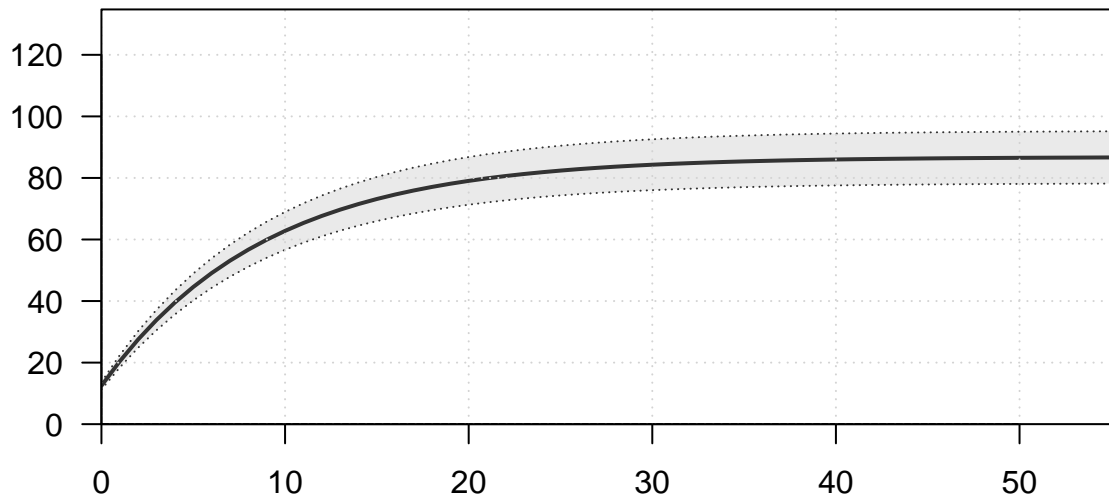
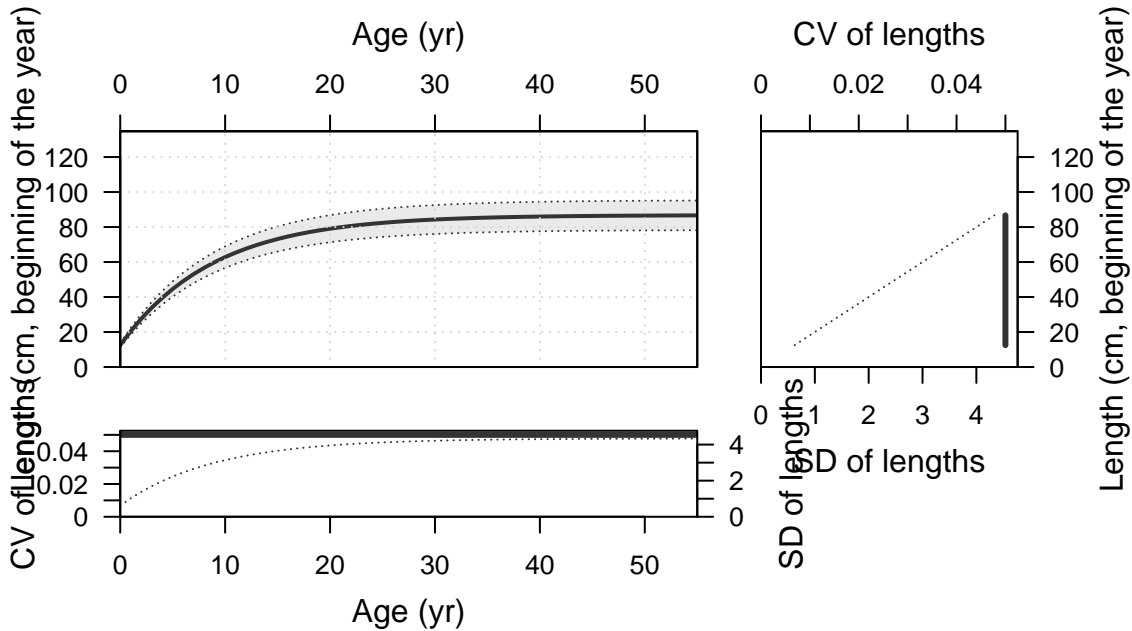


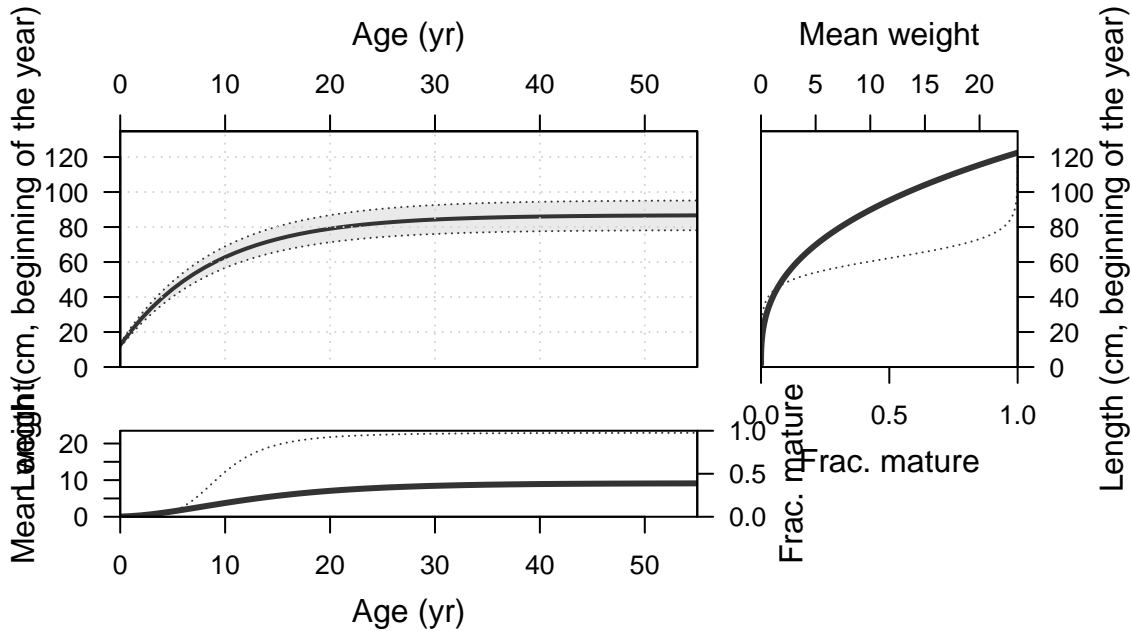
Plots created using the 'r4ss' package in R
Stock Synthesis version: 3.30.19.0
StartTime: Thu Jul 28 10:04:51 2022
Data_File: data.ss
Control_File: control.ss

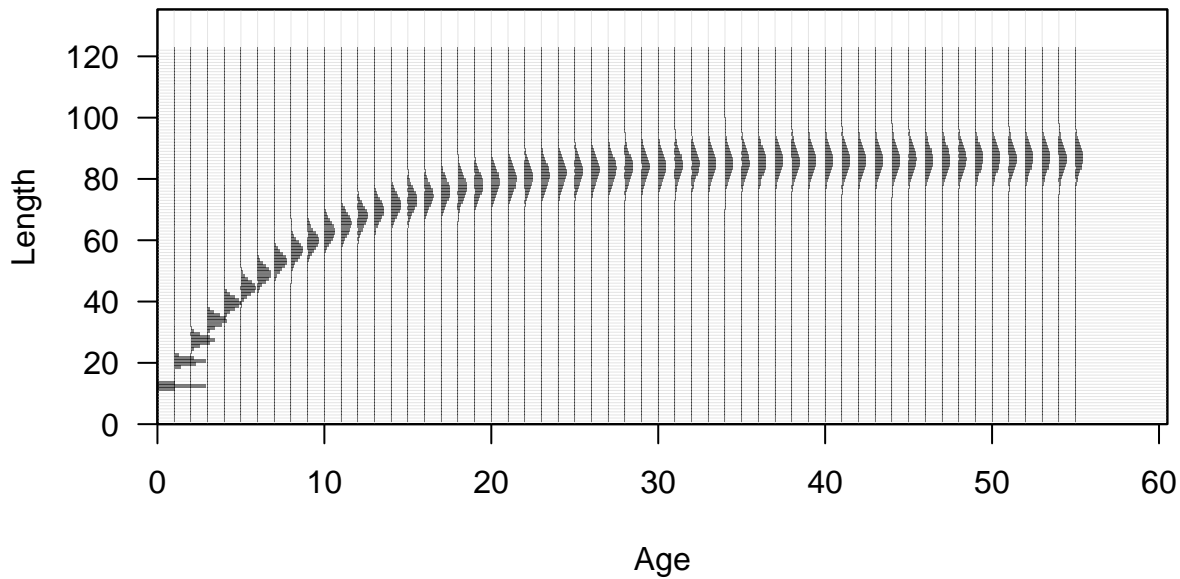
Length (cm, beginning of the year)

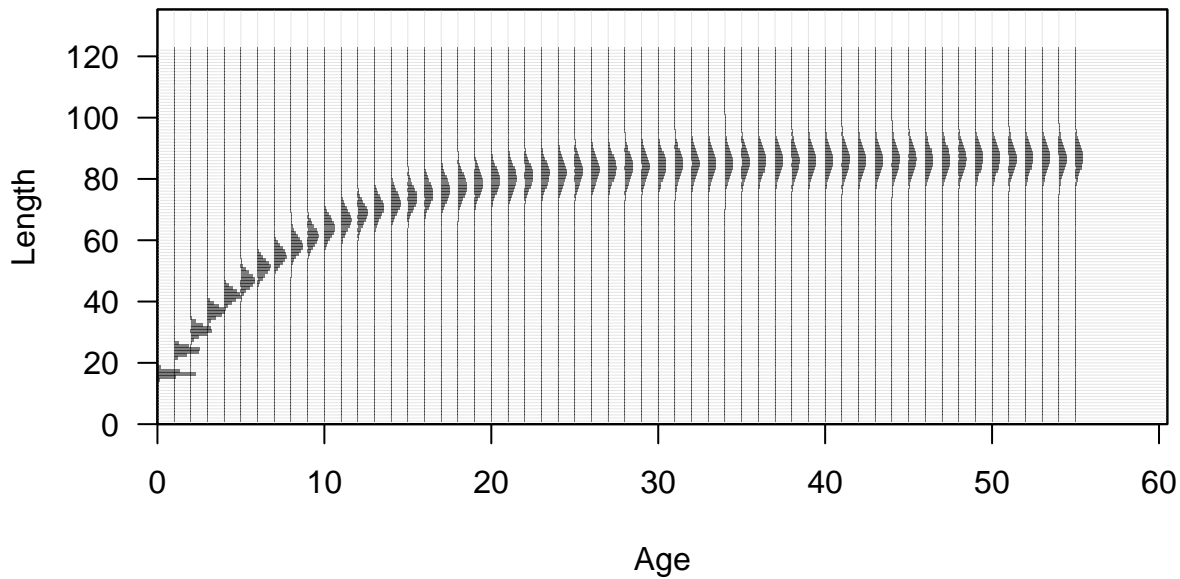


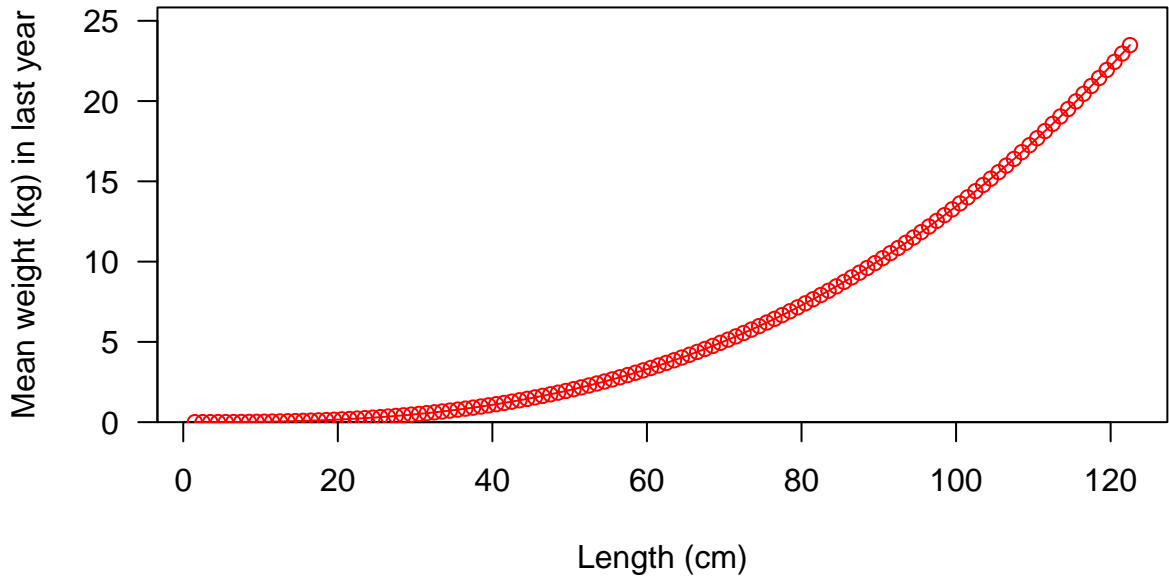
Age (yr)

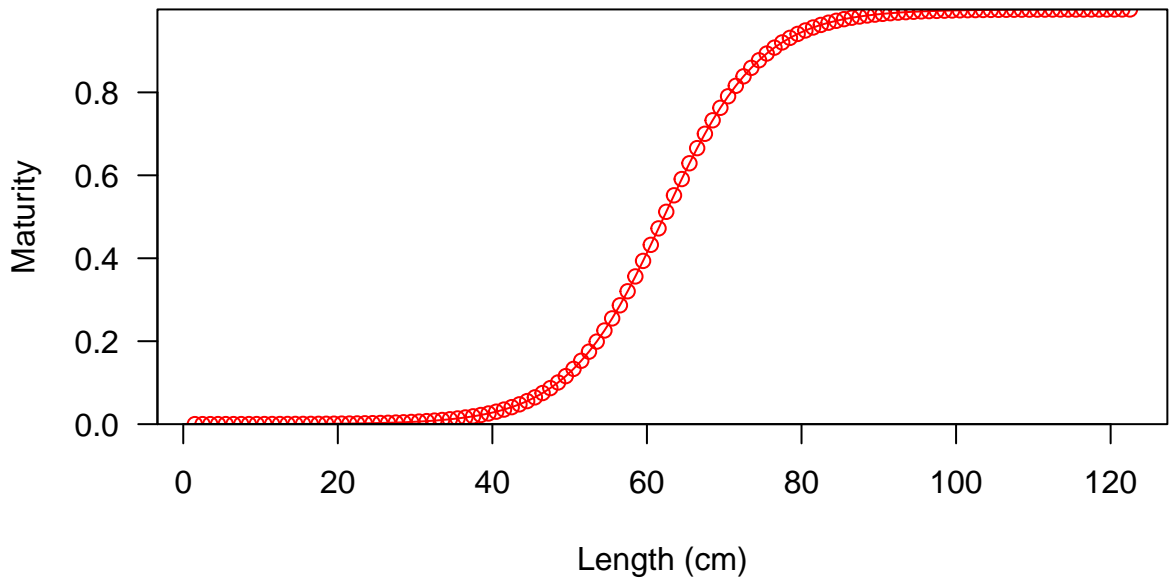


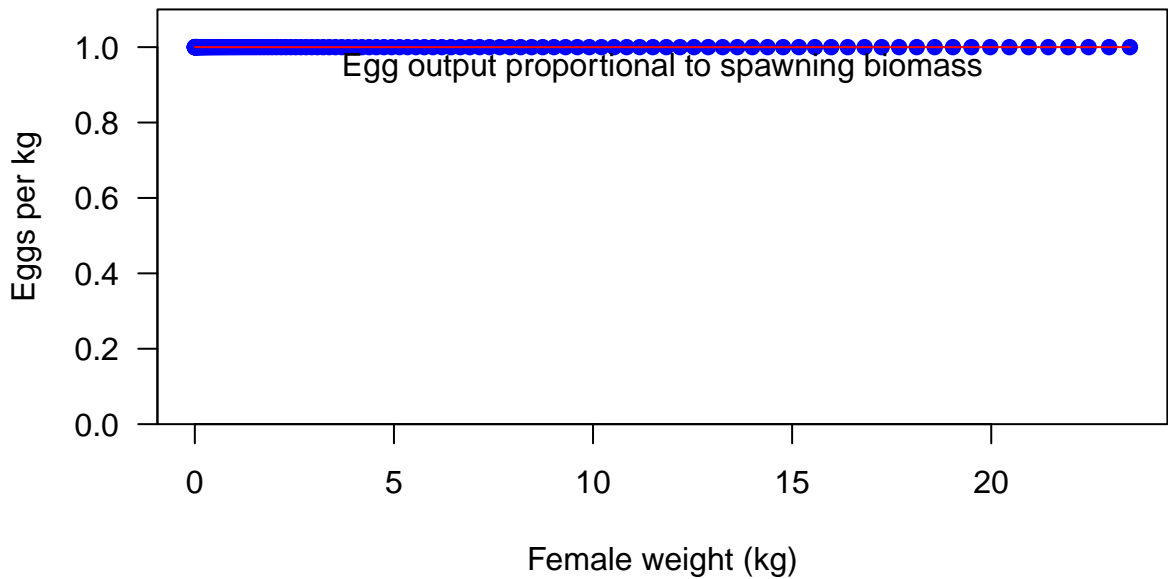


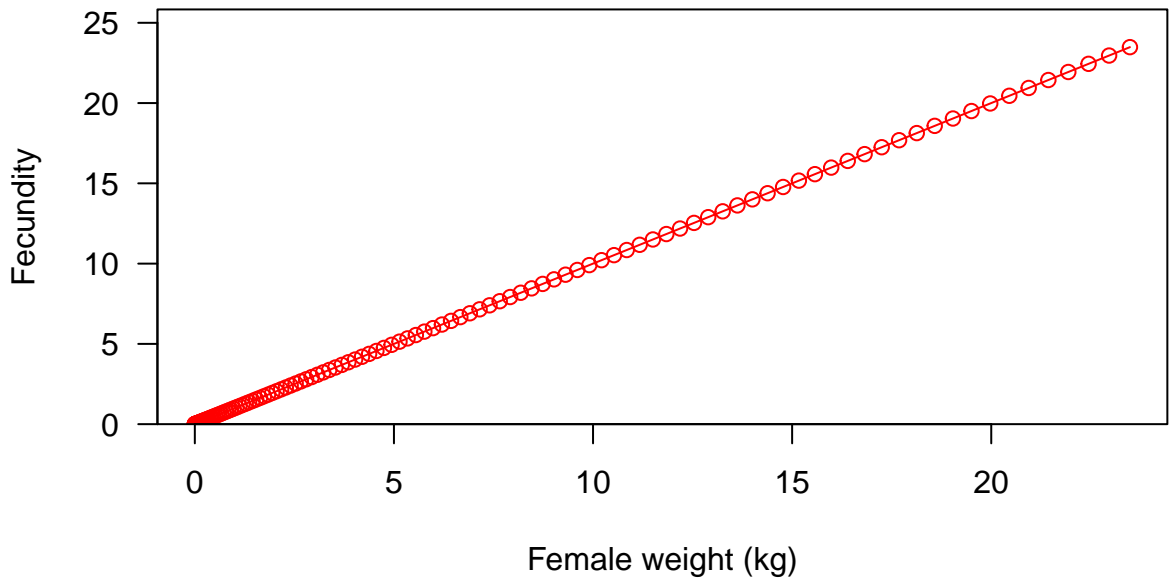












Fecundity

25
20
15
10
5
0

0

20

40

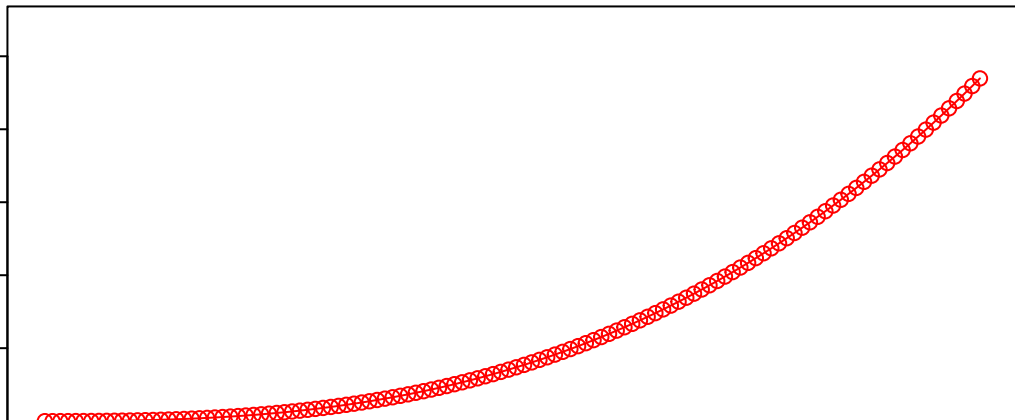
60

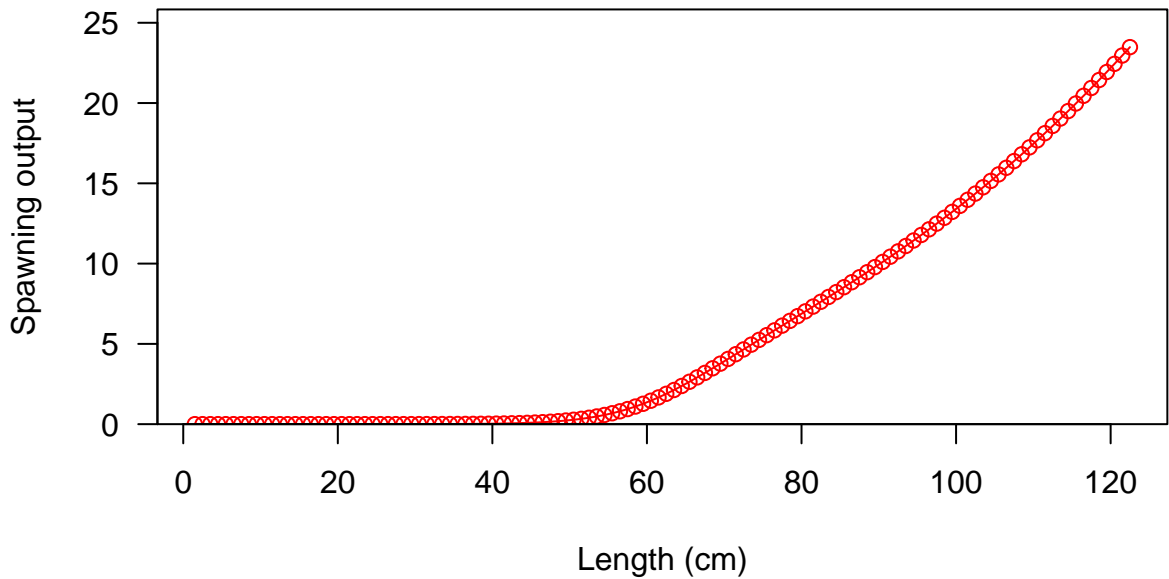
80

100

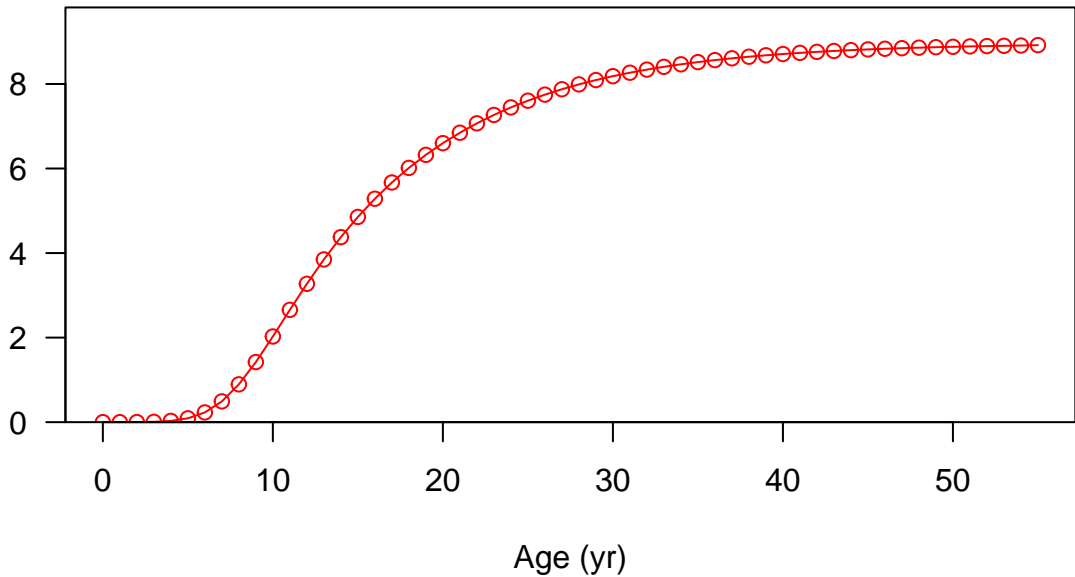
120

Female length (cm)

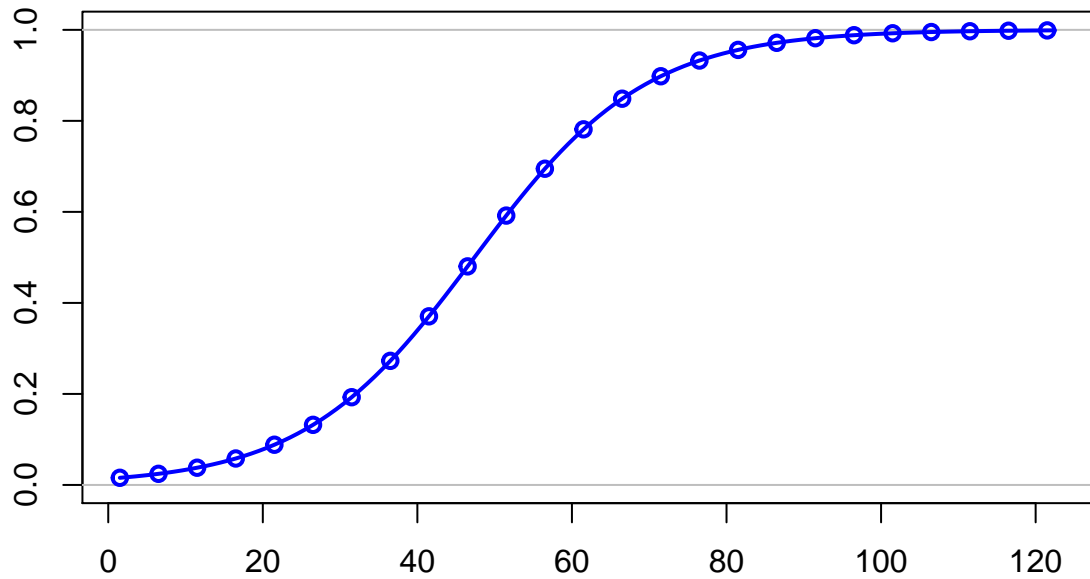




Spawning output

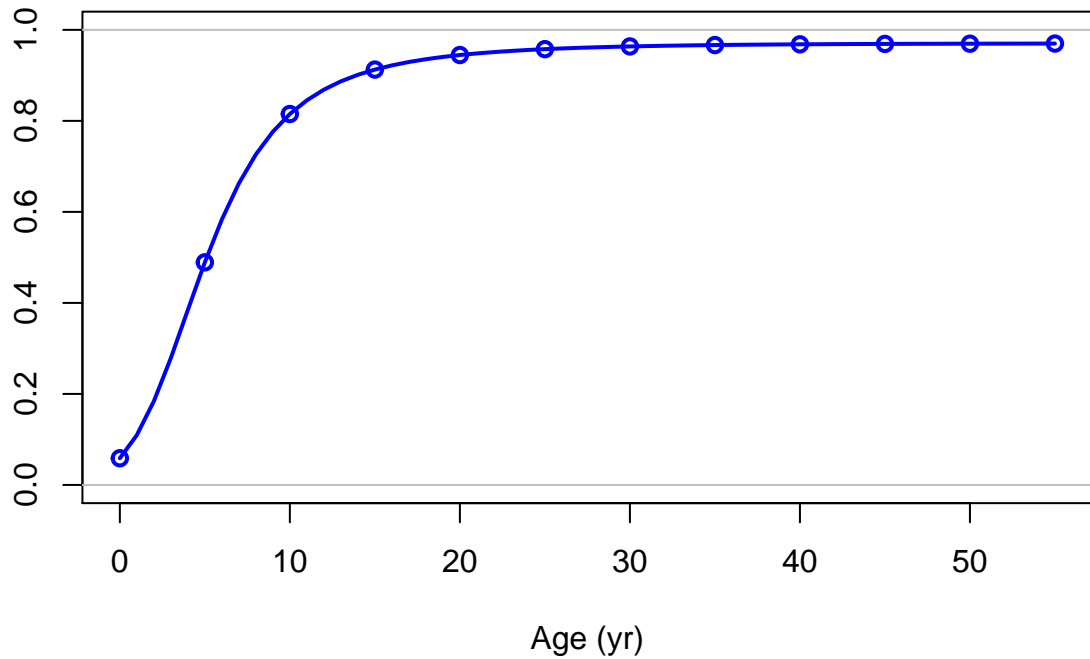


Selectivity

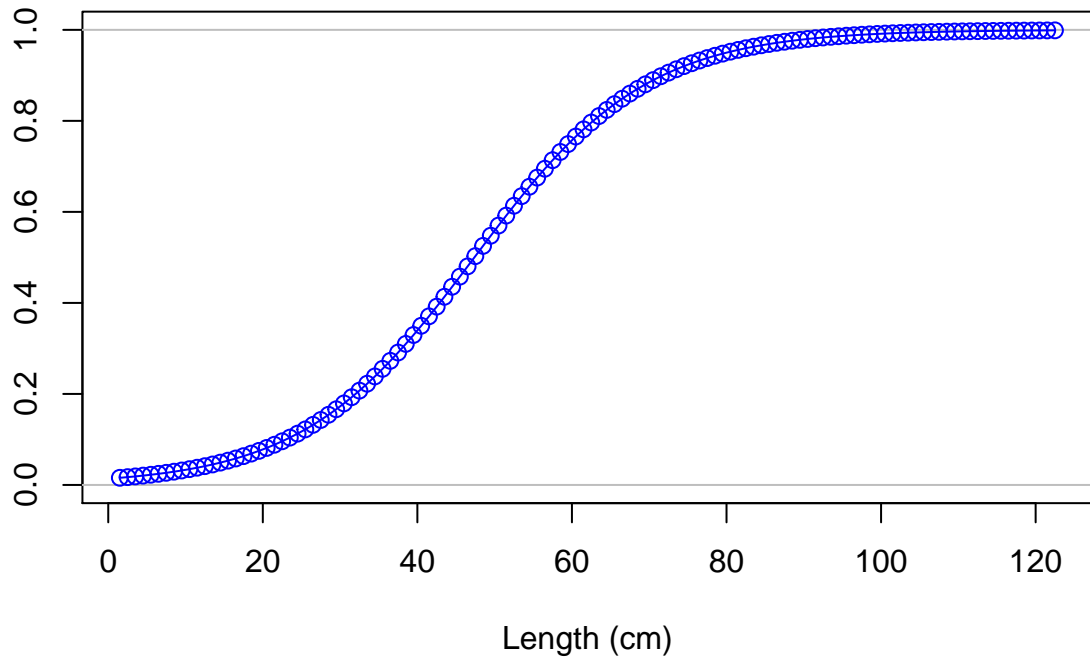


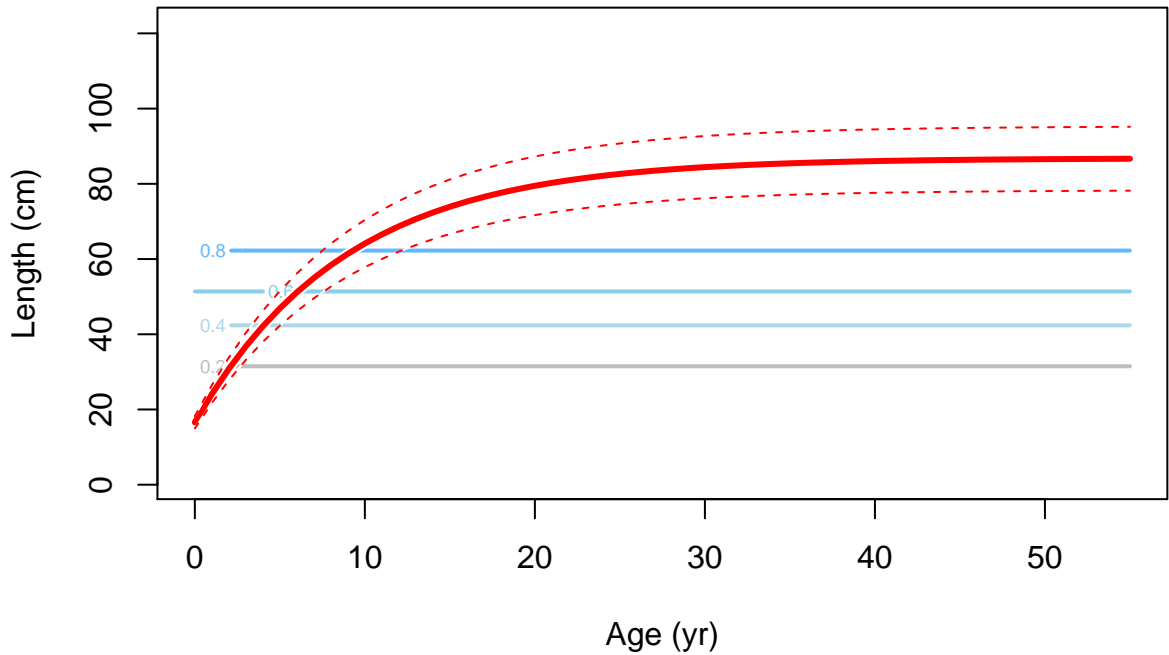
Length (cm)

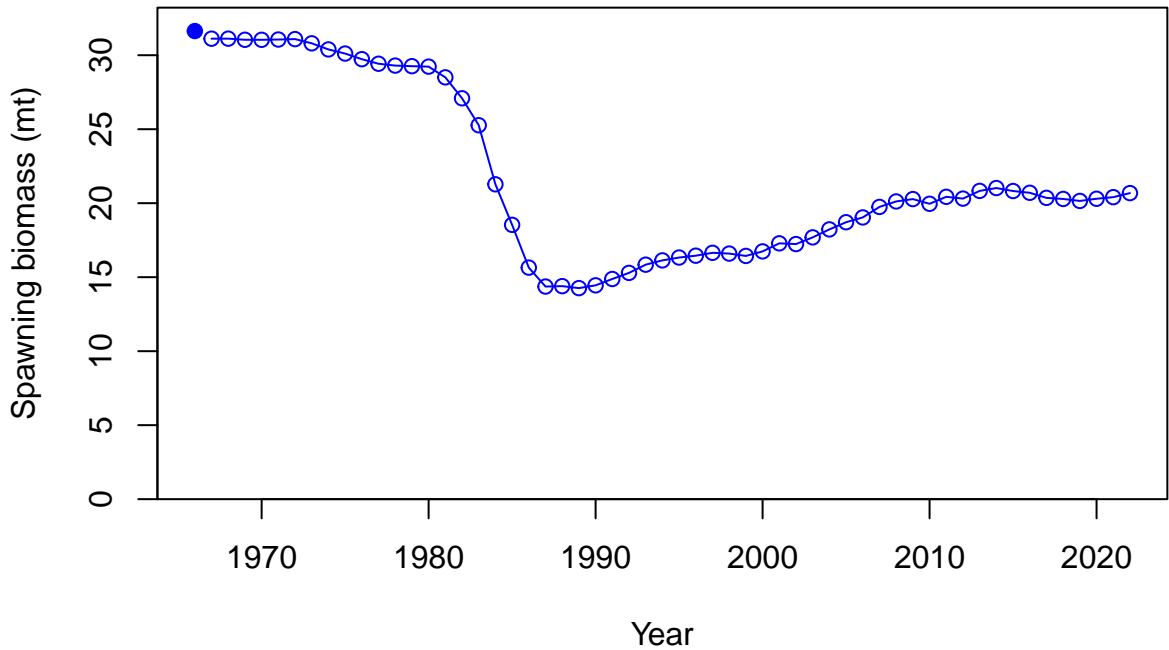
Selectivity

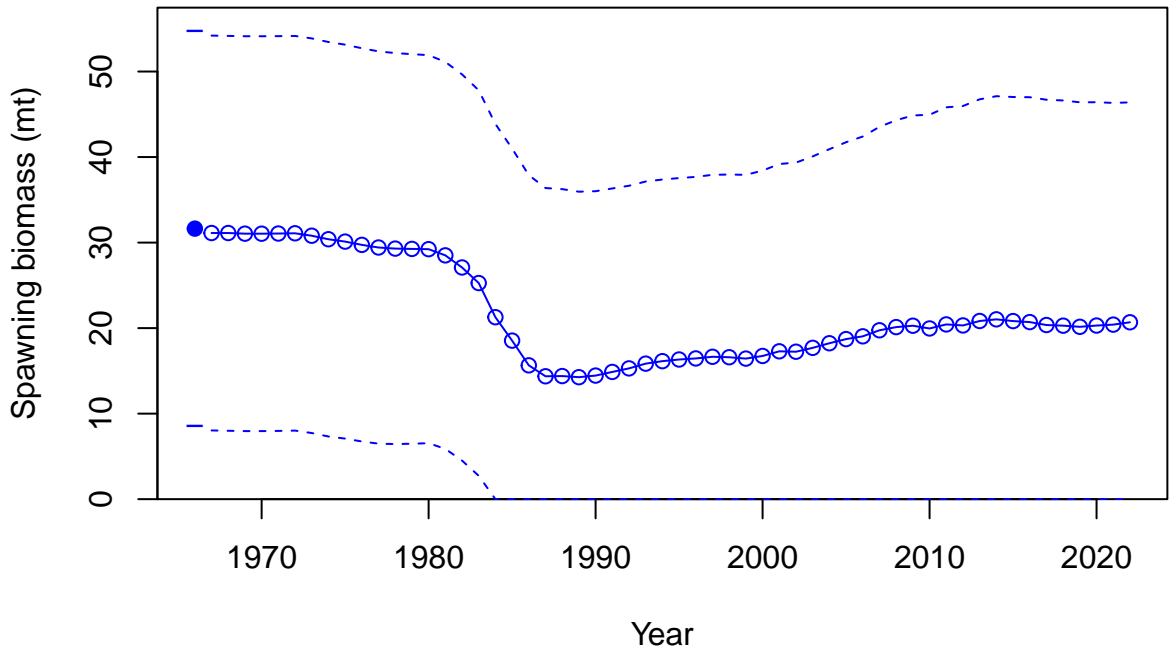


Selectivity

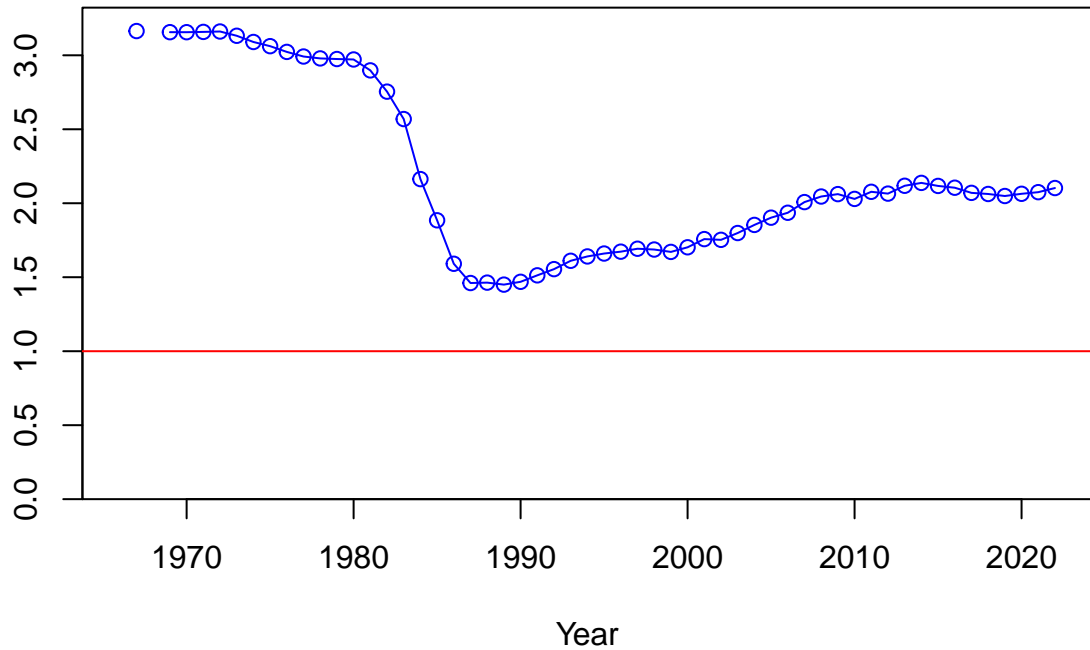




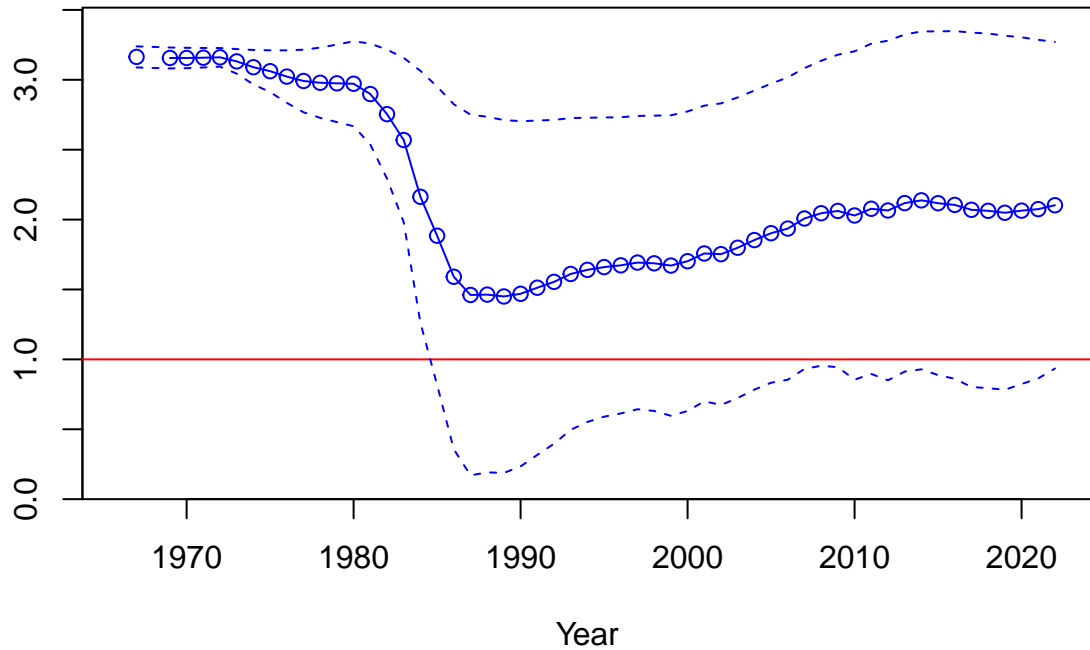


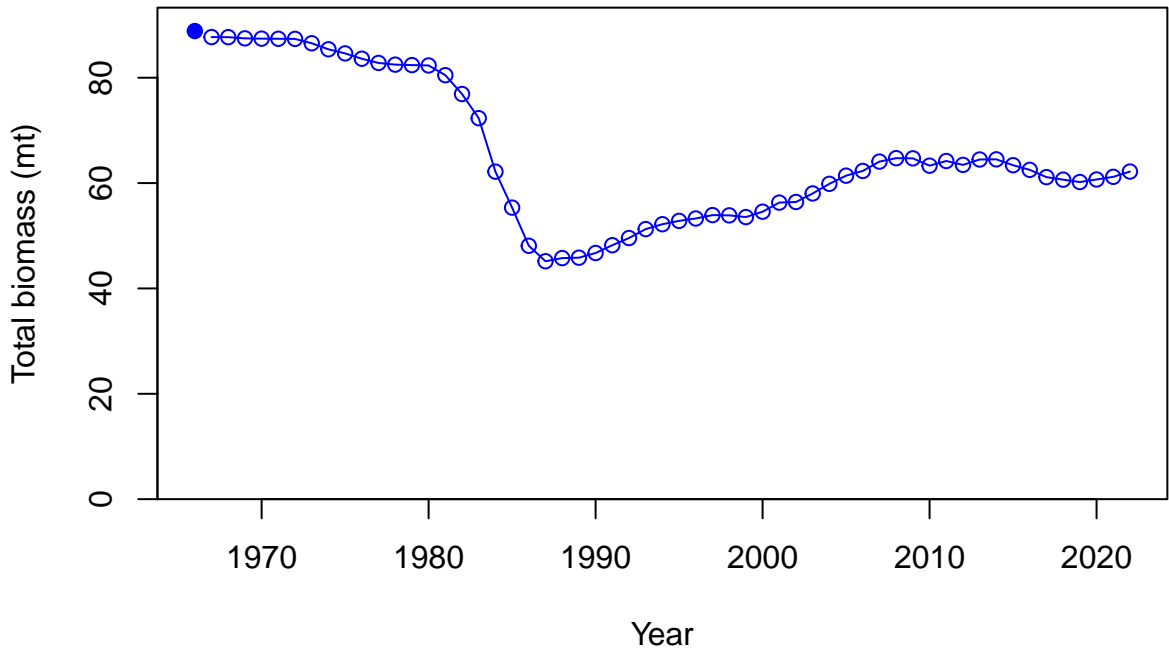


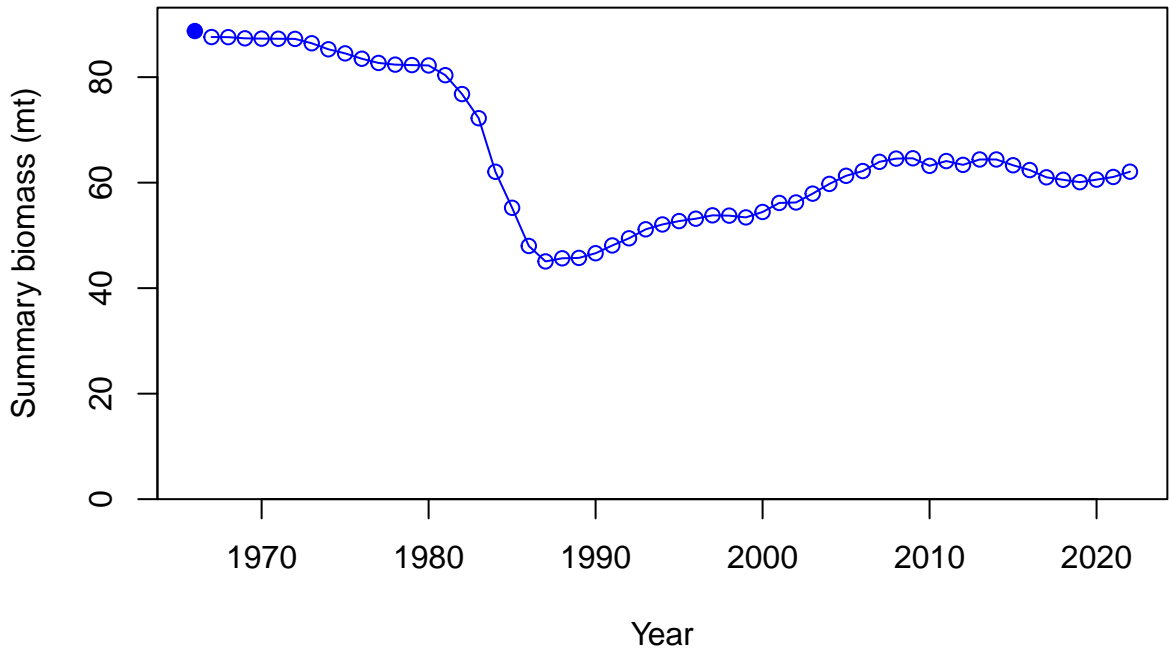
Relative spawning biomass: B/B_{MSY}



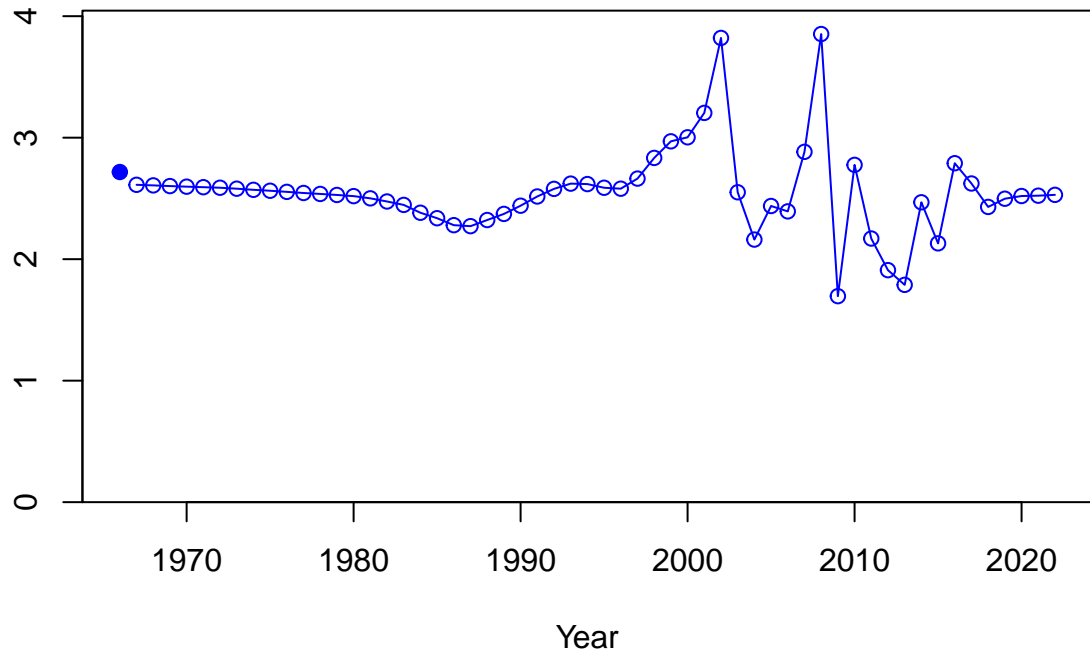
Relative spawning biomass: B/B_{MSY}

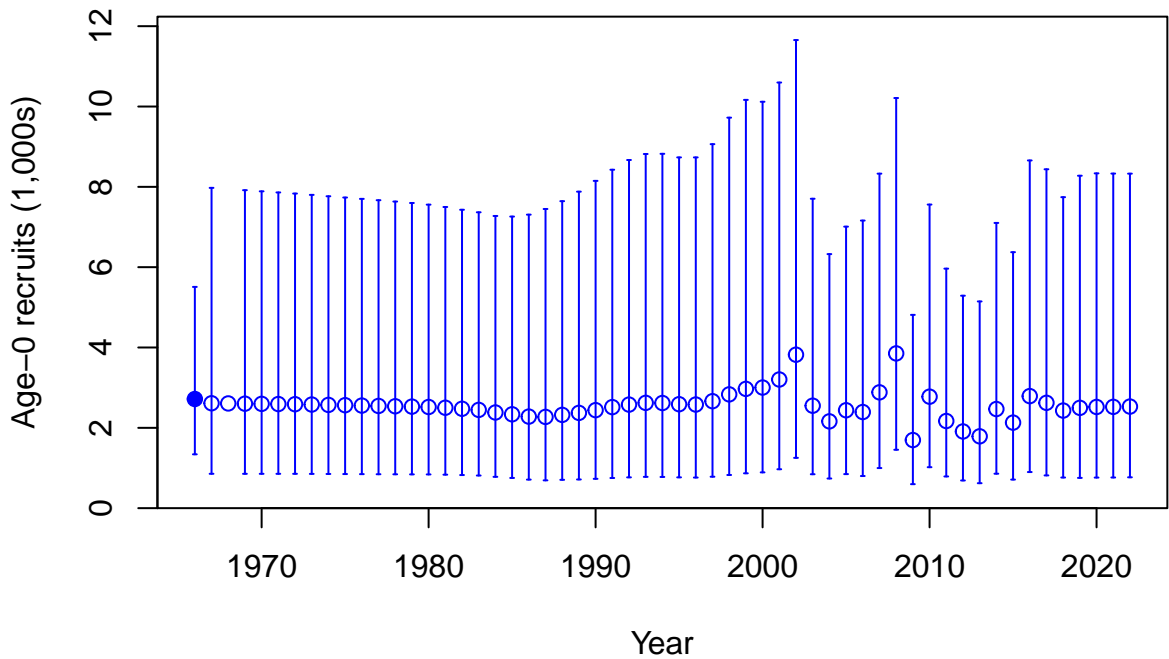




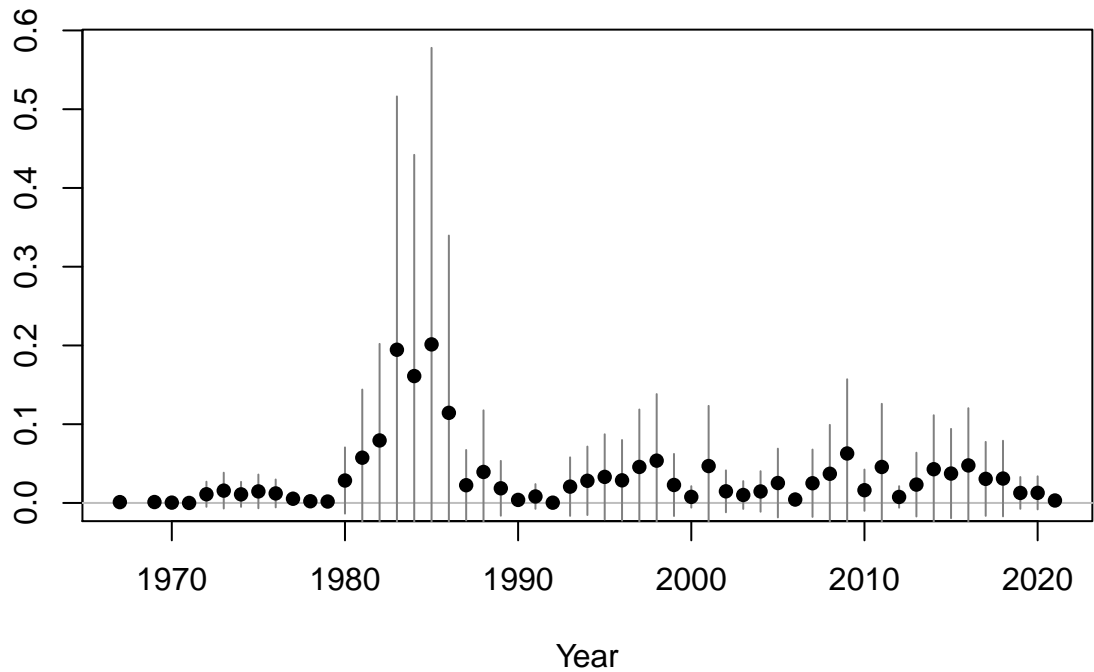


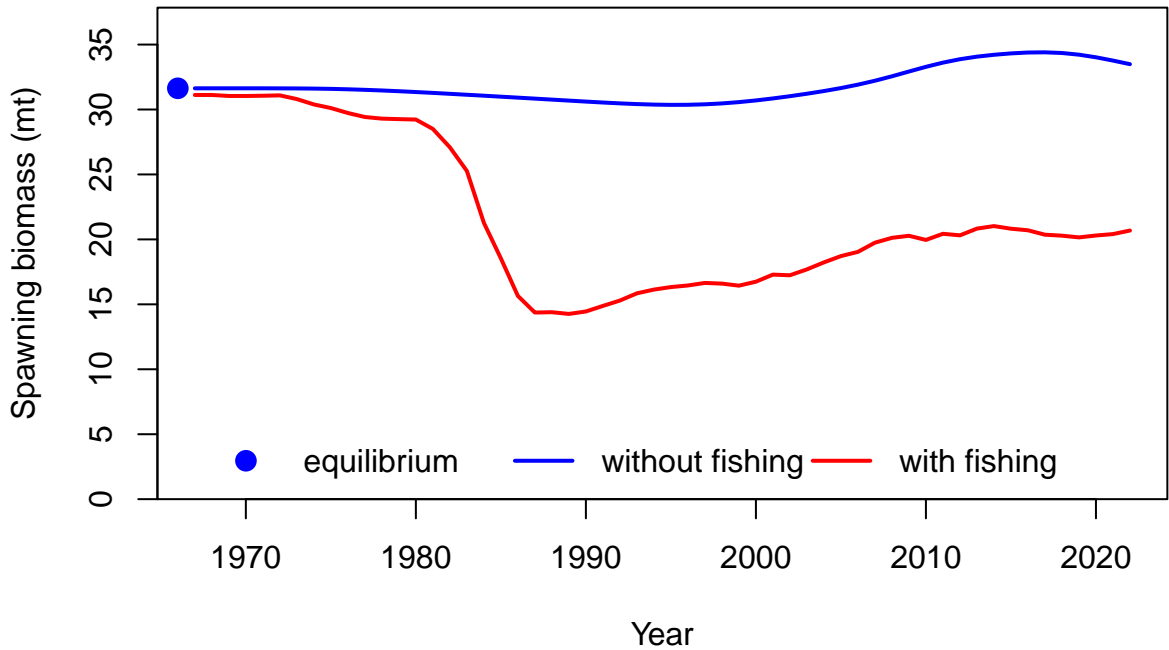
Age-0 recruits (1,000s)





Summary Fishing Mortality





Log recruitment deviation

0.4
0.2
0.0
-0.2

1970

1980

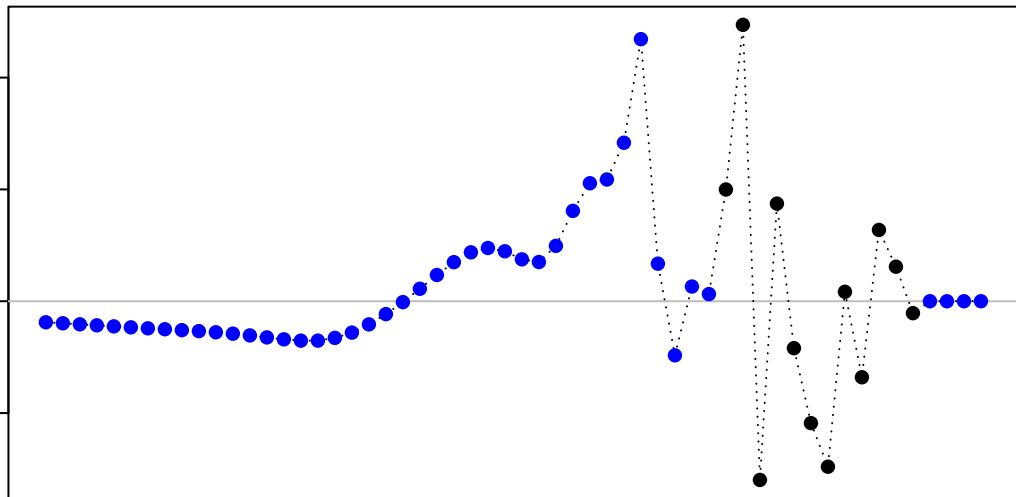
1990

2000

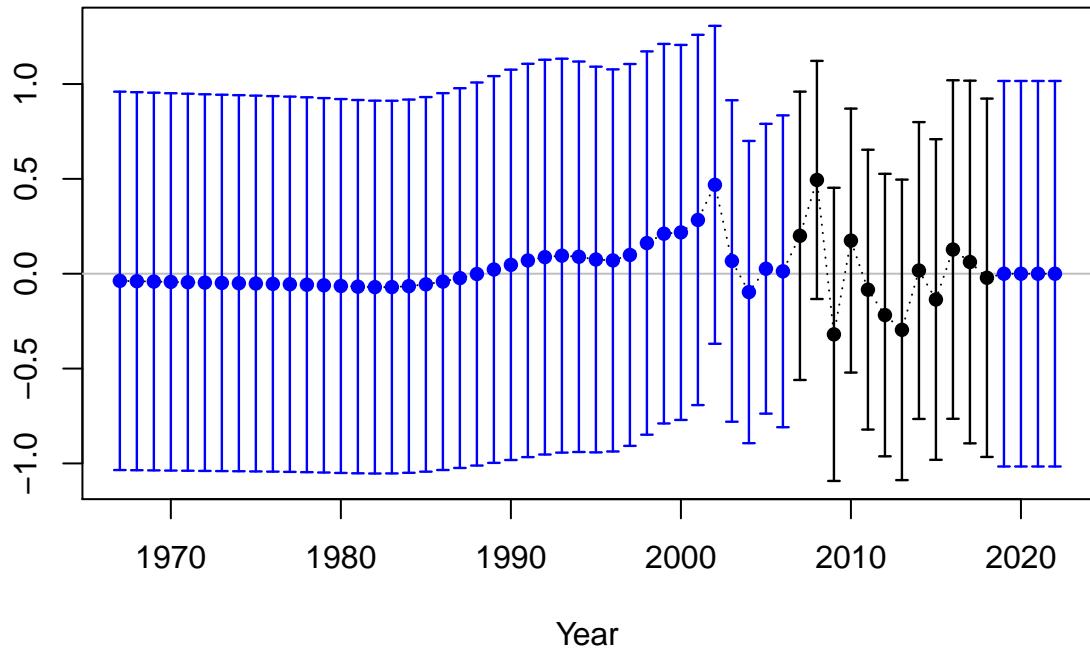
2010

2020

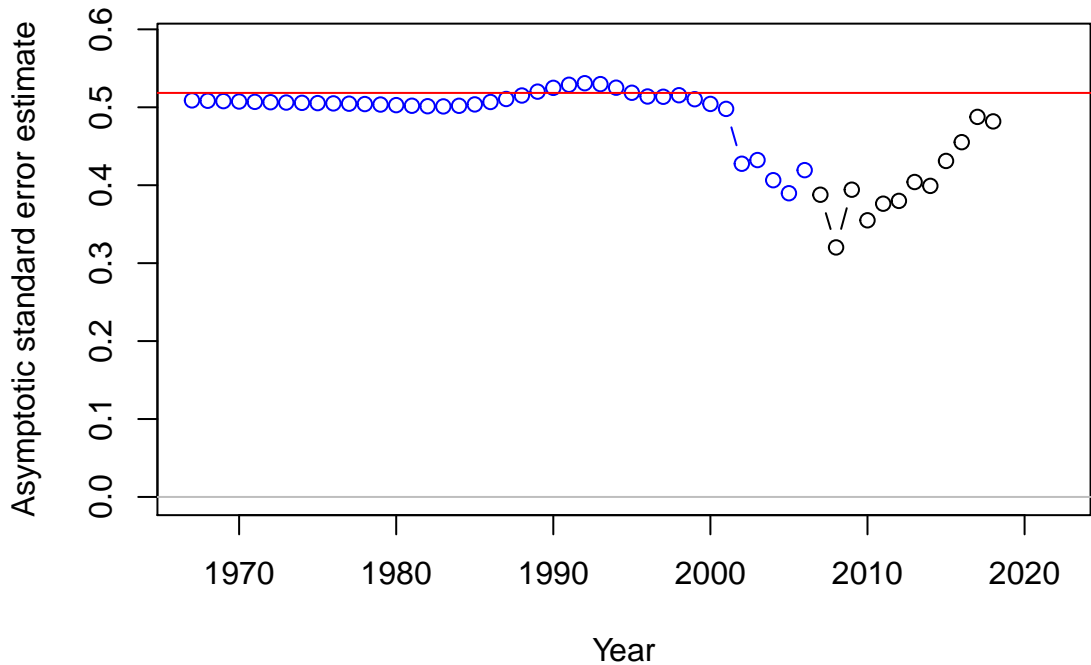
Year

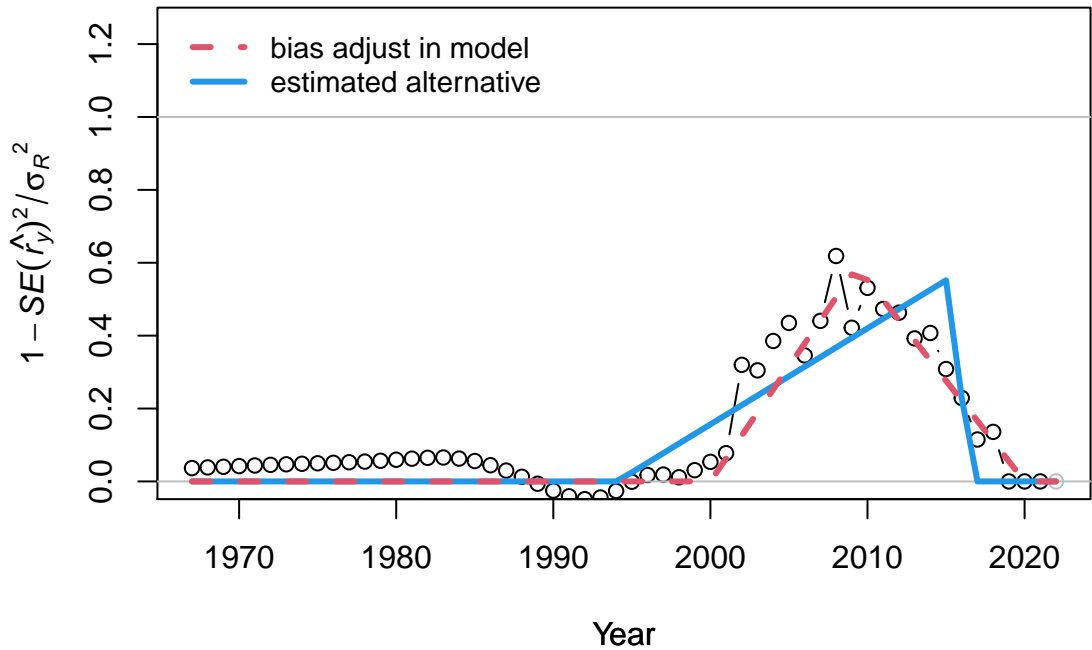


Log recruitment deviation

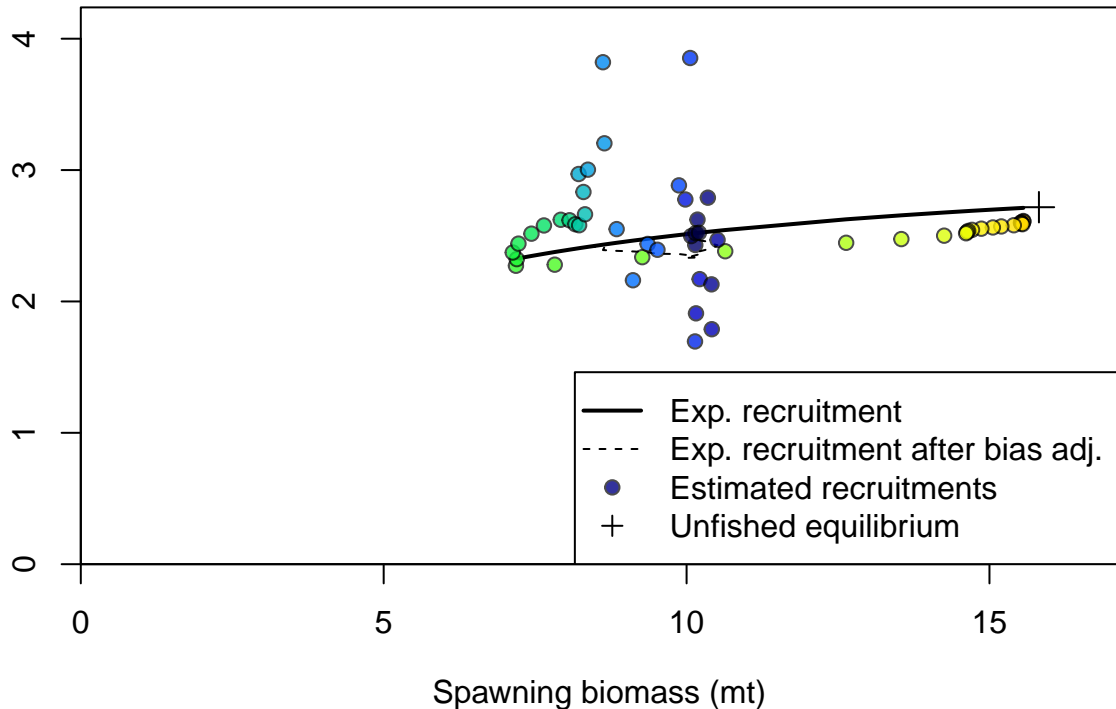


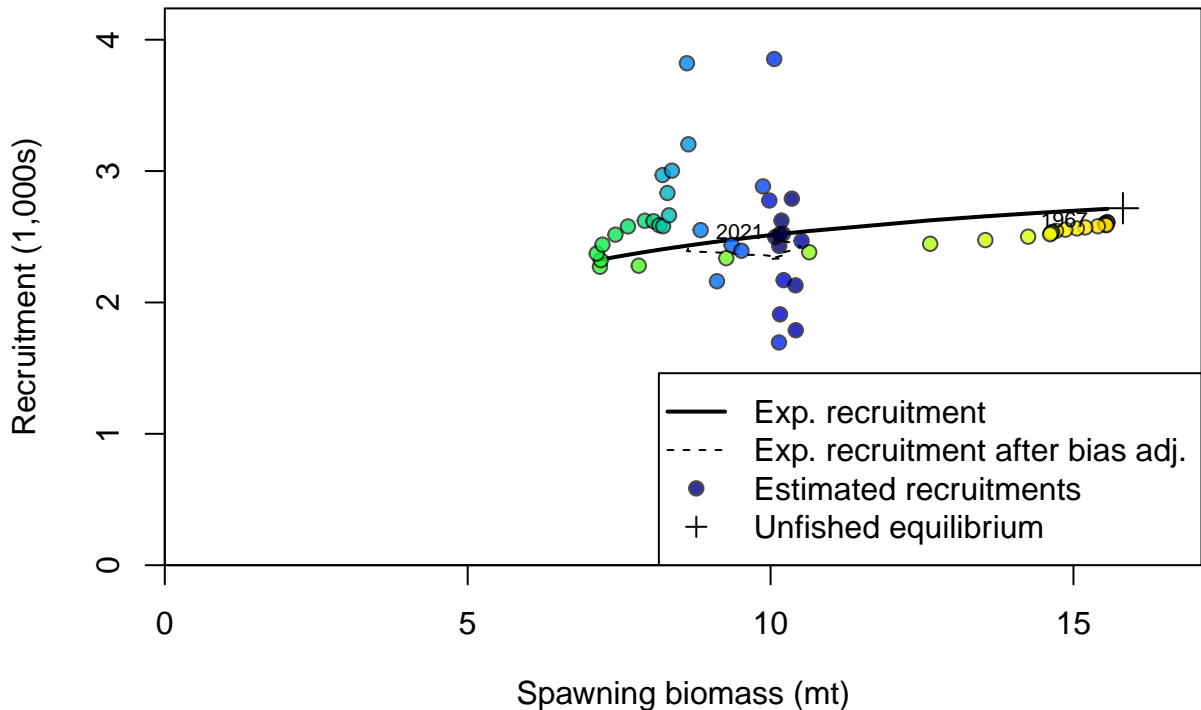
Recruitment deviation variance

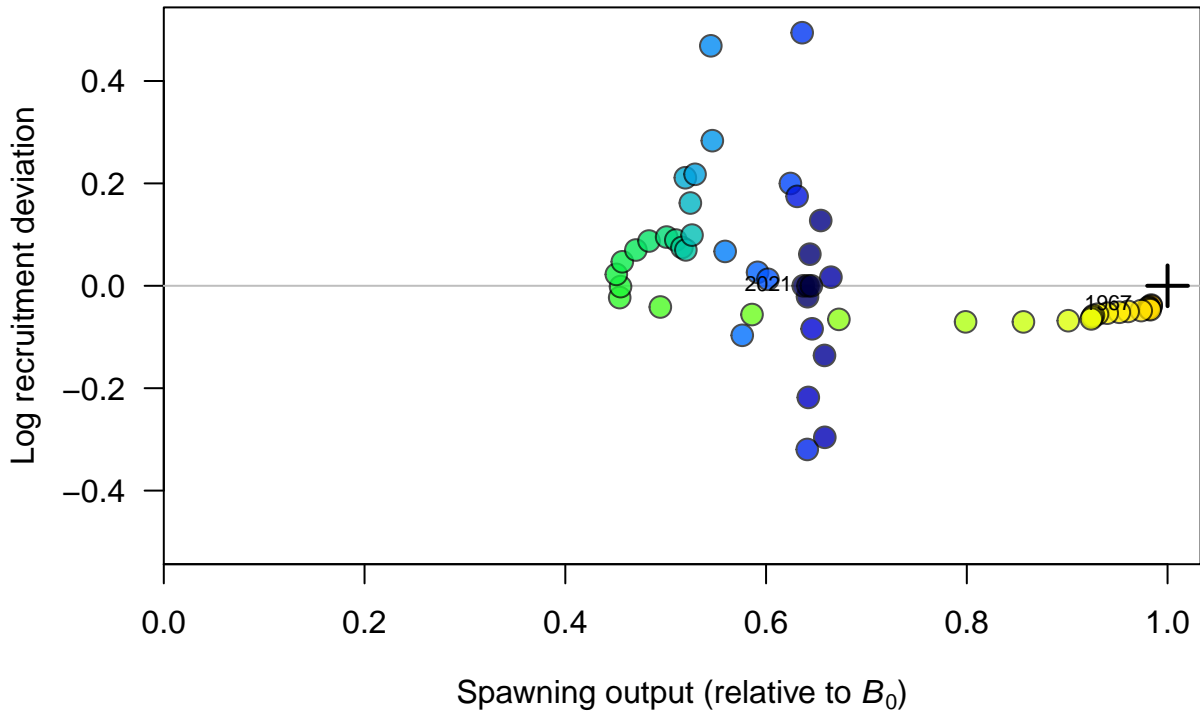


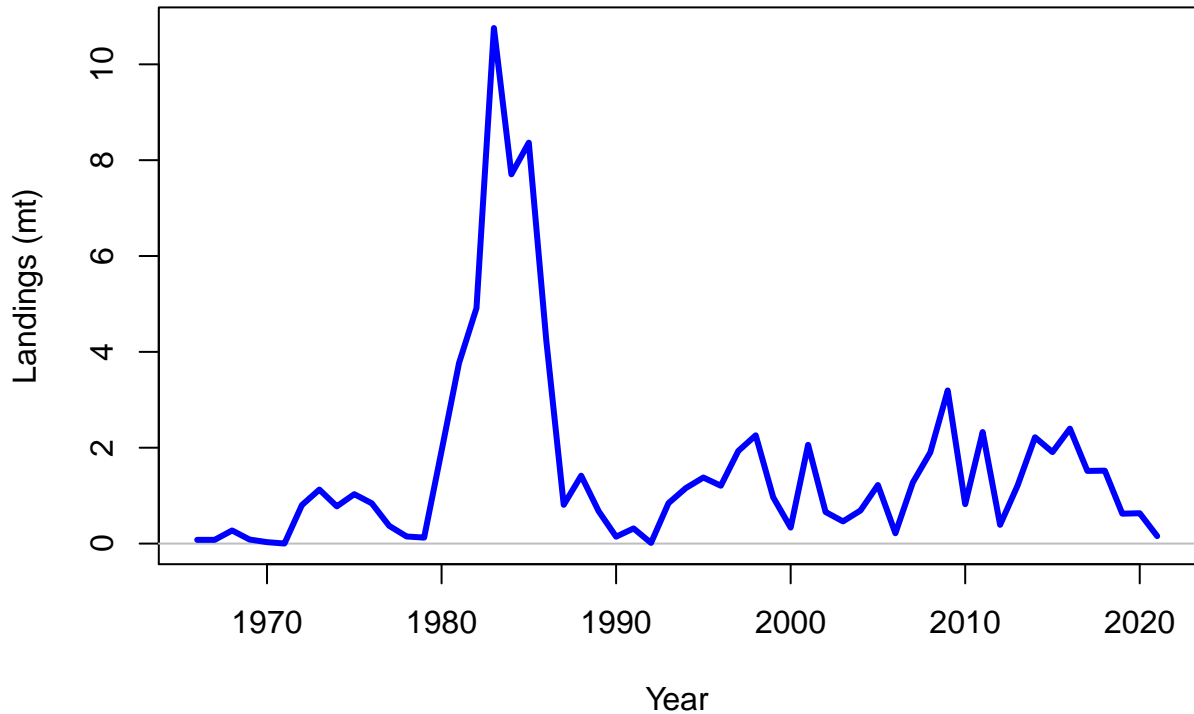


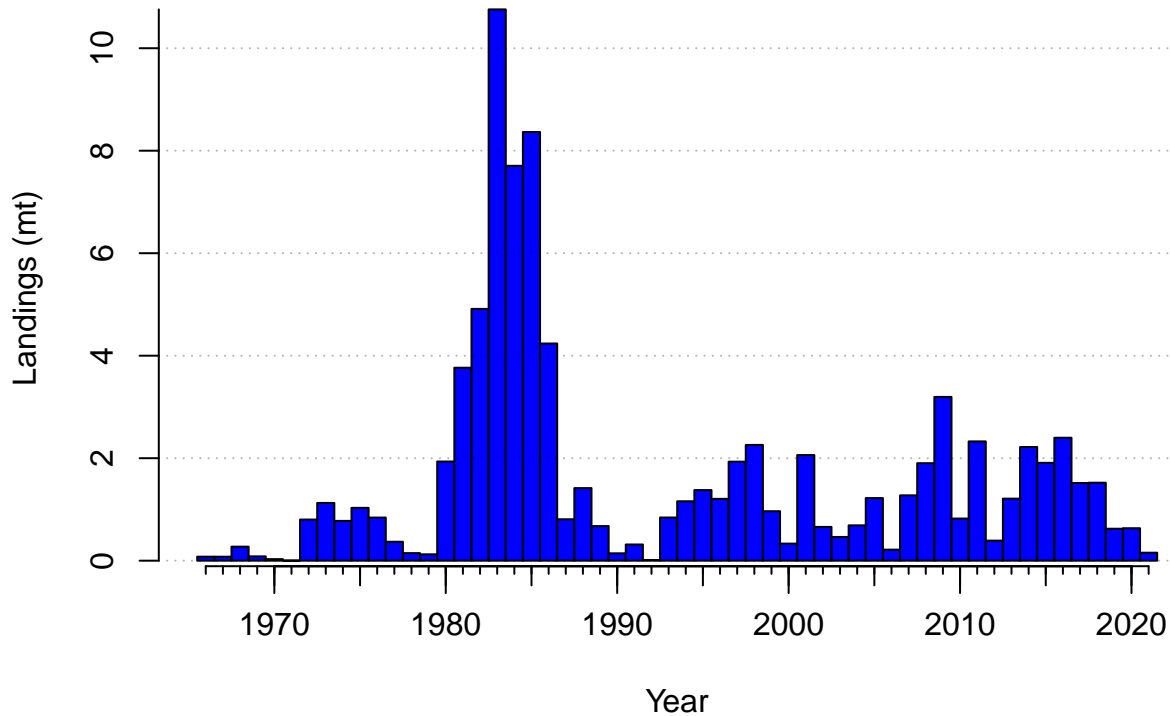
Recruitment (1,000s)











Observed and expected Landings (mt)

FISHERY
FISHERY obs.

10
8
6
4
2
0

1970

1980

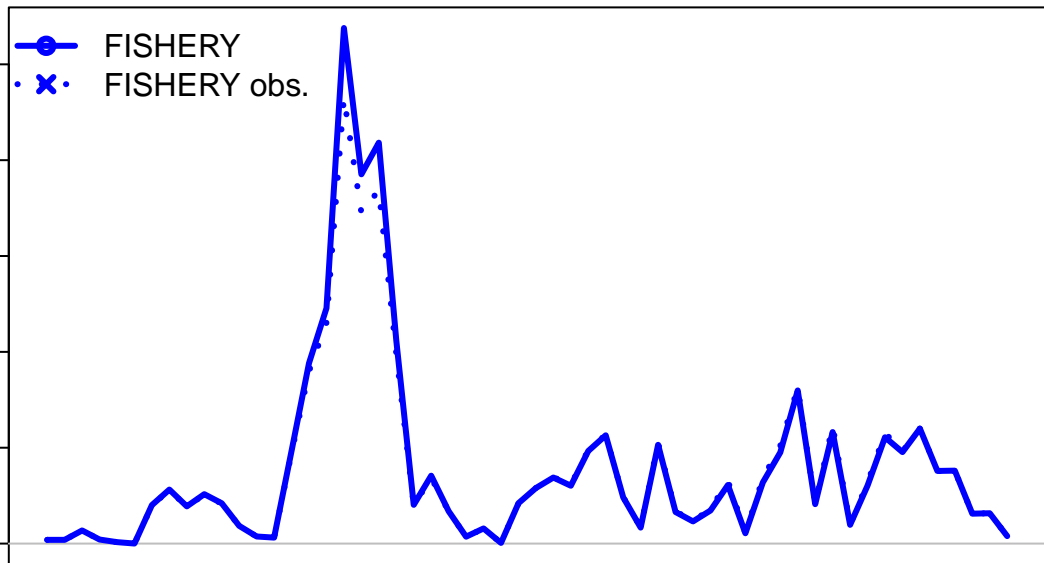
1990

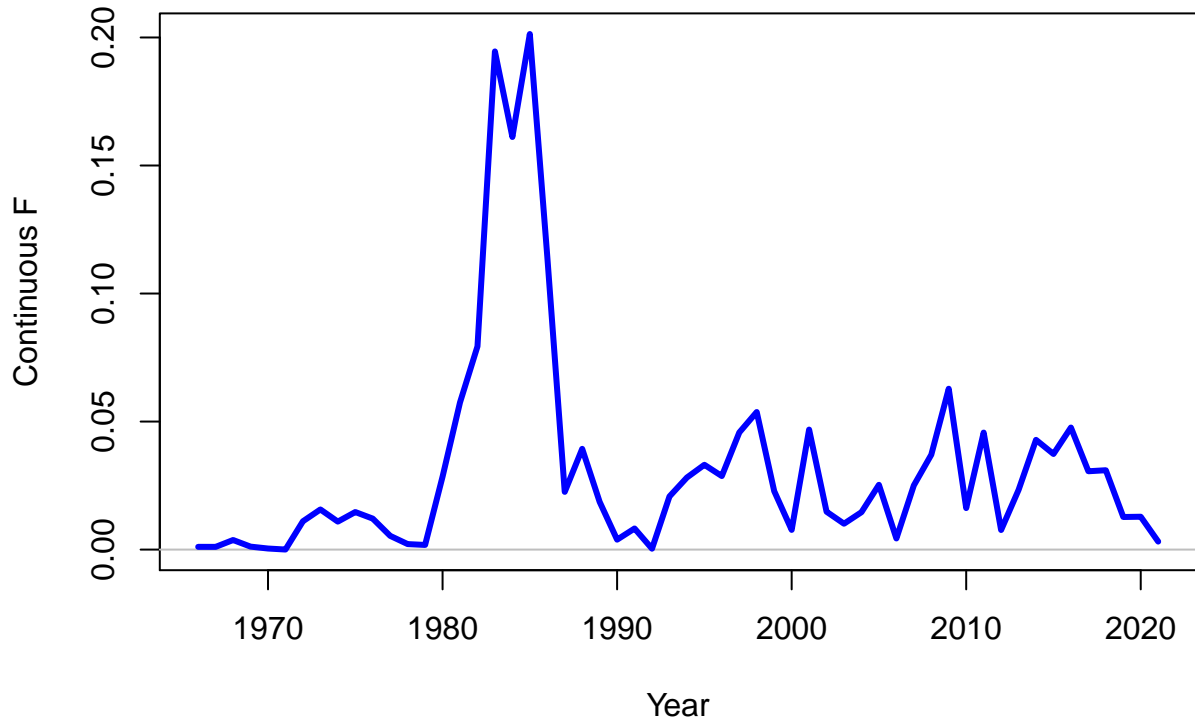
2000

2010

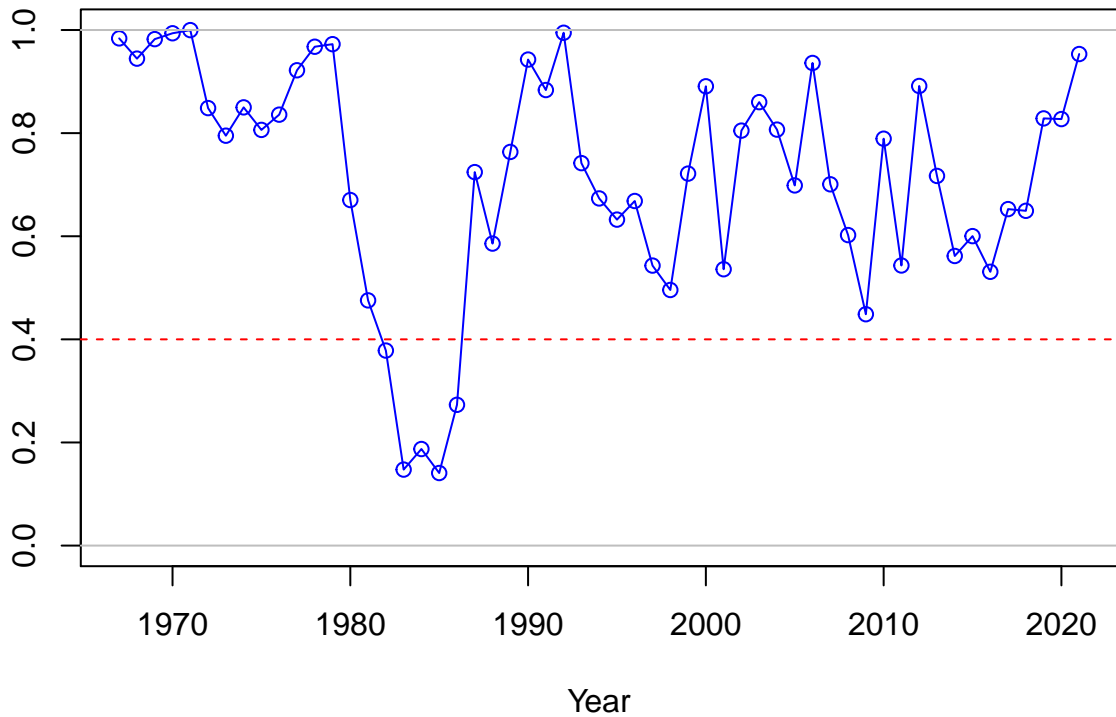
2020

Year

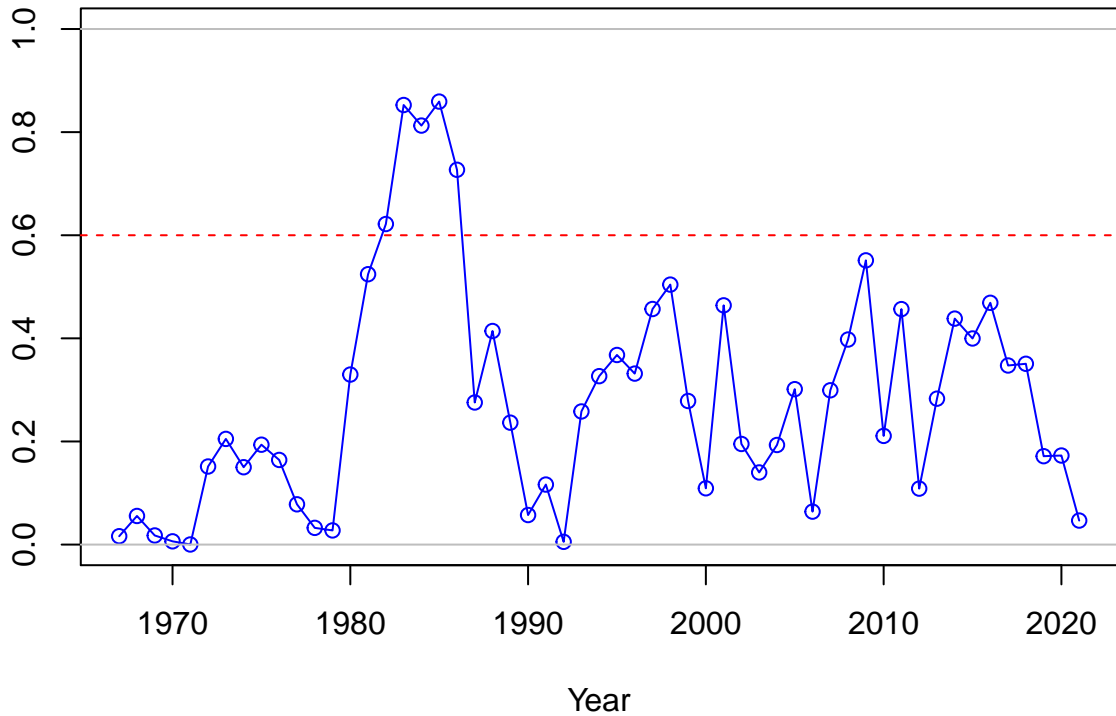




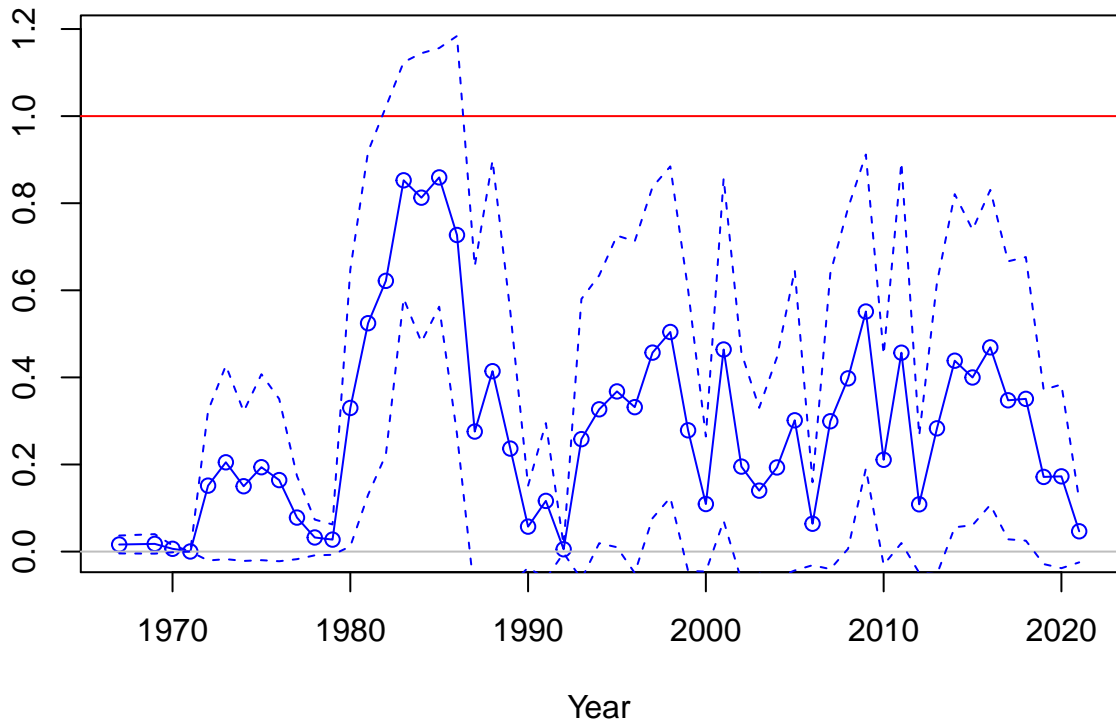
SPR



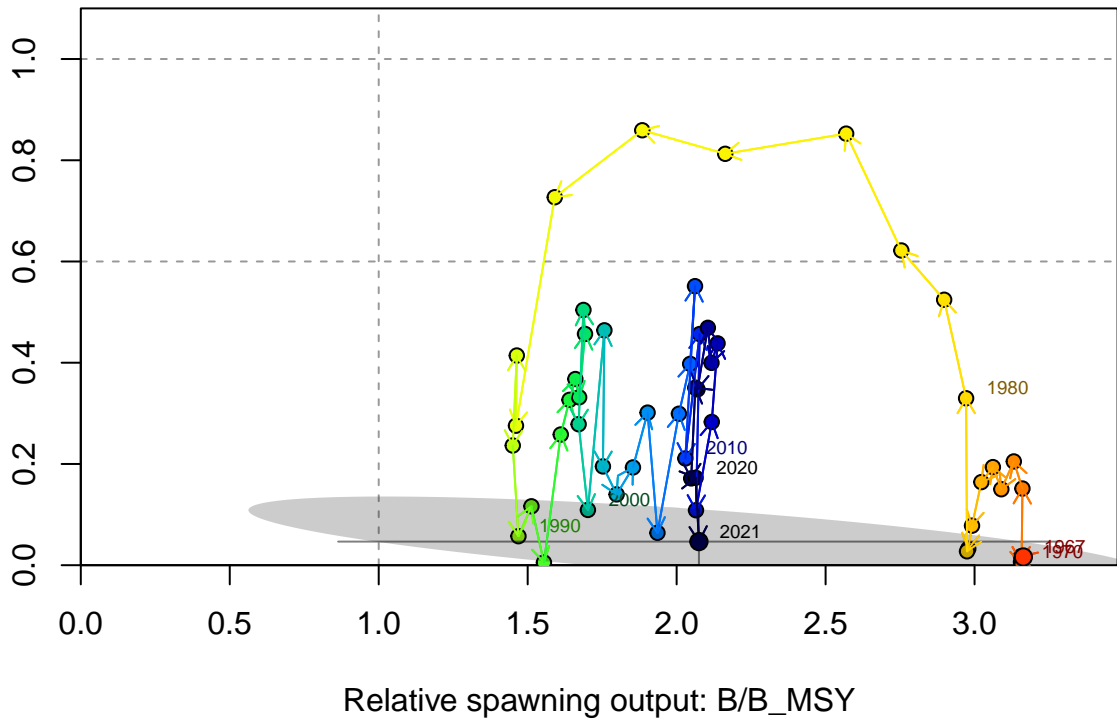
1-SPR



Fishing intensity: 1-SPR



Fishing intensity: 1-SPR



Index

80
60
40
20
0

1990

1995

2000

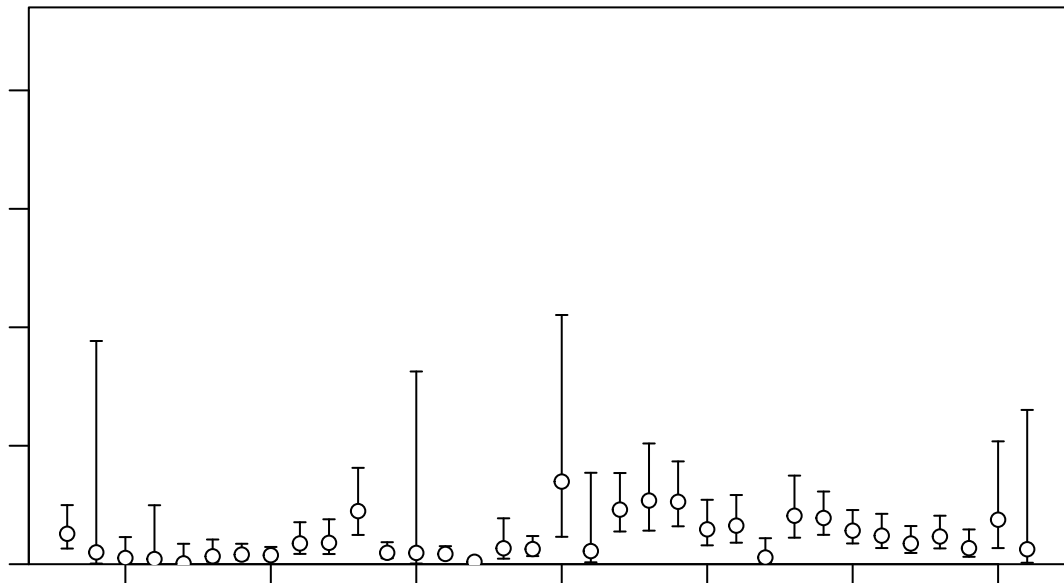
2005

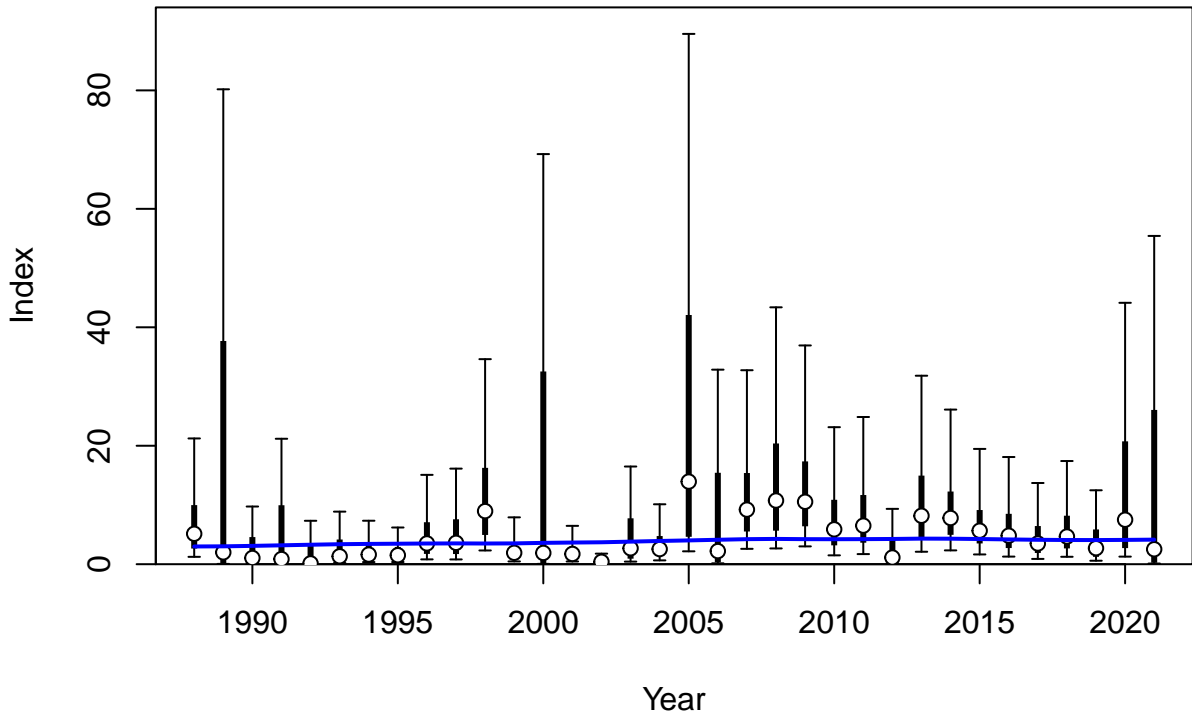
2010

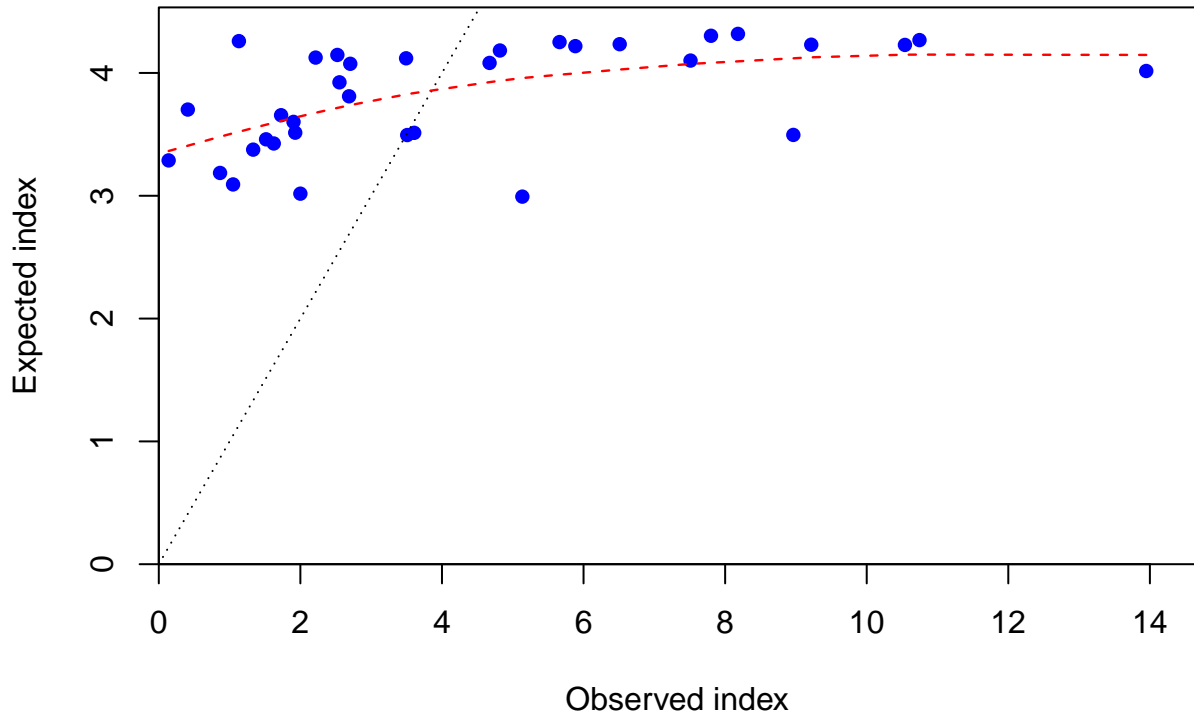
2015

2020

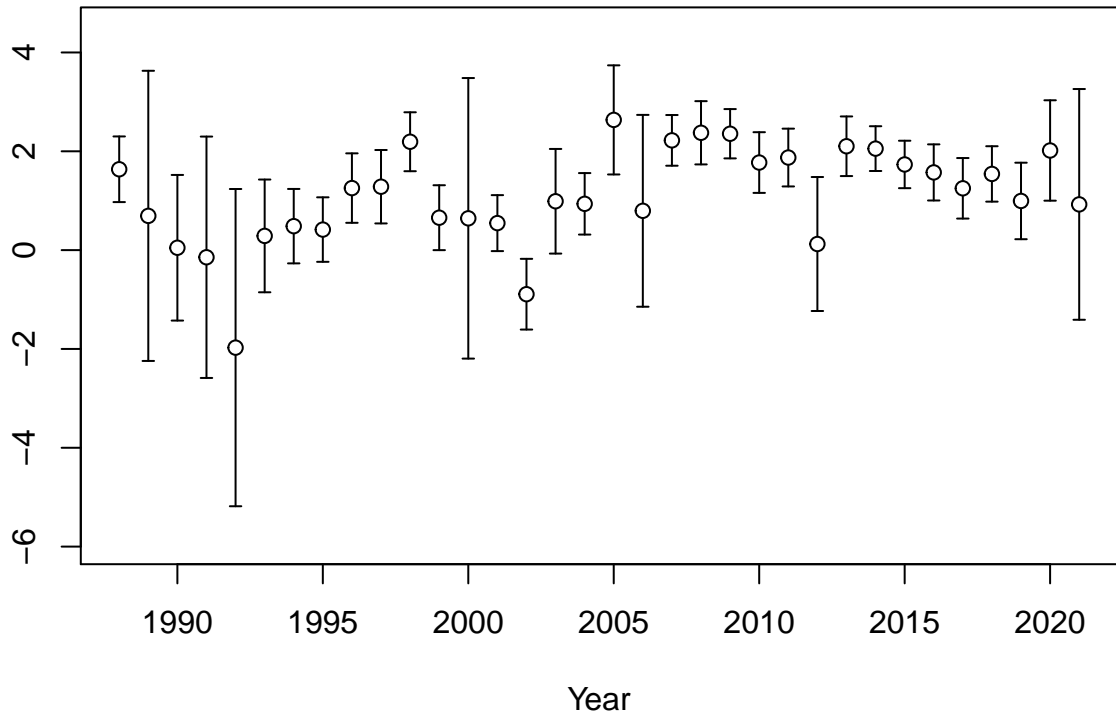
Year



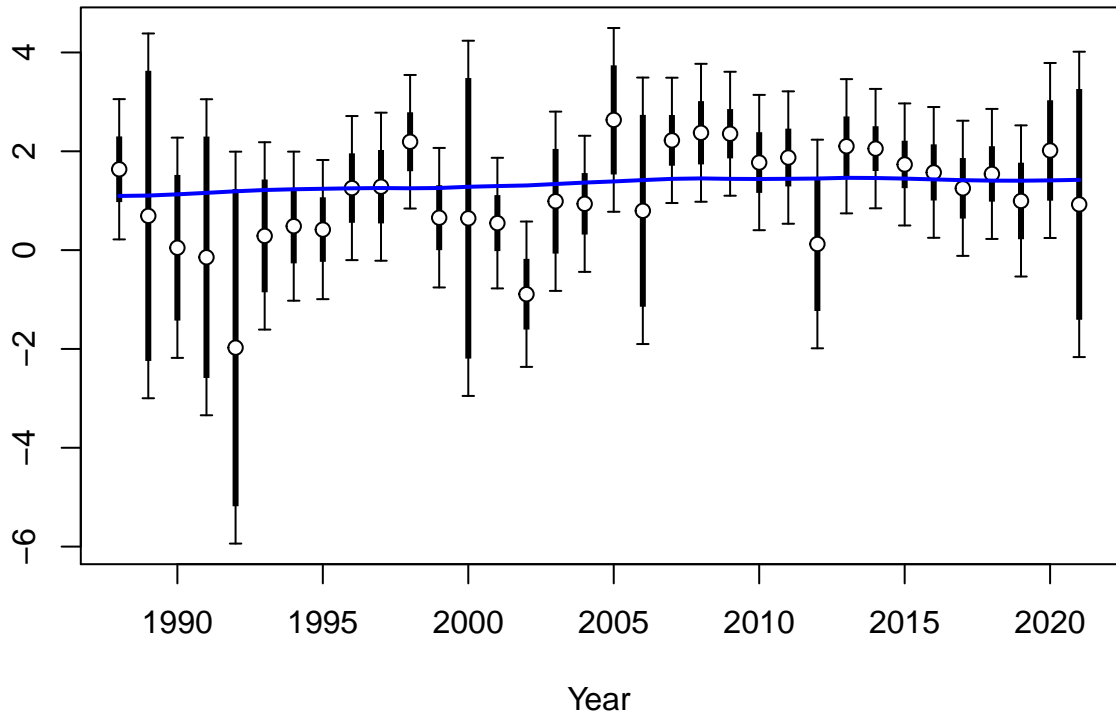


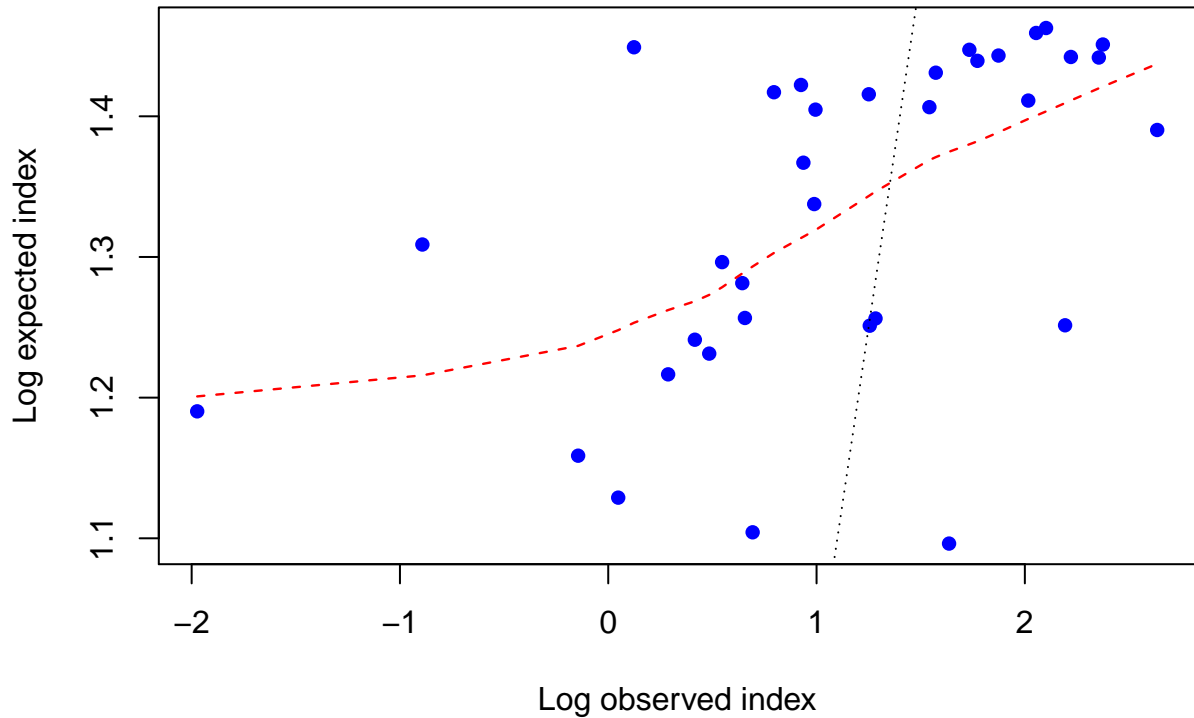


Log index

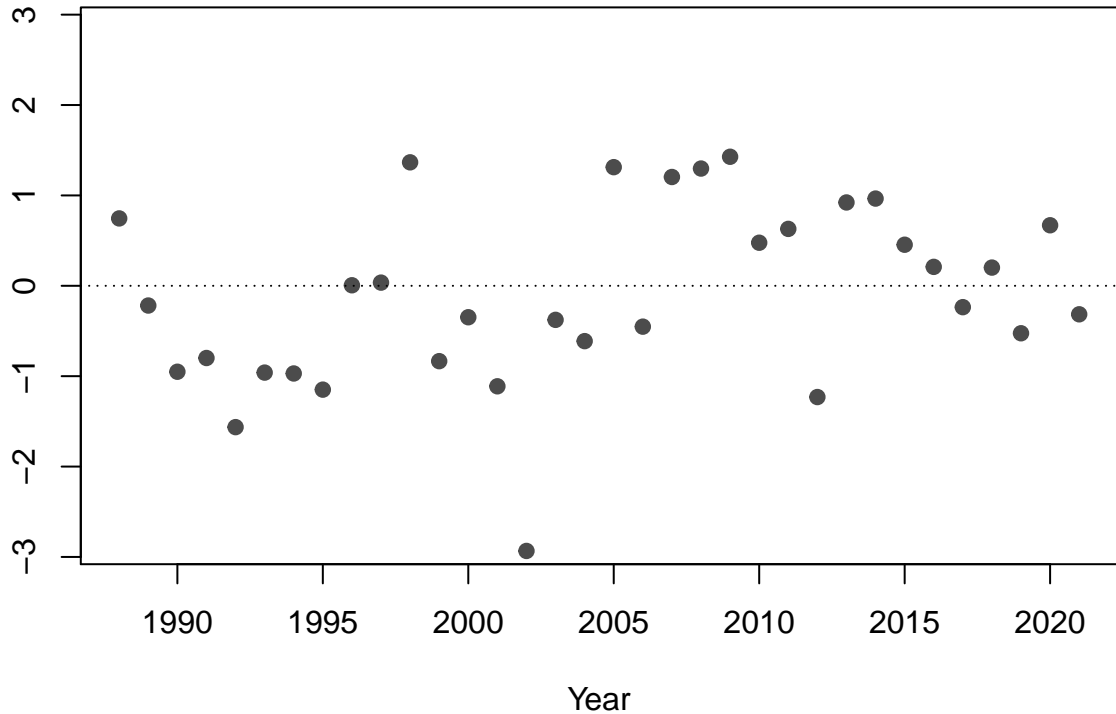


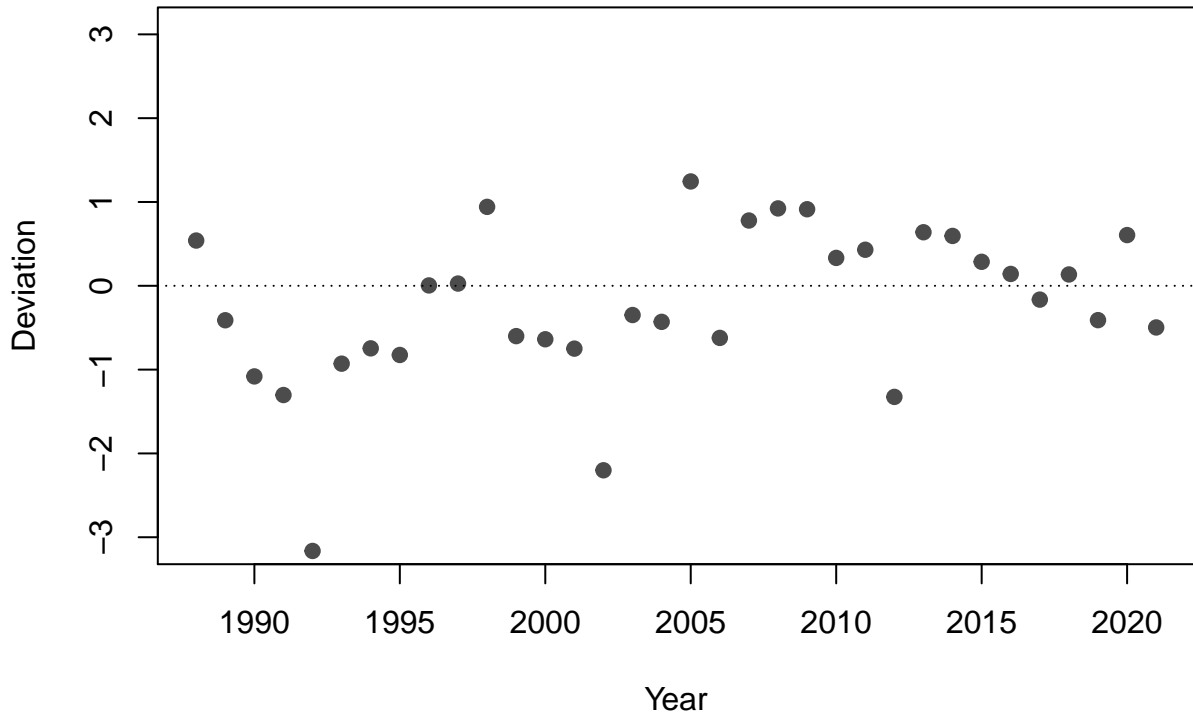
Log index

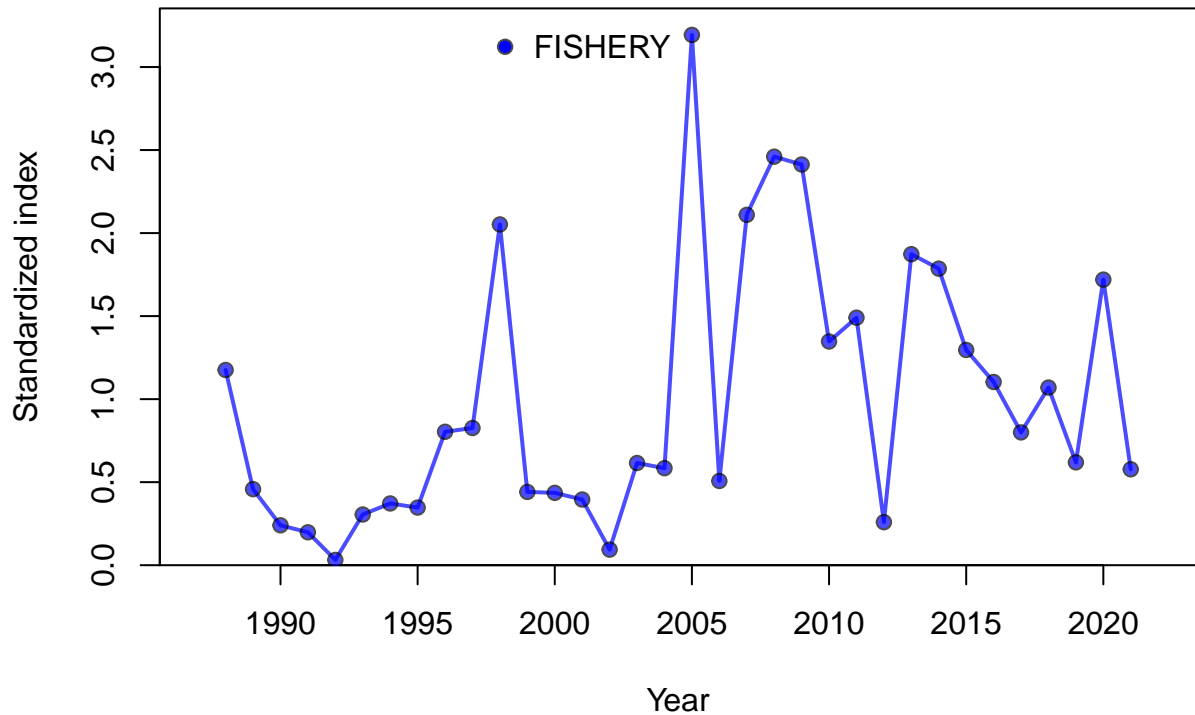


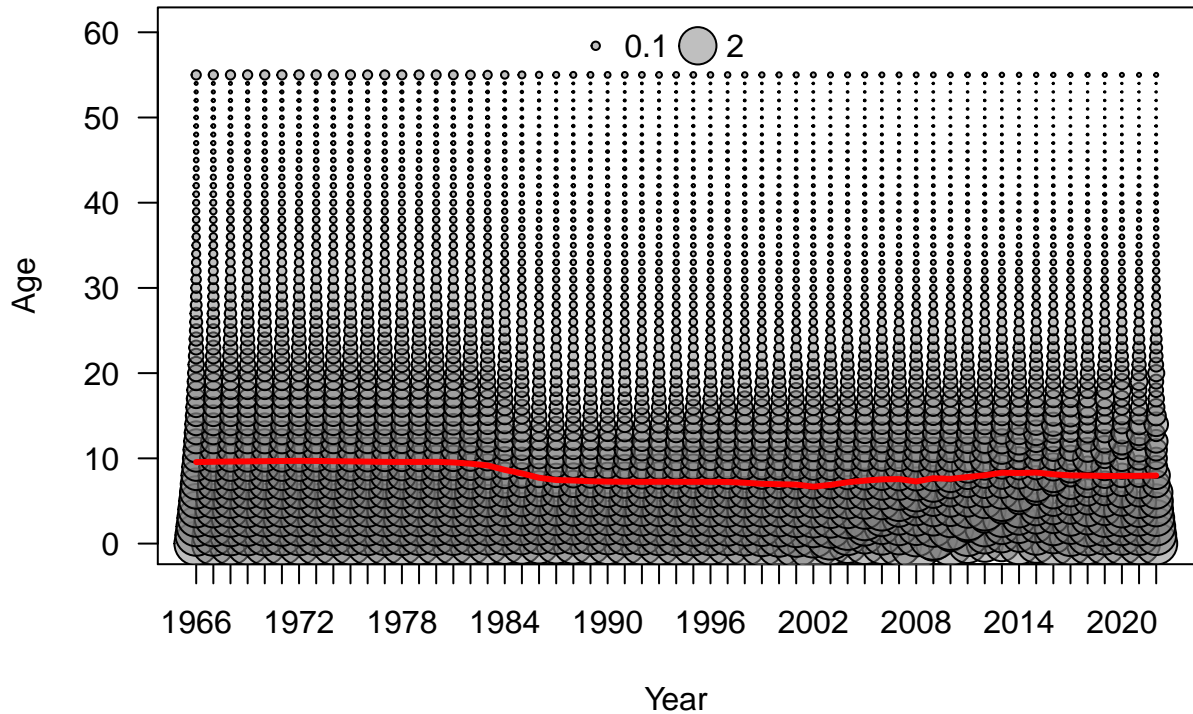


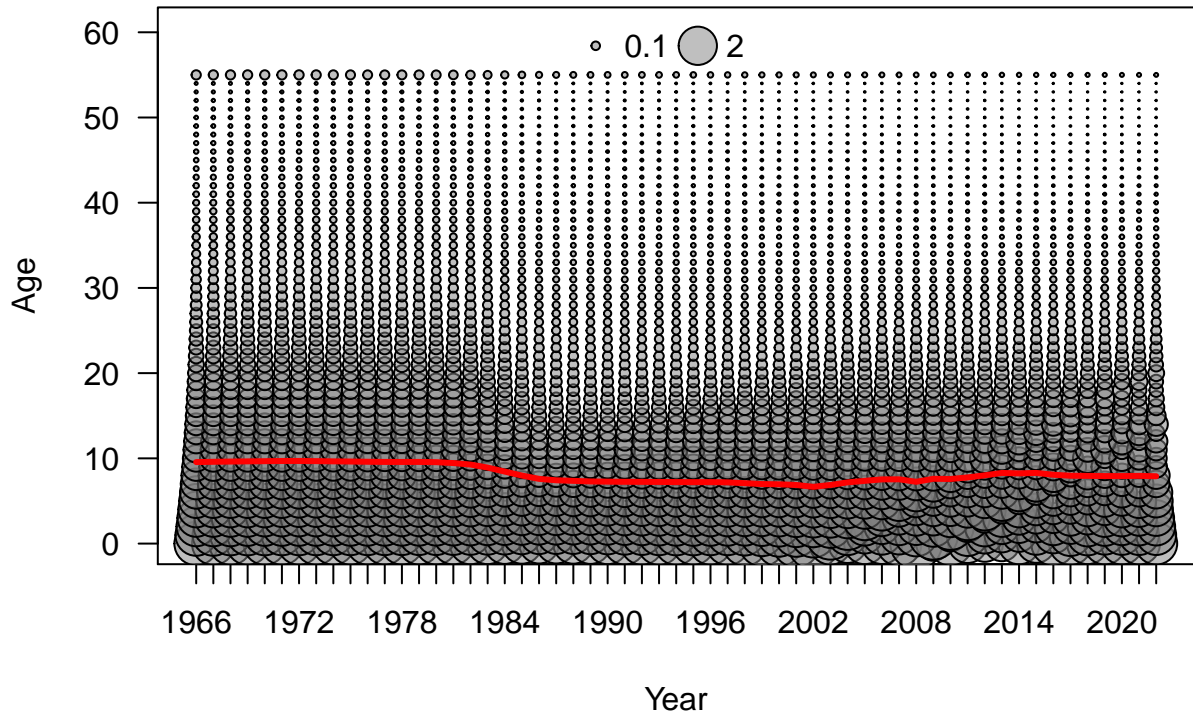
Residual

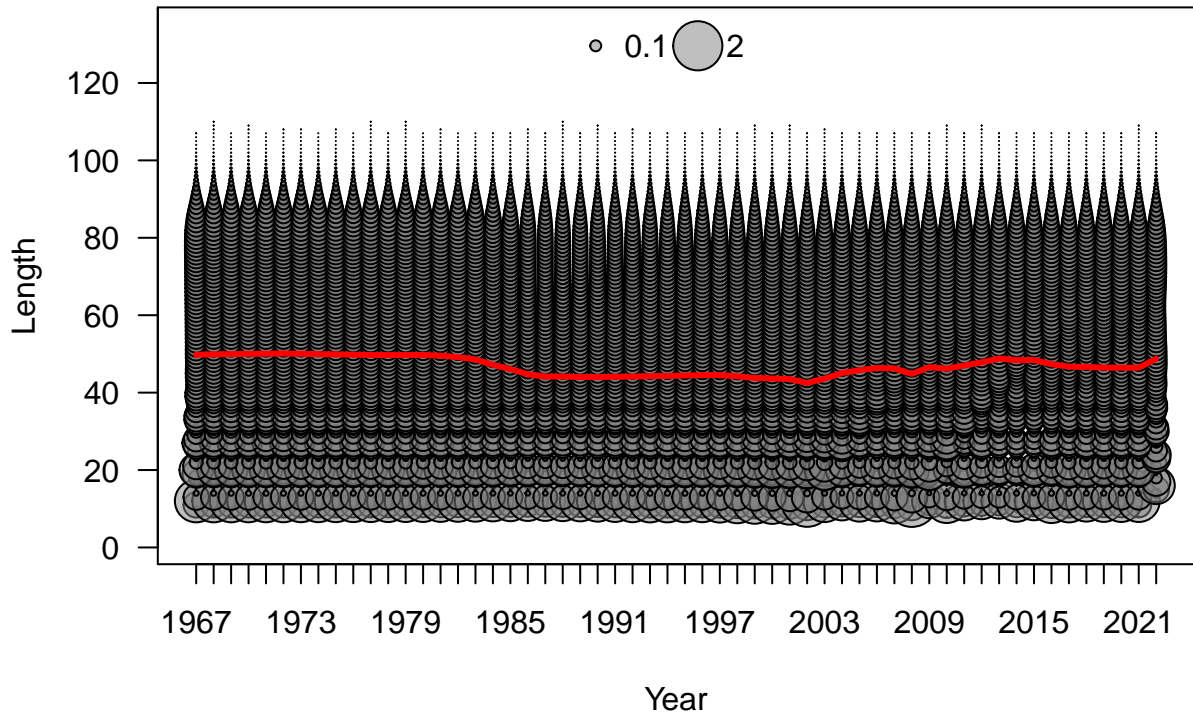


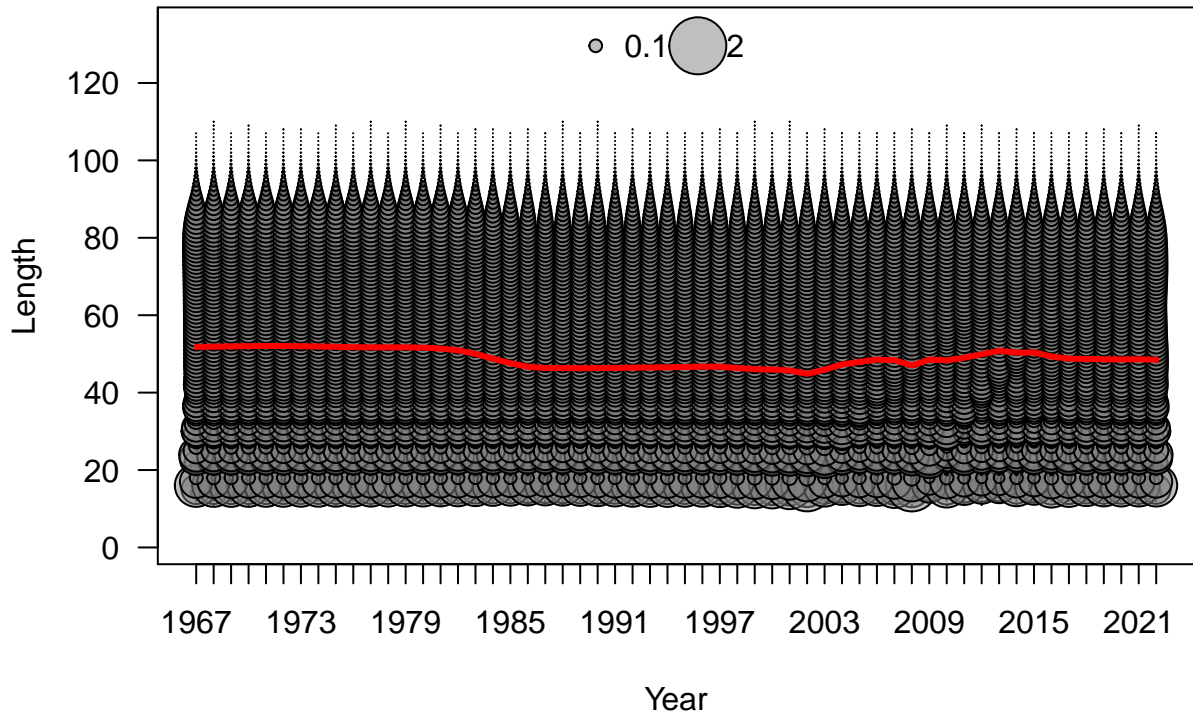


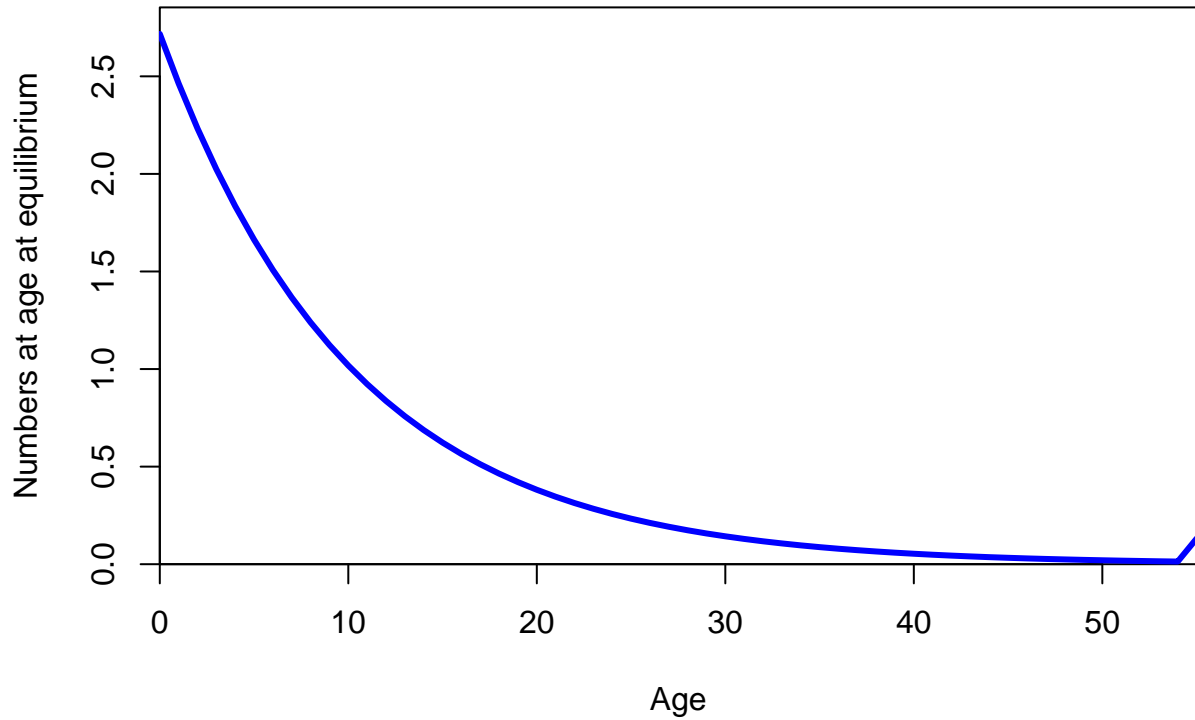






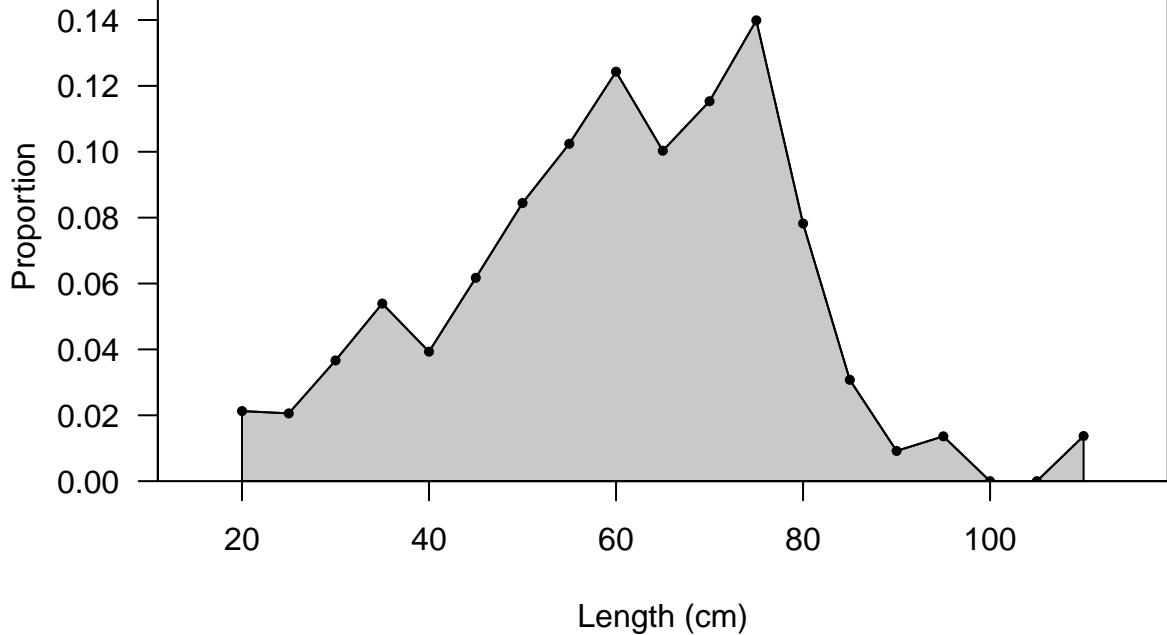






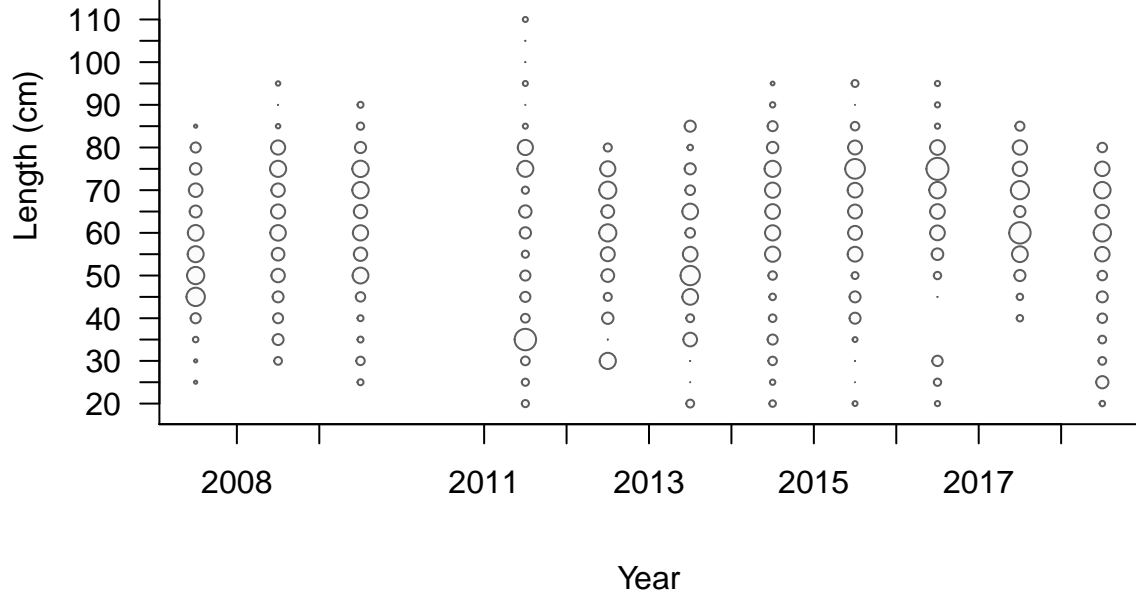
FISHERY

Sum of N adj.=285

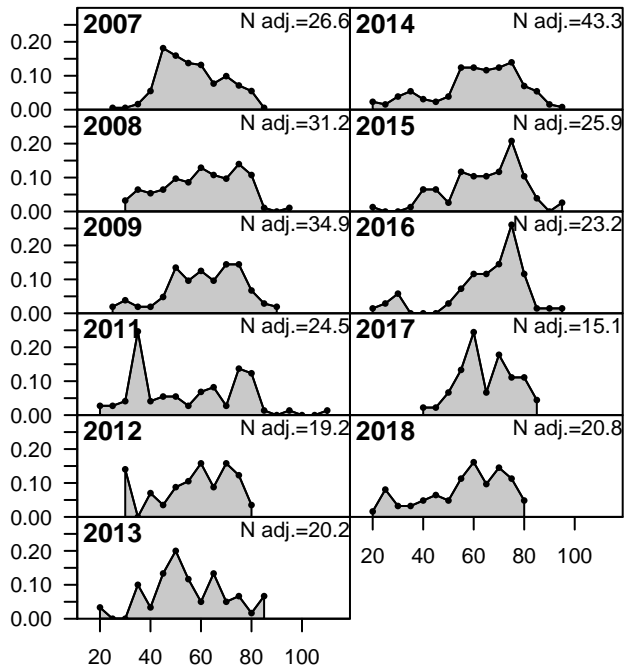


FISHERY

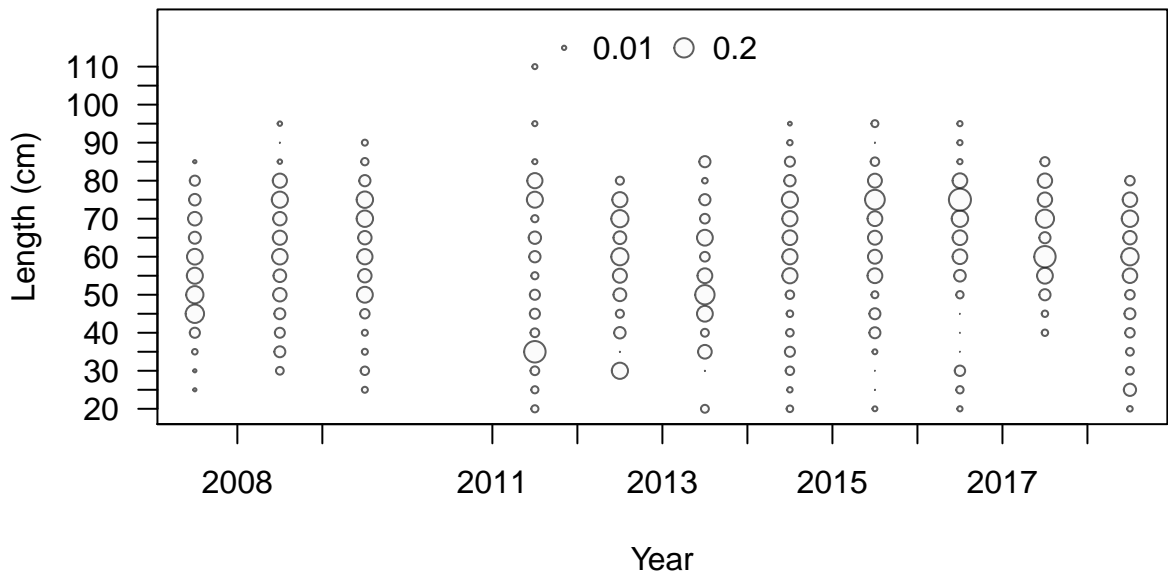
◦ 0.01 ○ 0.2



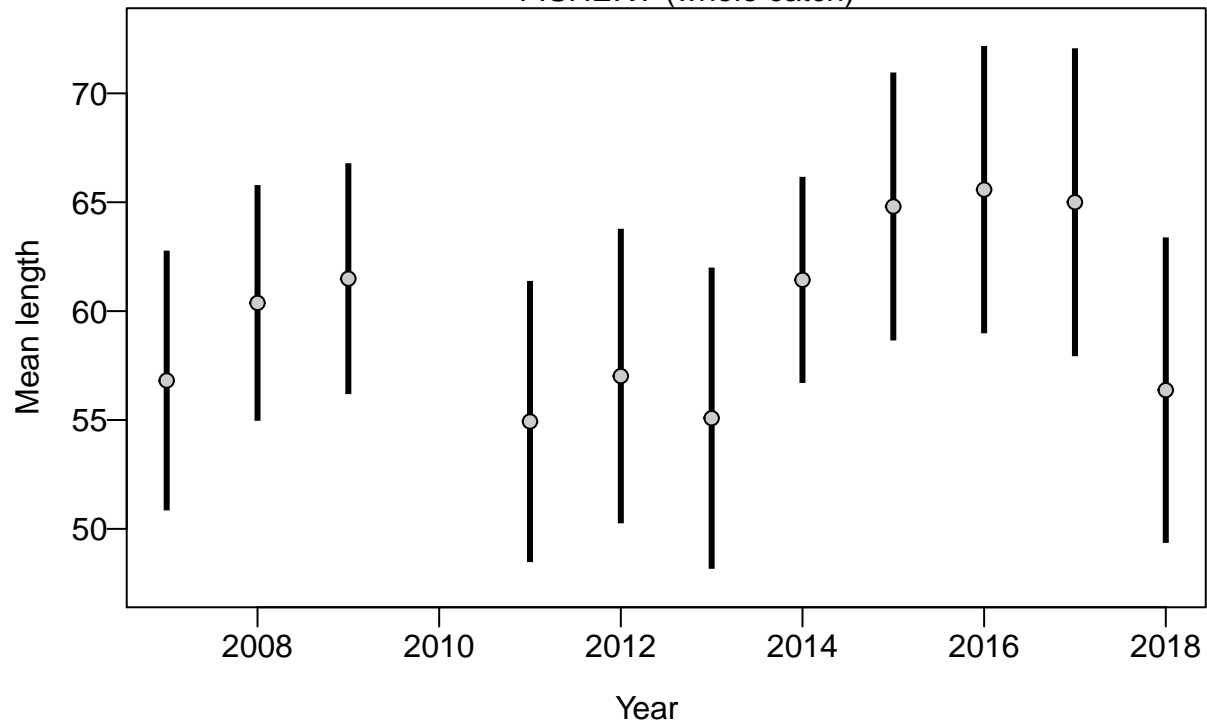
Proportion



Length (cm)

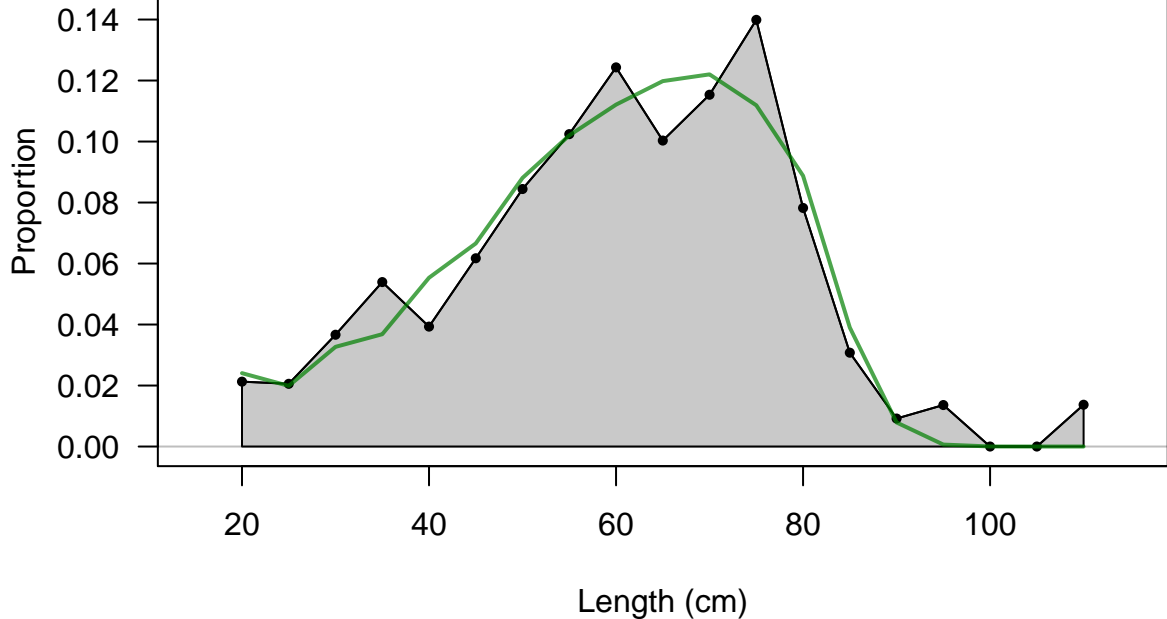


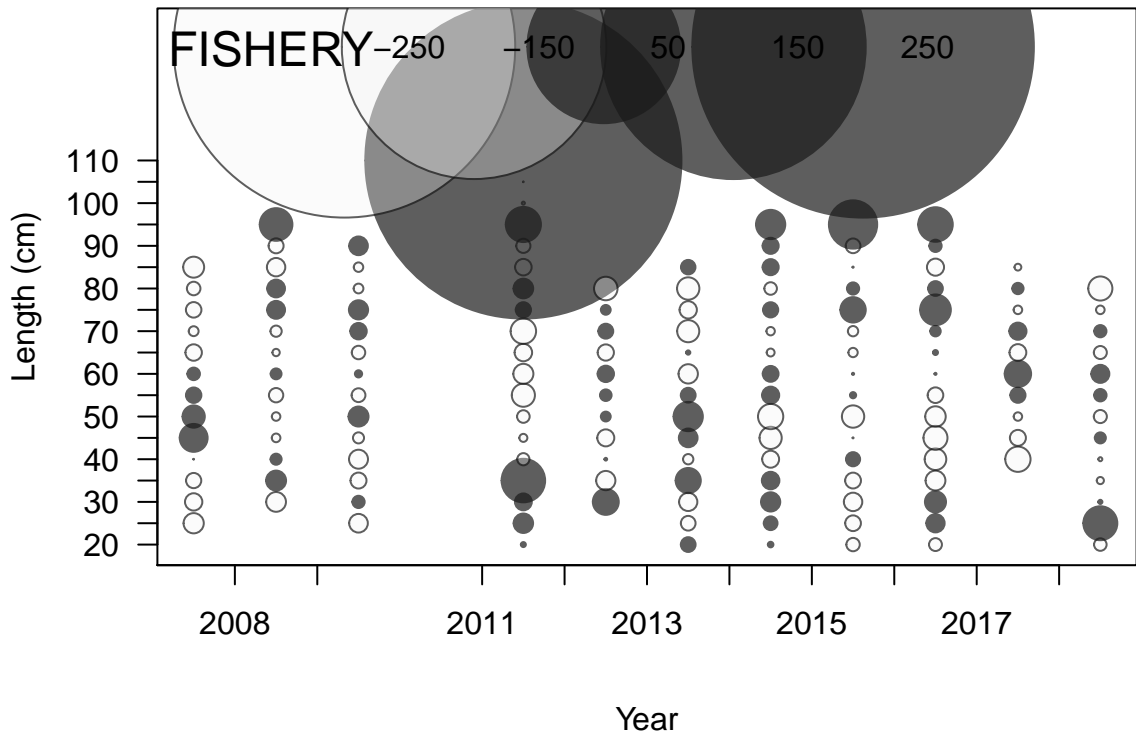
FISHERY (whole catch)



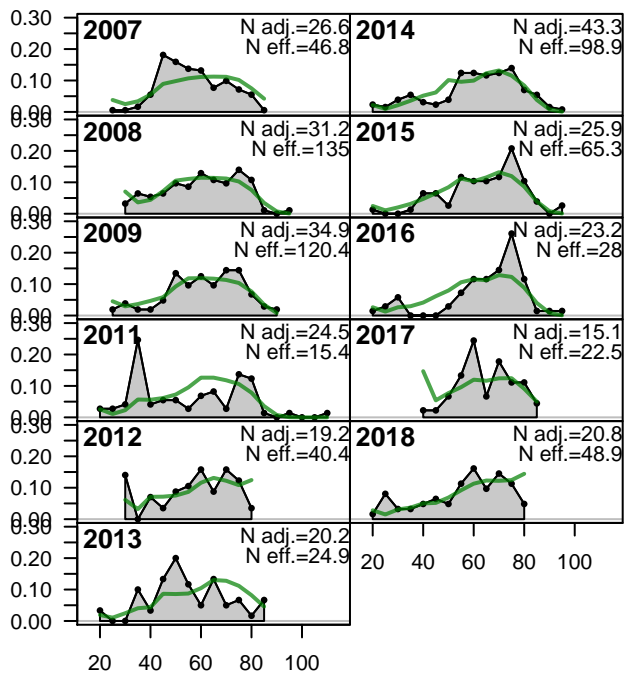
FISHERY

Sum of N adj.=285
Sum of N eff.=646.6

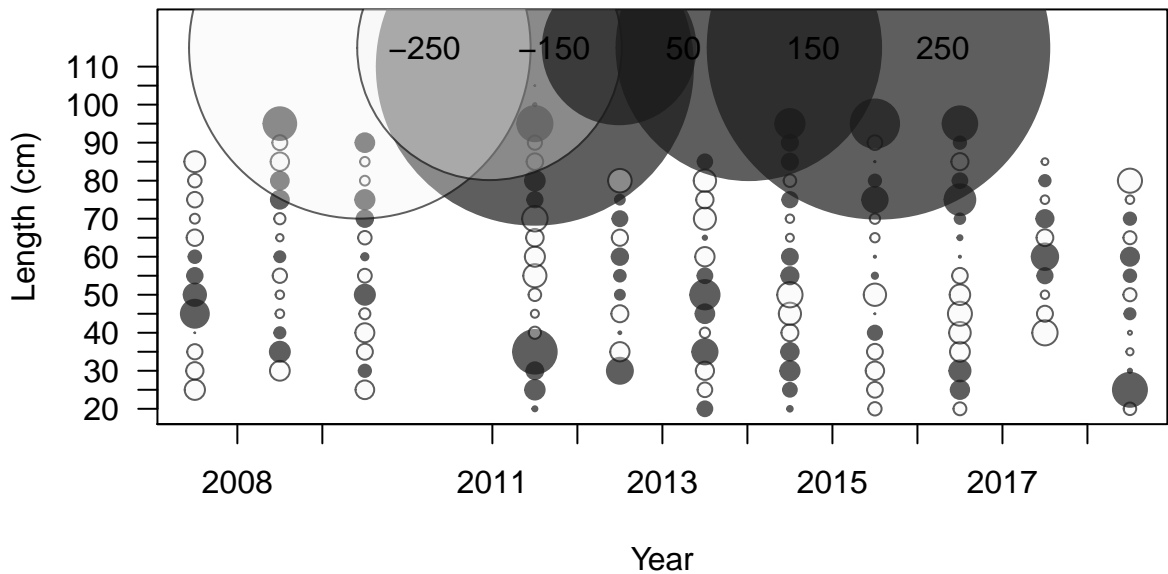




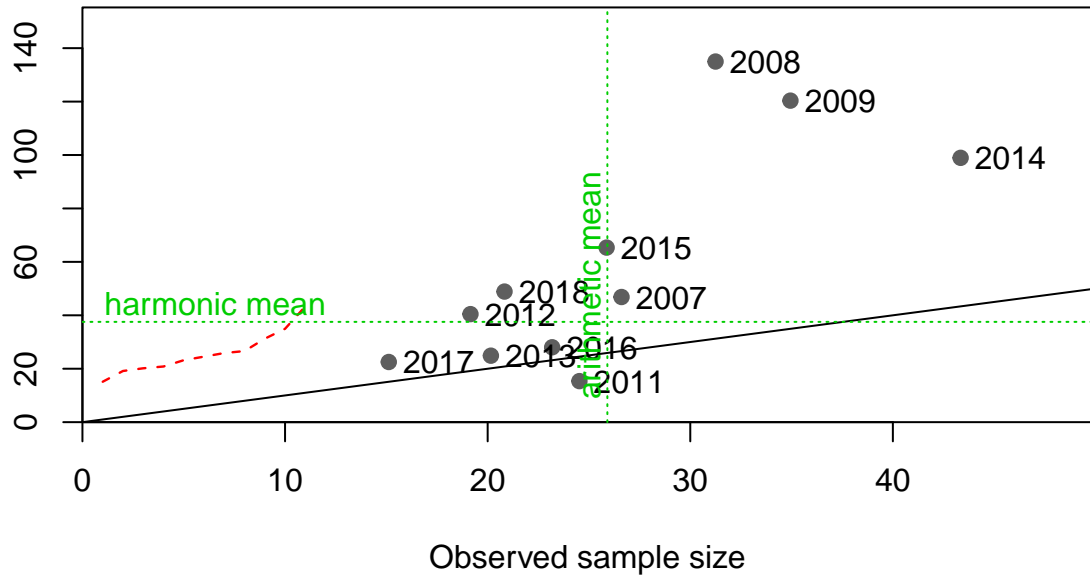
Proportion



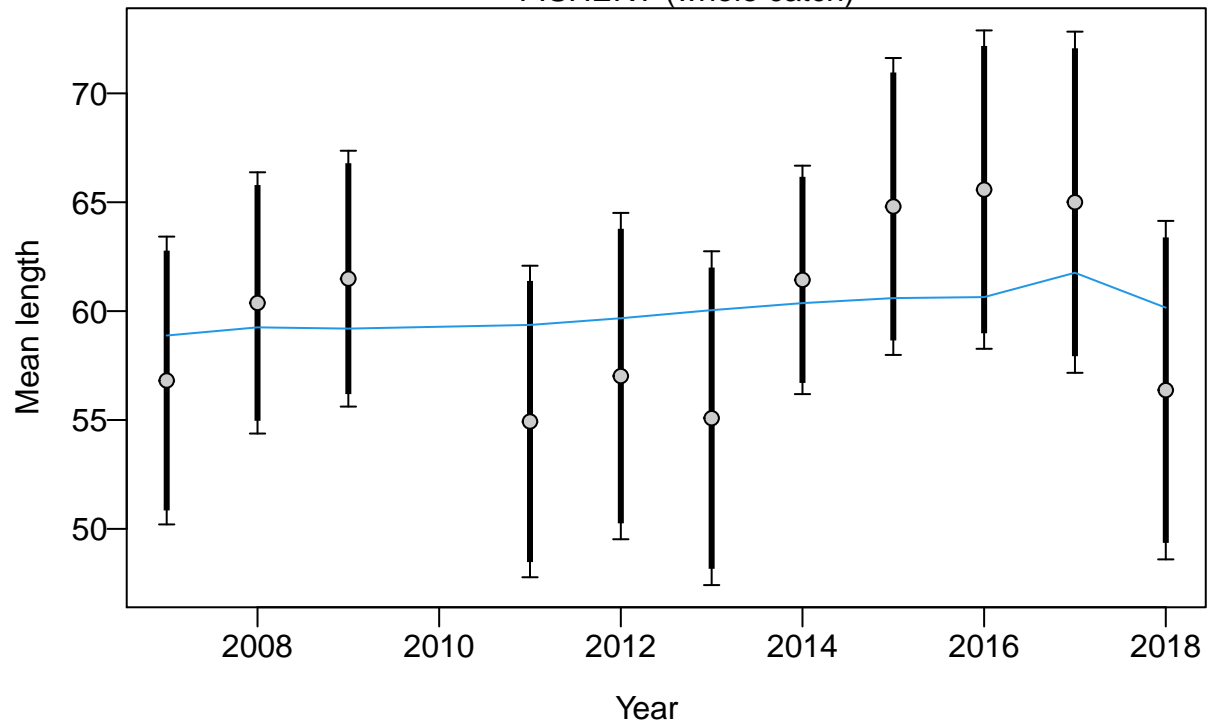
Length (cm)

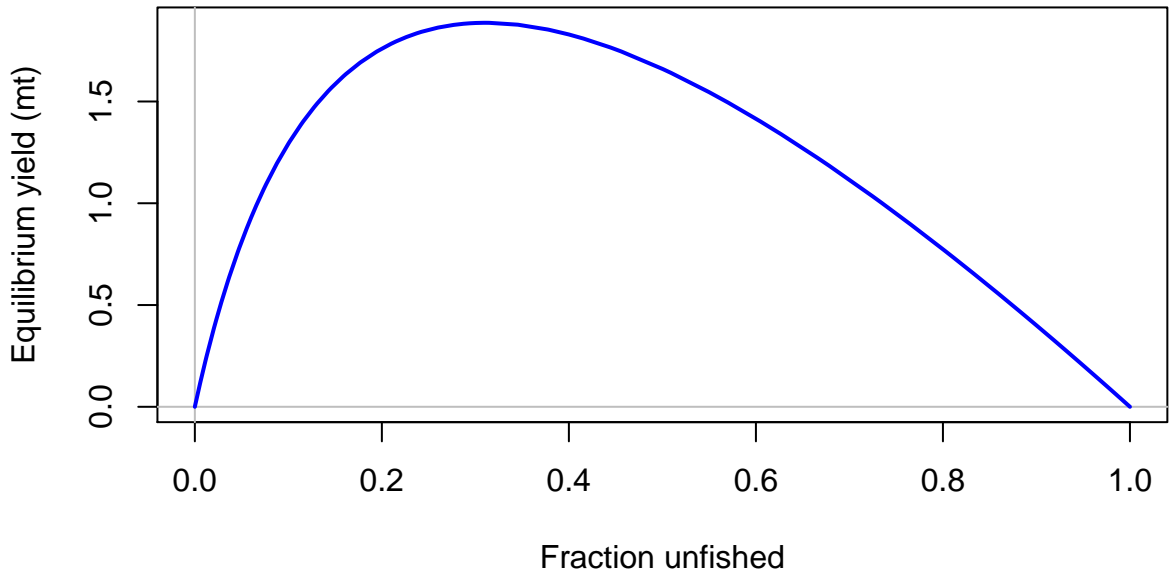


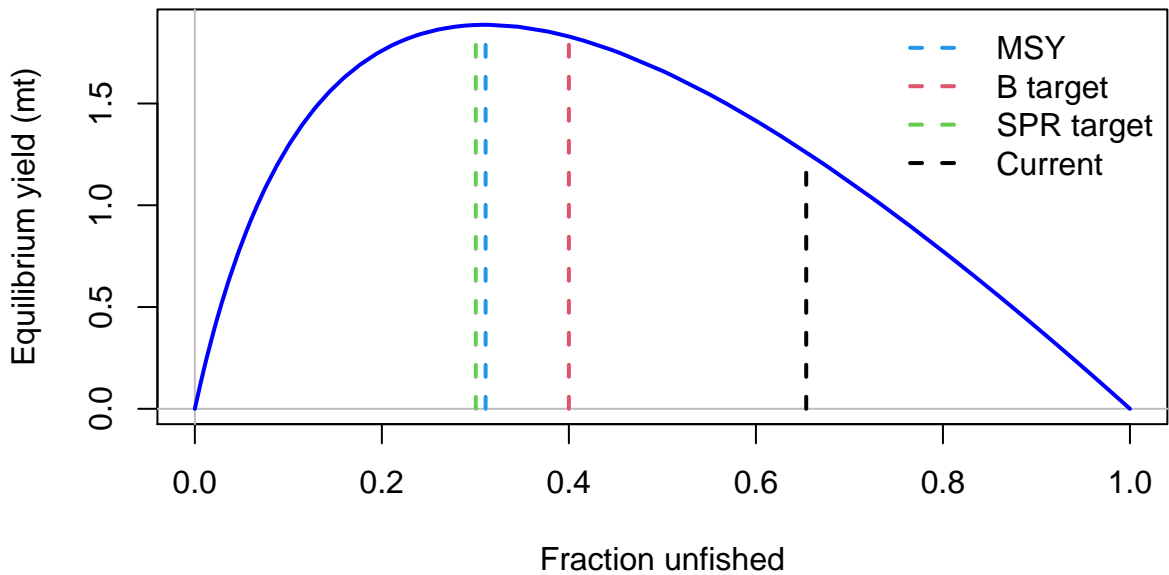
Effective sample size

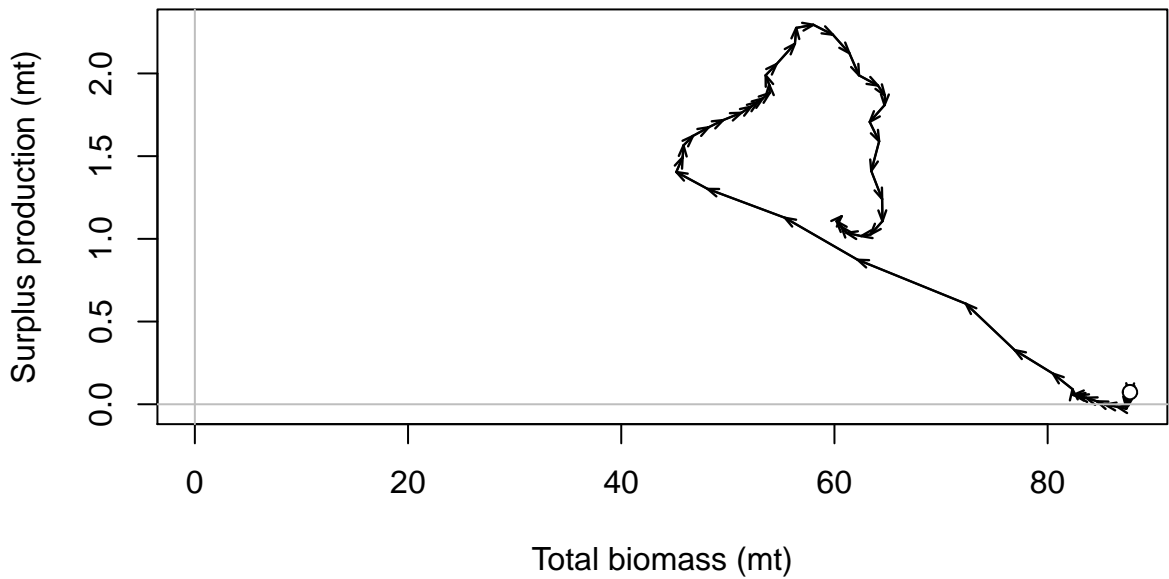


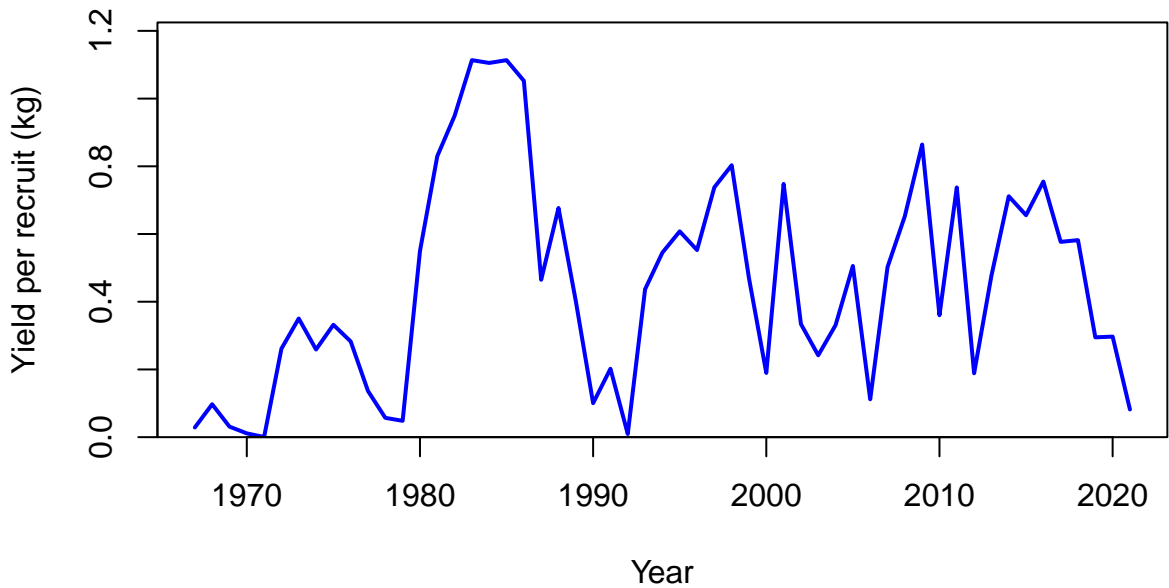
FISHERY (whole catch)

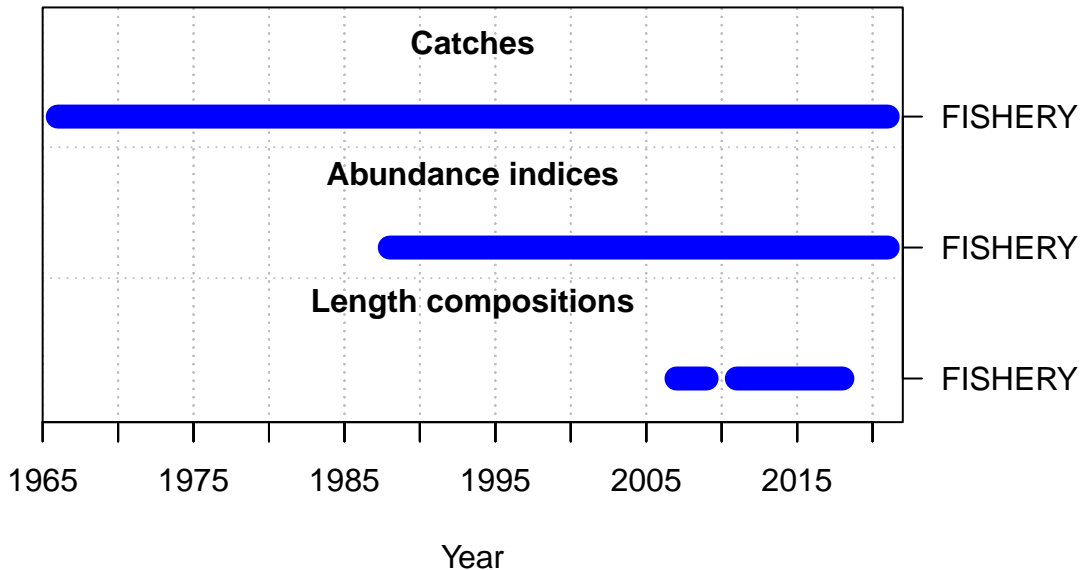


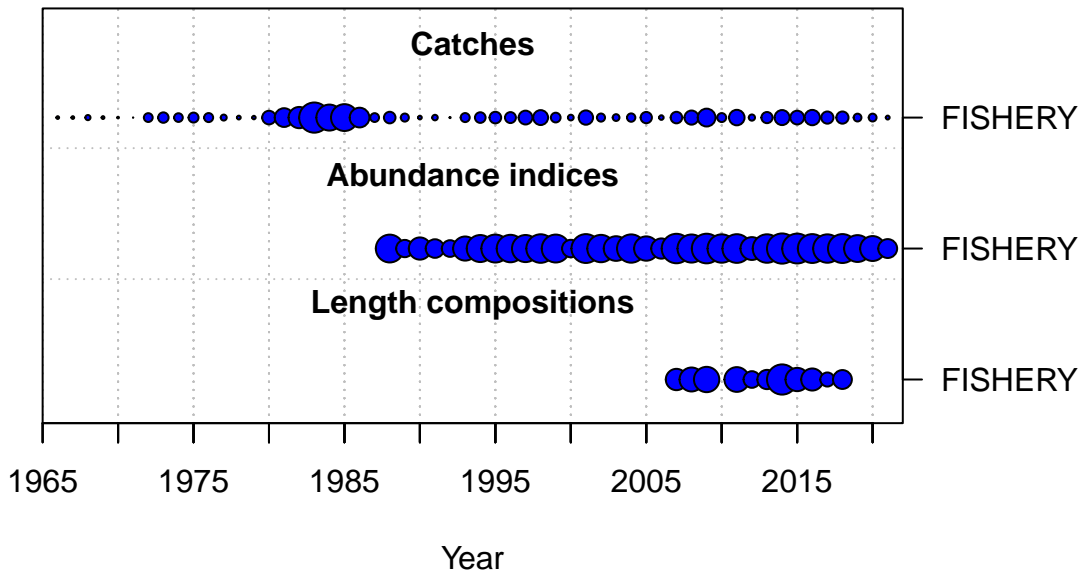




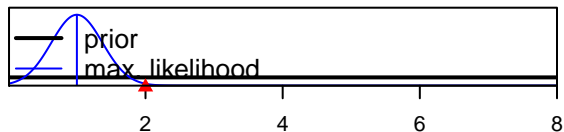




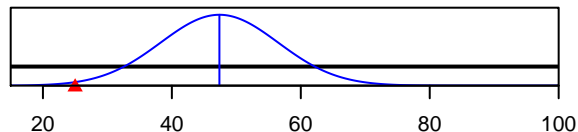




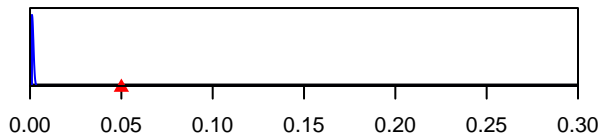
SR_LN(R0)



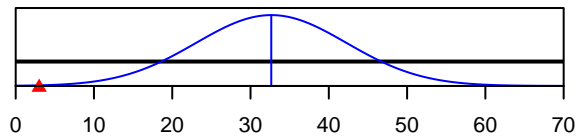
Size_inflection_FISHERY(1)



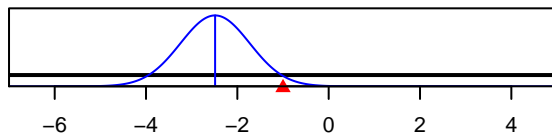
InitF_seas_1_flt_1FISHERY



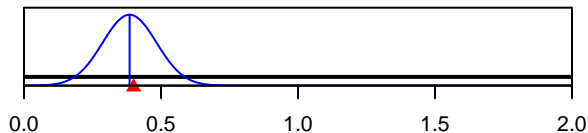
Size_95%width_FISHERY(1)



LnQ_base_FISHERY(1)



Q_extraSD_FISHERY(1)



Parameter value