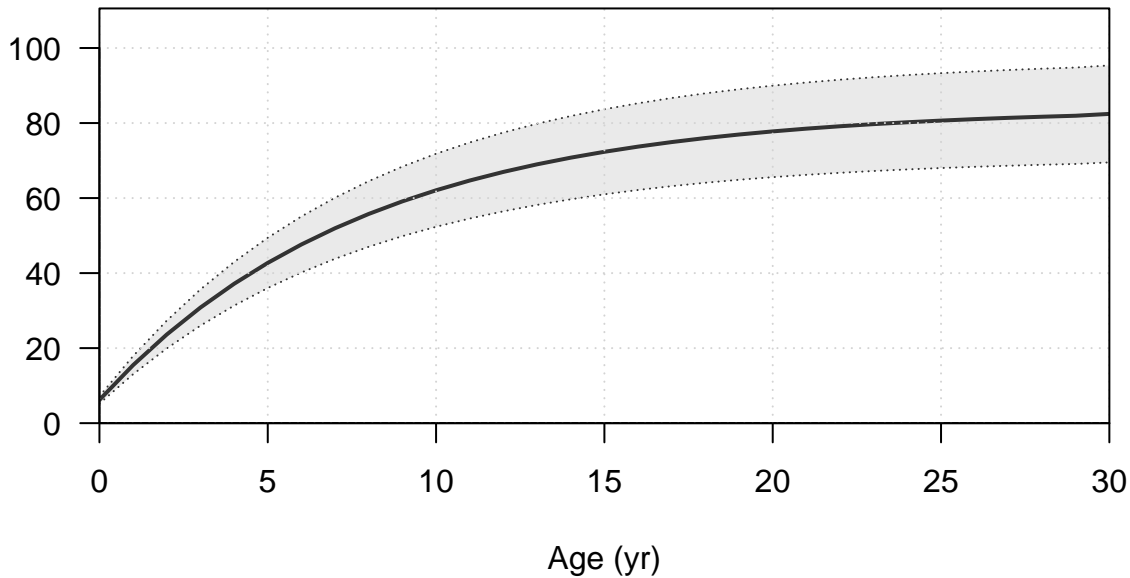
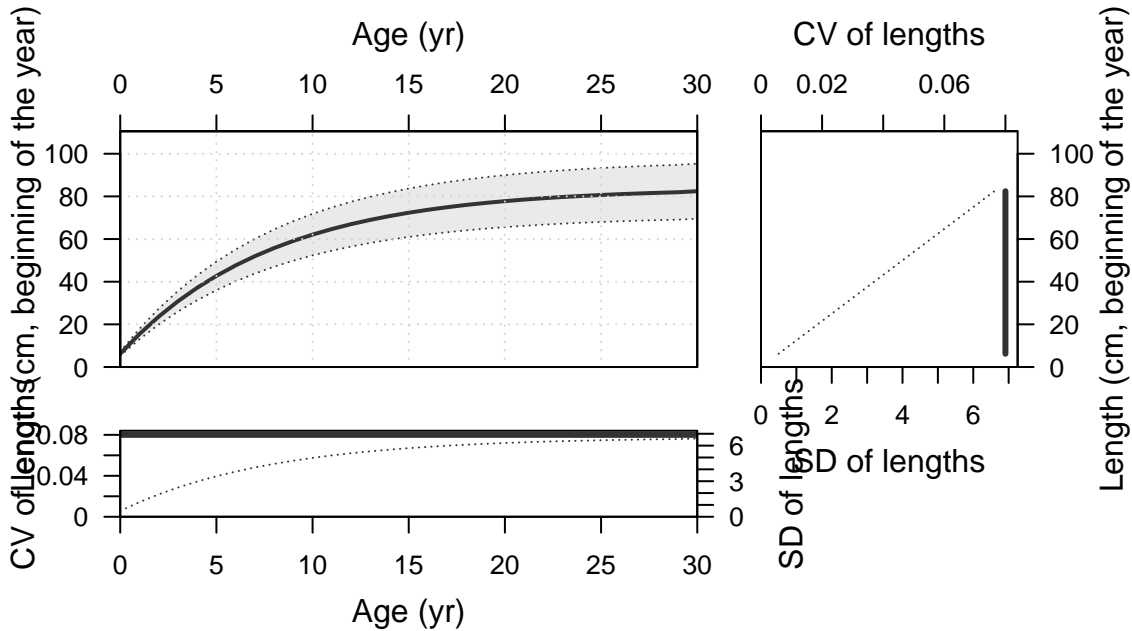
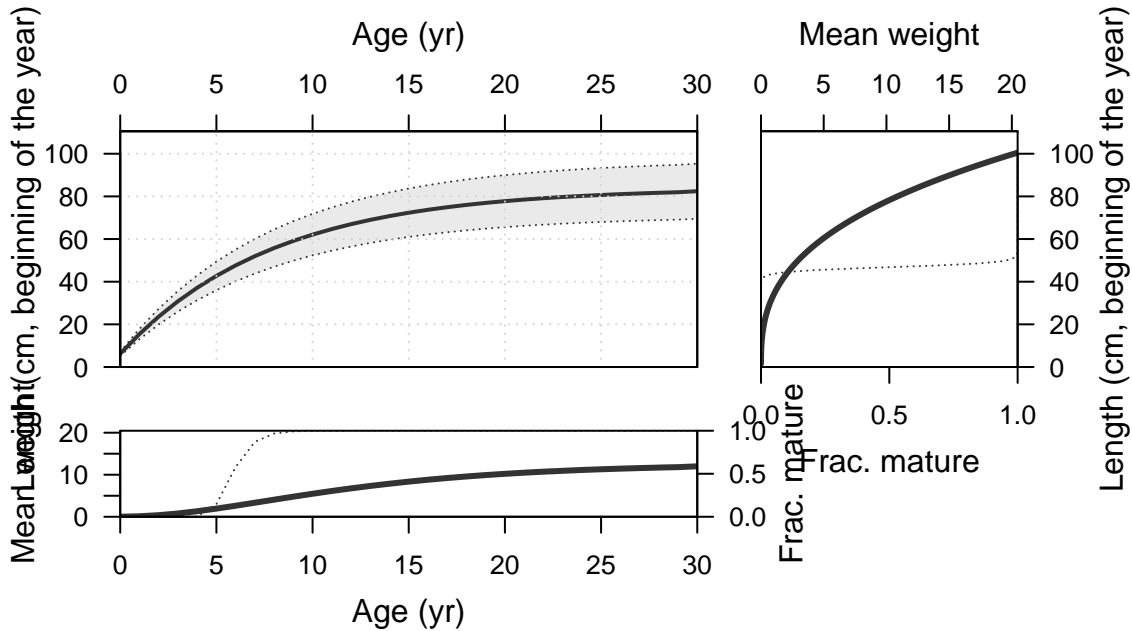


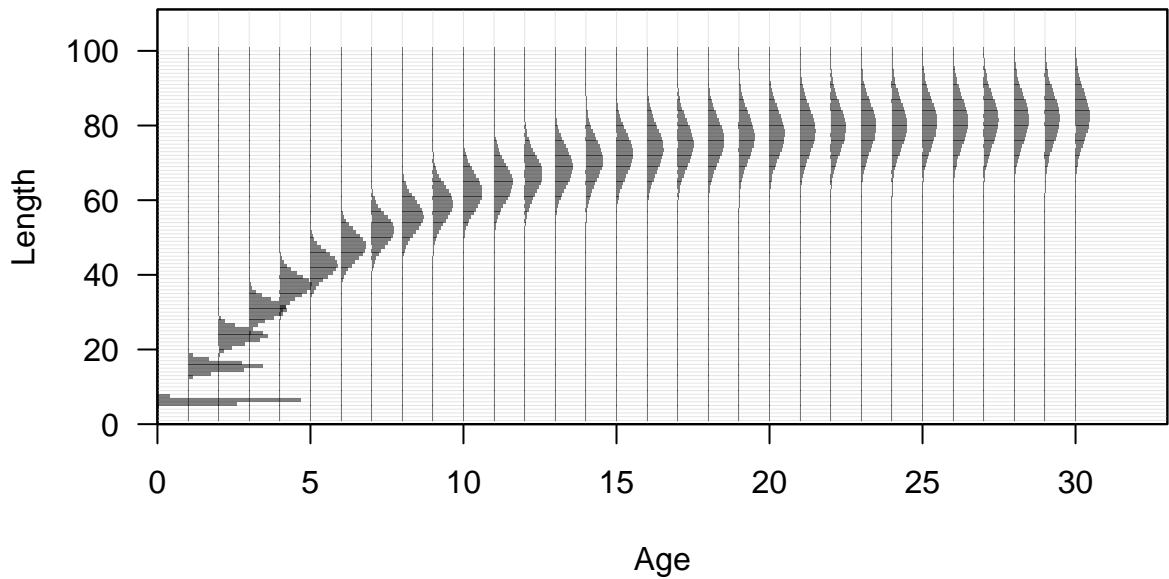
Plots created using the 'r4ss' package in R
Stock Synthesis version: 3.30.19.0
StartTime: Wed Aug 03 09:02:01 2022
Data_File: data.ss
Control_File: control.ss

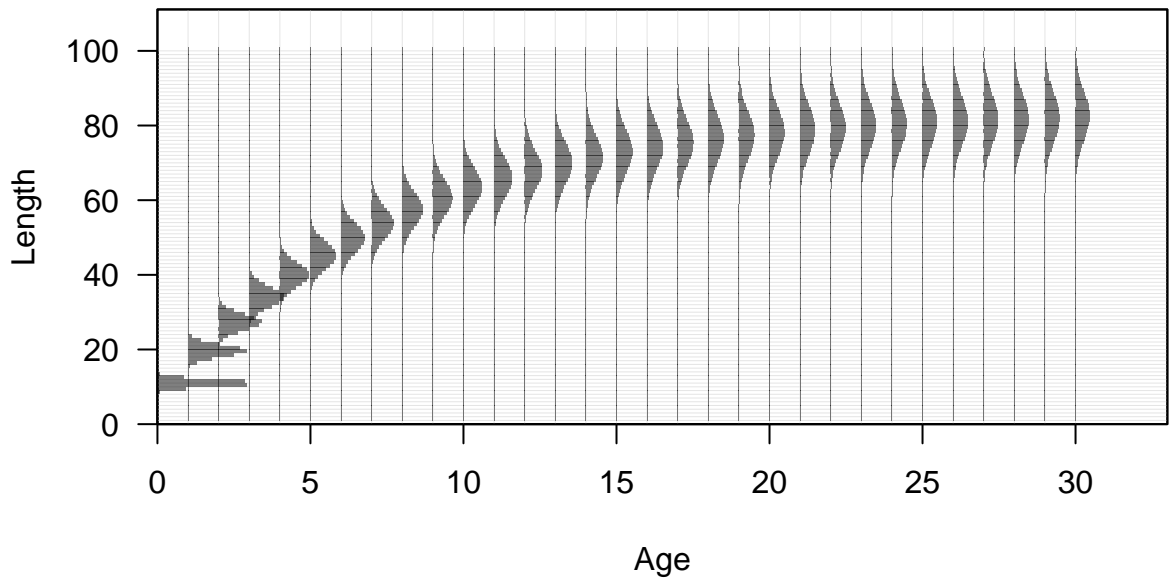
Length (cm, beginning of the year)

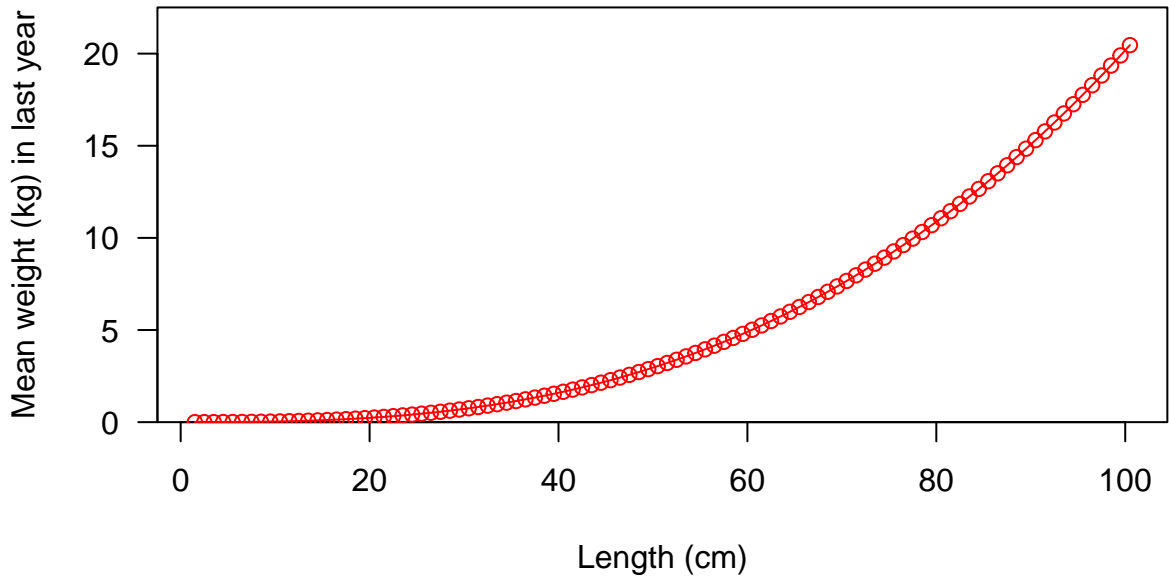


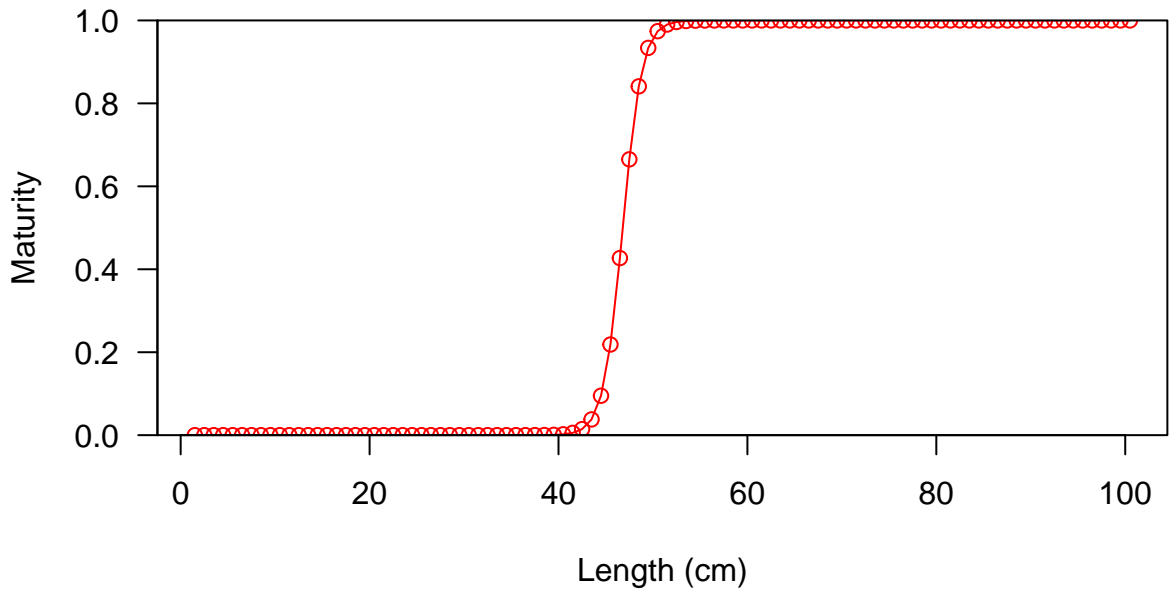


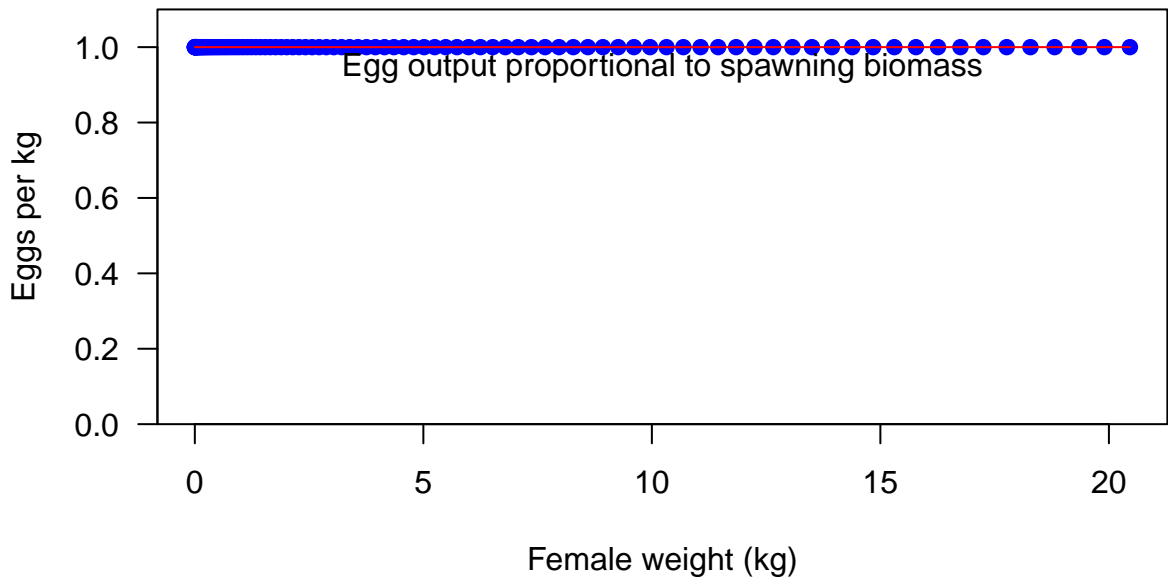




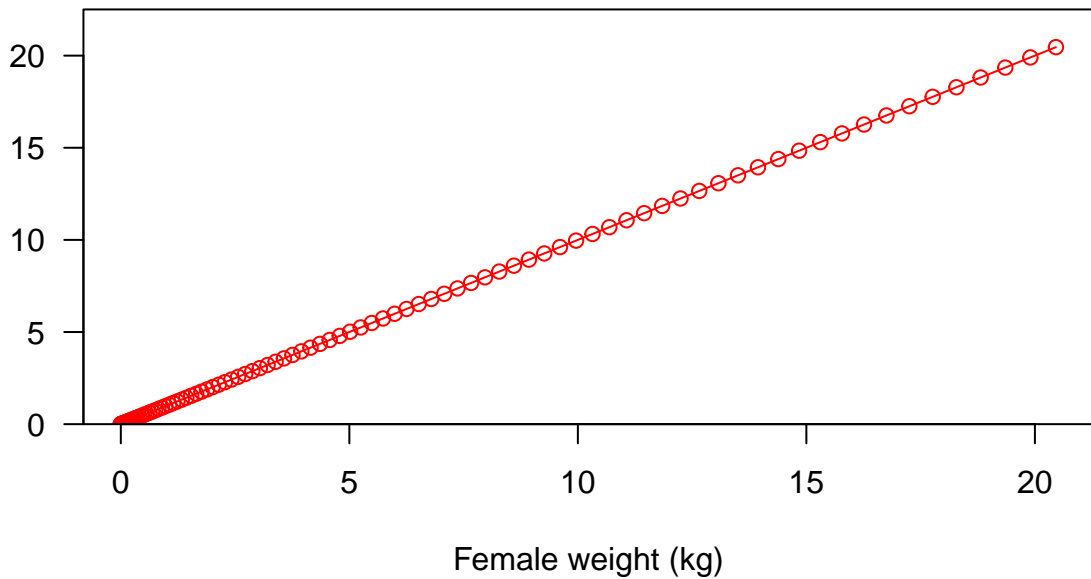








Fecundity



Fecundity

20

15

10

5

0

0

20

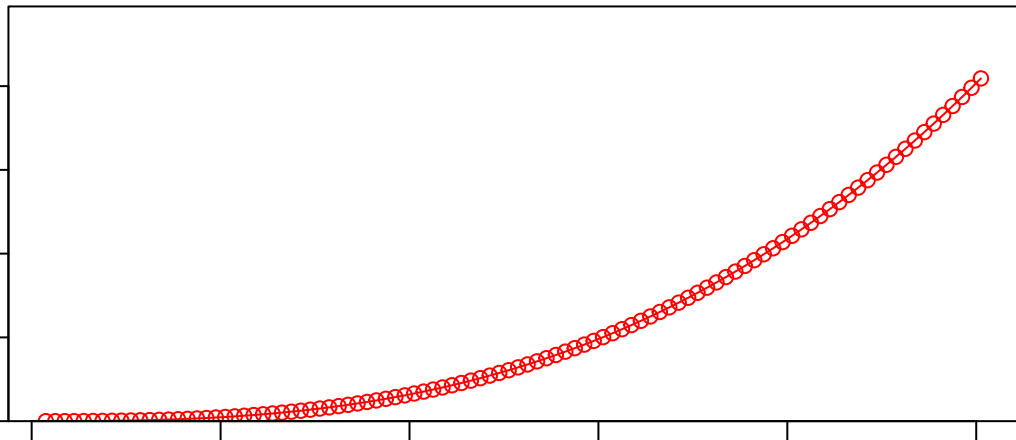
40

60

80

100

Female length (cm)



Spawning output

20
15
10
5
0

0

20

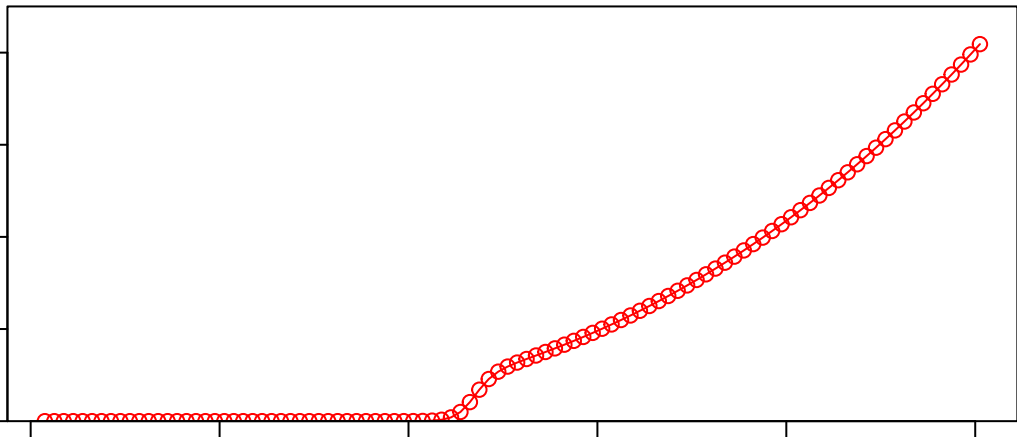
40

60

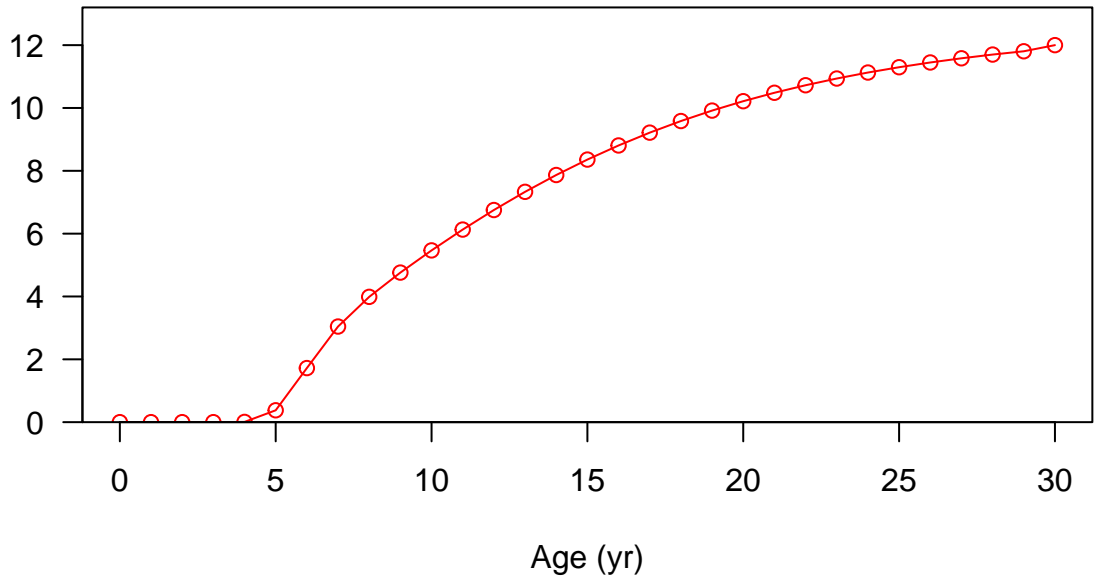
80

100

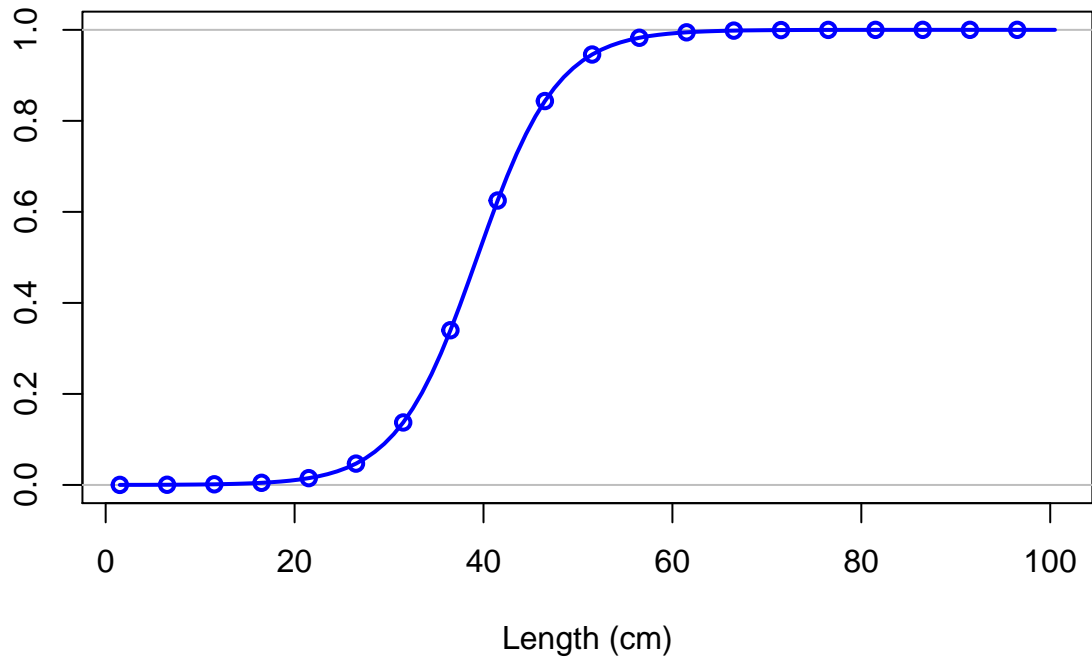
Length (cm)



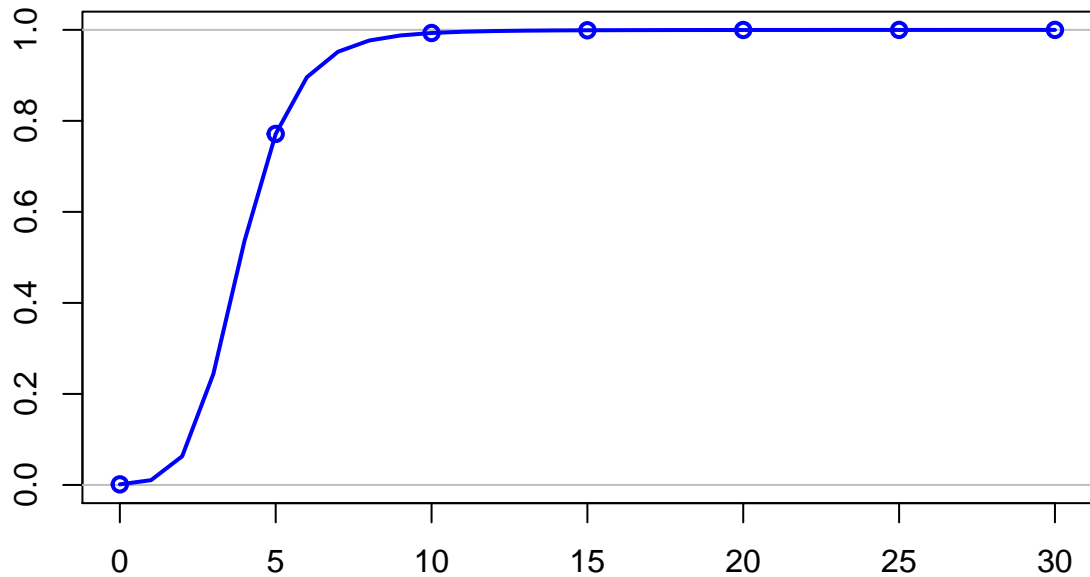
Spawning output



Selectivity

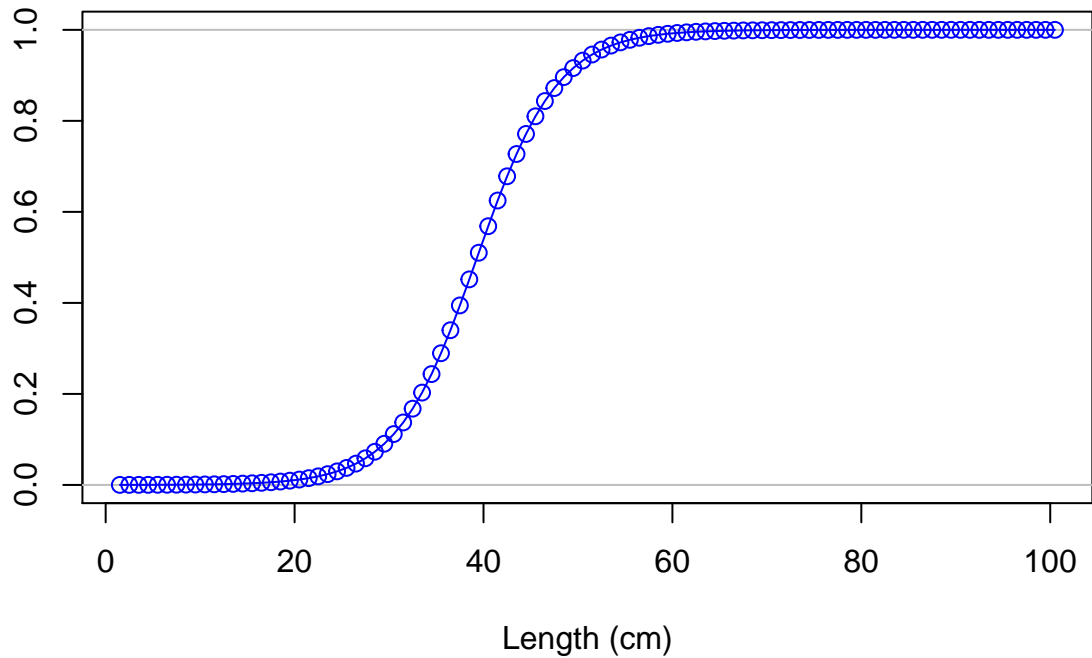


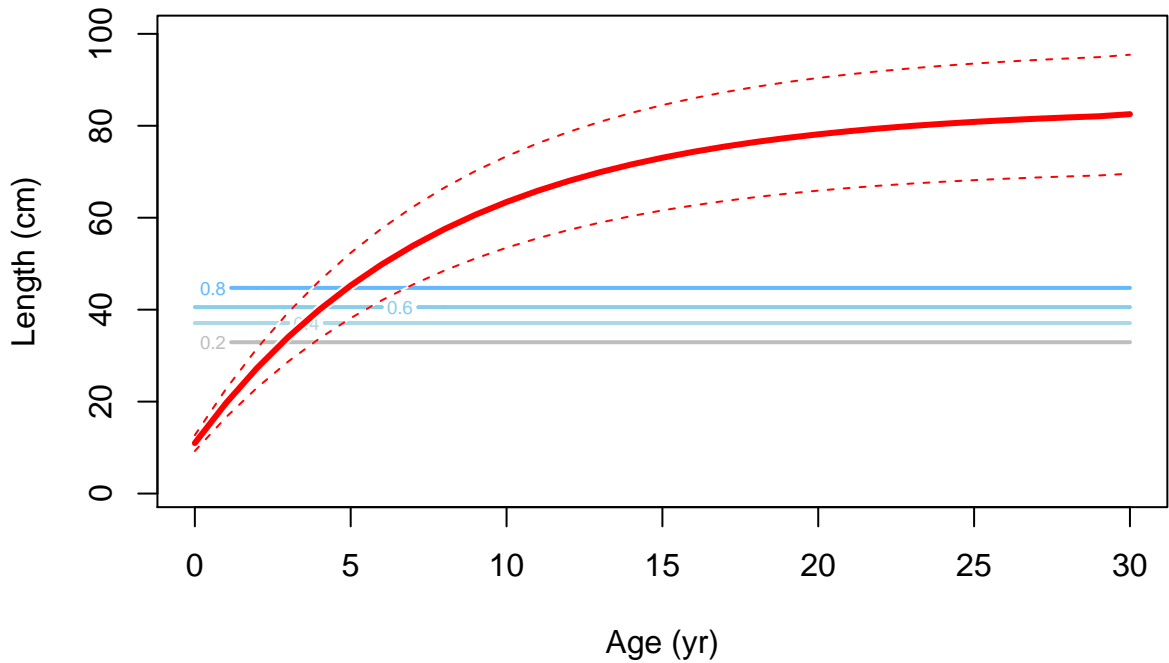
Selectivity

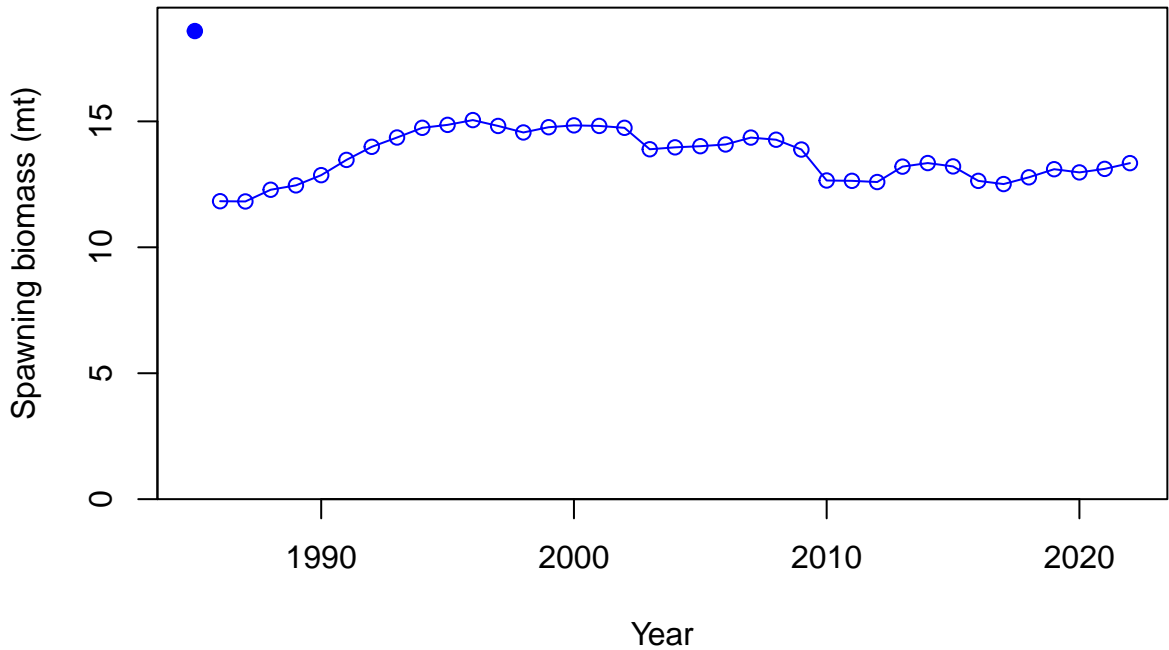


Age (yr)

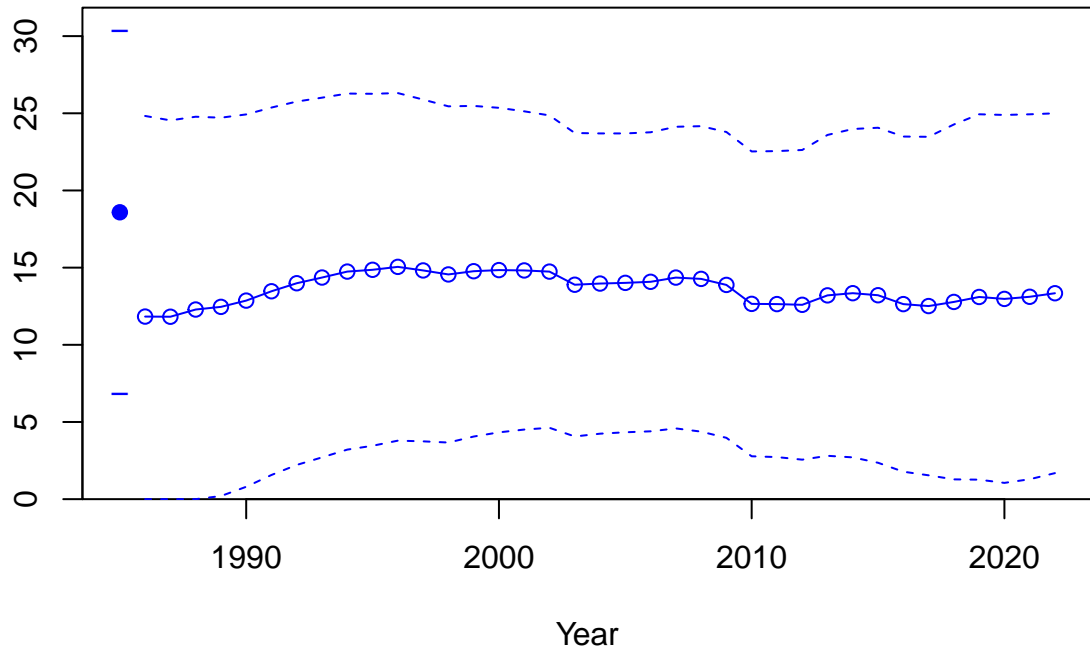
Selectivity



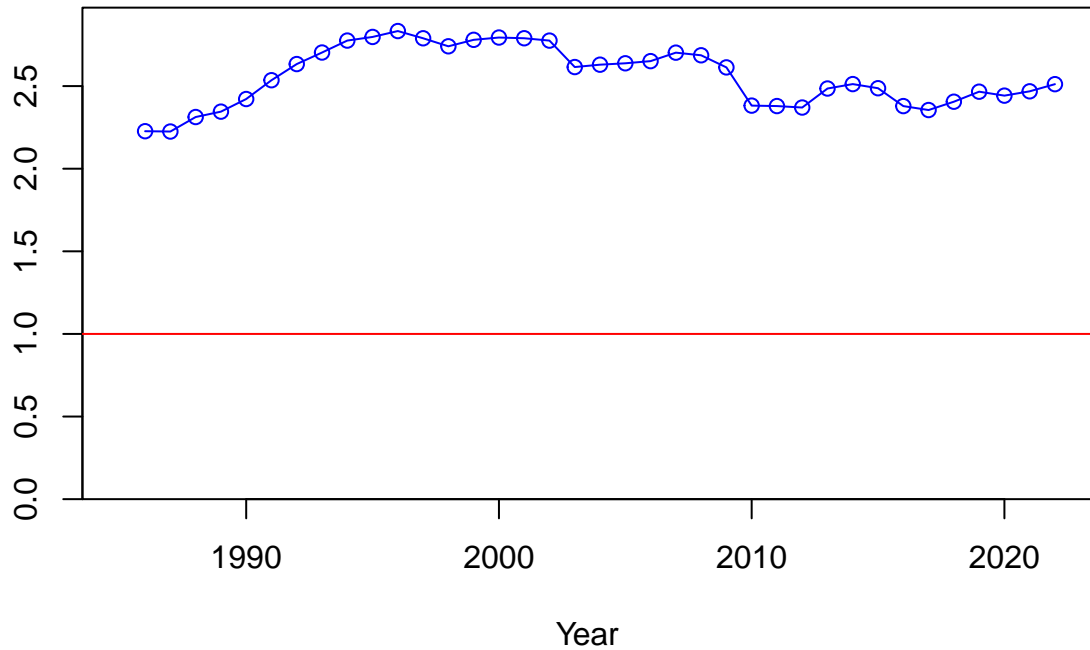




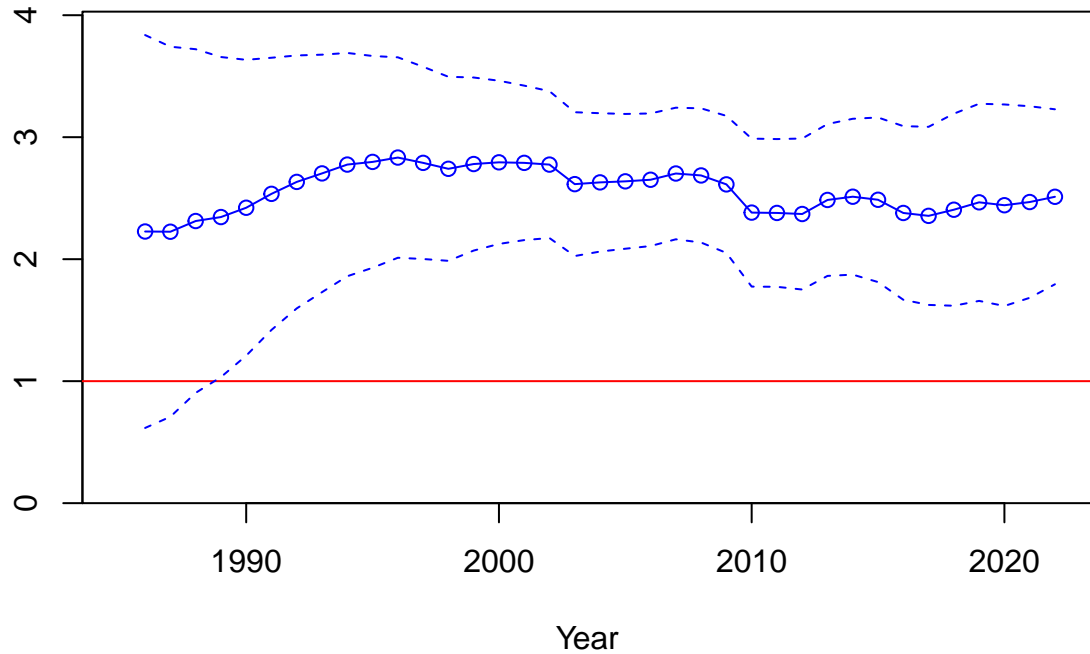
Spawning biomass (mt)

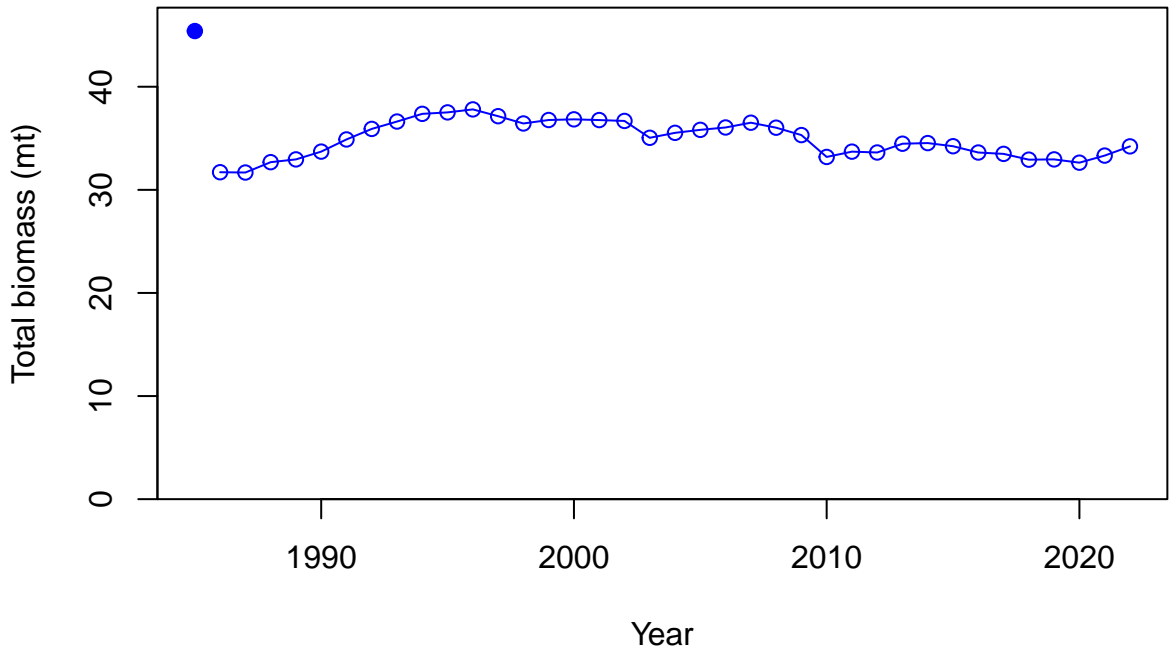


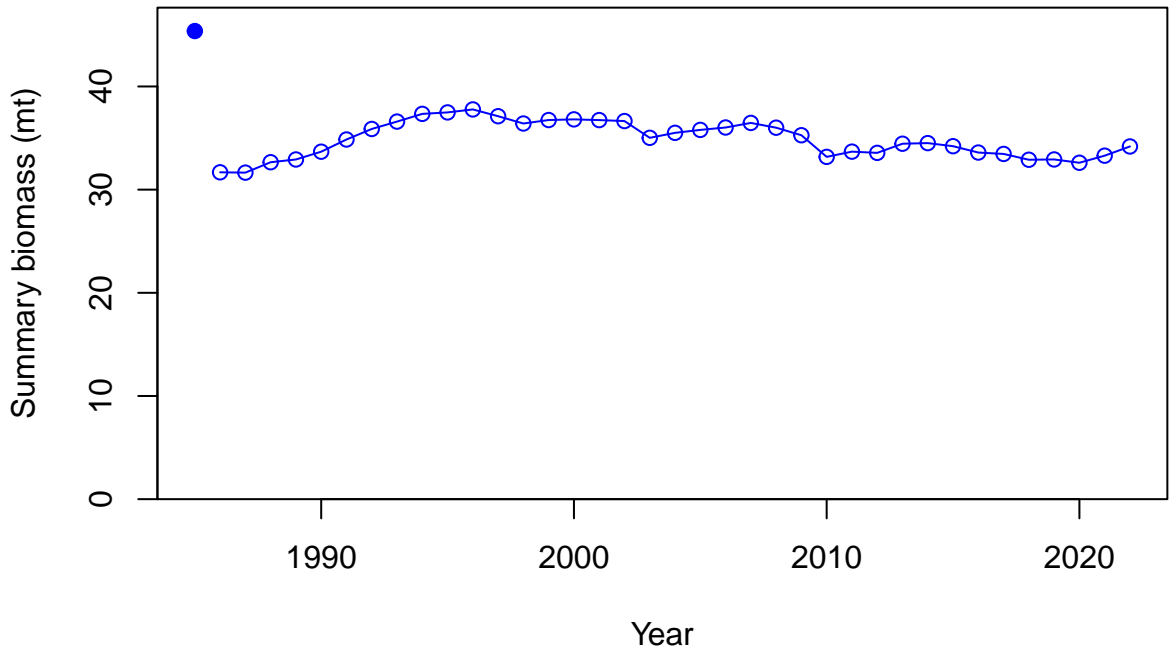
Relative spawning biomass: B/B_{MSY}



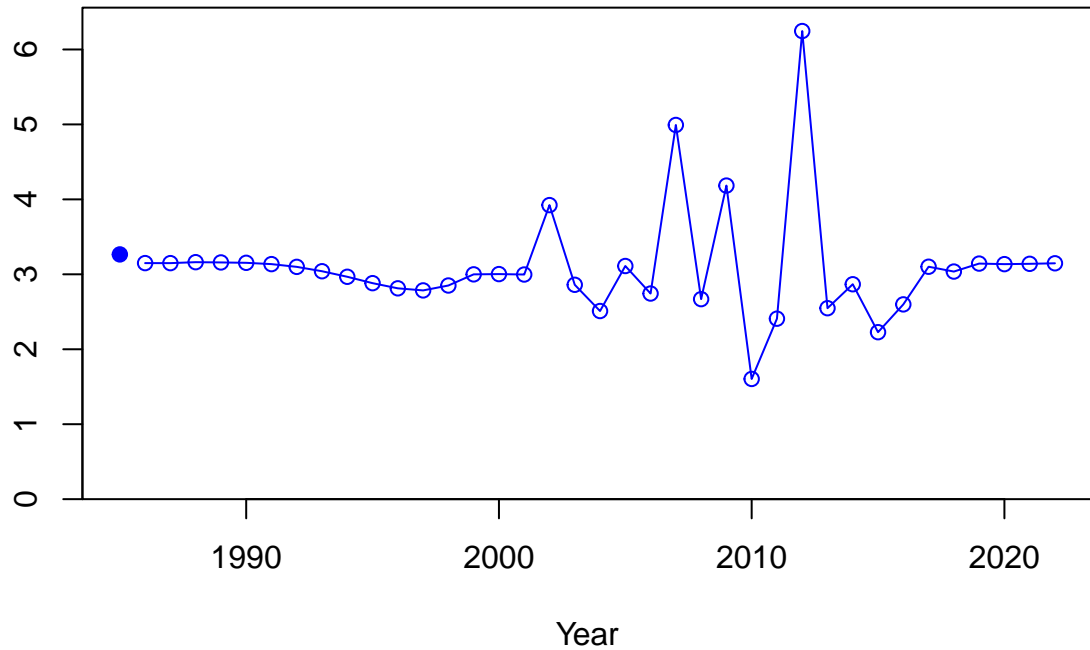
Relative spawning biomass: B/B_{MSY}

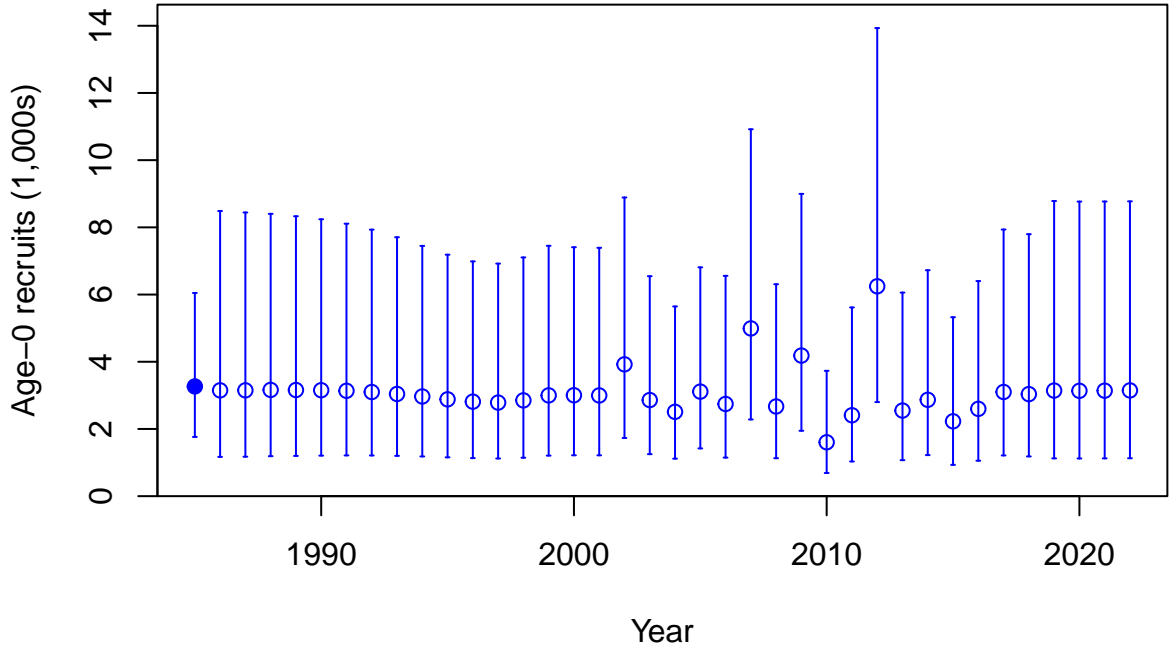




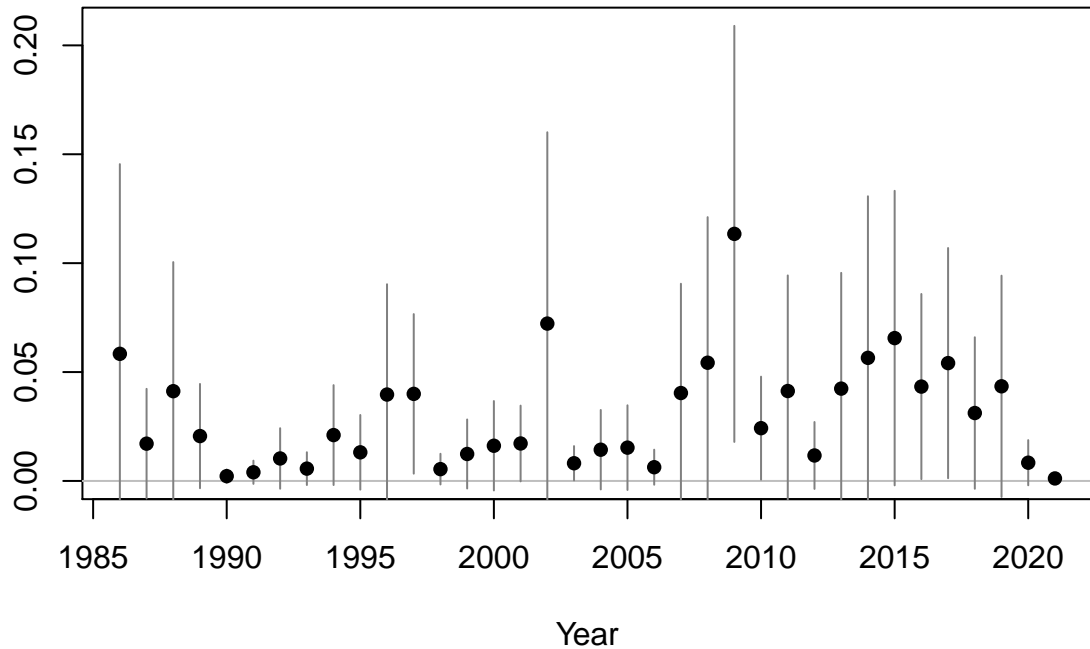


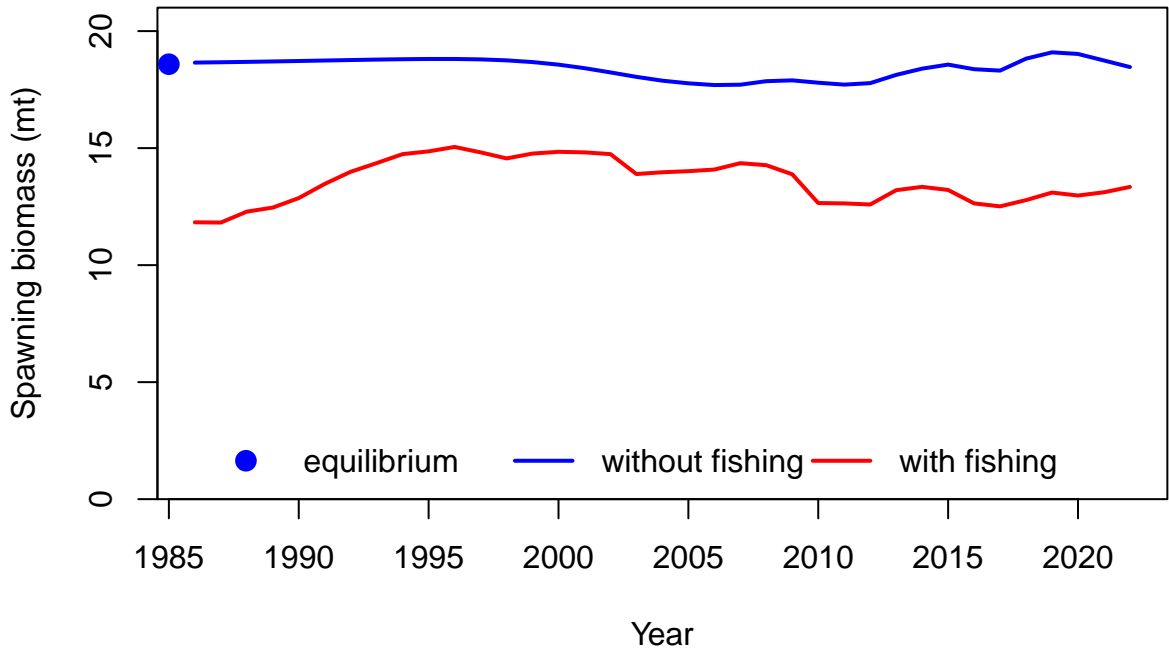
Age-0 recruits (1,000s)



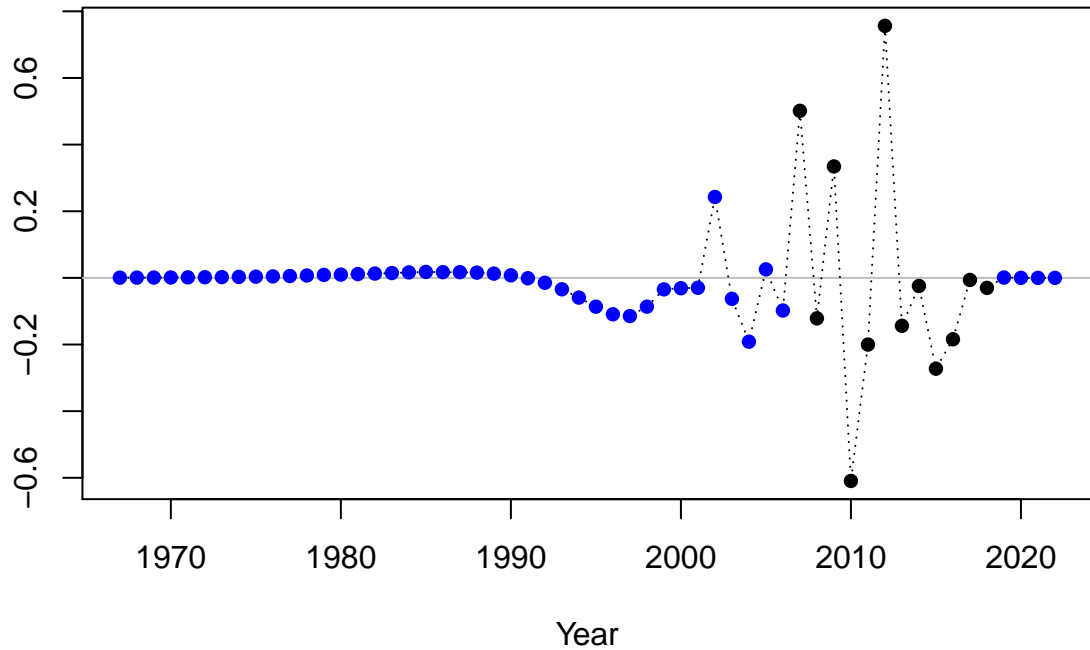


Summary Fishing Mortality





Log recruitment deviation



Log recruitment deviation

1.0
0.5
0.0
-0.5
-1.0

1970

1980

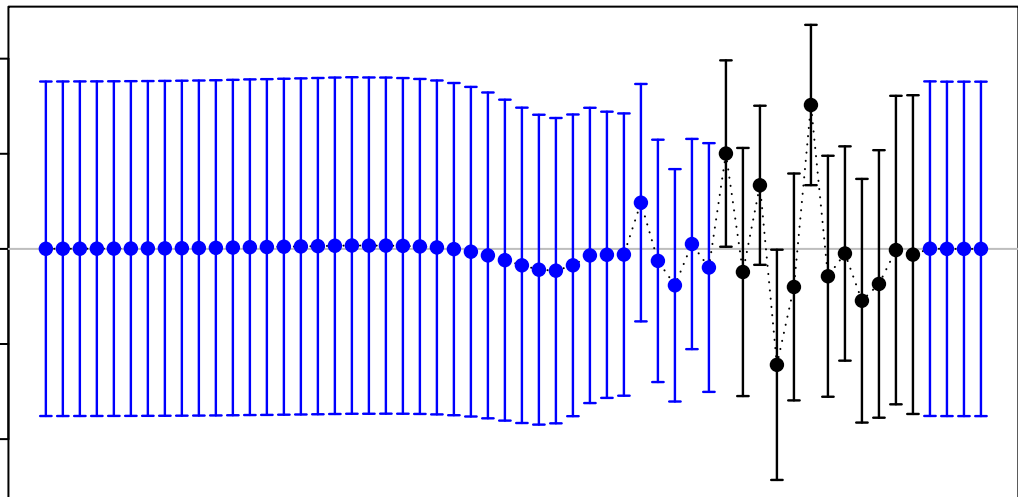
1990

2000

2010

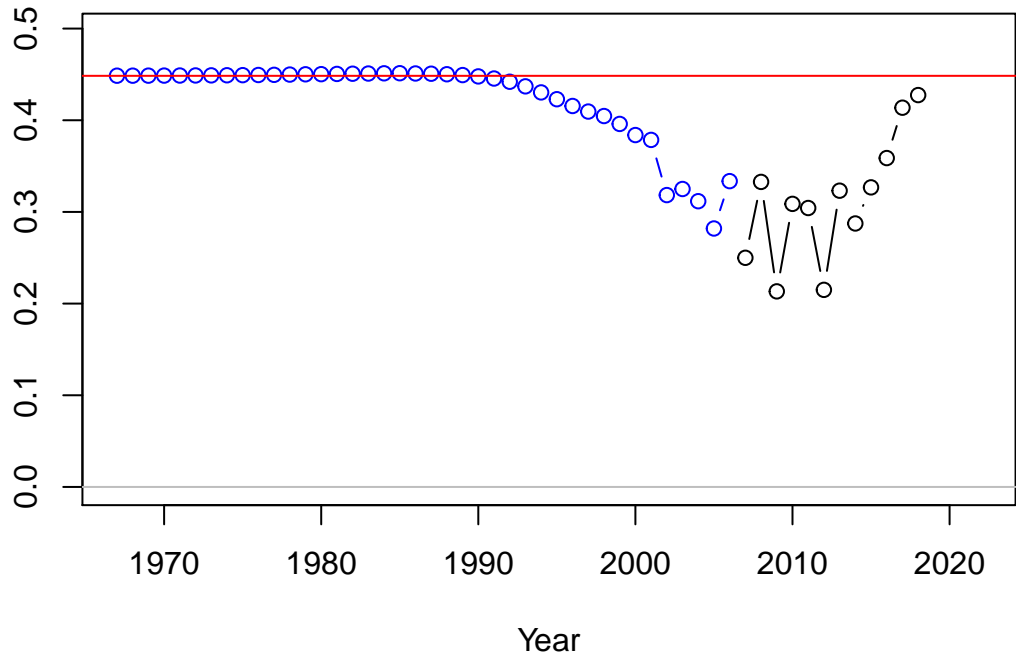
2020

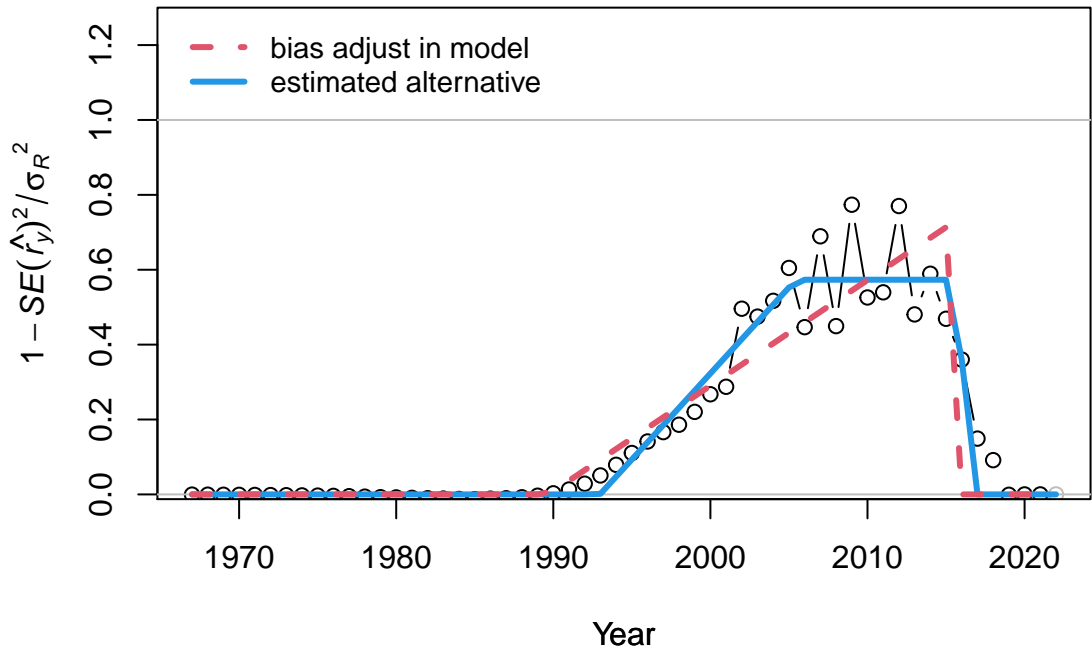
Year

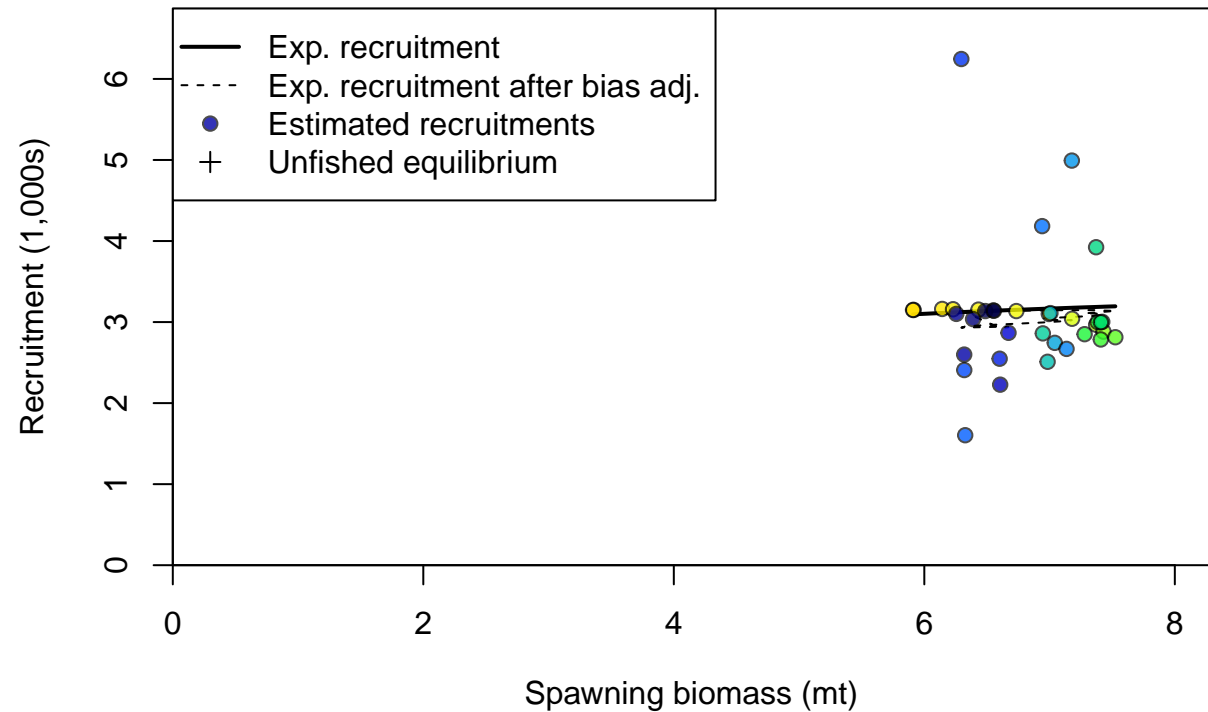


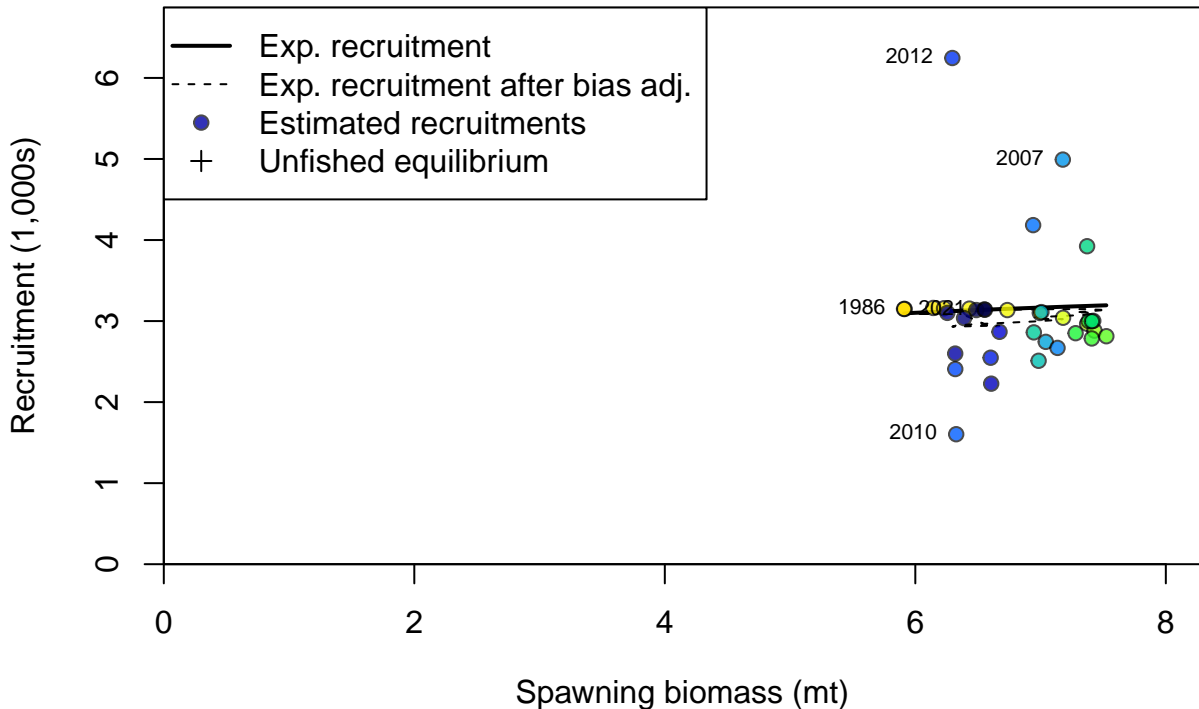
Recruitment deviation variance

Asymptotic standard error estimate









Log recruitment deviation

0.5
0.0
-0.5

0.0

0.2

0.4

0.6

0.8

Spawning output (relative to B_0)

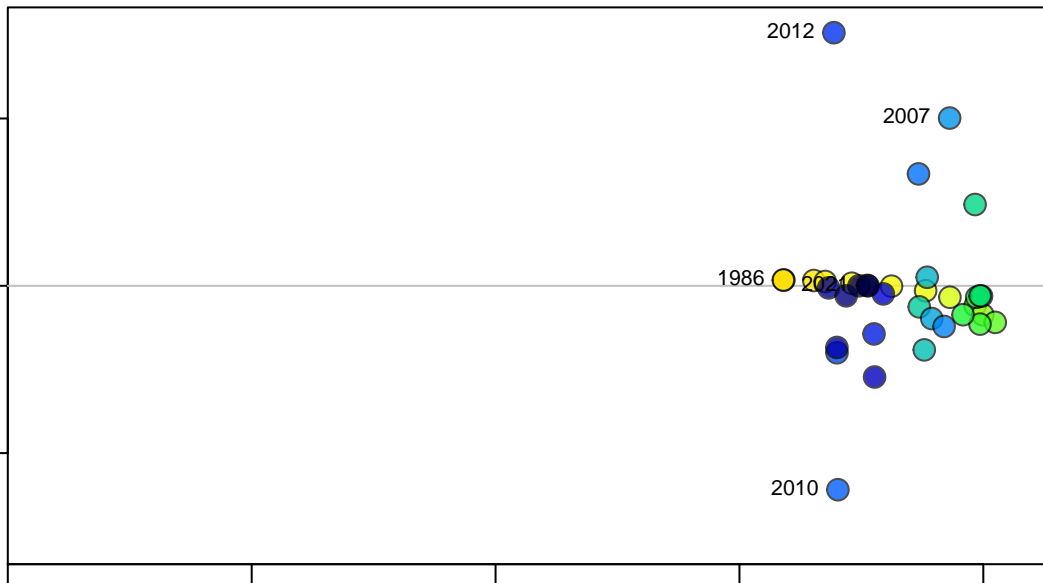
2012

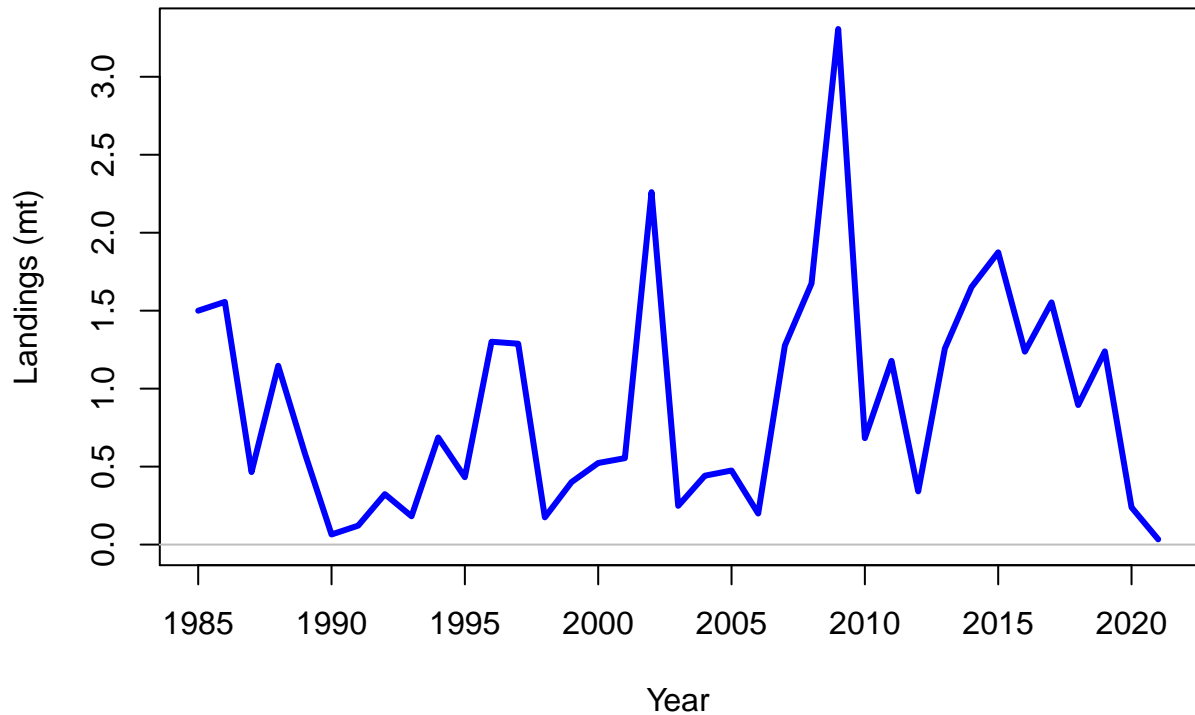
2007

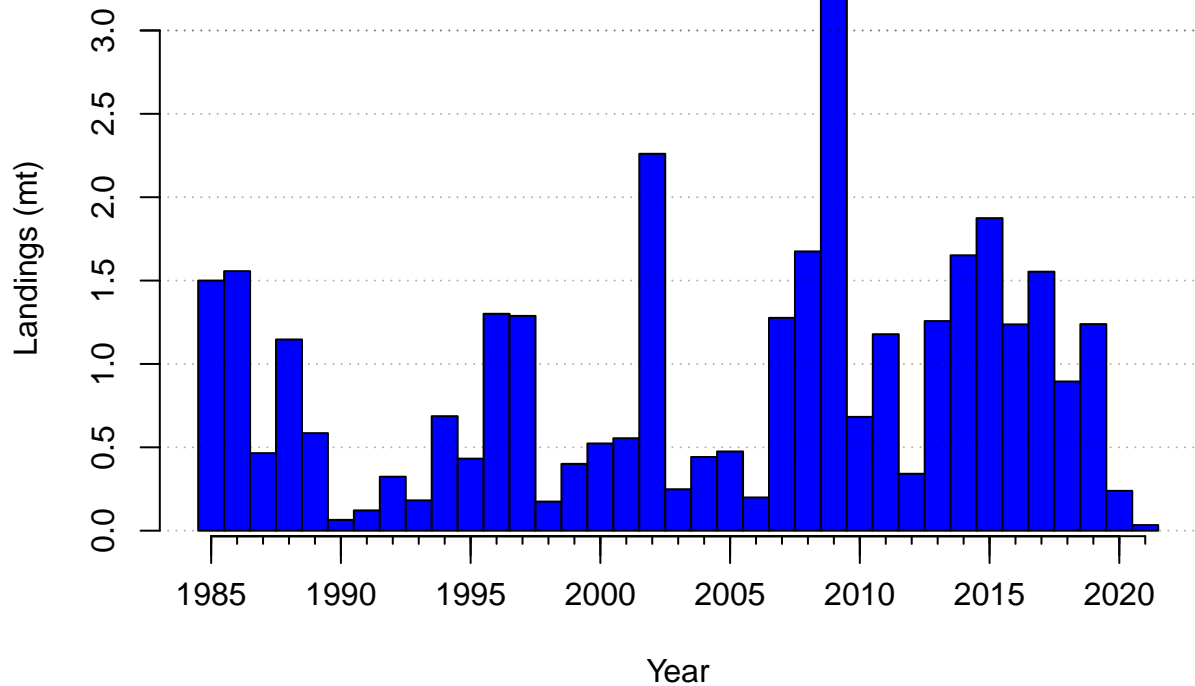
1986

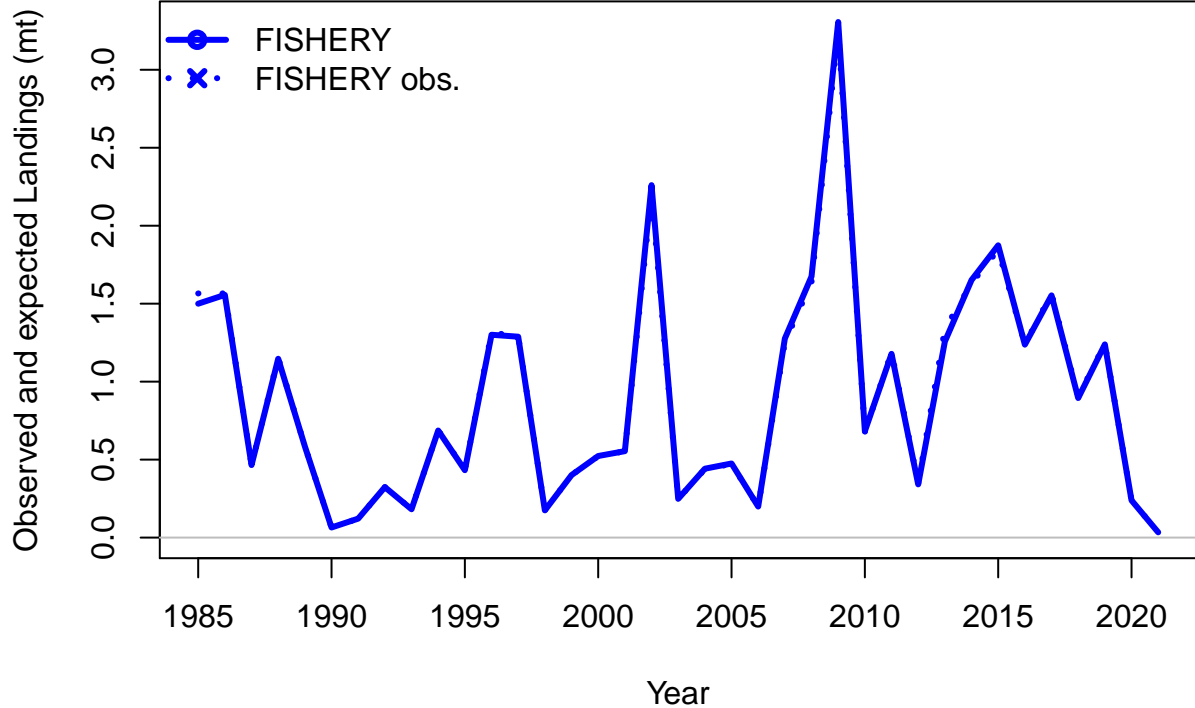
2010

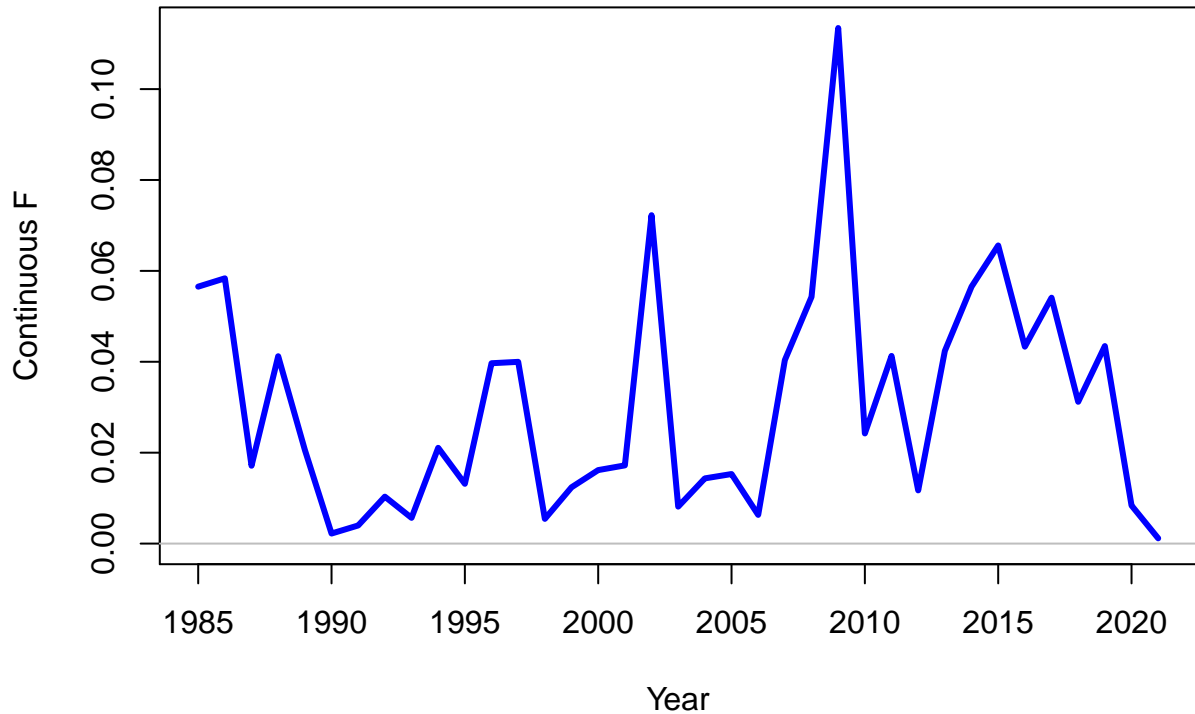
2021



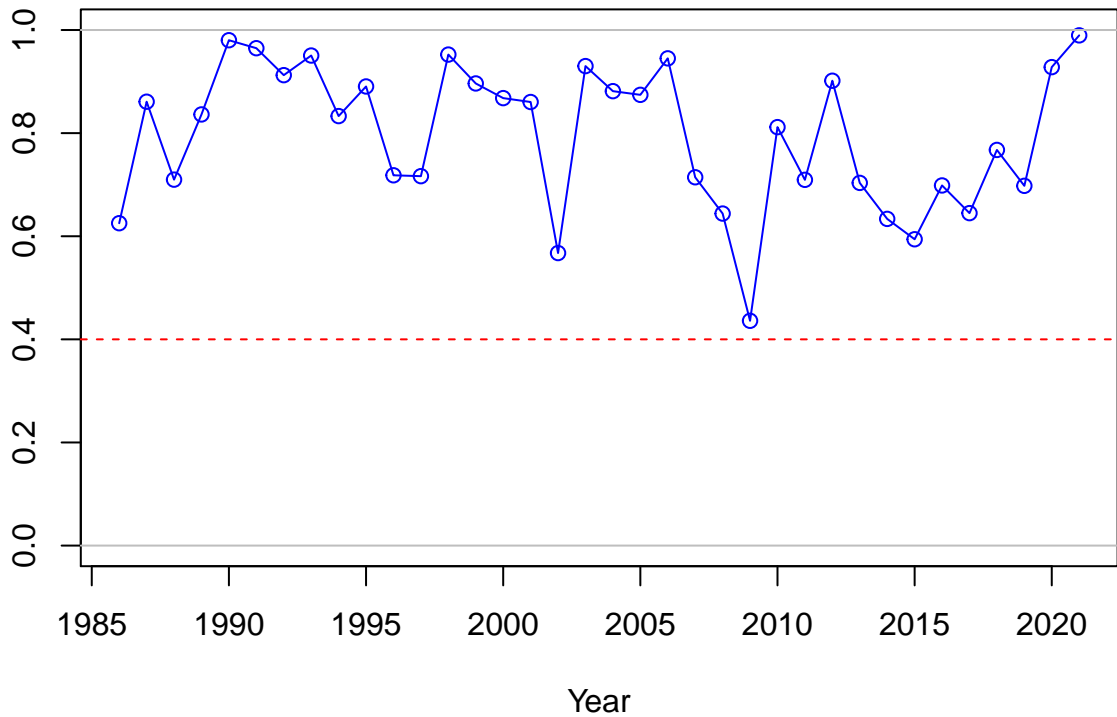




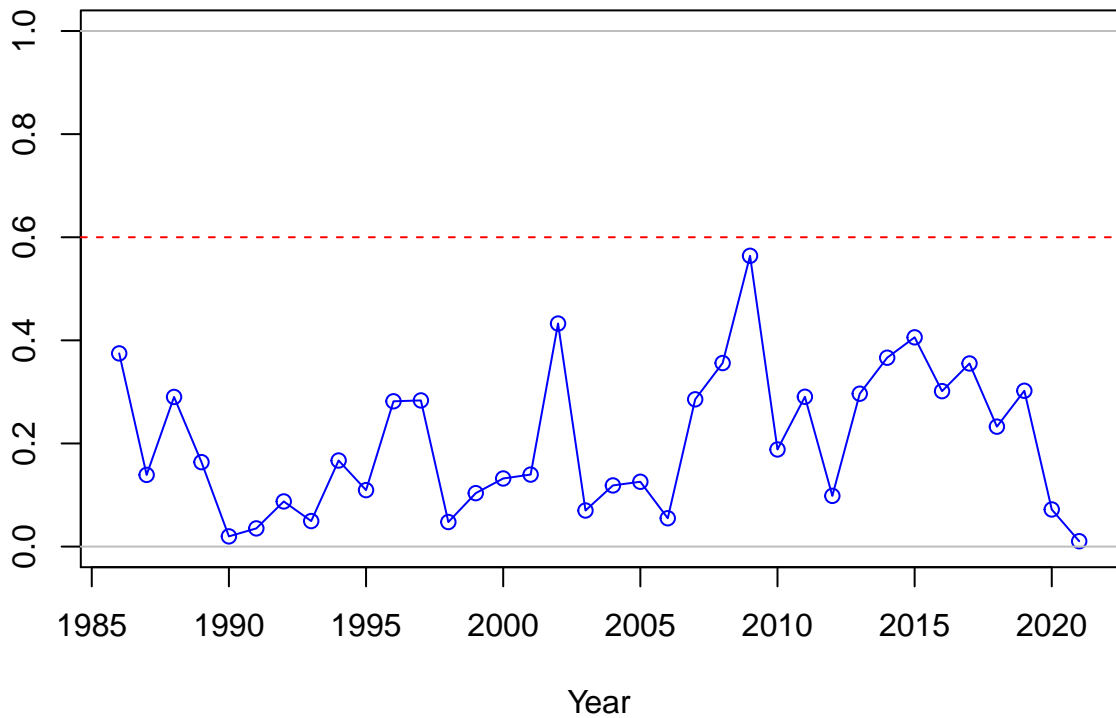




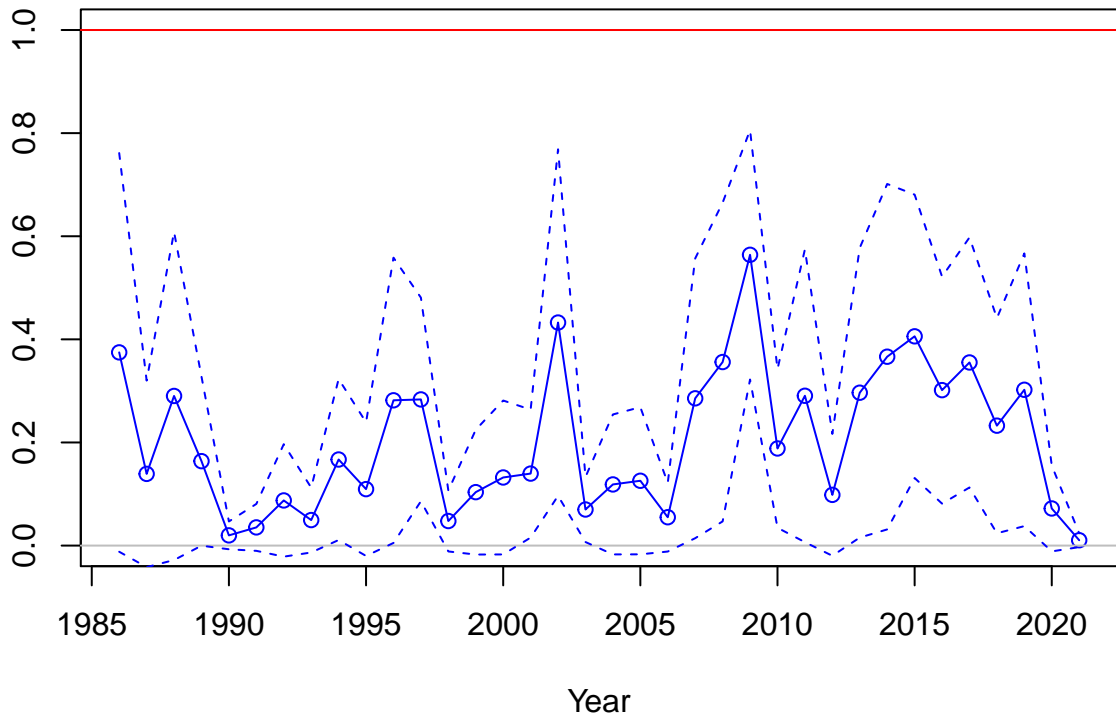
SPR



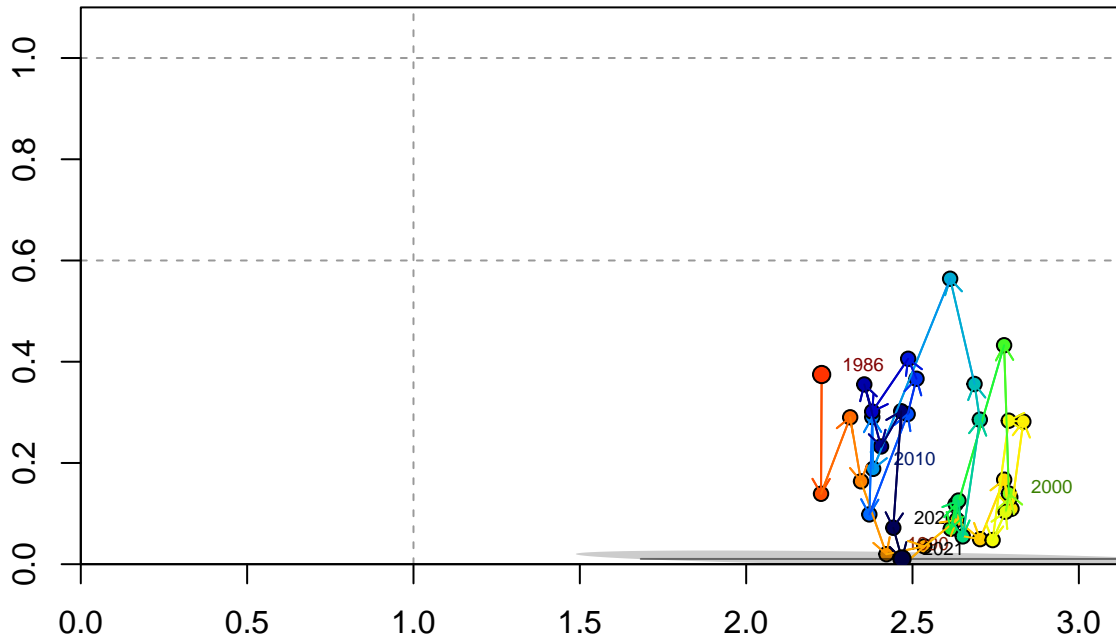
1-SPR



Fishing intensity: 1-SPR

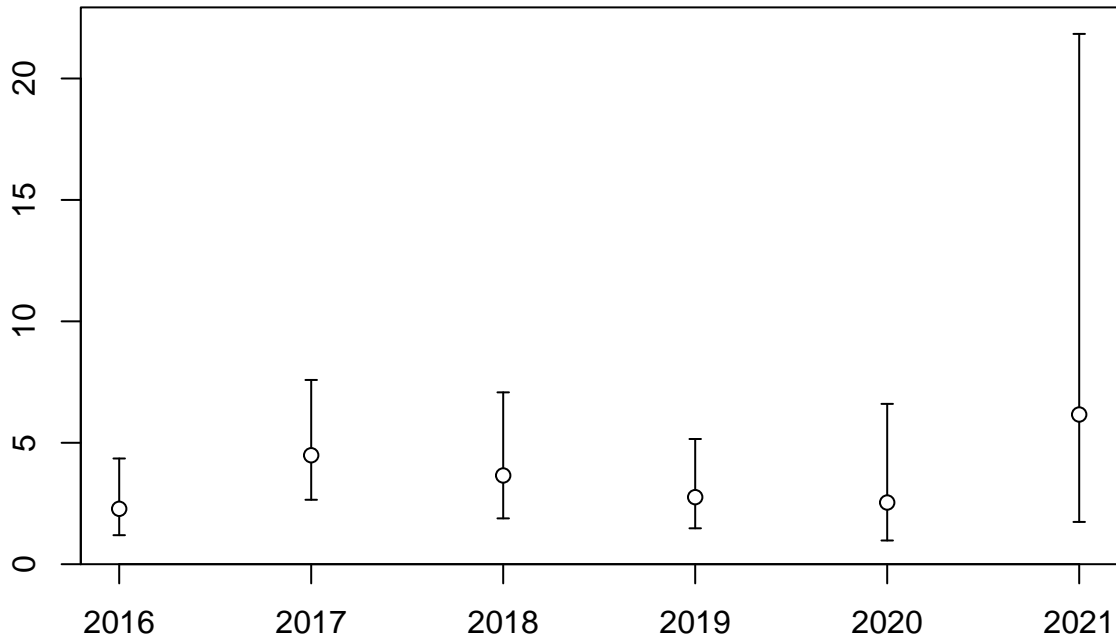


Fishing intensity: 1-SPR



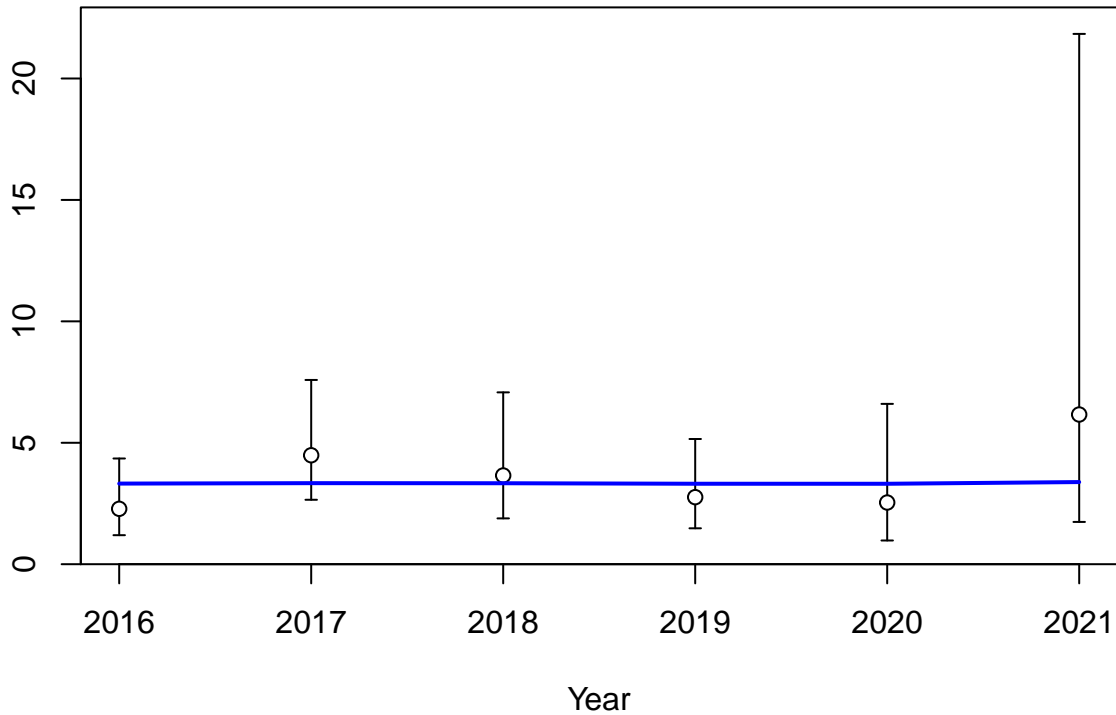
Relative spawning output: B/B_{MSY}

Index

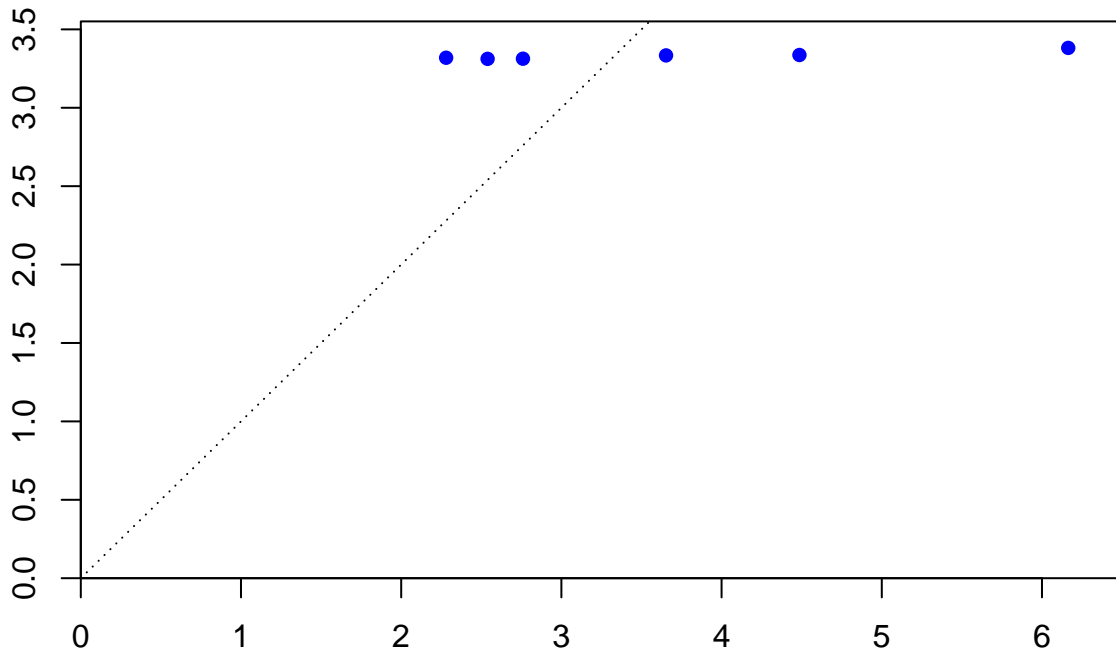


Year

Index



Expected index



Observed index

Log index

3.0
2.5
2.0
1.5
1.0
0.5
0.0

2016

2017

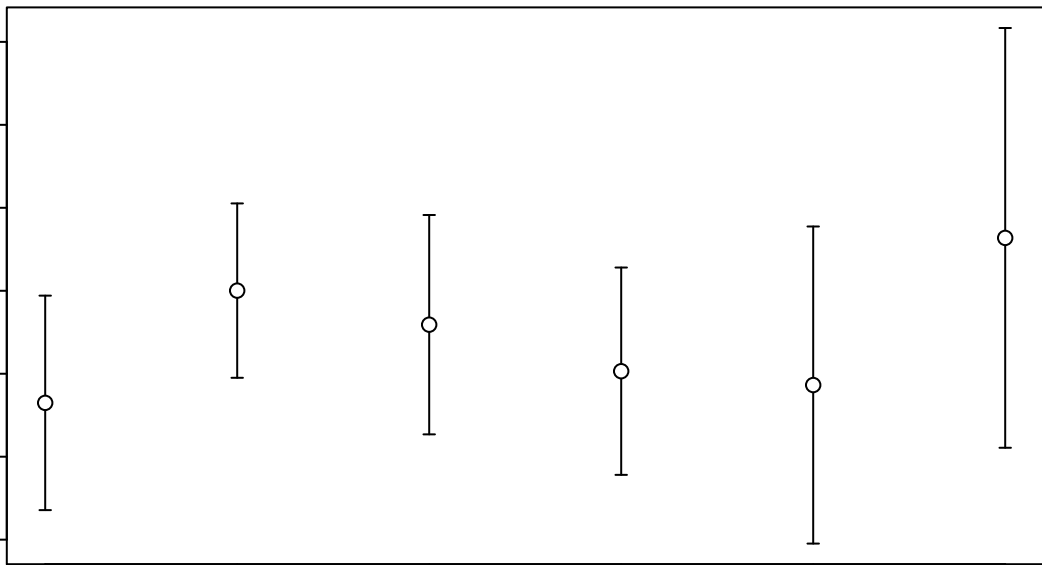
2018

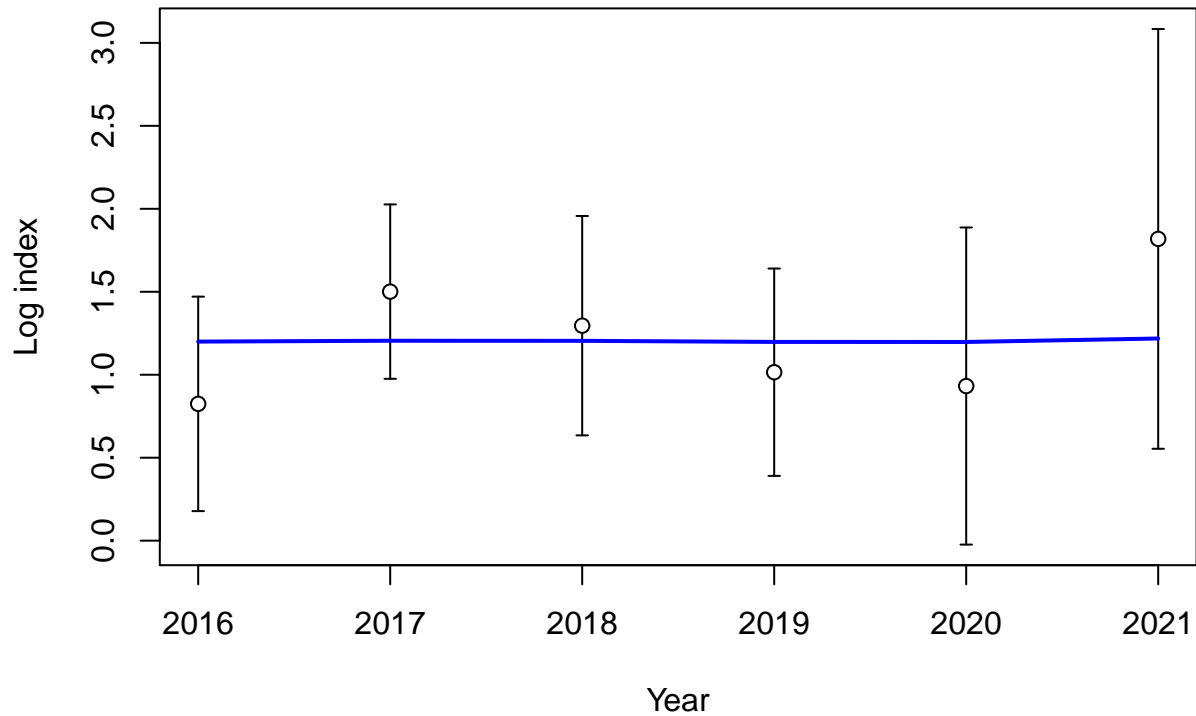
2019

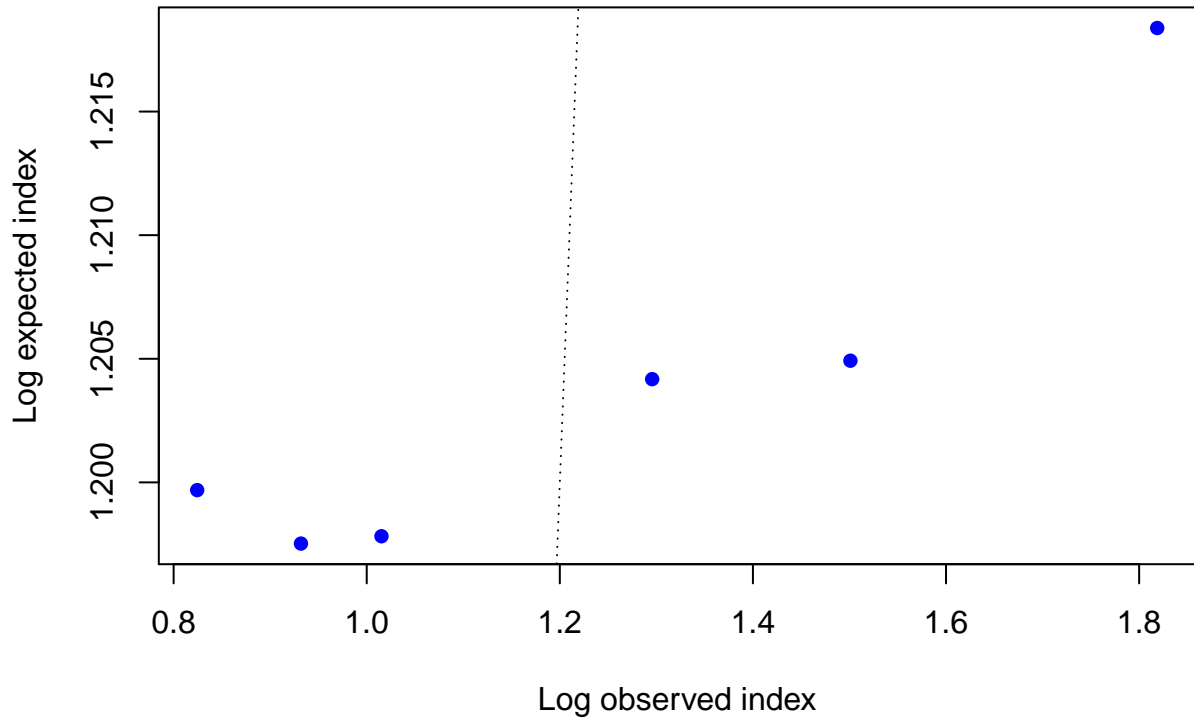
2020

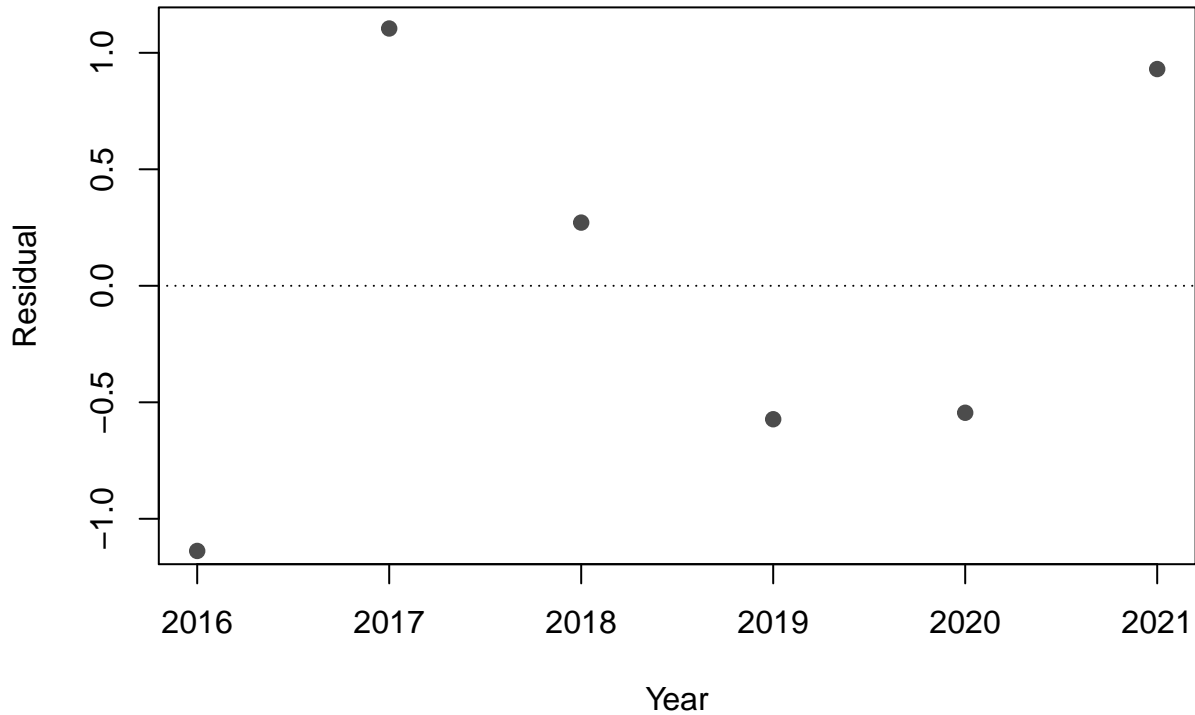
2021

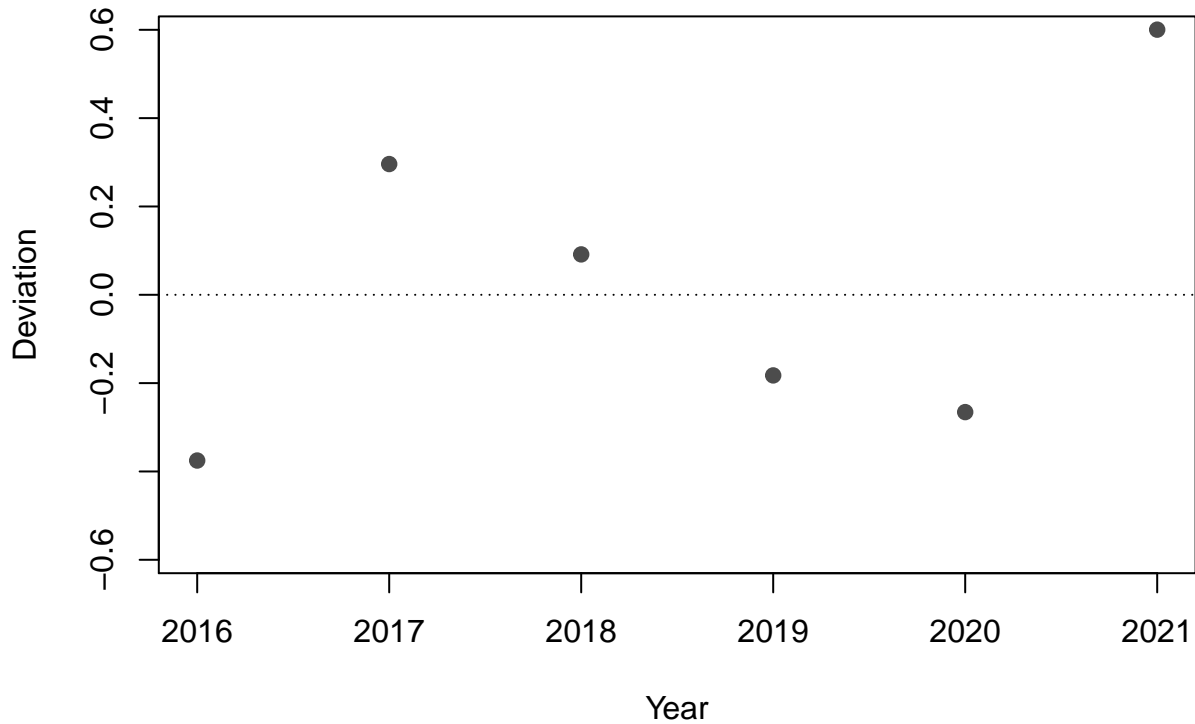
Year

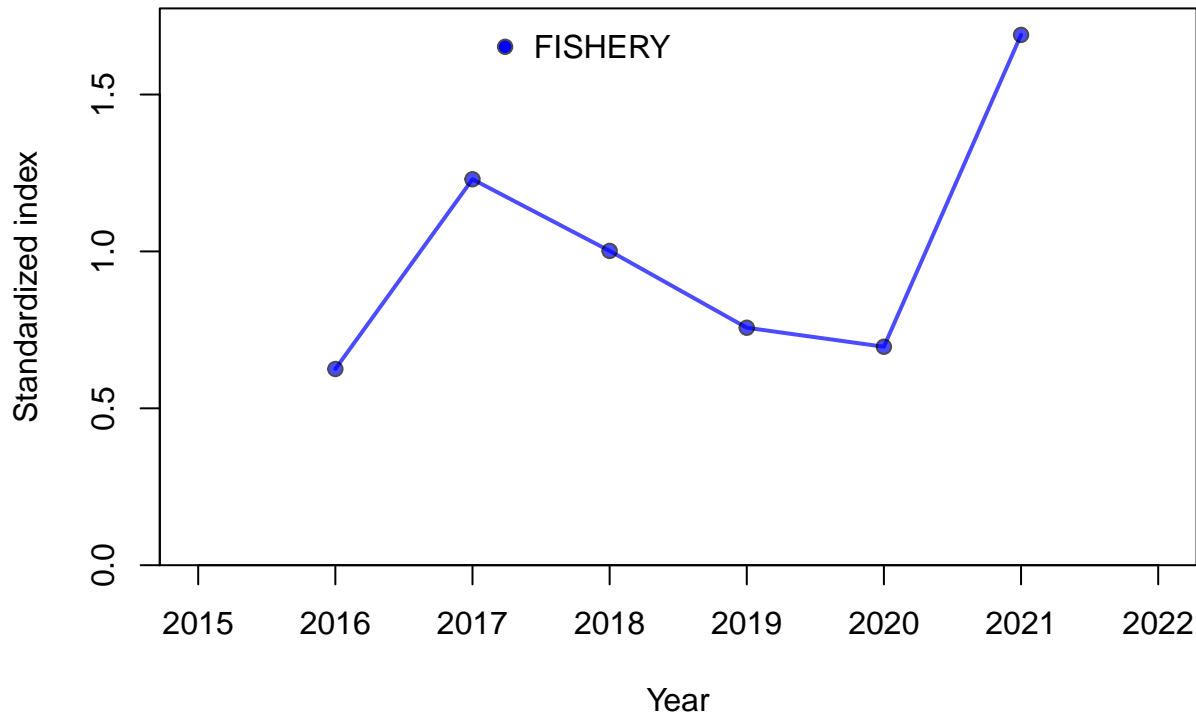


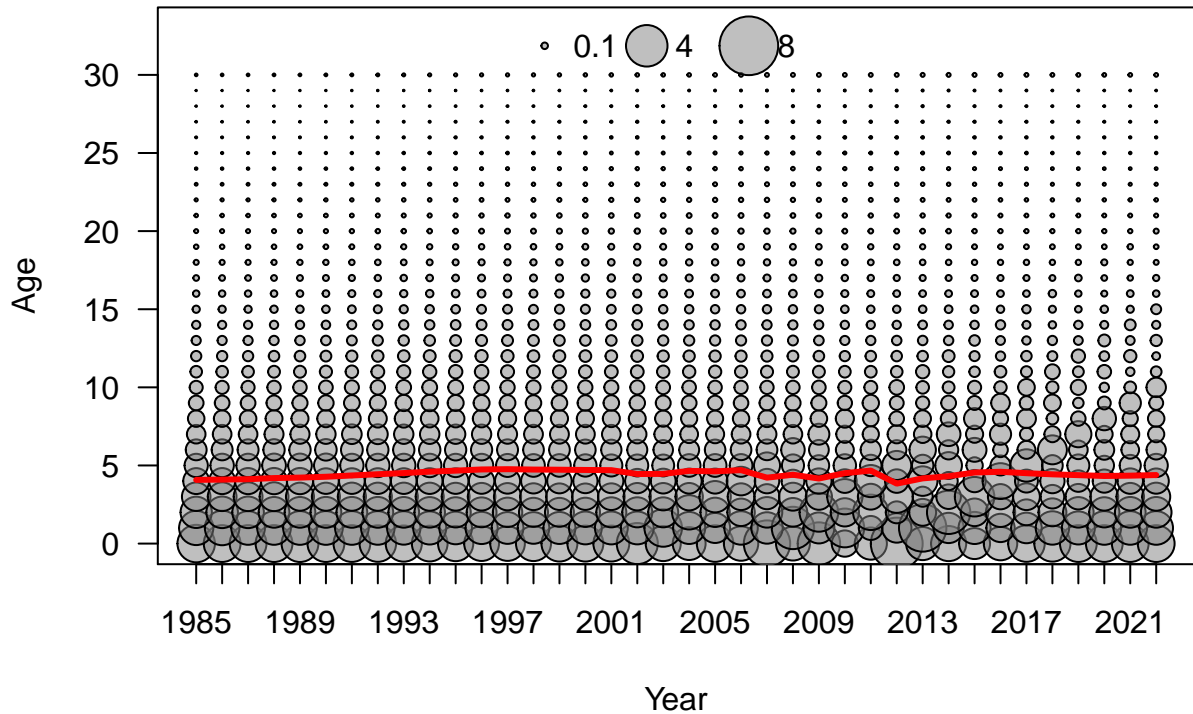


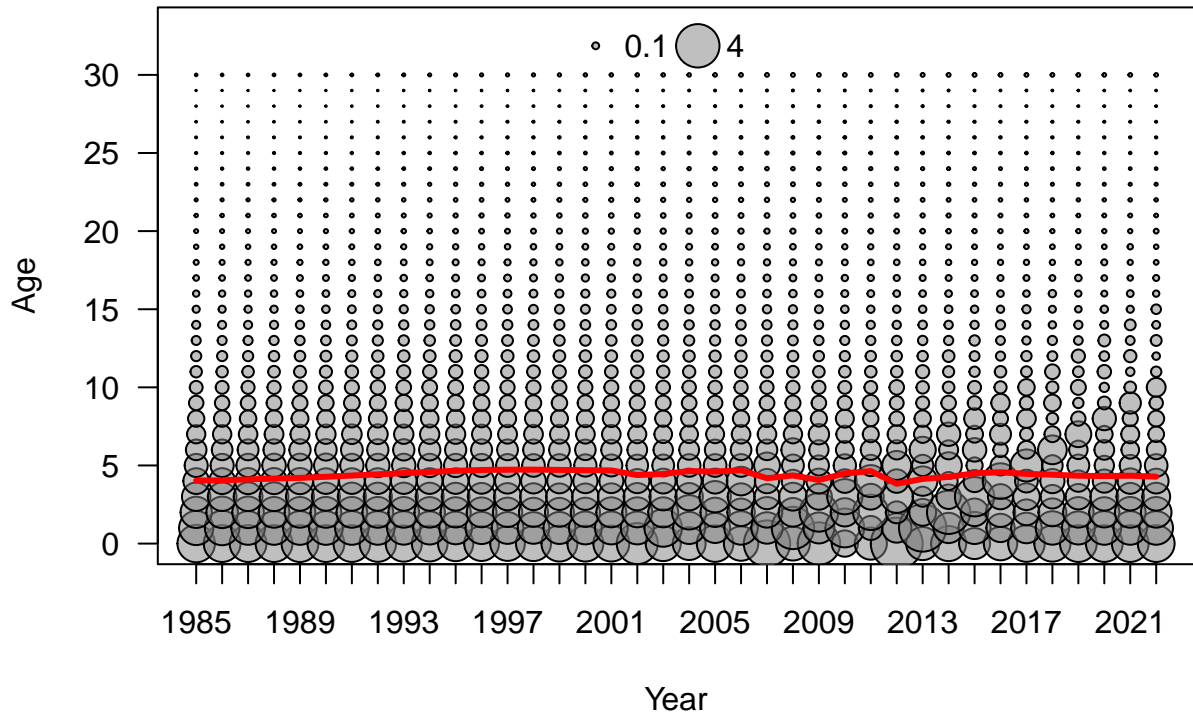


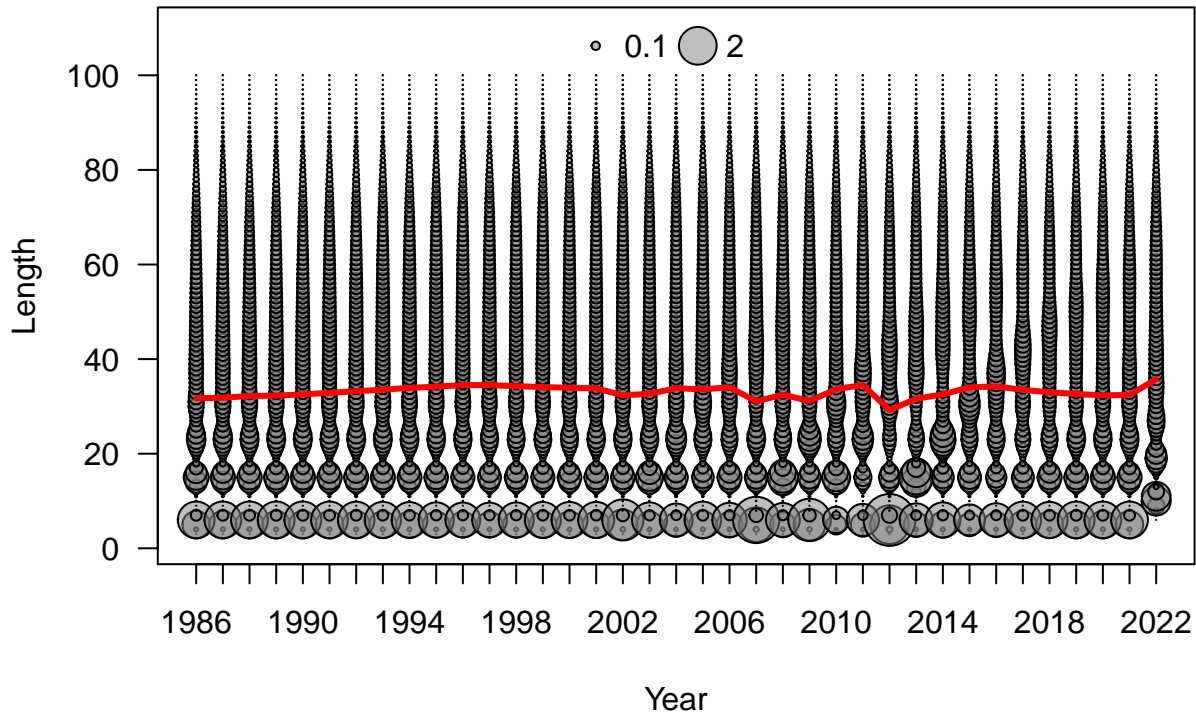


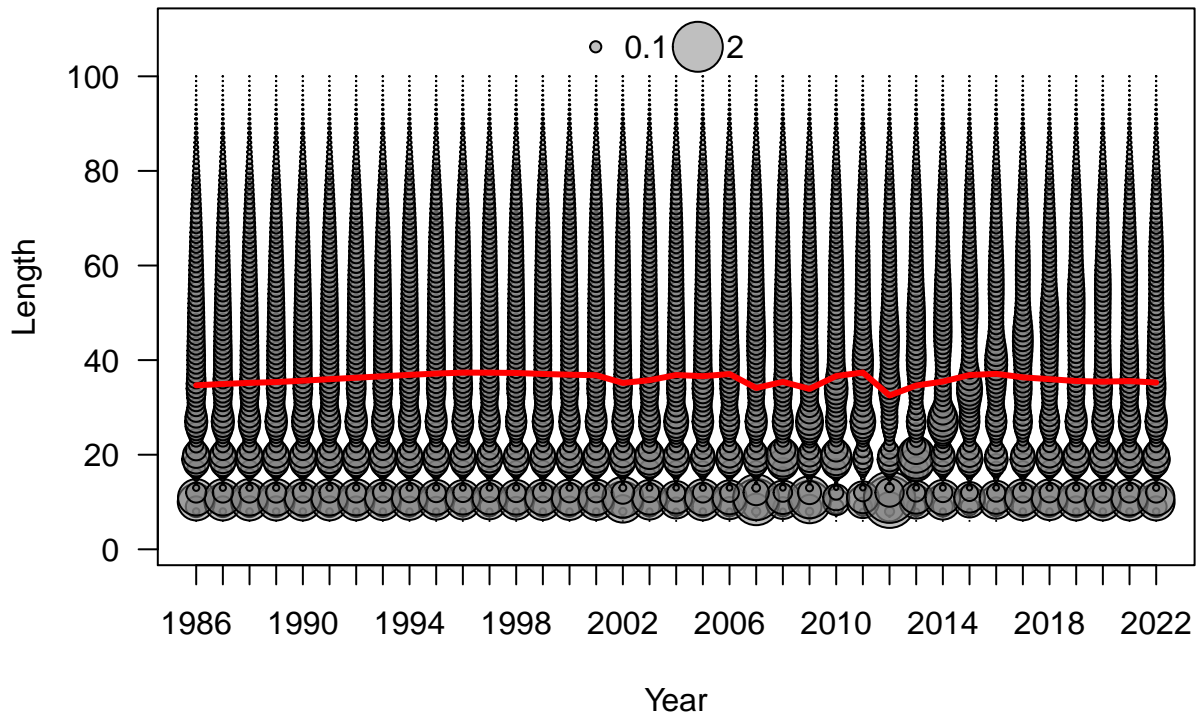


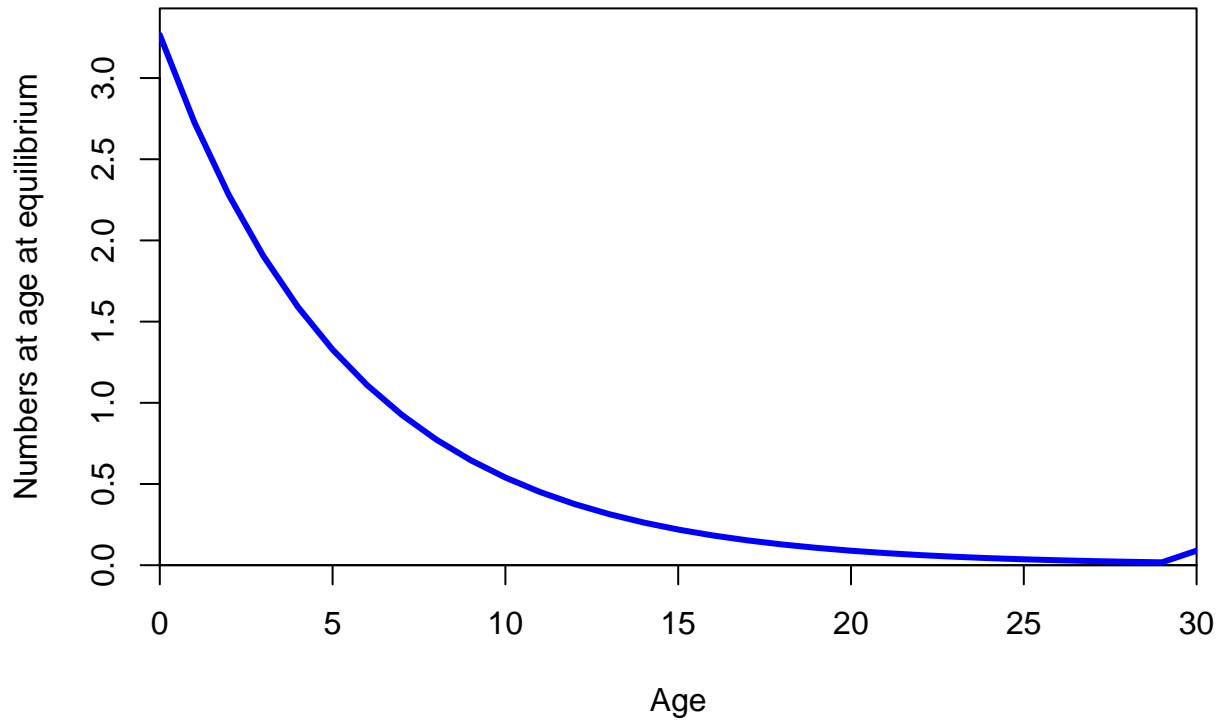






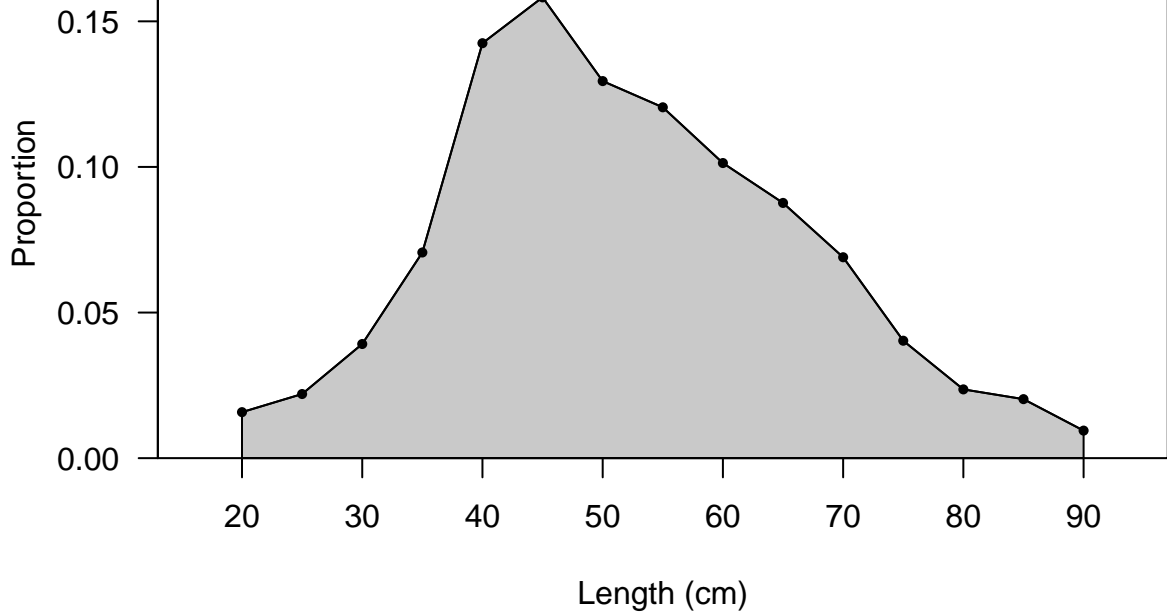






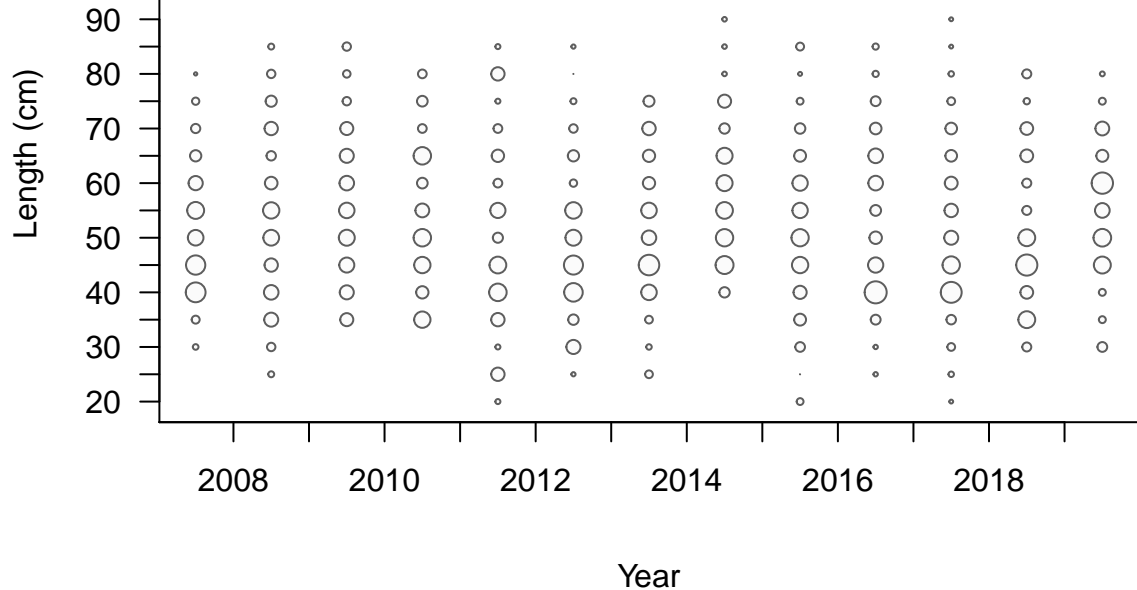
FISHERY

Sum of N adj.=983.4

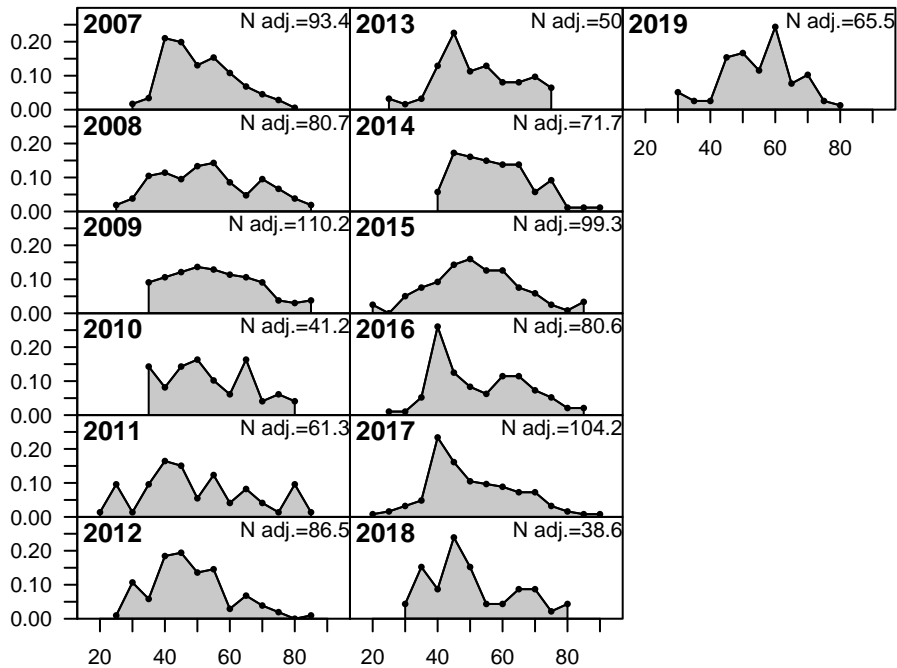


FISHERY

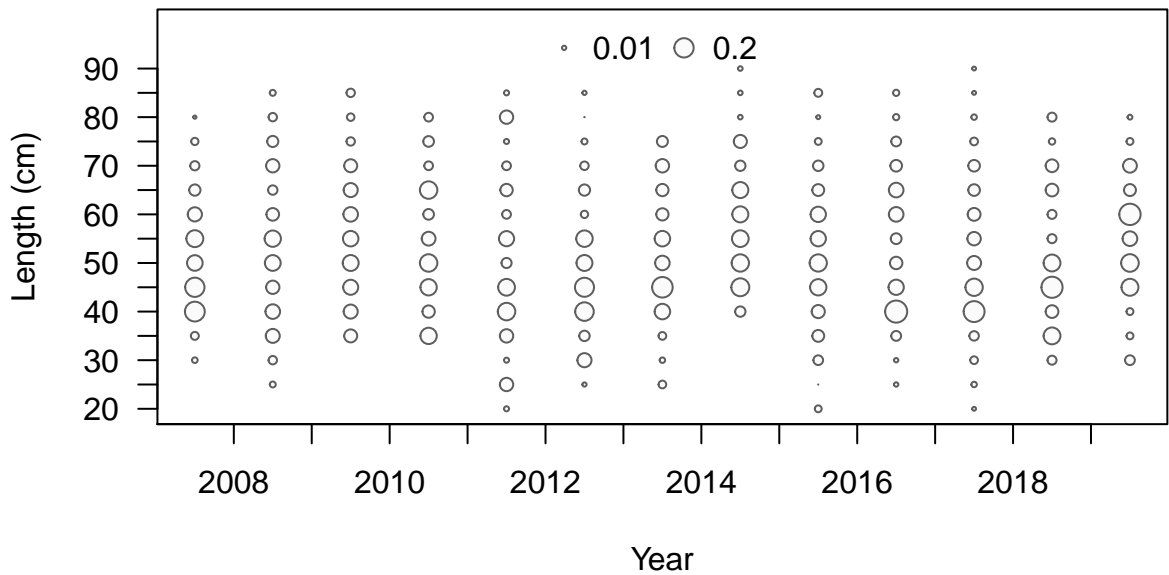
◦ 0.01 ○ 0.2



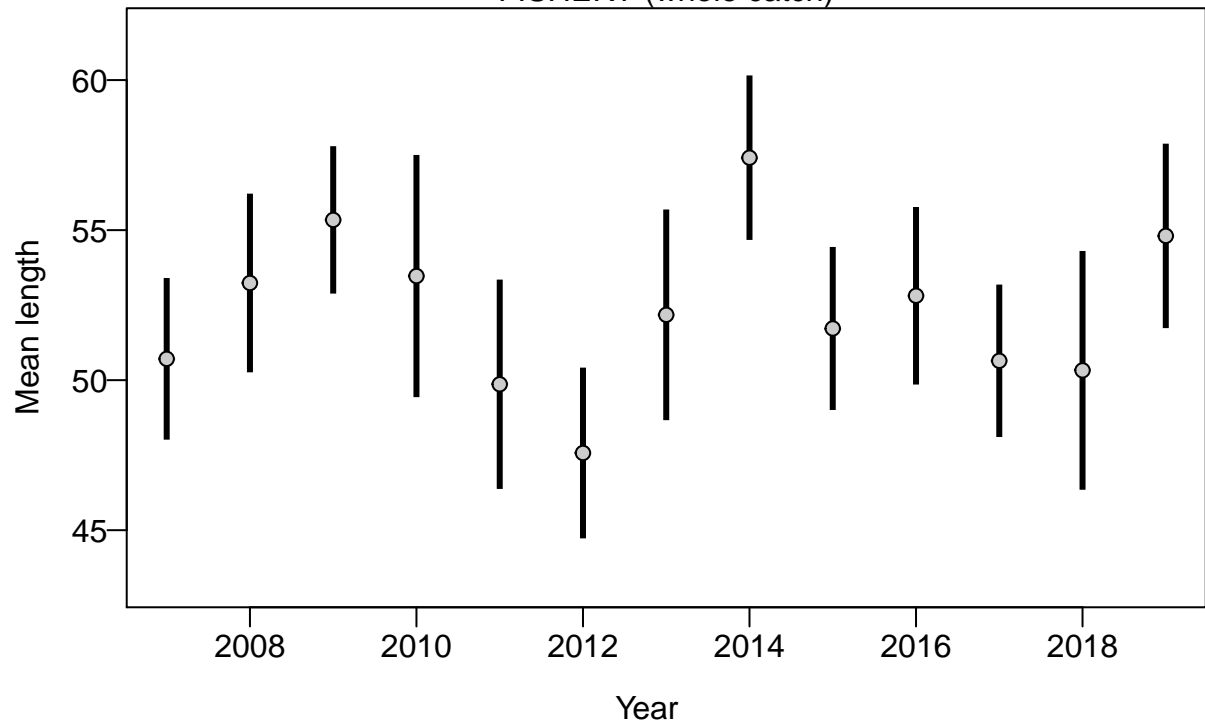
Proportion



Length (cm)

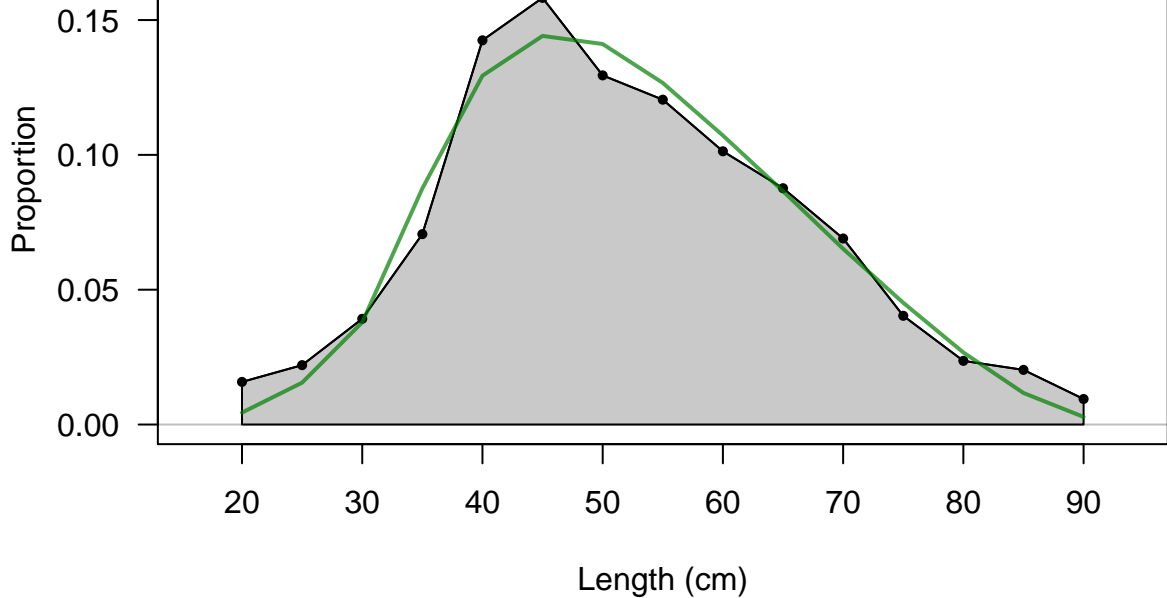


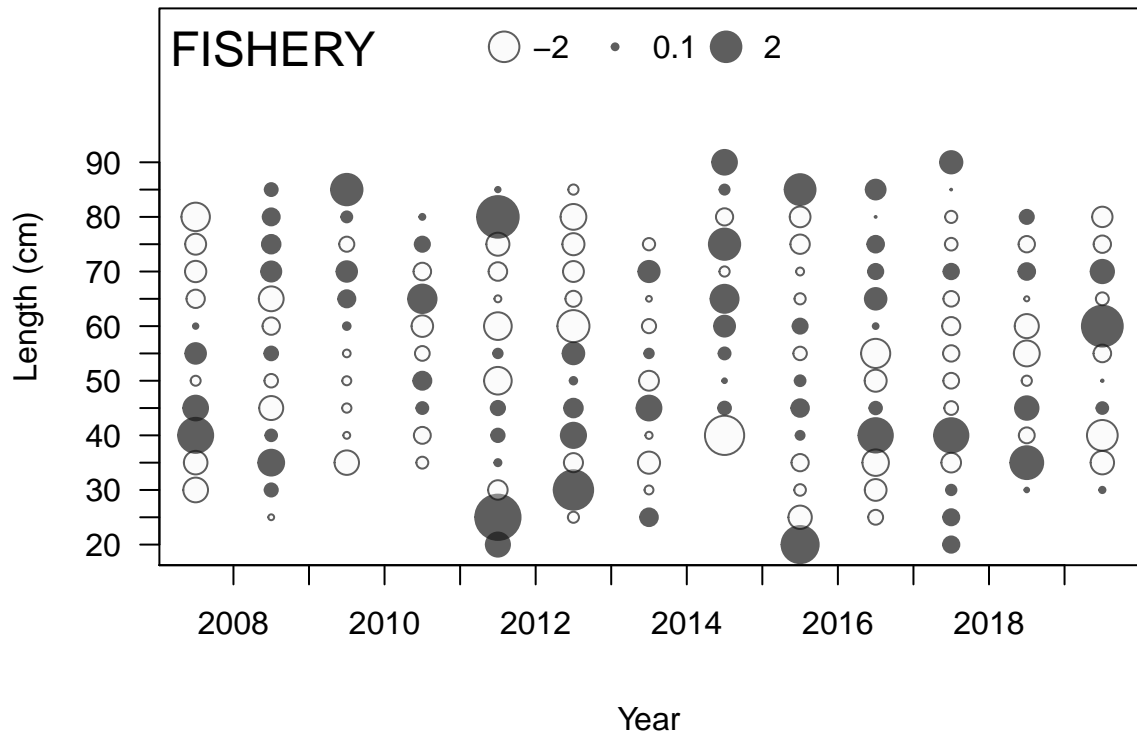
FISHERY (whole catch)



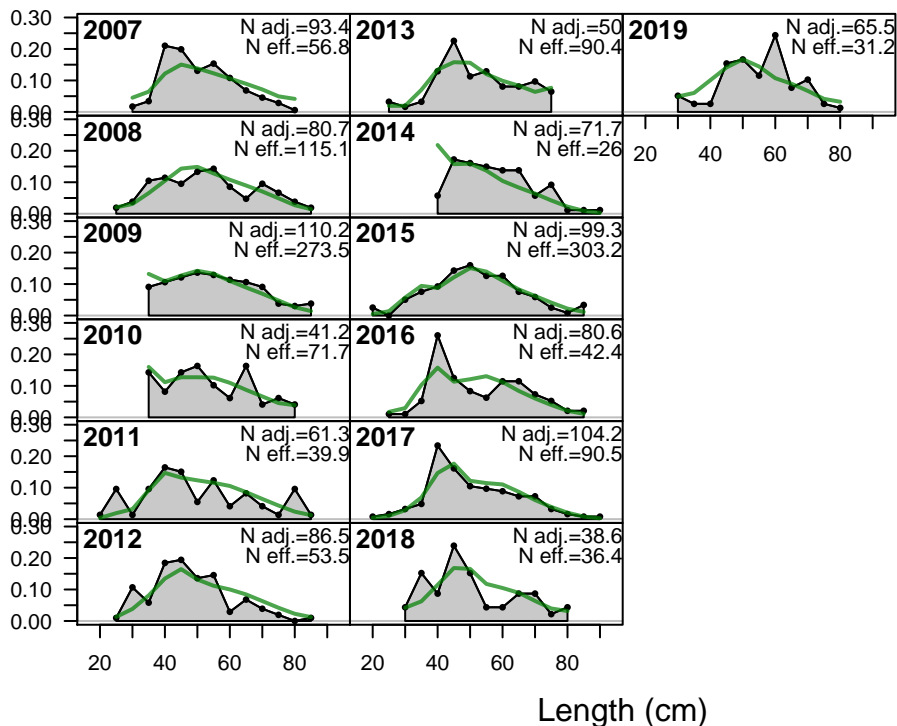
FISHERY

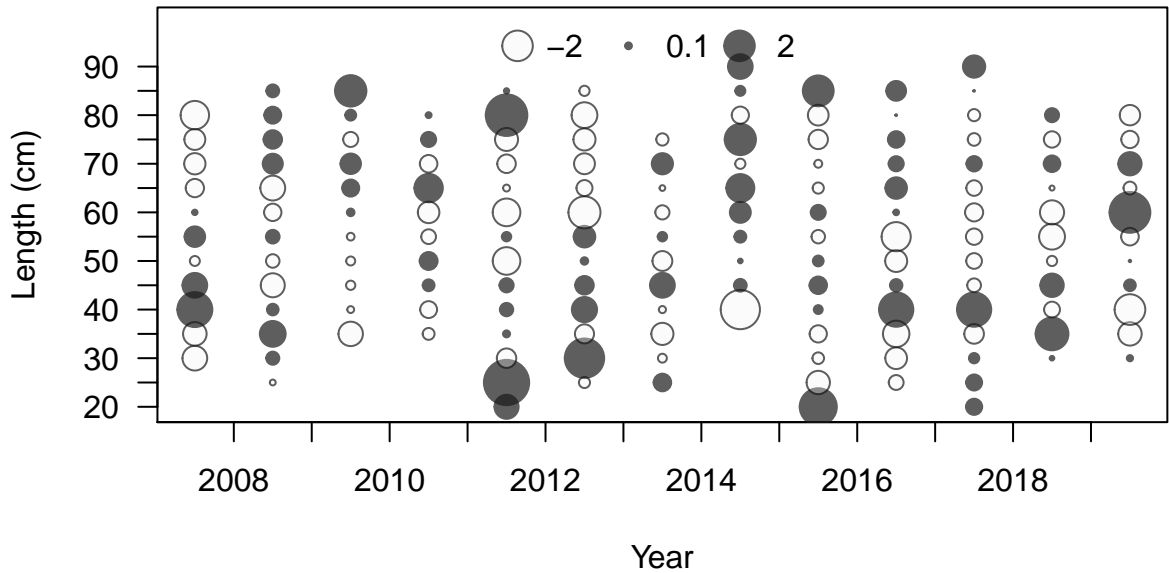
Sum of N adj.=983.4
Sum of N eff.=1230.6



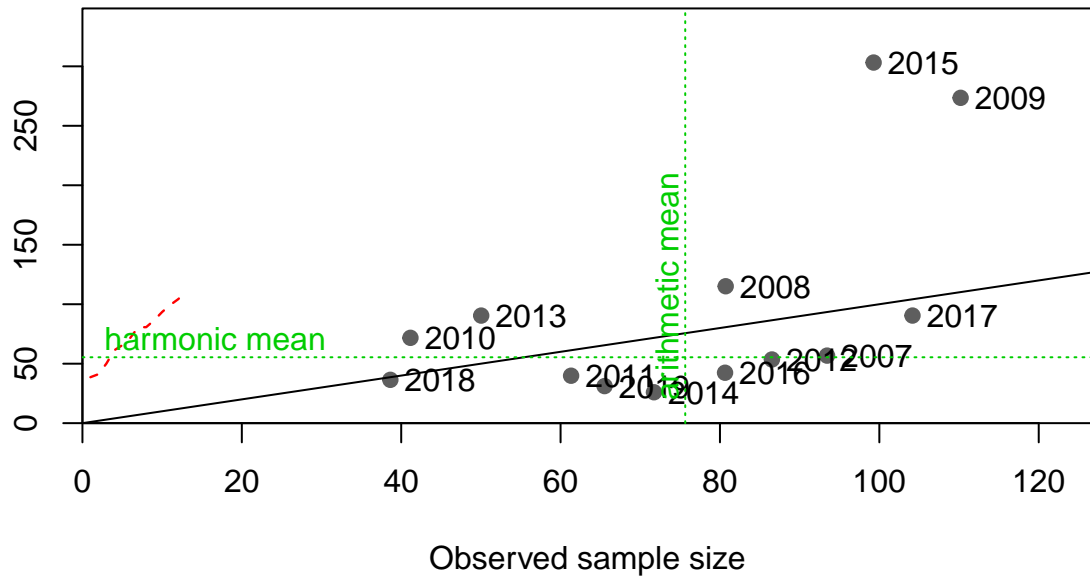


Proportion

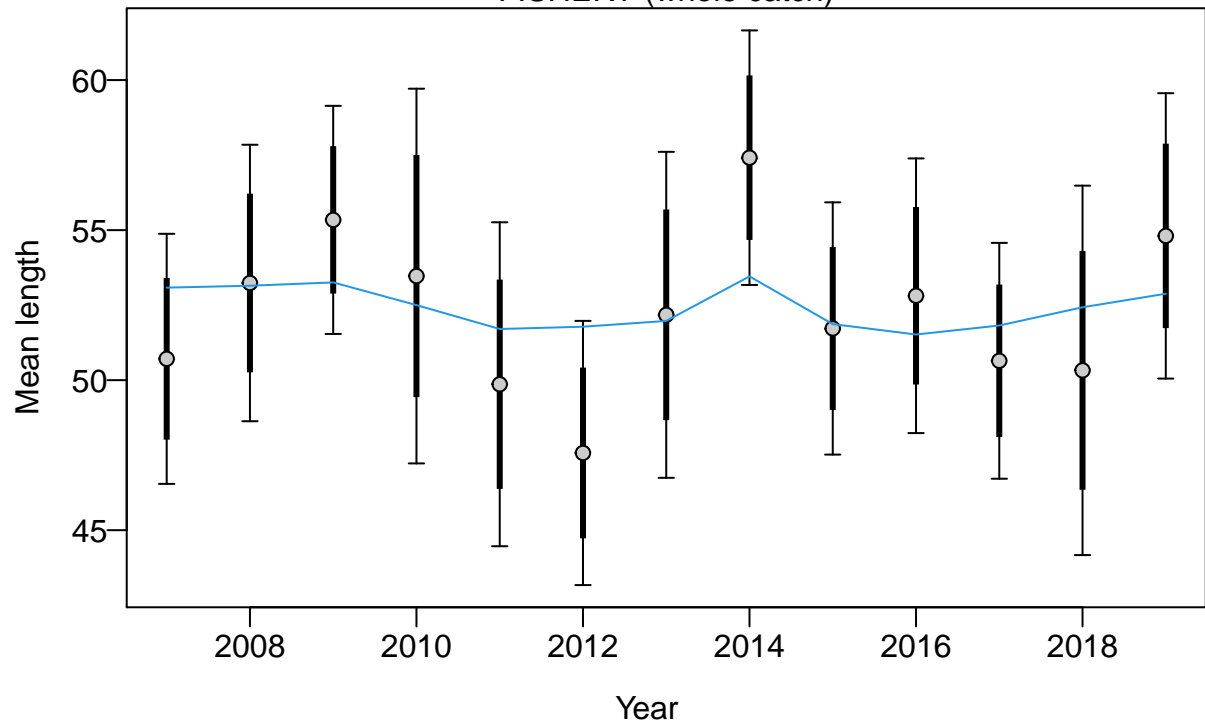


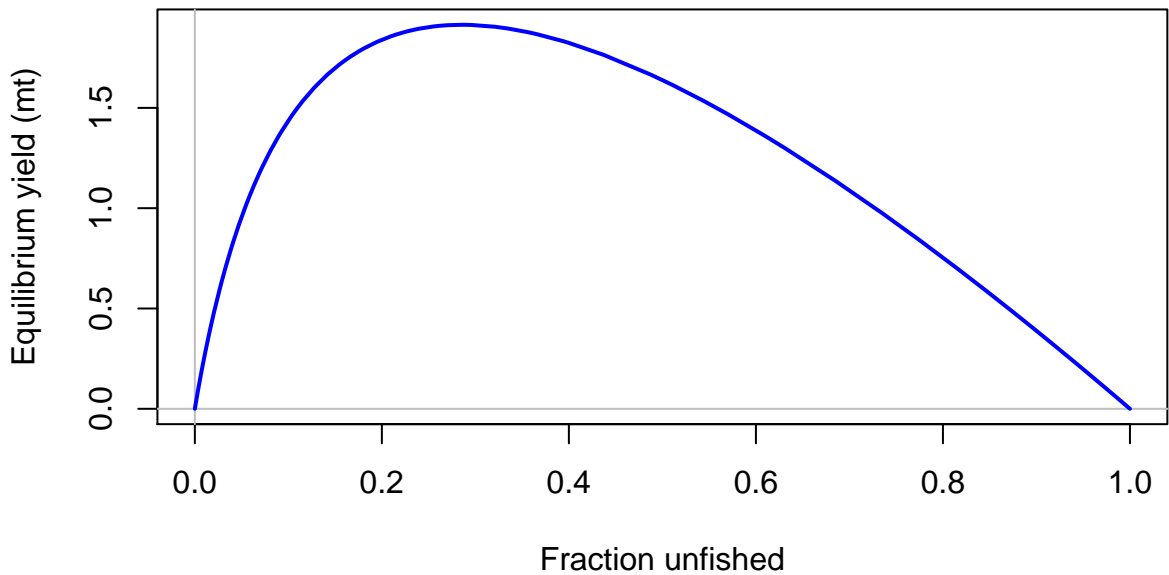


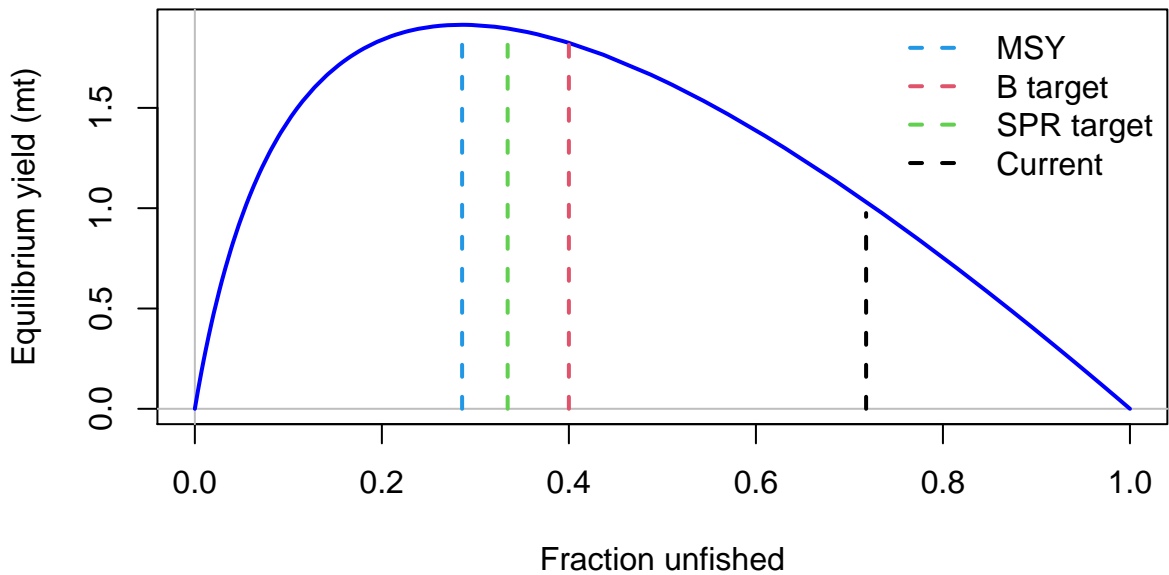
Effective sample size

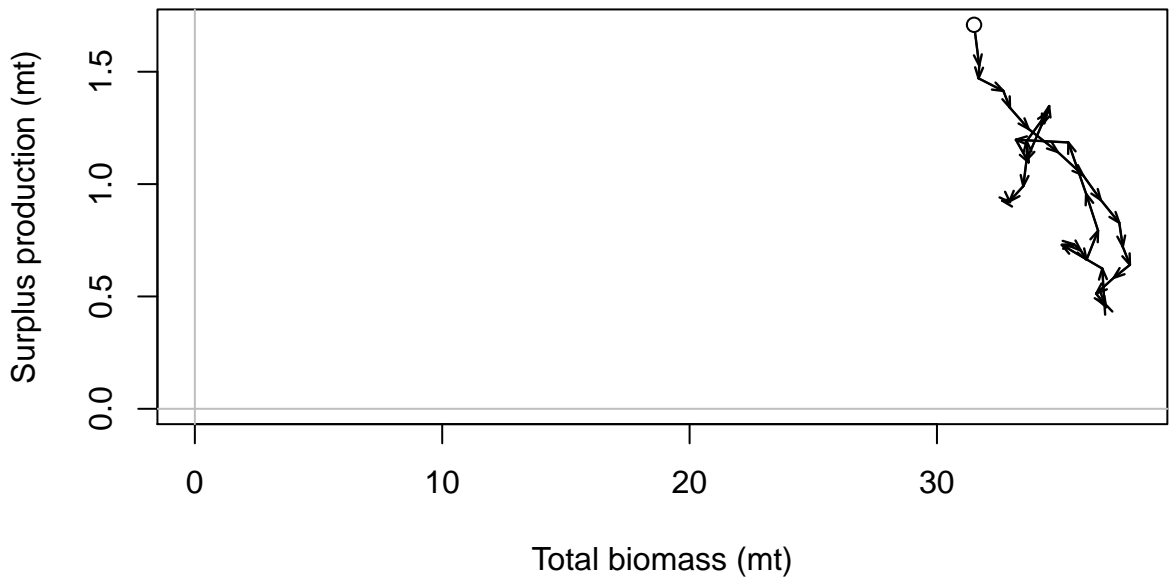


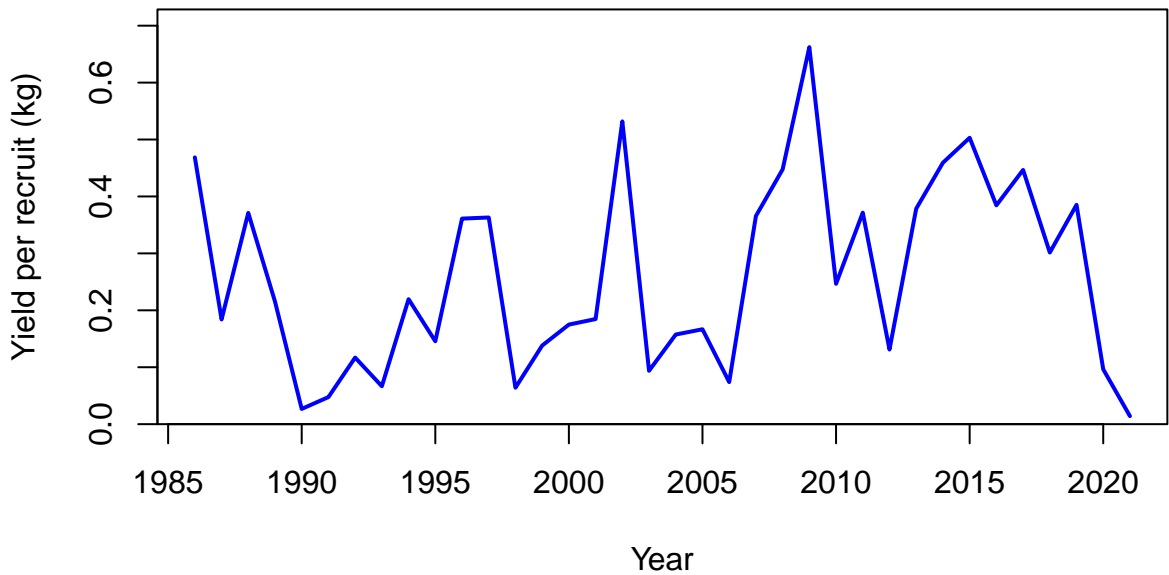
FISHERY (whole catch)

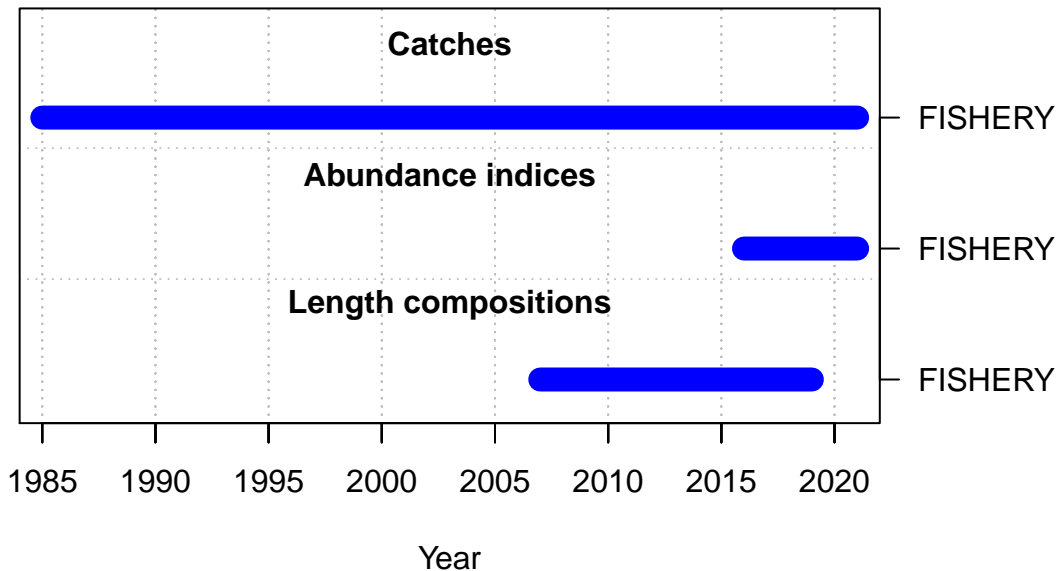


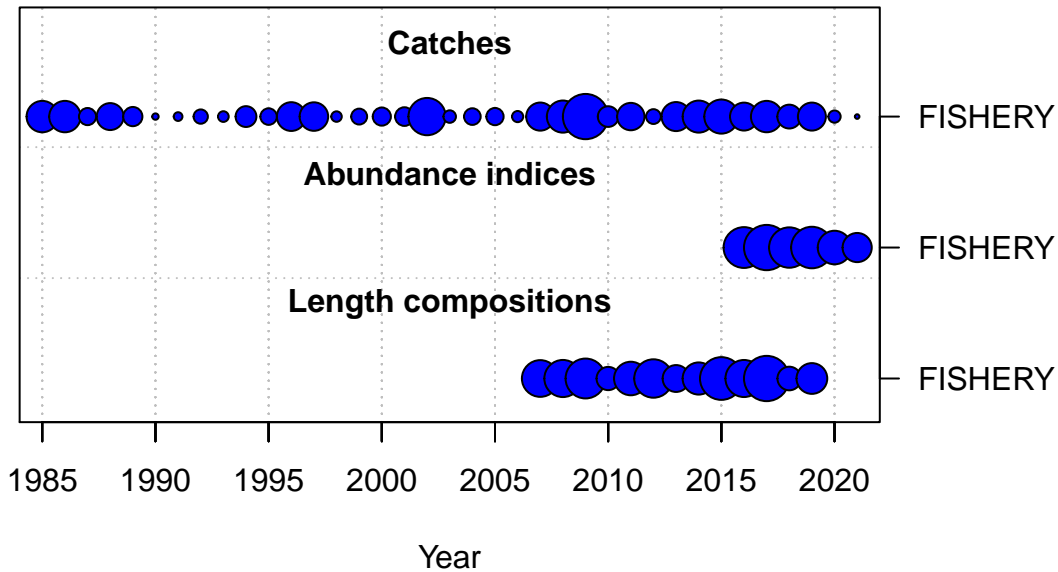








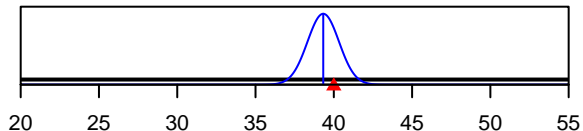




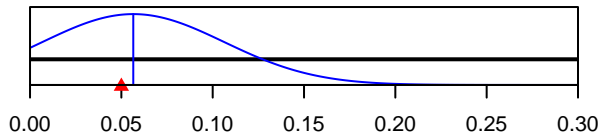
SR_LN(R0)



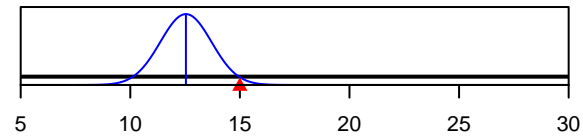
Size_inflection_FISHERY(1)



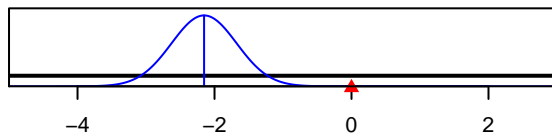
InitF_seas_1flt_1FISHERY



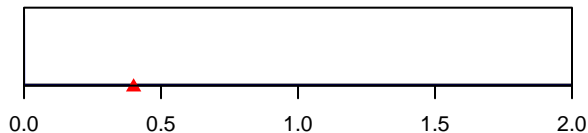
Size_95%width_FISHERY(1)



LnQ_base_FISHERY(1)



Q_extraSD_FISHERY(1)



Parameter value