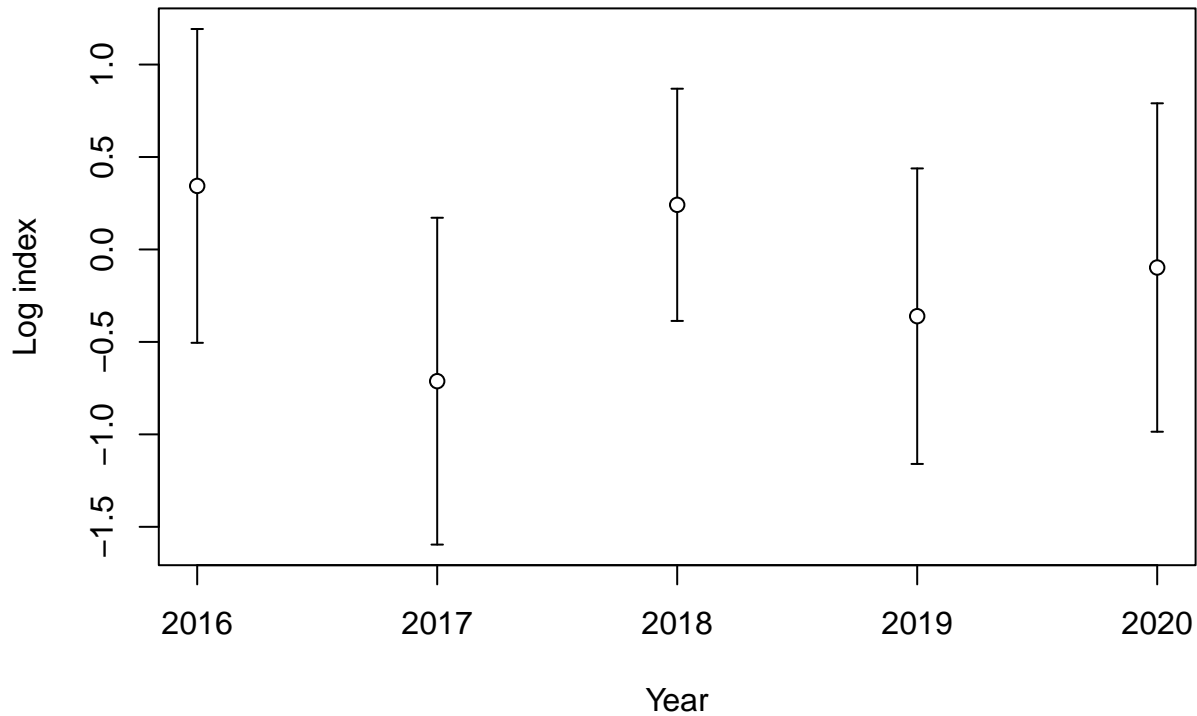




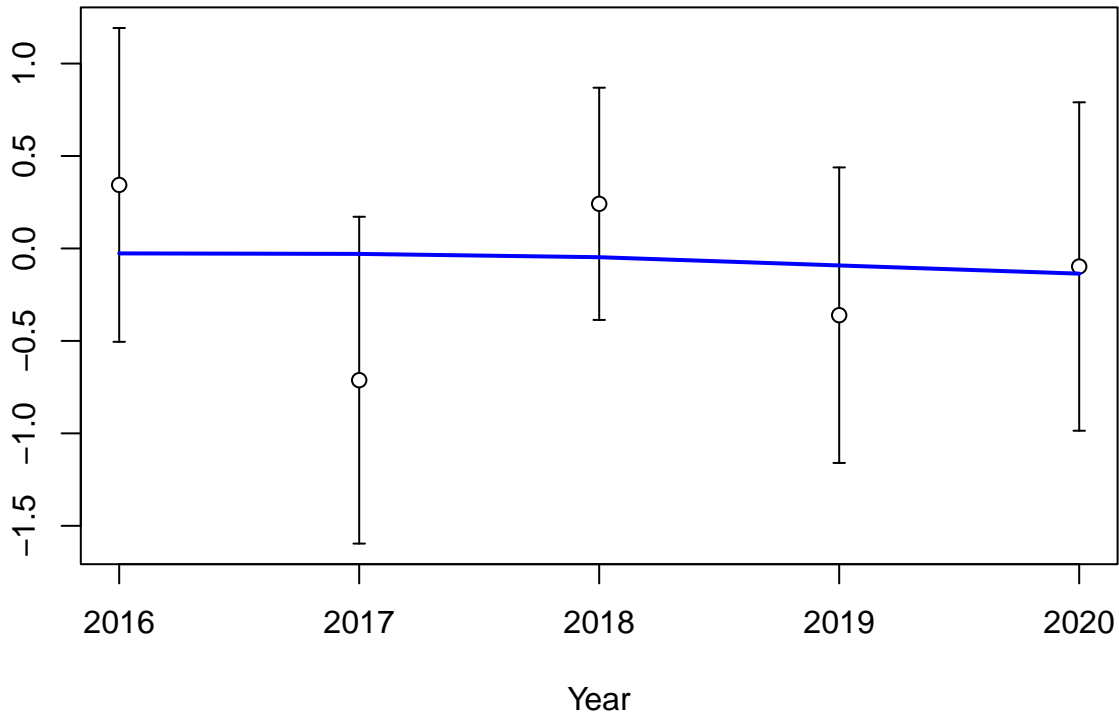


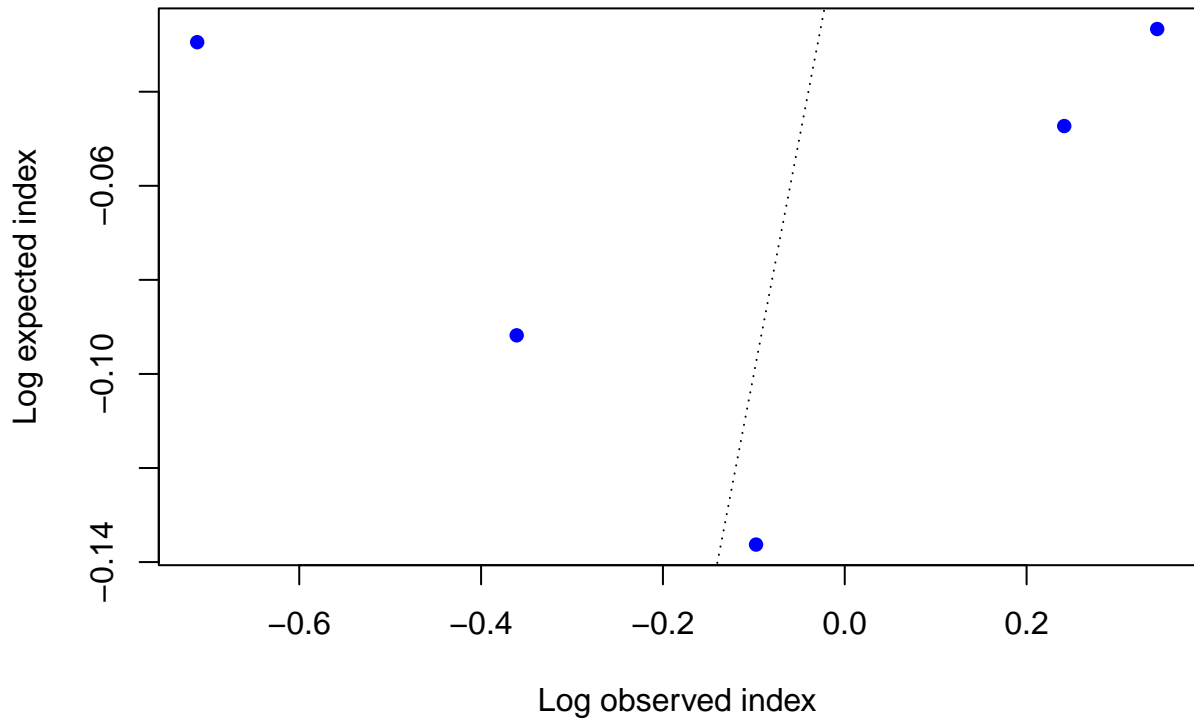
Expected index



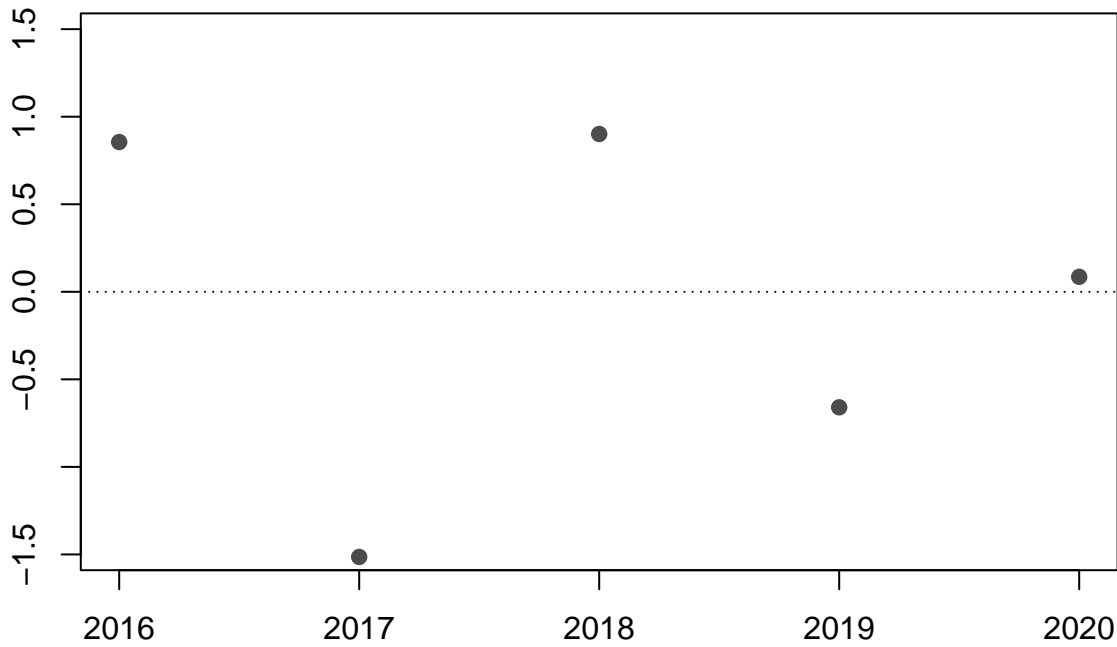


Log index



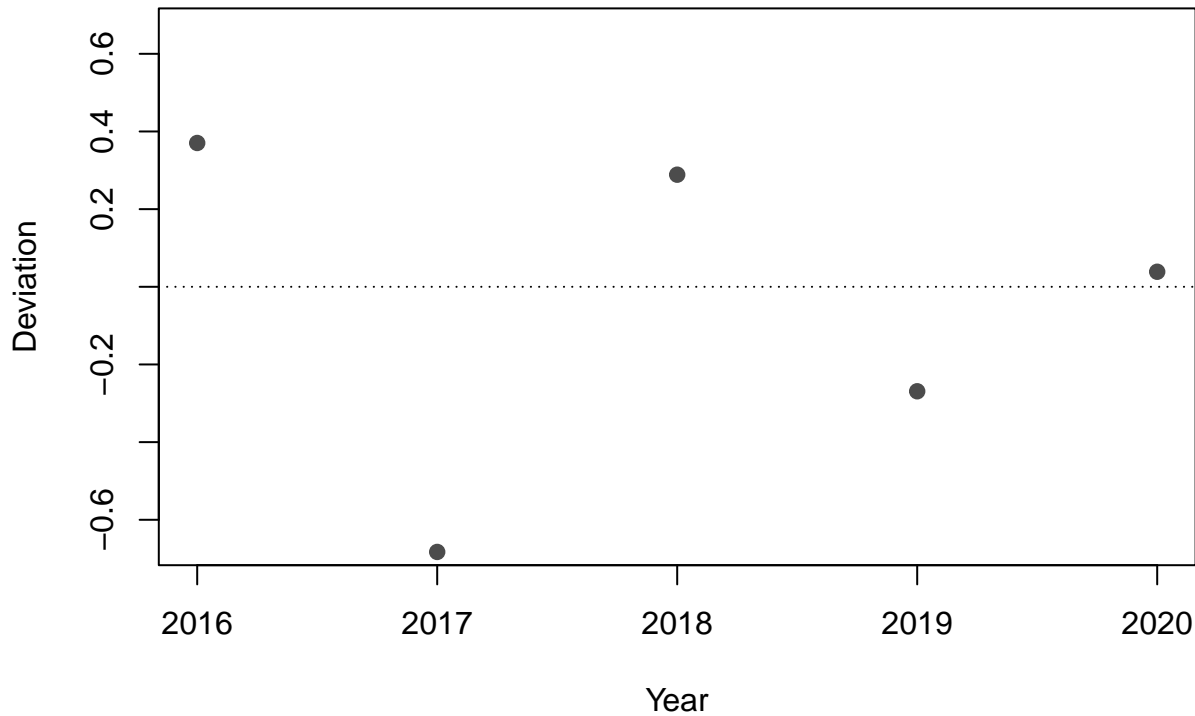


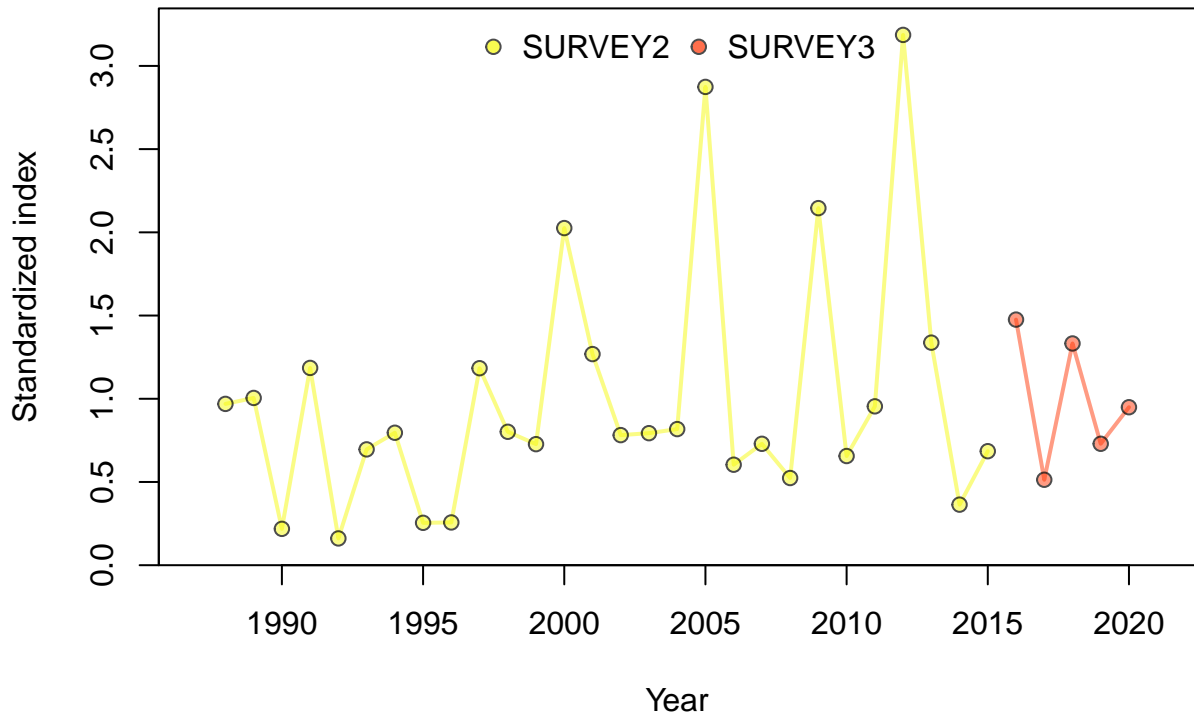
Residual

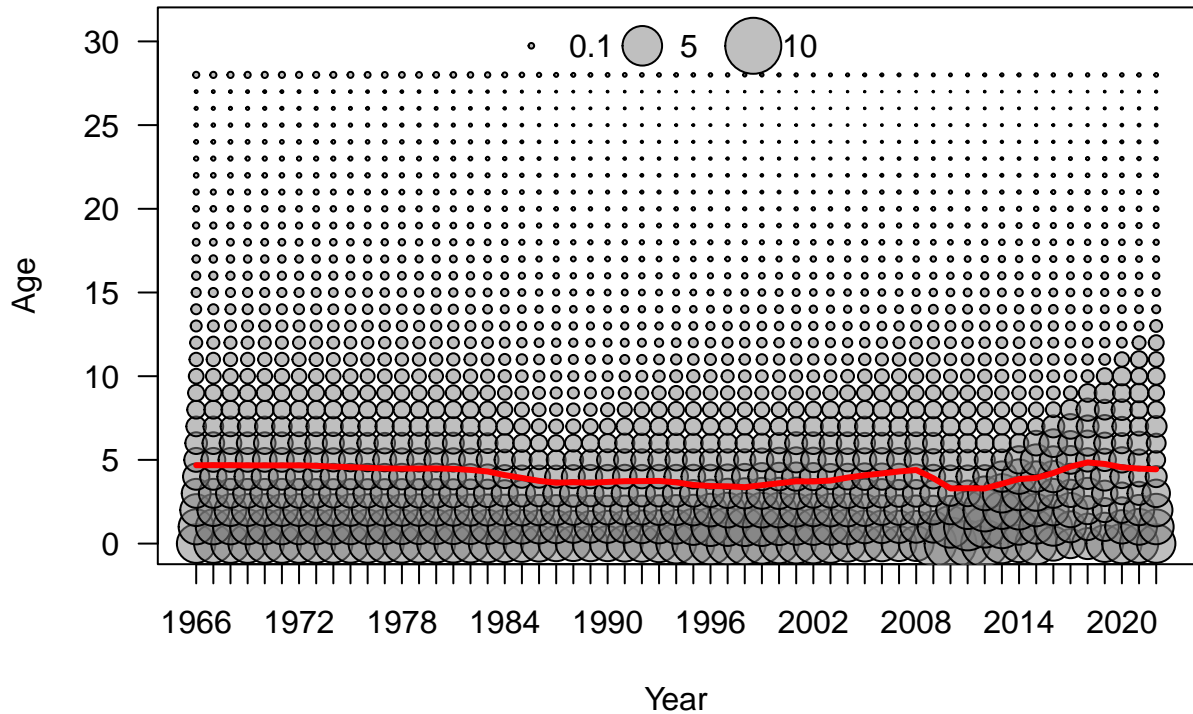


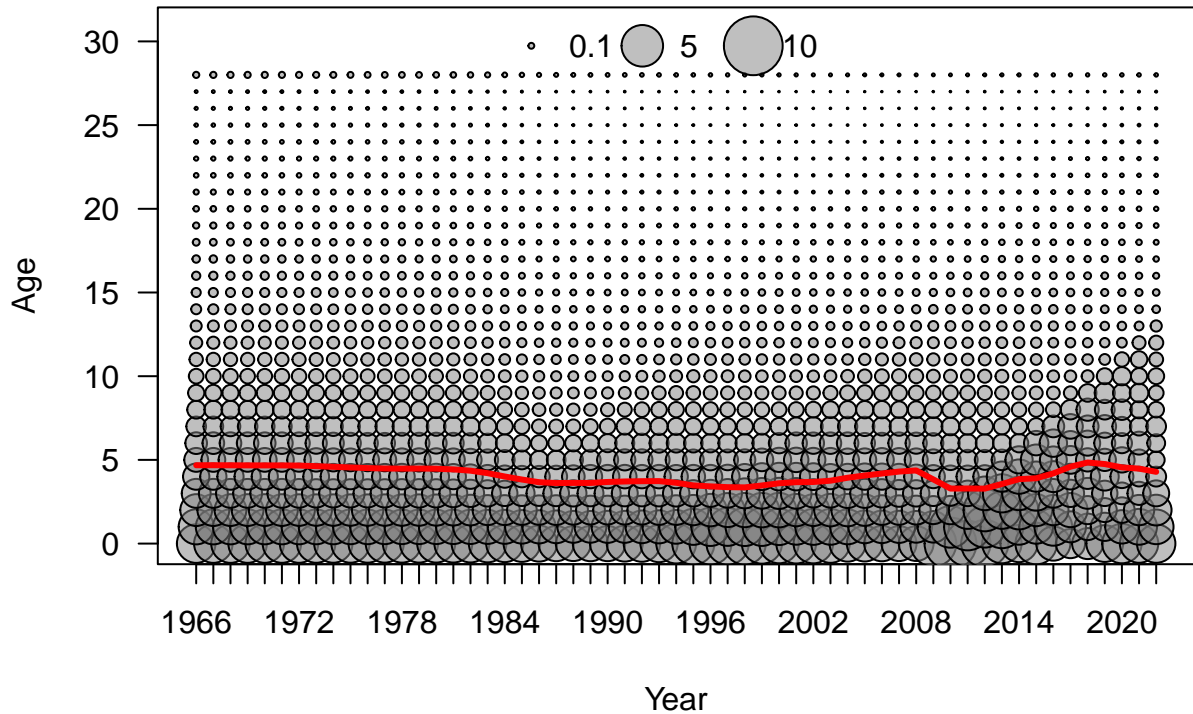
Year

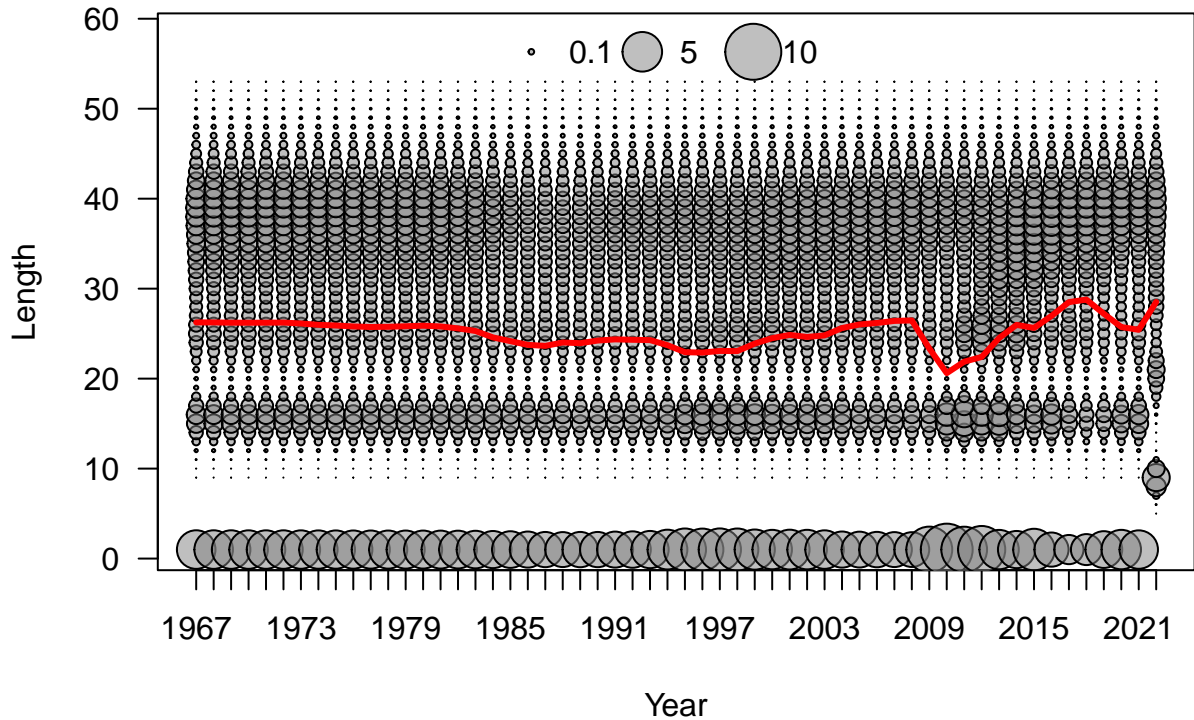


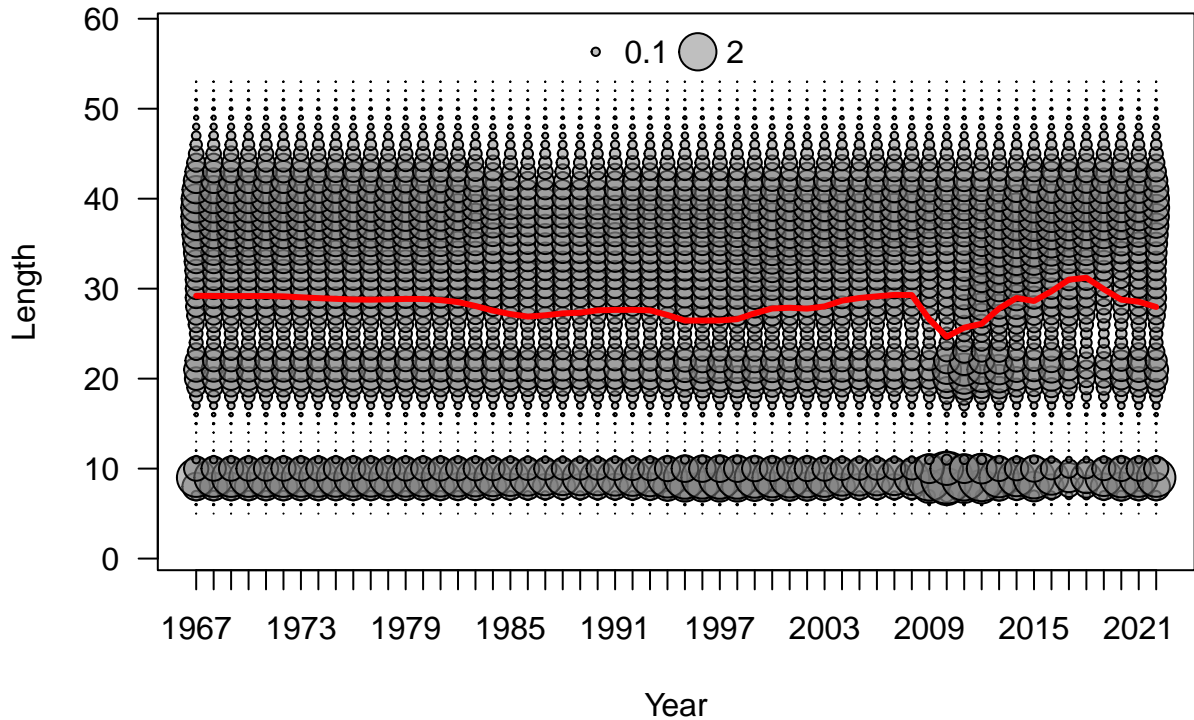




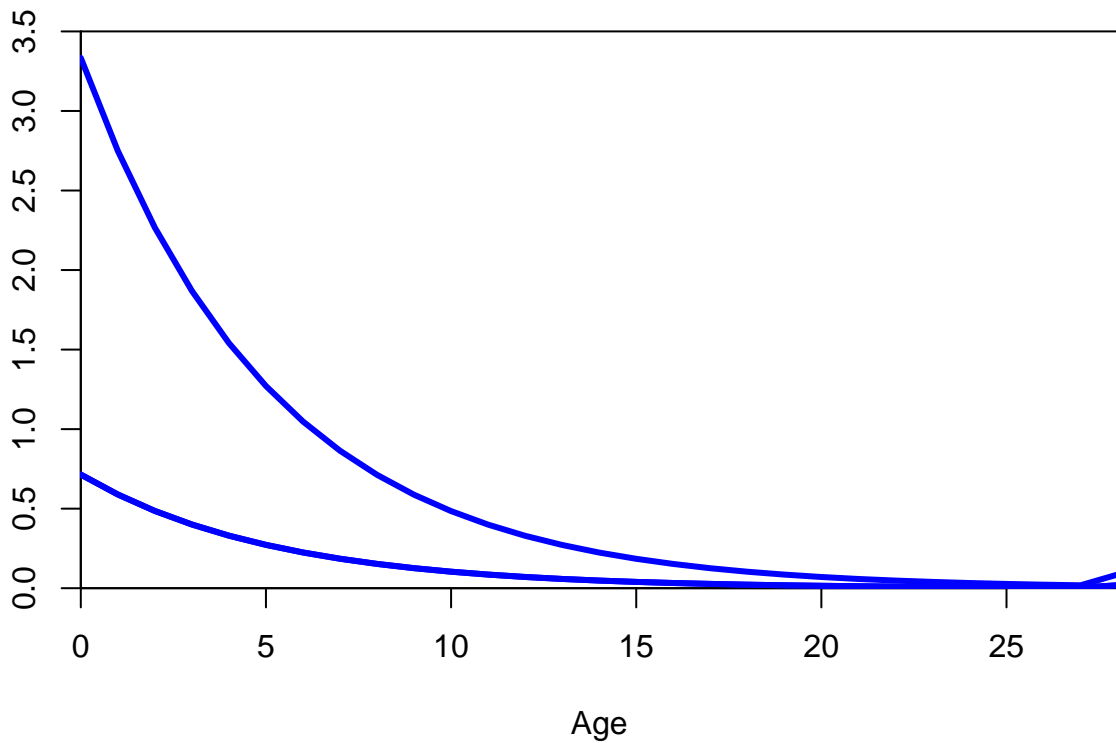


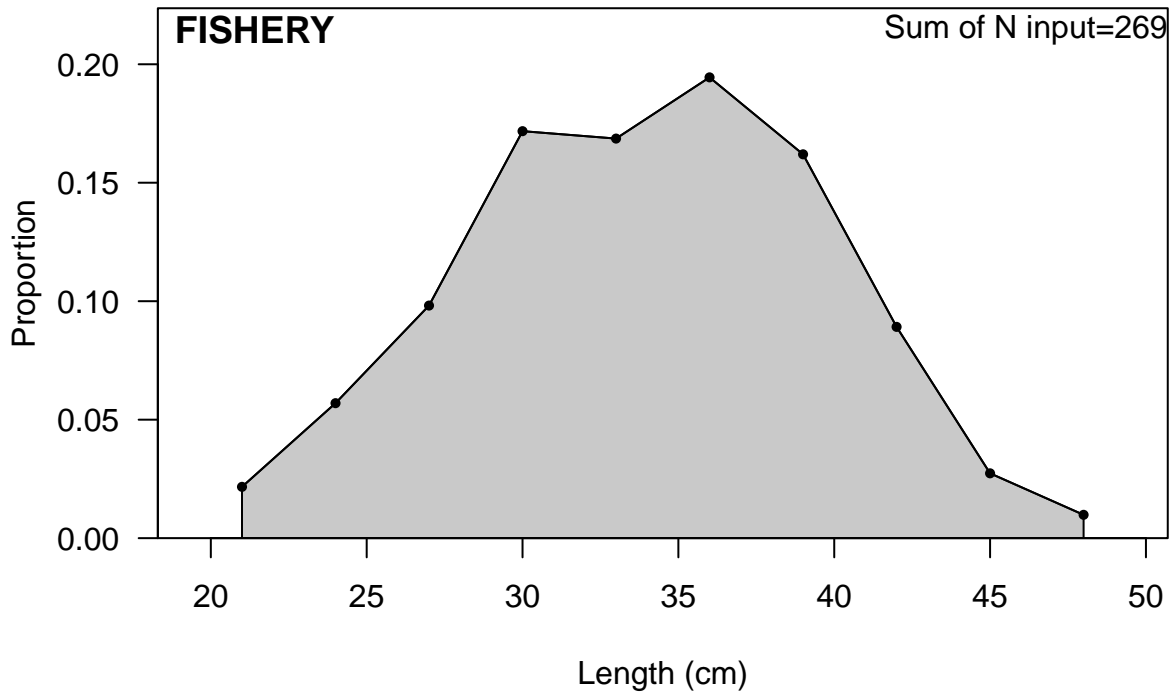




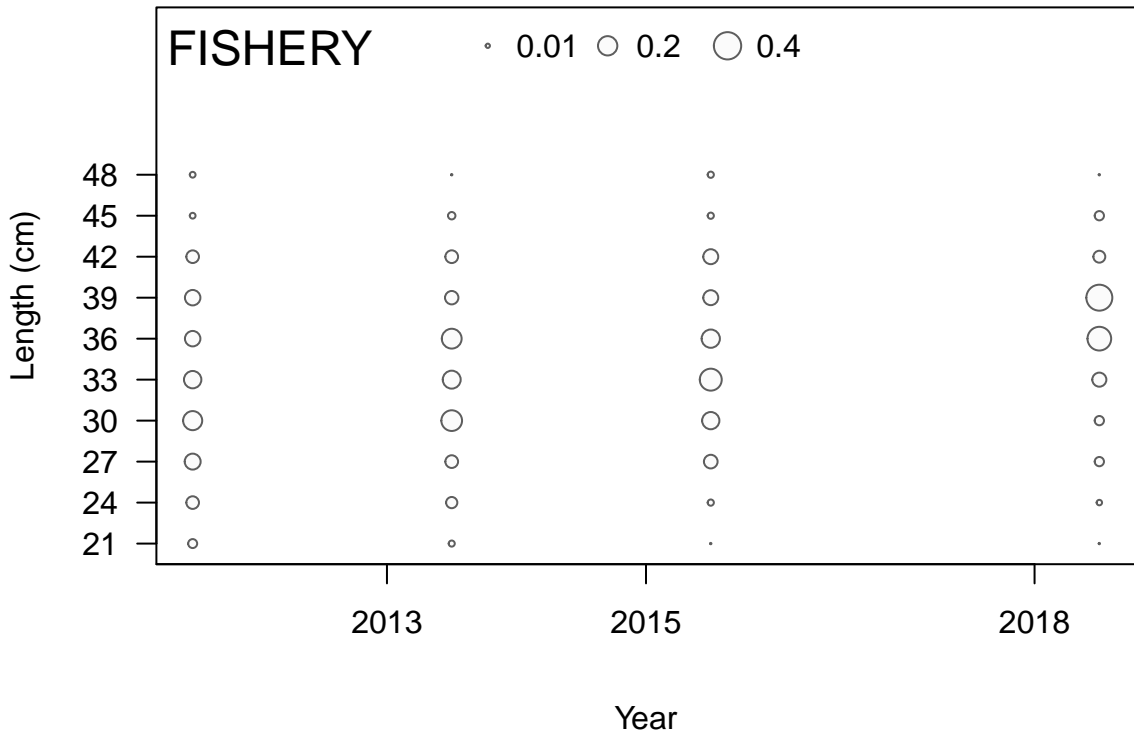


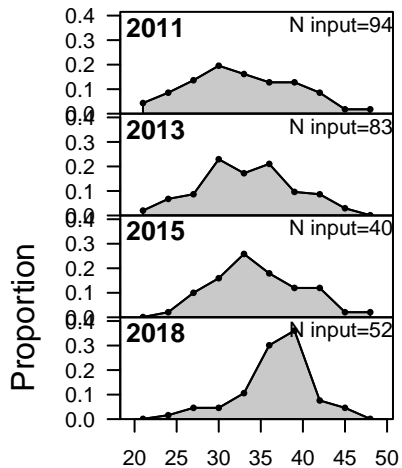
Numbers at age at equilibrium



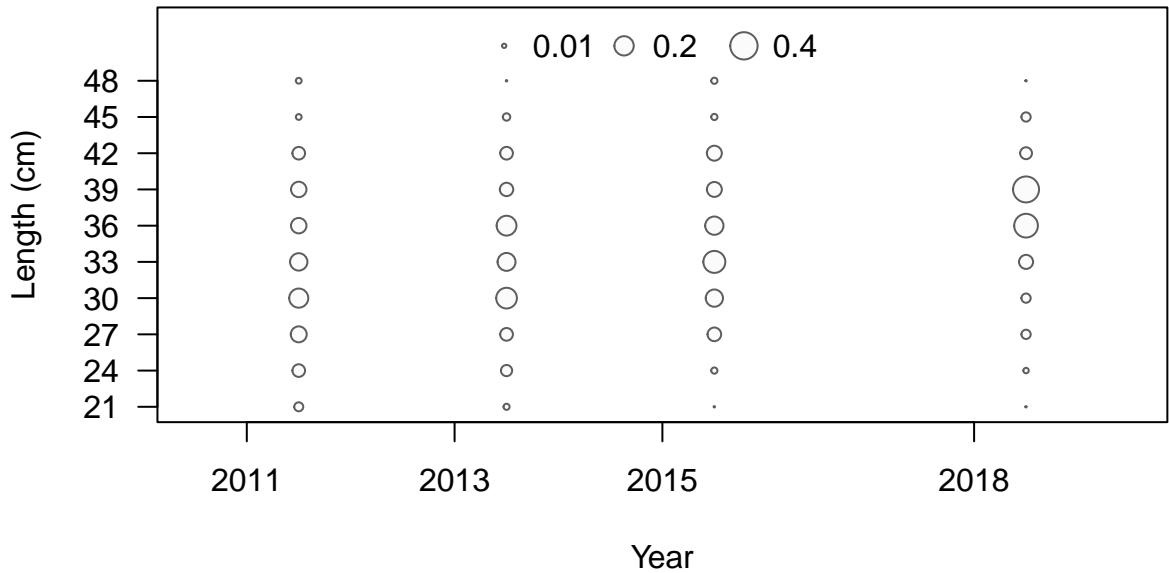




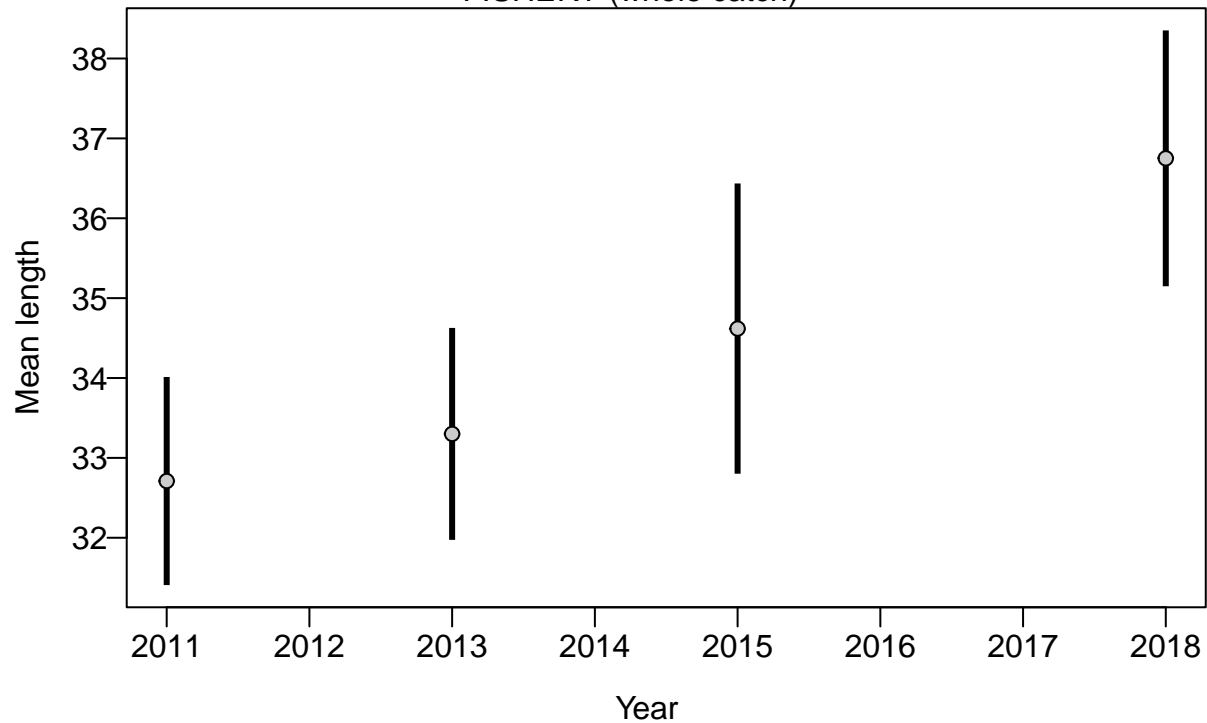


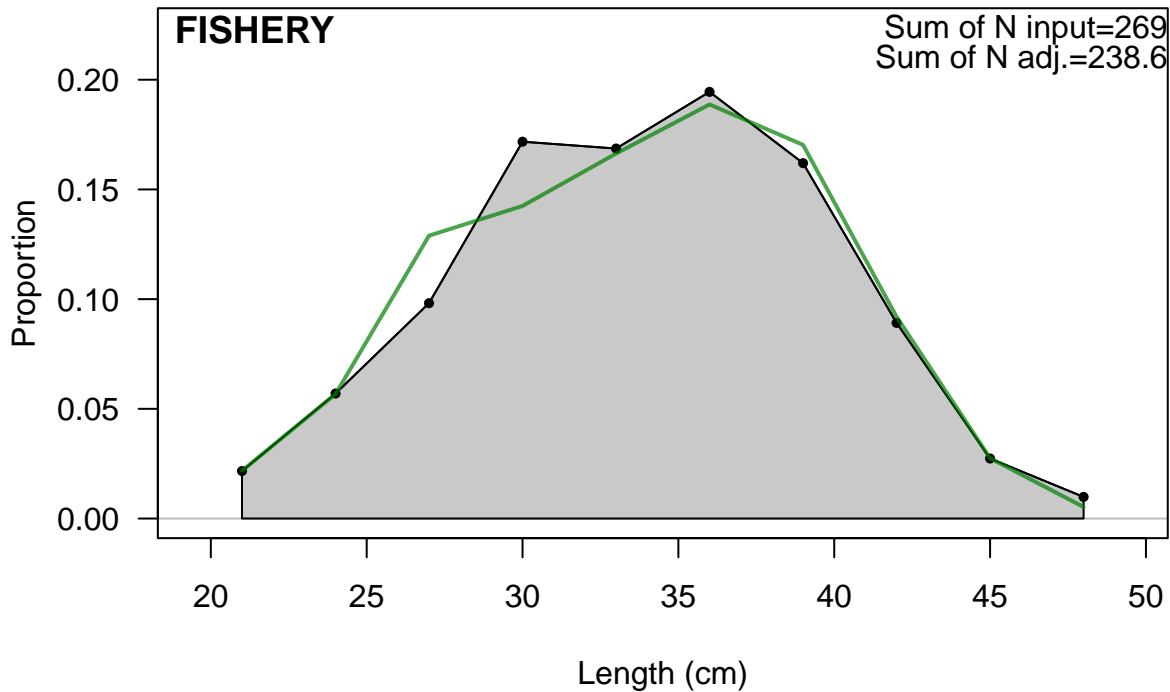


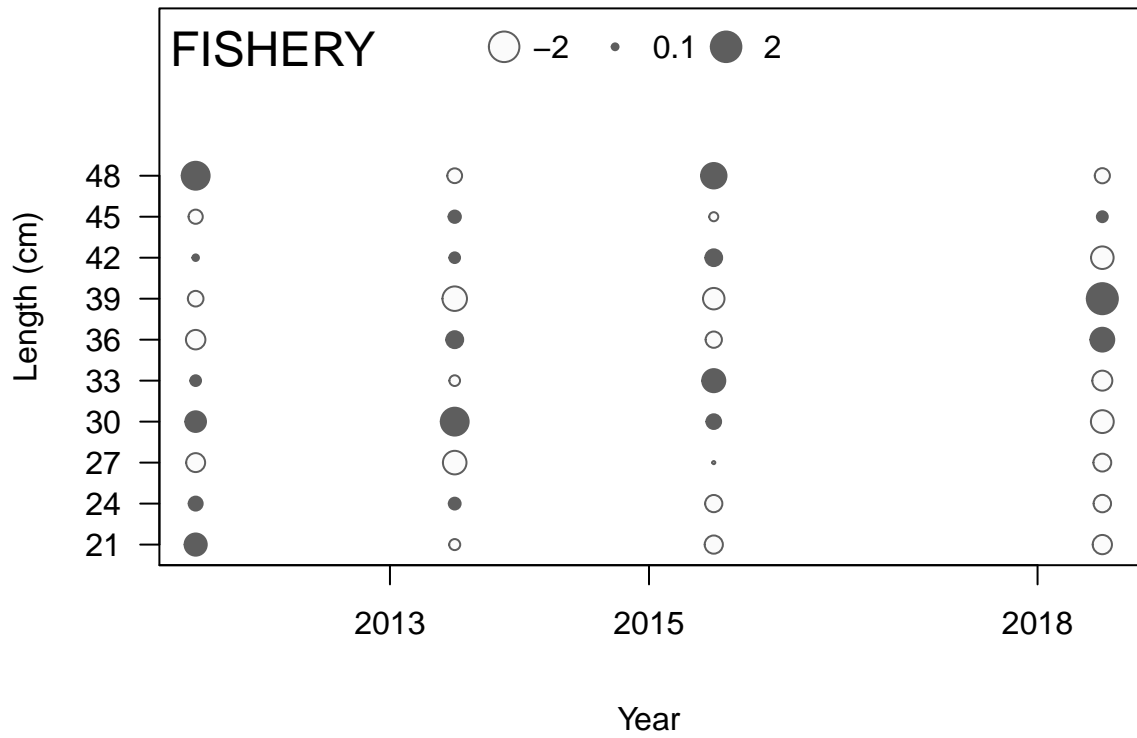
Length (cm)

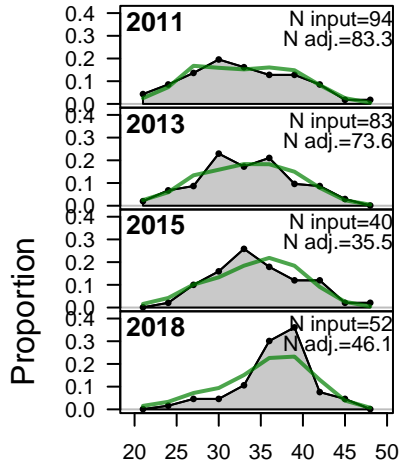


FISHERY (whole catch)

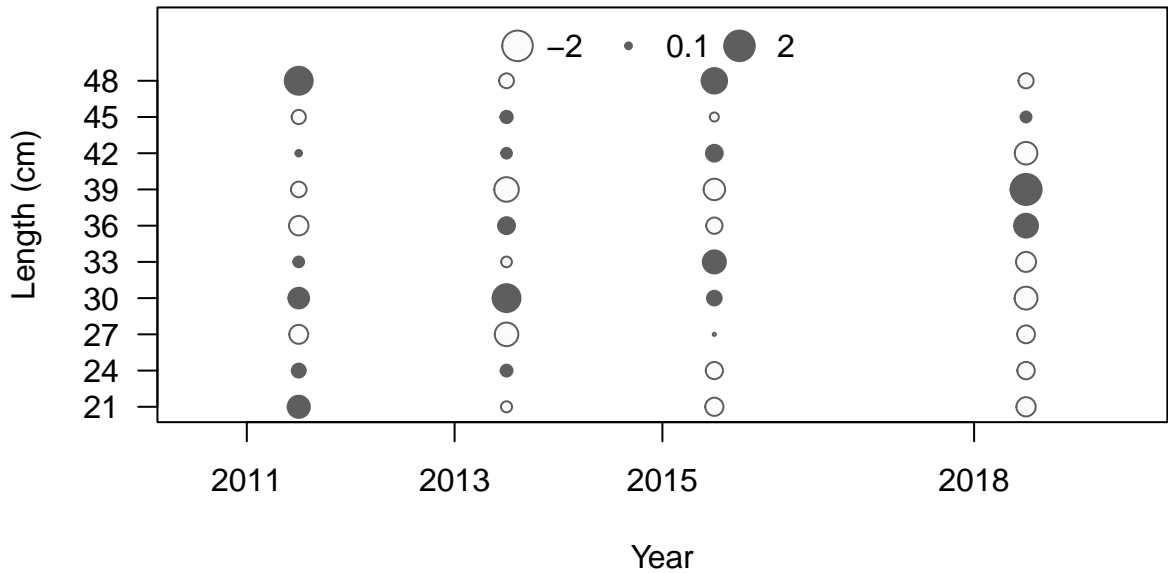






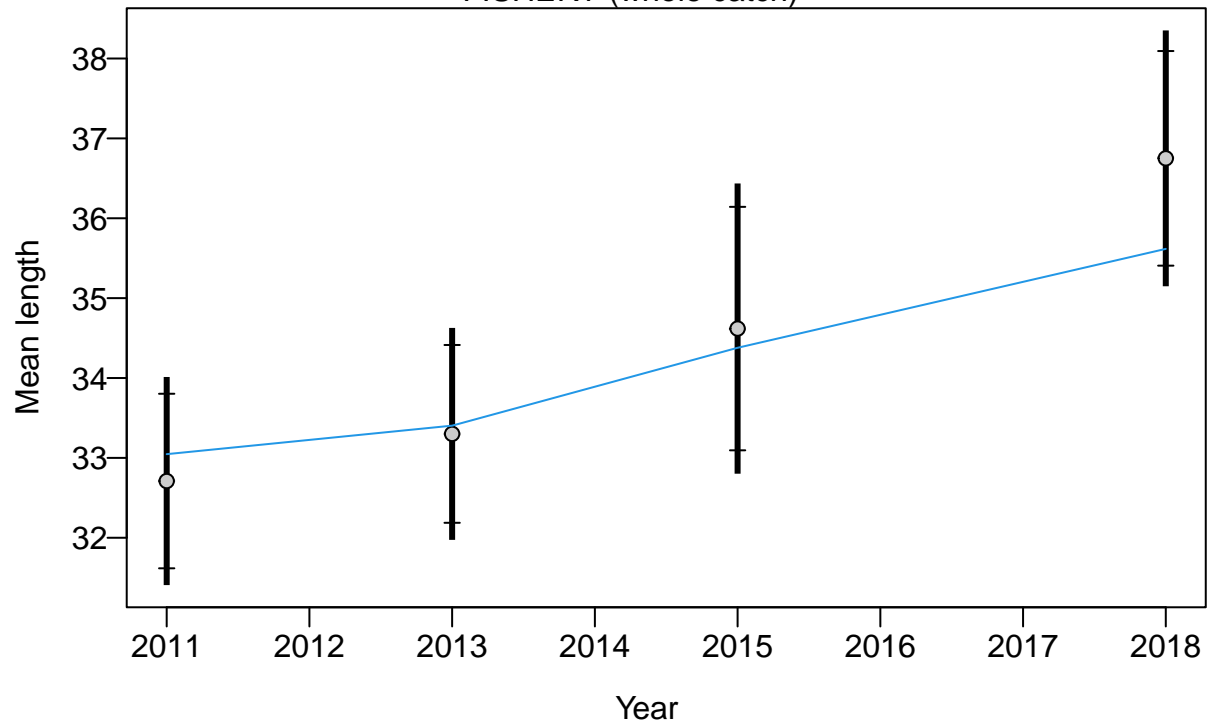


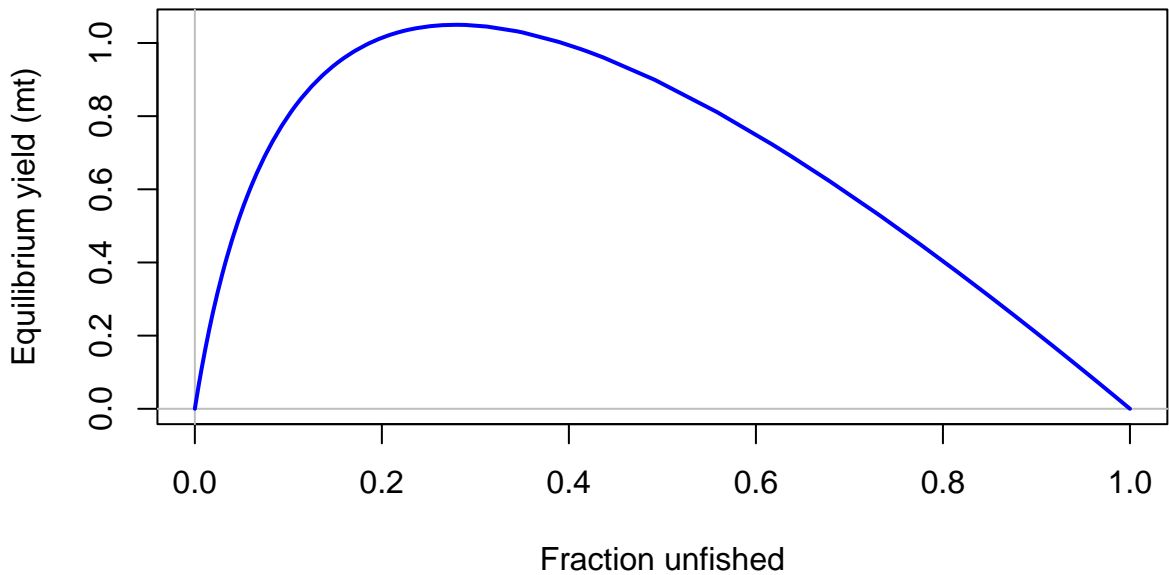
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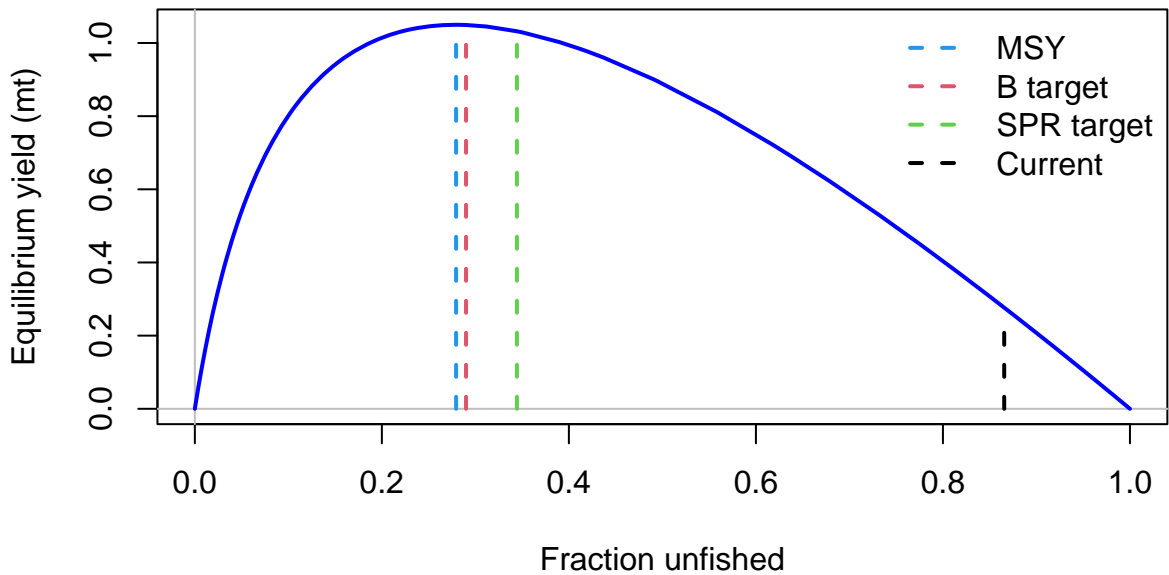


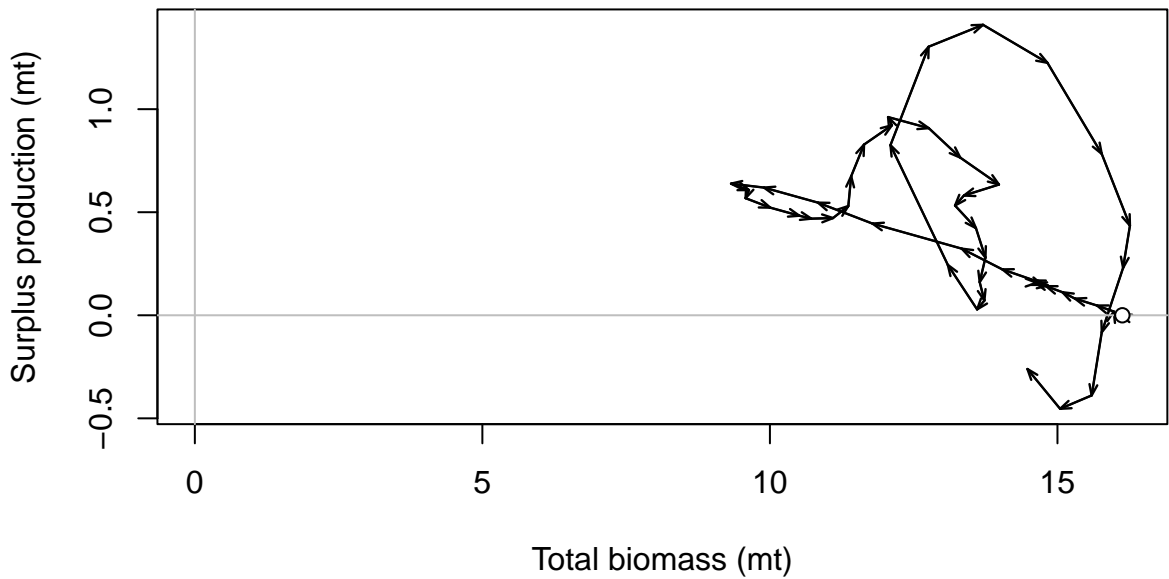


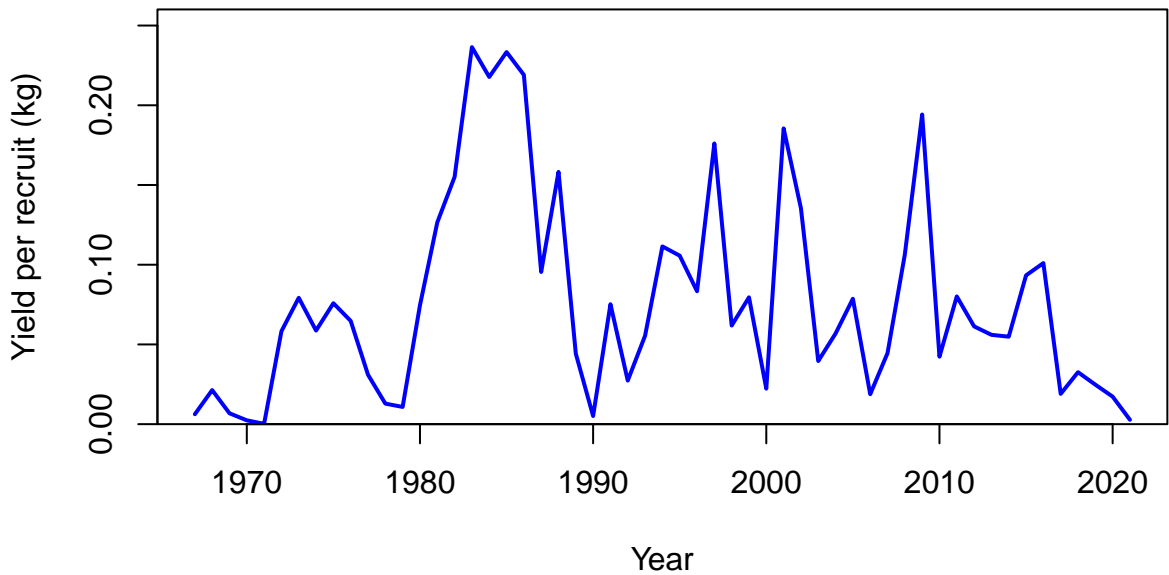
FISHERY (whole catch)

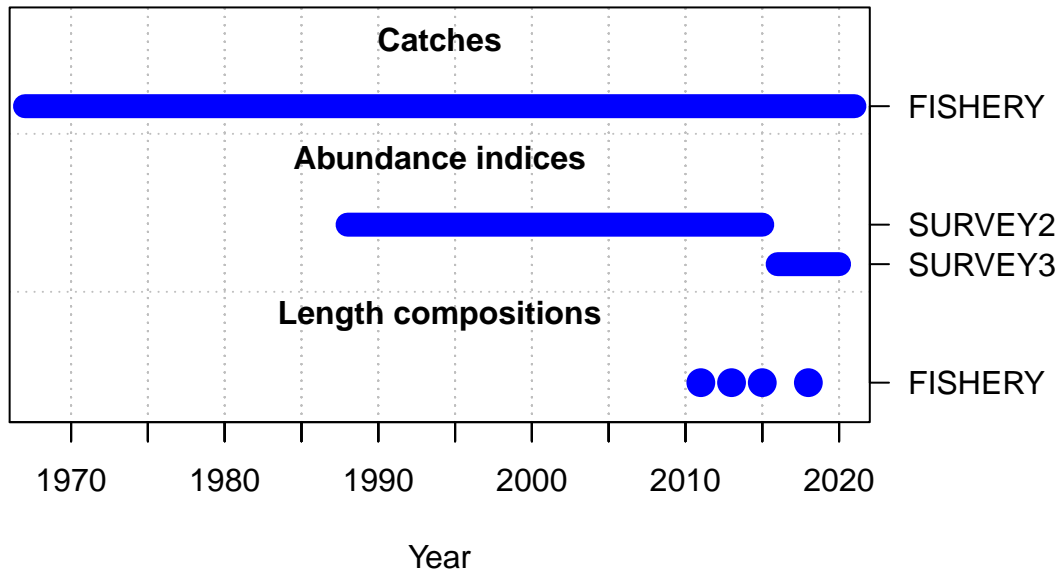


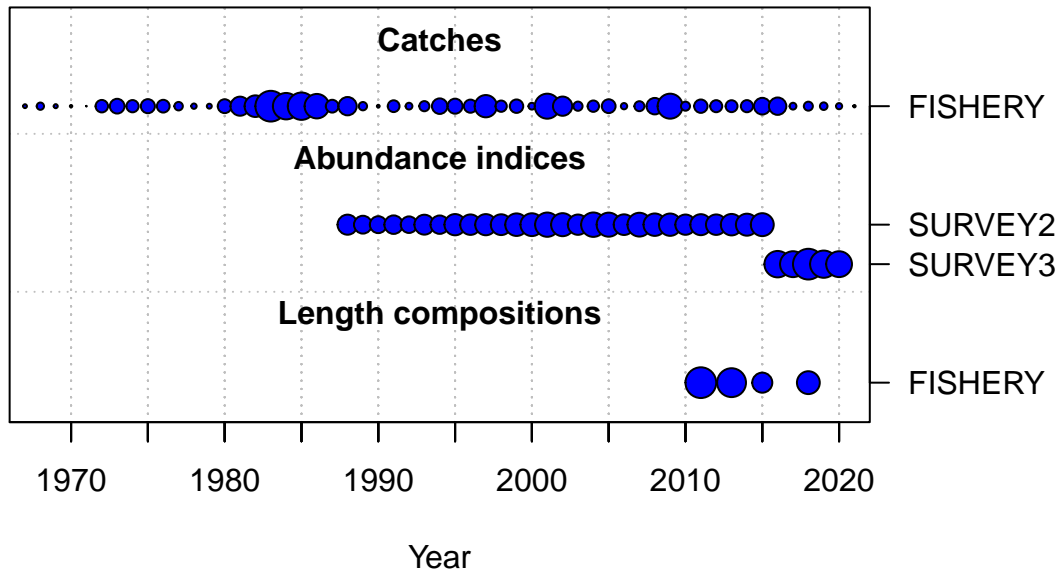




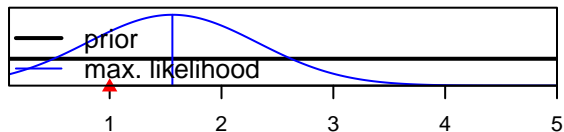




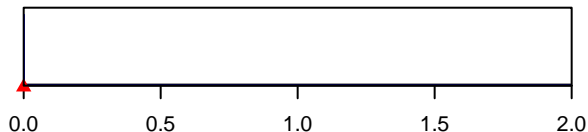




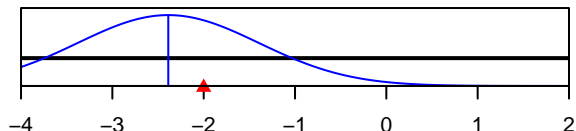
SR\_LN(R0)



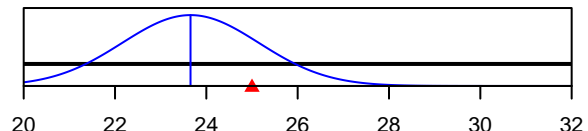
Q\_extraSD\_SURVEY3(3)



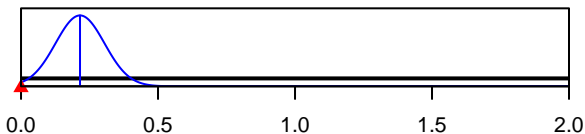
LnQ\_base\_SURVEY2(2)



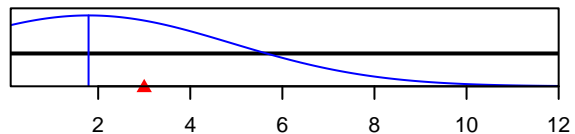
Size\_inflection\_FISHERY(1)



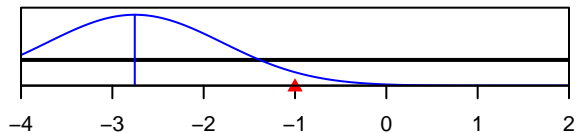
Q\_extraSD\_SURVEY2(2)



Size\_95%width\_FISHERY(1)



LnQ\_base\_SURVEY3(3)



ln(DM\_theta)\_1

