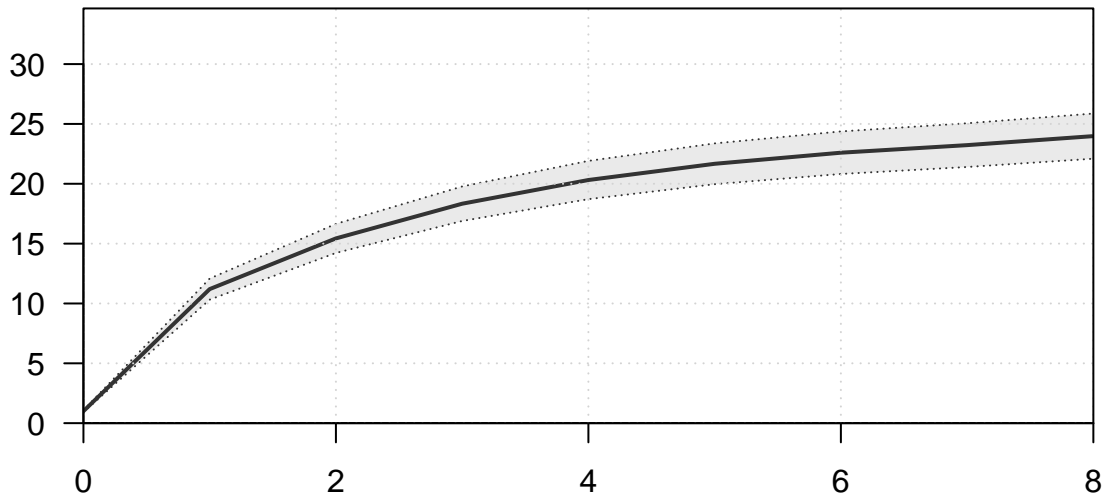


Plots created using the 'r4ss' package in R
Stock Synthesis version: 3.30.19.0
StartTime: Tue Feb 14 17:14:23 2023
Data_File: data.ss
Control_File: control.ss

Length (cm, beginning of the year)



Age (yr)











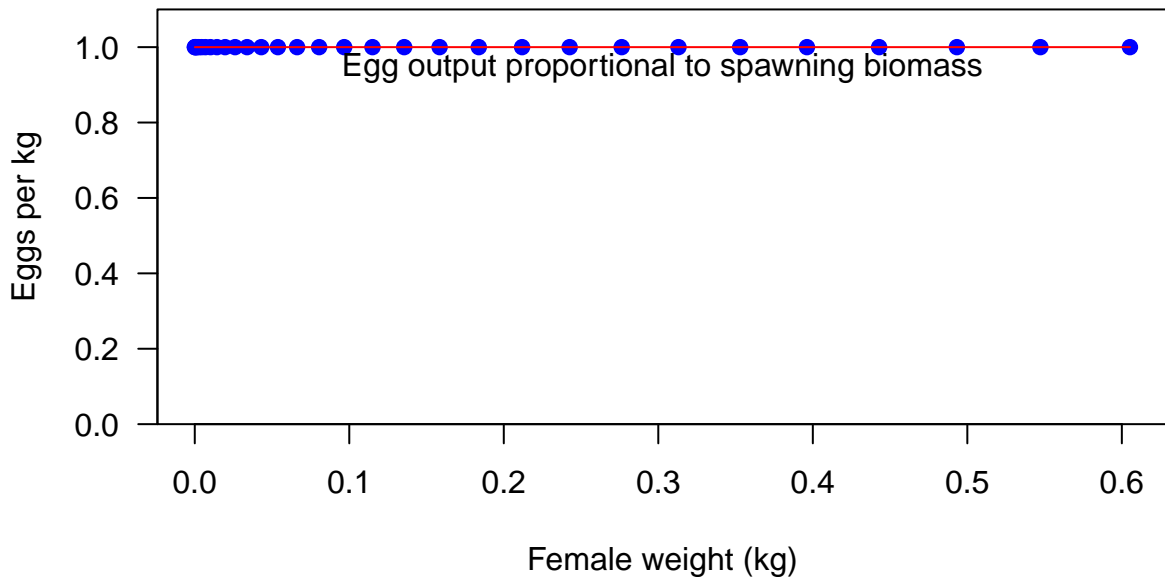








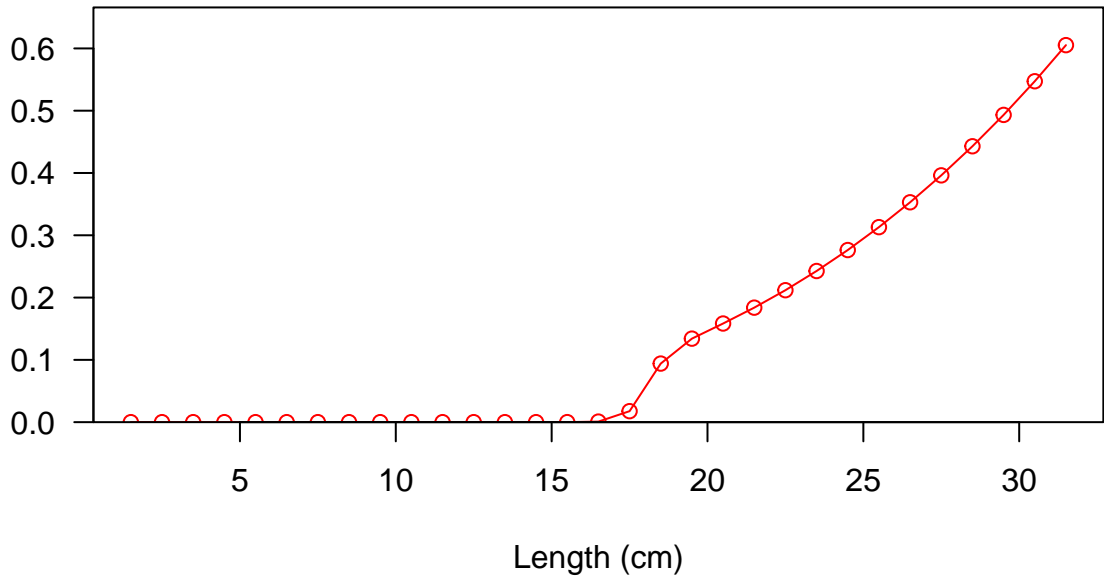






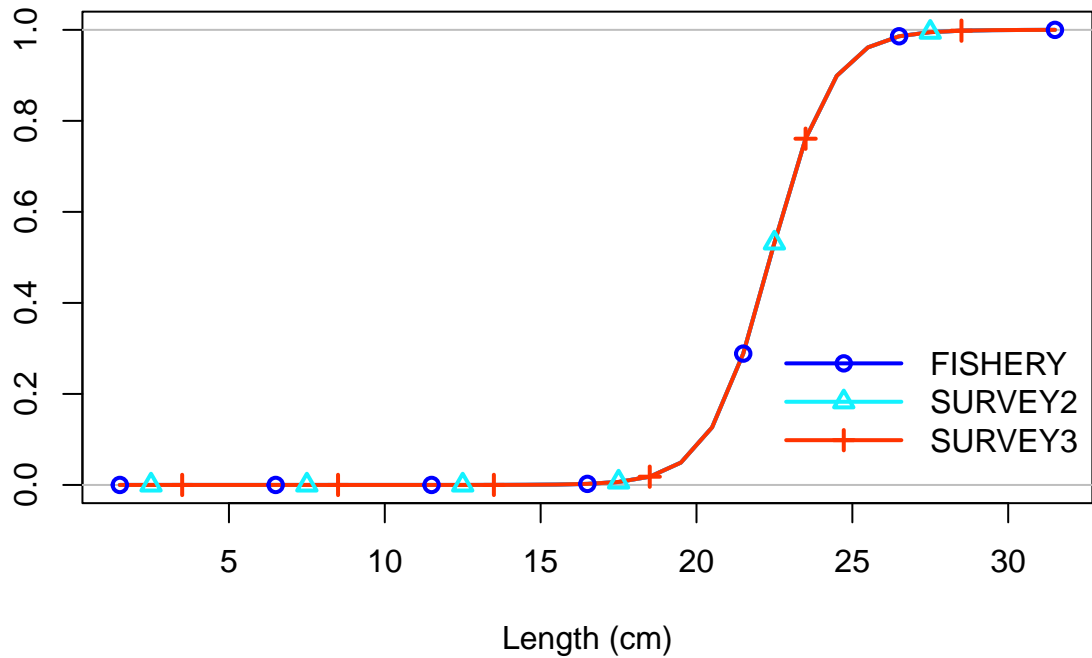


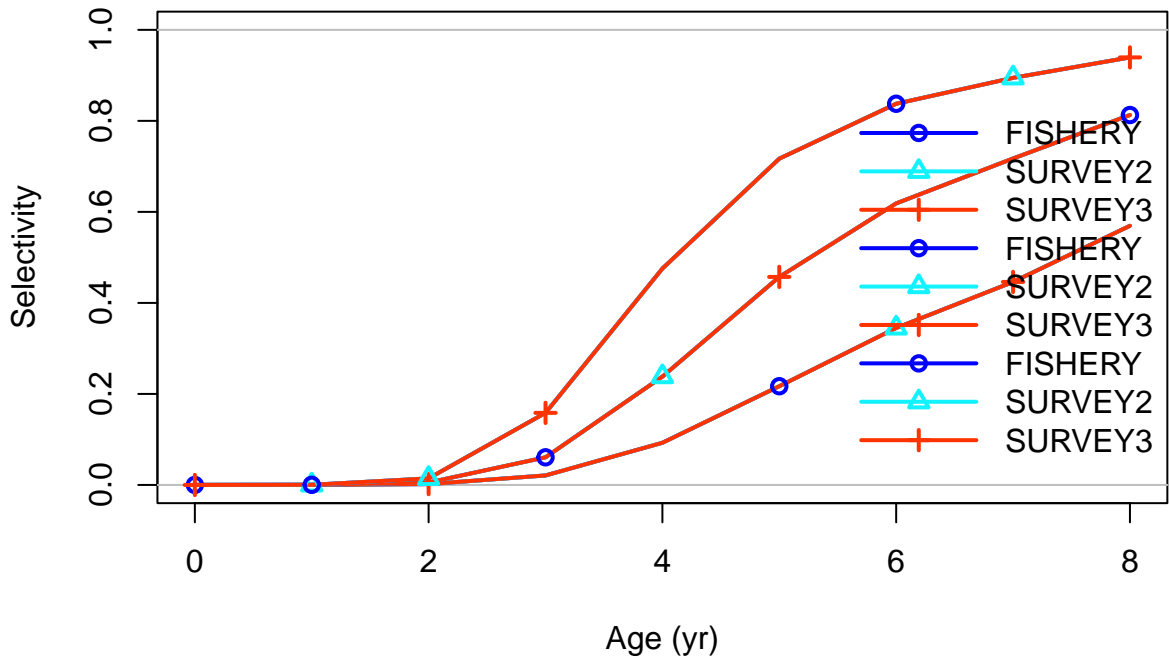
Spawning output



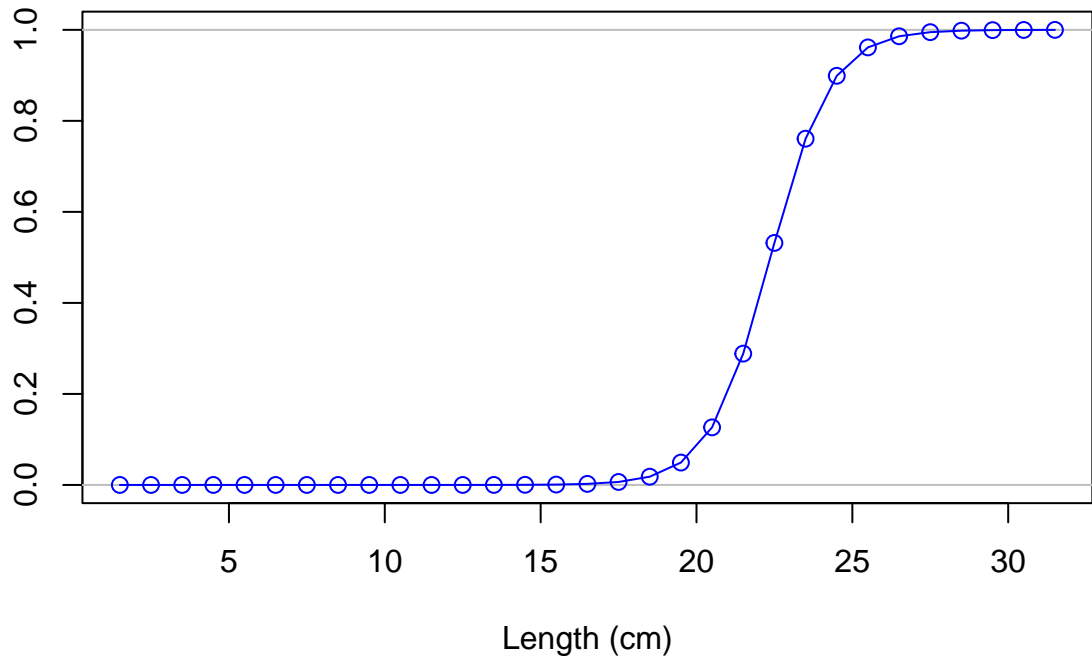


Selectivity

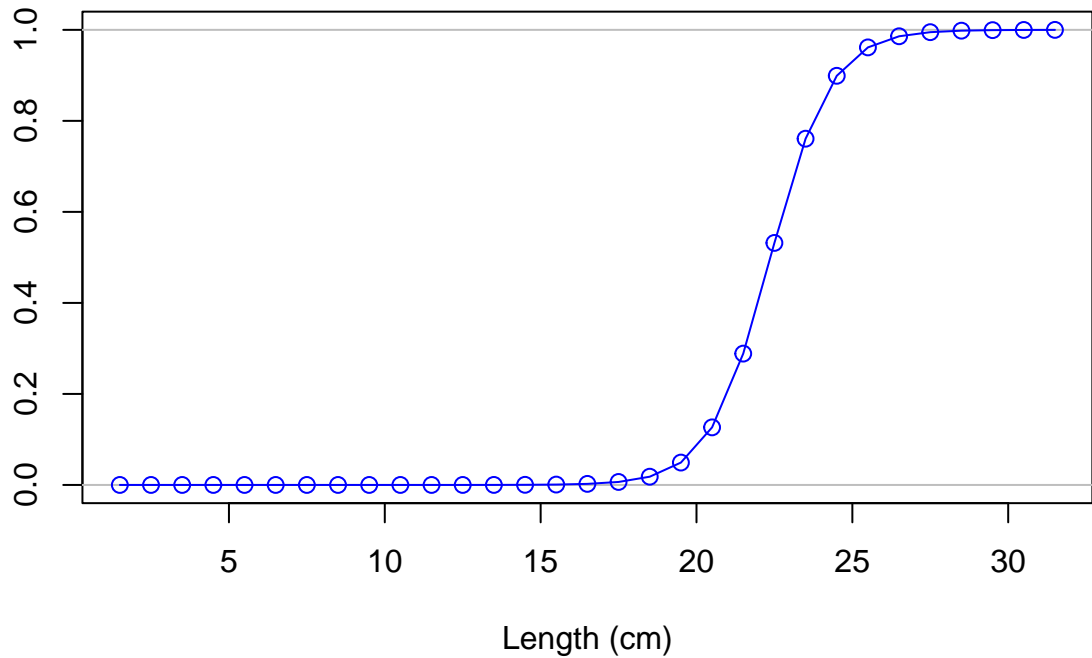




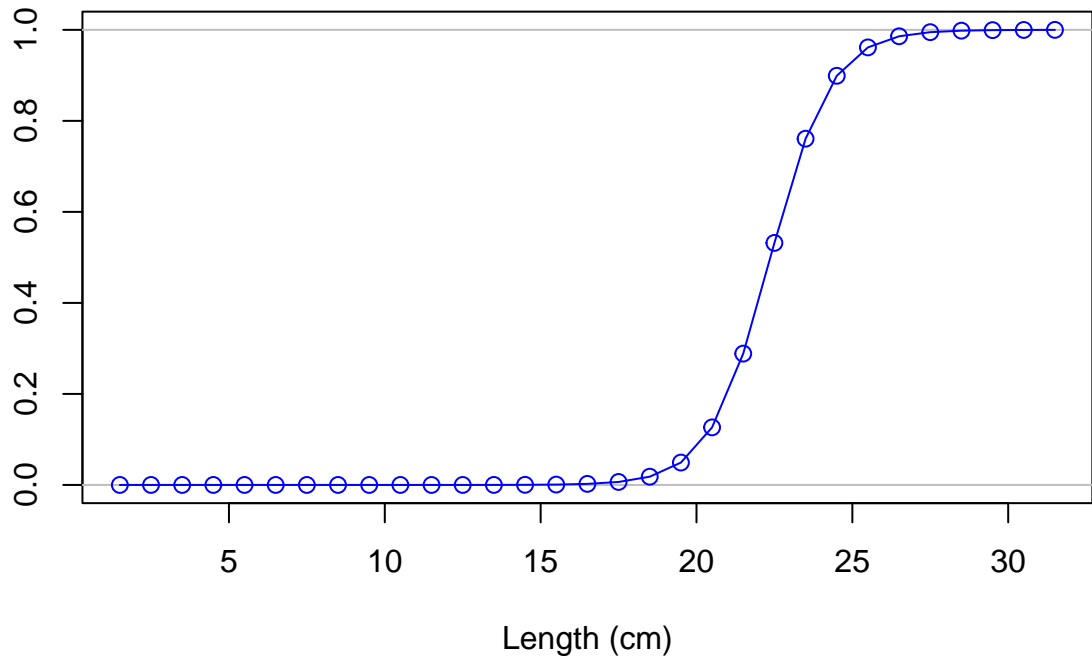
Selectivity

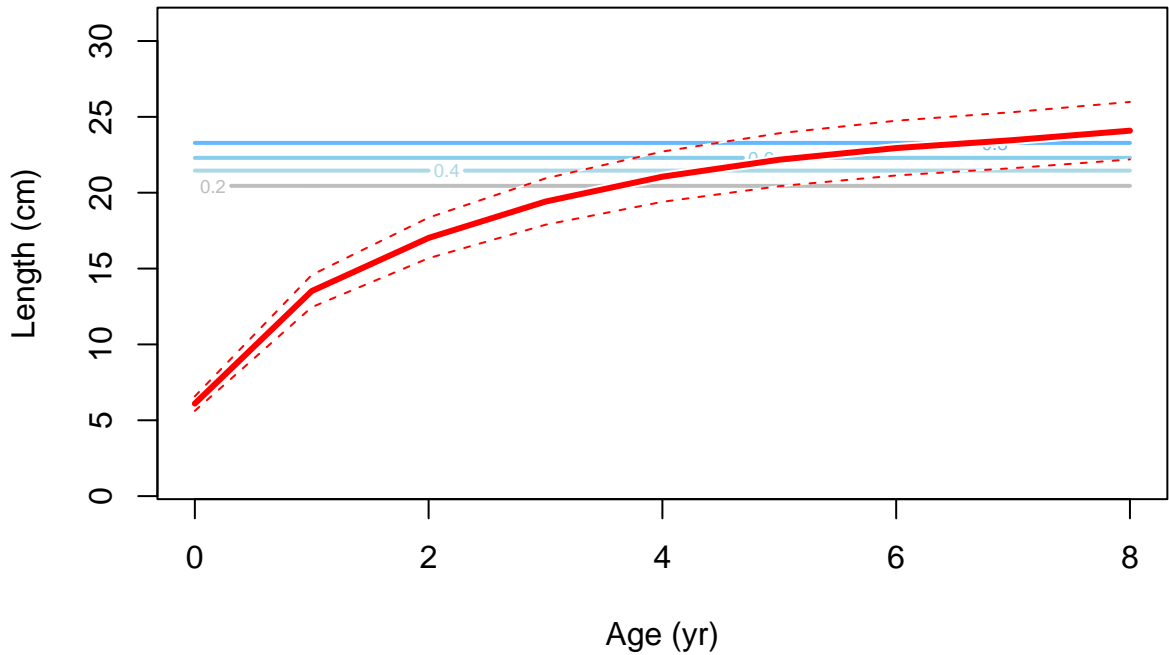


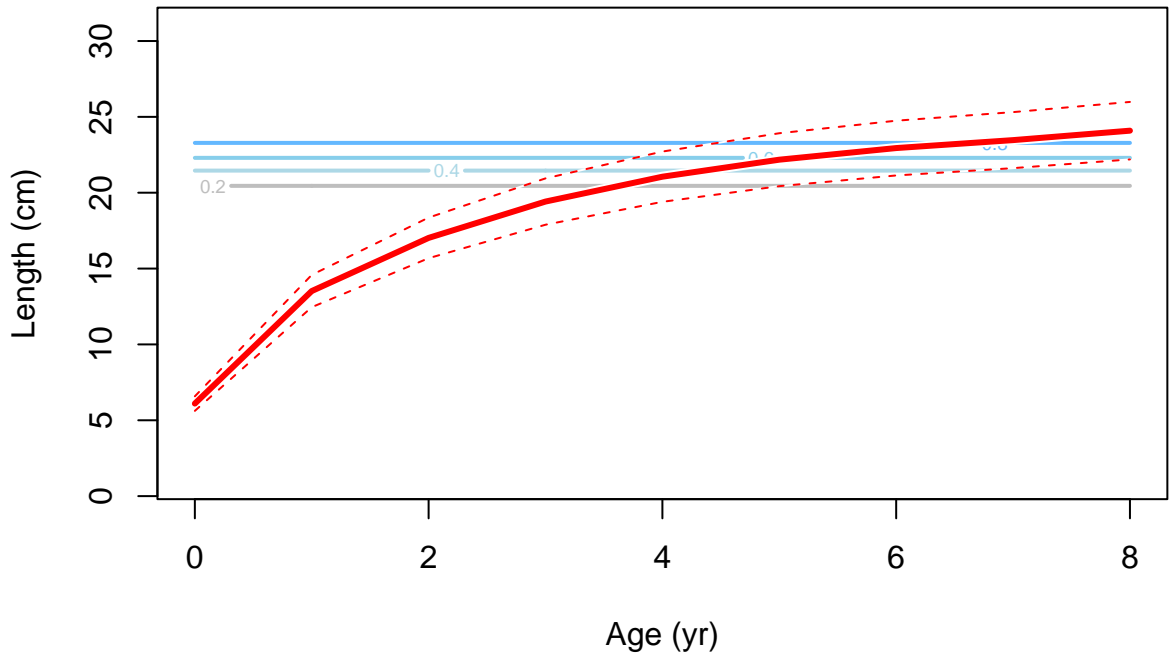
Selectivity

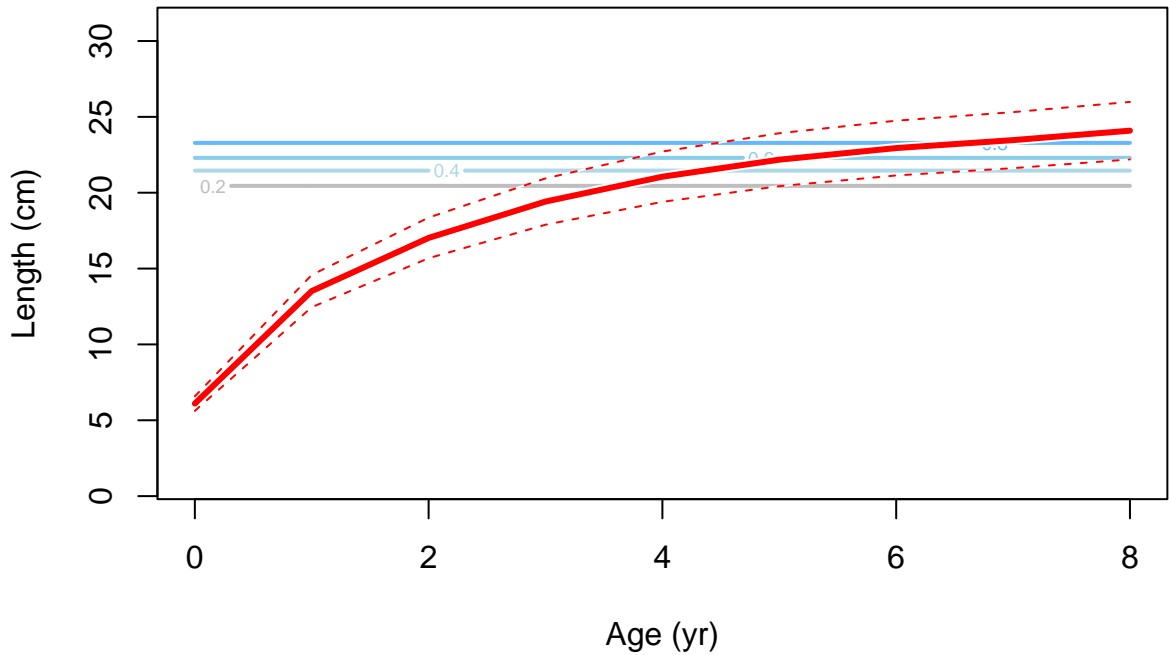


Selectivity

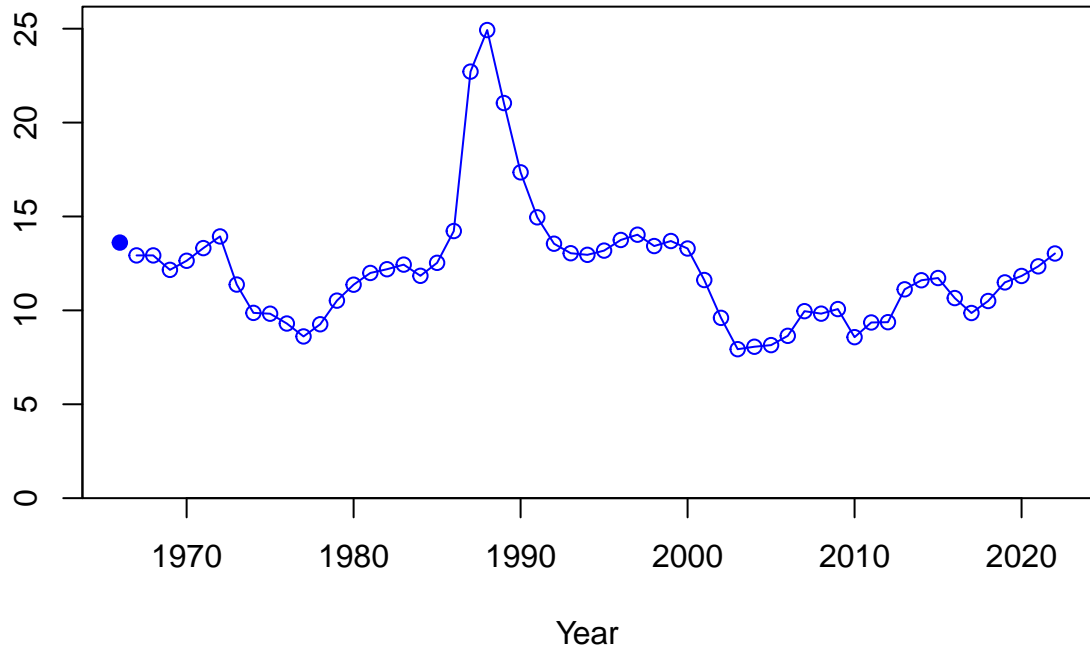




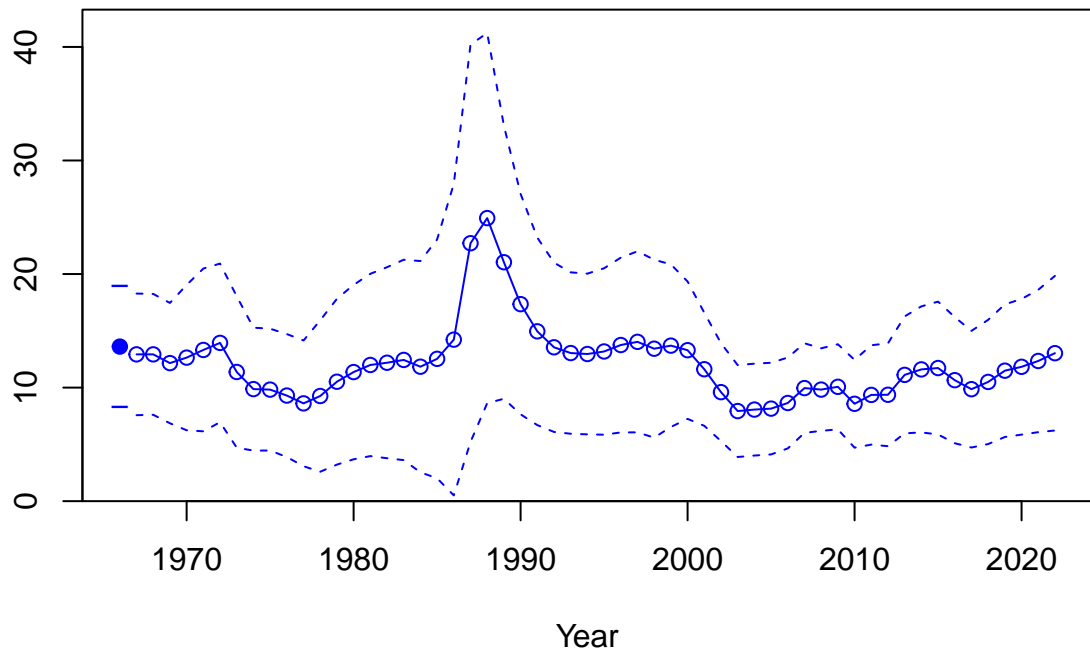




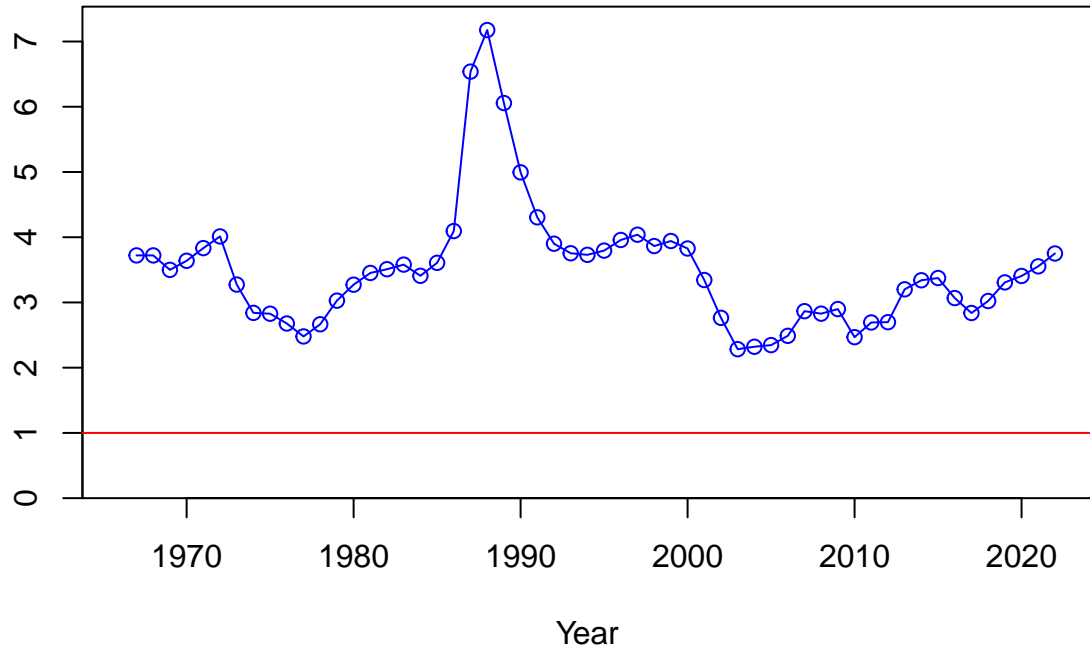
Spawning biomass (mt)



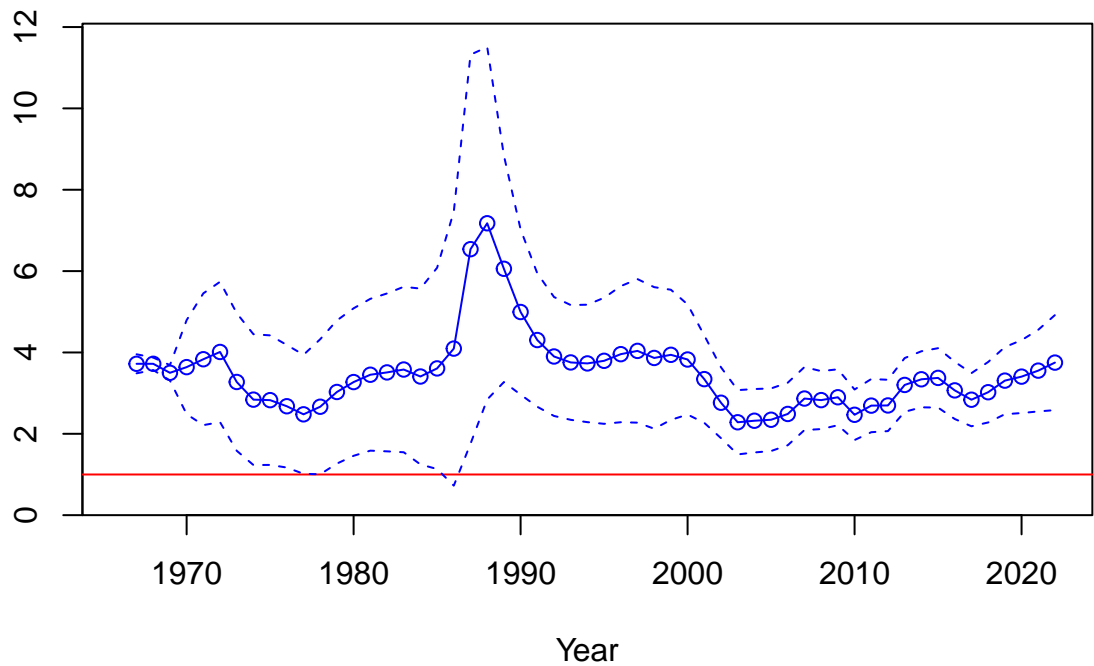
Spawning biomass (mt)

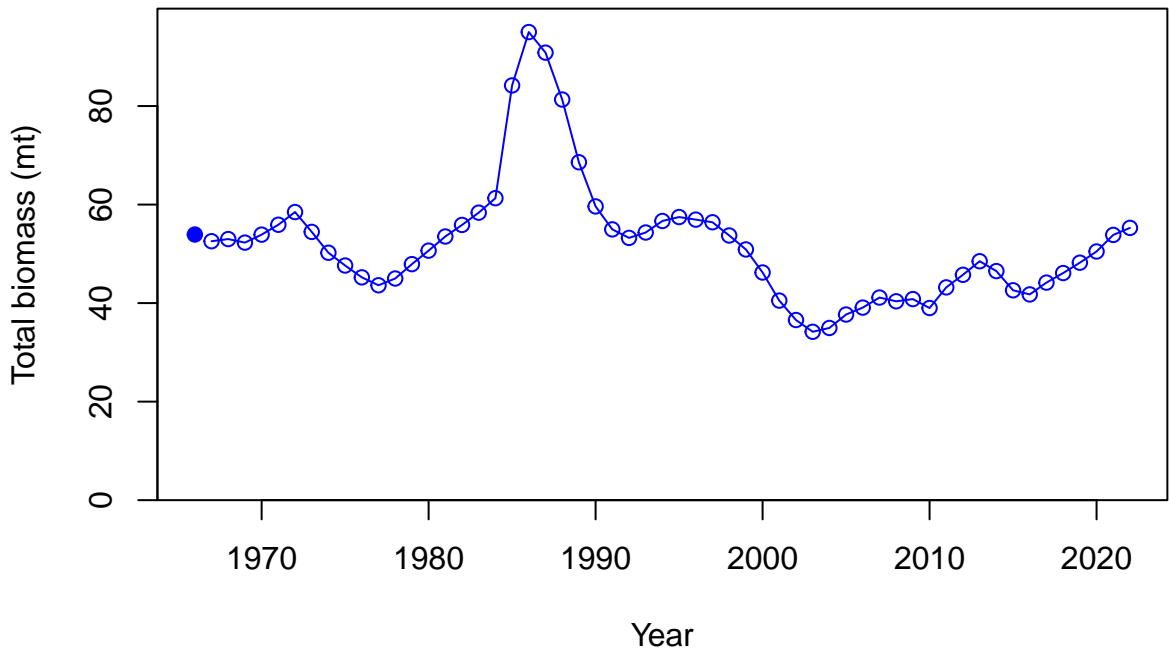


Relative spawning biomass: B/B_{MSY}

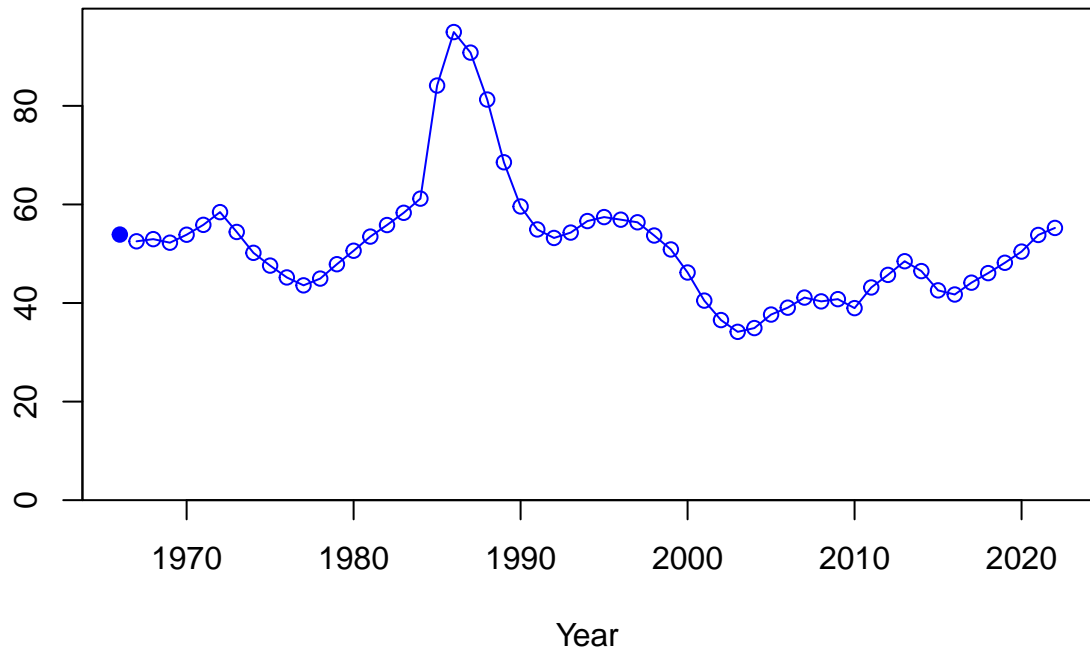


Relative spawning biomass: B/B_{MSY}

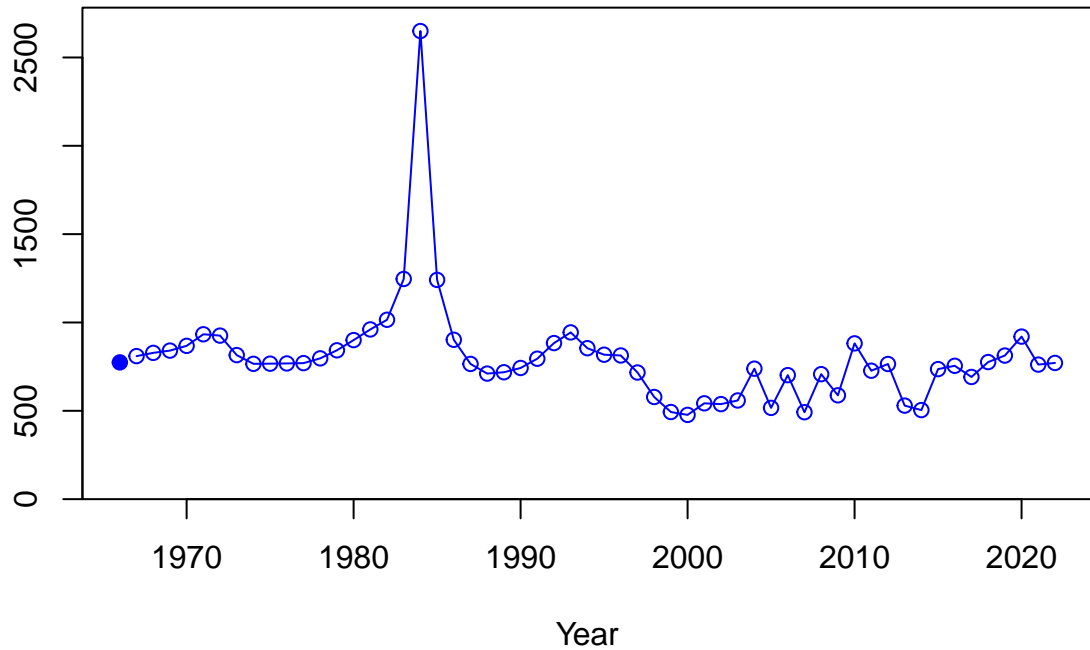


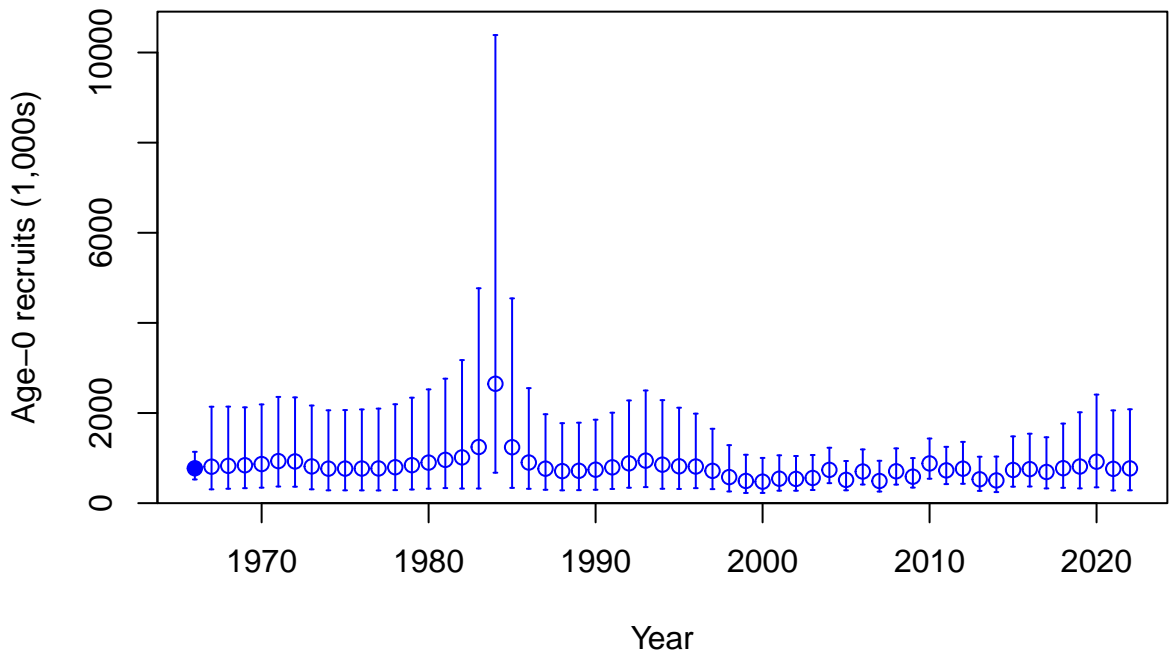


Summary biomass (mt)

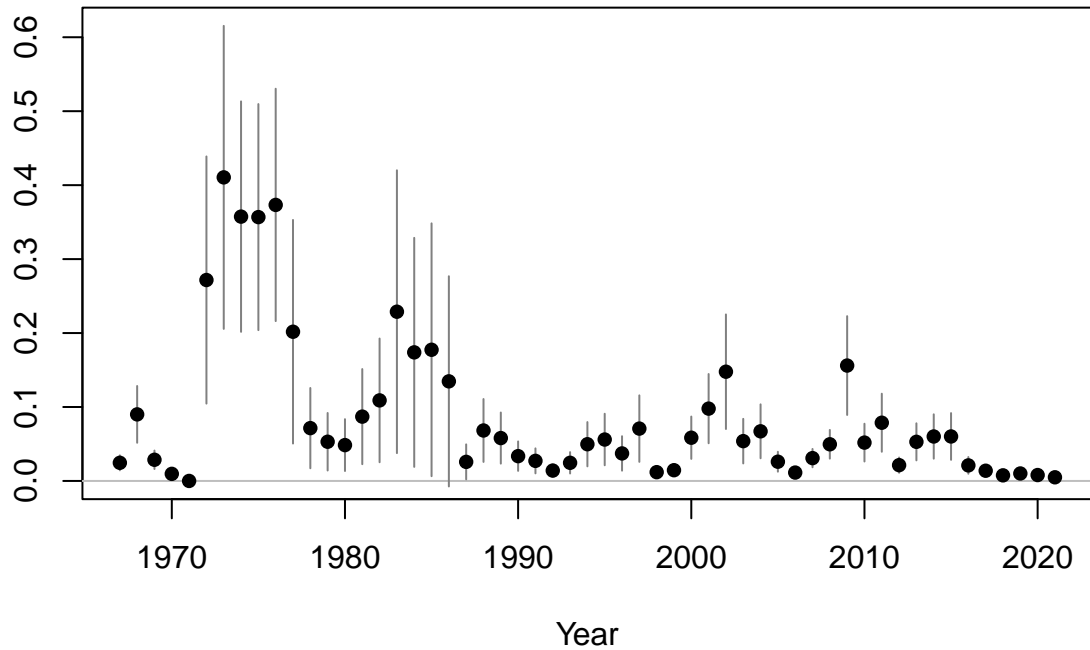


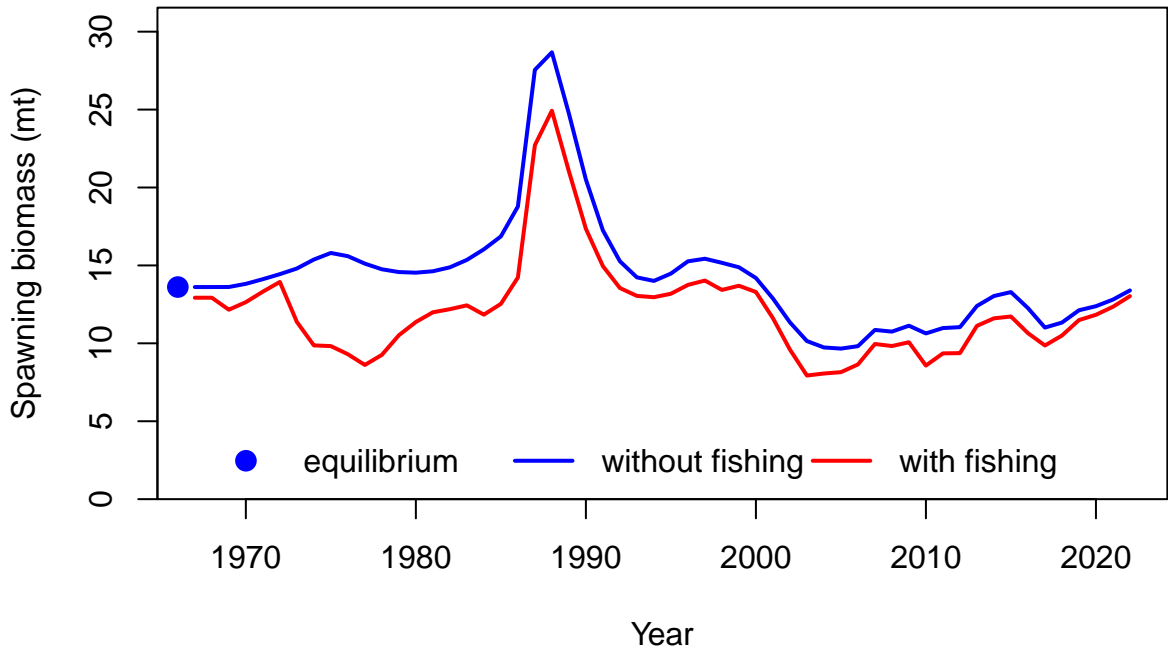
Age-0 recruits (1,000s)





Summary Fishing Mortality





Log recruitment deviation

1.0
0.5
0.0

1970

1980

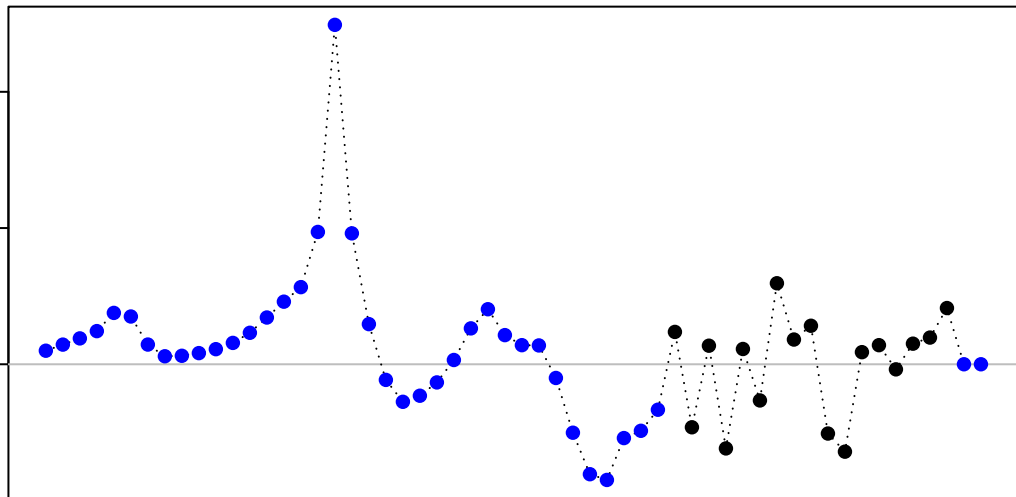
1990

2000

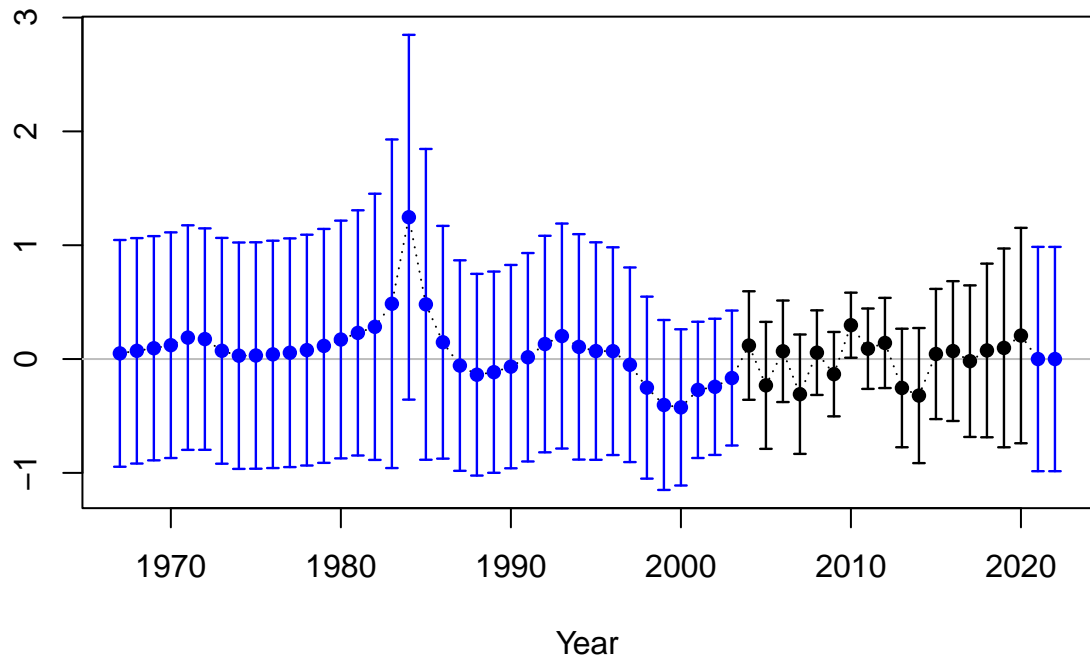
2010

2020

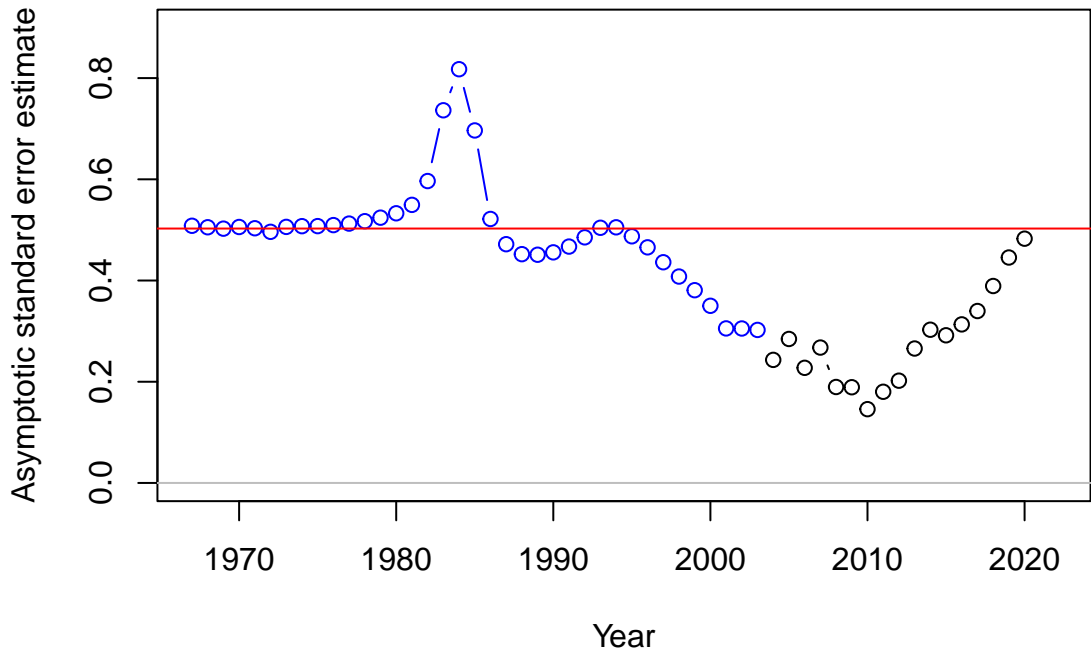
Year

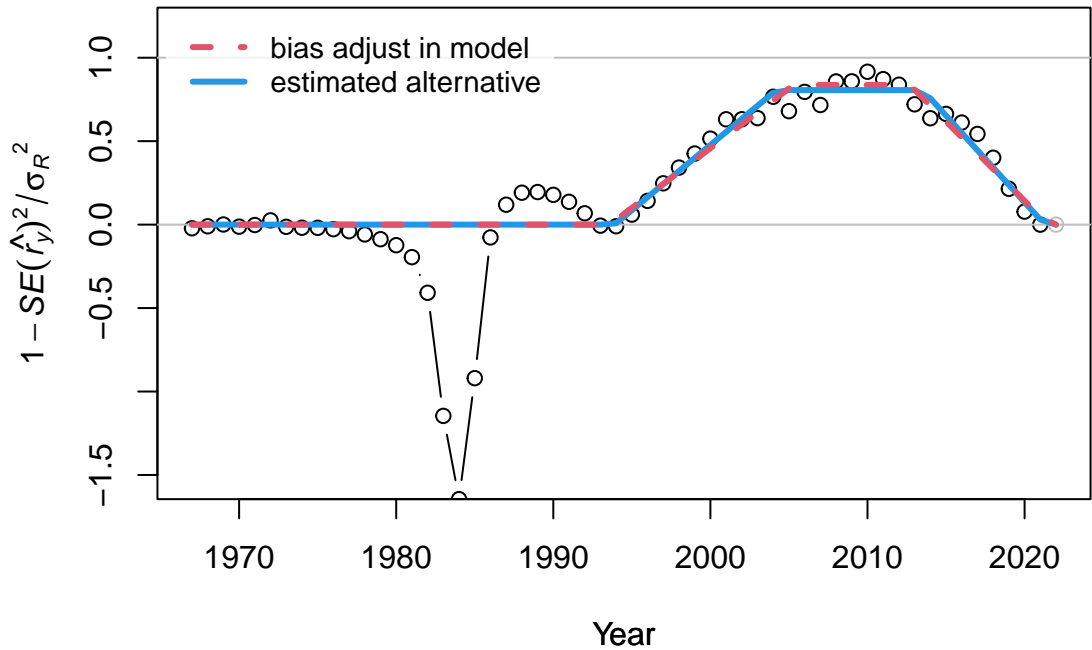


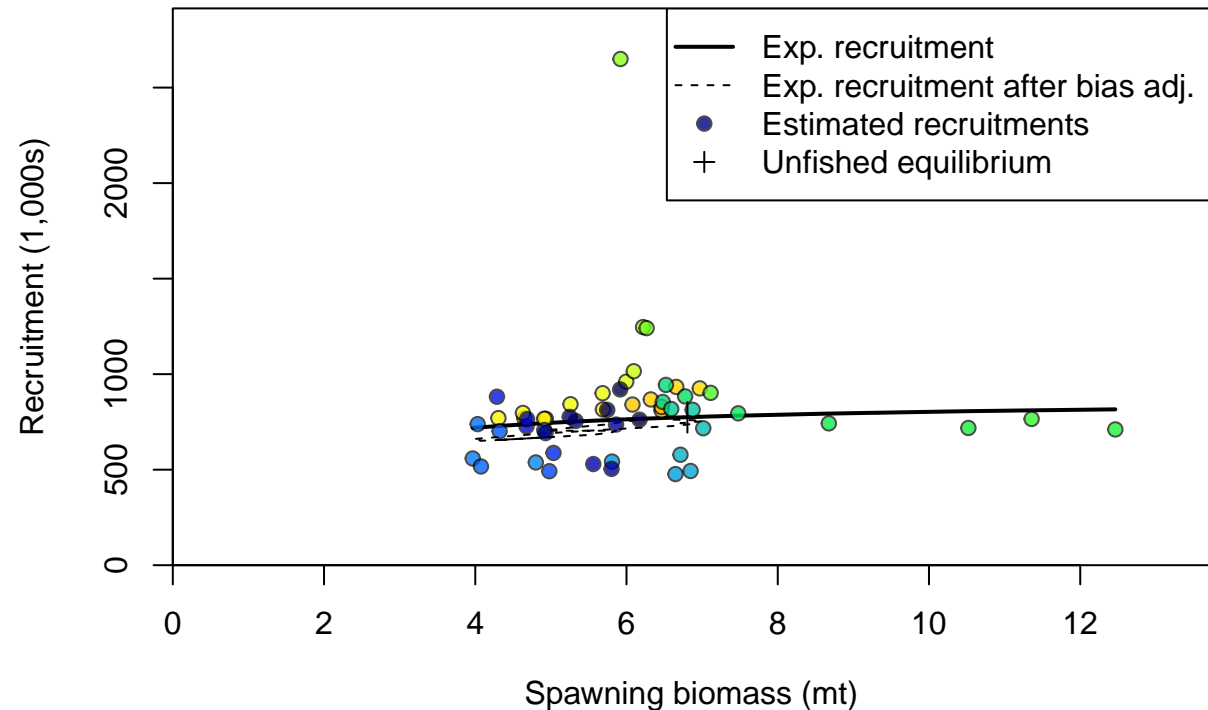
Log recruitment deviation

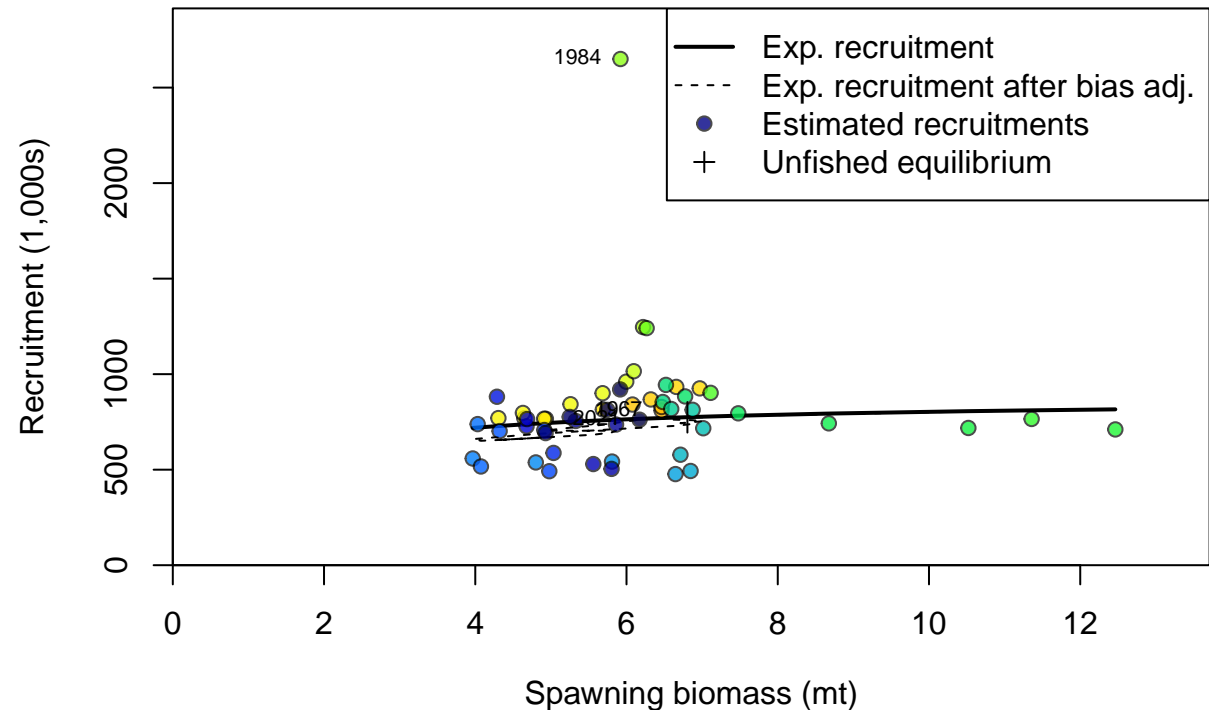


Recruitment deviation variance







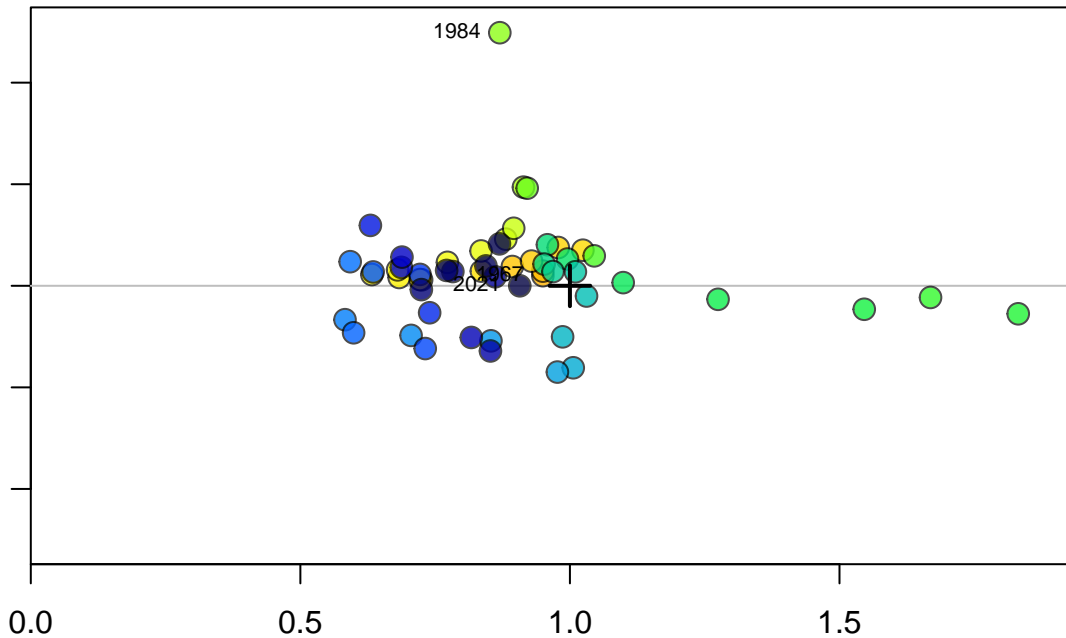


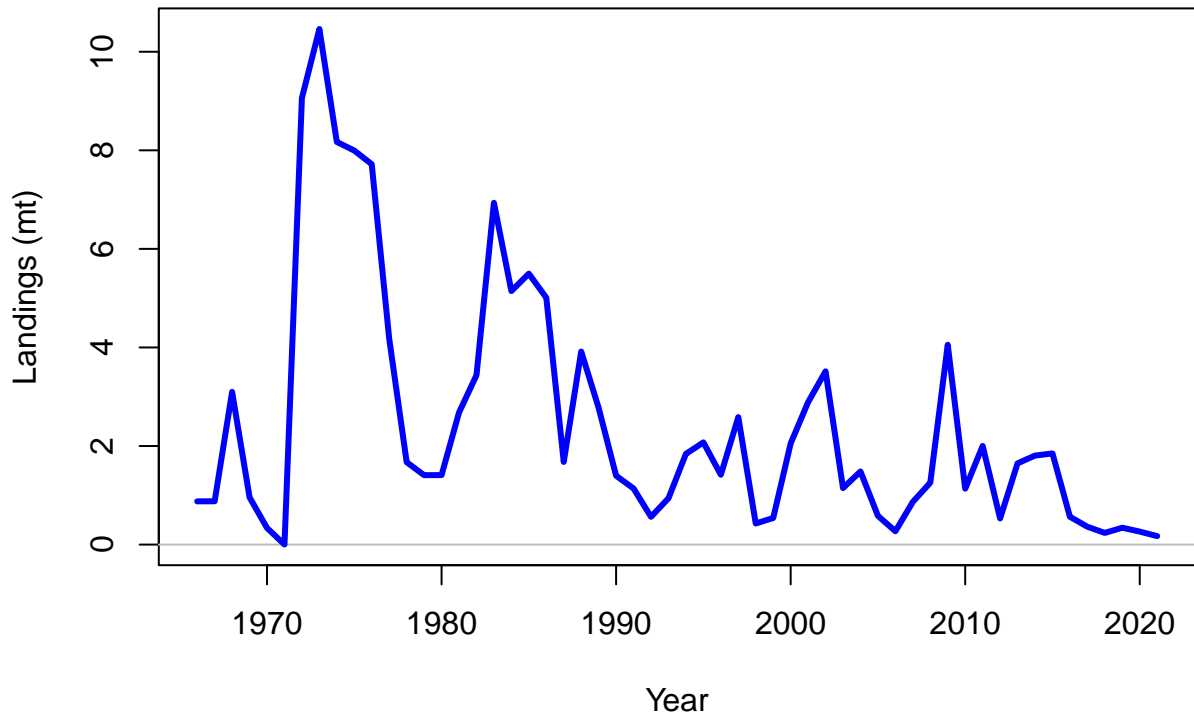
Log recruitment deviation

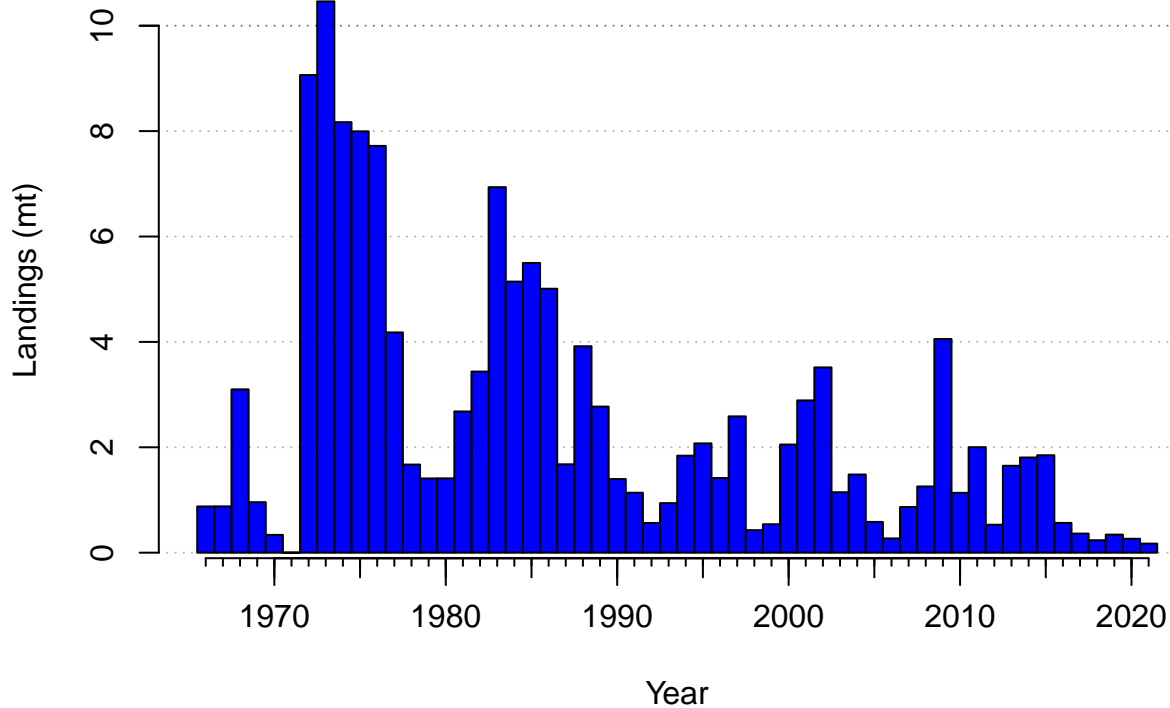
1984

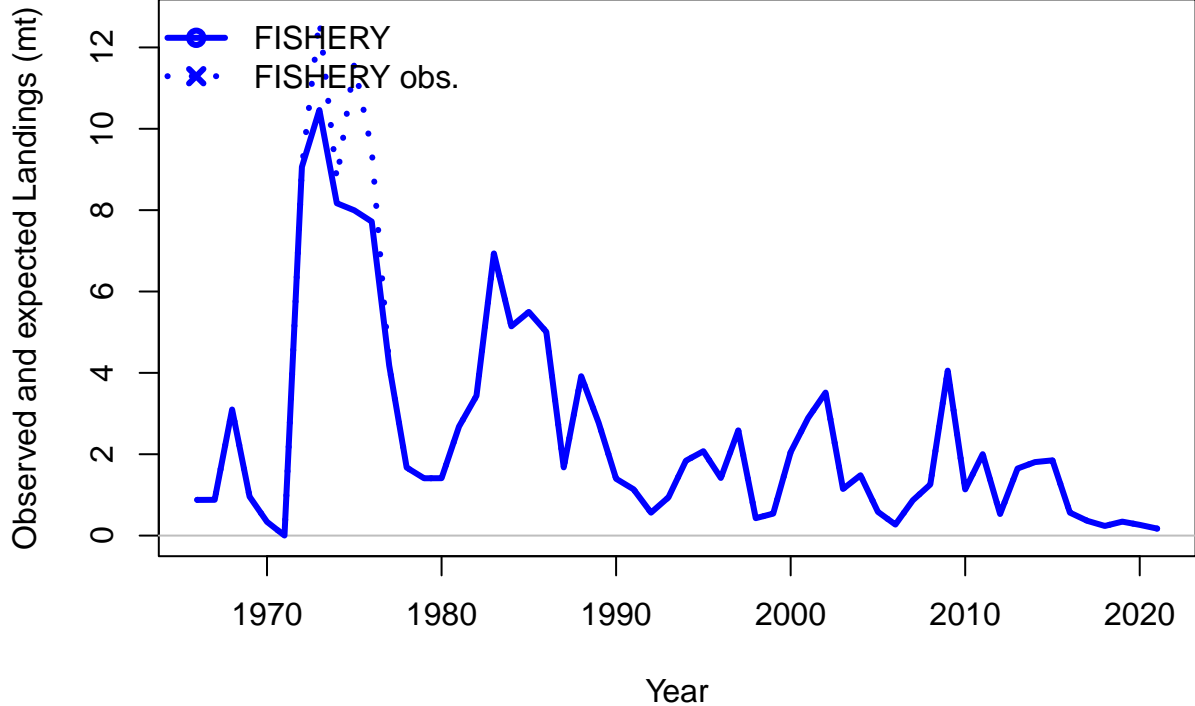
1967
2021

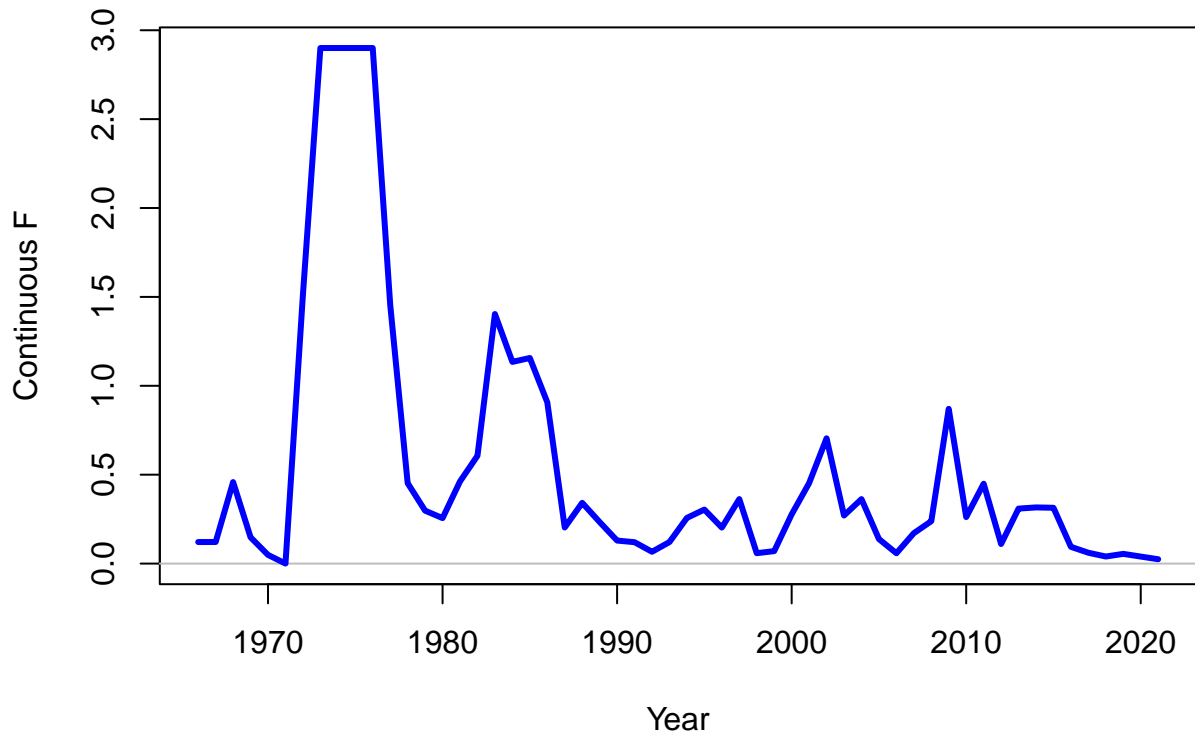
Spawning output (relative to B_0)



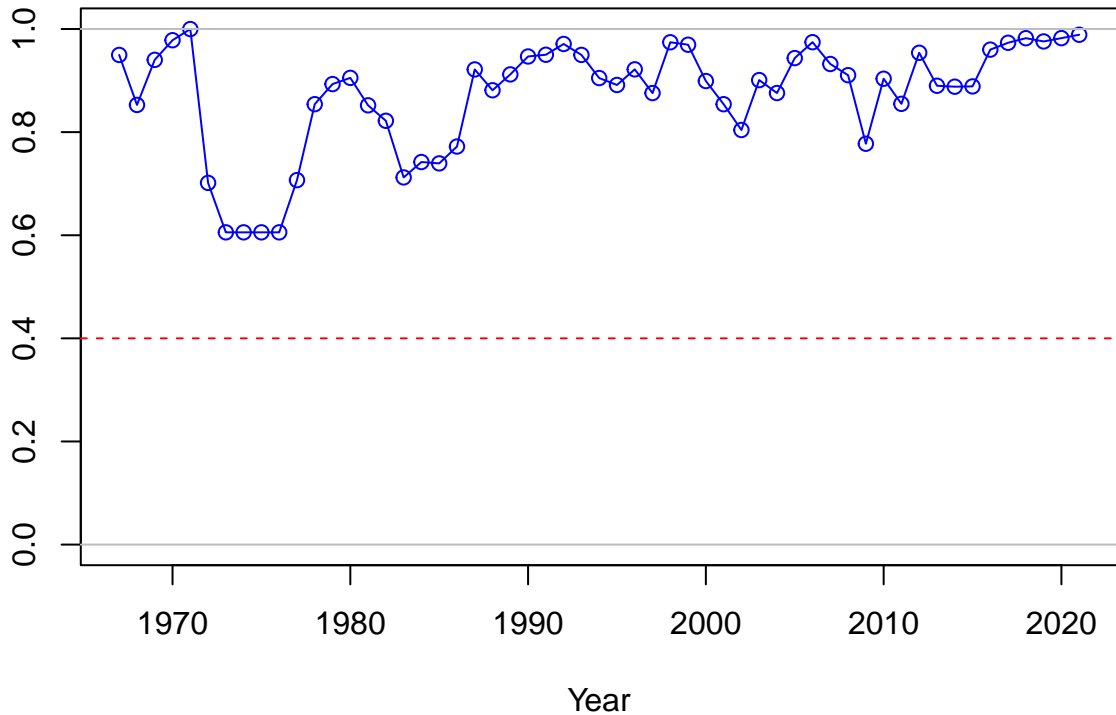


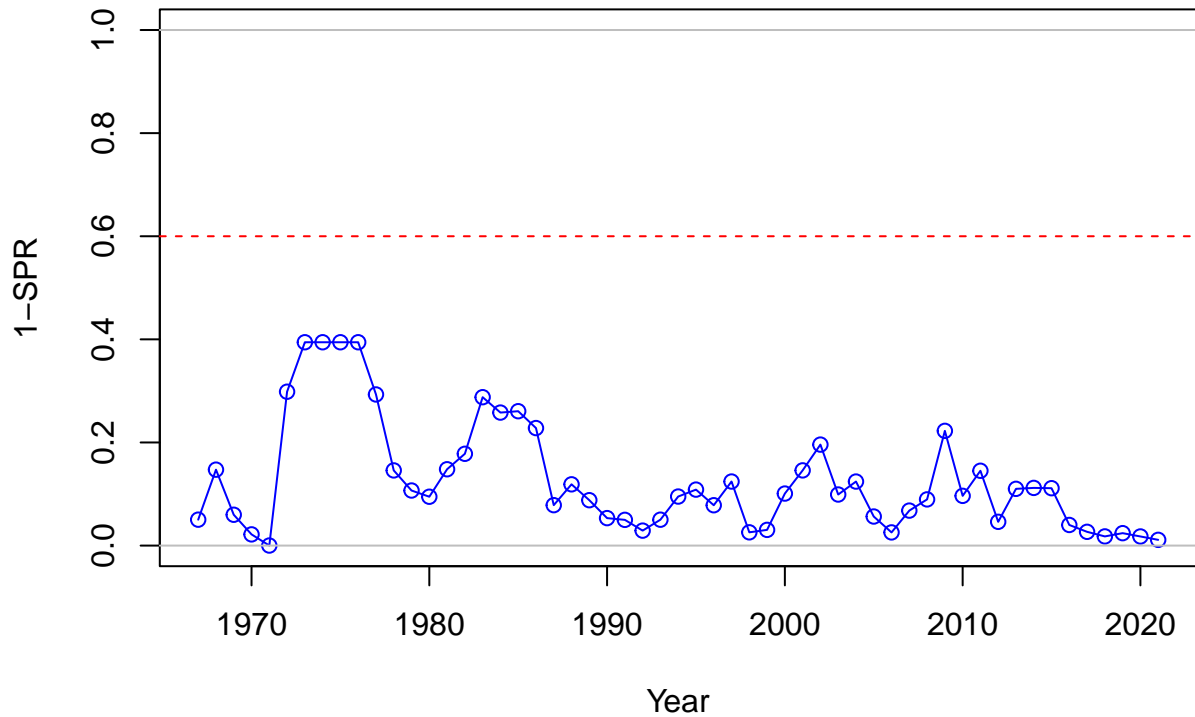




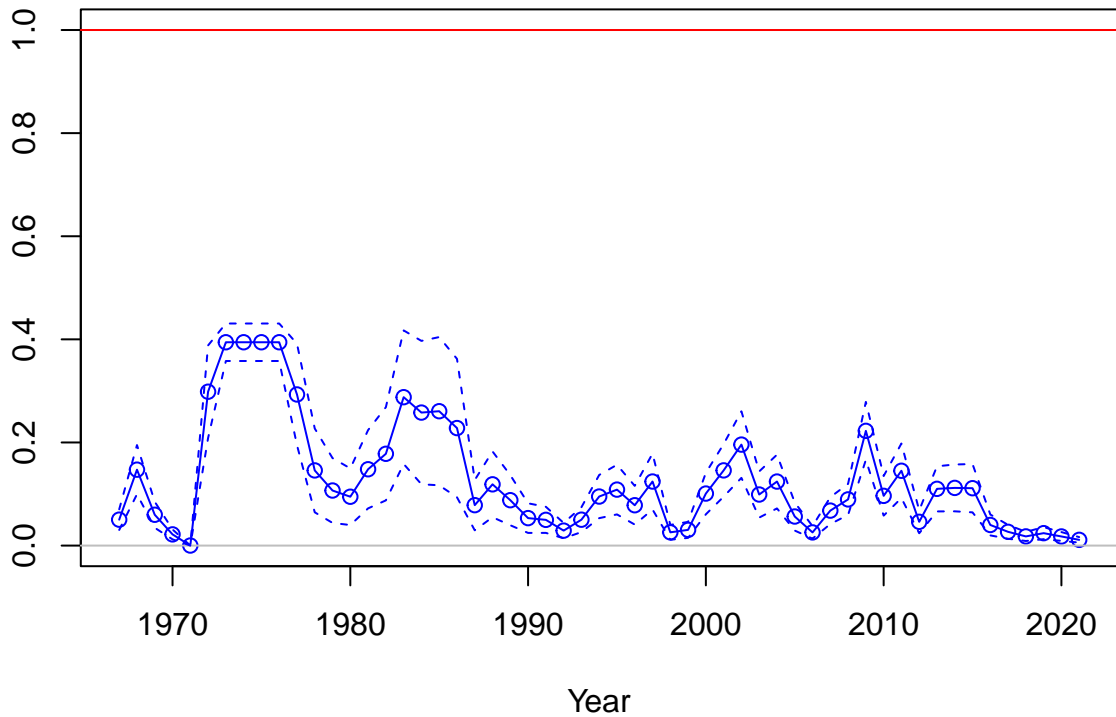


SPR

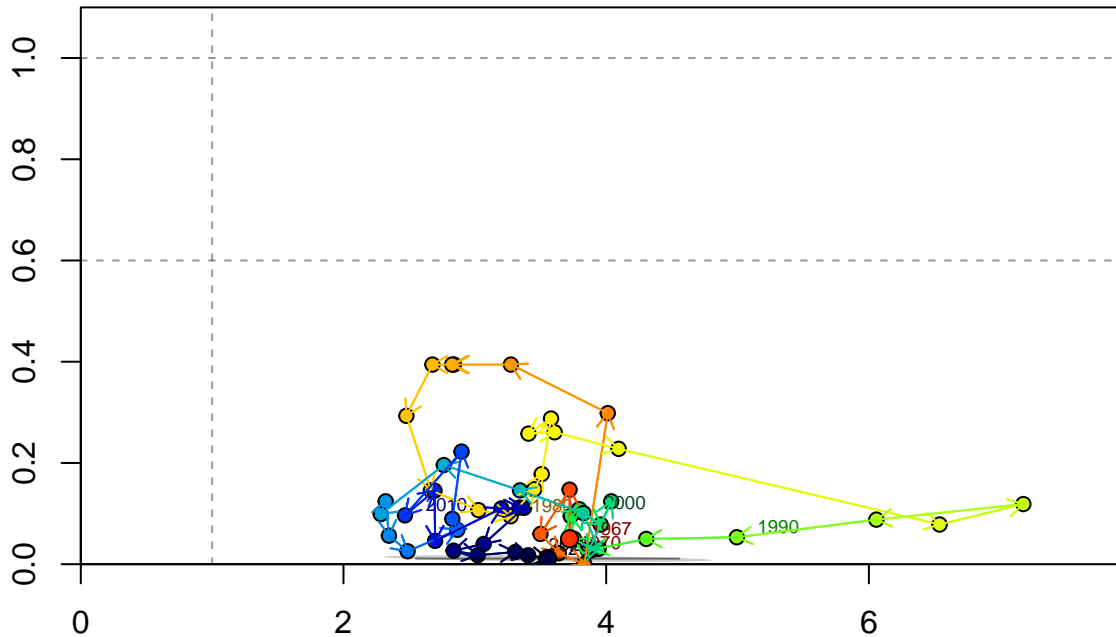




Fishing intensity: 1-SPR



Fishing intensity: 1-SPR



Relative spawning output: B/B_MS

Index

80
60
40
20
0

1990

1995

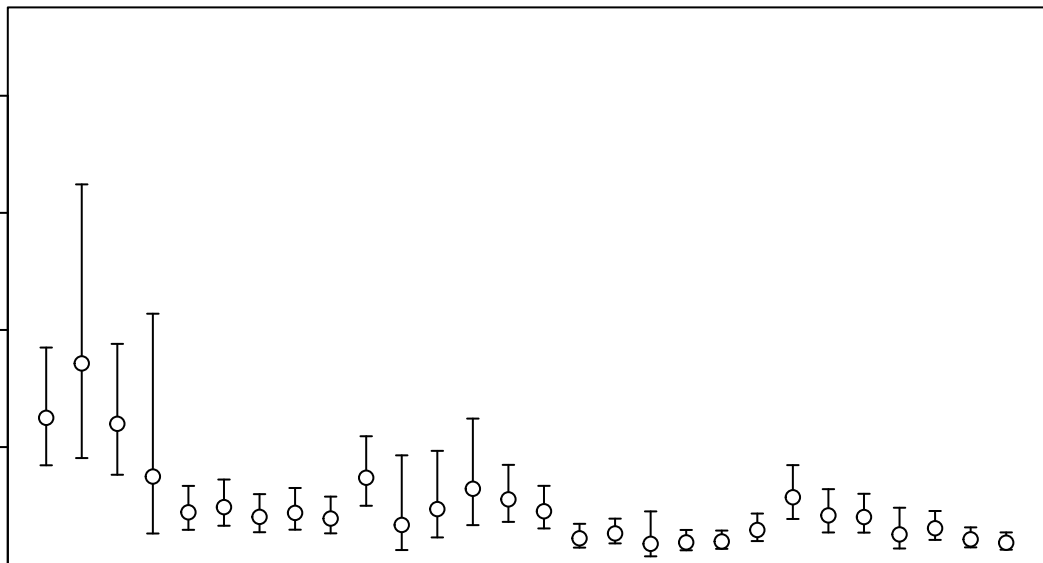
2000

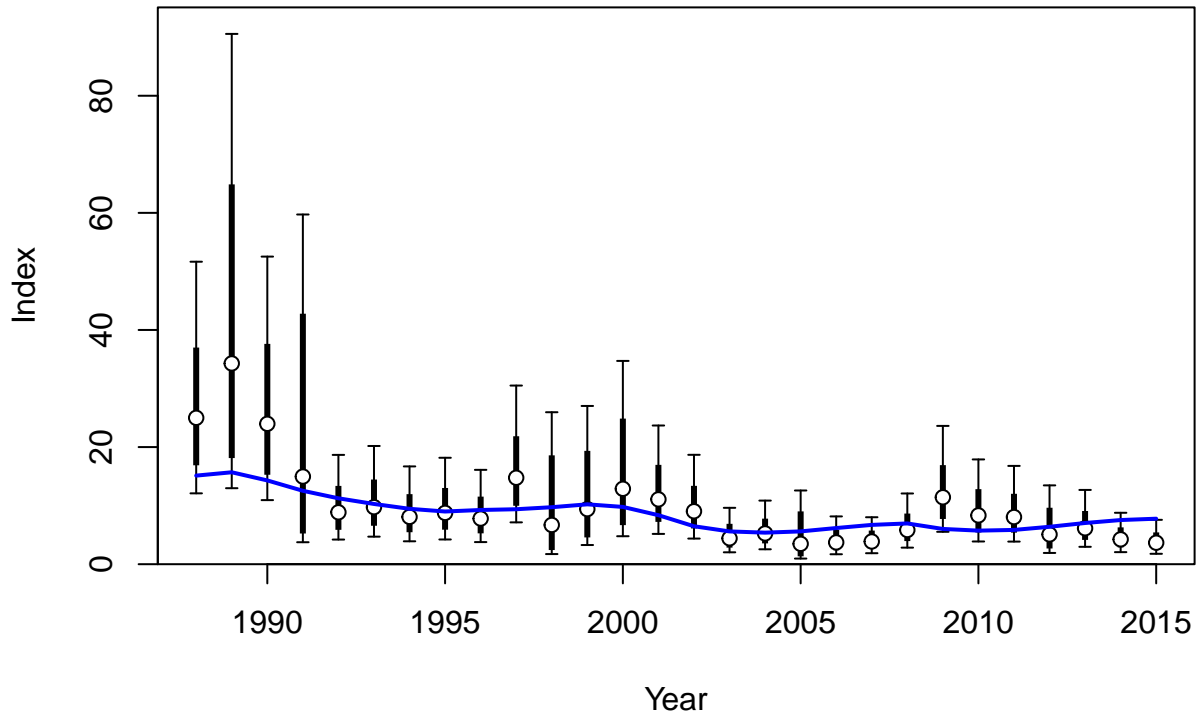
2005

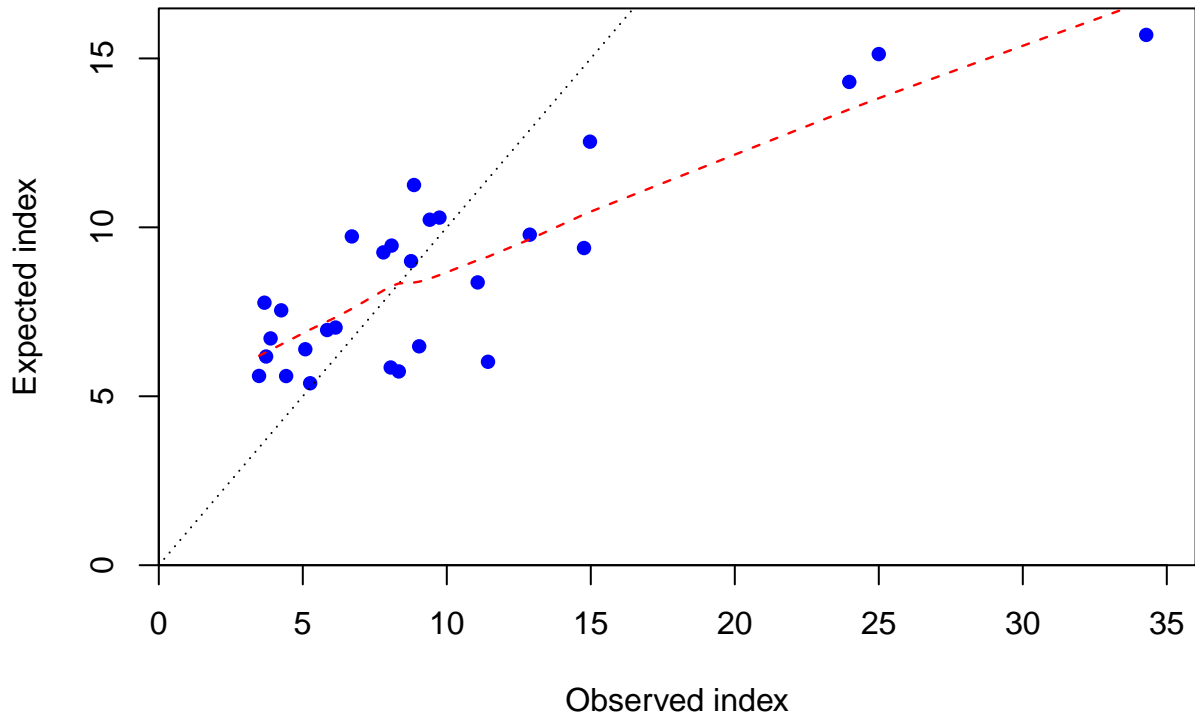
2010

2015

Year







Log index

4
3
2
1
0

1990

1995

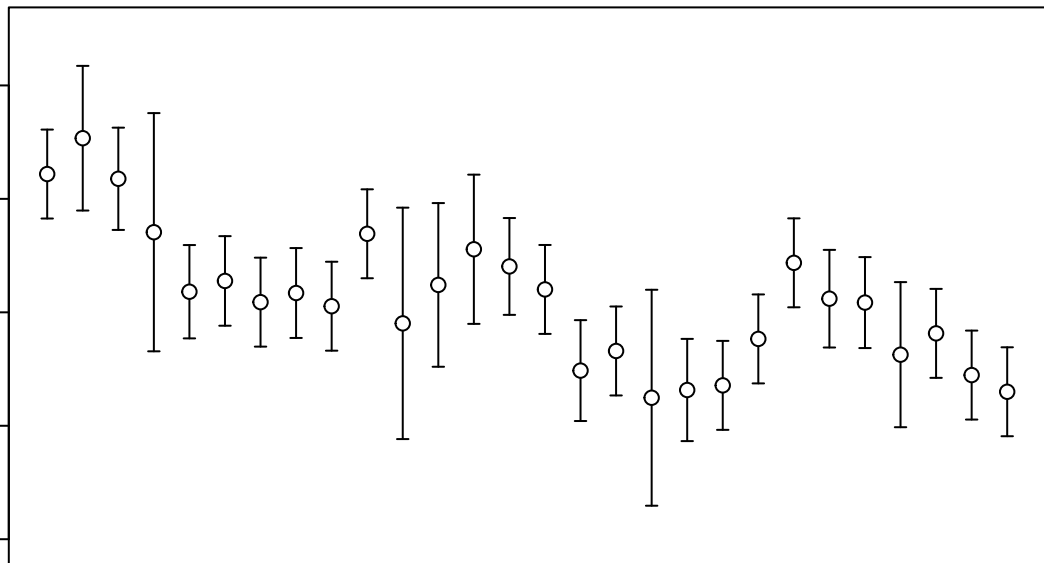
2000

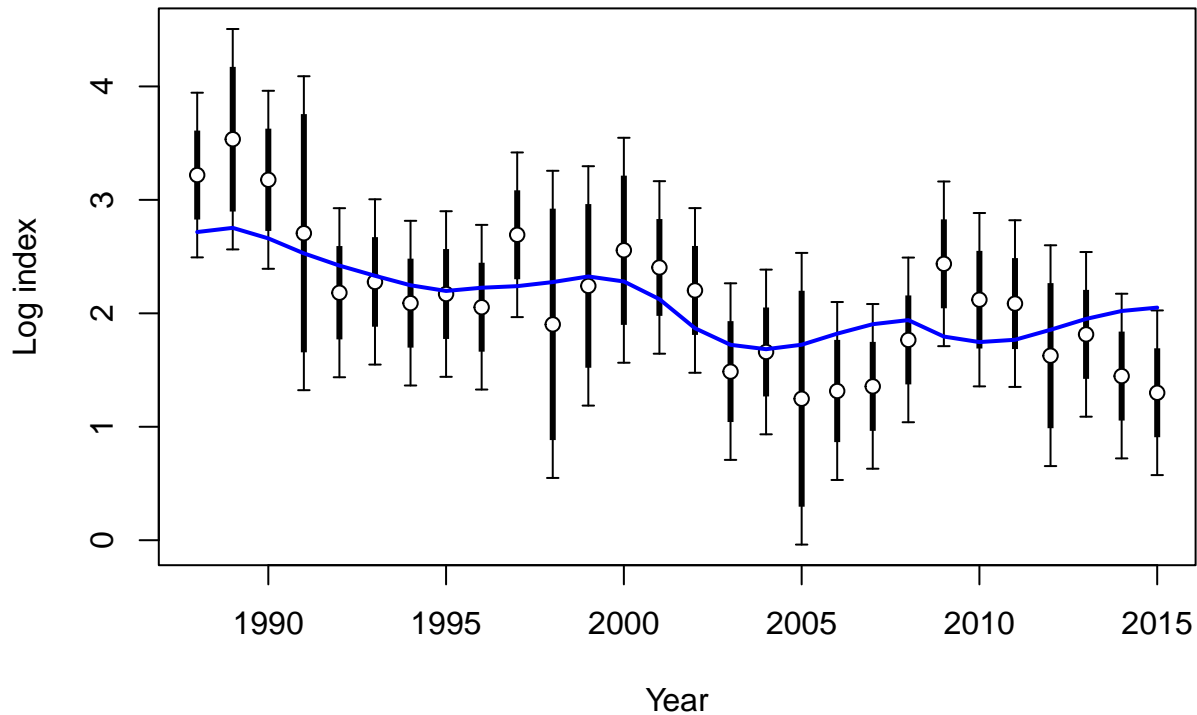
2005

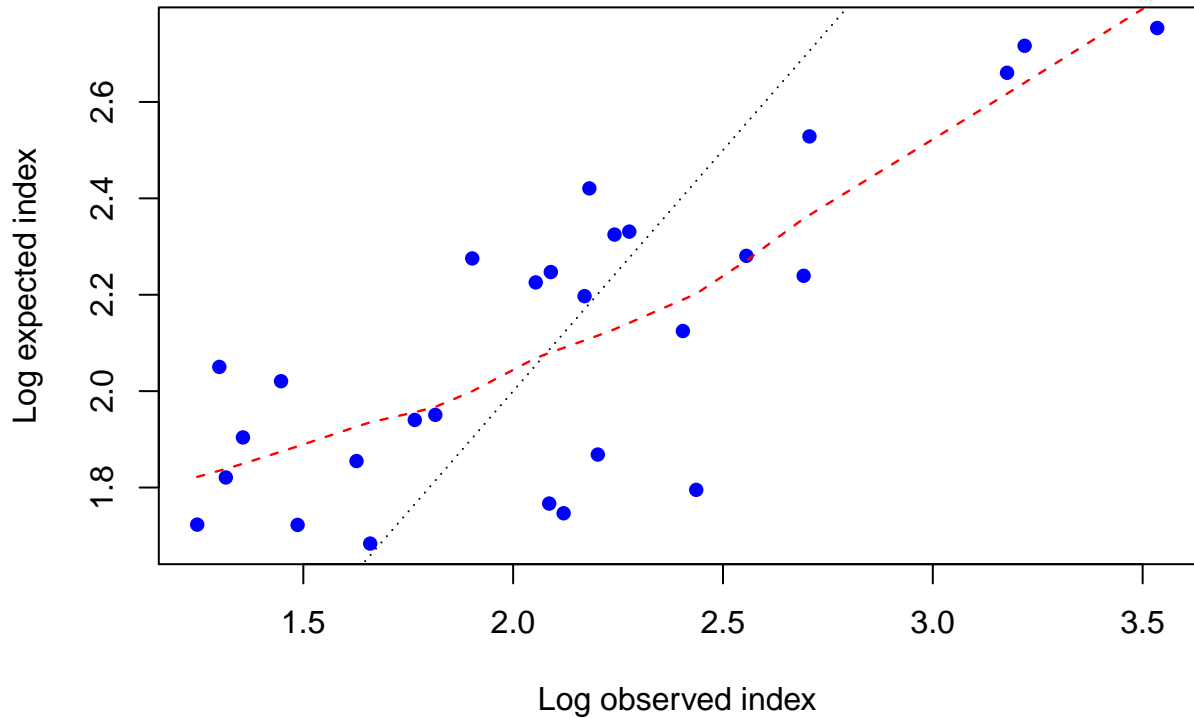
2010

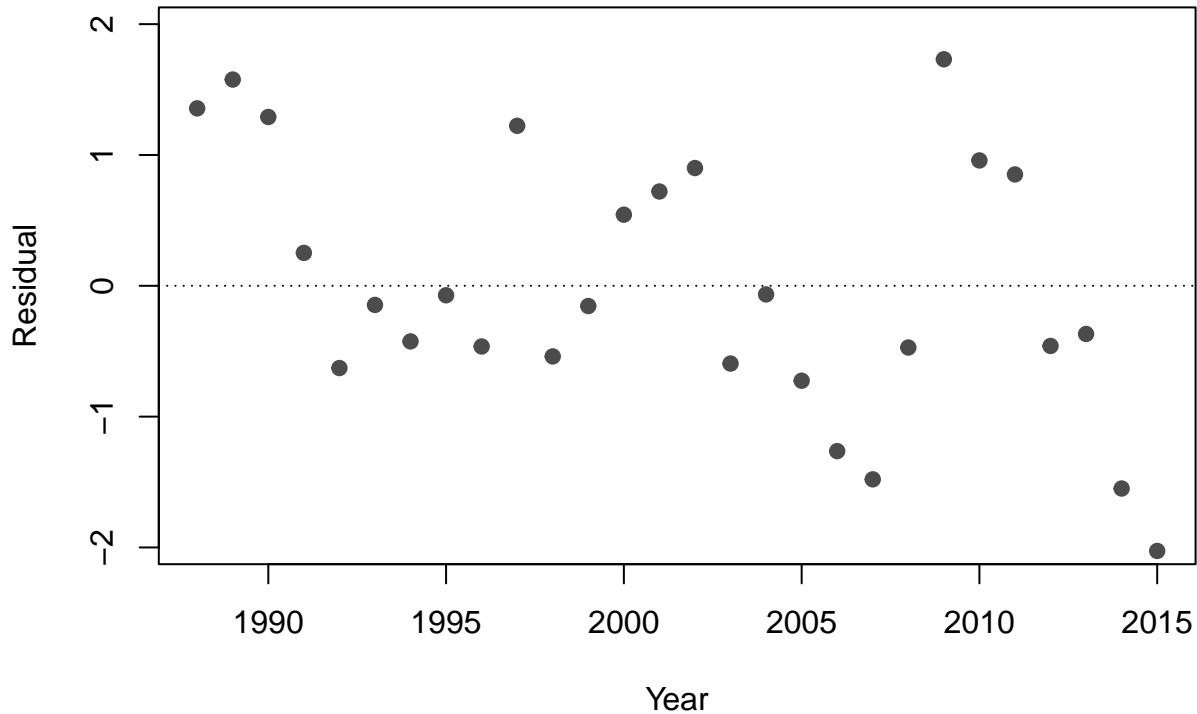
2015

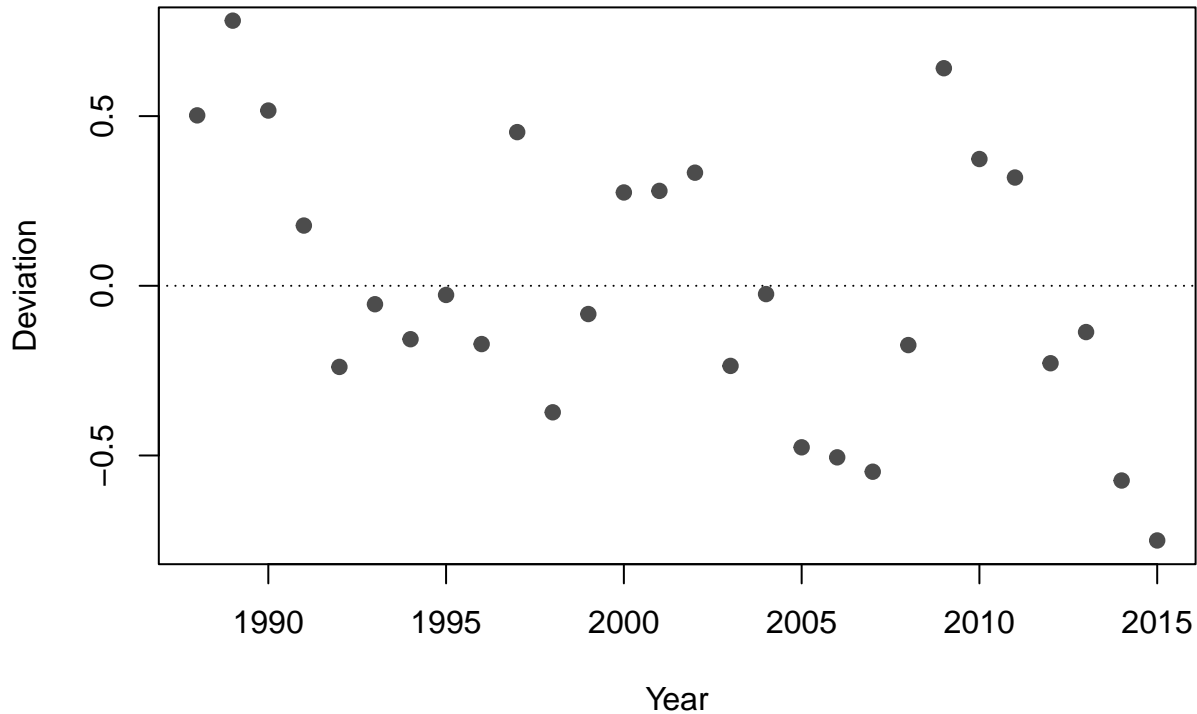
Year











Index

4
3
2
1
0

2016

2017

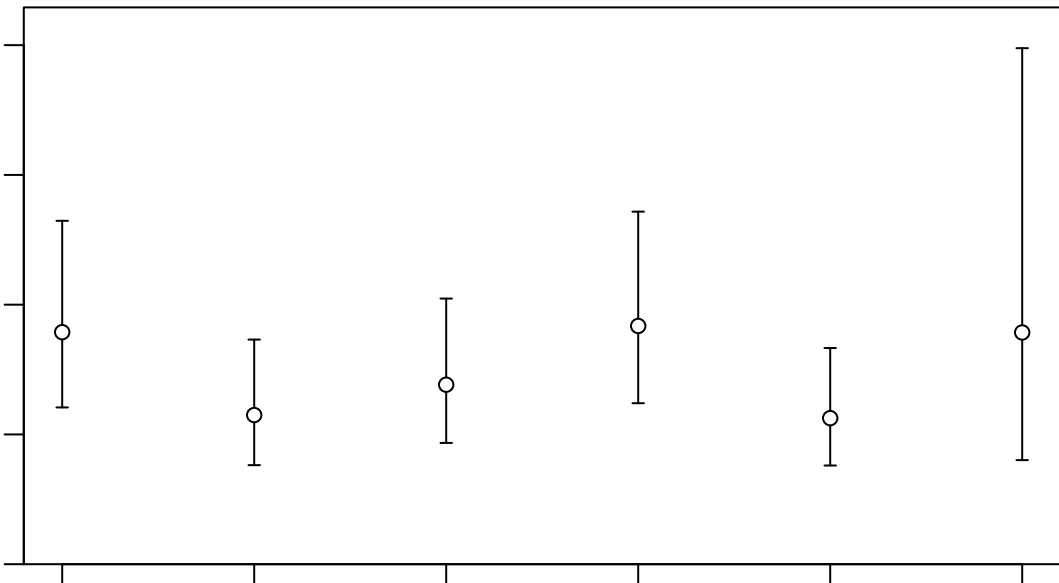
2018

2019

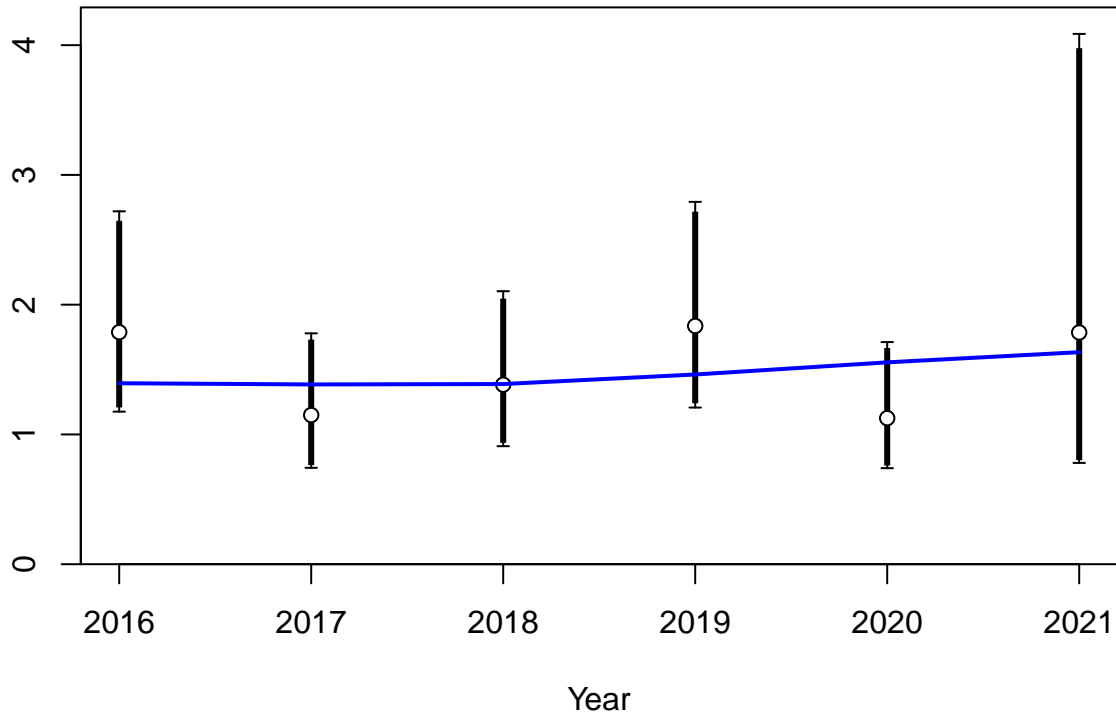
2020

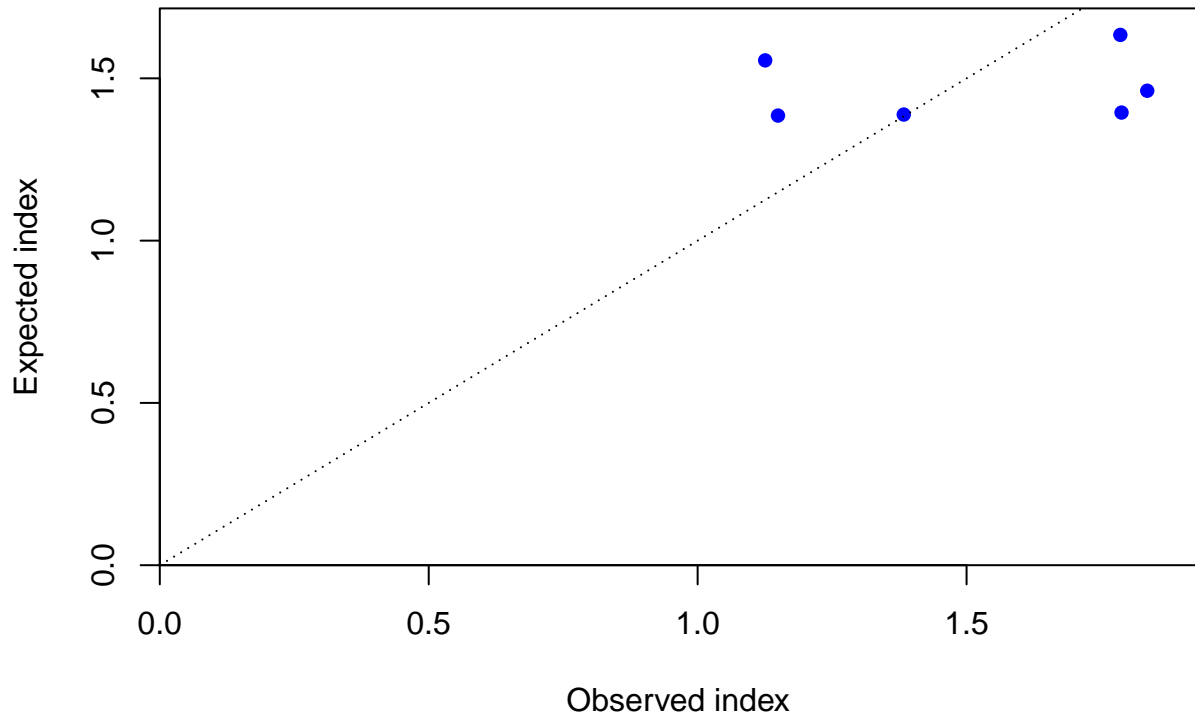
2021

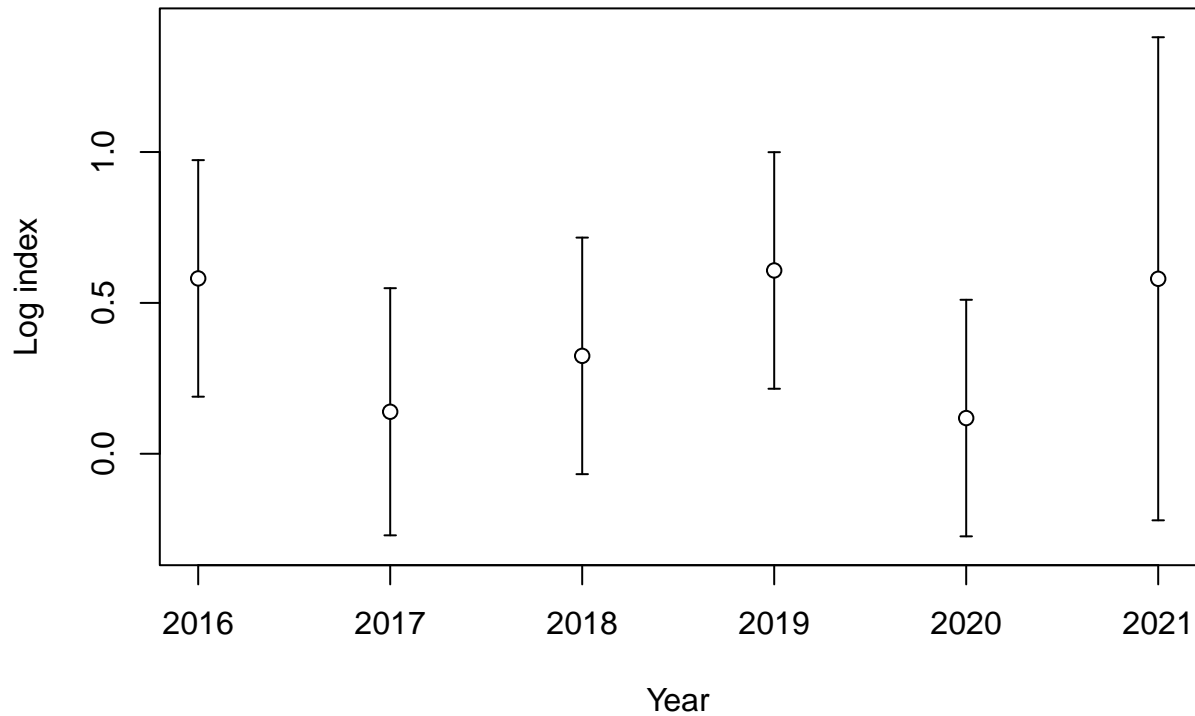
Year

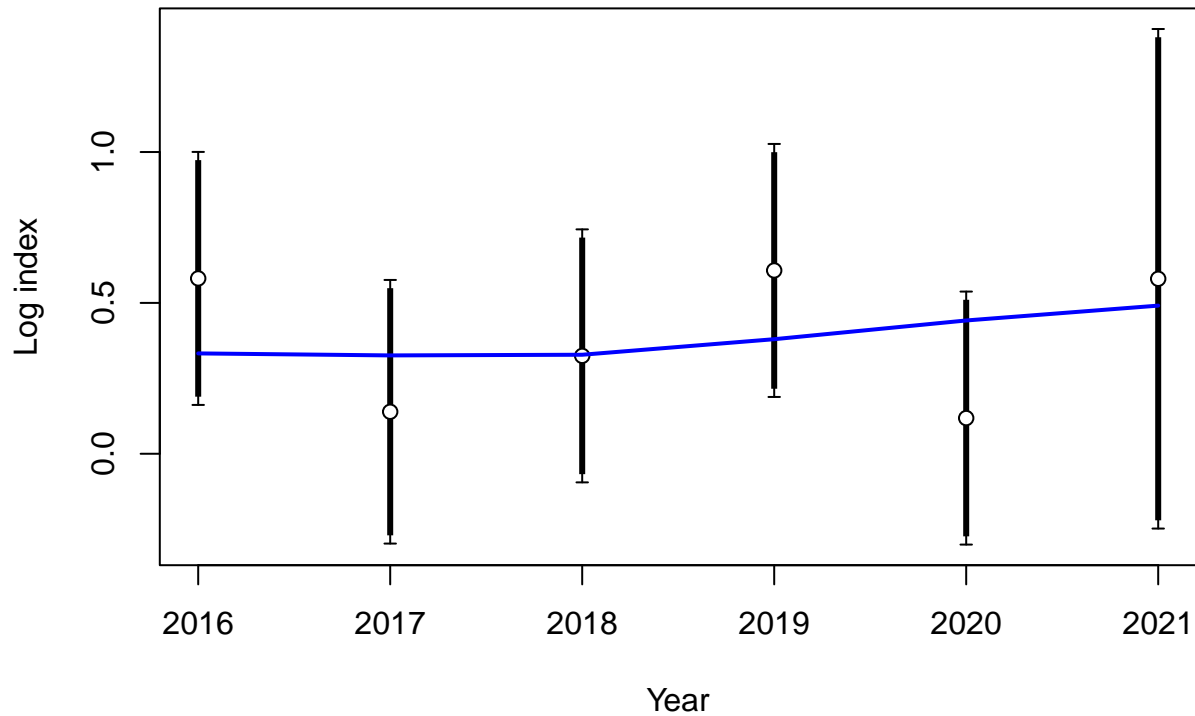


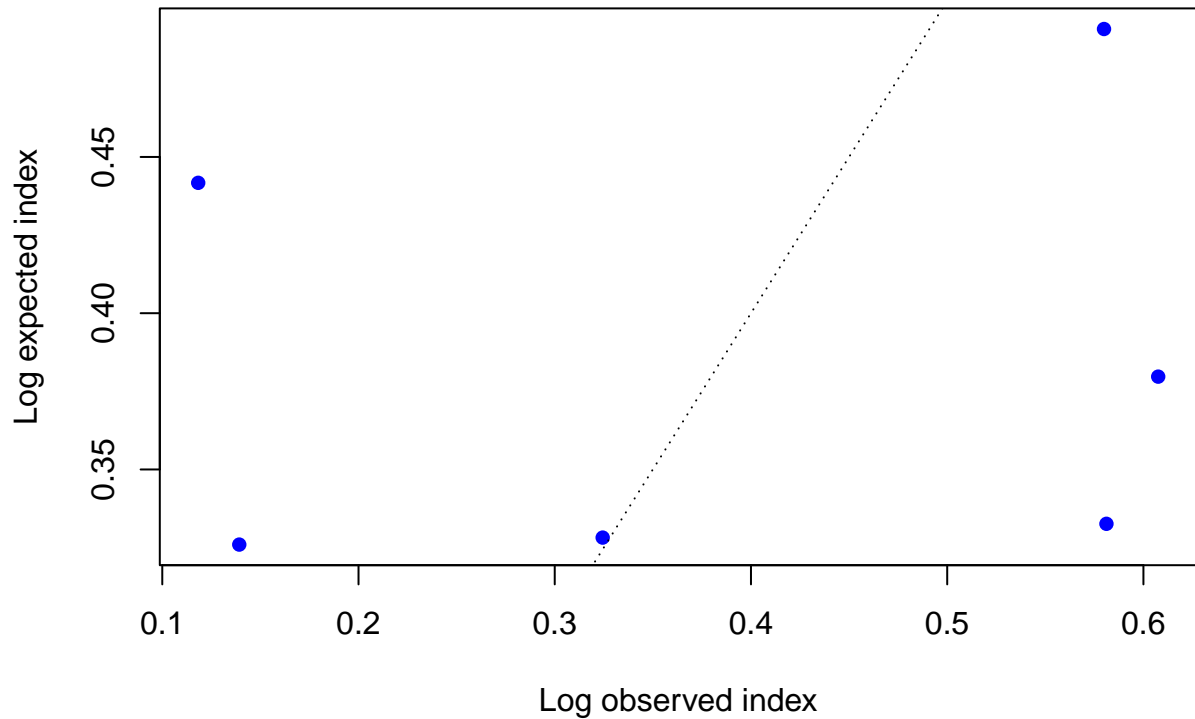
Index



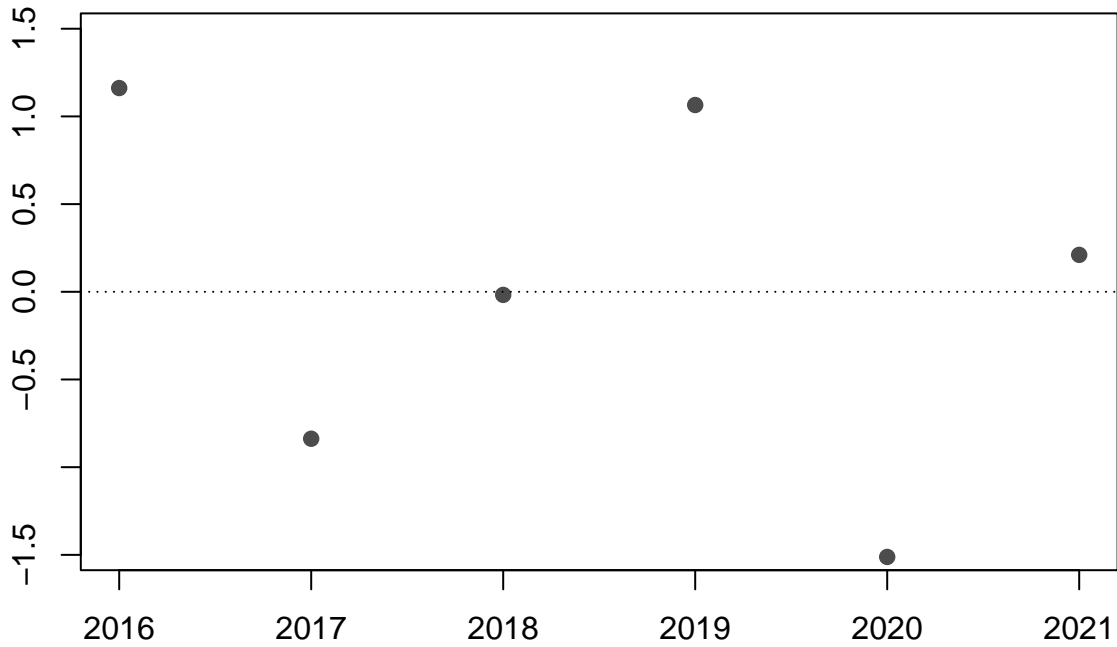




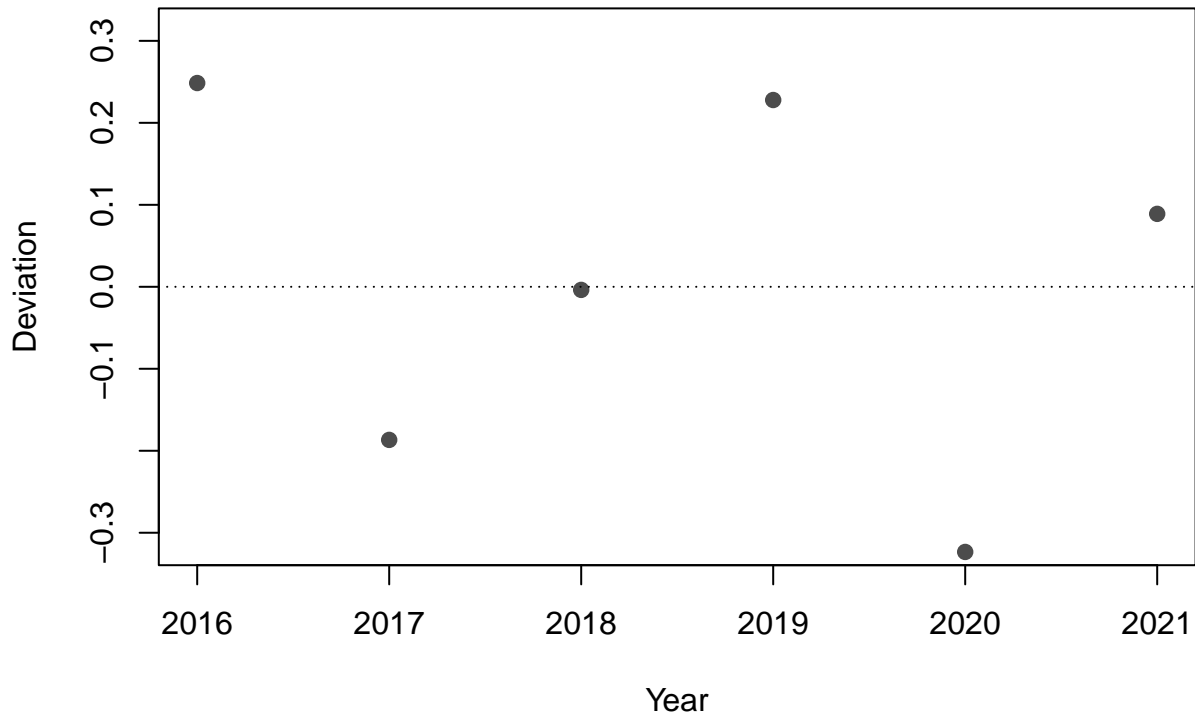


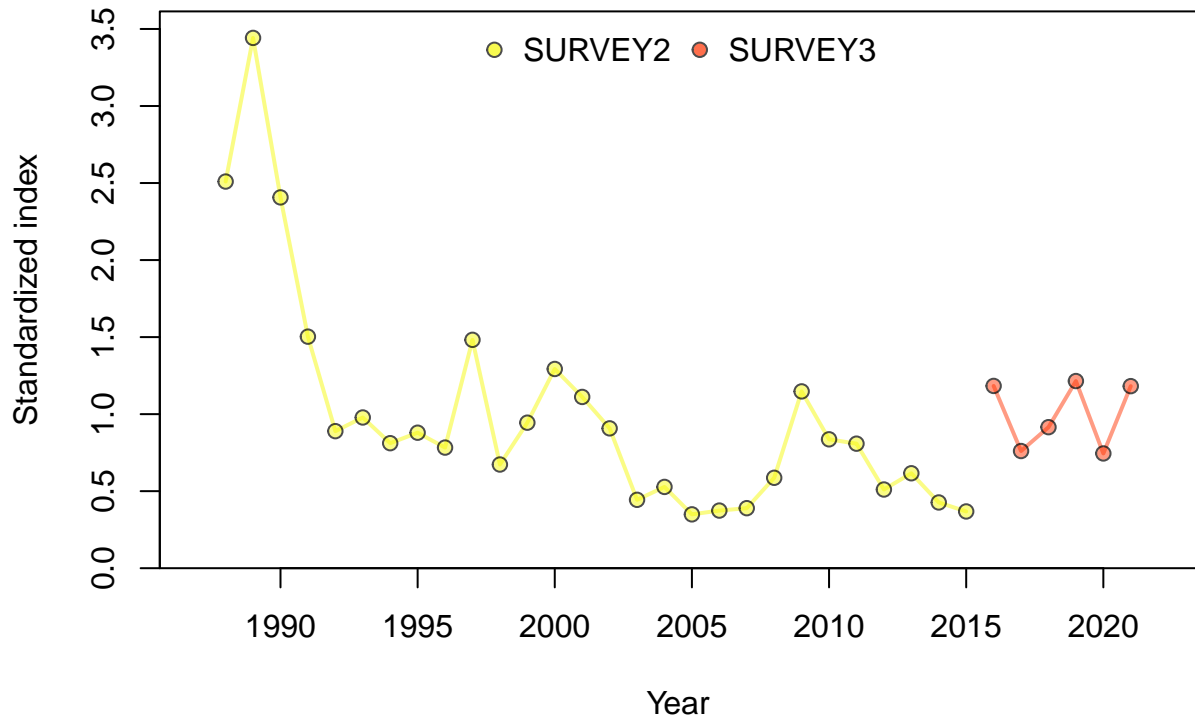


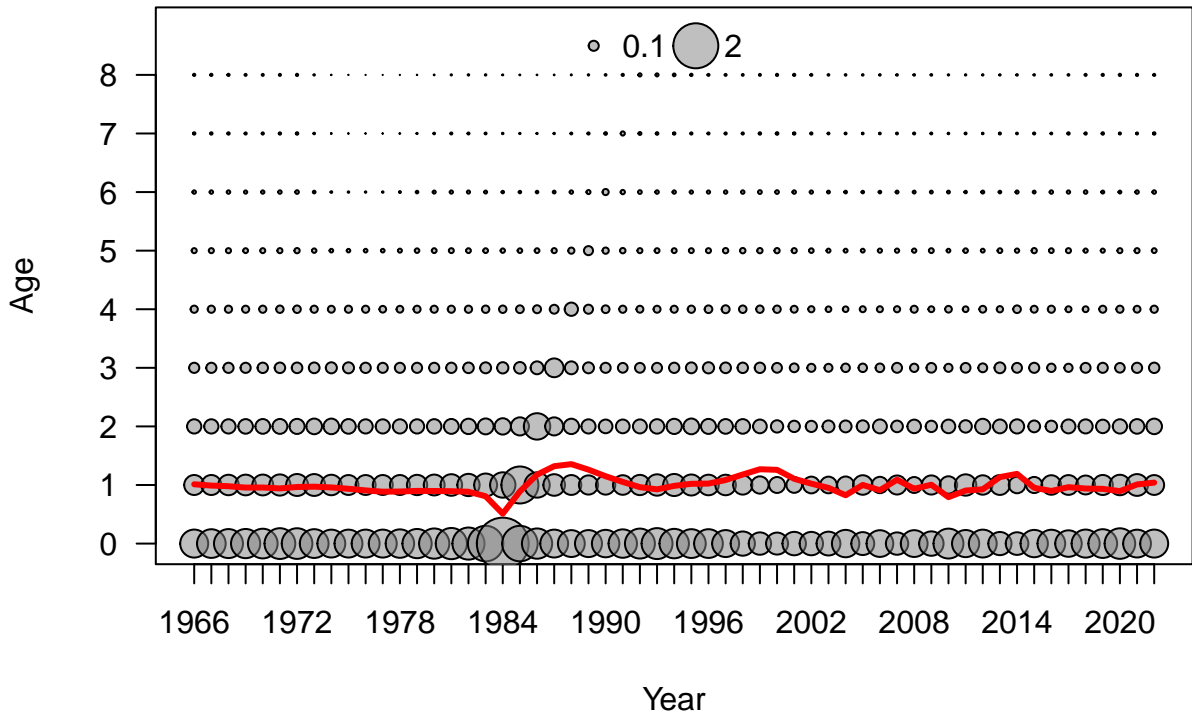
Residual



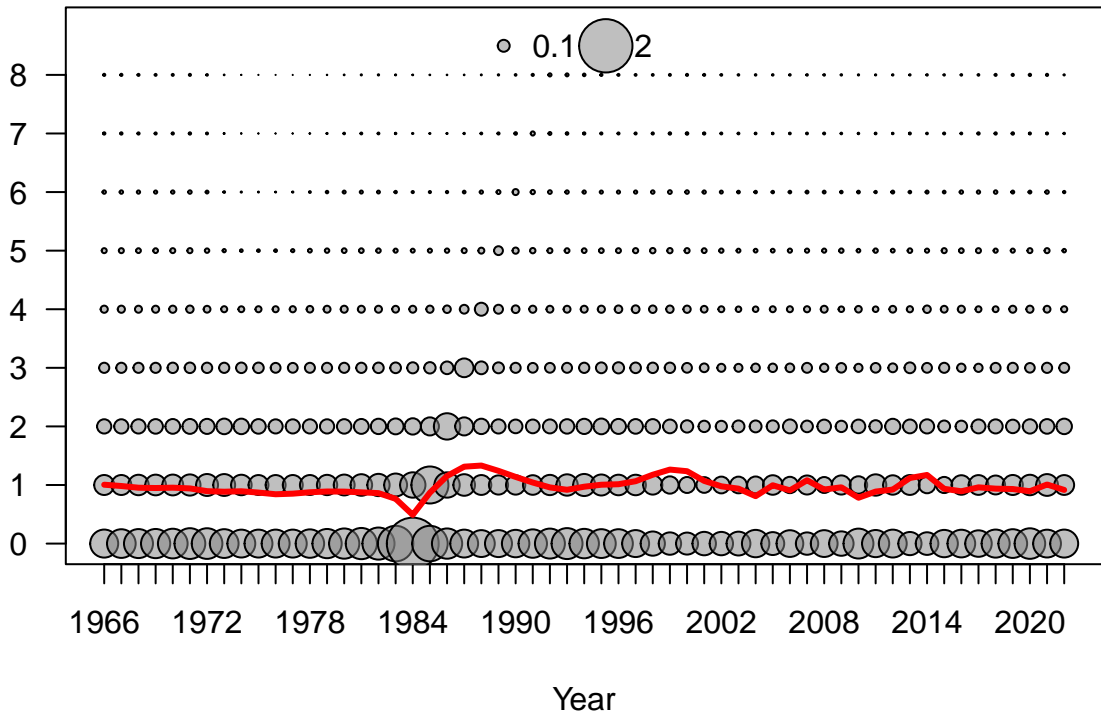
Year

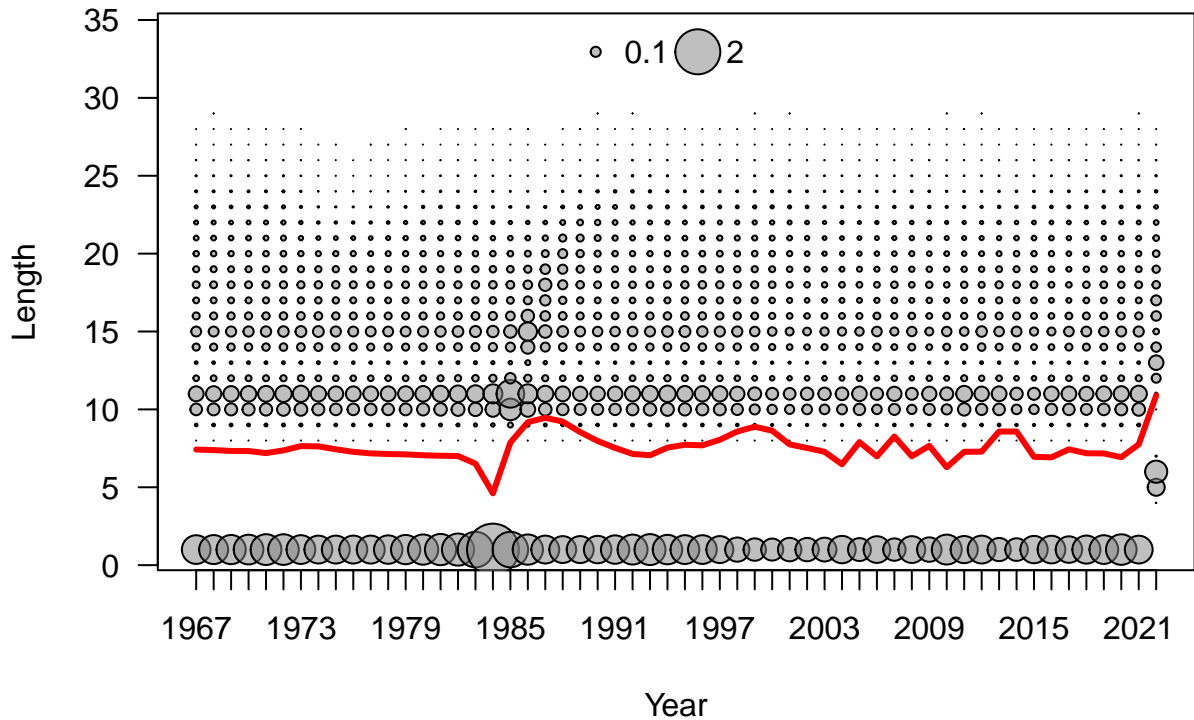


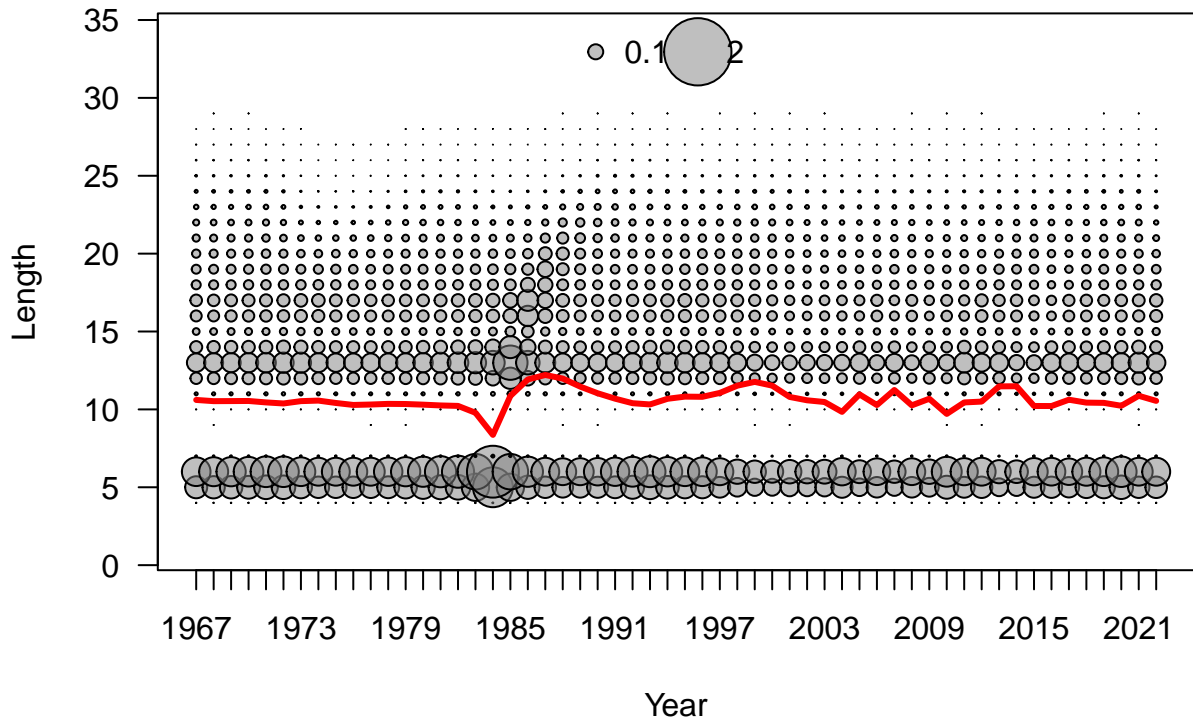


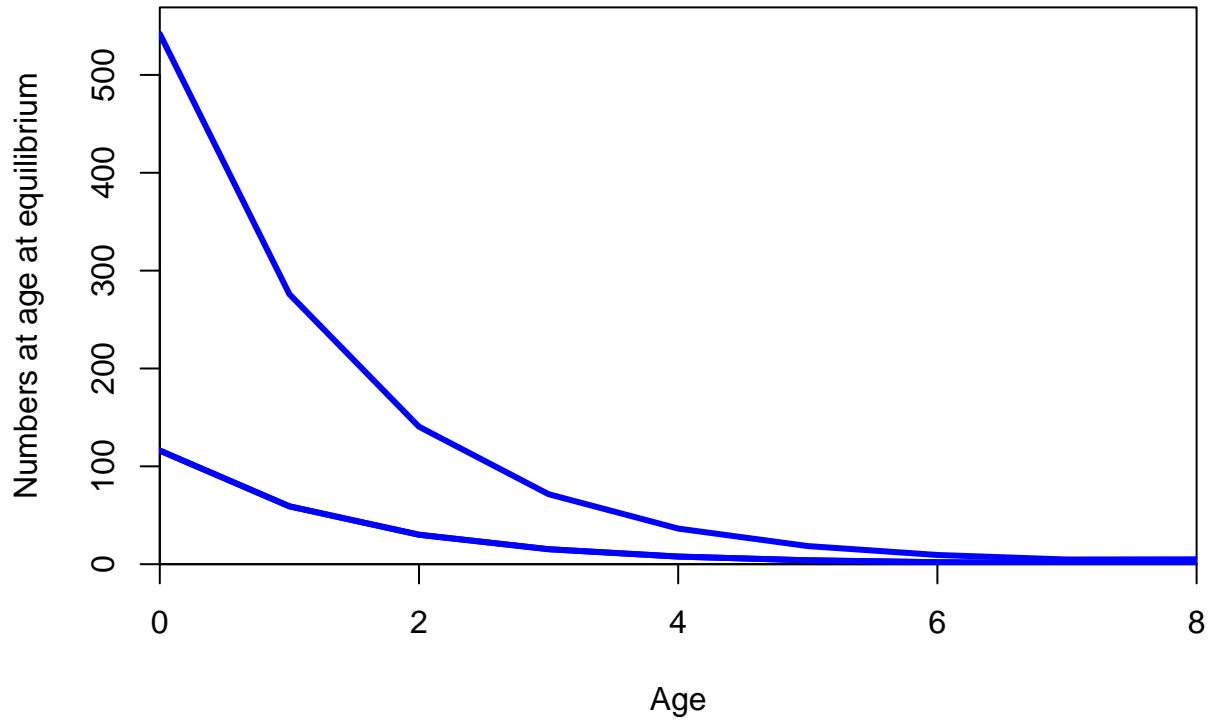


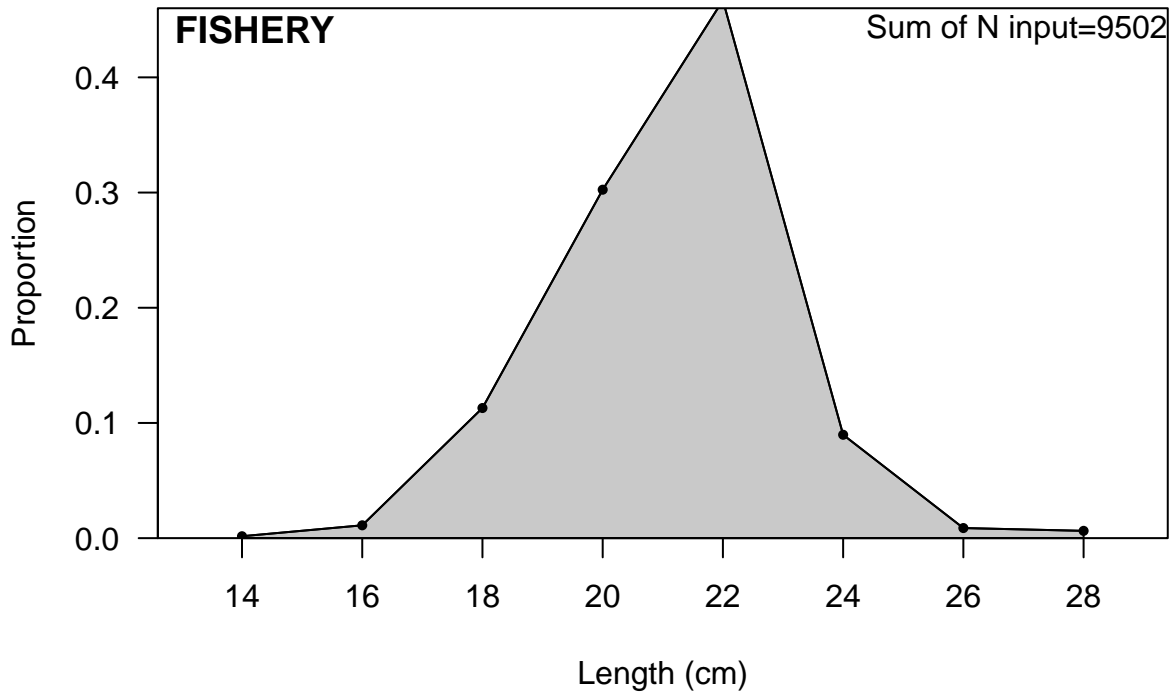
Age

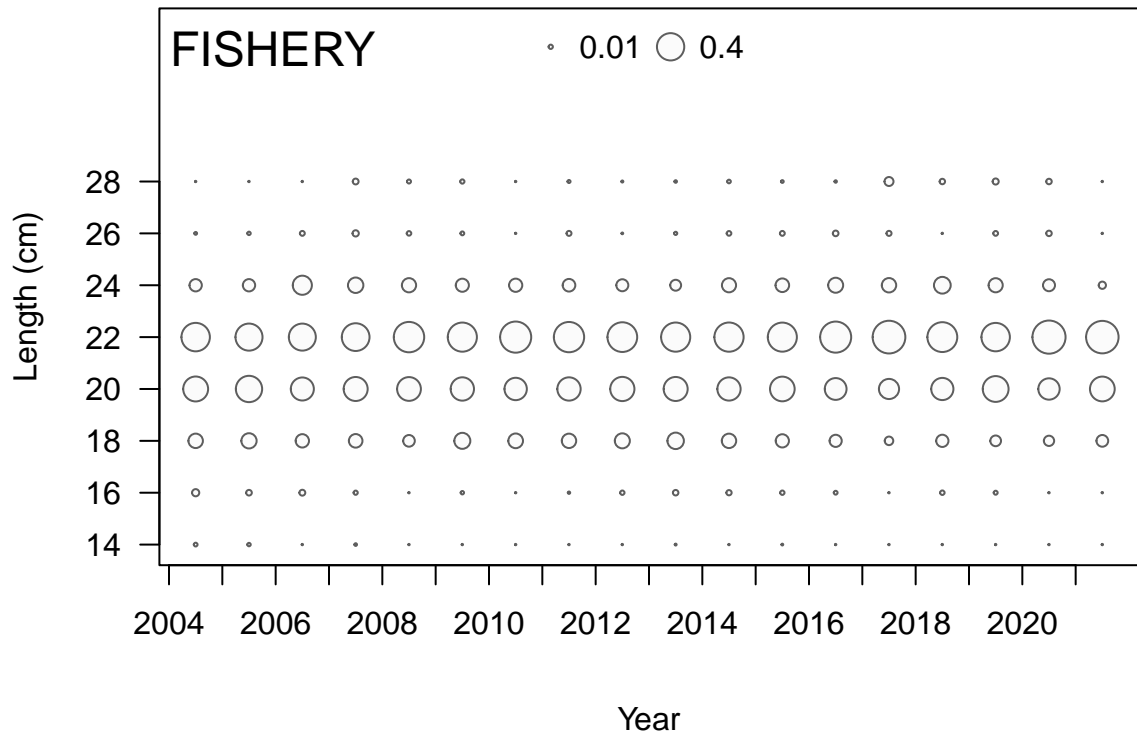




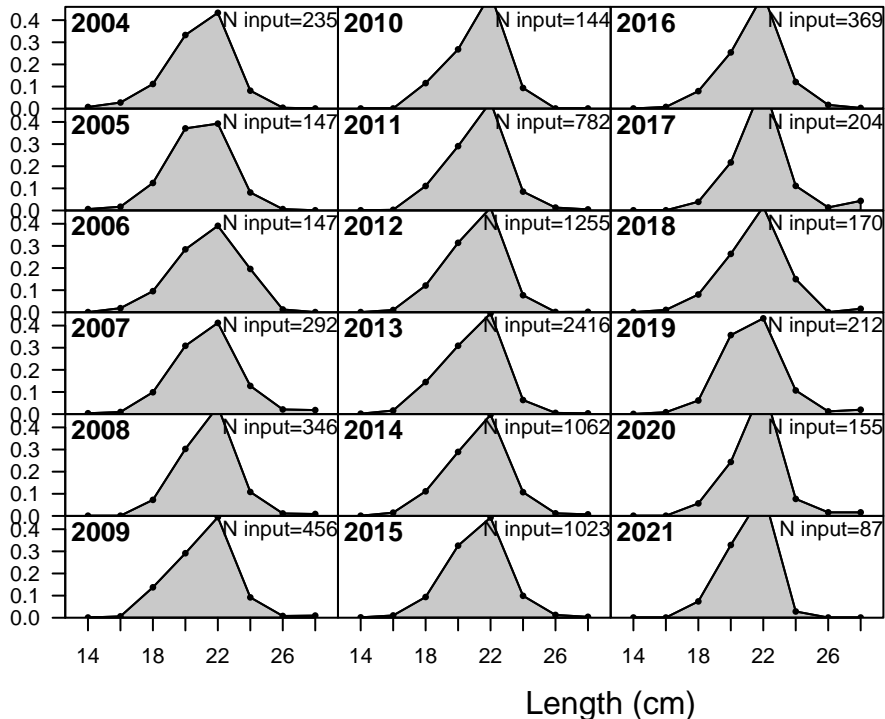


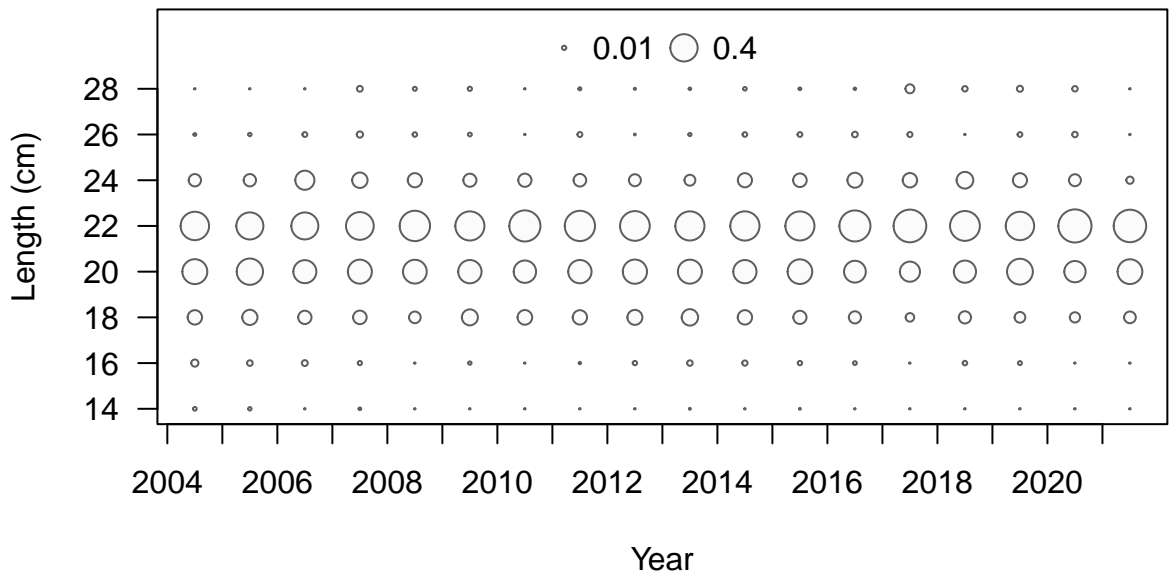




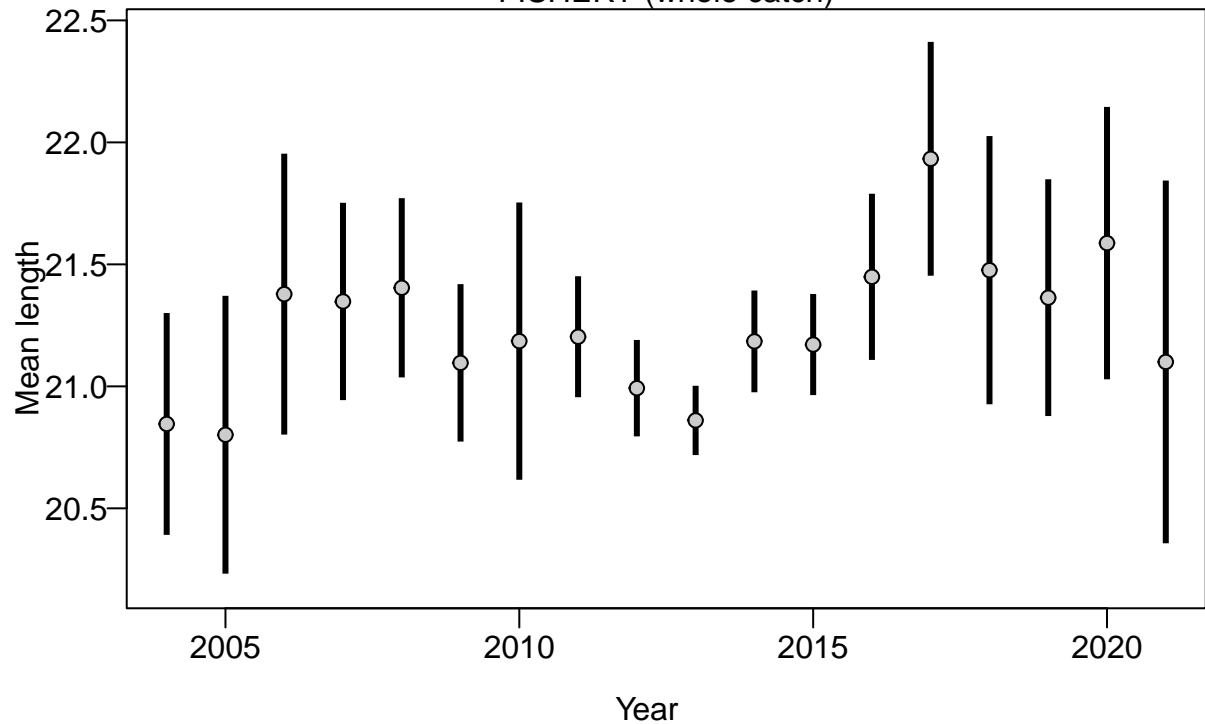


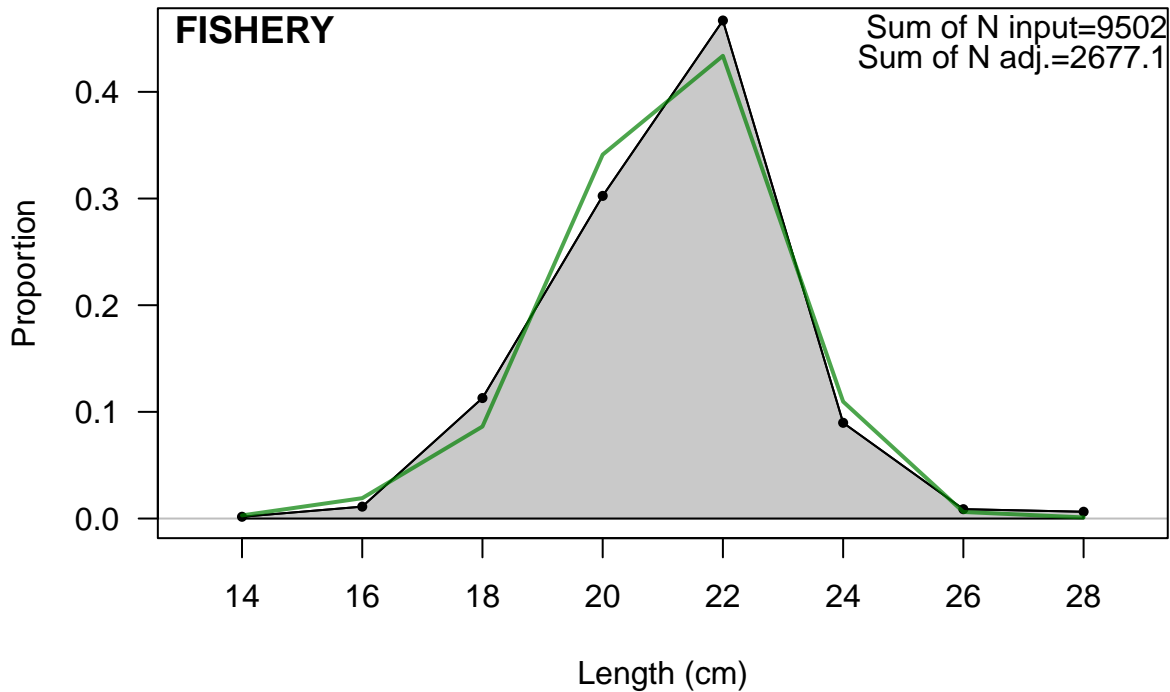
Proportion

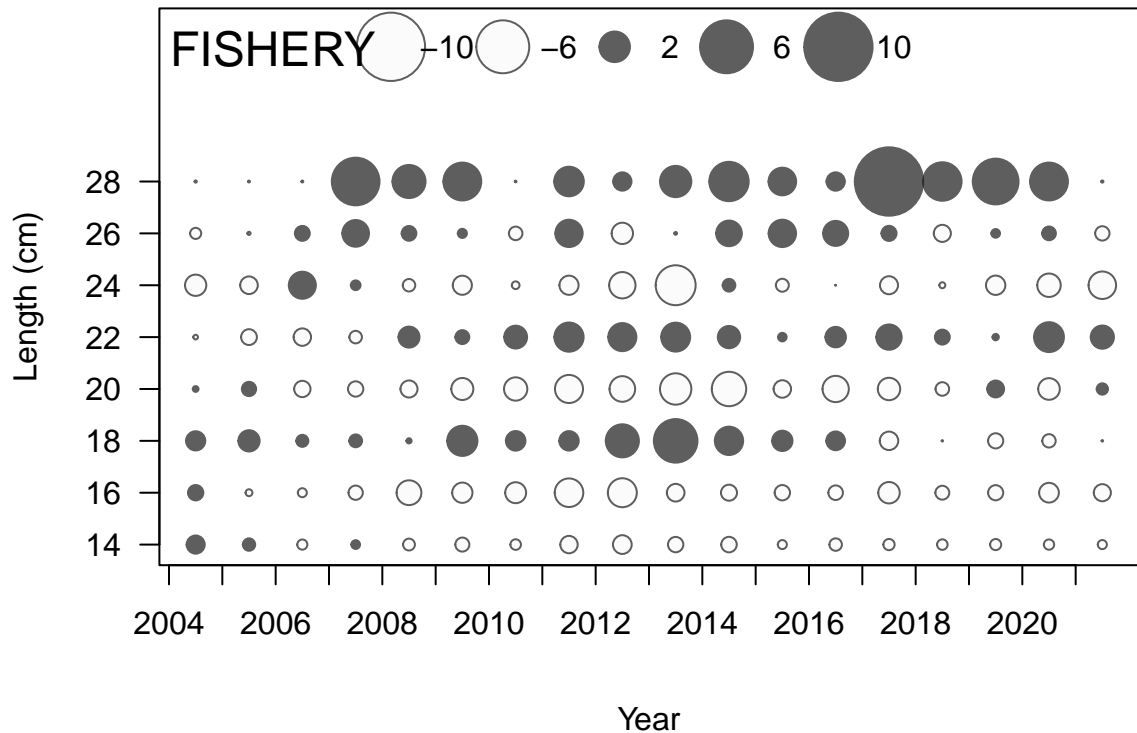




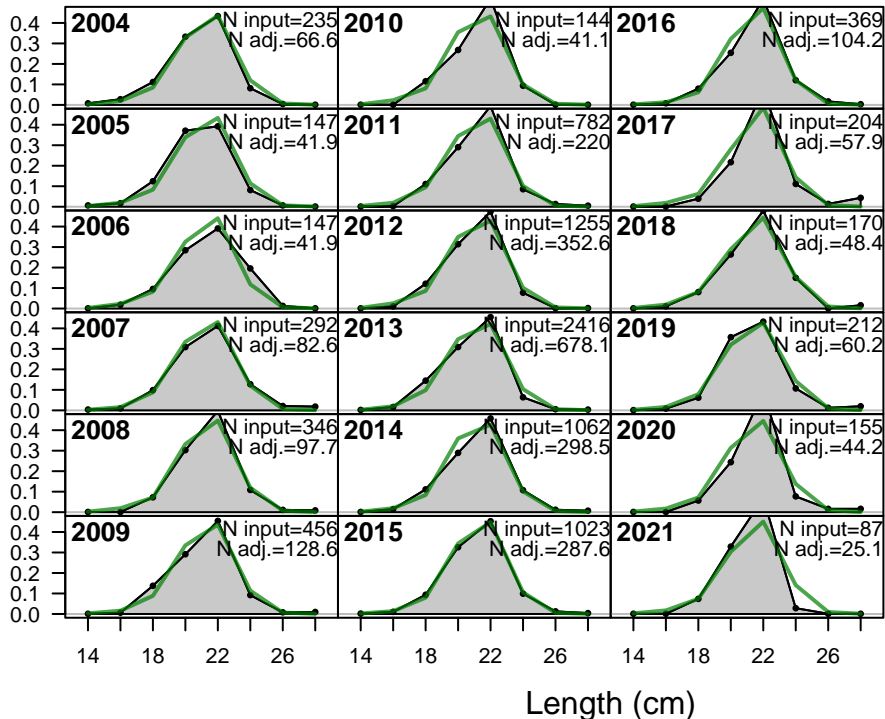
FISHERY (whole catch)

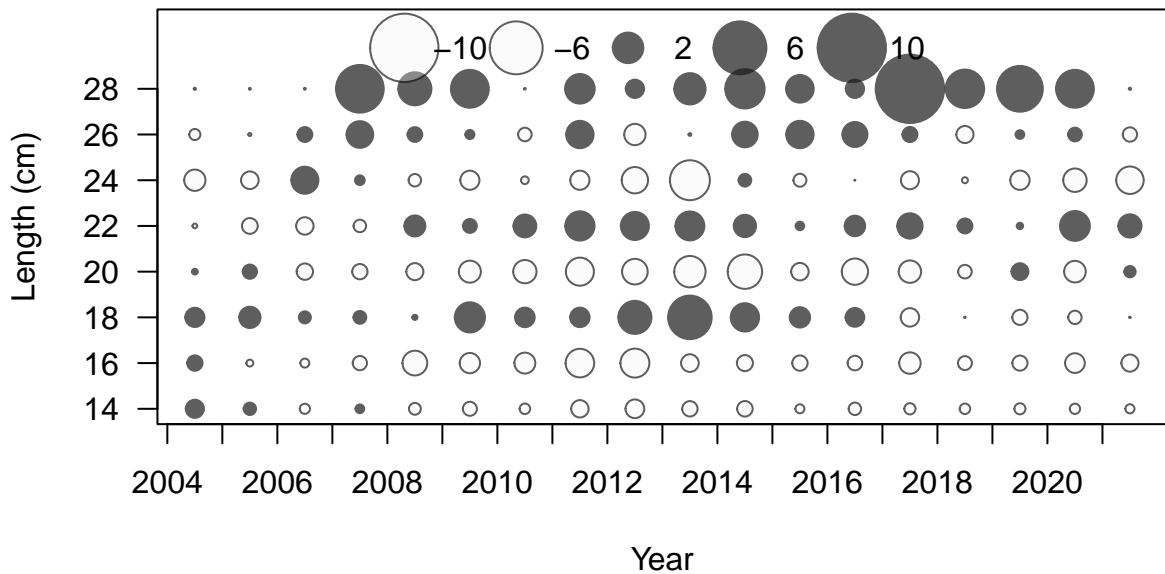




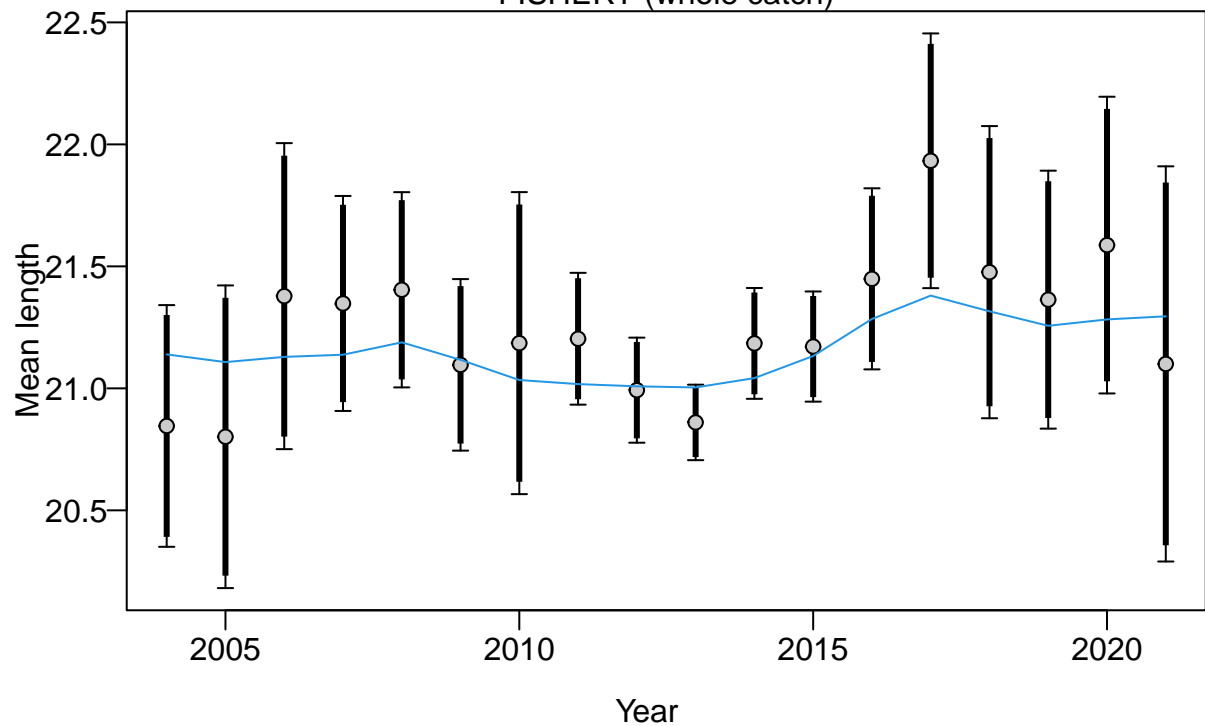


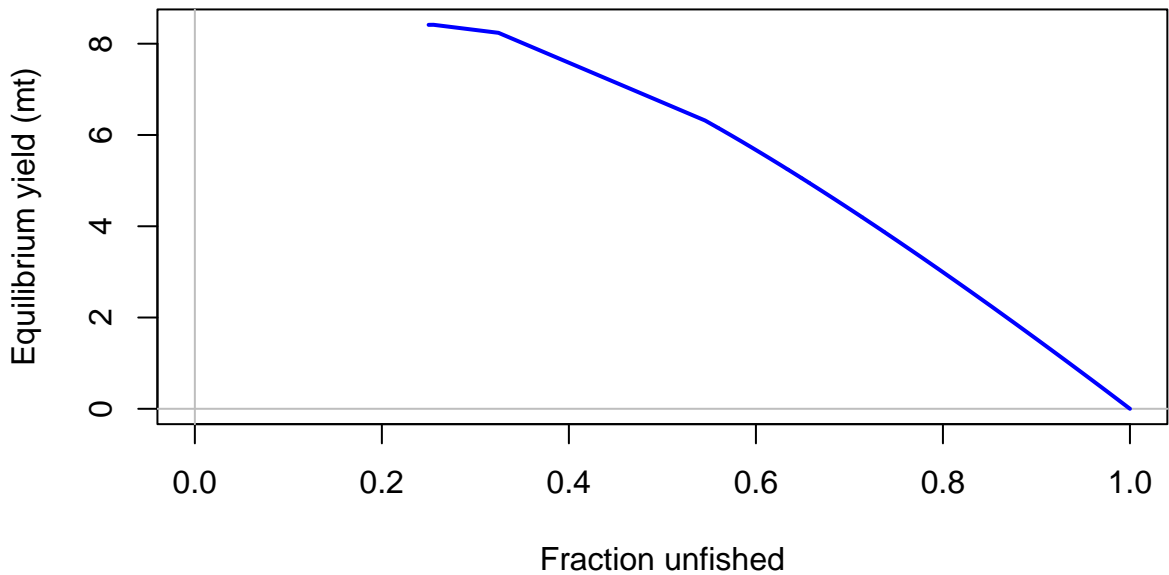
Proportion

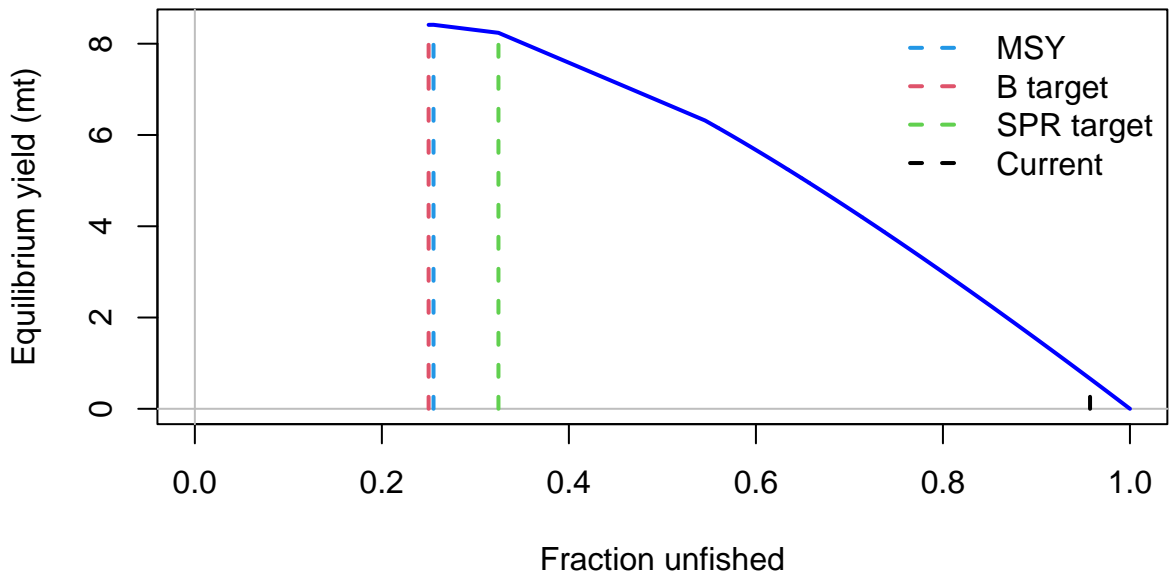


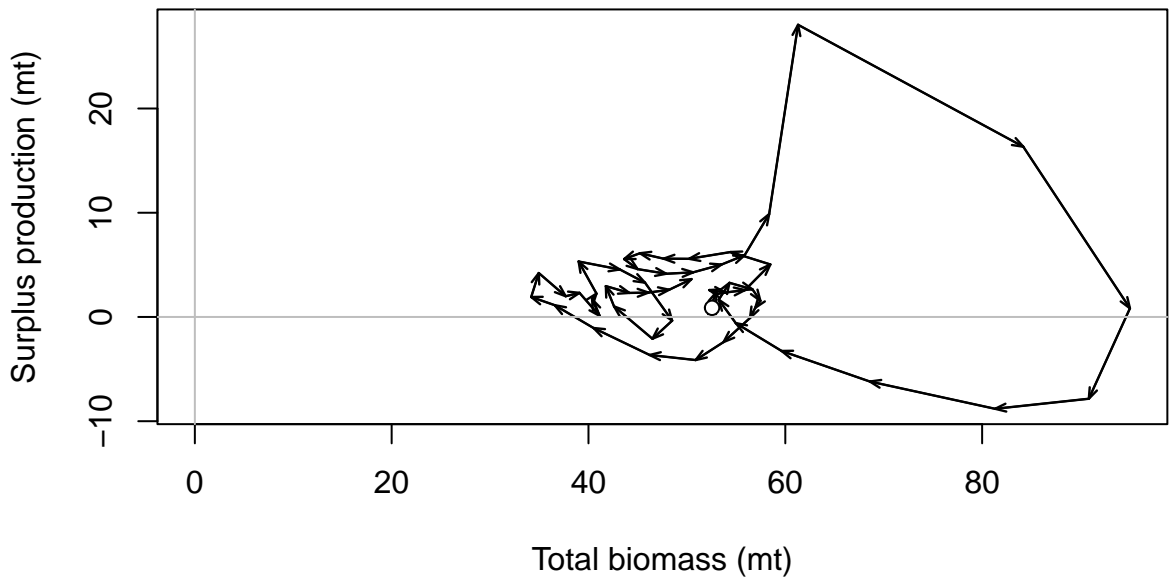


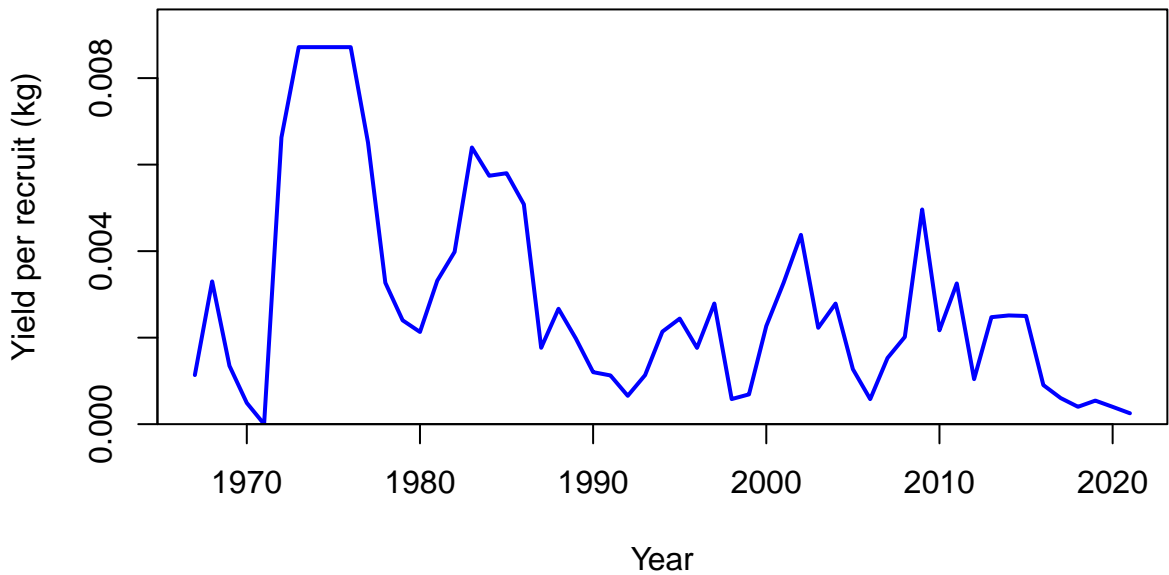
FISHERY (whole catch)

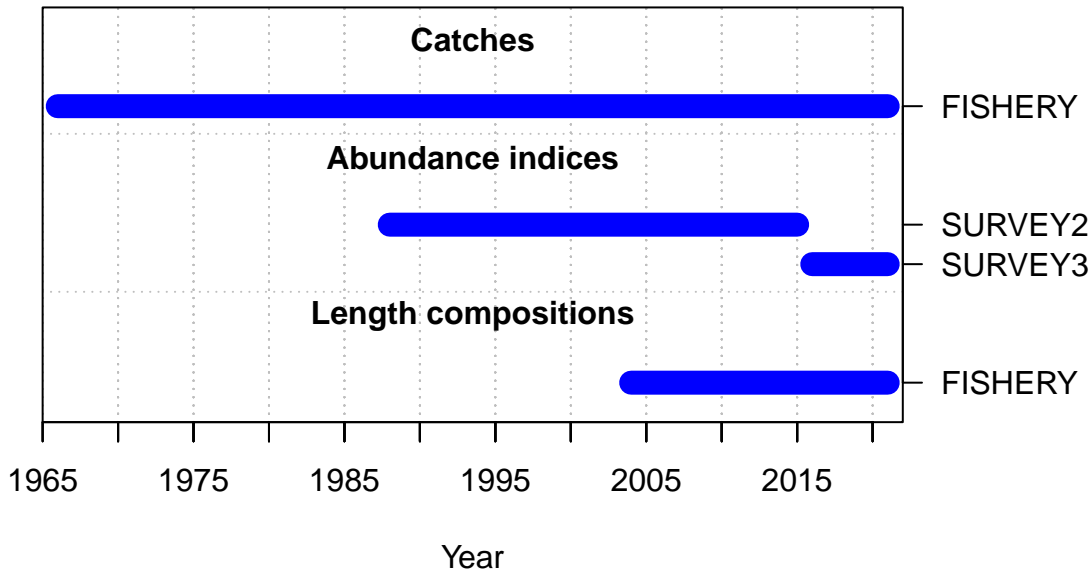


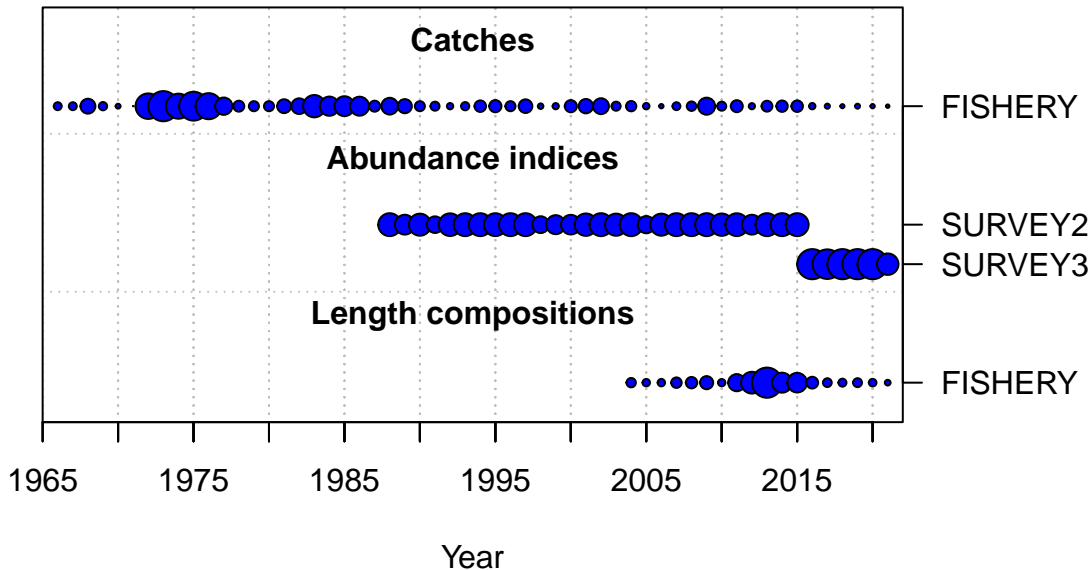




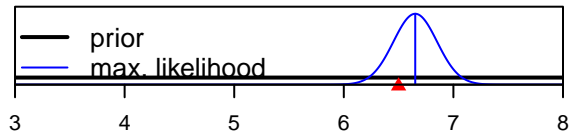




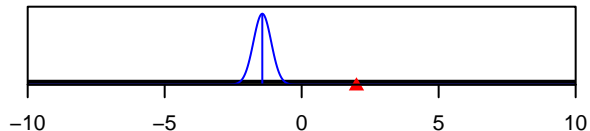




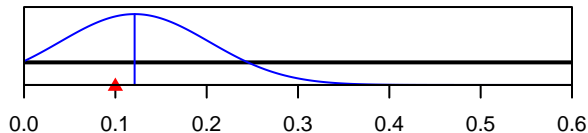
SR_LN(R0)



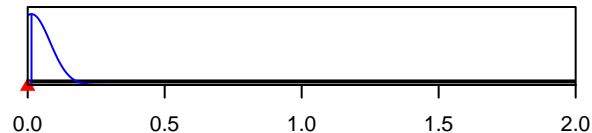
LnQ_base_SURVEY3(3)



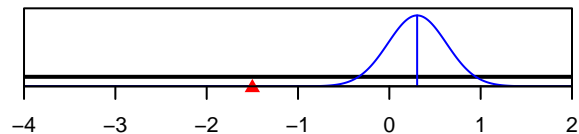
InitF_seas_1_flt_1FISHERY



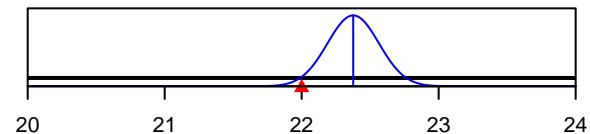
Q_extraSD_SURVEY3(3)



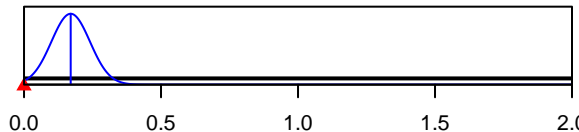
LnQ_base_SURVEY2(2)



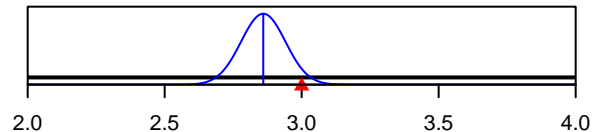
Size_inflection_FISHERY(1)



Q_extraSD_SURVEY2(2)

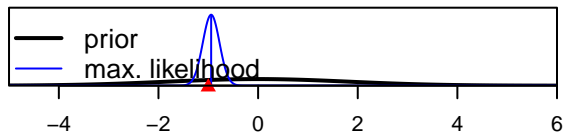


Size_95%width_FISHERY(1)



Parameter value

$\ln(\text{DM_theta})_1$



Density

Parameter value