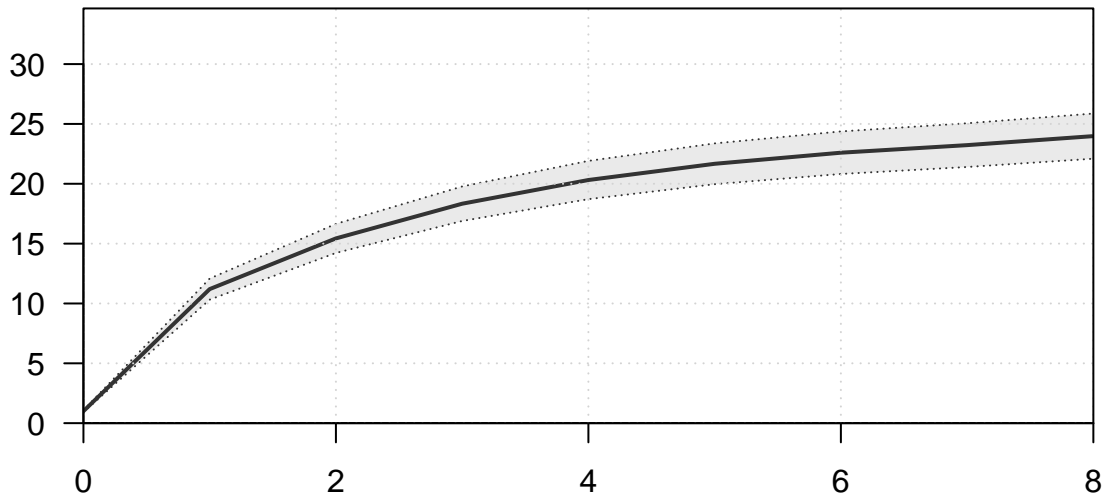


Plots created using the 'r4ss' package in R  
Stock Synthesis version: 3.30.19.0  
StartTime: Tue Feb 14 12:12:44 2023  
Data\_File: data.ss  
Control\_File: control.ss

Length (cm, beginning of the year)



Age (yr)













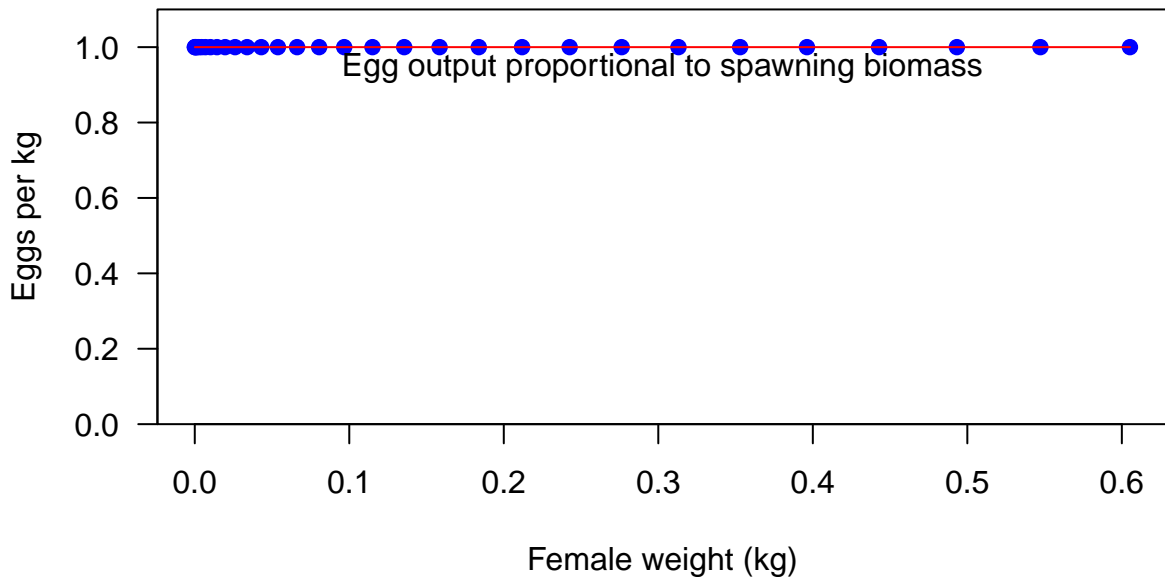








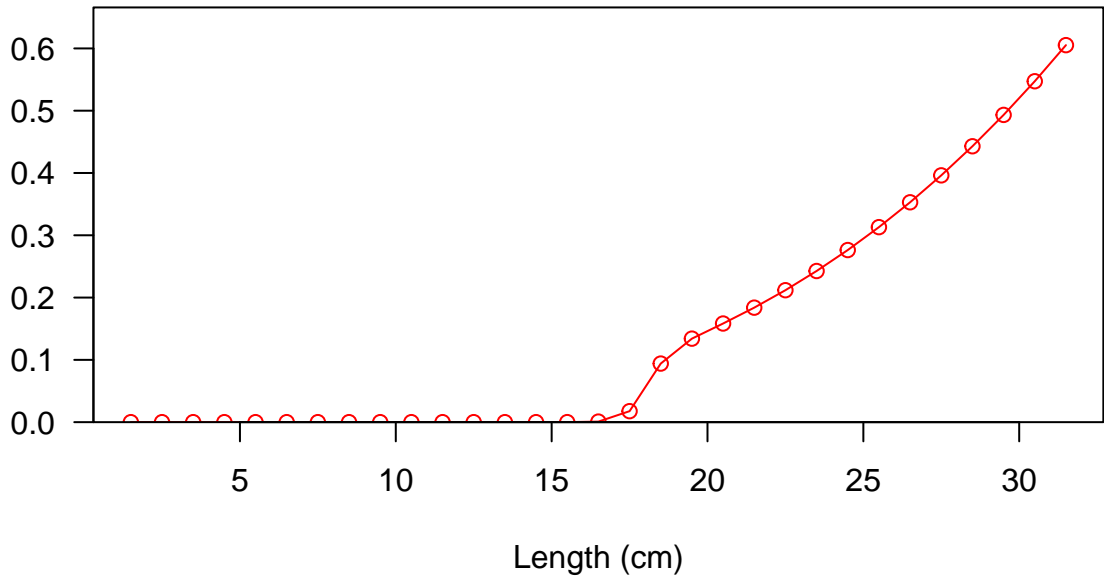








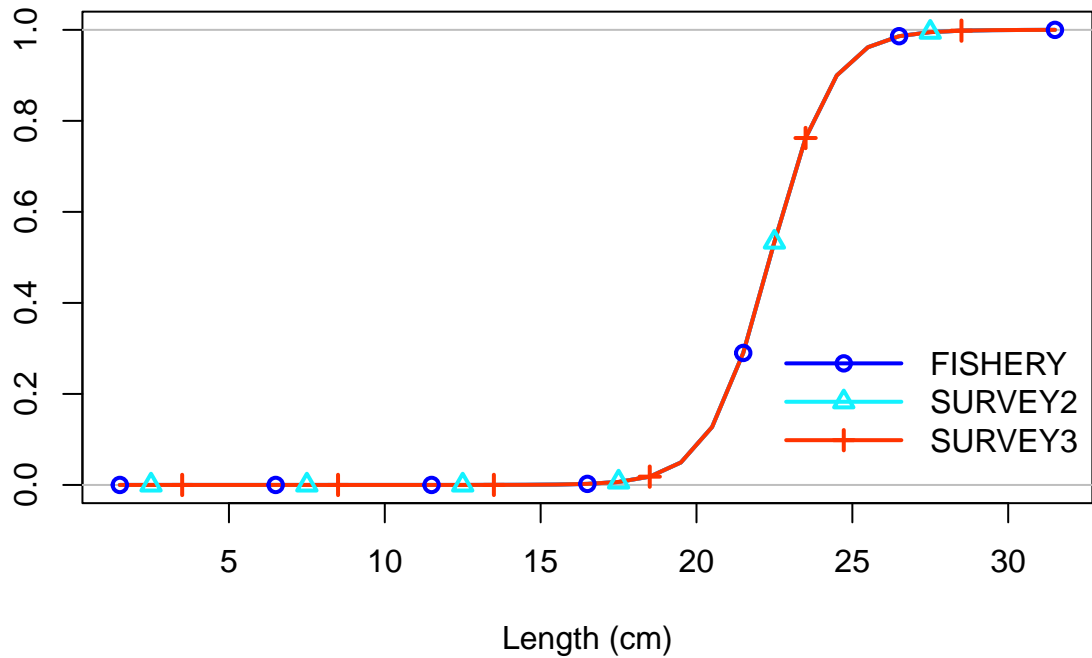
Spawning output

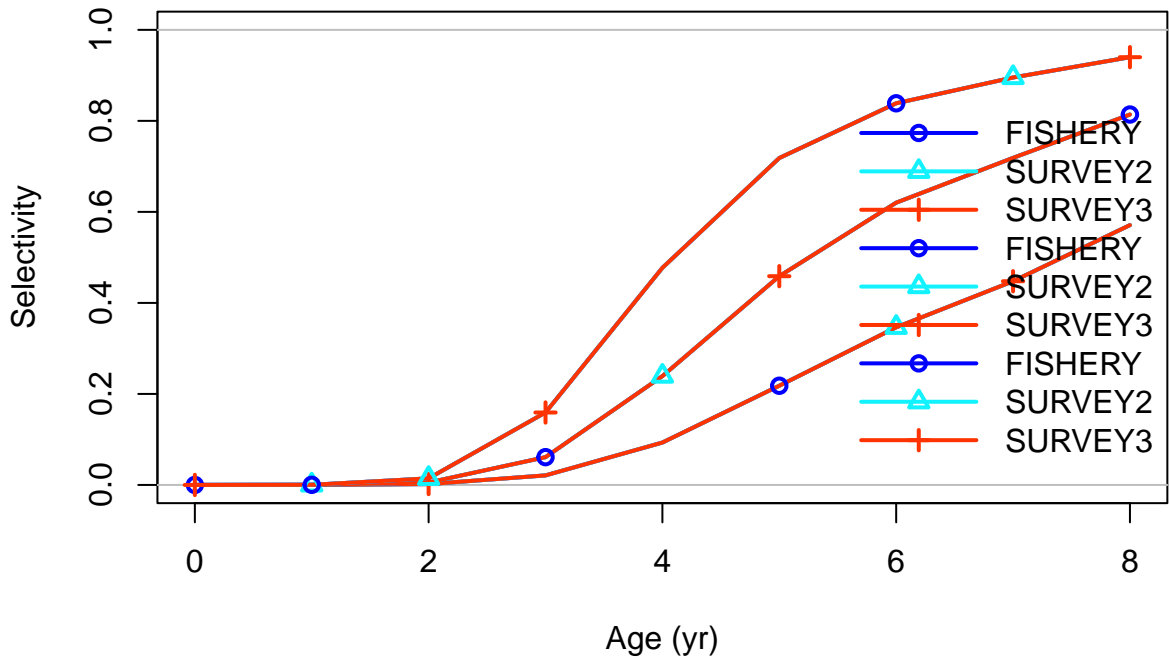




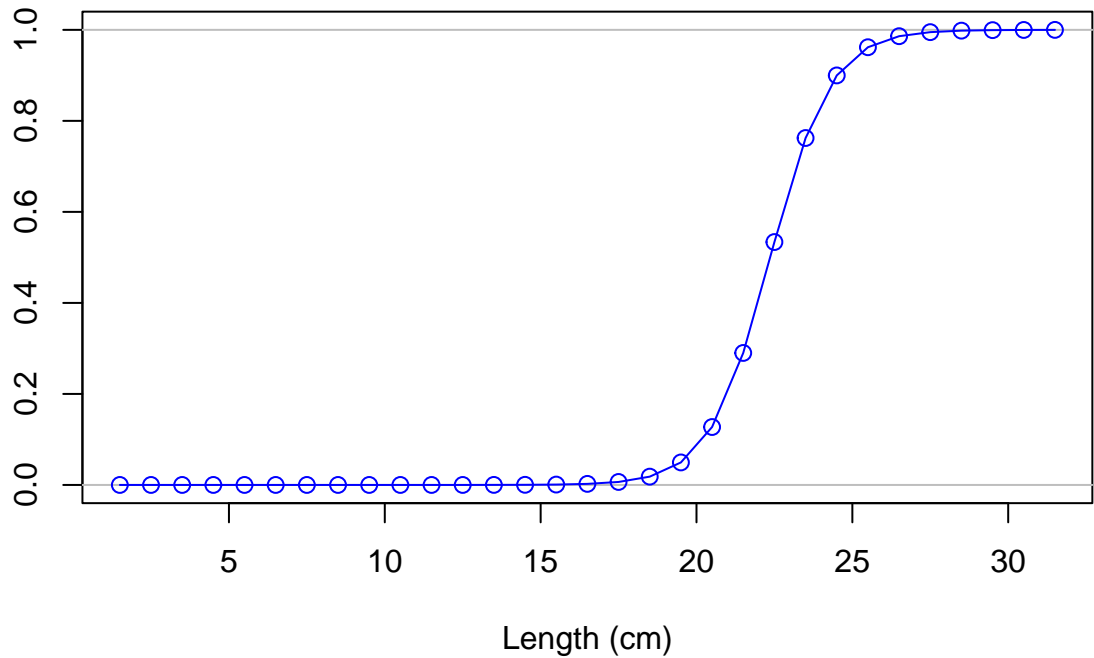


Selectivity

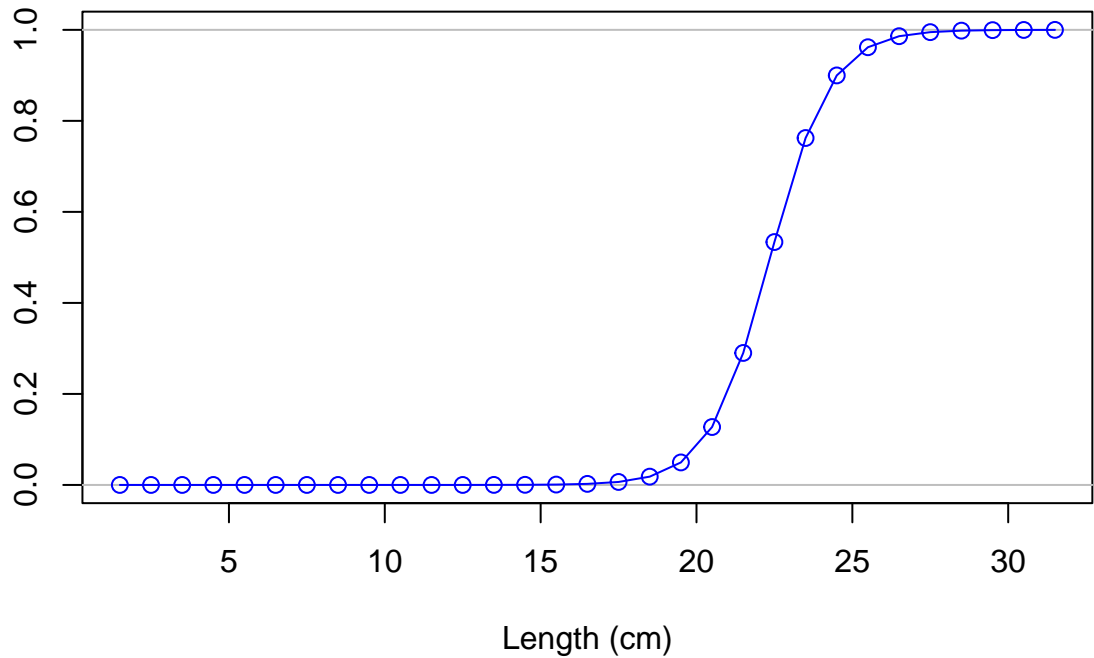




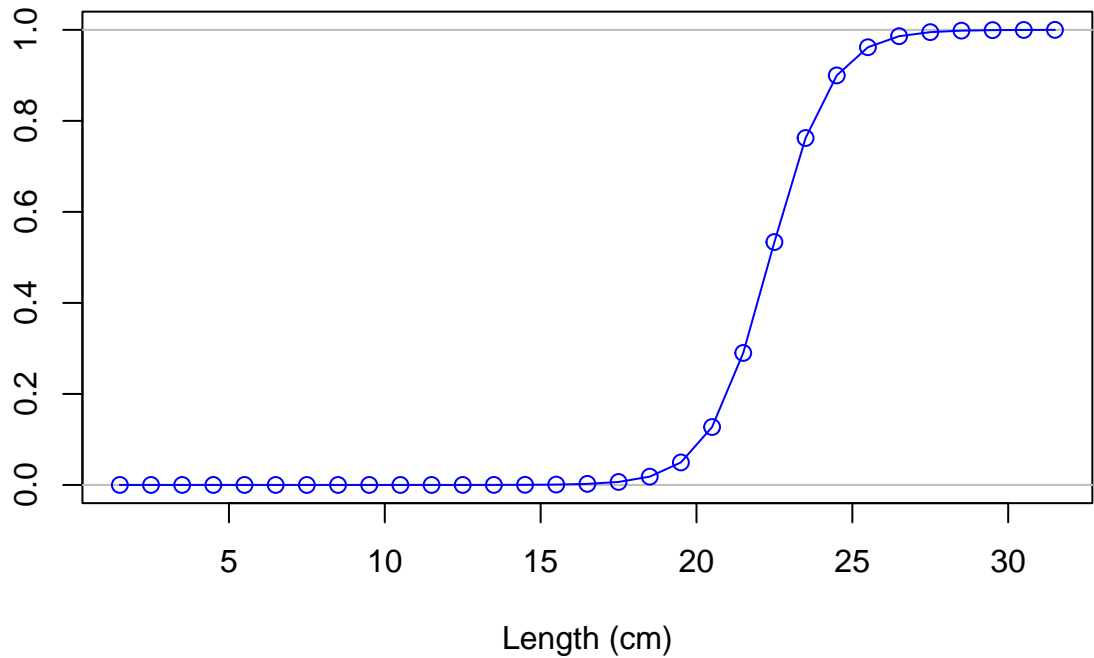
Selectivity

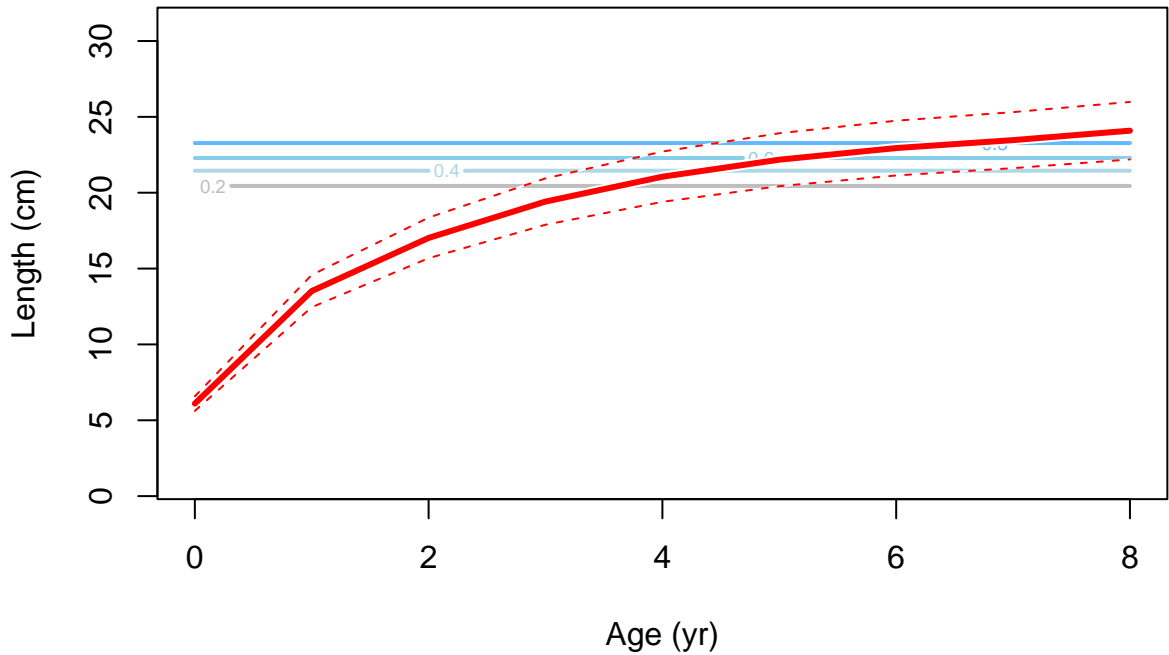


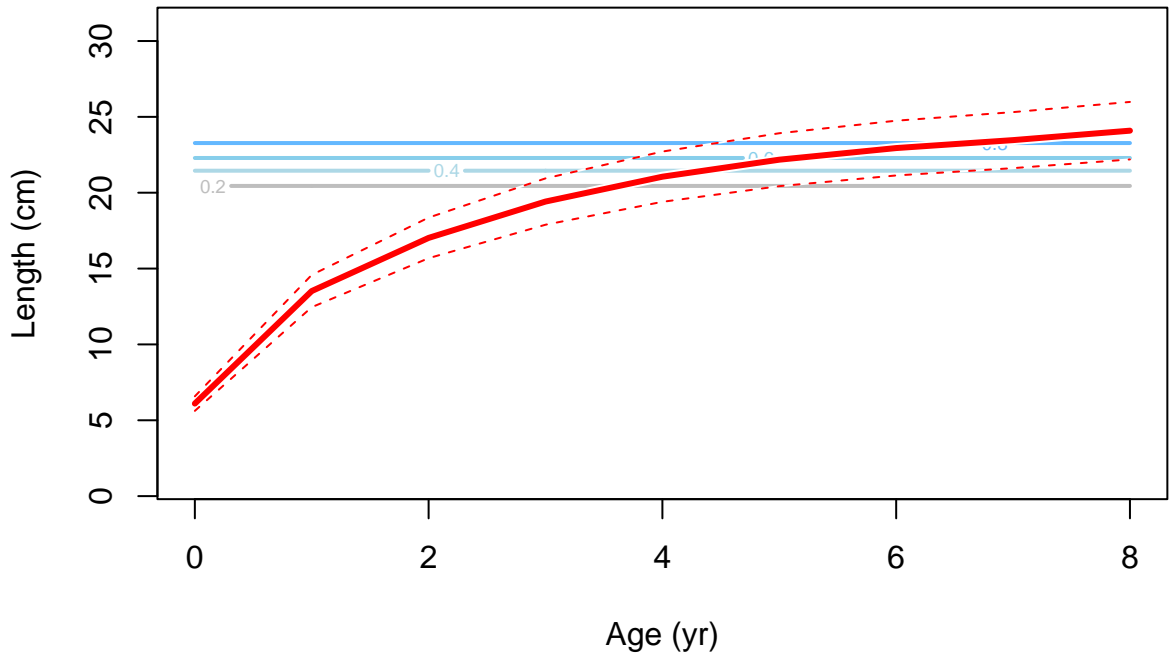
Selectivity



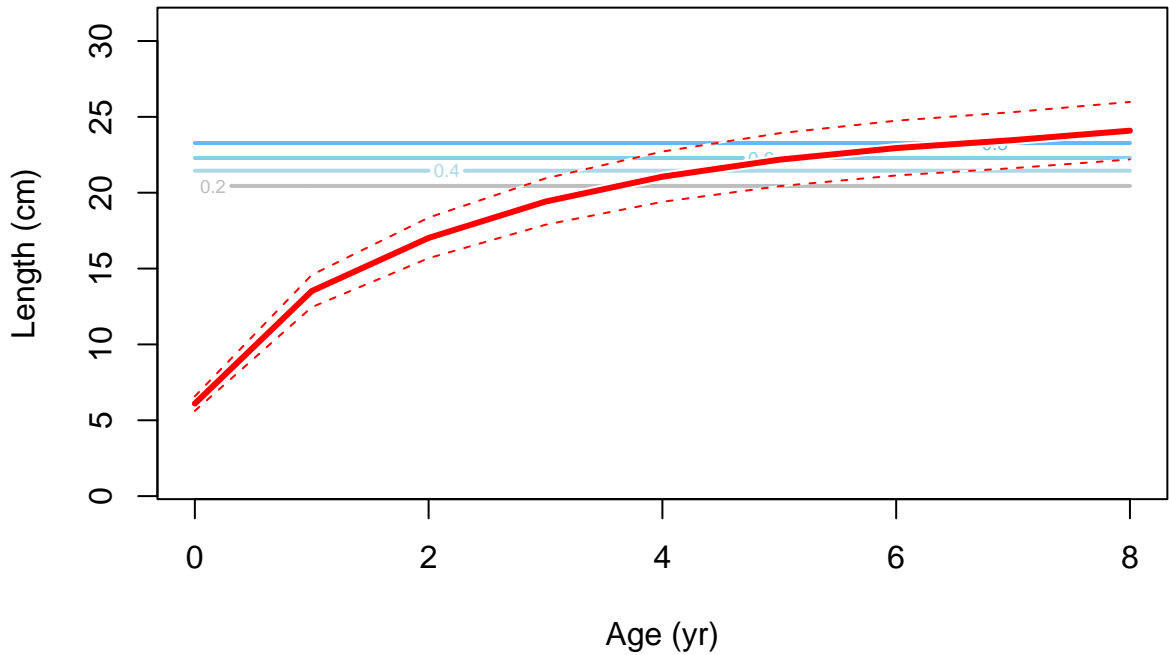
Selectivity



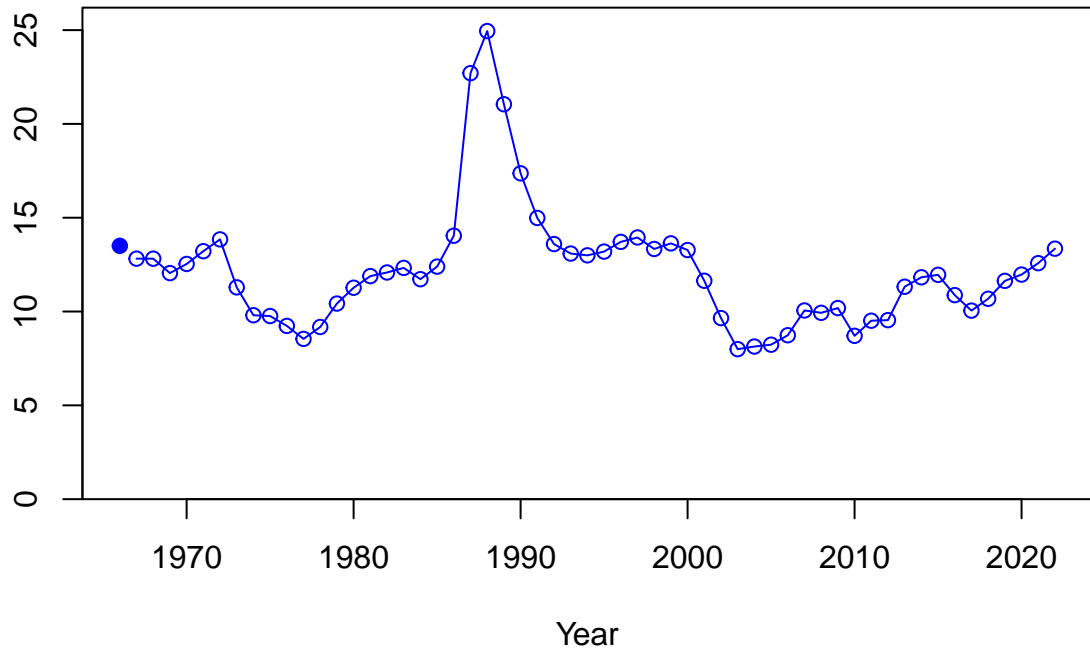




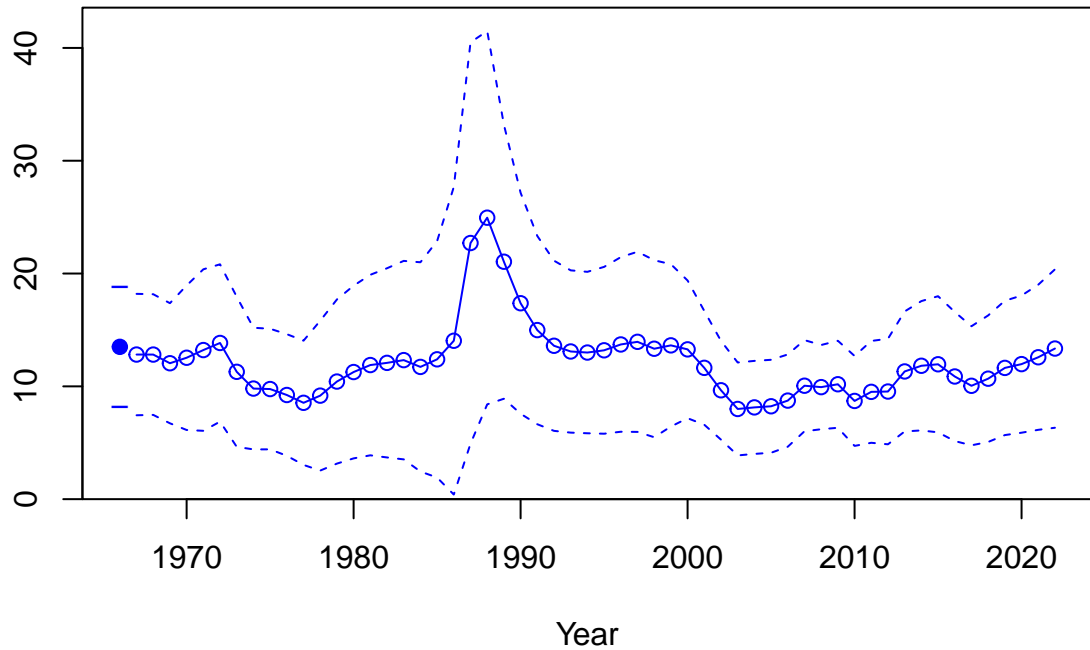




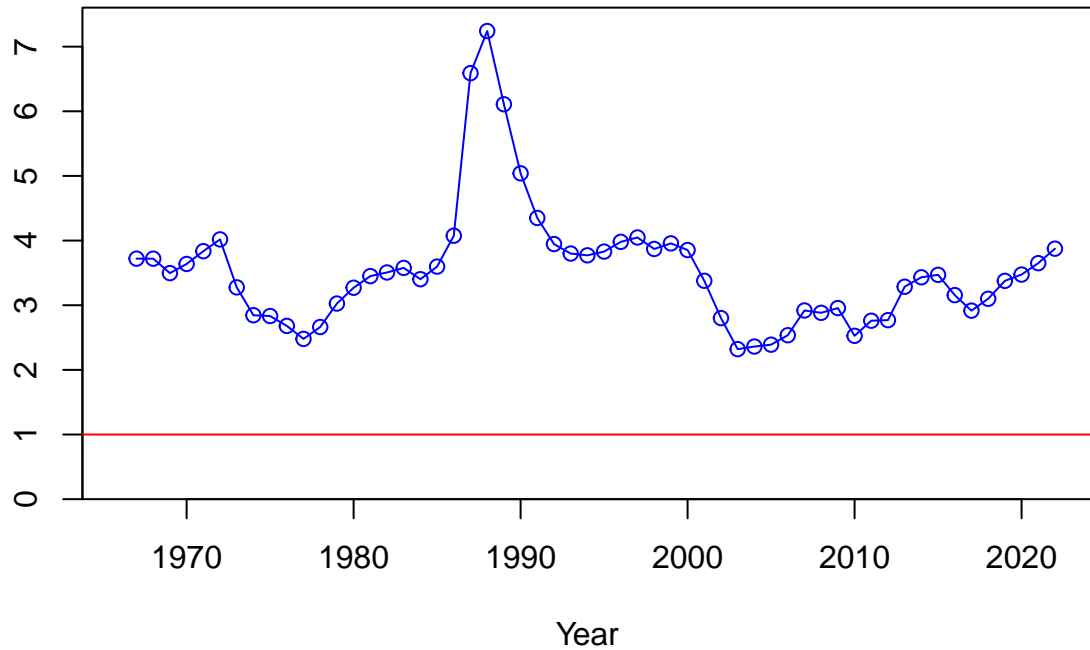
Spawning biomass (mt)



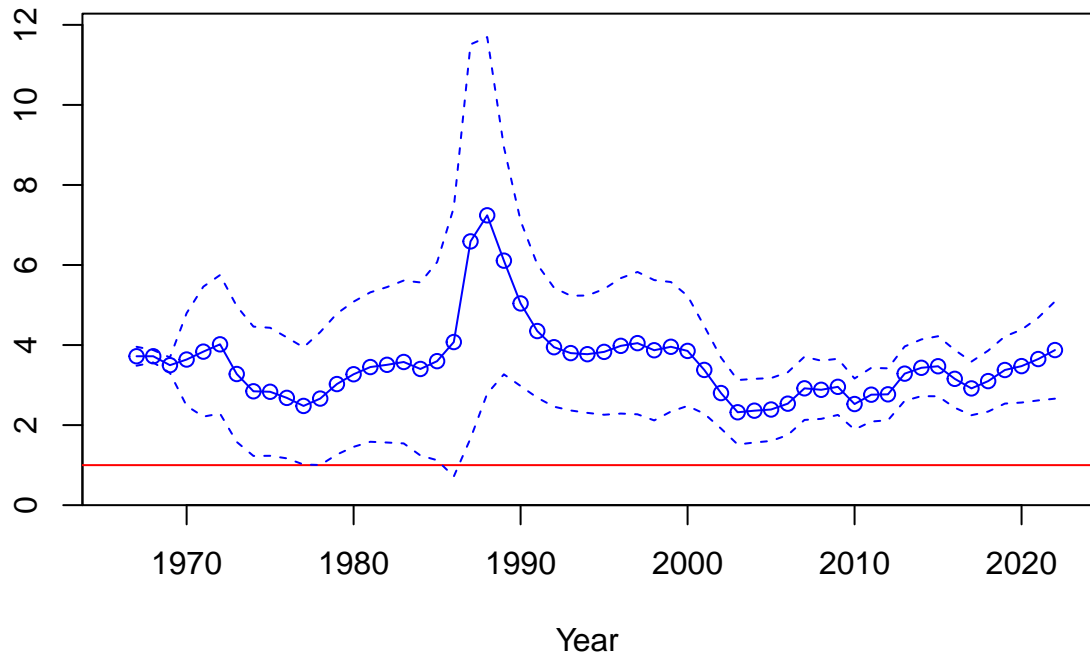
Spawning biomass (mt)

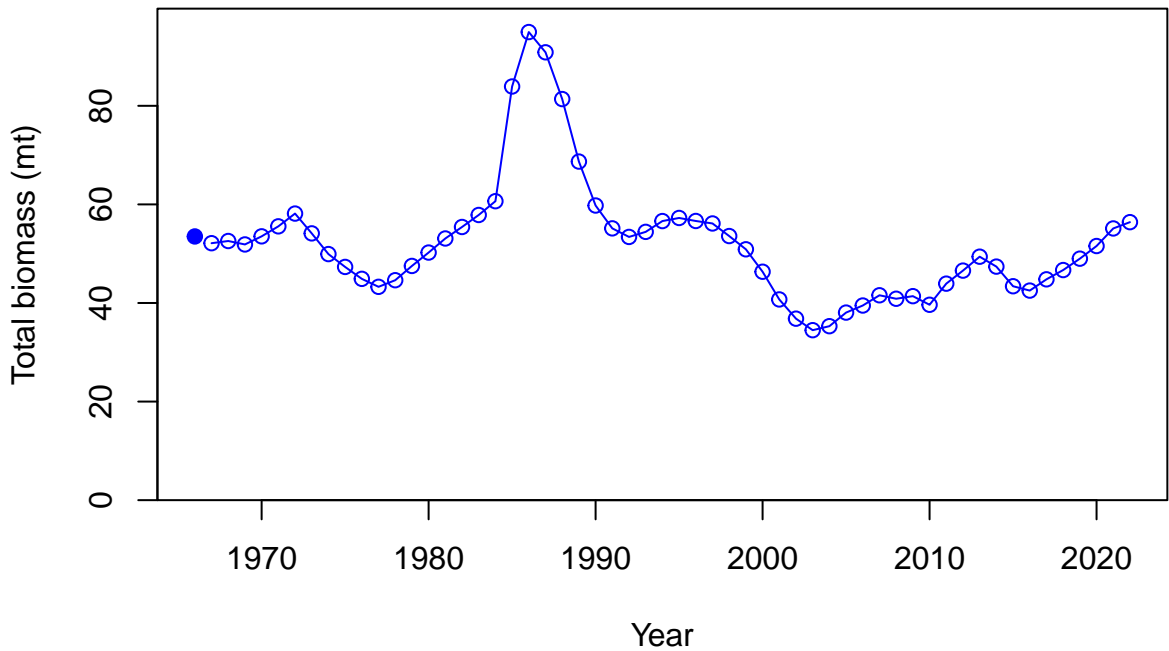


Relative spawning biomass:  $B/B_{MSY}$

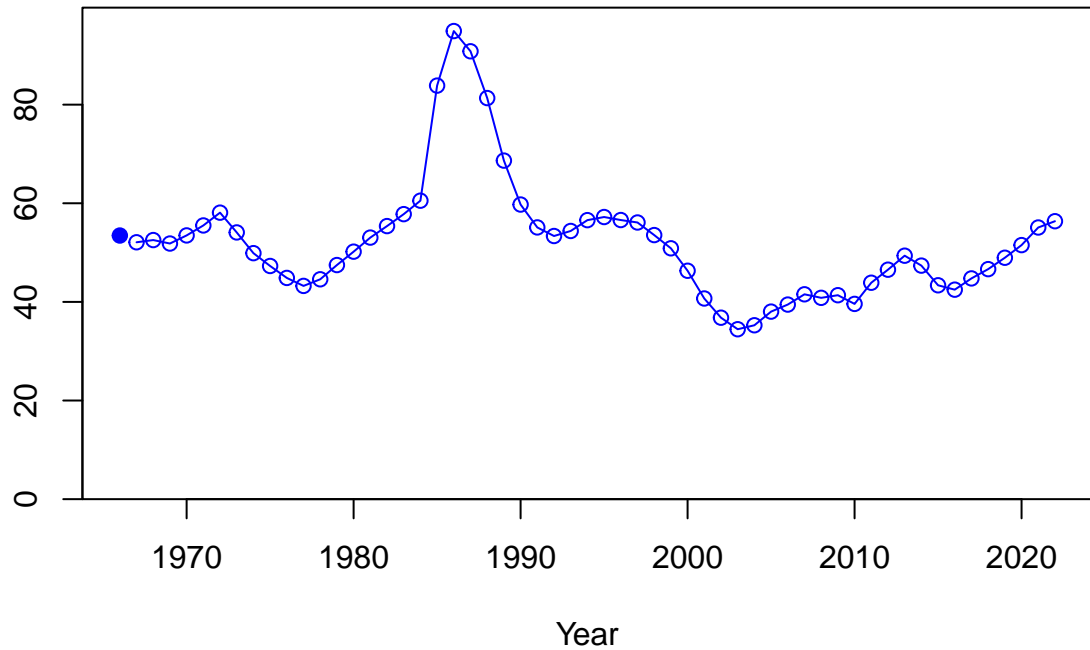


Relative spawning biomass:  $B/B_{MSY}$

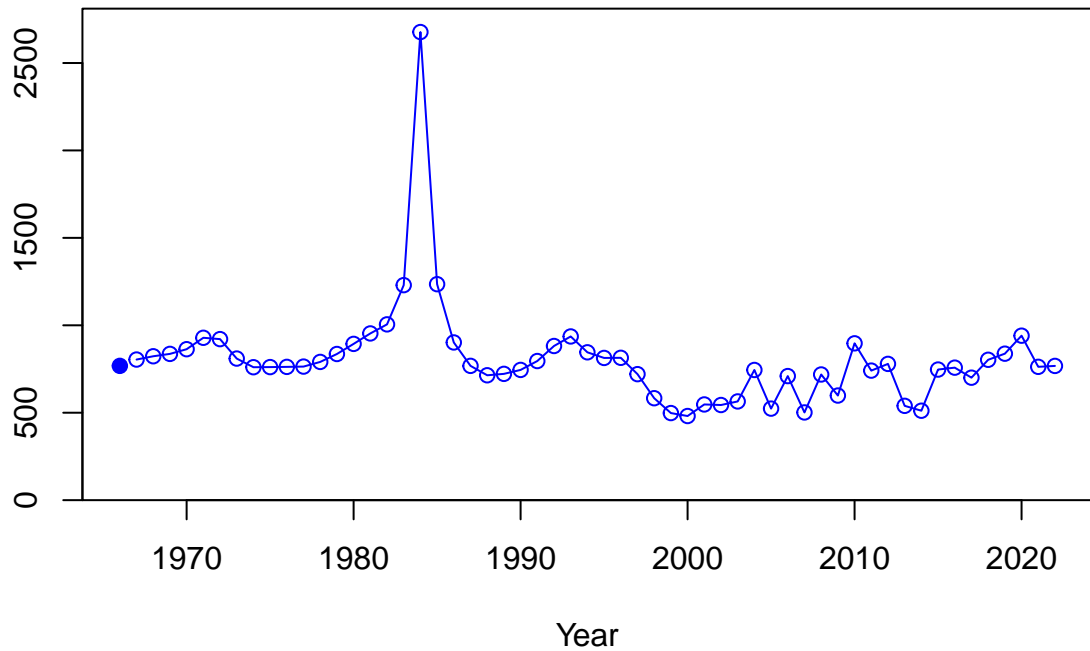




Summary biomass (mt)

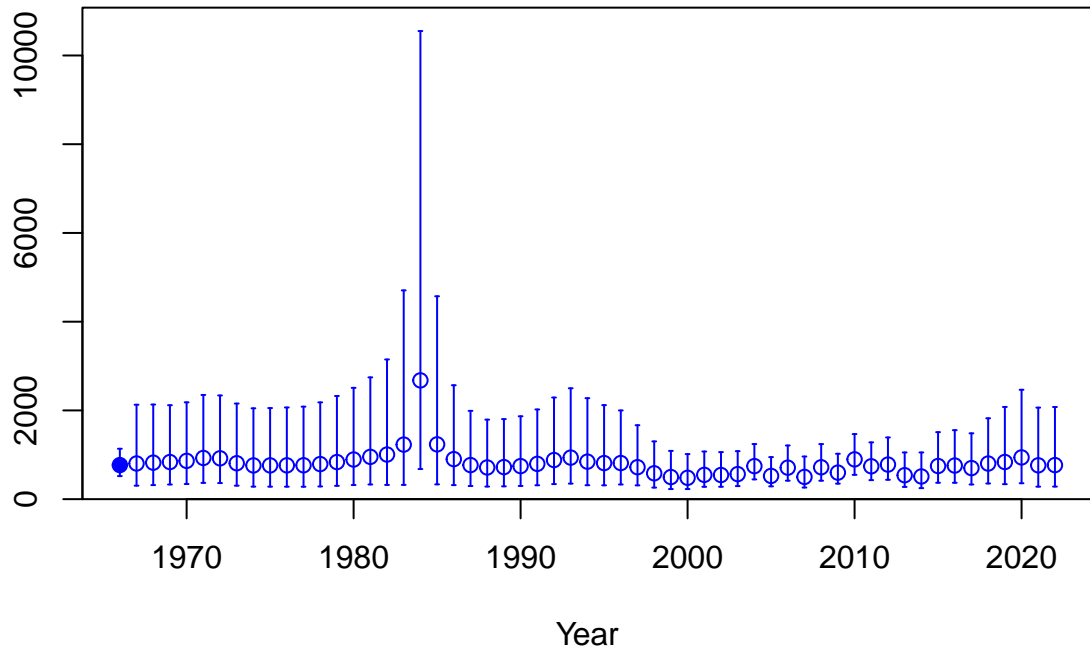


Age-0 recruits (1,000s)

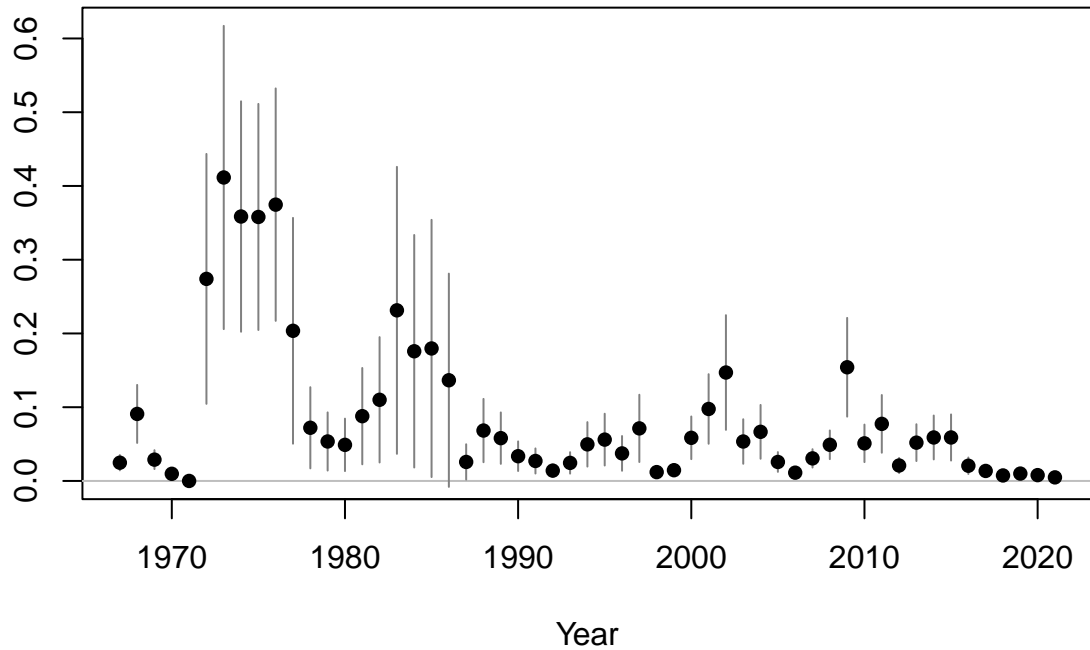


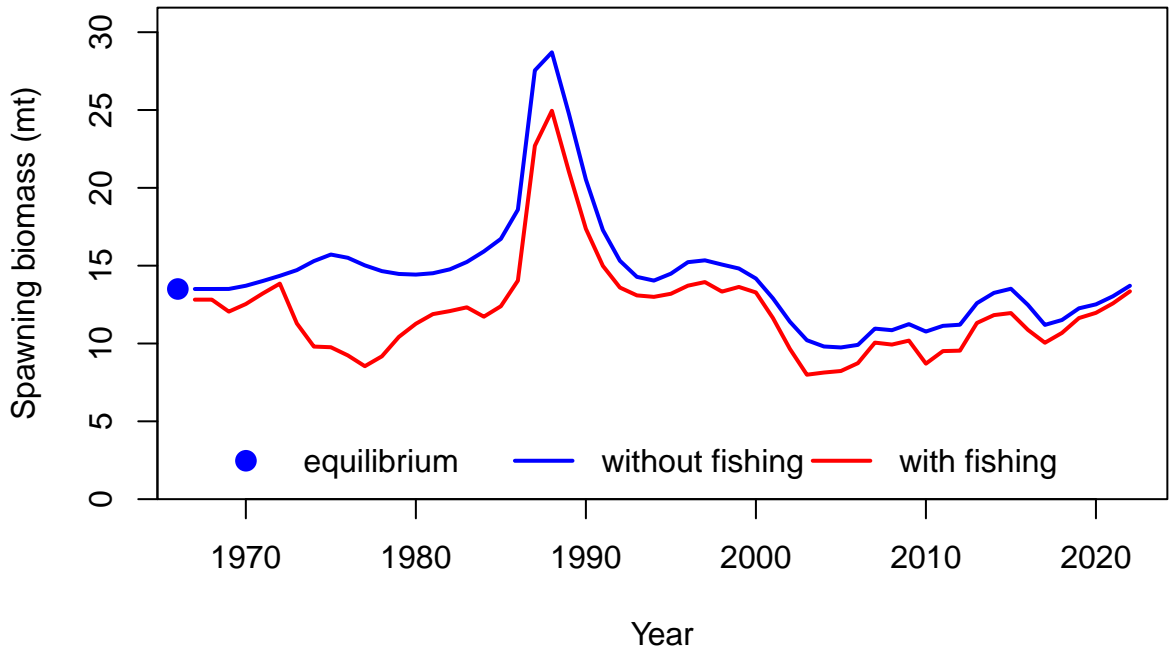


Age-0 recruits (1,000s)

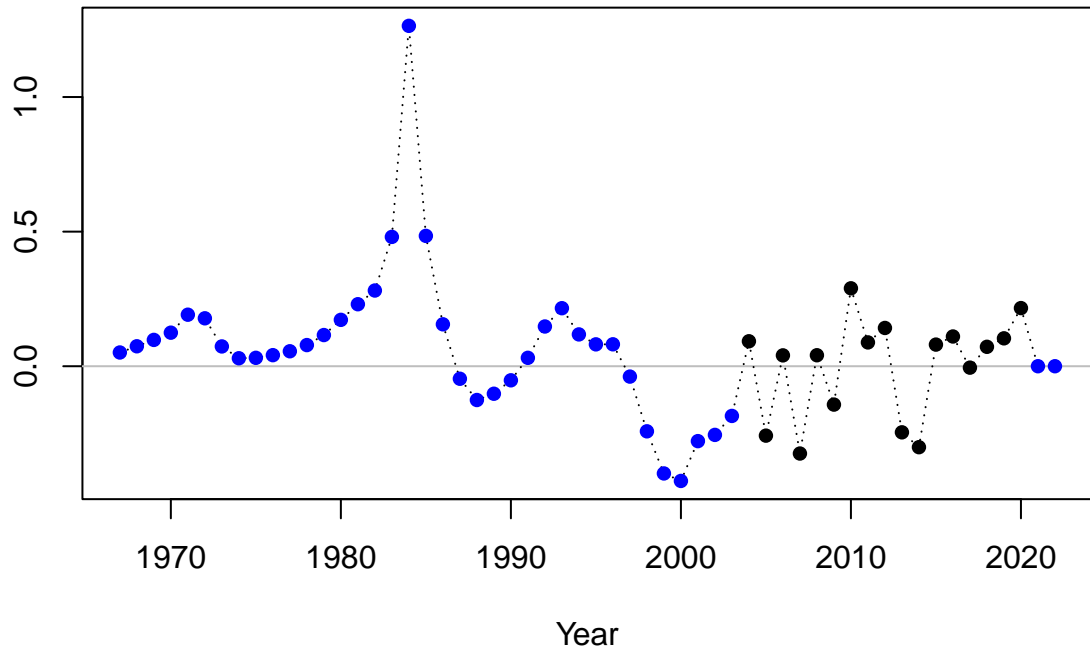


Summary Fishing Mortality

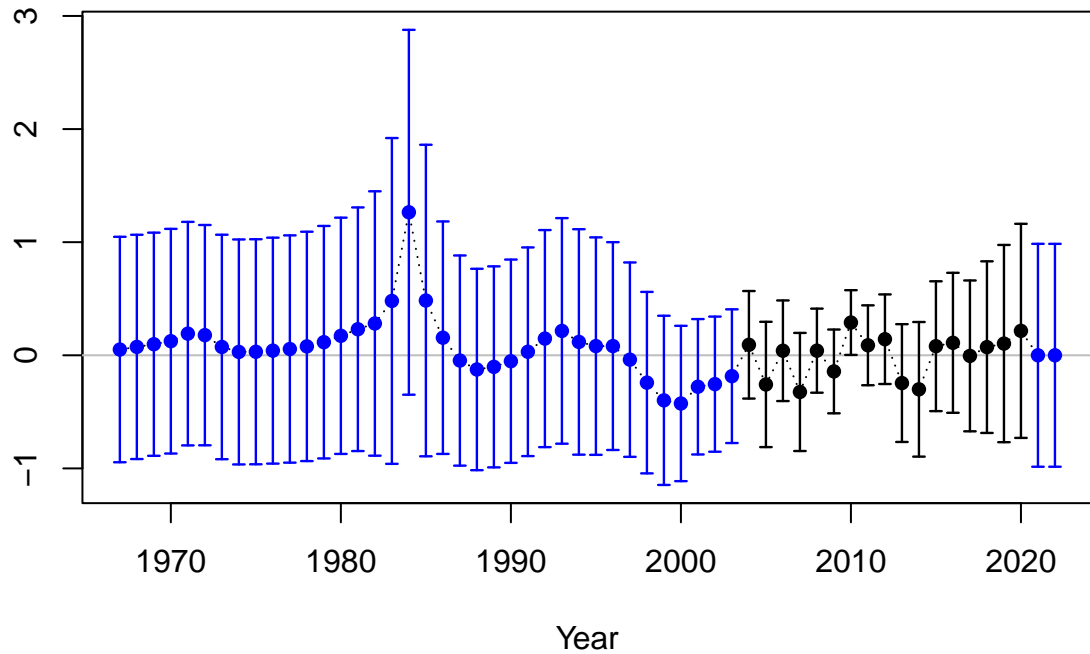




Log recruitment deviation

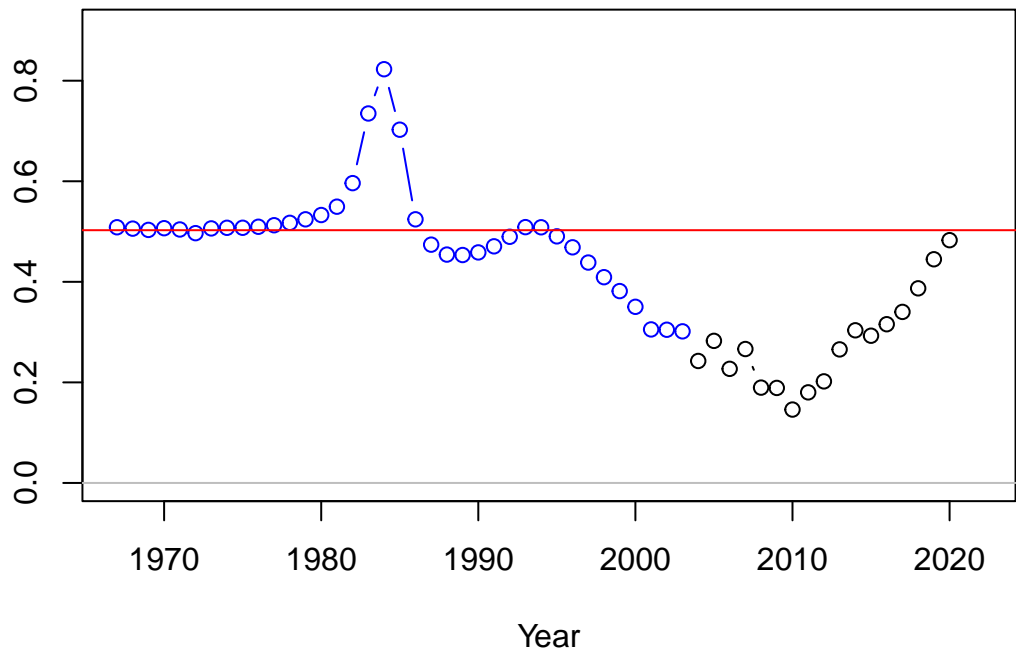


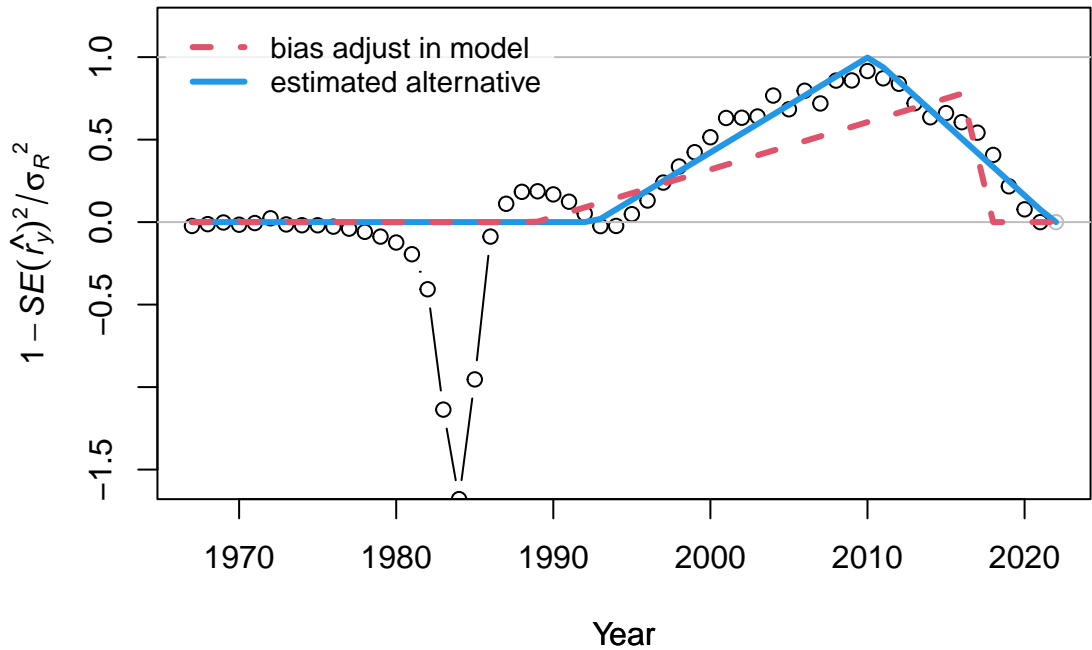
Log recruitment deviation

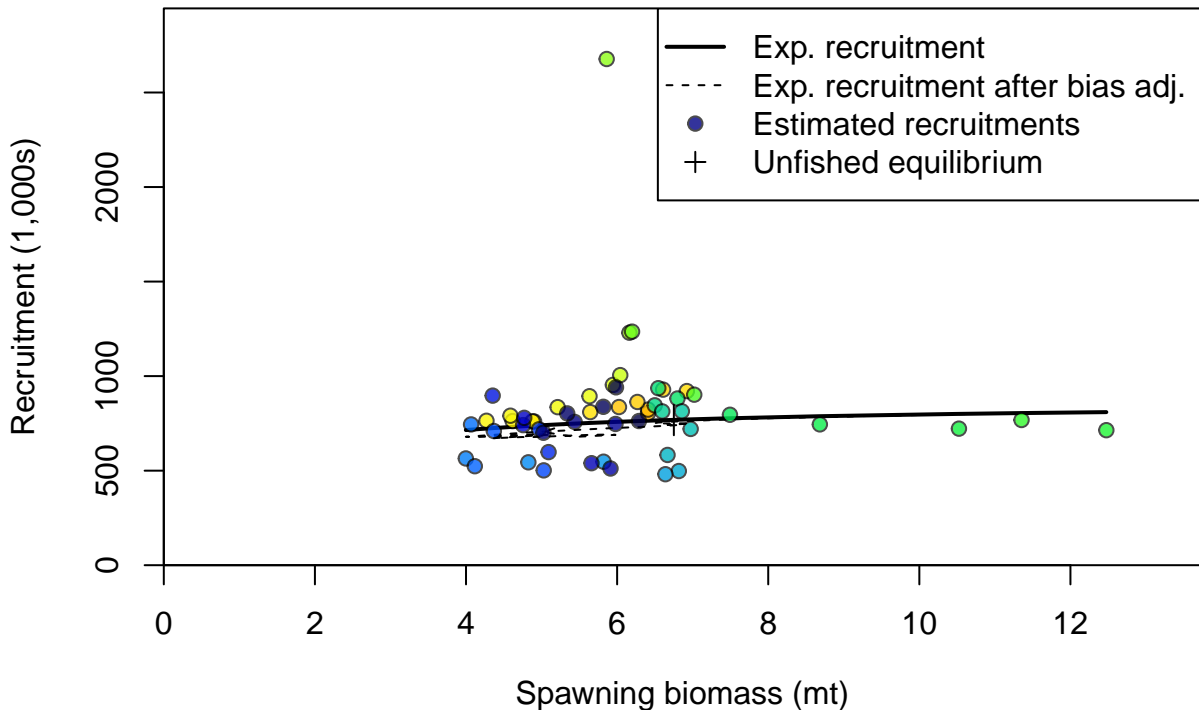


## Recruitment deviation variance

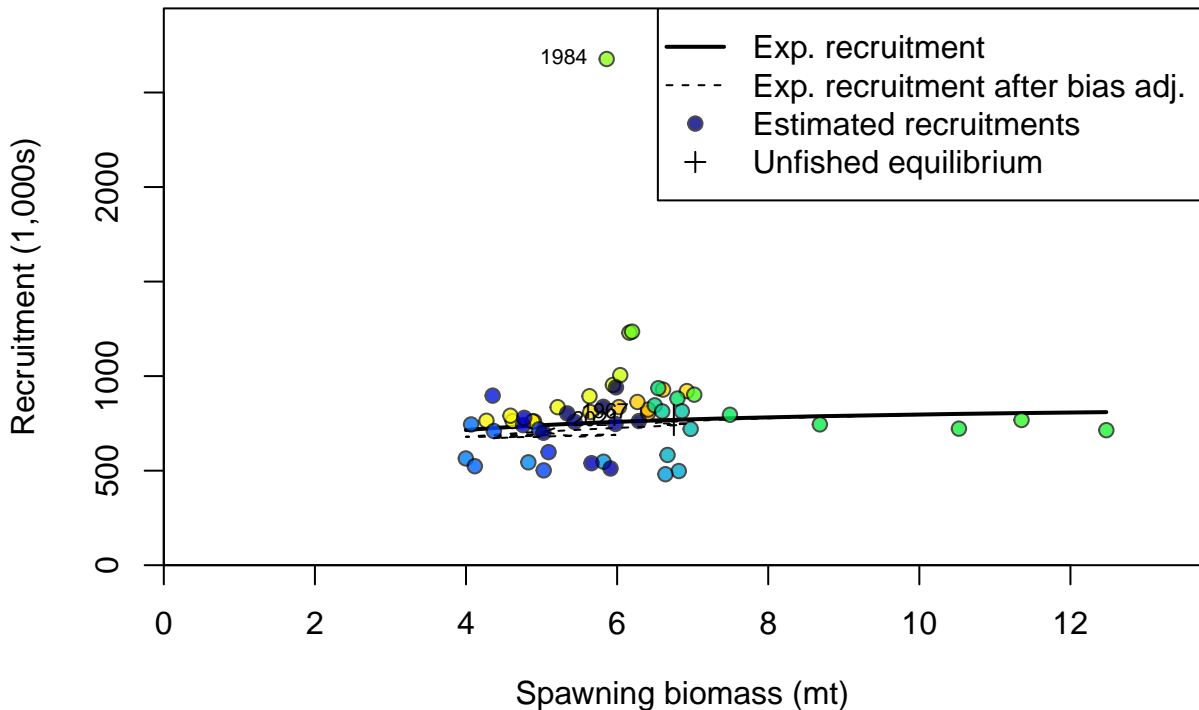
Asymptotic standard error estimate











Log recruitment deviation

1984

2021

0.0

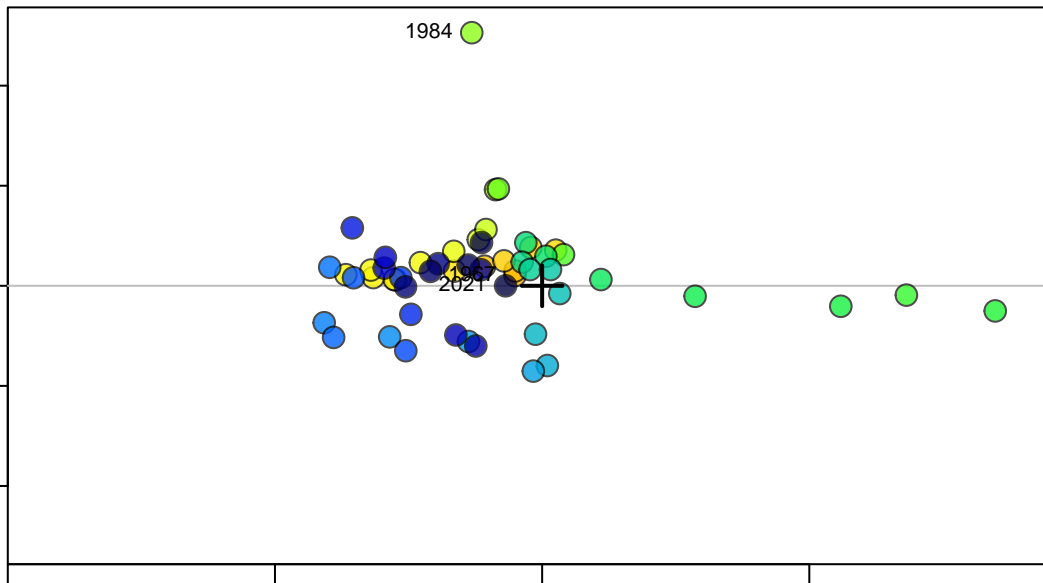
0.5

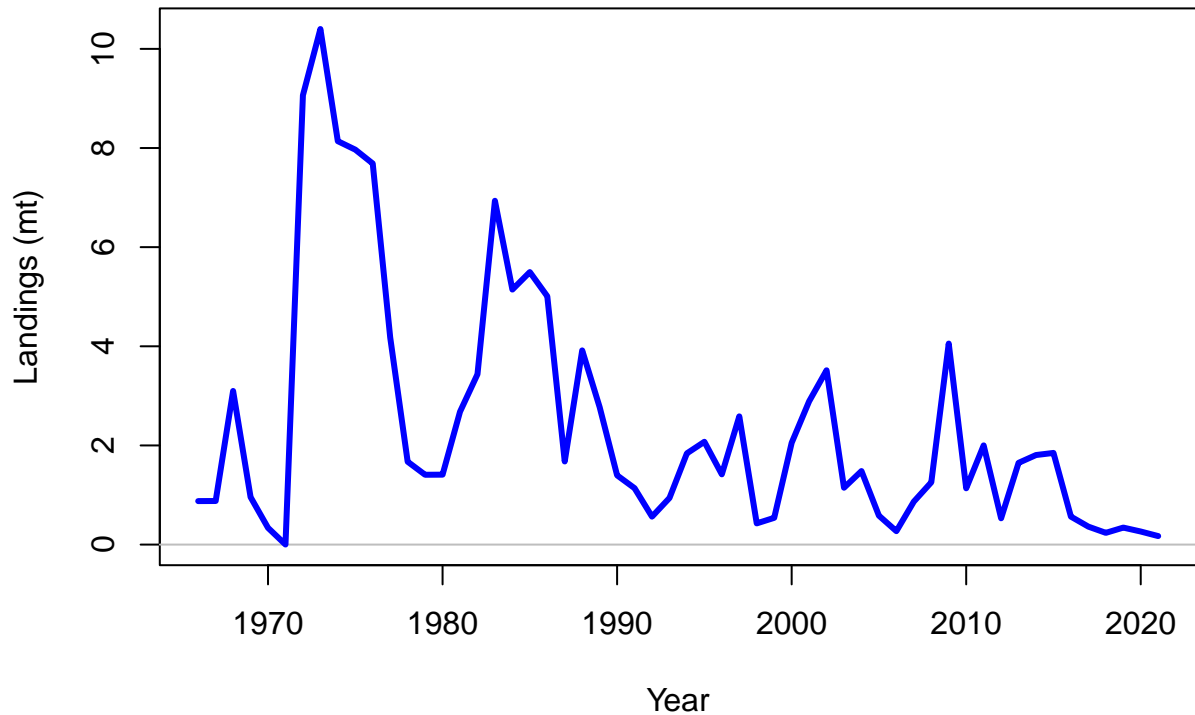
1.0

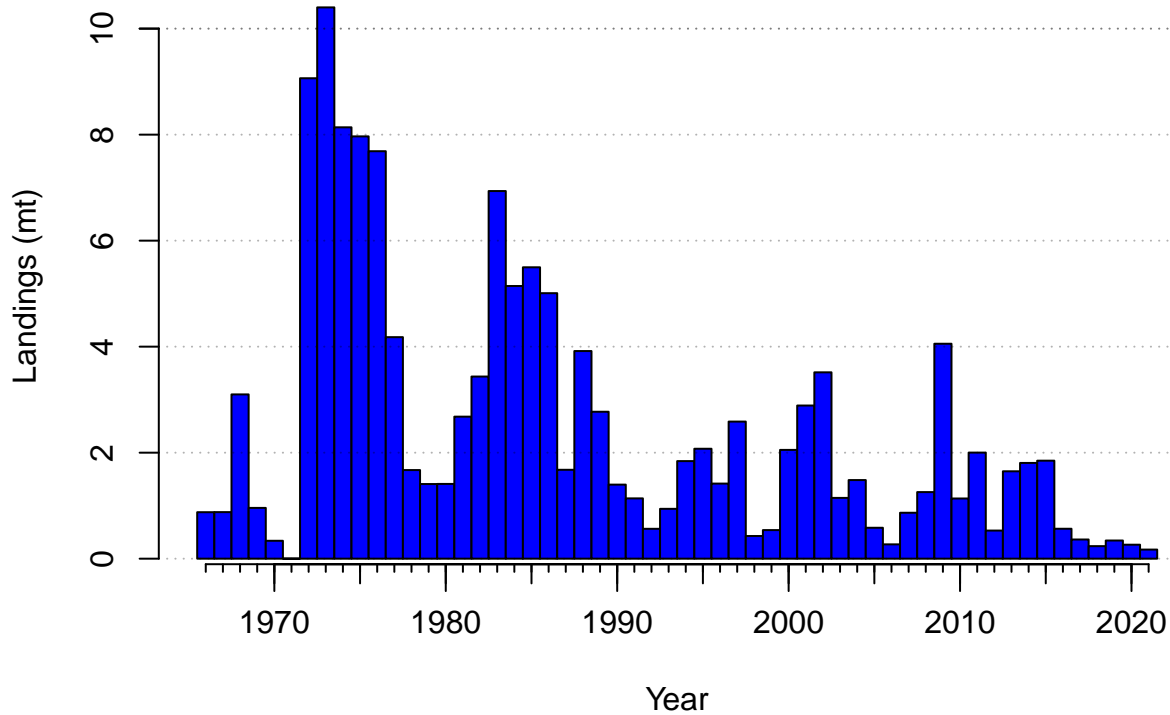
1.5

Spawning output (relative to  $B_0$ )

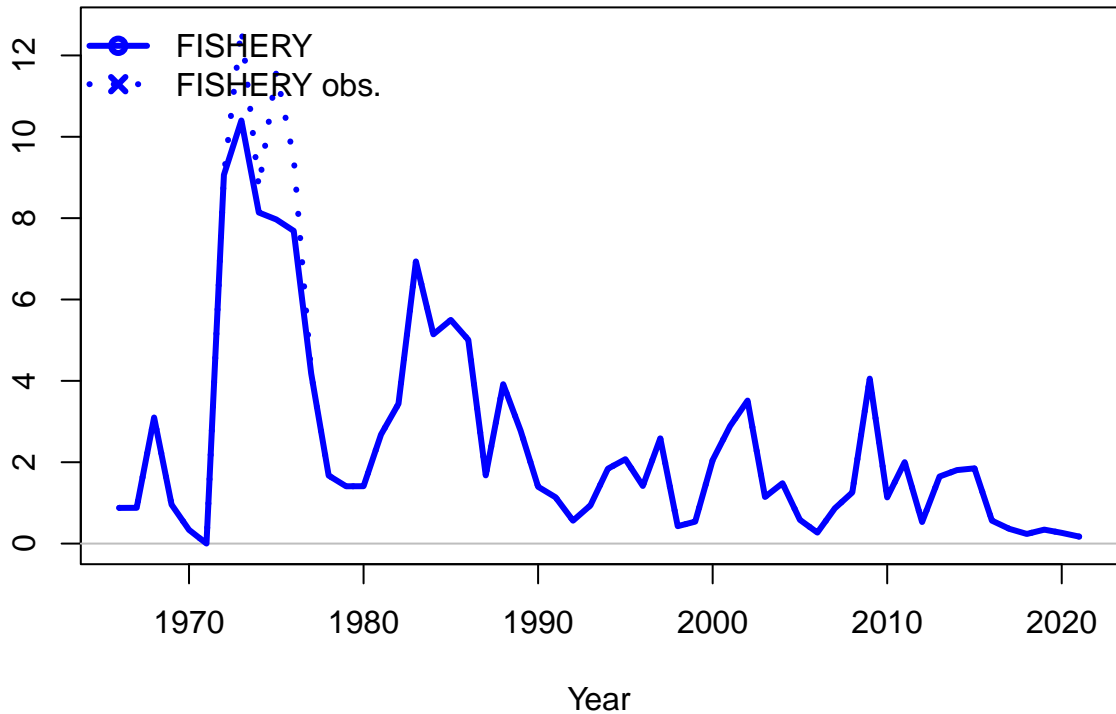
1.0  
0.5  
0.0  
-0.5  
-1.0

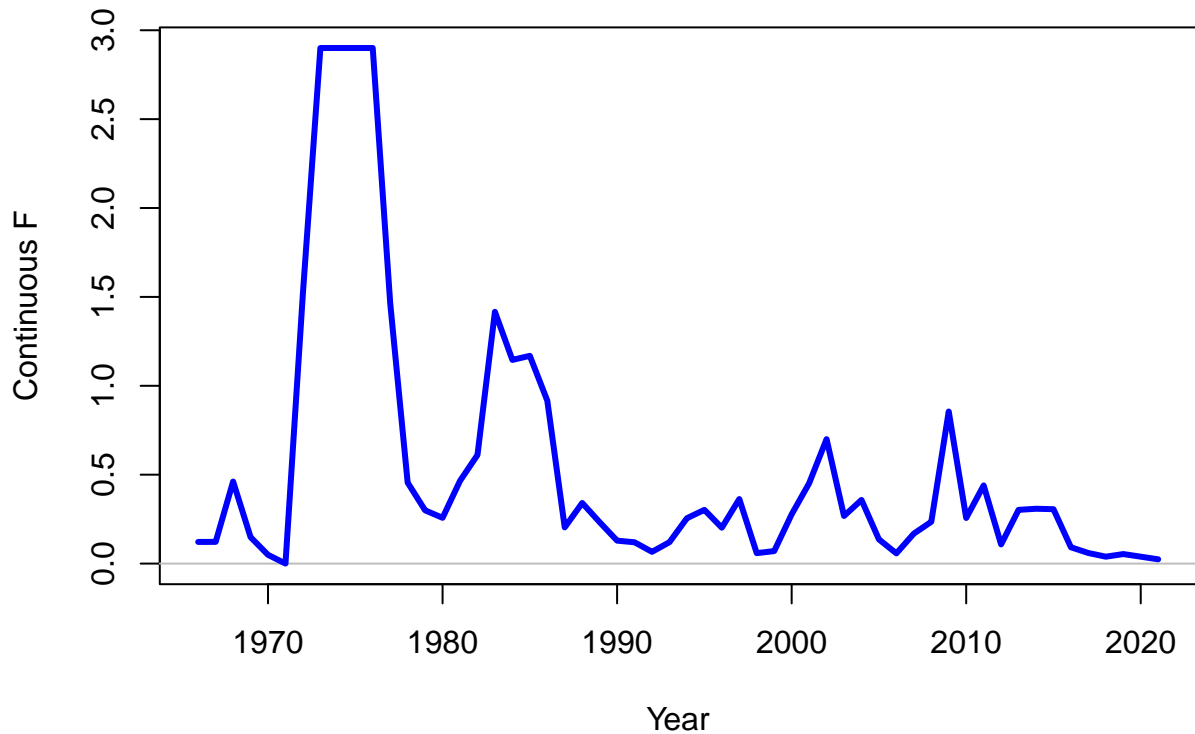




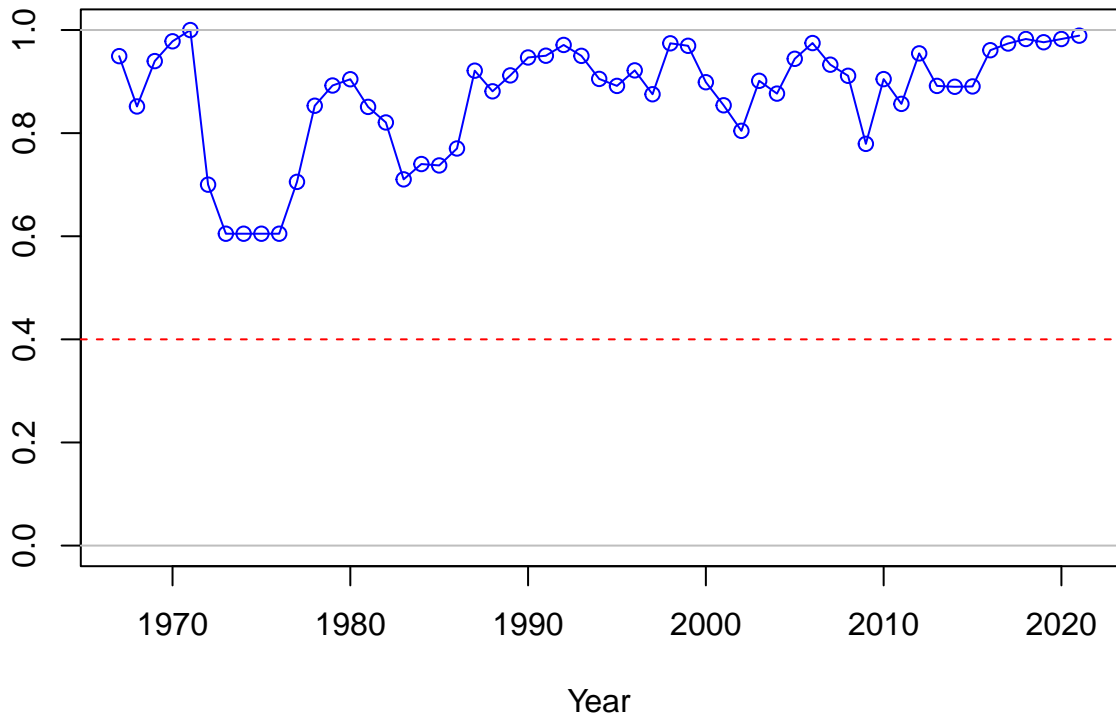


Observed and expected Landings (mt)

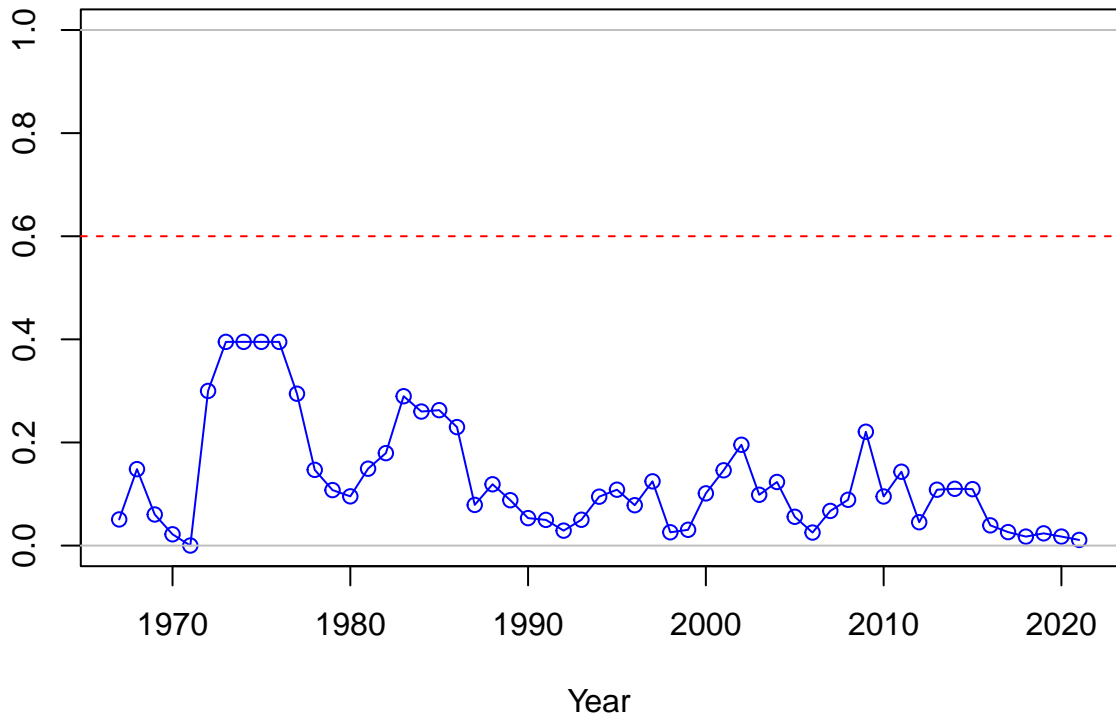




SPR

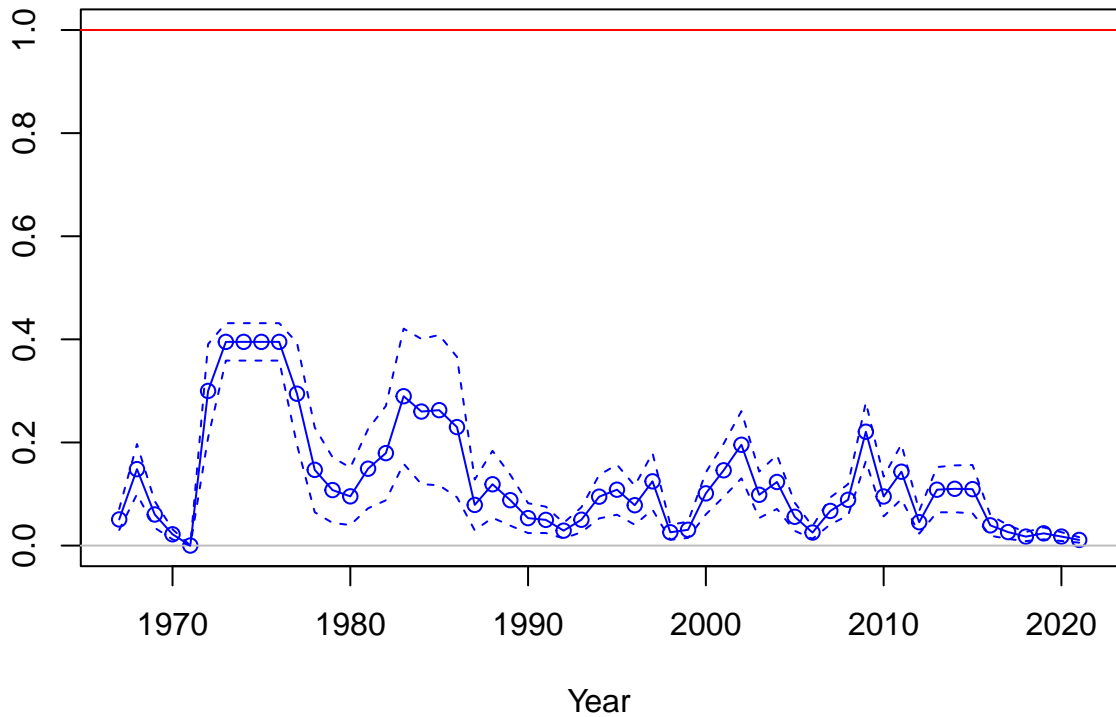


1-SPR

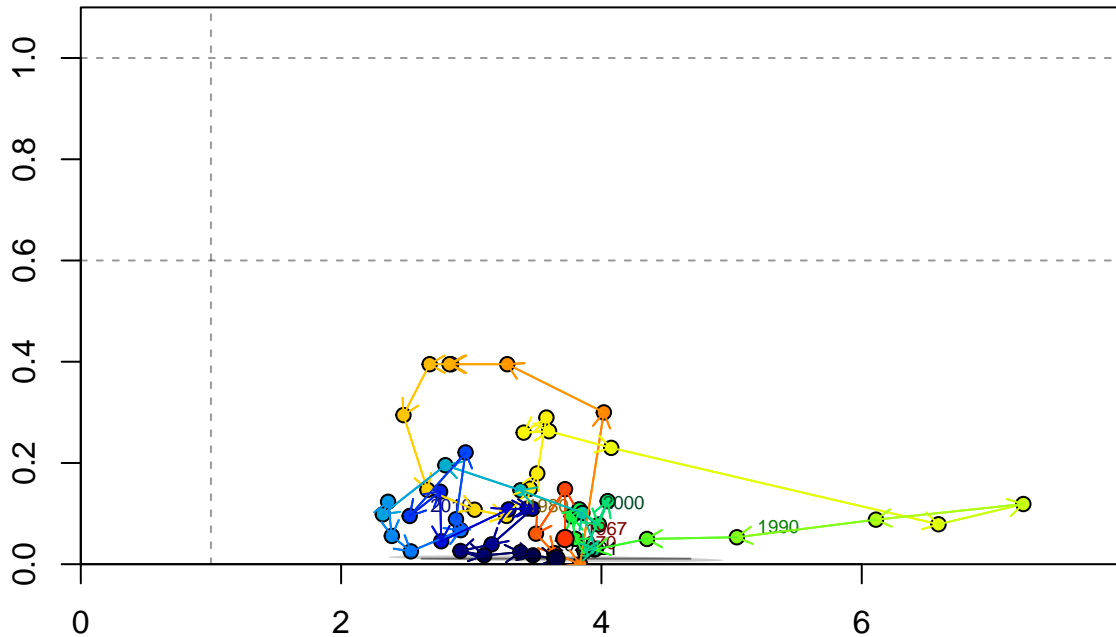




Fishing intensity: 1-SPR



Fishing intensity: 1-SPR



Relative spawning output: B/B\_MS

Index

80  
60  
40  
20  
0

1990

1995

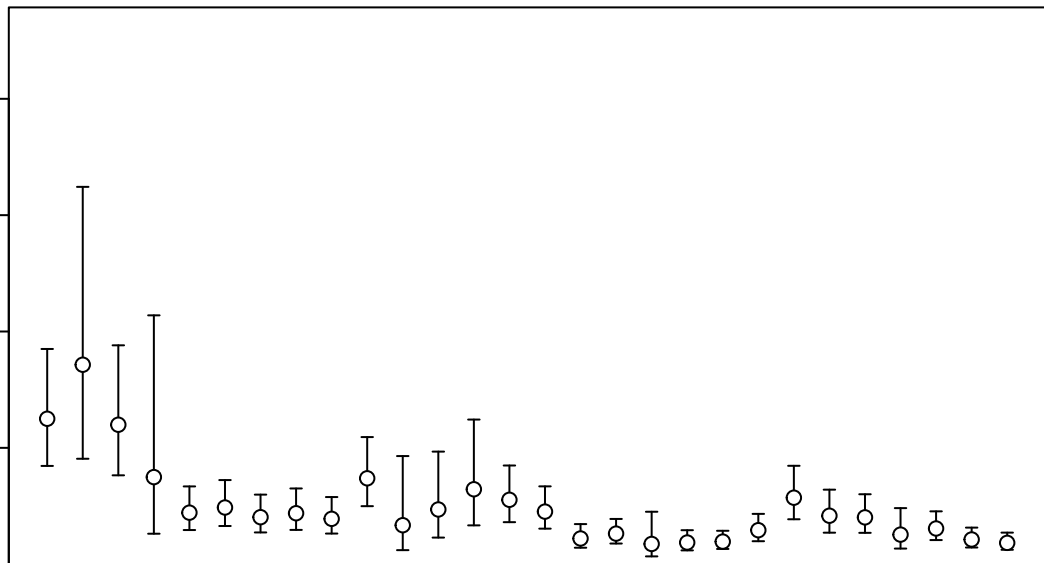
2000

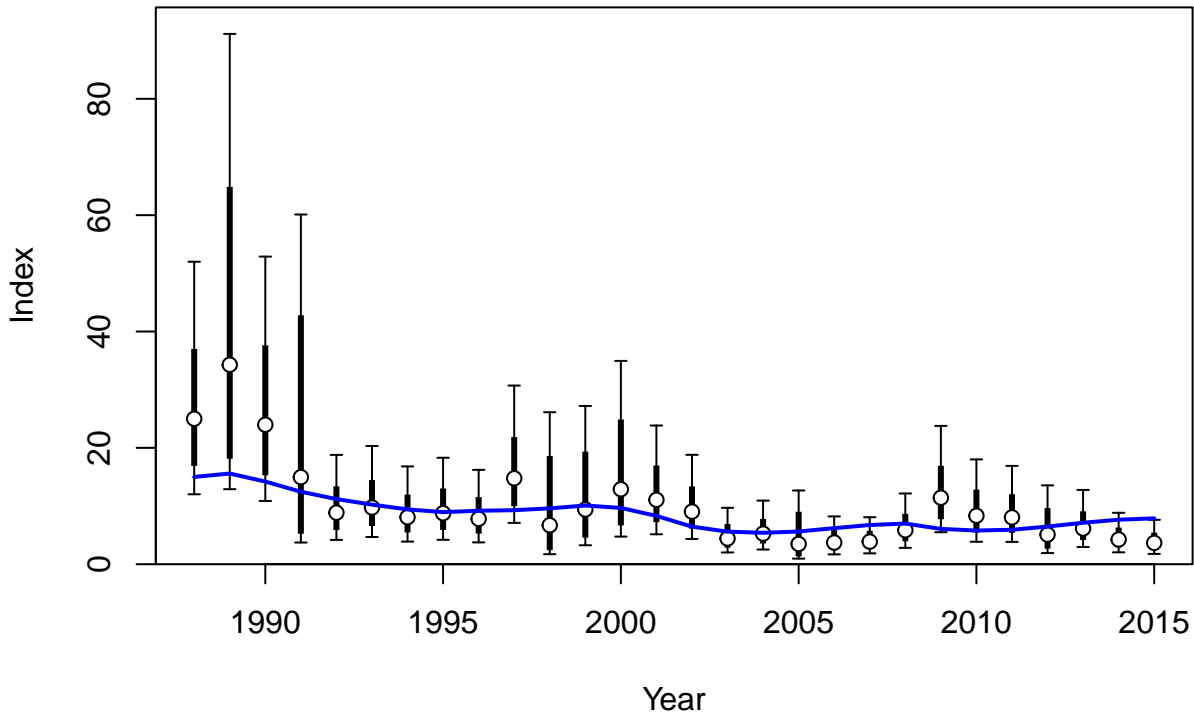
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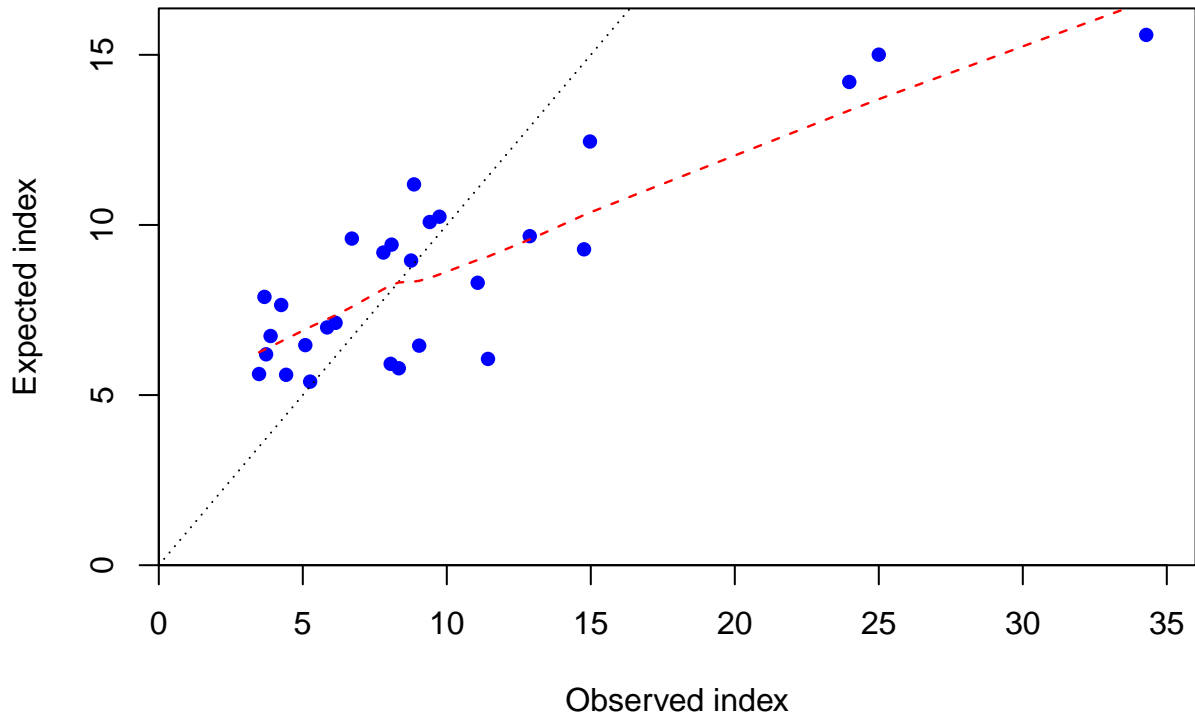
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2015

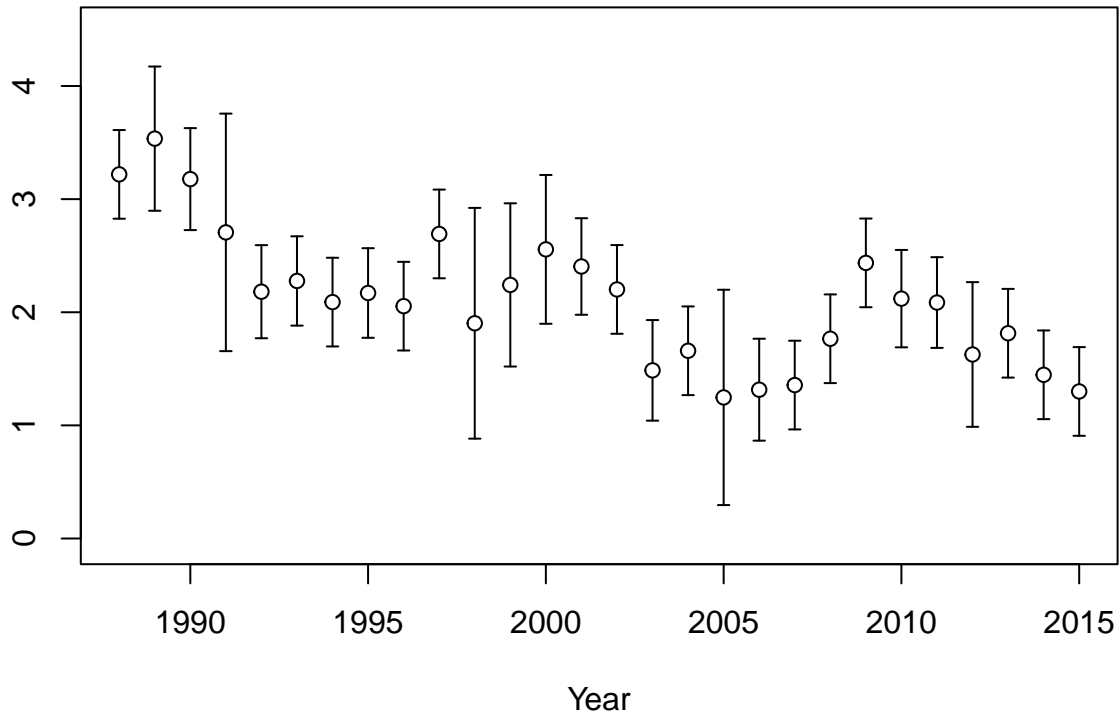
Year

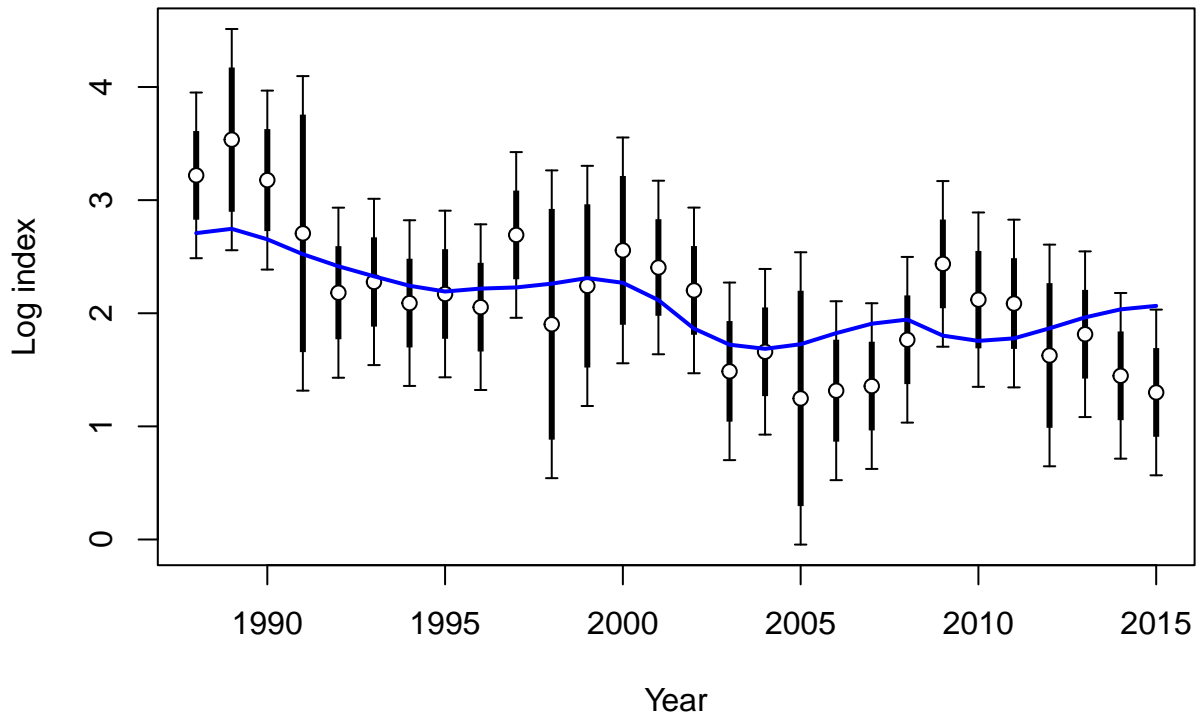


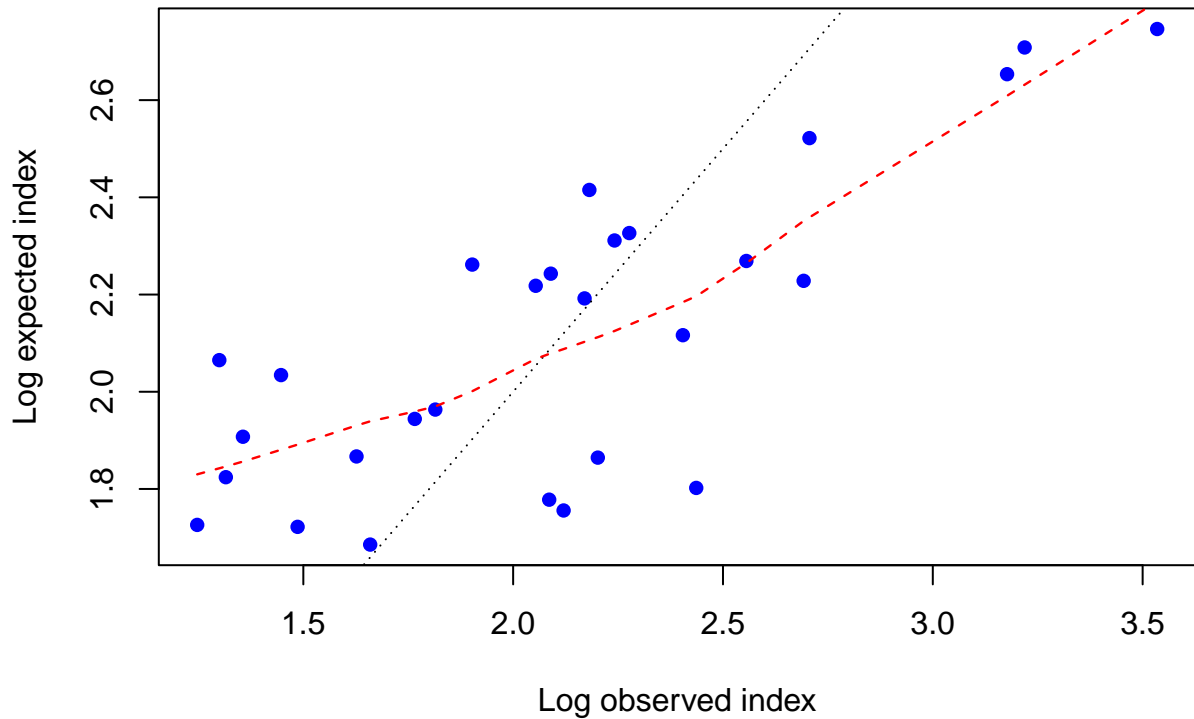




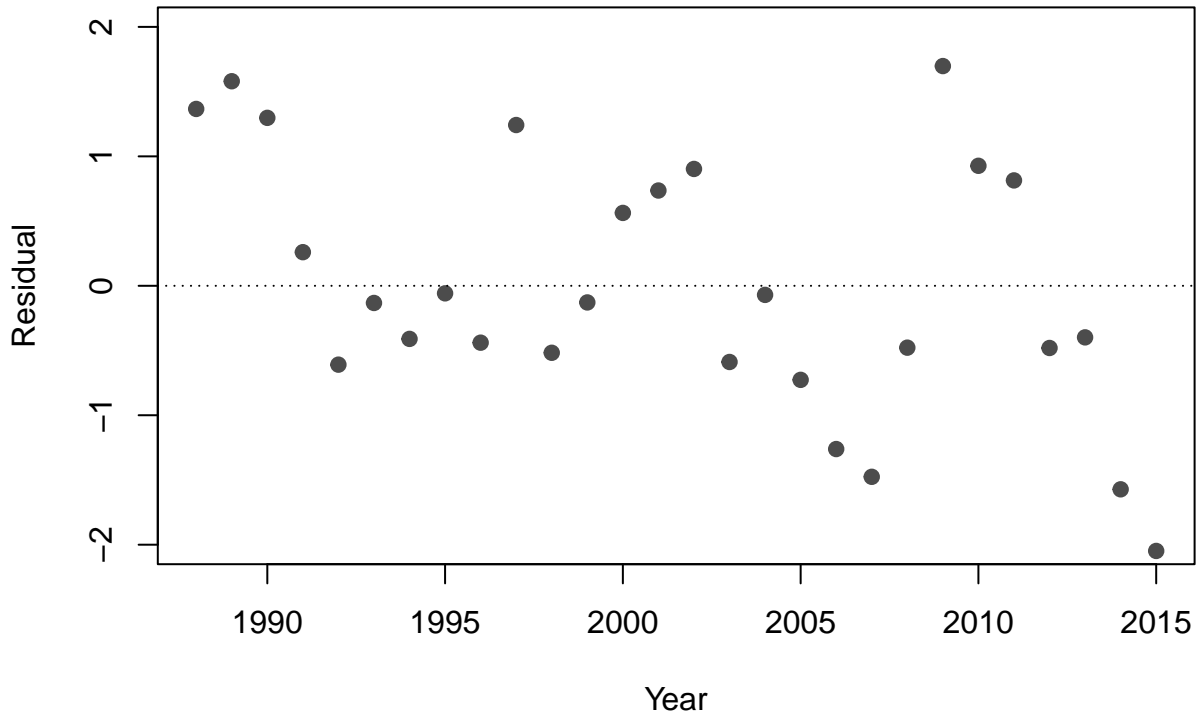
Log index

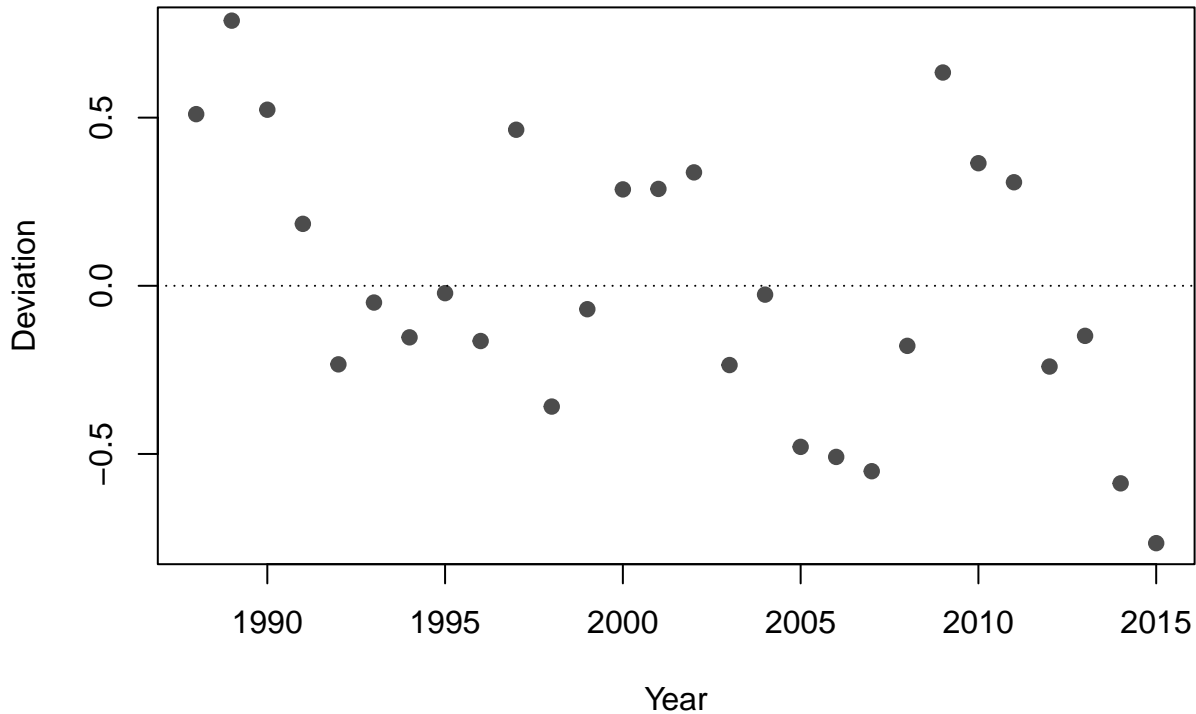












Index

4  
3  
2  
1  
0

2016

2017

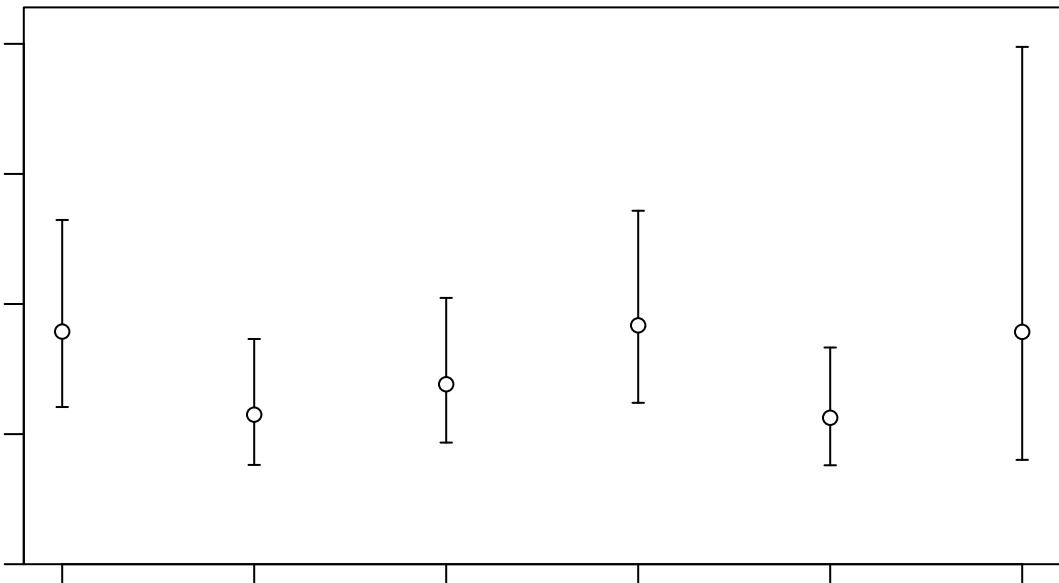
2018

2019

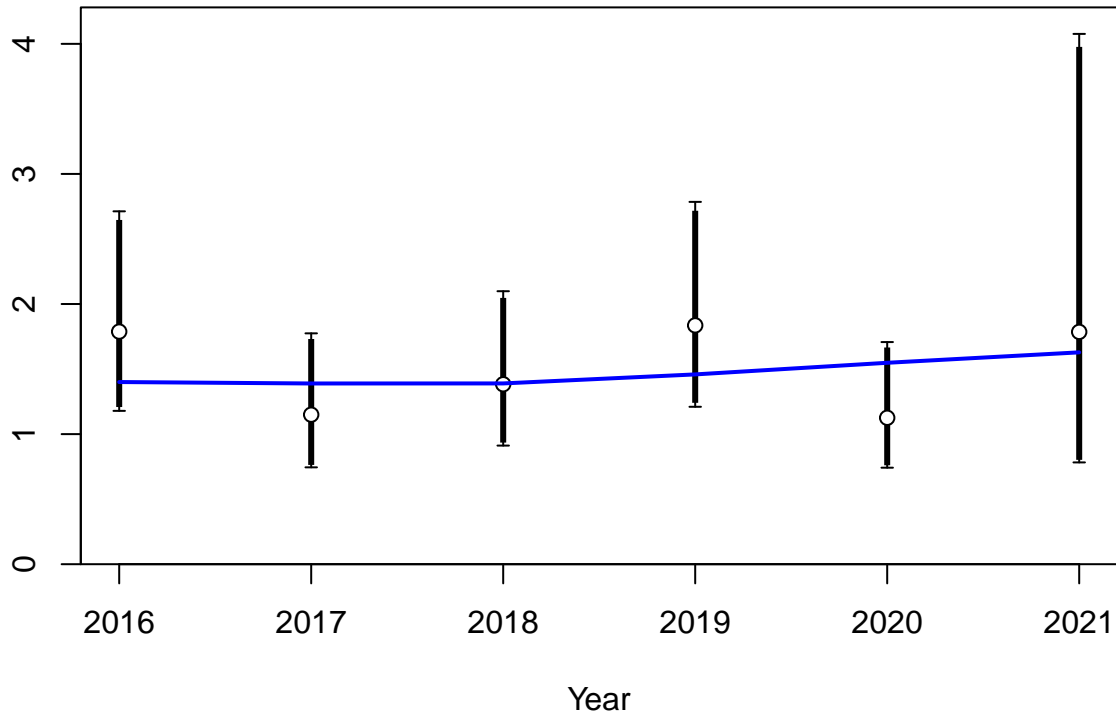
2020

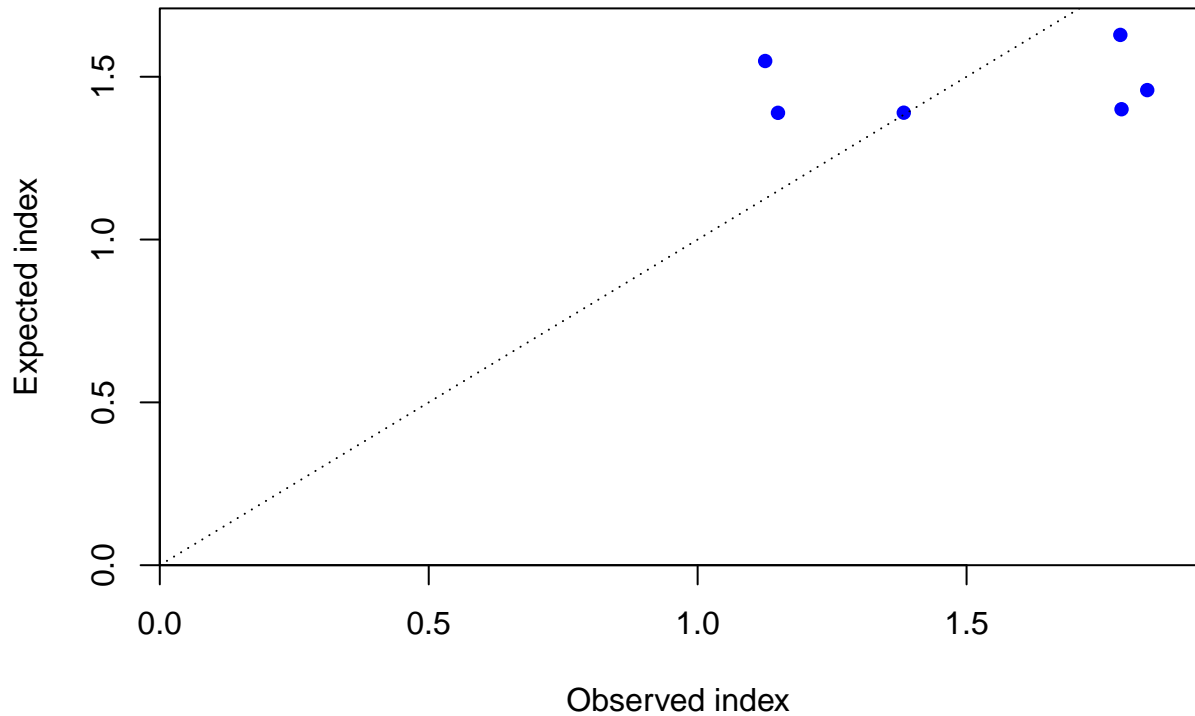
2021

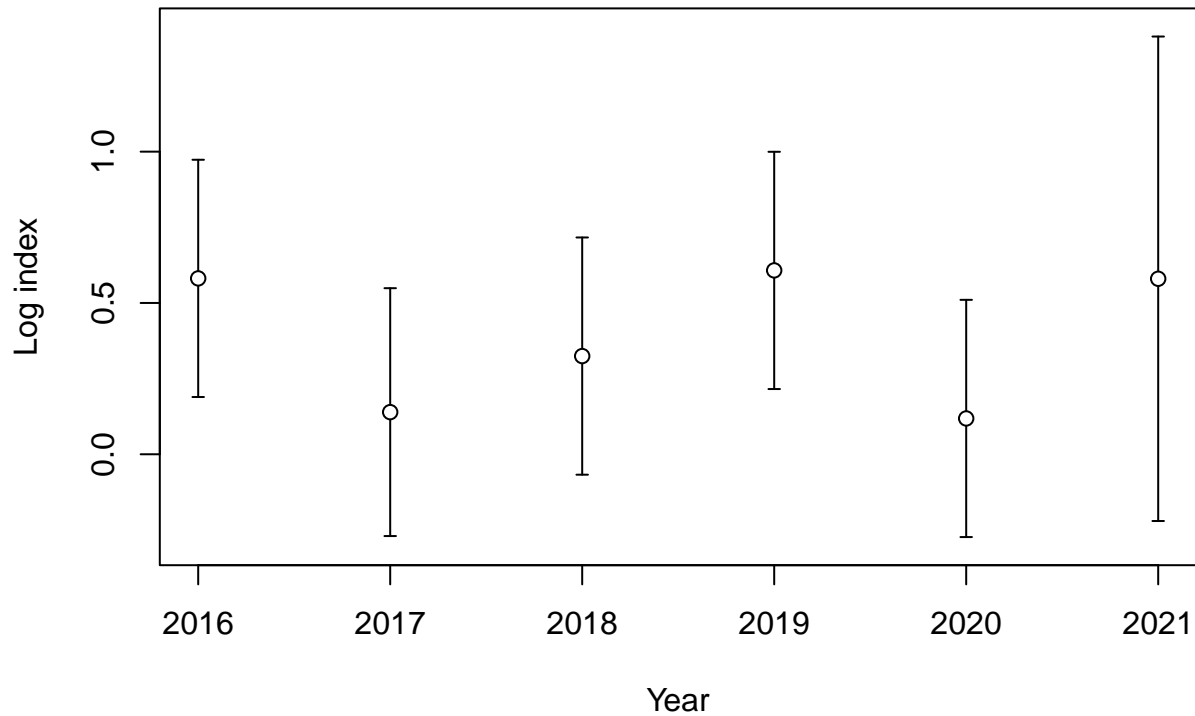
Year

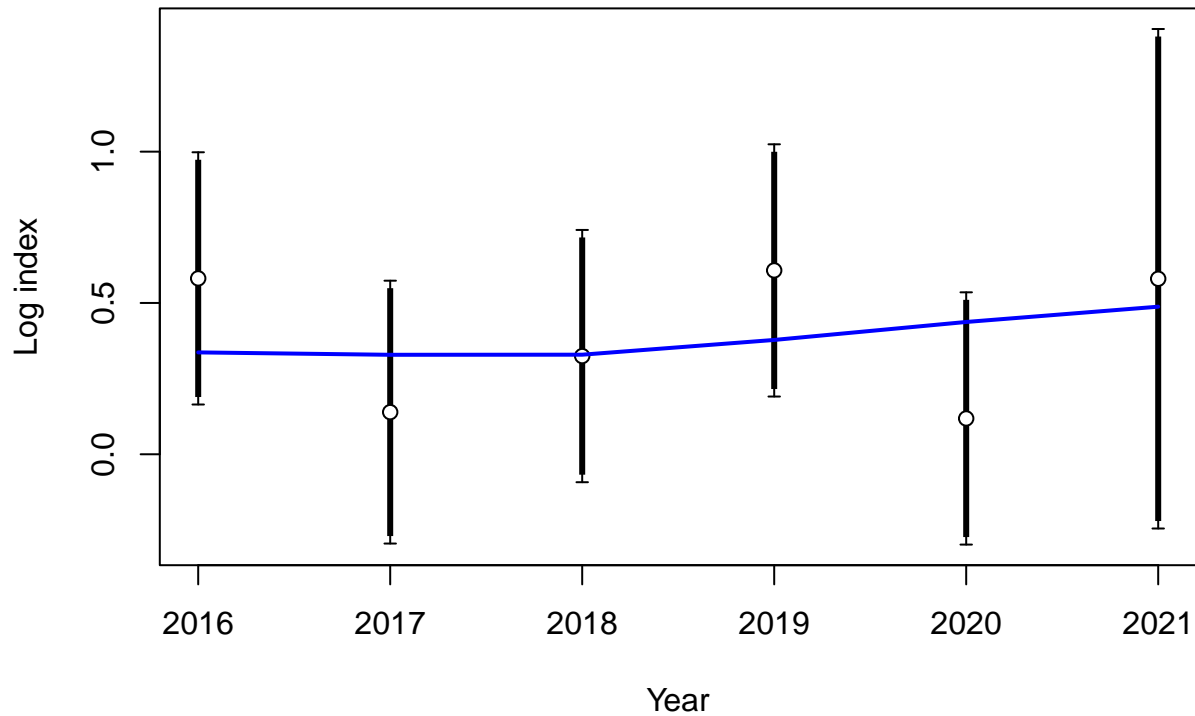


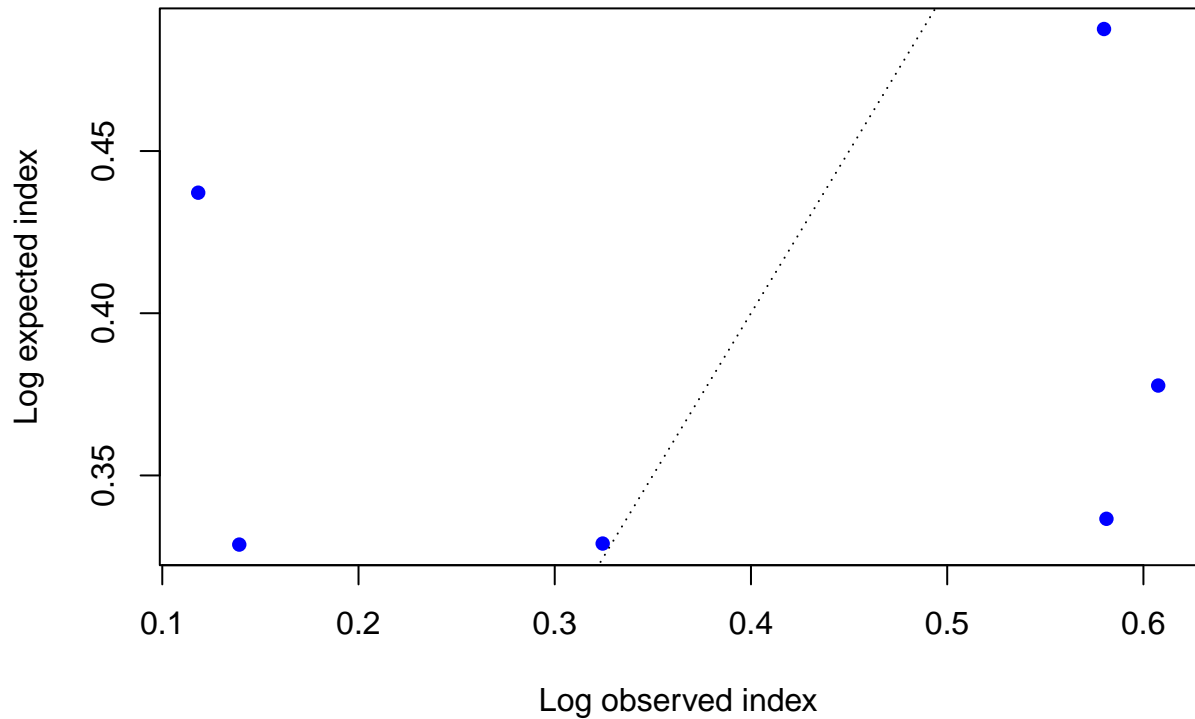
Index



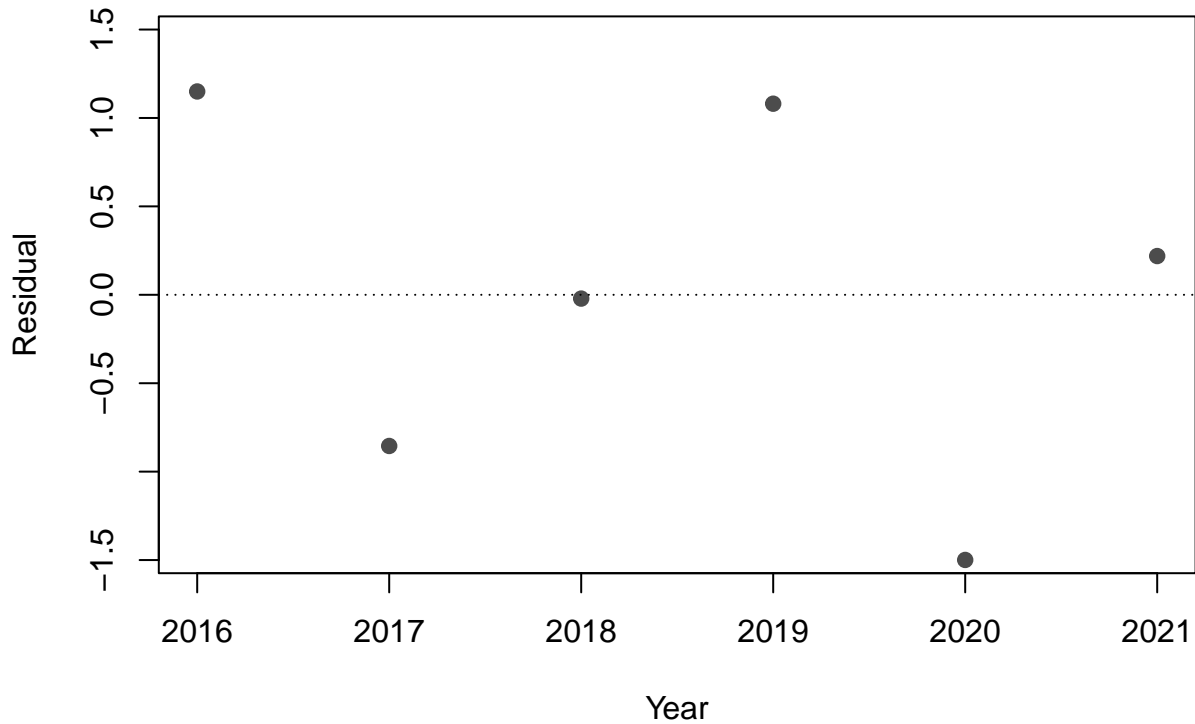


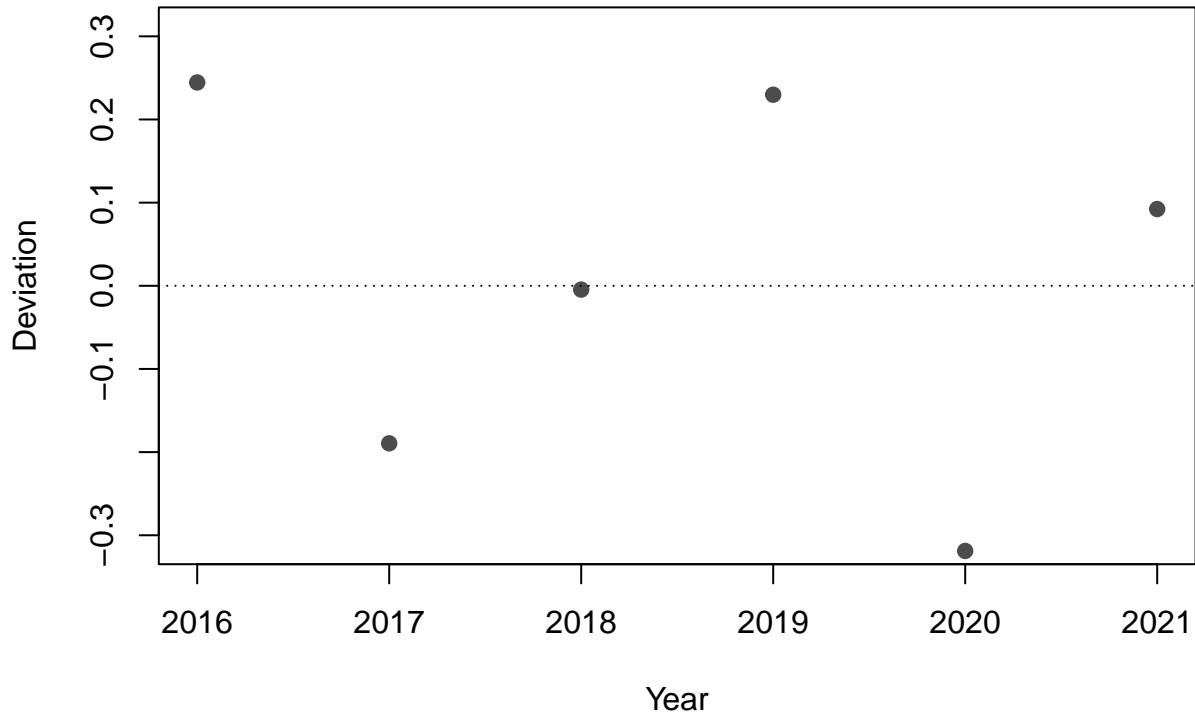


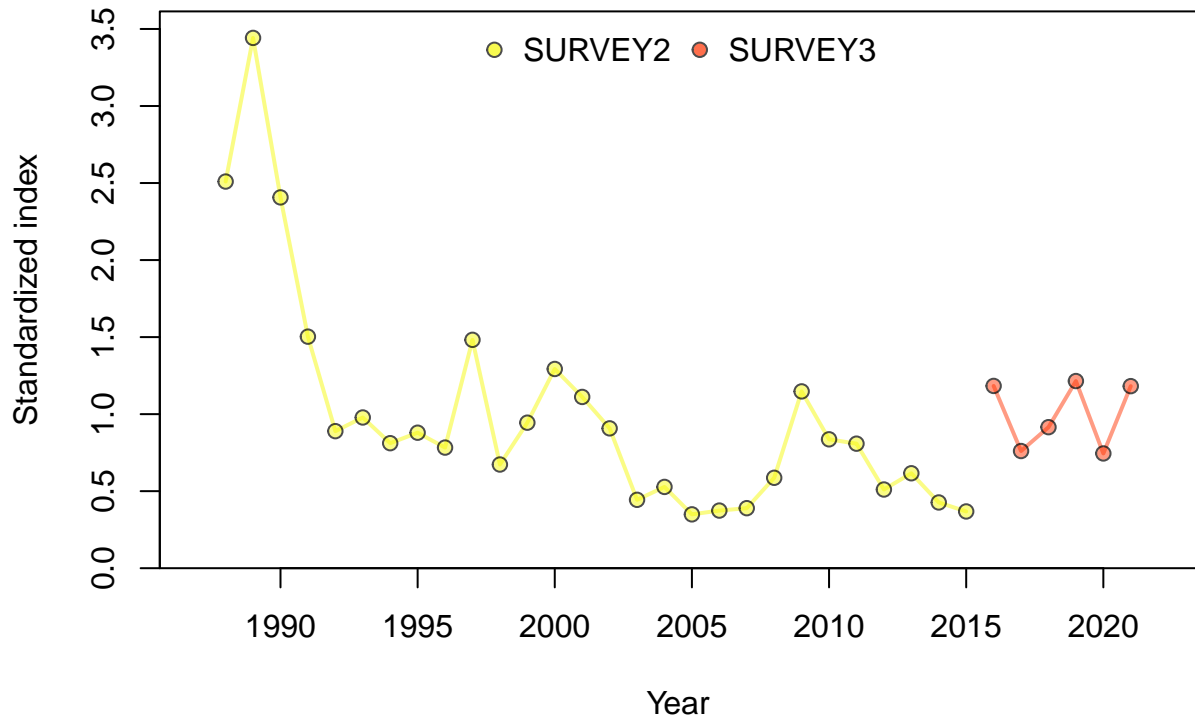




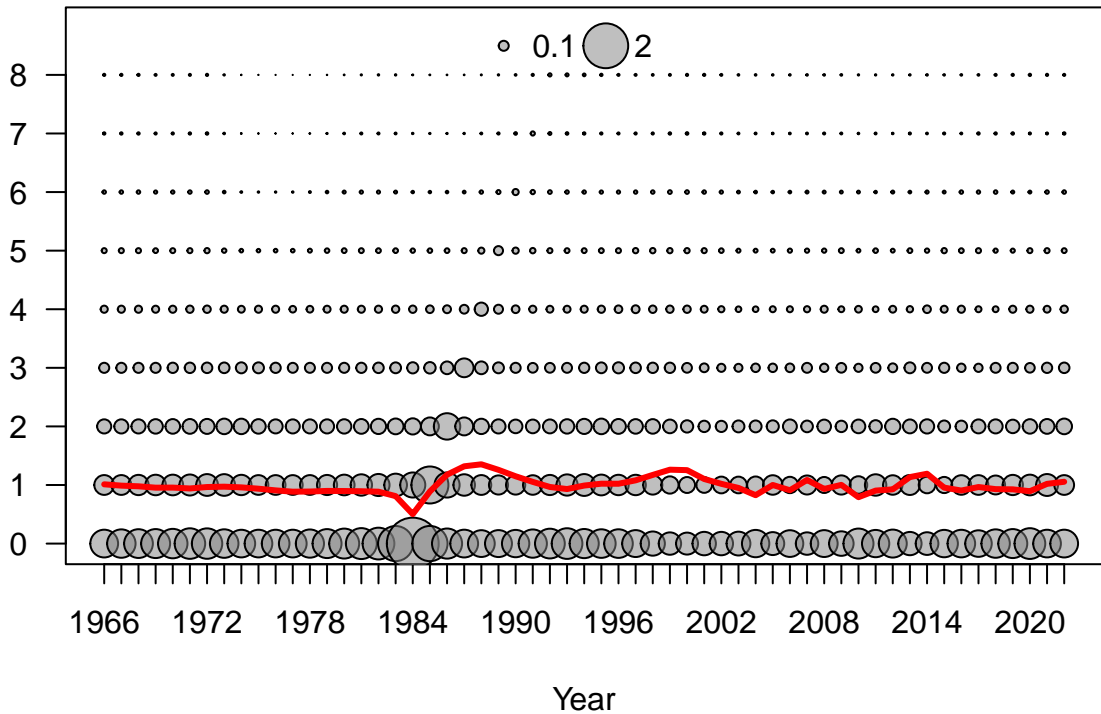




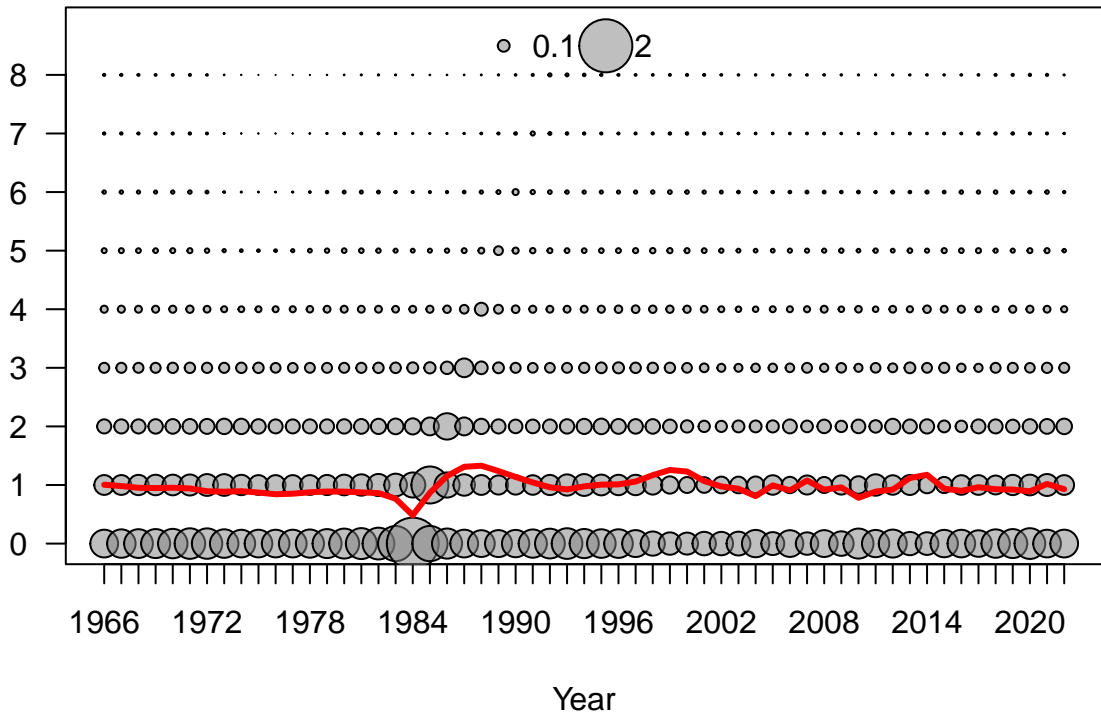


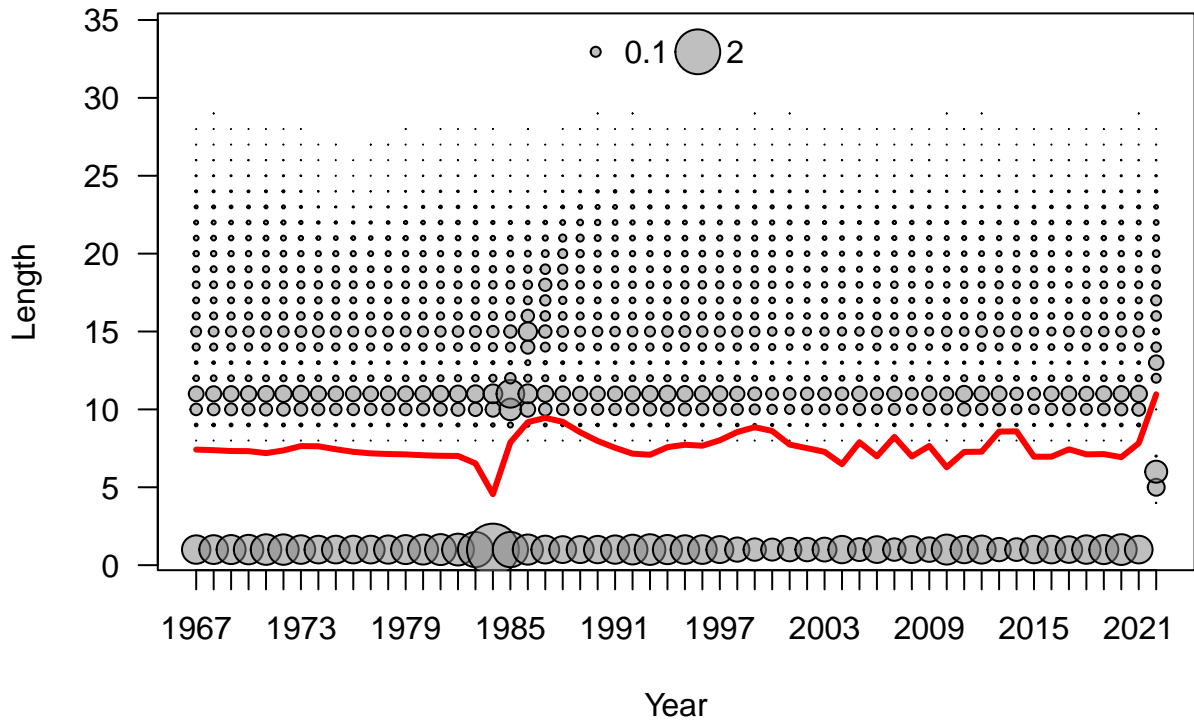


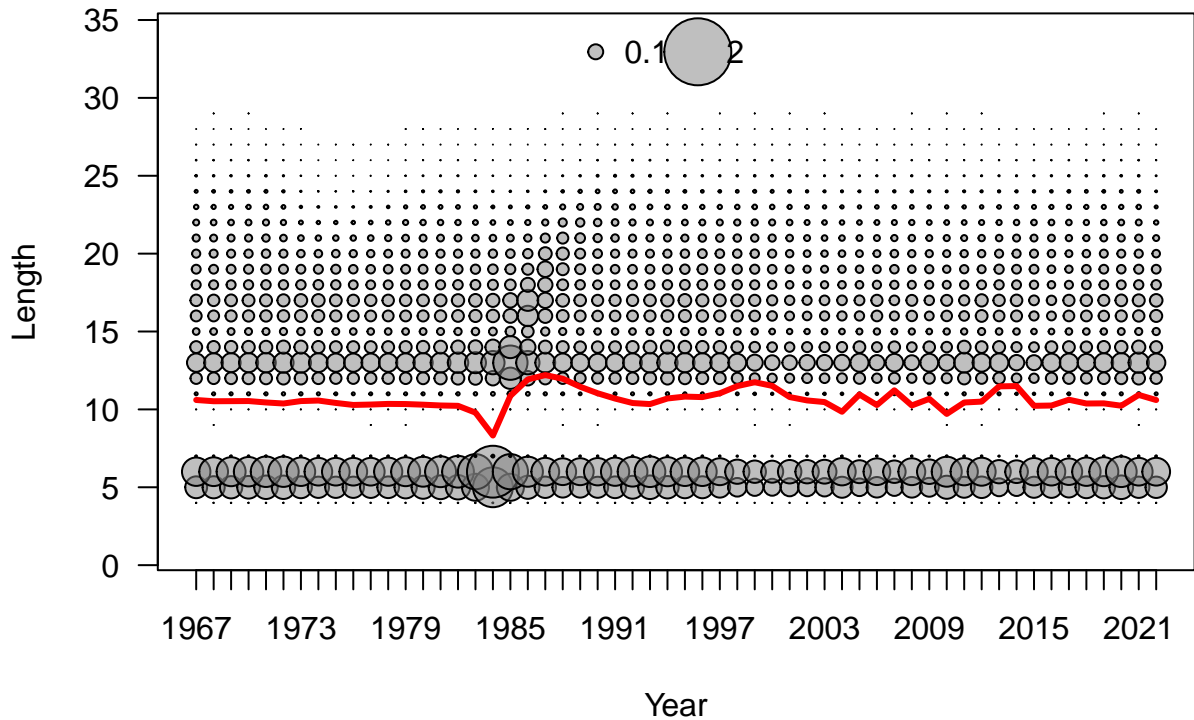
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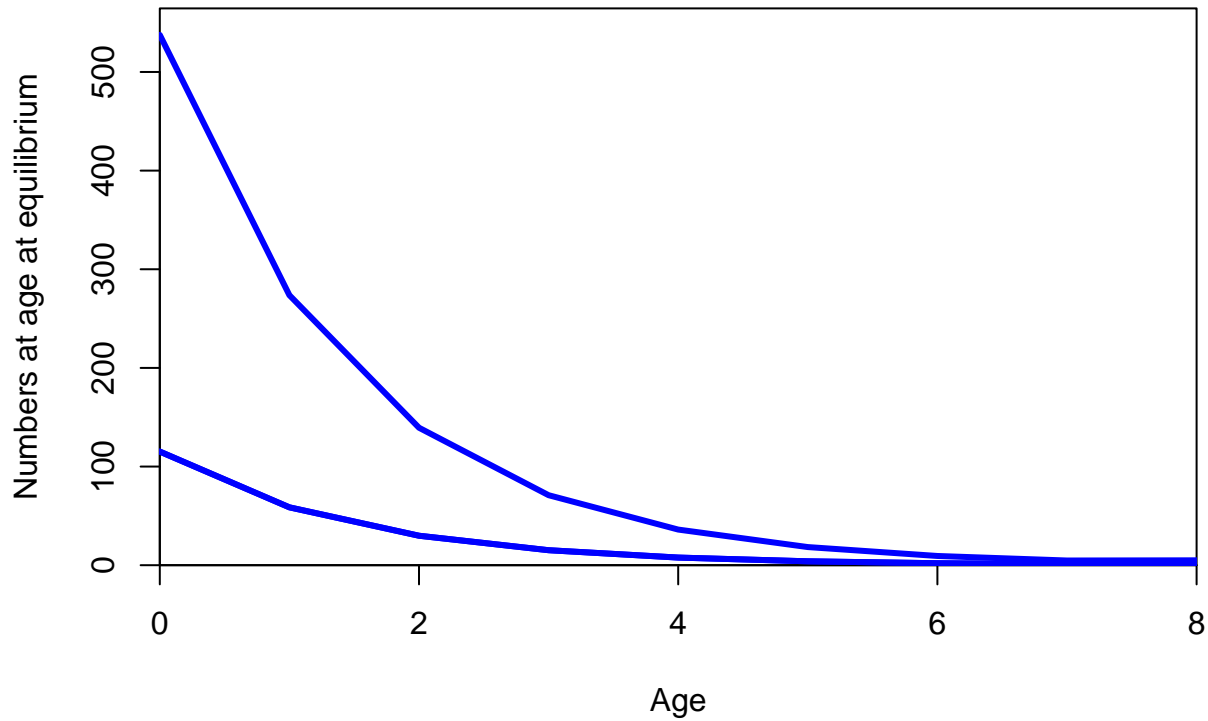


Age

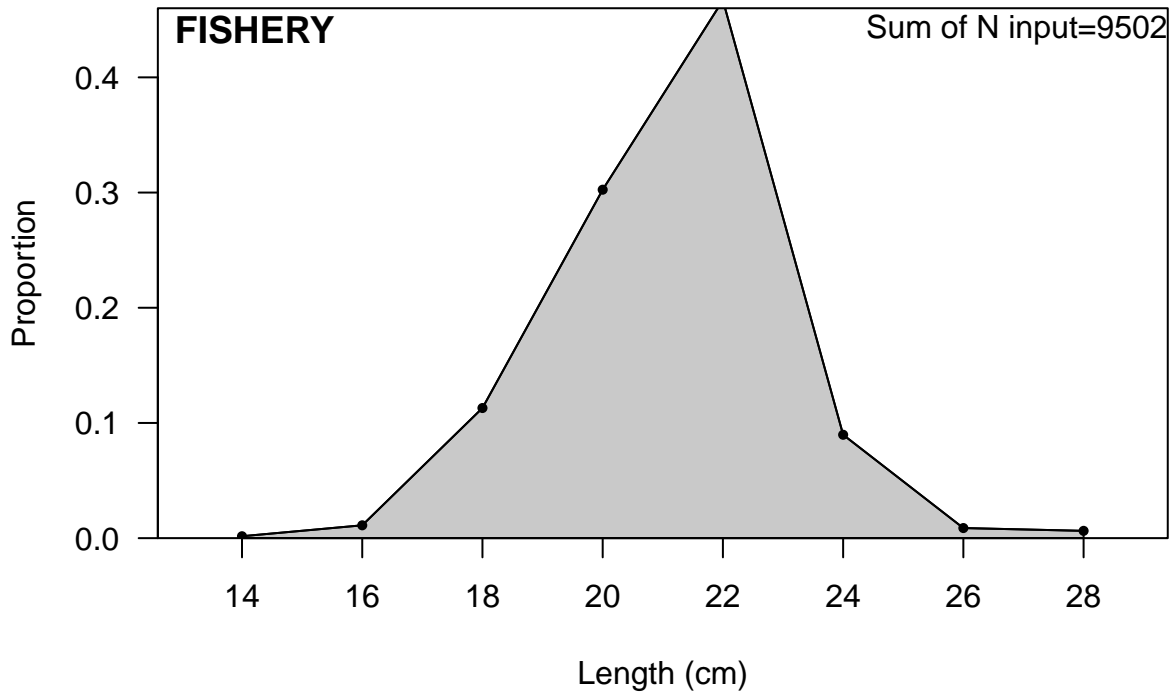


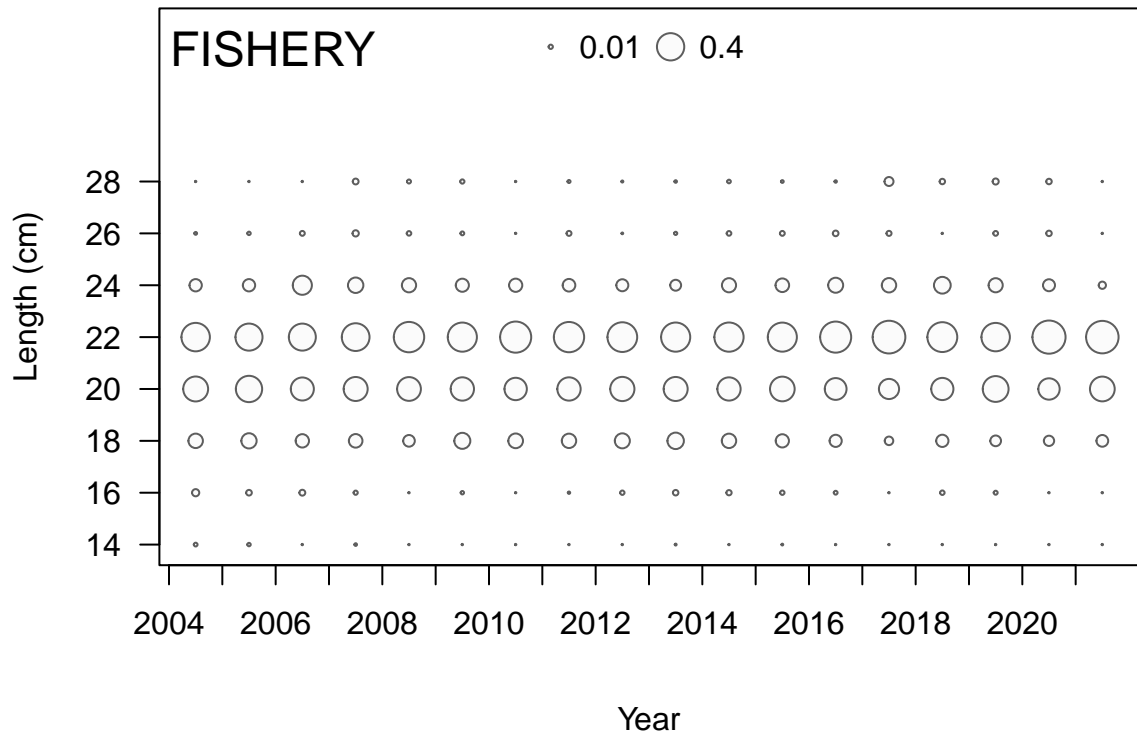




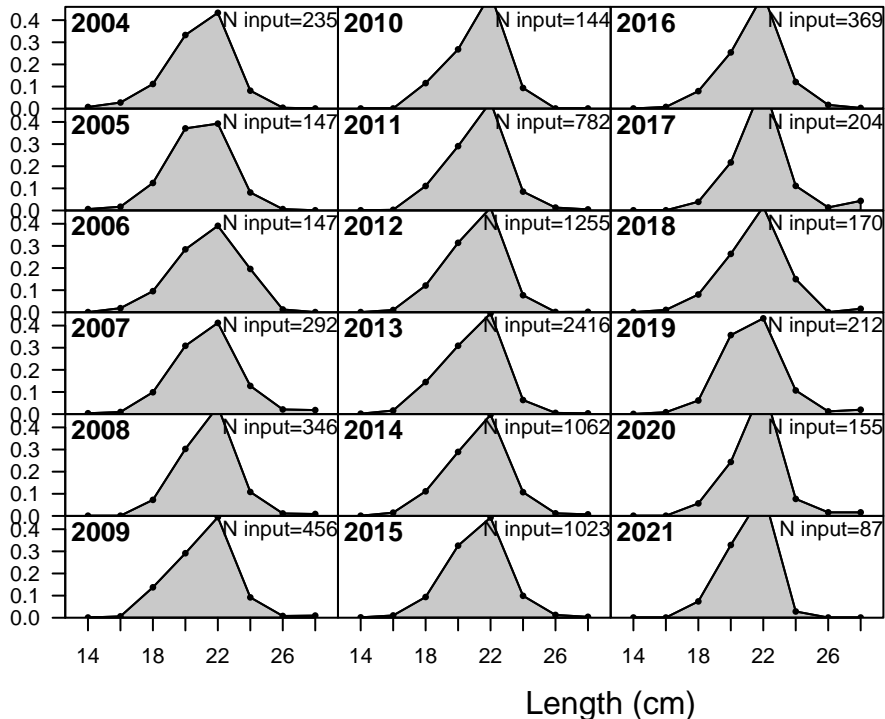


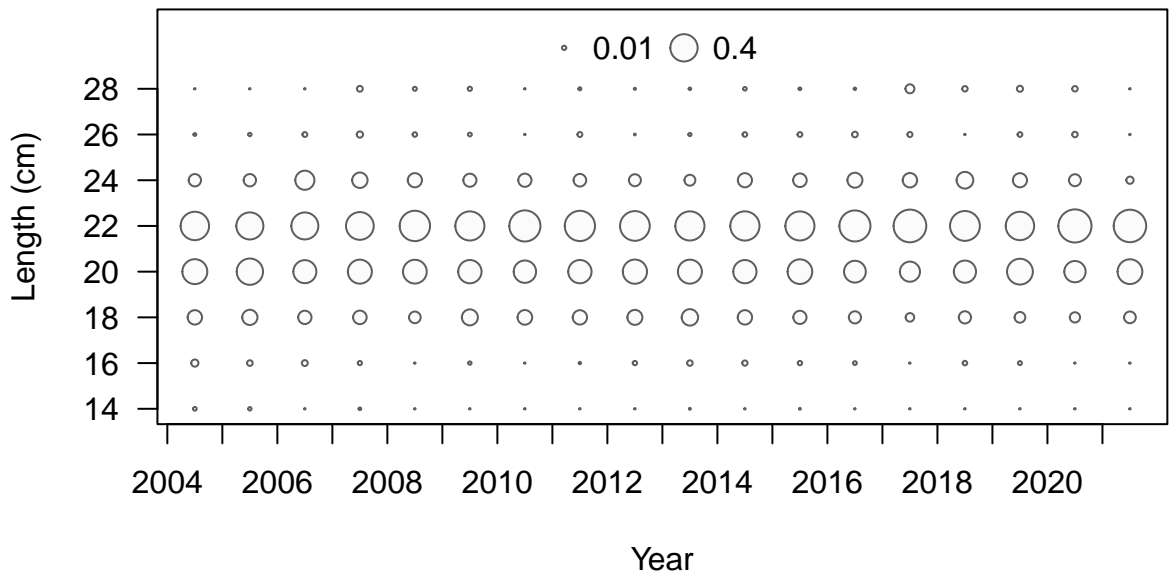




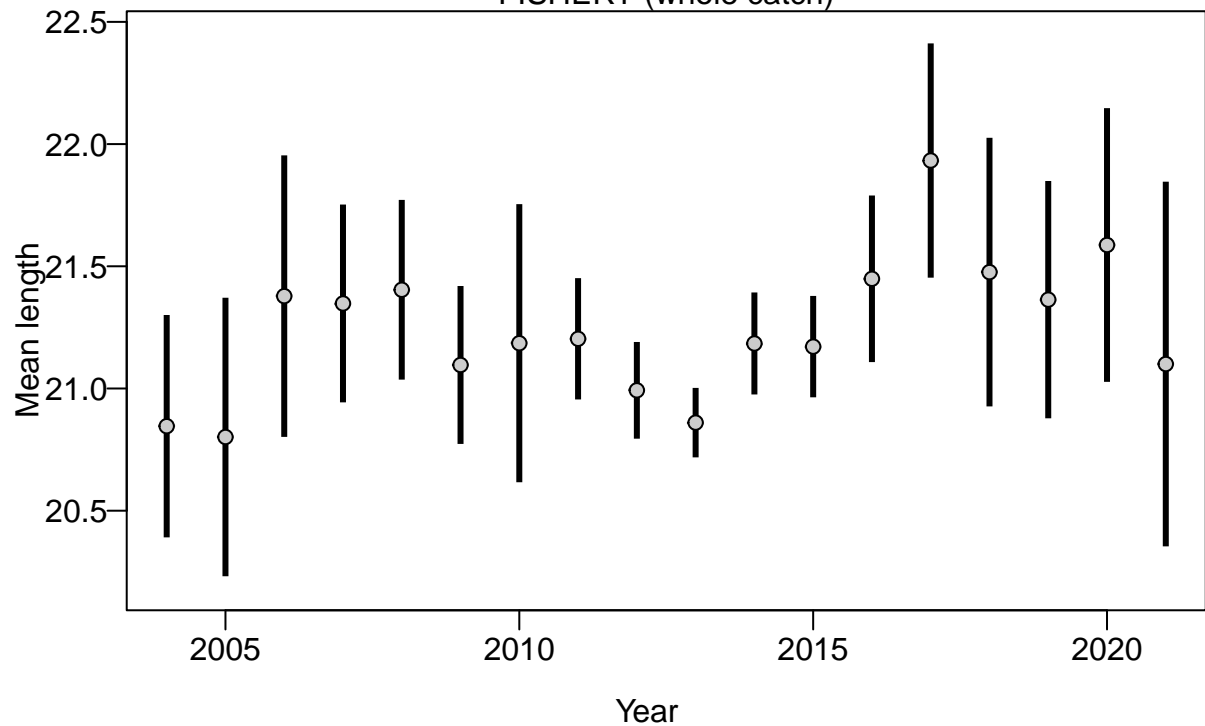


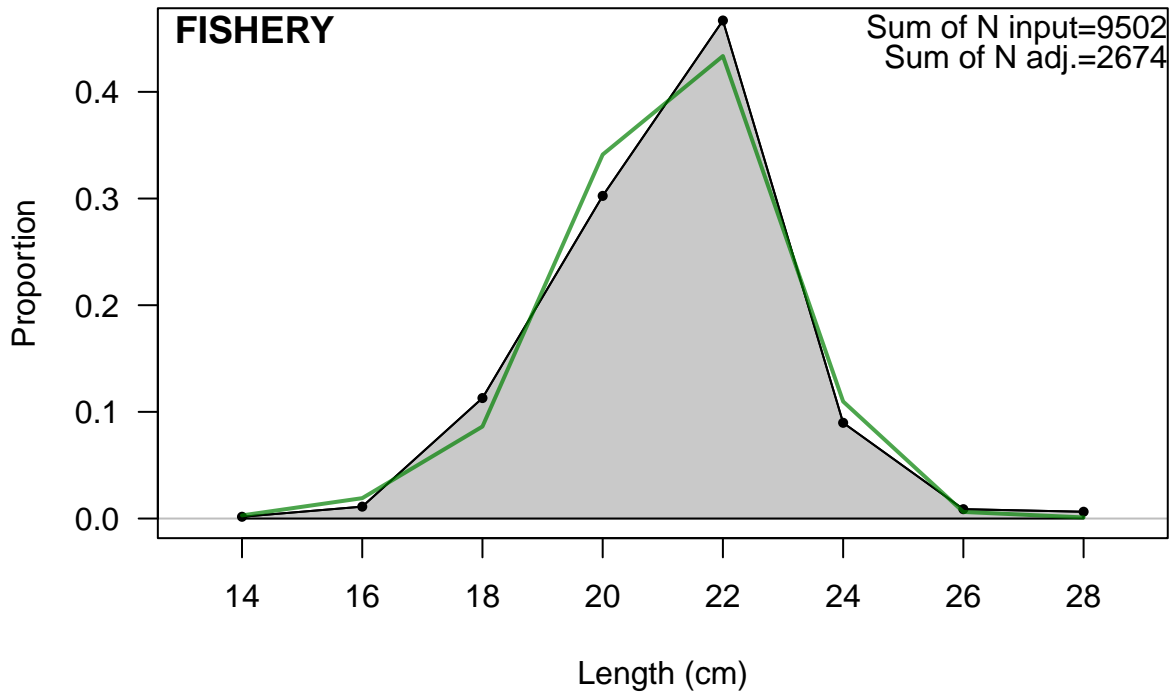
Proportion

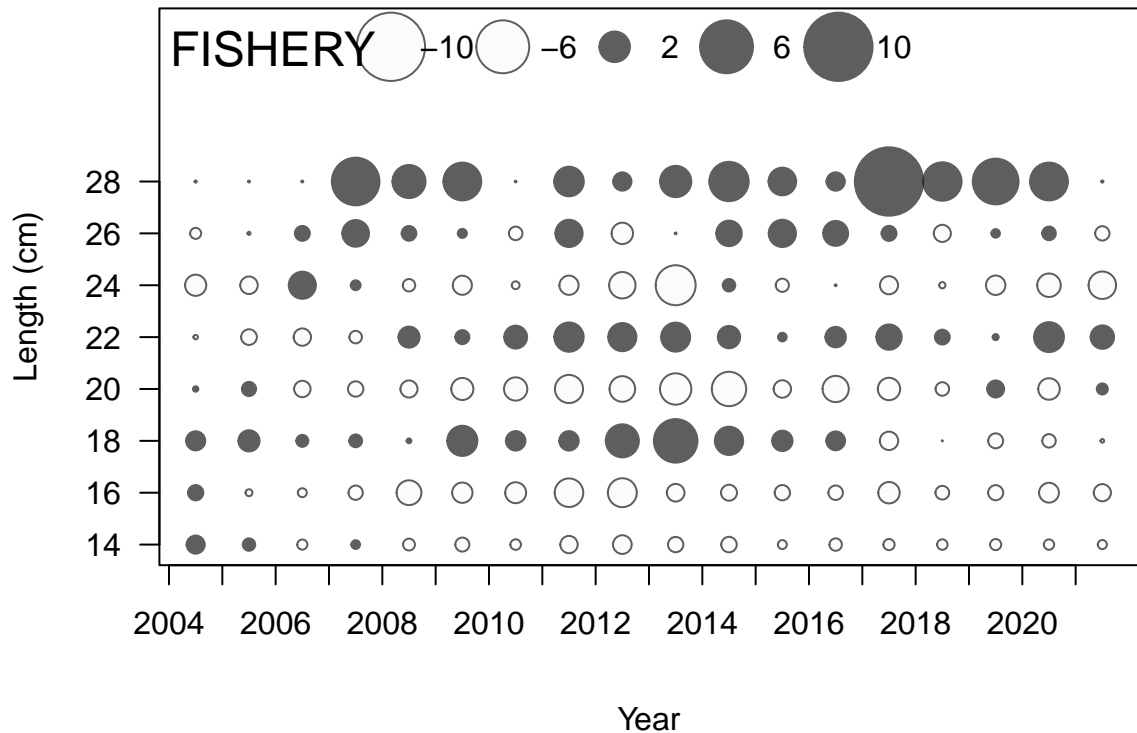




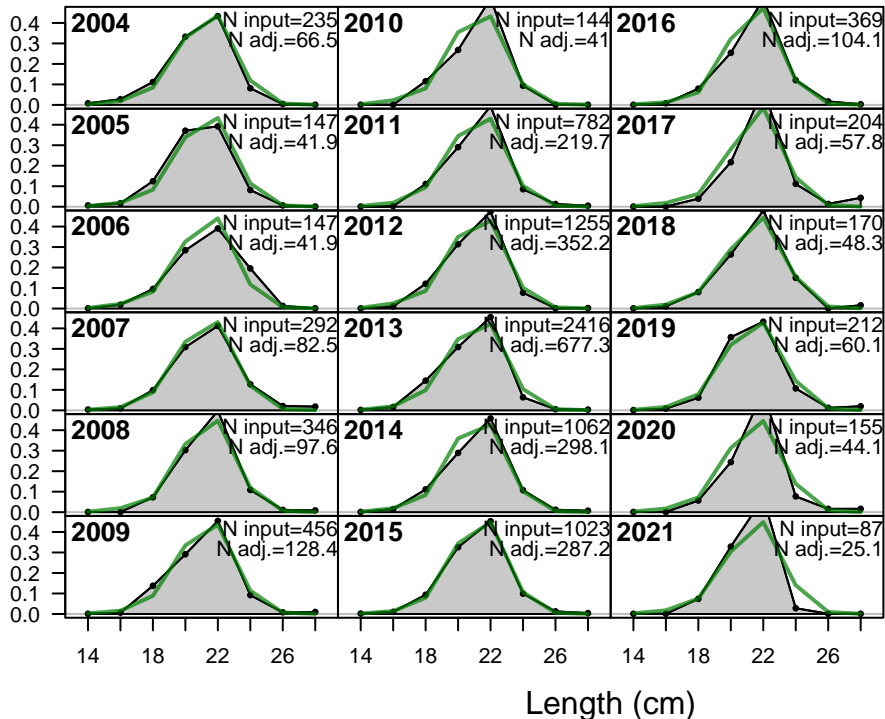
FISHERY (whole catch)



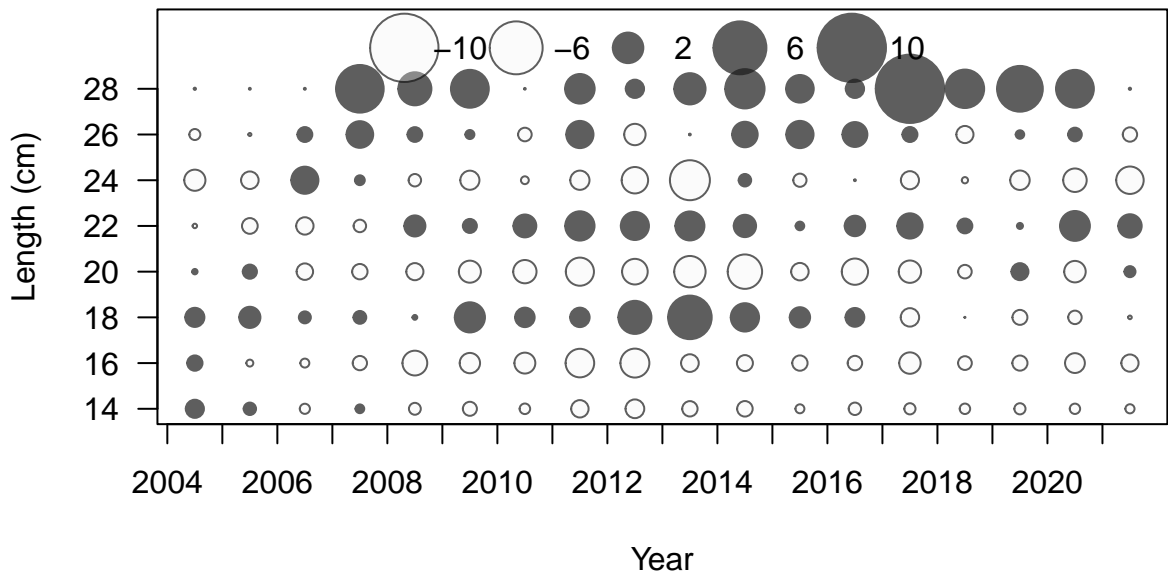




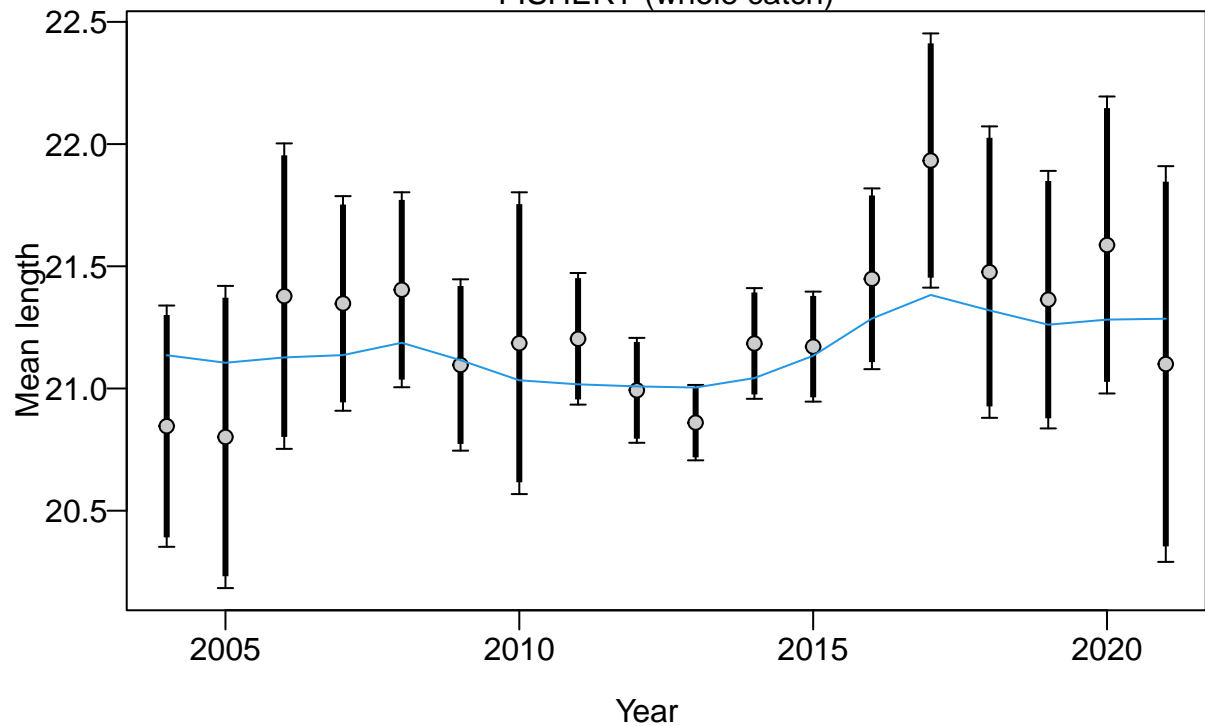
Proportion

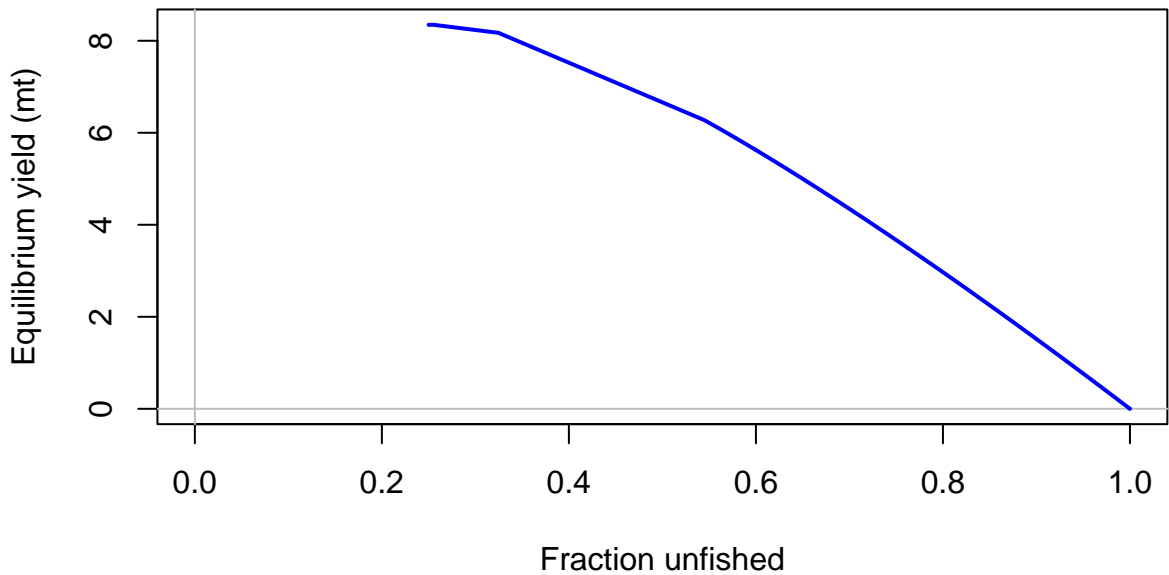


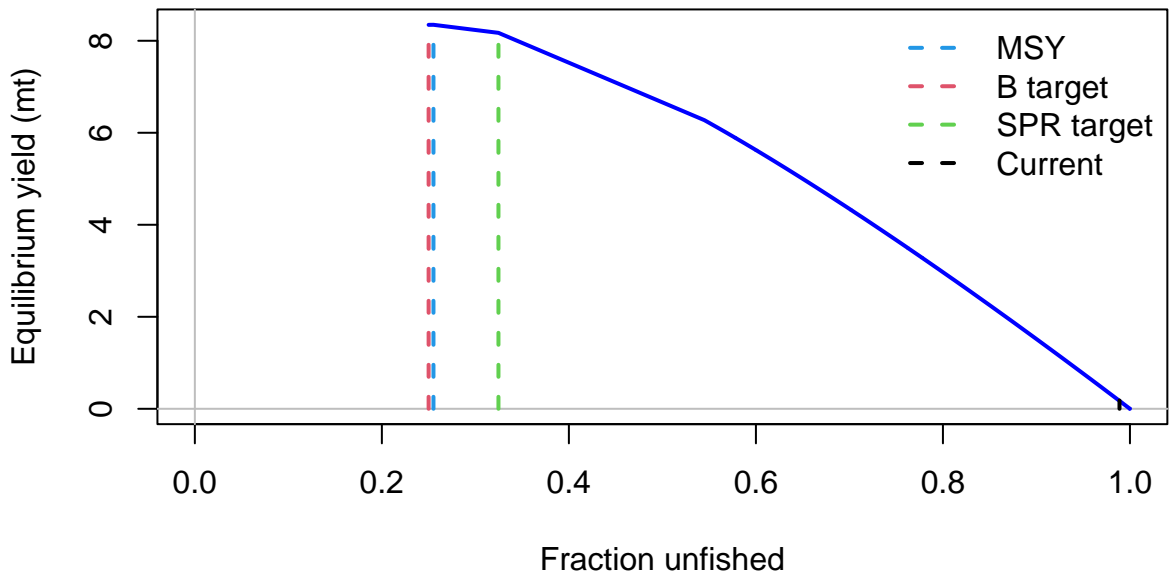


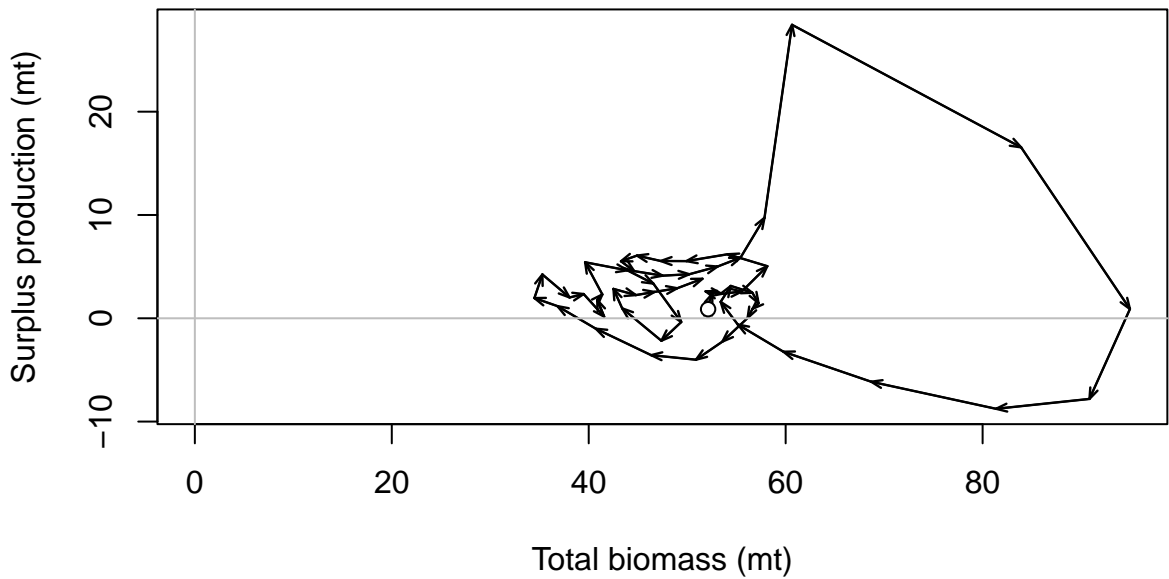


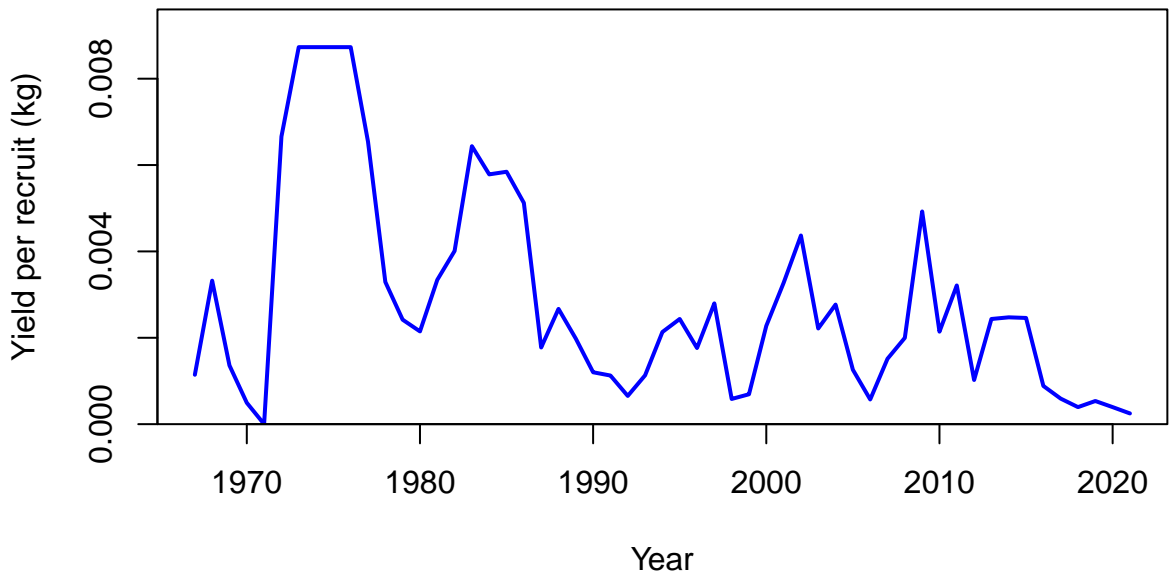
FISHERY (whole catch)

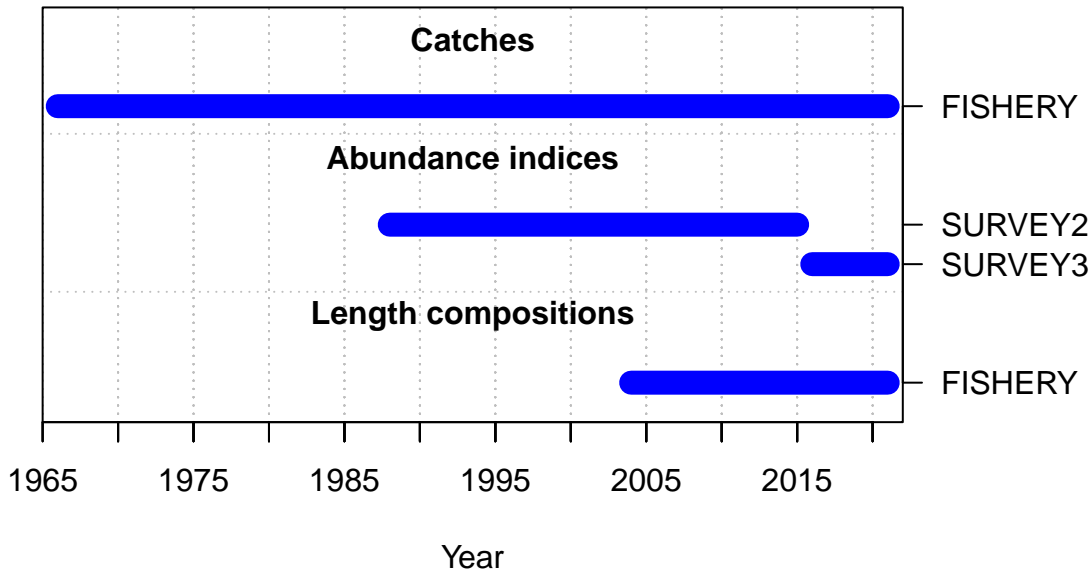


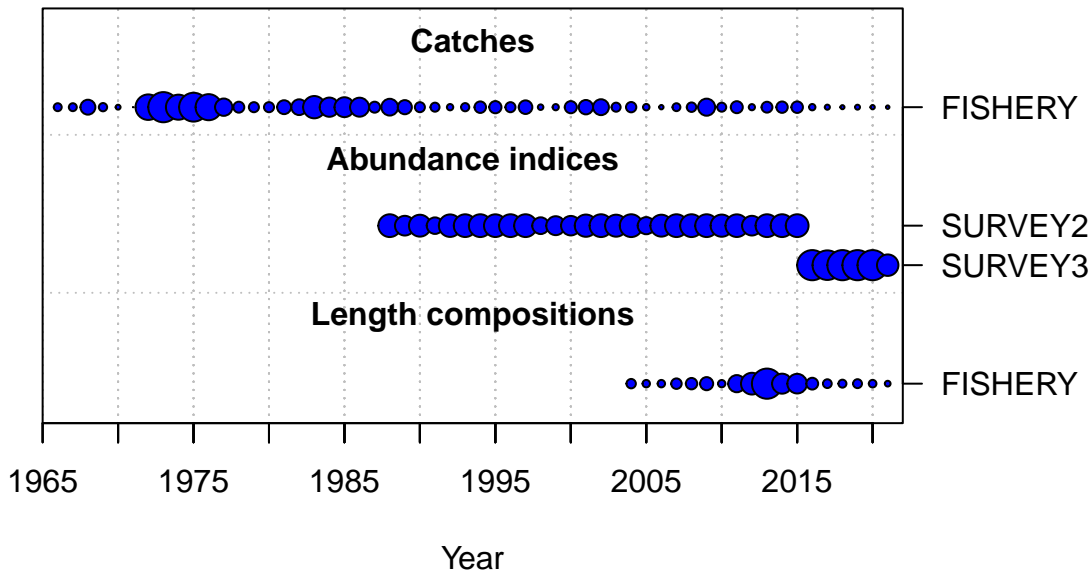






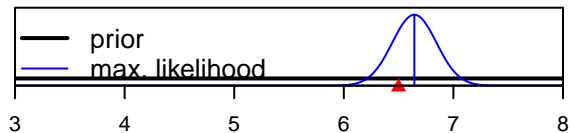




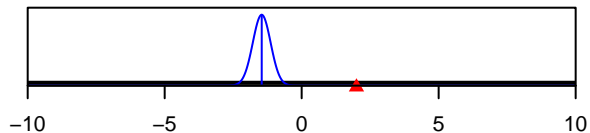




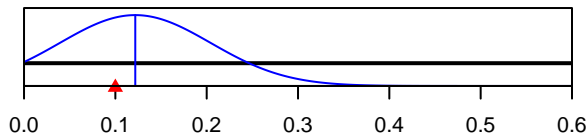
SR\_LN(R0)



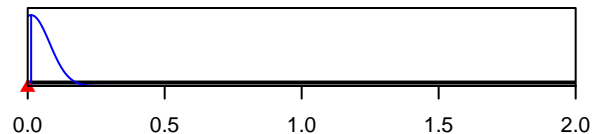
LnQ\_base\_SURVEY3(3)



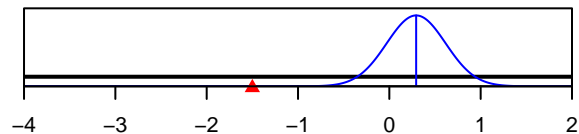
InitF\_seas\_1\_flt\_1FISHERY



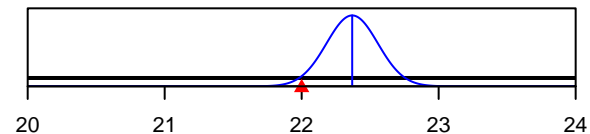
Q\_extraSD\_SURVEY3(3)



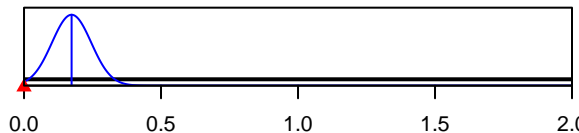
LnQ\_base\_SURVEY2(2)



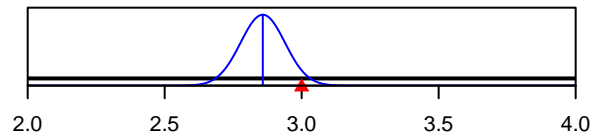
Size\_inflection\_FISHERY(1)



Q\_extraSD\_SURVEY2(2)

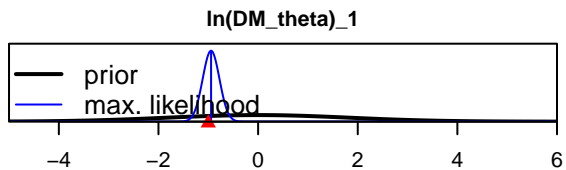


Size\_95%width\_FISHERY(1)



Parameter value

Density



Parameter value