

Plots created using the 'r4ss' package in R

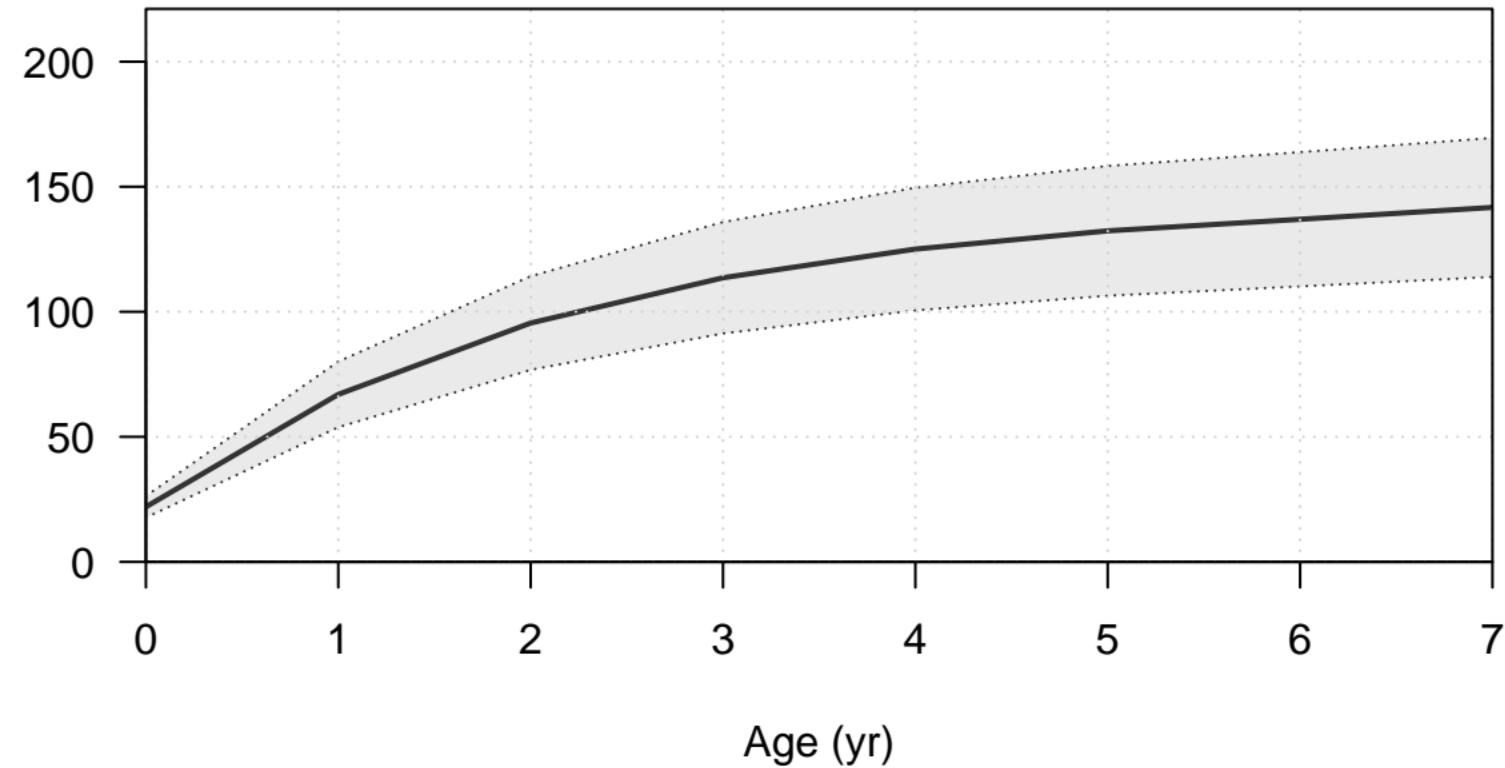
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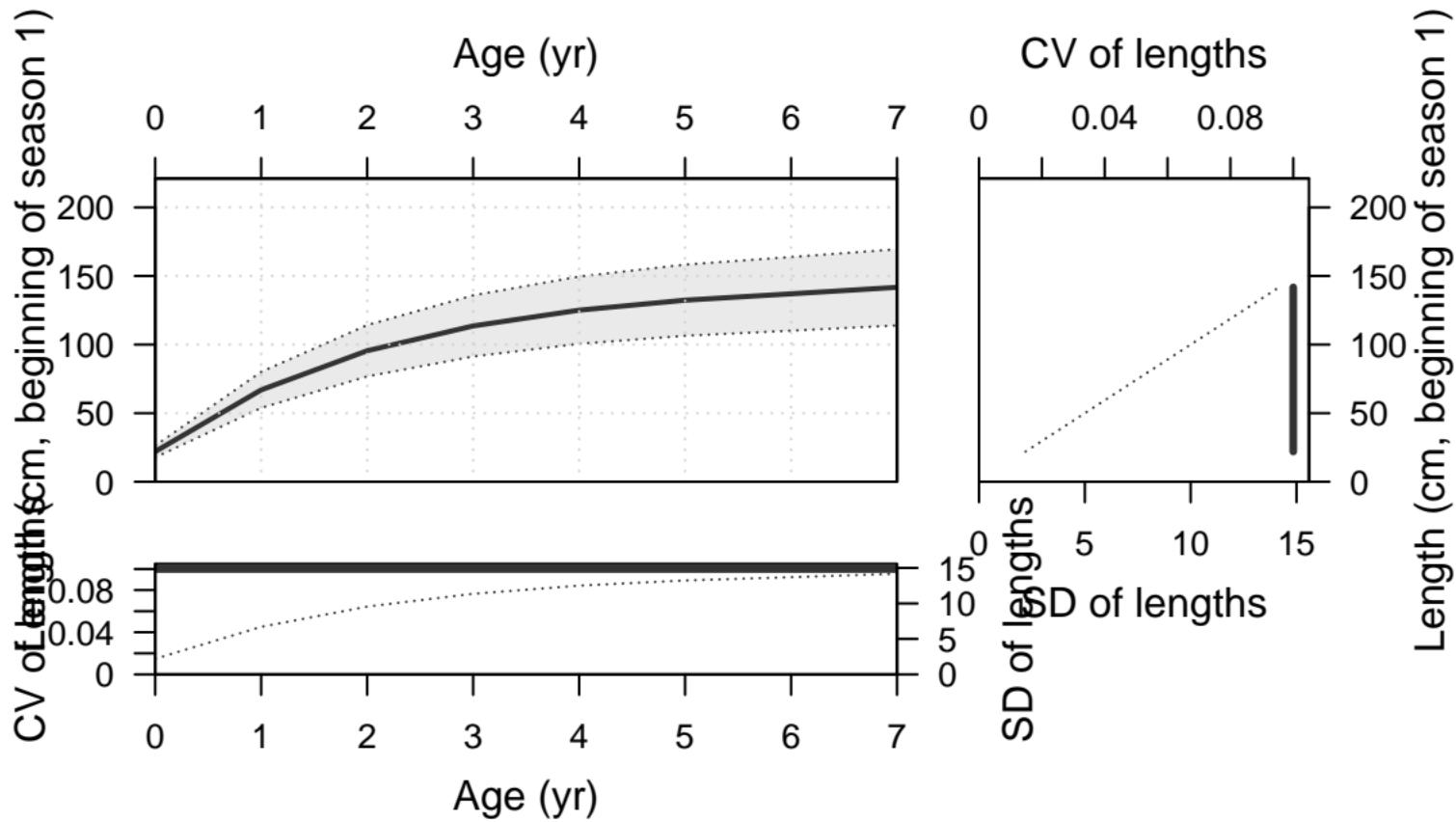
StartTime: Wed Dec 07 14:48:57 2022

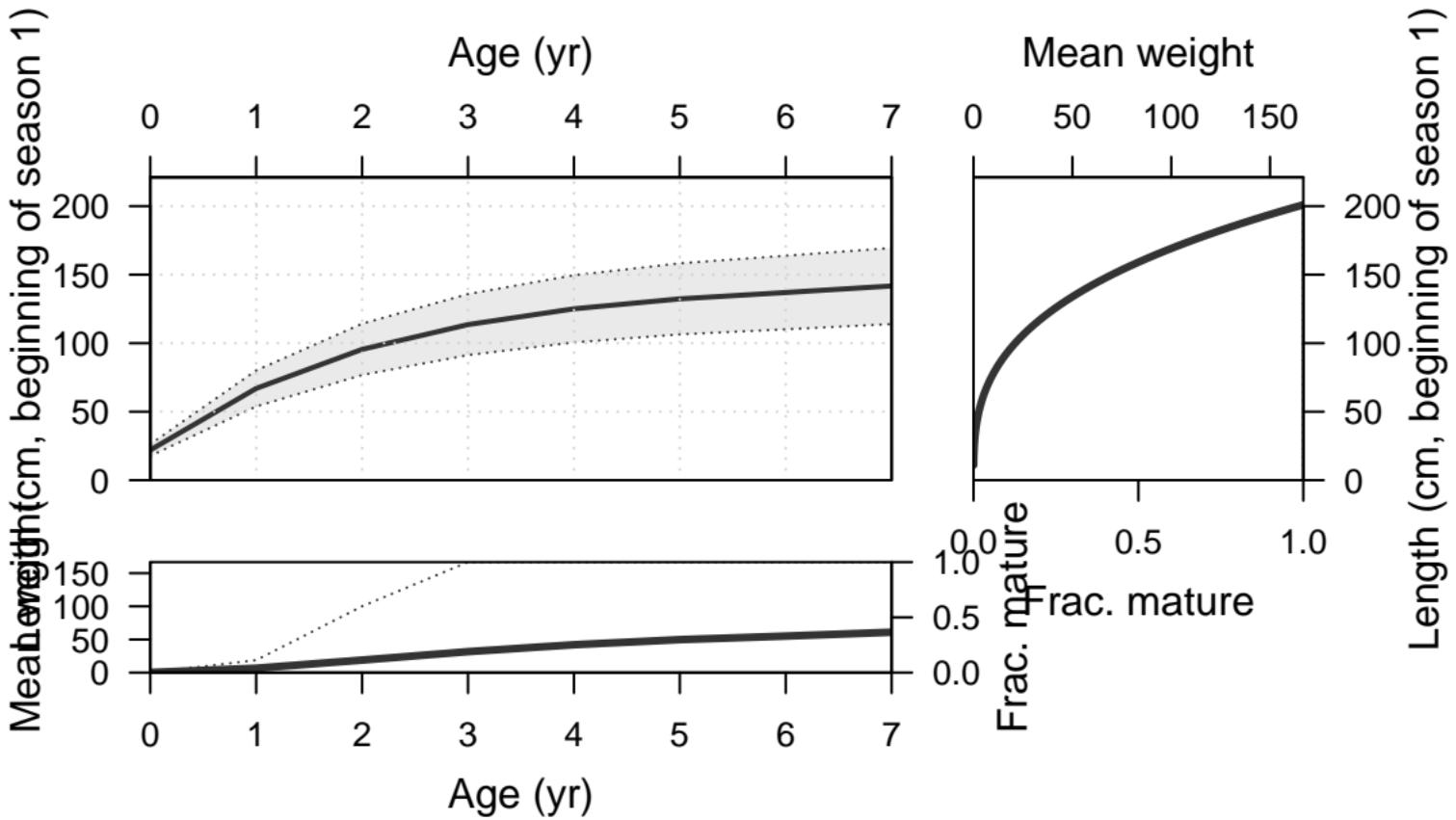
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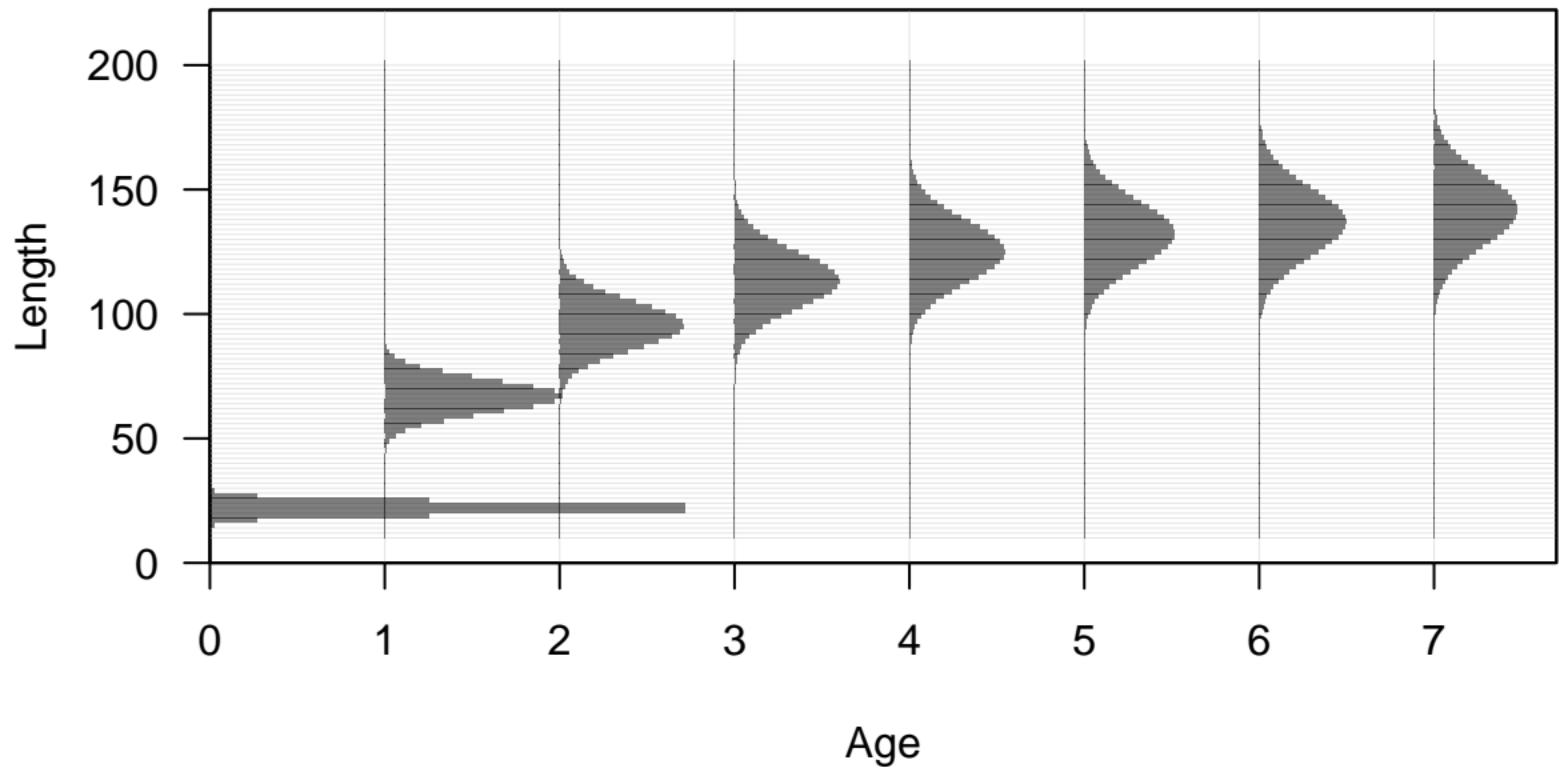
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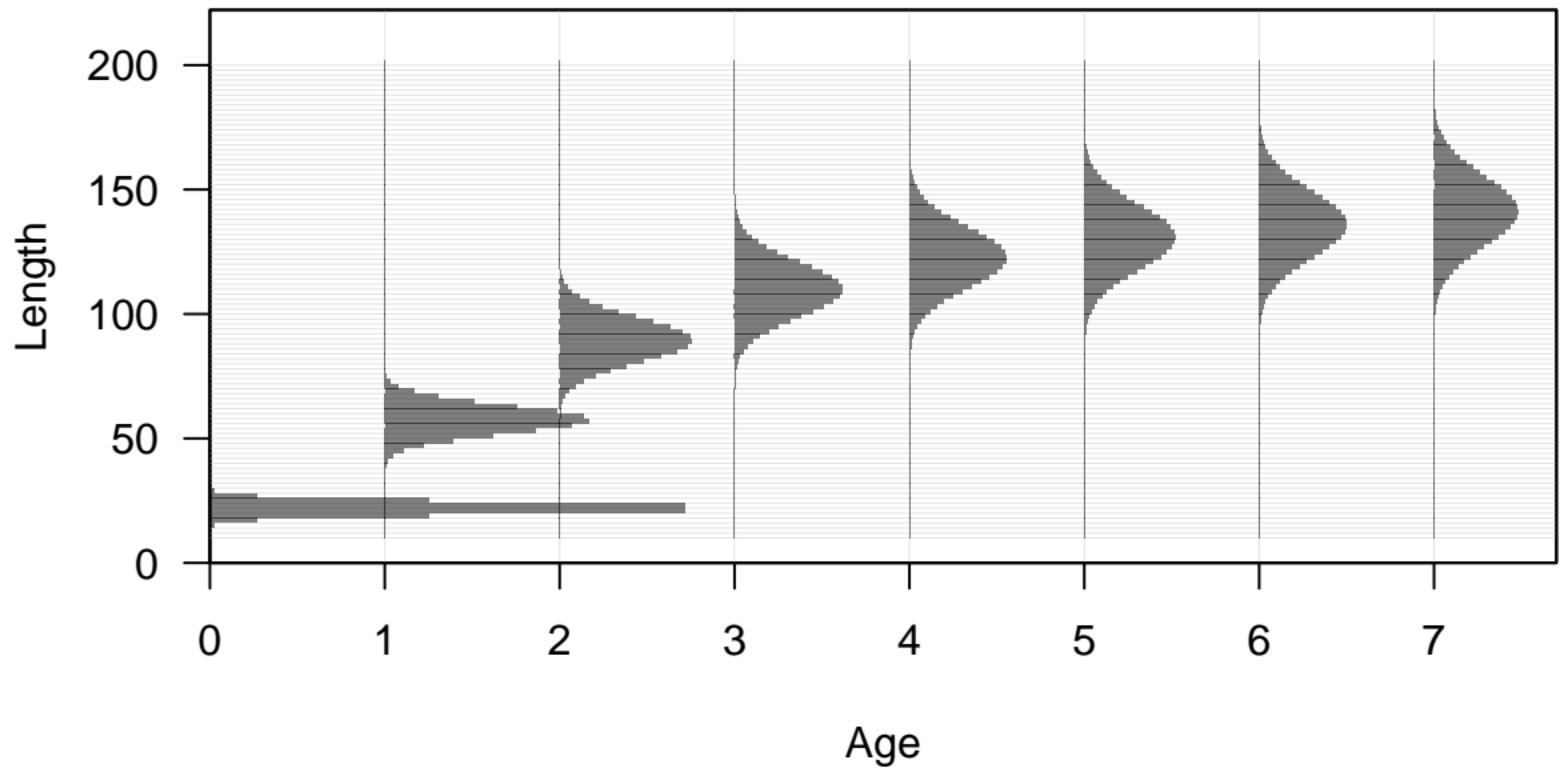
Length (cm, beginning of season 1)

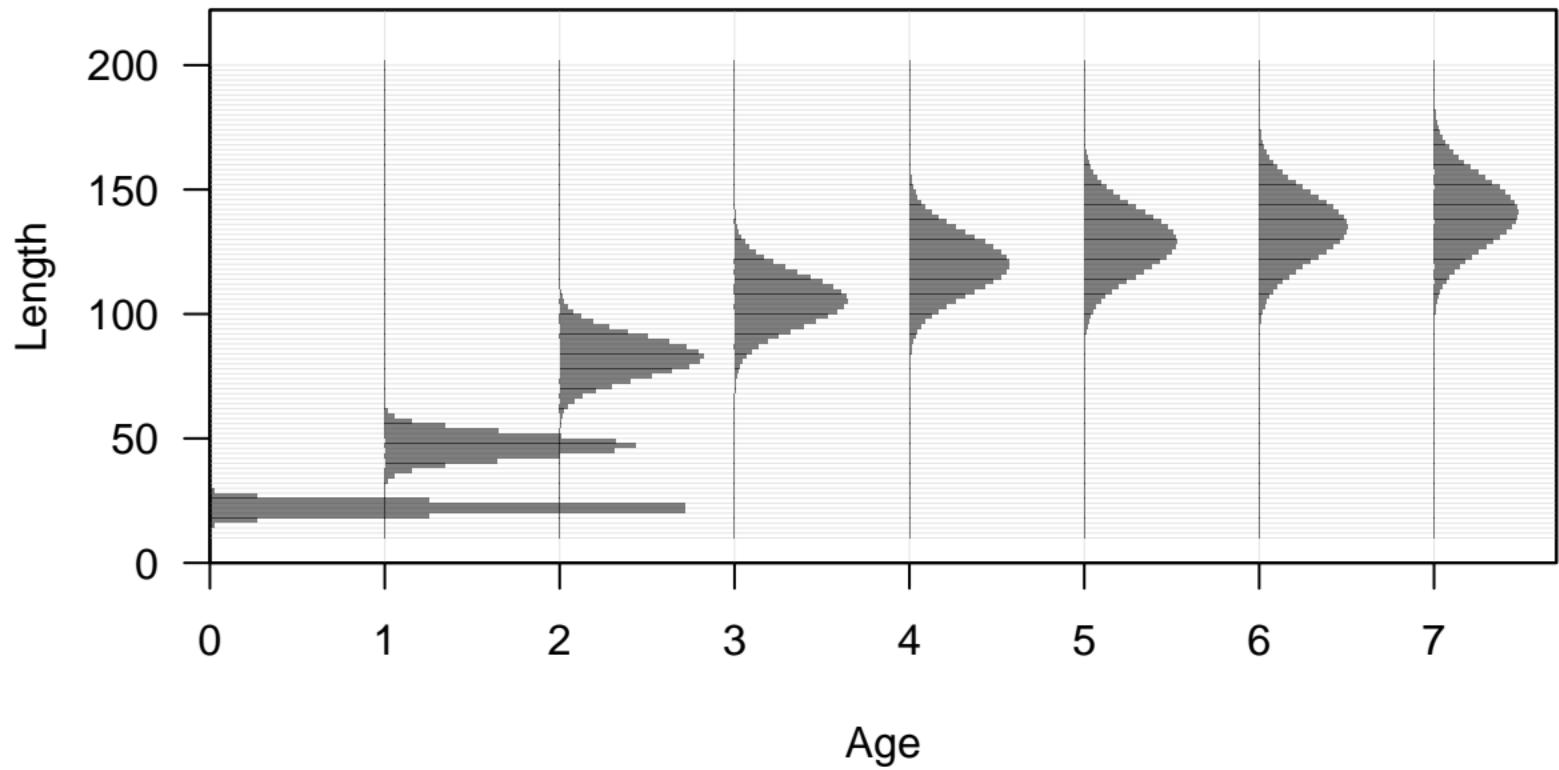


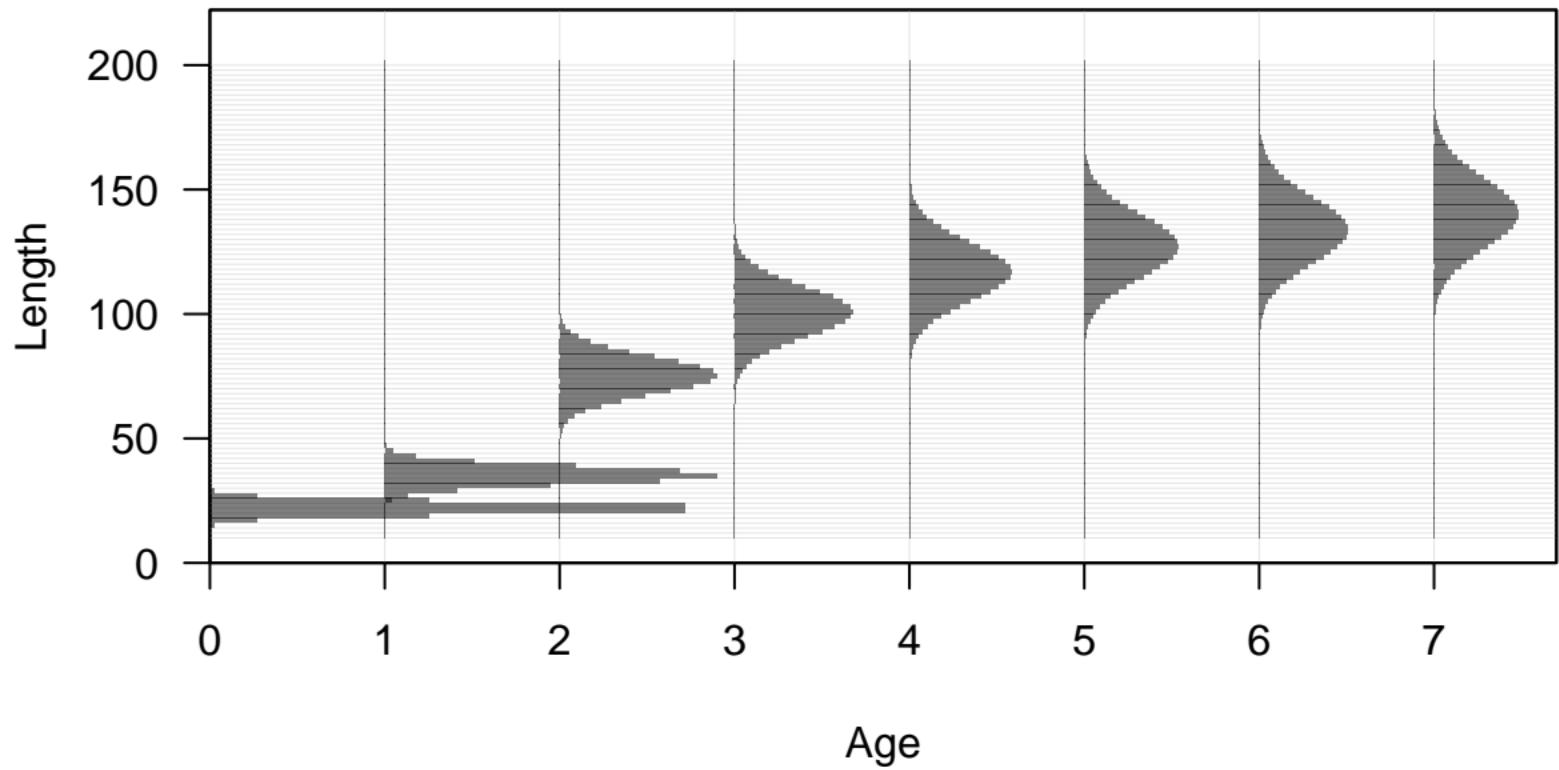


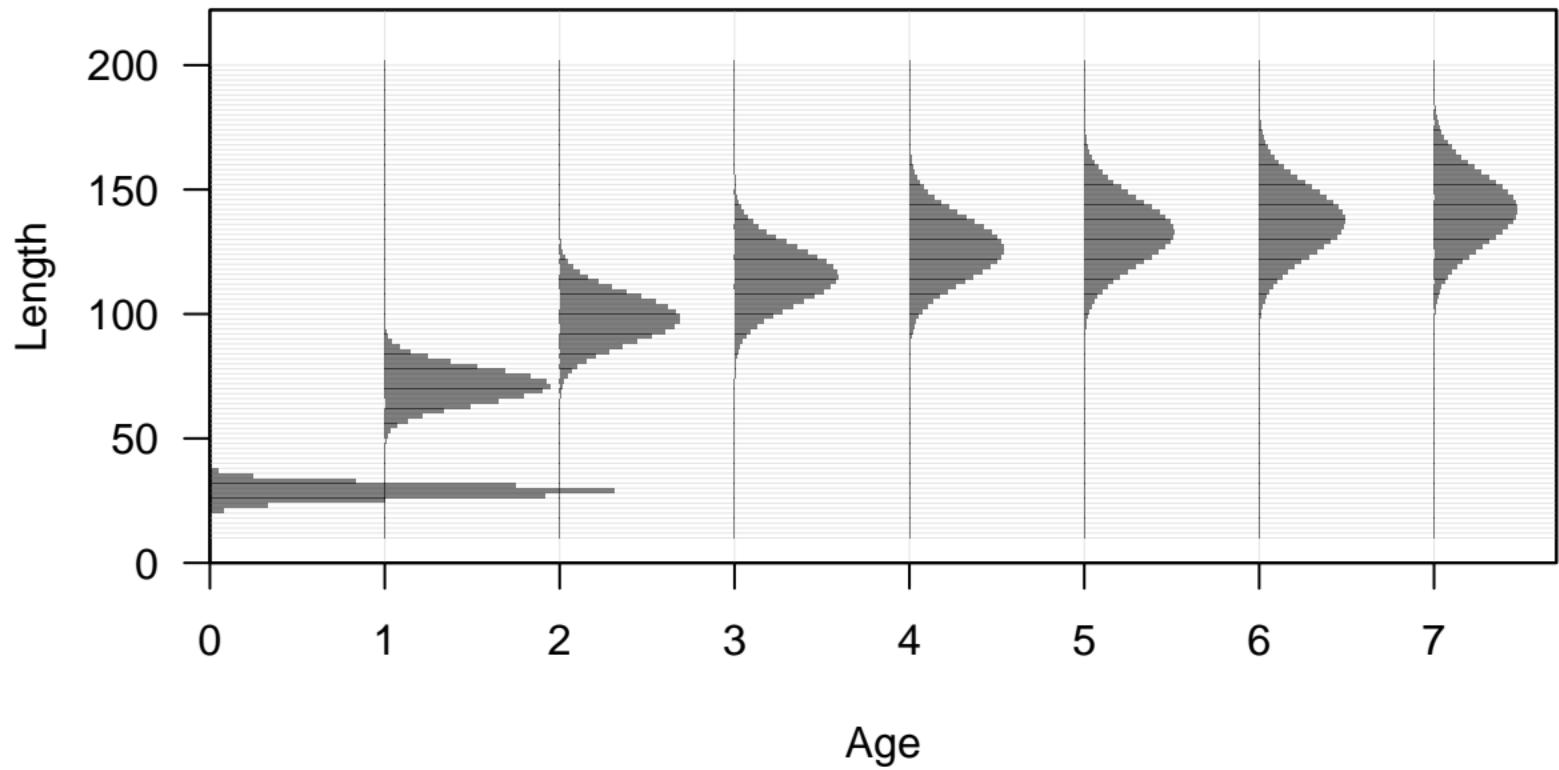


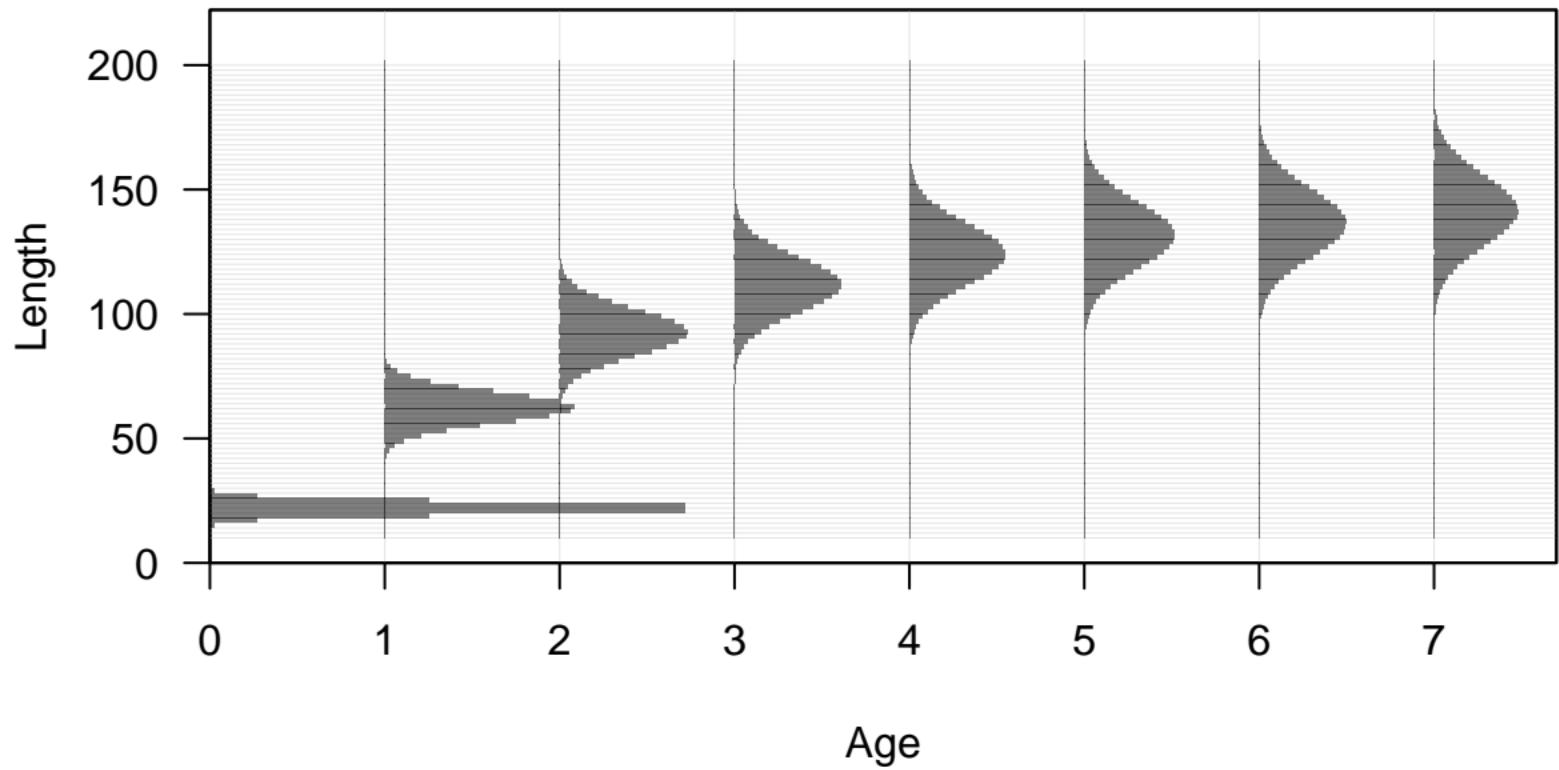


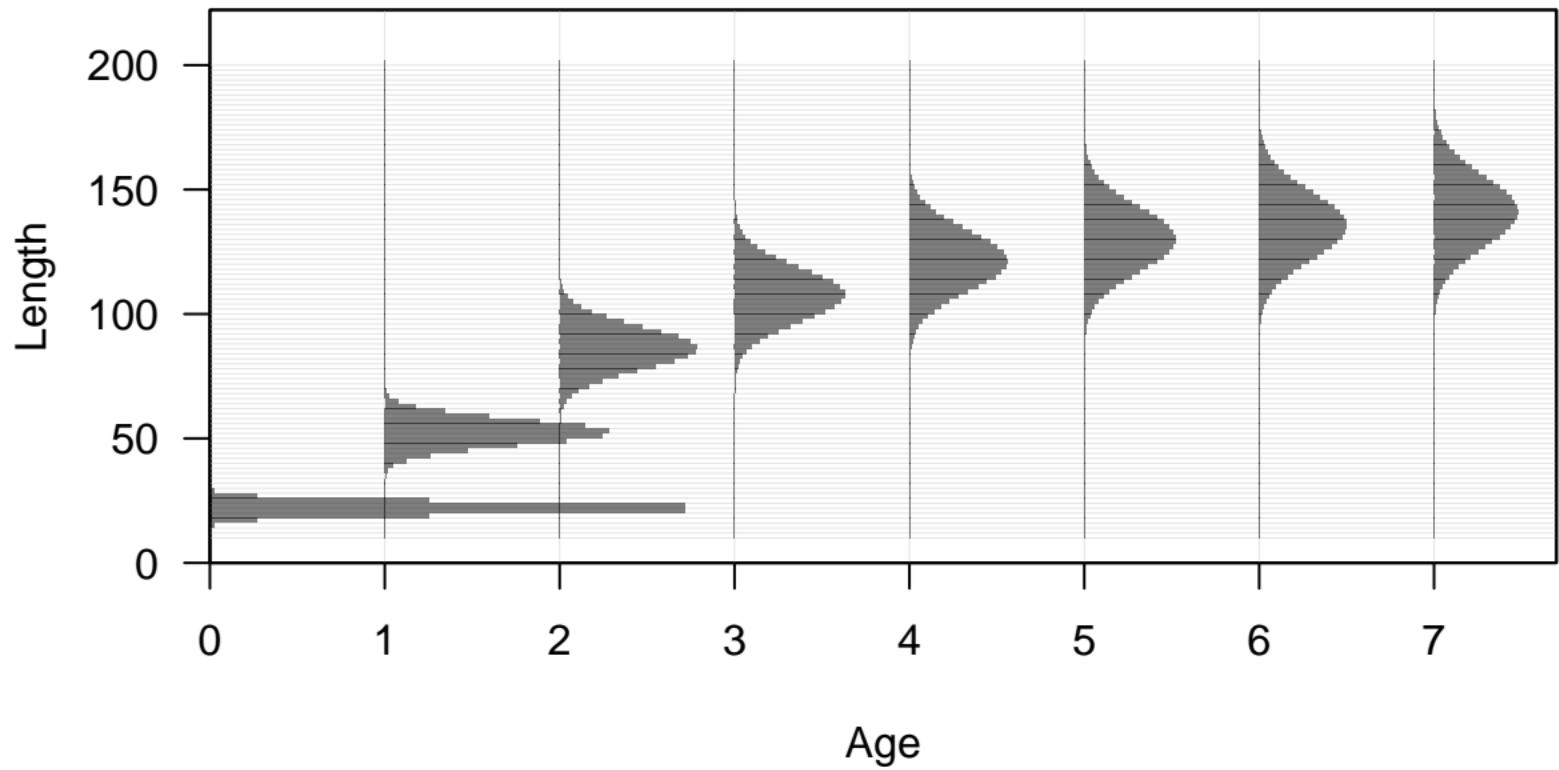


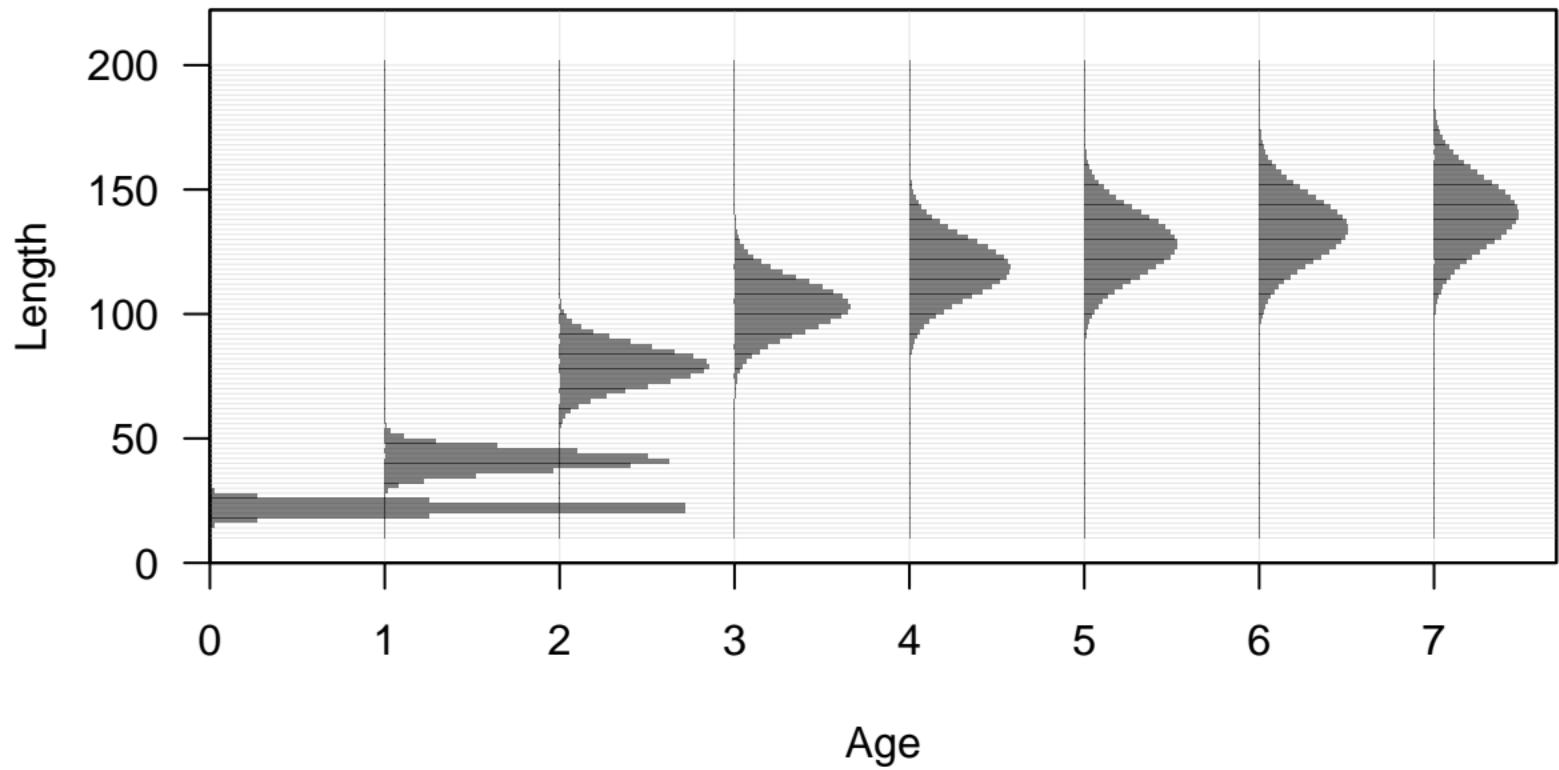


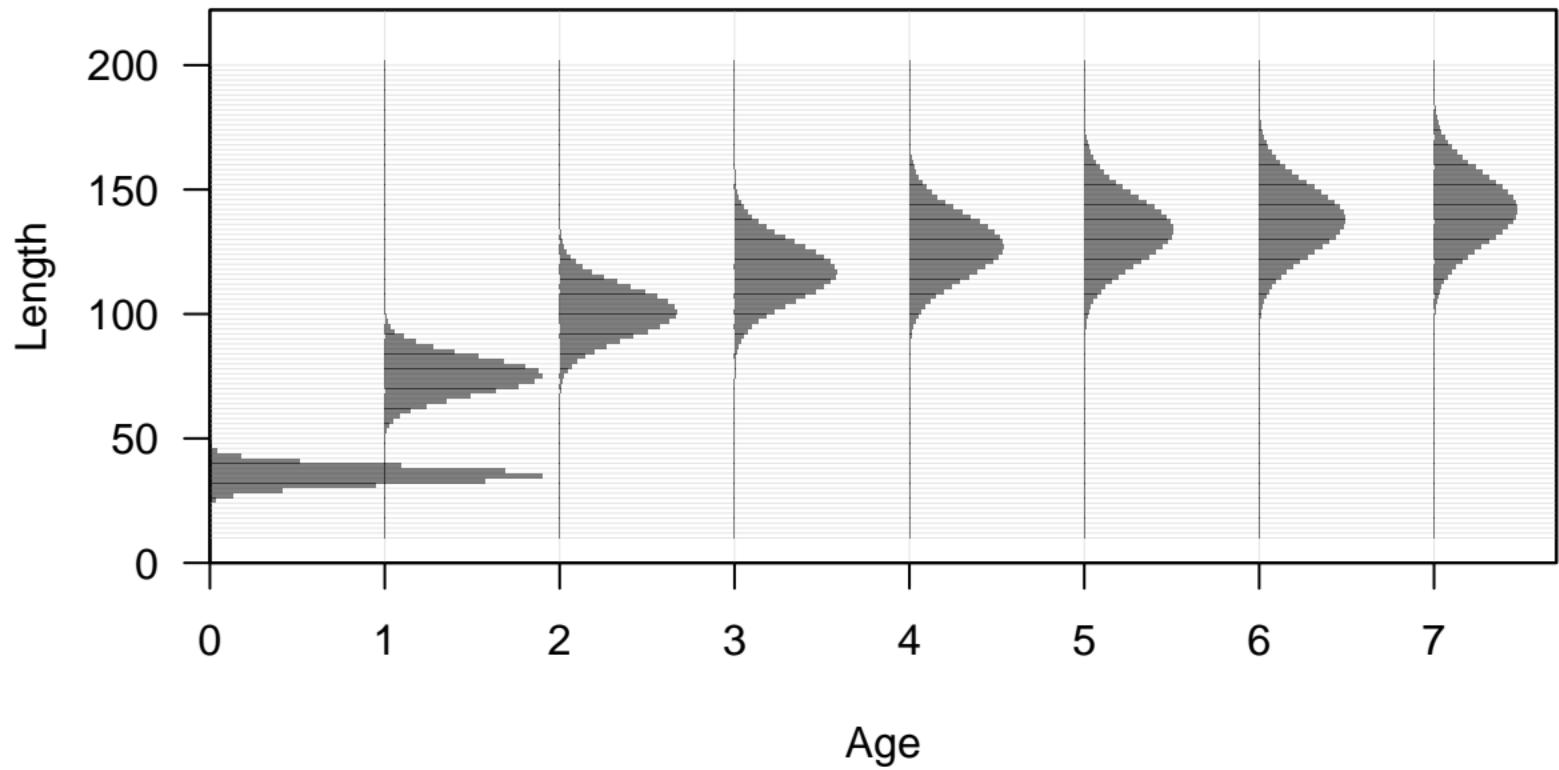


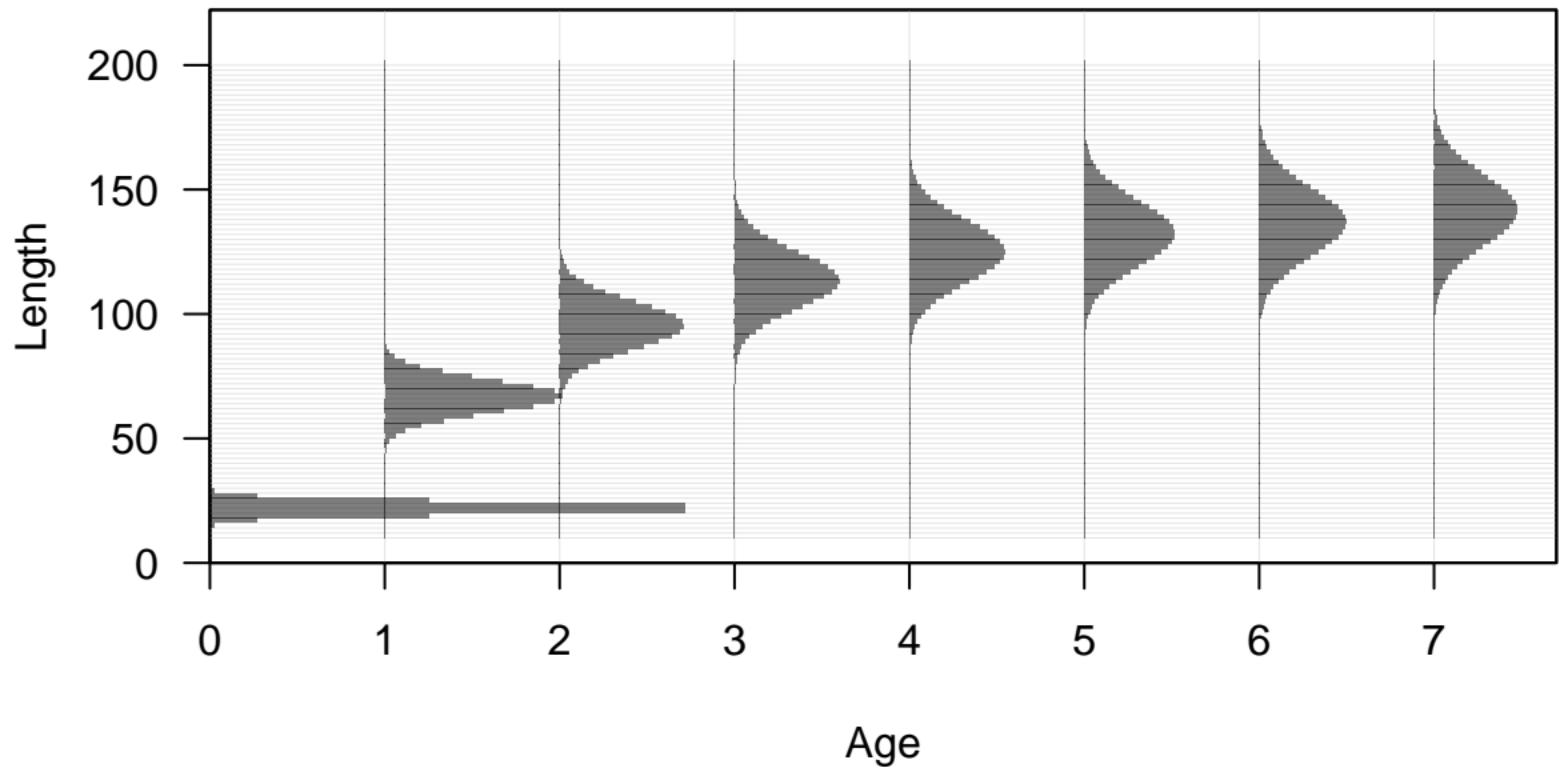


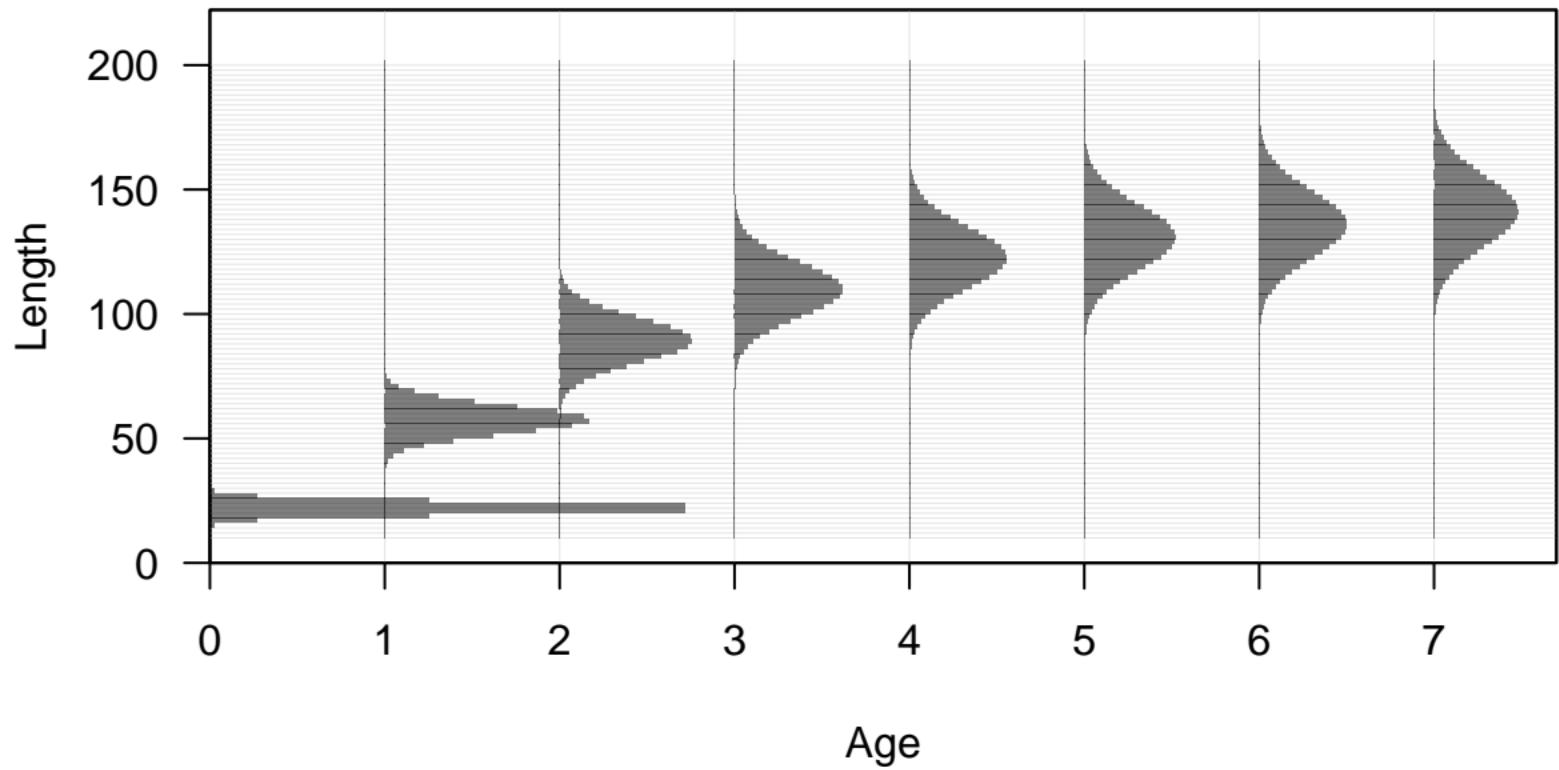


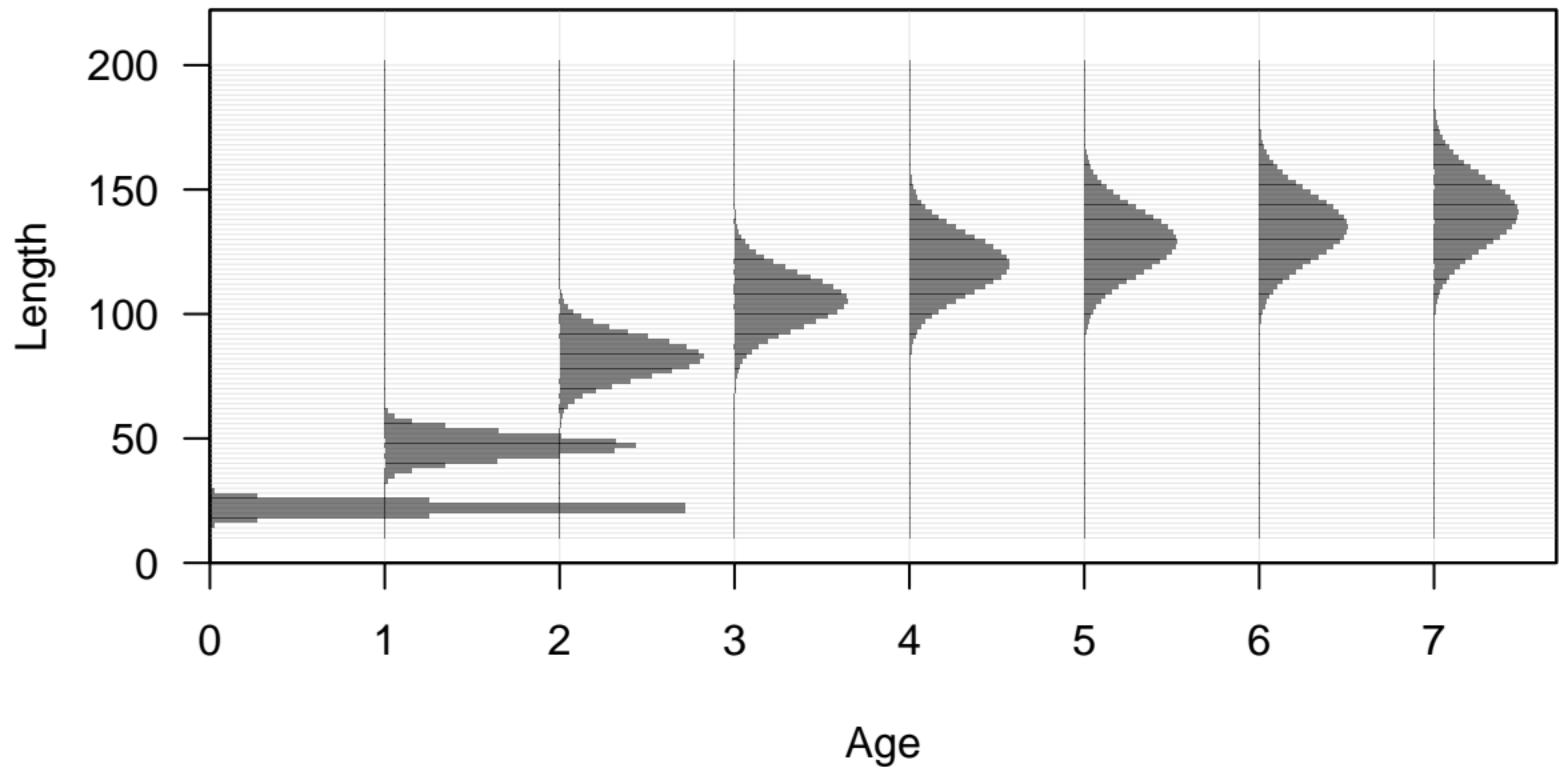


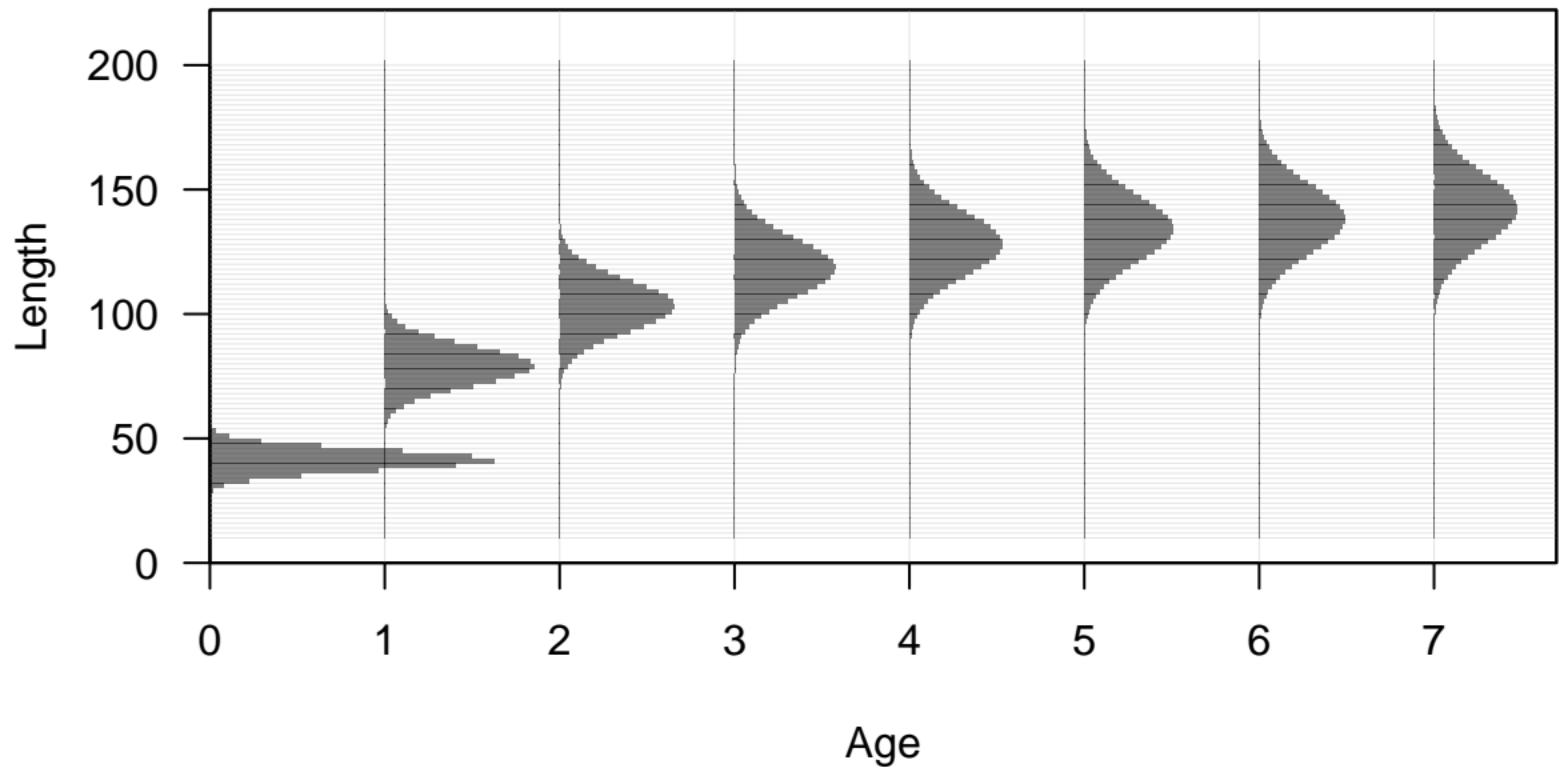


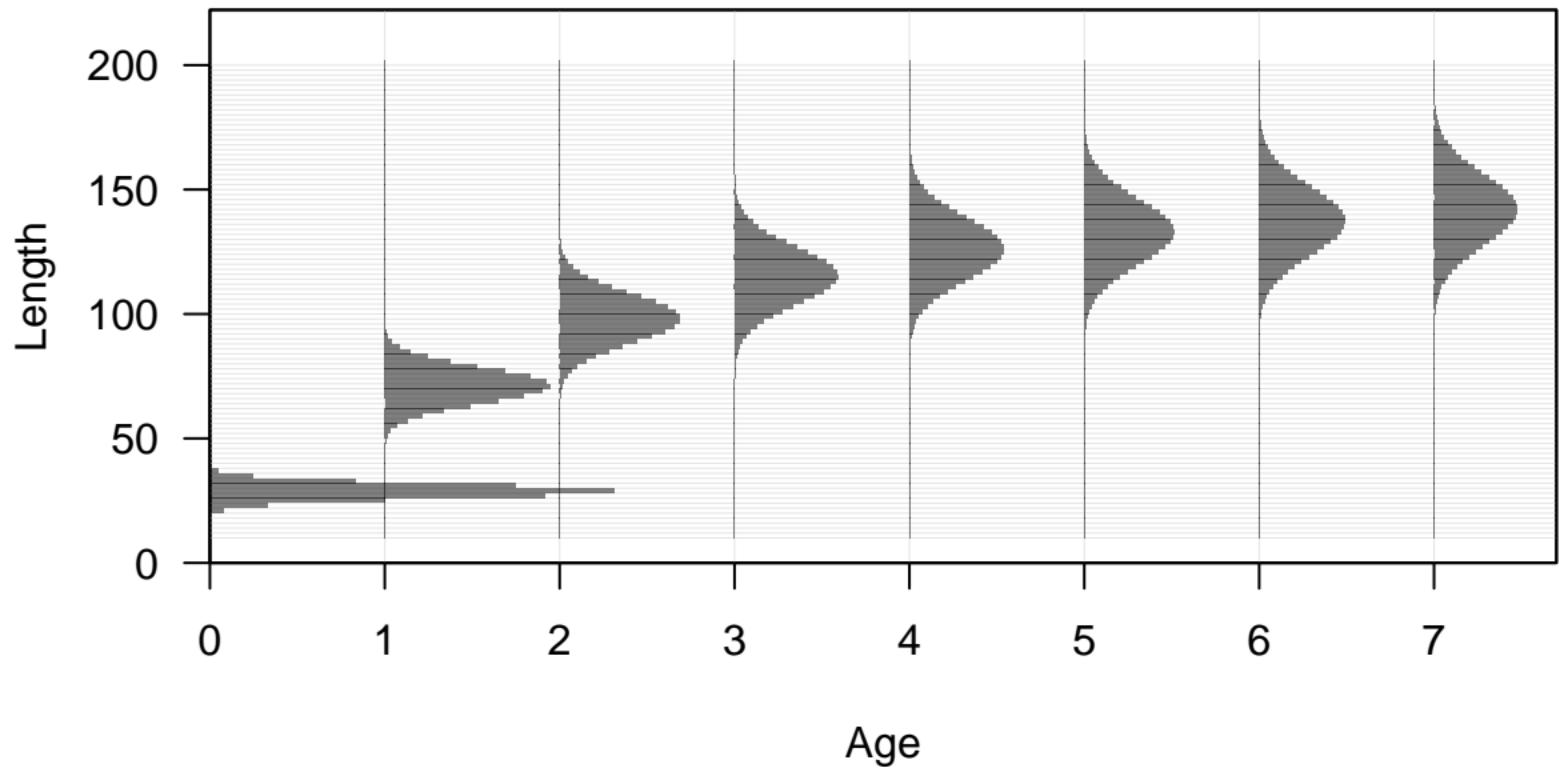


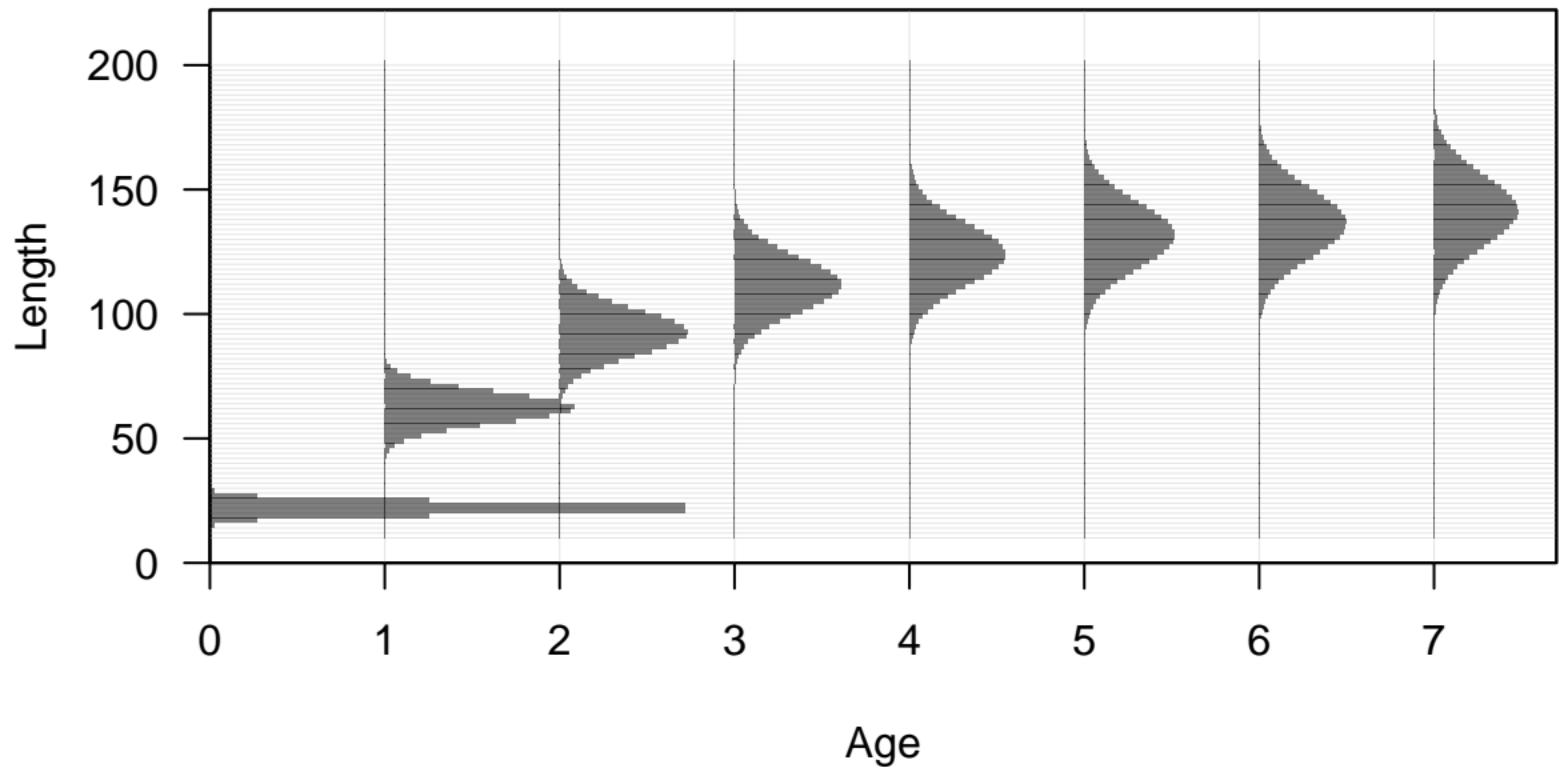


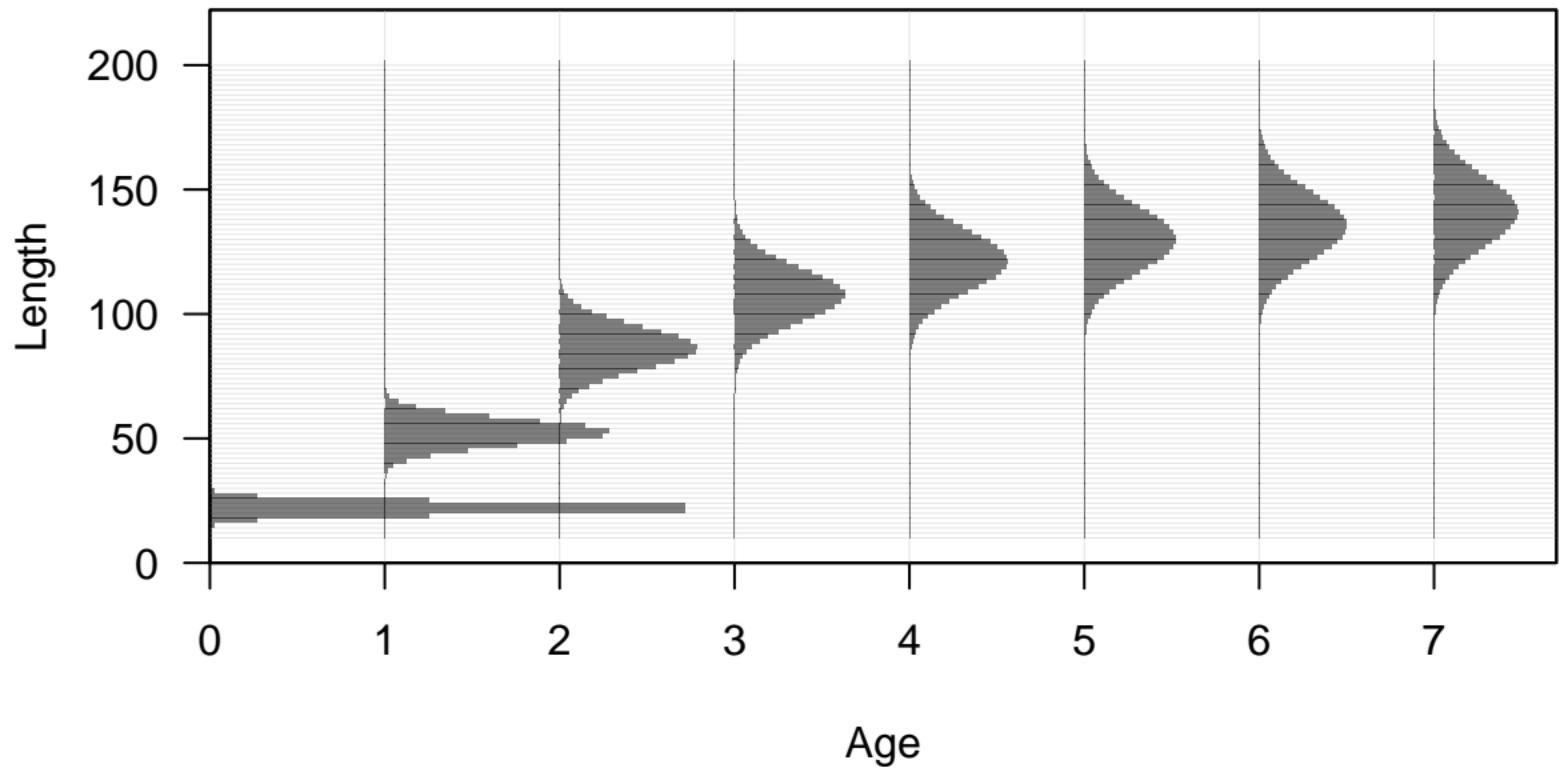


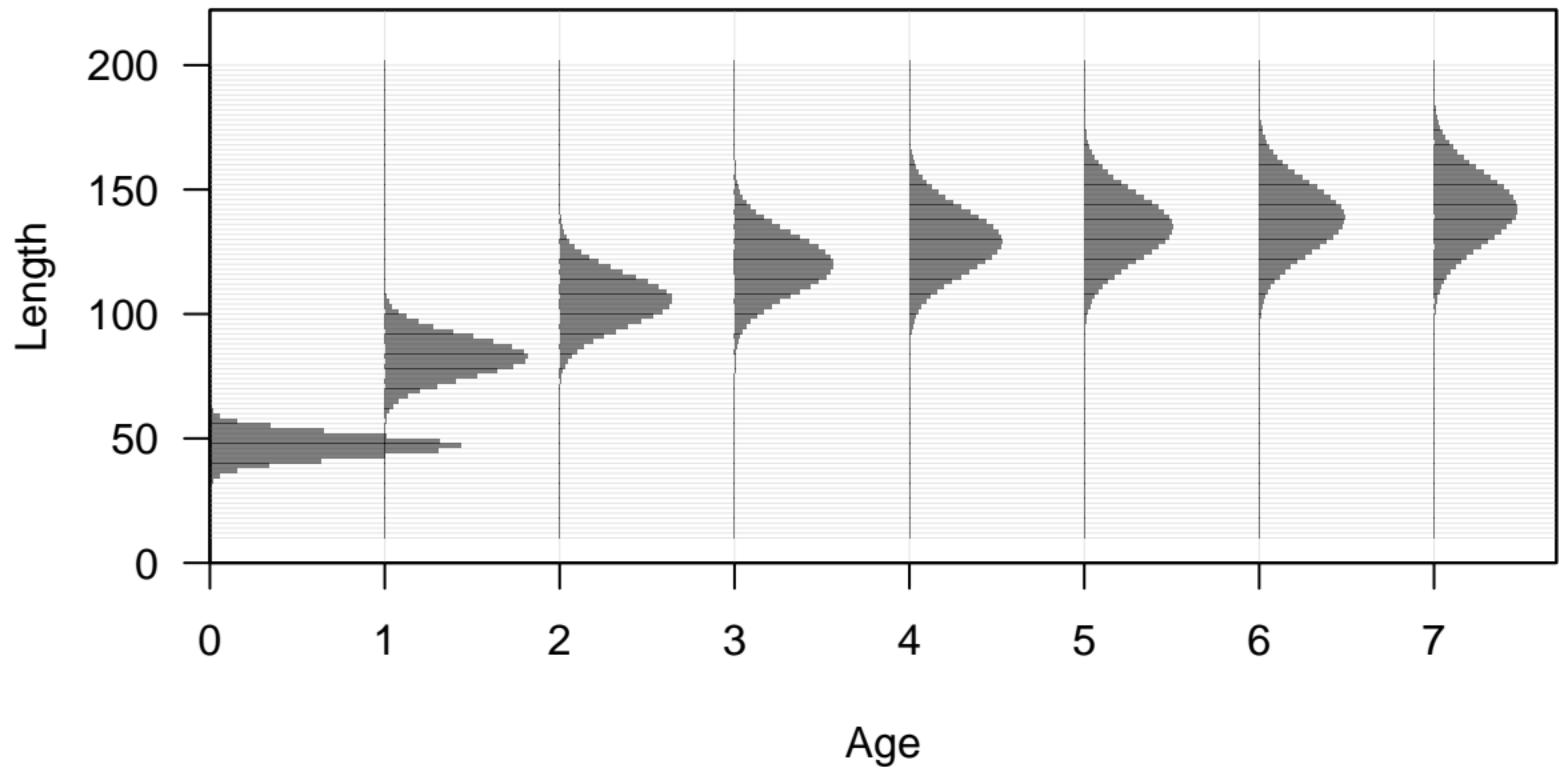


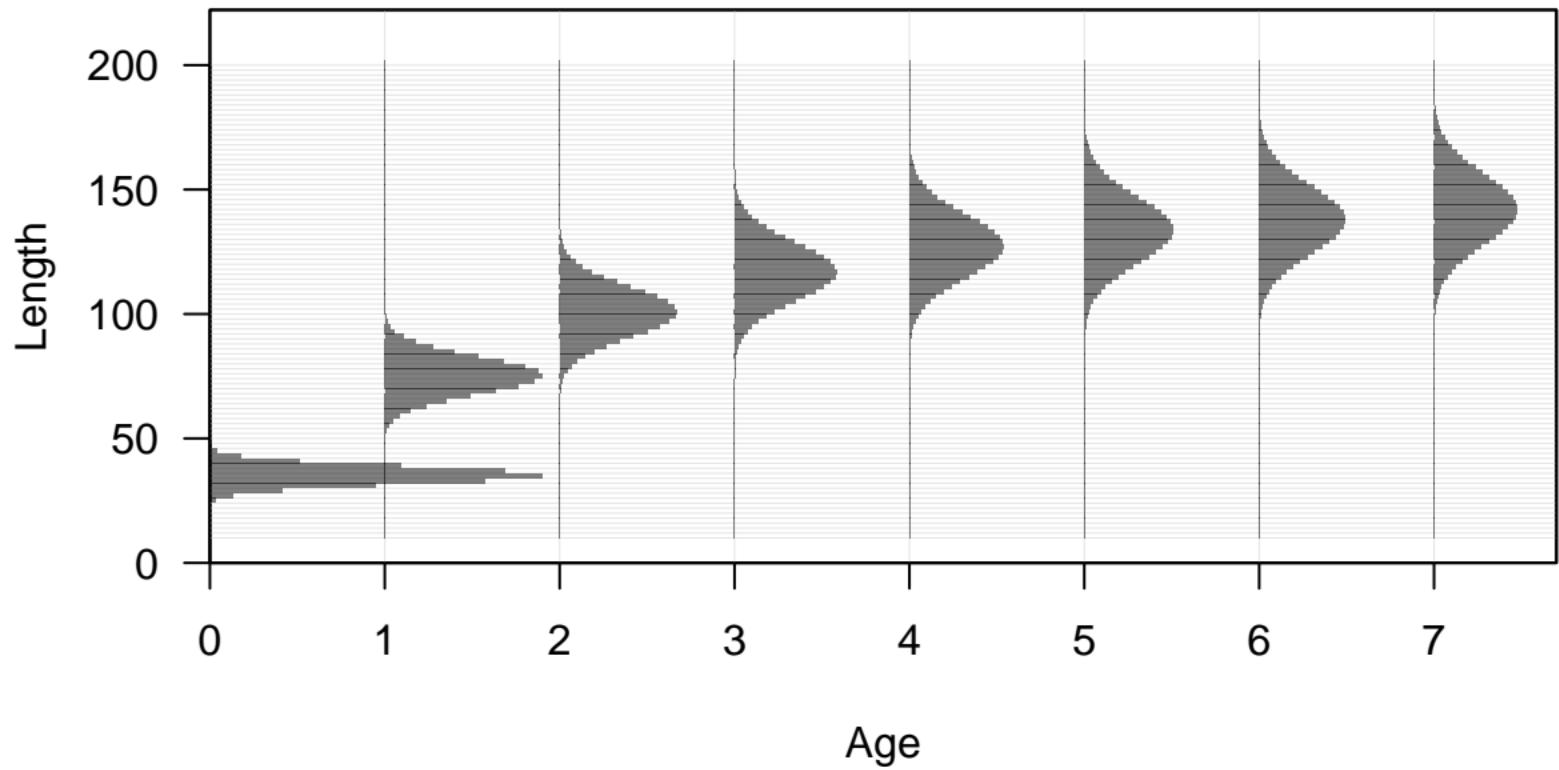


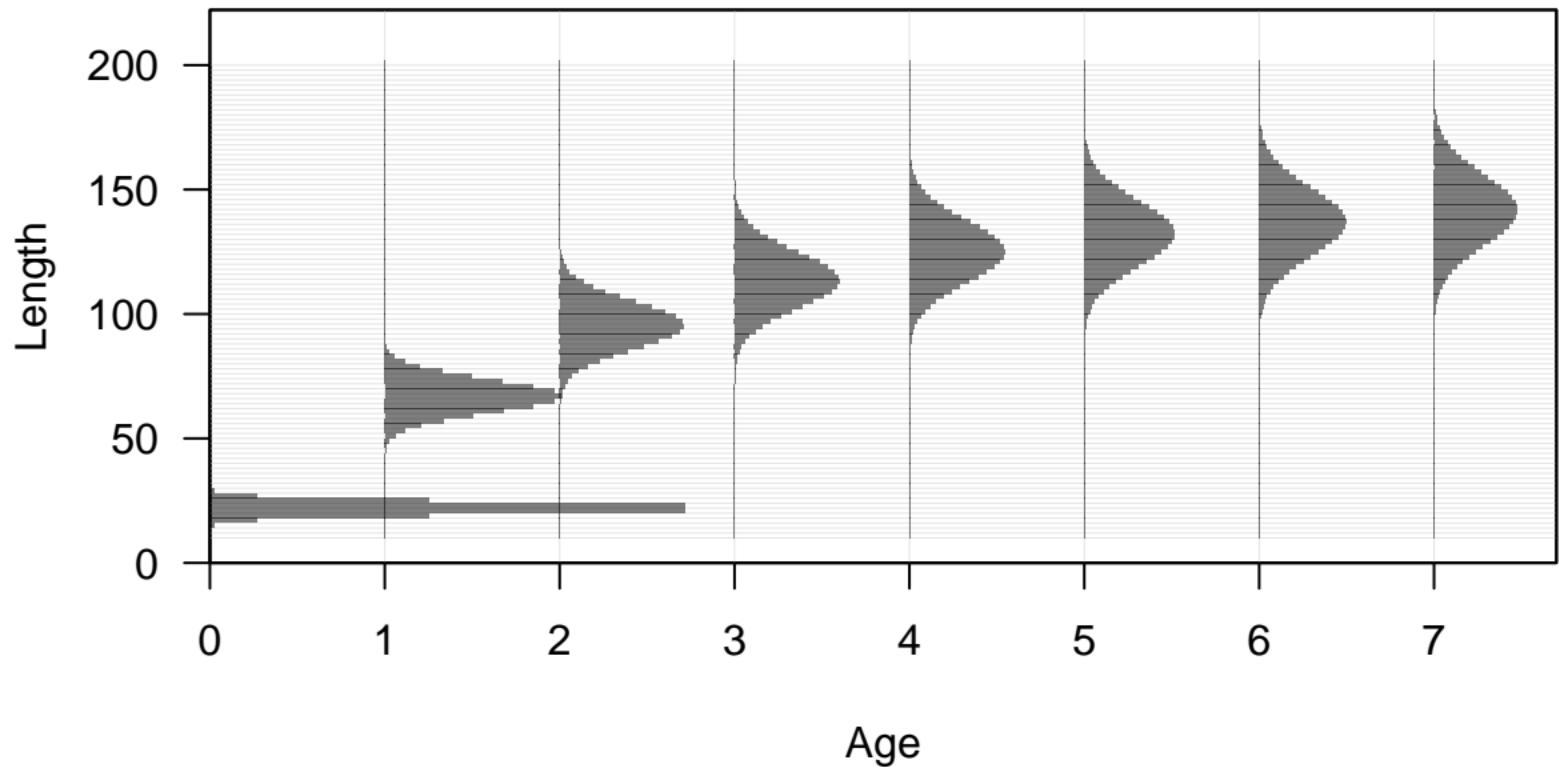


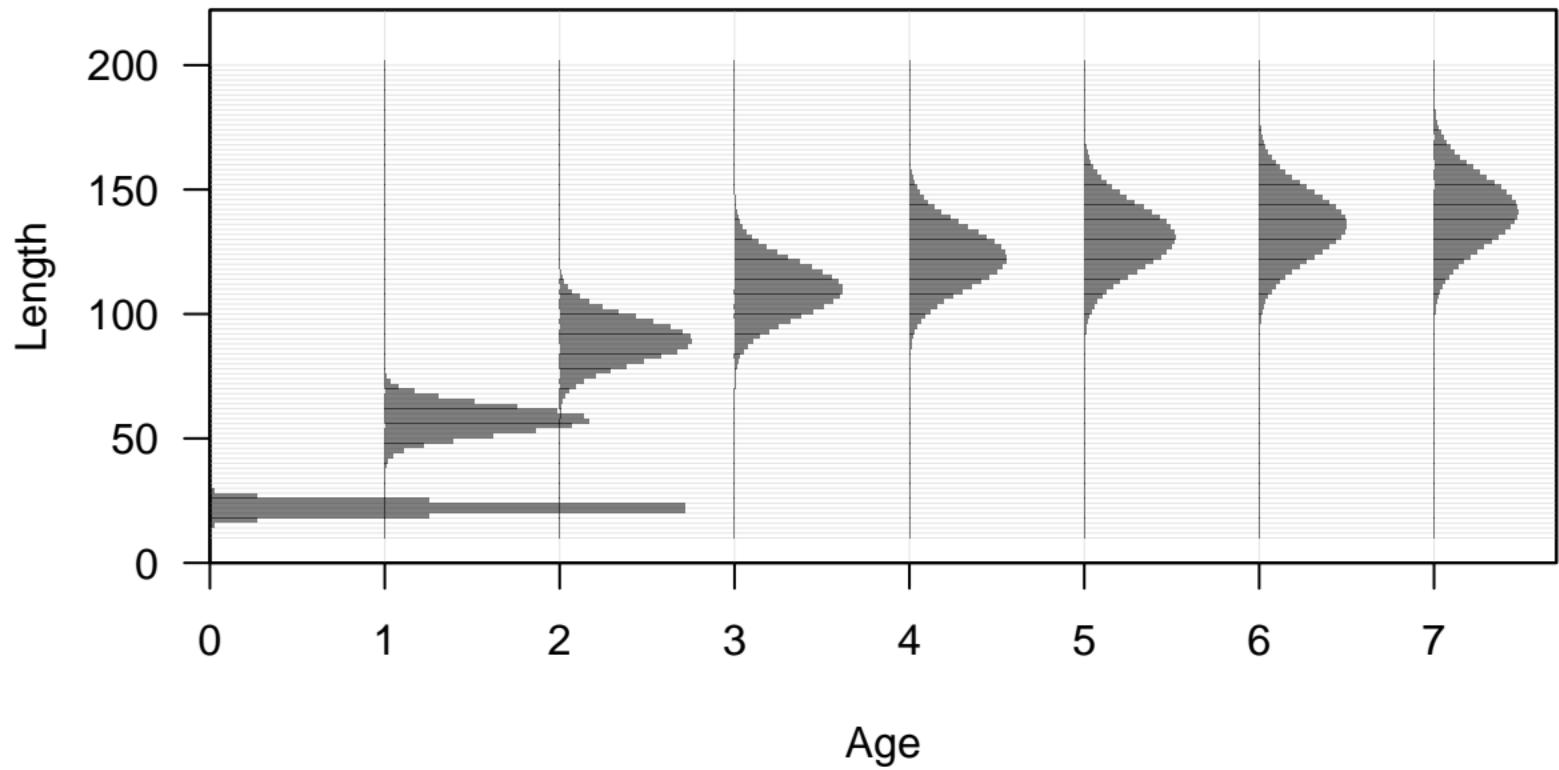


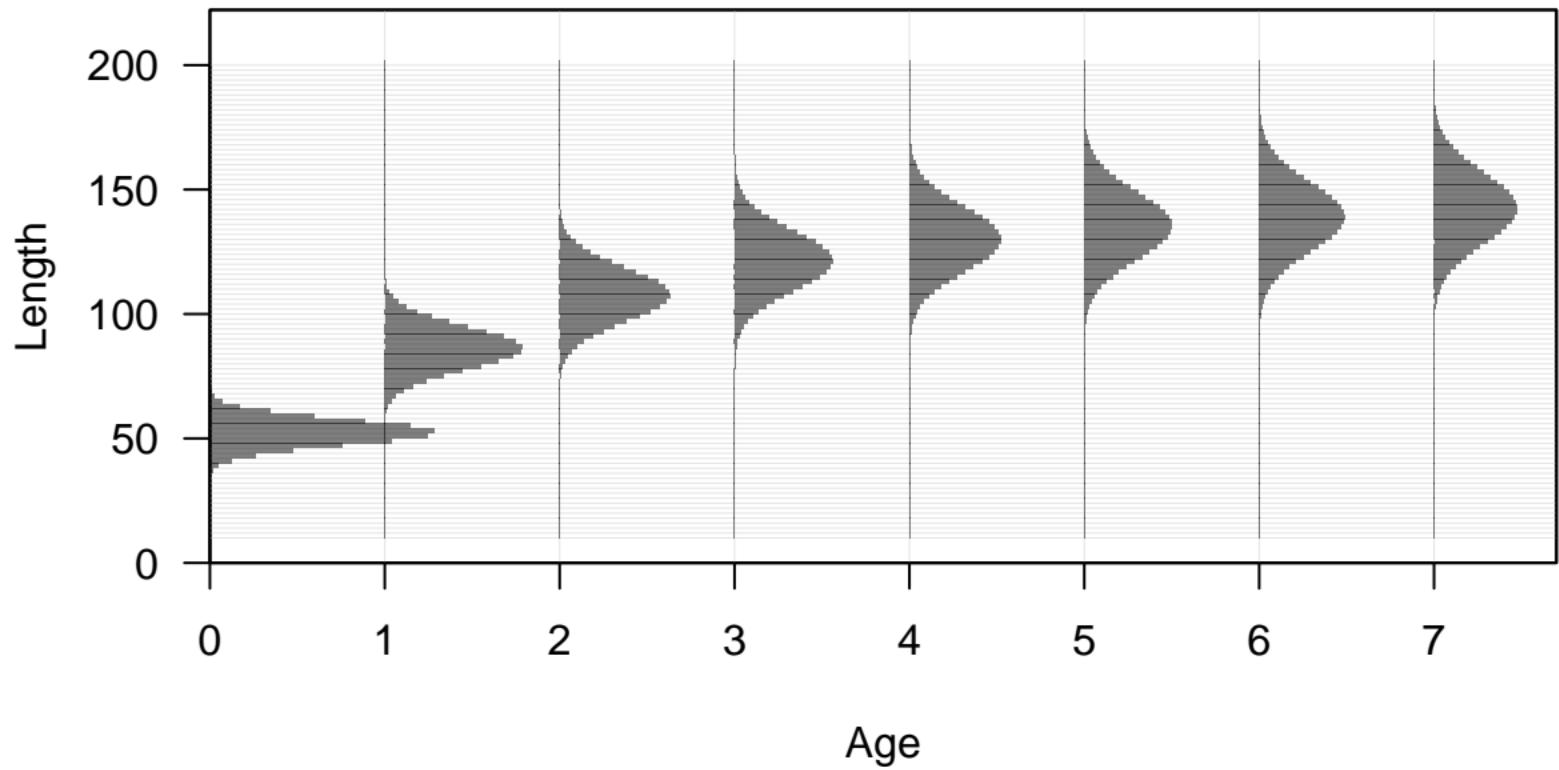


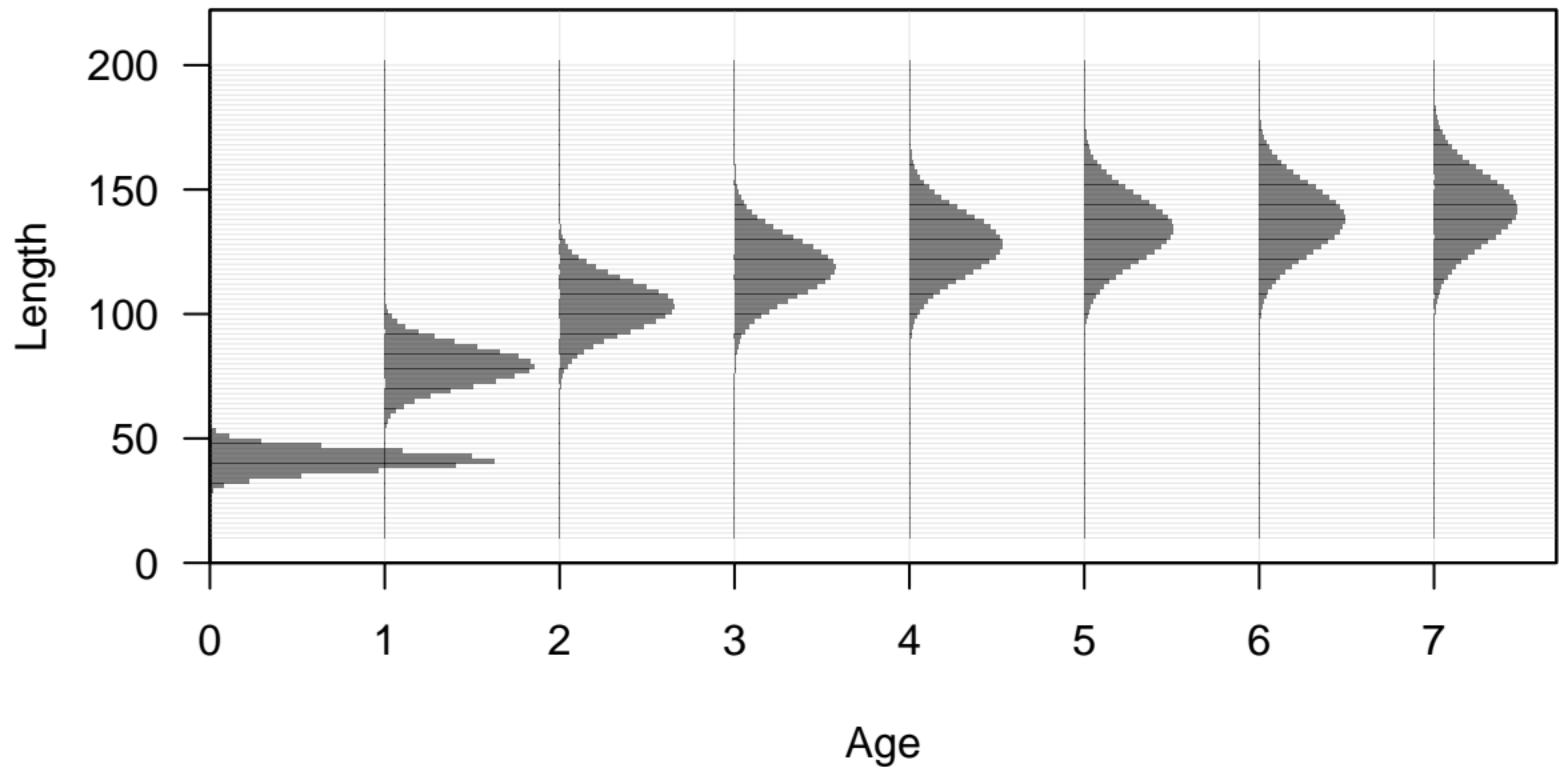


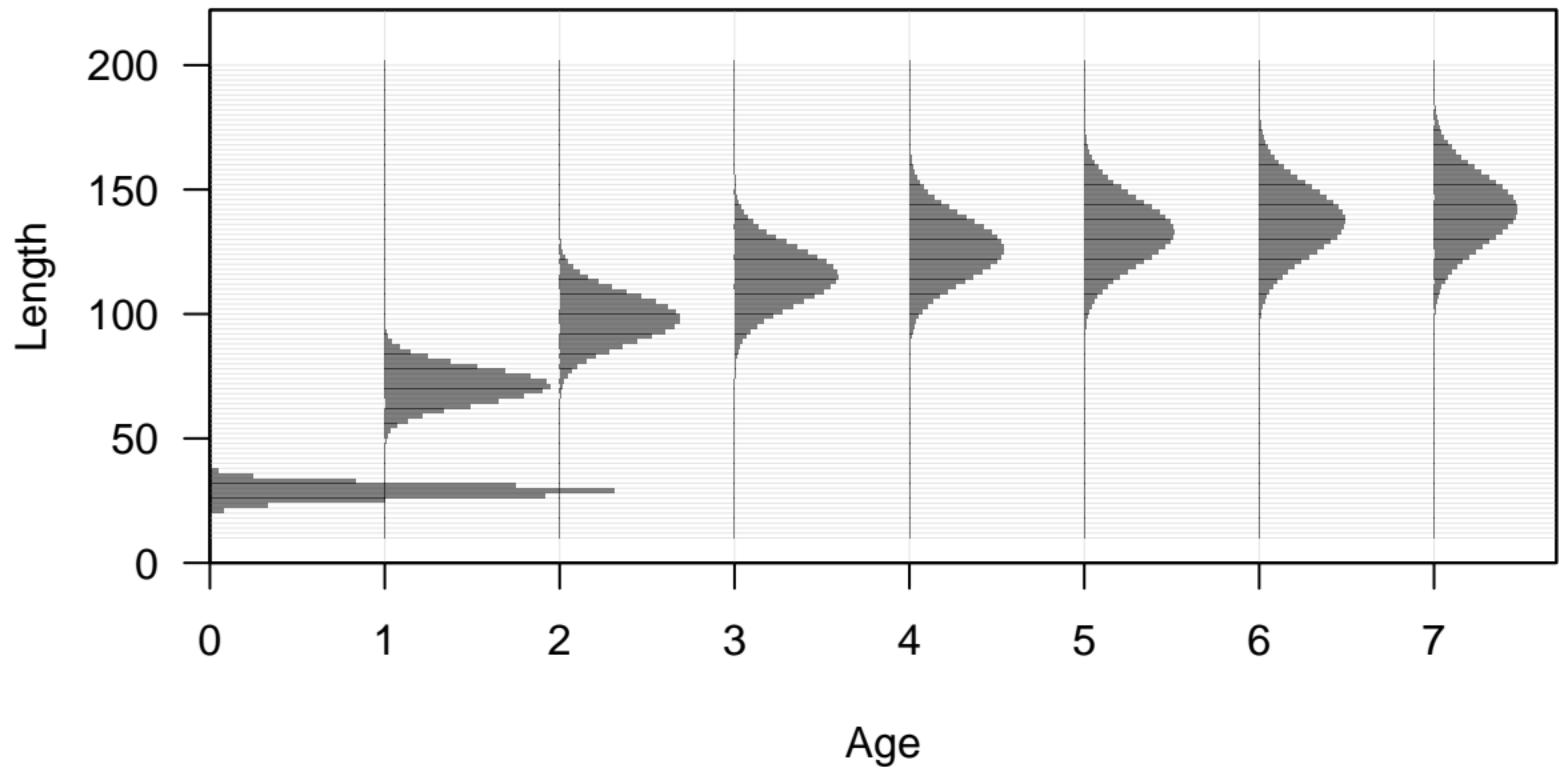


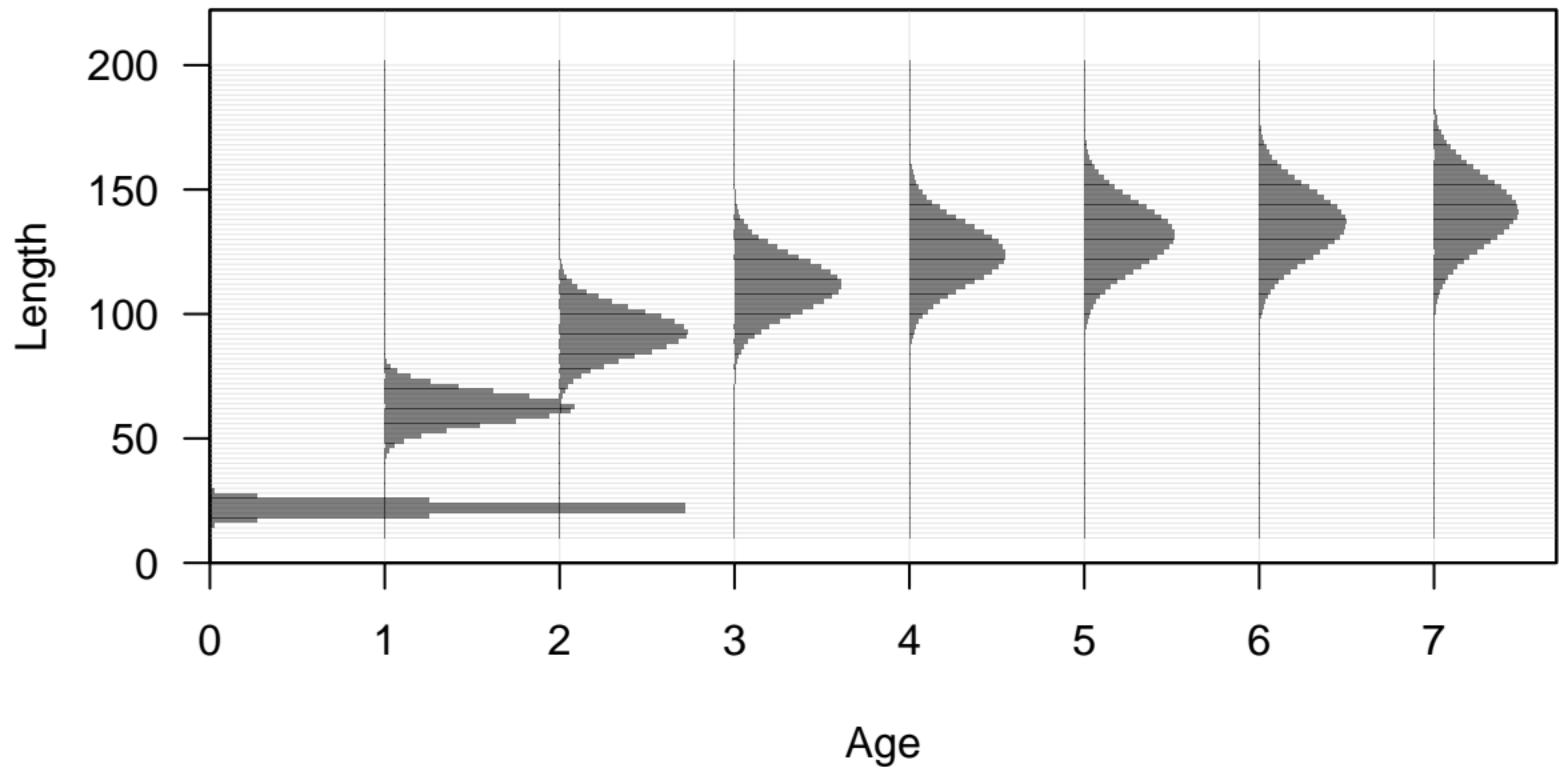


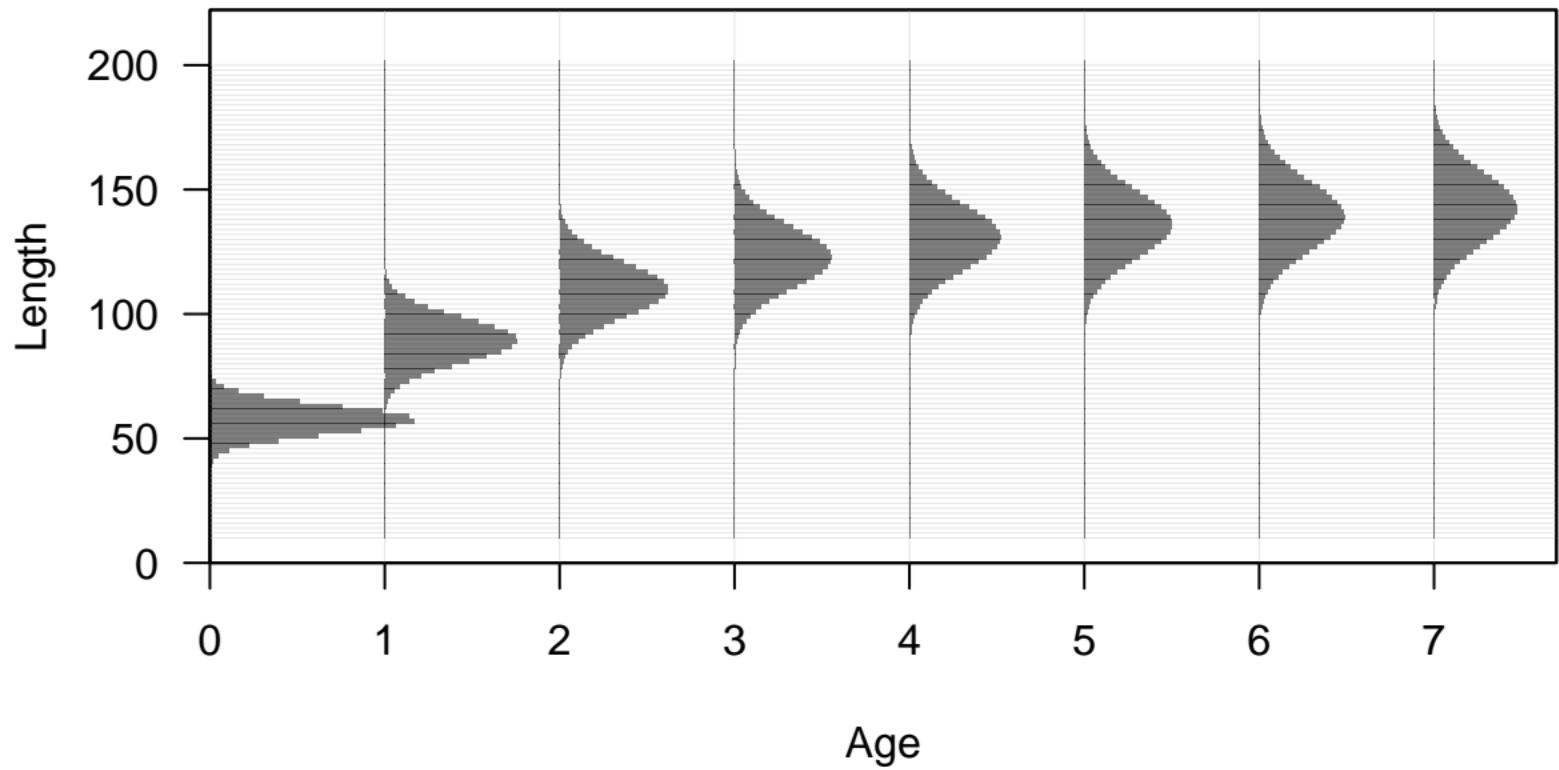


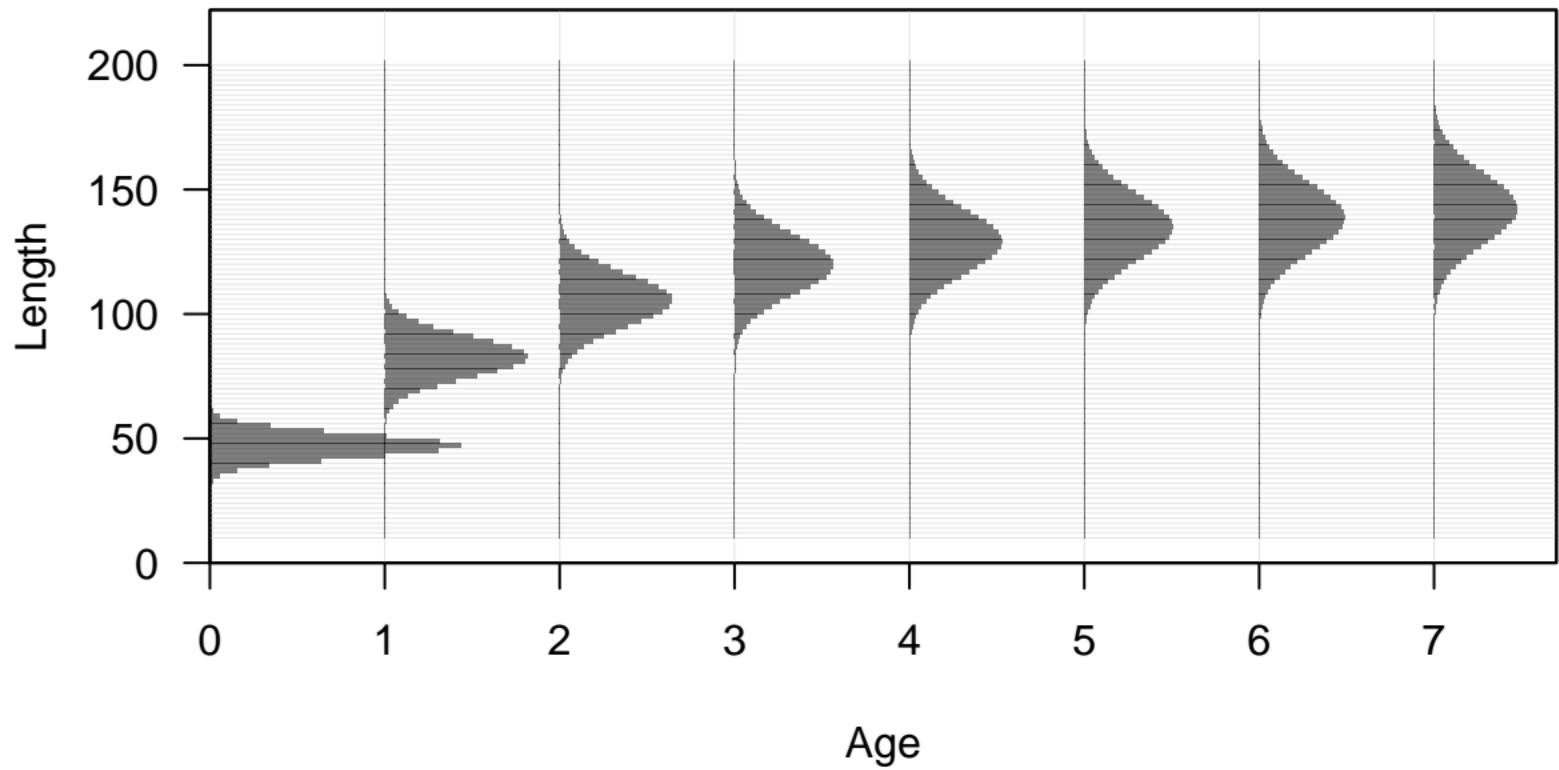


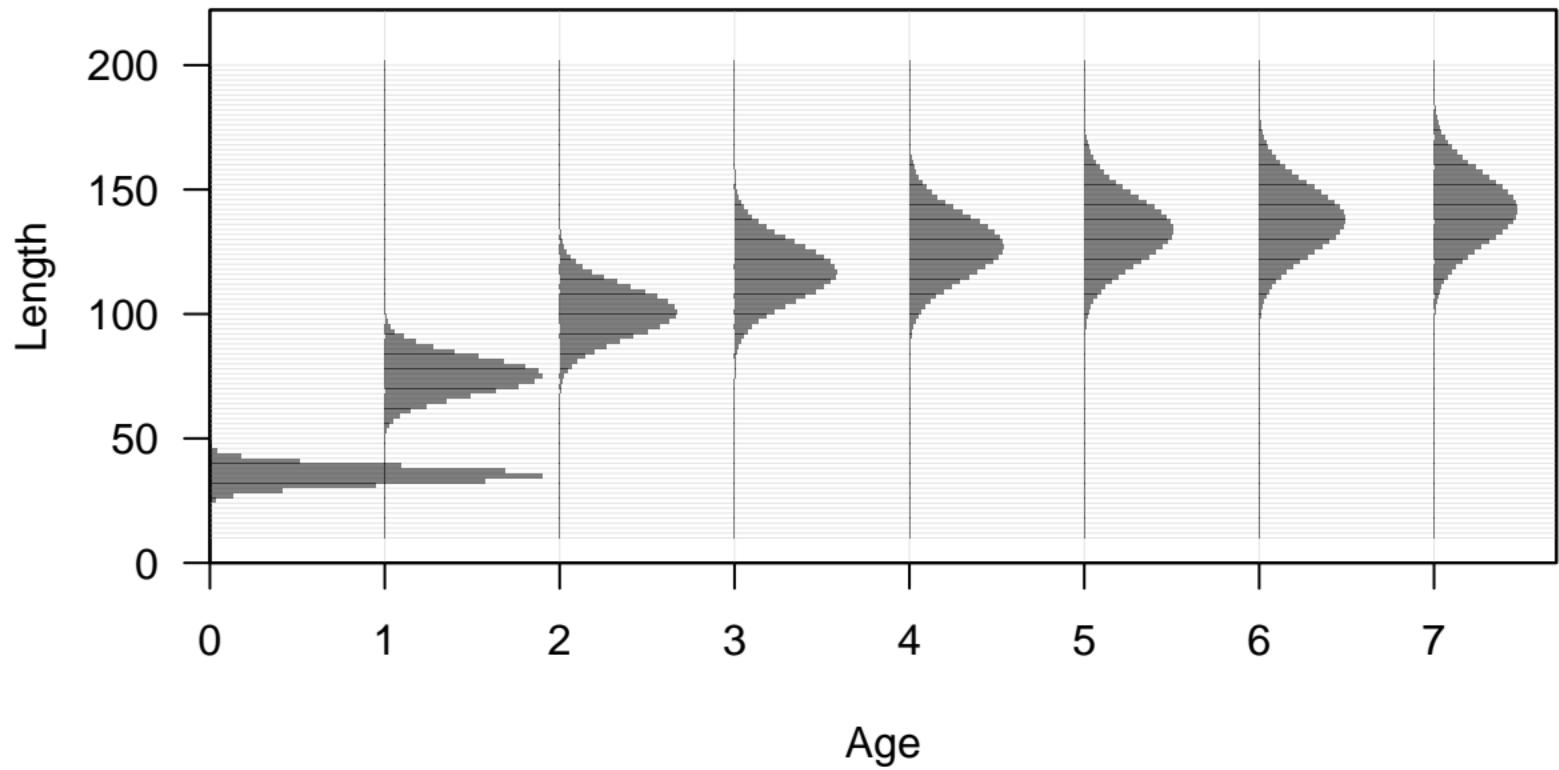


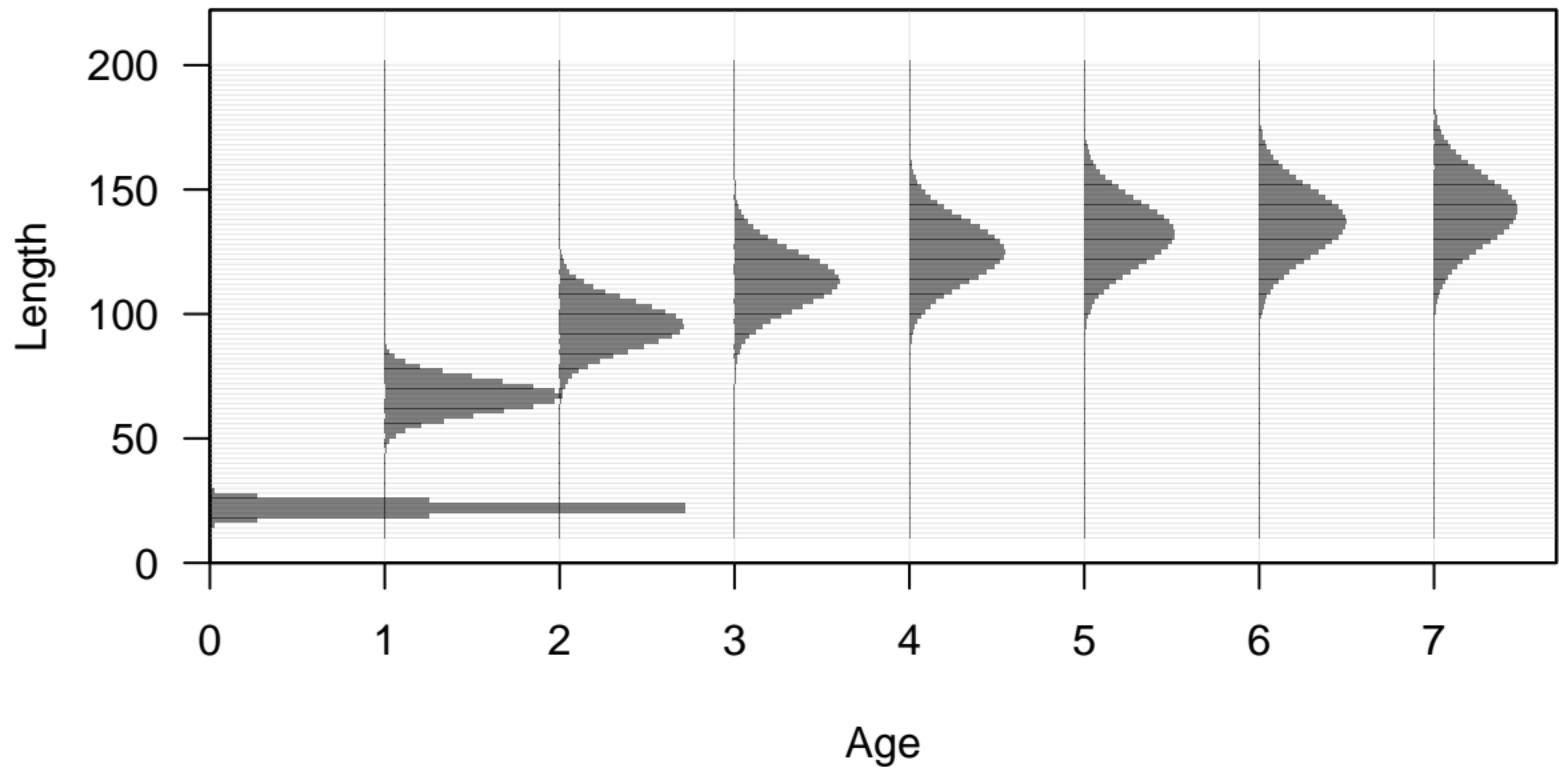


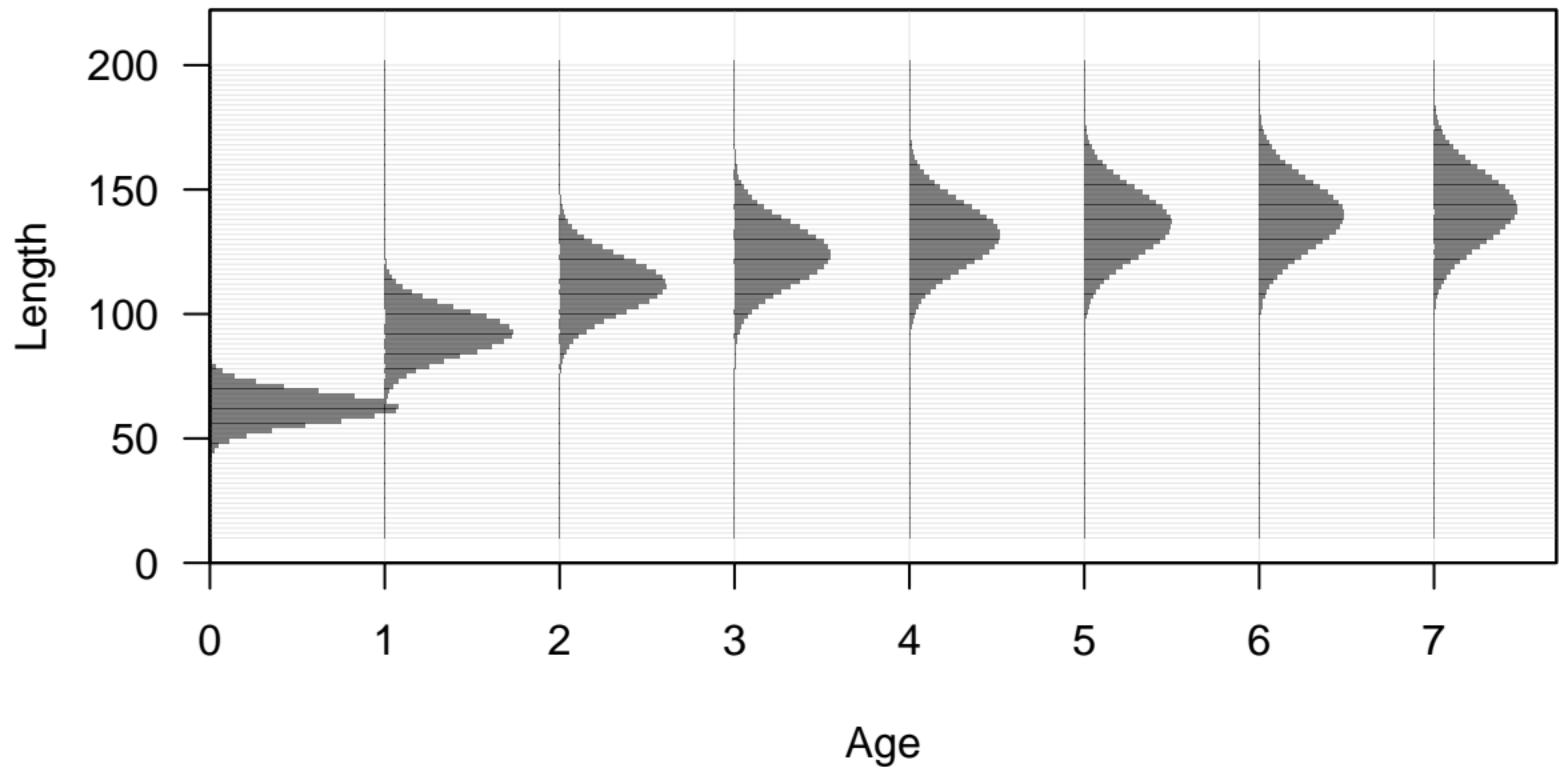


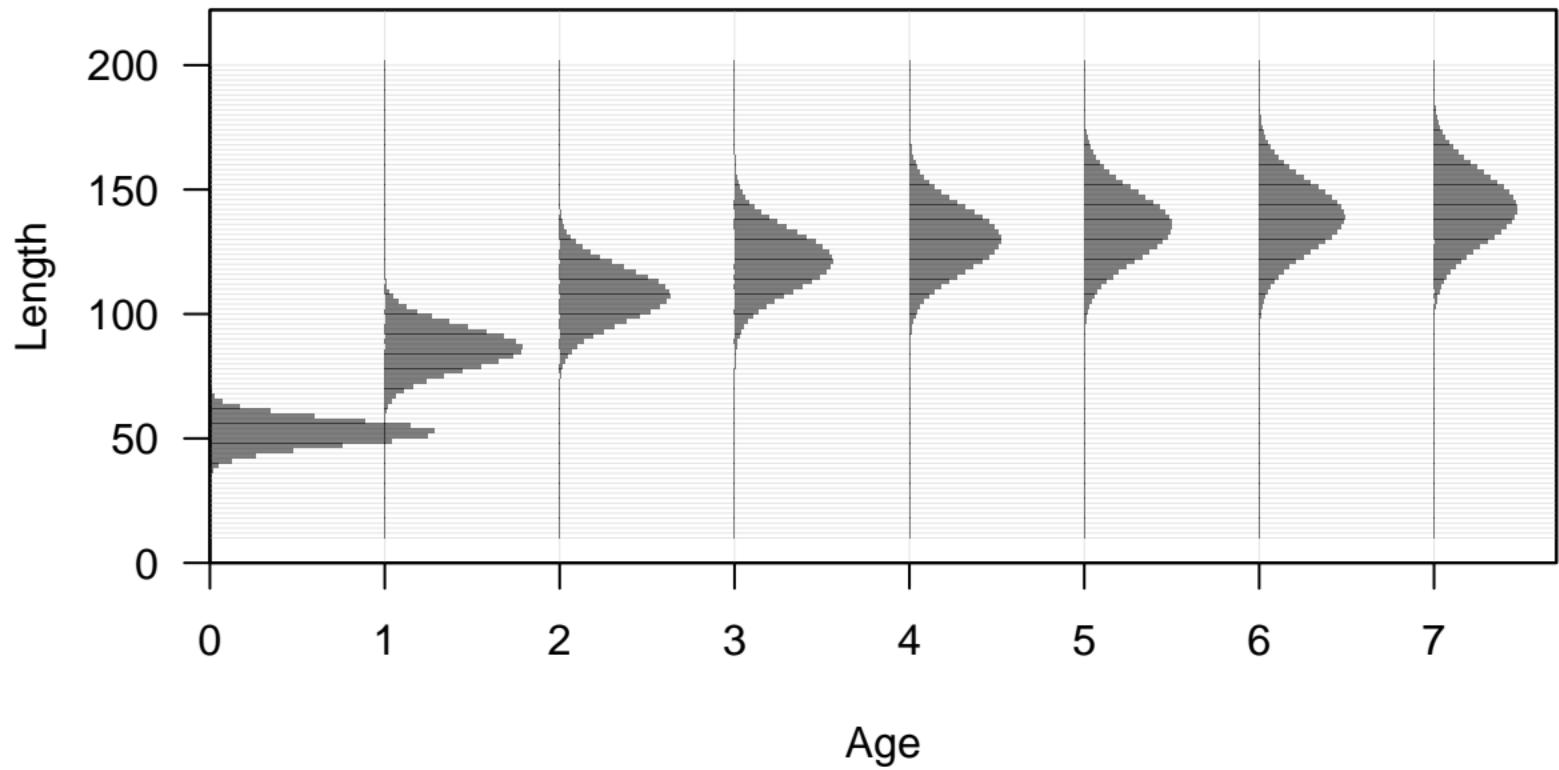


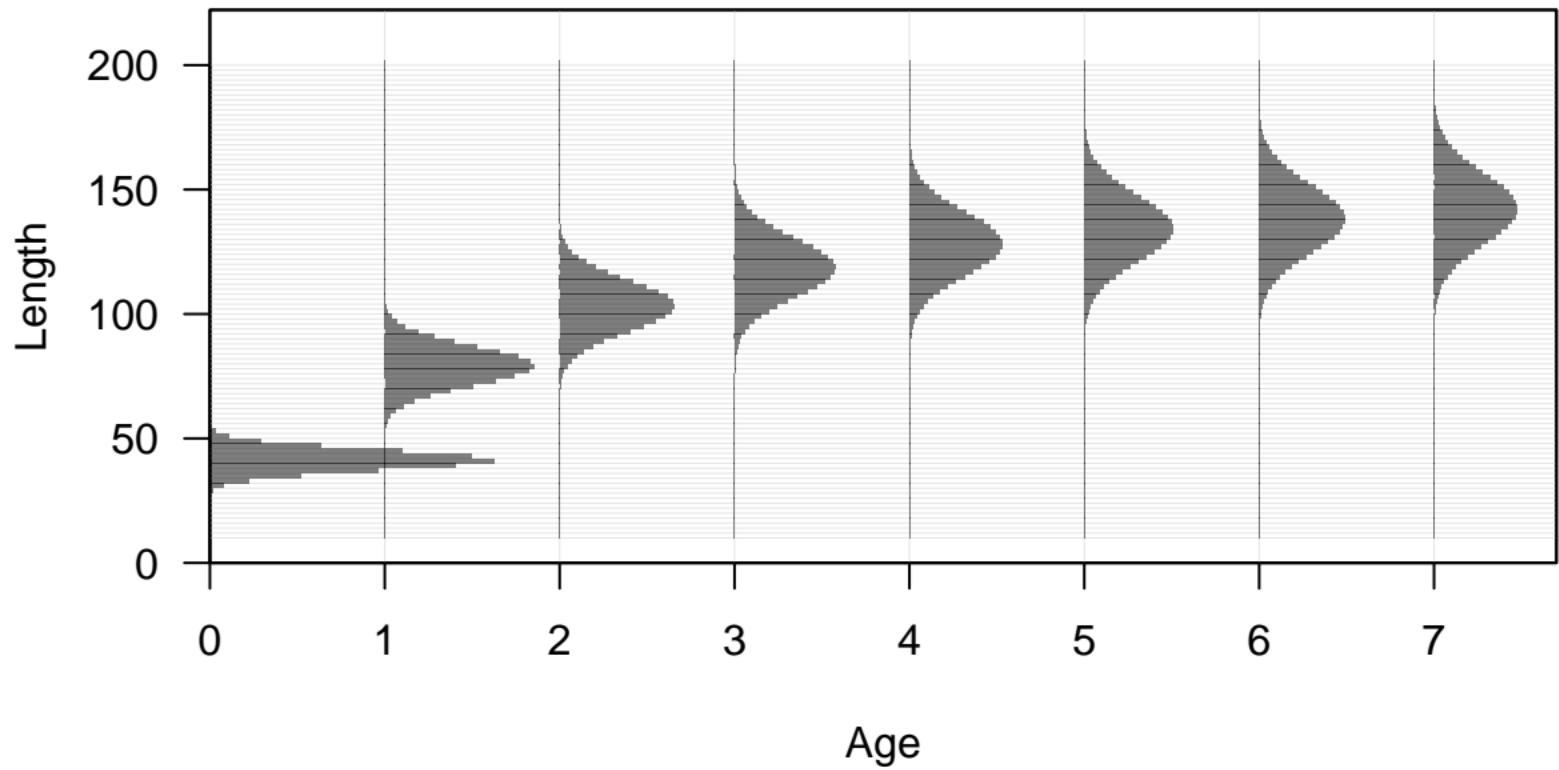


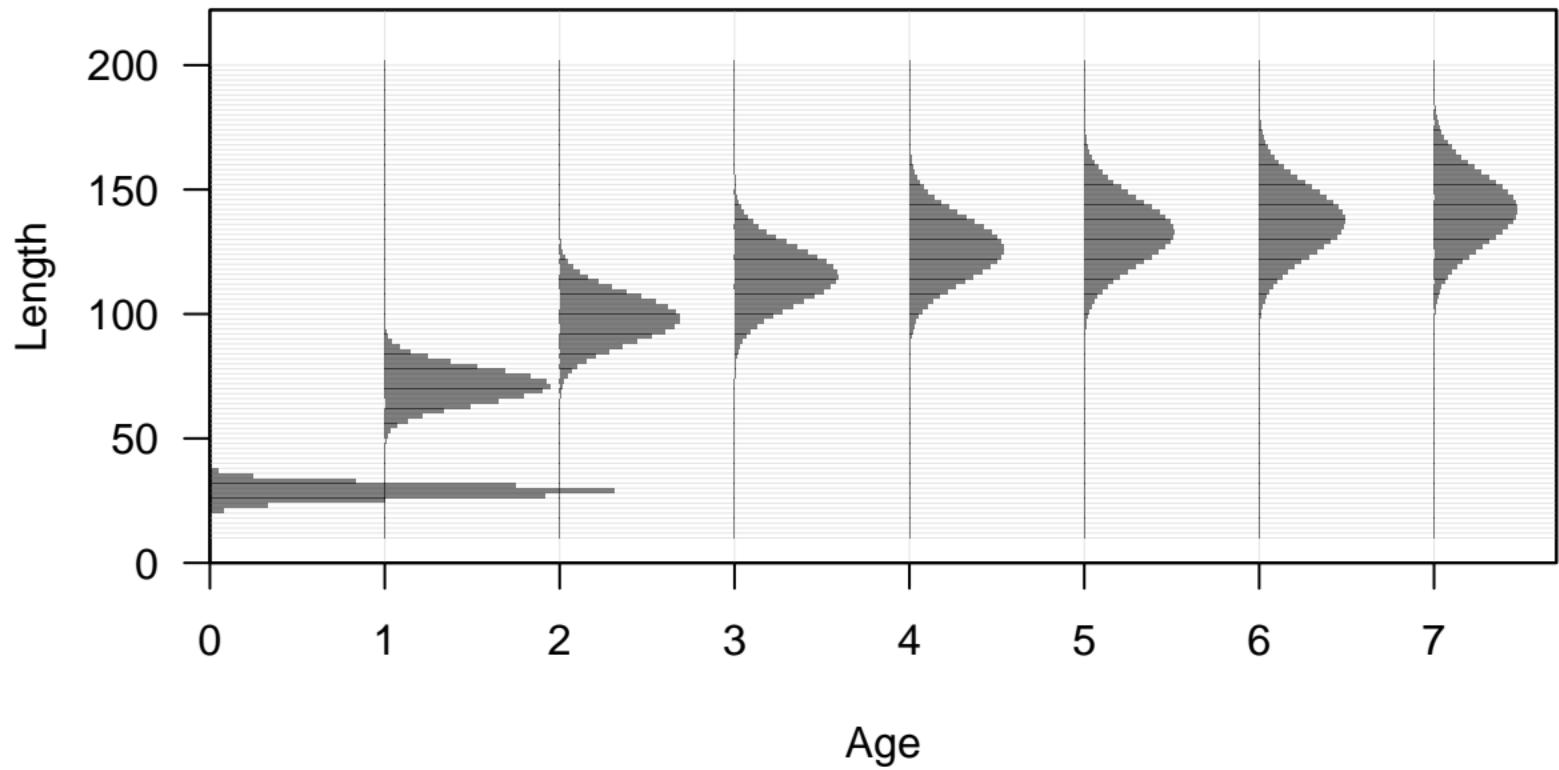




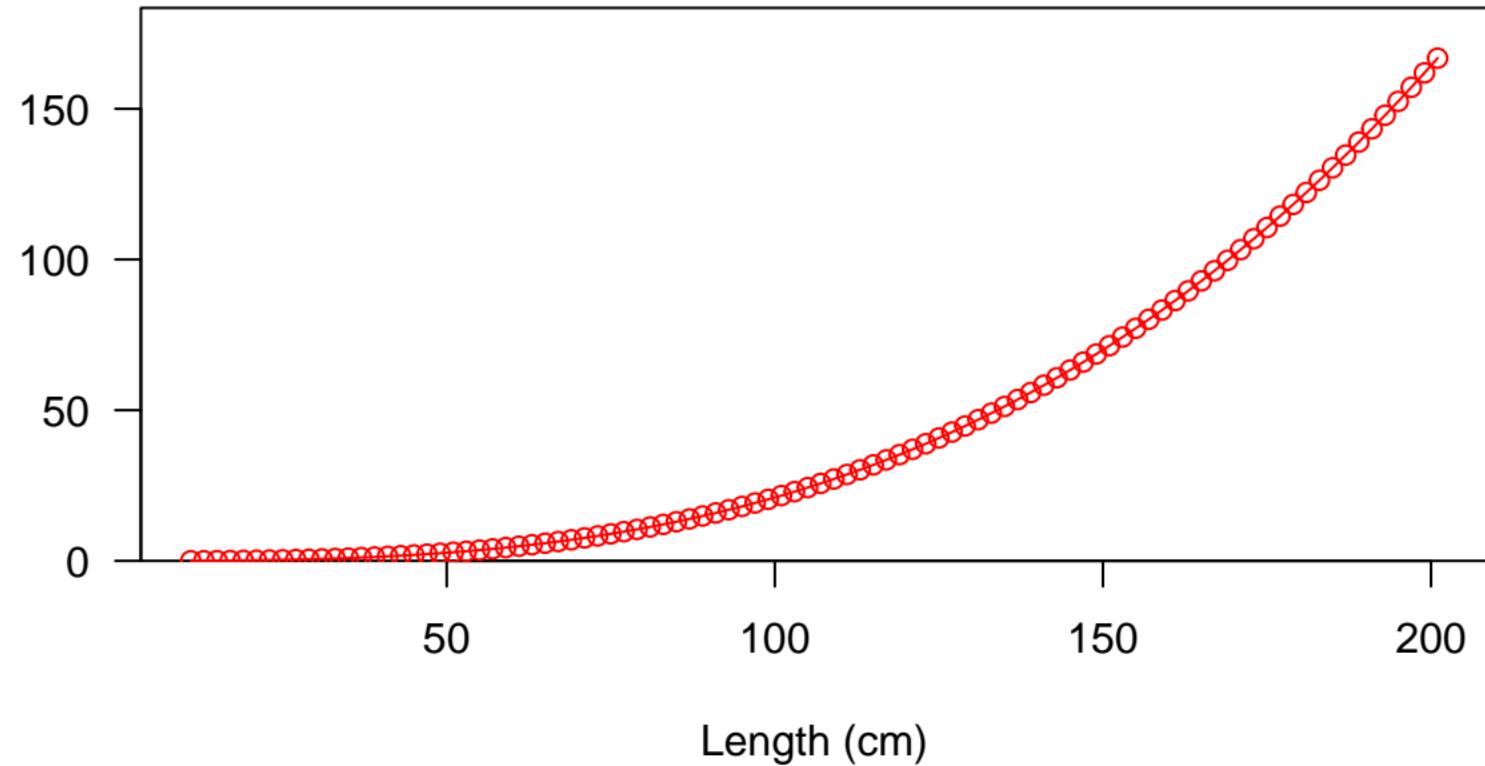


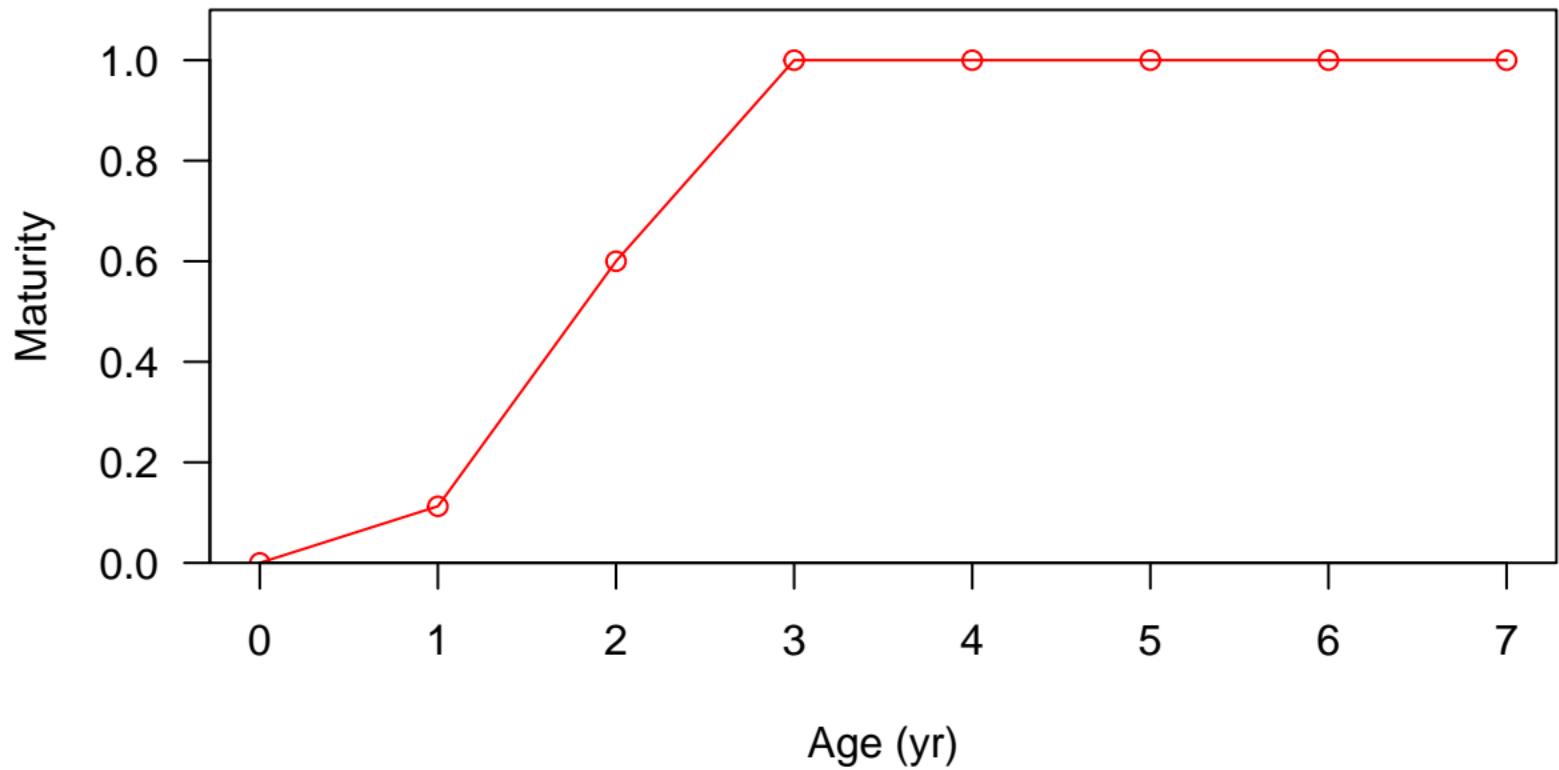


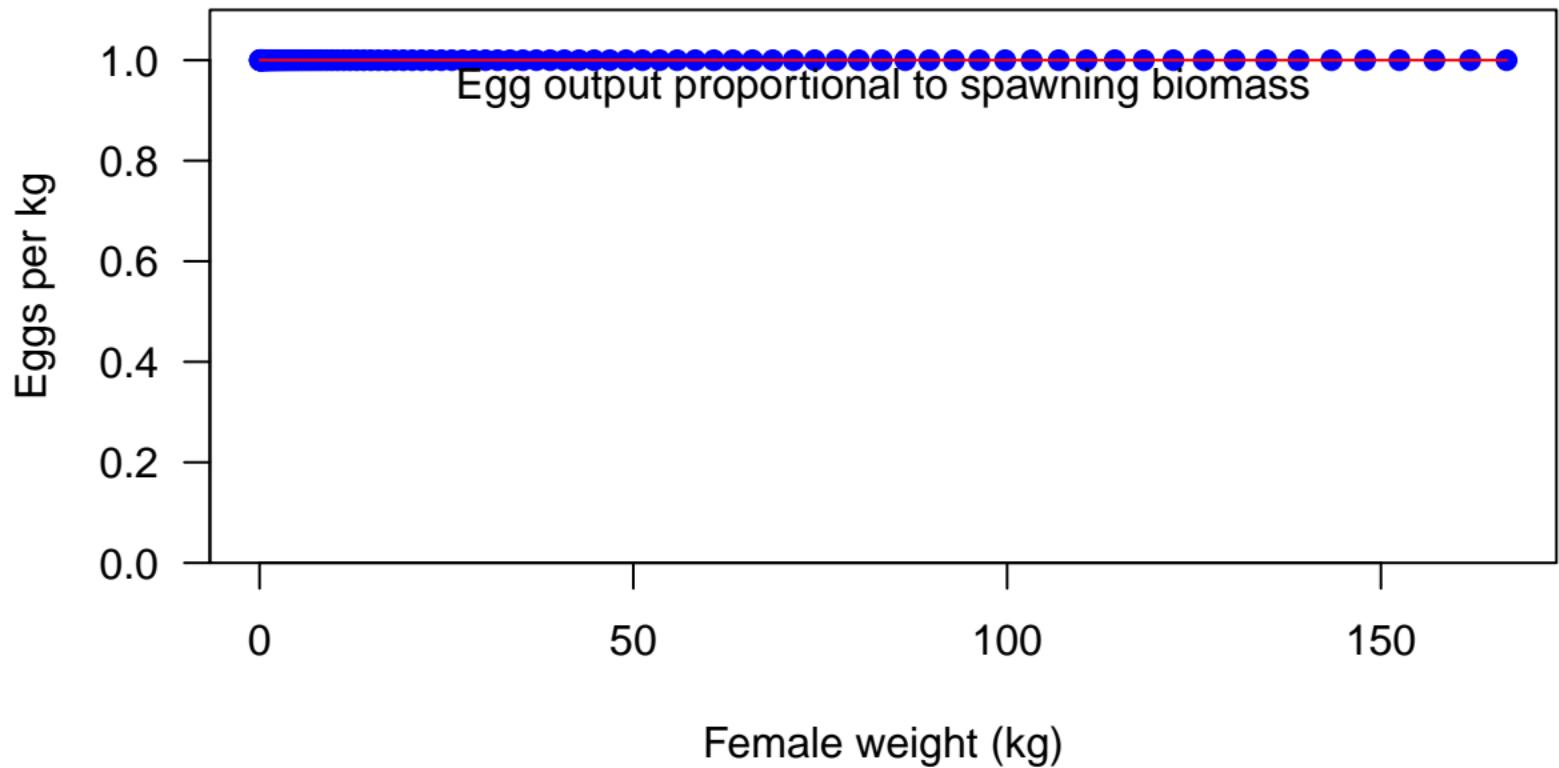


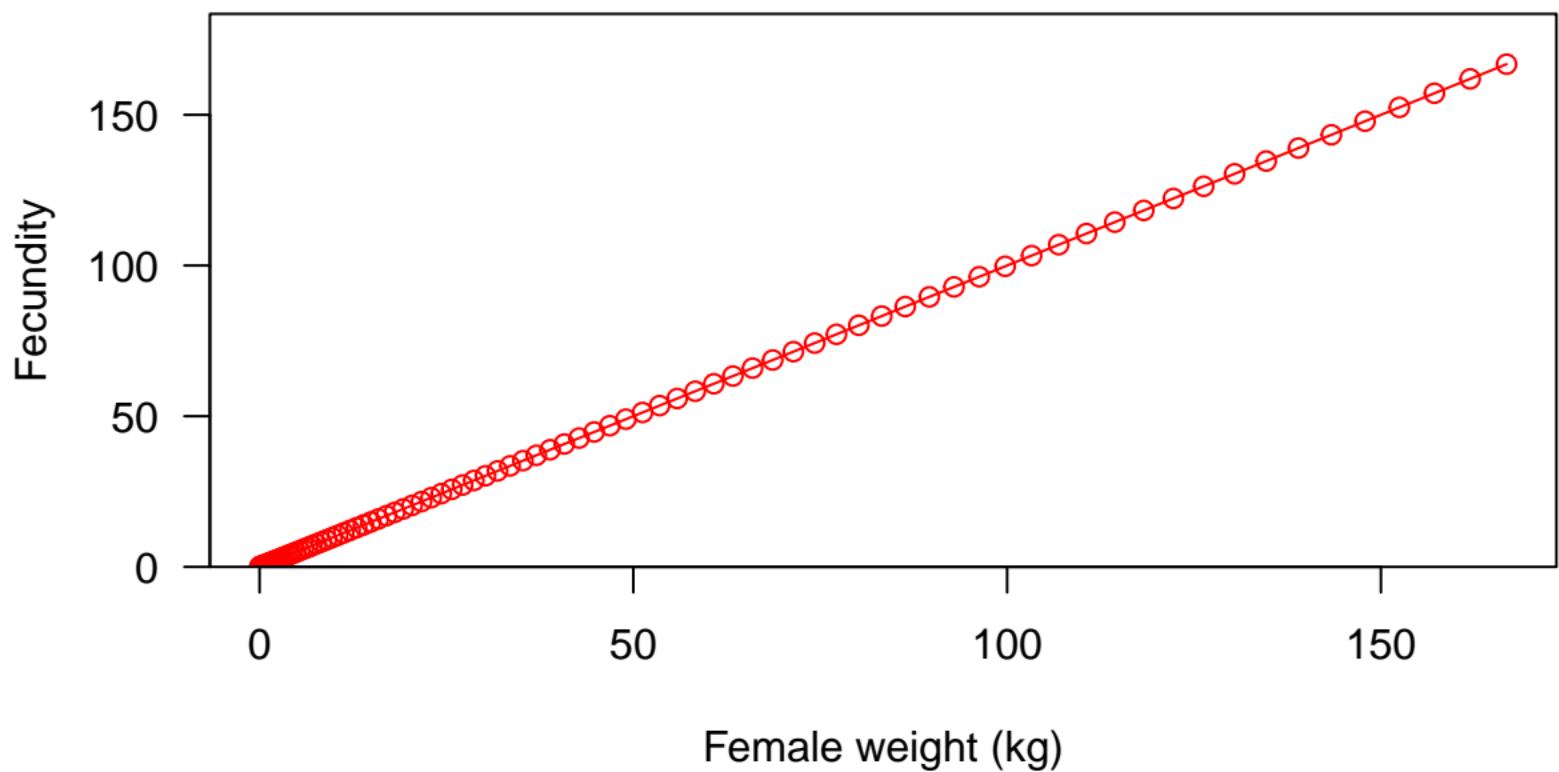


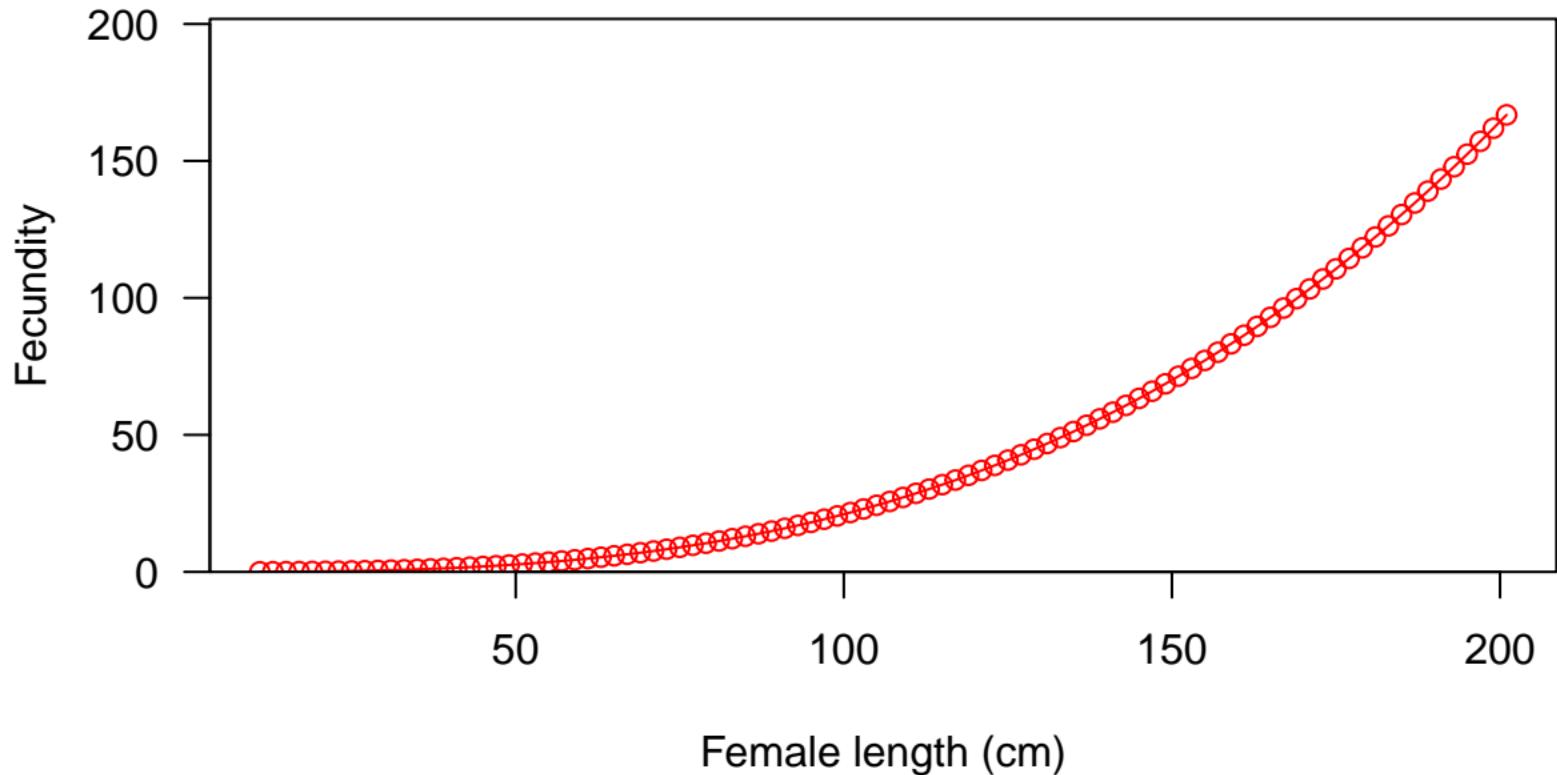
Mean weight (kg) in last year

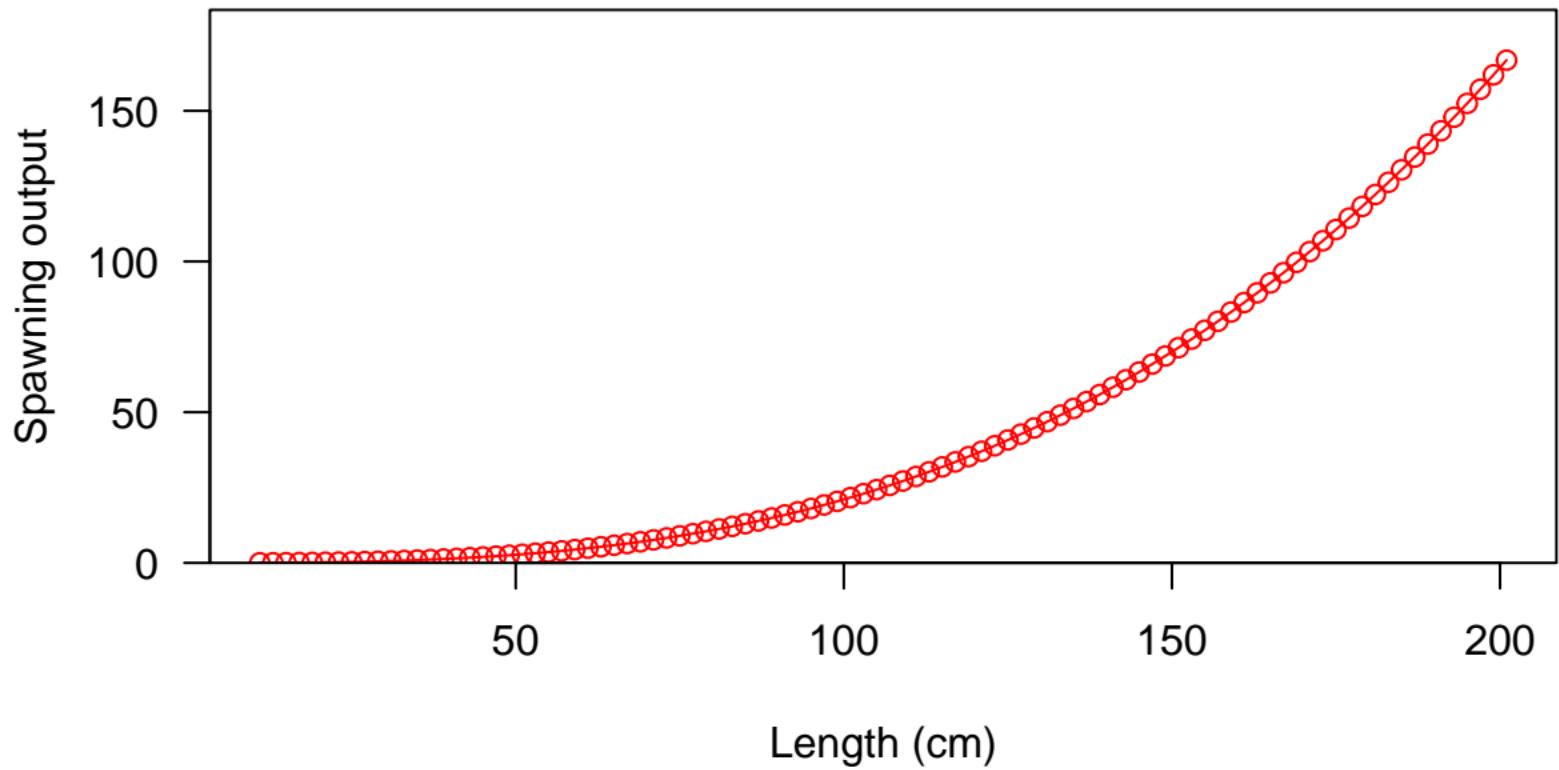




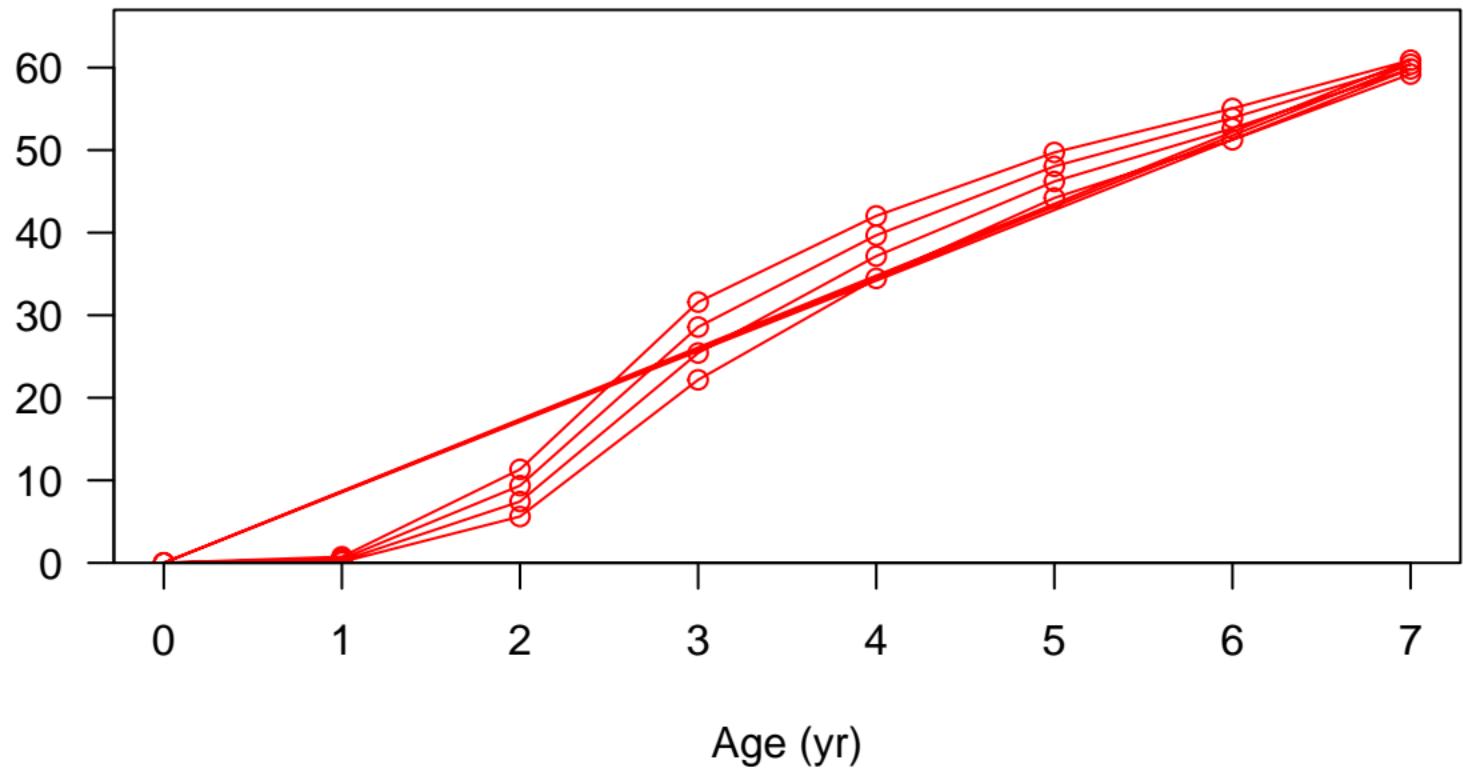


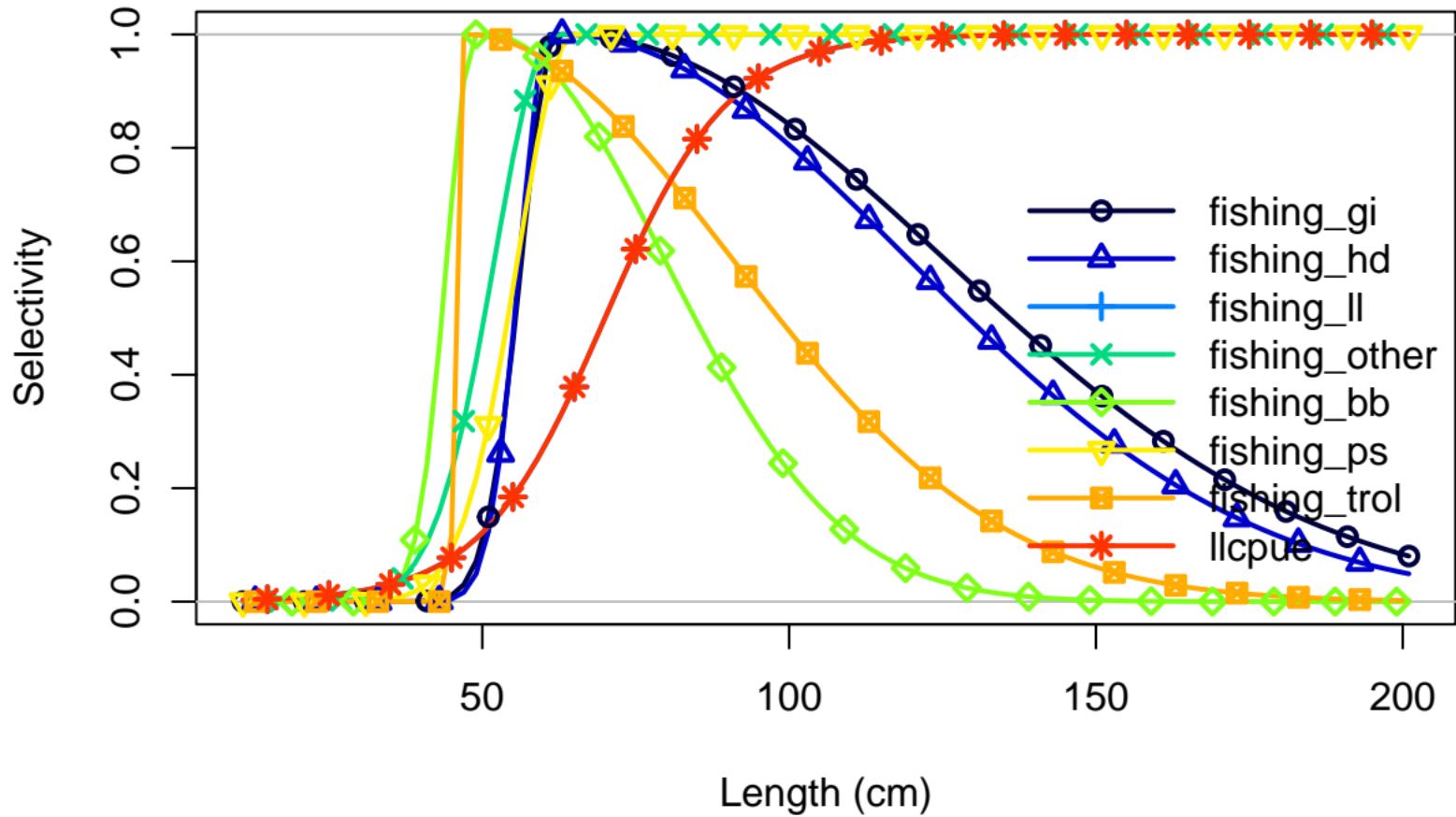


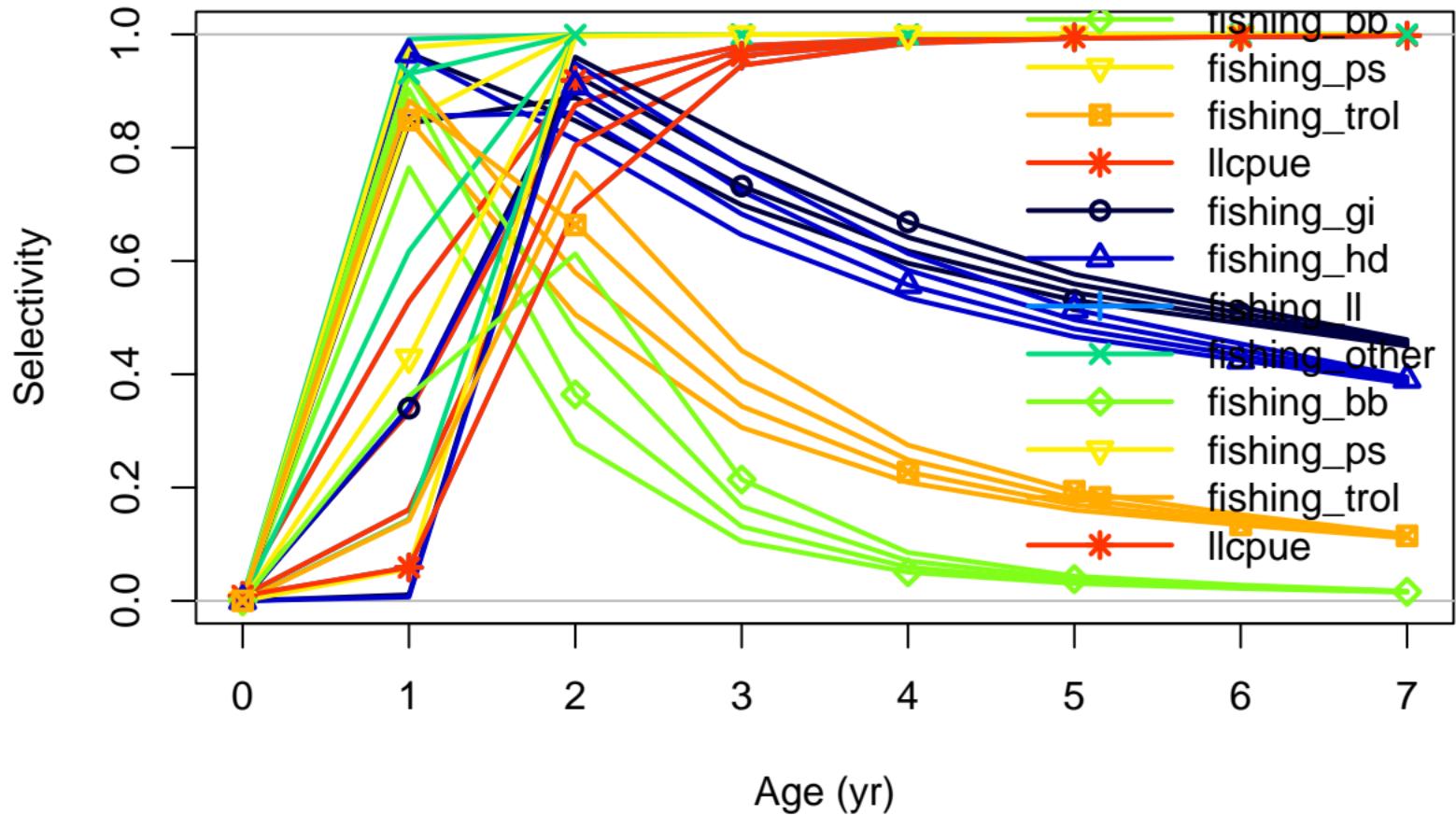


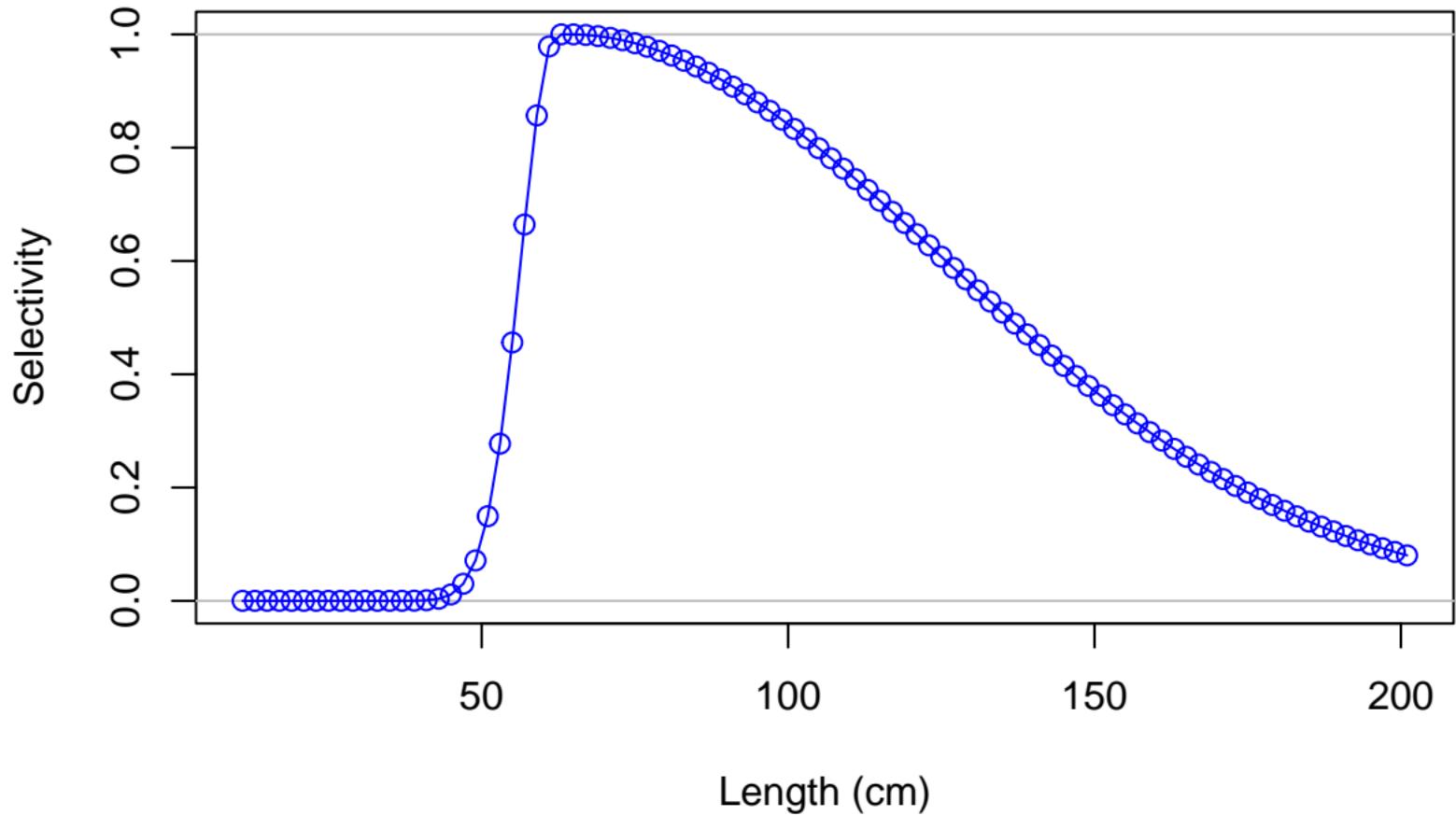


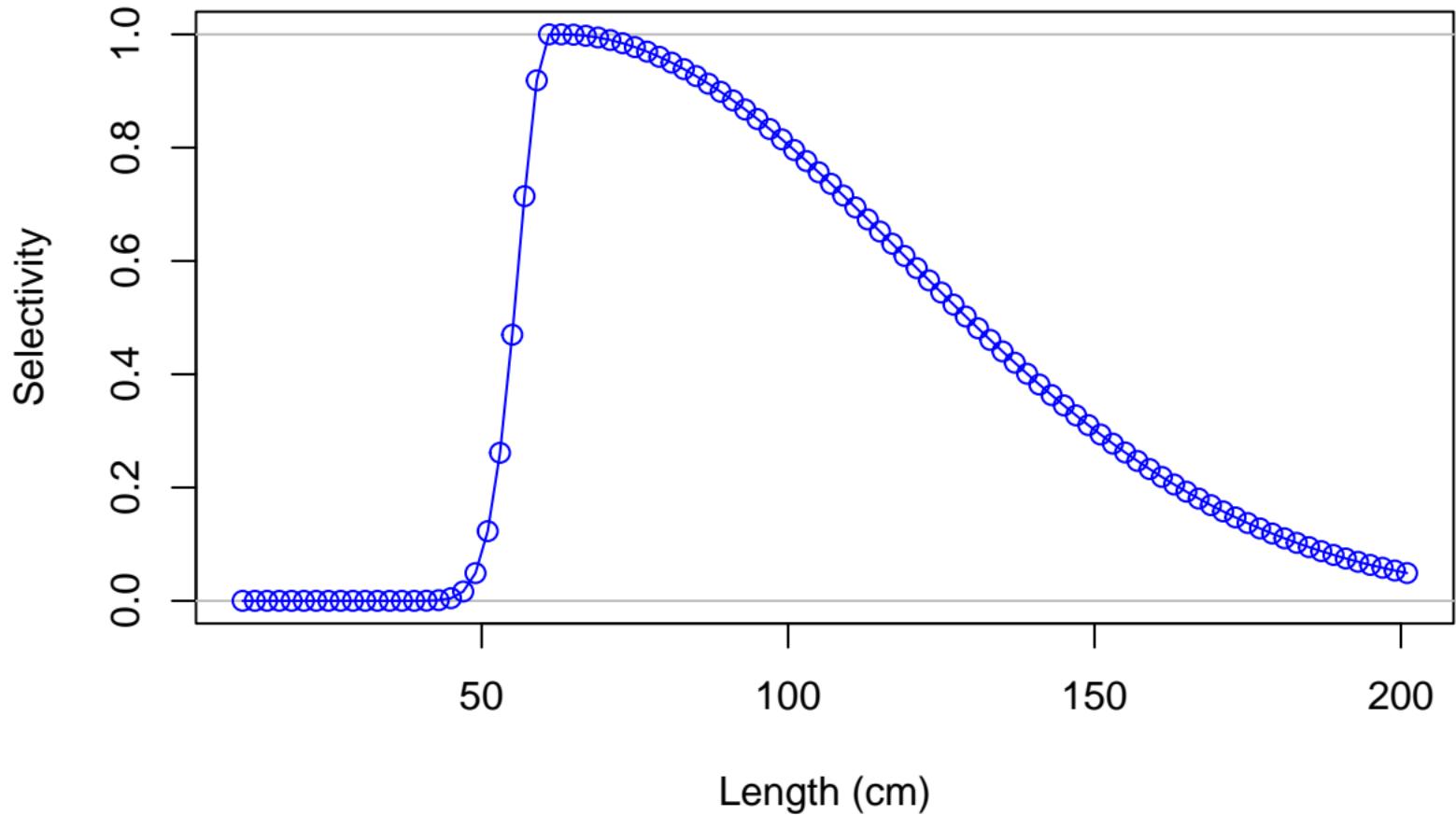
Spawning output

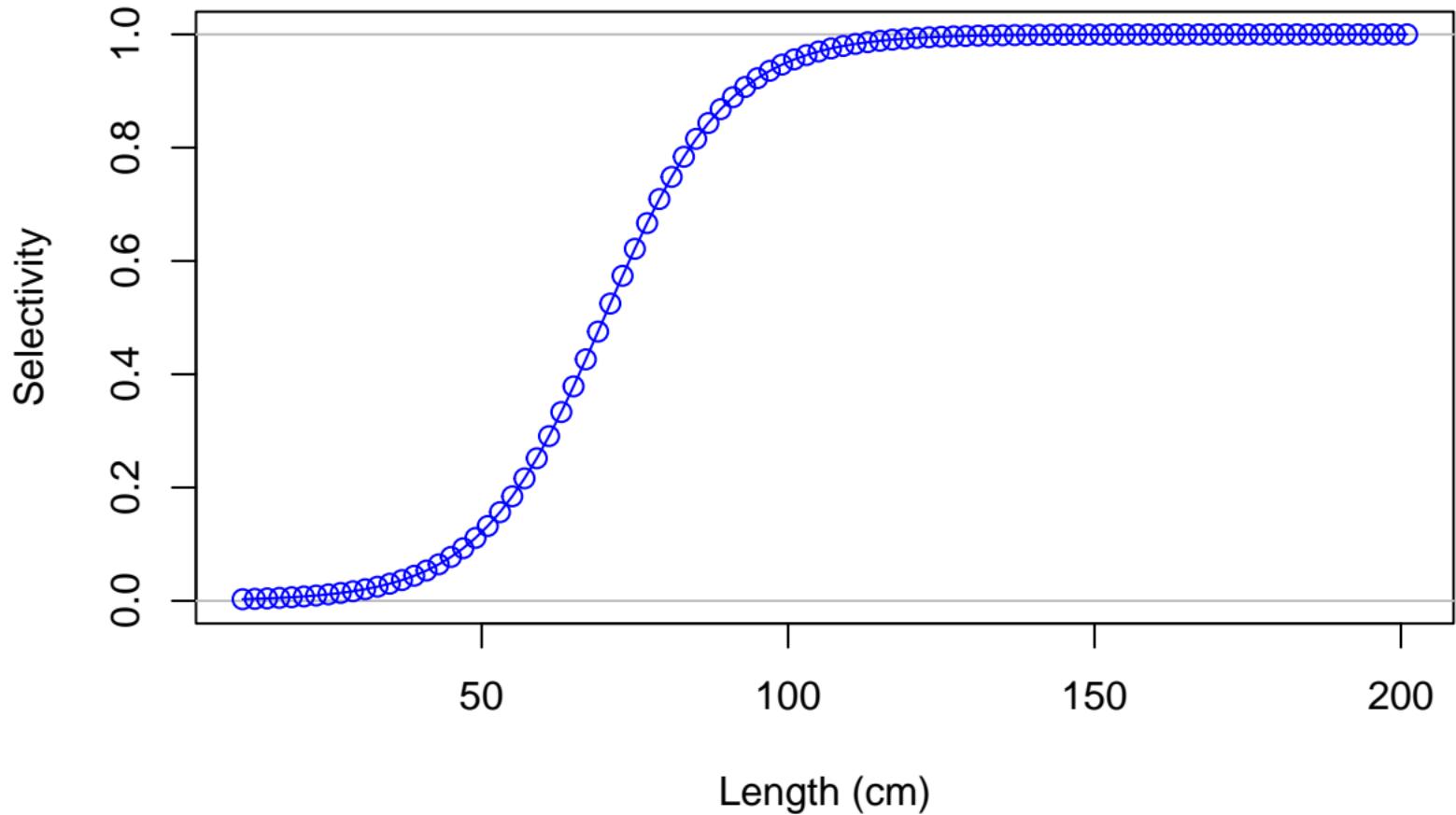


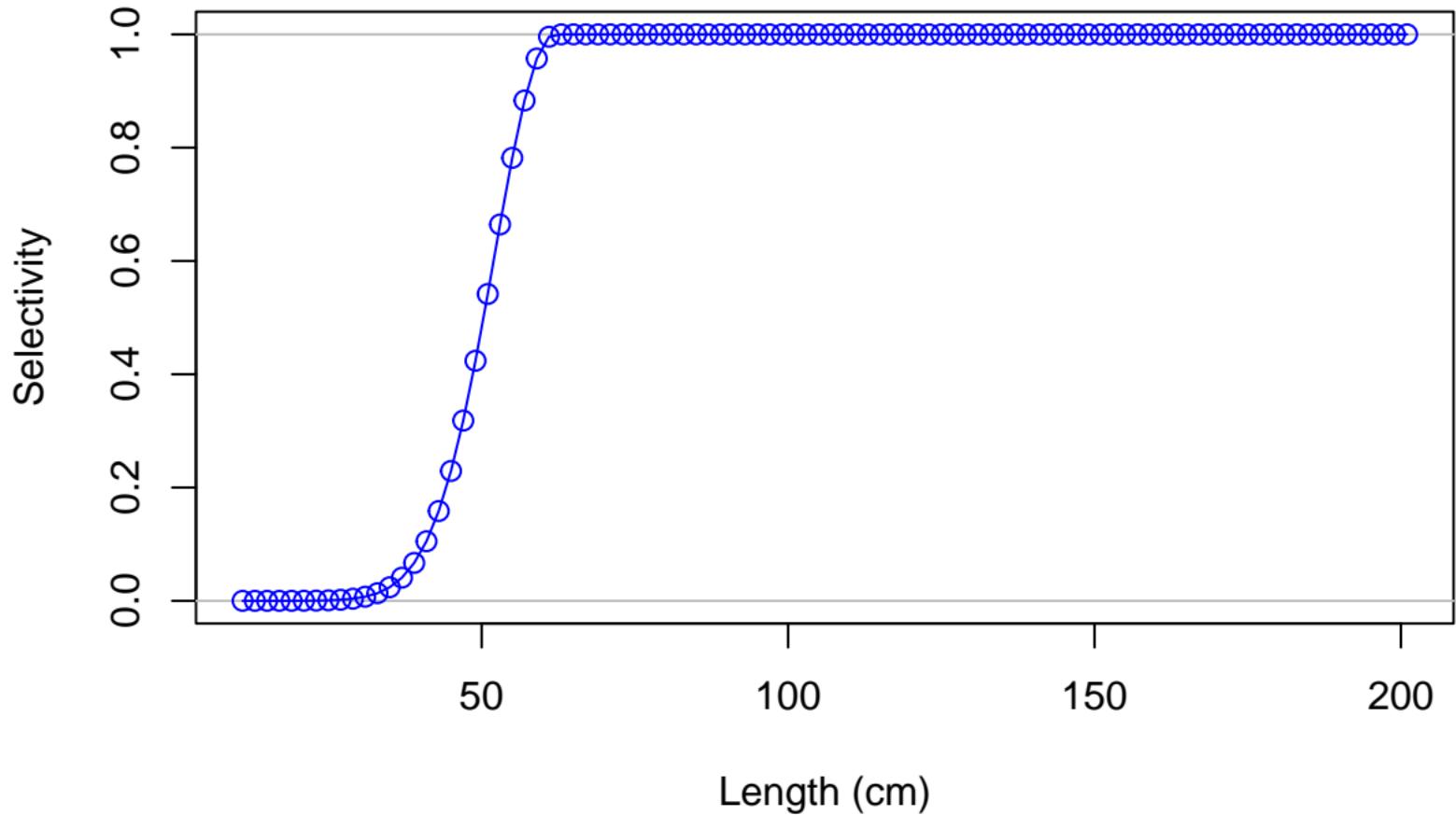


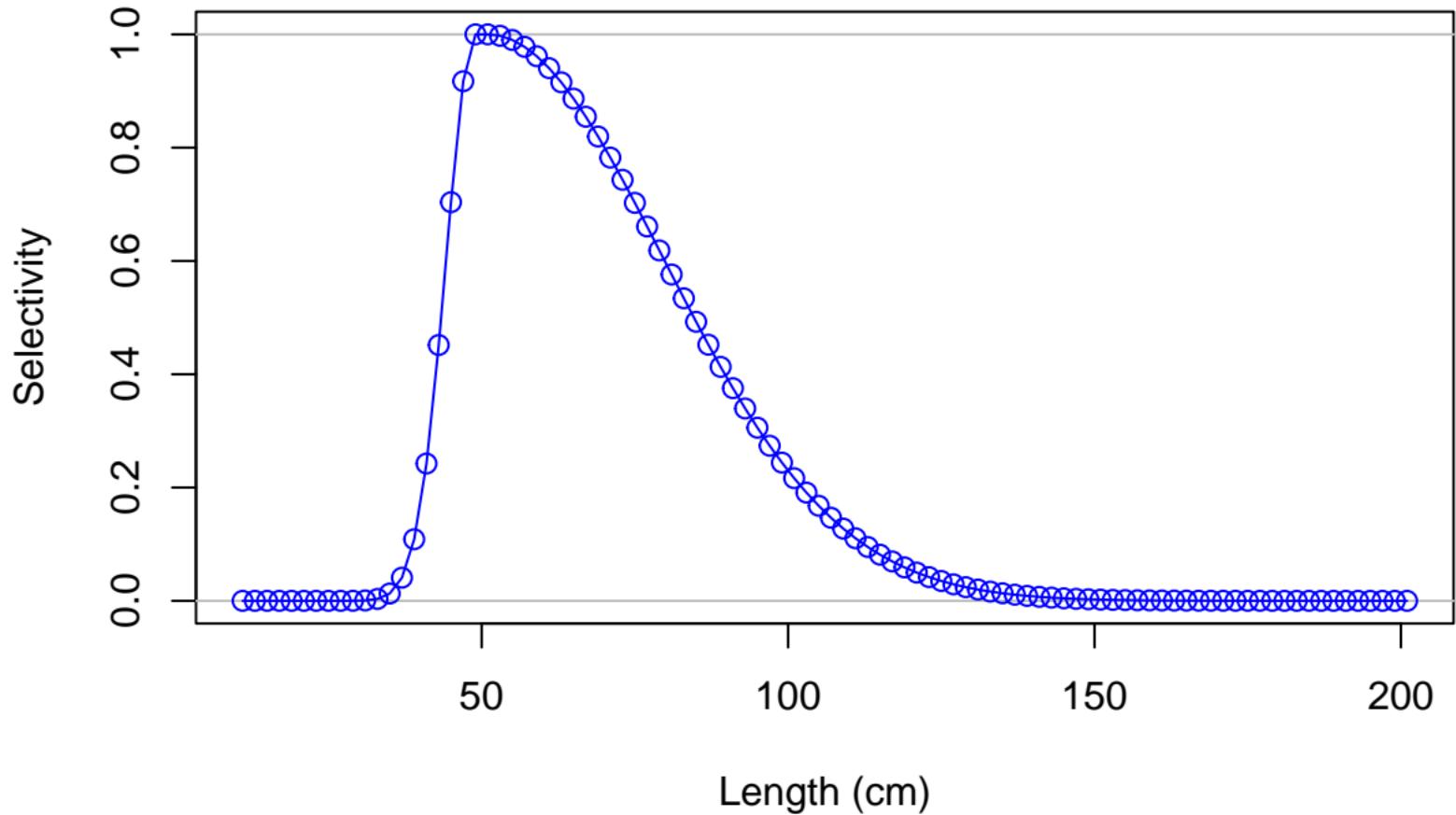


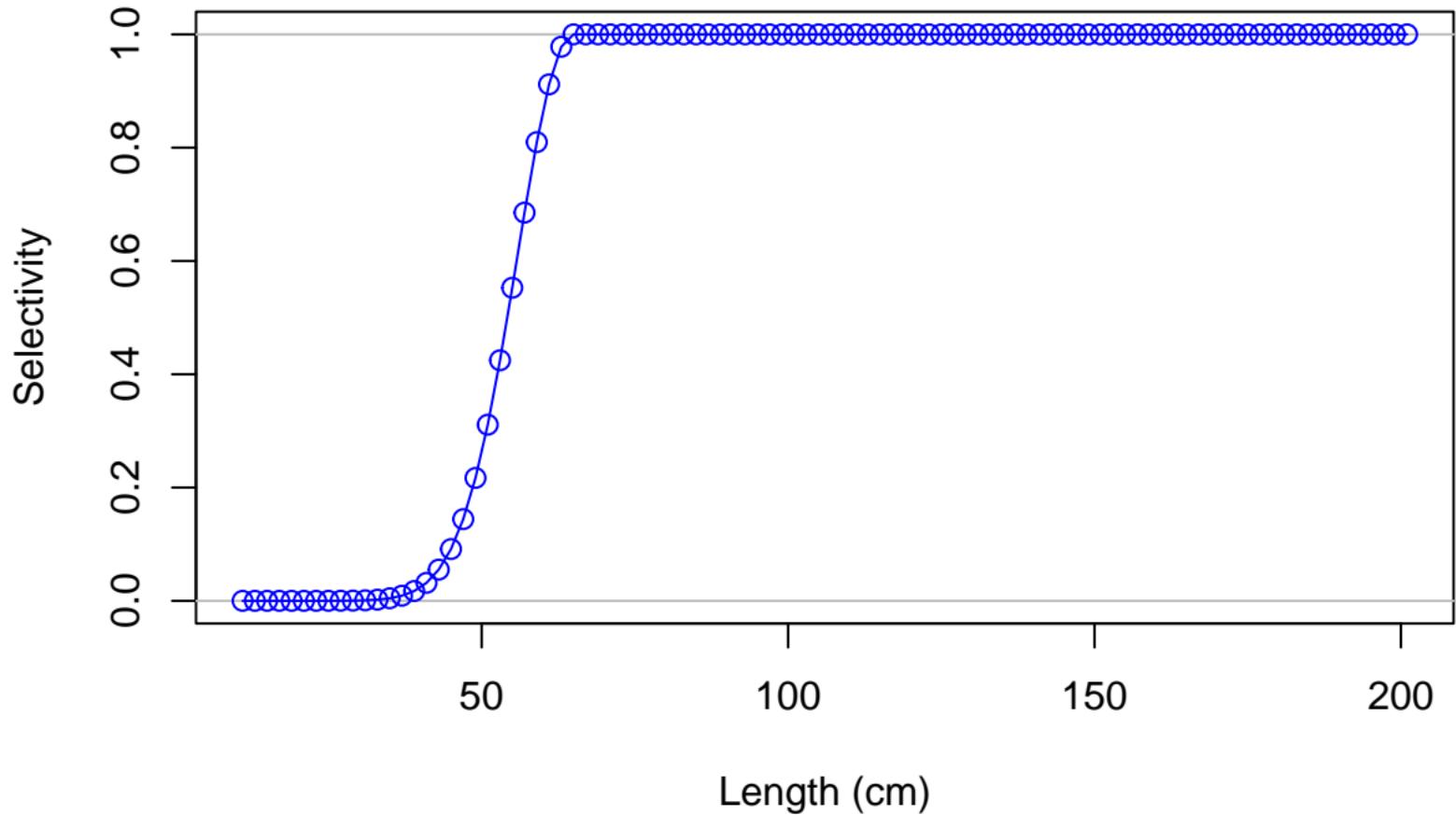


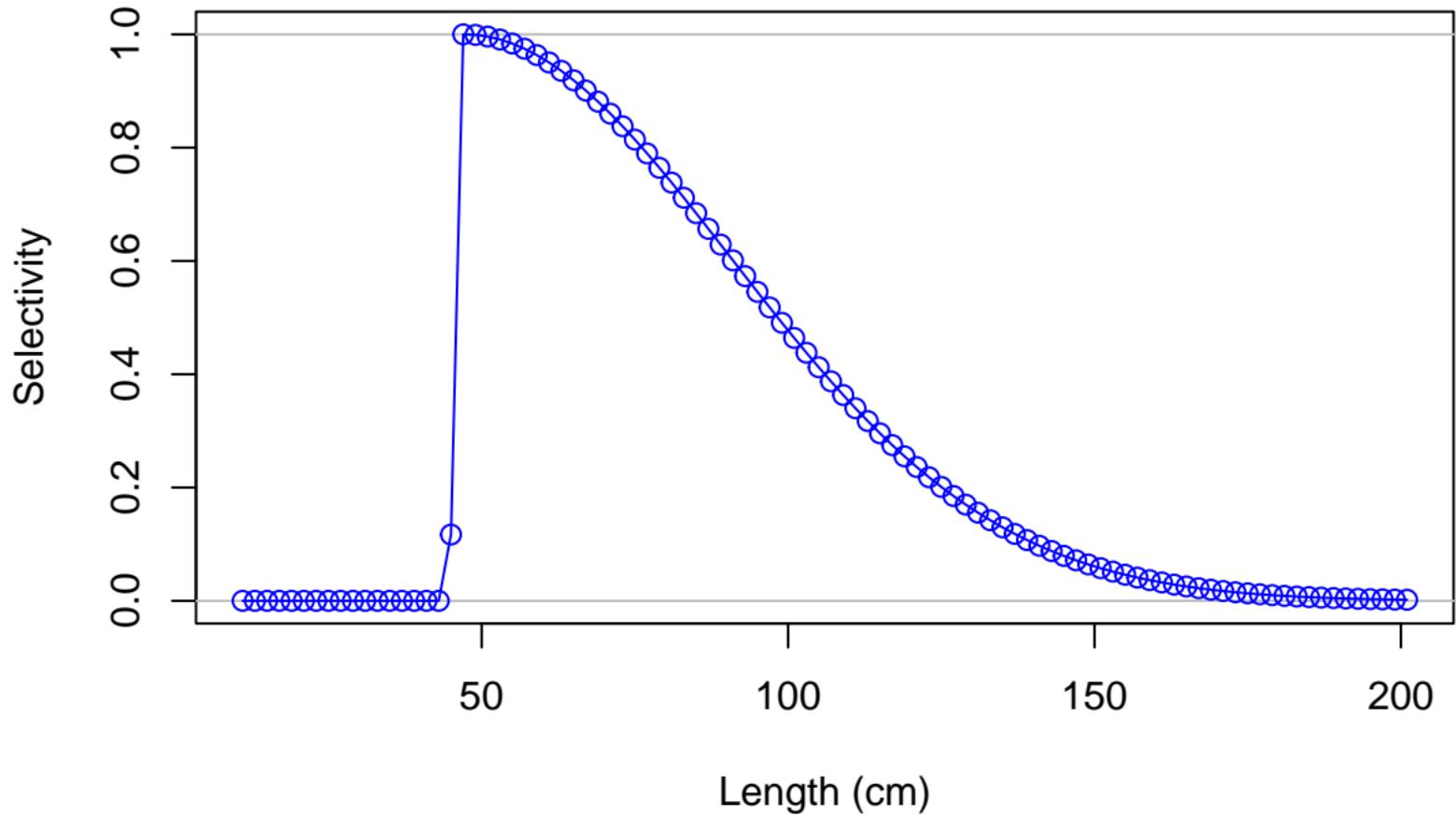


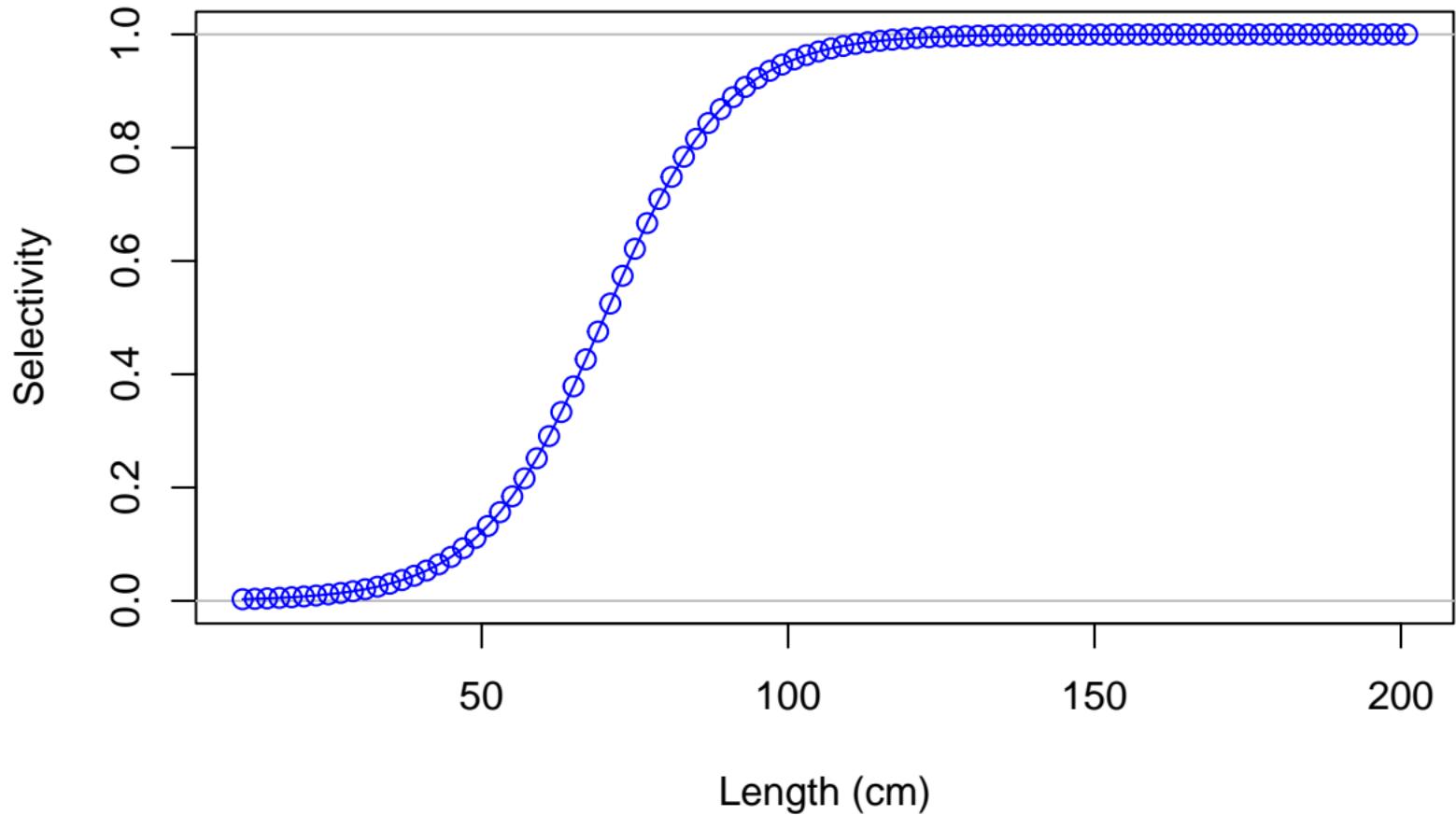


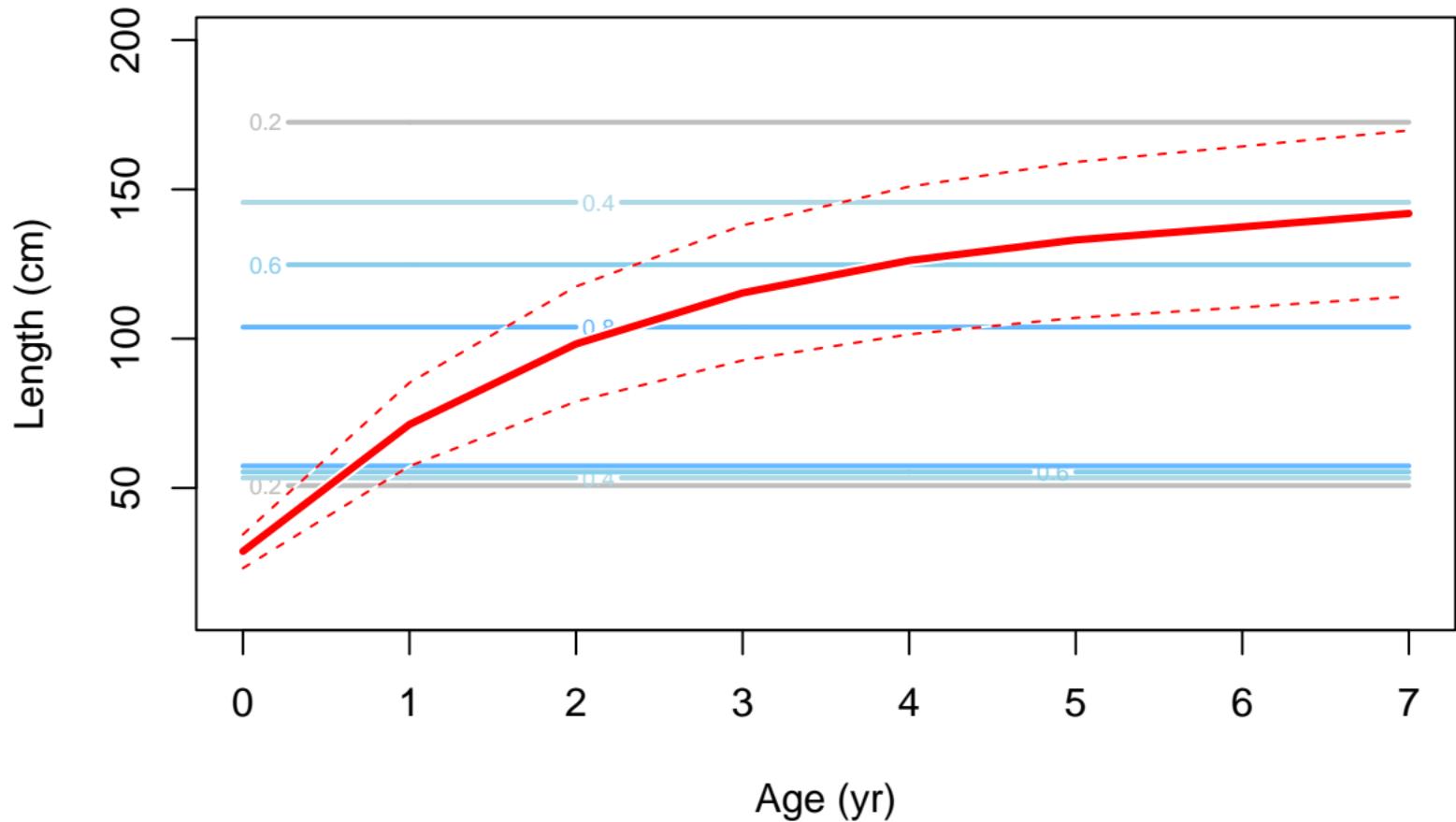


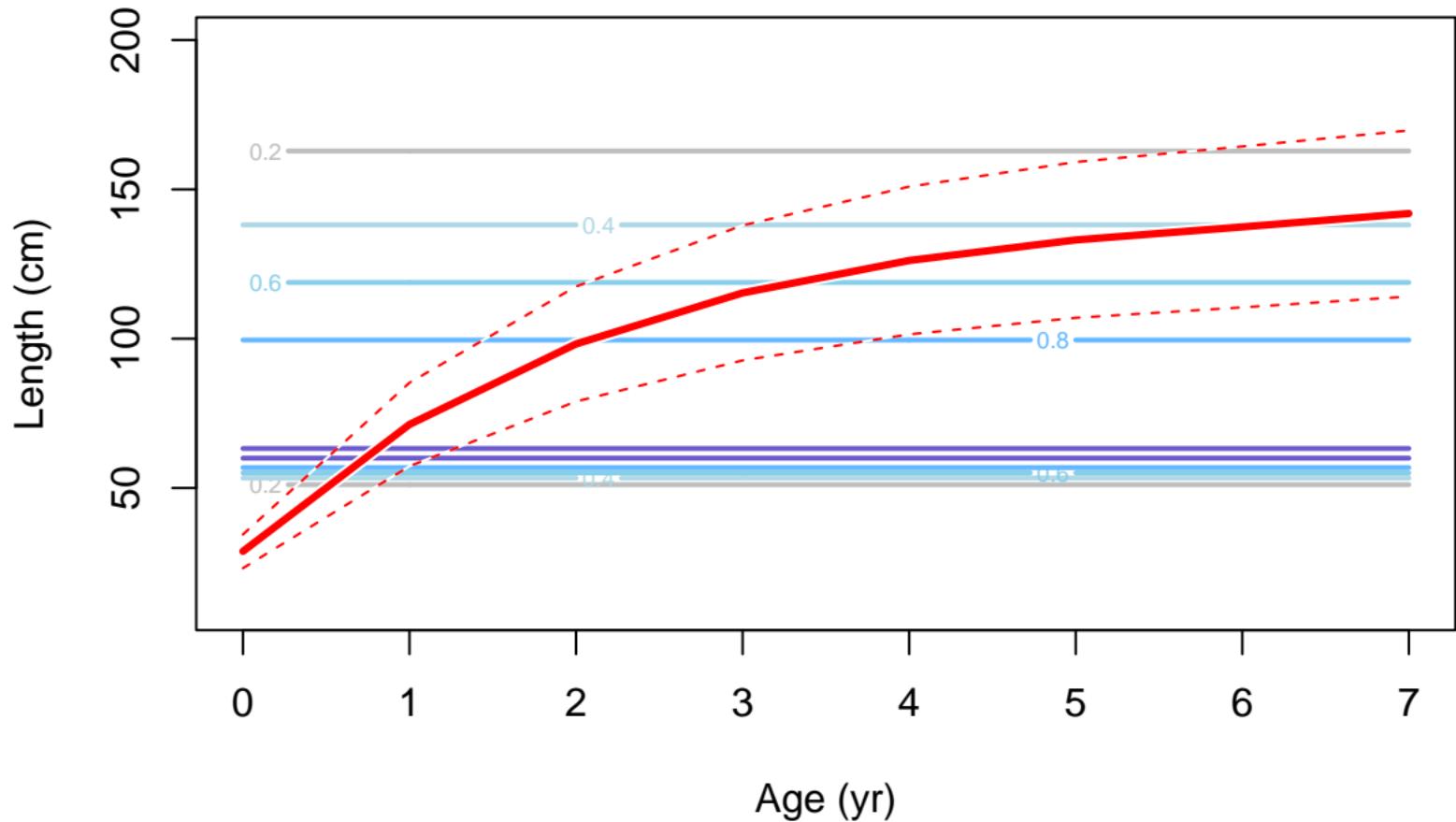


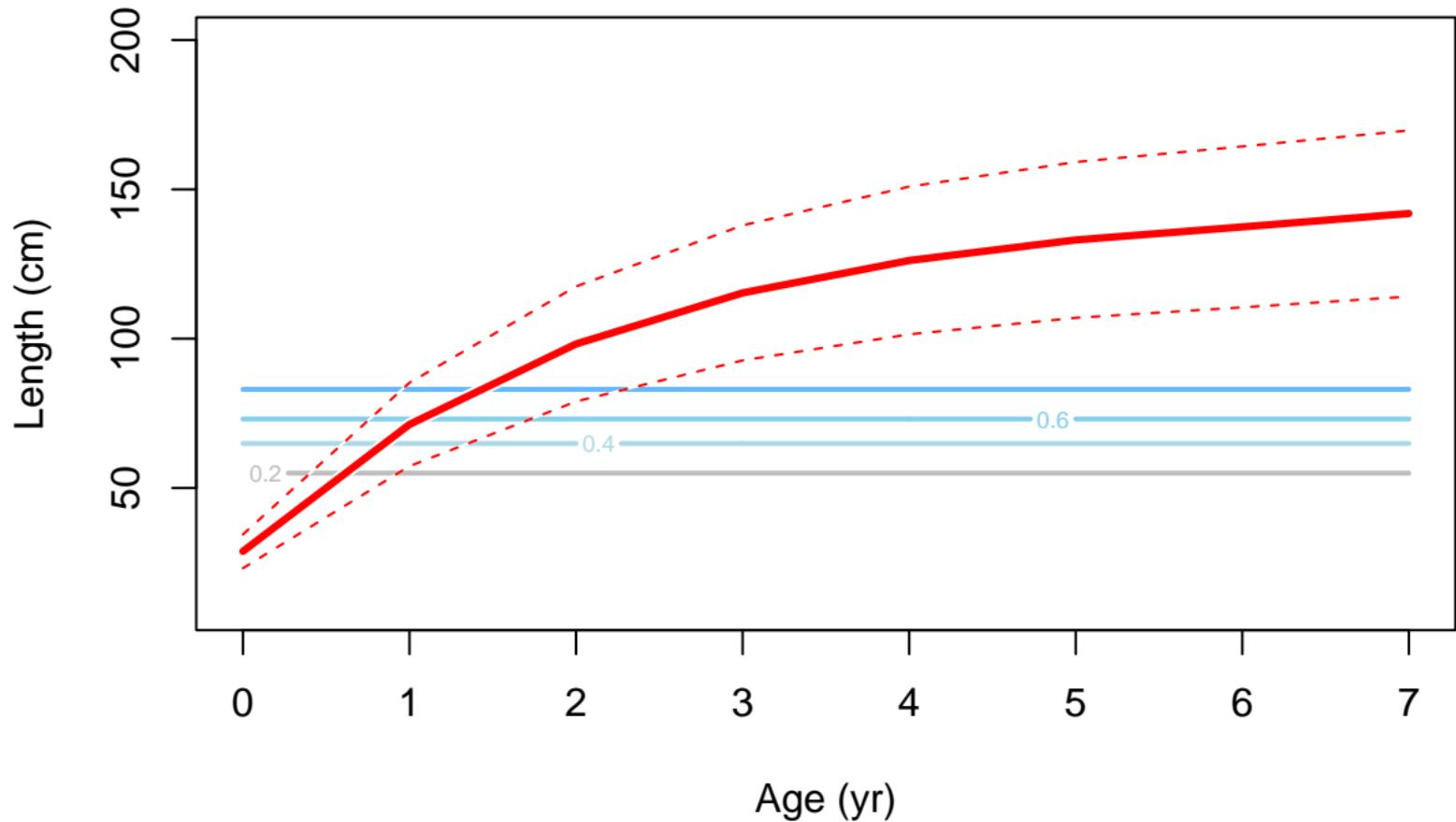


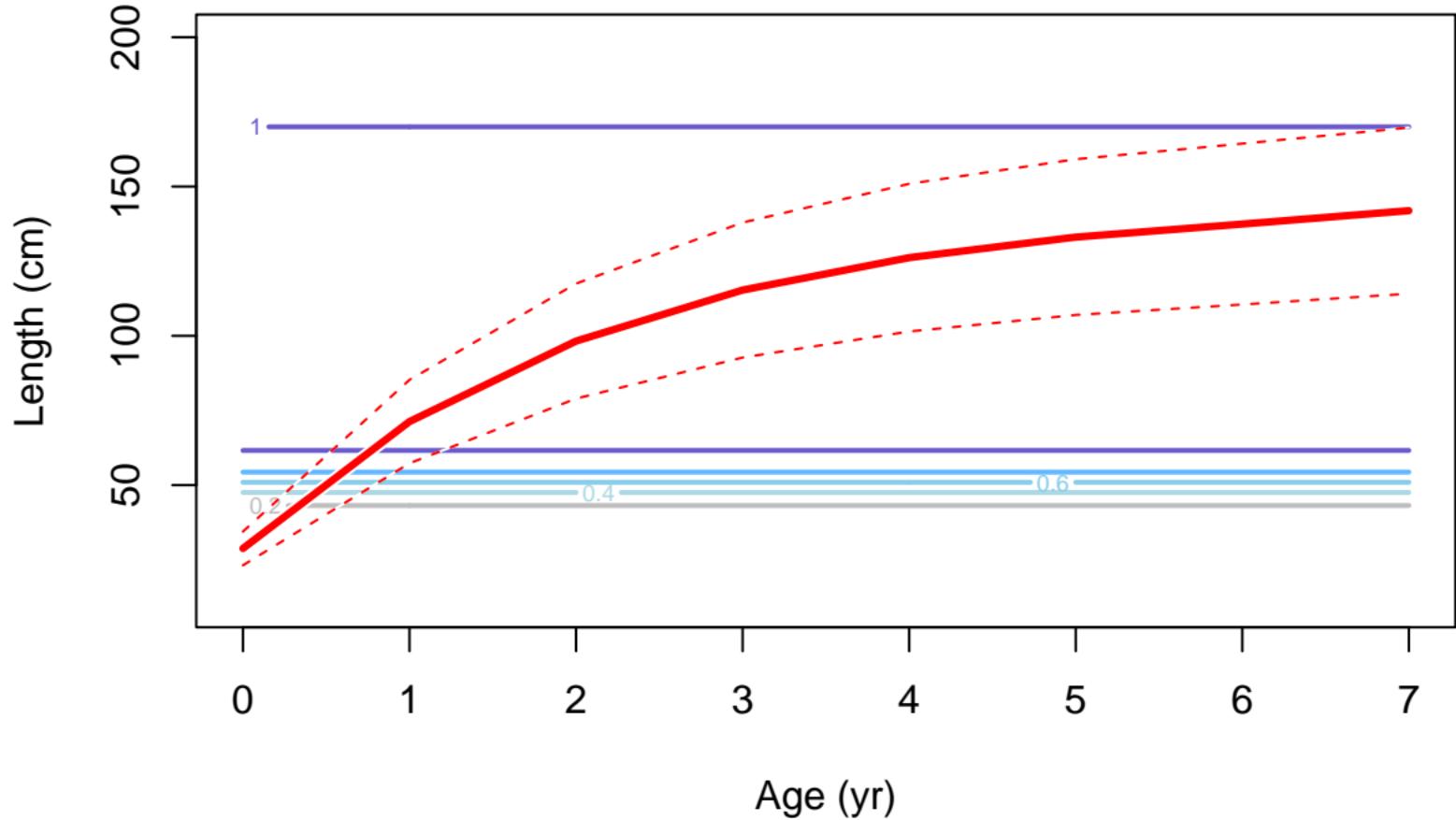


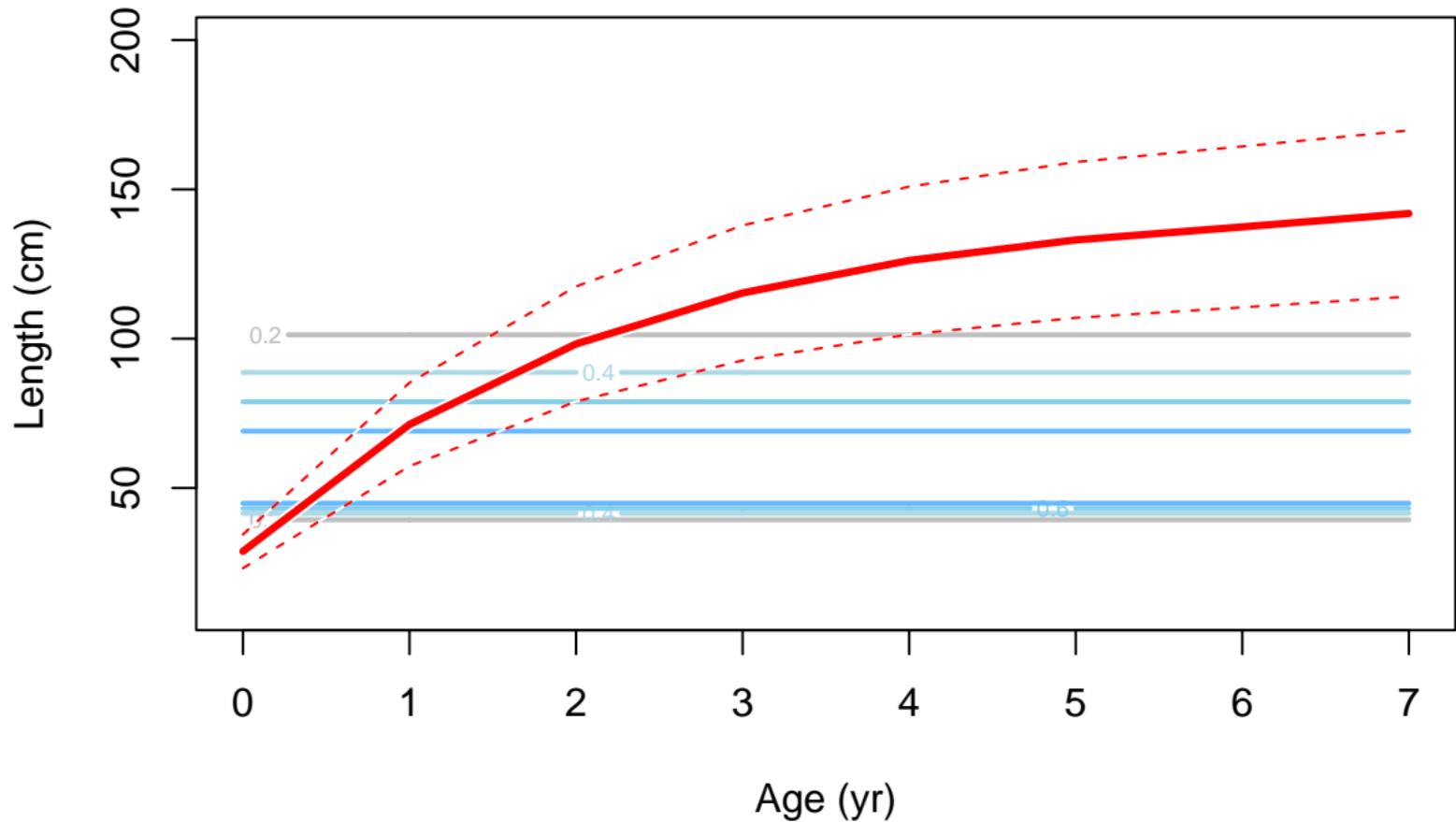


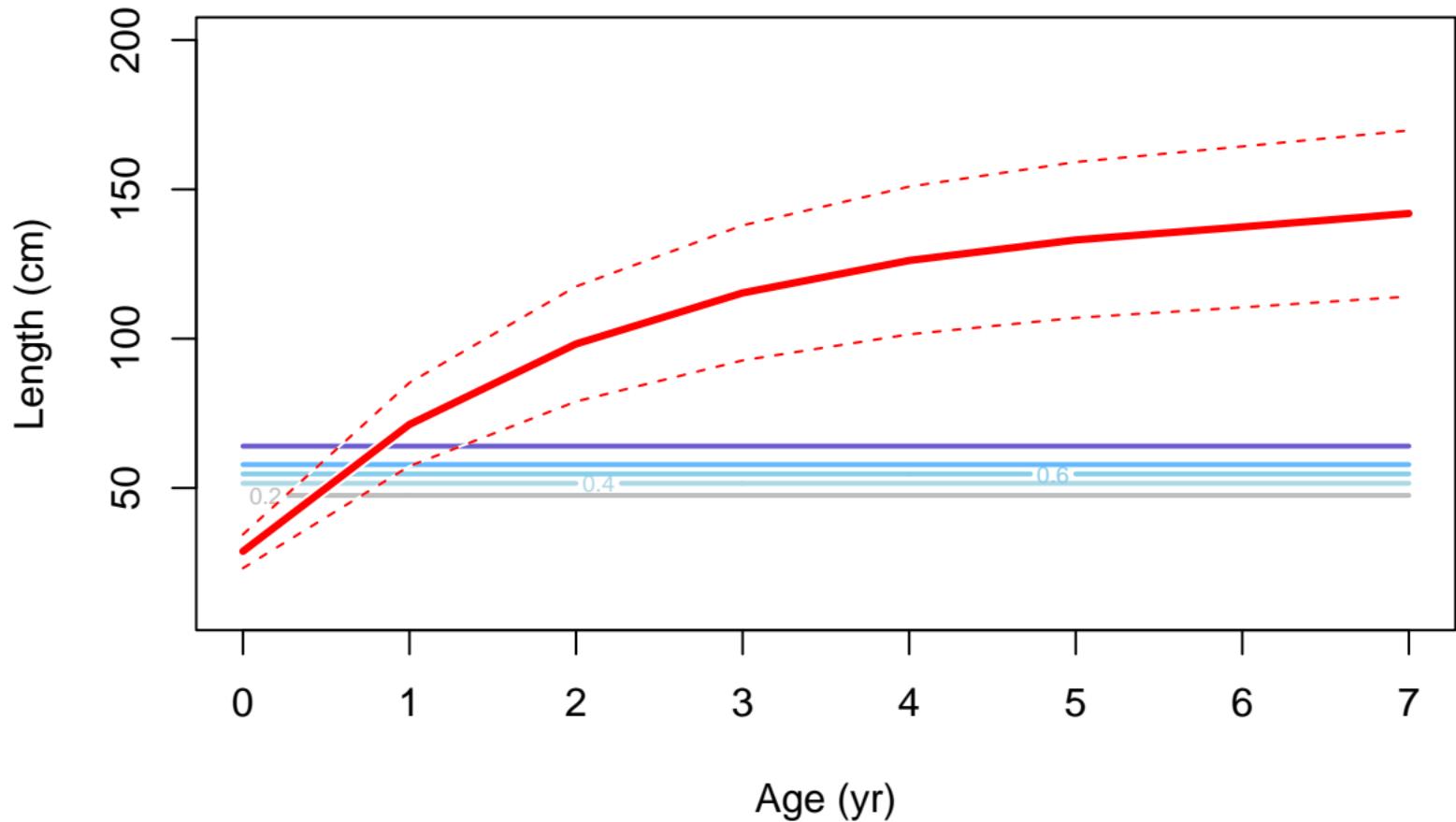


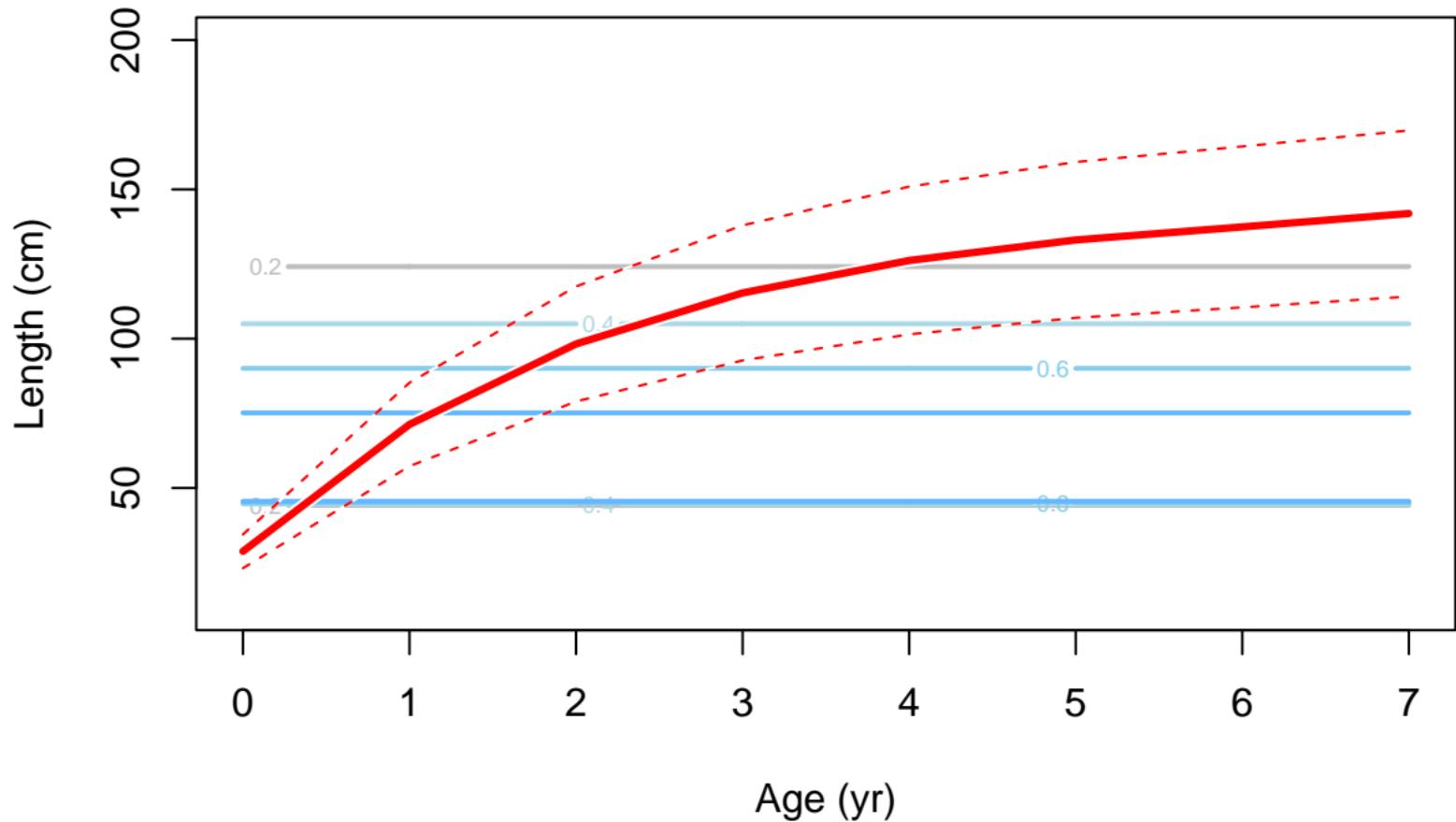


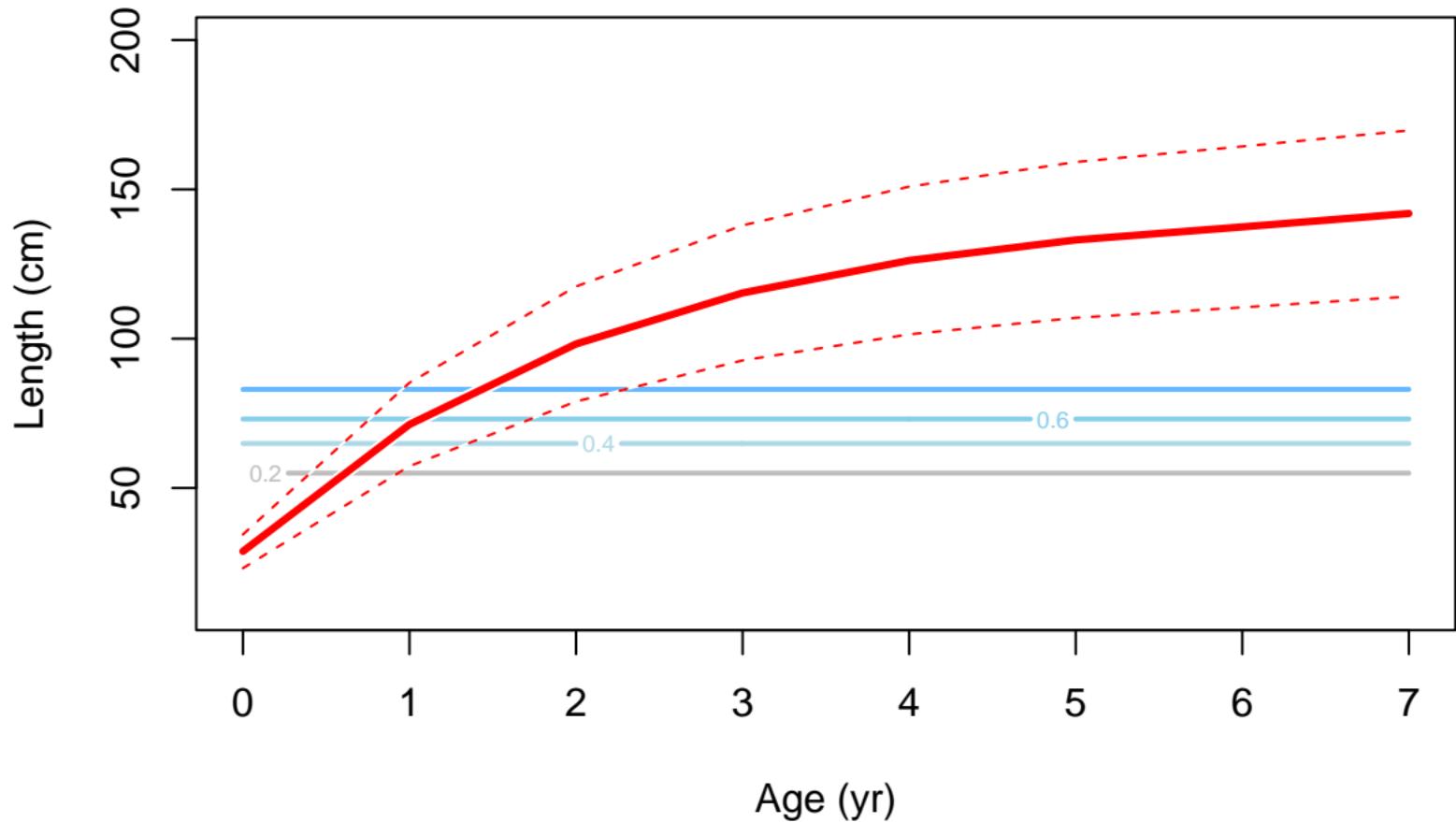


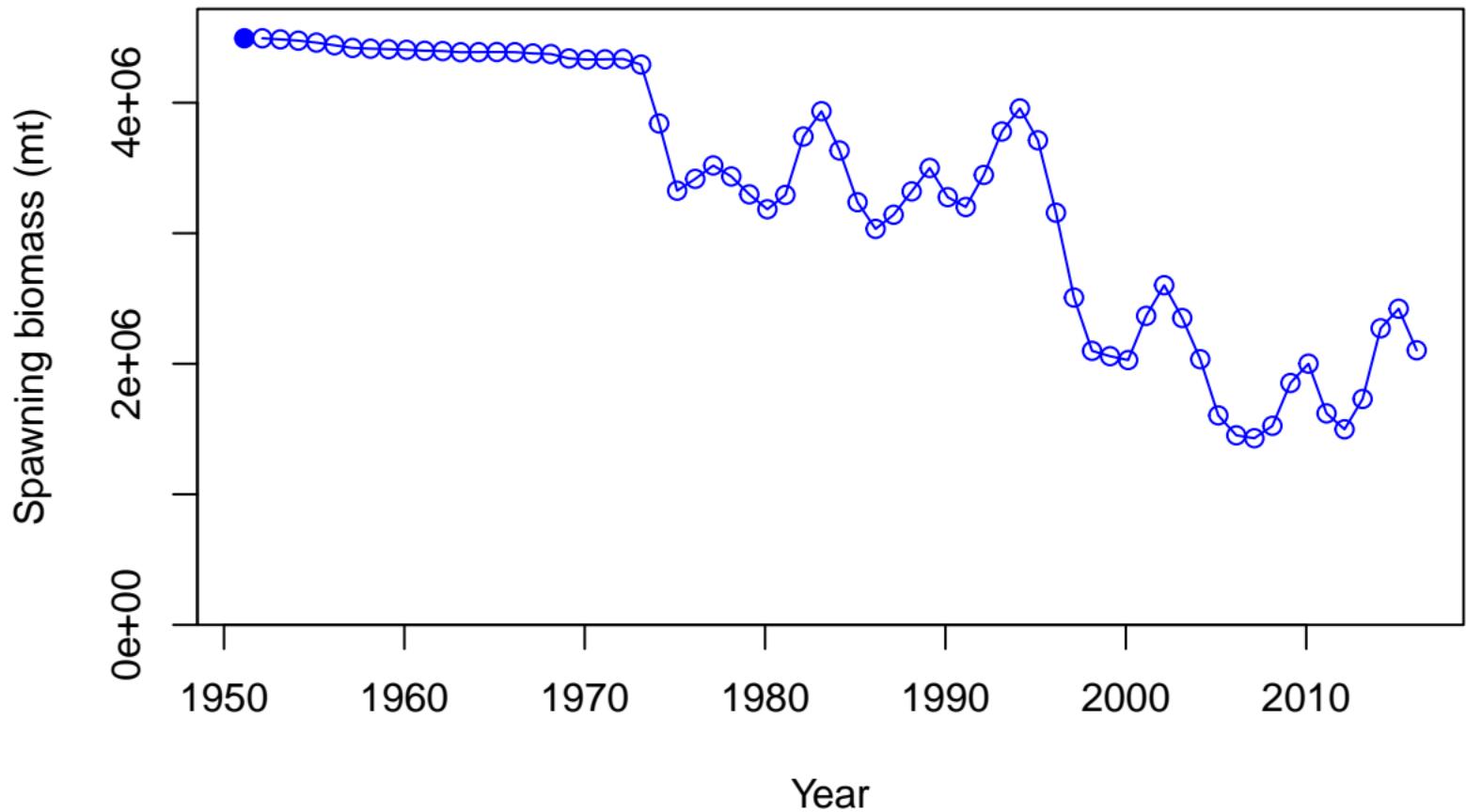


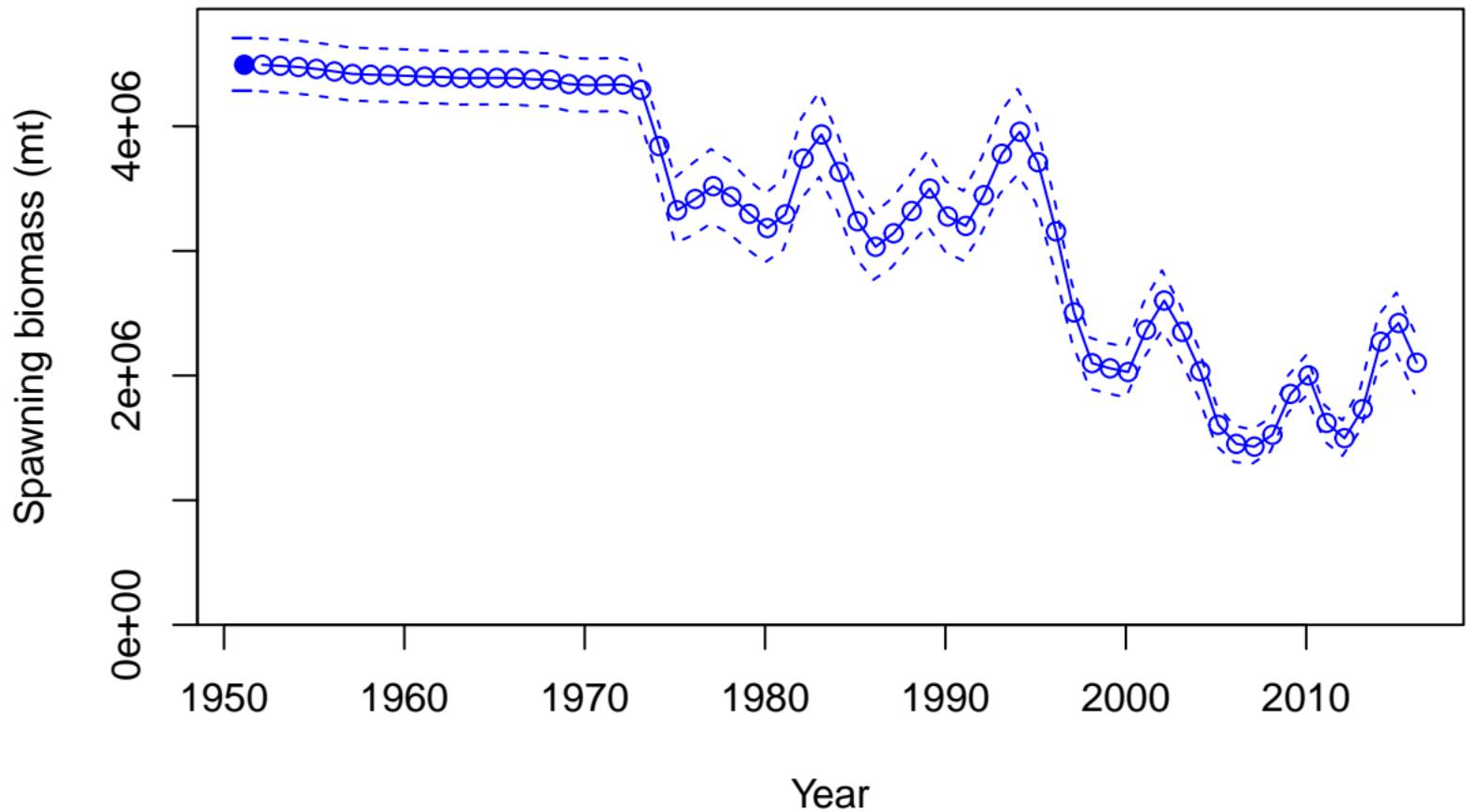




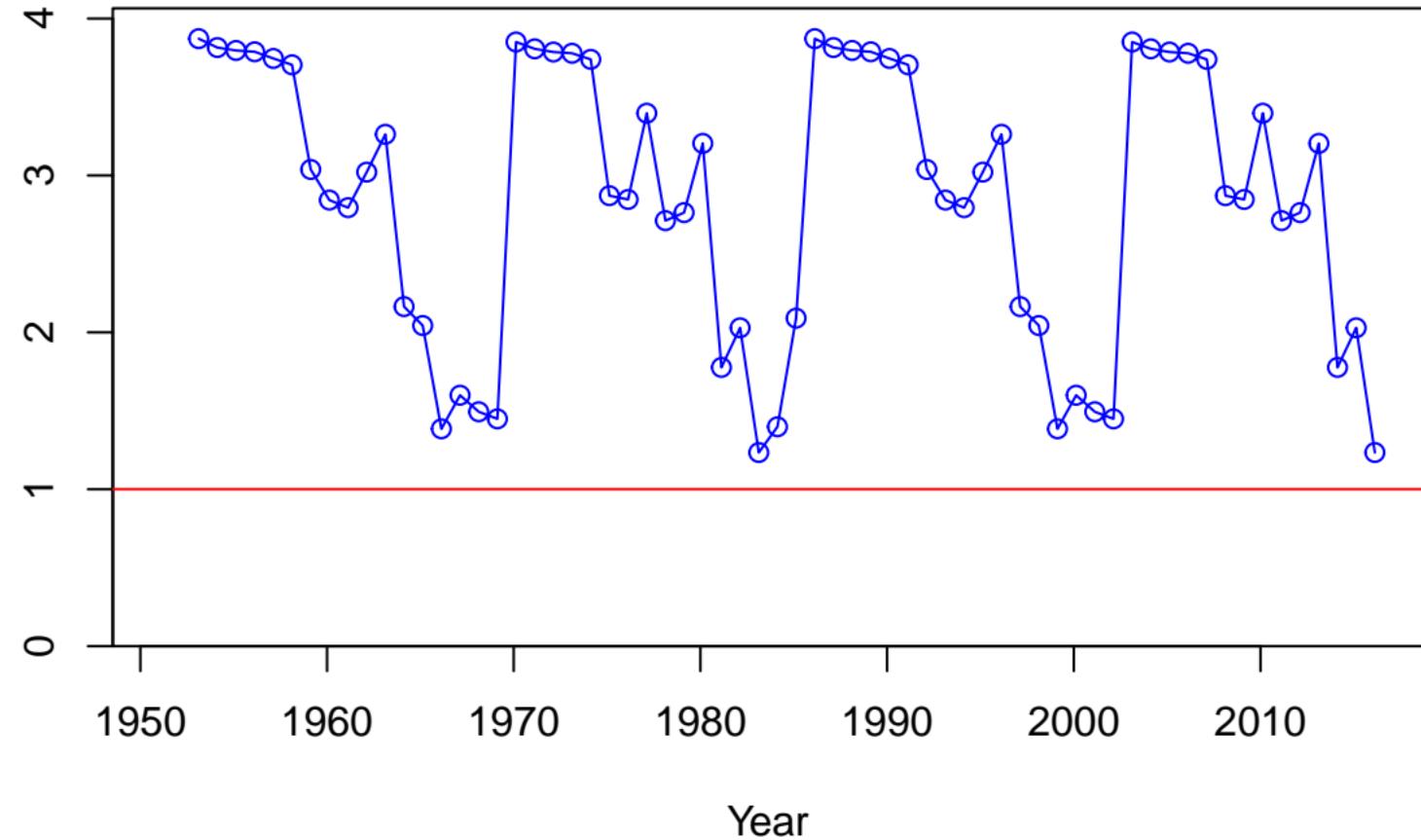




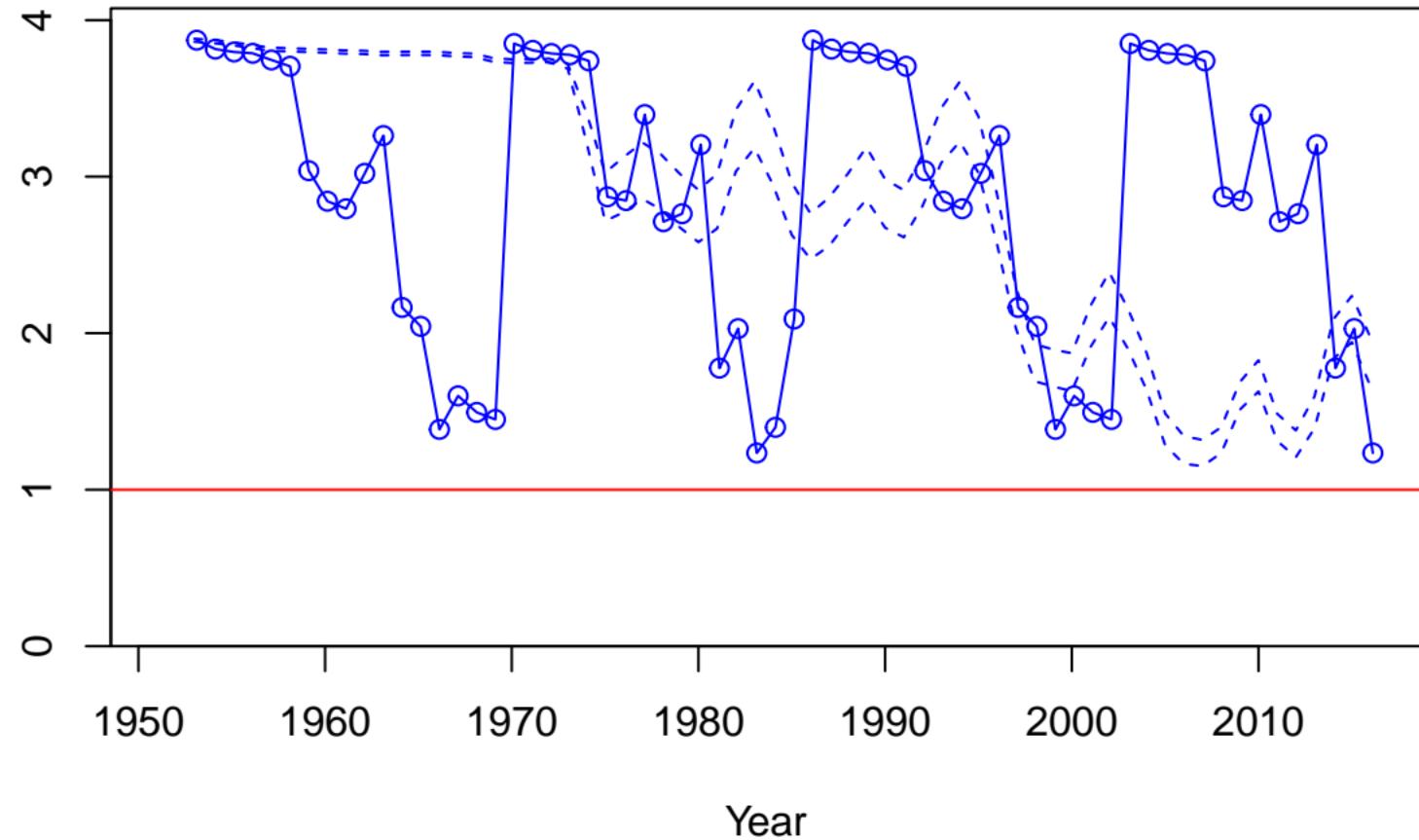


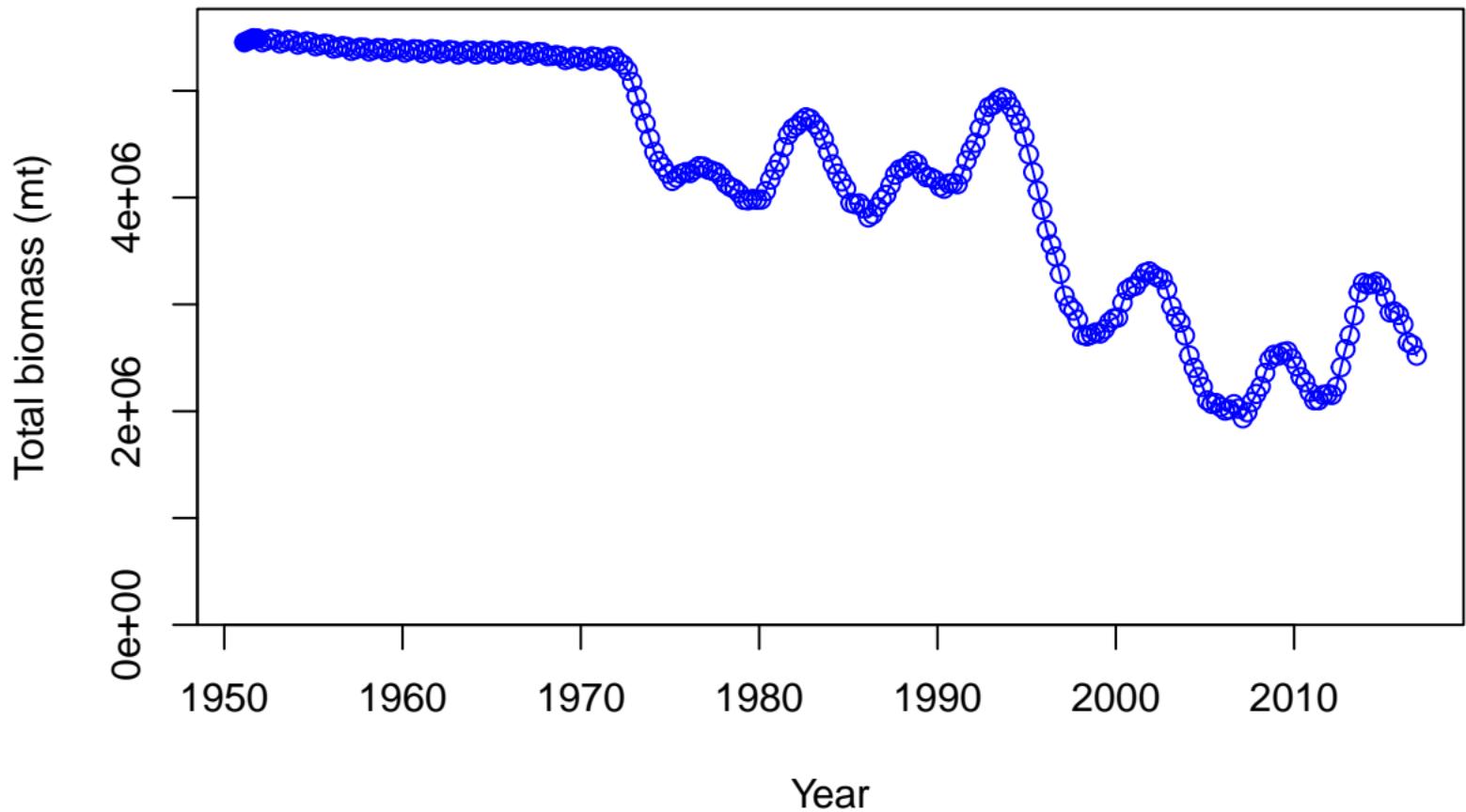


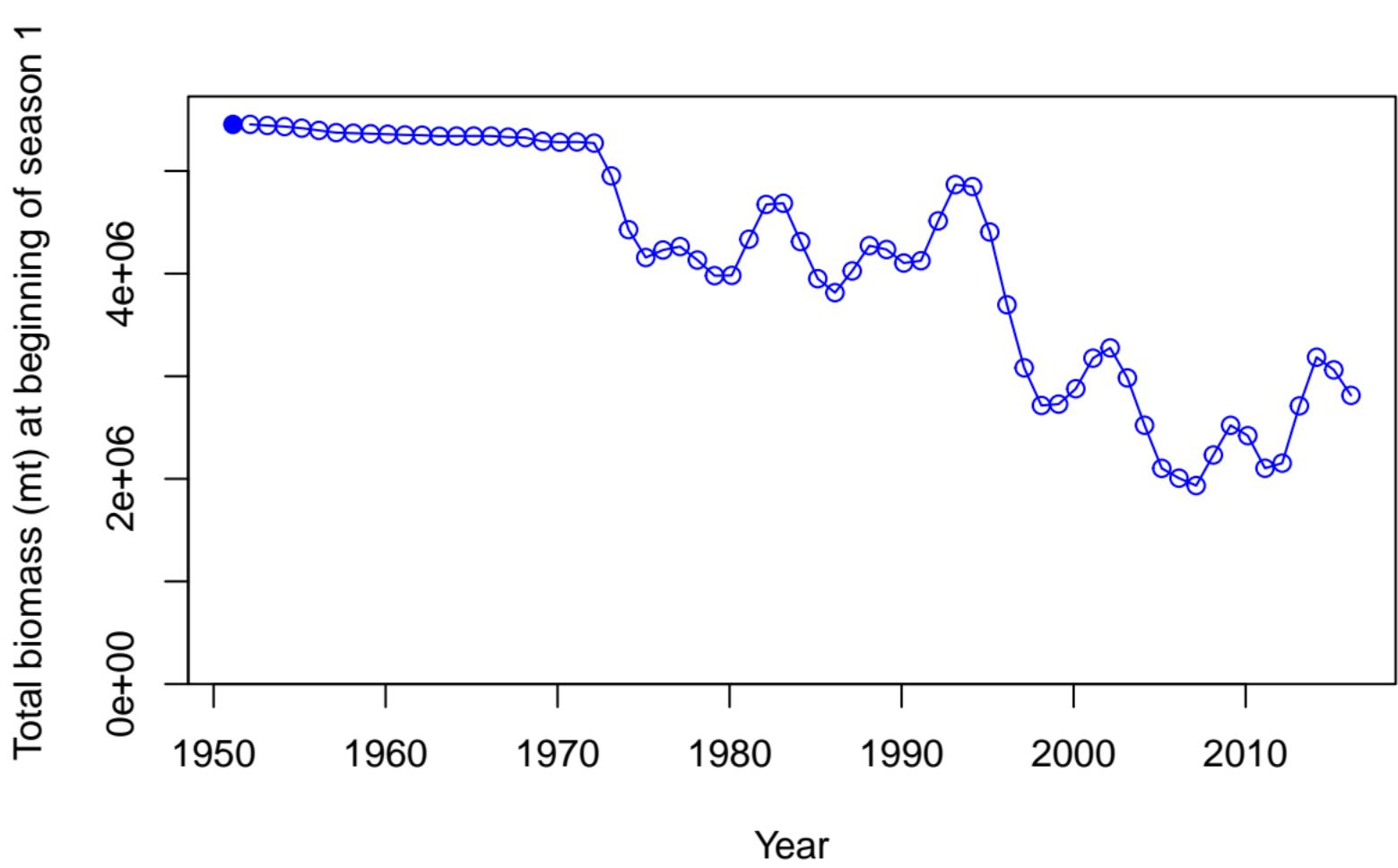
Relative spawning biomass: B/B_MSY



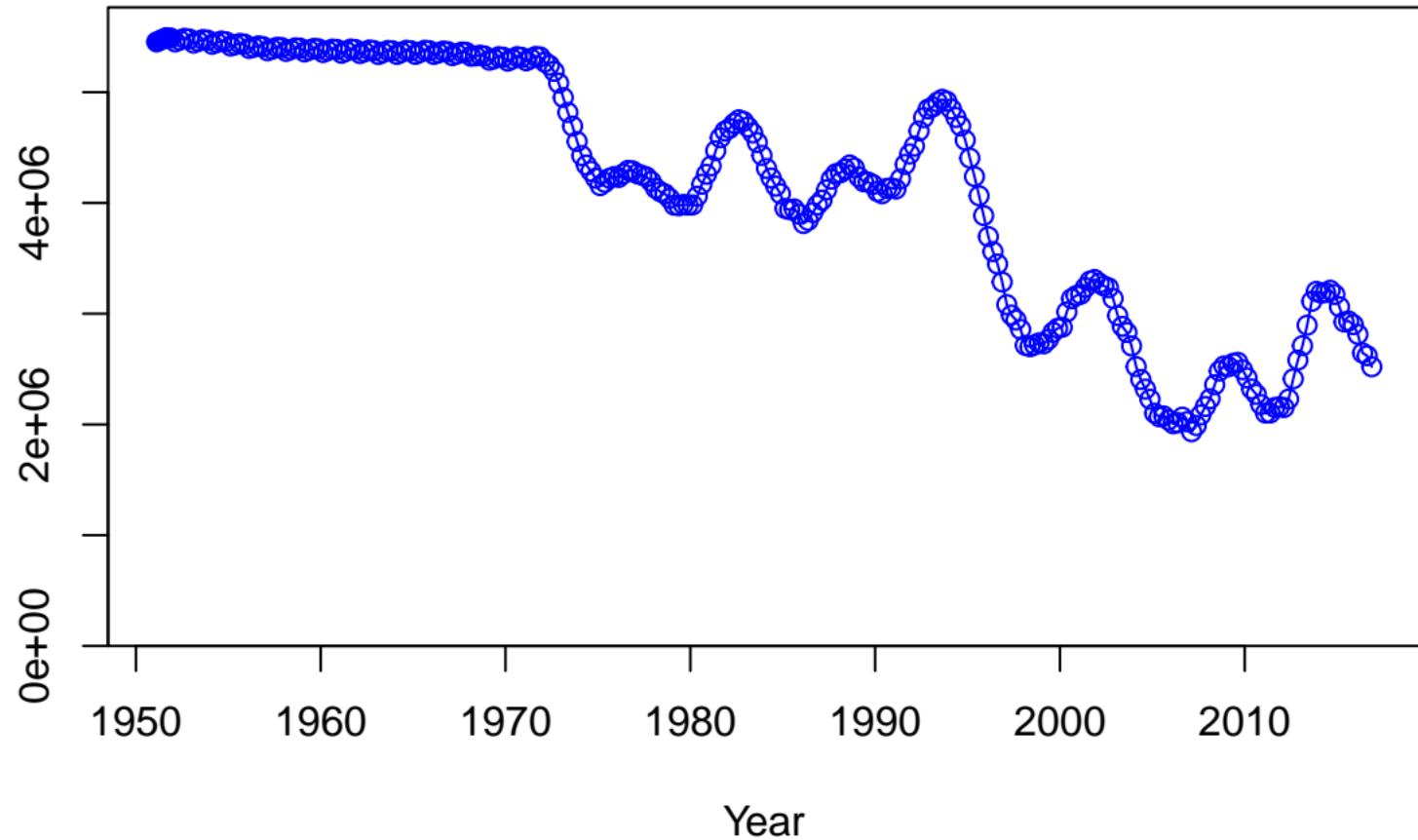
Relative spawning biomass: B/B_{MSY}

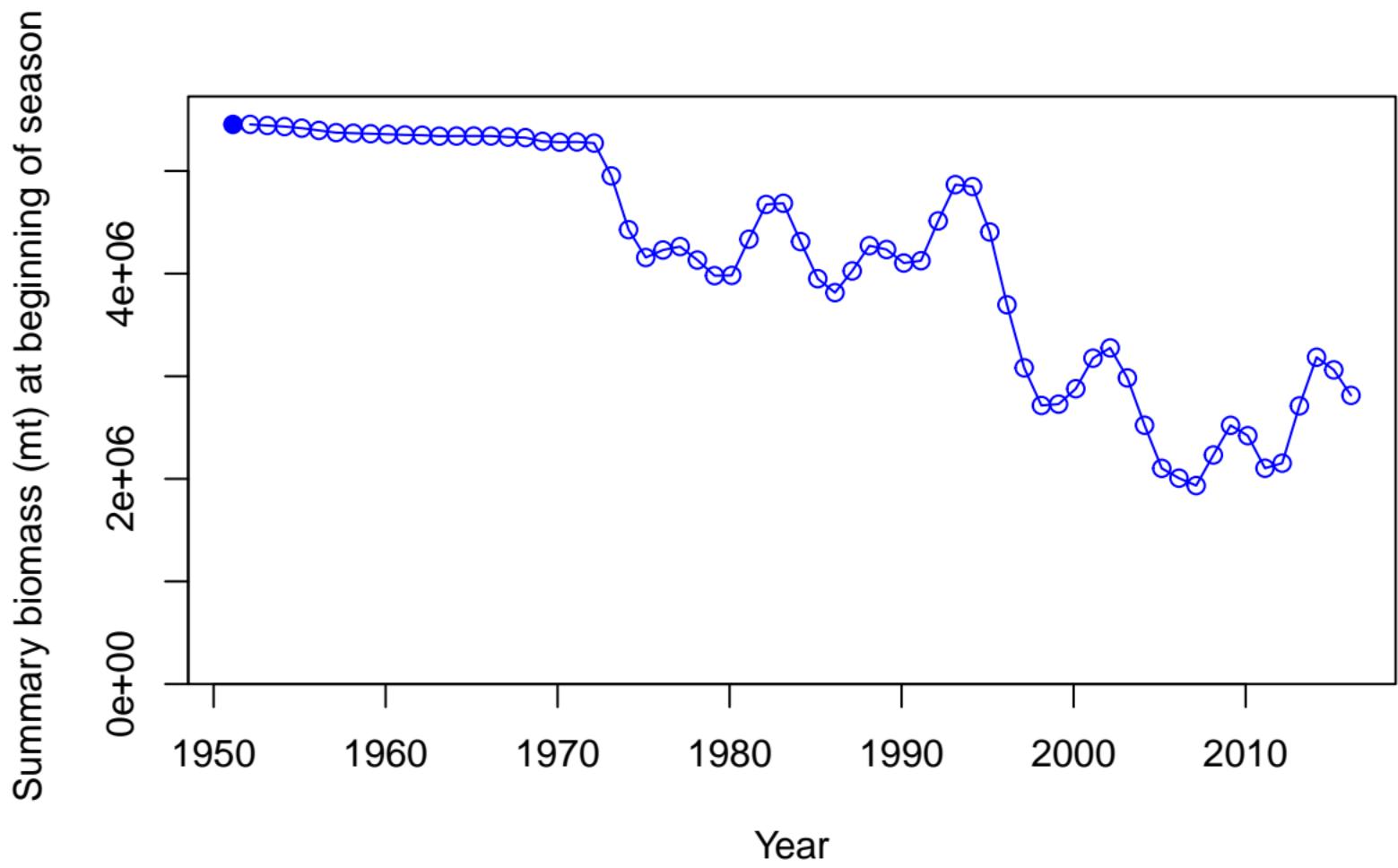


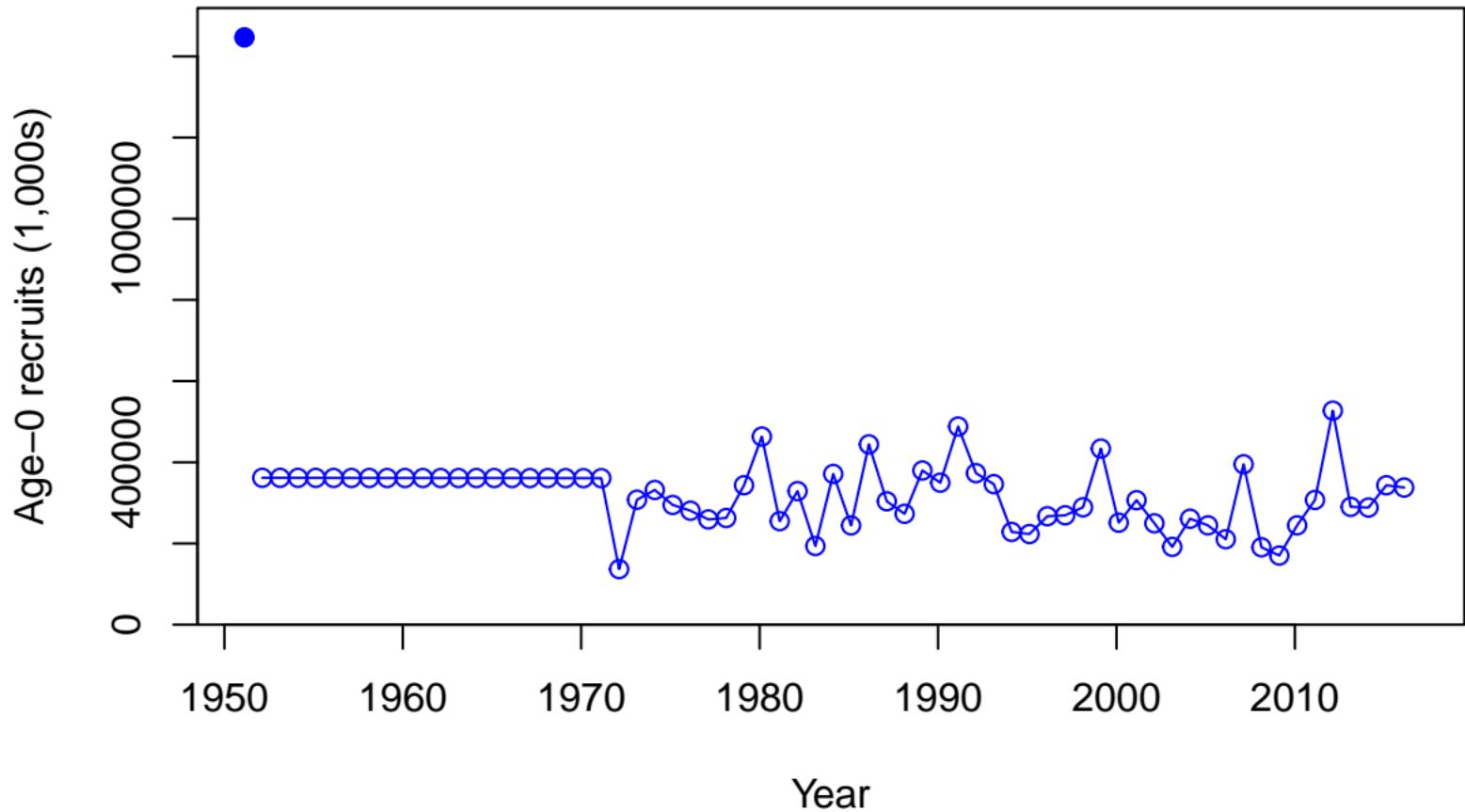


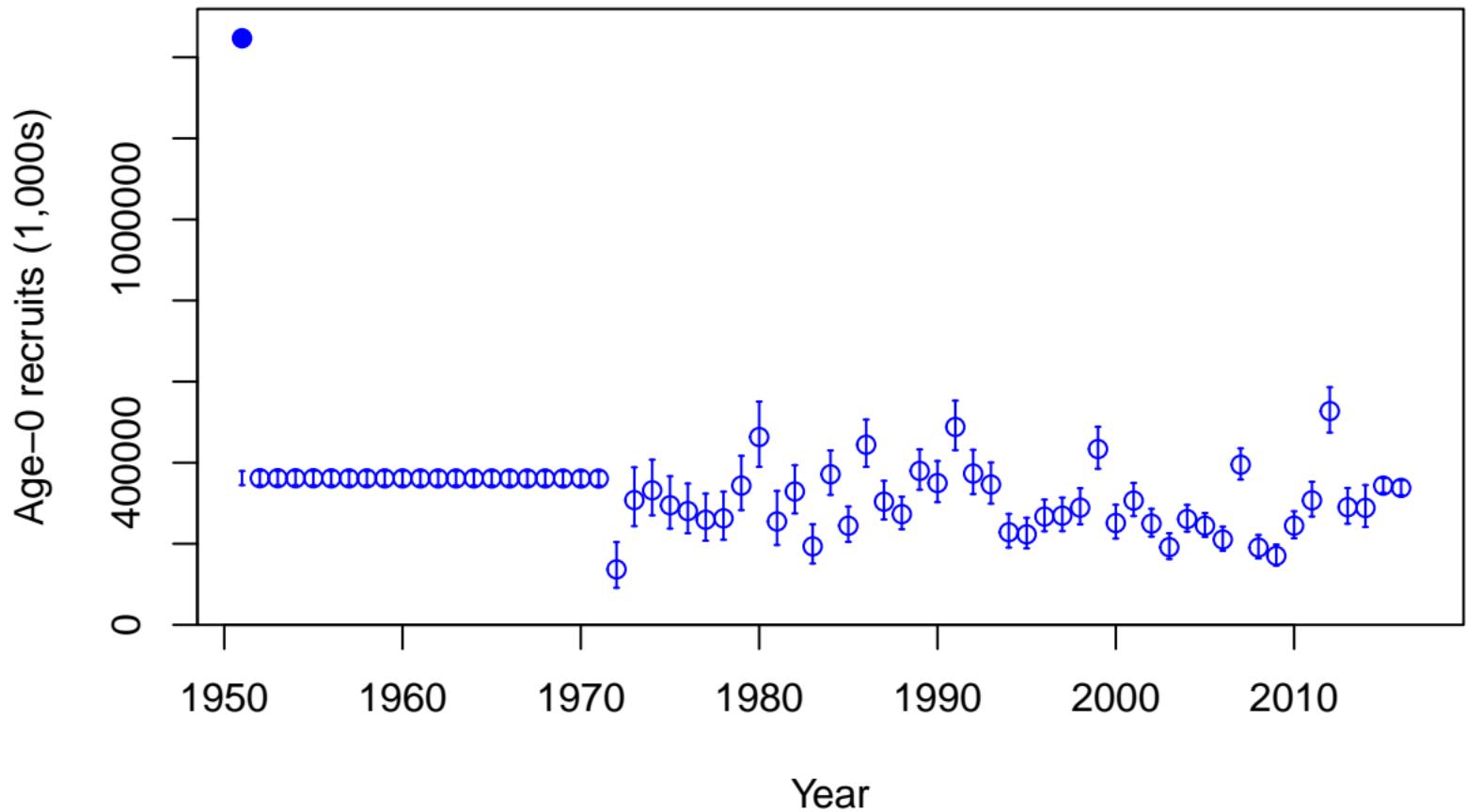


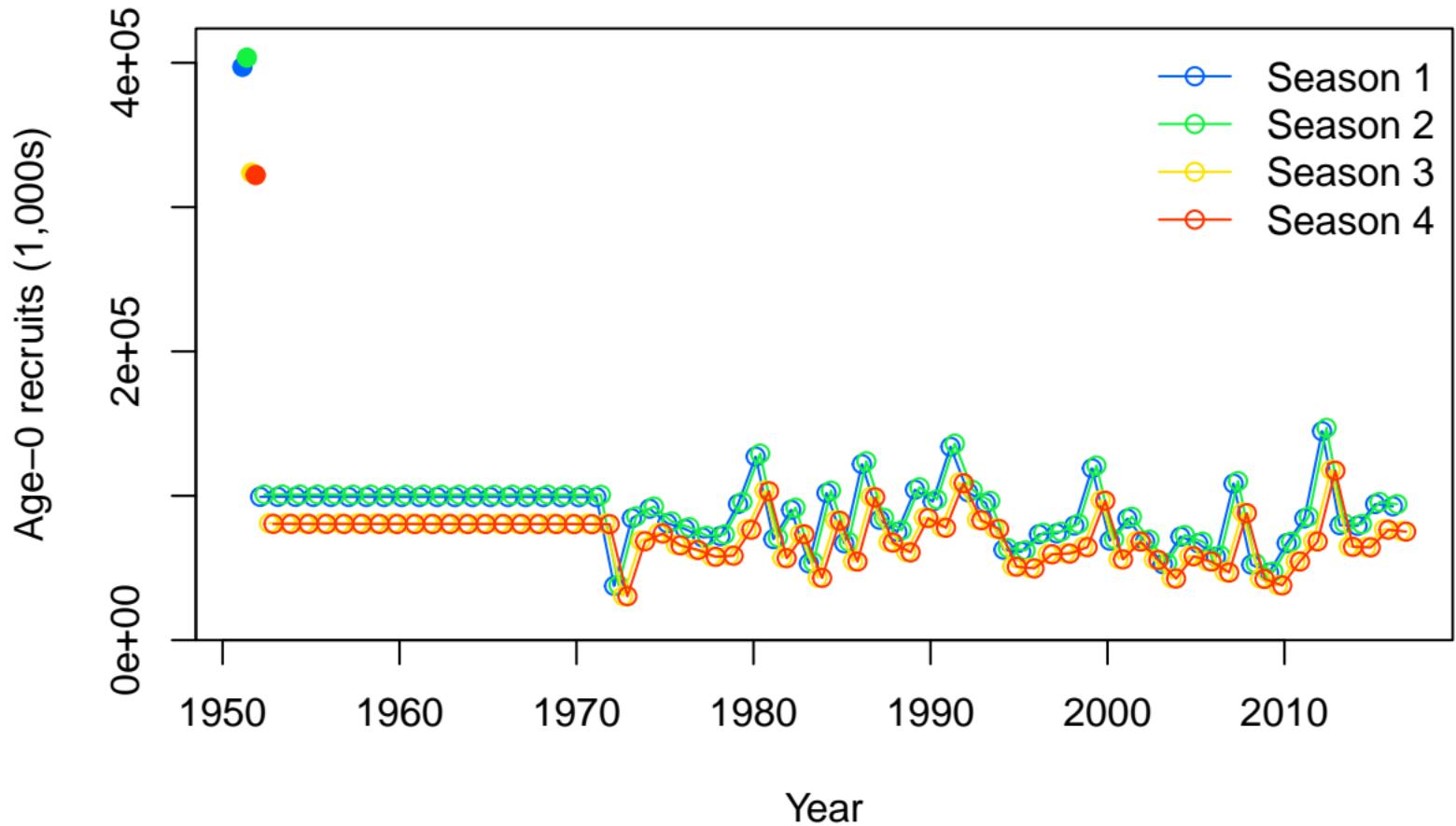
Summary biomass (mt)



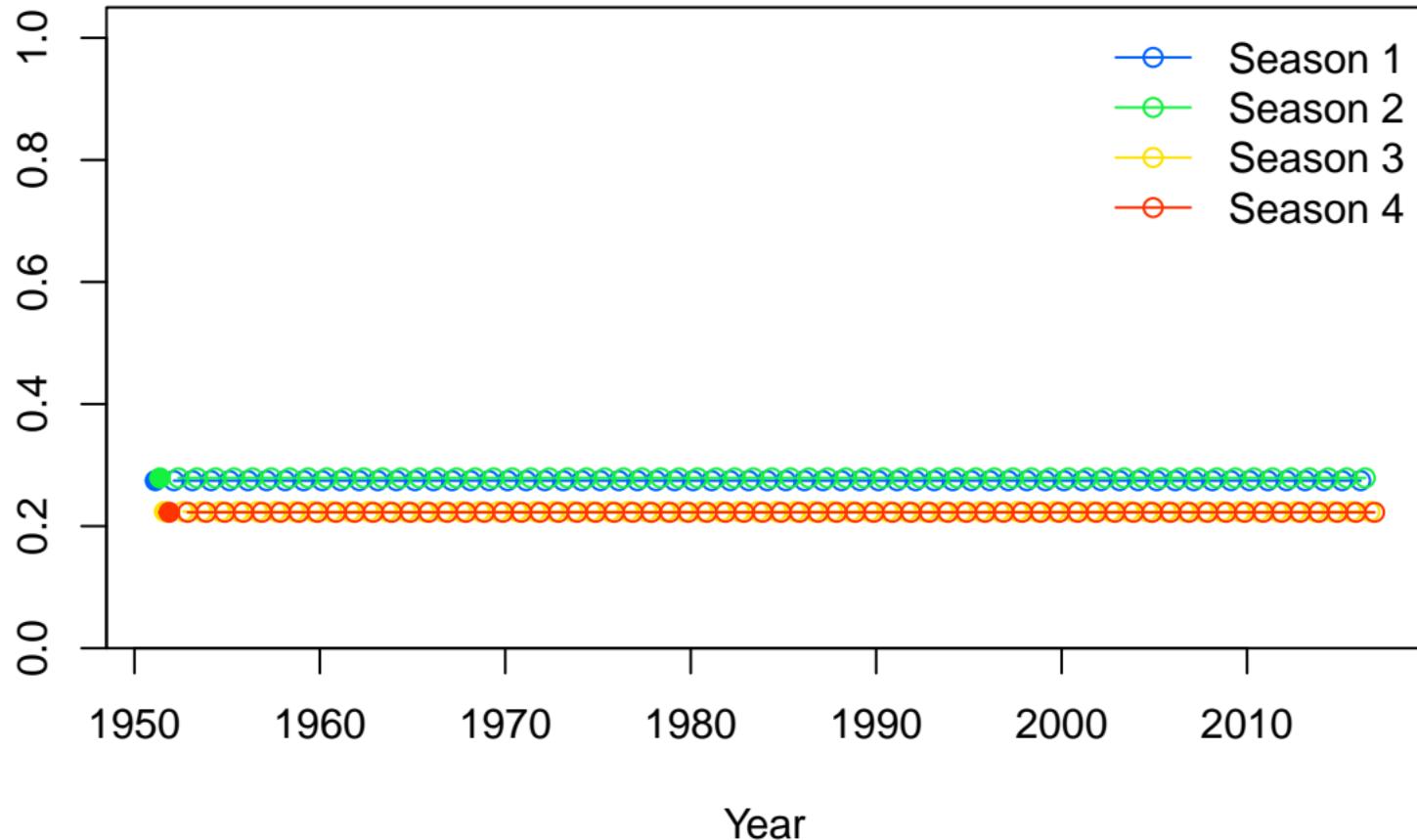




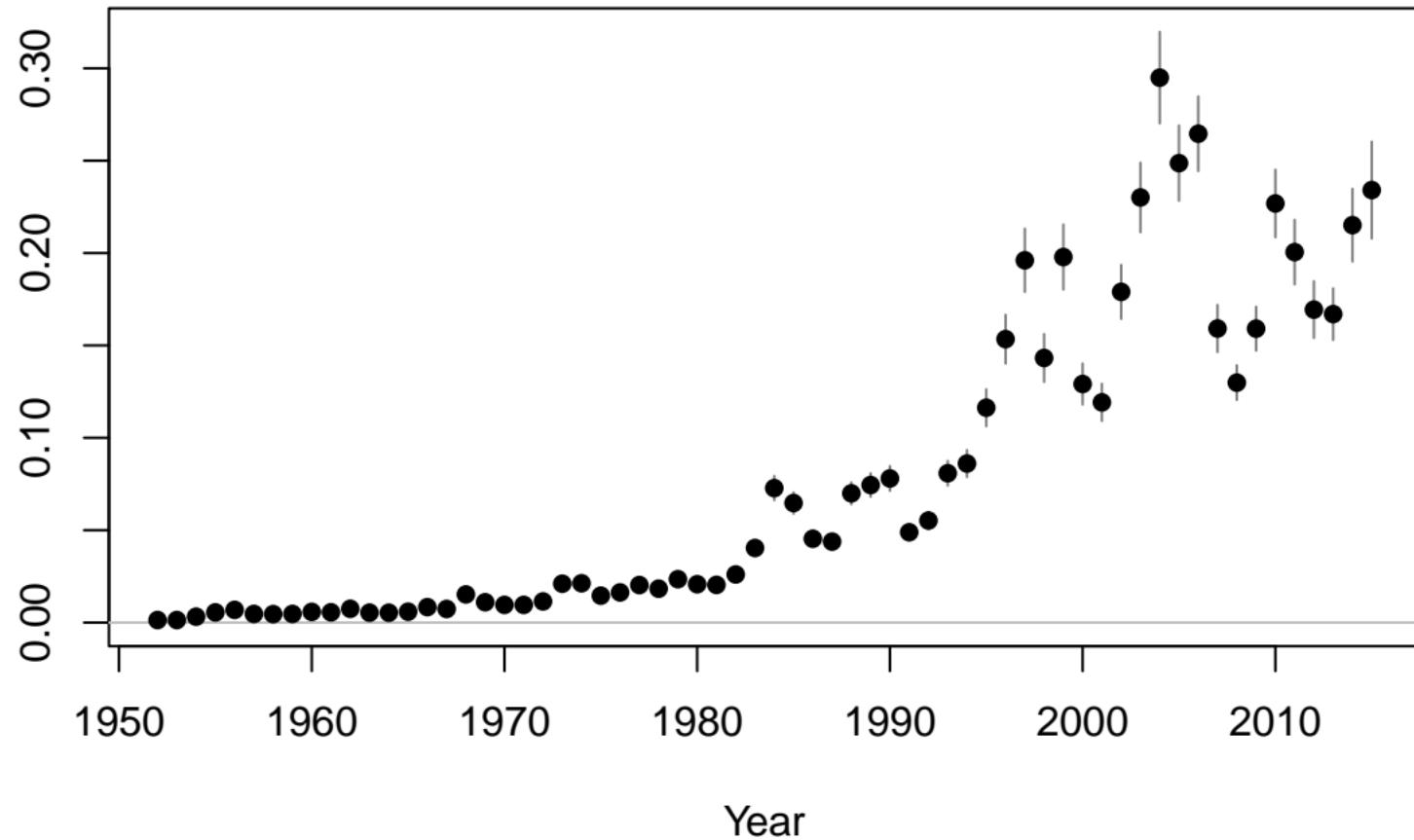


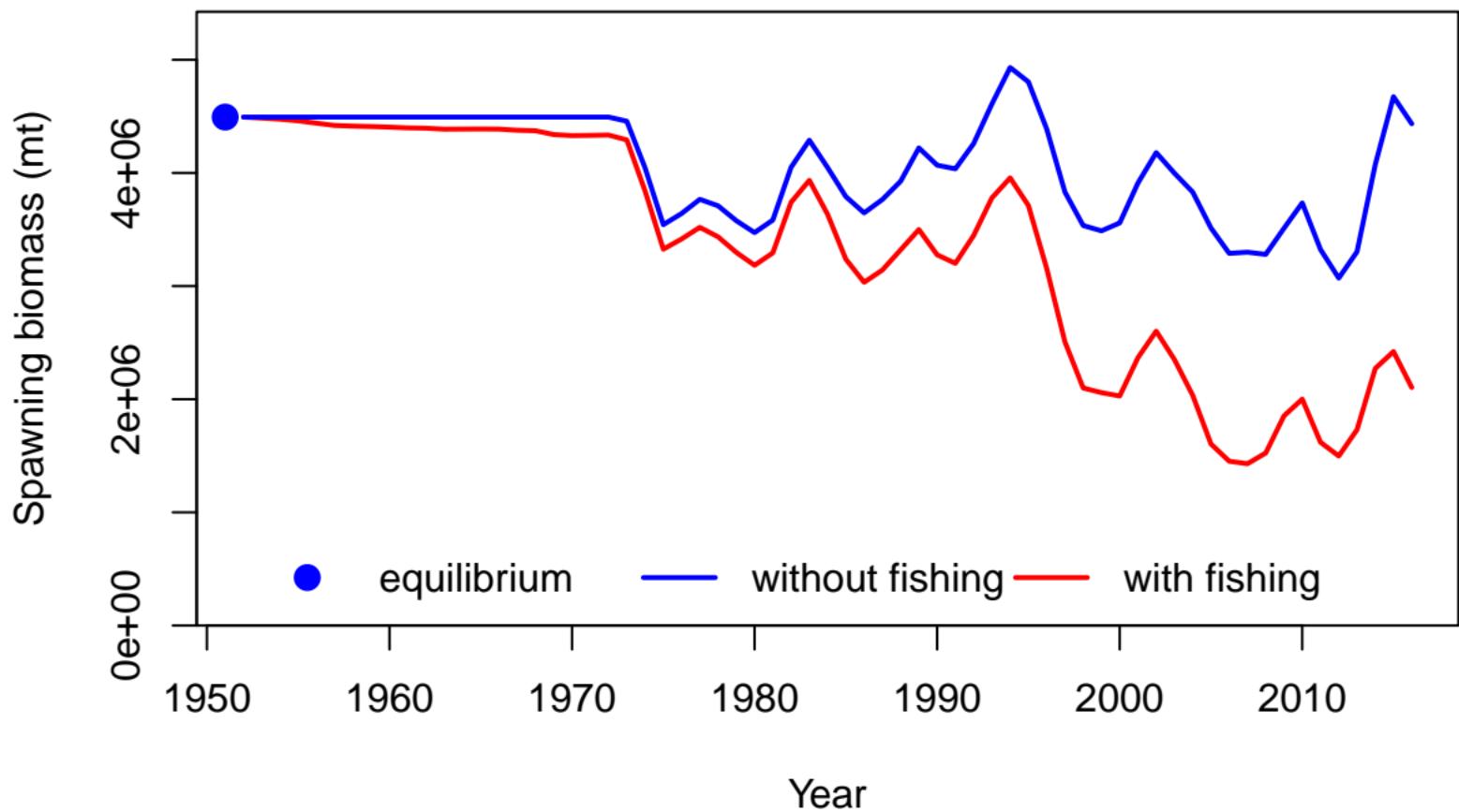


Fraction of total Age-0 recruits

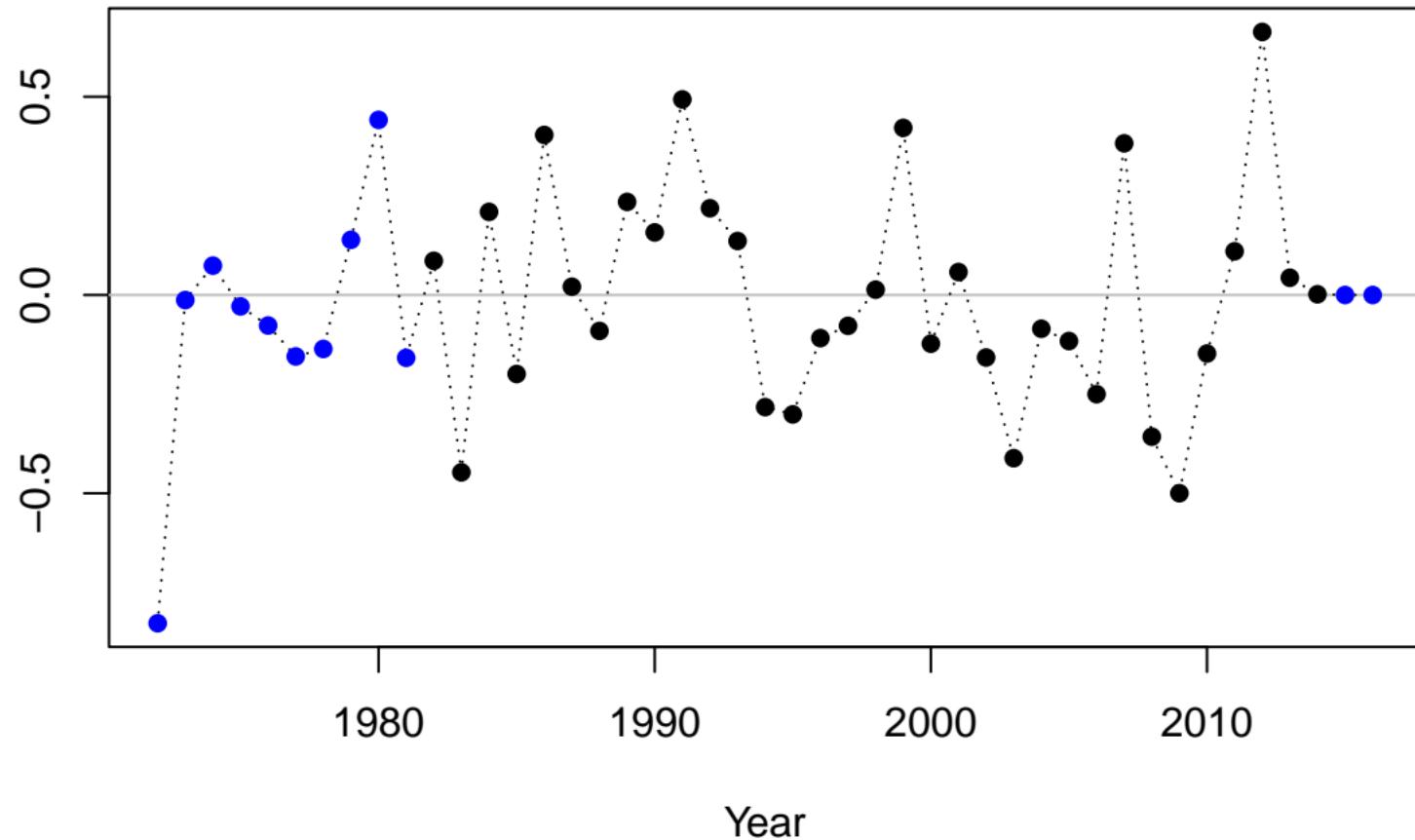


Summary Fishing Mortality

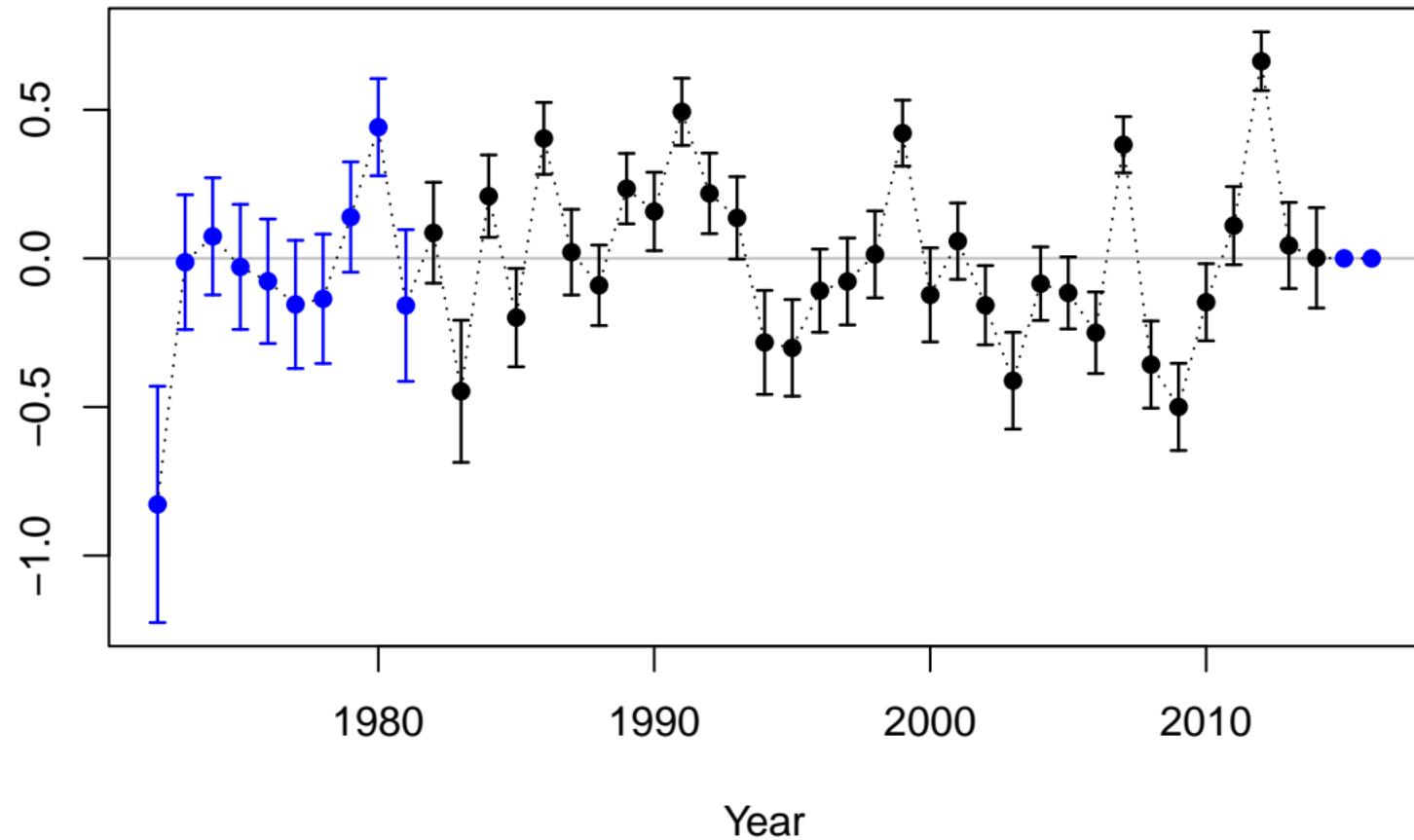




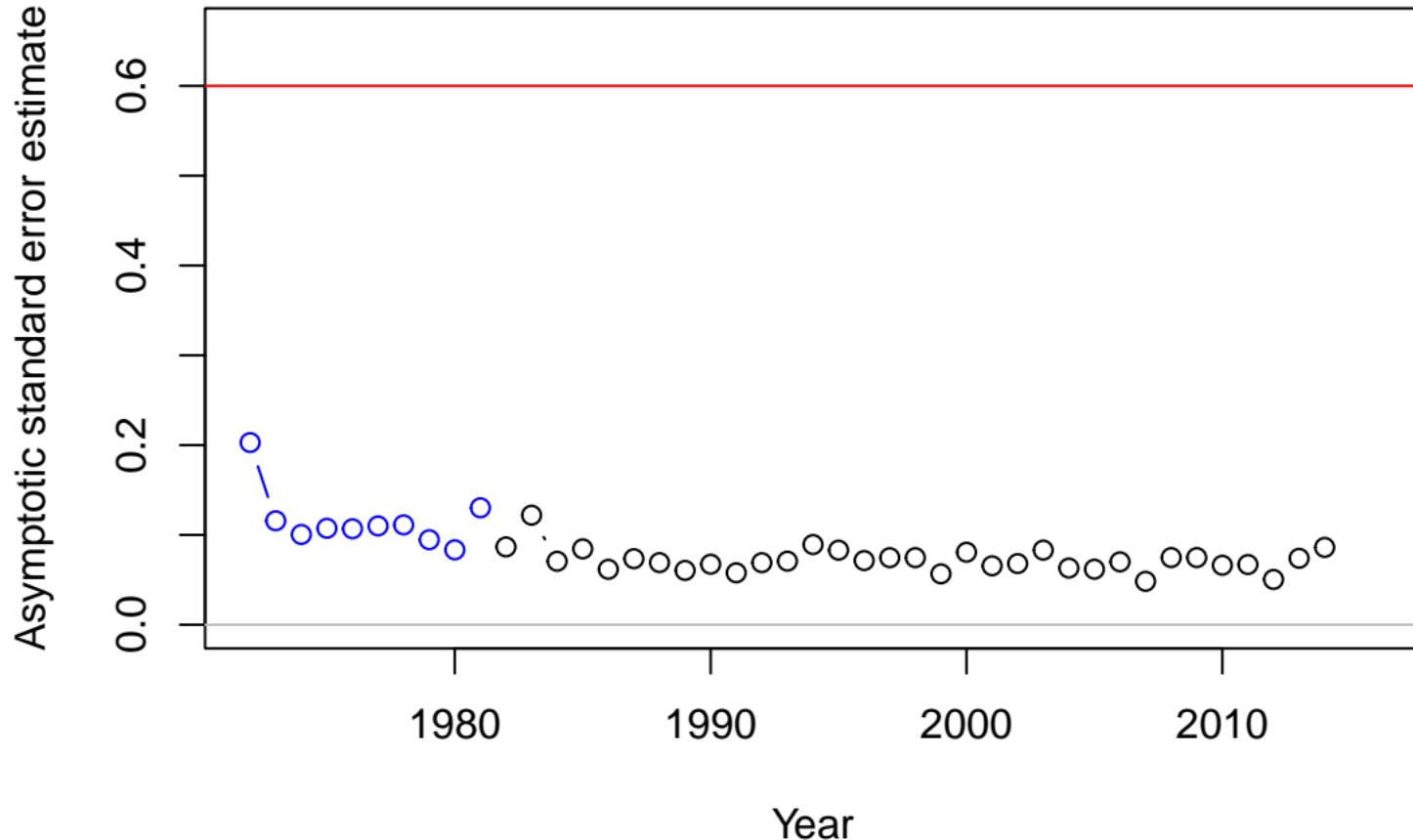
Log recruitment deviation

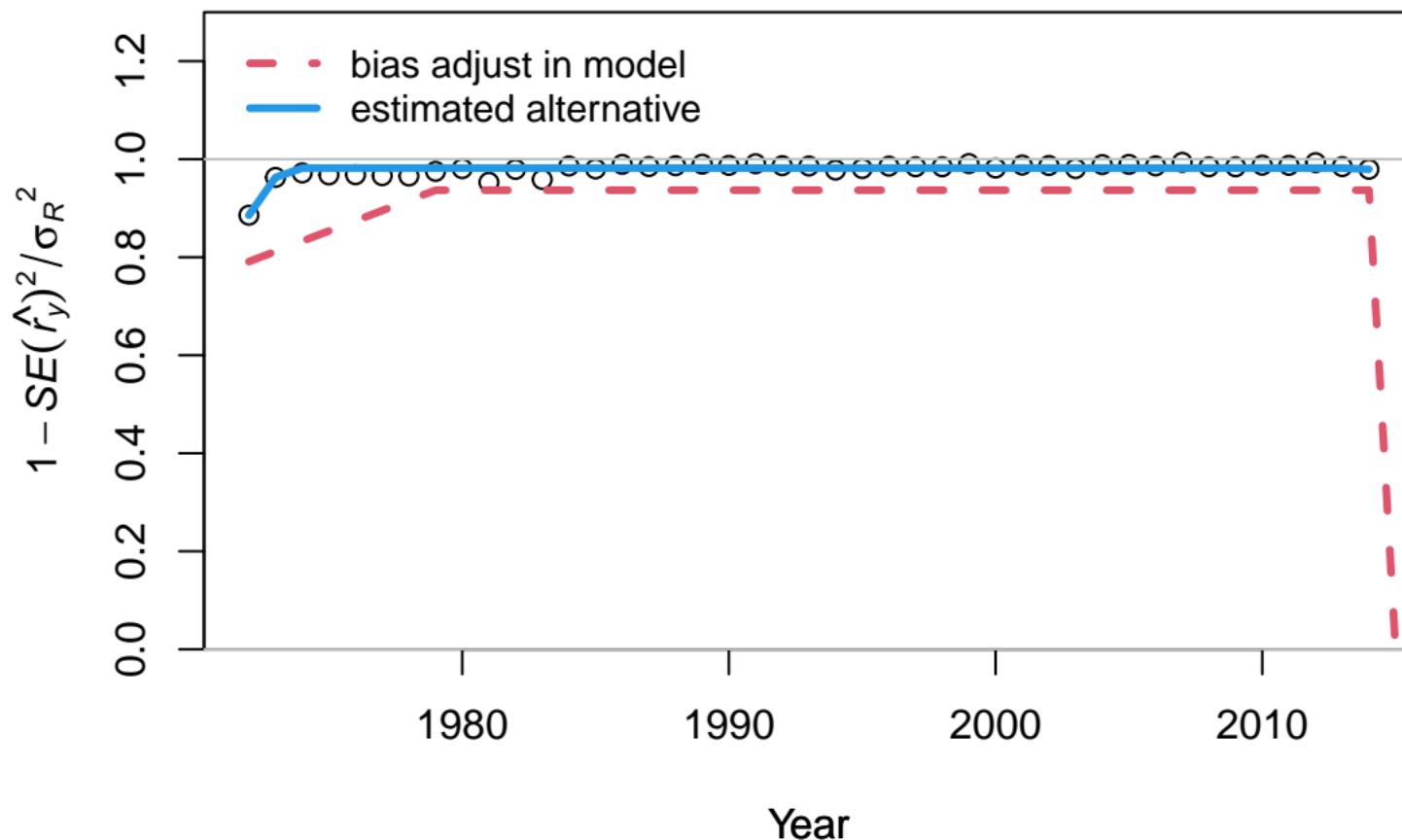


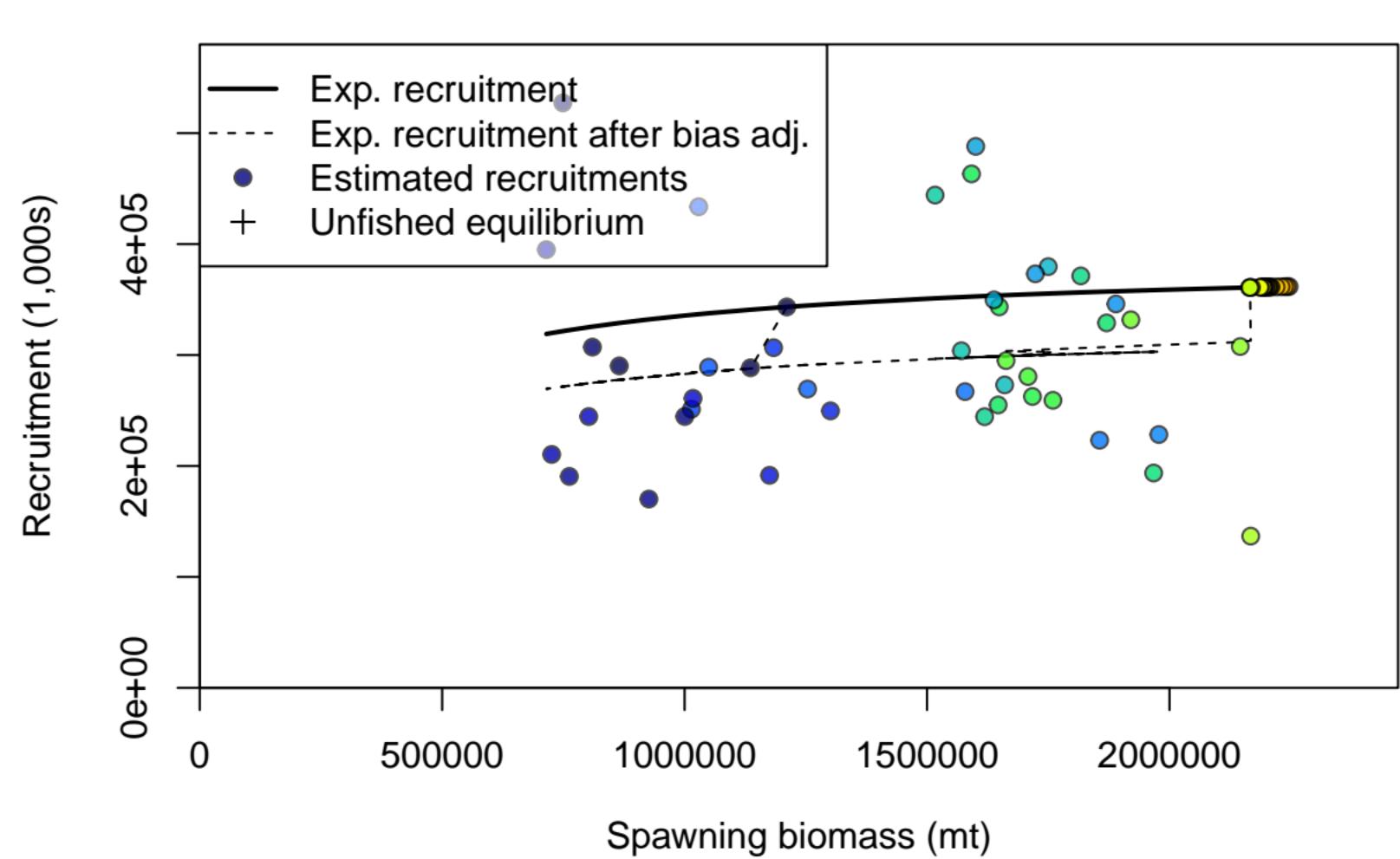
Log recruitment deviation

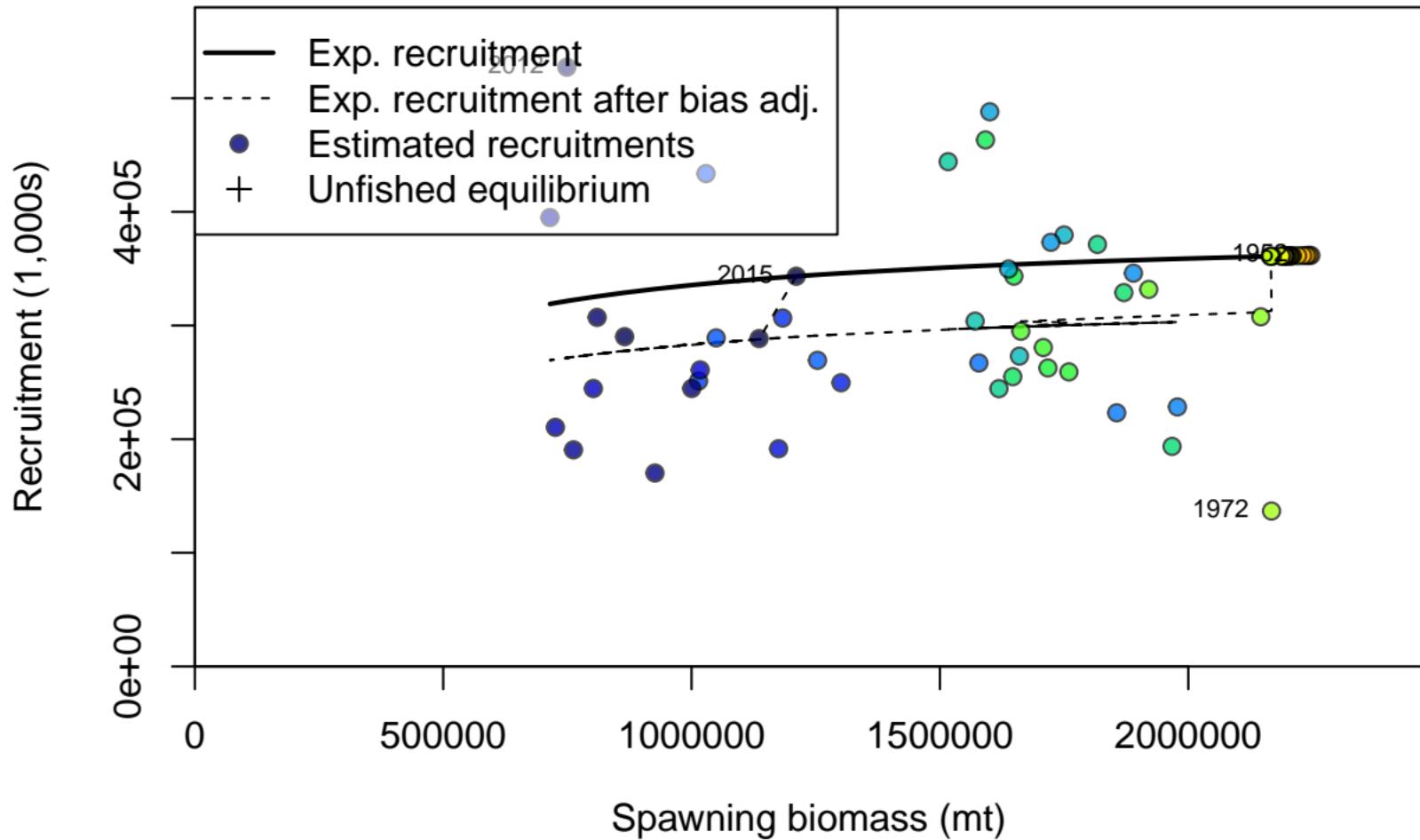


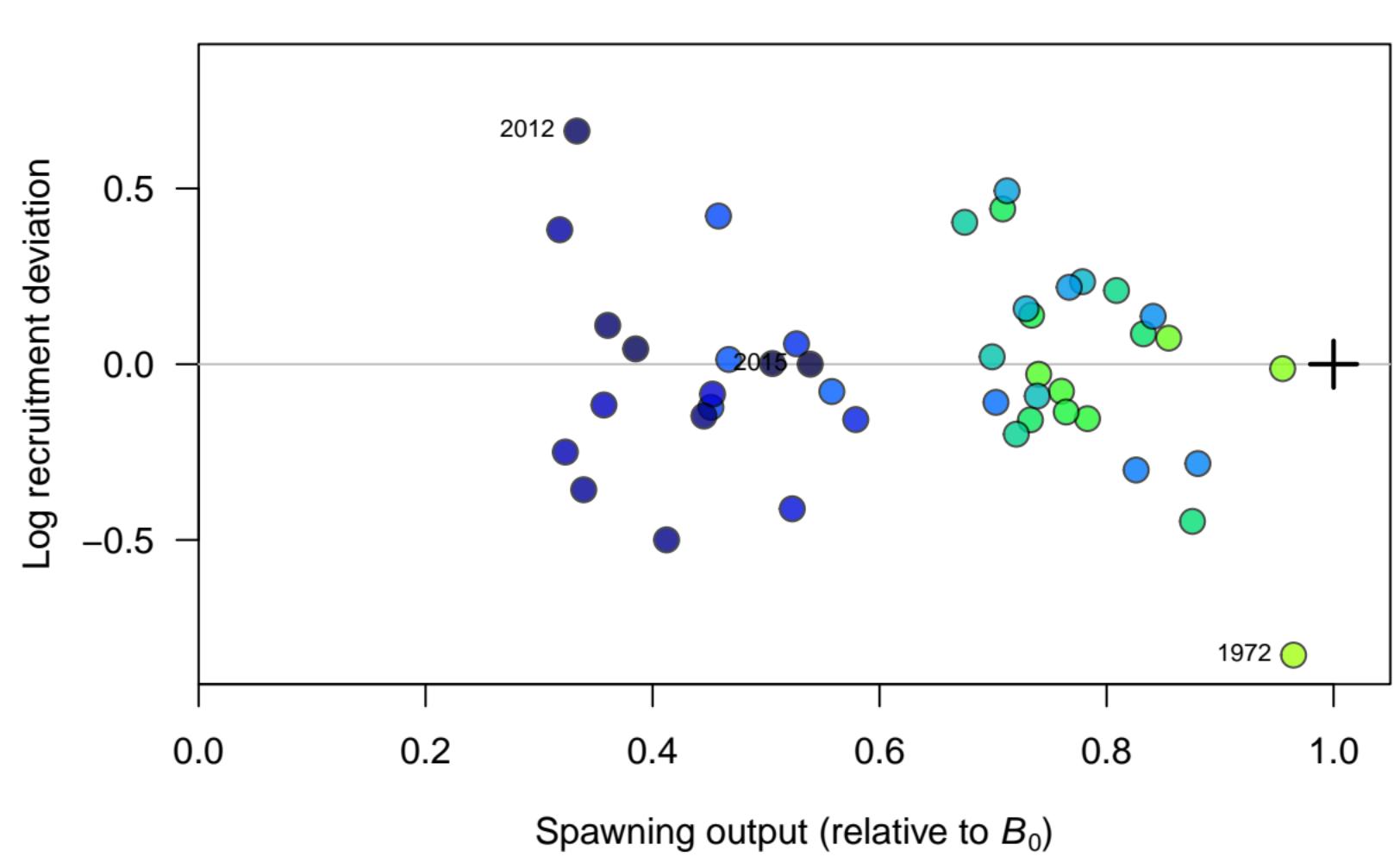
Recruitment deviation variance

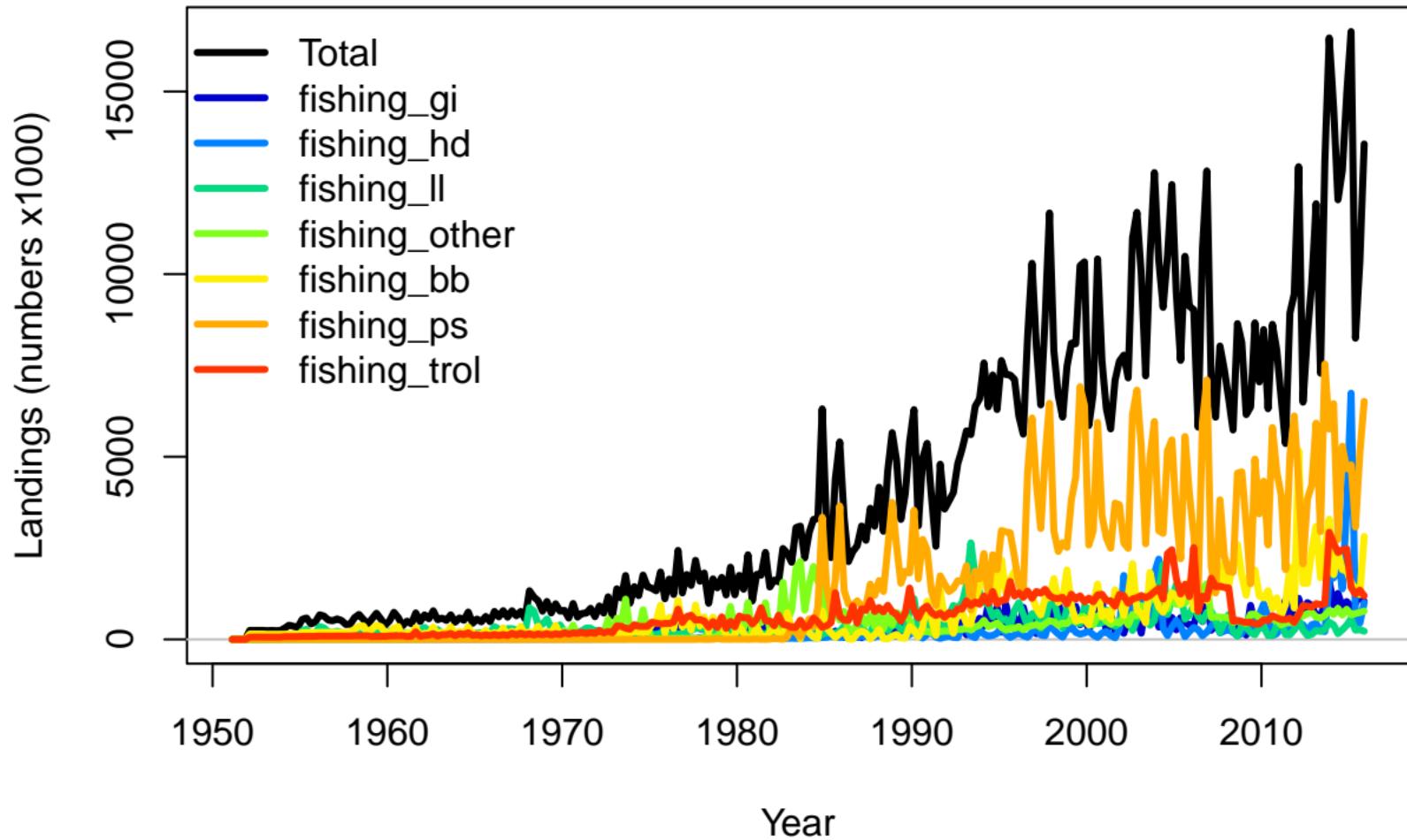


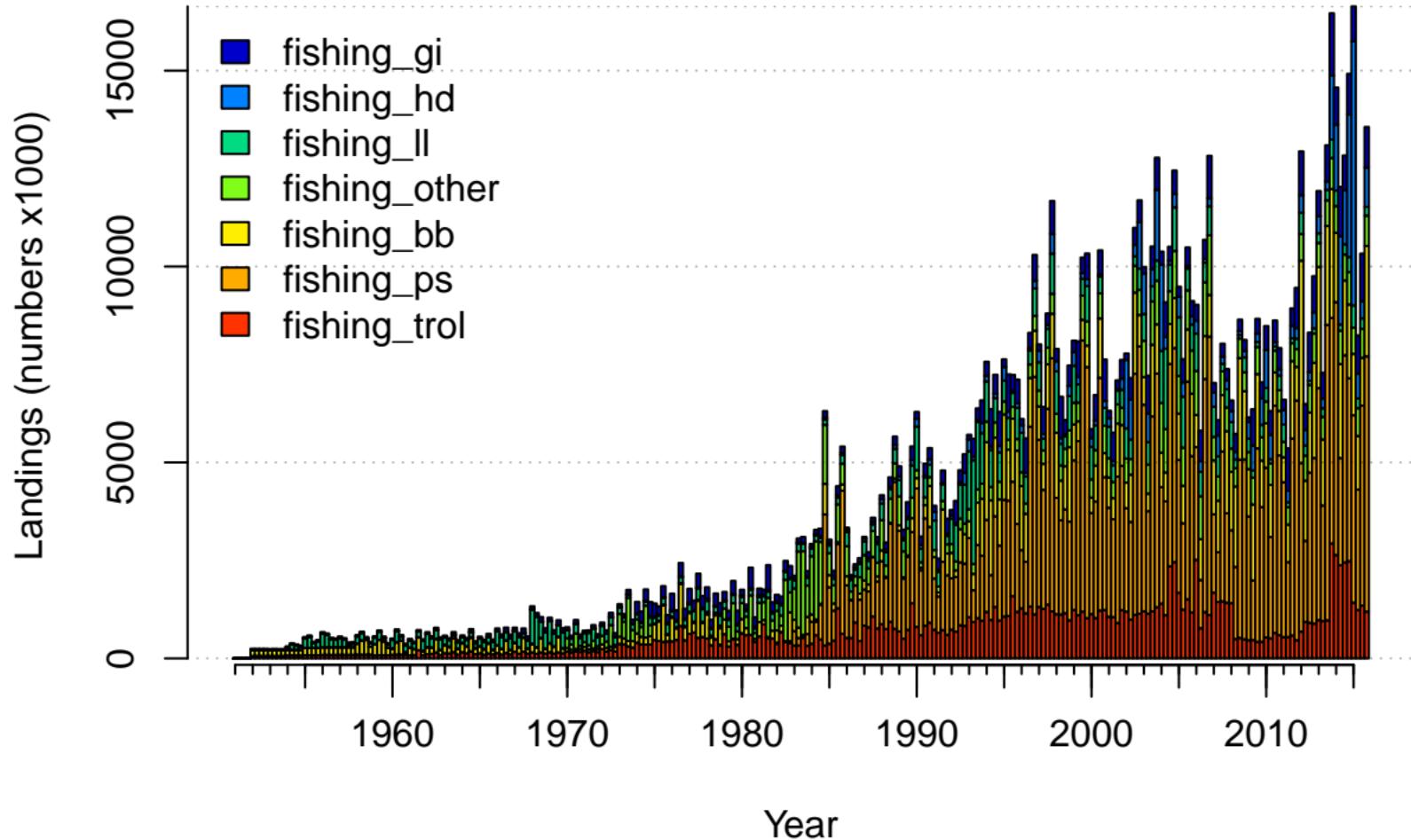


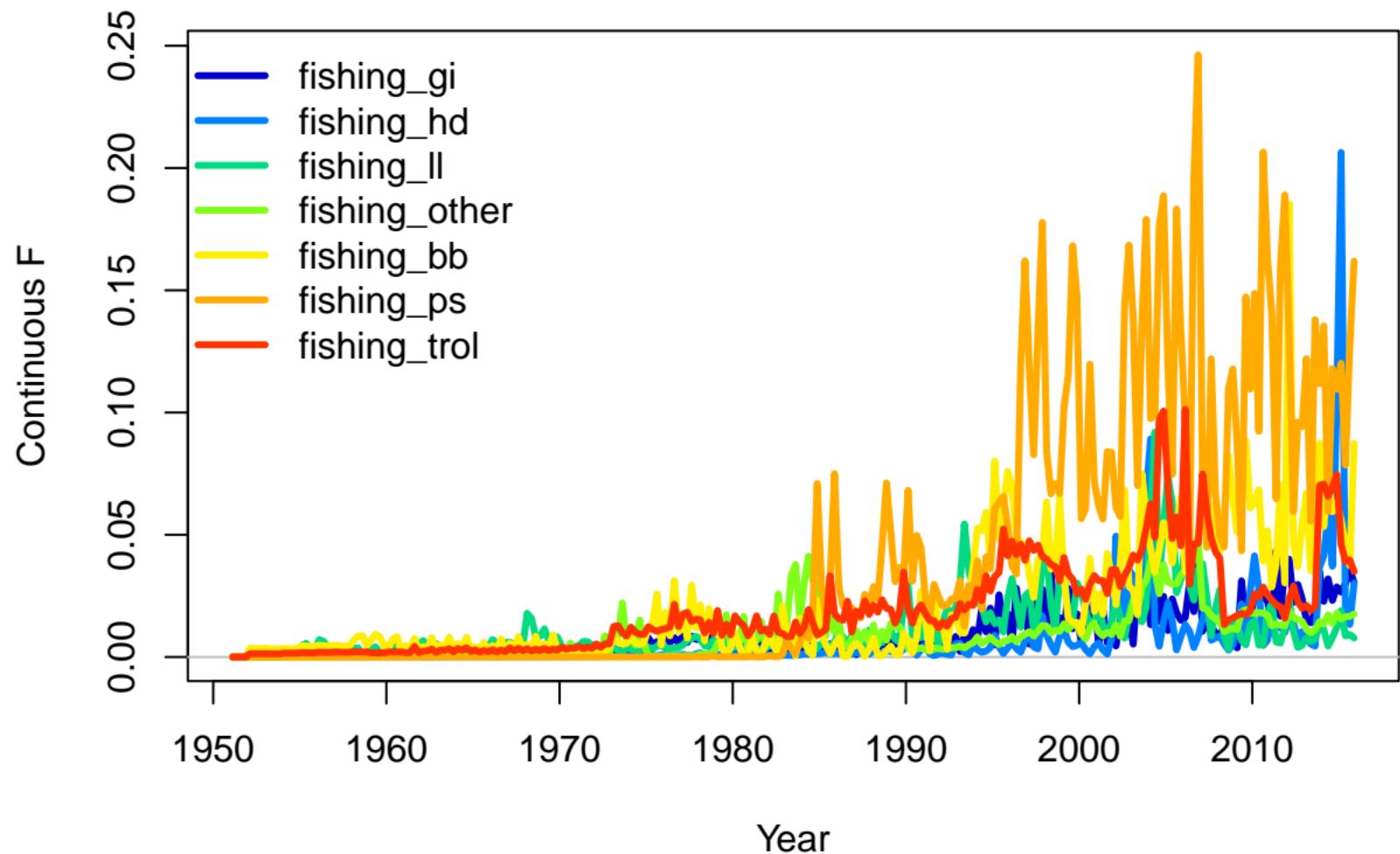


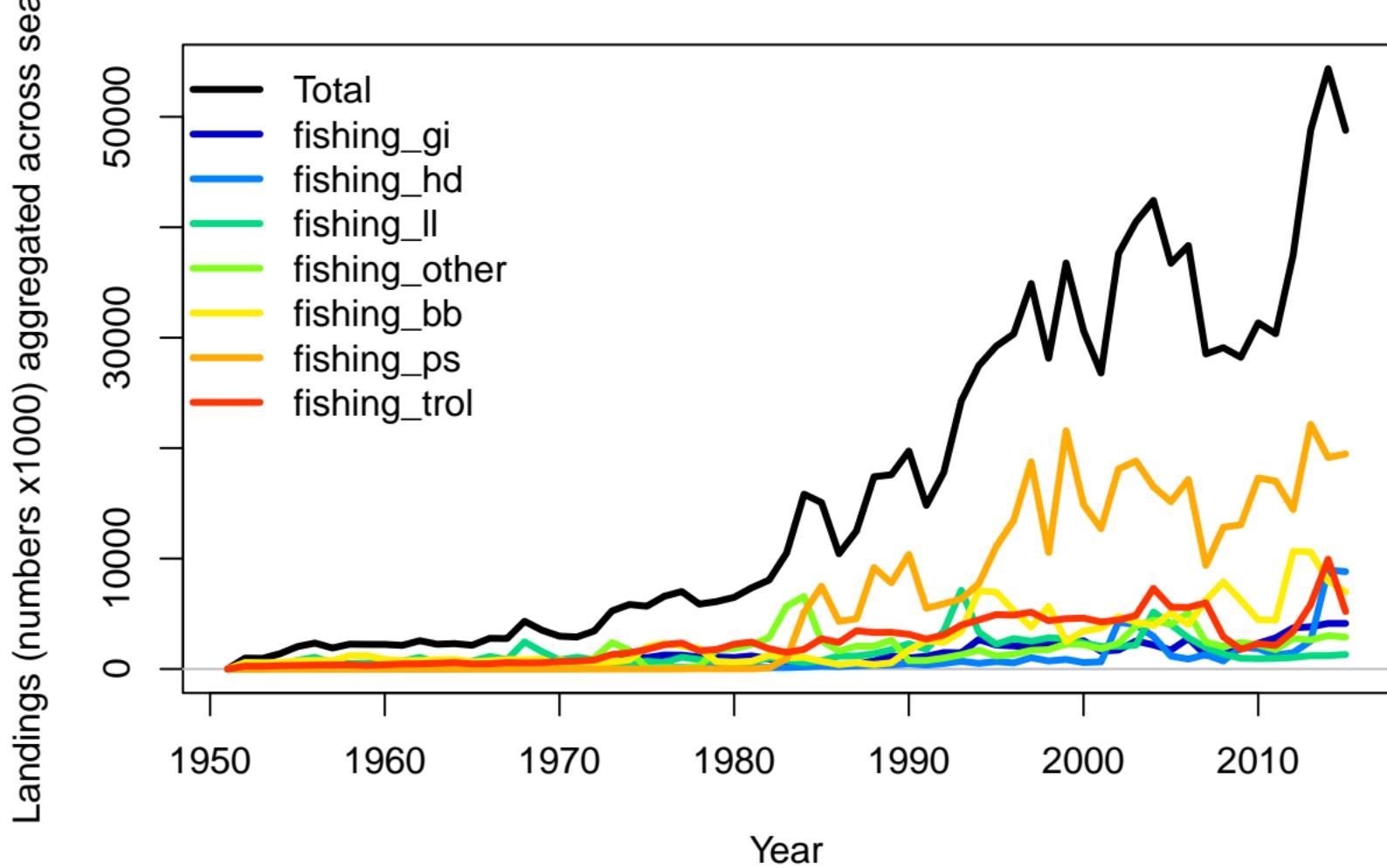


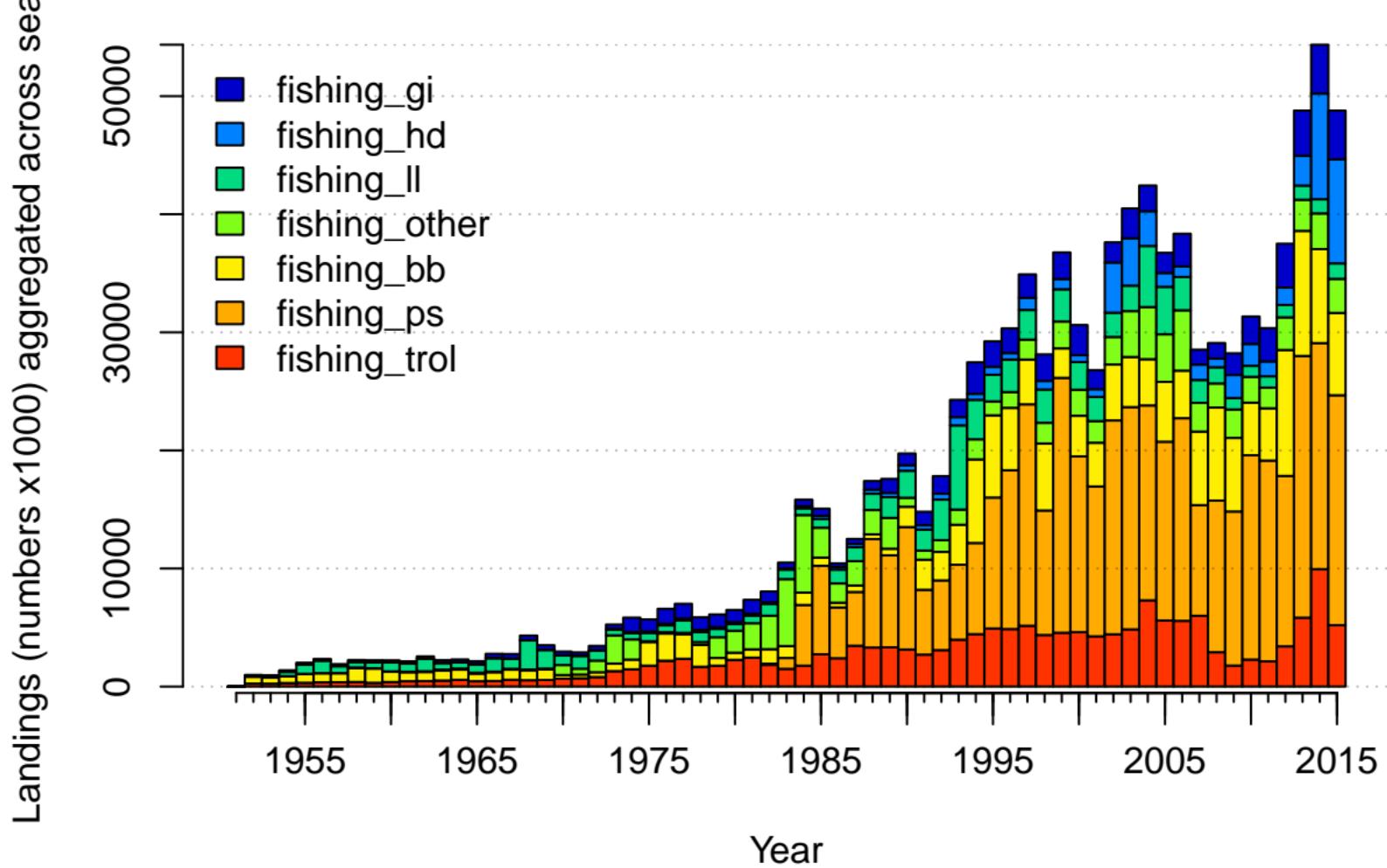


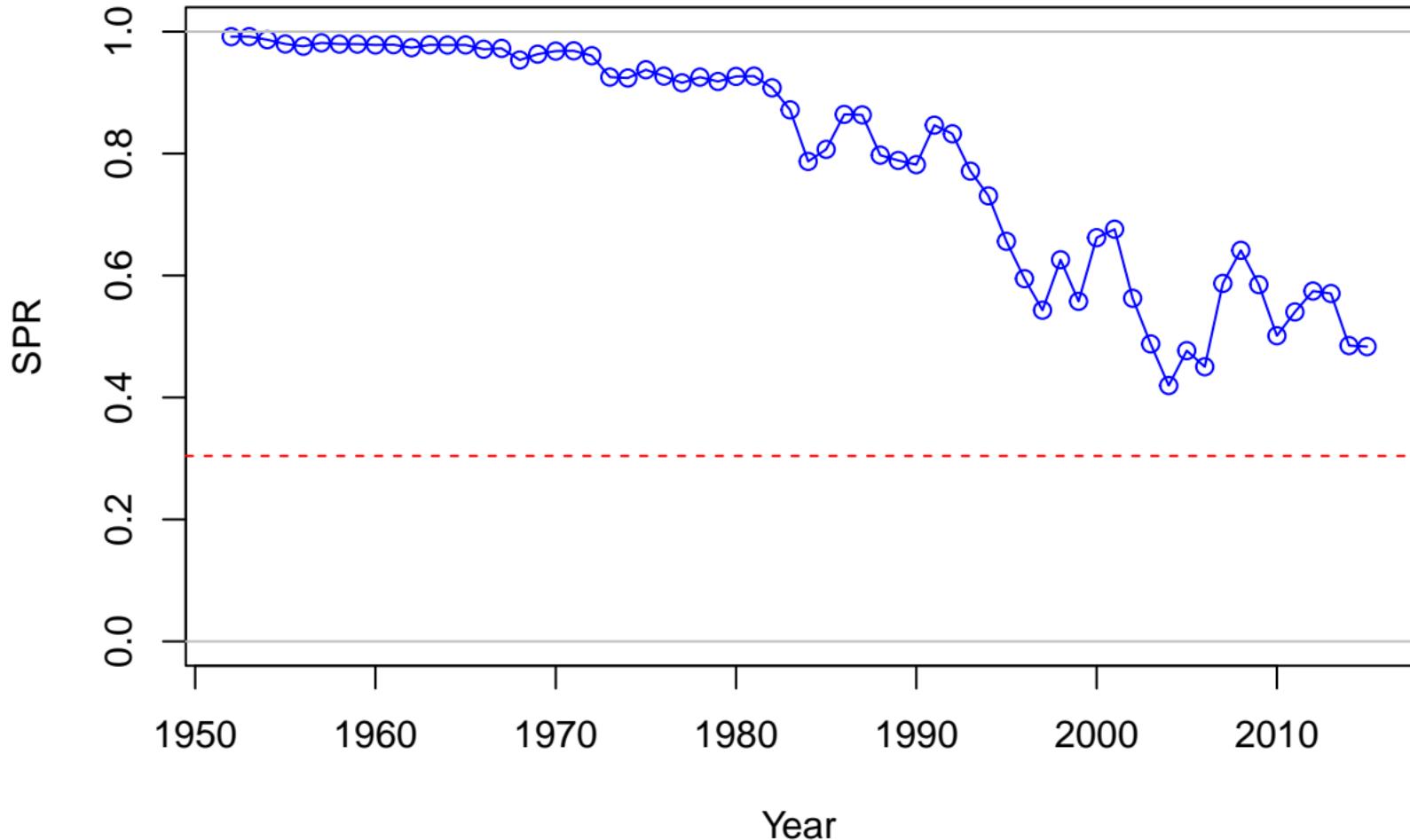


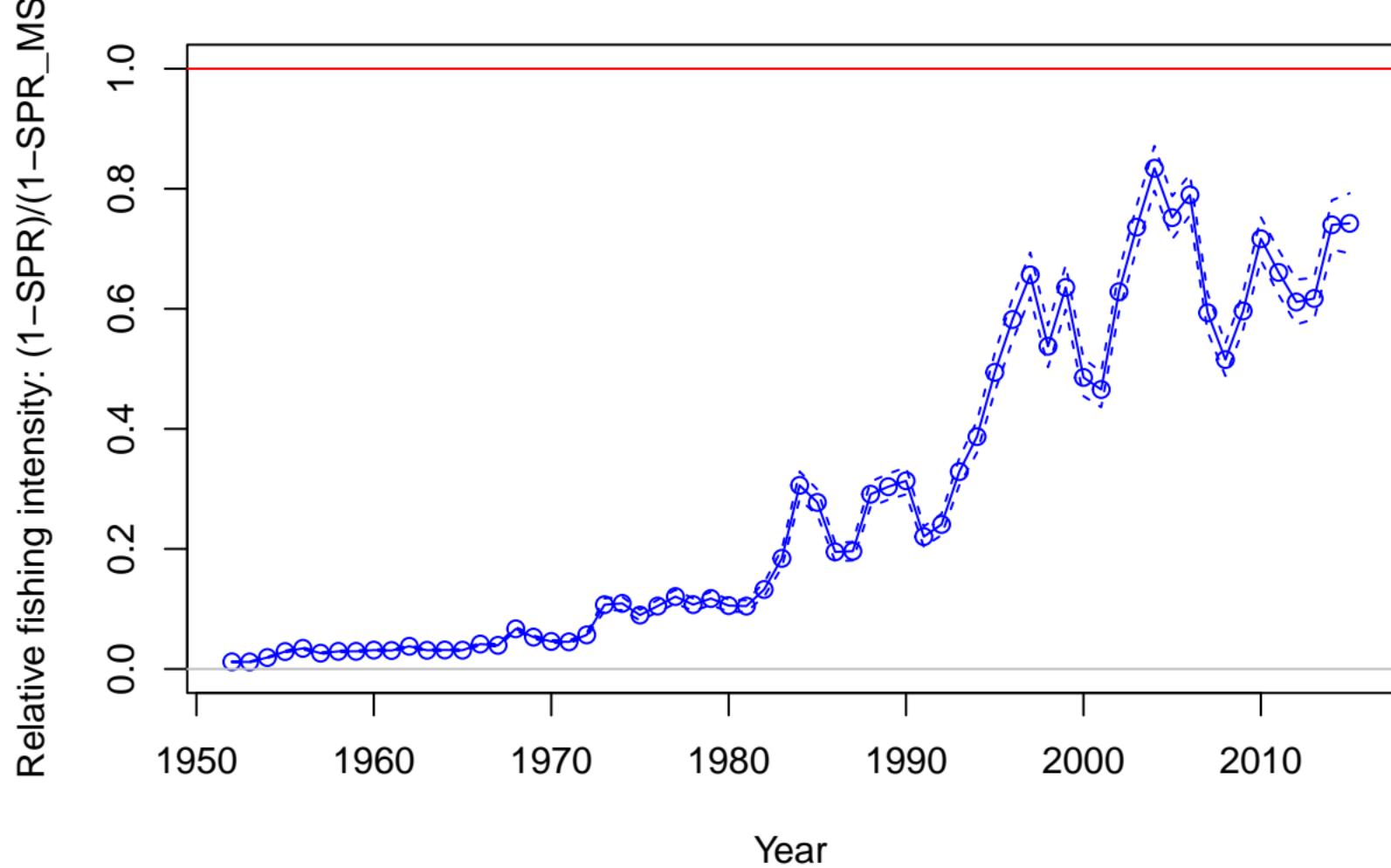


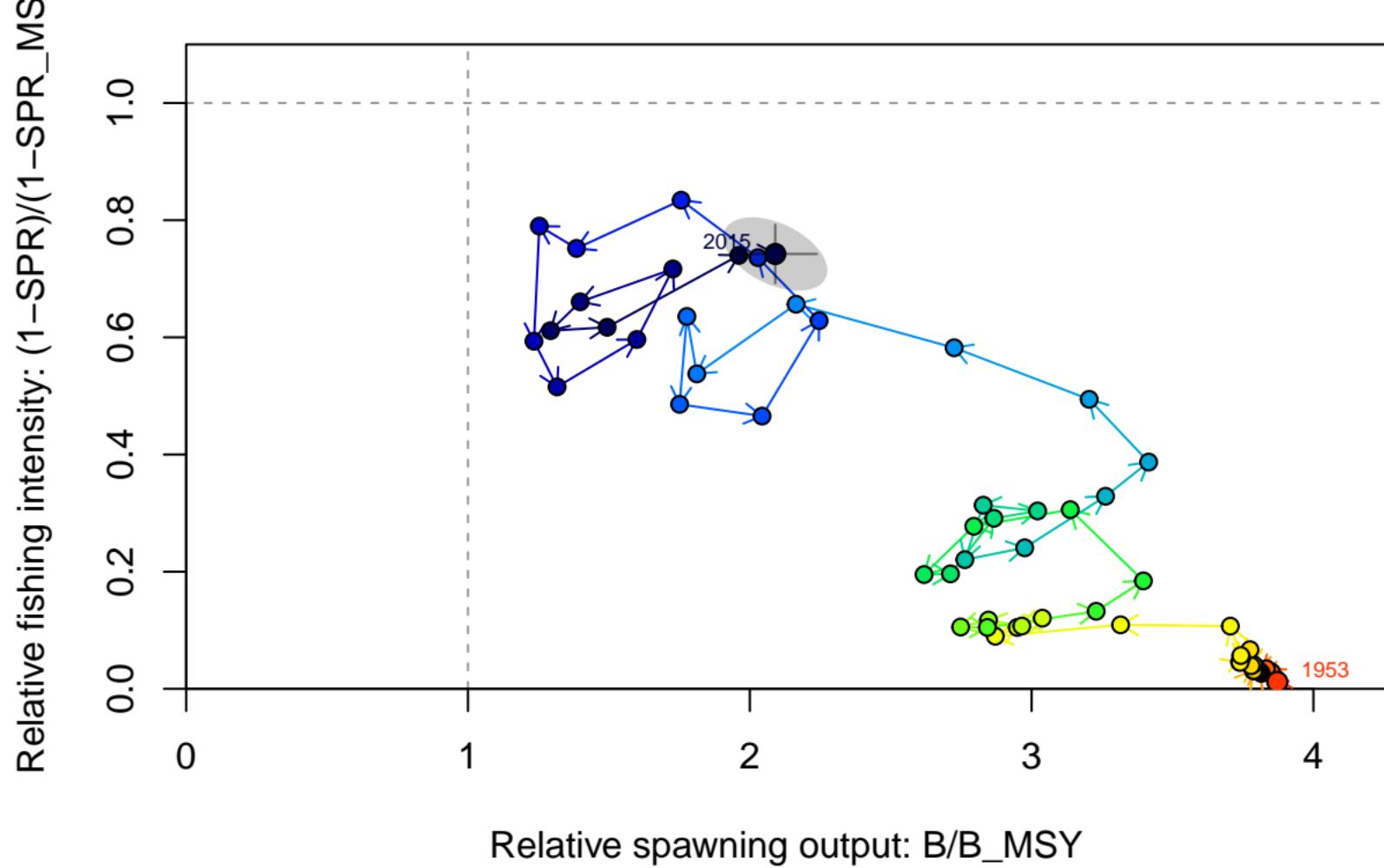


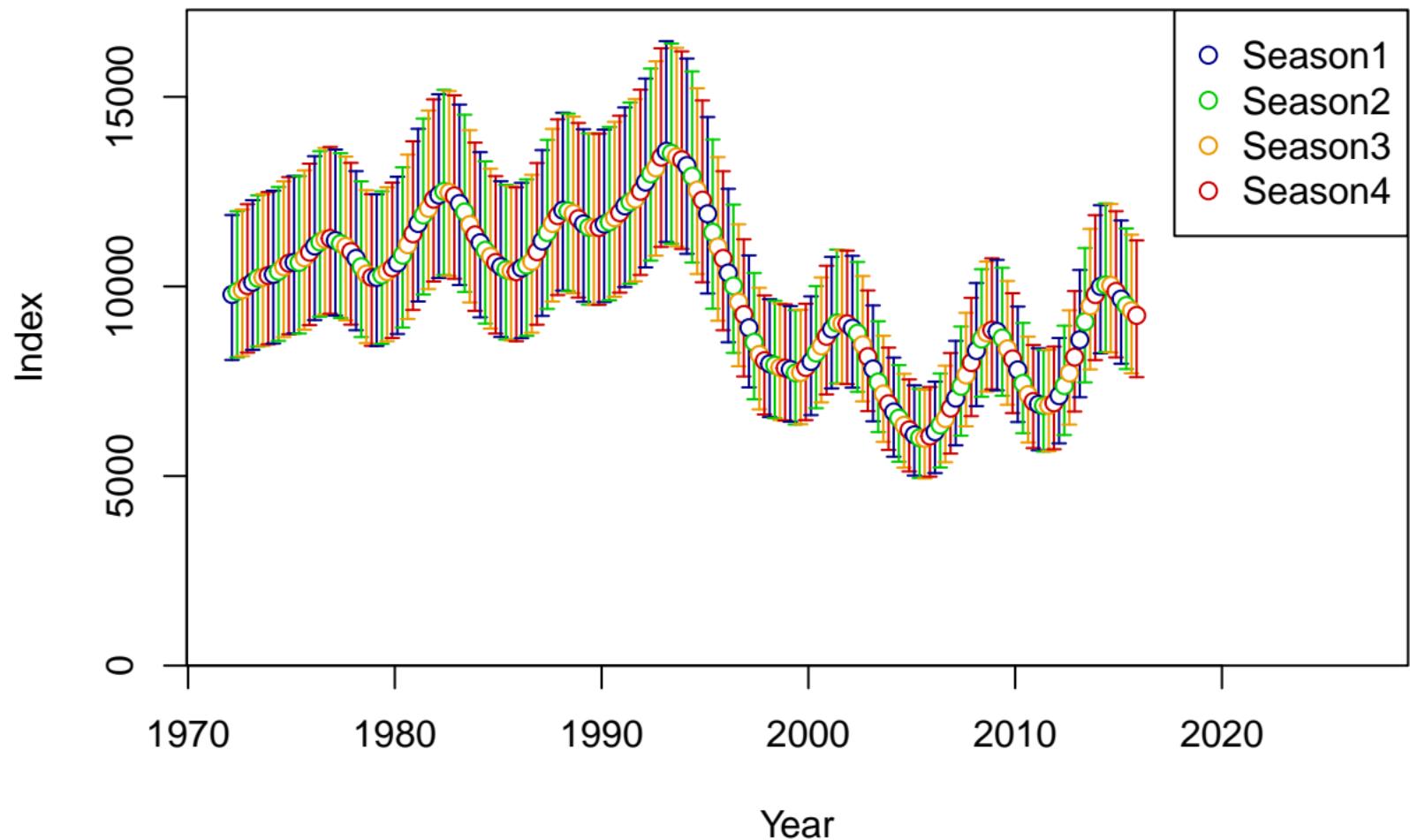


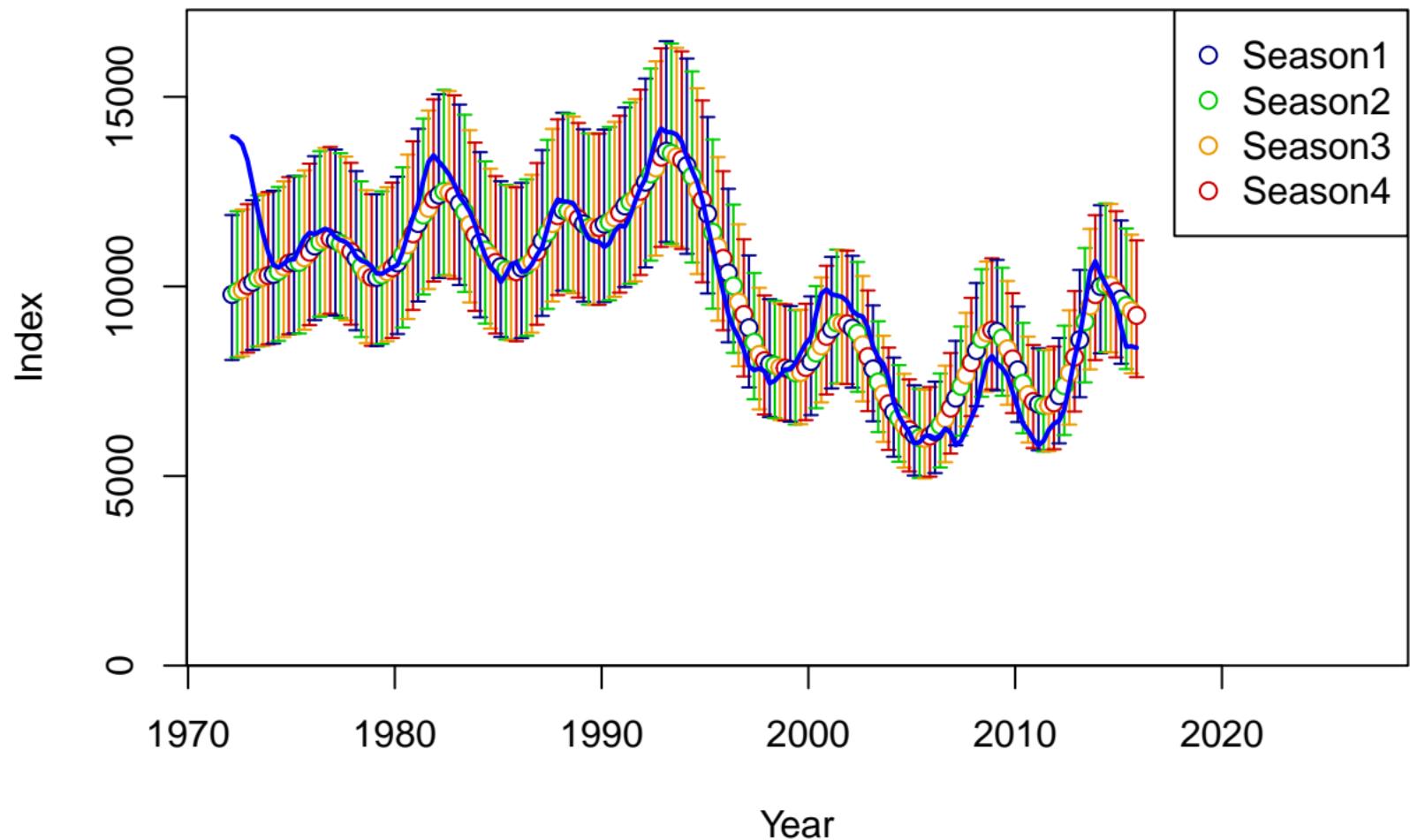


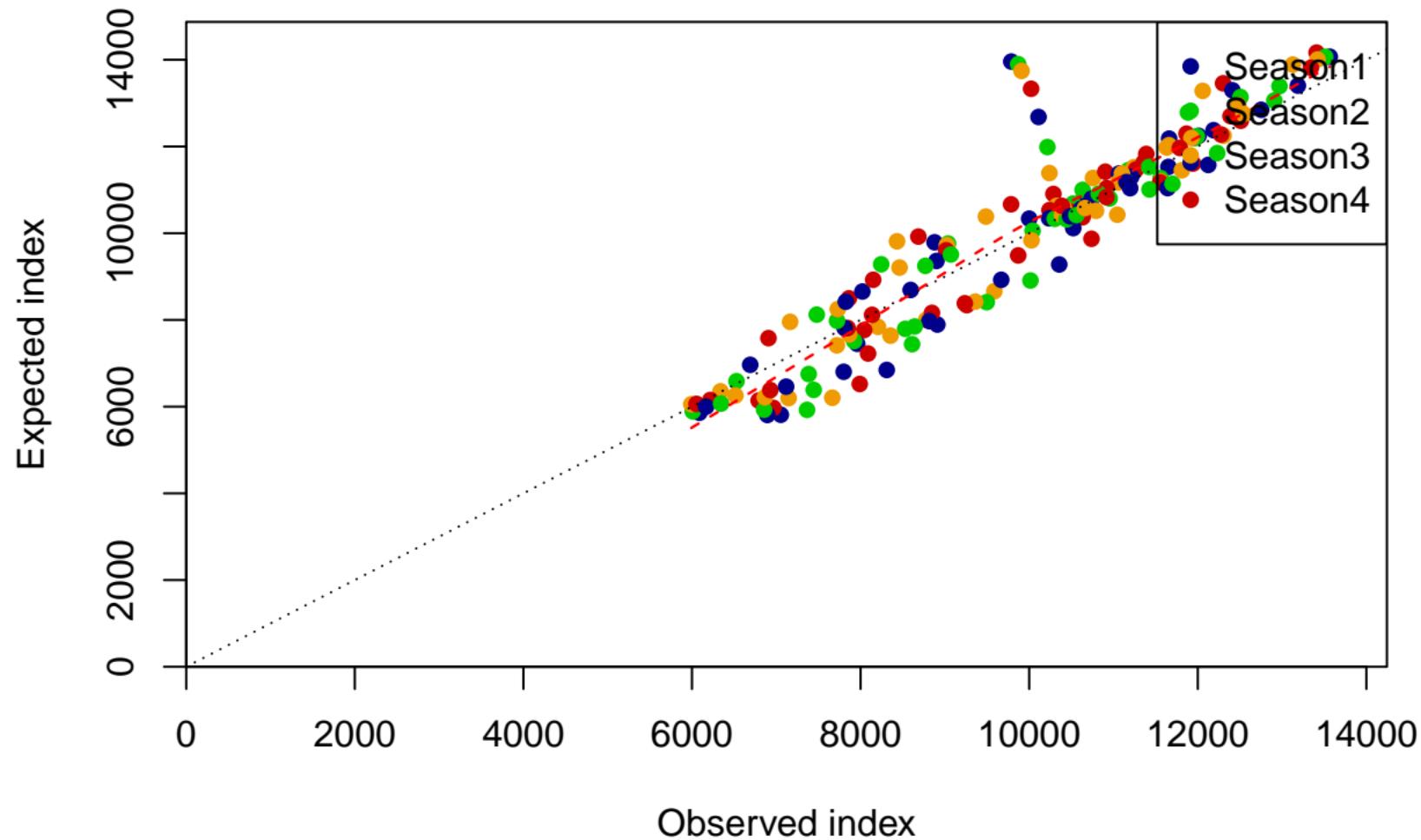


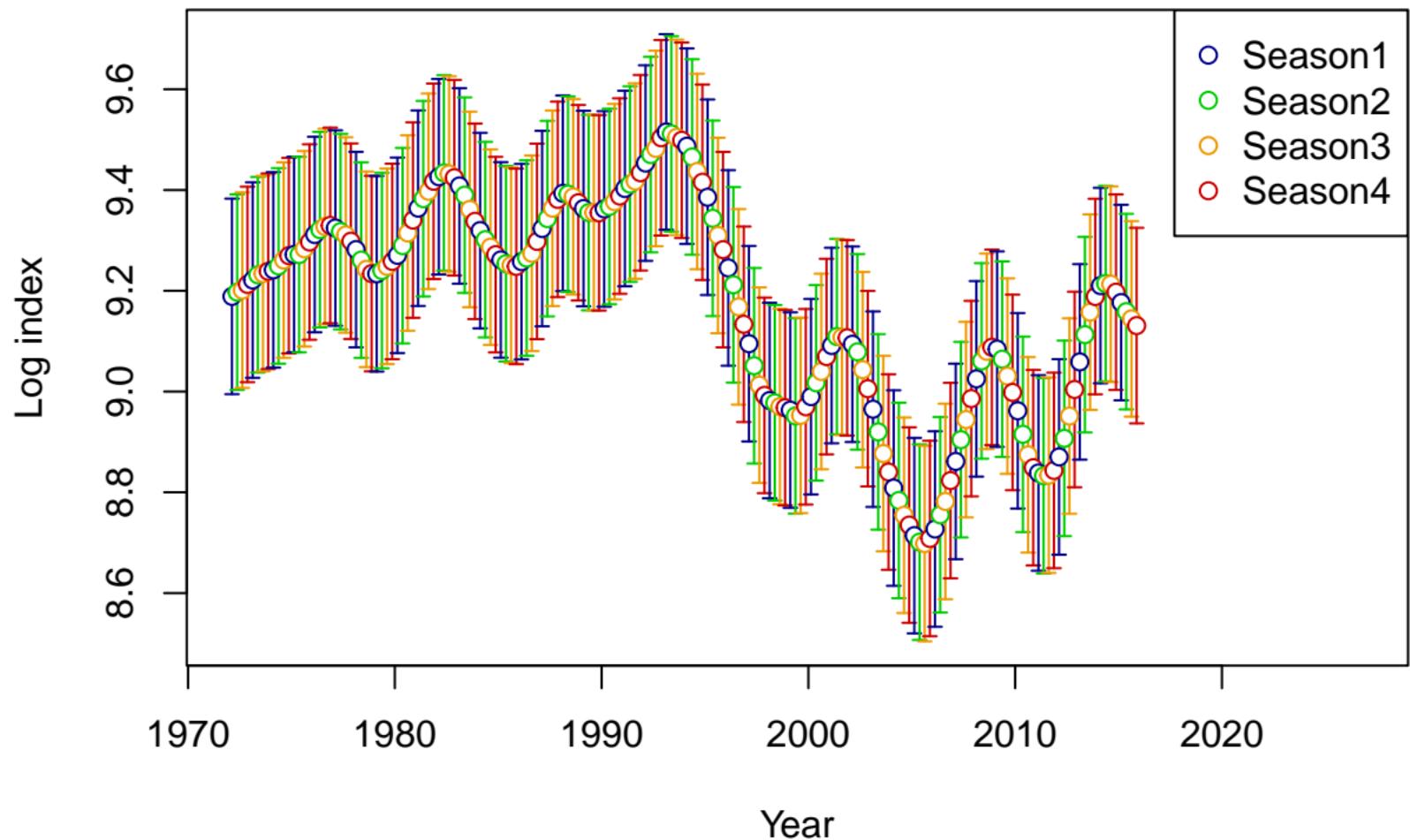


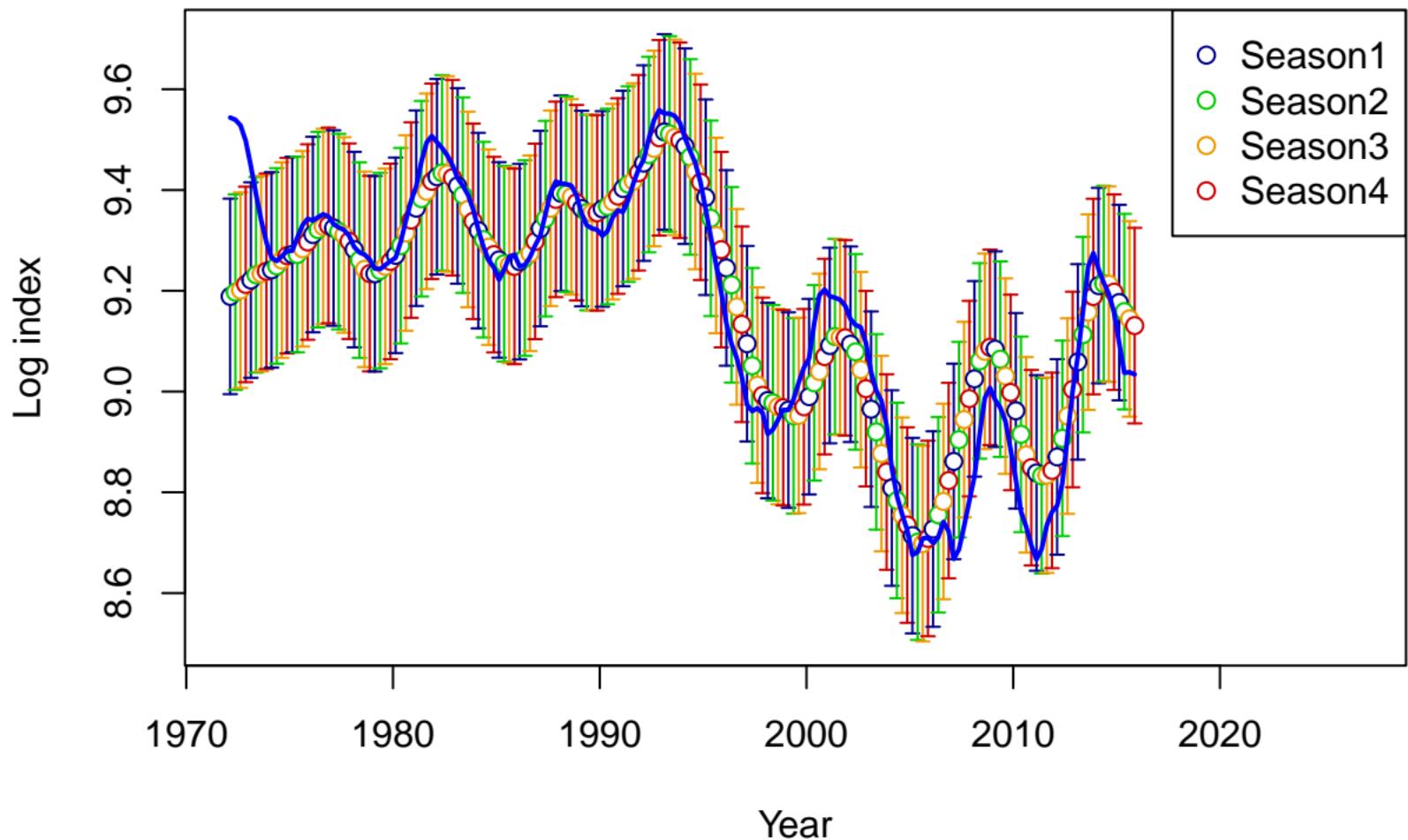


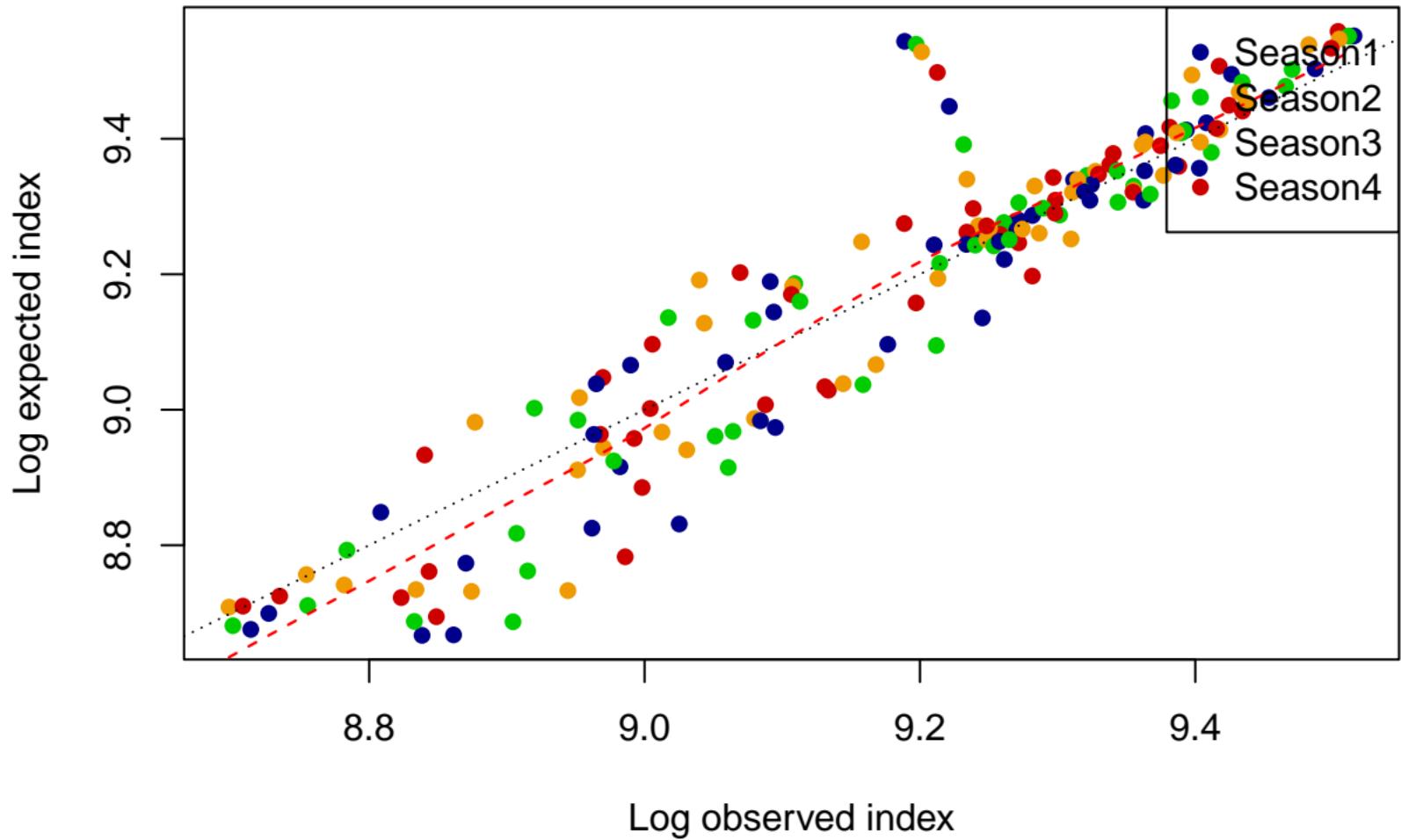


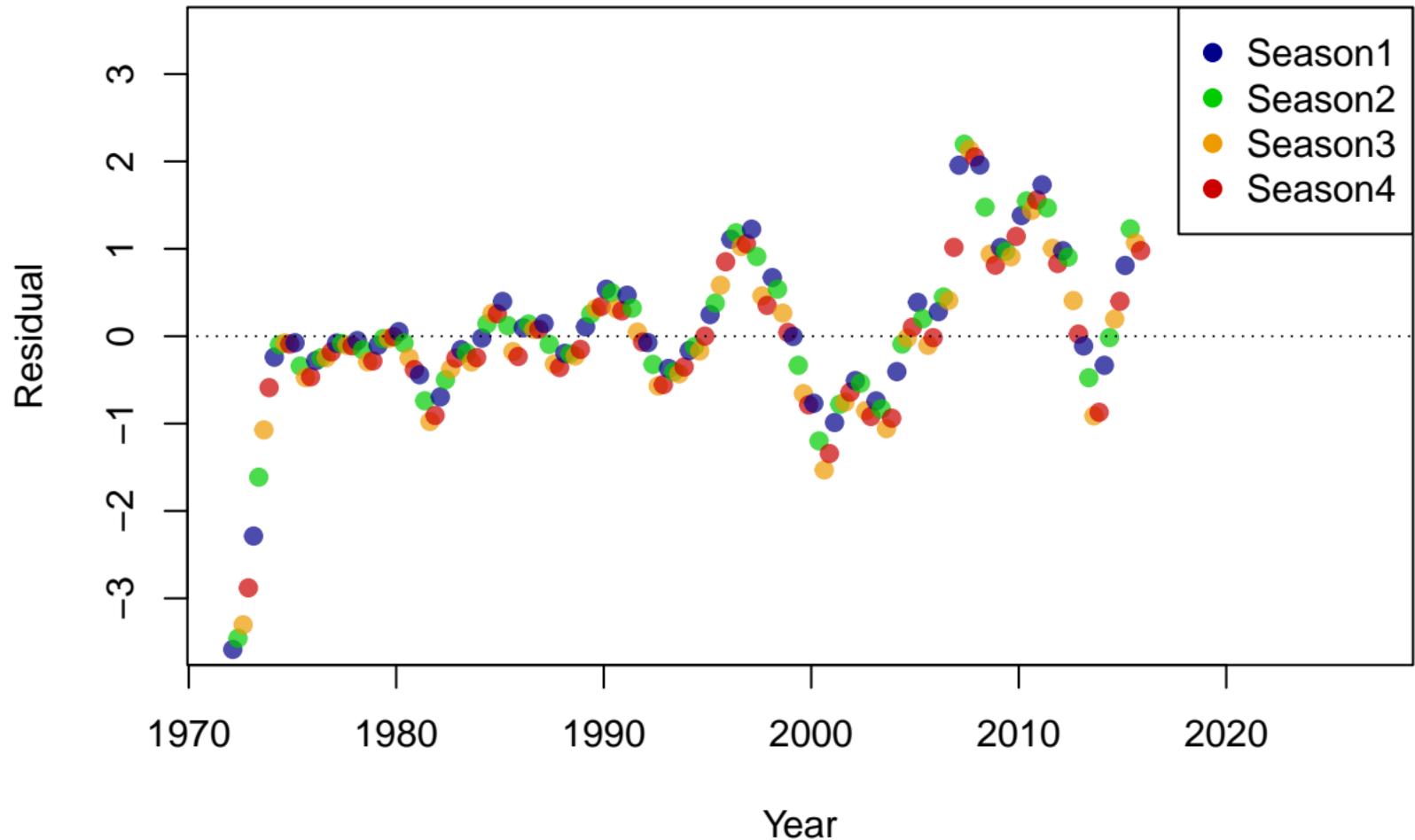


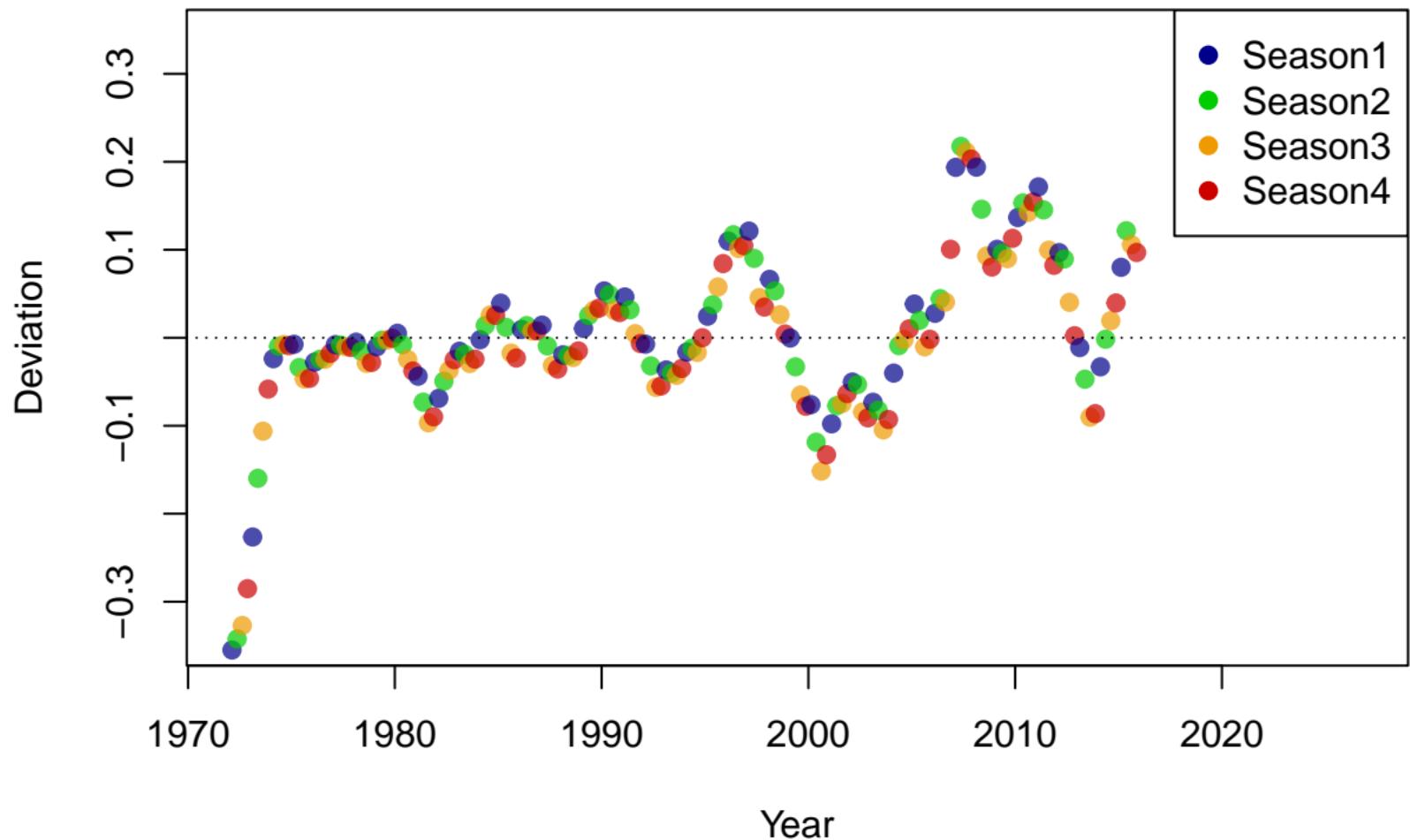


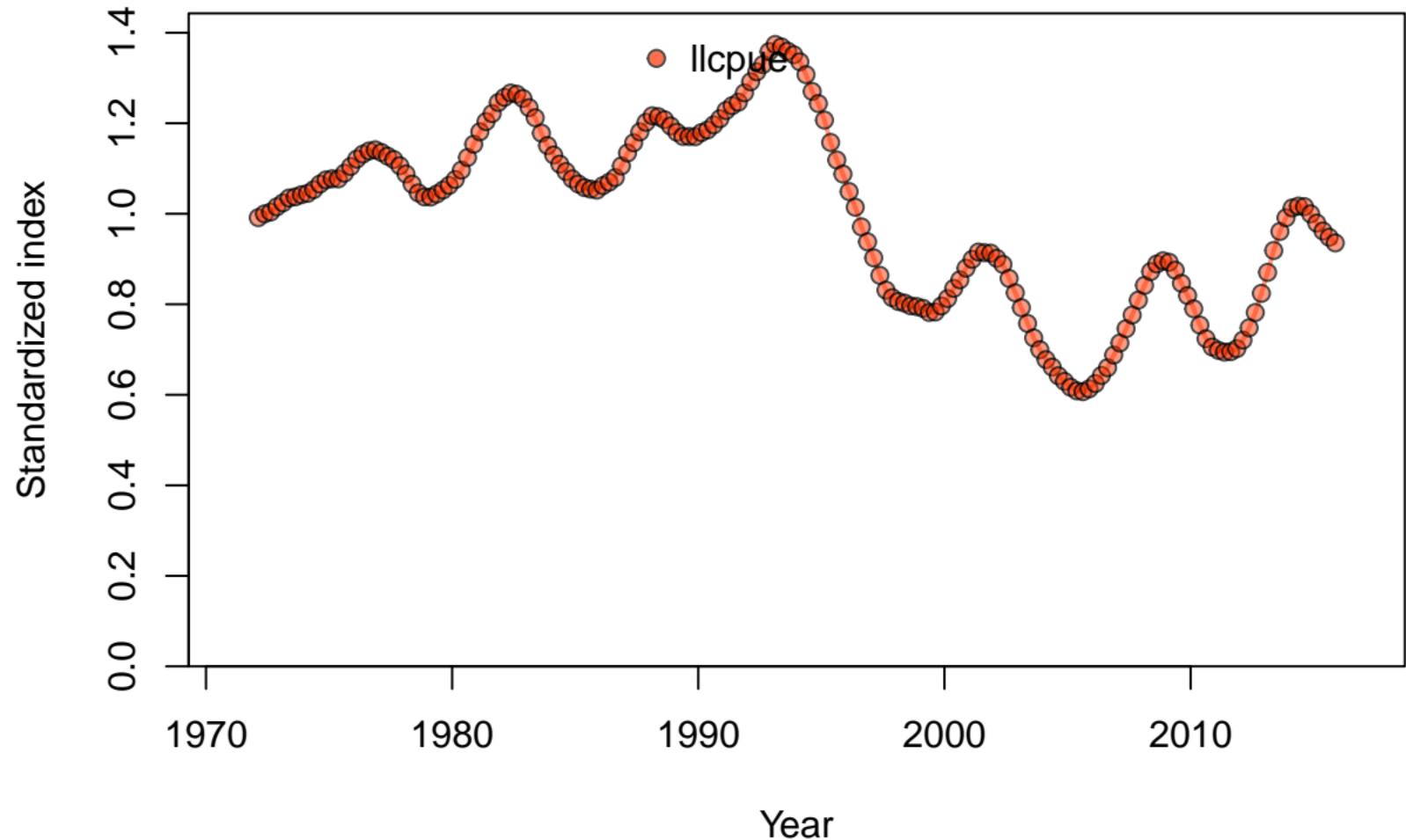


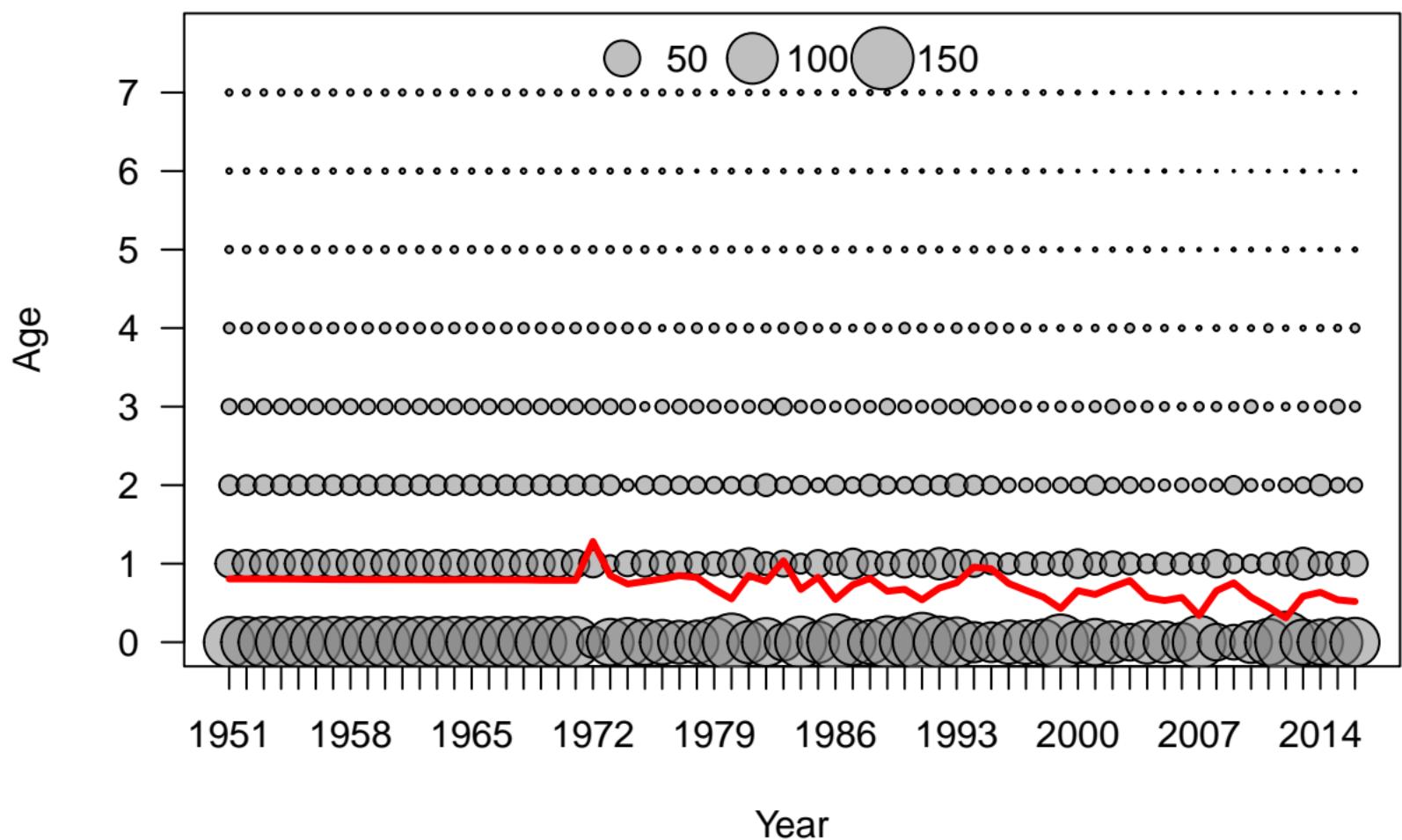


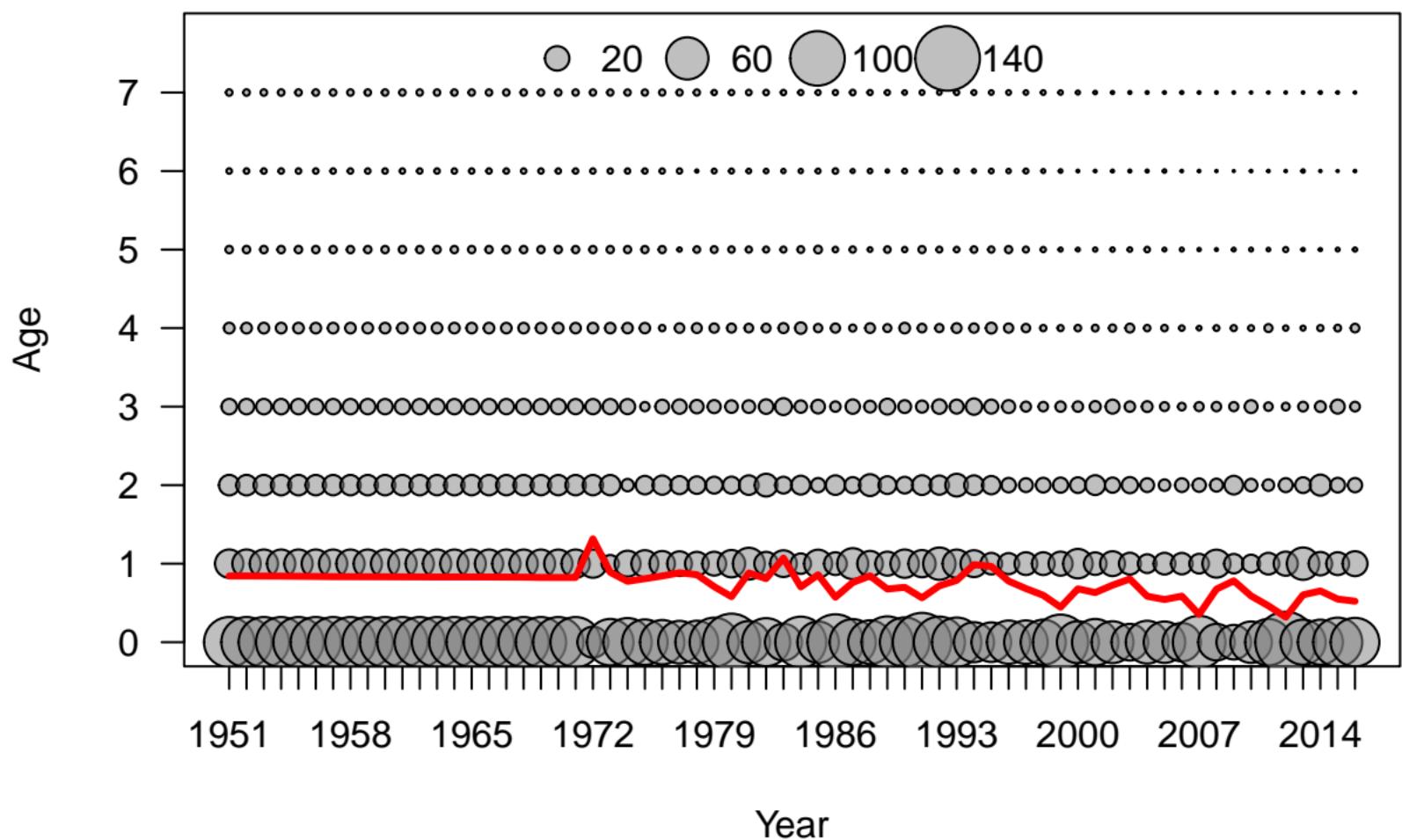


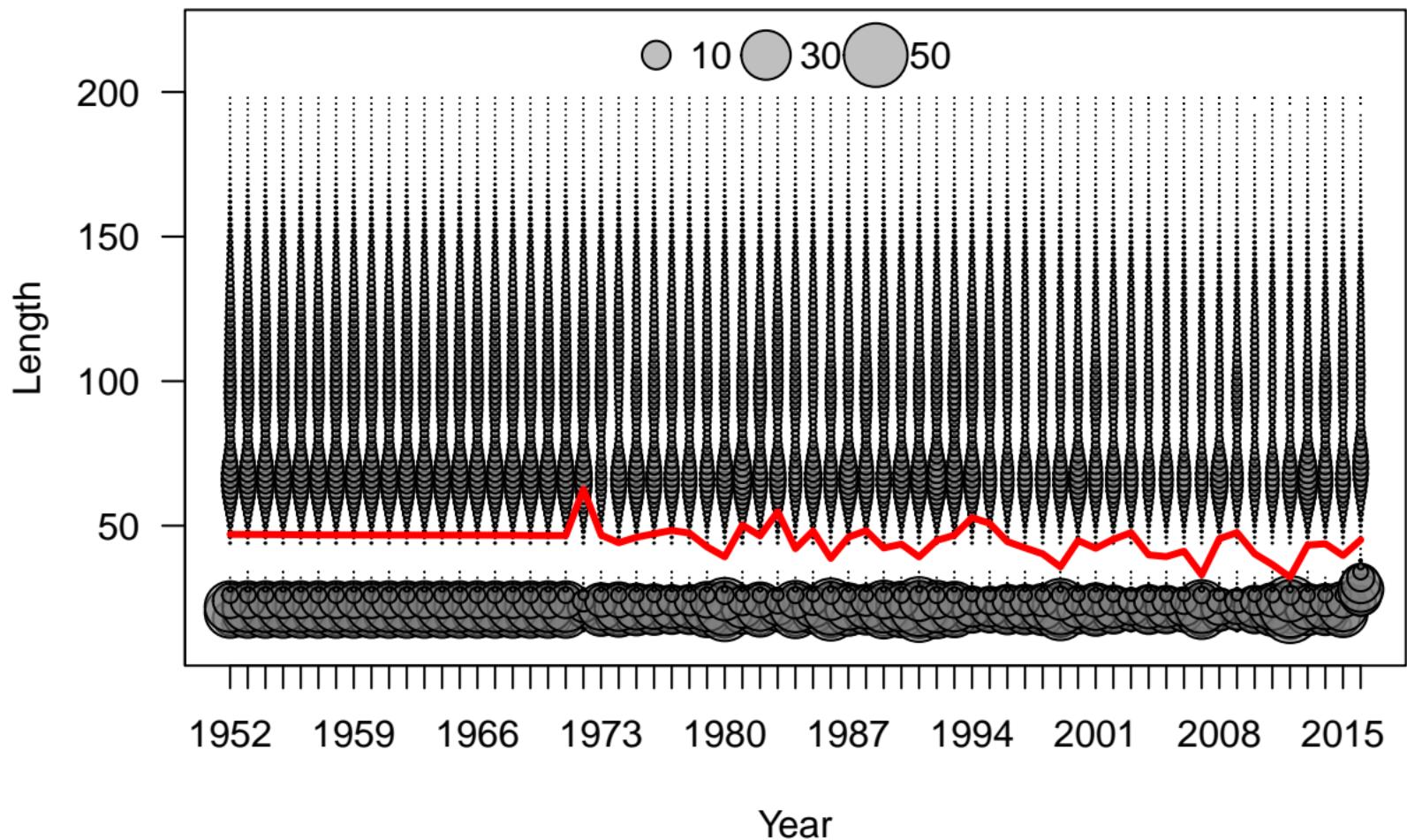


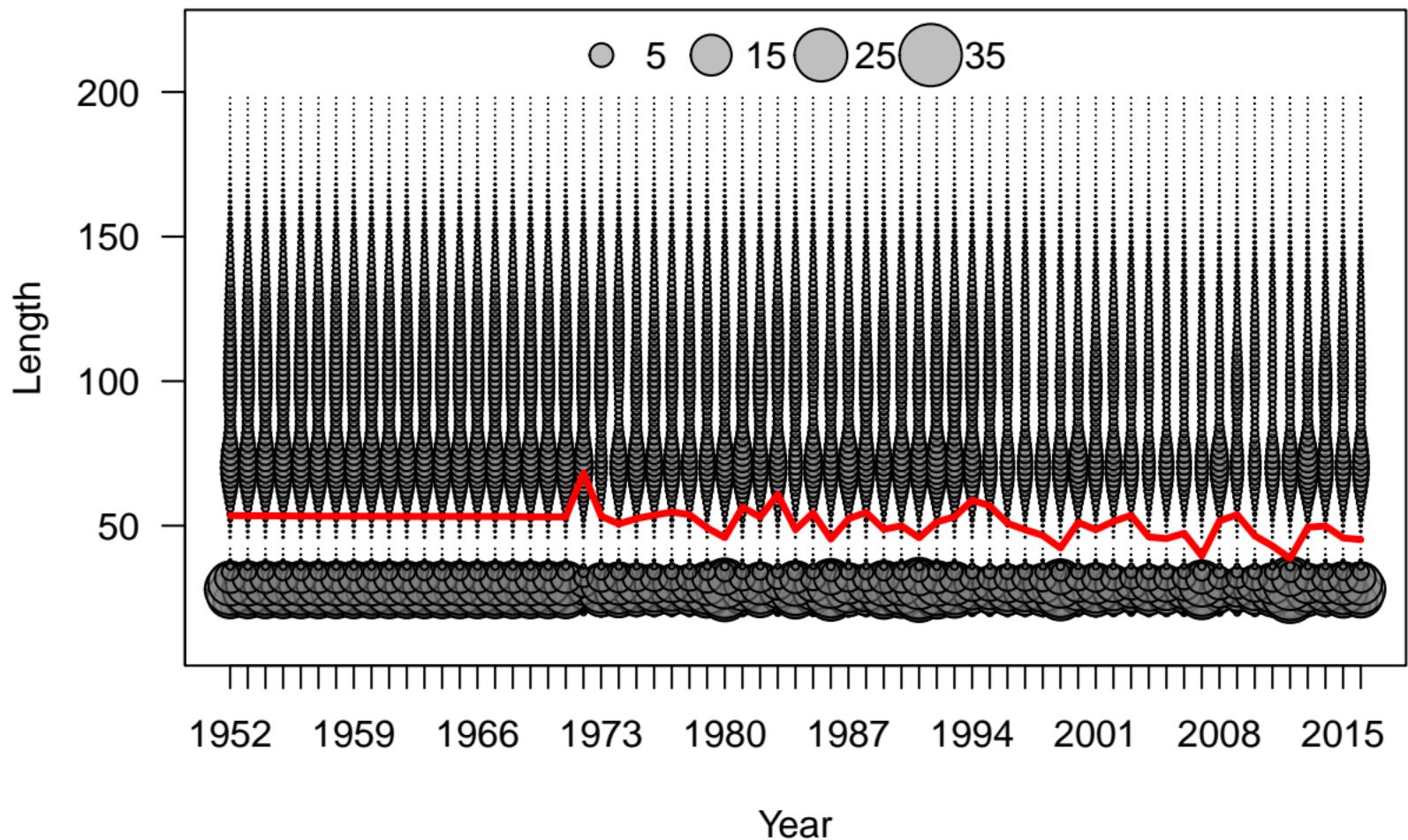




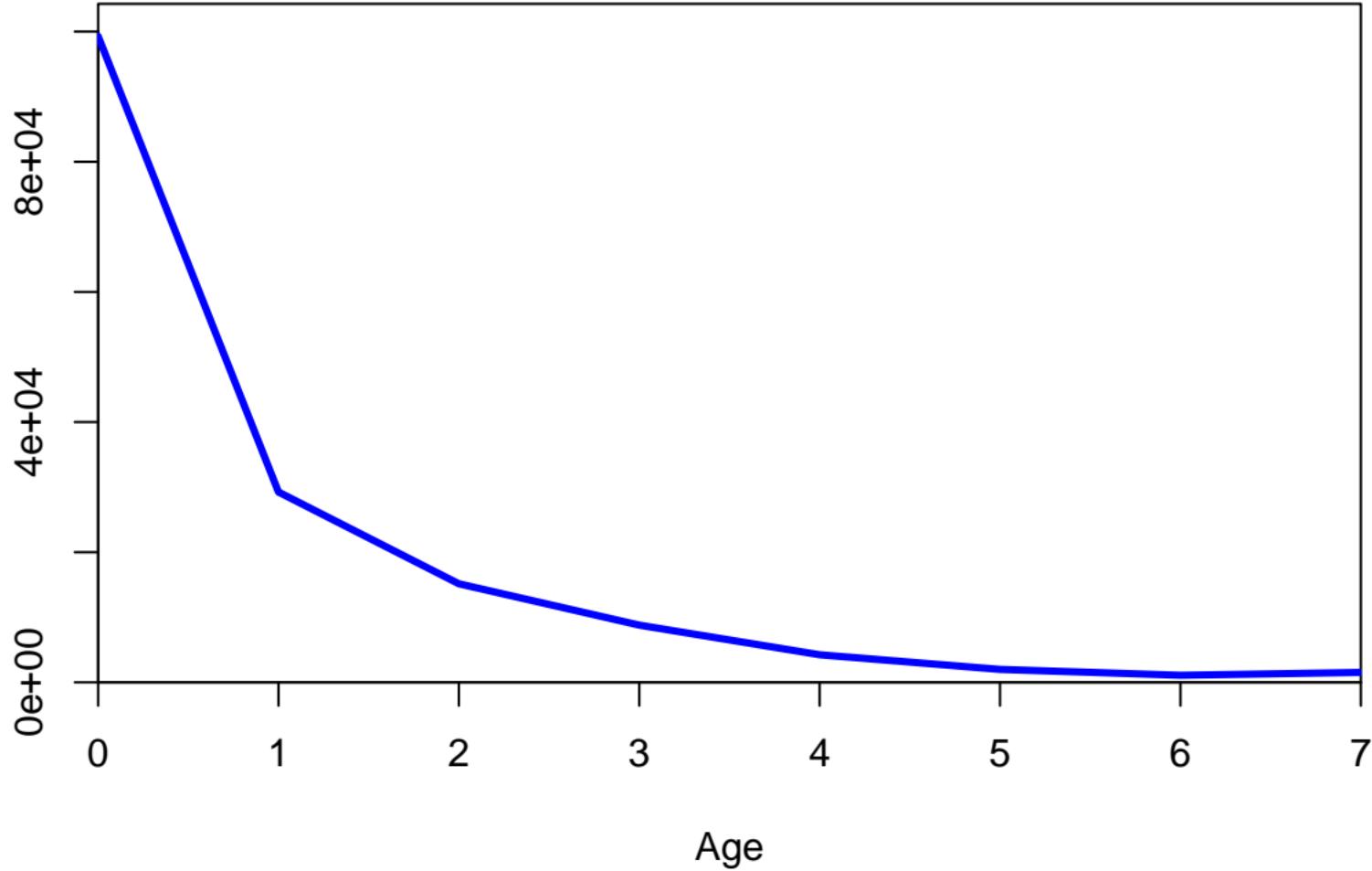


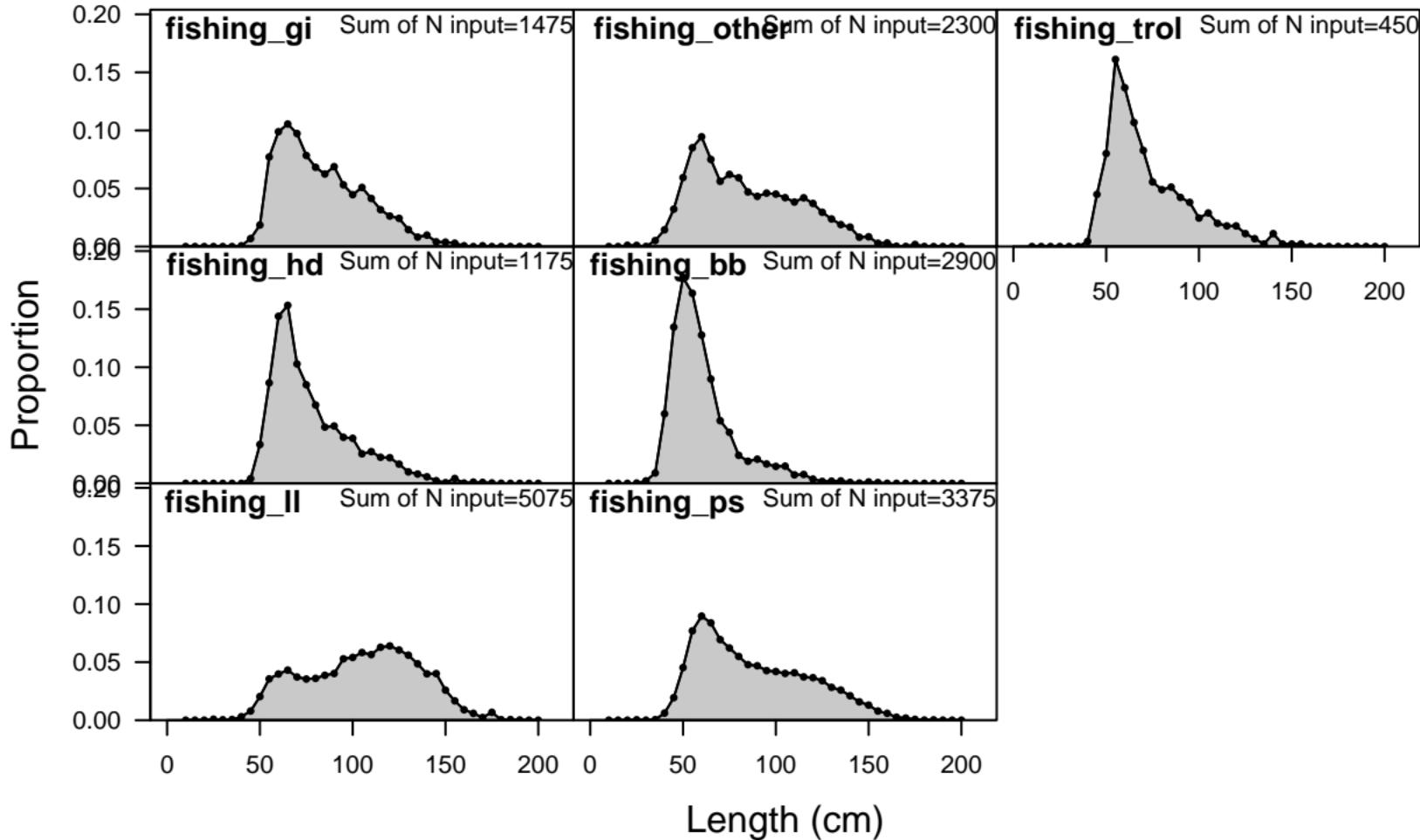


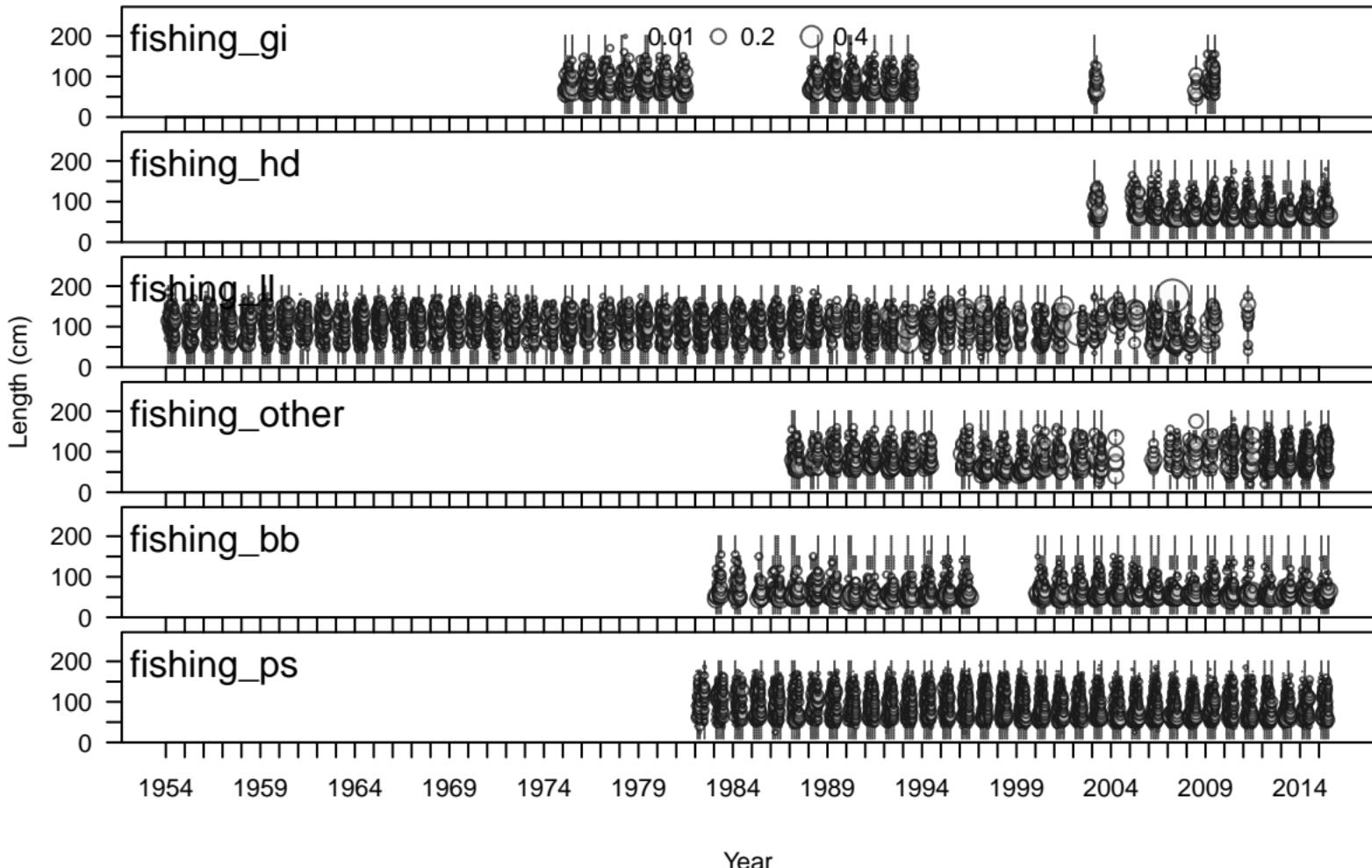


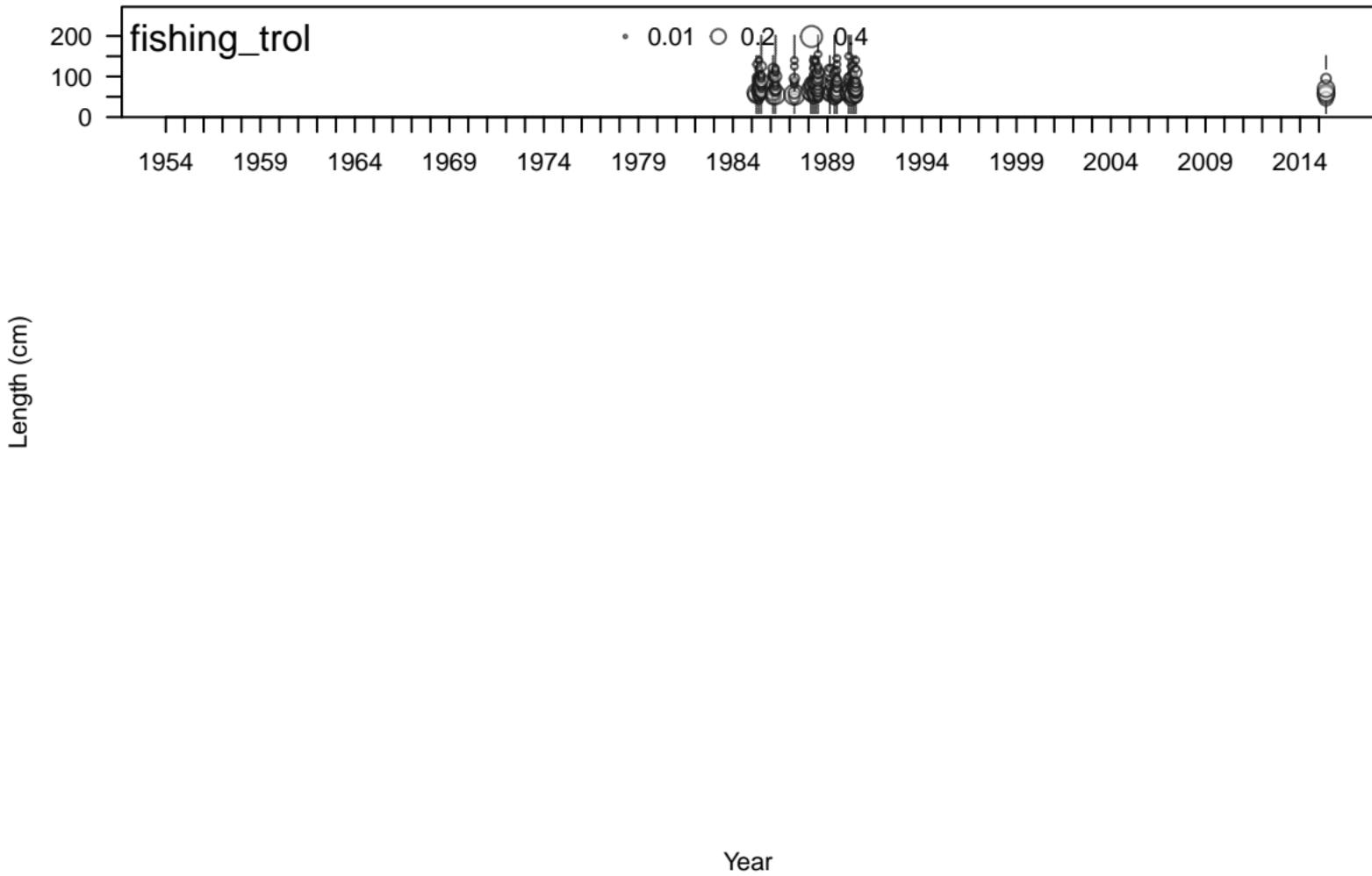


Numbers at age at equilibrium

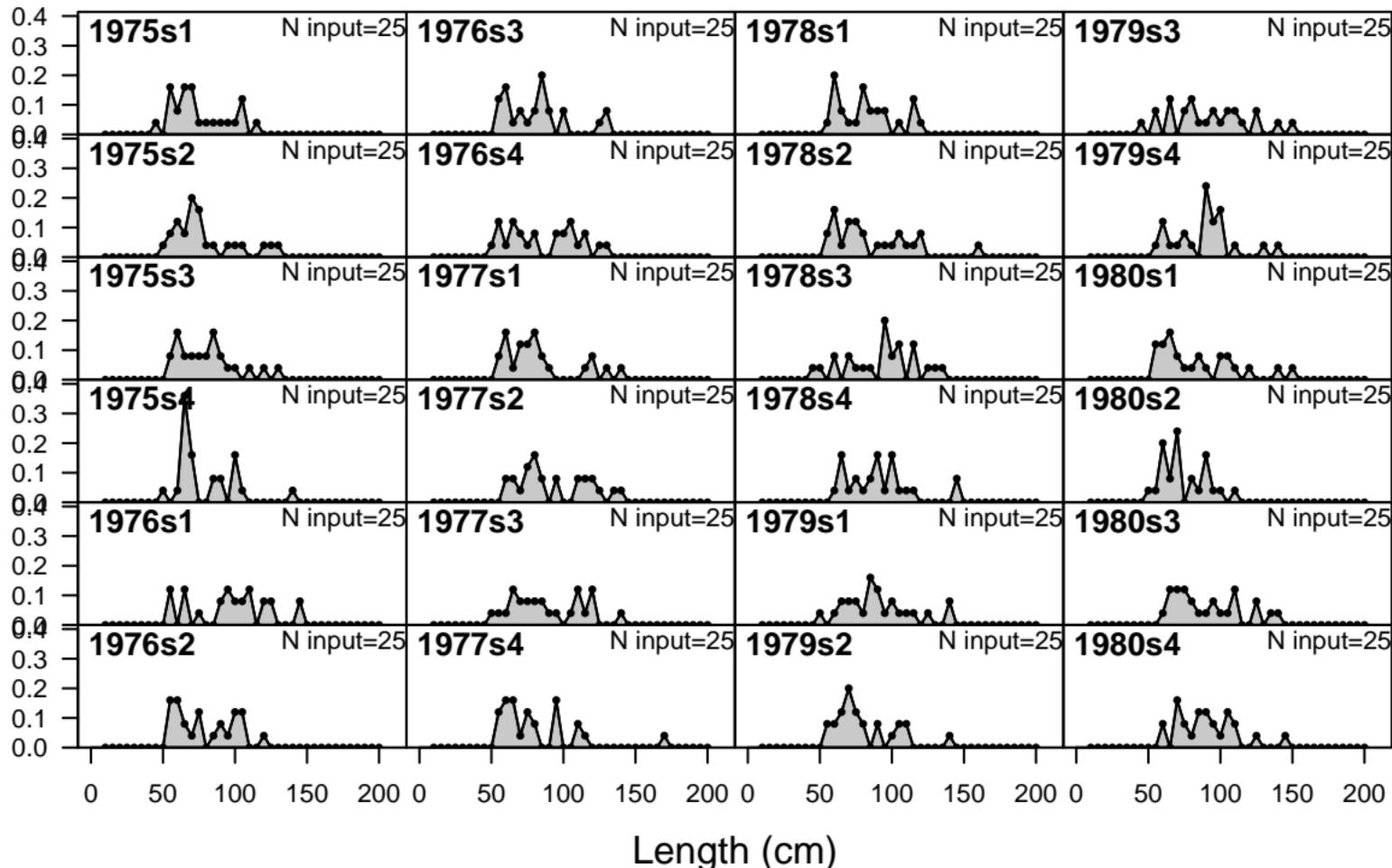




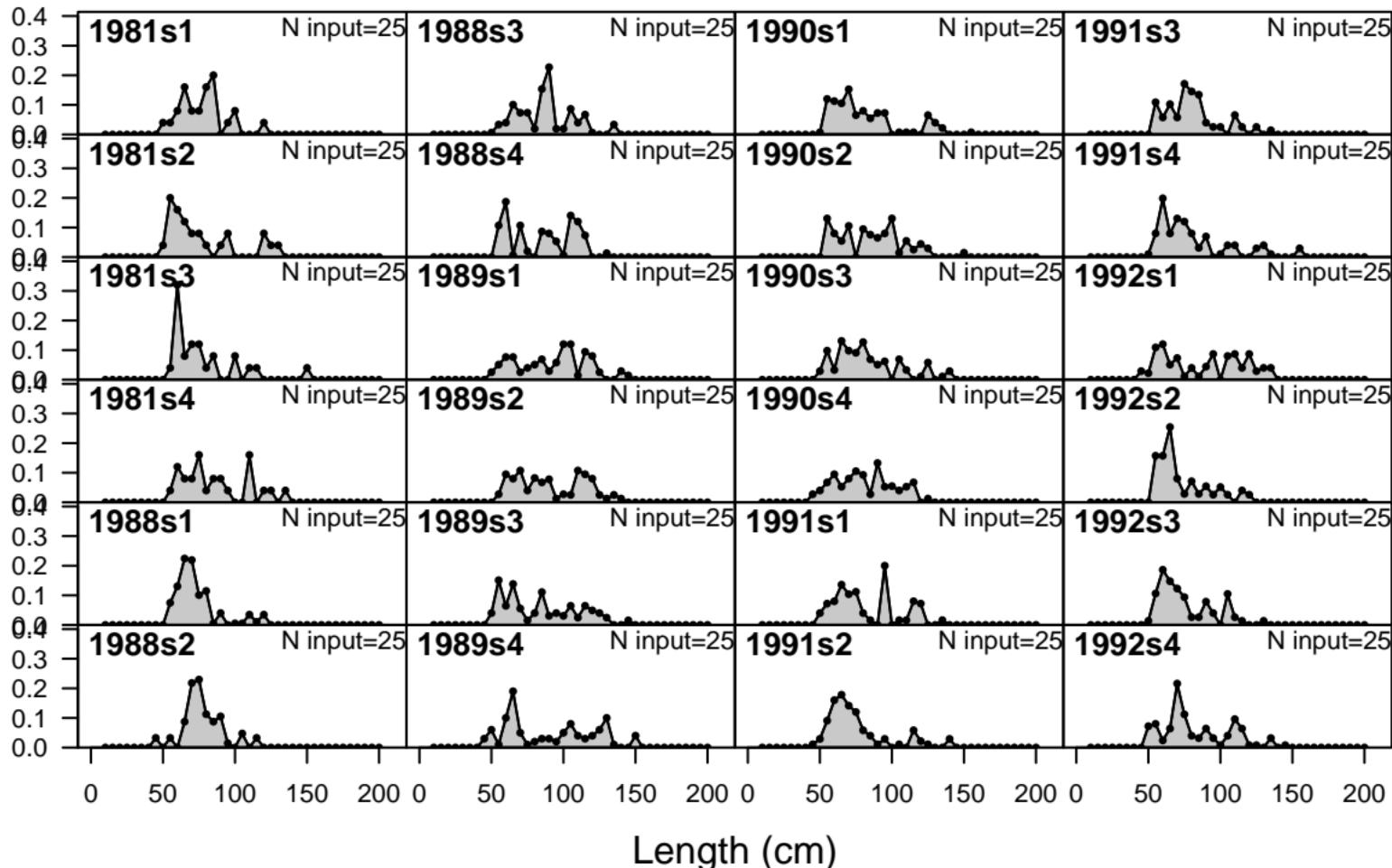




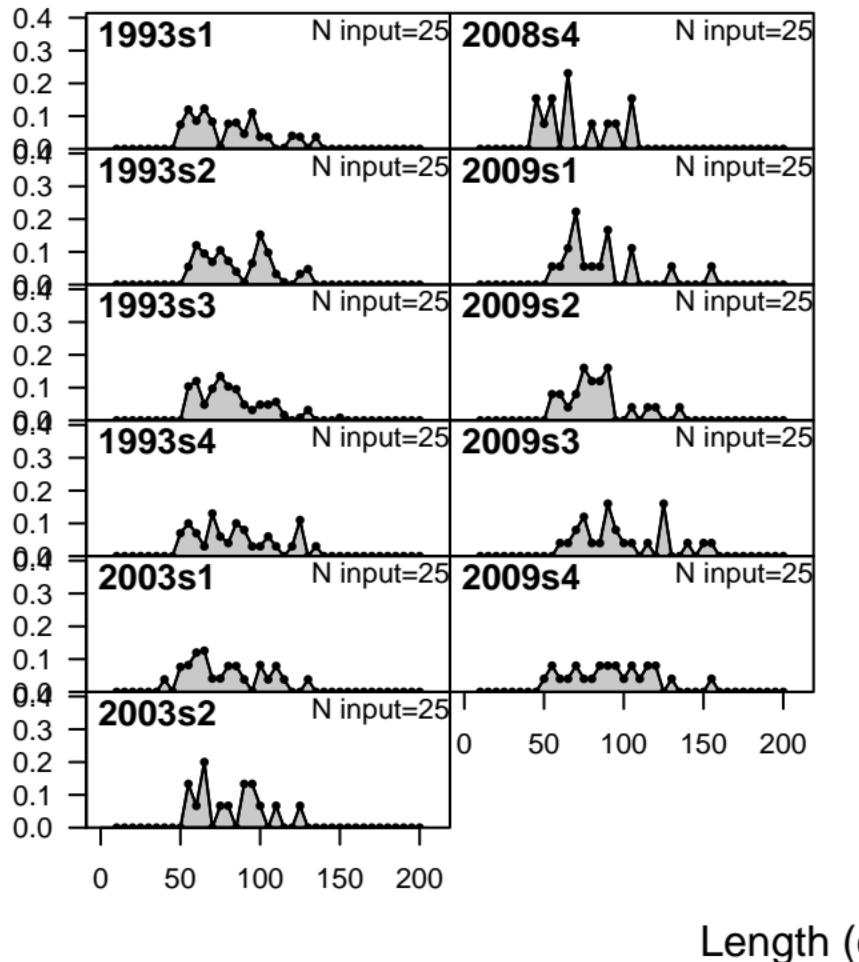
Proportion

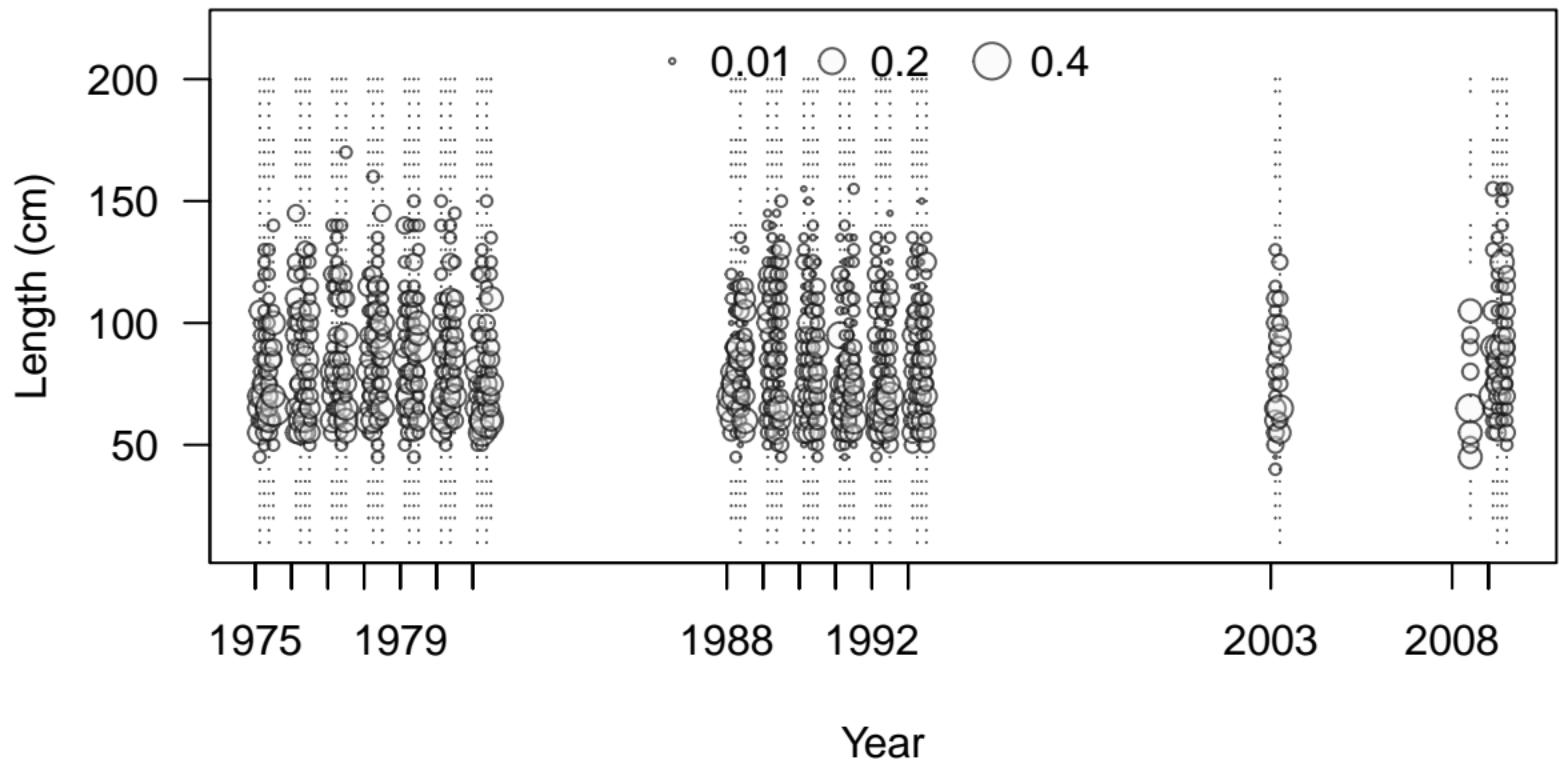


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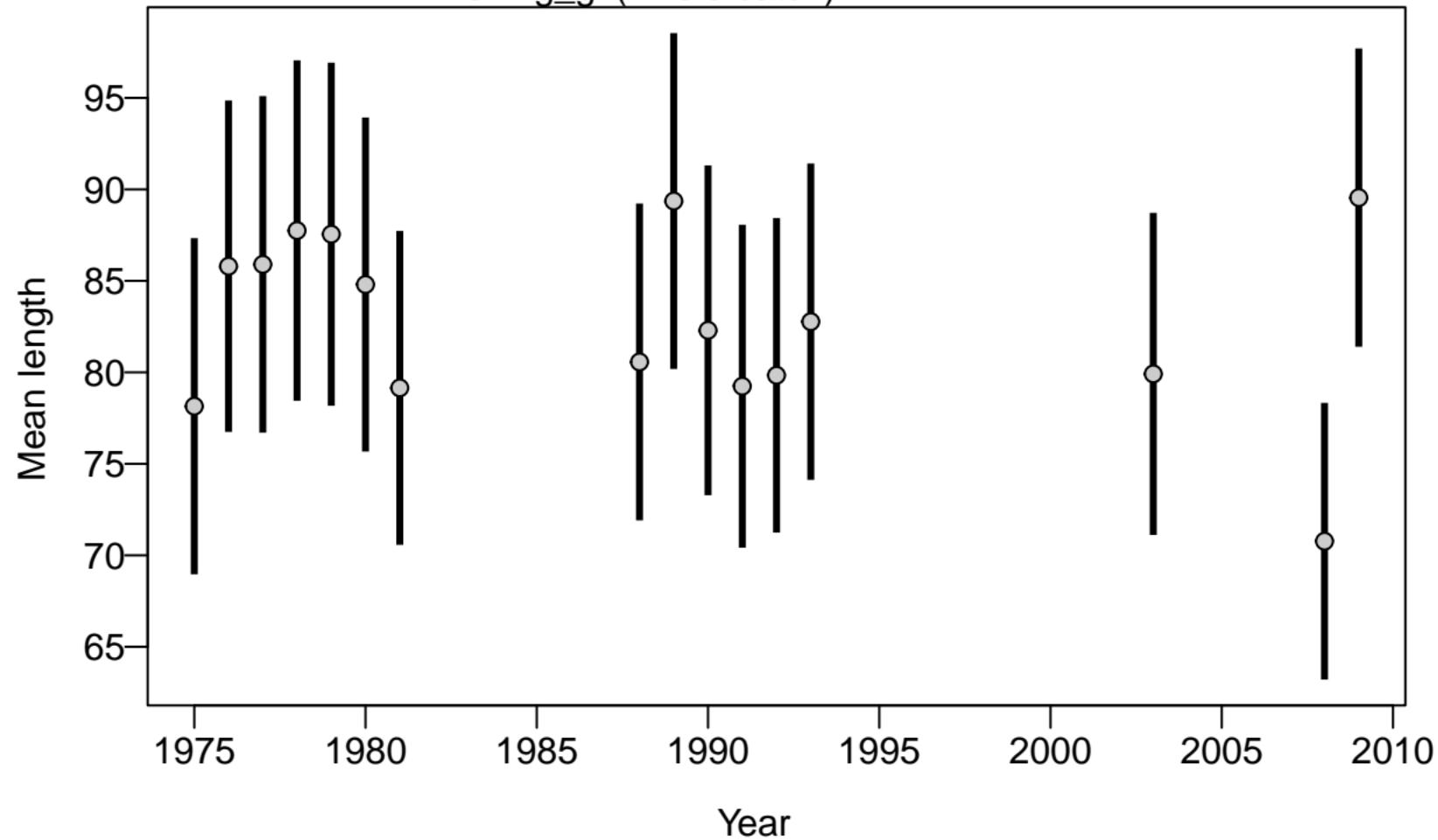


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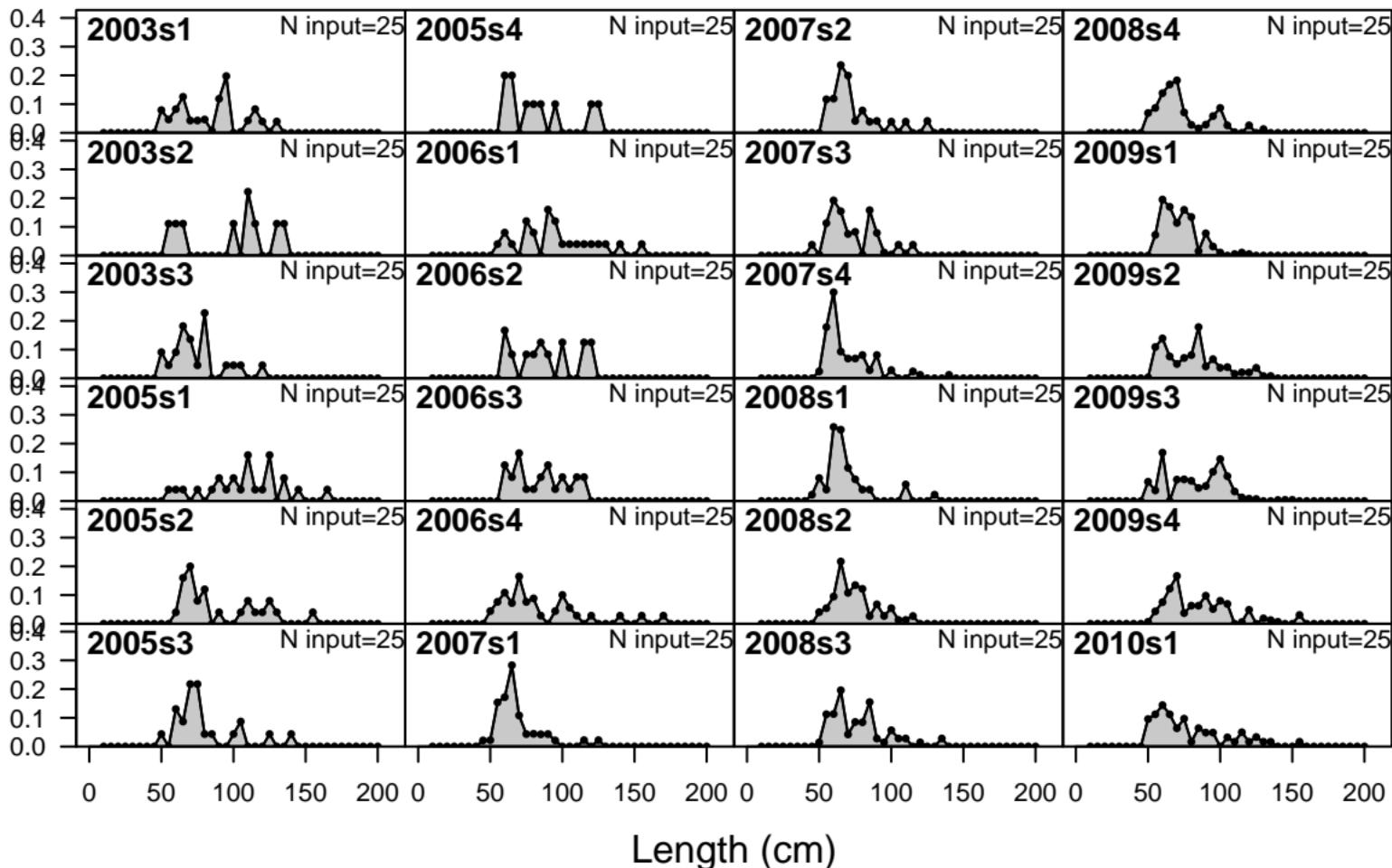




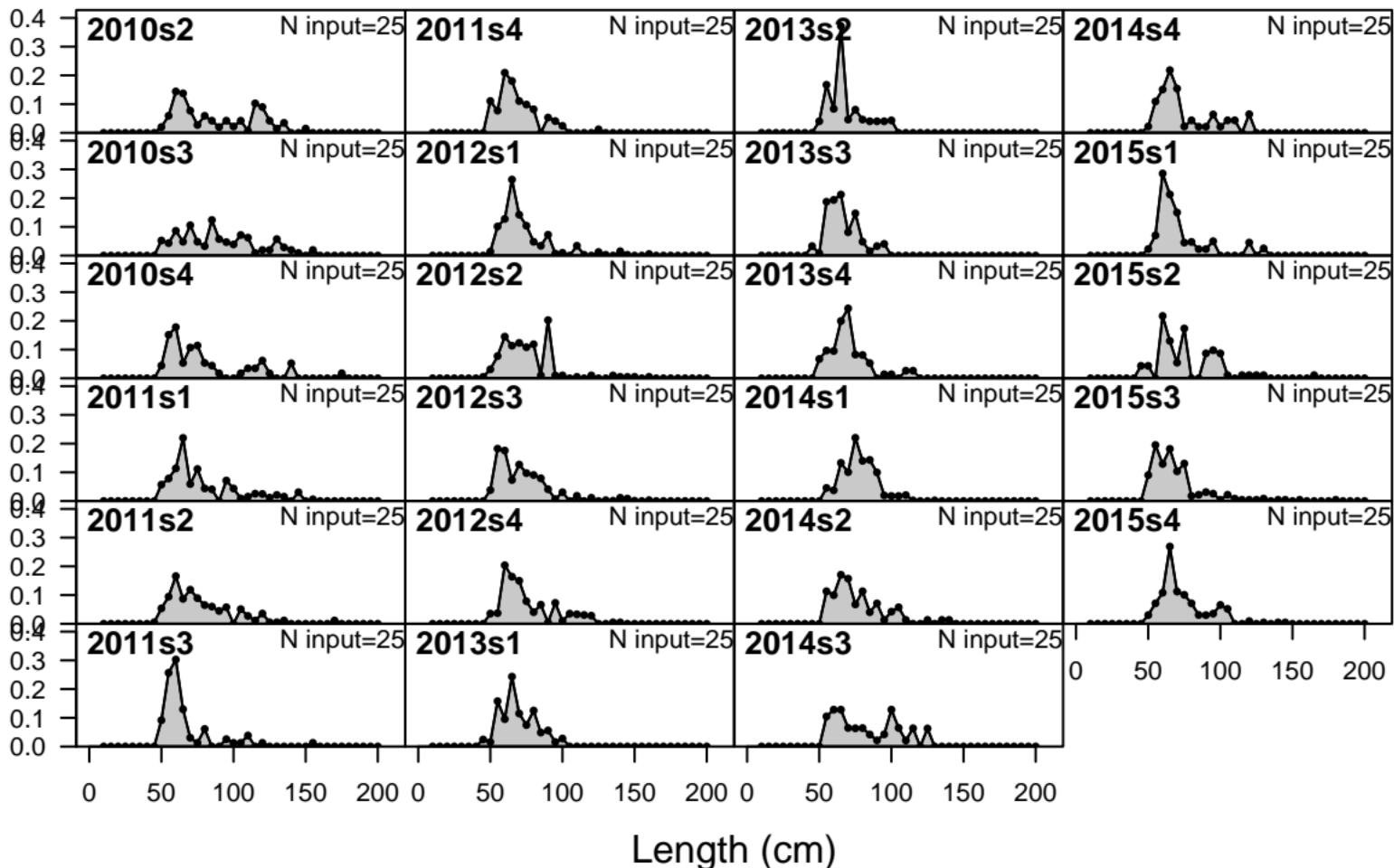
fishing_gi (whole catch)

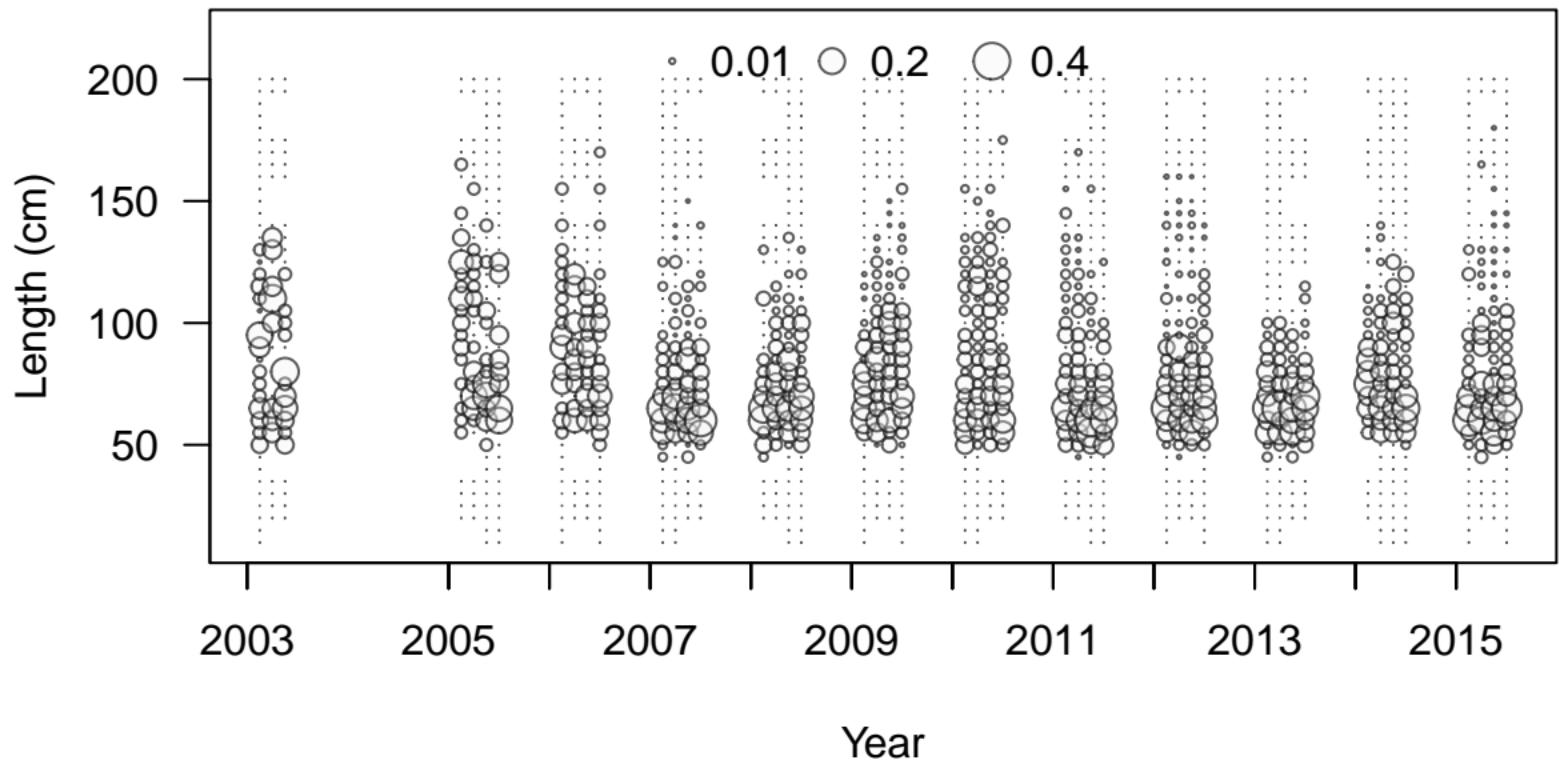


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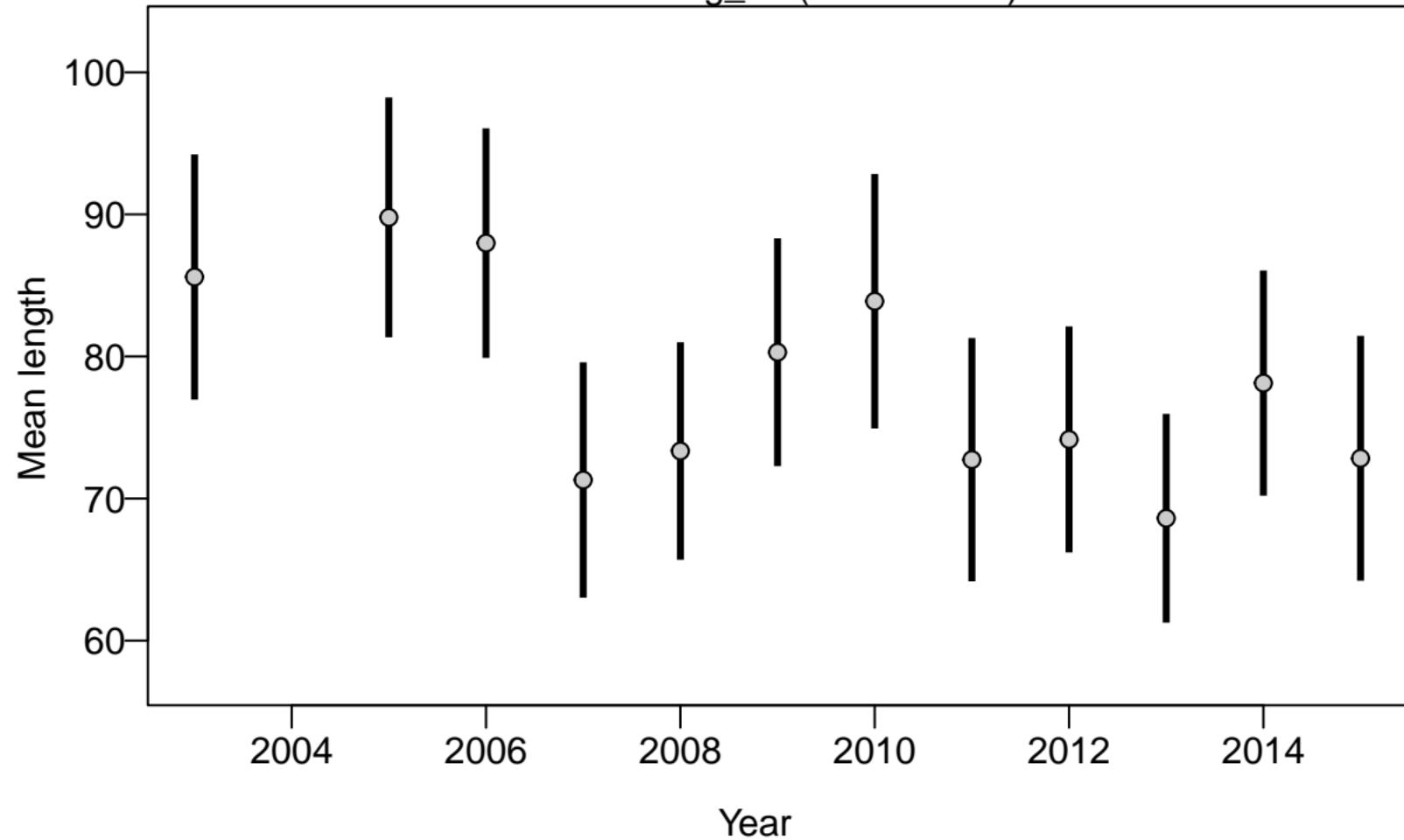


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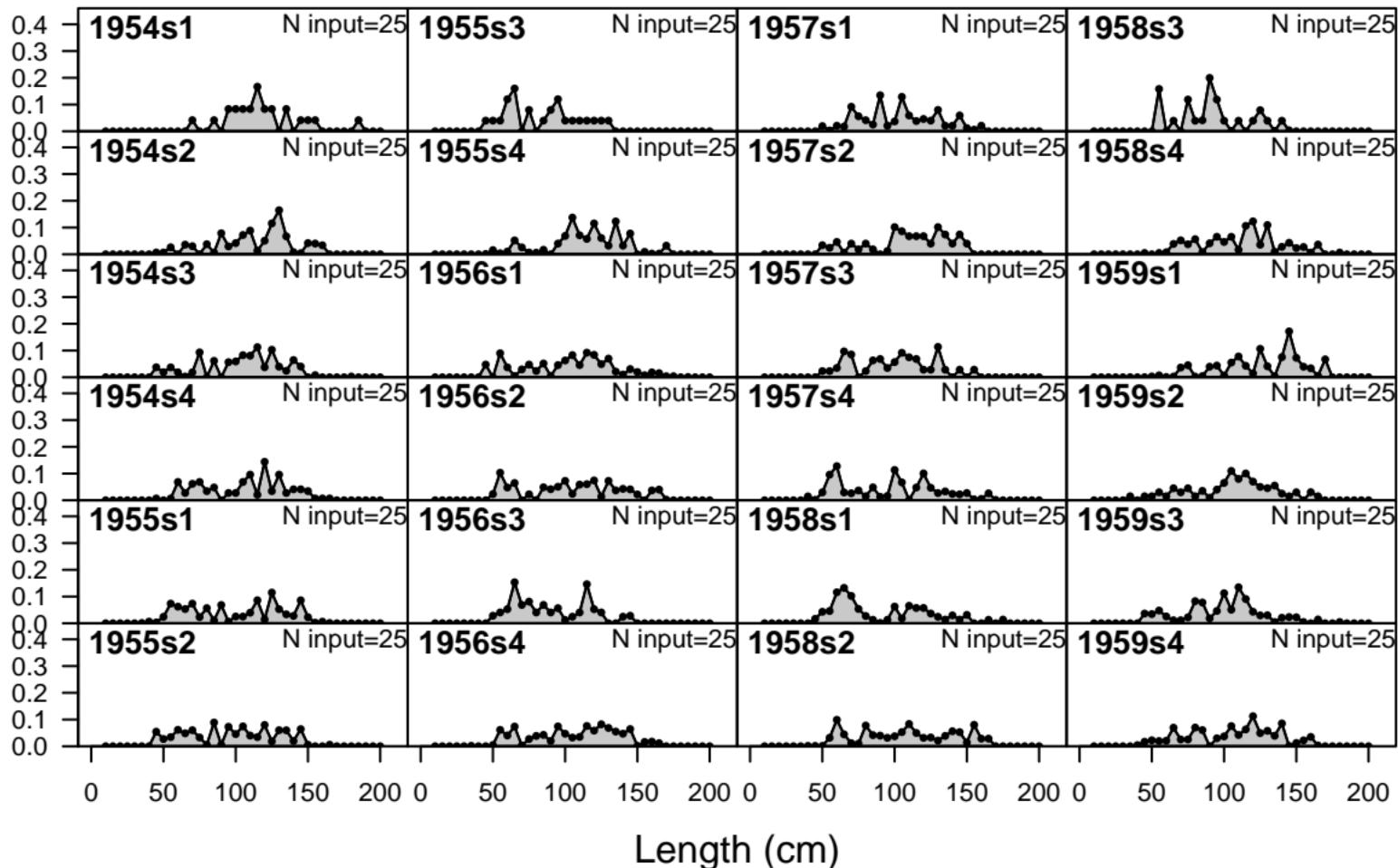




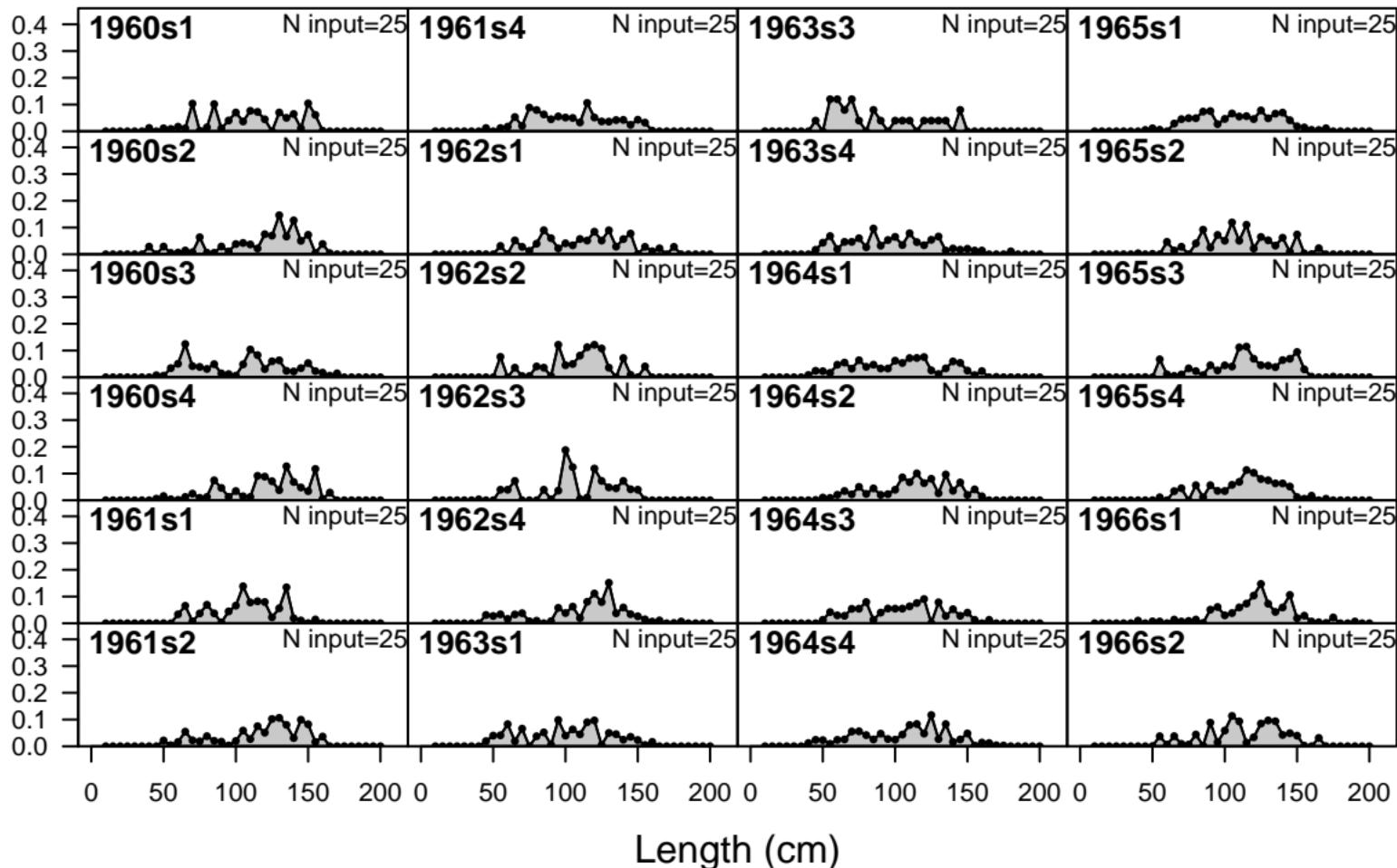
fishing_hd (whole catch)



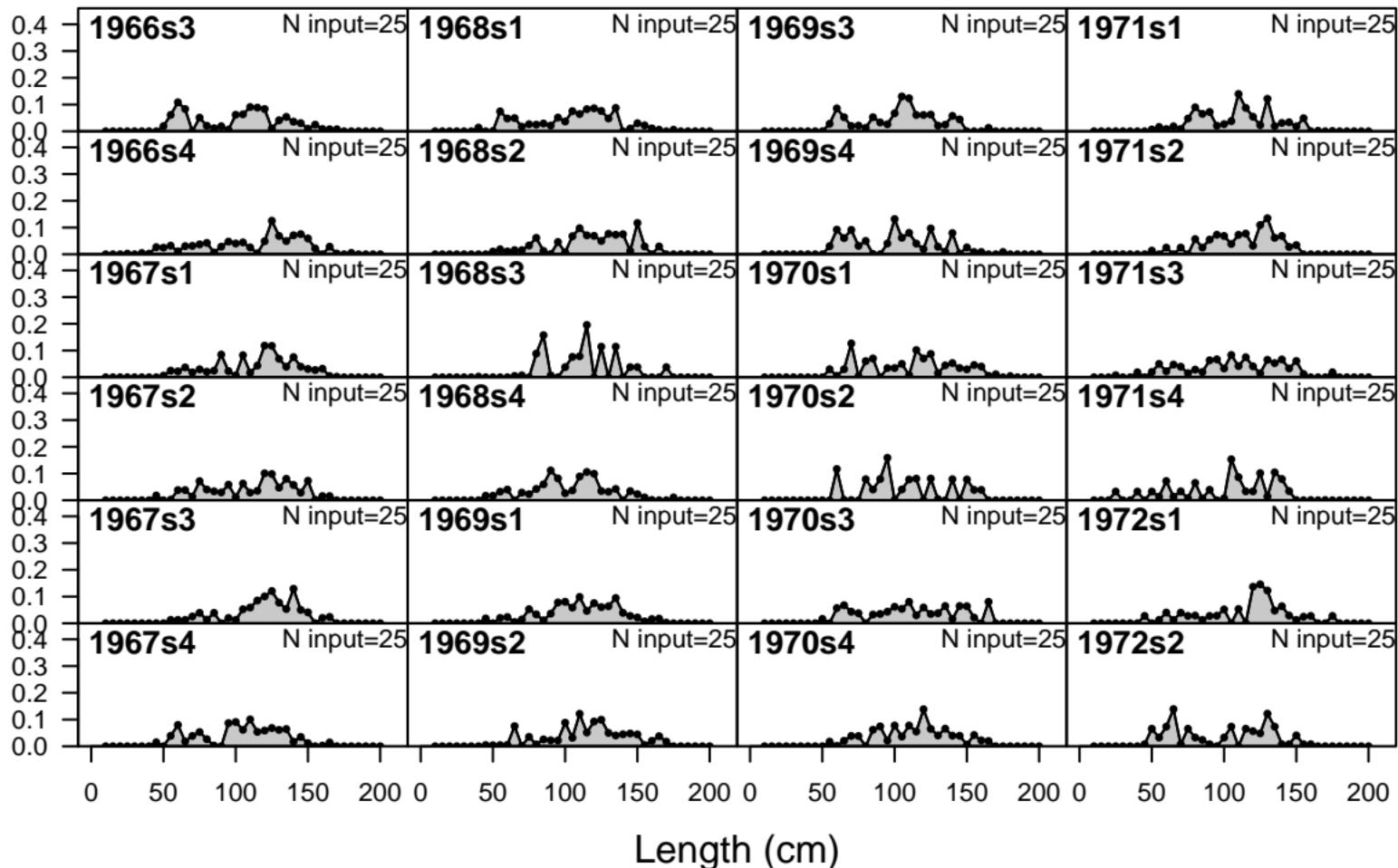
Proportion



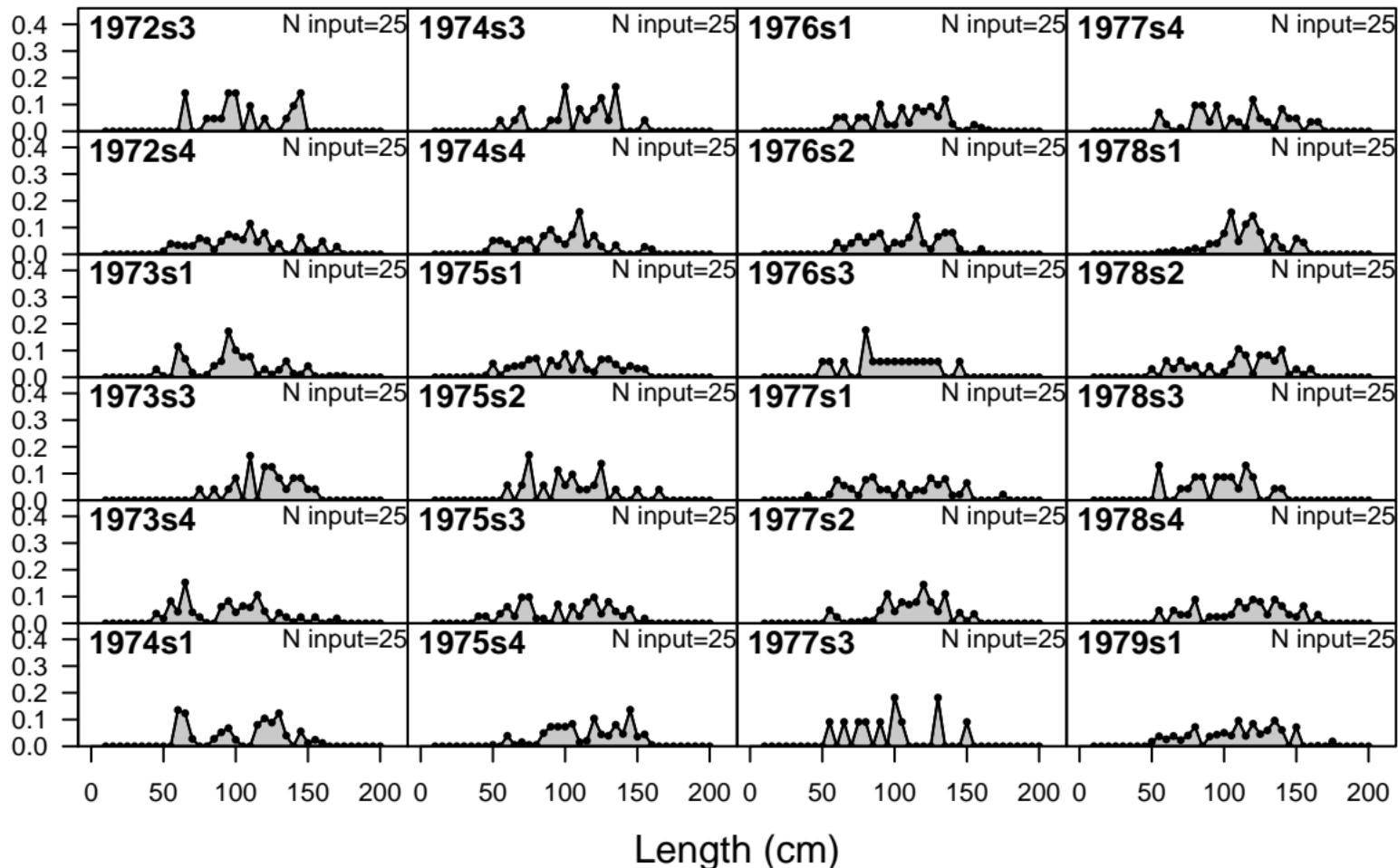
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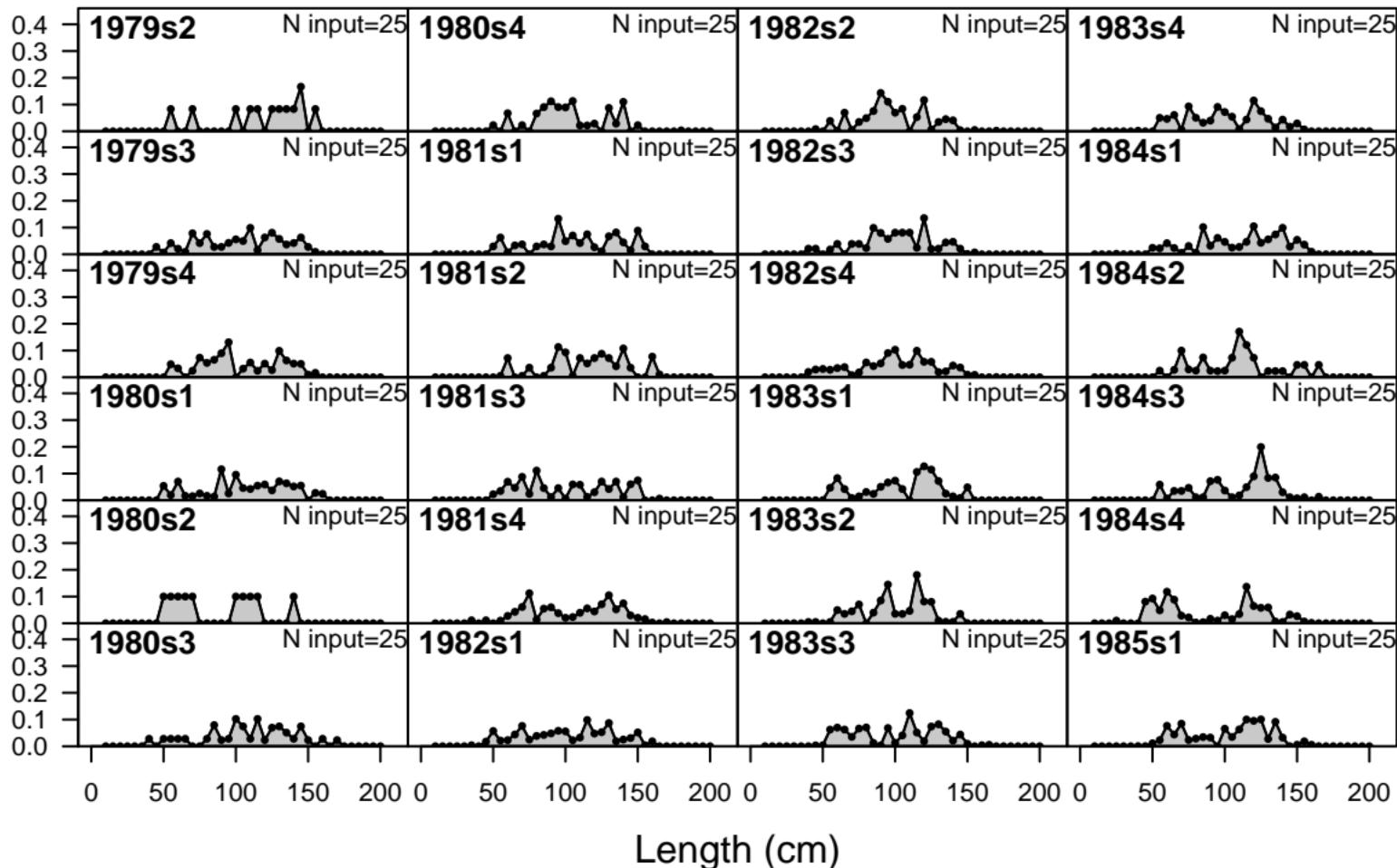
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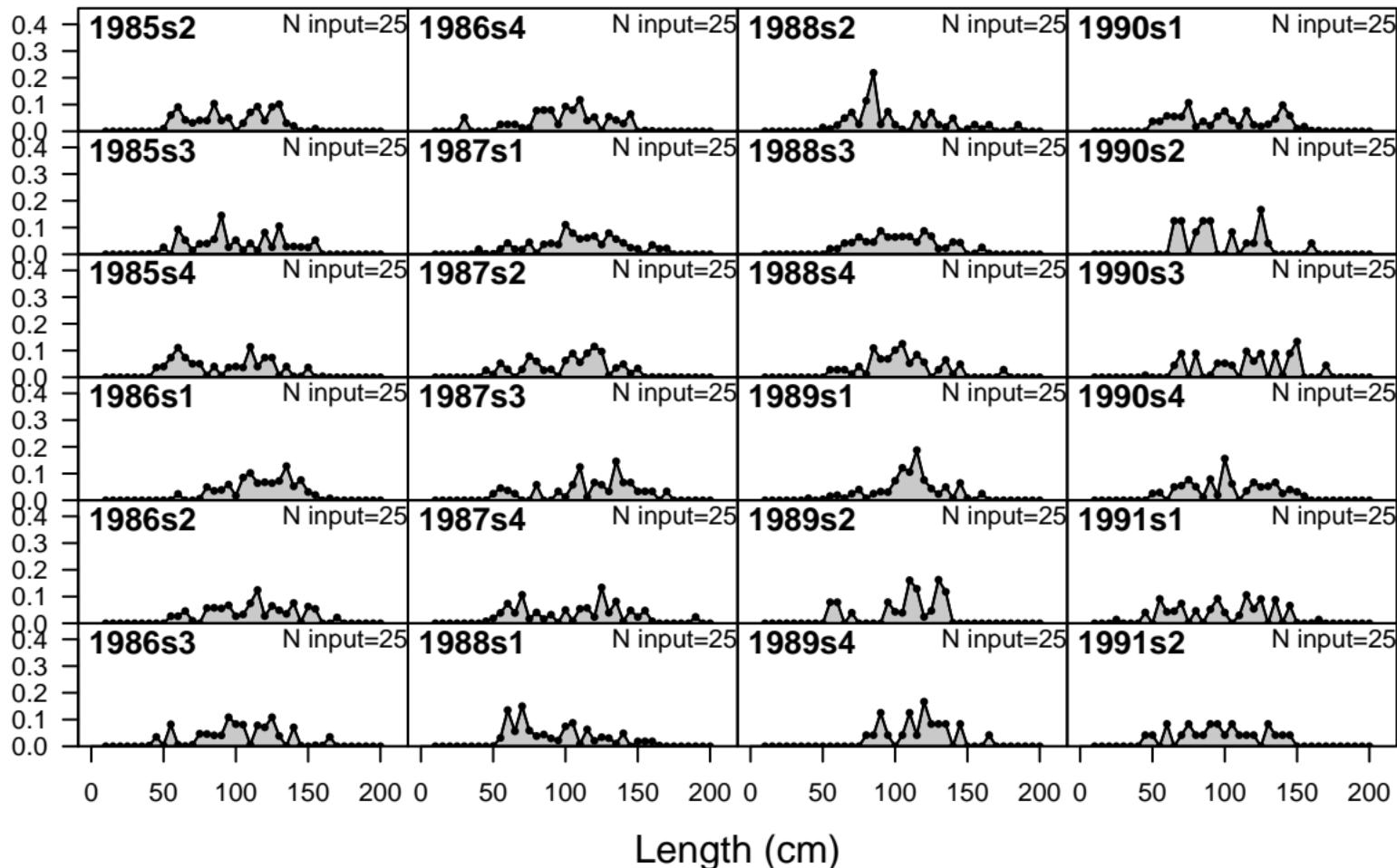
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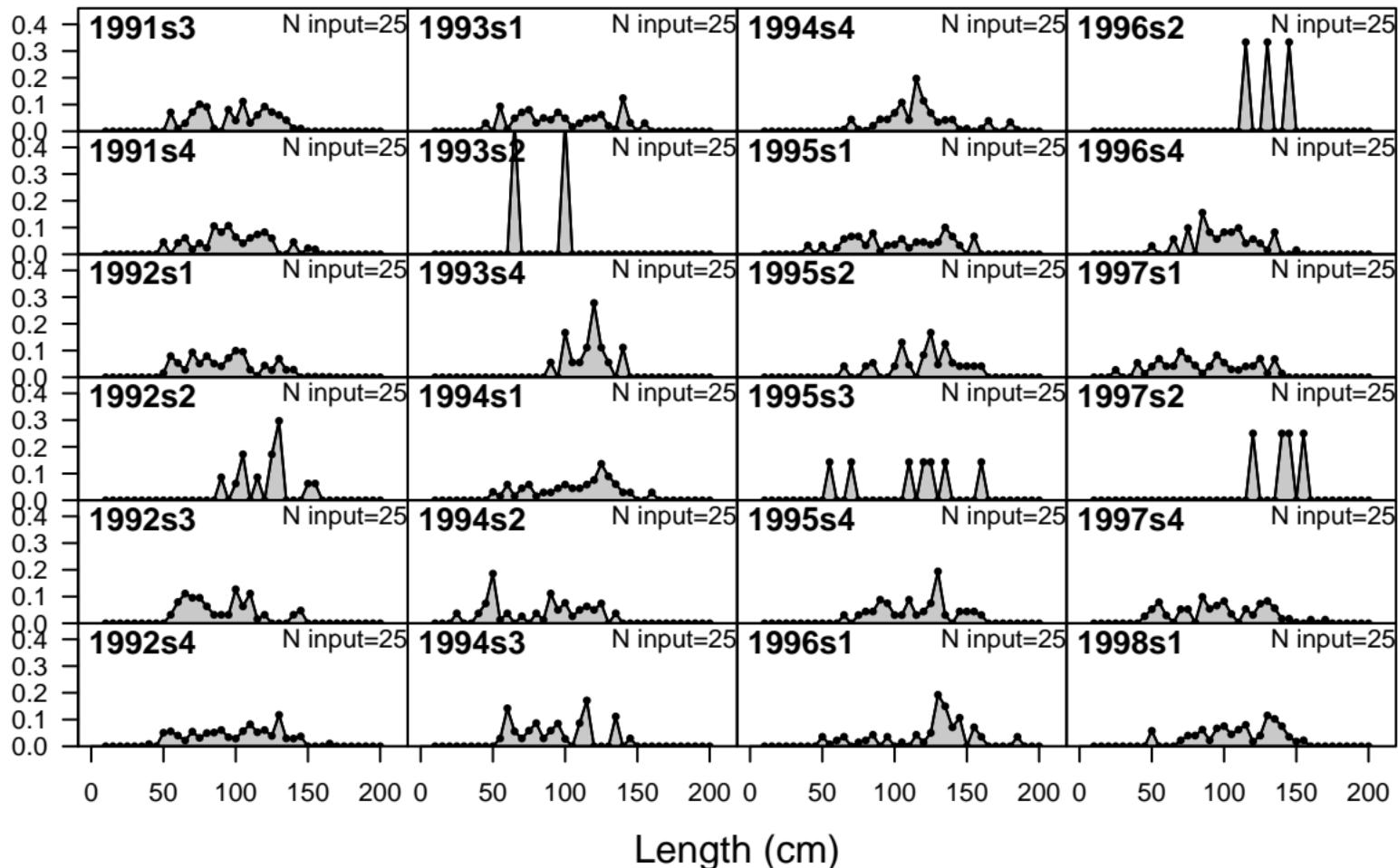
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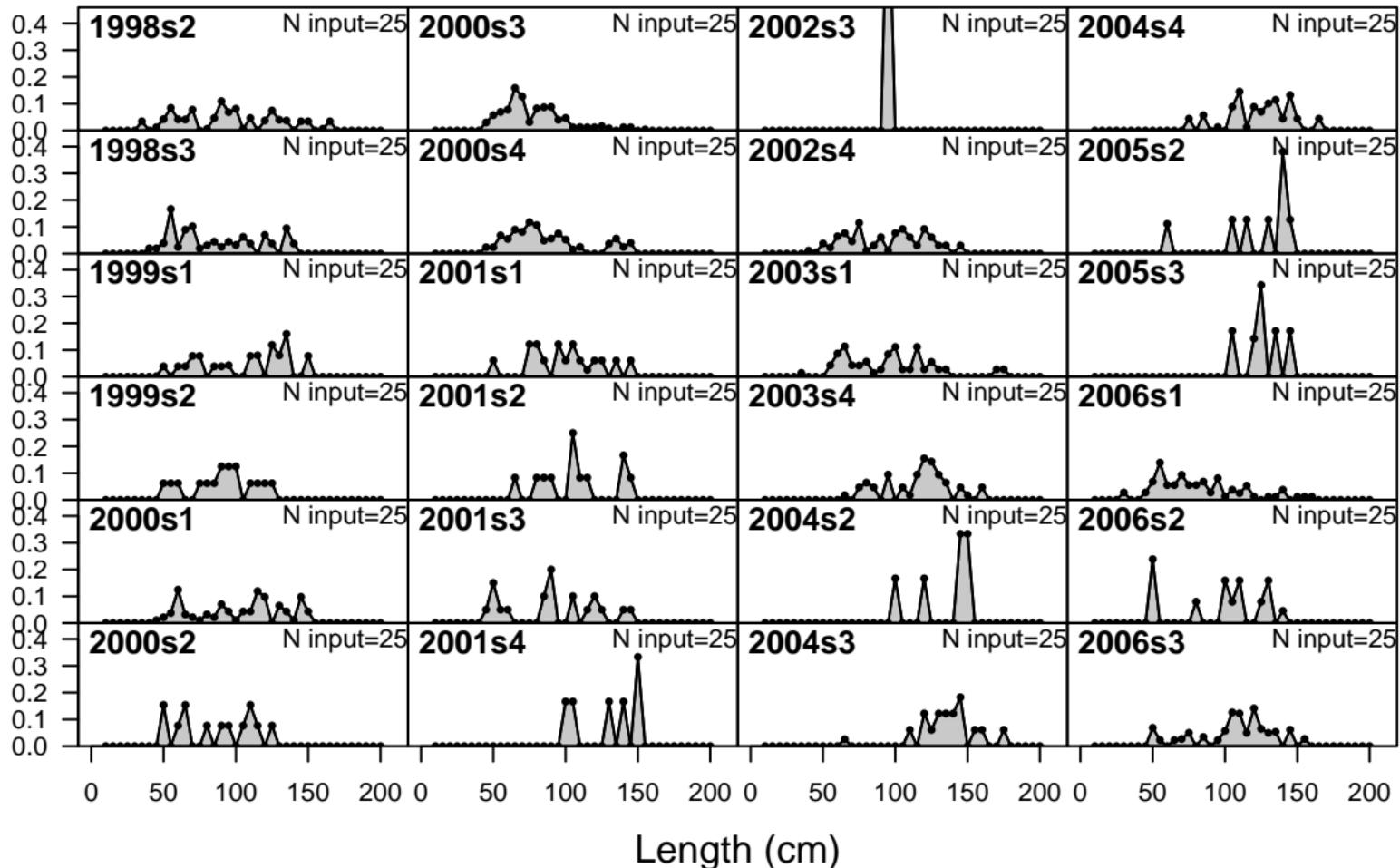
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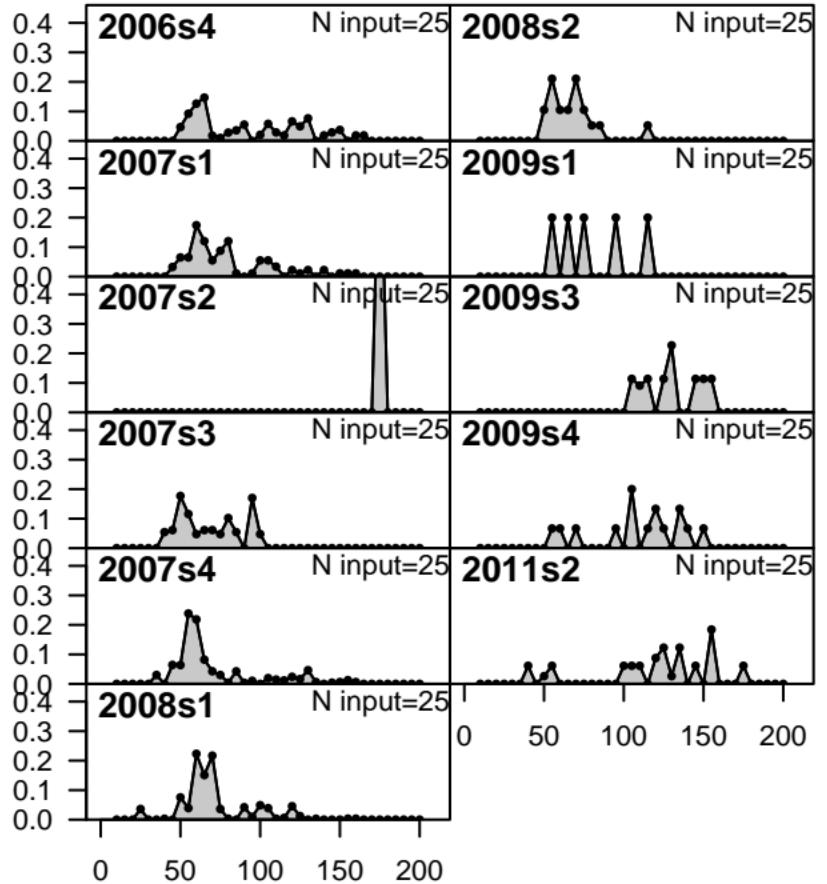
Proportion



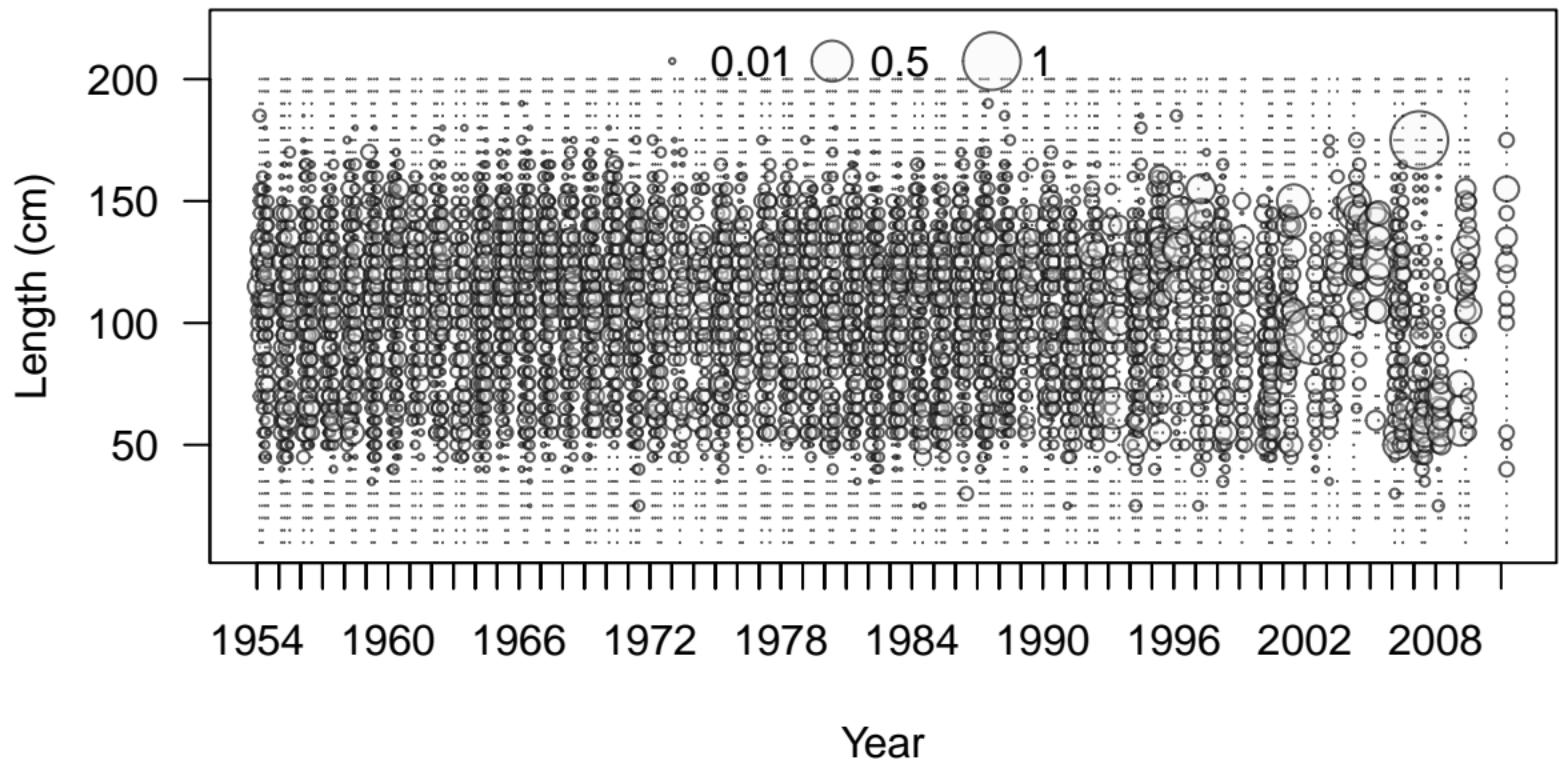
Proportion



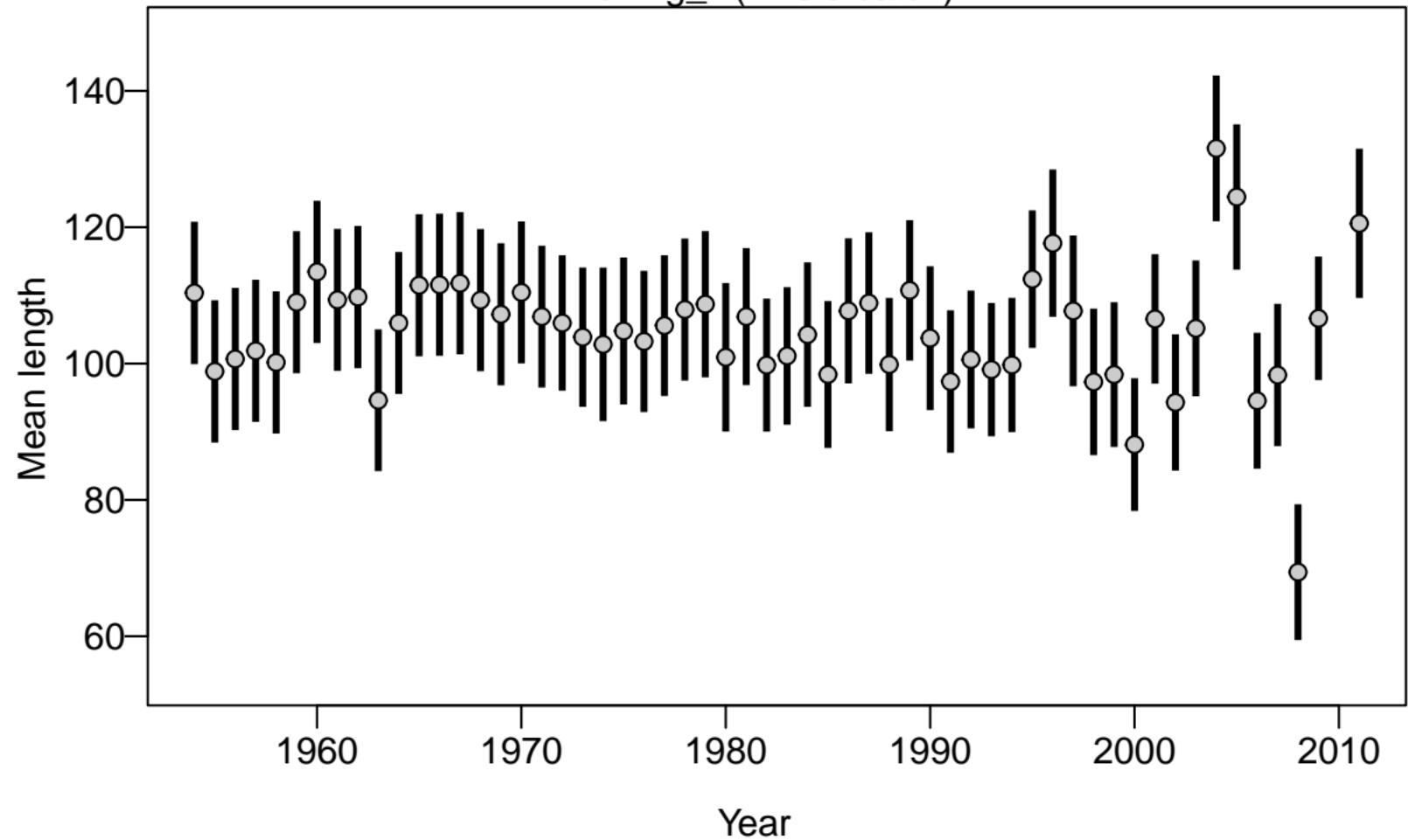
Proportion



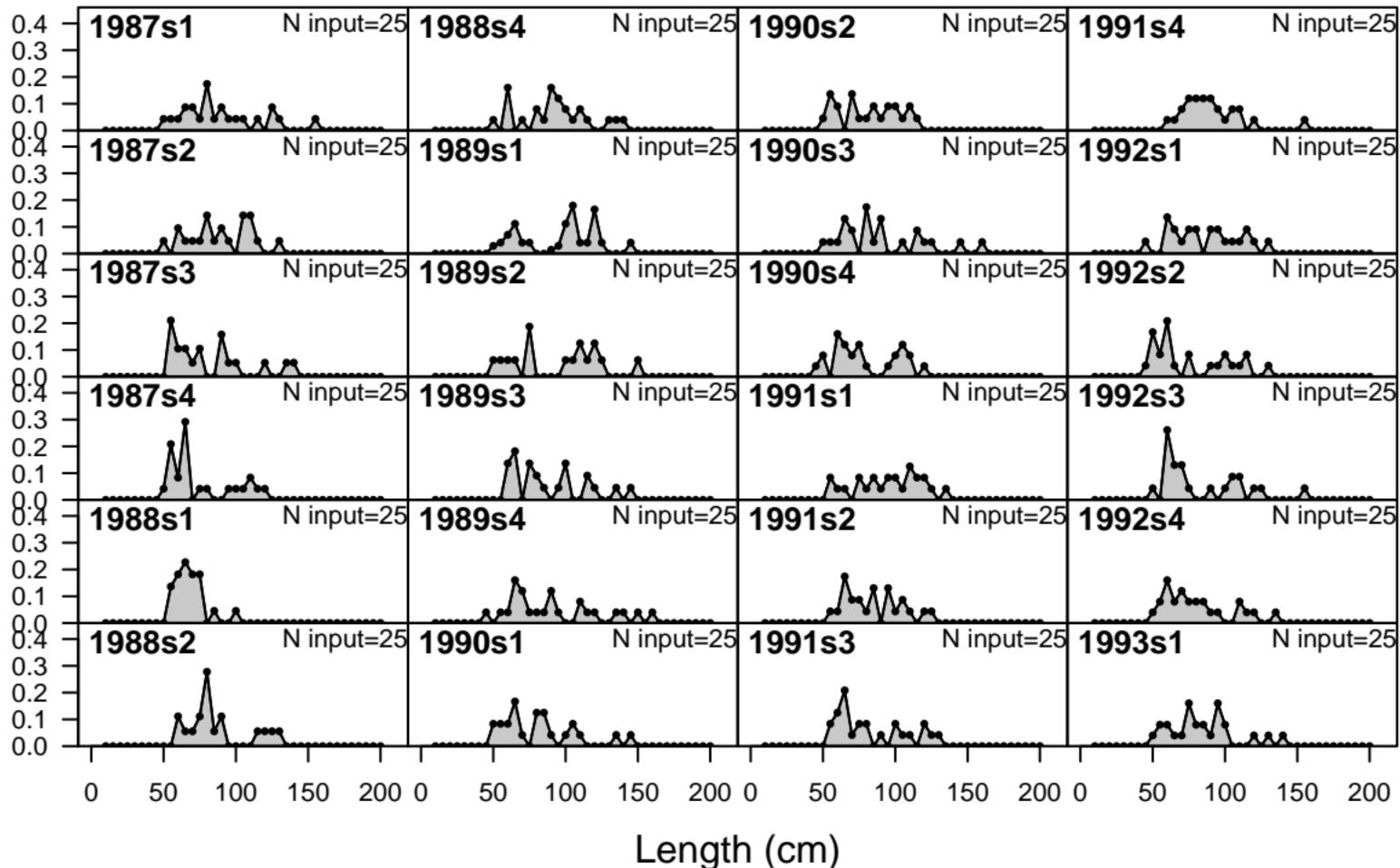
Length (cm)



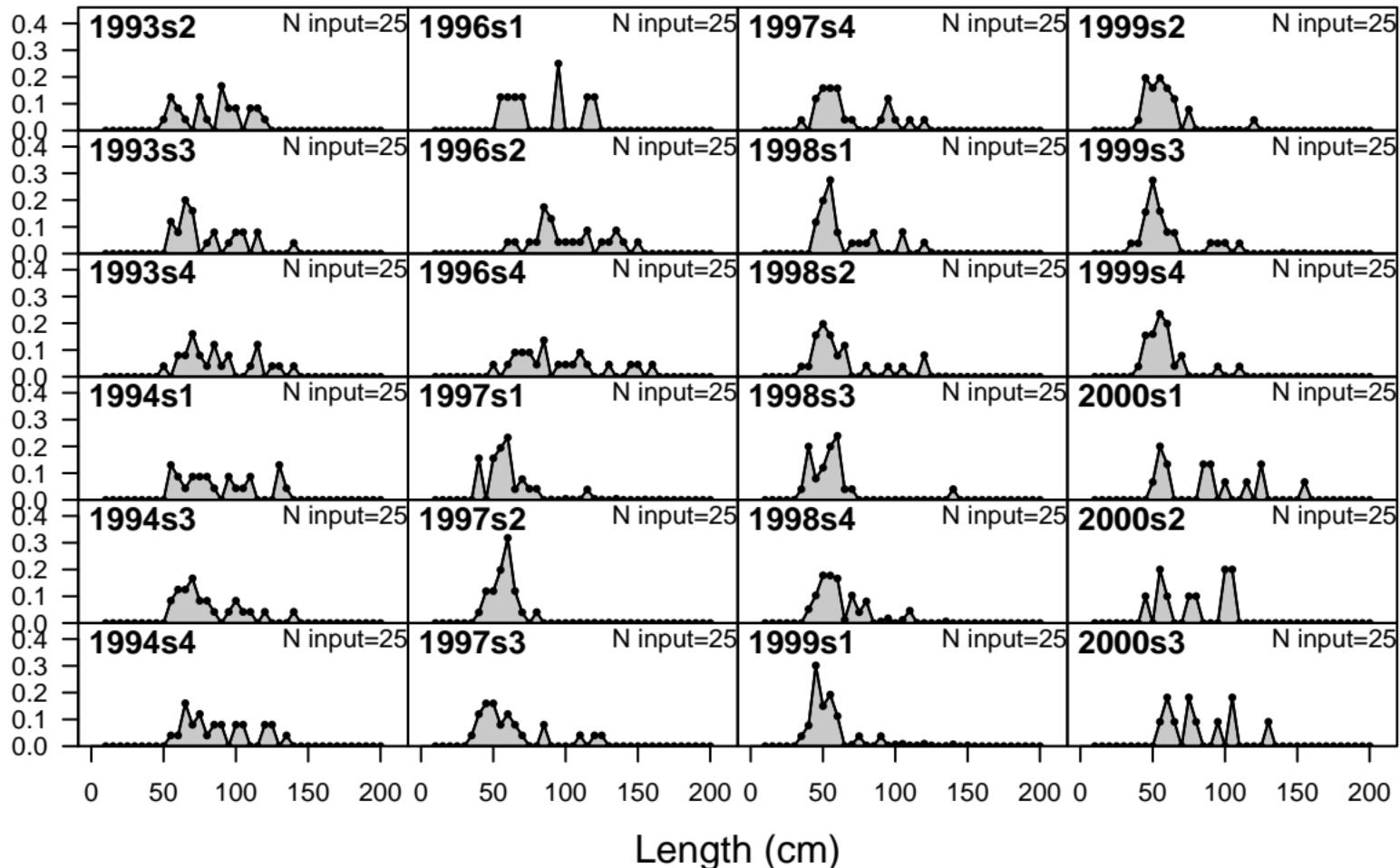
fishing_II (whole catch)



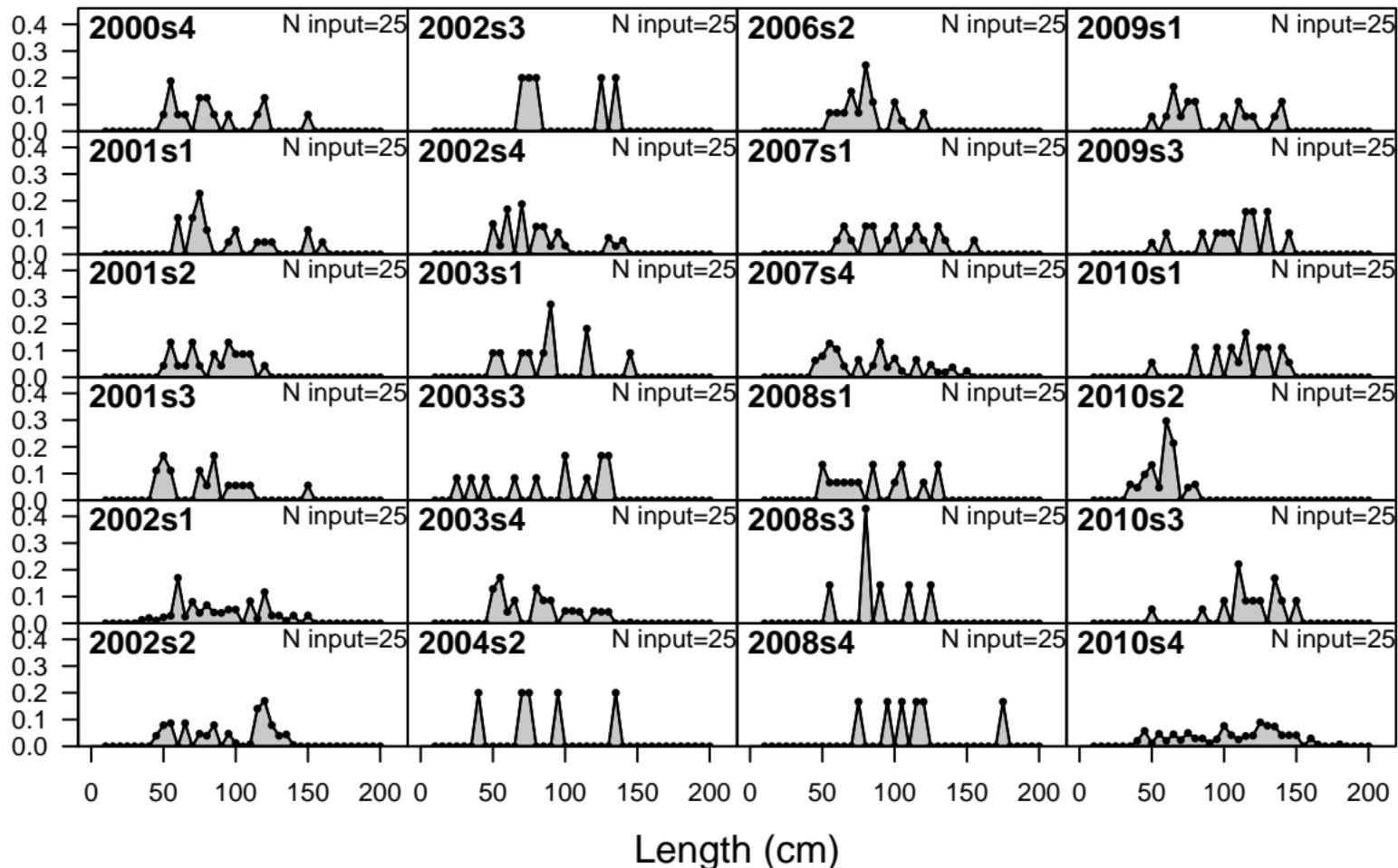
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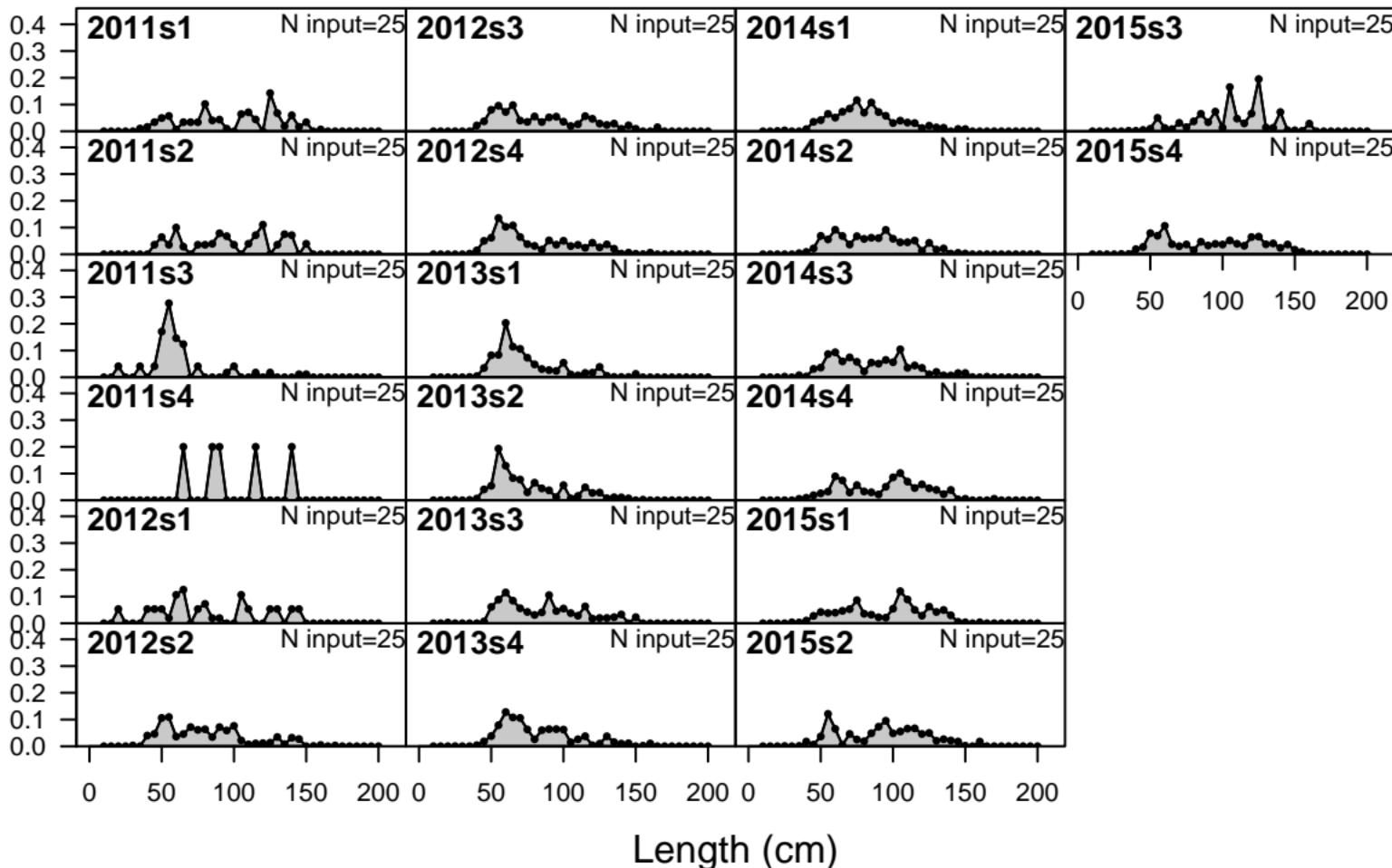
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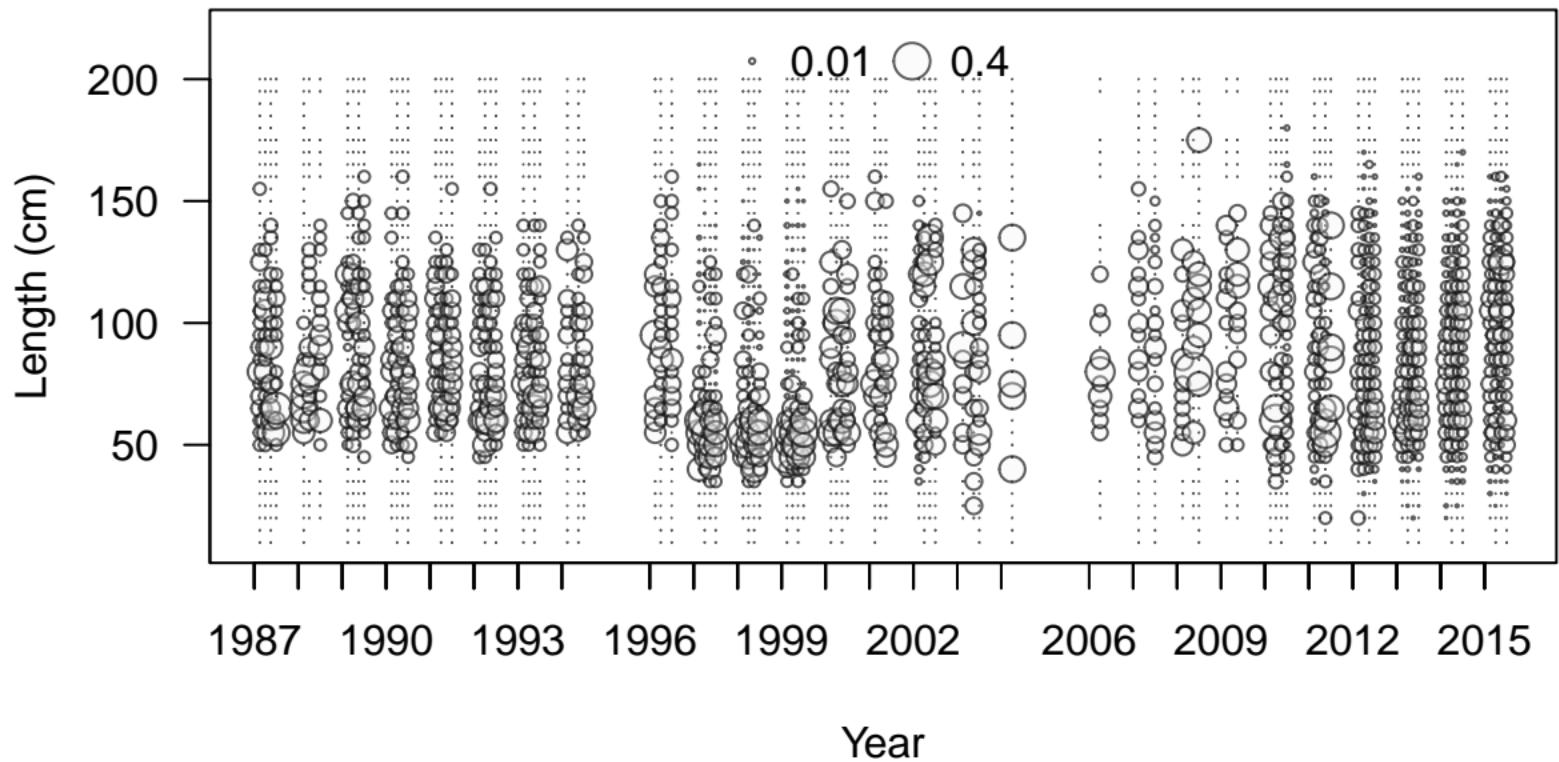


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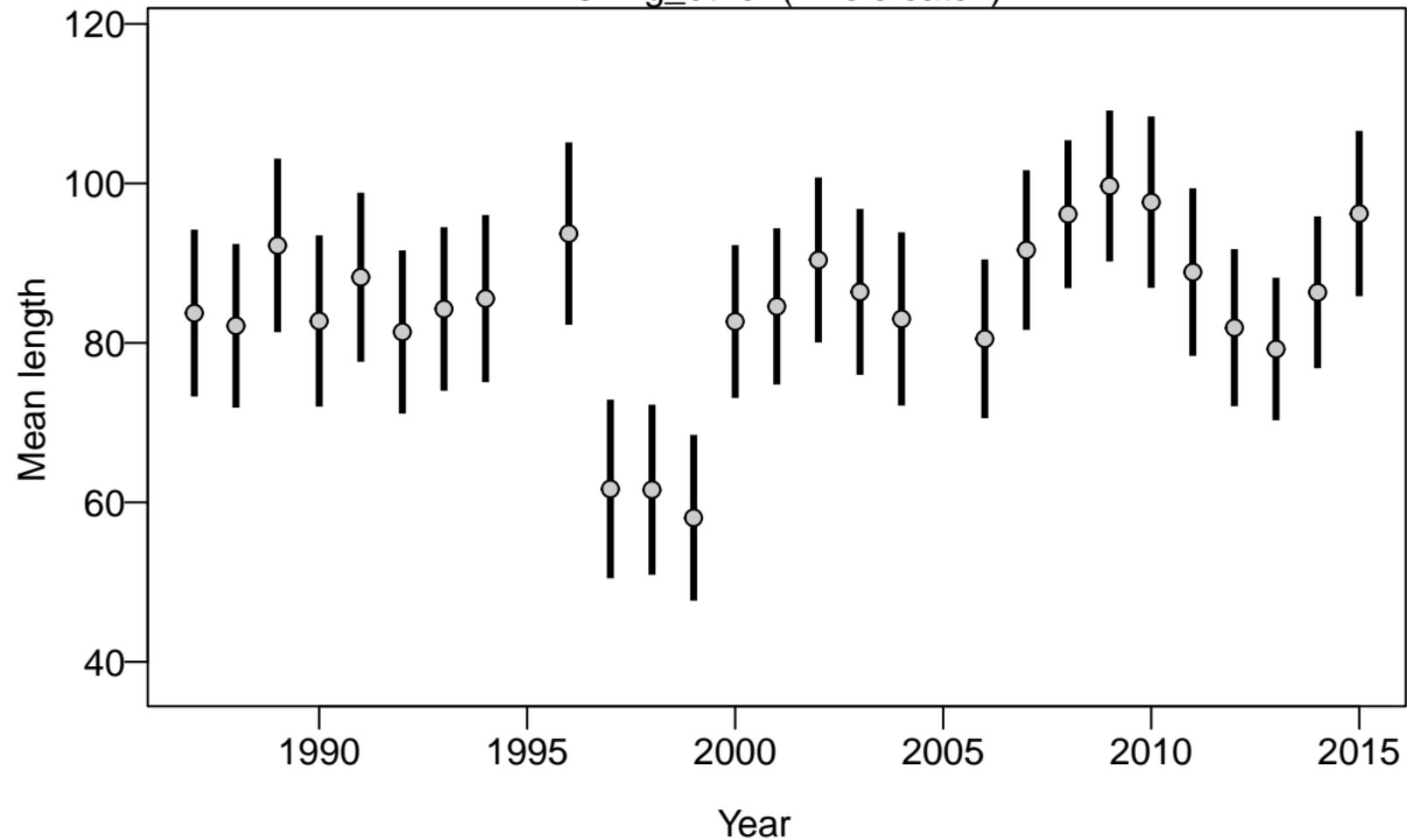


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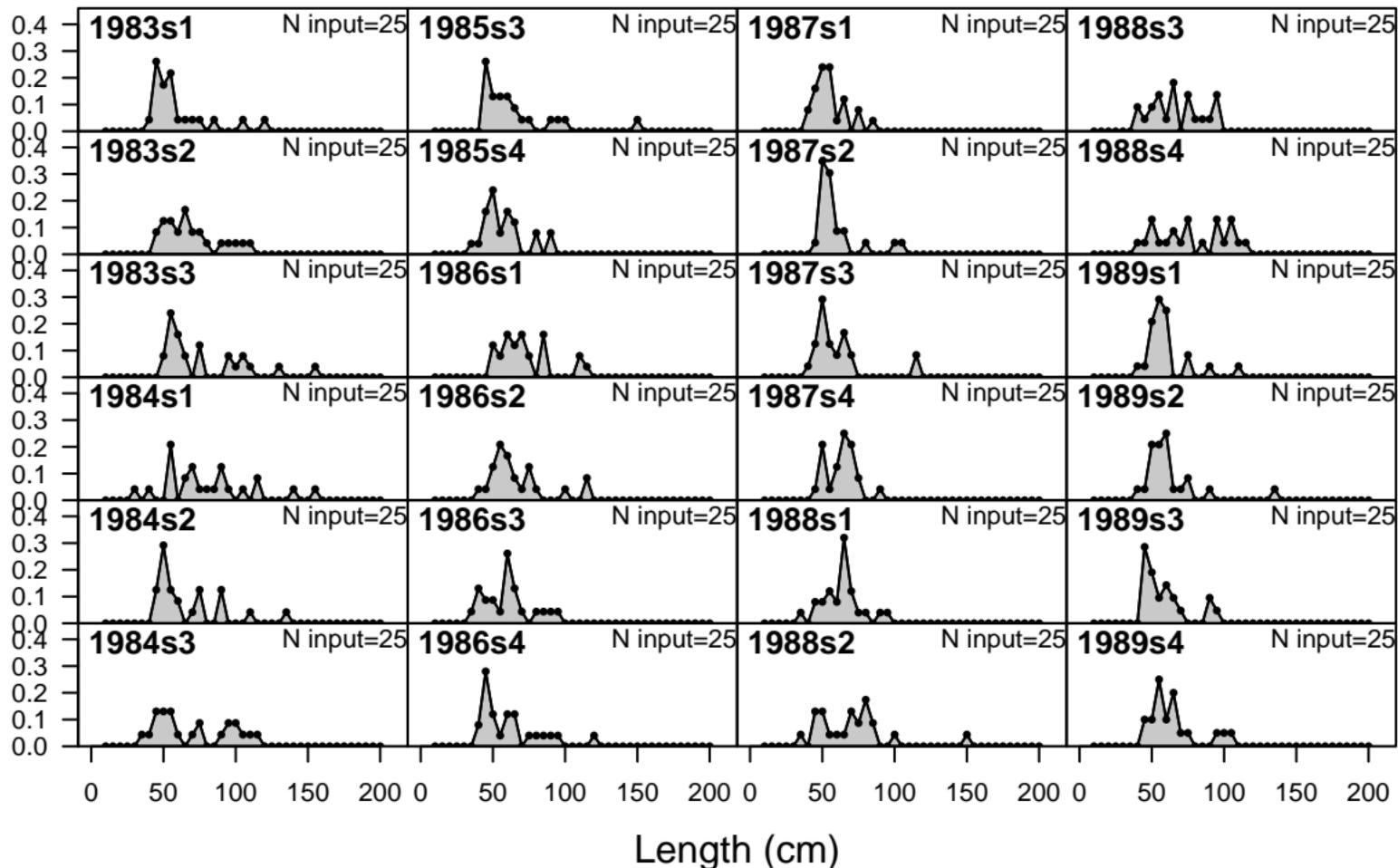




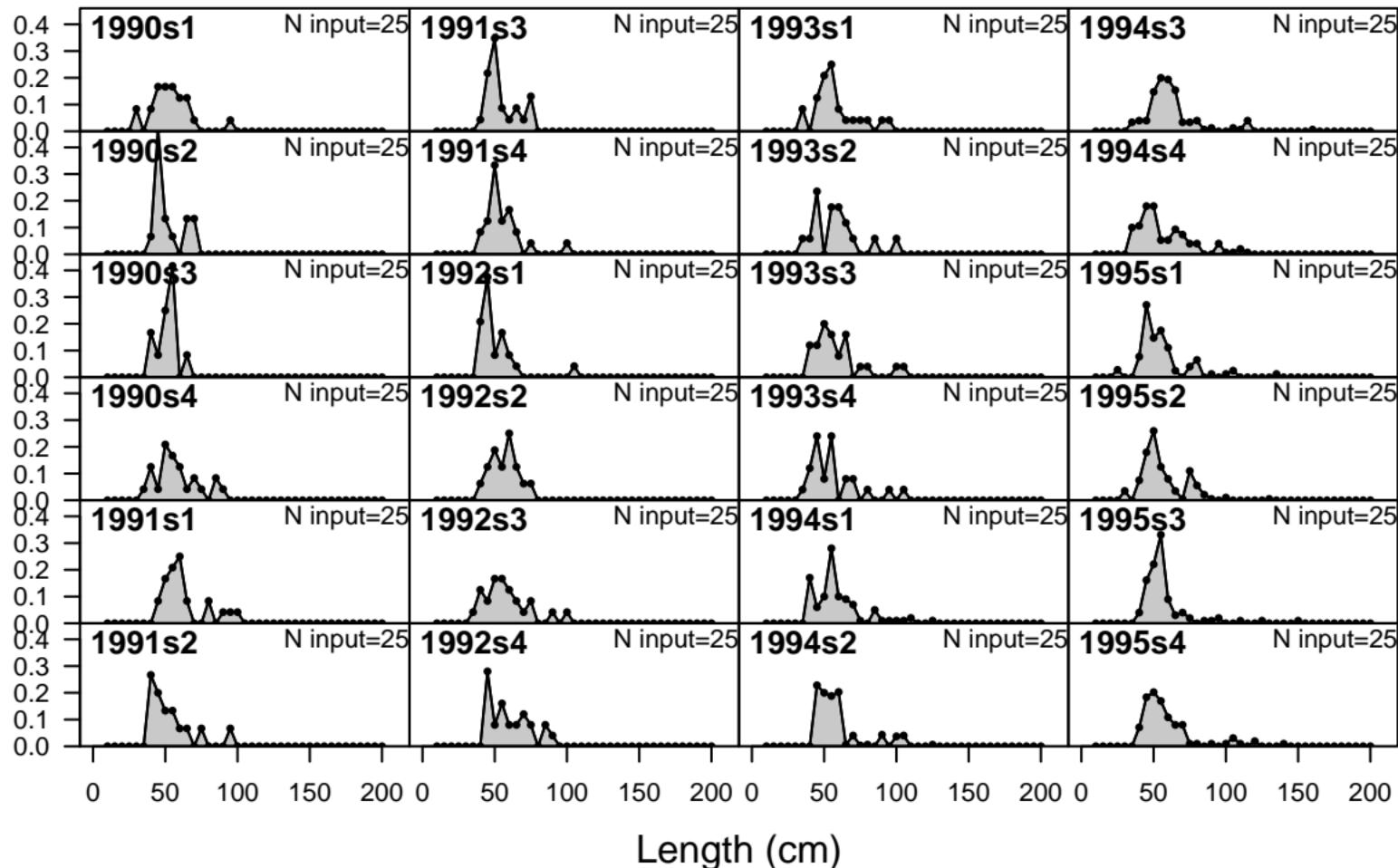
fishing_other (whole catch)



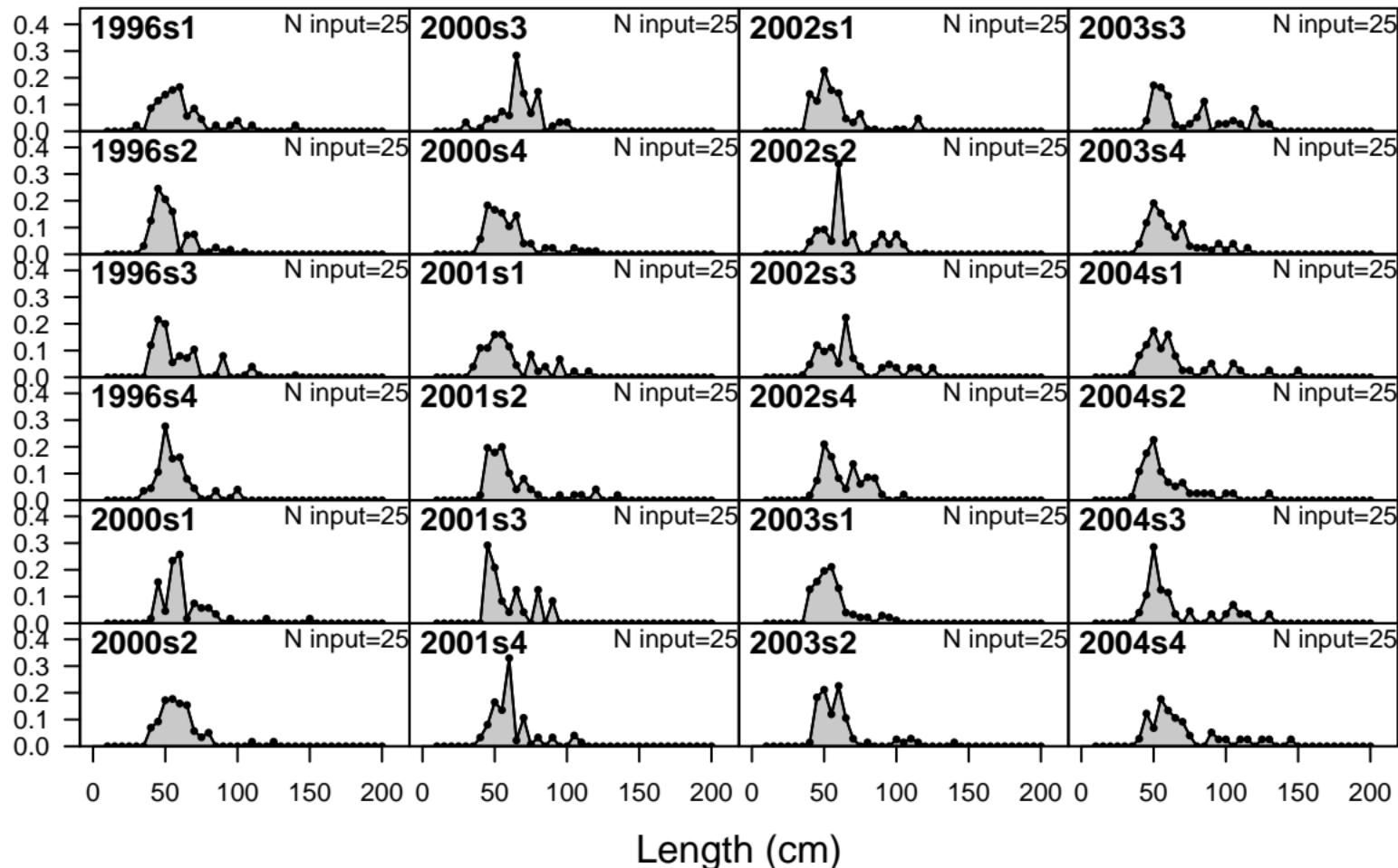
Proportion



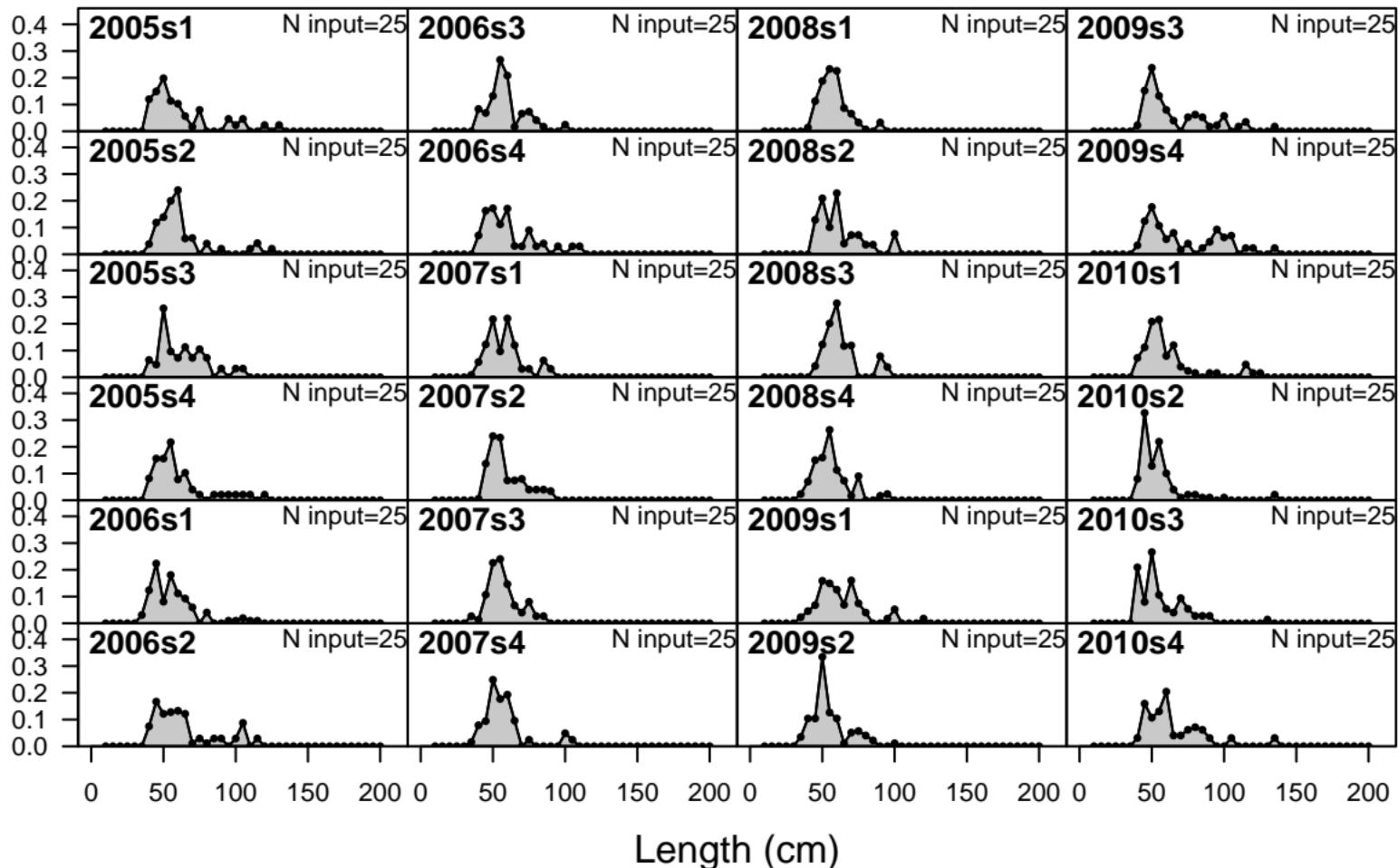
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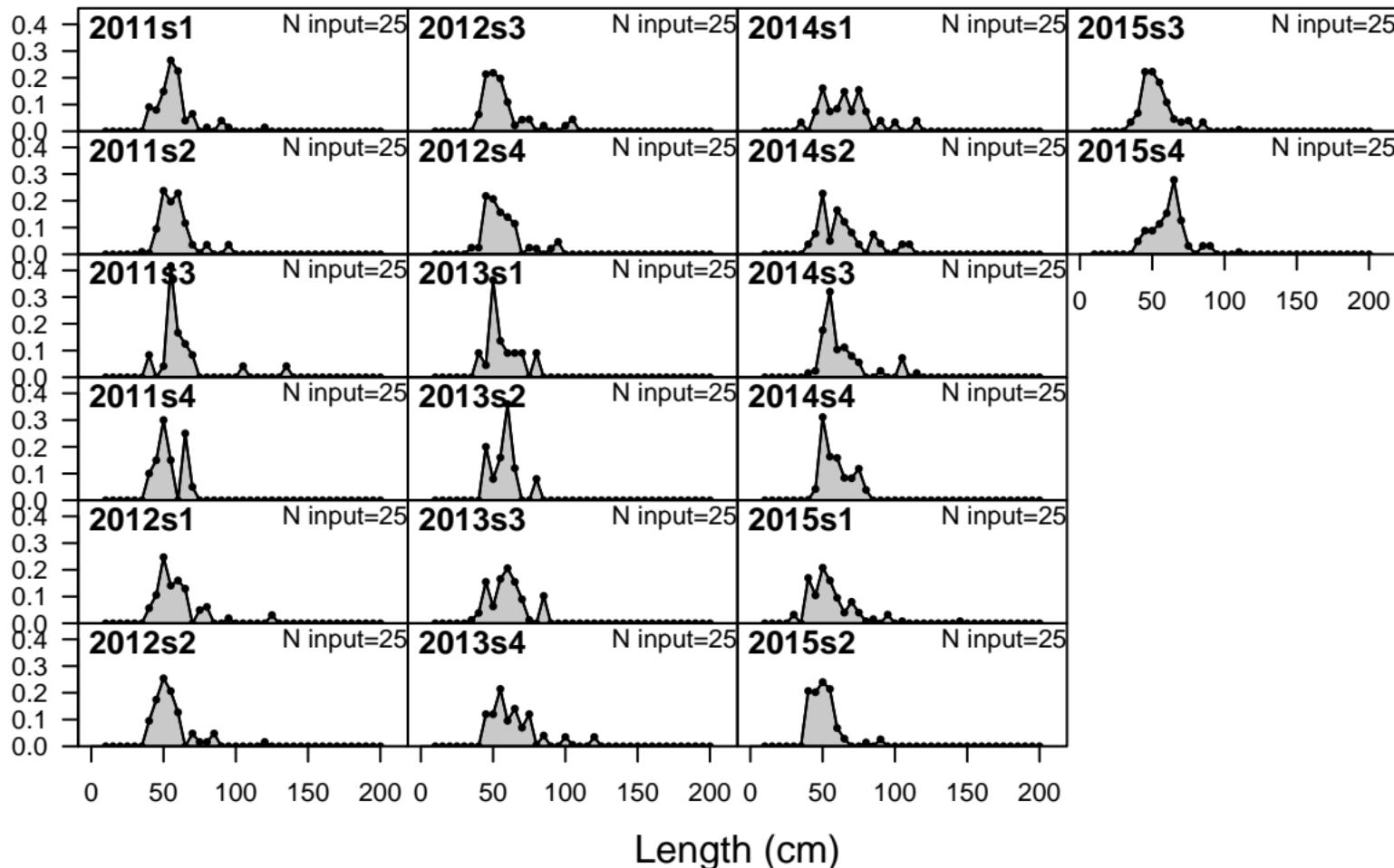
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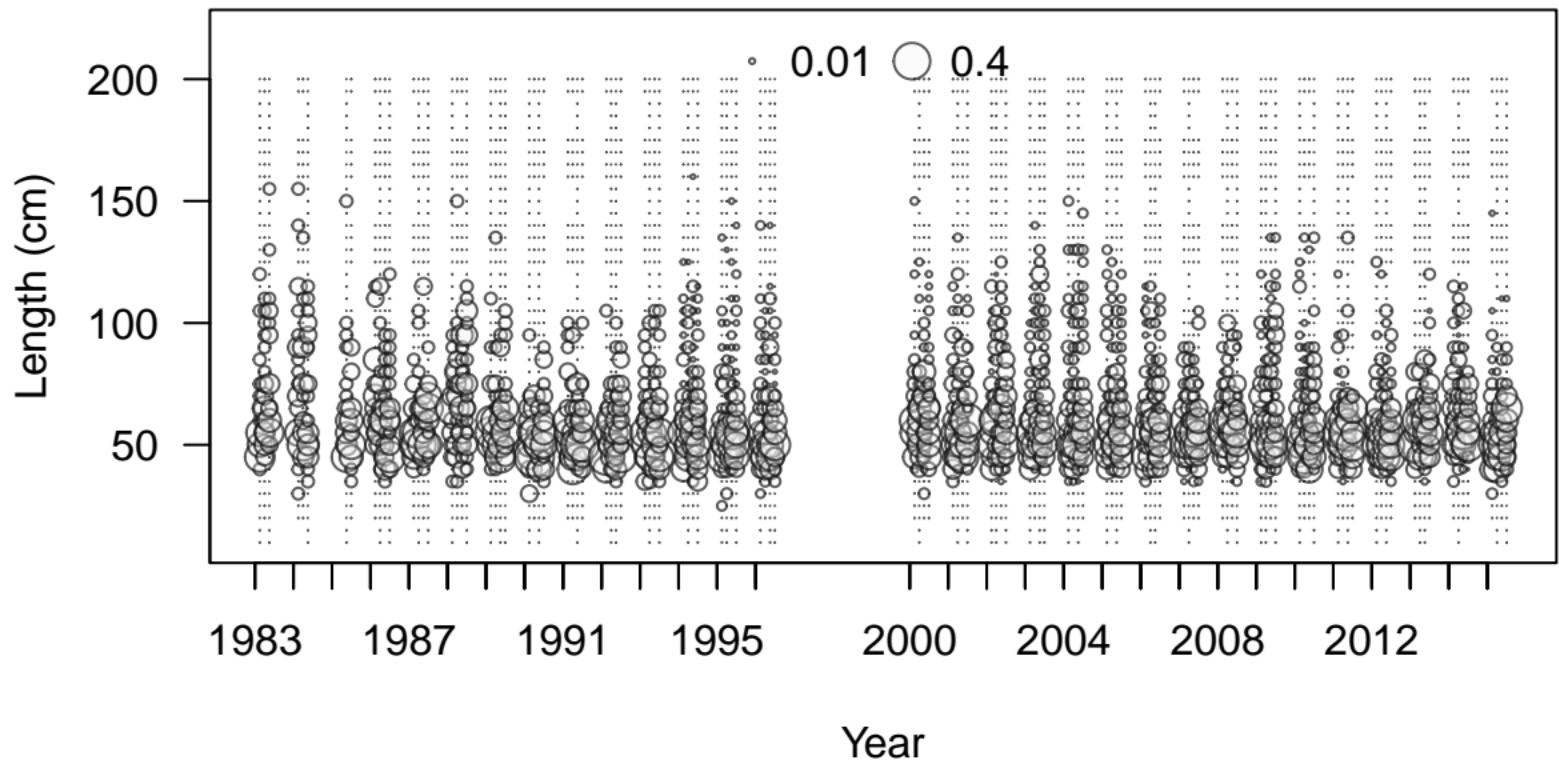


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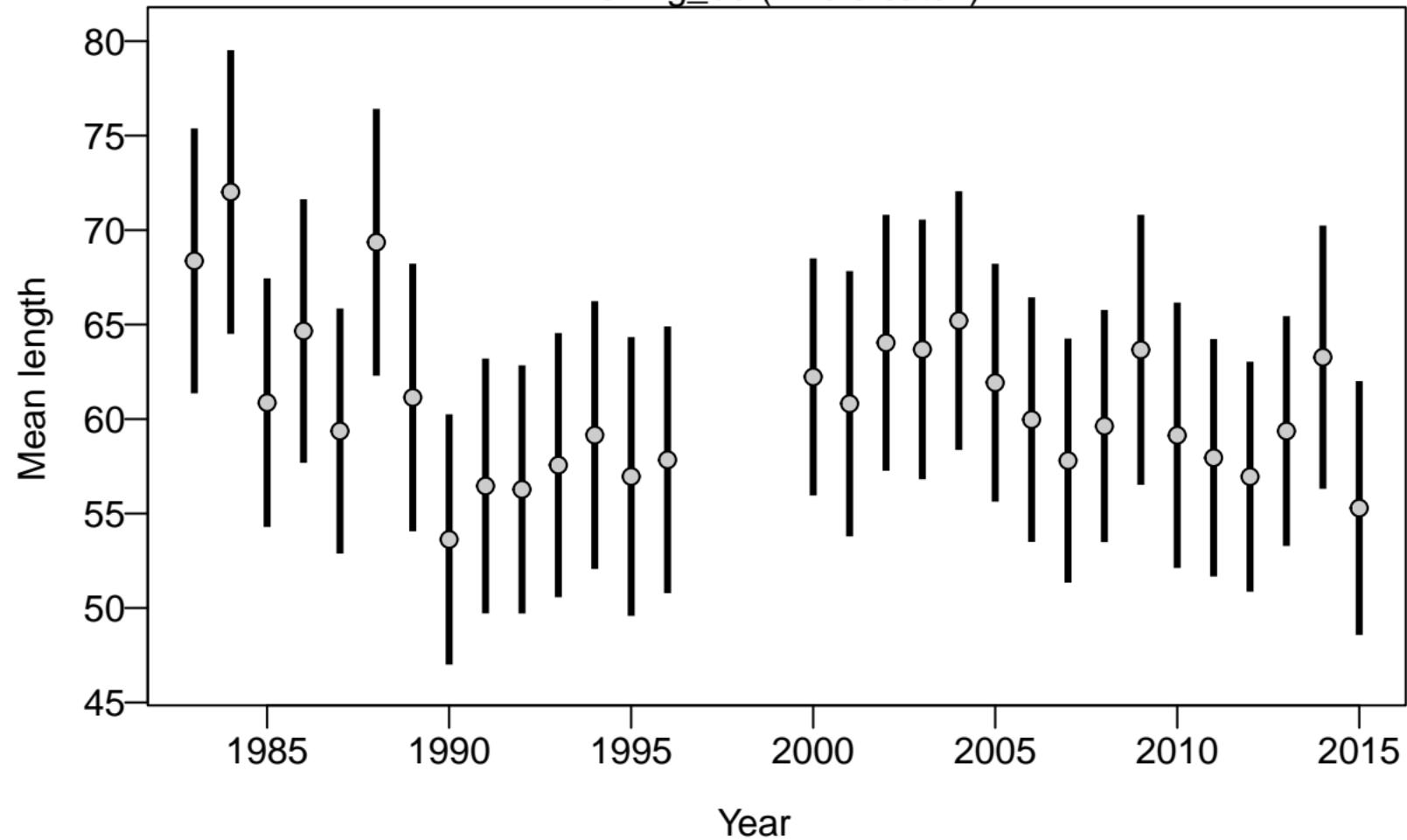


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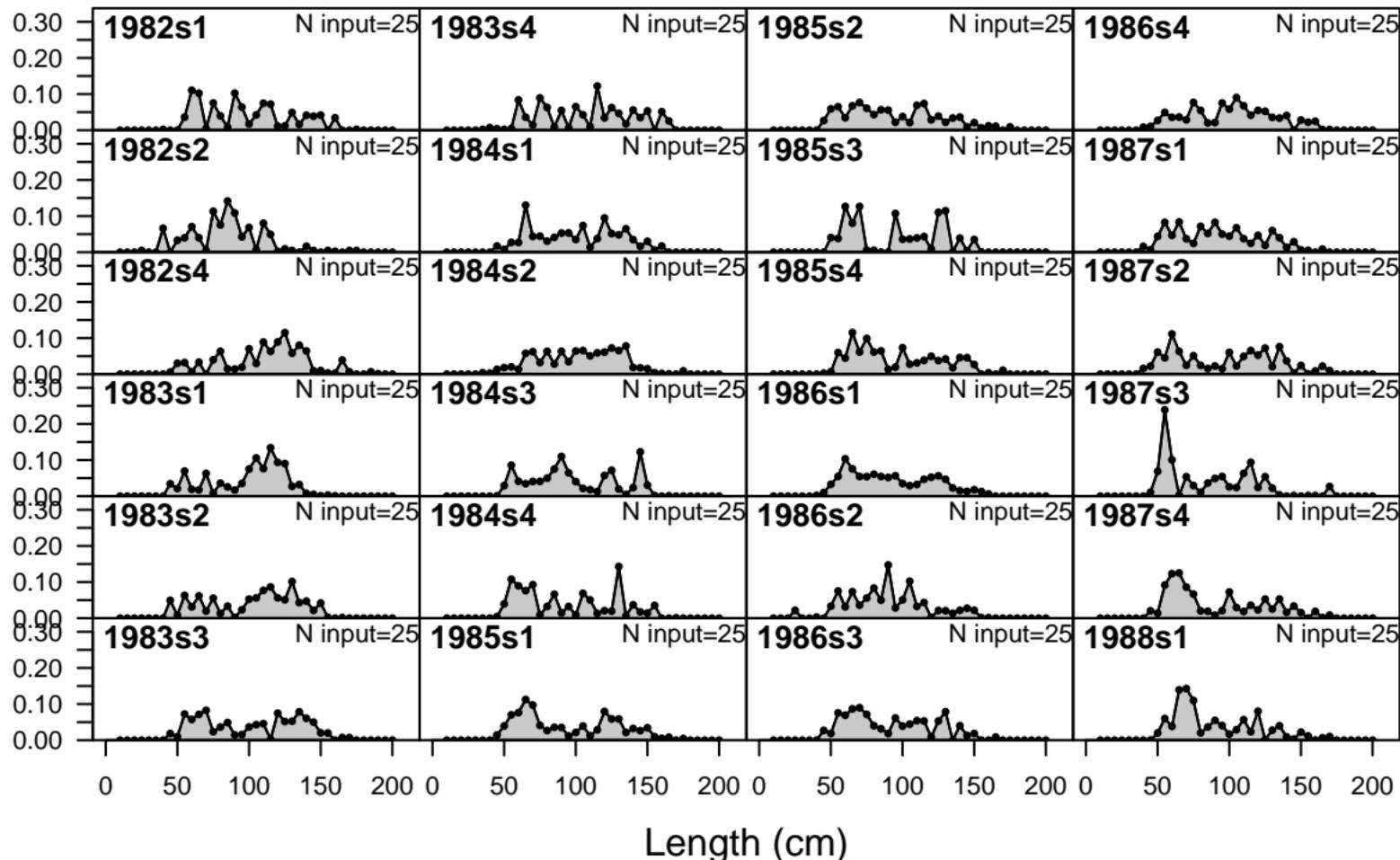




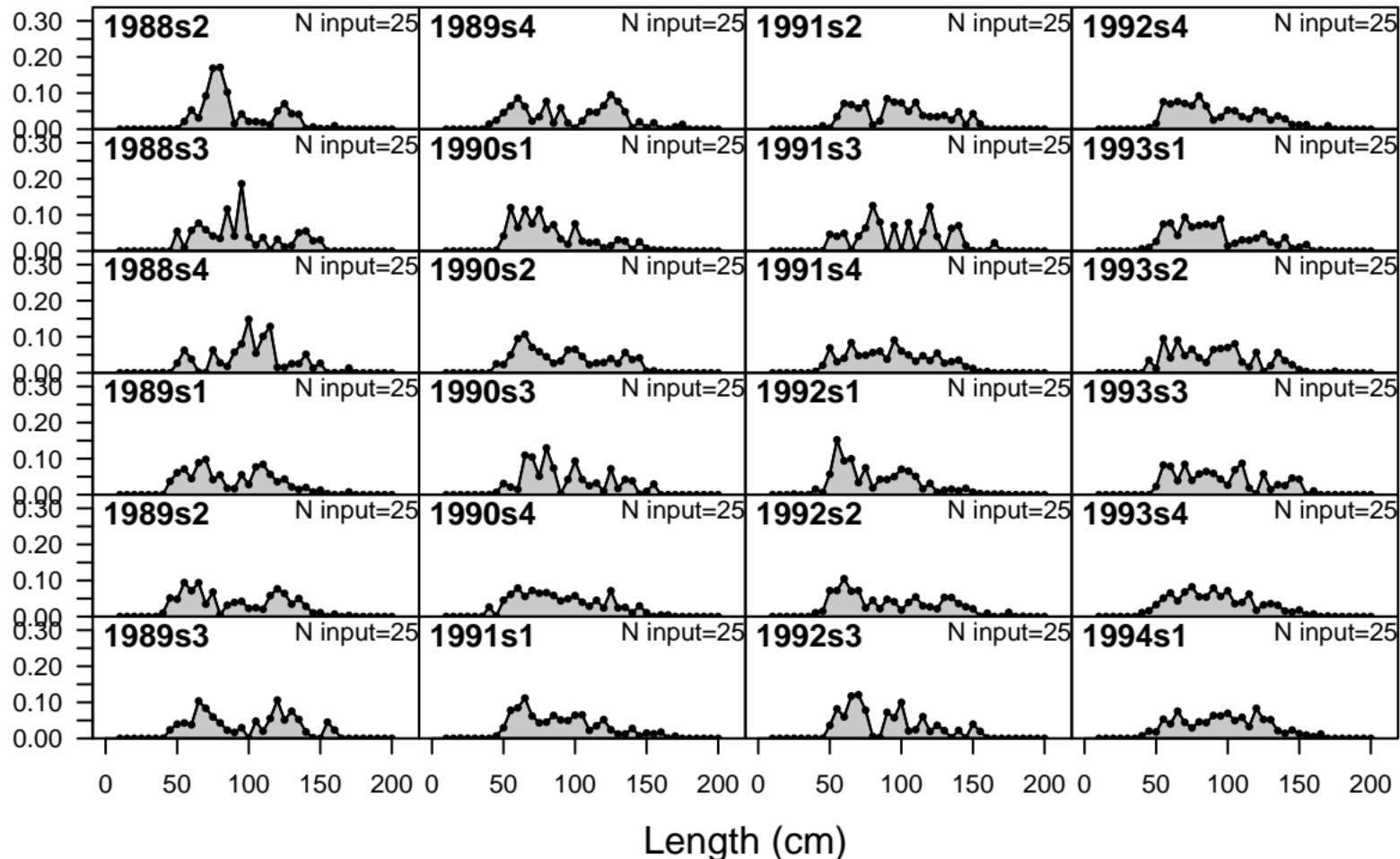
fishing_bb (whole catch)



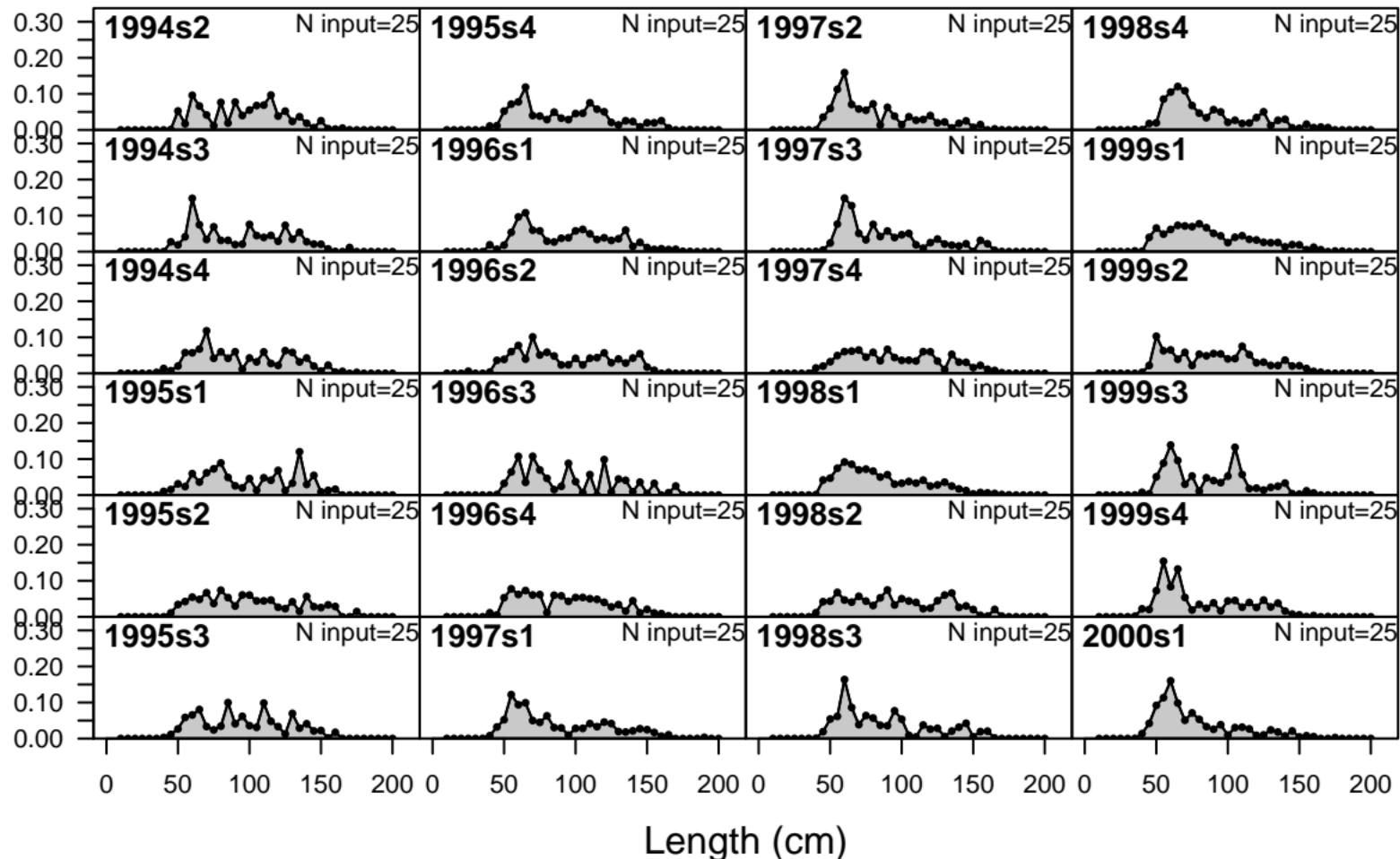
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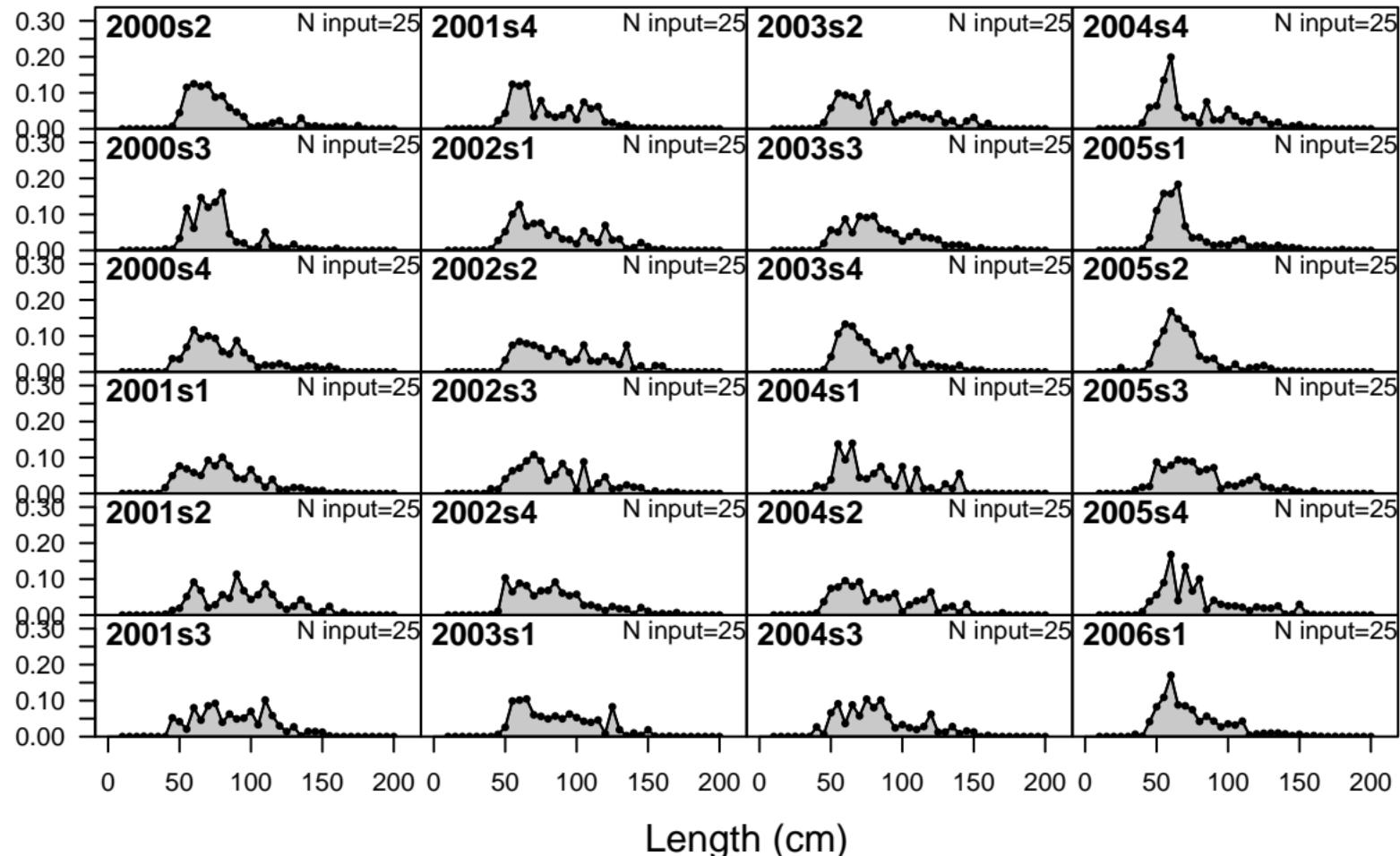
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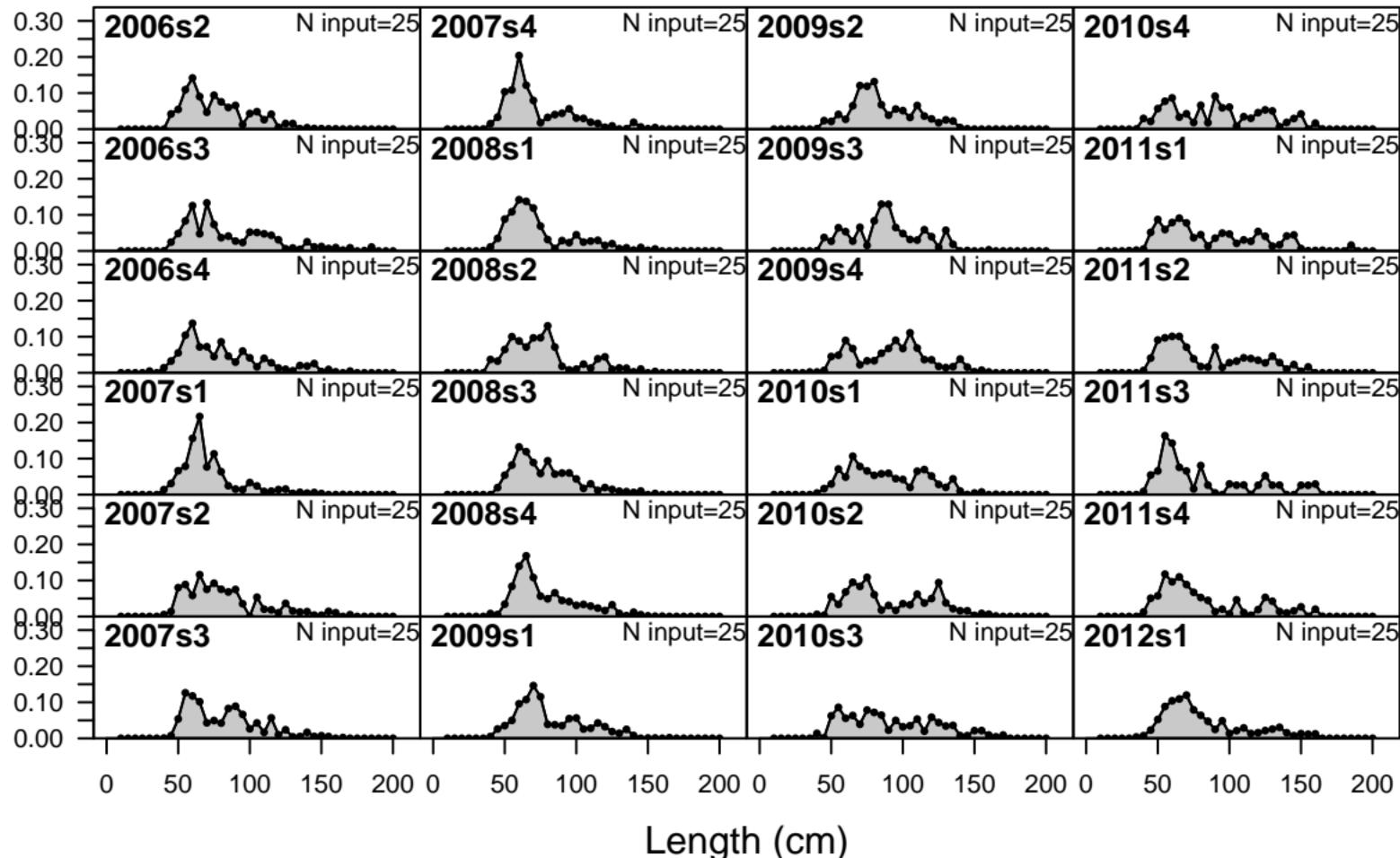
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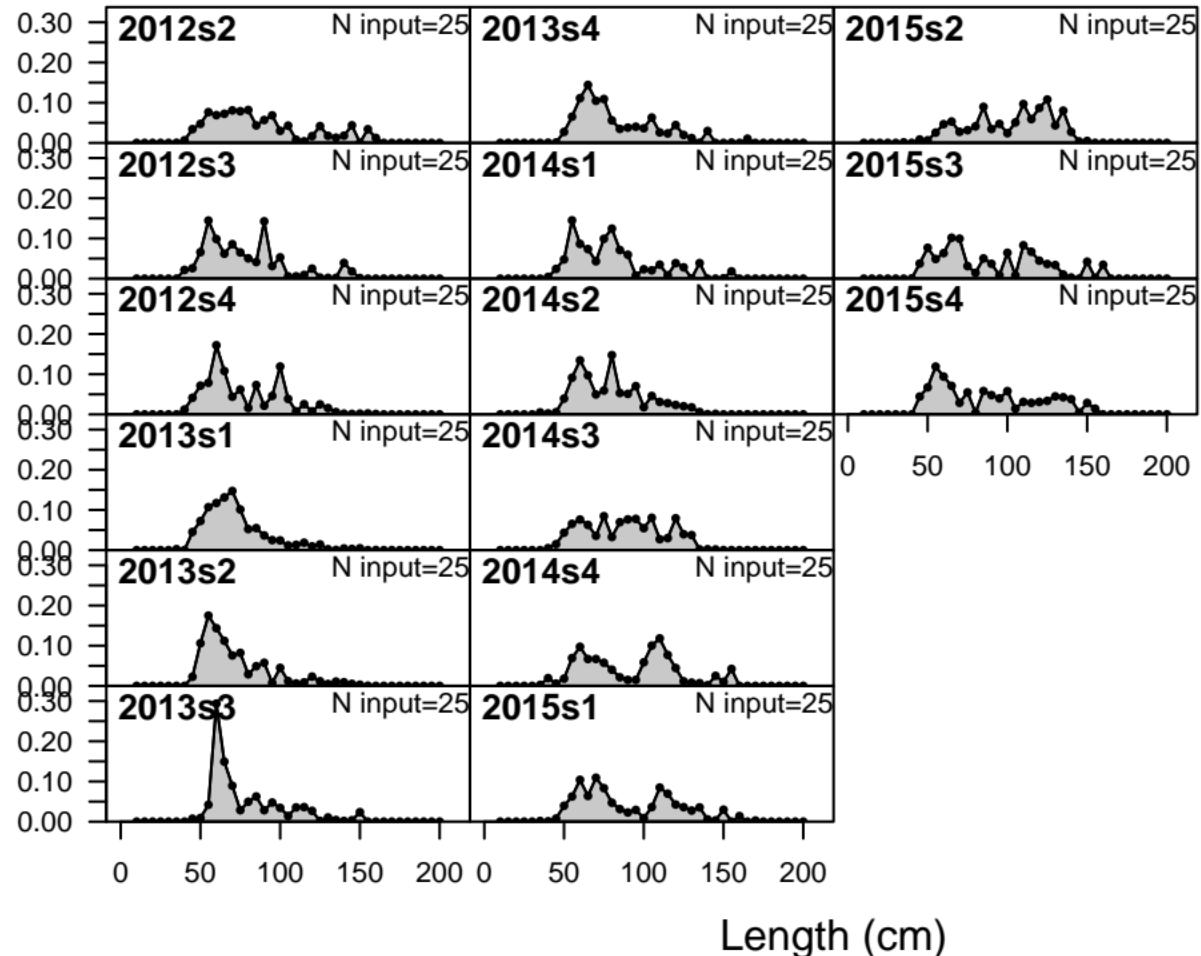
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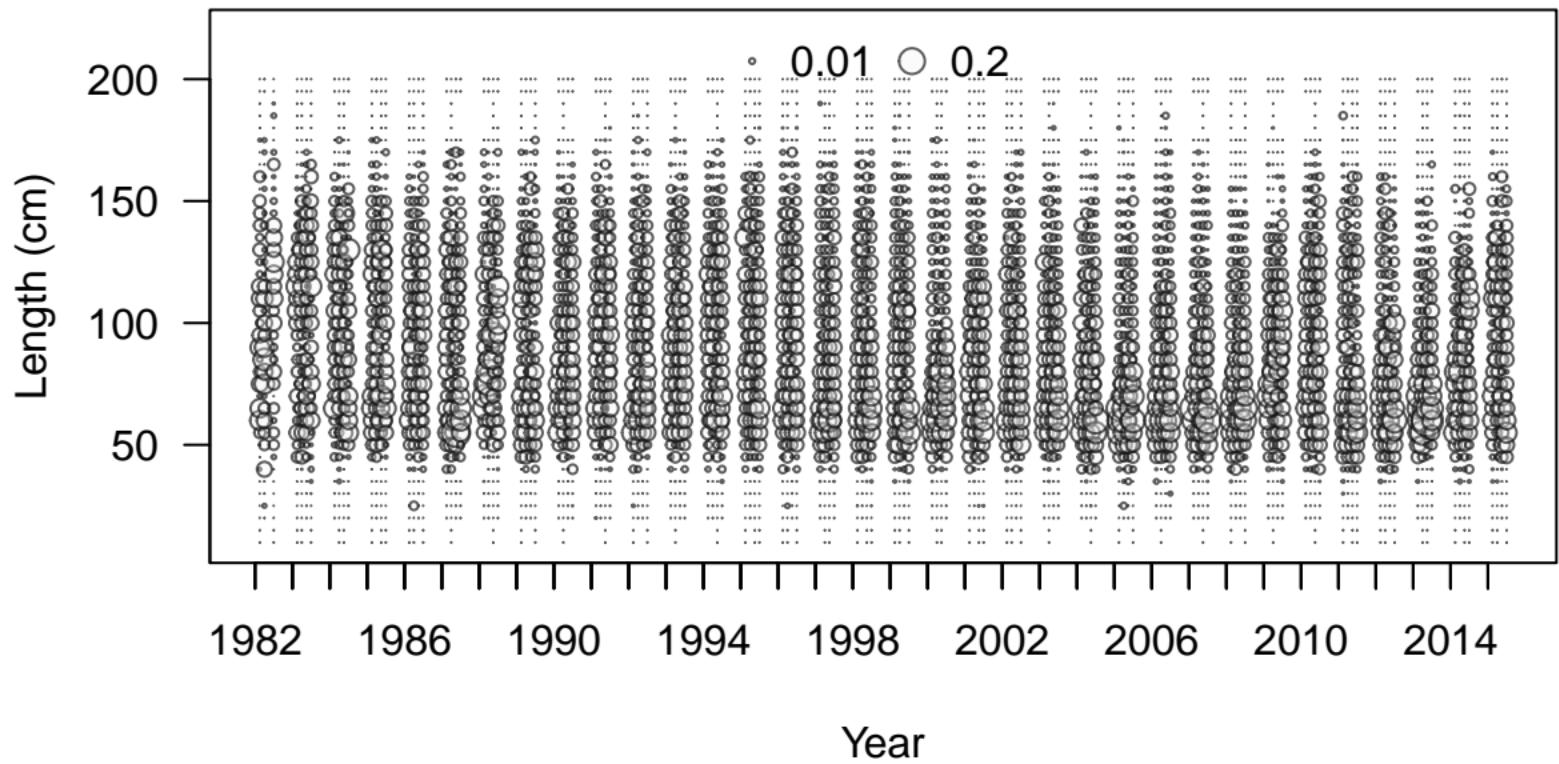


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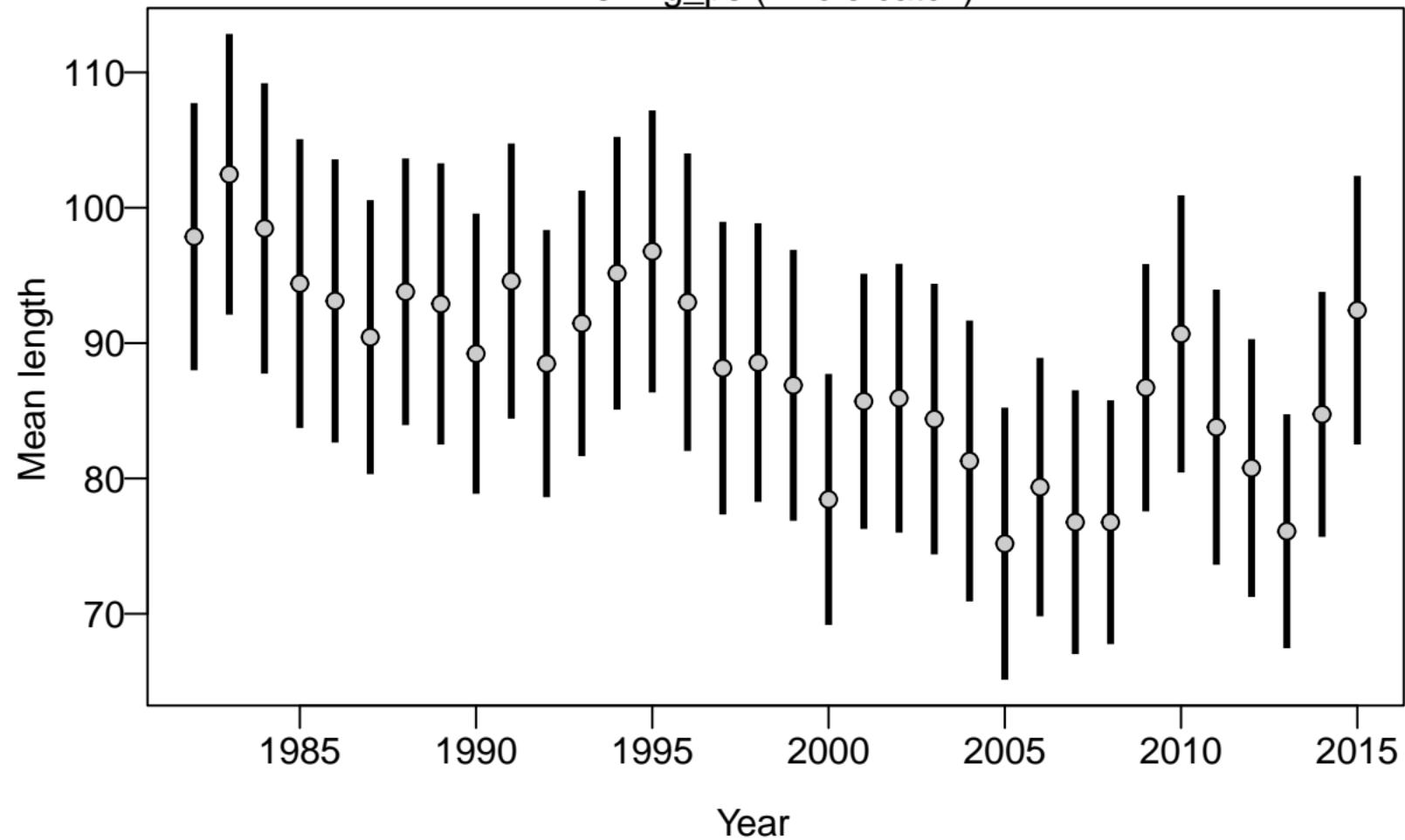


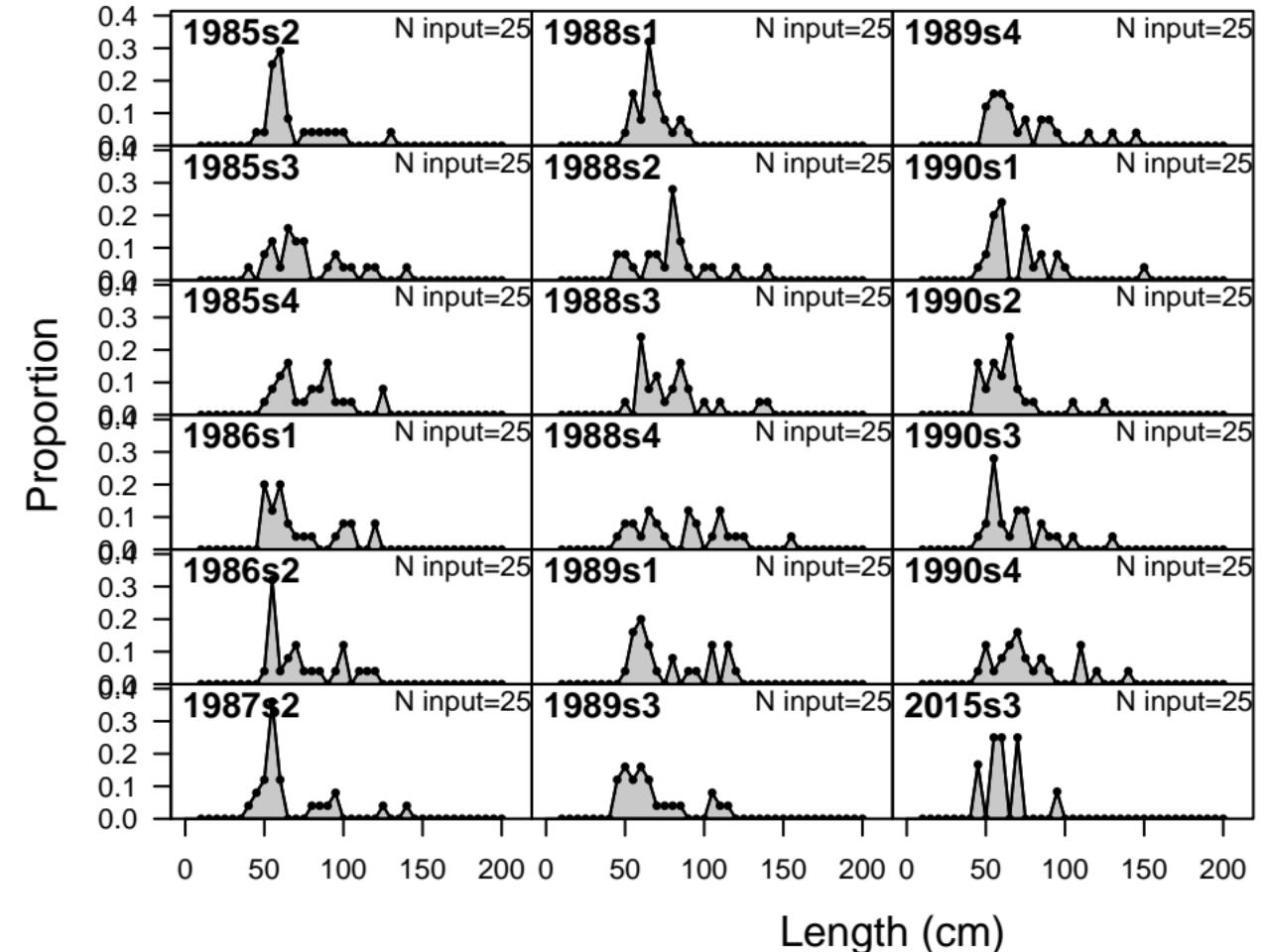
Proportion

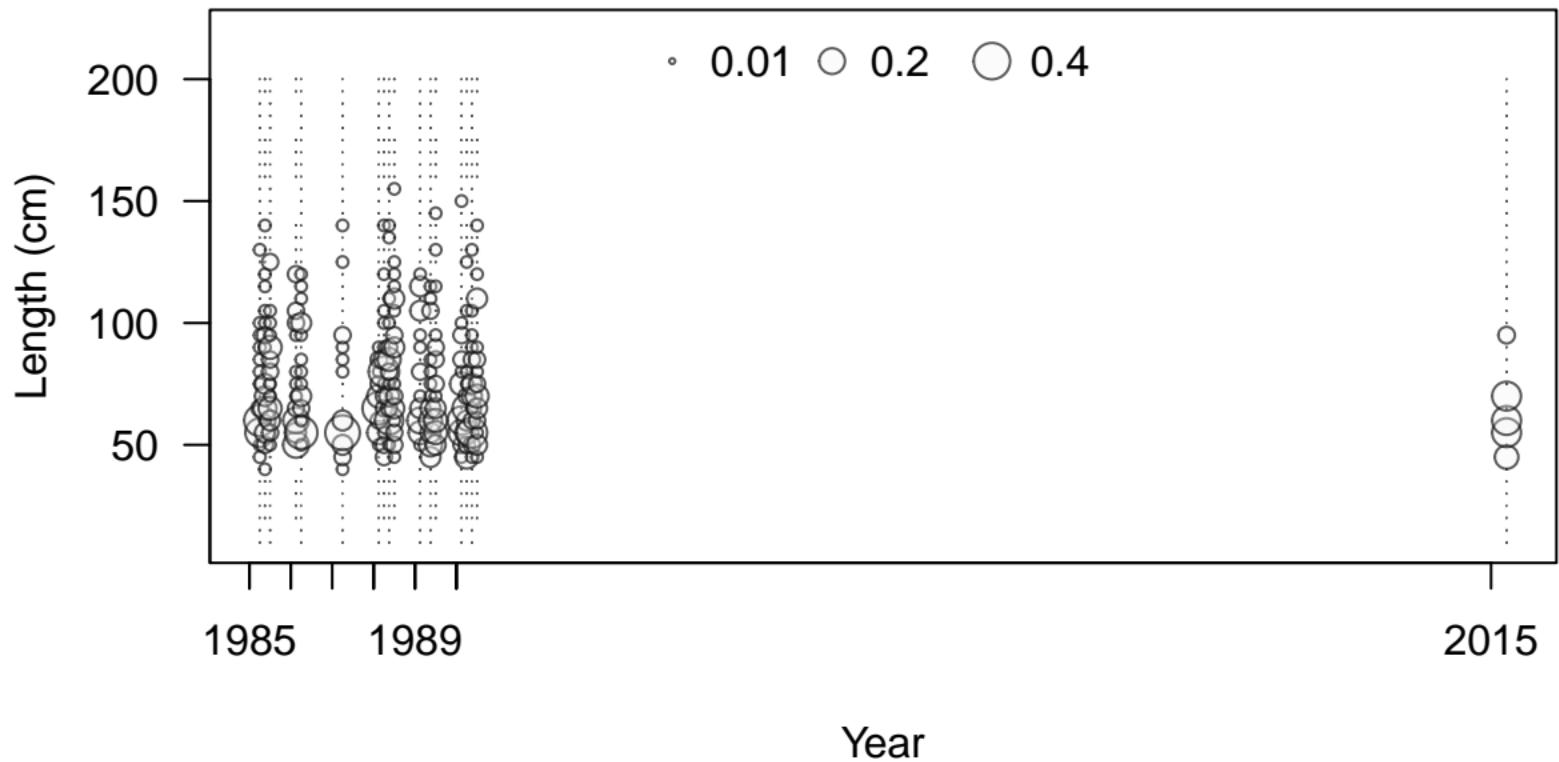




fishing_ps (whole catch)

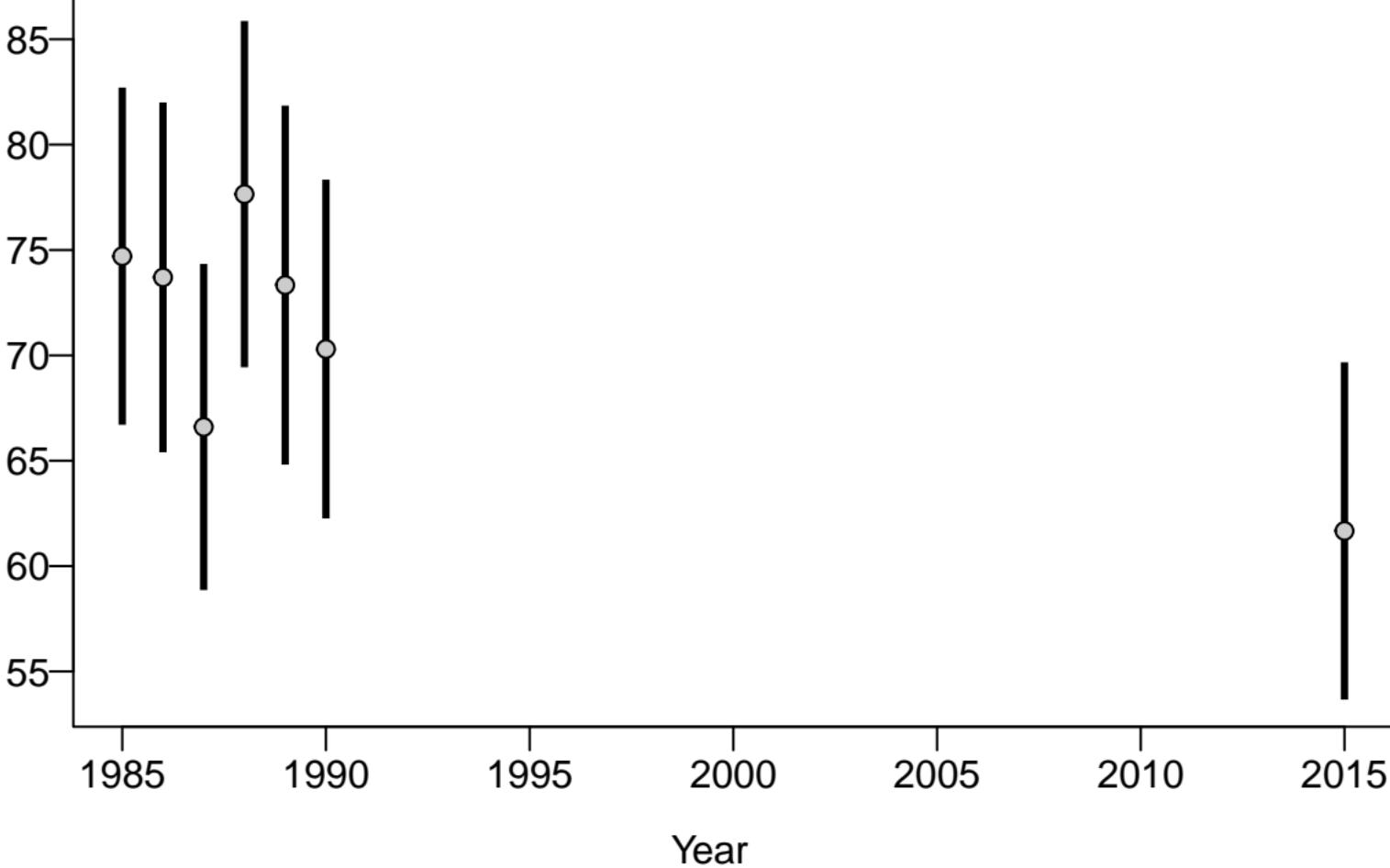




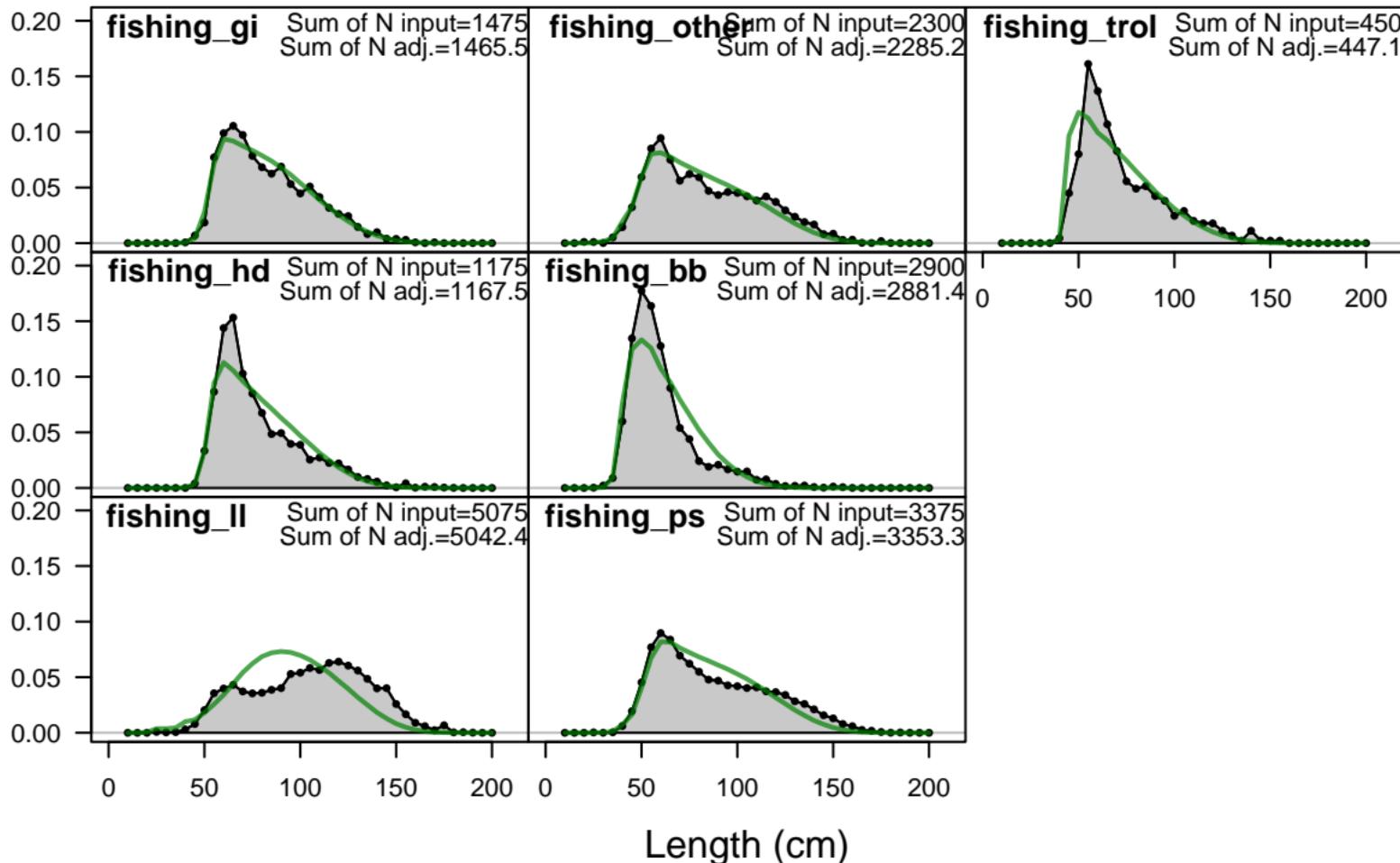


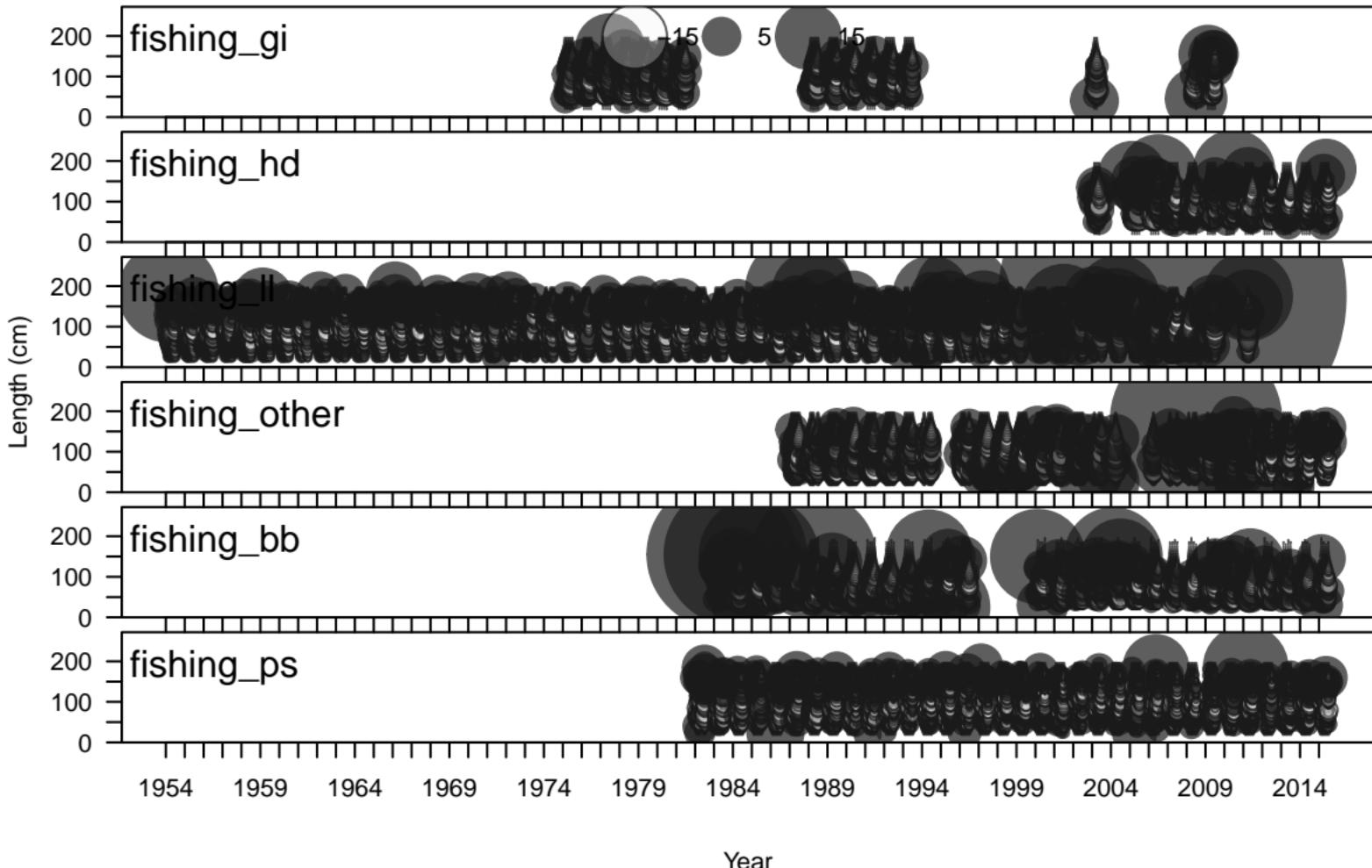
fishing_trol (whole catch)

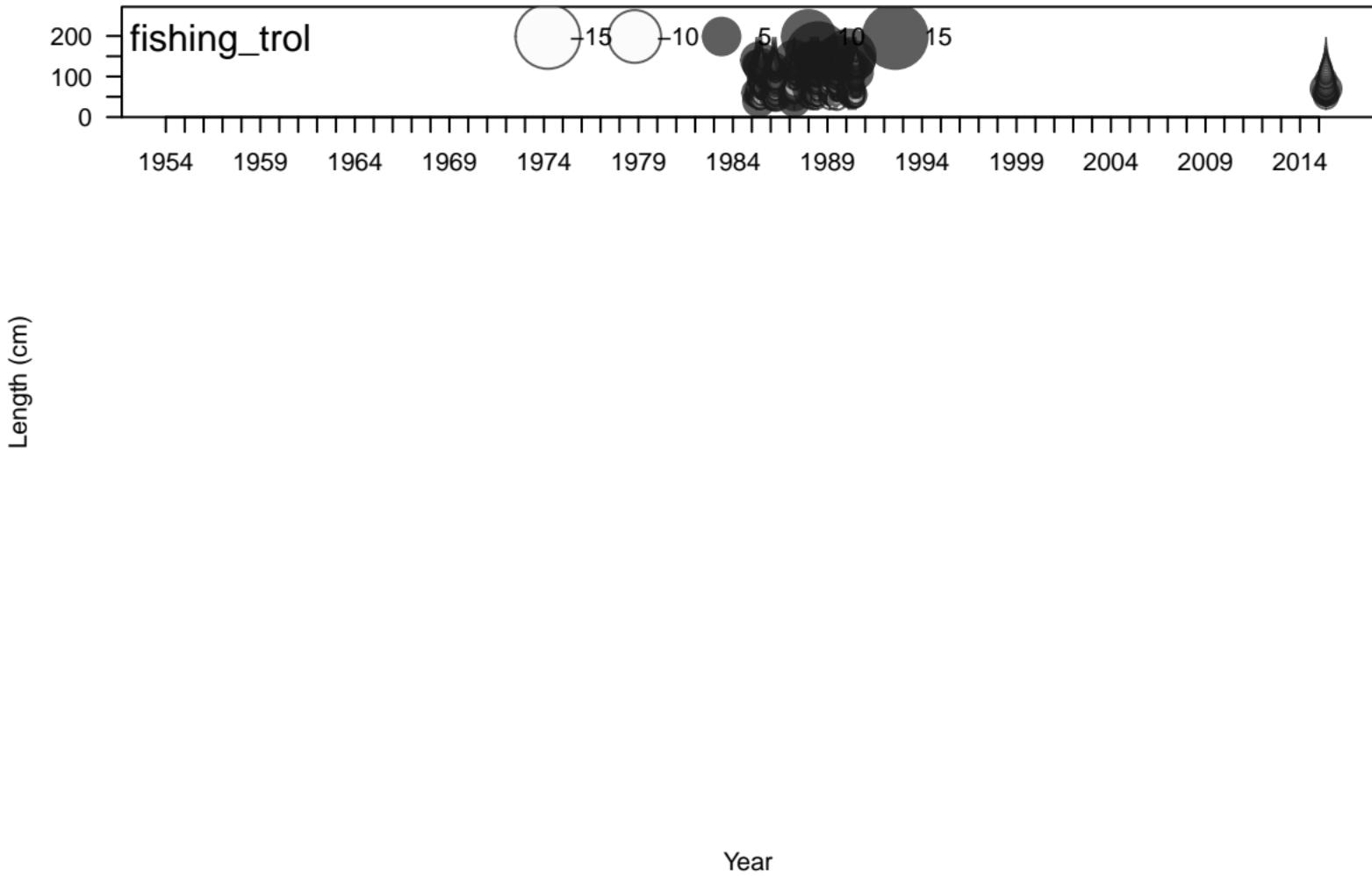
Mean length



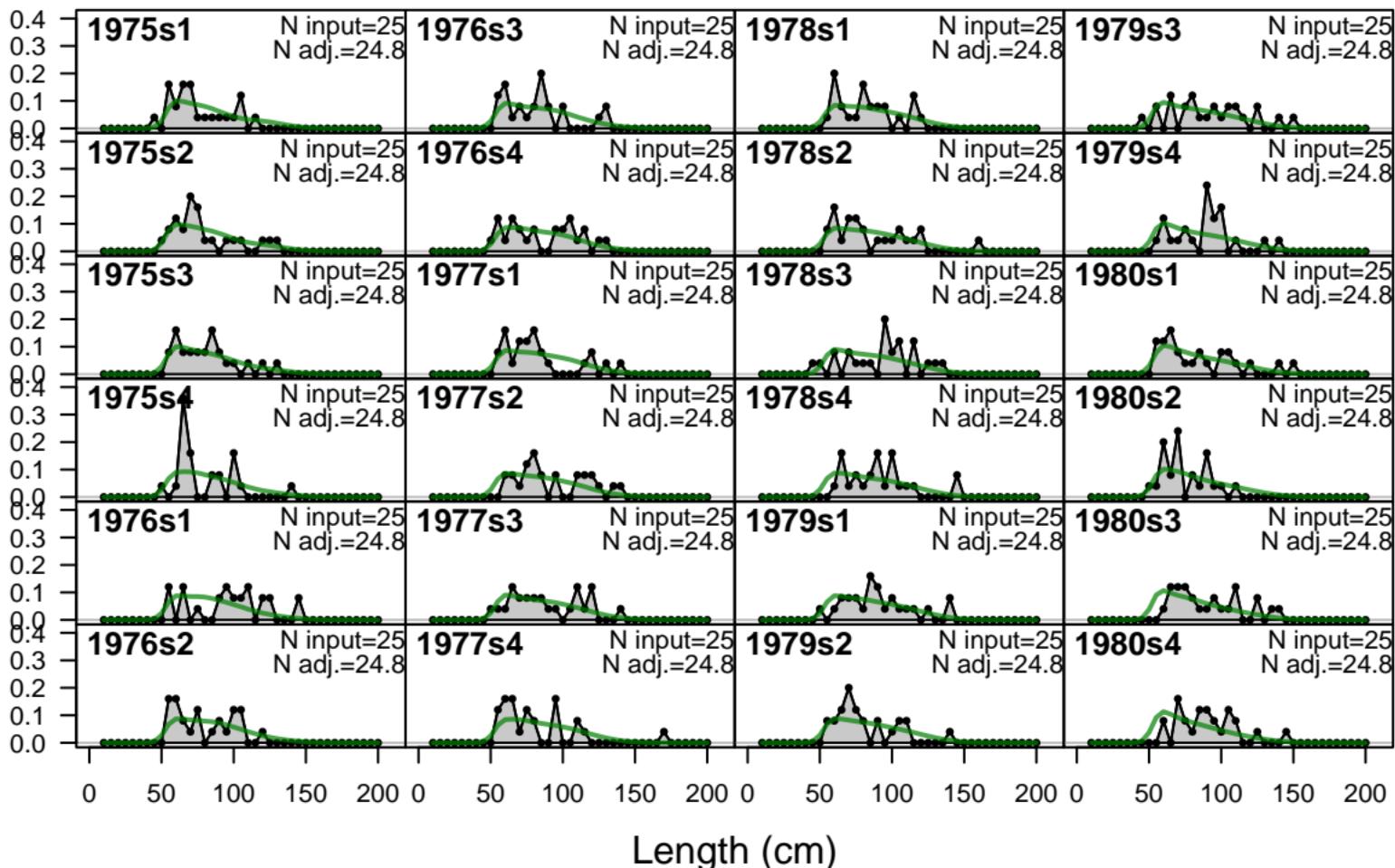
Proportion



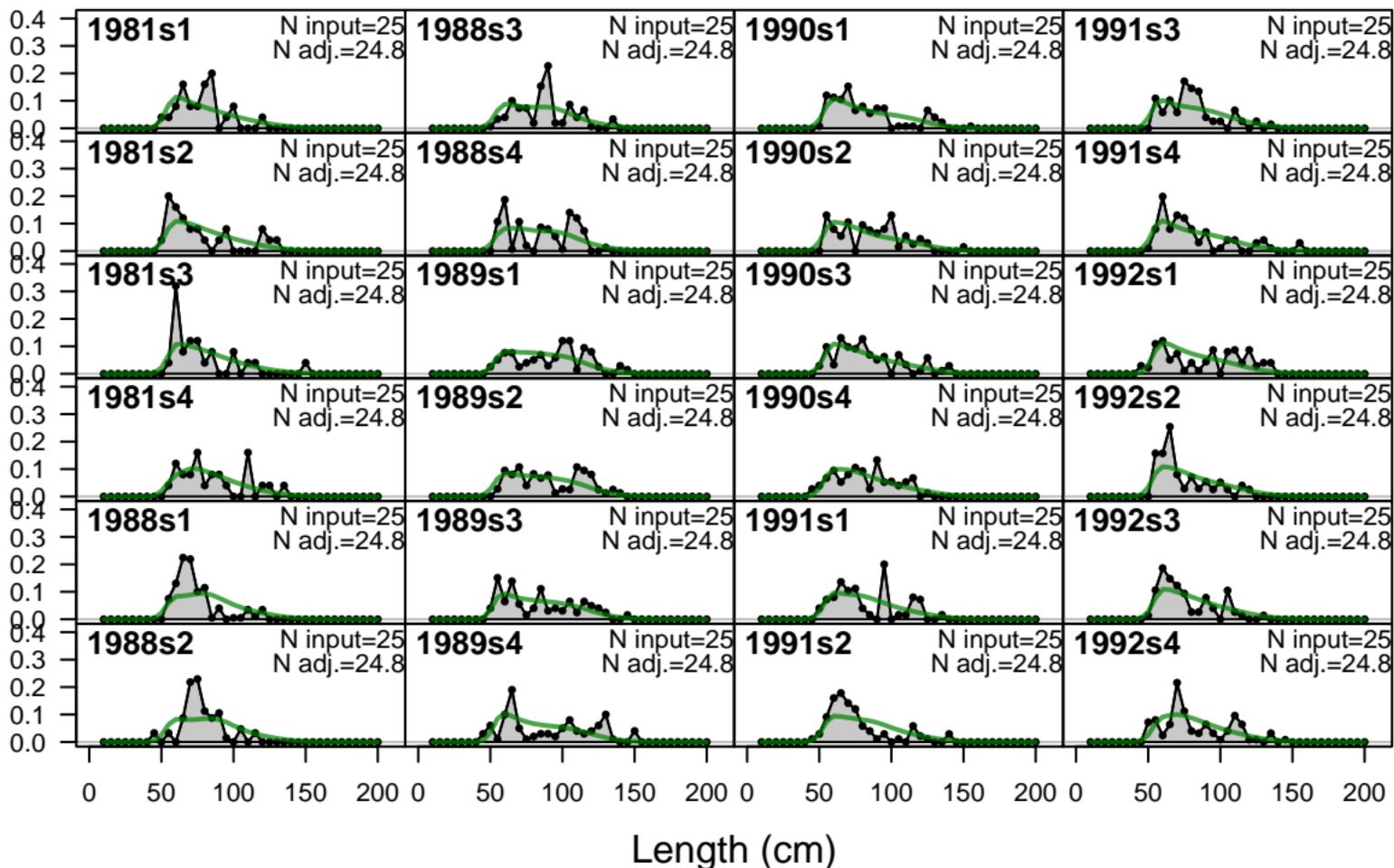




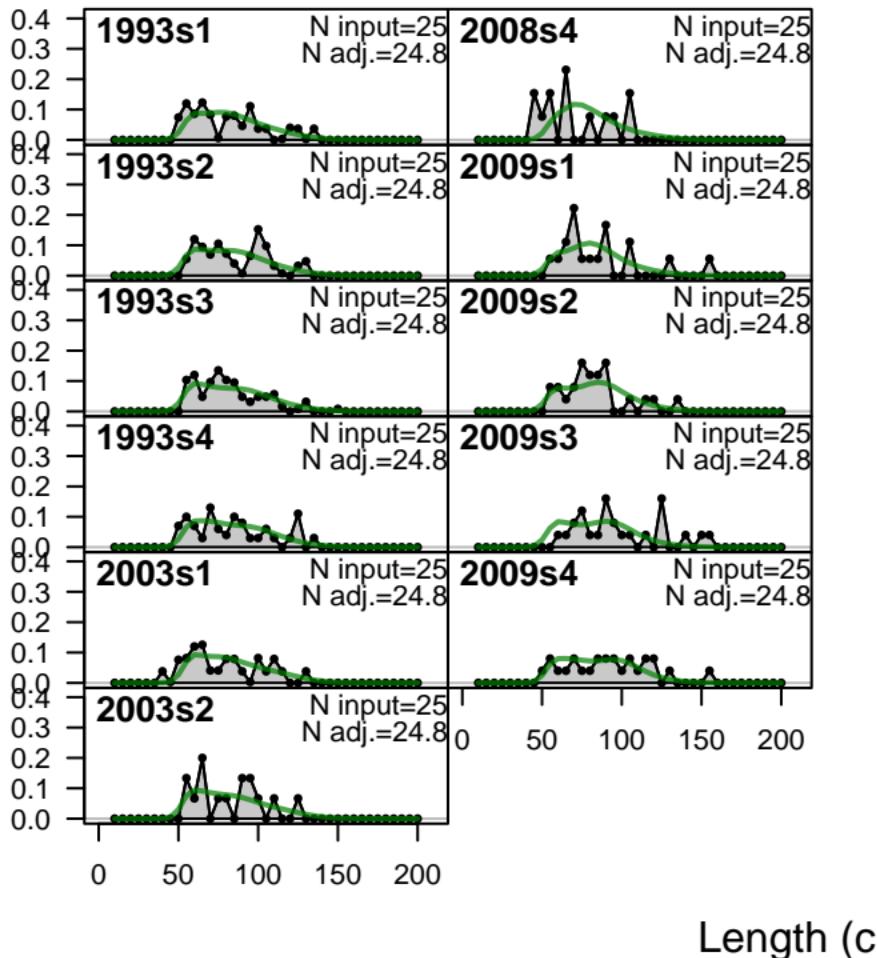
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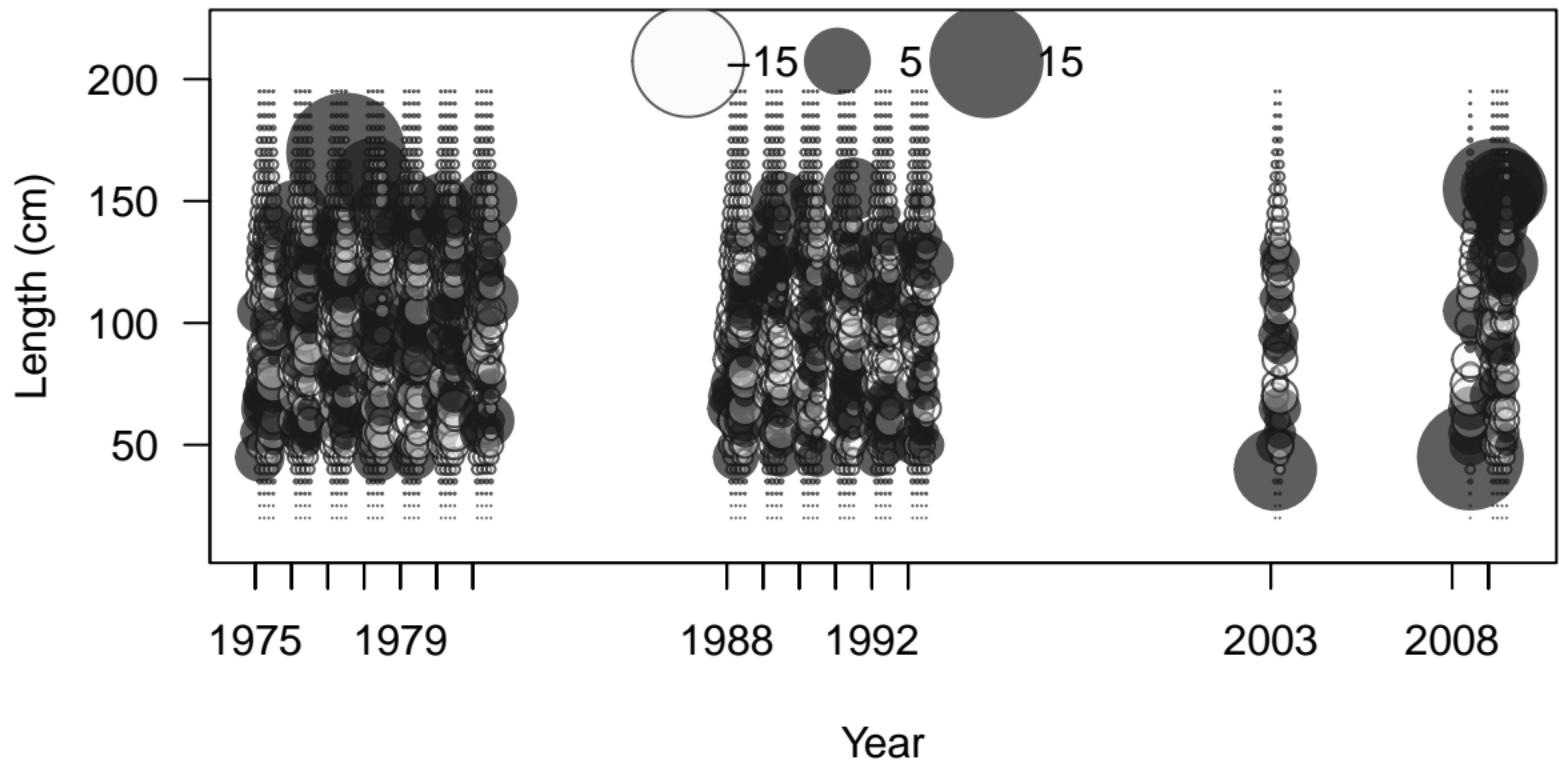


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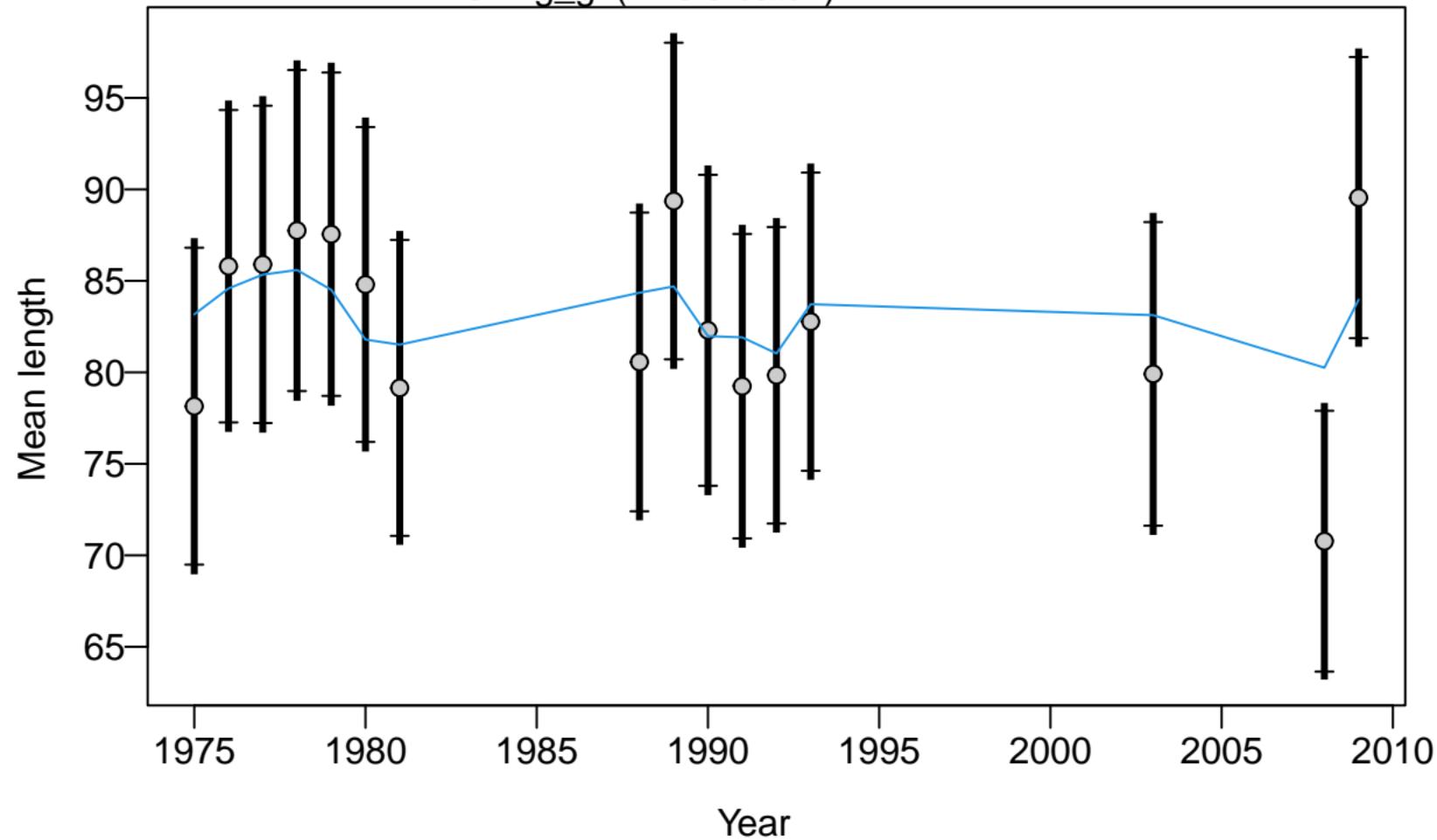


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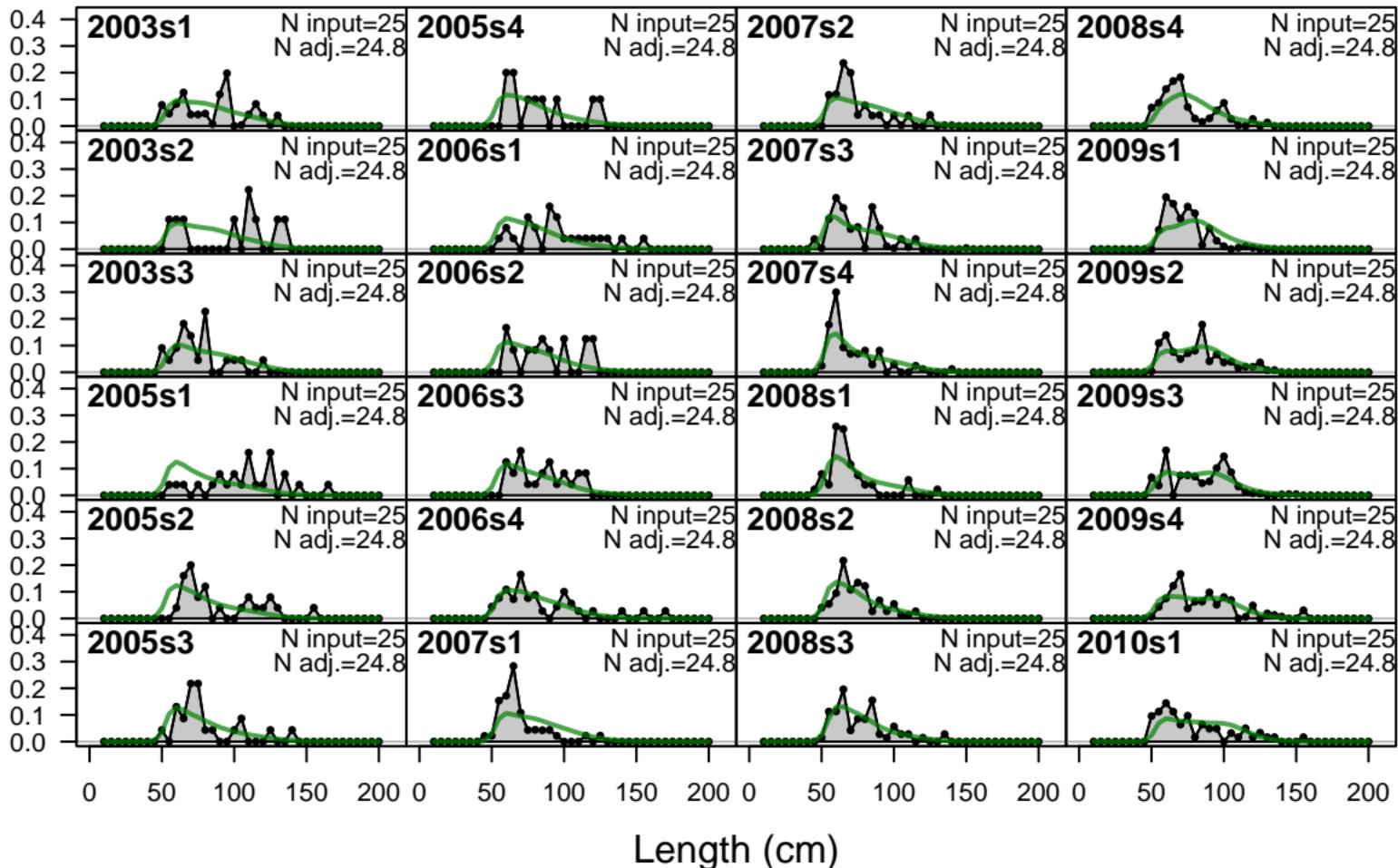




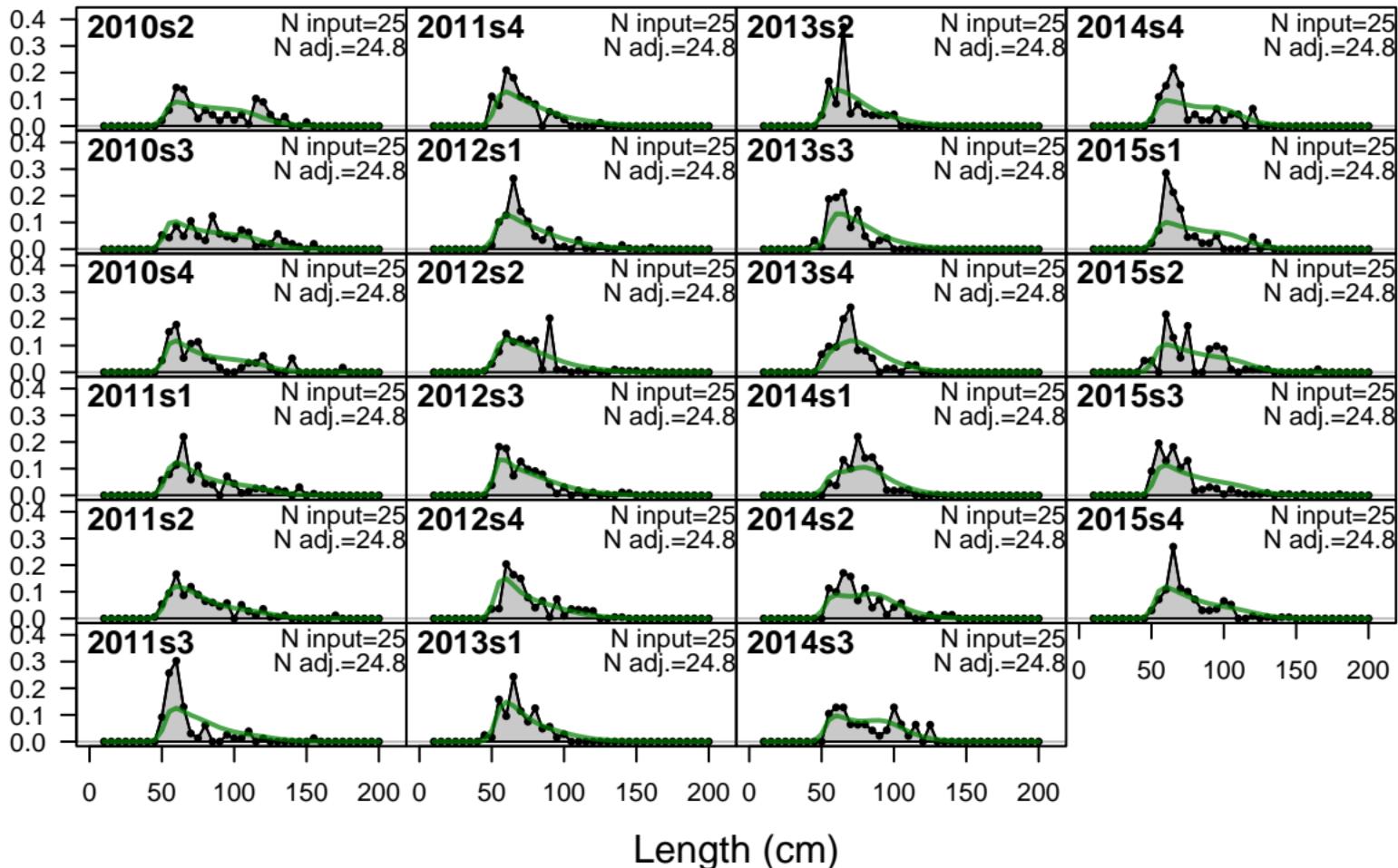
fishing_gi (whole catch)

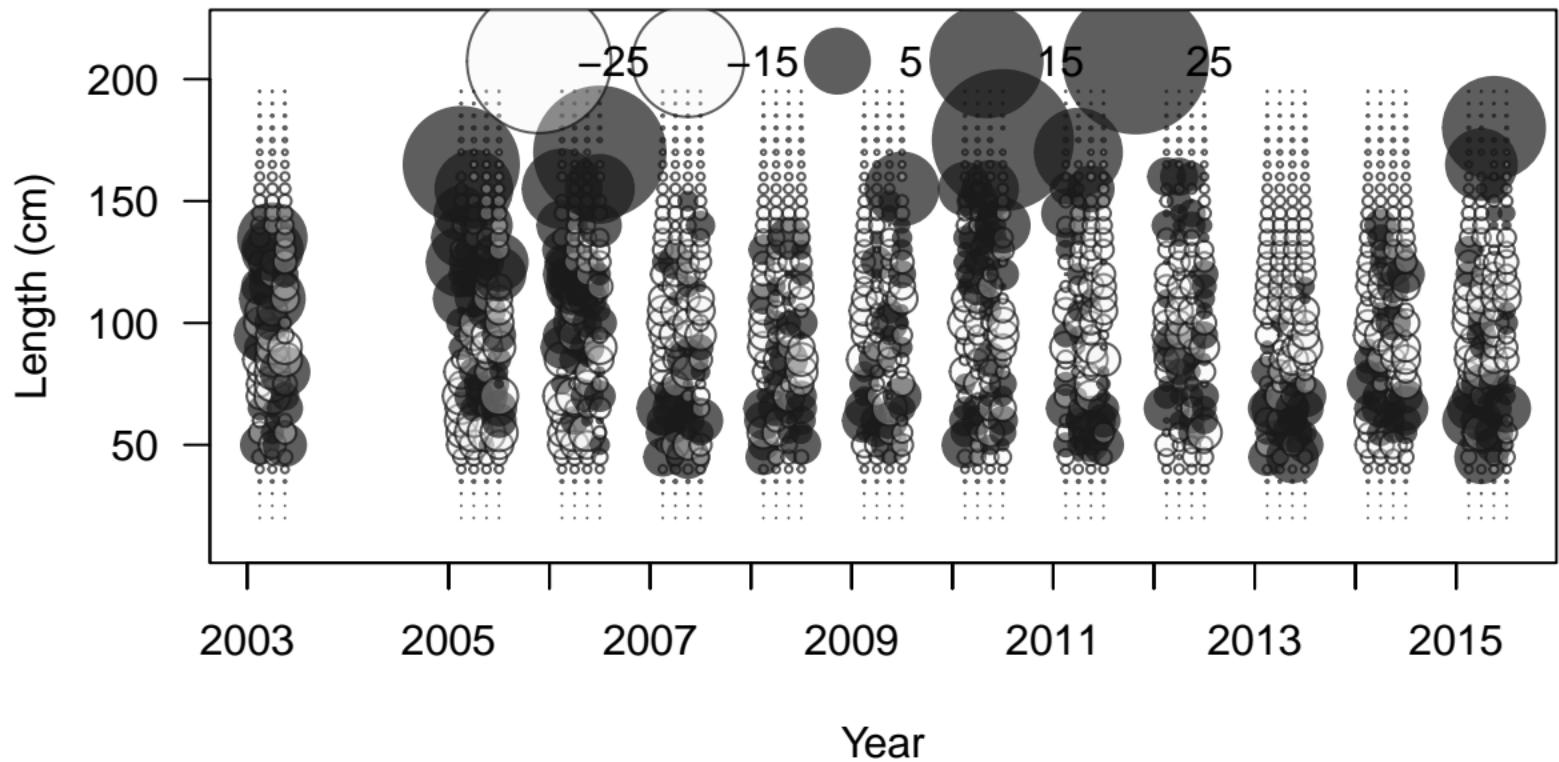


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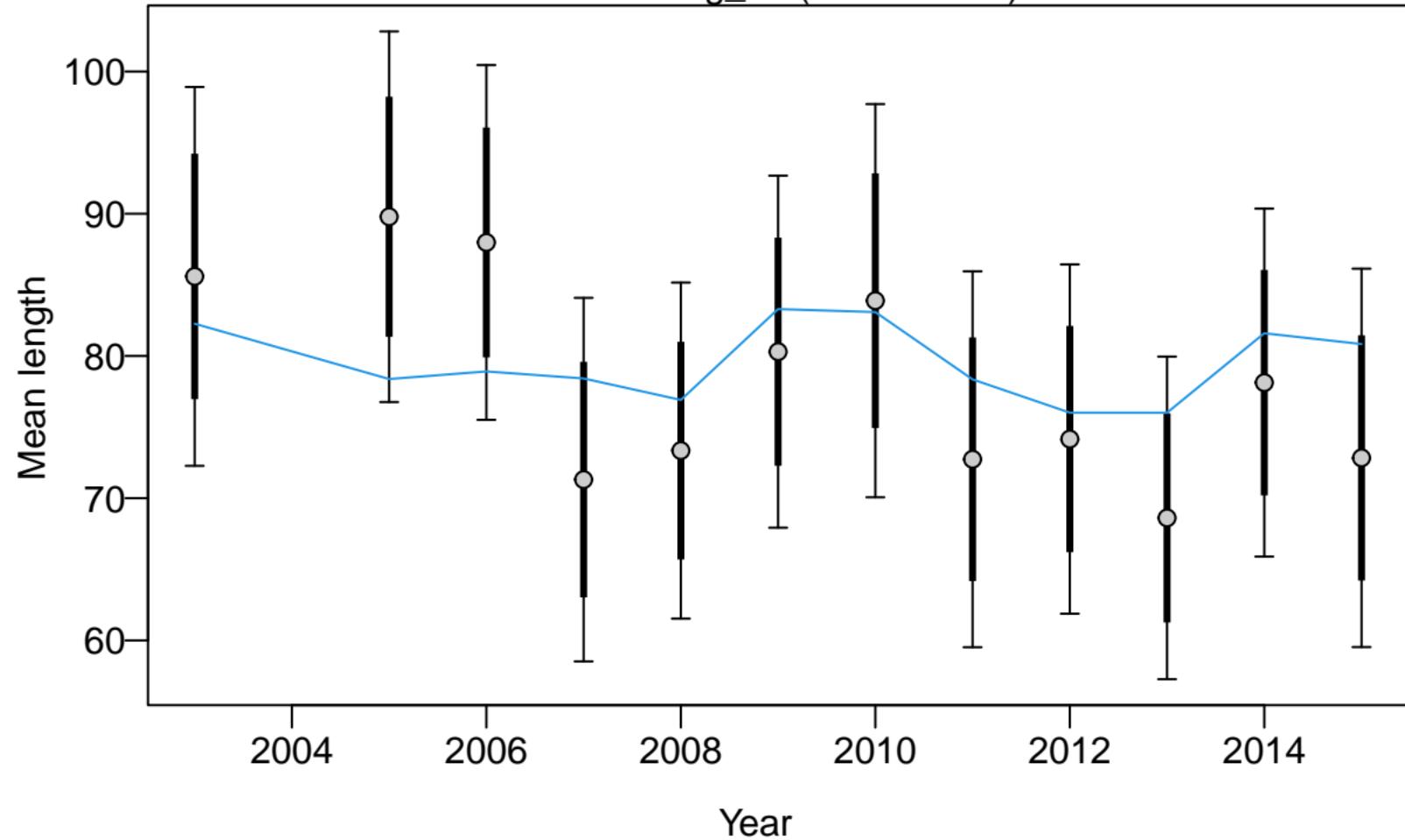


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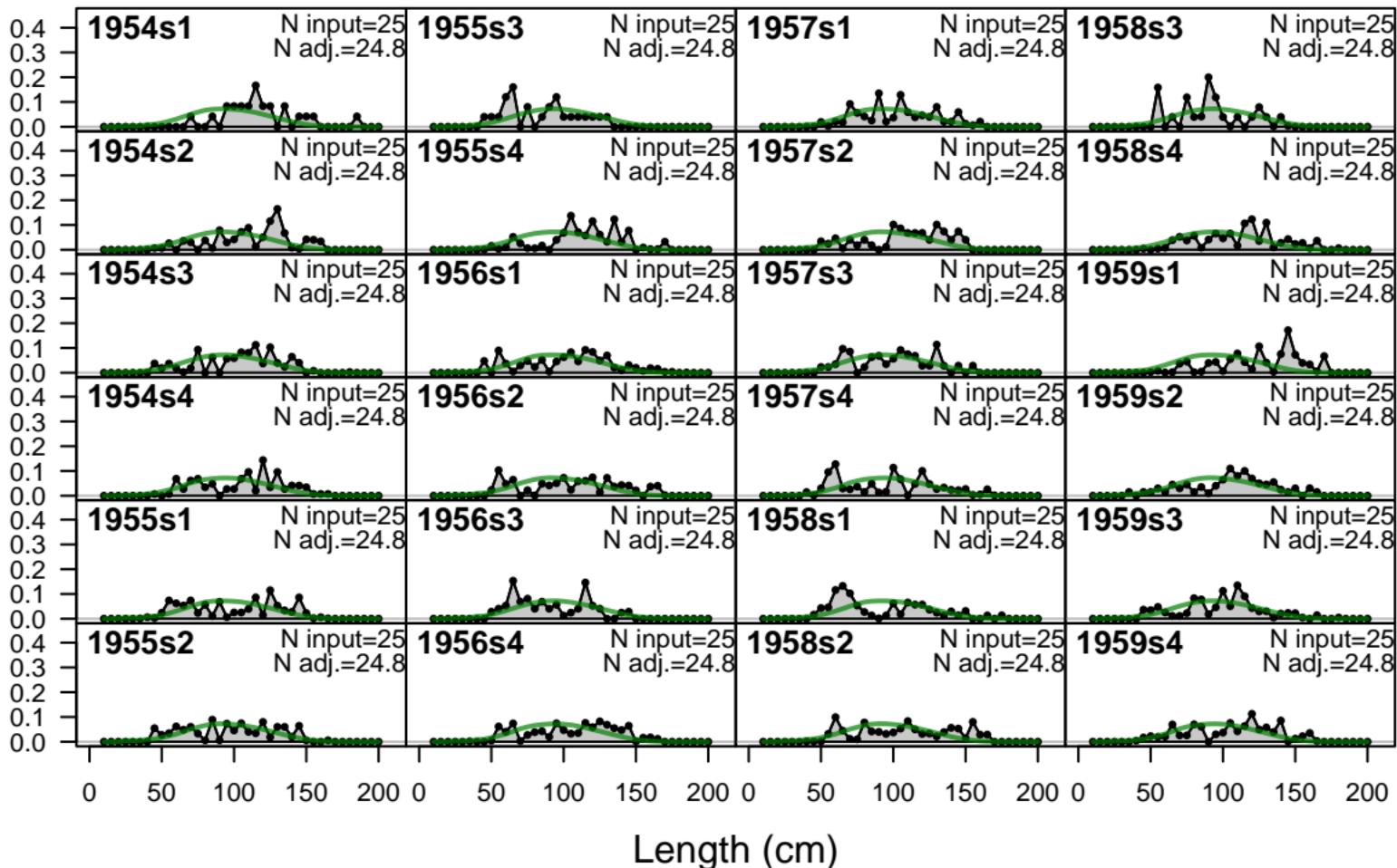




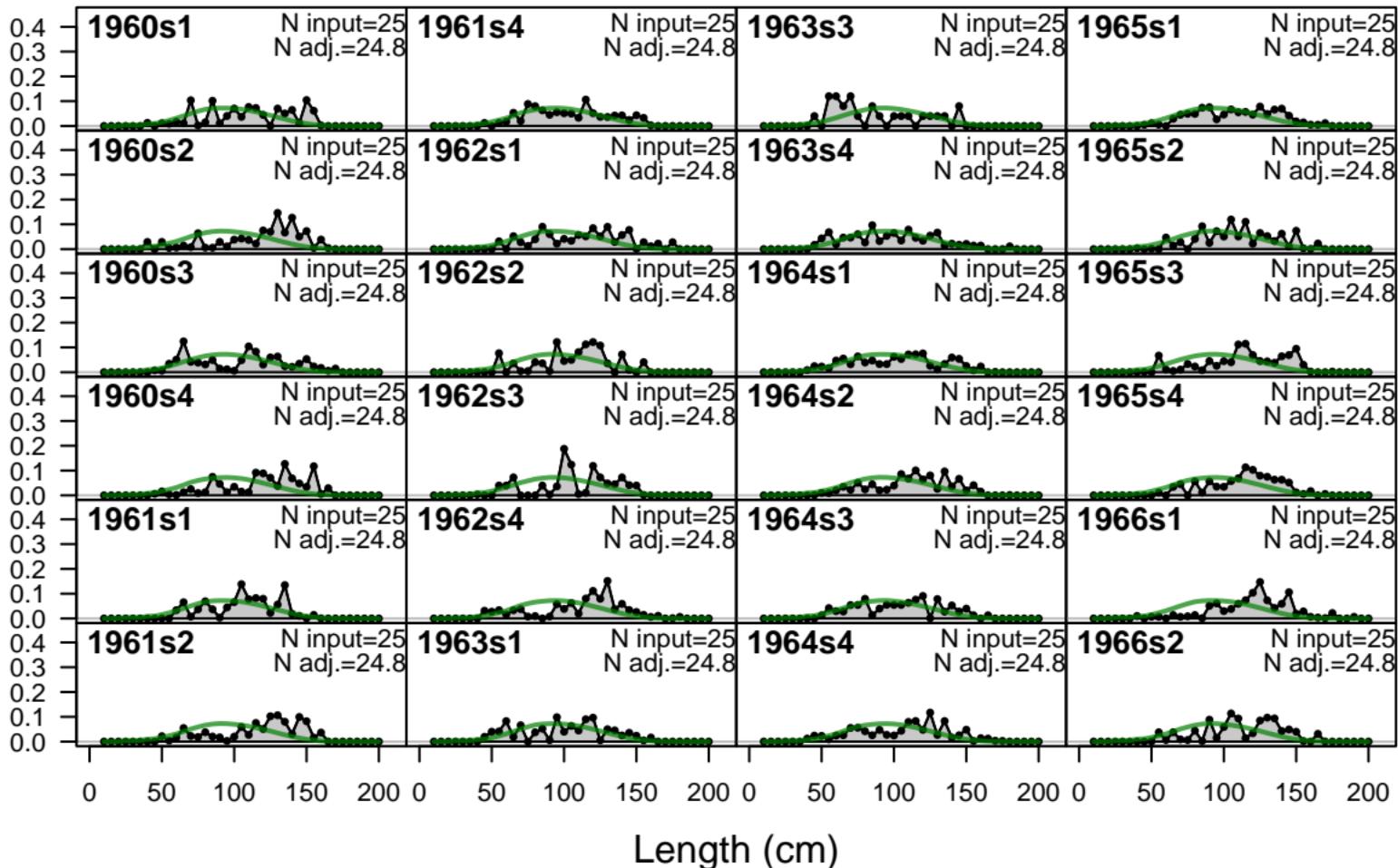
fishing_hd (whole catch)



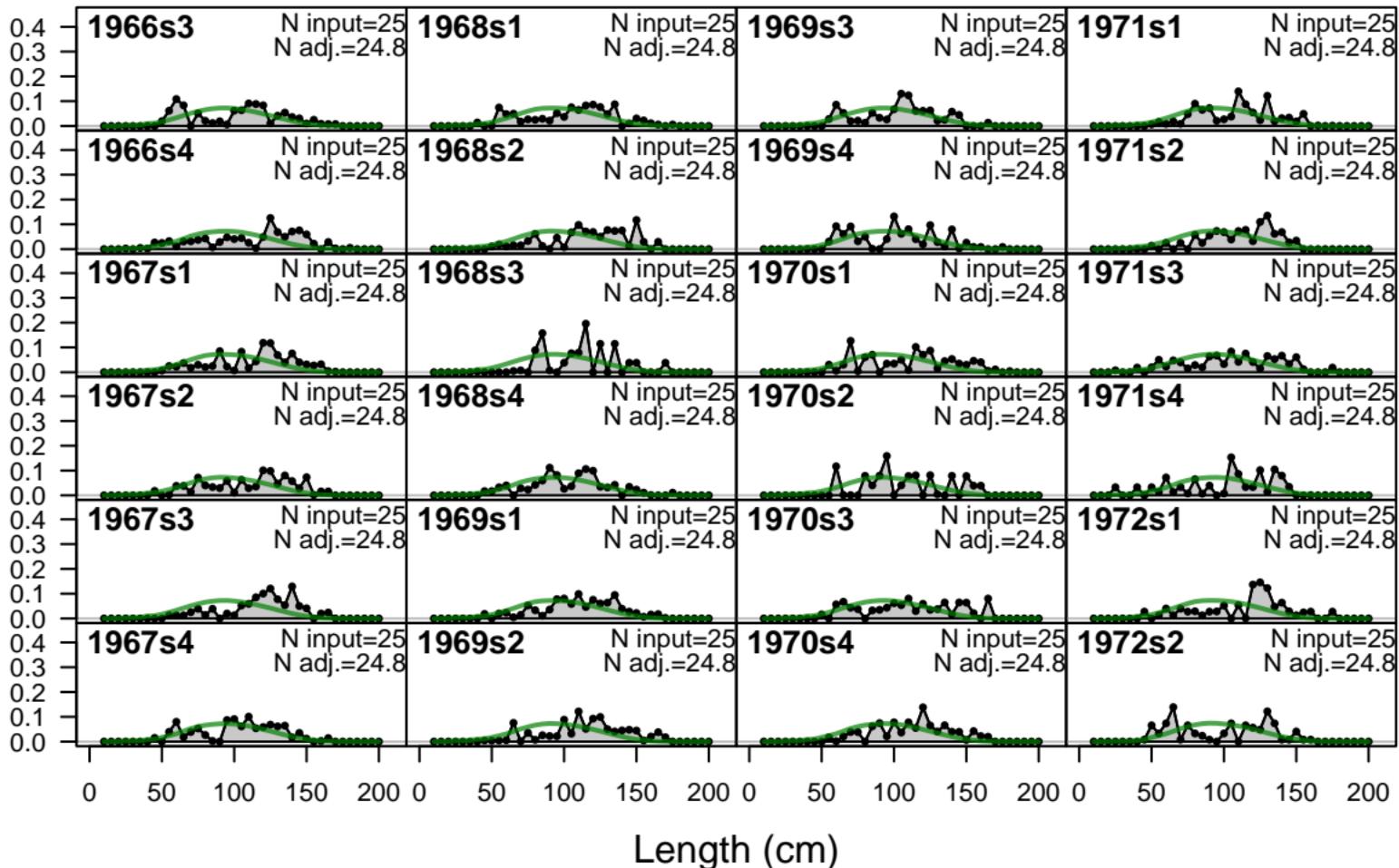
Proportion



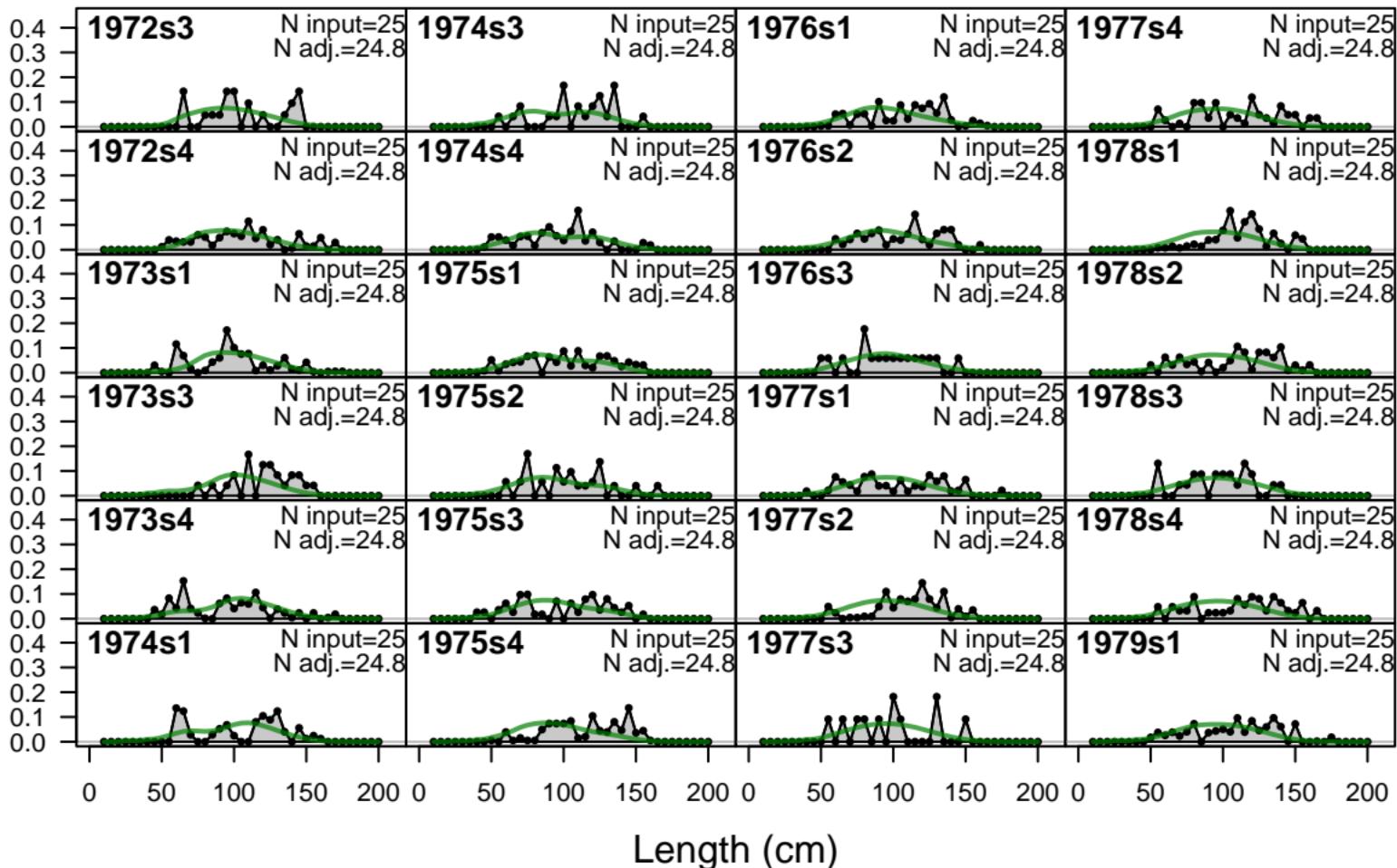
Proportion



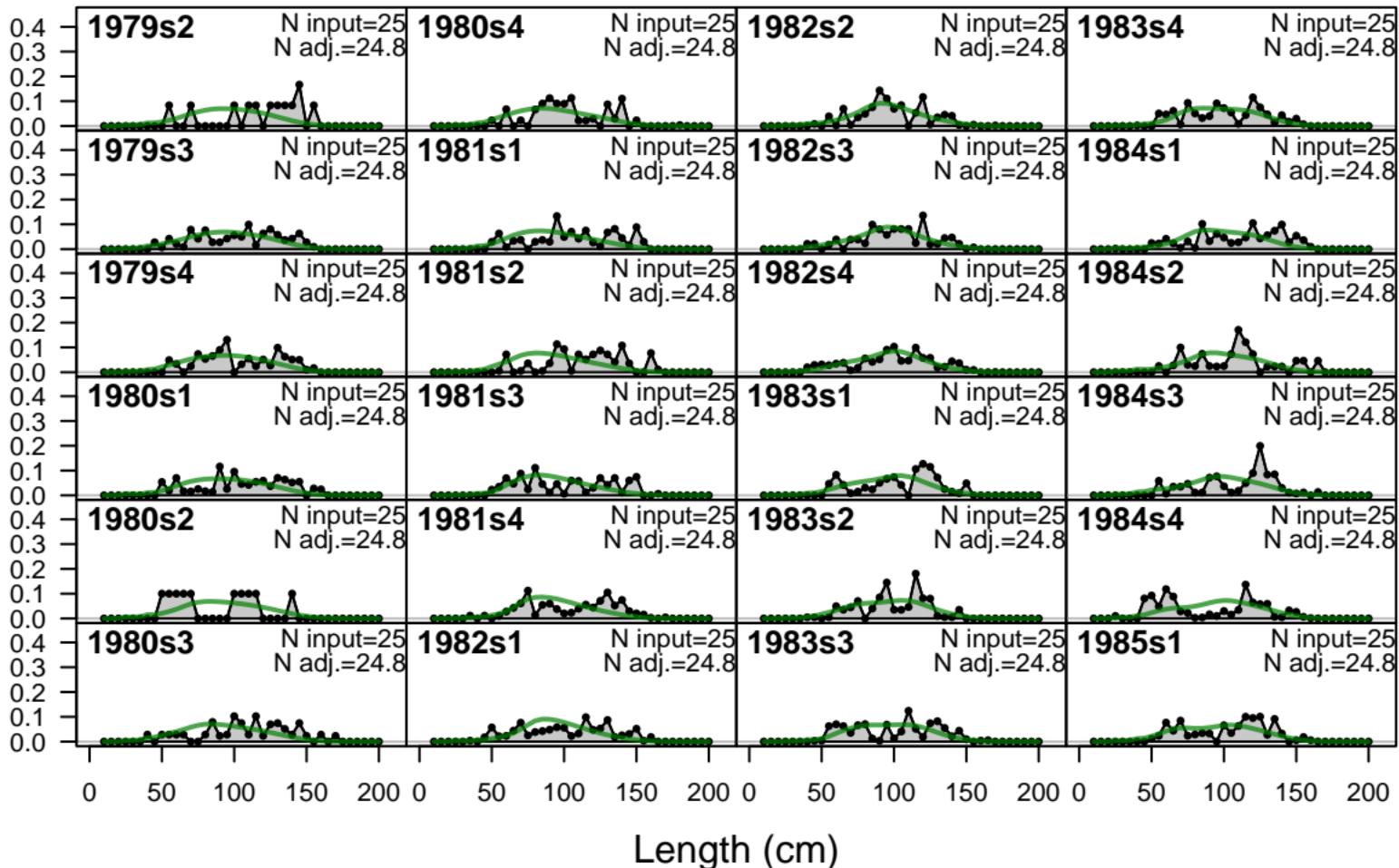
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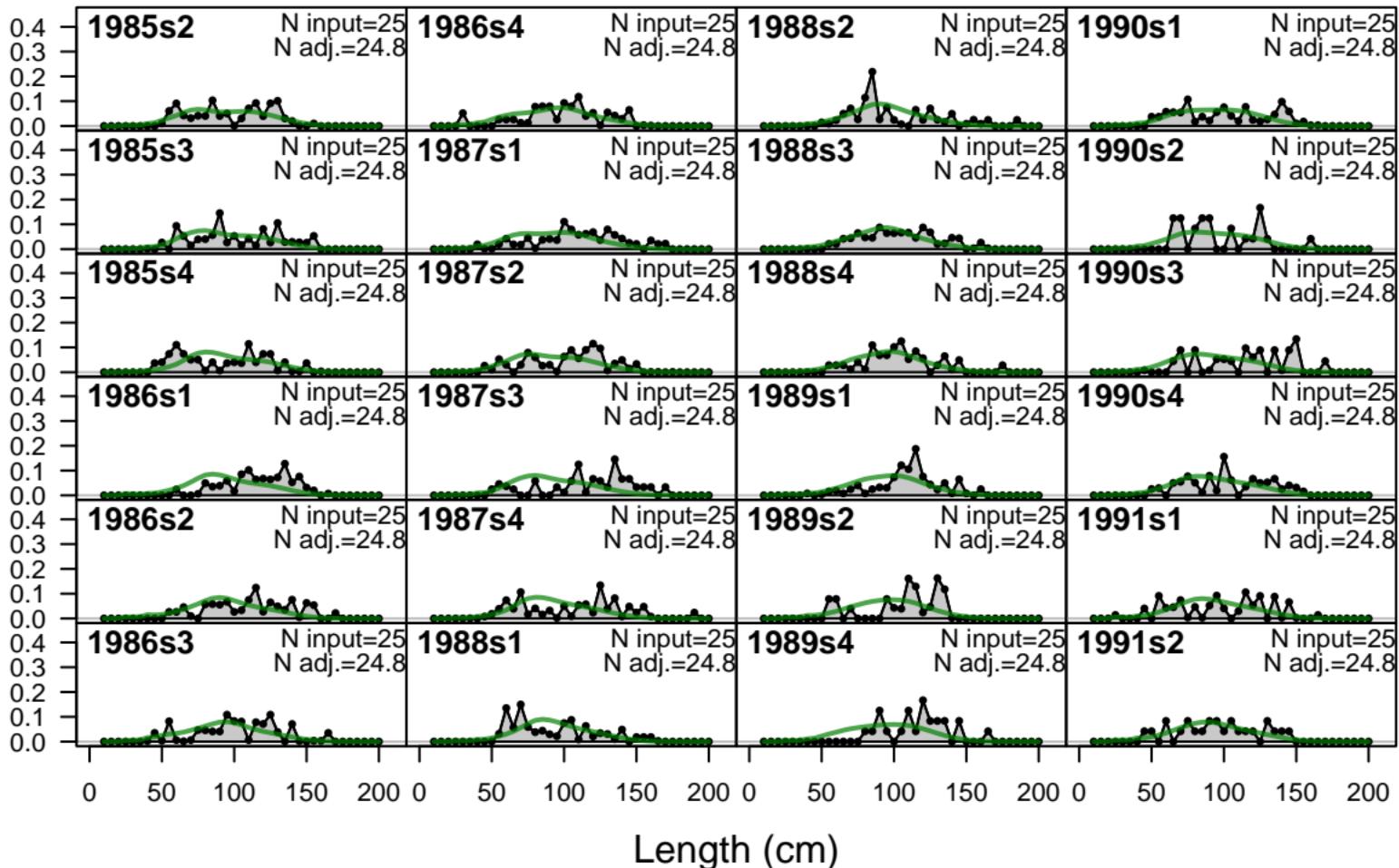
Proportion



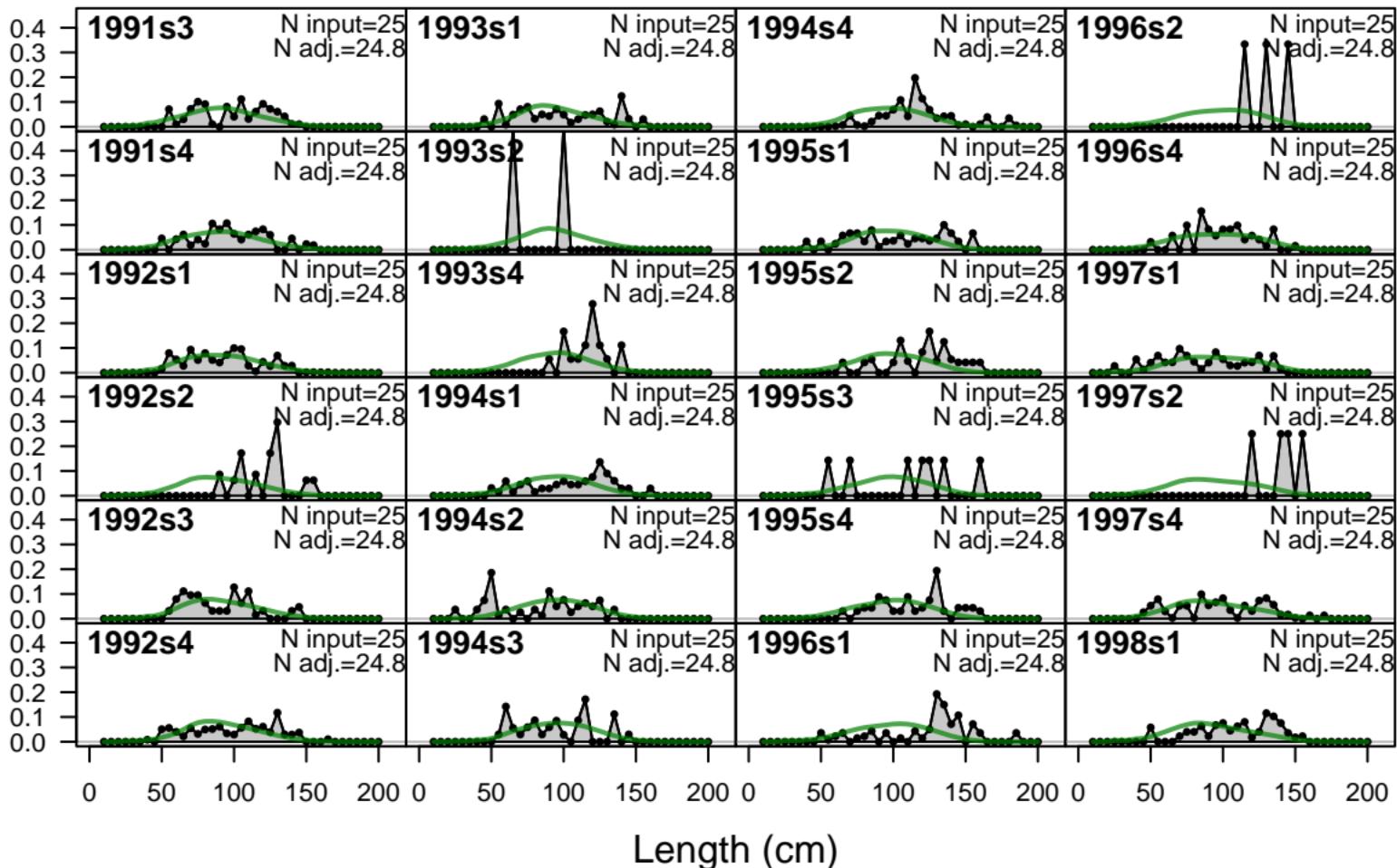
Proportion



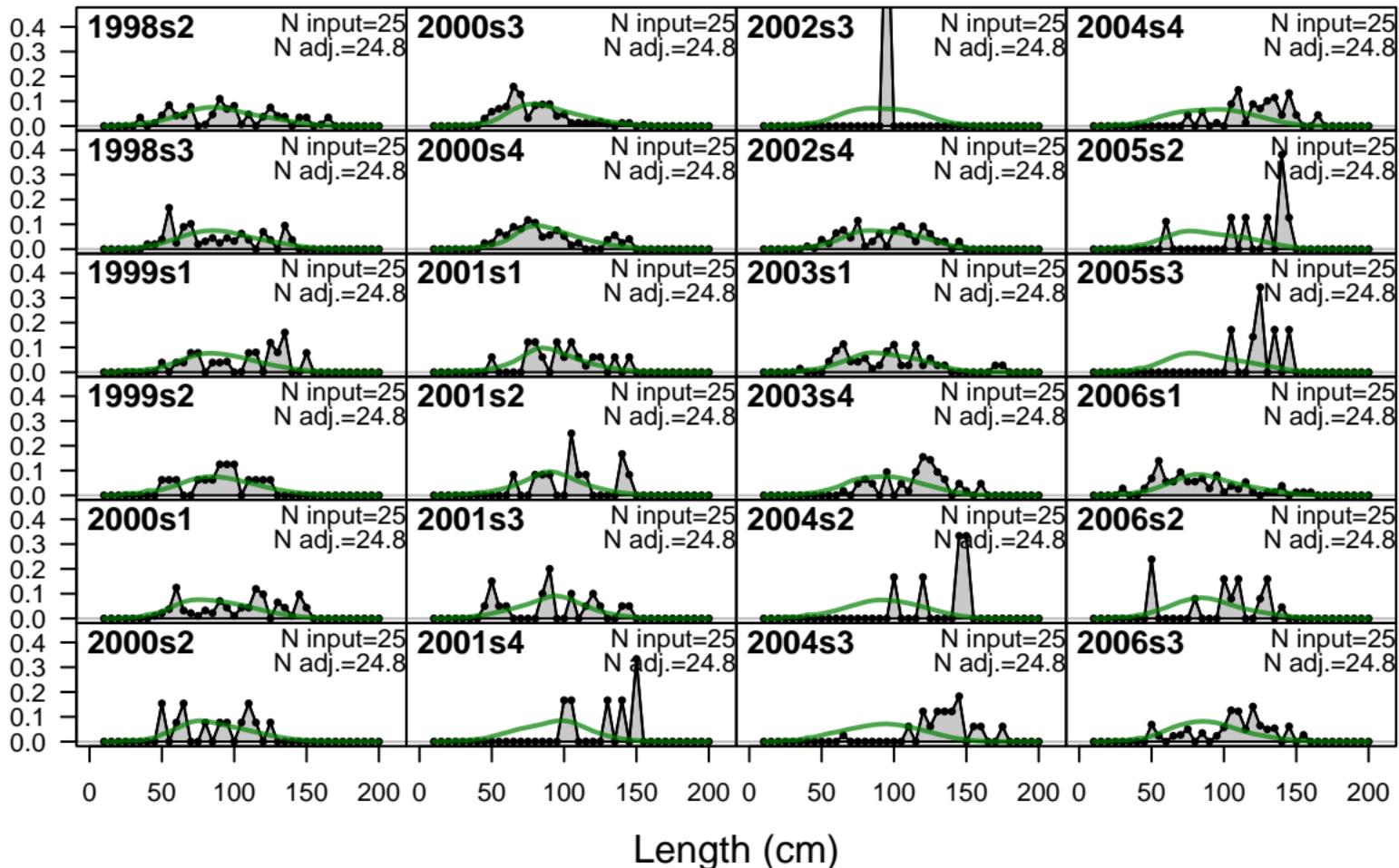
Proportion



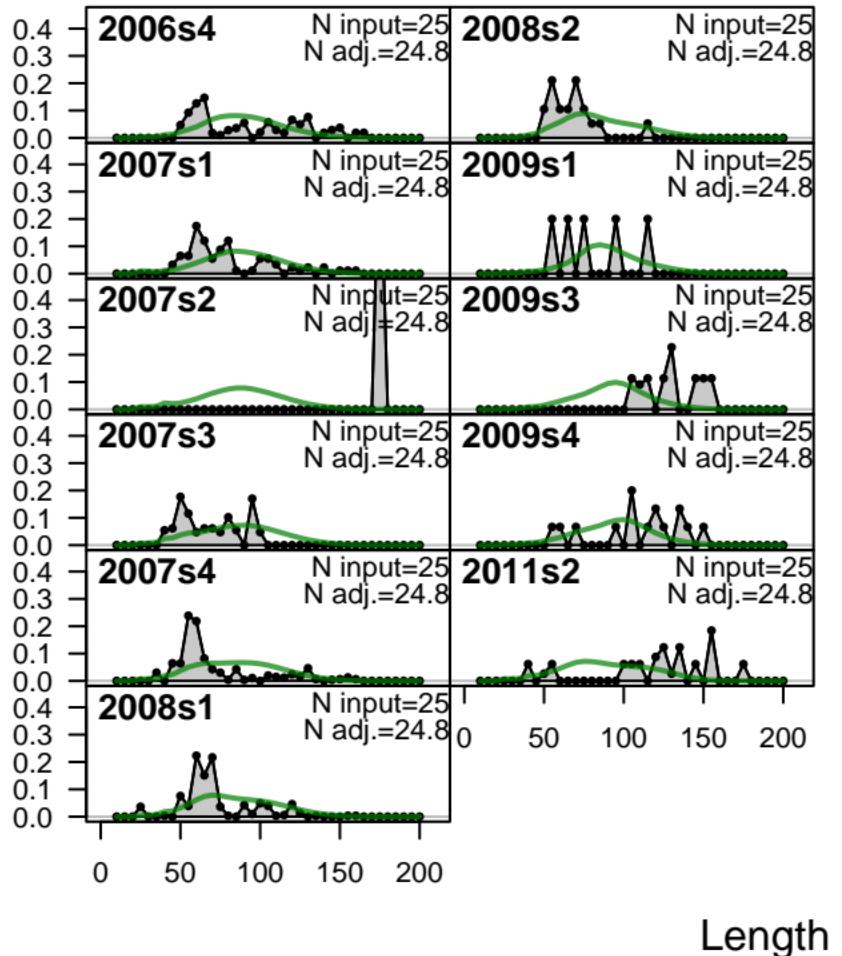
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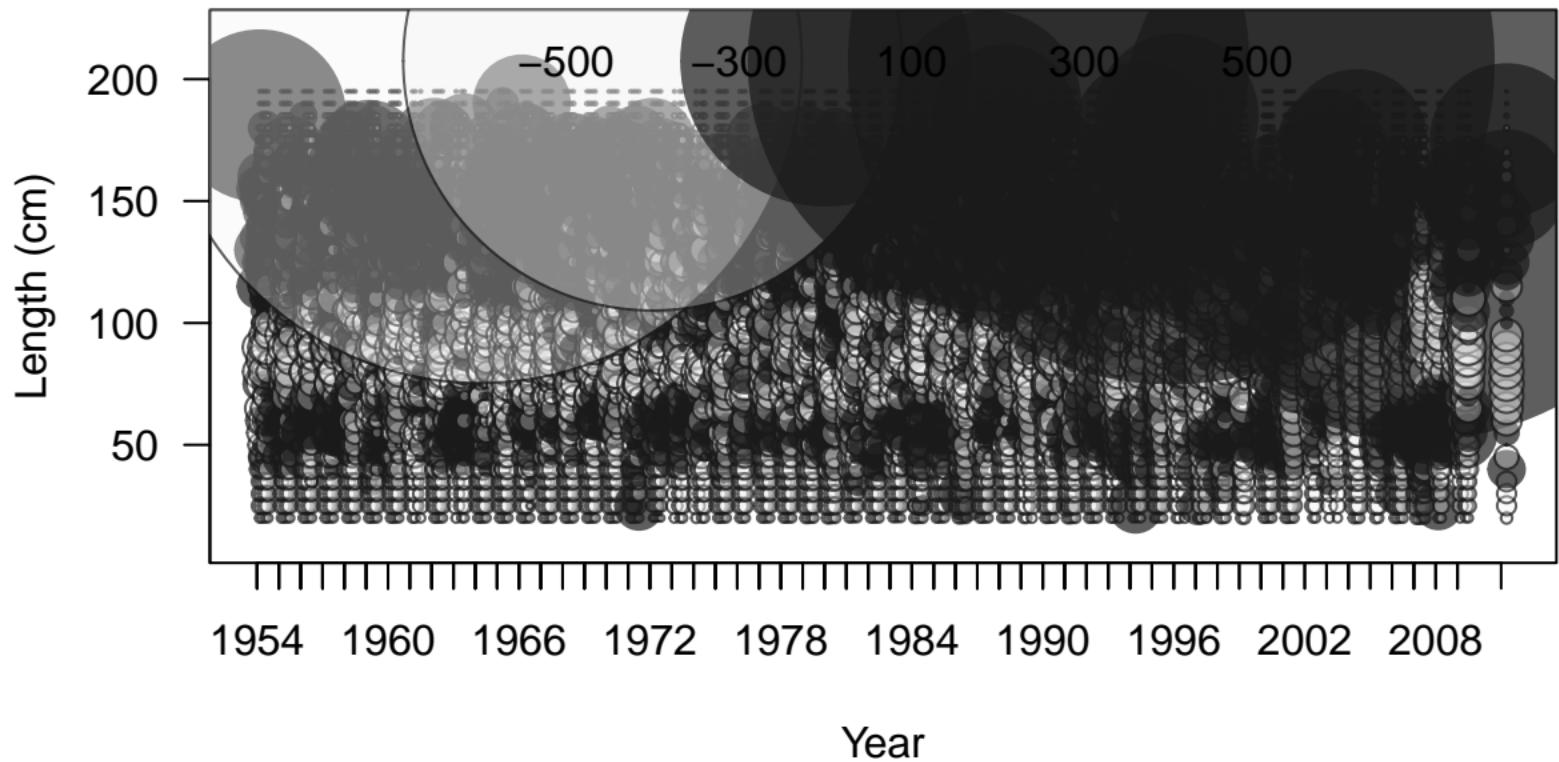


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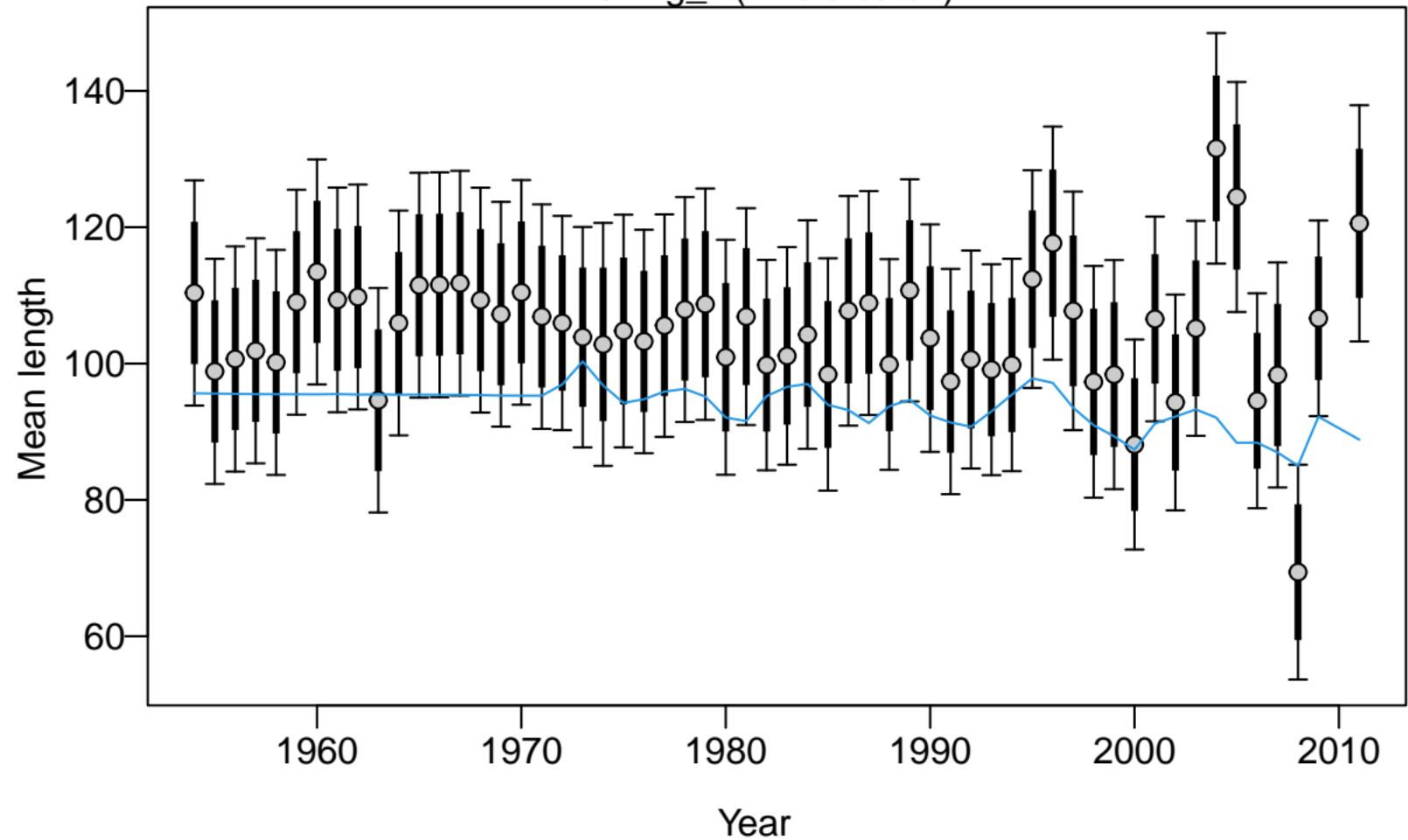


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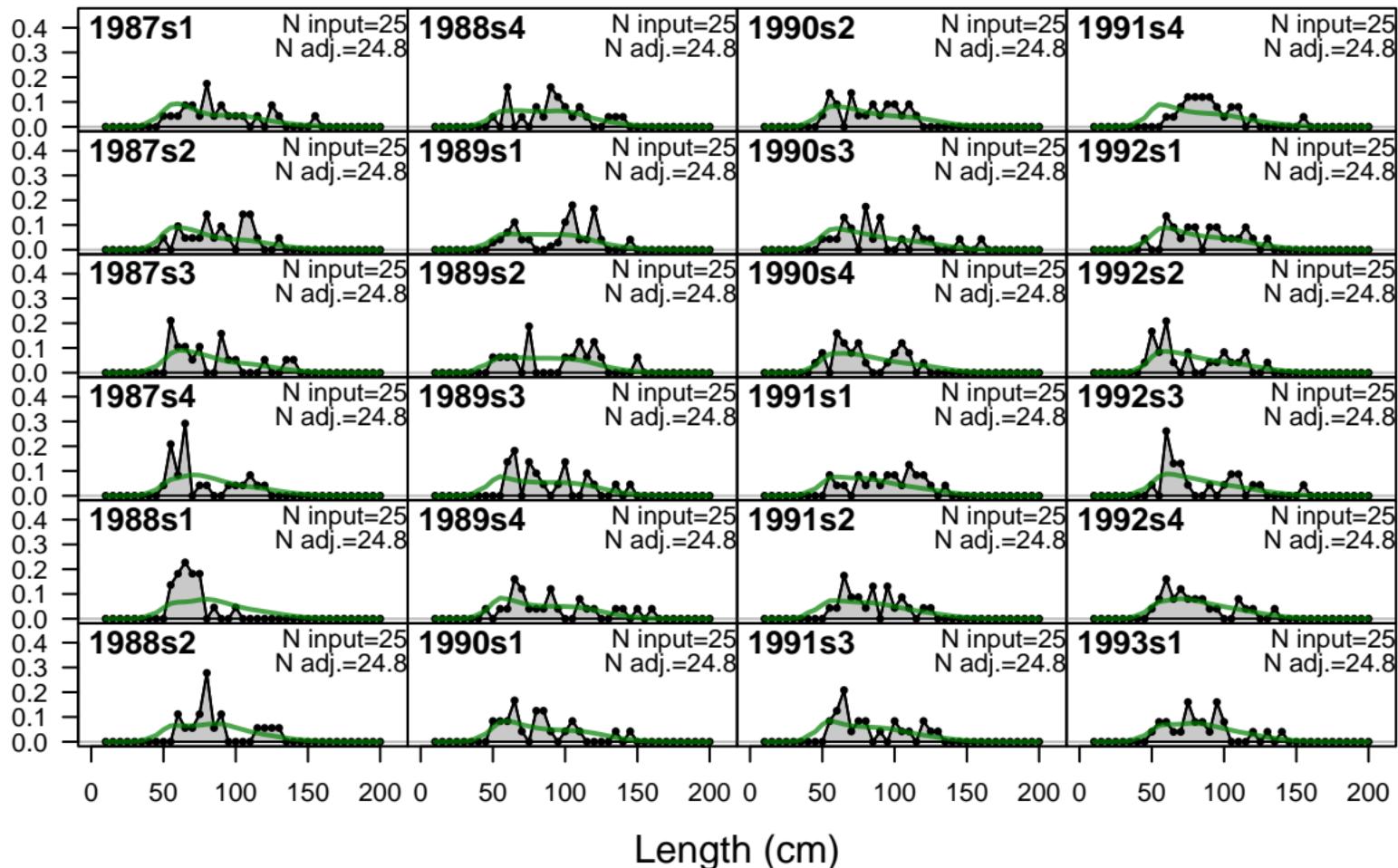




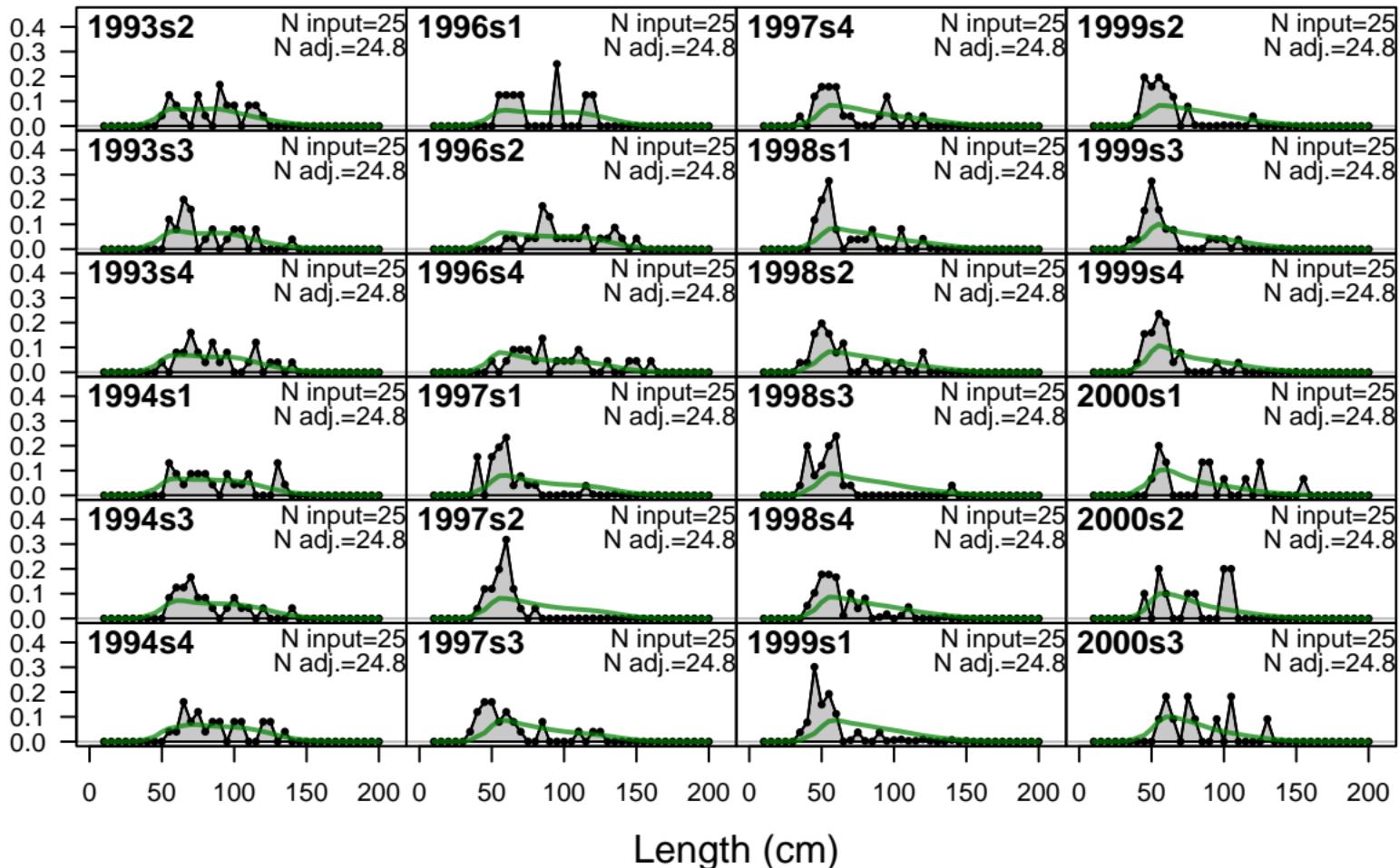
fishing_II (whole catch)



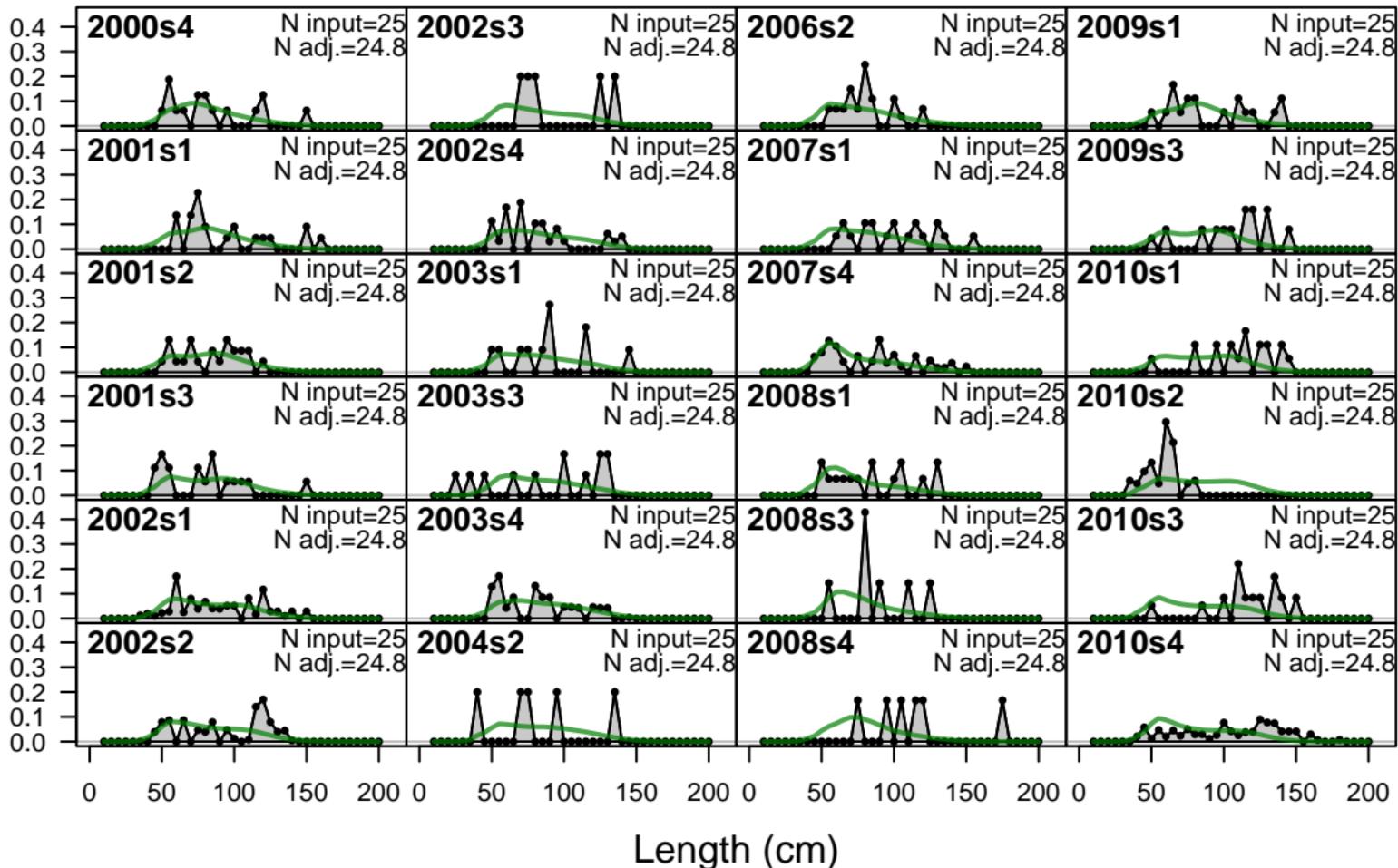
Proportion



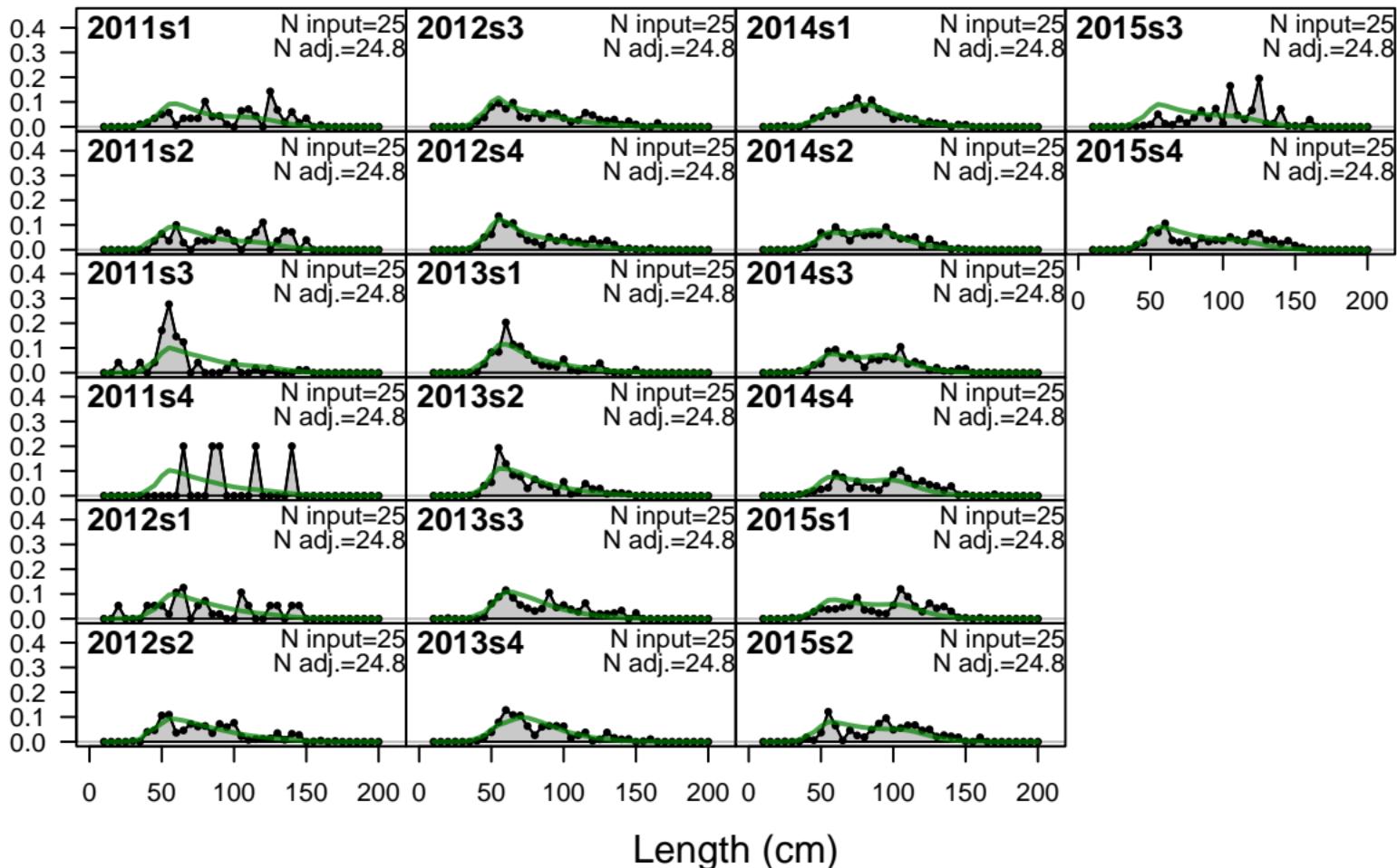
Proportion

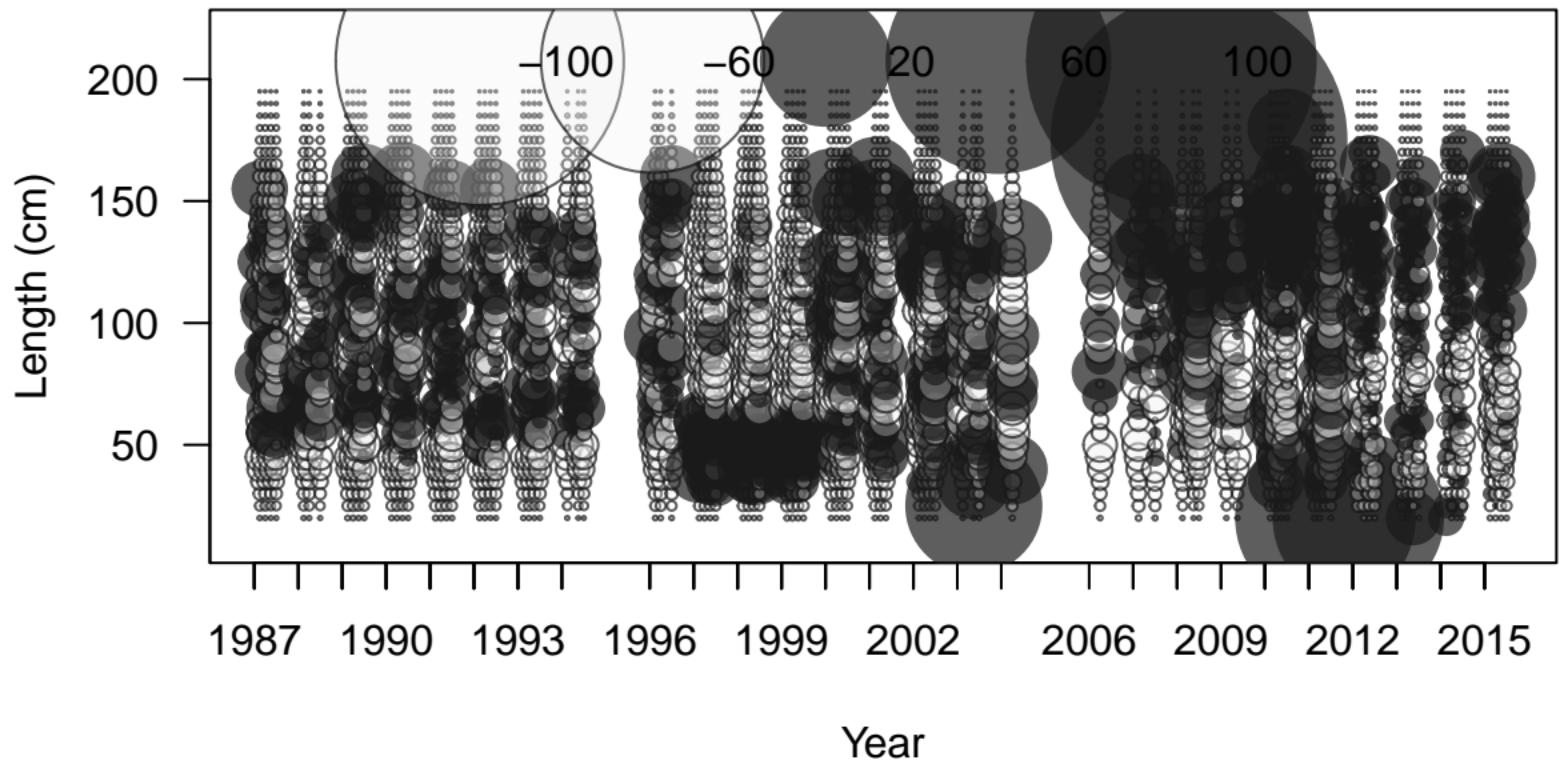


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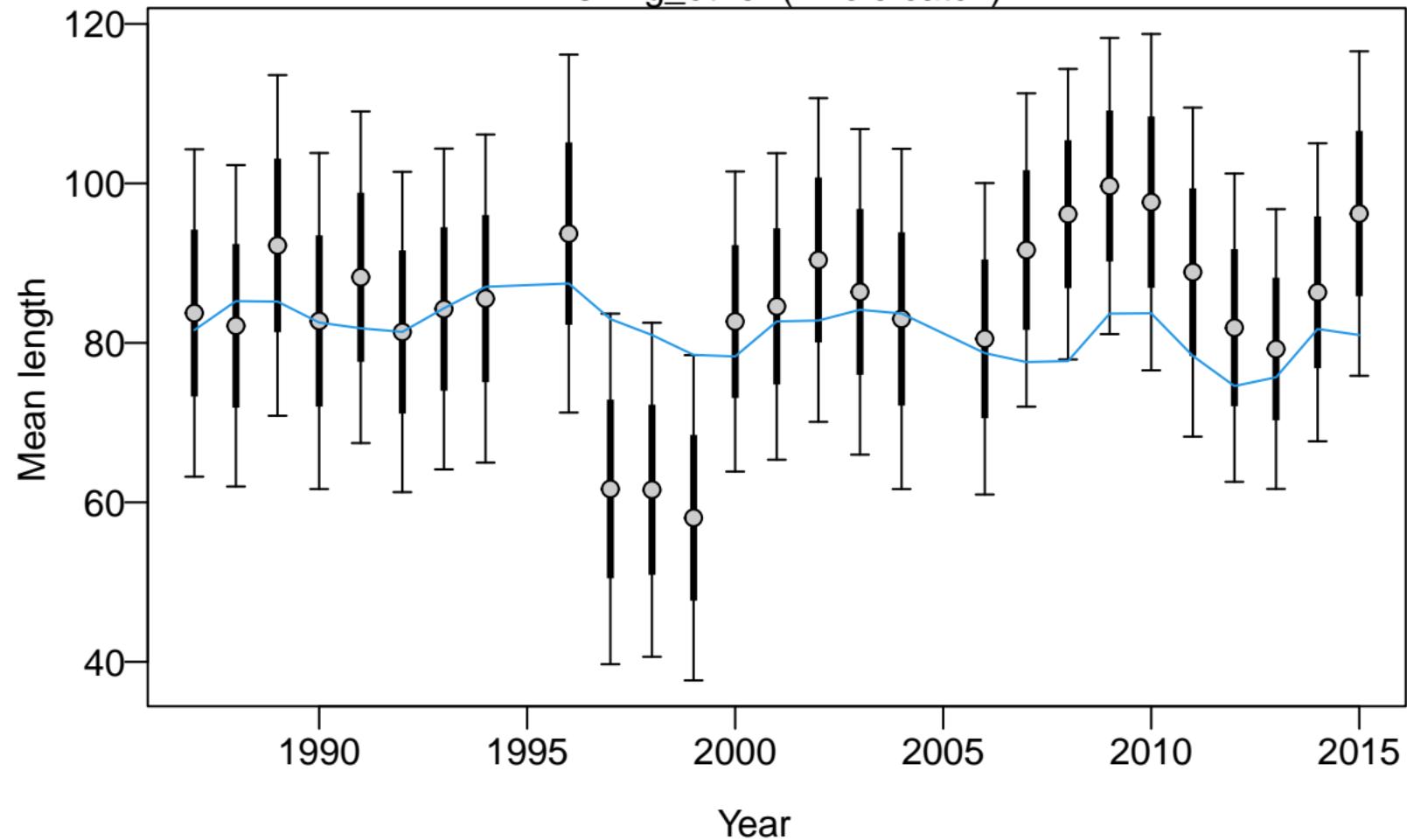


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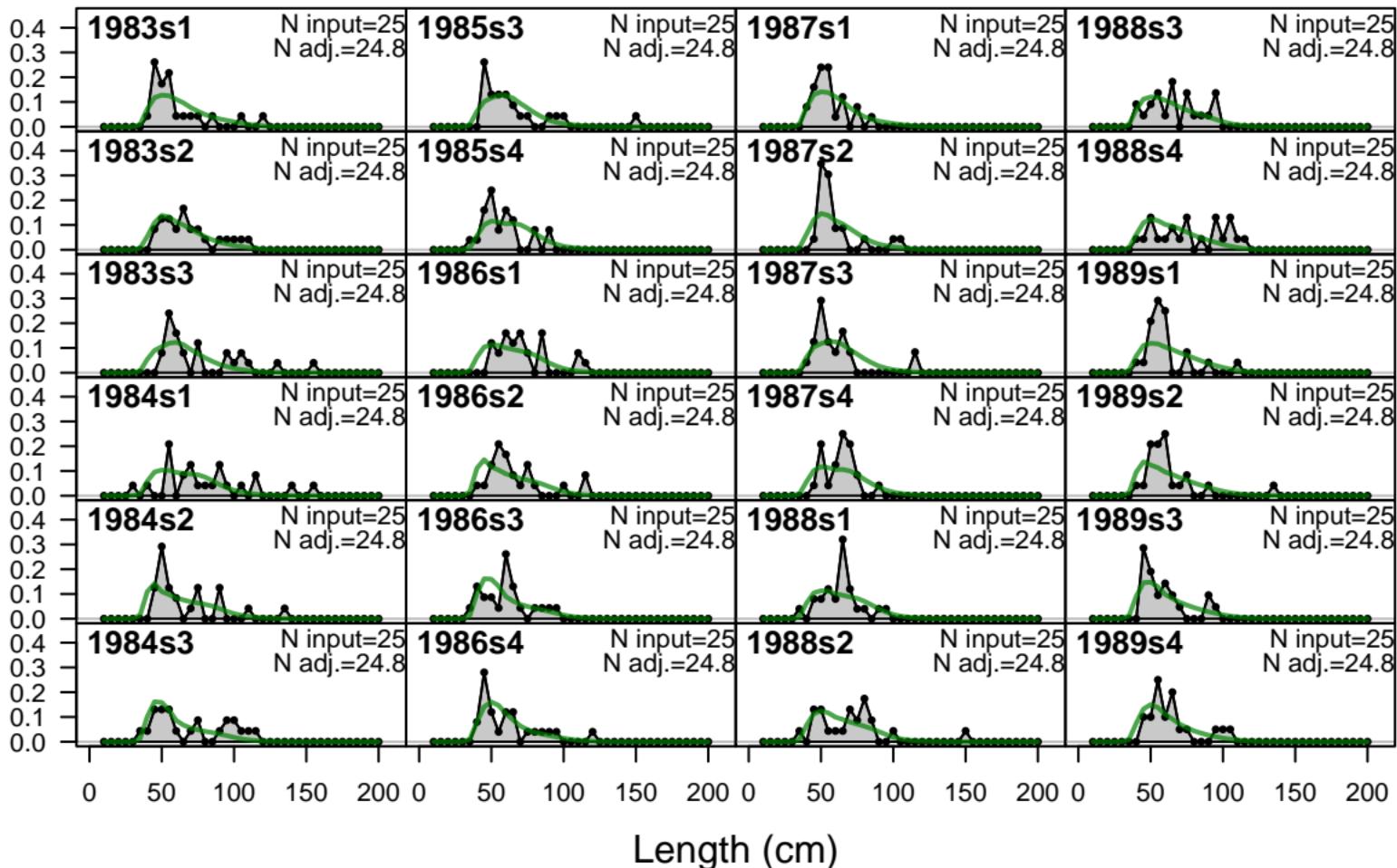




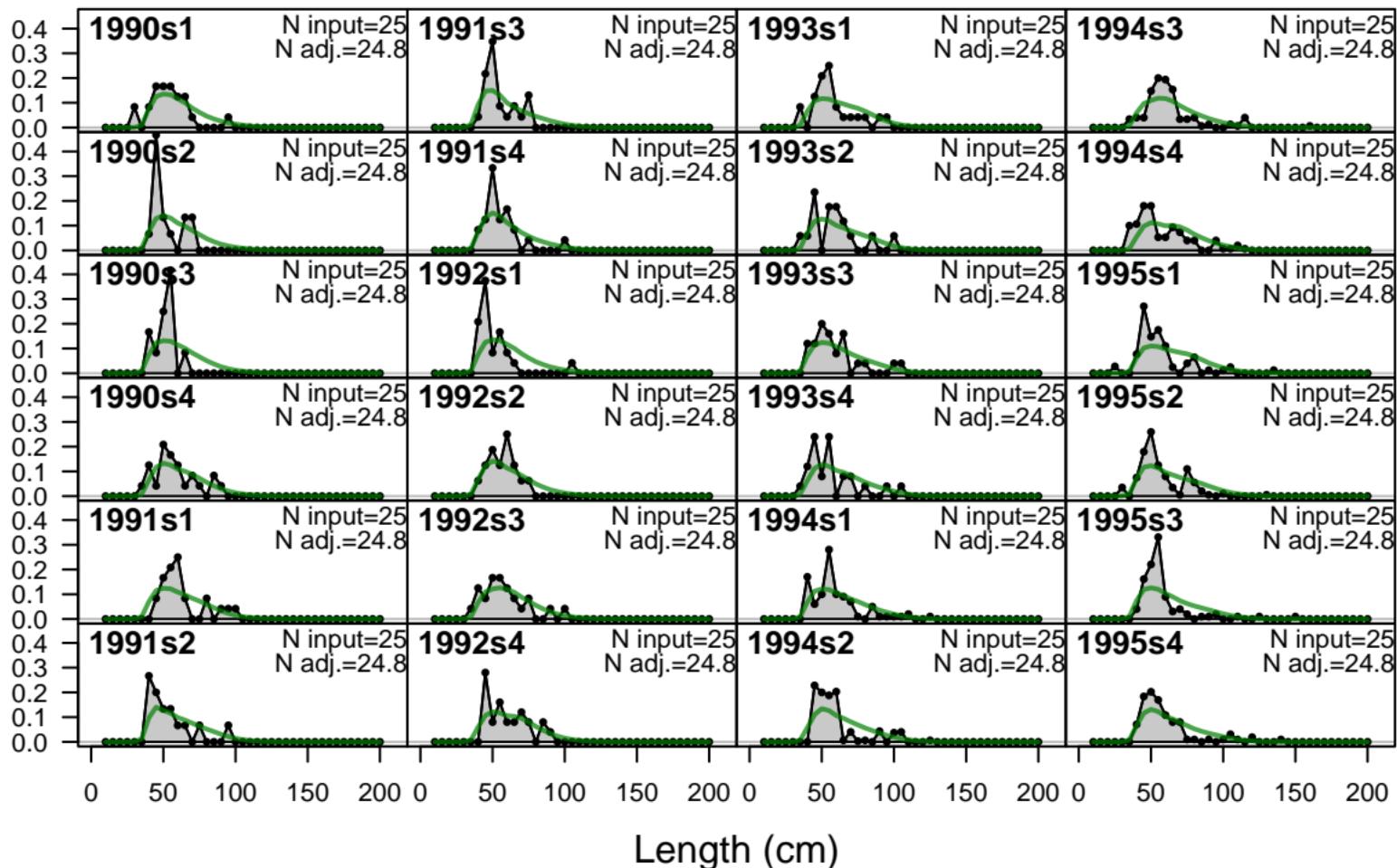
fishing_other (whole catch)



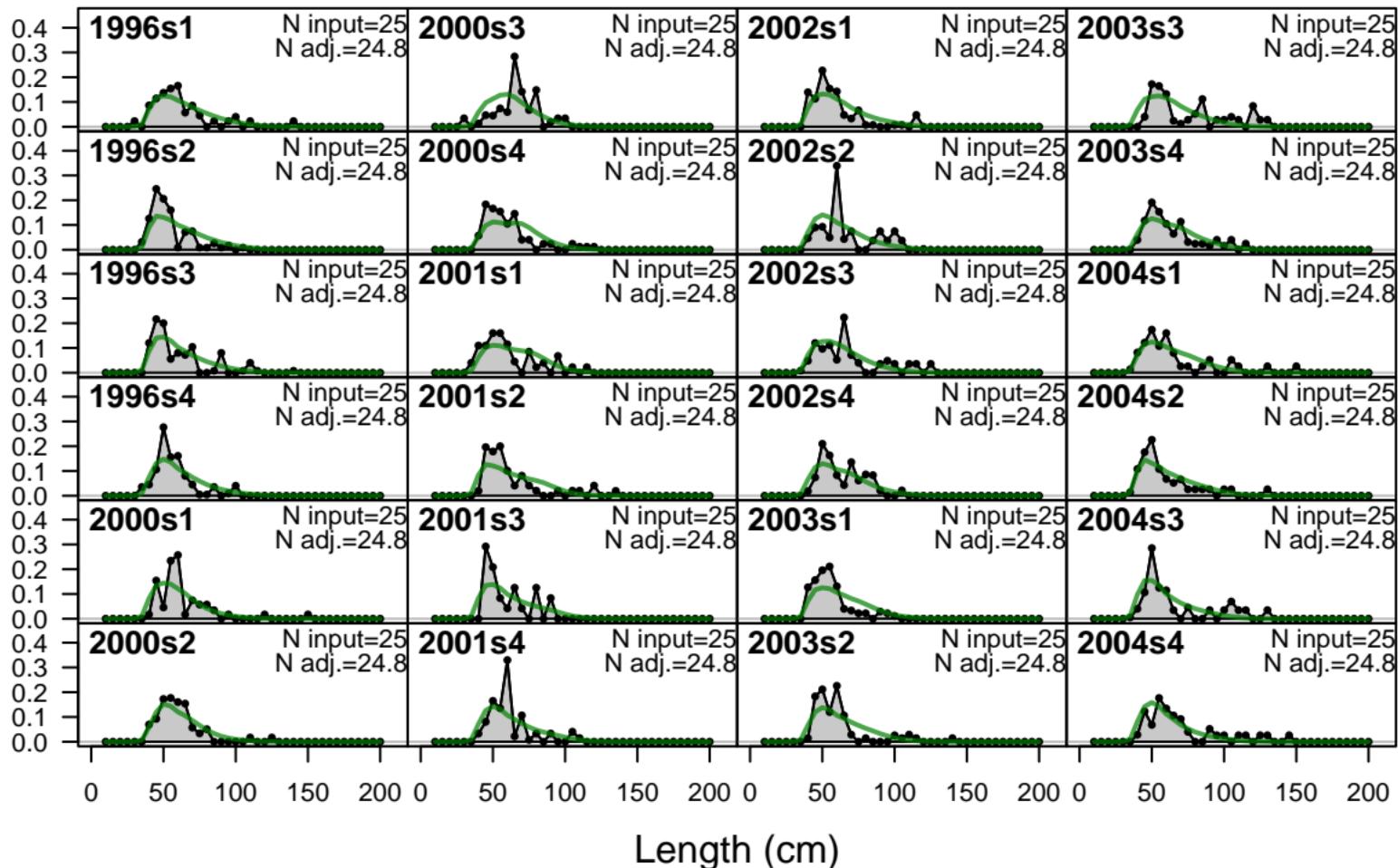
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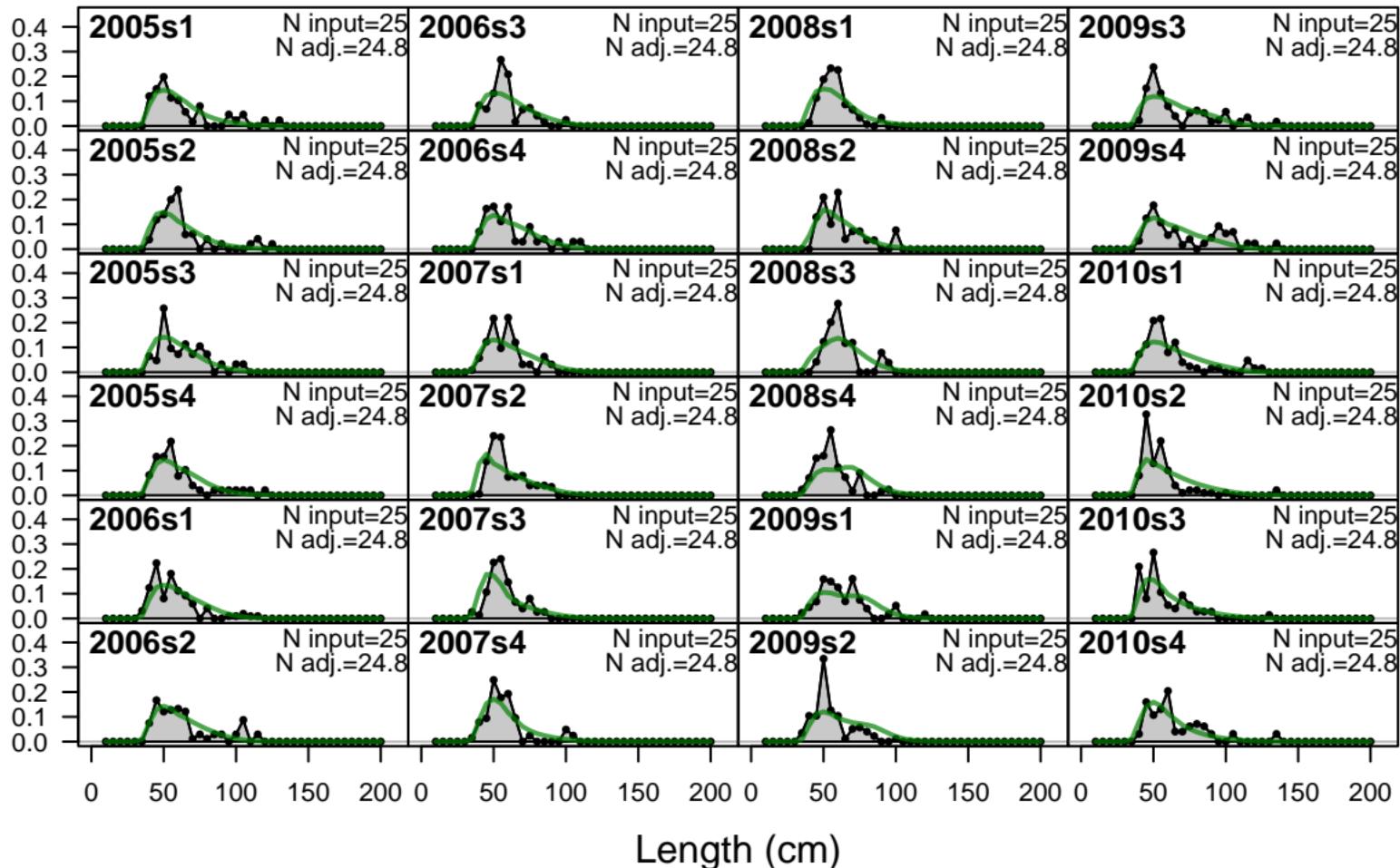
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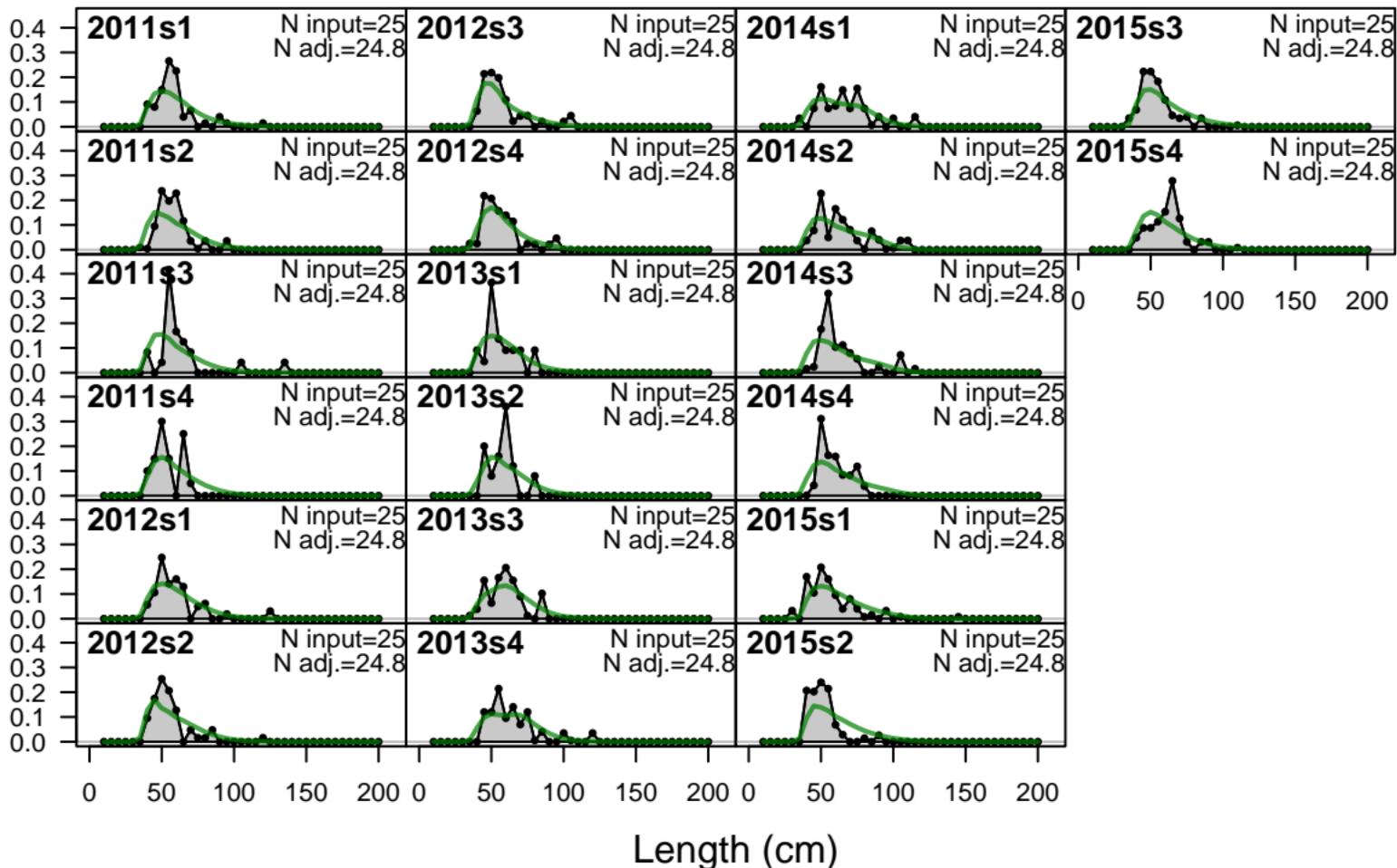
Proportion

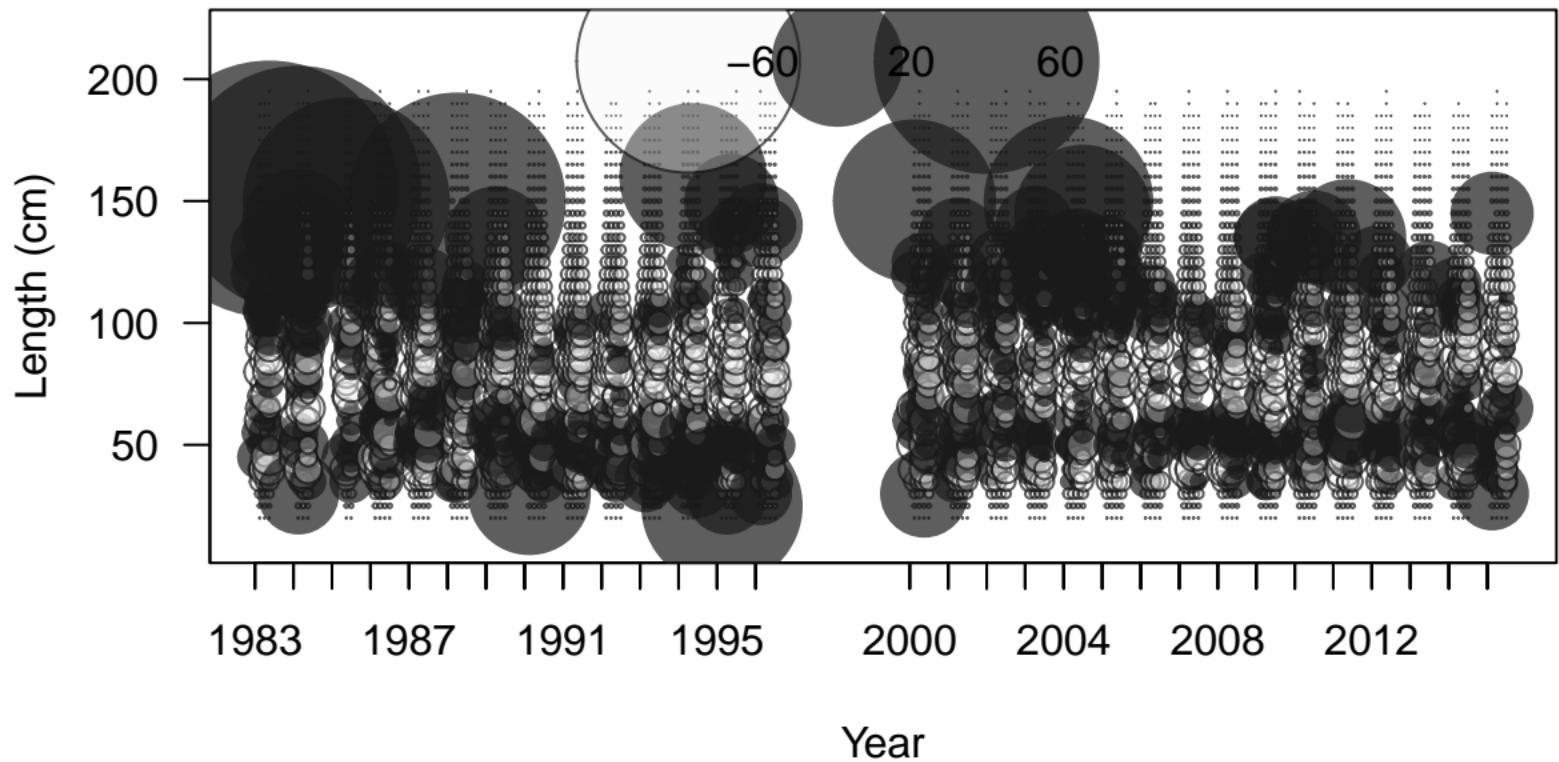


Proportion

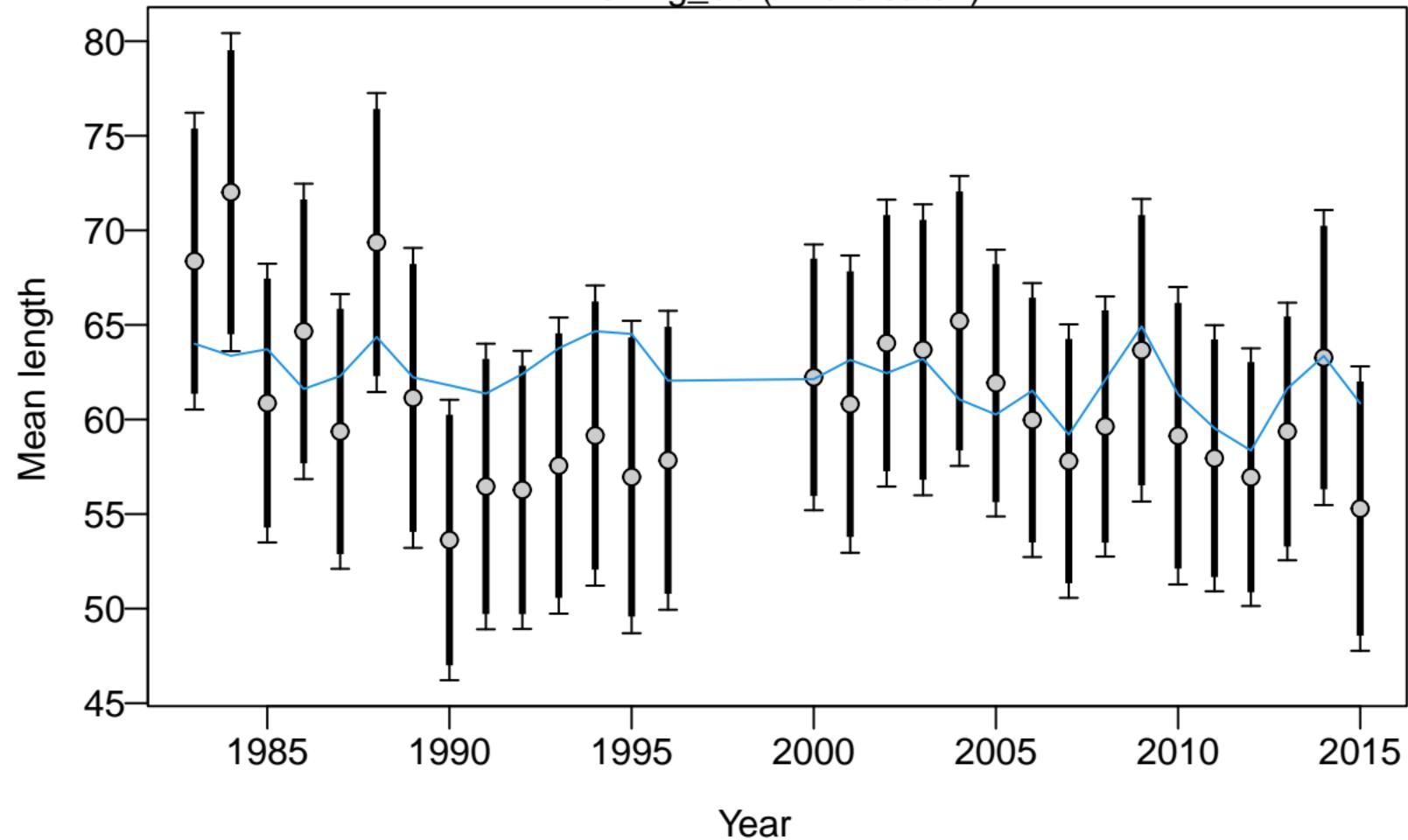


Proportion

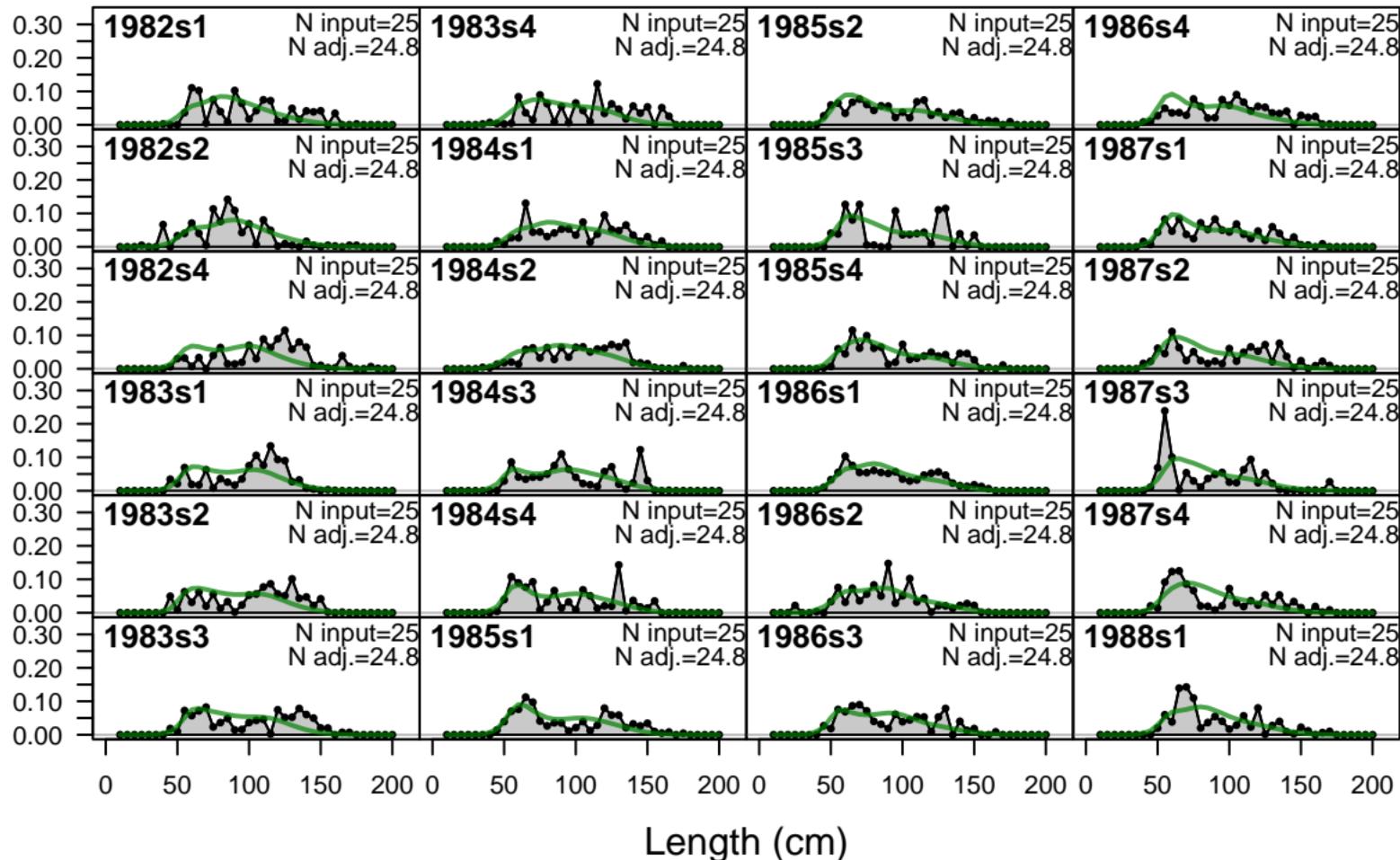




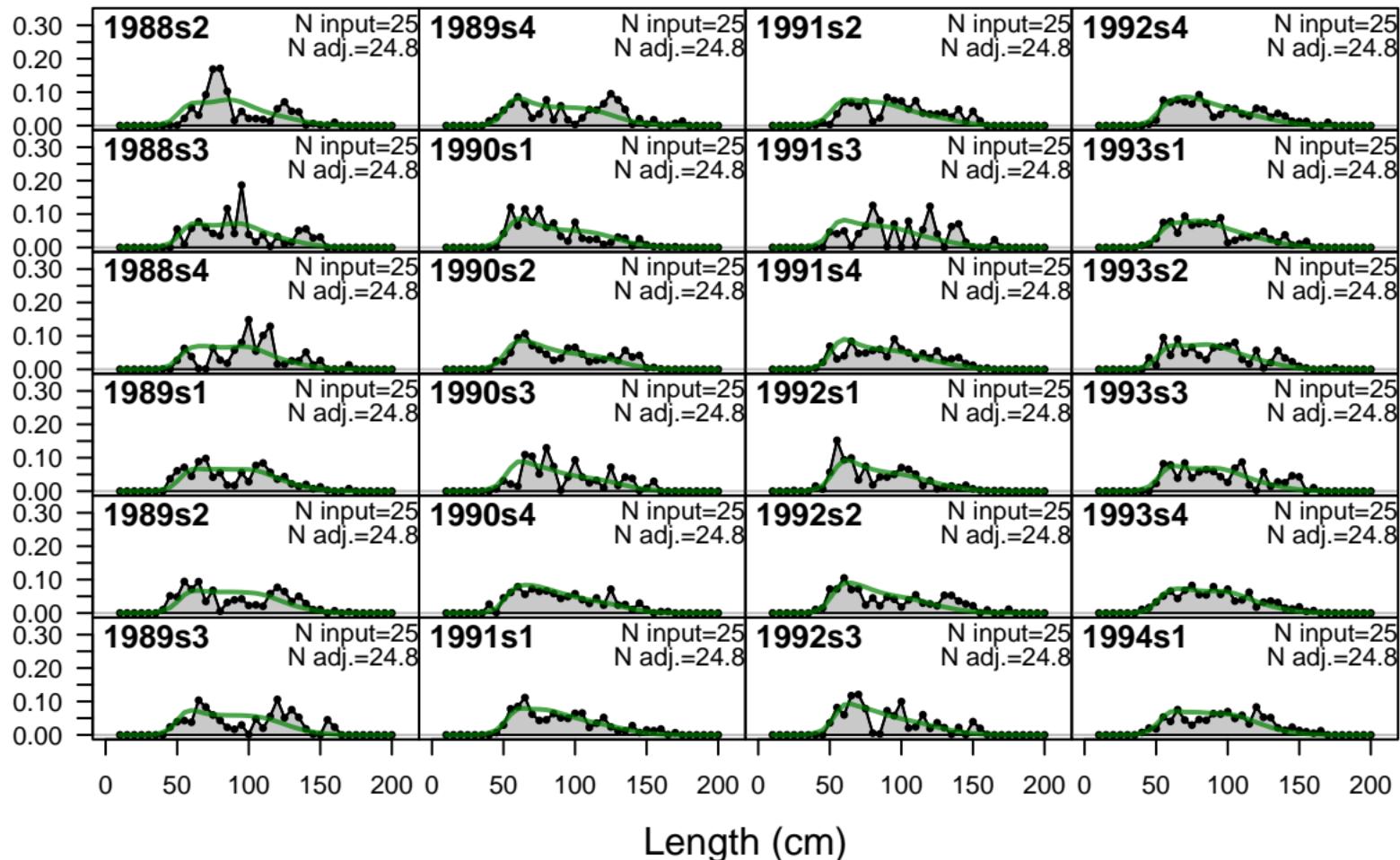
fishing_bb (whole catch)



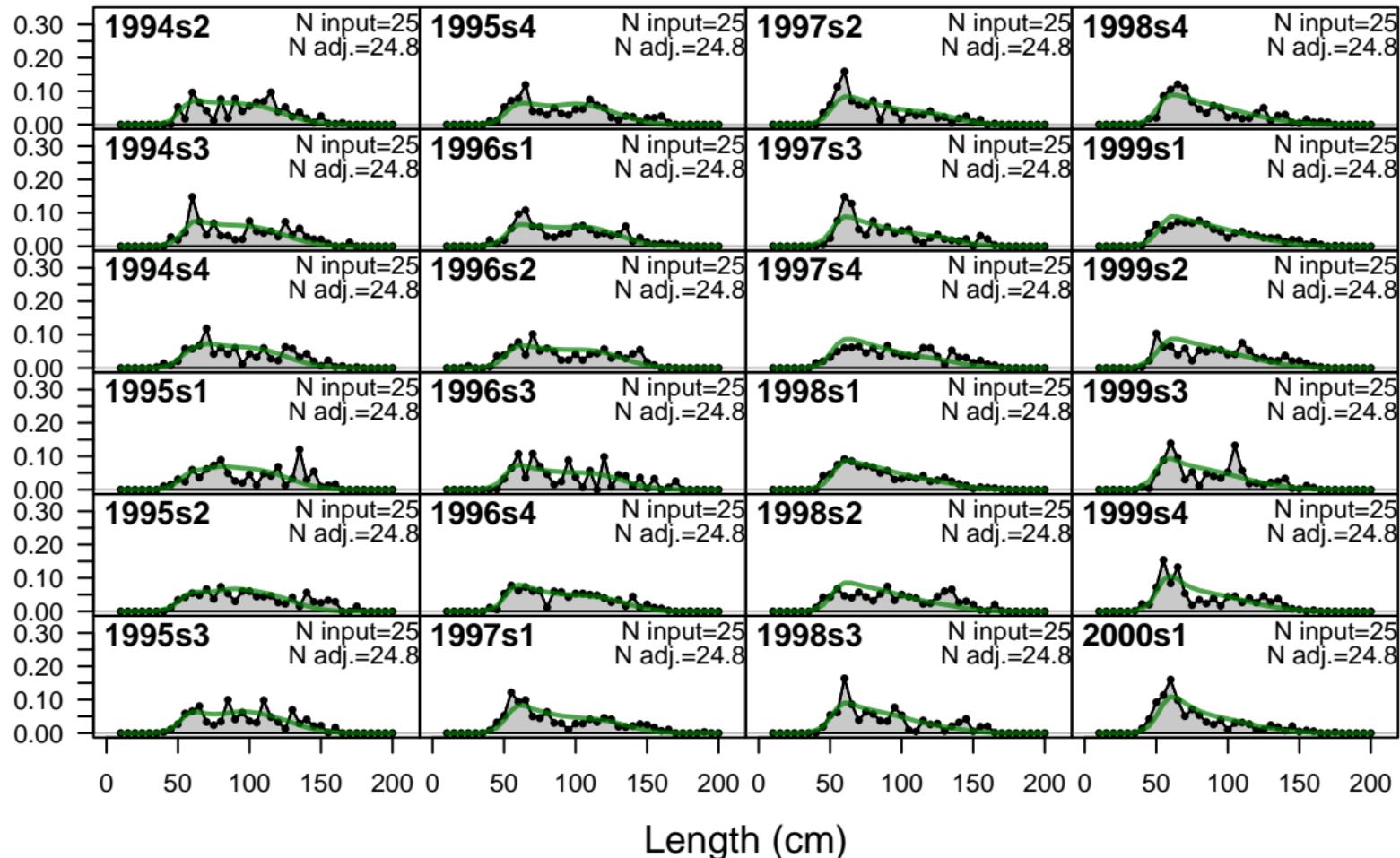
Proportion



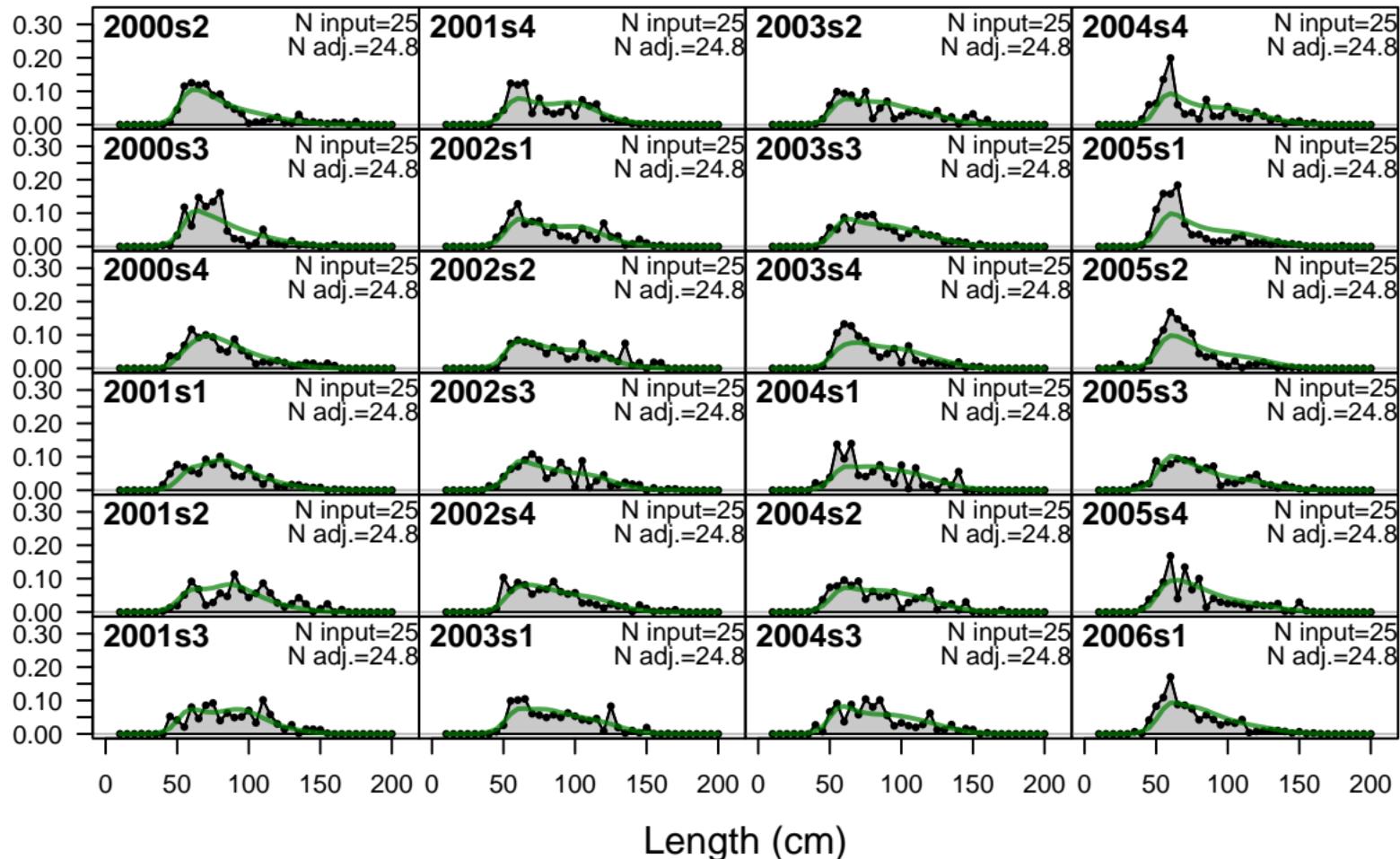
Proportion



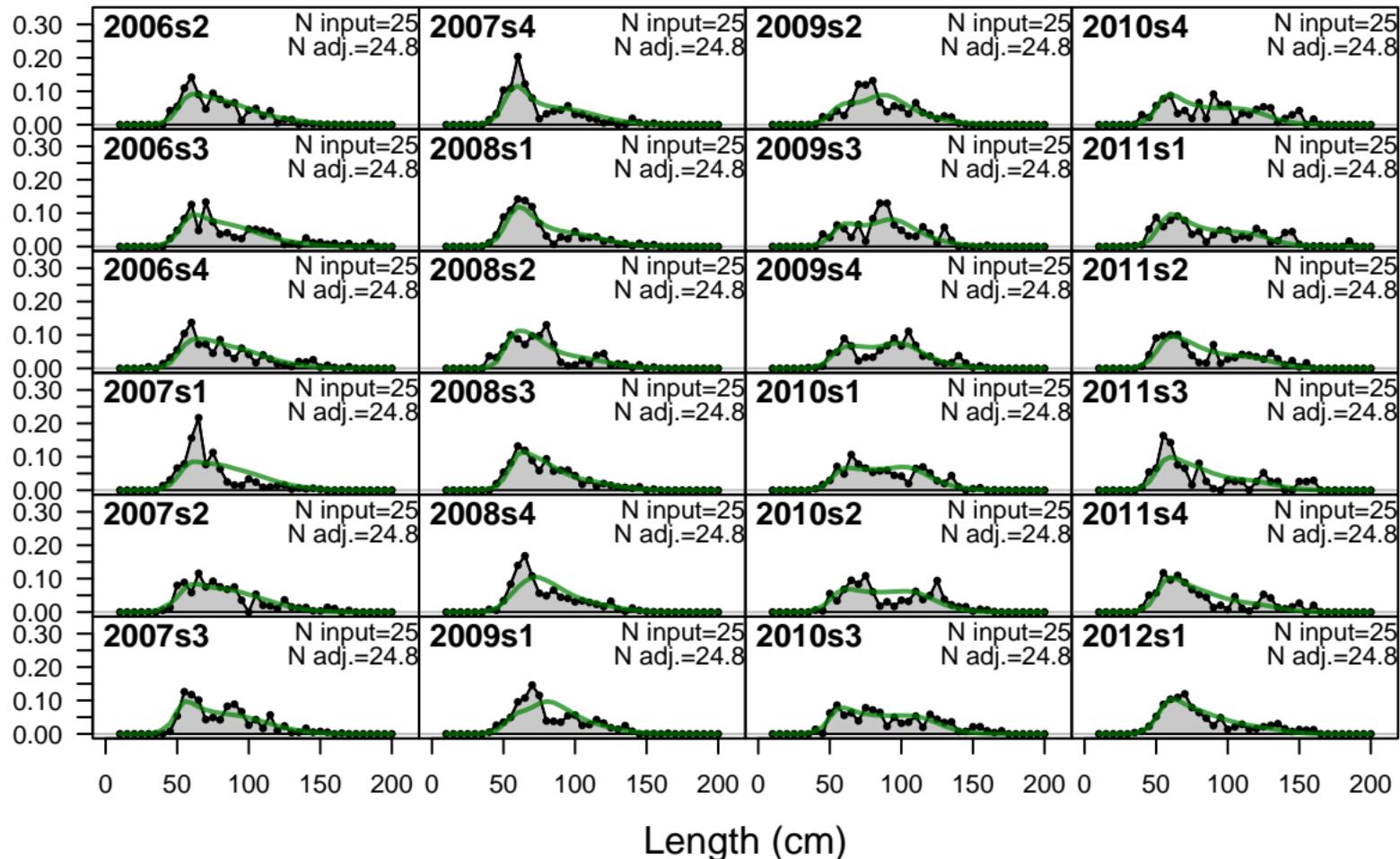
Proportion



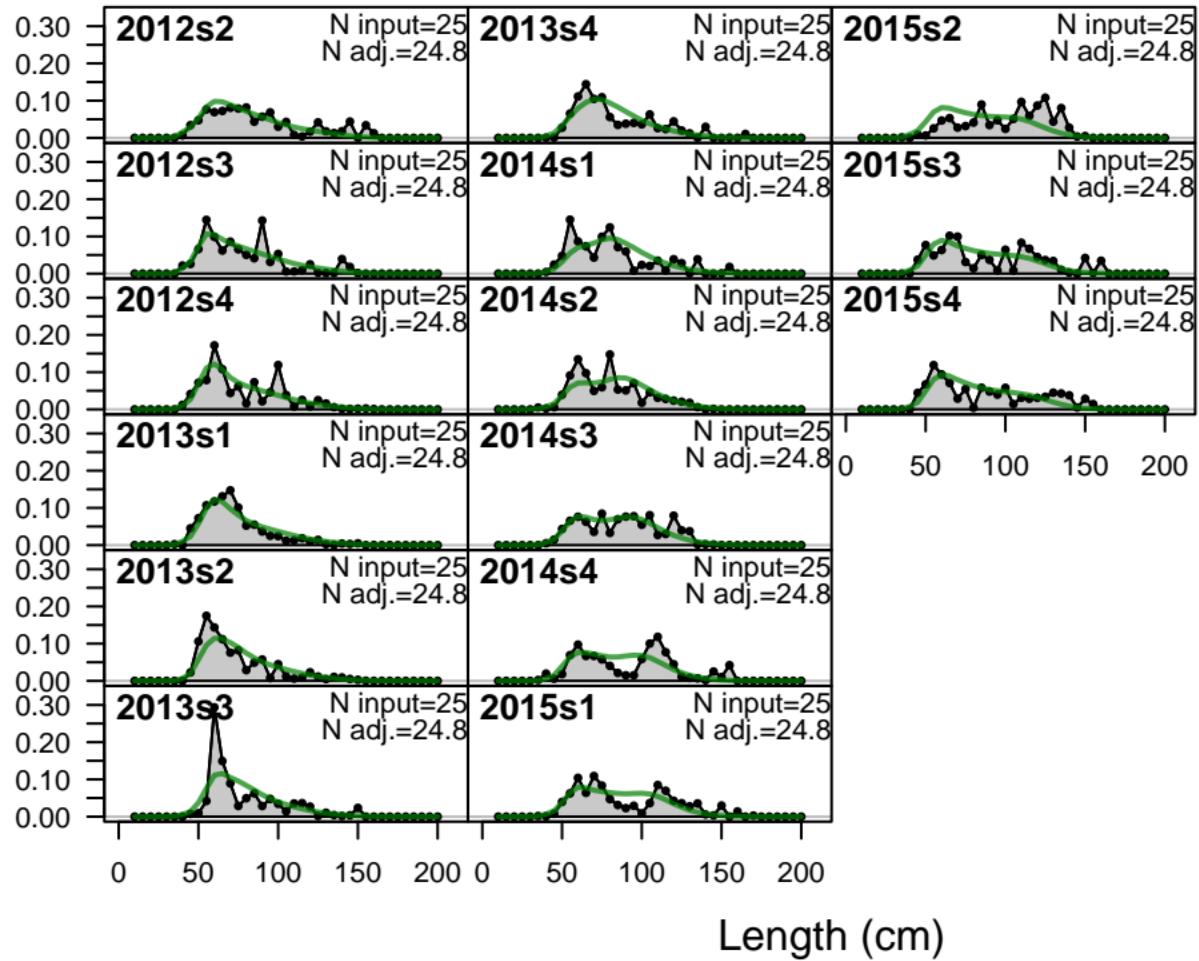
Proportion

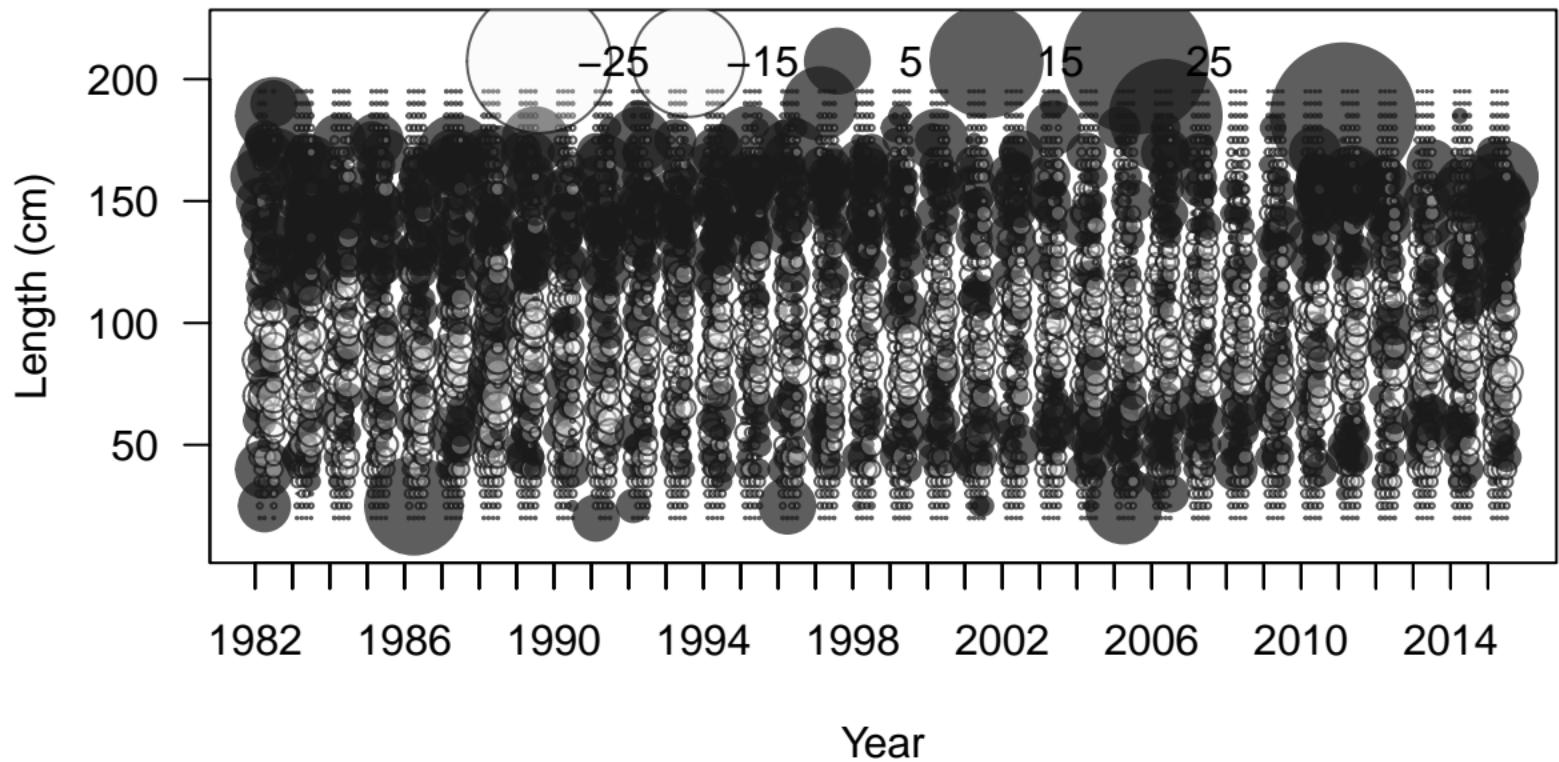


Proportion

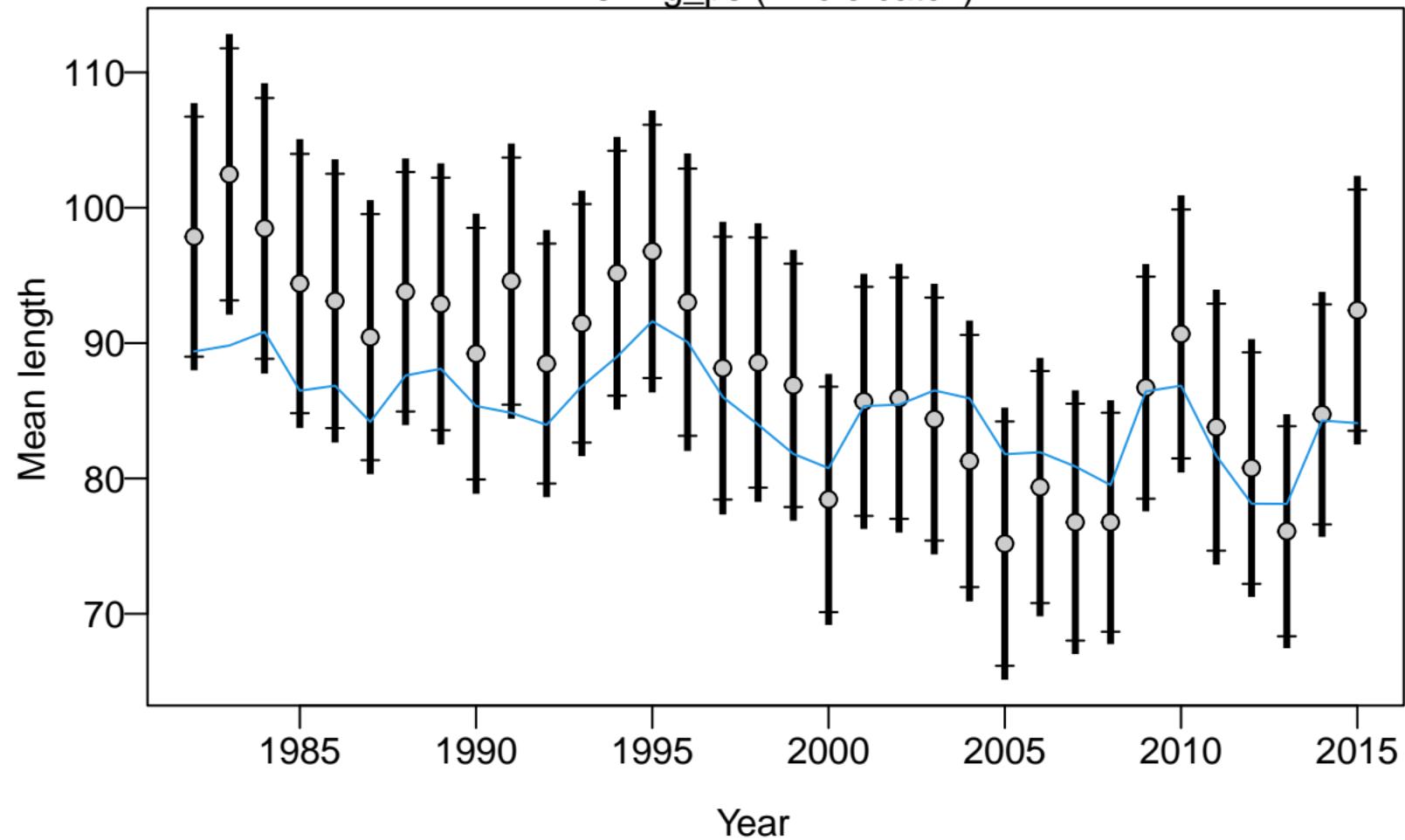


Proportion

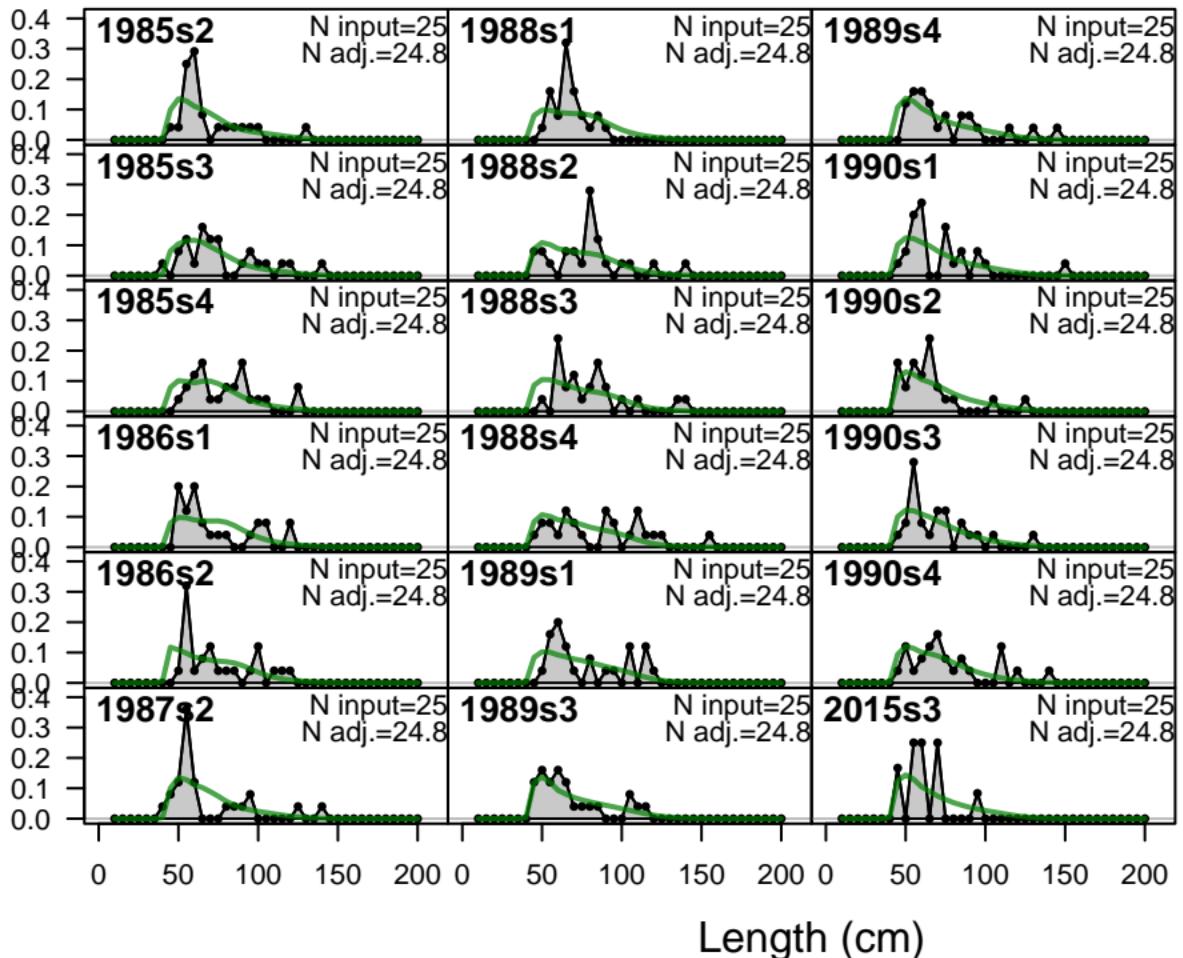


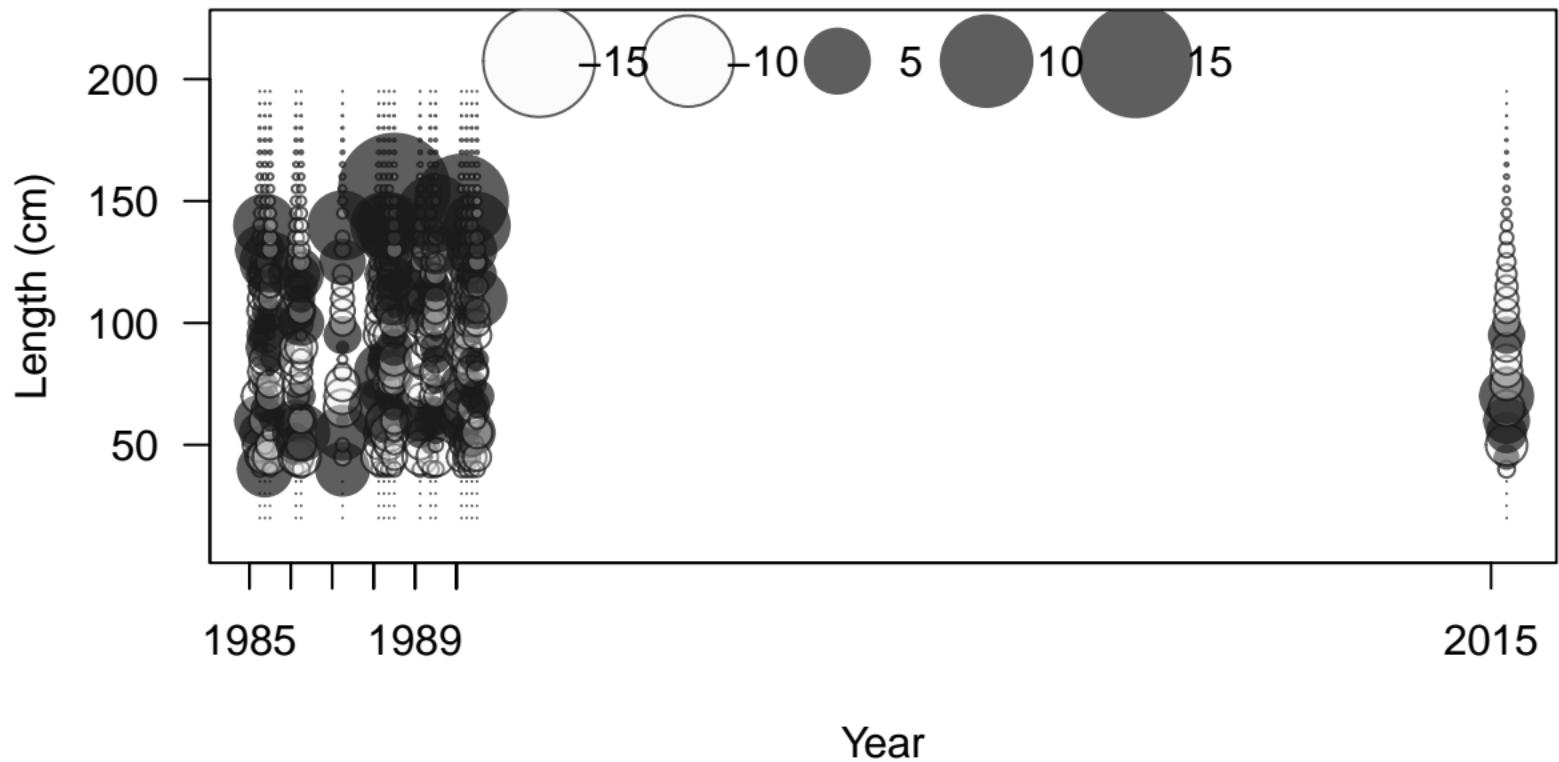


fishing_ps (whole catch)



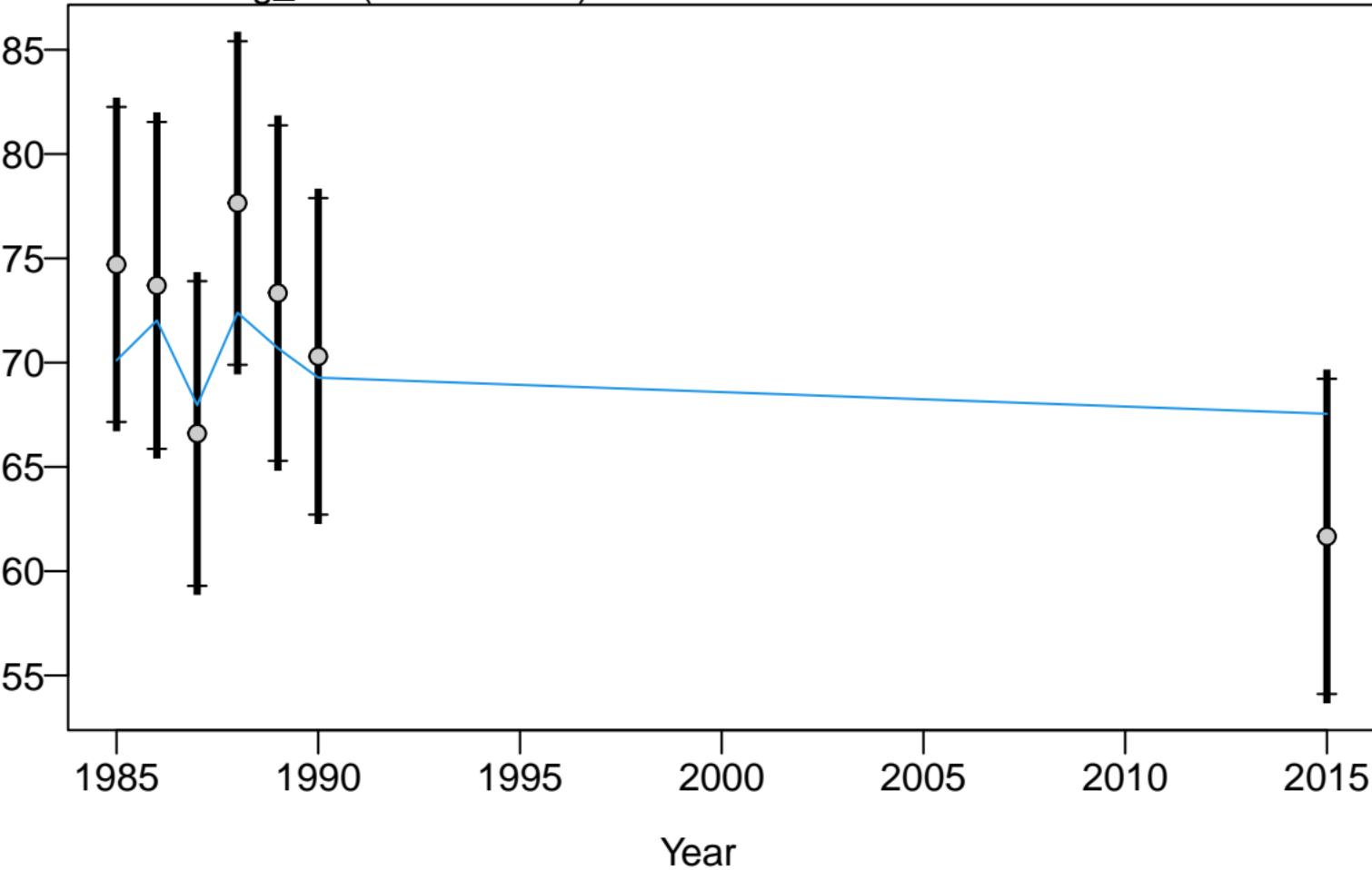
Proportion

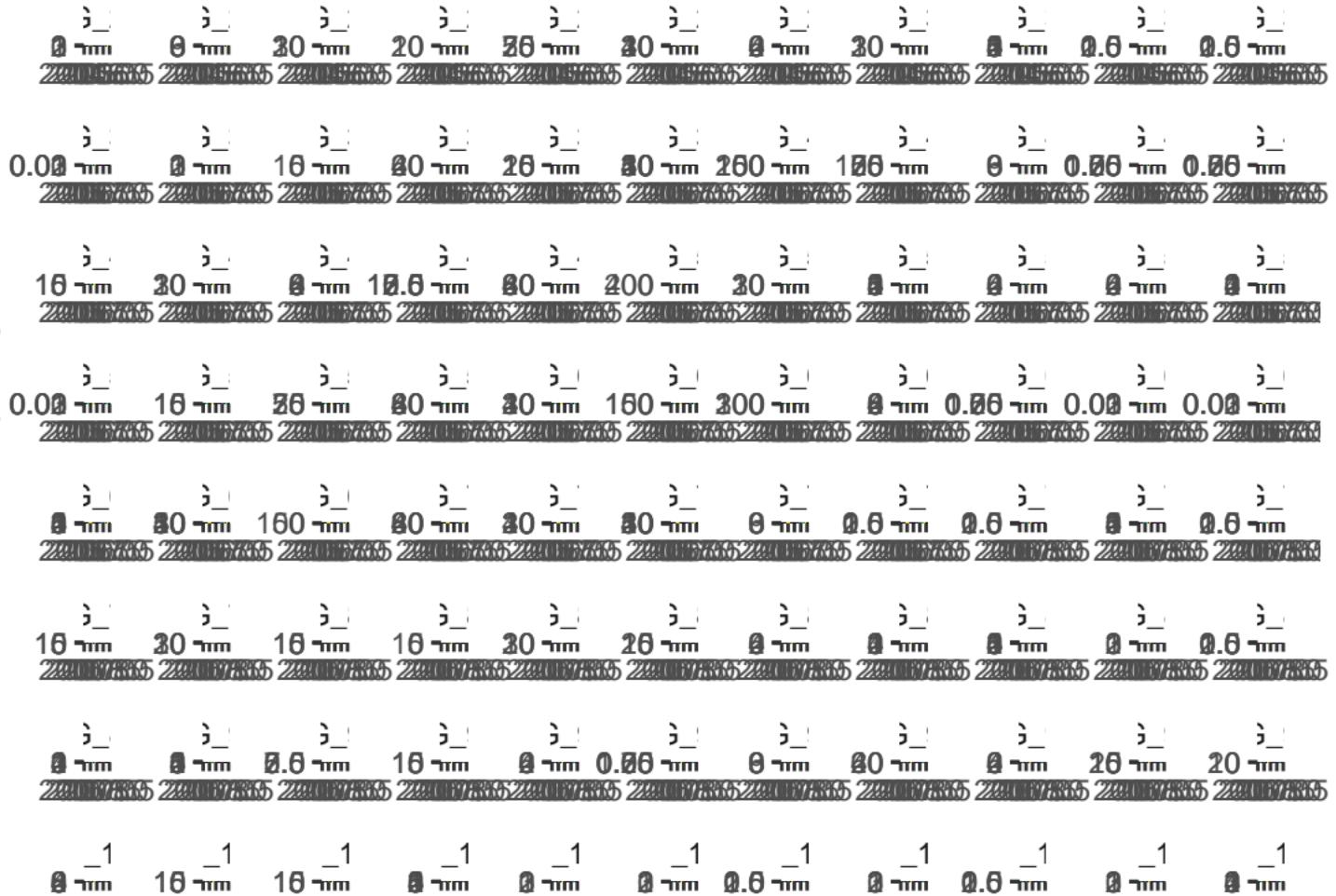
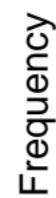




fishing_trol (whole catch)

Mean length

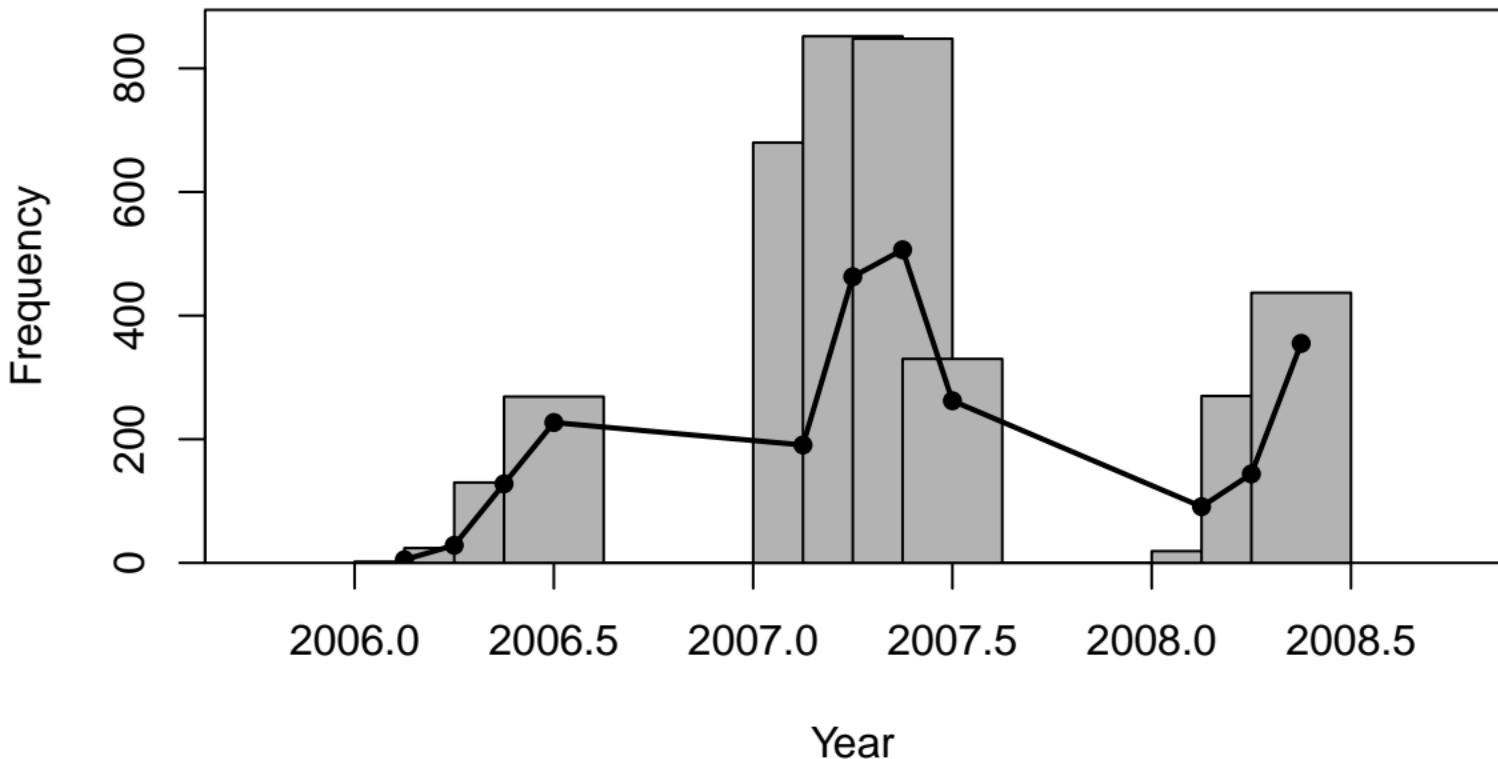




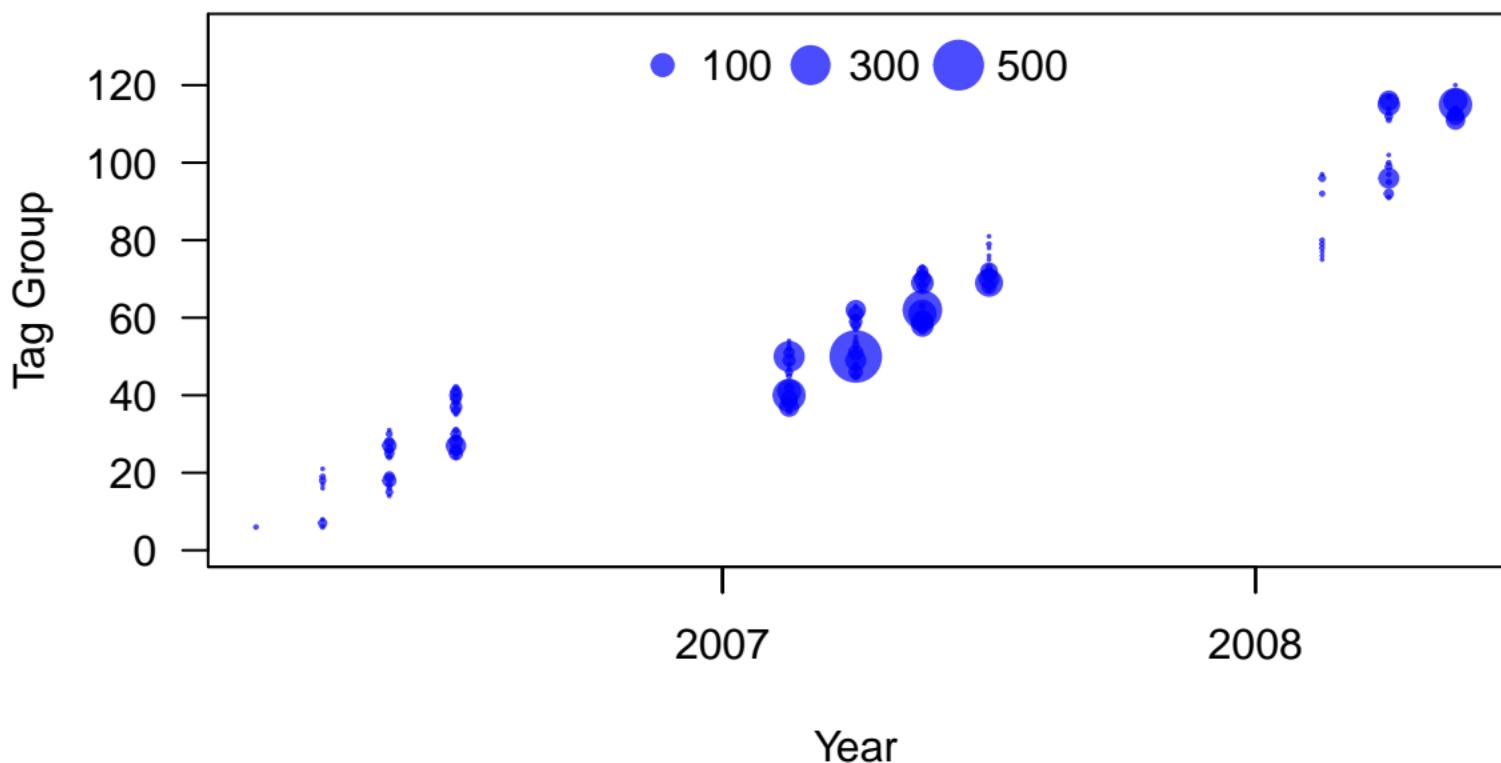
Season

- 1
 - 2
 - 3
 - 4

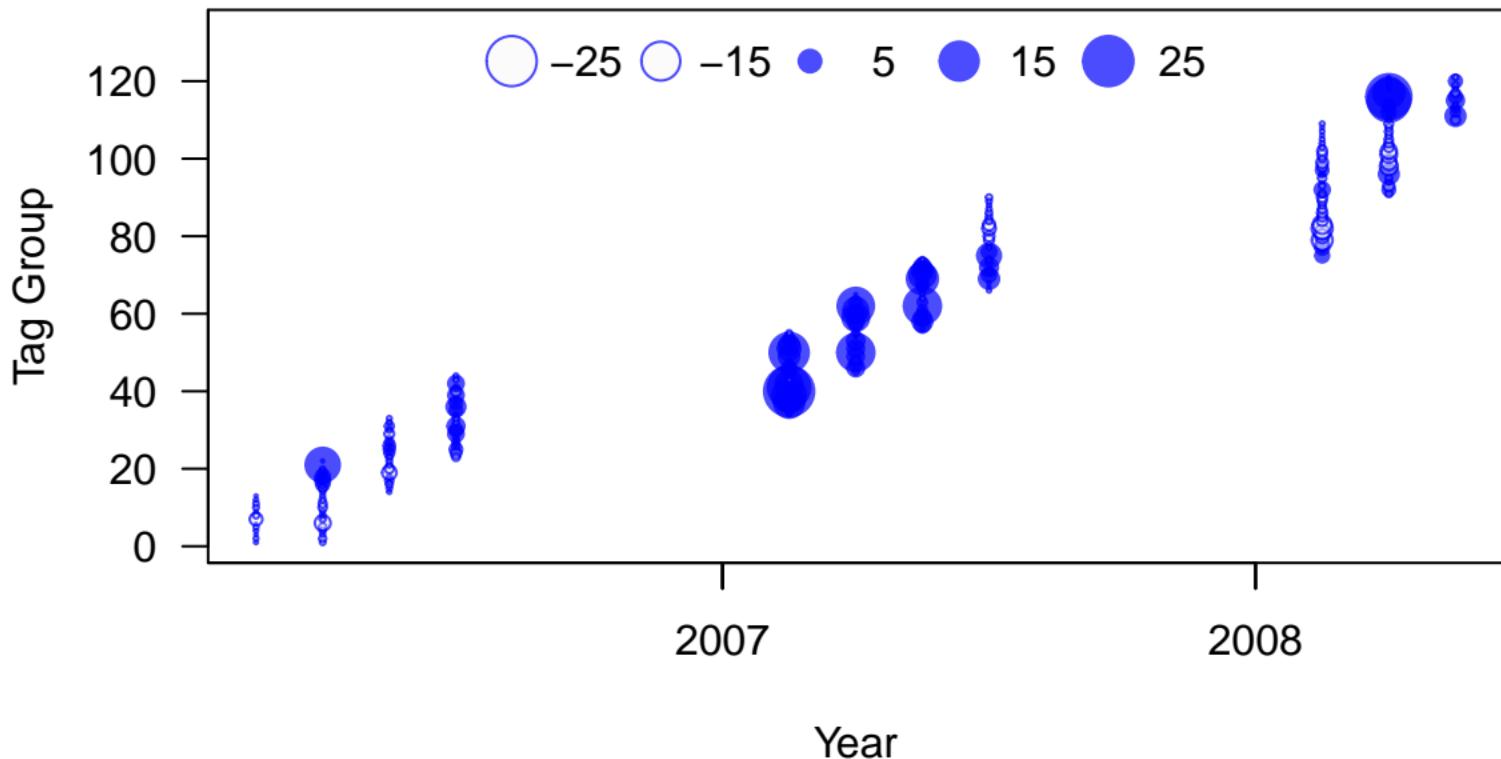
Post-latency tag recaptures aggregated across tag groups



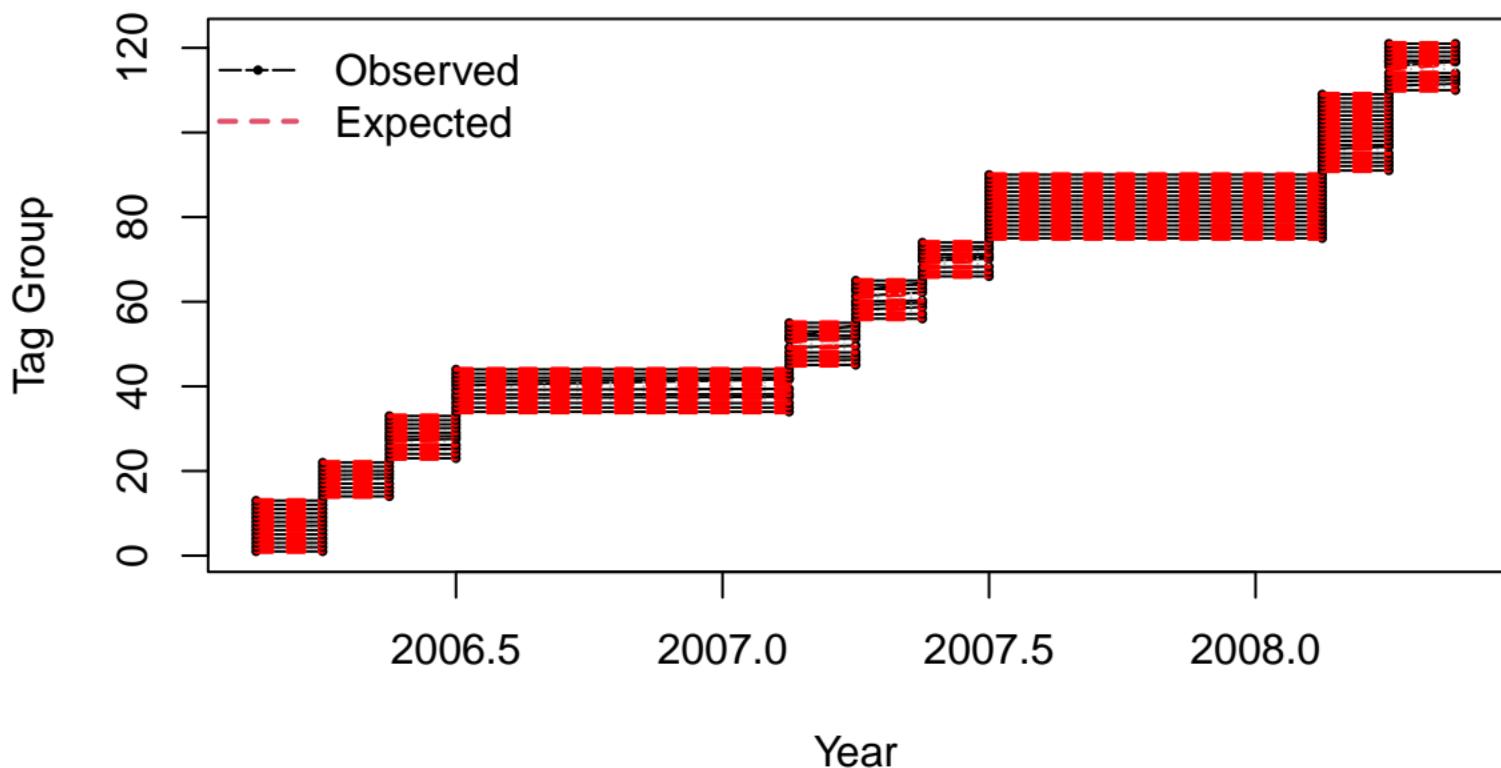
Observed tag recaptures by year and tag group



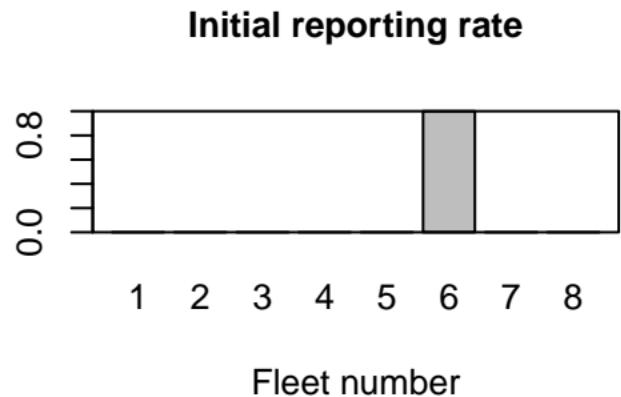
Residuals for post-latency tag recaptures: $(\text{obs}-\text{exp})/\sqrt{\text{exp}}$



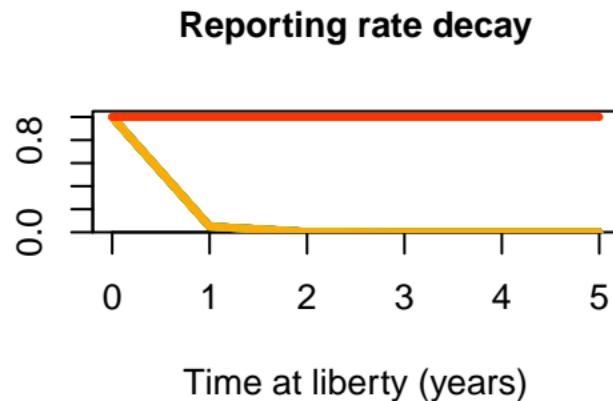
Observed and expected post-latency tag recaptures by year and tag group



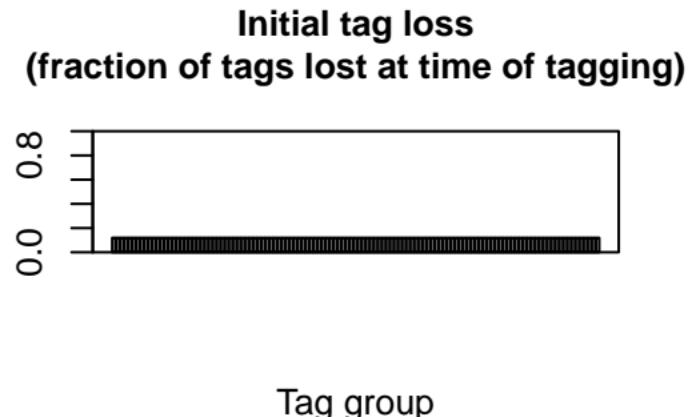
Reporting rate



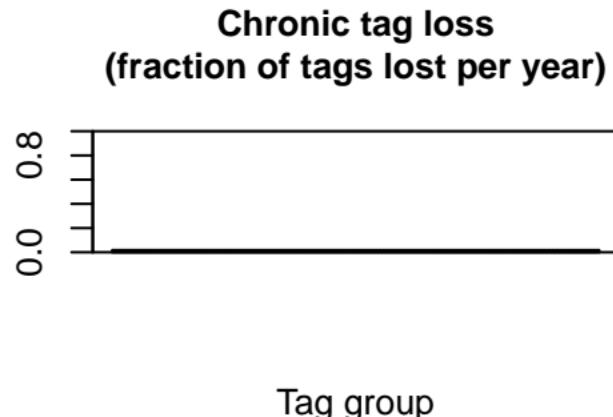
Reporting rate



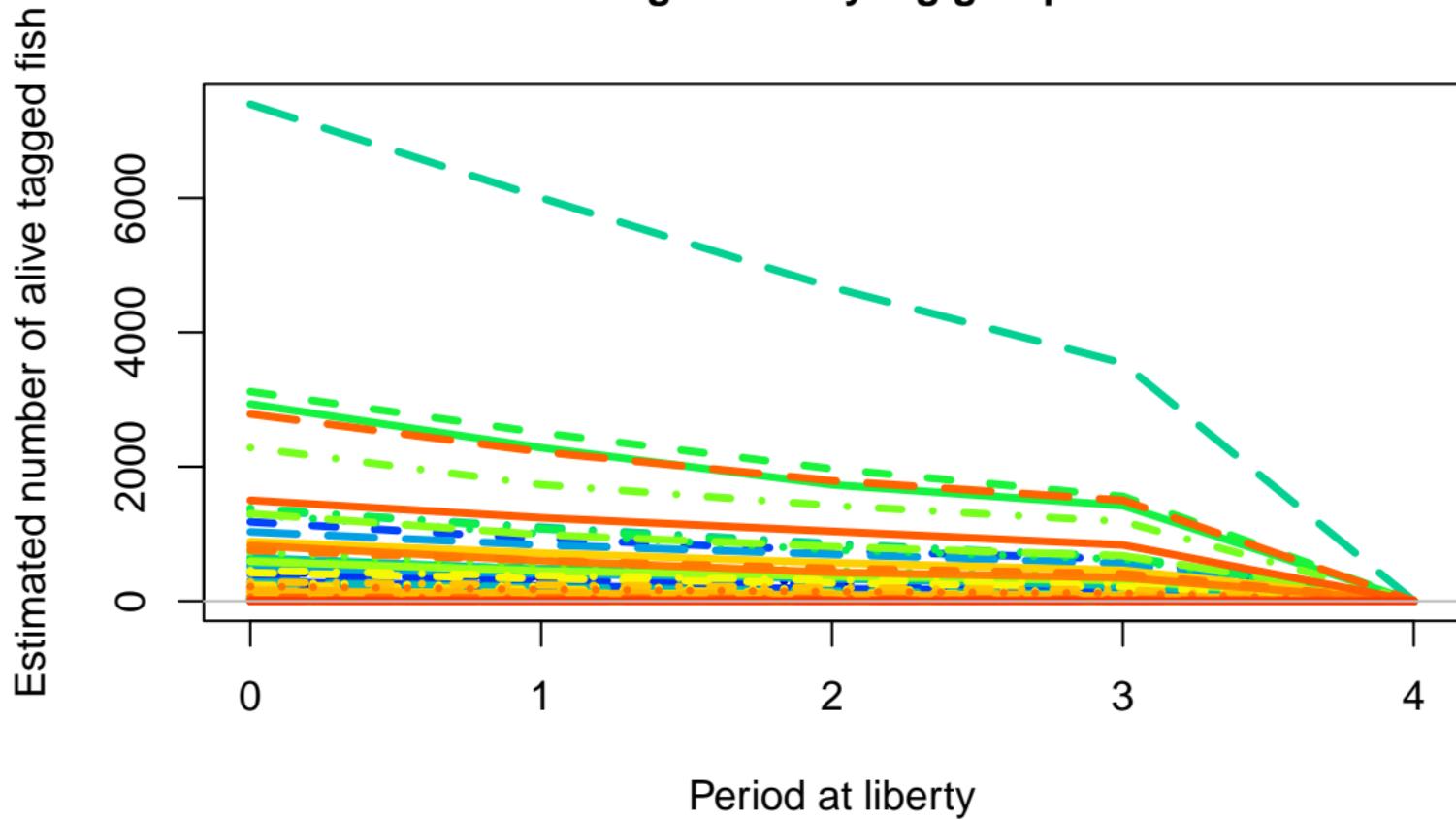
Initial tag loss



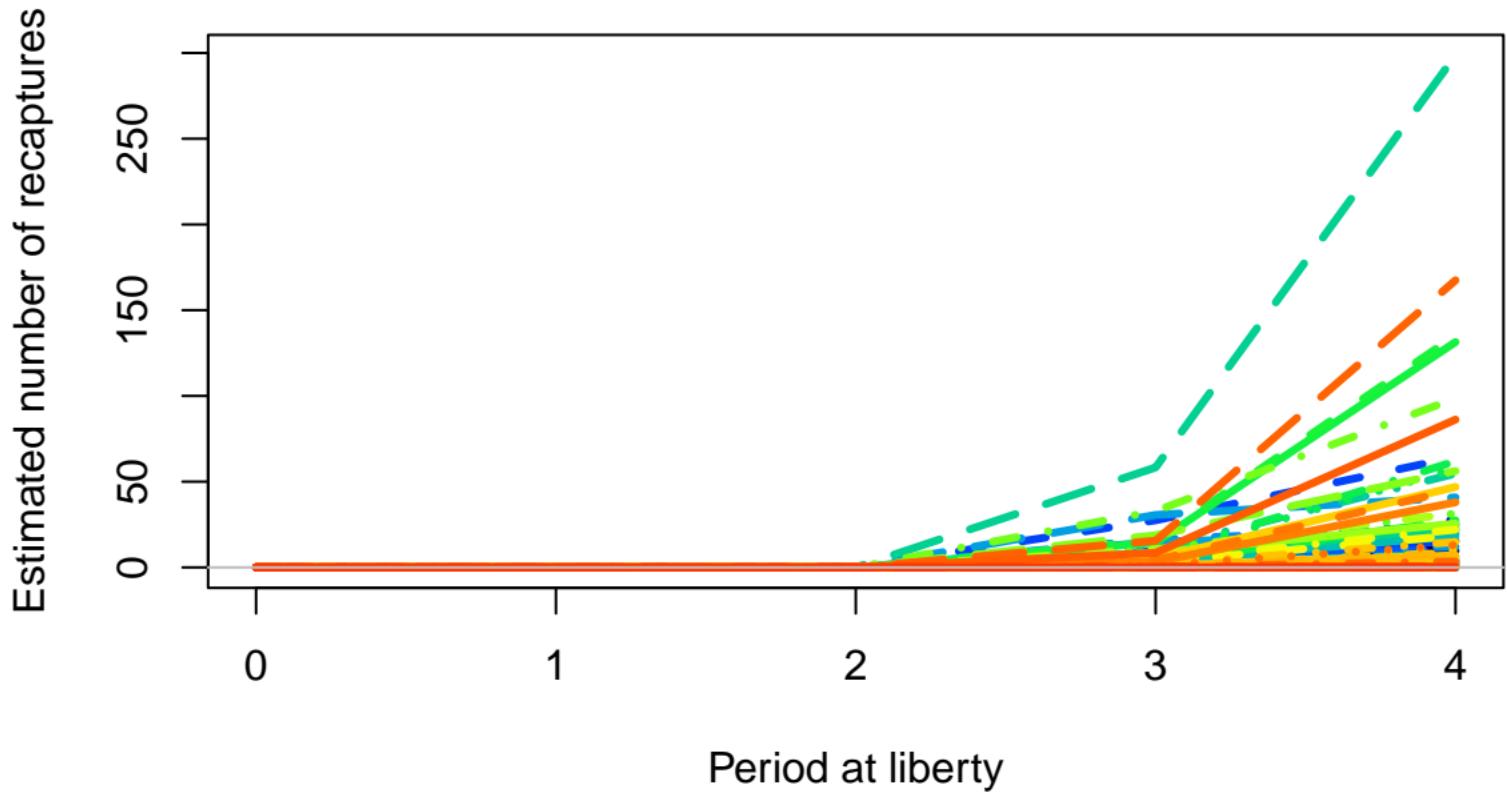
Chronic tag loss



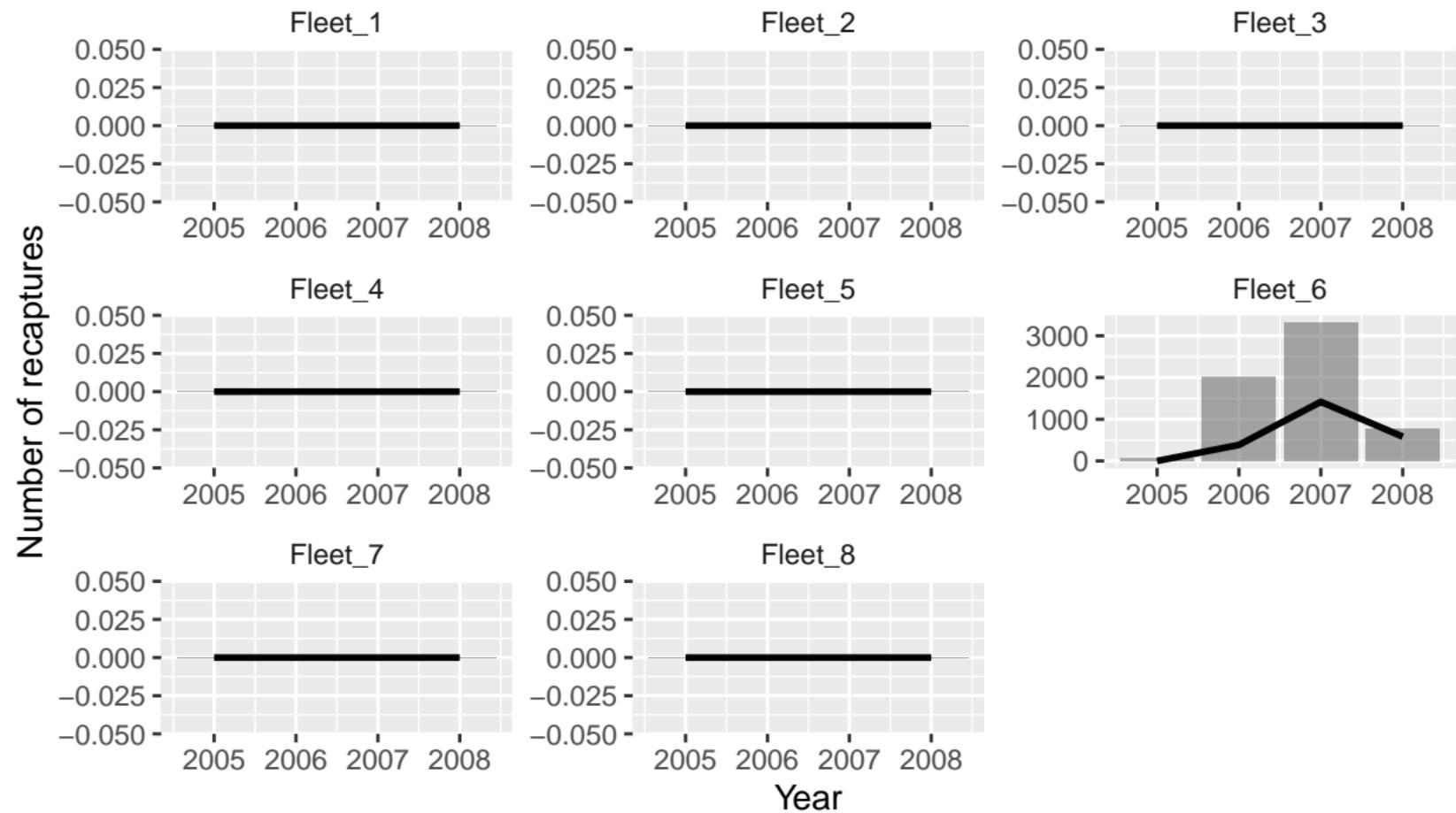
'Tags alive' by tag group

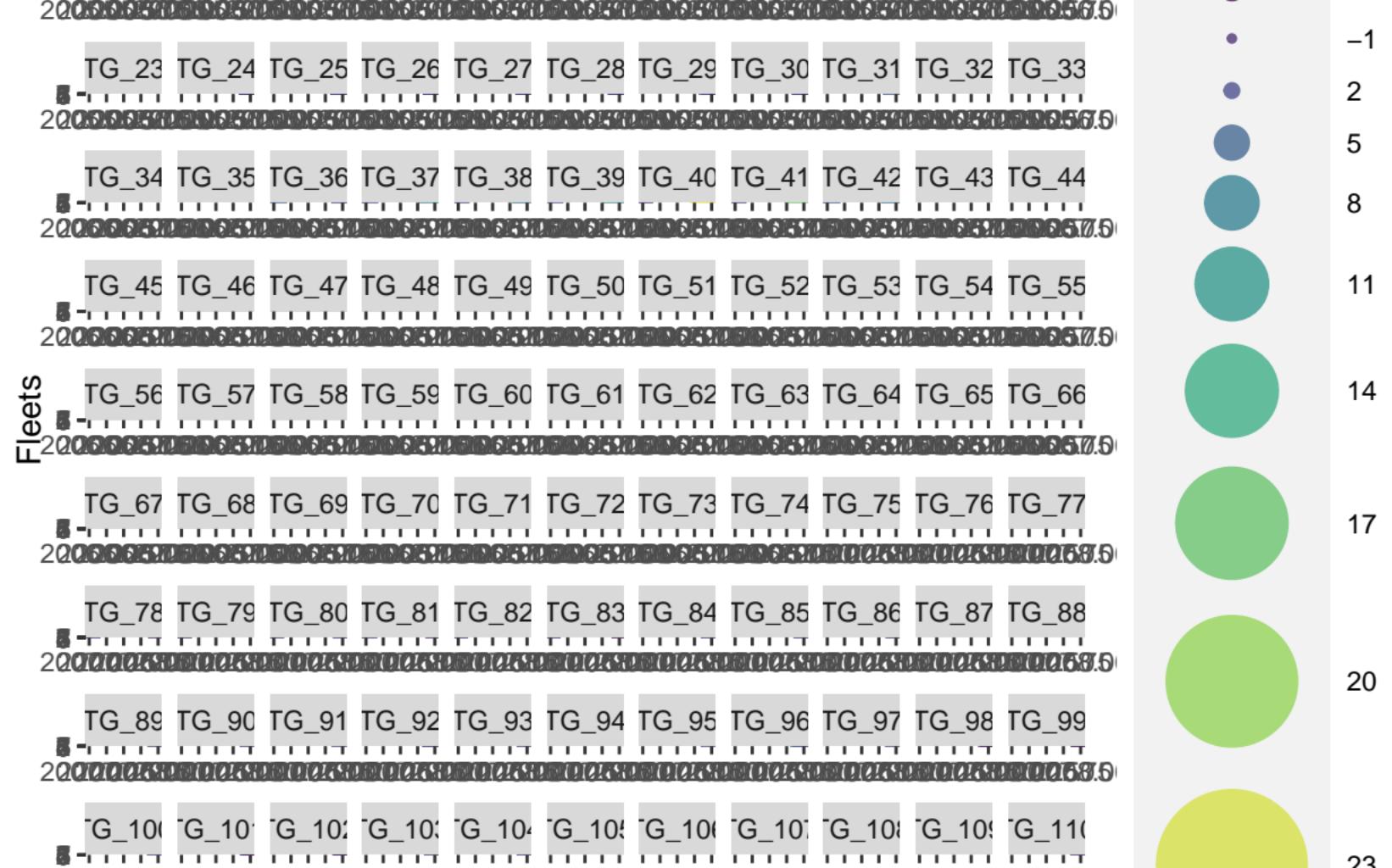


'Total recaptures' by tag group



Observed (bar) and expected (line)





Equilibrium yield (mt)

0e+00

4e+05

0.0

0.2

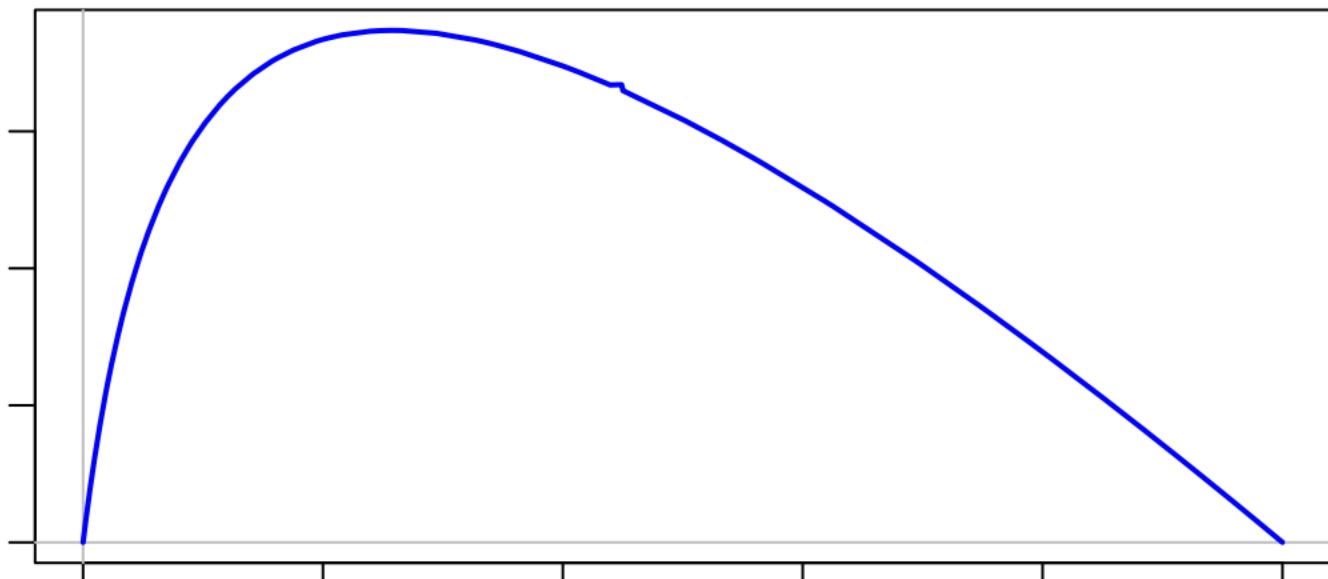
0.4

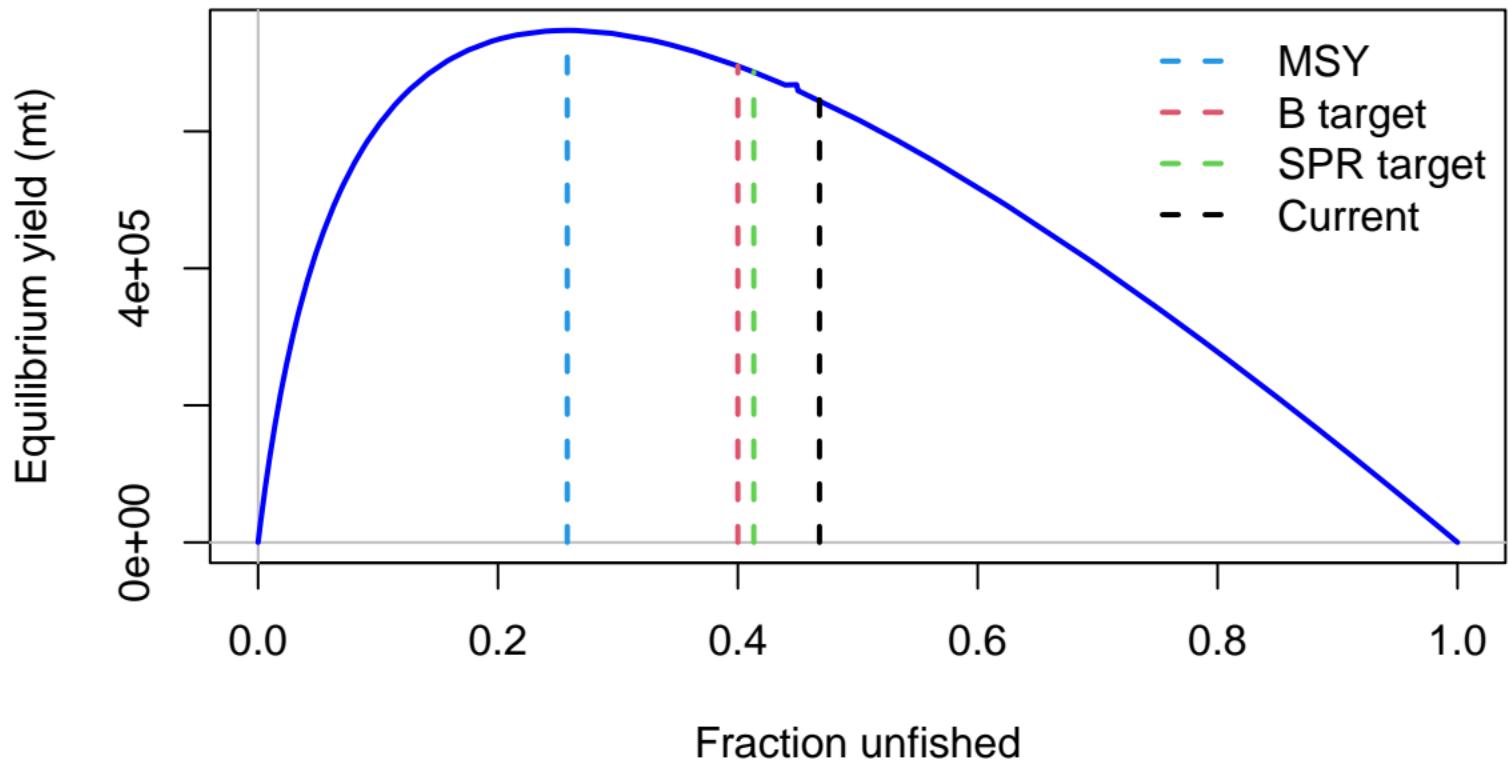
0.6

0.8

1.0

Fraction unfished



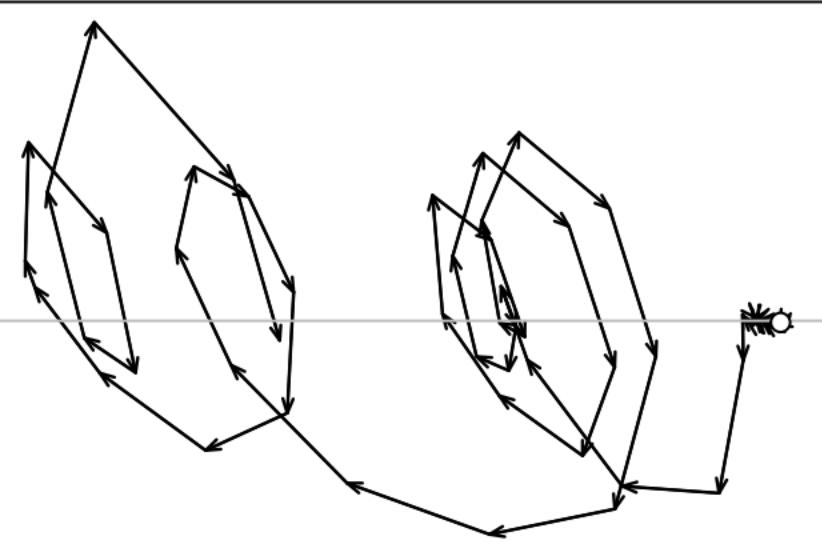


Surplus production (mt)

-2e+06 0e+00 2e+06

0.0e+00 5.0e+06 1.0e+07 1.5e+07 2.0e+07

Total biomass (mt)

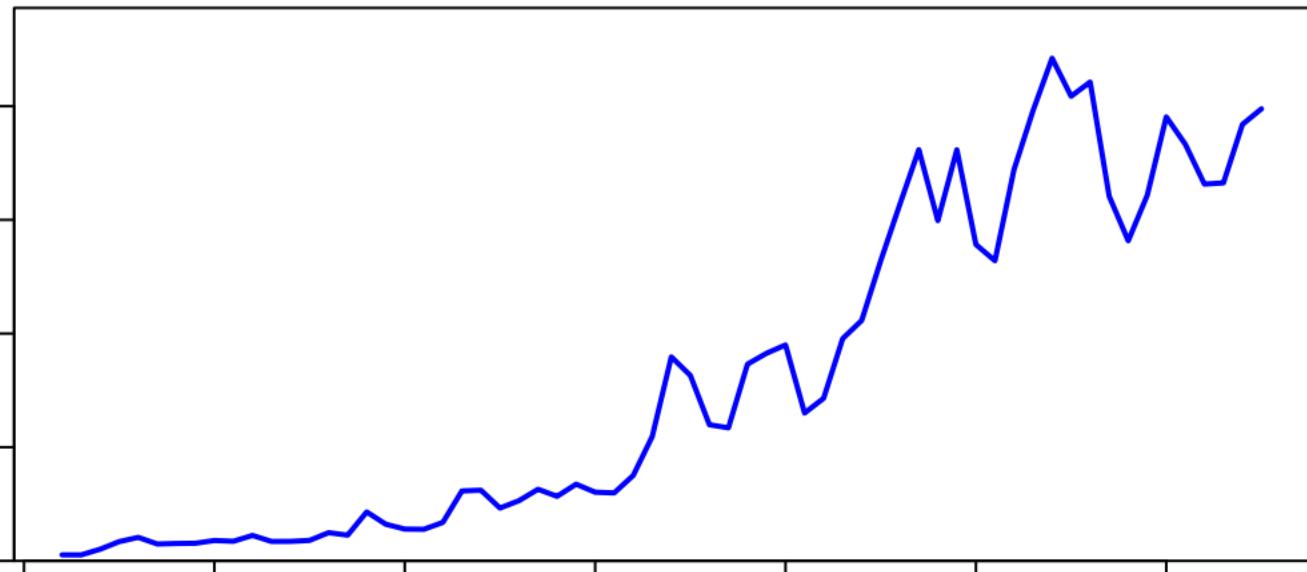


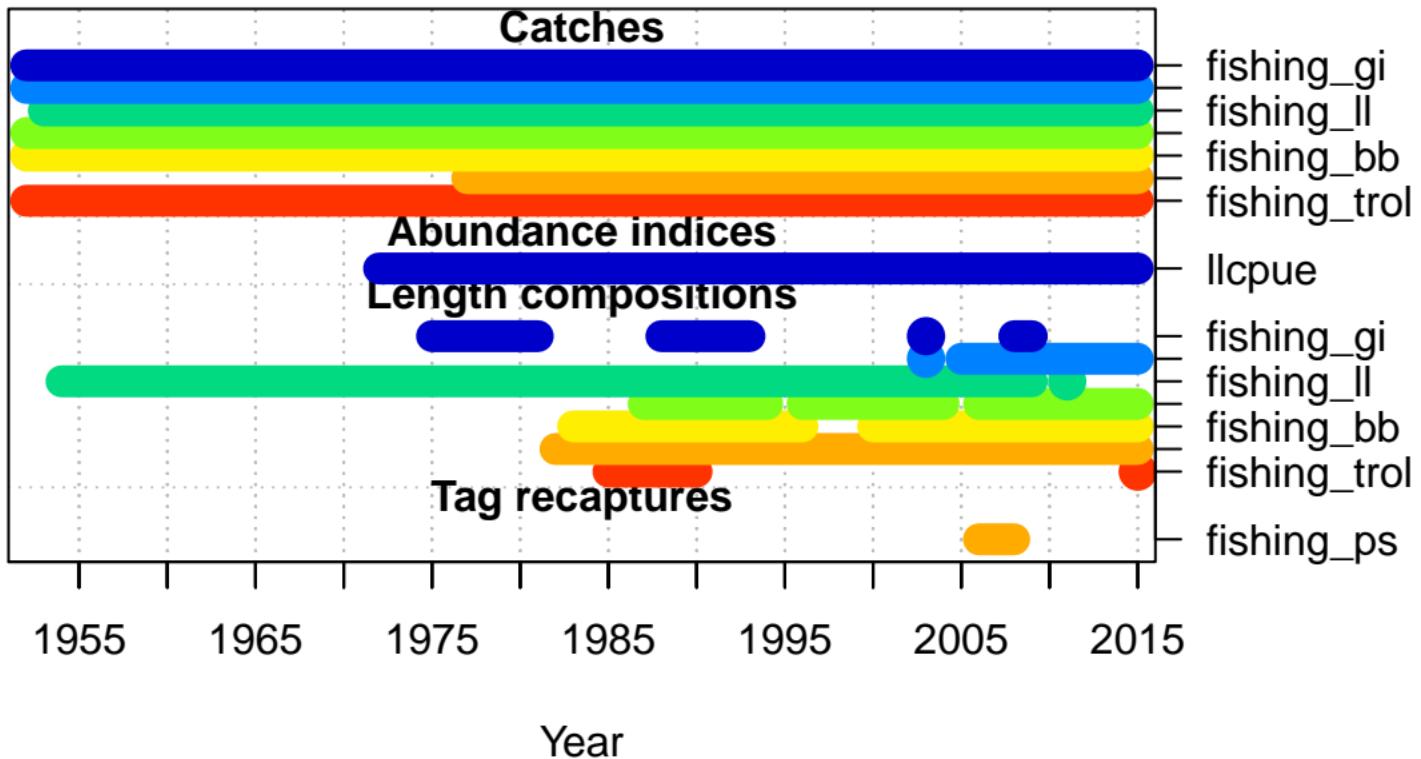
Yield per recruit (kg)

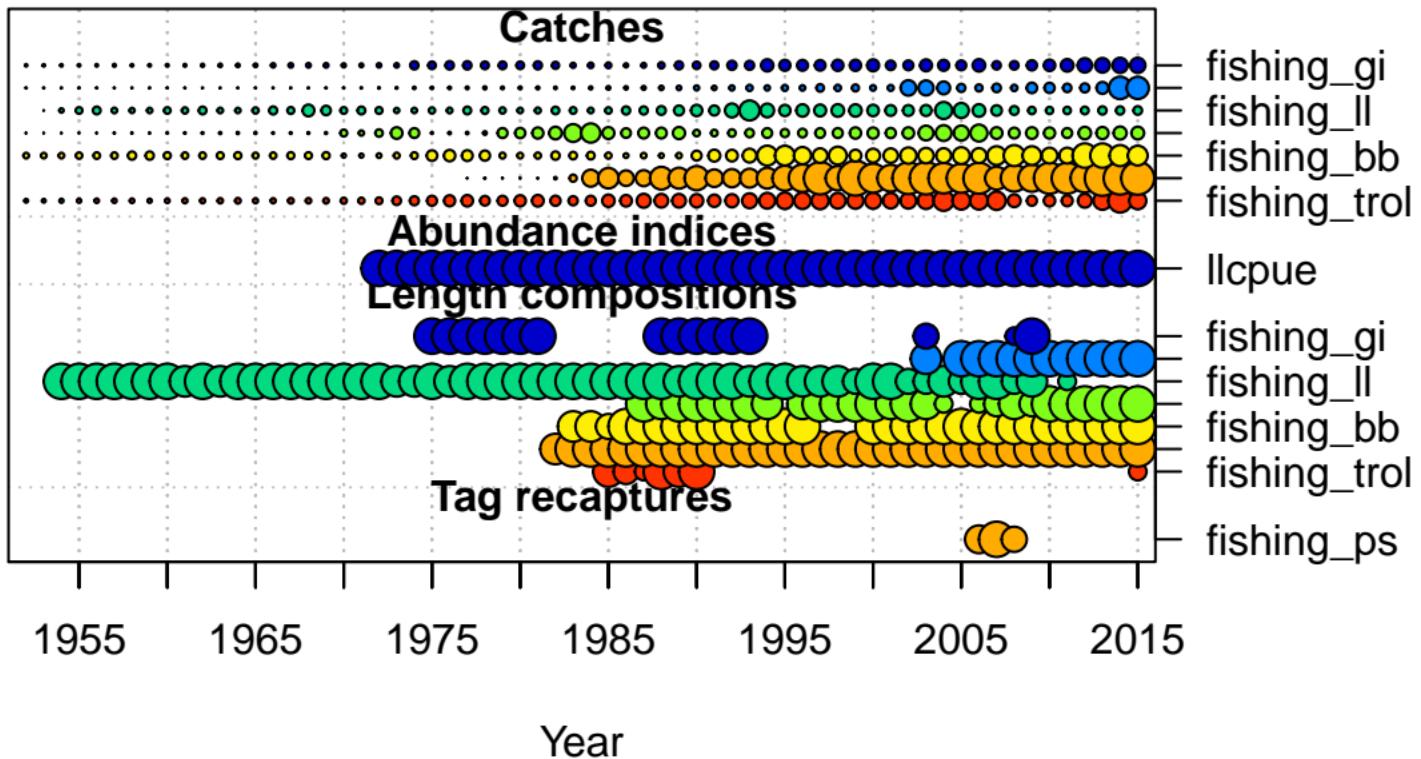
2.0
1.5
1.0
0.5
0.0

1950 1960 1970 1980 1990 2000 2010

Year

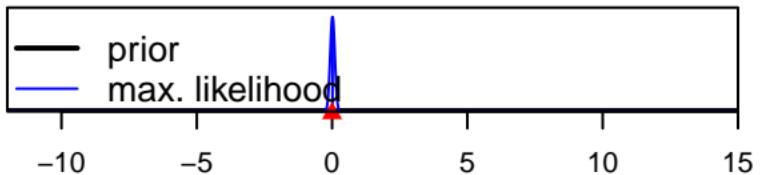




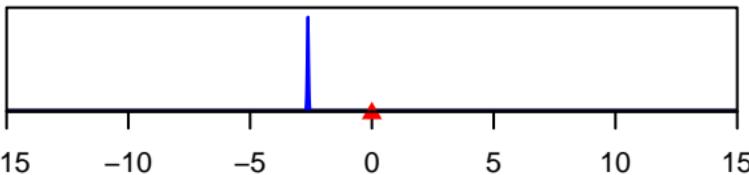


Density

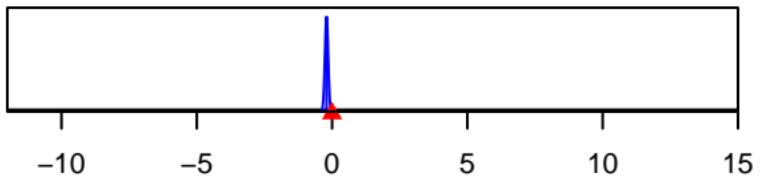
RecrDist_GP_1_area_1_month_4



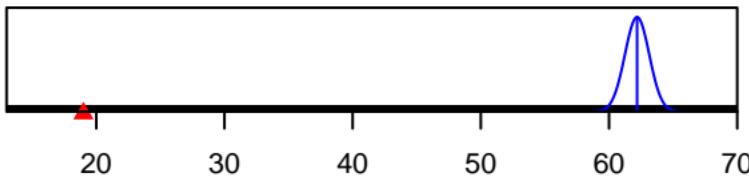
LnQ_base_llcpue(8)



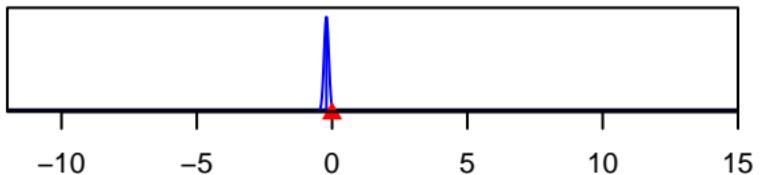
RecrDist_GP_1_area_1_month_7



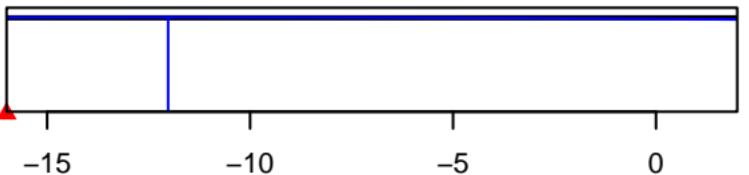
Size_DblIN_peak_fishing_gi(1)



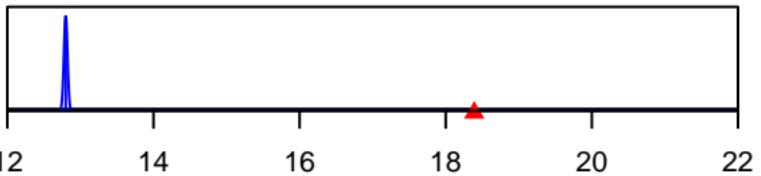
RecrDist_GP_1_area_1_month_10



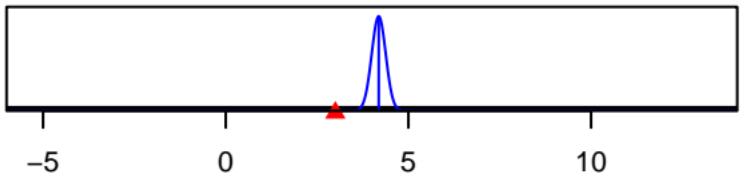
Size_DblIN_top_logit_fishing_gi(1)



SR_LN(R0)



Size_DblIN_ascend_se_fishing_gi(1)



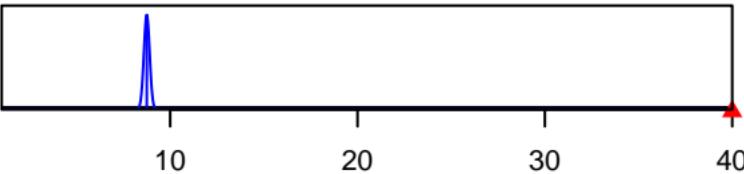
Parameter value

Density

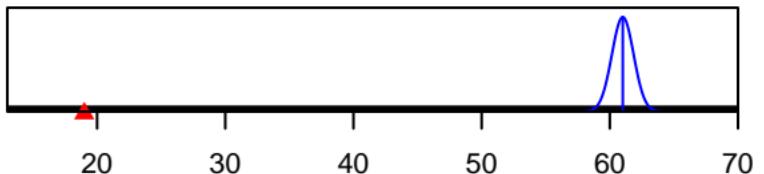
Size_DblN_descend_se_fishing_gi(1)



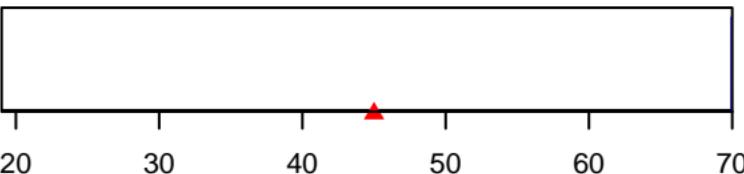
Size_DblN_descend_se_fishing_hd(2)



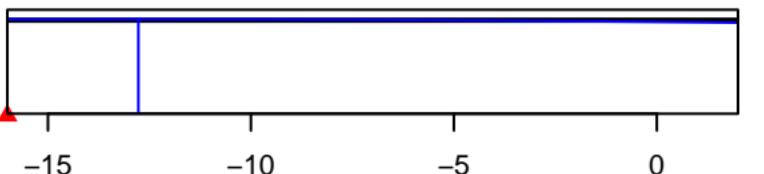
Size_DblN_peak_fishing_hd(2)



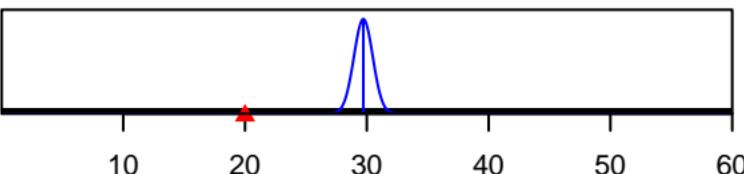
Size_inflection_fishing_ll(3)



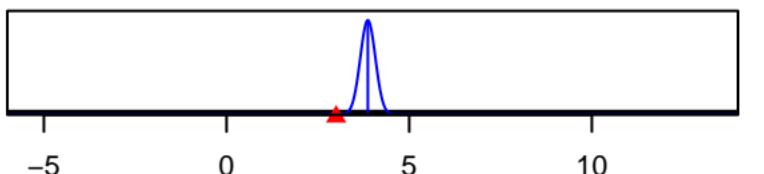
Size_DblN_top_logit_fishing_hd(2)



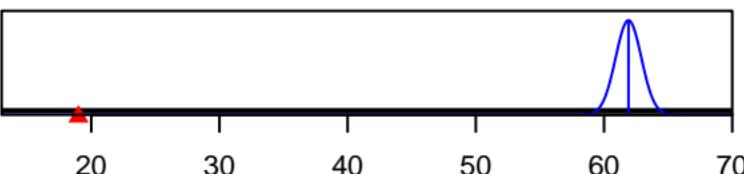
Size_95%width_fishing_ll(3)



Size_DblN_ascend_se_fishing_hd(2)



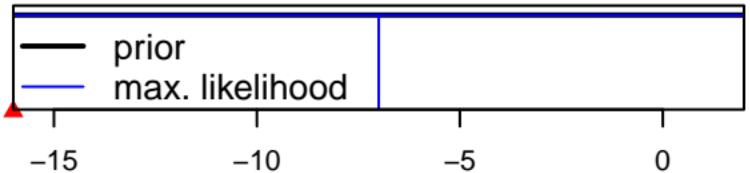
Size_DblN_peak_fishing_other(4)



Parameter value

Density

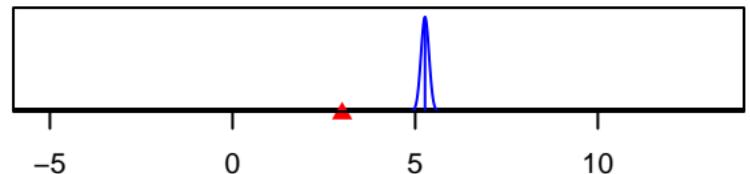
Size_DbIN_top_logit_fishing_other(4)



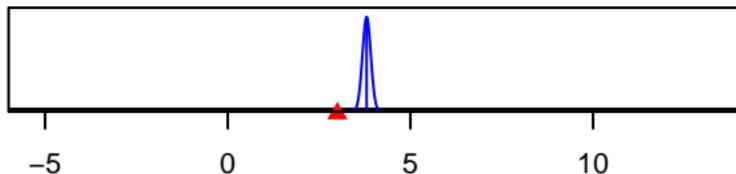
Size_DbIN_top_logit_fishing_bb(5)



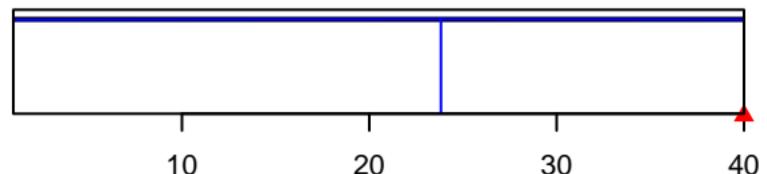
Size_DbIN_ascend_se_fishing_other(4)



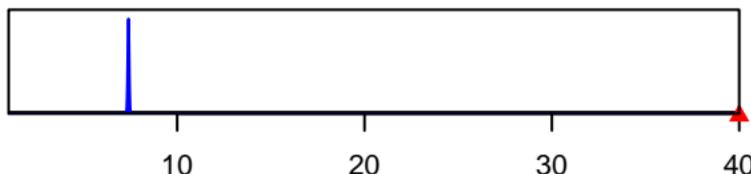
Size_DbIN_ascend_se_fishing_bb(5)



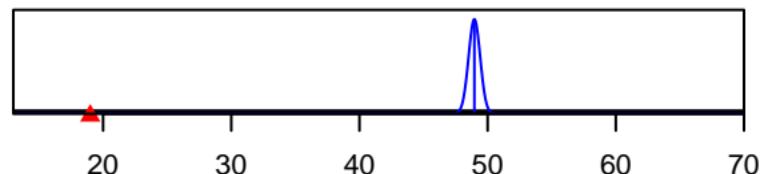
Size_DbIN_descend_se_fishing_other(4)



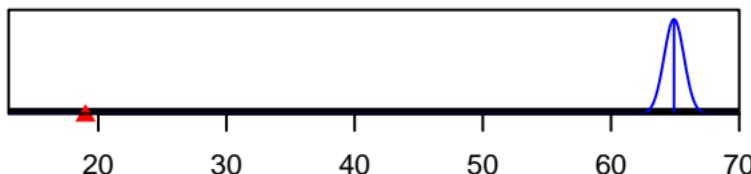
Size_DbIN_descend_se_fishing_bb(5)



Size_DbIN_peak_fishing_bb(5)



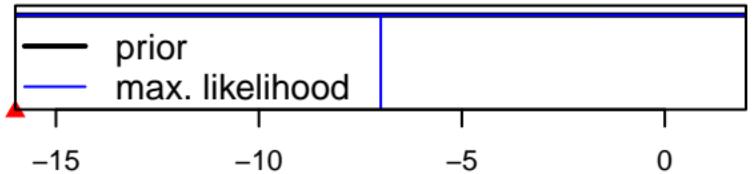
Size_DbIN_peak_fishing_ps(6)



Parameter value

Density

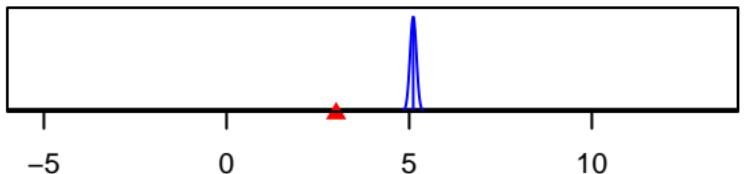
Size_DbIN_top_logit_fishing_ps(6)



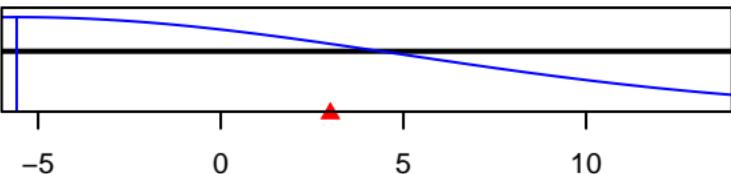
Size_DbIN_top_logit_fishing_trol(7)



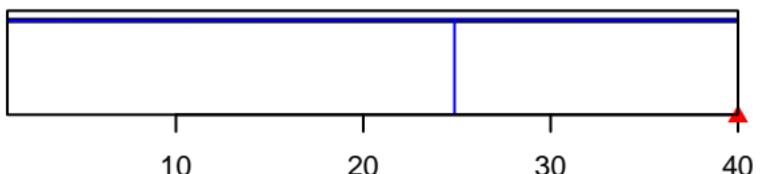
Size_DbIN_ascend_se_fishing_ps(6)



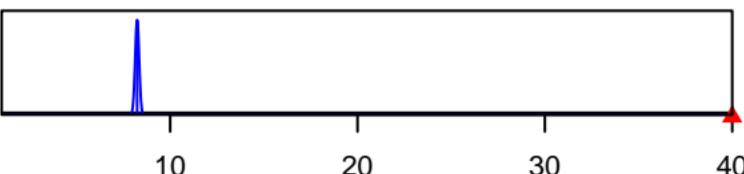
Size_DbIN_ascend_se_fishing_trol(7)



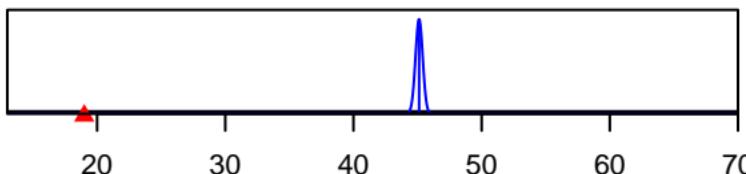
Size_DbIN_descend_se_fishing_ps(6)



Size_DbIN_descend_se_fishing_trol(7)



Size_DbIN_peak_fishing_trol(7)



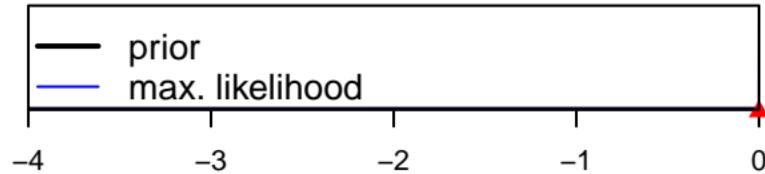
TG_report_fleet:_6



Parameter value

TG_rpt_decay_fleet:_6

Density



Parameter value