

Plots created using the 'r4ss' package in R  
Stock Synthesis version: 3.30.19.0  
StartTime: Mon Jul 11 12:37:21 2022  
Data\_File: data.ss  
Control\_File: control.ss

Length (cm, beginning of the year)

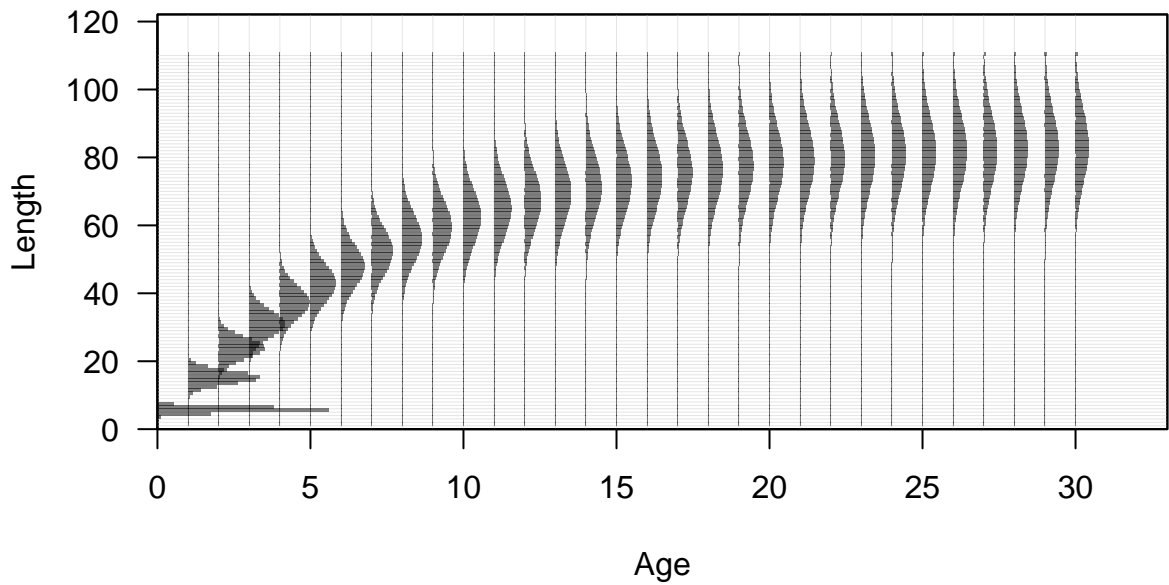


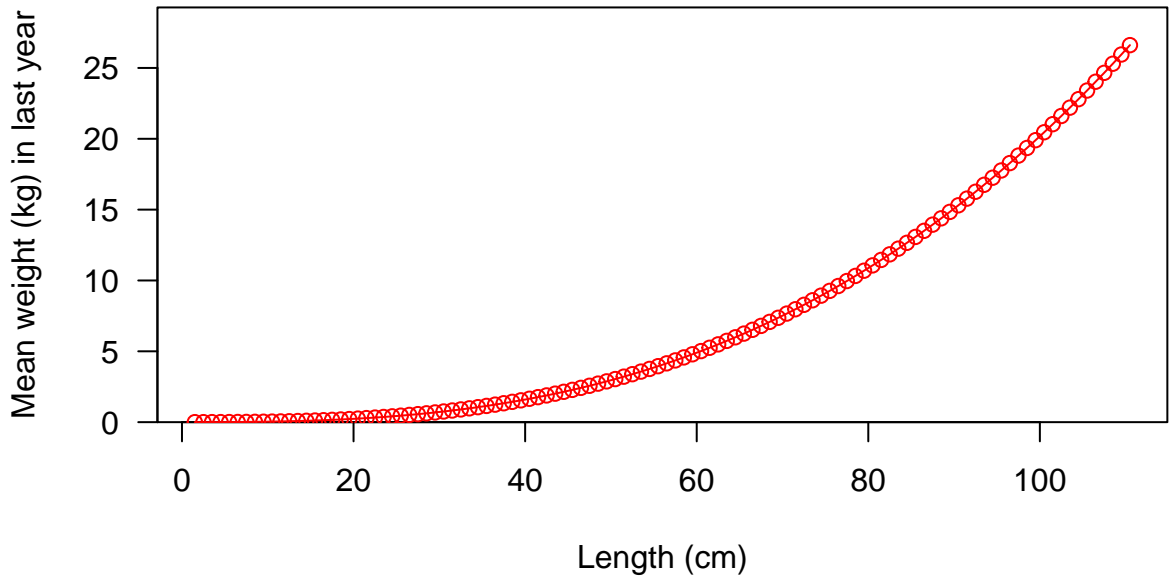
Age (yr)







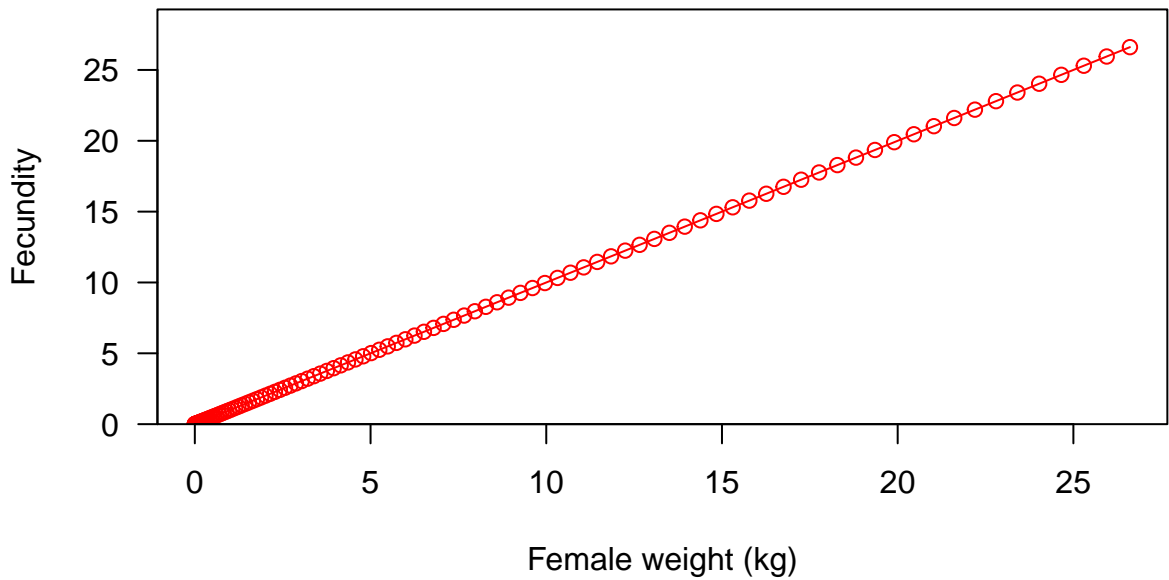




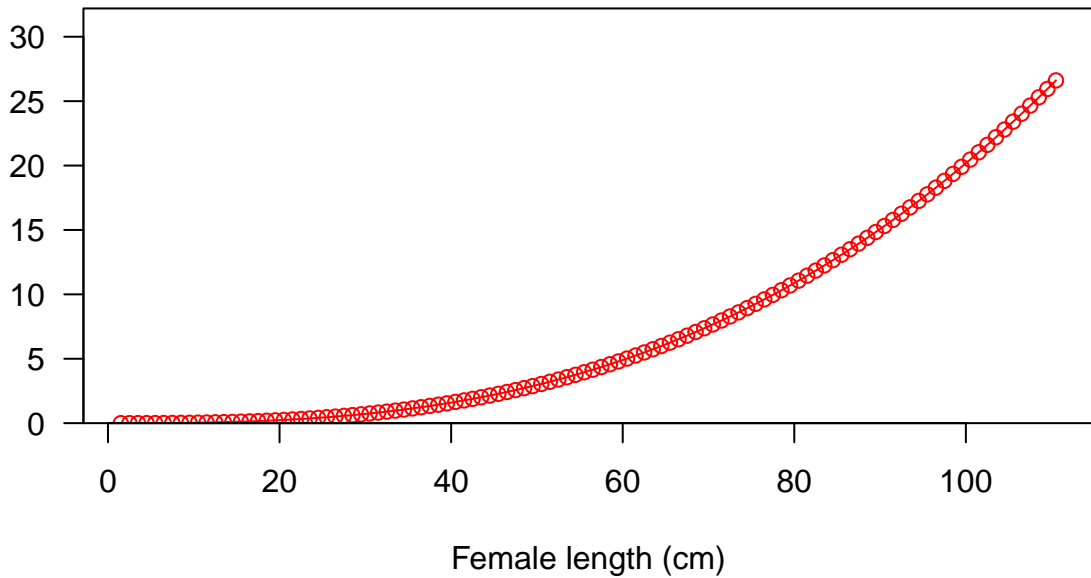








Fecundity



Spawning output

25  
20  
15  
10  
5  
0

0

20

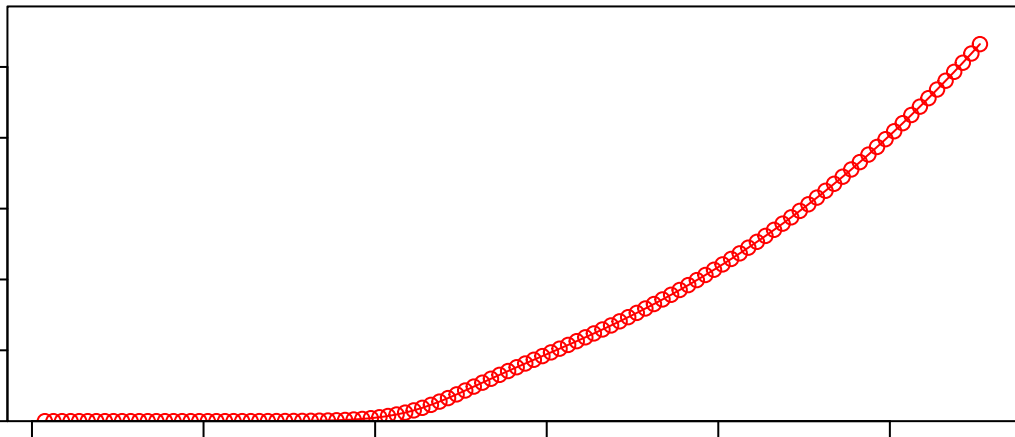
40

60

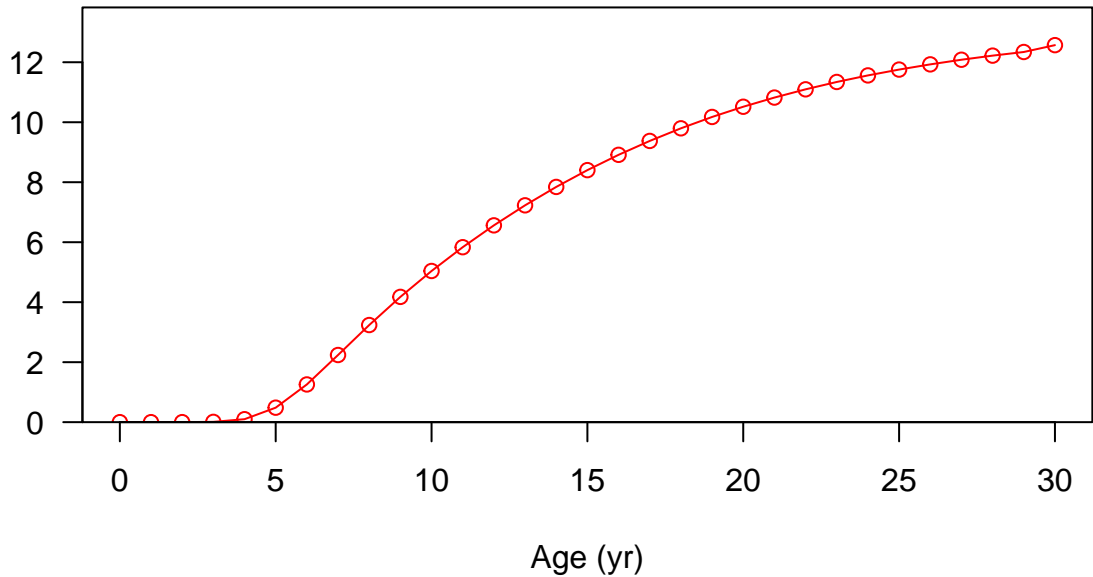
80

100

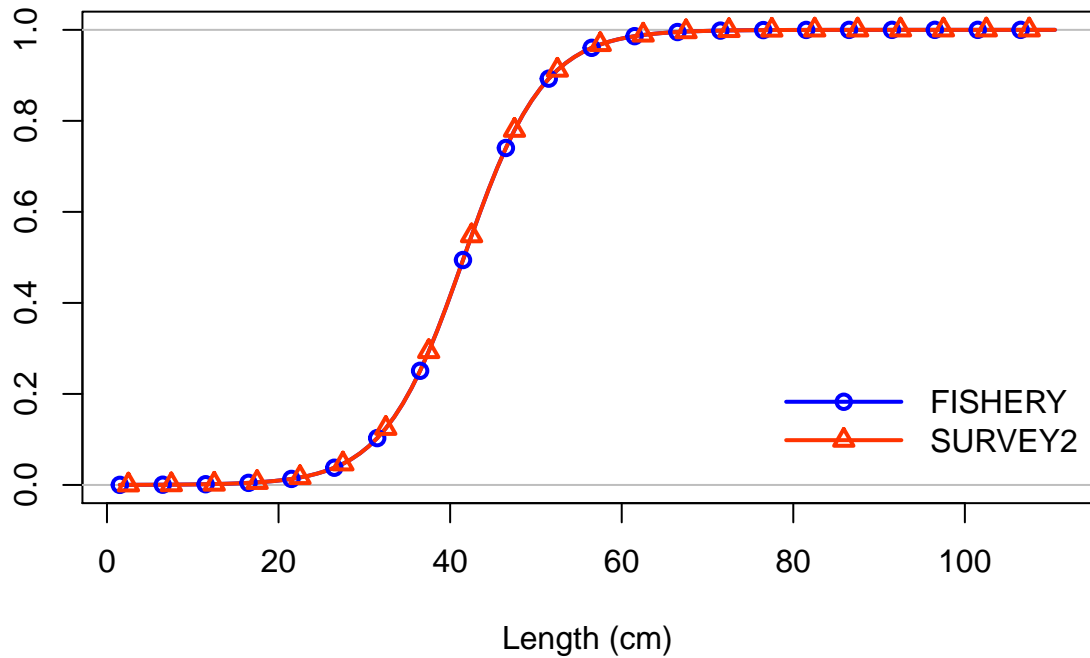
Length (cm)



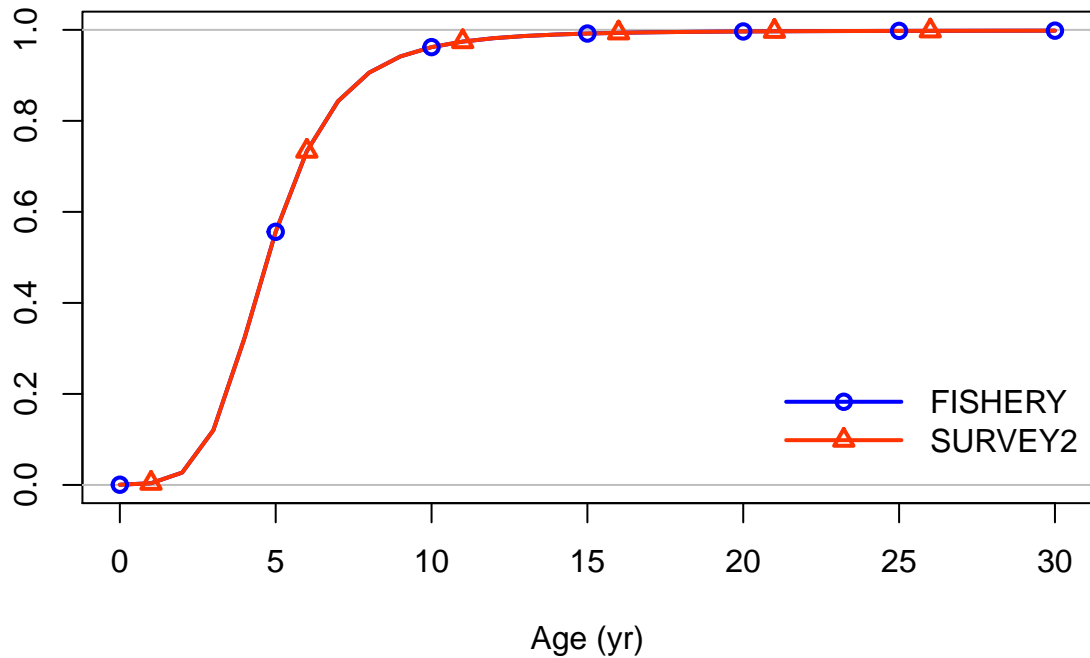
Spawning output



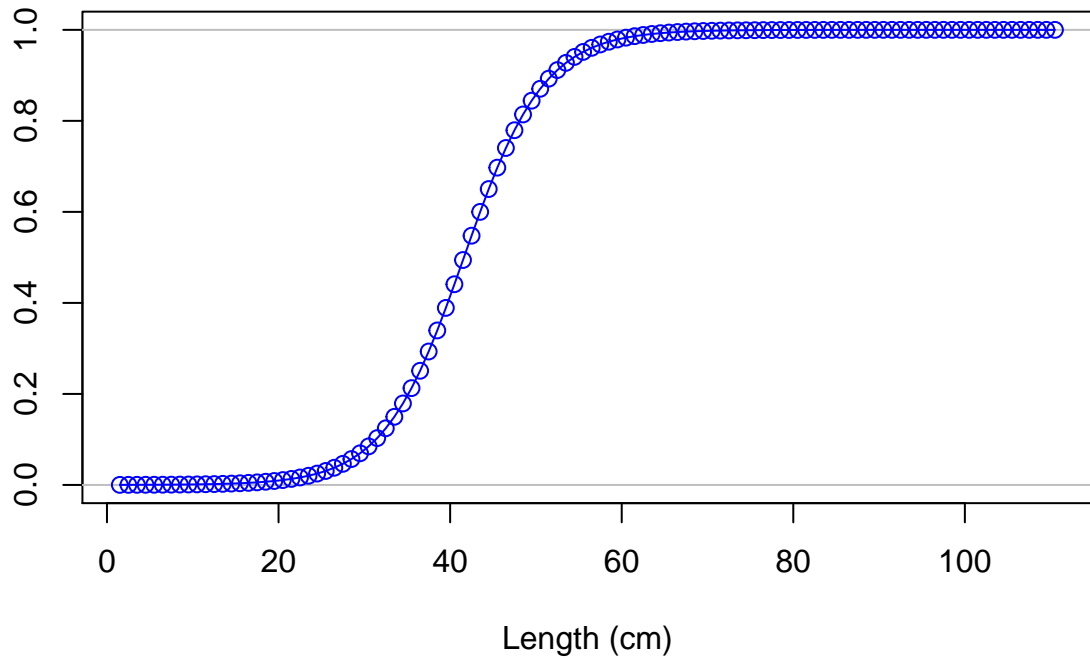
Selectivity



Selectivity

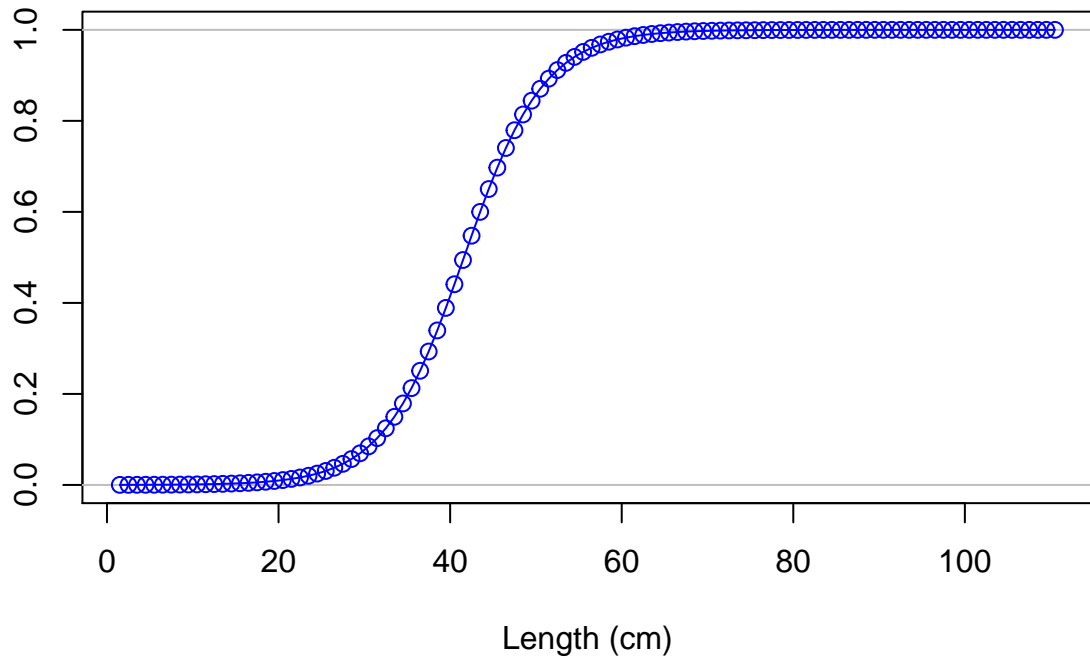


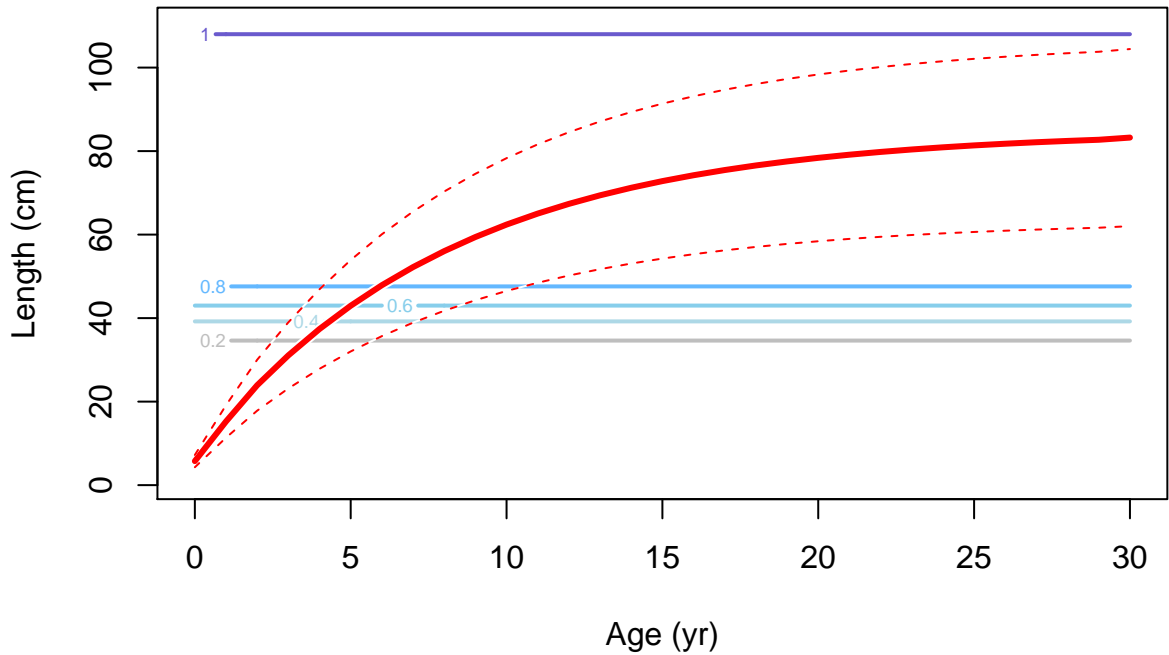
Selectivity

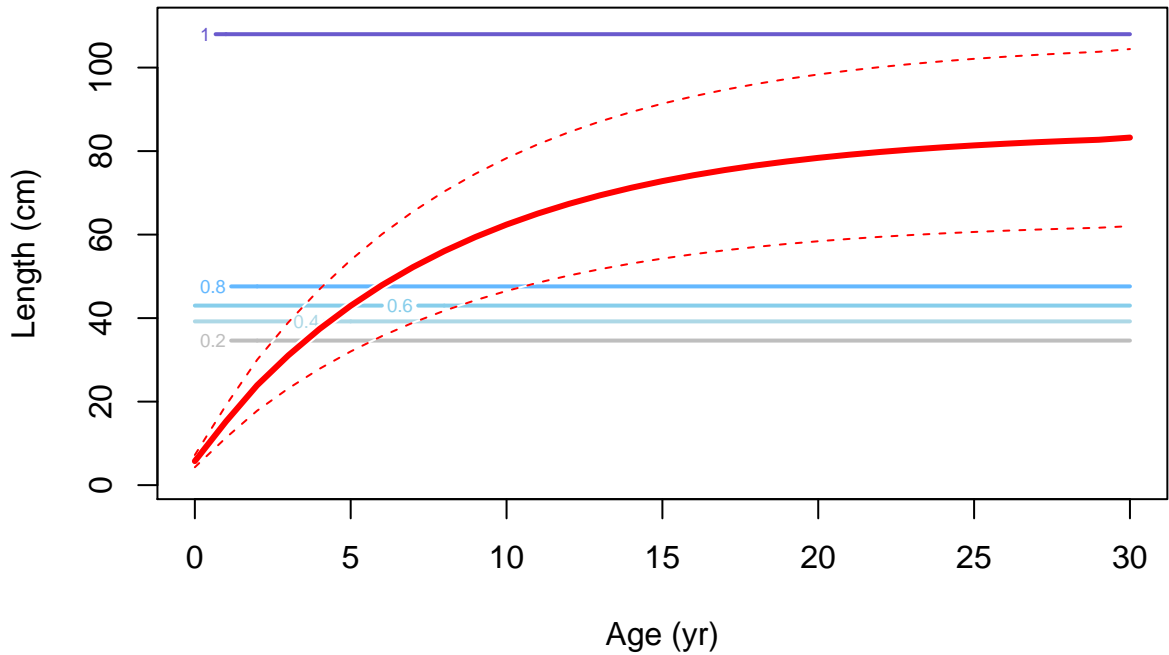




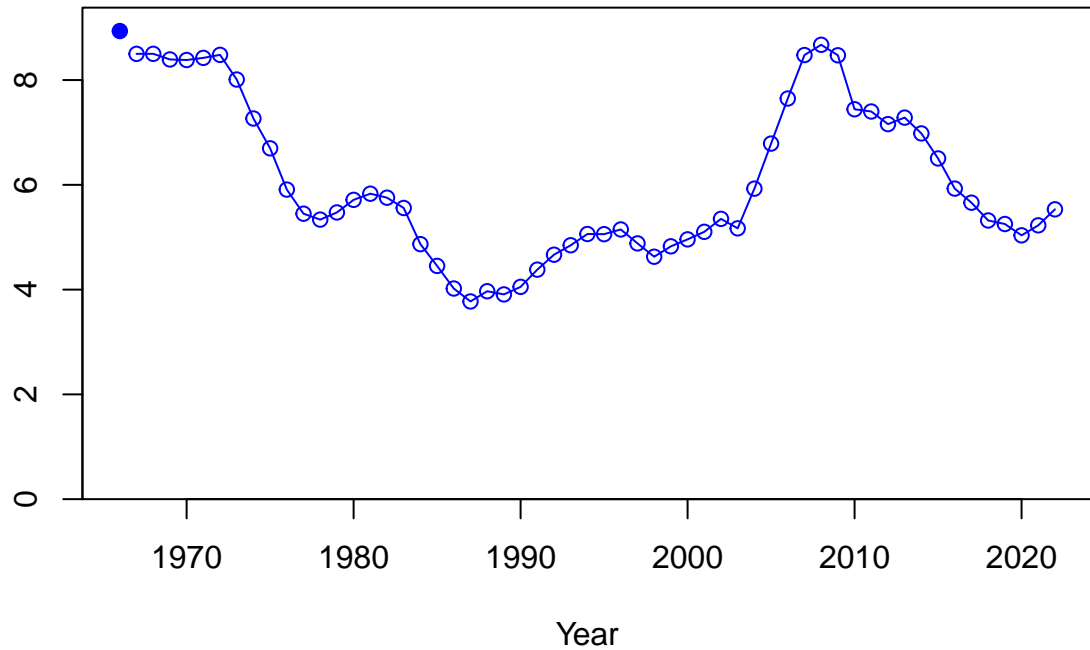
Selectivity



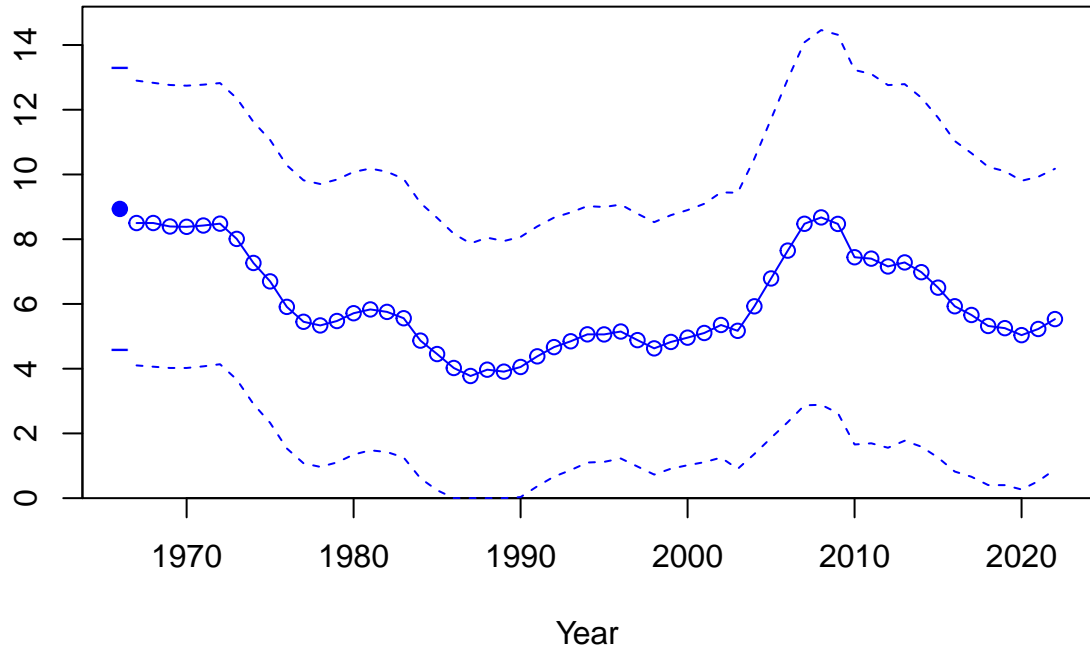




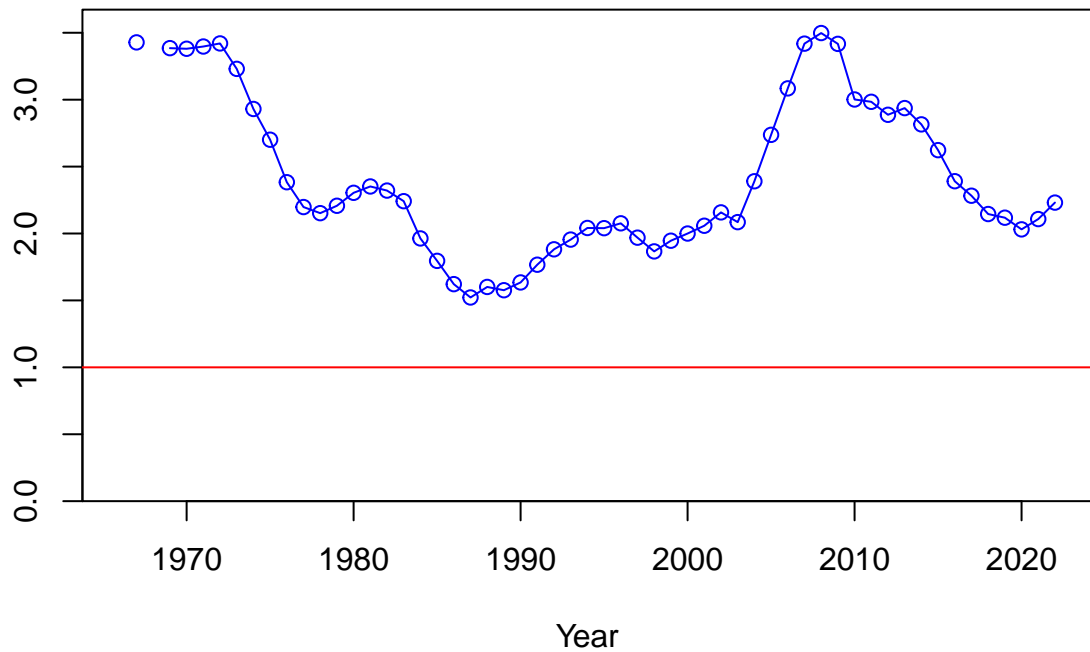
Spawning biomass (mt)



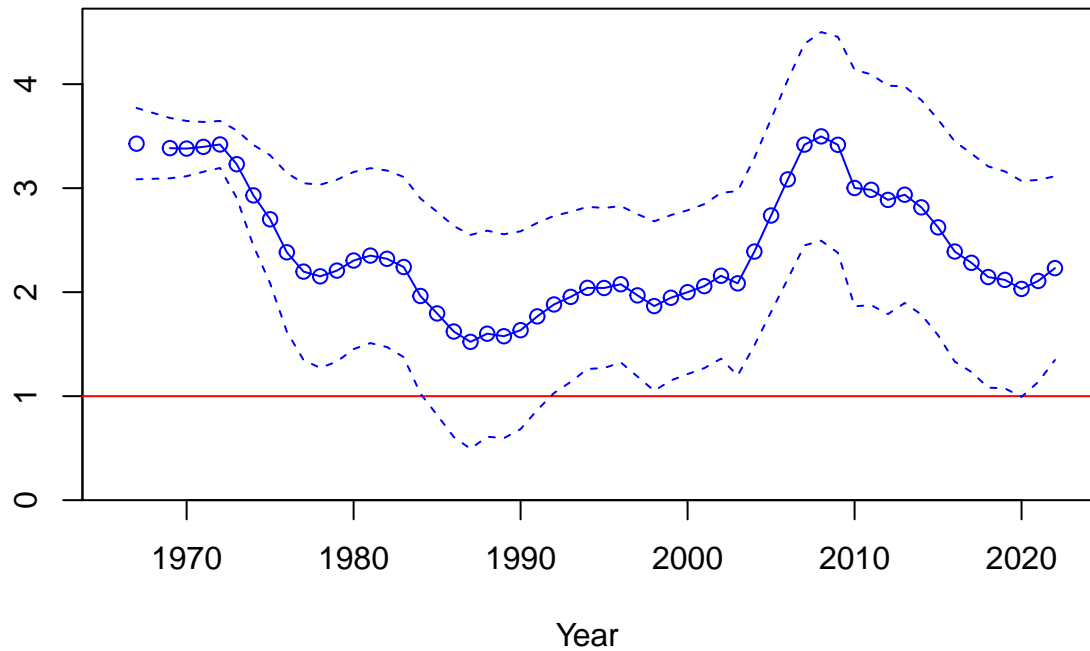
Spawning biomass (mt)

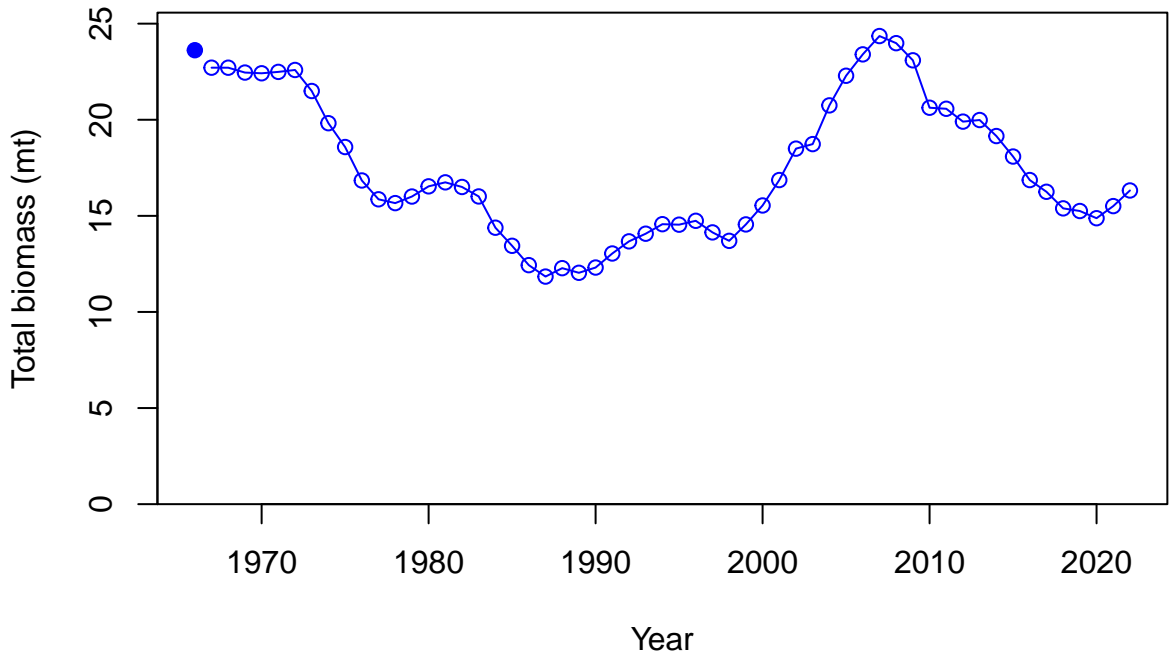


Relative spawning biomass:  $B/B_{MSY}$

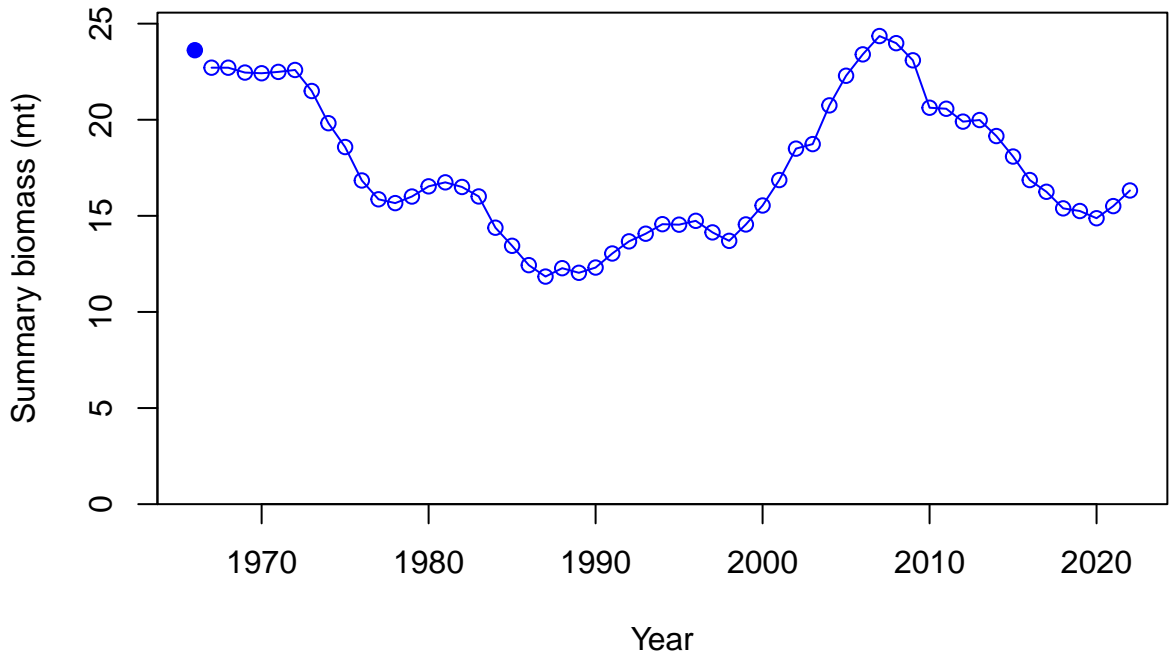


Relative spawning biomass:  $B/B_{MSY}$

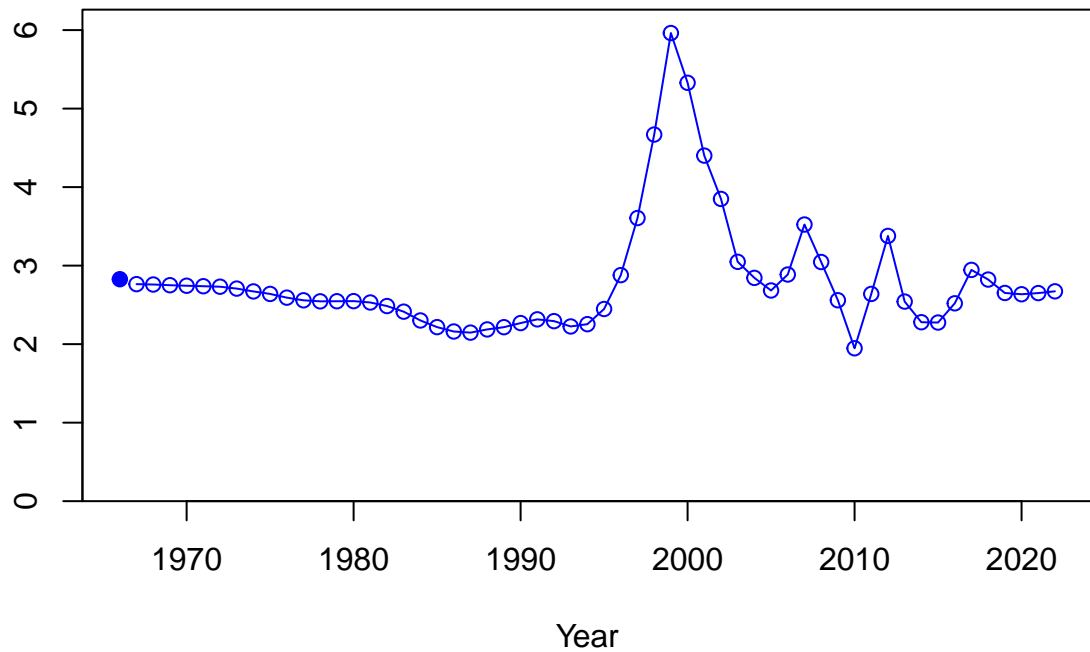








Age-0 recruits (1,000s)



Age-0 recruits (1,000s)

20  
15  
10  
5  
0

1970

1980

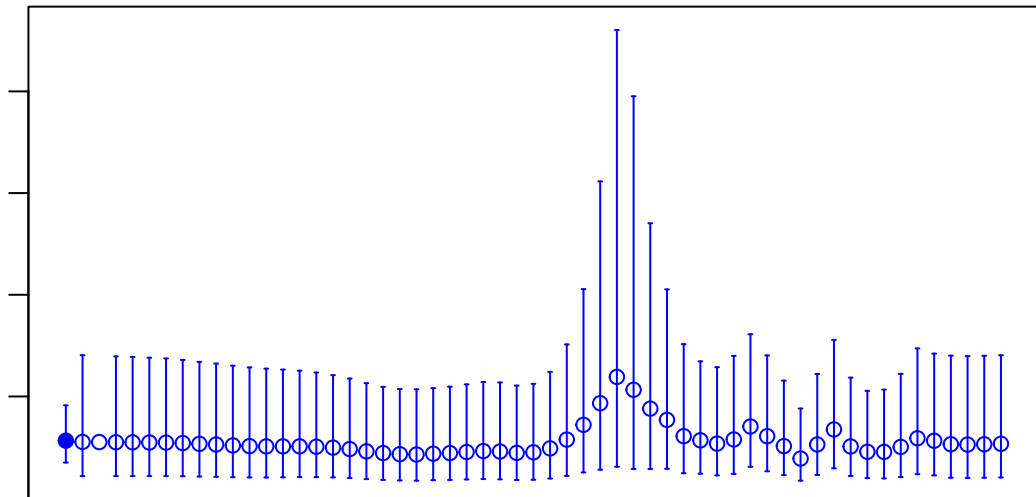
1990

2000

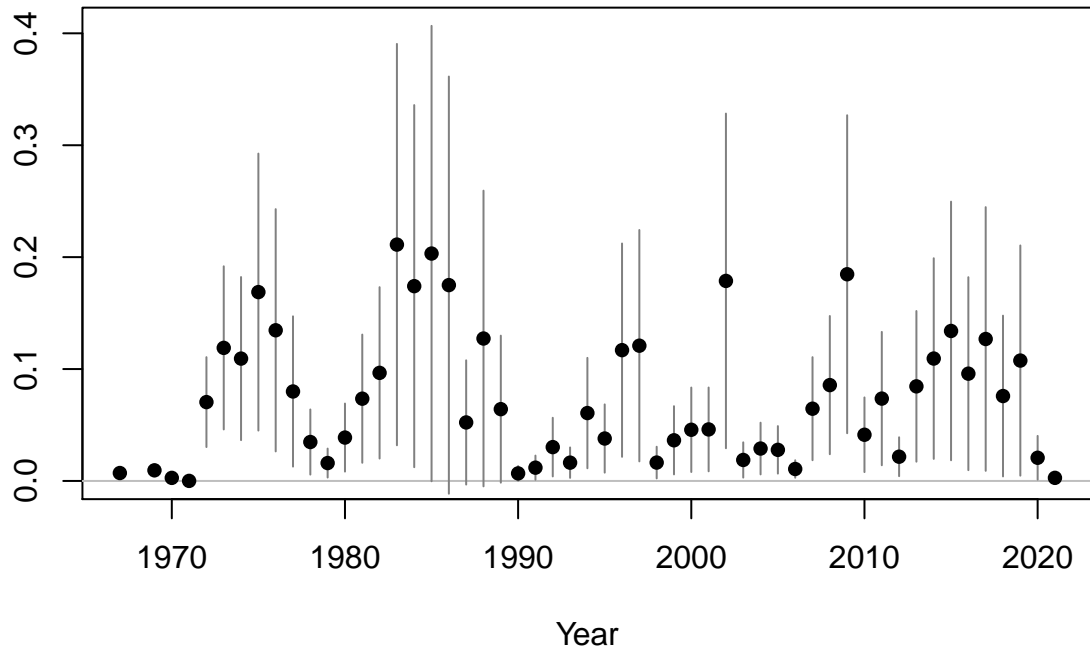
2010

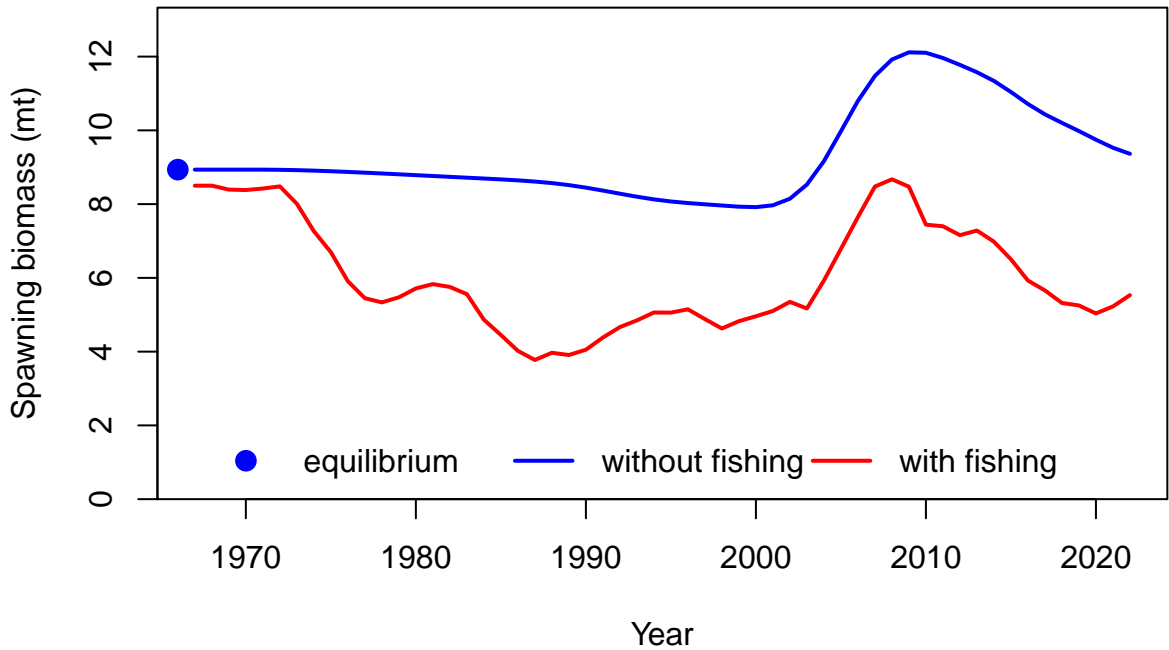
2020

Year

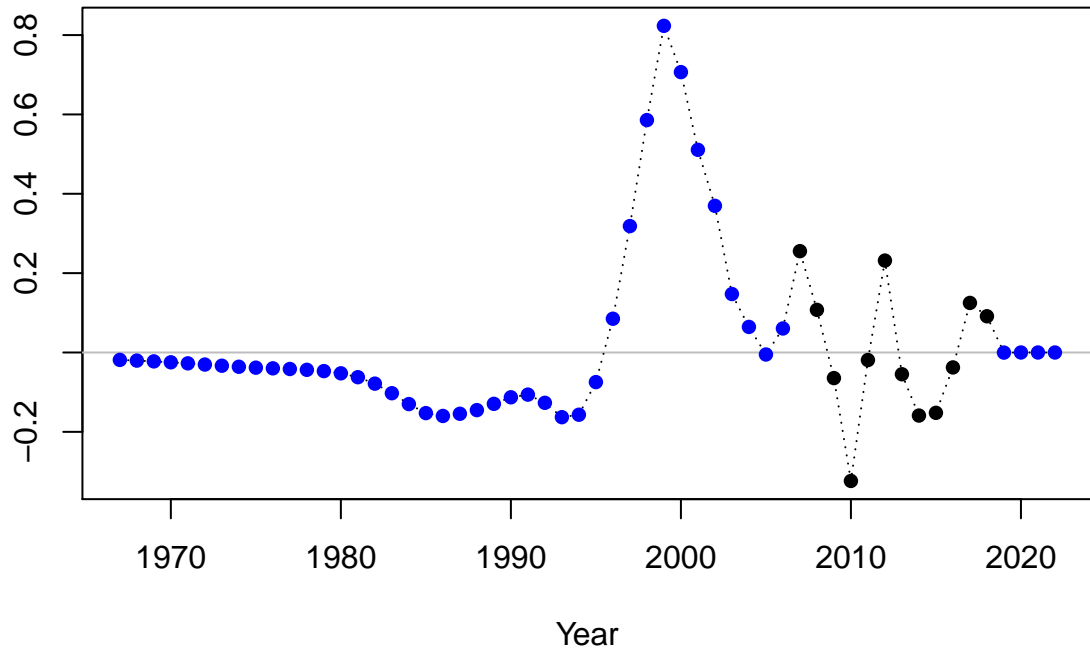


Summary Fishing Mortality

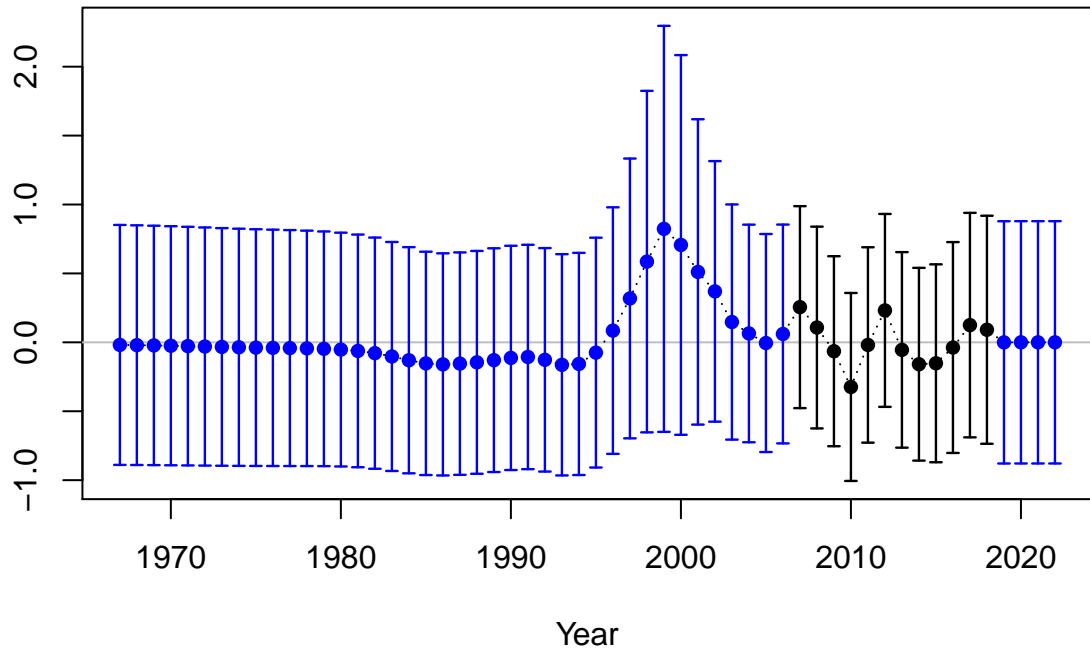




Log recruitment deviation

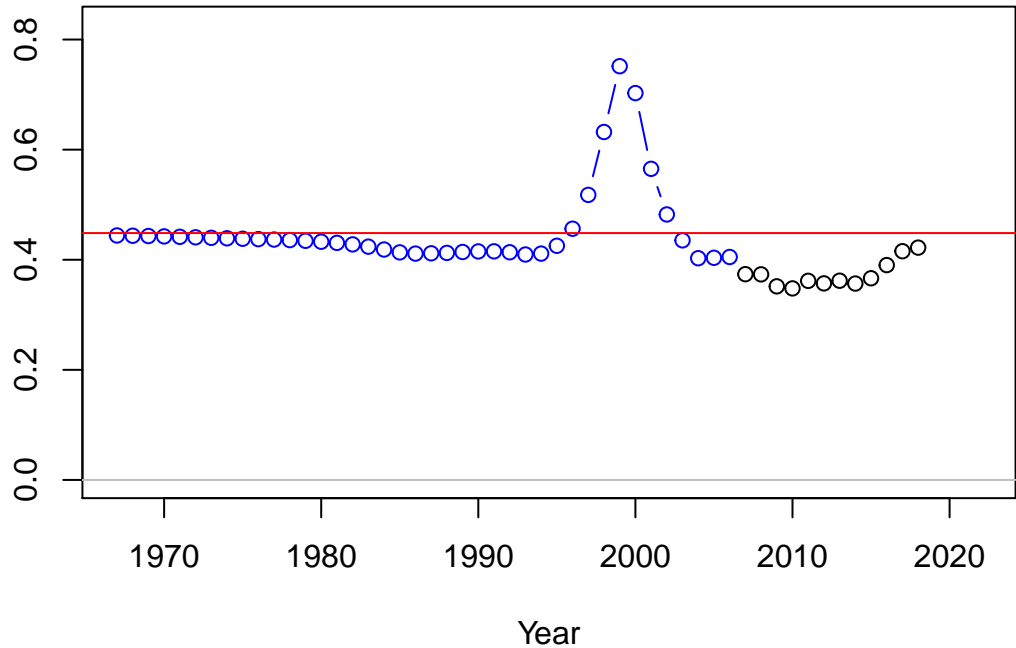


Log recruitment deviation

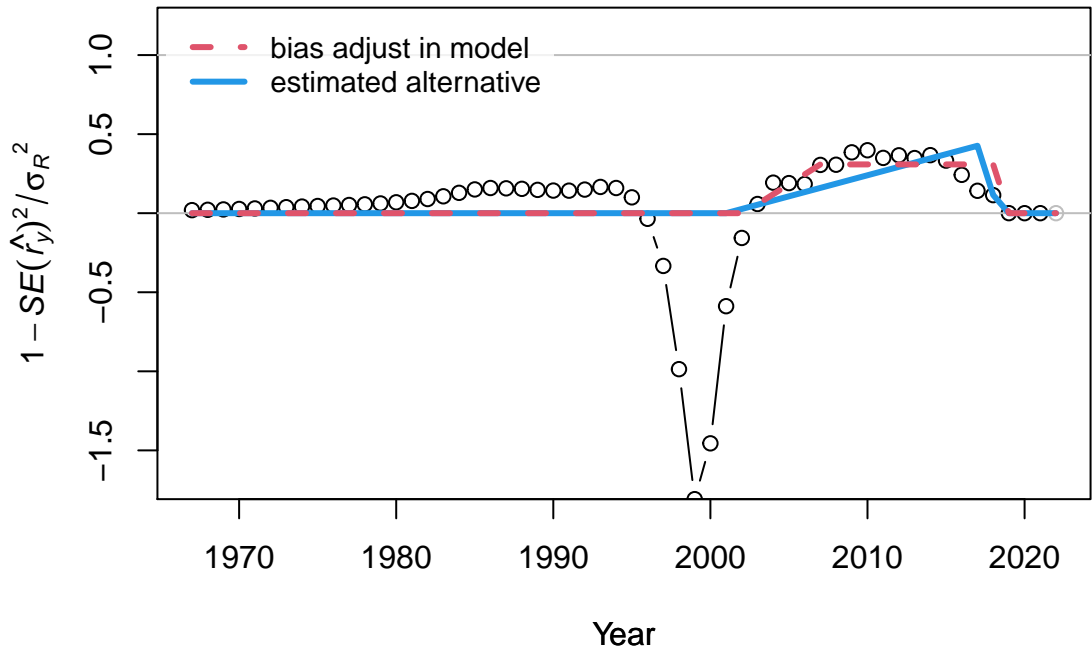


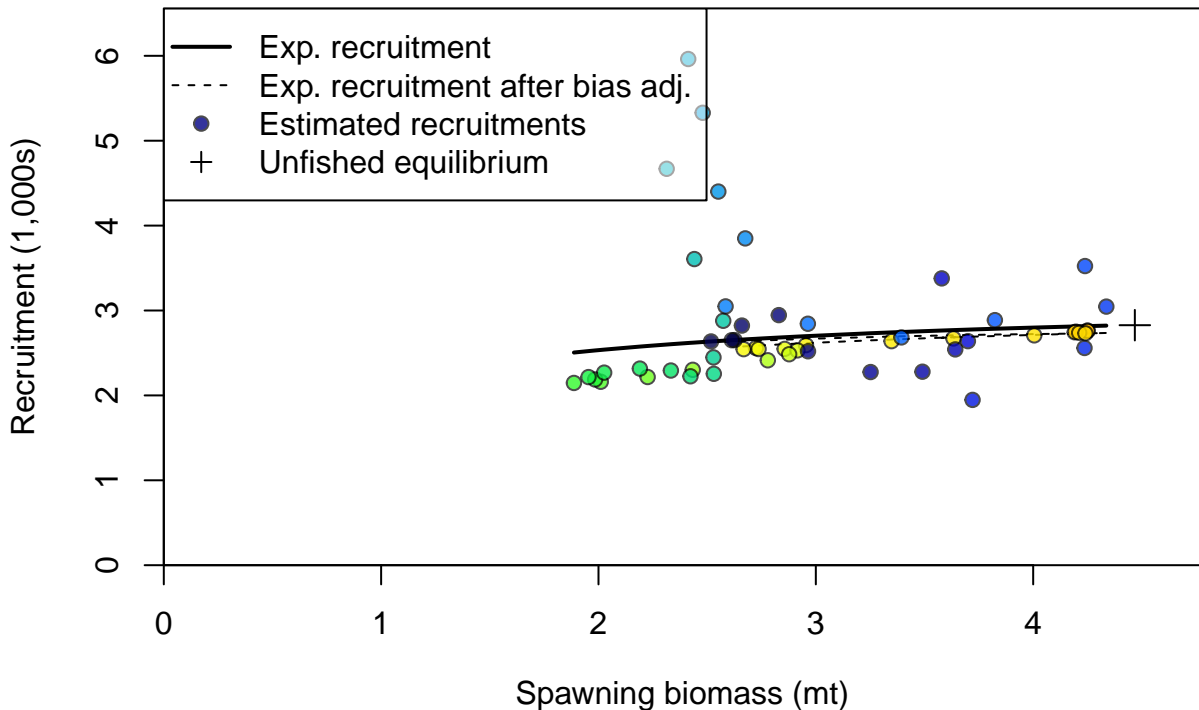
## Recruitment deviation variance

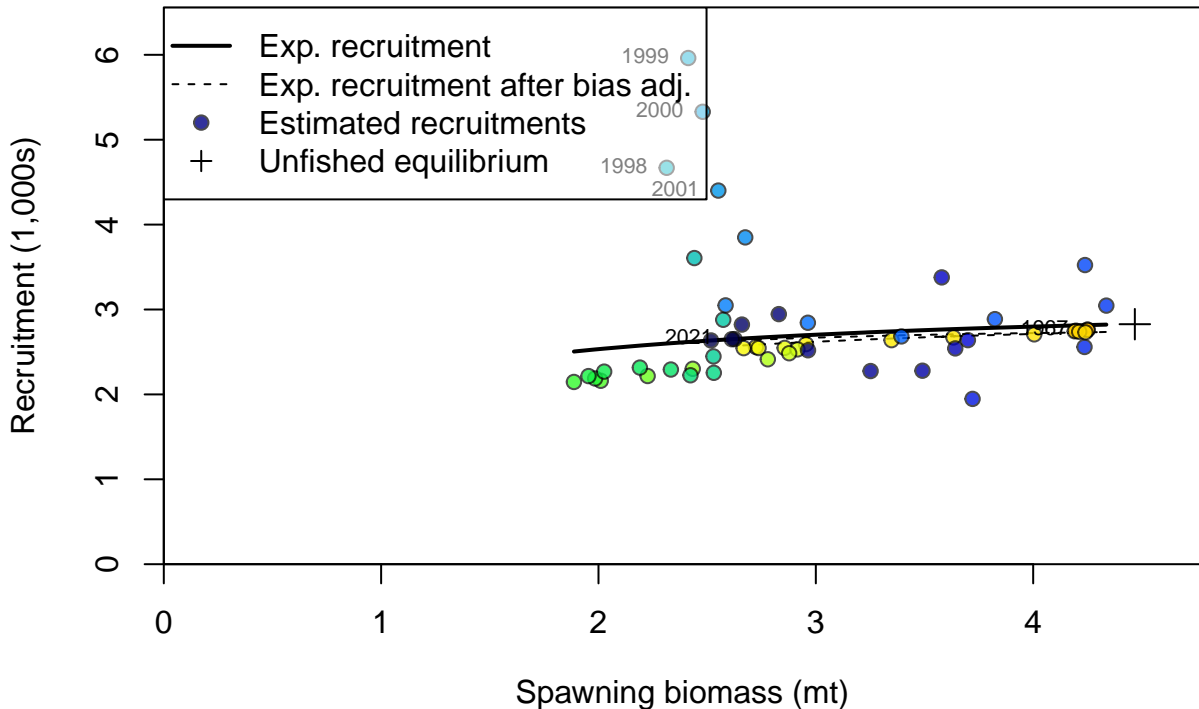
Asymptotic standard error estimate

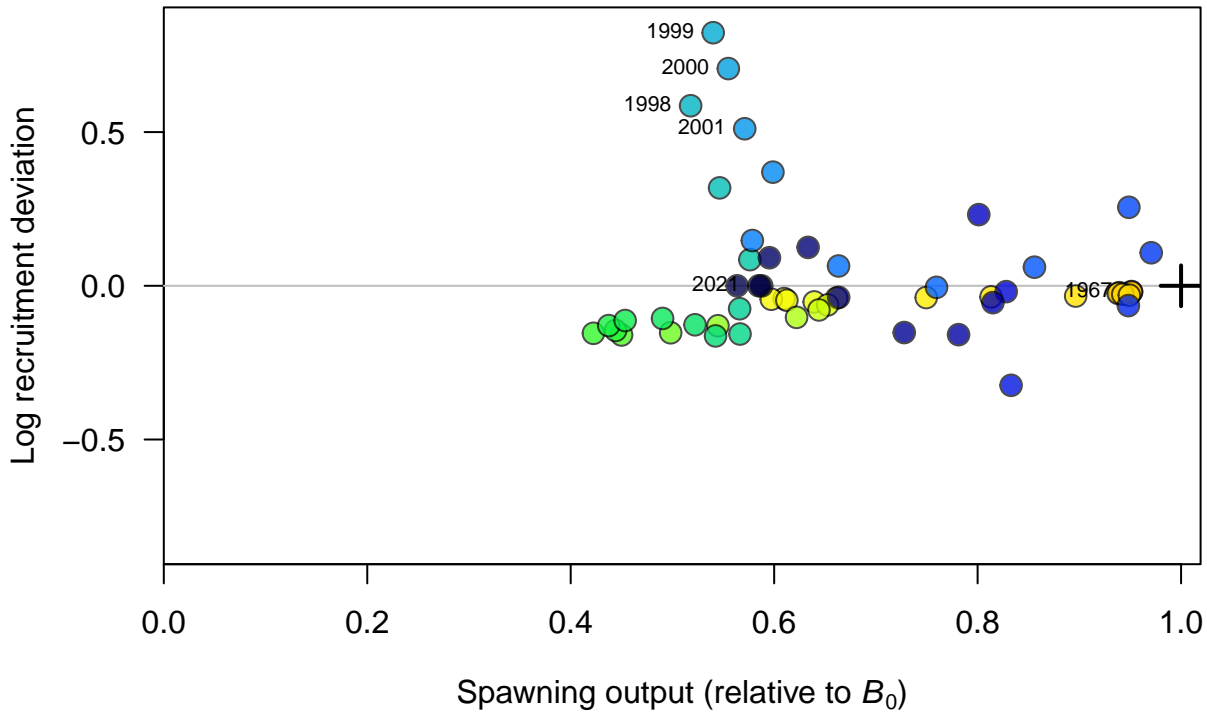


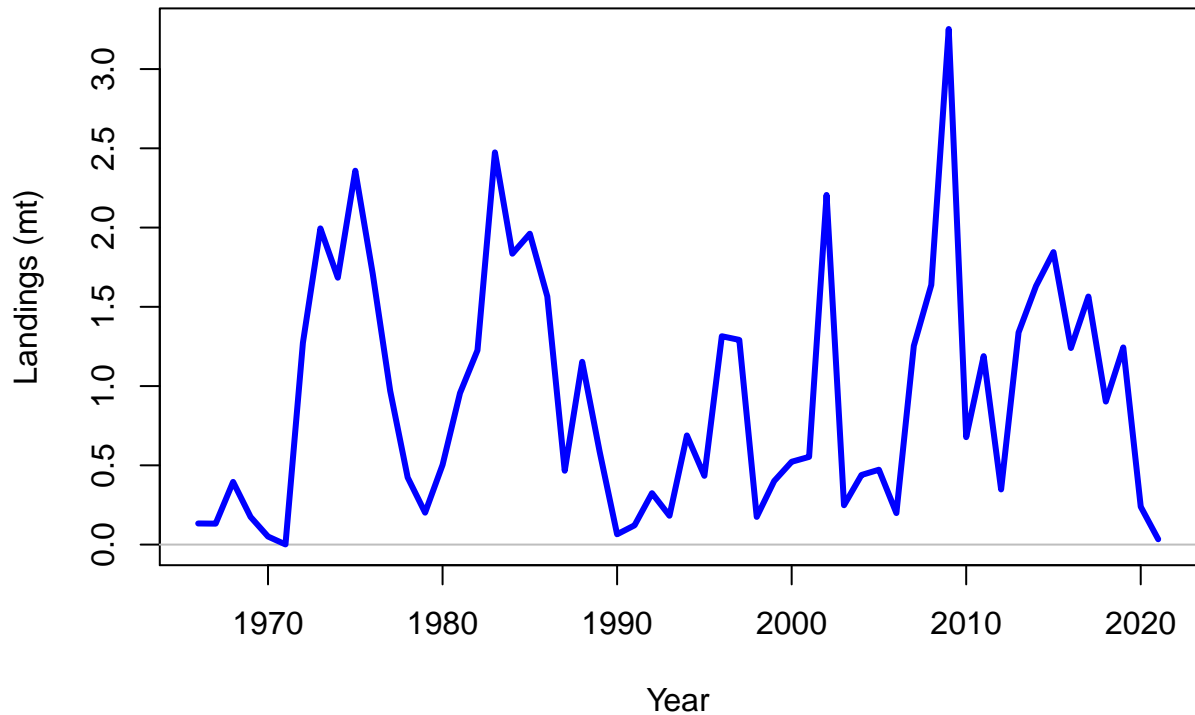


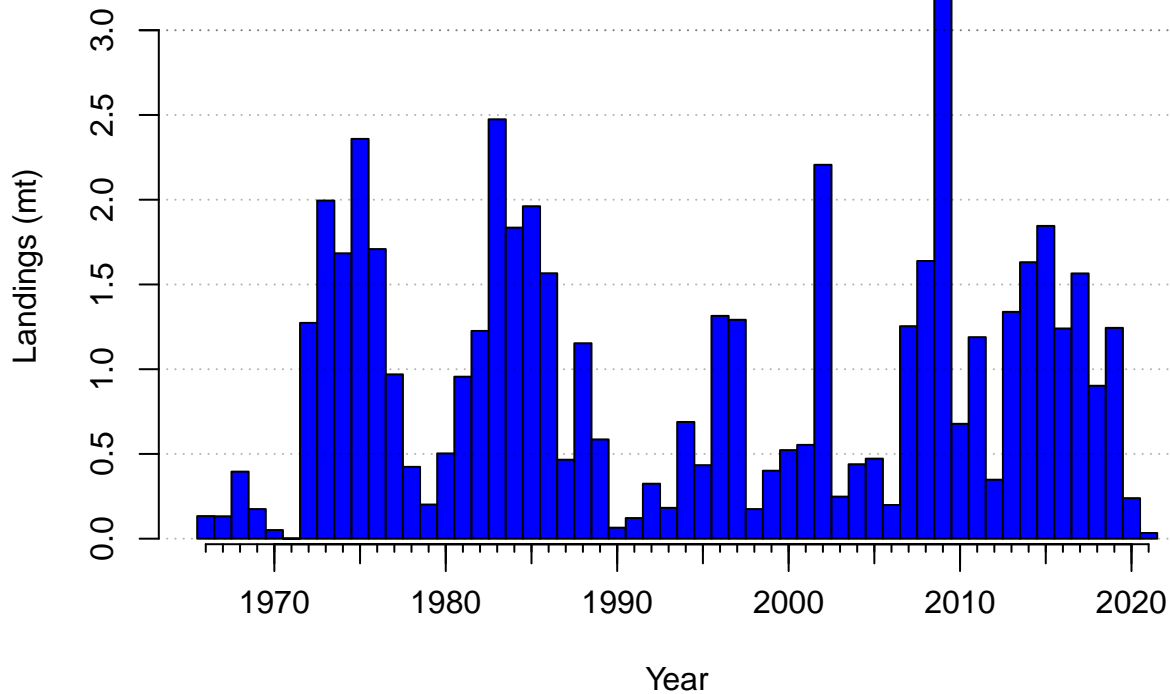


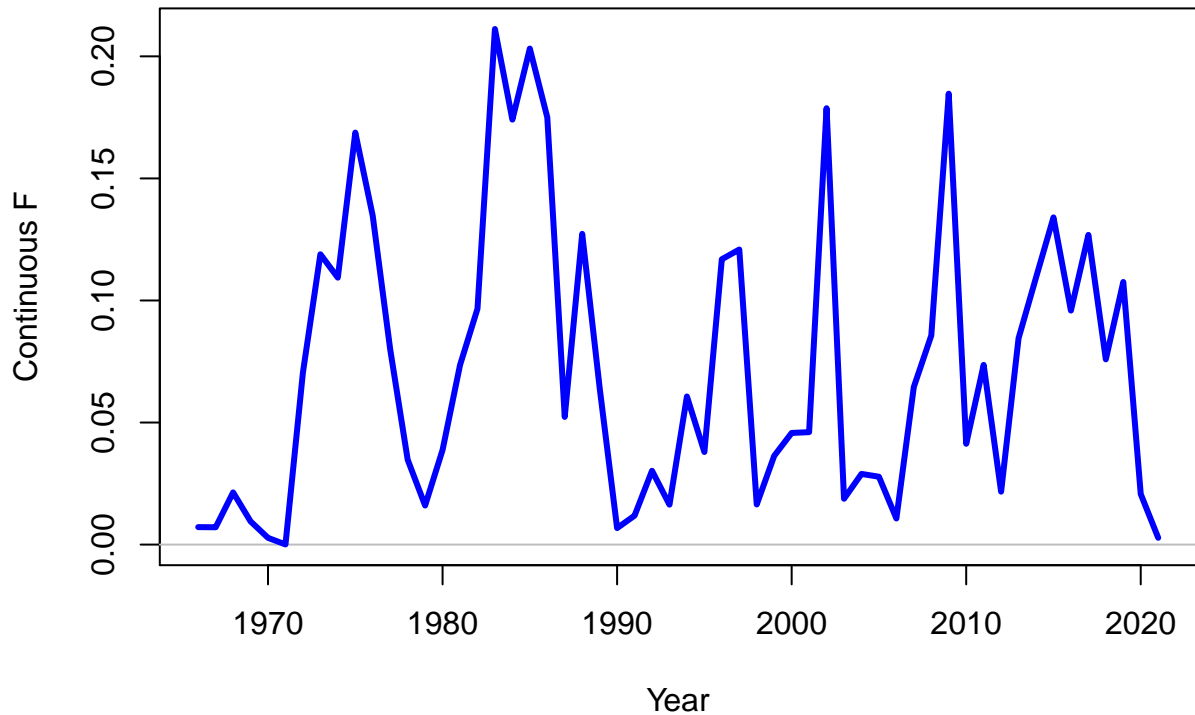




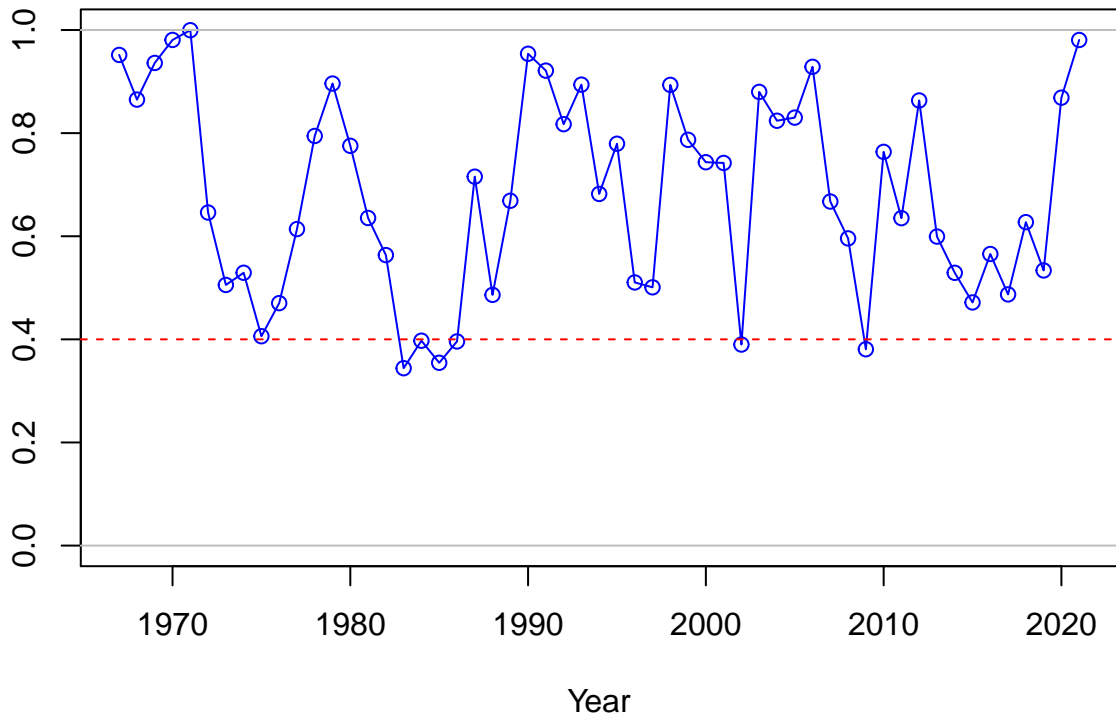




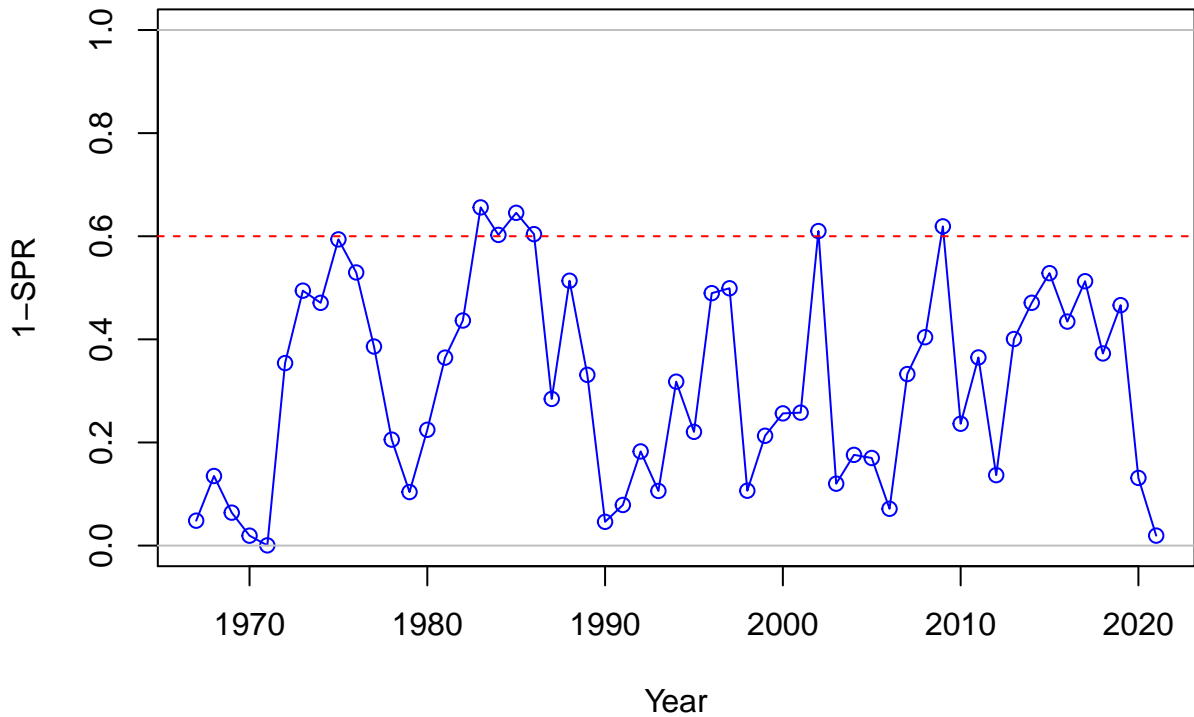




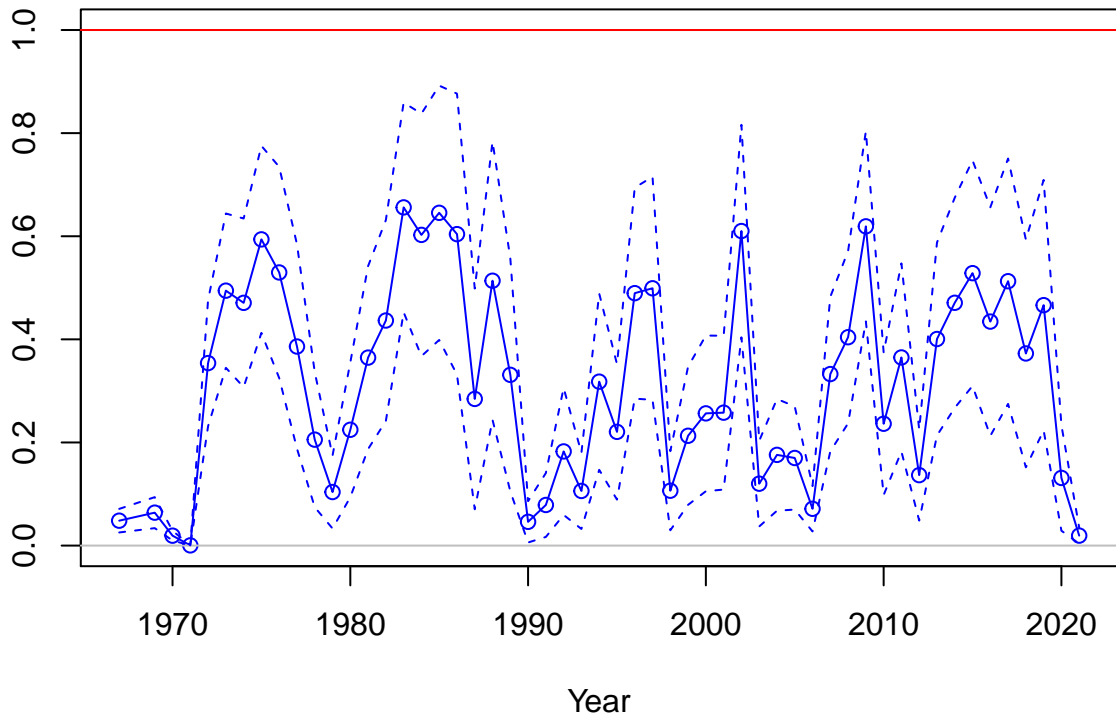
SPR



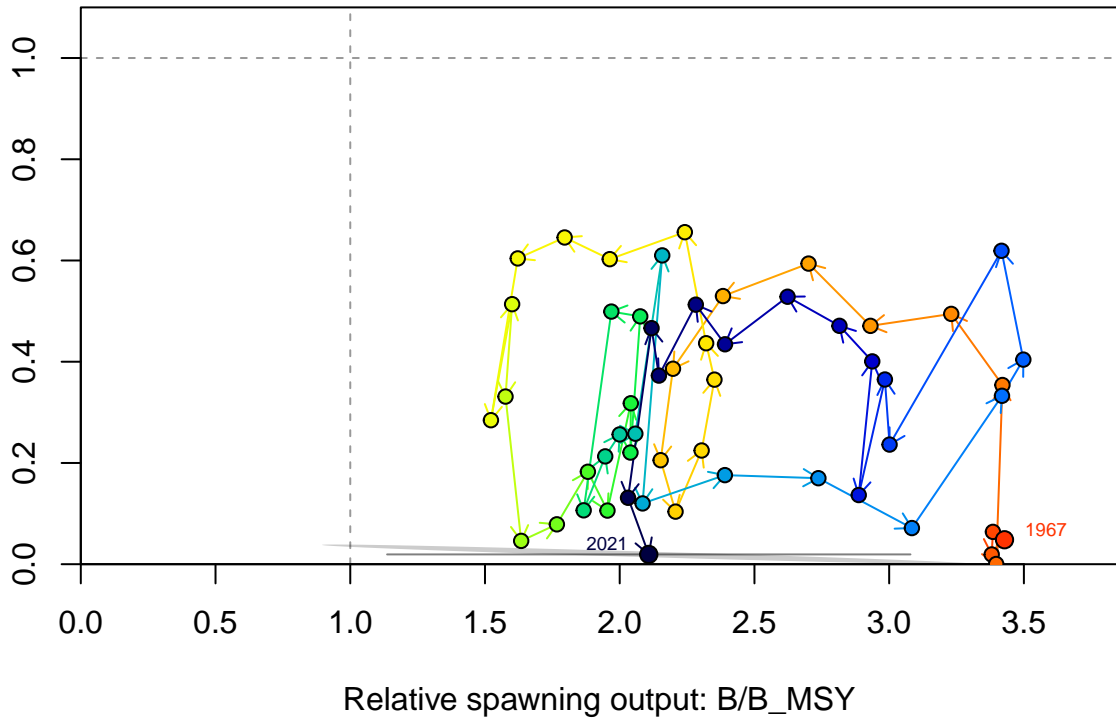




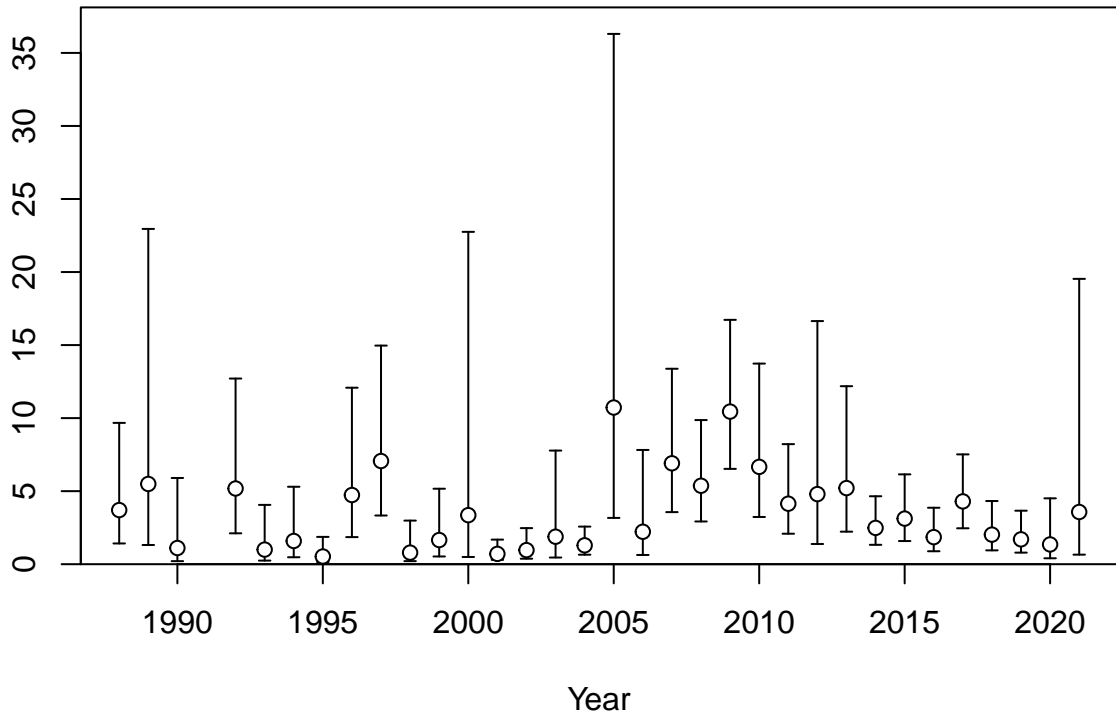
Fishing intensity: 1-SPR



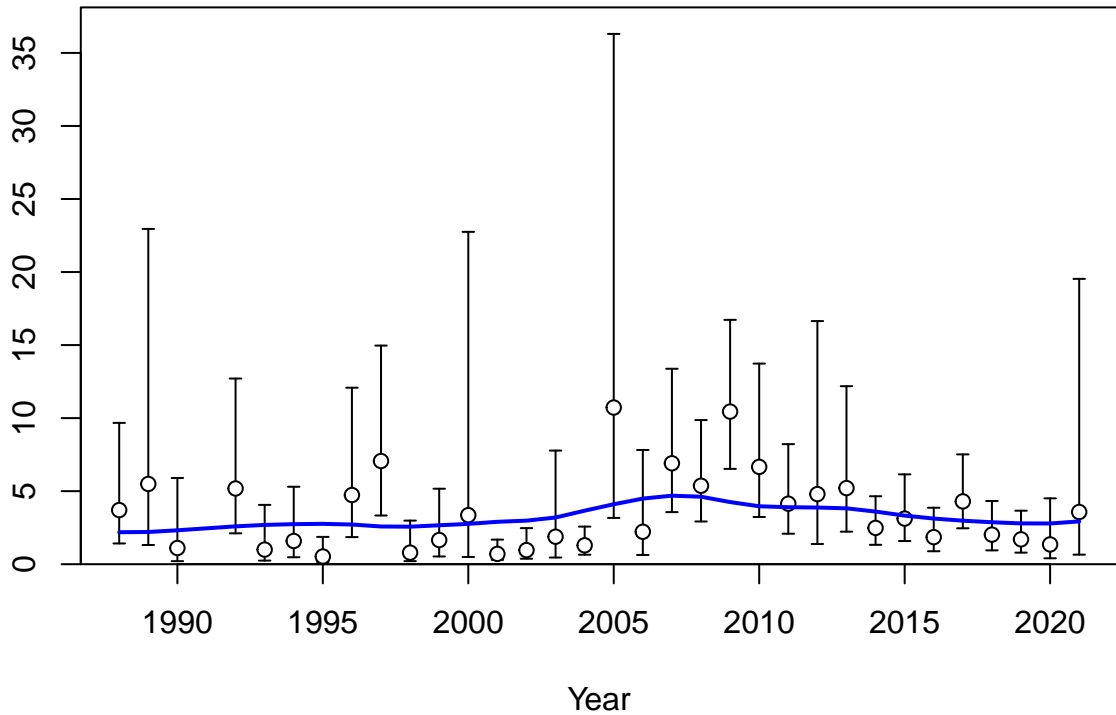
Fishing intensity: 1-SPR

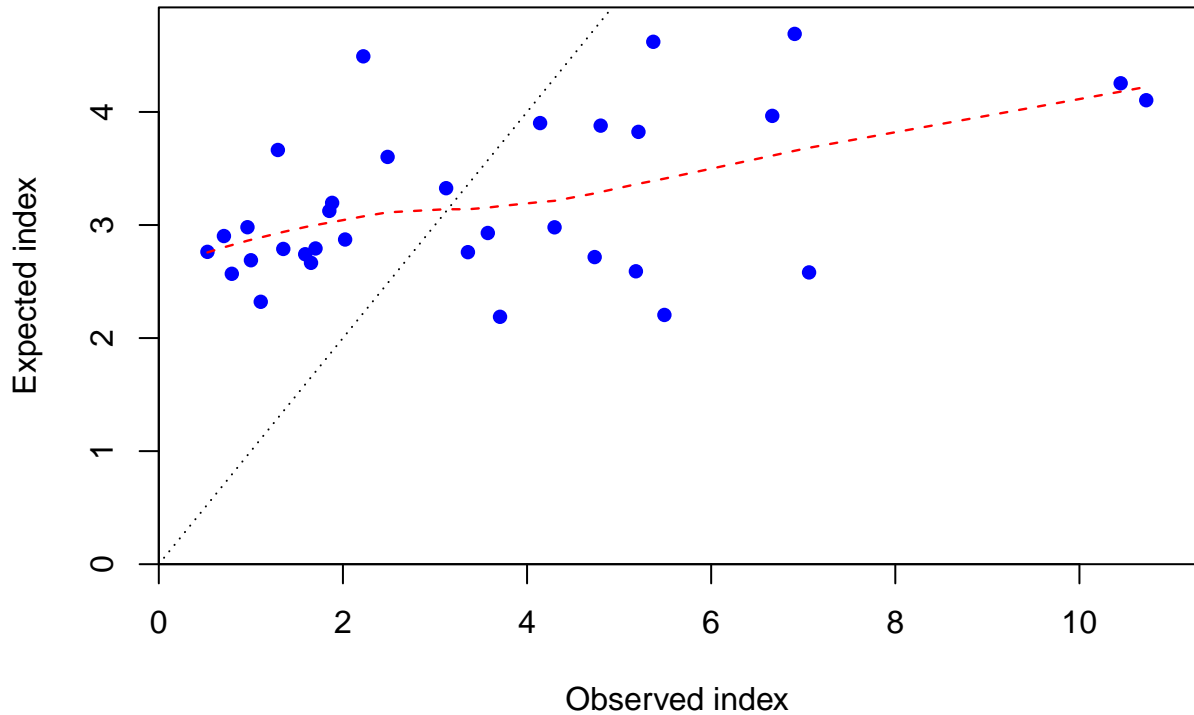


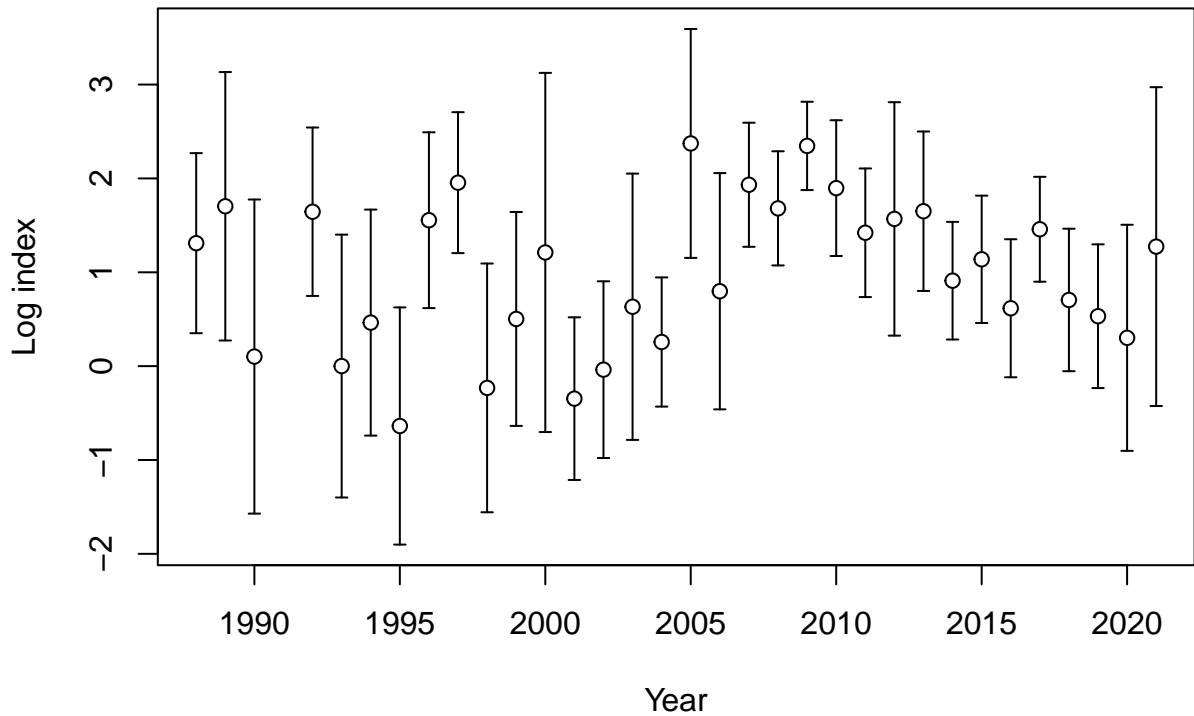
Index

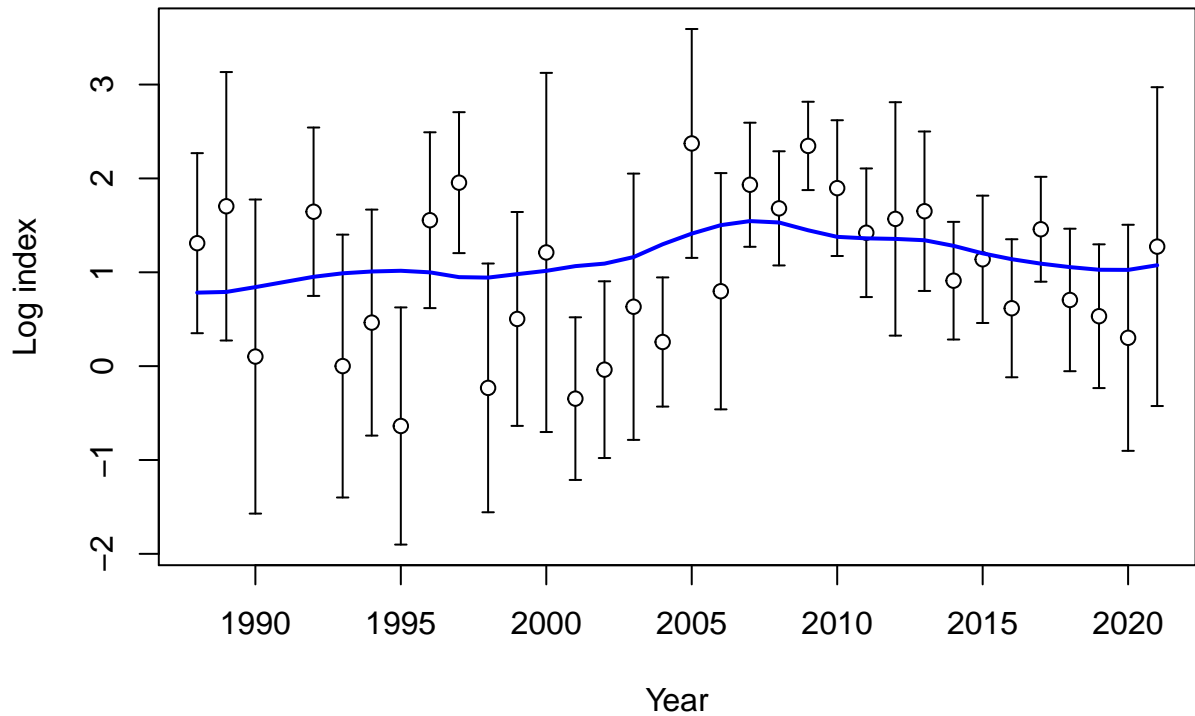


Index

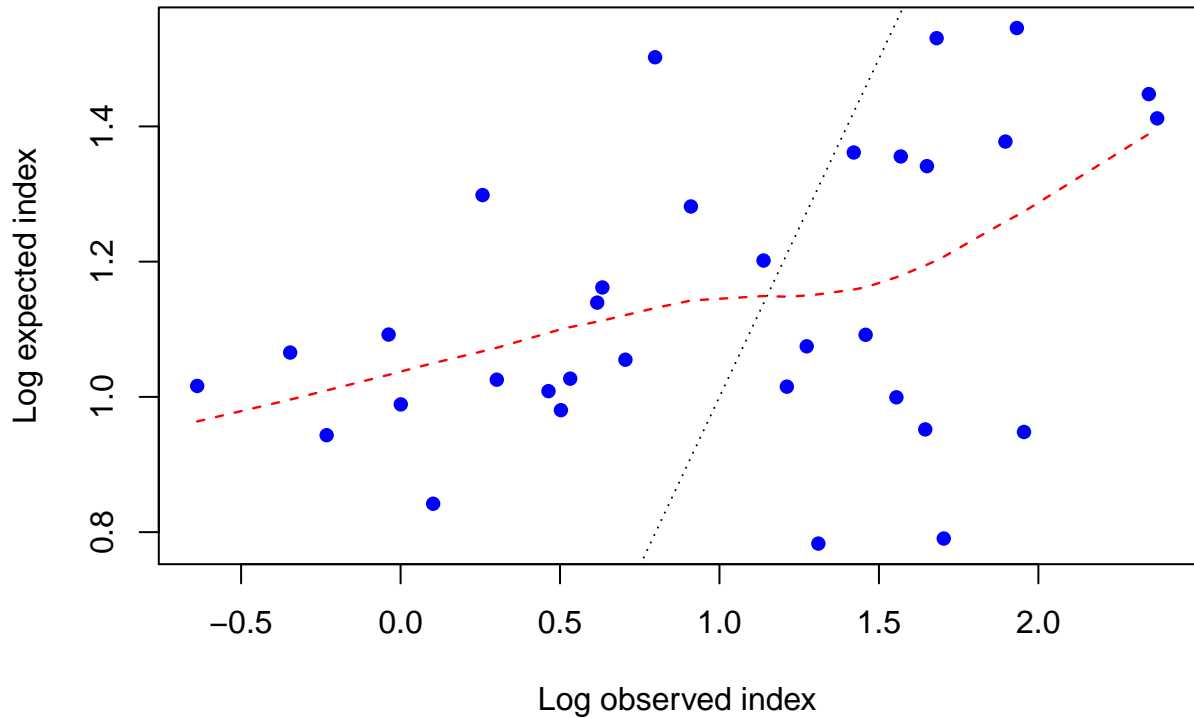


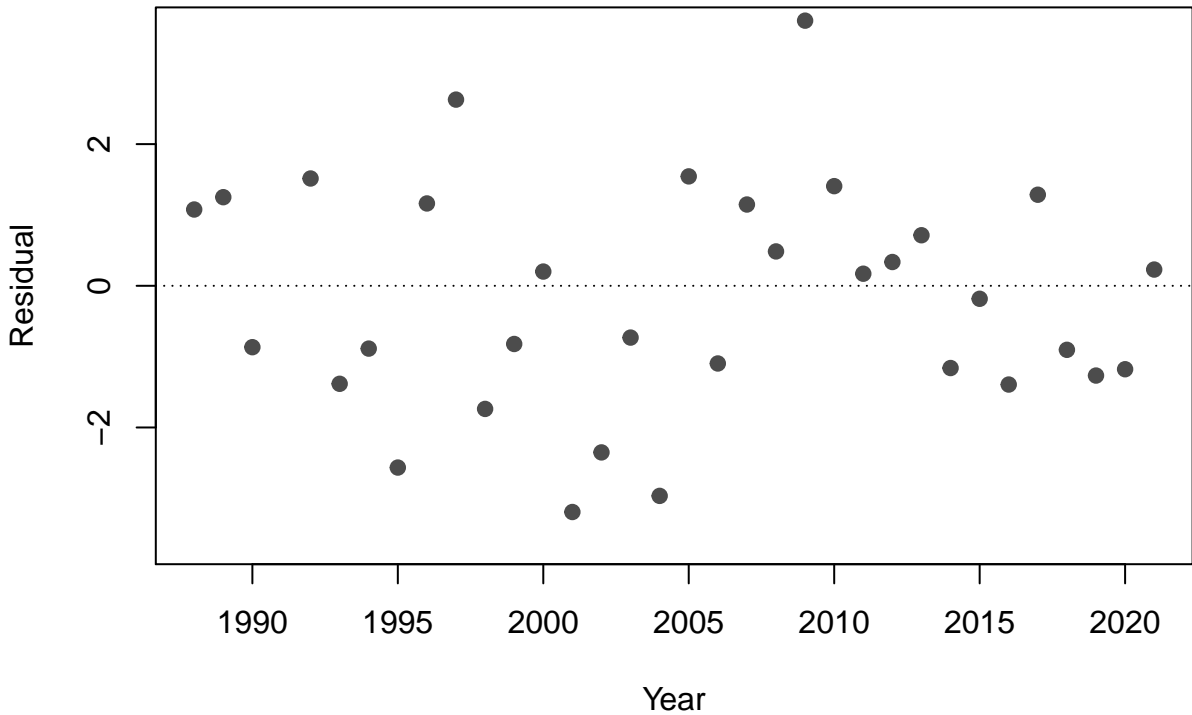


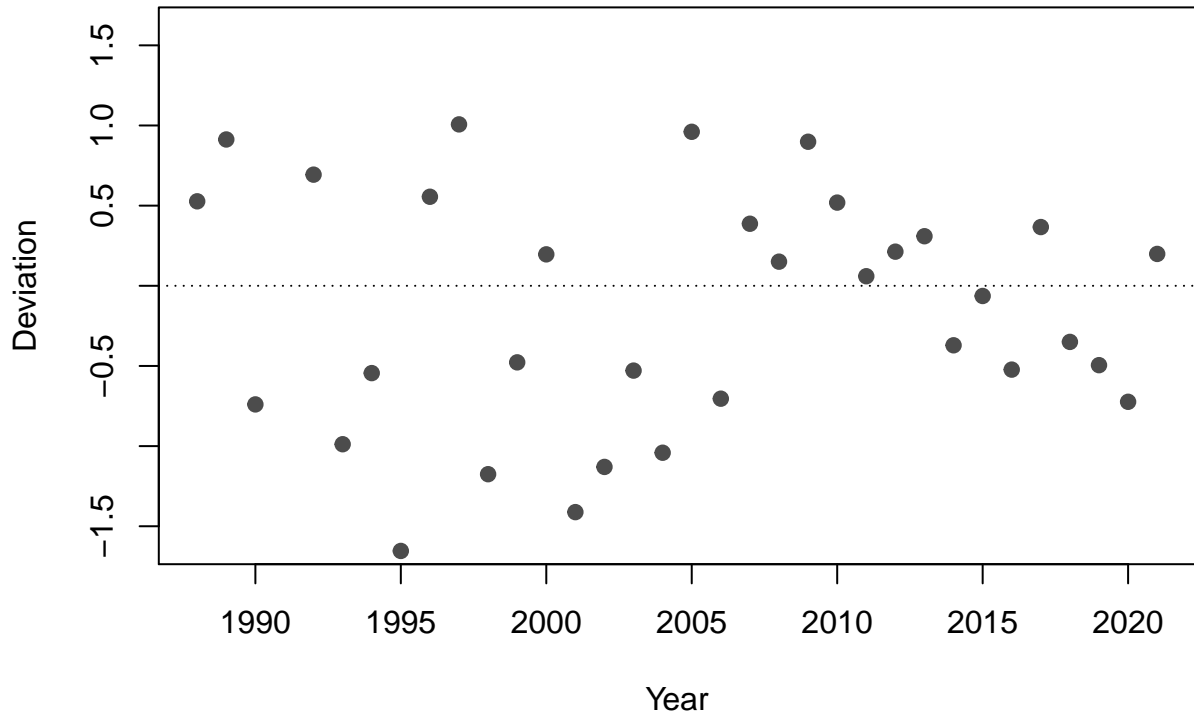


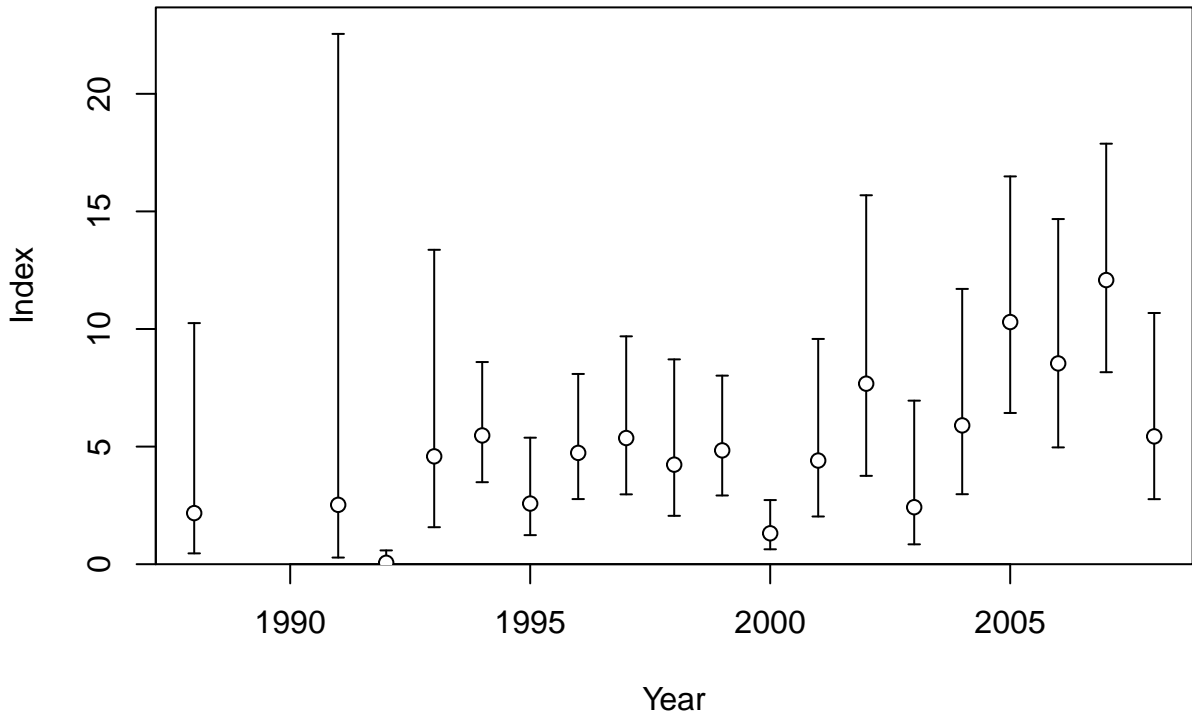


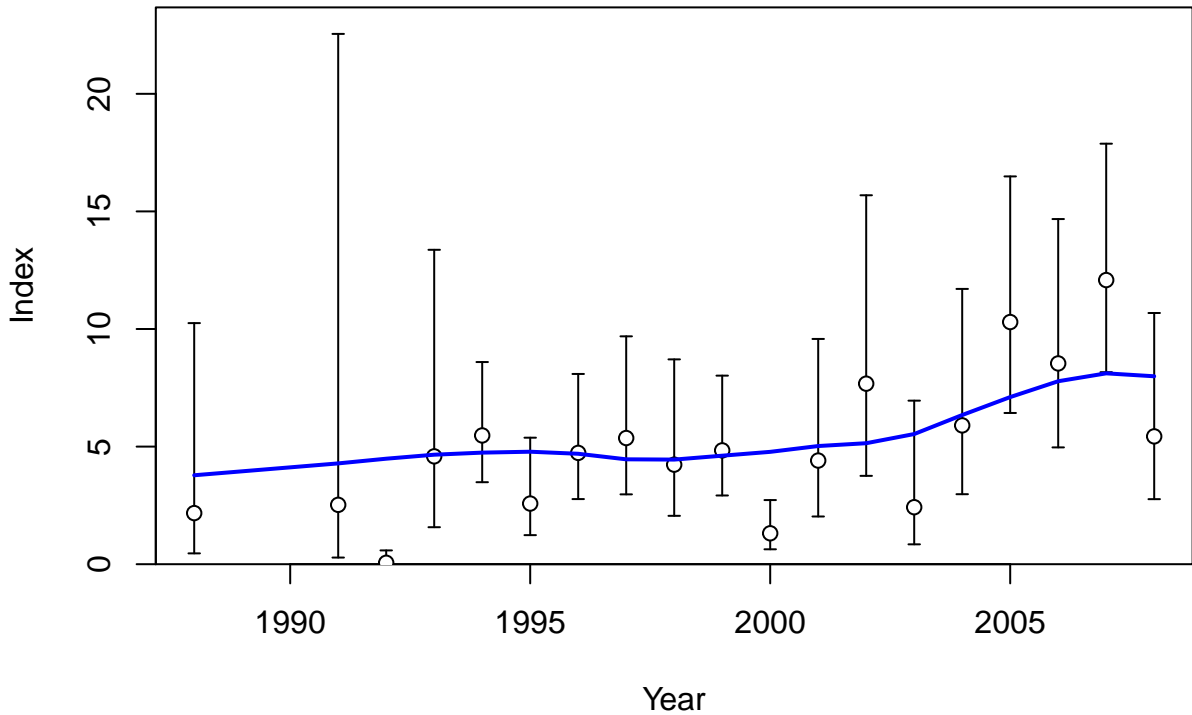


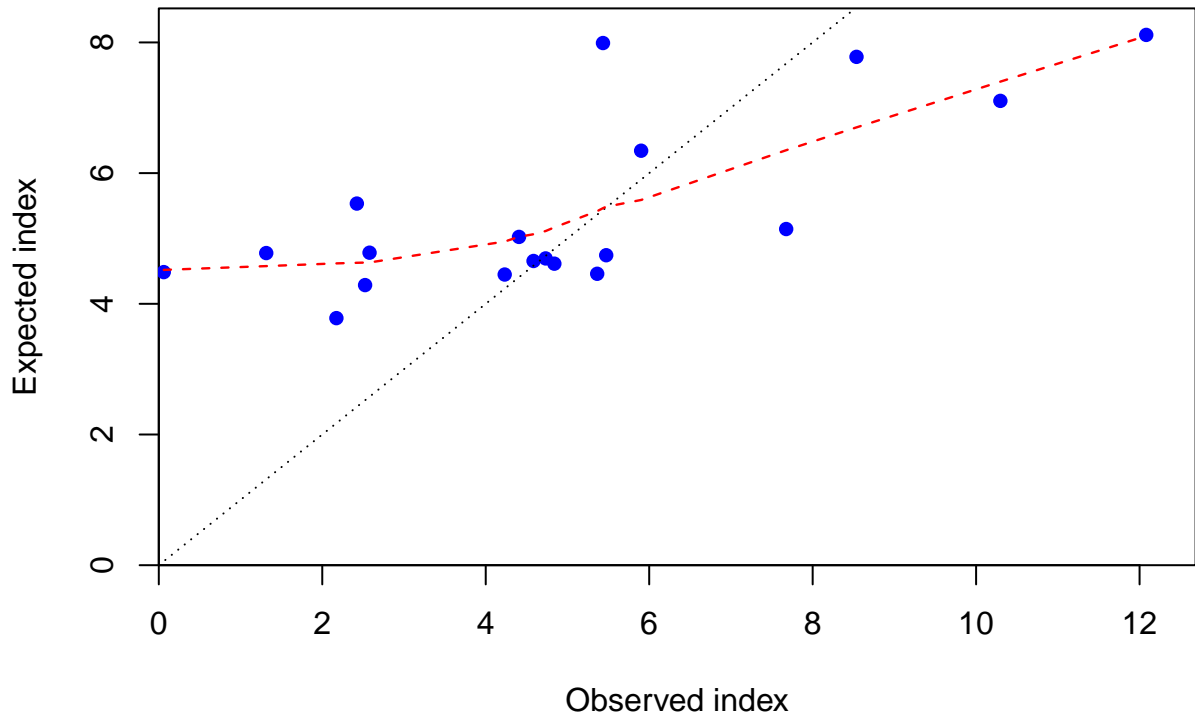


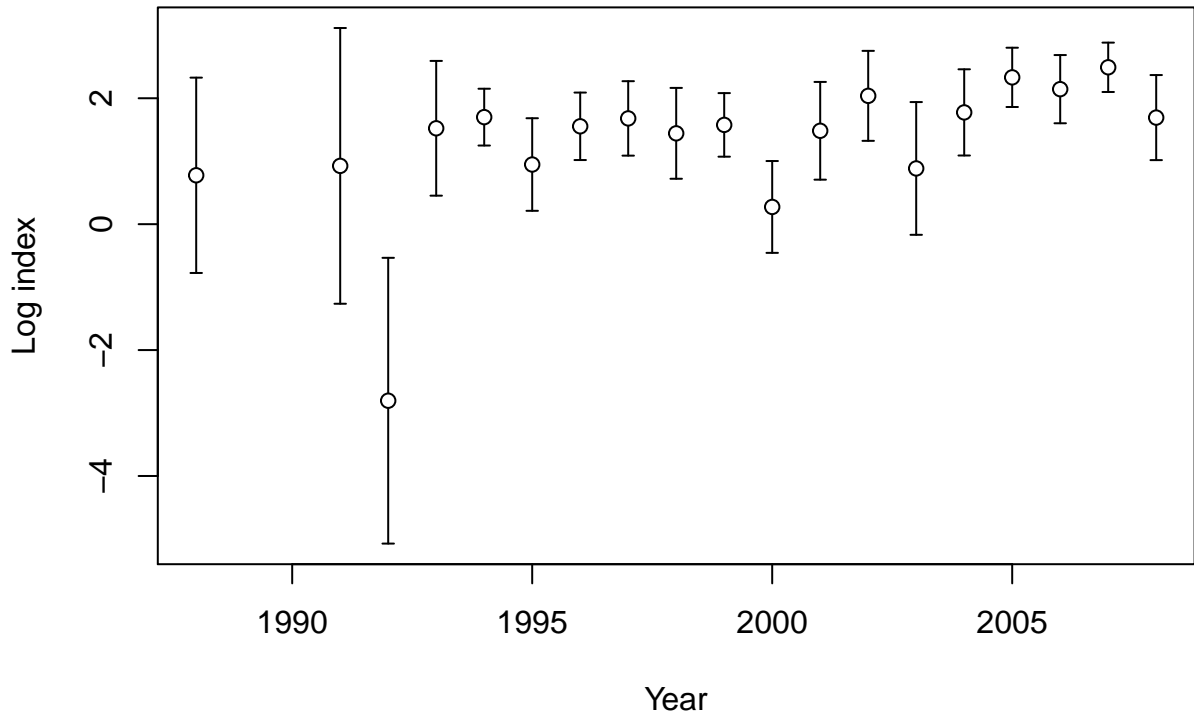


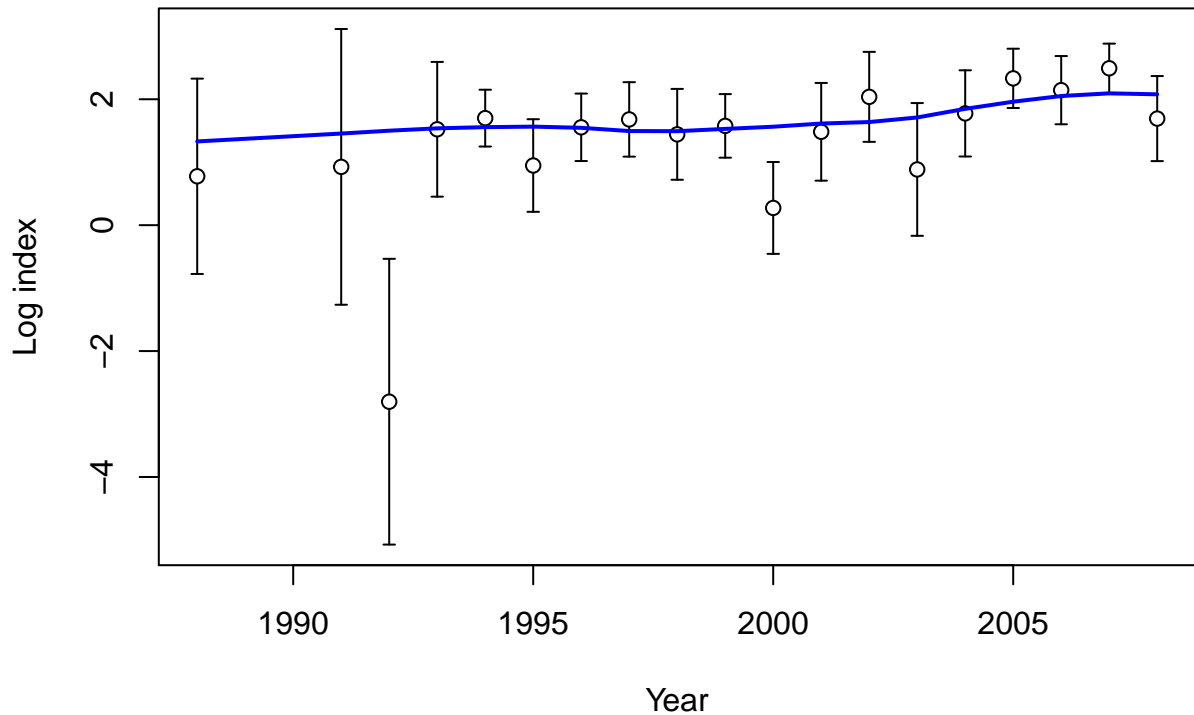




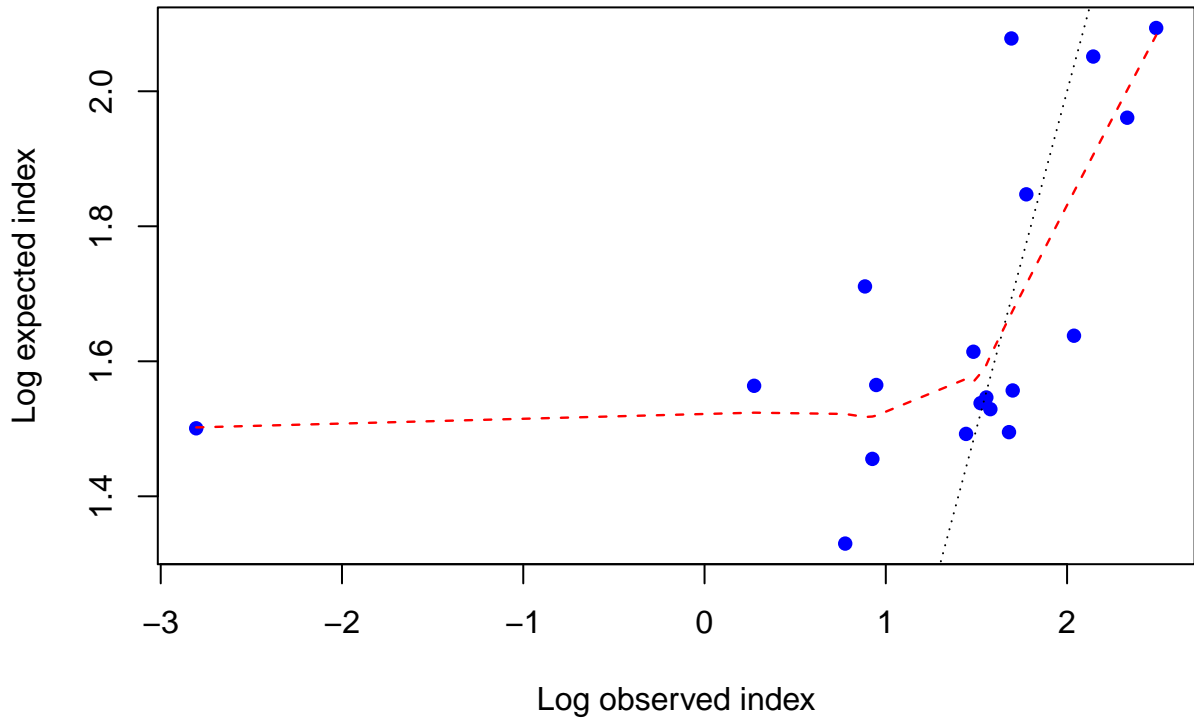


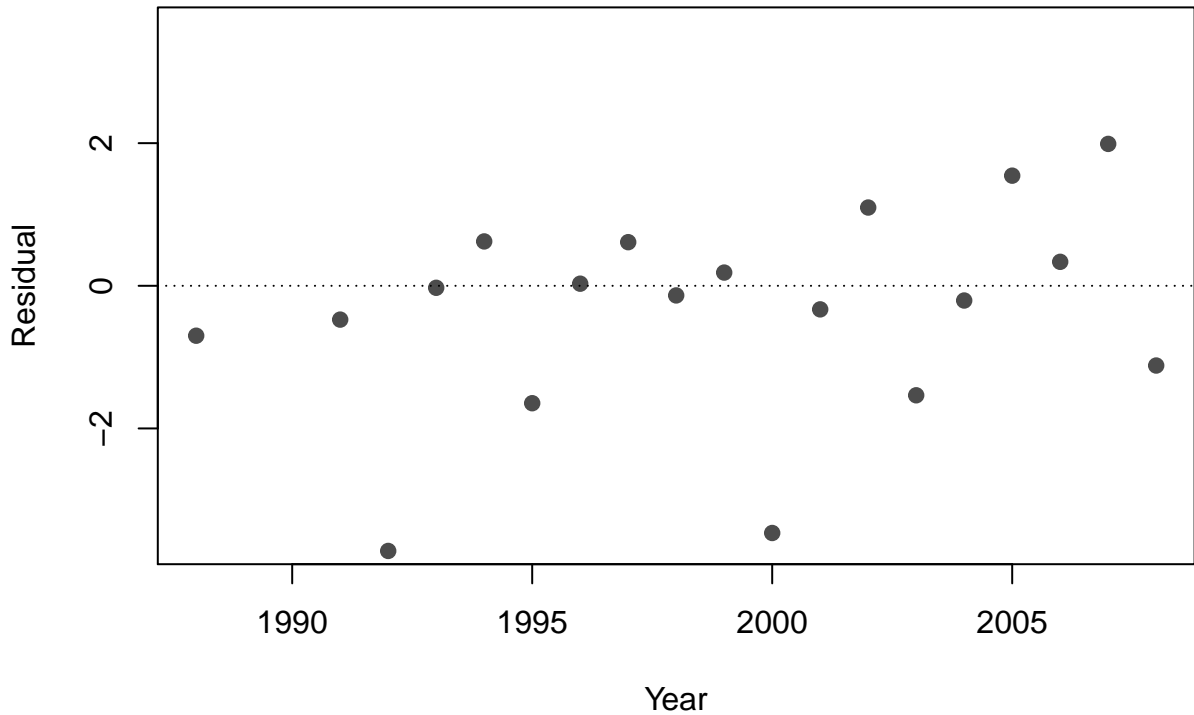


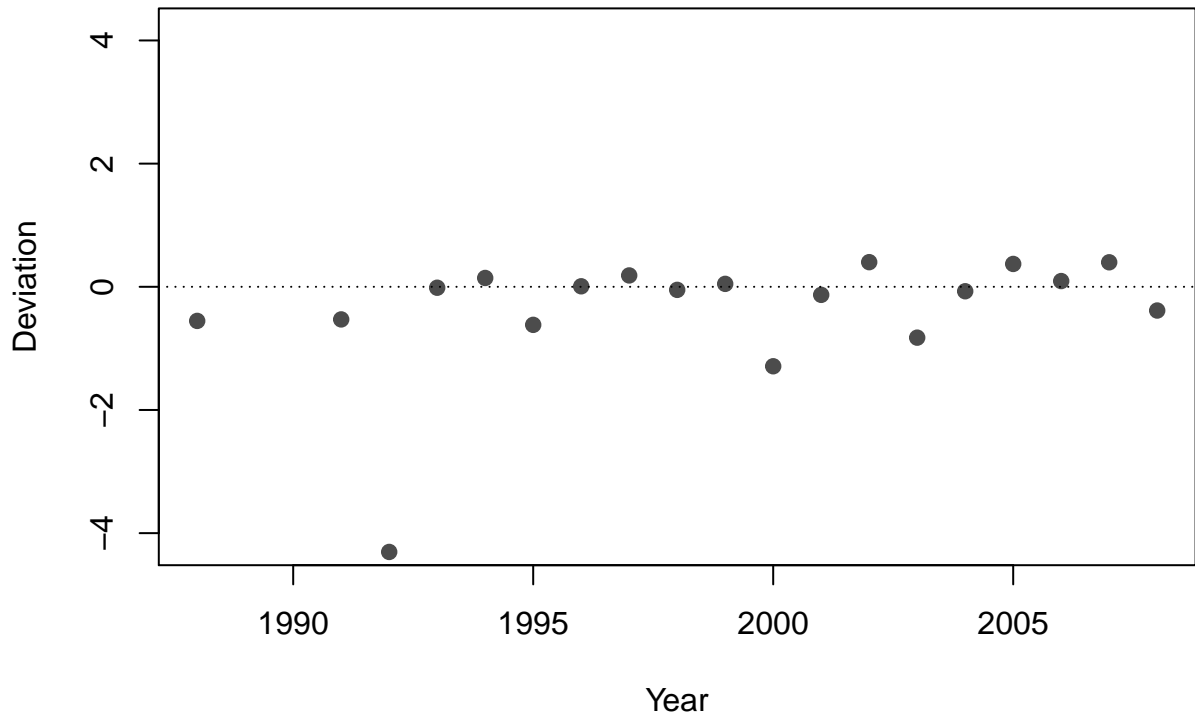




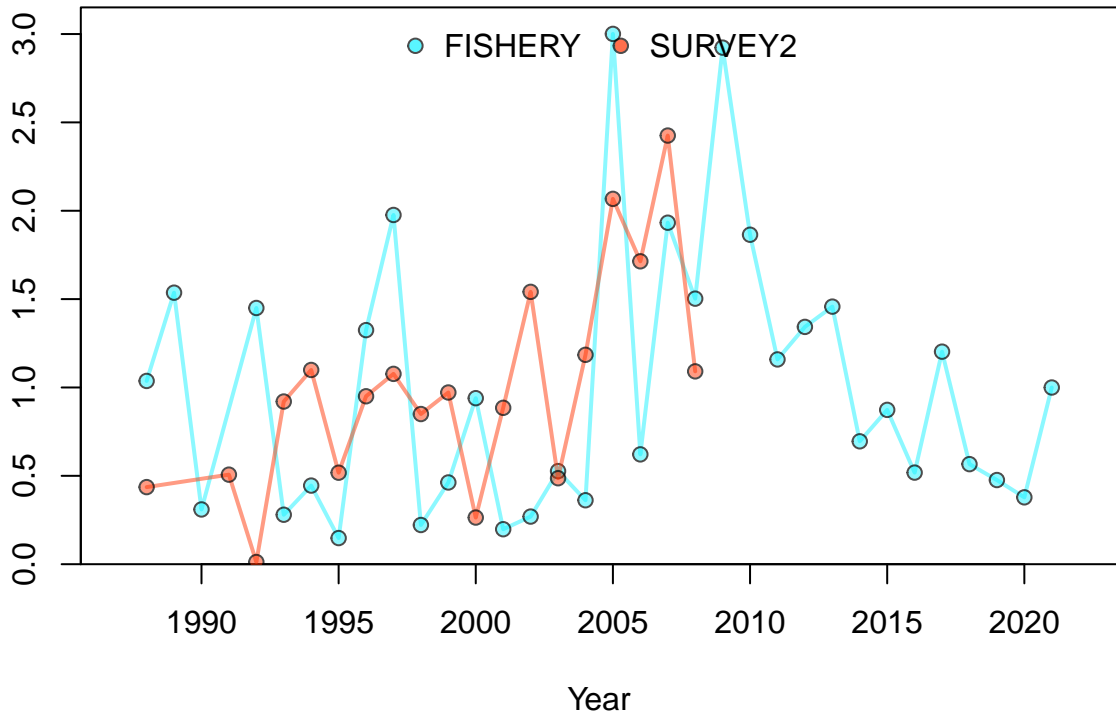


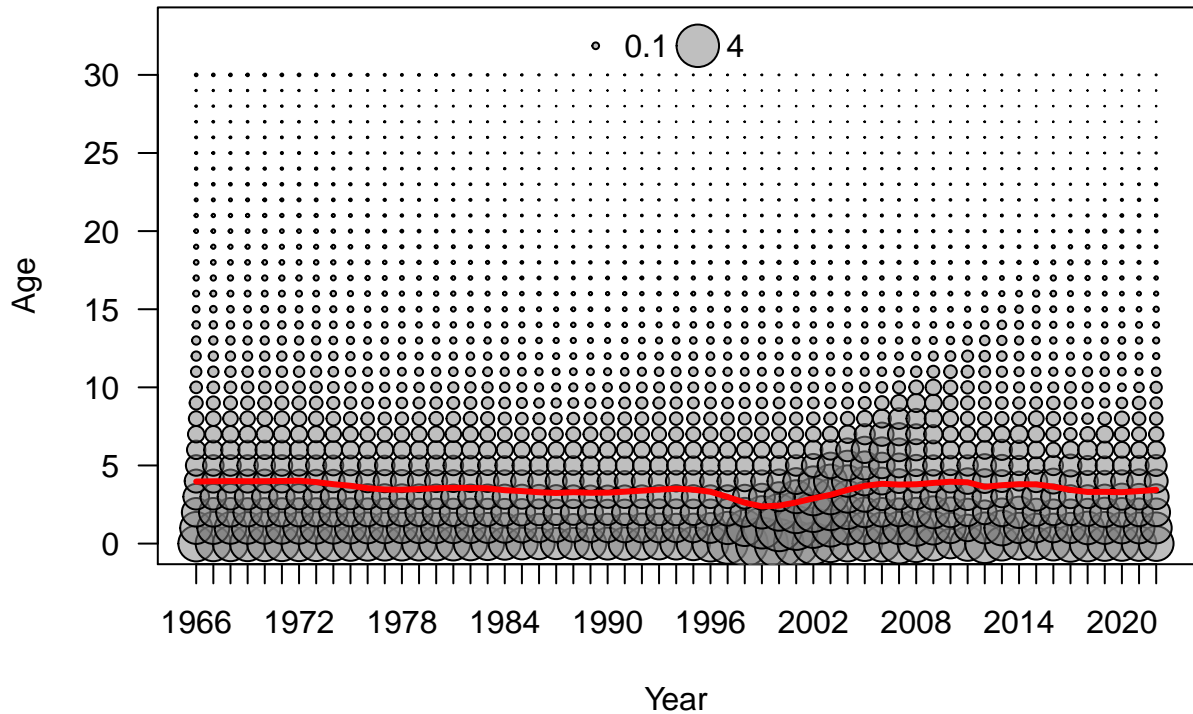


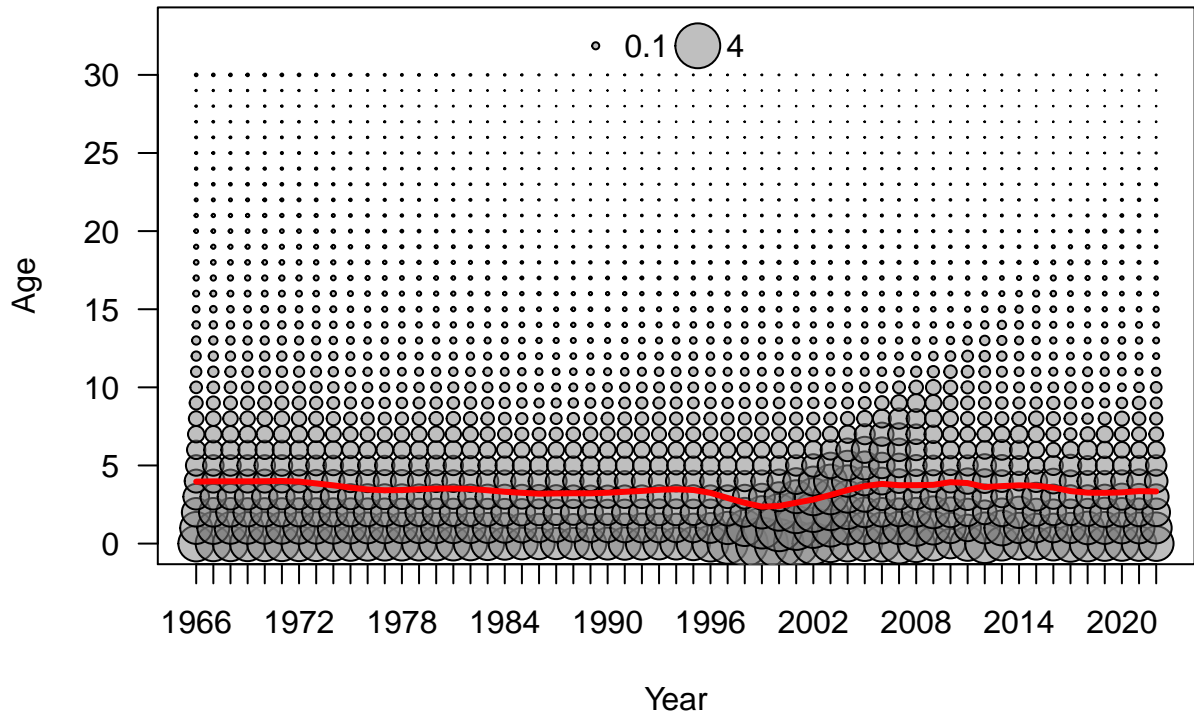




Standardized index







Length

120

100

80

60

40

20

0

◦ 0.1 ◉ 4

1967

1973

1979

1985

1991

1997

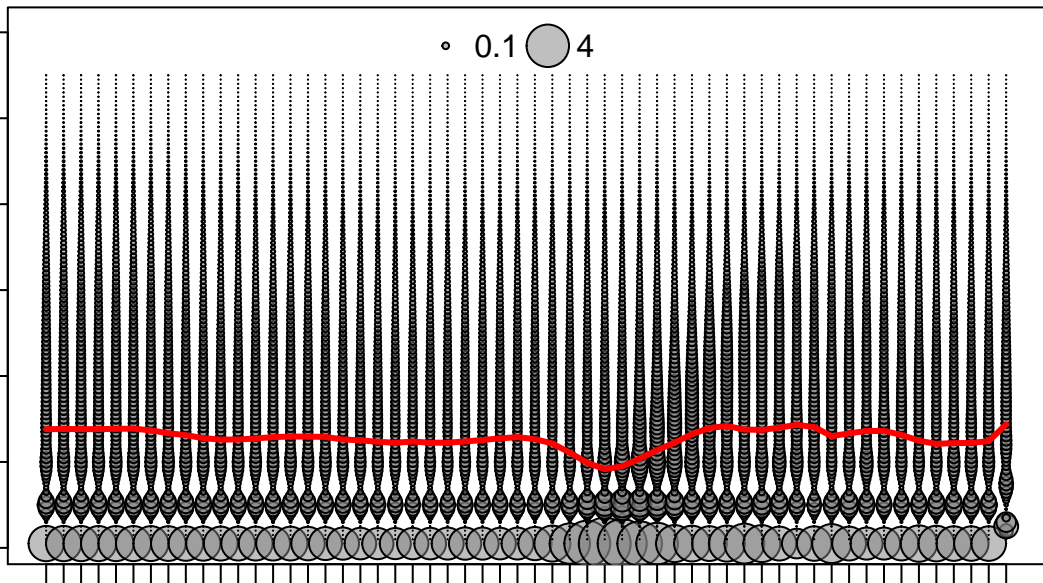
2003

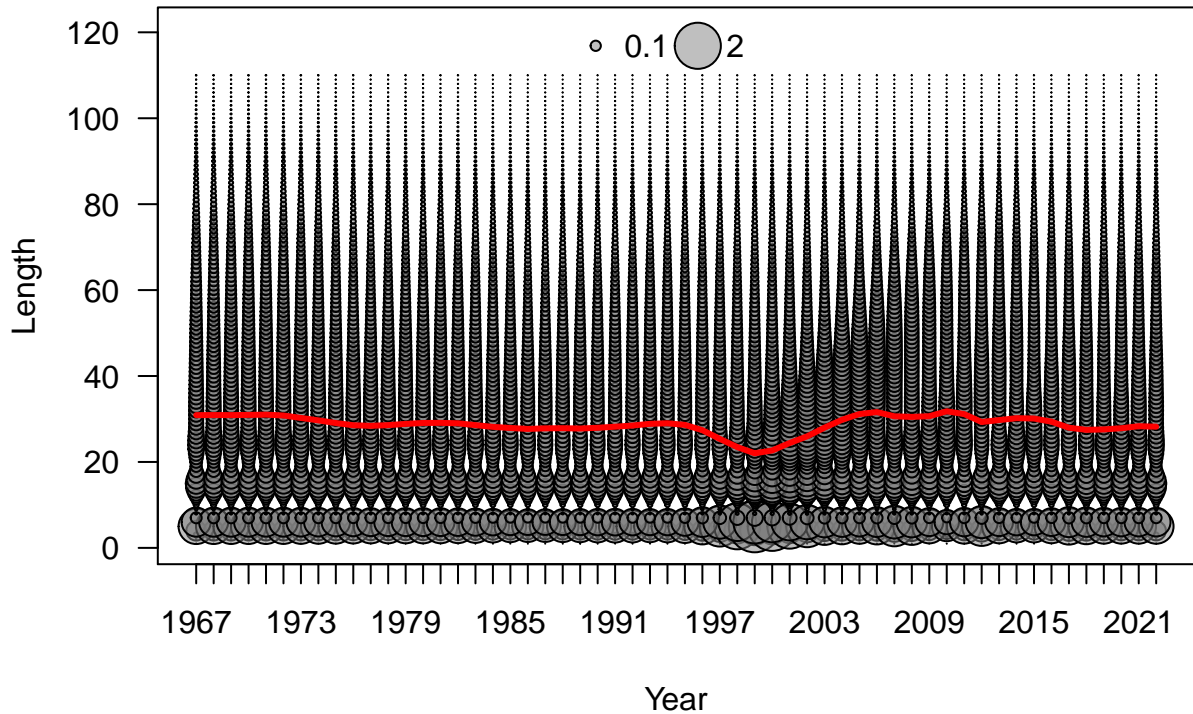
2009

2015

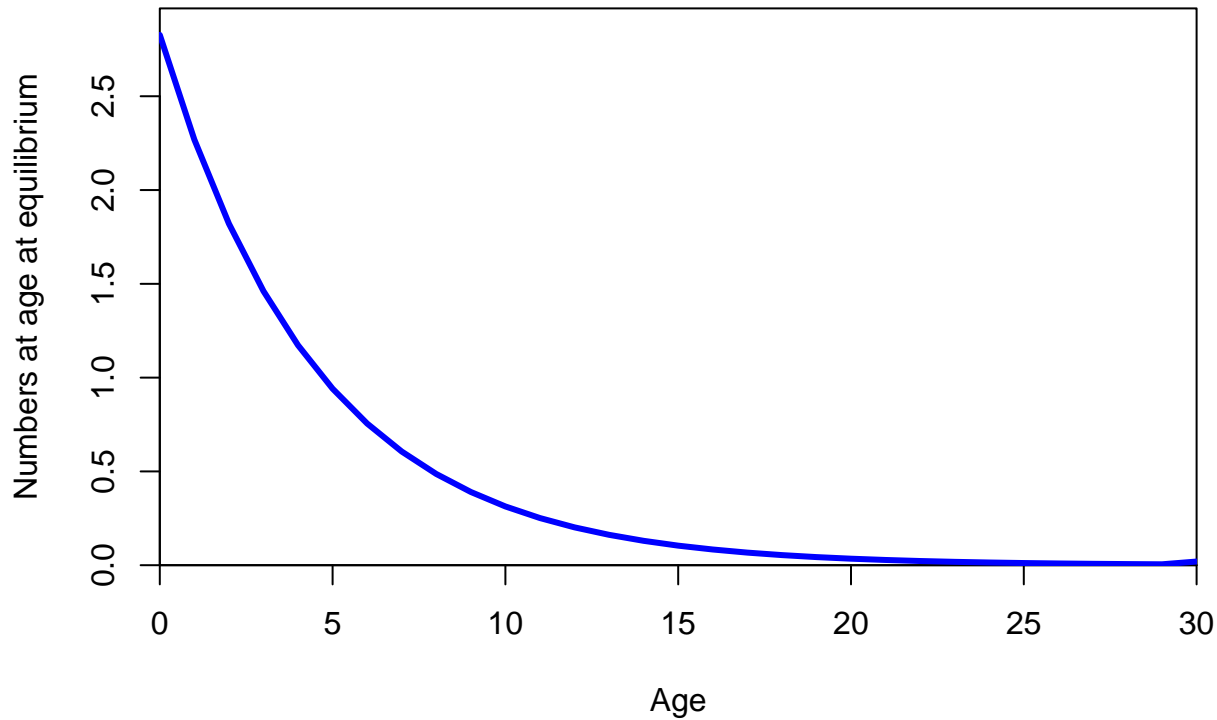
2021

Year



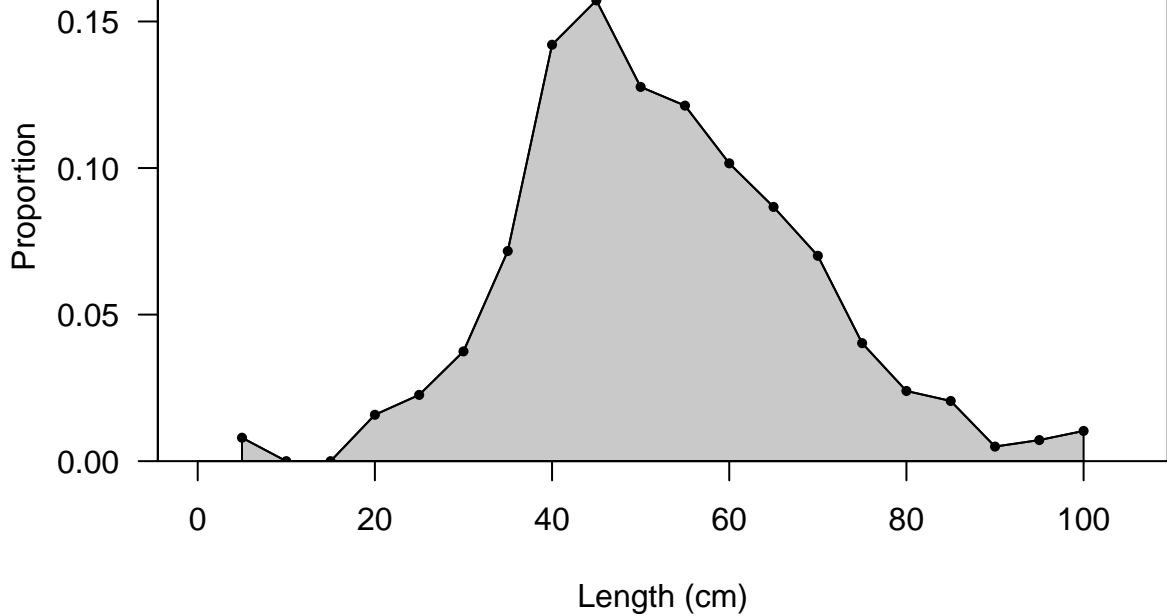


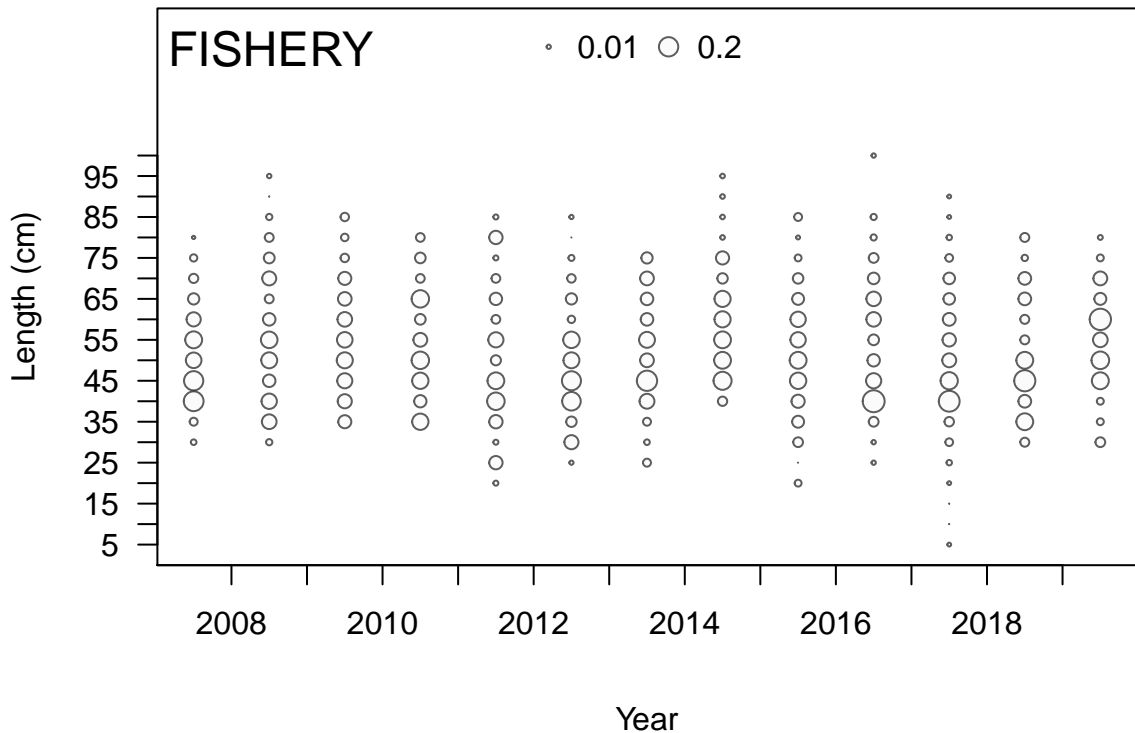




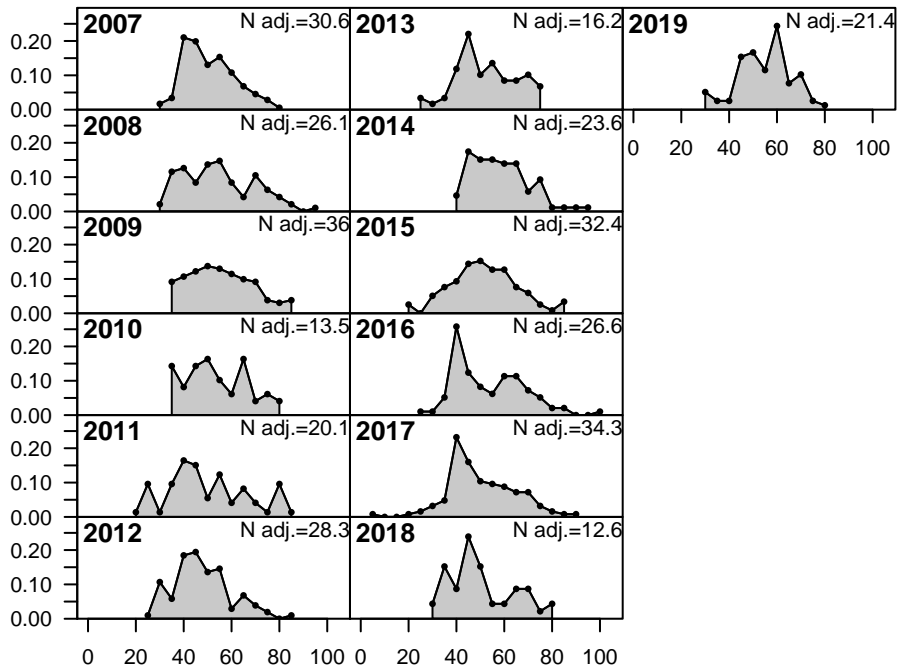
**FISHERY**

Sum of N adj.=321.7

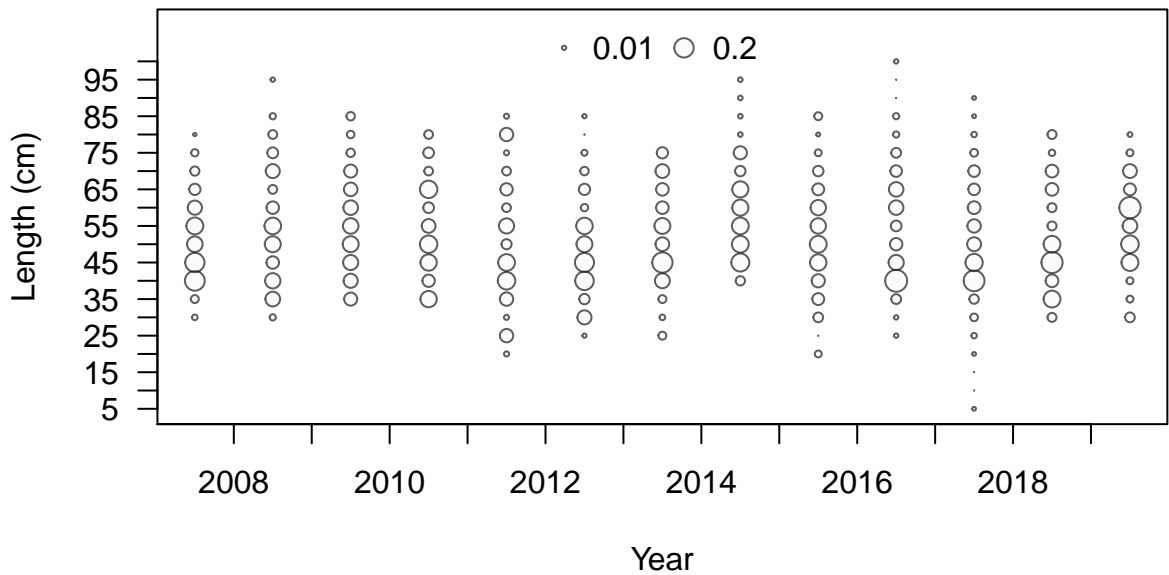




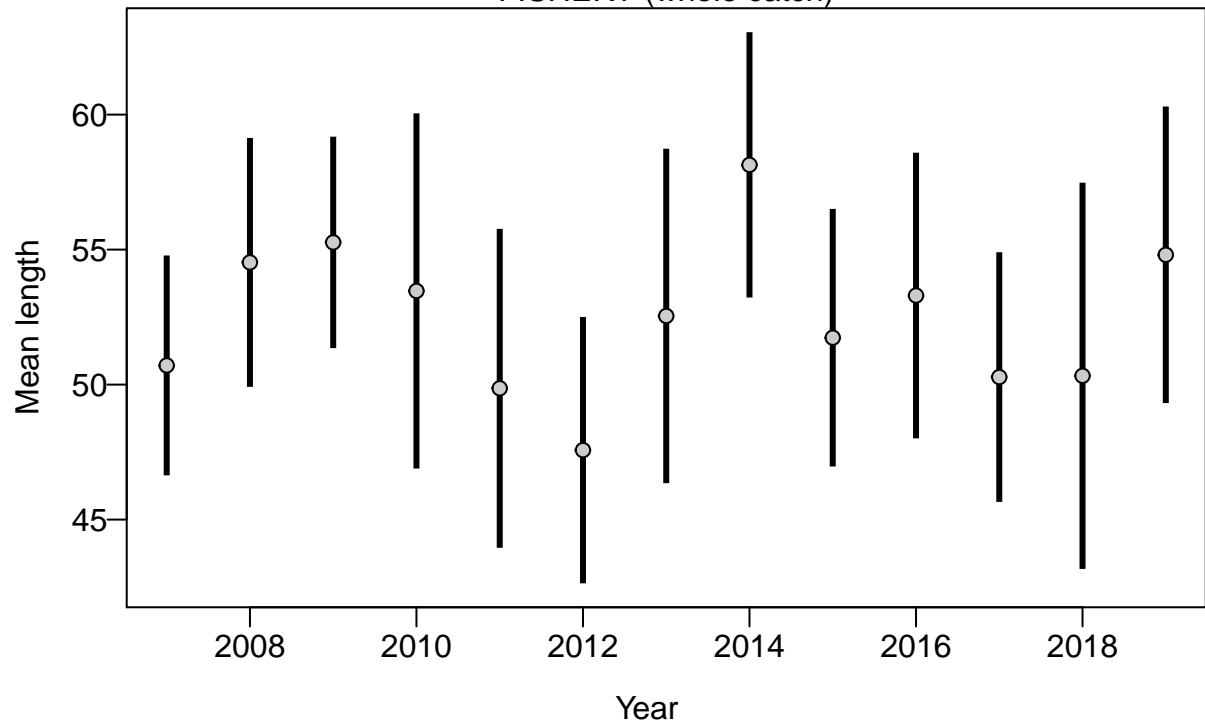
Proportion



Length (cm)

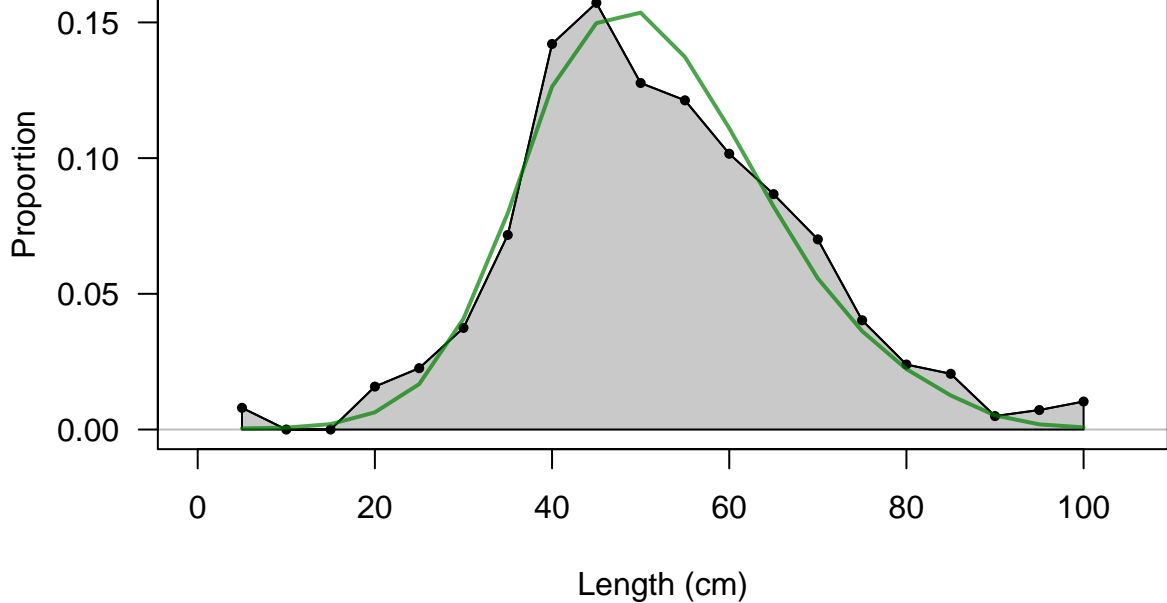


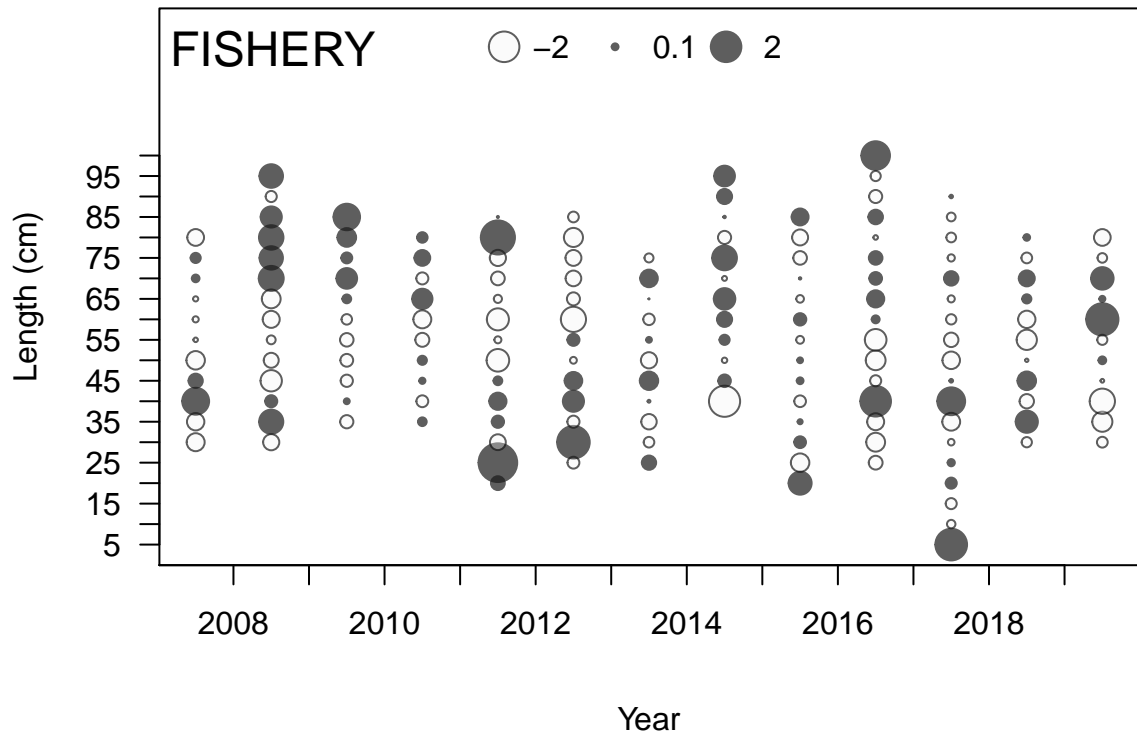
FISHERY (whole catch)



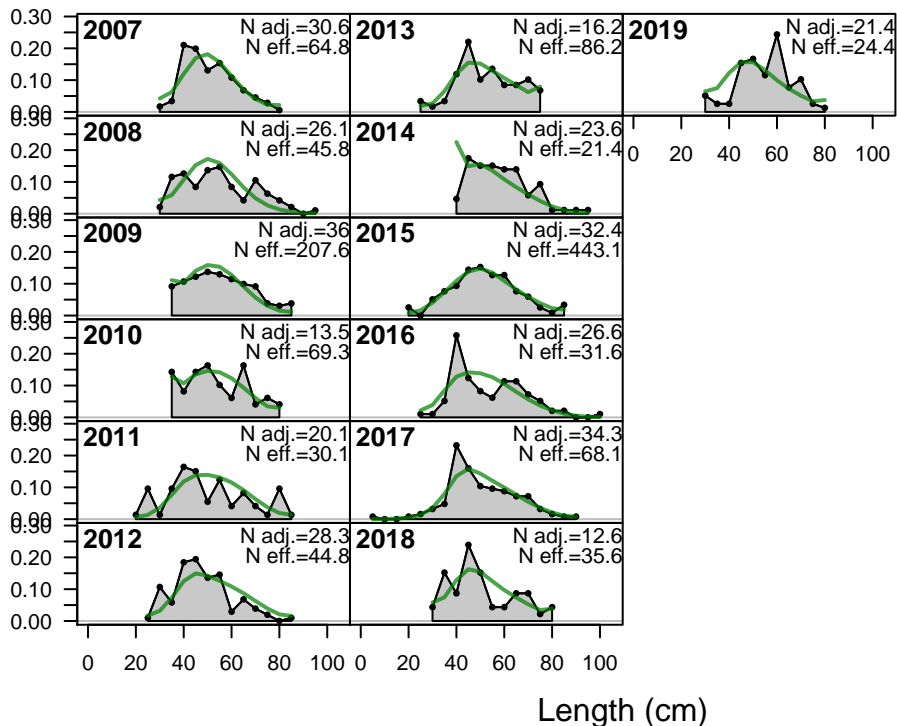
# FISHERY

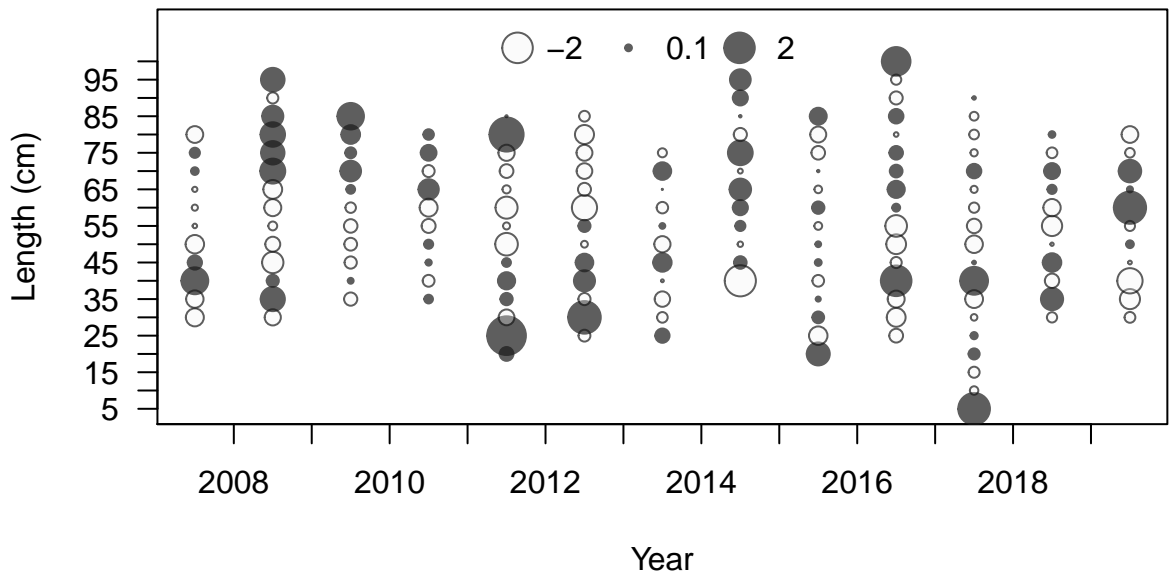
Sum of N adj.=321.7  
Sum of N eff.=1172.7

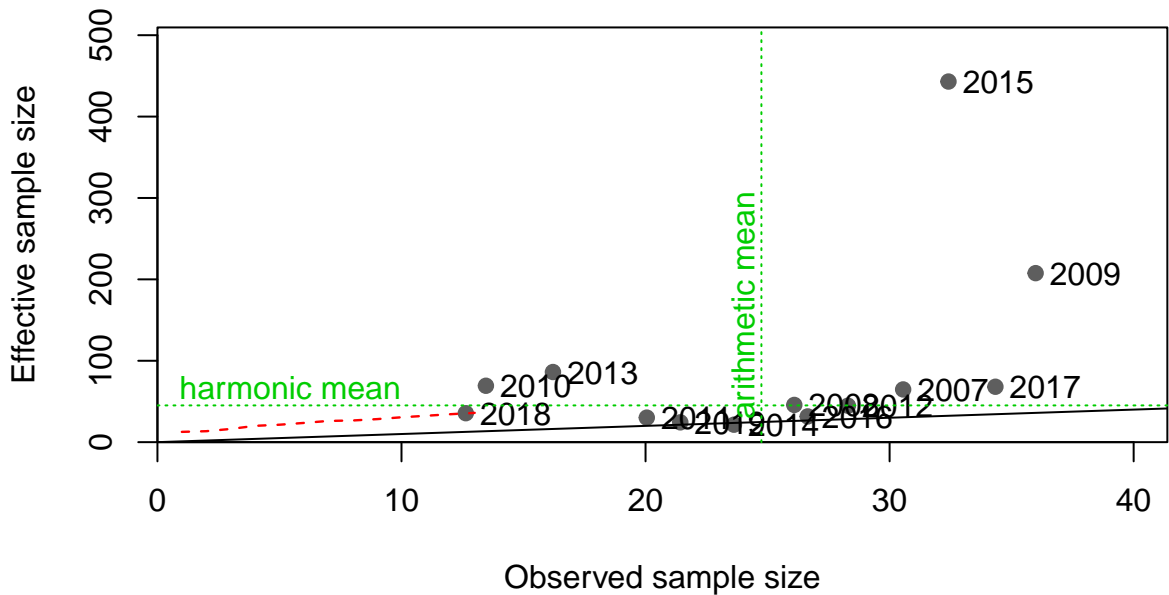




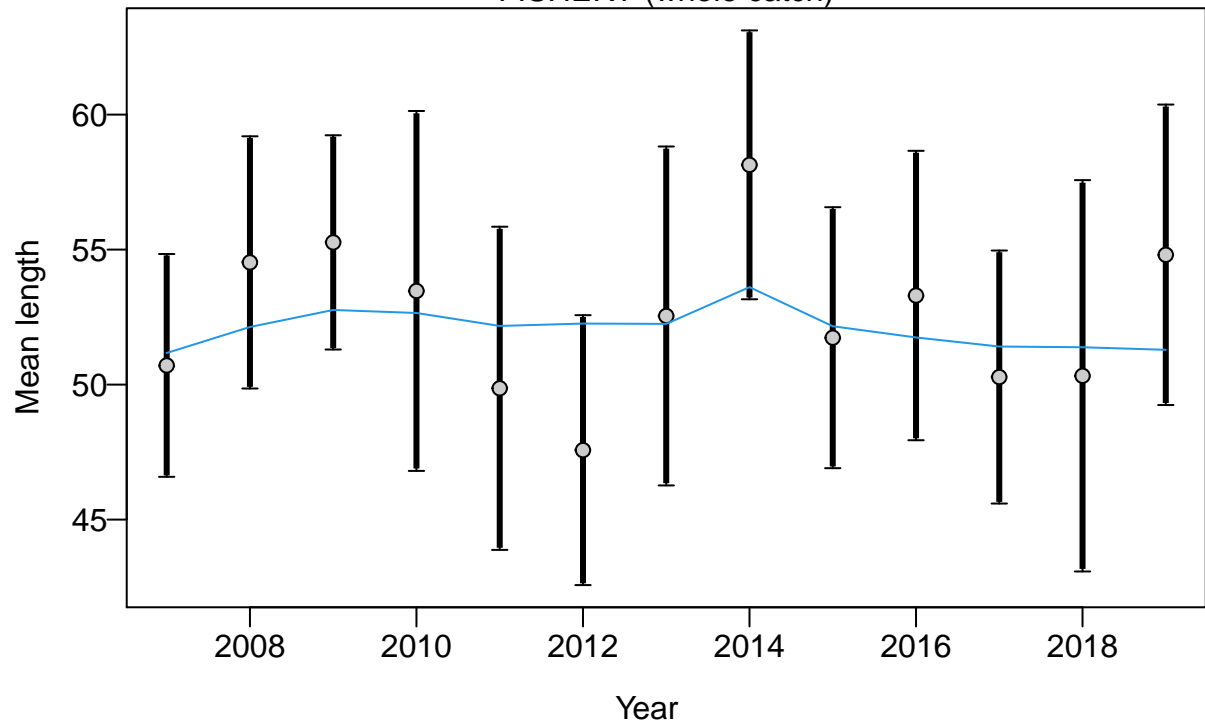


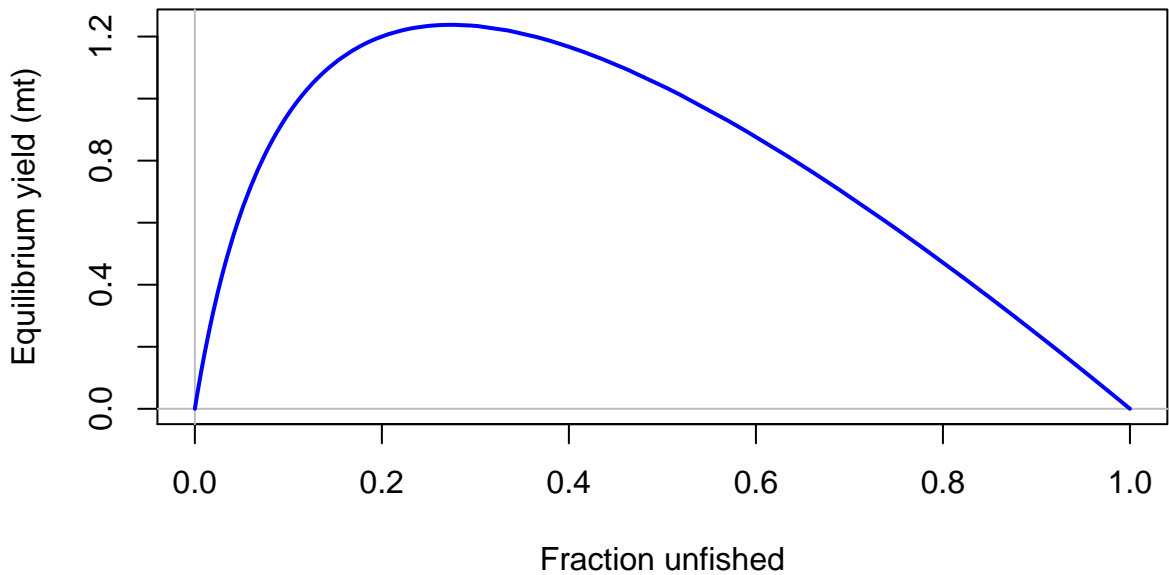


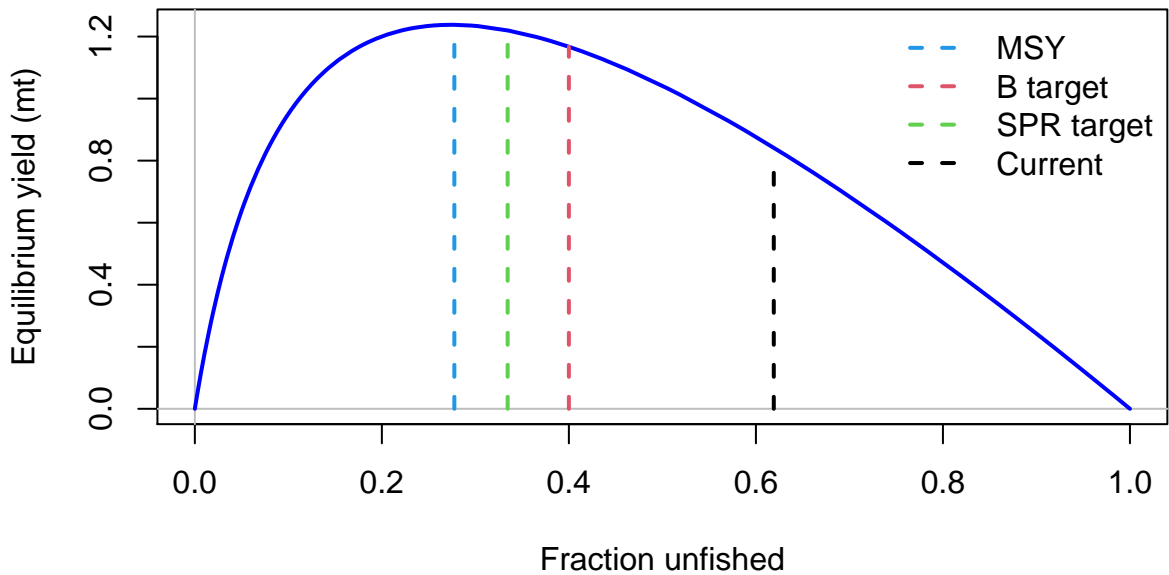


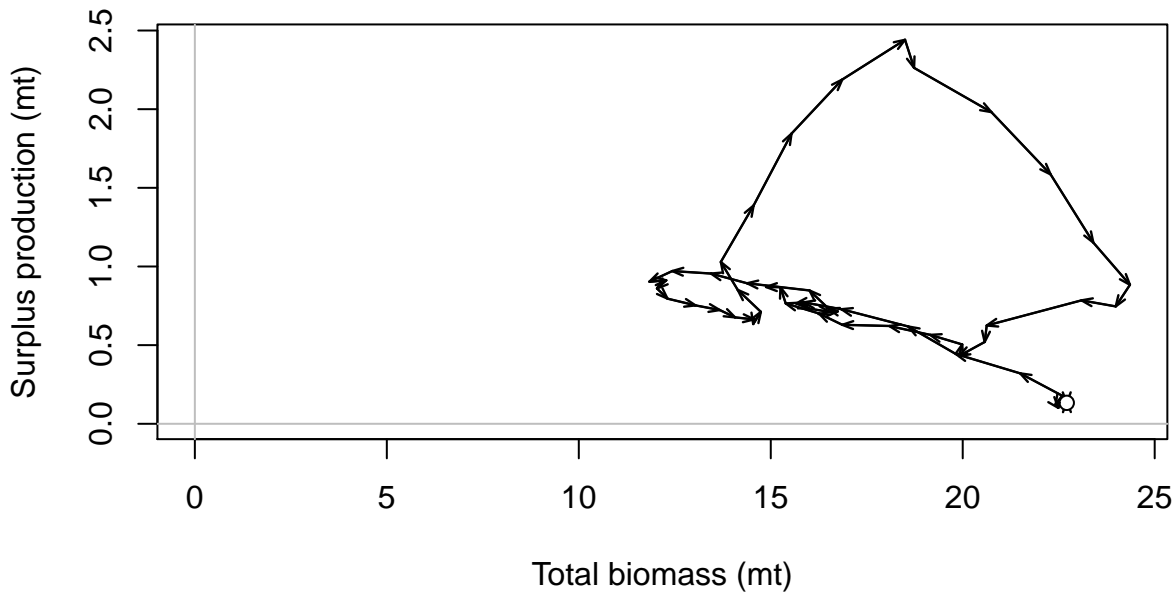


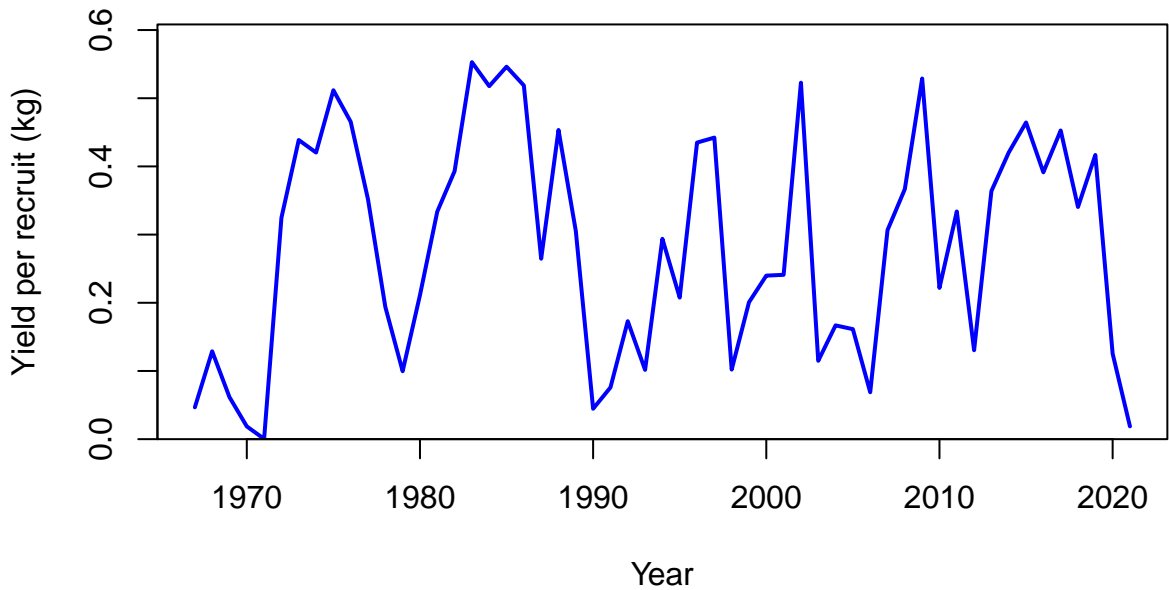
FISHERY (whole catch)



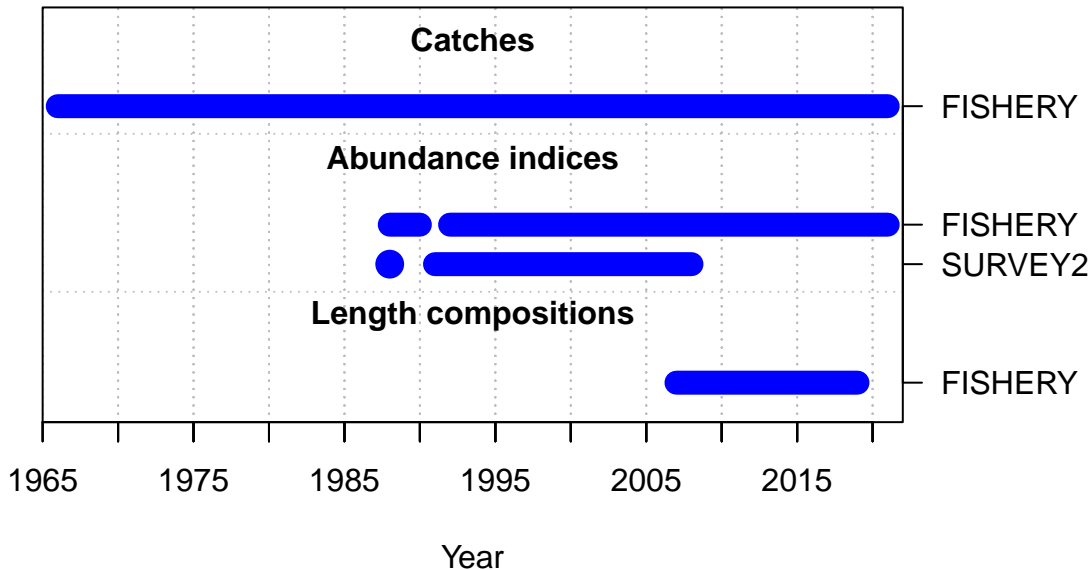


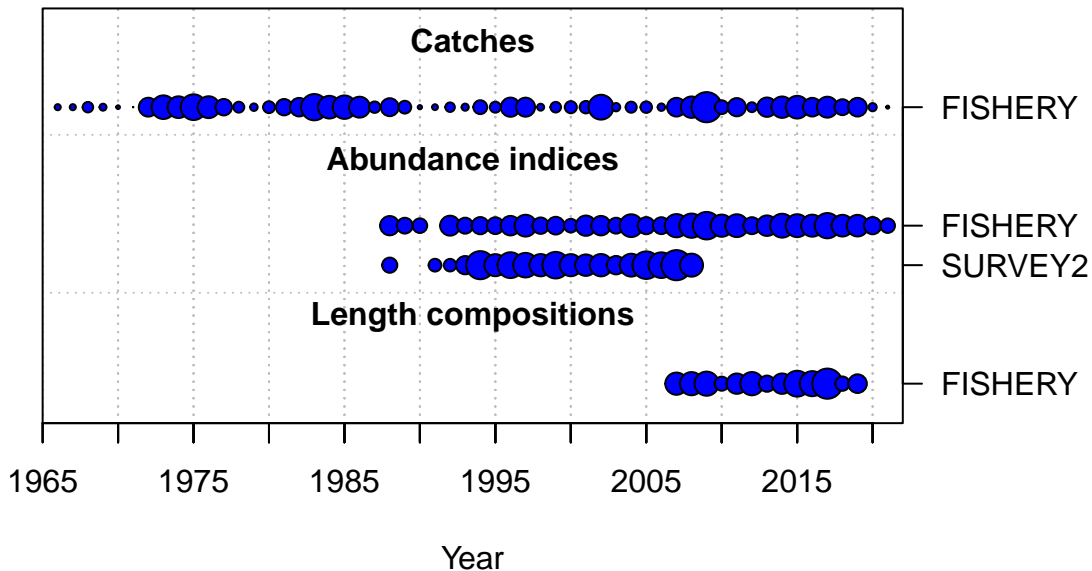




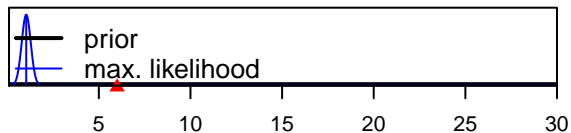




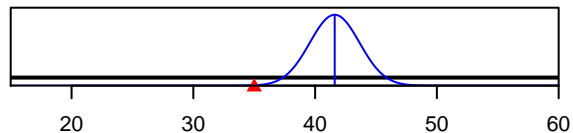




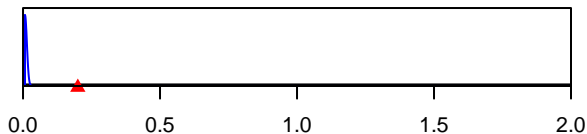
SR\_LN(R0)



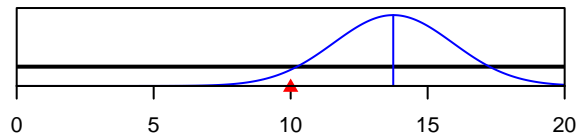
Size\_inflection\_FISHERY(1)



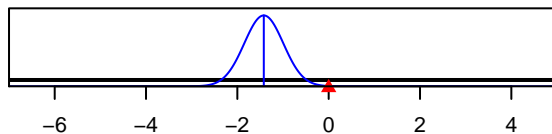
InitF\_seas\_1flt\_1FISHERY



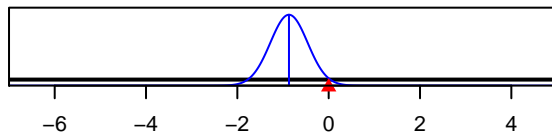
Size\_95%width\_FISHERY(1)



LnQ\_base\_FISHERY(1)



LnQ\_base\_SURVEY2(2)



Density

Parameter value