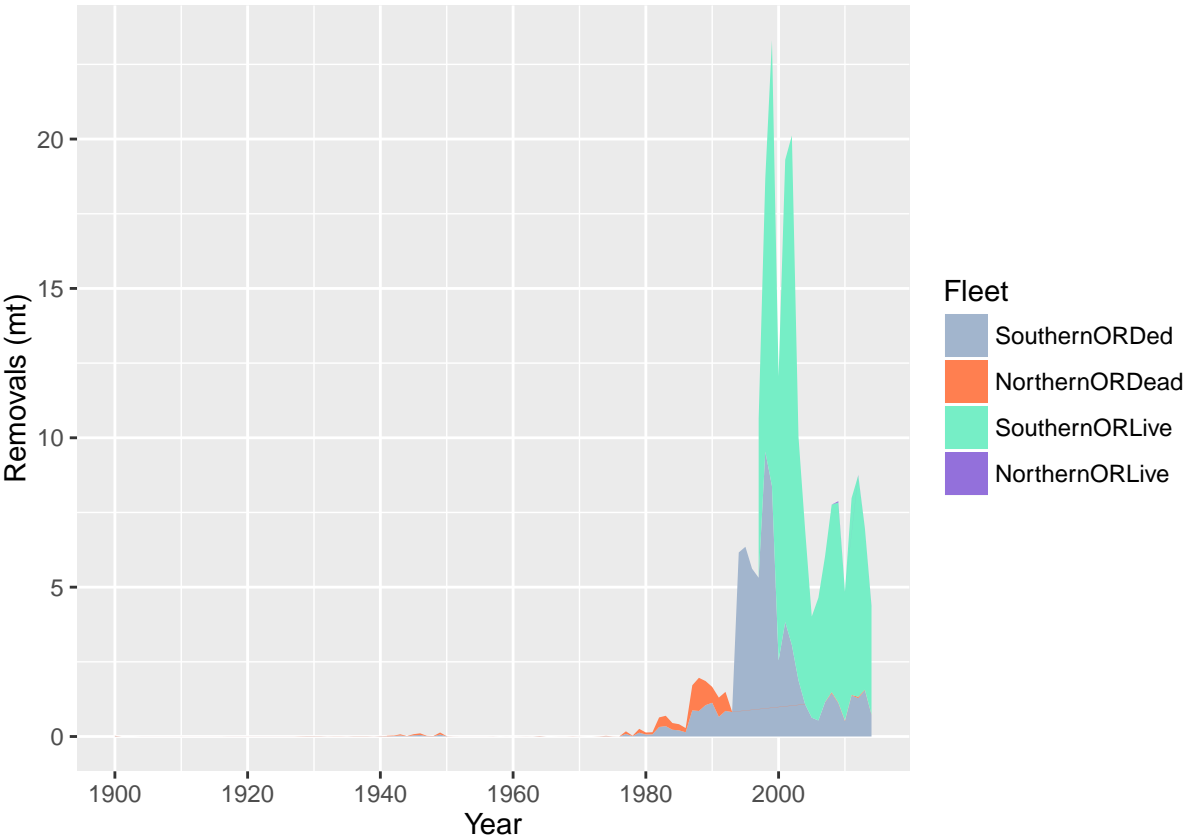


1
2
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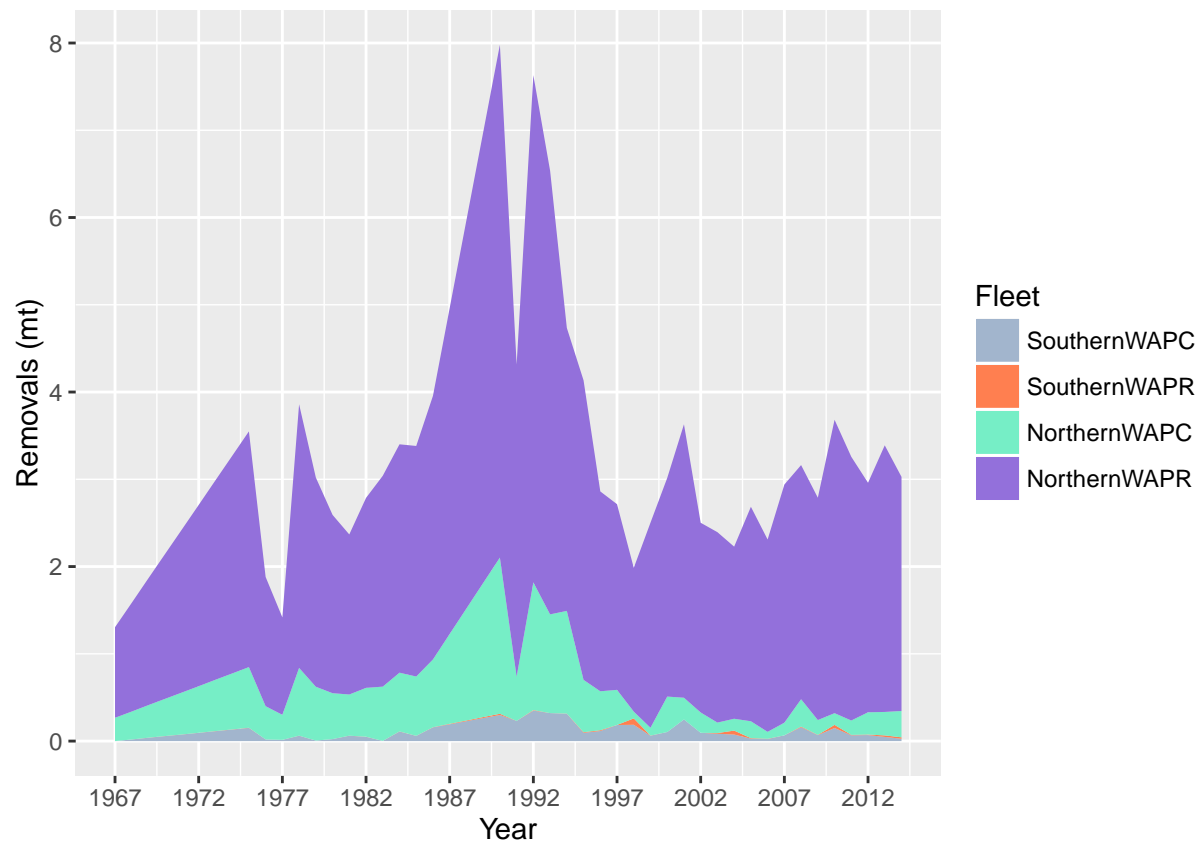
Assessment Figure Examples

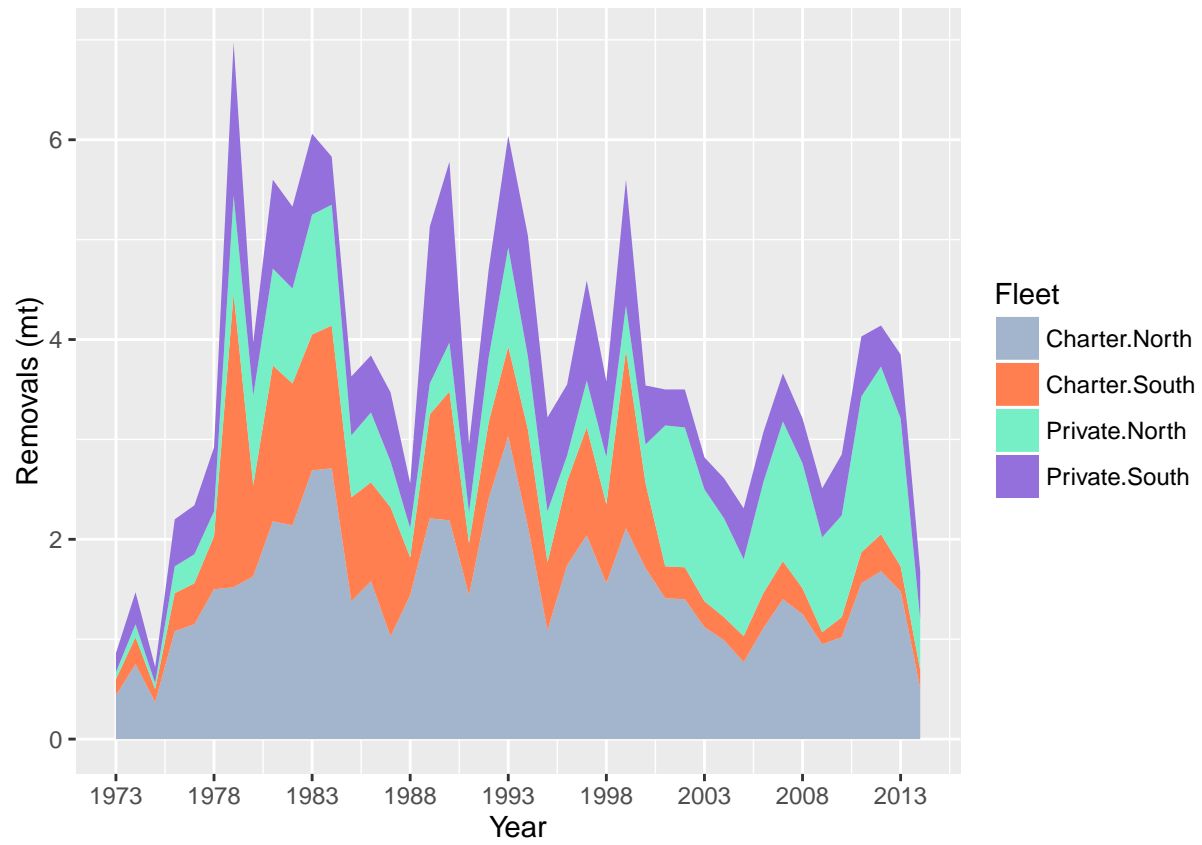
Melissa Monk

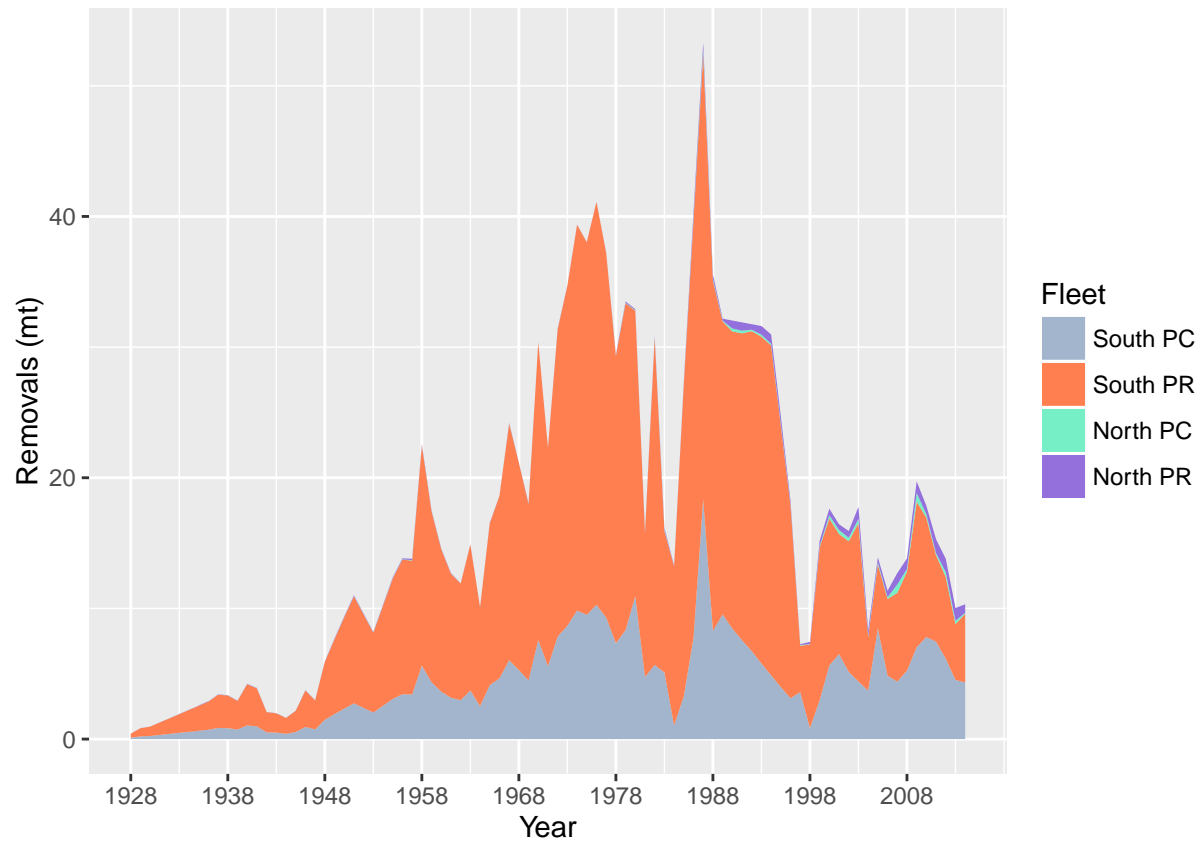
July 26, 2016



4







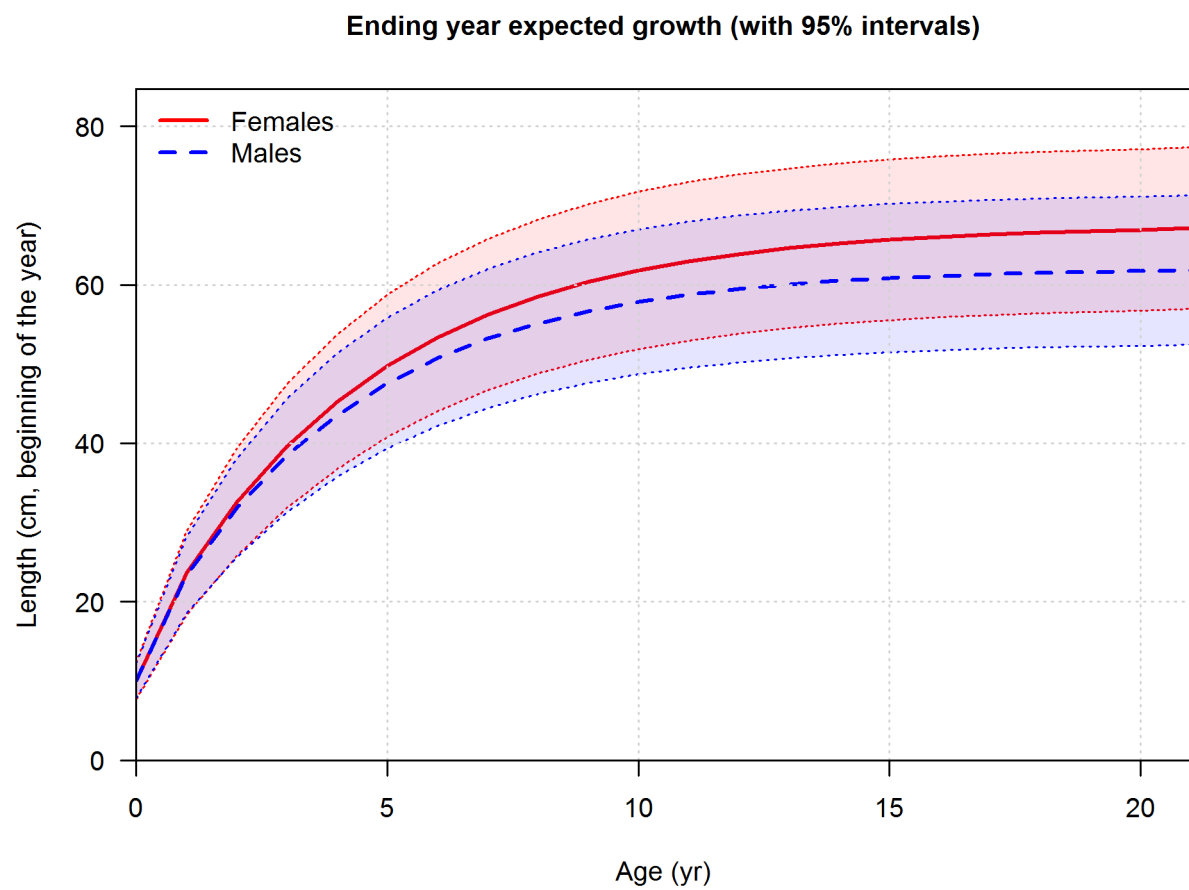


Figure 1: Length at age in the beginning of the year (or season) in the ending year of the model. Shaded area indicates 95% distribution of length at age around estimated growth curve. fig:mod1_1_biol_sizeatage

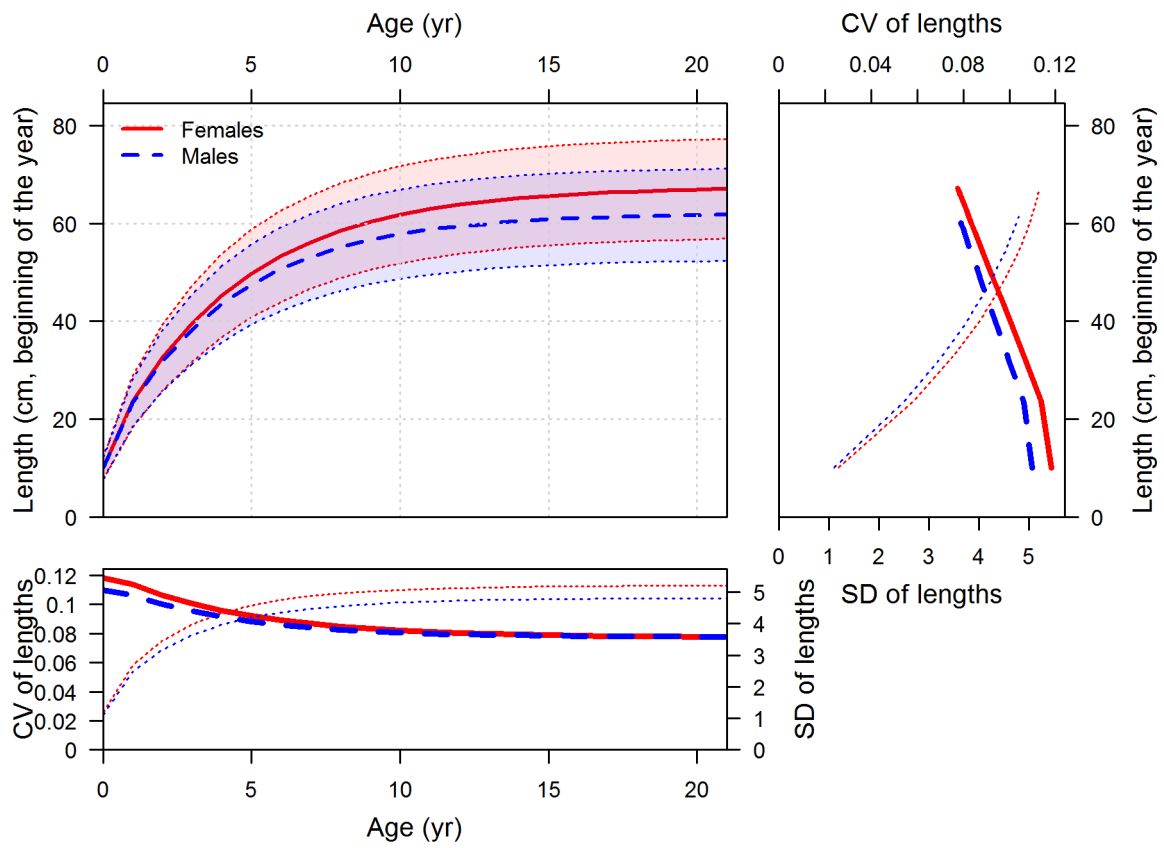


Figure 2: Length at age (top-left panel) with CV (thick line) and SD (thin line) of length at age shown in top-right and lower-left panels

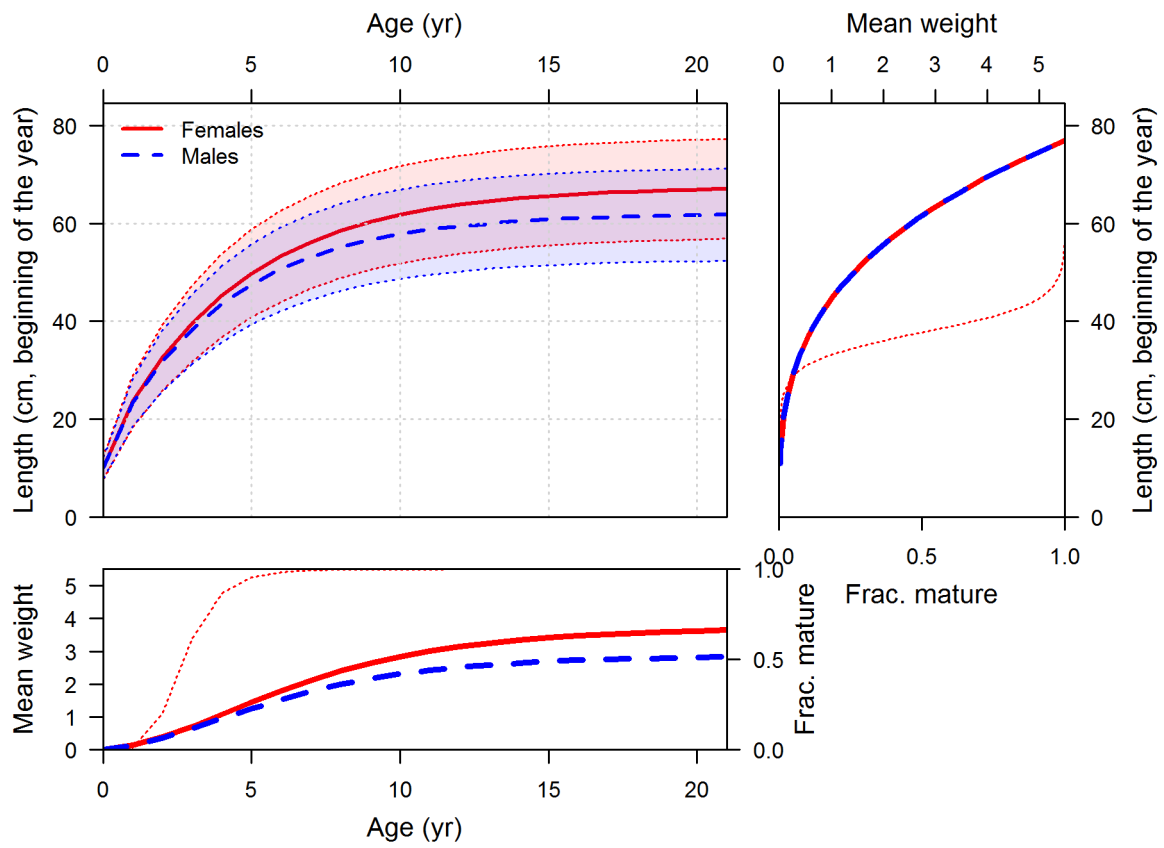


Figure 3: Length at age (top-left panel) with weight (thick line) and maturity (thin line) shown in top-right and lower-left panels [Fig:mod1_3_bio3_sizeatage_plus_WT_and_MAT]

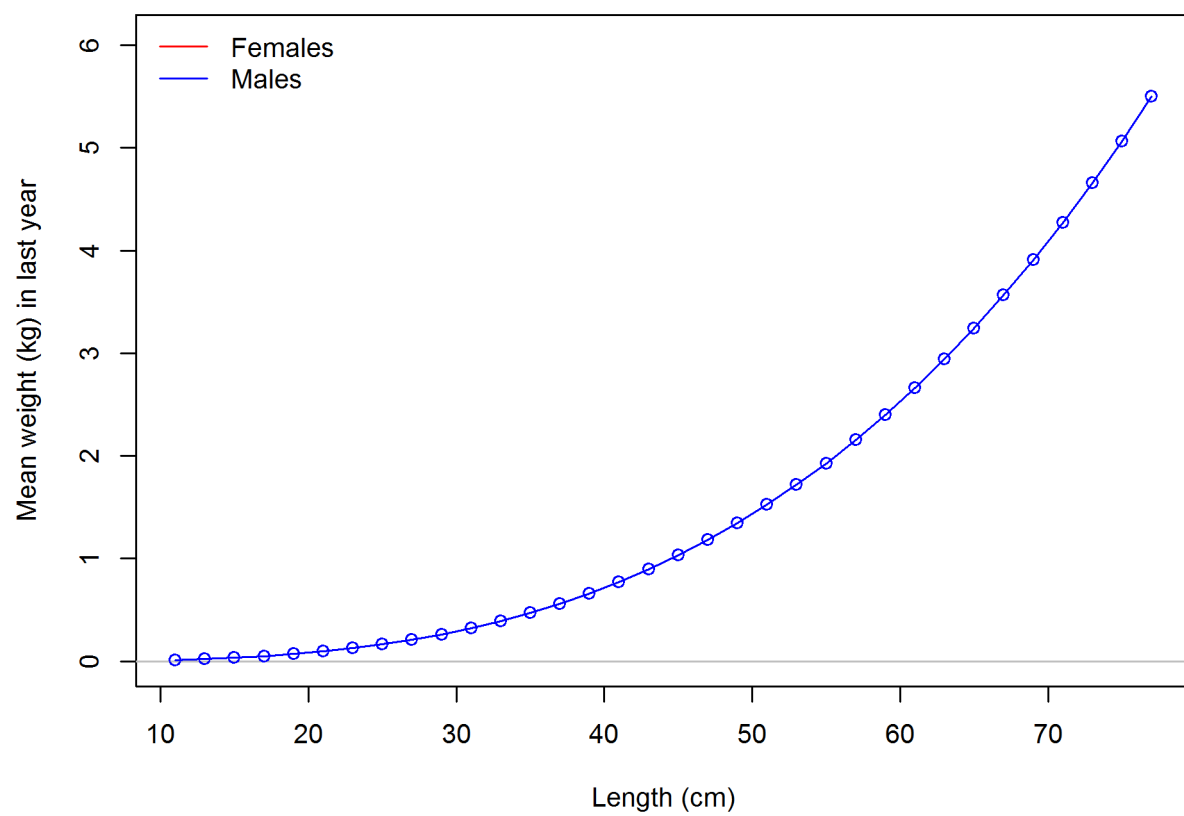


Figure 4: Weight-length relationship fig:mod1_4_bio4_weightatsize

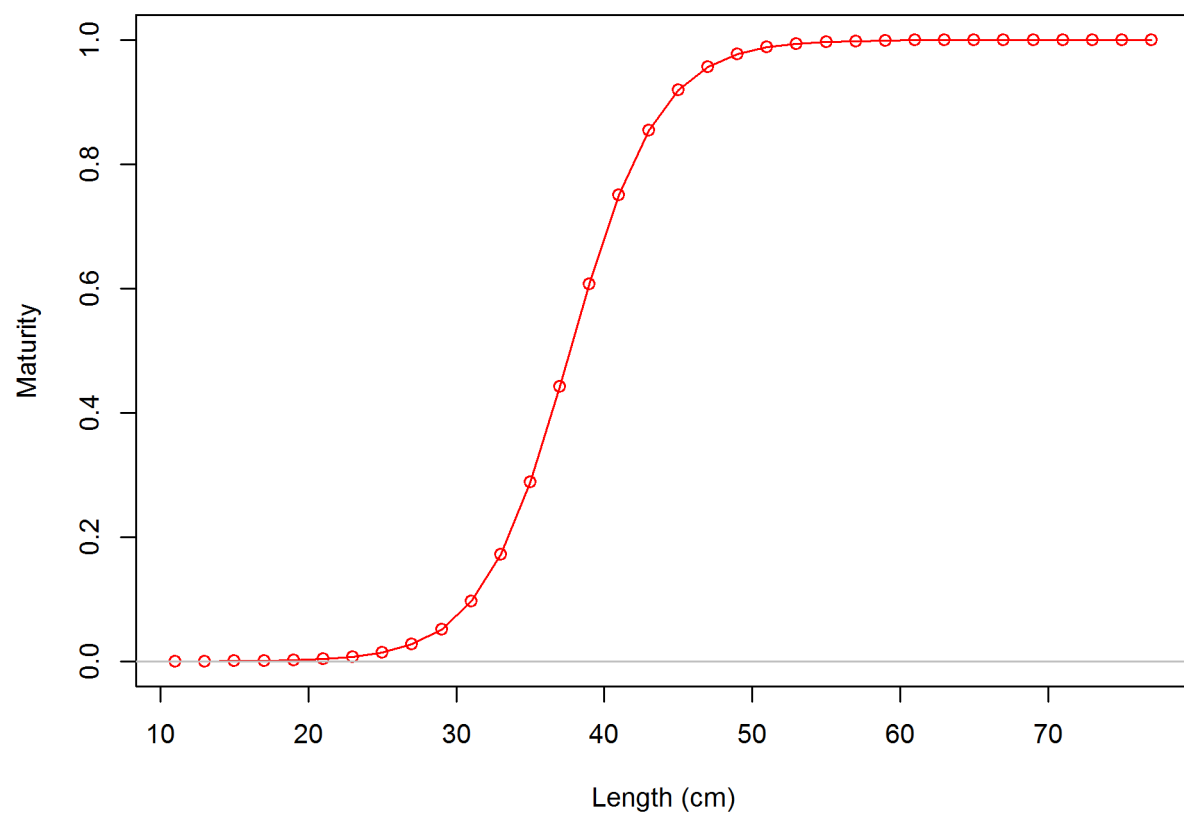


Figure 5: Maturity at length `fig:mod1_5_bio5_maturity`

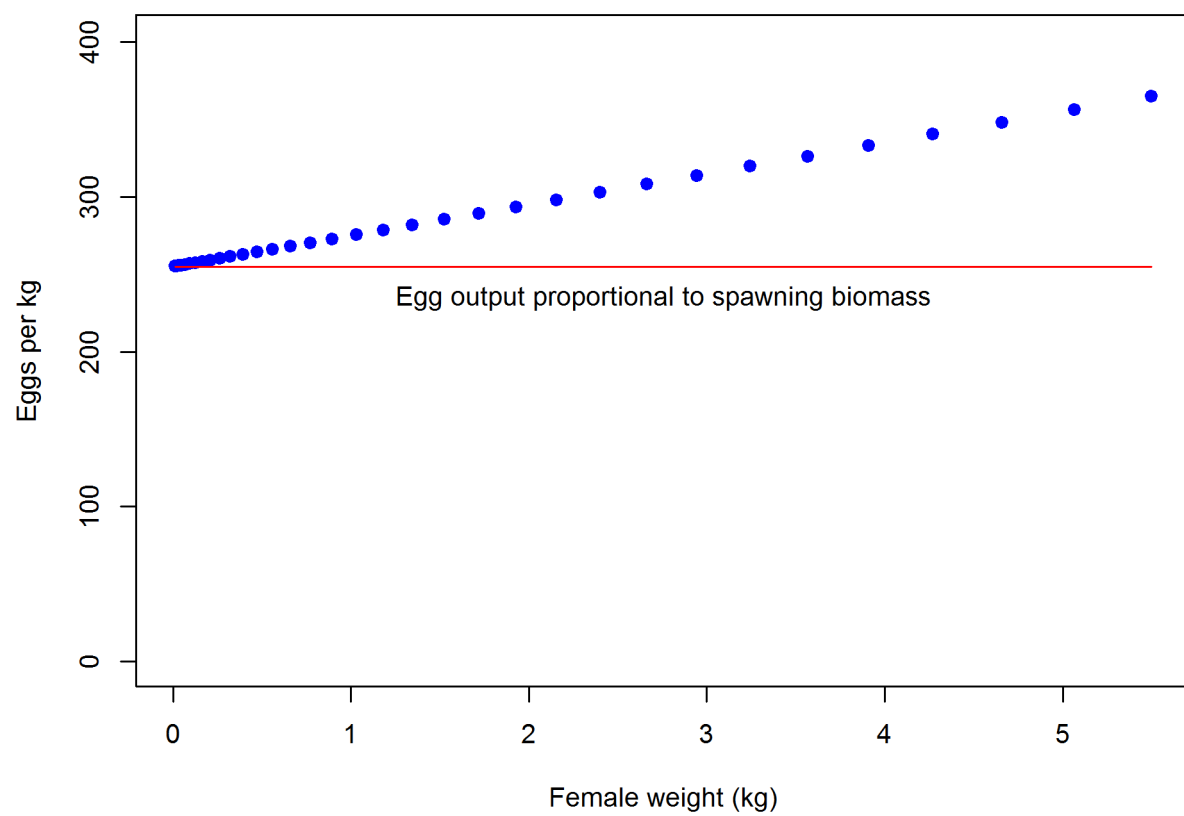


Figure 6: Fecundity ^{fig:mod1_6_bio6_fecundity}

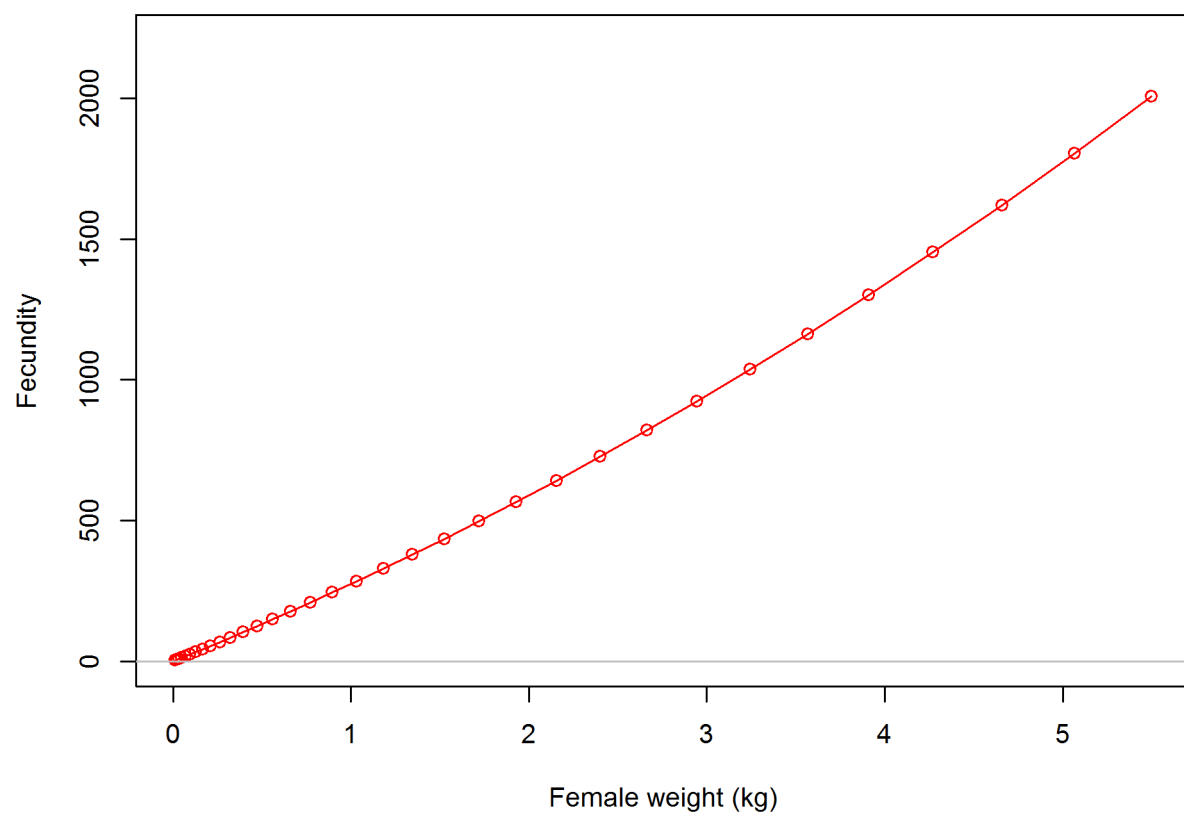


Figure 7: Fecundity as a function of weight `fig:mod1_7_bio7_fecundity_wt`

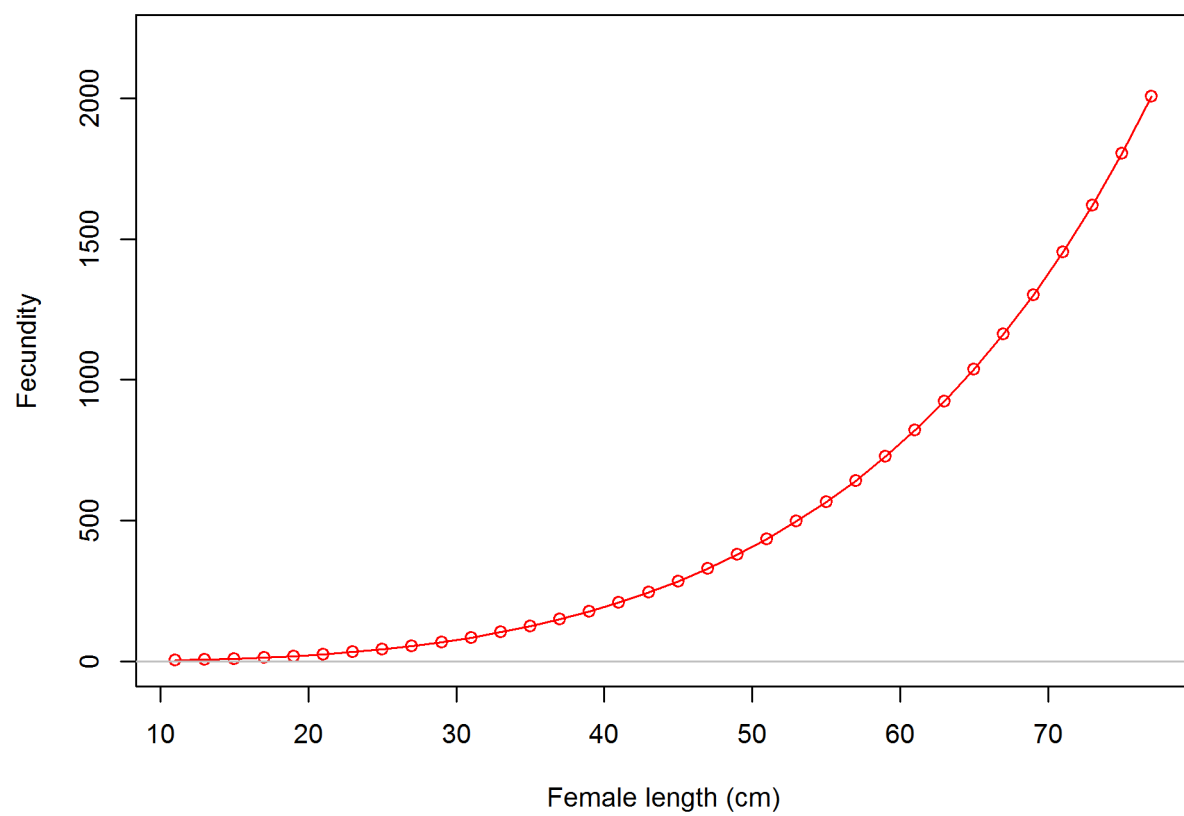
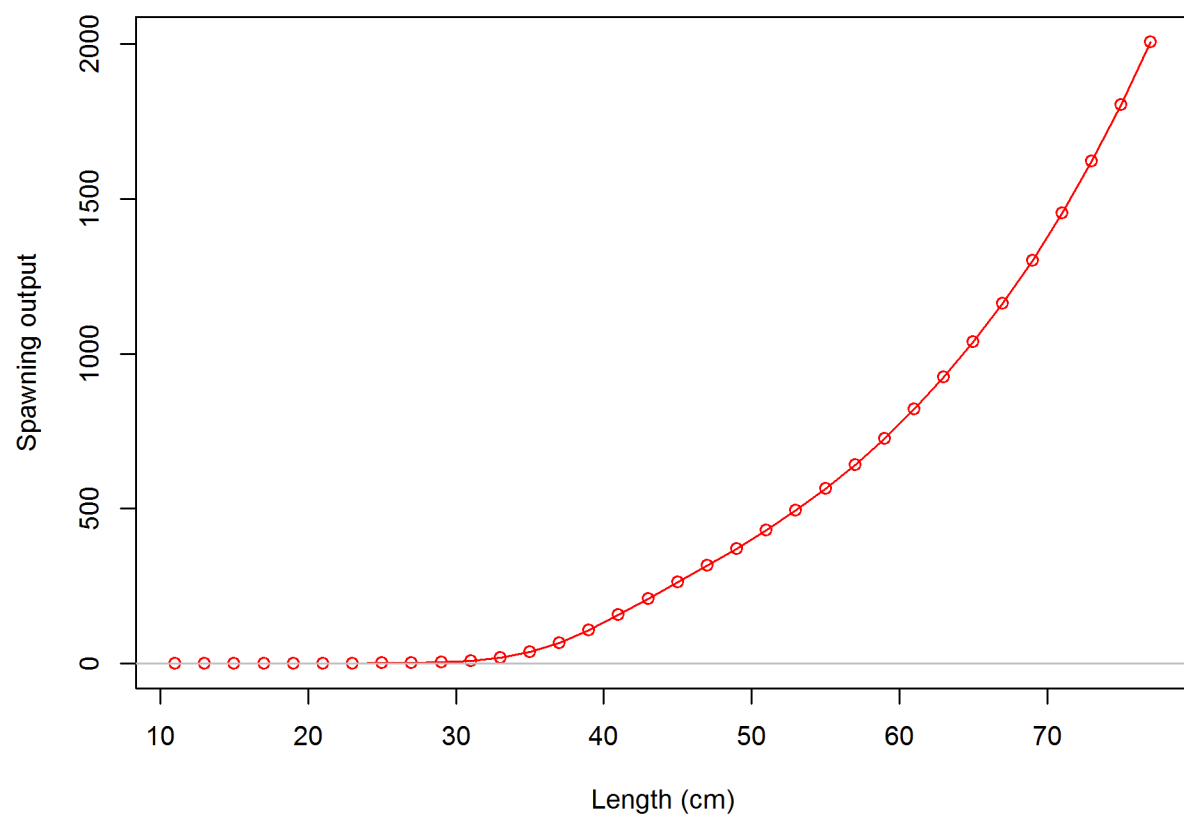


Figure 8: Fecundity as a function of length | `fig:mod1_8_bio8_fecundity_len`



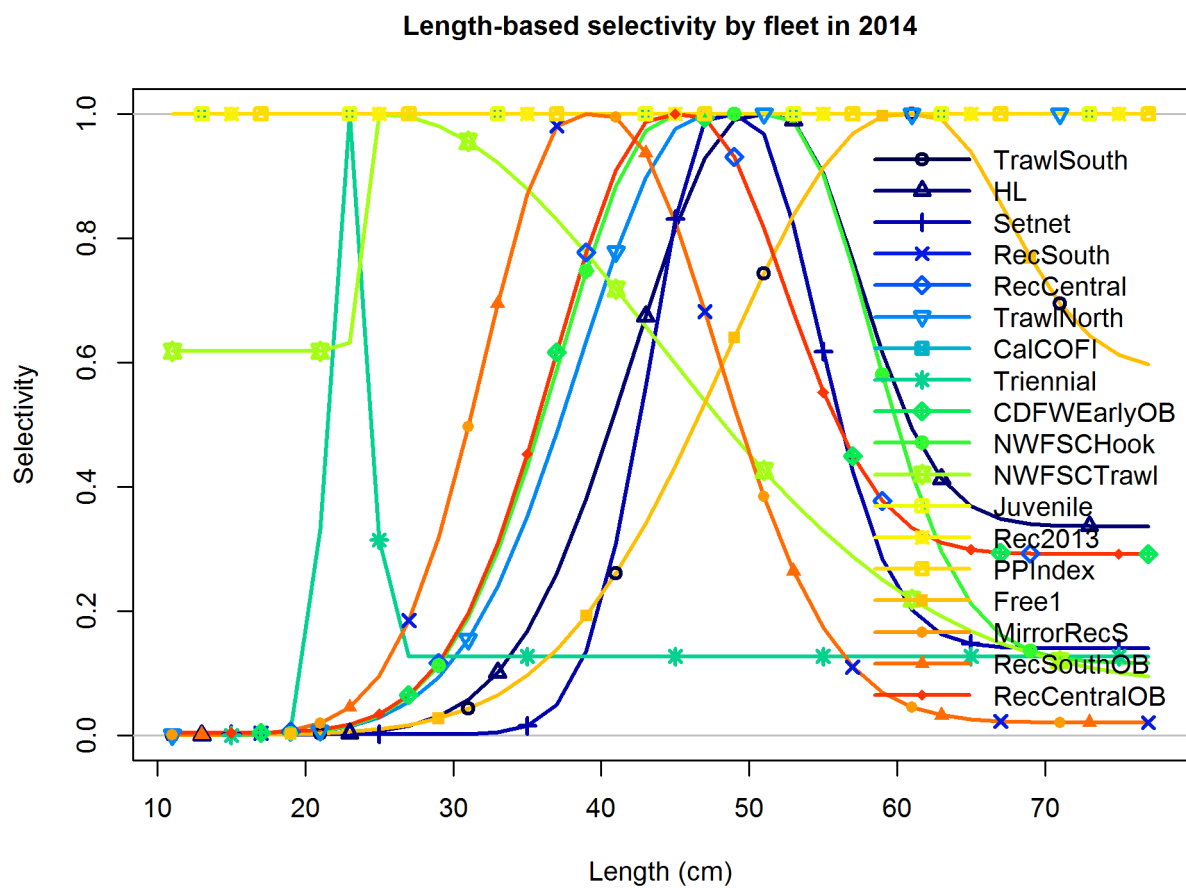


Figure 9: Selectivity at length for multiple fleets. `fig:mod1_1_plots_mod1/sel01_multiple_fleet`

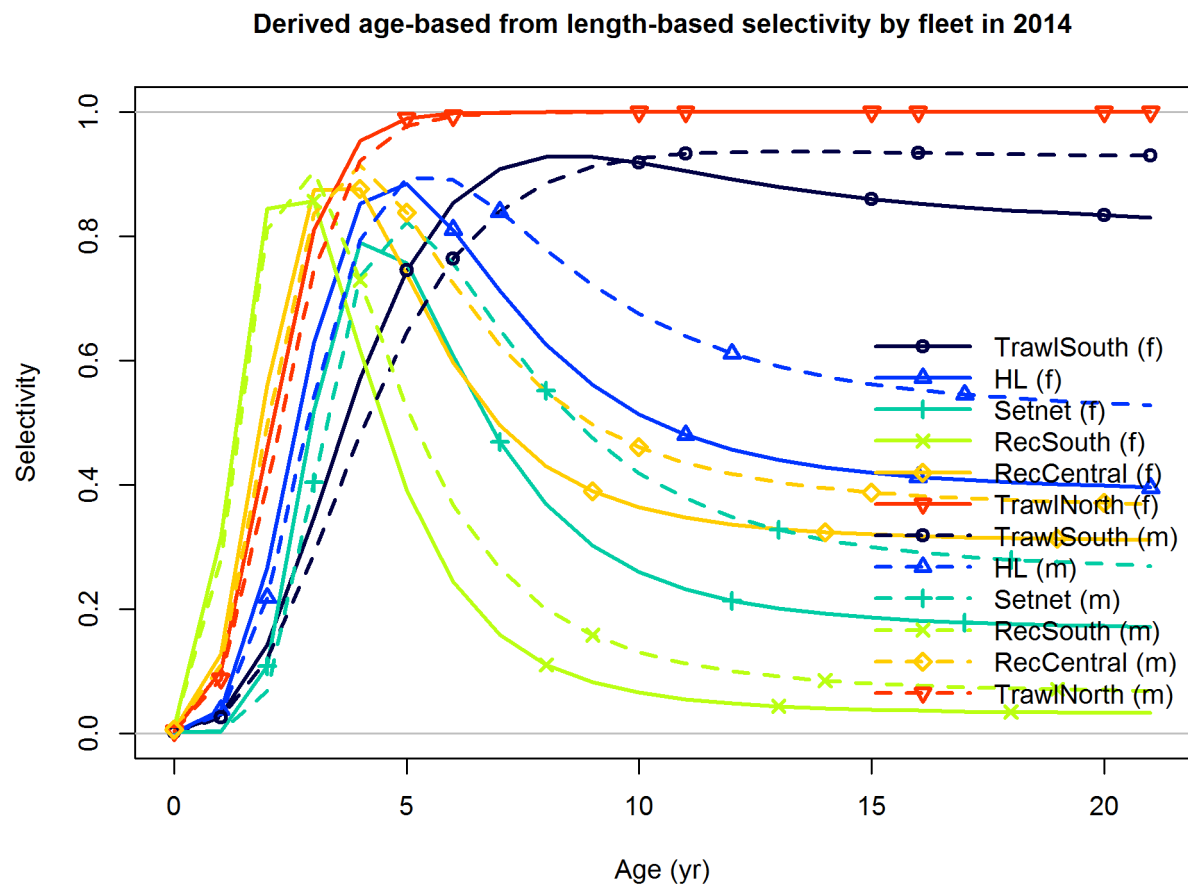


Figure 10: Selectivity at age derived from selectivity at length for multiple fleets. [fig:mod1_3_plots_mod1/sel102](#)

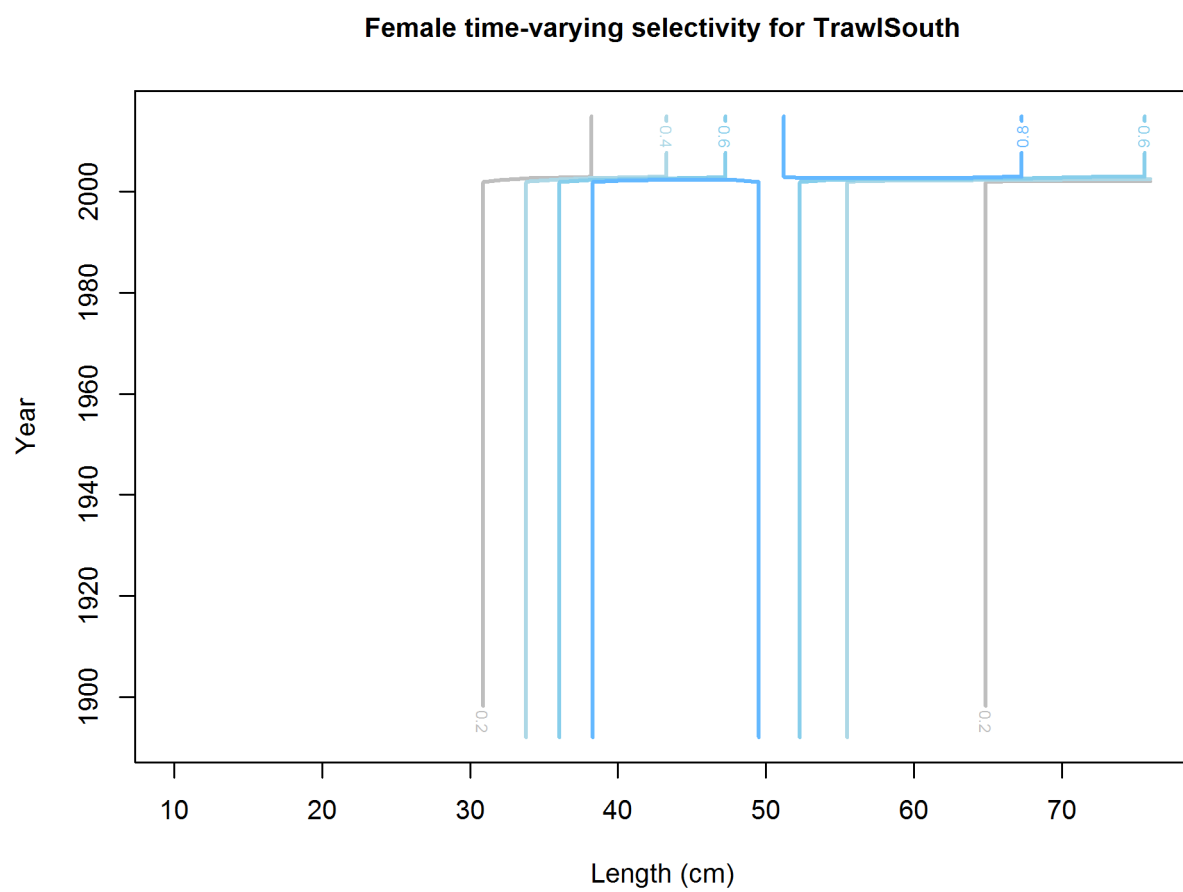


Figure 11: Countour plot of Female time-varying selectivity for TrawlSouth fig:mod1_5_plots_mod1/sel104_1e

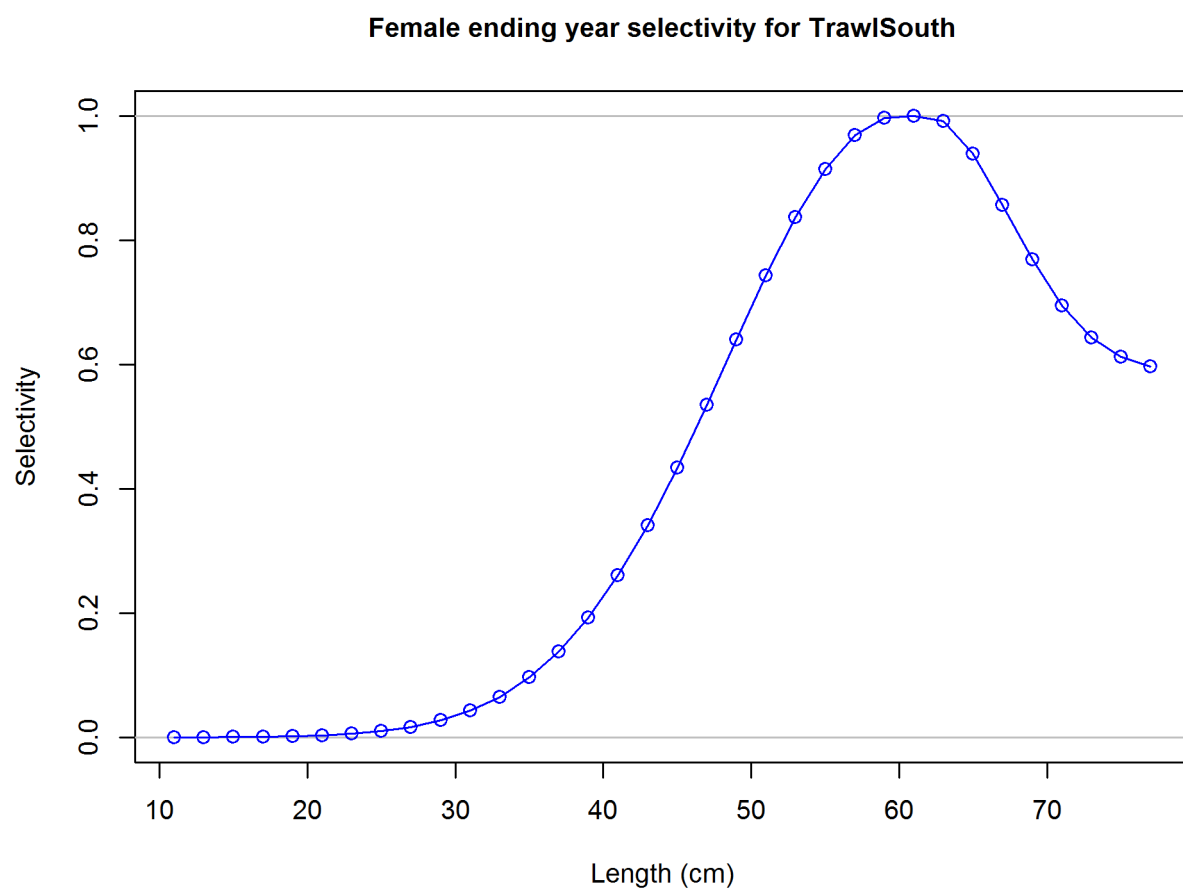


Figure 12: Female ending year selectivity for TrawlSouth fig:mod1_6_plots_mod1/sel09_len_flt1se

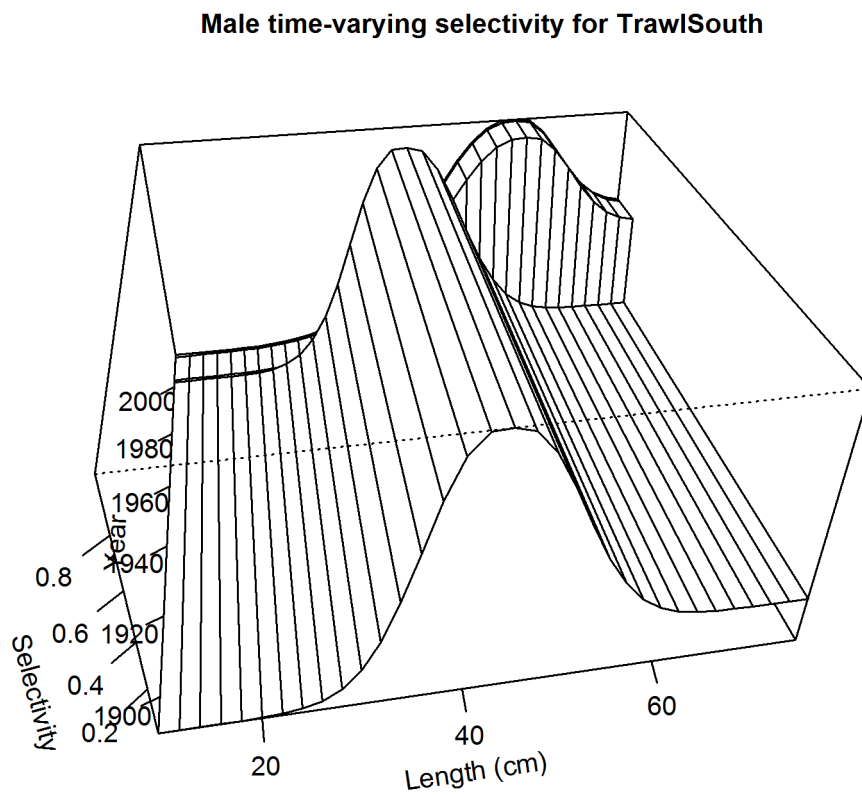


Figure 13: Surface plot of Male time-varying selectivity for TrawlSouth fig:mod1_7_plots_mod1/sel03_len_

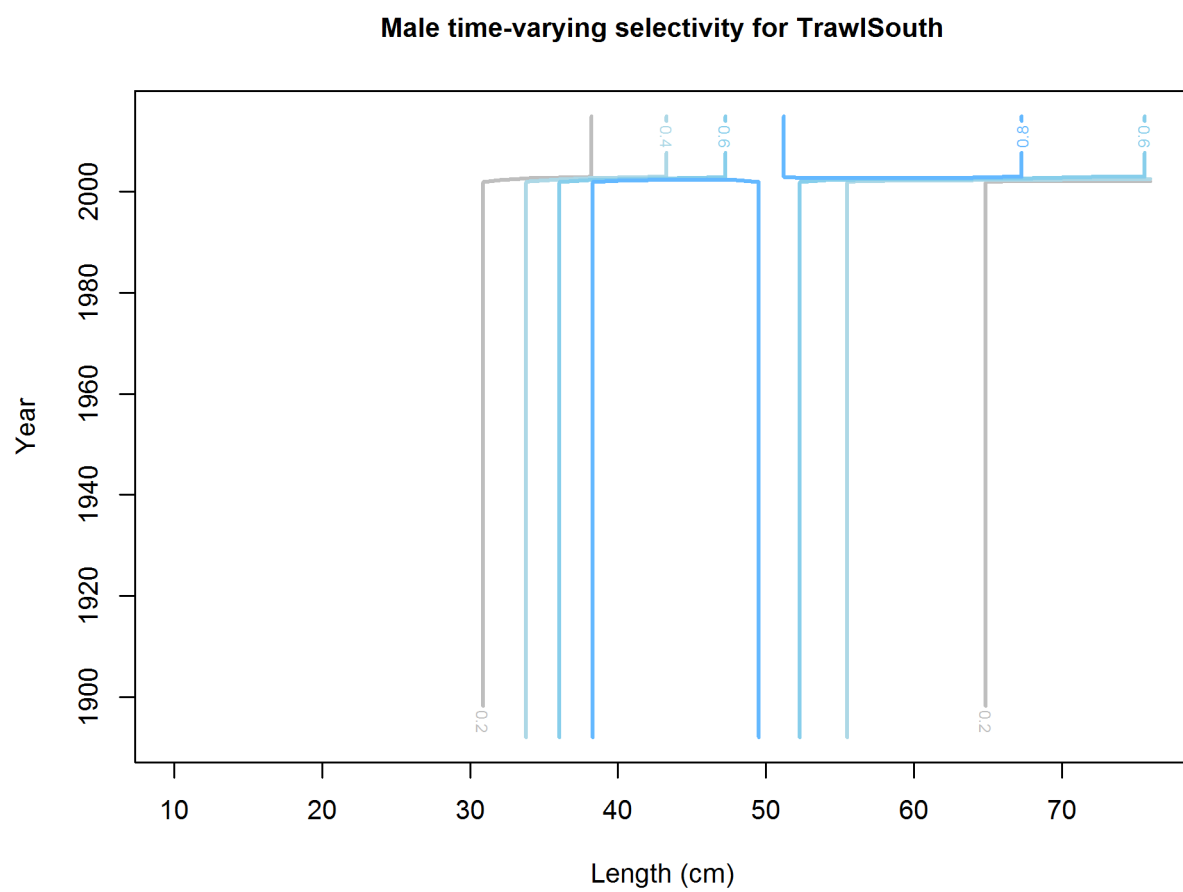


Figure 14: Contour plot of Male time-varying selectivity for TrawlSouth fig:mod1_8_plots_mod1/sel04_len

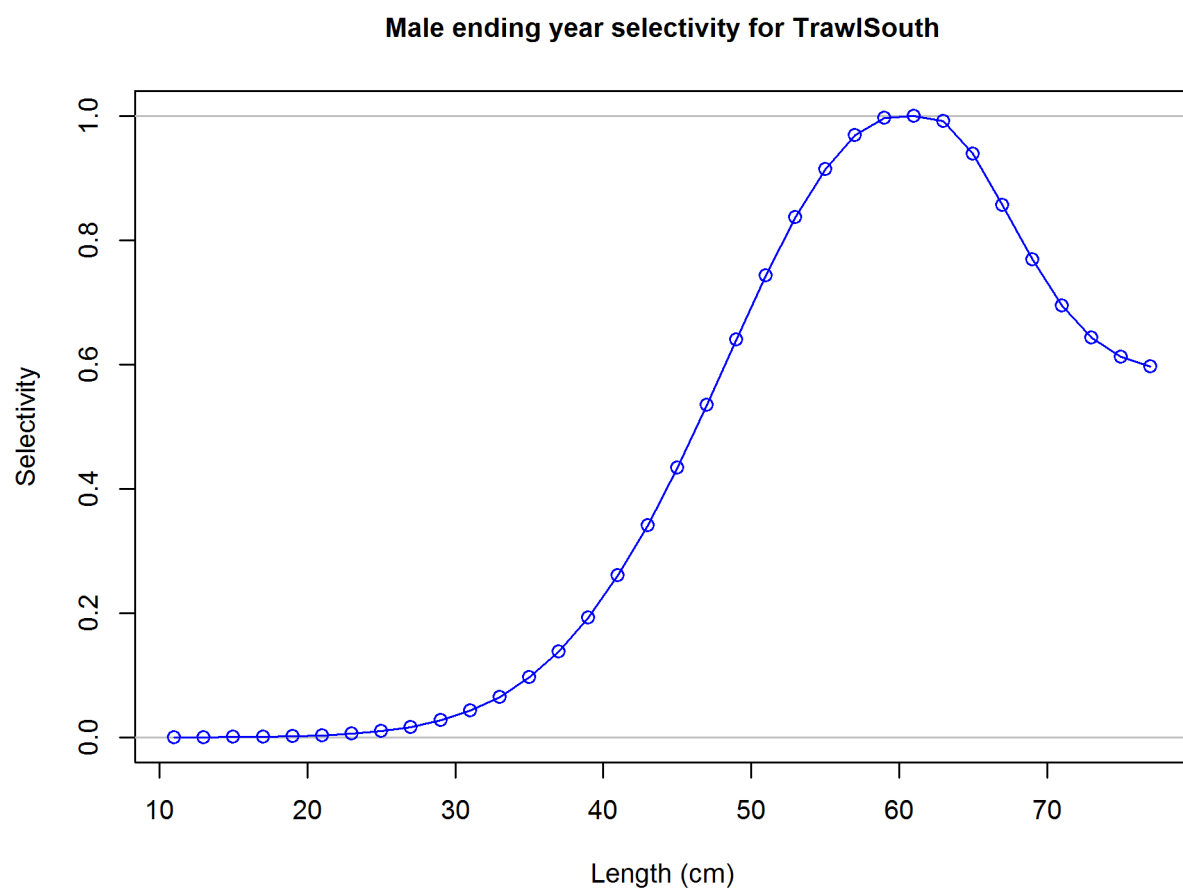


Figure 15: Male ending year selectivity for TrawlSouth fig:mod1_9_plots_mod1/sel09_len_flt1sex

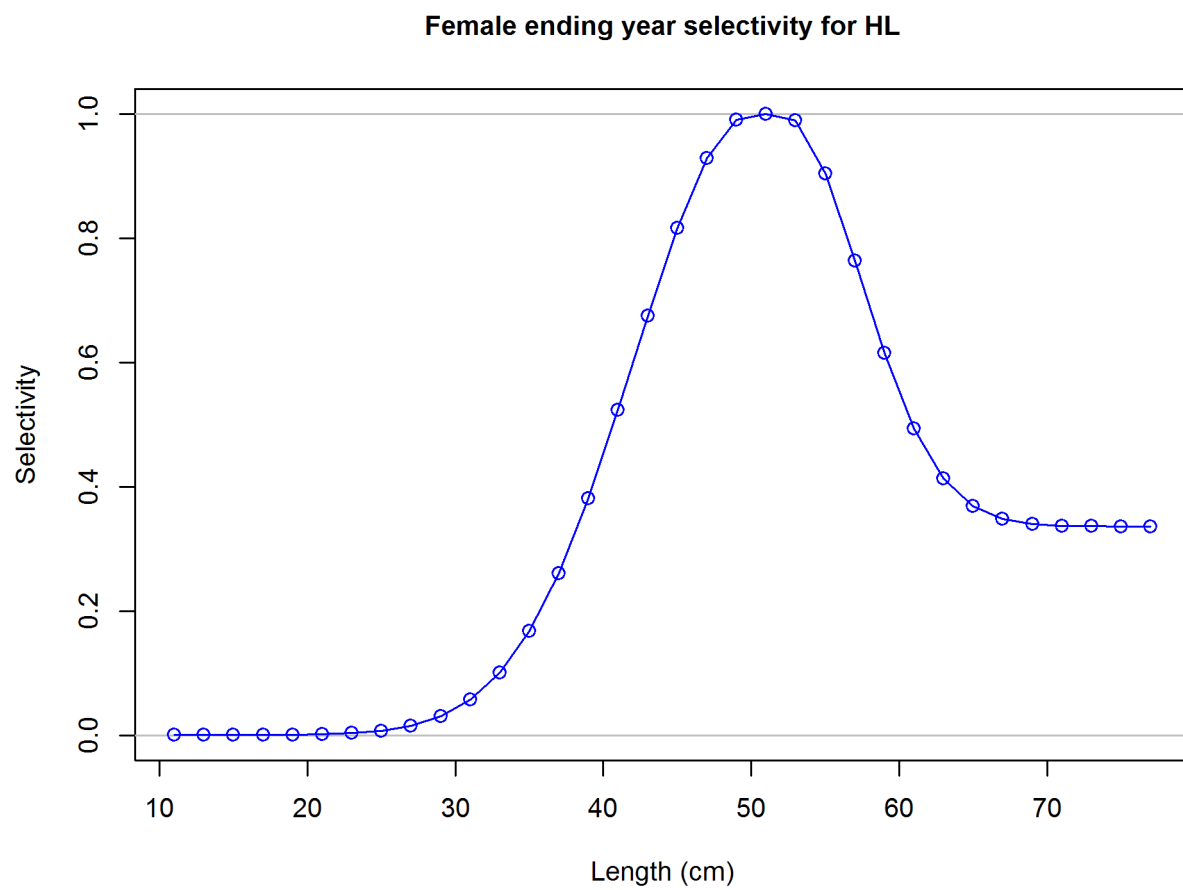


Figure 16: Female ending year selectivity for HL fig:mod1_10_plots_mod1/sel09_len_flt2sex1.

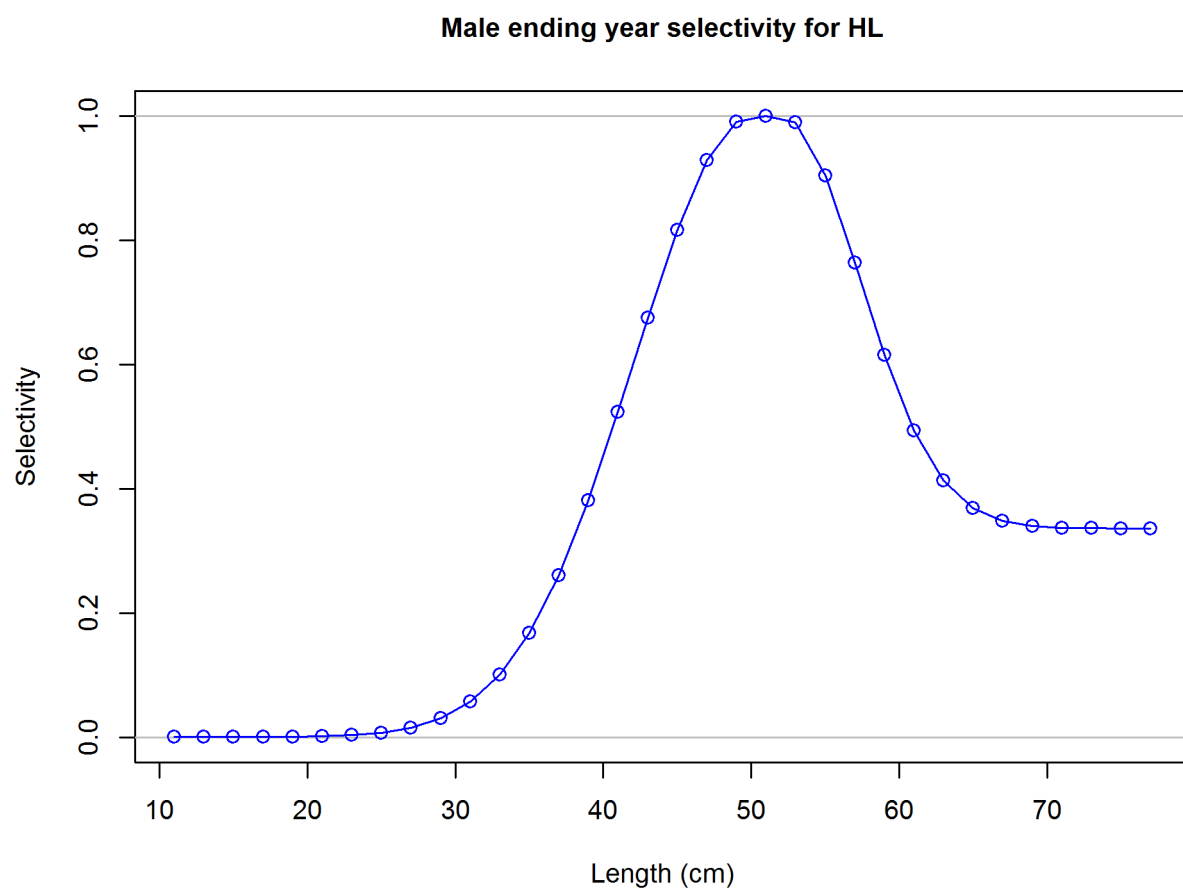


Figure 17: Male ending year selectivity for HL fig:mod1_11_plots_mod1/sel09_len_flt2sex2.p

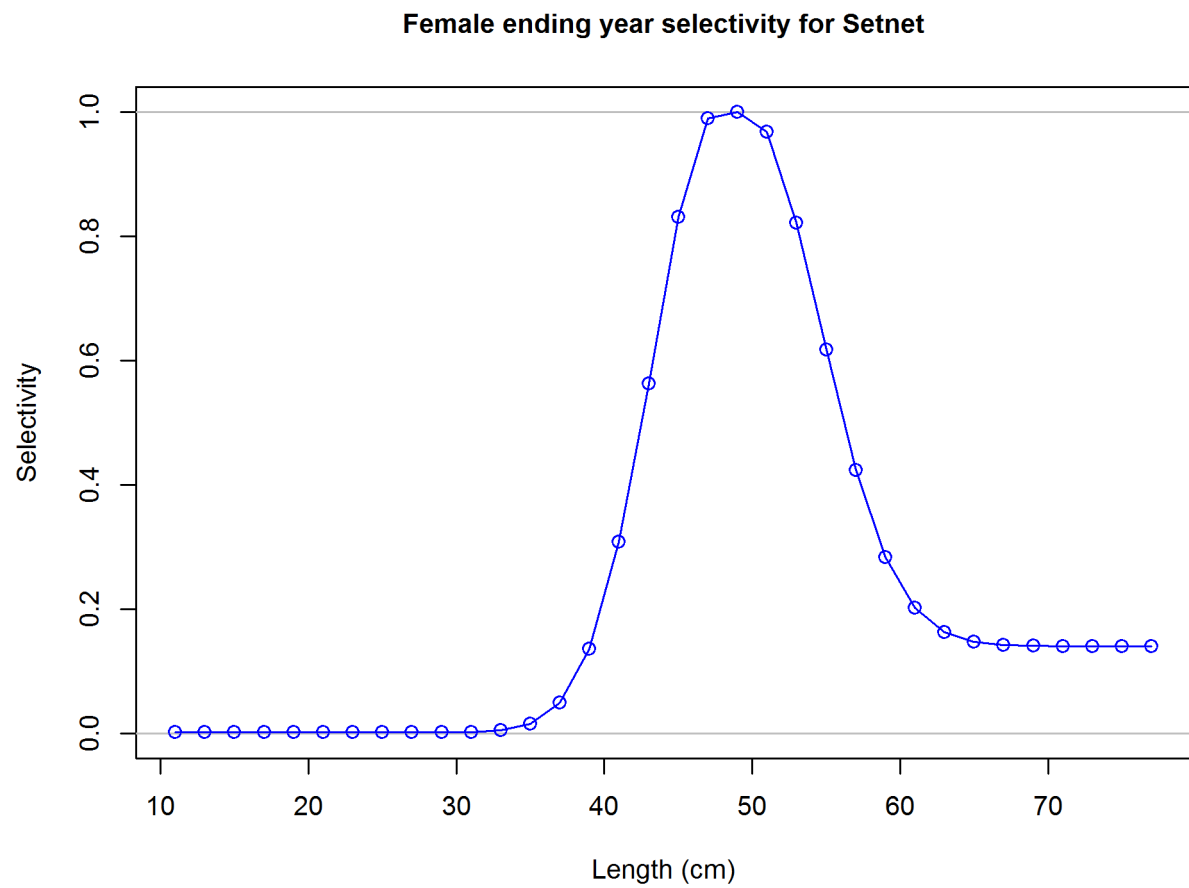
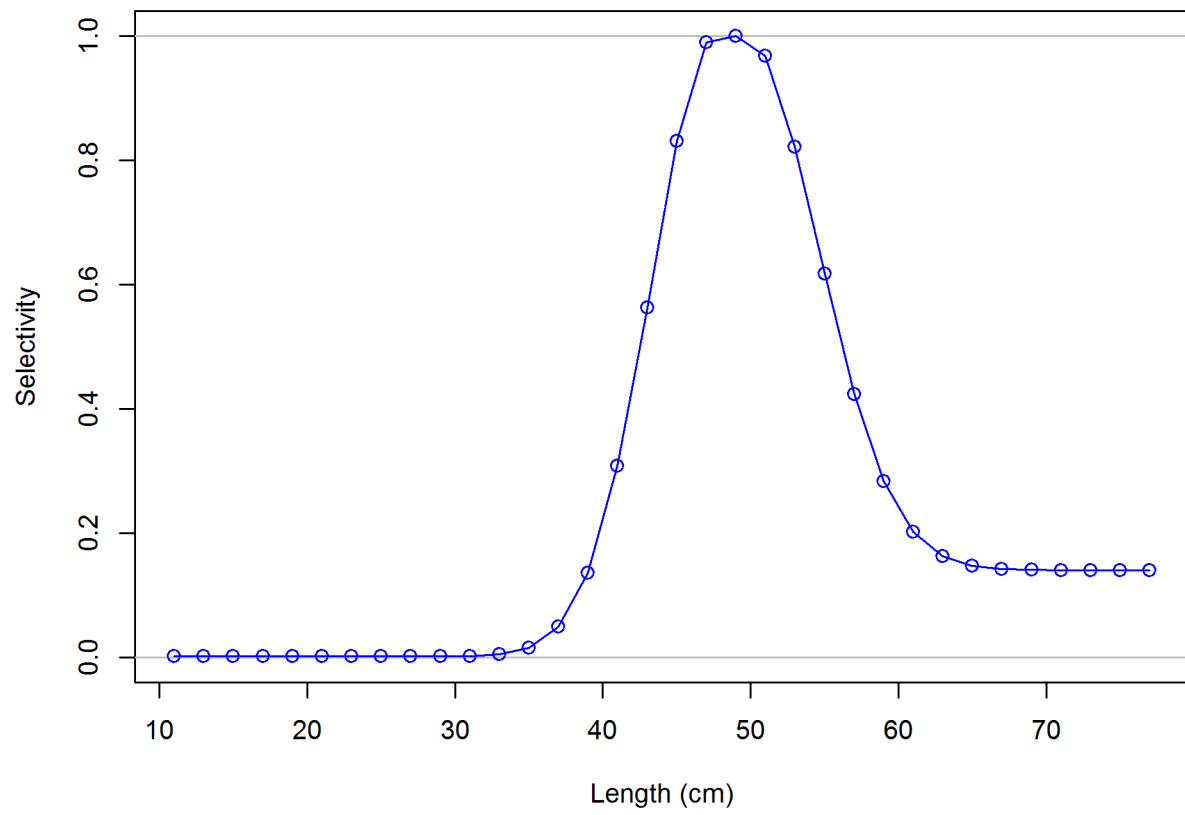


Figure 18: Female ending year selectivity for Setnet fig:mod1_12_plots_mod1/sel09_len_flt3sex1

Male ending year selectivity for Setnet



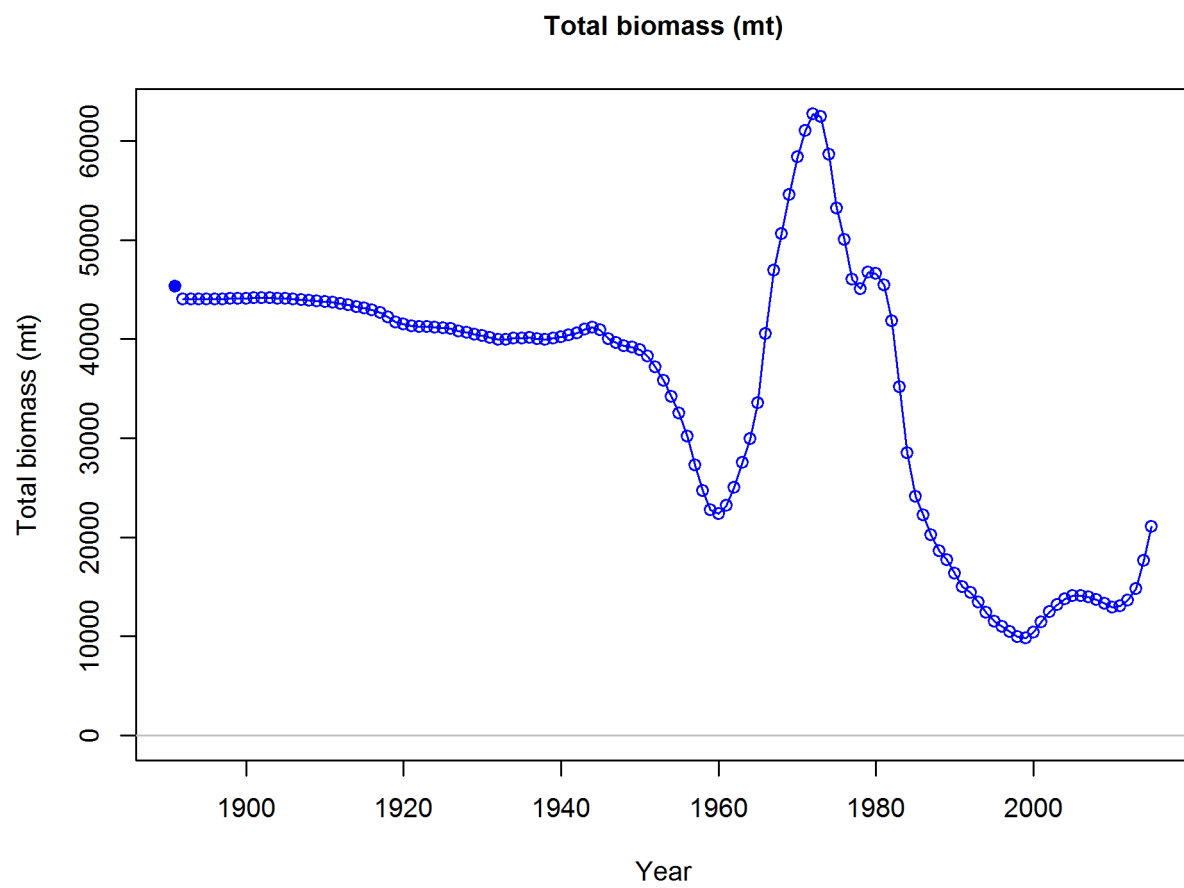



Figure 19: Total biomass (mt)  `fig:mod1_1_plots_mod1/ts1_Total_biomass_(mt).png`

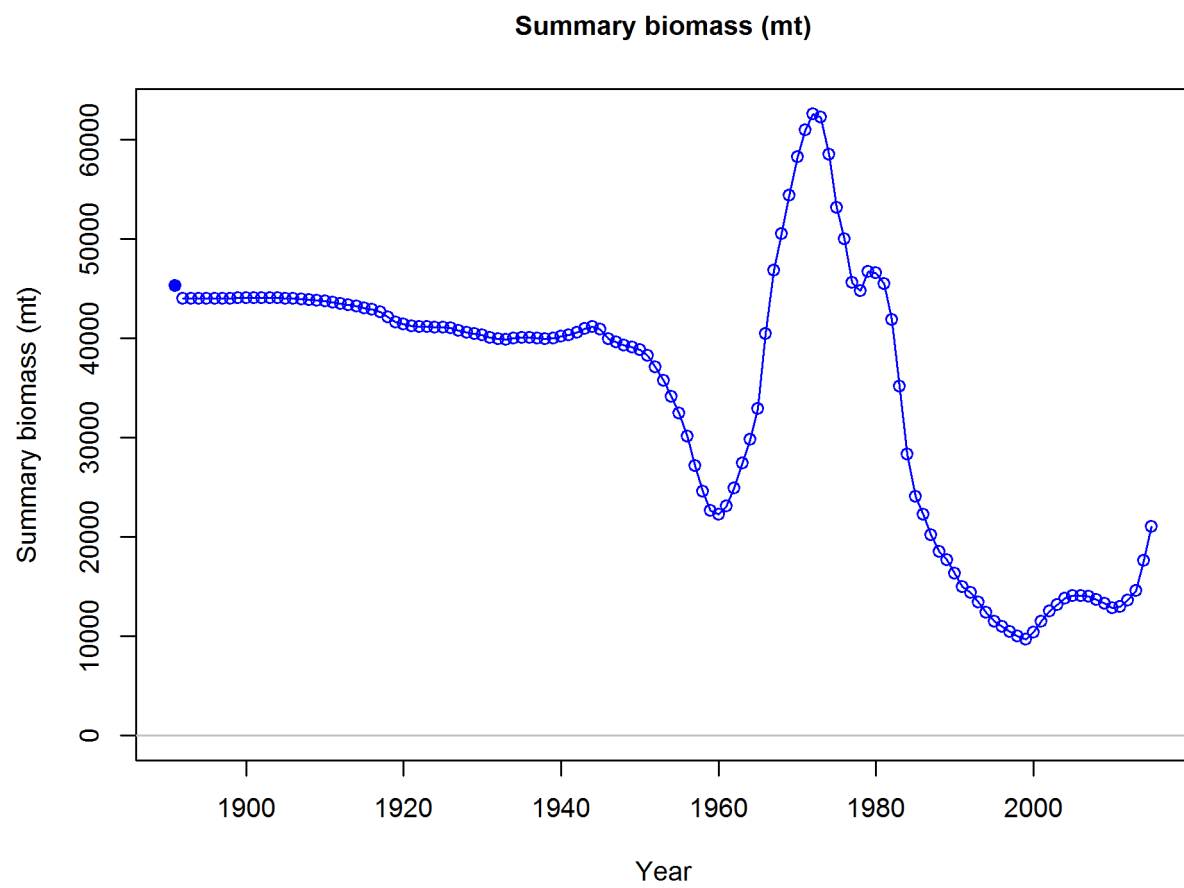


Figure 20: Summary biomass (mt) | `fig:mod1_2_plots_mod1/ts4_Summary_biomass_(mt).pr`

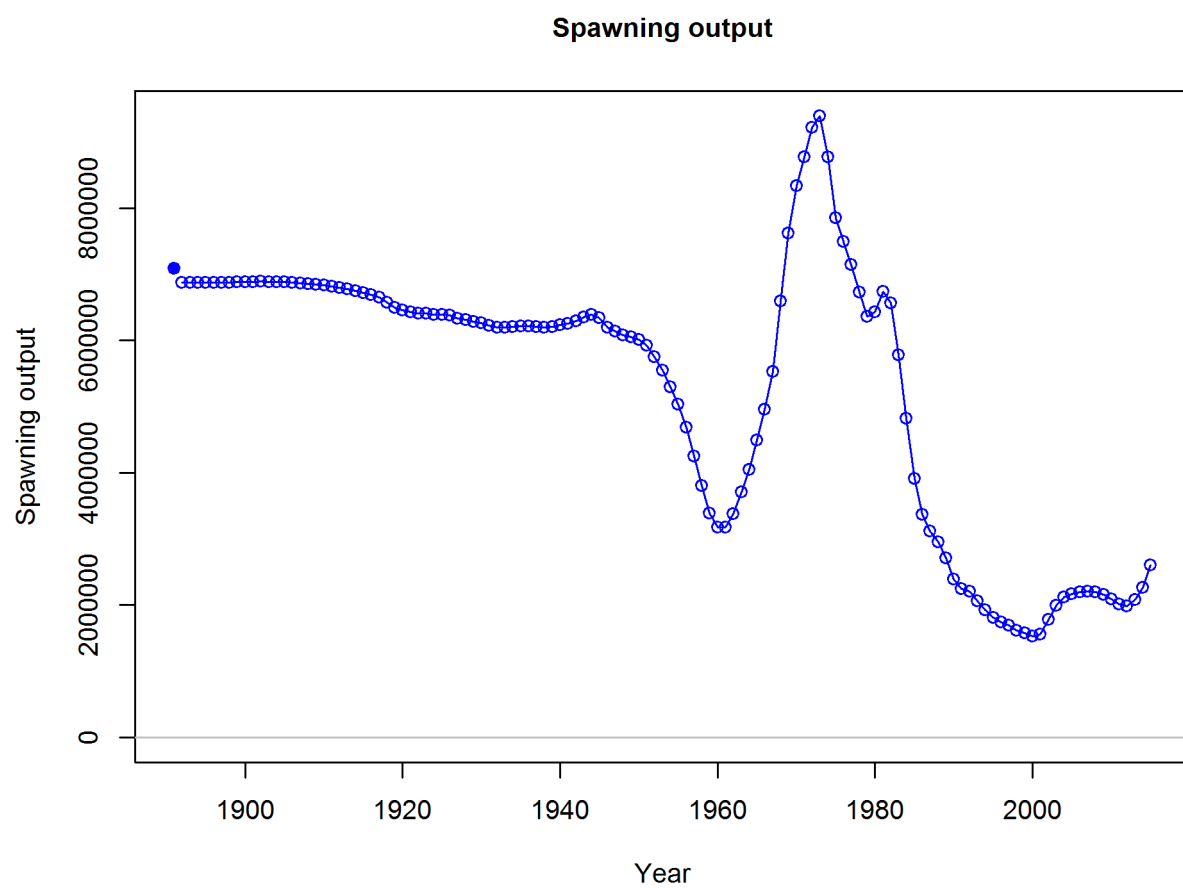


Figure 21: Spawning output [fig:mod1_3_plots_mod1/ts7_Spawning_output.png](#)

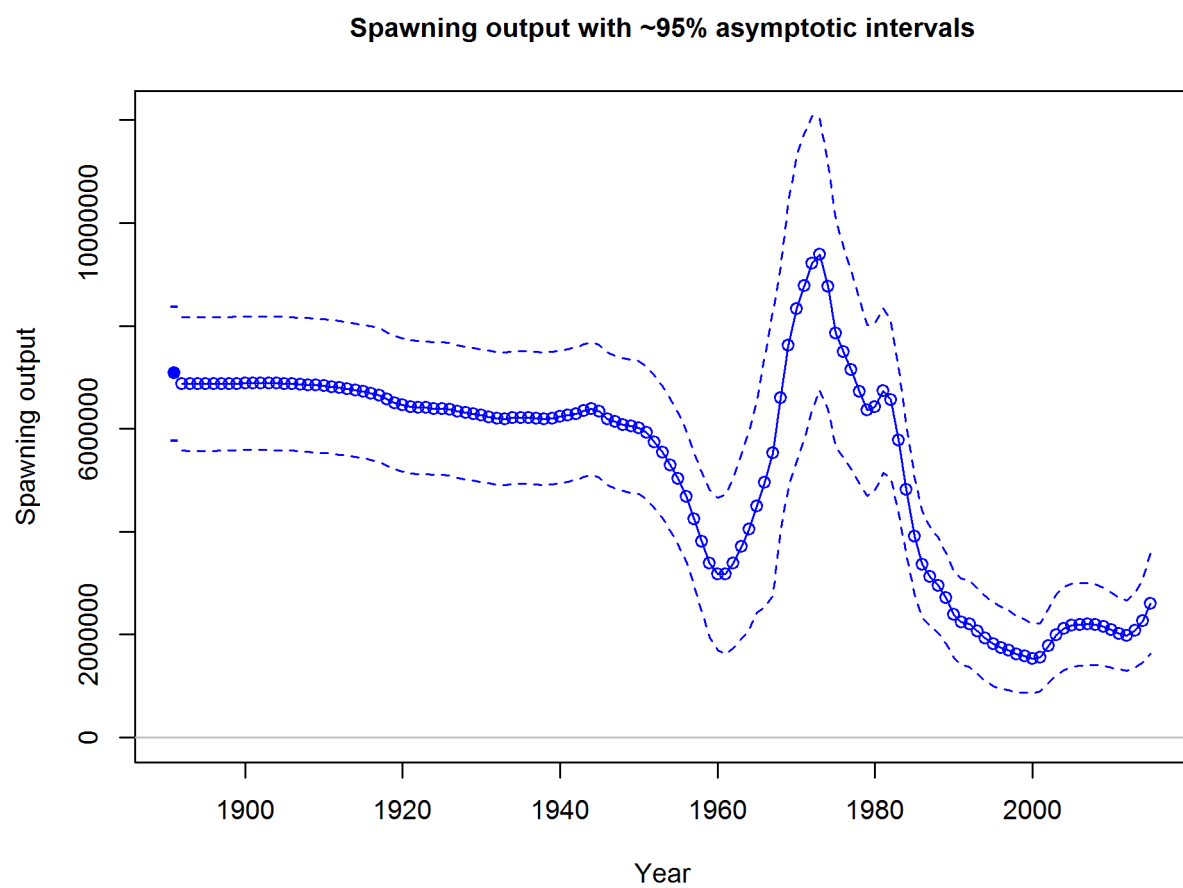


Figure 22: Spawning output with ~95% asymptotic intervals fig:mod1_4_plots_mod1/ts7_Spawning_ou

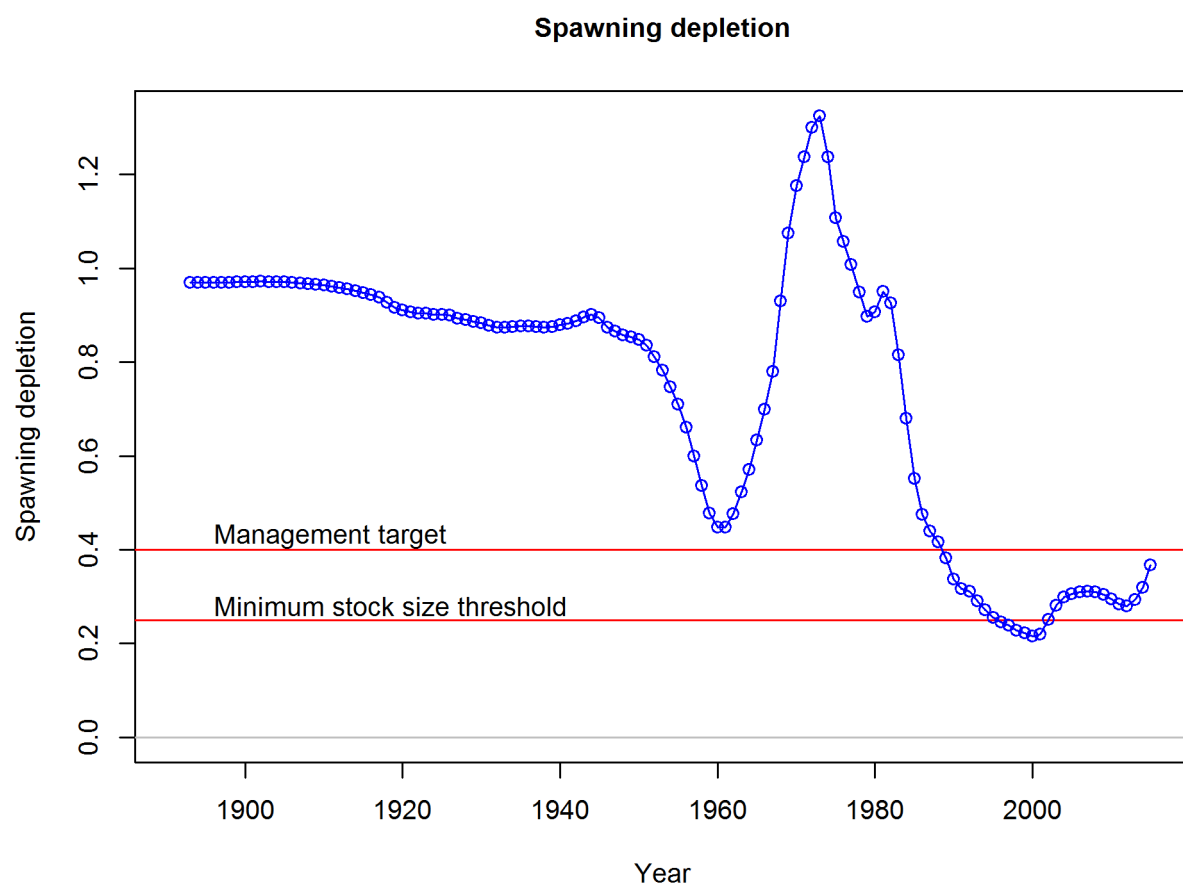



Figure 23: Spawning depletion  `fig:mod1_5_plots_mod1/ts9_Spawning_depletion.png`

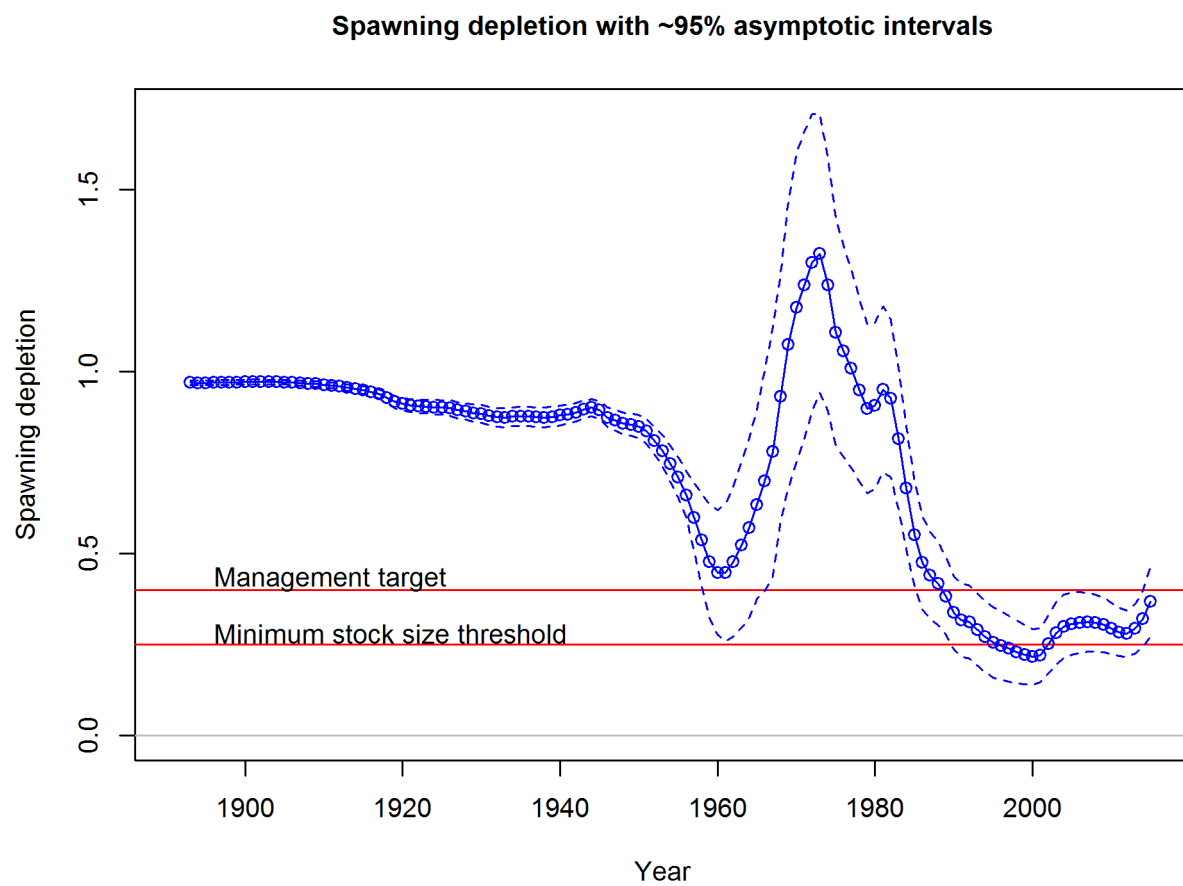


Figure 24: Spawning depletion with ~95% asymptotic intervals fig:mod1_6_plots_mod1/ts9_Spawning_c

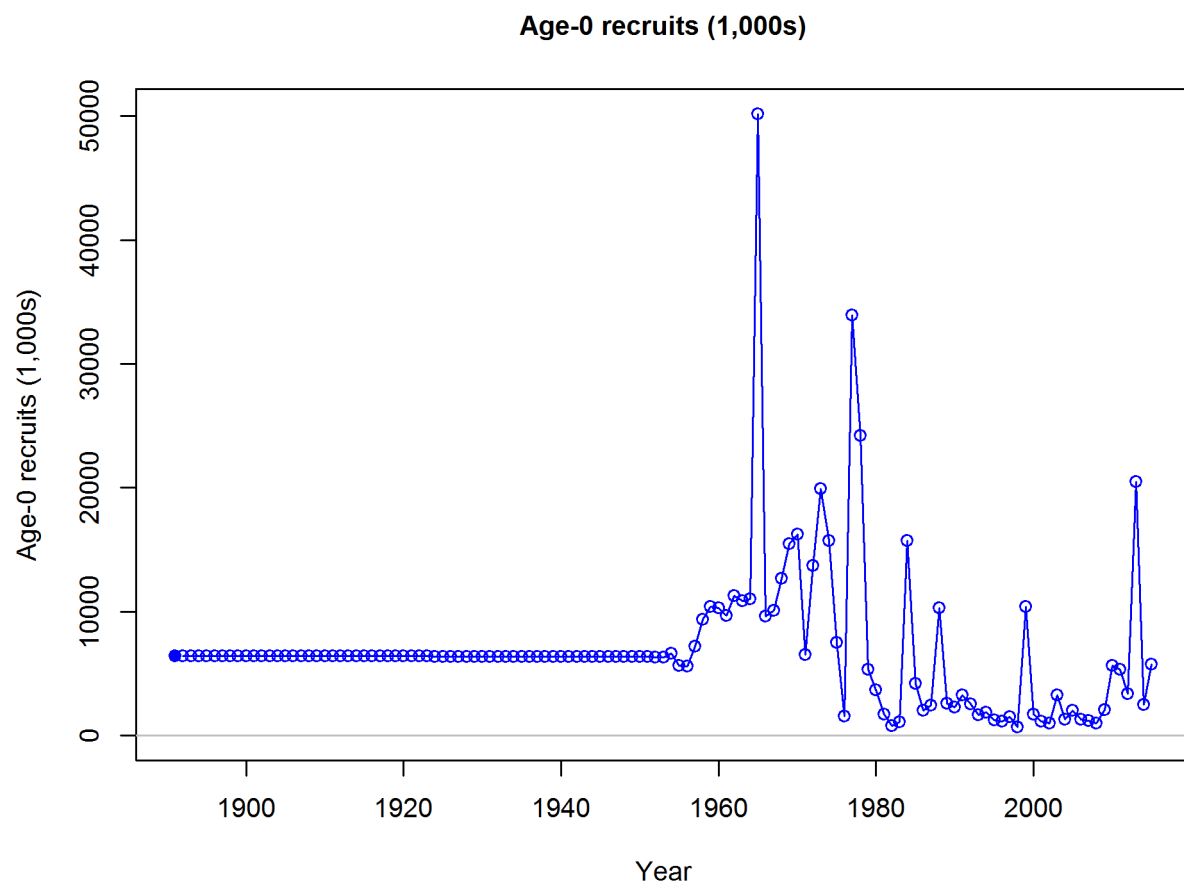


Figure 25: Age-0 recruits (1,000s) fig:mod1_7_plots_mod1/ts11_Age-0_recruits_(1000s)

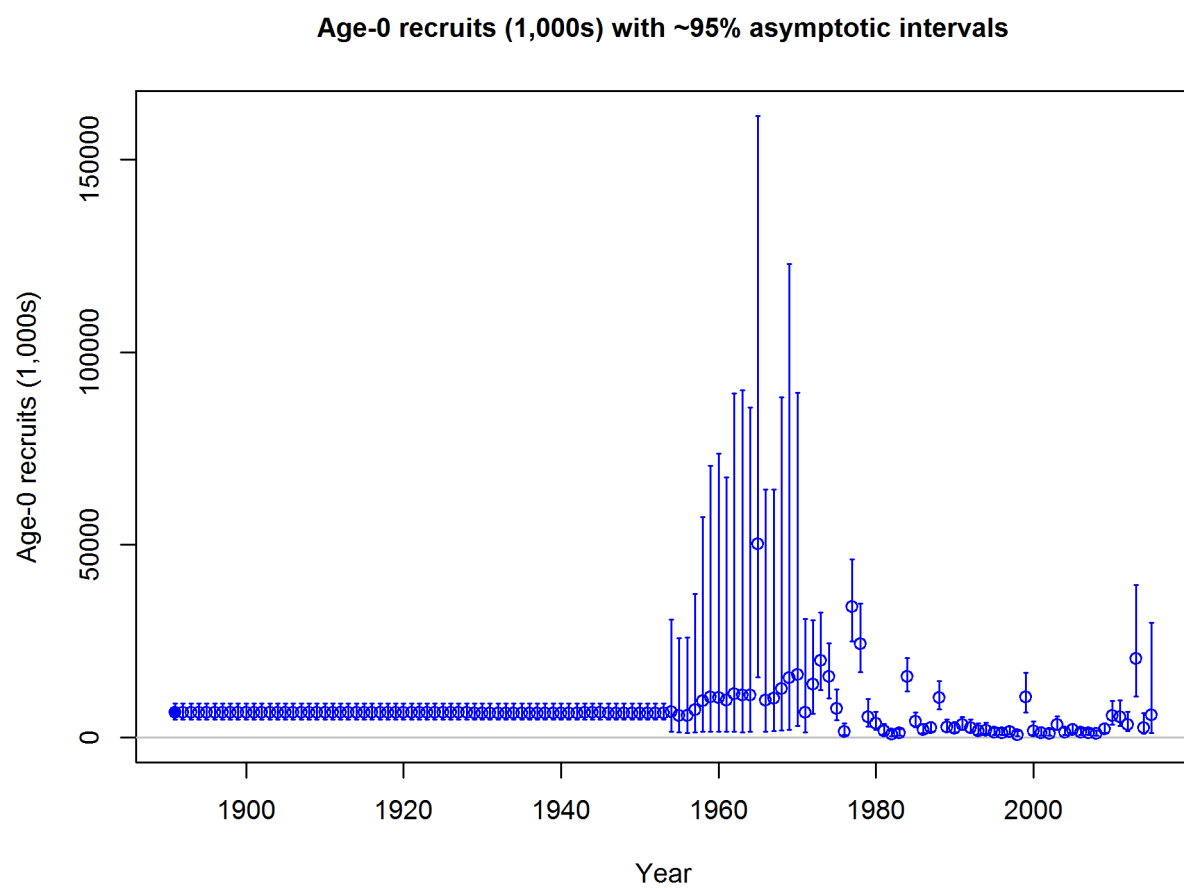
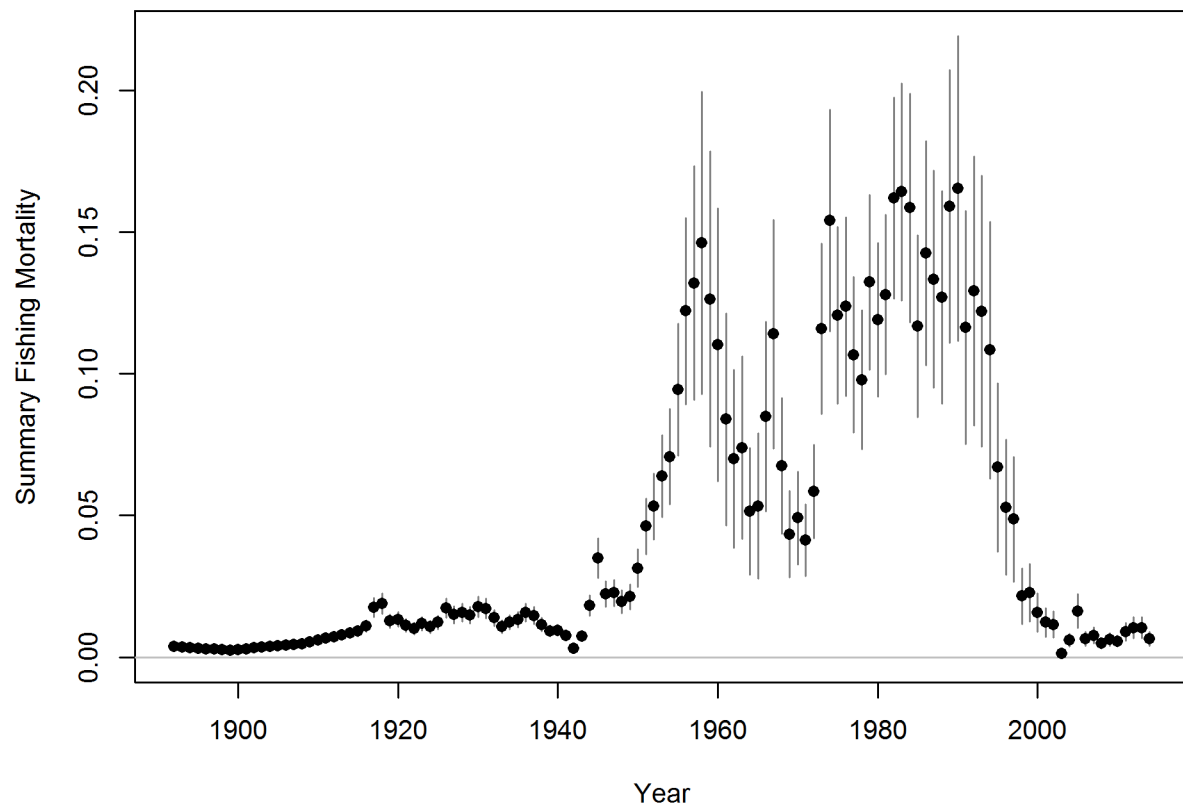


Figure 26: Age-0 recruits (1,000s) with ~95% asymptotic intervals fig:mod1_8_plots_mod1/ts11_Age-0_r



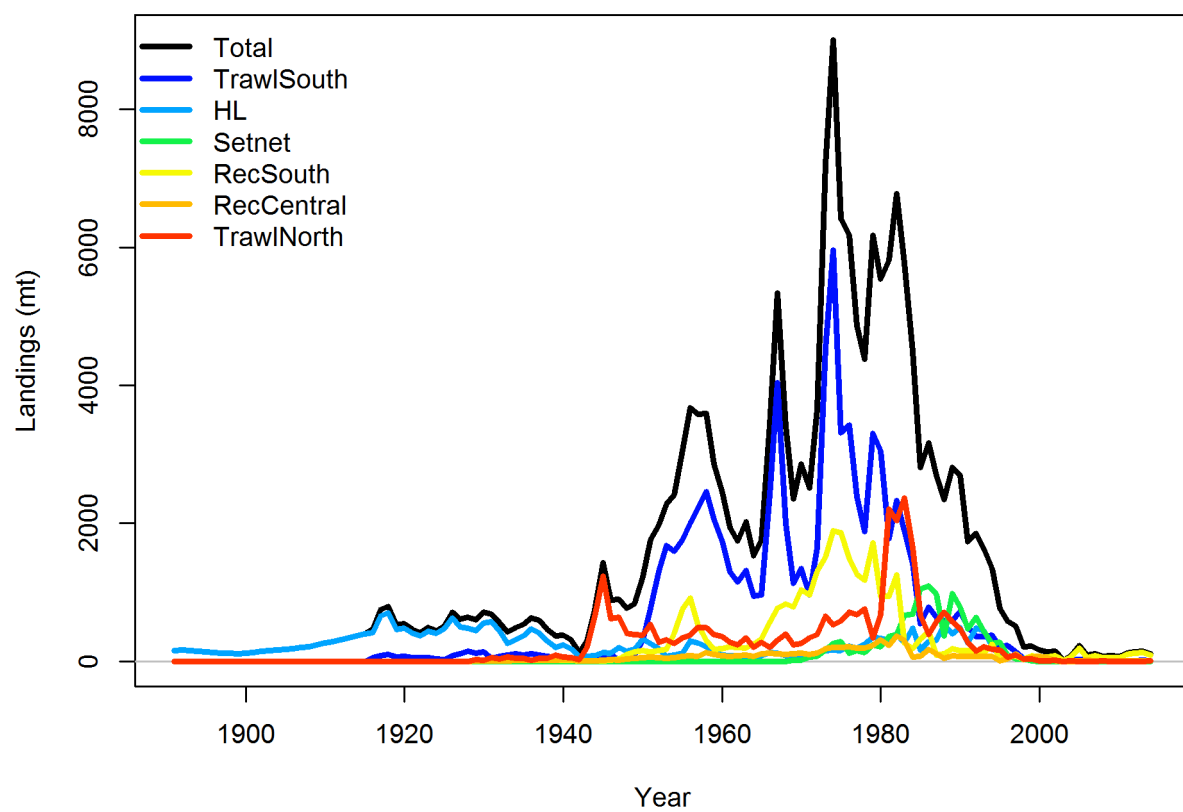
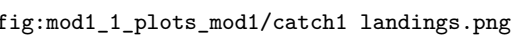


Figure 27: landings 

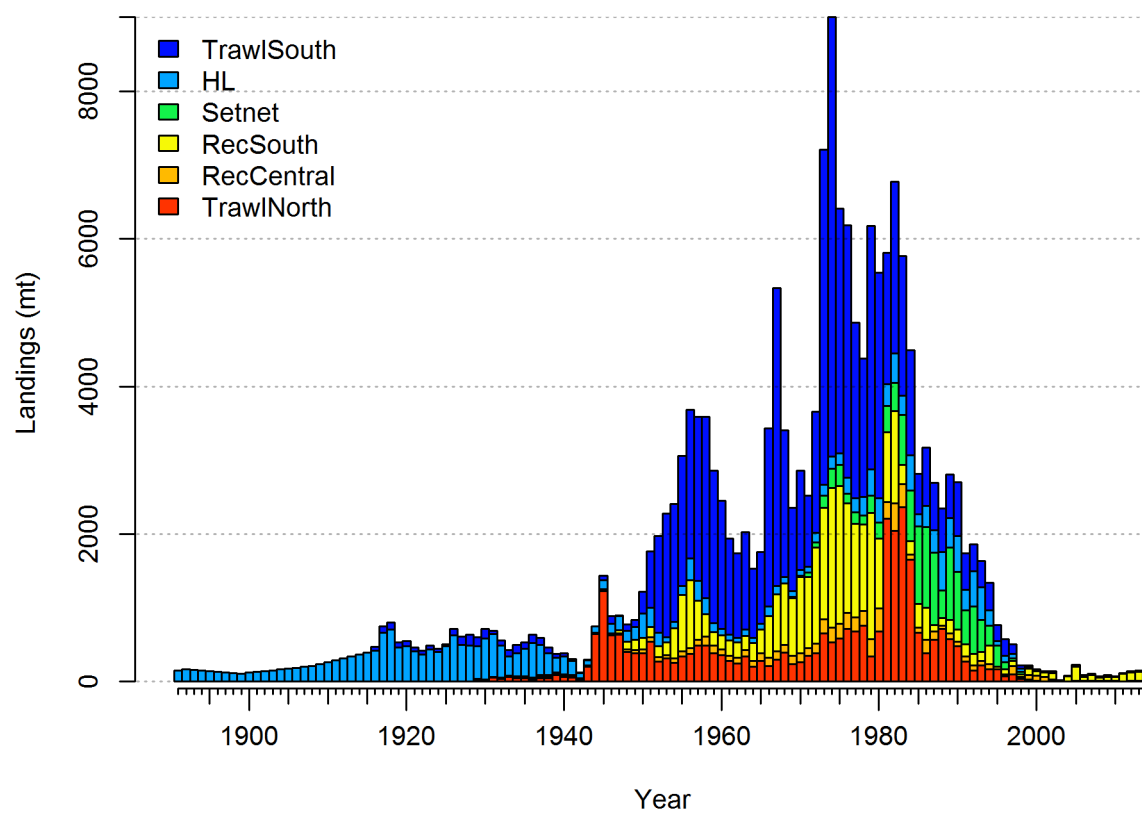



Figure 28: landings stacked  `fig:mod1_2_plots_mod1/catch2 landings stacked.png`

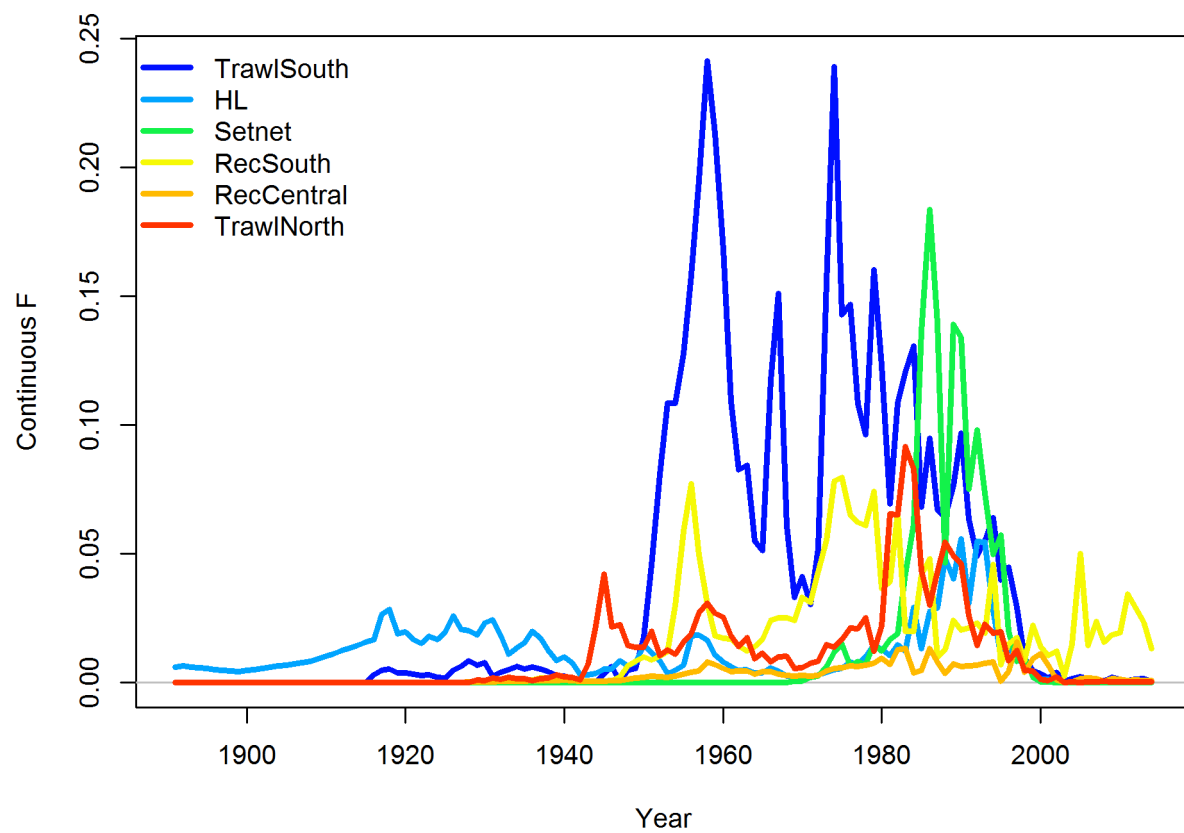
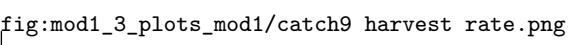


Figure 29: harvest rate 

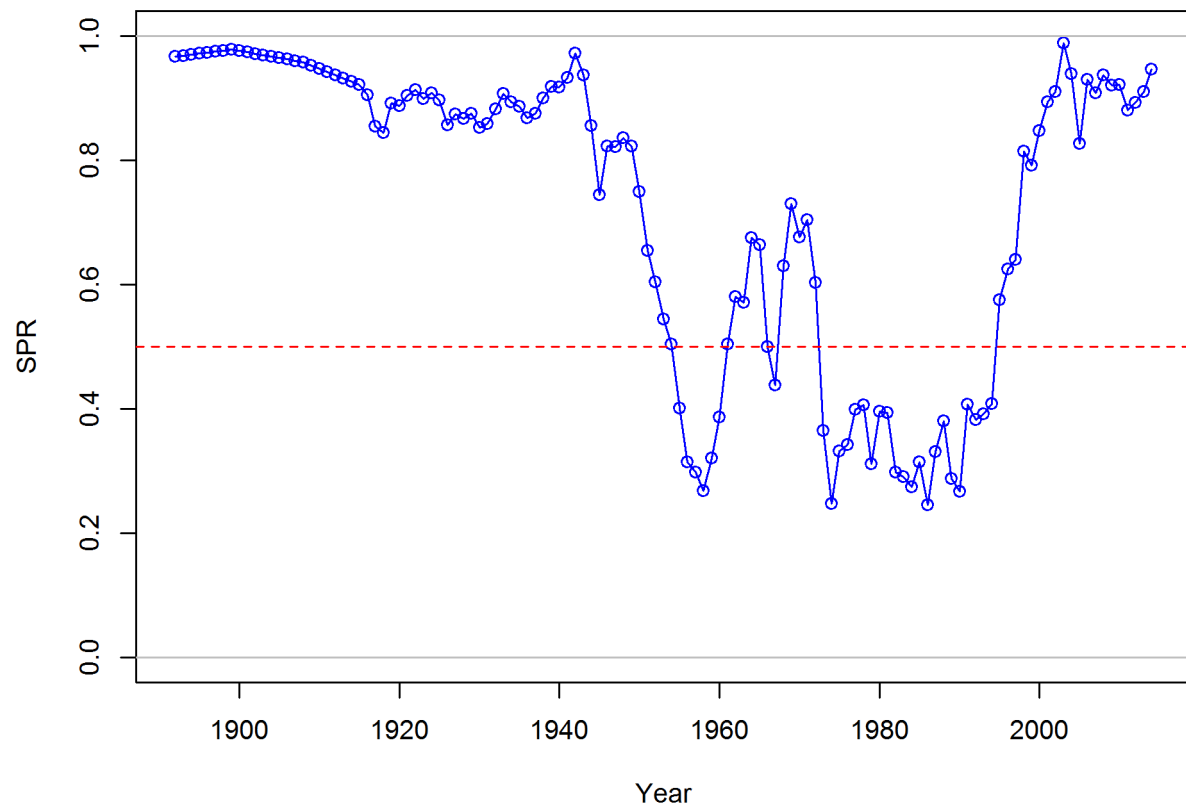


Figure 30: Timeseries of SPR fig:mod1_1_plots_mod1/SPR1_series.png

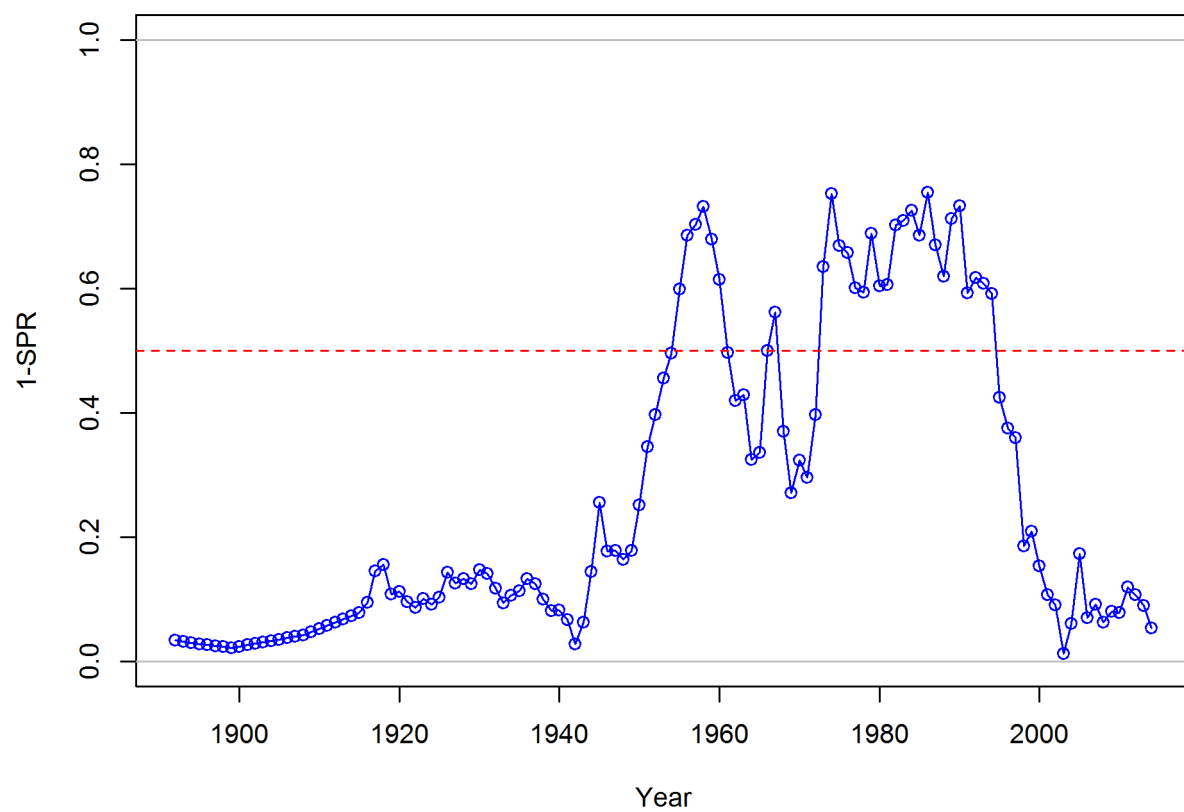


Figure 31: Timeseries of 1-SPR fig:mod1_2_plots_mod1/SPR2_minusSPRseries.png

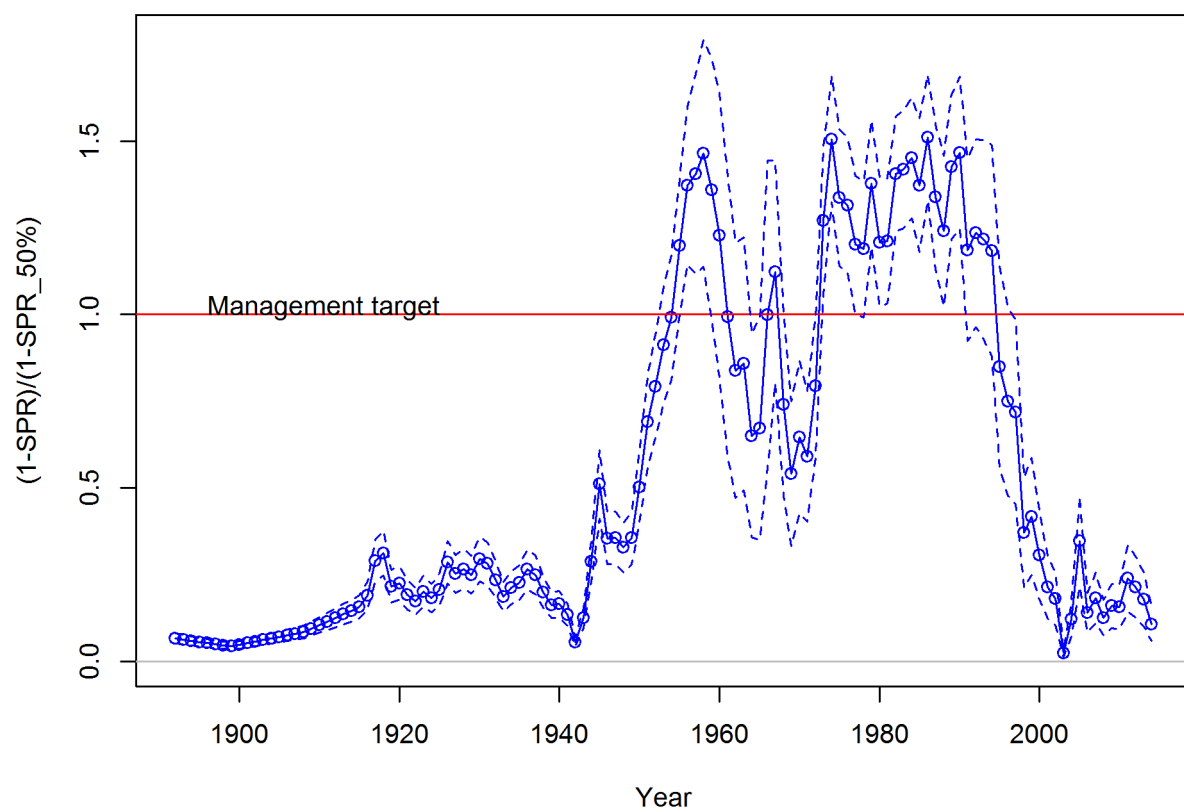
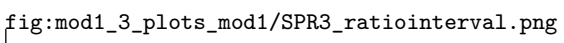


Figure 32: Timeseries of SPR ratio 

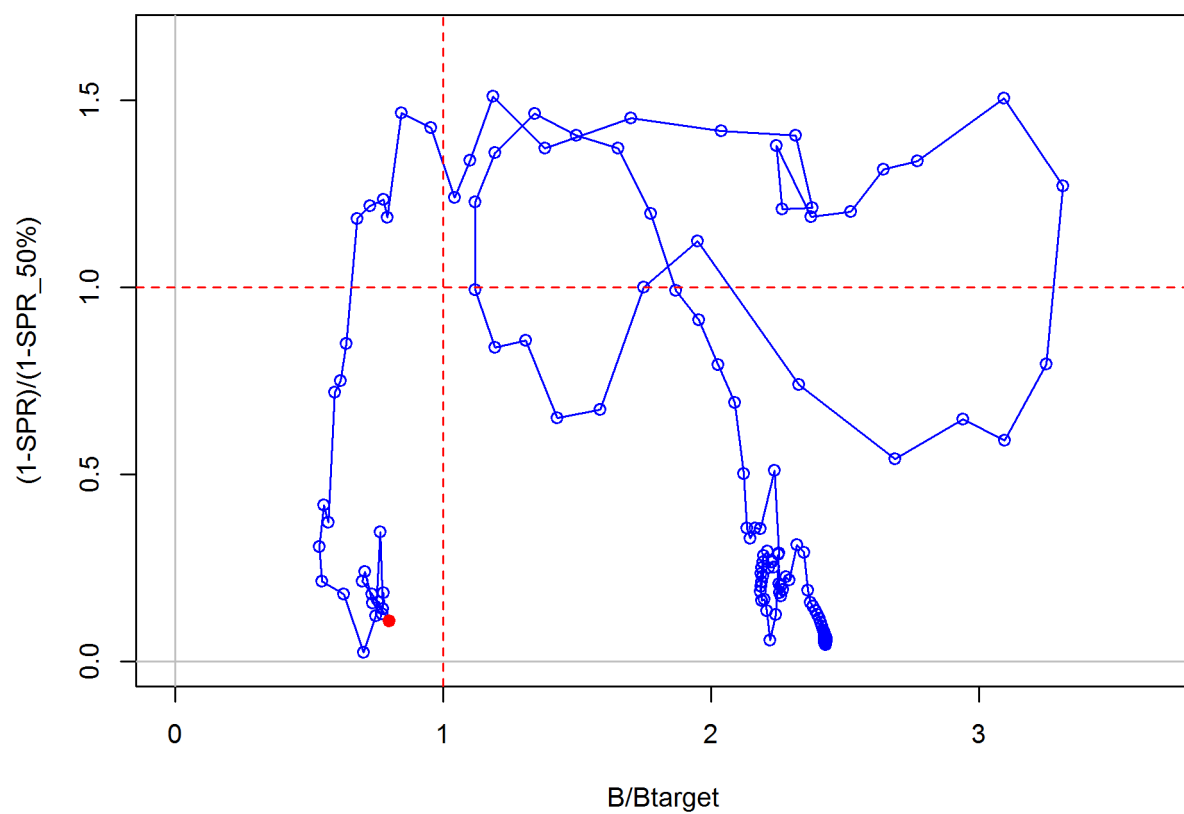


Figure 33: Phase plot of biomass ratio vs. SPR ratio 

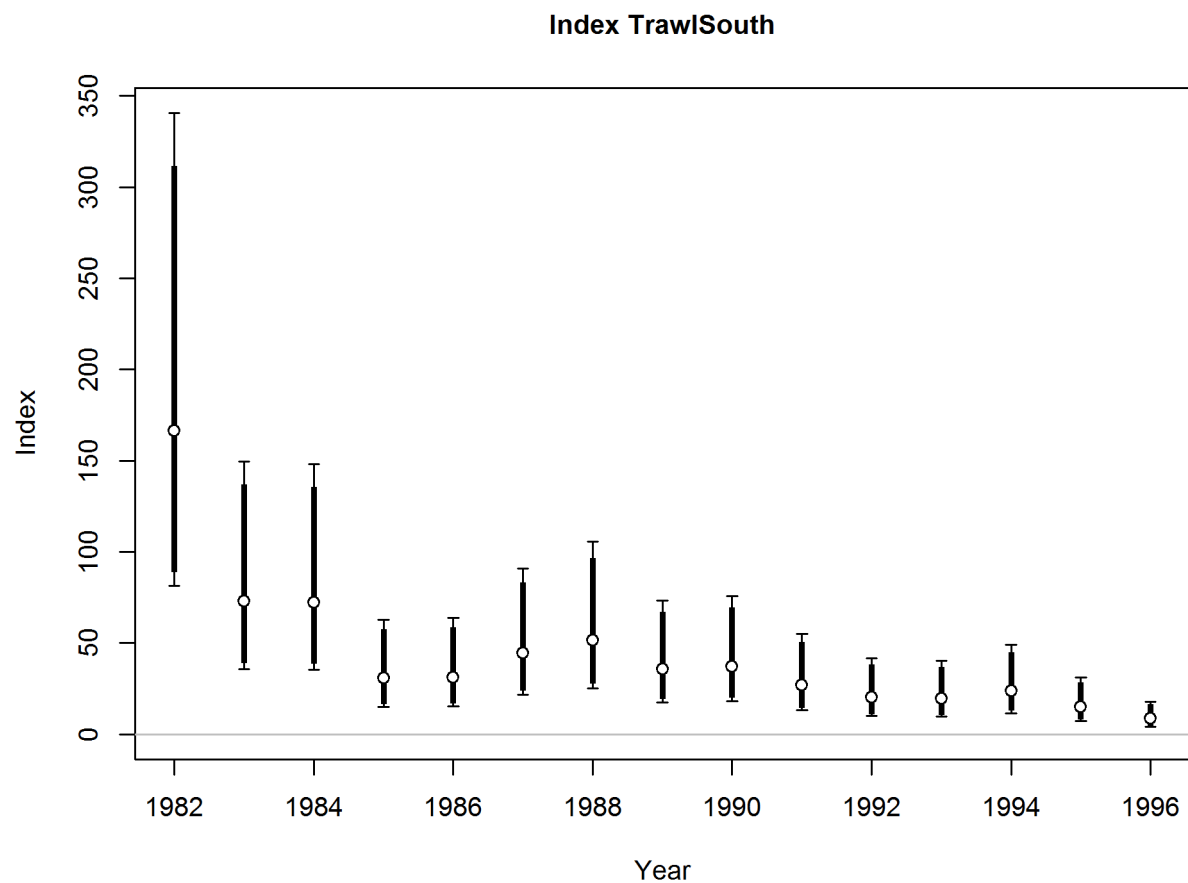


Figure 34: Index data for TrawlSouth. Lines indicate 95% uncertainty interval around index values. Thicker lines (if present) indicate input uncertainty before addition of estimated additional uncertainty parameter. fig:mod1_1_plot

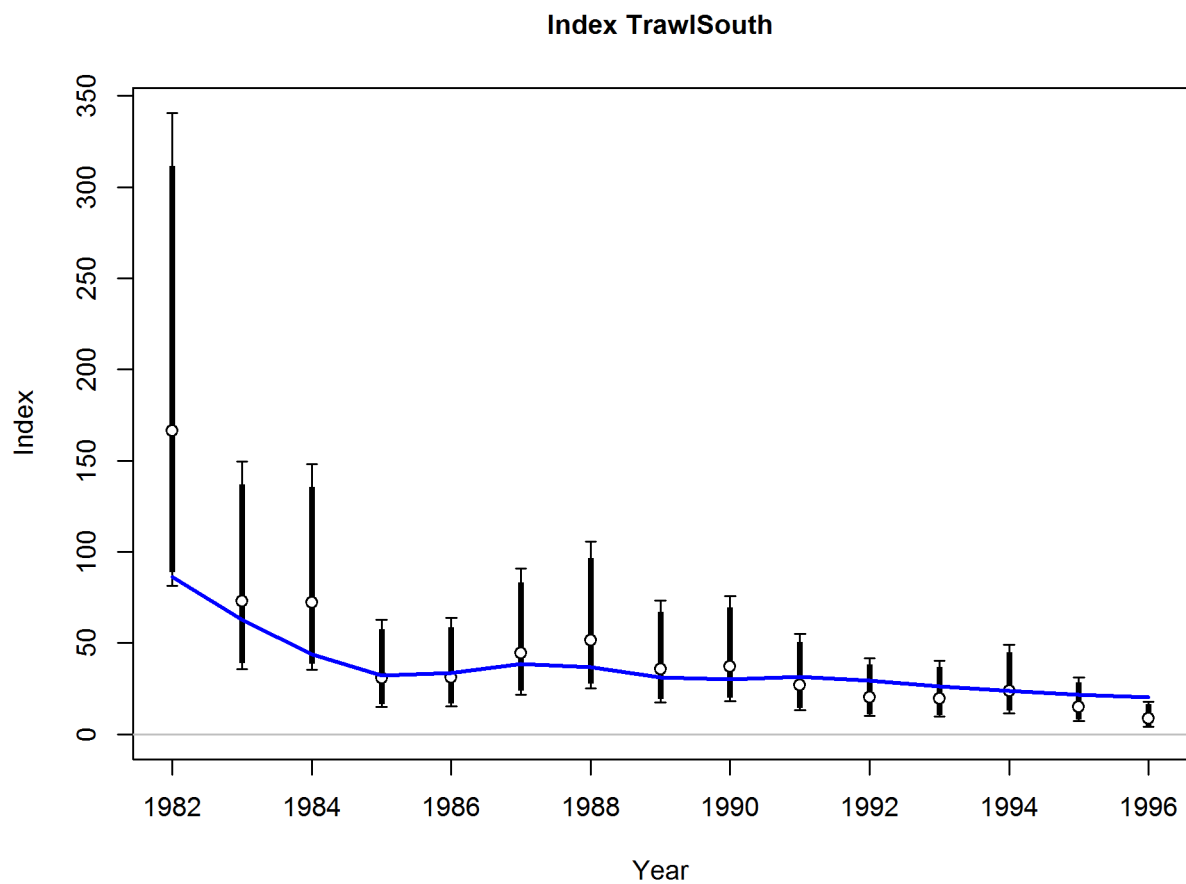


Figure 35: Fit to index data for TrawlSouth. Lines indicate 95% uncertainty interval around index values. Thicker lines (if present) indicate input uncertainty before addition of estimated additional uncertainty parameter. [fig:mod1_2_plots_mod1/index2_cpuefit_TrawlSouth.png](#)

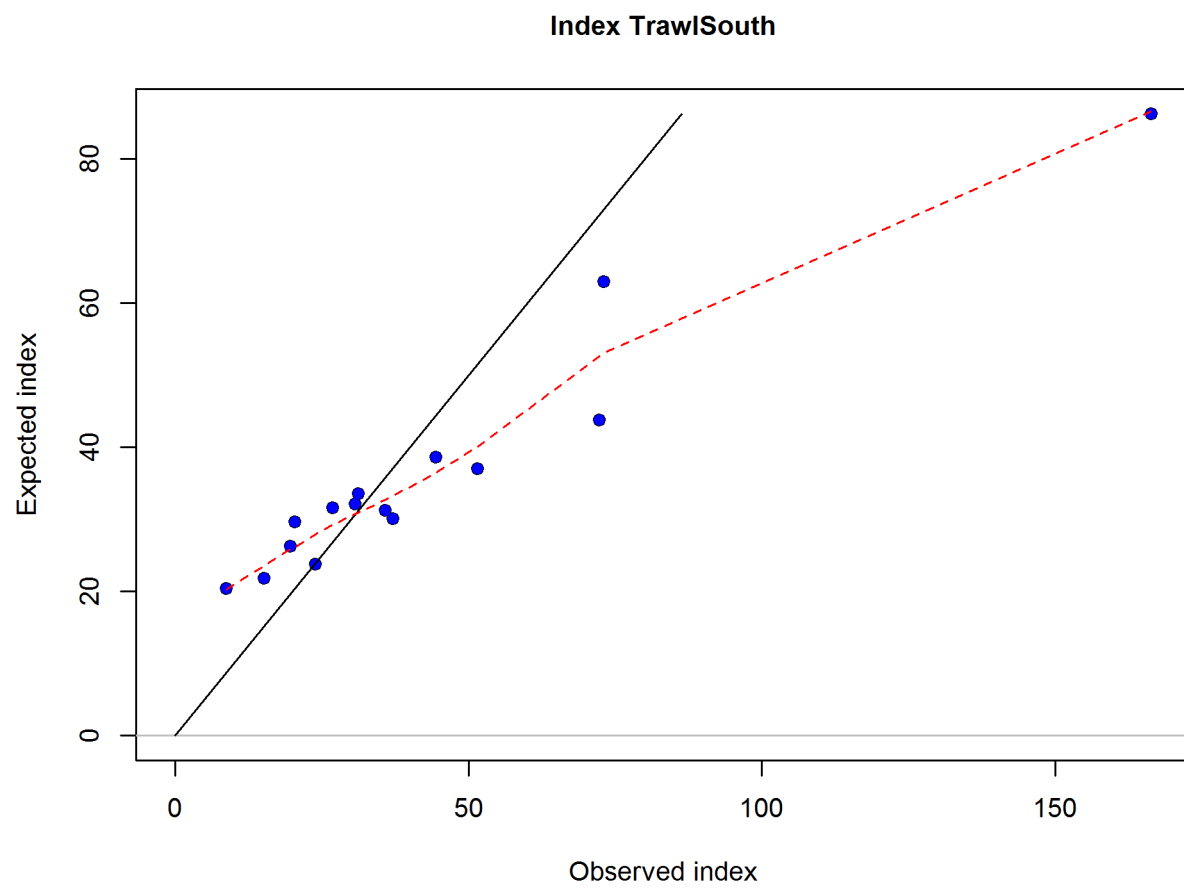


Figure 36: Observed vs. expected index values with smoother for TrawlSouth fig:mod1_3_plots_mod1/index3_

Beginning of year expected numbers at age of females in (max ~ 25.1 million)

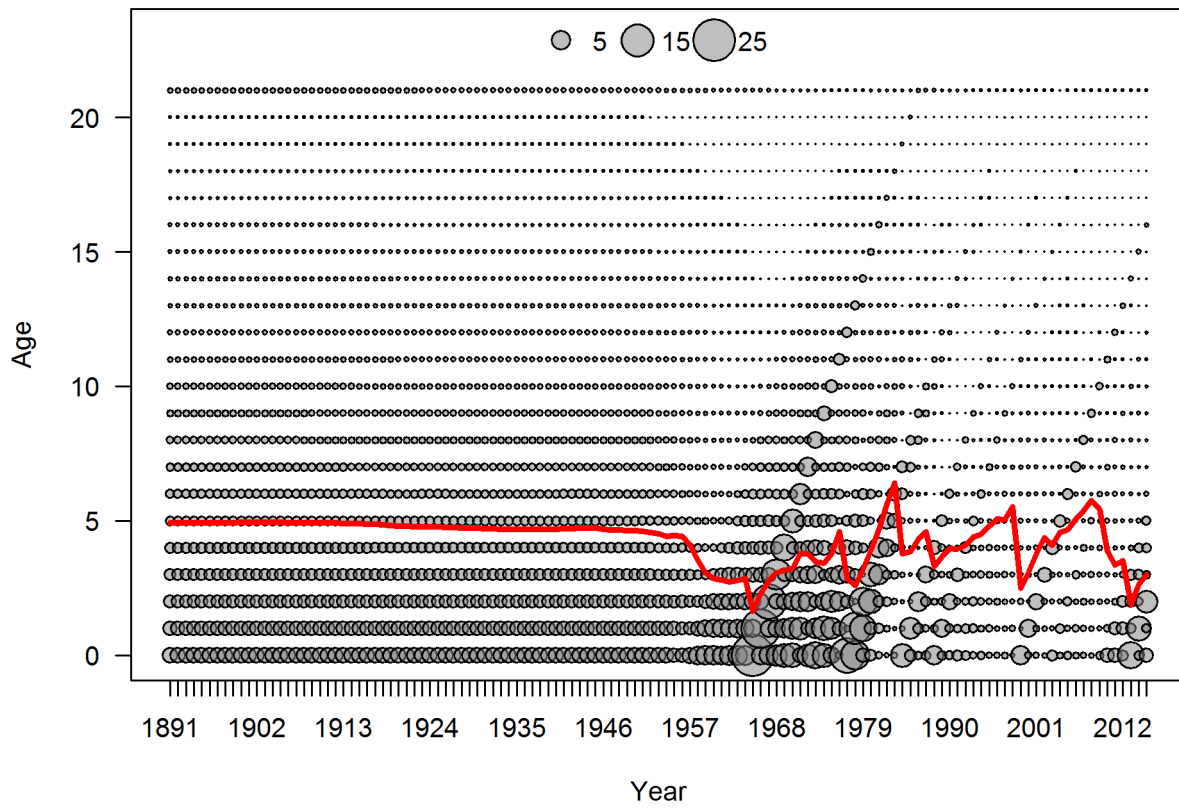


Figure 37: Beginning of year expected numbers at age of females in (max ~ 25.1 million) ^{fig:mod1_1_plots_mod1/n}

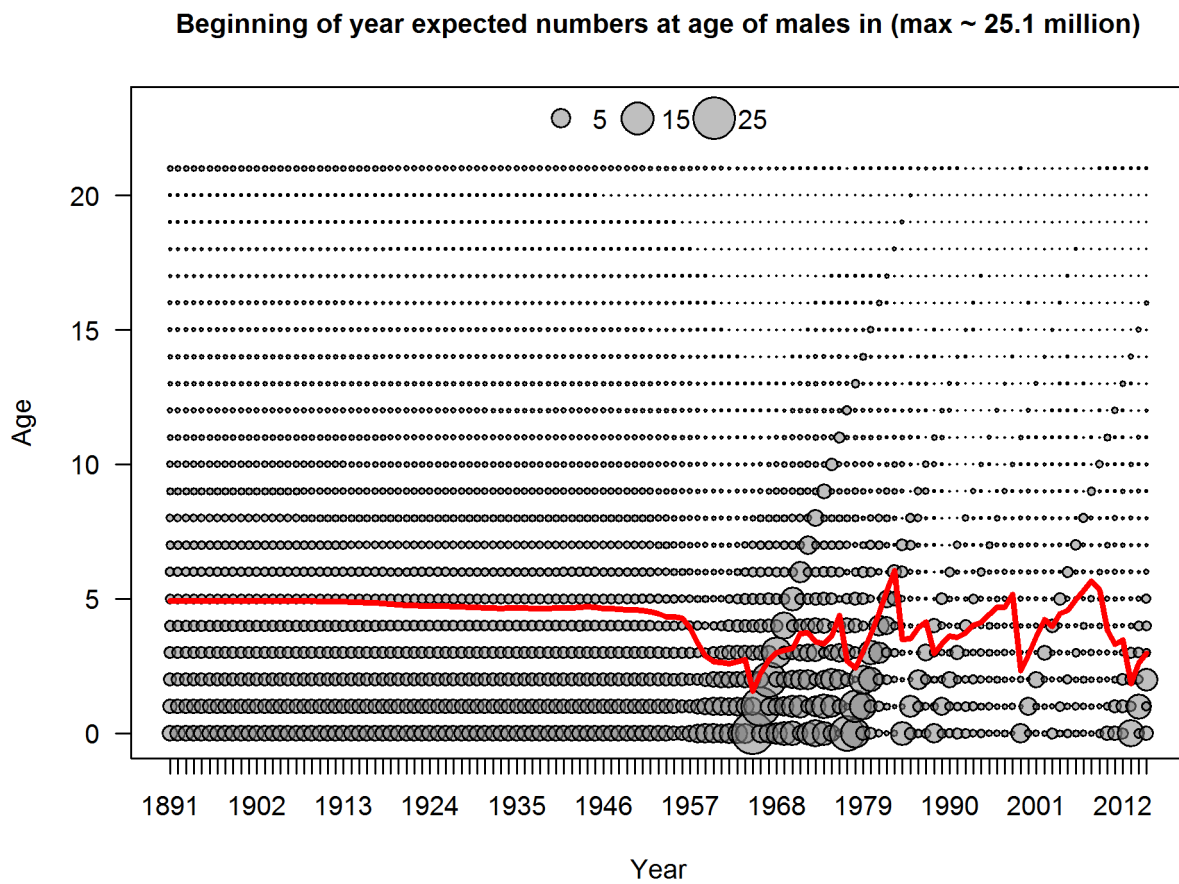


Figure 38: Beginning of year expected numbers at age of males in (max ~ 25.1 million) ^{fig:mod1_2_plots_mod1/nur}

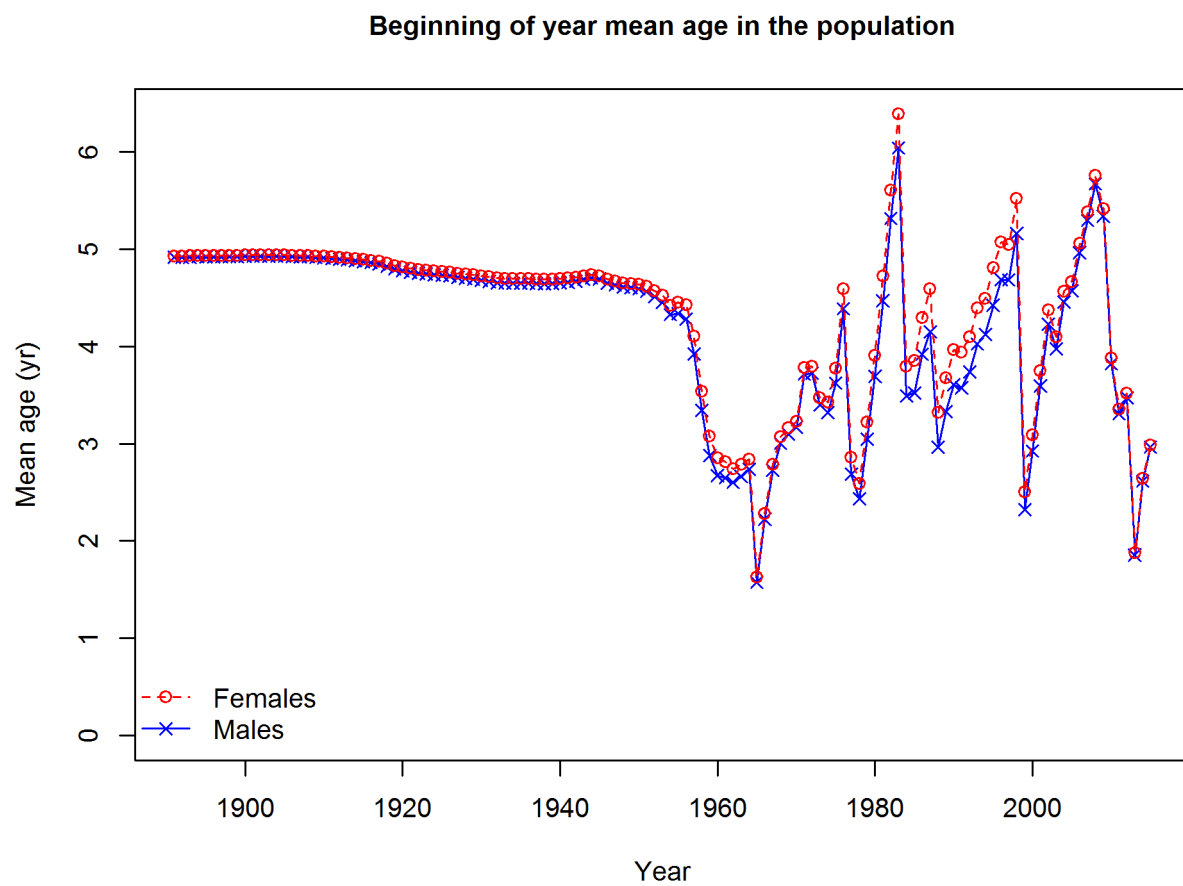


Figure 39: Beginning of year mean age in the population fig:mod1_3_plots_mod1/numbers2_meanage.

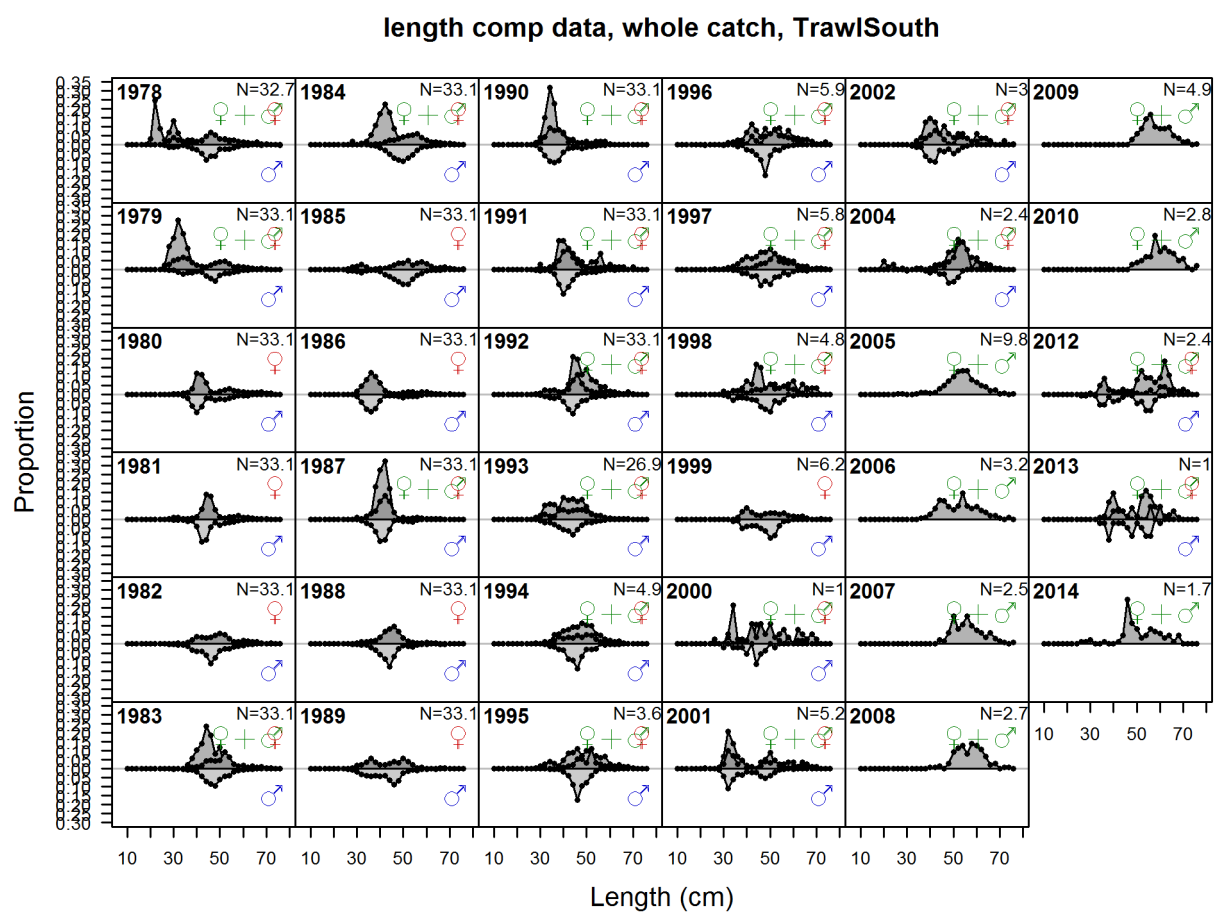


Figure 40: length comp data, whole catch, TrawlSouth fig:mod1_1_plots_mod1/comp_lendat_flt1m

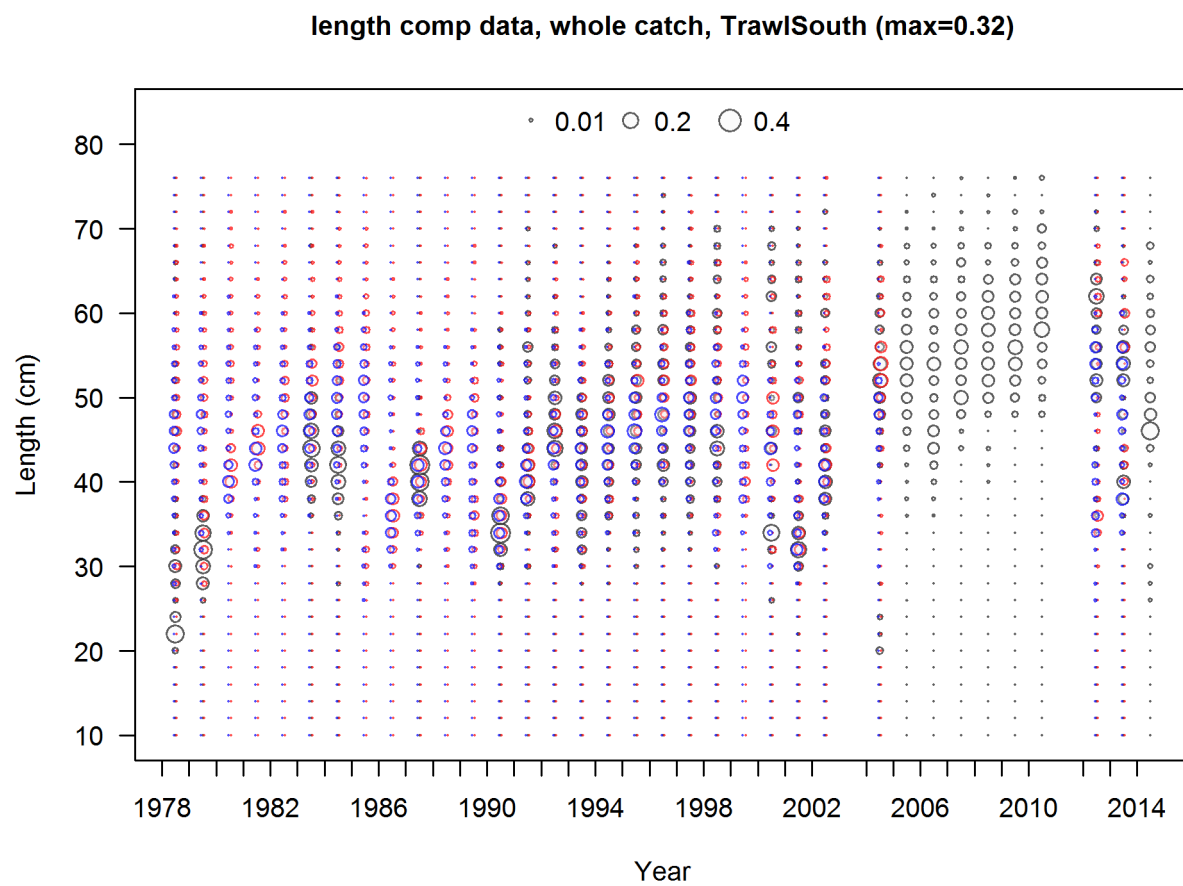


Figure 41: length comp data, whole catch, TrawlSouth (max=0.32) fig:mod1_2_plots_mod1/comp_lendat.

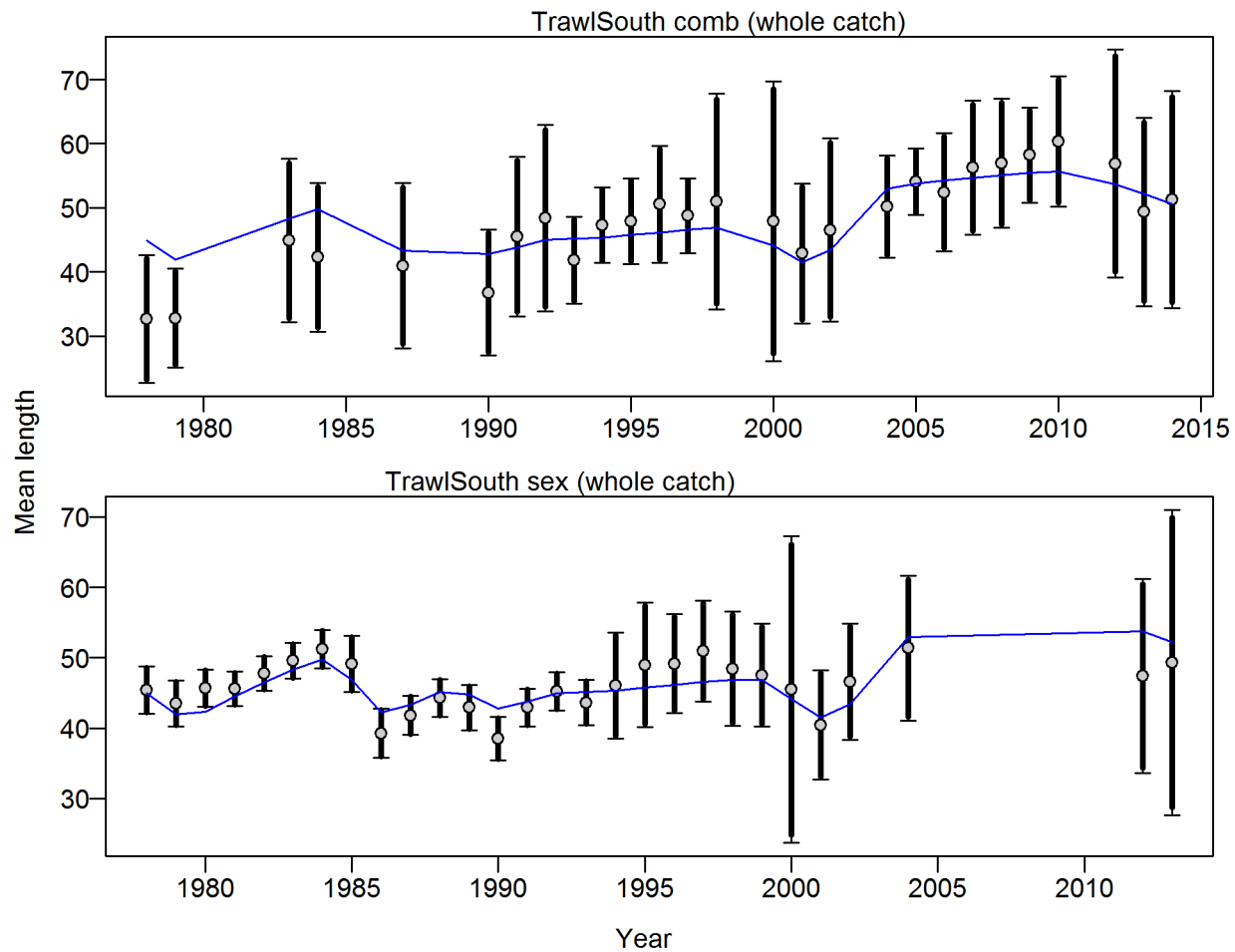


Figure 42: Francis data weighting method TA1.8 TrawlSouth Suggested sample size adjustment (with 95% interval) for len data from TrawlSouth:0.8988 (0.6221-1.5428) fig:mod1_3_plots_mod1/comp_lendat_data_weighting_TA1.8_Tr

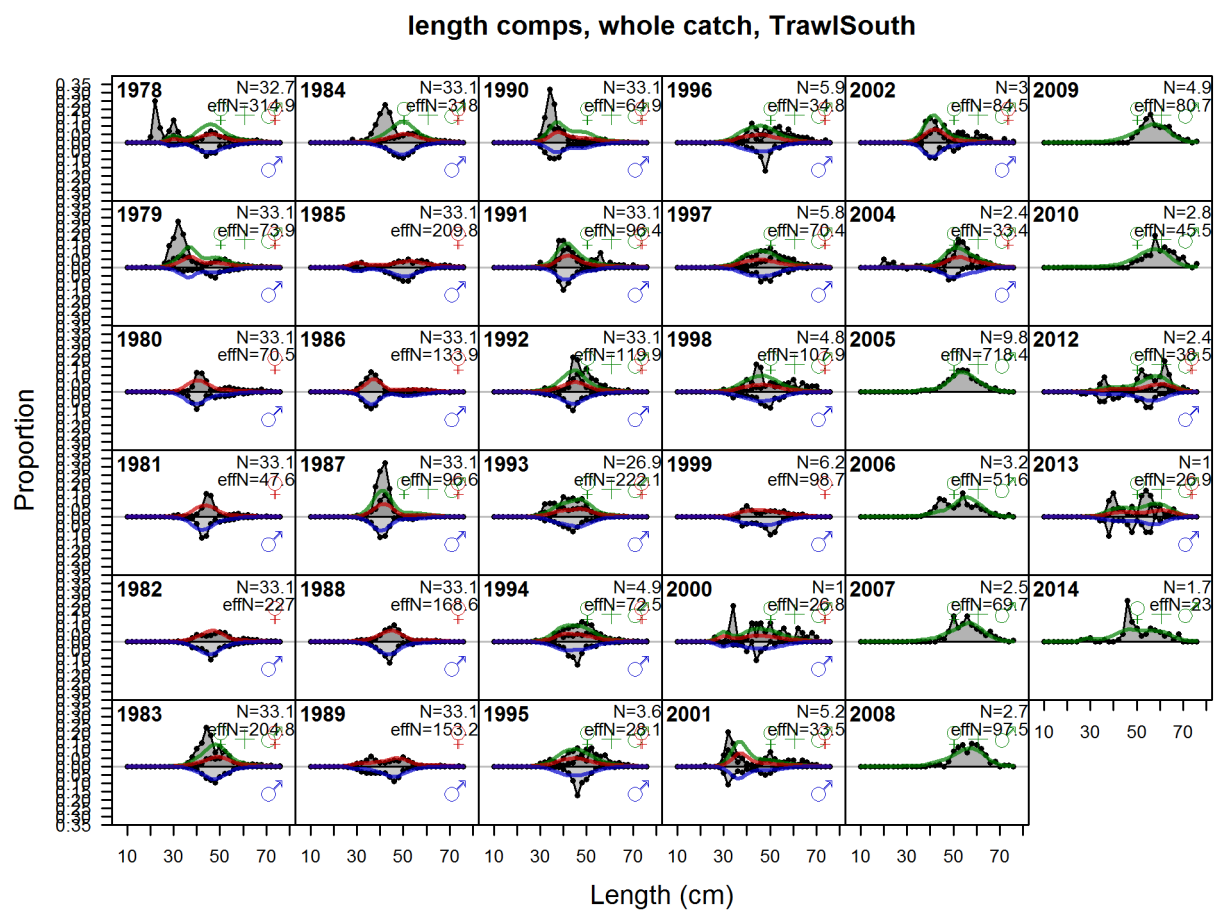


Figure 43: length comps, whole catch, TrawlSouth | `fig:mod1_1_plots_mod1/comp_lenfit_flt1mkt`

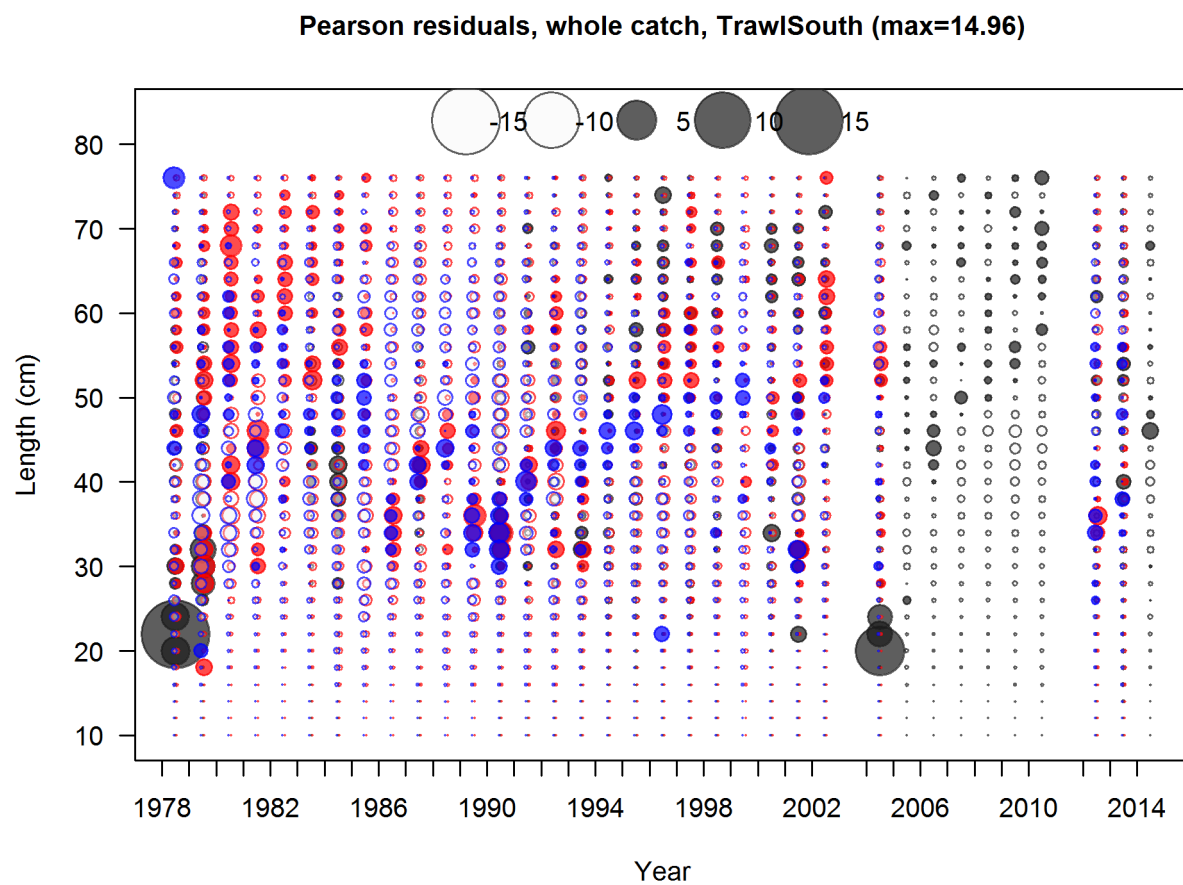


Figure 44: Pearson residuals, whole catch, TrawlSouth (max=14.96) Closed bubbles are positive residuals (observed > expected) and open bubbles are negative residuals (observed < expected). fig:mod1_2_plots_mod1/comp_lenfit.

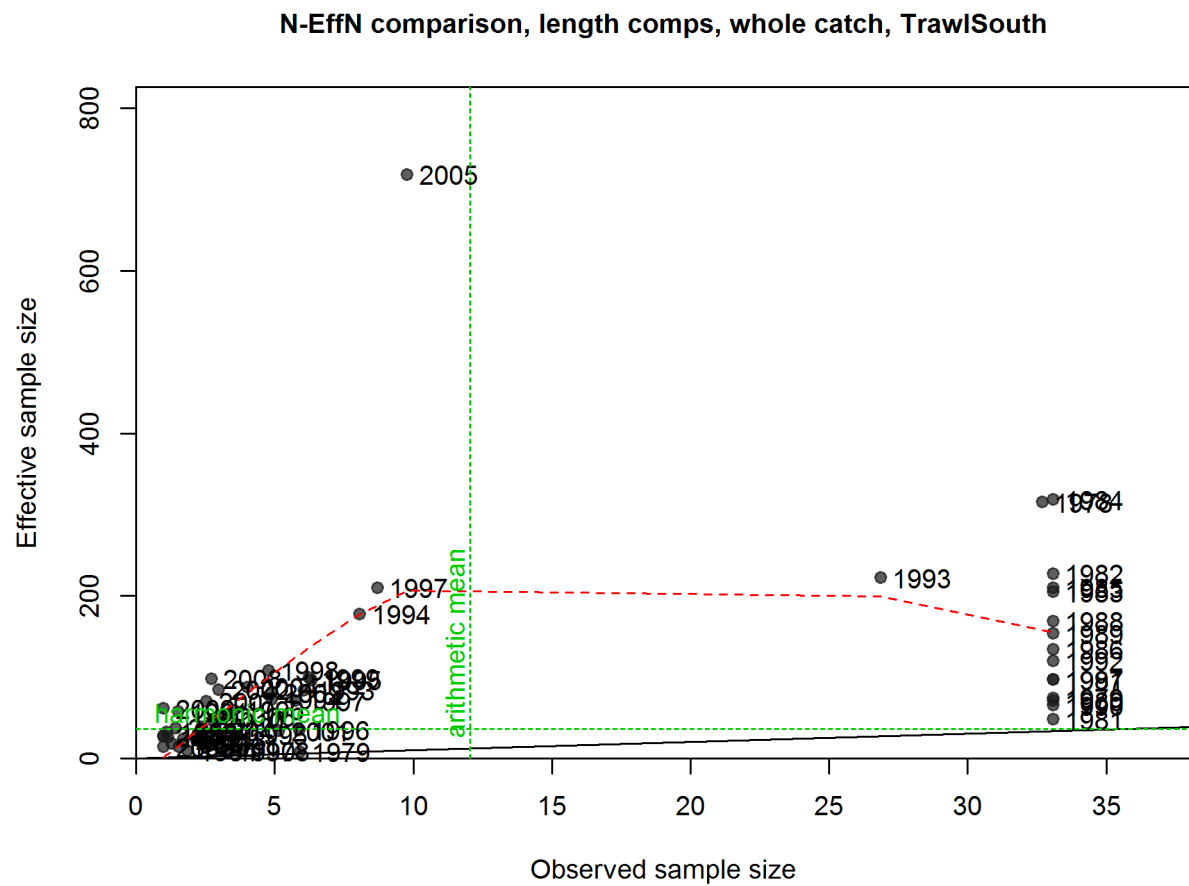


Figure 45: N-EffN comparison, length comps, whole catch, TrawlSouth fig:mod1_3_plots_mod1/comp_lenfi

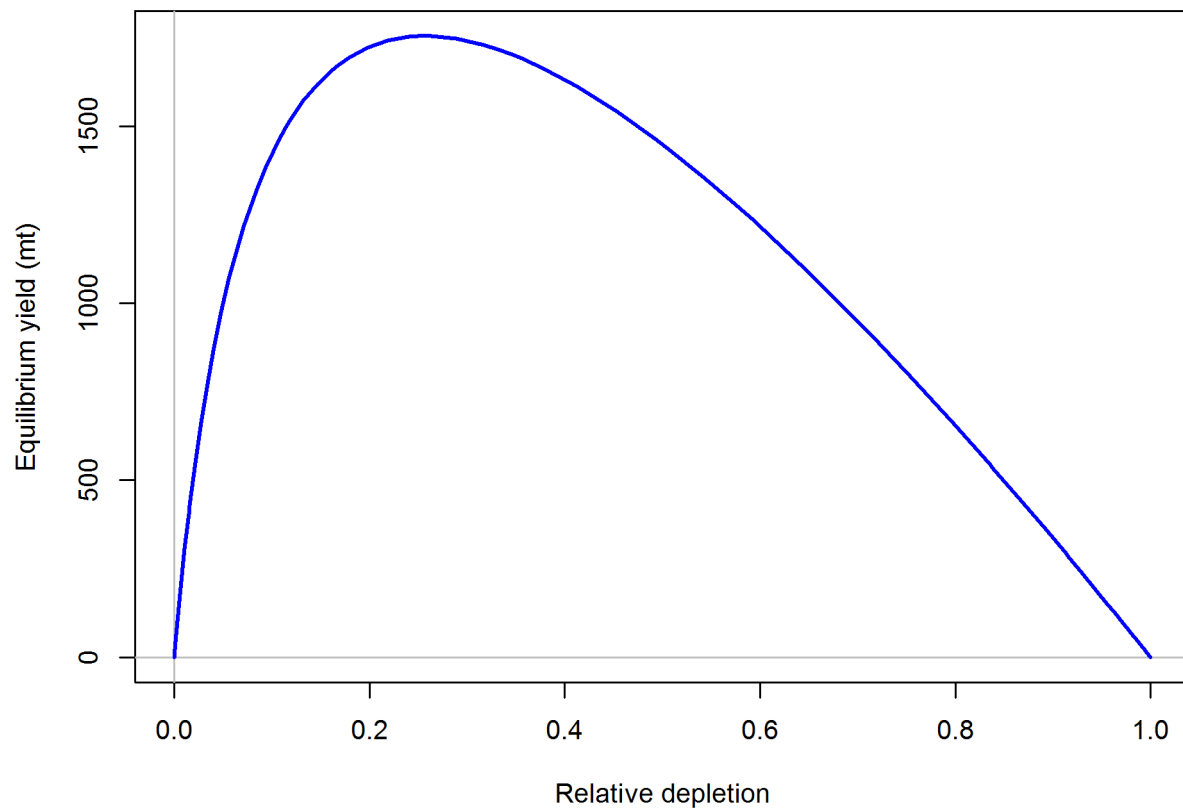


Figure 46: Yield curve `fig:mod1_1_plots_mod1/yield1_yield_curve.png`

11 `![[Surplus production plot. For interpretation, see`
 12 `Walters, Hilborn, and Christensen, 2008, Surplus production dynamics in declining and recovering fish`
 13 `populations. Can. J. Fish. Aquat. Sci. 65: 2536-2551`
 14 `](C:/Assessment_template/r4ss/plots_mod1//yield2_Hilborn_surplus_production.png)`